

## MINIMUM CRITERIA DETERMINATION CHECKLIST

**TIP Project No.: U-5750**

**State Project No.: 50170.1.1**

**Project Location: NC 54 from Shiloh Glenn Drive to Perimeter Park Drive in Morrisville, Wake County**

### **Project Description:**

The NC Department of Transportation (NCDOT) proposes to widen NC 54 for approximately 1.8 miles from Shiloh Glenn Drive to Perimeter Park Drive in the Town of Morrisville, Wake County. NC 54 is currently a four-lane, median divided roadway from Shiloh Glenn Drive to Carrington Mill Boulevard and a two-lane roadway from Carrington Mill Boulevard to Perimeter Park Boulevard. The project also includes intersection improvements along the length of the project.

The proposed typical section consists of a four-lane divided section with a raised grass median up to 30 feet in width, and includes curb and gutter. There are two 12-foot travel lanes in each direction and a 10-foot multiuse path on the north side of NC 54. The design speed is 50 miles per hour (mph), with a proposed posted speed of 45 mph.

It is anticipated that traffic will be maintained on-site during construction through a shift in traffic lanes. The roadway will not be closed to traffic and access will be maintained to properties.

### **Purpose and Need:**

The purpose of the project is to improve traffic flow and operations along NC 54 from Shiloh Glenn Drive to Perimeter Park Drive in the Town of Morrisville through the reduction of anticipated delays as compared to those anticipated in the future no-build condition. A secondary purpose for the project is to provide a parallel alternative route to I-40 in the event of an accident or need for a temporary detour.

The project is needed to address the increasing congestion due to capacity deficiencies on NC 54. According to the American Community Survey (ACS), the population of the Town of Morrisville has increased by 34.6 percent from 2010 to 2015, and local plans by the Town indicate more residential and commercial development is expected to occur. NC 54 is currently operating near capacity, and daily traffic is projected to increase by over 10,000 vehicles per day by 2040.

### **Anticipated Permit or Consultation Requirements:**

Permits: The project will likely require a Water Quality Certification (WQC) from the NC Division of Water Resources (NCDWR) under Section 401 and Nationwide Permit (NWP) or General Permit (GP) from the US Army Corps of Engineers (USACE) under section 404 for unavoidable impacts to 127 linear feet of jurisdictional streams associated with the preferred design alternative. These stream impacts would be a result of culvert extensions. It is anticipated that a Nationwide 14 permit and corresponding 401 WQC will be applicable; however the USACE will determine the final permit requirements for the construction of this project. The preferred design alternative would not impact jurisdictional wetlands in the study area. The project falls within the protection area afforded by the Jordan Lake and Neuse River Buffer Protection Rules. The project is located partially within the Jordan Lake Watershed of the Cape Fear River Basin.

Buffer mitigation would be required for the 12,689 square feet of impacts to Buffer Zone 1 and the 13,170 square feet of impacts to Buffer Zone 2 resulting from the preferred design alternative.

Protected Species: A biological conclusion for a proposed threatened species, the Atlantic pigtoe, remains unresolved. If the species becomes listed prior to project construction, further surveys and/or coordination with USFWS may be required.

Archaeology: On August 30, 2017, NCDOT Archaeologists determined that an archaeological survey would be not required for the project.

Historic Architecture and Landscapes: On August 7, 2017, NCDOT Architectural Historians determined that a survey of historic architecture and landscapes would not be required for the project.

Geoenvironmental: The GeoEnvironmental Section of the Geotechnical Engineering Unit performed a Phase I field investigation on February 20, 2018 to identify geoenvironmental sites of concern. Three sites of concern were identified within the study area. Site 1 (Sheetz) is a CITGO Active gas station. No groundwater incident is associated with this facility and no monitoring wells were observed on site during the site visit. Site 2 (J.F. Wilkerson Contracting Co.) is an active utility contracting business that has been in operation since 1968. Reportedly there was one 8,000 gallon underground storage tank (UST) installed, operated and removed on site. There are no groundwater incidents associated with this site and no monitoring wells were observed during this visit. Site 3 (Smokey's BBQ Shack) is an active restaurant business. Based on the style and location of the property, this could be a former country grocery store and gas station. However, no groundwater incident is associated with this facility and there were no monitoring wells observed on site during this visit. If discovery of additional sites not recorded by regulatory agencies and not reasonably discernible during the project reconnaissance occurs, the GeoEnvironmental Section should be notified immediately after discovery of such sites so their potential impact(s) may be assessed.

**Special Project Information:**

**Environmental Commitments:** Greensheet Commitments are located at the end of the checklist.

**Estimated Costs:** The estimated costs are from the NCDOT Amended STIP, November 2018, based on 2018 prices, are as follows\*:

Utility:	\$236,000
Right of Way:	\$2,000,000
Construction:	\$16,900,000
<b>Total:</b>	<b>\$19,136,000</b>

\*Costs subject to change during design process

**Estimated Traffic:**

Current (2016):	NC 54: 14,600 – 29,800 vpd
Year 2040:	NC 54: 25,600 – 41,200 vpd
Duals:	NC 54: 3%
TT-STs:	NC 54: 2%

**Accidents:** Crash data was evaluated for nearly two miles of NC 54 from Shiloh Glenn Drive to Airport Boulevard between the period of February 1, 2013 and January 31, 2018. A total of 313 accidents occurred during that time. Of these crashes, one included a fatality. There was one pedestrian and one bicyclist involved in the total crashes. Crash rates exceeded both the statewide average crash rate and calculated critical crash rate for the total crashes, non-fatal crashes, crashes occurring at night and crashes occurring during wet conditions. For more details on crash rates and specific intersection performance, see the full Crash Analysis completed for the project.

**Design Exceptions:** There is one design exception for a sag curve located at PI Point 23+80 for 35 mph.

**Pedestrian and Bicycle Accommodations:** There are existing sidewalks on the north side of NC 54 between Shiloh Glenn Drive and Lichtin Boulevard, from Carrington Mill Boulevard to east of the Carrington Mill shopping/medical center, from Watkins Road to the credit union, and from McCrimmon Parkway to Perimeter Parkway. A 10-foot multiuse path is planned on the north side of NC 54. The Town of Morrisville indicated that they had no plans for bicycle lanes on NC 54.

### **Alternatives Discussion:**

**No Build** – The no build alternative does not meet the purpose and need for the project nor improve mobility or reduce congestion, and thus is not a viable alternative.

**Alternative 1** – Alternative 1 would widen NC 54 and relocate the roadway outside of the North Carolina Railroad Company (NCRR) right of way. Generally, within the project limits, NC 54 runs parallel to and just outside of the NCRR corridor that is operated by Norfolk Southern.

The build alternative would include a raised grass median, 30 feet wide, along NC 54 and two travel lanes in each direction. The travel lanes would be 12 feet wide, except for the west bound travel lanes under the NC 540 overpass, which will be 11 feet wide due to constraints. The project will also include a 10 foot multi-use path along the north side of NC 54. Existing signalized intersections would be maintained. Other changes include:

- Increasing the travel lanes on NC 54 from four to six in the vicinity of NC 540.
- Increasing the number of left turn lanes from the NC 540 west off-ramp onto NC 54 east from two to three.
- Increasing the number of left turn lanes from the NC 540 east off-ramp onto NC 54 east from one to two.
- Adding a free-flowing slip ramp from Lichtin Road onto the NC 540 east on-ramp. Right-out access from Lichtin Road onto NC 54 west would no longer be allowed.
- Increasing the number of left turn lanes from Carrington Mill Boulevard onto NC 54 east from one to two.
- Removing a right-in/right-out access driveway to commercial development located between Carrington Mill Boulevard and Watkins Road.
- Adding a traffic signal at the second access driveway to commercial development located between Carrington Mill Boulevard and Watkins Road.
- Adding two right-turn lanes and two left-turn lanes onto McCrimmon Parkway.
- Adding a right-turn lane into a business park located between Perimeter Park Drive and Airport Boulevard.

## **Environmental Effects:**

### **Natural Resources**

A copy of the full technical report entitled *Natural Resources Technical Report NC 54 Improvements in Wake County, North Carolina* (June 2017) can be found in the NCDOT Division 5 project file and on the project SharePoint site.

No areas within the study area have been identified by the National Marine Fisheries Service (NMFS) as Essential Fish Habitat, anadromous fish waters, or Primary Nursery Areas (PNA). There are no designated High Quality Waters (HQW) or water supply watersheds (WS-I or WS-II) within 1.0 mile downstream of the study area. There are no North Carolina 2016 Final 303(d) list of impaired waters within 1.0 mile of the study area, or no benthic monitoring sites, ambient monitoring system (AMS) sites, or NC Stream Fish Community Assessment Program sites within 1.0 mile downstream of the study area.

### **Jurisdictional Issues**

The study area extends into both the Jordan Lake Watershed of the Cape Fear River Basin and the Neuse River Basin. However, all water resources in the study area are part of the Neuse River Basin [US Geological Survey (USGS)] Hydrologic Unit 03020201. Six streams and seven wetlands were identified within the study area.

Six jurisdictional streams totaling 2,610 linear feet were identified in the study area. All jurisdictional streams in the study area have been designated as warm water streams for the purposes of stream mitigation. The preferred design alternative would impact 127 linear feet of jurisdictional streams in the study area.

Seven jurisdictional wetlands totaling 2.3 acres were identified within the study area, with NCDWQ wetland ratings ranging from 5 to 79. The wetlands are within the Neuse River basin (USGS Hydrologic Unit 03020201). Wetlands were located within the mesic mixed hardwood forest and Piedmont alluvial forest community types. The preferred design alternative would not impact jurisdictional wetlands in the study area.

Since all water resources within the study area are located within the Neuse River Basin, the project is within an area where buffer rules will apply. Streamside riparian zones within the study area are protected under provisions of the Neuse River Buffer Rules administered by NCDWR.

### **Rare and Protected Species**

As of June 27, 2018, the United States Fish and Wildlife (USFWS) lists six federally protected species for Wake County. Additionally, one species has been proposed as threatened. A brief description of each species' habitat requirements follows, along with the Biological Conclusion rendered based on survey best available information from referenced literature and/or USFWS.

**Table 1. Federally protected species listed for Wake County**

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
<i>Rhus michauxii</i>	Michaux's sumac	E	Yes	No Effect
<i>Picoides borealis</i>	Red-cockaded woodpecker	E	No	No Effect
<i>Alasmidonta heterodon</i>	Dwarf wedgemussel	E	Yes	No Effect
<i>Elliptio lanceolata</i>	Yellow lance	T	No	No Effect
<i>Elliptio steinstansana</i>	Tar River spiny mussel*	E	No	No Effect
<i>Notropis mekistocholas</i>	Cape Fear shiner**	E	No	No Effect
<i>Fusconaia masoni</i>	Atlantic pigtoe	P	Unknown	Unresolved

E – Endangered, T – Threatened, P – Proposed

\* Not known to occur in the Upper Neuse River subbasin (03020201).

\*\* Not known to occur in the Neuse River basin.

Michaux's sumac

Biological Conclusion: No Effect

Within the study area, suitable habitat for Michaux's sumac consists of maintained/disturbed areas and roadsides. A review of the North Carolina Natural Heritage Program (NCNHP) records, accessed on January 16, 2017, indicates no known occurrences of Michaux's sumac within 1.0 mile of the study. A pedestrian survey for this species was performed by AECOM biologists on May 30, 2017, within all areas of suitable habitat, and no individuals were observed.

Red-cockaded woodpecker

Biological Conclusion: No effect

During the field effort, marginally suitable foraging and nesting habitat was identified for the red-cockaded woodpecker in the study area. Based on the presence of marginally suitable foraging and nesting habitat in the study area, a survey of the study area and an area ½ mile wide surrounding the study area was performed on January 24, 2017 to survey for the presence of cavity trees.

Forest stands that were encountered during the survey were found to be marginally suitable as foraging and nesting habitat for the red-cockaded woodpecker and were primarily closed pine-hardwood mixtures with loblolly pine being the predominant pine species encountered. These forests had a dense pine-hardwood canopy and a regenerating (often dense) hardwood sub-canopy. Although some of the pines in these stands are of preferable size and age (likely 30 years old or older and having a DBH of at least 10 inches or more), the closed and diverse nature of the canopy greatly reduces the suitability of the forest stand as habitat for red-cockaded woodpecker. Large forest stands were rare in the survey area due to fragmentation resulting from the widespread residential and commercial development that has occurred in the vicinity of the study area. The fragmented and degraded habitat quality combined with intense development also reduces the likelihood that the species would persist in the remaining stands if it was at one time present. No active or inactive nest cavities or starts were observed in any of the stands that had estimated nesting age pines in the study area or the surrounding ½ mile buffer. A review of NCNHP records, accessed on January 16, 2017, indicates no known RCW occurrence within 1.0 mile of the study area.

### Dwarf wedgemussel

Biological Conclusion: No Effect

A review of NCNHP records, accessed on January 16, 2017, indicates no known dwarf wedgemussel occurrences within 1.0 mile of the study area. The USFWS has developed a programmatic biological opinion (PBO) in conjunction with NCDOT for bridge and culvert replacements/repairs/rehabilitations in Eastern North Carolina Divisions 1-8. The programmatic determination for dwarf wedgemussel for the NCDOT program is "No Effect". The study area does not fall within the designated 12-digit Section 7 HUC for dwarf wedgemussel.

### Yellow lance

Biological Conclusion: No effect

A review of NCNHP records, accessed on January 16, 2017, indicates no known occurrences of yellow lance within 1.0 mile of the study area. The USFWS has developed a PBO in conjunction with NCDOT for bridge and culvert replacements/repairs/rehabilitations in Eastern North Carolina Divisions 1-8. The programmatic determination for yellow lance for the NCDOT program is "No Effect". The study area does not fall within the designated 12-digit Section 7 HUC for yellow lance.

### Tar River spiny mussel

Biological Conclusion: No effect

A review of NCNHP records, accessed on January 16, 2017, indicates no known occurrences of Tar River spiny mussel within 1.0 mile of the study area. The USFWS has developed a PBO in conjunction with NCDOT for bridge and culvert replacements/repairs/rehabilitations in Eastern North Carolina Divisions 1-8. The programmatic determination for Tar River spiny mussel for the NCDOT program is "No Effect". The study area does not fall within the designated 12-digit Section 7 HUC for Tar River spiny mussel.

### Cape Fear shiner

Biological Conclusion: No effect

The study area for the project extends into both the Jordan Lake Watershed of the Cape Fear River Basin and the Neuse River Basin. However, all water resources in the study area are part of the Neuse River Basin. The Cape Fear Shiner is listed for Wake County, however the species is not known to occur in the Neuse River basin.

### Atlantic pigtoe

Biological Conclusion: Unresolved

A review of NCNHP records, accessed on January 16, 2017, indicates no known Atlantic pigtoe occurrences within 1.0 mile of the study area. Streams within the study area are urban in nature and do not present the pristine headwater habitat the species prefers. If the species becomes listed prior to project construction, a habitat survey request would be submitted to the NCDOT Biological Surveys Group for the species. Once a survey is completed, a Biological Conclusion would be rendered.

### Northern long-eared bat

The USFWS has developed a PBO in conjunction with the Federal Highway Administration (FHWA), the US Army Corps of Engineers (USACE), and NCDOT for the northern long-eared bat (NLEB) (*Myotis septentrionalis*) in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for NLEB for the NCDOT program is "May Affect, Likely to Adversely Affect". The PBO provides incidental take coverage for NLEB and will ensure compliance with Section 7 of the

Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Wake County, where TIP U-5750 is located.

After project completion, the contract administrator for construction must submit the actual amount of tree clearing reported in tenths of acres. This information should be submitted at: <https://connect.ncdot.gov/site/construction/biosurveys/Lists/Northern%20Long%20Eared%20Bat/AllItems.aspx>

#### Bald Eagle and Golden Eagle Protection Act

The bald eagle is protected under the Bald and Golden Eagle Protection Act, and enforced by the USFWS. Habitat for the bald eagle primarily consists of mature forest in proximity to large bodies of open water for foraging.

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 January 16, 2017 using color aerials from the year 2013. While several large, unnamed ponds are located within the study area, the urban nature of the surrounding area precludes the ponds as suitable habitat. A review of the NCNHP records, accessed January 16, 2017, indicated no known bald eagle occurrences within 1.0 mile of the study area. Due to the lack of habitat, known occurrences, and minimal impact anticipated for this project it has been determined that this project will not affect this species.

#### Public Involvement:

Two open house public meetings were held to provide project information to the surrounding community. The meetings were held at the Hyatt House on June 25, 2018 from 11am to 1pm, and then from 5pm to 7pm. A local officials meeting was held in-between the two public meetings at 2pm the same day. Questions and comments from the local officials focused on the design elements and projected schedule. The public meetings were attended by 41 people. Eight written comments were received at the public meeting, and all respondents agreed that the project would improve traffic flow, all participants rated the importance of the project high or very high, and most ranked bicycle/pedestrian safety and access to public transit as the most important topic area relating to the project.

#### Other Agency Comments:

A start of study letter was sent to state, federal, and local agencies on June 26, 2017.

The **US Army Corps of Engineers (USACE)** noted the following: There are no FEMA floodplains within the project study area. Areas of potential hydric soils, associated with the upper ends of tributaries to Stirrup Iron and Crabtree Creeks, cross the central portion of the study area, and occur within the I-540 Interchange portion of the study area. The National Wetland Inventory map shows stream corridors within the I-540 interchange portion of the study area. No historic properties eligible for listing on the National Register of Historic Places, and no occurrences of species protected under the Endangered Species Act, occur within the study area, per GIS mapping.

The **US Fish and Wildlife Service (USFWS)** reviewed the project and responded that the USFWS does not have any specific concerns for this project. Impacts to fish and wildlife resources should be minimal.

The **NCDWR**, in addition to its standard general comments, noted that Kit Creek, Panther Creek, and their tributaries are class WS-IV; NSW waters of the State, and that Crabtree Creek, Lake Crabtree, and their tributaries are class B; NSW; 303(d) impaired waters of the State. The NCDWR is very concerned with sediment and erosion impacts that could result from this project. The NCDWR recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to these streams. Additionally, to meet the requirements of NCDOT's NPDES permit NCS0000250, the NCDWR requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of the North Carolina Department of Transportation Stormwater Best Management Practices Toolbox manual. Additionally, they noted that this project area is within the Neuse River and Lake Jordan Basins. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B.0233 and 15A NCAC 2B.0267. A buffer mitigation plan, including use of the North Carolina Division of Mitigation Services, must be provided to the NCDWR prior to approval of the Water Quality Certification.



**PART A: MINIMUM CRITERIA**

1. Is the proposed project listed as a type and class of activity allowed under the Minimum Criteria Rule in which environmental documentation is not required?

YES

NO

*If the answer to number 1 is “no”, then the project does not qualify as a minimum criteria project. A state environmental assessment is required.*

If yes, under which category? **8, 26**

*If either category #8, #12(i) or #15 is used complete Part D of this checklist.*

**PART B: MINIMUM CRITERIA EXCEPTIONS**

2. Could the proposed activity cause significant changes in land use concentrations that would be expected to create adverse air quality impacts?
3. Will the proposed activity have secondary impacts or cumulative impacts that may result in a significant adverse impact to human health or the environment?
4. Is the proposed activity of such an unusual nature or does the proposed activity have such widespread implications, that an uncommon concern for its environmental effects has been expressed to the Department?
5. Does the proposed activity have a significant adverse effect on wetlands; surface waters such as rivers, streams, and estuaries; parklands; prime or unique agricultural lands; or areas of recognized scenic, recreational, archaeological, or historical value?
6. Will the proposed activity endanger the existence of a species on the Department of Interior's threatened and endangered species list?
7. Could the proposed activity cause significant changes in land use concentrations that would be expected to create adverse water quality or ground water impacts?
8. Is the proposed activity expected to have a significant adverse effect on long-term recreational benefits or shellfish, finfish, wildlife, or their natural habitats.

YES

NO

**PART C: COMPLIANCE WITH STATE AND FEDERAL REGULATIONS**

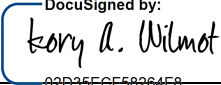
9. Is a federally protected threatened or endangered species, or its habitat, likely to be impacted by the proposed action?
10. Does the action require the placement of temporary or permanent fill in waters of the United States?
11. Does the project require the placement of a significant amount of fill in high quality or relatively rare wetland ecosystems, such as mountain bogs or pine savannahs?
12. Is the proposed action located in an Area of Environmental Concern, as defined in the Coastal Area Management Act?
13. Does the project require stream relocation or channel changes?

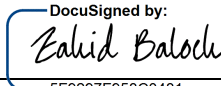
Cultural Resources

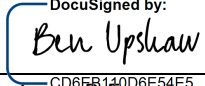
14. Will the project have an "effect" on a property or site listed on the National Register of Historic Places?
15. Will the proposed action require acquisition of additional right of way from publicly owned parkland or recreational areas?

**PART D: (To be completed when either category #8, 12(i) or #15 of the rules are used.)**

16. Project length: 1.8 miles
17. Right of Way width: Varies (100-220 feet)
18. Project completion date: Project Let Spring 2021
19. Total acres of newly disturbed ground surface: 7.6 acres (preferred design alternative)
20. Total acres of wetland impacts: 0 acres (preferred design alternative)
21. Total linear feet of stream impacts: 127 linear feet (preferred design alternative)
22. Project purpose: To improve traffic flow and operations along NC 54 from Shiloh Glenn Drive to Perimeter Park Drive in the Town of Morrisville by widening NC 54 for approximately 1.8 miles.

Prepared by:  Date: 12/19/2018  
Kory Wilmot, AECOM

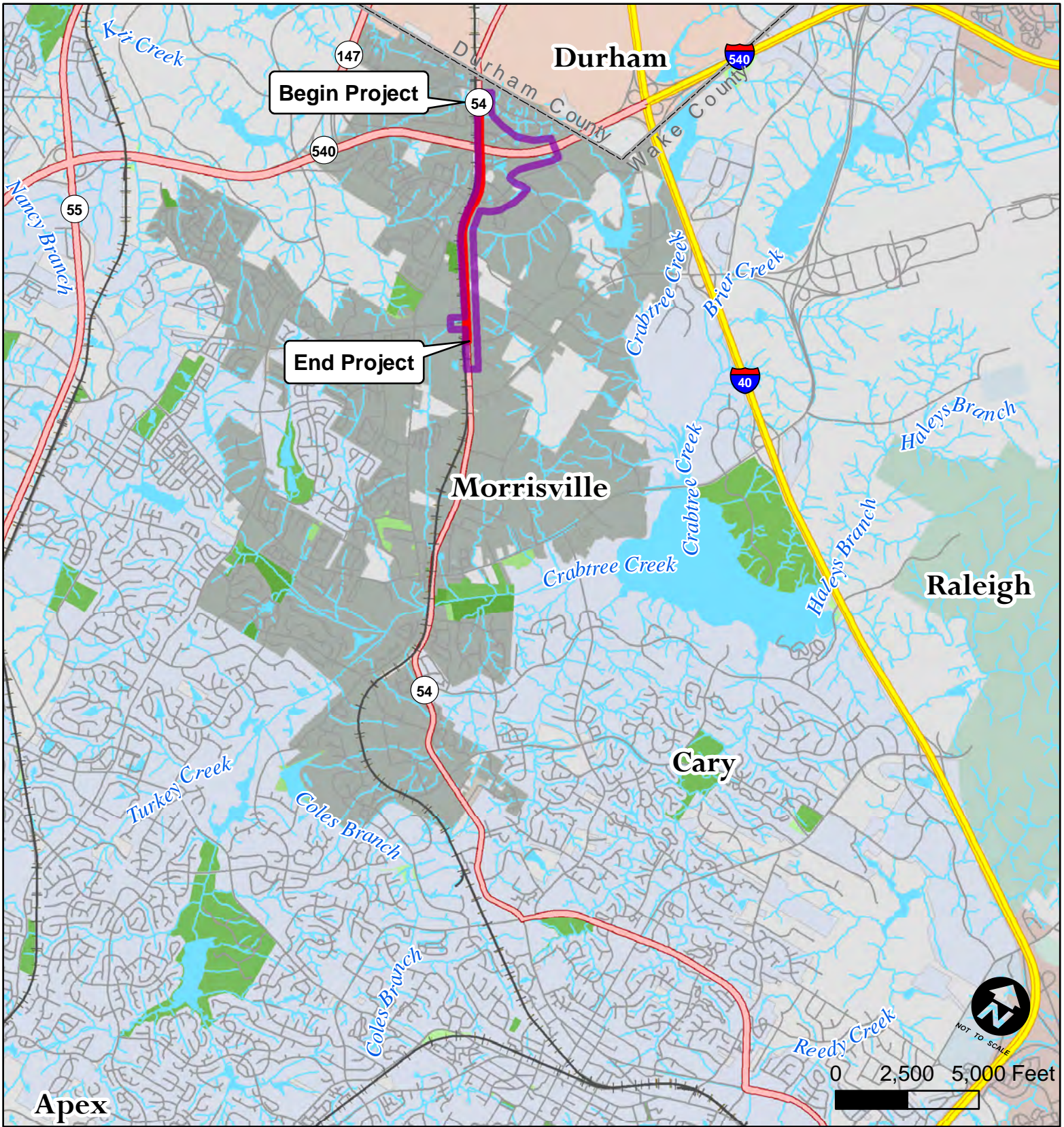
Reviewed by:  Date: 12/19/2018  
Zahid Baloch, P.E.  
Division 5 Project Senior Engineer  
North Carolina Department of Transportation

Approved by:  Date: 12/19/2018  
Ben Upshaw, P.E.  
Division 5 Project Delivery Team Lead  
For Division Engineer  
North Carolina Department of Transportation

## **Project Commitments**

**Wake County  
NC 54 from Shiloh Glenn Drive to Perimeter Park Drive in Morrisville  
W.B.S. No. 50170.1.1  
T.I.P. No. U-5750**

1. During further design efforts, the Design Engineer should coordinate with local transit representatives at GoTriangle to ensure that the project remains compatible with future planned stops and the routes for the GoTriangle RTP Shuttle 49 and Route 311 services. Three months prior to initiating construction, the Design Engineer should coordinate with local transit representatives at GoTriangle to ensure that project construction activities will not require temporary detours or changes to existing route(s).
2. NCDOT will coordinate with Wake County Schools prior to letting the project to construction to allow time for any possible alternate school bus route planning.  
Wake County Schools Transportation Department – (919) 533-7837
3. NCDOT will coordinate with Wake Tech Community College prior to letting the project to construction to allow time for any necessary coordination for student access or movement into and out of the auxillary campus located between the Carrington Mill shopping center and Watkins Road.
4. Access will be maintained to Morrisville Fire and Rescue Department 2 during construction.
5. NCDOT will coordinate with Wake County and local emergency response officials, namely Morrisville Fire and Rescue Department 2 at least one month prior to construction to allow time for any possible alternate route planning.  
Morrisville Fire and Rescue Department 2 – (919) 463-6931  
Wake County EMS – (919) 856-6022
6. If discovery of additional geoenvironmental sites not recorded by regulatory agencies and not reasonably discernible during the project reconnaissance occurs, the GeoEnvironmental Section should be notified immediately after discovery of such sites so their potential impact(s) may be assessed.
7. If further design indicates potential impact to UST's, preliminary site assessments for soil and groundwater contamination will be performed prior to right of way purchase.



**Legend**

U-5750	Railroad	Streams
Study Area	Cary	Waterbody
US Route	Durham	Park
NC Route	Morrisville	Open Space
Local Road	Raleigh	County Boundary

**NC 54 Improvements**

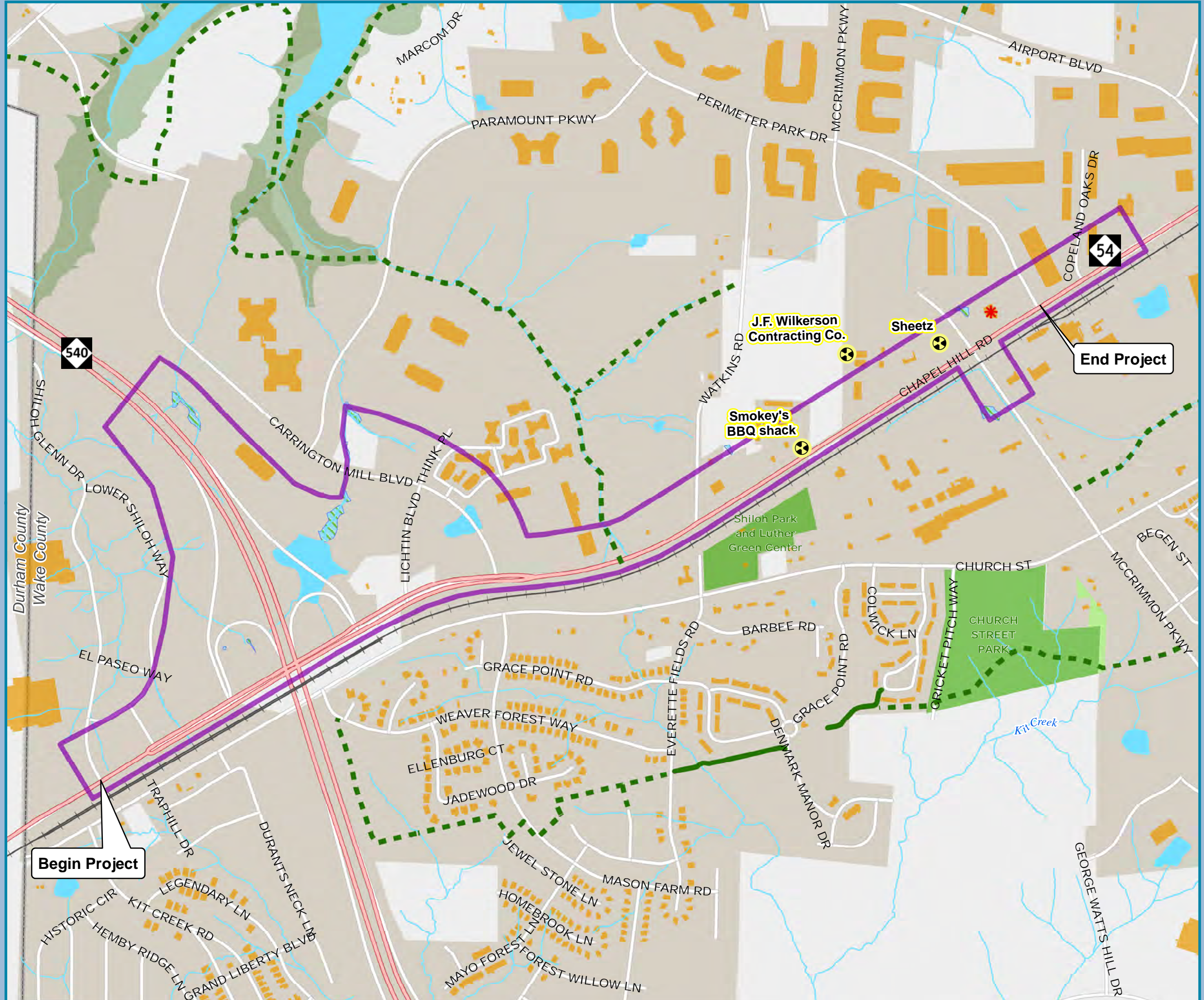
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U-5750

**Vicinity Map**

**AECOM**

November 2018

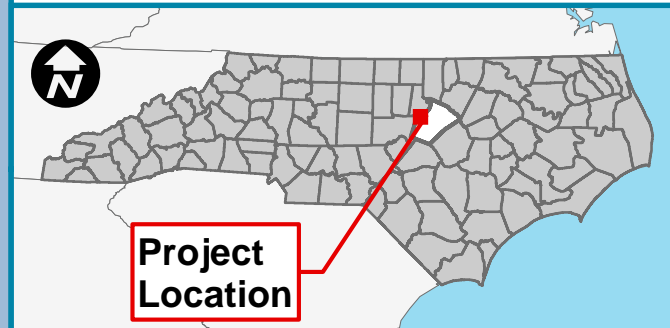


**54** NC 54 Improvements  
U-5750

**Vicinity Map**

**Legend**

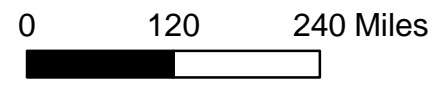
- U-5750
- Study Area
- Geoenvironmental Sites
- Fire Station
- NC Route
- Local Road
- Railroad
- Existing Greenway
- Proposed Greenway
- Park
- Open Space
- Streams
- Waterbody
- Wetlands
- 100 Year Floodplain
- Building Footprint
- County Boundary



This map is for reference only.  
Sources: Data was received by  
NC Department of Transportation,  
ESRI, NCFPM, AECOM



**AECOM**



**Begin Project**

**End Project**



ROY COOPER  
Governor

MICHAEL S. REGAN  
Secretary

S. JAY ZIMMERMAN  
Director

July 20, 2017

**MEMORANDUM**

To: Zahid M. Baloch, PE, NCDOT Project Development Group  
From: Rob Ridings, NC Division of Water Resources, Transportation Permitting Branch  
Subject: Scoping comments on proposed improvements to NC Hwy 54 in Morrisville, Wake County, State Project No. 50170.1.1, TIP # U-5750

Reference your correspondence received June 28, 2017 in which you requested comments for the referenced project. Preliminary analysis of the project reveals the potential for multiple impacts to streams, buffers and/or jurisdictional wetlands in the project area. More specifically, impacts to:

Stream Name	River Basin & Subbasin	Stream Classifications	Stream Index Number	303(d) Listing?
Crabtree Creek & UTs Lake Crabtree	NEU 02	B; NSW	27-33-(3.5)	Yes
Kit Creek	CPF 05	WS-IV; NSW	16-41-1-17-2	No
Panther Creek	CPF 05	WS-IV; NSW	16-41-1-17-3	No

Further investigations at a higher resolution should be undertaken to verify the presence of other streams and/or jurisdictional wetlands in the area. In the event that any jurisdictional areas are identified, the Division of Water Resources requests that NCDOT consider the following environmental issues for the proposed project:

**Project Specific Comments:**

1. Kit Creek, Panther Creek, and their tributaries are class WS-IV; NSW waters of the State. The NCDWR is very concerned with sediment and erosion impacts that could result from this project. The NCDWR recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to these streams. Additionally, to meet the requirements of NCDOT’s NPDES permit NCS0000250, the NCDWR requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual.

2. Crabtree Creek, Lake Crabtree, and their tributaries are class B; NSW; 303(d) impaired waters of the State. The NCDWR is very concerned with sediment and erosion impacts that could result from this project. The NCDWR recommends that the most protective sediment and erosion control BMPs be implemented in accordance with *Design Standards in Sensitive Watersheds* (15A NCAC 04B .0124) to reduce the risk of further impairment to these waters. Additionally, to meet the requirements of NCDOT’s NPDES permit NCS0000250, the NCDWR requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual.



State of North Carolina | Environmental Quality

1617 Mail Service Center | Raleigh, North Carolina 27699-1617

3. This project area is within the Neuse River and Lake Jordan Basins. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B.0233 and 15A NCAC 2B.0267. New development activities located in the protected 50-foot wide riparian areas within the basin shall be limited to “uses” identified within and constructed in accordance with 15A NCAC .02B .0295. Buffer mitigation may be required for buffer impacts resulting from activities classified as “allowable with mitigation” within the “Table of Uses” section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, including use of the North Carolina Division of Mitigation Services, must be provided to the NCDWR prior to approval of the Water Quality Certification. Buffer mitigation may be required for buffer impacts resulting from activities classified as “allowable with mitigation” within the “Table of Uses” section of the Buffer Rules or require a variance under the Buffer Rules. A buffer mitigation plan, coordinated with the North Carolina Division of Mitigation Services, must be provided to the NCDWR prior to approval of the Water Quality Certification.

#### **General Project Comments:**

1. The environmental document should provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping. If mitigation is necessary as required by 15A NCAC 2H.0506(h), it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation. Appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.
2. Environmental impact statement alternatives shall consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. These alternatives shall include road designs that allow for treatment of the storm water runoff through best management practices as detailed in the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Tool* box manual, such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.
3. 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 shall be designed to replace appropriate lost functions and values. North Carolina Division of Mitigation Services may be available for assistance with wetland mitigation.
4. 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 perennial stream. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The North Carolina Division of Mitigation Services may be available for assistance with stream mitigation.
5. Future documentation, including the 401 Water Quality Certification Application, shall continue to include an itemized listing of the proposed wetland and stream impacts with corresponding mapping.
6. The NCDWR is very concerned with sediment and erosion impacts that could result from this project. The 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.
7. 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 Resource Policy on the assessment of secondary and cumulative impacts dated April 10, 2004.

8. The 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.
9. Where streams must be crossed, the NCDWR prefers bridges be used in lieu of culverts. However, we realize that economic considerations often require the use of culverts. Please be advised that culverts should be countersunk to allow unimpeded passage by fish and other aquatic organisms. Moreover, in areas where high quality wetlands or streams are impacted, a bridge may prove preferable. When applicable, the NCDOT should not install the bridge bents in the creek, to the maximum extent practicable.
10. Whenever possible, the NCDWR prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the streambanks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges shall allow for human and wildlife passage beneath the structure. Fish passage and navigation by canoeists and boaters shall not be blocked. Bridge supports (bents) should not be placed in the stream when possible.
11. 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. To meet the requirements of NCDOT's NPDES permit NCS0000250, please refer to the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual for approved measures.
12. Sediment and erosion control measures should not be placed in wetlands or streams.
13. Borrow/waste areas should avoid wetlands to the maximum extent practical. Impacts to wetlands in borrow/waste areas will need to be presented in the 401 Water Quality Certification and could precipitate compensatory mitigation.
14. 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.
15. Based on the information presented in the document, the magnitude of impacts to wetlands and streams may require a 404 Permit application to the Corps of Engineers and corresponding 401 Water Quality Certification. Please be advised that a 401 Water Quality Certification requires satisfactory protection of water quality to ensure that water quality standards are met and no wetland or stream uses are lost. Final permit authorization will require the submittal of a formal application by the NCDOT and written concurrence from the NCDWR. 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.
16. 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.
17. 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.
18. Unless otherwise authorized, placement of culverts and other structures in waters and streams 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 downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by the NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required.

19. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation, floodplain benches, and/or sills may be required where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
20. If foundation test borings are necessary; it shall be noted in the document. Geotechnical work is approved under General 401 Certification Number 3883/Nationwide Permit No. 6 for Survey Activities.
21. 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.
22. 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 the 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.
23. 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.
24. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment shall be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.
25. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.
26. 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.

Thank you for requesting our input at this time. The NCDOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact Rob Ridings at 919-707-8786.

**From:** Baloch, Zahid M  
**To:** [Wilmot, Kory](#)  
**Cc:** [Kneis, Michael J](#); [Upshaw, Ben](#); [Rivenbark, Chris](#)  
**Subject:** FW: Start of Study for STIP U-5750; NC 54 Widening, Morrisville, Wake County, NC; AID SAW-2017-1481.  
**Date:** Friday, July 21, 2017 12:46:47 PM

---

FYI, please let me know if you have any questions. Thanks

Zahid M. Baloch P.E.  
Division 5 Senior Project Engineer  
North Carolina Department of Transportation

919 707 6012 office  
zbaloch@ncdot.gov

1548 Mail Service Center  
Raleigh, NC 27699-1548

Email correspondence to and from this address is subject to the  
North Carolina Public Records Law and may be disclosed to third parties.

-----Original Message-----

**From:** Alsmeyer, Eric C CIV USARMY CESAW (US) [<mailto:Eric.C.Alsmeier@usace.army.mil>]  
**Sent:** Friday, July 21, 2017 12:06 PM  
**To:** Baloch, Zahid M <zbaloch@ncdot.gov>  
**Subject:** RE: Start of Study for STIP U-5750; NC 54 Widening, Morrisville, Wake County, NC; AID SAW-2017-1481.

Zahid: This is in response to your letter dated June 26, 2017, requesting comments on the Start of Study for STIP U-5750, NC 54 Widening, from Shiloh Glenn Drive to Perimeter Park Drive, north of Morrisville, Wake County, NC. Thank you for the opportunity to comment.

My comments: There are no FEMA floodplains within the project study area. Areas of potential hydric soils, associated with the upper ends of tributaries to Stirrup Iron and Crabtree Creeks, cross the central portion of the study area, and occur within the I-540 Interchange portion of the study area. The National Wetland Inventory map shows stream corridors within the I-540 interchange portion of the study area. No historic properties eligible for listing on the National Register of Historic Places, and no occurrences of species protected under the Endangered Species Act, occur within the study area, per GIS mapping.

Please reply or call if you have any questions or if I may serve you in any other way.

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at [http://corpsmapu.usace.army.mil/cm\\_apex/f?p=136:4:0](http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0).

Eric  
Eric Alsmeyer  
Project Manager

Regulatory Division Office  
US Army Corps of Engineers, Wilmington District  
3331 Heritage Trade Drive, Suite 105, Wake Forest, NC 27587

Tel: (919) 554-4884, x23

Fax: (919) 562-0421

Regulatory Homepage: <http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram.aspx>

Please reply or call if you have any questions or if I may serve you in any other way. The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at [http://corpsmapu.usace.army.mil/cm\\_apex/f?p=136:4:0](http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0).

Thank you,

Eric

Eric Alsmeyer

Project Manager

Regulatory Division Office

US Army Corps of Engineers, Wilmington District

3331 Heritage Trade Drive, Suite 105, Wake Forest, NC 27587

Tel: (919) 554-4884, x23

Fax: (919) 562-0421

Regulatory Homepage: <http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram.aspx>

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

**From:** Baloch, Zahid M  
**To:** [Wilmot, Kory](#)  
**Cc:** [Upshaw, Ben](#)  
**Subject:** FW: U-5750  
**Date:** Wednesday, July 05, 2017 11:44:33 AM  
**Attachments:** [image002.png](#)

---

FYI

Zahid M. Baloch P.E.  
Division 5 Senior Project Engineer  
North Carolina Department of Transportation

919 707 6012 office  
[zbaloch@ncdot.gov](mailto:zbaloch@ncdot.gov)

1548 Mail Service Center  
Raleigh, NC 27699-1548



*Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.*

**From:** Jordan, Gary [mailto:[gary\\_jordan@fws.gov](mailto:gary_jordan@fws.gov)]  
**Sent:** Wednesday, July 05, 2017 11:07 AM  
**To:** Baloch, Zahid M <[zbaloch@ncdot.gov](mailto:zbaloch@ncdot.gov)>  
**Subject:** U-5750

Zahid,

I have reviewed the information included with your Start of Study letter for the proposed NC 54 widening from Shiloh Glenn Drive to Perimeter Park Drive in Morrisville, Wake County. The USFWS does not have any specific concerns for this project. Impacts to fish and wildlife resources should be minimal. Thank you for the opportunity to review.

**Gary Jordan**  
Fish and Wildlife Biologist, Liaison to NCDOT  
US Fish and Wildlife Service  
**P.O. Box 33726**  
**Raleigh, NC 27636-3726**

Phone: 919-856-4520 x.32  
Fax: 919-856-4556  
Email: [gary\\_jordan@fws.gov](mailto:gary_jordan@fws.gov)

***NOTE: This email correspondence and any attachments to and from this sender are subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.***

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



## NO ARCHAEOLOGICAL SURVEY REQUIRED FORM

This form only pertains to ARCHAEOLOGICAL RESOURCES for this project. It is not valid for Historic Architecture and Landscapes. You must consult separately with the Historic Architecture and Landscapes Group.



### PROJECT INFORMATION

Project No: **U-5750** County: **Wake**  
 WBS No: **50170.1.1** Document: **State EA/FONSI**  
 F.A. No: Funding:  State  Federal  
 Federal Permit Required?  Yes  No Permit Type: **USACE**

**Project Description:** The project involves the construction of additional lanes on NC 54 from I-540 to Perimeter Park Drive in Wake County, North Carolina. The archaeological Area of Potential Effects (APE) encompasses the entire project study area as depicted on the attached mapping.

### SUMMARY OF CULTURAL RESOURCES REVIEW

#### **Brief description of review activities, results of review, and conclusions:**

Permitting and funding information was reviewed for determining the level of archaeological input required by state and federal laws. Based on the submitted "request for cultural resources review" form, the project is state-funded with federal permit interaction. As such, Section 106 of the National Historic Preservation Act will apply to the project and the United States Army Corps of Engineers will serve as the lead federal agency. Next, construction design and other data was examined (when applicable) to define the character and extent of potential impacts to the ground surfaces embracing the project locale. Since no refinements have been made nor a preferred alternative selected for the project, the APE will encompass the entire project study area.

Once an APE was outlined, a map review and site file search was conducted at the Office of State Archaeology (OSA). Nearly half of the APE had been previously surveyed for the I-540 project. The survey identified one archaeological site (31WA623) which is included within the current project study area. The site was determined not eligible for the National Register of Historic Places (NRHP) and was destroyed by the construction of I-540.

Examination of NRHP, State Study Listed (SL), Locally Designated (LD), Determined Eligible (DE), and Surveyed Site (SS) properties employing resources available on the NCSHPO website is important in establishing the location of noteworthy historic occupations related to a perspective construction impact area. A cross-check of these mapped resources concluded that none of the above properties with potential contributing archaeological components are situated within or proximal to the APE. In addition, historic maps of Wake County were appraised to identify former structure locations, land use patterns, or other confirmation of historic occupation in the project vicinity. Archaeological/historical reference materials were inspected as well. In general, the cultural background review established that no previously recorded archaeological sites, NRHP properties, or cemeteries are located within the APE. Based on cultural-historical factors, the APE is considered to have a low potential for the documentation of archaeological resources.

Further, topographic, geologic, flood boundary, and NRCS soil survey maps were referenced to evaluate pedological, geomorphological, hydrological, and other environmental determinants that may have resulted in past occupation at this location. Aerial and on-ground photographs (NCDOT Spatial Data Viewer) and the Google Street View map application (when amenable) were also examined/utilized for additional assessment of disturbances, both natural and human induced, which compromise the integrity of archaeological sites. Environmental/impact factors do not suggest a heightened potential for archaeological resource recovery.

17-07-0004

***Brief Explanation of why the available information provides a reliable basis for reasonably predicting that there are no unidentified historic properties in the APE:***

Most of the northern half of the project study area has been previously surveyed for archaeological resources. The remaining portion has been heavily disturbed by commercial development and contains eroded underlying soils. Significant, intact, and preserved archaeological deposits eligible for NRHP listing are unlikely to be present in the defined APE. As currently proposed as a state-funded project with federal permit interaction, no further consultation is advocated. A finding of "no archaeological survey required" is considered appropriate.

**SUPPORT DOCUMENTATION**

See attached:  Map(s)     Previous Survey Info     Photos     Correspondence  
 Photocopy of County Survey Notes    Other:

**FINDING BY NCDOT ARCHAEOLOGIST**

**NO ARCHAEOLOGY SURVEY REQUIRED**

*Scott Eric Halverson*

NCDOT

8.30.2017



NC 54 Improvements  
U-5750

Figure 2:  
Environmental features

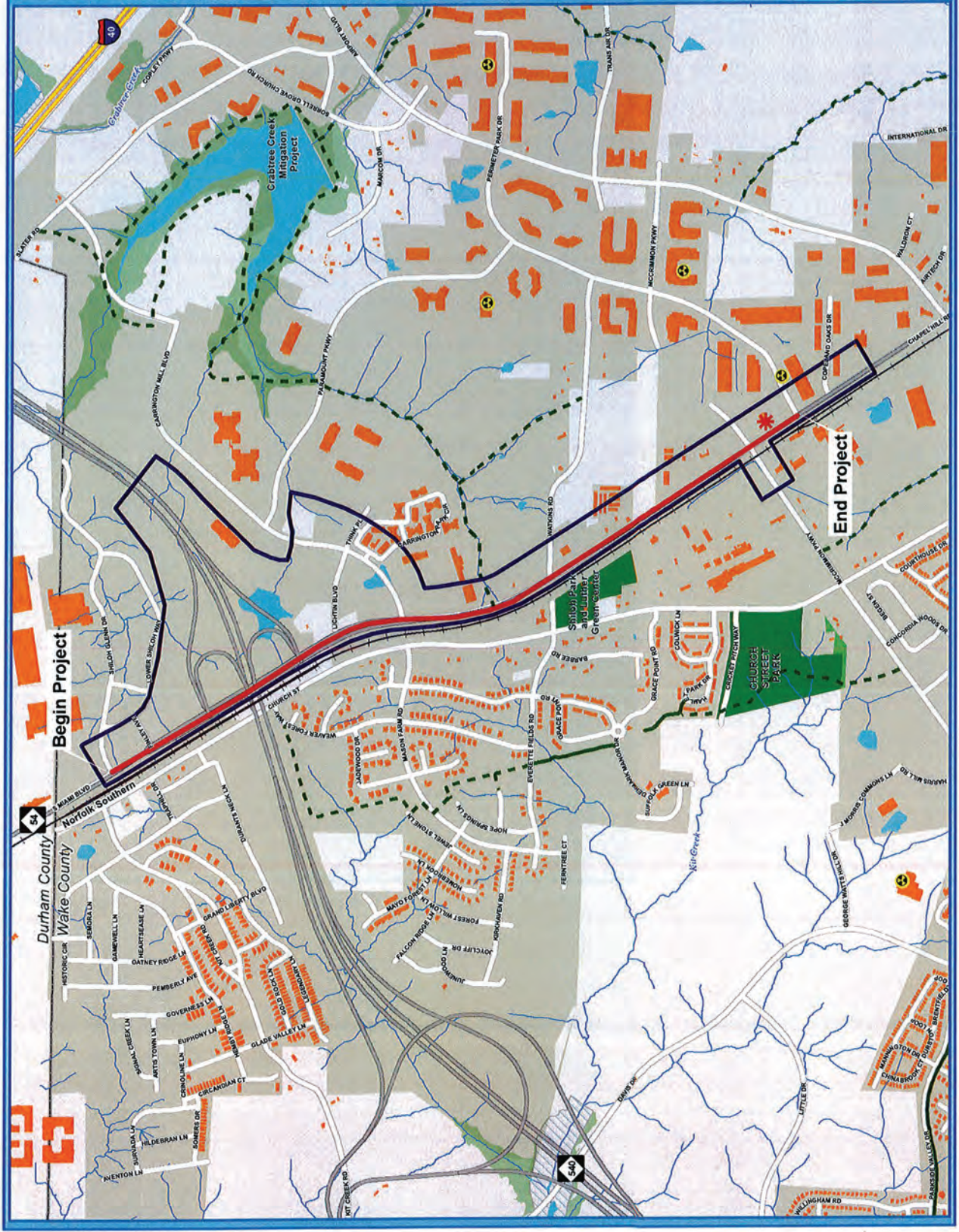
- Legend**
- U-5750
  - Study Area
  - Interstate
  - NC Route
  - Local Streets
  - Railroad
  - Existing Greenway
  - Proposed Greenway
  - Streams
  - Hazardous Waste Sites
  - Fire Station
  - County
  - Wake County Building Footprints
  - Waterbodies
  - FEMA Floodway
  - 100 Year Floodplain
  - Open Space
  - Park
  - Town of Morrisville



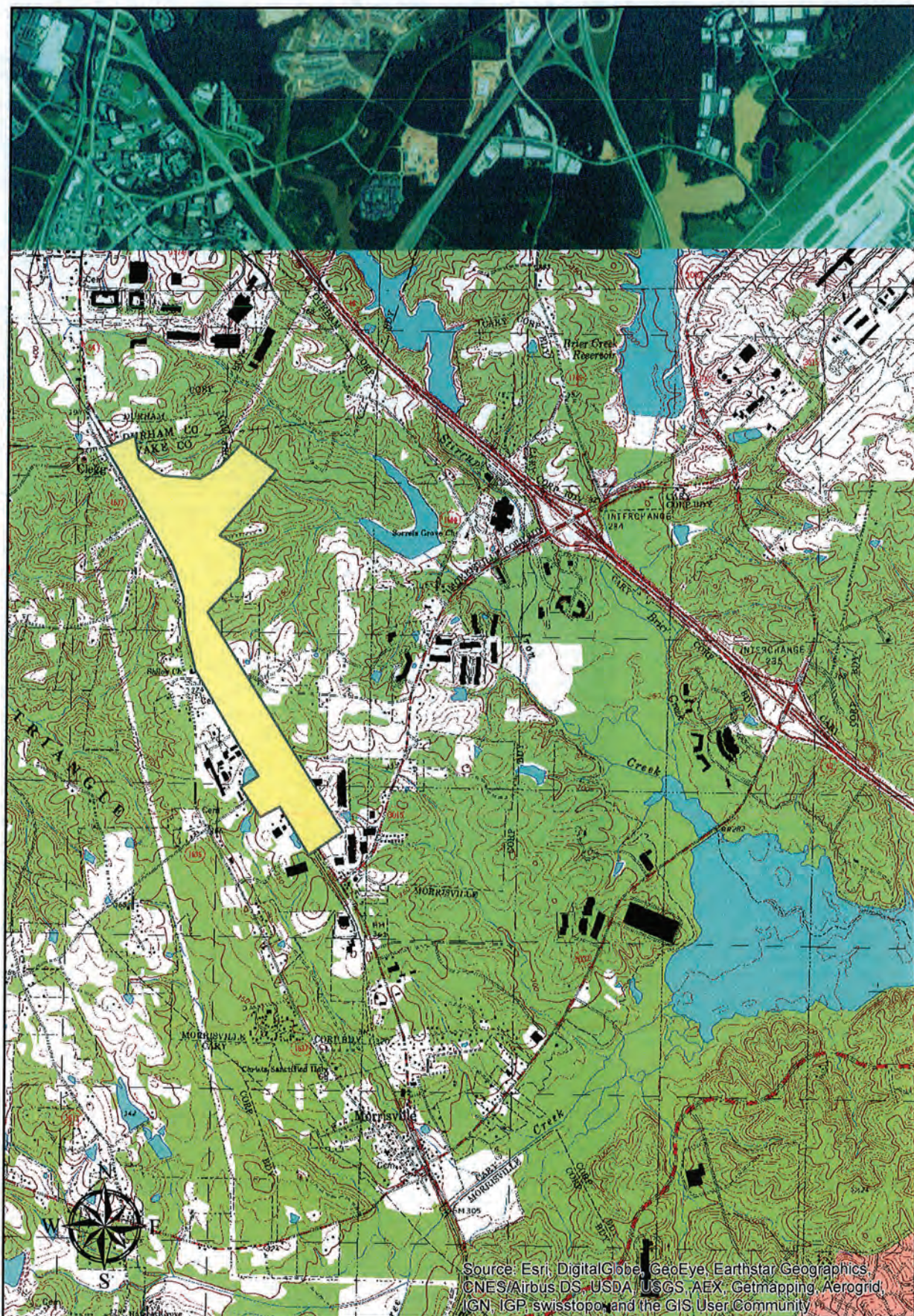
September 2016  
 This map is for reference only.  
 Sources: Data was received by  
 NC Department of Transportation,  
 ESRI, NCFPM, AECOM

**AECOM**

0 500 1,000 Feet







Portion of the topographic map image relating the boundaries and location of the Area of Potential Effects (APE) in Wake County, North Carolina.



## HISTORIC ARCHITECTURE AND LANDSCAPES NO SURVEY REQUIRED FORM

This form only pertains to Historic Architecture and Landscapes for this project. It is not valid for Archaeological Resources. You must consult separately with the Archaeology Group.

### PROJECT INFORMATION

<b>Project No:</b>	U-5750	<b>County:</b>	Wake
<b>WBS No.:</b>	50170.1.1	<b>Document Type:</b>	
<b>Fed. Aid No.:</b>		<b>Funding:</b>	X State    Federal
<b>Federal Permit(s):</b>	X Yes    No	<b>Permit Type(s):</b>	USACE
<b>Project Description:</b> Widen and add turn lanes to NC 54 from Shiloh Glenn Drive to Perimeter Park Drive in Morrisville (no off-site detour specified in review request).			

### SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

**DESCRIPTION OF REVIEW ACTIVITIES, RESULTS, AND CONCLUSIONS:** HPOWeb reviewed on 7 August 2017 and yielded no NR, SL, LD, DE, or SS properties in the Area of Potential Effects (APE). Wake County current GIS mapping, aerial photography, and tax information indicated a mostly developed APE with predominantly commercial resources dating from the 1970s to the 2010s (viewed 7 August 2017). A mid-twentieth-century house and commercial building are both unexceptional and altered examples of their types. Bridge Numbers 1043 and 1044, both built in 2007, are not eligible for the National Register as they are neither aesthetically nor technologically significant. Google Maps "Street View" confirmed the absence of critical architectural and landscape resources in the APE (viewed 7 August 2017).

**No architectural survey is required for the project as currently defined.**

**WHY THE AVAILABLE INFORMATION PROVIDES A RELIABLE BASIS FOR REASONABLY PREDICTING THAT THERE ARE NO UNIDENTIFIED SIGNIFICANT HISTORIC ARCHITECTURAL OR LANDSCAPE RESOURCES IN THE PROJECT AREA:** APE equates with the study area included in the June 2017 start of study information packet (see attached). The comprehensive architectural surveys of the county (1988-91 and 2005-6) and related publication, as well as later studies, recorded no properties in the APE (Kelly Lally, *The Historic Architecture of Wake County, North Carolina* (Raleigh: Wake County Government, 1994)). County GIS/tax materials and other visuals support the absence of significant architectural and landscape resources. No National Register-listed or -eligible properties are located within the APE.

**Should the design of the project change, please notify NCDOT Historic Architecture as additional review may be necessary.**

### SUPPORT DOCUMENTATION

X Map(s)     Previous Survey Info.     Photos     Correspondence     Design Plans

### FINDING BY NCDOT ARCHITECTURAL HISTORIAN

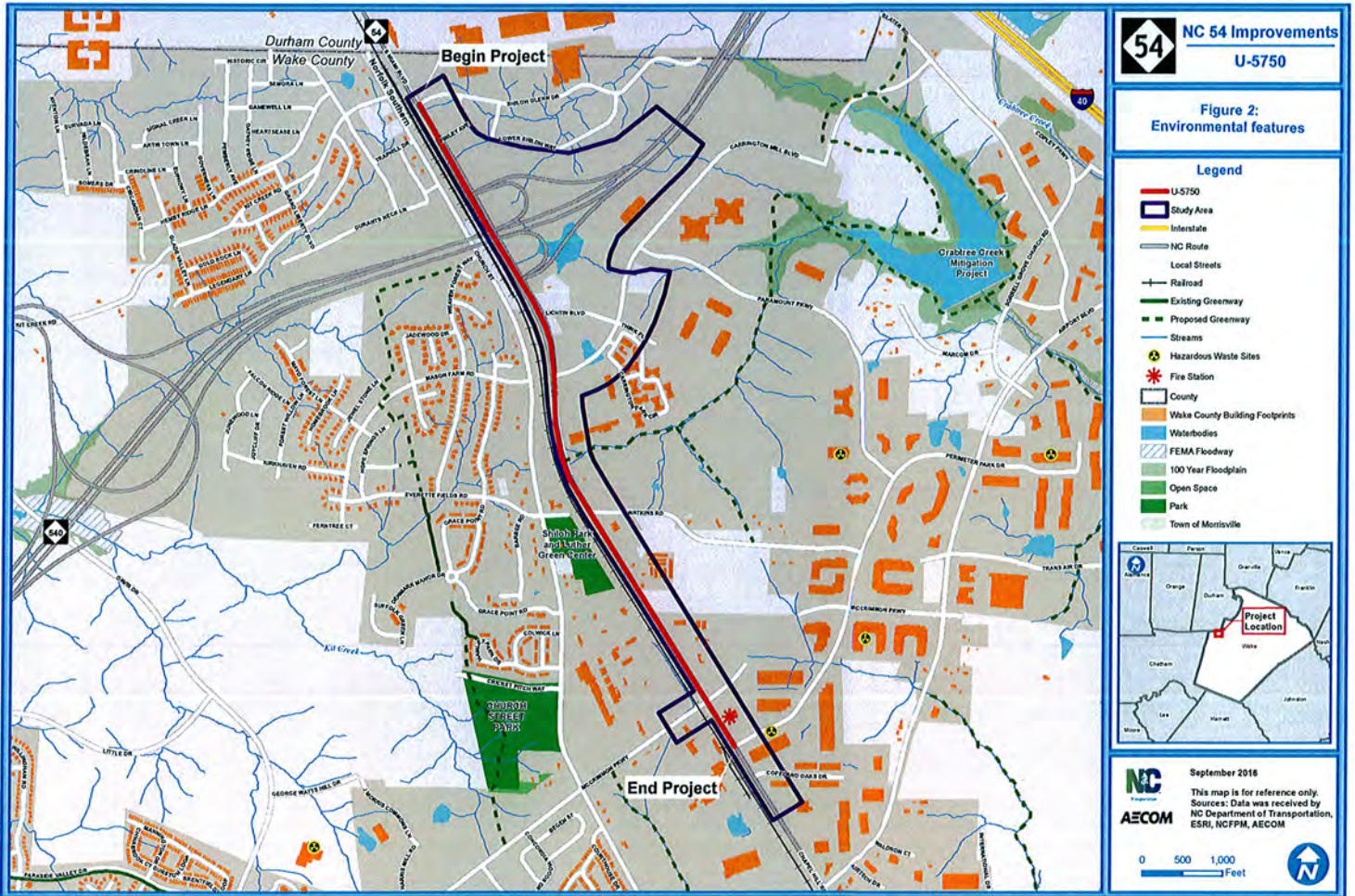
Historic Architecture and Landscapes -- NO SURVEY REQUIRED

*Vanessa E. Patrick*

*7 August 2017*

NCDOT Architectural Historian

Date



Tracking No. 17-07-0004



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

ROY COOPER  
GOVERNOR

JAMES H. TROGDON, III  
SECRETARY

April 9, 2018

MEMORANDUM TO: Zahid Baloch, PE  
Senior Project Engineer – Project Development  
Division 5 Project Delivery

FROM: Dennis G. Li, Ph.D., LG  
GeoEnvironmental Project Manager  
GeoEnvironmental Section  
Geotechnical Engineering Unit

DocuSigned by:  
*Dennis Li*  
3288528EC798426...  
4/9/2018

TIP NO: U-5750  
WBS: 50170.1.1  
COUNTY: WAKE  
DIVISION: 5  
DESCRIPTION: NC 54 Widening from Shiloh Glenn Drive to Perimeter Park Drive, Morrisville, Wake County

SUBJECT: **GeoEnvironmental Planning Report**

The GeoEnvironmental Section of the Geotechnical Engineering Unit performed a Phase I field investigation on February 20, 2018 for the above referenced project to identify geoenvironmental sites of concern. The purpose of this report is to document sites of concern within the project study area that are or may be contaminated. These sites of concern should be included in the environmental planning document in an effort to assist the project stakeholders in reducing or avoiding impacts to these sites. Sites of concern may include, but are not limited to, underground storage tank (UST) sites, dry cleaning facilities, hazardous waste sites, regulated landfills and unregulated dumpsites.

**Findings**

Three (3) sites of concern were identified within the proposed study area. We anticipate low monetary and scheduling impacts resulting from these sites. See the following table and figure for details.

Please note that discovery of additional sites not recorded by regulatory agencies and not reasonably discernible during the project reconnaissance may occur. The GeoEnvironmental Section should be notified immediately after discovery of such sites so their potential impact(s) may be assessed.

If there are questions regarding the geoenvironmental issues, please contact me, at 919-707-6857.

cc:

John Pilipchuk, LG, PE, State Geotechnical Engineer

Stephen R. Morgan, PE, State Hydraulics Engineer

Andrew McDaniel, PE, Stormwater NPDES Permit Program - Engineering Supervisor

Brian Hanks, PE, State Structures Engineer

Dale Burton, PE, PLS, State Locations and Surveys Engineer

Carl Barclay, PE, State Utilities Manager

Boyd Tharrington, PE, Division 5 Construction Engineer

Kathy Smith, Division 5 Right of Way Agent

Chris Kreider, PE, Geotechnical Regional Manager

Neil Roberson, LG, Regional Geological Engineer

Steve Grimes, ROW Unit, Negotiations, State Negotiator

[row-notify@ncdot.gov](mailto:row-notify@ncdot.gov)

[roadwaydesign@ncdot.gov](mailto:roadwaydesign@ncdot.gov)

File

**(01) Property Name:**  
SHEETZ INC 525  
10700 CHAPEL HILL ROAD  
MORRISVILLE, NC 27560-8848

**Property Owner:**  
SHEETZ INC.  
5700 SIXTH AVENUE,  
ALTOONA, PA 16602-1111

**Facility ID:** 00-0-0000038504  
**Incident Type/Number:** N/A

**UST Owner:**  
SHEETZ INC.  
5700 SIXTH AVENUE,  
ALTOONA, PA 16602-1111



**Anticipated Impacts: LOW**

This is a CITGO Active gas station. No groundwater incident is associated with this facility and there are no monitoring wells are observed on site during the site visit.

---

**(02) Property Name:**

J.F. Wilkerson Contracting Co., Inc  
10710 CHAPEL HILL ROAD  
MORRISVILLE, NC 27560-8848

**Property Owner:**

WILKERSON, JOSEPH M  
PO BOX 183  
MORRISVILLE, NC 27560-0183

**Facility ID:** 00-0-0000027353

**Incident Type/Number:** N/A

**UST Owner:**

J.F. Wilkerson Contracting Company  
MORRISVILLE, NC 27560-0183



**Anticipated Impacts:** LOW

This is an active utility contracting business since 1968. Reportedly there was one 8000 gallon UST installed, operated and removed on site. There are no groundwater incidents associated with this site and no monitoring wells were observed during this visit.

---

**(03) Property Name:**  
Smokey's BBQ Shack  
10800 CHAPEL HILL ROAD  
MORRISVILLE, NC 27560-8848

**Property Owner:**  
BEERMAN, STEPHEN SCOTT  
123 TIERCEL CT  
CARY , NC 27518-8605

**Facility ID:** NA  
**Incident Type/Number:** N/A

**UST Owner:**  
N/A



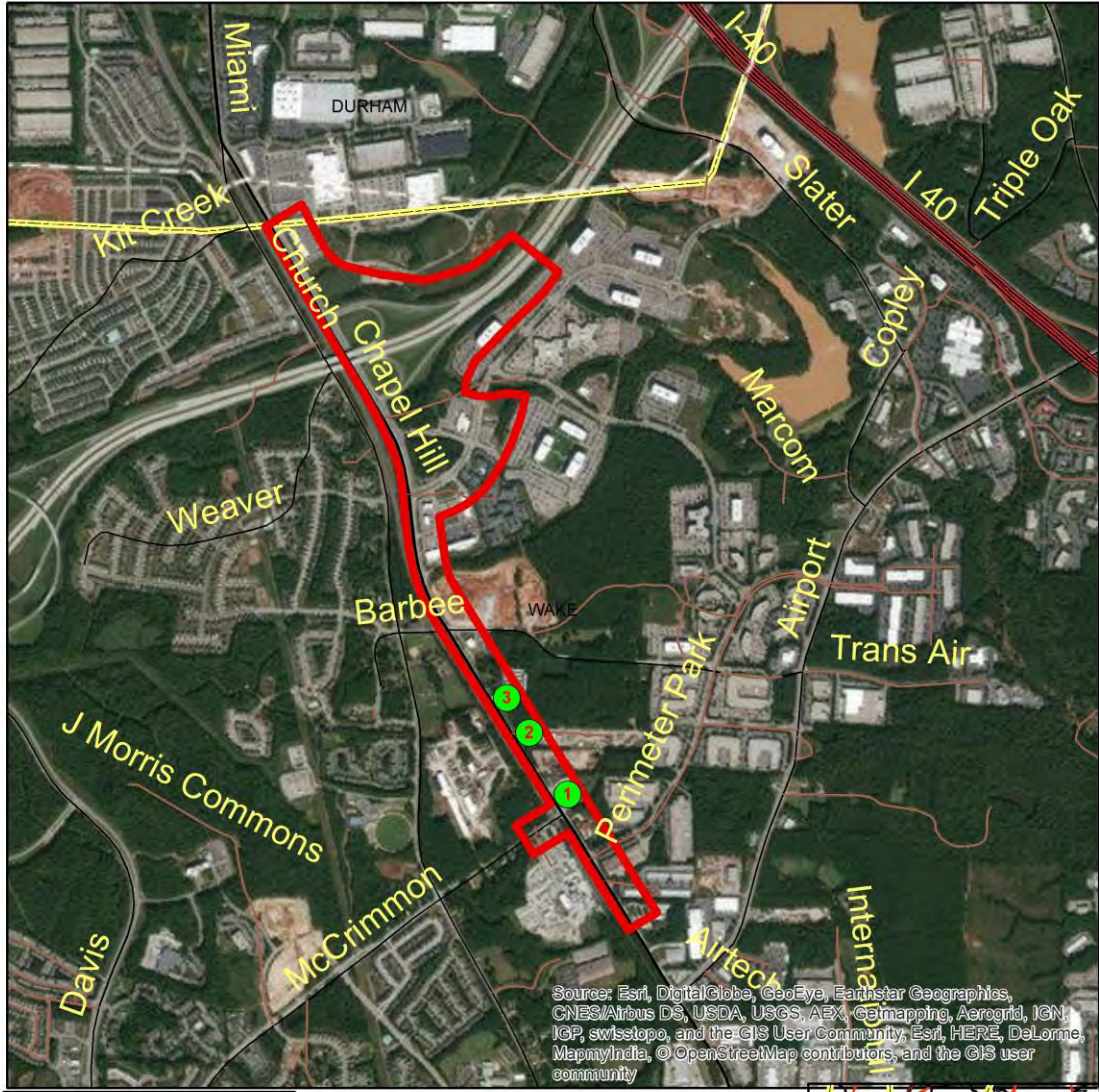
**Anticipated Impacts:** LOW

This is an active restaurant business. Based on the style and location of the property, this could be a former country grocery store and gas station. However, no groundwater incident is associated with this facility and there were no monitoring wells observed on site during this visit.

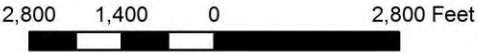
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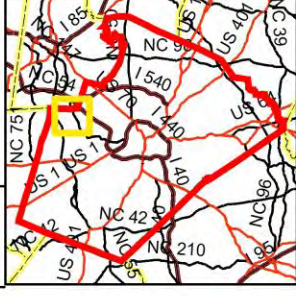
Appendix A  
Location of GeoEnvironmental Sites of Concern



Project 50170.1.1 (TIP # U-5750)  
NC 54 Widening from Shiloh Glenn Drive  
to Perimeter Park Drive in Morrisville,  
Wake County



NC Department of Transportation  
Geotechnical Engineering Unit  
GeoEnvironmental Section



## U-5750 N.C. 54 Improvements: Summary of Public Meeting #1 held on June 25<sup>th</sup> 2018

The North Carolina Department of Transportation (NCDOT) is completing the environmental studies and the functional designs for the proposed improvements to N.C. 54 (STIP No. U-5750), which extends from Shiloh Glenn Drive to just southeast of Perimeter Park Drive. This project will involve widening the existing facility to a four-lane, median-divided facility and adding additional turning lanes.

NCDOT mailed 4,330 bilingual postcards inviting the public to Public Meeting #1. The postcard was sent through Every Day Direct Mail to mail routes within and around the project study area as well as mailed directly to property owners within the study area. The public were able to choose between a lunch-time meeting and an evening meeting. The meeting was designed to show the public the functional designs being studied, to answer questions, and collect public comments. In addition to mailing postcards, local newspapers and news stations ran advertisements announcing the meeting, and an email was sent to the business tenants in Perimeter Park.

NCDOT maintains a project website which provides materials that were presented at the public meeting as well as other additional project information. NCDOT activated a toll-free project information hotline to allow the public to call for project information or project updates. The project hotline allowed for the Spanish-speaking public to contact the project team. NCDOT also provided the opportunity to have a Spanish translator at the meeting upon request.

The meeting was held at the Hyatt House in Morrisville. Public comments were collected in writing at the meeting and were accepted by email and postal mail.

The following sections represent a summary of the responses received, as of July 16, 2018.

	<b>Means by which the public found out about the meeting:</b>
7	Postcard
5	Newspaper
0	Radio
10	Email
13	Other (TV, elected officials, etc)
	<b>Number of meeting attendees who signed in at the registration:</b>
Signed In	36
Attendees (guest of those signed in)	41
	<b>Comments received as a result of meetings:</b>
at the Public Meeting	7
via Mail	0
via Email	1
<b>Total</b>	<b>8</b>

### **-Summary of comment received categorized by type of comment (attached).**

Note: Plan of the corridor shown to the public is attached for reference.

# Minutes

<b>Meeting name</b> U-5750 Local Official's Informational Meeting	<b>Subject</b> N.C. 54 Widening (STIP No. U-5750)	<b>Attendees</b> See attached.	<b>Circulation list</b> Project file
<b>Meeting date</b> 6/25/2018	<b>Time</b> 2:00 PM		
<b>Location</b> Hyatt House, 10962 Chapel Hill Road, Morrisville, NC	<b>Prepared by</b> Kory Wilmot		

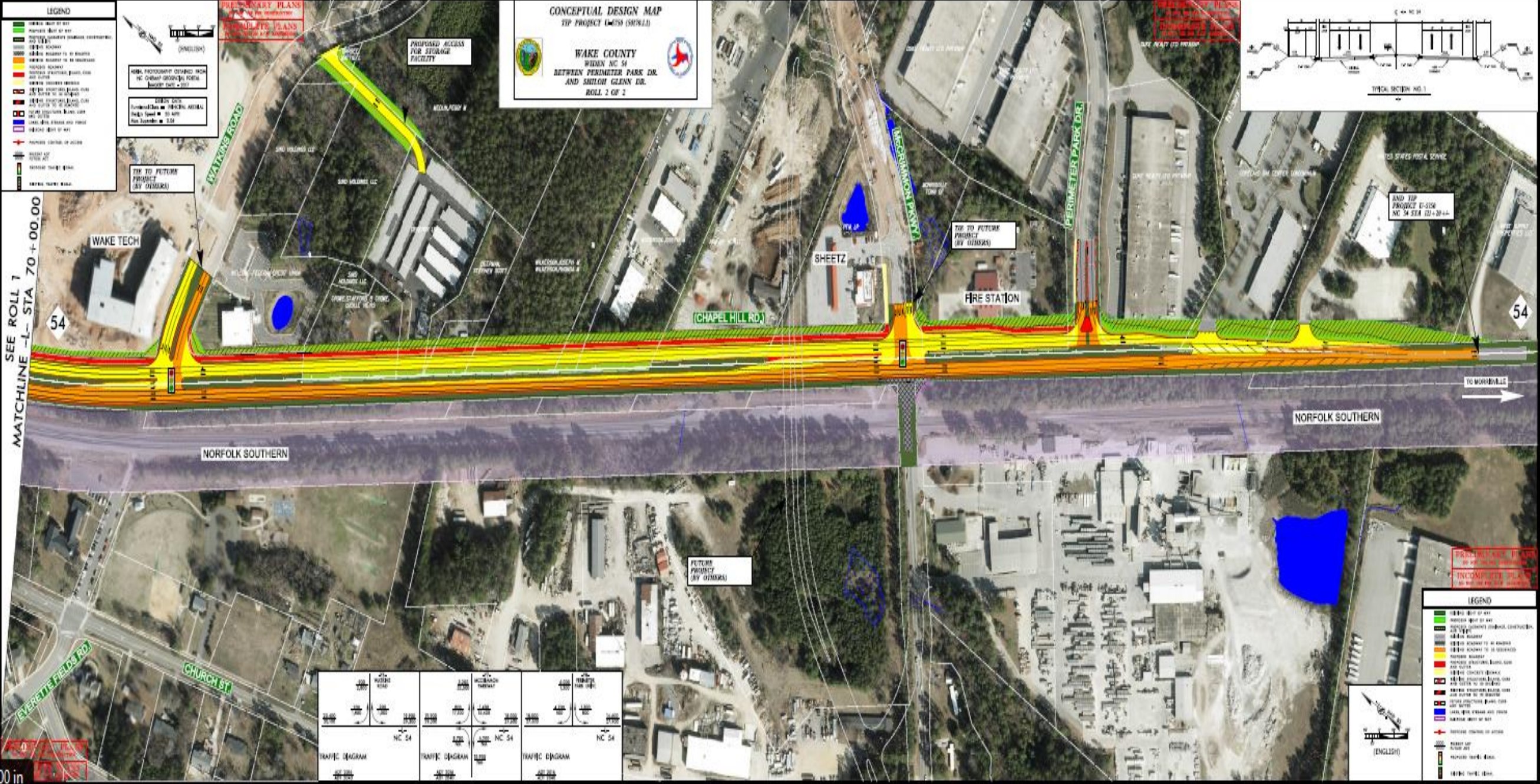
The local official's informational meeting was held to discuss the widening of N.C. 54 from Shiloh Glen Drive to Perimeter Park Drive in the Town of Morrisville, Wake County, North Carolina. Mr. Zahid Baloch, North Carolina Department of Transportation Project Manager, Division 5, began the project meeting by welcoming everyone and conducting introductions (see attached sign-in sheet).

After providing a brief overview of the project, Mr. Baloch turned the meeting over to Mr. Kory Wilmot, consultant project manager with AECOM. Mr. Wilmot then presented a brief slideshow which reviewed the project description; existing conditions; the purpose and need for the project; and the proposed schedule (see attached slides).

Following the presentation, the floor was opened for questions. The mayor from the Town of Morrisville asked how the typical section of the proposed project differed from the typical section that was identified in the previously completed feasibility study. It was explained that the only difference between the typical sections was that the proposed sidewalk from the southwestern side of N.C. 54 had been removed due to the lack of pedestrian destinations given the presence of the railroad and the desire to reduce impacts to property owners.

After the questions, Ms. Laura Fisher, project engineer with AECOM, reviewed the designs with the attendees. Informal questions on the designs were asked by the attendees. The questions were mostly focused on access changes to adjacent properties and connections to adjacent roadway projects. Following the review of the maps, the meeting was adjourned.





CONCEPTUAL DESIGN MAP  
 TIP PROJECT (WITH SHILOH)  
 WAKE COUNTY  
 WIDEN NC 54  
 BETWEEN PERIMETER PARK DR.  
 AND SHILOH GLENN DR.  
 ROLL 2 OF 2

- LEGEND**
- EXISTING RIGHT OF WAY
  - PROPOSED RIGHT OF WAY
  - PROPOSED EXISTING CONSTRUCTION
  - PROPOSED NEW CONSTRUCTION
  - PROPOSED NEW PAVEMENT
  - PROPOSED NEW CONCRETE
  - PROPOSED NEW CURB
  - PROPOSED NEW SIDEWALK
  - PROPOSED NEW BIKEWAY
  - PROPOSED NEW LIGHT RAIL
  - PROPOSED NEW TRAIL
  - PROPOSED NEW FENCE
  - PROPOSED NEW SIGN
  - PROPOSED NEW UTILITY
  - PROPOSED NEW STRUCTURE
  - PROPOSED NEW FURNITURE
  - PROPOSED NEW LANDSCAPE
  - PROPOSED NEW TREE
  - PROPOSED NEW PLANT
  - PROPOSED NEW LIGHTING
  - PROPOSED NEW SECURITY
  - PROPOSED NEW ACCESS
  - PROPOSED NEW DRIVE
  - PROPOSED NEW WALK

SEE ROLL 1  
 MATCHLINE - STA 70+00.00



- LEGEND**
- EXISTING RIGHT OF WAY
  - PROPOSED RIGHT OF WAY
  - PROPOSED EXISTING CONSTRUCTION
  - PROPOSED NEW CONSTRUCTION
  - PROPOSED NEW PAVEMENT
  - PROPOSED NEW CONCRETE
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  - PROPOSED NEW ACCESS
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  - PROPOSED NEW WALK

TRAFFIC DIAGRAM	NC 54	NC 54	NC 54

120.00 x 40.00 in