STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

March 26, 2026

DANIEL H. JOHNSON
SECRETARY

U. S. Army Corps of Engineers
Water Resources Development Act (WRDA)
Transportation Permitting Branch

NC Division of Water Resources
Transportation Permitting Branch

ATTN: NCDOT Coordinator NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permit 6 and Water Quality Certification 8565 (non-reporting)** for **Geotechnical Survey Activities** for the following bridges within the 19W South Repair Project in Yancey County, Division 13, as the result of **Hurricane Helene:**

- Bridge 72 on SR 1381 (Langford Branch Road) over Cane River WBS ***18313.1100998.1.1***
- Bridge 34 on US-19 West over Cane River, WBS ***18313.1100998.1.1***
- Bridge 44 on US-19 West over Cane River, WBS ***18313.1100998.1.1***
- Bridge 55 on US-19 West over Cane River, WBS ***18313.1100998.1.1***
- Bridge XYZ (connecting US-19 West and Little Creek Road) over Cane River Toe of Slope Areas along edges of Cane River

Dear NCDOT Coordinators:

The North Carolina Department of Transportation (NCDOT) proposes to conduct geotechnical investigations for the aforereferenced projects as the result of damage caused by Hurricane Helene in September 2024.

Approvals Requested:

404 Nationwide Permit 6. Notification is required due to formal ESA Consultation.

401 General Certification No. 8565: Written authorization not required/ for the record only.

FEMA is the lead federal agency for this project.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

Telephone: (919) 707-6000
Customer Service: 1-877-368-4968
Website: www.ncdot.gov

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610

Impact/Boring Summary:

Location	Impact Description	NWP 6 Impact
BR72	The rebuilding of Bridges will require geotechnical investigations for bridge piers. Upland borings began 6/23/25 and are completed. The in-water borings are planned to commence shortly after this permit is received. Construction will take place in 2026 and 2027 The use of drilling fluids is not anticipated. These borings will be performed using a rubber tired/track mounted drilling rig. This approach minimizes environmental impact and eliminates the need for temporary work platforms or barges. No dewatering or temporary fill is planned for in-water borings.	6 Borings 1,920 square foot
BR34		8 Borings 3,120 square foot
BR44		4 Borings 3,300 square foot
BR55		4 Borings 1,980 square foot
XYZ (connecting US-19 West and Little Creek Road)		6 borings 3,000 square feet
Toe of Slope Areas along edges of River		33 borings 11,880 square feet

Endangered Species Act

Protected Species listed from IPaC[1] as of the date of this application:

Common Name	Habitat Present	Survey Dates	Proposed Biological Conclusion	FWS Concurrence Remarks
Gray bat	Yes	n/a	May Affect, Likely to Adversely Affect	Attached
Northern long-eared bat	Yes	n/a	May Affect, Likely to Adversely Affect	Attached
Tricolored bat	Yes	n/a	May Affect, Likely to Adversely Affect	Attached
Appalachian elktoe	Yes	n/a	May Affect, Likely to Adversely Affect	Attached
Virginia spiraea	Yes	6/11-12/2025	May Affect, Likely to Adversely Affect	Attached
Small whorled pogonia	Yes	6/11-12/2025	No Effect	n/a
Rock gnome lichen	No	n/a	No Effect	n/a
Eastern hellbender (Proposed)[2]	n/a	n/a	n/a	n/a
Monarch butterfly (Proposed)[2]	n/a	n/a	n/a	n/a

1 IPaC – Information for Planning and Consultation (US Fish and Wildlife Service)

2 Due to the recent listings of Eastern hellbender and monarch butterfly within the proposed action area, NCDOT does not have complete information at this time. It is anticipated that construction will be complete by the timeframes proposed for full listing, should the species be formally listed.

Historic Resources Summary (documentation included)
No effects to historic resources are anticipated as a result of geotechnical investigations (Geotech CE, 7/2/2025).

106 Topic	Findings	
Historic Architecture	No effects to historic resources are anticipated as the result of this proposed action	
Archaeology	No Surveys Required	
Tribal Coordination	**Tribe**	**Response**
Tribal Coordination Letters were sent to the following Tribes on March 25 2025:	Catawba Indian Nation	No response received
	Eastern Band of Cherokee Indians	No response received
	Muscogee (Creek) Nation	No response received
	Cherokee Nation	Yes/attached
	United Keetoowah Band of Cherokee Indians in Oklahoma	No response received

If you have any questions or need additional information, please contact Michael Turchy, at maturchy@ncdot.gov or (919) 707-6157.

Sincerely,

Digitally signed by Michael Turchy

Michael A. Turchy
Environmental Coordination and Permitting Group Leader

U.S. Army Corps of Engineers (USACE)

NATIONWIDE PERMIT PRE-CONSTRUCTION NOTIFICATION (PCN)

For use of this form, see 33 CFR 330; the proponent agency is CECW-CO-R.

Form Approved - OMB No. 0710-0003
Expires: 2027-10-31

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Regulatory Program of the Corps of Engineers (Corps); Final Rule 33 CFR 320-332.

Principal Purpose Information provided on this form will be used in evaluating the nationwide permit pre-construction notification.

Routine Uses This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of the agency coordination process.

Disclosure Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can

The public reporting burden for this collection of information, 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PLEASE DO NOT RETURN YOUR RESPONSE TO THE ABOVE EMAIL.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (*see sample drawings and/or instructions*) and be submitted to the district engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
		03/25/2026	

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (*agent is not required*)
First – Michael Middle – Last – Turchy	First – Middle – Last –
Company – North Carolina Department of Transportation	Company –
Company Title –	E-mail Address –
E-mail Address – maturchy@ncdot.gov	
6. APPLICANT'S ADDRESS	**9. AGENT'S ADDRESS**
Address – 1598 Mail Service Center	Address –
City – Raleigh State – NC ZIP – 27606 Country – US	City – State – ZIP – Country –
7. APPLICANT'S PHONE NOs. with AREA CODE	**10. AGENT'S PHONE NOs. with AREA CODE**
a. Business b. c. Fax	a. b. c. Fax
+19197076157	

STATEMENT OF AUTHORIZATION

11. I hereby authorize, to act in my behalf as my agent in the processing of this nationwide permit pre-construction notification and to furnish, upon request, supplemental information in support of this nationwide permit pre-construction notification.

SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME or TITLE (*see instructions*)

NCDOT / Helene Geotechnical Borings for Bridge 72, 34, 44, 55, 463 Bridge TBD ["xyz"] / Cane River / on US 19 and SR 1381 / Yancey / Div 13 / DF18313.1100998.1.1

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

13. NAME OF WATERBODY, IF KNOWN (*if applicable*)

14. PROPOSED ACTIVITY STREET ADDRESS (*if applicable*)

Address: 134 Piney Hill Rd

City: Burnsville State: NC Zip: 28714

15. LOCATION OF PROPOSED ACTIVITY (*see instructions*)

Latitude: 35.9772411 °N Longitude: -82.3942371 °W

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (*see instructions*)

Section – Township – Range –

County – Yancey County Project Area – 5 Acres State Tax Parcel ID –

17. DIRECTIONS TO THE SITE

18. IDENTIFY THE SPECIFIC NATIONWIDE PERMIT(S) YOU PROPOSE TO USE

NWP 6 Survey Activities

19. DESCRIPTION OF PROPOSED NATIONWIDE PERMIT ACTIVITY (*see instructions*)

The US 19W corridor, which runs parallel to the Cane River for much of the vicinity, suffered catastrophic damage as the result of Hurricane Helene in September 2024. This project is the re-establishment of bridges along US 19W. This specific application is for geotechnical investigations for those bridges.
Geotechnical Investigations. Note, notification is required not due to impacts, but due to Formal ESA Consultation for the project.

20. DESCRIPTION OF PROPOSED MITIGATION MEASURES (*see instructions*)

These borings will be performed using a rubber tired/track mounted drilling rig.
This approach minimizes environmental impact and eliminates the need for temporary work platforms or barges.
No dewatering or temporary fill is planned for in-water borings.

21. PURPOSE OF NATIONWIDE PERMIT ACTIVITY (*Describe the reason or purpose of the project, see instructions*)

Geotechnical investigations for the re-establishment of bridges 72, 34, 44, 55 and a bridge to be numbered (currently referred to as bridge "XYZ") connecting US 19W and Little Creek Road.

22. QUANTITY OF WETLANDS, STREAMS, OR OTHER TYPES OF WATERS DIRECTLY AFFECTED BY PROPOSED NATIONWIDE PERMIT ACTIVITY

(*see instructions*)

Acres | Linear Feet | Cubic Yards Dredged or Discharged

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site.

25. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. (*see instructions*)

26. If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and/or the loss of greater than 3/100-acre of stream bed and requires pre-construction notification, explain how the compensatory mitigation requirement in paragraph (c) and/or paragraph (d) of general condition 23 will be satisfied, or explain why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required for the proposed activity.

27. Is any portion of the nationwide permit activity already complete? ☐ Yes ☑ No

If Yes, describe the completed work:

28. List the name(s) of any species listed as endangered or threatened under the Endangered Species Act that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. (*see instructions*)

Appalachian elktoe,Eastern Hellbender,Gray bat,Northern Long-Eared Bat,Small whorled pogonia,Monarch butterfly,Tricolored bat,Virginia spiraea
ADDITIONAL AFFECTED SPECIES:
Formal Consultation is included in this application.

29. List any historic properties that have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic property or properties. (*see instructions*)

see cover letter. No Section 106 impact is anticipated for this geotechnical activity.

30. For a proposed NWP activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, identify the Wild and Scenic River or the "study river":

31. If the proposed NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, have you submitted a written request for section 408 permission from the Corps district having jurisdiction over that project? ☐ Yes ☑ No

If "yes", please provide the date your request was submitted to the Corps district:

32. If the terms of the NWP(s) you want to use require additional information to be included in the PCN, please include that information in this space or provide it on an additional sheet of paper marked Block 30. (*see instructions*)

33. Pre-construction notification is hereby made for one or more nationwide permit(s) to authorize the work described in this notification. I certify that the

information in this pre-construction notification is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

Michael Turchy	03/25/2026		
SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE

The pre-construction notification must be signed by the person who desires to undertake the proposed activity (applicant) and, if the statement in Block 11 has been filled out and signed, the authorized agent.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

Instructions for Preparing a

Department of the Army

Nationwide Permit (NWP) Pre-Construction Notification (PCN)

Blocks 1 through 4. To be completed by the Corps of Engineers.

Block 5. Applicant's Name. Enter the name and the e-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the preconstruction notification, please attach a sheet of paper with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the PCN. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant's Telephone Number(s). Please provide the telephone number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, consultant, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by the applicant, if an agent is to be employed.

Block 12. Proposed Nationwide Permit Activity Name or Title. Please provide a name identifying the proposed NWP activity, e.g., Windward Marina, Rolling Hills Subdivision, or Smith Commercial Center.

Block 13. Name of Waterbody. Please provide the name (if it has a name) of any stream, lake, marsh, or other waterway to be directly impacted by the NWP activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Activity Street Address. If the proposed NWP activity is located at a site having a street address (not a box number), please enter it in Block 14.

Block 15. Location of Proposed Activity. Enter the latitude and longitude of where the proposed NWP activity is located. Indicate whether the project location provided is the center of the project or whether the project location is provided as the latitude and longitude for each of the "corners" of the project area requiring evaluation. If there are multiple sites, please list the latitude and longitude of each site (center or corners) on a separate sheet of paper and mark as Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality where the site is located.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide a description of the location of the proposed NWP activity, such as lot numbers, tract numbers, or you may choose to locate the proposed NWP activity site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed NWP activity site if known. If there are multiple locations, please indicate directions to each location on a separate sheet of paper and mark as Block 17.

Block 18. Identify the Specific Nationwide Permit(s) You Propose to Use. List the number(s) of the Nationwide Permit(s) you want to use to authorize the proposed activity (e.g., NWP 29).

Block 19. Description of the Proposed Nationwide Permit Activity. Describe the proposed NWP activity, including the direct and indirect adverse environmental effects the activity would cause. The description of the proposed activity should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal. Identify the materials to be used in construction, as well as the methods by which the work is to be done.

Provide sketches when necessary to show that the proposed NWP activity complies with the terms of the applicable NWP(s). Sketches usually clarify the activity and result in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed NWP activity (e.g.,a conceptual plan), but do not need to be detailed engineering plans.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 19.

Block 20. Description of Proposed Mitigation Measures. Describe any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed NWP activity. The description of any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or additional mitigation measures.

Block 21. Purpose of Nationwide Permit Activity. Describe the purpose and need for the proposed NWP activity. What will it be used for and why? Also include a brief description of any related activities associated with the proposed project. Provide the approximate dates you plan to begin and complete all work.

Block 22. Quantity of Wetlands, Streams, or Other Types of Waters Directly Affected by the Proposed Nationwide Permit Activity. For discharges of dredged or fill material into waters of the United States, provide the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained by the proposed NWP activity. For structures or work in navigable waters of the United States subject to Section 10 of the Rivers and Harbors Act of 1899, provide the amount of navigable waters filled, dredged, or occupied by one or more structures (e.g., aids to navigation, mooring buoys) by the proposed NWP activity.

For multiple NWPs, or for separate and distant crossings of waters of the United States authorized by NWPs 12 or 14, attach an extra sheet of paper marked Block 21 to provide the quantities of wetlands, streams, or other types of waters filled, flooded, excavated, or drained (or dredged or occupied by structures, if in waters subject to Section 10 of the Rivers and Harbors Act of 1899) for each NWP. For NWPs 12 and 14, include the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained for each separate and distant crossing of waters or wetlands. If more space is needed, attach an extra sheet of paper marked Block 22.

Block 23. Identify Any Other Nationwide Permit(s), Regional General Permit(s), or Individual Permit(s) Used to Authorize Any Part of Proposed Activity or Any Related Activity. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. For linear projects, list other separate and distant crossings of waters and wetlands authorized by NWPs 12 or 14 that do not require PCNs. If more space is needed, attach an extra sheet of paper marked Block 23.

Block 24. Compensatory Mitigation Statement for Losses of Greater Than 1/10-Acre of Wetlands and/or of Greater Than 3/100-Acre of Stream Bed When Pre-Construction Notification is Required. Paragraphs (c) and (d) of NWP general condition 23 require compensatory mitigation at a minimum one-for-one replacement ratio for all wetland losses that exceed 1/10-acre and/or for all losses of stream bed that exceed 3/100-acre, unless the district engineer determines in writing that either some other form of mitigation is more environmentally appropriate or the adverse environmental effects of the proposed NWP activity are no more than minimal without compensatory mitigation, and provides an activity-specific waiver of this requirement. Describe the proposed compensatory mitigation for wetland losses greater than 1/10 acre and/or for losses of stream bed that exceed 3/100-acre, or provide an explanation of why the district engineer should not require wetland and/or stream compensatory mitigation for the proposed NWP activity. If more space is needed, attach an extra sheet of paper marked Block 24.

Block 25. Is Any Portion of the Nationwide Permit Activity Already Complete? Describe any work that has already been completed for the NWP activity.

Block 26. List the Name(s) of Any Species Listed As Endangered or Threatened under the Endangered Species Act that Might be Affected by the Nationwide Permit Activity. If you are not a federal agency, and if any listed species or designated critical habitat might be affected or is in the vicinity of the proposed NWP activity, or if the proposed NWP activity is located in designated critical habitat, list the name(s) of those endangered or threatened species that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 7 of the Endangered Species Act.

Block 27. List Any Historic Properties that Have the Potential to be Affected by the Nationwide Permit Activity. If you are not a Federal agency, and if any historic properties have the potential to be affected by the proposed NWP activity, list the name(s) of those historic properties that have the potential to be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

Block 28. List the Wild and Scenic River or Congressionally Designated Study River if the Nationwide Permit Activity Would Occur in such a River. If the proposed NWP activity will occur in a river in the National Wild and Scenic River System or in a river officially designated by Congress as a "study river" under the Wild and Scenic Rivers Act, provide the name of the river. For a list of Wild and Scenic Rivers and study rivers, please visit http://www.rivers.gov/.

Block 29. Nationwide Permit Activities that also Require Permission from the Corps Under 33 U.S.C. 408. If the proposed NWP activity also requires permission from the Corps under 33 U.S.C. 408 because it will temporarily or permanently alter, occupy, or use a Corps federal authorized civil works project, indicate whether you have submitted a written request for section 408 permission from the Corps district having jurisdiction over that project.

Block 30. Other Information Required For Nationwide Permit Pre Construction Notifications. The terms of some of the Nationwide Permits include additional information requirements for preconstruction notifications:

* NWP 3, Maintenance –information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals.
* NWP 31, Maintenance of Existing Flood Control Facilities –a description of the maintenance baseline and the dredged material disposal site.
* NWP 33, Temporary Construction, Access, and Dewatering –a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre project conditions.
* NWP 44, Mining Activities –if reclamation is required by other statutes, then a copy of the final reclamation plan must be submitted with the pre construction notification.
* NWP 45, Repair of Uplands Damaged by Discrete Events –documentation, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration.
* NWP 48, Commercial Shellfish Aquaculture Activities –(1) a map showing the boundaries of the project area, with latitude and longitude coordinates for each corner of the project area; (2) the name(s) of the species that will be cultivated during the period this NWP is in effect; (3) whether canopy predator nets will be used; (4) whether suspended cultivation techniques will be used; and (5) general water depths in the project area (a detailed survey is not required).
* NWP 49, Coal Remining Activities –a document describing how the overall mining plan will result in a net increase in aquatic resource functions must be submitted to the district engineer and receive written authorization prior to commencing the activity.
* NWP 50, Underground Coal Mining Activities –if reclamation is required by other statutes, then a copy of the reclamation plan must be submitted with the pre construction notification.

If more space is needed, attach an extra sheet of paper marked Block 30.

Block 31. Signature of Applicant or Agent. The PCN must be signed by the person proposing to undertake the NWP activity, and if applicable, the authorized party (agent) that prepared the PCN. The signature of the person proposing to undertake the NWP activity shall be an affirmation that the party submitting the PCN possesses the requisite property rights to undertake the NWP activity (including compliance with special conditions, mitigation, etc.).

DELINEATION OF WETLANDS, OTHER SPECIAL AQUATIC SITES, AND OTHER WATERS

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current wetland delineation manual and regional supplement published by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. The 45 day PCN review period will not start until the delineation is submitted or has been completed by the Corps.

DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross Section Map. Identify each illustration with a figure or attachment number. For linear projects (e.g. roads, subsurface utility lines, etc.) gradient

drawings should also be included. Please submit one original, or good quality copy, of all drawings on 8½x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations. Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross section). While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.

ADDITIONAL INFORMATION AND REQUIREMENTS

For proposed NWP activities that involve discharges into waters of the United States, water quality certification from the State, Tribe, or EPA must be obtained or waived (see NWP general condition 25). Some States, Tribes, or EPA have issued water quality certification for one or more NWPs. Please check the appropriate Corps district web site to see if water quality certification has already been issued for the NWP(s) you wish to use. For proposed NWP activities in coastal states, state Coastal Zone Management Act consistency concurrence must be obtained, or a presumption of concurrence must occur (see NWP general condition 26). Some States have issued Coastal Zone Management Act consistency concurrences for one or more NWPs. Please check the appropriate Corps district web site to see if Coastal Zone Management Act consistency concurrence has already been issued for the NWP(s) you wish to use.

U.S. Army Corps of Engineers (USACE)

PERMIT INFORMATION SHEET

PERMIT FORM TYPE	DATE RECEIVED
ENG 6082	03/25/2026

TYPE OF PERMIT YOU'RE REQUESTING

☐ Standard ☐ Letter Of Permission ☑ General Permit

APPLICABLE STATUTORY AUTHORITY

☑ Section 404 Clean Water Act ☐ Section 10 Rivers and Harbors Act

☐ Section 103 of the Marine Protection, Research, and Sanctuaries Act

DO YOU PROPOSE COMPENSATORY MITIGATIONS?

No

COASTAL DISTRICT

WOULD THE PROJECT OCCUR IN THE TERRITORIAL SEAS OR OCEAN WATERS?

No

DESCRIBE THE ACTIVITY'S RELATIONSHIP TO THE BASELINE FROM WHICH THE TERRITORIAL SEA IS MEASURED

SECTION 408 USACE CIVIL WORKS PROJECTS

WILL THE PROPOSED ACTIVITY REQUIRES PERMISSION FROM THE USACE PURSUANT TO 33 U.S.C. 408 BECAUSE IT WILL ALTER OR TEMPORARILY OR PERMANENTLY OCCUPY OR USE A U.S. ARMY CORPS OF ENGINEERS FEDERALLY AUTHORIZED CIVIL WORKS PROJECT?

☐ Yes ☑ No ☐ I'm not sure

IF YES, HAVE YOU SUBMITTED A WRITTEN REQUEST FOR SECTION 408 PERMISSION FROM THE USACE DISTRICT HAVING JURISDICTION OVER THAT PROJECT?

☐ Yes ☑ No

GENERAL PERMIT INFORMATION

WILL THE PROPOSED ACTIVITY RESULT IN A LOSS TO WETLANDS OR WATERS THAT EXCEEDS NATIONAL OR DISTRICT THRESHOLDS?

No

Appendix B. Aquatic Resource Inventory:

Aquatic Resource Name	*State*	*Cowardin System*	*Cowardin Class*	*HGM Class*	*Local Waterway Name*	*Measurement Type*	*Measurement Amount*	*Measurement Units*	*Waters Type*	*Latitude*	*Longitude*
Cane River	NORTH CAROLINA					Linear	5000	FOOT	DELIN.NOJD-404	35.9772411	-82.3942371

Appendix C. Impact Inventory:

Water Name	*Impact Name*	*Activity*	*Type of Material Being Discharged*	*Resource Type*	*Permanent Loss (Y/N)*	*Impact Duration*	*Amount Type*	*Proposed Length*	*Proposed Width*	*Proposed Amount*	*Amount Units*
Cane River	Bridge 72	Other (Aquaculture, Work, Aerial or Submarine cable crossings)		Other	No	Temporary	Removal Area			1920	Square Feet
Cane River	Bridge 34	Other (Aquaculture, Work, Aerial or Submarine cable crossings)		Other	No	Temporary	Removal Area			3120	Square Feet
Cane River	Bridge 44	Other (Aquaculture, Work, Aerial or Submarine cable crossings)		Other	No	Temporary	Removal Area			3300	Square Feet
Cane River	Bridge 55	Other (Aquaculture, Work, Aerial or Submarine cable crossings)		Other	No	Temporary	Removal Area			1980	Square Feet
Cane River	Future Bridge TBD "XYZ"	Other (Aquaculture, Work, Aerial or Submarine cable crossings)		Other	No	Temporary	Removal Area			3000	Square Feet
Cane River	Toe of Slope at edge of River	Other (Aquaculture, Work, Aerial or Submarine cable crossings)		Other	No	Temporary	Removal Area			11880	Square Feet

Provide any additional information you may have about the proposed quantity of wetlands, streams, or other types of waters directly affected by the proposed

activity. This level of detail is helpful to better understand the type of impacts that are proposed for your project.

These borings will be performed using a rubber tired/track mounted drilling rig.

This approach minimizes environmental impact and eliminates the need for temporary work platforms or barges.

No dewatering or temporary fill is planned for in-water borings.

Appendix H. Supporting Information:

Document Type	*Document Created Date (YYYY-MM-DD)*	*Document Label*	*Information Source/Citation*	*Uploaded file name*
Endangered Threatened Species Information	2026-03-20	USFWS Biological Opinion	USFWS	US 19W North and South Biological Opinion 2026-03-20.pdf
Historic Properties Cultural Resources Information	2026-03-25	No Archaeological Survey Required Form	NCDOT	US 19W South - 2024-12-29 No Archaeological Survey Required Form.pdf
Historic Properties Cultural Resources Information	2026-03-25	US 19W South - 2025-01-02 Effects Required Form -no areas in geotech invest area	NCDOT	US 19W South - 2025-01-02 Effects Required Form (no areas in geotech invest area).pdf
Historic Properties Cultural Resources Information	2026-03-25	Tribal Coordination Letter and Response	NCDOT	US 19W South - 2025-03-25 Tribal Coordination Letter and Cherokee Nation Response.pdf
Other Information	2026-03-25	Project Description Summary and Impacts Cover Letter	NCDOT	US 19W South - 2026-03-24 NWP 6 Cover Letter.pdf
Maps plans plots or plats	2026-03-25	Geotechnical Boring Drawings/ Locations	NCDOT	US 19W South - Geotechnical Boring Drawings.pdf

Project Submittal Interim Form

Updated March 16, 2026

*Please note: fields marked with a red asterisk * below are required. You will not be able to submit the form until all mandatory questions are answered.*

Project Type: *

- (●) For the Record Only (Courtesy Copy)
- ( ) Modification/New Project with Existing ID
- ( ) Other Agency Comments
- ( ) Re-Issuance\Renewal Request
- ( ) New Project
- ( ) More Information Response
- ( ) Pre-Application Submittal
- ( ) Stream or Buffer Appeal

Is this application for a project associated with emergency response/repairs from Hurricane Helene impacts to your project or property? *

(●) Yes ( ) No

Submittal Type: *

401 Application - Certificate of Coverage

Project Contact Information

Name:

Michael Turchy

Who is submitting the information?

Email Address: *

maturchy@ncdot.gov

Project Information

Project Name: *

NCDOT / Helene Geotechnical Borings for Bridge 72, 34, 44, 55, 463 Bridge TBD ["xyz"] / Cane River / on US 19 and SR 1381 / Yancey / Div 13 / DF18313.1100998.1.1

Is this a public transportation project? *

(●) Yes ( ) No

Is this a DOT project? *

(●) Yes ( ) No

TIP#:

WBS#:

DF18313.1100998.1.1

(Applies to DOT projects only)

Is the project located within a NC DCM Area of Environmental Concern (AEC)? *

( ) Yes (●) No ( ) Unknown

Does this project involve maintenance dredging funded by the Shallow Draft Navigation Channel Dredging and Aquatic Weed Fund, electric generation projects located at an existing or former electric generating facility, or involve the distribution or transmission of energy or fuel, including natural gas, diesel, petroleum, or electricity? *

○ Yes ◉ No

Is this project connected with ARPA funding? *

○ Yes ◉ No

Is this application being filed jointly with another party involved with this project? *

○ Yes ◉ No

County (ies) *

Yancey

Please upload all files that need to be submited.

Click the upload button or drag and drop files here to attach document

Generated_Turchy_36597_41214_0_Appx_B_Aquatic_Resources.pdf	49.77KB
Generated_Turchy_36597_41214_0_Appx_C_Impacts.pdf	72.71KB
Generated_Turchy_36597_41214_0_Appx_H_Supporting_Files.pdf	53.75KB
Generated_Turchy_36597_41214_0_ENG_6082_PCN.pdf	548.99KB
Generated_Turchy_36597_41214_0_NCDWR 401_JPA_Report.pdf	94.24KB
Generated_Turchy_36597_41214_0_Permit_Additional_Info.pdf	217.89KB
US 19W North and South Biological Opinion 2026-03-20.pdf	4.37MB
US 19W South - 2024-12-29 No Archaeological Survey Required Form.pdf	5.71MB
US 19W South - 2025-01-02 Effects Required Form (no areas in geotech invest area).pdf	715.14KB
US 19W South - 2025-03-25 Tribal Coordination Letter and Cherokee Nation Response.pdf	9.19MB
US 19W South - 2025-07-02 CE for Geotech.pdf	3.09MB
US 19W South - 2026-03-24 NWP 6 Cover Letter.pdf	292.59KB
US 19W South - Geotechnical Boring Drawings.pdf	1.96MB

Only pdf or kmz files are accepted.

Describe the attachments or add comments:

*

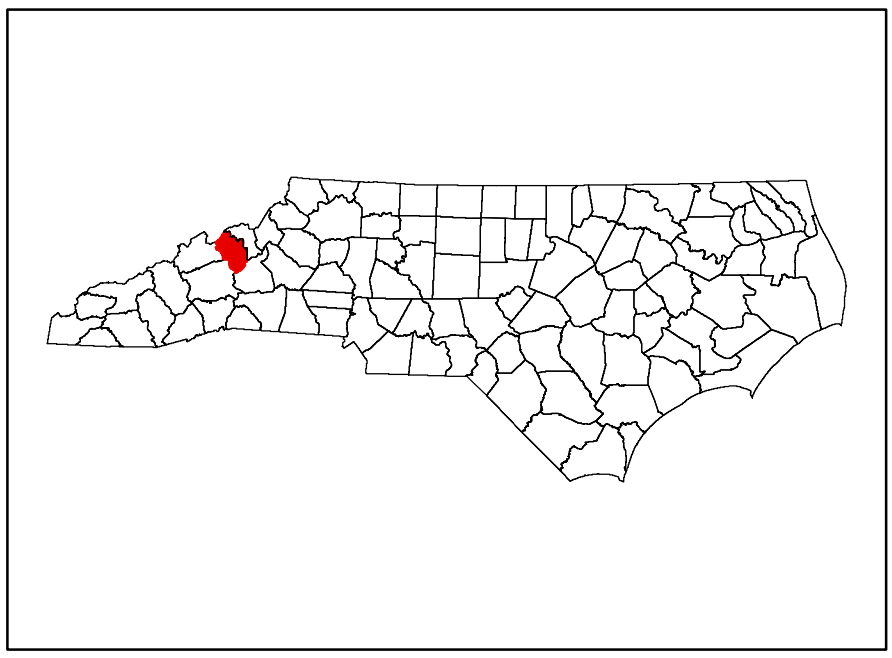
☑ By checking the box and signing box below, I certify that:

- I, the project proponent, hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief.
- I, the project proponent, hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.
- I agree that submission of this online form is a “transaction” subject to Chapter 66, Article 40 of the NC General Statutes (the “Uniform Electronic Transactions Act”);
- I agree to conduct this transaction by electronic means pursuant to Chapter 66, Article 40 of the NC General Statutes (the “Uniform Electronic Transactions Act”);
- I understand that an electronic signature has the same legal effect and can be enforced in the same way as a written signature; AND
- I intend to electronically sign and submit the online form.

Signature: *

Submittal Date:

Permit Drawings



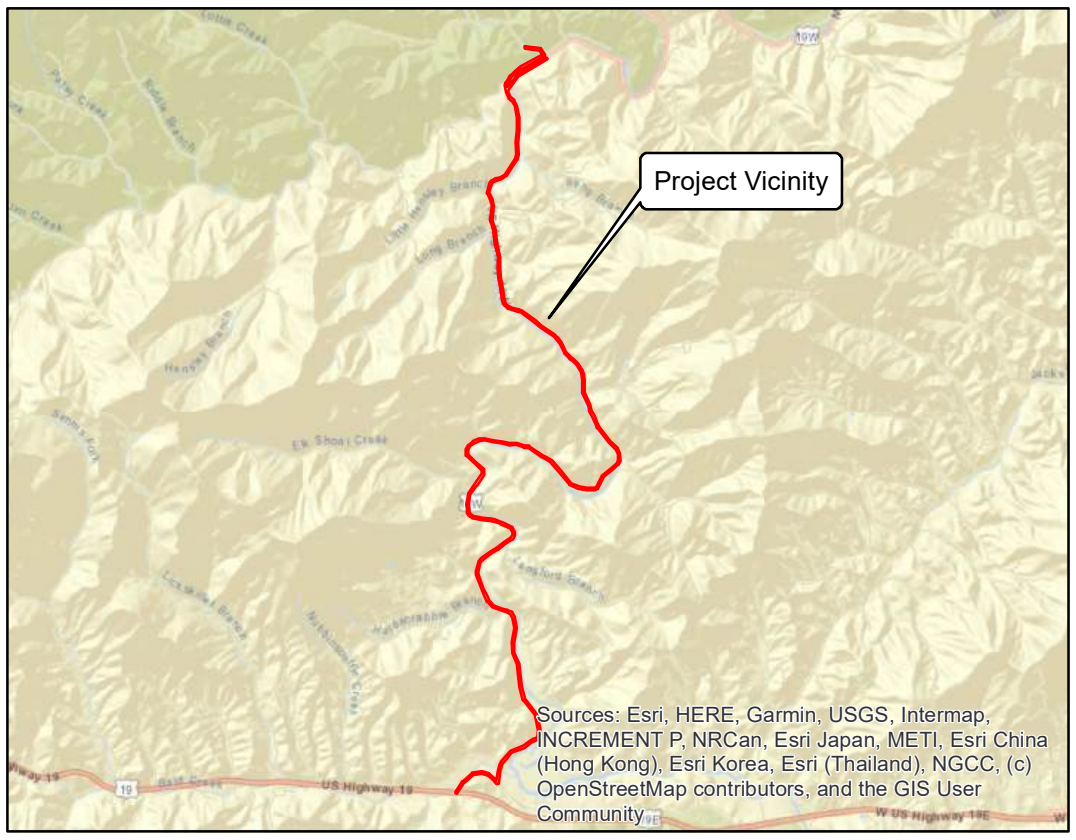
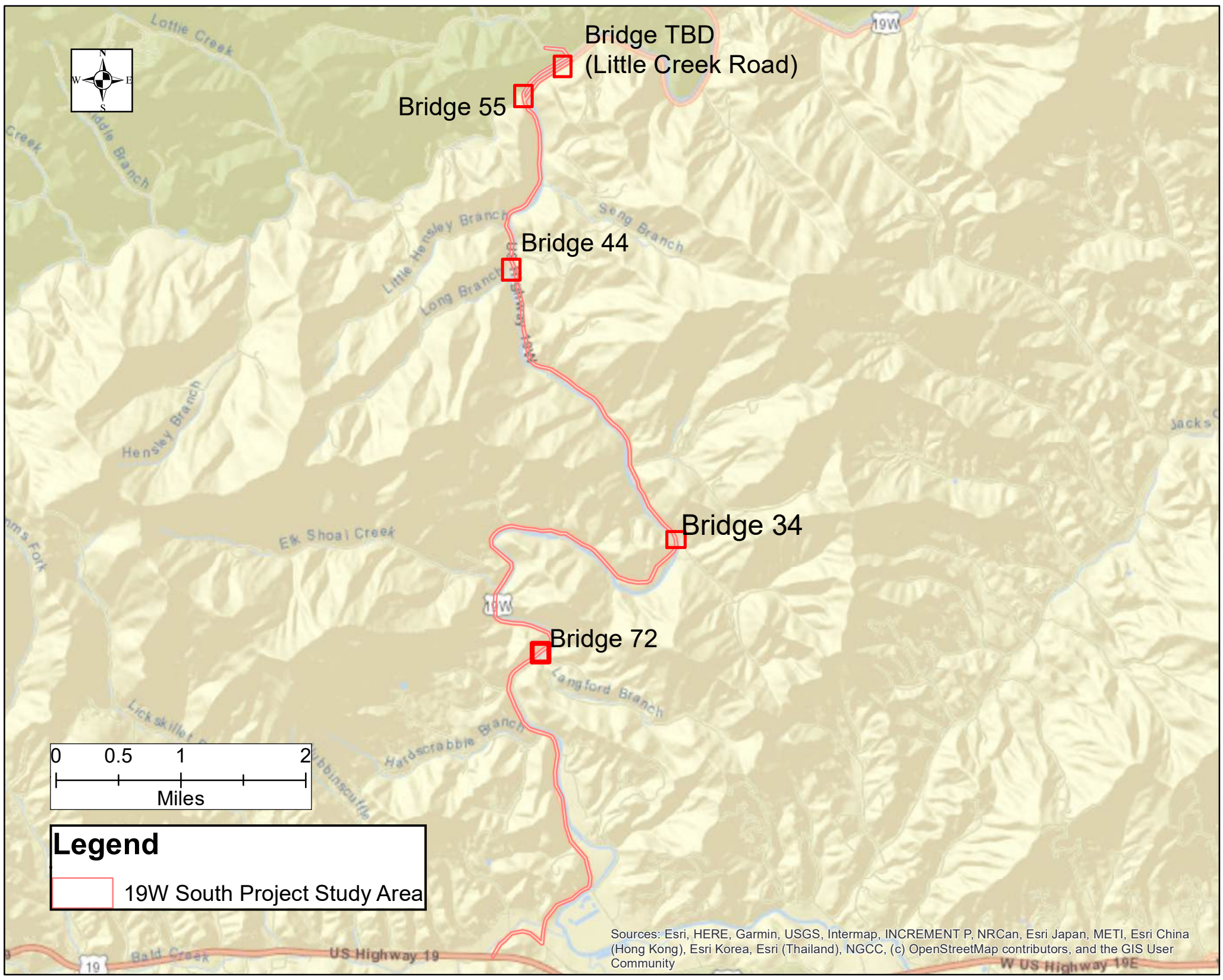
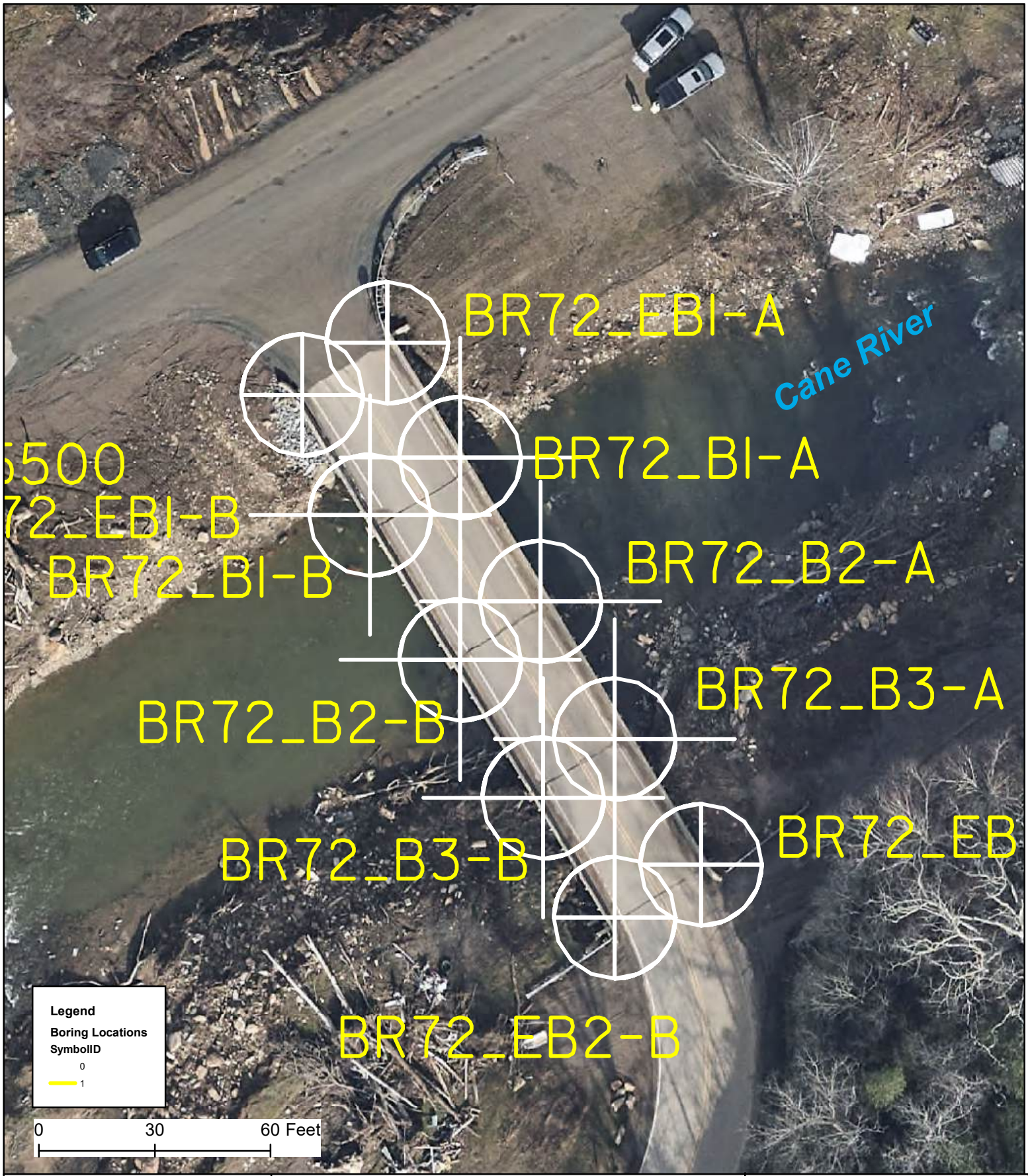


Figure 1
Vicinity Map

Priority Bridge Replacement Locations
19W South
Burnsville, Yancey County, NC

August, 2025





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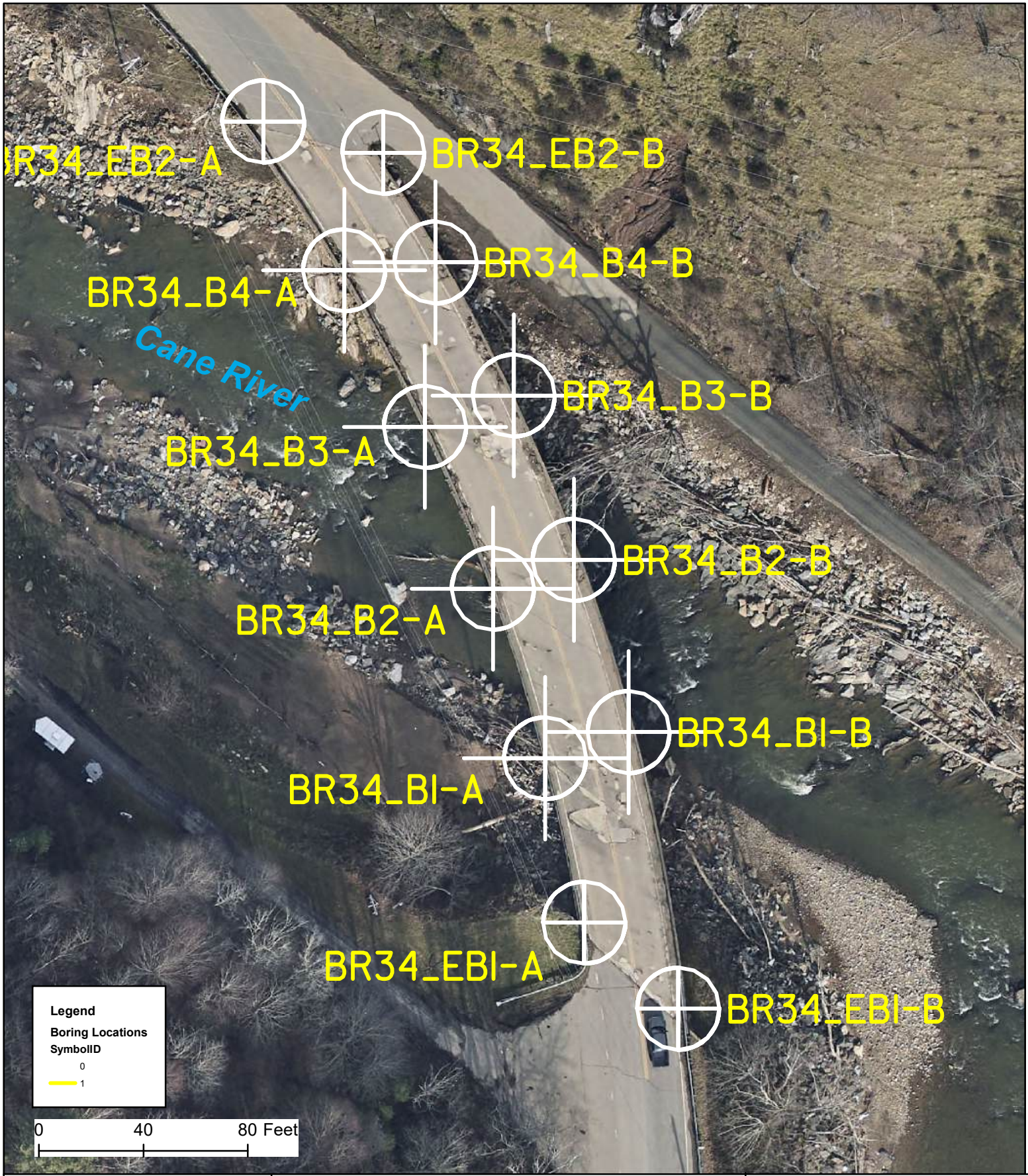
Sources:
NCDOT, NC OneMap, ESRI

August 2025

Helene Permanent Repairs
19W South Repair Project in
Yancey County, Division 13

Bridge 72 over Cane River
WBS 18313.1100998

GFT



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Sources:
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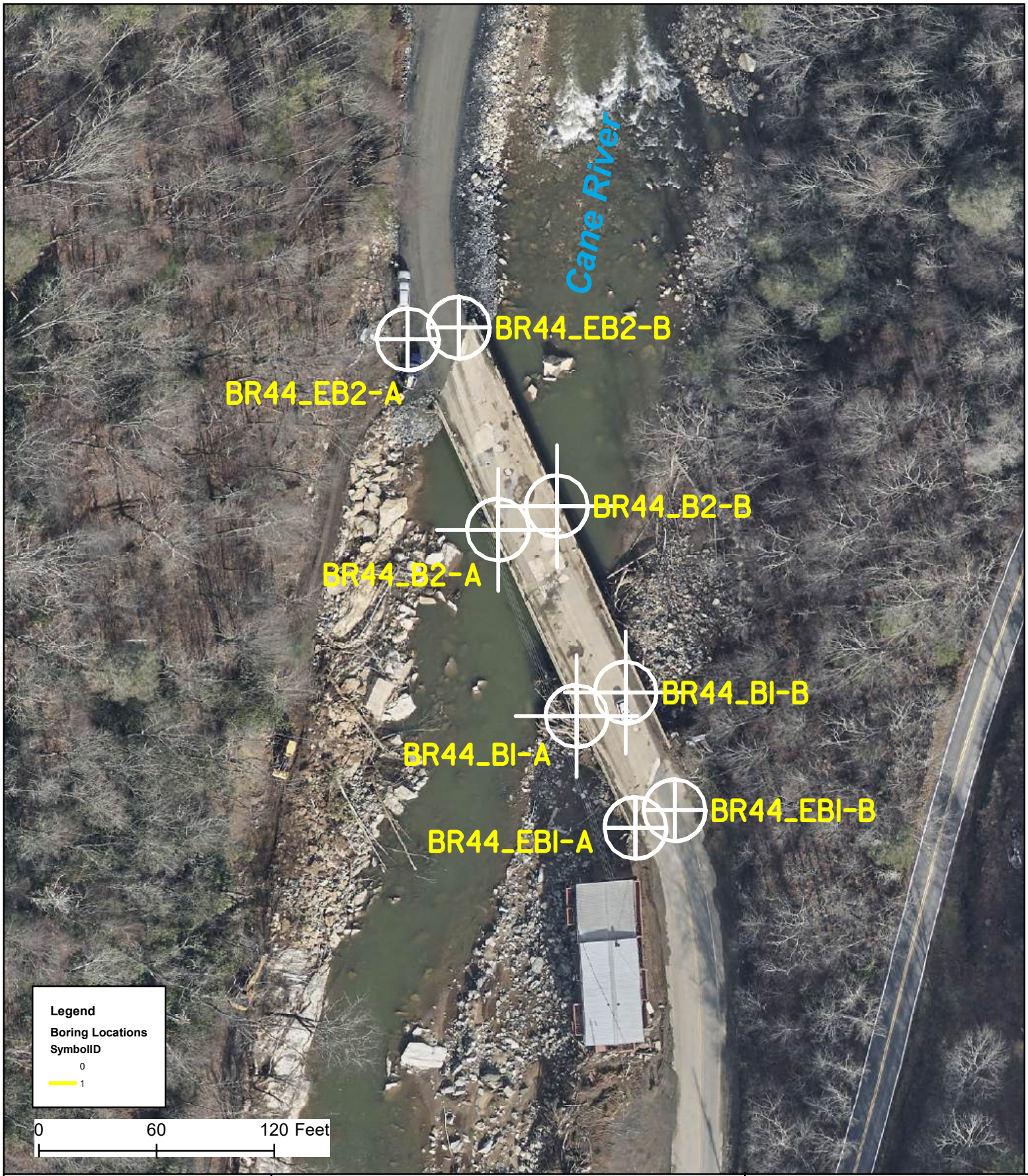
August 2025

Helene Permanent Repairs
19W South Repair Project in
Yancey County, Division 13

Bridge 34 over Cane River
WBS 18313.1100998

GFT



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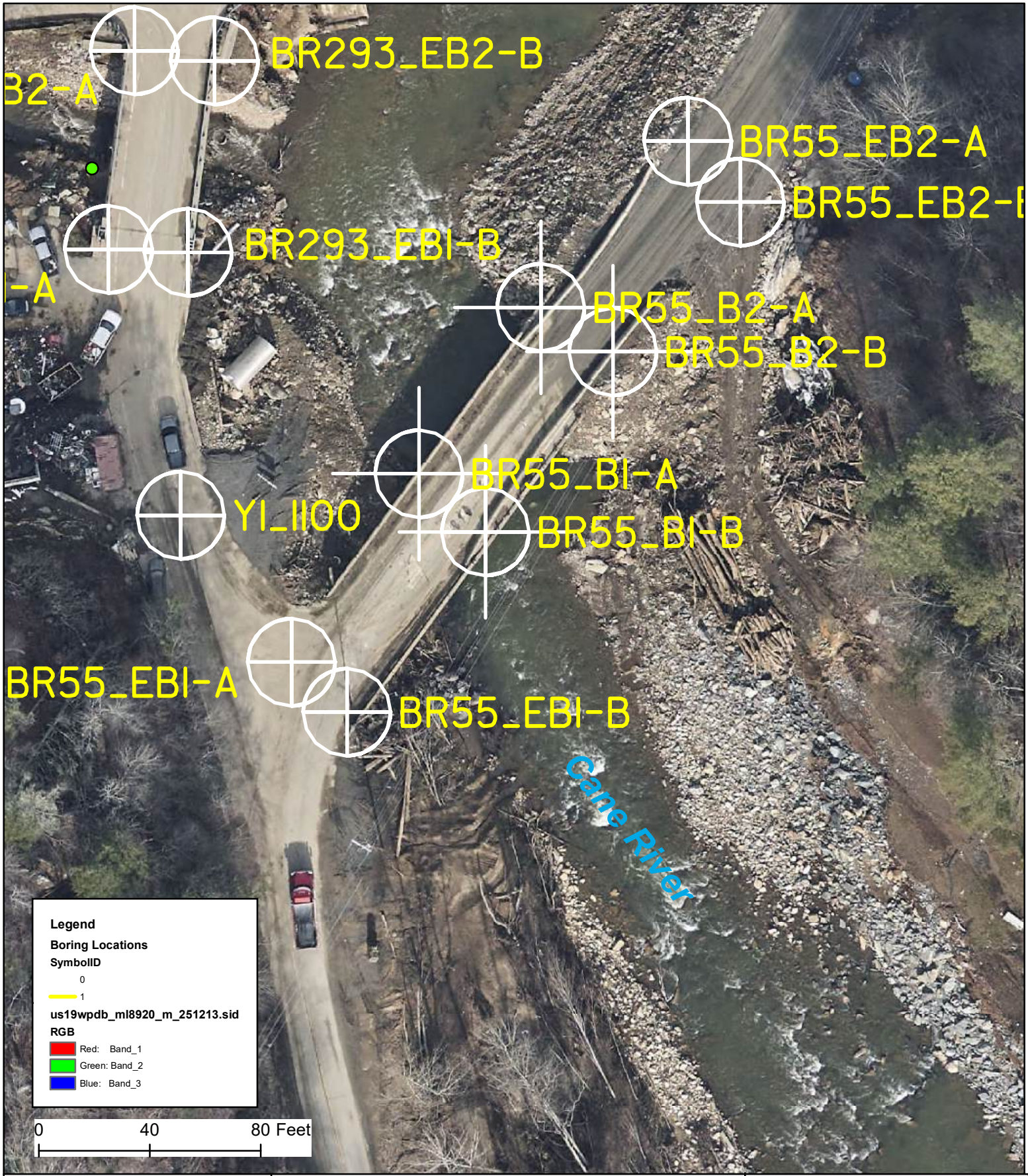
Sources:
NCDOT, NC OneMap, ESRI

August 2025

Helene Permanent Repairs
19W South Repair Project in Yancey County, Division 13

Bridge 44 over Cane River
WBS 18313.1100998

GFT



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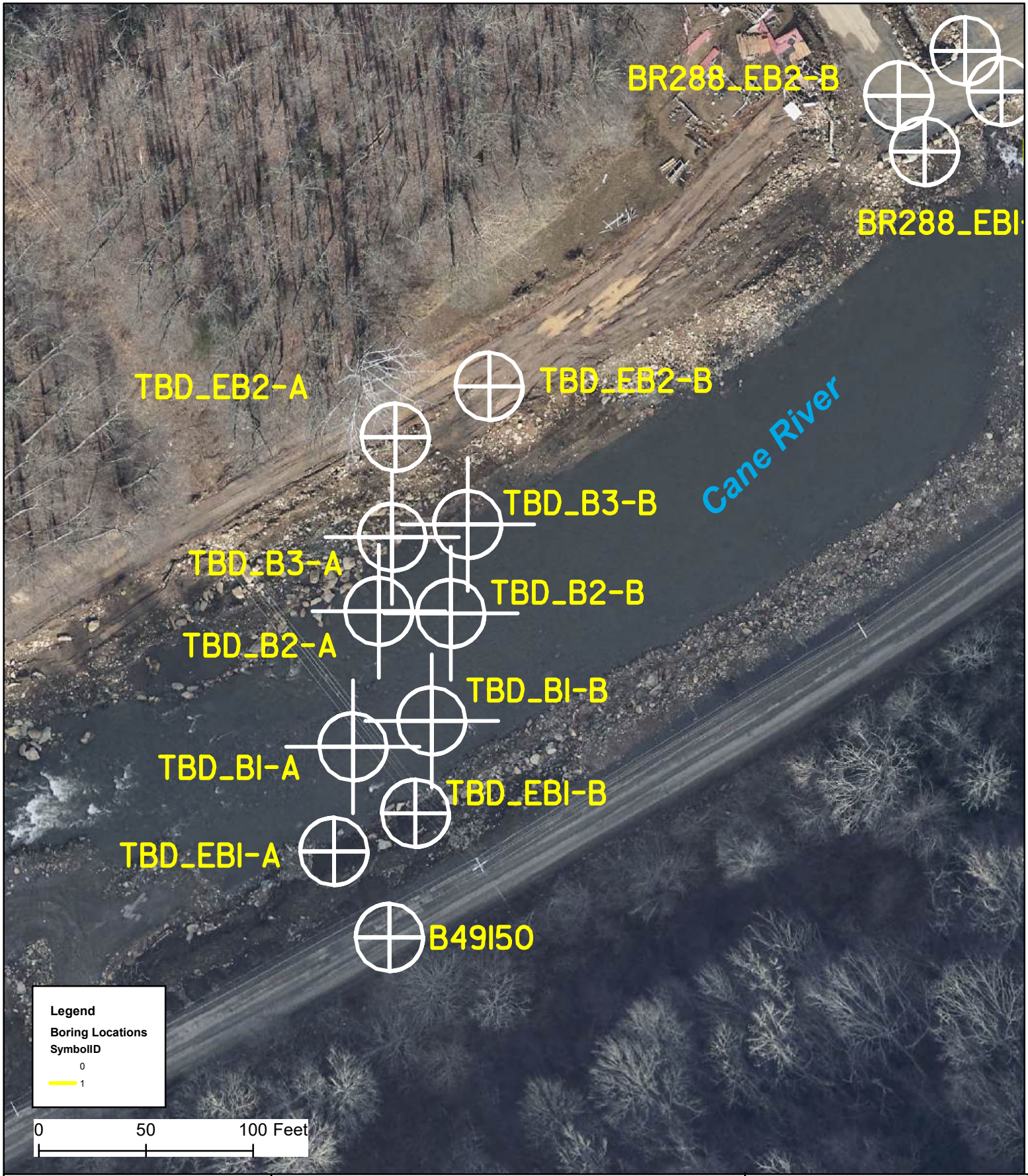
Sources:
NCDOT, NC OneMap, ESRI

August 2025

Helene Permanent Repairs
19W South Repair Project in Yancey County, Division 13

Bridge 55 over Cane River
WBS 18313.1100998

GFT



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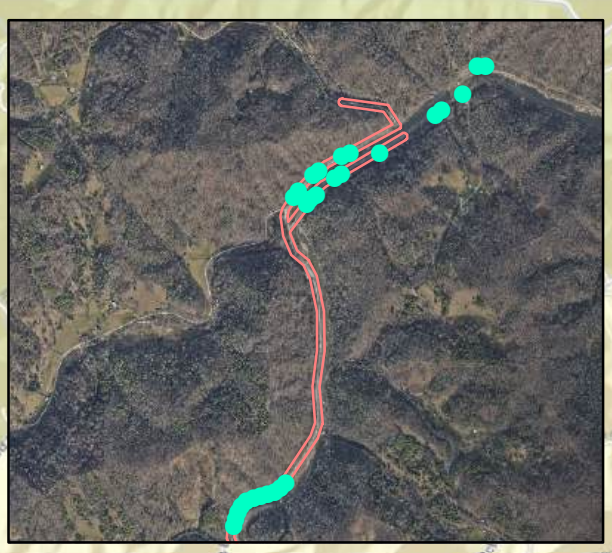
Sources:
NCDOT, NC OneMap, ESRI

August 2025

Helene Permanent Repairs 19W South Repair Project in Yancey County, Division 13

TBD (Little Creek Rd) over Cane River
WBS 18313.1100998

GFT



Legend

- 19W South Project Study Area
- Toe of Slope In-Water Borings

Boring Locations

SymbolID

- 0
- 1

0 0.5 1 Miles

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Sources:
NCDOT, NC OneMap, ESRI

August 2025

Helene Permanent Repairs
19W South Repair Project in Yancey County, Division 13

Toe of Slope In-Water Boring Locations
WBS 18313.1100998

GFT

ESA Consultation

Biological and Conference Opinion

Repair Portions of U.S. Highway 19 West – North & South Sections and Portions of Intersecting Roadways Damaged by Tropical Storm Helene in Yancey County, North Carolina

Service Log #25-130, 25-131

Prepared by:

U.S. Fish and Wildlife Service
Asheville Ecological Services Office
160 Zillicoa Street
Asheville, North Carolina 28801

GARY PEEPLES

Digitally signed by GARY PEEPLES
Date: 2026.03.20 11:57:18 -04'00'

Gary Peeples
Acting Field Supervisor
Asheville Ecological Services Field Office
Asheville, North Carolina

Table of Contents

Consultation History

- **March 6, 2025**: Consultant, on behalf of North Carolina Department of Transportation (NCDOT), submitted scoping request letter via email for US 19W project to U.S. Fish and Wildlife Service (Service) and other resource agencies.
- **March 18, 2025**: Service provided scoping response comments to consultant via email.
- **July 31, 2025**: NCDOT submitted Biological Assessment (BA) to Service for review and Service provided verification of receipt.
- **August 21, 2025**: Service sent email to NCDOT requesting additional information in the BA and as notification on the location of Virginia spiraea (*Spiraea virginiana*) within the action area.
- **September 17, 2025**: Service, NCDOT, and North Carolina Natural Heritage Program met on site to observe, discuss, and demarcate Virginia spiraea plant location within the action area.
- **September 18, 2025**: NCDOT provided updated action area figures depicting proposed tree clearing areas.
- **September 23, 2025**: Service and NCDOT discussed measures on behalf of Virginia spiraea and NCDOT provided updated BA via email.
- **October 28, 2025**: Service reiterated request for project description and depiction regarding retaining wall locations.
- **November 6, 2025**: NCDOT provided Service with updated figures depicting potential retaining walls and needed information was considered complete, implying the official start of formal consultation.
- **January 7, 2026**: Service provided NCDOT with draft Biological Opinion (BO) for review prior to finalization.
- **February 10, 2026**: NCDOT submitted revised BA to the Service for review.
- **February 19, 2026**: Service requested additional information pertaining to updated BA.
- **March 6, 2026**: NCDOT provided several responses to requested information.
- **March 10, 2026**: Service, NCDOT, NC Wildlife Resources Commission, and several consultants and contractors associated with the subject project met at the Service office to discuss elements of the river reconfiguration plan and habitat improvement opportunities. The group then drove to the action area, drove the corridor, and stopped at sites along the river to discuss conditions and plans.
- **March 16, 2026**: NCDOT provided requested information on impact amounts. BA considered complete.
- **March 19, 2026**: Service provided NCDOT with draft Biological Opinion (BO) for review prior to finalization.
- **March 20, 2026**: NCDOT responded that their review of the draft BO was complete, no edits needed.

Background

On September 27, 2024, Tropical Storm (TS) Helene moved across a large swath of Western North Carolina (WNC). Extreme rainfall and high winds resulted in catastrophic damage across much of the region. Record flooding occurred throughout several watersheds, destroying thousands of transportation sites as well as homes and entire communities. Widespread landslides and timber fall contributed to the damage. In the wake of this disastrous event, the North Carolina Department of Transportation (NCDOT) is tasked with responding to, repairing, and replacing the transportation infrastructure destroyed by TS Helene. The following formal consultation and conference is presented in review of the subject project. Repair will occur along approximately 25 miles of U.S. Highway 19 West (US 19W, north and south sections) and intersecting roadways, which function as the sole transportation corridors for rural

residences along these valleys of the Cane, Nolichucky, and North Toe Rivers and their tributaries (Figure 1). The format utilized in this consultation is intended for TS Helene-related projects and is tailored to the unique challenges and constraints precipitated by this event. Biological determinations presented below are based on the best available scientific data and project information at the time of this document and incorporates the expertise of U.S. Fish and Wildlife Service (Service) and partner resource agencies.

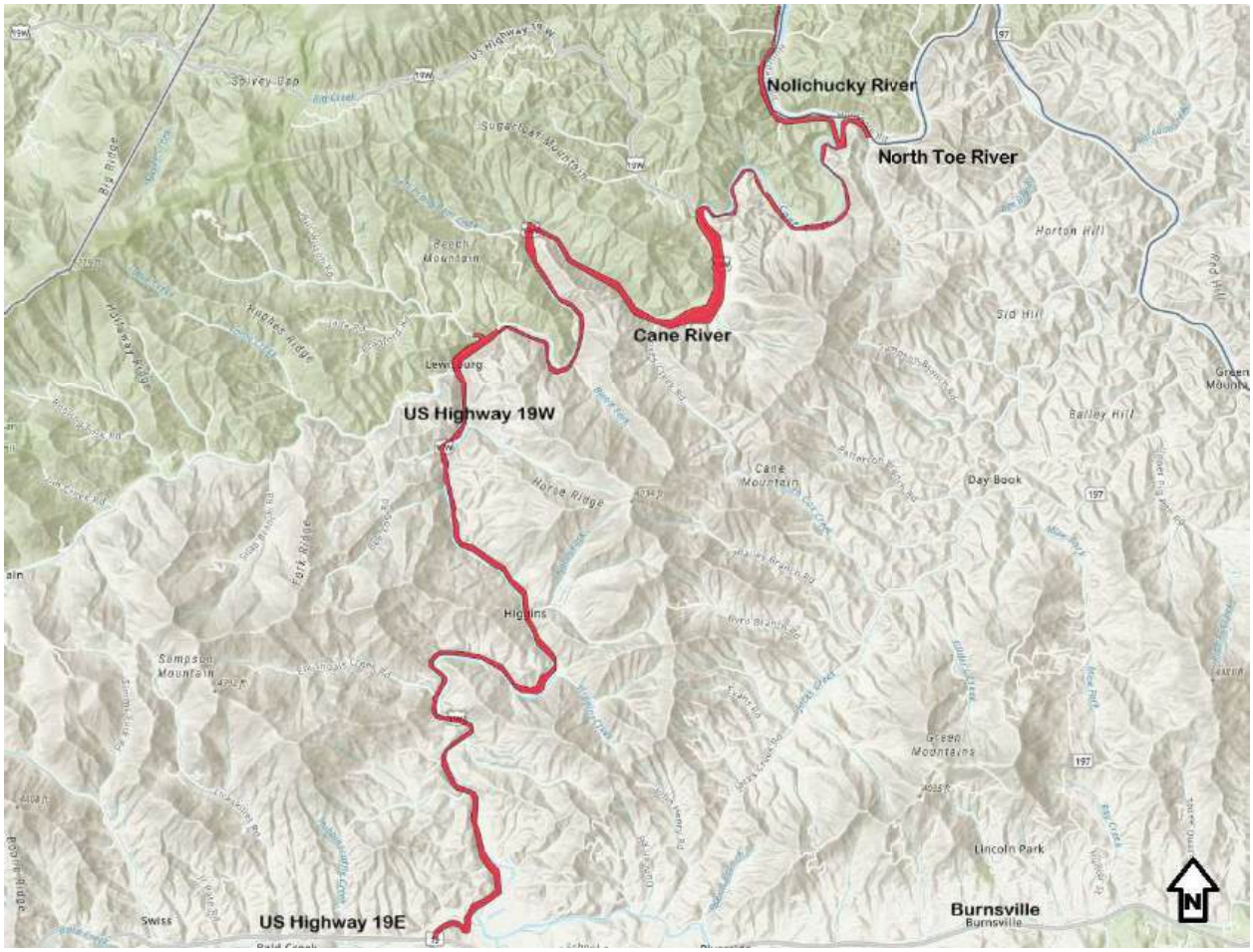

Figure 1. Overview of action area project location

The NCDOT assessed the action area addressed in this document for the presence of suitable habitat for listed species and for the potential effects of project work on listed species with suitable habitat present. The following outlines "No Effect" (NE) and "Not Likely to Adversely Affect" (NLAA) determinations, with supporting biological rationale, with Service statements in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

<u>NE Determination</u>

Rock Gnome Lichen	(*Gymnoderma lineare*)	Endangered

The NE determination for rock gnome lichen is based on the absence of suitable habitat within the action area, as described in the BA. In instances where suitable habitat is absent from the action area, or where

project actions would not result in impacts to suitable habitat within the action area, we agree that NE determinations are appropriate.

NLAA Determination

Small Whorled Pogonia	(*Isotria medeoloides)*	Threatened

The NLAA determination for small whorled pogonia is based on the degraded habitat quality within the action area, as described in the BA. While suitable habitat may have previously been present, the impacts from TS Helene are described as having degraded habitat availability and quality to an extent where it is considered unlikely to support the species. The BA also states that limited field surveys for the plant were conducted, though were limited due to poor field conditions from storm damage and erosion. Based on the described degraded condition of suitable habitat and the negative results from partial botanical surveys, we concur with the determination that the project is NLAA small whorled pogonia.

Proposed Species

On December 12, 2024, monarch butterfly (*Danaus plexippus*) was proposed for listing as endangered under the ESA. Species proposed for listing are not afforded protection under the ESA; however, as soon as a listing becomes effective, the prohibitions against jeopardizing its continued existence and "take" will apply. Should a listing decision for monarch butterfly become imminent, the NCDOT can pursue conferencing with the Service to address potential project mediated impacts to the species or its habitat within the action area.

Biological Opinion and Conference Opinion

1. Introduction

A biological and conference opinion (Opinion) is the document stating the opinion of the Service in accordance with section 7 of the ESA of 1973, as amended (16 U.S.C. 1531-1543) , as to whether a Federal action is likely to jeopardize the continued existence of species listed as endangered or threatened; or result in the destruction or adverse modification of designated critical habitat. A conference opinion (CO) is equivalent to a biological opinion but addresses species that are not yet listed under the ESA and/or proposed critical habitats not yet designated, meaning that ESA prohibitions against jeopardy, adverse modification, and taking do not yet apply for those proposed species. The Service may adopt a CO as a biological opinion if the evaluated species/critical habitat are eventually listed/designated and while the action agency maintains discretion and involvement in the action.

This document transmits the Service's biological and conference opinions and is based on our review of the proposal to repair the extensive damage caused during TS Helene to a portion of the US 19W corridor and intersecting roadways and the effects on the federally endangered Appalachian elktoe (*Alasmidonta raveneliana*) and its designated critical habitat, gray bat (*Myotis grisescens*), northern long-eared bat (*Myotis septentrionalis*); federally threatened Virginia spiraea (*Spiraea virginiana*); and federally proposed endangered tricolored bat (*Perimyotis subflavus*) and eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*). This Opinion is based on information provided in the assessment submitted to the Service by the NCDOT, field investigations, correspondence between NCDOT and the Service, and other sources of information as cited. The Federal Highway Administration (FHWA) is the lead Federal action agency for this project, with consultation authority delegated to the NCDOT.

2. Proposed Action

As defined in the Service's section 7 regulations (50 CFR 402.02), "*action*" means "*all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas*." The "*action area*" is defined as "*all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action*." The direct and indirect effects of the action and activities must be considered in conjunction with the effects of other past and present Federal, state, or private activities, as well as the cumulative effects of reasonably certain future state or private activities within the action area.

2.1 Action Area

The action area includes approximately 14 miles of roadway in the north section (US 19W, Will Higgins Road, Huntdale Road, Murphytown Road, and Hunting Dale Road); 11 roadway miles in the south section (US 19W, Little Creek Road, and Phillips Road) of the greater US 19W corridor; and associated crossing structures in Yancey County, North Carolina (NC). The action area encompasses terrestrial and aquatic habitats affected by roadway and crossing structure restoration, including areas subject to vegetation clearing, noise, runoff, and in-stream work. Approximately 18 river miles of the Cane River, 1.5 of the Nolichucky River, and 0.5 of the North Toe River are within the action area.

Prior to TS Helene, the action area included intact roadway segments, stable banks, and functioning culverts/bridges. The storm resulted in extensive washouts of roadbeds, shoulders, and in some cases entire roadway portions (Figures 2-4). Emergency response actions included temporary fill placement, movement of in-stream materials, streambank stabilization, and temporary crossing

structure installations to restore access.

The project action area is comprised of:

1.) The portion of the US 19W corridor, divided into two sections (North & South), that is in Yancey County and runs along the Cane River, several tributaries, and a portion of the Nolichucky River and North Toe River. The north section repair area (Service Log# 25-130) extends approximately six miles on US 19W from Piney Hill Road to Huntdale Road. The section includes approximately two miles of Will Higgins Road between its southern and northern intersections with US 19W; approximately four miles of Huntdale/Hunting Dale Road from US 19W to the North Toe River Bridge; and approximately 2 miles of Murphytown Road from Huntdale Road to the end of state maintenance (Project No. 18313.1100999). The south section repair area (Service Log# 25-131) extends approximately nine miles on US 19W from Cane River School Road to Piney Hill Road as well as approximately one mile of Little Creek Road northwest of US 19W and approximately one mile of Phillips Road northeast of Little Creek Road (Project No. 18313.1100998). The action area includes the waterbodies adjacent to the roadways. See Figure 1 for action area overview and Figures A1-B11 for road corridor sections.
2.) Nineteen crossing structures (17 bridges and two culverts with suitable bat roosting features) within the described roadway corridor. See Tables 1-3 for crossing structure identification and Figures A1-A20 for general location depictions.
3.) Portions of roadway repair-related work such as tree-clearing, grading, and excavation adjacent to the roadway itself; as well as off-site borrow and/or waste areas.

Figures 2-4. October 31, 2024 images of damaged portions of US 19W along Cane River within action area

2.2 Project Description

The NCDOT and FHWA propose to repair the damage caused during TS Helene to the north and south sections of the US 19W corridor and connecting roadways as described above. A total of 17 bridges (seven in the north section and 10 in the south section) and two culverts (with dimensions ≥ 3 feet diameter x 60 feet in length) in the south section will be repaired or replaced. These structures are described in Tables 1-3. As stated in the BA, all proposed activities associated with this project are limited to restoring infrastructure and environmental conditions to their pre-storm state, as they existed prior to TS Helene. No new major road alignments, capacity expansions, or additional development will be undertaken as part of this effort. The intent of this work is to restore safe travel and access in the affected areas without introducing new or expanded transportation infrastructure beyond what was previously in place. The project is scheduled to begin in March 2026 and will be completed in approximately 2.5 years (September 2028).

Certain elements of project design are not yet known, given the expedited nature of the response and repair necessitated by the massive volume and scale of TS Helene destruction. However, project activities and estimated impacts, based on the "knowns" associated with this type of project work, are available. At the time of this consultation, due to the exceptional circumstances and accelerated pace of this project, the expectation is that certain elements of the project may change as project actions move forward. That constraint is acknowledged and the FHWA/NCDOT's responsibility for consultation reinitiation for project modifications will be followed as necessary.

The general and expected elements of this large-scale repair project are shared here and described in more detail throughout this section. Broadly, work will entail vegetation removal for roadway and structure reconstruction, ground disturbance from grading and slope stabilization, temporary disturbance from construction equipment and staging areas, placement of temporary and permanent fill, and in-water work such as installation of work pads, geotechnical borings, streambank stabilization, bridge and culvert replacement, and river re-establishment activities. Heavy equipment is anticipated to operate both adjacent to and within waterbodies where necessary to complete infrastructure repairs and channel stabilization. Associated noise, vibration, and temporary night-lighting are expected to occur throughout the action area.

2.2.1 Full Reconstruction

As depicted in Figures A1-B11, much of the US 19W north and south repair sections will include full

reconstruction, which are roadway sections that will be fully reconstructed and correlate with emergency repair areas, i.e., those areas that were washed away during the storm and reconstructed during emergency repair operations. NCDOT utilized available resources and recovered materials that were quickly accessible, often from within the adjacent waterway, to rebuild roadways on their pre-storm alignments as closely as possible during the emergency repair operations directly following TS Helene. The full reconstruction scope of work for these sections may include shoulder and slope construction (i.e., cut and fill slopes), pipe work, stream work, streambank stabilization, clearing, paving, guardrail, etc., though at the time of this document the exact locations of such activities are considered preliminary in design. The many sections of bank repair and stabilization are necessitated by the extreme scour and loss of riverbank and roadbed during the TS Helene flooding. Some sections of streambank remain intact, while others were destroyed by the storm and will have to be restored. The construction of retaining walls on the river side of the road is not anticipated, though retaining walls may be constructed upslope from the roadway in areas not yet specified. In lieu of retaining walls between the road and the river, forms of durable, cement-stabilized rock-armoring technique(s) are planned for bank repair and slope stabilization. Tree clearing may be needed in these areas and conservative tree clearing limits are shown on the figures. Certain portions of roadway will need resurfacing only.

Estimated bank stabilization to occur along roadway embankments, included within the full reconstruction areas, is 22,000 linear feet in the US 19W south section and 52,000 linear feet in the US 19W north section. Within those areas, approximately 2,000 linear feet of in-stream work for bank stabilization is estimated in the south section; and approximately 6,200 linear feet of in-stream work for bank stabilization is estimated in the north section.

Night work and associated lighting may occur, though extent and duration is currently unknown. No new permanent lighting will be installed. High-decibel and vibratory activities including blasting, pile driving, and jackhammering are also anticipated. Blasting is expected to occur at several locations throughout the project corridor, though complete and exact locations are unknown at the time of this consultation.

2.2.2 River Re-establishment

River re-establishment work is proposed in multiple locations where channel instability, storm damage, or encroachment on the roadway has resulted in departures from natural channel form (Figures A1-B11). As shown in the figures, some of these areas overlap with portions of full reconstruction work while some occur where only resurfacing activities are planned. The intent of the proposed river work is to re-establish stable geomorphology while protecting adjacent roadway embankments from future instability. Wherever practicable, existing native material on-site will be utilized and reconfigured to achieve the proposed channel design. Riffle-pool complexes will be constructed based on bankfull channel dimensions in areas where the river is realigned near roadway structures or where channel migration has impacted the roadway alignment. Low-flow benches and overbank areas will be incorporated in areas to provide energy dissipation during high-flow events and to enhance channel stability. Vegetation is anticipated to be established on these benches and, where feasible, atop riprap bank protection to promote riparian recovery and long-term stabilization. In several over-widened channel segments, low-flow benches are proposed on one or both sides of the river, in some cases limited to the roadway side only, with no modifications to the existing channel bottom. Final channel alignment, profile, and geometry may be adjusted during construction to accommodate existing site conditions, with priority placed on achieving long-term channel and roadway stability, minimizing disturbance, and maximizing use of native materials.

Sections selected for river re-establishment were identified based on visual assessments indicating significant departure from stable natural channel form, locations where storm damage has impacted roadway infrastructure requiring channel relocation or stabilization, and areas where proposed roadway reconstruction affects the river corridor. These areas represent locations of the greatest need for geomorphic stabilization to protect transportation facilities and restore aquatic habitat function. Additionally, areas identified as priority locations for aquatic habitat re-establishment will be chosen with input from select Service and the North Carolina Wildlife Resources Commission (NCWRC) biologists, as addressed in Aquatic Conservation Measure 4 in section 2.3 below. The design process for habitat areas will include collaboration between biologists, river restoration specialists, design engineers, and others as appropriate. A field meeting occurred between interested parties (NCDOT, river re-establishment consultant, contractors, the Service, and NCWRC) on March 10, 2026, during which the action area corridor was driven and several locations were visited and observed to discuss reference areas, potential habitat re-establishment areas, etc.

Proposed typical sections are still under design and will vary by location, with some segments involving full channel re-establishment including the channel bottom, while others involve construction of low-flow benches on one side of the river with no channel bottom disturbance. Figure C1 depicts an example typical. Because the project remains in preliminary design, a conservative accounting approach has been applied by assuming the entire river width is impacted within each re-establishment segment, regardless of the specific design treatment proposed. This conservative methodology likely overestimates actual disturbance but ensures potential effects to aquatic resources are fully captured for impact assessment purposes.

Estimated river re-establishment in the south section = 31 acres (and 11,000 linear feet) and estimated river re-establishment in the north section = 64 acres (and 27,300 linear feet).

2.2.3 Tree Clearing

Tree clearing will occur to accommodate roadway reconstruction, slope stabilization, bridge replacement, staging areas, and access routes. No tree clearing is anticipated adjacent to roadway resurfacing segments. However, two locations have increased potential clearing due to alignment selection necessitated by site conditions and assessed constraints. While this project does not include any major road realignments, two alignment adjustments are discussed as they relate to tree clearing, as follows. At Bridge 44 in the US 19W south section (FigureA2), construction on a new alignment northeast of the existing bridge will result in additional clearing associated with a cut slope beneath Piney Hill Road and contractor-identified staging areas north of the structure. At Little Creek Road in the US 19W south section, reconstruction near the pre-storm alignment will require a substantial cut north of Bald Mountain Creek west of the Cane River (Figure A1). Earlier design concepts considered abandoning the pre-storm Little Creek Road alignment in favor of a new crossing; selection of the preferred alignment has therefore increased localized clearing in this area. The approximately 21-acre clearing area north of Bald Mountain Creek reflects the constraints of reconstructing Little Creek Road near its pre-storm alignment on steep terrain west of the Cane River. The preferred alignment was selected in part because it avoids introducing new stream crossings or expanded impacts in undisturbed areas. Additionally, fill material for the project is proposed to be sourced primarily from the roadway cut at this location, which reduces the need for off-site borrow and associated haul road impacts. During construction, erosion and sediment controls will be implemented in accordance with NCDOT standard practices and project-specific BMPs. Following construction, the disturbed area will be stabilized and restored using native seeding, erosion control matting, live staking, and revegetation with native species per General Conservation Measure 1, as addressed in section 2.3.

Approximately 48.5 acres of tree clearing will occur within the action area. In the US 19W south section, preliminary tree clearing limits = 25.5 acres, and in the US 19W north section, preliminary tree clearing limits = 23 acres.

2.2.4 Fill Materials

At the time of this consultation, NCDOT shared that quantities of temporary and permanent fill are still being refined as design plans progress. Fill material will be required not only at bridge and culvert replacement sites but also at roadway and shoulder repair locations impacted by scour and washouts. Fill material will primarily be sourced from the proposed roadway cut on Little Creek Road (Figure A1) and commercial quarries, as needed, and placement will be managed to the maximum extent practicable to minimize aquatic and terrestrial impacts.

2.2.5 Crossing Structures

The action area contains 17 bridges damaged or destroyed by the TS Helene flooding. These bridges will either be replaced or repaired, according to need. Each bridge (seven in the US 19W north section and ten in the US 19W south section) is listed in Tables 1 and 2, respectively. Work impacting bridges may occur any time of year.

The action area also contains two culverts with dimensions suitable for bat roosting (per the NCDOT Standard Operating Procedures for Preliminary Bat Habitat Assessments). As noted in Table 3, one is a corrugated metal pipe, and one is a cast-in-place concrete pipe. Work impacting culverts may occur during any time of year. Considering the range in structure and waterbody sizes analyzed in this review and basing amounts on past similarly-sized structure and waterbody NCDOT crossing structure projects in WNC, the estimate of combined (temporary and permanent) in-water impacts for these projects ranges from 0.01 – 0.35 acres (or 435.6 – 15,246 square feet) per structure. These impacts may be in the form of work pad causeways, bent removal and/or placement, and placement of stream-bank stabilization materials.

NCDOT provided the biological rationale in support of effect determinations for listed and proposed bat species assumed to be present within the action area (Tables 1-3). Some structure work is expected to have no effect (NE) on listed bats due to absence of suitable habitat, while some is likely to adversely affect (LAA) listed bats based on noted factors. Biological rationale and effect determinations are described in greater depth in section 5.

Table 1. Bridges Within the US 19W North Action Area

Bridge Number	Facility Carrying	Feature Crossing	Status	Material	Biological Rationale Supporting Effect Determination for Bats
990124	Bent Creek Road (SR 1413)	Cane River	Completely destroyed	Concrete	No roosting habitat, nothing remains of structure, NE
990138	Bent Creek Road (SR 1413)	Bent Creek	Bridge intact	Timber	Timber bridge does not provide habitat for listed bats. Bridge is timber on steal beams. NE
990178	Will Higgins Road (SR 1444)	Cane River	Completely destroyed	Concrete	No roosting habitat, nothing remains of structure, NE

990218	Will Higgins Road (SR 1444)	Big Creek	Bridge intact	Metal	Structure intact. Steel deck on Steel I beams. Concrete vertical abutments. Unable to determine demo time of year (TOY) for bats, LAA
990058	US19W	Cane River	Mostly intact, center section missing	Concrete	Remaining sections of reinforced concrete structure provides habitat for listed bats. Unable to determine demo TOY for bats, LAA
990093	Murphytown Road (SR 1343)	Cane River	Only south approach slab intact	RC floor on I-beams	Remaining sections of reinforced concrete structure provides habitat for listed bats. Unable to determine demo TOY for bats, LAA
600143	Huntdale Road (SR 1417)	North Toe River	Bridge intact	RC floor on cont. steel plate girders	Remaining sections of reinforced concrete structure provides habitat for listed bats. Unable to determine demo TOY for bats, LAA

Table 2. Bridges Within the US 19W South Action Area

Bridge Number	Facility Carrying	Feature Crossing	Status	Material	Biological Rationale Supporting Effect Determination for bats
990012	US19W	Bald Creek	Bridge intact	Timber floor on I-beams	Timber bridge does not provide habitat for listed bats. Bridge is timber on steal beams. NE
990134	Whittington Road (SR 1379)	Cane River	Bridge intact	Concrete	Sections of reinforced concrete structure provides habitat for listed bats. Unable to determine demo TOY for bats, LAA.
990073	US19W	Hardscrabble Branch	Mostly intact	Timber	Timber bridge does not provide habitat for listed bats. Bridge is low timber on timber beams. NE
990072	Langford Branch Road (SR 1381)	Cane River	Mostly intact	Concrete	Sections of reinforced concrete structure provides habitat for listed bats. Unable to determine demo TOY for bats, LAA.
990034*	US19W	Cane River	Bridge intact	Concrete	Sections of reinforced concrete structure provides habitat for listed bats. Unable to determine demo TOY for bats, LAA.
990044*	US19W	Cane River	Only north approach slab gone	Concrete	Sections of reinforced concrete structure provides habitat for listed bats. Unable to determine demo TOY for bats, LAA.
990055*	US19W	Cane River	Collapsed but mostly intact	Concrete	Sections of reinforced concrete structure provides habitat for listed bats. Unable to determine demo TOY for bats, LAA.
990293	Little Creek Road (SR 1411)	Bald Mountain Creek	Bridge intact	Concrete	Sections of reinforced concrete structure provides habitat for listed bats. Unable to determine demo TOY for bats, LAA.

990288	Phillips Road (SR 1425)	Little Creek	Completely destroyed	Timber	No roosting habitat, nothing remains of structure, NE
990105	Little Creek Road (SR 1411)	Little Creek	Bridge intact	Timber	Timber bridge does not provide habitat for listed bats. NE

**Structures 990034, 990044, 990055 were resurfaced prior to this consultation. The disturbance from noise and vibration to bats assumed present resulted in LAA determinations for each bridge site, which was covered in a previous consultation (Service Log#s25-405, 25-406, 25-407, respectively). The LAA determinations reached during this current consultation are for the effects of tree clearing and demolition; that is, take that wasn't covered under the previous consultation.*

Table 3. Culverts Within the US 19W South Action Area**

Culvert Number	Work Anticipated	Material	Dimension (feet)	Location & Waterbody	Biological Rationale Supporting Effect Determination for Bats
BP-100-2036	Inlet/Outlet protection or full in-kind replacement depending on condition	CMP	3 x 80	36.0003859, -82.35854038 North Cox Creek	Unable to determine repair/demo TOY for bats, LAA
BP-100-2037	Inlet/Outlet protection or full in-kind replacement depending on condition	CIP Concrete	7 x 71	36.00200851, -82.34859085 Pounding Mill Branch	Unable to determine repair/demo TOY for bats, LAA

***There are no pipes ≥ 60-feet in length within the US19W North action area.*

2.3 Avoidance, Minimization, and Conservation Measures

NCDOT will employ the following agency Standards, Guides, and Best Practices to avoid and minimize project-mediated activities that could negatively impact listed/proposed species or their habitat. These are denoted as avoidance and minimization measures (AMMs). NCDOT will also implement conservation measures (CMs), which represent actions, pledged in the project description, that the action agency will implement to further the recovery of the species under review. The beneficial effects of measures are considered in making determinations of whether the projects will jeopardize the species under consideration in this document. Measures are summarized below.

General AMM 1. NCDOT will ensure all operators, employees, and contractors working in areas of suitable habitat for federally listed/proposed species are aware of all NCDOT environmental commitments, including all applicable measures and all associated NCDOT guidance documents.

General AMM 2. Best management practices (BMP) and sediment and erosion control (SEC) measures will be utilized to prevent non-point source pollution, control storm water runoff, and minimize sediment damage to avoid and reduce overall water quality degradation.

General AMM 3. Areas of disturbance, such as tree clearing, grubbing, and grading will be limited to the maximum extent possible.

General AMM 4. Borrow pits and waste sites will only be created when needed and be no larger than necessary to minimize noise and tree clearing impacts. Sites closer to the project are considered preferable, as they reduce the effects of hauling in the region.

General AMM 5: Disturbed riparian areas will be revegetated with native, fast-growing tree and shrub species where feasible, using seed, live stakes, bare root, or containerized stock. Planting will be

implemented as part of stabilization and restoration efforts, recognizing that replanting may be constrained within construction or utility easements.

Aquatics:

General Aquatic AMMs will be incorporated to minimize impacts to listed aquatic species:

Aquatic AMM1 Structure: To the maximum extent possible, structures will be built in the same location as the previous structures, with minimal impact [bents] to water resource, built to today's improved highway and hydraulic standards.

Aquatic AMM2 Equipment: To the maximum extent possible, heavy machinery will not be utilized within the waterbody, though it will be required in certain portions of the action area. Additionally, staging and storage areas for equipment and materials will be managed in such a way to ensure potential spills and leaks do not have access to the waterbody.

Aquatic AMM3 Temporary and Permanent Fill: Any temporary fill (i.e. causeways) or permanent (i.e. bents/piers) fill in excess of what was previously present will be avoided and minimized to the maximum extent possible.

Aquatic AMM4 Abutments: Existing abutments will be completely removed unless removal results in destabilizing of banks or increases the adverse effect to mussels.

Aquatic AMM5 Deck Drains: Deck drains that empty directly to the waterbody below will not be implemented on new bridge designs. Surface water drainage transport will be designed to incorporate improved treatment prior to drainage entering the waterbody.

Aquatic AMM6 Matting: Coir fiber matting will be utilized instead of plastic or other synthetic matting.

Aquatic AMM7 Shelter Rocks: To the maximum extent possible, the disturbance of large, flat rocks (at least 1 foot in diameter) will be avoided. If such large rocks are to be disturbed, they should be moved carefully and staff should watch for eastern hellbender.

Aquatic AMM8 Hellbender Surveys: Prior to initiation of any in-stream construction activities, NCDOT will conduct surveys for eastern hellbender within suitable habitat in the project construction zones. Surveys will be performed by qualified biologists using methods approved by the Service and/or the NCWRC. If hellbenders are encountered, individuals will be safely captured and relocated to suitable habitat outside the construction impact area. All relocation activities will be completed prior to the start of in-stream work.

Aquatic CMs will be implemented on behalf of aquatic species and habitats:

Aquatic CM1 Aquatics Contribution: NCDOT will contribute $200,000 (to be earmarked $100,000 for Appalachian elktoe and $100,000 for eastern hellbender) to a Service-approved fund to benefit the conservation and recovery of listed/proposed aquatic species.

Aquatic CM2 Relocation: If the Service and NCWRC identify and notify NCDOT of areas of elevated concern for rare aquatic species, notably Appalachian elktoe and/or eastern hellbender, NCDOT will coordinate with the agencies prior to work occurring to survey and potentially relocate individuals at risk.

Aquatic CM3 – River Cane: NCDOT will work towards incorporating native WNC river cane plantings at select sites for the purpose of improving bank stabilization, water quality, and riparian habitat quality and reducing sedimentation in receiving waters. NCDOT will coordinate with the Service's Asheville Field Office (AFO) in development of these efforts.

Aquatic CM4 – River Re-establishment Collaboration – The following will be implemented:

1. River re-establishment plans will be adjustable for areas prioritized for Appalachian elktoe habitat restoration. During the planning process for river re-establishment and Appalachian elktoe habitat restoration areas, NCDOT, their designated river re-establishment consultant(s), and other associated contractors, as appropriate, will work collaboratively with designees from the Service and NCWRC on the details and features of the habitat areas. This group will function as an aquatic habitat committee; will include experts in riverine hydraulics/geomorphology, river re-establishment engineering, and aquatic species biology; and will exist for the duration of the US 19W project.
2. Where possible, native bed material for priority habitat areas will be included and identified in project designs. Other appropriate borrow material may be used if native bed material is unavailable.
3. NCDOT will include, as part of its oversight, experienced river reestablishment personnel to ensure construction of the habitat restoration areas is performed as directed.

Bats:

Bat AMMs will decrease impacts to listed bats and the following AMMs will be incorporated into project work:

Bat AMM1: To maximum extent possible, NCDOT will avoid blasting, night work, and tree clearing during the bat active season (March 15 and November 15); however, given constraints with the project timeline, portions of those activities may occur when listed/proposed bats are within the action area.

Bat AMM2: For temporary construction lighting between March 15 and November 15: Limit all construction-related lighting to whatever is necessary to maintain safety in *active* work areas. Any lighting needed for night work will be directed at the work area and shielded from surrounding waters/landscape, used only when necessary, no brighter than required for safety, and will limit blue light emissions to the maximum extent practicable.

Bat CMs will be implemented on behalf of federally listed/proposed bats and habitat:

Bat CM1 Tree Clearing Bat Fund Contribution: For any clearing that occurs from April 1 - November 15, the NCDOT will contribute a payment* to a Service-approved fund in support of the recovery of federally listed bat species.

Note: All tree clearing will be reported at the end of construction, regardless of season. Reports will distinguish clearing that occurred during the inactive period (Nov 16–Mar 31, no contribution required) from clearing that occurred during the active period (Apr 1–Nov 15, with associated financial contribution).

*Contributions made will be based on a 2:1 ratio multiplier. This ratio offers the most protective coverage as it is unknown what time of year clearing will occur. The amount will be determined using the United

States Department of Agriculture Farm Real Estate Value for North Carolina for the current year (2025 = $5,470/acre).

*$5,470(XX ac) x 2 (critical life stage multiplier)

Example calculation: $5,470 x 20 ac = $109,400 x 2 (critical life stage multiplier) = $218,800 contribution amount.

Bat CM2 Structure Removal Bat Fund Contribution: For individual culvert or pipe structures that are LAA bat species during structure work, the NCDOT will contribute a payment** to a Service-approved fund in support of the recovery of federally listed bat species.

**Structures with documented bat use are generally larger than the average bridge, with a median size of 0.10 acre (length x width) (*Service 2020b, 2019-F-1687; Programmatic Biological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat*). Therefore 0.10 acre per bridge is used to calculate the amount of suitable bat habitat lost for projects involving structure impacts. However, the displacement affects to bats that must find a new roost while a new structure is being constructed are considered temporary in nature because the new structure will be replaced with a similar structure that will provide adequate roosting habitat again. Therefore, the ratio multiplier was reduced to 1.5:1 vs 2:1 used in the tree clearing contribution explained above. The formula is calculated as follows:

$5,470 x 0.1 ac = 547 x 1.5 (temporary affect multiplier) = $820.50 contribution/structure

Plant CMs will be implemented on behalf of federally listed plants:

Plant CM1: Due to unavoidable adverse effects on Virginia spiraea, NCDOT will conduct its removal, propagation, and reintroduction. Propagation will be facilitated through softwood or hardwood cuttings and/or other techniques determined by botanical specialists. These efforts will be coordinated with Service AFO staff to ensure they align with conservation and recovery goals. The subsequent reintroduction of the species to the project area and the larger watershed will be carried out in coordination with the Service AFO and other appropriate botanical groups.

Plant CM2: NCDOT will conduct three years of annual post-reintroduction monitoring of Virginia spiraea at the reintroduction location(s). GPS coordinates will be documented for each plant post-reintroduction, and monitoring reports will be provided to the Service AFO annually to assess plant survival and vigor. Adaptive management actions, such as invasive species management or protective fencing, will be implemented as necessary to support plant establishment and persistence.

3. Status of the Species

This section summarizes best available data about the biology and current condition of the Appalachian elktoe, eastern hellbender, gray bat, northern long-eared bat, tricolored bat, and Virginia spiraea throughout their ranges that are relevant to formulating an opinion about the action. More in-depth species information such as species status assessments can be found at the species-specific pages at the Service's Environmental Conservation Online System (ECOS): ecos.fws.gov/ecp/

3.1 Appalachian Elktoe

Scientific Name: *Alasmidonta raveneliana*
Status: Endangered

Date of Listing: November 23, 1994
Critical Habitat: Designated in 2002

3.1.1 Description and Life History

The Appalachian elktoe is a freshwater mussel endemic to the Blue Ridge Physiographic Province of WNC. This species exists in several small populations in the Upper Tennessee River system of North Carolina and Tennessee, inhabiting relatively shallow medium-sized creeks and rivers with cool, well-oxygenated, and moderate- to fast-flowing water. Lea (1834) described the Appalachian elktoe from the French Broad River (FBR) system in North Carolina. The periostracum (outer shell) of the Appalachian elktoe varies in color from dark brown to yellowish-brown in color; with rays prominent in some individuals but obscure on others. The reproductive cycle of the Appalachian elktoe is similar to that of other native freshwater mussels. Males release sperm into the water column, which is then taken in by the female through their siphons during feeding and respiration. Females retain the fertilized eggs in their gills until the larvae (glochidia) fully develop, after which they are released into the water and attach to appropriate species of fish hosts. Juveniles then detach from their fish host and sink to the stream bottom where they may continue to develop, provided that suitable substrate and water conditions are present (Service 2002).

3.1.2 Status and Distribution

The Appalachian elktoe is known only from the mountain streams of WNC and eastern Tennessee. It is found in gravelly substrates often mixed with cobble and boulders, in cracks of bedrock, and in relatively silt-free, coarse sandy substrates (Service 1996).

Although the complete historic range of the Appalachian elktoe is unknown, available information suggests that the species once lived in most of the rivers and larger creeks of the upper Tennessee River system in North Carolina, with the possible exception of the Hiwassee and Watauga River systems. In Tennessee, the species is known only from its present range in the main stem of the Nolichucky River. At the time of listing, two known populations of the Appalachian elktoe existed: the Nolichucky River, including its tributaries (the Cane River and the North Toe River); and the Little Tennessee River and its tributaries. The record in the Cane River was represented by one specimen found just above its confluence with the North Toe River (Service 1996). Since listing, the Appalachian elktoe has been found in additional areas. These occurrences include extensions of the known ranges in the Nolichucky River (North Toe River, South Toe River, and Cane River) and the Little Tennessee River (Tuckasegee River and Cheoah River) as well as a rediscovery in the FBR basin (Pigeon River, Little River, Mills River, and the main stem of the FBR). Many of these newly discovered populations are relatively small in number and range.

Prior to TS Helene, Appalachian elktoe had experienced declines in two populations across its range. A sudden die-off in the Little Tennessee River, (once considered the largest and most secure population), occurred from 2005 – 2015. Surveys in 2017, 2018 and 2019 produced very low numbers, indicating a remnant population only a tiny fraction of its previous size. The species has also declined in the lower portion of the Nolichucky River. Appalachian elktoe were once common in all three tributaries of the Nolichucky River: North Toe, South Toe and Cane Rivers. In 2008, most of the Appalachian elktoe in the Cane River died off, coinciding with a failure at a wastewater treatment plant on the river. Beginning in 2013, the Appalachian elktoe population in the lower South Toe River declined steeply which coincided with a major highway construction project and only occurred downstream of receiving streams in the project footprint. Appalachian elktoe are still present in the North and South Toe Rivers, but at reduced densities. It appears the North Toe population is limited by urban runoff and mining effects to the river.

Pre-Helene, populations of Appalachian elktoe appear to be stable in the Pigeon Rivers or expanding (FBR). Prior to 2004, the FBR population appeared to be confined to two tributary streams (Little River and Mills River), but over the last several years the known range of Appalachian elktoe in the main stem of the FBR expanded and became more well-established, albeit at low density, over a broad area.

More recently, several events have occurred that resulted in adverse impacts on Appalachian elktoe. At the time of this document, impacts to the species from TS Helene in September of 2024 and the debris removal activities that followed remain largely unknown, though are believed to have reduced several populations throughout WNC. Extreme flooding and scour from the storm in many of the rivers occupied by the species is believed to have resulted in reduced abundance in several locations, while other areas likely lost fewer individuals. Mechanized, large-scale, storm debris removal throughout WNC involved benthic compaction, sedimentation, material removal, and bank destabilization, all of which are believed to have negatively affected Appalachian elktoe (individuals and habitat). It will take broad and coordinated Appalachian elktoe surveys throughout the impacted waterbodies before estimates on species impacts can be confirmed; therefore, quantifiable estimates are not yet available. Additionally, an incident that occurred on September 21, 2025 at the Cascade Lake Dam in Transylvania County, directly above a population of Appalachian elktoe in the Little River, a tributary to the FBR, caused a major sediment release. The sediment drained and settled downstream of the dam, smothering Appalachian elktoe and habitat. At the time of this document, the details of the incident are unknown, as is the extent of Appalachian elktoe loss throughout the downstream stretch of Little River. In summary, over the past year+ since TS Helene and subsequent events, the current status of Appalachian elktoe in WNC is believed to be greatly reduced from previous years, with some populations faring better than others.

3.1.3 Threats

The decline of the Appalachian elktoe throughout its historic range has been attributed to a variety of factors, including sedimentation, point and nonpoint-source pollution, and habitat modification (impoundments, channelization etc.). The low numbers of individuals and the restricted range of most of the surviving populations make them extremely vulnerable to extirpation from a single catastrophic event or activity. Catastrophic events may consist of natural events, such as flooding or drought, as well as human influenced events, such as toxic spills associated with highways or railroads.

Natural flooding events combined with alteration of watersheds can lead to large fluctuations in abundance observed in Appalachian elktoe populations. Record catastrophic flooding in the range of Appalachian elktoe occurred during TS Helene during late September 2024. Many areas inhabited by Appalachian elktoe were severely damaged by erosive flooding, bedload scour, and bank failures. Observations immediately after the flooding in October 2024 revealed that despite severe flooding, certain portions of Appalachian elktoe occurrences in North Carolina, such as the upper Pigeon River, were relatively intact. Those observations indicate that the species is likely to remain in most of the affected areas, though individual numbers were likely greatly reduced in many inhabited locations.

Siltation resulting from improper erosion control of various types of land use, including agriculture, forestry, road construction, and development, has been recognized as a major contributing factor to the degradation of mussel populations (Service 1996). Siltation degrades substrate and water quality, increasing potential exposure to other pollutants, and direct smothering of mussels (Ellis 1936). The abrasive action of sediment on mussel shells has been shown to cause erosion of the outer shell, which allows acids to reach and corrode underlying layers (Harman 1974).

Sewage treatment effluent has been documented to significantly affect the diversity and abundance of mussel fauna (Goudreau *et al*. 1988). Goudreau *et al*. found that recovery of mussel populations might not occur for up to 2 river miles (3.22 kilometers) below points of chlorinated sewage effluent. Most of the water bodies where Appalachian elktoe still exist have relatively few point source discharges within the watershed and are rated as having "good" to "excellent" water quality by the North Carolina Division of Water Resources.

The introduction of exotic species, such as the Asian clam (*Corbicula fluminea*) and zebra mussel (*Dreissena polymorpha*), pose significant threats to native freshwater mussels. Competitive interactions for space, food, and oxygen between these species and native mussels, possibly at the juvenile stages (Neves and Widlak 1987) are the main concerns. At the time the Appalachian elktoe was listed, the Asian clam was not known from the stretch of the Little Tennessee River that it occupies; however, it has been observed in the Little Tennessee River in recent years and as mentioned earlier, may be a contributing factor to the decline of that population. When the Appalachian elktoe was listed, it was speculated that, due to its restricted distribution, it "may not be able to withstand vigorous competition" (Service 1996).

3.2 Eastern Hellbender

Scientific Name: *Cryptobranchus alleganiensis alleganiensis*
Status: Proposed Endangered
Date of Proposed Listing: December 13, 2024
Critical Habitat: None proposed

3.2.1 Description and Life History

The eastern hellbender is one of three giant hellbenders found in the world, occurring in perennial, fast-flowing, cool, and highly oxygenated large streams and rivers (Green 1934, Bishop 1941, Green and Pauley 1987). Individuals are large, strictly aquatic salamanders with an average length of 17 inches, but they can grow up to two feet long and weigh >three pounds (Fitch 1947, Petranka 1998, NCWRC 2016). They have a large, keeled tail; small eyes; and a dorso-ventrally flattened body; and fleshy folds of skin along the sides of the body known as the “frill”, which increases surface area and cutaneous respiration (Dundee and Dundee 1965, Nickerson and Mays 1973). Coloration tends to be grayish to reddish brown with darker mottles dorsally and a uniform lighter shade ventrally. Eastern hellbender adults are typically found beneath large rocks as well as bedrock crevices (Peterson 1987); while larvae and juveniles hide beneath small stones in gravel beds or under large rocks, similar to those occupied by adults (Nickerson and Mays 1973, Nickerson et al. 2003, Foster 2006). Submerged trees are also known to provide cover.

Eastern hellbenders are long-lived and capable of living 25 to 30 years in the wild (Peterson et al. 1983). Females reach sexual maturity in seven to eight years and males in approximately five years (Taber et al. 1975). Breeding occurs between late August through September, when males prepare and defend nests beneath large flat rocks, within bedrock, or beneath submerged logs (Nickerson and Mays 1973). Eastern hellbenders mate via external fertilization, and males guard the fertilized eggs against predation by fish and other eastern hellbenders (Nickerson and Mays 1973). Average size of clutches varies from 138 to 450 eggs per nest (Dundee and Dundee 1965, Peterson et al. 1988), and eggs hatch in approximately 45 to 75 days (Green and Pauley 1987, Petranka 1998). Mortality of young is high, and a nest with 400 eggs may only produce 90 young. Young grow at about three inches per year.

The main food source for eastern hellbender is crayfish, though they may also feed on small fish, brook lamprey, aquatic invertebrates, and even juvenile hellbenders. The species is largely nocturnal and hunts via ambush predation, relying primarily on touch and smell to sense prey.

3.2.2 Status and Distribution

Eastern hellbenders occur across 15 eastern U.S. states, composed of 373 extant populations, 153 extirpated populations, and 100 populations with unknown status. Of the extant populations, 11% are considered stable and recruiting (SR), 14% are recruiting but have no trend data (UR), 15% are declining (D), and 59% have an unknown trend (UT) (Service 2024). The Ozark hellbender (*C. a. bishopi*), a subspecies restricted to the White River drainage of southern Missouri and northeastern Arkansas, was federally listed as endangered on November 7, 2011. Of the eastern hellbender distribution, NC populations, which are part of the greater Tennessee River drainage population, are generally considered to be healthy, thanks in large part to the presence of federally protected and undeveloped land such as U.S. Forest Service land and U.S. National Park Service, though are still at risk due to the previously listed threats. While NC has more eastern hellbender streams than any other state, the number of those streams where the population is judged to be failing has increased over time. Since a previous species status assessment in 2017, NC has seen a 10% increase in the number of streams where eastern hellbenders are believed to be extirpated or functionally extirpated, with remaining adults too few and isolated to breed. (NCWRC 2024a). Eastern hellbender is state-designated as a species of Special Concern in NC, meaning it is a violation of state law to kill, harm, collect, harass, or sell them.

Range-wide, density estimates since 2000 span from 0.06 to 1.2 hellbenders per 100 meters^2 in areas where declines have been documented (Humphries and Pauley 2005). A study published in 2017 by Freake and DePerno in the Hiwassee River in the southern Appalachians estimated 15-33 hellbenders per 100 linear meters within the study portion of the river, a number representing relatively high density. Personal communication with the Eastern Hellbender Inventory and Monitoring Group (December 2025 in Asheville, NC) provided an estimated range for eastern hellbender in WNC occupied waters of 4-60 individuals per 100 linear meters. Juveniles are known to be more abundant than adults, but any estimated replacement rate may not be reflected in surveys due to the difficulty of detection.

Post-TS Helene status and density of eastern hellbender in WNC are not yet fully understood at the time of this consultation. Even prior to the storm event, there was little published data on species density estimates throughout occupied drainages in WNC. Species impacts from TS Helene in September of 2024 and the emergency response and debris removal activities that followed remain largely unknown, though are believed to have reduced several populations throughout WNC waterways. Extreme flooding and scour from the storm in many of the waterbodies occupied by the species likely resulted in reduced abundance in several locations, while other areas likely lost fewer individuals. Large-scale mechanized storm debris removal throughout WNC involved benthic compaction, sedimentation, material removal, and bank destabilization, all of which are believed to have negatively affected eastern hellbender (individuals and habitat). According to the NCWRC Wildlife Diversity 3rd Quarter report in 2025, within the Nolichucky sub-basin in Yancey, Mitchell, and Avery Counties, areas with extensive TS Helene damage and resulting eastern hellbender habitat destruction, individuals were documented in 13 of the 17 surveys across 15 sites. During those NCWRC 2025 breeding season surveys, which occurred in August and September, the highest number of individuals occurred at two sites in the South Toe River and one site on the North Toe River, with each revealing >ten individuals. Three individuals were the highest observed from the Cane River sites (NCWRC, unpublished data 2025). Anecdotally, reports surfaced in the weeks after TS Helene of residents finding live eastern hellbenders in portions of their flooded homes and properties, implying that at least some individuals were able to survive the massive flooding. In those cases, efforts were made by the NCWRC to rescue the reported individuals. Despite the occurrences and survey efforts that have occurred since TS Helene and the subsequent debris removal, it will take broad and coordinated species surveys among several agencies and organizations throughout the impacted

waterbodies and over multiple seasons before thorough estimates on species impacts can be surmised; therefore, quantifiable estimates are not yet available.

3.2.3 Threats

The major threats facing eastern hellbender are sedimentation caused by multiple sources, which is occurring throughout much of the species' range. Additionally, water quality degradation; habitat destruction and modification; disease such as chytrid fungus and *Ranavirus*; and direct mortality or removal of hellbenders from a population by collection, persecution, or recreation. Additional risk factors include climate change, small population effects from stochastic events such as weather events like TS Helene in WNC, and increased abundance of native and non-native predators. (Service 2024).

Sedimentation, habitat degradation from sedimentation, and reduced water quality is caused by multiple factors (human and livestock wastes, agricultural runoff, mine waste, unpaved roads, activities related to timber harvest, riparian forest clearing, etc.) and poses a significant threat to the eastern hellbender. Increased siltation can affect eastern hellbenders by potentially suffocating eggs, eliminating suitable habitat for all life stages, reducing dissolved oxygen levels, and reducing prey populations. Increased nitrate levels, along with other contaminants from agricultural runoff and increased urbanization, have been detected in eastern hellbender streams (Petersen et al. 1988) and may be negatively affecting survivorship and/or reproduction. Gravel mining can cause stream instability when the scouring process leads to degradation or when excessive sediment deposition results in aggradation (the process of building up a streambed grade or level by deposition of sediment). These modifications to the stream channel can alter habitat conditions that provide space, cover, shelter, and sites for breeding, reproduction, and growth of offspring for the eastern hellbender.

Chytridiomycosis is a highly infectious amphibian disease caused by the pathogen *Batrachochytrium dendrobatidis* (*Bd*, or amphibian chytrid fungus). With the exception of those rivers in which only small numbers of hellbenders have been captured, the fungus has been detected in all currently occupied eastern hellbender rivers (Briggler et al. 2008, Bodinof et al. 2011). *Ranavirus* is in a family of viruses known to infect ectotherm vertebrates. In a laboratory experiment, the mortality rate of juvenile eastern hellbenders exposed to *Ranavirus* was 80% to 100% (Cusaac et al. 2020, p. 27). Although broad scale *Ranavirus* outbreaks among eastern hellbenders have not been documented, presence of the virus has been detected on individuals. In the French Broad River system in NC, 1 out of nearly 100 eastern hellbenders tested positive for *Ranavirus,* although the animal showed no physical signs of infection or illness. While *Bd* and *Ranavirus* currently do not appear to be causing large-scale mortality events in wild populations, there is concern that other stressors that can weaken animals' immune systems, such as environmental contaminants or rising water temperatures, could lead to outbreaks of clinical disease and cause mortality events in the future.

High numbers of eastern hellbenders have been removed from some streams for scientific and educational purposes, for the pet trade, and for eradication efforts. These removals likely contributed to the population declines seen in some streams. The current rate of permanent removal of eastern hellbenders is likely significantly lower than it was historically. However, killing of individuals by some anglers and the removal of individuals for personal use and the pet trade continues in some areas. As a long-lived species, removing adult eastern hellbenders from stream populations may be particularly detrimental, as stable populations of long-lived species typically have high adult survival rates, which compensates for correspondingly low rates of recruitment into the adult populations (Miller 1976, p. 2).

3.3 Gray Bat

Scientific Name: *Myotis grisescens*
Status: Endangered
Date of Listing: April 28, 1976
Critical Habitat: None designated

3.3.1 Description and Life History

The gray bat is a medium-sized insectivorous bat with an overall length of about 3.5 inches and a wingspan of 10 to 11 inches. As the name implies, gray bats have gray fur, but the hair often bleaches to reddish-brown by early summer. The species uses caves year-round for roosting and hibernating. Seasonal occupancy of caves differs between summer roost and winter hibernacula, and gray bats are known to migrate more than 300 miles between the two. While gray bats are predominantly found roosting in caves, they are known to roost in structures including buildings, bridges and culverts. Bats emerge from summer roosts early in the evening and forage along waterbodies adjacent to forested areas. The species has been documented traveling from a few miles to 20 or more miles between their day roosts and nightly foraging areas.

Gray bats are documented using bridges and culverts as roosting habitat during the spring, summer, and fall and show strong philopatry to their summer ranges and typically use the same roost sites year after year (Tuttle 1976; Martin 2007). Gray bats are most commonly observed in bridges of concrete material and their preferred roosting location is in the vertical expansion joints of a bridge deck above piers (NCDOT 2023a), though they can also roost in clogged deck drains and other sheltered areas on crossing structures. According to approximately 2,000 bridge surveys conducted throughout WNC from 2000 - 2023, gray bats have been recorded roosting in bridges at a usage rate of 3% (NCDOT 2023a), with bridge use observed in the covered area from March – November. Up to 1,000 individuals, including males and females, have been observed day-roosting throughout the summer in expansion joints between box beams at two separate bridges (Weber et al. 2020). Sporadic summer use of other concrete type bridges has also been noted for smaller numbers of day-roosting gray bats (NCDOT, 2023a). Gray bats have also been observed within culverts, most commonly of concrete material.

Gray bats primarily forage over open water bodies, such as rivers, streams, lakes, and reservoirs, and associated riparian areas (Tuttle 1976; LaVal et al. 1977; Weber et al. 2020). While foraging, the gray bat consumes a variety of insects, most of which are aquatic (Brack and LaVal 2006). Bats typically travel individually or in small groups that forage in an area for a short period before moving to another area. Studies suggest that gray bats visit multiple foraging areas during the night and travel frequently between these areas.

3.3.2 Status and Distribution

The primary range of gray bats is concentrated in the cave regions of Alabama, Arkansas, Kentucky, Missouri and Tennessee, though its overall range stretches from Virginia to Oklahoma, and Missouri to Alabama and comprises approximately 174,581 square miles. WNC is on the eastern edge of the bat's range. In North Carolina, the gray bat is currently documented from 14 western counties and is possible in an additional 10 counties. Most gray bat occurrences in WNC are centered on the French Broad and Pigeon River watersheds. Gray bats are generally present in North Carolina from March 15 to November 15, when they leave for winter hibernacula. It is believed that many of the gray bats in North Carolina migrate to hibernacula in Tennessee, using the French Broad River as a commuting pathway. The closest active hibernaculum is near Newport, Tennessee (Weber et al. 2020), approximately 20 miles from the border with Haywood and Madison Counties in North Carolina.

Ellison et al. (2003) of the U.S. Geological Survey (USGS) statistically analyzed 1,879 observations of gray bats obtained from 334 roost locations in 14 south-central and southeastern states. They determined that 94.4% of the populations showed stable or increasing populations while 6% revealed a decreasing population. For populations where there was a downward population trend, decreases in population numbers were mostly attributed to continued problems with human disturbance. This increasing population trend has been reflected in the work of Sasse et al. (2007), Martin (2007), and again by Elliott in 2008 in looking at high-priority caves. It is estimated that more than 95% of the species range-wide population hibernate in only 9 caves.

Emergence counts conducted by Indiana State University researchers at known roosts in WNC from 2018-2019 suggested there were at least 2,820 gray bats in the French Broad River basin (Weber et al. 2020). The impacts from TS Helene on imperiled species numbers are still unknown. Throughout WNC, there are 58 current element occurrences of the gray bat based on NC Natural Heritage Program (NCNHP), NC Wildlife Resources Commission (WRC), and NCDOT records; most are from built structures (largely bridges). The number of gray bats found at each occurrence range from 1 to about 1,500 bats, with some roosts surveyed in the Weber et al. (2020) study hosting >1,000 gray bats during certain times of the season. The most recent winter population estimate of gray bats in the closest hibernaculum to the action area (Rattling Cave, near Newport TN) was 250,689 bats (TWRA 2019).

3.3.3 Threats

Cave disturbance and alteration, loss of forested habitat, pollution of waterways, and significant natural factors including those caused by extreme weather events (flooding, freezing, and forest destruction) are threats to gray bats. Gray bats have been infected by the invasive fungus *Pseudogymnoascus destructans,* the causative agent of white-nose syndrome (WNS), a fungal disease contributing to the declines of several bat species in the U.S.; however, WNS is not considered a major threat to the species.

3.4 Northern long-eared Bat

Scientific Name: *Myotis septentrionalis*
Status: Endangered
Date of Listing: April 1, 2015 as Threatened; November 30, 2022 as Endangered
Critical Habitat: None designated

3.4.1 Description and Life History

The northern long-eared bat is a wide-ranging species, found in 37 states and eight provinces in North America. The species typically overwinters in caves and mines and spends the remainder of the year in forested habitats. As its name suggests, the northern long-eared bat is distinguished by its long ears, particularly as compared to other bats in the genus *Myotis*.

Northern long-eared bats are a forest bat species that roosts in a variety of forest types and structures. They are known to roost in trees and have also been documented using roost sites such as buildings, artificial roosts, and bridges. During the active season, northern long-eared bats typically roost singly or in maternity colonies underneath bark or more often in cavities or crevices of both live trees and snags (Service 2023). According to approximately 2,000 bridge surveys conducted throughout western North Carolina from 2000 - 2023, northern long-eared bats have been recorded roosting in western North Carolina bridges at a usage rate of 0.2% (NCDOT 2023a) with use documented to occur from May - October. With one exception, all bridge roost records in North Carolina are associated with a water crossing. There are no records of northern long-eared bats roosting in culverts in North Carolina, though

they have been documented using culverts in other states. Northern long-eared bats will overwinter in caves or mines and have been documented using railroad tunnels, storm sewers, and bunkers. They may hibernate singly or in small groups and can be found hibernating in open areas but typically prefer caves with deep crevices, cracks, and bore holes that protect from drafts. They typically hibernate from September or October to March or April. More than 780 hibernacula have been documented within the northern long-eared bat range.

Northern long-eared bats are more likely to forage under the canopy on forested hillsides and ridges (Nagorsen and Brigham 1993) rather than along riparian areas (Brack and Whitaker 2001; LaVal et al. 1977). Because of this, alternative water sources like seasonal woodland pools may be an important source of drinking water for these bats (rather than just streams and ponds; Francl 2008). Mature forests may be an important habitat type for foraging (Service 2015). Northern long-eared bats have a diverse diet including moths, beetles, flies, leafhoppers, caddisflies, and arachnids (Service 2020a), which they catch while in flight or by gleaning insects off vegetation (Ratcliffe and Dawson 2003).

3.4.2 Status and Distribution

The species' range includes all or portions of 37 eastern and mid-western states and the District of Columbia in the U.S. The northern long-eared bat's range also includes eight Canadian provinces. In WNC, the species range includes all or portions of 26 counties in the western portion of the state.

Prior to the emergence of WNS, northern long-eared bat was abundant and widespread throughout much of its range with 737 occupied hibernacula, a maximum count of 38,181 individuals and its range being spread across >1.2 billion acres in 29 states and 3 Canadian provinces. Numbers vary temporally and spatially, but abundance and occurrence on the landscape were stable (Cheng et al. 2022, p. 204; Wiens et al. 2022, p. 233). Currently, declining trends in abundance and occurrence are evident across much of northern long-eared bat's summer range. Range-wide summer occupancy declined by 80% from 2010–2019. Data collected from mobile acoustic transects found a 79% decline in range-wide relative abundance from 2009–2019 and summer mist-net captures declined by 43–77% compared to pre-WNS capture rates.

There are approximately 169 element occurrences for northern long-eared bat in NC, based on NC Natural Heritage Program records, 19 of which are considered historical. The number of bats found at each occurrence ranges from one to more than 80. There have been 22 documented hibernacula, all in caves or mines; however, northern long-eared bats have not been observed using hibernacula in North Carolina since 2014 (NCWRC personal communication September 2022). The Service estimates that there has been an occupancy drop of 85% and a 24% loss of winter colony sites across the Southeast Representation Unit (RPU) overall since 2006 when white-nose syndrome was first documented (Service 2022a).

3.4.3 Threats

The primary factor influencing the viability of the northern long-eared bat range-wide population is WNS. Other primary factors that influence the decline in northern long-eared bat numbers include wind energy mortality, effects from climate change, and habitat loss.

3.5 Tricolored Bat

Scientific Name: *Perimyotis subflavus*
Status: Proposed Endangered

Date of Proposed Listing: September 14, 2022
Critical Habitat: None proposed

3.5.1 Description and Life History

The tricolored bat is one of the smallest bats in North America. The once common species is wide-ranging across the eastern and central US and portions of southern Canada, Mexico and Central America. As its name suggests, the tricolored bat is distinguished by its unique tricolored fur that appears dark at the base, lighter in the middle and dark at the tip.

During the winter, tricolored bats are found in caves and mines, although in the southern US, where caves are sparse, tricolored bats are often found roosting in culverts, as well as sometimes in tree cavities and abandoned water wells. During the spring, summer and fall, tricolored bats are found in forested habitats where they roost in trees, primarily among leave. Additionally, tricolored bats have been observed roosting among pine needles, eastern red cedar (*Juniperus virginiana*), within artificial roost structures, beneath porch roofs, bridges, culverts, concrete bunkers, and rarely within caves. Female tricolored bats form maternity colonies and switch roost trees regularly. Maternity colonies typically consist of 1 to several females and pups. They usually have twins in late spring or early summer, which are capable of flight in four weeks.

Tricolored bat hibernacula following population crashes from WNS generally host <100 individuals (Service 2021), though solitary hibernation can often occur with this species (Whitaker and Hamilton 1998). Before entering hibernacula for the winter, tricolored bats demonstrate 'swarming' behavior. The peak swarming period for tricolored bats in much of WNC/eastern Tennessee generally starts in mid to late August and extends into November and is a sensitive period for bats. Spring staging is the time period between winter hibernation and spring migration to summer habitat (Service 2023).

Tricolored bats are opportunistic feeders and consume small insects including caddisflies, moths, beetles, wasps, flying ants and flies. The species most commonly forages over waterways and along forest edges

3.5.2 Status and Distribution

Tricolored bats have a very wide range that encompasses most of the eastern US from Canada to Florida and west to New Mexico (39 states), comprising approximately 686,152 square miles. They can be found throughout North Carolina and are one of the most commonly encountered cave-dwelling species seen in winter, albeit at much lower densities than prior to the arrival of WNS in the state.

There are 147 NC element occurrences of the tricolored bat in WNC based on NC Natural Heritage Program records to date, seven of which are considered historical. The number of bats found at each occurrence range from 1 to 3,000 bats. There have been 80 tricolored bat hibernacula documented, including caves (51), mines (22), root cellars (4), and culverts (3). According to approximately 2,000 bridge surveys conducted throughout WNC from 2000 - 2023, tricolored bats have been recorded roosting in bridges at a usage rate of 1.5% (NCDOT 2023a). Tricolored bat bridge use has been documented to occur from April – October (with one record from 2013 citing February use). Tricolored bats have been found using culverts in WNC at a rate of 0.8% observed use. Approximately 900 surveys have been conducted in western North Carolina from 2010 – 2023 (NCDOT 2023b) with year-round data coverage. Culvert use has been observed in WNC from January – April. Tricolored bat use of culverts as hibernacula is well documented (e.g., Katzenmeyer 2016, Newman et al. 2021) and use may be more widespread than previously known.

For tricolored bats, the Service split the bat's range into three Representation Units (RPUs), two of which, the Northern and Southern RPUs, include the western and eastern halves of WNC, respectively. The Service estimates that, since 2006, the Northern RPU has experienced a 17% decline in summer occupancy and a 57% decline in the number of winter colonies, while the Southern RPU has experienced a 37% decline in summer occupancy and a 24% decline in the number of winter colonies (Service 2021).

3.5.3 Threats

WNS is the primary driver of the species' decline and is predicted to continue to be the primary influence into the future. Wind energy-related mortality is also considered a consequential driver to the bat's viability. Although habitat loss is considered pervasive across the species' range, severity has likely been low given historical abundance and spatial extent; however, as tricolored bat's spatial extent is projected to decline in the future (i.e., consolidation into fewer winter and summer colonies) negative impacts (e.g., loss of a hibernaculum or maternity colony) may be significant.

3.6 Virginia Spiraea

Scientific Name: *Spiraea virginiana*
Status: Threatened
Date of Listing: June 15, 1990
Critical Habitat: None designated

3.6.1 Description and Life History

Virginia spiraea is a southern Appalachian endemic perennial shrub, occurring along scoured banks of high gradient streams, rivers, and on point bars and braided-channel deposits of lower stream reaches. The species forms loose, clonal patches characterized by complex, spreading root networks that allow it to persist under frequent disturbance. Young stems are greenish-yellow to dark brown and mature stems are dark gray, with plants reaching heights of three to ten feet. Leaf shapes can be variable but tend to occur in a narrow ellipse with a tapered base and short bur at the end of the leaf tip. The small (1-3 mm long) creamy-white flowers grow in dense clusters at the ends of branching stalks and bloom late May-July. Although the species produces ample flowers and its seeds can be dispersed via wind and high-flow water events, Virginia spiraea exhibits limited sexual recruitment and relies almost entirely on vegetative reproduction (NatureServe, 2025).

Plants are often found in geologically active areas of erosion and deposition along streams and rivers with dynamic flooding regimes. Sandbars, scoured shorelines, and flatrock crevices may be inhabited by the species. Plants can grow from cobble substrates with silty, sandy, or clay soils. In North Carolina, Virginia spiraea occurs primarily along rocky bars at river and stream edges, growing from alluvium in areas of seasonal saturation. Common associate plant species include *Alnus serrulata*, *Clematis viorna*, *Cornus amomum*, *Impatiens capensis*, *Parthenocissus*, *Physocarpus opulifolius*, *Platanus*, *Rubus*, *Salix*, *Sambucus canadensis*, *Saponaria*, *Smilax*, and *Solidago*. (NatureServe, 2025).

3.6.2 Status and Distribution

Virginia spiraea occurs in Georgia, Kentucky, North Carolina, Ohio, Tennessee, Virginia, and West Virginia; primarily within the Appalachian and Cumberland Plateau Blue Ridge physiographic regions. Historically, the plant also occurred in Pennsylvania and Alabama but is considered extirpated from those states. Virginia spiraea occupancy area, excluding historical and extirpated occurrences, is 293 square kilometers (NatureServe, 2025).

The following information on element occurrences (EOs) and viability condition is shared from NatureServe, as of 2025: There are an estimated 78 extant occurrences in a total of seven states. Georgia-3; Kentucky-16 extant and 4 failed to find during last survey; North Carolina-18 and 2 failed to find during last survey; Ohio-7; Tennessee-28 extant and 3 failed to find during last survey; Virginia-5; West Virginia-13. It is estimated that 32% of the global population is found on federal lands (e.g. Service, NPS), 33% on state managed conservation lands, 10% on privately owned lands with management geared toward conservation, and 25% on private land of various types (Tessel 2019).

The NC Natural Heritage Program conducted a suitability-modeling analysis following TS Helene to identify plant populations potentially affected based on the intensity of flooding, blowdown, landslides, and NCDOT activity across WNC. From this analysis, Virginia spiraea ranked as the second most potentially impacted rare plant species in WNC, with the population along the Cane River (EO 8) receiving one of the highest vulnerability scores (personal communication with Jess Schaner, 11/17/2025). Post-storm surveys remain ongoing to assess the extent of impacts and to determine population-level loss or displacement.

Of the NC EOs, the NC Natural Heritage Program (personal communication with Jess Schaner, 10/23/2025) verified that EOs 10, 38, 39, and 9 on the North and South Toe Rivers remain intact post- TS Helene. In contrast, EOs 43 and 20 on the North Toe River were likely extirpated.

3.6.3 Threats

The primary threats to Virginia spiraea are anthropogenic disturbances to habitat, competition (native and non-native plant species), and changes in hydrologic regime (Service 2021). Altered river flows, such as damming, increase the isolation of clonal clumps and can lead to population fragmentation. Loss of a scouring regime reduces dispersal and allows for encroachment and succession of woody plants, while excessive increase in scour can inhibit establishment. Changes in hydrology due to impoundment, damaging run-off, and recreational access also threaten viability (Kadis 2002). Encroachment from non-native invasive species such as *Rosa multiflora, Elaeagnus umbellata, Lonicera japonica, Ligustrum sinense,* and *Miscanthus sinensis* outcompete and threaten existing populations of Virginia spiraea. Transportation infrastructure construction, roadside maintenance, herbicide application in utility rights-of-way, and over-browse by deer are also known threats to the species. Notably, while beaver herbivory can be a threat, it is also known to promote clonal growth and facilitate species dispersal (Rossell et al. 2013).

4. Environmental Baseline

The environmental baseline includes *the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process* [50 CFR §402.02].

The project is located in the Blue Ridge Ecoregion in WNC, specifically in the Cane and Nolichucky River drainages. The action area includes approximately 14 miles of roadway in the North Section (US 19W, Will Higgins Road, Huntdale Road, and Murphytown Road) and 11 miles in the South Section (US 19W, Little Creek Road, and Phillips Road) of Yancey County, North Carolina. The roadway corridor occurs almost entirely within the Cane River valley, adjacent to US 19W and shorter portions of intersecting streams and roadways, with short portions at its northern terminus occurring in the North Toe and Nolichucky River valleys. The surrounding landscape is comprised primarily of contiguous deciduous and mixed forest types, segments of cultivated crops, and a small portion of low-intensity developed lands, per the National Land Cover Dataset (USGS 2024). Much of the surrounding land is

privately owned, with the Appalachian Ranger District of the Pisgah National Forest bordering parcels along the northern edge of the action area from Lewisburg to the intersection with Huntdale Road and the Nolichucky River.

Notable impacts from human activity in the area likely began with riverside agriculture and transportation, as river valleys were (and still are) often utilized for floodplain agriculture and for travel corridors in mountainous terrain like that of WNC. These early activities would have involved clearing of riparian vegetation, irrigation for crops and draining of floodplain wetlands, installation of crossing structures, sediment runoff from soil disturbance, and conversion of the riparian buffer into roadways.

More recently, but prior to TS Helene, the action area included intact paved roadway segments, relatively stable banks, functioning crossing structures, and utility rights-of-way for roadside transmission lines. The current highway, established in 1930, connects the communities of Cane River, Elk Shoal, Ramseytown, and Sioux in NC before crossing into Tennessee and continuing northward to its terminus in the Piney Flats/Bluff City area. The storm and flooding resulted in extensive washouts of roadbeds, shoulders, and in some cases entire roadway portions. Bank and bedload scour was extreme, and the river channel re-routed within the existing valley in several locations. Emergency response actions by NCDOT and other entities (such as private landowners and utilities companies) included temporary fill placement; in-channel work with heavy equipment; streambank stabilization with the materials at hand, including riverbed materials; portions of resurfacing; temporary bridge installations to restore access; and restoration of utilities destroyed by the storm. Several months after the storm, additional response actions in the form of large debris removal were managed and contracted out by the Federal Emergency Management Agency and U.S. Army Corps of Engineers. These events altered the environmental baseline from pre- to post-storm conditions. At the time of this document, a full hydrogeomorphic report addressing pre- and post-storm river conditions is not yet available. The current environmental baseline reflects this storm-related disturbance combined with long-standing roadway and land use stressors such as traffic, maintenance, rural development, and agriculture.

Review of the North Carolina Section 303(d) 2022 list, from the North Carolina Department of Environmental Quality (NCDEQ) indicated that the portion of the Nolichucky River within the action area is 303(d) listed due to exceeding turbidity criteria (NCDEQ 2022). Note that the 303(d) listing was pre-Helene. According to the NCDEQ (2025), there is an active National Pollutant Discharge Elimination System -permitted discharge located approximately 4 river miles upstream of the action area on the Cane River for the Burnsville Wastewater Treatment Plant.

In addition to the NCDOT's proposed repair project for the US 19W corridor, private and other non-NCDOT actions within the same corridor since TS Helene have included and will continue to include bank and riparian repairs, crossing structure repair/replacement, and in-stream activities such as fords.

4.1 Appalachian Elktoe and Eastern Hellbender Within the Action Area

Appalachian elktoe and eastern hellbender are discussed together, given their similarities in aquatic habitat occurrence in the context of this project and action area. One notable difference is the presence of Appalachian elktoe designated critical habitat (Unit 6) throughout the entire portions of the Cane, Nolichucky, and North Toe Rivers that fall within the action area. Critical habitat is the specific area(s) that contain the physical or biological features that are essential to the conservation of the species and that may need special management or protection. Approximately 144.3 miles of various segments of rivers in North Carolina and Tennessee are designated Appalachian elktoe critical habitat, with approximately 20 of those river miles occurring within this project's action area.

Flooding and scour from TS Helene and subsequent response activities impacted all waterbodies included in this consultation. Appalachian elktoe and eastern hellbender presence within the aquatic portions of the action area was known prior to TS Helene. The Service's Appalachian elktoe 2022 Status Review notes in reference to the Cane River, "Stream suffered a chemical spill in 2008, population is extant but not robust." (Service 2022b). Despite pre-TS Helene impacts within and upstream of the action area, as well as impacts from the storm and from the post-storm emergency response and debris removal activities, the potential for individual Appalachian elktoe and eastern hellbender to still occur throughout the action area in varying densities remains. At the time of this consultation, post-storm in-water surveys have not been conducted throughout the entire action area. The completion of these surveys has been precluded by safety concerns regarding post-storm conditions and the limited availability of personnel and resources during the emergency response to TS Helene. However, the Service has integrated qualitative data through ongoing discussions with the AFO aquatics recovery lead, aquatic biologists from the NCWRC, and the NCDOT Biological Surveys Group. These professional observations regarding current habitat conditions serve as the best available data in lieu of comprehensive survey results. At the time of this consultation, numbers of Appalachian elktoe and eastern hellbender within the action area are believed to be reduced from pre-Helene conditions but are not believed to be zero.

Considering the approximately 20 river miles of the Cane, Nolichucky, and North Toe Rivers that fall within the action area, and the previously addressed unknowns surrounding pre- and post-storm species numbers, the following are broad estimates for Appalachian elktoe and eastern hellbender. Neither species is expected to be uniformly distributed throughout the action area. Instead, occupancy is most likely characterized by varying densities associated with the presence of suitable habitat, the availability of a stable prey base, and the localized survival of individuals following TS Helene flooding and response activities. Given the uneven distributions and unknown post-Helene densities from previously observed populations and/or individuals, there is an emphasis on the *estimated* nature of the following statements. Approximately one Appalachian elktoe per crossing structure within the action area is estimated based on pre-TS Helene understanding and anticipated storm losses. Throughout the aquatic portion of the action area, including at bank stabilization locations, greater than zero Appalachian elktoe are estimated to be present but more detailed numbers cannot be provided at this time due to the high degree of unknowns. While a 4 - 60 individuals per linear 100 meters estimate was provided for WNC's occupied eastern hellbender waters, those estimates do not necessarily reflect post-TS Helene conditions within the action area waters of the Cane, North Toe, and Nolichucky Rivers. The NCWRC's 2025 breeding season surveys in the North Toe, South Toe, and upper portions of the Cane River revealed varying numbers of individuals, from zero to thirteen, though none of the survey sites were located within the action area. A more conservative generalized estimate of post-TS Helene eastern hellbender density within action area waters of 1 individual per 100 meters was discussed with the Service's AFO aquatic recovery biologist, with the caveat that supporting data (both pre- and post- TS Helene) is lacking and such density estimates are likely to have a large range. This lower estimate considers the devastating impacts from TS Helene flooding and the subsequent activities, all believed to have reduced species numbers. Estimating 1 eastern hellbender per 100 meters and given the approximate 20 river miles (32,187 meters) within the action area, 322 eastern hellbender within the action area could be a reasonable density estimate. Based on pre-TS Helene understanding of the species and the best available post-storm estimates, greater than zero eastern hellbender are assumed to be present at any given location throughout the action area's waterbodies, including at bank stabilization locations.

4.2 Listed and Proposed Bats Within the Action Area

Gray bats, northern long-eared bats, and tricolored bats are all assumed present within the action area. Northern long-eared bats and tricolored bats roost primarily in trees during the warmer months, though may also utilize structures; while gray bats tend to roost in cavernous features and structures. All three species are assumed to be roosting, commuting, and foraging within the action area. NCNHP element occurrence data exists for all three species in the surrounding landscape (NCNHP 2025). Bridge and culvert roosting locations exist for gray bat from approximately 2 to 6 miles of the southern end of the action area. Acoustic and hibernaculum observation records of northern long-eared bat occur approximately 4 miles northeast and southeast of the action area, dated 2016 and 2014, respectively. The closest tricolored bat record is from a 2018 hibernaculum observation approximately 4.5 miles from the southern end of the project. Additionally, tricolored bat hibernacula and observations of individuals exist within approximately 9 miles east (2020 observation) and 10.5 miles northwest of the action area.

Seventeen bridges and two culverts with dimensions suitable for bat roosting (in accordance with NCDOT SOP) occur within the action area. Presence or lack of bridge roost suitability is provided in Tables 1 and 2 in Section 2.2 above. For gray bats, primary roost culverts can support several hundred to over 1,000 individuals, while most culverts with observed roosting gray bats in WNC contain 1 to 10 individuals. The culverts supporting those higher numbers of gray bats, whether culvert or bridge, are larger than average. There are currently no culvert roosting records for northern long-eared bat in WNC, though culvert records for both species occur in other states within their ranges. Records of tricolored bat roosting in bridges and culverts in WNC consist mainly of 1-2 individual per culvert. The suitable bridge and culvert structures within the action area have not been surveyed for roosting bats due to constraints from post-storm recovery, safety concerns, and personnel limitations, but their dimensions suggest that any of the covered species could be present; therefore, presence is assumed.

4.3 Virginia Spiraea Within the Action Area

Virginia spiraea exists within the action area. The occurrence (EO 8) is along the right descending bank of the Cane River approximately 500 feet upstream from the Blood Fork Creek confluence (NCNHP 2025). Prior to TS Helene, the following was noted for the EO: 2011: Two clumps covering a total of 42 x 8 meters with 125-130 corymbs observed by McKenna et al. on 18 July 2011. Previous observation in 1988 of two clumps. Post- TS Helene, despite extreme scour and loss of the riverbank and approximately half of the US 19W roadbed in this location, the plant was discovered on July 16, 2025, by the NC Natural Heritage Program et al. As described, one small vegetative clump with three stems was observed by Schaner and Wagner. The site was visited again on September 17, 2025, by NC Natural Heritage Program (Jess Schaner); the Service (Michelle Henson, Mark Endries, Holland Youngman); and NCDOT Division 13 (Yates Allen and Kim Chase), Biological Surveys Group (Tom Fox), and Environmental Analysis Unit (Tim Bassette). The plant was identified, photographed, and marked via a perimeter of paint on boulders and flagged sticks.


Figures 5 & 6. September 17, 2025 - Viriginia spiraea within action area and location being marked by Service botanist Michelle Henson

While the extreme scour and bank loss from the TS Helene flooding damaged the Virginia spiraea in this location, the plant survived and remains in place at the time of this consultation. Its viability in the face of such a major event serves as a testament to its hearty root system and evolved adaptation for disturbance and flood events. Based on NCNHP surveys, no additional plants are believed to be located within the action area.

5. Effects of the Action

Under section 7(a)(2) of the ESA, "effects of the action" refers to the consequences, both direct and indirect, of an action on the species or critical habitat. The effects of the proposed action are added to the environmental baseline and the cumulative effects to determine the future baseline, which serves as the basis for the determination in this Opinion. Should the effects of the Federal action result in a situation that would jeopardize the continued existence of the species, we may propose reasonable and prudent alternatives that the Federal agency can take to avoid a violation of section 7(a)(2).

Take, discussed in this section, is defined in section 3(19) of the ESA. The definition of take under the ESA is to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. Further definitions are provided below in Section 7.

5.1 Appalachian Elktoe and Eastern Hellbender

5.1.1 Proximity of the Action, Nature of the Effect, and Disturbance Duration

Based on the description of the action and the species' biology, stressors to the Appalachian elktoe and eastern hellbender have been identified and are outlined below. The species are discussed together here, given their similarities in aquatic habitat occurrence and biological responses to environmental stressors. The proximity of these actions will be within and adjacent to the waters occupied by Appalachian elktoe and eastern hellbender [within the action area], also designated as Appalachian elktoe critical habitat, and the duration of disturbance is expected during the construction phase and operational phases of project work.

5.1.2 Effects Analysis

Direct Impacts – Direct effects are caused by the action and occur at the same time and place (50 CFR 402.02).

In-water Work

In-water work, such as the placement of causeways, demolition of remnant structures (if any), placement of hard materials for new bents/structures and/or for sections of bank stabilization and/or for sections of river re-establishment will occur within the action area. This type of work is expected to occur at crossing repair/replacement locations, throughout sections of bank stabilization areas, and where river re-establishment is taking place. Disturbance of substrate material, such as large rocks and submerged trees utilized by eastern hellbender, could result in loss of shelter and breeding habitat, increased exposure to predation, and failed reproduction for the species. Installation of temporary causeways and of permanent fill material and/or grade control structures may result in adverse effects to Appalachian elktoe and their fish host species and/or to eastern hellbender due to the potential to bury individuals and harm fish host individuals (for Appalachian elktoe) or disrupt passage or other behavior while temporary or permanent materials are in place. Causeways or areas of river reconfiguration where the channel is narrowed may also constrict river flows, which could potentially modify the hydrology and physical habitat conditions upstream and downstream of the respective fill areas. Rock causeway material may be washed away during extremely high flow events, which may kill, crush, or bury individuals, or otherwise degrade mussel and/or eastern hellbender habitat downstream of the footprint. Causeways increase the risk of stream bed and bank scour. The habitat downstream of causeways may experience higher velocities until removal. Temporary causeways may also act as physical and high-velocity barriers to fish movement. Demolition and construction of crossing structures may result in the loss of materials into the waterbody. While this isn't expected, given the implementation of BMPs, it is still possible. Materials that aren't effectively contained during demolition or construction could serve to crush or bury aquatic species. Similarly, the operation of construction equipment within the waterbody for structure replacement, bank stabilization, or river re-establishment may result in crushing or burying Appalachian elktoe and/or eastern hellbender.

Alteration of Flows and Channel Stability

The initial construction of a crossing structure is known to cause changes in the flow of the stream and corresponding erosive processes that can alter the adjacent habitat. Channel instability occurs when scour results in degradation or when sediment deposition leads to aggradation (Rosgen 1996). Since structures are being replaced in the same locations, any alteration of flows and channel stability associated with the new structures are anticipated to be minor and localized. That said, altering the existing in-water structures has the potential to create flow instability which could impact downstream habitat for Appalachian elktoe and/or eastern hellbender.

Flow alteration and channel stability will also be impacted by the proposed river re-establishment work. Several portions of river re-establishment aim to narrow the post-Helene channel and create benching on one or both sides of the river. Additionally, grade control structures will likely be constructed in the channel to direct flow. At the time of this consultation, detailed plans do not yet exist for each section of re-establishment work, though the stated goal and purpose is to increase long-term geomorphologic stability while also ensuring slope and roadbed stability. While flow alteration from river re-establishment is likely to impact Appalachian elktoe and eastern hellbender, collaboration on re-establishment designs between aquatic specialists should help to minimize adverse effects on these species and their habitats.

Turbidity and Sedimentation

Increases in turbidity and sedimentation within the action area during construction are expected. This may occur from in-water work such as heavy machinery and materials placement at crossing structure locations, river re-establishment locations, portions of bank stabilization; and may occur from the erosion of bare soil in and surrounding the construction zone from activities such as grading and bank stabilization where SEC devices and other impact minimization measures could fail, especially during heavy rain events. Sediment accumulations of less than one inch have been shown to cause high mortality in most mussel species (Ellis 1936). Adverse effects to mussels and/or eastern hellbenders resulting from the accumulation of sediments include smothering, disruption of feeding and breeding activity, alteration of habitat, or some combination. In certain instances, sedimentation effects from construction sites can extend long distances. The amount of sedimentation and erosion that could result from SEC device failure during a large storm and the level to which it adversely effects Appalachian elktoe and/or eastern hellbender habitat is difficult to predict and is dependent on several factors, such as the frequency and duration of rainfall events that exceed the design standards of the SEC devices, construction duration, amount of bare soil exposed at any given time, and adherence to proper inspection and maintenance protocols for SEC devices. SEC devices, when properly designed and maintained, are expected to greatly reduce influxes of turbidity; however, heavy rain events can exceed SEC capacity, resulting in sediment releases which degrade Appalachian elktoe and eastern hellbender habitat in the vicinity.

Accidental Spills

The inadvertent spill or discharge of toxic pollutants, such as diesel fuel, hydraulic oil, and uncured concrete into action area waterbodies could occur during construction activities and result in mortality of Appalachian elktoe and/or eastern hellbender. The type, timing, amount, and proximity to the river of any accidental spills would determine the magnitude of effect to the species, but may result in death, disrupt feeding or reproductive behaviors, influence animals to expend energy relocating to more favorable habitats, or otherwise reduce fitness. Significant spills resulting from negligent operation are possible, but unlikely to occur. Adhering to measures outlined in the AMMs and CMs will minimize the potential for accidental spills to occur.

Bank Stabilization Effects

At the time of this consultation, the details (complete locations, dimensions, materials, etc.) of bank stabilization activities remain unknown; however, it is known that several portions of the roadway corridor will be stabilized via durable, cement-stabilized rock-armoring technique(s). Portions of bank stabilization will require in-water work and temporary in-water fill to accommodate machinery and materials at toe-of-slope. Banks stabilized via hard engineering techniques, that is, as large, artificial structures generally incorporating concrete and other non-native materials introduced to the site, often reduce the structural complexity and overall health of aquatic habitats (Frempong-Manso et al. 2025). Replacing a natural bank results in elements such as the loss of riparian habitat, alterations to sediment flow and transport, and loss of floodplain access. For example, while an armored bank may stabilize a section of shoreline, the influence on hydrology can lead to scour, erosion, and sedimentation downstream. Lack of floodplain access leads to increased flow velocities during flood events, leading to increased downstream scour. The absence of a riparian buffer reduces water quality via the absence of native vegetation for filtering pollutants from runoff and slowing stormwater sheet-flow before it reaches receiving waters. The loss of natural features and systems reduces habitat complexity, stability, and overall health for Appalachian elktoe and eastern hellbender. It is worthwhile to consider that banks armored with cement-stabilized rock may be less impactful on hydrology than those stabilized with retaining walls. Riparian vegetation may be able to establish in materials like rip-rap and flow regime may be less constricted; all elements that can be more thoroughly assessed when more is known and understood about the detailed conditions and design plans. While the exact impacts to these species' habitats and life history stages from the placement of hard armoring throughout the action area is difficult

to assess given the acknowledged unknowns, the long-term reduction in aquatic habitat health is considered an adverse effect.

In summary, the in-water work, flow and channel stability alteration, and turbidity and sedimentation within the action area are likely to adversely affect Appalachian elktoe, Appalachian elktoe critical habitat, and eastern hellbender, and take of both species is expected. Take may occur in the form of killing (such as being crushed by machinery or fill material or being smothered by sediment to the point of mortality), wounding (such as from machinery or fill), harming (from machinery, materials, sediment, complor habitat loss), or harassing individuals (such as disturbance from habitat).

Indirect Impacts – Indirect effects are defined as those that are caused by the proposed action and are later in time but are still reasonably certain to occur (50 CFR 402.02).

Operational Effects
Because the project is limited to the replacement of damaged or destroyed roadway and crossing structures, which will not result in changes to traffic volumes, any operational effects above the existing baseline conditions are not expected to occur; or, if they do occur, are expected to be minimal

5.2 Gray Bat, Northern Long-eared Bat, and Tricolored Bat

5.2.1 Proximity of the Action, Nature of the Effect, and Disturbance Duration for Bats

Based on the description of the action and the species' biology, stressors to gray bat, northern long-eared bat, and tricolored bat have been identified and are shared below. The proximity of these actions will be within the entire action area including the structures, waterways, riparian zone, and any existing forested areas. Duration of disturbance is expected primarily during the construction phase of project work.

5.2.2 Effects Analysis

Direct Impacts – Direct effects are caused by the action and occur at the same time and place (50 CFR 402.02).

Structure Work
The demolition of remaining portions of structures, if conducted while bats are present, could cause bats to flush, exposing them to risk of predation, causing increased energy expenditure, and creating the need for bats to find alternative roost locations. It could also result in physical wounding or death if bats are unable to flush. If non-volant pups are present, while adults may be able to flush, pups would be left behind with mortality as the likely outcome.

Due to the high volume of crossing structure replacements and timeline unknowns associated with TS-Helene response constraints, the exact designs of replacement crossing structures are not known at the time of this document. However, according to information provided by NCDOT, most replacement bridge structures are expected to be either cored slab or box beam bridges. Such precast concrete bridges may provide suitable bat roosting habitat depending on factors such as spacing between beams/girders, arrangement above any bents, and other design elements that could result in potential roosting crevices. Generally, concrete is a favorable material for roosting due to its thermal stability.

Tree Removal
The removal of suitable roost trees, if conducted while northern long-eared bats or tricolored bats are present, could cause bats to flush, exposing them to risk of predation, causing increased energy expenditure, and creating the need for bats to find alternative roost locations. It could also result in

physical wounding or death should bats fail to flush from a tree being felled. Given the presence of alternative forested habitat near the action area, bats could likely find additional trees for roosting. Harm would be expected in the increased exposure to predation from flushing and from the potential for wounding or killing when trees are felled. Additionally, while adults may be able to flush, any non-volant pups would be left behind and would likely perish.

Aquatic Resource Loss and Degradation

Water quality may be affected by increased sedimentation due to ground disturbance, placement of fill material for causeway construction, runoff, and through the introduction of environmental contaminants. The introduction of environmental contaminants to waterways may negatively affect bats by exposing them or their prey to toxic substances. Hazardous materials used during construction or maintenance may include diesel fuel, gasoline, hydraulic fluids, oils, lubricants, etc. Chemical pollutants can reduce diversity of prey items, as less tolerant species are lost, and overall macroinvertebrate abundance may be negatively affected depending on pollutant levels and frequency of application. The negative impacts of sedimentation on aquatic insect larvae are well-documented. In a literature review, Henley et. al (2000) summarized how stream sedimentation impacts these communities. Sediment suspended in the water column affects aquatic insect food sources by physically removing periphyton from substrate and reducing light available for primary production of phytoplankton. Sediment that settles out of the water column onto the substrate fills interstitial spaces occupied by certain aquatic insect larvae, displacing that biota. Increases in sedimentation can also change the composition of the insect community in a stream, reducing diversity and possibly reducing the prey base for foraging bats. While project activities, notably the placement of causeway fill material and use of heavy equipment adjacent to and in the action area waterbodies, are expected to temporarily reduce water quality within the action area, the impacts are not expected to result in take of the covered species. This determination is based on the implementation of sediment and erosion control measures, the temporary nature of the impacts, the alternative availability of foraging habitat within the free-flowing portions of the action area waterbodies.

Lighting and Night Work

Night work and associated temporary lighting may occur during the life of the project, though the timing and duration of those activities is unknown at the time of this document. Bat behavior may be affected by lights when traveling between roosting and foraging areas. Foraging in lighted areas may increase risk of predation or it may deter bats from flying in those areas. Bats that significantly alter their foraging patterns may increase their energy expenditures, resulting in reduced fitness. This depends on the context (e.g., duration, location, extent, type) of the lighting. Given the measure to avoid lighting the riparian and waterbody portions of the action area as much as possible with temporary night-lighting, and given that lighting, even when on, will not illuminate the entirety of the riparian corridor throughout the action area, impacts from temporary night lighting are not expected to result in take of the covered species. This determination is based on the minimized and temporary nature of the impacts and on the alternative availability of commuting and foraging habitat within the action area.

Noise and Vibration

High decibel (dB) noise from construction activities such as pile driving (74-103 dB* drilling (85-98 dB*) and heavy equipment operation (91-106 dB*) is expected to occur at various locations throughout the action area, including at crossing structures and at sites adjacent to wooded areas. Rock blasting (112 dB*) is expected to occur at several pipe extension locations throughout the corridor, though exact locations are not known at the time of this consultation. For reference, standard background noise such as wind in trees, flowing water, and passing traffic is in the 40-65 dB* range. Novel and high dB noise and vibration may disrupt bats by causing individuals to flush from and possibly abandon roosts or alter travel corridors and foraging behaviors. Bats flushed from roosting are likely to experience harm in the form of

increased exposure to predators and reduced fitness due to energy expenditure, especially if the roost is abandoned the flushed bat(s) must locate a suitable replacement. Additionally, should flushing occur during the pup season, adults may flush and leave behind non-volant pups, which could result in harm or mortality for the abandoned pup. Novel and high dB noise and vibration may also impact bats foraging through either interference with their ability to detect prey (acoustic masking or reduced attenuation) or by prompting them to avoid foraging areas, as reflected in studies by Luo et al. (2015) and Schaub et al. (2008).
**at 50 feet from noise source, according to CalTrans 2016.*

Indirect Impacts – Indirect effects are defined as those caused by the proposed action and are later in time but reasonably certain to occur (50 CFR 402.02).

If bats were utilizing structures or trees (when considering northern long-eared bat and tricolored bat) within the action area as roost sites prior to demolition/clearing/construction and return to those roost sites to find the habitat gone or altered, the bats may then have to expend extra energy in finding alternative roosting areas. While this could occur, it is considered unlikely to result in adverse effects given that replacement structures are expected to offer suitable roosting features, and alternative forested habitat is available near the action area.

Operational Effects
Because the project is limited to the replacement of damaged or destroyed roadway and crossing structures, which will not result in changes to traffic volumes, any operational effects above the existing baseline conditions are not expected to occur; or, if they do occur, are expected to be minimal.

In summary, the structure work, tree removal, and noise and vibration within the action area are likely to adversely affect gray bat, northern long-eared bat, and tricolored bat, and take of these species is expected. Take may occur in the form of killing (such as from being crushed during tree-felling or structure demolition), wounding (similarly through tree-felling or structure demolition), harming (such as through removing habitat needed for life stages), or harassing individuals (such as through flushing from roost sites and increasing predator exposure or reducing fitness).

5.3 Virginia Spiraea

5.3.1 Proximity of the Action, Nature of the Effect, and Disturbance Duration

The proximity of the action to the Virginia spiraea is immediate, as the plant occurrence is within a location slated for full reconstruction. The nature of this effect will be destructive to the plant's continued survival in this location, as the construction work for the roadbed and slope stabilization, primarily via heavy machinery operation and fill placement, would be expected to crush and kill the plant, precipitating its removal. The duration would be the immediate impacts from the active construction and the permanence of the wall.

5.3.2 Effects Analysis

Direct impacts are expected in the form of removal of the plant from the action area. As discussed in the conservation measure above, the plant will be rescued from the action area due to the planned activities. Were the plant left in place, the expected impact would be crushing and death via planned construction activities, such as heavy machinery operating over its location, and the permanent placement of bank stabilization and backfill material.

The inability of the plant to successfully re-establish over time and contribute to the limited number of Virginia spiraea populations in WNC is considered an indirect effect.

5.4 Cumulative Effects

Cumulative effects are defined as "those effects of future state or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation" (50 CFR 402.02). Future federal actions unrelated to the proposed action are not considered because they require separate consultation pursuant to Section 7 of the ESA.

The roadway corridor repairs and structure replacements are not expected to induce land development or substantially change the function of the US 19W roadway corridor or intersecting roadways. Any potential effects are anticipated to be localized and consistent with baseline land use patterns. Many private landowners and local governments are recovering from TS Helene and rebuilding homes and associated infrastructure. In the months following the storm, destroyed utilities such as transmission lines were replaced. It is not known at the time of this consultation whether additional utilities recovery projects are needed or will be undertaken within the action area. Within the action area, private landowners may pursue bridge, culvert, and roadway repair and replacement. Some of this work will be conducted in portions of the action area waterbodies where Appalachian elktoe and/or eastern hellbender may be present; and/or during seasons when bats are active on the landscape, potentially increasing exposure to construction-related stressors. However, potential effects from these private actions cannot be determined at this time given the lack of knowledge on assumed private actions and associated unknowns regarding what actions will occur when or where.

6. Conclusion and Jeopardy Determination

After reviewing the current status of Appalachian elktoe, eastern hellbender, gray bat, northern long-eared bat, tricolored bat, and Virginia spiraea and the environmental baseline for the action area, the effects analyses and cumulative effects, the Service’s biological and conference opinions are shared below.

6.1 Appalachian elktoe

It is the Service's biological opinion that the proposed actions are not likely to jeopardize the continued existence of the Appalachian elktoe. This opinion is based on the following: Effects of the action will occur as a result of the planned repair or replacement of portions of the US 19W corridor, particularly of the bank stabilization sections that will involve in-water work, the portions of in-water work associated with planned river re-establishment, and the crossing structures that were present and in functioning order prior to TS Helene. The species occurs in approximately 162 river miles in WNC and Eastern Tennessee (as understood pre-TS Helene), in disjunct populations. The portion of the action area inhabited by Appalachian elktoe, approximately 20 river miles of parts of the Cane, Nolichucky, and North Toe Rivers, comprises about 12% of the range-wide occupied habitat. Crossing structure construction activities will occur at 17 bridge sites and two culvert sites either within or directly upstream from waters where the species is assumed present. Considering an estimated in-water impact range of 0.01 – 0.35 acres (or 435.6 – 15,246 square feet) per structure, the total area of adverse effects from structure work is estimated to be within a range of 1.9 – 6.65 disjunct acres, though it is unlikely and unexpected that each structure would result in the maximum amount of in-water impacts. Bank stabilization activities including portions of in-water work will occur along approximately 74,000 linear feet within the action area. While adverse effects may not occur along the entirety of streambank construction areas, harmful impacts are likely given the scale of the project and the portions that will require in-water work, estimated at 8,200 linear feet. River re-establishment activities will occur throughout an estimated 95 acres of in-channel

work within the action area and are expected to include harmful impacts on the species. Project actions are likely to negatively affect Appalachian elktoe within the action area in the form of wounding, killing, harm, or harassment. The incorporated conservation measures are expected to reduce impacts, notably, relocation efforts with resource agency representatives such as the NCWRC and/or Service that could remove and relocate individual mussels prior to work taking place; and areas of habitat enhancement that are collaboratively designed to benefit the species.

The action area contains approximately 14% of Appalachian elktoe designated critical habitat. While adverse impacts on individual mussels and localized portions of designated critical habitat within the action area are anticipated, based on the information presented in the BA and knowledge of the action area and surrounding portions of the Cane, Nolichucky, and North Toe Rivers, the project will not result in adverse modification (that is, "…no direct or indirect alteration that appreciably diminishes the value of critical habitat *as a whole* for the conservation of listed species" (50 CFR §402.02)) to Appalachian elktoe designated critical habitat.

6.2 Eastern hellbender

On December 13, 2024, the Service published a proposal in the Federal Register to list the eastern hellbender as endangered under the ESA. As a result, NCDOT requested a conference for the eastern hellbender as the project may be on-going after the effective date of any final listing rule, if one is published. It is the Service's biological and conference opinion that the proposed action is not likely to jeopardize the continued existence of eastern hellbender. This opinion is based on the widespread occurrence of the species throughout 15 eastern states. The approximately 20 river miles within the action area represents a small portion of the species' occupied habitat, and not all individuals occurring within the action area are anticipated to be adversely impacted by the proposed action. Crossing structure construction activities will occur at 17 bridge sites and 2 culvert sites either within or directly upstream from waters where the species is assumed present. Considering an estimated in-water impact range of 0.01 – 0.35 acres (or 435.6 – 15,246 square feet) per structure, the total area of adverse effects from structure work is estimated to be within a range of 1.9 – 6.65 disjunct acres, though it is unlikely and unexpected that each structure would result in the maximum amount of in-water impacts. Bank stabilization activities including portions of in-water work will occur along approximately 74,000 linear feet within the action area. While adverse effects may not occur along the entirety of streambank construction areas, harmful impacts are likely given the scale of the project and the portions that will require in-water work, estimated at 8,200 linear feet. River re-establishment activities will occur throughout an estimated 95 acres of in-channel work within the action area and are expected to include harmful impacts on the species. Project actions are likely to adversely affect eastern hellbender within the action area in the form of wounding, killing, harm, or harassment but the incorporated avoidance, minimization, and conservation measures are expected to reduce impacts, notably, relocation efforts that could remove and relocate individual eastern hellbenders prior to work taking place.

6.3 Gray Bat, Northern Long-eared Bat, and Tricolored Bat

On September 14, 2022, the Service published a proposal in the Federal Register to list the tricolored bat as endangered under the ESA. As a result, NCDOT requested a conference for the tricolored bat as the projects may be on-going after the effective date of any final listing rule, if one is published. It is the Service's biological and conference opinion that the proposed actions are not likely to jeopardize the continued existence of gray bat, northern long-eared bat, or tricolored bat. This opinion is based on the following factors: the structures and forested areas and waterways within the action area that will be impacted by project actions comprise a small amount of active season habitat within the overall ranges of these species; no changes in the long-term viability of gray bat, northern long-eared bat, or tricolored bat

are expected because, given the low numbers of each species expected to occur throughout the action area and particularly at each crossing structure location (that is, an estimate of 1 individual per species per structure), and the occurrence range-wide of each species – gray bat in 14 states, northern long-eared bat in 37 states, and tricolored bat in 39 states as well as in portions of other North and Central American countries – only a miniscule percentage of those overall populations may be affected. Tree clearing and crossing structure repair and construction activities are likely to negatively affect gray bat (not from tree clearing), northern long-eared bat, and tricolored bat within the action area in the form of wounding, killing, harm, or harassment but the incorporated avoidance, minimization, and conservation measures are expected to reduce impacts. No critical habitat is designated for these species; therefore, the proposed action is not likely to destroy or adversely modify designated or proposed critical habitat for these bat species.

6.4 Virginia spiraea

After reviewing the current status of Virginia spiraea and the effects anticipated from the subject project, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of Virginia spiraea. This is based on the singular impact to one plant. No critical habitat is designated for this species; therefore, the proposed action is not likely to destroy or adversely modify designated critical habitat.

7. Incidental Take Statement

Section 9 of the Endangered Species ESA and Federal regulations pursuant to section 4(d) of the Endangered Species Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take "*means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct*" (16 U.S.C §1532). Harm is further defined by the Service as "*an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering*" (50 CFR 17.3). Incidental taking "*means any taking otherwise prohibited, if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity*" (50 CFR 17.3). Harass is defined by the Service as "*an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering*" (50 CFR 17.3). Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered to be prohibited under the Endangered Species Act, provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

7.1 Amount of Take for Appalachian elktoe

Incidental take of Appalachian elktoe is difficult to measure or detect given that 1) mussels are small, aquatic, cryptic, and generally difficult to observe, 2) finding dead or injured mussels during or following project implementation is unlikely, 3) some incidental take is in the form of non-lethal harm and not directly observable; and 4) losses may be masked by seasonal fluctuations in numbers or other causes. Given this, the estimated amount of riverbed disturbance in acres or square feet and linear feet of bank stabilization are used as surrogate measures of take for this Opinion. Additionally, as discussed in the Environmental Baseline, no more than one Appalachian elktoe is estimated to be present within the construction footprint immediately surrounding the structures to be repaired/replaced and, to the best of situational abilities, efforts will be made to relocate individuals if found prior to construction in order to reduce mortality.

Therefore, the incidental take permitted by the Opinion would be exceeded if either of the following occurs:

1. The construction footprint (placement of permanent fill, causeways, and associated actions) exceeds 0.35 acres (15,226 square feet) at any crossing structure construction location.
2. Bank stabilization activities exceed 74,000 linear feet or in-water work associated with bank stabilization exceeds 8,200 linear feet.
3. River re-establishment areas exceed 95 acres
4. Take of greater than one Appalachian elktoe per structure, or per bank stabilization area, or per river re-establishment zone is observed.

Exceedance of take as defined above will represent new information that was not considered in this Opinion and shall result in reinitiation of this consultation. The incidental take of Appalachian elktoe is expected to be in the form of harm, harassment, wounding, or death.

7.2 Amount of Take for Eastern Hellbender

Incidental take of eastern hellbender is difficult to measure or detect given that 1) individuals are aquatic, cryptic, largely nocturnal, and generally difficult to observe, 2) finding dead or injured individuals during or following project implementation is unlikely, and 3) some incidental take is in the form of non-lethal harm and not directly observable. Given this, the estimated amount of riverbed disturbance in acres or square feet and linear feet of bank stabilization are used as surrogate measures of take for this Opinion. Additionally, as discussed in the Environmental Baseline, no more than one eastern hellbender is estimated to be present within the construction footprint immediately surrounding the structures to be repaired/replaced and, to the best of situational abilities, efforts will be made to relocate individuals if found prior to construction in order to reduce mortality.

Therefore, the incidental take permitted by the Opinion would be exceeded if either of the following occurs:

1. The construction footprint (placement of permanent fill, causeways, and associated actions) exceeds 0.35 acres (15,226 square feet) at any crossing structure construction location.
2. Bank stabilization activities exceed 74,000 linear feet or in-water work associated with bank stabilization exceeds 8,200 linear feet.
3. River re-establishment areas exceed 95 acres
4. Take of greater than one eastern hellbender per structure or per bank stabilization area, or per bank stabilization area, or per river re-establishment zone is observed.

Exceedance of take as defined above will represent new information that was not considered in this Opinion and shall result in reinitiation of this consultation. The incidental take of eastern hellbender is expected to be in the form of harm, harassment, wounding, or death.

7.3 Amount of Take for Gray Bat, Northern Long-eared Bat, and Tricolored Bat

The Service anticipates incidental take of the northern long-eared bat and tricolored bat may occur as a result of the tree clearing; and take of gray bat, northern long-eared bat, and tricolored bat may occur as a result of bridge and culvert work and high dB noise associated with the subject project. Specifically, take of northern long-eared and tricolored bats may occur as a result of flushing, wounding, or direct mortality during tree clearing activities during sensitive seasonal periods; or, take may occur for those species and gray bat as a result of the modification/replacement of suitable bridge/culvert roosts during sensitive seasonal periods, which may similarly result in flushing, wounding, or direct mortality during

construction activities; or take may occur from the effects of novel high dB noise on the landscape from construction activities that could cause flushing.

Incidental take of bats is difficult to measure or detect given that 1) the animals are small, cryptic, and generally difficult to observe, 2) finding dead or injured bats during or following project implementation is unlikely, and 3) some incidental take is in the form of non-lethal harm or harassment and not directly observable. Given this, the 1) maximum estimated tree clearing (except for gray bat), 2) number of crossing structures repaired/replaced, and 3) length of project timeline to completion are used as surrogate measures of take for this Opinion.

Therefore, the incidental take permitted by the Opinion would be exceeded if:

1. *Tree clearing amount exceeds 50 acres.
2. Any more than one structure is repaired/replaced per existing crossing structure, as listed LAA in Table 1.
3. Project construction activities that cause noise and vibration beyond baseline levels extend beyond the 2.5-year projected timeline.

**For northern long-eared bat and tricolored bat only*

Exceedance of take as defined above will represent new information that was not considered in this Opinion and shall result in reinitiation of this consultation. The incidental take of gray bat, northern long-eared bat, and tricolored bat is expected to be in the form of harm, harassment, wounding, or death.

7.4 Virginia Spiraea

One Virginia spiraea plant occurs within the action area, in a construction location that is expected to adversely impact the plant.

This Opinion evaluated effects of the action on the federally endangered Virginia spiraea. Section 7(b)(4) and 7(o)(2) of the Act, which provide the authority for issuing an incidental take statement, do not apply to listed plant species. However, Section 9(2) of the Act prohibits certain acts with respect to endangered plant species, including:

(a) remove and reduce to possession from areas under Federal jurisdiction.

Regulations issued under Section 4(d) of the Act extend the prohibition under (a) above to threatened plant species (50 CFR 17.71). The damage or destruction of endangered and threatened plants that is incidental to (not the purpose of) an otherwise lawful activity is not prohibited.

7.5 Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measure(s) are necessary and appropriate to minimize take of gray bat, Indiana bat, northern long-eared bat, and tricolored bat. These non-discretionary measures reduce the level of take associated with project activities.

1. NCDOT shall ensure that the contractor(s) understands and follows the measures listed in the "Avoidance, Minimization, and Conservation Measures", "Reasonable and Prudent Measures," and "Terms and Conditions" sections of this Opinion.
2. NCDOT shall minimize the area of disturbance within the action area to only the area necessary for the safe and successful implementation of the proposed actions.

3. NCDOT shall monitor and document the surrogate measures of take and report those to the Service. Any observed covered species, regardless of condition, shall be included in monitoring and documentation.

7.6 Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the Applicant must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting and/or monitoring requirements. When incidental take is anticipated, the terms and conditions must include provisions for monitoring project activities to determine the actual project effects on listed fish or wildlife species (50 CFR §402.14(i)(3)). These terms and conditions are nondiscretionary for the listed species. If this conference opinion for tricolored bat and/or eastern hellbender is adopted as a biological opinion following a listing designation, these terms and conditions would be non-discretionary for tricolored bat and/or eastern hellbender.

1. NCDOT shall adhere to all measures as listed in the Avoidance, Minimization, and Conservation Measures section as summarized in this Opinion.
2. NCDOT shall work with the design engineers and construction contractors to ensure that project design boundaries and construction zones are minimized to what's necessary for safe and effective project implementation.
3. The NCDOT shall immediately inform the Service if the amount or extent of incidental take in the incidental take statement is exceeded.
4. When incidental take is anticipated, the Terms and Conditions must include provisions for monitoring project activities to determine the actual project effects on listed fish or wildlife species (50 CFR §402.14(i)(3)). In order to monitor the impact of incidental take, the NCDOT must report the action impacts on the species to the Service according to the following:
    a. The NCDOT will submit a report each year not later than September 30 identifying the following for the preceding calendar year ending December 31:
        i. Acreage of in-water impacts at river re-establishment locations, linear feet of bank stabilization activities, linear feet of in-water work associated with bank stabilization, and locations for all, if LAA for Appalachian elktoe and/or eastern hellbender.
        ii. Acreage and dates of tree removal (if any), if LAA for bats (excepting gray bat).
        iii. Dates of structure removal (if any), if LAA for bats.
        iv. List of implemented CMs and AMMs [as listed in Section 2.3].

8. Conservation Recommendations

Section 7(a)(l) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

- **Eastern hellbender**: The following measures are recommended on behalf of this species:
    - As eastern hellbenders may be in the project area, we recommend avoiding the disturbance of large flat rocks and watching for any hellbenders during construction. If animals are disturbed during construction, they should be captured in a bucket and moved away from the area of disturbance. Please notify Lori Williams (lori.williams@ncwildlife.org) and Jason Mays with Service (jason_mays@fws.gov) if hellbenders are found.

    - If part of the channel will be relocated and the old channel filled in, after flows have been diverted away from the reaches that will be abandoned, these reaches should be observed for several hours and any hellbenders that appear be captured in a bucket and moved downstream of project construction activities. Please notify the contacts listed above if hellbenders are found.
    - If reproducing hellbenders are on-site or nearby, please avoid project construction activities from August 15-November 30 to avoid impacts to breeding, nesting, and hatchling development.
- **Replanting**: Once construction activities are complete within portions of the action area and planting activities are being planned, incorporate a diversity of native herbaceous, shrub, and tree species for replanting. For the road corridor, using containerized fast-growing tree species will help to shield waterbodies from light pollution as the trees mature. Utilizing native vegetation, especially species like native river cane, can help to stabilize the soil and provide ecological value to wildlife in the area.
- **Implement NCWRC Recommendations**: A letter submitted from the NCWRC dated March 20, 2025 provided several valuable recommendations that should be incorporated into project work. Notably, we encourage NCDOT to adhere to NCWRC's recommendations to:
    - Accommodate wildlife passage at bridge sites in accordance with *North Carolina Department of Transportation & North Carolina Wildlife Resources Commission Wildlife Passage Guidance* (see Wildlife_Passage_Guidance.pdf). This generally involves keeping a clear strip of streambank (rip rap free) of 10 feet in width on each side of the channel underneath bridges. Smaller widths are also beneficial where there are narrow abutment setbacks. Alternatively, a "wildlife path" can be constructed with a top-dressing of finer stone if full bank plating is required. These measures should also incorporate any ditch line plating.
    - Follow the list of general recommendations for river channel work that may be pursued.
    - Follow the list of specific recommendations for corrugated pipes, reinforced concrete pipes, and concrete box culverts.
    - Follow the list of NCWRC's standards recommendations for incorporation into bridge and culverts replacements that are part of the roadway project.
- **Structure Replacemen**t: Consider possible improvements to the aquatic environment when designing replacement crossing structures. For instance, placement of the new structure in a different footprint may be a good option if it would reduce impacts on the aquatic and/or riparian environment. This should be considered on a case-by-case basis with each structure.
- **Protected Confluence Property**: The parcel of land located on river left at the confluence of the Cane River with the Nolichucky River (Figures B8 & B9) is noted for its high conservation priority. This land is stewarded by the Southern Appalachian Highlands Conservancy and includes partnerships with the Eastern Band of Cherokee Indians and other resource and conservation organizations. Prioritization of this area is encouraged for riparian/native river cane planting and for expanded collaboration on river re-establishment efforts.

For the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, we request notification of the implementation of any conservation recommendations.

9. Reinitiation Notice

This concludes formal consultation on the action(s) outlined in the consultation request dated September 23, 2025. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of

the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this Opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this Opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

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Appendix A. Standing Analysis for Interim Consultation Framework for the Northern Long-eared Bat | FWS.gov
U.S. Fish and Wildlife Service (Service). 2024. Eastern Hellbender (*Cryptobranchus alleganiensis alleganiensis*): Species Status Assessment Report, Version 2.1
Weber, J., J. O'Keefe, B. Walters, F. Tillman, and C. Nicolay. 2020. Distribution, Roosting and Foraging Ecology, and Migration Pathways for Gray Bats in Western North Carolina. NCDOT Project 2018-36, FHWA/NC/2018-36.
Wiens, A.M., J. Szymanski, B.J. Udell, and W. E. Thogmartin. 2022. Winter Colony Count Data Assessment and Future Scenarios for the Little Brown, Northern Long-eared, and Tricolored Bat Species Status Assessment. Cooperator Report prepared in cooperation with the U.S. Geological Survey, United States Fish and Wildlife Service and Bat Conservation International. https://doi.org/10.7944/P9B4RWEU
Whitaker, J. O., Jr., L. Pruitt, and S. Pruitt. 2001. The gray bat, Myotis grisescens, in Indiana. Proceedings of the Indiana Academy of Science 110:114-122.

APPENDIX A – FIGURES

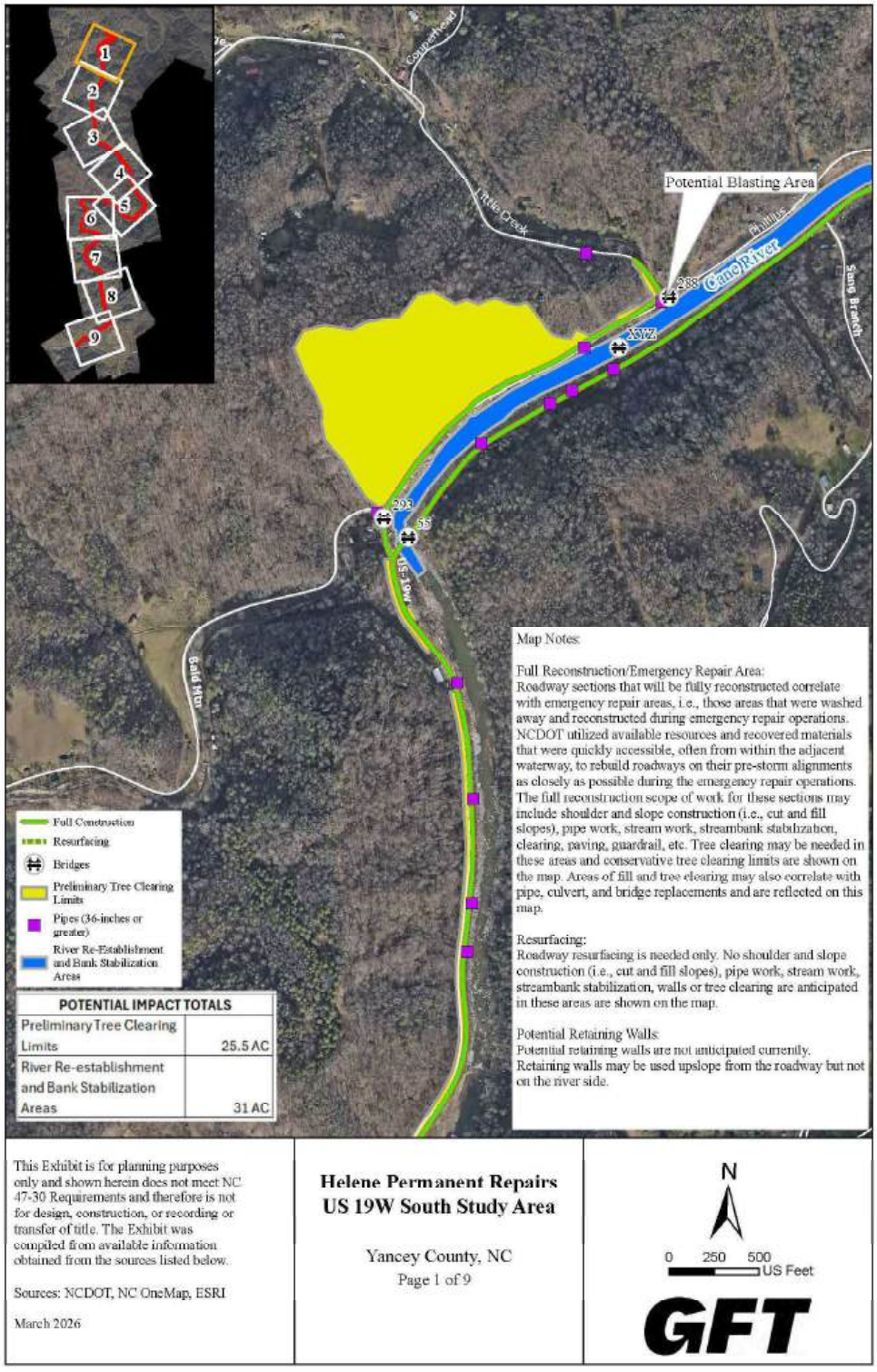
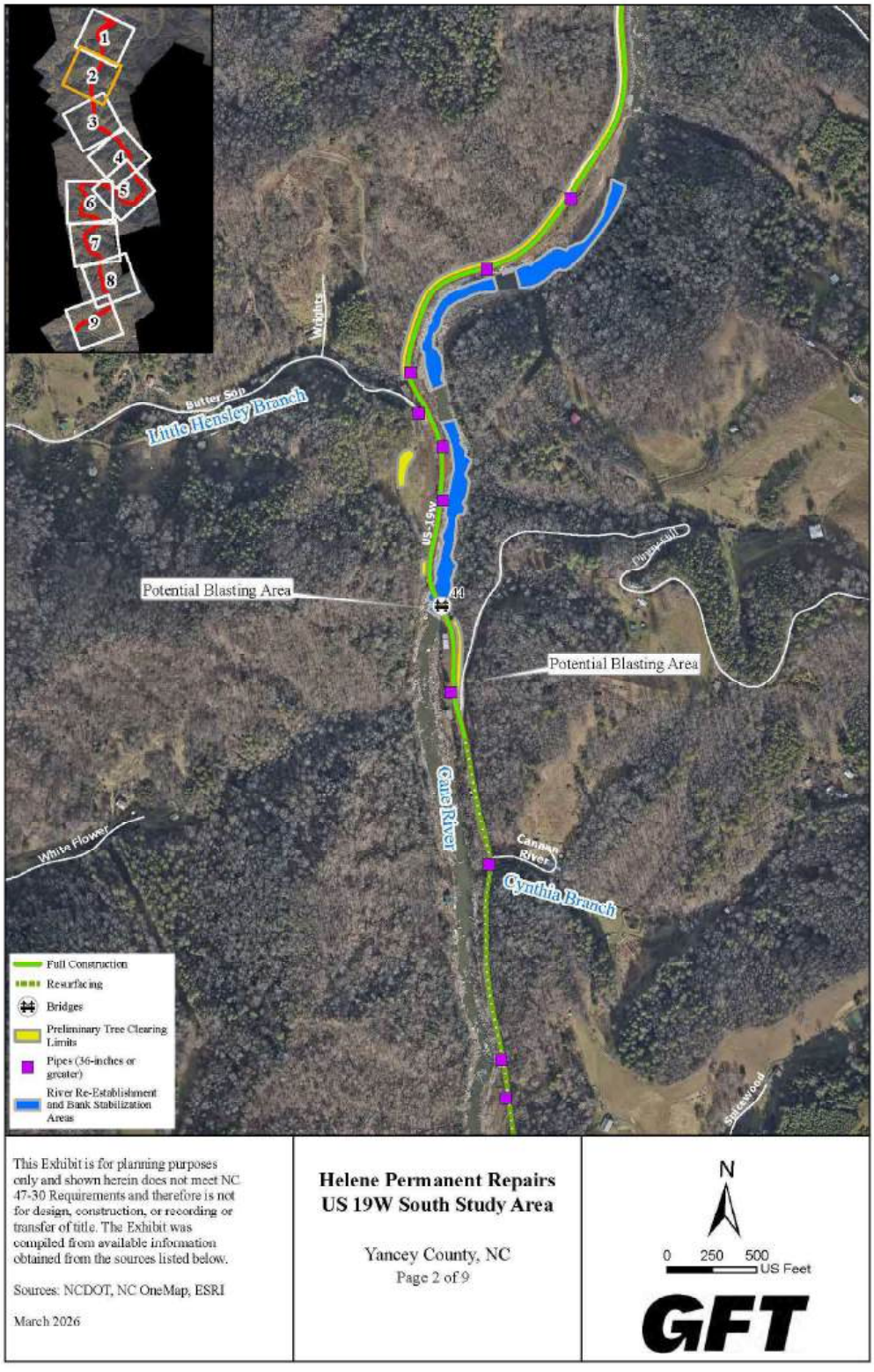


Figure A1


1
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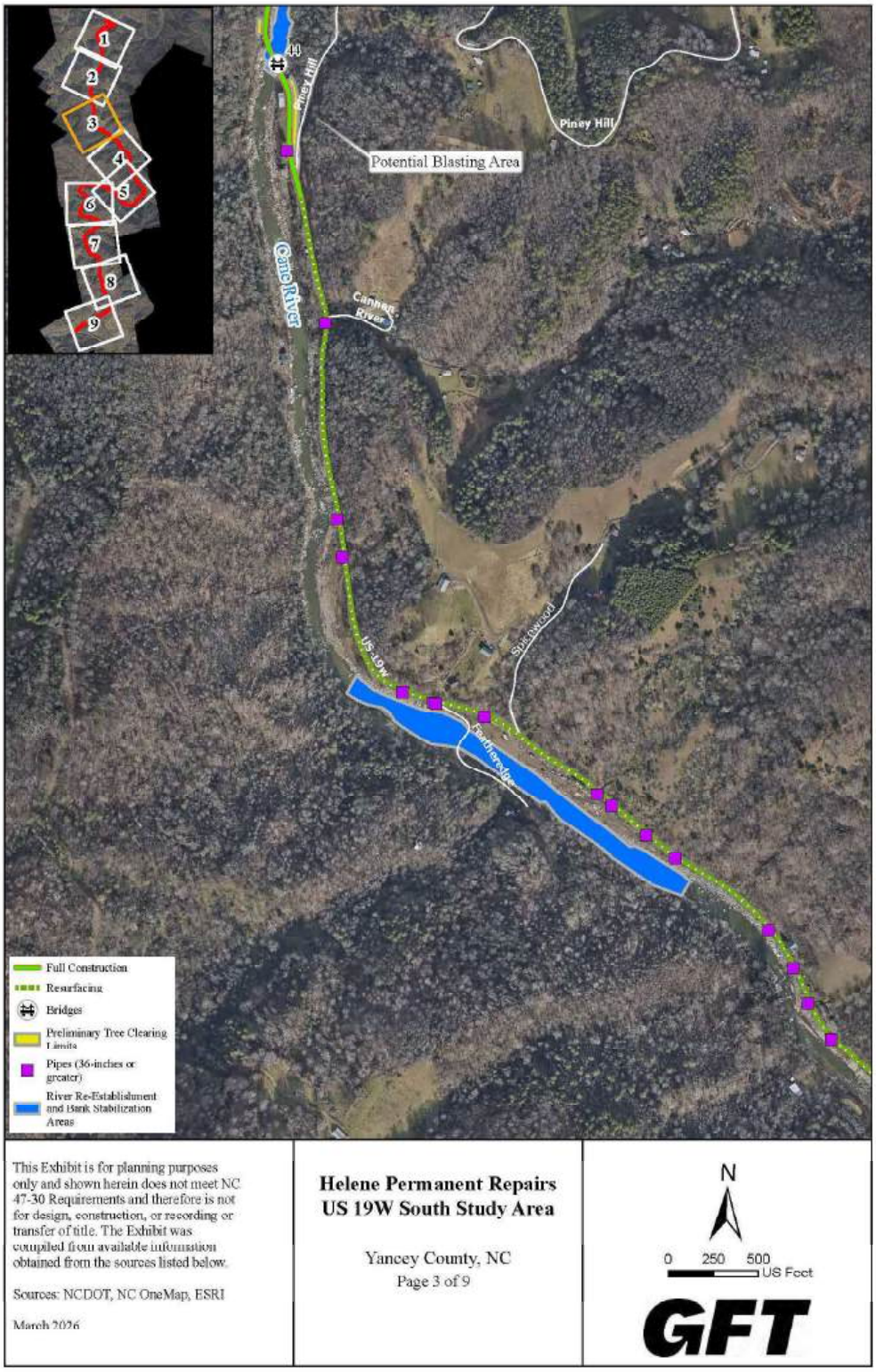
8
9
Wrights
Butter Sop
Little Hensley Branch
US-19W
Potential Blasting Area
Potential Blasting Area
Pumpkin Hill
Gage River
White Flower
Cannon River
Cynthia Branch
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank Stabilization Areas
This Exhibit is for planning purposes only and shown herein does not meet NC 47-30 Requirements and therefore is not for design, construction, or recording or transfer of title. The Exhibit was compiled from available information obtained from the sources listed below.
Sources: NCDOT, NC OneMap, ESRI
March 2026
Helene Permanent Repairs
US 19W South Study Area
Yancey County, NC
Page 2 of 9
N
0 250 500
US Feet
GFT

Figure A2


Potential Blasting Area
Piney Hill
Piney Hill
Cane River
Canham River
US 19W
Sherwood
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank Stabilization Areas
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March 2026
Helene Permanent Repairs
US 19W South Study Area
Yancey County, NC
Page 3 of 9
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US Feet
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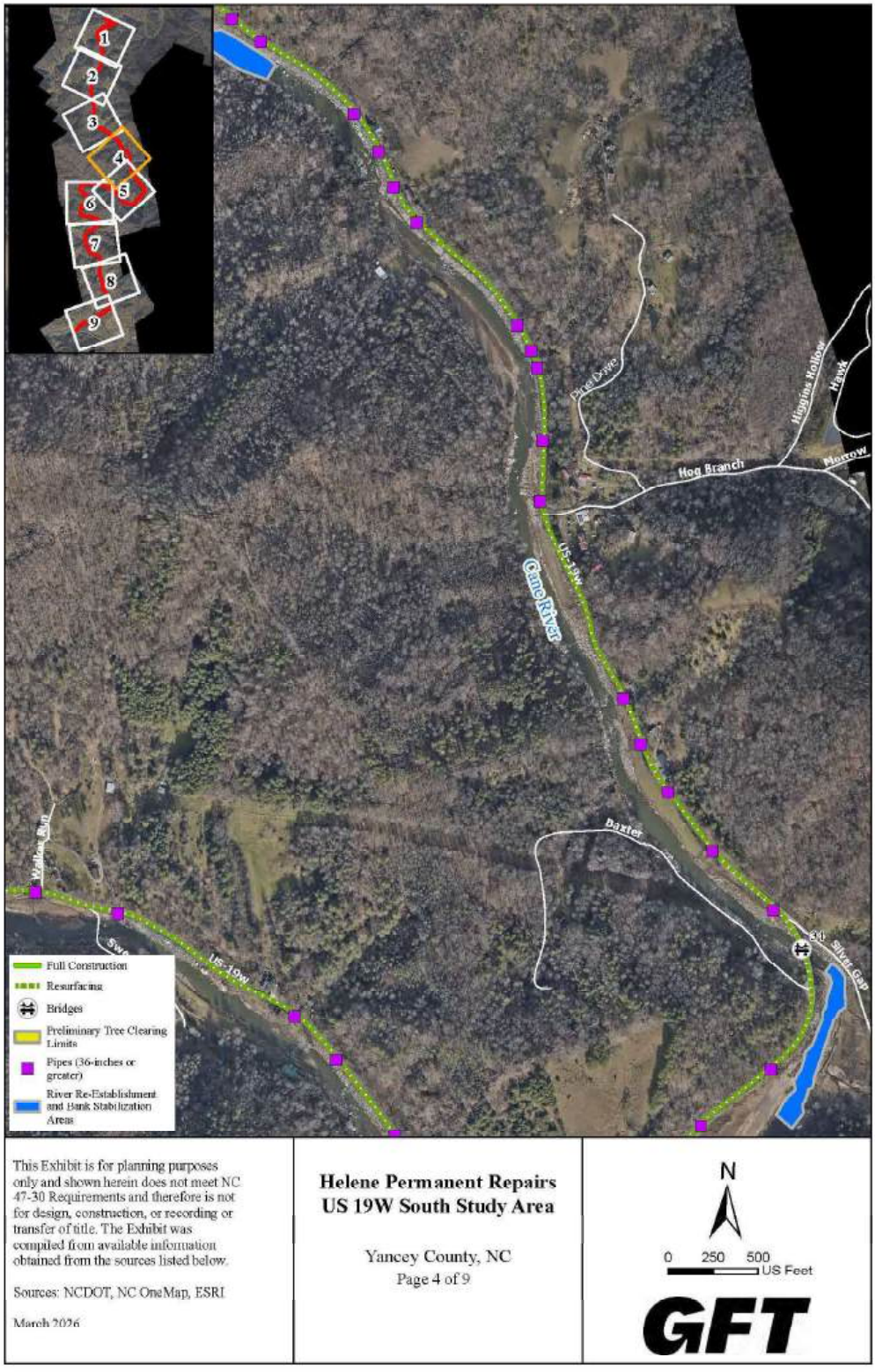
Figure A3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8
9
Pine Cove
Higgins Hollow
Hawk
Hog Branch
Morrow
US-19W
Game River
Baxter
Wallace Run
Swi
US-19W
64
Silvas Gap
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank Stabilization Areas
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March 2026
Helene Permanent Repairs
US 19W South Study Area
Yancey County, NC
Page 4 of 9
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US Feet
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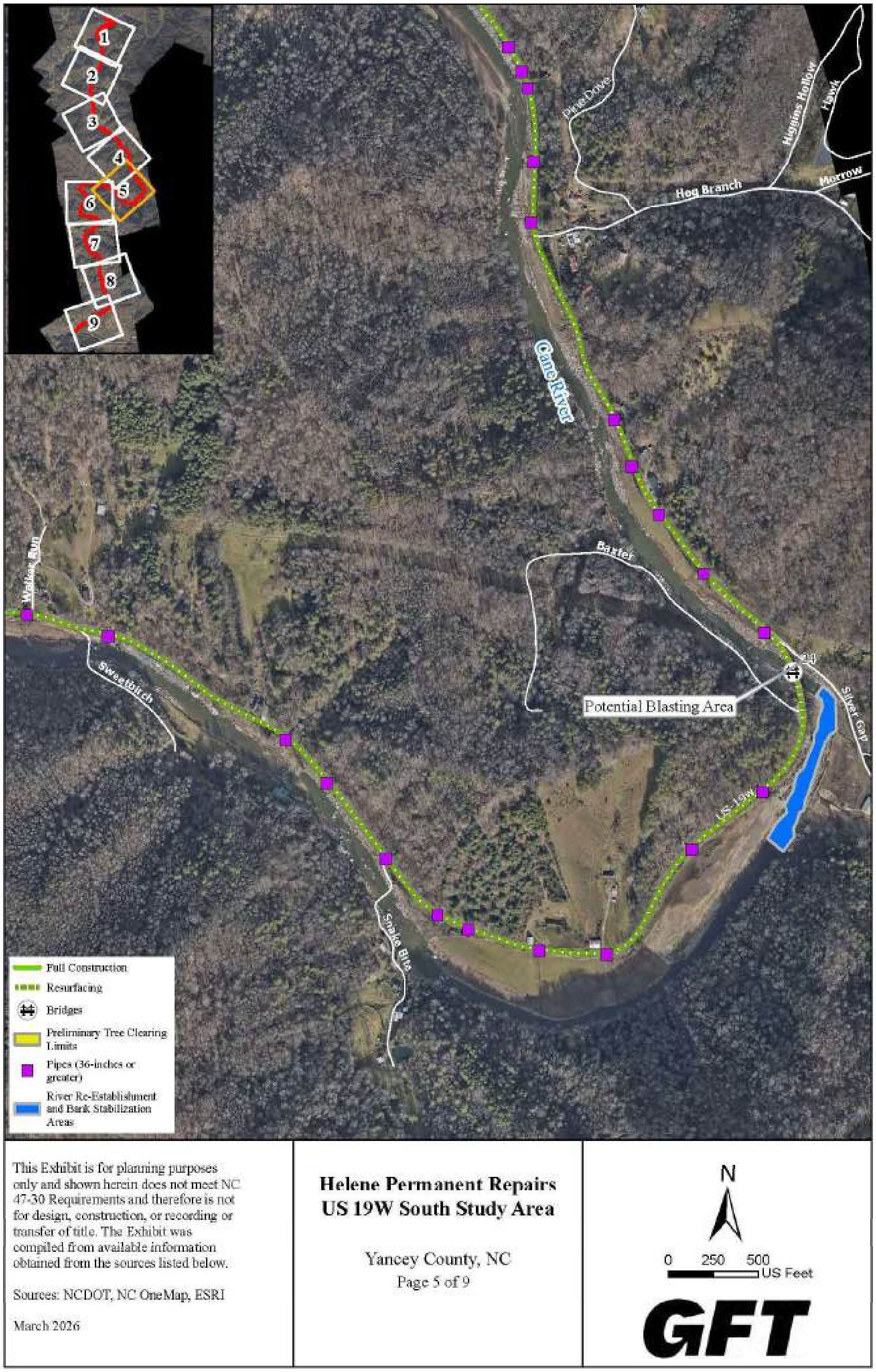
Figure A4


Pine Dove
Higgins Hollow
Hawk
Hog Branch
Morrow
Cane River
Baxter
Walker Run
Sweetbirch
Potential Blasting Area
Silver Gap
US 19W
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank Stabilization Areas
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March 2026
Helene Permanent Repairs
US 19W South Study Area
Yancey County, NC
Page 5 of 9
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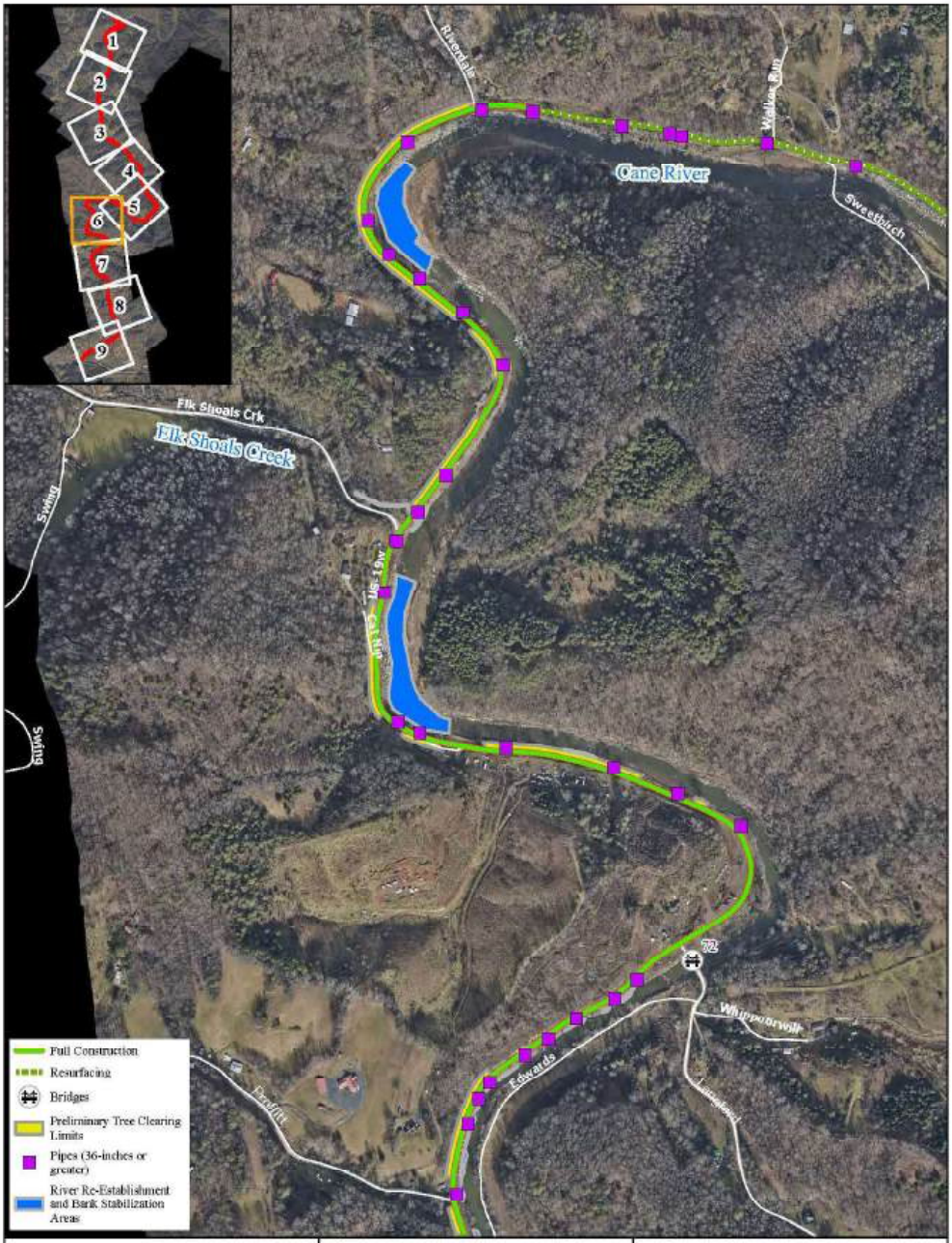
US Feet
GFT

Figure A5


Cane River
Elk Shoals Crk
Elk Shoals Creek
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank Stabilization Areas
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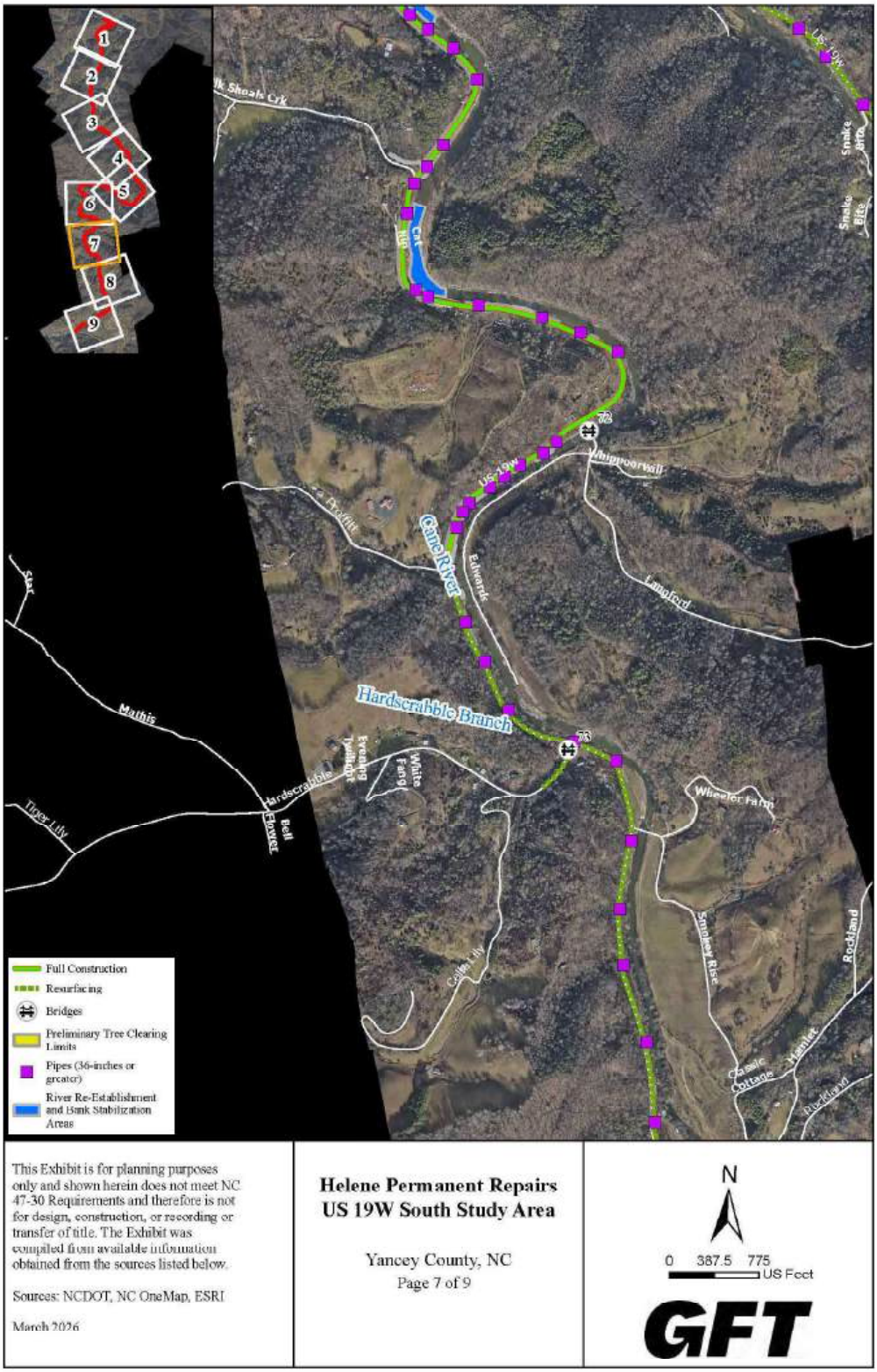
March 2026
Helene Permanent Repairs
US 19W South Study Area
Yancey County, NC
Page 6 of 9
N
0 250 500
US Feet
GFT

Figure A6



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Sources: NCDOT, NC OneMap, ESRI

March 2026

Helene Permanent Repairs
US 19W South Study Area

Yancey County, NC
Page 7 of 9

Figure A7


Wheeler Farm
Smoke Rise
Rockland
Calla Lily
Cane River
US-19W
Classic Cottage
Hamlet
Rockland
Victoria
Mentor King
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank Stabilization Areas
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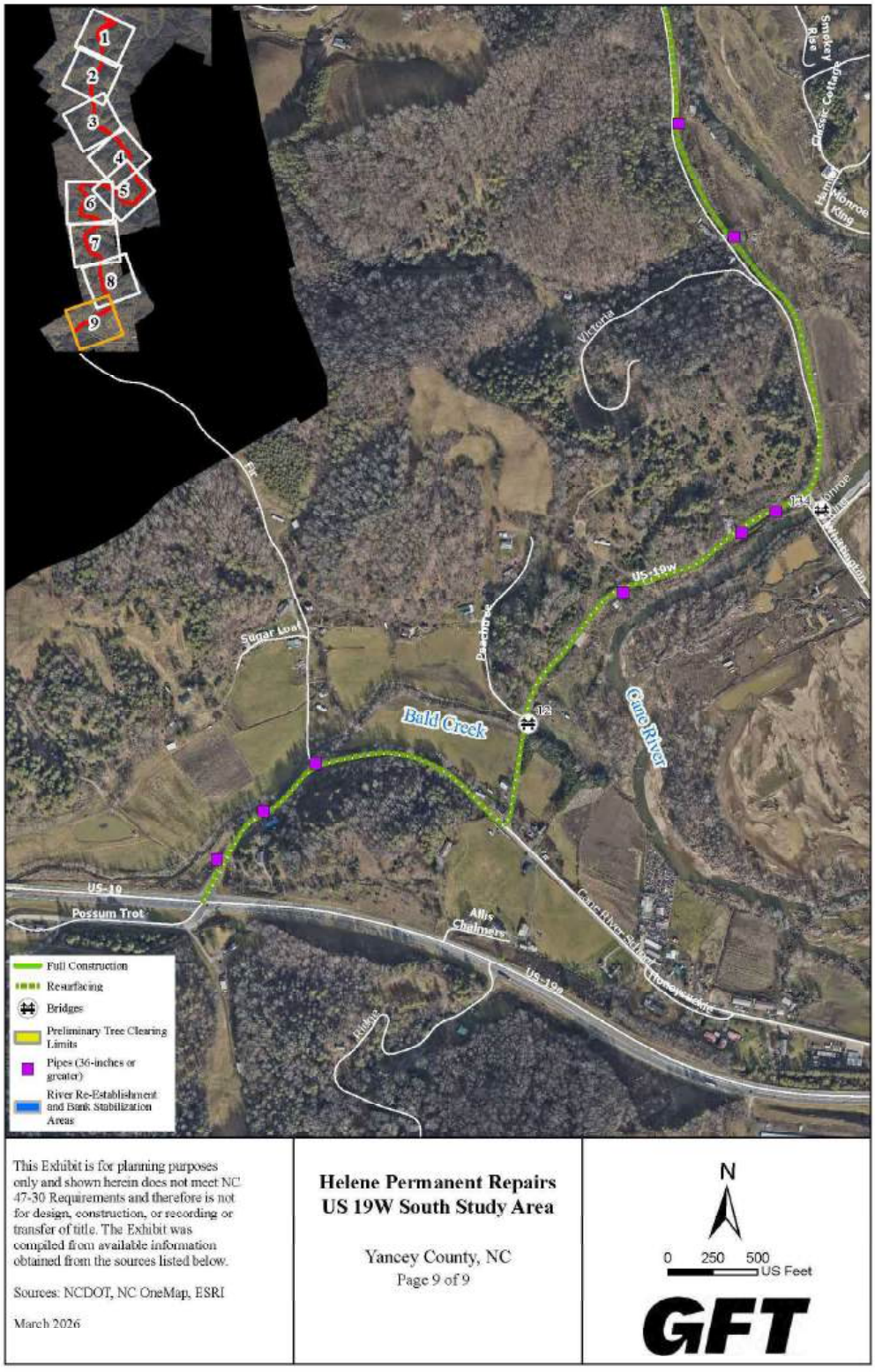
March 2026
Helene Permanent Repairs
US 19W South Study Area
Yancey County, NC
Page 8 of 9
N
0 250 500
US Feet
GFT

Figure A8


1
2
3
4
5
6
7
8
9
Victoria
Sugar Loaf
Bald Creek
Cane River
US-19W
US-19
Possum Trot
Allis Chalmers
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank Stabilization Areas
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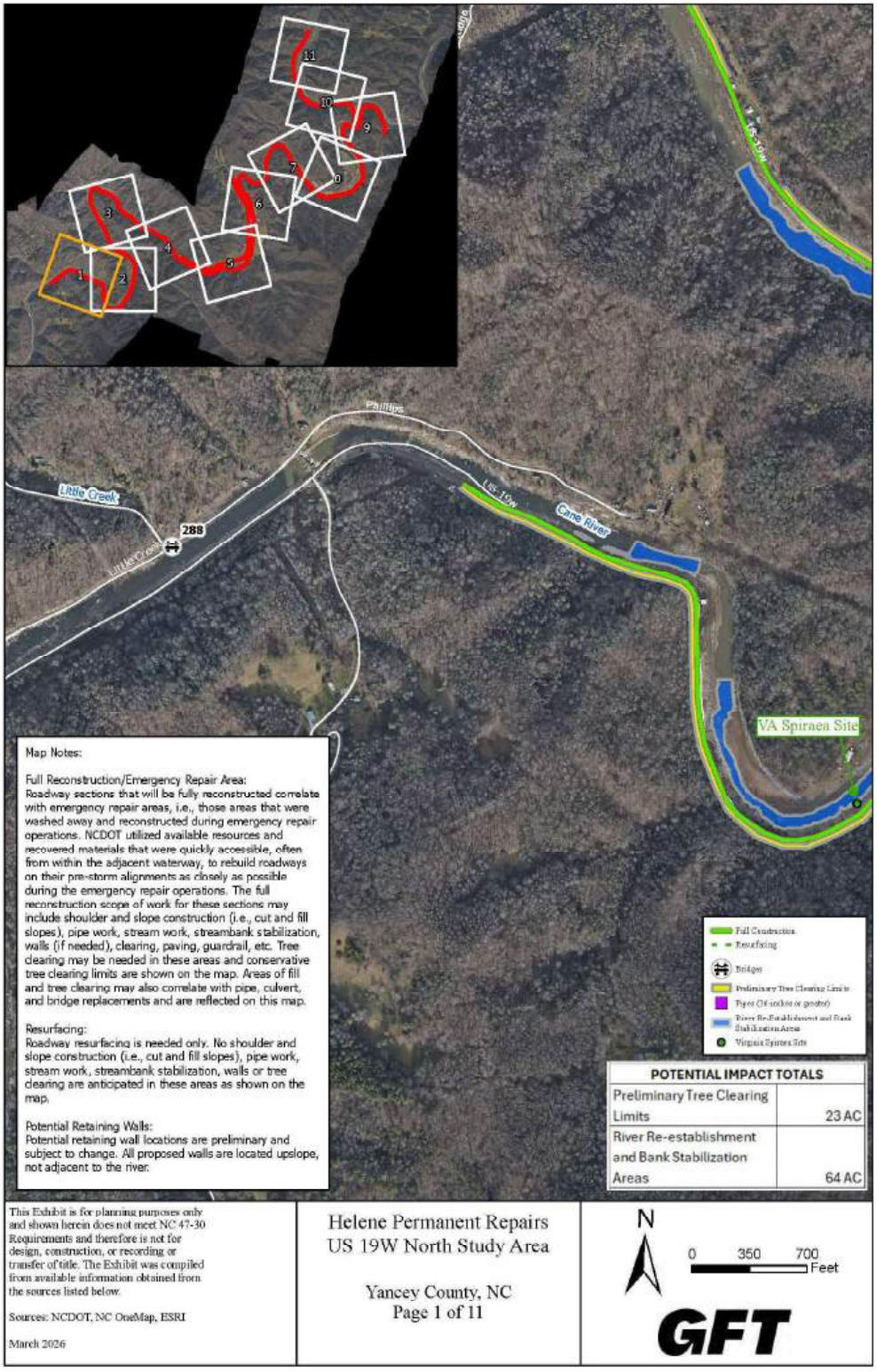
March 2026
Helene Permanent Repairs
US 19W South Study Area
Yancey County, NC
Page 9 of 9
N
0 250 500
US Feet
GFT

Figure A9


Phillips
Little Creek
288
Little Creek
US-19W
Cane River
VA Spiraea Site
Map Notes:
Full Reconstruction/Emergency Repair Area:
Roadway sections that will be fully reconstructed correlate with emergency repair areas, i.e., those areas that were washed away and reconstructed during emergency repair operations. NCDOT utilized available resources and recovered materials that were quickly accessible, often from within the adjacent waterway, to rebuild roadways on their pre-storm alignments as closely as possible during the emergency repair operations. The full reconstruction scope of work for these sections may include shoulder and slope construction (i.e., cut and fill slopes), pipe work, stream work, streambank stabilization, walls (if needed), clearing, paving, guardrail, etc. Tree clearing may be needed in these areas and conservative tree clearing limits are shown on the map. Areas of fill and tree clearing may also correlate with pipe, culvert, and bridge replacements and are reflected on this map.
Resurfacing:
Roadway resurfacing is needed only. No shoulder and slope construction (i.e., cut and fill slopes), pipe work, stream work, streambank stabilization, walls or tree clearing are anticipated in these areas as shown on the map.
Potential Retaining Walls:
Potential retaining wall locations are preliminary and subject to change. All proposed walls are located upslope, not adjacent to the river.
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (24 inches or greater)
River Re-Establishment and Bank Stabilization Areas
Virginia Spiraea Site
POTENTIAL IMPACT TOTALS
Preliminary Tree Clearing Limits 23 AC
River Re-establishment and Bank Stabilization Areas 64 AC
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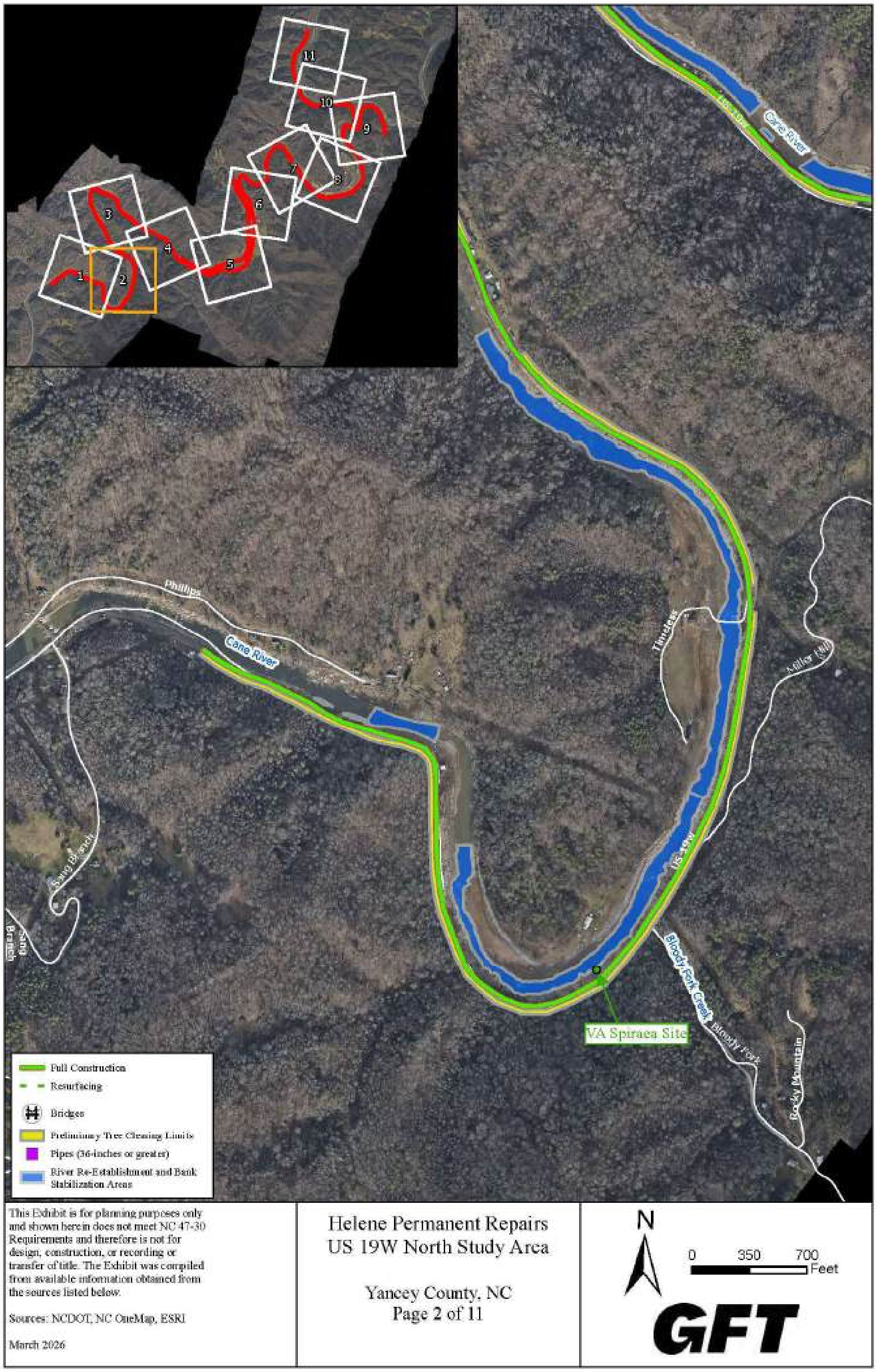
Sources: NCDOT, NC OneMap, ESRI
March 2026
Helene Permanent Repairs
US 19W North Study Area
Yancey County, NC
Page 1 of 11
N
0 350 700
Feet
GFT

Figure B1


Cane River
Phillips
Cane River
Timeless
Miller Hill
US 19W
Sang Branch
Sang Branch
Bloody Fork Creek
Bloody Fork
Rocky Mountain
VA Spiraea Site
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank Stabilization Areas
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March 2026
Helene Permanent Repairs
US 19W North Study Area
Yancey County, NC
Page 2 of 11
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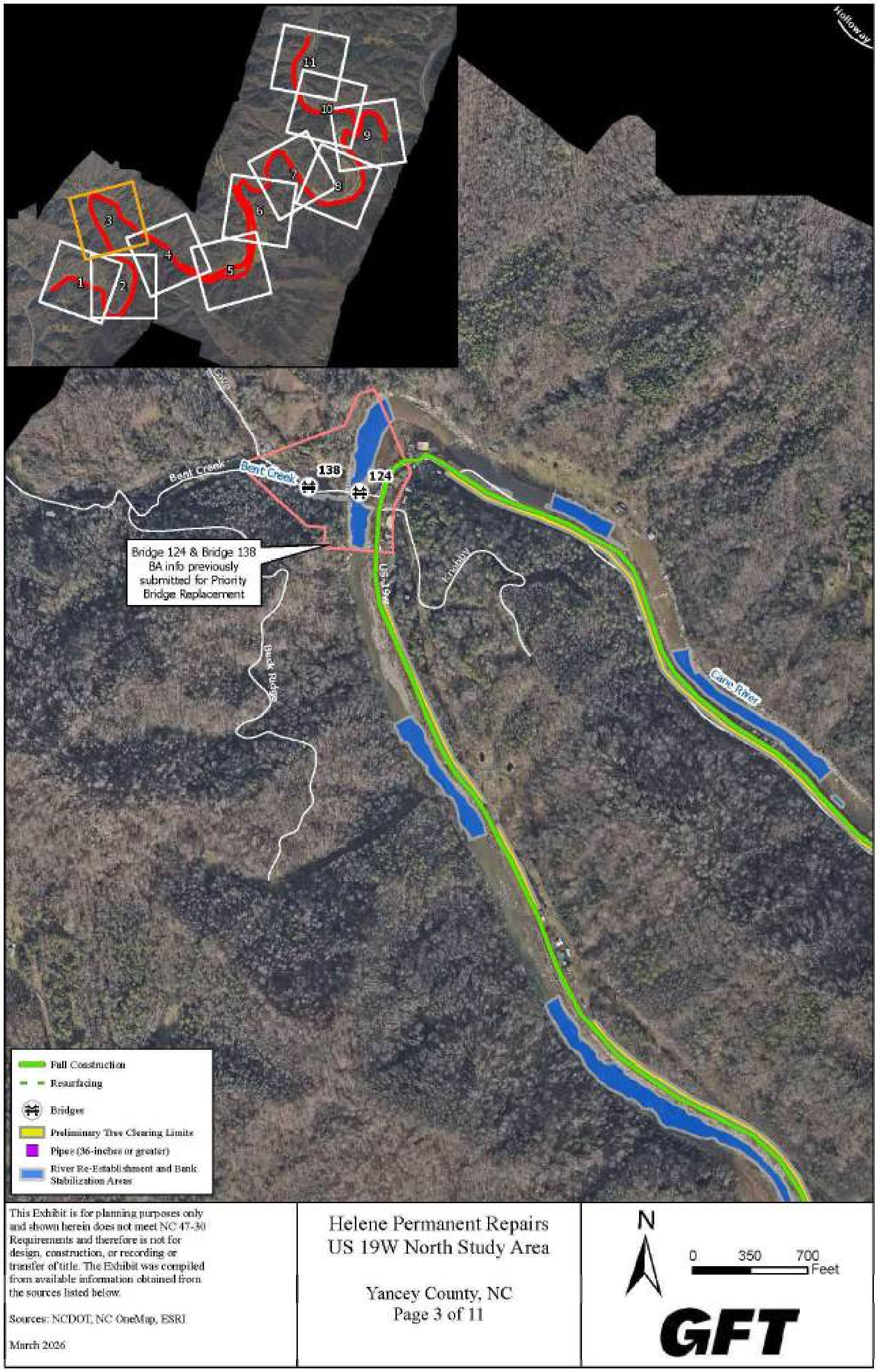
0 350 700
Feet
GFT

Figure B2


Holloway
11
10
9
7
8
3
6
4
5
1
2
Bent Creek
Bent Creek
138
124
Bridge 124 & Bridge 138
BA info previously
submitted for Priority
Bridge Replacement
US 19W
Back Ridge
Cane River
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank
Stabilization Areas
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and shown herein does not meet NC 47-30
Requirements and therefore is not for
design, construction, or recording or
transfer of title. The Exhibit was compiled
from available information obtained from
the sources listed below.
Sources: NCDOT, NC OneMap, ESRI
March 2026
Helene Permanent Repairs
US 19W North Study Area
Yancey County, NC
Page 3 of 11
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Feet
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Figure B3

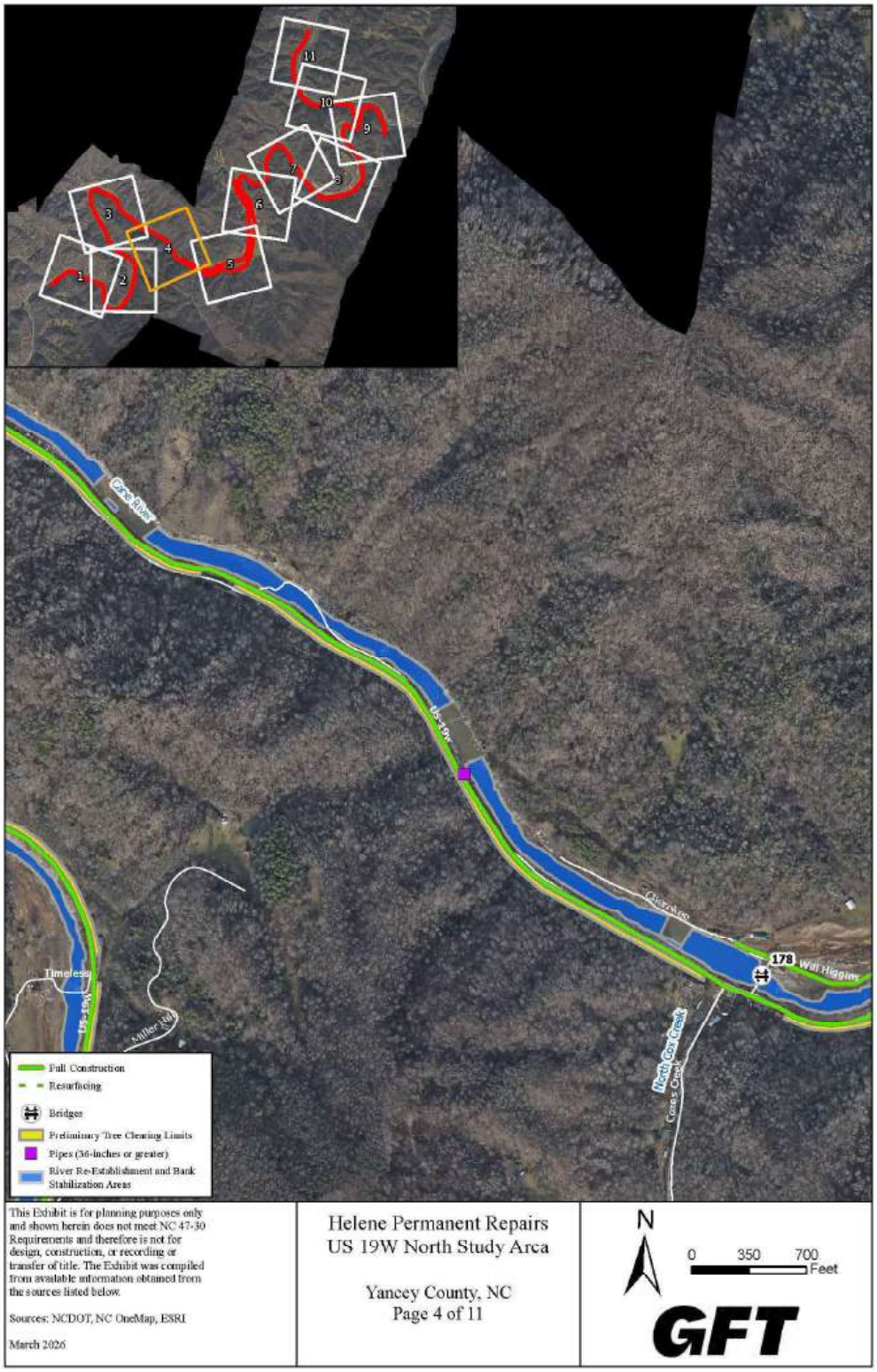
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank Stabilization Areas
This Exhibit is for planning purposes only and shown herein does not meet NC 47-30 Requirements and therefore is not for design, construction, or recording or transfer of title. The Exhibit was compiled from available information obtained from the sources listed below.
Sources: NCDOT, NC OneMap, ESRI
March 2026
Helene Permanent Repairs
US 19W North Study Area
Yancey County, NC
Page 4 of 11
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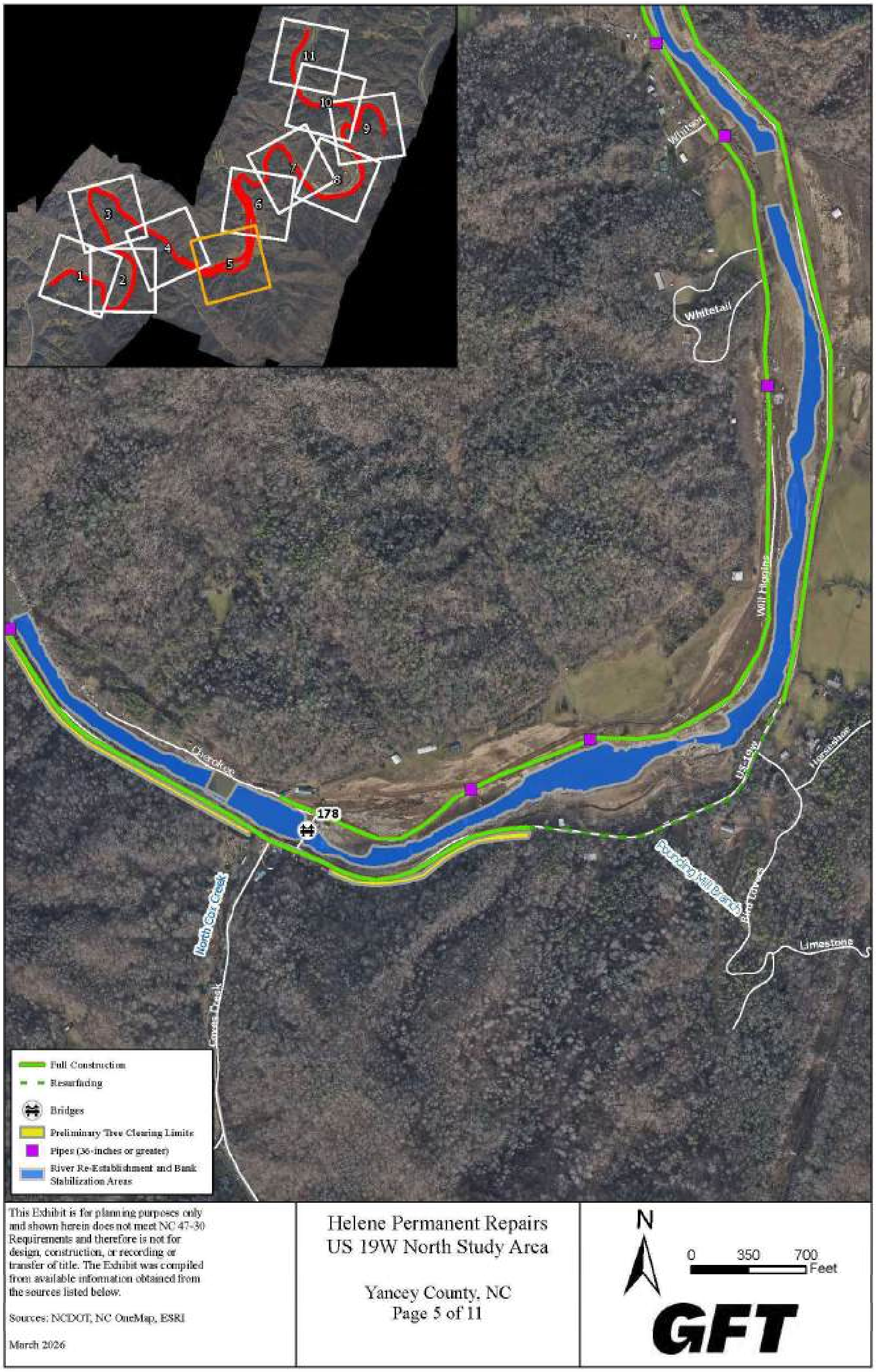
Figure B4


11
10
9
7
8
6
3
4
5
1
2
Whitson
Whitetail
Will Higgins
Cherokee
178
US 19W
Horseshoe
North Cox Creek
Cooper Creek
Pounding Mill Branch
Bird Lovers
Limestone
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank Stabilization Areas
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Sources: NCDOT, NC OneMap, ESRI
March 2026
Helene Permanent Repairs
US 19W North Study Area
Yancey County, NC
Page 5 of 11
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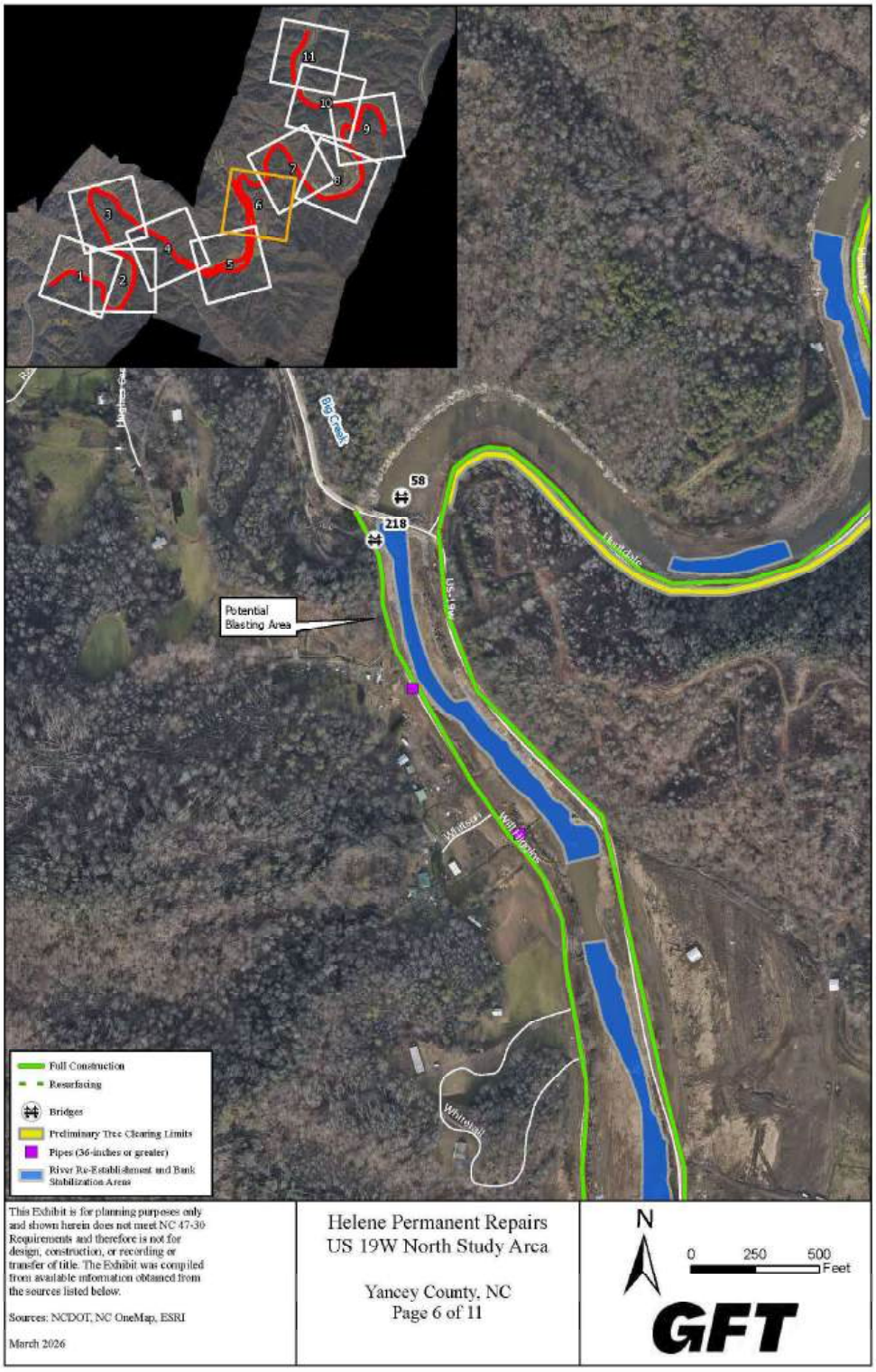
Feet
GFT

Figure B5


11
10
9
7
8
6
3
4
5
1
2
Big Creek
58
218
Potential Blasting Area
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank Stabilization Areas
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March 2026
Helene Permanent Repairs
US 19W North Study Area
Yancey County, NC
Page 6 of 11
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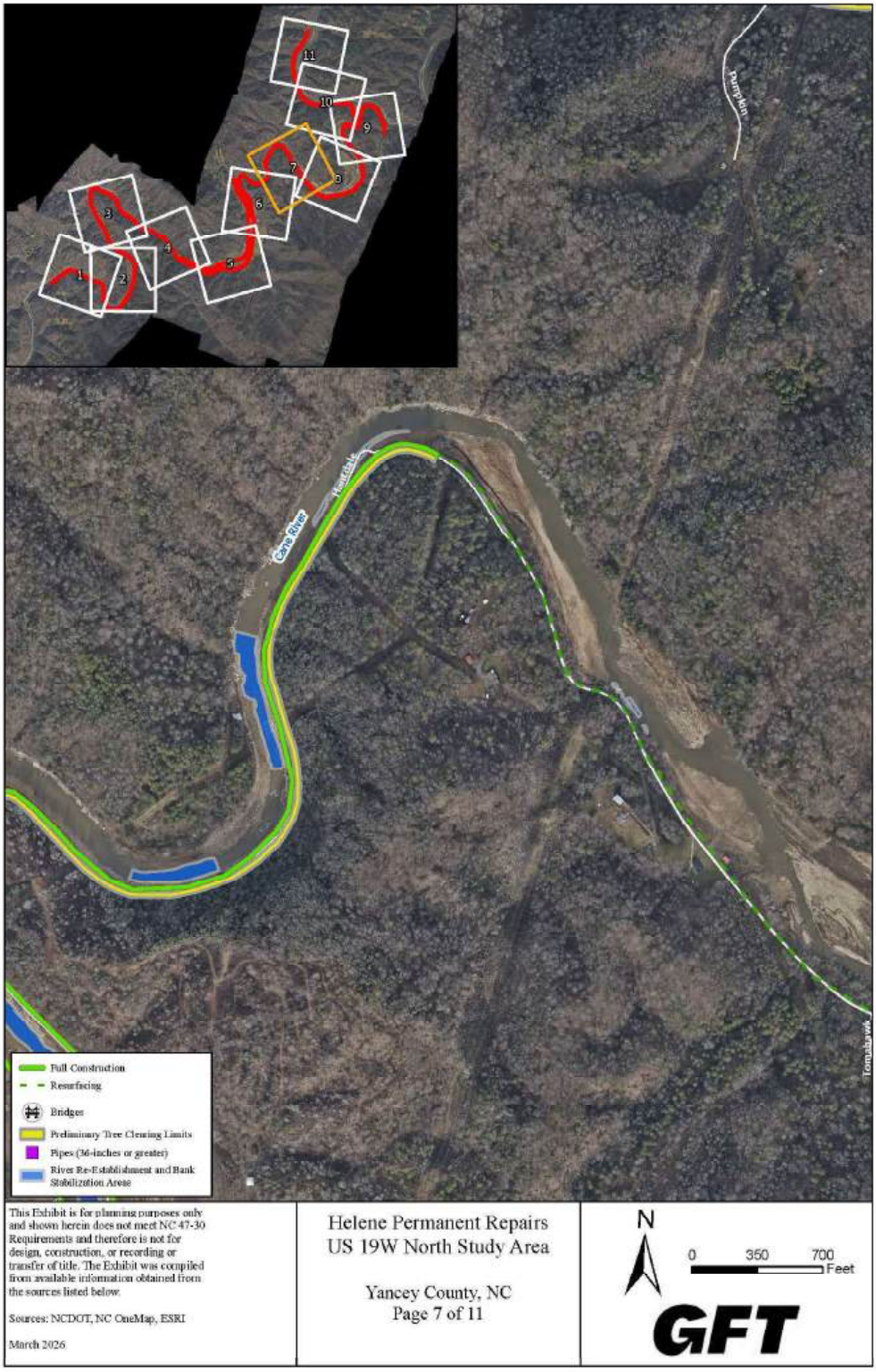
Figure B6


Pumpkin
Caney River
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank Stabilization Areas
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March 2026
Helene Permanent Repairs
US 19W North Study Area
Yancey County, NC
Page 7 of 11
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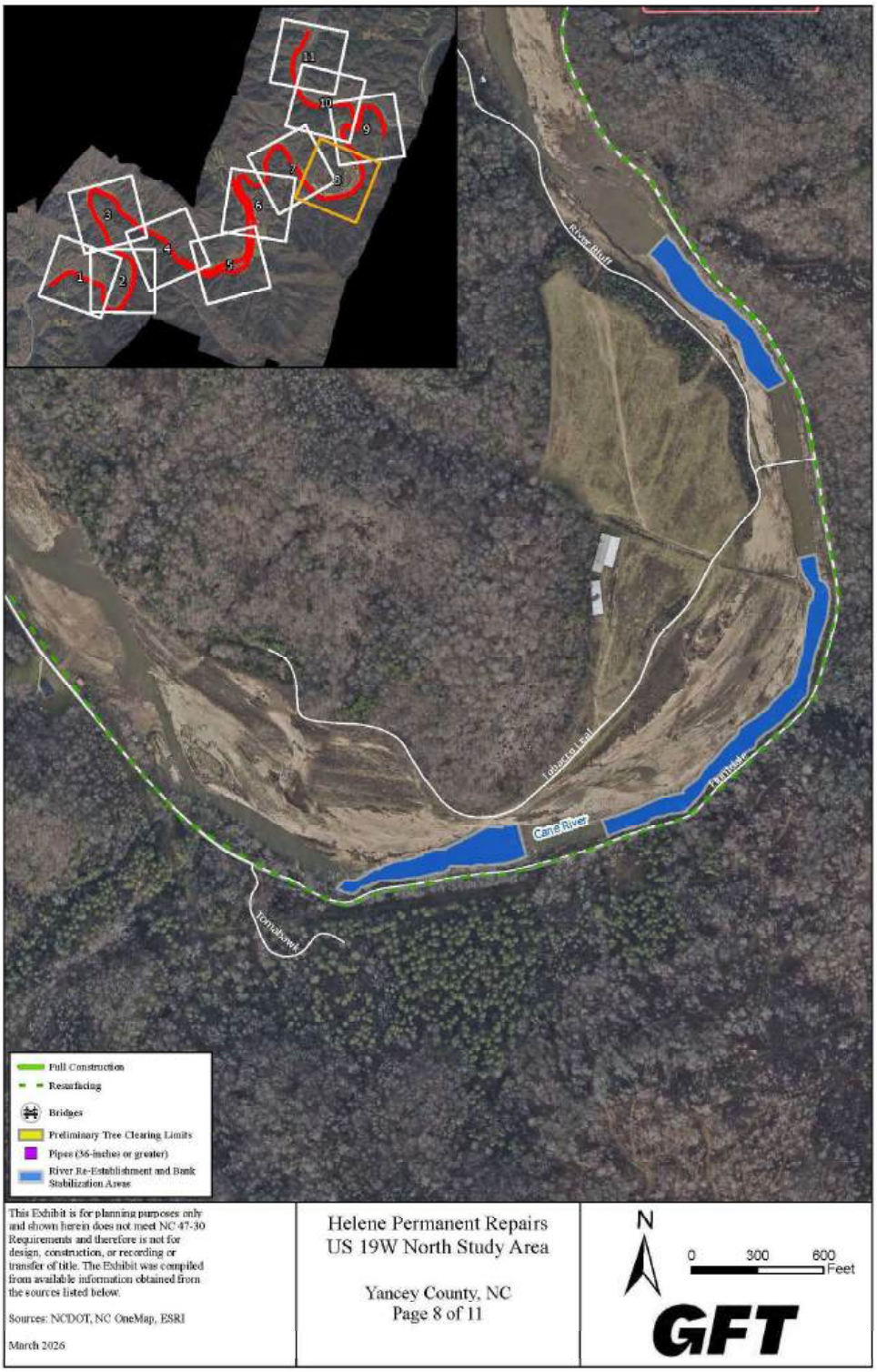
Figure B7


11
10
9
8
7
6
5
4
3
2
1
River Bluff
Cane River
Tomahawk
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank Stabilization Areas
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Helene Permanent Repairs
US 19W North Study Area
Yancey County, NC
Page 8 of 11
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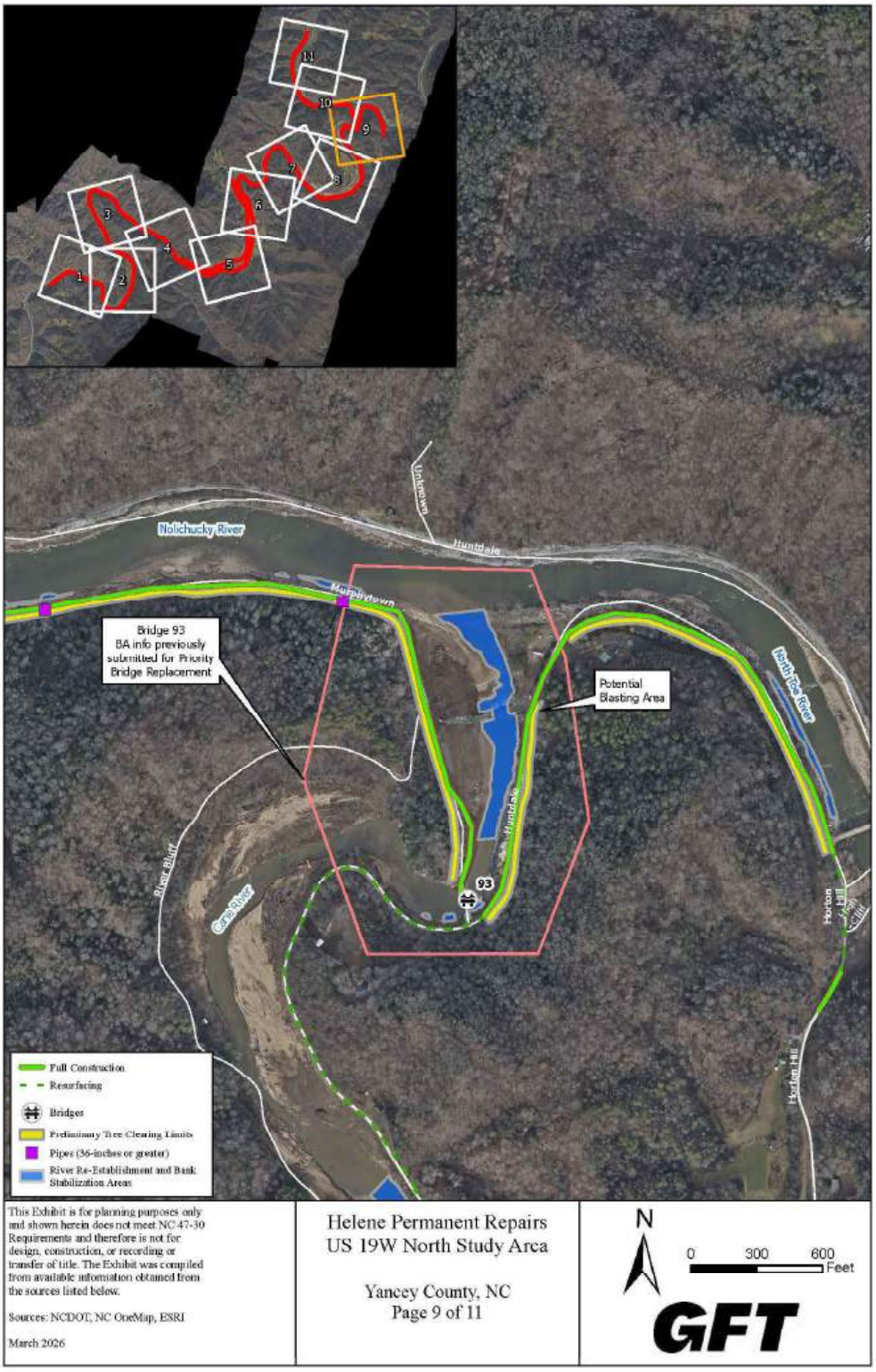
Feet
GFT

Figure B8


Nolichucky River
Huntdale
Murphydown
Bridge 93
BA info previously submitted for Priority Bridge Replacement
Potential Blasting Area
North Toe River
Huntdale
River Bluff
Creek
93
Horton Hill
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank Stabilization Areas
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March 2026
Helene Permanent Repairs
US 19W North Study Area
Yancey County, NC
Page 9 of 11
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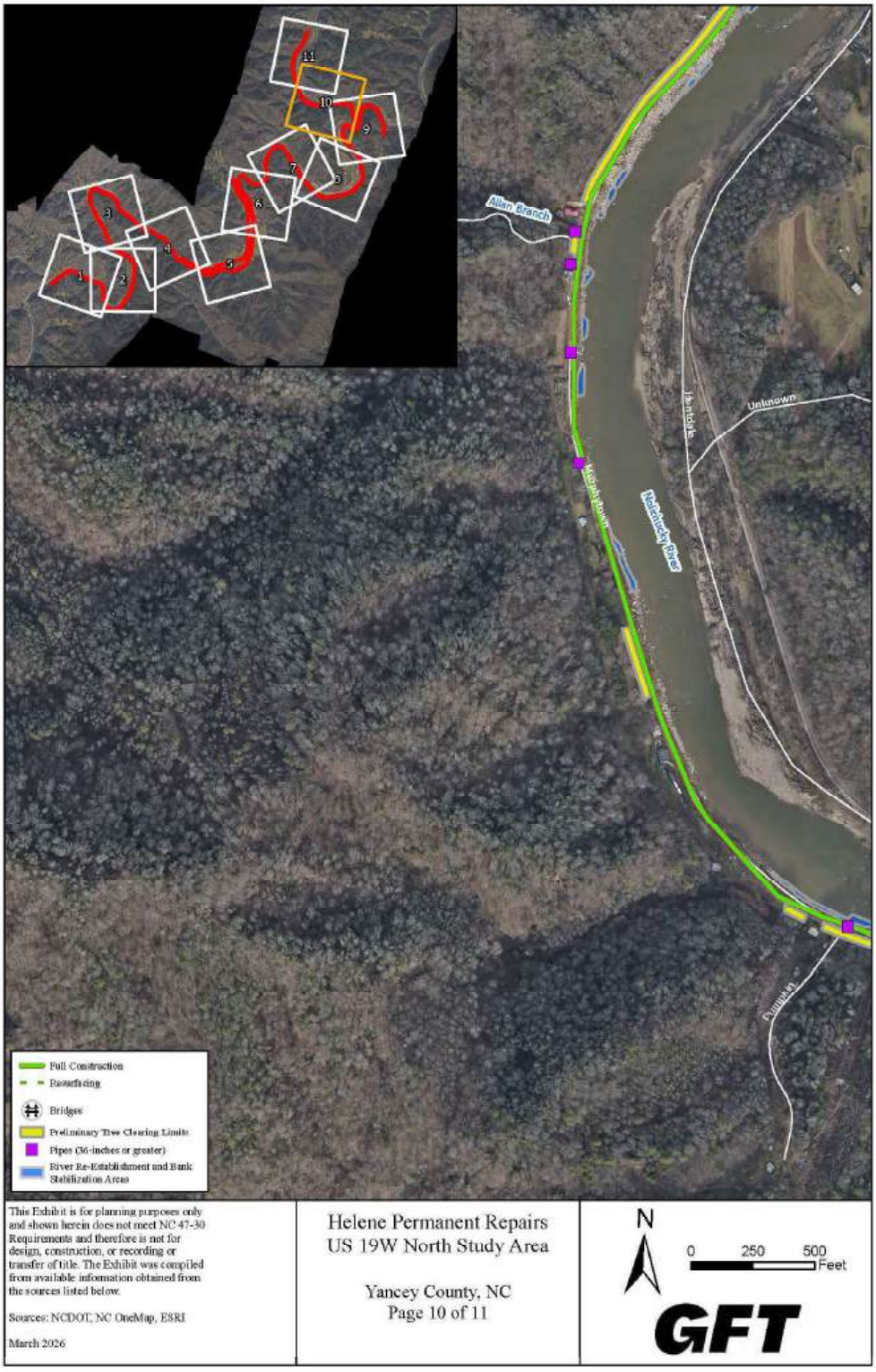
Figure B9


11
10
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8
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2
1
Allen Branch
Unknown
Jacobs
Nolichucky River
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank Stabilization Areas
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Helene Permanent Repairs
US 19W North Study Area
Yancey County, NC
Page 10 of 11
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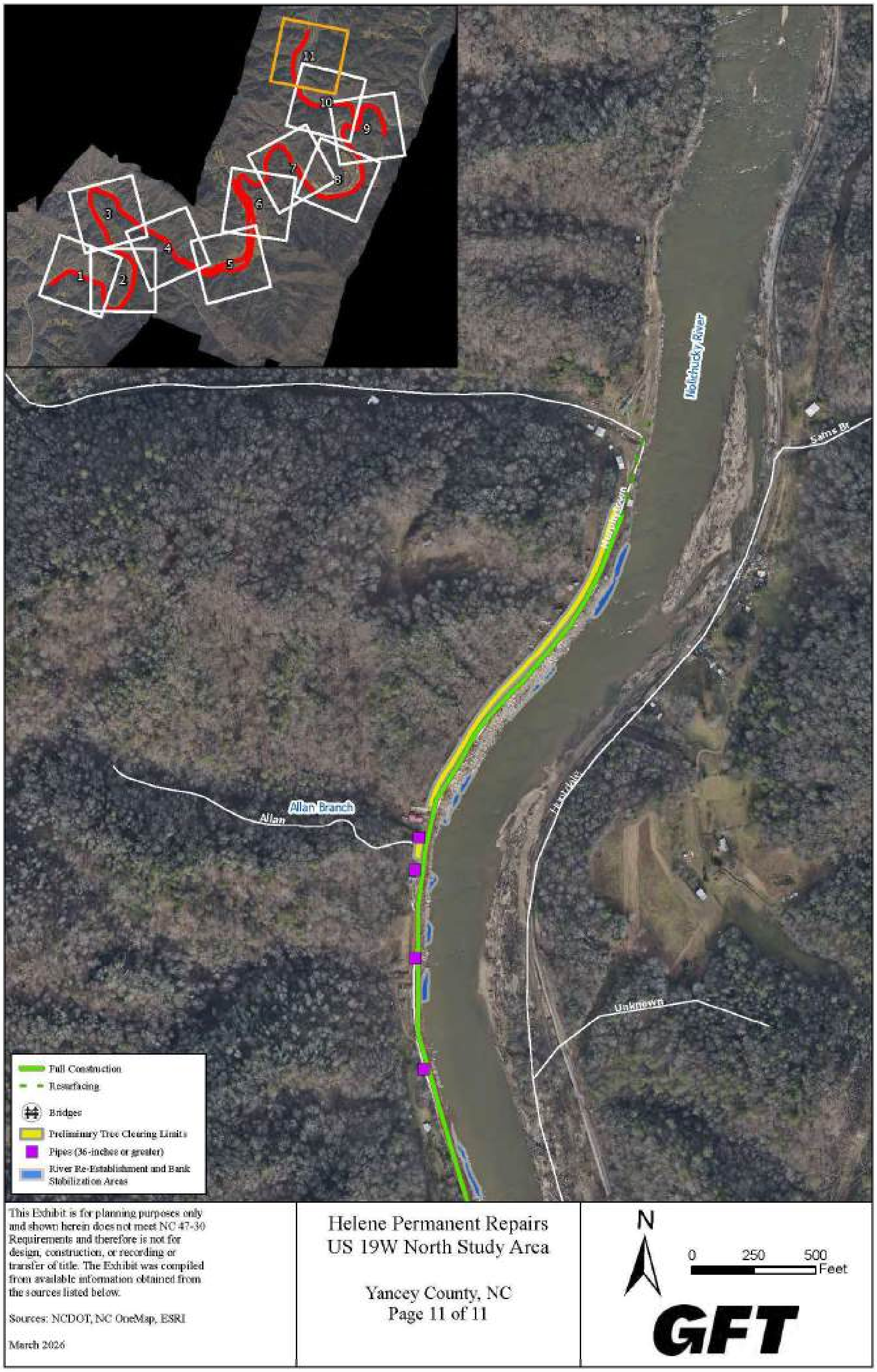
Figure B10


Nolichucky River
Allan Branch
Allan
Sams Br
Unknown
Full Construction
Resurfacing
Bridges
Preliminary Tree Clearing Limits
Pipes (36-inches or greater)
River Re-Establishment and Bank Stabilization Areas
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March 2026
Helene Permanent Repairs
US 19W North Study Area
Yancey County, NC
Page 11 of 11
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Figure B11

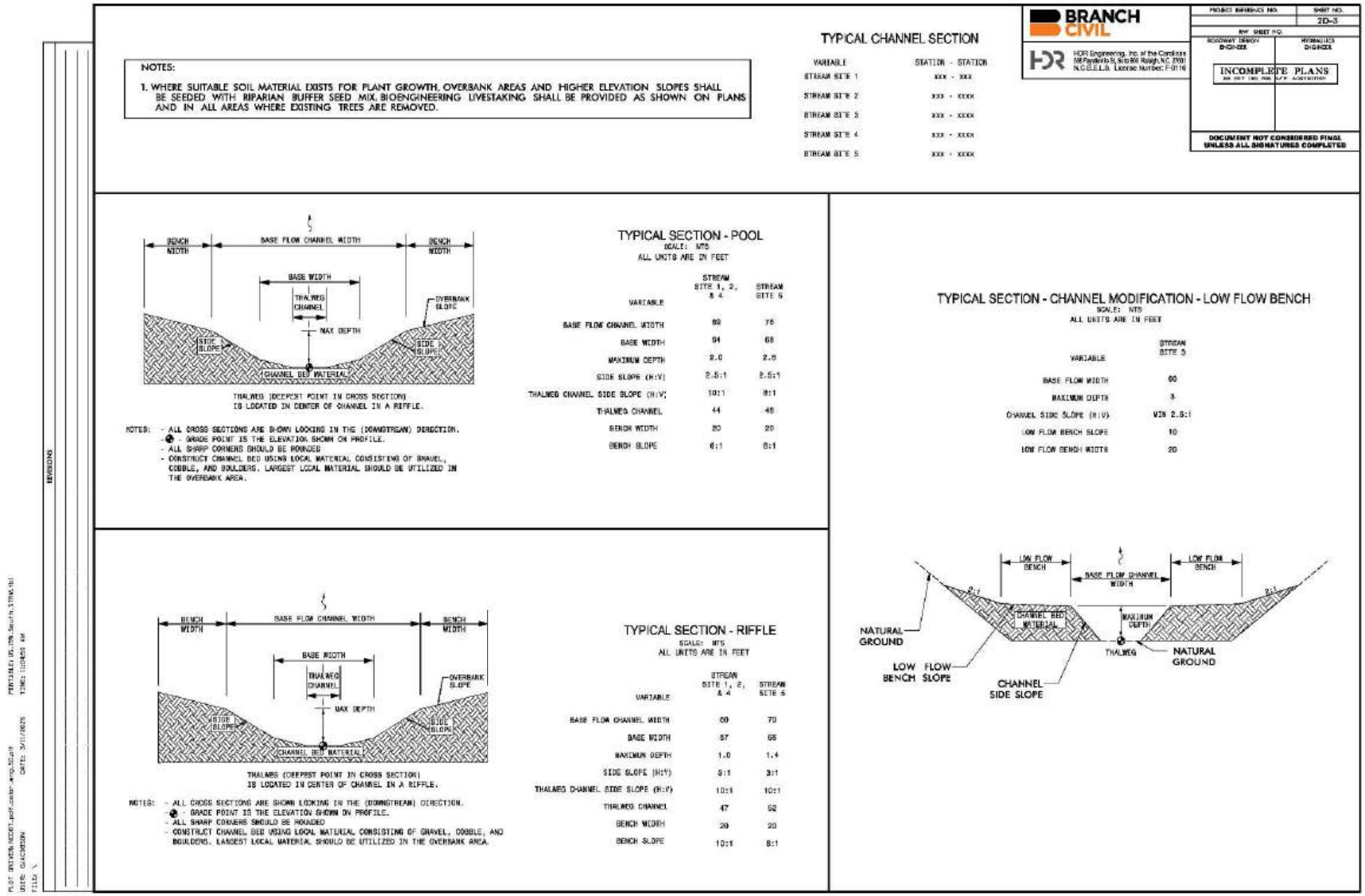


Figure C1 – Example River Cross-Section Typicals

Archaeology

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 Team.

PROJECT INFORMATION

Project No:		*County:*	Yancey
WBS No:	49082.2.13	*Document:*	Federal Categorical Exclusion
Federal Aid No:		*Funding:*	☐ State ☒ Federal
Federal Permit Required?	☒ Yes ☐ No	*Permit Type:*	**Nationwide**

Project Description:
In response to the aftermath of the late October 2024 floods caused by Hurricane Helene, NCDOT's Division 13 proposes to repair/restore various sections of US 19W, west and north of Burnsville, in Yancey County (Figures 1-2). Included in this project will be "Section 1" of US 19W from US 19E, west of Burnsville, north for approximately 16 kilometers (10 miles) to the intersection with SR 1386 (Piney Hill Rd.). Included in the project will also be repairs to two intersecting secondary roads located at the north end of the US 19W improvements, a 1.2-kilometer (0.8-mile) long section of SR 1411 (Little Creek Rd.), and a 1-kilometer (0.6-mile) long section of SR 1425 (Phillips Rd.).

All proposed activities, at this time, are anticipated to occur within the NCDOT's existing right of way (R/W) for all included roadways and structures (or at least where the existing R/W once was). For the US 19W corridor, the existing R/W looks to be about 18 meters (60 ft.) wide whereas the R/W along the two secondary roads appears to range between 6-18 meters (20-60 ft.) wide. Although Preliminary Design Plans are not available at this time, an Area of Potential Effects (A.P.E.)/study area was generated by buffer each road to its corresponding R/W width.

SUMMARY OF CULTURAL RESOURCES REVIEW

Brief description of review activities, results of review, and conclusions:
The review included an examination of topographic maps, aerial photographs, and information about previously recorded sites, previous archaeological surveys, and previous environmental reviews on the North Carolina Office of State Archaeology's (OSA) web-based GIS service. US 19W is oriented approximately north-south. SR 1411 (Little Creek Rd.) is oriented southwest-northeast in the south half, and southeast to northwest in the north half, but is considered north-south for this review. SR 1425 (Phillips Rd.) is oriented approximately east-west.

The topographic map (Bald Creek) shows US 19W is mostly located along the base of the ridge side slopes that enclose the Cane River valley. Most of the landforms in the study area are steeply-sloped ridge sides (Figures 3-9). There are several locations where US 19W crosses level land along the river, and these landforms can have some potential for prehistoric archaeological sites. However, these are mostly narrow sections of floodplain/terrace between the road (on the base of the ridge) and the river. In this region, narrow sections of floodplain in narrow valleys are often disturbed by regular flooding, the construction and maintenance of the road, roadside utilties and drainage structures, roadside parking and storage, and the construction of houses and service

buildings. US 19W does cross two sections of wider floodplain along the Cane River and Bald Creek at the south end. In this region, level, well drained floodplains/terraces near (but not alongside) streams in wider valleys can have a moderate to high potential for prehistoric archaeological sites.

The topographic maps (Chestoa; Bald Creek) show that SR 1411 and SR 1425 are located on steeply sloped landforms (Figure 10). The south end of SR 1411 is located at the base of the ridge on the north side of the Cane River, and the north half is in the narrow Little Creek valley. SR 1425 is located along the base of the ridge on the north side of the Cane River. Neither study area appears to include any level floodplain/terrace landforms.

The aerial photographs show that most of the land along US 19W is wooded (Figures 11-17). There are a few parts that are cleared residential yards or agricultural fields. The land along SR 1411 is mostly wooded (Figure 18). There area a few cleared residential yards and agricultural fields. The land along SR 1425 appears to be mostly occupied by residential yards.

The information on the OSA web-based GIS service shows no previously recorded archaeological sites in the study area. The study area is not within any areas that were included in previous archaeological surveys. The study area is not within the boundaries of any projects that have been reviewed by the State Historic Preservation Office (HPO). One project, the daylighting of an unnamed tributary to the Cane River (ER 24-0486), was reviewed on the west side of US 19W near the south end of the study area.

However, the NCDOT has reviewed several bridge replacement projects along US 19W that are not listed on the GIS service. These include four bridge replacements with study areas that included the US 19W study area. Bridge 55 on US 19W over the Cane River was reviewed in 2022 (PA 22-05-0015). The review recommended no archaeological survey (Smith 2022). Bridge 293 on SR 1411 over Bald Mountain Creek was reviewed in 2012 (PA 12-05-0046). The review recommended no archaeological survey (Smith 2012). Bridge 105 on SR 1411 over Little Creek was reviewed in 2009 (PA 09-11-0022). The review recommended no archaeological survey (Smith 2010). Bridge 134 on SR 1379 over the Cane River was reviewed in 2012 (PA 12-05-0047). The review recommended a survey which identified no archaeological sites (Smith 2012).

References Cited

Smith, Caleb
2004 Archaeological Survey of the Proposed Improvements to SR 1380 (Monroe King Drive), Yancey County, North Carolina. N.C. Department of Transportation, Raleigh.

2010 No Archaeological Survey Required form: Replace Bridge 105 on SR 1411 over Little Creek in Yancey County, North Carolina (PA09-11-0022). Form submitted on March 15, 2010. N.C. Department of Transportation, Raleigh.

2012a No Archaeological Survey Required form: Replace Bridge 293 on SR 1411 over Bald Mountain Creek in Yancey County, North Carolina (PA 12-05-0046). Form submitted on June 27, 2012. N.C. Department of Transportation, Raleigh.

2012b No Archaeological Survey Required form: Replace Bridge 134 on SR 1379 over the Cane River in Yancey County, North Carolina (PA 12-05-0047). Form submitted on November 7, 2012. N.C. Department of Transportation, Raleigh.

2022 No Archaeological Survey Required form: Replace Bridge 55 on US 19W over the Cane River in Yancey County, North Carolina (PA 22-05-0015). Form submitted on July 20, 2022. N.C. Department of Transportation, Raleigh.

(This project falls within a North Carolina County in which the following federally recognized tribes have expressed an interest: the Cherokee Nation; the Eastern Band of Cherokee Indians; the United Keetoowah Band of Cherokee Indians; the Catawba Indian Nation; the Muscogee (Creek) Indian Nation*. We recommend that you ensure that this documentation is forwarded to these tribes using the process described in the current NCDOT Tribal Protocol and PA Procedures Manual.)*

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 a federally funded project and federal permits are required. As part of the project's submittal for cultural resources review, permanent or temporary easements will not be necessary, nor should additional R/W be required. Based on the size and shape of the study area, activities should not take place beyond what is or once was the existing R/W. There are some locations along the roads where the study areas appear to include landforms with some potential for archaeological sites. These "potential areas" are marked on the topographic maps in Figures 3-10. The nature of the proposed repairs and restoration work indicate there is a low potential for significant prehistoric and/or historic archaeological materials to be present wihin the study areas. The work should not impact anything that hasn't already been greatly disturbed by the infrastructure that was once there or by the flood waters caused by Hurricane Helene.

SUPPORT DOCUMENTATION

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

FINDING BY NCDOT ARCHAEOLOGIST: *NO ARCHAEOLOGY SURVEY REQUIRED*

Caleb Smith 12/29/2024

NCDOT ARCHAEOLOGIST II Date

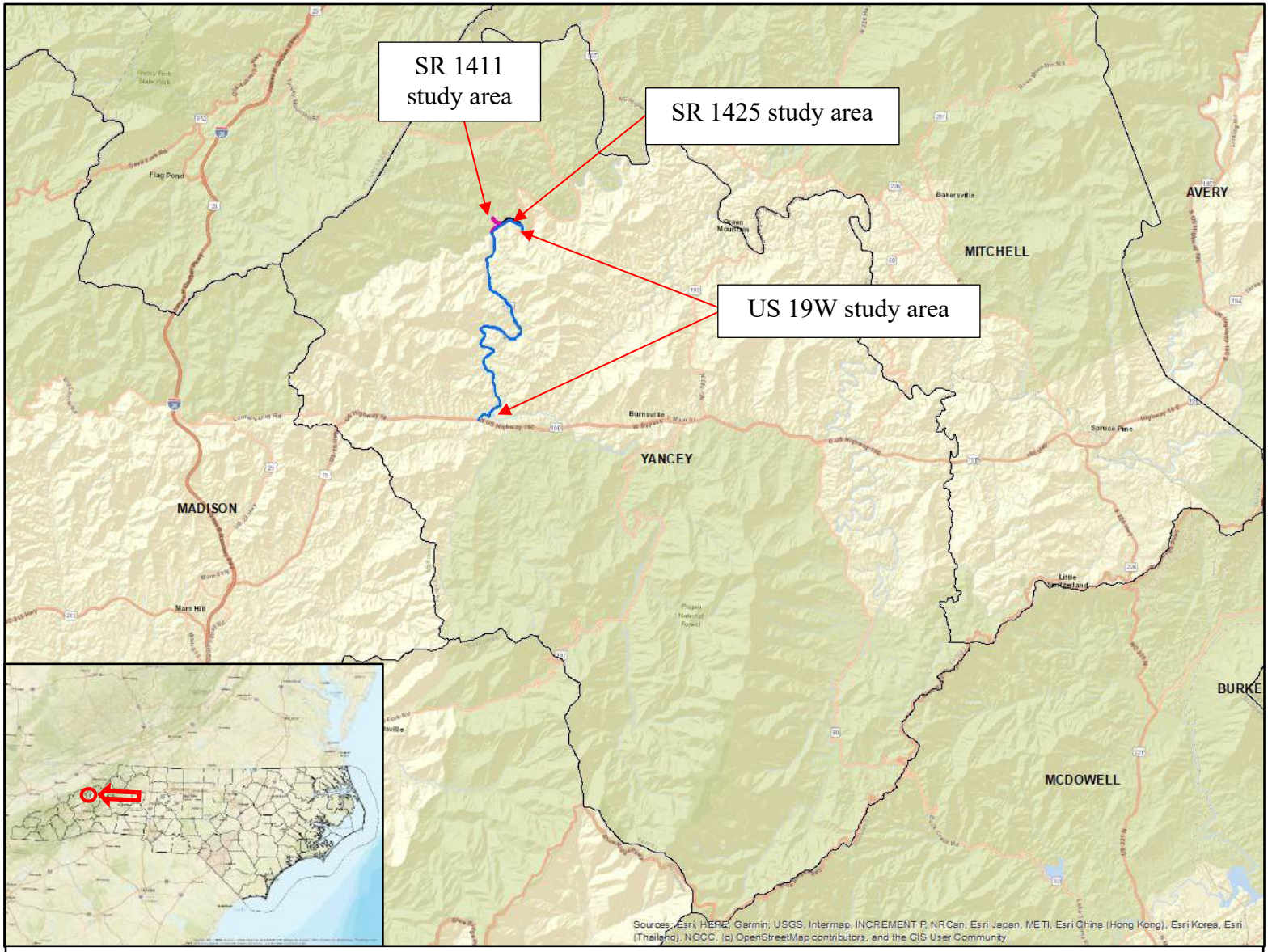


Figure 1: Location of the US 19W, SR 1411, and SR 1425 study areas in Yancey County, North Carolina.

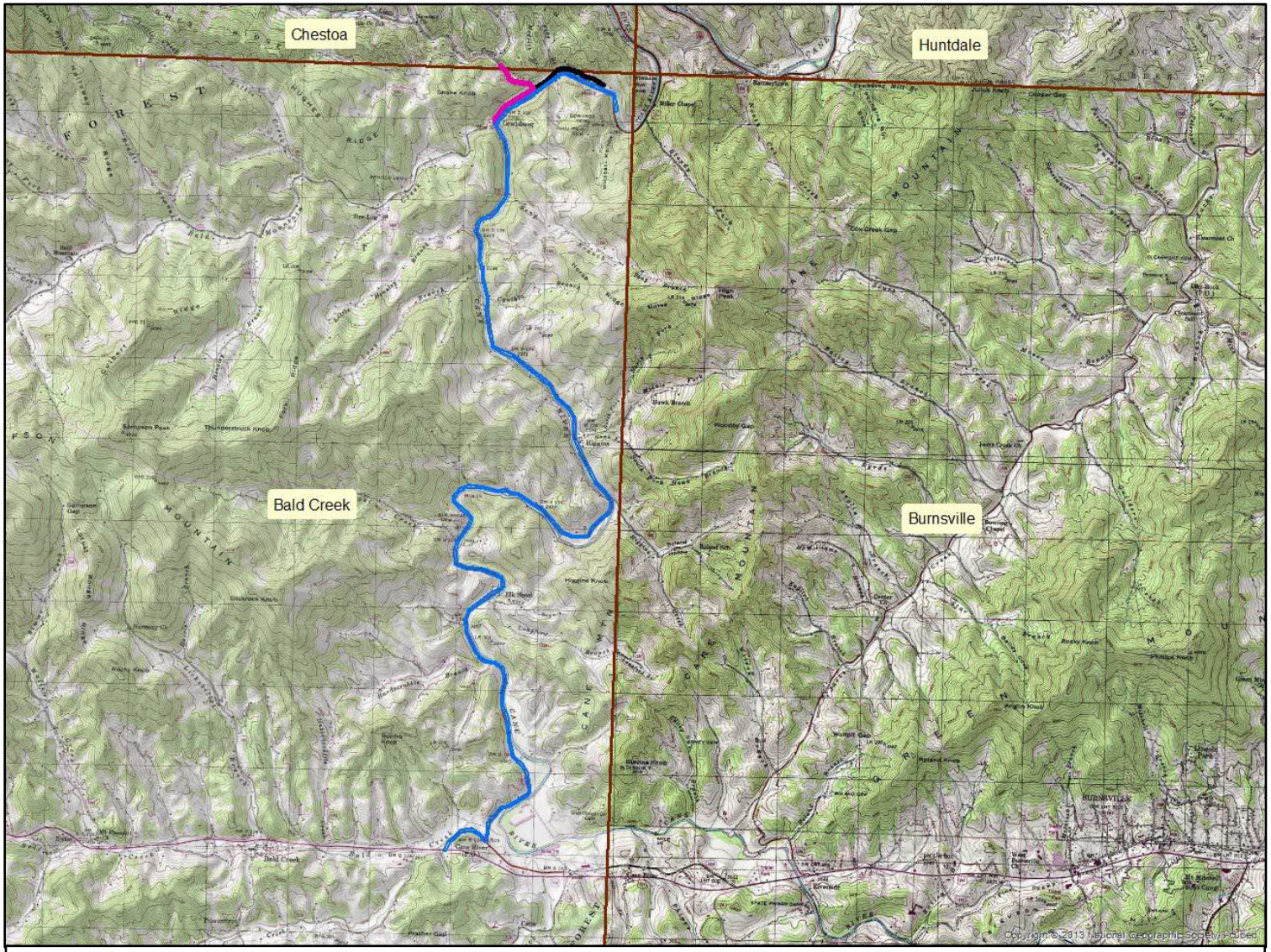


Figure 2: Location of the US 19W, SR 1411, and SR 1425 study areas on the *Chestoa, Huntdale, Bald Creek* and *Burnsville* topographic maps.

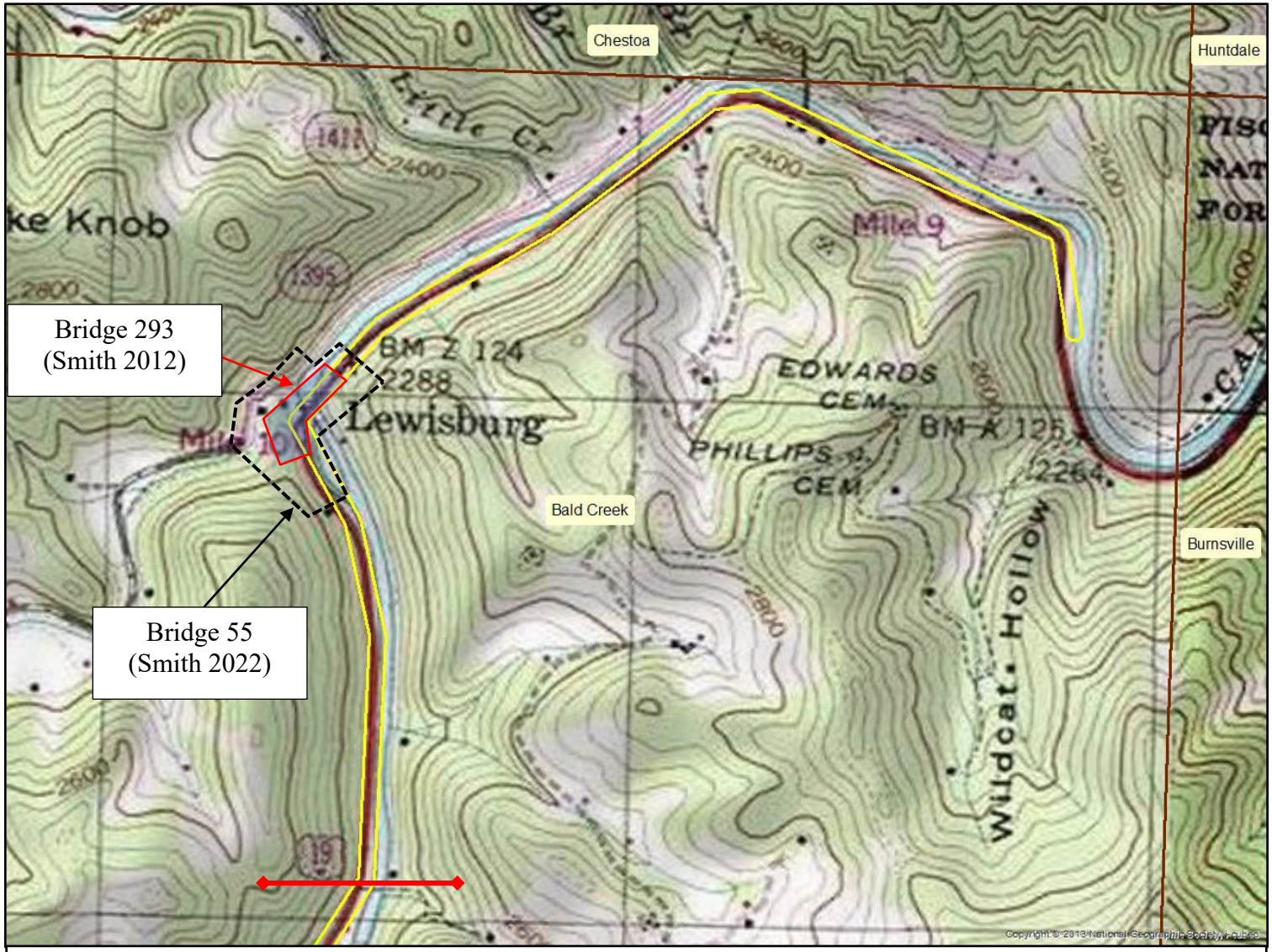


Figure 3: Topographic map of the north end of the study area showing previous archaeological review areas (USGS *Bald Creek* 1:24,000-scale topographic map) (**map 1 of 7**).

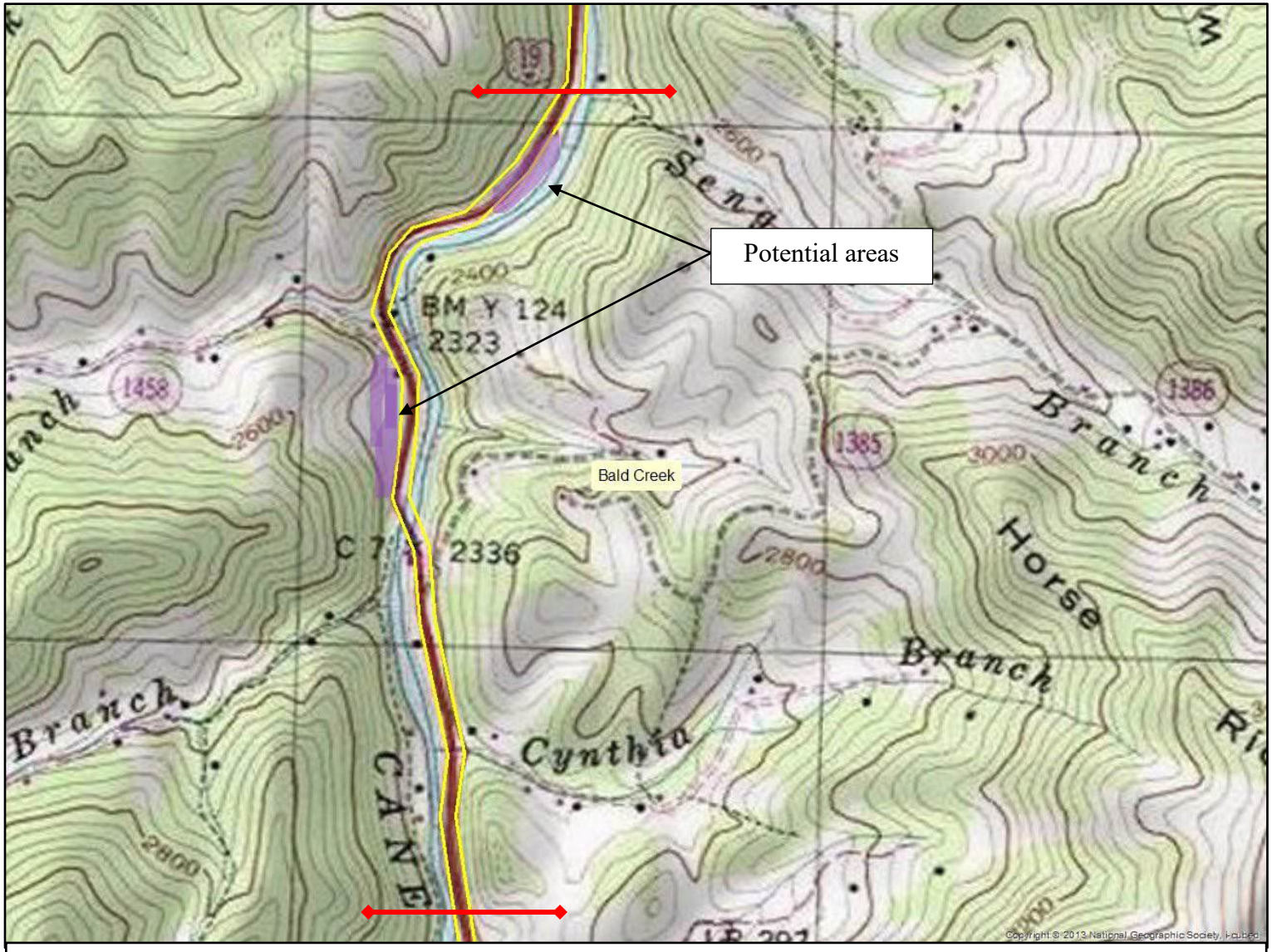


Figure 4: Topographic map of the study area (USGS *Bald Creek* 1:24,000-scale topographic map) (**map 2 of 7**).

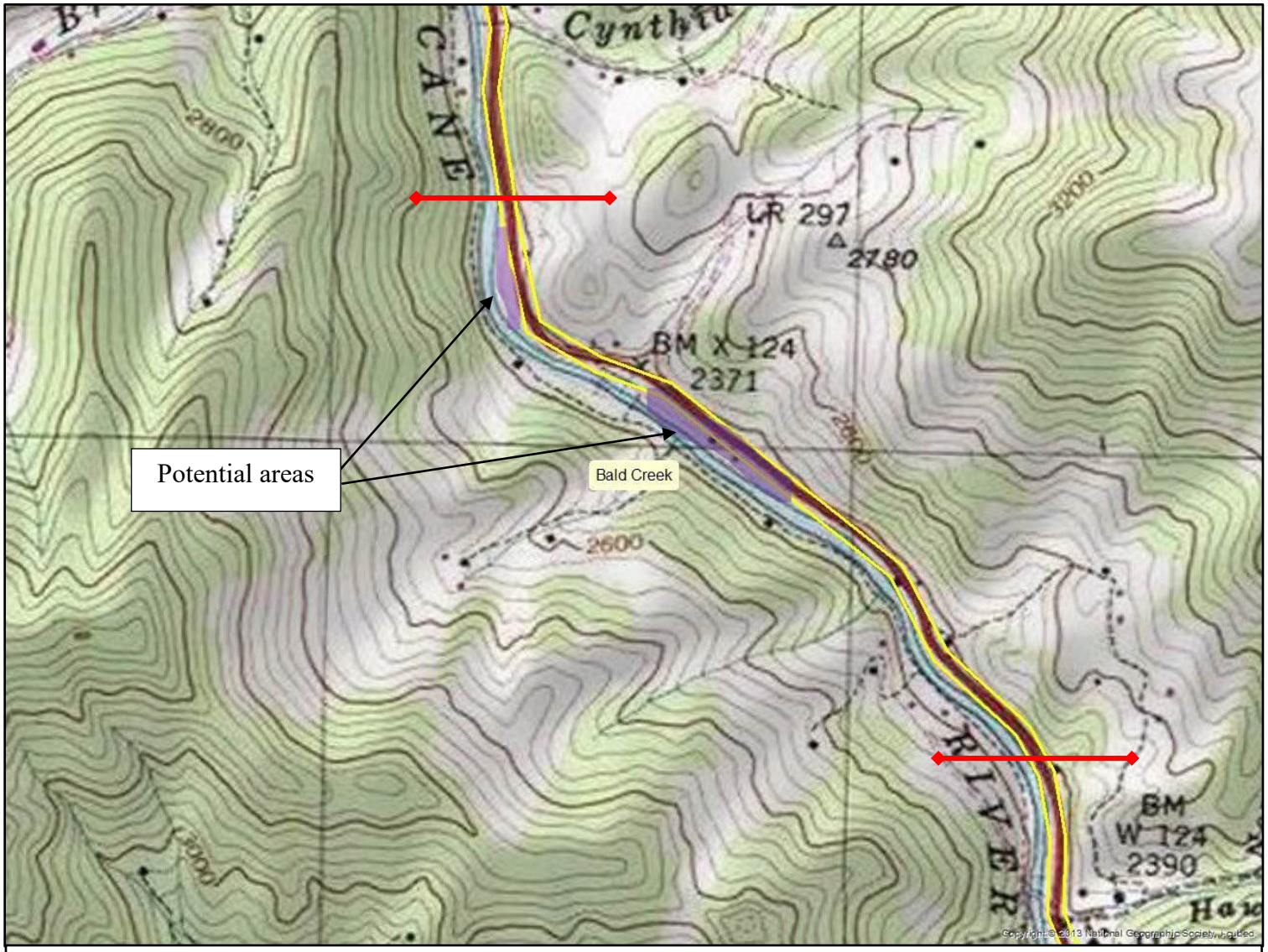


Figure 5: Topographic map of the study area (USGS *Bald Creek* 1:24,000-scale topographic map) (**map 3 of 7**).

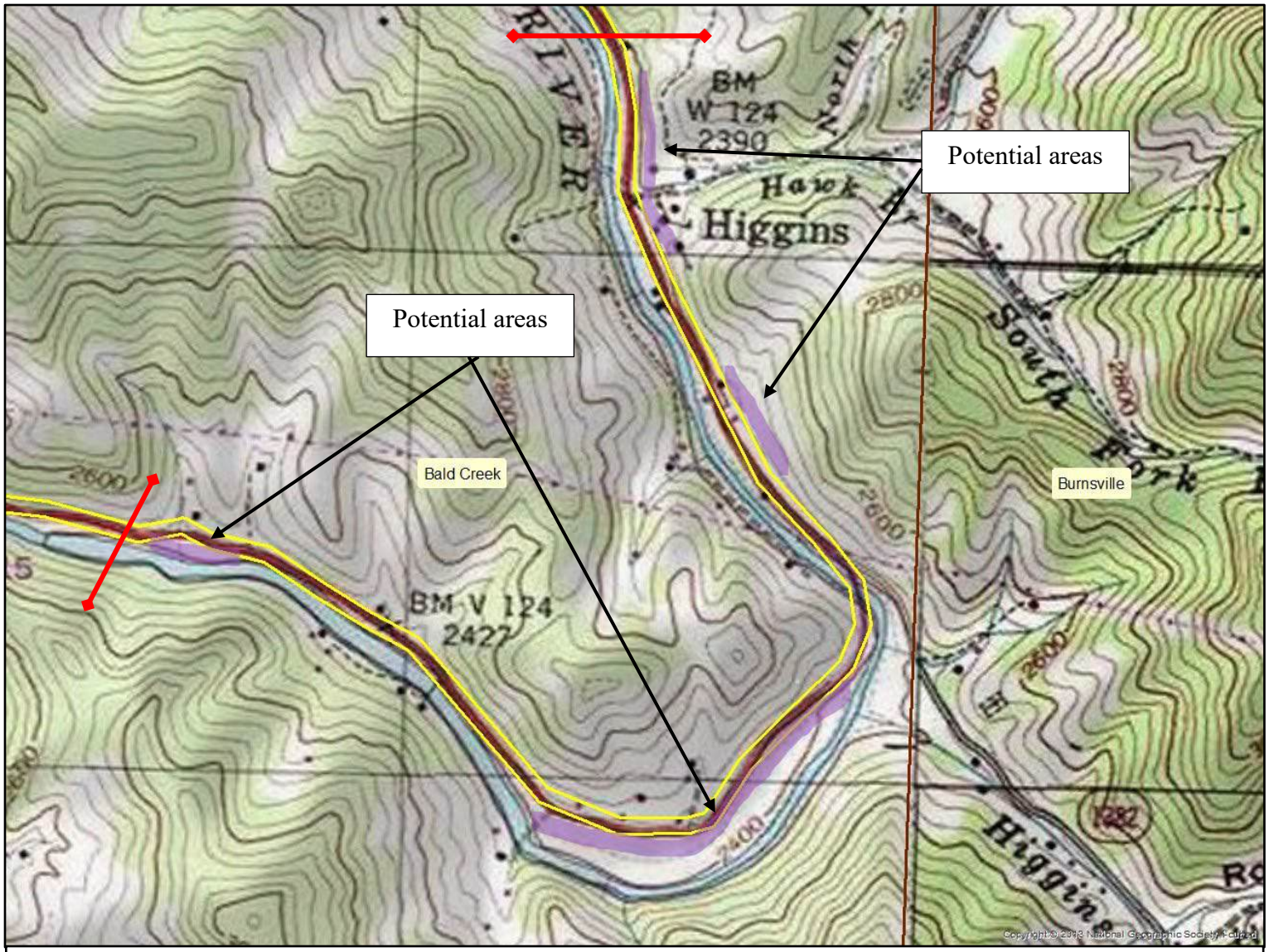


Figure 6: Topographic map of the study area (USGS *Bald Creek* 1:24,000-scale topographic map) (**map 4 of 7**).

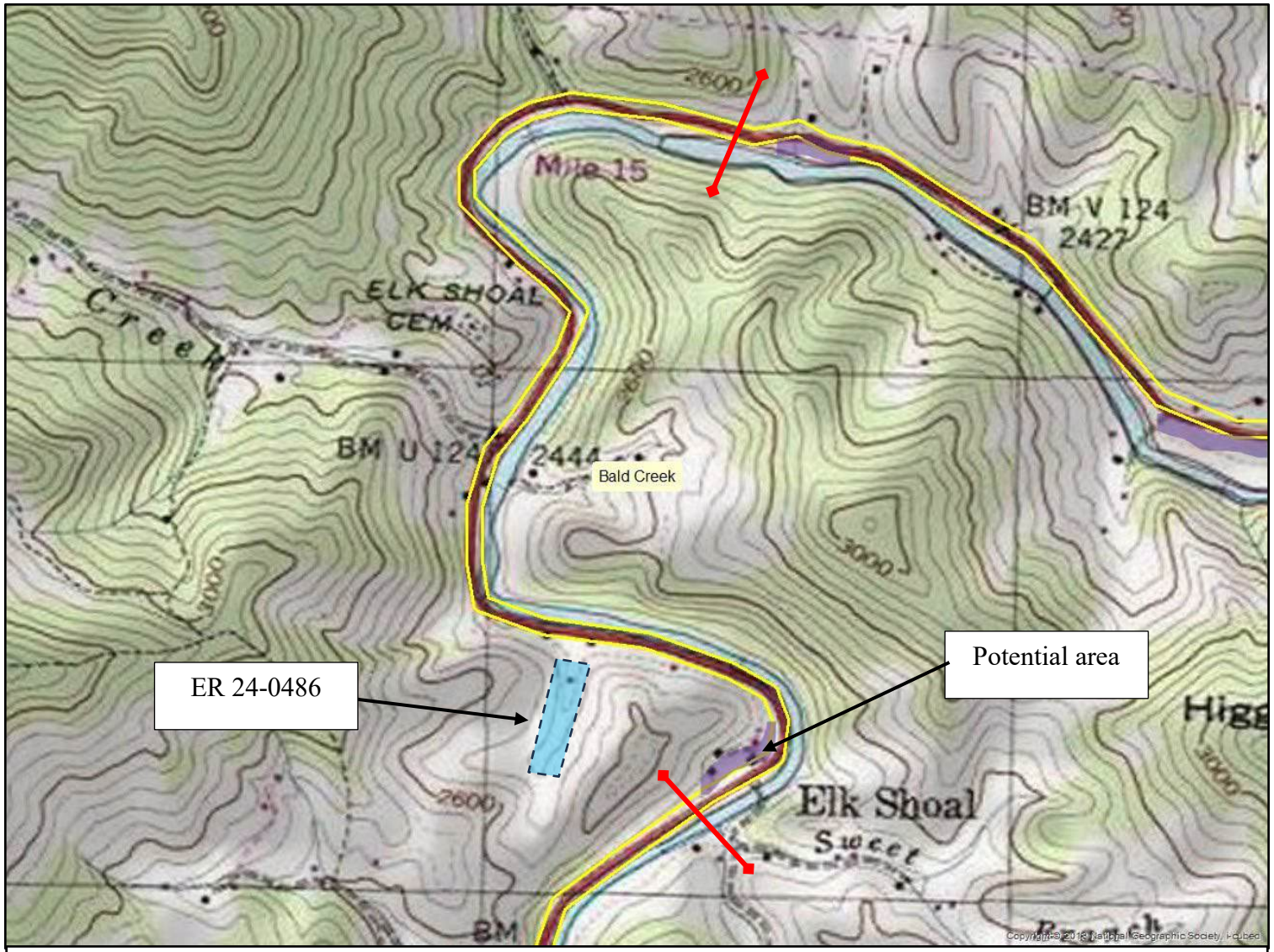


Figure 7: Topographic map of the study area showing an HPO-reviewed project (USGS *Bald Creek* 1:24,000-scale topographic map) (**map 5 of 7**).

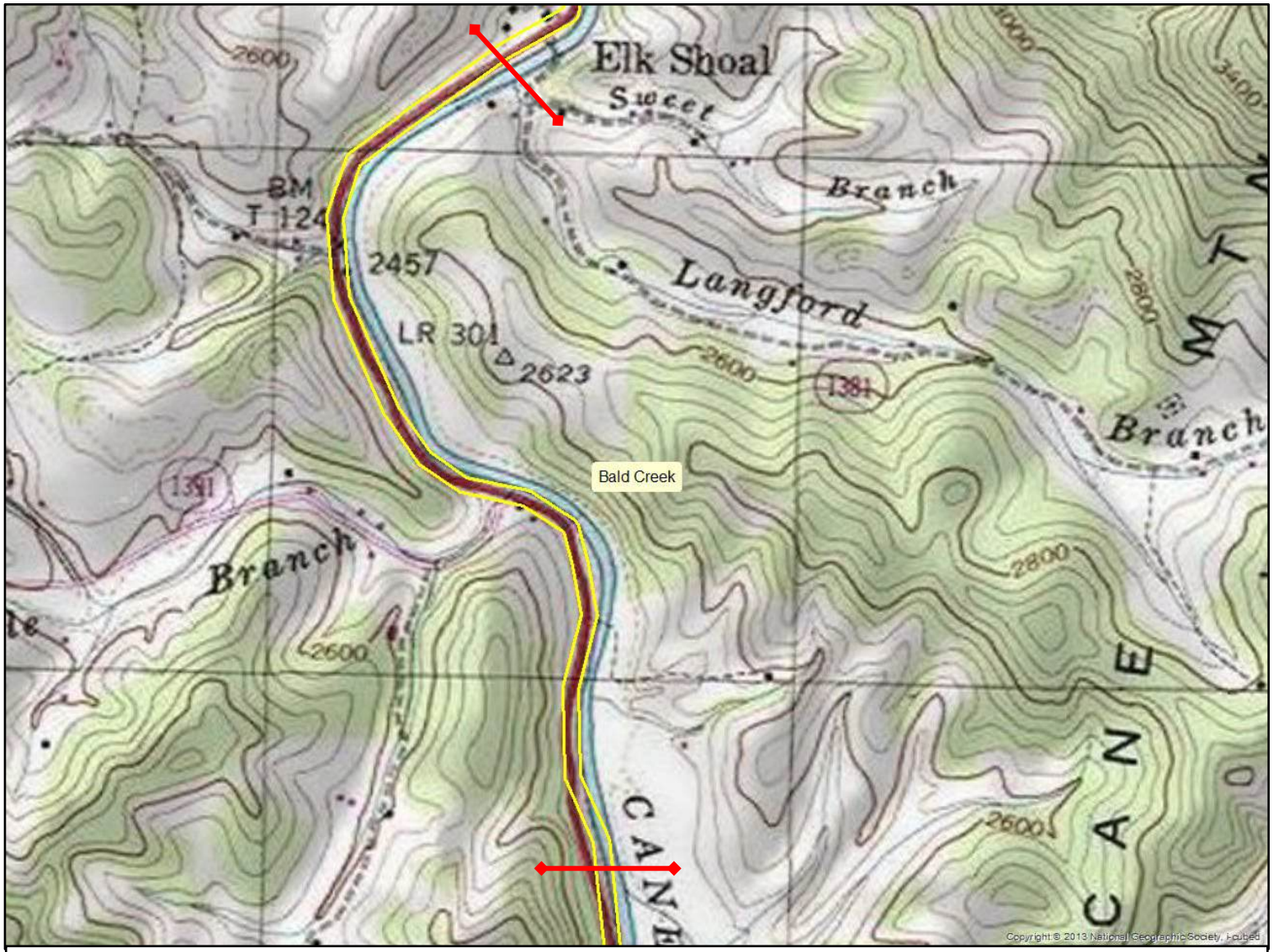


Figure 8: Topographic map of the study area (USGS *Bald Creek* 1:24,000-scale topographic map) (**map 6 of 7**).

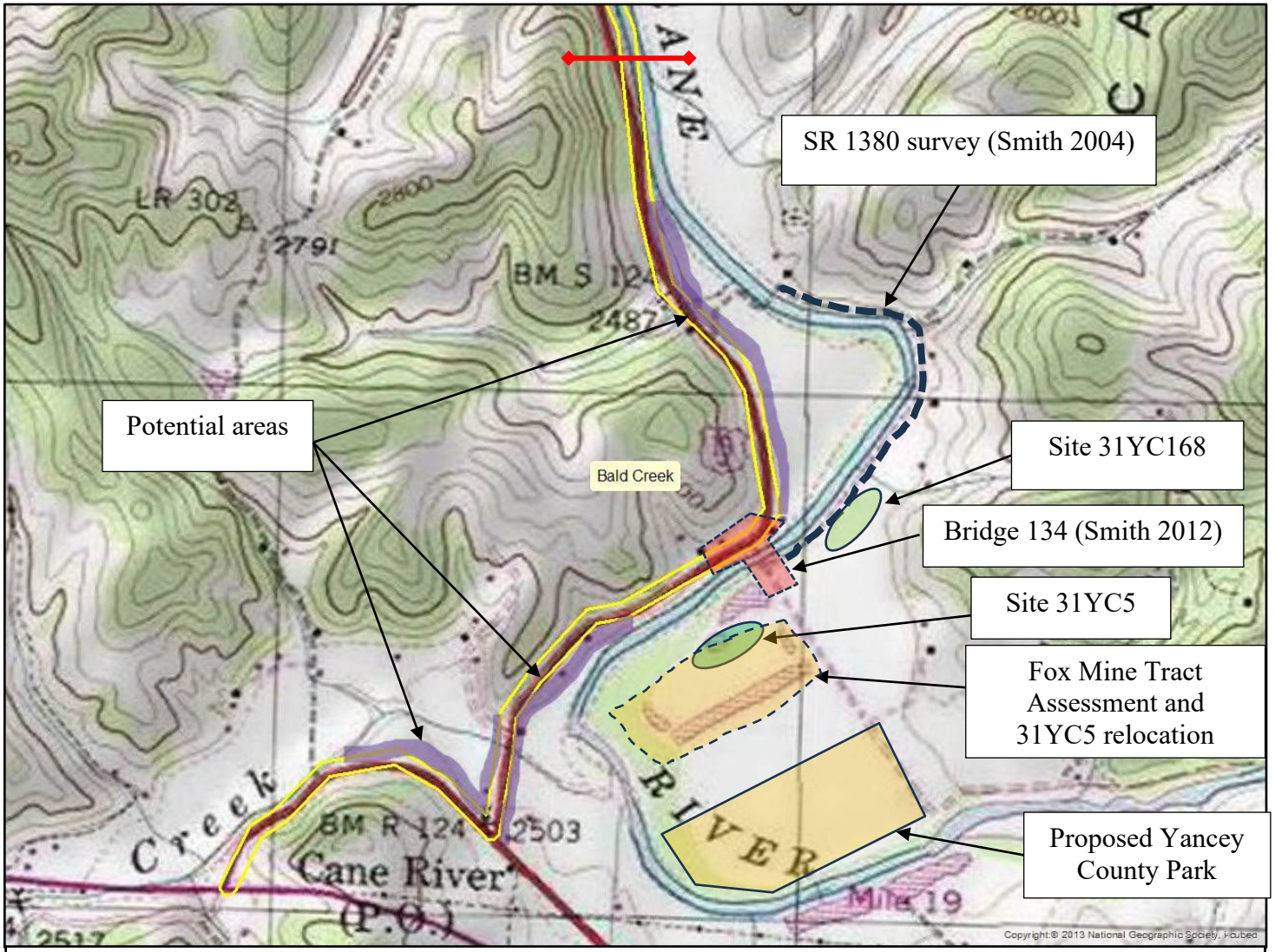


Figure 9: Topographic map of the south end of the study area showing previously recorded sites, previous archaeological survey, and HPO-reviewed projects (USGS *Bald Creek* 1:24,000-scale topographic map) (**map 7 of 7**).

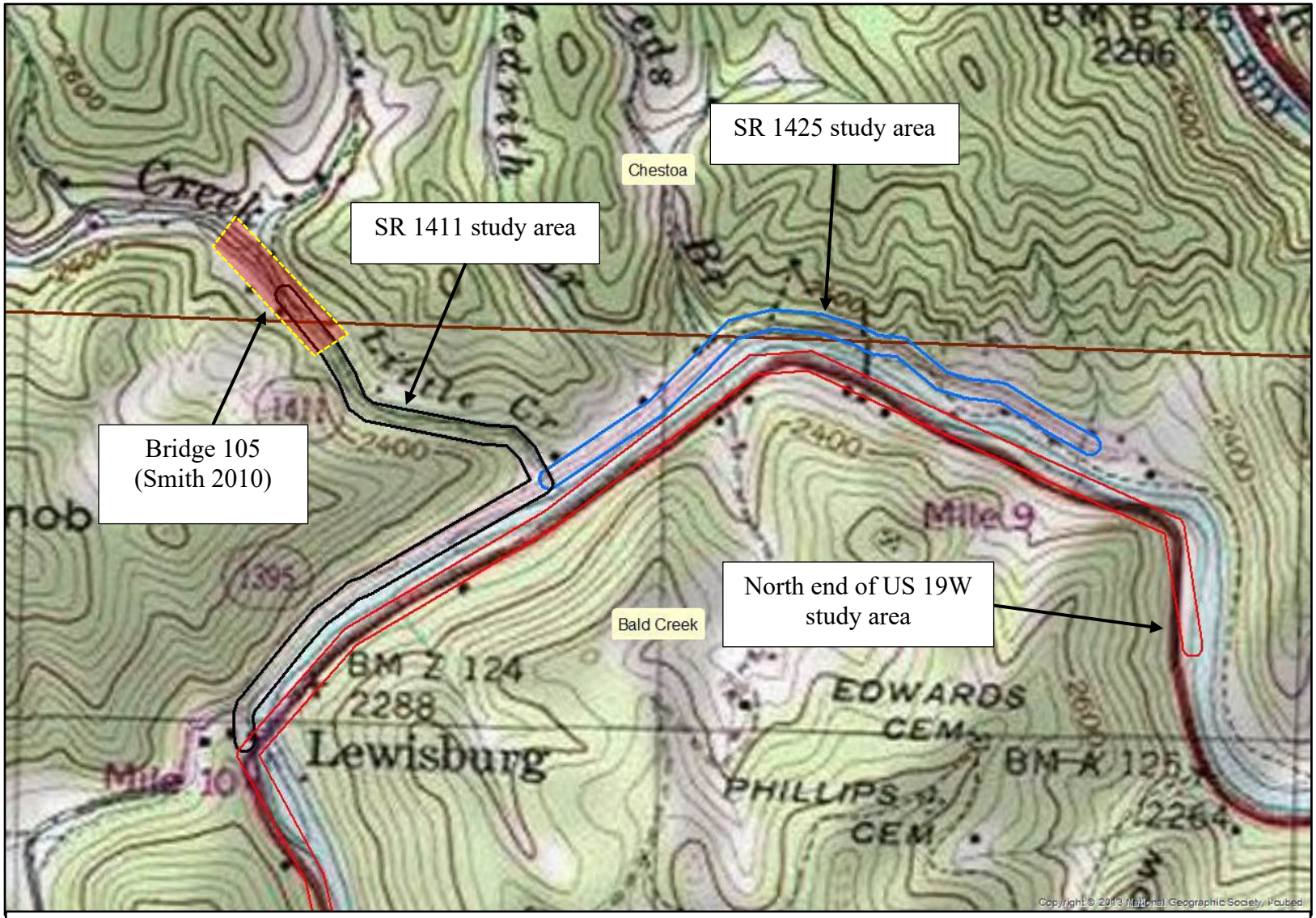


Figure 10: Topographic map of the SR 1411 and the SR 1425 study areas and previous archaeological review (USGS *Bald Creek* and Chestoa 1:24,000-scale topographic maps).

Figure 11: Aerial photograph of the north end of the study area (**1 of 7**).

Figure 12: Aerial photograph of the study area (**2 of 7**).

Figure 13: Aerial photograph of the study area (**3 of 7**).

Figure 14: Aerial photograph of the study area (**4 of 7**).

Figure 15: Aerial photograph of the study area (**5 of 7**).

Figure 16: Aerial photograph of the study area (**6 of 7**).

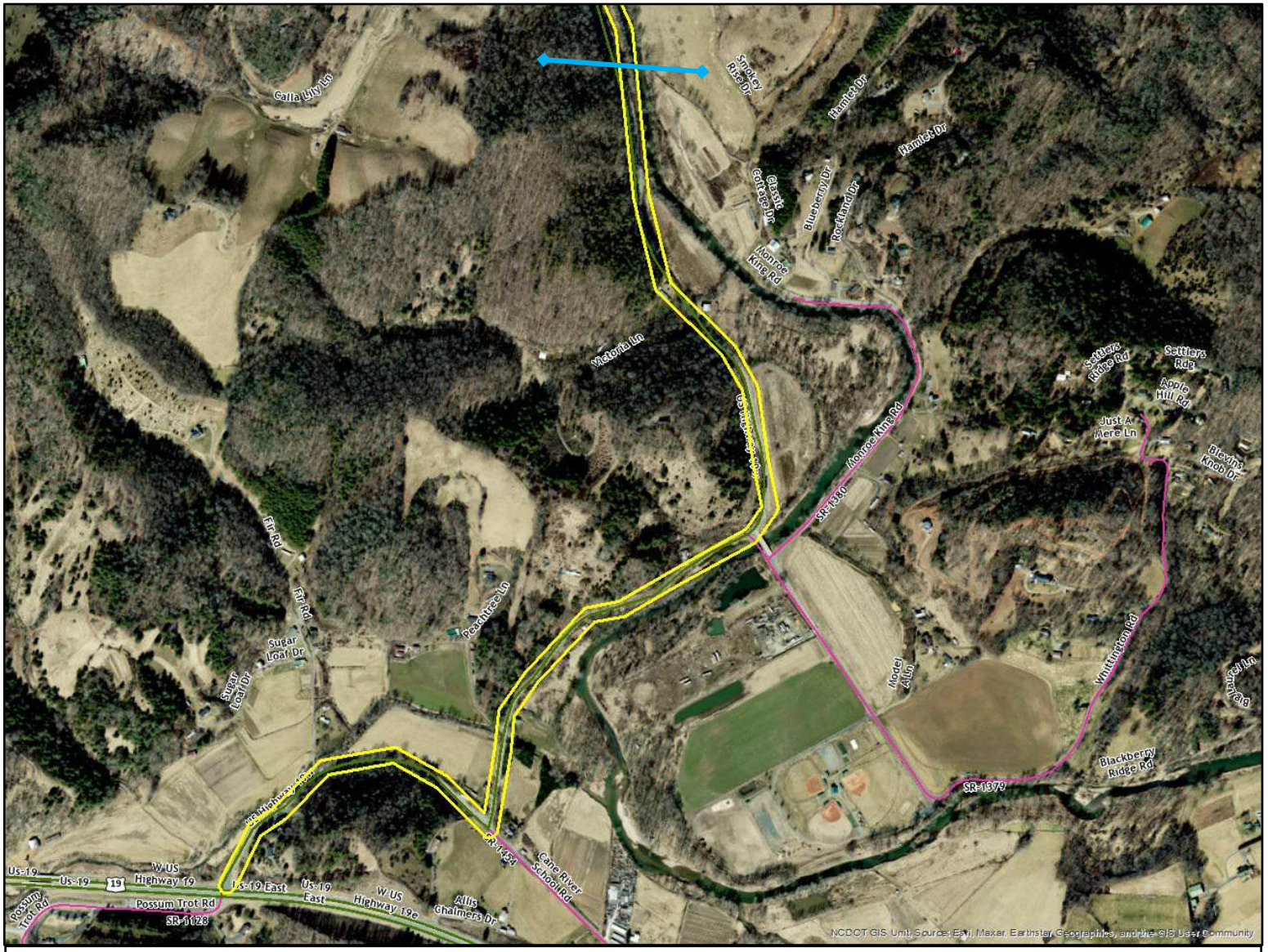


Figure 17: Aerial photograph of the south end of the study area (**7 of 7**).

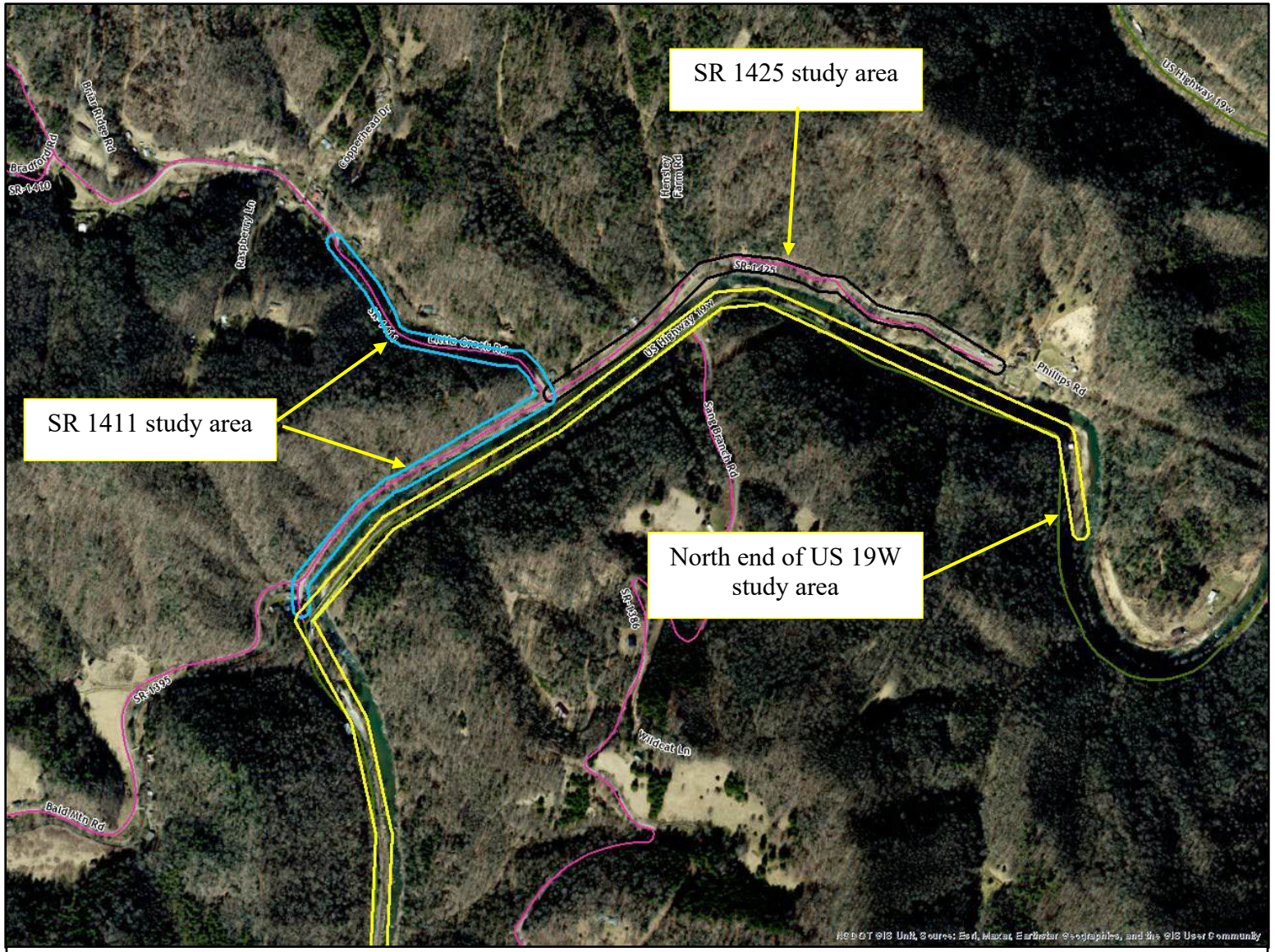


Figure 18: Aerial photograph of the SR 1411 and SR 1425 study areas.

Historic Architecture & Landscapes

HISTORIC ARCHICTECTURE AND LANDSCAPES
EFFECTS 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:	No TIP	***County***:	Yancey
WBS No.:	49082.2.13	***Document Type***:	CE
Fed. Aid No:	To Be Assigned	***Funding***:	☐ State ☒ Federal
Federal Permit(s):	☒ Yes ☐ No	***Permit Type(s)***:	USACE

Project Description:
In response to the aftermath of Hurricane Helene, NCDOT's Division 13 proposes to repair/restore various sections of US 19 West from US 19 at SR 1454 (Cane River School Road) north to Lewisburg.

Included in the proposed project will be two (2) intersecting secondary roads, which will be repaired/restored to their pre-existing conditions.

SR 1411 (Little Creek Road)
SR 1425 (Phillips Road)

Additionally, ten (10) bridges/structures require significant repair or replacement.

Yancey Bridge 12 on US 19 W over Bald Creek (constr. 1940)
Yancey Bridge 134 on SR 1379 over Cane River (constr. 2014)
Yancey Bridge 73 on SR 1391 over Hardscrabble Branch (constr. 1961)
Yancey Bridge 72 on SR 1381 over Cane River (constr. 1978)
Yancey Bridge 34 on US 19 W over Cane River (constr. 1971)
Yancey Bridge 44 on US 19 W over Cane River (constr. 1971)
Yancey Bridge 55 on US 19 W over Cane River (constr. 1971)
Yancey Bridge 293 on SR 1411 over Bald Mountain Creek (constr. 2015)
Yancey Bridge 105 on SR 1411 over Little Creek (constr. 1951)
Yancey Bridge 288 on SR 1425 over Little Creek (constr. 1963)

All proposed activities, at this time, are anticipated to occur within NCDOT's existing ROW (or at least where the ROW once existed). For the US 19 West corridor, the existing ROW is approximately 60 feet wide whereas along the two (2) secondary roads, the existing ROW appears to range between 20 to 60 feet. As submitted, NCDOT's intent is to conduct all work within existing ROW and restore to previous function without the need for easements; however, deteriorating field conditions could require the acquisition of ROW or easements. Although Preliminary Design Plans are not available at this time, an Area of Potential Effects (APE) was generated to facilitate the environmental review, by buffering each road to its corresponding ROW width.

SUMMARY OF HISTORIC ARCHICTECTURE AND LANDSCAPES REVIEW

Description of review activities, results, and conclusions:

An NCDOT architectural historian reviewed the known historic properties in proximity to the APE using HPOWeb, Yancey County GIS, survey site files from the HPO Western Office, and NCDOT's 2023 Historic Bridge Inventory. The intent was to "flag" specific properties or districts that should be avoided or will require plan review with NCDOT and HPO to determine if they will have an effect on the property. In addition, the NCDOT architectural historian commits to visiting the APE in January 2025 to assess the condition of the known properties as some may have been damaged immediately after Hurricane Helene. The seven (7) known historic properties are listed below and marked on the HPOWeb maps included in this form. None of the damaged bridges were previously determined eligible for the National Register as a part of NCDOT's current Historic Bridge Inventory.

1. YC0151 Wilkes Hensley House (Determined Eligible, 2000) US 19 & US 19W
2. YC0026 Clark Cousens House (surveyed only) SR 1388 & US 19W
3. YC0108 Bethel Presbyterian Church (surveyed only) SR 1383 & US 19W
4. YC0049 Isaac Higgins House (surveyed only) SR 1383 & US 19W
5. YC0107,0109,0110 Markel School (surveyed only) SR 1383 & US 19W
6. YC0217 Phillips & Son Texaco Station (Determined Eligible, 2013) US 19 W & SR 1395
7. YC0069 House (surveyed only) SR 1411

SUPPORT DOCUMENTATION

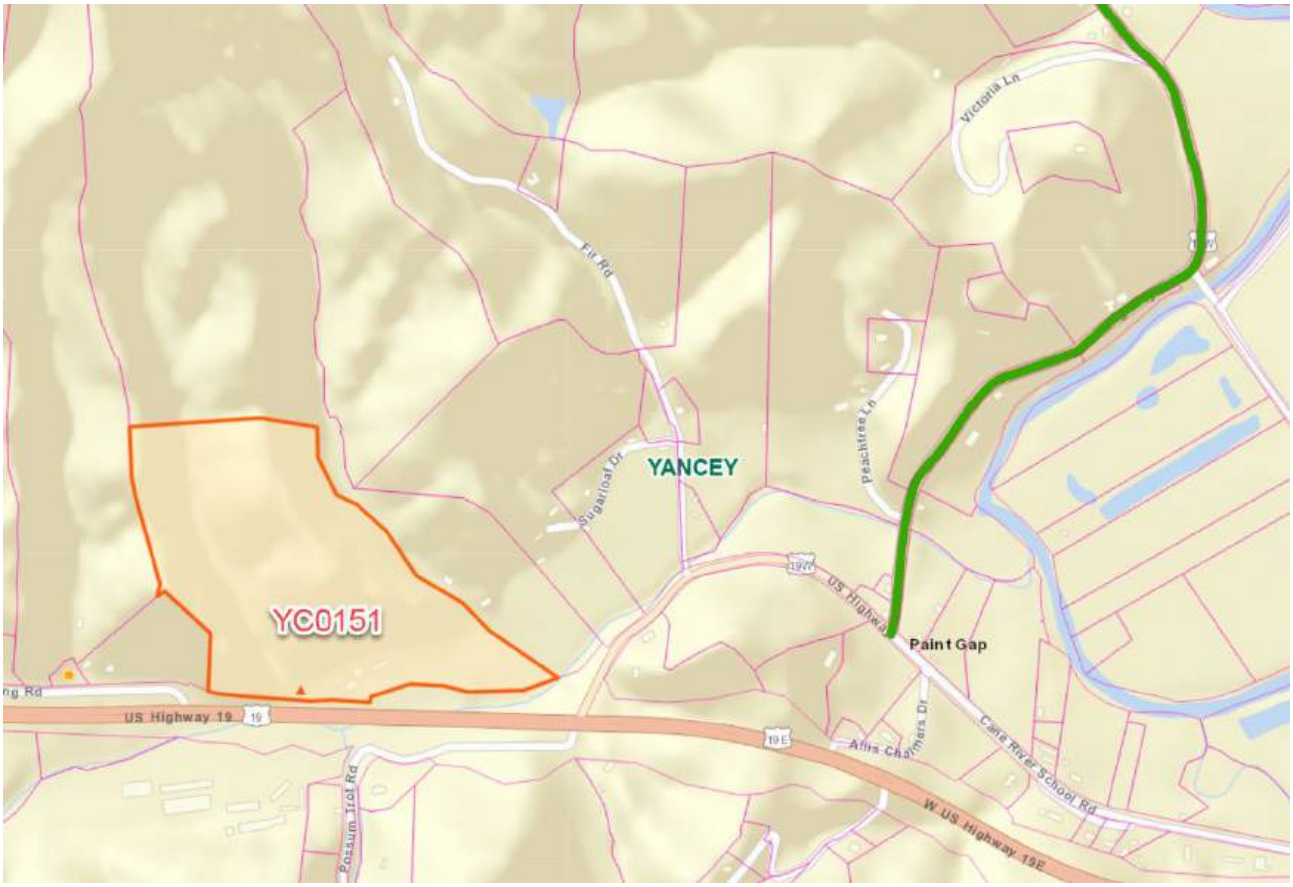
☒Map(s) ☐Previous Survey Info. ☐Photos ☐Correspondence ☐Design Plans

FINDING BY NCDOT ARCHITECTURAL HISTORIAN

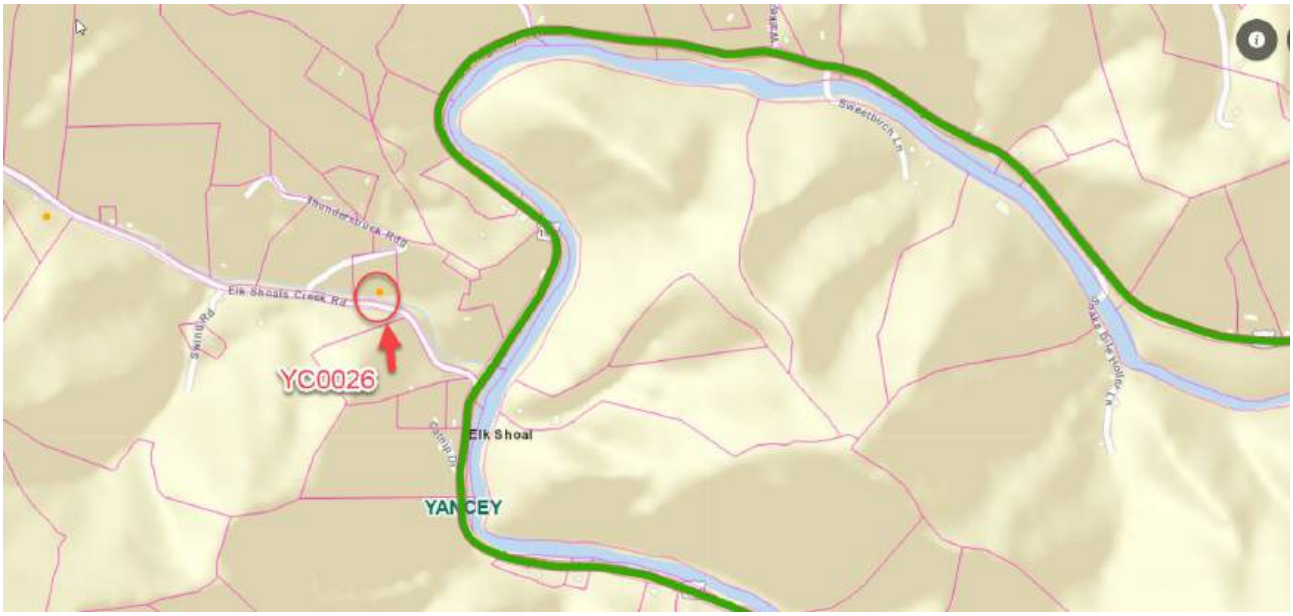
Historic Architecture and Landscapes -- **EFFECTS REQUIRED**

Mary Pope Furr **1/2/2025**

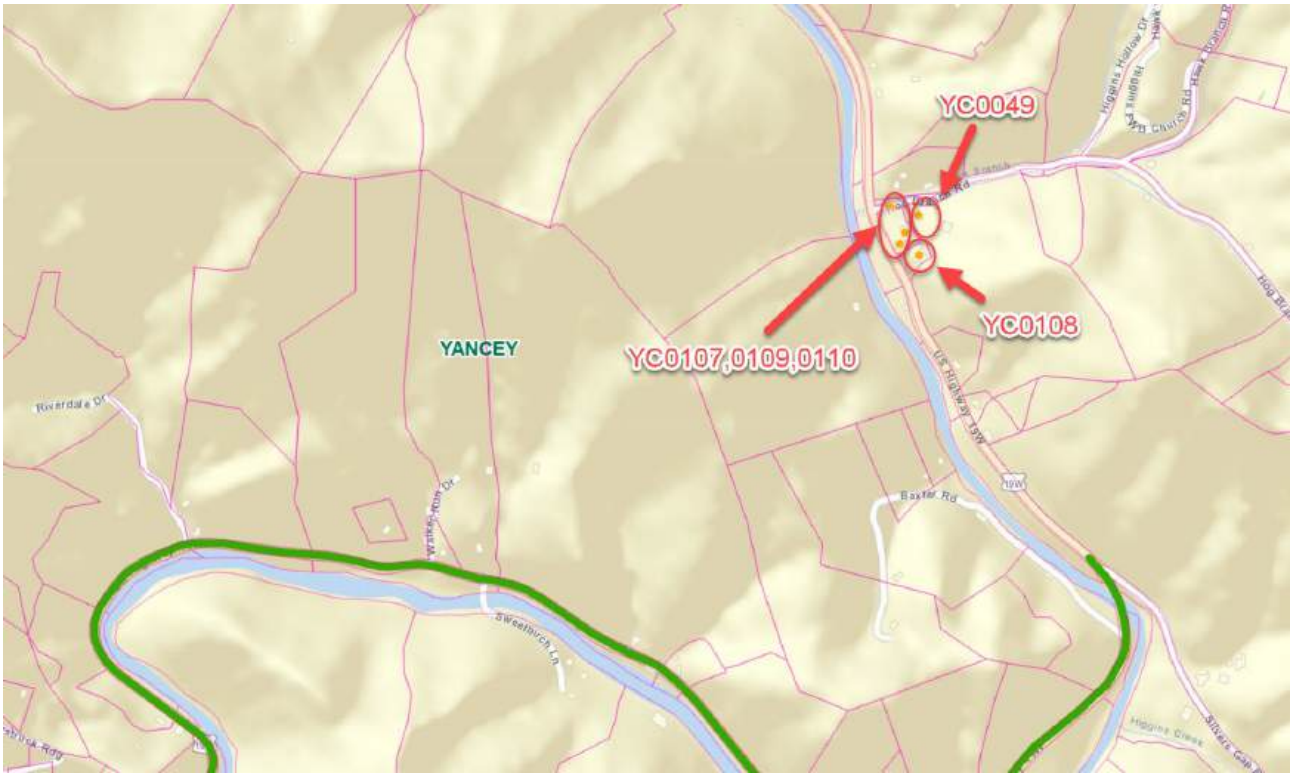
NCDOT Architectural Historian Date



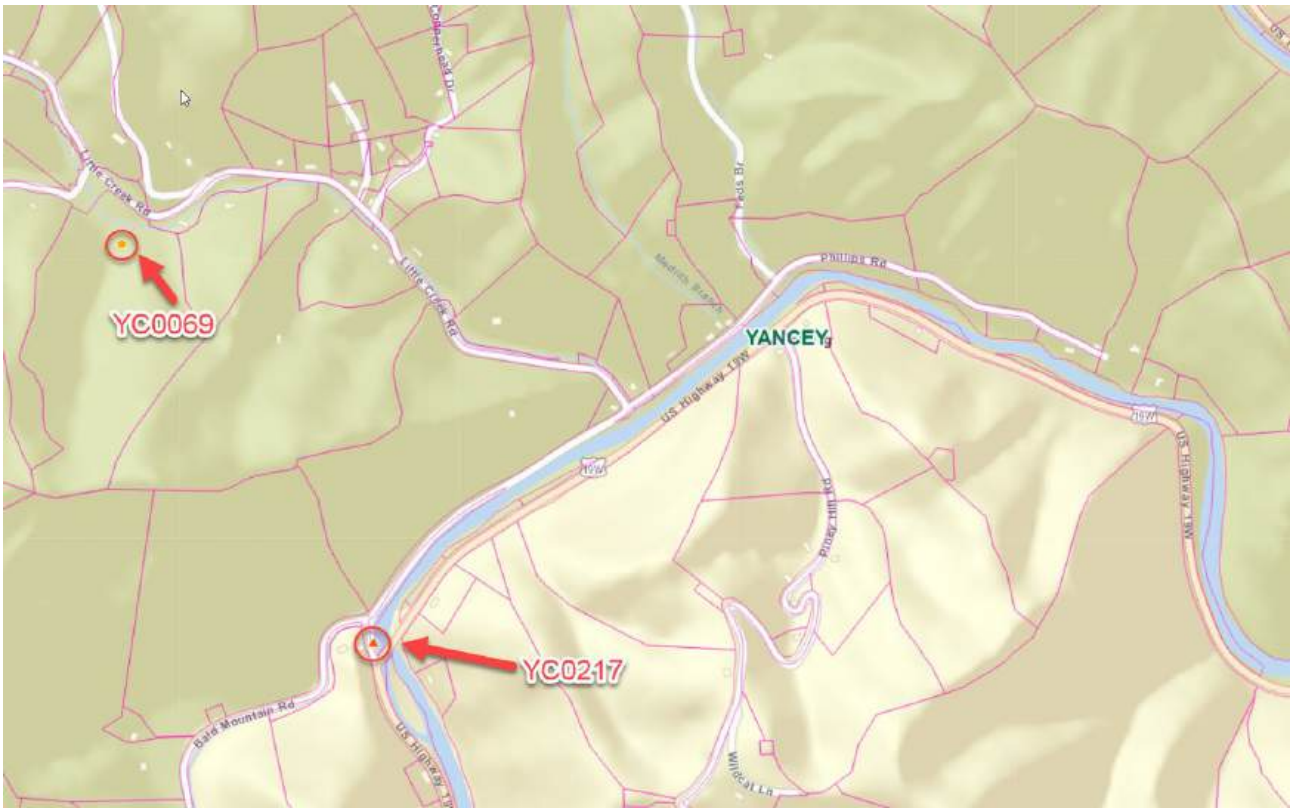
Known Historic Resources- source HPOWeb



Known Historic Resources- source HPOWeb



Known Historic Resources- source HPOWeb



Known Historic Resources- source HPOWeb

Tribal Coordination

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918-453-5000 • www.cherokee.org

Chuck Hoskin Jr.
Principal Chief
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Bryan Warner
Deputy Principal Chief
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April 24, 2025

Karina Clough
North Carolina Department of Transportation
Division 13 Office
55 Orange Street
Asheville, NC 28801-2340

Re: 18313.1100998, US 19W South

Dear Karina Clough:

The Cherokee Nation (Nation) is in receipt of your correspondence about **18313.1100998**, and appreciates the opportunity to provide comment upon this project. This communication is intended for government-to-government consultation with a sovereign federally recognized Tribal Nation. Information received in consultation will be deemed confidential unless explicit consent is provided by the Nation.

The Nation maintains databases and records of cultural, historic, and pre-historic resources in this area. Our Historic Preservation Office (Office) reviewed this project, cross referenced the project's legal description against our information, and found no instances where this project intersects or adjoins such resources. Thus, the Nation does not foresee this project imparting impacts to Cherokee cultural resources at this time.

However, the Nation requests that the North Carolina Department of Transportation (NCDOT) halt all project activities immediately and re-contact our Office for further consultation if items of cultural significance are discovered during the course of this project. Additionally, the Nation requests that the NCDOT conduct appropriate inquiries with other pertinent Historic Preservation Offices regarding historic and prehistoric resources not included in the Nation's databases or records.

If you require additional information or have any questions, please contact me at your convenience. Thank you for your time and attention to this matter.

Wado,

Elizabeth Toombs

Elizabeth Toombs, Tribal Historic Preservation Officer
Cherokee Nation Tribal Historic Preservation Office
elizabeth-toombs@cherokee.org
918.453.5389

From:	Clough, Karina A
To:	Elizabeth Toombs; russtown@ebci-nsn.gov; syerka@ebci-nsn.gov; Roger Cain; section106@muscogeenation.com
Cc:	Wilkerson, Matt T; Archual, Adam J.; Thomas, John T.; jmsanderson; Allen, Yates
Subject:	Tribal Coordination Request: US 19W South Project No. 18313.1100998
Date:	Tuesday, March 25, 2025 11:14:59 AM
Attachments:	NCDOT Proj. 998_Cherokee.pdf NCDOT Proj. 998_EBCI.pdf NCDOT Proj. 998_Muscogee.pdf NCDOT Proj. 998_UKBCI.pdf

Dear Sir/Madam,

This email is to request your review and comments on the proposed project to restore the Hurricane Helene-damaged section of US 19W along the Cane River in Yancey County. The repair area extends approximately 10 miles on US 19W from Cane River School Road to Piney Hill Road as well as approximately 1 mile of Little Creek Road northwest of US 19W and approximately 1 mile of Phillips Road northeast of Little Creek Road (Project No. 18313.1100998). This project also includes the replacement of ten bridges along the described roadway corridors. The Federal Highway Administration (FHWA) is the lead federal agency. Attached to this email is a letter requesting information about the project site.

With this email, NCDOT is requesting your consultation on the above project. Please review the attached information and provide comments within 30 days. If you have any questions regarding this request, do not hesitate to contact me.

This request for consultation is being sent to the following:

- Stephen Yerka (Eastern Band of Cherokee Indians (EBCI) Tribal Historic Preservation Office)
- Roger Cain (United Keetoowah Band of Cherokee Indians in Oklahoma (UKB) THPO)
- Muscogee (Creek)Nation
- Elizabeth Toombs (Cherokee Nation THPO)
- Wenonah George Haire (Catawba Indian Nation) – via mail

Sincerely,

Karina Clough
Division PDEA Engineer
Division 13
North Carolina Department of Transportation

828-250-3038 office
kaclough@ncdot.gov

NEPA Document

Type I or II Categorical Exclusion Action Classification Form

STIP Project No.	**Hurricane Helene Repairs to US 19W South**
WBS Element	18313.1100998
Federal Project No.	N/A

A. Project Description:

The proposed action includes the initial emergency repairs to approximately 10 miles of US 19W from Cane River School Road (SR 1454) to Piney Hill Road (SR 1386) and approximately 2 miles of secondary roads, including about 1 mile of Little Creek Road (SR 1411) and 1 mile of Phillips Road (SR 1425) in Yancey County. Ten bridges will be repaired or replaced by this project. Also included in this action are geotechnical investigations and other engineering investigations needed to continue the emergency reconstruction and finalize the design of the permanent repairs.

In the immediate aftermath of the storm, NCDOT reestablished connectivity within the project area to facilitate access for property owners, emergency vehicles, utility companies, and other necessary services. NCDOT utilized available resources and recovered materials that were quickly accessible, often from within the adjacent waterway, to rebuild roadways on their pre-storm alignments as closely as possible.

The Little Creek Road bridge (Bridge No. 990293) over Bald Mountain Creek was destroyed by the storm. Approximately 0.5 mile of Little Creek Road between Bridge No. 990293 and the Phillips Road intersection on the northwest side of the Cane River was also destroyed. To reestablish connectivity to Little Creek Road residents, NCDOT installed a temporary causeway across the Cane River near the Piney Hill Road intersection with US 19W.

Geotechnical investigations will include high ground and in-water borings as necessary to inform roadway embankment and slope repair design and construction. Roadway borings will be collected from the existing roadway and completed before side slope borings are scheduled because sufficient information may be gained from the roadway boring. Toe of slope borings may require access through the water depending on the location. Geotechnical borings may also be required at the ten bridge bent locations (see project location map for bridge locations). Access to in-water borings will occur from vehicles traversing from the riverbank and into the river. No dewatering or temporary fill is planned for in-water borings.

B. Description of Need and Purpose:

The need for the proposed action is for emergency repairs to the slopes, pavement, and other infrastructure associated with US 19W South as well as geotechnical investigations to develop designs for the permanent repairs for the corridor.

C. Categorical Exclusion Action Classification:

Type I(A) - Ground Disturbing Action

D. Proposed Improvements:

Type I actions:

9. The following actions for transportation facilities damaged by an incident resulting in an emergency declared by the Governor of the State and concurred in by the Secretary, or a disaster or emergency declared by the President pursuant to the Robert T. Stafford Act (42 U.S.C. 5121):
   a) Emergency repairs under 23 U.S.C. 125; and
   b) The repair, reconstruction, restoration, retrofitting, or replacement of any road, highway, bridge, tunnel, or transit facility (such as a ferry dock or bus transfer station), including ancillary transportation facilities (such as pedestrian/bicycle paths and bike lanes), that is in operation or under construction when damaged and the action:
      i) Occurs within the existing right-of-way and in a manner that substantially conforms to the preexisting design, function, and location as the original (which may include upgrades to meet existing codes and standards as well as upgrades warranted to address conditions that have changed since the original construction); and
      ii) Is commenced within a 2-year period beginning on the date of the declaration.

24. Localized geotechnical and other investigation to provide information for preliminary design and for environmental analyses and permitting purposes, such as drilling test bores for soil sampling; archeological investigations for archeology resources assessment or similar survey; and wetland surveys.

E. Special Project Information:

Natural Environment
Elk Shoal Creek Headwaters and French Broad River (FBR)/Cane River Aquatic Habitat are listed as Natural Areas by the Natural Heritage Program (NHP). The NC NHP Natural Areas are terrestrial and aquatic areas that are of special biodiversity significance and indicate action areas for the conservation of North Carolina biodiversity. No impacts to Elk Shoal Creek Headwaters, which is located about 1 mile west of the project, are anticipated with the proposed project. Temporary impacts to the FBR/Cane River Aquatic Habitat are anticipated to result from the proposed action because of temporary geotechnical investigation activities within the Cane River. (See project file.)

The Cane River, which runs adjacent to the proposed project limits on US 19W South and adjacent secondary roads, is listed as Class C; Tr (Trout) by North Carolina Division of Water Resources (DWR).

The Draft NRTR (May 2025) identifies one headwater forest wetland on the east side of US 19W north of Hog Branch Road. No impacts are anticipated from the proposed action.

Threatened & Endangered Species
As of March 2025, there are ten listed or proposed species under the Endangered Species Act (ESA) jurisdiction within the vicinity project according to the US Fish and Wildlife Service (USFWS) Information and Planning Consultation (IPaC) database. USFWS identified the main stem of the Cane River as critical habitat for Appalachian elktoe. (See project file.)

Table 1. Federally Protected Species

Scientific Name	Common Name	Federal Status	Biological Conclusion
Perimyotis subflavus	Tricolored bat	PE	Not required
Myotis septentrionalis	Northern long-eared bat	E	Unresolved
Myotis grisenscens	Gray bat	E	Unresolved
Glyptemys muhlenbergii	Bog turtle	SAT	Not required
Cryptobranchus alleganiensis	Eastern hellbender	PE	Not required
Alasmidonta raveneliana	Appalachian elktoe	E	Unresolved
Danaus plexippus	Monarch butterfly	PT	Not required
Isotria medeoloides	Small whorled pogonia	T	Unresolved
Sisyrinchium dichotomum	White irisette	E	Unresolved

Gymnoderma lineare	Rock gnome lichen	E	No Effect
PE – Proposed Endangered, T – Threatened, SAT - Threatened based on Similarity of Appearance, PT – Proposed Threatened, E- Endangered			

Eastern Hellbender

The Eastern Hellbender was proposed for federal listing under the ESA in December 2024. However, no regulatory protections will take effect until the listing is finalized, which is anticipated in late 2025 or early 2026. Until that time, proposed species do not receive formal ESA protections. However, federal action agencies are still required to ensure that their actions do not jeopardize the continued existence of the species. Federal action agencies may initiate consultation with the USFWS to obtain a conference opinion. If and when the listing is finalized, and at the agency's request, the USFWS may adopt the conference opinion as a biological opinion—provided no significant new information has emerged and no substantial changes to the proposed action have occurred.

Monarch Butterfly

The Monarch Butterfly was proposed for federal listing under the ESA in December 2024. However, no regulatory protections will take effect until the listing is finalized, which is anticipated in late 2025 or early 2026. Until that time, proposed species do not receive formal ESA protections. However, federal action agencies are still required to ensure that their actions do not jeopardize the continued existence of the species. Federal action agencies may initiate consultation with the USFWS to obtain a conference opinion. If and when the listing is finalized, and at the agency's request, the USFWS may adopt the conference opinion as a biological opinion—provided no significant new information has emerged and no substantial changes to the proposed action have occurred.

Cultural Resources

NCDOT/FHWA initiated tribal coordination with the Catawba Indian Nation, the Cherokee Nation, the Eastern Band of Cherokee Indians, the Muscogee (Creek) Nation, and the United Keetoowah Band of Cherokee Indians on March 25, 2025. The Cherokee Nation replied on April 24, 2025 (see project file).

NCDOT/FHWA and the NC Historic Preservation Office are in coordination regarding this project. No effects to historic resources are anticipated as a result of this proposed action.

Public and Stakeholder Involvement

NCDOT hosted a Local Officials' Information Meeting (LOIM) and a Public Meeting for four Hurricane Helene Repair Projects in Yancey and Mitchell Counties, including this project, on March 31, 2025, at the Burnsville Town Center. Eight local officials and 162 individuals signed in at the two meetings. The meetings introduced local officials and the public to the permanent repair projects. Detailed designs were not presented and NCDOT indicated designs would be presented at a future public meeting. There was no formal comment period but comments were encouraged. Twenty-six comments were received as of March 31, 2025, via the project website and in-person at the meeting. Comments focused on stormwater runoff, private roads and bridges repairs, and emergency access to property.

NCDOT circulated Start of Study Notification to agency representatives on March 10, 2025. Responses were received from NC Wildlife Resources Commission (NCWRC), NC Division of Water Resources (DWR), NC Department of Natural and Cultural Resources (DNCR) Division of Land and Water Stewardship, US Environmental Protection Agency (EPA), and US Fish and Wildlife Service (FWS). Responses are included in the project file.

F. Project Impact Criteria Checklists:

F2. Ground Disturbing Actions – Type I (Appendix A) & Type II (Appendix B)

For proposed improvement(s) that fit Type I Actions (NCDOT-FHWA CE Programmatic Agreement, Appendix A) including 2, 3, 6, 7, 9, 12, 18, 21, 22, 23, 24, 25, 26, 27, 28, &/or 30; &/or Type II Actions (NCDOT-FHWA CE Programmatic Agreement, Appendix B), answer the project impact threshold questions (below) and questions 8–31.

- If any question 1-7 is checked "Yes" then NCDOT certification for FHWA approval is required.
- If any question 1-30 is checked "Yes" then additional information will be required for those questions in Section G.

PROJECT IMPACT THRESHOLDS (FHWA signature required if any of the questions 1-7 are marked "Yes.")		Yes	No
1	Does the project require formal consultation with U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) in which a "likely to adversely affect determination" has been made? (Source: Draft NRTR, June 2025)	☒	☐
2	Does the project result in effects subject to the conditions of the Bald and Golden Eagle Protection Act (BGEPA)? (Source: Draft NRTR, June 2025)	☐	☒
3	Does the project generate substantial controversy or public opposition, regarding human and/or natural environment concerns, following appropriate public involvement? (Source: N/A])	☐	☒
4			
5	Does the project involve a residential or commercial displacement, or a substantial amount of right of way acquisition? (Source: N/A])	☐	☒
6	Does the project require an Individual Section 4(f) approval? (Source: NCDOT ATLAS Screening, April 2025)	☐	☒
7	Does the project result in adverse effects that cannot be resolved with a Memorandum of Agreement (MOA) under Section 106 of the National Historic Preservation Act (NHPA) or result in an adverse effect on a National Historic Landmark (NHL)? (Source: No Archaeological Survey Required, Dec. 2024; Historic Architecture Coordination, April 2025)	☐	☒
Other Considerations		Yes	No
8	Is an Endangered Species Act (ESA) determination unresolved or resolved utilizing a Section 7 programmatic agreement? Include in Section G any utilization of a Section 7 Programmatic Agreement. (Source: Draft NRTR, June 2025)	☒	☐
9	Is the project located in anadromous fish spawning waters? (Source: NC Marine Fisheries Commission, 2025)	☐	☒
10	Does the project impact waters classified as Outstanding Resource Water (ORW), High Quality Water (HQW), Water Supply Watershed Critical Areas, 303(d) listed impaired water bodies, buffer rules, or Submerged Aquatic Vegetation (SAV)? (Source: NCDOT ATLAS Screening, April 2025; 2022 North Carolina 303(d) List)	☐	☒
11	Does the project impact waters of the United States in any of the designated mountain trout streams? (Source: NCDOT ATLAS Screening, April 2025; NCWRC Scoping Letter, March 2025)	☒	☐
12	Does the project require a U.S. Army Corps of Engineers (USACE) Individual Section 404 Permit? (Source: N/A)	☐	☒
13	Will the project require an easement from a Federal Energy Regulatory Commission (FERC) licensed facility? (Source: NCDOT ATLAS Screening, April 2025)	☐	☒

14	Does the project include a Section 106 of the National Historic Preservation Act (NHPA) effects findings other than a No Effect, including archaeological remains? No matter the effect finding, list any commitments (conditions) in Section I made in association with the effect finding detailed in Section G. (Source: No Archaeological Survey Required Dec. 29, 2024; Historic Architecture Coordination, April 2025)	☐	☒
15	Does the project involve GeoEnvironmental Sites of Concerns such as gas stations, dry cleaners, landfills, etc.? (Source: Phase 1 Report, April 2025)	☐	☒
16	Does the project require work encroaching and adversely affecting a regulatory floodway or work affecting the base floodplain (100-year flood) elevations of a water course or lake, pursuant to Executive Order 11988 and 23 CFR 650 subpart A? (Source: NC FRIS, 2025)	☐	☒
17	Is the project in a Coastal Area Management Act (CAMA) county and substantially affects the coastal zone and/or any Area of Environmental Concern (AEC)? (Source: NCDOT ATLAS Screening, April 2025)	☐	☒
18	Does the project require a U.S. Coast Guard (USCG) permit? (Source: NCDOT ATLAS Screening, April 2025)	☐	☒
19	Does the project involve Coastal Barrier Resources Act (CBRA) resources? (Source: NCDOT ATLAS Screening, April 2025)	☐	☒
20	Does the project involve construction activities in, across, or adjacent to a designated Wild and Scenic River? (Source: NCDOT ATLAS Screening, April 2025)	☐	☒
21	Does the project impact federal lands (e.g., U.S. Forest Service (USFS), USFWS, etc.) or Tribal Lands? (Source: NCDOT ATLAS Screening, April 2025)	☐	☒
22	Does the project involve any changes in access control to the interstate (modification or construction of an interchange)? (Source: N/A)	☐	☒
23	Does the project have a permanent adverse effect on local traffic patterns or community cohesiveness? (Source: Direct and Indirect Screening Tool, Dec. 2024)	☐	☒
24	Will maintenance of traffic or detours cause substantial disruption? (Source: N/A)	☐	☒
25	Is the project inconsistent with the NCDOT's federally approved 4-year STIP or NCDOT's BMIP, and where applicable, the Metropolitan Planning Organization's (MPO) Transportation Improvement Program (TIP)? (Source: N/A)	☐	☒
26	Does the project require the acquisition of lands under the protection of the Land and Water Conservation Fund, the Federal Aid in Fish Restoration Act, the Federal Aid in Wildlife Restoration Act, Tennessee Valley Authority (TVA), Tribal Lands, Dedicated Nature Preserves, or other unique areas or special lands that were acquired in fee or easement with public-use money and have deed restrictions or covenants on the property? (Source: NCDOT ATLAS Screening, April 2025)	☐	☒
27	Does the project involve Federal Emergency Management Agency (FEMA) buyout properties under the Hazard Mitigation Grant Program (HMGP)? (Source: NCDOT ATLAS Screening, April 2025)	☐	☒
28	Does the project "use" Section 4(f) property, and/or result in a *de minimis* determination? (Source: NCDOT ATLAS Screening, April 2025)	☐	☒
29	Is the project considered a Type I under the NCDOT Noise Policy? (Source: N/A)	☐	☒
30	Does the project impact VAD-enrolled property, or prime or important farmland soil, as defined by the Farmland Protection Policy Act (FPPA)? (Source: Direct and Indirect Screening Tool, Dec. 2024)	☐	☒

G. Additional documentation as required from Section F; documentation should address the context and intensity (or severity) of the impact. (Required for all questions marked 'Yes.')

Questions 1 & 8: Section 7 Coordination between NCDOT, FHWA and USFWS is ongoing. Repair and reconstruction activities are currently being considered under formal consultation with USFWS.

Question 11: The NCWRC (March 18, 2025) noted that the Cane River in the project area is a cool-water habitat that was severely degraded and aggraded by floodwater from Hurricane Helene. Habitat in this part of the river is not suitable for trout populations year-round. The trout moratorium should not apply to the repair work.

H. Categorical Exclusion Approval:

STIP Project No.	**Hurricane Helene Repairs to US 19W South**
WBS Element	18313.1100998
Federal Project No.	N/A

Prepared By:

6/29/2025
Date

DocuSigned by:
Adam Archual
1B895B5A16D241C...
Adam Archual
GFT

Prepared For: Chris Deyton, PE, Highway Division 13

Reviewed By:

7/2/2025
Date

Signed by:
Marissa Cox
78BFB0F95DD342E...
Marissa Cox, EPU, Western Regional Team Lead
North Carolina Department of Transportation

☐ **Approved**

- If NO grey boxes are checked in Section F, NCDOT approves the Type I or Type II Categorical Exclusion.

☑ **Certified**

- If ANY grey boxes are checked in Section F, NCDOT certifies the Type I or Type II Categorical Exclusion for FHWA approval.

7/2/2025
Date

Signed by:
CA084B4A6412432...
John Jamison, EPU, Unit Head
North Carolina Department of Transportation

FHWA Approved: For Projects Certified by NCDOT (above), FHWA signature required.

7/2/2025
Date

DocuSigned by:
E932DEEC5B6249F...
for Yolonda K. Jordan, Division Administrator
Federal Highway Administration

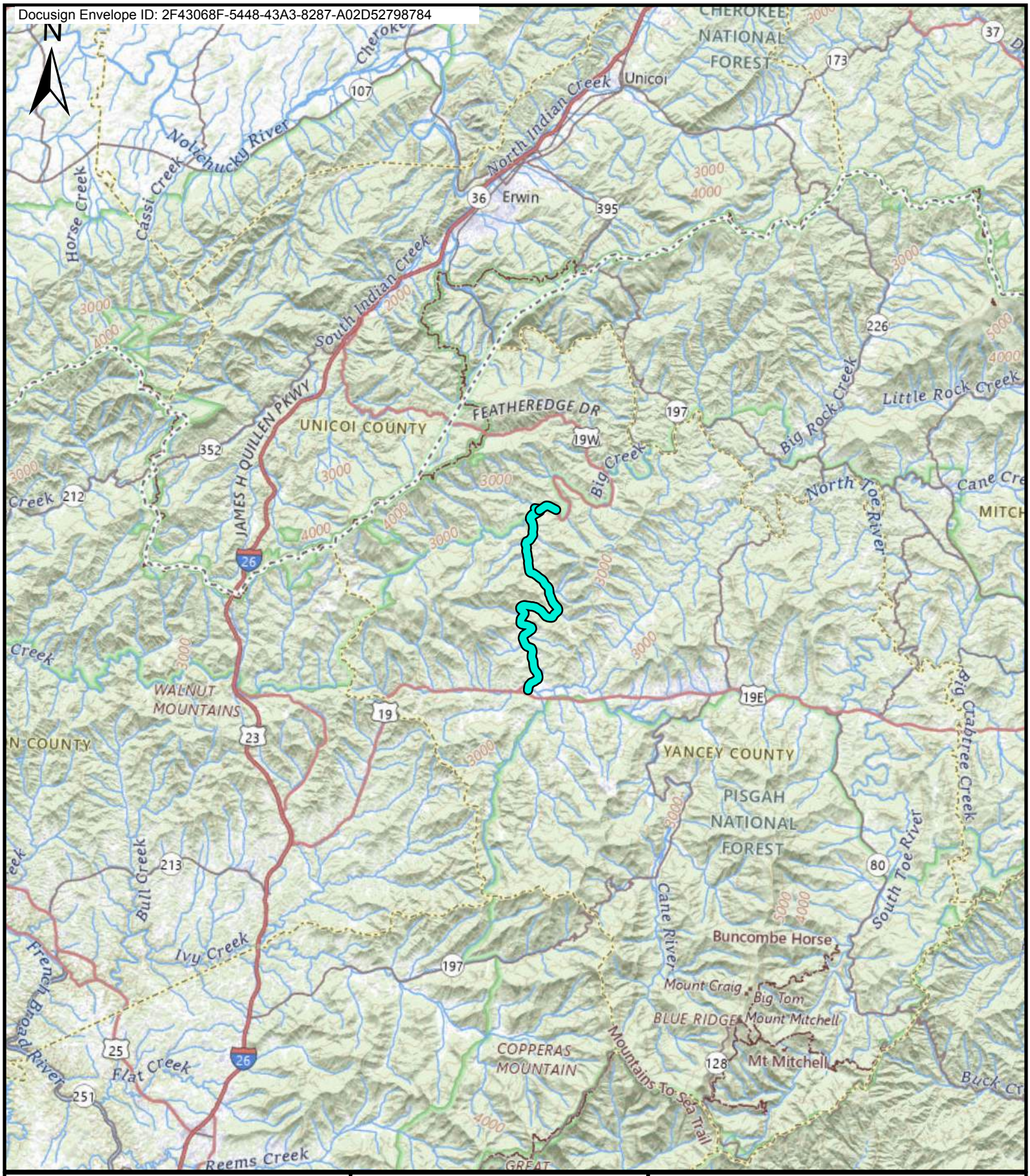
I. Project Commitments (attach as Green Sheet to CE Form):

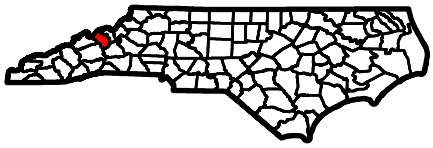
NCDOT PROJECT COMMITMENTS

STIP Project No. **Hurricane Helene Repairs to US 19W South**
Yancey County
Federal Aid Project No. N/A
WBS Element 18313.1100998

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

None



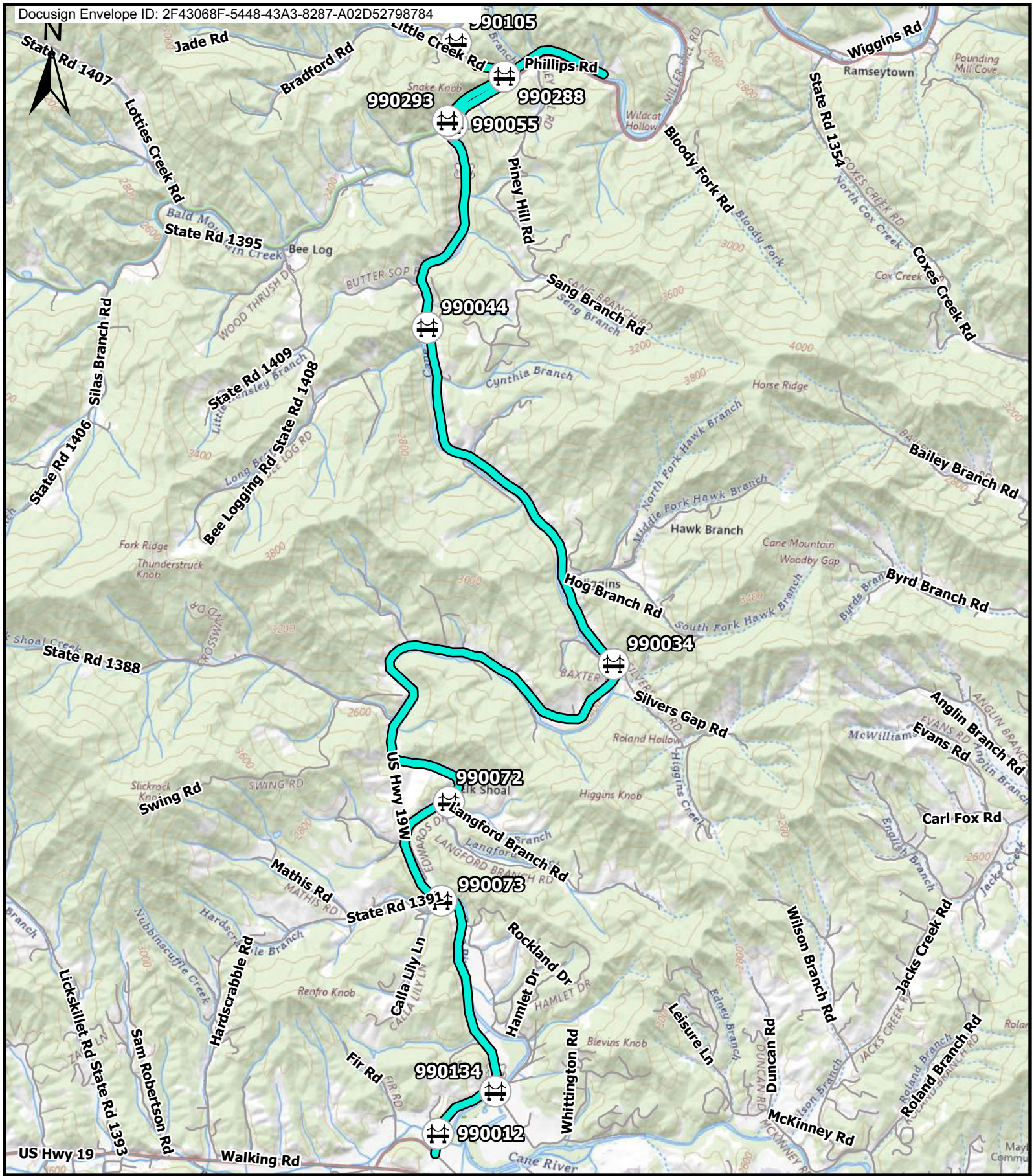


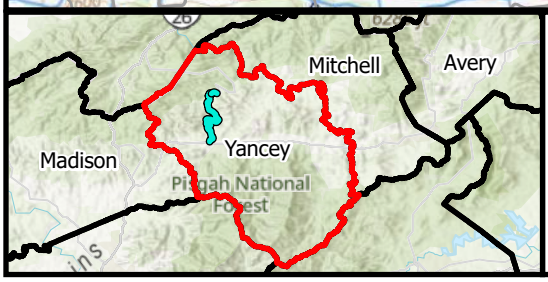
Project Limits

0 10,000 20,000 Feet

0 2.5 5 Miles

Figure 1. Project Vicinity Map
NCDOT Project No. 18313.1100998
Repairs to U.S. 19W South:
Cane River School Rd (S.R. 1454) to Piney Hill Rd (S.R. 1386)
Yancey County





Project Limits

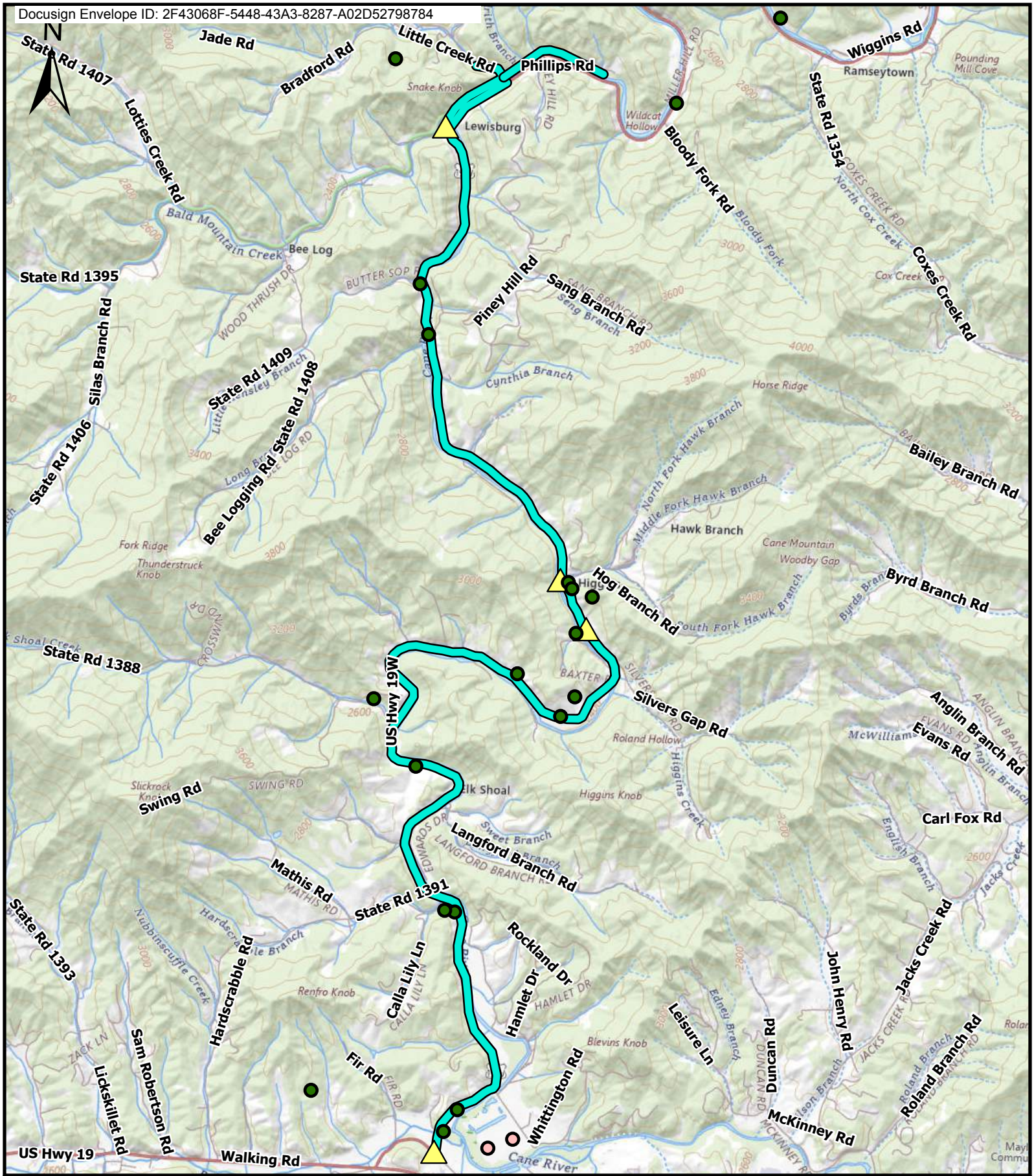
Bridge for Proposed Repair/ Replacement

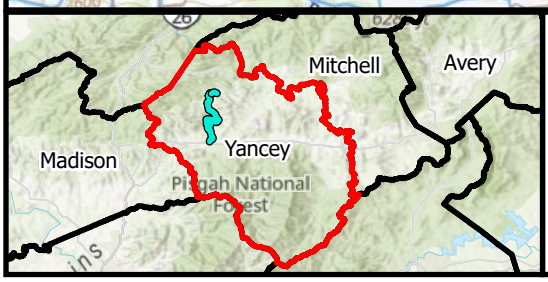
Rivers & Streams

0 2,500 5,000 Feet

0 0.5 1 Miles

Figure 2. Project Location Map
NCDOT Project No. 18313.1100998
Repairs to U.S. 19W South:
Cane River School Rd (S.R. 1454) to Piney Hill Rd (S.R. 1386)
Yancey County





Geoenvironmental Sites of Concern
Parks/Conservation Land
Potential Historic Resources
Project Limits
Rivers & Streams

0 2,500 5,000 Feet

0 0.5 1 Miles

Figure 3. Environmental Features Map
NCDOT Project No. 18313.1100998
Repairs to U.S. 19W South:
Cane River School Rd (S.R. 1454) to Piney Hill Rd (S.R. 1386)
Yancey County