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US 21 (Statesville Road) Widening

STIP Project Nos. U-5767 and U-5771
Mecklenburg County, North Carolina

State Environmental Assessment/Finding of No Significant Impact

August 2018

RS&H

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US 21 (STATESVILLE ROAD) WIDENING

FROM SR 2136 (GILEAD ROAD) TO HOLLY POINT DRIVE AND
FROM NORTHCROSS CENTER COURT TO SR 2147 (WESTMORELAND ROAD)
MECKLENBURG COUNTY, NORTH CAROLINA
WBS 50180.1.1 AND 50183.1.1
STIP PROJECT NUMBERS U-5767 AND U-5771

ADMINISTRATIVE ACTION

STATE ENVIRONMENTAL ASSESSMENT /
FINDING OF NO SIGNIFICANT IMPACT

AUGUST 2018

Documentation prepared by RS&H, Architects-Engineers-Planners, Inc.

8/16/2018 DocuSigned by: Jenny Noonkester 4A6A5EBE594349E...

Date **Jenny Noonkester, AICP, Project Manager**
RS&H Architects-Engineers-Planners, Inc.

8/17/2018 DocuSigned by: Charles R. Cox F9A7BD231055433...

Date **Charles Cox, PE, Project Engineer**
RS&H Architects-Engineers-Planners, Inc.

For the North Carolina Department of Transportation

8/20/2018 DocuSigned by: Derrick Weaver 047D00B40865400...

Date **Derrick Weaver, PE, Unit Head**
Environmental Policy Unit
North Carolina Department of Transportation

8/20/2018 DocuSigned by: R. E. Sutton AE35E3E6727640E...

Date **Laura Sutton, PE, Team Lead, Divisions 7, 9, & 10**
Project Management Unit
North Carolina Department of Transportation

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PROJECT COMMITMENTS

US 21 (Statesville Road) Widening
From SR 2136 (Gilead Road) to Holly Point Drive and
From Northcross Center Court to SR 2147 (Westmoreland Road)
Mecklenburg County
WBS 50180.1.1
STIP Project Numbers U-5767 and U-5771

All commitments developed during the project development and design phase have been incorporated into the design. Current status, changes, or additions to the project commitments, including the Finding of No Significant Impact (FONSI) for this project, are listed below.

Project Management Unit

- Coordination with the Town of Cornelius will continue through final design to determine the location and design of pedestrian/greenway crossings at Westmoreland Road and Northcross Center Court/Caldwell Creek Drive.
- The widening of US 21 is likely to encroach upon the Caldwell Station Mitigation Site, a 20.7 acre parcel managed by the Division of Mitigation Services, and owned by the Town of Cornelius. NCDOT will be coordinating with the Interagency Review Team (IRT) (a joint inter-agency body responsible for mitigation decisions throughout the state) to keep them advised of any potential impacts, in the event their approval becomes necessary.

Environmental Analysis Unit

- The Biological Surveys Group will conduct bat and mussel surveys to confirm there will be no effects to the Northern long-eared bat or Carolina heelsplitter.

Geotechnical Engineering Unit

- Field verification of known hazardous waste sites and identification of unknown sites will be performed during final design and prior to right-of-way acquisition.

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1. Table of Contents

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Tables

Figures (All figures are included in Appendix A)

Appendices

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1. DESCRIPTION OF PROPOSED ACTION

1.1. General Description

The North Carolina Department of Transportation (NCDOT), Division of Highways, proposes to widen US 21 (Statesville Road) from SR 2136 (Gilead Road) to Holly Point Drive and from Northcross Center Court to SR 2147 (Westmoreland Road) in Mecklenburg County. The project location is shown on **Figure 1** (all figures are in **Appendix A**). The total project length is approximately 3.4 miles. The project excludes the NC 73 (Sam Furr Road) intersection that was previously improved (in 2009) as part of a separate project. The Recommended Alternative is a four-lane facility with superstreet intersections.

1.2. Transportation Plans

The project is included in the *2018-2027 State Transportation Improvement Program* (STIP) (approved by the North Carolina Board of Transportation in August 2017) as two separate projects. However, the two projects will be designed and constructed together. The section from SR 2136 (Gilead Road) to Holly Point Drive is included as STIP Project No. U-5771 and the section from Northcross Center Court to SR 2147 (Westmoreland Road) is included as STIP Project No. U-5767. For both projects, right-of-way acquisition is scheduled to begin in fiscal year 2019 and construction is scheduled to begin in fiscal year 2021.

Both projects (U-5767 and U-5771) are included in the Charlotte Regional Transportation Planning Organization (CRTPO) *2045 Metropolitan Transportation Plan* (MTP) as fiscally constrained projects in the 2025 horizon year.

Current traffic conditions on US 21 near Rich Hatchet Road

2. PURPOSE AND NEED

2.1. Purpose of Project

The purpose of the US 21 Widening project is to improve traffic flow through the project corridor. Additionally, the project will provide multi-modal accommodations in accordance with state and local planning goals.

2.2. Need for Project

2.2.1. Traffic Operations

Real-time trip information data (HERE[1], 2017) indicates that average peak hour travel speeds along US 21 are less than 25 miles per hour. Peak hour travel times also vary substantially from off-peak times with peak trips taking two to three times longer.

[1] HERE collects data from a variety of sources, including vehicle sensor data, smartphones, navigation devices, road sensors, and connected cars. Traffic data is aggregated and analyzed to accurately reflect real-world road conditions.

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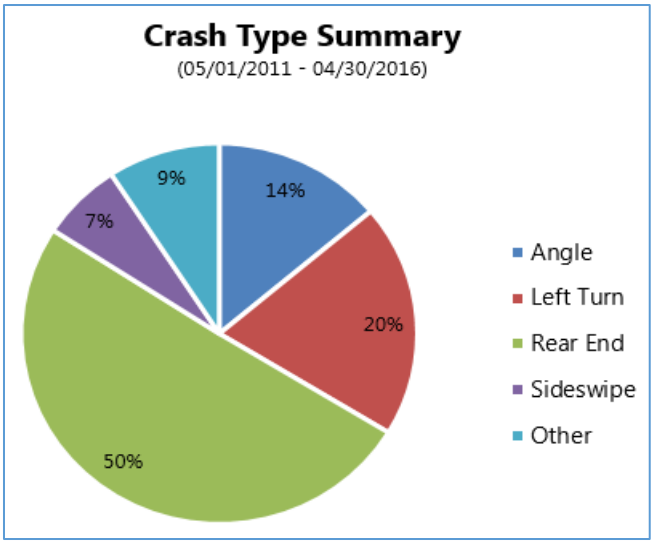
Existing conditions (2016) intersection capacity analysis, as presented in the *Traffic Operations Report* (September 2017), indicates that all signalized intersections function at a Level of Service (LOS) E or better during peak hours with the exception of US 21 and Gilead Road which functions with an LOS F. Several unsignalized intersections function with an LOS F during peak hours.

2040 No Build Conditions (i.e., future conditions without the proposed project) intersection analysis indicates these conditions deteriorating with three of the 16 signalized intersections exceeding capacity during at least one peak hour of the day. All nine of the unsignalized intersections are expected to operate at LOS F in 2040 No Build Conditions.

2.2.2. Crash Data

Crash data was provided by the NCDOT Traffic Safety Unit for the US 21 corridor between Gilead Road and Westmoreland Road for the five-year period from May 1, 2011 to April 30, 2016. There were a total of 545 crashes along the US 21 corridor during this period and the majority (65%) of all crashes involved property damage only. One fatal crash was reported during this time period which was a result of a left-turning SUV striking a motorcycle near Northdowns Lane.

As shown in the graph to the right, approximately half of all crashes were rear-end collisions, which are typically associated with stop-and-go conditions along congested corridors. Three-year crash rates for the US 21 corridor from Westmoreland Road to Gilead Road were 2.5 times higher than the statewide average for similar facilities.



3. EXISTING CORRIDOR INVENTORY

The following sections describe existing conditions in the project study area. Environmental features of the study area are shown on **Figure 3A** and **Figure 3B**.

3.1. Right of Way and Access Control

The width of the existing right of way along US 21 varies from 120 to 150 feet. When US 21 was originally constructed, right of way was purchased for a four-lane section and the existing two lanes were built on the eastern portion of the right of way. This left some legacy right of way for future lanes on the west side of the existing lanes. The existing US

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21 corridor through the project area generally has no control of access, with the exception of some small median sections near NC 73 (Sam Furr Road) and Boulder Park Drive (near Gilead Road).

3.2. Intersections

There are a total of 12 unsignalized intersections and five signalized intersections within the project limits. The signalized intersections are located at Gilead Road, Stumptown Road, Holly Point Drive, Bailey Road and Westmoreland Road. The NC 73 (Sam Furr Road) intersection is located between the two STIP projects but is not included in the proposed improvements as it was recently improved as part of another project (STIP Project No. R-2632AA).

3.3. Structures

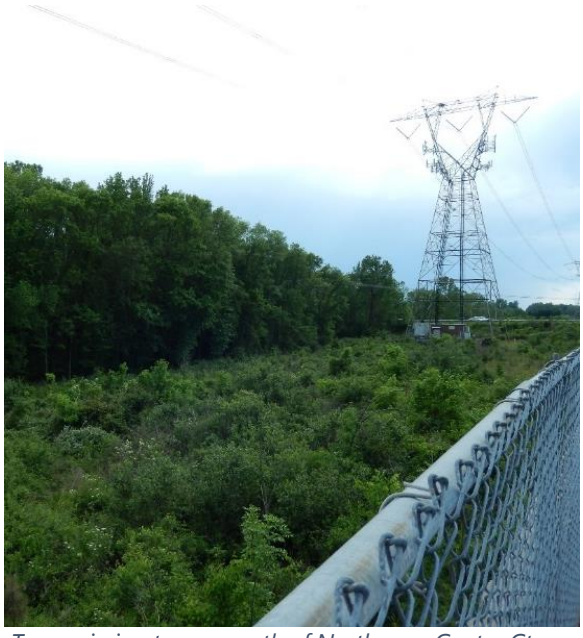
There are three major drainage structures within the project limits: a triple 8′ x 7′ box culvert carrying Caldwell Station Creek near Northcross Center Court, a dual 6′ x 6′ box culvert carrying an unnamed tributary to Torrence Creek near Bankside Drive, and a dual 5′ x 7′ box culvert carrying an unnamed tributary to Torrence Creek near Boulder Park Drive.

Caldwell Station Creek box culvert

3.4. Utilities

The following utilities were identified in the project study area:

- AT&T (Telephone & Fiber)
- City of Charlotte (Water & Sewer)
- Conterra Ultra Broadband (Fiber)
- Continuum (Cable TV)
- Crown Castle (Fiber)
- Duke Energy (Power)
- Electricities of NC (Power)
- Energy United (Power & Fiber)
- Level 3 Communications/CenturyLink (Fiber)
- MCNC (Fiber)
- Piedmont Natural Gas (Gas)
- PSNC (Gas)
- Spirit Communications (Fiber)
- Time Warner Cable/Charter (Fiber & CATV)



Transmission towers north of Northcross Center Ct.

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- Williams Gas Pipeline (Gas)
- Windstream (Fiber)
- Victory Communications Inc. (Conduit System)

3.5. Multimodal Accommodations

There are small, disconnected sections of existing sidewalk along US 21 in the project limits. These are generally located along the east side of US 21 between Gilead Road and Stumptown Road, on both sides of US 21 near the NC 73 (Sam Furr Road) intersection, and on the east side of US 21 in front of the Village at Oakhurst (south of Bailey Road). There are also small sections of sidewalk in front of the Hamptons Professional Center and Caldwell Commons.

Caldwell Station Creek Greenway

The Caldwell Station Creek Greenway is a 2.6-mile greenway that extends from US 21 (Statesville Road) at Northcross Center Court to NC 115 (Old Statesville Road). The Town of Cornelius has plans to extend the greenway across US 21 (Statesville Road) and I-77 and has requested a pedestrian crossing on US 21 (Statesville Road) in the vicinity of the existing Caldwell Station Creek Greenway.

The only existing bike lanes in the project limits are located along US 21 just north and south of the NC 73 (Sam Furr Road) intersection, which was recently improved as part of STIP Project R-2632AA. According to the NCDOT Division of Bicycle and Pedestrian Transportation, the entire US 21 corridor within the project limits is categorized at a suitability level 2 (Fair) for cyclists.

3.6. Transit Facilities

Charlotte Area Transit System (CATS) routes and bus stops are located along US 21 (Statesville Road) through the project study area. A CATS park-and-ride lot (Huntersville Gateway) is located on the west side of US 21 (Statesville Road) just north of Gilead Road.

3.7. Other Transportation Projects in the Area

Nine projects programmed in the NCDOT 2018–2027 STIP are located within or near the project study area, as well as one locally funded project. **Table 1** presents additional information about these other projects. **Figure 2** shows the locations of these other projects.

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Table 1. Other Area Projects

Project Name	TIP No.	Description	Estimated Construction Start Date
I-77 Express Lanes	I-5405	Construct two express lanes in each direction from I-277 (Brookshire Freeway) to W. Catawba Ave (Exit 28) in Cornelius. Add one express lane in each direction from Exit 28 to Exit 36 in Mooresville.	Under Construction
I-77 / NC 73 Interchange	I-5715	Upgrade existing I-77 / NC 73 interchange to split diamond configuration in Huntersville.	FY 2020
I-77 / Gilead Road Interchange	I-5714	Upgrade existing I-77 / Gilead Road Interchange in Huntersville.	FY 2018
US 21 / Gilead Road Intersection Improvement	U-5114	Construct intersection improvements, including bicycle and pedestrian accommodations, at the US 21 / Gilead Road intersection in Huntersville.	FY 2018
Gilead Road Widening	U-5807	Widen Gilead Road to multi-lanes from US 21 (Statesville Road) to NC 115 in Mecklenburg County.	FY 2024
Northcross Drive Extension	U-5108	Extend Northcross Drive from its end near NC 73 to Westmoreland Road in Cornelius.	FY 2020
NC 73 Widening	U-5765	Widen NC 73 (Sam Furr Road) from W. Catawba Ave to Northcross Avenue in Mecklenburg County.	FY 2022
West Catawba Avenue Widening	R-2555B	Widen W. Catawba Avenue to a four-lane, median-divided facility from NC 73 (Sam Furr Road) to Jetton Road in Mecklenburg County.	FY 2020
Westmoreland Road Greenway	EB-5777	Construct greenway from Smithville Park to J.V. Washam Elementary and construct a multi-use path along Westmoreland Road to Lake Pines Drive.	FY 2020
Bailey Road Extension	N/A	Town of Cornelius project to extend Bailey Road from its end near Poole Place Drive to US 21.	TBD

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4. ALTERNATIVES CONSIDERED

4.1. No-Build Alternative

The No-Build Alternative would not make any improvements to US 21 (Statesville Road) within the project limits and would not meet the project purpose of improving traffic flow through the project corridor. The No-Build Alternative provides a basis of comparison for other alternatives.

4.2. Build Alternatives

Four Build Alternatives were developed and evaluated for the project, as described below. Functional designs for each of the Build Alternatives included 11-foot travel lanes divided by a center median, five-foot bike lanes, a six-foot planting strip and five-foot sidewalk on the west side, and a six-foot planting strip and ten-foot multi-use path on the east side. As described in Section 6.1, the typical section was revised after functional design to move the bike lanes out of the roadway and provide a 13-foot multimodal zone on each side of the roadway.

4.2.1. Alternative 1 – Four-Lane Superstreet (Recommended)

Alternative 1 would widen US 21 (Statesville Road) to a four-lane divided roadway and convert all intersections within the project limits to superstreet intersections. The superstreet intersections allow left and right turns from US 21 (Statesville Road) to cross streets, but left and through movements from cross streets are redirected to the right to designated U-turns (i.e., only right turns from cross streets). A total of 9 northbound U-turn bulbs and 5 southbound U-turn bulbs are proposed under this alternative.

4.2.2. Alternative 2 – Four-Lane Traditional

Alternative 2 would widen US 21 (Statesville Road) to a four-lane divided roadway with traditional signalized intersection configurations. Full movement signalized intersections would be provided at the following locations within the project limits:

4. Huntersville Commons/Shiv Drive
5. Stumptown Road
6. Bankside Drive
7. Northdowns Lane
8. Rich Hatchet Road
9. Carolinas Medical Center driveway
10. Caldwell Creek Drive
11. Northcross Center Court
12. Future Bailey Road Extension
13. Bailey Road
14. Westmoreland Road

Due to the addition of a median, only right turns would be allowed from all other cross streets.

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4.2.3. Alternative 3 – Six-Lane Superstreet

Alternative 3 would widen US 21 (Statesville Road) to a six-lane divided roadway and convert all intersections within the project limits to superstreet intersections. The superstreet intersections allow left and right turns from US 21 (Statesville Road) to cross streets, but left and through movements from cross streets are redirected to the right to designated U-turns (i.e., only right turns from cross streets). A total of 9 northbound U-turn bulbs and 5 southbound U-turn bulbs are proposed under this alternative.

4.2.4. Alternative 4 – Six-Lane Traditional

Alternative 4 would widen US 21 (Statesville Road) to a six-lane divided roadway with traditional signalized intersection configurations. Full movement signalized intersections would be provided at the same locations listed above for Alternative 2 (Section 5.2.2). Due to the addition of a median, only right turns would be allowed from all other cross streets.

4.3. Selection of Recommended Alternative

Based upon evaluation of the results of the traffic operations analysis and anticipated impacts associated with each of the Build Alternatives, as well as coordination with the Towns of Huntersville and Cornelius, Alternative 1 (four-lane superstreet) was selected as the Recommended Alternative. As shown in **Table 2**, the four-lane superstreet alternative offers notable improvement in traffic operations through the design year (2040), but has less impacts and lower costs than the six-lane alternatives.

Table 2. Alternative Impact Comparisons

Impact	Alternative 1 (4-Lane Superstreet)	Alternative 2 (4-Lane Traditional)	Alternative 3 (6-Lane Superstreet)	Alternative 4 (6-Lane Traditional)
Wetland Impacts[a]	0.02 acres	0.02 acres	0.04 acres	0.04 acres
Stream Impacts[a]	650 linear ft	646 linear ft	808 linear ft	801 linear ft
Total Cost[a]	$43.3 million	$40.1 million	$59.7 million	$58.2 million
% of Intersections Operating at LOS A-D[b] in 2040	80%	42%	76%	50%

[a] Based on functional design plans (July 2017) including 30' median width, 11' travel lanes, 5' bike lanes, 5' sidewalk on west side, and 10' multi-use path on east side

[b] Based on 2040 Build Conditions from *U-5767/U-5771 Traffic Operations Report* (September 2017)

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5. ESTIMATED COSTS

Cost estimates for the four Build Alternatives, along with the current STIP estimate, are presented in **Table 3**.

Table 3. Project Cost Estimates

	Prior Years	Right-of-Way	Utilities	Construction	Total Cost
2018-2027 STIP[a]	$1,100,000	$3,500,000	$1,700,000	$37,500,000	$43,800,000
Alternative 1 (4-Lane Superstreet)[b]	--	$5,300,000[c]	$5,900,000[d]	$32,100,000[e]	$43,300,000
Alternative 2 (4-Lane Traditional)[b]	--	$4,100,000[c]	$6,000,000[d]	$30,000,000[e]	$40,100,000
Alternative 3 (6-Lane Superstreet)[b]	--	$12,800,000[c]	$6,300,000[d]	$40,600,000[e]	$59,700,000
Alternative 4 (6-Lane Traditional)[b]	--	$12,400,000[c]	$6,300,000[d]	$39,500,000[e]	$58,200,000

[a] 2018-2027 STIP approved August 2017 for U-5767 and U-5771 combined

[b] Based on functional design plans (July 2017) including 30' median width, 11' travel lanes, 5' bike lanes, 5' sidewalk on west side, and 10' multi-use path on east side

[c] Based on right of way estimates prepared by RS&H, December 2017

[d] Based on Utility Estimate Worksheets provided by NCDOT, October 2017

[e] Based on construction cost estimates provided by NCDOT, December 2017

6. PROPOSED IMPROVEMENTS FOR THE RECOMMENDED ALTERNATIVE

6.1. Typical Section

NCDOT met with staff from the Towns of Huntersville and Cornelius on July 10, 2017 to review the traffic operations results and anticipated impacts for the four Build Alternatives. At this meeting, the Towns requested an updated typical section to include a five-foot cycle track and 8-foot sidewalk on each side of the roadway. NCDOT revised the typical section per the Towns' request. In addition, since the bicycle lane was moved out of the roadway, the NCDOT Complete Streets Policy no longer applies. Therefore, based on the functional classification of the highway, design speed, and projected 2040 traffic volumes, 12-foot travel lanes are required per American Association of State Highway and Transportation Official (AASHTO) design standards (2011).

The typical section for the Recommended Alternative is shown below and includes four 12-foot travel lanes (two in each direction) separated by a 23 to 35-foot median with a 21.5-foot berm on each side. The berm includes a 7-foot planting strip, 5-foot cycle track, and 8-foot sidewalk.

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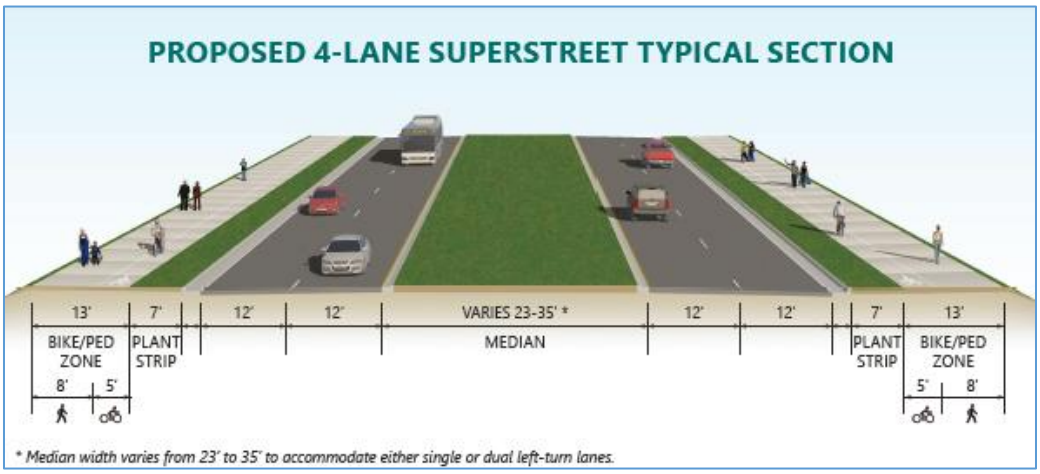

6.2. Proposed Right of Way and Access Control

The proposed right-of-way width ranges from 114 to 126 feet, depending on the width of the median, which varies from 23 to 35 feet depending on the number of turn lanes. The US 21 (Statesville Road) corridor will have partial control of access within the project limits due to the addition of a median.

6.3. Intersections

All existing intersections will remain and no new intersections are proposed. However, existing intersections within the project limits will be converted to superstreet intersections and U-turn bulbs will be provided throughout the corridor.

6.4. Structures

A *Preliminary Hydraulic Technical Report* (March 2018) was prepared for this project to identify drainage structures that would be required for this project. Based on the initial study, the existing dual box culverts at Torrence Creek Tributary 1 and Tributary 2 can be retained but will need to be extended. The existing triple box culvert at Caldwell Station Creek is recommended to be replaced with a triple 9′ x 9′ box culvert based on the functional design. However, if the proposed roadway profile matches the existing profile, the existing culvert could be retained with upstream and downstream extensions. More detailed hydraulic studies will be prepared during the final design phase of this project.

6.5. Traffic Operations

Based on the *Traffic Operations Report* (September 2017), traffic operations with the four-lane superstreet alternative (Recommended Alternative) offer notable improvement compared to the No-Build Alternative. In 2040, all signalized intersections within the project study area are projected to operate at LOS C or better, based on TransModeler simulation.

Of the 14 unsignalized intersections, eight are projected to operate at LOS F during at least one peak hour of the day. However, no further improvements are recommended at these intersections because the turning movement volumes are very low.

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In terms of average travel speeds through the project corridor in 2040, the four-lane superstreet has an average travel speed of 23.5 mph in the AM peak hour compared to 16.8 mph under No-Build conditions. Similarly, in the PM peak hour, the four-lane superstreet has an average travel speed of 21.7 mph compared to 14.6 mph under No-Build conditions.

7. ENVIRONMENTAL EFFECTS

7.1. Natural Environment

Information in this section is summarized from the *Natural Resources Technical Report* for STIP Projects U-5767 and U-5771 approved by the NCDOT Natural Environment Section in November 2016.

7.1.1. Soils

The Natural Resources Conservation Service (NRCS) Web Soil Survey identifies nine soil types within the study area, as shown in **Table 4**.

Table 4. Soils in the Study Area

Soil Series	Mapping Unit	Drainage Class	Hydric Status [a]
Cecil sandy clay loam	CeB2; CeD2	Well Drained	Nonhydric
Enon sandy loam	EnB; EnD	Well Drained	Nonhydric
Helena sandy loam	HeB	Moderately Well Drained	Nonhydric
Mecklenburg fine sandy loam	MeB; MeD	Well Drained	Nonhydric
Monacan loam	MO	Somewhat Poorly Drained	Hydric[b]
Pacolet sandy loam	PaE	Well Drained	Nonhydric
Urban land	Ur	N/A	N/A
Vance sandy loam	VaB	Well Drained	Nonhydric
Wilkes loam	WkB; WkD; WkE	Well Drained	Nonhydric

[a] Based on the percentage of a map unit that meets the hydric criteria (0% = nonhydric, 0-10% = primarily nonhydric but with hydric inclusions, and >10% = hydric).

[b] Soils which are primarily non-hydric, but which may contain hydric inclusions.

N/A – Not Available

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7.1.2. Water Resources

Field work was conducted on October 19-20, 2015, July 19-21, 2016 and August 2, 2016. Jurisdictional areas identified in the study area were verified in the field by the U.S. Army Corps of Engineers (USACE) on June 14, 2018. All work was conducted in accordance with the NCDOT Natural Environment Section standard operating procedures and July 2012 Natural Resources Technical Report (NRTR) template.

Water resources in the study area are part of the Catawba River basin [U.S. Geological Survey (USGS) Hydrologic Unit 03050101]. Eleven streams were identified in the study area, as listed in **Table 5**. The physical characteristics of these streams are provided in **Table 6**.

Table 5. Water Resources in the Study Area

Stream Name	Map ID	NCDWQ Index Number	Best Usage Classification
Caldwell Station Creek	Caldwell Station Creek	11-115-2-(1)	C
UT to Torrence Creek	SA	11-115-4	WS-IV
UT to Torrence Creek	SB	11-115-4	WS-IV
UT to Torrence Creek	SD	11-115-4	WS-IV
UT to Torrence Creek	SE	11-115-4	WS-IV
UT to Caldwell Station Creek	SF	11-115-2-(2)	WS-IV
UT to Caldwell Station Creek	SI	11-115-2-(1)	C
UT to Caldwell Station Creek	SJ	11-115-2-(1)	C
UT to Caldwell Station Creek	SK	11-115-2-(1)	C
UT to McDowell Creek	SL	11-115-(1.5)	WS-IV
UT to McDowell Creek	SM	11-115-(1.5)	WS-IV

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Table 6. Physical Characteristics of Water Resources in the Study Area

Map ID	Bank Height (ft.)	Bankful Width (ft.)	Water Depth (in)	Channel Substrate	Velocity	Clarity
Caldwell Station Creek	3	15	18	Silt, Sand, Gravel, Cobble	Moderate	Turbid
SA	0.5	3	2	Silt, Sand, Gravel, Cobble	Slow	Slightly Turbid
SB	2	20	8	Silt, Sand, Gravel, Cobble, Bedrock	Moderate	Clear
SD	2	12	6	Sand, Gravel	Slow	Clear
SE (Perennial)	3	4	10	Sand, Gravel	Slow	Turbid
SE (Intermittent)	0.5	1	2	Silt, Sand, Gravel	Slow	Turbid
SF	1	6	6	Silt, Sand, Gravel	Moderate	Clear
SI	2	4	8	Silt, Sand, Gravel, Cobble	Slow	Slightly Turbid
SJ	0.5	2	2	Clay, Silt, Sand	Slow	Turbid
SK	0.5	3.5	2	Clay, Silt, Sand	Slow	Slightly Turbid
SL	0.5	3	2	Sand, Silt, Gravel	Slow	Slightly Turbid
SM	1	3	4	Sand, Silt	Slow	Slightly Turbid

Two ponds are located in the study area. Both ponds are artificial stormwater ponds not directly connected to Waters of the U.S. Approximately 0.23 acre of pond PA and 0.46 acre of pond PB are located in the study area.

There are no Outstanding Resource Waters (ORW), designated anadromous fish waters, or Primary Nursery Areas (PNA) present in the study area. There are no designated High Quality Waters (HQW) or water supply watersheds (WS-I or WS-II) within one mile downstream of the study area. The North Carolina 2016 Final 303(d) list of impaired waters does not identify any streams within one mile of the study area as impaired waters due to excessive sedimentation or turbidity.

No benthic samples or fish surveys have been conducted within one mile of the study area.

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7.1.3. Biotic Resources

Terrestrial Communities

Four terrestrial communities were identified in the study area: maintained/disturbed, mesic mixed hardwood forest (piedmont subtype), piedmont alluvial forest, and piedmont headwater stream forest (typic subtype). Additional information about each community type is provided in the *Natural Resources Technical Report* for STIP Projects U-5767 and U-5771 (November 2016).

Terrestrial Community Impacts

Terrestrial communities in the study area may be impacted by project construction as a result of grading and paving activities. The coverage of each terrestrial community within the project study area is presented in **Table 7** and shown on **Figure 4**. As shown in the table, maintained/disturbed land accounts for nearly 85% of the study area.

Table 7. Coverage of Terrestrial Communities in the Study Area

Community	Coverage (ac.)
Maintained/Disturbed*	283.4
Mesic Mixed Hardwood Forest (Piedmont Subtype)	37.9
Piedmont Alluvial Forest	11.2
Piedmont Headwater Stream Forest (Typic Subtype)	2.5
Total	335.0

* Roadways and other impervious areas were included when calculating Maintained/Disturbed acreage.

7.1.4. Jurisdictional Issues

Waters of the US

Surface waters and wetlands fall under the broad category of Waters of the US, as defined in Section 33 of the Code of Federal Regulations (CFR) Part 328.3. Any action that proposes to dredge or place fill material into surface waters of wetlands falls under the jurisdiction of the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act. Surface waters include all standing or flowing waters which have commercial or recreational value to the public. Wetlands are identified based on the presence of hydric soils, hydrophytic vegetation, and saturated or flooded conditions during all or part of the growing season.

Eleven jurisdictional streams were identified in the study area, as shown in **Table 8** along with anticipated impacts from the Recommended Alternative based on slope stakes plus a 25-foot buffer. The locations of these streams are shown on

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Figure 5A and **Figure 5B**. All jurisdictional streams in the study area have been designated as warm water streams for the purposes of stream mitigation. The study area is located within the Catawba River basin, but no streams within the study area are subject to the Catawba River Buffer Rules, which only apply to the Catawba River and its associated lakes and ponds.

Table 8. Jurisdictional Streams

Map ID	Length in Study Area (ft.)	Classification	Compensatory Mitigation Required	Impacts from Recommended Alternative (ft.)*
Caldwell Station Creek	579	Perennial	Yes	160
SA	181	Perennial	Yes	--
SB	539	Perennial	Yes	152
SD	524	Perennial	Yes	99
SE	399	Perennial	Yes	96
SE	139	Intermittent	Not Determined	--
SF	230	Perennial	Yes	--
SI	551	Perennial	Yes	--
SJ	104	Intermittent	Not Determined	--
SK	546	Intermittent	Not Determined	295
SL	311	Intermittent	Not Determined	133
SM	130	Intermittent	Not Determined	--
Total	**4,233**			**935**

*Impacts calculated based on slope stakes plus 25 feet

Ten jurisdictional wetlands were identified within the study area and are shown on **Figure 5A** and **Figure 5B**. Wetland classification and quality rating data are presented in **Table 9**, along with anticipated impacts from the Recommended Alternative based on slope stakes plus a 25-foot buffer.

Table 9. Jurisdictional Wetlands

Map ID	NCWAM Classification	Hydrologic Classification	NCDWQ Wetland Rating	Acreage in Study Area (ac.)	Impacts from Recommended Alternative ac.)*
WA	Headwater Forest	Riparian	46	0.02	Not Subject
WB	Headwater Forest	Riparian	46	0.01	Not Subject
WC	Headwater Forest	Riparian	46	<0.01	Not Subject
WD	Headwater Forest	Riparian	18	0.07	0.03
WE	Bottomland Hardwood Forest	Riparian	51	0.09	Not Subject
WF	Bottomland Hardwood Forest	Riparian	51	0.37	0.02
WG	Bottomland Hardwood Forest	Riparian	33	0.08	Not Subject
WH	Bottomland Hardwood Forest	Riparian	46	0.13	0.02
WY	Bottomland Hardwood Forest	Riparian	33	0.03	Not Subject
WZ	Bottomland Hardwood Forest	Riparian	33	<0.01	Not Subject
Total				0.82	0.07

*Impacts calculated based on slope stakes plus 25 feet

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Wetland and Stream Mitigation

Considerations were made during project development and preliminary design to avoid and minimize wetland and stream impacts to the maximum extent practicable. This project is widening an existing facility, but consideration was given to shifting the alignment to avoid streams and wetlands where feasible. Impacts to streams and wetlands were also minimized by selecting the four-lane alternative over the six-lane alternative (the six-lane alternatives would impact approximately an additional 150 linear feet of streams). Retaining walls will be considered during final design for the Recommended Alternative to further minimize stream impacts.

NCDOT will investigate potential on-site stream and wetland mitigation opportunities once a final decision has been rendered on the location of the preferred alternative. If on-site mitigation is not feasible, mitigation will be provided by North Carolina Department of Environmental Quality Division of Mitigation Services (DMS).

Division of Mitigation Services Site

The widening of US 21 (Statesville Road) is likely to encroach upon the Caldwell Station Mitigation Site, a 20.7 acre parcel managed by the Division of Mitigation Services, and owned by the Town of Cornelius. The DMS site is located with the project study area adjacent to US 21 (Statesville Road) at Caldwell Station Creek, as shown on **Figure 3A**.

The area of potential impact to the mitigation site has no wetlands in the footprint, but there may be impacts to an unnamed tributary to Caldwell Station Creek, as well as the mainstem of Caldwell Station Creek as it flows under US 21 (Statesville Road) via a triple barrel 8' x 7' culvert.

NCDOT has preliminarily shifted the alignment at this location asymmetrically to the west – as far away from the site as design standards will allow, and will continue to investigate all practicable measures to avoid and minimize impacts to this site. However, full avoidance to this parcel is unlikely, and minor impacts are possible. NCDOT has been coordinating with the Division of Mitigation Services and will be coordinating with the Interagency Review Team (IRT) (a joint inter-agency body responsible for mitigation decisions throughout the state) to keep them advised of any potential impacts, in the event their approval becomes necessary.

Protected Species

As of March 26, 2018, the United States Fish and Wildlife Service (USFWS) lists five federally protected species for Mecklenburg County, as listed in **Table 10**. A brief description of each species' habitat requirements follows, along with the Biological Conclusion rendered based on survey results in the study area.

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Table 10. Federally Protected Species List for Mecklenburg County

Scientific Name	Common Name	Federal Status*	Habitat Present	Biological Conclusion
Myotis septentrionalis	Northern long-eared bat	T	TBD	Unresolved
Lasmigona decorata	Carolina heelsplitter	E	TBD	Unresolved
Rhus michauxii	Michaux's sumac	E	Yes	No Effect
Helianthus schweinitzii	Schweinitz's sunflower	E	Yes	No Effect
Echinacea laevigata	Smooth coneflower	E	Yes	No Effect

Source: USFWS, https://www.fws.gov/raleigh/species/cntylist/mecklenburg.html
**T – Threatened, E – Endangered, TBD – To be determined*

Northern long-eared bat

USFWS Recommended Survey Window: June 1 - August 15

Habitat Description: In North Carolina, the Northern long-eared bat (NLEB) occurs in the mountains, with scattered records in the Piedmont and coastal plain. In western North Carolina, NLEB spend winter hibernating in caves and mines. During the summer, NLEB roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees (typically ≥3 inches diameter at breast height). Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat also been found, rarely, roosting in structures like barns and sheds, under eaves of buildings, behind window shutters, in bridges, and in bat houses. Foraging occurs on forested hillsides and ridges, and occasionally over forest clearings, over water, and along tree-lined corridors. Mature forests may be an important habitat type for foraging.

Biological Conclusion: Unresolved

NCDOT personnel will determine habitat and perform a survey for northern long-eared bat, if necessary. A review of the North Carolina Natural Heritage Program (NCNHP) records (updated June 2016) indicates no known occurrences within one mile of the study area.

Carolina heelsplitter

USFWS Recommended Survey Window: Year-round

Habitat Description: The Carolina heelsplitter was historically known from several locations within the Catawba and Pee Dee River systems in North Carolina and the Pee Dee and Savannah River systems, and possibly the Saluda River system in South Carolina. In North Carolina, the species is now known only from a handful of streams in the Pee Dee and Catawba River systems. The species exists in very low abundances, usually within six feet of shorelines, throughout its known range. The general habitat requirements for the Carolina heelsplitter are shaded areas in

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large rivers to small streams, often burrowed into clay banks between the root systems of trees, or in runs along steep banks with moderate current. The more recent habitat where the Carolina heelsplitter has been found is in sections of streams containing bedrock with perpendicular crevices filled with sand and gravel, and with wide riparian buffers.

Biological Conclusion: Unresolved

NCDOT personnel will determine habitat and perform a survey for Carolina heelsplitter, if necessary. A review of the NCNHP records (updated June 2016) indicates no known occurrences within one mile of the study area.

Michaux's sumac

USFWS Optimal Survey Window: May - October

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

Biological Conclusion: No Effect

Suitable habitat for Michaux's sumac is present in the study area along roadside shoulders and power line rights-of-way. A survey was conducted throughout the areas of suitable habitat on October 19-20, 2015. No individuals of Michaux's sumac were observed. A review of the NCNHP records (updated June 2016) indicates no known occurrences within one mile of the study area.

Schweinitz's Sunflower

USFWS optimal survey window: late August-October

Habitat Description: Schweinitz's sunflower is endemic to the Piedmont of North and South Carolina. The few sites where this rhizomatous perennial herb occurs in relatively natural vegetation are found in Xeric Hardpan Forests. The species is also found along roadside rights-of-way, maintained power lines and other utility rights-of-way, edges of thickets and old pastures, clearings and edges of upland

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oak-pine-hickory woods and Piedmont longleaf pine forests, and other sunny or semi-sunny habitats where disturbances (e.g., mowing, clearing, grazing, blow downs, storms, frequent fire) help create open or partially open areas for sunlight. It is intolerant of full shade and excessive competition from other vegetation.

Biological Conclusion: No Effect

Suitable habitat for Schweinitz's sunflower is present in the study area in open, sunny areas, such as roadside shoulders and power line rights-of way. A survey was conducted throughout the areas of suitable habitat on October 19-20, 2015. No individuals of Schweinitz's sunflower were observed. A review of the NCNHP records (updated June 2016) indicates no known occurrences within one mile of the study area.

Smooth Coneflower

USFWS optimal survey window: late May-October

Habitat Description: Smooth coneflower, a perennial herb, is typically found in meadows, open woodlands, the ecotonal regions between meadows and woodlands, cedar barrens, dry limestone bluffs, clear cuts, and roadside and utility rights-of-way. In North Carolina, the species normally grows in magnesium- and calcium- rich soils associated with gabbro and diabase parent material, and typically occurs in Iredell, Misenheimer, and Picture soil series. It grows best where there is abundant sunlight, little competition in the herbaceous layer, and periodic disturbances (e.g., regular fire regime, well-timed mowing, careful clearing) that prevents encroachment of shade-producing woody shrubs and trees. On sites where woody succession is held in check, it is characterized by a number of species with prairie affinities.

Biological Conclusion: No Effect

Suitable habitat for smooth coneflower is present in the study area along roadside shoulders and power line rights-of-way. A survey was conducted throughout the areas of suitable habitat on October 19-20, 2015. No individuals of smooth coneflower were observed. A review of the NCNHP records (updated June 2016) indicates no known occurrences within one mile of the study area.

Bald Eagle and Golden Eagle Protection

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

A desktop-GIS assessment of the project study area, as well as the area within a 1.13-mile radius (one mile plus 660 feet) of the project limits, was performed using 2015 color aerials. Several water bodies of two acres or greater were

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identified and were therefore considered potential feeding sources. Lake Norman, which constitutes suitable habitat, is located just beyond the 1.13-mile assessment area. A survey of the project study area and the area within 660 feet of the project limits was conducted within one mile of water bodies identified as potential foraging habitat, but no bald eagles or nests were observed. A review of the NCNHP database (updated June 2016) revealed no known occurrences of this species within one mile of the project study area. Therefore, no effects to the bald eagle are anticipated.

7.2. Human Environment

The following sections discuss potential impacts to cultural resources, community resources, and air quality, as well as potential impacts from traffic noise.

7.2.1. Cultural Resources

The Area of Potential Effects (APE) evaluated for historic architectural and archaeological resources extends 100 feet on each side of the existing centerline for the length of the project. An NCDOT Architectural Historian reviewed Historic Preservation Office (HPO) quad maps and GIS information, along with historic designations rosters and indexes on August 23, 2016. Based on this review, there are no existing properties listed on, or eligible for listing on, the National Register of Historic Places (NRHP) located within the APE for the project. The *Historic Architecture and Landscapes No Survey Required Form* (dated August 23, 2016) for the project is included in **Appendix B**.

An NCDOT Archaeologist conducted a map review and site file search at the Office of State Archaeology on August 26, 2016. The review found no eligible archaeological resources located within the project's APE that would require attention. Based on the nature of the proposed project and current soil conditions, there is a low probability for prehistoric and/or historic archaeological material to be present within the APE. Therefore, the project study area is unlikely to contain intact and significant archaeological resources and no archaeological survey is required for this project. The *No Archaeological Survey Required Form* (dated August 26, 2016) is included in **Appendix B**. If archaeological materials are uncovered during project activities, then such resources will be dealt with according to the procedures set forth for "unanticipated discoveries," including notification of NCDOT's Archaeology Group.

7.2.2. Community Impacts

A *Community Characteristics Report* was completed for the project in March 2017 to identify notable community characteristics and evaluate potential community impacts,

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including indirect and cumulative effects of the project. The following information is summarized from this report.

Local Planning Goals

The Town of Cornelius adopted a Bicycle Master Plan (*Bike! Cornelius*) in January 2017 that includes several priority recommendations. Along US 21 (Statesville Road) between Westmoreland Road and Northcross Center Court, the recommended concept includes two 11-foot travel lanes in each direction divided by a 23-foot median, with 5-foot bike lanes, curb and gutter, and a 6-foot planting strip on each side. In addition, a 10-foot multi-use path is recommended on the east side and a 5-foot sidewalk is recommended on the west side.

The *Town of Cornelius Comprehensive Pedestrian Plan* (June 2012) recommends a multi-use path along the east side of US 21 north of Northcross Center Court to Catawba Avenue. The plan also includes the recently completed greenway along Caldwell Station Creek on the east side of US 21 (Statesville Road).

The *Town of Huntersville 2030 Community Plan* (June 2011) recognizes the rapid growth occurring in Huntersville and highlights the need for a renewed emphasis on long-range transportation planning and system development. Transportation policies and action items included in the plan emphasize support for NCDOT's Complete Streets Policy and context-sensitive design. In terms of multi-modal connections, the plan includes policies to support the installation of sidewalks, bikeways, and greenway trails connecting residential, commercial, employment, recreational, and institutional uses.

Population Growth

The Demographic Study Area for the project is comprised of Census Block Groups that encompass the project study area, as shown on **Figure 6**. The population of the Demographic Study Area grew at an average annual rate of 6.6% between 2000 and 2010, as shown in **Table 11**, which was nearly four times the statewide average of 1.7%. Mecklenburg County also experienced growth rates higher than the statewide average with an annualized growth rate of 2.8%.

Table 11. Percent Change in Population (2000-2010)

	Total Population, 2000	Total Population, 2010	Percent Change	Annualized Growth Rate
Demographic Study Area	26,527	50,051	88.7%	6.6%
Mecklenburg County	695,454	919,628	32.2%	2.8%
North Carolina	8,049,313	9,535,483	18.5%	1.7%

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

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Title VI and Environmental Justice

Title VI of the Civil Rights Act of 1964, protects individuals from discrimination on the grounds of race, age, color, religion, disability, sex, and national origin. Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" provides that each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects on minority and low-income populations. Special populations may include the elderly, children, the disabled, low-income areas, American Indians and other minority groups.

Executive Order 12898 requires that Environmental Justice principals be incorporated into all transportation studies, programs, policies and activities. The three environmental principles are:

1) To ensure the full and fair participation of all potentially affected communities in the transportation decision-making process.

2) To avoid, minimize or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority or low income populations.

3) To fully evaluate the benefits and burdens of transportation programs, policies, and activities, upon low-income and minority populations.

American Community Survey (ACS) Five-Year Estimates (2009-2013) were analyzed to determine the presence of low-income and/or minority populations in the Demographic Study Area. No minority populations meeting the criteria for Environmental Justice were identified, but Census data did indicate a notable presence of low-income populations meeting the criteria for Environmental Justice within the Demographic Study Area. While low-income populations are present within the Demographic Study Area, no low-income communities were observed within the project study area during a field visit nor were they noted by local planners. No notable adverse community impacts are anticipated with this project; thus, impacts to minority and low-income populations do not appear to be disproportionately high and adverse. Benefits and burdens resulting from the project are anticipated to be equitably distributed throughout the community. No disparate impacts are anticipated under Title VI and related statutes.

Indirect and Cumulative Effects

The proposed project has the potential for transportation-impact causing activities that may influence nearby land uses or stimulate growth. As such, an indirect and cumulative effects screening was prepared, as well as a cumulative effects analysis. Both of these analyses were included as appendices to the Community Characteristics Report (March 2017) and the results are summarized below.

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Overall, this project is not expected to have notable indirect land use effects in the Future Land Use Study Area (FLUSA).[2] While the forecasted population growth and market for development are of moderately high concern in terms of indirect land use effects, there is limited available land in the FLUSA and the Towns of Cornelius and Huntersville have land use plans and zoning ordinances in effect to regulate development.

Water resources are the most likely natural resource to be impacted from a cumulative effects perspective since the FLUSA contains three stream crossings. However, potential effects would be minimized through local stream buffer requirements and stormwater drainage ordinances. Any public or private development with impacts to jurisdictional resources is subject to the requirements of state and federal permitting processes. Direct natural environmental impacts are addressed programmatically through avoidance, minimization, and mitigation actions consistent with agreements with environmental resource and regulatory agencies and will be further evaluated by the NCDOT Natural Environment Section during the permitting process.

In terms of cumulative effects, although there are several proposed transportation projects within the FLUSA, each of these projects has independent utility and would be constructed regardless of the status of the other projects. Based on the current design alternatives being developed for the project, which are largely confined to the existing right of way, implementation of the US 21 Widening project would not contribute, in conjunction with past, present, or future projects, to significant adverse cumulative effects on resources in the FLUSA.

Relocations

Based on preliminary design for the Recommended Alternative, a total of two residential relocations would be needed as a result of required access control at proposed U-turn bulb locations. Four undeveloped parcels would also need to be acquired. NCDOT will evaluate options during final design to minimize these impacts where practicable. Any relocations will be mitigated through NCDOT's relocation assistance programs.

7.2.3. Air Quality

An *Air Quality Report* was completed for the project in October 2017 and found no adverse effects on air quality as a result of the project. The project is located in Mecklenburg County, which complies with the National Ambient Air Quality Standards. The area is a maintenance area for 8-hour ozone and carbon monoxide. It is an attainment area for all other pollutants. Therefore, 40 CFR Parts 51 and 93 are not

[2] The Future Land Use Study Area (FLUSA) is the area surrounding a proposed construction project that could possibly be indirectly impacted by the actions of others as a result of the completion of the proposed project in combination with other projects in the area.

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applicable and the project is not anticipated to create any adverse effects on the air quality of this attainment area. This evaluation completes the assessment requirements for air quality of the 1990 Clean Air Act Amendments and the SEPA process, and no additional reports are necessary.

7.2.4. Traffic Noise Analysis

Traffic noise and temporary construction noise can be a consequence of transportation projects, especially in areas in close proximity to high-volume and high-speed existing steady-state traffic noise sources. The *Traffic Noise Report* (June 2018) prepared for the project utilized computer models created with the FHWA Traffic Noise Model software (TNM 2.5), validated to field-collected traffic noise monitoring data, to predict future noise levels and define impacted receptors in the vicinity of the proposed improvements associated with the US 21 Widening project.

The Recommended Alternative is predicted to result in 23 traffic noise impacts. Consideration for noise abatement measures was given to all impacted receptors. For the proposed project, traffic noise abatement measures were preliminarily recommended as feasible and reasonable at one location in front of the Huntersville Commons Apartments for the benefit of eight receptors. However, based on additional analysis, the construction of a noise wall at this location does not appear to be feasible due to constructability issues and additional right-of-way requirements. The recommended noise wall would impact an existing overhead electric line, require additional right of way to maintain existing drainage patterns, and require modifications to the proposed drainage system (i.e., culvert extension). Feasibility issues related to the construction of a noise wall at this location may be further evaluated during final design. Noise barriers were also considered at nine other areas but were determined to not be feasible or reasonable.

Furthermore, construction noise impacts may occur due to the proximity of noise-sensitive residential receptors to project construction activities. NCDOT will make all reasonable efforts to minimize exposure of noise-sensitive areas to construction noise impacts.

7.3. Hazardous Materials

Based on information provided by the NCDOT Geotechnical Engineering Unit in a memo dated April 18, 2016, there are total of 13 potential hazardous waste sites in the project study area. These include six underground storage tank (UST) facilities, three auto repair shops, one lawn equipment repair shop, one auto paint and body shop, and two dry cleaners. Eleven of these sites are anticipated to have low risk of contamination and the other two sites are anticipated to have low/medium risk of contamination. Additional information about each site, along with a map, is provided in **Appendix B**. Field verification of the hazardous waste sites and identification of unknown sites should be performed when the design is further refined and prior to right-of-way acquisition.

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7.4. Flood Hazard Evaluation

The existing stream crossings at Torrence Creek Tributary 1 and Caldwell Station Creek (described in Section 7.4) are within the FEMA 100-year floodplain. Mecklenburg County regulates floodplain development activities within the county limits. If the extension of either of the existing culverts at these locations is determined to result in modifications to the 100-year floodplain, coordination with the NC Floodplain Mapping Program is required for approval of a Conditional Letter of Map Revision (CLOMR). If a CLOMR is deemed necessary, then a Letter of Map Revisions (LOMR) must follow within a year of construction with as-built plans. Since the construction activities encroach into the regulated floodplains/floodways of Mecklenburg County, it is required to meet the County's floodplain development permit checklist. NCDOT must certify that the structure was built per the as-build plans within the FEMA floodplain/floodway.

7.5. Required Permits

Construction of the US 21 widening project would result in construction activities requiring environmental regulatory permits from state and federal agencies. A list of these permits, organized by issuing agency, is provided below. NCDOT would obtain all necessary permits prior to construction.

US Army Corps of Engineers

Any action that proposes to place fill into "Waters of the United States" falls under the jurisdiction of the US Army Corps of Engineers (USACE) in accordance with Section 404 of the Clean Water Act (33 USC 1344). The Clean Water Act provides for public notice and review of pending Section 404 permit applications. Encroachments into jurisdictional areas subject to the Clean Water Act must be reviewed and approved by the USACE.

Based on the anticipated impacts to jurisdictional streams and wetlands as a result of this project (as presented in Section 8.1.4), a series of Nationwide Permits may be applicable. The USACE holds the final discretion as to what permit will be required to authorize project construction.

NC Department of Environmental Quality, Division of Water Resources

Any activity that may result in discharge to Waters of the US and requires a Section 404 permit must obtain a Section 401 Water Quality Certification from the NC Division of Water Resources (DWR) to certify that the project will not degrade Waters of the State or violate state water quality standards. This certification is part of the Section 404 permitting process and is required prior to construction authorization.

7.6. Summary of Environmental Consequences

This section provides a summary of the environmental consequences associated with the Recommended Alternative, as summarized in by environmental resources in **Table 12**.

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Table 12. Summary of Environmental Consequences

Environmental Resource	Anticipated Impacts from Recommended Alternative
Jurisdictional Streams*	935 linear feet
Jurisdictional Wetlands*	0.07 acre
Protected Species	No Effect (pending mussel and bat surveys)
Historic Properties	No Effect
Archaeological Sites	No Effect
Environmental Justice	Impacts to minority and low-income populations do not appear to be disproportionately high and adverse
Residential Relocations	2
Business Relocations	0
Traffic Noise	23 impacted receptors
Air Quality	No Adverse Effect
Hazardous Materials Sites	13 (11 low risk and 2 low/medium risk)
Indirect and Cumulative Effects	No Adverse Effect

*Impacts calculated based on slope stakes plus 25 feet

8. COMMENTS AND COORDINATION

8.1. Agency Coordination

A Start of Study Letter was sent to local, state and federal agencies on March 16, 2016.

An Internal Scoping Meeting was held on May 9, 2016 at NCDOT Century Center in Raleigh to introduce the project and gather input on the project's purpose and need as well as design alternative to be studied. The following summarizes the major concerns discussed at the Internal Scoping Meeting:

- There was discussion as to whether the 4-lane alternative with traditional intersections should be considered for this project since the traffic volumes are so high. It was agreed that this alternative should be studied to provide a comparison for the 4-lane superstreet alternative.
- Division 10 requested that the median for the 6-lane typical section be changed from a 46-foot depressed median to 30-foot raised median to reduce impacts.
- Division 10 noted that the U-5771 project has overlap with U-5114 (Gilead Road intersection improvements) and coordination between the projects will be important.

An External Scoping/Merger Screening Meeting was held on February 13, 2018 to provide updated information on the project and review preliminary impacts to determine whether

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the project should be inserted into the NEPA/Section 404 Merger Process. The following summarizes the major concerns discussed at the External Scoping/Merger Screening Meeting:

- There was a question as to whether the U-5771 or U-5767 project would involve any modifications to the US 21/NC 73 (Sam Furr Road) intersection. It was noted that some improvements may be needed through the intersection, but it is yet to be determined whether these improvements would be part of U-5767/U-5771 or I-5715 (I-77/NC 73 interchange modifications).
- The U.S. Army Corps of Engineers noted that the projects will likely require a nationwide or general permit, but they will need additional information about potential cumulative effects and the independent utility of the projects in relation to other surrounding projects.
- The Town of Cornelius discussed the importance of the U-5767 project being designed to accommodate STIP Project EB-5777, a planned greenway along Westmoreland Road that crosses US 21.
- The Town of Huntersville requested that the Caldwell Station Creek Greenway be able to cross to the west side of US 21 to meet up with the I-77 crossing included with the I-5715 project.
- The Towns of Huntersville and Cornelius requested cost share information for the requested bicycle and pedestrian accommodations (5-foot cycle track and 8-foot sidewalk on both sides).
- The U.S. Fish and Wildlife Service asked if there would be impacts to the Department of Mitigation Services mitigation site at Caldwell Station Creek. This would be a major concern, especially if credits have already been sold from the site.
- There was discussion about how alternatives were eliminated prior to the environmental document and some concern was expressed about showing only one alternative to the public at the public meetings.
- There was a discussion about how to transition from the proposed cycle track to the recently constructed bike lanes at the NC 73 (Sam Furr Road) intersection.

Comments were received from the following entities through scoping and agency coordination:

- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- N.C. Wildlife Resources Commission
- N.C. Department of Cultural Resources
- Town of Cornelius
- Town of Huntersville

The project team has actively coordinated with, and sought input and approval from project stakeholders and agency representatives throughout the planning and preliminary design phases of the project. The project team will continue to coordinate with project

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stakeholders and agency representatives, as necessary, throughout the remainder of the project.

8.2. Public Involvement

Two Public Meetings were held in April 2018 to present the Preferred Alternative, gather public comments on the proposed project, and answer questions. Each Public Meeting was preceded by a Local Officials Meeting. NCDOT mailed over 5,000 postcards informing the public of the meeting and invitations were sent to local government representatives and stakeholders. Public Meeting information was posted on the NCDOT Public Meetings webpage as well as the project-specific webpage and websites for the Towns of Cornelius and Huntersville. A Public Meeting Notice was also shared with local newspapers, radio stations, and TV stations.

Cornelius Town Hall Public Meeting

Public Meetings were held in Cornelius and Huntersville on April 12 and April 19, 2018, respectively. The meetings were an open house format where attendees could stop by at any time to review materials and ask questions. Meeting maps on display showed the preliminary design for the Preferred Alternative and display boards provided additional information about superstreets, traffic operations, and the proposed typical section. In addition, attendees had the opportunity to view a project video that presented the project location, proposed typical section, U-turn locations, and superstreet benefits.

The Public Meeting in Cornelius was held at Cornelius Town Hall and 36 members of the public attended. A total of 11 local officials attended the Local Officials Meeting that preceded the Public Meeting in Cornelius. The Public Meeting in Huntersville was held at Huntersville Town Hall and 50 members of the public attended. A total of nine local officials attended the Local Officials Meeting that preceded the Public Meeting in Huntersville.

The following is a summary of comments and concerns expressed by local officials:

- There were several questions about the need for the 13-foot bicycle/pedestrian zone on each side of the roadway, as well as what the local cost share would be for these improvements.

Response: The wider bicycle/pedestrian zone was requested during local coordination to be consistent with other local projects and plans. The proposed typical section is wider than the NCDOT standard (4-foot bike lanes and 5-foot sidewalk in 10-foot berm) so

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local cost sharing will be required to construct the wider section. Cost estimates are being developed and additional coordination will occur with the Towns of Huntersville and Cornelius to determine required local cost sharing.

- How will traffic be maintained during construction?

Response: It is anticipated that the southbound lanes will be constructed first to the west of the existing lanes. Then traffic will be shifted to the new lanes while the northbound lanes are constructed. Most construction should occur with limited changes to existing traffic patterns.

- Concerns were expressed about traffic not being able to continue straight on Stumptown Road and Westmoreland Road across US 21.

Response: Even though the travel distance is slightly longer to take a right and make the U-turn, travel times will actually be less during peak periods due to more efficient operations. The goal of the project is to improve the function of the corridor as a whole.

- Will trucks be able to make the U-turns?

Response: The intention is for trucks to be able to use all U-turn locations. However, in locations where right-of-way impacts would be too great, U-turn bulbs may not accommodate large trucks. All U-turn bulbs will accommodate school buses and fire trucks.

- How will pedestrians cross US 21?

Response: There are multiple options for pedestrian crossings on a superstreet corridor. Z-crossings will likely be provided at intersections, allowing pedestrians to cross safely while only watching for traffic from one direction at a time. Mid-block crossings can also be provided, typically at the back of U-turn bulbs. Additional coordination will occur with local planners during final design to determine exact locations and types of pedestrian crossings.

- Will the proposed larger berm width result in additional right-of-way costs?

Response: The larger berm width does not necessarily add to the right-of-way costs due to the large width of the existing right of way. No additional relocations would result from the wider berm width.

Public comments were accepted in writing at the meetings as well as by mail or email through April 30, 2018. A total of 15 comment forms were received from both meetings. Comment forms asked if individuals understood the benefits of the proposed project. Nine responses said they understood the benefits while six said they did not. The remainder of the comment form was open-ended so attendees could provide feedback on any aspect of the proposed project. The following is a general summary of the public comments received:

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- Several respondents expressed concern regarding the timing of construction for the US 21 Widening project in relation to other projects in the area, specifically the I-77 Express Lanes and the NC 115 widening.

Response: The timing of construction of various projects in the area will be taken into consideration. The I-77 Express Lanes will be completed prior to construction of the US 21 Widening project and the widening of NC 115 is anticipated to be constructed after the US 21 Widening project.

- Some respondents expressed concern about traffic backing up at U-turn locations during peak hours. Similarly, one respondent was concerned about adding additional signals along the corridor at the U-turn locations and how that would impact traffic flow.

Response: Turn lanes at the U-turn locations will be designed with adequate storage to accommodate anticipated queues at the U-turn locations and signals at the U-turn locations will be timed to maintain traffic flow. Although the project will add signals to the corridor, these signals will be coordinated to maintain traffic flow. The signals at U-turn locations will operate independently of one another so the northbound and southbound directions of US 21 effectively act a one-way pair (i.e. cars may be stopped in the southbound direction to allow the U-turn movement, but cars will keep moving in the northbound direction).

- One respondent requested enhanced lighting for bicycles and pedestrians, and asked that it be a priority to keep bicycle and pedestrian accommodations on both sides of the road.

Response: This comment will be taken into consideration during final design as detailed designs are prepared for bicycle and pedestrian facilities. The preliminary plans include bicycle and pedestrian accommodations on both sides of US 21.

- Several comments were received from property owners along the corridor asking if impacts could be reduced to their property by shifting U-turn locations, adding retaining walls, etc.

Response: Design modifications such as retaining walls, reduced planting strip width, shifting U-turn locations, and shifting driveways will be considered during final design to reduce property impacts.

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Three specific comments were received from property/business owners along the project corridor pertaining to access and future development potential. The NCDOT project team and Town representatives are coordinating with these individuals to discuss potential design modifications to minimize impacts to businesses, especially near the Gilead Road intersection.

Huntersville Town Hall Public Meeting

9. BASIS FOR FINDING OF NO SIGNIFICANT IMPACT

Based upon a study of the proposed project documented in this assessment and upon comments received from federal, state, and local agencies, and the public, it is the finding of the NCDOT that this project would not have a significant adverse impact upon the human or natural environment. The proposed project is consistent with local plans and would 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.

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Appendix A – Figures

- Figure 1 – Vicinity Map
- Figure 2 – Other Area Projects
- Figure 3A – Environmental Features
- Figure 3B – Environmental Features (cont'd)
- Figure 4 – Terrestrial Communities
- Figure 5A – Jurisdictional Resources
- Figure 5B – Jurisdictional Resources (cont'd)
- Figure 6 – Demographic Study Area

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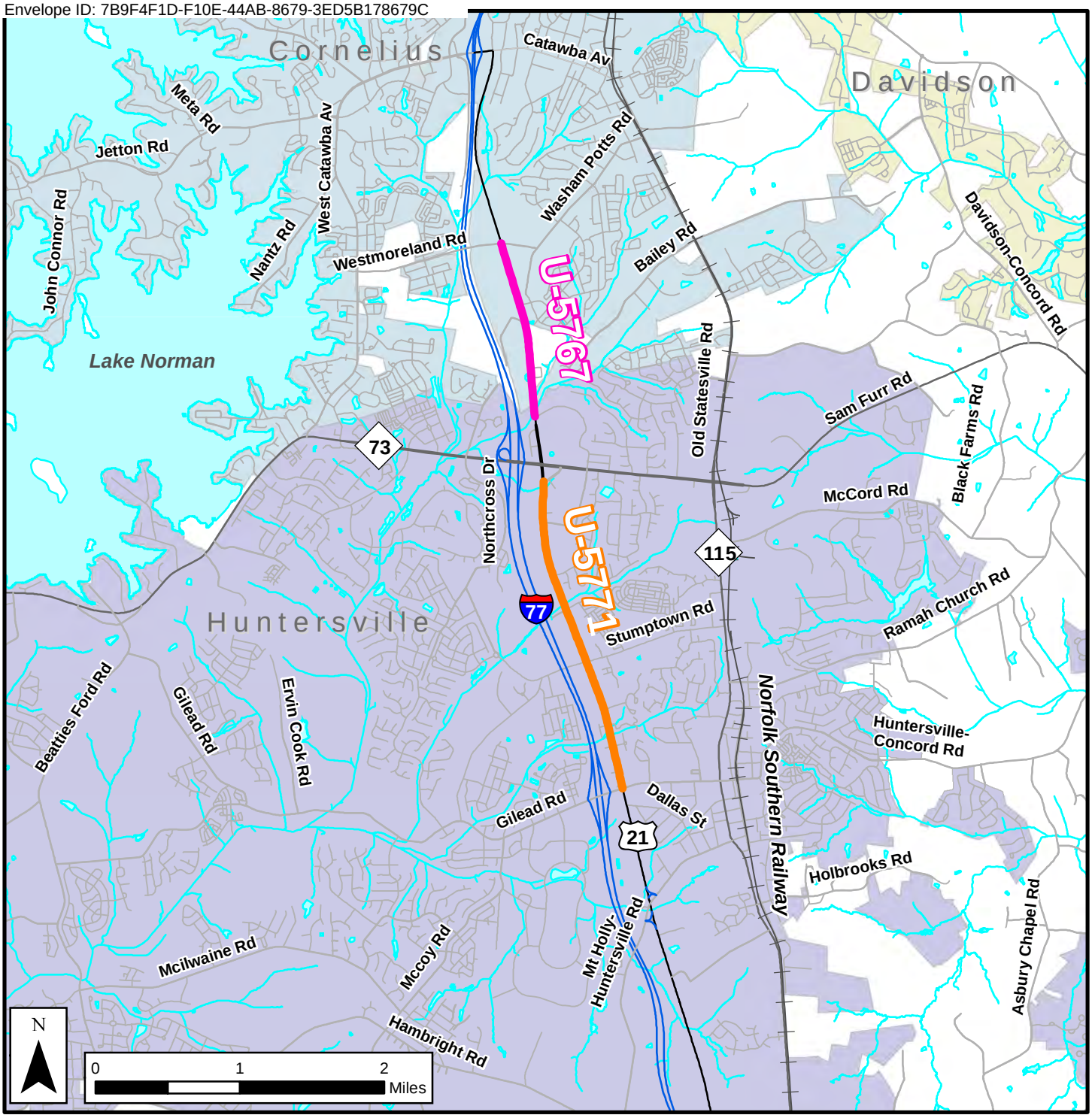

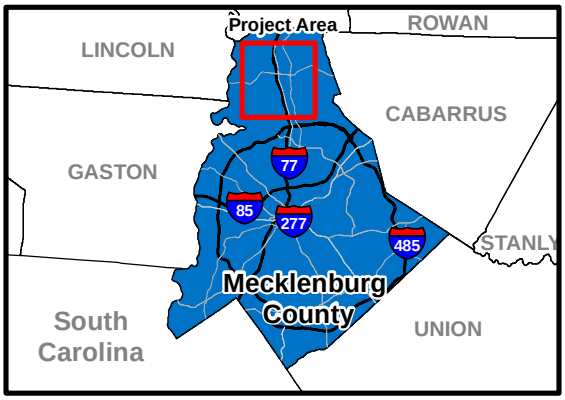

Legend

- U-5767 Project Limits
- U-5771 Project Limits
- Railroad
- Water Body
- Creek / Stream
- Cornelius
- Davidson
- Huntersville

Mecklenburg County

RS&H

US 21 Widening
SR 2136 (Gilead Road) to Holly Point Drive and Northcross Center Court to SR 2147 (Westmoreland Road)

TIP No. U-5767/U-5771
Division: 10

Figure: 1 Vicinity Map

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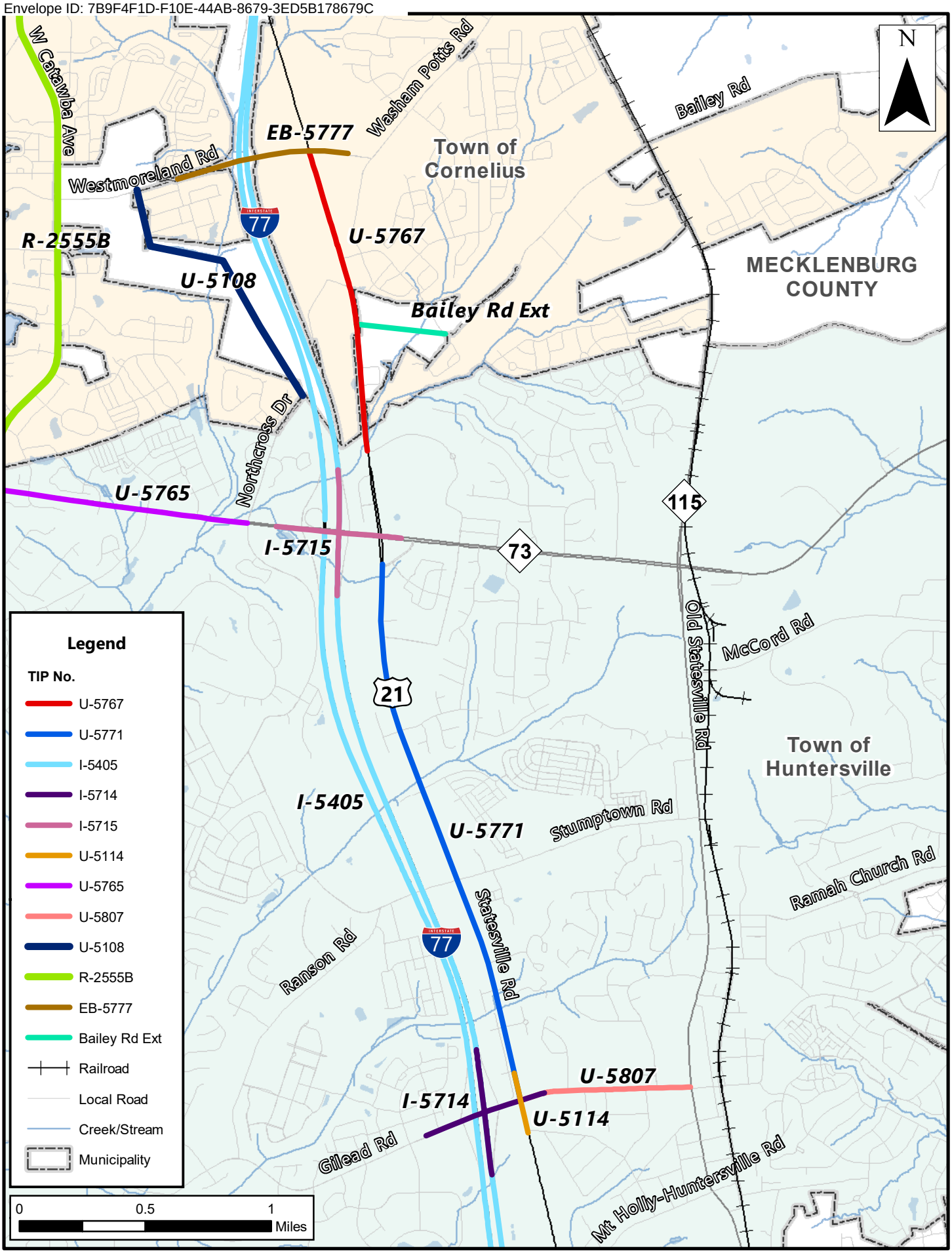

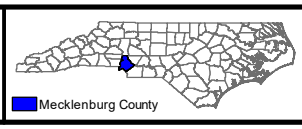

RS&H

US 21 Corridor Improvements
SR 2136 (Gilead Rd) to Holly Point Drive and Northcross Center Court to SR 2147 (Westmoreland Road)

TIP No. U-5767/U-5771

Division: 10

Figure: 2 Other Area Projects

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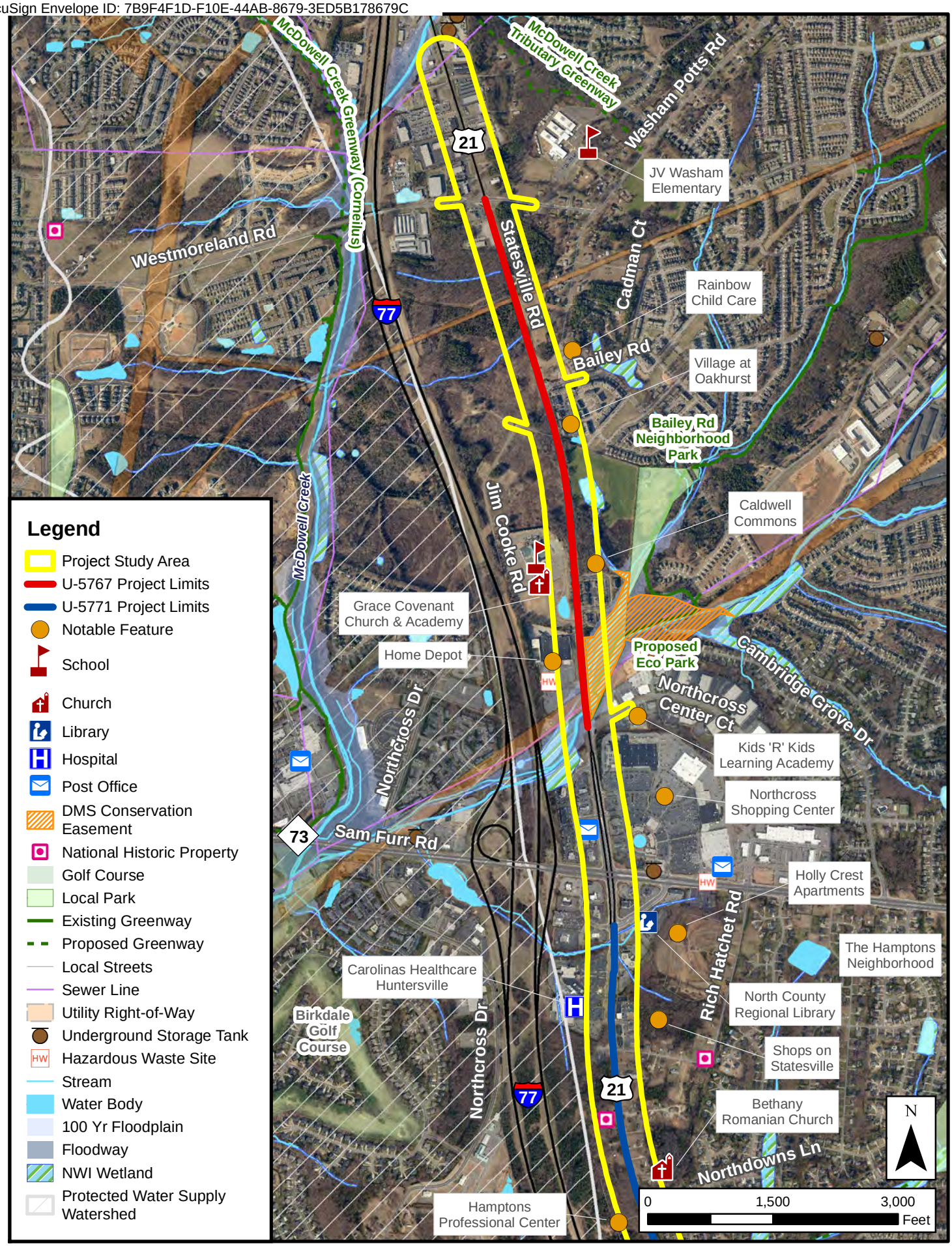

Legend

- Project Study Area
- U-5767 Project Limits
- U-5771 Project Limits
- Notable Feature
- School
- Church
- Library
- Hospital
- Post Office
- DMS Conservation Easement
- National Historic Property
- Golf Course
- Local Park
- Existing Greenway
- Proposed Greenway
- Local Streets
- Sewer Line
- Utility Right-of-Way
- Underground Storage Tank
- Hazardous Waste Site
- Stream
- Water Body
- 100 Yr Floodplain
- Floodway
- NWI Wetland
- Protected Water Supply Watershed

Mecklenburg County

RS&H

US 21 Widening
SR 2136 (Gilead Road) to Holly Point Drive and Northcross Center Court to SR 2147 (Westmoreland Road)

TIP No. U-5767/U-5771

Division: 10

Figure: 3A Environmental Features

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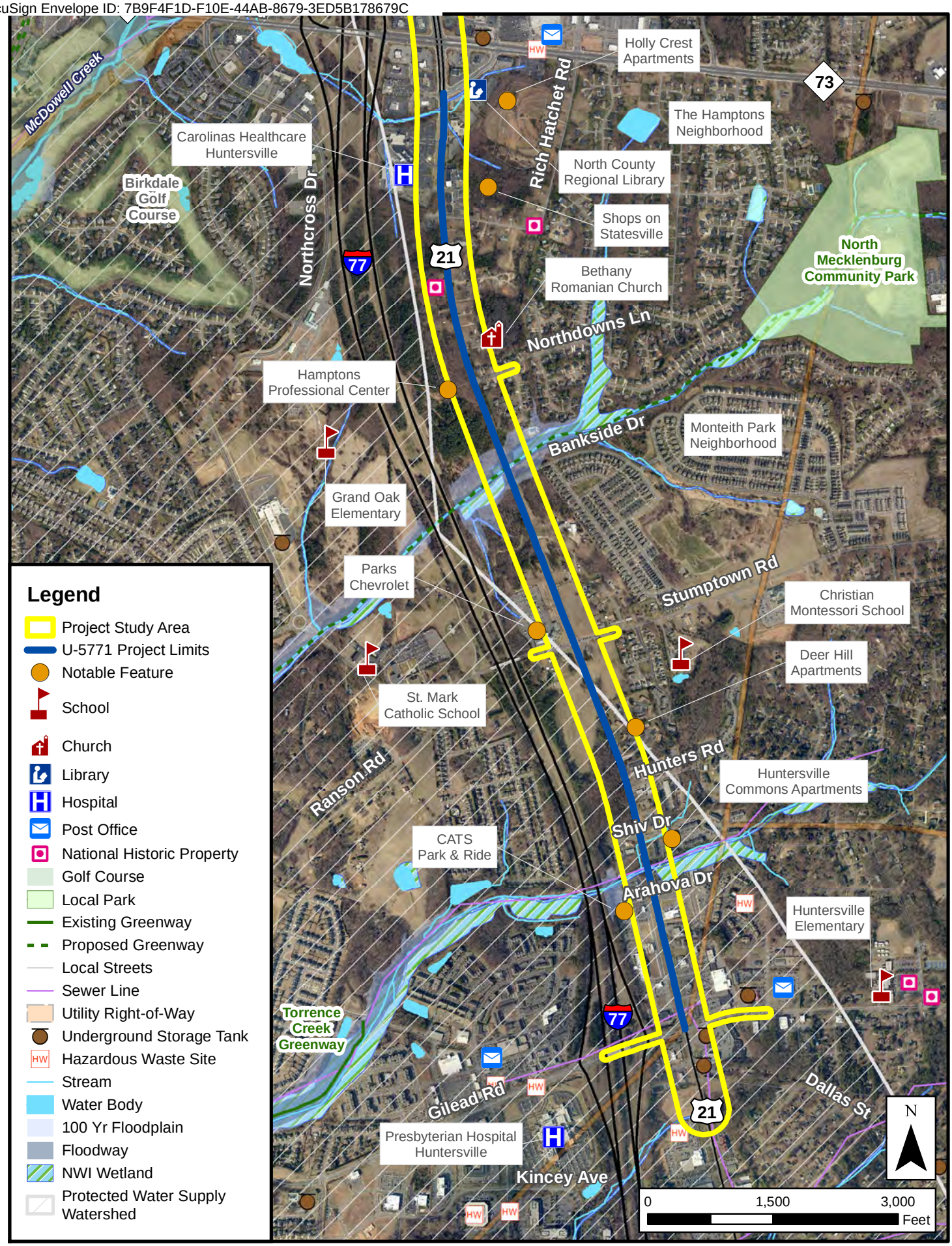

Legend

- Project Study Area
- U-5771 Project Limits
- Notable Feature
- School
- Church
- Library
- Hospital
- Post Office
- National Historic Property
- Golf Course
- Local Park
- Existing Greenway
- Proposed Greenway
- Local Streets
- Sewer Line
- Utility Right-of-Way
- Underground Storage Tank
- Hazardous Waste Site
- Stream
- Water Body
- 100 Yr Floodplain
- Floodway
- NWI Wetland
- Protected Water Supply Watershed

Mecklenburg County

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US 21 Widening
SR 2136 (Gilead Road) to Holly Point Drive and Northcross Center Court to SR 2147 (Westmoreland Road)

TIP No. U-5767/U-5771

Division: 10

Figure: 3B Environmental Features

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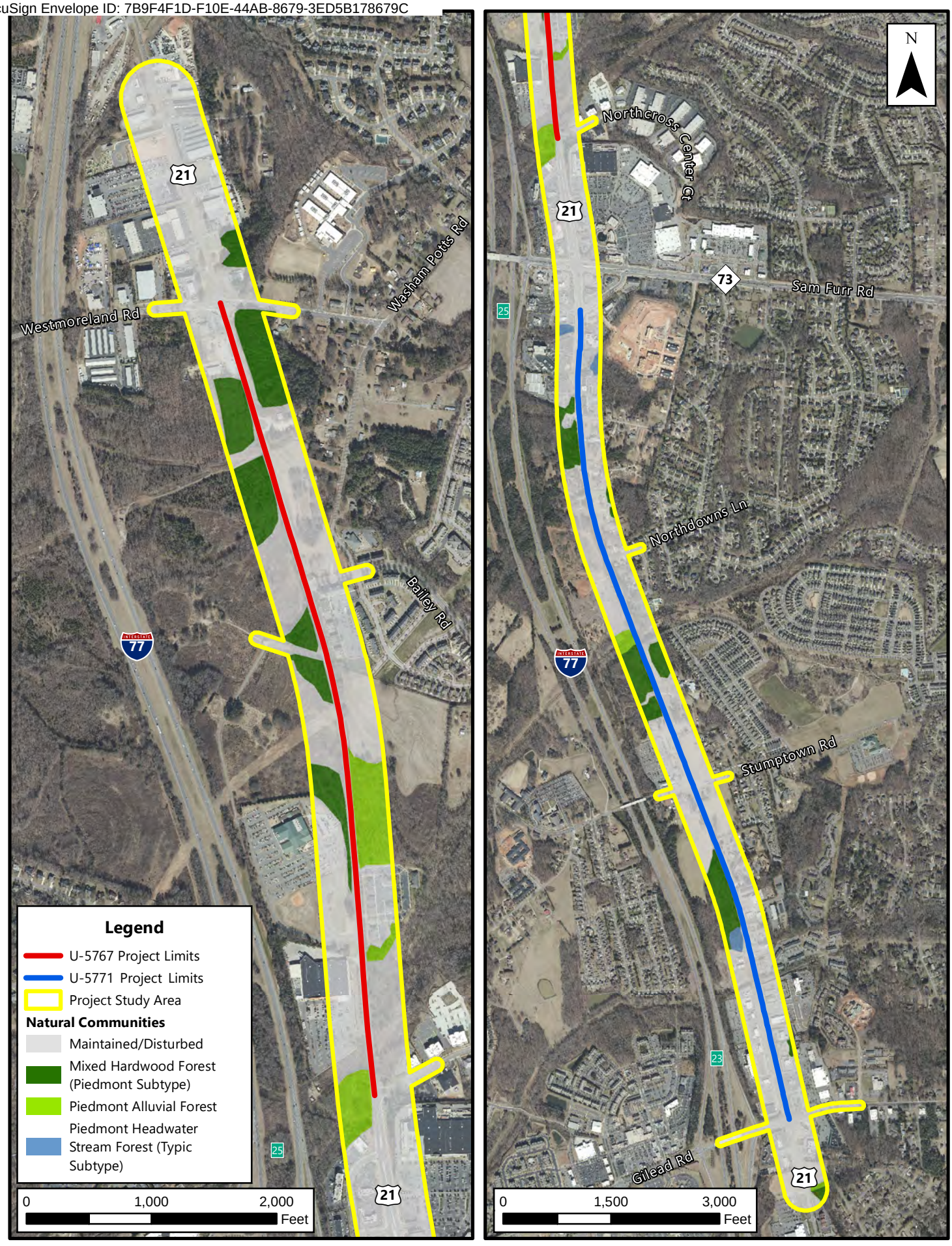

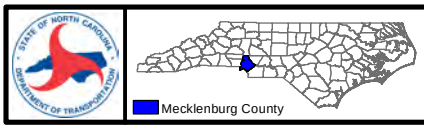

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US 21 Widening
SR 2136 (Gilead Road) to Holly Point Drive and Northcross Center Court to SR 2147 (Westmoreland Road)

TIP No. U-5767/U-5771

Division: 10

Figure: 4 Terrestrial Communities

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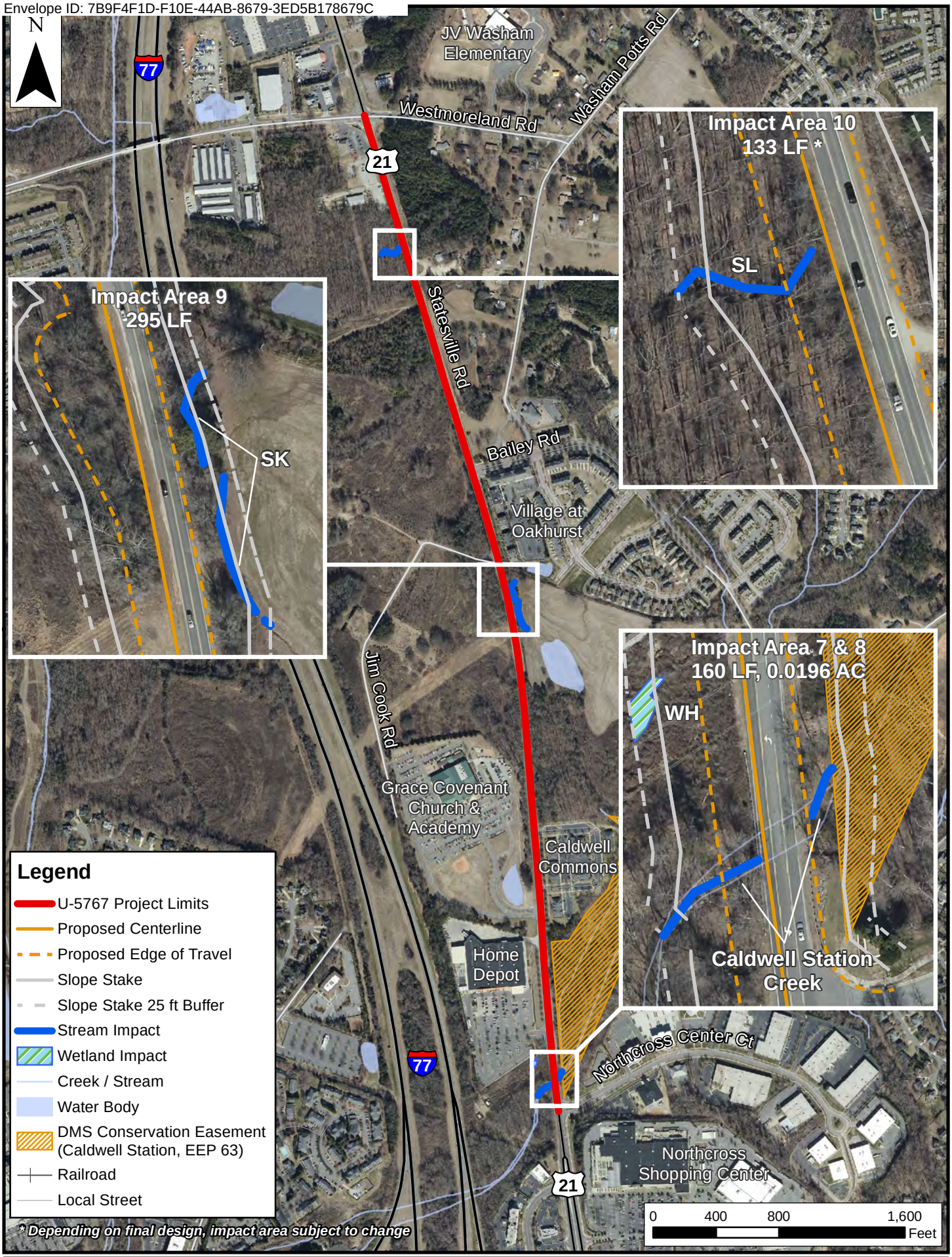

Mecklenburg County

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US 21 Widening
SR 2136 (Gilead Road) to Holly Point Drive and Northcross Center Court to SR 2147 (Westmoreland Road)

TIP No. U-5767/U-5771

Division: 10

Figure: 5A Jurisdictional Resources

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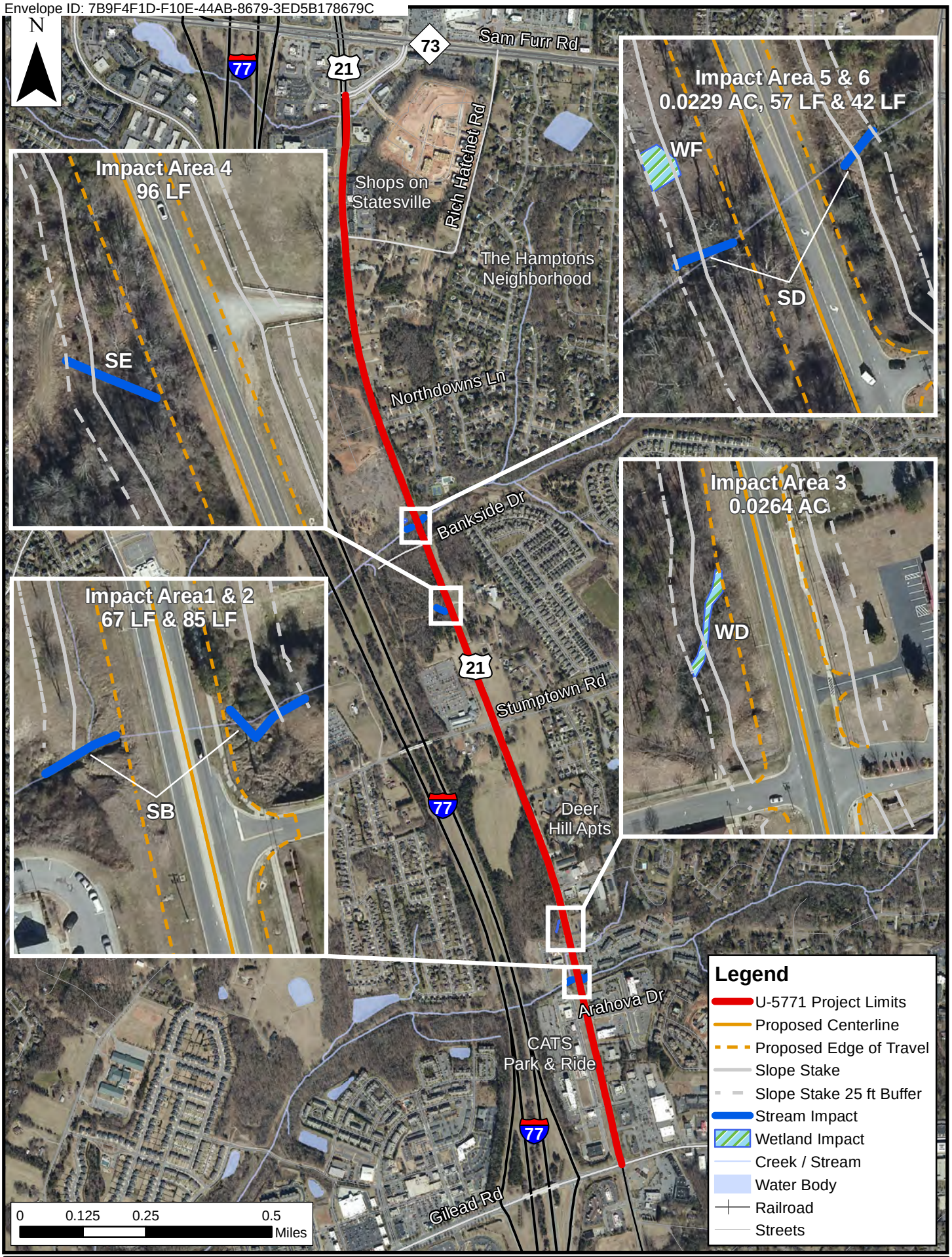

Mecklenburg County

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US 21 Widening
SR 2136 (Gilead Road) to Holly Point Drive and Northcross Center Court to SR 2147 (Westmoreland Road)

TIP No. U-5767/U-5771

Division: 10

Figure: 5B Jurisdictional Resources

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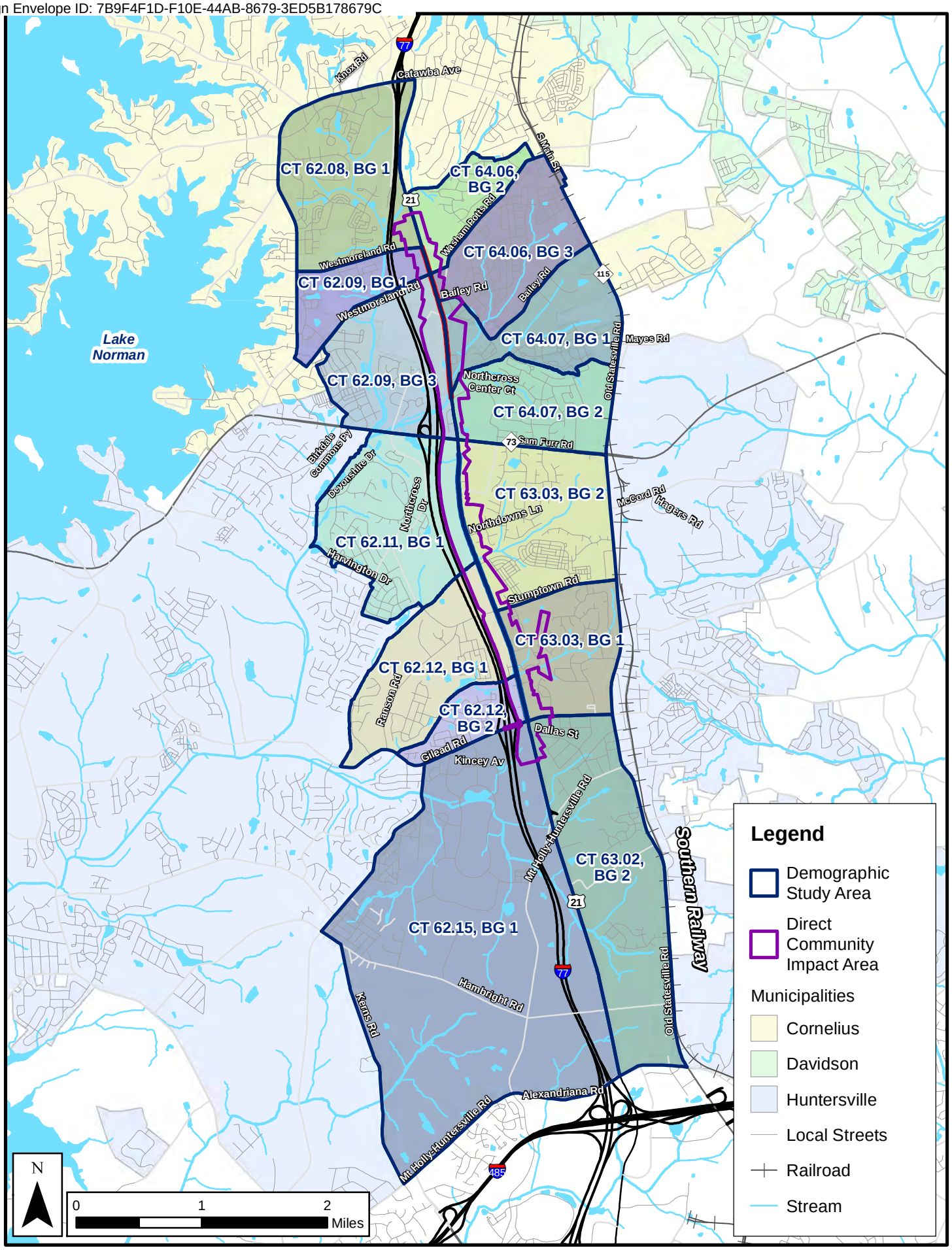

Mecklenburg County

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US 21 Widening
SR 2136 (Gilead Road) to Holly Point Drive and Northcross Center Court to SR 2147 (Westmoreland Road)

TIP No. U-5767/U-5771

Division: 10

Figure: 6 Demographic Study Area

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Appendix B – Correspondence

- Historic Architecture and Landscapes No Survey Required Form
- No Archaeological Survey Required Form
- Pre-Scoping Comments from GeoEnvironmental Unit

DocuSign Envelope ID: 7B9F4F1D-F10E-44AB-8679-3ED5B178679C

Project Tracking No. (Internal Use)

16-08-0025

HISTORIC ARCHICTECTURE 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

Project No:	U-5767	***County***:	Mecklenburg
WBS No.:	50180.1.1	***Document Type***:	EA/FONSI
Fed. Aid No:		***Funding***:	☒ State ☐ Federal
Federal Permit(s):	☒ Yes ☐ No	***Permit Type(s)***:	USACE
Project Description: Widen US 21 (Statesville Road) from Northcross Center Court to SR 2147 (Westmoreland Road).			

SUMMARY OF HISTORIC ARCHICTECTURE AND LANDSCAPES REVIEW

Description of review activities, results, and conclusions:

Review of HPO quad maps, HPO GIS information, historic designations roster, and indexes was undertaken on August 23, 2016. Based on this review, there are no existing NR, SL, LD, DE, or SS properties in the Area of Potential Effects, which is 100' from the centerline each way from end to end of project. There is one property within the APE over fifty years of age, 18100 Statesville Road, built 1955. The one-story brick ranch house is unremarkable and not eligible for National Register listing. All other properties are under fifty years of age based on GIS/Tax information. There are no National Register listed or eligible properties and no survey is required. If design plans change, additional review will be required.

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:

HPO quad maps and GIS information recording NR, SL, LD, DE, and SS properties for the Mecklenburg County survey, Mecklenburg County GIS/Tax information, and Google Maps are considered valid for the purposes of determining the likelihood of historic resources being present. There are no National Register listed or eligible properties within the APE and no survey is required.

SUPPORT DOCUMENTATION

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

FINDING BY NCDOT ARCHITECTURAL HISTORIAN

Historic Architecture and Landscapes -- NO SURVEY REQUIRED

Kate Hubert 8/23/2016

NCDOT Architectural Historian Date

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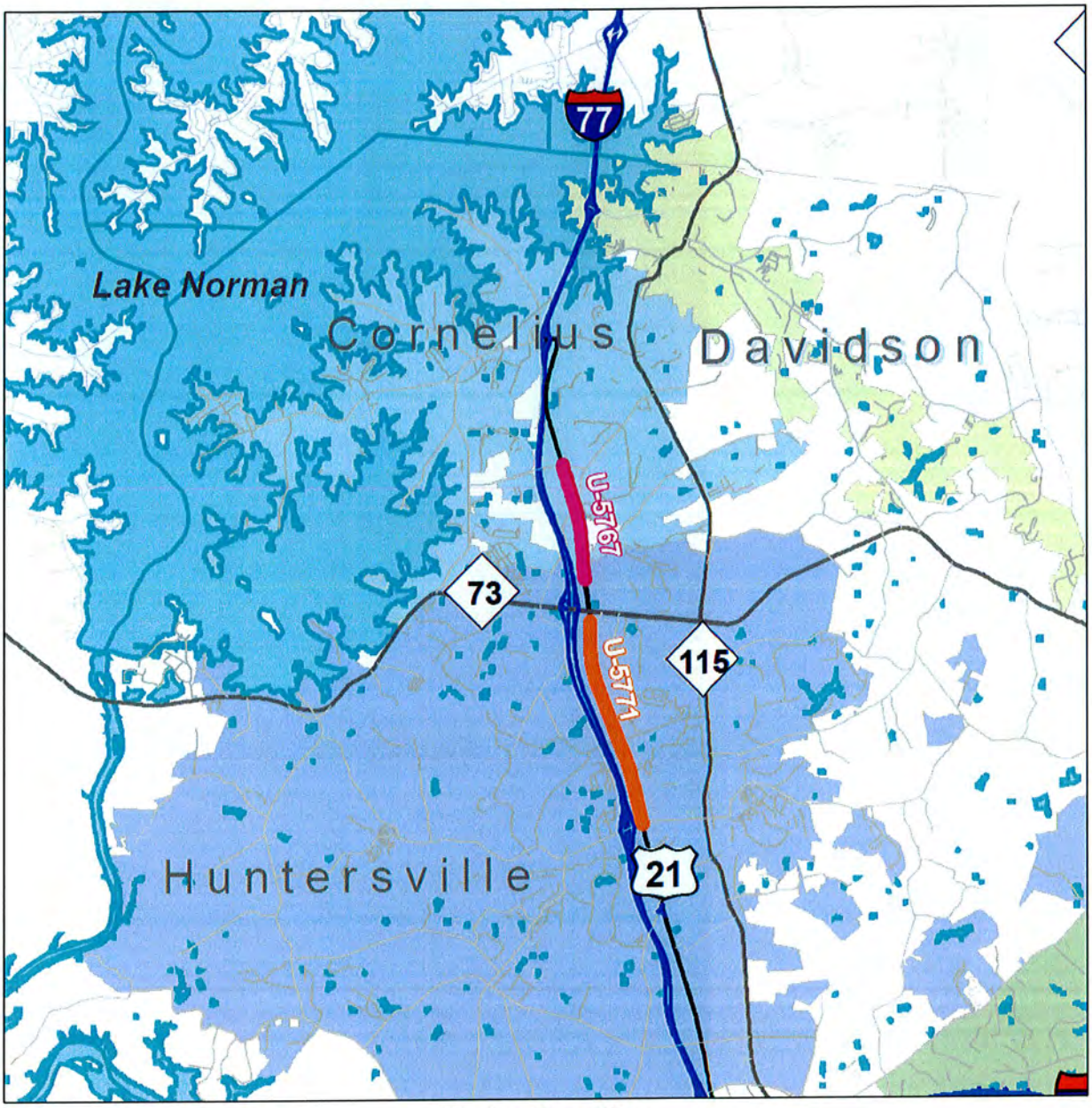

Project Location.

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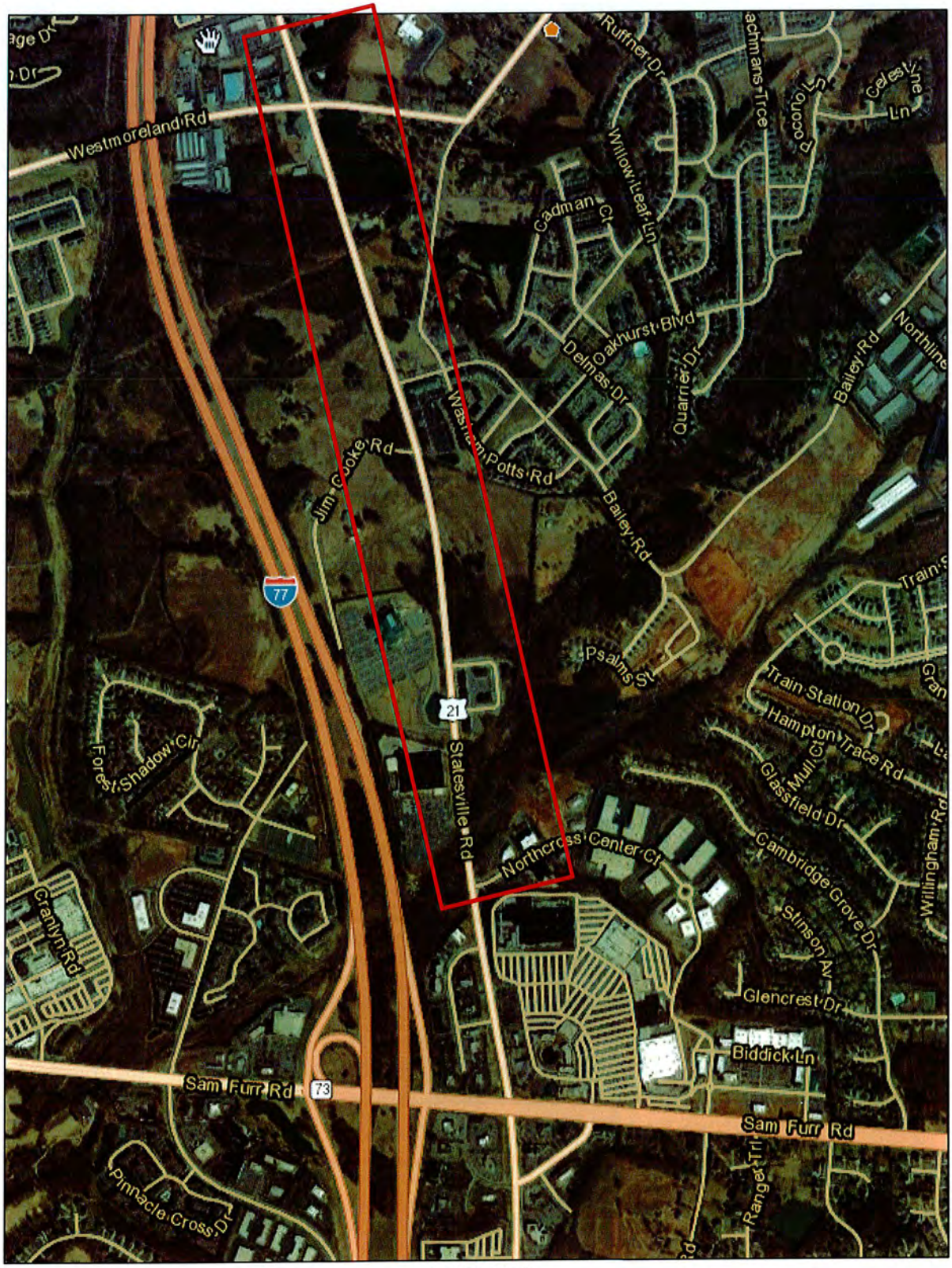

HPO GIS.

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18100 Statesville Road, looking east, not eligible for NR listing.
Bing Maps Birds Eye View.

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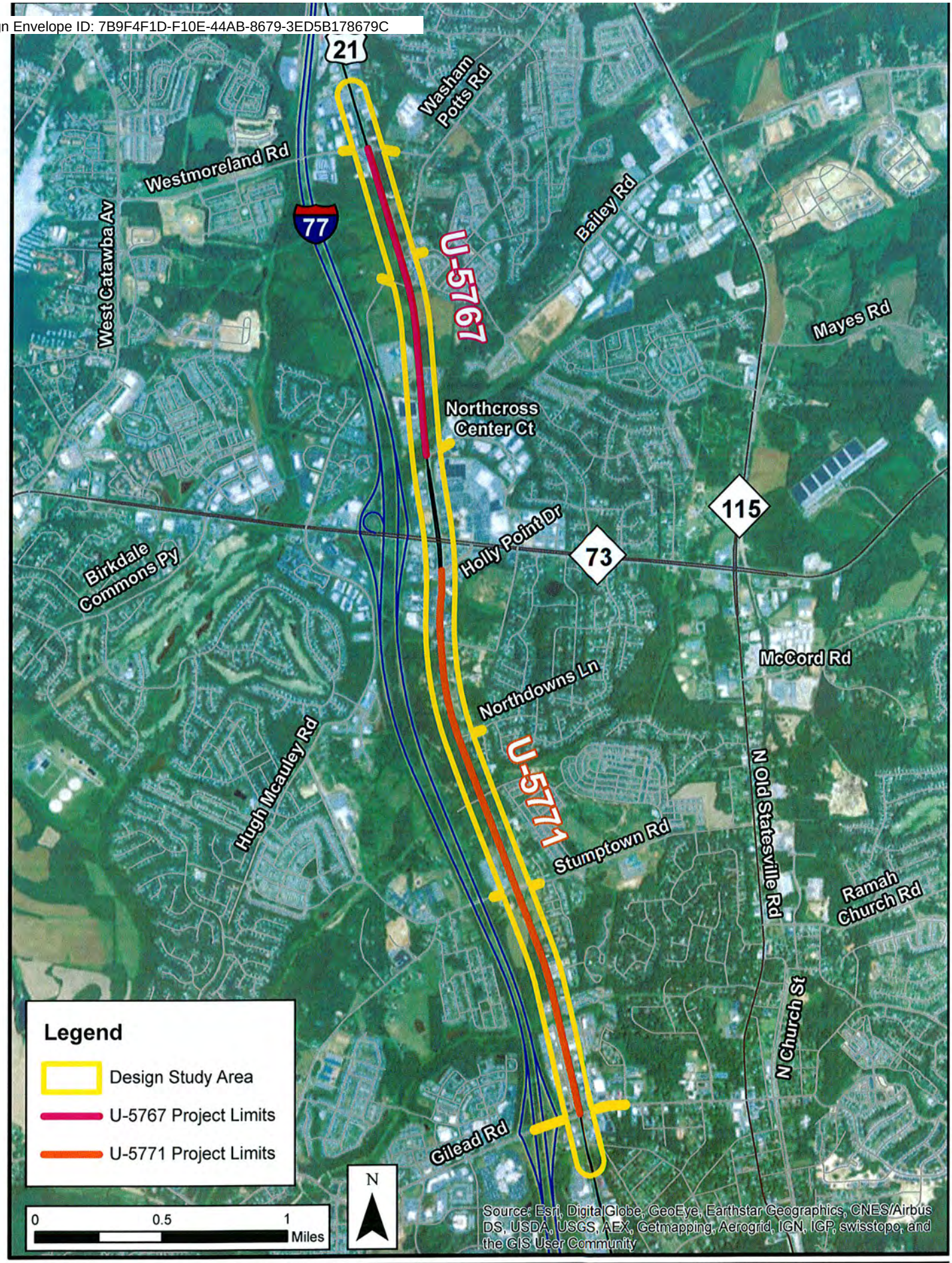

Mecklenburg County

RS&H

US 21 Corridor Improvements
SR 2136 (Gilead Road) to Holly Point Drive and Northcross Center Court to SR 2147 (Westmoreland Road)

TIP No. U-5767/U-5771

Division: 10

Figure: 1 Study Area

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Project Tracking No.:

16-08-0025

NO ARCHAEOLOGICAL SURVEY REQUIRED FORM

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

PROJECT INFORMATION

Project No:	**U-5767/U-5771**	*County:*	**Mecklenburg**
WBS No:	**50180.1.1**	*Document:*	**State EA/FONSI**
F.A. No:	**N/A**	*Funding:*	☒ State ☐ Federal

Federal Permit Required? ☒ Yes ☐ No *Permit Type:* **Not Specified**

Project Description: The NCDOT proposes to widen US 21 (Statesville Road) from Gilead Road (SR 2136) to Holly Point Drive (TIP# U-5771) and from Northcross Center Court to Westmoreland Road (SR 2147) (TIP# U-5767) in northern Mecklenburg County. The two projects will be developed and built as one project. The combined length of the two projects is approximately 3.4 miles. The Study Area is to be centered along US 21 (Statesville Road) and measures about 600 feet wide. Existing ROW along the corridor is an off-centered 150 feet wide. Overall, the Study Area will encompass about 328.2 acres, inclusive of the existing roadway.

SUMMARY OF CULTURAL RESOURCES REVIEW

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

This project was originally received on Monday, August 22, 2016 and later accepted on Wednesday, August 24, 2016. A map review and site file search was conducted at the Office of State Archaeology (OSA) on Friday, August 26. No archaeological surveys have been conducted specifically along this stretch of US 21 (Statesville Road); however, two (2) archaeological sites have been recorded within one-half (1/2) mile of the proposed project. Digital copies of HPO's maps (Cornelius Quadrangle) as well as the HPOWEB GIS Service (http://gis.ncdcr.gov/hpoweb/) were last reviewed on Friday, August 26, 2016. There is only one (1) known historic architectural resource located within or adjacent to the APE (MK2291 – Pink Graham House); however, intact archaeological deposits associated with this resource would not be anticipated within the footprint of the proposed project. In addition, topographic maps, historic maps (NCMaps website), USDA soil survey maps, and aerial photographs were utilized and inspected to gauge environmental factors that may have contributed to historic or prehistoric settlement within the project limits, and to assess the level of modern, slope, agricultural, hydrological, and other erosive-type disturbances within and surrounding the archaeological APE.

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

This is State-funded project for which a Federal permit will be required. Temporary and/or permanent easements will not be necessary nor will additional ROW be needed. At this time, we are in compliance with NC GS 121-12a, since there are no eligible (i.e. National Register-listed) archaeological resources located within the project's Area of Potential Effects (APE) that would require our attention. Based on the size and orientation of the Study Area, activities may take place beyond the NCDOT's existing ROW along US 21 (Statesville Road). From an environmental perspective, the Study Area falls within a highly commercial and residential area, consists of the undulating terrain typical of North Carolina's Southern

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Piedmont, and is composed of numerous soil types, most of which are severely eroded, too sloped, poorly drained, or have been impacted by development. Although very small pockets of well-drained soils and gently sloping topography are present, the overall preservation of intact archaeological resources is not anticipated along the project corridor. The Office of State Archaeology (OSA) has reviewed over twenty (20) projects within the vicinity of the US 21 (Statesville Road) corridor for environmental compliance, including cell towers (CT 97-7911, ER 01-0561), stream restorations (ER 11-1560, ER 16-1291), sewer line improvements (ER 99-9119, ER 02-9633, ER 02-10648), commercial/retail development (ER 91-7904, ER 00-9285, ER 12-0557, ER 13-1504), and residential development (ER 83-1358, ER 86-0208, ER 00-9048, ER 06-1385, ER 06-2935, ER 08-1729). Stating that the presence of significant archaeological resources would be unlikely, OSA did not require an archaeological survey for any of these projects. Transportation-related improvements within the vicinity of the US 21 (Statesville Road) corridor have been reviewed by the NCDOT's Archaeology Group as part of the group's Programmatic Agreement (PA) with the State Historic Preservation Office (SHPO). These PA-level projects include interchange improvements at Gilead Road and I-77 (PA 15-09-0006 [TIP# I-5714]), the widening of SR 5544 (Catawba Avenue) (PA 14-03-0010 [TIP#R-2555B]), and the I-77 HOV lanes (PA 11-11-0074). Similar to OSA's recommendations, NCDOT's Archaeology Group did not require an archaeological survey for any of the nearby transportation projects. Based on the nature of the proposed project and current soil conditions, there is a low probability for prehistoric and/or historic archaeological material to be present within the Study Area. Therefore, it is believed that the current Study Area, as depicted, is unlikely to contain intact and significant archaeological resources. No archaeological survey is required for this project. If design plans change or are made available prior to construction, then additional consultation regarding archaeology will be required. At this time, no further archaeological work is recommended. If archaeological materials are uncovered during project activities, then such resources will be dealt with according to the procedures set forth for "unanticipated discoveries," to include notification of NCDOT's Archaeology Group.

SUPPORT DOCUMENTATION

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

FINDING BY NCDOT ARCHAEOLOGIST

NO ARCHAEOLOGY SURVEY REQUIRED

Paul J Mohler

August 26, 2016

NCDOT ARCHAEOLOGIST **Date**

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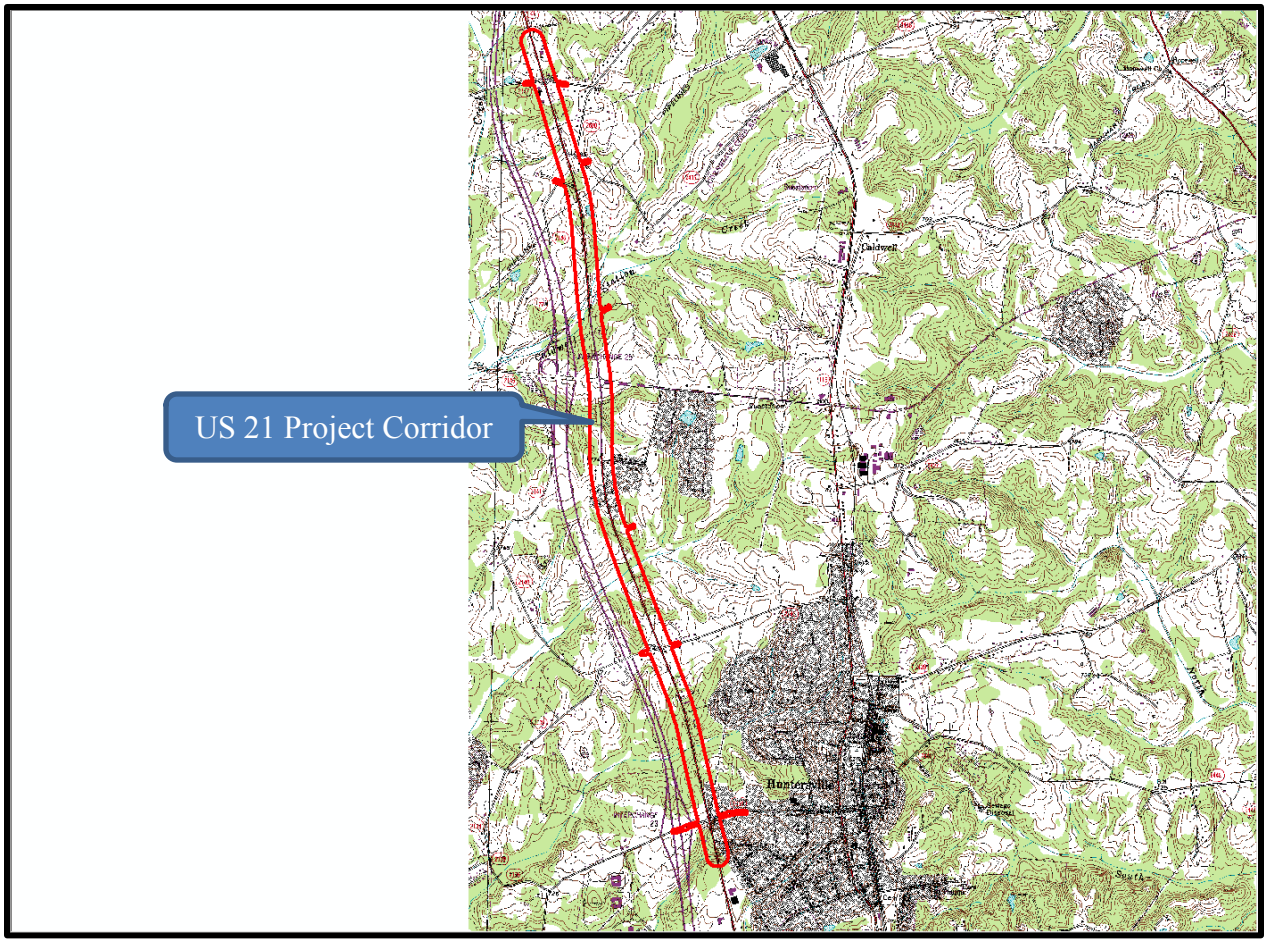
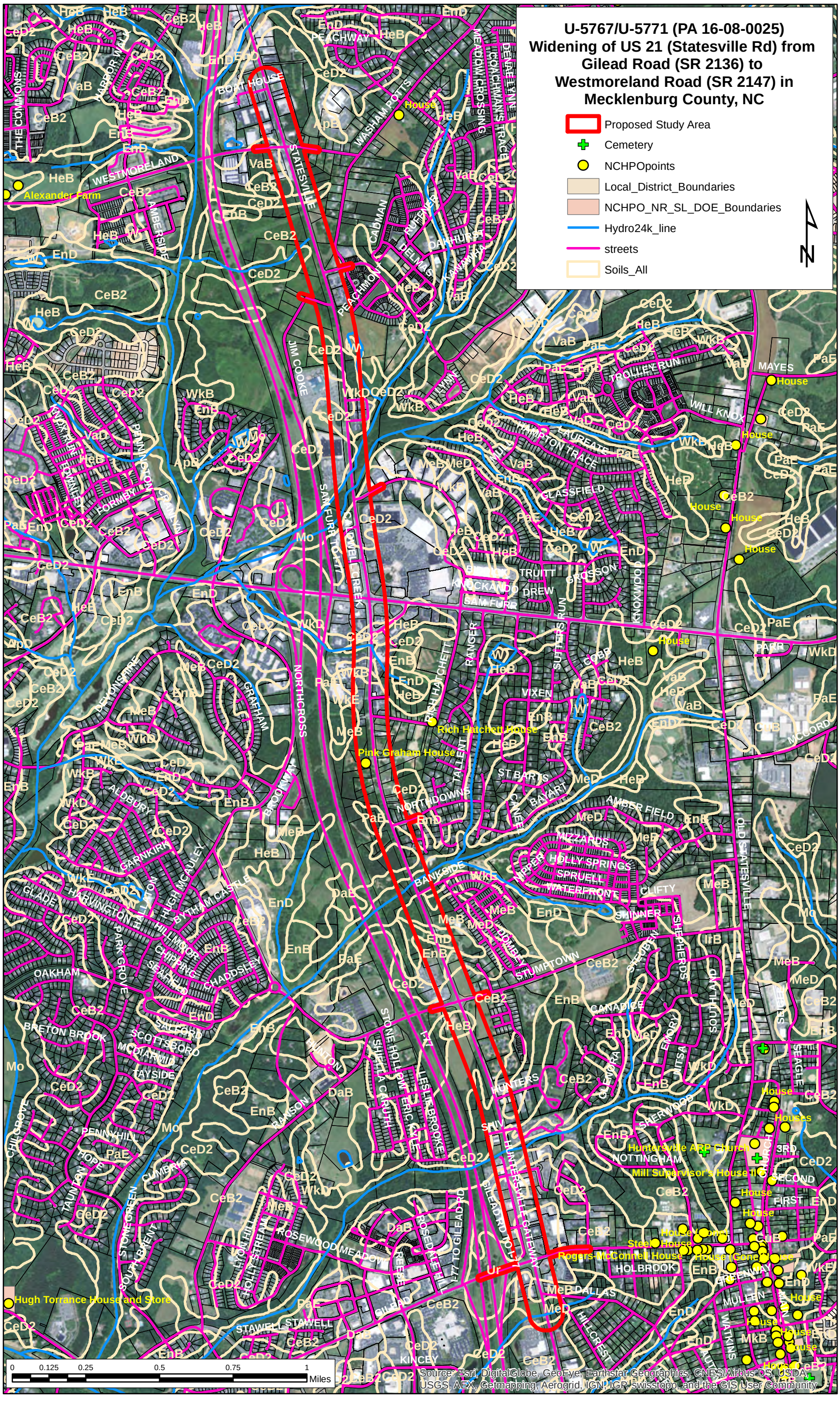


Figure 1: Cornelius, NC (USGS 1970).


U-5767/U-5771 (PA 16-08-0025)
Widening of US 21 (Statesville Rd) from Gilead Road (SR 2136) to Westmoreland Road (SR 2147) in Mecklenburg County, NC
Proposed Study Area
Cemetery
NCHPOpoints
Local_District_Boundaries
NCHPO_NR_SL_DOE_Boundaries
Hydro24k_line
streets
Soils_All
N
WESTMORELAND
STATESVILLE
PEACHMONT
WASHAM POTTS
BOAT HOUSE
PEACHWAY
MEADOW CROSSING
COACHMANS TRACE
CABMAN
RUTHVEN
DELMAR
DARTHURST
ALAMANCE
JIM COOKE
SAM FURR
CALDWELL CREEK
PENNINGTON
CRANLEY
FORMBY
HARBOR VIEW
THE COMMONS
AMBERSIDE
ALDBURY
GARNKIRK
HIGH MCAULEY
BYTHAM CASTLE
HARRINGTON
GLADEY
OAKHAM
PARK GROVE
HILLMOOR
CHIPPING
SHADDSLEY
BRETON BROOK
SCOTTSBORO
MCDIARMID
TAYSIDE
PENNYHILL
HOPE
TAUNTON
CUMBERLAND
STONEGREEN
SOUTHBRENT
GRAFHAM
DEVONSHIRE
NORTHCROSS
BROOKWAY
NORTHDOWNS
TALLENT
BANKSIDE
BAYART
ST BARTS
AMBER FIELD
MIZZARDS
HOLLY SPRINGS
SPRUELL
WATERFRONT
CLIFTY
SHINNER
OLD STATESVILLE
SHEPHERDS
SEAGLE
SHERWOOD
HUNTERSVILLE GATEWAY
HUNTERS
STONE HOLLOW
ERIC GALE
LESLIE BROOKE
RANSON
STUMPTOWN
DOMINION
CANADICE
EMORY
WITSA
SOUTHLAND
KINCEY
HILLCREST
DALLAS
HOLBROOK
MULLEN
WATKINS
KNOCKANDO
DREW
TRUITT
BROGSON
KNOXWOOD
SUTLERS RUN
RANGER
RICH HATCHETT
VIXEN
MCCORD
PARR
FIRST
SECOND
3RD
CHURCH
NOTTINGHAM
ROSEWOOD MEADOW
HOLLY STREAM
STONE HOLLOW
STAWELL
GILEAD RD
LYT TO GILEAD RD
LYT TO
MAYES
PROLIFIC RUN
WILL KNOX
LAUREATE
HAMPTON TRACE
CLASSFIELD
Alexander Farm
House
Houses
Rich Hatchett House
Pink Graham House
Hugh Torrance House and Store
Huntersville ARP Church
Mill Supervisor's House
Steel House
Rogers-McConnell House
House (Gone)
0 0.125 0.25 0.5 0.75 1
Miles
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Transportation

PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

April 18, 2016

MEMORANDUM TO: Tracy Walter, PE
Project Development Engineer
Project Development Western Region

FROM: Craig E. Haden
DocuSigned by: Craig Haden AE4AE3FF131F404...
GeoEnvironmental Project Manager
GeoEnvironmental Section
Geotechnical Engineering Unit

TIP NO: U-5767/U-5771
WBS: 50180.1.1/50183.1.1
COUNTY: Mecklenburg
DIVISION 10
DESCRIPTION: U-5767: Widen US 21 (Statesville Rd) from Northcross Center Court to SR 2147 (Westmoreland Rd), U-5771: Widen 21 (Statesville Rd) from SR 2136 (Gilead Rd) to Holly Point Rd.

SUBJECT: **Pre-Scoping Comments**

The GeoEnvironmental Section searched the GIS databases within the given project limits to identify known potential hazardous waste sites. Six (6) UST facilities, and three (3) auto repair shop, one (1) lawn equipment repair shop, one (1) auto paint& body shop and two (2) Dry Cleaners were identified within the project limits. Refer to the attached table and figures for a list of sites of concern and their anticipated impacts.

Field verification of the hazardous waste sites and identification of unknown sites should be performed when the design is further refined and prior to ROW.

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Table
USTs, Landfills & Other Potentially Contaminated Sites

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner / Property Owner	Anticipated Impact	Anticipated Risk	Comments
1	UST	14114 Statesville Rd	N/A	Valvoline Instant Oil Change	QAS II Inc.	Petroleum Contaminated Soil	Low	Oil Change Facility. See (2014) U-5114 PSA Report See (2015) I-5714 GIE Report Site # 4
2	UST	101 Statesville Rd	0-013787 GWI# 14304,15794	Kims Amoco BP	Dons Sik Kim	Petroleum Contaminated Soil	Low	Convenience store/gas station. Three tanks currently in use. See (2014) U-5114 PSA Report. See (2015) I-5714 GIE Report Site # 5
3	UST	502 Gilead Rd GWI # 40063	0-032366	Shell Fast Track # 129	Fast Track Inc.	Petroleum Contaminated Soil	Low	Convenience store/gas Station Three tanks currently in use. See (2014) U-5114 PSA Report. See (2015) I-5711 GIE Report Site # 6
4	Auto Repair	14408 Statesville Rd	N/A	Hook Tire & Auto Service	Hook Land LLC.	Petroleum Contaminated Soil	Low	Auto Repair Shop See (2015) I-5714 GIE Report Site # 7
5	UST	14601 Statesville Rd	0-036313	Citgo/Pitt Stop	Dinesh Patel DBA Maruti, Inc.	Petroleum Contaminated Soil	Low	Convenience Store/gas station. Three tanks currently in use. See (2015) I-5714 GIE Report Site # 8
6	Dry Cleaner	14339 Statesville Rd	N/A	Huntersville Coin Laundry	Kishor & Vijaychandra Patel	Dry Cleaning Solvents	Low/Med	Laundry Mat & Dry Cleaners. See (2015) I-5714 GIE Report Site # 9

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Table
USTs, Landfills & Other Potentially Contaminated Sites

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner / Property Owner	Anticipated Impact	Anticipated Risk	Comments
7	Lawn equipment repair	14802 Statesville Rd	N/A	The Power Outlet	Jimmie Beach LLC.	Petroleum Contaminated Soil	Low	Lawn equipment sales & services. See (2015) I-5714 GIE Report Site # 10
8	UST	16814 Caldwell Creek Dr.	0-034650	Sam's Mart # 19	LSAA Inc. DBA Sam's Mart	Petroleum Contaminated Soil	Low	Convenience Store/gas station. Three tanks currently in use. See (2007) R-2632A GIE Report Site # 1 See (2015) I-5715 Pre-scoping Report Site # 3
9	Auto Repair	16925 Caldwell Creek Dr.	N/A	Tuffy Auto Service	W&R Properties LLC.	Petroleum Contaminated Soil	Low	Auto & Tire Service. See (2015) I-5715 Pre-scoping Report Site # 4
10	Dry Cleaners	9606 Bailey Rd Suite E	N/A	Signature Dry Cleaning	Oakhurst Properties LLC.	Dry Cleaning Solvents	Low/Med	Dry Cleaners
11	UST	18405 Statesville Rd	0-036215	Cornelius Amoco	Mark Oil Co	Petroleum Contaminated Soil	Low	Convenience store/gas station. Two tanks currently in use. See (2009) 36249.2747 Haz Mat Report Site # 2
12	Auto Paint & Body	18425 Statesville Rd	N/A	Lake Norman Paint & Body	Harley & Herbert Tritt	Solvents	Low	Auto Paint & Body Shop. See (2009) 36249.2747 Haz Mat Report Site # 3
13	Auto Repair	18610 Statesville Rd	N/A	Al's Auto Repair	DAMI Holt LLC.	Petroleum Contaminated Soil	Low	Auto repair Shop.

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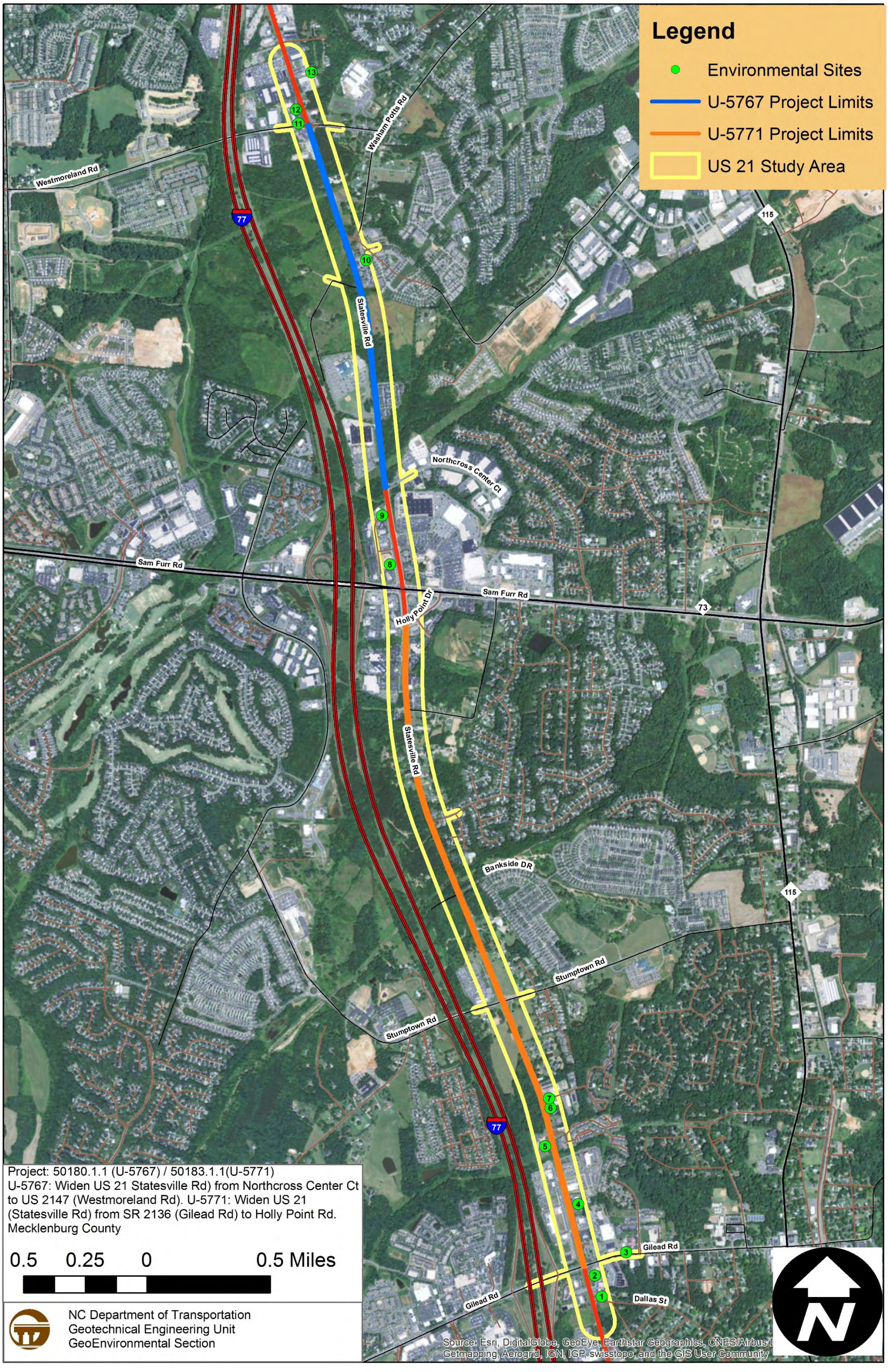
Location of GeoEnvironmental Sites of Concern



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RS&H

1520 South Blvd, Suite 200
Charlotte, NC 28203
704-752-0610

8521 Six Forks Road, Suite 400
Raleigh, NC 27615
919-926-4100

rsandh.com