DETAILED STUDY ALTERNATIVES CARRIED FORWARD AND BRIDGING DECISIONS AND ALIGNMENT REVIEW

US 29 Upgrade to Interstate Standards

Guilford and Rockingham Counties

STIP Project R-5889

North Carolina Department of Transportation

Division 7

MERGER CONCURRENCE POINT NUMBER 2 and 2A

July 2026

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1. Introduction

Lead federal agency: Federal Highway Administration
Primary points of contact for the subject project are:

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U.S. Army Corps of Engineers (USACE)	Eric Alsmeyer	Eric.C.Alsmeyer@usace.army.mil	919-554-4884
N.C. Department of Water Resources (NCDWR)	Faith Hardin Rob Ridings	faith.hardin@deq.nc.gov rob.ridings@deq.nc.gov	919-707-9225 919-707-3873
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The purpose of this Merger Team meeting is to gain concurrence on the alternatives to carry forward for detailed study (Concurrence Point 2) and to discuss and achieve concurrence on the proposed major hydraulic crossings on the project and the proposed alignment (Concurrence Point 2A).

1.1 Project Description

The North Carolina Department of Transportation (NCDOT) proposes to upgrade the US 29 corridor to interstate standards from north of I-785 in Guilford County to US 158/NC 14 in Rockingham County. R-5889 is included in the approved 2026-2035 State Transportation Improvement Plan (STIP) as projects R-5889A and R-5889B. The project location is shown in **Figure 1**.

1.2 Project History and Merger Plan

The project is included in the Greensboro Metropolitan Planning Organization's 2020 Comprehensive Transportation Plan, in Rockingham County's 2010 Comprehensive Transportation Plan, and in the 2019 Proposed US 29 Corridor Improvements Feasibility Study. Project development activities for R-5889 began in 2023. Concurrence was reached by the merger team on the project's purpose and need (CP 1) in September 2025.

As noted in the previous section, the project is included in the approved 2026-2035 STIP as projects R-5889A and R-5889B and is being managed by NCDOT Division 7. In the approved 2026-2035 STIP, Section A is funded for both Right-of-Way (FY 2027) and construction (FY 2030). Section B is funded for Preliminary Engineering (PE) only. The current costs for the project included in the current STIP are shown in **Table 1**. The proposed project schedule is included in **Table 2** and is based on the Merger Plan. The schedule and cost estimates are draft and subject to change.

Table 1. 2026-2035 STIP R-5889 Cost Estimate

R-5889A	
Phase	**Estimated Cost**
Prior Years Cost	N/A
Right of Way	$17,066,000
Utilities	$1,876,000
Construction Total	$137,400,000
Total	$156,342,000
R-5889B	
Phase	**Estimated Cost**
Prior Years Cost	N/A
Right of Way	$9,364,000
Utilities	$5,430,000
Construction Total	$116,450,000
Total	$131,244,000

Total Cost	**$287,886,000**

Table 2. STIP R-5889 Project Schedule*

Milestone	**Format**	**Anticipated Date**
Combined CP 2/ CP 2A meeting	In-person/Virtual	July 2026
Public Meeting	In-person Open House(s)	September/October 2026
CP 3 (LEDPA)/ CP 4A	In-person/Virtual	December 2026
Categorical Exclusion (CE)	Electronic Distribution	February 2027
CP 4B	Virtual Meeting	TBD 2027
CP 4C	Virtual Meeting	TBD 2027
Begin ROW Acquisition		Section A - 2027
Begin Construction		Section A - 2030

*Tentative, subject to change.

1.3 Past Merger Meetings Summary

CP1: The Merger Meeting for CP 1 was held on September 15, 2025. During the meeting, the Purpose and Need for the project was established and the Project Study Area was defined. At the conclusion of the meeting concurrence was reached; the final Purpose and Need statement is listed in **Section 2.2**.

2. Summary of CP 1: Project Purpose and Need

2.1 Identified Needs

As concurred upon in the CP 1 Merger Meeting, the Need for this project is to accommodate access provisions and to ensure state and local plan compliance for the US 29 corridor between I-840/I-785 in Guilford County and US 158/ NC 14 in Rockingham County.

2.2 Purpose and Need Statement

The purpose of the project is to enhance regional mobility along US 29 between Greensboro and Reidsville by implementing improvements that are consistent with current interstate standards.

3. Project Study Area

The Project Study Area is shown in **Figure 2**. There have been no changes to the study area since CP 1.

4. Summary of Alternatives Considered

Due to the nature of the project, there are only two potential alternatives proposed for consideration. As the intent of the project is to ensure that the US 29 corridor meets interstate standards, all needed improvements required to meet interstate standards must be included in a build alternative. Therefore, only the No-Build Alternative and one Build Alternative are proposed.

4.1 No-Build Alternative

The No-Build Alternative only includes minor restoration activities to ensure the safety, maintenance, and continued operation of the existing highway. It does not require additional right of way or any improvements to the highway that would generate impacts to human or natural resources. Although it will not reduce travel time or enhance mobility that is required to meet the purpose and need of the project, the No-Build Alternative will be carried forward to provide a basis for comparison with the other alternative carried forward for detailed study for this proposed action.

4.2 Build Alternative

The Build Alternative includes all necessary improvements required for the US 29 corridor from I-840/I-785 in Guilford County to US 158/NC 14 in Rockingham County to meet interstate standards. This includes the removal of unsignalized intersections, driveways, and U-turn crossovers. The Build Alternative includes the construction of thirteen (13) service roads to provide alternative access to parcels that would lose direct access to US 29. Other improvements needed to bring the corridor up to interstate standards include the construction of guardrails and guiderails along certain sections of the corridor, shoulder widenings, and partial reconfiguration of the NC 150 interchange. The improvements can be seen in **Figure 3,** the detailed alternative map.

5. Analysis of Alternatives

Total impacts of the Build Alternative for streams and wetlands and potentially competing resources are shown in **Table 3**.

Table 3. Build Alternative Impacts

Resource	Build Alternative
Stream Impacts (ft)	1,988
Stream Crossings (Number)	14
Wetland Impacts (ac)	0.2671
Wetland Crossings (Number)	6
100-Year Floodplain and Floodway Crossings	1 direct impact (Candy Creek)
FEMA Floodway Width (ac)	9.3
Known Occurrence of Protected Species (Yes/no)	No
Managed Area (ac)	0
Water Supply Watershed (ac)	N/A
Water Supply Critical Area	N/A
EMS Facilities	N/A
Prime Farmlands/ Farmlands of Statewide Importance (ac)	50.45
Voluntary Agricultural Districts	0
Places of Worship	Access impact to 2 sites. Parcel, but not structure, impacts to 1 (Greater Stepping Stone Church).
Parcels Requiring Access Reevaluation	150
Parcels Impacted by Service Road	107
Estimated Residential Structures Impacted	14
Estimated Business Structures Impacted	7
Noise Impacts	TBD
GeoEnvironmental Sites with Access Impacted	5 (Southern Plastics Engineering, CGR Products, Sheetz, Lacy Alred Farm Subdivision, QMG Enterprise)
Recreational Areas/Parks Impacted (Number of Sites)	0
Conservation Easements	0
Historic Properties Impacted	1 (Tinsley Handmade Furniture & Antiques); SR 11 directly impacts structure

NOTES:

- Impacts included in Table 3 are based on functional roadway design plans as of June 2026. Further refinements are anticipated as project design moves forward.
- The Preliminary Jurisdictional Determination (PJD) is in the process of being submitted to the USACE for review (June 2026).

6. Water Resources

Jurisdictional streams and wetlands are located in the study area and are shown in the Water Resources Map (**Figure 5, Appendix A**). 96 streams were identified within the study area, including six named streams: Reedy Fork, Candy Creek, Benaja Creek, Haw River, Troublesome Creek, and Little Troublesome Creek. The remainder are unnamed tributaries (UTs) associated with the above-named streams and others in the vicinity. These streams are believed to be jurisdictional surface waters under Section 404 of the Clean Water Act (a PJD package is being submitted to the USACE for review in June 2026). All jurisdictional streams have been designated as warm water streams for the purposes of mitigation. Stream and surface water information are found in **Table 4**.

Table 4. Characteristics of Jurisdictional Streams in the Study Area

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification	Length (ft.)	Classification
UT to North Buffalo Creek	SA	16-11-14-1	WS-V;NSW	308	Intermittent
UT to Camp Herman	SB	16-11-10(2)	WS-V;NSW	180	Intermittent
UT to Camp Herman	SC	16-11-10(2)	WS-V;NSW	348	Perennial
UT to Camp Herman	SD	16-11-10(2)	WS-V;NSW	320	Intermittent
UT to Camp Herman	SE	16-11-10(2)	WS-V;NSW	355	Intermittent
UT to Camp Herman	SF	16-11-10(2)	WS-V;NSW	316	Perennial
UT to Camp Herman	SG	16-11-10(2)	WS-V;NSW	253	Perennial
UT to Camp Herman	SH	16-11-10(2)	WS-V;NSW	180	Perennial
UT to Camp Herman	SI	16-11-10(2)	WS-V;NSW	598	Perennial
UT to Camp Herman	SJ	16-11-10(2)	WS-V;NSW	59	Perennial
UT to Camp Herman	SK	16-11-10(2)	WS-V;NSW	568	Perennial
UT to Camp Herman	SL	16-11-10(2)	WS-V;NSW	323	Perennial
UT to Camp Herman	SM	16-11-10(2)	WS-V;NSW	2,006	Perennial
UT to Camp Herman	SN	16-11-10(2)	WS-V;NSW	647	Perennial
Reedy Fork	Reedy Fork	16-11-(9)	WS-V;NSW	796	Perennial
UT to Reedy Fork	SO	16-11-(9)	WS-V;NSW	502	Perennial
UT to Reedy Fork	SP	16-11-(9)	WS-V;NSW	541	Perennial
UT to Reedy Fork	SQ	16-11-(9)	WS-V;NSW	874	Perennial

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification	Length (ft.)	Classification
UT to Reedy Fork	SR	16-11-(9)	WS-V;NSW	1,058	Intermittent
UT to Reedy Fork	SS	16-11-11	WS-V;NSW	1,036	Perennial
UT to Reedy Fork	ST	16-11-11	WS-V;NSW	250	Perennial
UT to Reedy Fork	SU	16-11-11	WS-V;NSW	570	Perennial
UT to Reedy Fork	SV	16-11-11	WS-V;NSW	924	Perennial
UT to Reedy Fork	SW	16-11-11	WS-V;NSW	1,445	Intermittent
UT to Reedy Fork	SX	16-11-11	WS-V;NSW	250	Perennial
UT to Reedy Fork	SY	16-11-11	WS-V;NSW	65	Intermittent
UT to Smith Branch	SZ	16-11-11	WS-V;NSW	183	Perennial
UT to Benaja Creek	SAA	16-4	WS-V;NSW	928	Perennial
UT to Benaja Creek	SBB	16-4	WS-V;NSW	158/178	Intermittent/ Perennial
UT to Benaja Creek	SCC	16-4	WS-V;NSW	136	Intermittent
UT to Benaja Creek	SDD	16-4	WS-V;NSW	629	Intermittent
UT to Benaja Creek	SEE	16-4	WS-V;NSW	208	Intermittent
UT to Benaja Creek	SFF	16-4	WS-V;NSW	531/1,216	Intermittent/ Perennial
UT to Benaja Creek	SGG	16-4	WS-V;NSW	135	Perennial
UT to Benaja Creek	SHH	16-4	WS-V;NSW	36	Intermittent
UT to Benaja Creek	SII	16-4	WS-V;NSW	2,008	Perennial
UT to Benaja Creek	SJJ	16-4	WS-V;NSW	185	Perennial
UT to Benaja Creek	SKK	16-4	WS-V;NSW	207	Perennial
UT to Benaja Creek	SLL	16-4	WS-V;NSW	652	Perennial
UT to Benaja Creek	SMM	16-4	WS-V;NSW	174	Intermittent
UT to Benaja Creek	SNN	16-4	WS-V;NSW	99	Intermittent
UT to Candy Creek	SOO	16-5	WS-V;NSW	101	Intermittent
UT to Benaja Creek	SPP	16-4	WS-V;NSW	63	Intermittent
UT to Benaja Creek	SQQ	16-4	WS-V;NSW	34	Intermittent
Candy Creek	Candy Creek	16-5	WS-V;NSW	3,244	Perennial
Benaja Creek	Benaja Creek	16-4	WS-V;NSW	490	Perennial
Haw River	Haw River	16-(1)	WS-V;NSW	1,809	Perennial
UT to Candy Creek	SRR	16-5	WS-V;NSW	319/450	Intermittent/ Perennial
UT to Candy Creek	SSS	16-5	WS-V;NSW	570	Perennial
UT to Haw River	STT	16-(1)	WS-V;NSW	97	Intermittent
Troublesome Creek	Troublesome Creek	16-6-(3)	WS-V;NSW	862	Perennial
UT to Troublesome Creek	SUU	16-6-(3)	WS-V;NSW	2,378	Perennial
UT to Troublesome Creek	SVV	16-6-(3)	WS-V;NSW	221	Intermittent
UT to Troublesome Creek	SWW	16-6-(3)	WS-V;NSW	21	Intermittent

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification	Length (ft.)	Classification
UT to Troublesome Creek	SXX	16-6-(3)	WS-V;NSW	423	Perennial
UT to Troublesome Creek	SYY	16-6-(3)	WS-V;NSW	227	Perennial
UT to Little Troublesome Creek	SZZ	16-7-(1)	WS-V;NSW	1023	Perennial
UT to Little Troublesome Creek	SBBB	16-7-(1)	WS-V;NSW	388	Perennial
Little Troublesome Creek	Little Troublesome Creek	16-7-(1)	WS-V;NSW	7,524	Perennial
UT to Little Troublesome Creek	SCCC	16-7-(1)	WS-V;NSW	396	Intermittent
UT to Little Troublesome Creek	SDDD	16-7-(1)	WS-V;NSW	494	Intermittent
UT to Little Troublesome Creek	SEEE	16-7-(1)	WS-V;NSW	59	Intermittent
UT to Little Troublesome Creek	SFFF	16-7-(1)	WS-V;NSW	518	Intermittent
UT to Little Troublesome Creek	SGGG	16-7-(1)	WS-V;NSW	847	Intermittent/ Perennial
UT to Little Troublesome Creek	SHHH	16-7-(1)	WS-V;NSW	113/722	Intermittent/ Perennial
UT to Little Troublesome Creek	SIII	16-7-(1)	WS-V;NSW	204	Intermittent
UT to Little Troublesome Creek	SJJJ	16-7-(1)	WS-V;NSW	69	Perennial
UT to Little Troublesome Creek	SKKK	16-7-(1)	WS-V;NSW	322	Perennial
UT to Little Troublesome Creek	SLLL	16-7-(1)	WS-V;NSW	724	Perennial
UT to Little Troublesome Creek	SMMM	16-7-(1)	WS-V;NSW	1,925	Perennial
UT to Little Troublesome Creek	SNNN	16-7-(1)	WS-V;NSW	165/889	Intermittent/ Perennial
UT to Little Troublesome Creek	SOOO	16-7-(1)	WS-V;NSW	418	Perennial
UT to Little Troublesome Creek	SPPP	16-7-(1)	WS-V;NSW	187	Perennial
UT to Little Troublesome Creek	SQQQ	16-7-(1)	WS-V;NSW	51/457	Intermittent/ Perennial
UT to Jones Creek	SRRR	16-7-(1)	C	941	Intermittent/ Perennial
UT to Jones Creek	SSSS	16-7-(1)	C	502	Perennial
UT to Jones Creek	STTT	16-7-(1)	C	1,201	Perennial

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification	Length (ft.)	Classification
UT to Jones Creek	SUUU	16-7-(1)	C	160	Intermittent/ Perennial
UT to Jones Creek	SVVV	16-7-(1)	C	874	Perennial
UT to Jones Creek	SWWW	16-7-(1)	C	420/638	Intermittent/ Perennial
UT to Jones Creek	SXXX	16-7-(1)	C	112/329	Intermittent/ Perennial
UT to Jones Creek	SYYY	16-7-(1)	C	329	Intermittent
Jones Creek	Jones Creek	16-7-(1)	C	2,448	Perennial
UT to Jones Creek	SZZZ	16-7-(1)	C	30	Intermittent
UT to Jones Creek	SAAAA	16-7-(1)	C	115	Perennial
UT to Jones Creek	SBBBB	16-7-(1)	C	892	Intermittent
UT to Jones Creek	SCCCC	16-7-(1)	C	404	Perennial
UT to Jones Creek	SDDDD	16-7-(1)	C	1,311	Perennial
UT to Jones Creek	SEEEE	16-7-(1)	C	177	Perennial
UT to Lick Fork	SFFFF	22-50-4	C	388	Intermittent
UT to Troublesome Creek	SGGGG	16-6-(3)	WS-V;NSW	92	Perennial
UT to Lick Fork	SHHHH	22-50-4	C	1,502	Perennial
UT to Candy Creek	SIIII	16-5	WS-V;NSW	60	Intermittent
UT to Reedy Fork	SJJJJ	16-11-(9)	WS-V;NSW	167/453	Intermittent/ Perennial
UT to Reedy Fork	SKKKK	16-11-(9)	WS-V;NSW	816	Perennial
UT to Reedy Fork	SLLLL	16-11-(9)	WS-V;NSW	58/328	Intermittent/ Perennial

No Outstanding Resource Waters (ORW), High Quality Waters (HQW) or water supply watersheds (WS-I or WS-II) are present in, or located within 1.0 mile downstream of, the study area.

The North Carolina 2022 Final 303(d) list of impaired waters identifies Little Troublesome Creek within the study area as an impaired waters due to turbidity exceeding acceptable levels. Within 1.0 mile downstream of the study area, Little Troublesome Creek is also listed on the 303(d) list for having levels of benthos that exceed acceptable levels. The section of the Haw River within the study area was identified as impaired waters on the Final 303(d) list due to the levels of copper exceeding acceptable levels.

There are no trout, anadromous, or primary nursery waters within the project study area. No correspondence regarding stream moratoriums has been received to date.

97 wetlands were identified within the study area. The locations of these wetlands are shown in **Figure 5**. The majority of the wetlands in the study area are located within the Cape Fear River Basin (USGS Hydrologic Unit 03030002) with the remainder of the wetlands within the Roanoke River Basin (USGS Hydrologic Unit 03010104). Wetland information is found in **Table 5**.

Table 5. Characteristics of Jurisdictional Wetlands in the Study Area

Map ID	NCWAM Classification	Forested	NCWAM Rating	Hydrologic Classification	Area (ac.) in Study Area
WA	Headwater Forest	No	Medium	Riparian	0.01
WB	Headwater Forest	Yes	Low	Riparian	0.04
WC	Headwater Forest	No	Low	Riparian	0.03
WD	Headwater Forest	No	Low	Riparian	0.07
WE	Headwater Forest	Yes	Low	Riparian	0.05
WF	Headwater Forest	No	Low	Riparian	<0.01
WG	Headwater Forest	Yes	Medium	Riparian	0.01
WH	Headwater Forest	Yes	Medium	Riparian	0.01
WI	Headwater Forest	Yes	Medium	Riparian	<0.01
WJ	Non-Tidal Freshwater Marsh	No	High	Riparian	0.15
WK	Headwater Forest	No	Low	Riparian	0.04
WL	Bottomland Hardwood Forest	Yes	Medium	Riparian	0.03
WM	Bottomland Hardwood Forest	Yes	Medium	Riparian	0.24
WN	Bottomland Hardwood Forest	Yes	Medium	Riparian	0.68
WO	Bottomland Hardwood Forest	Yes	High	Riparian	<0.01
WP	Bottomland Hardwood Forest	Yes	High	Riparian	0.33
WQ	Headwater Forest	No	Low	Riparian	0.15
WR	Bottomland Hardwood Forest	Yes	High	Riparian	<0.01
WS	Bottomland Hardwood Forest	Yes	High	Riparian	0.04
WT	Headwater Forest	Yes	High	Riparian	0.02
WU	Headwater Forest	Yes	High	Riparian	0.18
WV	Headwater Forest	Yes	High	Riparian	0.02
WW	Headwater Forest	Yes	High	Riparian	0.13
WX	Headwater Forest	Yes	Medium	Riparian	0.19
WY	Headwater Forest	Yes	High	Riparian	0.17
WZ	Non-Tidal Freshwater Marsh	No	Low	Riparian	<0.01
WAA	Bottomland Hardwood Forest	Yes	High	Riparian	0.11
WBB	Headwater Forest	No	Low	Riparian	0.03
WCC	Headwater Forest	Yes	Medium	Riparian	<0.01
WDD	Headwater Forest	Yes	Medium	Riparian	0.01
WEE	Headwater Forest	Yes	High	Riparian	0.10
WFF	Seep	Yes	High	Riparian	0.16

Map ID	NCWAM Classification	Forested	NCWAM Rating	Hydrologic Classification	Area (ac.) in Study Area
WGG	Non-Tidal Freshwater Marsh	No	Low	Riparian	<0.01
WHH	Headwater Forest	Yes	Medium	Riparian	<0.01
WII	Headwater Forest	Yes	Medium	Riparian	0.16
WJJ	Headwater Forest	Yes	Medium	Riparian	0.14
WKK	Headwater Forest	Yes	Medium	Riparian	0.02
WLL	Headwater Forest	Yes	Medium	Riparian	<0.01
WMM	Bottomland Hardwood Forest	Yes	High	Riparian	<0.01
WOO	Bottomland Hardwood Forest	Yes	High	Riparian	0.01
WPP	Non-Tidal Freshwater Marsh	No	High	Riparian	0.27
WQQ	Headwater Forest	Yes	High	Riparian	0.02
WRR	Bottomland Hardwood Forest	Yes	High	Riparian	0.19
WSS	Headwater Forest	Yes	High	Riparian	0.34
WTT	Bottomland Hardwood Forest	Yes	Medium	Riparian	0.13
WUU	Bottomland Hardwood Forest	Yes	Medium	Riparian	0.11
WVV	Riverine Swamp Forest	Yes	High	Riparian	0.19
WWW	Riverine Swamp Forest	Yes	High	Riparian	1.74
WXX	Riverine Swamp Forest	Yes	High	Riparian	<0.01
WYY	Bottomland Hardwood Forest	Yes	High	Riparian	0.38
WZZ	Bottomland Hardwood Forest	Yes	High	Riparian	1.95
WAAA	Bottomland Hardwood Forest	Yes	High	Riparian	0.06
WBBB	Riverine Swamp Forest	Yes	High	Riparian	0.35
WCCC	Riverine Swamp Forest	Yes	High	Riparian	1.81
WDDD	Bottomland Hardwood Forest	Yes	High	Riparian	1.64
WEEE	Riverine Swamp Forest	Yes	High	Riparian	0.76
WFFF	Riverine Swamp Forest	Yes	High	Riparian	0.08
WGGG	Riverine Swamp Forest	Yes	High	Riparian	<0.01

Map ID	NCWAM Classification	Forested	NCWAM Rating	Hydrologic Classification	Area (ac.) in Study Area
WHHH	Non-Tidal Freshwater Marsh	No	Low	Riparian	0.05
WIII	Riverine Swamp Forest	Yes	High	Riparian	8.51
WJJJ	Riverine Swamp Forest	Yes	High	Riparian	6.82
WKKK	Headwater Forest	Yes	Medium	Riparian	<0.01
WLLL	Non-Tidal Freshwater Marsh	No	Medium	Riparian	0.79
WMMM	Headwater Forest	Yes	Medium	Riparian	0.02
WNNN	Bottomland Hardwood Forest	Yes	High	Riparian	0.18
WOOO	Bottomland Hardwood Forest	Yes	Low	Riparian	0.01
WPPP	Bottomland Hardwood Forest	Yes	Low	Riparian	0.05
WQQQ	Headwater Forest	Yes	Low	Riparian	<0.01
WRRR	Headwater Forest	Yes	Low	Riparian	0.02
WSSS	Bottomland Hardwood Forest	Yes	Medium	Riparian	0.02
WTTT	Bottomland Hardwood Forest	Yes	Medium	Riparian	1.04
WUUU	Bottomland Hardwood Forest	Yes	Medium	Riparian	0.54
WVVV	Headwater Forest	Yes	High	Riparian	0.03
WWWW	Riverine Swamp Forest	Yes	High	Riparian	2.19
WXXX	Riverine Swamp Forest	Yes	High	Riparian	0.61
WYYY	Bottomland Hardwood Forest	Yes	Medium	Riparian	0.81
WZZZ	Riverine Swamp Forest	Yes	Medium	Riparian	3.22
WAAAA	Headwater Forest	Yes	High	Riparian	0.02
WBBBB	Headwater Forest	Yes	High	Riparian	0.02
WCCCC	Headwater Forest	Yes	High	Riparian	0.07
WDDDD	Headwater Forest	No	Low	Riparian	0.02
WEEEE	Headwater Forest	Yes	Low	Riparian	0.14
WFFFF	Bottomland Hardwood Forest	Yes	High	Riparian	0.03
WGGGG	Headwater Forest	Yes	Low	Riparian	0.23
WHHHH	Seep	Yes	High	Non-Riparian	0.12
WIIII	Headwater Forest	Yes	High	Riparian	<0.01
WJJJJ	Headwater Forest	Yes	Low	Riparian	0.24
WKKKK	Headwater Forest	No	Low	Riparian	0.03

Map ID	NCWAM Classification	Forested	NCWAM Rating	Hydrologic Classification	Area (ac.) in Study Area
WLLLL	Headwater Forest	Yes	High	Riparian	<0.01
WMMMM	Headwater Forest	Yes	High	Riparian	0.09
WNNNN	Headwater Forest	Yes	Medium	Riparian	0.05
WOOOO	Basin	No	Low	Non-Riparian	0.01
WPPPP	Headwater Forest	Yes	High	Riparian	0.03
WQQQQ	Headwater Forest	Yes	High	Riparian	0.08
WRRRR	Seep	Yes	High	Riparian	<0.01
WSSSS	Seep	Yes	High	Riparian	<0.01
WTTTT	Headwater Forest	Yes	High	Riparian	0.1

7. Major Hydraulic Crossings

Major hydraulic crossings are those with a contributing drainage area requiring conveyance greater than a 72-inch pipe. One (1) potential major hydraulic crossing was identified for the proposed project. This structure is described in **Table 6,** and additional information, including the site map, individual site plan, and photographs, are included in **Appendix B**.

Table 6. Major Hydraulic Crossings

SITE NO	ROUTE	STREAM NAME	NRTR MAP ID	NCDWR STREAM INDEX NUMBER	STREAM/ WETLAND SIZE (ft / ac)	STREAM CLASS	DRAINAGE AREA	EXISTING STRUCTURE	BUILD ALTERNATIVE		
								Number, Size, Structure Type	Recommended Structure	Cost Estimate	Potential Stream/ Wetland Impact[2]
1	SR 14	Candy Creek	Candy Creek	16-5	3,244 / 0.34	WS-V; NSW	2.94 Mi^2	None	3 @ 8'x11' RCBC	$500,000	219 ft/ 0.0025 ac

NOTES:
(1) Major Hydraulic Structures - conveyance greater than 72-inch pipe or have an opening equal to or greater than 30 square feet.
(2) Impacts based on slope stake limits plus 40 feet.
(3) Candy Creek is perennial.

8. Avoidance and Minimization

The proposed service road alignments included in the Build Alternative have been developed to limit impacts to jurisdictional resources as much as possible. The initial service road plans were modified to avoid impacts to National Register-listed and eligible historic sites, stream and wetland crossings, and known GeoEnvironmental sites of concern. Modifications made to date include the following:

- Changes to Service Road 2, which initially impacted the (Former) Central North Carolina School for the Deaf, an eligible historic site.
- Changes to Service Road 3, which initially impacted the Wysong & Miles Plant, an eligible historic site and geoenvironmental site of concern

Further Avoidance and Minimization measures will be documented and presented at CP 4A.

9. Summary of Concurrence Request

9.1 Concurrence Point 2 – Detailed Study Alternatives Carried Forward

Based on the review of the impacts analyzed for the Build Alternative, the project team requests concurrence on the Build Alternative as presented in **Section 4.2** and analyzed in **Section 5**.

9.2 Concurrence Point 2A – Bridging and Alignment Review

Based on review of the Jurisdictional Water Resources in the project study area and the Major Hydraulic Crossings that are associated with the Build Alternative, the project team requests concurrence on the bridging decisions and alignment of the Build Alternative presented in **Section 7**.

10. Summary of Public Involvement

A website is available to the public (https://publicinput.com/u0146#tab-55213) and describes the project objectives and scope. The website includes a map of the properties along the corridor for which access to US 29 is being re-evaluated (properties with driveways or direct street connections to US 29); the proposed Build Alternative has not yet been presented to the public. To date, over 40 comments have been submitted through the website, requesting information about the project schedule or potential impacts to specific properties along the US 29 corridor. The project website will be updated as the project progresses, specifically in advance of project milestones or new public comment opportunities. A Public Meeting is planned following Concurrence Point 2/2A.

11. Merger Plan Review/Next Steps

Based on the Merger Plan for the project, NCDOT proposes the next Merger Meeting will be a combined CP 3 (LEDPA)/CP 4A (Avoidance and Minimization) meeting. Prior to the next Merger Meeting, NCDOT will complete the impacts analyses and update costs. The CP 3/4A meeting will be held within six months of the Public Meeting; 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. 2

Detailed Study Alternative Carried Forward

Project Name/Description: Upgrade the US 29 corridor to interstate standards from north of I-840/I-785 in Guilford County to US 158/NC 14 in Rockingham County. **STIP Project: R-5889**

The following alternatives will be carried forward for detailed study in this proposal action:

- No-Build Alternative
- Build Alternative

The Merger Team has concurred on this date of _____, on the above detailed study alternative to be carried forward for STIP Project R-5889.

USACE _____ SHPO _____

USEPA _____ FHWA _____

USFWS _____ NCDOT _____

NCDWR _____ NCWRC _____

GUMPO _____

Section 404/NEPA Merger Project Team Meeting Agreement

Concurrence Point No. 2A

Bridging Decisions and Alignment Review

Project Name/Description: Upgrade the US 29 corridor to interstate standards from north of I-840/I-785 in Guilford County to US 158/NC 14 in Rockingham County. **STIP Project: R-5889**

The Merger Team has concurred on this date of _____, on the major hydraulics structures as shown in **Table 6** of the CP 2/2A Merger Packet for STIP Project R-5889.

USACE _____ SHPO _____

USEPA _____ FHWA _____

USFWS _____ NCDOT _____

NCDWR _____ NCWRC _____

GUMPO _____