



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

JOSH STEIN  
GOVERNOR

July 1, 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 Permit and 401 Water Quality Certification** as the result of **Hurricane Helene** for the **Replacement of Bridge 600229** over **North Toe River** on SR 1357 (Toe River Rd.) in **Mitchell and Yancy Counties**, Division 13; WBS 18313.1100996.1.3.

Dear NCDOT Coordinators:

The North Carolina Department of Transportation (NCDOT) proposes the following project as the result of damage caused by Hurricane Helene in September 2024: Restoration of Bridge 229 over North Toe River.

**Approvals Requested:**

**404 Nationwide Permit 3.** Notification required due to 1) >0.02 ac of temporary access due to bridge causeway and 2) a biological conclusion of other than "No Effect."

**401 General Certification 8562.** Certificate of Coverage will be required from DWR because total temporary and permanent new impacts to streams are greater than or equal to 150 linear feet.

FHWA is the lead federal agency for this project.

**Brief Damage Summary and Current Temporary/ Emergency Structure:**

The previous pre-storm structure was a 1@41', 4@67' Reinforced Concrete Floor and Precast Prestressed Concrete Deck Panels on precast prestressed concrete girders. This structure was completely washed away by the storm.

A temporary rail-car bridge is currently serving SR 1357 downstream of the previous bridge.

**Proposed Replacement:**

A new 4-span, 315'-3"-long bridge will replace the damaged bridge, in the same location as the previous bridge. Spans are as follows: 1@79'-2.5", 2@78'-3.5", 1@79'-2.5' 45" Prestressed Concrete Girder with 8.5" concrete deck with spill through abutments.

The existing temporary bridge will continue to serve as temporary detour during construction.

The following phased construction is proposed:

*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

Phase 1:

- Install Ramp 1.
- Install Bent 1 Causeway.

Phase 2:

- Install Bent 2 Causeway with crane from Bent 1 Causeway.

Phase 3:

- Complete Bent 2 Causeway.
- Install temporary Work Bridge 1 & 2.
- Complete proposed bridge construction.

Phase 4:

- Remove temporary Work Bridge 1 & 2.
- Remove Bent 1 Causeway.
- Remove Ramp 1.

Phase 5:

- Install Causeway access from Bent 3 (East) Bank to Bent 2 Causeway.
- Remove Bent 2 Causeway.
- Remove causeway access from Bent 3 (East) Bank to Bent 2 Causeway.

Phase 6:

- Install Ramp 2.
- Install Demo Causeway with a crane.

Phase 7:

- Install temporary Work Bridge 3 & 4.
- Complete Demo.

Phase 8:

- Reduce size of Demo Causeway.
- Remove temporary Work Bridge 3 & 4.
- Remove Ramp 2.

Phase 9:

- Install causeway access from East Bank to Demo Causeway.
- Remove Demo Causeway.
- Remove causeway access from East Bank to Demo Causeway.

**Avoidance and Minimization:**

- The bridge length will be increasing and the number of spans decreasing resulting in an improved hydraulic opening.
- The proposed bridge will have no direct discharge into the creek.
- Stormwater runoff is discharged as far away from the stream and at the lowest velocities practicable.
- Bank stabilization is proposed to stabilize the stream banks.
- A riprap free zone will exist under the bridge.

**Proposed Activities in Streams:**

<b>Impact Site</b>	<b>Impact Category</b>	<b>Permanent Fill</b>	<b>Bank Stabilization</b>	<b>Temporary Impacts</b>	<b>Permit Proposed/ Impact Description</b>	
<b>North Toe River (Bridge 600229) (Sites 1 &amp; 2)</b>	Maintenance Exemption	--	--	--	--	
	Non-Notifying	--	--	--	--	
	<b>Notification Required (Not After the fact)</b>			Site 1: 113 lf	--	<b>NWP 3:</b> Bank stabilization is required adjacent to the proposed new bridge abutment (west bank).
			--	--	Site 1: 353 lf (0.476 ac) Site 2: 250 lf (0.324 ac)	<b>NWP 3:</b> Temporary access ramps and work pads are required for the construction of the new bridge.  Temporary impacts are required for the removal of the existing temporary bridge and construction of the new bridge.
		<b>Notification Required (After the fact)</b>	--	--	--	--
	<b>Totals:</b>	--	<b>113 lf</b>	<b>603 lf 0.80 ac</b>		

*The information above is provided in accordance with the "U.S. Army Corps of Engineers, Wilmington District's Information for Hurricane Helene Recovery and Repair Work Conducted by the North Carolina Department of Transportation in Waters of the U.S." dated February 10, 2025.*

## Endangered Species Act

Protected Species listed from IPaC<sup>1</sup> as of the date of this application:


Common Name	Habitat Present	Survey Dates	Biological Conclusion	FWS Concurrence Remarks
Gray bat	Yes	n/a	May Affect, Not Likely to Adversely Affect	Attached
Northern long-eared bat	Yes	n/a	May Affect, Not Likely to Adversely Affect	Attached
Tricolored bat	Yes	n/a	May Affect, Not Likely to Adversely Affect	Attached
Bog Turtle <sup>2</sup>	n/a	n/a	n/a	n/a
Eastern hellbender (Proposed) <sup>3</sup>	n/a	n/a	May Affect, Not Likely to Adversely Affect	Attached
Appalachian elktoe <sup>4</sup>	Yes	n/a	May Affect, Not Likely to Adversely Affect	Attached
Monarch butterfly (Proposed) <sup>3</sup>	n/a	n/a	May Affect, Not Likely to Adversely Affect	n/a
Small whorled pogonia <sup>5</sup>	No	4/1/25	May Affect, Not Likely to Adversely Affect	Attached
Virginia spiraea	Yes	4/1/25	May Affect, Not Likely to Adversely Affect	Attached

1 IPaC – Information for Planning and Consultation (US Fish and Wildlife Service)  
 2 Similarity of Appearance (Threatened); A species that is threatened due to similarity of appearance with another listed species and is listed for its protection.  
 3 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.  
 4 Project is located with Critical Habitat for this species.  
 5 There is no habitat for Small whorled pogonia specific to the bridge 229 project. Prior survey dates and biological conclusion are rendered for the comprehensive NC197 project.

## Historic Resources Summary (documentation included)

106 Topic	Findings	
Historic Architecture	Historic properties were identified by NCDOT architectural historians within or nearby the proposed action areas. There is No Effect associated with Bridge 229, see attached Effects Determination Form.	
Archaeology	No Surveys Required. See attached No Survey Required form.	
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	Received 4/24/2025
	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](mailto:maturchy@ncdot.gov) or (919) 707-6157.

Sincerely,  
 Digitally signed by  
  
 Michael Turchy

Michael A. Turchy  
 Environmental Coordination and Permitting Group Leader

ePCN

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](mailto: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 07/01/2026	4. DATE APPLICATION COMPLETE
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**(ITEMS BELOW TO BE FILLED BY APPLICANT)**

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

**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 / Bridge 229 / North Toe River / Toe River Rd. (SR 1357) / Mitchell and Yancey /Div 13/ DF18313.1100996.1.3

**NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY**

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

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

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

Latitude: 35.992523 °N      Longitude: -82.258102 °W

Address: Whitson Br

City:      Green      State:      NC      Zip:      28740  
                 Mountain

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

Section –                                  Township –                                  Range –  
County – Yancey County                  Project Area – 0.25 Acres                  State Tax Parcel ID –

17. DIRECTIONS TO THE SITE

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

NWP 3 Maintenance

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

Hurricane Helene for the Replacement of Bridge 600229 over North Toe River on SR 1357 (Toe River Rd.) in Mitchell and Yancey Counties, Division 13; WBS DF18313.1100996.1.3.

The destroyed pre-storm structure was a 1@41', 4@67' and is being replaced with 4-span, 315-foot-long bridge.

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

- The bridge length will be increasing and the number of spans decreasing resulting in an improved hydraulic opening.
- The proposed bridge will have no direct discharge into the creek.
- Stormwater runoff is discharged as far away from the stream and at the lowest velocities practicable.
- Bank stabilization is proposed to stabilize the stream banks.
- A riprap free zone will exist under the bridge.

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

To replace bridge 229 destroyed by Hurricane Helene.

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

(see instructions)

See Appendix B

**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.

- The bridge length will be increasing and the number of spans decreasing resulting in an improved hydraulic opening.
- The proposed bridge will have no direct discharge into the creek.
- Stormwater runoff is discharged as far away from the stream and at the lowest velocities practicable.
- Bank stabilization is proposed to stabilize the stream banks.
- A riprap free zone will exist under the bridge.

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, Monarch butterfly, Northern Long-Eared Bat, Tricolored bat, Virginia spiraea, Small whorled pogonia

ADDITIONAL AFFECTED SPECIES:

See included Section 7 USFWS BO Documentation.

The BO states a Biological Conclusion of Not Likely to Adversely Affect for listed species above; even those currently only proposed.

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 included Section 106 Documentation

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

07/01/2026

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.

**Appendix B.** Aquatic Resource Inventory:

<i>Aquatic Resource Name</i>	<i>State</i>	<i>Cowardin System</i>	<i>Cowardin Class</i>	<i>HGM Class</i>	<i>Local Waterway Name</i>	<i>Measurement Type</i>	<i>Measurement Amount</i>	<i>Measurement Units</i>	<i>Waters Type</i>	<i>Latitude</i>	<i>Longitude</i>
North Toe River	North Carolina			RIVERINE		Linear	1150	FOOT	DELIN.NOJD-404	35.992523	-82.258102

**Appendix C. Impact Inventory:**

<i>Water Name</i>	<i>Impact Name</i>	<i>Activity</i>	<i>Type of Material Being Discharged</i>	<i>Resource Type</i>	<i>Permanent Loss (Y/N)</i>	<i>Impact Duration</i>	<i>Amount Type</i>	<i>Proposed Length</i>	<i>Proposed Width</i>	<i>Proposed Amount</i>	<i>Amount Units</i>
North Toe River	Site 1 Fill Causeway	Discharge of fill material	Rip rap	Other	No	Temporary	Fill Area			0.296	Acres
North Toe River	Site 1 Fill Abutment	Discharge of fill material	Rip rap	River/Stream	Yes	Permanent	Fill Area	113	4	0.010376	Acres
North Toe River	Site 1 Fill Abutment	Discharge of fill material	Rip rap	River/Stream	No	Temporary	Fill Area	81	5	0.009298	Acres
North Toe River	Site 1 Fill Access Ramp	Discharge of fill material	Rip rap	River/Stream	No	Temporary	Fill Area	164	47	0.176951	Acres
North Toe River	Site 2 Fill Causeway	Discharge of fill material	Rip rap	Other	No	Temporary	Fill Area			0.206	Acres
North Toe River	Site 2 Fill Access Ramp	Discharge of fill material	Rip rap	River/Stream	No	Temporary	Fill Area	167	30.75	0.117889	Acres

**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.**

For Site 1, the temporary impacts for the proposed bridge causeway and proposed bridge abutment are coincident over the same length of stream. The temporary impacts for the proposed causeway are coincident for 78 linear feet of the permanent impacts for the proposed bridge abutment.

**Appendix H.** Supporting Information:

<i>Document Type</i>	<i>Document Created Date (YYYY-MM-DD)</i>	<i>Document Label</i>	<i>Information Source/Citation</i>	<i>Uploaded file name</i>
Historic Properties Cultural Resources Information	2026-06-12	SHPO Effects Form	NCDOT	25-03-0016EffectsForm_WP1_Signed.pdf
Threatened Endangered Species Report	2026-06-12	USFWS Final BO	NCDOT	25-165_25-166_NCDOT_Formal_197 N S_Final Signed_YanceyMitchellCo.pdf
Historic Properties Cultural Resources Information	2026-06-12	Tribal - Cherokee Nation	NCDOT	Cherokee Nation NCDOT COR 18313.1100996 NC 197 Toe River an.pdf
Threatened Endangered Species Report	2026-06-12	IPaC	NCDOT	IPaC_ Explore Location resources.pdf
Project Plans	2026-06-12	Permit Drawings	NCDOT	M-0572D_Bridge229_Permit Drawings_20260604.pdf
Historic Properties Cultural Resources Information	2026-06-30	No Archaeological Survey Required Letter	NCDOT	Mitchell 229 2026-06-19 No Archaeological Survey Required Form.pdf
Other Information	2026-06-30	Project Cover Letter	NCDOT	Mitchell 229 2026-07-01 Application Cover Letter.pdf

U.S. Army Corps of Engineers (USACE)

**PERMIT INFORMATION SHEET**

PERMIT FORM TYPE

ENG 6082

DATE RECEIVED

07/01/2026

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

U.S. Army Corps of Engineers (USACE)

**APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT – PARTNER APPENDIX**

For use of this form, see 33 CFR 325. The proponent agency is CECW-COR.

**AUTHORITIES:** The Department of Army Corps of Engineers (Corps) and partner entities have established a joint process for activities impacting jurisdictional waterways that require review and/or approval of both the Corps and its partners. Department of Army permits are required by Section 10 of the Rivers & Harbors Act of 1899 for any structure(s) or work in or affecting navigable waters of the United States and by Section 404 of the Clean Water Act for the discharge of dredged or fill materials into waters of the United States, including adjacent wetlands. This supplemental information is provided to the partner entity along with the standard regulatory forms.

**PARTNER INFORMATION**

<b>ORGANIZATION:</b> NC Division of Water Resources (DWR)	<b>PARTNER ID:</b>	<b>NAME AND CODE:</b> <b>Form Name:</b> NATIONWIDE/GENERAL/INDIVIDUAL PERMIT - DWR 401 Application Form NC Division of Water Resources Application Information <b>Form Code:</b> NCDWR 401
--	--------------------	---

In North Carolina, many activities covered by Nationwide and Regional General Permits, as well as Individual Permits, also require a 401 Water Quality Certification from the Division of Water Resources. To streamline the application process for both the U.S. Army Corps of Engineers (USACE) and the North Carolina Division of Environmental Quality (NCDEQ) - Division of Water Resources (DWR), we have collaborated on this joint application form.

This joint application form serves to fulfill reporting requirements for both agencies under Sections 401 and 404 of the Clean Water Act, and Section 10 of the Rivers and Harbor Act of 1899, for specific activities permitted through Nationwide Permits (NWP), Regional General Permits (RGP), and Individual Permits. The RRS is now the preferred method for submitting application information for these permits.

For questions, please contact the USACE at (910) 251-4633.

The Wilmington District and the North Carolina Department of Environmental Quality (NCDEQ) have collaborated to develop a Joint Permit Application (JPA) within the Regulatory Request System (RRS) for use with Nationwide Permits (NWP) and Regional General Permits (RGP), as well as, Individual Permits. This system functions similarly to previous versions of the Pre-Construction Notification form (also known as e-PCN). The RRS is an online platform that enables applicants to electronically upload and submit all required information to the reviewing agencies.

The RRS JPA fulfills the application and reporting requirements for both the U.S. Army Corps of Engineers (USACE) and NCDEQ for activities authorized under Sections 401 and 404 of the Clean Water Act, as well as Section 10 of the Rivers and Harbors Act of 1899.

Projects that fall within the North Carolina Division of Coastal Management (NCDWM) review area, will need to coordinate their application with NCDWM directly. To learn more, visit the [NCDWM website](https://www.deq.nc.gov/about/divisions/division-coastal-management).

USACE/NCDWR Joint Application Form for Nationwide Permits, Regional General Permits, and Individual Permits (along with corresponding Water Quality Certifications)

**\*\*PLEASE NOTE: THE SYSTEM IS STILL UNDER DEVELOPMENT, AND DATA CURRENTLY DOES NOT TRANSMIT ELECTRONICALLY TO NCDEQ'S DIVISION OF WATER RESOURCES (DWR). UNTIL FURTHER NOTICE, APPLICANTS MUST SUBMIT COMPLETED RRS JPA DOCUMENTS THROUGH [NCDEQ'S "PROJECT SUBMITTAL INTERIM FORM" WEBSITE](https://edocs.deq.nc.gov/Forms/Supplemental-Information-Form).\*\***  
[Additional Instructions](https://edocs.deq.nc.gov/WaterResources/Browse.aspx?dbid=0&startid=3890140)

**SUPPLEMENTAL INFORMATION COLLECTED**

**ADDITIONAL CONTACT INFORMATION - Property Owner**

- Is the owner the same as the applicant?
  - Yes

- Provide Primary Property Owner information
  - Please see the JPA\_ContactReport.xlsx to review the provided contact data.
- Provide Additional Property Owner information
  - Please see the JPA\_ContactReport.xlsx to review the provided contact data.

**PROCESSING INFORMATION -**

- Does the project involve maintenance dredging funded by the Shallow Draft Navigation Channel Dredging and Aquatic Weed Fund OR involve the distribution or transmission of energy or fuel (including natural gas, diesel, petroleum, or electricity)?
  - No
- Is this project connected with (American Rescue Plan Act) ARPA funding or S.L. 2023-134 (earmark)?
  - No
- Please select:
  - Not Applicable (Question not presented)
- Please provide the DWI ARPA Funding Project Number (ie: SRP-W-ARP-1234 or SRP-W-134-1234):  
 \*The DWI Funding Project number can be located on the "Letter of Intent to Fund" (LOIF) or "Offer and Acceptance Letter". If you do not know your DWI project #, please contact your DWI project manager or fund recipient (e.g., LGU).
  - Not Applicable (Question not presented)
- Is this a NC Division of Mitigation Services (NCDMS) Project? Note - Select Yes only if NCDMS is the applicant/co-applicant.
  - No
- Is this project a public transportation project?
  - Yes
- Is this a NC Department of Transportation (NCDOT) project?
  - Yes
- (NCDOT only) T.I.P. (Transportation Improvement Program) or state project number:
  - Not Applicable (Question not presented)
- (NCDOT only) WBS #
  - DF18313.1100996.1.3
- Application for NC Division of Water Resources (DWR) Certification.  
 Type(s) of approval sought from the DWR? (Select all that apply)
  - 401 Water Quality Certification
- Is this a modification OR new project with existing ID?
  - No
- Please provide the DWR ID number.
  - Not Applicable (Question not presented)

- Is the project located in any of NC's twenty coastal counties?
  - No
- Is the project located within a NC Division of Coastal Management (DCM) Area of Environmental Concern (AEC)?
  - Not Applicable (Question not presented)
- Is the project located in a designated trout watershed? [Learn more about Trout](https://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Trout.aspx)
  - No
- If yes, attach a copy of existing correspondence from the Wildlife Resource Commission Office.
  - Not Applicable (Question not presented)

**WATERS DETAILS -**

- Name of nearest waterbody? [Surface Water Lookup](https://experience.arcgis.com/experience/7073e9122ab74588b8c48ded34c3df55/)
  - North Toe River
- Does the proposed activity impact perennial or intermittent streams?
  - Yes
- Please ensure that the Aquatic Resource Inventory section includes all perennial and intermittent streams and be sure to identify them with appropriate Cowardin codes.  
(Click the Aquatic Resources Inventory in the menu on the left to navigate to that section.)

Note: Use the Cowardin Code "R2 or R3" for perennial. Use Cowardin Code "R4" for intermittent.

\*\*If no code provided, waters will be assumed to be perennial.\*\*

- Not Applicable (Question not presented)

**NON-JD IMPACT DETAILS - NOTE: Questions only appear in this section when 'Non-404 Jurisdictional Waters Permit' has been included among the Type(s) of approval sought from the DWR.**

- Will the project result in impacts to Non-404 JD waters?
  - Not Applicable (Question not presented)
- Please ensure that the associated Non-404 Jurisdictional Waters have been entered in the Aquatic Resource Inventory section of the Permit Application. Use the Aquatic Resource Type of "DELIN.NOJD-404".  
(Click the "Aquatic Resources Inventory" option in the menu on the left to navigate to that section.)
  - Not Applicable (Question not presented)

**BUFFER IMPACTS AND MITIGATION SUMMARY - Additional impacts and mitigation not previously covered in this application: Buffers**

- Will project occur in an area subject to state riparian buffer regulations?
  - No
- Will project result in any impacts within a protected riparian buffer?
  - Not Applicable (Question not presented)

- Which protected basin(s) is the project located within?
  - Not Applicable (Question not presented)
  
- Other Protected Basin
  - Not Applicable (Question not presented)
  
- Are the buffer regulations implemented by a delegated local government?
  - Not Applicable (Question not presented)
  
- Please specify which local government.
  - Not Applicable (Question not presented)
  
- Impact Details
  - Please see the JPA\_DynamicTableReport.xlsx to review the provided data.
  
- Total Temporary Buffer Impacts
  - Not Applicable (Question not presented)
  
- Total Permanent Buffer Impacts
  - Not Applicable (Question not presented)
  
- Total Combined Buffer Impacts
  - Not Applicable (Question not presented)
  
- Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?
  - Not Applicable (Question not presented)
  
- If yes, you must fill out this entire section - please contact DWR for more information.  
 Identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required in the table below.
  - Please see the JPA\_DynamicTableReport.xlsx to review the provided data.
  
- How is buffer mitigation proposed to be met?
  - Not Applicable (Question not presented)
  
- If payment to mitigation bank or NCDMS, attach a valid statement of availability or DMS acceptance letter. OR Attach mitigation plan for review.
  - Not Applicable (Question not presented)

**STORMWATER MANAGEMENT PLAN -**

- Does this project disturb >1 acre of land?
  - Yes
  
- Is this an NCDOT project subject to compliance with NCDOT's Individual NPDES permit NCS000250?
  - Yes
  
- Is this project subject to review and approval under a state post-construction stormwater program (DEMLR) or state-approved local government stormwater program?
  - Not Applicable (Question not presented)

- What entity has reviewed/is reviewing the Stormwater Management Plan?
  - Not Applicable (Question not presented)
- What is the Stormwater Management Plan status?
  - Not Applicable (Question not presented)
- Does this project meet the requirements for low density projects as defined in 15A NCAC 02H.1003(2)? For details on how Low Density Projects are characterized, click the help icon.
  - Not Applicable (Question not presented)
- For low density projects, submit documentation including built-upon area (BUA) delineation, percent BUA calculations, stormwater drainage plan, and designs for vegetated conveyances.
  - Not Applicable (Question not presented)
- For all High Density projects submit a Stormwater Management Plan that includes stormwater control measures for water quality treatment.
  - Not Applicable (Question not presented)

**STORMWATER MANAGEMENT IN BUFFERED BASINS - All stormwater generated from high ground within regulated buffer basins must be in compliance with the stormwater management requirements of the applicable buffer rules.**

**NOTE: Questions only appear in this section when 'Will project occur in an area subject to state riparian buffer regulations?' is answered Yes.**

- Does the project comply with the stormwater management requirements of the applicable buffer rules?
  - Not Applicable (Question not presented)
- Please explain why the project does not comply.
  - Not Applicable (Question not presented)

**ENVIRONMENTAL DOCUMENTATION -**

- Is an environmental document required under NCEPA (01 NCAC 25 .0100)?
  - Yes
- Has the document review been finalized by the State Clearing House?
  - No
- Comments
  - NEPA documentation attached (CE)
- Attach a copy of the SEPA final approval document.
  - Not Applicable (Question not presented)

**VIOLATIONS -**

- Is the site in violation of DWR Water Quality Certification Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), or DWR Surface Water or Wetland Standards or Riparian Buffer Rules (15A NCAC 2B .0200)?

- No

- Please explain.

- Not Applicable (Question not presented)

**CUMULATIVE IMPACTS -**

- Will this project (based on past and reasonably anticipated future impacts) result in additional development?

- No

- Provide a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWR policy. [Learn more about Cumulative Impact Policy]([https://files.nc.gov/ncdeq/Water%20Quality/Surface%20Water%20Protection/401/Policies\\_Guides\\_Manuals/CumulativeImpactPolicy.pdf](https://files.nc.gov/ncdeq/Water%20Quality/Surface%20Water%20Protection/401/Policies_Guides_Manuals/CumulativeImpactPolicy.pdf))

- Not Applicable (Question not presented)

- If not, provide a short narrative description.

- Replacement of pre-existing bridge destroyed by Hurricane Helene.

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[Additional Instructions](<https://edocs.deq.nc.gov/WaterResources/Browse.aspx?dbid=0&startid=3890140>)

# Permit Drawings



North Carolina Department of Transportation

Highway Stormwater Program  
**STORMWATER MANAGEMENT PLAN**  
 FOR NCDOT PROJECTS



(Version 3.02; Released April 23, 2024)

**WBS Element:** 18313.1100996    **TIP/Proj No:** M-0572D    **County(ies):** Yancey Mitchell    **Page** 1 **of** 2

**General Project Information**

<b>WBS Element:</b>	18313.1100996	<b>TIP Number:</b>	M-0572D	<b>Project Type:</b>	Other	<b>Date:</b>	5/5/2026
<b>NCDOT Contact:</b>	Michael Turchy		<b>Contractor / Designer:</b>		Joshua G. Dalton, PE		
<b>Address:</b>	Environmental Analysis Unit 1000 Birch Ridge Drive Raleigh, NC 27610		<b>Address:</b>	5400 Etta Burke Ct, Suite 100 Raleigh, NC 27606			
<b>Phone:</b>	(919)707-6157		<b>Phone:</b>	(919)859-2243			
<b>Email:</b>	maturchy@ncdot.gov		<b>Email:</b>	jdalton@sungatedesign.com			
<b>City/Town:</b>	Relief		<b>County(ies):</b>	Yancey	Mitchell		
<b>River Basin(s):</b>	French Broad		<b>CAMA County?</b>	No	No		
<b>Wetlands within Project Limits?</b>	No						

**Project Description**

<b>Project Length (lin. miles or feet):</b>	337 ft.	<b>Surrounding Land Use:</b>	Rural; Mountainous
<b>Proposed Project</b>		<b>Existing Site</b>	
<b>Project Built-Upon Area (ac.)</b>	0.3 ac.		0.1 ac.
<b>Typical Cross Section Description:</b>	SR 1357: 2 paved lanes (20' total), 4' paved shoulder on each side. See project typical for detail.		SR1357: Railroad car bridge with guardrail. 2 paved lanes (18' total)
<b>Annual Avg Daily Traffic (veh/hr/day):</b>	<b>Design/Future:</b> 700	<b>Year:</b> 2023	<b>Existing:</b> 700 <b>Year:</b> 2023

**General Project Narrative:  
 (Description of Minimization of Water  
 Quality Impacts)**

The North Carolina Department of Transportation (NCDOT) has proposed a disaster relief project to replace Bridge #600229 over the North Toe River. The bridge is located between Toe River Rd. (SR 1336) and B.E. Miller Rd. The pre-storm structure was a 1@41', 4@67' Reinforced Concrete Floor and Precast Prestressed Concrete Deck Panels on precast prestressed concrete girders. This structure was destroyed during Hurricane Helene. Currently, this crossing is serviced by a temporary rail car bridge. Any remnants of the pre-storm structure will be removed and replaced with a 1@79'-2.5", 2@78'-3.5", 1@79'-2.5' 45" Prestressed Concrete Girder with 8.5" concrete deck with spill through abutments. Excavation beneath the proposed bridge was kept to a minimum to produce as little impact as possible. To avoid direct discharge of bridge stormwater into North Toe River, deck drains are not required for the proposed bridge. The runoff from the bridge will flow into grated inlets outside of the existing top bank. Any stormwater discharge entering the jurisdictional stream will be at non-erosive velocities.

Additional slope stabilization and scour protection measures have been applied in areas deemed necessary from the SRH-2D model using Rain On Grid discharges provided by a NCDOT watershed model. These measures are intended to protect the existing slopes extending into the North Toe River from eroding during large flood events. Please see the impact summary table attached to this permit package.



North Carolina Department of Transportation

Highway Stormwater Program  
**STORMWATER MANAGEMENT PLAN**  
 FOR NCDOT PROJECTS



(Version 3.02; Released April 23, 2024)

WBS Element: 18313.1100996    TIP/Proj No.: M-0572D    County(ies): Yancey Mitchell    Page 2 of 2

**General Project Information**

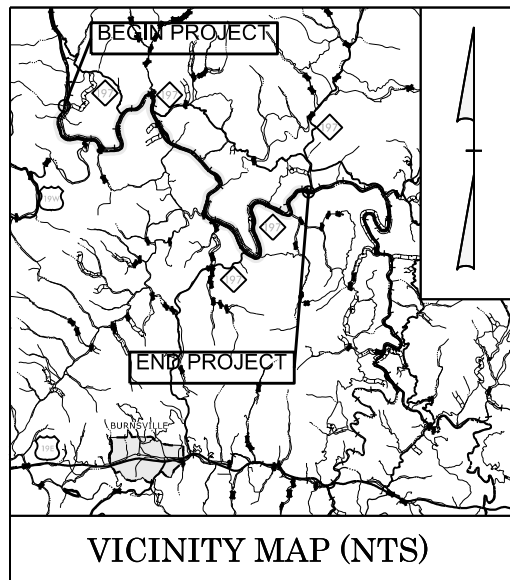
**Waterbody Information**

Surface Water Body (1):	North Toe River		NCDWR Stream Index No.:	7-2-(58.5)	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class B		
	Supplemental Classification:		Trout Waters (Tr)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	Yes	Comments: Within FWS-defined critical habitat for federally endangered Appalachian Elktoe and Eastern Hellbender.			
NRTR Stream ID:	North Toe River		Buffer Rules in Effect:	N/A	
Project Includes Bridge Spanning Water Body?	Yes	Deck Drains Discharge Over Buffer?	N/A		Dissipator Pads Provided in Buffer?
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (2):			NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body	Primary Classification:				
	Supplemental Classification:				
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?		Comments:			
NRTR Stream ID:			Buffer Rules in Effect:		
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?			Dissipator Pads Provided in Buffer?
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (3):			NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body	Primary Classification:				
	Supplemental Classification:				
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?		Comments:			
NRTR Stream ID:			Buffer Rules in Effect:		
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?			Dissipator Pads Provided in Buffer?
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

See Sheet 1A For Index of Sheets



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**PERMIT DRAWING  
SHEET 1 OF 6**

**DATE: 6/4/2026**

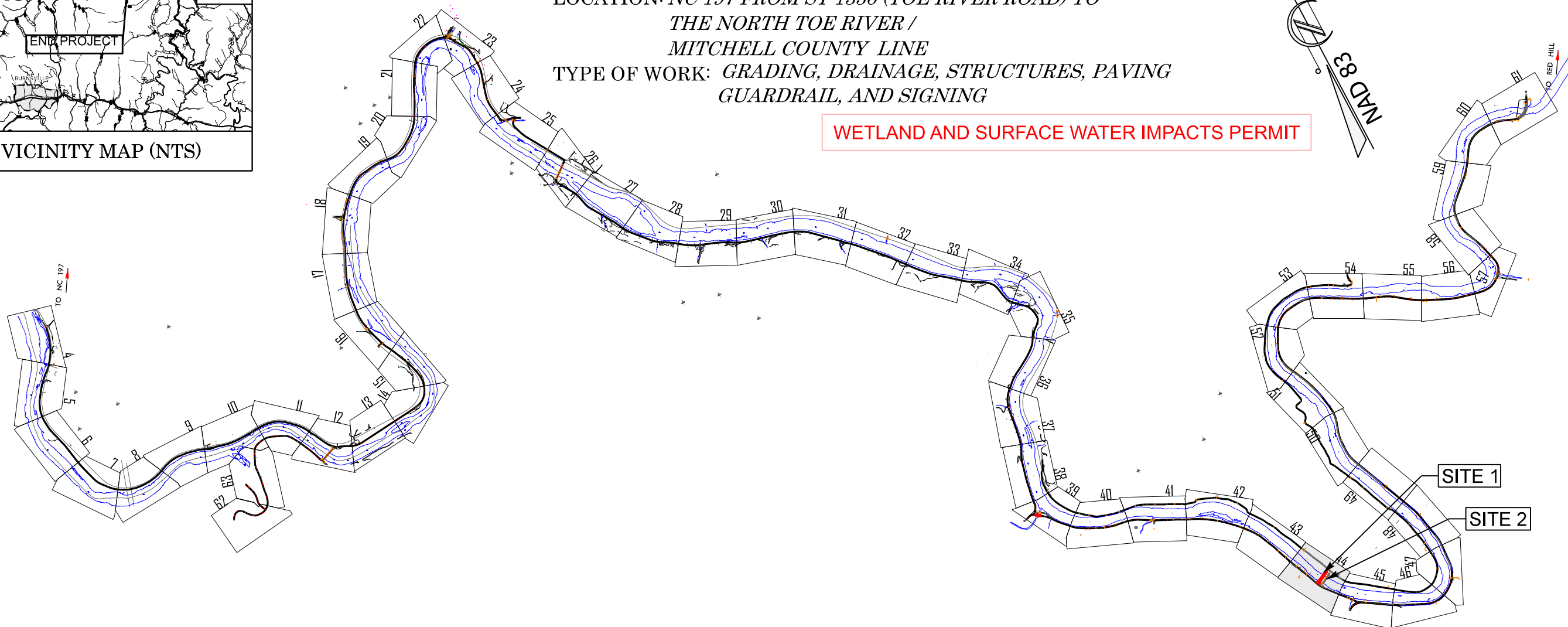
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	M-0572D	11	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
18313.1100996.1.2	ER24387	P.E.	

**MITCHELL & YANCEY COUNTIES**

LOCATION: NC 197 FROM ST 1336 (TOE RIVER ROAD) TO  
THE NORTH TOE RIVER /  
MITCHELL COUNTY LINE

TYPE OF WORK: GRADING, DRAINAGE, STRUCTURES, PAVING  
GUARDRAIL, AND SIGNING

**WETLAND AND SURFACE WATER IMPACTS PERMIT**



SITE 1

SITE 2

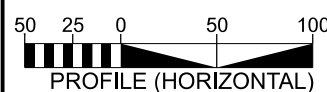
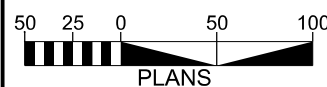
**INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION**  
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

CLEARING ON THIS PROJECT SHALL BE PERFORMED  
TO THE LIMITS ESTABLISHED BY METHOD \_\_\_.

**CONTRACT: TIP PROJECT: M-0572D**

**CONTRACT: TIP PROJECT: M-0572D**

GRAPHIC SCALES



Prepared in the Office of:  
**Michael Baker International**  
2024 STANDARD SPECIFICATIONS  
Michael Baker Engineering, Inc.  
8000 Regency Parkway, Suite 600  
Cary, NC 27518  
Professional Corporation License Number:  
F-1084

RIGHT OF WAY DATE:

LETTING DATE:

TODD H. BUCKNER, P.E.  
PROJECT ENGINEER

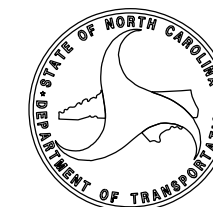
JUSTIN BLACKMAN  
PROJECT DESIGN ENGINEER

NC DOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.  
ROADWAY DESIGN ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.



PERMIT DRAWING  
SHEET 2 OF 6  
DATE: 6/4/2026

M-05720  
20-2  
NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
MITCHELL &  
YANCEY COUNTIES

ROADWAY DESIGN UNIT  
ROADWAY DESIGN  
ENGINEER

HYDRAULICS  
ENGINEER

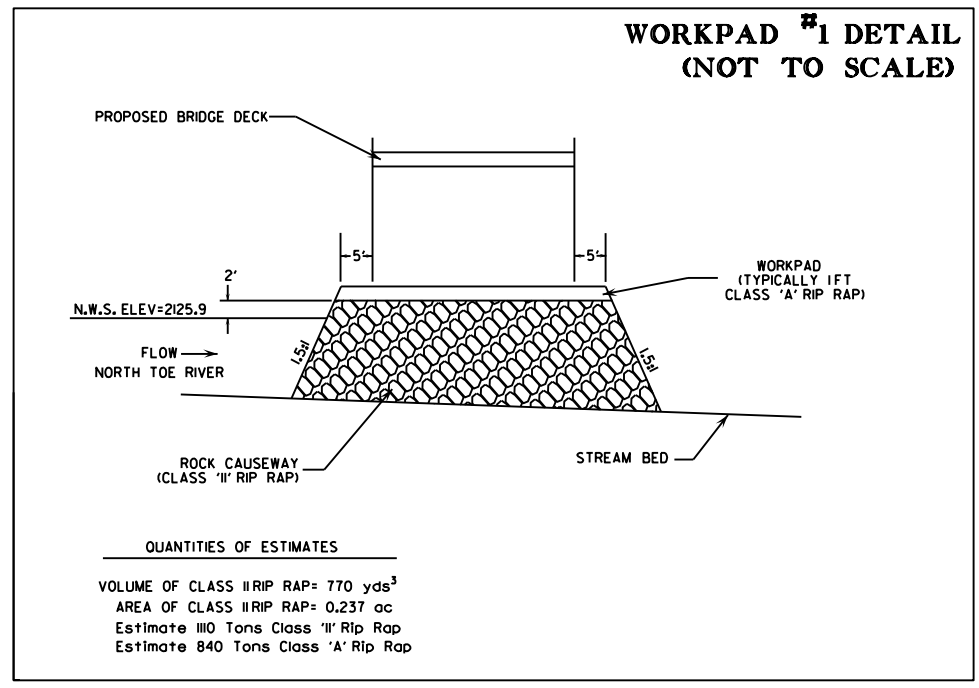
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Ames Construction

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REVISIONS



# PERMIT DRAWING SHEET 3 OF 6

DATE: 6/4/2026

M-0572D

044

NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
MITCHELL &  
YANCEY COUNTIES

ROADWAY DESIGN UNIT  
ROADWAY DESIGN  
ENGINEER

HYDRAULICS  
ENGINEER

PREPARED BY

**Michael Baker**

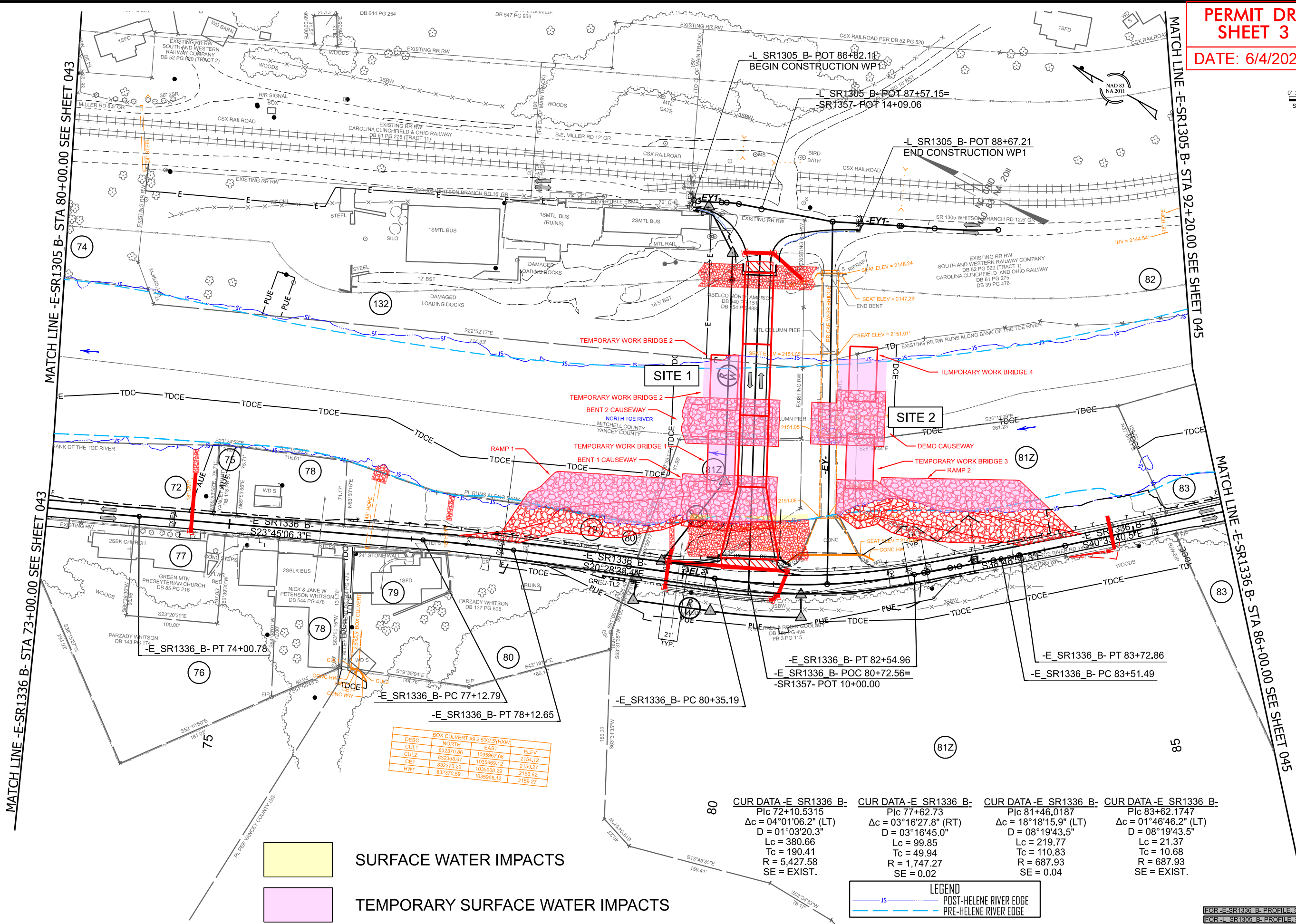
**INTERNATIONAL  
SUNGATE**

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UNLESS ALL SIGNATURES COMPLETED

REVISIONS

0' 20' 100'  
Scale: 1" = 100'



BOX CULVERT #9 2.5'X2.5'(HXW)			
DESC	NORTH	EAST	ELEV
CUL1	832370.86	1035967.88	2154.12
CUL2	832368.67	1035968.18	2158.27
CE1	832370.29	1035968.29	2156.62
HW1	832370.59	1035968.12	2159.27

80	CUR DATA-E SR1336 B- P/c 72+10.5315	CUR DATA-E SR1336 B- P/c 77+62.73	CUR DATA-E SR1336 B- P/c 81+46.0187	CUR DATA-E SR1336 B- P/c 83+62.1747
	$\Delta c = 04^{\circ}01'06.2''$ (LT)	$\Delta c = 03^{\circ}16'27.8''$ (RT)	$\Delta c = 18^{\circ}18'15.9''$ (LT)	$\Delta c = 01^{\circ}46'46.2''$ (LT)
	$D = 01^{\circ}03'20.3''$	$D = 03^{\circ}16'45.0''$	$D = 08^{\circ}19'43.5''$	$D = 08^{\circ}19'43.5''$
	$Lc = 380.66$	$Lc = 99.85$	$Lc = 219.77$	$Lc = 21.37$
	$Tc = 190.41$	$Tc = 49.94$	$Tc = 110.83$	$Tc = 10.68$
	$R = 5,427.58$	$R = 1,747.27$	$R = 687.93$	$R = 687.93$
	SE = EXIST.	SE = 0.02	SE = 0.04	SE = EXIST.

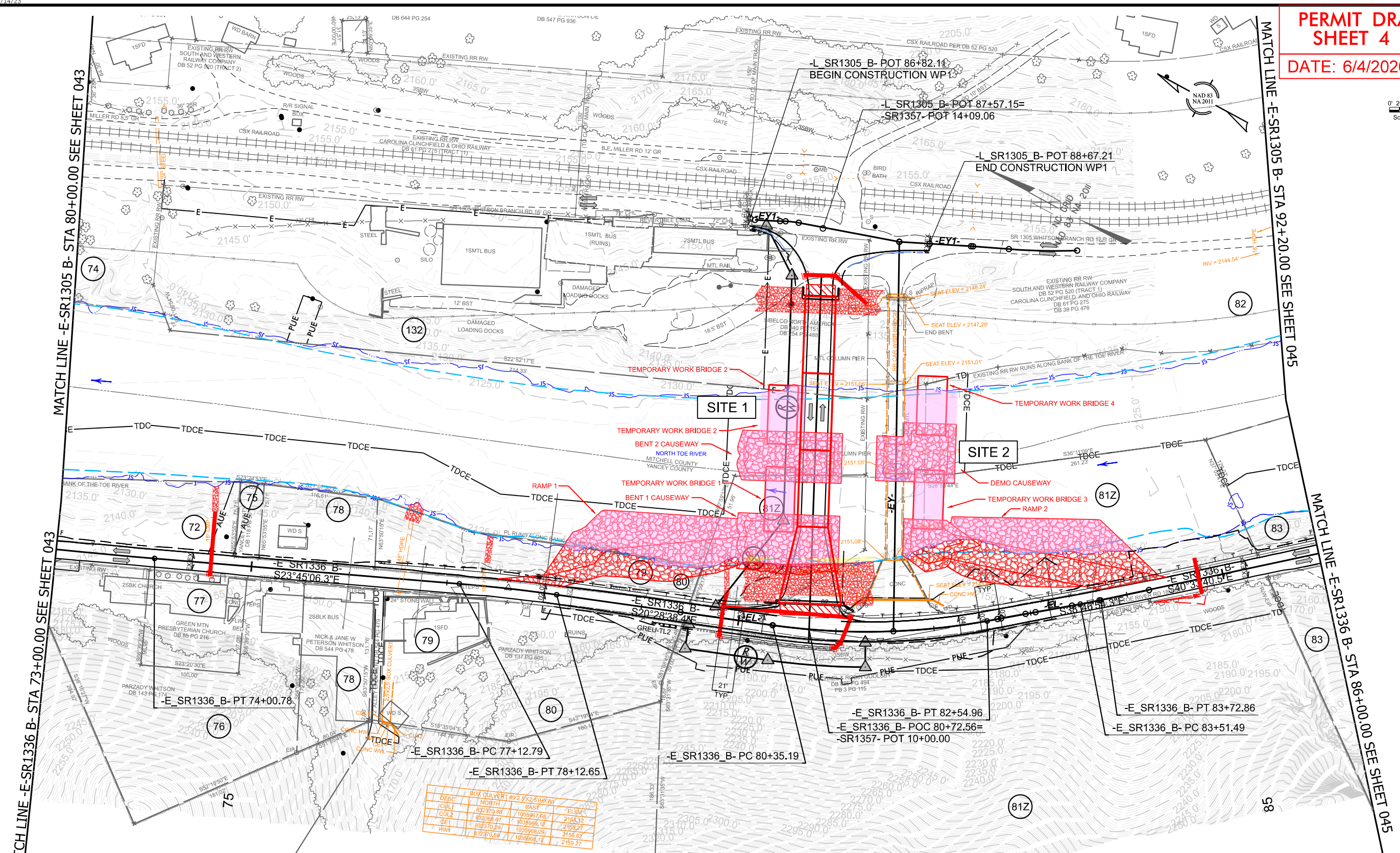
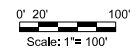
**LEGEND**

- JS POST-HELENE RIVER EDGE
- PRE-HELENE RIVER EDGE

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

FOR E-SR1336 B-PROFILE, SEE SHEET 086  
 FOR L-SR1305 B-PROFILE, SEE SHEET 101  
 FOR E-SR1357-PROFILE, SEE SHEET 101



DESC	BOX CULVERT #9/2 5'X3.5' (HW)	ELEV
CUL1	NORTH	215.0
CUL2	832370.88	1035967.68 / 2154.12
CE1	832368.87	1035968.12 / 2159.27
HW1	832370.29	1035969.22 / 2156.62
	832370.59	1035968.12 / 2159.27

CUR DATA-E SR1336 B- Plc 72+10.5315	CUR DATA-E SR1336 B- Plc 77+62.73	CUR DATA-E SR1336 B- Plc 81+46.0187	CUR DATA-E SR1336 B- Plc 83+62.1747
$\Delta c = 04^{\circ}01'06.2''$ (LT)	$\Delta c = 03^{\circ}16'27.8''$ (RT)	$\Delta c = 18^{\circ}18'15.9''$ (LT)	$\Delta c = 01^{\circ}46'46.2''$ (LT)
D = 01'03'20.3"	D = 03'16'45.0"	D = 08'19'43.5"	D = 08'19'43.5"
Lc = 380.66	Lc = 99.85	Lc = 219.77	Lc = 21.37
Tc = 190.41	Tc = 49.94	Tc = 110.83	Tc = 10.68
R = 5,427.58	R = 1,747.27	R = 687.93	R = 687.93
SE = EXIST.	SE = 0.02	SE = 0.04	SE = EXIST.

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

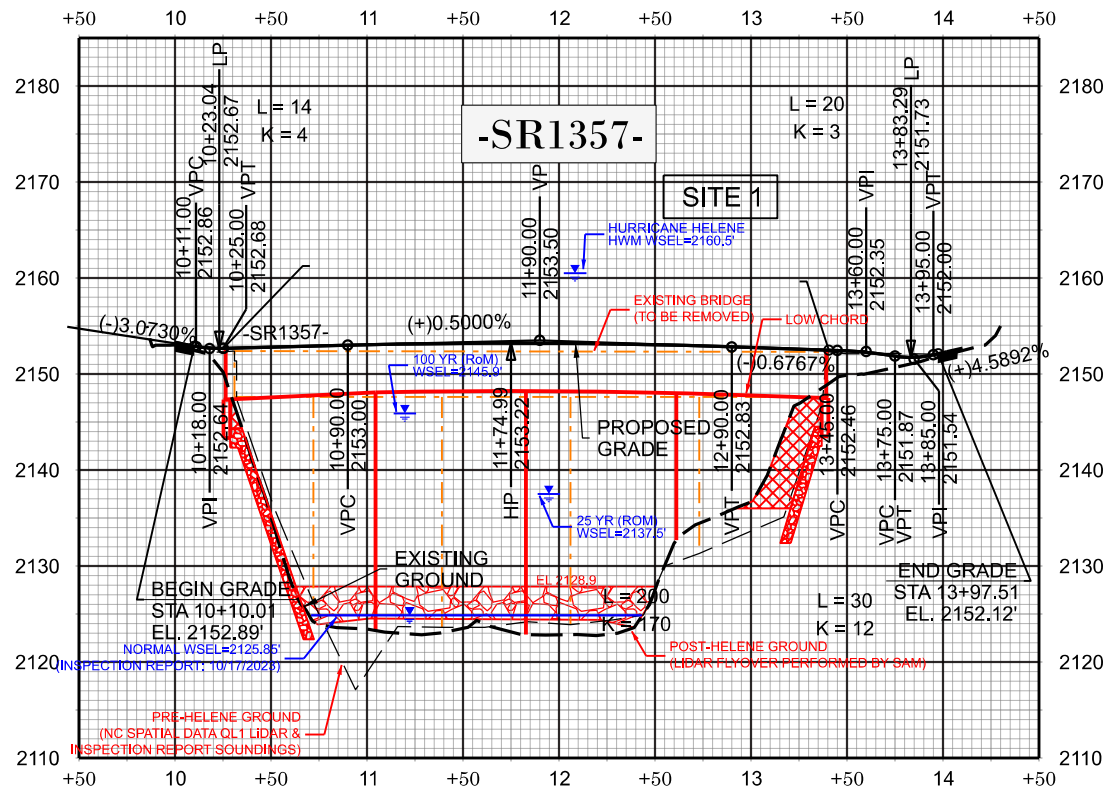
**LEGEND**

POST-HELENE RIVER EDGE

PRE-HELENE RIVER EDGE

FOR E-SR1336 B-PROFILE, SEE SHEET 043  
 FOR L-SR1305 B-PROFILE, SEE SHEET 101  
 FOR E-SR1357-PROFILE, SEE SHEET 101

FOR-E SR1305 C-PLAN, SEE SHEET 054



- BRIDGE 229 CAUSEWAY CONSTRUCTION SEQUENCING**
- PHASE 1**
    - INSTALL RAMP 1.
    - INSTALL BENT 1 CAUSEWAY.
  - PHASE 2**
    - INSTALL BENT 2 CAUSEWAY WITH A CRANE FROM BENT 1 CAUSEWAY.
  - PHASE 3**
    - COMPLETE BENT 2 CAUSEWAY.
    - INSTALL TEMPORARY WORK BRIDGE 1 & 2.
    - COMPLETE PROPOSED BRIDGE CONSTRUCTION.
  - PHASE 4**
    - REMOVE TEMPORARY WORK BRIDGE 1 & 2.
    - REMOVE BENT 1 CAUSEWAY.
    - REMOVE RAMP 1.
  - PHASE 5**
    - INSTALL CAUSEWAY ACCESS FROM BENT 3 (EAST) BANK TO BENT 2 CAUSEWAY.
    - REMOVE BENT 2 CAUSEWAY.
    - REMOVE CAUSEWAY ACCESS FROM BENT 3 (EAST) BANK TO BENT 2 CAUSEWAY.
  - PHASE 6**
    - INSTALL RAMP 2.
    - INSTALL DEMO CAUSEWAY WITH A CRANE.
  - PHASE 7**
    - INSTALL TEMPORARY WORK BRIDGE 3 & 4.
    - COMPLETE DEMO.
  - PHASE 8**
    - REDUCE SIZE OF DEMO CAUSEWAY.
    - REMOVE TEMPORARY WORK BRIDGE 3 & 4.
    - REMOVE RAMP 2.
  - PHASE 9**
    - INSTALL CAUSEWAY ACCESS FROM EAST BANK TO DEMO CAUSEWAY.
    - REMOVE DEMO CAUSEWAY.
    - REMOVE CAUSEWAY ACCESS FROM EAST BANK TO DEMO CAUSEWAY.
- NOTES:**
- PLEASE REFER TO EITHER PERMIT DRAWING SHEET 3 OR 4 FOR LABELS CORRESPONDING TO THE CAUSEWAY AND WORK BRIDGE NUMBER REFERENCED IN THE ABOVE SEQUENCING.
  - DISREGARD THE PROFILE REPRESENTATION OF THE CAUSEWAY ON THIS SHEET AND REFER TO EITHER PERMIT DRAWING SHEET 3 OR 4 WHEN GOING THROUGH THE ABOVE CONSTRUCTION SEQUENCE.

REVISIONS

FOR-E SR1357-PLAN, SEE SHEET 044

**WETLAND AND SURFACE WATER IMPACTS SUMMARY**

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	78+12 to 81+38	PROPOSED BRIDGE CAUSEWAY							0.296		108	
	-SR1336_B- LT	PROPOSED BRIDGE ABUTMENT						0.010	0.009	113	81	
		PROPOSED BRIDGE ACCESS RAMP							0.171		164	
2	81+43 to 84+15	EXISTING BRIDGE CAUSEWAY							0.206		83	
	-SR1336_B- LT	EXISTING BRIDGE ACCESS RAMP							0.118		167	
<b>TOTALS*:</b>			<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.01</b>	<b>0.80</b>	<b>113</b>	<b>603</b>	<b>0</b>

\*Rounded totals are sum of actual impacts

NOTES:

For Site 1, the temporary impacts for the proposed bridge causeway and proposed bridge abutment are coincident over the same length of stream. The temporary impacts for the proposed causeway are coincident for 78 linear feet of the permanent impacts for the proposed bridge abutment.

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 06-04-2026  
 YANCEY COUNTY  
 NC-197N  
 18313.1100996

# ESA Consultation

## Biological and Conference Opinion

### Repair Portions of N.C. Highway 197 South & North Sections and Portions of Intersecting Roadways Damaged by Tropical Storm Helene in Mitchell and Yancey Counties, North Carolina

Service Log #25-165 (South), #25-166 (North)  
NCDOT #18313.1100997 (South), #18313.1100996 (North)



Prepared by:

U.S. Fish and Wildlife Service  
Asheville Ecological Services Office  
160 Zillicoa Street  
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**GARY PEEPLES** Digitally signed by GARY PEEPLES  
Date: 2026.06.11 11:38:24 -04'00'

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

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*Some of the information and analyses considered in this document were prepared under the version of the 50 CFR part 402 regulations in effect prior to the Court's order in Center for Biological Diversity v. Burgum, No. 24-cv-04651 (N.D. Cal., March 30, 2026), which vacated aspects of four provisions from the 50 CFR part 402 regulations governing interagency consultation under section 7 of the Endangered Species Act and reinstated the provisions that were previously in effect. We have reviewed this information and analyses, including but not limited to, the consultation request package, and confirmed that the content of that information and those analyses, including the identification and analyses of effects, would be the same under either version of the applicable regulations.*

## Consultation History

- **March 14, 2025:** Consultant, on behalf of North Carolina Department of Transportation (NCDOT) submitted scoping request letter via email for NC 197 project to U.S. Fish and Wildlife Service (Service) and other resource agencies.
- **March 26, 2025:** Service provided scoping response comments to consultant via email.
- **August 20, 2025:** NCDOT submitted Biological Assessments (BAs) for the NC 197 north and south sections to Service for review and Service provided verification of receipt.
- **August 20, 2025:** NCDOT shared prioritization order of several TS Helene response formal consultations, placing US 19W ahead of NC 197.
- **January 21, 2026:** Service requested that additional information be provided in the NC 197 north and south section BAs in order to be considered complete.
- **February 26, 2026:** NCDOT provided revised BA for NC 197 north section.
- **April 1, 2026:** NCDOT provided revised BA for NC 197 south section.
- **April 8-9, 2026:** Service requested additional information from NCDOT and complete information was provided.
- **April 9, 2026:** Service provided NCDOT with notice that BAs considered complete on April 9, 2026, indicating official start of formal consultation on that date.
- **May 7, 2026:** Service provided NCDOT with draft Biological Opinion (BO) for review prior to finalization.
- **May 21, 2026:** NCDOT provided comments and updated impact amounts for the draft BO.
- **June 5, 2026:** Service provided NCDOT with updated draft BO for review.
- **June 9, 2026:** NCDOT provided responses to needed information for BO review.

## 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 two disjunct sections of N.C. Highway 197 and adjoining roadways (NC 197, south and north sections) separated by approximately 11 roadway miles. (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.

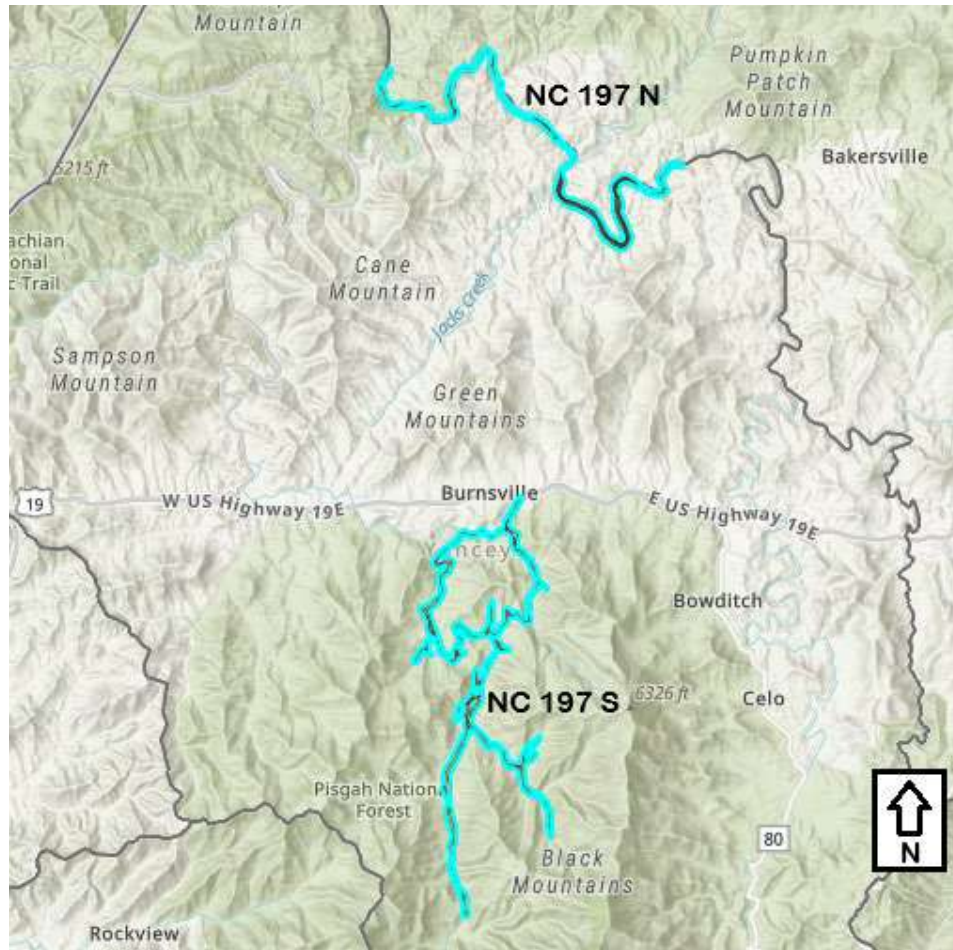


Figure 1. Overview of action area project location

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).

NE Determinations

*Blue Ride Goldenrod	( <i>Solidago spithamaea</i> )	Threatened
*Roan Mountain Bluet	( <i>Hedyotis prupurea var. montana</i> )	Endangered
*Carolina Northern Flying Squirrel	( <i>Glaucocoms sabrinus coloratus</i> )	Endangered
*Spreading Avens	( <i>Geum radiatum</i> )	Endangered
Rock Gnome Lichen	( <i>Gymnoderma lineare</i> )	Endangered
*North section only		

The NE determinations are based on the absence of suitable habitat within the action area, as described in the Biological Assessment (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	( <i>Isotria medeoloides</i> )	Threatened
Virginia spiraea	( <i>Spiraea virginiana</i> )	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 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 habitat condition and the negative results from partial botanical surveys, we concur with the determination that the project is NLAA small whorled pogonia.

The NLAA determination for Virginia spiraea is based on avoidance and minimization of effects on a known occurrence of the plant within the action area. NC Natural Heritage Program (NCNHP) Element Occurrence (EO) 42 occurs at the base of the slope adjacent to the North Toe River (Figure B10) and was observed by a NCNHP biologist on January 13, 2026 to have live stems. Given the occurrence of the plant in relation to the planned work, NCDOT has committed to install and maintain high visibility exclusionary fencing at the top of the riverbank to avoid impacts to the population. The closest proposed work will be approximately 270 feet of roadway reconstruction on Whitson Branch Road northeast of the railroad at-grade crossing. The proposed repair work will not include work to the riverbank and the high visibility fencing at the top of the bank is expected to aid with avoidance of impacts to the population. NCNHP EO 41 is located upriver from EO 42 and is also within the project’s action area. No plant was observed during surveys by NCNHP biologist on January 13, 2026 or by NCDOT surveys in June of 2025. NCDOT will survey both EOs again during the next optimal survey season and, should plants be observed at EO 41, that location will similarly have exclusionary fencing placed around the plant to ensure avoidance of impacts from proposed work. Based on the incorporated measures that will reduce any potential adverse effects to a discountable level, meaning that they are extremely unlikely to occur, we concur with the determination that the proposed work is NLAA Virginia spiraea.

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 that states 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 NC 197 corridor and intersecting roadways and the effects on the federally endangered: Appalachian elktoe (*Alasmidonta raveneliana*) and its designated critical habitat, gray bat (*Myotis grisescens*), and northern long-eared bat (*Myotis septentrionalis*); 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 project action area is described below. The action area includes portions of roadway repair-related work such as tree-clearing, grading, and excavation adjacent to the roadway itself; the waterbodies adjacent to the roadways; and off-site borrow and/or waste areas. See Figure 1 above for action area overview and Figures A1-B11 for road corridor sections.

**NC 197 South Section:** This section includes approximately eleven miles of NC 197 south from E. Main Street in Burnsville to Ewart Wilson Road in Murchinson, as well as nineteen miles of nineteen connected state roadway routes in Yancey County, North Carolina (NC). Those roadways are: Wid Smith Road, Bolens Creek Road, Concord Church Road, Toodies Creek Road, Powell Road, Ray Mine Road, Bee Branch Road, Moody Mountain Road, Hollifield Road, Riverview Road, Pensacola School Road, Cattail Creek Road, Ewart Wilson Road, Rocky Fork Road, Walt Road, Winter Star Road, Deep Gap Road, Heavenly Lane, and Ray Farm Road.

NC 197 North Section: This section includes approximately eighteen miles of roadway consisting of Hunt Dale Road from Sams Branch Road to NC 197 in Mitchell County, NC 197 from Hunt Dale Road to Relief Road and from Toe River Road to Stephen Lane in Yancey County, Toe River Road from the community of Relief to NC 197 in Yancey County, Relief Road from the community of Relief to NC 197 in Mitchell County, and Whiston Branch Road from the maintenance limits to Whitson Branch in Mitchell County.

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. Named waterbodies within the action area are: Nine miles of the Cane River, two miles of Bowlens Creek, 0.5 mile of Bee Branch, 0.5 mile of Toodies Creek, and 2.3 miles of Cattail Creek are within the 197 South section action area; and 11.75 miles of the North Toe River and 1.3 river miles of the Nolichucky River are within the 197 North section action area.

Forty-six crossing structures [eight bridges and 18 culverts (with suitable bat roosting features) in the 197 south section and seven bridges plus and 13 culverts (with suitable bat roosting features) in the 197 north section] will be repaired or replaced within the described roadway corridor action area. See Tables 1-4 for crossing structure identification and Figures A1-B11 for general location depictions.

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





*Figures 2-4. 2025 Images of temporarily repaired portions of NC 197 within action area. Photos courtesy of Dave McHenry and NCDOT.*

## 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 NC 197 corridor and connecting roadways described above. Seven bridges in the 197 north section and eight bridges in the 197 south section, as well as 13 culverts (with dimensions  $\geq 3$  feet diameter x 60 feet in length) in the north section and 18 culverts 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 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 June 2026 and be completed in approximately 2.5 years.

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.

NC 197 South Section (Figures A1-A14):

An estimated fifteen acres of work impacting rivers/streams will occur. Approximately 6.5 acres are associated with river re-establishment (described below in Section 2.2.2) and 2.5 acres are associated with bank stabilization activities and bridge reconstruction, including the placement of temporary work pads. Bridge crossing impacts are expected to remain at or below 0.35 acre per structure. Up to six additional acres of impacts to waterbodies may occur. This could be in the form of: temporary impacts associated with construction access and equipment crossings of the streambed that may occur; or, because ongoing hydraulic modeling may indicate the need for additional bank stabilization at some locations along the corridor that were overtopped during TS Helene, these areas are currently proposed as resurfacing only but may require supplemental stabilization measures depending on the final modeling results.

Estimated bank stabilization to occur along roadway embankments, as provided by NCDOT and depicted in the figures (A1-A14) is:

- 48,000 linear feet (LF) – includes areas depicted as “Full Reconstruction”.
  - 9,200 LF of associated in-stream work for bank stabilization.
    - 4,450 LF of which occurs within river re-establishment sections
  - 38,800 LF won’t involve in-stream work.

#### NC 197 North Section (Figures B1-B11):

An estimated twelve acres of work impacting rivers/streams will occur. Six of these acres are primarily associated with bank stabilization activities and bridge reconstruction, including the placement of temporary work pads. Bridge crossing impacts are expected to remain at or below 0.35 acre per structure; however, Mitchell County Bridge 229 may exceed this threshold due to site-specific conditions and could include impacts up to one acre. The other six acres of aquatic impacts may occur in the form of: temporary impacts associated with construction access and equipment crossings of the streambed; or, because ongoing hydraulic modeling may indicate the need for additional bank stabilization at some locations along the corridor that were overtopped during TS Helene, these areas are currently proposed as resurfacing only but may require supplemental stabilization measures depending on the final modeling results.

Estimated bank stabilization to occur along roadway embankments, as provided by NCDOT and depicted in the figures (B1-B11) is:

- 20,000 LF – includes areas depicted as “Full Reconstruction”.
  - 10,000 LF of which is associated in-stream work for bank stabilization.
  - 10,000 LF of which won’t involve in-stream work.

More detailed descriptions of several project elements are described below.

#### 2.2.1 Full Reconstruction

As depicted in Figures A1-B11, much of the NC 197 south and north 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. NCDOT will install revetment to stabilize streambanks adjacent to roadways. Stone rip-rap is the preferred revetment treatment though partially grouted rip rap (PGR) will be utilized in areas identified as vulnerable to water velocities and shear stress as determined by hydraulic modeling for the design storm. The construction of retaining walls on the river side of the road is not anticipated though cannot be ruled out completely. Retaining walls constructed upslope from the roadway are likely in areas not yet specified. 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.

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 to re-establish stable geomorphology while protecting adjacent roadway embankments from future instability. Estimated river re-establishment will occur within a total of 6.5 acres spread across multiple locations within the NC 197 south section where channel instability, storm damage, or encroachment on the roadway has resulted in departures from natural channel form (Figures A1-A14). 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. 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 within river re-establishment areas 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.

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.

### 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, one location has a sizable clearing area. The Temporary Disaster Construction Easement (TDCE) as indicated in Figure A13 will include partial tree clearing so the area can be used for staging, equipment storage/refueling, and other project construction-related needs. Following construction, the disturbed areas will be stabilized and restored using native seeding, erosion control matting, live staking, and revegetation with native species as outlined in the measures listed in section 2.3.

Approximately 24.5 acres of tree clearing will occur within the action area. Preliminary clearing limits include 21 acres in the NC 197 south section and 3.5 acres in the NC 197 north section.

### 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 for the NC 197 south section will be commercially sourced and fill material for the NC 197 north section will be a combination of on-site sourcing, sourcing from the nearby US 19W project, and commercially sourced materials. Placement will be managed to the maximum extent practicable to minimize aquatic and terrestrial impacts. Erosion and sediment control measures will be implemented in accordance with applicable state and federal requirements to reduce off-site sediment transport and to stabilize disturbed areas as quickly as practicable following construction.

### 2.2.5 Crossing Structures

The action area contains fifteen bridges damaged or destroyed by the TS Helene flooding that are addressed in this consultation. These bridges will either be replaced or repaired, according to need. Each bridge (eight in the NC 197 south section and seven in the NC 197 north section) is listed in Tables 1 and 2, respectively. Work impacting bridges may occur any time of year. Within the NC 197 south section, three other bridges damaged/destroyed during TS Helene were consulted on previously and are not included in this consultation. Those Yancey County bridge numbers and corresponding Service Log #s are: 135 (25-174), 136 (25-175), and 287 (25-176).

The action area also contains 31 culverts with dimensions suitable for bat roosting (per the NCDOT Standard Operating Procedures for Preliminary Bat Habitat Assessments). As noted in Table 3-4, there is one aluminum box culvert, one is asphalt-coated corrugated steel, one bottomless box culvert, five box culverts, four corrugated metal pipes (CMP), three high density polyethylene (HDPE/RCP), one polypropylene pipe, and 15 reinforced concrete pipes (RCP). 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. An exception is Mitchell County Bridge 229, which may exceed this threshold due to site-specific conditions, and could include impacts up to one acre. These impacts may be in the form of work pad causeways, bent removal and/or placement, and placement of stream-bank stabilization materials.

**Table 1. Bridges Within the NC 197 South Action Area**

Bridge Number	Facility Carrying	Waterbody Crossing	Status	Material	Biological Rationale Supporting Effect Determination for Bats
990046	NC197	Cattail Creek	Bridge intact	RC Deck and Girders	Reinforced concrete structure provides habitat for listed bats. Unable to determine demo or tree clearing time of year (TOY), Likely to Adversely Affect (LAA)
990051	NC197	Bowlens Creek	Bridge intact	Timber	Timber bridge does not provide habitat for listed bats. Bridge is timber on steel beams. Unable to determine tree clearing TOY, LAA
990098	SR1109	Bowlens Creek	Bridge intact	Timber	Timber bridge does not provide habitat for listed bats. Bridge is timber on steel beams. Unable to determine tree clearing TOY, LAA
990180	SR1179	Cane River	Bridge intact	Cored Slab	Reinforced concrete structure provides habitat for listed bats. Unable to determine demo or tree clearing TOY, LAA
990185	SR1198	Bowlens Creek	Bridge intact	Timber	Timber bridge does not provide habitat for listed bats. Bridge is timber on steel beams. Unable to determine tree clearing TOY, LAA
990054	SR1100	Falling Water Branch	Bridge intact	Cored Slab	Reinforced concrete structure provides habitat for listed bats. Unable to determine demo or tree clearing TOY, LAA
990253	SR1111	Toodies Creek	Bridge intact	Timber	Timber bridge does not provide habitat for listed bats. Bridge is timber on steel beams. Unable to determine tree clearing TOY, LAA
990040	NC197	Cane River	Bridge intact	RC Floor & PPC Deck Panels on PPC Girders	Reinforced concrete structure provides habitat for listed bats. Unable to determine demo TOY, LAA

*Yancey County Bridges 135, 136, and 287 also occur within the action area but were covered by a previous consultation.*

**Table 2. Bridges Within the NC 197 North Action Area**

Bridge Number	Facility Carrying	Waterbody Crossing	Status	Material	Biological Rationale Supporting Effect Determination for bats
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600143	SR 1304	North Toe River	Mostly intact	Concrete/Steel	Reinforced concrete structure provides habitat for listed bats. Unable to determine demo or tree clearing TOY, LAA
600164	NC 197	Pigeonroost Creek	Bridge intact	Timber	Timber bridge does not provide habitat for listed bats. Bridge is timber on steel beams. Unable to determine tree clearing TOY, LAA
600229	SR 1357	North Toe River	Mostly destroyed	Concrete/Steel	Single span remains. Reinforced concrete structure provides habitat for listed bats. Unable to determine demo or tree clearing TOY, LAA
990061	NC 197	North Toe River	Mostly intact	RC floor on concrete steel plate girders	Reinforced concrete structure provides habitat for listed bats. Unable to determine demo or tree clearing TOY, LAA
990078	SR 1338	North Toe River	Mostly intact	Cored Slab	Reinforced concrete structure provides habitat for listed bats. Unable to determine demo or tree clearing TOY, LAA
990171	SR 1336	Jacks Creek	Bridge intact	Reinforced Concrete Luten Arch	Reinforced concrete structure provides habitat for listed bats. Unable to determine demo or tree clearing TOY, LAA
990172	SR 1336	Pig Pen Creek	Mostly intact	Timber	Timber bridge does not provide habitat for listed bats. Bridge is timber on steel beams. Unable to determine tree clearing TOY, LAA

**Table 4. Culverts Within the NC 197 South Action Area**

<b>Culvert Number</b>	<b>Work Anticipated</b>	<b>Material</b>	<b>Dimension (feet)</b>	<b>Location</b>	<b>Biological Rationale Supporting Effect Determination for Bats</b>
MUR-26	Inlet/Outlet protection or full in-kind replacement depending on condition	Reinforced Concrete Pipe (RCP)	3.5 x 73	35.819999, -82.314120	Unable to determine repair/demo/tree clearing TOY, LAA
MUR-31	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	5 x 110	35.835114, -82.313296	Unable to determine repair/demo/tree clearing TOY, LAA
MUR-33	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	3.5 x 84	35.837264, -82.312038	Unable to determine repair/demo/tree clearing TOY, LAA
MUR-41	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	3.5 x 198	35.847961, -82.307514	Unable to determine repair/demo/tree clearing TOY, LAA

CNC-25	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	5.5 x 82	35.873289, -82.318945	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-30	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	6 x 64	35.888849, -82.317265	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-48	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	5 x 63	35.902729, -82.310433	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-54	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	3.5 x 94	35.904118, -82.300873	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-55	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	6 x 71	35.902851, -82.299398	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-58	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	4 x 61	35.860940, -82.329898	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-62	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	5.5 x 104	35.863906, -82.328003	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-63	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	5.5 x 69	35.865045, -82.327183	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-66	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	3.5 x 79	35.868437, -82.325133	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-67	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	3 x 103	35.868997, -82.324700	Unable to determine repair/demo/tree clearing TOY, LAA
Cattail #1	Inlet/Outlet protection or full in-kind replacement depending on condition	Aluminum Box Culvert	16 x 51	35.83421, -82.28781	Unable to determine repair/demo/tree clearing TOY, LAA
Cattail #2	Inlet/Outlet protection or full in-kind replacement depending on condition	High Density Polyethylene (HDPE)/RCP	4 x 65	35.839109, -82.294828	Unable to determine repair/demo/tree clearing TOY, LAA
Cattail #3	Inlet/Outlet protection or full in-kind replacement depending on condition	HDPE/RCP	3.5 x 60	35.840508, -82.296634	Unable to determine repair/demo/tree clearing TOY, LAA

Bolens #1	Inlet/Outlet protection or full in-kind replacement depending on condition	HDPE/RCP	4 x 90	35.880887, -82.292412	Unable to determine repair/demo/tree clearing TOY, LAA
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**Table 3. Culverts Within the NC 197 North Action Area**

<b>Culvert Number</b>	<b>Work Anticipated</b>	<b>Material</b>	<b>Dimension (feet)</b>	<b>Location</b>	<b>Biological Rationale Supporting Effect Determination for Bats</b>
BP-100-4045	Inlet/Outlet protection or full in-kind replacement depending on condition	Box Culvert	12 x 82	36.00474462, -82.2359087	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-2205	Inlet/Outlet protection or full in-kind replacement depending on condition	Asphalt Coated Corrugated Steel	5 x 67	36.03497417, -82.29663131	Unable to determine repair/demo/tree clearing TOY, LAA
MP-061-02394	Inlet/Outlet protection or full in-kind replacement depending on condition	CMP	3 x 62	36.00287945, -82.27222427	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-4112	Inlet/Outlet protection or full in-kind replacement depending on condition	Box Culvert	6 x 62	35.99621938, -82.25050122	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-4042	Inlet/Outlet protection or full in-kind replacement depending on condition	Bottomless Box Culvert	4 x 48	35.9884703, -82.25106147	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-2204	Inlet/Outlet protection or full in-kind replacement depending on condition	Circular Corrugated Steel	5 x 41	36.0319534, -82.29459846	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-4702	Inlet/Outlet protection or full in-kind replacement depending on condition	Reinforced Concrete Pipe	6 x 120	35.989044, -82.249503	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-2073	Inlet/Outlet protection or full in-kind replacement depending on condition	Concrete Box Culvert	6 x 44	35.99368464, -82.24919729	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-4044	Inlet/Outlet protection or full in-kind replacement depending on condition	Polypropylene pipe	3.5 x 68	36.005308, -82.241661	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-4071	Inlet/Outlet protection or full in-kind replacement depending on condition	Corrugated Steel	12 x 44	36.02774366, -82.28904502	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-4096	Inlet/Outlet protection or full in-kind replacement depending on condition	Concrete Box Culvert	3 x 40	36.00189401, -82.27232134	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-2189	Inlet/Outlet protection or full in-kind replacement depending on condition	Concrete Box Culvert	6 x 45	35.99079834, -82.25659643	Unable to determine repair/demo/tree clearing TOY, LAA
SR1305	Inlet/Outlet protection or full in-kind replacement depending on condition	Corrugated Steel	3 x 94	35.99119, -82.24966	Unable to determine repair/demo/tree clearing TOY, LAA

*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 1-4). Structure work 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.*

### 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 practicable.

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 practicable, 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 \$300,000 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 NC 197 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. 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).

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

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).

**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:

$\$5,470 \times 0.1 \text{ ac} = 547 \times 1.5$  (temporary affect multiplier) = \$820.50 contribution/structure

### 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, and tricolored bat 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/](https://ecos.fws.gov/ecp/)

#### 3.1 Appalachian Elktoe

<b>Scientific Name:</b>	<i>Alasmidonta raveneliana</i>
<b>Status:</b>	Endangered
<b>Date of Listing:</b>	November 23, 1994
<b>Critical Habitat:</b>	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

<b>Scientific Name:</b>	<i>Cryptobranchus alleganiensis alleganiensis</i>
<b>Status:</b>	Proposed Endangered
<b>Date of Proposed Listing:</b>	December 13, 2024
<b>Critical Habitat:</b>	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<sup>2</sup> 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 3<sup>rd</sup> 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

<b>Scientific Name:</b>	<i>Myotis grisescens</i>
<b>Status:</b>	Endangered
<b>Date of Listing:</b>	April 28, 1976
<b>Critical Habitat:</b>	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 (NCDOT, 2023b).

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 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

<b>Scientific Name:</b>	<i>Myotis septentrionalis</i>
<b>Status:</b>	Endangered
<b>Date of Listing:</b>	April 1, 2015 as Threatened; November 30, 2022 as Endangered
<b>Critical Habitat:</b>	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

<b>Scientific Name:</b>	<i>Perimyotis subflavus</i>
<b>Status:</b>	Proposed Endangered
<b>Date of Proposed Listing:</b>	September 14, 2022
<b>Critical Habitat:</b>	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 leaves. 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 (RPU), 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.

## 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, North Toe, and Nolichucky River drainages. The action area includes south and north sections as described in Section 2.1. The NC 197 south section roadway corridor occurs almost entirely within the Cane River valley, adjacent to NC 197 and several portions of intersecting streams and roadways. The NC 197 north section roadway corridor occurs almost entirely within the North Toe River valley, including areas adjacent to NC 197 with a short portion at its northern terminus occurring at the beginning of the Nolichucky River. 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).

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. Named waterbodies within the action area are: Approximately nine miles of the Cane River, two miles of Bowlens Creek, 0.5 mile of Bee Branch, 0.5 mile of Toodies Creek, and 2.3 miles of Cattail Creek are within the NC 197 south section action area; and 11.75 miles of the North Toe

River and 1.3 river miles of the Nolichucky River are within the NC 197 north section action area.

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 NC 197 south section connects the community of Pensacola and surrounding rural areas to Burnsville. The NC 197 north section connects small communities along the North Toe River valley, from Green Mountain near the eastern end to Hunt Dale near the western end. The storm and flooding resulted in extensive washouts of roadbeds, shoulders, and in some cases entire roadway portions. Bank and bedload scour was extreme in portions of the waterbodies, and in some areas channel re-routs occurred within the existing valleys. 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, there is no full hydrogeomorphic report addressing pre- and post-storm river conditions. 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 are two active National Pollutant Discharge Elimination System -permitted discharges located within the NC 197 south section, one associated with a quarry and one unspecified, both denoted as “non-major”; and one within the NC 197 north section associated with a quartz processing facility, also denoted as “non-major”.

In addition to the NCDOT’s proposed repair project for the NC 197 corridor and connecting roadways, 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 portion of the North Toe and Nolichucky Rivers that fall within the NC 197 north section 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 13 of those river miles occurring within this project's action area. The portions of critical habitat within the action area are considered degraded from pre-storm conditions due to the flooding, scour, and post-storm activities discussed above.

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 22.05 river miles of the Nolichucky, Cane, 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, Nolichucky, and North Toe 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 22.05 river miles (35,486 meters) within the action area, 355 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 within the action area (NC 197 south section) at Yancey County Bridge 046 to approximately two miles outside of the south section and five miles outside of the north section. At Bridge 046, one gray bat was observed roosting on the bridge in 2019 and again in 2020. Acoustic (2016) and hibernaculum observation (2014, single bat) records of northern long-eared bat occur approximately 2.7 miles north of the NC 197 north section and 0.5 miles west of the NC 197 south section, respectively. Several recent (2022-2025) tricolored bat records exist from multiple hibernacula observations approximately one to three miles from the NC 197 south section and another hibernaculum within 3.5 miles of the north section. Each hibernaculum site had records ranging from one to six tricolored bat observations.

Fifteen bridges and thirty-one 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 structures 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 are often concrete and  $\geq$  five feet in diameter. There are currently no culvert roosting records for northern long-eared bat in WNC, though culvert records for both species occur in other states. Records of tricolored bat roosting in bridges and culverts in WNC consist mainly of 1-2 individual(s) per culvert. The suitable bridge and culvert structures within the action area have not been recently 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. As mentioned in the preceding paragraph, a single gray bat was observed roosting at Yancey County Bridge 046 within the NC 197 south section action area in 2019 and 2020.

## 5. Effects of the Action

Under section 7(a)(2) of the ESA, "effects of the action" refers to the Effects of the action refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the 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. Indirect effects are those that are caused by the proposed action and are later in time but still are reasonably certain to occur. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. 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], some of which are also designated as Appalachian elktoe critical habitat. 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. Generally, disturbance of substrate material could negatively impact Appalachian elktoe or eastern hellbender that may occur in a particular location. More specifically, disturbance of 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 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 biologists and engineers 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, NCDOT anticipates using stone rip-rap in most applications and partially grouted rip rap (PGR) in areas identified as vulnerable to water velocities and shear stress as determined by hydraulic modeling for the design storm. Retaining walls are not planned but may be considered in final design. 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, habitat loss), or harassing individuals (such as disturbance).

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).

The river re-establishment work is expected to improve aquatic habitat in the long-term, notably for Appalachian elktoe.

### ***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).

## 5.4 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 NC 197 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, and tricolored bat, 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.

Effects of the action will occur as a result of the planned work, particularly bank stabilization involving in-water work, in-water work associated with river re-establishment, and repairing or replacing crossing structures that were functioning 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. This project will not affect Appalachian elktoe populations in the Cheoah, Little Tennessee, Tuckasegee, Pigeon, French Broad, Mills, and Little Rivers; and within the Nolichucky River watershed in which the action area occurs, the South Toe River will not be affected and much of the Nolichucky, though downstream, will be unaffected by the proposed work. The portion of the action area inhabited by Appalachian elktoe, approximately 22.05 river miles of parts of the Cane, Nolichucky, and North Toe Rivers, comprises about 13.5% of the range-wide occupied habitat. Within those 22.05 river miles within the action area, crossing structure construction activities will occur at fifteen bridge sites and 31 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, plus the potential for up to one acre of impact at Mitchell County Bridge 229, the total area of adverse effects from structure work is estimated to be within a range of 1.45 – 16.75 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 68,000 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. River re-

establishment activities will occur throughout an estimated 6.5 acres of in-channel work within the NC 197 south section action area and are expected to include harmful impacts on the species during construction, though the resulting habitat improvements are expected to benefit the species post-construction. Given that the entire action area accounts for an estimated 13.5% of the species range-wide occupied habitat, and harmful impacts will not occur throughout the entire action area, the geographic scope of impacts relative to the overall range is expected to be less than 13.5%. 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 9% 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 degraded condition of the habitat due to TS Helene flooding and subsequent response impacts; the information presented in the BA, including measures to minimize impacts and implement habitat improvement activities in target areas; and knowledge of the action area and surrounding portions of the 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 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 22.05 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 fifteen bridge sites and 31 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, plus the potential for up to one acre of impact at Mitchell County Bridge 229, the total area of adverse effects from structure work is estimated to be within a range of 1.45 – 16.75 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 68,000 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. River re-establishment activities will occur throughout an estimated 6.5 acres of in-channel work within the NC 197 south section 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.

## 7. Incidental Take Statement

Section 9 of the Endangered Species Act (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 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, with the exception of Mitchell County Bridge 229 which has an exceedance limit of one acre.
2. Bank stabilization activities exceed 68,000 linear feet.
3. River re-establishment areas exceed 6.5 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, with the exception of Mitchell County Bridge 229 which has an exceedance limit of one acre.
2. Bank stabilization activities exceed 68,000 linear feet.
3. River re-establishment areas exceed 6.5 acres.
4. Take of greater than one eastern hellbender 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 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 24.5 acres.
2. Any more than one structure is repaired/replaced per existing crossing structure listed as 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.

### 7.5 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. 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)(1) 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.

- **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 24, 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 at least 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 recommendations for bridges and culverts.
- **Structure Replacement:** 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.

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 original consultation request dated August 20, 2025. As provided in 50 CFR §402.16, reinitiation of formal consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (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](#)
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APPENDIX A – FIGURES

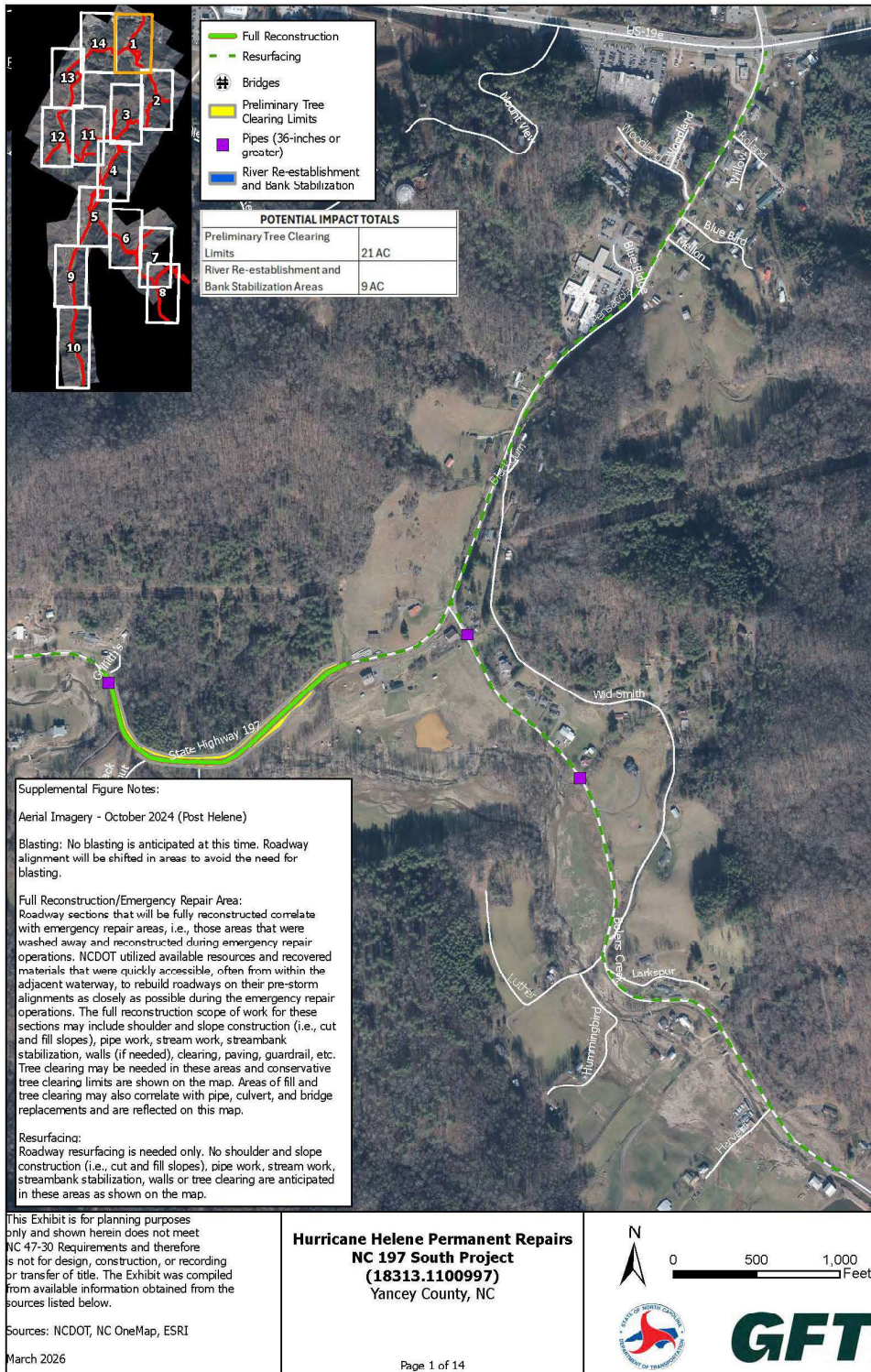


Figure A1

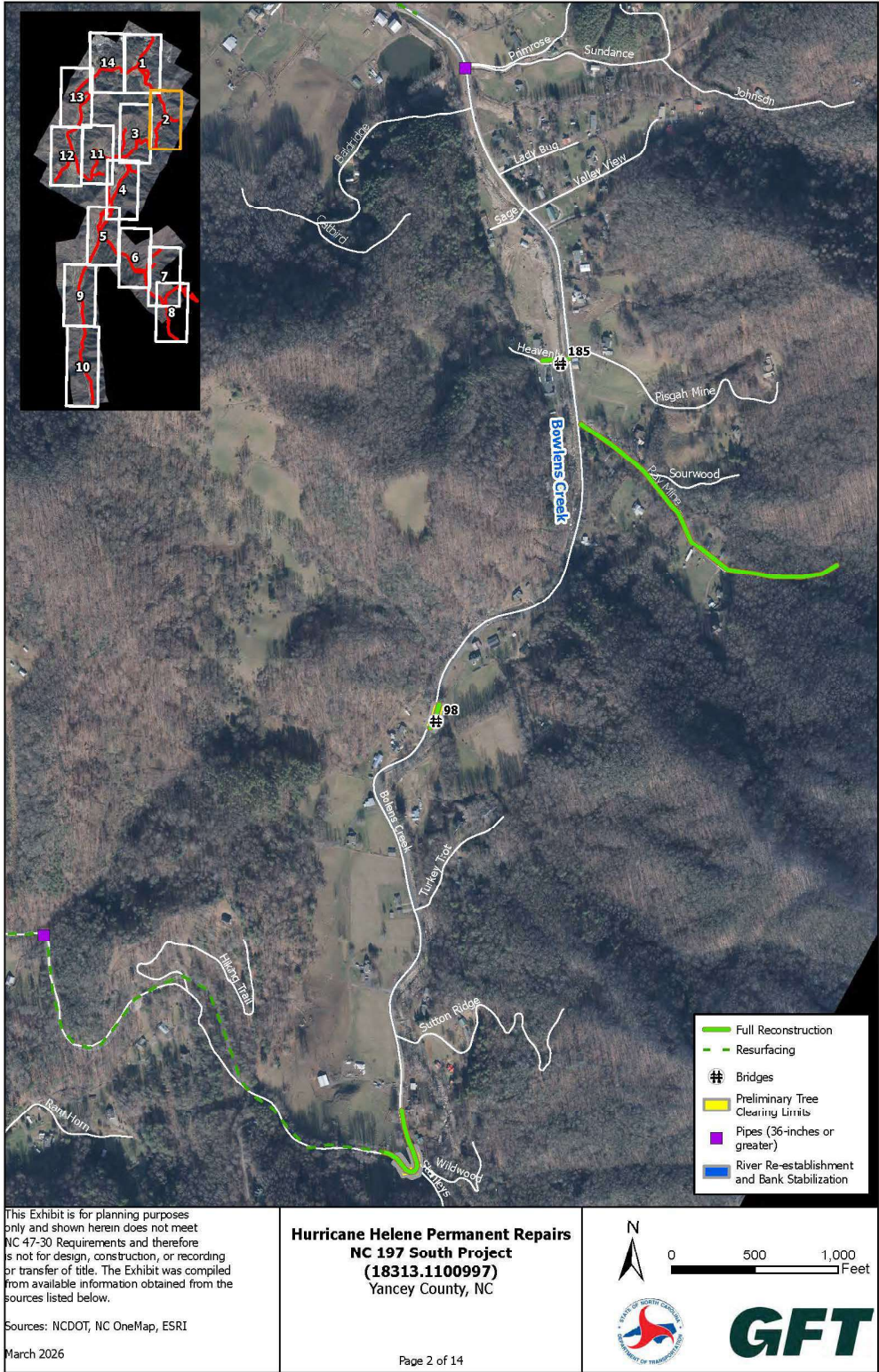


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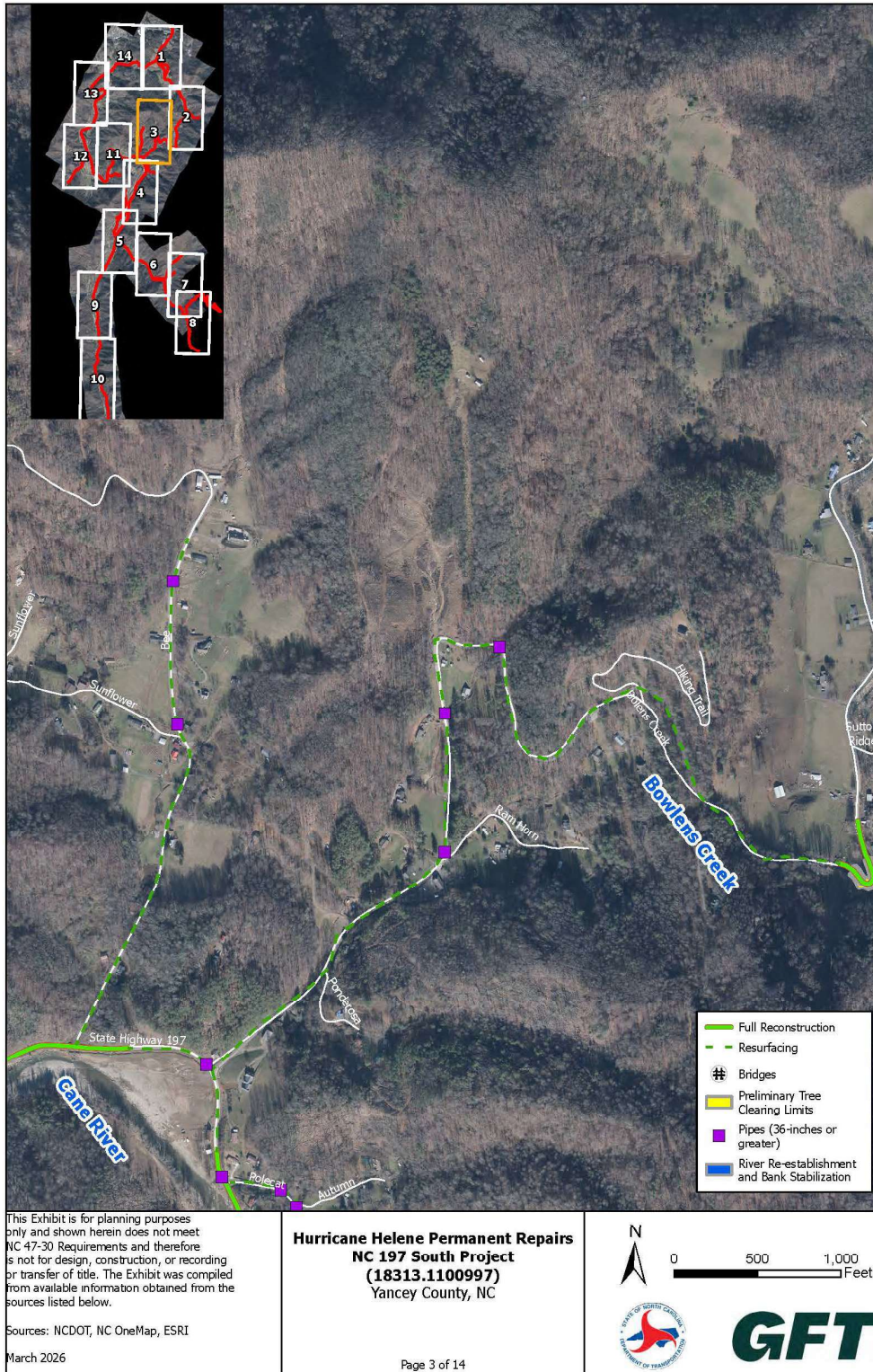


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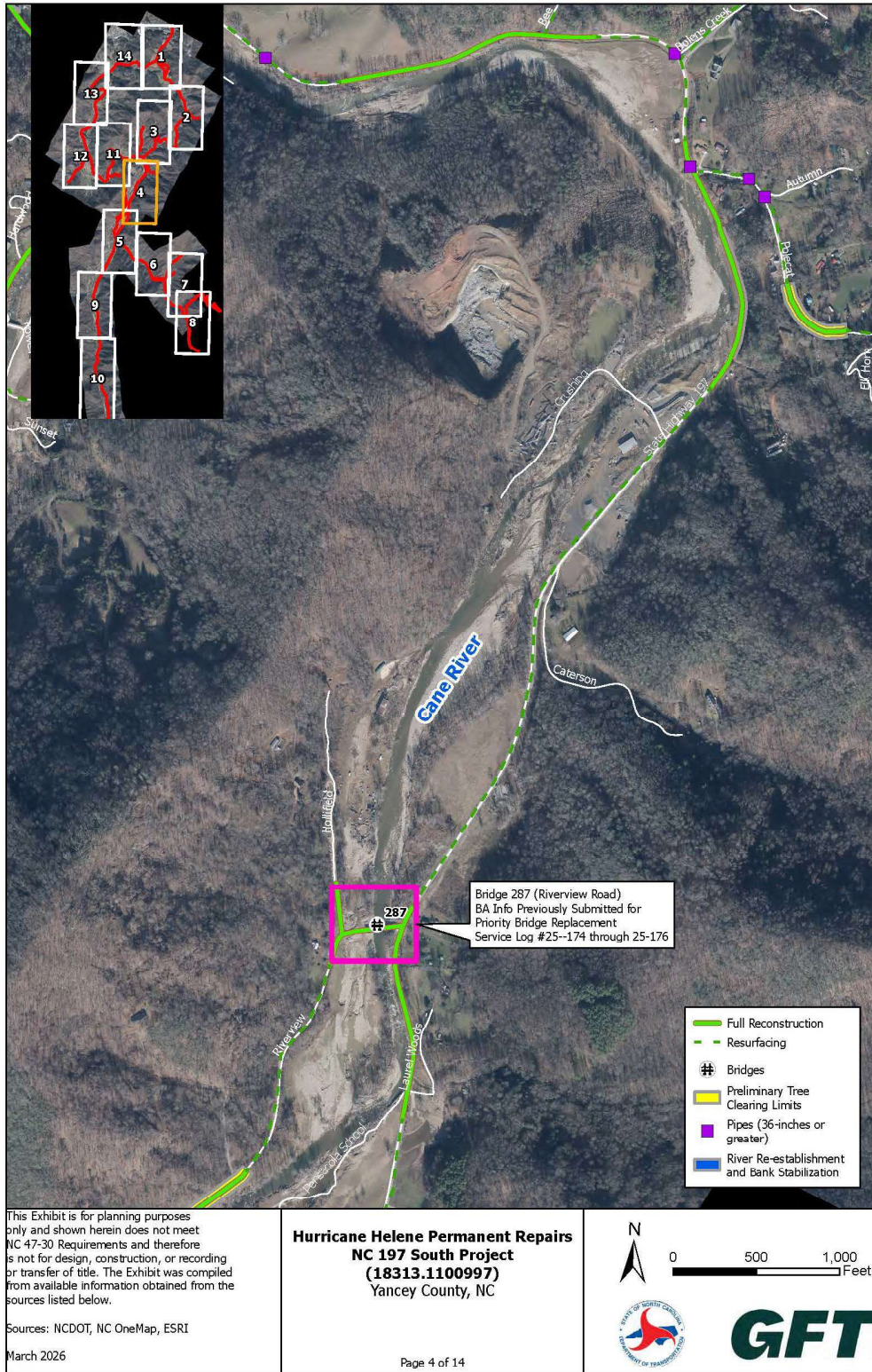


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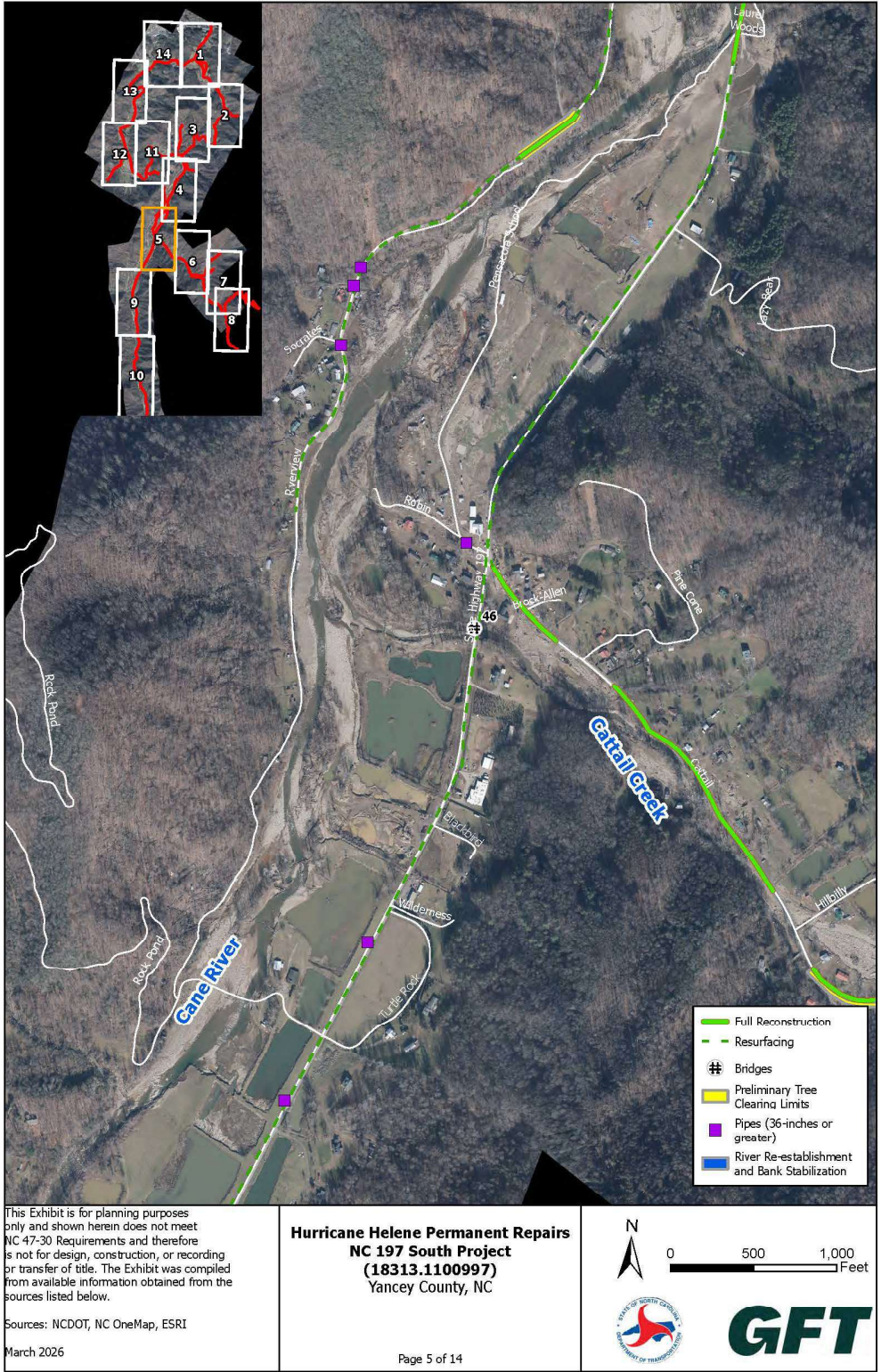


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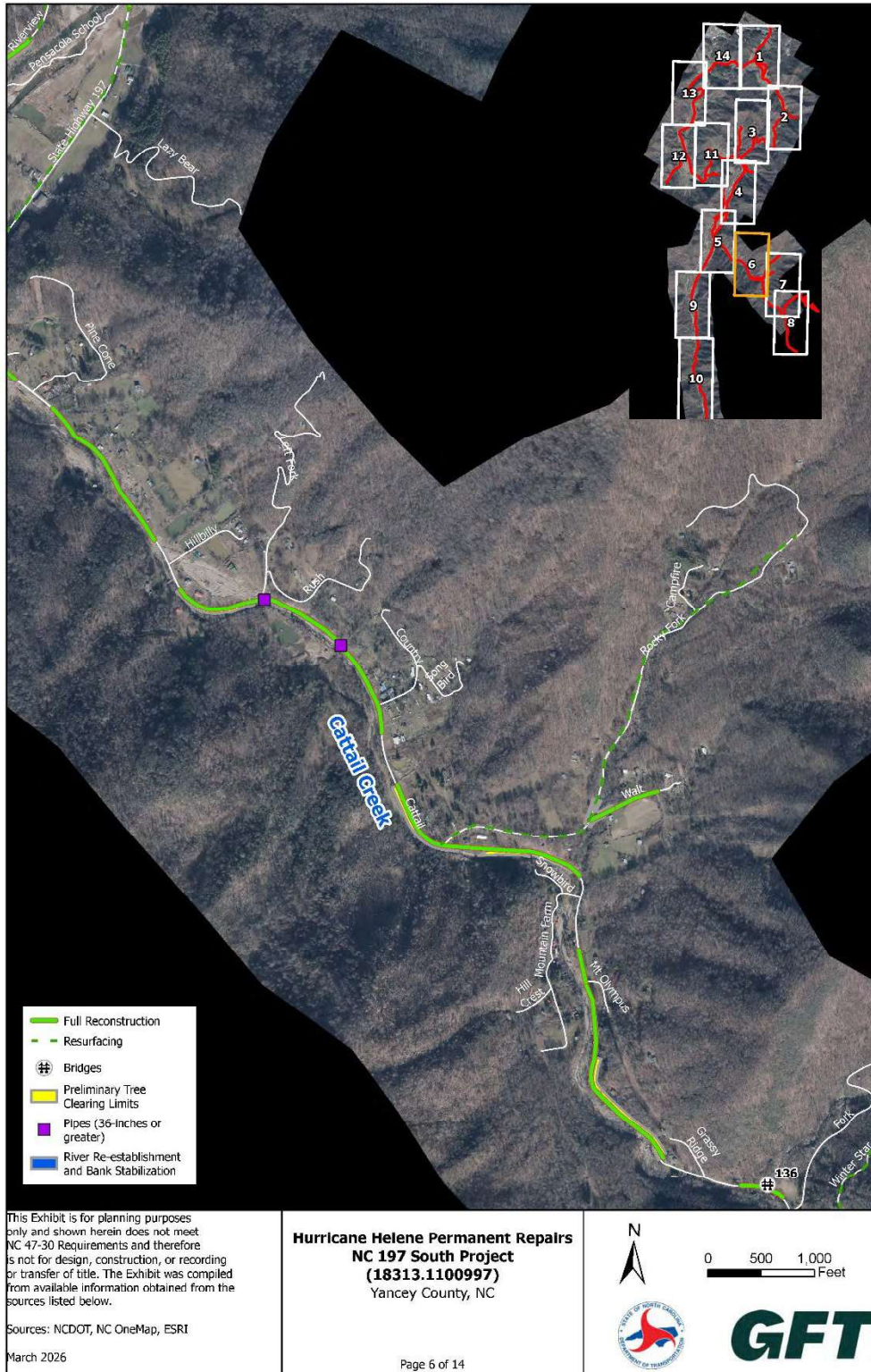


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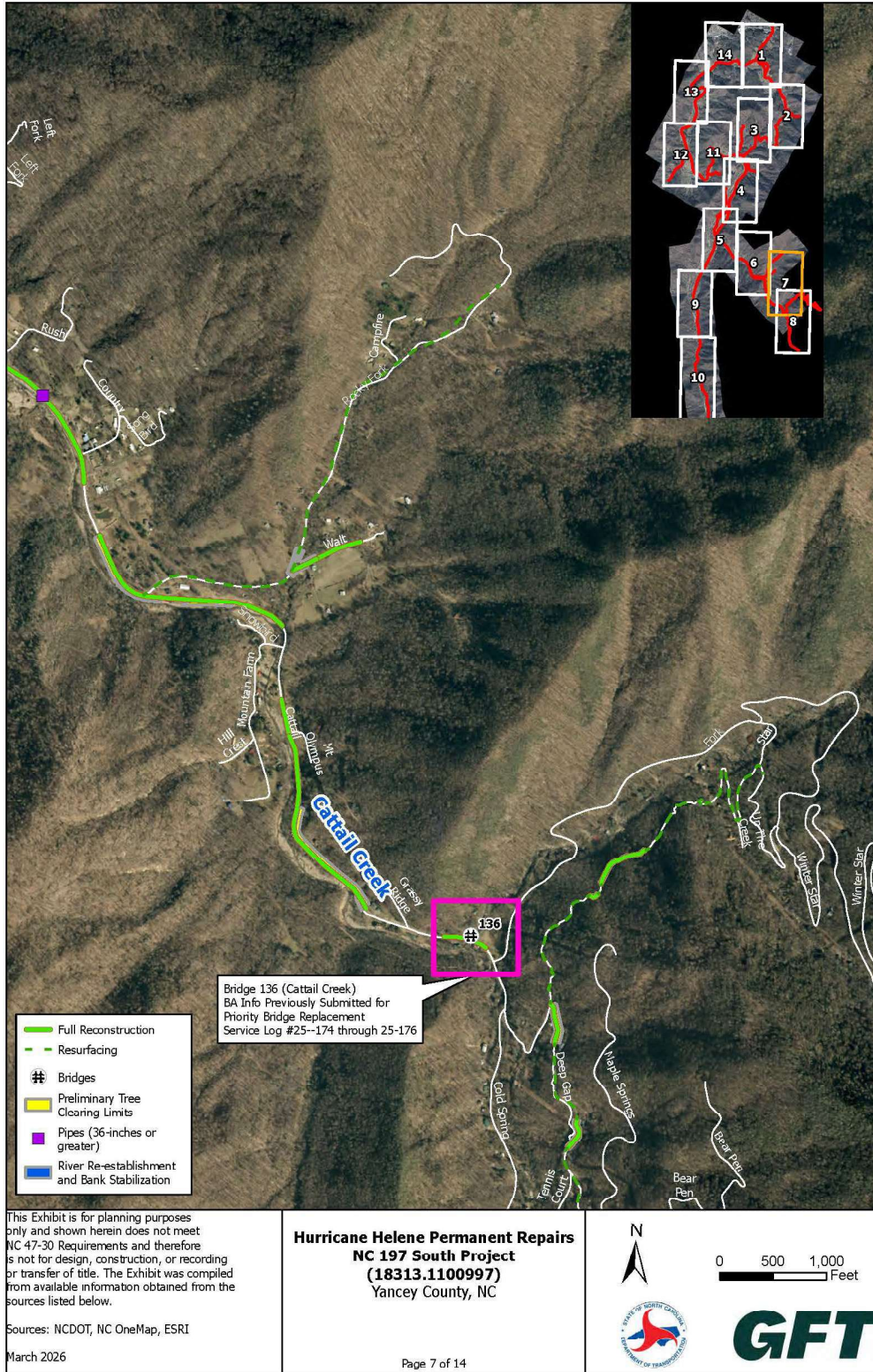
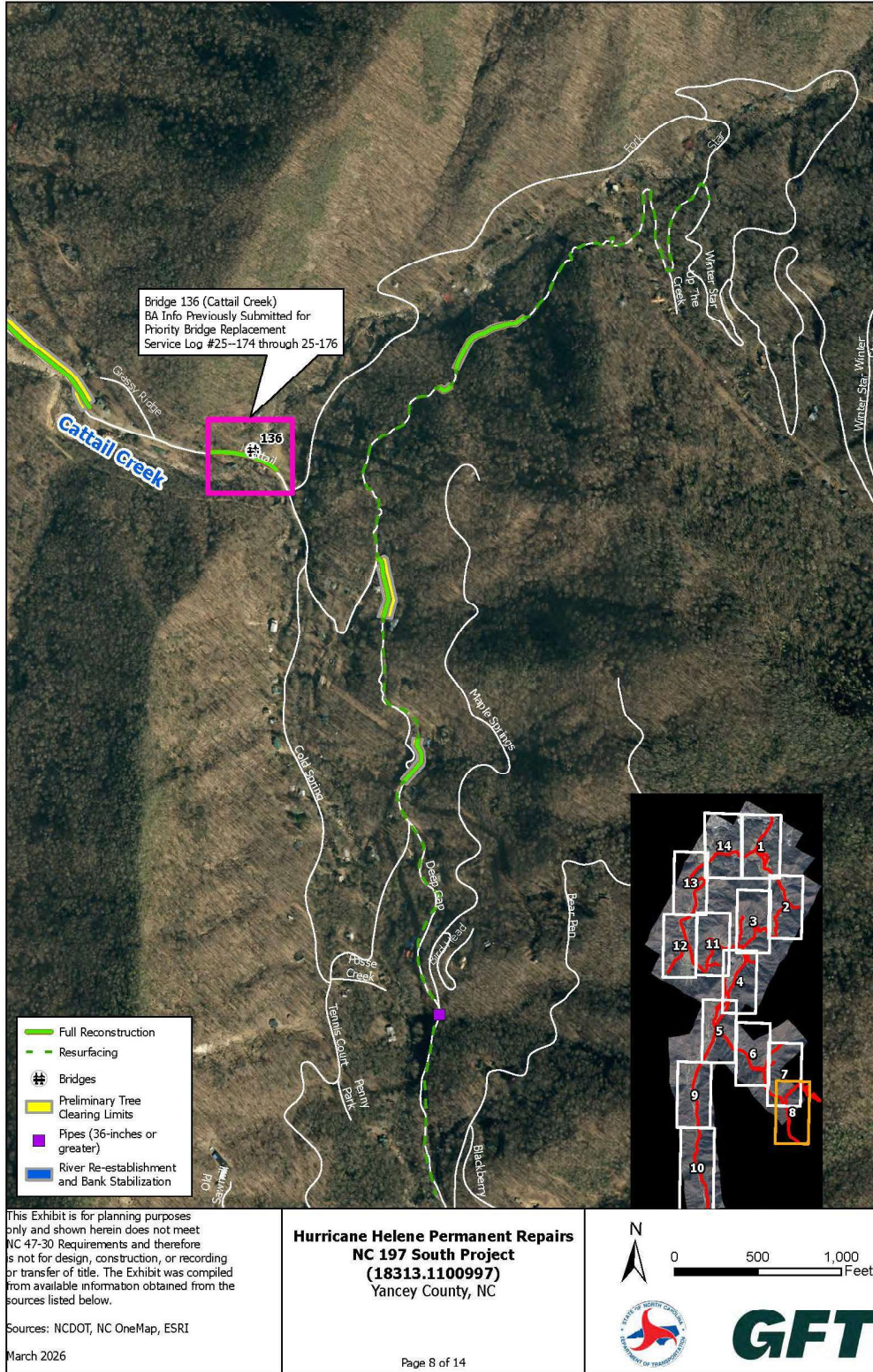


Figure A7



**Figure A8**

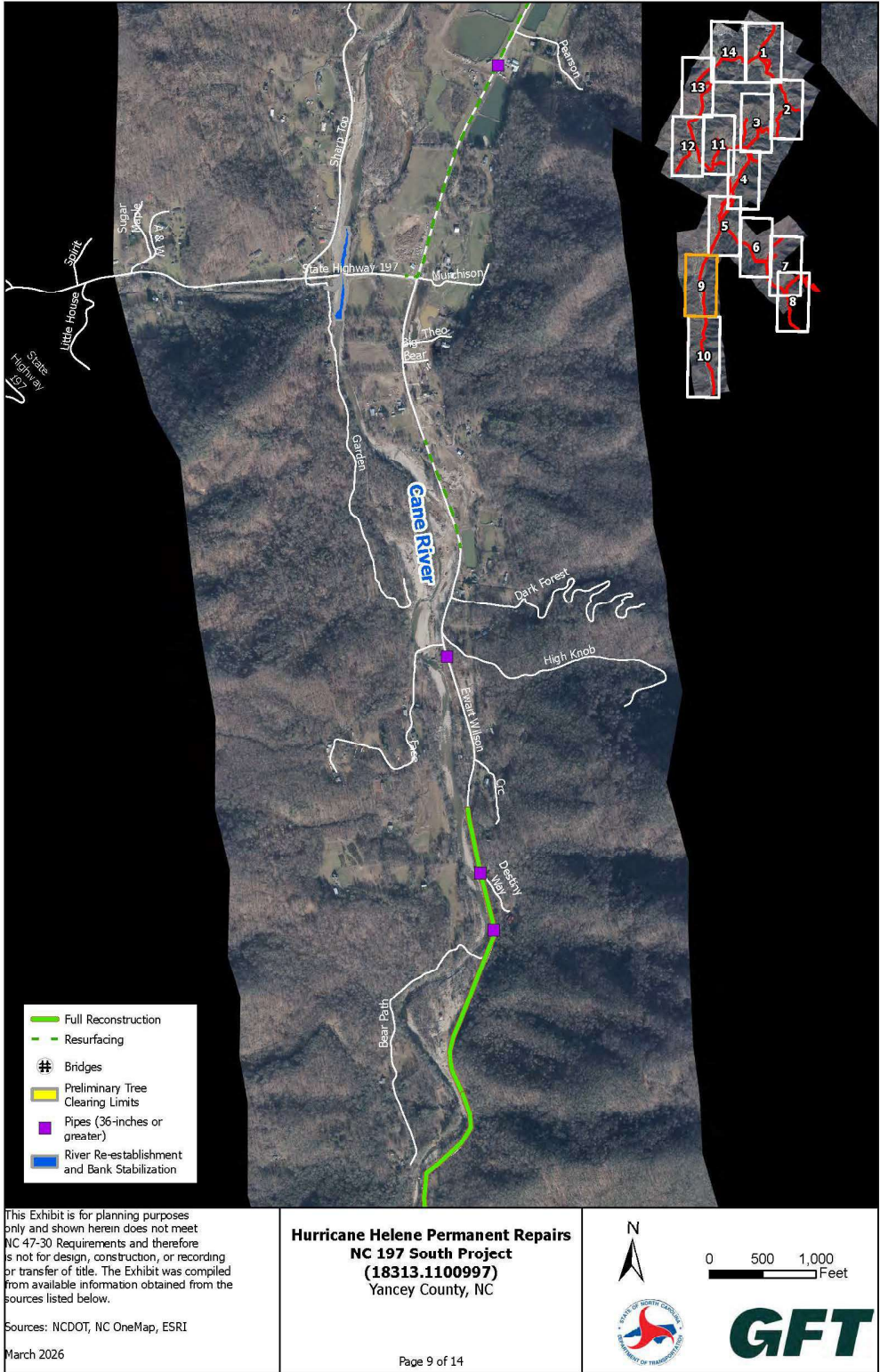


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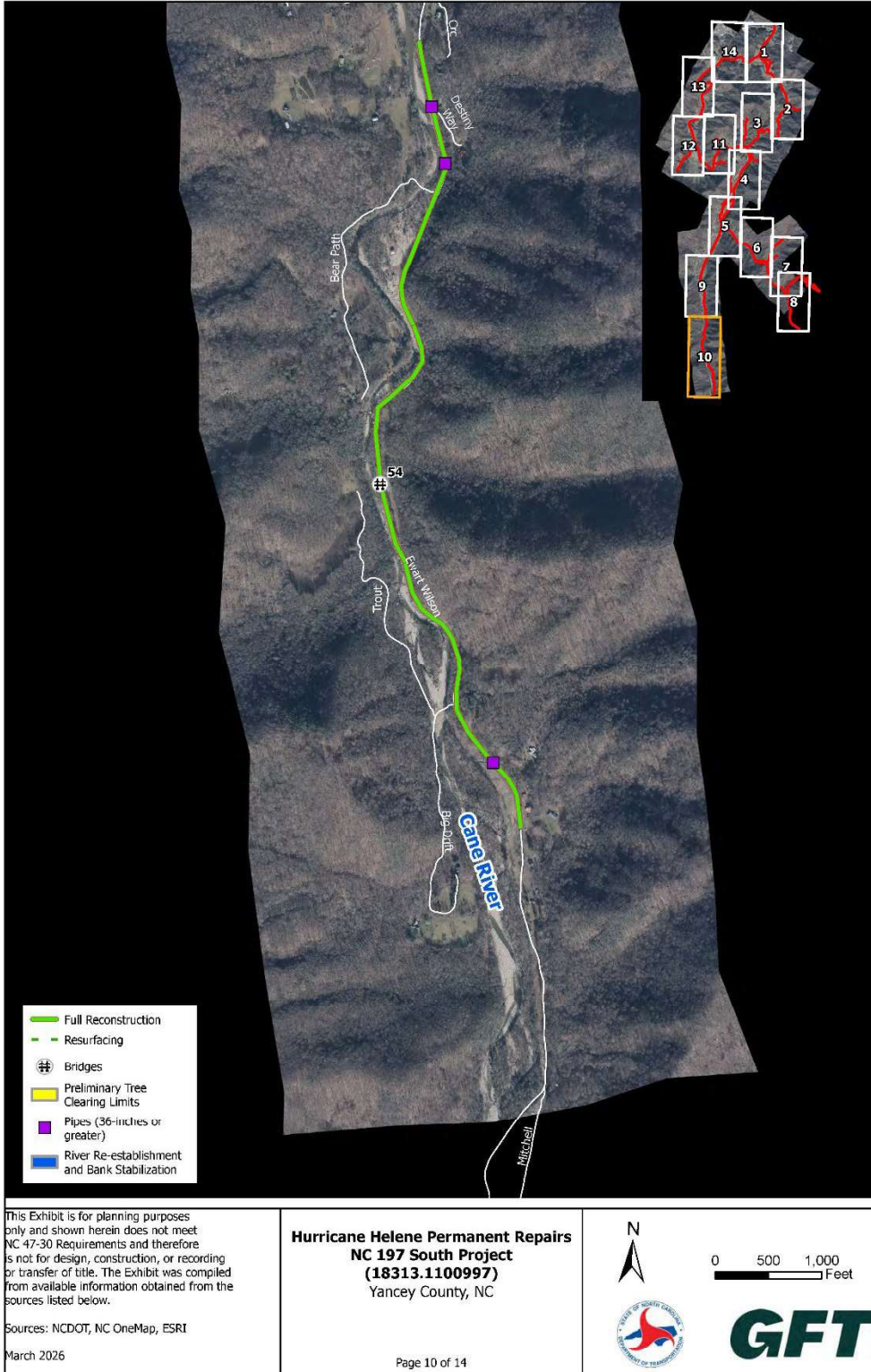


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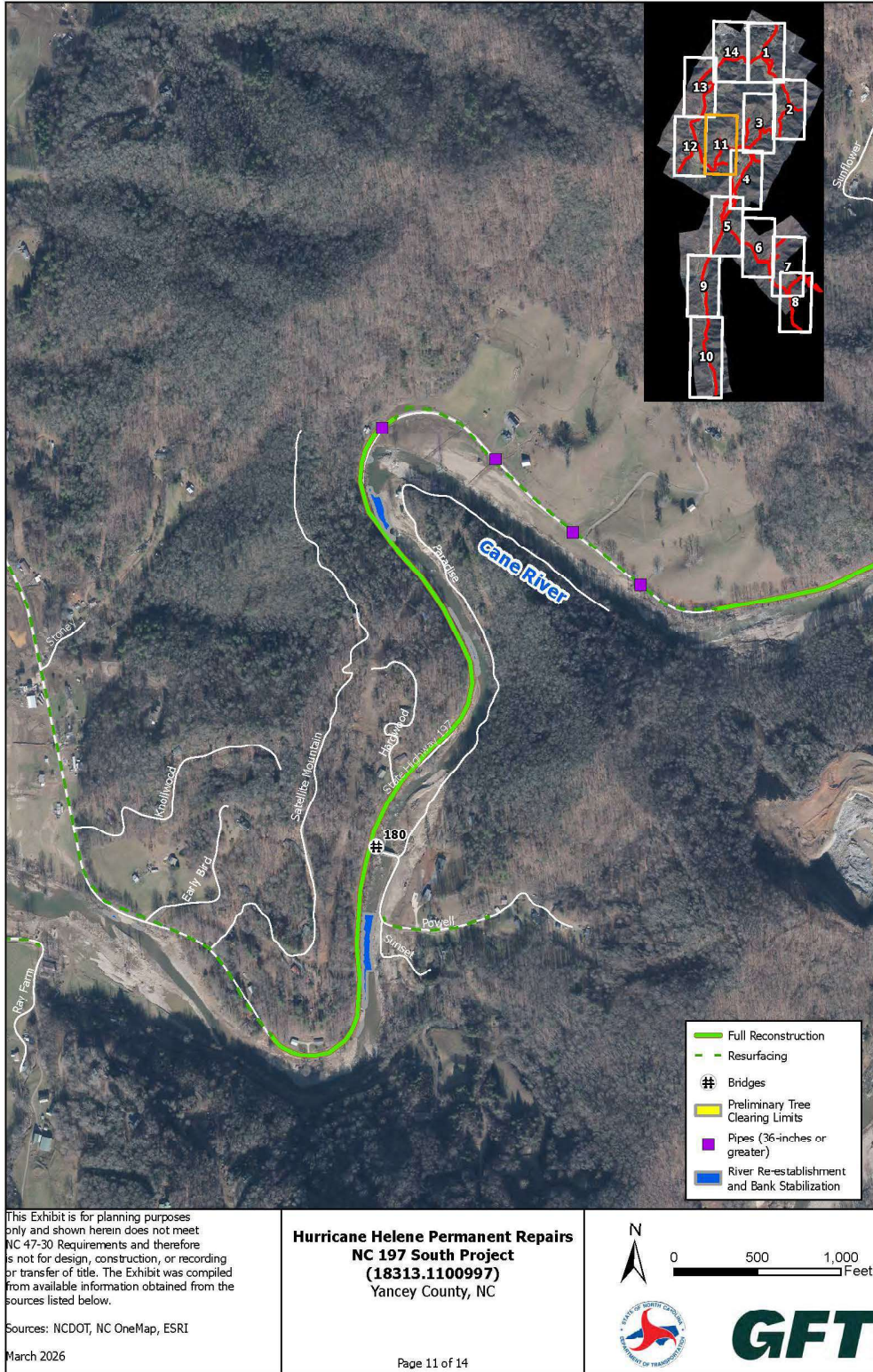


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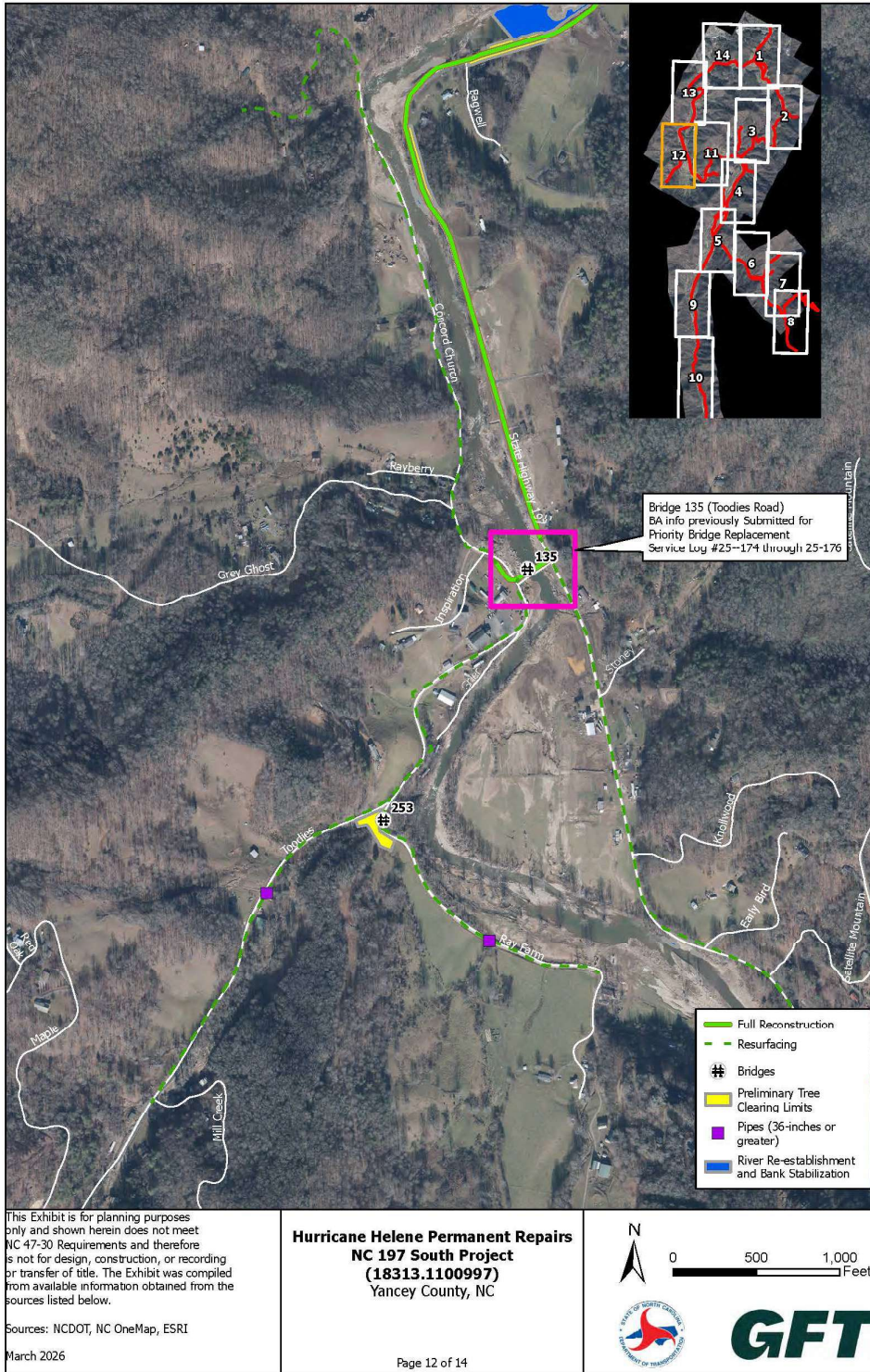


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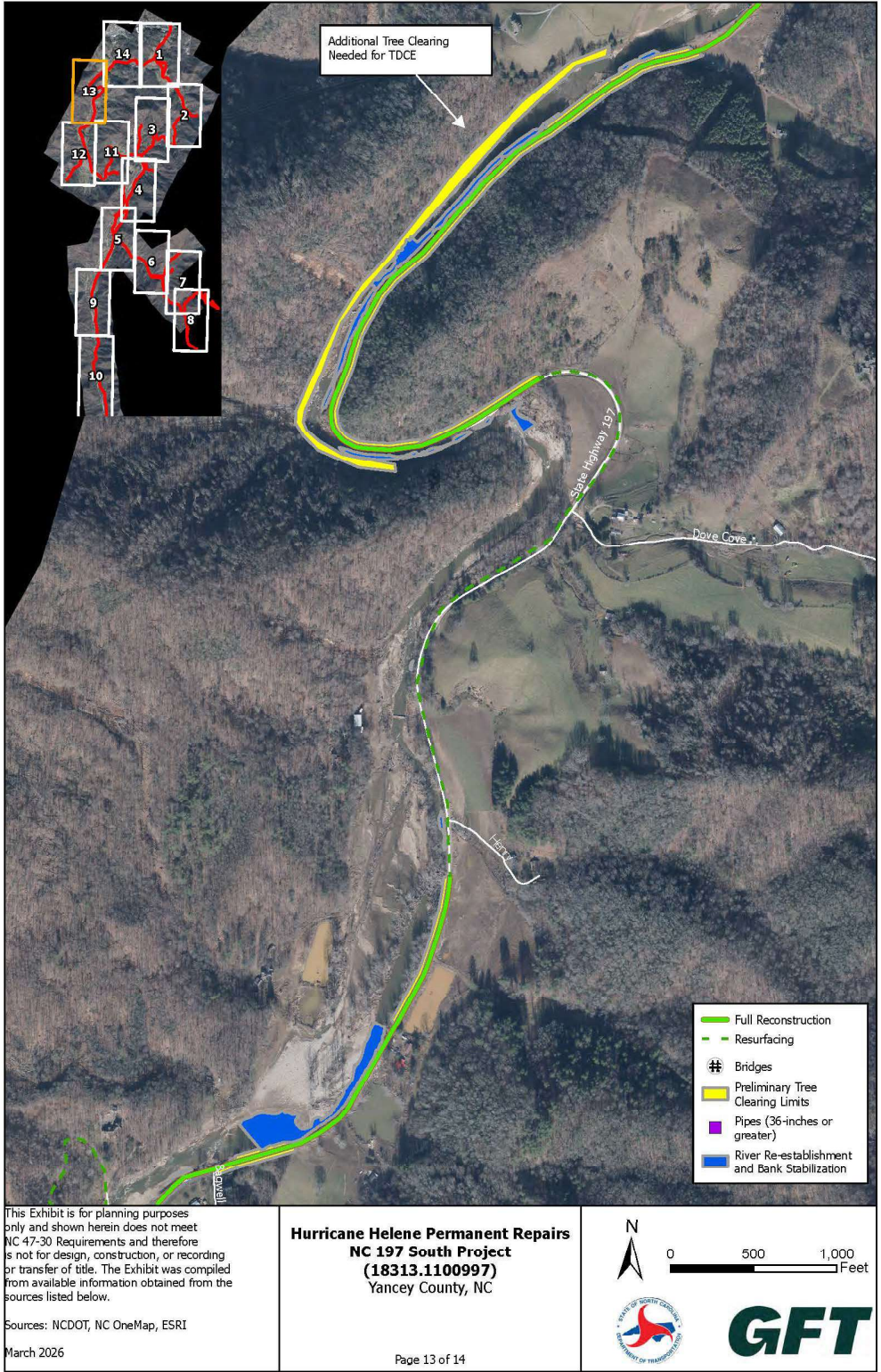


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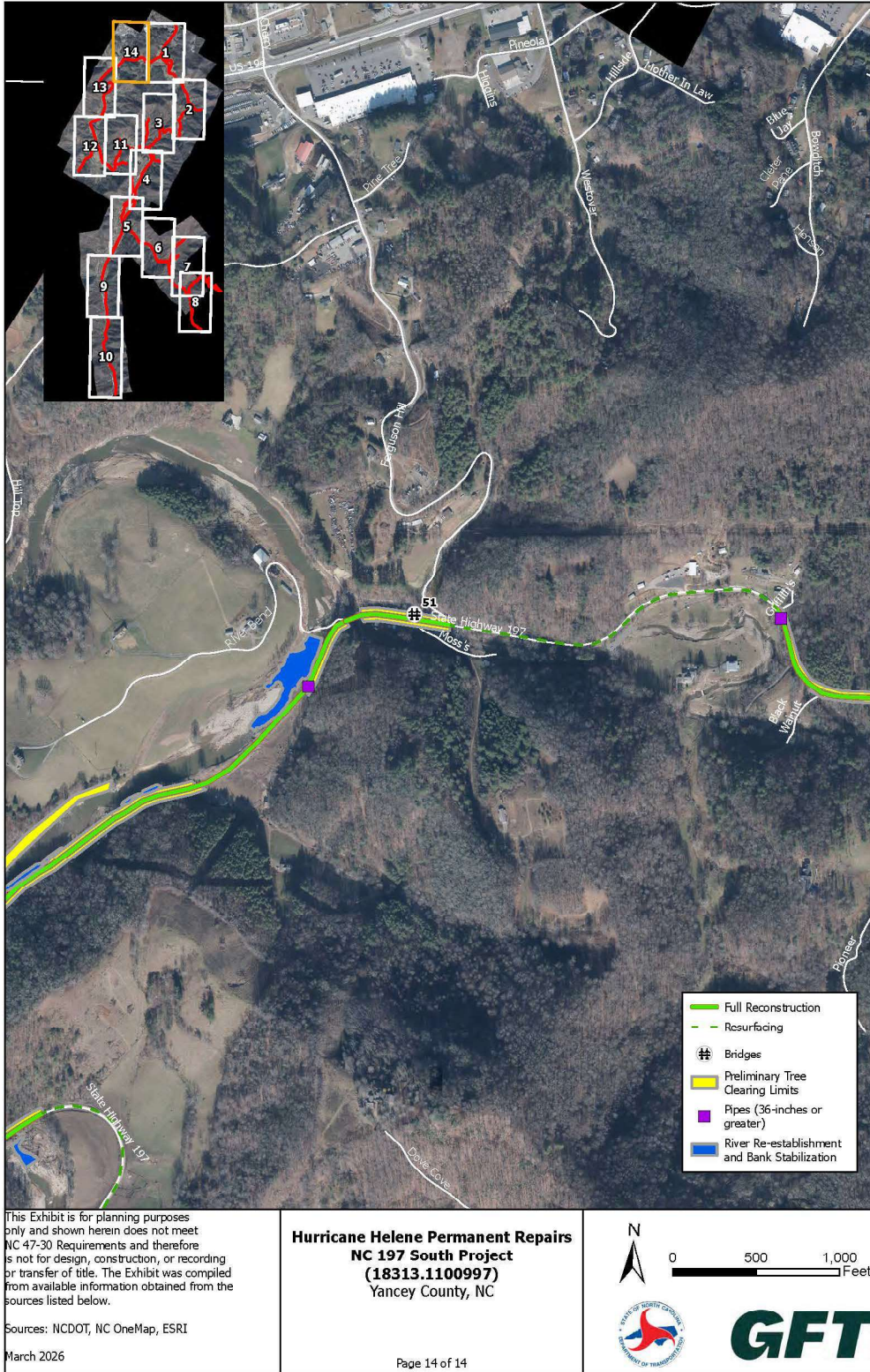


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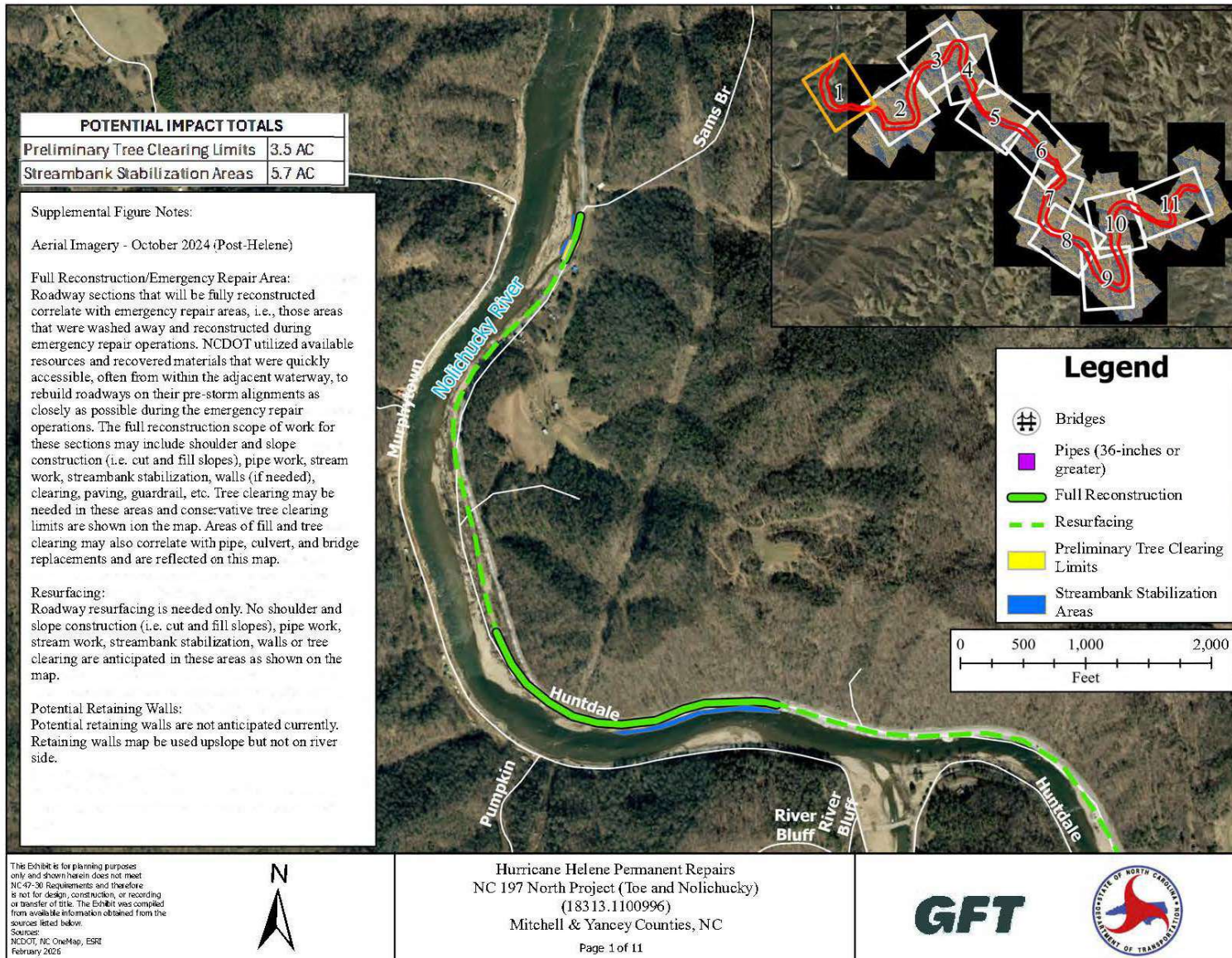


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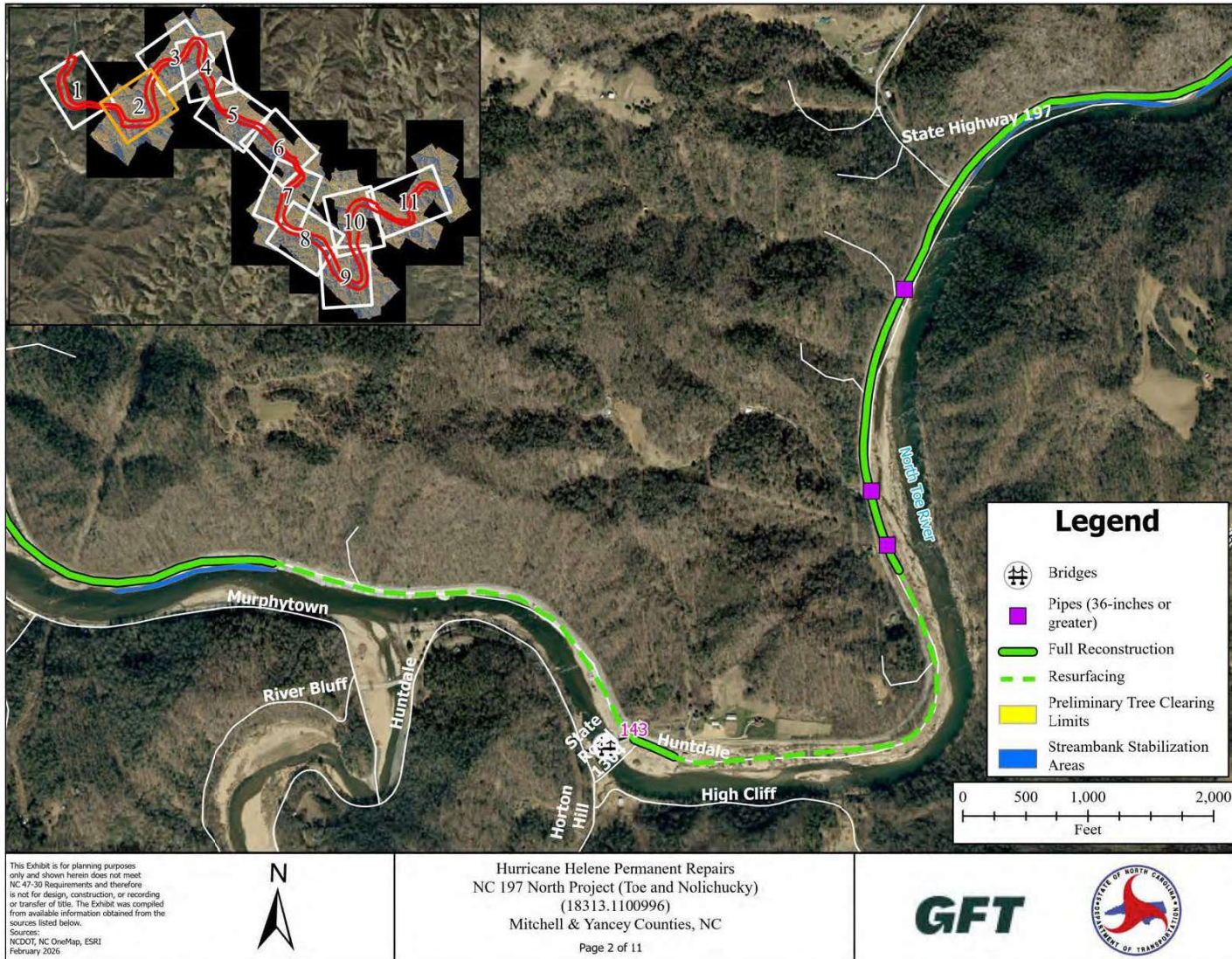


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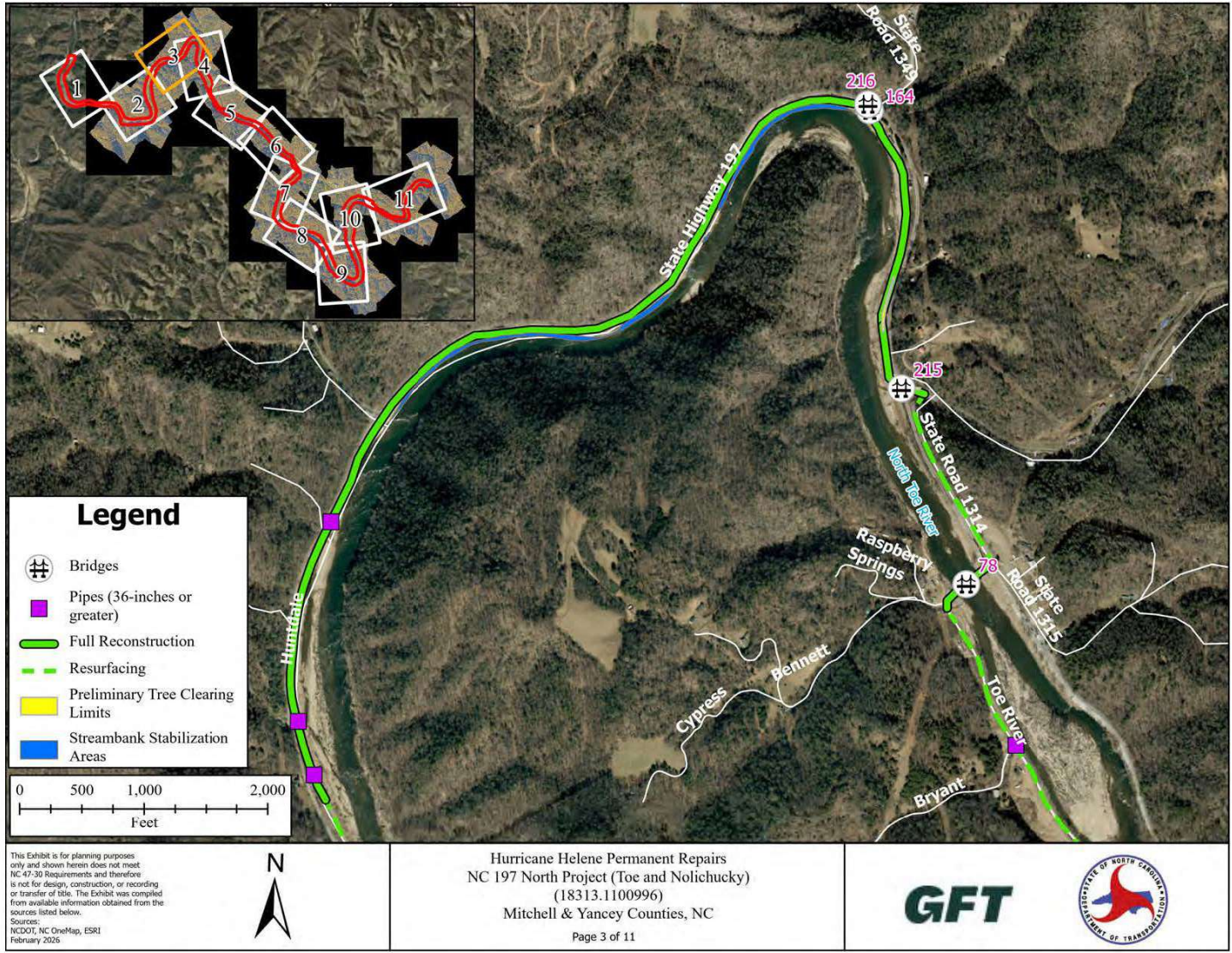


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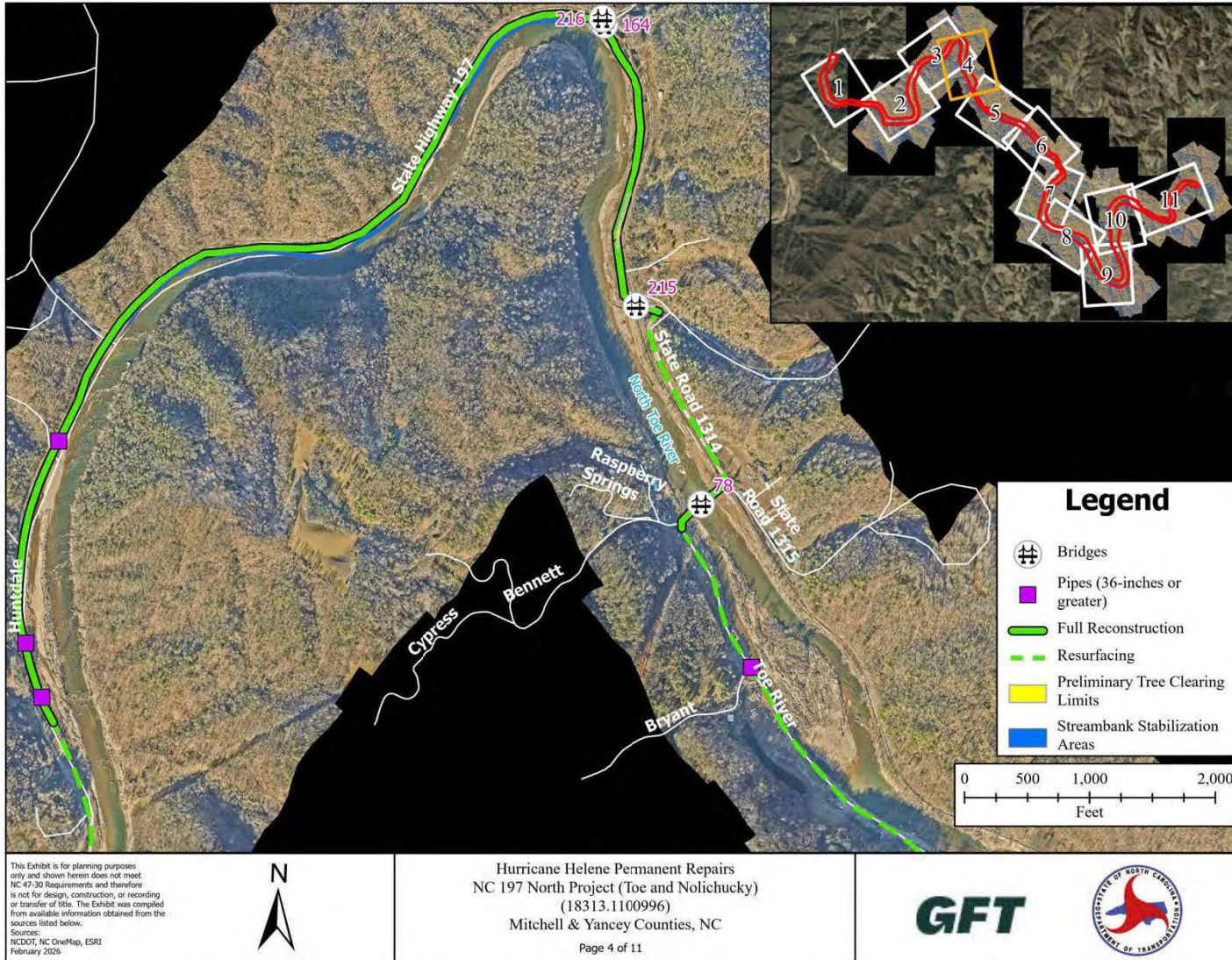


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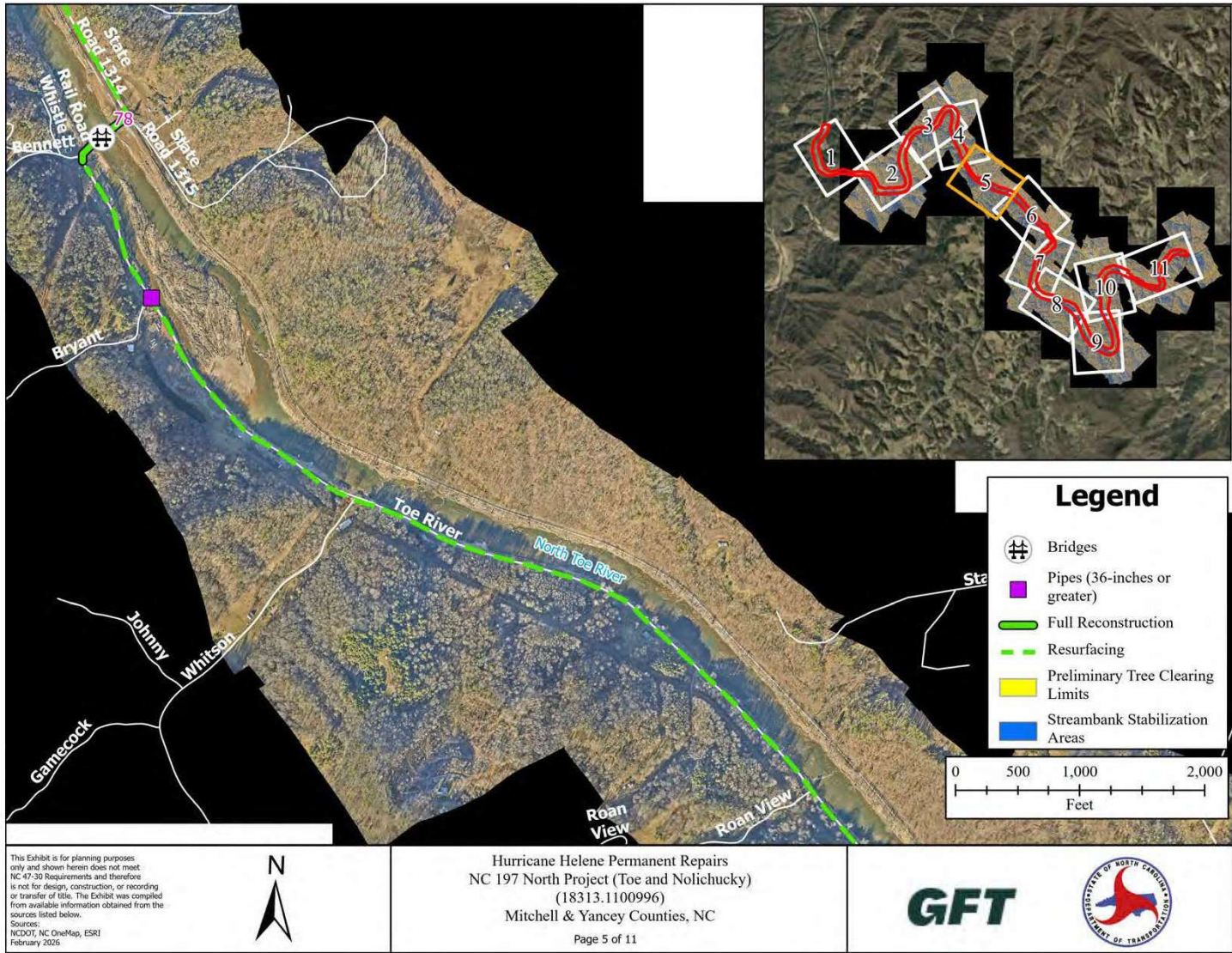


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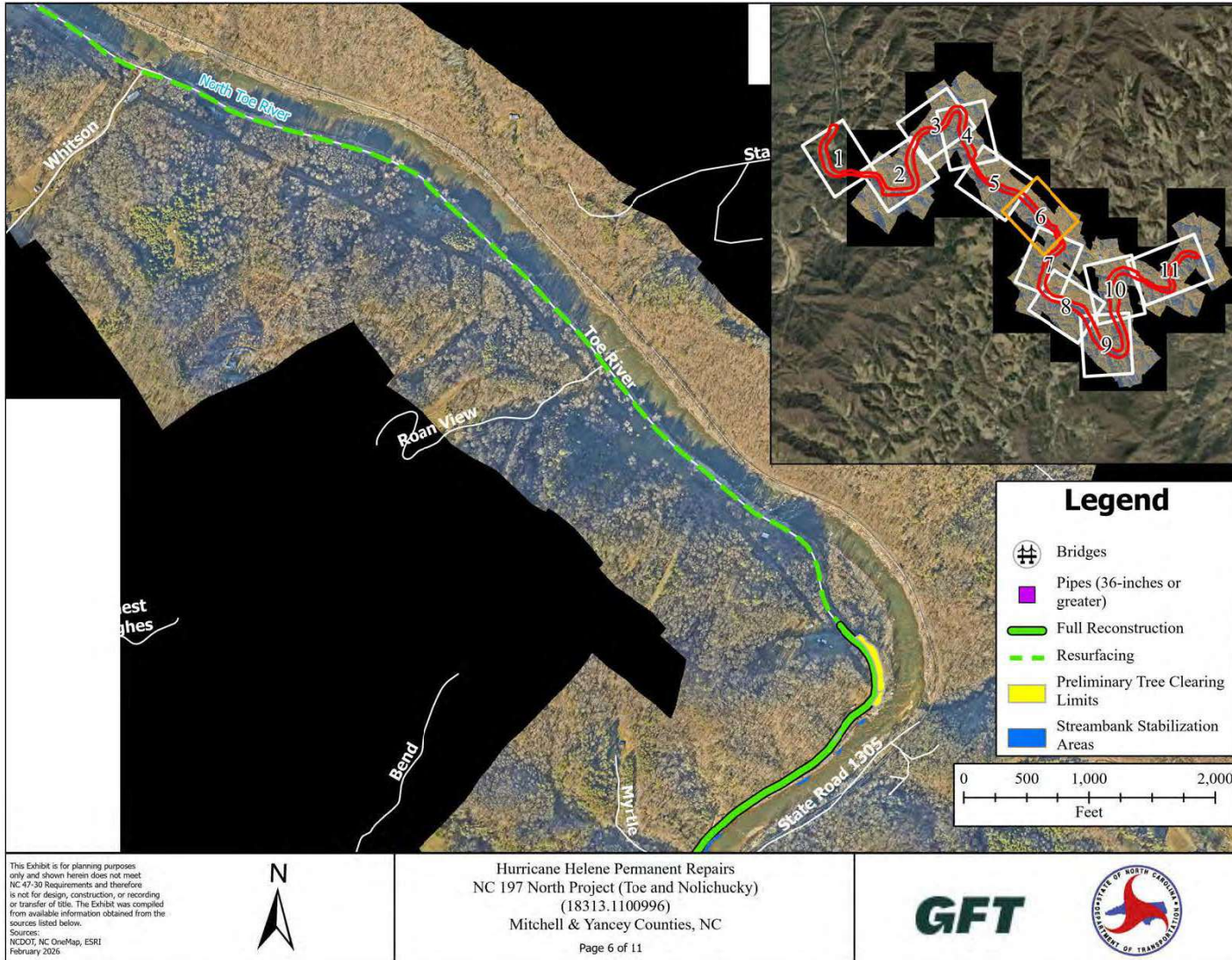


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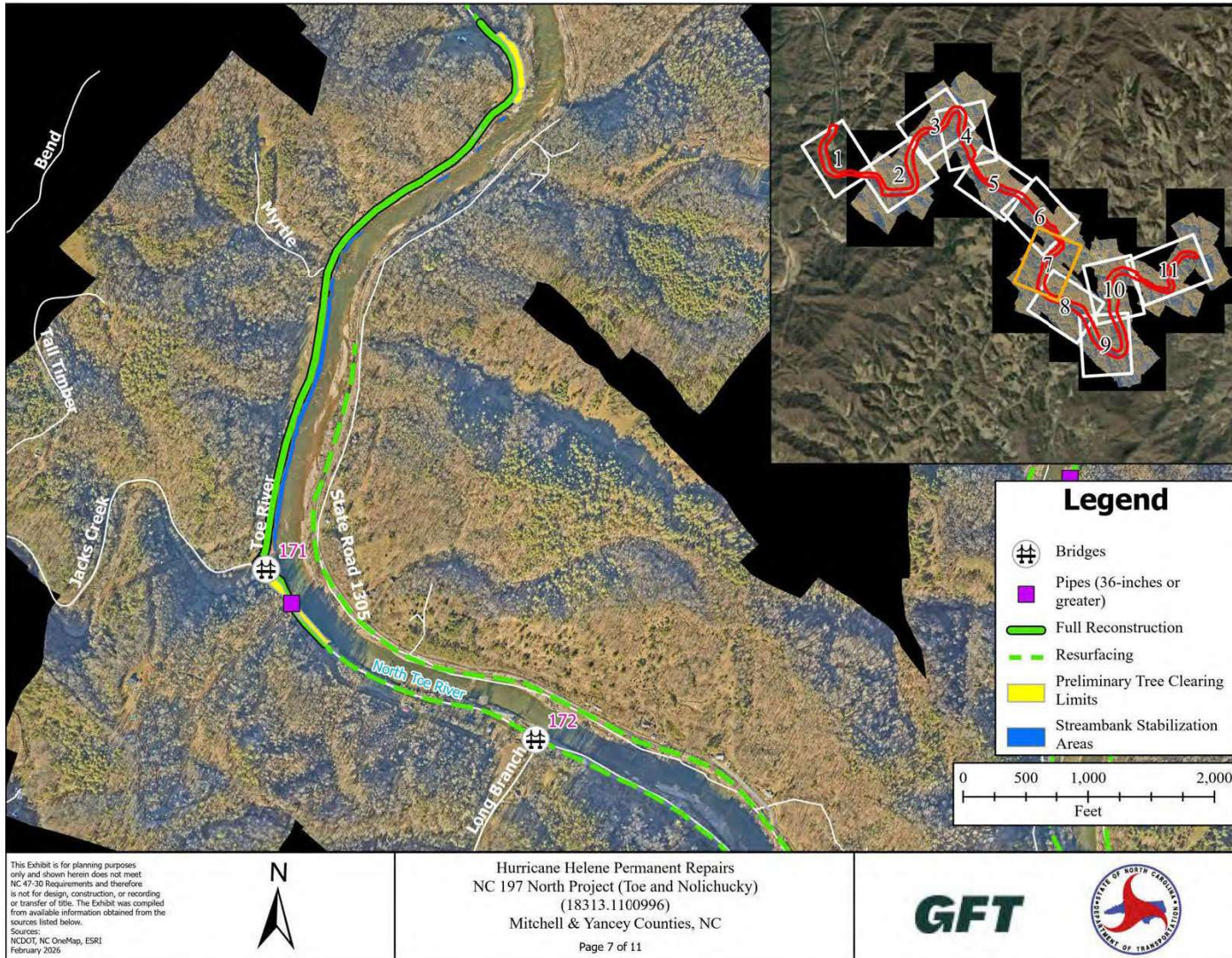


Figure B7

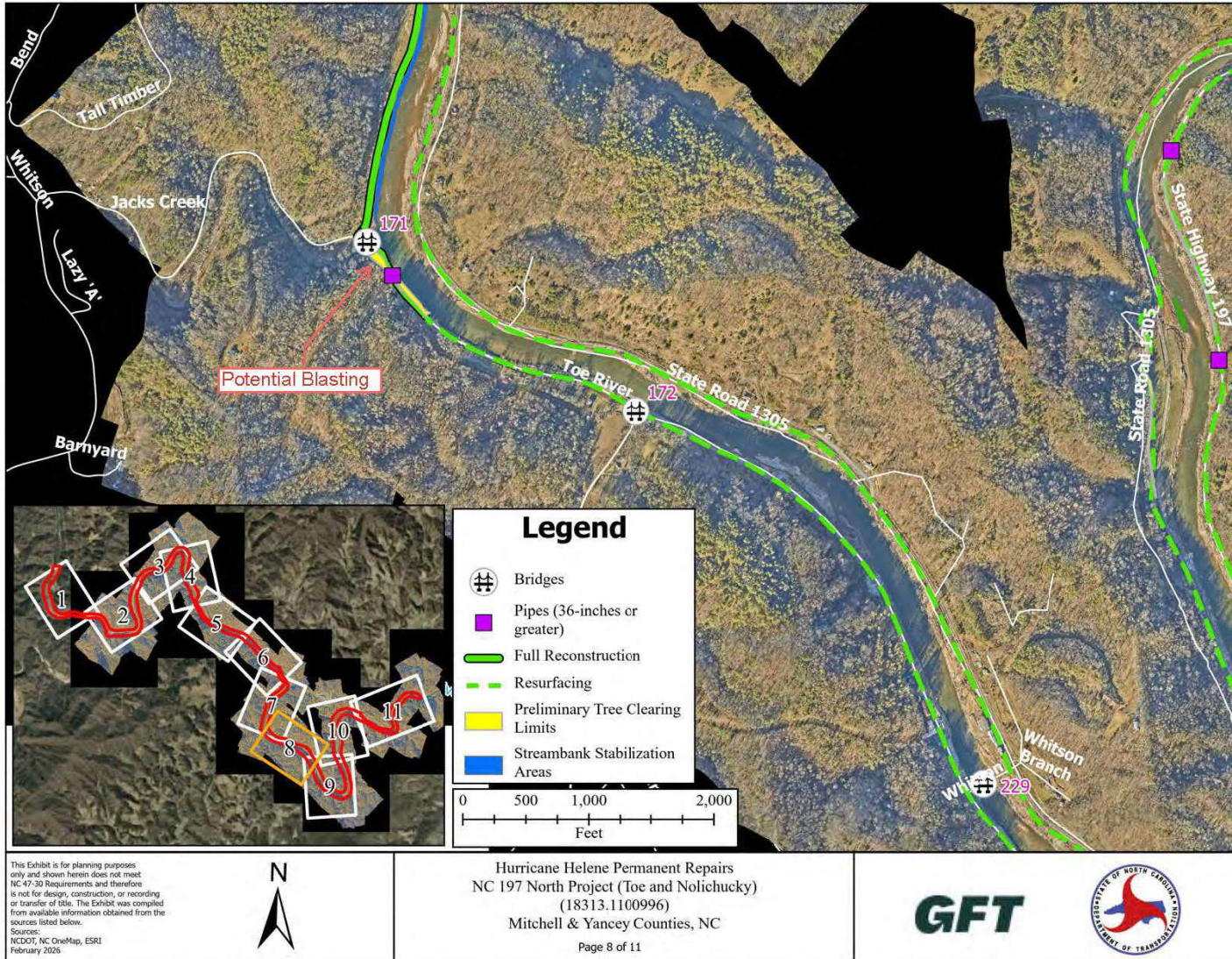
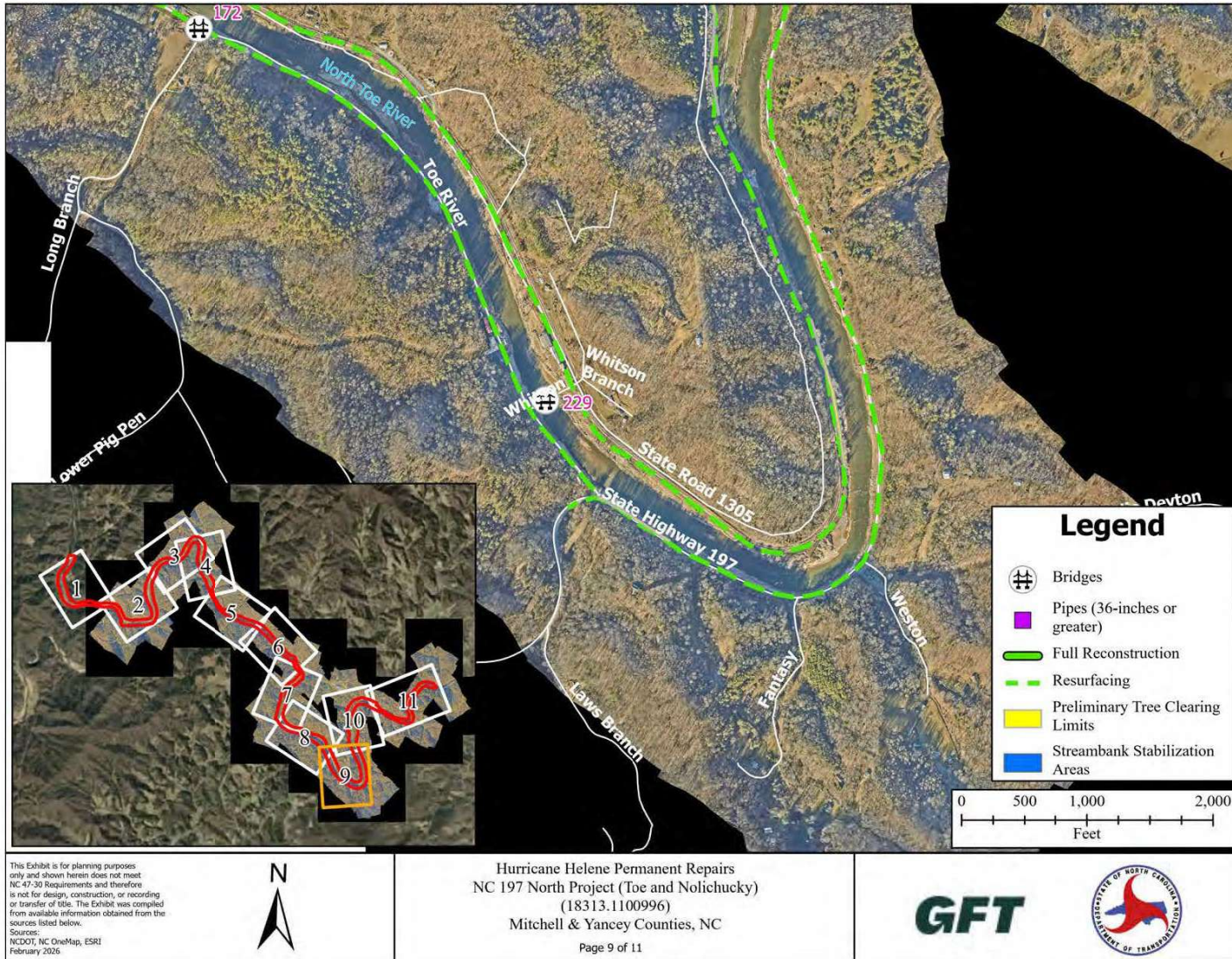


Figure B8



**Figure B9**

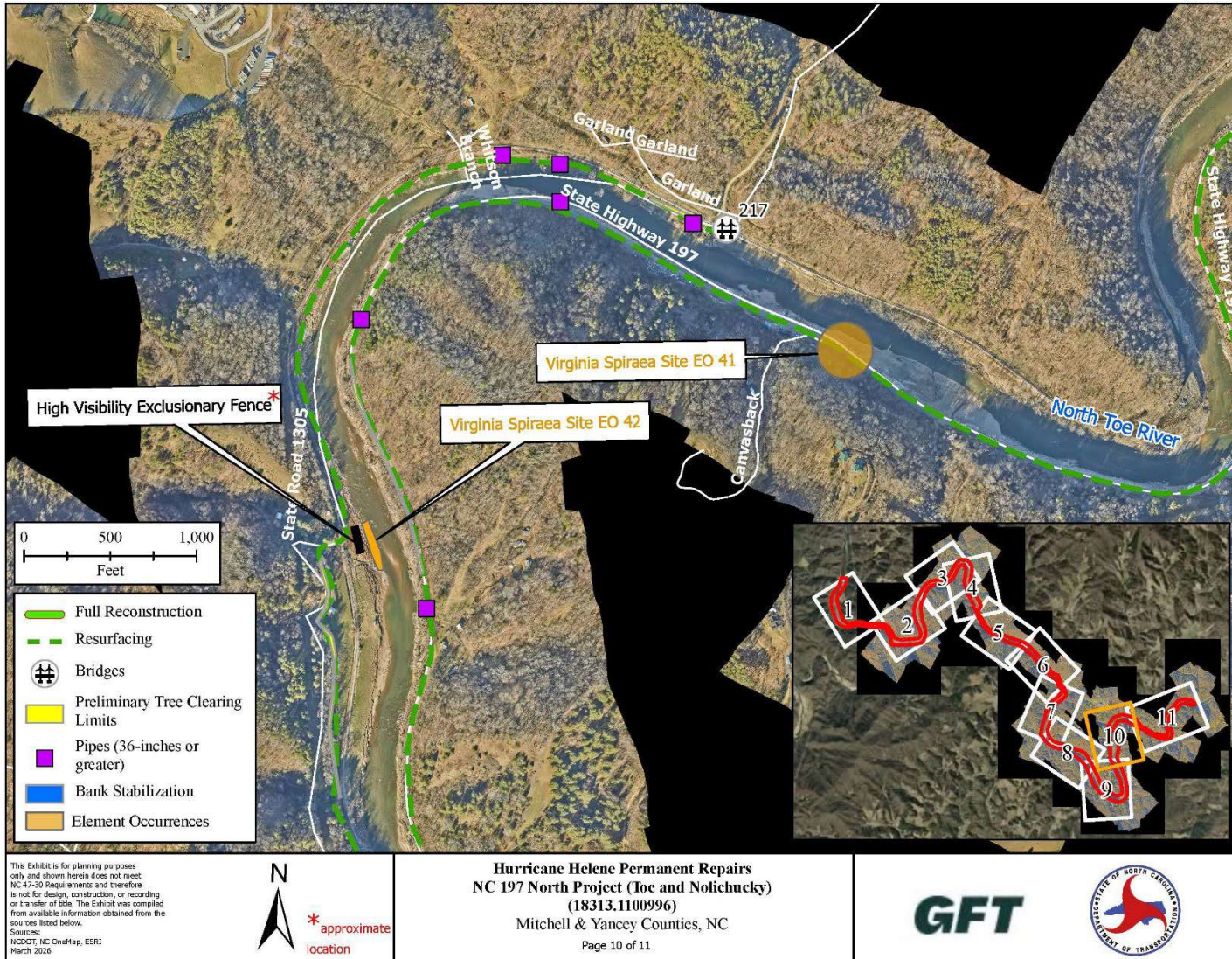


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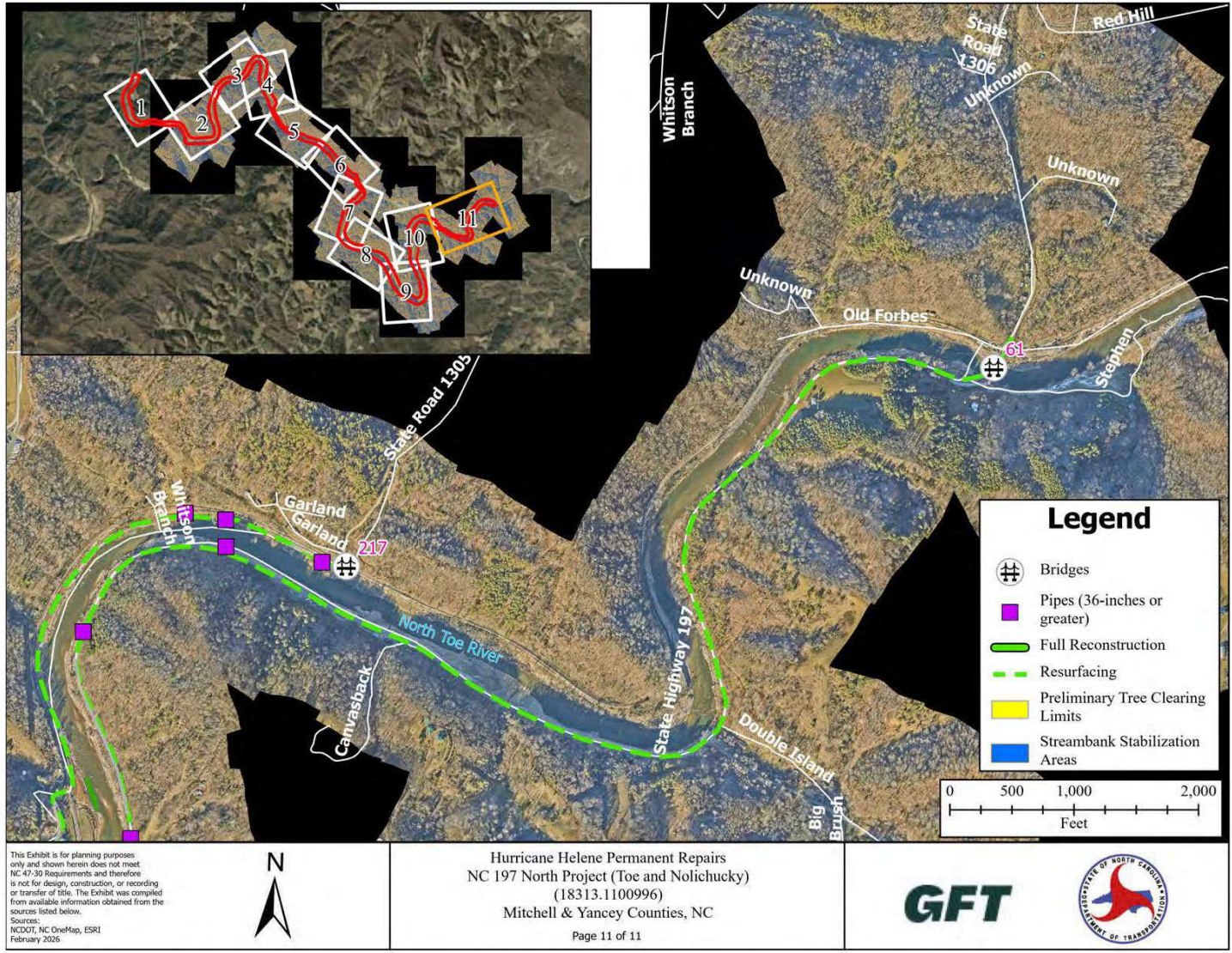
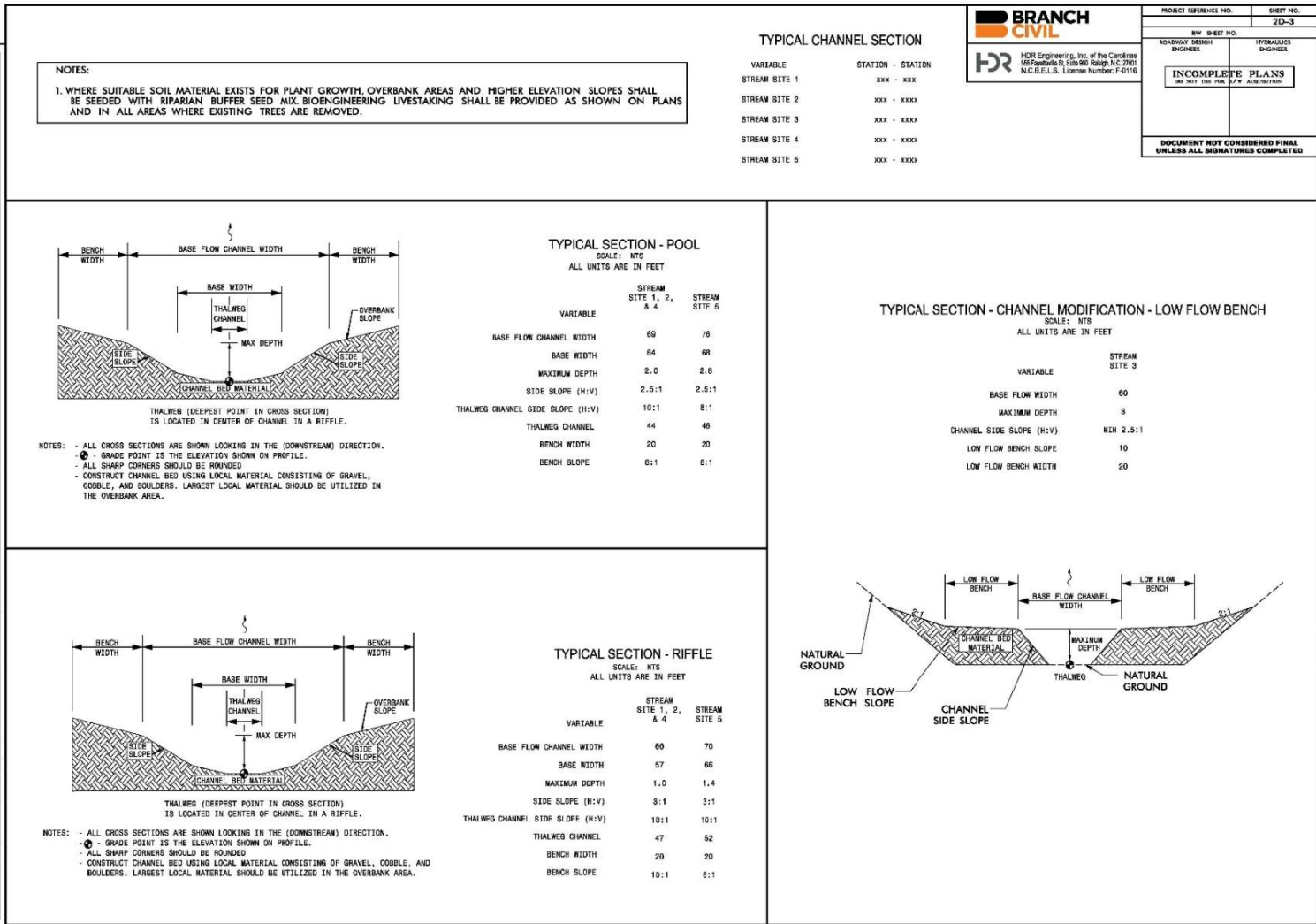


Figure B11

PLOT BY: JENNY WOOD, DATE: 4/26/2024  
 USER: GARDNER, TIME: 11:04:02 AM  
 FILE:



# 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.: **No TIP (RESUBMITTAL #4)** County: **Yancey**  
 WBS No.: **49082.2.13** Document: **Federal CE**  
 Federal Aid No.: **Not Listed** Funding:  State  Federal

Federal Permit Required?  Yes  No Permit Type: **USACE**

**Project Description:** In response to the aftermath of Hurricane Helene, NCDOT's Division 13 proposes to repair/restore various sections of NC 197, south of Burnsville, in Yancey County, starting at roughly 0.56 mile south of US 19E and ending at SR 1100 (Ewart Wilson Road). Included in the proposed project will also be various intersecting secondary roads, which are to be repaired/restored to their pre-existing conditions: SR 1109 (Bolens Creek Road), SR 1192 (Ray Mine Road), SR 1198 (Heavenly Lane), SR 1110 (Bee Branch), SR 1113 (Concord Church Road), SR 1112 (Toodies Creek), SR 1111 (Ray Farm Road), SR 1179 (Powell Road), SR 1108 (Polecat Branch), SR 1183 (Hollifield Road/Riverview Road), SR 1184 (Riverview Road), SR 1107 (Pensacola School Road), SR 1106 (Pensacola School Road), SR 1102 (Cattail Creek/Winter Star Road), SR 1105 (Rocky Fork Road), SR 1104 (Walt Road), SR 1103 (Deep Gap Road), and SR 1100 (Ewart Wilson Road).

Also included in this project are to be various bridges/structures that are now in need of significant repair or replacement. These structures include the following (SD = structurally deficient; FO = functionally obsolete – as noted in the last statewide bridge inventory):

- Bridge No. 51 on NC 197 over Bowlens Creek (built in 1939, SD)
- Bridge No. 185 on SR 1198 (Heavenly Lane) over Bowlens Creek (built in 1994)
- Bridge No. 98 on SR 1109 (Bolens Creek Road) over Bowlens Creek (built in 1963)
- Bridge No. 135 on SR 1112 (Toodies Creek) over Cane River (built in 1979, SD)
- Bridge No. 253 on SR 1111 (Ray Farm Road) over Tudy Creek (built in 2008)
- Bridge No. 180 on SR 1179 (Powell Road) over Cane River (built in 1978, SD)
- Bridge No. 287 on SR 1183 (Hollifield Road/Riverview Road) over Cane River (built in 1978)
- Bridge No. 46 on NC 197 over Cattail Creek (built in 1951)
- Bridge No. 136 on SR 1102 (Cattail Creek/Winter Star Road) over North Fork Cattail Creek (built in 1962, FO)
- Bridge No. 184 on SR 1102 (Cattail Creek/Winter Star Road) over North Fork Cattail Creek (built in 1960, SD)
- Bridge No. 54 on SR 1100 (Ewart Wilson Road) over Falling Water Branch (built in 2015)

Project activities are anticipated to occur within the NCDOT's existing ROW for all included roadways and structures (or at least where the existing ROW once was). For the NC 197 corridor, the existing ROW looks to be about 60 feet wide whereas along the various secondary roads, the existing ROW appears to range between 20-60 feet. As submitted, no easements are required; however, the need for additional ROW was not conveyed, but the hope and intent is to conduct all work within the existing ROW and restore to previous conditions. **Since the initial review for this project in December 2024 followed by three (3) resubmittals, it has now been determined that additional acreage, beyond**

**what has been reviewed and cleared, will be necessary in order to move forward with permitting and construction.** Three (3) extensions to what has been previously reviewed have been submitted. These areas include:

- Toodies Creek Road (SR 1112): An expanded Study Area along Toodies Creek Road, encompassing 17.37 acres, has been submitted, for an additional 14.08 acres beyond the initial 3.29 acres previously reviewed along Toodies Creek Road.
- Ray Farm Road (SR 1111): An expanded Study Area along Ray Farm Road, encompassing 26.99 acres, has been submitted, for an additional 23.36 acres beyond the initial 6.63 acres previously reviewed along Ray Farm Road.
- Sunflower Drive (non-system): An additional Study Area, encompassing 7.68 acres along Sunflower Drive, has been submitted, all of which falls beyond what has been previously reviewed.

These three (3) extensions, totaling 52.04 acres, account for an additional 45.12 acres beyond what has been previously reviewed and will serve as the APE for this screening, which, in itself, will serve as an addendum to any and all previous PA forms generated for this project.

## SUMMARY OF CULTURAL RESOURCES REVIEW

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

The resubmittal for this project was accepted for review on Monday, June 8, 2026. A compilation of data maintained by the Office of State Archaeology (OSA) was not requested based on the amount of information received and generated during the initial review for this project in December 2024, followed by three (3) additional screenings in August 2025, September 2025, and April 2026. As before, there have been two (2) notable archaeological surveys conducted within the Cane River Valley (OSA Bibs #1184 and #2078). Eight (8) archaeological sites and seven (7) cemeteries have been recorded within one (1) mile of the three (3) new Study Area locations. None of the recorded archaeological sites and none of the cemeteries is situated within or immediately adjacent to any of the expanded Study Area locations. Digital copies of HPO's maps (Burnsville and Mt. Mitchell Quadrangles) as well as the HPOWEB GIS Service (<http://gis.ncdcr.gov/hpoweb/>) were reviewed again on Tuesday, June 16, 2026. There are no known historic architectural resources within or adjacent to the expanded Study Area locations; therefore, intact and significant archaeological deposits that may be found in association with such resources are not anticipated, especially within the footprint of what is to be repaired and restored. In addition, topographic maps, historic maps (NCMaps website), USDA soil survey maps, and aerial photographs were utilized and inspected again to gauge environmental factors that may have contributed to historic or precontact settlement within the project's expanded limits, and to assess the level of slope as well as modern, agricultural, hydrological, and other erosive-type disturbances within and surrounding each Study Area/APE.

*(This project falls within a North Carolina County in which the following federally recognized tribes have expressed an interest: 1) Catawba Indian Nation, 2) Cherokee Nation, 3) Eastern Band of Cherokee Nation, 4) United Keetoowah Band of Cherokee Indians, and 5) Muscogee (Creek) 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 project is still listed as federally funded and in need of a federal permit. As part of the project's resubmittal, permanent/temporary easements will not be required, although the need for additional ROW

was not conveyed. Based on the size and shape of the expanded Study Areas, activities may extend beyond what is or once was the NCDOT's existing ROW. If there were no Federal nexus for this project, please know that we would be in compliance with NC GS 121-12a, since there are no eligible (i.e., National Register-listed) archaeological resources located within the expanded Study Area locations. **None of the Environmentally Sensitive Areas (ESA) noted in previous screenings for the proposed project fall in close proximity to the expanded Study Area locations.**

From an environmental perspective, the expanded Study Areas consist of the existing ROW corridors for several secondary roads intersecting with NC 197 and Bee Branch (SR 1110) within the Cane River Valley along with additional acreage presumably to accommodate slope and/or stream bank stabilization efforts. Situated in the northern mountains of western North Carolina, the overall project falls within the southern Blue Ridge Mountain Physiographic Province with the expanded Study Area locations consisting of seventeen (17) soil units (including Water [W]) within ten (10) different soil series. Despite the presence of so many soil types, four (4) soil units make up 72% of the expanded Study Area locations (in order of prevalence): Toecane-Tusquitee complex, 8-15% slopes, bouldery (TuC), Thunder-Saunook complex, 2-8% slopes, very bouldery (TsB), Thunder-Saunook complex, 8-15% slopes, very bouldery (TsC), and Udifluvents, sandy-skeletal, frequently flooded (Uc). Based on statistical analysis, four (4) other soil units may have a "significant" amount of acreage within the expanded Study Areas and include: Toecane-Tusquitee complex, 15-30% slopes, very bouldery (TwD), Dillard clay loam, 2-8% slopes, rarely flooded (DrB), Saunook-Thunder complex, 15-30% slopes, stony (SdD), and Buladean-Chestnut complex, central mountain, 30-50% slopes, stony (BtE).

Map Unit	Map Unit Name	Acres in AOI	Percent of AOI
TuC	Toecane-Tusquitee complex, 8-15% slopes, bouldery	18.5	35.60%
TsB	Thunder-Saunook complex, 2-8% slopes, very bouldery	7.9	15.20%
TsC	Thunder-Saunook complex, 8-15% slopes, very bouldery	6	11.60%
Uc	Udifluvents, sandy-skeletal, frequently flooded	5.2	10.10%
TwD	Toecane-Tusquitee complex, 15-30% slopes, very bouldery	2.8	5.30%
DrB	Dillard clay loam, 2-8% slopes, rarely flooded	2.6	5.00%
SdD	Saunook-Thunder complex, 15-30% slopes, stony	2.4	4.60%
BtE	Buladean-Chestnut complex, 30-50% slopes, stony	1.8	3.50%
DeA	Dellwood-Reddies complex, 0-3% slopes, occasionally flooded	1.1	2.10%
EcD	Evard-Cowee complex, 15-30% slopes, stony	1	1.90%
W	Water	0.9	1.70%
ScC	Saunook sandy loam, 8-15% slopes, stony	0.7	1.30%
EcE	Evard-Cowee complex, 30-50% slopes, stony	0.4	0.80%
TsE	Thunder-Saunook complex, 30-50% slopes, very bouldery	0.4	0.70%
PwF	Porters-Unaka complex, 50-95% slopes, rocky	0.3	0.60%
BtF	Buladean-Chestnut complex, 50-95% percent slopes, stony	0.1	0.10%
TsD	Thunder-Saunook complex, 15-30% slopes, very bouldery	0	0.10%
<b>Totals for Area of Interest</b>		<b>52</b>	<b>100.00%</b>

Despite the presence of well drained characteristics, a large percentage of the expanded Study Areas is made up of overly steep/sloping topography (i.e., in excess of 15%) and/or consists of an extremely rocky/bouldery composition. Based on these factors alone, there is a low probability for intact and significant archaeological resources to be present within those portions of the expanded Study Area. In addition, that which falls within the actual Cane River valley/floodplain consists of frequently flooded, although excessively drained, soils that have since been washed away by flood waters. Within these areas, there is also a low probability for intact and significant archaeological resources to be present, and it has been

noted before that there are/were no known underwater resources along the Cane River channel, like fish weirs or dams. Although present in a small amount, Dellwood-Reddies complex soils, even prior to Hurricane Helene, have always been categorized as moderately well drained but are occasionally flooded and subject to scouring and deposition during flood episodes.

With such variables in mind (slope, drainage, etc.), further review was conducted of the area along Sunflower Drive noted as Dillard clay loam (DrB) to determine the likelihood that archaeological resources could be present. As a whole, there have been 334 archaeological sites documented within Yancey County, of which only thirteen (13) (3.8%) have been recorded in areas mapped or partially mapped as Dillard clay loam. Of those thirteen (13) sites, all but one have occurred within or immediately adjacent to major floodplain settings or drainages. Topographically, the expanded Study Area along Sunflower Drive does not equate to a major floodplain setting and would not be considered an ideal landform for stratigraphically intact archaeological materials to be present.

As noted in previous reviews for this project, OSA has screened a variety of projects for environmental compliance in the region, including commercial/residential development (ERs 00-10147 and 00-9405), Forest Service property and their management of invasive species (ERs 05-2799, 20-2404, and 21-0607), hydrology/stream restoration work (ERs 15-0640 and 21-2279), industrial development (ER 17-0395 and GS 22-1765), municipal/recreational projects (CHs 78-1257 and 17-1578 and ERs 99-8012, 21-0672, and 23-2433), transportation improvements (ER 84-7364), and utility upgrades (CH 86-0386 and ERs 00-8095, 17-2516, and 18-3555). Large-scale FEMA-based operations (ERs 24-0185, 24-0538, 24-1043, 24-1044, 24-2209, 24-2246, 25-1609, and 26-1949), land acquisitions (GS 24-2601), mining operations (ER 21-0701), and State Park expansions (GS 17-2893) have also been reviewed by OSA. Stating a low probability for intact and significant archaeological resources to be present based on the level of disturbances and poor soil conditions, OSA did not require an archaeological survey for over half of these projects; however, surveys were recommended and conducted for nine (9) of these projects, ranging in size from less than an acre at a bridge crossing the Cane River (TIP# B-1442) in 1984 (OSA Bib #1785) to large-scale surveys for the Mountain Air Country Club (OSA Bib #4616) and a natural gas pipeline expansion (OSA Bib #4576), all of which resulted in the documentation of fourteen (14) archaeological sites.

Many of the sites along the Cane River floodplain were recorded in the early 1980s as part of a Survey and Planning Grant between OSA and the Research Laboratories of Archaeology (RLA). “The Yancey County area was chosen for this preliminary reconnaissance survey due to the fact that few archaeological sites had been formally recorded for the locale (*at the time*), hence little was known concerning the archaeological potential and temporal reflection of prehistoric sites in the vicinity” (Dewert 1982:1). Based on the topography, it was assumed that most prehistoric sites would be located along the river floodplains or associated terraces and with somewhat less frequency along ridge/saddle areas at higher elevations. According to Dewert (1982:39), “There are two sections of river valley along the Cane River ... felt to be high probability areas for archaeological sites which may exhibit reliable stratigraphic sequences...The Cane River sections include: (A) the valley area bordered on the east by the Route 19E bridge over the Cane River at Riverside, west to the Cane River/Price Creek/Bald Creek confluences in the village of Bald Creek; (B) from the Cane River/Cattail Creek confluence in Pensacola south to the Cane River headwaters below Eskota.” **These high probability areas do not equate with any of the three (3) newly submitted expanded Study Area locations.**

In comparison, investigations located generally to the west of the overall NC 197 project focused on areas outside the Cane River floodplain (Drucker 1981). This survey resulted in the identification of nine (9) archaeological sites, “all but one of which were low to moderate density lithic scatters, and none were evaluated as having great significance because of their disturbed contexts. Evidence for prehistoric occupation was found chiefly on colluvial slopes and high terraces within three hundred meters of creeks, on slopes less than two to three percent” (Baker and Hall 1986:3, Drucker 1981:39). Additionally, the majority of site locations recorded within the Cane River Valley are situated on elevated terrace landforms

above the floodplain, although floodplain localities are also represented, though subject to frequent flooding with concomitant channel meandering (Dewert 1982; Baker and Hall 1986), with most of these sites having been heavily disturbed by a variety of cultural activities and natural factors. The 1977 flood within the valley is cited as a major contributor to site disturbance and probable destruction; this particular flood resulted in widespread damage including the complete removal of a number of agricultural fields. In some situations, it was necessary to haul in replacement fill to facilitate continued cultivation. As a point of reference, the November 1977 flood killed at least thirteen people and sixteen counties in western North Carolina were declared disaster areas. The most serious flooding occurred along the French Broad River downstream from Asheville and in Yancey County where nearly every bridge was washed out. Flooding destroyed 384 homes, 622 km of highway, and 12 dams (see Stewart et al. 1978, Eshner and Patric 1982, Witt 2005). **Ideal environmental settings (i.e., undisturbed, level terraces/floodplain settings) are not present within the expanded Study Areas locations.**

Within the immediate vicinity of each expanded Study Area location, NCDOT's Archaeology Group has not reviewed any other transportation-related projects (aside from all previous submittals of this project) for environmental compliance under the Programmatic Agreement (PA) with the State Historic Preservation Office (NC-HPO). Farther afield, within a five-mile buffer around the expanded Study Areas, twelve (12) additional PA projects have been reviewed internally. No archaeological surveys were recommended for most of these projects (10/12), citing various reasons (e.g., heavily disturbed, eroded, and/or poorly drained/steeply sloped contexts and/or the restrictive/constrained nature of each Study Area/APE [i.e., contained within existing ROW]). However, archaeological surveys were recommended and conducted for the two (2) remaining PA projects, based on the presence of previously recorded archaeological sites/historic resources and/or ideal environmental/topographical settings within each project area. As a result of those investigations, no archaeological sites were recorded. For more details, please see the files/forms for the following PA projects: 12-10-0038 and 24-03-0027.

Despite some of the information presented above, the nature of the proposed repairs and restoration work, current environmental conditions and land use, and the results of previously reviewed/surveyed projects in the surrounding area indicate that there is a low probability for significant prehistoric and/or historic archaeological materials to be present within the expanded Study Areas along Toodies Creek Road, Ray Farm Road, and Sunflower Drive. The proposed repairs along these roads should not impact anything that hasn't already been greatly disturbed by the infrastructure that was once present or the floodwaters brought about by Hurricane Helene. Therefore, it is believed that these expanded Study Areas, as depicted, are unlikely to contain intact and significant archaeological resources. No archaeological survey is required for this project. If design plans change or are made available prior to construction, then additional consultation regarding archaeology may be required. At this time, no further archaeological work is recommended. If archaeological materials are uncovered during project activities, then such resources will be dealt with according to the procedures set forth for "unanticipated discoveries," including notification of NCDOT's Archaeology Group.

## SUPPORT DOCUMENTATION/REFERENCES

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Eshner, A.R., and J.H. Patric

1982 Debris Avalanches in Eastern Upland Forests. *Journal of Forestry* 80:343-347.

Stewart, J.M., R.C. Heath, and J.N. Morris

1978 *Floods in Western North Carolina, November 1977*. Water Resources Research Institute of the University of North Carolina, Raleigh.

Witt, Anne Carter

2005 A Brief History of Debris Flow Occurrence in the French Broad River Watershed, Western North Carolina. *The North Carolina Geographer* 13:59-82.

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

**FINDING BY NCDOT ARCHAEOLOGIST: NO ARCHAEOLOGY SURVEY REQUIRED**

*Paul J Mohler*

June 19, 2026

NCDOT ARCHAEOLOGIST II

Date

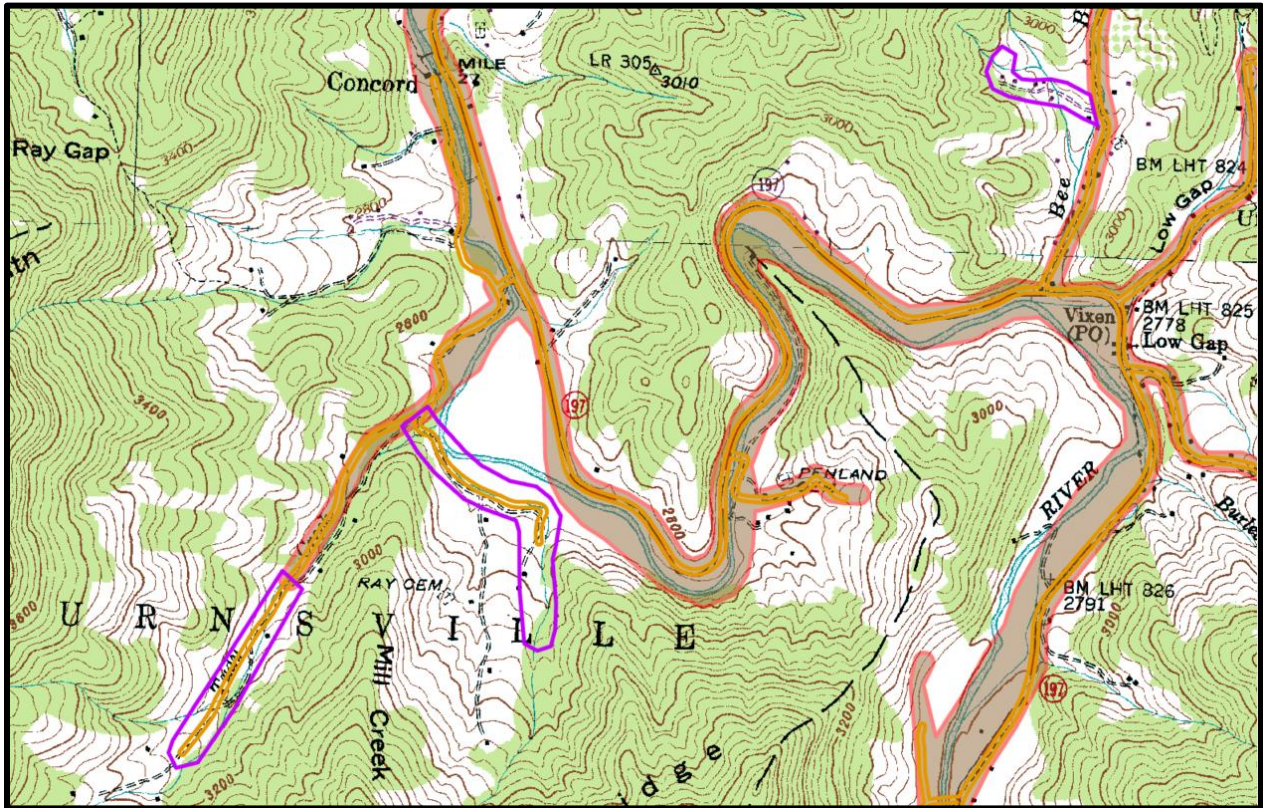


Figure 1: South – Mt. Mitchell, NC (USGS 1946 [1988]); North – Burnsville, NC (USGS 1998 [2001]) [Orange = Initial APE; Shaded Red = New/Revised Study Area; Purple = Expanded Study Areas].

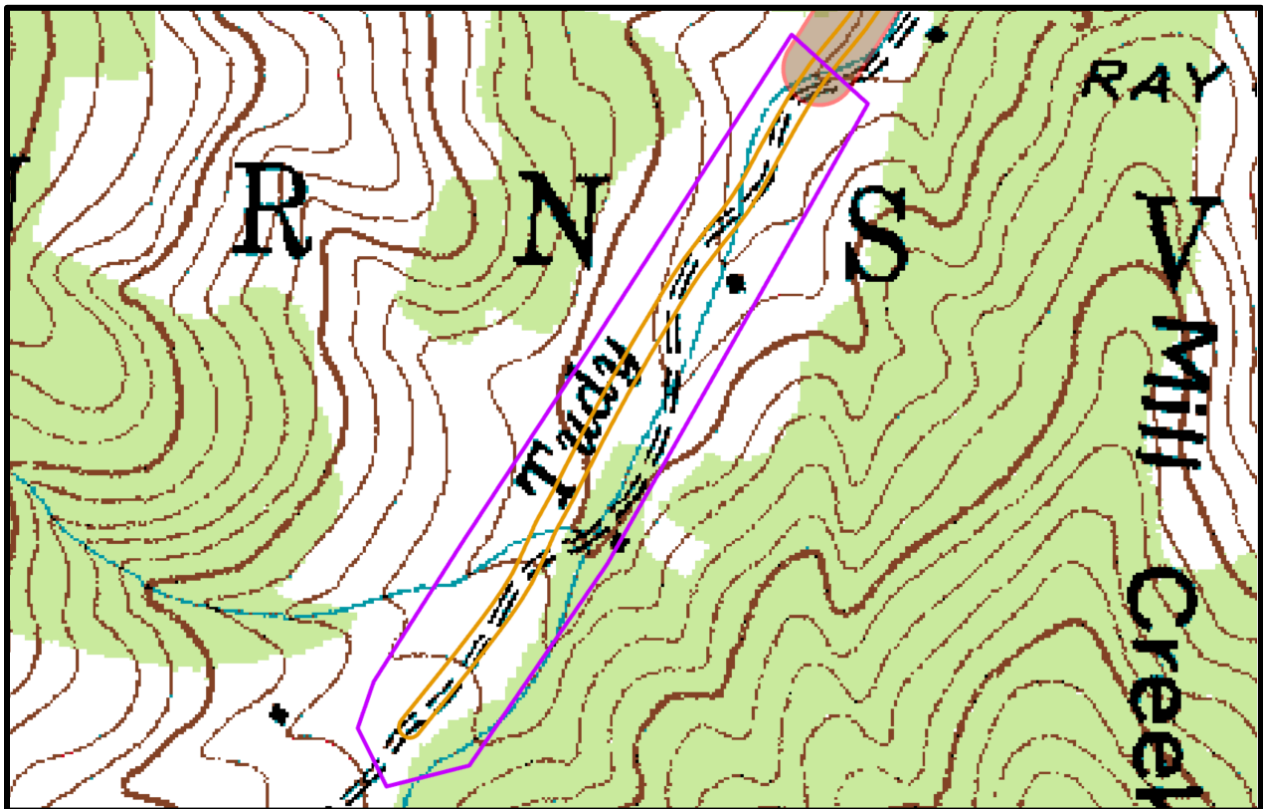


Figure 2: Mt. Mitchell, NC (USGS 1946 [1988]) [Orange = Initial APE; Shaded Red = New/Revised Study Area; Purple = Expanded Study Area along Toodies Creek Road].

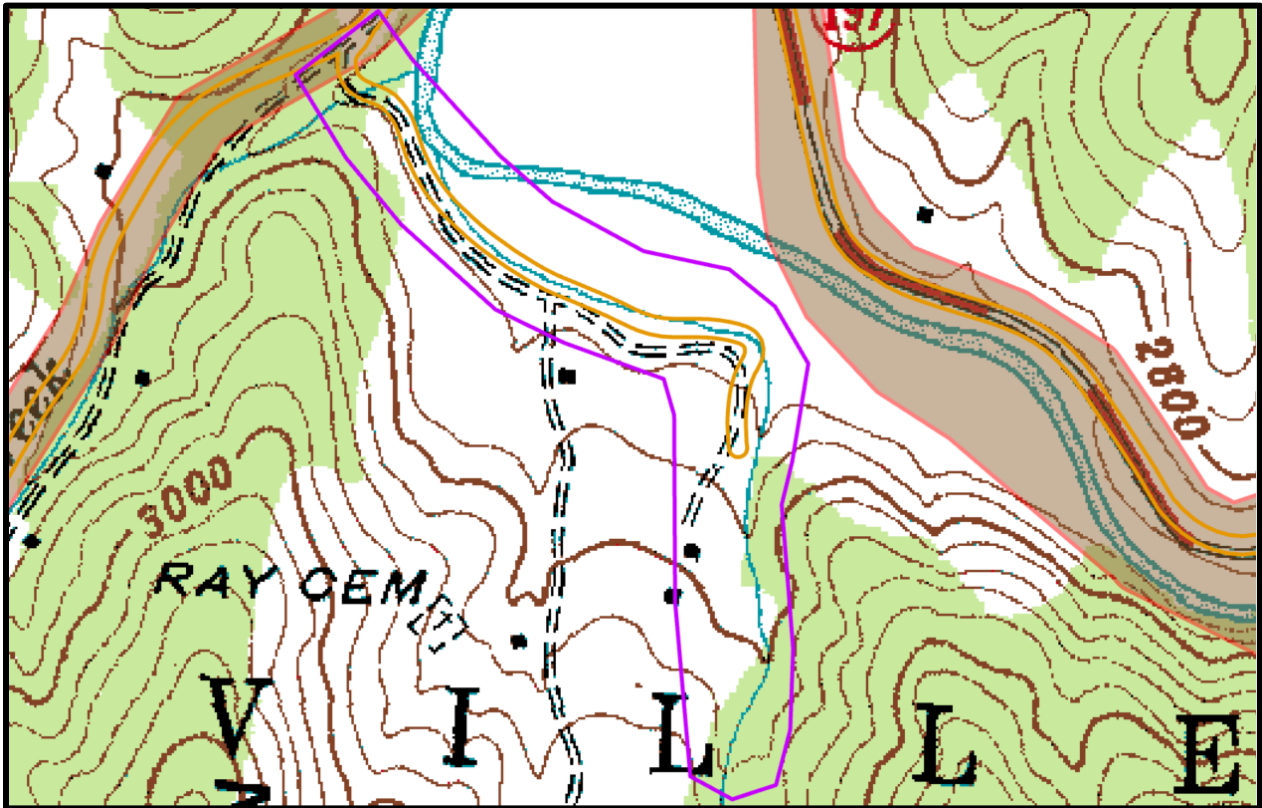


Figure 3: Mt. Mitchell, NC (USGS 1946 [1988]) [Orange = Initial APE; Shaded Red = New/Revised Study Area; Purple = Expanded Study Area along Ray Farm Road].

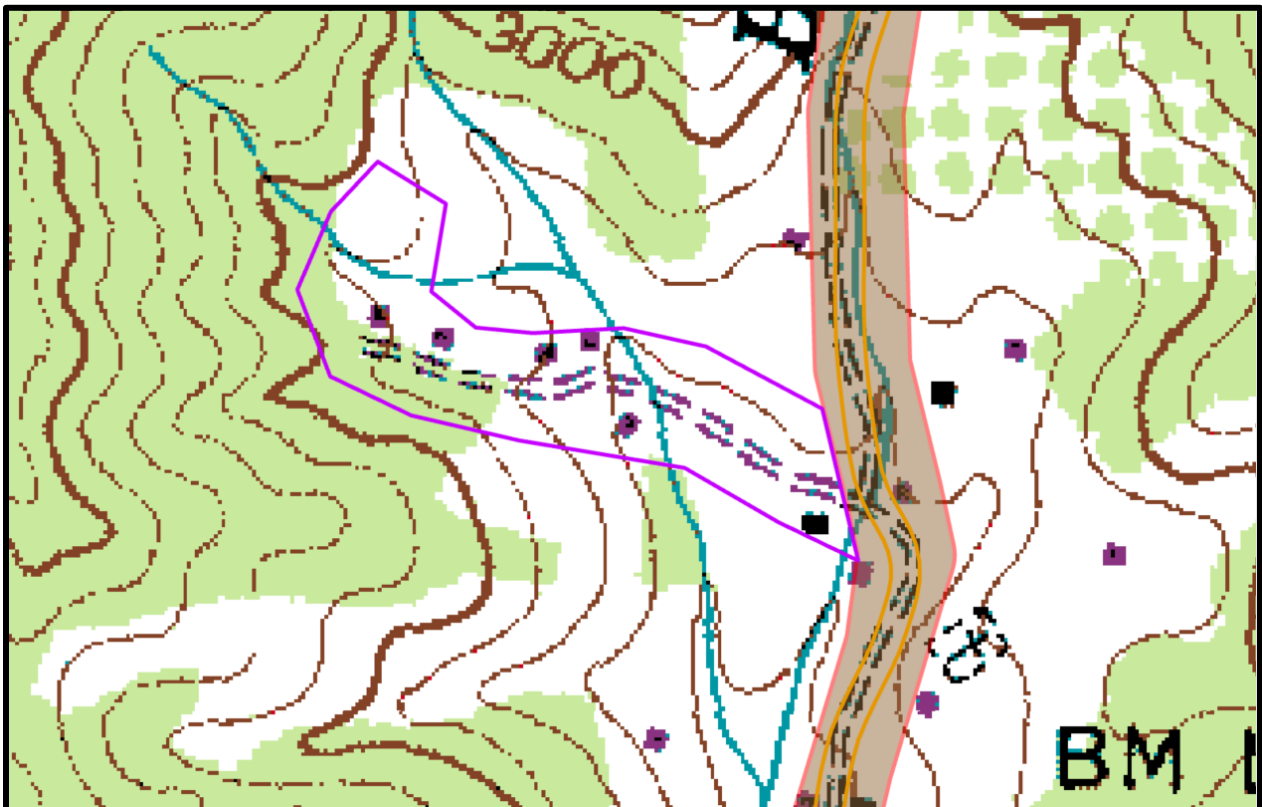
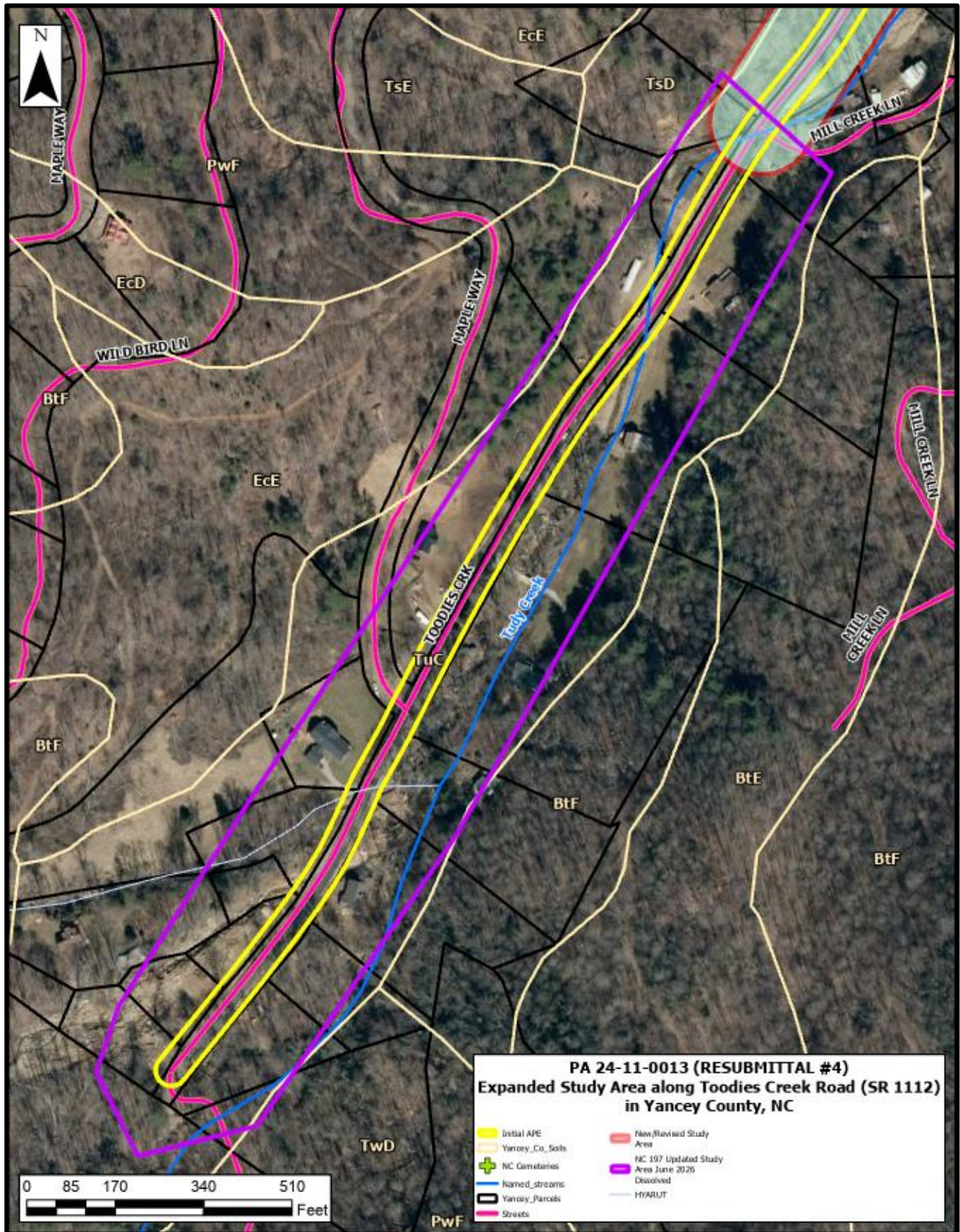
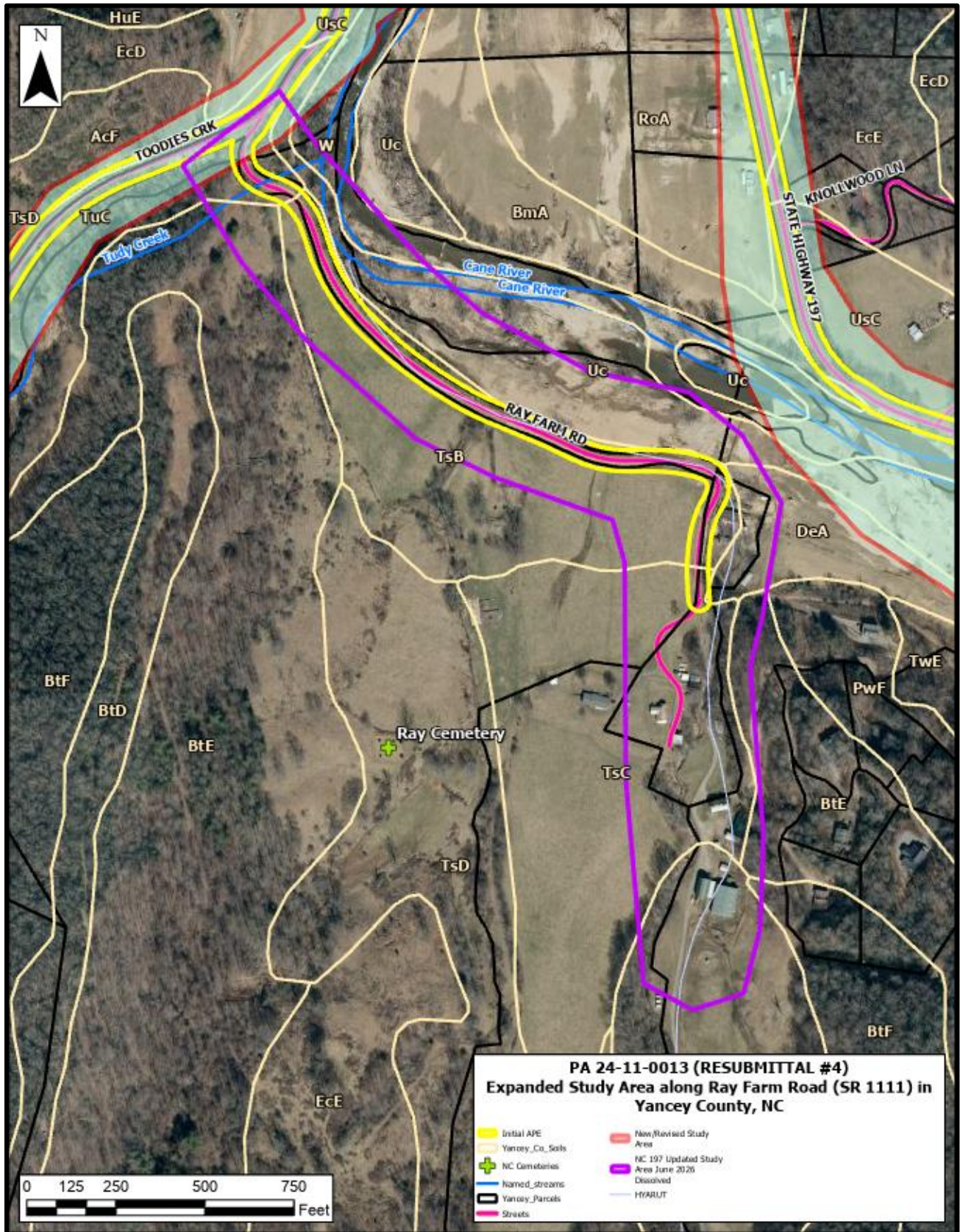
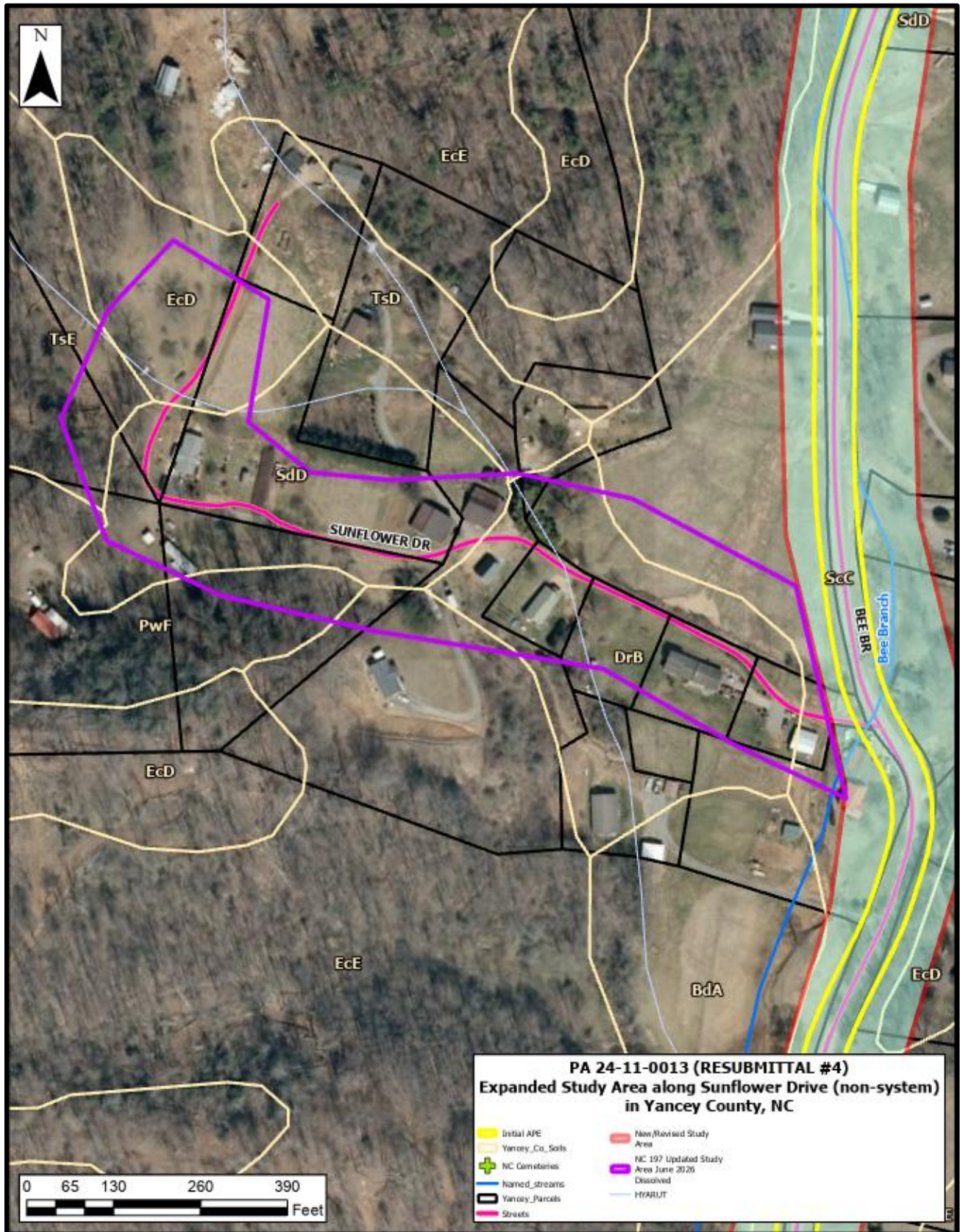


Figure 4: Burnsville, NC (USGS 1998 [2001]) [Orange = Initial APE; Shaded Red = New/Revised Study Area; Purple = Expanded Study Area along Sunflower Drive].







Historic  
Architecture  
&  
Landscapes

25-03-0016



## HISTORIC ARCHITECTURE AND LANDSCAPES ASSESSMENT OF EFFECTS FORM

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

### PROJECT INFORMATION

<b>Project No:</b>	No TIP	<b>County:</b>	Yancey and Mitchell
<b>WBS No.:</b>	18313.1100996	<b>Document Type:</b>	Federal CE
<b>Fed. Aid No:</b>		<b>Funding:</b>	<input type="checkbox"/> State <input checked="" type="checkbox"/> Federal
<b>Federal Permit(s):</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Permit Type(s):</b>	USACE

#### **Project Description:**

In response to the aftermath of Hurricane Helene, NCDOT's Division 13 proposes to repair/restore sections of NC 197 North in the general area of Green Mountain and repave SR 1338 in Yancey and Mitchell Counties. This effects assessment only applies to the specific repairs described below:

- replacement of Bridge 229 over the North Toe River;
- replacement of Bridge 171 over Jacks Creek;
- repair of Bridge 61 over the North Toe River;
- repair of Bridge 172 over Pigpen Creek;
- repaving of Toe River Road (SR 1338) east between NC 197 North and Jacks Creek Road;

**Other effects assessments for the remaining work on NC 197 North PA # 25-03-0016 will be recorded on separate PA forms when the design plans are available.**

## SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

### Description of review activities, results, and conclusion

A North Carolina Department of Transportation (NCDOT) architectural historian reviewed the known historic properties in proximity to the two bridge replacement projects using HPOWeb, Yancey and Mitchell Counties GIS, survey site files from the HPO Western Office, and NCDOT's 2023 Historic Bridge Inventory in March 2025. In April 2025, the architectural historian conducted a site visit and confirmed that there were determined eligible and potentially eligible historic properties in the APE for area around NC 197 North near the communities of Green Mountain and Relief. After the survey in April 2025 it was confirmed that the Green Mountain Depot (ML0048, Study-listed) had been demolished (possibly prior to Hurricane Helene) and no longer requires evaluation for the National Register of Historic Places (NRHP).

A NRHP eligibility evaluation was completed by NCDOT for **Yancey County Bridge 171 (YC0250)** in 2005 and the HPO concurred that the 1923 Luten arch structure is eligible for listing in the NRHP under Criterion C as one of two remaining Luten arches on the state system. This eligibility was confirmed in the 2023 update to the statewide Historic Bridge Survey.



In order to expedite overall project delivery of WBS# 18313.1100996 the Federal Highway Administration (FHWA) North Carolina Division, NCDOT, and North Carolina Historic Preservation Office (NC-HPO) have mutually agreed to treat the following 4 (four) unassessed properties as NRHP-eligible for the sole purpose of advancing the emergency project to assess the potential effects of the project under Section 106 of the National Historic Preservation Act (NHPA). NRHP eligibility evaluations will be undertaken for these properties and submitted to NC-HPO. Treating the following properties as eligible for project WBS# 18313.1100996 does not extend to any future undertaking.

1. Green Mountain Presbyterian Church at 299 Toe River Road



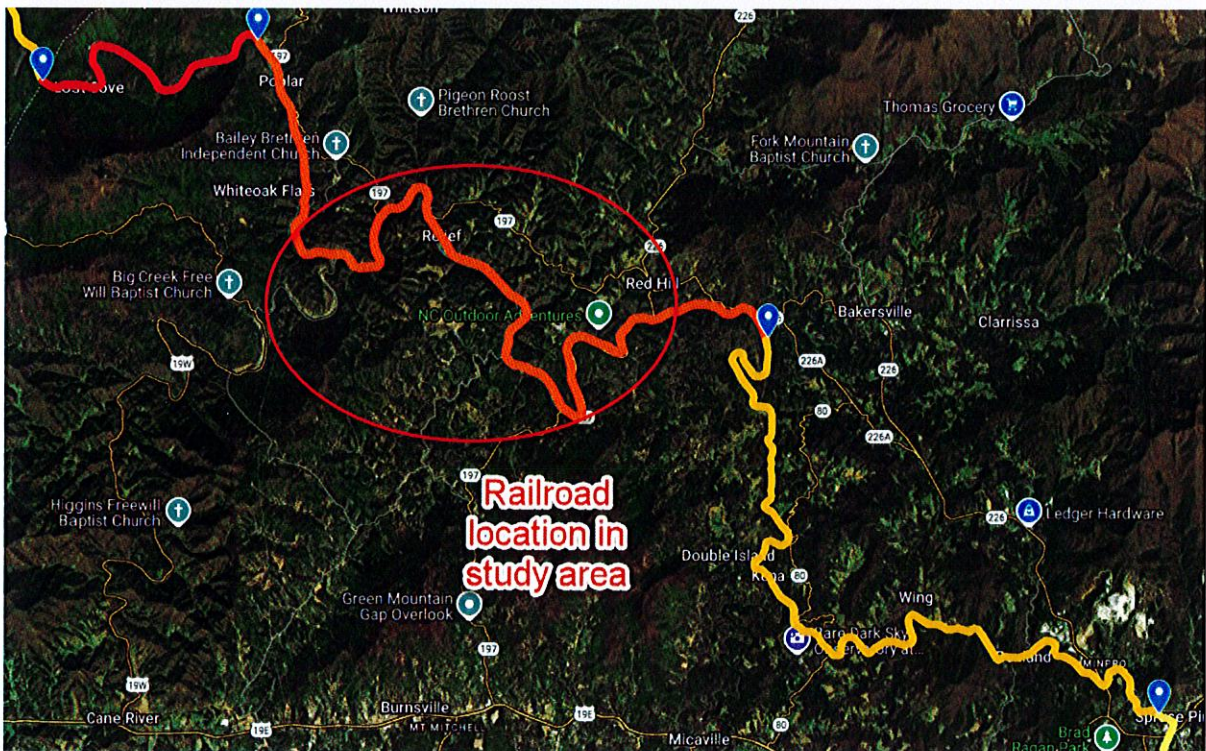
2. JW Howell Store (OC Whitson Store) in Green Mountain at 273 Toe River Road



3. YC0177 Laus Peterson House at 29 Toe River Road



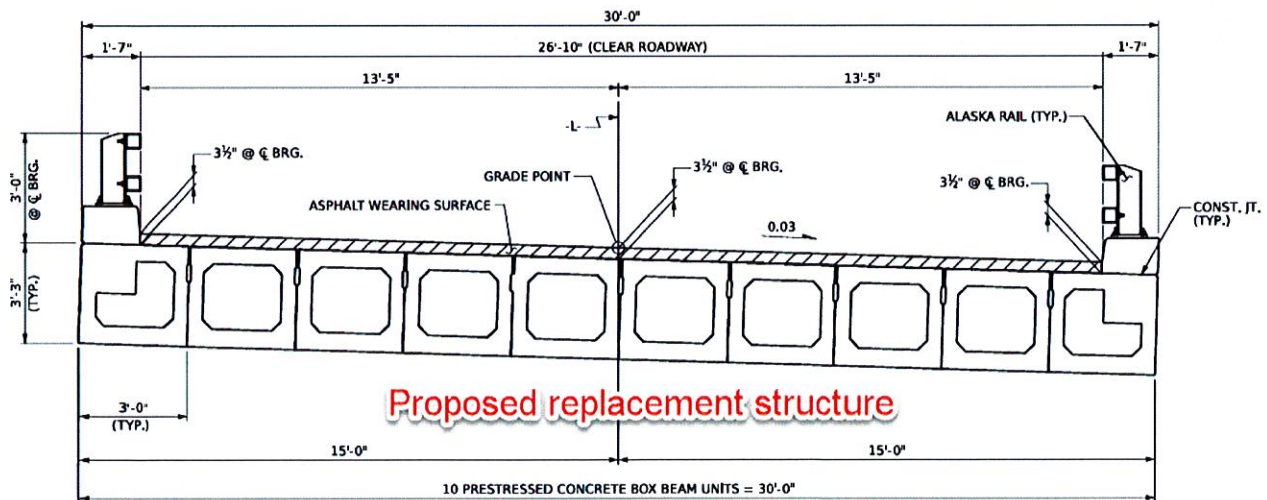
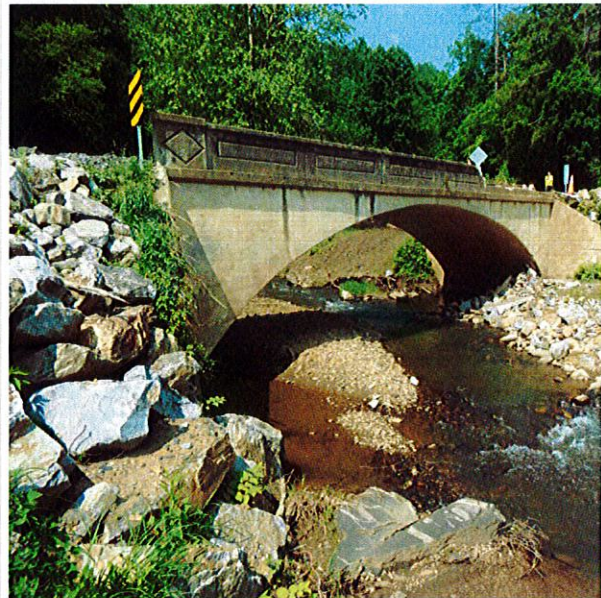
4. Clinchfield Railroad [includes Mitchell County Bridges 215 & 216]

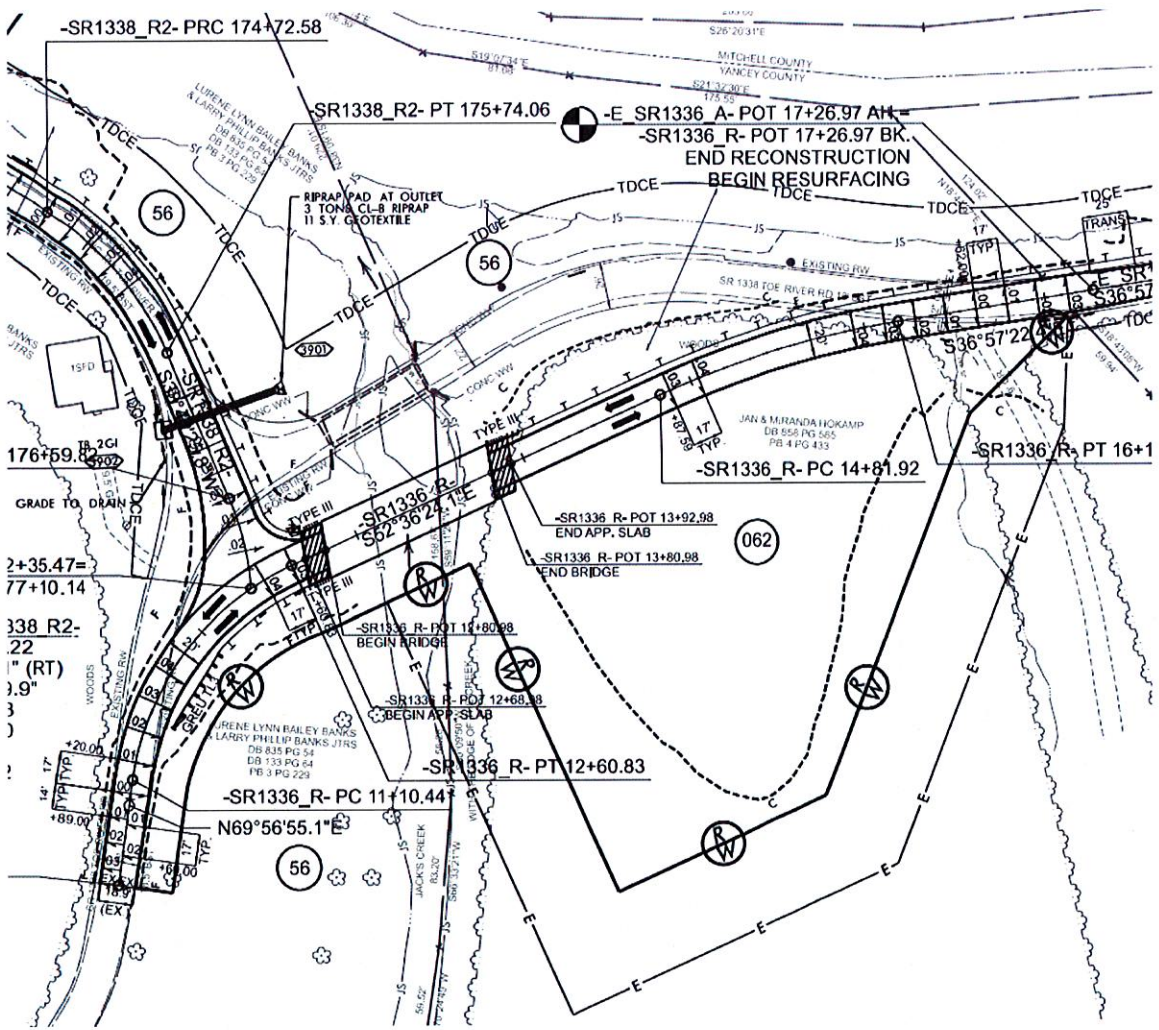


## ASSESSMENT OF EFFECTS

<b>Property Name:</b>	Yancey County Bridge 171	<b>Status:</b>	DE Criterion C
<b>Survey Site No.:</b>	YC0250	<b>PIN:</b>	none
<b>Effects</b>			
<input type="checkbox"/> No Effect <input type="checkbox"/> No Adverse Effect <input checked="" type="checkbox"/> Adverse Effect			
<b>Explanation of Effects Determination:</b> Existing Luten arch will be removed and replaced with a new structure downstream. New structure will be a concrete box beam with two-bar metal rails on each side.			
<b>List of Environmental Commitments:</b> Memorandum of Agreement will be prepared for the removal of the historic bridge. Stipulations unknown at this time.			

**Bridge 171 (YC0250)- Post-Helene Photographs**

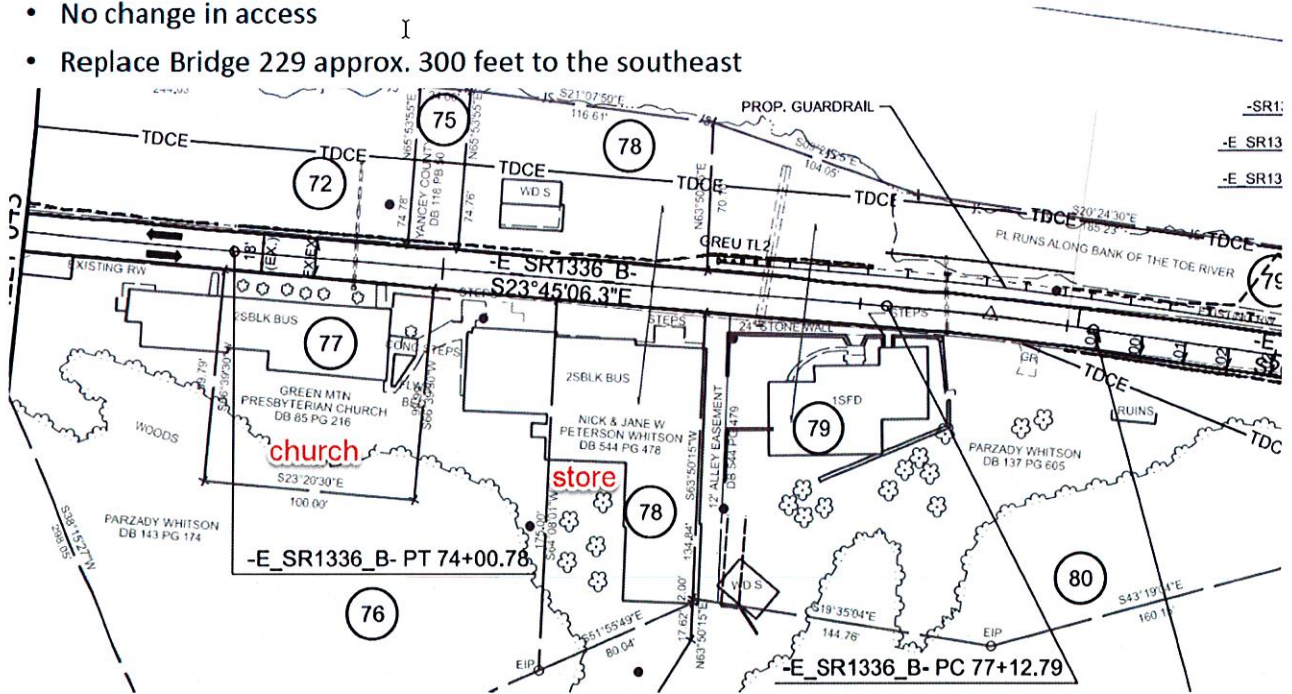




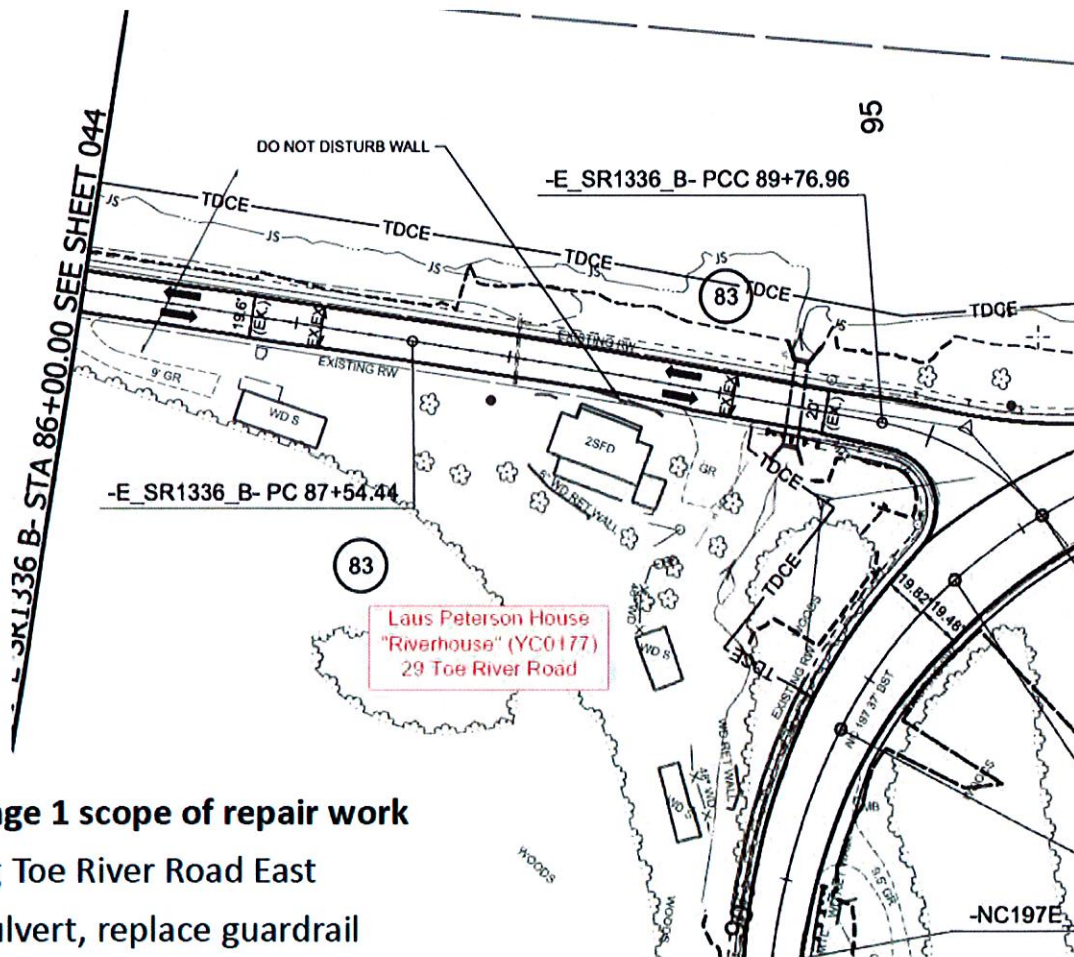
<b>Property Name:</b>	Green Mountain Presbyterian Church	<b>Status:</b>	unassessed
<b>Survey Site No.:</b>	unassigned	<b>PIN:</b>	083300528573000
<b>Effects</b>			
<input checked="" type="checkbox"/> No Effect <input type="checkbox"/> No Adverse Effect <input type="checkbox"/> Adverse Effect			
<b><u>Explanation of Effects Determination:</u></b> NCDOT plans to repave Toe River Road East and install guardrail as needed on the river side of the road. There will be no change in access to the property, and no construction impacts to the store, steps or retaining wall.			
<b><u>List of Environmental Commitments:</u></b> NCDOT will evaluate the eligibility of this church using National Register criteria and submit the report to HPO for comments. If impacts to the property are greater than those shown on the attached plans, NCDOT will re-assess effects with HPO, FHWA, and USACE. If the property is determined <u>not eligible</u> , then no further coordination is required.			

<b>Property Name:</b>	JW Howell Store	<b>Status:</b>	unassessed
<b>Survey Site No.:</b>	unassigned	<b>PIN:</b>	083300529319000
<b>Effects</b>			
<input checked="" type="checkbox"/> No Effect <input type="checkbox"/> No Adverse Effect <input type="checkbox"/> Adverse Effect			
<b><u>Explanation of Effects Determination:</u></b> NCDOT plans to repave Toe River Road East and install guardrail as needed on the river side of the road. There will be no change in access to the property and no construction impacts to the store, steps or retaining wall.			
<b><u>List of Environmental Commitments:</u></b> NCDOT will evaluate the eligibility of this store using National Register criteria and submit the report to HPO for comments. If impacts to the property are greater than those shown on the attached plans, NCDOT will re-assess effects with HPO, FHWA, and USACE. If the property is determined <u>not eligible</u> , then no further coordination is required.			

- Repaving Toe River Road East
- Install guardrail on north side of road, as needed.
- No change in access
- Replace Bridge 229 approx. 300 feet to the southeast



<b>Property Name:</b>	Laus Peterson House	<b>Status:</b>	unassessed
<b>Survey Site No.:</b>	YC0177	<b>PIN:</b>	083300614330000
<b>Effects</b>			
<input checked="" type="checkbox"/> No Effect <input type="checkbox"/> No Adverse Effect <input type="checkbox"/> Adverse Effect			
<b>Explanation of Effects Determination:</b> NCDOT plans to repave Toe River Road East and replace guardrail. There will be no change in access to the property and no construction impacts to the house, rock wall, and culvert.			
<b>List of Environmental Commitments:</b> NCDOT will evaluate the eligibility of YC0177 using National Register criteria and submit the report to HPO for comments. If impacts to the property are greater than those shown on the attached plans, NCDOT will re-assess effects with HPO, FHWA, and USACE. If the property is determined <u>not eligible</u> , then no further coordination is required.			



**Work Package 1 scope of repair work**

- Repaving Toe River Road East
- Retain culvert, replace guardrail



<b>Property Name:</b>	Clinchfield Railroad	<b>Status:</b>	unassessed
<b>Survey Site No.:</b>	unassigned	<b>PIN:</b>	multiple

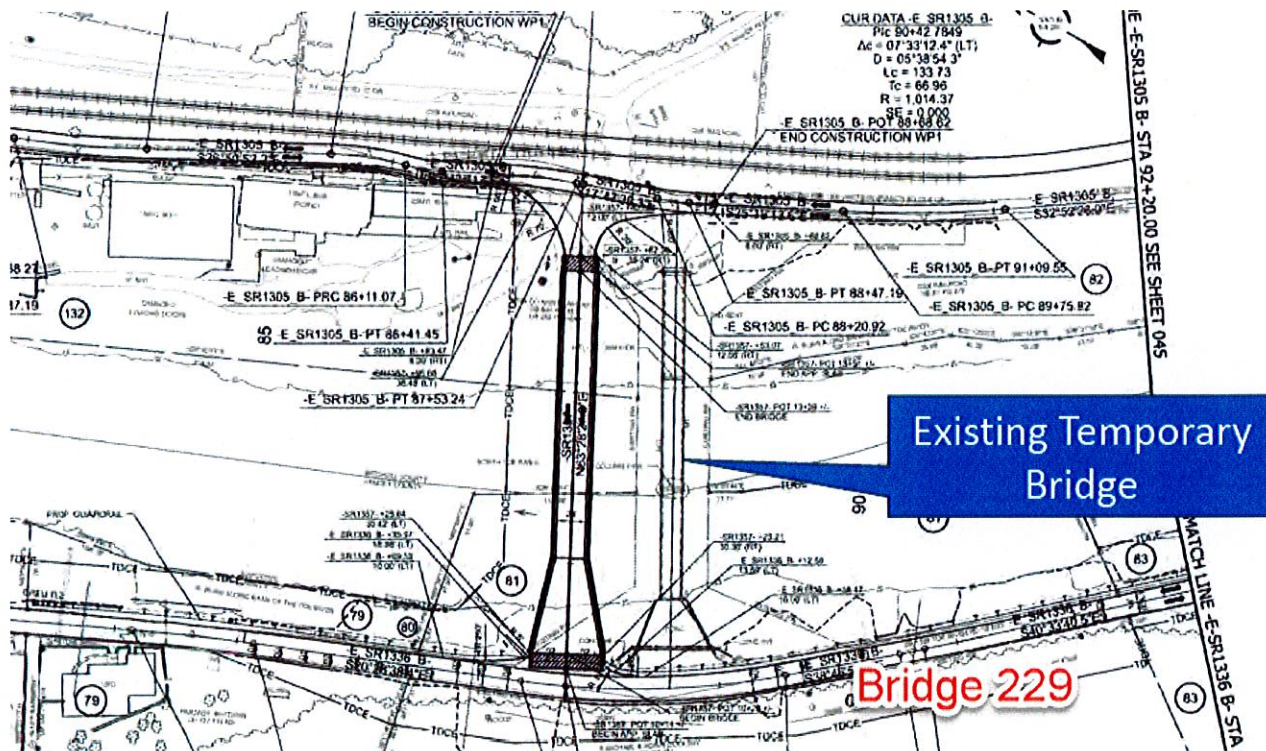
**Effects**

No Effect                       No Adverse Effect                       Adverse Effect

**Explanation of Effects Determination:** Bridges 229 and 61 will be replaced and the railroad crossings will be repaved. CSX (the current owners of the Clinchfield Railroad) made repairs to their line after Hurricane Helene so any impacts to the line would have been incurred by CSX.

**List of Environmental Commitments:**

NCDOT will evaluate the eligibility of this railroad using National Register criteria and submit the report to HPO for comments. If impacts to the property are greater than those shown on the attached plans, NCDOT will re-assess effects with HPO, FHWA, and USACE. If the line is determined not eligible, then no further coordination is required.





**SUPPORT DOCUMENTATION**

**FHWA Intends to use the State Historic Preservation Office's concurrence as a basis for a "de minimis" finding for the following properties, pursuant to Section 4(f):**

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

**FINDING BY NCDOT AND STATE HISTORIC PRESERVATION OFFICE**

Historic Architecture and Landscapes – ASSESSMENT OF EFFECTS

Mary Pope 1/21/2026  
NCDOT Architectural Historian Date

Renee Medhill-Easley 1/21/2026  
State Historic Preservation Office Representative Date

[Signature] 1/21/26  
Federal Agency Representative Date

# Tribal Coordination



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**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: 18313.1100996, NC 197 North Permanent Repairs

Dear Karina Clough:

The Cherokee Nation (Nation) is in receipt of your correspondence about **18313.1100996**, 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, Tribal Historic Preservation Officer  
Cherokee Nation Tribal Historic Preservation Office  
elizabeth-toombs@cherokee.org  
918.453.5389

# NEPA Document

**Type I or II Categorical Exclusion Action Classification Form**

STIP Project No.	<b>Helene Permanent Repairs, NC 197 South</b>
WBS Element	18313.1100997
Federal Project No.	N/A

**A. Project Description:**

North Carolina Department of Transportation (NCDOT) proposes permanently repairing approximately 10 miles of NC 197 from East Main Street in Burnsville to south of Murchinson in Yancey County. This project also includes repairs to approximately 10 miles of eight connected secondary roads (SR). These repairs are necessary as a result of damage from Hurricane Helene, September 2024. (See **Figure 1.**)

The project study area varies along NC 197 and secondary roads but minimally includes a 20-foot buffer on either side of the roadway. Where sections of roadway parallel the Cane River and tributaries, the study area extends across the water and includes an additional 20 feet beyond the riverbank. (See **Figures 2a-2g.**)

The proposed repair activities include surface milling and overlay, shoulder and guardrail repair, pavement patching and sealing, and drainage structure maintenance. The proposed reconstruction activities include the removal and replacement of pavement, pavement resurfacing, subgrade stabilization, roadway embankment construction and reinforcement, retaining wall construction, river re-establishment, utility relocation and construction, and the replacement of structures including culverts and bridges (see **Table 1** and **Table 2**). Existing pipes along the roadway will be retained if possible and extended or replaced as needed. These activities are listed in **Table 1** and **Table 2** and shown south to north on **Figures 3a to 3g.**

**Table 1. Permanent Roadway Repairs**

<b>Location</b>	<b>Type of Action</b>
Approx. 4.38 miles of total repairs to NC 197	Repair
Approx. 2.18 miles of total repairs to SR 1109 (Bolens Creek Road)	
Approx. 0.68 mile of total repairs to SR 1110 (Bee Branch Road)	
Approx. 0.25 mile of total repairs to SR 1113 (Concord Church Road)	
Approx. 1.11 miles of total repairs to SR 1112 (Toodies Creek Road)	
Approx. 0.07 mile of total repairs to SR 1111 (Ray Farm Road)	
Approx. 0.21 mile of total repairs to SR 1179 (Powell Road)	
Approx. 1.08 miles of total repairs to SR 1184 (Riverview Road)	
Approx. 5.18 miles of total reconstruction to NC 197	
Approx. 1.54 miles of total reconstruction to SR 1109	
Approx. 0.30 mile of total reconstruction to SR 1113	
Approx. 0.02 mile of total reconstruction to SR 1111	
Approx. 0.09 mile of total reconstruction to SR 1179	
Approx. 2.52 miles of total reconstruction to SR 1100 (Wilson Road)	

The proposed project also includes the repair and replacement of the following structures, including bridges and major pipe crossings, which are defined as pipes greater than or equal to 36 inches in diameter and 60 feet in length. (See **Figures 3a to 3g.**)

**Table 2. Structure Improvements**

<b>Structure No.</b>	<b>Pre-Storm Structure Description*</b>	<b>Proposed Structure Description</b>
990051	Constructed 1939; 25'x53' two span steel beam with a timber deck; AADT (2025) 1,450 vpd	Replace pre-storm structure with a single span steel beam with a concrete deck 32.6'x70'
990098	Constructed 1963; 25.3'x35' single span steel beam with a timber deck; AADT (2025) 1,750 vpd	Replace pre-storm structure with a single span prestressed concrete cored slab bridge 30'x55'
990180	Constructed 1978; 30.3'x137' three span prestressed concrete cored slab bridge; AADT (2025) 100 vpd	Replace pre-storm structure with a three span prestressed concrete cored slab bridge 30'x152.5'
990185	Constructed 1994; 25.5'x36' single span steel beam with a timber deck; AADT (2025) 100 vpd	Replace pre-storm structure with a single span prestressed concrete cored slab bridge 30'x45'
990046	Constructed 1951; 30'x70' two-span reinforced concrete slab; AADT (2019) 550 vpd	Repairs to railing, foundation, wing wall, and roadway approach
990054	Constructed 2015; 24'x27' single span prestressed concrete cored slab; AADT (2019) 200 vpd	Repairs to concrete end bents, barrier rails, scour hole, resurfacing asphalt deck, and replacing guardrails
990253	Constructed 2008; 16.7'x25' single span reinforced concrete with timber floor; AADT (2016) 80 vpd	Repairs to barrier rail, concrete beams, end bents, and resurfacing asphalt deck
990135**	Constructed 1979; 20.2'x162' four-span prestressed concrete cored slab bridge; AADT (2000) 130 vpd	Replace pre-storm structure with a three-span prestressed concrete cored slab bridge 30'x180'
990136**	Constructed 1962; 30.3'x50' two-span timbered deck bridge; AADT (2016) 420 vpd	Replace pre-storm structure with a single span prestressed concrete cored slab bridge 30'x70'
990287**	Constructed 1978; 30.3'x162' four-span prestressed concrete cored slab bridge; AADT (1996) 80 vpd	Replace pre-storm structure with a three-span prestressed concrete cored slab bridge 30'x180'
990040	Constructed 1985; 26.8'x160' three-span prestressed concrete slab bridge; AADT (2019) 250 vpd	Repairs to approach and wing walls
Pipe #1	36"x73' Corrugated Metal Pipe (CMP)	Replace pre-storm structure with two 42"x73' Reinforced Concrete Pipes (RCP) (Dual RCP)
Pipe #2	30"x65' CMP	Replace pre-storm structure with 60"x110' RCP
Pipe #3	18"x84' CMP	Replace pre-storm structure with two 42"x84' RCPs (Dual RCP)
Pipe #4	30"x198' CMP	Replace pre-storm structure with two 42"x198' RCPs (Dual RCP)
Pipe #5	18"x82' CMP	Replace pre-storm structure with a 66"x82' RCP
Pipe #6	72"x37' CMP	Replace pre-storm structure with a 72"x64' RCP
Pipe #7	24"x47' CMP	Replace pre-storm structure with a 60"x63' RCP
Pipe #8	36"x68' CMP	Replace pre-storm structure with a 42"x94' RCP
Pipe #9	72"x40' CMP	Replace pre-storm structure with a 72"x71' RCP

<b>Structure No.</b>	<b>Pre-Storm Structure Description*</b>	<b>Proposed Structure Description</b>
Pipe #10	36"x62' HDPE	Replace pre-storm structure with two 48"x61' RCPs (Dual RCP)
Pipe #11	48"x70' HDPE	Replace pre-storm structure with two 66"x104' RCPs (Dual RCP)
Pipe #12	48"x52' HDPE	Replace pre-storm structure with two 66"x69' RCPs (Dual RCP)
Pipe #13	36"x42' CMP	Replace pre-storm structure with two 42"x79' RCPs (Dual RCP)
Pipe #14	24" CMP/HDPE	Replace pre-storm structure with a 36"x103' RCP
Pipe #15	96"x60"x51' Corrugated Metal Pipe Arch	Replace pre-storm structure with 16'x8'x51' Aluminum Box Culvert
Pipe #16	24" CMP	Replace pre-storm structure with 48"x65' High Density Polyethylene (HDPE)/RCP
Pipe #17	42"x44' RCP	Replace pre-storm structure with a 42"x60' HDPE/RCP
Pipe #18	36" CMP	Replace pre-storm structure with a 48"x90' HDPE/RCP
<p><i>*AADT (annual average daily traffic) values were sourced from the most recent reoccurring 24-month Routine Structure Safety Reports for each structure; vpd=vehicles per day.</i></p> <p><i>**Bridge 990287, Bridge 990135, and Bridge 990136 were previously evaluated under a Type I(B) CE, Approved September 2025</i></p>		

Minimal new permanent right-of-way (ROW) and/or temporary easements will be required to complete the proposed project. Following construction of the permanent replacement bridges, the temporary bridges and temporary approach roadways will be removed and those areas restored to pre-Helene conditions. Following construction of the permanent replacement bridges, the temporary bridges currently being used for Bridges 990135, 990136, and 990287 and temporary approach roadways will be removed and those areas revegetated to pre-Helene conditions. Temporary bridges will be used for the construction of permanent replacement of Bridges 990051 and 990180; these temporary bridges and temporary roadway approaches will be removed after construction.

**B. Description of Need and Purpose:**

In September 2024, Hurricane Helene produced an unprecedented amount of rain and wind in Western North Carolina. This resulted in swollen streams and rivers and landslides, causing catastrophic damage to critical roadway infrastructure, including NC 197 along the Cane River and eight connecting secondary roads. Twenty-eight structures and major pipe crossings were critically damaged or completely destroyed by the velocity of the water. Roadway fill slopes were also scoured out by the floodwaters and debris. The purpose of the project is to permanently reestablish critical roadway infrastructure damaged or destroyed by Hurricane Helene in Yancey County and, where feasible, install resiliency features to protect the roadway in future flood events.

**C. Categorical Exclusion Action Classification:**

**Type II(B) - Ground Disturbing Action**

**D. Proposed Improvements:**

13. Actions described in paragraphs 26, 27, and 28 of Appendix A that do not meet the constraints in 23 CFR 771.117(e)(1-6).

26. Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (including parking, weaving, turning, and climbing lanes).

28. Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings.

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.

E. Special Project Information:

**Previous Environmental Studies**

- Type I(A) CE, July 2025, begin geotechnical activities along the NC 197 South corridor.
- Type I(B) CE, September 2025, to address the proposed action of permanently replacing Bridge 990287, Bridge 990135, and Bridge 990136.
- Type II(A) CE, November 2025, to facilitate acquisition of Temporary Disaster Construction Easement (TDCE).

**Natural Environment**

The Black Mountains, Cane River Upper Watershed, and French Broad River (FBR)/Cane River Aquatic Habitat are listed as Natural Areas by the North Carolina Natural Heritage Program (NCNHP) located within one mile of each of the proposed actions. (See project file). The project's proposed roadway improvement sections and structures will incur impacts within the limits of natural areas. Temporary fill impacts to the FBR/Cane River Aquatic Habitat are anticipated to result from the proposed construction of structures because of dewatering associated with construction of interior bents, demolition of temporary bridge abutments, construction of permanent bridge abutments, and riverbank stabilization activities within the Cane River.

The Natural Resources Technical Report (NRTR) defines the NC Division of Water Resources (DWR) surface water classifications for the streams in the proposed action areas. Compensatory mitigation is required for permanent impacts caused by the proposed project. (See project file.)

**Threatened & Endangered Species**

**Table 3** summarizes the threatened and endangered species for the project area. As of April 15, 2026, there are 15 federally protected species under the Endangered Species Act (ESA) within the vicinity of the proposed project according to the US Fish and Wildlife (USFWS) Information Planning and Consultation (IPaC) database. USFWS identified no Critical Habitats within the project area.

The USFWS issued a Biological Opinion/Consultation Opinion (BO/CO) for the NC 197 Corridor, including the NC 197 South Project, on June 11, 2026. The biological conclusions included in **Table 3** are consistent with those in the BO/CO.

**Table 3. Threatened & Endangered Species (IPaC April 15, 2026)**

Scientific Name	Common Name	Federal Status	Biological Conclusion
<i>Glaucomys sabrinus coloratus</i>	Carolina Northern flying squirrel	E	No Effect
<i>Myotis grisescens</i>	Gray bat	E	MALAA
<i>Myotis septentrionalis</i>	Northern long-eared bat	E	
<i>Perimyotis subflavus</i>	Tricolored bat	PE	
<i>Glyptemys muhlenbergii</i>	Bog turtle	SAT	Not Required
<i>Cryptobranchus alleganiensis</i>	Eastern hellbender	PE	MALAA
<i>Alasmidonta raveneliana</i>	Appalachian elktoe	E	
<i>Danaus plexippus</i>	Monarch butterfly	PT	MANLAA
<i>Microhexura montivaga</i>	Spruce-fir moss spider	E	No Effect
<i>Solidago spithamea</i>	Blue Ridge goldenrod	T	
<i>Hedyotis purpurea var. montana</i>	Roan Mountain bluet	E	
<i>Isotria medeoloides</i>	Small whorled pogonia	T	MANLAA
<i>Geum radiatum</i>	Spreading avens	E	No Effect
<i>Spiraea virginiana</i>	Virginia spiraea	T	MANLAA
<i>Gymnoderma lineare</i>	Rock gnome lichen	E	No Effect

E–Endangered; PE–Proposed Endangered; SAT–Similarity of Appearance (Threatened); PT–Proposed Threatened; T–Threatened. MALAA–May Affect Likely to Adversely Affect; MANLAA–May Affect Not Likely to Adversely Affect.

**Eastern Hellbender**

The USFWS proposed to list the eastern hellbender as an endangered species under the ESA in December 2024. However, as of December 2025 the final decision has been delayed, and the status has been moved to “long-term action,” meaning no final ruling is expected for at least another year. No regulatory protections will take effect until the listing is finalized. Until that time, proposed species do not receive formal ESA protections, though 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 CO. If, and when, the listing is finalized, and at the agency’s request, the Service may adopt the CO as a BO—provided no relevant new information has emerged and no substantial changes to the proposed action have occurred.

**Monarch Butterfly**

The USFWS proposed to list the monarch butterfly as a threatened species under the ESA in December 2024. However, as of December 2025 the final decision has been delayed, and the status has been moved to “long-term action,” meaning no final ruling is expected for at least another year. No regulatory protections will take effect until the listing is finalized. Until that time, proposed species do not receive formal ESA protections, though 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 CO. If, and when, the listing is finalized, and at the agency’s request, the Service may adopt the CO as a BO—provided no relevant new information has emerged and no substantial changes to the proposed action have occurred.

**Cultural Resources**

NCDOT and 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.) No other responses have been received to date.

There are three historic properties (CC and Grover Ray General Store and Tenant House [YC0101], Mount Helen Estates [YC0220], and Hensley Cabin and Farm [YC0251]) within the proposed action area that are determined eligible for listing on the National Register of Historic Places (NRHP). An Effects Meeting was held on February 26, 2026 to determine the potential effects the project would have on historic properties. See Section G for effects determinations.

NCDOT archaeologists determined that no archaeological survey is required for the proposed project because the project area of potential effects (APE) is unlikely to contain significant, intact, and preserved archaeological deposits. (See project file.)

### **Traffic Maintenance and Detours During Construction**

Traffic will generally be maintained throughout construction activities using a combination of lane closures, temporary detours, and onsite temporary roadways. In areas where full closures are necessary, parallel routes will be utilized to provide detours. At a minimum, one travel lane will typically be maintained through active work zones to ensure continued access, with flaggers or other traffic control measures employed as needed. Staged construction will be implemented where necessary to allow traffic to flow safely around construction activities. Short-term roadway closures may be implemented for rock blasting adjacent to the roadway, bridge girder picks, roadway tie-in work prior to switching traffic to new patterns, and/or other miscellaneous work.

Long-term roadway closures with off-site detours will be implemented under the following conditions:

- NC 197 Closure – NC 197 will be closed for construction from the north intersection with Bolens Creek Road to the southern intersection with Bolens Creek Road. Local traffic and access to driveways within the closure will be maintained. Bolens Creek Road will be utilized as the detour route for approximately 3.8 miles (**Figure 4**). The duration of the detour will be approximately 12 months.
- Bolens Creek Road Closure – Bolens Creek Road will be closed for construction from the northern intersection with NC 197 to the southern intersection with NC 197. Local traffic and access to driveways within the closure will be maintained. NC 197 will be utilized as the detour route for approximately 6.5 miles (**Figure 5**). The duration of the detour will be approximately 12 months.

### **Public and Stakeholder Involvement**

NCDOT hosted a Local Officials' Information Meeting and Public Meeting for four Hurricane Helene Repair Projects in Yancey and Mitchell Counties, including this project action, 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 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 road and bridges repairs, and emergency access to property.

NCDOT hosted a second Public Meeting on June 11, 2025, at the Burnsville Town Center to present concept designs and receive comments on the permanent replacement of Bridge 990287, Bridge 990135, and Bridge 990136. Fourteen individuals signed into the meeting. No comments were received about these bridge replacements during the comment period, which ended June 27, 2025.

NCDOT hosted five coordination meetings with representatives from NC Parks on May 1, May 16, August 20, October 16, 2025, and February 4, 2026 regarding the permanent replacement of Bridge 990287 on its pre-storm alignment adjacent to Mount Mitchell State Park property. The existing temporary bridge crossing to maintain public access to Riverview Road is located on the State Park property. The purpose of these coordination meetings was to determine temporary access requirements for the permanent replacement of Bridge 990287 and revegetation plans.

NCDOT will conduct outreach to affected property owners and current residents within the limits of the proposed repair and reconstruction activities along NC 197 and the secondary roads, as well as within areas associated with the proposed permanent structure replacements. Public notification will be provided through mailed postcards, which will direct recipients to the project website for access to the latest design details, construction schedules, and other relevant project information.

NCDOT circulated Start of Study Notification to agency representatives on March 10, 2025. Responses were received from Yancey County, the NC Wildlife Resources Commission (WRC), NC Natural Heritage Program (NCNHP), 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:

<b>F2. Ground Disturbing Actions – Type I (Appendix A) &amp; Type II (Appendix B)</b>			
<p>For proposed improvement(s) that fit Type I Actions (<a href="#">NCDOT-FHWA CE Programmatic Agreement, Appendix A</a>) including 2, 3, 6, 7, 9, 12, 18, 21, 22, 23, 24, 25, 26, 27, 28, &amp;/or 30; &amp;/or Type II Actions (<a href="#">NCDOT-FHWA CE Programmatic Agreement, Appendix B</a>), answer the project impact threshold questions (below) and questions 8–31.</p> <ul style="list-style-type: none"> <li>• If any question 1-7 is checked “Yes” then NCDOT certification for FHWA approval is required.</li> <li>• If any question 1-30 is checked “Yes” then additional information will be required for those questions in Section G.</li> </ul>			
<b>PROJECT IMPACT THRESHOLDS</b> (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: <a href="#">IPaC Review</a> , April 2026; <a href="#">NRTR</a> , May 2026; <a href="#">BO/CO</a> , June, 2026)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Does the project result in effects subject to the conditions of the Bald and Golden Eagle Protection Act (BGEPA)? (Source: <a href="#">IPaC Review</a> , April 2026; <a href="#">NRTR</a> , May 2026)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Does the project generate substantial controversy or public opposition, regarding human and/or natural environment concerns, following appropriate public involvement? (Source: <a href="#">Start of Study</a> , March 2025)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	[REDACTED]		
5	Does the project involve a residential or commercial displacement, or a substantial amount of right of way acquisition? (Source: N/A)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Does the project require an Individual Section 4(f) approval? (Source: <a href="#">ATLAS Screening</a> , April 2025)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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: <a href="#">No Archaeological Survey Required Form</a> , December 2024; <a href="#">No Archaeological Survey Required Form Resubmitted</a> , August 2025; <a href="#">No Archaeological Survey Required Form Resubmitted</a> , September 2025; <a href="#">No Archaeological Survey Required Form Resubmitted</a> , April 2026; <a href="#">Effects Form</a> , March 2026)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Other Considerations</b>		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: <a href="#">IPaC Review</a> , April 2026; <a href="#">NRTR</a> , May 2026; <a href="#">BO/CO</a> , June, 2026)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	Is the project located in anadromous fish spawning waters? (Source: <a href="#">ATLAS Screening</a> , April 2025)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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: <a href="#">ATLAS Screening</a> , April 2025; <a href="#">NC DWR SOS Comments</a> , April 2025)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11	Does the project impact waters of the United States in any of the designated mountain trout streams? (Source: <a href="#">ATLAS Screening</a> , April 2025) (Source: <a href="#">NC WRC SOS Comments</a> , March 2025)	<input checked="" type="checkbox"/>	<input type="checkbox"/>

12	Does the project require a U.S. Army Corps of Engineers (USACE) Individual Section 404 Permit? (Source: N/A)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13	Will the project require an easement from a Federal Energy Regulatory Commission (FERC) licensed facility? (Source: <a href="#">ATLAS Screening</a> , April 2025)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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: <a href="#">No Archaeological Survey Required Form</a> , December 2024; <a href="#">No Archaeological Survey Required Form Resubmitted</a> , August 2025; <a href="#">No Archaeological Survey Required Form Resubmitted</a> , September 2025; <a href="#">No Archaeological Survey Required Form Resubmitted</a> , April 2026; <a href="#">Effects Form</a> , March 2026)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
15	Does the project involve GeoEnvironmental Sites of Concerns such as gas stations, dry cleaners, landfills, etc.? (Source: <a href="#">Phase I</a> , April 2025; <a href="#">No Phase II Required</a> , April 2026)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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: <a href="#">NC FRIS</a> , May 2025)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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: <a href="#">ATLAS Screening</a> , April 2025)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
18	Does the project require a U.S. Coast Guard (USCG) permit? (Source: <a href="#">ATLAS Screening</a> , April 2025)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
19	Does the project involve Coastal Barrier Resources Act (CBRA) resources? (Source: <a href="#">ATLAS Screening</a> , April 2025)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
20	Does the project involve construction activities in, across, or adjacent to a designated Wild and Scenic River? (Source: <a href="#">ATLAS Screening</a> , April 2025)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
21	Does the project impact federal lands (e.g., U.S. Forest Service (USFS), USFWS, etc.) or Tribal Lands? (Source: <a href="#">ATLAS Screening</a> , April 2025)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22	Does the project involve any changes in access control to the interstate (modification or construction of an interchange)? (Source: N/A)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
23	Does the project have a permanent adverse effect on local traffic patterns or community cohesiveness? (Source: <a href="#">DIST</a> , December 2024)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
24	Will maintenance of traffic or detours cause substantial disruption? (Source: <a href="#">DIST</a> , December 2024)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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: Not a programmed STIP, BMIP, or MPO TIP project.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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: <a href="#">ATLAS Screening</a> , April 2025; <a href="#">NC State Park (Mount Mitchell State Park) Right of Entry</a> , October 2025)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
27	Does the project involve Federal Emergency Management Agency (FEMA) buyout properties under the Hazard Mitigation Grant Program (HMGP)? (Source: <a href="#">ATLAS Screening</a> , April 2025)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
28	Does the project "use" Section 4(f) property, and/or result in a <i>de minimis</i> determination? (Source: <a href="#">Effects Form</a> , March 2026)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
29	Is the project considered a Type I under the NCDOT Noise Policy? (Source: N/A)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
30	Does the project impact VAD-enrolled property, or prime or important farmland soil, as defined by the Farmland Protection Policy Act (FPPA)? (Source: <a href="#">DIST</a> , December 2024)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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.')

**Question 1:** The BO/CO requested “General Avoidance and Minimization Measures” (AMM) for all referenced ESA species located in the proposed action areas (refer to **Table 3**). The USFWS determined the proposed action will result in a “May Affect Likely to Adversely Affect” (MALAA) for gray bat, northern long-eared bat, tricolored bat, Appalachian elktoe, and Eastern hellbender. Conservation Measures (CMs) include contributions to a USFWS-approved fund for the support of the recovery of federally protected species.

The AMMs, CMs, and Terms and Conditions included in the BO/CO signed June 11, 2026 will be implemented by NCDOT to avoid, minimize, and mitigate impacts to aquatic and terrestrial habitats within the Action Area are included in the project commitment dashboard and appended to this environmental document as part of the Green Sheets.

**Question 10:** The North Carolina Division of Water Resources (NC DWR), Transportation Permitting Branch provided scoping comments for the project area by letter dated April 9, 2025. The letter identified Bee Branch, Cane River, Burluson Branch, Laurel Branch, Cattail Creek, South Fork Cattail Creek, North Fork Cattail Creek, and Falling Water Branch as High Quality Waters of the State (HQW). (See project file.) If it is not possible to avoid these resources, the impacts should be minimized to the greatest extent possible. Given the potential for impacts to these resources during the project implementation, the NCDWR requests that the NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0124) throughout design and construction of the project.

**Question 11:** The North Carolina Wildlife Resources Commission (NC WRC) (March 24, 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. Starting October 15 through April 15, the trout moratorium should be followed for instream disturbance (examples include operation of piped flow diversion, installation or removal of dikes or pipes, excavation in or adjacent to flowing water) along South Fork Cattail Creek and North Fork Cattail Creek to protect the spawning and rearing of brook trout. (See project file.)

**Question 14:** The proposed project’s potential effects on the three historic properties in the proposed action area were documented on March 30, 2026. (See project file.) The Hensley Cabin and Farm (YC0251) has been determined eligible for the NRHP. Construction activities will minimize slope steepness in areas of roadway widening wherever feasible. Additionally, the split-rail fence at the ROW line will be reconstructed using materials similar to those existing and in consultation with the property owners. If impacts to the property are greater than those documented in the March 2026 Effects Form, and described herein, NCDOT will re-assess effects with SHPO, FHWA, and USACE.

**Table 4. Historic Properties in Proposed Action Area**

<b>Name (Historic Preservation Office Survey Site Number)</b>	<b>NR Eligibility Status</b>	<b>Effects Determination</b>
CC and Grover Ray General Store and Tenant House (YC0101)	Determined Eligible	No Effect
Mount Helen Estates (YC0220)	Determined Eligible	No Effect
Hensley Cabin and Farm (YC0251)	Determined Eligible	No Adverse Effect with conditions

Based on the review and determination of effects, FHWA intends to use the SHPO’s concurrence as a basis for a *de minimis* finding, pursuant to Section 4(f), for the above listed properties (**Table 4**). (See project file.)

**Question 15:** The Geoenvironmental Phase I review identified five sites of concern (Delx Inc, 432 E. 19E Bypass, Burnsville; River Life Antique Store, 7280 NC 197, Burnsville; B.B. Wilson Grovery, 9191 NC 197,

Burnsville; Wilson General Store, 9601 NC 197, Burnsville; and Murchison Grocery, 10501 NC 197, Burnsville). NCDOT Geoenvironmental reviewed the proposed roadway repair and reconstruction preliminary plans in April 2026 and confirmed no Phase II is needed for the five properties. (See project file.)

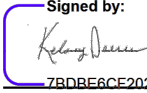
**Question 16:** Yancey County is a participant in the Federal Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA). Areas of the proposed project, including structure repairs and replacements, are within a Flood Hazard Zone, designated as Zone AE, for which the 100-year base flood elevations and corresponding regulatory floodway have been established. The Cane River, Cattail Creek, Bowlens Creek, South Fork Cattail Creek, and North Fork Cattail Creek are FEMA mapped streams studied by the North Carolina Floodplain Mapping Program (NC FMP) by Limited Detail methods. This project involves construction activities on or adjacent to FEMA-regulated streams.

**Question 27:** There are 12 FEMA Buyout parcels on the project corridor. Applications for acquisition on these parcels have been filed under FEMA's Hazard Mitigation Grant Program (HMGP). NCDOT will acquire ROW from these parcels, as needed, and in accordance with the terms of the FEMA Buyout program. ROW acquisition from FEMA Buyout parcels will not include the acquisition or demolition of buildings or other structures on the property.

H. Categorical Exclusion Approval:

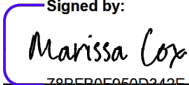
STIP Project No.	<u>Helene Permanent Repairs, NC 197 South</u>
WBS Element	<u>18313.1100997</u>
Federal Project No.	<u>N/A</u>

**Prepared By:**

6/17/2026	<u>Signed by:</u>  7BDBE6CE202441D
Date	Kelsey Daenen GFT Infrastructure, Inc.

**Prepared For:** North Carolina Department of Transportation- Highway Division 13

**Reviewed By:**

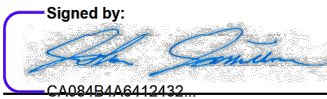
6/18/2026	<u>Signed by:</u>  789FB0F9660342E
Date	Marissa Cox, EPU, Western Regional Team Lead North Carolina Department of Transportation

**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.

6/18/2026	<u>Signed by:</u>  CA084B4A6412432
Date	John Jamison, PWS, EPU Head North Carolina Department of Transportation

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

6/18/2026	<u>Signed by:</u>  9967A500E8714E0
Date	for Yolonda K. Jordan, Division Administrator Federal Highway Administration

*Note: Prior to ROW or Construction authorization, a [consultation](#) may be required (please see Section VIII of the NCDOT-FHWA CE Programmatic Agreement for more details). Upload final documentation to ATLAS workbench and add commitments to the green sheet and Commitments dashboard.*

# PROJECT COMMITMENTS

Helene Permanent Repairs, NC 197 South  
County: Yancey  
WBS: 18313.1100997.1.3

## COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

### Hydraulics - Construction in FEMA Floodplain

This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall: (1) construct all vertical and horizontal elements within the floodplain as designed; and (2) consult with the Hydraulics Unit of any planned deviation of these elements within the floodplain prior to commencing any such changes; and (3) submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction. The Hydraulics Unit will then verify either: (1) the drainage structure(s) and roadway embankment located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically; or (2) any changes made to the plans were reviewed and approved to meet FEMA SFHA compliance; or (3) appropriate mitigation measures will be achieved prior to project close-out.

### Division Environmental Staff - Design Standards for Sensitive Waters

Bee Branch, Cane River, Burlison Branch, Laurel Branch, Cattail Creek, South Fork Cattail Creek, North Fork Cattail Creek, and Falling Water Branch are designated as HQW and WS-II. NCDOT will implement Design Standards in Sensitive Watersheds (15A NCAC 04B .0124).

### Division Environmental Staff - ESA Section 7 Consultation - Avoidance and Minimization (AMM) for NC 197 South

NCDOT will employ the following agency Standards, Guides, and Best Practices to avoid and minimize project activities that could negatively impact listed/proposed species or their habitat:

General AMM1: 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 AMM2: 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 AMM3: Areas of disturbance, such as tree clearing, grubbing, and grading will be limited to the maximum extent possible.

General AMM4: 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.

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 fill (i.e. bents/piers) in excess of what was previously present will be avoided and minimized to the maximum extent practicable.

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.

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 to maintain safety in active work areas, no brighter than required for safety, and will limit blue light emissions to the maximum extent practicable.

### Division Environmental Staff - ESA Section 7 Consultation – Conservation Measures (CM) for NC 197 South

NCDOT will also implement conservation measures (CM), 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 CMs are considered in making determinations of whether the projects will jeopardize the species under consideration in this document.:

**Aquatic CM1 Aquatics Contribution:** NCDOT will contribute \$300,000 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 NC 197 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.

**Bat CM1 Tree Clearing Bat Fund Contribution:** For any clearing that occurs from April 1–November 15, the NCDOT will contribute a payment to the N.C. Bat Conservation 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 (November 16–March 31, no contribution required) from clearing that occurred during the active period (April 1–November 15, with associated financial contribution).

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

**Division Environmental Staff - ESA Section 7 Consultation – Terms and Conditions**

NCDOT will comply with the following Terms and Conditions, which implement the reasonable and prudent measures described in the BO/CO and outline required reporting and/or monitoring requirements:

1. NCDOT shall adhere to all measures as listed in the AMMs and CMs.
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 USFWS 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 and wildlife species. In order to monitor the impact of incidental take, the NCDOT must report the action impacts on the species to the USFWS 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 MALAA for Appalachian elktoe and/or eastern hellbender.
    - ii. Acreage and dates of tree removal (if any), if MALAA for bats (excepting gray bat).
    - iii. Dates of structure removal (if any), if MALAA for bats.
    - iv. List of implemented AMMs and CMs.

**Division Environmental Staff - Section 106 Conditions for No Adverse Effects for NC 197 South Hensley Cabin and Farm (YC0251)**

The Hensley Cabin and Farm (YC0251) has been determined eligible for the NRHP. Construction activities will minimize slope steepness in areas of roadway widening wherever feasible. Additionally, the split-rail fence at the ROW line will be reconstructed using materials similar to those existing and in consultation with the property owners. If impacts to the property are greater than those documented in the March 2026 Effects Form, and described herein, NCDOT will re-assess effects with SHPO, FHWA, and USACE.

**COMMITMENTS FROM PERMITTING**

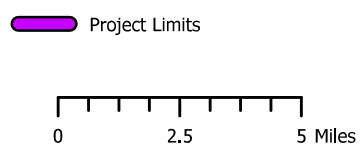
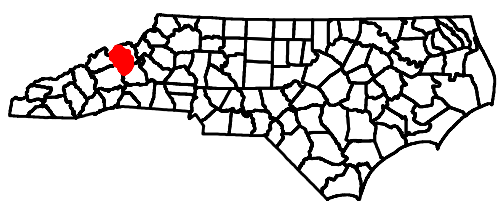
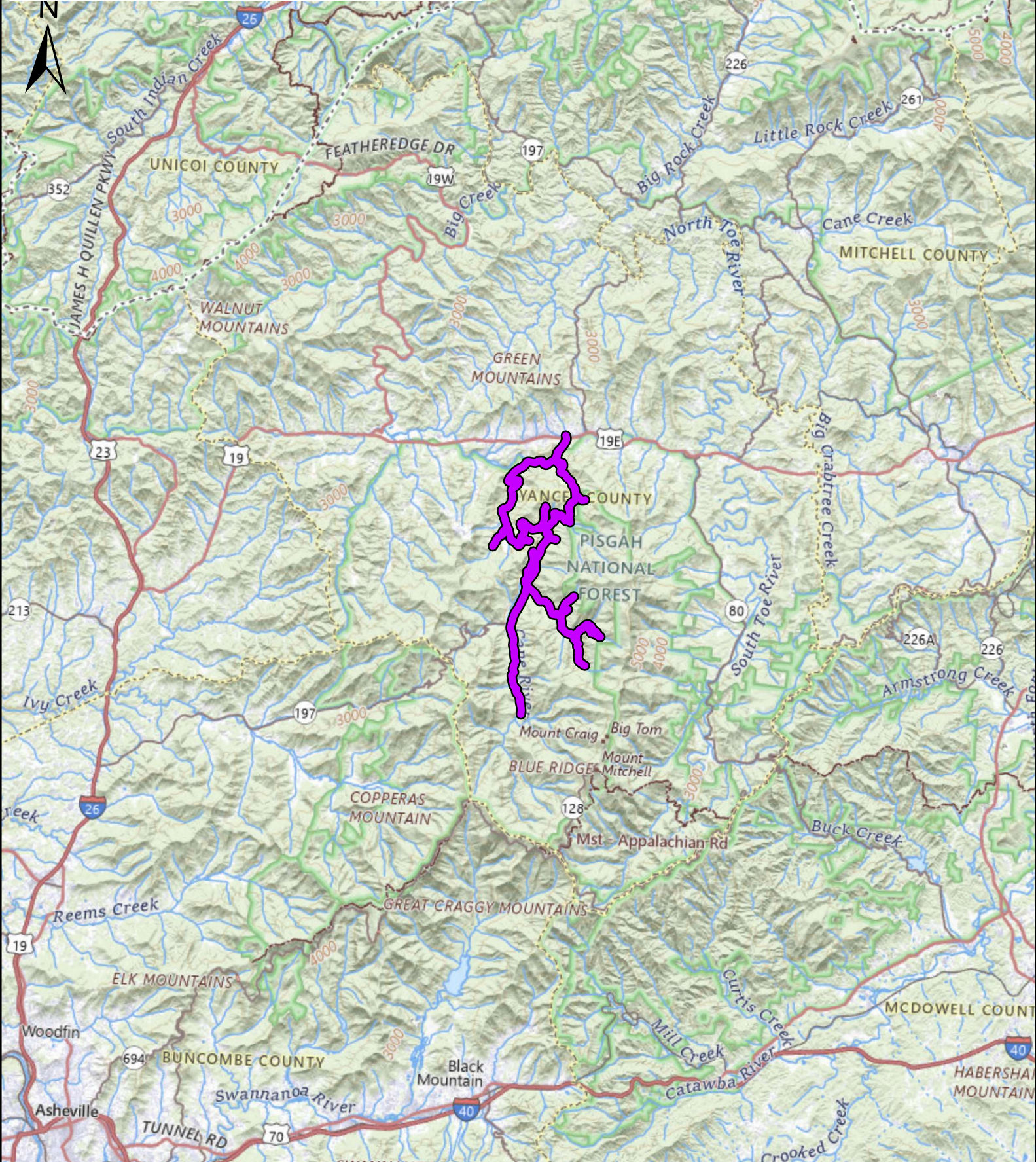
No permitting commitments developed to date.

**\*\*\*\*\*END OF PROJECT COMMITMENTS\*\*\*\*\***

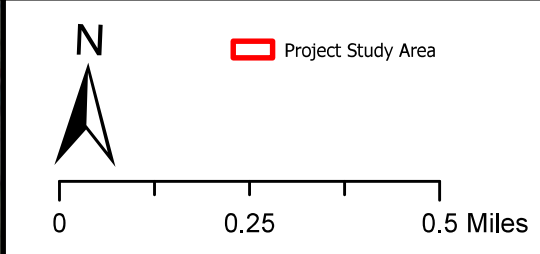
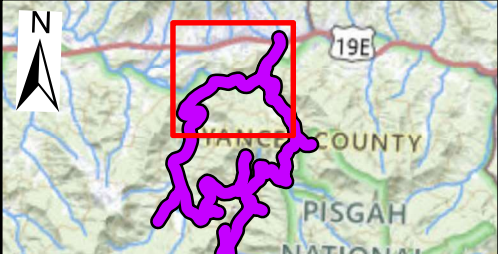
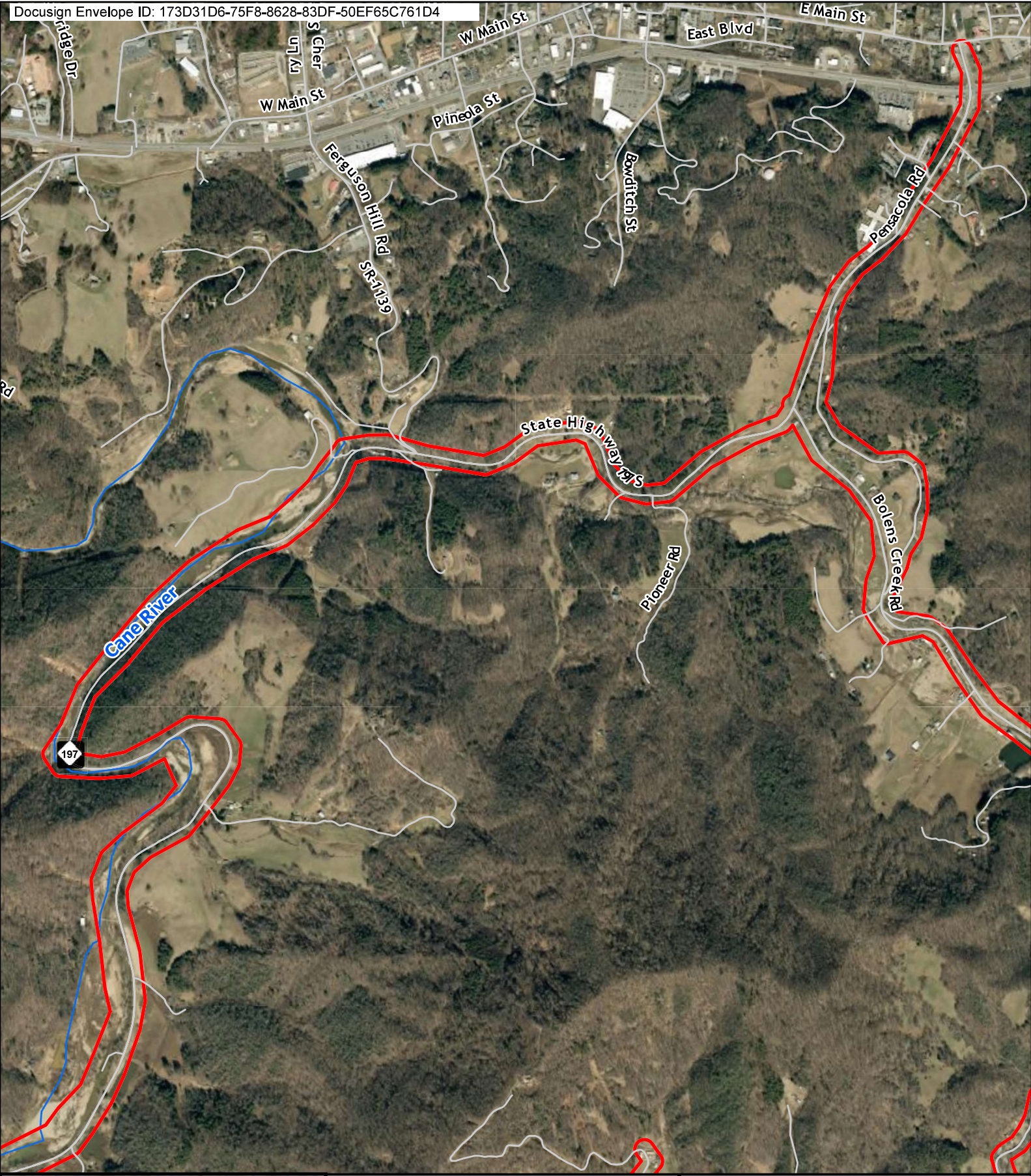
**18313.1100997.1.3**

**Highway Reconstruction of NC 197 from south of US 19 East in Burnsville to SR 1100 (Ewart Wilson Road) near Murchison in Yancey County.**

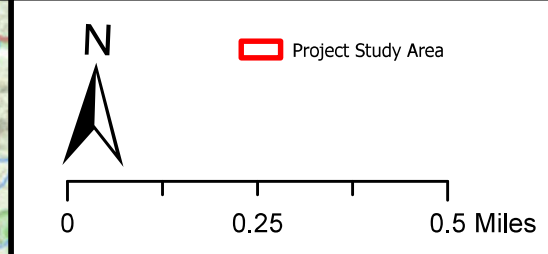
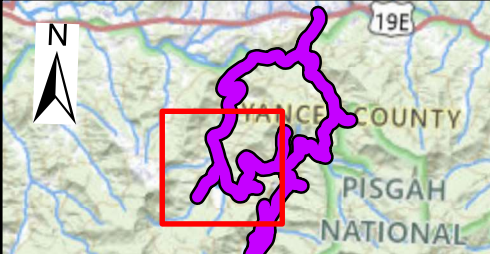
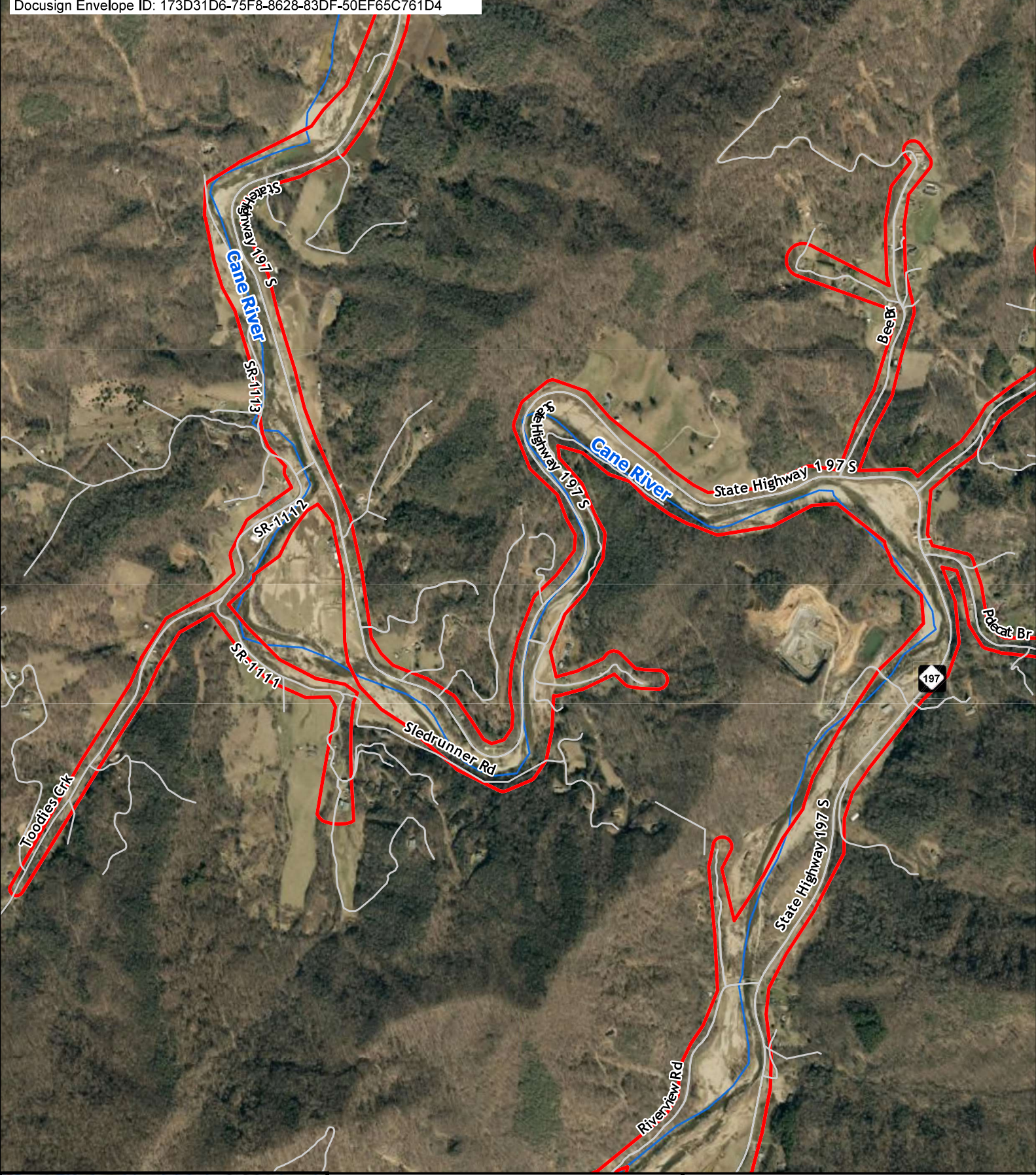
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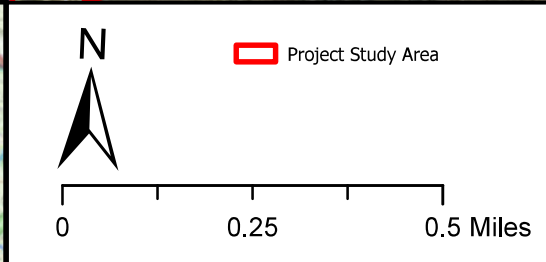
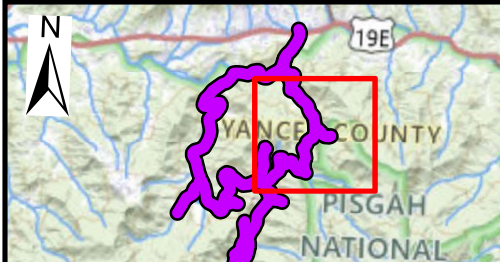
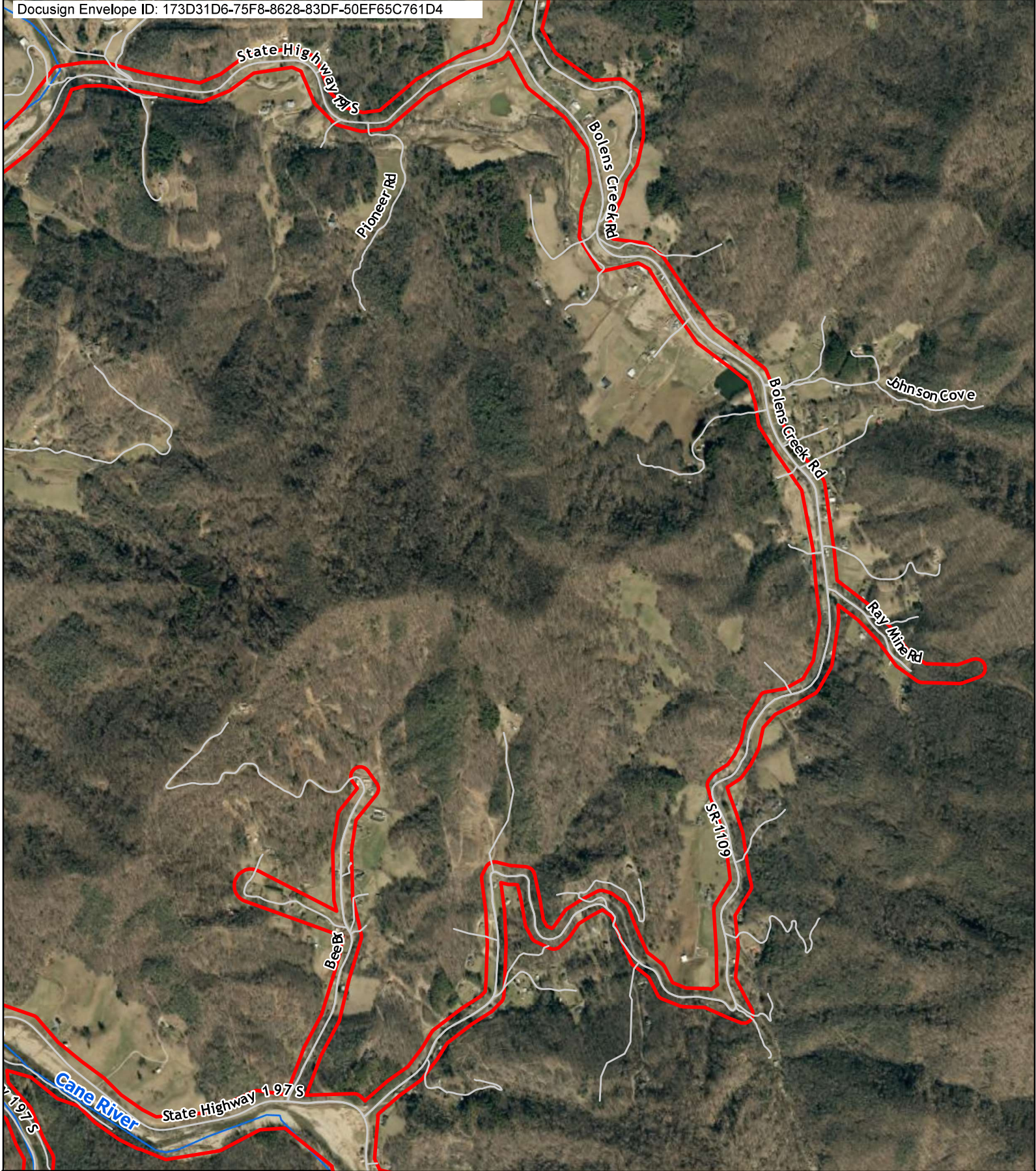
**Figure 1. Project Vicinity Map**  
**NCDOT Project No. 18313.1100997**  
**Permanent Repairs to N.C. 197 South**  
 Yancey County



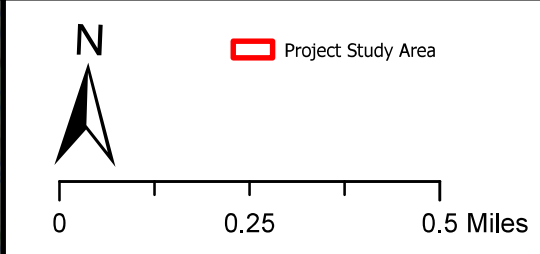
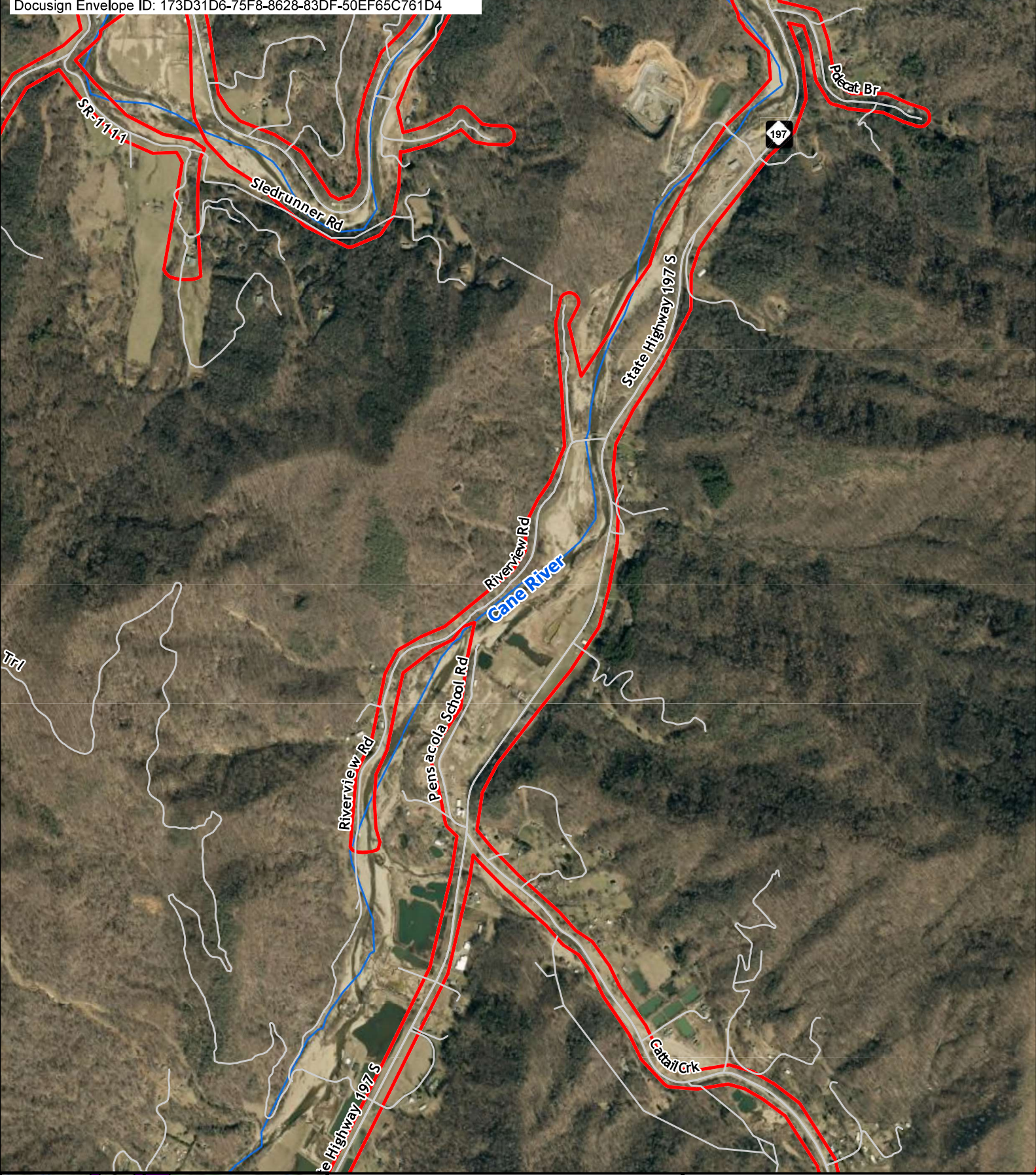
**Figure 2a. Project Study Area**  
**NCDOT Project No. 18313.1100997**  
**Permanent Repairs to N.C. 197 South**  
Yancey County



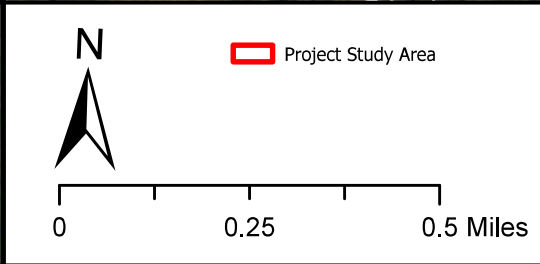
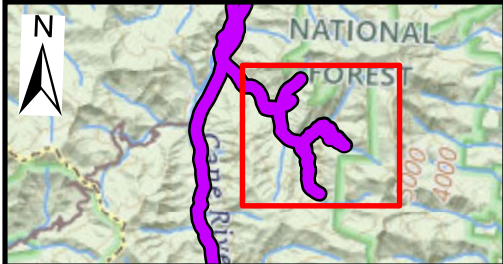
**Figure 2b. Project Study Area**  
**NCDOT Project No. 18313.1100997**  
**Permanent Repairs to N.C. 197 South**  
Yancey County



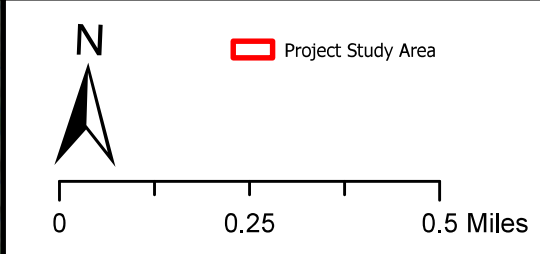
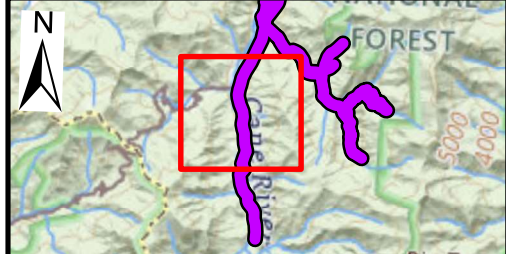
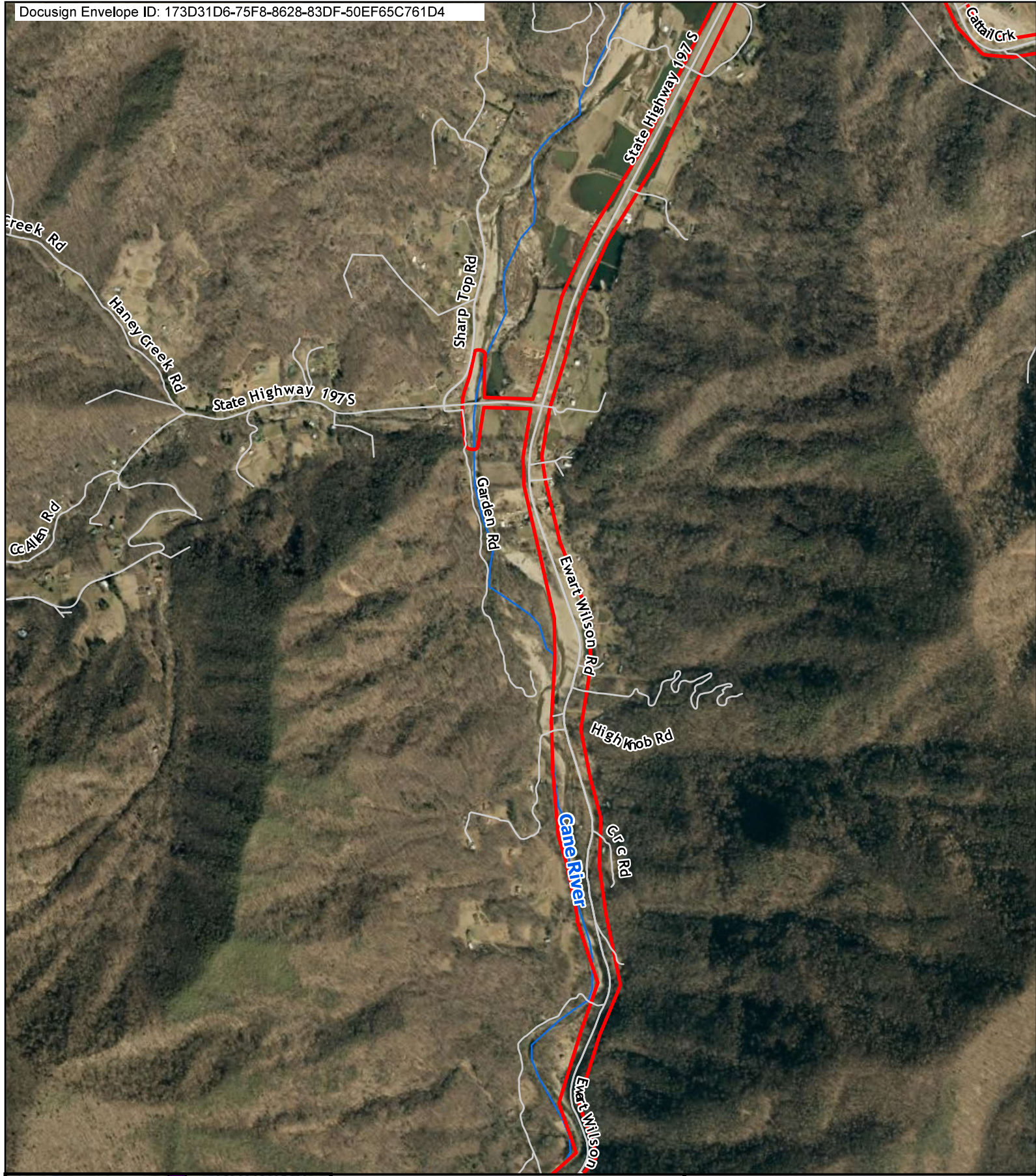
**Figure 2c. Project Study Area**  
**NCDOT Project No. 18313.1100997**  
**Permanent Repairs to N.C. 197 South**  
Yancey County



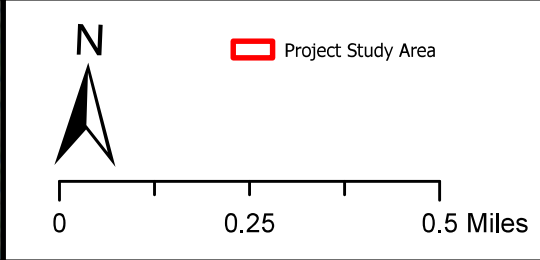
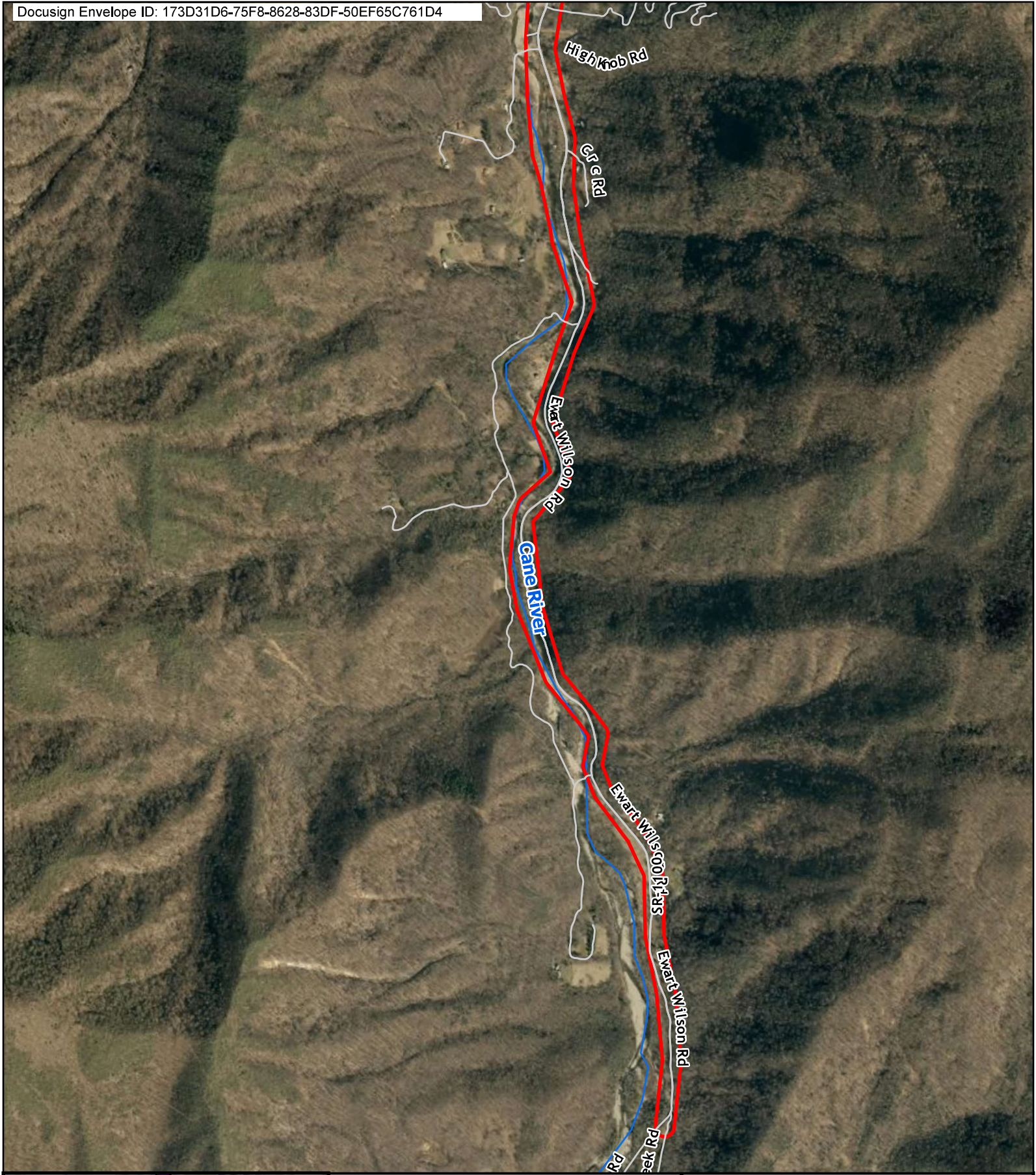
**Figure 2d. Project Study Area**  
**NCDOT Project No. 18313.1100997**  
**Permanent Repairs to N.C. 197 South**  
Yancey County



**Figure 2e. Project Study Area**  
**NCDOT Project No. 18313.110097**  
**Permanent Repairs to N.C. 197 South**  
Yancey County



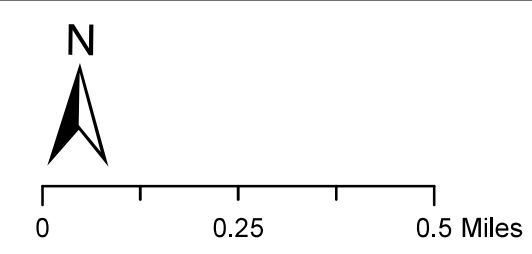
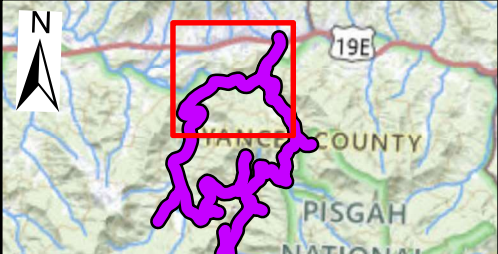
**Figure 2f. Project Study Area**  
**NCDOT Project No. 18313.1100997**  
**Permanent Repairs to N.C. 197 South**  
Yancey County



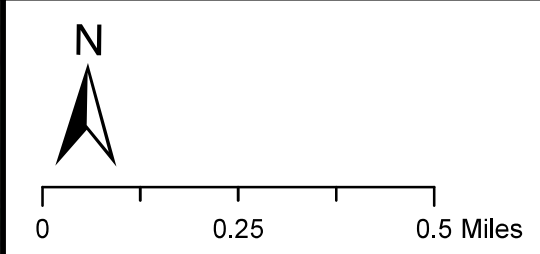
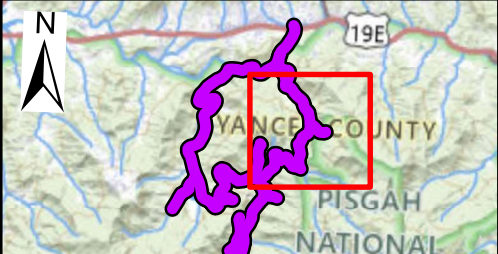
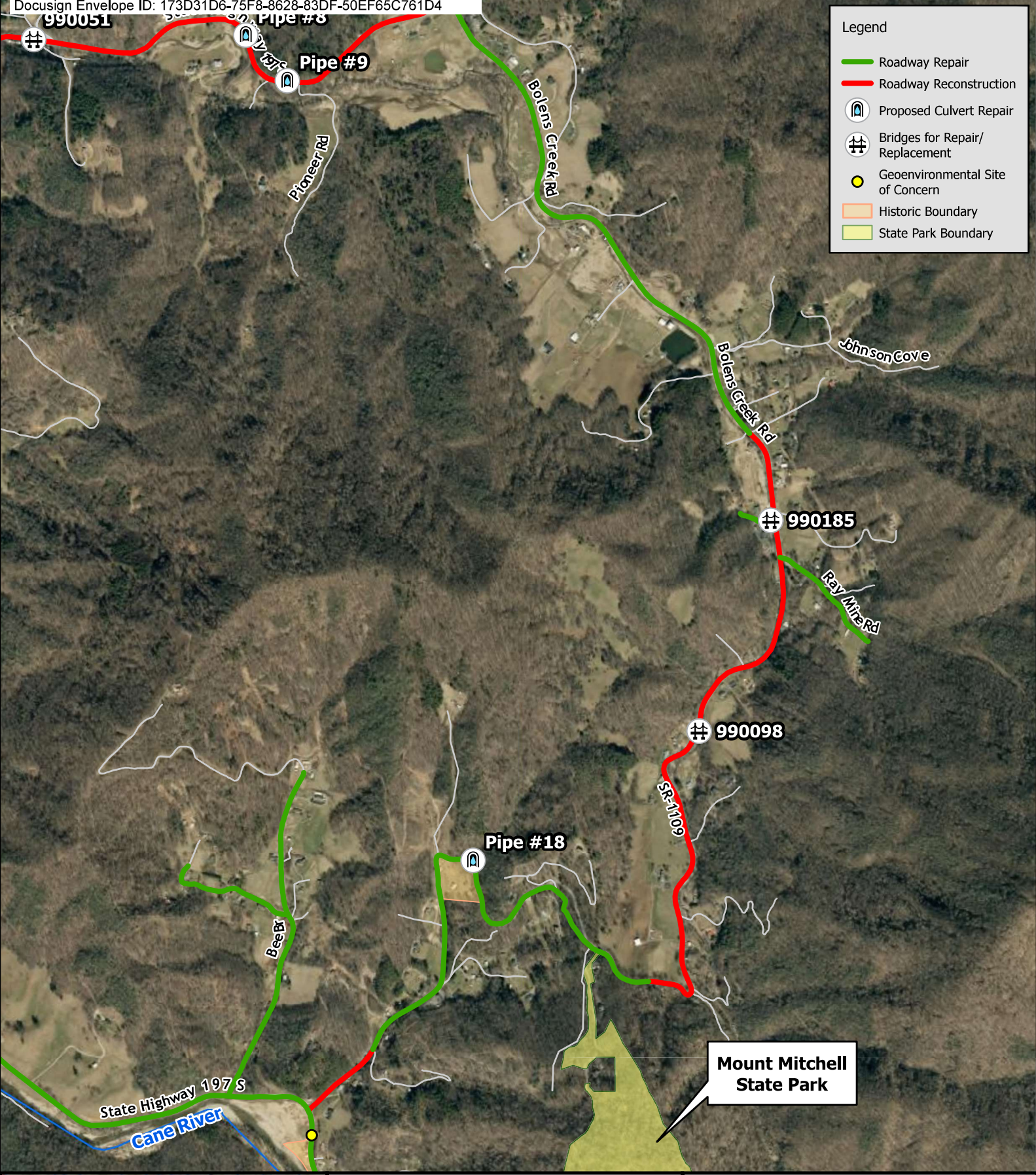
**Figure 2g. Project Study Area**  
**NCDOT Project No. 18313.1100997**  
**Permanent Repairs to N.C. 197 South**  
Yancey County

Legend

- Roadway Repair
- Roadway Reconstruction
- Proposed Culvert Repair
- Bridges for Repair/Replacement
- Geoenvironmental Site of Concern
- Historic Boundary
- State Park Boundary



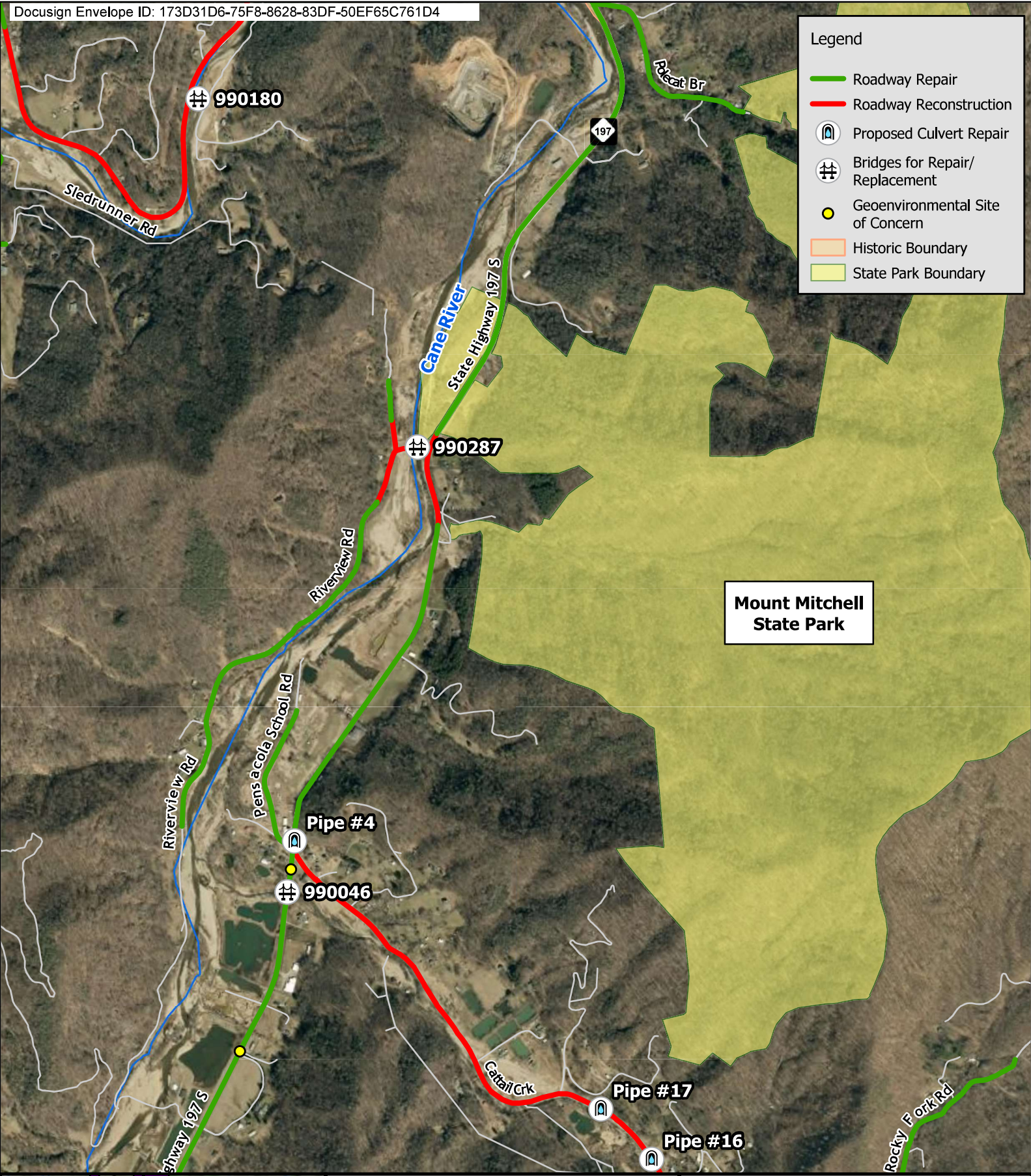
**Figure 3a. Environmental Features**  
**NCDOT Project No. 18313.1100997**  
**Permanent Repairs to N.C. 197 South**  
Yancey County



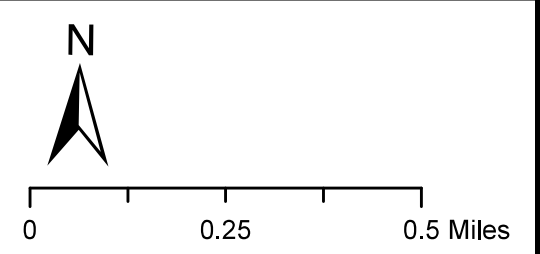
**Figure 3c. Environmental Features**  
**NCDOT Project No. 18313.1100997**  
**Permanent Repairs to N.C. 197 South**  
 Yancey County

**Legend**

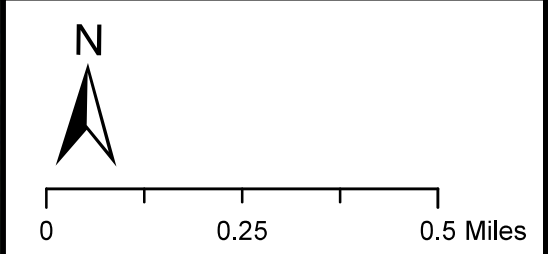
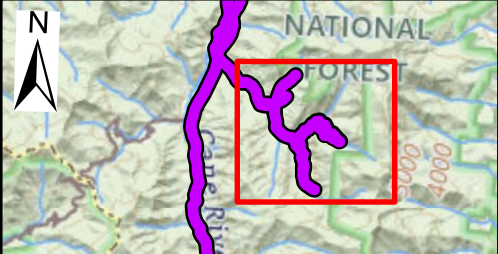
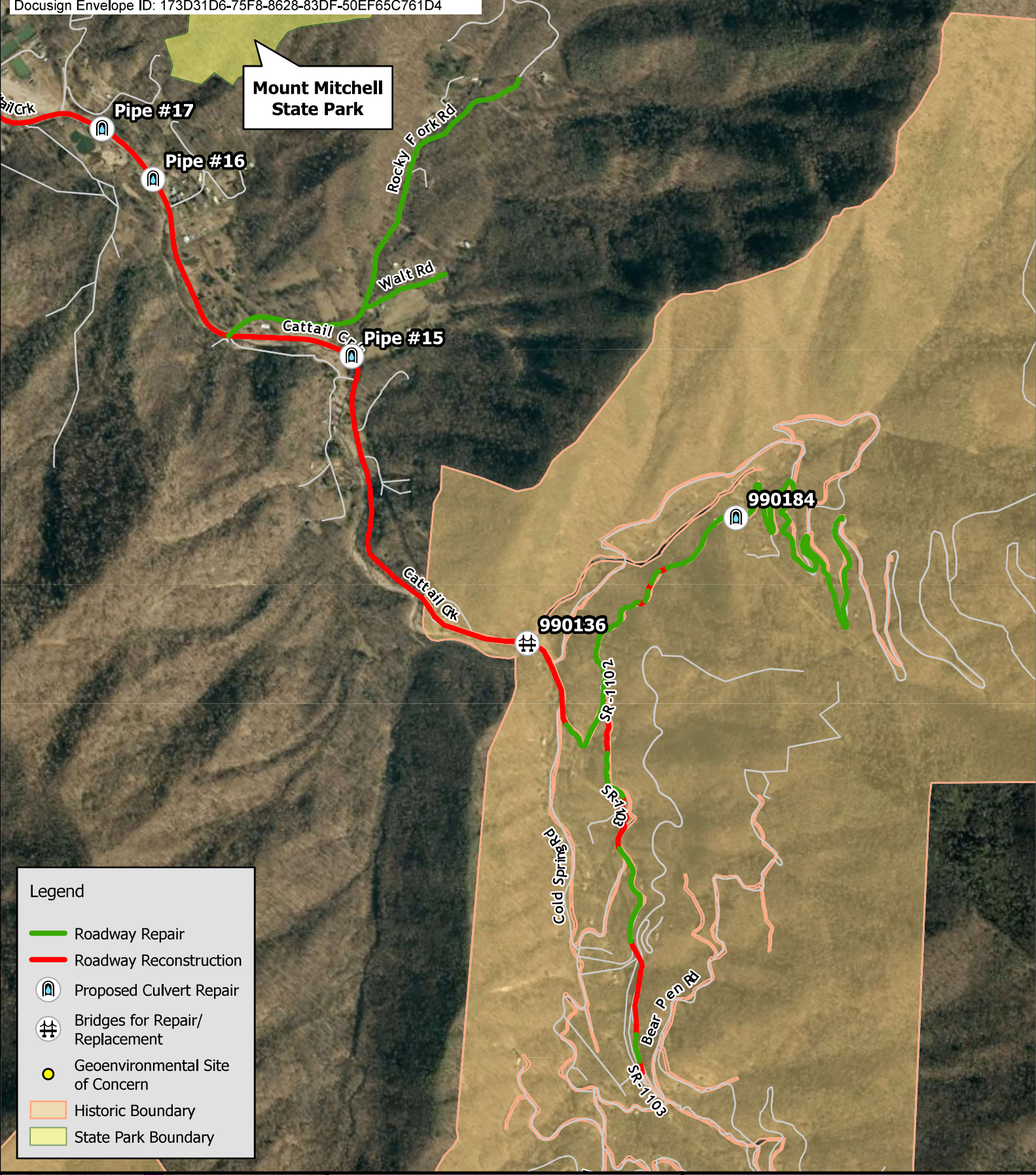
- Roadway Repair
- Roadway Reconstruction
-  Proposed Culvert Repair
-  Bridges for Repair/Replacement
- Geoenvironmental Site of Concern
- Historic Boundary
- State Park Boundary



**Mount Mitchell  
State Park**



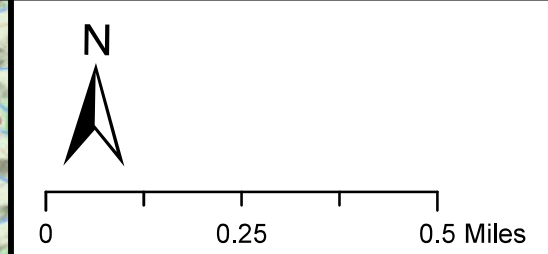
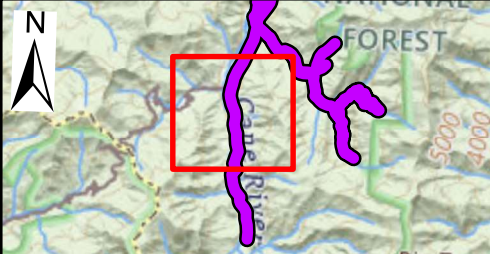
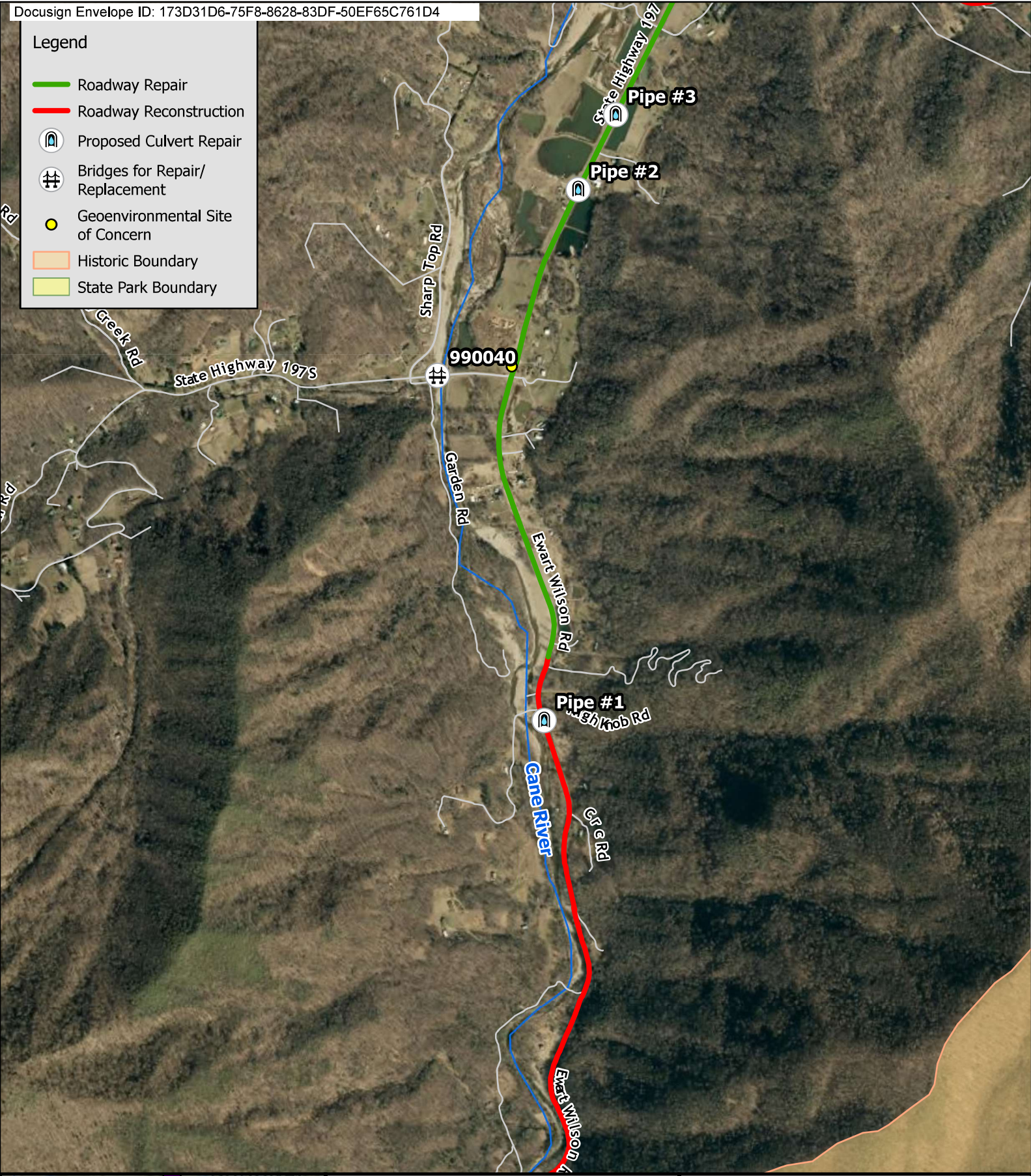
**Figure 3d. Environmental Features  
NCDOT Project No. 18313.1100997  
Permanent Repairs to N.C. 197 South  
Yancey County**



**Figure 3e. Environmental Features**  
**NCDOT Project No. 18313.1100997**  
**Permanent Repairs to N.C. 197 South**  
 Yancey County

Legend

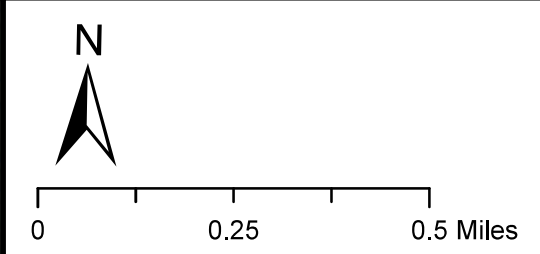
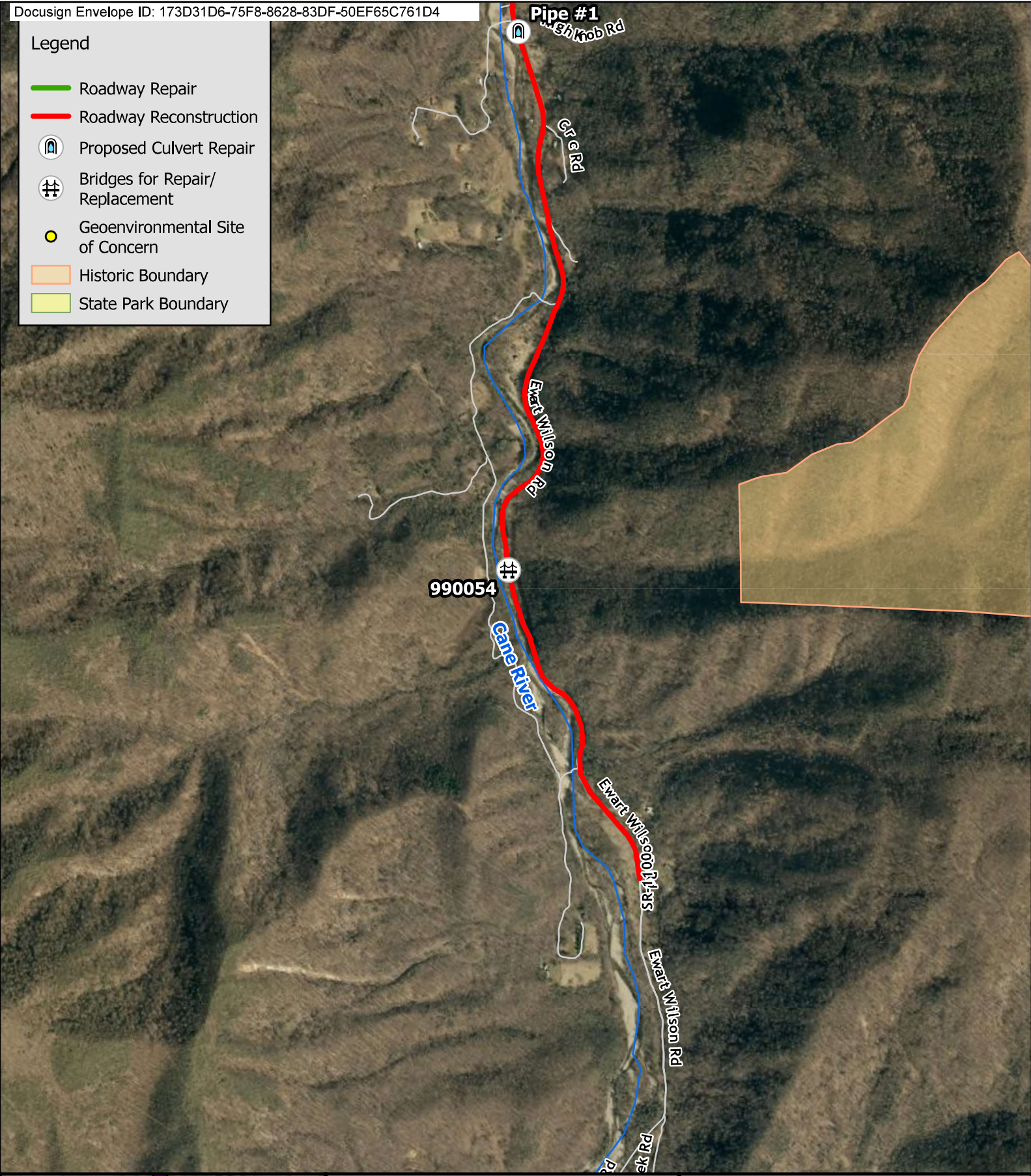
- Roadway Repair
- Roadway Reconstruction
- Proposed Culvert Repair
- Bridges for Repair/Replacement
- Geoenvironmental Site of Concern
- Historic Boundary
- State Park Boundary



**Figure 3f. Environmental Features**  
**NCDOT Project No. 18313.1100997**  
**Permanent Repairs to N.C. 197 South**  
Yancey County

**Legend**

- Roadway Repair
- Roadway Reconstruction
- Proposed Culvert Repair
- Bridges for Repair/Replacement
- Geoenvironmental Site of Concern
- Historic Boundary
- State Park Boundary

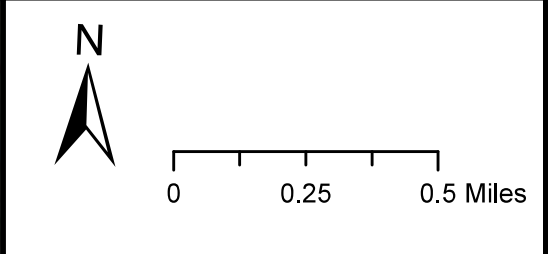


**Figure 3g. Environmental Features**  
**NCDOT Project No. 18313.1100997**  
**Permanent Repairs to N.C. 197 South**  
Yancey County

- Roadway Reconstruction
- - - Roadway Detour
- Roadway Repair
- ⌒ Proposed Culvert Repair
- ⌒ Bridges for Repair/Replacement
- Geoenvironmental Site of Concern

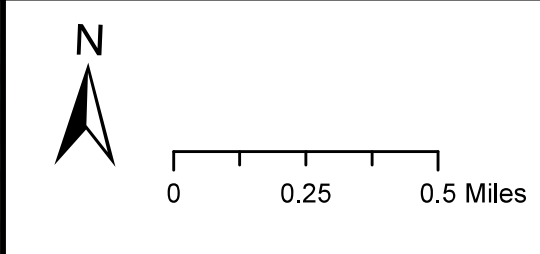
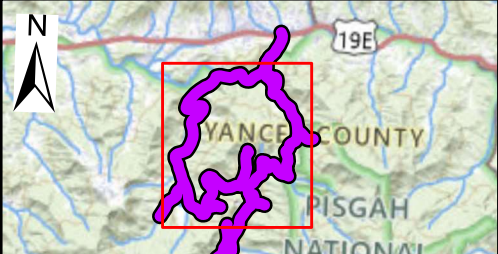
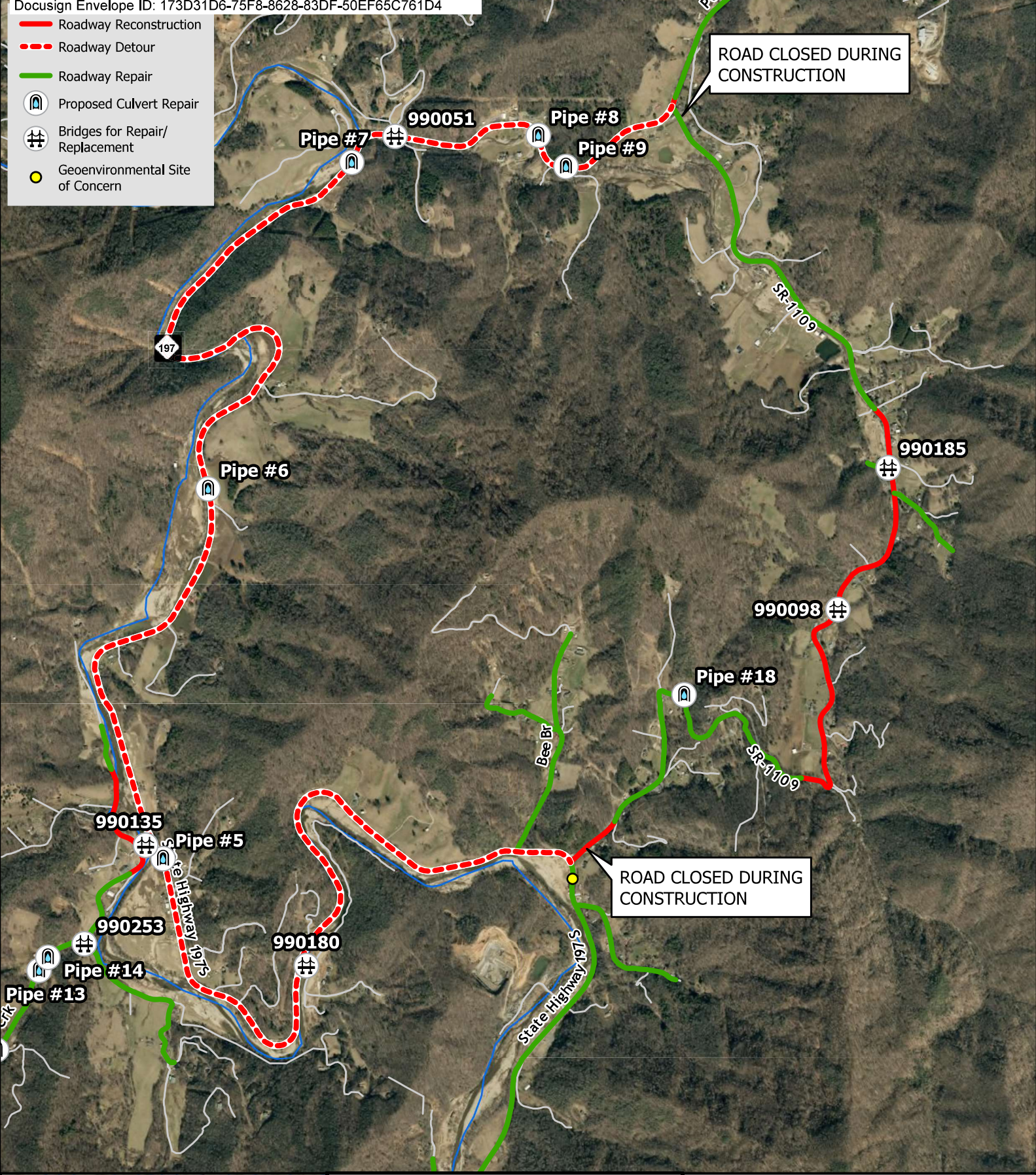
ROAD CLOSED DURING CONSTRUCTION

ROAD CLOSED DURING CONSTRUCTION



**Figure 4. NC 197 South Detour to Bolens Creek Road**  
**NCDOT Project No. 18313.1100997**  
**Permanent Repairs to N.C. 197 South**  
Yancey County

- Roadway Reconstruction
- - - Roadway Detour
- Roadway Repair
- ⌒ Proposed Culvert Repair
- ⌒ Bridges for Repair/Replacement
- Geoenvironmental Site of Concern



**Figure 5. Bolens Creek Road Detour to NC 197 South**  
**NCDOT Project No. 18313.1100997**  
**Permanent Repairs to N.C. 197 South**  
Yancey County