

**STIP Project No. R-5705**

**NC 55 from south of SR 1532 (Oak Grove Church Road) to NC 42**

Harnett and Wake Counties

WBS No. 46377.1.1

**ADMINISTRATIVE ACTION**

**STATE ENVIRONMENTAL ASSESSMENT/  
FINDING OF NO SIGNIFICANT IMPACT**

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**


Submitted pursuant to North Carolina State Environmental Policy Act



**APPROVED:**

11/26/2019

**Date**

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**Colin Mellor, Eastern Regional Team Lead**

NCDOT, Environmental Policy Unit, Divisions 1 – 6, & 8

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November 2019

#### PREPARED BY:

11/25/2019

**Date**

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NCDOT, Project Management Unit

## **PROJECT COMMITMENTS**

### **STIP Project No. R-5705**

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#### **Environmental Analysis Unit, Biological Surveys Group – Cape Fear Shiner**

A biological conclusion for the Cape Fear shiner will be rendered prior to the finalization of Right-of-Way plans. Coordination with USFWS will occur if necessary.

#### **Division 5, Division 6, Program Development Branch – Sidewalks**

Existing sidewalks will be replaced per NCDOT guidelines. Any additional sidewalks may require cost sharing with the local municipality. The local municipality will be responsible for the maintenance and liability of the proposed sidewalk in accordance with the NCDOT Complete Streets Policy, updated August 2019.

#### **GeoEnvironmental Section – Impacts to Underground Storage Tanks (USTs)**

If further design indicates potential impact to USTs, preliminary site assessments for soil and groundwater contamination will be performed prior to Right-of-Way purchase.

#### **Environmental Analysis Unit, Traffic Noise and Air Quality Group – Noise Report**

A Traffic Noise Report will be completed for this project.

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## **STIP Project No. R-5705**

### **NC 55 from south of SR 1532 (Oak Grove Church Road) to NC 42**

Harnett and Wake Counties

WBS No. 46377.1.1

#### **SUMMARY**

1. Type of Action

This is a State Environmental Assessment/ Finding of No Significant Impact (SEA/FONSI).

2. Description of Proposed Action

The North Carolina Department of Transportation (NCDOT), Division of Highways, proposes to improve the NC 55 Corridor from south of SR 1532 (Oak Grove Church Road) in Harnett County to NC 42 in Fuquay-Varina, Wake County, to multi-lanes partly on new location. The estimated cost in the approved 2020-2029 North Carolina State Transportation Improvement Program (STIP) is \$110,467,000, which includes \$12.7 Million for right-of-way acquisition, \$91.0 Million for construction and \$3.0 Million for utilities.

3. Project Benefits

The proposed project will have a positive overall impact by improving traffic congestion and mobility along NC 55 in the study area while reducing the delay at the existing intersections along NC 55. The proposed improvements would enhance safety for drivers while supporting the goals of the proposed CTP for the area.

4. Summary of Environmental Effects

It is anticipated that 37 residences and 3 businesses will be relocated due to the proposed improvements. Land use in the area will not be adversely impacted. No recreational facilities are involved. No substantial impacts to animal or plant life are expected. There are 17.6 acres of wetland impacts and 5,754 linear feet of stream impacts anticipated with the proposed improvements. These impacts are based on preliminary roadway designs.

5. Coordination

Federal, state, and local agencies were consulted during the preparation of this document. Written comments were received from the following agencies denoted with an asterisk:

U. S. Fish and Wildlife Service  
U.S. Army Corps of Engineers  
U.S. Environmental Protection Agency, Region 4\*  
N. C. Wildlife Resources Commission\*  
N. C. Division of Water Resources  
N.C. Division of Coastal Management

Town of Angier  
Harnett County  
Wake County

6. Additional Information

Additional information concerning the proposal and assessment can be obtained by contacting:

Kim Gillespie, PE, CPM  
Project Manager  
NCDOT Division of Highways, Project Management Unit  
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Raleigh, NC 27699-1595  
Telephone: (919) 707-6023  
[klgillespie@ncdot.gov](mailto:klgillespie@ncdot.gov)

## **1.0 PURPOSE AND NEED**

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### **1.1 PROPOSED ACTION**

The project is located within Harnett and Wake Counties in the Towns of Angier and Fuquay-Varina. The project involves improving the NC 55 corridor from south of SR 1532 (Oak Grove Church Road) to NC 42. Figure 1 provides the project location. The proposed facility will bypass the Town of Angier to the west and will be constructed as a four-lane median divided roadway. Approximately 110-150 feet of right-of-way will be required along the existing alignment and approximately 150-200 feet of right-of-way will be required on new location to accommodate the multi-lane facility. Partial control of access is proposed throughout the project. The length of the project is approximately 11.5 miles. The proposed improvements are intended to relieve congestion and improve mobility on the NC 55 corridor.

### **1.2 SUMMARY OF PROJECT PURPOSE**

The purpose for the proposed action is to reduce traffic congestion and improve mobility on the NC 55 corridor in the project area, with a goal of achieving an overall level of service D (LOS D).

### **1.3 SUMMARY OF PROJECT NEED**

NC 55 serves as an alternate route to both I-95 and I-40 between Raleigh and the Dunn and Erwin areas. Classified as a minor arterial, NC 55 serves as a major north-south corridor into Fuquay-Varina. NC 55 provides access to the residential communities, businesses, and shopping areas located in the Angier and Fuquay-Varina areas.

The primary need for this project is demonstrated by the existing traffic congestion, anticipated future traffic congestion, and poor operating conditions. These conditions are substandard and anticipated

to worsen if no action is taken.

## **1.4 PURPOSE AND NEED STATEMENT**

The purpose for the proposed action is to reduce traffic congestion and improve mobility on the NC 55 corridor in the project area, with a goal of achieving an overall level of service D (LOS D).

### **1.4.1 Background**

STIP No. R-5705 is the proposed improvement of the NC 55 corridor from south of SR 1532 (Oak Grove Church Road) in Harnett County to NC 42 in Wake County. This 11.5-mile project is located within the Towns of Fuquay-Varina and Angier and is within the Capital Area Metropolitan Planning Organization (CAMPO) planning jurisdiction. NC 55 serves as a north-south corridor through the eastern portion of Harnett County and into the Town of Fuquay-Varina in the southern portion of Wake County. Wake and Harnett Counties are in the central section of the state, bounded by Chatham, Durham, Granville, Franklin, Johnston, Sampson, Cumberland, Moore and Lee Counties. The land use along NC 55 is a mix of agricultural, residential, commercial office and a few industrial uses typically found in an urban setting.

The proposed improvements are divided into three construction segments. Segment A is from just south of SR 1532 (Oak Grove Church Road) to NC 210. Segment B is from NC 210 to SR 4809 (Jicarilla Lane). Segment C is from SR 4809 (Jicarilla Lane) to NC 42 in Fuquay-Varina. The project is included in the approved 2020-2029 North Carolina State Transportation Improvement Plan (STIP) with right-of-way acquisition scheduled for Fiscal Year (FY) 2020 for both Segments A and B, and construction scheduled for FY 2023 for both A and B Segments as well. Segment C is currently unfunded.

### **1.4.2 Project Area Description**

Angier is in northern Harnett County and Fuquay-Varina is in southern Wake County. NC 55 is the primary arterial corridor through Angier, traveling through the downtown area and providing a direct connection to Fuquay-Varina in Wake County. The existing cross-section is primarily three-lanes with a two-lane cross-section south of Angier. Between Angier and Fuquay-Varina, NC 55 travels through primarily rural and residential land uses. Within Fuquay-Varina, NC 55 provides access to NC 42 to the east and west, and US 401 to the north and south.

NC 55 serves a large volume of local, commuter and industrial traffic.

### **1.4.3 Roadway Conditions**

#### **1.4.3.1 Existing Characteristics**

NC 55 is a three-lane facility narrowing to two-lanes south of Angier with a posted speed limit between 35 miles per hour (mph) and 50 mph through the study area. NC 55 runs north-south through Wake and Harnett Counties, and the land uses are primarily residential, commercial, and institutional. The 2016 Annual Average Daily Traffic (AADT) along NC 55 was 14,000 vehicles per day (vpd) north of SR 2765 (Old Honeycutt Road), 20,400 vpd between West Dora Street and SR 1441 (West Williams Street) and 6,600 vpd south of SR 1532 (Oak Grove Church Road)/SR 1544 (Guy Road).

SR 2765 (Old Honeycutt Road) is a two-lane roadway with a posted speed limit of 45 mph within the study area. The land uses along SR 2765 (Old Honeycutt Road) are primarily institutional, commercial, and residential. The 2016 AADT along SR 2765 was 11,600 vpd west of NC 55 and 4,800 vpd east of NC 55.

SR 2791 (Kennebec Church Road) is a two-lane roadway with a posted speed limit of 35 mph east of NC 55 and a 55 mph posted speed limit west of NC 55. The land uses along SR 2791 (Kennebec Church Road) are primarily commercial and residential. The 2016 AADT along SR 2791 was 2,800 vpd east of NC 55 and 2,000 vpd west of NC 55.

SR 1415 (Rawls Church Road) is a two-lane roadway with a posted speed limit of 35 mph. The land uses along SR 1415 (Rawls Church Road) are primarily institutional, commercial and residential. The 2016 AADT along SR 1415 (Rawls Church Road) was 2,800 vpd.

NC 210 is a two-lane roadway with a posted speed limit of 35 mph west of NC 55 and 20 mph east of NC 55. The land uses along NC 210 are primarily institutional, commercial, and residential. The 2016 AADT along NC 210 was 14,200 vpd west of NC 55 and 10,400 vpd east of NC 55.

Broad Street is a two-lane roadway that runs parallel with NC 55 through the Town of Angier. Broad Street intersects with NC 55 at two locations: NC 55 at N. Broad Street and NC 55 at S. Broad Street. The land uses along Broad Street are primarily institutional, commercial, and residential. The 2016 AADT along Broad Street ranged between 1,000 vpd and 4,400 vpd.

SR 1542 (Old Buies Creek Road) is a two-lane roadway with a posted speed limit of 35 mph. The land use along SR 1542 (Old Buies Creek Road) is primarily residential. The 2016 AADT along SR 1542 (Old Buies Creek Road) was 2,400 vpd.

SR 1532 (Oak Grove Church Road)/SR 1544 (Guy Road) is a two-lane roadway with a posted speed limit of 35 mph. The land use along SR 1532 (Oak Grove Church Road)/Guy Road is primarily residential. The 2016 AADT along SR 1532 (Oak Grove Church Road)/SR 1544 (Guy Road) was 1,400 vpd east of NC 55 and 2,000 vpd west of NC 55.

See Figure 1A for Location Map showing the above roads.

#### **1.4.3.2 Projected Traffic Conditions**

The NC 55 corridor serves a large volume of local, commuter, and industrial traffic. The projected 2045 Annual Average Daily Traffic (AADT) along NC 55 is 28,800 vehicles per day (vpd) north of SR 2765 (Old Honeycutt Road), 18,600 vpd between West Dora Street and SR 1441 (West Williams Street) and 6,100 vpd south of SR 1532 (Oak Grove Church Road)/SR 1544 (Guy Road) [from the August 7, 2018 Traffic Forecast Final Updated Memo]. The 2045 No-Build analysis indicates that NC 55 operations are expected to decline in comparison to existing operations. Under the No-Build alternative, all signalized and most of the stop-controlled side street approaches will operate at unacceptable levels of service during both peak hours indicating additional congestion and delay in the study area.

#### 1.4.4 Accident Analysis

The crash summaries for NC 55 from south of SR 1532 (Oak Grove Church Road)/SR 1544 (Guy Road) in Harnett County to US 401 in Wake County are for the 5-year period between December 2010 to November 2015.

NC 55 has a total crash rate that is lower than the statewide average rate and critical rate over the five-year period analyzed. In addition, the fatal, non-fatal injury, and wet crash rates do not exceed the statewide averages. One fatality and five pedestrian crashes were recorded along this section of NC 55. There were no crashes involving cyclists.

The predominate crash type along the corridor was rear-end collisions, comprising 119 of the 429 total crashes (approximately 27.7%). The intersection of NC 55 at West Williams Street has the highest number of collisions (34) over the five-year period.

There were a substantial number of rear-end crashes (84) reported along NC 55 between SR 1532 (Oak Grove Church Road)/SR 1544 (Guy Road) and US 401. Rear-end collisions can indicate overall congestion issues. Additionally, these collisions occurred in areas where there are no turn lanes, and through-vehicles could strike a left- or right-turning vehicle.

#### 1.4.5 System Linkages

##### 1.4.5.1 Transportation Plans

The proposed NC 55 corridor improvements are included in the approved 2020-2029 North Carolina State Transportation Improvement Plan (STIP) as project R-5705, scheduled for right-of-way in 2020 and construction in 2023 for Segments A & B. Segment C is currently unfunded.

STIP Project R-5705 is partially under the planning jurisdiction of the Capital Area Metropolitan Planning Organization (CAMPO). Various plans have been prepared or are under development, which directly or indirectly address the travel patterns in the study area. These plans include:

- *CAMPO 2035 Long Range Transportation Plan* (Updated FY 11-12)
- *CAMPO 2040 Metropolitan Transportation Plan* (October 2015 Amendment)
  - Angier Bypass (NC 55) Local ID: HARN2258-H recommends a bypass for the Town of Angier between the existing alignment of US 401 and NC 55. The Plan recommends a bicycle facility from NC 42 to the Harnett County Line.
- CAMPO conducted a *Southwest Area Study* (2012/updated 2019) to identify a sustainable strategy for the area.
- The *Fuquay-Varina Comprehensive Transportation Plan*, dated 2017, identified improving NC 55 as a priority project, as future forecasts indicate the facility operating at an unacceptable level of service. The Plan states that the US 401 and NC 55 intersection is a key element in the area.
- The *2011 Harnett County Comprehensive Transportation Plan* (CTP), amended 2016, recommends improvements to the NC 55 corridor including widening and incorporating sidewalks along both sides of the facility in the downtown area of Angier. The Plan indicates the primary purpose for these improvements is to relieve congestion along this major thoroughfare that serves as the primary connection between several municipalities. The 2011 Plan proposed an Eastern Angier Bypass. All facilities are

recommended to have a minimum of 12-foot lanes with paved shoulders to improve mobility, safety and/or to accommodate bicycles.

#### **1.4.5.2 Modal Interrelationships**

The Harnett Area Rural Transit System (HARTS) provides public transit through subscription routes, Dial-A-Ride, and Demand-Response service trips. HARTS is a paratransit service and a ridesharing public transportation system. There are no other transit services in the area. Raleigh-Durham International Airport (RDU) serves general aviation aircraft, corporate, military, government and commercial service aircraft. The facility is located approximately 38 miles from the project study area. The Fuquay/Angier Field is an airfield that is privately owned by the Kennebec Flying Cub and is located off Maude Stewart Road. The 0.5-mile runway is parallel to NC 55.

The nearest available passenger rail service is provided by Amtrak located approximately 19 miles from the project study area in Raleigh and Cary, NC.

The *2011 Harnett County CTP* amended 2016 recommends:

- HARN0002-T proposes a fixed deviated route transportation service connecting Angier, Dunn, Erwin, Lillington, Coats and Campbell University (Buies Creek)
- HARN0003-T proposes a park and ride location in downtown Angier

## **2.0 ALTERNATIVE DEVELOPMENT**

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This section provides a discussion of the alternative carried forward and studied in this State Environmental Assessment/Finding of No Significant Impact (SEA/FONSI).

### **2.1 NO-BUILD ALTERNATIVE**

The No-Build Alternative would involve routine maintenance only with no improvements made to the NC 55 corridor in the study area.

With no improvements, intersection delay for the No-Build Alternative is expected to increase in the design year. The No-Build Alternative would not have any adverse environmental impacts. However, the increased traffic could lead to further delays and numerous conflicts for turning vehicles.

The No-Build Alternative was eliminated because it does not meet the purpose of and need for the project.

### **2.2 TRAVEL DEMAND MANAGEMENT ALTERNATIVE**

Travel Demand Management (TDM) improvements are strategies and policies designed to reduce travel demand or to redistribute that demand to other locations or to other time periods. Road pricing, pedestrian-oriented design, and improving public transportation infrastructure are some examples of TDM strategies. Improvements such as these are not effective solutions for this project because of the nature of the region. TDM strategies are designed to work in urban settings with higher peak hour traffic congestion problems. Therefore, the TDM Alternative was



not considered a reasonable and feasible alternative and was eliminated from further study and consideration.

## **2.3 TRANSPORTATION SYSTEMS MANAGEMENT ALTERNATIVE**

Transportation Systems Management (TSM) improvements involve addressing congestion issues by enhancing the existing transportation system through improvements such as intersection and signal improvements or addressing geometric deficiencies such as narrow lanes and shoulders, inadequate signage and pavement striping.

These types of improvements were considered and some TSM elements (signal optimization and right-turn tapers) are incorporated into the detailed study alternatives. TSM improvements alone, however, would not increase the level of service to prevent failing traffic conditions in future years. Therefore, the TSM Alternative alone would not meet the purpose and need for this project and was eliminated from further study and consideration.

## **2.4 MASS TRANSIT ALTERNATIVE**

Mass public transit is not available in the project study area; therefore, the Mass Transit Alternative was not considered a viable alternative.

## **2.5 BUILD ALTERNATIVE (SELECTED ALTERNATIVE)**

The Build Alternative is an 11.5 mile four lane divided facility with a 23-foot raised median along existing NC 55 and a four-lane divided facility with a 30-foot raised median on new location to the west of Angier. Roadway improvements follow the existing NC 55 alignment from south of NC 55 and SR 1532 (Oak Grove Church Road)/SR 1544 (Guy Road) intersection to the intersection of NC 55 and Ennis Road, then bypasses existing NC 55 to the west, and merges back to NC 55 near the SR 2762 (Kennebec Church Road) following the existing NC 55 alignment to NC 42.

The Build Alternative will include a signalized intersection at SR 1532 (Oak Grove Church Road)/SR 1544 (Guy Road). The proposed improvements incorporate a Reduced Conflict Intersection (RCI) design, also known as a synchronized street, restricted crossing U-turn design, or a superstreet. This design prohibits left-turn and through movements from the side street approach but accommodates these movements by requiring drivers to turn right onto NC 55 and then make U-turn maneuvers at downstream one-way median openings. Reduced Conflict Intersection designs improve mobility by reducing signal phases and reducing crash potential and severity by separating conflict points.

The proposed RCI typical for existing NC 55 from south of SR 1532 (Oak Grove Church Road) to just south of SR 1543 (Ennis Road) will be a four-lane divided roadway with a 23-foot raised median and 10-foot shoulders, including 4-foot paved shoulders. NC 55 will shift to new location just south of SR 1543 (Ennis Road). From SR 1543 (Ennis Road) to just south of SR 2791 (Kennebec Church Road) the proposed new location typical will be a four-lane divided roadway with a 30-foot raised median and 10-foot shoulders, including 4-foot paved shoulders. Connecting back to existing NC 55 near SR 2791 (Kennebec Church Road), the proposed roadway will be widened along existing NC 55 to a multi-lane facility from just south of SR 2791 (Kennebec

Church Road) to NC 42. The proposed typical section along this portion of NC 55 will be a four-lane divided roadway with a 23-foot raised median, curb and gutter with a 10-foot berm.

The Build Alternative includes the construction of a new concrete box culvert approximately 212 feet long over West Buies Creek, and a new concrete box culvert approximately 254 feet long over the unnamed tributary to Neills Creek. The existing 30-inch pipe at the unnamed tributary to Black Creek will be replaced with a box culvert approximately 106 feet long, and the existing box culvert at the unnamed tributary to Black Creek will be replaced with a new box culvert approximately 177 feet long. See Figure 1A for Location Map.

The proposed right-of-way width within the project limits ranges between 110-150 feet on existing NC 55 and 150-200 feet on new location. Additional Right-of-Way will be required for the alignment of SR 1510 (Matthews Mill Pond Road) to NC 210. Construction and drainages easements will be required. Partial control of access is proposed on the new location sections of the project. See Figure 1A for Location Map.

There are 40 anticipated relocations with the Build Alternative. See Appendix C for copies of the Relocation Reports.

The estimated cost of the Build Alternative is right-of-way \$26.6 million; utility relocation \$4.7 million; and construction \$91.0 million. The total project cost estimate is \$ 122.3 million.

## **2.6 OTHER STIP PROJECTS**

There are three NCDOT STIP projects located in proximity to the proposed project.

- STIP No. U-5751 is located at the northern terminus of the study area and includes converting the intersection of US 401 and NC 55 to an interchange. Right-of-Way is programmed for 2021 and Construction in 2024.
- STIP No. B-5339 is the replacement of Bridge No. 233 over Black River Tributary on SR 1544 (Guy Road) in Harnett County. Right-of-Way was programmed for 2018 and construction began in late 2018.
- STIP No. U-5927A is located near the northern terminus of the study area and includes improvements to SR 2768/SR 5056 (North Judd Parkway NE) from SR 3736 (Old Honeycutt Road) to north of the intersection of SR 5056 (North Judd Parkway NE) and SR 1402 (East Broad Street). This project is currently under construction.

There are eight projects identified in the 2020-2024 NCDOT Highway Maintenance Improvement Program in the study area.

- ID 15979 is the resurfacing of NC 210 from SR 1440 (James Norris Road) to the Johnston County Line in Harnett County.
- ID 6919 is the resurfacing of SR 1448 (Atkins Road) from the Wake County Line to SR 1441 (Chalybeate Springs Road) in Harnett County.
- ID 6918 is the resurfacing of SR 1446 (Purfoy Road) from the Wake County Line to SR 1441 (Chalybeate Springs Road) in Harnett County.
- ID 9124 is the resurfacing of SR 2767 (Holland Road) from SR 2770 (Angier Road) to NC 55 in Wake County.
- ID 22133 is the resurfacing of SR 3743 (Mary Marvin Trail) from SR 2763 (Maude Stewart Road) to SR 3743 (Mary Marvin Trail) in Wake County.

- ID 22134 is the resurfacing of SR 3744 (Amanda Cassie Lane) from SR 2762 (Kennebec Road) to SR 3743 (Mary Marvin Trail) in Wake County.
- ID 4272 is the resurfacing of SR 2768 (South Judd Parkway SE) from SR 2767 (Holland Road) to SR 3736 (Honeycutt Road) in Wake County.
- ID 22131 is the resurfacing of SR 3728 (Oak Cliff Lane) from SR 2791 (Kennebec Church Road) to a cul-de-sac in Wake County.

### **3.0 SOCIAL, ECONOMIC, AND ENVIRONMENTAL EFFECTS**

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#### **3.1 COMMUNITY CHARACTERISTICS**

The study area is in Harnett and Wake Counties from south of Angier to Fuquay-Varina. The Town of Angier is in northern Harnett County and a small portion of the town is in Wake County to the north. NC 55 is the primary arterial corridor through Angier, traveling through the downtown area providing a direct connection to Fuquay-Varina. Between Angier and Fuquay-Varina, NC 55 is primarily rural and residential land uses. The Town of Fuquay-Varina is in southern Wake County. Within Fuquay-Varina, NC 55 provides access to NC 42 to the east and west, and US 401 to the north and south.

There are ten cemeteries in and close to the study area. Three are located adjacent to NC 55 and one is located adjacent to the proposed project. Several small family cemeteries are located on residential property within the study area. No cemeteries are anticipated to be impacted.

Adjacent to NC 55 in the study area are two major grocery stores, a local day care, a couple of medical offices, a masonic lodge, and several churches. No churches are anticipated to be impacted.

There are numerous cross streets and driveways along the corridor. Near the proposed project, there are driveways and intersections at industrial, commercial, and residential subdivisions, single family residential properties, churches, and agricultural properties. Access to some properties may be limited, and some travel delays may result during construction. These mobility effects are expected to be minor and temporary.

Fuquay/Angier Field is an airfield that is privately owned by Kennebec Flying Club and is located on SR 2763 (Maude Stewart Road). The 0.5 mile runway is parallel to NC 55. There is a large John Deere facility on NC 55, just south of SR 2765 (Old Honeycutt Road). Fuquay-Varina Sports Complex houses several businesses, including gymnastics and fitness, batting cages, and basketball and volleyball courts. Some minor right-of-way acquisition is anticipated from these facilities.

The area is in the coastal plain region and is characterized as rolling terrain. The study area consists of residential, agricultural and commercial parcels. There are no public schools along the proposed alignment. The construction of the build alternative will have moderate impact to local neighborhoods, voluntary agricultural districts, farms and community cohesion.

## **3.2 POPULATION CHARACTERISTICS**

The population data for the Demographic Study Area (DSA), Harnett and Wake counties are shown in Table 1. The DSA and the counties have exhibited steady growth in the past years, but the DSA shows a higher growth rate than that of North Carolina. The Town of Fuquay-Varina and the Town of Angier are projecting continued growth in the future.

Angier is in northern Harnett County and has an estimated population of 5,091 (July 2017) according to the US Census Bureau (USCB). NC 55 is the primary corridor through Angier, traveling through the downtown area and providing a direct connection to Fuquay-Varina. Fuquay-Varina, located in southern Wake County, has an estimated population of 27,906 (July 2017) according to the USCB.

Census data indicate the study area experienced notable population growth in recent years. The study area had an annualized growth rate of 3.8%. Harnett and Wake counties had an annualized growth rate of 2.3% and 3.7%, respectively, between 2000 and 2010.

**Table 1 - Population Trends**

	Year 2000	Year 2010	% GROWTH
Demographic Study Area	18,658	27,037	3.8%
Harnett County	91,111	114,678	2.3%
Wake County	627,779	900,993	3.7%
North Carolina	8,049,313	9,535,483	1.7%

As shown in Table 2, whites comprise a higher percentage of residents in the DSA than in Harnett or Wake counties overall. Native Americans and African Americans comprise a higher percent of the population in Harnett County than in the DSA or Wake County.

**Table 2 - Racial Characteristics**

Racial Group	Percent of Total Population		
	Demographic Study Area	Harnett County	Wake County
White	80.0%	67.6%	67.1%
African American	12.0%	21.3%	20.6%
Native American or Alaska Native	0.2%	0.9%	0.3%
Asian	0.8%	1.1%	6.2%
Native Hawaiian/Pacific Islander	0.1%	0.1%	0.0%
Other	4.5%	5.4%	3.1%
Multi-racial	2.2%	3.7%	2.7%

There is a small Spanish language speaking population living in the DSA that exceeds the Department of Justice's Safe Harbor thresholds. This population meets the criteria for Limited English Proficiency that require Language Assistance for Spanish. Hispanic businesses are present within the DSA.

### **3.3**      **LOCAL AND REGIONAL PLANS**

The proposed NC 55 improvements is listed in the Capital Area Metropolitan Planning Organization's (CAMPO) *2045 Metropolitan Transportation Plan* (2018) as regionally significant and includes bike accommodations along the corridor.

One of the major proposals in the *Harnett County Comprehensive Transportation Plan* (2011) is the widening of NC 55 to a four-lane facility from the Wake County line to US 421 with an eastern Angier bypass from the Wake County line to NC 55. The *Plan* indicates that the primary purpose for these improvements is to relieve congestion along this major thoroughfare that serves as the primary connection between several municipalities. The *Plan* also recommends incorporating sidewalks along both sides of NC 55 in the downtown area.

*Grow Harnett County* (2015) identifies constructing a four-lane road from Harnett County to Wake County as a primary transportation goal and references cooperation with CAMPO and NCDOT to widen NC 55 north of Angier. The *Plan* recommends developing guidelines and incorporating road design standards (driveway spacing/cross access) for NC 55 into the Unified Development Ordinance to improve the efficiency of the local road network.

The *Town of Angier Comprehensive Plan* (adopted 2017) highlights the Town's vision statement, and focuses on preserving Angier's small town, family-friendly atmosphere and charm while focusing on improving transportation, pedestrian and recreational facilities as well as encouraging new developments and redevelopment. According to this plan, most of the project corridor falls within the land use area defined as medium density residential.

The Fuquay-Varina *2035 Community Transportation Plan* (2017) directs the vision and steps for providing adequate transportation within and around the Town. The widening of NC 55 is identified as a planned roadway project. Increasing capacity through the addition of extra lanes is recommended.

The Fuquay-Varina *2035 Community Vision Land Use Plan* (2017) establishes long-term growth and development patterns. NC 55 is identified as a key transportation corridor.

The proposed NC 55 improvements are included in the approved 2020-2029 North Carolina State Transportation Improvement Plan (STIP) as project R-5705, scheduled for right-of-way in 2020 and construction in 2023 for Segments A & B. Segment C is currently unfunded.

### **3.4**      **INDIRECT EFFECTS**

The project may reduce travel times and affect access to some properties in the study area. The Town of Angier acknowledges the potential for commercial land uses along the proposed bypass but these are limited by proposed controlled access and a lack of water and sewer service. No new access is proposed along the new location section of the project.

The Towns of Angier and Fuquay-Varina already have multiple commercial and/or high density residential projects either proposed or discussed to be built in the future along existing NC 55. There are existing zoning and future land use plans to guide development and growth within

the study area.

### **3.5 CUMULATIVE EFFECTS**

This project may enhance access and/or exposure to some properties in the study area. Impacts to stormwater runoff and downstream water quality are not anticipated from any minor change in development patterns due to existing development regulations, policies, and stormwater runoff controls. The cumulative effect of this project, when considered in the context of other past, present, and future actions, and the resulting impact to notable human and natural features should be minimal.

### **3.6 TITLE VI AND ENVIRONMENTAL JUSTICE**

There is a notable presence of low-income and minority population meeting the criteria for Environmental Justice within the DSA. Mobile homes are located adjacent to the Build Alternative and right-of-way acquisition is anticipated. However, impacts are not anticipated to be disproportionately adverse to low-income and/or minority populations. Benefits and burdens resulting from the project are anticipated to be equitably distributed throughout the community. Disparate impacts are not anticipated under Title VI.

### **3.7 RELOCATIONS AND PROPERTY IMPACTS**

There are 37 residential and 3 business relocations anticipated with this project.

It is the policy of the NCDOT to ensure that comparable replacement housing would be available prior to construction of highway projects. The North Carolina Board of Transportation has the following programs to minimize the inconvenience of relocation:

- Relocation Assistance;
- Relocation Moving Payments; and
- Relocation Placement Housing Payments or Rent Supplement.

Last Resort Housing is a program used when comparable replacement housing is not available or when it is unavailable within the displacee's financial means and the replacement exceeds the federal state legal limitation. The purpose of the program is to allow the state implementation of broad methods so that decent, safe, and sanitary replacement housing can be provided. It is not felt that this program will be necessary for this project since there appears to be adequate opportunities for relocation within the area.

### **3.8 BICYCLE AND PEDESTRIAN CONSIDERATIONS**

Currently there are no bicycle or pedestrian networks in the project study area. There are clusters of sidewalks along the project corridor, but most are isolated and do not constitute a complete sidewalk network.

North Carolina Bicycle Route 5, which begins in the Town of Apex and ends in Wilmington, crosses the proposed alignment in two areas – SR 1441 (Chalybeate Springs Road) and SR 1542 (Old Buies Creek Road).

Connecting back to existing NC 55 near SR 2791 (Kennebec Church Road), the proposed roadway will be widened along existing NC 55 to a multi-lane facility from just south of SR 2791 (Kennebec Church Road) to NC 42. The proposed typical section along this portion of NC 55 will be a four-lane divided roadway with a 23-foot raised median, curb and gutter with a 10-foot berm. The outside lanes will be widened to 14 feet to accommodate bicycles.

The *Wake County Greenway System Plan* (2017) proposes to complete the greenway along NC 55 from the edge of Fuquay-Varina to downtown Angier.

The *Angier Comprehensive Pedestrian Plan* (2014) states that the Town's goal is to have a "safe and complete pedestrian system that will serve as a community-wide improvement tool." As NC 55 traverses the Town's core, constructing sidewalks along NC 55 within town limits is a local priority. This *Plan* provides design guidelines for pedestrian facilities.

The *Town of Fuquay-Varina Community Transportation Plan* (2017) recommends sidepaths along NC 55. The *CAMPO Southwest Area Study* (2019) recommends a low-stress network connection between Fuquay-Varina and Angier that would be located away from NC 55.

### **3.9 EMERGENCY VEHICLE CONSIDERATIONS**

Police services in the Town of Angier are provided by the Angier Police Department. The Harnett County Sheriff's Office serves the area outside of Angier and throughout the County. Fire and Rescue is provided by the Angier & Black River Fire Department, Inc., which is a private department whose members are on a combination of paid and volunteer status. The Fire Department serves a 36.5-mile radius which includes the Town of Angier and its suburbs.

Harnett County has an Emergency Management Agency located in Lillington. During a disaster, Emergency Management is a lead agency in coordinating resources in the county and resources that other state and local agencies might be able to supply to Harnett County.

Police Services in the Town of Fuquay-Varina are provided by the Fuquay-Varina Police Department. The Wake County Sheriff's Office serves the area outside of Fuquay-Varina and throughout Wake County. Fire and Rescue is provided by the Fuquay-Varina Fire Department whose members are comprised of both full-time staff and volunteers.

The Wake County Emergency Management Agency located in Raleigh coordinates disaster response during an emergency from its Emergency Operations Center. From this one location, staff can coordinate fire, law enforcement and emergency medical service personnel to aid those parts of the community that need assistance. During an emergency, the Emergency Operations Center is staffed around the clock to provide coordination and handle various requests for assistance.

According to the Wake County Emergency Medical Services Deputy Director, any complete closures of NC 55 would impact responses in the region; limited closures and detours would have minimal impact.

### **3.10 CULTURAL RESOURCES**

This is a state-funded project, however in anticipation of US Army Corps of Engineers (USACE) permitting, Section 106 of the National Historic Preservation Act applies for archaeological and historic architectural compliance review for this possible federalized undertaking.

#### **3.10.1 Historic Architectural Resource Impacts**

A historic architecture review was completed by a NCDOT architectural historian in May 2016 and August 2018. No National Register-listed or eligible properties are located within the area of potential effect.

#### **3.10.2 Archaeological Impacts**

In 2018, an archaeological survey of the study area revealed fifteen new sites were documented. None of the sites were recommended as eligible for listing in the National Register of Historic Places. Since there were no previously-recorded or newly-documented archaeological sites eligible or listed on the National Register of Historic Places identified within the area of potential effect, a finding of No National Register of Historic Places listed, or eligible sites was deemed appropriate on April 4, 2019 (see Appendix A).

### **3.11 NATURAL ENVIRONMENT**

#### **3.11.1 Water Resources and Hydraulic Impacts**

There are thirty-three jurisdictional streams, part of the Neuse River basin [US Geological Survey (USGS) Hydrologic Unit Code (HUC) 03020201] and Cape Fear River basin (HUC 03030004 and 03030006), that were identified within the study area. All jurisdictional streams in the study area have been designated as warm water streams for the purposes of stream mitigation. Approximately 600 feet of stream relocation is proposed.

There are sixteen ponds that were identified within the study area. Three ponds with a total of 4 acres will be impacted with the construction of the proposed project.

Streamside riparian zones within portions of the study area are protected under provisions of the Neuse River Buffer Rules administered by the NC Department of Water Resources. There are nineteen streams within the study area that are subject to the riparian buffer protection.

Sixty-five jurisdictional wetlands were identified in the study area. All wetlands in the study area are located within either the Neuse River or Cape Fear River basins. The streams and wetlands are shown on Figure 2.

There are approximately 17.6 acres of jurisdictional impacts to wetlands and 5,754 linear feet of stream impacts anticipated with this proposed project.

There are no streams within the study area that have been designated by the USCG as a Navigable Water under Section 10 of the Rivers and Harbors Act. There are no designated High Quality Waters (HQW), Outstanding Resource Waters (ORW), or water supply watersheds (WS-



I or WS-II) within or one mile downstream of the study area. There are no designated anadromous fish waters or Primary Nursery Areas (PNA) present in the study area. The North Carolina 2016 Final 303(d) list of impaired waters identifies no streams within the study area as an impaired water.

Classifications of all streams are listed in the Natural Resources Technical Report (NRTR).

### **3.11.2 Terrestrial Communities**

Four terrestrial communities were identified in the study area. Terrestrial community data is presented in the context of total coverage of each type within the study area. (Table 3).

**Table 3 - Terrestrial Community Impacts**

<b>Terrestrial Community</b>	<b>Coverage(ac.)</b>
Maintained/Disturbed	368
Mixed Pine Forest	8
Dry-Mesic Oak-Hickory Forest	16
Brownwater Bottomland Hardwoods	51

### **3.11.3 Avoidance, Minimization and Mitigation**

Avoidance examines all appropriate and practicable possibilities of averting impacts to Waters of the United States. According to a 1990 Memorandum of Agreement (MOA) between the Environmental Protection Agency (EPA) and the USACE, in determining “appropriate and practicable” measures to offset unavoidable impacts, such measures should be appropriate to the scope and degree of those impacts and practicable in terms of cost, existing technology, and logistics in light of overall project purposes.

Minimization includes examination of appropriate and practicable steps to reduce adverse impacts to Waters of the United States. Implementation of these steps is required through project modifications and permit conditions. Minimization typically focuses on decreasing the footprint of the proposed project through reduction of median widths, rights-of-way widths, fill slopes and/or road shoulder widths. Opportunities to avoid and minimize jurisdictional impacts will be identified as the project progresses into the final design stage.

Compensatory mitigation is not normally considered until anticipated impacts to Waters of the United States have been avoided and minimized to the maximum extent possible. It is recognized that “no net loss of wetlands” functions and values may not be achieved in each and every permit action. Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts that remain after all appropriate and practicable minimization has been required. Compensatory actions can include restoration, creation, and enhancement of Waters of the United States. As discussed above, compensatory mitigation for wetland and stream losses may be required where avoidance and minimization of impact is not possible. Mitigation requirements will be dependent upon final project plans; however, it is anticipated that some mitigation for wetland and stream impacts will be required for the construction of the Build Alternative.

### 3.11.4 Threatened and Endangered Species

The U.S. Fish and Wildlife Service (USFWS) has identified seven federally protected species for Harnett and Wake Counties shown in Table 4. Suitable habitat for the dwarf wedgemussel, yellow lance and Tar River spiny mussel does not exist within the study area; therefore, a biological conclusion of “No Effect” was rendered for these species.

Suitable habitat for the red-cockaded woodpecker does exist within the project study area; however, a review of the NC Natural Heritage Program (NHP) records, updated April 2019, indicates that no known occurrences of this species exist within 1.0 mile of the study area. A biological conclusion of “No Effect” was rendered for this species.

Suitable habitat for the rough-leaved loosestrife and Michaux’s sumac does exist within the project study area. Surveys were conducted on June 4, 2019 and June 6, 2019; no individuals were observed during study periods. A review of the NC NHP records, updated April 2019, indicates that no known occurrences of these species exist within 1.0 mile of the study area. A biological conclusion of “No Effect” was rendered for these species.

**Table 4 - Federally Threatened & Endangered Species in Harnett and Wake Counties**

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
<i>Alasmodonta heterodon</i>	Dwarf wedgemussel	E	No	No Effect
<i>Elliptio lanceolata</i>	Yellow lance	T	No	No Effect
<i>Lysimachia asperulaefolia</i>	Rough-leaved loosestrife	E	Yes	No Effect
<i>Notropis mekistocholas</i>	Cape Fear shiner	E	Yes	Unresolved
<i>Parvaspina steinstansana</i>	Tar River spiny mussel	E	No	No Effect
<i>Picoides borealis</i>	Red-cockaded woodpecker	E	Yes	No Effect
<i>Rhus michauxii</i>	Michaux’s sumac	E	Yes	No Effect

E – Endangered; T - Threatened

Cape Fear shiner

Biological Conclusion: Unresolved

Surveys will be conducted by the NCDOT Biological Surveys Group (BSG). A review of NHP records, updated April 2019, indicates one known occurrence within 1.0 mile of the study area. This occurrence is in Neills Creek west of the study area.

The US Fish and Wildlife Service has developed a programmatic biological opinion (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 and Harnett Counties.

### **3.11.5 Floodplains/Floodway**

Harnett and Wake Counties are participants in the National Flood Insurance Program. There are no stream crossings within a FEMA flood zone.

The crossing of West Buies Creek, two crossings of an unnamed tributary to Neills Creek, and two crossings of an unnamed tributary to Black Creek are not in designated flood hazard zones.

The proposed project would not impact the flood plain or floodways in project study area.

## **3.12 PARKS, RECREATIONAL FACILITIES, AND SECTION 6(F) RESOURCES**

South Lakes Greenway Trail is located perpendicular to NC 55 between the John Deere manufacturing facility and the South Lakes residential subdivision. The trail, which is approximately two miles long, currently terminates on Jones Lake Road. Based on the Town of Angier’s 2014 *Facility Master Plan*, the trail is expected to eventually connect to Old Honeycutt Park.

Several parks are adjacent to the study area, but none will be impacted. There are no parks or recreational facilities that are significantly impacted by the project. There also are no areas that are protected under Section 6(f) Land and Water Conservation Fund Resources.

## **3.13 FARMLANDS**

Prime agricultural land is present in the project study area. The proposed alternative crosses nine parcels that participate in the Harnett County Voluntary Agricultural District (VAD) program as shown in Figure 3, and listed in Table 5, below.

Any VADs converted to non-agricultural use as part of a temporary construction easement must be returned to farmable condition at project completion. Any right-of-way acquired from VAD properties requires a public hearing to be conducted by the Agricultural Advisory Board on the proposed condemnation before condemnation may be initiated or any other specific provisions of Harnett County’s enabling ordinance.

There are numerous farms, crop fields and agricultural operations occurring within the study area. Impacts to agricultural resources and activities are likely to occur temporarily during construction. Table 5 lists the proposed impacts to VAD parcels.

**Table 5 – VAD Parcel Impacts\***

VAD No.	Total parcel (ac.)	Acreage to be acquired
1	52.132	1.140
2	15.842	6.329
3	9.770	0.828
4	1.997	0.380
5	20.647	4.380
6	11.596	2.011
7	32.152	8.563
8	48.358	2.374
9	54.41	11.16
Total	246.904	37.165

\* Acreages calculated from 65% plans

### **3.14 TRAFFIC CAPACITY ANALYSIS**

#### **3.14.1 Base-Year (2016) No-Build**

The Base-Year (2016) Average Daily Traffic (ADT) on this section of NC 55 ranges from 6,600 vehicles per day (vpd) at SR 1532 (Oak Grove Church Road/Guy Road) to 23,400 vpd at NC 42 (from the August 7, 2018 Traffic Forecast Final Updated Memo).

The capacity analysis indicates that all signalized intersections currently operate at acceptable overall levels of service during the AM and PM peak hours with the exception of one intersection. The signalized NC 55 and NC 210 intersection operates at an unacceptable level of service in the AM peak hour. The unsignalized SR 2766 (Holland Road), Bitter Melon Drive/SR 2763 (Maude Stewart Road), N. Broad Street, SR 1415 (Rawls Church Road), Dora Street, SR 1441 (West Williams Street), Church Street, and McIver Street intersections operate at an unacceptable level of service during at least one peak hour. The Clayton Road, S. Broad Street, SR 1542 (Old Buies Creek Road), SR 1538 (Mabry Road), and SR 1532 (Oak Grove Church Road)/SR 1544 (Guy Road) unsignalized intersections operate at acceptable levels of service during both peak hours.

#### **3.14.2 Design-Year (2045) No-Build**

All signalized intersections operate at unacceptable levels of service during both peak hours. At numerous locations, intersection delay for 2045 No-Build is more than double the delay under current No-Build conditions. All stop-controlled side street approaches operate at unacceptable levels of service during both peak hours except for the eastbound SR 1538 (Mabry Road)

approaches at NC 55.

### **3.14.3 Design-Year (2045) Build**

The 2045 Annual Average Daily Traffic (AADT) along NC 55 is 39,400 vehicles per day (vpd) north of SR 2765 (Old Honeycutt Road), 17,500 vpd between West Dora Street and SR 1441 (West Williams Street) and 14,100 vpd south of SR 1532 (Oak Grove Church Road)/SR 1544 (Guy Road); [from the August 7, 2018 Traffic Forecast Final Updated Memo, Build Alt B, Scenario 12]. A Reduced Conflict Intersection design also referred to as a synchronized street, restricted crossing U-turn intersection, or a superstreet design was analyzed for the proposed alternative. All signalized intersections operate at acceptable levels of service during both peak hours. Some signalized intersection approaches operate at an unacceptable level of service, but the queues are not severe, and the traffic volumes do not warrant a traffic signal to assist side street traffic.

## **3.15 TRAFFIC NOISE ANALYSIS**

A Traffic Noise Report will be completed for this project in accordance with the green sheet commitments.

In accordance with NCDOT Traffic Noise 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 State Environmental Assessment/Finding of No Significant Impact (SEA/FONSI). NCDOT strongly advocates the planning, design and construction of noise-compatible development and encourages its practice among planners, building officials, developers and others.

## **3.16 AIR QUALITY**

### **3.16.1 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. Motor vehicles emit carbon monoxide (CO), nitrogen oxide (NO), hydrocarbons (HC), particulate matter, sulfur dioxide (SO<sub>2</sub>), and lead (Pb) (listed in order of decreasing emission rate).

The Federal Clean Air Act of 1970 established the National Ambient Air Quality Standards (NAAQS). These were established in order to protect public health, safety, and welfare from known or anticipated effects of air pollutants. The NAAQS contain criteria for SO<sub>2</sub>, particulate matter (PM<sub>10</sub>, 10-micron and smaller, PM<sub>2.5</sub>, 2.5 micron and smaller), CO, nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), and lead (Pb).

The primary pollutants from motor vehicles are unburned hydrocarbons (HC), Nitrogen oxides (NO<sub>x</sub>), CO, and particulates. HC and NO<sub>x</sub> can combine in a complex series of reactions catalyzed by sunlight to produce photochemical oxidants such as O<sub>3</sub> and NO<sub>2</sub>. 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. These pollutants are regional problems.

### **3.16.2 Conformity Status**

The project is located in Harnett and Wake Counties. Harnett County is in attainment with the U.S. Environmental Protection Agency's NAAQS.

#### **3.16.2.1 Ozone**

The project is partially located in Wake County, which is within the Raleigh-Durham-Chapel Hill nonattainment area for the prior 1997 ozone National Ambient Air Quality Standard (NAAQS) as defined by the EPA. This area was designated nonattainment for the 1997 8-hour ozone standard effective June 15, 2004. However, due to improved monitoring data, this area was redesignated maintenance on December 26, 2007. EPA approved a SIP revision for the removal of Federal low-reid vapor pressure requirement effective on February 3, 2014. The Raleigh-Durham-Chapel Hill area was attainment for the 2008 ozone NAAQS resulting in the 1997 ozone NAAQS being revoked on April 6, 2015. On February 16, 2018, the United States Court of Appeals for the District of Columbia Circuit in *South Coast Air Quality Mgmt. District v. EPA* ("South Coast II," 882 F.3d 1138) held that transportation conformity determinations must be made in areas that were either nonattainment or maintenance for the 1997 ozone NAAQS and attainment for the 2008 ozone NAAQS when the 1997 ozone NAAQS was revoked. Transportation conformity for plans and TIPs for the 1997 Ozone NAAQS can be demonstrated without a regional emissions analysis pursuant to 40 CFR 93.109(c). The Capital Area Metropolitan Planning Organization 2045 Metropolitan Transportation Plan (MTP) and the (2018-2021) Transportation Improvement Program (TIP) conform to the intent of the SIP. The USDOT made a conformity determination on the MTP on February 12, 2019 and the TIP on February 12, 2019. 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.

#### **3.16.2.2 Carbon Monoxide**

Wake County is technically a CO maintenance area, but conformity no longer applies because it has been more than 20 years since the area was redesignated (according to EPA's Greenbook site, the area was redesignated on 9/18/95). Under 40 CFR 93.102(b)(4), conformity no longer applies after 20 years, unless the SIP specifically indicates otherwise. As a result, no microscale carbon monoxide analysis is required for this project.

### **3.16.3 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 highway facility or the improvement of an existing highway facility. New highways, or the widening of existing highways, 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.

The R-5705 project is not anticipated to create any adverse effects on the air quality of Harnett and Wake Counties, thereby complying with the National Ambient Air Quality Standards.

### **3.17 HAZARDOUS MATERIALS AND UNDERGROUND STORAGE TANKS**

Fifteen sites of concern were identified within the proposed study area. Ten UST facilities were identified within the study area. Two UST sites are within ¼-mile of the study area. All 15 sites are anticipated to be low risk. The preliminary design of the project does not affect any of these sites. Field verification of the hazardous waste sites and identification of unknown sites will be performed during final design.

### **3.18 UTILITIES**

There are several utilities that are located within the project area. Relocation of electric, telephone, CATV, water, and sewer lines will be required with this project. The total estimated cost of the utility relocation is \$4,677,120.

### **3.19 PERMITS**

The proposed action will require permits pursuant to Section 401 and 404 of the Clean Water Act of 1977, as amended. A Section 401 Water Quality Certification from the Water Quality Section of the North Carolina Division of Water Resources will be needed for fill activity in adjacent wetlands and surface waters. A Section 404 permit issued by the US Army Corps of Engineers will be required to discharge and place fill materials into wetlands.

### **3.20 COST ESTIMATES**

Preliminary construction cost estimates were developed for the Proposed Alternative based on the preliminary designs. Three cost components were included in the total estimated cost, including right-of-way acquisition, utility relocations and construction costs. The estimated cost of each component is: right-of-way \$26.6 million; utility relocation \$4.7 million; and construction \$91.0 million. The total project cost estimate is \$122.3 million. The estimated cost in the approved 2020-2029 North Carolina State Transportation Improvement Program (STIP) is \$110,467,000, which includes \$12.7 Million for right-of-way acquisition, \$91.0 Million for construction and \$3.0 Million for utilities.

### **3.21 CONSTRUCTION IMPACTS**

NCDOT Best Management Practices for Construction and Maintenance Activities will be adhered to during construction to minimize potential adverse effects caused by construction.

### **3.22 SUMMARY OF IMPACTS**

The impacts as a result of this project are not expected to be significantly adverse. Table 6 lists the engineering factors and anticipated environmental impacts associated with the Build Alternative. These factors and impacts are based on the preliminary roadway designs.

**Table 6 - Engineering and Environmental Evaluation Factors**

<b>Evaluation Factor</b>	<b>Build Alternative</b>
Relocations	40
Cemeteries Impacted	0
Stream Crossings – number	23
Stream Crossing Impact – linear feet	5,754
Regulatory Floodplain/Floodways Encroachment - # Impacted	0
Forested Communities Impacted – acres	40
Voluntary Agricultural District Impacted – acres	37.165
Wetland Impacted – acres	17.6
Historic Architectural Sites Impacted	0
Archaeological Sites Impacted	0
Hazardous Material Sites Impacted	0
Construction Cost	\$91.0 Million
Right of Way Cost	\$26.6 Million
Utilities Cost	\$4.7 Million
<b>TOTAL COST</b>	<b>\$122.3 Million</b>

## **4.0 COMMENTS AND COORDINATION**

### **4.1 PUBLIC INVOLVEMENT**

#### **4.1.1 Mailing List**

All property owners within the study area were added to a mailing list that was used to send out meeting notices and newsletters. Project informational door hangers were placed on all the homes within the study area. After each public meeting or communication from the public, the mailing list was updated to account for all interested parties. The mailing list contains approximately 2,625 names.

#### **4.1.2 Newsletters**

Newsletters were mailed in October 2017 and October 2018 to property owners within the study area. The newsletters contained information about the study process and schedule, the purpose and need of the project, project contacts, and public meeting locations and times.

#### **4.1.3 Local Officials Meeting**

Two Local Officials Meetings were held. The first meeting was held at the Angier Municipal Building on July 27, 2017, and the second meeting held on November 15, 2018 at Angier Baptist



Church. Approximately 20 people attended each meeting. The purpose of these meetings was to inform local officials about the project, to convey a conceptual understanding of the proposed design, and to receive input. The maps showing the proposed project were on display, and can be viewed at the following link: <https://www.ncdot.gov/news/public-meetings/Pages/r-5705-2018-11-15.aspx>. Project representatives were on hand to answer questions following the presentations. There was general support for the project.

#### **4.1.4 Public Meeting**

A Public Meeting was held in the Angier Municipal Building on July 27, 2017. The purpose of the meeting was to inform attendees about the project and to receive input from the public. Project representatives were on hand to answer questions. The meeting was well attended by over 340 attendees. The verbal and written comments offered support and critiques for all options presented.

A second public meeting was held at Angier Baptist Church on November 15, 2018. The purpose of the meeting was to present the selected corridor, Corridor B (Western Corridor) and to answer questions regarding the proposed project. The public meeting was attended by over 350 people. The proposed project was generally well received by those in attendance. People who spoke at the meeting were in general agreement that there is a problem along the project corridor that needs to be addressed. Most verbal comments indicated that the public is in favor of the design, though some comments showed concern about their proposed relocation.

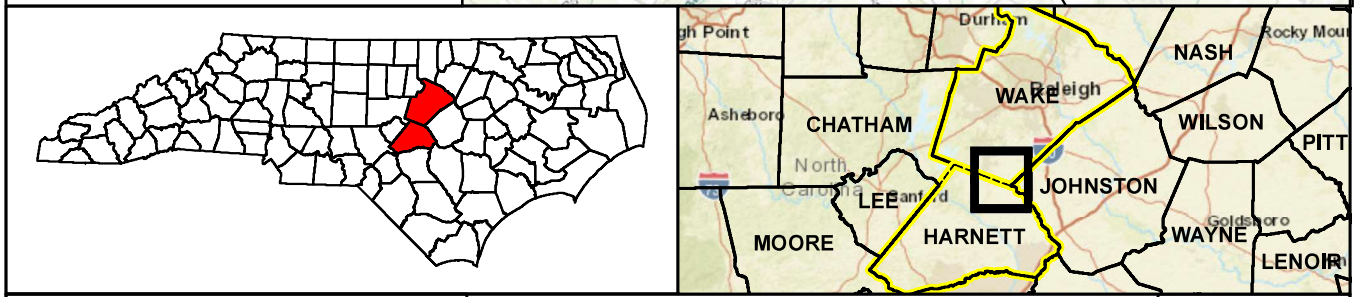
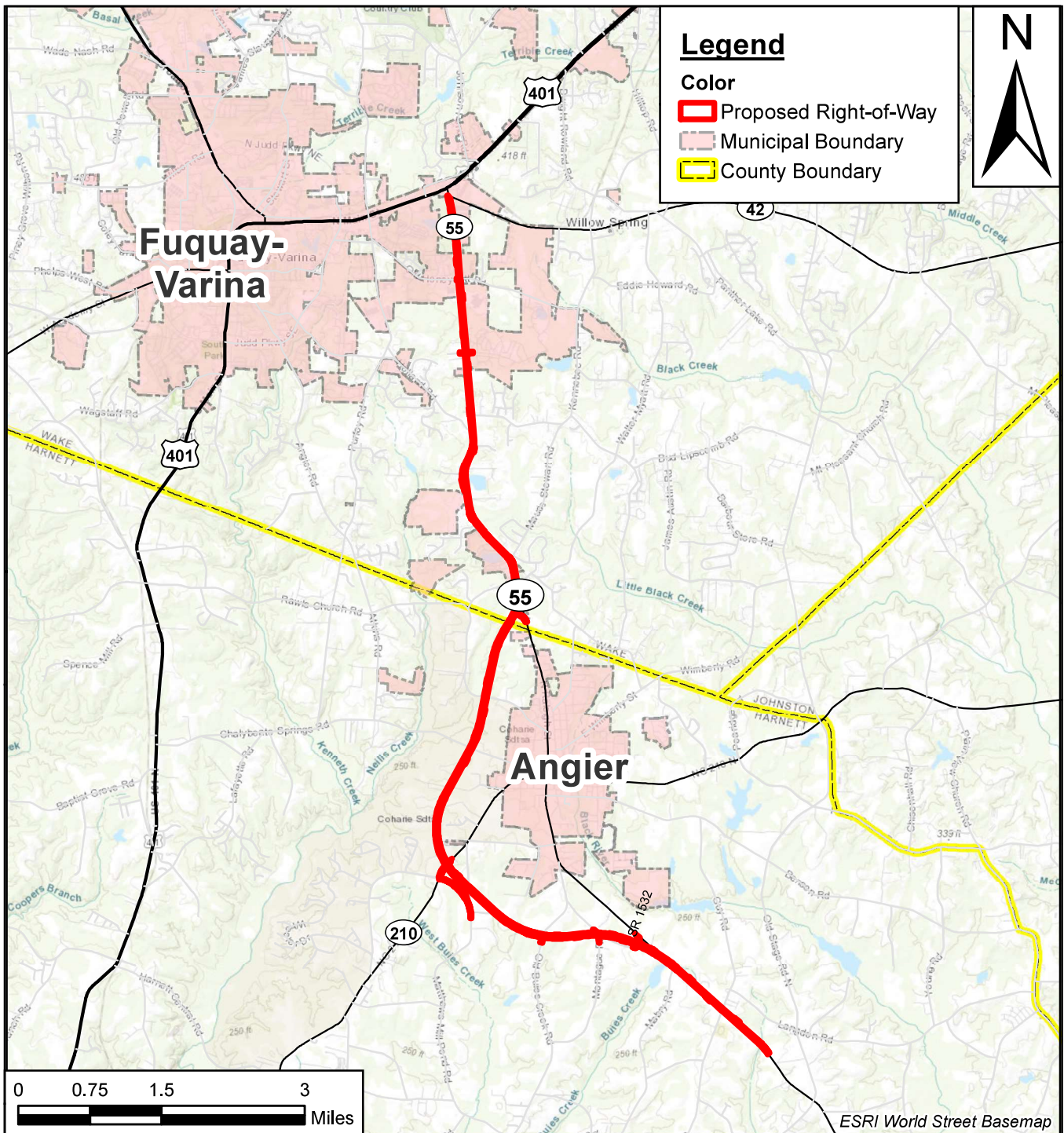
## **5.0 BASIS FOR FINDING OF NO SIGNIFICANT IMPACT (FONSI)**

On the basis of planning and environmental studies of the proposed project documented in this assessment, and upon comments received from federal and state agencies, local agencies, and the public, it is the finding of the North Carolina Department of Transportation that this project will not have a significant adverse impact upon the human or natural environment. The proposed project is consistent with local plans and will not disrupt communities. Per this evaluation, a Finding of No Significant Impact is applicable for this project. Therefore, no further environmental analysis will be required.

# APPENDICES

# Appendix A

## Figures



	County: HARNETT/WAKE	
	Div: 5/6	TIP# R-5705
	WBS: 46377.1.1	
	Date: 05-30-2019	

**PROJECT VICINITY MAP**

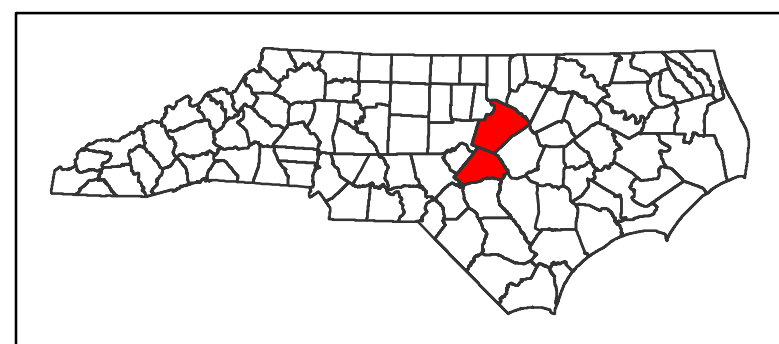
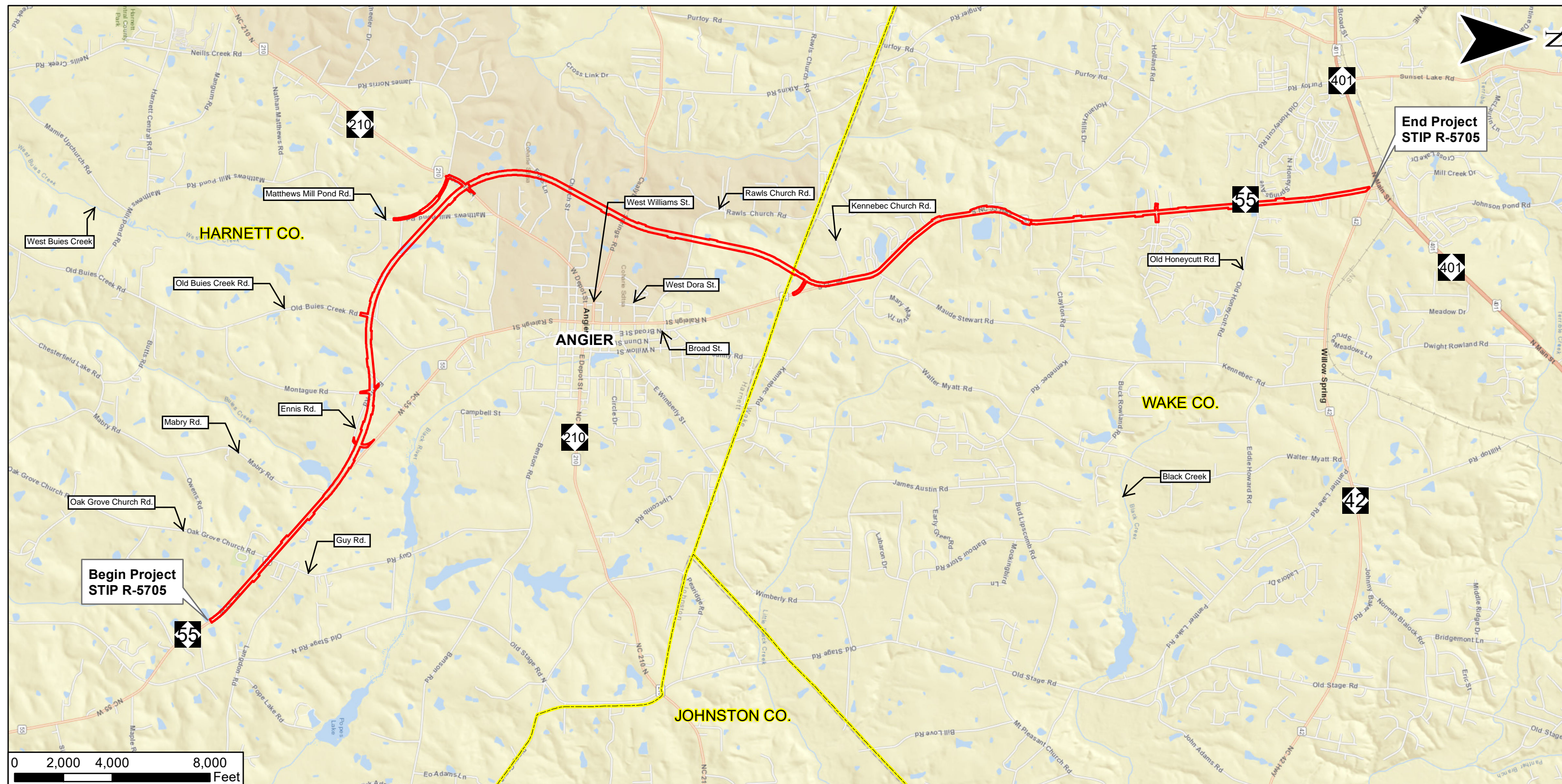
**STIP R-5705**

**Harnett-Wake Counties**

**FIGURE**

**1**





### Legend

- Proposed Right-of-Way
- County Boundary



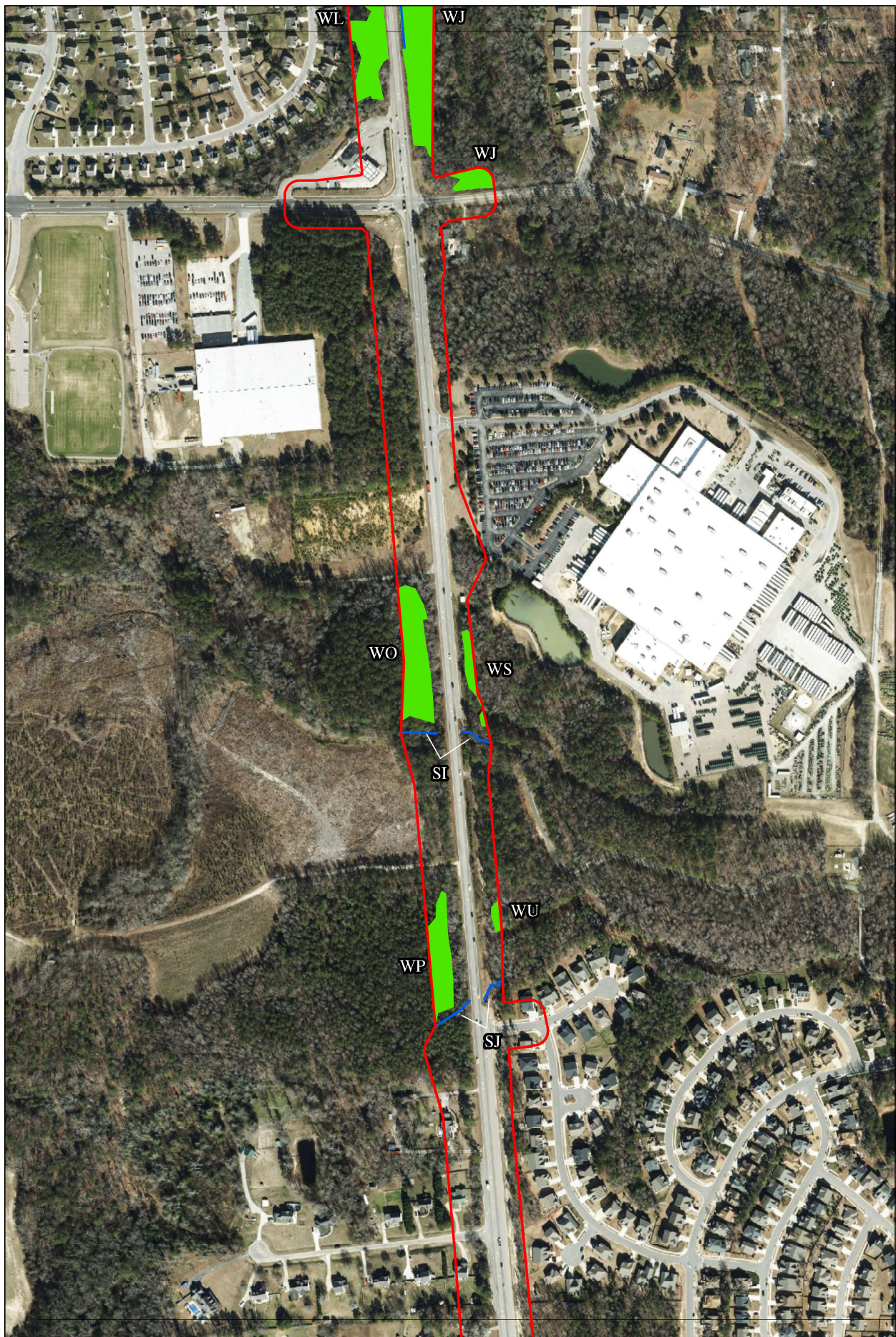
## FIGURE 1A LOCATION MAP STIP R-5705



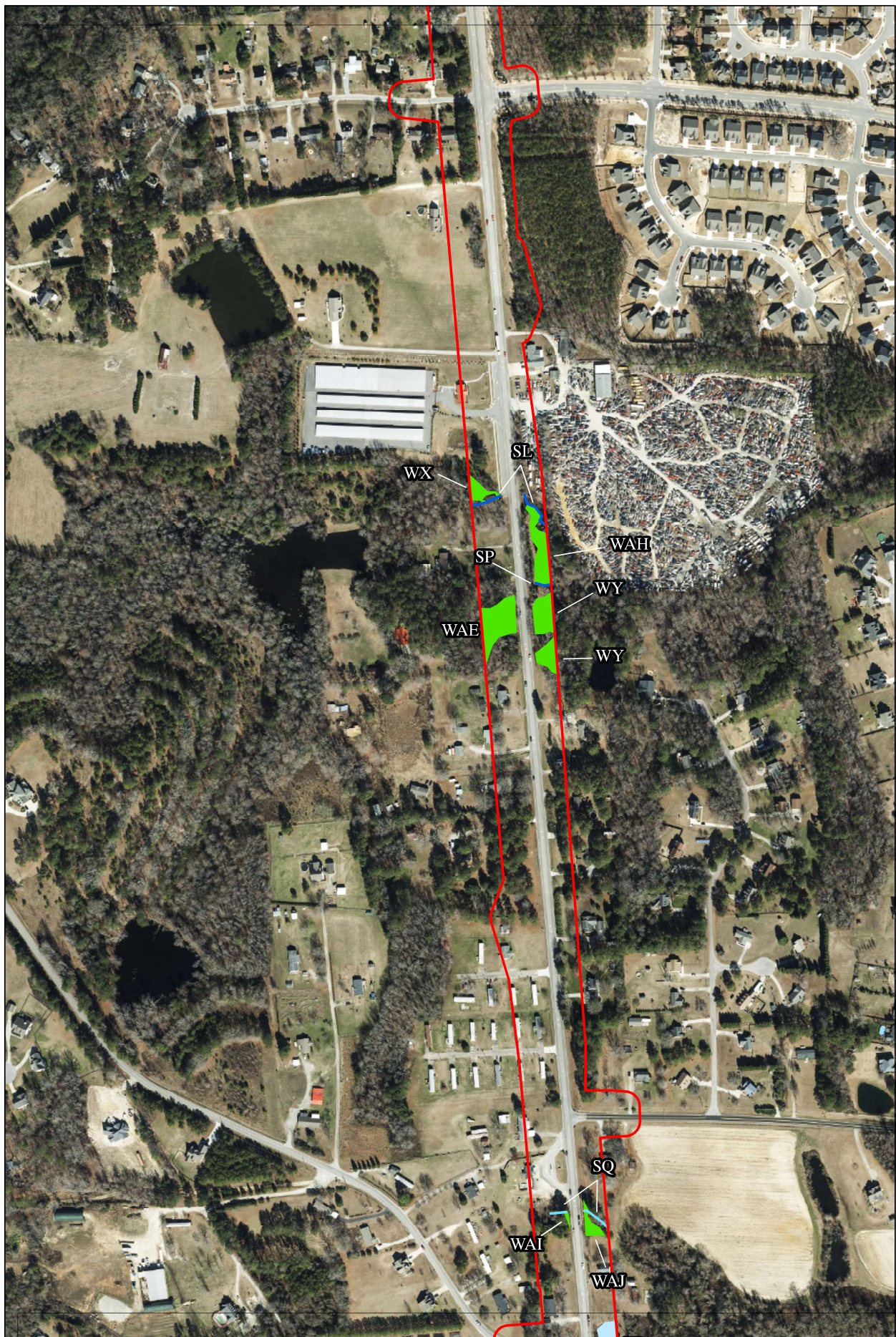








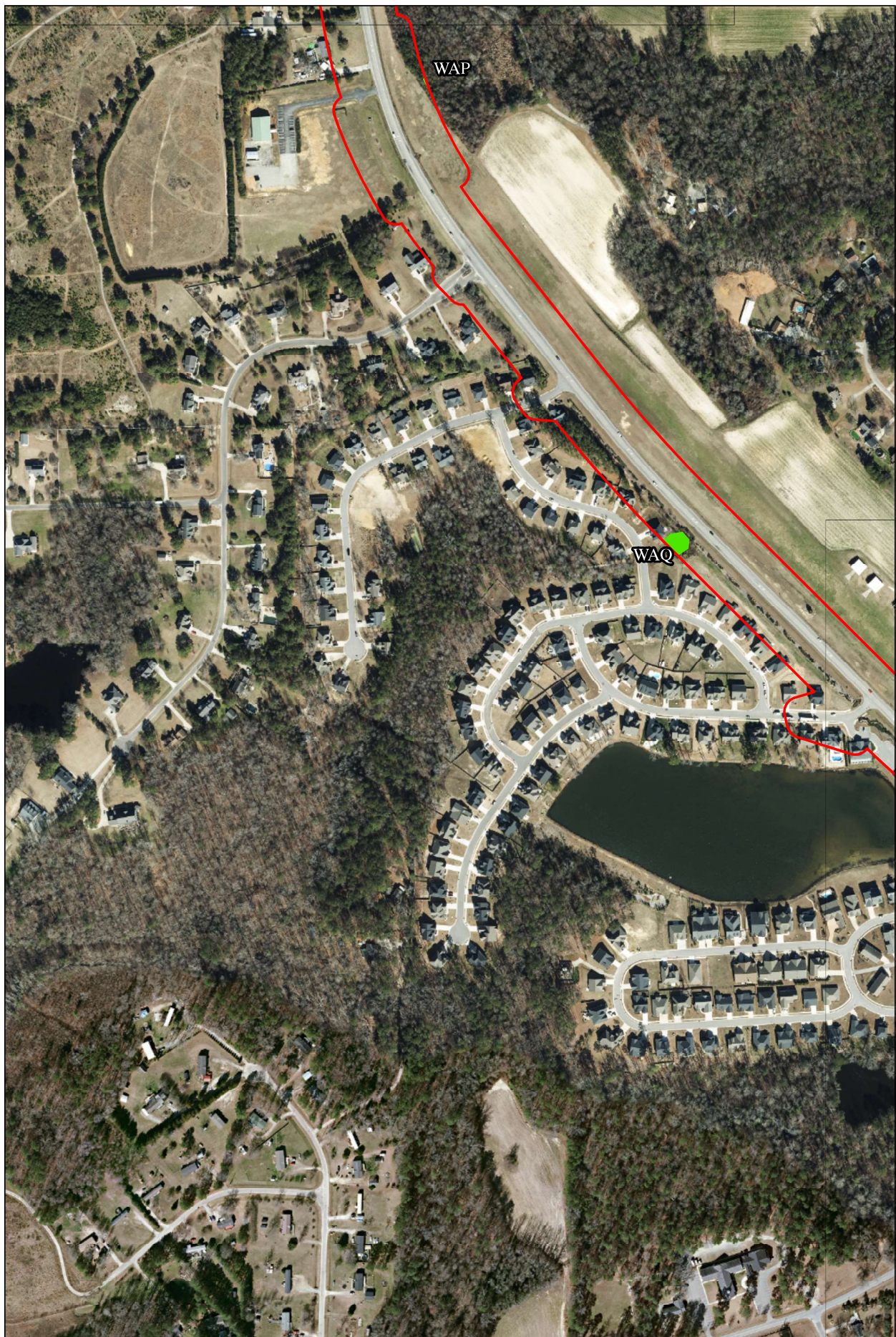




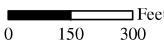












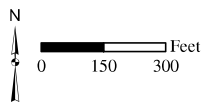









	 	 Study Area	 Intermittent Stream	Map Date: April 2019	<b>R-5705</b> <b>NC-55 Widening/Angier Bypass</b> <b>Wake/Harnett Counties</b> <b>Figure 2: Jurisdictional Features</b> <b>Map Sheet 5 of 17</b>
		 Wetland	 Perennial Stream	Revised:	
		 Pond		Revised:	
		2017 NC Statewide Aerial Photographs		Revised:	



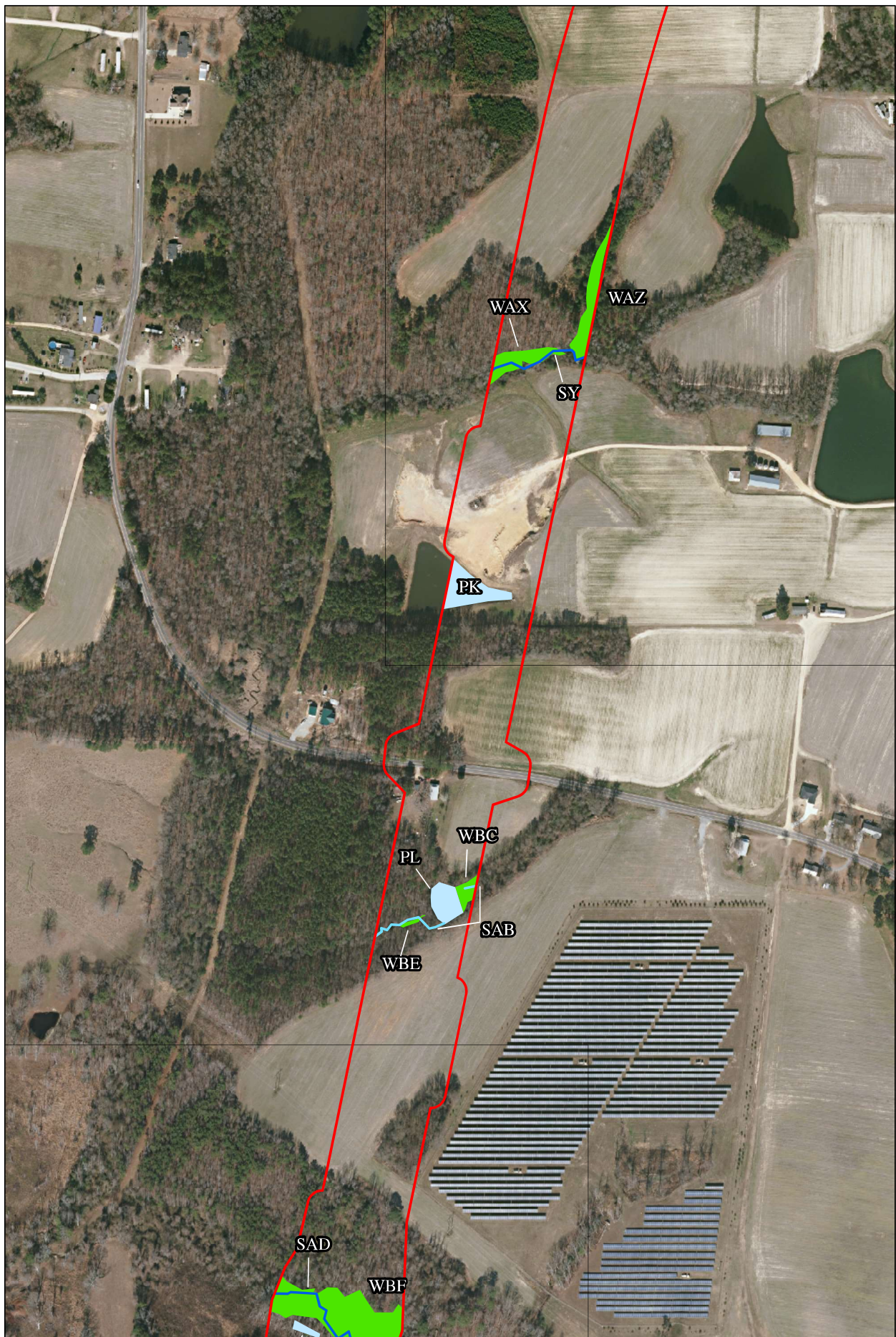


		 Study Area	 Intermittent Stream	Map Date: April 2019	<b>R-5705</b> <b>NC-55 Widening/Angier Bypass</b> <b>Wake/Harnett Counties</b> <b>Figure 2: Jurisdictional Features</b> <b>Map Sheet 6 of 17</b>
		 Wetland	 Perennial Stream	Revised:	
		 Pond		Revised:	
		2017 NC Statewide Aerial Photographs		Revised:	

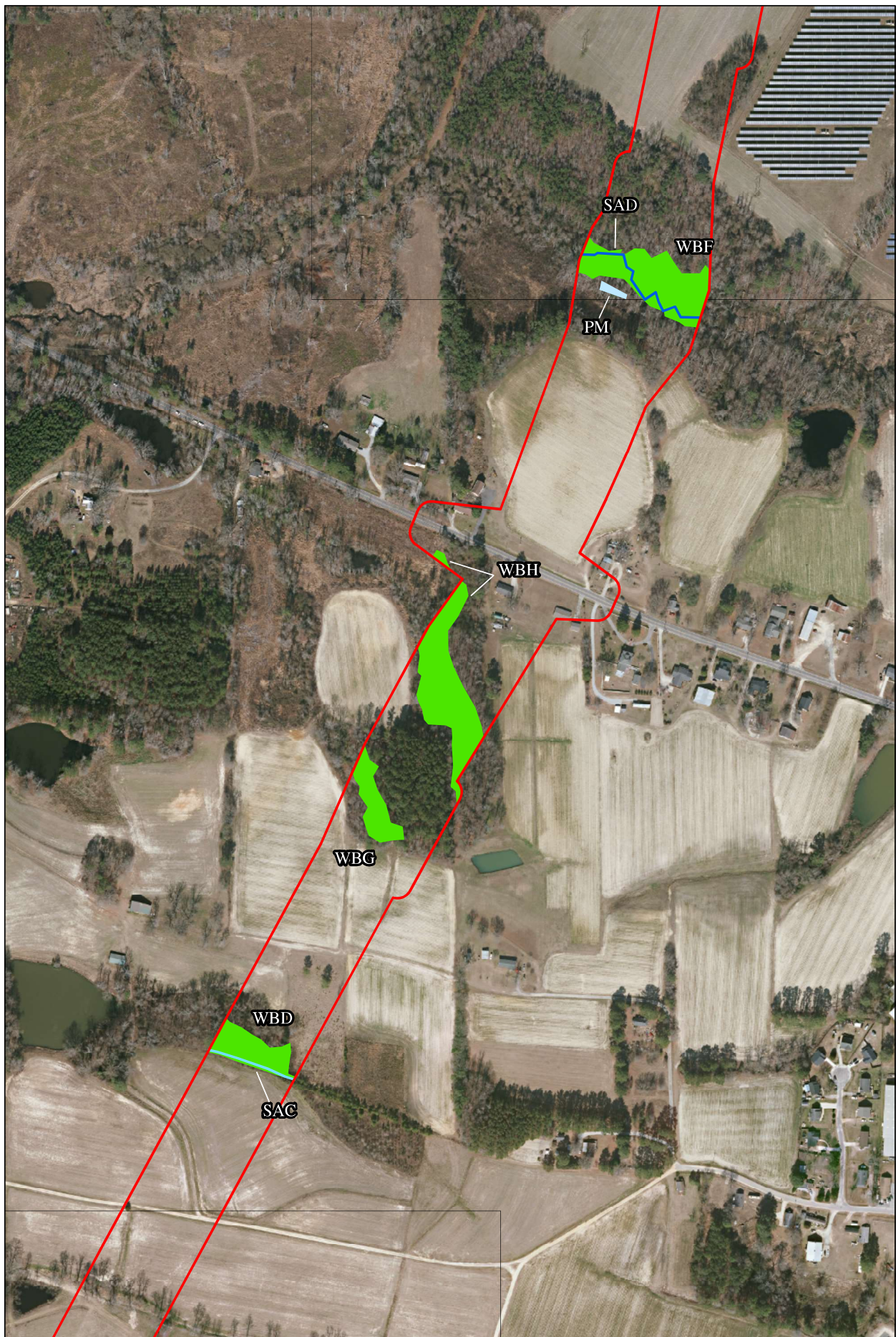




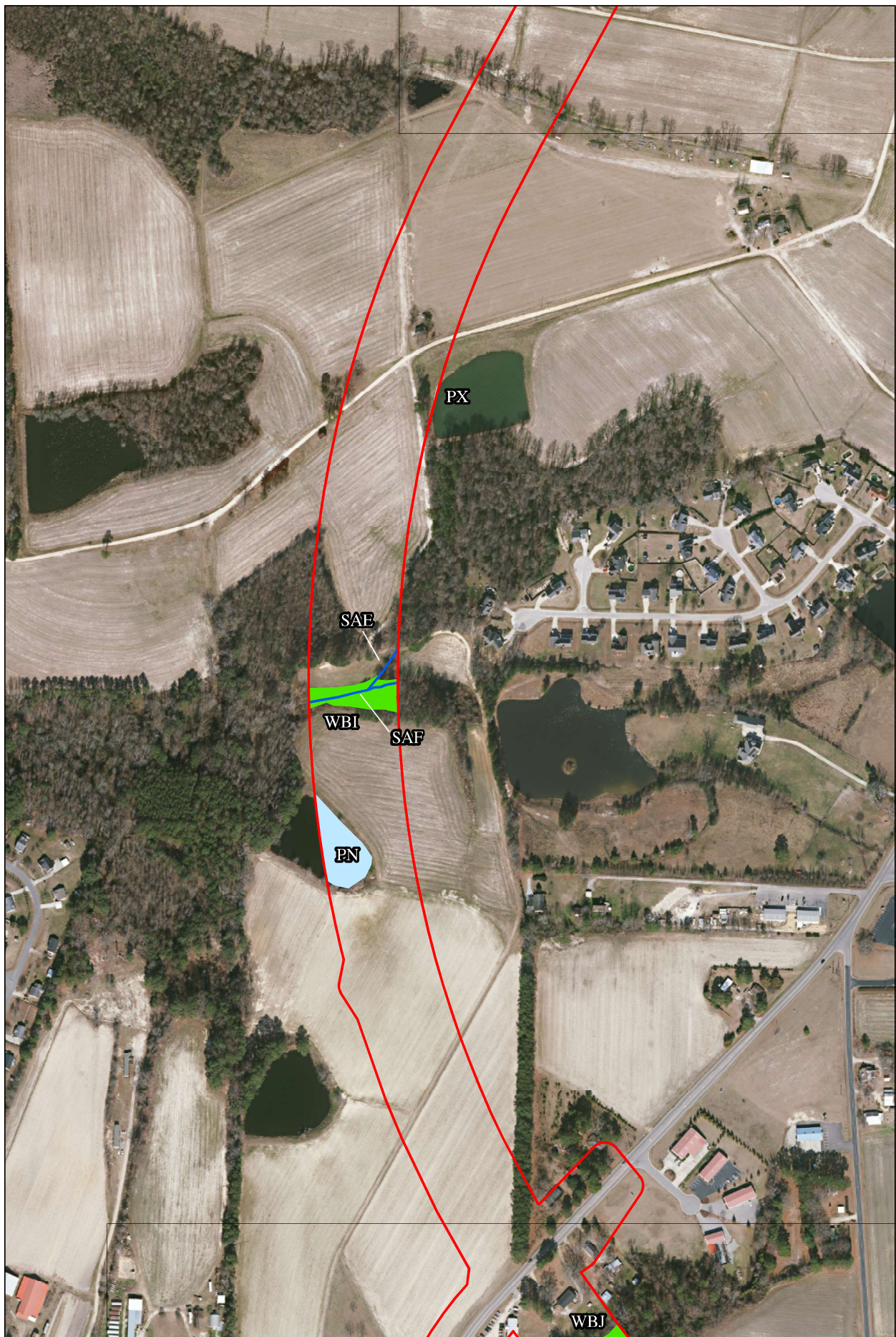



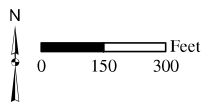









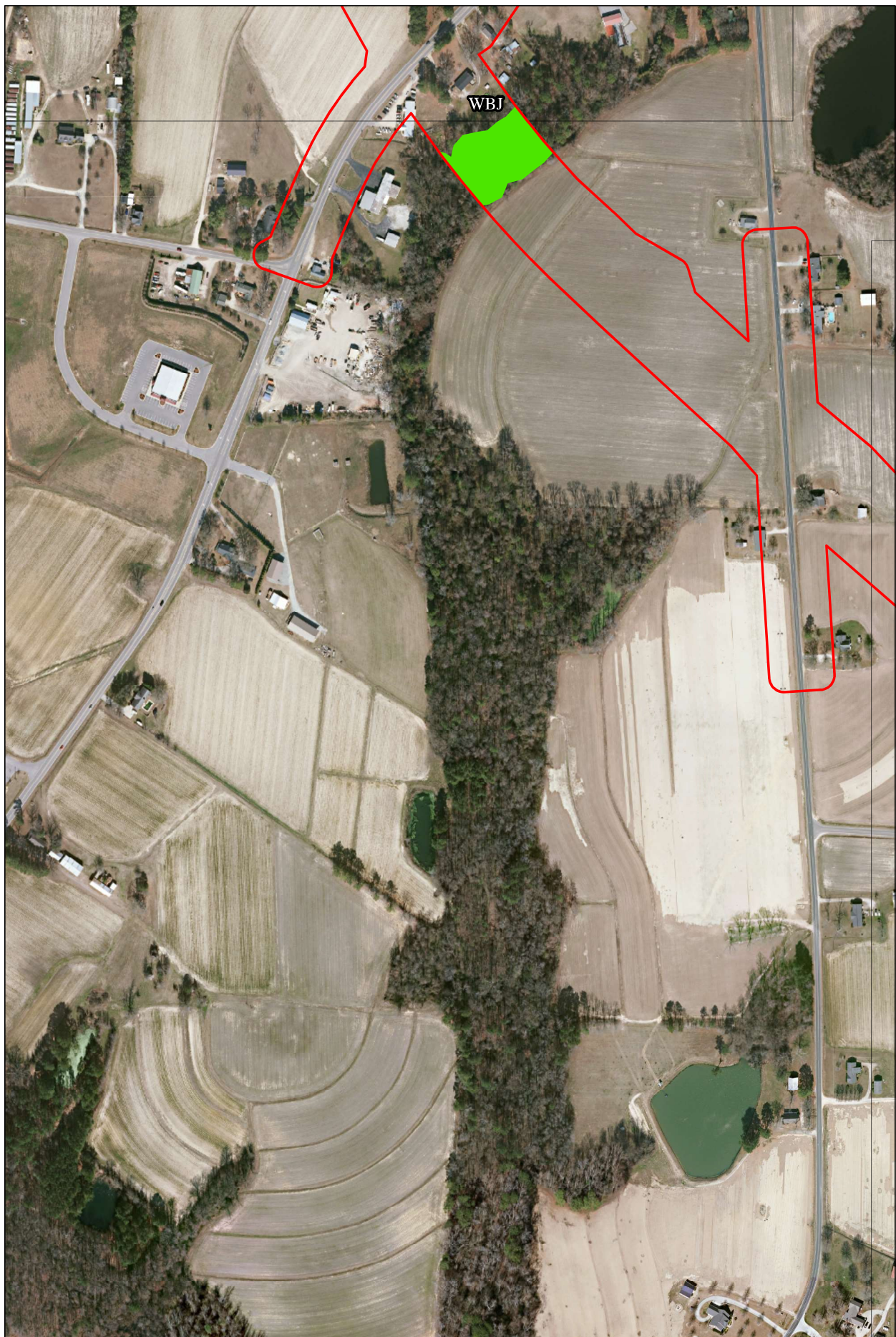



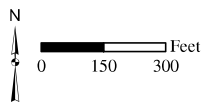
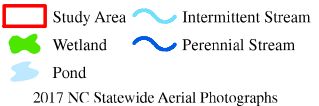




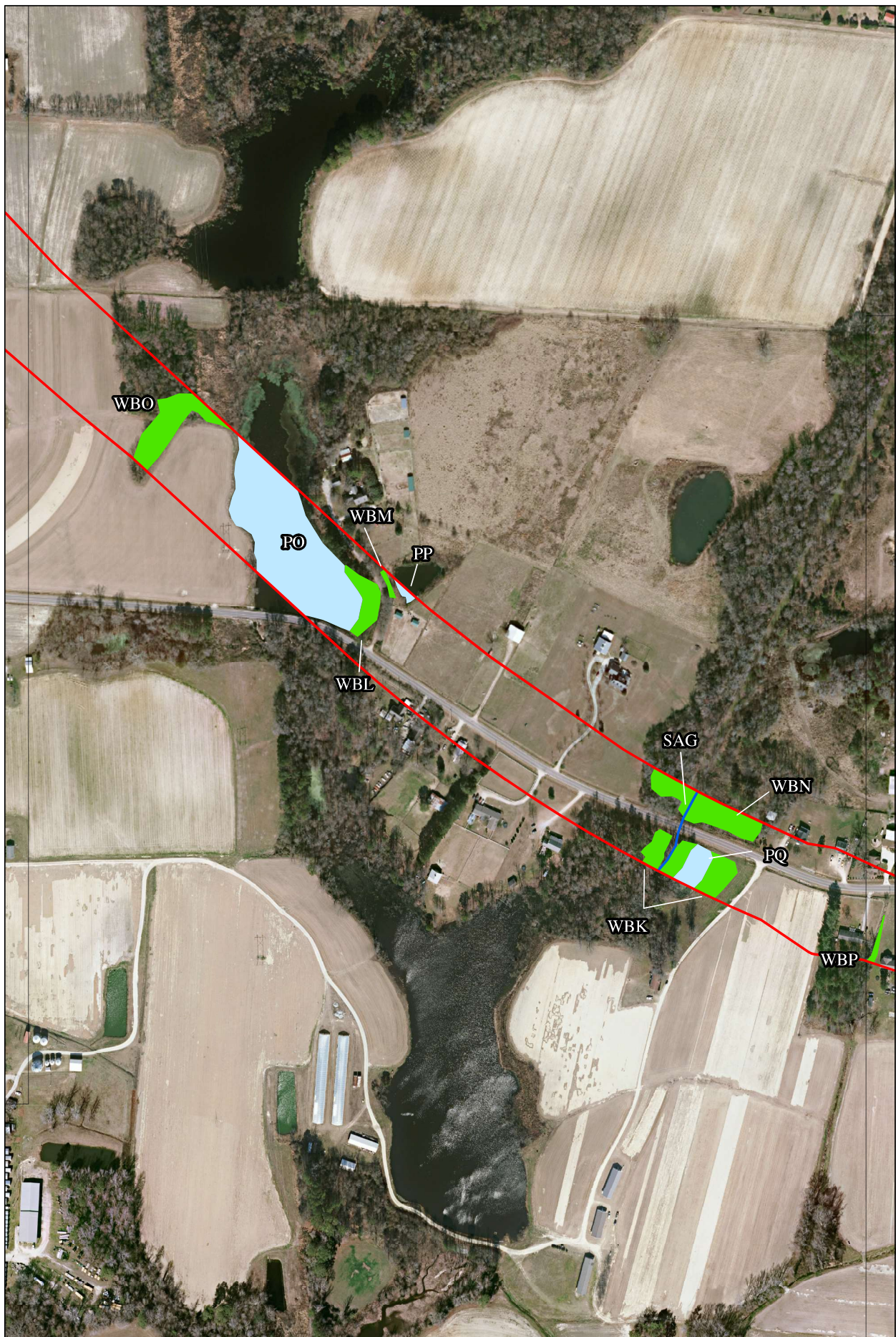
		 Study Area	 Intermittent Stream	Map Date: April 2019 Revised: Revised: Revised:	<b>R-5705</b> <b>NC-55 Widening/Angier Bypass</b> <b>Wake/Harnett Counties</b> <b>Figure 2: Jurisdictional Features</b> <b>Map Sheet 10 of 17</b>
		 Wetland	 Perennial Stream		
		 Pond			
		2017 NC Statewide Aerial Photographs			



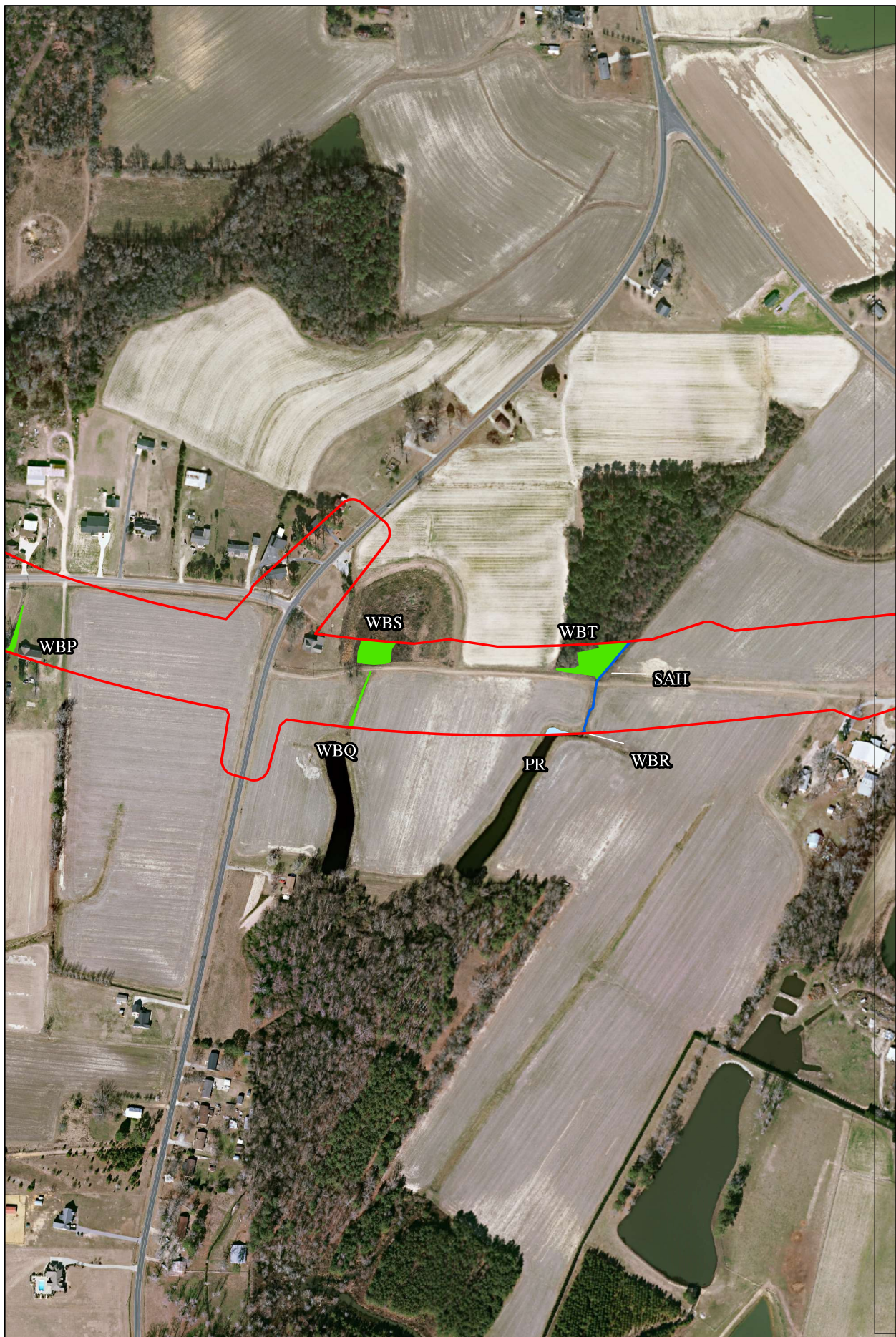




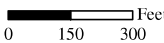





		 <p>2017 NC Statewide Aerial Photographs</p>	Map Date: April 2019	<p><b>R-5705</b>  <b>NC-55 Widening/Angier Bypass</b>  <b>Wake/Harnett Counties</b></p> <p><b>Figure 2: Jurisdictional Features</b>  <b>Map Sheet 11 of 17</b></p>
			Revised:	
			Revised:	
			Revised:	







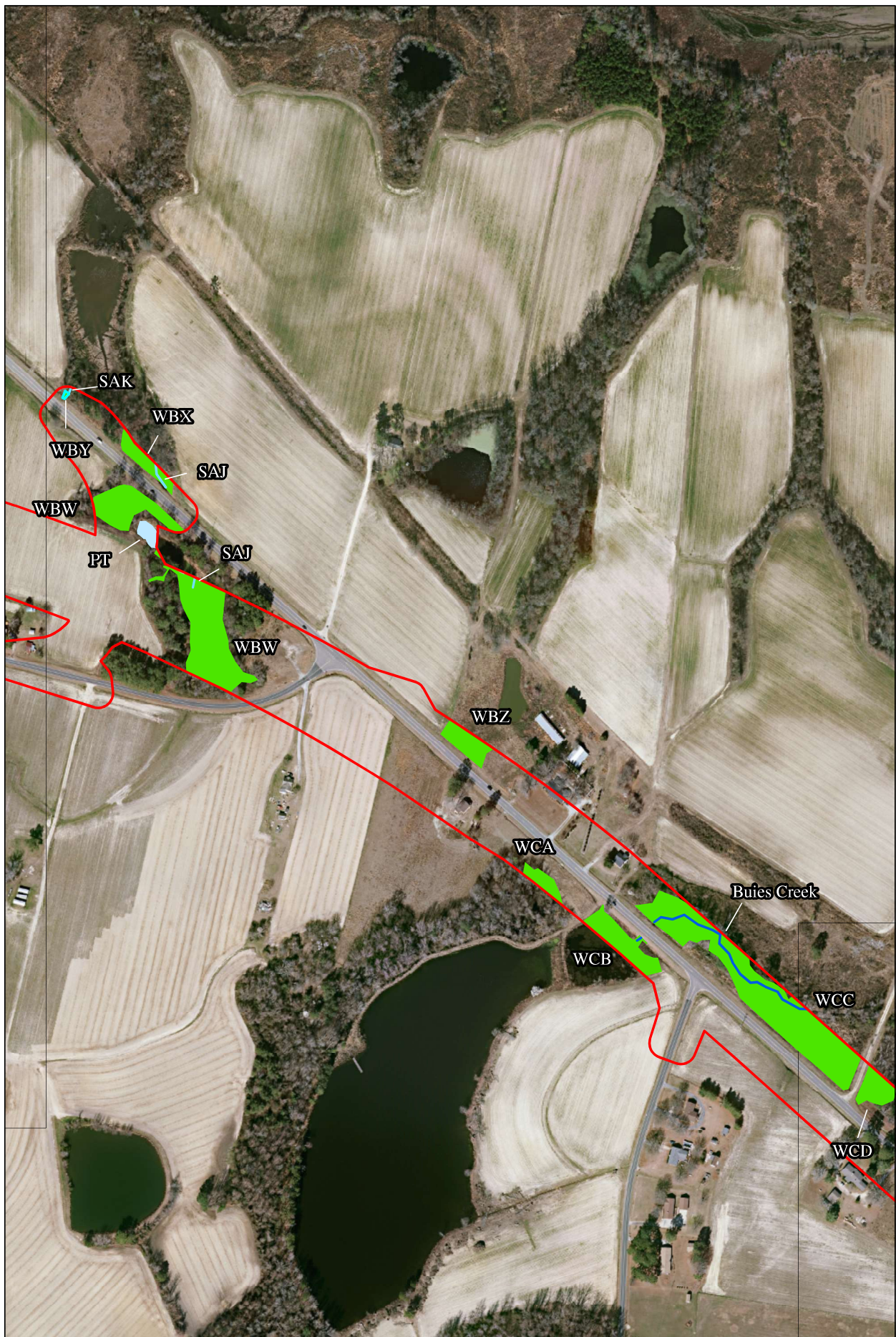


	 	 Study Area	 Intermittent Stream	Map Date: April 2019	<b>R-5705</b> <b>NC-55 Widening/Angier Bypass</b> <b>Wake/Harnett Counties</b> <b>Figure 2: Jurisdictional Features</b> <b>Map Sheet 13 of 17</b>
		 Wetland	 Perennial Stream	Revised:	
		 Pond		Revised:	
		2017 NC Statewide Aerial Photographs		Revised:	









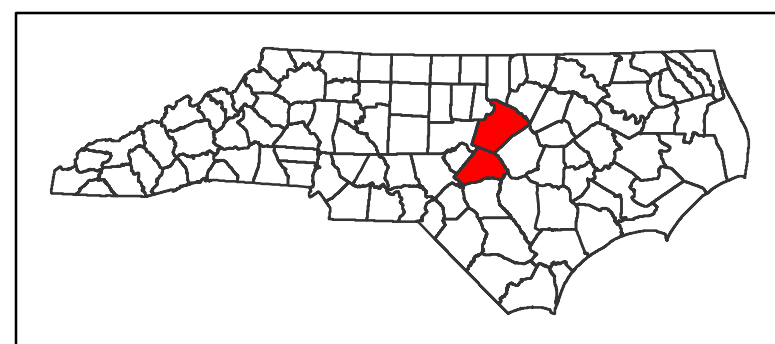
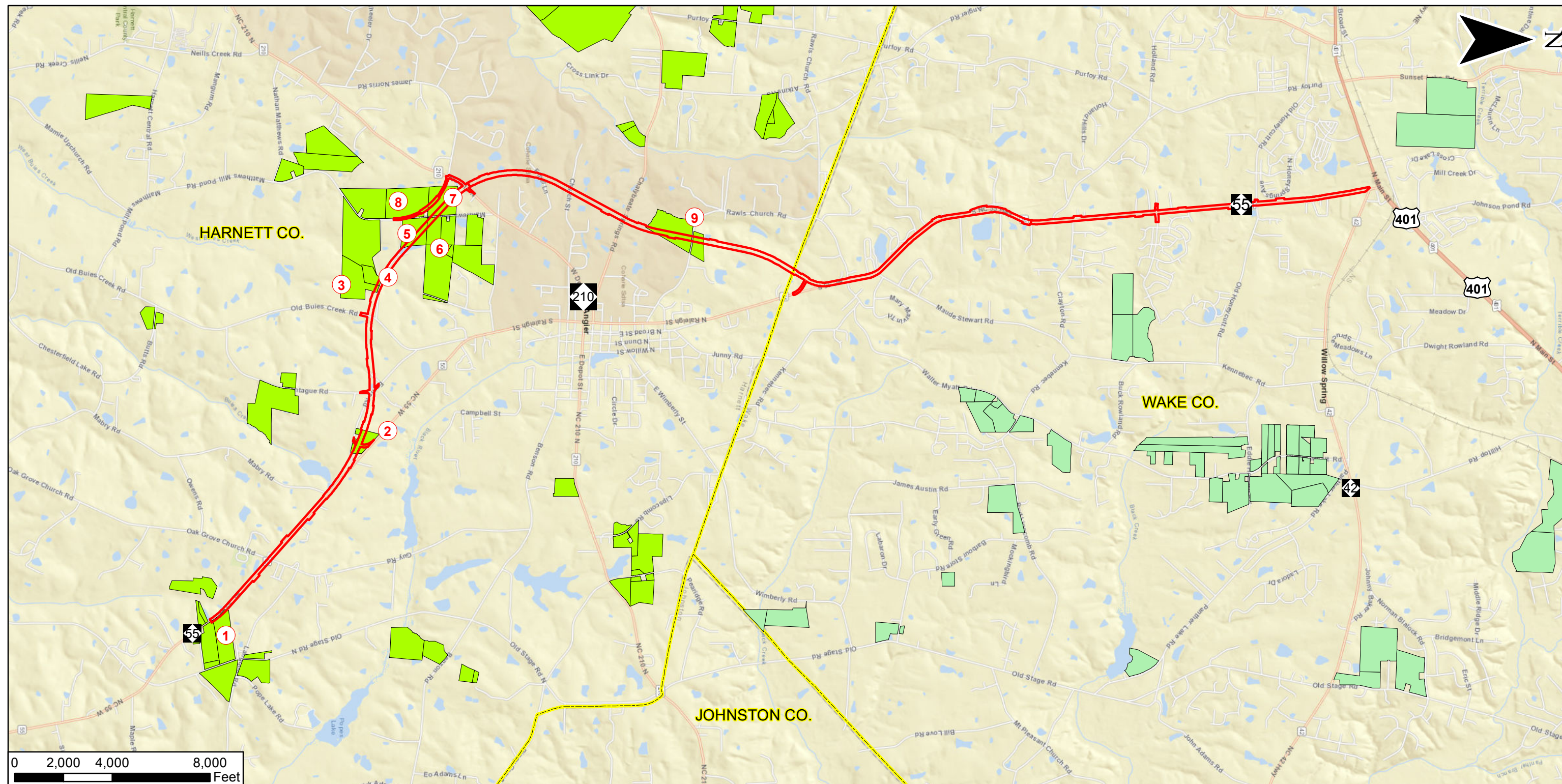












### Legend

- Proposed Right-of-Way
- Wake Co. Voluntary Ag. District
- Harnett Co. Voluntary Ag. District
- County Boundary



## FIGURE 3 VOLUNTARY AGRICULTURAL DISTRICT MAP STIP R-5705



DIVISIONS 5 & 6

HARNETT & WAKE COUNTIES

Date: 5-29-2019



## **Appendix B**

### **Agency Coordination**





## ⊠ North Carolina Wildlife Resources Commission ⊠

Gordon Myers, Executive Director

### MEMORANDUM

TO: Kim Gillespie, Project Planning Engineer  
NCDOT, PDEA

FROM: Travis Wilson, Highway Project Coordinator  
Habitat Conservation Program

DATE: September 12, 2016

SUBJECT: Response to the start of study notification regarding fish and wildlife concerns for the proposed improvements to NC 55 from NC 42 to south of Angier, Harnett and Wake Counties, North Carolina. NCDOT TIP No. R-5705

This memorandum responds to a request for our concerns regarding impacts on fish and wildlife resources resulting from the subject project. Biologists on the staff of the N. C. Wildlife Resources Commission (NCWRC) have reviewed the proposed improvements. Our comments are provided in accordance with certain provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

At this time we do not have any specific concerns related to this project; however, to help facilitate document preparation and the review process our general informational needs are outlined below:

1. Description of fishery and wildlife resources within the project area, including a listing of federally or state designated threatened, endangered, or special concern species. Potential borrow areas to be used for project construction should be included in the inventories. A listing of designated plant species can be developed through consultation with:

NC Natural Heritage Program  
Dept. of Environment & Natural Resources  
1601 Mail Service Center  
Raleigh, NC 27699-1601.  
[WWW.ncnhp.org](http://WWW.ncnhp.org)

and,

NCDA Plant Conservation Program

P. O. Box 27647  
Raleigh, N. C. 27611  
(919) 733-3610

2. Description of any streams or wetlands affected by the project. The need for channelizing or relocating portions of streams crossed and the extent of such activities.
3. Cover type maps showing wetland acreages impacted by the project. Wetland acreages should include all project-related areas that may undergo hydrologic change as a result of ditching, other drainage, or filling for project construction. Wetland identification may be accomplished through coordination with the U. S. Army Corps of Engineers (COE). If the COE is not consulted, the person delineating wetlands should be identified and criteria listed.
4. Cover type maps showing acreages of upland wildlife habitat impacted by the proposed project. Potential borrow sites should be included.
5. The extent to which the project will result in loss, degradation, or fragmentation of wildlife habitat (wetlands or uplands).
6. Mitigation for avoiding, minimizing or compensating for direct and indirect degradation in habitat quality as well as quantitative losses.
7. A cumulative impact assessment section which analyzes the environmental effects of highway construction and quantifies the contribution of this individual project to environmental degradation.
8. A discussion of the probable impacts on natural resources which will result from secondary development facilitated by the improved road access.
9. If construction of this facility is to be coordinated with other state, municipal, or private development projects, a description of these projects should be included in the environmental document, and all project sponsors should be identified.

Thank you for the opportunity to provide input in the early planning stages for this project. If we can further assist your office, please contact me at (919) 707-0370.

USEPA R-5705

From: Gillespie, Allyn K <klgillespie@ncdot.gov>  
Sent: Thursday, September 01, 2016 9:11 AM  
To: Tommy Register  
Cc: McInnis, Jay  
Subject: FW: R-5705 (NC 55 Corridor Study (NC 55, south of Angier to NC 42 (Near Fuquay-Varina)))

Importance: High

Hey Tommy,  
The information below is for the document. Let me know if you have any questions.

Kim Gillespie  
PDEA Project Planning Engineer  
North Carolina Department of Transportation

919-707-6023 office  
klgillespie@ncdot.gov

1548 Mail Service Center  
1000 Birch Ridge Drive  
Raleigh, NC 27611

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

From: Van Der Wiele, Cynthia [mailto:VanDerWiele.Cynthia@epa.gov]  
Sent: Wednesday, August 31, 2016 3:10 PM  
To: Gillespie, Allyn K <klgillespie@ncdot.gov>  
Subject: RE: R-5705 (NC 55 Corridor Study (NC 55, south of Angier to NC 42 (Near Fuquay-Varina)))  
Importance: High

Dear Kim and Jay:

The US EPA Region 4 NEPA Program Office / NC Field Office has reviewed the study area for the proposed U-5705 project.

The NEPA Program is concerned with impacts to both the natural and human environment. I used NEPAassist to examine whether or not USEPA has any hazardous waste, TRI, TSCA, Superfund, etc. types of sites in the project area along with examining potential impacts to natural resources. There are

USEPA R-5705

several RCRA facilities along NC 55, including the Paul Bailey Chevrolet Inc., McLambs Auto Shop and Salvage, Inc., National Foam, and several gas stations (USTs), .

There are numerous streams, riparian wetlands, and farm ponds within the project study area. No doubt you will coordinate with the NC Division of Water Resources and the US Army Corps of Engineers. The US EPA is concerned with both designing hydrologic crossings for resiliency during extreme weather events (to ensure safe and reliable transportation infrastructure), as well as stormwater management to treat runoff prior to entering streams.

I also used USEPA's EJScreen tool to examine the potential for environmental justice concerns. These include demographics such as: minority population, low income (<2X poverty level), linguistically isolated, less than HS education, under age 5, and over age 64. My investigation noted that there are high concentrations of low income and linguistically isolated populations (ranging from 70 - 90th percentile). Additionally, within the project study area, there are high concentrations of persons with less than a high school education [70 - 80th percentile]. Public outreach should be mindful of education levels and the ability to understand complex information at public meetings and workshops.

Also, with regard to EJ issues, concerns are not merely limited to demographics and how best to design project outreach to ensure that these demographics are able to participate fully. EJ issues also concern how the roadway project impacts these demographic groups environmentally. These concerns include PM 2.5, Ozone, National-Scale Air Toxics Assessment [NATA] Respiratory Hazard Index, Traffic Proximity, etc. [see <https://www.epa.gov/ejscreen/overview-environmental-indicators-ejscreen>]. I did not detect high percentiles of these environmental indicators within the project study area. However, lower income and minority populations, are particularly vulnerable to asthma and cardio-pulmonary conditions exacerbated by near road air pollution.

Roadway design improvements should be mindful of diverse populations using the street. The US EPA advocates a Complete Streets approach [where possible] in order to provide

transportation choices. We strongly encourage the inclusion of a Health Impact Assessment (HIA) in the State Environmental Assessment. HIAs are a means of assessing the health impacts of policies, plans, and projects in various economic sectors using quantitative, qualitative, and participatory methods. See: [http://www.fhwa.dot.gov/planning/health\\_in\\_transportation/faq/](http://www.fhwa.dot.gov/planning/health_in_transportation/faq/)

Thank you for the opportunity to comment on this project.

Best,  
Cynthia

MAILING ADDRESS

Cynthia F. Van Der Wiele, Ph.D.  
USEPA R4 NEPA Program Office  
c/o USEPA-RTP  
109 T.W. Alexander Drive  
Mail Code: E143-08  
Research Triangle Park, NC 27709

From: Gillespie, Allyn K [mailto:klgillespie@ncdot.gov]  
Sent: Thursday, August 25, 2016 10:32 AM  
To: Van Der Wiele, Cynthia <VanDerWiele.Cynthia@epa.gov>  
Cc: McInnis, Jay <jmcinnis@ncdot.gov>  
Subject: R-5705 (NC 55 Corridor Study (NC 55, south of Angier to NC 42 (Near Fuquay-Varina)))

Hi Dr. Cynthia,  
Attached is the start of study letter for the subject project. Let me know if you have any questions.

Kim Gillespie  
PDEA Project Planning Engineer  
North Carolina Department of Transportation

919-707-6023 office  
klgillespie@ncdot.gov

1548 Mail Service Center  
1000 Birch Ridge Drive  
Raleigh, NC 27611

USEPA R-5705

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**NO NATIONAL REGISTER OF HISTORIC PLACES  
ELIGIBLE OR LISTED ARCHAEOLOGICAL SITES  
PRESENT 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:* **R-5705**                      *County:* **HARNETT AND WAKE**  
*WBS No:* **46377.1.1**                      *Document:* **EA (STATE)**  
*F.A. No:*                                      *Funding:* ☒ State      ☐ Federal  
*Federal Permit Required?*              ☒ Yes    ☐ No    *Permit Type:* **USACE, TBD**

### ***Project Description:***

NCDOT proposes a study of NC 55 from south of SR 1544 (Guy Road) near East Buies Creek south of Angier to NC 42 in Fuquay-Varina. The project involves a widening to NC 55 and a bypass around Angier in Harnett and Wake Counties. The project length is about 11.5 miles and will include widening, intersection improvements and a bypass on new location. While the Area of Potential Effect (APE) width varies at interchanges and intersections, a typical width of 300 feet represents much of the project (see Figure 1).

This archaeological investigation considered an estimated 420 acres, much of which contains the existing roadway facility, highway intersections, urban development and infrastructure (see Figure 2). A large portion of the APE has been disturbed by construction and therefore has soils with poor archaeological integrity. In those areas, the probability for identifying intact, significant archaeological sites is lessened. This is a state-funded project, however, in anticipation of US Army Corps of Engineers (USACE) permitting, Section 106 of the National Historic Preservation Act applies for archaeological compliance review for this likely federalized undertaking.

## SUMMARY OF ARCHAEOLOGICAL FINDINGS

The intensive archaeological survey focused on the approximately 210 acres, half the project, that was considered to have better potential to yield intact, significant archaeological sites. Spaced at 30 meter intervals, 677 shovel test pits were excavated to cover the APE with an additional sixty shovel tests placed for site refinements. In total, 737 shovel test pits were excavated and 40 yielded cultural materials. Fifteen new archaeological sites (see Figure 3) were documented as a result of the survey (31Ht1279, 31Ht1280, 31Ht1281, 31Ht1282, 31Ht1283, 31Ht1284, 31Ht1285, 31Ht1286, 31Ht1287, 31Ht1288, 31Ht1289, 31Ht1290, 31Ht1291, 31Ht1292, 31Ht1293). Two previously recorded sites registered as isolated finds at the Office of State Archaeology, 31Ht168 and 31Ht1028, were not relocated. None of the sites have been recommended as eligible for listing in the National Register of Historic Places. See report for specific information (Paalvast and Stewart 2019)

Since there are no previously recorded or newly documented archaeological sites eligible or listed on the NRHP identified within the narrow APE, a finding of no National Register of Historic Places listed, or eligible sites is appropriate.

16-04-0040

**The North Carolina Department of Transportation (NCDOT) Archaeology Group reviewed the subject project and determined:**

- ☒ There are no National Register listed or eligible ARCHAEOLOGICAL SITES present within the project's area of potential effects. (Attach any notes or documents as needed)
- ☐ No subsurface archaeological investigations were required for this project.
- ☐ Subsurface investigations did not reveal the presence of any archaeological resources.
- ☒ Subsurface investigations did not reveal the presence of any archaeological resources considered eligible for the National Register.
- ☒ All identified archaeological sites located within the APE have been considered and all compliance for archaeological resources with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.

### SUPPORT DOCUMENTATION

See attached: ☒ Map(s) ☐ Previous Survey Info ☐ Photos ☐ Correspondence  
Signed:



04/04/2019

NCDOT ARCHAEOLOGIST

Date

Resource	Resource Type	Association	Recommendation
31HT1279	Lithic Scatter	Unknown Prehistoric	Not Eligible/No Further Work
31HT1280	Isolated Find	Unknown Prehistoric	Not Eligible/No Further Work
31HT1281	Lithic Scatter	Unknown Prehistoric	Not Eligible/No Further Work
31HT1282	Isolated Find	Unknown Prehistoric; 19 <sup>th</sup> to 20 <sup>th</sup> century	Not Eligible/No Further Work
31HT1283	Isolated Find	19 <sup>th</sup> to 20 <sup>th</sup> century	Not Eligible/No Further Work
31HT1284	Isolated Find; Artifact Scatter	Unknown Prehistoric; Late 19 <sup>th</sup> to mid-20 <sup>th</sup> century	Not Eligible/No Further Work
31HT1285	Artifact Scatter	19 <sup>th</sup> to 20 <sup>th</sup> century	Not Eligible/No Further Work
31HT1286	Lithic Scatter	Unknown Prehistoric	Not Eligible/No Further Work
31HT1287	Lithic Scatter; Artifact Scatter	Middle Archaic; 19 <sup>th</sup> to early 20 <sup>th</sup> century	Not Eligible/No Further Work
31HT1288	Lithic Scatter	Middle to Late Woodland	Not Eligible/No Further Work
31HT1289	Artifact Scatter; Artifact Scatter	Unknown Prehistoric; 29 <sup>th</sup> to 20 <sup>th</sup> century	Not Eligible/No Further Work
31HT1290	Isolated Find; Artifact Scatter	Unknown Prehistoric; Late 19 <sup>th</sup> to early 20 <sup>th</sup> century	Not Eligible/No Further Work
31HT1291	Lithic Scatter; Artifact Scatter	Middle Archaic; Late 19 <sup>th</sup> to early 20 <sup>th</sup> century	Not Eligible/No Further Work
31HT1292	Lithic Scatter; Artifact Scatter	Unknown Prehistoric; 19 <sup>th</sup> to mid-20 <sup>th</sup> century	Not Eligible/No Further Work
31HT1293	Lithic Scatter	Unknown Prehistoric	Not Eligible/No Further Work

Paalvest, Marc and Brynn Stewart

2019 *Archaeological Survey and Evaluation for the NC 55 Corridor from NC 42 in Wake County to South of SR 1532 (Oak Grove Church Road) in Harnett County. TIP No. R-5705 / PA 16-04-0040. On file at the Office of State Archaeology, Raleigh.*



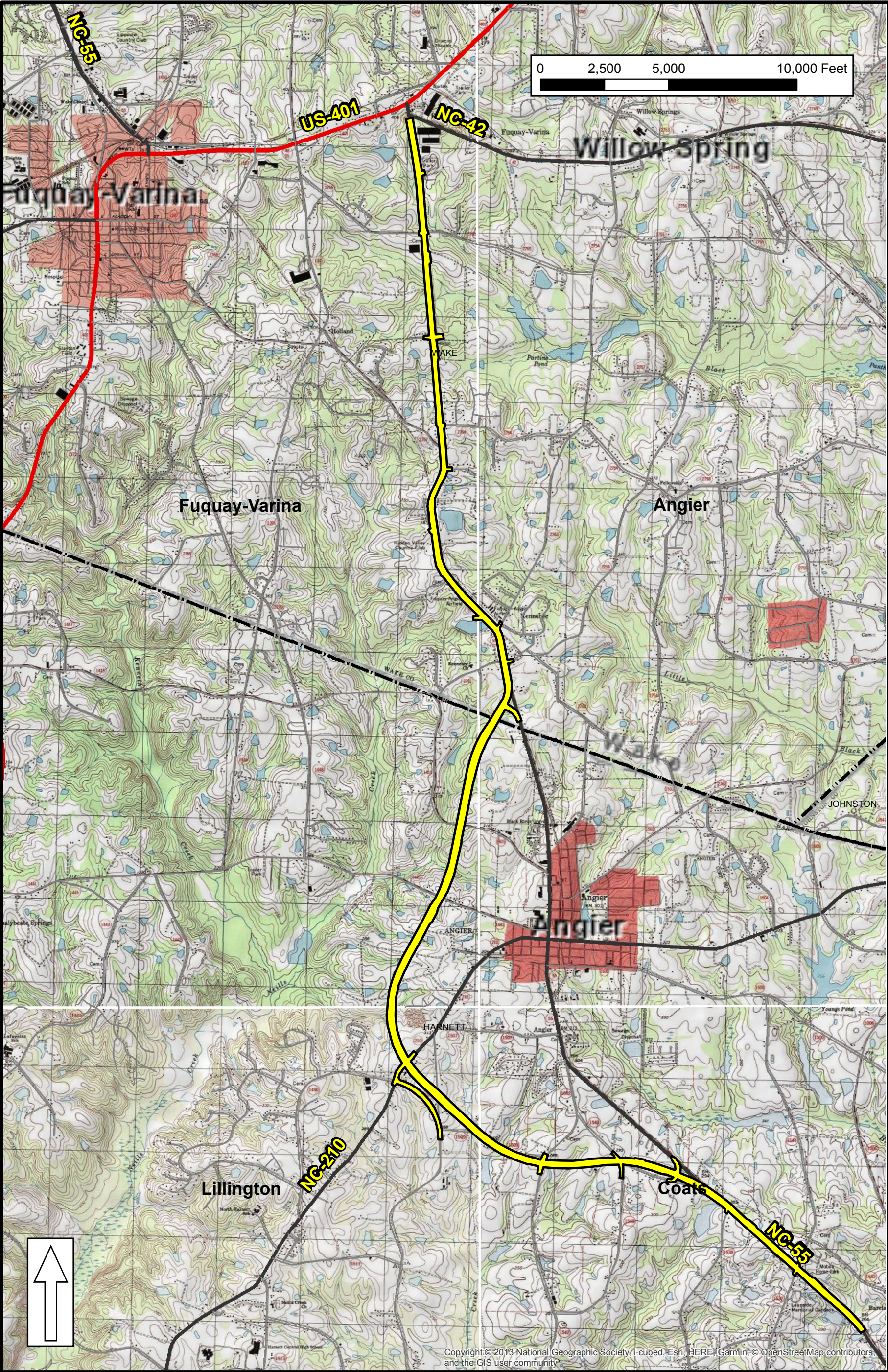
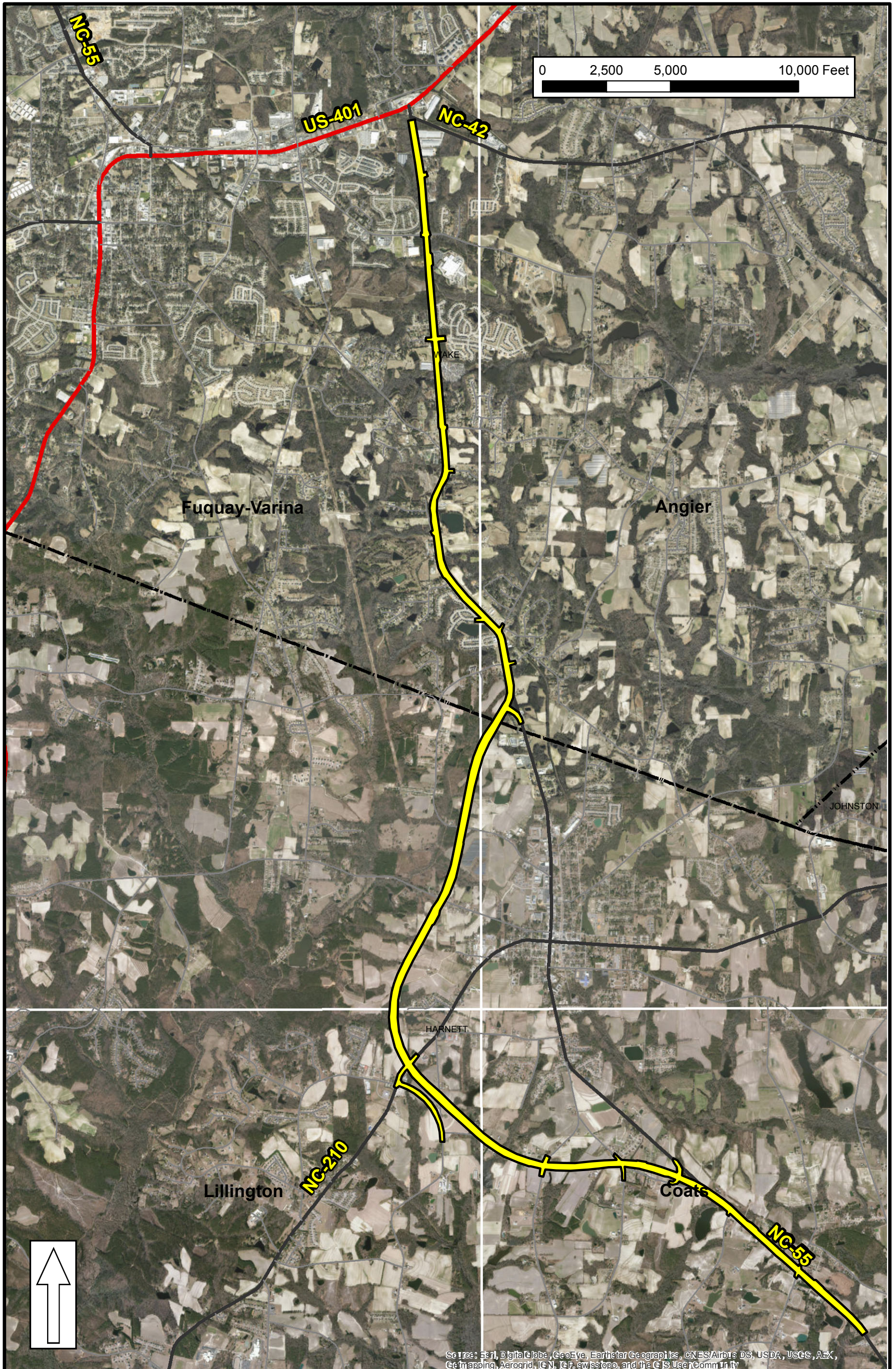


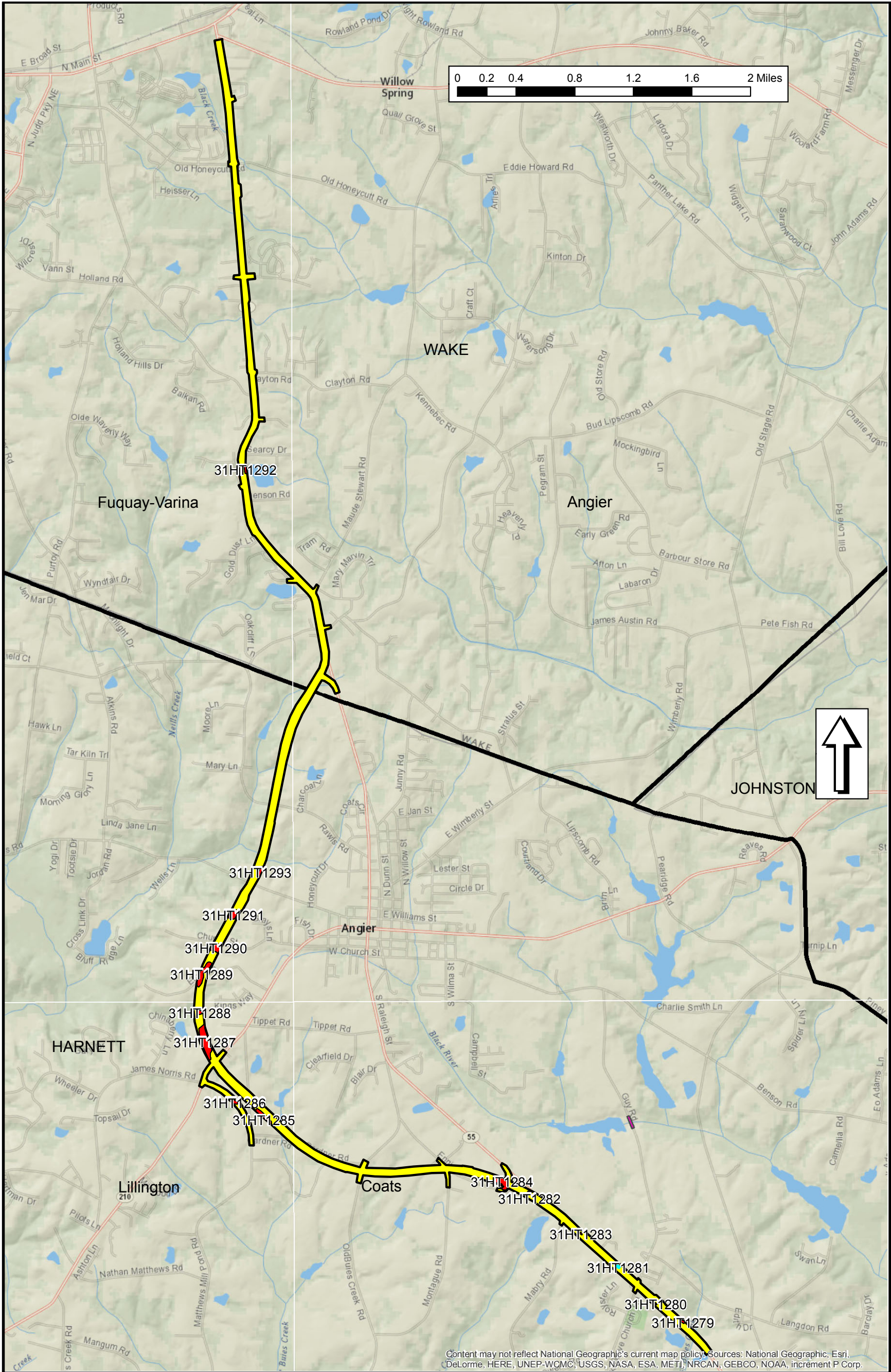
Figure 1. Vicinity mapping showing the project location, with the current Archaeological Area of Potential Effects shown in yellow and outlined in black. This is smaller than the original Study Area which was four miles wide. Four USGS maps are shown to cover the undertaking, Fuquay-Varina, Angier, Lillington and Coats in Harnett and Wake Counties, PA 16-04-0040 / TIP # R-5705.





**Figure 2. Recent aerial photography showing APE of TIP # R-5705 / PA 16-04-0040, shown in yellow and outlined in black, which is smaller than the original APE. The archaeological APE is highlighted in yellow, passing through a mix of landscape use.**





**Figure 3. TIP # R-5705 /PA 16-04-0040 project vicinity, archaeological Area of Potential Effects and approximate location of newly documented archaeological sites. Specific and detailed archaeological site location information is available in the expanded report.**



16-04-0040



## 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>	R-5705	<b>County:</b>	Wake and Harnett
<b>WBS No.:</b>	46377.1.1	<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

**Project Description:** Improvements to NC 55 from south of SR 1532 (Oak Grove Church Road) in Harnett County to NC 42 in Wake County (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 11 May 2016, 21 August 2018, and 5 March 2019 and yielded 21 SS and no NR, SL, LD, or DE properties in the Area of Potential Effects (APE). Initial review of the study area (form dated 11 August 2016) superceded by subsequent addition of federal permits and revisions of study area. This review corresponds to the *selected Alternative B*. Wake and Harnett Counties current GIS mapping, aerial photography, and tax information indicated an APE of cultivated fields and some woodland containing nearly three hundred, predominantly residential (90%) and commercial (9%) resources dating from the 1890s to the 2010s (viewed 11 May 2016 and 21 August 2018). Most of the previously recorded resources -- 19 houses in Harnett County (HT1013-1016, 1021-1023, 1031-1035, 1045, 1125, 1127-1130) -- were determined not eligible for the National Register in 2013 as a result of studies for the R-2609 project, findings which remain valid. Of the three recorded sites in Wake County, one no longer exists (WA1134) and two have lost historical integrity and are not likely to be individually NR-eligible (WA 0579 and 0580). Approximately 32% of the above-ground resources in the study area pre-date 1970 and are all unexceptional (many are also altered) examples of their types. Constructed in 1958, Wake County Bridge Number 94 is not eligible for the National Register according to the NCDOT Historic Bridge Inventory as it is neither aesthetically nor technologically significant. While not NR-eligible, two cemeteries should be afforded the usual protections during construction: the Kennebec Baptist Church Cemetery (#9709 Kennebec Church Road, Wake County PIN: 0675409370) located in the SW quadrant of the Kennebec Church Road and NC 55 intersection and the cemetery adjacent to the north side of Ennis Road (#5999 NC 55W, Harnett County PIN: 0683-10-2998). Google Maps "Street View" and a field investigation confirmed the absence of critical architectural and landscape resources in the APE.

**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 provided in the review request (see attached). The county architectural surveys (Wake: 1988-91 and 2005-6; Harnett: 2002-3) and related publication, as well as later studies, recorded no properties in the APE, apart from those noted above (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 properties are located within the APE. The project is reviewed for compliance with both GS 121-12(a) and Section 106.

**Should the project limits or any other aspect of the design 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*

NCDOT Architectural Historian

*12 March 2019*

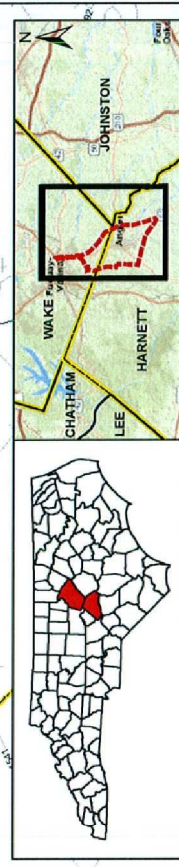
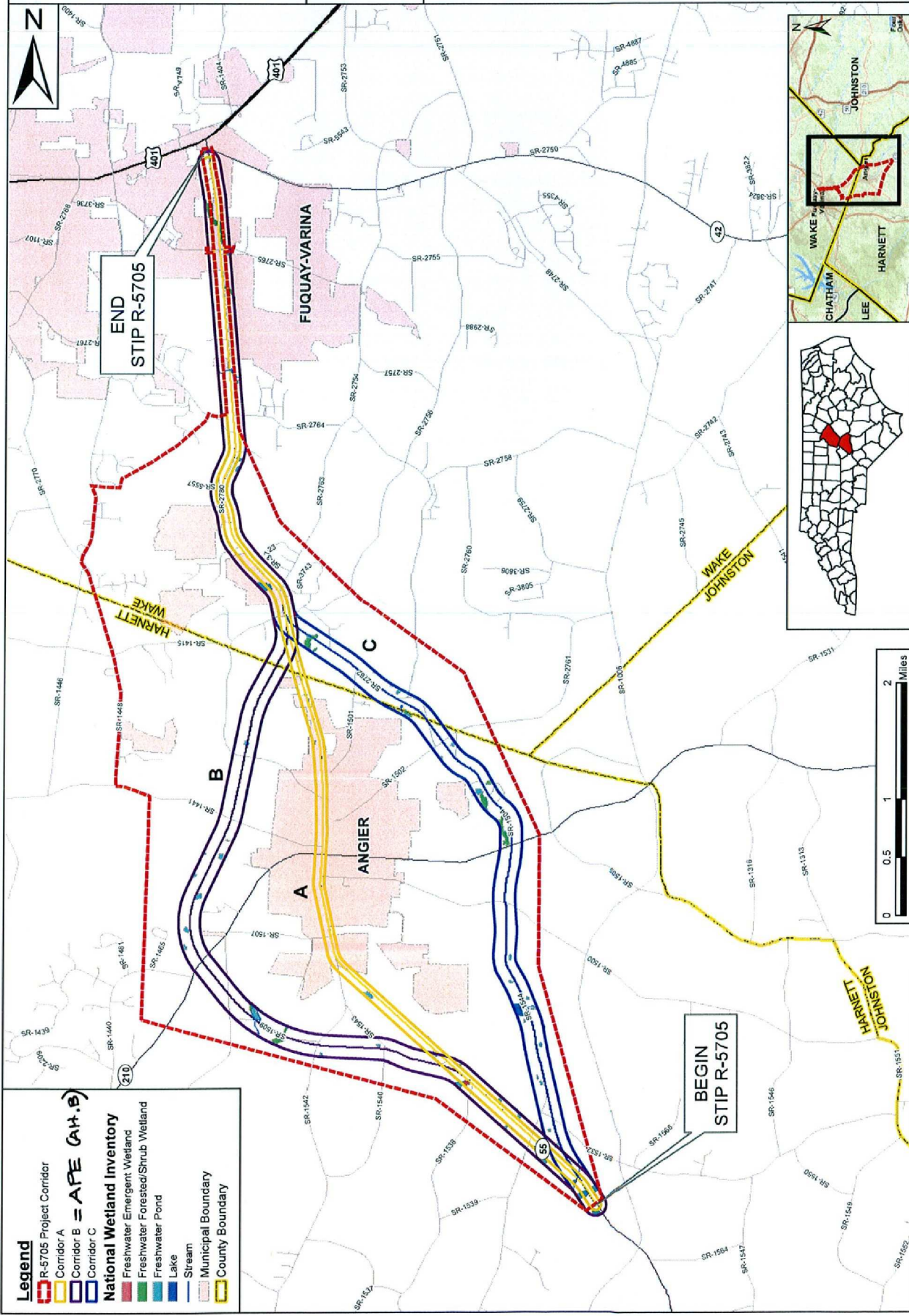
Date

R-5705, Wake and Harnett Counties

WBS No. 46377.1.1

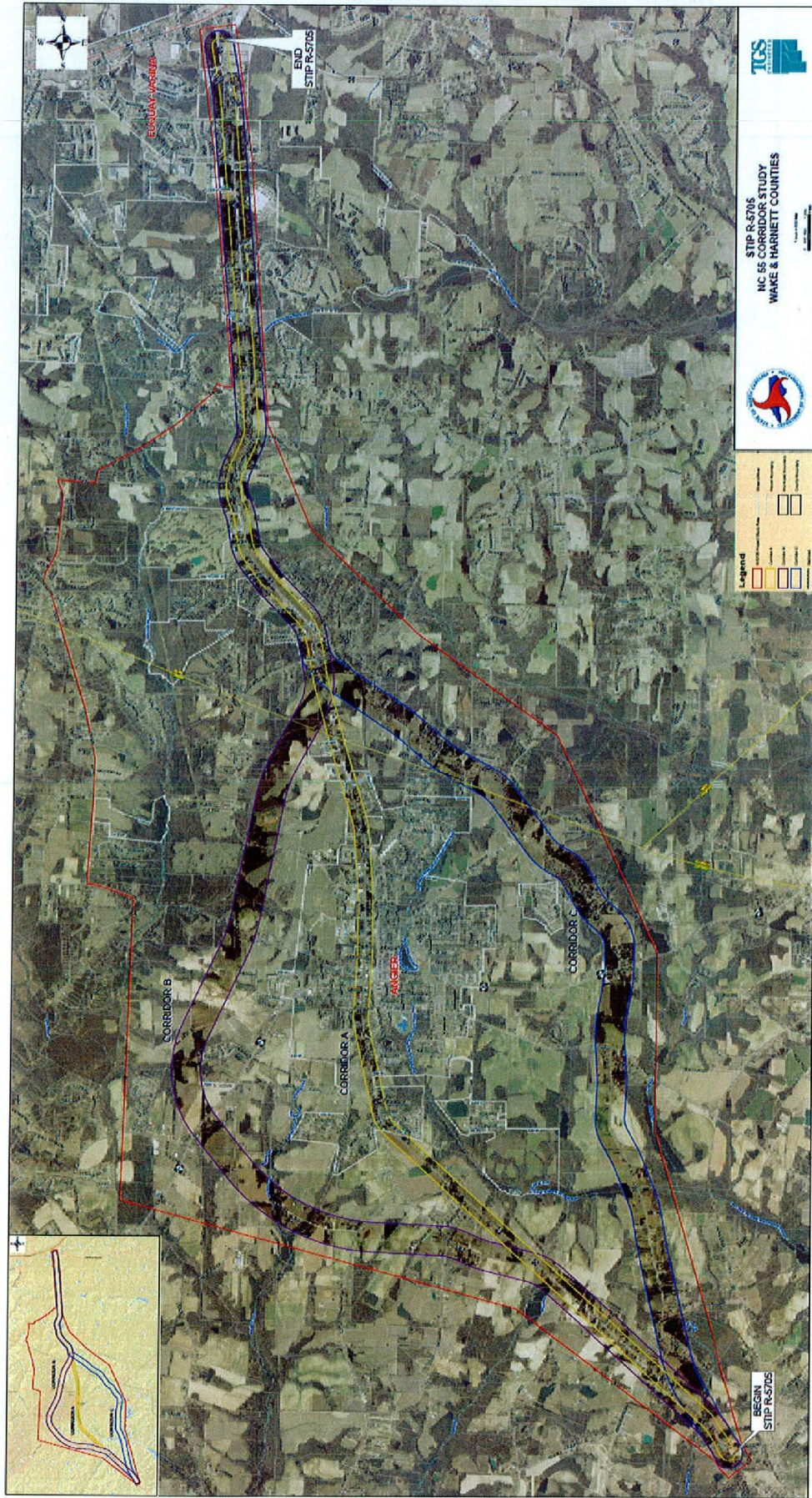
Tracking No. 16-04-0040





Tracking No. 16-04-0040





Area of Potential Effects (APE) for historic architectural resources equates with the study area established for Alternative B (Corridor B in purple above), which as of March 2019 is the selected alternative.

Tracking No. 16-04-0040



## **Appendix C**

### **Relocation Reports**



# EIS RELOCATION REPORT

North Carolina Department of Transportation  
RELOCATION ASSISTANCE PROGRAM

☒ E.I.S. ☐ CORRIDOR ☐ DESIGN

**WBS ELEMENT:** 46377.1.1 **COUNTY** Harnett **Alternate** Corridor B  
**Section R-5705 A**

**T.I.P. No.:** R-5705 Rev.

**DESCRIPTION OF PROJECT:** NC 55 Corridor from just south of SR 1532 (Oak Grove Church Rd) to NC 210

ESTIMATED DISPLACEES					INCOME LEVEL								
Type of Displacees	Owners	Tenants	Total	Minorities	0-15M	15-25M	25-35M	35-50M	50 UP				
Residential	13	14	27	7	2	2	14	4	5				
Businesses	2	1	3	0									
Farms	0	0	0	0									
Non-Profit	0	1	1	1									

ANSWER ALL QUESTIONS											
Yes	No	Explain all "YES" answers.									
<input type="checkbox"/>	<input checked="" type="checkbox"/>	1. Will special relocation services be necessary?									
<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Will schools or churches be affected by displacement?									
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Will business services still be available after project?									
<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.									
<input type="checkbox"/>	<input checked="" type="checkbox"/>	5. Will relocation cause a housing shortage?									
x		6. Source for available housing (list).									
<input type="checkbox"/>	<input checked="" type="checkbox"/>	7. Will additional housing programs be needed?									
<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. Should Last Resort Housing be considered?									
<input type="checkbox"/>	<input checked="" type="checkbox"/>	9. Are there large, disabled, elderly, etc. families?									
<input type="checkbox"/>	<input checked="" type="checkbox"/>	10. Will public housing be needed for project?									
<input checked="" type="checkbox"/>	<input type="checkbox"/>	11. Is public housing available?									
<input checked="" type="checkbox"/>	<input type="checkbox"/>	12. Is it felt there will be adequate DSS housing available during relocation period?									
<input type="checkbox"/>	<input checked="" type="checkbox"/>	13. Will there be a problem of housing within financial means?									
<input checked="" type="checkbox"/>	<input type="checkbox"/>	14. Are suitable business sites available (list source).									
		15. Number months estimated to complete RELOCATION?	18 to 24 Months								

VALUE OF DWELLING								DSS DWELLING AVAILABLE			
Owners		Tenants		For Sale		For Rent					
0-20M	0	\$ 0-150	0	0-20M	3	\$ 0-150	0				
20-40M	0	150-250	0	20-40M	9	150-250	0				
40-70M	1	250-400	2	40-70M	37	250-400	0				
70-100M	3	400-600	1	70-100M	36	400-600	1				
100 UP	9	600 UP	11	100 UP	752	600 UP	121				
<b>TOTAL</b>	<b>13</b>		<b>14</b>		<b>837</b>		<b>122</b>				

REMARKS (Respond by Number)	
2. 1 Church will be acquired.	
3. Businesses will remain available as much of the project area is Commercial/Residential.	
4. Business Relocates are described on the attached worksheet.	
6. MLS, Newspaper, Realtor, Real Estate Publications & Internet.	
8. As required by Law and in accordance with the Uniform Relocation Act.	
11. Northern Harnett County has Public Housing.	
12. Based on current market, Housing and Storefront Business Locations should be available.	
14. MLS, Newspaper, Realtor, Real Estate Publications & Internet	
Note: DSS Dwelling Availability was obtained from Realtor.com For Harnett County as all of Residential Relocates are. In Harnett County.	

2/15/19

*Paoward*

Right of Way Agent

Date

*Lee Liu*

Relocation Coordinator

02/18/2019

Date



TIP No.: **R-5705 Corridor B Section A**

County: **Harnett**

Description: **NC 55 Corridor from just south of SR 1532 (Oak Grove Church Road) to NC 210**

**EIS Parcel Worksheet**

NO.	T	O	NAME	EMPLOYEES F	P	TYPE	M	PARCEL
1	X		Siggy's Treasure Chest	2	2	Retail		31
2		X	D & Q Motorsports	3	2	Service		45
3		X	NC Dumpster	6	3	Service		106
1		2						0

T=Tenant

O=Owner

F=Full time

P=Part time

M=Minority



# EIS RELOCATION REPORT

North Carolina Department of Transportation  
RELOCATION ASSISTANCE PROGRAM

☒ E.I.S.      ☐ CORRIDOR      ☐ DESIGN

<b>WBS ELEMENT:</b>	46377.1.1	<b>COUNTY</b>	Wake / Harnett	<b>Alternate</b>	Corridor B Section R-5705 B
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**T.I.P. No.:** R-5705 Rev.

**DESCRIPTION OF PROJECT:** NC 55 Corridor study from NC 210 to Jicarilla Lane

ESTIMATED DISPLACED					INCOME LEVEL				
Type of Displacees	Owners	Tenants	Total	Minorities	0-15M	15-25M	25-35M	35-50M	50 UP
Residential	3	0	3	1	0	1	0	2	0
Businesses	1	1	2	0					
Farms	0	0	0	0					
Non-Profit	0	0	0	0					

ANSWER ALL QUESTIONS									
Yes	No	Explain all "YES" answers.							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	1. Will special relocation services be necessary?							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2. Will schools or churches be affected by displacement?							
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Will business services still be available after project?							
<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	5. Will relocation cause a housing shortage?							
x		6. Source for available housing (list).							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	7. Will additional housing programs be needed?							
<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. Should Last Resort Housing be considered?							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	9. Are there large, disabled, elderly, etc. families?							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	10. Will public housing be needed for project?							
<input checked="" type="checkbox"/>	<input type="checkbox"/>	11. Is public housing available?							
<input checked="" type="checkbox"/>	<input type="checkbox"/>	12. Is it felt there will be adequate DSS housing available during relocation period?							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	13. Will there be a problem of housing within financial means?							
<input checked="" type="checkbox"/>	<input type="checkbox"/>	14. Are suitable business sites available (list source).							
		15. Number months estimated to complete RELOCATION? <b>18 to 24 Months</b>							

VALUE OF DWELLING										DSS DWELLING AVAILABLE			
Owners		Tenants		For Sale		For Rent							
0-20M	0	\$ 0-150	0	0-20M	3	\$ 0-150	0						
20-40M	0	150-250	0	20-40M	9	150-250	0						
40-70M	0	250-400	0	40-70M	37	250-400	0						
70-100M	1	400-600	0	70-100M	36	400-600	1						
100 UP	2	600 UP	0	100 UP	752	600 UP	121						
<b>TOTAL</b>	<b>3</b>		<b>0</b>		<b>837</b>		<b>122</b>						

REMARKS (Respond by number)
3. Businesses will remain available as much of the project area is Commercial/Residential. 4. Business Relocates are described on the attached worksheet. 6. MLS, Newspaper, Realtor, Real Estate Publications & Internet. 8. As required by Law and in accordance with the Uniform Relocation Act. 11. Northern Harnett and Southern Wake Counties have Public Housing. 12. Based on current market, Housing and Storefront Business Locations should be available. 14. MLS, Newspaper, Realtor, Real Estate Publications & Internet  Note: DSS Dwelling Availability was obtained from Realtor.com For Harnett County as 68% of Residential Relocates are. In Harnett County.

2/15/19

*Paoward*

Right of Way Agent

Date

*Paula Lutz*

Relocation Coordinator

*02/18/2019*

Date



TIP No.: **R-5705 Corridor B Section B**

County: **Wake / Harnett**

Description: **NC 55 Corridor from NC 210 to Jicarilla Lane**

**EIS Parcel Worksheet**

NO.	T	O	NAME	EMPLOYEES F	P	TYPE	M	PARCEL
1		X	Quality Mart	4	2	Retail		37
2	X		Country Market Store	2	2	Retail		75
	1	1					0	

T=Tenant

O=Owner

F=Full time

P=Part time

M=Minority



# EIS RELOCATION REPORT

North Carolina Department of Transportation  
RELOCATION ASSISTANCE PROGRAM

☒ E.I.S. ☐ CORRIDOR ☐ DESIGN

<b>WBS ELEMENT:</b>	46377.1.1	<b>COUNTY</b>	Wake	<b>Alternate</b>	Corridor B Section R-5705 C
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**T.I.P. No.:** R-5705 Rev.

**DESCRIPTION OF PROJECT:** NC 55 Corridor study from Jicarilla Lane to NC 42

ESTIMATED DISPLACEES					INCOME LEVEL							
Type of Displacees	Owners	Tenants	Total	Minorities	0-15M	15-25M	25-35M	35-50M	50 UP			
Residential	6	7	13	2	0	6	3	1	3			
Businesses	0	1	1	0	VALUE OF DWELLING			DSS DWELLING AVAILABLE				
Farms	0	0	0	0	Owners		Tenants		For Sale		For Rent	
Non-Profit	0	0	0	0	0-20M	0	\$ 0-150	0	0-20M	2	\$ 0-150	0
ANSWER ALL QUESTIONS					20-40M	0	150-250	0	20-40M	8	150-250	0
					40-70M	0	250-400	0	40-70M	14	250-400	1
					70-100M	1	400-600	6	70-100M	20	400-600	47
					100 UP	5	600 UP	1	100 UP	66	600 UP	1049
					TOTAL	6		7		110		1097
Yes	No	Explain all "YES" answers.										
<input type="checkbox"/>	<input checked="" type="checkbox"/>	1. Will special relocation services be necessary?										
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2. Will schools or churches be affected by displacement?										

18 to 24 Months

2/15/19

*Padward*

Right of Way Agent

Date

*Calley*

Relocation Coordinator

02/18/2019

Date



TIP No.: **R-5705 Corridor B Section C**  
County: **Wake**  
Description: **NC 55 Corridor from Jicarilla Lane to NC 42**  
**EIS Parcel Worksheet**

NO.	T	O	NAME	EMPLOYEES F	P	TYPE	M	PARCEL
26	X		Sno - Daz	2	3	Retail	0	6
	1	0						

T=Tenant  
O=Owner  
F=Full time  
P=Part time  
M=Minority



# EIS RELOCATION REPORT

North Carolina Department of Transportation  
RELOCATION ASSISTANCE PROGRAM

☒ E.I.S. ☐ CORRIDOR ☐ DESIGN

**WBS ELEMENT:** 46377.1.1 **COUNTY:** Wake / Harnett **Alternate Corridor B Section A & B Between Orange Marks**

**T.I.P. No.:** R-5705 Rev.

**DESCRIPTION OF PROJECT:** NC 55 Corridor study from Mabry Road to South of Kennebec Church Road

ESTIMATED DISPLACEES					INCOME LEVEL									
Type of Displacees	Owners	Tenants	Total	Minorities	0-15M		15-25M		25-35M		35-50M		50 UP	
Residential	9	7	16	4	0		3		5		5		3	
Businesses	1	0	1	0	VALUE OF DWELLING				DSS DWELLING AVAILABLE					
Farms	0	0	0	0	Owners		Tenants		For Sale		For Rent			
Non-Profit	0	0	0	0	0-20M	0	\$ 0-150	0	0-20M	3	\$ 0-150	0		

ANSWER ALL QUESTIONS			Explain all "YES" answers.	
Yes	No			
<input type="checkbox"/>	<input checked="" type="checkbox"/>	1.	Will special relocation services be necessary?	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	2.	Will schools or churches be affected by displacement?	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.	Will business services still be available after project?	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	4.	Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	5.	Will relocation cause a housing shortage?	
x		6.	Source for available housing (list).	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	7.	Will additional housing programs be needed?	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	8.	Should Last Resort Housing be considered?	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	9.	Are there large, disabled, elderly, etc. families?	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	10.	Will public housing be needed for project?	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	11.	Is public housing available?	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	12.	Is it felt there will be adequate DSS housing housing available during relocation period?	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.	Will there be a problem of housing within financial means?	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	14.	Are suitable business sites available (list source).	
		15.	Number months estimated to complete RELOCATION?	
			18 to 24 Months	

REMARKS (Respond by number)			
3. Businesses will remain available as much of the project area is Commercial/Residential.			
4. One Business Relocatee is described on the attached worksheet.			
6. MLS, Newspaper, Realtor, Real Estate Publications & Internet.			
8. As required by Law and in accordance with the Uniform Relocation Act.			
11. Northern Harnett County has Public Housing.			
12. Based on current market, Housing and Storefront Business Locations should be available.			
14. MLS, Newspaper, Realtor, Real Estate Publications & Internet			
Note: DSS Dwelling Availability was obtained from Realtor.com For Harnett County.			

3/25/19

*Pa. Ward*

Right of Way Agent

Date

*Leah*

Relocation Coordinator

03/25/2019

Date



TIP No.: **R-5705 Corridor B Section A & B Between Orange Marks**  
County: **Wake / Harnett**  
Description: **NC 55 Corridor from just south of SR 1532 (Oak Grove Church Road) to Jicarilla Lane**  
**Revised EIS Parcel Worksheet**

NO.	T	O	NAME	EMPLOYEES F	P	TYPE	M	PARCEL
1		X	NC Dumpster	6	3	Service		106
	0	1					0	

T=Tenant  
O=Owner  
F=Full time  
P=Part time  
M=Minority