STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

January 8, 2026

DANIEL H. JOHNSON
SECRETARY

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

NC Division of Water Resources
Transportation Permitting Branch

ATTN: NCDOT Coordinator

NCDOT Coordinator

Subject: Application for:
Section 404 Nationwide Permit 3 & 401 Individual Water Quality Certification under the Expedited Processing Provisions for Hurricane Helene Response for the Replacement of **Bridge 424** over **Flat Creek** on SR 2786 (Flat Creek Road) in **Buncombe County**, Division 13, WBS DF18313.2011444

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 424 over Flat Creek.

Approvals Requested:

404 Nationwide Permit 3. Notification required due to greater than 0.008 acre of impacts other than temporary dewatering in a Designated Trout Watershed.

401 Individual Certification: Required due to impacts greater than 40 linear feet.

FEMA is the lead federal agency for this project.

Brief Damage Summary and Current Temporary/ Emergency Structure:

The previous 36-foot long, single-span bridge was severely damaged by the storm.
The bridge has been temporarily shored and currently serves SR 2786.

Proposed Replacement:
A new, single-span, 50 foot-long bridge will replace the damaged bridge, in the same location as the existing structure.
As SR 2786 has no outlet, a temporary detour will be required. Two 72” pipes will be installed downstream/ west side of the existing crossing to serve as the temporary detour.

Avoidance and Minimization:
-The bridge length will be longer, increasing the 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.

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

Proposed Activities in Streams:

Impact Site	Impact Category	Permanent Fill	Bank Stabilization	Temporary Impacts	Permit Proposed/ Impact Description
Site 1 **Flat Creek**	Maintenance Exemption	--	--	--	--
	Non-Notifying	--	--	--	--
	Notification Required (Not After the fact)	--	--	96 lf	**NWP 3:** There will be 96 lf of temporary impacts for the installation of the temporary detour due to dewatering.
		--	--	80 lf	**NWP 3:** There will be 80 lf of temporary impacts for the installation of temporary dikes for the removal of the bridge, excavation of upland areas (due to the larger bridge), and installation of bank stabilization.
		--	41 lf		**NWP 3:** There will be 41 lf of permanent bank stabilization required to stabilize the banks.
	Notification Required (After the fact)	--	--	--	--
	Totals:	--	**41 lf** **<0.01 ac**	**176 lf** **0.07 ac**	

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.

Bridge 424 Before:

Bridge 424 after:

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

Common Name	Habitat Present	Survey Dates	Proposed Biological Conclusion	FWS Concurrence Remarks
Gray bat	Yes	n/a	May Affect, Not Likely to Adversely Affect	Attached
Northern long-eared bat	Yes	n/a	May Affect, Not Likely to Adversely Affect	Attached
White irisette	No	May 27, 2025	No Effect	n/a
Rock gnome lichen	No	n/a	No Effect	n/a
Bog Turtle[2]	n/a	n/a	n/a	n/a
Monarch butterfly (Proposed)[3]	n/a	n/a	n/a	n/a

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.

Historic Resources Summary (documentation included)

106 Topic	Findings	
Historic Architecture	No Surveys Required	
Archaeology	No Surveys Required	
Tribal Coordination	**Tribe**	**Response**
Tribal Coordination Letters were sent to the following Tribes on July 8, 2025:	Catawba Indian Nation	No response received
	Eastern Band of Cherokee Indians	No response received
	Muscogee (Creek) Nation	No response received
	Cherokee Nation	No response received
	United Keetoowah Band of Cherokee Indians in Oklahoma	No response received

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

Sincerely,

Digitally signed by Michael Turchy

Michael A. Turchy
Environmental Coordination and Permitting Group Leader

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. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PLEASE DO NOT RETURN YOUR RESPONSE TO THE ABOVE EMAIL.

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

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

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
		01/11/2026	

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (*agent is not required*)
First – Michael Middle – Last – Turchy	First – Middle – Last –
Company – NCDOT	Company –
Company Title –	E-mail Address –
E-mail Address – maturchy@ncdot.gov	
6. APPLICANT'S ADDRESS	**9. AGENT'S ADDRESS**
Address – 1000 Birch Ridge Dr	Address –
City – Raleigh State – NC ZIP – 27610 Country – US	City – State – ZIP – Country –
7. APPLICANT'S PHONE NOs. with AREA CODE	**10. AGENT'S PHONE NOs. with AREA CODE**
a. Business b. c. Fax	a. b. c. Fax
+19197076157	+

STATEMENT OF AUTHORIZATION

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

SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

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

NCDOT / Helene Buncombe Bridge 424 / Flat Creek Road / Buncombe / Div 13

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

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

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

Address: 220 Flat Creek Rd

City: Fairview State: NC Zip: 28730

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

Latitude: 35.5447417 °N Longitude: -82.3116732 °W

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

Section – Township – Range –

County – Buncombe County Project Area – 2.10715 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*)

Replacement of bridge

A new, single-span, 50 foot-long bridge will replace the damaged bridge, in the same location as the existing structure.

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

-The bridge length will be longer, increasing the 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.

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

Replacement of Bridge 424 over Flat Creek as the result of damage caused by Hurricane Helene in September 2024.

22. QUANTITY OF WETLANDS, STREAMS, OR OTHER TYPES OF WATERS DIRECTLY AFFECTED BY PROPOSED NATIONWIDE PERMIT ACTIVITY (*see instructions*)

Acres | Linear Feet | Cubic Yards Dredged or Discharged

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

23. 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*)

24. 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.

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

If Yes, describe the completed work:

26. 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*)

Gray bat,Monarch butterfly,Northern Long-Eared Bat,Rock gnome lichen,White irisette
ADDITIONAL AFFECTED SPECIES:
see attached ESA documentation.

27. 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 attached 106 documentation.

28. 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":

29. 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:

30. 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*)

31. 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	01/11/2026		
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:

Aquatic Resource Name	*State*	*Cowardin System*	*Cowardin Class*	*HGM Class*	*Local Waterway Name*	*Measurement Type*	*Measurement Amount*	*Measurement Units*	*Waters Type*	*Latitude*	*Longitude*
Flat Creek	NORTH CAROLINA	RIVERINE	R3-RIVERINE, UPPER PERENNIAL			Linear	300	FOOT	DELIN.NOJD-404	35.544631	-82.3116578

Appendix C. Impact Inventory:

Water Name	*Impact Name*	*Activity*	*Type of Material Being Discharged*	*Resource Type*	*Permanent Loss (Y/N)*	*Impact Duration*	*Amount Type*	*Proposed Length*	*Proposed Width*	*Proposed Amount*	*Amount Units*
Flat Creek	Temporary Detour	Discharge of fill material	Rip Rap	River/Stream	No	Temporary	Fill Area	96	15	1440	Square Feet
Flat Creek	Temporary Dewatering	Other (Aquaculture, Work, Aerial or Submarine cable crossings)	Rip Rap	Other	No	Temporary	Fill Area			0.04	Acres
Flat Creek	Bank Stabilization	Discharge of fill material	Rip Rap	River/Stream	No	Permanent	Fill Area	41	1	41	Square Feet

Provide any additional information you may have about the proposed quantity of wetlands, streams, or other types of waters directly affected by the proposed activity. This level of detail is helpful to better understand the type of impacts that are proposed for your project.

-There will be 96 lf of temporary impacts for the installation of the temporary detour due to dewatering.

-There will be 80 lf or 0.04 ares of temporary impacts for the installation of temporary dikes for the removal of the bridge, excavation of upland areas (due to the larger bridge), and installation of bank stabilization. There will be 41 lf of permanent bank stabilization required to stabilize the banks.

Appendix H. Supporting Information:

Document Type	*Document Created Date (YYYY-MM-DD)*	*Document Label*	*Information Source/Citation*	*Uploaded file name*
Historic Properties Cultural Resources Information	2026-01-07	Historic Property Information	NCDOT	Buncombe 424 2025-04-30 - HAL No Survey Required.pdf
Historic Properties Cultural Resources Information	2026-01-07	Archaeology Information	NCDOT	Buncombe 424 2025-05-07 - No Archaeological Survey Required.pdf
Endangered Threatened Species Information	2026-01-06	FWS Concurrence	USFWS	Buncombe 424 2025-07-08 - USFWS Concurrence.pdf
Historic Properties Cultural Resources Information	2026-01-07	Tribal Coordination Letters	Tribal Coordination Letters	Buncombe 424 2025-07-11 - Tribal Coordination Letters.pdf
Project Plans	2025-01-06	Permit Drawings	NCDOT	Buncombe 424 2026-01-06 Permit Drawings.pdf
Other Information	2026-01-08	Application Cover Letter	NCDOT	Buncombe 424 2026-01-08 - Application Cover Letter.pdf

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

ORGANIZATION:	**PARTNER ID:**	**NAME AND CODE:**
NC Division of Water Resources (DWR)		**Form Name**: NATIONWIDE/GENERAL PERMIT - DWR 401 Application Form NC Division of Water Resources Application Information **Form Code**: 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 (NWPs), Regional General Permits (RGPs), 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.

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

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 #
    - DF18313.2011444

- 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)

- Yes

- If yes, attach a copy of existing correspondence from the Wildlife Resource Commission Office.
  - Buncombe 424 2025-06-30 - WRC Comments.pdf File(s) Uploaded

WATERS DETAILS -

- Name of nearest waterbody? [Surface Water Lookup](https://experience.arcgis.com/experience/7073e9122ab74588b8c48ded34c3df55/)
  - Flat Creek

- 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.)
  - 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

- Has SELDM (Stochastic Empirical Loading and Dilution Model) been run for this project?
  - No

- Provide reasoning for not utilizing SELDM model.
  - .

- 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.

- Does the project comply with the stormwater management requirements of the applicable buffer rules?
  - Yes

- 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?
  - Yes

- Comments
  - Not Applicable (Question not presented)

- Attach a copy of the SEPA final approval document.
  - Buncombe 424 2025-09-30 - CE.pdf File(s) Uploaded

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

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)
    - Not Applicable (Question not presented)

- If not, provide a short narrative description.
    - Not Applicable (Question not presented)

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)

Project Submittal Interim Form

Updated December 4, 2023

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

Project Type: *

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

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

◉ Yes ○ No

Submittal Type: *

401 Application

Project Contact Information

Name:

Michael Turchy

Who is submitting the information?

Email Address: *

maturchy@ncdot.gov

Project Information

Project Name: *

NCDOT / Helene Buncombe Bridge 424 / Flat Creek Road / Buncombe / Div 13

Is this a public transportation project? *

◉ Yes ○ No

Is this a DOT project? *

◉ Yes ○ No

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

○ Yes ◉ No ○ Unknown

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

○ Yes ◉ No

Is this project connected with ARPA funding? *

○ Yes ◉ No

TIP#:

WBS#:

DF18313.2011444.PR

(Applies to DOT projects only)

County (ies) *

Buncombe

Please upload all files that need to be submited.

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

Buncombe 424 2025-04-30 - HAL No Survey Required.pdf	517.89KB
Buncombe 424 2025-05-07 - No Archaeological Survey Required.pdf	1.18MB
Buncombe 424 2025-06-30 - WRC Comments.pdf	608.81KB
Buncombe 424 2025-07-08 - USFWS Concurrence.pdf	872KB
Buncombe 424 2025-07-11 - Tribal Coordination Letters.pdf	693.17KB
Buncombe 424 2025-09-30 - CE.pdf	717.14KB
Buncombe 424 2026-01-06 Permit Drawings.pdf	2.61MB
Buncombe 424 2026-01-08 - Application Cover Letter.pdf	464.95KB
Generated_Turchy_28535_30906_0_Appx_B_Aquatic_Resources.pdf	50.96KB
Generated_Turchy_28535_30906_0_Appx_C_Impacts.pdf	71.51KB
Generated_Turchy_28535_30906_0_Appx_H_Supporting_Files.pdf	52.5KB
Generated_Turchy_28535_30906_0_ENG_6082_PCN.pdf	545.43KB
Generated_Turchy_28535_30906_0_NCDWR 401_JPA_Report.pdf	93.05KB

Only pdf or kmz files are accepted.

Describe the attachments or add comments:

*

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

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

Signature: *

Submittal Date:

Permit Drawings

North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element: **TIP/Proj No:** DF18313.2011444 **County(ies):** Buncombe

General Project Information

WBS Element:		**TIP Number:**	DF18313.2011444	**Project Type:**	Bridge Replacement	**Date:**	01/05/2025
NCDOT Contact:	Justin R. Rice, EI		**Contractor / Designer:**	Angela B. Pridgen, PE			
Address:	20 Old 74 Asheville, NC 28803			**Address:**	One Glenwood Ave. Suite 900 Raleigh, NC 27603		
Phone:	828-250-3360			**Phone:**	919-420-7660		
Email:	jrrice@ncdot.gov			**Email:**	apridgen@gfnet.com		
City/Town:	Black Mountain		**County(ies):**	Buncombe			
River Basin(s):	Broad		**CAMA County?**	No			
Wetlands within Project Limits?	No						

Project Description

Project Length (lin. miles or feet):	0.07	**Surrounding Land Use:**	Rural wooded		
	Proposed Project			**Existing Site**	
Project Built-Upon Area (ac.)	0.2	ac.		0.1	ac.
Typical Cross Section Description:	Proposed project is a 20', 2-lane, road with paved shoulder on all sides of the proposed bridge			Existing site is a 20', 2-lane road with no shoulder.	
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: 355	Year: 2045		Existing: 290	Year: 2025
General Project Narrative: (Description of Minimization of Water Quality Impacts)	The purpose of this project is to replace Bridge #100424 in Buncombe County after damages from Hurricane Helene. Roadway improvements were minimized to reduce impacts to maximum extent practicable. A ditch was added to the northwest edge of the bridge to collect roadway drainage and reduce deck runoff. Deck drainage is conveyed to 2GIs on the south side of the bridge and is outletted through a rip-rap pad on the southwest side of the bridge.				

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element:	TIP/Proj No.:	DF18313.2011444	County(ies):	Buncombe	Page 2 of 2

General Project Information

Waterbody Information

Surface Water Body (1):	Flat Creek		**NCDWR Stream Index No.:**	Angela B. Pridgen, PE		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	Trout Waters (Tr)			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	-			**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?**	No	
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)						

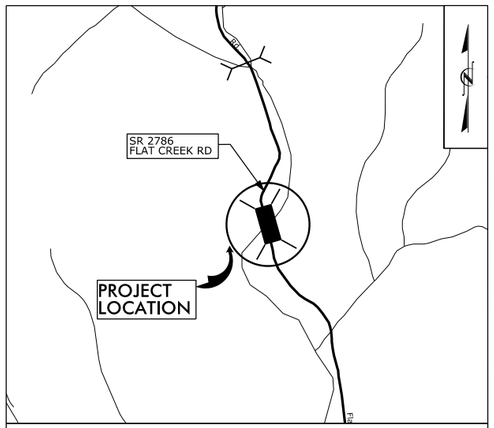
Surface Water Body (3):			**NCDWR Stream Index No.:**			
NCDWR Surface Water Classification for Water Body		**Primary Classification:**				
		Supplemental Classification:				
Other Stream Classification:						
Impairments:						
Aquatic T&E Species?		Comments:				
NRTR Stream ID:				**Buffer Rules in 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)						

09/08/99

TIP PROJECT: DF18313.2011444

CONTRACT:

See Sheet 1A For Index of Sheets
See Sheet 1B For Symbology Sheet



VICINITY MAP N.T.S.

DRPS PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BUNCOMBE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	DF18313.2011444	1	

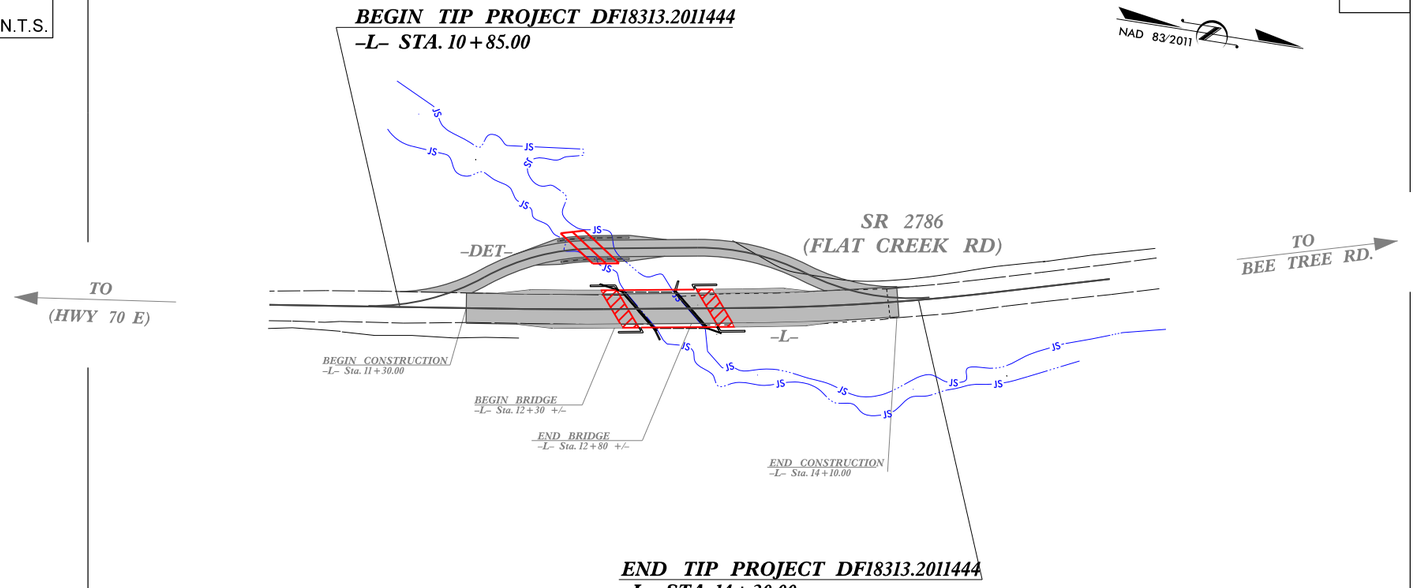
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
DF18313.2011444.1.1		PE

DIVISION 13

LOCATION: *REPLACEMENT OF BRIDGE NO. 424 ON SR 2786 (FLAT CREEK ROAD) OVER FLAT CREEK*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING & STRUCTURE*

4



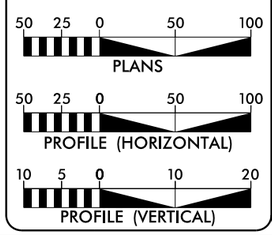
PERMIT DRAWING
SHEET 1 OF 6

WETLAND AND SURFACE WATER IMPACTS PERMIT

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II MODIFIED.
THIS PROJECT IS NOT LOCATED WITHIN ANY MUNICIPAL BOUNDARIES.
THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.

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

GRAPHIC SCALES



DESIGN DATA

ADT 2025 = 290
ADT 2045 = 355
V = 45 MPH
FUNC CLASS = LOCAL SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT DF18313.2011444	=	0.056 MI
LENGTH STRUCTURES PROJECT DF18313.2011444	=	0.009 MI
TOTAL LENGTH PROJECT DF18313.2011444	=	0.065 MI

Prepared in the Office of:

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: N/A

LETTING DATE: FEBRUARY 18, 2025

ERIC B. NELSON, PE
PROJECT ENGINEER

ANGELA B. PRIDGEN, PE
PROJECT DESIGN ENGINEER

JUSTIN R. RICE, EI
NCDOT DIVISION 13 BRIDGE PROGRAM MANAGER

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$$USERNAME$$$$$

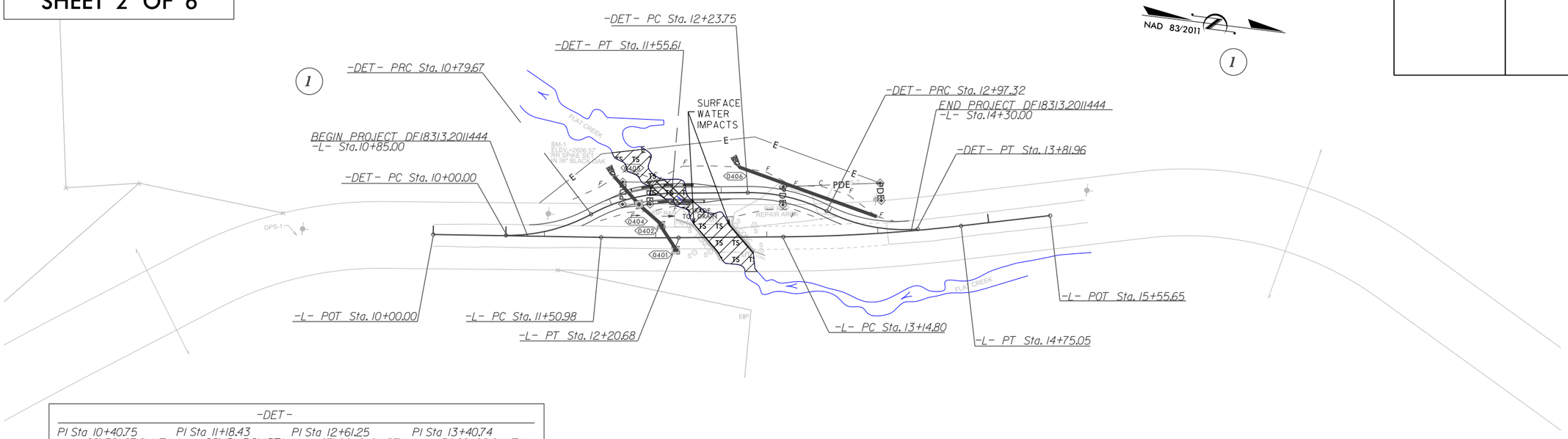
8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
DF1813.2011444	2B-1
R/W SHEET NO.	___
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

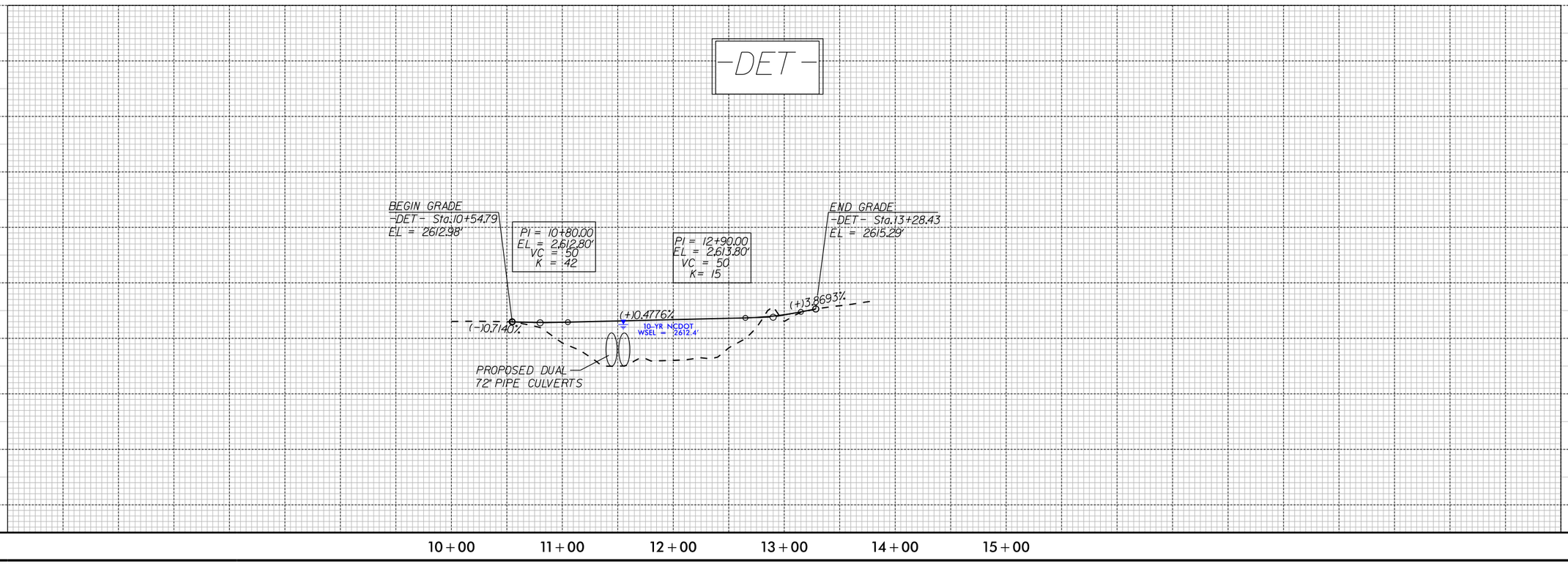
S/S SURFACE WATER IMPACTS TS/TS TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING SHEET 2 OF 6



-DET-			
PI Sta 10+40.75	PI Sta 11+18.43	PI Sta 12+61.25	PI Sta 13+40.74
△ = 29° 38' 27.6" (LT)	△ = 28° 15' 13.9" (RT)	△ = 27° 22' 21.2" (RT)	△ = 31° 29' 22.6" (LT)
D = 37° 12' 18.2"	D = 37° 12' 18.2"	D = 37° 12' 18.2"	D = 37° 12' 18.2"
L = 79.67'	L = 75.94'	L = 73.57'	L = 84.64'
T = 40.75'	T = 38.76'	T = 37.50'	T = 43.42'
R = 154.00'	R = 154.00'	R = 154.00'	R = 154.00'

FOR -L- PLAN & PROFILE, SHEE SHEET 4

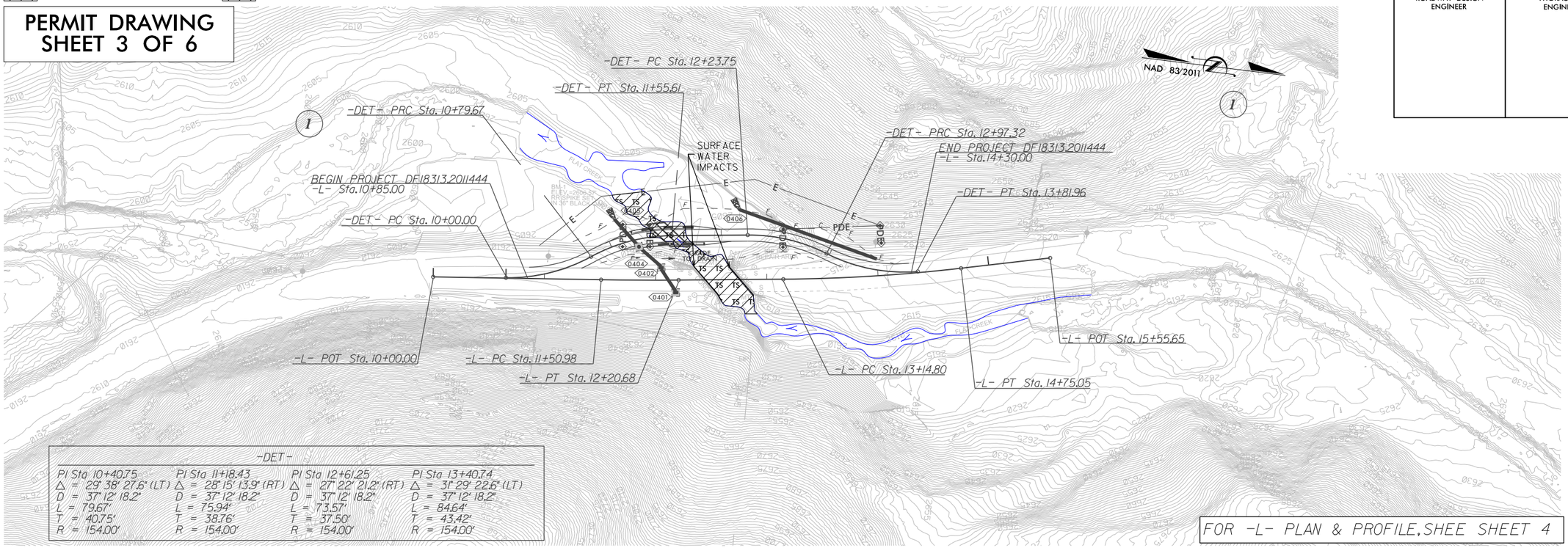


$$$$$$SYSTIME$$$$$$
$$$$$$USERNAME$$$$$$DGN$$$$$$$$$$$$$$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
DF1813.2011444	2B-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

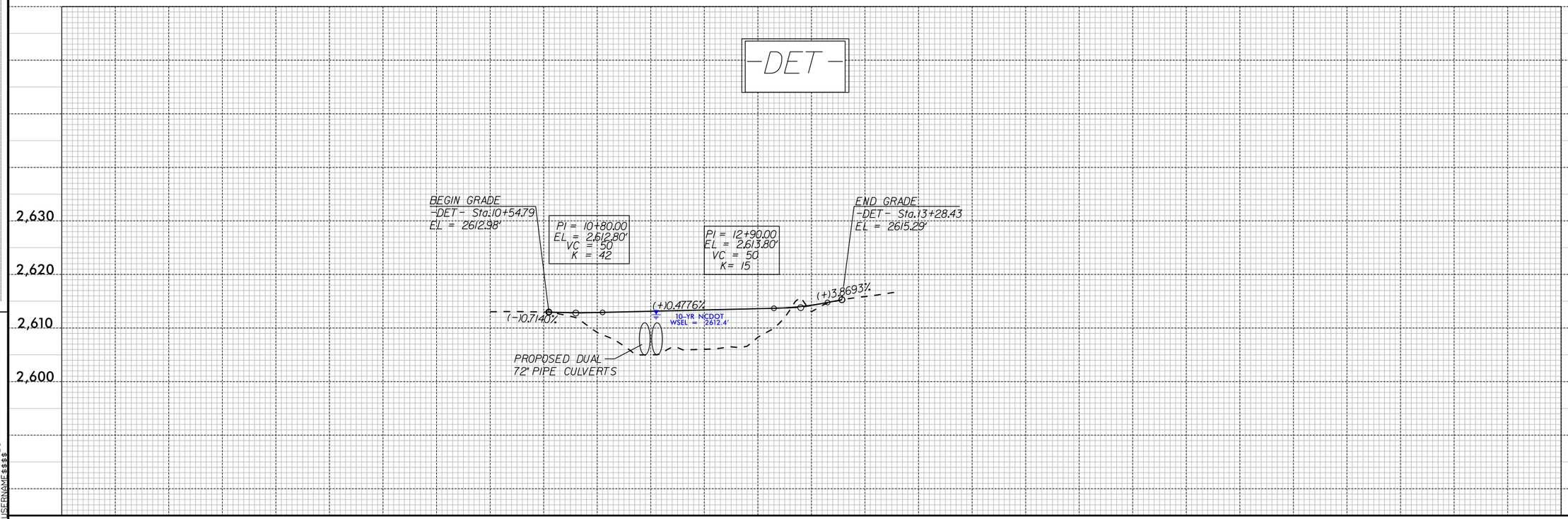
S/S SURFACE WATER IMPACTS TS/TS TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING SHEET 3 OF 6



-DET-

PI Sta 10+40.75	PI Sta 11+18.43	PI Sta 12+61.25	PI Sta 13+40.74
Δ = 29° 38' 27.6" (LT)	Δ = 28° 15' 13.9" (RT)	Δ = 27° 22' 21.2" (RT)	Δ = 31° 29' 22.6" (LT)
D = 37° 12' 18.2"	D = 37° 12' 18.2"	D = 37° 12' 18.2"	D = 37° 12' 18.2"
L = 79.67'	L = 75.94'	L = 73.57'	L = 84.64'
T = 40.75'	T = 38.76'	T = 37.50'	T = 43.42'
R = 154.00'	R = 154.00'	R = 154.00'	R = 154.00'



REVISIONS

8/17/99

$$$$$$$SYSTIME$$$$$$
$$$$$$$USERNAME$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$

WETLAND AND SURACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	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	-L- 12+35 - 12+89	Bank Stabilization						< 0.01		41		
1	-L- 11+60 - 12+90	Proposed bridge installation							0.04		80	
1	-DET- 11+56 -	Temp. detour construction							0.03		96	
TOTALS*:								< 0.01	0.07	41	176	0

*Rounded totals are sum of actual impacts

NOTES:
Permanent impacts from bank stabilization are parallel

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
1/05/2026
BUNCOMBE
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ESA Consultation

Biological and Conference Opinions and Informal Consultations – Batch Format

Replace Multiple Crossing Structures Destroyed by Tropical Storm Helene in Buncombe, Madison, McDowell, Rutherford, and Yancey Counties, North Carolina

Service Log #25-236 through 25-248

Prepared by:

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Consultation History

- **December 2, 2024**: Discussion between U.S. Fish and Wildlife Service (Service) and North Carolina Department of Transportation (NCDOT) regarding consultation batching processes and applicable avoidance and minimization and conservations measures for projects related to Tropical Storm (TS) Helene damage.
- **December 3-6, 2024**: Email correspondence between the Service and NCDOT discussing aspects of batching process and need for a virtual discussion.
- **December 11, 2024**: Virtual meeting between NCDOT and the Service to discuss batching process and avoidance and minimization and conservations measures.
- **December 30-31, 2024**: Service asked NCDOT questions about project impact estimates and NCDOT provided responses.
- **January 2, 2025**: Phone discussion between NCDOT and the Service regarding aquatic impact area estimates.
- **January 7, 2025**: NCDOT provided needed information on aquatic impact area estimates.
- **May 20, 2025**: NCDOT submitted batched request for informal and formal consultation to the Service.

Background

On September 27, 2024, 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 in 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 [to the extent possible] replacing the transportation infrastructure destroyed by TS Helene. The following informal and formal consultations are presented in batched format to streamline and expedite review of numerous similar projects. 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 at the time of this document and incorporate the expertise of WNC's Service and partner resource agency biologists.

Projects

The table below represents the projects reviewed in this batch of TS Helene-related projects. Work will involve the replacement of damaged or wholly destroyed crossing structures, which may include minimal tree clearing, grading, demolition, and in-water construction. The Express Design Build bridges should be completed in 2025. Construction of some the Design Bid Build bridges will likely begin in 2025. All construction should be completed by late 2026, though the exact schedule depends on many different factors. Additional description of the project-associated activities is provided in Section 2 of this document.

Table 1. Batched Consultation Projects – Crossing Structures

Structure Number	Waterbody	County	Location	Status	Service Log No.
100308 (temp)	Shope Creek	Buncombe	35.6349, -82.47103	Complete loss of approach due to scour, concrete end walls standing but unstable	25-236
100380 (temp)	Swannanoa River	Buncombe	35.6079, -82.4195	Missing span and approach roadway, some broken pilings.	25-237
580058	Mackey Creek	McDowell	35.6701, -82.1147	Helene-damaged box culvert on US 70. Slope failed on both sides of road and cracking within concrete box.	25-238
800036	Second Broad River	Rutherford	35.33386, -81.83953	Partial damage including broken bent.	25-239
100115	Broad River	Buncombe	35.5321, -82.2585	Partial damage including west approach damage and major debris dam.	25-240
100424	Flat Creek	Buncombe	35.5447, -82.3116	Partial damage including south approach damage and major debris dam.	25-241
560304 (temp)	W. Fork Shutin Creek	Madison	35.8728, -82.8901	Partial damage including south approach damage.	25-242
990009	Cane River	Yancey	35.91169, -82.34889	Partial damage includes end bent severe scour (full length).	25-243
990233	Pig Pen Creek	Yancey	35.98299, -82.26997	Partial damage includes guard rail damage and severe debris dam.	25-244
990193	Pig Pen Creek	Yancey	35.97544, -82.2706	Partial damage includes Southwest corner behind backwall loss scour hole and road undermined under asphalt approach and northwest corner loss of fill behind backwall under asphalt approach.	25-245
990192	Pig Pen Creek	Yancey	35.97465, -82.27019	Partial damage includes approach roadway undermined and no bearing between superstructure and crutch bent.	25-246
990157	Elk Shoals Creek	Yancey	35.95085, -82.40564	Partial damage includes east approach behind backwall on north side, scour hole undermining of roadway, and broken asphalt.	25-247
990056	South Toe River	Yancey	35.90864, -82.19126	Partial damage includes missing south approach and significant scour at end bent 2.	25-248

Informal Consultation

The NCDOT assessed each project location 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 table outlines the project locations and associated "No Effect" (NE) determinations. For this batch of projects there was no "May Affect, Not Likely to Adversely Affect" NLAA determinations for any species.

Table 2. Species NE Determinations

Structure Number	Waterbody	Service Log No.	NE and NLAA Species
100308 (temp)	Shope Creek	25-236	**NE:** Appalachian elktoe (*Alasmidonta raveneliana*). **Rationale:** Absence of suitable habitat.
100380 (temp)	Swannanoa River	25-237	**NE:** Appalachian elktoe (*Alasmidonta raveneliana)*. **Rationale:** Absence of suitable habitat.
580058	Mackey Creek	25-238	**NE:** Small whorled pogonia (*Isotria medeoloides*). **Rationale:** Absence of suitable habitat.
800036	Second Broad River	25-239	**NE:** Dwarf-flowered heartleaf (*Hexastylis naniflora*), small whorled pogonia. **Rationale:** Absence of suitable habitat.
100115	Broad River	25-240	**NE:** Rock gnome lichen (*Gymnoderma lineare*), white irisette (*Sisyrinchium dichotomum*). **Rationale:** Absence of suitable habitat.
100424	Flat Creek	25-241	**NE:** Rock gnome lichen (*Gymnoderma lineare*), white irisette (*Sisyrinchium dichotomum*). **Rationale:** Absence of suitable habitat.
990009	Cane River	25-243	**NE:** Small whorled pogonia, Virginia spiraea (*Spiraea virginiana*). **Rationale:** Absence of suitable habitat.
990233	Pig Pen Creek	25-244	**NE:** Small whorled pogonia, Virginia spiraea (*Spiraea virginiana*), Appalachian elktoe. **Rationale:** Absence of suitable habitat.
990193	Pig Pen Creek	25-245	**NE:** Small whorled pogonia, Virginia spiraea (*Spiraea virginiana*), Appalachian elktoe. **Rationale:** Absence of suitable habitat.
990192	Pig Pen Creek	25-246	**NE:** Small whorled pogonia, Virginia spiraea (*Spiraea virginiana*), Appalachian elktoe. **Rationale:** Absence of suitable habitat.
990157	Elk Shoals Creek	25-247	**NE:** Small whorled pogonia, Virginia spiraea (*Spiraea virginiana*), Appalachian elktoe. **Rationale:** Absence of suitable habitat.
990056	South Toe River	25-248	**NE:** Small whorled pogonia, Virginia spiraea (*Spiraea virginiana*). **Rationale:** Absence of suitable habitat.

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.

We believe the requirements under section 7 of the ESA are fulfilled for the species addressed above in relation to the designated projects. However, obligations under section 7 of the ESA must be reconsidered if: (1) new information reveals impacts of this proposed action that may affect listed species or critical habitat in a manner not previously considered, (2) this proposed action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the proposed action.

A species proposed for listing under the Endangered Species Act (ESA) is one that the Service or the National Marine Fisheries Service has determined, based on the best available scientific and commercial data, may warrant listing as either endangered or threatened. This proposal is a formal step in the process of providing federal protection to species facing potential extinction across all or a significant portion of their range. Species proposed for listing are not afforded protection under the ESA; however, as soon as a listing becomes effective, the protections set forth in the ESA will apply.

On December 13, 2024, eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*) was proposed for listing as endangered under the ESA. Information provided by NCDOT after the originally submitted consultation request for the subject projects indicates that NCDOT has chosen not to conference on eastern hellbender but will consider the species and coordinate with partner resource agencies as project actions move forward.

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 Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (ESA), as to whether a Federal action is likely to jeopardize the continued existence of species proposed or listed as endangered or threatened; or result in the destruction or adverse modification of proposed or designated critical habitat.

This document transmits the Service's Opinion and is based on our review of the proposal to replace several crossing structures (Table 1) and the effects on the federally endangered Appalachian elktoe (*Alasmidonta raveneliana*), gray bat (*Myotis grisescens*), Indiana bat (*Myotis sodalis*), and northern long-eared bat (*Myotis septentrionalis*), and federally proposed endangered tricolored bat (*Perimyotis subflavus*). 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, communications with experts on the affected species, and other sources of information as cited. The Federal Highway Administration is the lead Federal action agency for these projects, 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 actions 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 areas.

2.1 Action Areas

The project action areas are all areas of construction and include any portions of the project waterbodies, as indicated in Table 1, that may be affected by direct or indirect effects. The action areas are comprised of the:

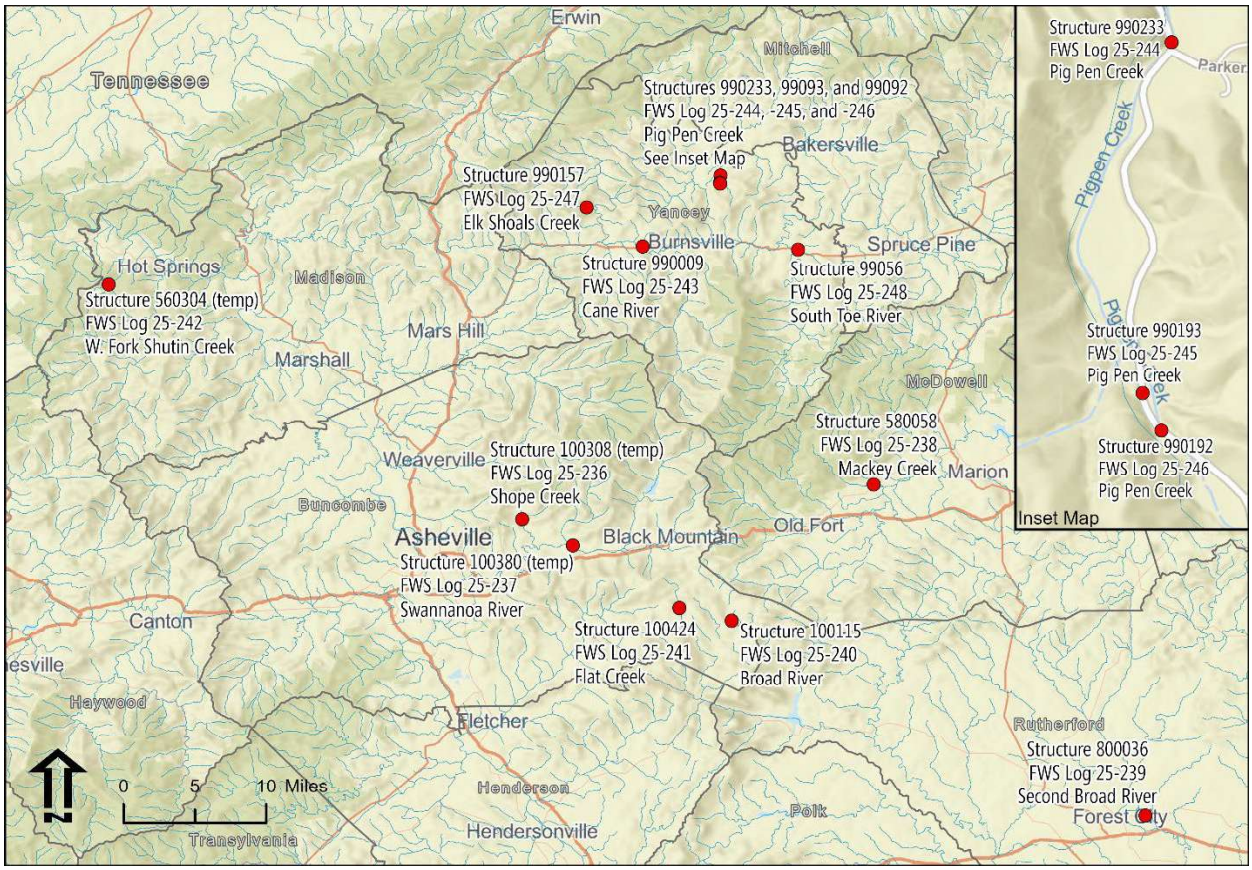
1.) Project construction limits including all project related work such as tree-clearing and grading.
2.) Limits of sedimentation effect, anticipated to extend 100 meters (m) (328 feet (ft)) upstream from each bridge and 400 m (1,314 ft) downstream from each crossing structure in each respective river.

Table 3. Projects that are Likely to Adversely Affect (LAA) Listed Species

Structure Number	Waterbody	County	Location	Service Log No.	Taxa Determination
100308 (temp)	Shope Creek	Buncombe	35.6349, -82.47103	25-236	Plants: NE Bats: LAA Aquatics: NE
100380 (temp)	Swannanoa River	Buncombe	35.6079, -82.4195	25-237	Plants: NE Bats: LAA Aquatics: NE
580058	Mackey Creek	McDowell	35.6701, -82.1147	25-238	Plants: NE Bats: LAA Aquatics: NE
800036	Second Broad River	Rutherford	35.33386, -81.83953	25-239	Plants: NE Bats: LAA Aquatics: NE
100115	Broad River	Buncombe	35.5321, -82.2585	25-240	Plants: NE Bats: LAA Aquatics: NE
100424	Flat Creek	Buncombe	35.5447, -82.3116	25-241	Plants: NE Bats: LAA Aquatics: NE
560304 (temp)	W. Fork Shutin Creek	Madison	35.8728, -82.8901	25-242	Plants: NE Bats: LAA Aquatics: NE
990009	Cane River	Yancey	35.91169, -82.34889	25-243	Plants: NE Bats: LAA Aquatics: LAA
990233	Pig Pen Creek	Yancey	35.98299, -82.26997	25-244	Plants: NE Bats: LAA Aquatics: NE
990193	Pig Pen Creek	Yancey	35.97544, -82.2706	25-245	Plants: NE Bats: LAA Aquatics: NE
990192	Pig Pen Creek	Yancey	35.97465, -82.27019	25-246	Plants: NE Bats: LAA Aquatics: NE

990157	Elk Shoals Creek	Yancey	35.95085, -82.40564	25-247	Plants: NE Bats: LAA Aquatics: NE
990056	South Toe River	Yancey	35.90864, -82.19126	25-248	Plants: NE Bats: LAA Aquatics: LAA

Figure 1. Projects that are Likely to Adversely Affect (LAA) Listed Species



2.2 Project Description

The widespread infrastructure failure of numerous NCDOT bridges and roadways due to TS Helene necessitates an expedited design build repair/replacement process and batched consultation response. Consequently, specific details regarding the proposed project designs in Table 1 and associated action area impact details are not yet finalized. However, project activities and estimated impacts, based on the established practices of NCDOT's crossing structure replacement work, are available. At the time of this consultation, it is anticipated that most replacement bridges will be constructed using concrete box beam or cored slab designs. The general and expected elements of these crossing structure replacement projects are described below. The current estimated timeline for completion of these projects is late fall of 2026.

In-water impacts
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 range from 0.01 – 0.35 acres (or 4,356 – 15,246 square feet) per structure. Some structure replacements will fall in the lower portion of that range of in-water impacts while some will fall in the higher range. These impacts may be in the form of work pad causeways, bent removal and/or placement, and placement of stream-bank stabilization materials.

Tree Clearing, Access Roads, and Demolition
The maximum estimate for tree clearing per structure replacement location is 0.10 acre. That amount will likely be less at most locations, given the variability in site conditions and the extreme scour (and resulting loss of riparian vegetation) during TS Helene flooding. The season during which clearing will occur is not known for each location but is assumed to occur during any time of year, including summer months. Clearing and grading will occur to allow for access roads and general construction functionality.

Where damaged structures or portions of damaged structures remain in place, demolition will occur. The details of demolition activities and seasonality of demolition will vary by project, with an assumption that these activities will occur during any time of year, including summer months.

2.3 Avoidance and Minimization and Conservation Measures

NCDOT will employ the following agency standards, guidelines, and best practices to avoid and minimize project mediated activities that could negatively impact listed/proposed species or their habitat.

2.3.1 Avoidance and minimization measures (AMMs)

General (regardless of species): The following General AMMs will be implemented on all projects to minimize impacts to listed/proposed species and 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 AMMs 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.

Aquatics- General AMMs will minimize impacts to listed/proposed aquatic species and **to the maximum extent possible** the following AMMs be incorporated into project work – though implementation of all aquatic AMMs below cannot be guaranteed at the time of this consultation, given the scale, scope, and timeline constraints addressed previously:

- Aquatic AMM Structure – Structure will be built in the same location as the previous structure, with minimal impact [bents] to water resource, built to today's improved highway and hydraulic standards.

- Aquatic AMM Equipment – Heavy machinery will not be utilized within the waterbody. Additionally, staging and storage areas for equipment and materials will be managed in such a way to ensure that potential spills and leaks do not have access to the waterbody.

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

- Aquatic AMM Abutments - Existing abutments will be completely removed unless removal results in destabilizing of banks or increases the adverse effect to listed/proposed aquatic species.

- Aquatic AMM 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 AMM Erosion Control Matting – Coir fiber matting will be utilized instead of plastic or other synthetic matting.

Bats - General AMMs will minimize impacts to listed/proposed bats. **To the maximum extent possible,** the following AMMs will also be incorporated into project work – though implementation of all bat AMMs below cannot be guaranteed at the time of this consultation, given the scale, scope, and timeline constraints addressed previously:

- Bat AMM Noise - Percussive activities will occur only after the tree clearing within the action area has been completed, helping to reduce the exposure of any tree-roosting bats within the action area to high decibel noise.

- Bat AMM Lighting - No new lighting will be added to the action area. Any lighting needed for night work will be directed at the work area and shieled from surrounding waters/landscape, only on when needed, no brighter than necessary, and blue light emissions will be limited.

- Bat AMM Riparian Planting – Disturbed riparian areas will be replanted with native, fast-growing tree and shrub species where feasible, with the understanding that plantings likely cannot be done in utility/drainage/construction easements.

2.3.2 Conservation Measures (CMs)

CMs 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 CM: Aquatics Contribution - For individual bridge projects that are LAA aquatic species, the NCDOT will contribute $10,000 for each project structure to the N.C. Nongame Aquatic Species Fund.

Aquatic CM: Relocation - For projects that are LAA aquatic species, prior to project construction, a Service Asheville Field Office NCDOT liaison and the NC Wildlife Resources Commission NCDOT liaison will be contacted to discuss the potential for aquatic species relocation, if applicable and practicable.

Bat CM - Tree Clearing Bat Fund Contribution: For individual bridge projects likely to adversely affect bat species during tree removal, the NCDOT will contribute a payment* to the N.C. Nongame Terrestrial Species Fund (or other Service-approved fund) in support of the recovery of federally protected bat species.

Bat CM Structure Removal Bat Fund Contribution: For individual bridge projects that are LAA bat species during structure removal, the NCDOT will contribute a payment** to the N.C. Nongame Terrestrial Species Fund (or other Service-approved Fund) in support of the recovery of federally listed bat species.

*Contributions made will be based on a 2:1 ratio multiplier specified for the non-volant pup season (May 15-July 31). This ratio offers the most protective coverage as time of year clearing will occur is unknown. The amount will be determined using the United States Department of Agriculture Farm Real Estate Value for North Carolina for 2024 ($5,190/acre).
https://www.nass.usda.gov/Publications/Todays_Reports/reports/land0824.pdf
If tree clearing is unknown, an assumed clearing acreage of 0.1 acre will be used based on estimates from previous clearing work at bridges (NCDOT 2015). The formula is calculated as follows:
$5,190 x 0.1 ac = 519 x 2 (critical life stage multiplier) = $1,038 contribution

**Structures with documented bat use are generally larger than the average bridge, with a median size of 0.10 acre (length x width) (KYTC 2019). 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. If the structure is demolished after March 15 when bats return to the landscape, a payment will be required, if not, no payment is required. The formula is calculated as follows:
$5,190 x 0.1 ac = 519 x 1.5 (temporary affect multiplier) = $779 contribution/structure

3. Status of the Species

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

3.1 Appalachian Elktoe

Scientific Name: *Alasmidonta raveneliana*
Status: Endangered
Date of Listing: November 23, 1994
Critical Habitat: Designated in 2002

3.1.1 Description and Life History

The Appalachian elktoe is a freshwater mussel endemic to the Blue Ridge Physiographic Province of WNC. This species exists in several small populations in the Upper Tennessee River system of North Carolina and Tennessee, inhabiting relatively shallow medium-sized creeks and rivers with cool, well-oxygenated, and moderate- to fast-flowing water.

Lea (1834) described the Appalachian elktoe from the French Broad River (FBR) system in North Carolina. Its shell is thin but not fragile, oblong, and somewhat kidney-shaped, with a sharply rounded anterior margin and a broadly rounded posterior margin. The periostracum (outer shell) of the Appalachian elktoe varies in color from dark brown to yellowish-brown in color. Rays may be prominent in some individuals, usually on the posterior slope, and nearly obscure in other specimens. 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.

The Appalachian elktoe has 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. The other populations of Appalachian elktoe appear to be stable (Tuckasegee, Cheoah, and 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 few years the known range of Appalachian elktoe in the main stem of the FBR has expanded and it now appears to be well established, albeit at low density, over a broad area. At the time of this document, impacts to Appalachian elktoe from TS Helene in September of 2024 remain largely unknown. Extreme flooding and scour 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.

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. Portions of the FBR basin experienced catastrophic flooding in late summer 2021 due to the remnants of Tropical Storm Fred. The flooding likely resulted in loss of Appalachian elktoe individuals within populations in the hardest-hit portions of the Pigeon, Mills and French Broad Rivers.

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 Gray Bat

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

3.2.1 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 gray bat largely occurs in limestone karst areas, meaning a landscape marked by caves, sinkholes, springs and other features, of the southeastern and midwestern United States.

Gray bats use 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.

Adult bats mate upon arrival at the wintering caves in September or early October. Hibernation occurs in deep vertical caves in the winter, where colder temperatures are preferable. Gray bats require consistently cold temperatures to maintain hibernation and conserve energy in the winter months. The adult females will emerge from hibernation in late March or early April. At that time, the females who have mated will begin their pregnancy, while dispersing to maternity caves. Males and juveniles emerge shortly after the females and disperse to bachelor caves. 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 with concrete and their preferred roosting location is in the vertical expansion joints of a bridge deck above piers (NCDOT 2023a), though they can also roost in clogged deck drains and other sheltered areas on crossing structures. According to approximately 2,000 bridge surveys conducted throughout WNC from 2000 - 2023, gray bats have been recorded roosting in bridges at a usage rate of 3% (NCDOT 2023a), with bridge use observed in the covered area from March – November. Up to 1,000 individuals, including males and females, have been observed day-roosting throughout the summer in expansion joints between box beams at two separate bridges (Weber et al. 2020). Sporadic summer use of other concrete type bridges has also been noted for smaller numbers of day-roosting gray bats (NCDOT, 2023a). Gray bats have also been observed within culverts, most commonly of concrete material.

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

Studies suggest that gray bats visit multiple foraging areas during the night and travel frequently between these areas.

3.2.2 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. 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). Due to 2024 flooding associated with TS Helene, these numbers may be significantly lower now, though at the time of this document, the impacts from Helene on imperiled species numbers are still unknown. Throughout WNC, there are 58 current element occurrences of the gray bat based on N.C. Natural Heritage Program, NCWRC, 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).

3.2.3 Threats

Cave disturbance and alteration, loss of forested habitat, pollution of waterways, and significant natural factors including those caused by climate change (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.

3.3 Indiana Bat

Scientific Name: *Myotis sodalis*
Status: Endangered
Date of Listing: March 11, 1967
Critical Habitat: Established in 1976

3.3.1 Description and Life History

The Indiana bat is a temperate, insectivorous, migratory bat that hibernates colonially in caves and mines in the winter. The species is widely distributed in a variety of wooded habitats, ranging from highly fragmented woodlands in agricultural landscapes to extensively forested areas. Roosting areas are preferred in forest stands with uneven-aged trees that can supply the canopy with large, dead trees in more direct sunlight and are near foraging areas and water sources. Some roosts do occur in living trees (primarily shagbark hickory) or damaged trees from several species. During winter, Indiana bats are restricted to suitable underground hibernacula. Most of these sites are caves located in karst areas of the east-central United States; however, Indiana bats also hibernate in other cave-like locations, including abandoned mines.

Maternity colonies form in early May and remain together until August. Females will rear a single pup from May into July. Temperatures and weather will alter the length of the time a pup will stay in the primary roost and females will relocate the pup to another snag to manage temperatures and environmental conditions. In summer, most reproductive females occupy roost sites under the exfoliating bark of dead trees that retain large, thick slabs of peeling bark. Habitats in which maternity roosts occur include riparian zones, bottomland and floodplain habitats, wooded wetlands, and upland communities. Indiana bats typically forage in semi-open to closed (open understory) forested habitats, forest edges, and riparian areas.

Fall swarming and mating takes place between August and November and are at different sites from the actual hibernaculum. Typically, hibernation begins in November and lasts through March. Several variables influence hibernacula selection, but generally Indiana bats prefer caves with stable temperatures that remain below 50°F with humidity greater than 74 percent. Indiana bats emerge from hibernation in March or April and remain near the hibernacula to refuel before migrating to summer ranges. Migration distances vary but have been observed greater than 300 miles. Bats may be concentrated near hibernacula and often roost in trees during fall swarming and spring staging.

Indiana bats primarily feed on flying insects, including some from orders with both an aquatic and terrestrial stage. Numerous foraging habitat studies have found that Indiana bats often forage in closed to semi-open forested habitats and forest edges located in floodplains, riparian areas, lowlands, and uplands; however, old fields and agricultural fields are also used (Service 2007). Drinking water is essential, especially when bats actively forage. Indiana bats obtain water from streams, ponds, and water-filled road ruts in forest uplands. Consistent use of moths, flies, beetles, and caddisflies throughout the year at various colonies suggests that Indiana bats are selective predators to a certain degree, but incorporation of other insects into the diet also indicates that these bats can be opportunistic (Murray and Kurta 2002).

3.3.2 Status and Distribution

Indiana bats can be found primarily in the midwestern and eastern part of the United States, with a range stretching east to west from Vermont to Oklahoma, and north to south from Michigan to Alabama, and comprising approximately 403,883 square miles. WNC falls on the southeast edge of their range. No known active hibernacula are present in WNC, and summer maternity colonies are widely dispersed, with most locations unknown (Service 2019a).

According to the 2024 population status updated (Service 2024), range-wide there are approximately 631,786 Indiana bats, using 194 hibernacula across 15 states. The nine most populous hibernacula are home to 91% of Indiana bats, though none are in North Carolina or adjacent states. The Service divides the Indiana bat range into four recovery units, delineating evidence of population discreteness and genetic

differentiation, differences in population trends, and broad-level differences in macrohabitats and land use. North Carolina is part of the Appalachia Recovery Unit, which includes all of West Virginia, as well as portions of Pennsylvania, Virginia, and Tennessee. The Appalachian recovery unit represents 0.2% of the overall Indiana bat population.

There are 20 element occurrences of the Indiana bat in WNC based on NCNHP records, five of these are considered historical. There are several records of Indiana bats roosting in concrete-material bridges associated with a water crossing and of concrete material (NCDOT 2023a). According to approximately 2,000 bridge surveys conducted throughout WNC from 2000 - 2023, Indiana bats have been recorded roosting in WNC bridges at a usage rate of 0.2% (NCDOT 2023a) with use documented to occur from March - July. There are currently no records in North Carolina of Indiana bats roosting in culverts (NCDOT 2023b), though they have been found in culverts in other states. White Oak Blowhole cave in Tennessee (Great Smoky Mountains National Park) is located within five miles of the North Carolina border. Therefore, part of the designated spring staging and fall swarming habitat associated with this hibernaculum extends into Swain County, NC.

3.3.3 Threats

Threats to the Indiana bat include modifications to caves, mines, and surrounding areas that change airflow and alter microclimate in the hibernacula. Human disturbance and vandalism pose significant threats during hibernation through direct mortality and by inducing arousal and consequent depletion of fat reserves. Natural catastrophes can also have a significant effect during winter because of the concentration of individuals in a relatively few sites. During summer months, may stem from the loss and degradation of forested habitat. Migration pathways and swarming sites may also be affected by habitat loss and degradation. Although populations have increased in recent years, WNS poses an additional threat that has caused and may continue to cause population declines.

3.4 Northern long-eared Bat

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

3.4.1 Description and Life History

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

Northern long-eared bats are a forest bat species that roosts in a variety of forest types and structures. They are known to roost in trees and have also been documented using roost sites such as buildings, artificial roosts, and bridges. During the active season, northern long-eared bats typically roost singly or in maternity colonies underneath bark or more often in cavities or crevices of both live trees and snags (Service 2023). Males' and non-reproductive females' summer roost sites may also include cooler locations, such as caves and mines (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. Length of hibernation varies depending on location. 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.

Prior to hibernation, between mid-August and mid-November, bat activity will increase during the evenings at the entrance of a hibernaculum (fall swarming). Suitable fall swarming habitat is similar to roosting, foraging, and commuting habitat selected during the summer and is most typically within 4-5 miles of a hibernaculum (Service 2023). Likewise, in the spring they emerge from and stage near hibernacula before moving to maternity areas typically in early April to mid-May; however, they may leave as early as March. Northern long-eared bats also roost in trees near hibernacula during spring staging, and Thalken et al. (2018) found that roost trees were situated within 1.2 miles (2km) of hibernacula during spring staging and the early maternity season. The species migrates relatively short distances between maternity areas and hibernacula.

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 N.C. Natural Heritage Program records, 19 of which are considered historical. The number of bats found at each occurrence ranges from one to more than 80. There have been 22 documented hibernacula, all in caves or mines; however, northern long-eared bats have not been observed using hibernacula in North Carolina since 2014 (NCWRC personal communication September 2022). The Service estimates that there has been an occupancy drop of 85% and a 24% loss of winter colony sites across the Southeast

Representation Unit (RPU) overall since 2006 when white-nose syndrome was first documented (Service 2022a).

3.4.3 Threats

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

3.5 Tricolored Bat

Scientific Name: *Perimyotis subflavus*
Status: Proposed Endangered
Date of Proposed Listing: September 14, 2022
Critical Habitat: None proposed

3.5.1 Description and Life History

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

During the 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, 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.

During the winter, across much of their range tricolored bats hibernate in caves and mines; although, in the southern United States, where caves are sparse, they often hibernate in culverts, as well as sometimes in tree cavities and abandoned water wells. In the southern US, hibernation length is shorter compared to northern portions of the range and in the warmest portions of its range. Hibernating tricolored bats do not typically form large clusters; most commonly roost singly, but sometimes in pairs, or in small clusters of both sexes away from other bats (Service 2021). 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. Suitable fall swarming habitat is similar to roosting, foraging, and commuting habitat selected during the summer. Spring staging is the time period between winter hibernation and spring migration to summer habitat (Service 2023). During this time, bats begin to gradually emerge from hibernation, exit the hibernacula to feed, but re-enter the same or alternative hibernacula to resume daily bouts of torpor (state of mental or physical inactivity). Tricolored bats also roost in trees near hibernacula during spring staging.

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). 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 based on N.C. Natural Heritage Program records, seven of which are considered historical. The number of bats found at each occurrence range from 1 to 3,000 bats. There have been 79 tricolored bat hibernacula documented, including caves (50), mines (22), root cellars (4), and culverts (3). According to approximately 2,000 bridge surveys conducted throughout western North Carolina from 2000 - 2023, tricolored bats have been recorded roosting in bridges at a usage rate of 1.3% (NCDOT 2023a). Tricolored bat bridge use has been documented to occur in western North Carolina from April – October (with one outlier record from 2013 citing February use). Approximately 900 culvert surveys have been conducted in western North Carolina from 2010 – 2023 (NCDOT 2023b) with year-round data coverage. Tricolored bats have been found using culverts in western North Carolina, again at a relatively low rate (0.8% observed use). Culvert use has been observed in western North Carolina from January – April.

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

3.5.3 Threats

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

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 action areas contain the existing crossing structures and the roadway approaches, along with the existing utilities and surrounding riparian areas in which project work will occur. Past impacts include the original construction and placement of the crossing structures within waterbodies to facilitate transportation in the surrounding locations. Because this document addresses several projects, more detailed information regarding other human activities at each location is not included for the purposes of this consultation review.

4.1 Appalachian Elktoe Within the Action Areas

Flooding and scour from TS Helene impacted all waterbodies included in this consultation. Appalachian elktoe presence within an action area was identified at two bridge locales: Yancey County bridges 009 and 056. A Yancey County bridge 009 end bent was heavily damaged due to extreme scour from Helene flooding. The south approach of Yancey County bridge 056 is missing and an end bent of this bridge experienced significant scour. Post-storm in-water surveys have not been conducted at this time, given all the constraints already addressed, though discussions regarding site conditions as observed by the Service's Asheville Field Office aquatics recovery lead and/or aquatic biologists with NCWRC and NCDOT's Biological Surveys Group have occurred. Additionally, while the major flood and scour event damaged the crossing structures and degraded habitat, the action area for bridge 056 falls within Appalachian elktoe Critical Habitat and was previously occupied prior to TS Helene. The potential for individual Appalachian elktoe to still occur within the action areas remain. At the time of this consultation, those individual numbers are believed to be reduced from pre-Helene conditions but are not believed to be zero. One Appalachian elktoe within each action area is estimated based on pre-TS Helene estimates and anticipated storm losses.

4.2 Listed and Proposed Bats Within the Action Areas

Structures

Despite the tremendous damage caused by Helene, it is assumed that all thirteen bridge locations still provide suitable roosting habitat; however, some may be significantly reduced and degraded from pre-storm conditions. For gray bats, primary roost structures can support several hundred to over 1,000 individuals, while most structures with observed roosting gray bats in WNC contain 1 to 10 individuals. The structures supporting those higher numbers of gray bats, whether culvert or bridge, are larger than average. The northern long-eared bats, tricolored bats, and Indiana bats observed roosting on bridges in WNC is between 1 and 2 individuals at any given time. In more detail, Natural Heritage data contains 8 bridge, 1 culvert, and 1 tree roost locations for gray bats, 3 bridge roost locations for tricolored bats, and 1 northern-long eared bat bridge roost location in Madison County. In Yancey County there are 3 gray bat bridge roost locations. McDowell County has 3 gray bat and 1 tricolored bat bridge roost locations. Buncombe County has 2 bridge and 5 culvert roost locations for gray bats and 1 bridge roost for tricolored bats. Lastly, Rutherford County has 1 gray bat bridge roost. There are currently no culvert roosting records for northern long-eared bat or Indiana bat in NC. Within the action area of these damaged crossing structures, given size of the structures, the degraded and reduced roosting habitat available, and based on existing WNC data, it is estimated that 1 individual per species could be present within each structure at these crossing locations.

Trees

Gray bats are not considered "tree-roosting" species. While individuals have been observed utilizing trees in rare occasions, they are generally considered a cave/structure-specific roosting species; therefore, no gray bats are expected to be roosting in trees within the action areas. Northern long-eared bats, Indiana bats, and tricolored bats roost in trees during the warmer months. All projects except Yancey structure 056 may involve tree clearing, but no project anticipates clearing more than 0.1 acres. Given the minimal amount of riparian vegetation and trees remaining within the action areas, it is unlikely that a high number of bats would be utilizing the small amount of available habitat. Based on that rationale, 1 individual per species (of northern long-eared bat or tricolored bat) could be present in trees within the action area per crossing structure location.

5. Effects of the Action

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

5.1 Appalachian Elktoe

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 have been identified and are outlined below. The proximity of these actions will be within the waters occupied by Appalachian elktoe [within the action area] and duration of disturbance is expected during the construction phase 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), and placement of hard materials for new bents/structures or for bank stabilization, is likely to occur at the project locations. Installation of a temporary causeway may result in adverse effects to Appalachian elktoe and their fish host species due to the potential to bury individuals and harm fish host individuals or disrupt passage or other behavior while they are in place. Causeways 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 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 may result in the loss of materials in 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 placement of hard materials within the waterbody may result in crushing or burying Appalachian elktoe.

Alteration of Flows and Channel Stability

The initial construction of a crossing structure is known to cause changes in the flow of the stream and corresponding erosive processes that can alter the adjacent habitat. Channel instability occurs when scour results in degradation or when sediment deposition leads to aggradation (Rosgen 1996). Since most 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.

Turbidity and Sedimentation

Increases in turbidity and sedimentation within the action area during demolition and construction are expected. This can occur from in-water work and from the erosion of bare soil in and surrounding the

construction zone, 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 resulting from the accumulation of sediments include smothering, disruption of feeding and breeding activity, alteration of habitat, or some combination. Sediment and erosion control (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 mussel habitat in the vicinity.

In summary, the in-water work, flow and channel stability alteration, and turbidity and sedimentation within the action areas are likely to adversely affect Appalachian elktoe and take is expected. Take may occur in the form of killing, wounding, or harming individuals of the species.

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 demolition and construction activities and result in mortality of Appalachian elktoe. The type, timing, amount, and proximity to the river of any accidental spills would determine the magnitude of effect to Appalachian elktoe, 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.

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

Operational Effects

Because these projects are limited to the replacement of damaged or destroyed crossing structures and their approaches, 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, Indiana 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 of each project, 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 for Bats

Replacement structures: Due to the constraints associated with the TS Helene response, such as the high volume of projects and timeline unknowns, 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.

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 result in causing bats to flush, which would expose them to risk of predation and would cause increased energy expenditure and create the need for bats to find alternative roost locations. It could also result in physical wounding or death. High-decibel percussive noises associated with demolition or construction may cause nearby roosting bats to flush, exposing them to harm and increased energy expenditure. Additionally, if non-volant pups are present, while adults may be able to flush, pups would be left behind with mortality as the likely outcome. In summary, these activities, should they occur while bats are present, are likely to adversely affect gray bat, Indiana bat, northern long-eared bat, and tricolored bat in the form of harm.

Tree Removal
The removal of suitable roost trees, if conducted while Indiana bats, northern long-eared bats or tricolored bats are present, could result in causing bats to flush, which would expose them to risk of predation and would cause increased energy expenditure and create the need for bats to find alternative roost locations. It could also result in physical wounding or death. Given the presence of alternative forested habitat near the action areas, bats could likely find 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. In summary, these activities, should they occur while bats are present, are likely to adversely affect Indiana bat, northern long-eared bat and tricolored bat in the form of harm.

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 Indiana bats, northern long-eared bat, and tricolored bat) within the action areas 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 areas.

Operational Effects
Because these projects are limited to the replacement of damaged or destroyed crossing structures and their approaches, 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.

5.3 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.

These structure replacements are not expected to induce land development or substantially change the function of the 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/businesses and infrastructure. Therefore, there will likely be increased construction in

WNC Counties for an undefined period of time. Some of this work will be conducted during seasons when bats are active on the landscape, potentially increasing exposure to construction-related stressors. However, other effects from these private actions cannot be determined at this time.

6. Conclusion and Jeopardy Determination

After reviewing the current status of Appalachian elktoe, gray bat, Indiana bat, northern long-eared bat, and tricolored bat, the environmental baselines for the action areas, the effects analyses and cumulative effects, the Service's biological and conference opinions are shared below.

6.1 Appalachian elktoe

It is the Service's biological opinion that the proposed actions are not likely to jeopardize the continued existence of the Appalachian elktoe. This opinion is based on the following factors: Effects of the actions occur as a result the planned repair or replacement of Yancey County bridges 009 and 056. The species occurs in approximately 162 river miles in WNC and Eastern Tennessee (as understood pre-Helene); thus, impacts are likely to be limited to about 0.4% of the range-wide occupied habitat. Crossing structure construction activities are likely to negatively affect Appalachian elktoe within the action areas, but the incorporated conservation measures are expected to reduce impacts, notably, relocation efforts that could remove and relocate individual mussels prior to work taking place.

6.2 Gray Bat, Indiana 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, Indiana bat, northern long-eared bat, or tricolored bat. This opinion is based on the following factors: Effects from these actions stem from the replacement of the following crossing structures and/or associated tree clearing: Buncombe County structures 308 (temp), 380 (temp), 115, 424; Madison County structure 304 (temp), McDowell County structure 058, Rutherford County structure 036, and Yancey County structures 009, 233, 193, 192, 157, and 056. These action areas comprise only a small amount of active season habitat within the overall ranges of these species. No changes in the long-term viability of gray bat, Indiana bat, northern long-eared bat, or tricolored bat are expected because, given the low numbers of each species which could be expected to occur at each crossing structure location (that is, an estimate of 1 individual per species per structure and an estimate of 1 Indiana bat, 1 northern long-eared bat, and 1 tricolored bat per forested area within each action area), and the occurrence range-wide of each species – gray bat in 14 states, Indiana bat in 27 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. Crossing structure construction activities are likely to negatively affect gray bat, Indiana bat, northern long-eared bat, and tricolored bat within the action areas but the incorporated conservation measures are expected to reduce impacts.

7. Incidental Take Statement

Section 9 of the Endangered Species ESA and Federal regulations pursuant to section 4(d) of the Endangered Species Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take "*means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct*" (16 U.S.C §1532). Harm is further defined by the Service as "*an act which actually kills or injures wildlife. Such act may include significant habitat*

modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR 17.3). Incidental taking "*means any taking otherwise prohibited, if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity*" (50 CFR 17.3). Harass is defined by the Service as "*an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering*" (50 CFR 17.3). Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. 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

The Service anticipates incidental take of the Appalachian elktoe may occur as a result of the demolition (if applicable) and construction of Yancey County bridges 009 and 056. Specifically, take of the species may occur as a result of 1) riverbed disturbance in the form of bent removal and causeway construction, operation, and removal, 2) the resulting river instability, scour, sediment movement, and turbidity produced from those activities, and 3) demolition and construction activities around the crossings. During these activities, individual mussels may be crushed; harmed by increases in turbidity and scour, sediment movement, or other water quality degradation; or dislocated because of physical changes in their habitat. These impacts are expected to occur primarily within the structure construction footprints, with the potential for more minor impacts to occur 100 meters upstream and 400 meters downstream of the current structure locations.

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 is used as a surrogate measure 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 and, to the best of situational abilities, efforts will be made to relocate individuals if found prior to construction in an effort to reduce mortality.

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

1. The construction footprint (placement of permanent fill, causeways, and associated actions) exceeds 0.35 acres (15,226 square feet) at any crossing structure construction location.
2. Take of greater than one Appalachian elktoe 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, wounding, or death.

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

The Service anticipates incidental take of gray, Indiana, northern long-eared, and tricolored bats may result from the demolition (if applicable) and construction of crossing structures 308 (temp), 380 (temp),

115, and 424 (Buncombe County); structure 304 (temp) (Madison County); structure 058 (McDowell County); structure 036 (Rutherford County); and structures 009, 233, 193, 192, 157 056 (Yancey County). , as well as any associated tree clearing. Specifically, take of these species may occur as a result of flushing, wounding, or direct mortality during demolition activities (if applicable); or, for northern long-eared bat Indiana bat, and tricolored bat, take may occur as a result of clearing suitable roost trees during times of year that these bats could be tree-roosting within the action area, which may similarly result in flushing, wounding, or direct mortality during clearing activities.

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 and not directly observable. Given this, the 1) maximum estimated tree clearing (for northern long-eared bat, Indiana bat, and tricolored bat only) and 2) number of structures replaced, are used as surrogate measures of take for this Opinion. Additionally, as discussed in the Environmental Baseline, no more than 1 individual of gray bat or 2 individuals of northern long-eared bat, Indiana bat, or tricolored bat (given structure and tree roosting) are estimated to be present within the action areas of each crossing structure.

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

1. *Tree clearing amount exceeds 0.10 acre at a single structure location for the crossing structures listed at the beginning of section 7.2.
2. Any more than one structure is demolished/replaced per crossing structure, as listed at the beginning of section 7.2.

**For Indiana bat, 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, wounding, or death.

7.3 Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measure(s) are necessary and appropriate to minimize take of Appalachian elktoe, gray bat, Indiana bat, northern long-eared bat, and tricolored bat. These non-discretionary measures reduce the level of take associated with project activities and include only actions that occur within the action area.

1. NCDOT shall ensure that the contractor(s) understands and follows the measures listed in the "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 areas to only the area necessary for the safe and successful implementation of the proposed actions.
3. NCDOT shall monitor and document any take numbers and the surrogate measures of take and report those to the Service in a batched format.

7.4 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. If this conference opinion is adopted as a biological opinion following a listing or

designation, these terms and conditions will be non-discretionary.

1. NCDOT shall adhere to all measures as listed in the Avoidance and Minimization and Conservation Measures section as summarized in this Opinion.
2. The NCDOT will immediately inform the Service if the amount or extent of incidental take in the incidental take statement is exceeded.
3. 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 NDOT 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, per individual project (via Service Log # and NCDOT identifiers), the following for the preceding calendar year ending December 31:
        i. Acreage of in-water impacts, if LAA for Appalachian elktoe.
        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 AMMs and BMPs [as listed in Section 2.3].

8. Conservation Recommendations

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

- **Eastern Hellbender**: Proximity to eastern hellbender occurrence records was noted for the following crossing structures: Buncombe County structures 308 (temp), 380 (temp), Madison County structure 304 (temp), and Yancey County structures 009, 056, 157, 192, 193, 233. Ahead of work at these locations, coordinate with the NCWRC and the Service to survey for/relocate any hellbender that may be within the action area and vulnerable to impacts from project work.
- **State Species of Concern**: Close proximity to several aquatic species with North Carolina designations was noted for crossing structures: 115 and 380 (temp) in Buncombe County; 058 in McDowell County; 036 in Rutherford County; and 009 and 056 in Yancey County. While these species are not currently afforded legal protection under the ESA, we recommend the most protective sediment and erosion control measures possible be used in waters occupied by these species, and we encourage you to coordinate any relocation efforts of such species with the NCWRC.
- **Refueling and Materials Storage**: Refuel construction equipment outside the 100-year floodplain or at least 200 feet from all water bodies (whichever distance is greater) and protected with secondary containment. Store hazardous materials, fuel, lubricating oils, or other chemicals outside the 100-year floodplain or at least 200 feet from all water bodies (whichever distance is greater).
- **Provide Terrestrial Wildlife Passage**: Where riparian corridors suitable for wildlife movement occur adjacent to a project, a spanning structure that also spans a portion of the floodplain and provides or maintains a riprap-free level path underneath for wildlife passage would provide a safer roadway and facilitate wildlife passage. A 10-foot strip may be ideal, though smaller widths can also be beneficial. Alternatively, a “wildlife path” can be constructed with a top-dressing of finer stone (such as smaller aggregate or on-site alluvial material) to fill riprap voids if full bank plating is required. If a multi-barrel culvert is used, the low flow barrel(s) should accommodate the entire stream width and the other barrel should have sills to the floodplain level and be back-filled to

provide dry, riprap-free wildlife passage and well as periodic floodwater passage.

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

9. Reinitiation Notice

This concludes formal consultation on the action(s) outlined in the consultation request dated December 12, 2024. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

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Archaeology

Project Tracking No.

25-04-0006

N O 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:	**Bridge 424**	*County:*	**Buncombe**
WBS No:	**DF18313.2011444.PR**	*Document:*	**Federal CE**
Federal Aid No:	**Not Known**	*Funding:*	☐ State ☒ Federal
Federal Permit Required?	☒ Yes ☐ No	*Permit Type:*	**FHWA, USCE, & FEMA**

Project Description:

The project calls for the replacement of Bridge No. 424 on SR 2786 (Flat Creek Road) over Flat Creek in Buncombe County. The archaeological Area of Potential Effects (APE) for the project area is defined as an approximate 240-foot (73.15 m) long corridor running 135 feet (41.15 m) north and 105 feet (32.00 m) south along Flat Road from the center of Bridge No. 424. The APE corridor is approximately 165 feet (50.29 m) wide extending 75 feet (22.86 m) east and 90 feet (27.43 m) west from either side of the centerline. The APE encompasses approximately 0.8 acres.

Federal funds and permits are anticipated. As a result, this archaeological review was conducted in accordance with Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance (36 CFR Part 800).

SUMMARY OF CULTURAL RESOURCES REVIEW

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

The Bridge 424 replacement project is located south of Black Mountain in Buncombe County, North Carolina, and plotted on the Black Mountain USGS 7.5' topographic quadrangle (Figure 1).

A site file search was conducted using data from the Office of State Archaeology (OSA) on May 7, 2025. No known archaeological sites are within a mile of the bridge project. According to the North Carolina State Historic Preservation Office online database (HPOWEB 2025), there are no known historic architectural resources within the APE that may yield intact archaeological deposits. Topographic maps, USDA soil survey maps, aerial photographs (NC One Map), historic maps (North Carolina maps website), Google Street View application, and Hurricane Helene recovery effort photos were further examined for information on environmental and cultural variables that may have contributed to precontact or historic settlement within the project limits and to assess the level of ground disturbance.

Bridge 424 and Flat Rock Road are situated north to south within the Flat Rock Creek drainageway (Figure 2). The creek runs closely alongside the road and drains south into the Broad River. The drainageway is narrow and forested with steep hillsides to either side. However, a small fairly level floodplain was once located west of the road within the project area, but the soil was washed away during Hurricane Helene according to damage inspection photos (Figures 3–6). Overall, ground disturbance from the hurricane within the limited extent of the APE is heavy with a very low likelihood of intact soil remaining.

The USDA soil survey map for Buncombe County identifies the Dellwood-Reddies complex (DeA) as encompassing the APE (USDA NRCS 2025) (see Figure 2). This is a floodplain soil that is moderately well drained with less than 3 percent slope. The extent of this series on the soil map is exaggerated according to the LIDAR contour image. Steep side slopes occupy most of the project area, and the soil should belong to

the neighboring Edneyville-Chestnut complex (EdF). This well drained series makes up hillsides with a slope of 50 to 95 percent. Slope of 15 percent or more is not generally subject to subsurface testing since evidence of early settlement activities is low on steep landforms. While the fairly level Dellwood-Reddies complex, typically has the potential for early occupations, recent ground disturbance from the hurricane has likely destroyed any evidence.

A review of the archaeological site files shows no previous archaeological surveys or sites within the APE. In general, this section of Buncombe County needs further archaeological work, but the current project will not provide any new data due to the destruction caused by Hurricane Helene.

Most early maps prior to the 20th century show few details concerning the project area. The 1900 USGS Mount Michell topographic map is one of the first to display a reliable location (Figure 7). This map depicts a road with the same alignment as Flat Creek Road with a crossing at or near the current bridge site. A structure is plotted to the north but well away from the project limits. The later 1941 USGS Black Mountain topographic map illustrates the same picture (Figure 8). Due to the scale and schematic nature of maps between 1900 and 1941, a precise location for the crossing could not be achieved, but they do a road following the drainageway. In general, it appears that no significant historic resources are in the vicinity.

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

The defined archaeological APE for the proposed replacement of Bridge No. 424 in Buncombe County will not impact intact and significant archaeological deposits. This is due to the limited scope of improvements, which will be carried out properties already affected by ground disturbance from Hurricane Helene and its recovery efforts. Areas not affected by the hurricane are steeply sloped and not suitable for early habitation. As long as impacts to the subsurface occur within the defined APE, no further archaeological work is recommended for the proposed work. If work should affect undisturbed subsurface areas beyond the defined APE, further archaeological consultation will be necessary.

This project falls within North Carolina Counties in which the Catawba Nation, the Eastern Band of Cherokee Indians, the Cherokee Nation, the United Keetoowah Band of Cherokee Indians, and Muscogee (Creek) Nation have expressed an interest. 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.

SUPPORT DOCUMENTATION

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

FINDING BY NCDOT ARCHAEOLOGIST: *NO ARCHAEOLOGY SURVEY REQUIRED*

C. Damon Jones — May 7, 2025

C. Damon Jones — Date
NCDOT ARCHAEOLOGIST II

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United States Geological Survey (USGS)

1900 Mount Mitchell, North Carolina 30 minute quadrangle map.

1941 Black Mountain, North Carolina 7.5 minute quadrangle map.

2016 Black Mountain, North Carolina 7.5 minute quadrangle map.

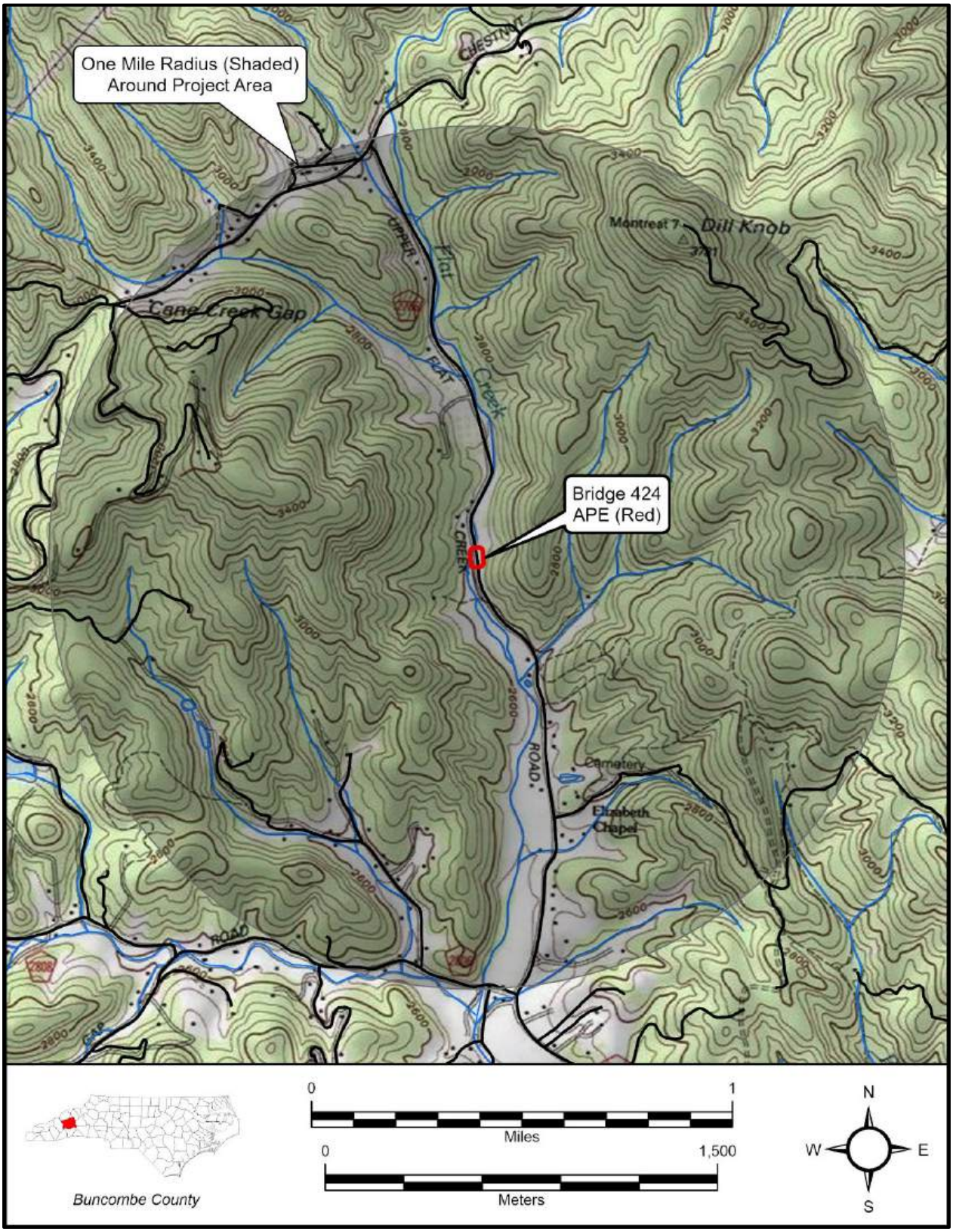


Figure 1. Topographic Setting of the Project Area, Black Mountain (2016), NC USGS 7′5 Topographic Quadrangle.

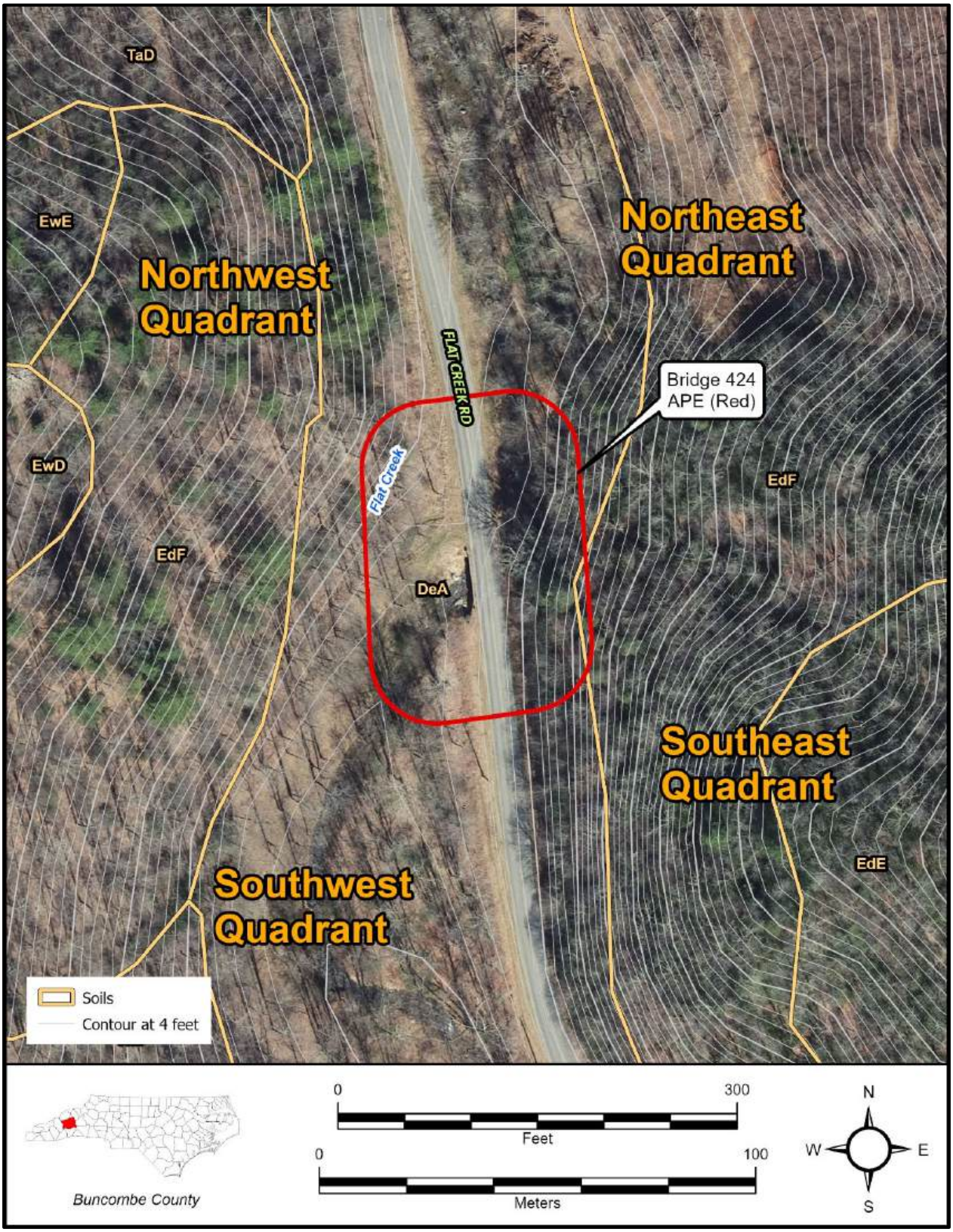


Figure 2. Aerial photograph of the APE showing landforms and soils.

Figure 3. Hurricane Helene damage to Bridge No. 424 and landforms along Flat Creek Road.

Figure 4. Hurricane Helene damage to Bridge No. 424 and landforms along Flat Creek Road.

Figure 5. Hurricane Helene damage to Bridge No. 424 and landforms along Flat Creek Road.

Figure 6. Hurricane Helene damage to Bridge No. 424 and landforms along Flat Creek Road.

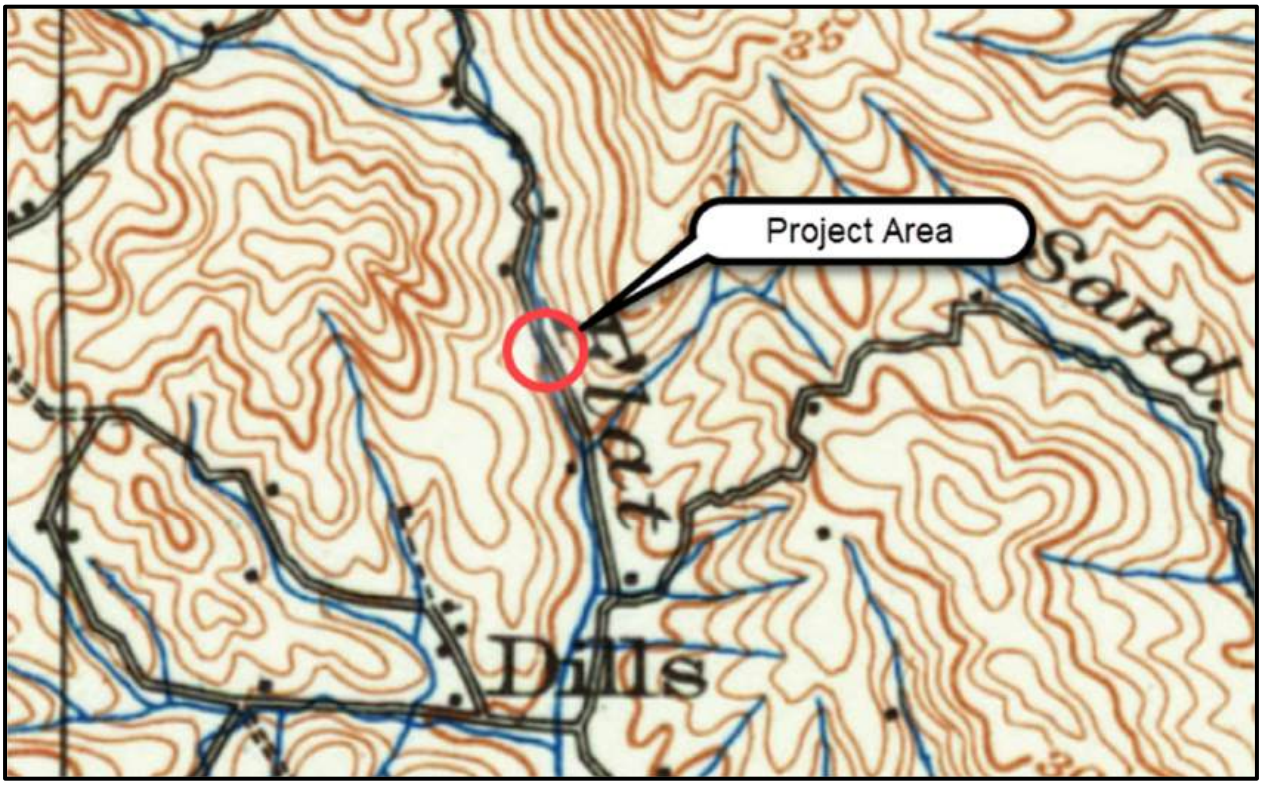


Figure 7. The 1900 USGS Mount Mitchell topographic map showing the location of the project area.

Figure 8. The 1941 USGS Black Mountain topographic map showing the location of the project area.

Historic Architecture & Landscapes

Project Tracking No. (Internal Use)

25-04-0006

HISTORIC ARCHITECTURE AND LANDSCAPES NO SURVEY REQUIRED FORM

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

PROJECT INFORMATION

Project No:		***County***:	Buncombe
WBS No.:	DF18313.2011444.PR	***Document Type:***	Federal CE
Fed. Aid No:		***Funding***:	☐ State ☒ Federal
Federal Permit(s):	☒ Yes ☐ No	***Permit Type(s)***:	
Project Description: Replace bridge No. 424 on SR 2786 Flat Creek Road over Flat Creek.			

SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

Description of review activities, results, and conclusions*:*

Review of HPO quad maps, HPO GIS information, historic designations roster, and indexes was undertaken on April 30, 2025. Based on this review, there are no existing NR, SL, LD, DE, or SS properties in the Area of Potential Effects, which is defined on the following maps. There are no resources within the APE. Bridge No.424 is not eligible for National Register listing. There are no National Register listed or eligible properties and no survey is required. If design plans change, additional review will be required.

Why the available information provides a reliable basis for reasonably predicting that there are no unidentified significant historic architectural or landscape resources in the project area:

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

SUPPORT DOCUMENTATION

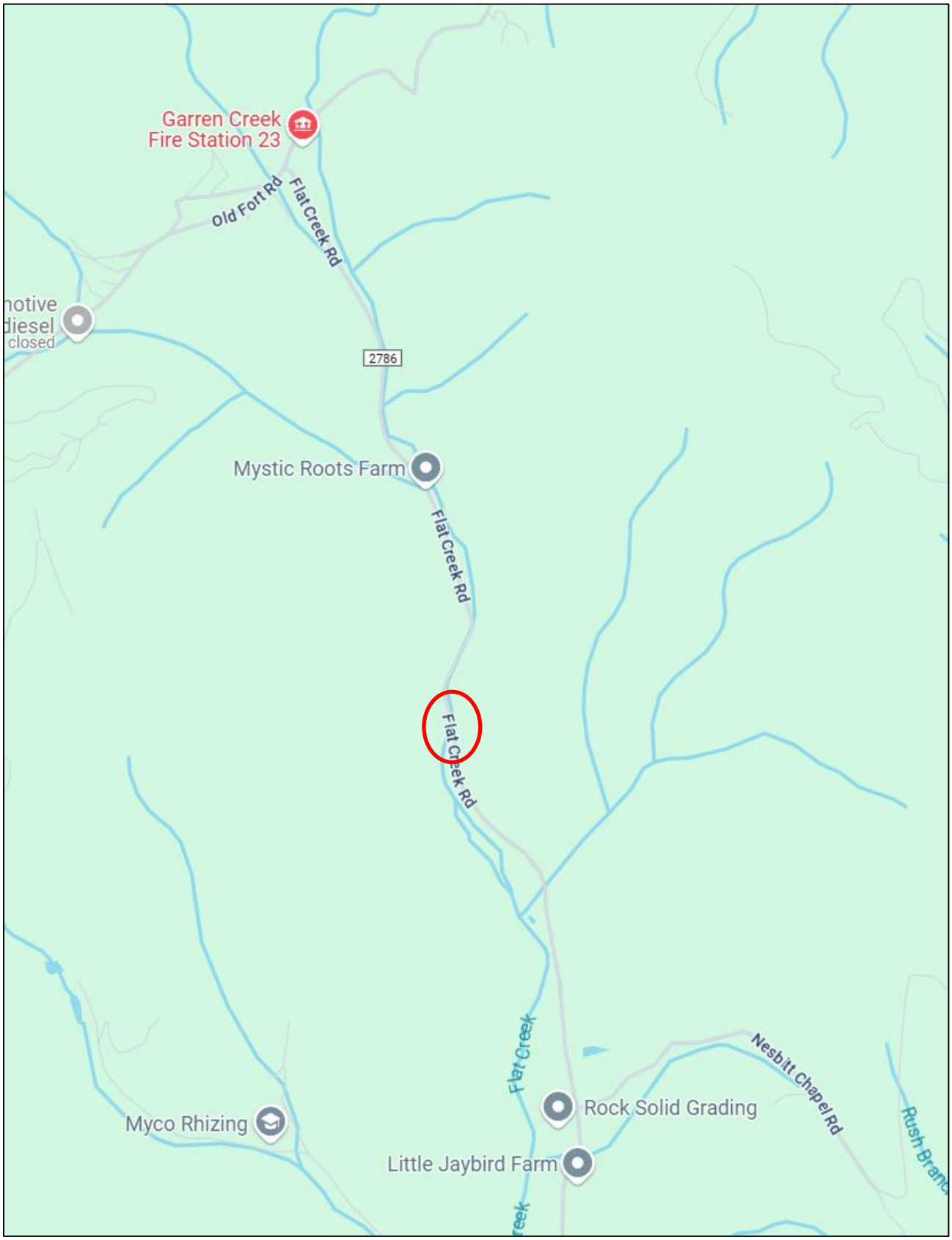
☐Map(s) ☐Previous Survey Info. ☐Photos ☐Correspondence ☐Design Plans

FINDING BY NCDOT ARCHITECTURAL HISTORIAN

Historic Architecture and Landscapes -- NO SURVEY REQUIRED

Kate Husband — *April 30, 2025*

NCDOT Architectural Historian — Date


Garren Creek
Fire Station 23
Old Fort Rd
Flat Creek Rd
notive
diesel
closed
2786
Mystic Roots Farm
Flat Creek Rd
Flat Creek Rd
Flat Creek
Nesbitt Chapel Rd
Rock Solid Grading
Myco Rhizing
Little Jaybird Farm

State Historic Preservation Office GIS.

Tribal Coordination

From: Farrell, Christine E
Sent: Friday, July 11, 2025 9:59 AM
To: Turchy, Michael A
Subject: Fw: NCDOT Tropical Storm Helene - Bridge Replacements
Attachments: Tribal Coord Letter- Helene EDB_07092025.pdf

From: Farrell, Christine E <cefarrell@ncdot.gov>
Sent: Thursday, July 10, 2025 7:34:00 PM
To: elizabeth-toombs@cherokee.org <elizabeth-toombs@cherokee.org>; russtown@ebci-nsn.gov <russtown@ebci-nsn.gov>; lisa.ebci.thpo@gmail.com <lisa.ebci.thpo@gmail.com>; section106@muscogeenation.com <section106@muscogeenation.com>; rcain@ukb-nsn.gov <rcain@ukb-nsn.gov>; ukbthpo@ukb-nsn.gov <ukbthpo@ukb-nsn.gov>
Cc: Cox, Marissa R <mrcox2@ncdot.gov>; Wilkerson, Matt T <mtwilkerson@ncdot.gov>
Subject: NCDOT Tropical Storm Helene - Bridge Replacements

Dear Tribal Nations,
NCDOT is working to repair and replace bridges damaged by Tropical Storm Helene in Western North Carolina. A list of 25 bridges currently proposed for repair or replacement are attached for your review.

Sincerely,

Christine Farrell
Environmental Policy Unit
North Carolina Department of Transportation
(919) 707 - 6107
cefarrell@ncdot.gov

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

Mr. Russell Townsend
Preservation Specialist
Eastern Band of Cherokee Indians (EBCI) THPO
2877 Governor's Island Road
Bryson City, NC 28713

Dr. Wenonah Haire
Catawba Indian Nation Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, SC 29730

Elizabeth Toombs
Tribal Historic Preservation Officer
PO BOX 948
Tahlequah, OK 74465

Roger Cain
United Keetoowah Band of Cherokee Indians
Section 106 Coordinator
PO Box 746
Tahlequah, OK 74465

Muscogee (Creek) Nation
Section 106 Coordinator
PO BOX 580
Okmulgee OK 74447

July 8, 2025

Dear Tribal Nations,

The North Carolina Department of Transportation is starting the project development, environmental, and engineering studies to replace 25 bridges across Western North Carolina that were damaged and/or destroyed during Tropical Storm Helene. The Federal Highway Administration (FHWA) is the lead federal agency for compliance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA) and a Permit is anticipated under the Section 404 Process with the USACE. A list of the projects with location information is attached.

We would appreciate any information you might have that would be helpful in evaluating potential environmental impacts of the project including recommendation of alternates to be studied. Your comments may be used in the preparation of a NEPA/ State Environmental Policy Act (SEPA) Environmental Document.

In accordance with Section 106 of the NHPA, we also request that you inform us of any historic properties of traditional religious or cultural importance that you are aware of that may be affected by the proposed project. Be assured that, in accordance with confidentiality and disclosure stipulations in Section 304 of the NHPA, we will maintain strict confidentiality about certain types of information regarding historic properties.

Please respond by August 8th so that your comments can be used in the scoping of this project. If you have any questions concerning this project, or would like any additional information, please contact me at cefarrell@ncdot.gov or (919) 707-6107.

Thank you,

Christine Farrell
NEPA Program Consultant

cc: Matt Wilkerson, NCDOT Archaeology Group Leader

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

Telephone: (919) 707-6000
Fax: (919) 250-4224
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH, NC 27610

Helene Express Design Build Bridge Replacements

Western North Carolina - July 2025

Structure #	Structure Type	County	Latitude	Longitude	WBS #	Street Name
100115	Bridge	Buncombe	35.5321	-82.2585	DF18313.2011188	Sand Branch Road
100308	Bridge	Buncombe	35.6349	-82.4711	DF18313.2011271	Bull Creek Road
100380	Bridge	Buncombe	35.6079	-82.4195	DF18313.2011278	Davidson Road
580058	Culvert	McDowell	35.6701	-82.1147	DF18313.1059106	US 70
990157	Bridge	Yancey	35.9509	-82.4056	DF18313.2100309.PR	Elk Shoals Creek Road
990192	Bridge	Yancey	35.9747	-82.2702	DF18313.2100413.PR	Upper Pig Pen Road
990193	Bridge	Yancey	35.9755	-82.2706	DF18313.2100412.PR	Upper Pig Pen Road
990233	Bridge	Yancey	35.9829	-82.2701	DF18313.2100411.PR	Upper Pig Pen Road
100149	Bridge	Buncombe	35.755	-82.3858	DF18313.2011361.PR	Coleman Boundary Rd.
100199	Bridge	Buncombe	35.636	-82.3996	DF18313.2011267.PR	Summer Haven Rd.
100236	Bridge	Buncombe	35.6944	-82.4993	18313.1011132.PR	Ox Creek Rd.
100449	Pipe	Buncombe	35.6702	-82.7929	DF18313.2011391.PR	Sugar Creek Rd.
100463	Bridge	Buncombe	35.5639	-82.2712	DF18313.2011269.PR	Crooked Creek Rd.
580382	Non-NBIS pipe	McDowell	35.6905	-82.0847	DF18313.2059107.PR	Laurel Lane
600050	Bridge	Mitchell	36.017	-82.0856	DF18313.2061198.PR	Stagger Weed Rd.
800573	pipe-culvert	Rutherford	35.5257	-82.1693	DF18313.2081026.PR	Cedar Creek Rd.
990179	pipe	Yancey	35.9066	-82.2615	DF18313.2100590.PR	Lower Georges Fork Rd.
990188	Bridge	Yancey	35.994	-82.2894	18313.1100052.PR	Smith Johnson Rd.
100159	Bridge	Buncombe	35.7092	-82.461	DF18313.2011262.PR	Blackberry Inn Rd.
100846	Bridge	Buncombe	35.5693	-82.2955	DF18313.2011105.PR	Chestnut Hill Rd.
800572	Bridge	Rutherford	35.5102	-82.172	DF18313.2081051.PR	Cedar Creek Road
600087	Bridge	Mitchell	36.1158	-82.1869	DF18313.2061363.PR	Hughes Gap Rd.
600156	Bridge	Mitchell	36.0803	-82.2253	DF18313.2061559.PR	Beans Creek Rd.
100424	Bridge	Buncombe	35.5447	-82.3117	DF18313.2011444.PR	Flat Creek Road
580090	Bridge	McDowell	35.6546	-82.2456	DF18313.2059015.PR	Mill Creek Road

NEPA Document

Type I or II Categorical Exclusion Action Classification Form

STIP Project No.	Bridge 424, Buncombe County, Division 13
WBS Element	DF18313.2011444.PR
Federal Project No.	Federal Aid Number

A. Project Description:

The North Carolina Department of Transportation (NCDOT) intends to replace Bridge 100424 over Flat Creek on Flat Creek Road in Buncombe County, North Carolina (Division 13). See vicinity map.

B. Description of Need and Purpose:

The Purpose of the project is to replace a structure damaged by floodwaters associated with Tropical Storm Helene which made landfall in Florida on September 26, 2024. The repair/replacement work is needed to restore essential traffic in Western North Carolina.

C. Categorical Exclusion Action Classification:

Type I(B) - Ground Disturbing Action

D. Proposed Improvements:

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.
and/or

28. Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings, if the actions meet the constraints in 23 CFR 771.117(e)(1-6).

E. Special Project Information:

NCDOT conducted a desktop GIS analysis for potential natural and human environment features between November 2024 and May 2025. The study area was defined as a 200-foot buffer around the bridge location. NCDOT is utilizing an Emergency Express Design-Build contracting process to expedite this project. If additional ROW is required, or if the final design results in potential impacts outside of the study area, NCDOT will re-evaluate and document any additional effects.

NCDOT is providing comprehensive public outreach to our western NC communities in lieu of site-specific outreach. As site-specific information becomes available, NCDOT will use its various outreach platforms to inform the public.

A Direct and Indirect Screening Tool (DIST) was used to assess potential impacts to the local community, farm lands, and pedestrian accomodations (see project site). The bridge location is surrounded by protected farmland, and several bridge quadrants are within Voluntary Agricultural Districts (VAD). Should any additional ROW or permanent easements be needed after design is available, the preliminary screening process should be initiated with Community Studies. If the VAD properties will be impacted, NCDOT's Public Involvement group shall initiate the public hearing process.

Coordination letters/emails were sent to the Eastern Band of Cherokee, Catawba Indian Nation, United Keetoowah Band of Cherokee Indians, and the Muscogee (Creek) Nation, on July 10, 2025 (see project site) with request for comment by August 8, 2025. No response has been received as of the date of this document.

NCDOT conducted a review of the potential cultural resources present within the study area boundary during April and May 2025. No historic architecture was found and a “no survey required” determination was made (see project site). A review of potential archeological resources also determined “no survey required” (see project site).

The United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) tool was reviewed in May 2025. USFWS lists the following species below as federally protected with potential to be found within the project study area as of this date:

Species Name	Scientific Name	ESA Status	Biological Conclusion	Habitat Present
Gray bat	*Myotis grisescens*	Endangered	MALAA	Yes
Northern Long-eared bat	*Myotis septentrionalis*	Endangered	MALAA	Yes
White irisette	*Sisyrinchium dichotomum*	Endangered	No Effect	No
Rock gnome lichen	*Gymnoderma lineare*	Endangered	No Effect	No
Monarch Butterfly	*Danaus plexippus*	Proposed Threatened	N/A	Unknown

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

F. Project Impact Criteria Checklists:

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

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

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

Source documents should be cited for each question as appropriate. If no source is needed or available, denote as "n/a". Please note that some "no" answers should have a corresponding email/memo/report cited for that NCDOT discipline. Project reports or memos/emails should be linked to their location on the project's Precon site; other publications (e.g. the STIP) can be linked directly. Example: (Source: NCDOT HE-0001 NRTR [HE-0001_NRTR.pdf, 2022])

PROJECT IMPACT THRESHOLDS (FHWA signature required if any of the questions 1-7 are marked "Yes.")		Yes	No
1	Does the project require formal consultation with U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) in which a "likely to adversely affect determination" has been made? (Source: BSG "Batched Format Consultation" to FWS, July 2025)	☒	☐
2	Does the project result in effects subject to the conditions of the Bald and Golden Eagle Protection Act (BGEPA)? (Source: GIS Screening, May 2025)	☐	☒
3	Does the project generate substantial controversy or public opposition, regarding human and/or natural environment concerns, following appropriate public involvement? (Source: DIST, May 2025)	☐	☒
[redacted]	[redacted]	☐	☐
5	Does the project involve a residential or commercial displacement, or a substantial amount of right of way acquisition? (Source: DRPS, 2025)	☐	☒
6	Does the project require an Individual Section 4(f) approval? (Source: GIS Screening, 2025)	☐	☒
7	Does the project result in adverse effects that cannot be resolved with a Memorandum of Agreement (MOA) under Section 106 of the National Historic Preservation Act (NHPA) or result in an adverse effect on a National Historic Landmark (NHL)? (Source: Cultural Resources Screening, 2025)	☐	☒
Other Considerations		Yes	No
8	Is an Endangered Species Act (ESA) determination unresolved or resolved utilizing a Section 7 programmatic agreement? Include in Section G any utilization of a Section 7 Programmatic Agreement. (Source: Formal Consultation complete, 2025)	☐	☒
9	Is the project located in anadromous fish spawning waters? (Source: GIS Screening, 2025)	☐	☒
10	Does the project impact waters classified as Outstanding Resource Water (ORW), High Quality Water (HQW), Water Supply Watershed Critical Areas, 303(d) listed impaired water bodies, buffer rules, or Submerged Aquatic Vegetation (SAV)? (Source: GIS Screening, 2025)	☐	☒
11	Does the project impact waters of the United States in any of the designated mountain trout streams? (Source: GIS Screening & WRC Review, 2025)	☒	☐

12	Does the project require a U.S. Army Corps of Engineers (USACE) Individual Section 404 Permit? (Source: N/A)	☐	☒
13	Will the project require an easement from a Federal Energy Regulatory Commission (FERC) licensed facility? (Source: N/A)	☐	☒
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: Cultural Resources Screening, 2025)	☐	☒
15	Does the project involve GeoEnvironmental Sites of Concerns such as gas stations, dry cleaners, landfills, etc.? (Source: GIS Screening, 2025)	☐	☒
16	Does the project require work encroaching and adversely affecting a regulatory floodway or work affecting the base floodplain (100-year flood) elevations of a water course or lake, pursuant to Executive Order 11988 and 23 CFR 650 subpart A? (Source: GIS Screening, 2025)	☐	☒
17	Is the project in a Coastal Area Management Act (CAMA) county and substantially affects the coastal zone and/or any Area of Environmental Concern (AEC)? (Source: N/A)	☐	☒
18	Does the project require a U.S. Coast Guard (USCG) permit? (Source: N/A)	☐	☒
19	Does the project involve Coastal Barrier Resources Act (CBRA) resources? (Source: N/A)	☐	☒
20	Does the project involve construction activities in, across, or adjacent to a designated Wild and Scenic River? (Source: GIS Screening, 2025)	☐	☒
21	Does the project impact federal lands (e.g., U.S. Forest Service (USFS), USFWS, etc.) or Tribal Lands? (Source: GIS Screening, 2025)	☐	☒
22	Does the project involve any changes in access control to the interstate (modification or construction of an interchange)? (Source: N/A)	☐	☒
23	Does the project have a permanent adverse effect on local traffic patterns or community cohesiveness? (Source: DIST, 2025)	☐	☒
24	Will maintenance of traffic or detours cause substantial disruption? (Source: DIST, 2025)	☐	☒
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: Emergency repair project)	☒	☐
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: ATLAS Screening, 2025)	☐	☒
27	Does the project involve Federal Emergency Management Agency (FEMA) buyout properties under the Hazard Mitigation Grant Program (HMGP)? (Source: ATLAS Screening, 2025)	☐	☒
28	Does the project "use" Section 4(f) property, and/or result in a *de minimis* determination? (Source: ATLAS Screening, 2025)	☐	☒
29	Is the project considered a Type I under the NCDOT Noise Policy? (Source: N/A)	☐	☒
30	Does the project impact VAD-enrolled property, or prime or important farmland soil, as defined by the Farmland Protection Policy Act (FPPA)? (Source: DIST, 2025)	☐	☒

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.')

1. A "Batched Format Consultation" was completed by NCDOT Biological Surveys Group in May 2025 to address multiple crossing structures damaged by Tropical Storm Helene in Buncombe, Madison, McDowell, Rutherford, and Yancey Counties. The USFWS confirmed the biological conclusions for listed species in July 2025 (see project site) by issuing either a Biological Opinion, Conference Opinion or Informal Concurrence. NCDOT will follow the Avoidance and Minimization Measures and Conservation Measures listed in the Biological Opinion (see Project file).

11. Flat Creek is a designated trout water per NCDWR Surfacewater Classification system. If a USACE 404 permit is required for this project, it may include requirements related to trout moratoriums.

25. This project is an emergency relief project due to Tropical Storm Helene impacts. Per 40 CFR § 93.126, it is exempt from the requirement to determine conformity because it does not involve substantial functional, locational or capacity changes (23 CFR 450.218(g)).

30. The bridge location is surrounded by protected farmland, and several bridge quadrants are within Voluntary Agricultural Districts (VAD). Should any additional ROW or permanent easements be needed after design is available, the preliminary screening process should be initiated with Community Studies. If the VAD properties will be impacted, NCDOT's Public Involvement unit shall initiate the public hearing process.

H. Categorical Exclusion Approval:

STIP Project No.	Bridge 424, Buncombe County, Division 13
WBS Element	DF18313.2011444.PR
Federal Project No.	Federal Aid Number

Prepared By:

8/14/2025
Date

Signed by:
CA084B4A6412432...

for Christine Farrell, NEPA Program Consultant
Environmental Policy Unit, NCDOT

Prepared For: NCDOT Division 13

Reviewed By:

09/29/2025
Date

Signed by:
CA084B4A6412432...

for Marissa Cox, Western Regional EPU 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.

09/29/2025
Date

Signed by:
CA084B4A6412432...

John Jamison, Environmental Policy Unit Manager
North Carolina Department of Transportation

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

09/30/2025
Date

Signed by:
Seth Wilcher
9967A500F8714F0...

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.

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

NCDOT PROJECT COMMITMENTS

WBS/DF DF18313.2011444.PR
Replace bridge 100424 over Flat Creek on Flat Creek Road
Buncombe County
Federal Aid Project No. Federal Aid Number

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

AVOIDANCE & MINIMIZATION MEASURES FOR LISTED BAT SPECIES

The following General AMMs will be used to minimize impacts to listed/proposed species and 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 AMMs 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.

CONSERVATION MEASURES FOR LISTED BAT SPECIES

This project is anticipated to require tree clearing and structure removal which is likely to adversely affect (MALAA) listed bat species. NCDOT will contribute a payment to the N.C. Bat Conservation Fund in support of the recovery of federally listed bat species.

Monarch Butterfly

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

Bridge Number	Division	County	Location Description	Latitude	Longitude
100424	13	Buncombe	SR 2786 (Flat Creek Rd) from 750ft N of Bridge #100424 to 750ft S of the bridge	35.544696	-82.3116581

HNTB North Carolina, P.C.
4000 Center at North Hills Street, Suite 500
Raleigh, North Carolina 27609