

BRIDGING DECISIONS AND ALIGNMENT REVIEW



I-85 Widening Improvements from US 321 in Gastonia to
NC 273 in Mount Holly
and
Improvements to NC 7 (S. Main Street) and US 29/74 (Wilkinson
Boulevard) Intersection

Gaston County

STIP Project Nos. I-5719/U-5800

North Carolina Department of Transportation
Division 12



MERGER CONCURRENCE POINT NUMBER 2A

JUNE 15, 2022

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1. Introduction

Lead federal agency: Federal Highway Administration (FHWA)

Primary points of contact for the subject project are:

- NCDOT PM – Nora McCann
- Consultant PM – Kat Bukowy

The purpose of this Merger Team meeting is to discuss the proposed major hydraulic crossings on the project and to review the proposed alignment. The goal of the meeting is to achieve concurrence on the major hydraulic structures and alignment.

1.1 Project Description

The North Carolina Department of Transportation (NCDOT) proposes to widen I-85 in Gaston County from US 321 (Exit 17) in Gastonia to NC 273 (Exit 27) in Belmont/Mt. Holly, about 9.8 miles. This project is programmed in the 2020-2029 State Transportation Improvement Program (STIP) as project number I-5719. To complete the widening and improve traffic operations and safety, the majority of the structures over I-85 will need to be replaced as part of this project.

In addition, STIP Project U-5800 will also be studied and included in the environmental documentation of I-5719. STIP Project U-5800 proposes improvements to the intersection of NC 7 (South Main Street) and US 29/74 (Wilkinson Boulevard) in Belmont. Figure 1 shows the locations of each project.

1.2 Project History

The project is in the 2020-2029 NCDOT STIP that was approved by the NCDOT Board of Transportation on September 5, 2019 and most recently revised in April 2022. NCDOT anticipates Federal funding will be used for this project. Right-of-way (ROW) and Construction funding are scheduled for Fiscal Year (FY) 2024. The current STIP cost estimate is presented in **Table 1**.

Phase	I-5719	U-5800
Right of Way	\$110,500,000	\$2,400,000
Utilities	\$71,100,000	\$3,600,000
Construction	\$442,800,000	\$4,400,000
Total	\$624,400,000	\$10,400,000

Note: cost estimates are subject to change.

The project start of study letter was sent out on May 30, 2018. A Merger Screening was held on September 1, 2018.

The first Merger Meeting for the project was held in May 2018, with the goal of obtaining agreement on Concurrence Point 1 (Purpose and Need and Study Area Defined). The Merger Team was able to reach agreement on the Purpose and Need Statement for the project as well as the project study area.

The second Merger Meeting was held in January 2019. At this meeting, concurrence was achieved for Concurrence Point 2. Concurrence Point 2 included a No-Build and Build Alternative for detailed study.

An Informational Merger Meeting was held in September 2021. During this meeting NCDOT presented the proposed design options for each interchange and bridge and indicated the preferred option that would be designed. No concurrence was requested at this meeting.

STIP Project U-3608, improvements to Main Street from I-85 to US 74/29 in Belmont was also included with STIP Projects I-5719 and U-5800. However, due to the relocation of the Belmont Mt Holly interchange with I-85 and the reconfiguration of NC 7 and Main Street, U-3608 is now included as part of I-5719.

The proposed project schedule is included in **Table 2**. This schedule is preliminary and subject to change.

Table 2. STIP I-5719/U-5800 Project Schedule	
Milestone	Schedule*
Concurrence Point 3/4A	November 2022
Final Environmental Document [†]	December 2022
Begin ROW Acquisition	FY 2024
Begin Construction	FY 2024
*tentative, subject to change; [†] anticipate Federal CE	

1.3 Nearby STIP Projects & Local Transportation Plan

The 2020-2029 STIP lists seven other projects within the study area of I-5719/U-5800 (**Table 3**).

Table 2. Nearby STIP Projects				
STIP	Route	Location/Description	Funding Schedule	
			ROW	Construction
2020-2029 STIP				
U-6143	US 29/74 (Wilkinson Blvd)	Construct Intersection Improvements at US 29/74 (Wilkinson Blvd) and NC 7 (East Catawba Street)	2022	2023
U-6146	US 29/74 (Wilkinson Blvd)	Widen US 74 to six lanes for 1.277 miles from Market St. to SR 2015 (Alberta Ave).	<i>In Progress</i>	2024
U-6138	NC 279 (New Hope Road)	Construct Intersection Improvements at NC 279 (New Hope Road) and US 29/74 (Franklin Blvd)	2025	2026
U-6043	US 29/74 (Franklin Blvd)	Construct Lane in Eastbound Direction near Cox Road and Lineberger Road	2022	2024

STIP	Route	Location/Description	Funding Schedule	
			ROW	Construction
U-6141	US 29/74 (Franklin Blvd)	Improve Intersection at US 29/74 (Franklin Blvd) and SR 2329 (Redbud Drive) Including New Grade-Separated Crossing of US 29/74	2029	Future year
U-5959	US 29/74 (Wilkinson Blvd)	Construct Intersection Improvements at US 29/74 (Wilkinson Blvd) and NC 273 (Park Street)	2029	Future year
U-5965	US 29/74 (Franklin Blvd)	Construct Intersection Improvements at US 29/74 (Franklin Blvd) and NC 274	2022	2024

2. Merger Concurrence Points 1 and 2

2.1 Concurrence Point 1

The Merger Team met and concurred on the project Purpose and Need and Study Area in May 2018.

PROJECT NEEDS

- **Existing and Projected Capacity Deficiencies and Mobility (Primary)** – Heavy traffic conditions occur daily along I-85 within the project study area, resulting in frequent congestion and delays that hinder east-west mobility within central/eastern Gaston County. Motorists on I-85 in the project study area frequently experience congestion, which is projected to worsen through 2040. Traffic volumes within the project study area are projected to increase by 15 to 24 percent between 2016 and 2040. By 2040, all segments in both directions are projected to be LOS F during one or both peak periods. An update to the traffic forecast was completed in 2019 and the 2045 traffic model further confirms the increase in volumes and poor LOS.
- **Roadway Deficiencies (Secondary)** – The freeway mainline segments and interchanges in the project study area have physical or geometric condition issues and substandard design elements. Congestion experienced along I-85 in the project study area is not only a function of capacity deficiencies, but also roadway deficiencies. The freeway and interchanges in this section of I-85 have substandard design elements such as poor sight distances, narrow median shoulders, and poor entrance/exit ramp designs. Several bridges are classified as functionally obsolete, and nearly all the bridges that cross over I-85 within the project study area do not have the horizontal or vertical clearance required to accommodate widening improvements.
- **Inability to Serve High-Speed Regional Travel Consistent with the Designations and Goals of State and Local Transportation Plans (Secondary)** – Congestion and frequent incidents on I-85 inhibit regional travel and diminish the ability of I-85 to function as a Strategic Transportation Corridor. Due to its statewide and regional importance, I-85 is designated as a Strategic Transportation Corridor (STC) by NCDOT and is part of the North Carolina Intrastate System. Both designations call for this corridor to serve high-speed regional travel. The existing study area corridor of I-85 is designated as part of the National Highway System’s (NHS) Strategic

Highway Network (STRAHNET). Existing and projected poor LOS along the I-85 project study corridor diminish the roadway’s ability to function as part of the STRAHNET. GCLMPO, as documented in their *2045 Metropolitan Transportation Plan (MTP)*, has identified improvements to I-85 as a top priority project.

- **Increased Crash Incidents (Secondary)** – Traffic congestion occurs daily, with I-85 travelers experiencing a high number of incidents that cause delays and augment congested conditions. This portion of I-85 exceeds the NCDOT 2012-2014 statewide urban interstates critical crash rates for non-fatal injury crashes. The total number of crashes increased by 62 percent between 2012 (432) and 2015 (700).

PROJECT PURPOSE

The purpose of the proposed improvements to I-85 is to reduce congestion and improve mobility in this growing area of Gaston County.

PROJECT STUDY AREA

The project study area is in central Gaston County and includes the municipalities of Gastonia, Lowell, McAdenville, Belmont, and Mt. Holly. The project study area boundary is approximately 1,000 feet wide, 500 feet to each side of the I-85 centerline. Expanded study areas were outlined around interchanges and incorporated into the I-85 project study area. The U-5800 study area is approximately 500 feet wide, 250 feet to each side of the centerline.

2.2 Concurrency Point 2

The Merger Team met and concurred on the Detailed Alternatives Carried Forward in January 2019. The Detailed Alternatives are a No-Build and Build Alternative (widening).

The No-Build Alternative would not construct any improvements to I-85 as part of I-5719/U-5800. The No-Build assumes that other separate projects in the STIP would be implemented, as they are independent of the proposed project. The No-Build option is not consistent with the purpose and need for the project nor local plans. The No-Build is being retained through the project development process as a baseline comparative alternative in accordance with the NEPA (40 CFR 1502.14(d)) and FHWA guidance (FHWA Technical Advisory T 6640.8A; p. 16). The Build Alternative proposes widening I-85 from six to eight lanes using a best-fit alignment, in addition to replacing/improving the structures over I-85.

The Build Alternative proposes to widen I-85 between US 321 and NC 273 from six to eight through lanes with additional auxiliary lanes for the interchanges. The main line of I-85 follows a best-fit alignment to minimize impacts to adjacent resources. Due to the deficiencies of the majority of the roadway bridges, interchanges, and railroad bridges, the structures will be replaced or improved. There are eight interchanges, six roadway bridges and four railroad bridges within the project. Following the CP 2 meeting NCDOT chose the preferred options or locations for each of the structures, as presented in the Informational Meeting held in September 2021. **Table 4** indicates the interchange design or bridge relocation option chosen for preliminary design. The proposed design is shown on **Figure 2**.

Table 4. Chosen Design Options of Structures over I-85	
Structure over I-85	Design Option Chosen
US 321 (N. Chester St) Interchange (Y1) (Exit 17)	Improve Existing, extend two lanes from the fly-under ramp onto I-85
SR 2278 (Dr. MLK Jr. Way/Marietta Street) Overpass (Y9)	Replace bridge to East

Table 4. Chosen Design Options of Structures over I-85	
Structure over I-85	Design Option Chosen
SR 2009 (Modena Street) Overpass (Y10)	Replace bridge on existing location
Railroad Bridge 350129 (NCDOT – Owned, Piedmont & Northern Railway – Operated)	Replace bridge on existing location
NC 7 (East Ozark Avenue) Interchange (Y2) (Exit 19)	Replace bridge on existing location and upgrade ramps
Railroad Bridge 350132 (Norfolk Southern)	Replace bridge on existing location
NC 279 (N. New Hope Road) Interchange (Y3) (Exit 20)	Diverging Diamond Interchange
Aberdeen Boulevard Overpass (Y11)	Replace bridge to East
SR 2200 (Cox Road) Interchange (Y4) (Exit 21)	Replace bridge on existing location, tight diamond ramps
SR 2339 (S. Church Street) Overpass (Y12)	Replace bridge on existing location
SR 2339 (S. Main Street) Interchange (Y5) (Exit 22)	Improve existing interchange with roundabouts and upgraded ramps
Railroad Bridge 350142 (Norfolk Southern)	Replace bridge to East
SR 2213 (Grove Street) Overpass (Y13)	Replace to East* (*new since 9/2021 meeting, alignment must shift to accommodate railroad)
NC 7 (McAdenville Road/N. Main Street) Interchange (Y6) (Exit 23)	Replace bridge on existing location, tighten ramp on north side, realign Power Drive
SR 2000 (Hickory Grove Road) Overpass (Y14)	Replace bridge to East
SR 2093 (Belmont-Mount Holly Road) Interchange (Y7) (Exit 26)	Replace existing interchange by shifting to the west with a tight diamond in three quadrants and loop in fourth. Add roundabouts on relocated Belmont Mt Holly Road. Shift NC 7 Main Street to the West.
US 29/74 (Wilkinson Boulevard) and NC 7 (N. Main Street) Intersection (Y7A) [U-5800]	Reduced Conflict Intersection (RCI)
Railroad Bridge 350150 (NCDOT – Owned, Piedmont & Northern Railway – Operated)	Replace bridge on existing location
NC 273 (Beatty Drive) Interchange (Y8) (Exit 27)	Keep existing interchange, update pavement markings

3. Water Resources

Jurisdictional streams and wetlands are located in the study area and are shown in **Figures 2a – 2j**. Sixty-two jurisdictional streams were identified within the study area and included three named streams: Kaglor Branch, Duharts Creek, and South Fork Catawba. The remainder are unnamed tributaries (UTs) to these streams. These streams are considered jurisdictional surface waters under Section 404 of the Clean Water Act. All jurisdictional streams, except for 47 feet of Stream SAB, have been designated as warm water streams for the purposes of compensatory mitigation. The identified 47 feet of Stream SAB is non-mitigable. No streams are subject to river basin buffer rules. Only the main stem of the Catawba River is covered by the Catawba River Buffer Rules as administered by NCDWR. Stream and surface water information are found in **Table 5**.

Table 5. Stream and Surface Waters in the Study Area

Stream Name	Map ID	Figure Number	NCDWR Index Number	Best Usage Classification	Length (ft.)	Classification
UT to Kaglor Branch	SAK	3a	11-129-16-5	C	1,308	Perennial
UT to Kaglor Branch	SAL	3a	11-129-16-5	C	323	Intermittent
Kaglor Branch	SAM	3a	11-129-16-5	C	1,148	Perennial
UT to Kaglor Branch	SAN	3a	11-129-16-5	C	36	Intermittent
UT to Kaglor Branch	SAO	3a	11-129-16-5	C	234	Intermittent
UT to Kaglor Branch	SAP	3a	11-129-16-5	C	448	Intermittent
UT to Kaglor Branch	SAQ	3a	11-129-16-5	C	541	Intermittent
UT to Long Creek	SAR	3a	11-129-16-(4)	C	2,935	Perennial
UT to Long Creek	SAS	3a	11-129-16-(4)	C	283	Perennial
UT to Long Creek	SAT	3a	11-129-16-(4)	C	263	Perennial
UT to Long Creek	SAU	3b	11-129-16-(4)	C	904	Perennial
UT to Long Creek	SBE	3b	11-129-16-(4)	C	1,067	Perennial
UT to Long Creek	SBF	3b	11-129-16-(4)	C	43	Intermittent
UT to Long Creek	SBG	3b	11-129-16-(4)	C	695 ¹	Intermittent
					854	Perennial
UT to Jule Allen Branch	SBC	3b, 3c	11-129-16-6	C	2,094	Perennial
UT to Jule Allen Branch	SBD	3b, 3c	11-129-16-6	C	829	Intermittent
UT to Duharts Creek	SBA	3c	11-129-19	WS-V	84	Intermittent
UT to Duharts Creek	SBB	3c	11-129-19	WS-V	389	Perennial
UT to Duharts Creek	SY	3c, 3d	11-129-19	WS-V	853	Perennial
UT to Duharts Creek	SZ	3c	11-129-19	WS-V	39	Perennial
UT to Duharts Creek	SX	3c	11-129-19	WS-V	1,482	Perennial
UT to Duharts Creek	SAG	3e	11-129-19	WS-V	171	Intermittent
UT to Duharts Creek	SAH	3e	11-129-19	WS-V	284	Intermittent
UT to Duharts Creek	SAI	3e	11-129-19	WS-V	57	Intermittent
UT to Duharts Creek	SAJ	3e	11-129-19	WS-V	419	Intermittent
Duharts Creek	SAF	3e	11-129-19	WS-V	954	Perennial
UT to Duharts Creek	SAB	3e	11-129-19	WS-V	489	Perennial
UT to Duharts Creek	SAC	3e	11-129-19	WS-V	833	Perennial
Duharts Creek	SAD	3e	11-129-19	WS-V	682	Perennial
UT to Duharts Creek	SAE	3e	11-129-19	WS-V	345	Perennial
UT to Duharts Creek	SAA	3g	11-129-19	WS-V	455	Perennial
UT to Duharts Creek	SBJ	3g	11-129-19	WS-V	98	Perennial
UT to South Fork Catawba River	ST	3g, 3h	11-129-15.5	WS-V	638	Perennial
UT to Duharts Creek	SU	3g	11-129-19	WS-V	1,283	Perennial
UT to Duharts Creek	SV	3g	11-129-19	WS-V	153	Intermittent

Table 5. Stream and Surface Waters in the Study Area

Stream Name	Map ID	Figure Number	NCDWR Index Number	Best Usage Classification	Length (ft.)	Classification
UT to South Fork Catawba River	SW	3g	11-129-15.5	WS-V	45	Perennial
UT to South Fork Catawba River	SP	3h	11-129-15.5	WS-V	780	Perennial
UT to South Fork Catawba River	SBI	3h	11-129-15.5	WS-V	656	Perennial
UT to South Fork Catawba River	SBH	3h	11-129-15.5	WS-V	240	Intermittent
					1,126	Perennial
South Fork Catawba River	SQ	3h	11-129-15.5	WS-V	1,069	Perennial
UT to South Fork Catawba River	SR	3h	11-129-15.5	WS-V	104	Intermittent
UT to South Fork Catawba River	SS	3h	11-129-15.5	WS-V	690	Perennial
UT at Belmont Abbey College	SK	3i	11-123-(1)	WS-IV	379	Intermittent
					551	Perennial
UT to South Fork Catawba River	SL	3i	11-129-15.5	WS-V	1,724	Perennial
UT to South Fork Catawba River	SM	3i	11-129-15.5	WS-V	192	Intermittent
UT to South Fork Catawba River	SN	3i	11-129-15.5	WS-V	2,838	Perennial
UT to South Fork Catawba River	SO	3i	11-129-15.5	WS-V	393	Perennial
UT to Catawba River	SG	3j	11-117	WS-IV; CA	1,341	Perennial
UT to Catawba River	SH	3j	11-117	WS-IV; CA	143	Perennial
UT at Belmont Abbey College	SI	3j	11-123-(1)	WS-IV	49	Perennial
UT at Belmont Abbey College	SJ	3j	11-123-(1)	WS-IV	84	Perennial
UT to Jule Allen Branch	SBK	3b, 3c	11-129-16-6	C	369	Intermittent
UT to Jule Allen Branch	SBM	3b, 3c	11-129-16-6	C	475	Intermittent
UT to South Fork Catawba River	SBN	3h	11-129-(15.5)	WS-V	28	Intermittent
UT to South Fork Catawba River	SBO ²	3i	11-129-(15.5)	WS-V	322	Intermittent
UT to South Fork Catawba River	SBP	3i	11-129-(15.5)	WS-V	340	Perennial
UT to South Fork Catawba River	SBQ	3g, 3h	11-129-(15.5)	WS-V	277	Intermittent
UT to South Fork Catawba River	SBR	3g	11-129-(15.5)	WS-V	47	Intermittent

Stream Name	Map ID	Figure Number	NCDWR Index Number	Best Usage Classification	Length (ft.)	Classification
UT to Catawba River (Lake Wylie below elevation 570)	SBS	3j	11-(122)	WS-IV,B;CA	313	Intermittent
UT to Duharts Creek	SCA ²	3d	11-129-19	WS-V	245	Intermittent
UT at Belmont Abbey College	SCF ²	3b	11-123-(1)	WS-IV	208	Perennial
UT at Belmont Abbey College	SCG ²	3b	11-123-(1)	WS-IV	14	Intermittent
				Total	8,630	Intermittent
					30,125	Perennial

¹A portion of SBG has been placed in a concrete lined channel.

² Features that were extended or added in the 2022 NRTR addendum.

There are designated water supply watersheds (WS-IV) within or within 1.0 mile downstream of the study area. The water supply watershed (WSW) extends westward from the Catawba River approximately 1.5 miles into the study area. The water supply watershed within the study area is designated Critical Area (CA) and Protected Area (PA). Based on slope stake limits plus 40 feet, 21 acres of Critical Area (CA) and 71 acres of Protected Area (PA) are anticipated to be impacted. The North Carolina 2020 303(d) list of impaired waters does not identify any impaired waters within the study area. There are no designated anadromous fish waters or Primary Nursery Areas (PNA) present in the study area.

Twenty-four jurisdictional wetlands were identified within the study area. The locations of these wetlands are shown in **Figures 2a – 2j**. All wetlands in the study area are located within the Catawba River basin (USGS Hydrologic Units 03050101 and 03050102). Wetland information is found in Table 6.

Table 6. Characteristics of Jurisdictional Wetlands in the Study Area

Map ID	Figure No.	NCWAM Classification	Hydrologic Classification	Area (ac.) in Study Area
WAH	3a	Headwater Forest	Riparian	<0.1
WAI	3a	Headwater Forest	Riparian	0.3
WG	3b	Headwater Forest	Riparian	0.6
WF	3b	Headwater Forest	Riparian	1.7
WE	3c	Headwater Forest	Riparian	0.3
WAG	3e	Headwater Forest	Riparian	0.1
WAC	3e	Headwater Forest	Riparian	<0.1
WAD	3e	Bottomland Hardwood Forest	Riparian	0.2
WAF	3e	Bottomland Hardwood Forest	Riparian	0.5
WAA	3e	Headwater Forest	Riparian	<0.1
WAM	3f	Headwater Forest	Riparian	1.1
WD	3h	Bottomland Hardwood Forest	Riparian	0.1
WXA	3i	Non-Tidal Freshwater Marsh	Riparian	<0.1
WXB	3i	Non-Tidal Freshwater Marsh	Riparian	<0.1
WXC	3e	Headwater Forest	Riparian	<0.1
WC	3i	Non-Tidal Freshwater Marsh	Riparian	0.6
WB	3j	Bottomland Hardwood Forest	Riparian	0.1
WAN	3b, 3c	Headwater Forest	Riparian	<0.1
WAO	3h	Headwater Forest	Riparian	<0.1
WAP	3i	Headwater Forest	Riparian	0.1
WBA*	3d	Headwater Forest	Riparian	<0.1
WBB*	3d	Headwater Forest	Riparian	0.1
WBE*	3i	Headwater Forest	Riparian	<0.1
WCC*	3d	Headwater Forest	Riparian	<0.1
* Features that were extended or added in the 2022 NRTR addendum.			Total	6.9

Total impacts for the Build Alternative for streams and wetlands and other resources are shown in **Table 7** and on **Figure 2**.

Table 7: Total Potential Impacts¹ by Build Alternative	
Resource	Build Alternative (widening)
Streams (ft)	6,490
Wetlands (ac)	0.1
Ponds (ac)	0
100-year Floodplain (ac)	14.3
500-year Floodplain (ac)	2.9
Water Supply Watershed (ac)	92
Section 4(f) Resource (#) Sims Legion Park (1.0 ac) South Fork Trail (crossing) South Fork Blueway (crossing) Piedmont & Northern Rail Historic District (10.3 ac) Faith United Methodist Church (0.6 ac) McAdenville Historic District (1.3 ac) McAdenville Historic District No. 3 (2.2 ac) Belmont Abbey College Historic District (5.6 ac)	8
Section 106 Resource (#) Piedmont & Northern Rail Historic District (10.3 ac) Faith United Methodist Church (0.6 ac) McAdenville Historic District (1.3 ac) McAdenville Historic District No. 3 (2.2 ac) Belmont Abbey College Historic District (5.6 ac)	5
Section 6(f) Resource	N/A
Church / Cemetery (#) O'Connor Grove AME Zion Church Faith United Methodist Church Wat Luangphor PhaNgao Buddharam Buddhist Temple O'Connor Grove AME Zion Church Cemetery St. Benedict (St. Leo) Cemetery Belmont Abbey College Cemetery McAdenville Town Cemetery	3/4

¹ Impacts calculated using slope stake limits plus 40 feet. As the design progresses, additional avoidance and minimization measures are anticipated to be incorporated to avoid or reduce impacts.

A Preliminary Jurisdictional Determination (PJD) was approved by the USACE on September 3, 2019. However, the additional streams and wetlands found as part of the two study area expansions will need to be verified by the US Army Corps of Engineers (USACE) and the NC Division of Water Resources (NCDWR).

4. CP2A: Major Hydraulic Crossings

Major hydraulic crossings are those that are equal to or larger than a 72-inch pipe or have an opening equal to or greater than 30 square feet. All bridges are considered major structures. A total of 13 potential major hydraulic crossings were identified for the proposed project. These structures are described in **Table 8** and additional information including the site map and individual site plan and photographs are included in **Appendix A**.

SITE NO	ROUTE	LATITUDE	LONGITUDE	NRTR MAP ID	NCDWR STREAM / WETLAND ID	STREAM NAME	STREAM/ WETLAND SIZE (ft / ac)	FEMA STUDY TYPE	DRAINAGE AREA (MI²)	EXISTING STRUCTURE (Number, Size, Structure Type)	Recommended Structure (Number, Size, Structure Type)	Potential Stream/ Wetland Impact²
3	I-85	35.283273	-81.186688	SAR	11-129-16-(4)	Trib. L-8 (UT to Long Creek)	2,934	Detailed	1.2	3 @ 8' X 9' RCBC	Retain existing structure	78 ft
3a	I-85 N Ramp	35.282497	-81.186831	SAR	11-129-16-(4)	Trib. L-8 (UT to Long Creek)	2,934	Detailed	1.2	3 @ 8' X 10' RCBC	Retain existing structure	215 ft
4	I-85	35.284022	-81.173925	SBE	11-129-16-(4)	Trib. L-6 (UT to Long Creek)	1,043	Detailed	0.8	1 @ 9' X 9' RCBC	Retain and extend existing structure	160 ft
5	I-85 N Exit Ramp	35.268760	-81.150411	SX	11-129-19	Duharts Creek	860	Detailed	0.4	1 @ 8' X 9' RCBC	Remove (see Site 6)	308 ft
6	I-85	35.268839	-81.149469	SX	11-129-19	Duharts Creek	621	Detailed	0.4	1 @ 8' X 9' RCBC	Retain and extend existing structure	242 ft
7	I-85	35.266167	-81.141540	SAF/WAC	11-129-19	Duharts Creek	954/0.32	Detailed	1.2	2 @ 8' X 9' RCBC	Retain existing structure	3 ft / 0.32 ac
8	I-85	35.265529	-81.137732	SAE	11-129-19	Trib. D-8 (UT to Duharts Creek)	345	Detailed	0.3	2 @ 54" RCP w/ HW	Retain and extend existing structure and add supplemental 54" RCP	82 ft
10	I-85	35.264311	-81.130204	SAC/WAA	11-129-19	Trib. D-6 (UT to Duharts Creek)	833/0.023	Detailed	0.5	1 @ 7' X 8' RCBC	Retain and extend existing structure	158 ft /0.009 ac
11	I-85	35.262733	-81.120439	SAB	11-129-19	Trib. D-3 (UT to Duharts Creek)	614	Detailed	0.6	1 @ 8' X 8' RCBC	Retain and extend existing structure	212 ft
12	I-85	35.261322	-81.111714	SAA	11-129-19	UT to Duharts Creek	455	Not Studied	0.4	1 @ 8' X 8' RCBC	Retain and extend	100 ft
13	I-85	35.263790	-81.059264	SBH	11-129	UT to South Fork Catawba River	1,366	Not Studied	0.5	1 @ 8' X 8' RCBC	Retain and extend	78 ft
14	I-85	35.264287	-81.077664	SQ	11-129-(15.5)	South Fork Catawba River	1,068	Detailed	640	Lt: 2 @ 65', 1 @ 50', 5 @ 61'-3", (1 @ 65', 3 @ 80', 1 @ 65' CONT.), RC deck on steel plate girders and RC caps. Rt: 2 @ 65', 5 @ 61'-3", (1 @ 65', 3 @ 80', 1 @ 65' CONT.), 1 @ 65' RC deck on steel plate girders and RC caps.	Retain existing and widen	0 (bridge)
15	US 29/74 (Wilkinson Blvd)	35.252614	-81.039000	SBC	11-123-(1)	UT at Belmont Abbey College	390	Not Studied	0.04	1 @ 4' X 6' RCBC	Retain and extend	103 ft

¹ Major hydraulic structure recommendations are preliminary recommendations and subject to change as drainage design progresses.

5. Next Steps

NCDOT proposes the next Merger Meeting to be a combination of CP 3 and CP 4A (LEDPA and Avoidance & Minimization). Prior to the next Merger Meeting, NCDOT will complete the impacts analyses and update costs, as appropriate. It is anticipated that the CP 3/4A meeting will be held in November 2022; Merger Team members will be notified of any changes that require a revision of this timetable.

Section 404/NEPA Merger Project Team Meeting Agreement
Concurrence Point No. 2A
Project Purpose and Need and Study Area Defined

STIP Project I-5719: I-85 Widening Improvements from US 321 to NC 273.

STIP Project U-5800: Improvements to NC 7 (S. Main Street) and US 29/74 (Wilkinson Boulevard) Intersection.

The Merger Team has concurred on this date of June 15, 2022, on the major hydraulics structures as shown in **Table 8** of the CP2A Merger Packet for STIP Projects I-5719/U-5800.

USACE _____ FHWA _____

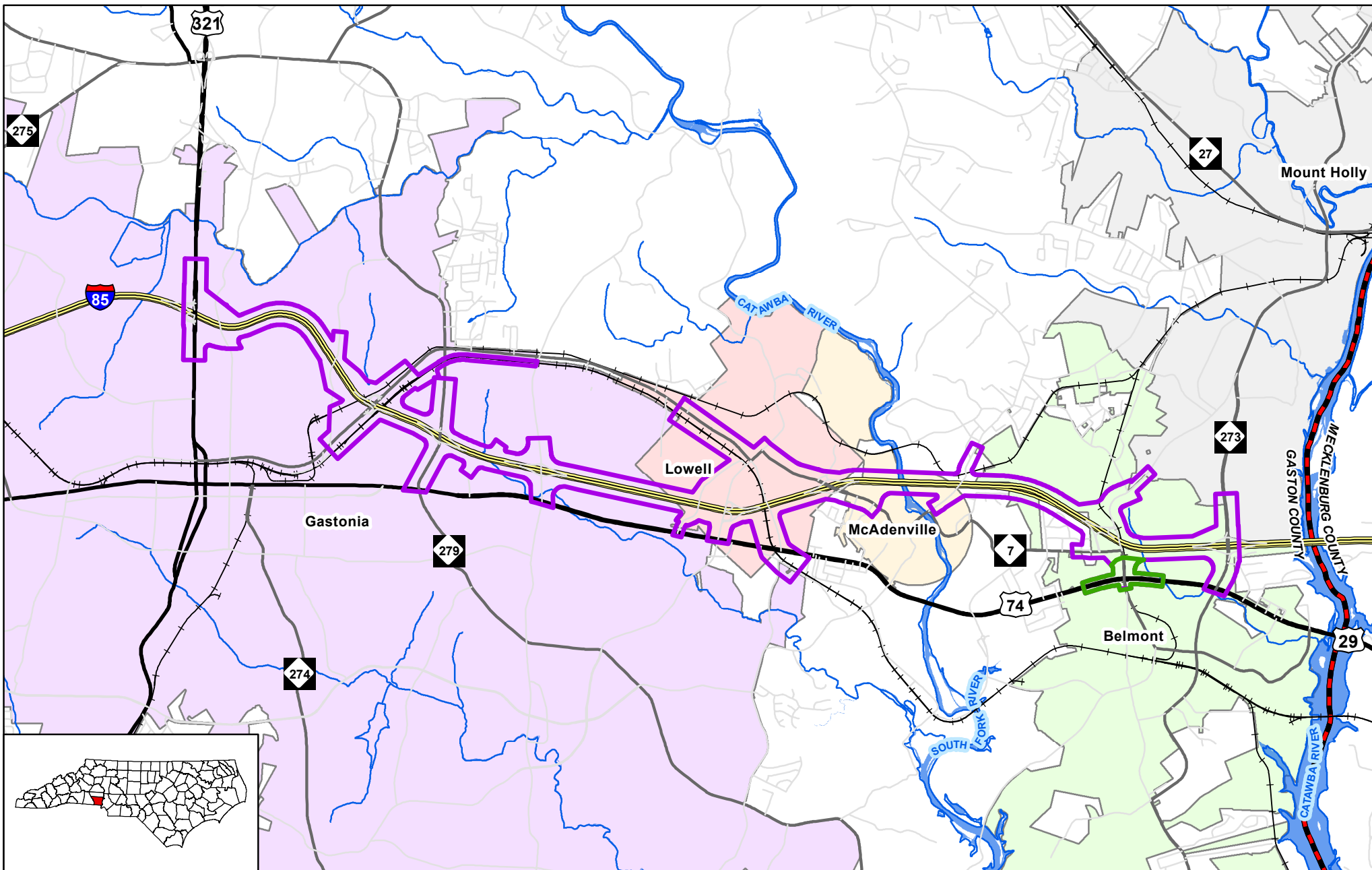
USEPA _____ NCDOT _____

USFWS _____ NCHPO _____

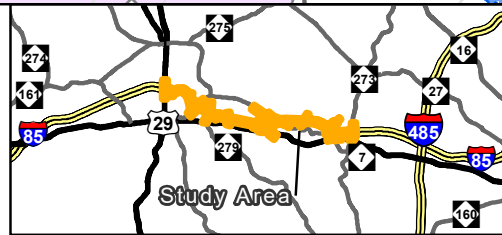
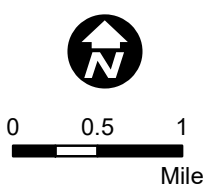
NCDWR _____ GCLMPO _____

NCWRC _____

CP2A Merger Packet Figures



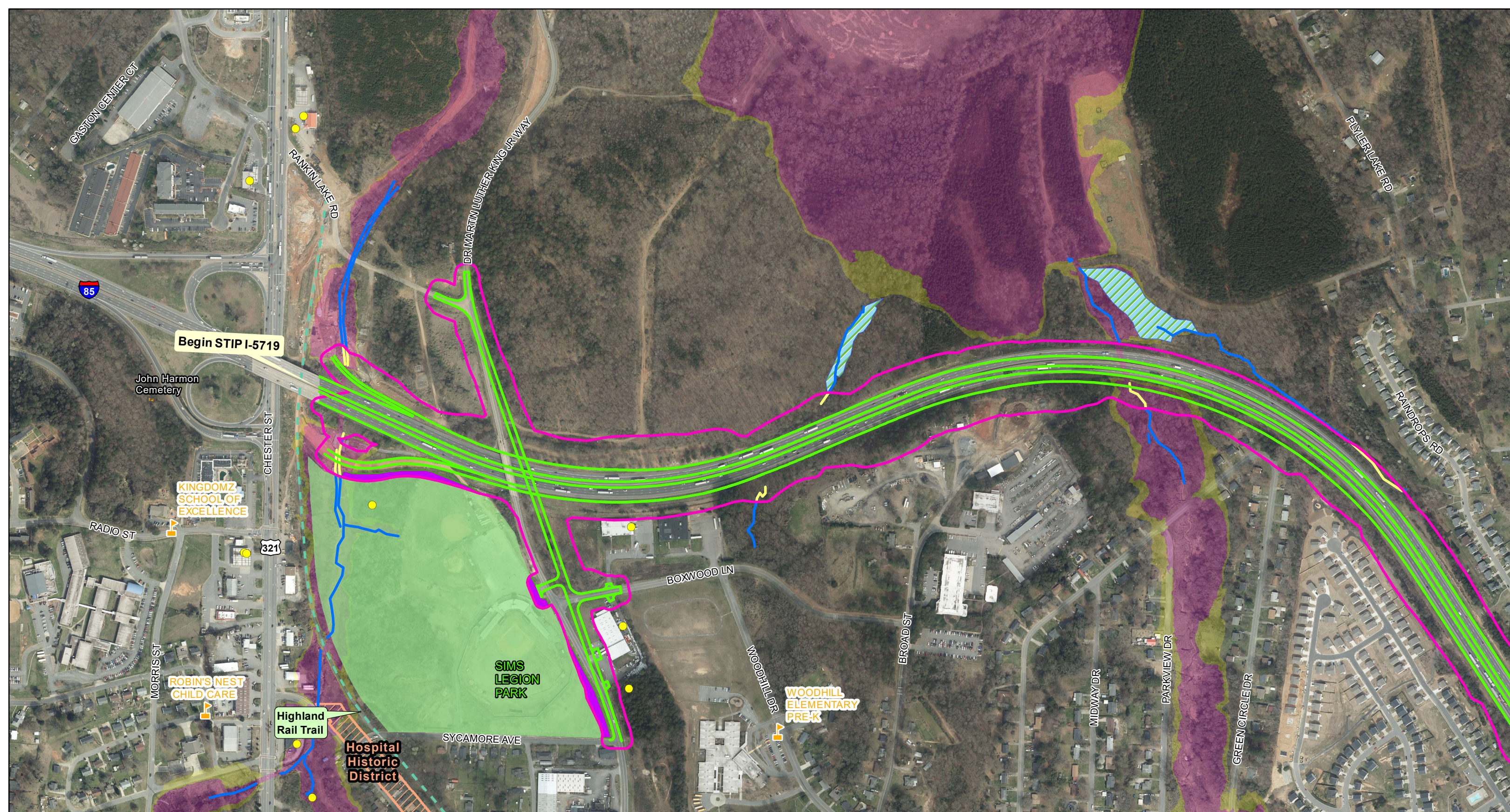
- Legend**
- I-5719 Study
 - U-5800 Study
 - City of Belmont
 - City of Gastonia
 - City of Lowell
 - Town of McAdenville
 - City of Mount Holly
 - County Boundary
 - River
 - Stream
 - US Highway
 - NC Highway
 - Local Road
 - Railroad
 - Interstate



Project Location Map
Figure 1

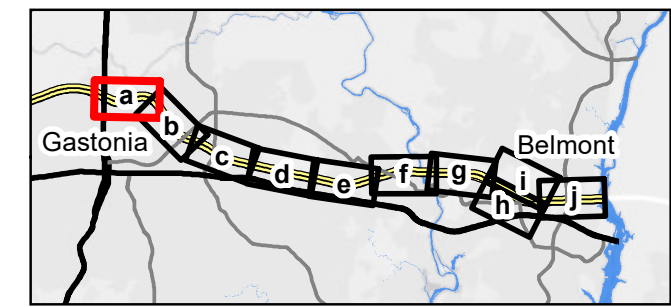
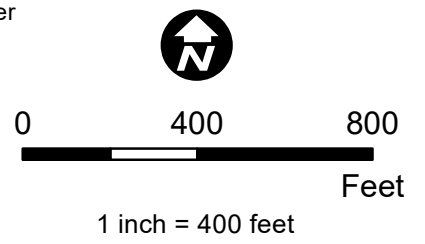
I-85 Widening
STIP I-5719 and U-5800
Gaston County

Source: NCDOT, NC OneMap, ATLAS, HNTB (2022)



Legend

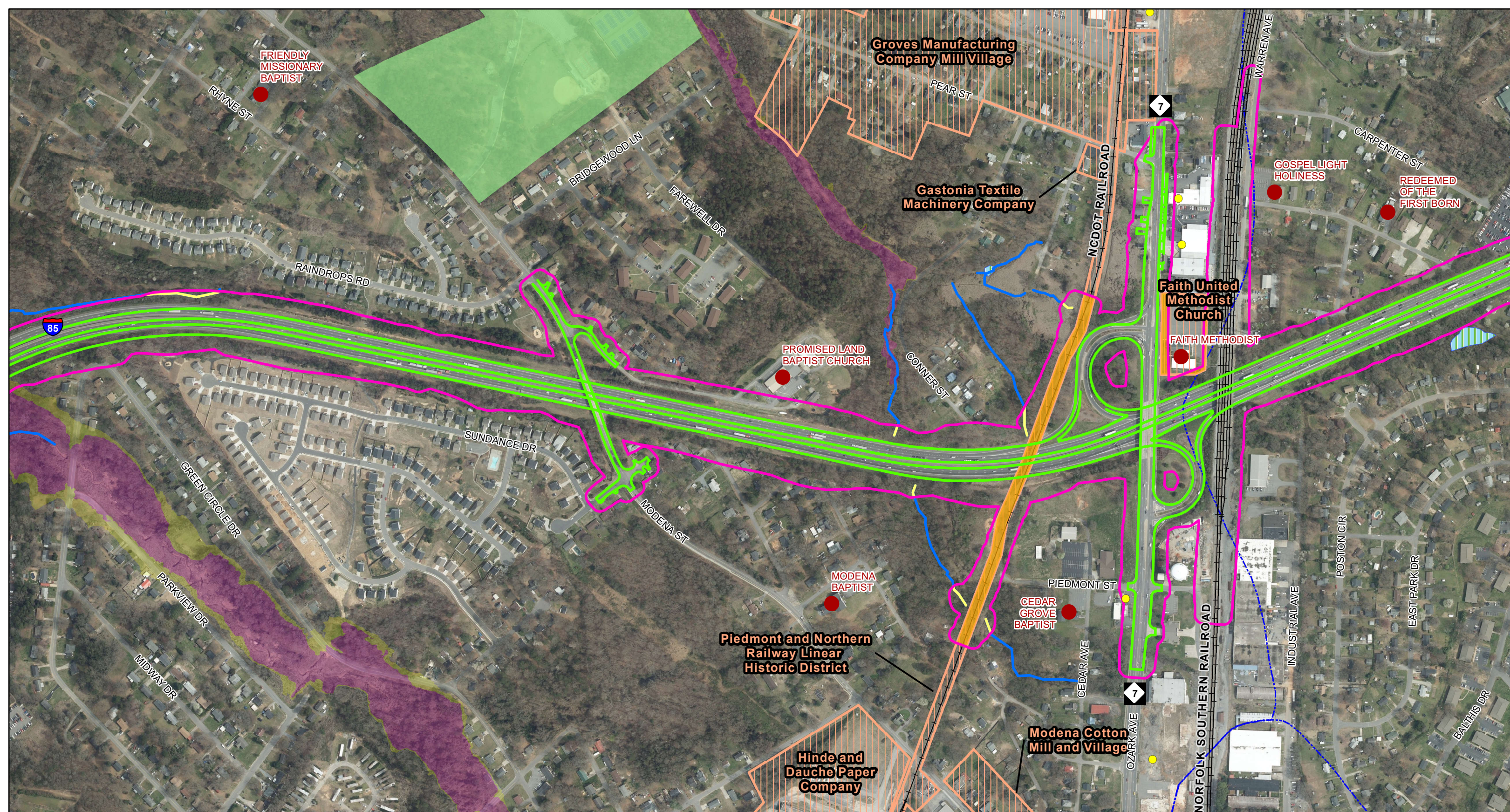
- | | | | |
|--|-------------------------|------------------------------------|-------|
| I-5719 Slope Stake Limits plus 40 feet | Delineated Streams | 500-Year Floodplain | River |
| U-5800 Slope Stake Limits plus 40 feet | Delineated Wetlands | 100-Year Floodplain | |
| Proposed Edge of Travel | NCHPO Historic Boundary | Water Supply Watershed - Critical | |
| Potential Stream Impacts | Park | Water Supply Watershed - Protected | |
| Potential Wetland Impacts | Hazardous Waste Sites | Targeted Watershed | |
| Potential Historic Impacts | Places of Worship | Greenway/Blueway | |
| Potential Park Impacts | Cemetery | Railroad | |



Potential Impacts Map
Figure 2a

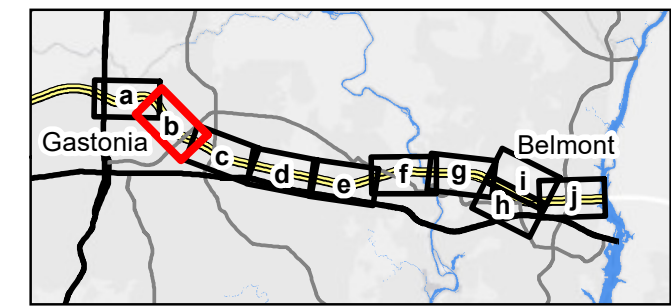
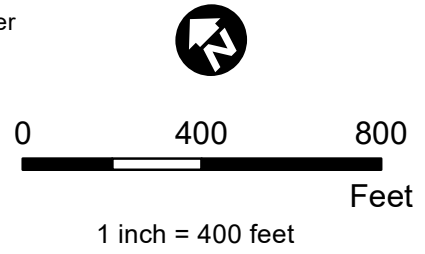
I-85 Widening
STIP Projects I-5719 and U-5800
Gaston County

Source: NCDOT, NC OneMap, ATLAS, HNTB (2022)



Legend

- I-5719 Slope Stake Limits plus 40 feet
- U-5800 Slope Stake Limits plus 40 feet
- Proposed Edge of Travel
- Potential Stream Impacts
- Potential Wetland Impacts
- Potential Historic Impacts
- Potential Park Impacts
- Delineated Streams
- Delineated Wetlands
- NCHPO Historic Boundary
- Park
- Hazardous Waste Sites
- Places of Worship
- Cemetery
- 500-Year Floodplain
- 100-Year Floodplain
- Water Supply Watershed - Critical
- Water Supply Watershed - Protected
- Targeted Watershed
- Greenway/Blueway
- Railroad
- River

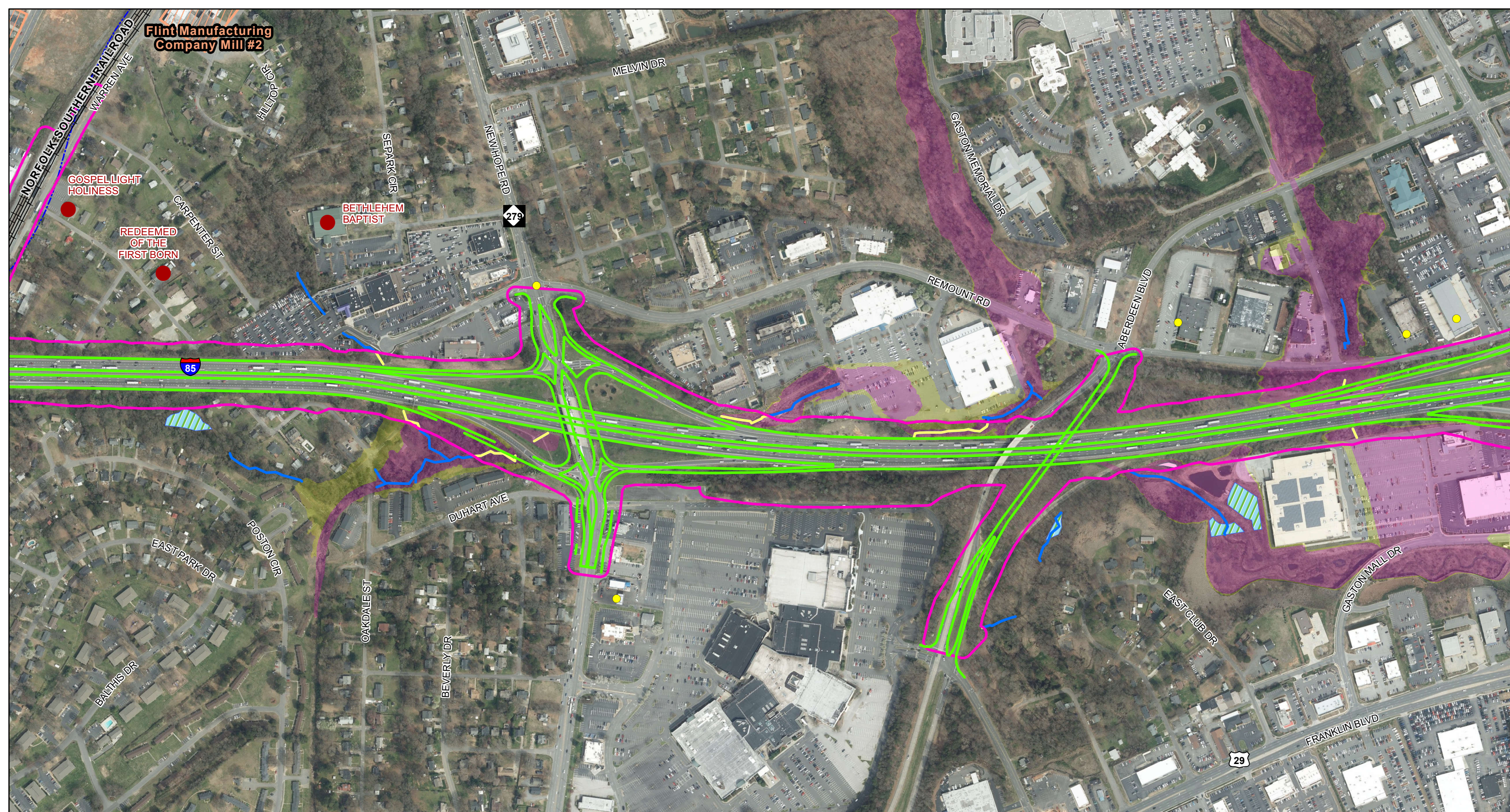


Potential Impacts Map

Figure 2b

I-85 Widening
STIP Projects I-5719 and U-5800
Gastonia County

Source: NCDOT, NC OneMap, ATLAS, HNTB (2022)



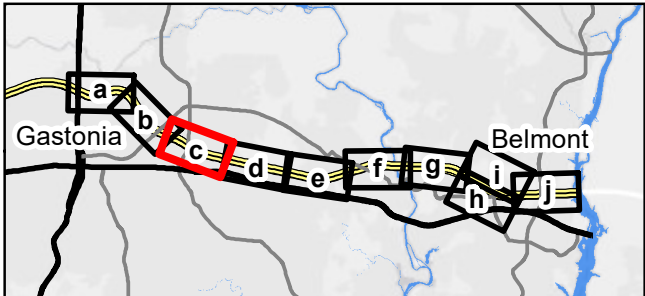
Legend

I-5719 Slope Stake Limits plus 40 feet	Delineated Streams	500-Year Floodplain	River
U-5800 Slope Stake Limits plus 40 feet	Delineated Wetlands	100-Year Floodplain	North
Proposed Edge of Travel	NCHPO Historic Boundary	Water Supply Watershed - Critical	0 400 800 Feet
Potential Stream Impacts	Park	Water Supply Watershed - Protected	1 inch = 400 feet
Potential Wetland Impacts	Hazardous Waste Sites	Targeted Watershed	
Potential Historic Impacts	Places of Worship	Greenway/Blueway	
Potential Park Impacts	Cemetery	Railroad	

Potential Impacts Map
Figure 2c

I-85 Widening
 STIP Projects I-5719 and U-5800
 Gaston County

Source: NCDOT, NC OneMap, ATLAS, HNTB (2022)

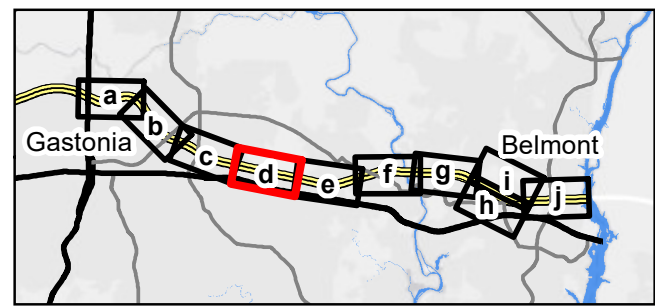
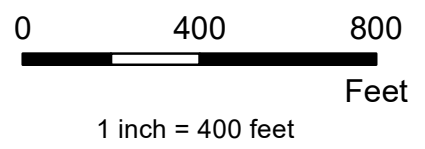




**Caleb John
Lineberger House**

Legend

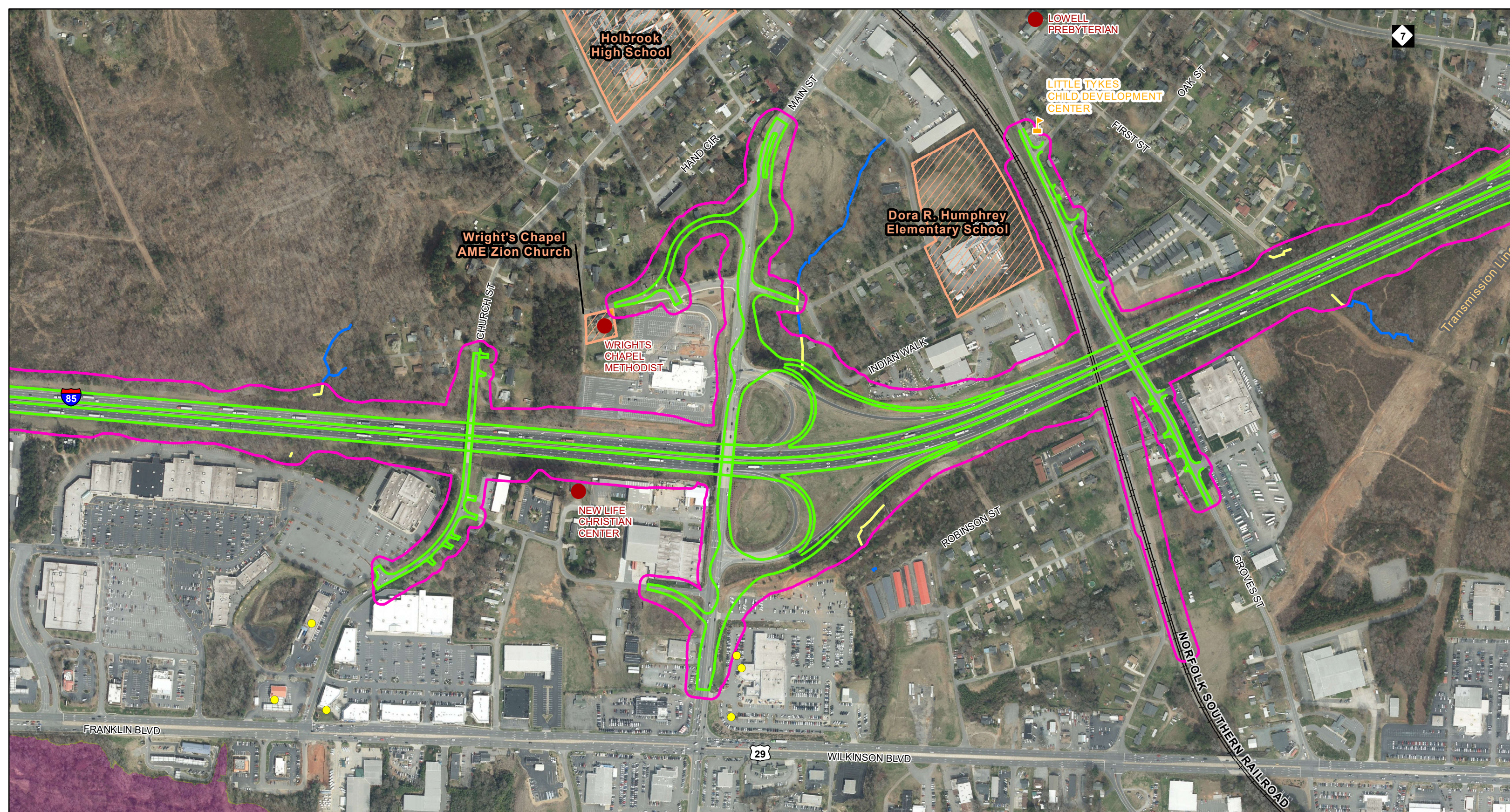
- I-5719 Slope Stake Limits plus 40 feet
- U-5800 Slope Stake Limits plus 40 feet
- Proposed Edge of Travel
- Potential Stream Impacts
- Potential Wetland Impacts
- Potential Historic Impacts
- Potential Park Impacts
- Delineated Streams
- Delineated Wetlands
- NCHPO Historic Boundary
- Park
- Hazardous Waste Sites
- Places of Worship
- Cemetery
- 500-Year Floodplain
- 100-Year Floodplain
- Water Supply Watershed - Critical
- Water Supply Watershed - Protected
- Targeted Watershed
- Greenway/Blueway
- Railroad
- River



**Potential Impacts Map
Figure 2d**

I-85 Widening
STIP Projects I-5719 and U-5800
Gaston County

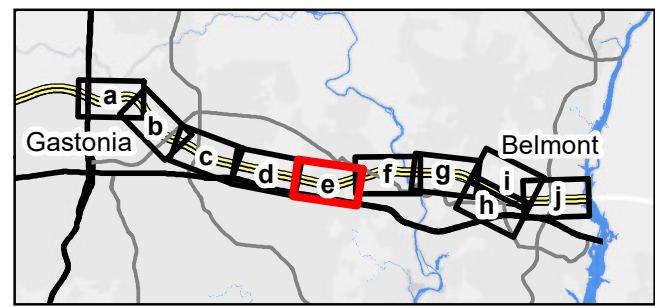
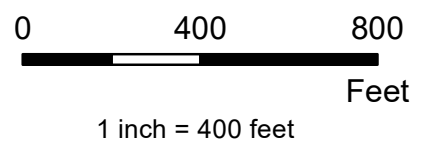
Source: NCDOT, NC OneMap, ATLAS, HNTB (2022)



7

Legend

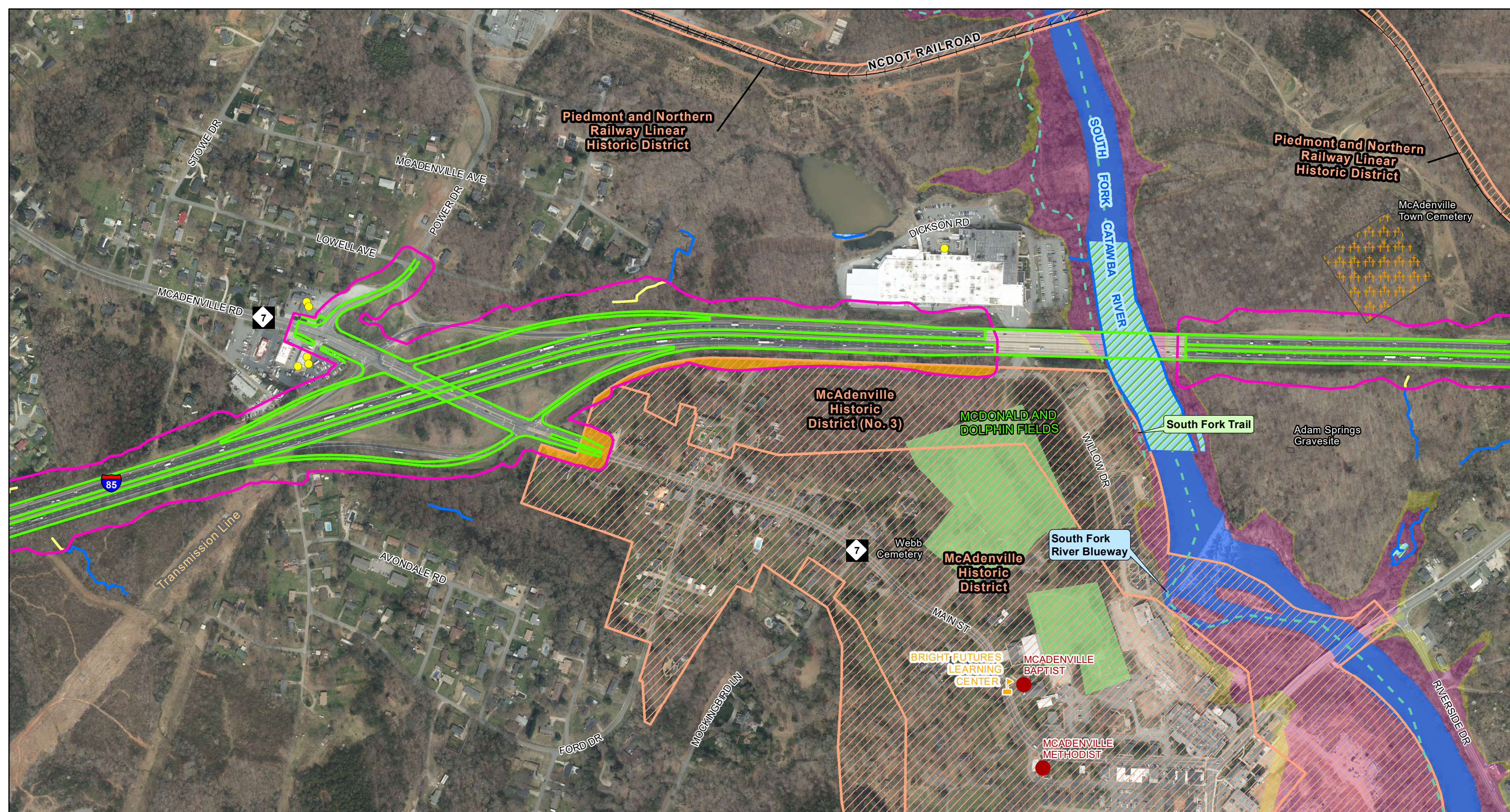
- I-5719 Slope Stake Limits plus 40 feet
- U-5800 Slope Stake Limits plus 40 feet
- Proposed Edge of Travel
- Potential Stream Impacts
- Potential Wetland Impacts
- Potential Historic Impacts
- Potential Park Impacts
- Delineated Streams
- Delineated Wetlands
- Park
- Hazardous Waste Sites
- Places of Worship
- Cemetery
- 500-Year Floodplain
- 100-Year Floodplain
- Water Supply Watershed - Critical
- Water Supply Watershed - Protected
- Targeted Watershed
- Greenway/Blueway
- Railroad
- River



Potential Impacts Map
Figure 2e

I-85 Widening
STIP Projects I-5719 and U-5800
Gaston County

Source: NCDOT, NC OneMap, ATLAS, HNTB (2022)



Piedmont and Northern Railway Linear Historic District

Piedmont and Northern Railway Linear Historic District

McAdenville Historic District (No. 3)

MCDONALD AND DOLPHIN FIELDS

McAdenville Historic District

BRIGHT FUTURES LEARNING CENTER

MCADENVILLE BAPTIST

MCADENVILLE METHODIST

South Fork Trail

South Fork River Blueway

Adam Springs Gravesite

McAdenville Town Cemetery

DICKSON RD

WILLOW DR

MAIN ST

RIVERSIDE DR

MOCKNERD LN

FORD DR

AVONDALE RD

Transmission Line

MCADENVILLE RD

LOWELL AVE

MCADENVILLE AVE

POWER DR

STOWE DR

NCDOT RAILROAD

85

7

7

Webb Cemetery

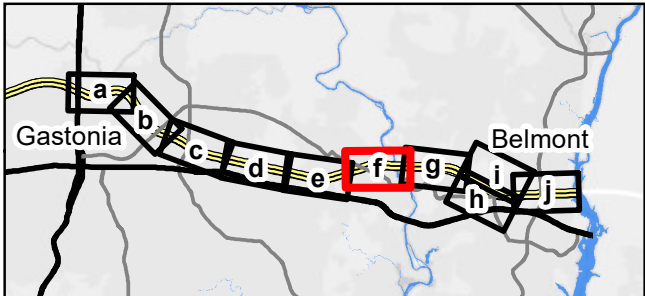
Legend

- I-5719 Slope Stake Limits plus 40 feet
- U-5800 Slope Stake Limits plus 40 feet
- Proposed Edge of Travel
- Potential Stream Impacts
- Potential Wetland Impacts
- Potential Historic Impacts
- Potential Park Impacts
- Delineated Streams
- Delineated Wetlands
- NCHPO Historic Boundary
- Park
- Hazardous Waste Sites
- Places of Worship
- Cemetery
- 500-Year Floodplain
- 100-Year Floodplain
- Water Supply Watershed - Critical
- Water Supply Watershed - Protected
- Targeted Watershed
- Greenway/Blueway
- Railroad
- River



0 400 800 Feet

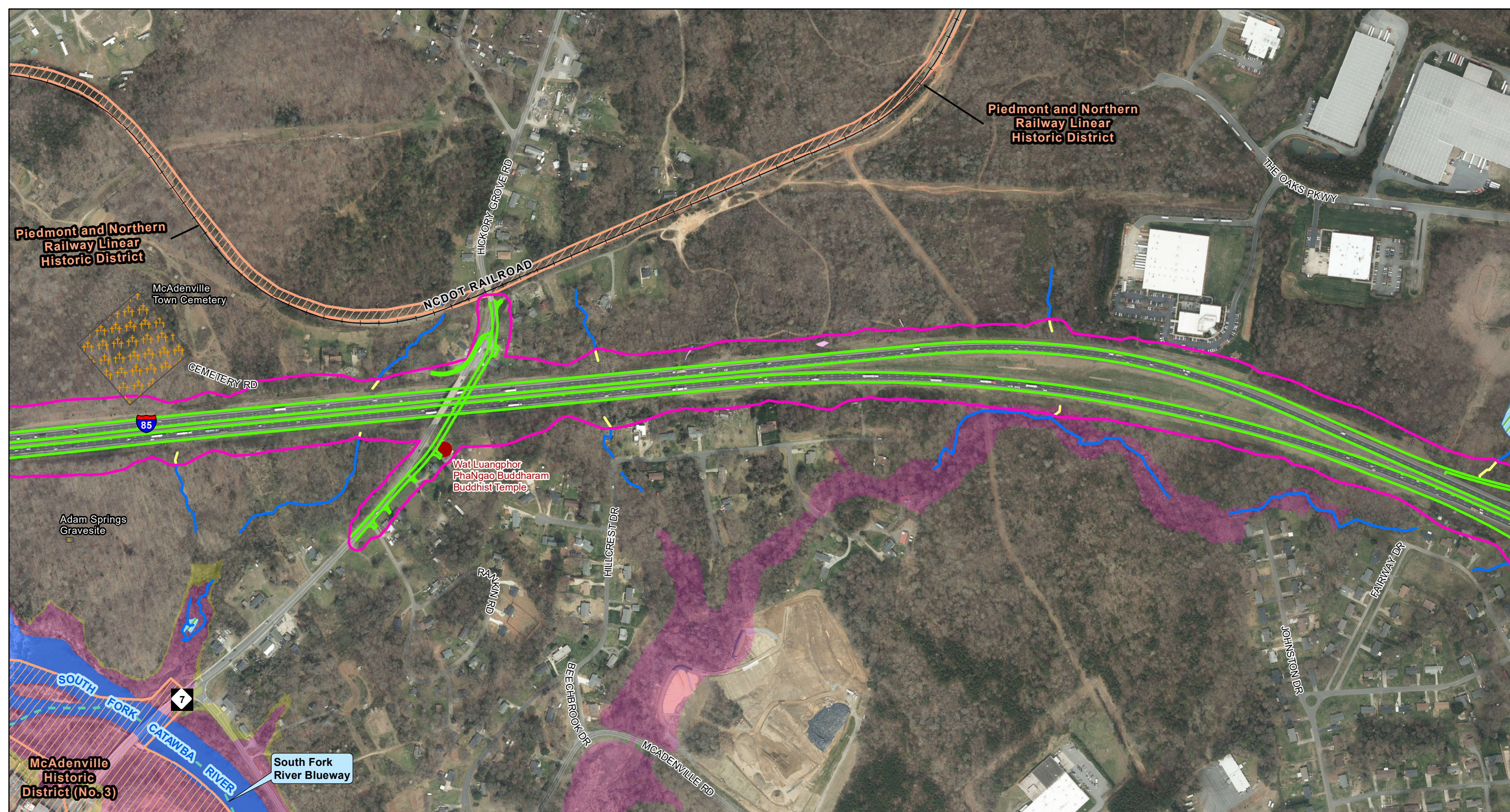
1 inch = 400 feet



**Potential Impacts Map
Figure 2f**

I-85 Widening
STIP Projects I-5719 and U-5800
Gaston County

Source: NCDOT, NC OneMap, ATLAS, HNTB (2022)



Piedmont and Northern Railway Linear Historic District

Piedmont and Northern Railway Linear Historic District

McAdenville Town Cemetery

CEMETERY RD

85

Wat Luangphor
PhaNgao Buddharam
Buddhist Temple

Adam Springs Gravesite

RANKIN RD

HILLCREST DR

BEECHBROOK DR

MCADENVILLE RD

JOHNSTON DR

FAIRWAY DR

McAdenville Historic District (No. 3)

South Fork River Blueway

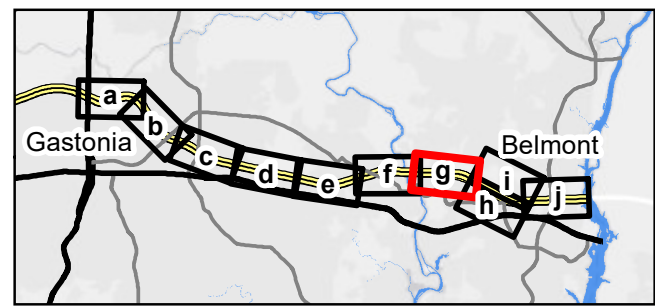
Legend

- I-5719 Slope Stake Limits plus 40 feet
- U-5800 Slope Stake Limits plus 40 feet
- Proposed Edge of Travel
- Potential Stream Impacts
- Potential Wetland Impacts
- Potential Historic Impacts
- Potential Park Impacts
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- Cemetery
- 500-Year Floodplain
- 100-Year Floodplain
- Water Supply Watershed - Critical
- Water Supply Watershed - Protected
- Targeted Watershed
- Greenway/Blueway
- Railroad
- River



0 400 800 Feet

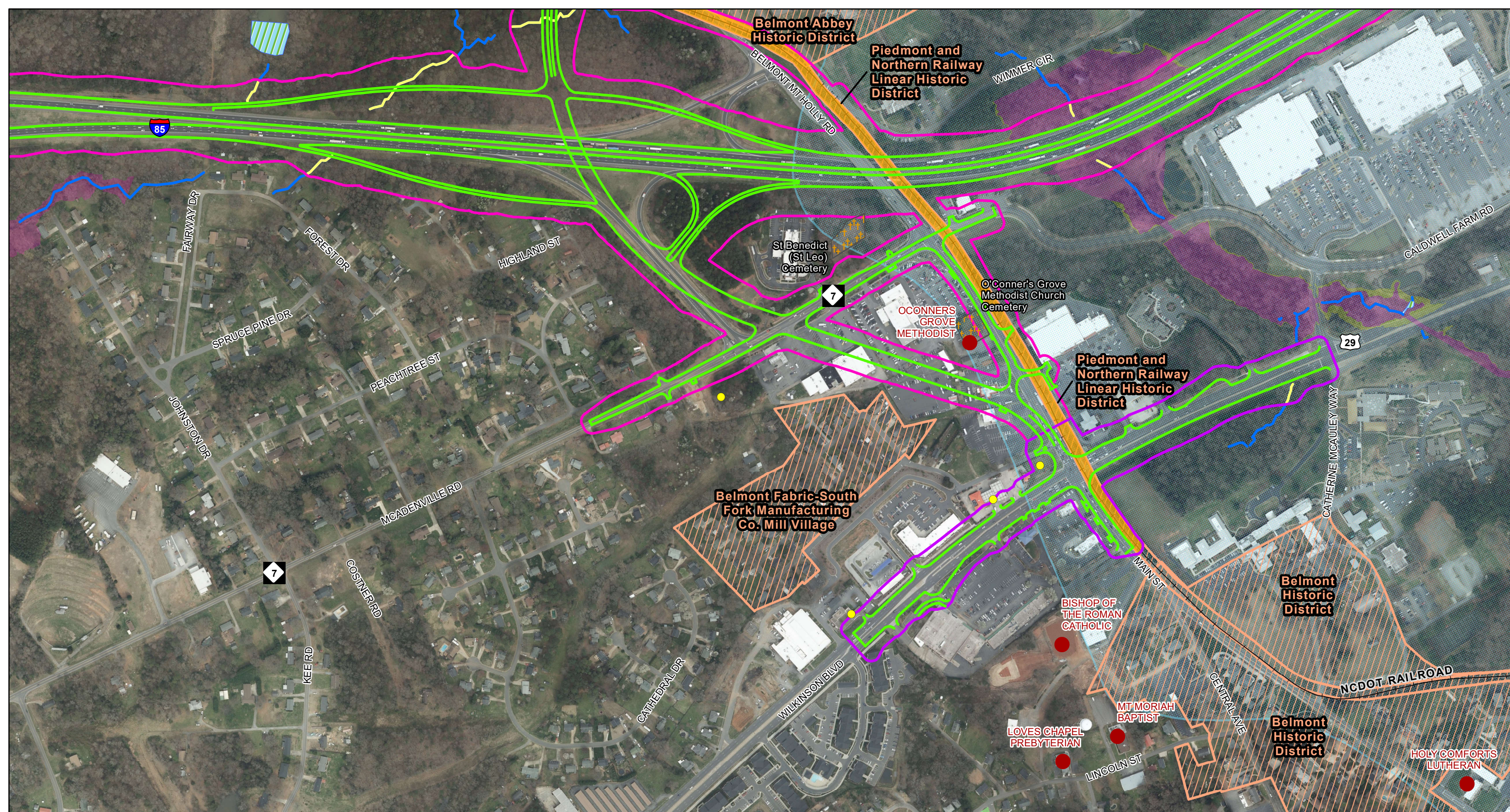
1 inch = 400 feet



**Potential Impacts Map
Figure 2g**

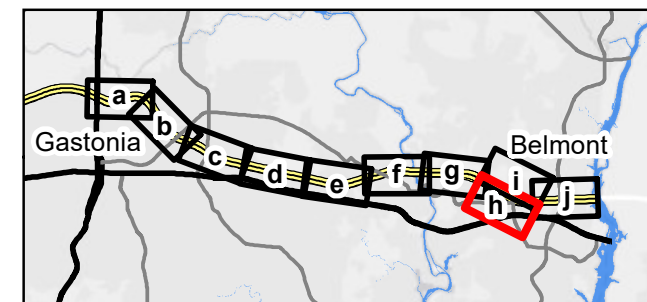
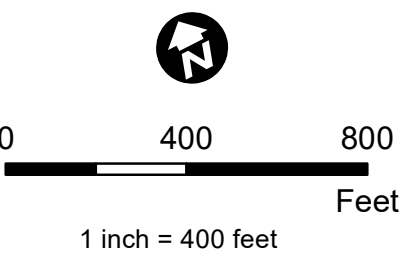
I-85 Widening
STIP Projects I-5719 and U-5800
Gaston County

Source: NCDOT, NC OneMap, ATLAS, HNTB (2022)



Legend

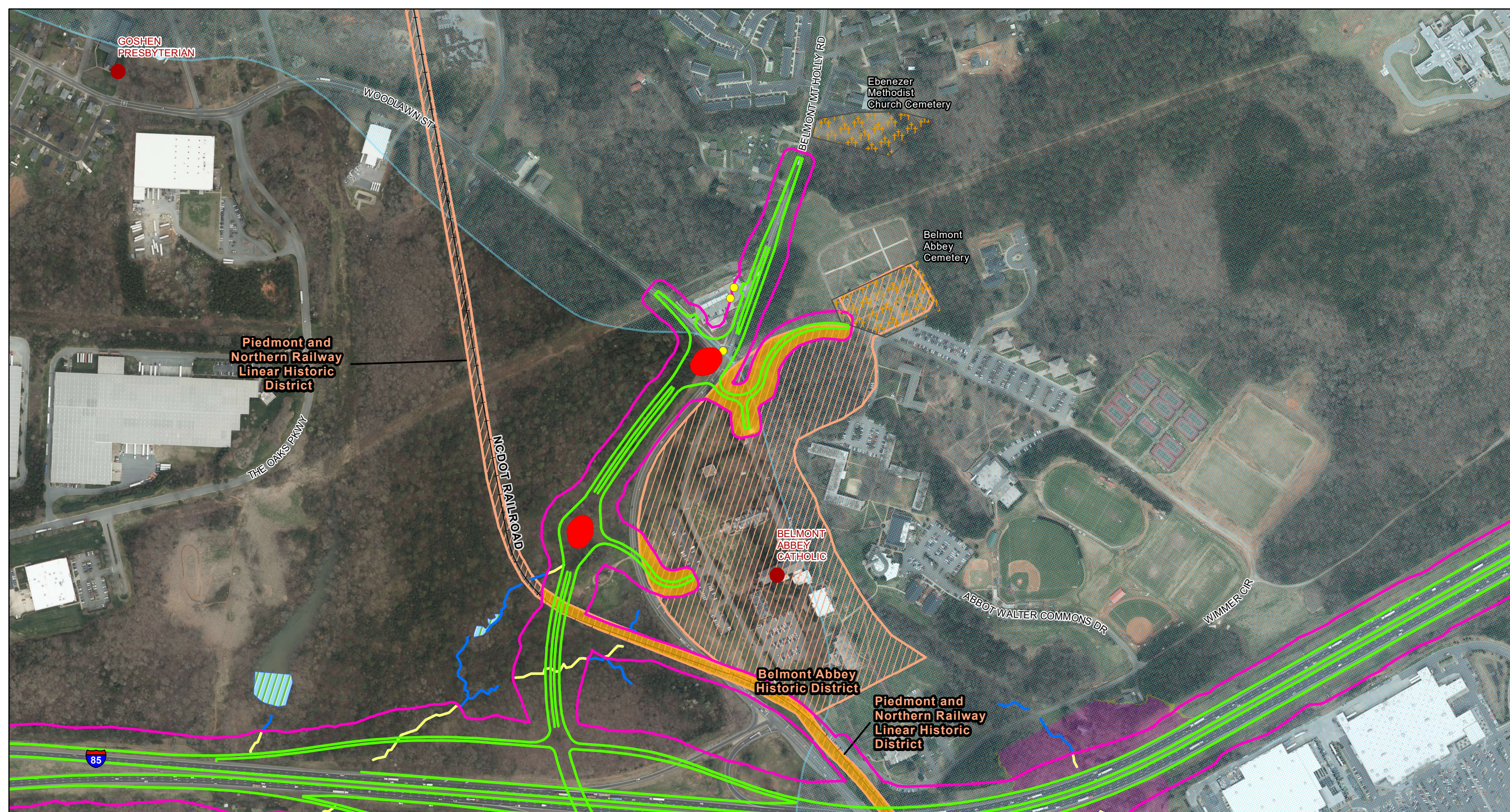
- I-5719 Slope Stake Limits plus 40 feet
- U-5800 Slope Stake Limits plus 40 feet
- Proposed Edge of Travel
- Potential Stream Impacts
- Potential Wetland Impacts
- Potential Historic Impacts
- Potential Park Impacts
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- Delineated Wetlands
- 500-Year Floodplain
- 100-Year Floodplain
- Water Supply Watershed - Critical
- Water Supply Watershed - Protected
- Targeted Watershed
- Greenway/Blueway
- Railroad
- NCHPO Historic Boundary
- Park
- Hazardous Waste Sites
- Places of Worship
- Cemetery
- River



Potential Impacts Map
Figure 2h

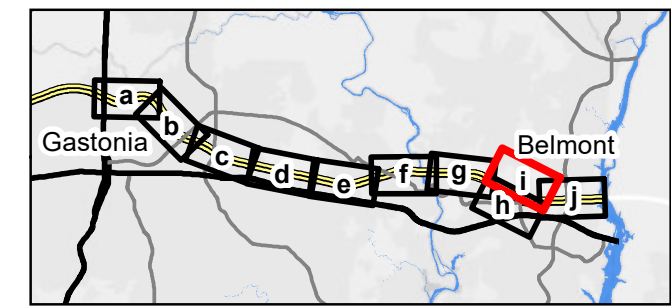
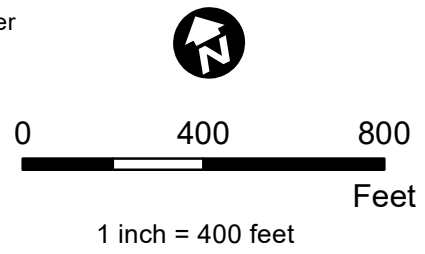
I-85 Widening
STIP Projects I-5719 and U-5800
Gaston County

Source: NCDOT, NC OneMap, ATLAS, HNTB (2022)



Legend

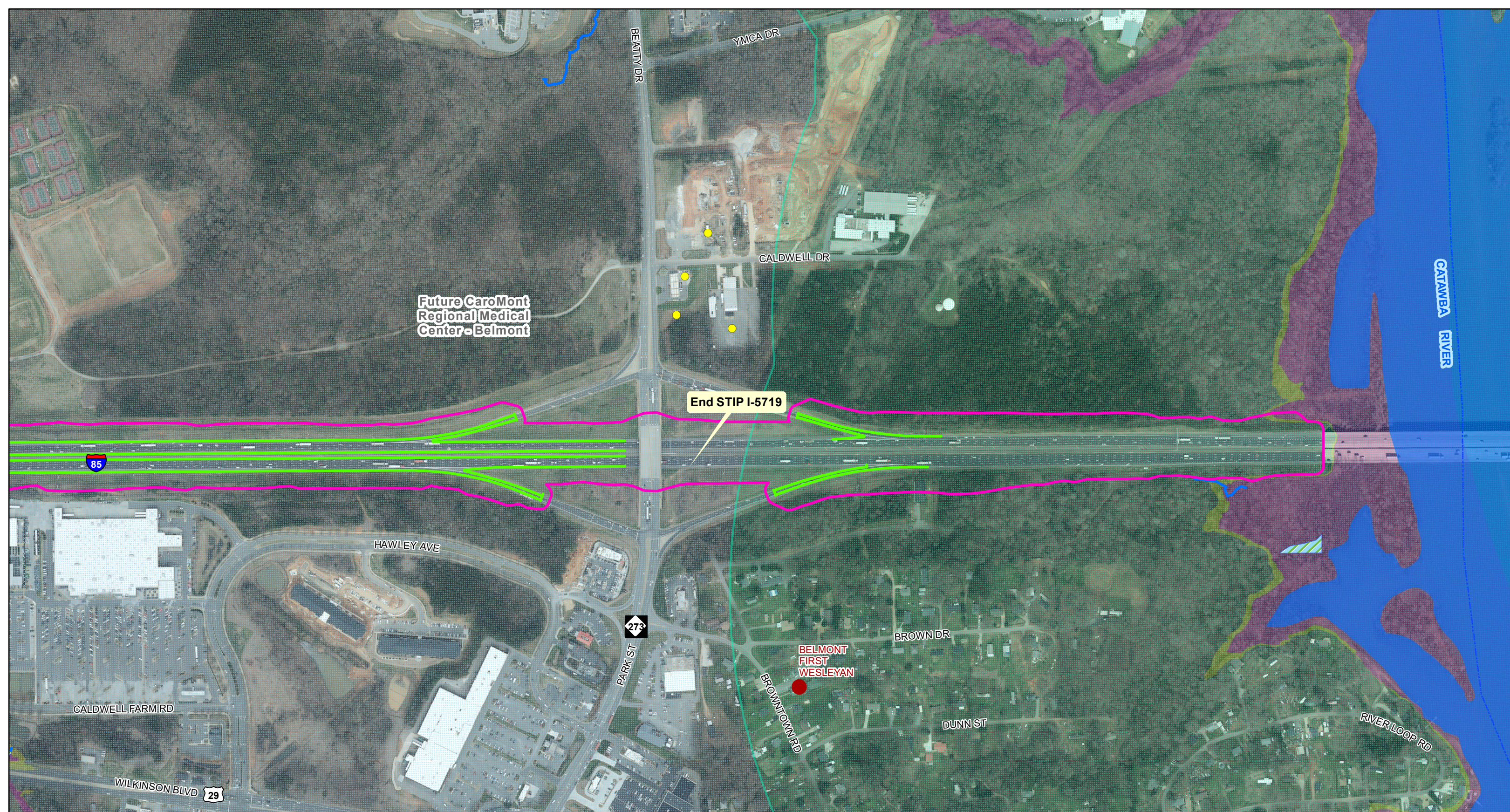
- I-5719 Slope Stake Limits plus 40 feet
- U-5800 Slope Stake Limits plus 40 feet
- Proposed Edge of Travel
- Potential Stream Impacts
- Potential Wetland Impacts
- Potential Historic Impacts
- Potential Park Impacts
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- Places of Worship
- Cemetery
- 500-Year Floodplain
- 100-Year Floodplain
- Water Supply Watershed - Critical
- Water Supply Watershed - Protected
- Targeted Watershed
- Greenway/Blueway
- Railroad
- River



**Potential Impacts Map
Figure 2i**

I-85 Widening
STIP Projects I-5719 and U-5800
Gaston County

Source: NCDOT, NC OneMap, ATLAS, HNTB (2022)



Future CaroMont
Regional Medical
Center - Belmont

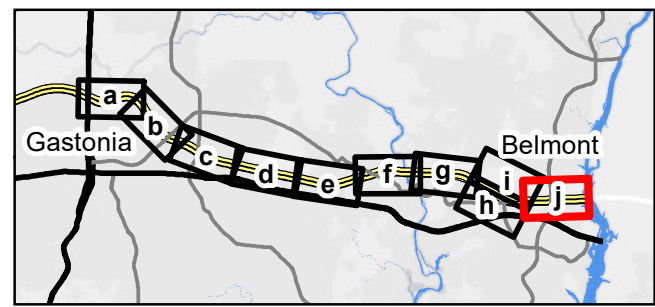
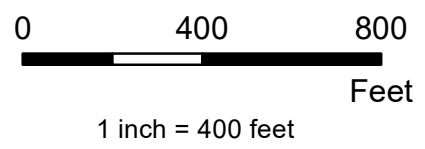
End STIP I-5719

BELMONT
FIRST
WESLEYAN

CATAWBA RIVER

Legend

- I-5719 Slope Stake Limits plus 40 feet
- U-5800 Slope Stake Limits plus 40 feet
- Proposed Edge of Travel
- Potential Stream Impacts
- Potential Wetland Impacts
- Potential Historic Impacts
- Potential Park Impacts
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- Cemetery
- 500-Year Floodplain
- 100-Year Floodplain
- Water Supply Watershed - Critical
- Water Supply Watershed - Protected
- Targeted Watershed
- Greenway/Blueway
- Railroad
- River

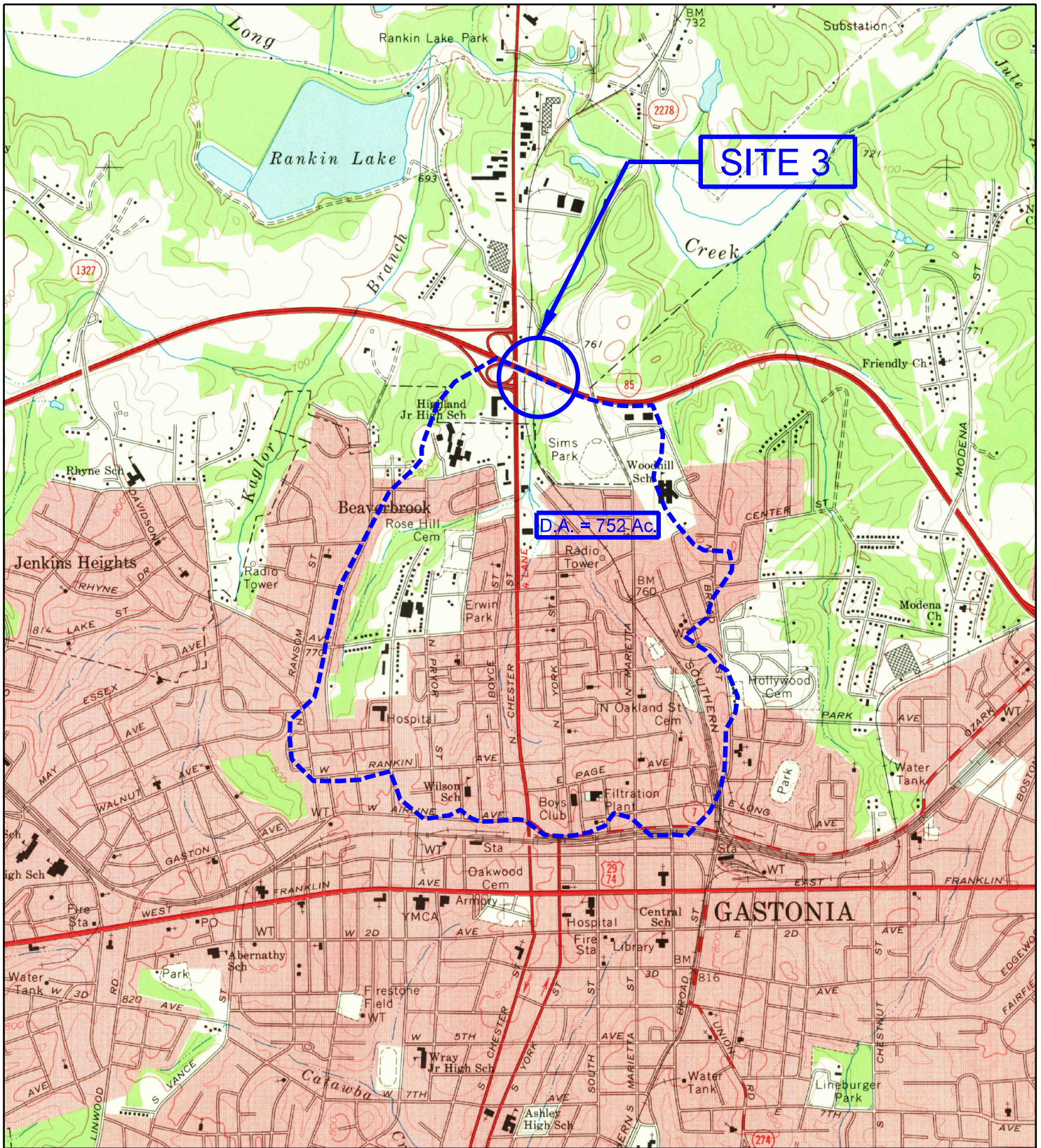


Potential Impacts Map
Figure 2j

I-85 Widening
STIP Projects I-5719 and U-5800
Gaston County

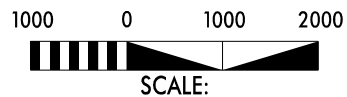
Source: NCDOT, NC OneMap, ATLAS, HNTB (2022)

Appendix A: Site Map and Site Information from Hydraulic Planning Report



QUAD MAP - SITE 3

T.I.P. No. I-5719
 I-85 Improvements From US 321
 to NC 273 in Gaston County





Looking at Upstream Face of 1 @ 7' x 9', 2 @ 8' x 9' RCBC



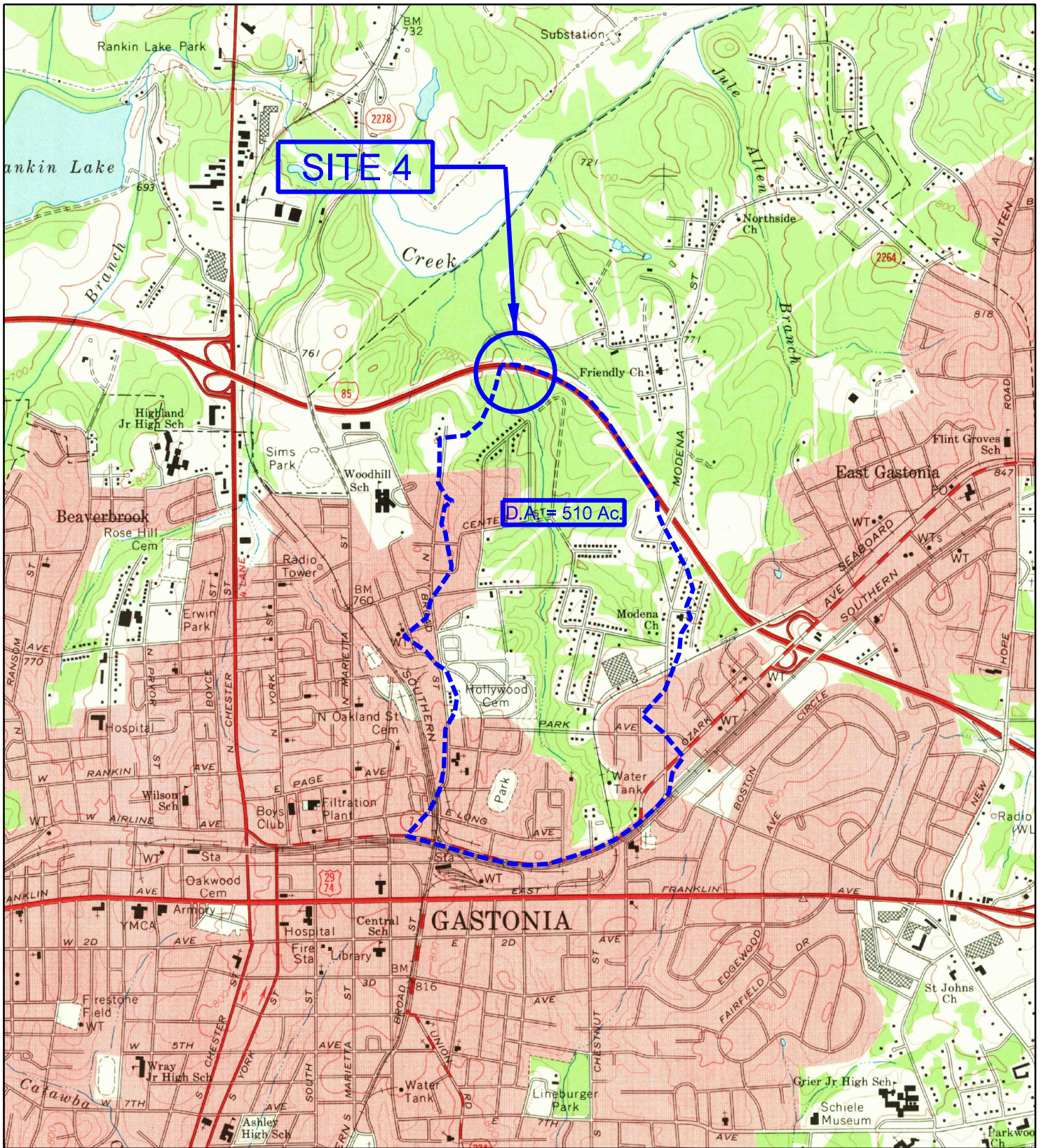
Looking Upstream from RCBC Inlet



Looking at Downstream Face of 1 @ 7' x 9', 2 @ 8' x 9' RCBC

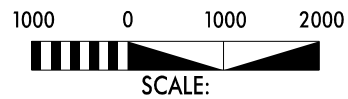


Looking Downstream from RCBC Outlet



QUAD MAP - SITE 4

T.I.P. No. I-5719
 I-85 Improvements From US 321
 to NC 273 in Gaston County





Looking at Upstream Face of 1 @ 9' x 9' RCBC



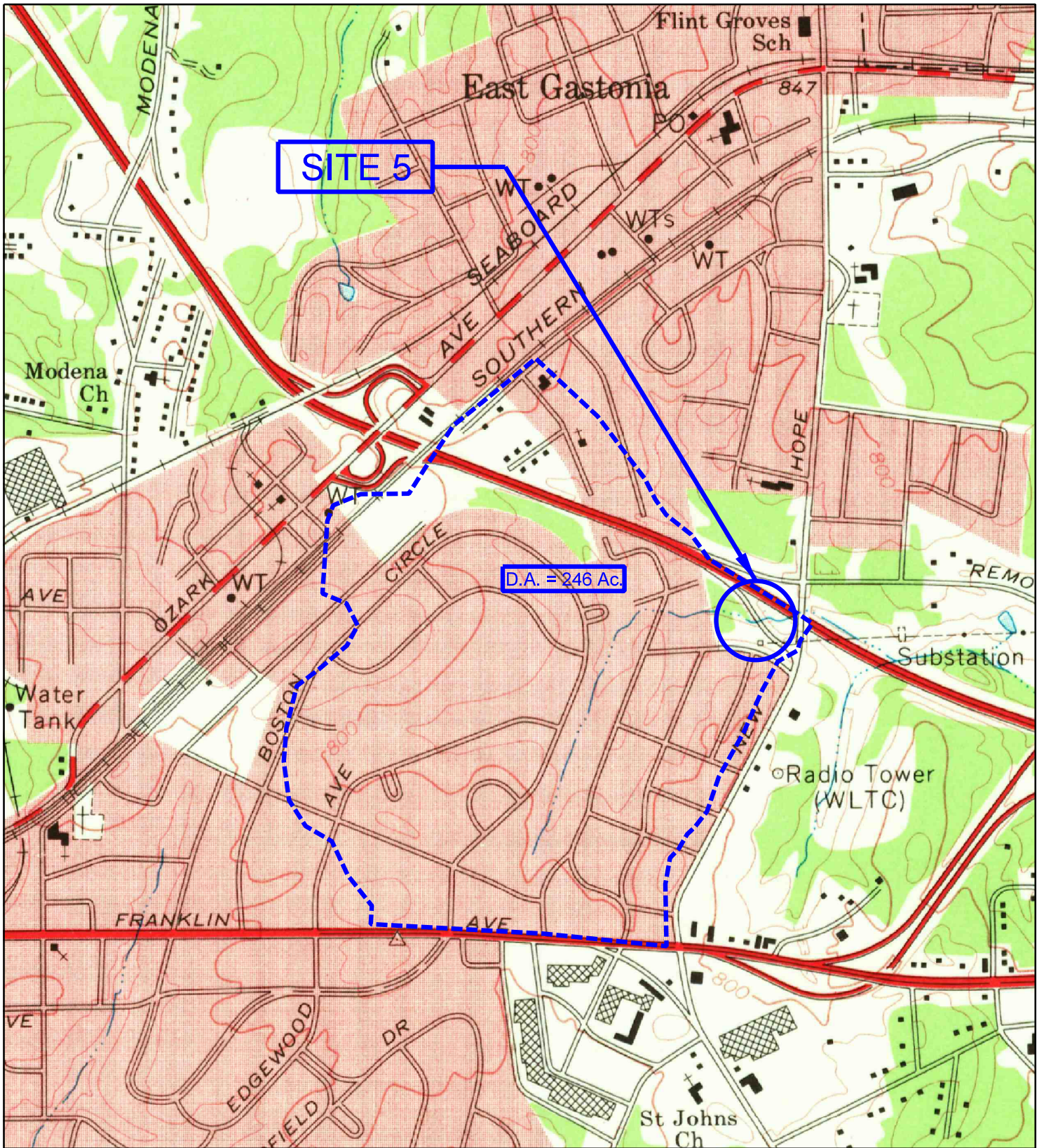
Looking Upstream from RCBC Inlet



Looking at Downstream Face of 1 @ 9' x 9' RCBC

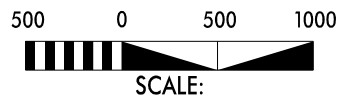


Looking Downstream from RCBC Outlet



QUAD MAP - SITE 5

T.I.P. No. I-5719
 I-85 Improvements From US 321
 to NC 273 in Gaston County





Looking at Upstream Face of 1 @ 8' x 9' RCBC



Looking Upstream from RCBC Inlet



Paved Ditch at Upstream Right



Cracking in Culvert



Looking at Downstream Face of 1 @ 8' x 9' RCBC



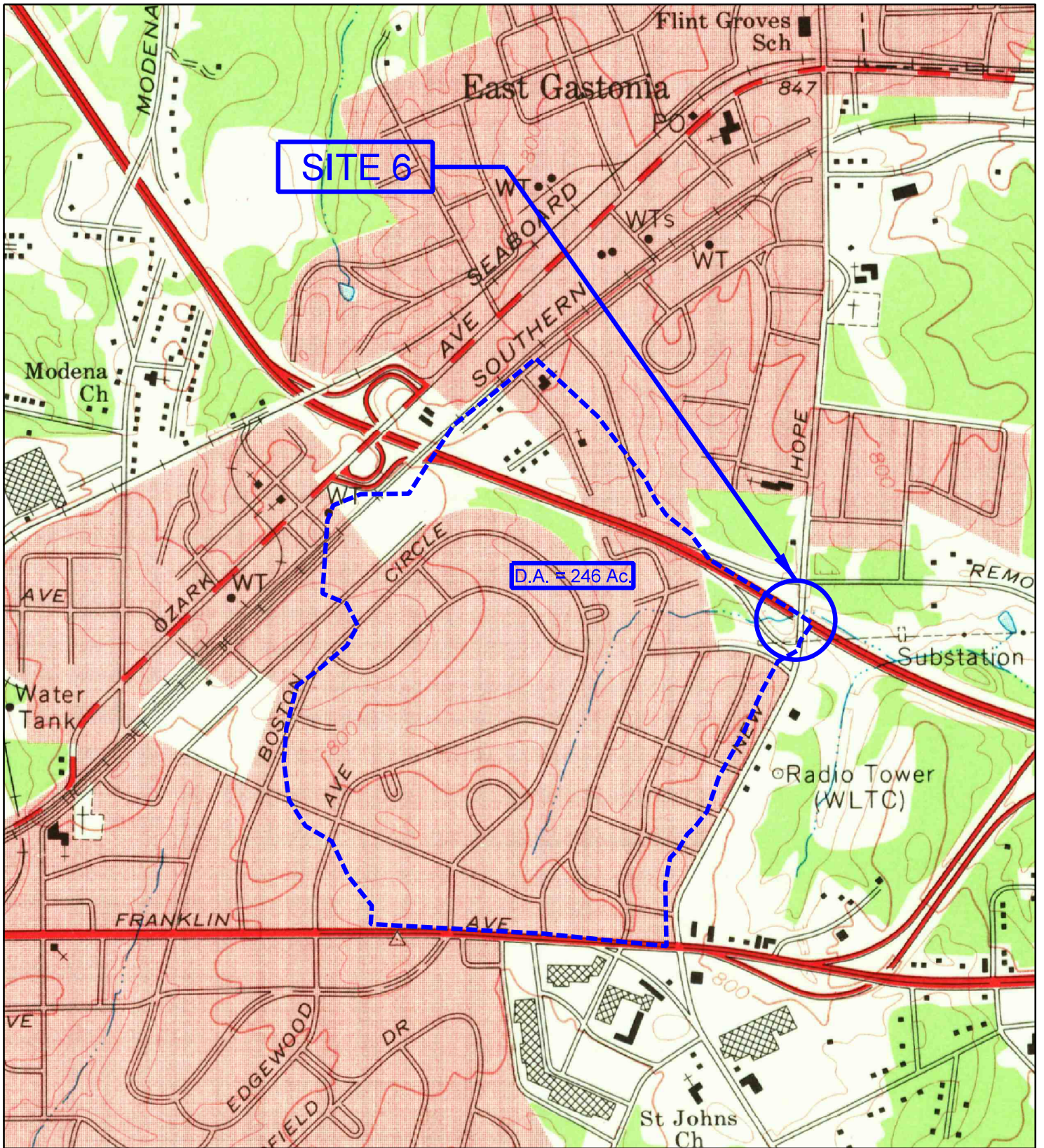
Looking Upstream Inside Culvert from Downstream End



Paved Ditch at Downstream Left

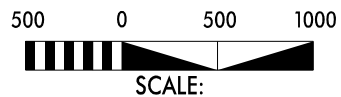


Looking Downstream from RCBC Outlet



QUAD MAP - SITE 6

T.I.P. No. I-5719
 I-85 Improvements From US 321
 to NC 273 in Gaston County





Looking at Upstream Face of 1 @ 8' x 9' RCBC



Looking Upstream from RCBC Inlet



Paved Ditch at Upstream Right



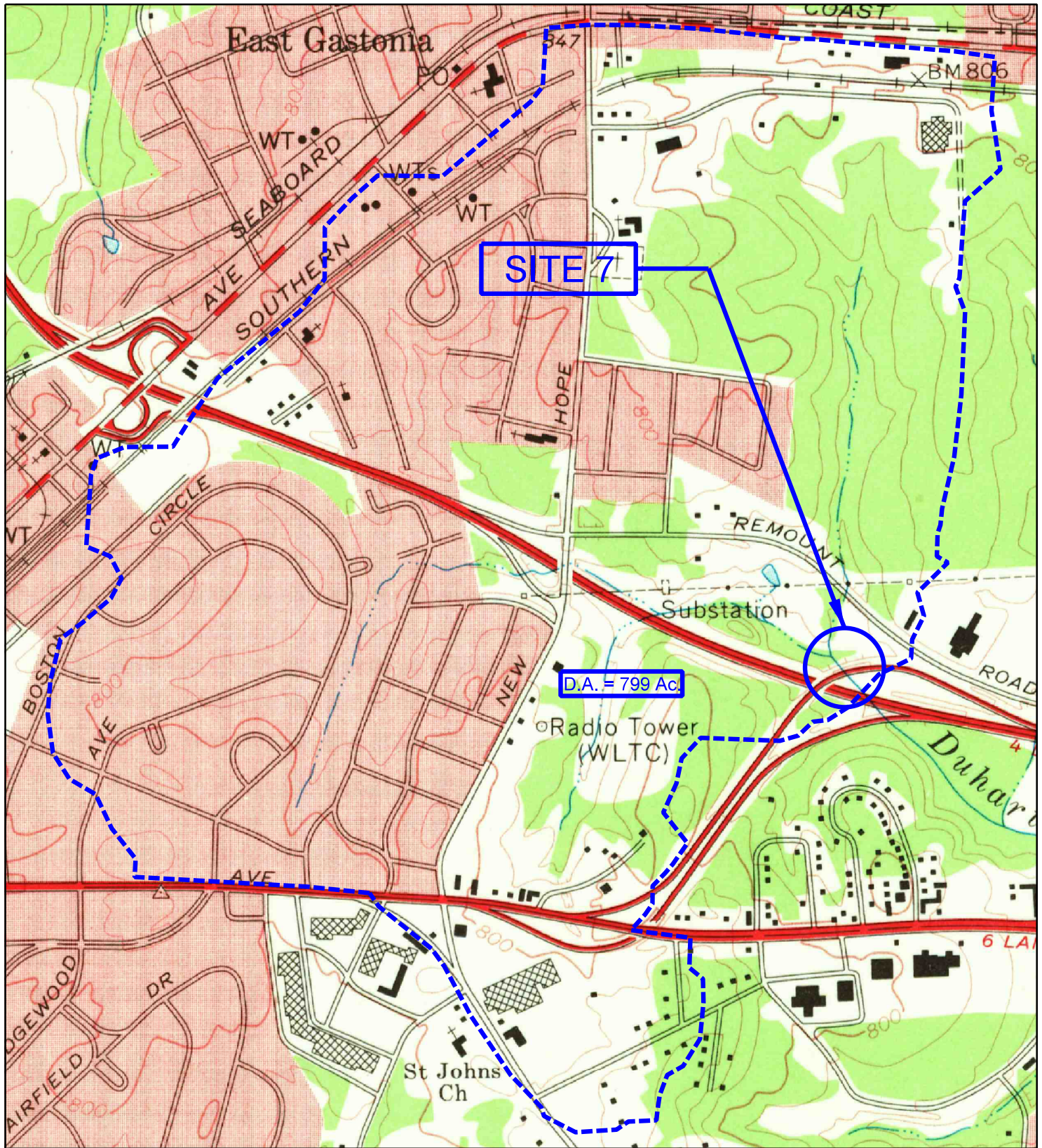
Paved Ditch at Upstream Right



Downstream Face of 1 @ 8' x 9' RCBC

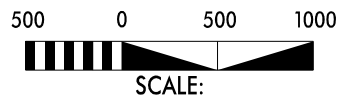


Looking Downstream from RCBC Outlet



QUAD MAP - SITE 7

T.I.P. No. I-5719
 I-85 Improvements From US 321
 to NC 273 in Gaston County





Looking at Upstream Face of 2 @ 8' x 9' RCBC



Looking Upstream from RCBC Inlet



Looking Upstream



Cracking in Right Barrel



Looking at Downstream Face of 2 @ 8' x 9' RCBC



Looking Downstream from RCBC Outlet



Looking at Upstream Face of 2 @ 54" RCP



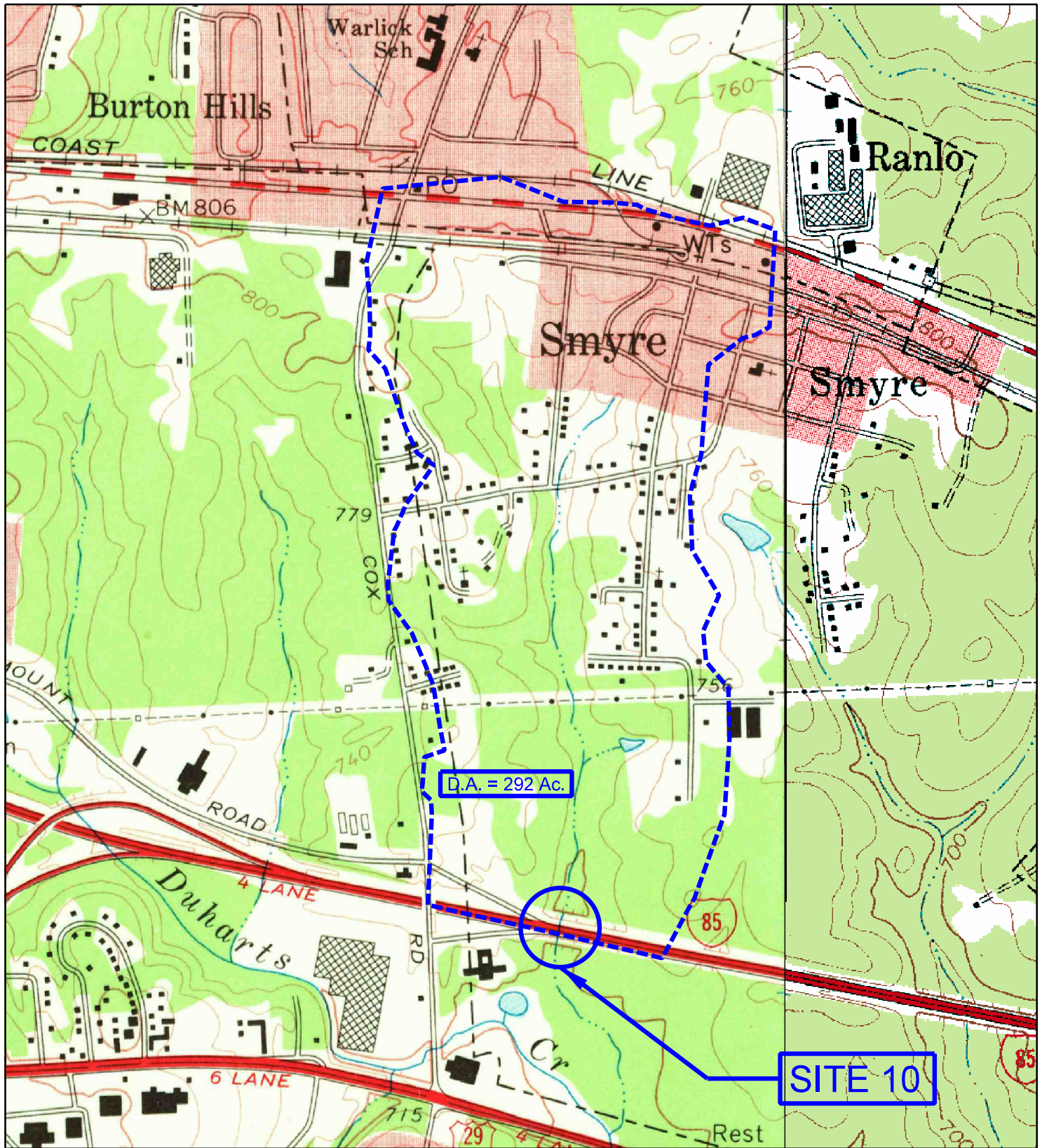
Looking Upstream from RCP Inlet



Looking at Downstream Face of 2 @ 54" RCP

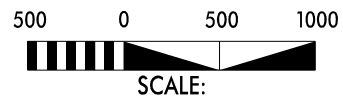


Looking Downstream from RCPs' Outlets



QUAD MAP - SITE 10

T.I.P. No. I-5719
 I-85 Improvements From US 321
 to NC 273 in Gaston County





Looking at Upstream Face of 1 @ 7' x 8' RCBC



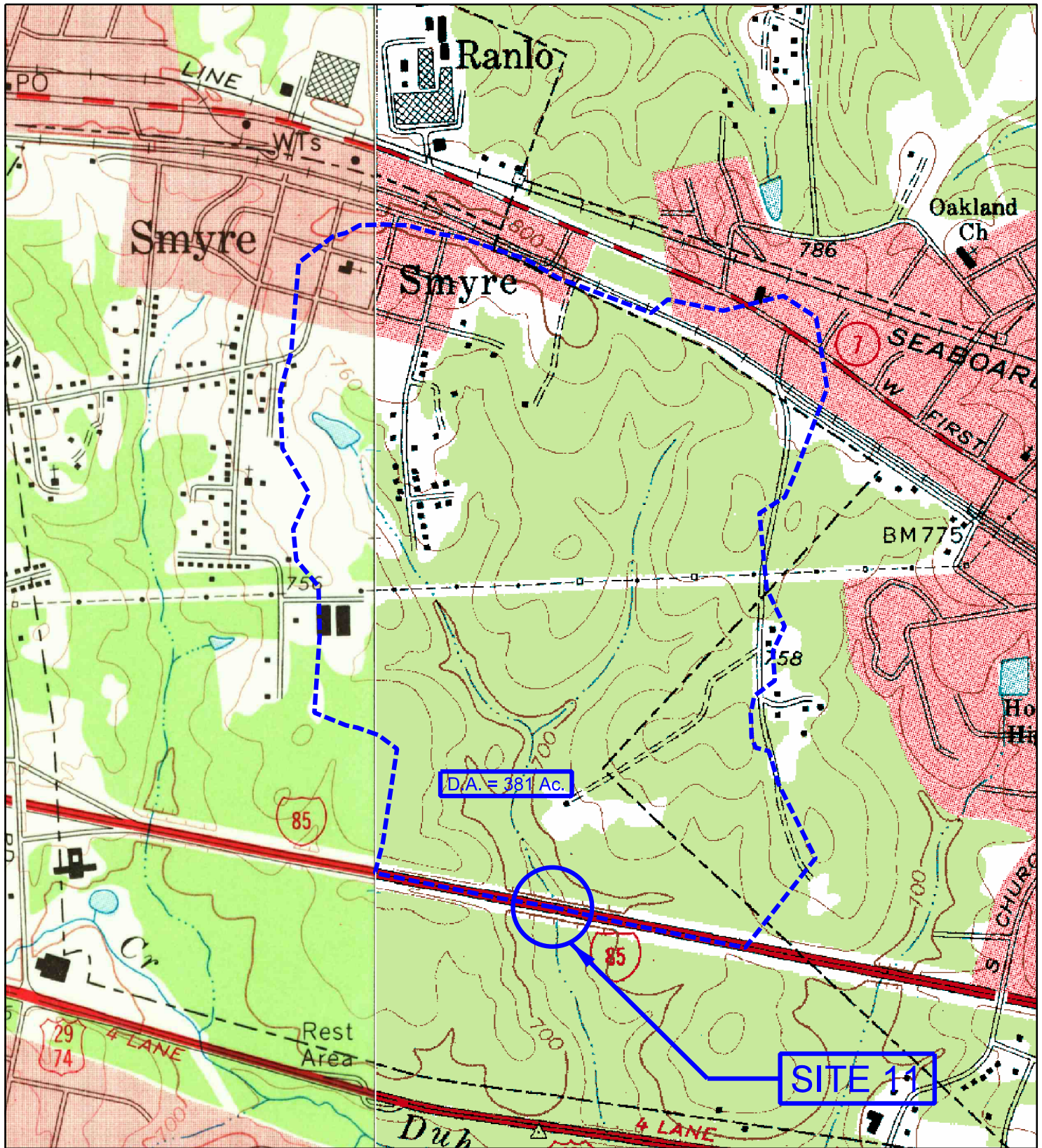
Looking Upstream from RCBC Inlet



Looking at Downstream Face of 1 @ 7' x 8' RCBC

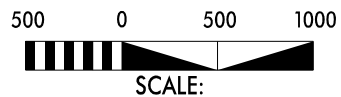


Looking Downstream from Outlet



QUAD MAP - SITE 11

T.I.P. No. I-5719
 I-85 Improvements From US 321
 to NC 273 in Gaston County





Looking at Upstream Face of 1 @ 8' x 8' RCBC



Looking Upstream from RCBC Inlet



Looking Downstream Inside RCBC



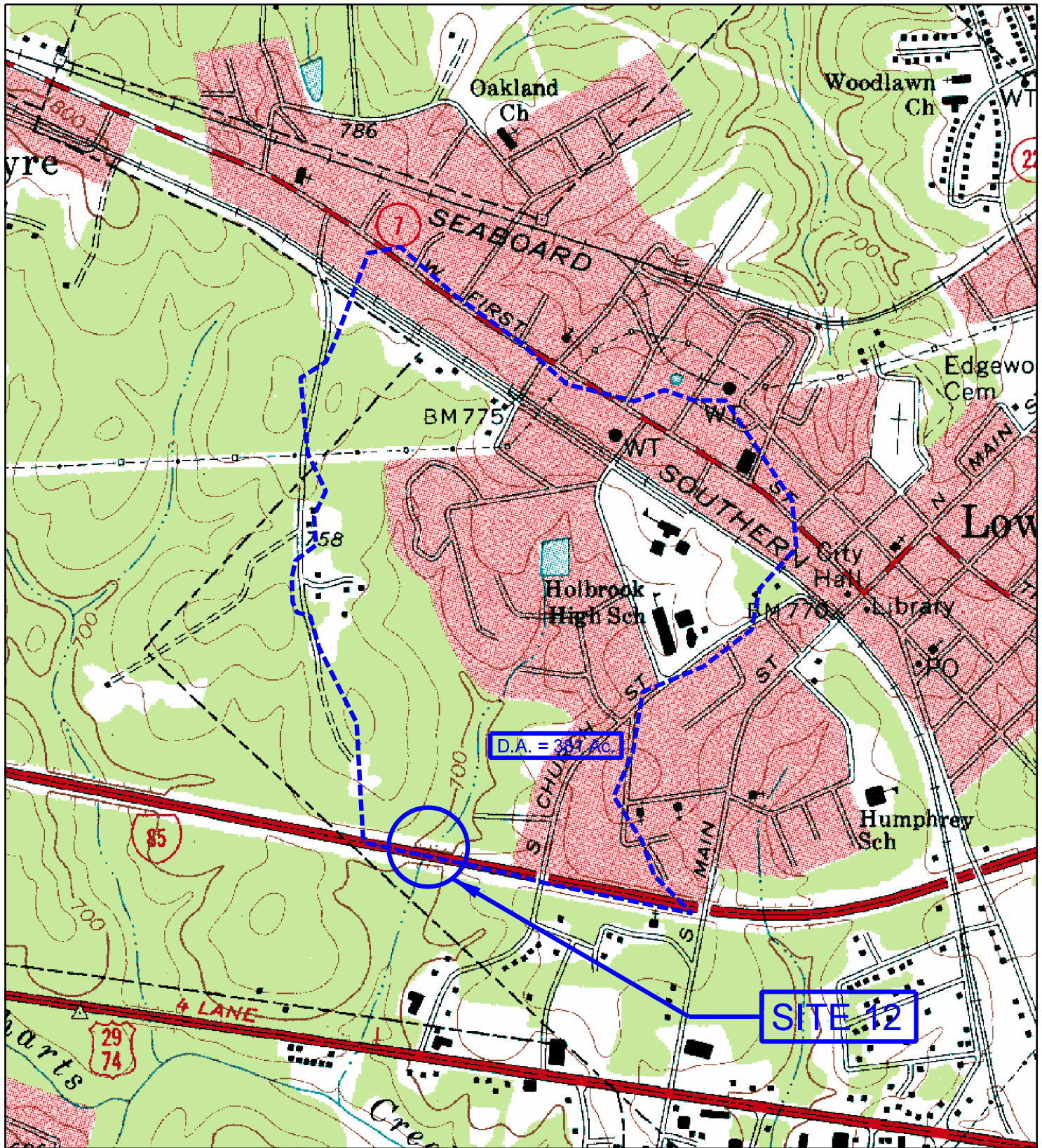
Looking at Downstream Face of 1 @ 8' x 8' RCBC



Looking Downstream from Outlet

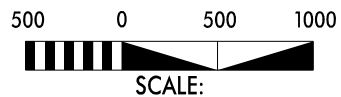


Paved Ditch Downstream of RCBC



QUAD MAP - SITE 12

T.I.P. No. I-5719
 I-85 Improvements From US 321
 to NC 273 in Gaston County





Looking at Upstream Face of 1 @ 8' x 8' RCBC



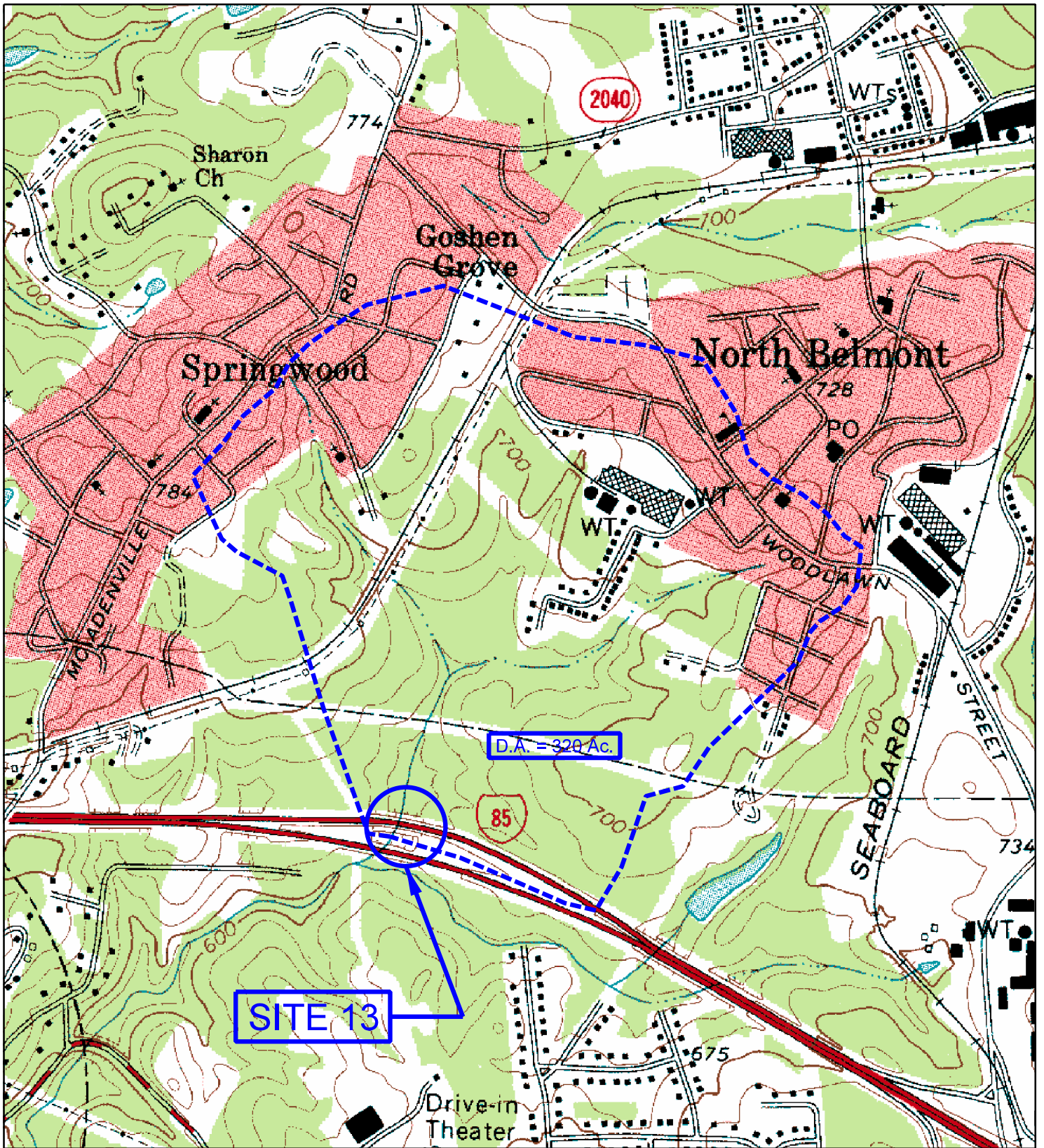
Looking Upstream from RCBC Inlet



Looking at Downstream Face of 1 @ 8' x 8' RCBC

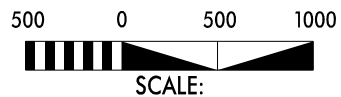


Looking Upstream from Downstream Structure



QUAD MAP - SITE 13

T.I.P. No. I-5719
 I-85 Improvements From US 321
 to NC 273 in Gaston County





Looking at Upstream Face of 1 @ 8' x 8' RCBC



Looking Upstream from RCBC Inlet



Looking Inside RCBC



Looking at Downstream Face of 1 @ 8' x 8' RCBC



Looking Downstream from RCBC Outlet



Looking Downstream



Looking at Upstream Face



Looking Upstream



Looking at Downstream Face



Looking Downstream