STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

May 20, 2025

U. S. Army Corps of Engineers
Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28805

NC Division of Water Resources
Transportation Permitting Branch
2090 U.S. 70 Highway
Swannanoa, NC 28778-8211

ATTN: Ms. Crystal Amschler, NCDOT Coordinator

Ms. Amy Annino, NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permit 33/3 & 401 Water Quality Certification under the Expedited Processing Provisions for Hurricane Helene Response** for the Proposed Repair of NC 9 from US 74A (Bat Cave) to Buncombe County Line in Henderson County, Division 14, WBS 18314.1045061.

Dear Madams:

The North Carolina Department of Transportation (NCDOT) proposes the following project as the result of damage caused by Hurricane Helene on September 27, 2024:

Repair of NC 9 from US 74A (Bat Cave) to Buncombe County Line in Henderson County, NC.

Due to the long extent of damage caused by Hurricane Helene, this project has been divided into two sections:

A Lower Section from the intersection of NC 9 and US 74A, to Station 37 (approximately 0.7-mile away from the intersection). This includes impact sites notated as S1, S2, S3 and S4 along the Broad River. NCDOT requests authorization for this section.

The remaining section from Station 37+00 to the county line will be provided in a later request.

FHWA is the lead federal agency for this project.

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

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

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610

Proposed Activities in Waters of the United States:

Impact Site	Impact Category	Permanent Fill	Bank Stabilization	Temporary Impacts	Permit Proposed/ Impact Description
Site 1 **Broad River**	**Maintenance Exemption**	--	1,073 lf (0.278 ac)	--	This impact to the Broad River will restore the NC 9 on the pre-storm footprint on the highway side.
	Non-Notifying	--	--	--	--
	Notification Required (Not After the fact)	--	--	1,222 lf (1.029 ac)	**NWP 33** In order to stabilize and re-establish the road, a temporary causeway will be constructed in the Broad River.
	Notification Required (After the fact)	--	--	--	--
Site 2 **UT to Broad River**	Maintenance Exemption	--	--	--	--
	Non-Notifying	--	--	--	--
	Notification Required (Not After the fact)	15 lf (0.001 ac)	--	12 lf (0.001 ac)	**NWP 3 and 33** This impact is required for the construction access to repair/ replace the cross pipe on NC 9 that connects this tributary to the Broad River. This pipe is longer than the previous pipe, which is why we do not consider it exempt.
	Notification Required (After the fact)	--	--	--	--
Site 3 **UT to Broad River**	**Maintenance Exemption**	295 lf (0.007 ac)	--	11 lf (0.001 ac)	Prior to Helene, this UT entered a pipe under NC 9 and discharged nearby into the Broad River. During Helene, this cross pipe became obstructed, and the stream made a new path along the east side of the road before flowing into an 18" CMP. This impact will restore pre-Helene flow conditions using a 36" CSP.
	Non-Notifying	--	--	--	--
	Notification Required (Not After the fact)	--	--	--	--
	Notification Required (After the fact)	--	--	--	--

Impact Site	Impact Category	Permanent Fill	Bank Stabilization	Temporary Impacts	Permit Proposed/ Impact Description
Site 4 **UT to Broad River**	**Maintenance Exemption**	382 lf (0.027 ac)	--	11 lf (0.001 ac)	Similar to Site 3, prior to Helene, this UT entered a 42" pipe under NC 9 and discharged nearby into the Broad River. During Helene, this cross pipe became obstructed, and the stream made a new path along the east side of the road before flowing into an 18" pipe. This impact will restore pre-Helene flow conditions using a 48" pipe. The impact value shown is the post-Helene (current) flow.
	Non-Notifying	--	--	--	--
	Notification Required (Not After the fact)	--	--	--	--
	Notification Required (After the fact)	--	--	--	--
Category Totals	**Maintenance Exemption**	**677 lf (0.034 ac)**	**1,073 lf (0.278 ac)**	**22 lf (0.002 ac)**	
	Non-Notifying	**--**	**--**	**--**	
	Notification Required (Not After the fact)	**15 lf (0.01 ac) (NWP 3)**	**--**	**1,234 (1.03 ac) (NWP 33)**	
	Notification Required (After the fact)	**--**	**--**	**--**	
Grand Totals:		**1,765 lf (0.313 ac)**		**1,256 lf (1.032 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 Dept of Transportation in Waters of the U.S." dated February 10, 2025.

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

Common Name	Habitat Present	Survey Dates[2]	Proposed Biological Conclusion	FWS Concurrence Remarks
Gray bat Northern long-eared bat Tricolored bat (Proposed)	Yes	2/24/2025	May Affect, Likely to Adversely Affect (under PBO/PCO)[3]	Concur
Bog turtle	No	n/a	Not Required	n/a
Monarch butterfly (Proposed)[4]	Unknown	n/a	Unresolved	n/a
Rock gnome lichen	No	n/a	No Effect	n/a
White irisette	No	2/24/2025	No Effect	n/a
Small whorled pogonia	No	2/24/2025	No Effect	n/a

1 IPaC – Information for Planning and Consultation (US Fish and Wildlife Service)
2 Original delineation and habitat survey conducted 2/24/2025.
3 There is a total of 0.34 acre of tree clearing over the entire project. Only 0.05 acre will be cleared as part of the lower section of the project.
4 Due to the recent listings of 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.

The NCDOT Biological Surveys Group (BSG) has submitted a concurrence request to the USFWS Asheville Field Office for this project.

Historic Resources
Information Attached

106 Topic	Findings
Historic Architecture	No properties in this section. One property near the Buncombe County line has potential for listing on the National Register of Historic Places. Coordination is ongoing and will be addressed in a later Section.
Archaeology	No Survey Required

Tribal Coordination
Tribal Coordination Letters (included as part of this application package) were sent to the following:

Tribe	Letter Sent	Response Received
Cherokee Nation	4/23/2019	Yes/attached
Eastern Band of Cherokee Indians	4/23/2019	No
Muscogee (Creek) Nation	10/3/2024	No
United Keetoowah Band of Cherokee Indians	4/23/2019	No

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

Sincerely,

Michael Turchy
Digitally signed by Michael Turchy
Date: 2025.05.18 22:24:31 -04'00'

Michael A. Turchy
Environmental Coordination and Permitting Group Leader

ePCN

Pre-Construction Notification (PCN) Form

For Nationwide Permits and Regional General Permits

(along with corresponding Water Quality Certifications)

December 4, 2023 Ver 4.3

*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.*

Also, if at any point you wish to print a copy of the E-PCN, all you need to do is right-click on the document and you can print a copy of the form.

Below is a link to the online help file.

https://edocs.deq.nc.gov/WaterResources/DocView.aspx?dbid=0&id=2196924

A. Processing Information

If this is a courtesy copy, please fill in this with the submission date.

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

◉ Yes ○ No

Is this project connected with ARPA funding or S.L. 2023-134 (earmark)? *

○ ARPA ○ S.L. 2023-134 (earmark) ◉ No

County (or Counties) where the project is located: *

Henderson

Is this a NCDMS Project *

○ Yes ◉ No

Click Yes, only if NCDMS is the applicant or co-applicant.

DO NOT CHECK YES, UNLESS YOU ARE DMS OR CO-APPLICANT.

Is this project a public transportation project? *

◉ Yes ○ No

This is any publicly funded by municipal,state or federal funds road, rail, airport transportation project.

Is this a NCDOT Project? *

◉ Yes ○ No

(NCDOT only) T.I.P. or state project number:

WBS # *

18314.1045061

(for NCDOT use only)

1a. Type(s) of approval sought from the Corps: *

☑ Section 404 Permit (wetlands, streams and waters, Clean Water Act)

☐ Section 10 Permit (navigable waters, tidal waters, Rivers and Harbors Act)

Has this PCN previously been submitted? *

○ Yes

◉ No

1b. What type(s) of permit(s) do you wish to seek authorization? *

☑ Nationwide Permit (NWP)

☐ Regional General Permit (RGP)

☐ Standard (IP)

1c. Has the NWP or GP number been verified by the Corps? *

○ Yes ◉ No

Nationwide Permit (NWP) Number: 33 - Temporary Construction

Nationwide Permit (NWP) Number: 03 - Maintenance

NWP Numbers (for multiple NWPS):

List all NW numbers you are applying for not on the drop down list.

1d. Type(s) of approval sought from the DWR: *

check all that apply

- [ ] 401 Water Quality Certification - Regular
- [ ] 401 Water Quality Certification - Express
- [ ] Non-404 Jurisdictional General Permit
- [ ] Riparian Buffer Authorization
- [x] Individual 401 Water Quality Certification

1e. Is this notification solely for the record because written approval is not required?

*

For the record only for DWR 401 Certification: ○ Yes ◉ No

For the record only for Corps Permit: ○ Yes ◉ No

1f. Is this an after-the-fact permit application? *

○ Yes ◉ No

1g. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts?

If so, attach the acceptance letter from mitigation bank or in-lieu fee program.

○ Yes ◉ No

Acceptance Letter Attachment

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

FILE TYPE MUST BE PDF

1h. Is the project located in any of NC's twenty coastal counties? *

○ Yes ◉ No

1j. Is the project located in a designated trout watershed? *

◉ Yes ○ No

You must submit a copy to the appropriate Wildlife Resources Commission Office.

Link to trout information: http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Trout.aspx

B. Applicant Information

1a. Who is the Primary Contact? *

Michael Turchy

1b. Primary Contact Email: *

maturchy@ncdot.gov

1c. Primary Contact Phone: *

(xxx)xxx-xxxx

(919)707-6157

1d. Who is applying for the permit? *

- [ ] Owner
- [x] Applicant (other than owner)

(Check all that apply)

1e. Is there an Agent/Consultant for this project? *

◉ Yes ○ No

2. Owner Information

2a. Name(s) on recorded deed: *

NCDOT

2b. Deed book and page no.:

2c. Contact Person:

(for Corporations)

2d. Address *

Street Address

1598 Mail Service Center

Address Line 2

City

Raleigh

State / Province / Region

NC

Postal / Zip Code

27699-1598

Country

US

2e. Telephone Number: *

(xxx)xxx-xxxx

(919)707-6157

2f. Fax Number:

(xxx)xxx-xxxx

2g. Email Address: *

maturchy@ncdot.gov

3. Applicant Information (if different from owner)

3a. Name: *

Michael Turchy

3b. Business Name:

(if applicable)

3c. Address *

Street Address

1598 Mail Service Center

Address Line 2

City

Raleigh

State / Province / Region

NC

Postal / Zip Code

27699-1598

Country

US

3d. Telephone Number: *

(919)707-6157

(xxx)xxx-xxxx

3e. Fax Number:

(xxx)xxx-xxxx

3f. Email Address: *

maturchy@ncdot.gov

4. Agent/Consultant (if applicable)

4a. Name: *

Amber Coleman

4b. Business Name:

(if applicable)

Stantec

4c. Address *

Street Address

801 Jones Franklin Road

Address Line 2

Suite 300

City

Raleigh

State / Province / Region

NC

Postal / Zip Code

27606

Country

USA

4d. Telephone Number: *

(919)865-7399

(xxx)xxx-xxxx

4e. Fax Number:

(xxx)xxx-xxxx

4f. Email Address: *

amber.coleman@stantec.com

C. Project Information and Prior Project History

1. Project Information

1a. Name of project: *

NC 9 Helene Repairs

1b. Subdivision name:

(if appropriate)

n/a

1c. Nearest municipality / town: *

Chimney Rock Village

2. Project Identification

2a. Property Identification Number:

(tax PIN or parcel ID)

2b. Property size:

(in acres)

2c. Project Address

Street Address

Address Line 2

City

State / Province / Region

Postal / Zip Code

Country

2d. Site coordinates in decimal degrees

Please collect site coordinates in decimal degrees. Use between 4-6 digits (unless you are using a survey-grade GPS device) after the decimal place as appropriate, based on how the location was determined. (For example, most mobile phones with GPS provide locational precision in decimal degrees to map coordinates to 5 or 6 digits after the decimal place.)

Latitude: *

35.455019

ex: 34.208504

Longitude: *

-82.289515

-77.796371

3. Surface Waters

3a. Name of the nearest body of water to proposed project: *

Broad River

3b. Water Resources Classification of nearest receiving water: *

C; Tr

Surface Water Lookup

3c. What river basin(s) is your project located in? *

Broad

3d. Please provide the 12-digit HUC in which the project is located. *

030501050301, 030501050302

River Basin Lookup

4. Project Description and History

4a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: *

NC 9 is a two-lane highway connecting Black Mountain to Bat Cave, NC. Land use is rural with interspersed single-family homes and commercial businesses. Portions of NC 9 and vicinity were destroyed by Hurricane Helene in late September 2024. Catastrophic flooding, characterized by massive quantities and rapid flow, surpassed the established banks of the Broad River, Grassy Creek, and other drainages. The rushing water expanded and reformed channels, obliterating portions of the highway, ditches, culverts, retaining walls, and other structures or buildings from the landscape. New deposits are now present, consisting of debris, boulders, and material originating upstream and from the mountain slopes. Most of the project area now has modified terrain, especially areas closely parallel to the Broad River and Grassy Creek. The volume and extent of changes caused by flooding results in a rearranged landscape with large areas scoured or filled-in with flood deposits. The roadway is currently unpaved along portions of the project and has restricted access. The re-establishment of a standard, NC primary roadway facility is critical to this community and regional recovery efforts.

4b. Have Corps permits or DWR certifications been obtained for this project (including all prior phases) in the past? *

○ Yes ◉ No ○ Unknown

4f. List the total estimated acreage of all existing wetlands on the property:

0

4g. List the total estimated linear feet of all existing streams on the property:

(intermittent and perennial)

9,964

4h. Explain the purpose of the proposed project: *

In September 2024, Hurricane Helene devastated areas of western North Carolina, including portions of NC 9 north of Bat Cave in Henderson County (see Figure 1 of the attached PJD). The excessive rain and wind, coupled with the shear velocity of the Broad River which runs parallel to the road, resulted in catastrophic erosion, leading to the failure of riverbanks and the roadway facility.

The purpose of the project is to restore NC 9 as a standard, NC primary roadway facility which remains a critical link to this community and region.

4i. Describe the overall project in detail, including indirect impacts and the type of equipment to be used: *

The application is for repair construction on NC 9. The road will primarily be restored in the previous footprint. Pipes will also be re-installed where required. Temporary and exempt impacts will be generated due to roadway fill and pipe installation. Equipment will be standard construction equipment, including excavators, dozers, dump trucks, bobcats, etc. Cranes may be required.

5. Jurisdictional Determinations

5a. Have the wetlands or streams been delineated on the property or proposed impact areas? *

◉ Yes ○ No ○ Unknown

Comments:

Delineated by Stantec on February 24, 2025. A PJD request is included with this permit application.

5b. If the Corps made a jurisdictional determination, what type of determination was made? *

○ Preliminary ○ Approved ◉ Not Verified ○ Unknown ○ N/A

Corps AID Number:

Example: SAW-2017-99999

5c. If 5a is yes, who delineated the jurisdictional areas?

Name (if known): Alee McDonald and Trevor Walker

Agency/Consultant Company: Stantec

Other:

6. Future Project Plans

6a. Is this a phased project? *

○ Yes ◉ No

Are any other NWP(s), regional general permit(s), or individual permits(s) used, or intended to be used, to authorize any part of the proposed project or related activity? This includes other separate and distant crossing for linear projects that require Department of the Army authorization but don't require pre-construction notification.

D. Proposed Impacts Inventory

1. Impacts Summary

1a. Where are the impacts associated with your project? (check all that apply):

☐ Wetlands ☑ Streams-tributaries ☐ Buffers
☐ Open Waters ☐ Pond Construction

3. Stream Impacts

If there are perennial or intermittent stream impacts (including temporary impacts) proposed on the site, then complete this question for all stream sites impacted.

"S." will be used in the table below to represent the word "stream".

	3a. Reason for impact * (?)	3b.Impact type *	3c. Type of impact *	3d. S. name *	3e. Stream Type * (?)	3f. Type of Jurisdiction *	3g. S. width *	3h. Impact length *
S1	Roadway Construction	Permanent	Fill	Site 1 / Broad River	Perennial	Both	25 Average (feet)	1,073 (linear feet)
S2	Roadway Construction	Temporary	Fill	Site 1 / Broad River	Perennial	Both	25 Average (feet)	1,222 (linear feet)
S3	Roadway Construction	Permanent	Fill	Site 2 / SL	Intermittent	Both	6 Average (feet)	15 (linear feet)
S4	Roadway Construction	Temporary	Fill	Site 2 / SL	Intermittent	Both	6 Average (feet)	12 (linear feet)
S5	Roadway Construction	Permanent	Fill	Site 3 / SK	Intermittent	Both	1 Average (feet)	295 (linear feet)
S6	Roadway Construction	Temporary	Fill	Site 3 / SK	Intermittent	Both	1 Average (feet)	11 (linear feet)
S7	Roadway Construction	Permanent	Fill	Site 4 / SH	Intermittent	Both	1 Average (feet)	340 (linear feet)
S8	Pipe Inlet	Permanent	Fill	Site 4 / SH	Intermittent	Both	1 Average (feet)	42 (linear feet)
S9	Roadway Construction	Temporary	Fill	Site 4 / SH	Intermittent	Both	1 Average (feet)	11 (linear feet)

** All Perennial or Intermittent streams must be verified by DWR or delegated local government.

3i. Total jurisdictional ditch impact in square feet:

0

3i. Total permanent stream impacts:

1,765

3i. Total temporary stream impacts:

1,256

3i. Total stream and ditch impacts:

728

3j. Comments:

E. Impact Justification and Mitigation

1. Avoidance and Minimization

1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing the project: *

The applicant delineated surface waters post-Helene on the site prior to designing the project to avoid and minimize impacts to these resources to the maximum extent practicable. The proposed project will occur nearly within the same footprint of NC 9 based on pre-Helene conditions. Proposed streambank stabilization will address eroding streambanks and will be beneficial to water quality within Broad River and other waters.

1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques: *

All efforts will be made to minimize impacts to Broad River, Grassy Creek, and other unnamed waters. Construction work will be completed 'in the dry' to the maximum extent possible, although some fill is required to rebuild the road and install pipes. A temporary causeway will be installed along the Broad River to provide construction access to build the roadway and embankment. Best Management Practices for Construction and Maintenance Activities will be employed to avoid impacts to downstream water quality from the project. Stream impacts will be minimized by limiting in-channel work to low-flow conditions and working from high ground above streambanks where possible.

2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State

2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?

○ Yes ◉ No

2b. If this project DOES NOT require Compensatory Mitigation, explain why:

The waterbodies onsite will be impacted to repair NC 9 to its previous location. Pipes crossings will be re-established and stabilized, improving hydraulic connectivity as much as practicable.

NC Stream Temperature Classification Maps can be found under the Mitigation Concepts tab on the Wilmington District's RIBITS website.

F. Stormwater Management and Diffuse Flow Plan (required by DWR)

*** Recent changes to the stormwater rules have required updates to this section .***

1. Diffuse Flow Plan

1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?

○ Yes ◉ No

For a list of options to meet the diffuse flow requirements, click here.

If no, explain why:

Project is located within the Broad River basin which is not subject to NC Riparian Buffer Protection Rules

2. Stormwater Management Plan

2a. Is this a NCDOT project subject to compliance with NCDOT's Individual NPDES permit NCS000250? *

◉ Yes ○ No

Comments:

G. Supplementary Information

1. Environmental Documentation

1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land? *

◉ Yes ○ No

1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)? *

◉ Yes ○ No

1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) *

○ Yes ◉ No

Comments: *

The NEPA document is currently in development.

2. Violations (DWR Requirement)

2a. 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)? *

○ Yes ◉ No

3. Cumulative Impacts (DWR Requirement)

3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? *

○ Yes ◉ No

3b. If you answered "no," provide a short narrative description.

The project includes repairing existing roadway. The project will not include additional capacity and will not result in additional development.

4. Sewage Disposal (DWR Requirement)

4a. Is sewage disposal required by DWR for this project? *

○ Yes ○ No ◉ N/A

5. Endangered Species and Designated Critical Habitat (Corps Requirement)

5a. Will this project occur in or near an area with federally protected species or habitat? *

◉ Yes ○ No

5b. Have you checked with the USFWS concerning Endangered Species Act impacts? *

◉ Yes ○ No

5c. If yes, indicate the USFWS Field Office you have contacted.

Asheville

5d. Is another Federal agency involved? *

○ Yes ◉ No ○ Unknown

5e. Is this a DOT project located within Division's 1-8? *

○ Yes ◉ No

5f. Will you cut any trees in order to conduct the work in waters of the U.S.? *

◉ Yes ○ No

5g. Does this project involve bridge maintenance or removal? *

○ Yes ◉ No

Link to the NLEB SLOPES document: http://saw-reg.usace.army.mil/NLEB/1-30-17-signed_NLEB-SLOPES&apps.pdf

5h. Does this project involve the construction/installation of a wind turbine(s)?* *

○ Yes ◉ No

5i. Does this project involve (1) blasting, and/or (2) other percussive activities that will be conducted by machines, such as jackhammers, mechanized pile drivers, etc.? *

◉ Yes ○ No

5j. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? *

See attached cover letter

6. Essential Fish Habitat (Corps Requirement)

6a. Will this project occur in or near an area designated as an Essential Fish Habitat? *

○ Yes ◉ No

6b. What data sources did you use to determine whether your site would impact an Essential Fish Habitat? *

NOAA Mapper, 2025.

7. Historic or Prehistoric Cultural Resources (Corps Requirement)

Link to the State Historic Preservation Office Historic Properties Map (does not include archaeological data: http://gis.ncdcr.gov/hpoweb/

7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)? *

○ Yes ◉ No

7b. What data sources did you use to determine whether your site would impact historic or archeological resources? *

Archeology report prepared in March 2025. On April 8, 2025, NCDOT staff determined that there are no archaeological resources within the Area of Potential Effects (APE), and therefore no surveys would be warranted for archaeological resources. There are no properties in this project area eligible for potential for listing on the National Register of Historic Places.

8. Flood Zone Designation (Corps Requirement)

Link to the FEMA Floodplain Maps: https://msc.fema.gov/portal/search

8a. Will this project occur in a FEMA-designated 100-year floodplain? *

◉ Yes ○ No

8b. If yes, explain how project meets FEMA requirements:

This project meets the FEMA requirements by obtaining State Floodplain Compliance (SFC) approval through the Hydraulic Unit's Highway Floodplain Program.

8c. What source(s) did you use to make the floodplain determination? *

FEMA FIRM Mapping, 2025.

Miscellaneous

Comments

Please use the space below to attach all required documentation or any additional information you feel is helpful for application review. Documents should be combined into one file when possible, with a Cover Letter, Table of Contents, and a Cover Sheet for each Section preferred.

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

Helene NC 9 Lower Henderson Buncombe 2025-05-20.pdf 16.9MB

File must be PDF or KMZ

Signature

*

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

- The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief'; and
- 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 have given true, accurate, and complete information on this form;
- I agree that submission of this PCN 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 PCN form.

Full Name: *

Michael Turchy

Signature *

Date

5/19/2025

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: 18314.1045 **TIP/Proj No:** NC-9 **County(ies):** Henderson

General Project Information

WBS Element:	18314.1045035	**TIP Number:**	NC-9	**Project Type:**	Roadway Widening	**Date:**	5/1/2025
NCDOT Contact:	Josh Deyton	**Contractor / Designer:**	Sungate Design Group, PA				
Address:	253 Webster Road Sylva, NC 28779			**Address:**	905 Jones Franklin Rd Raleigh, NC 27606		
Phone:	828-331-5211			**Phone:**	919-859-2243		
Email:	jbdeyton@ncdot.gov			**Email:**	jdalton@sungatedesign.com		
City/Town:	Bat Cave			**County(ies):**	Henderson		
River Basin(s):	Broad			**CAMA County?**	No		
Wetlands within Project Limits?	No						

Project Description

Project Length (lin. miles or feet):	1.97	**Surrounding Land Use:**	Residential, Wooded, Conservation Forest				
	Proposed Project			**Existing Site**			
Project Built-Upon Area (ac.)	14.0	ac.		5.8	ac.		
Typical Cross Section Description:	NC-9: Southbound lane includes a 10' paved lane with 4' shoulders (2' paved + 2' grass from 10+12 to 91+00 -L-)(4' grass from 91+00 to 113+77 -L-). Northbound lane includes a 10' paved lane with 3' shoulders (2' paved + 1' grass from 10+12 to 91+00 -L-)(3' grass from 91+00 to 113+77 -L-). Varying cut and fill slopes (see XSC file for detailed information).			Existing NC-9: 10' paved lane with 3' shoulders (1' paved + 2' grass) in each direction. Varying cut and fill slopes.			
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	1000	Year: 2025	Existing:	1000	Year:	2025

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

The North Carolina Department of Transportation (NCDOT) has proposed repairs to NC-9 from US 74 ALT to the Henderson County Line. The project, NC-9, was proposed in response to the damage caused by Hurricane Helene (09/2024). There is one major structure within the limits of the project (2@8'x10' RCBC) that is not being impacted by the proposed design. There have been 2 repiars proposed to the structure fixing erosion issues on either end of the culvert (see PSH 08 for inlet/outlet improvements). Erosion and Sediment Control measures to preserve water quality for instream construction activities will include floating turbidity curtains and/or impervious dikes. Rip rap has been added to outlets in jurisdictional features in order to dissipate energy and reduce velocities.

Note: This authorization request for Section 329 - 10+00 to 37+00

Permit Drawing Sheets 1-12, 23

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element:	18314.1045	TIP/Proj No.:	NC-9	County(ies):	Henderson	Page	2	of	2

General Project Information

Waterbody Information

Surface Water Body (1):	Broad River		**NCDWR Stream Index No.:**	9-(1)		
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?		Comments:				
NRTR Stream ID:	Broad River			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(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):	Grassy Creek		**NCDWR Stream Index No.:**	9-13		
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?		Comments:				
NRTR Stream ID:	Grassy Creek			**Buffer Rules in Effect:**	N/A	
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	N/A	(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)						

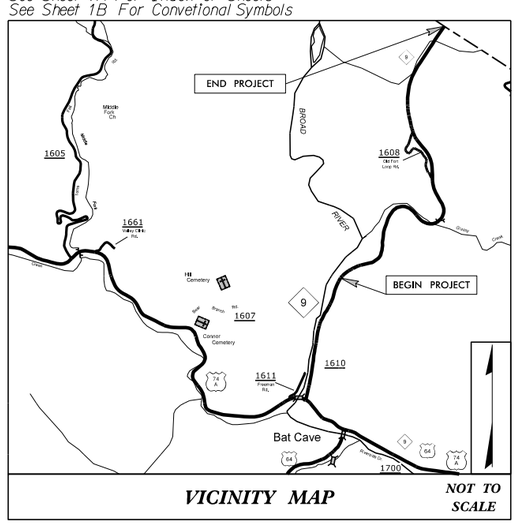
Note: This authorization request for Section 329 - 10+00 to 37+00

Permit Drawing Sheets 1-12, 23

09/08/99

PROJECT: NC-9

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols



VICINITY MAP — NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HENDERSON COUNTY

LOCATION: NC-9 FROM THE US 74A /NC-9 INTERSECTION TO THE BUNCOMBE COUNTY LINE

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND RETAINING WALLS

WETLAND AND SURFACE WATER IMPACTS PERMIT

PERMIT DRAWING SHEET 1 OF 24

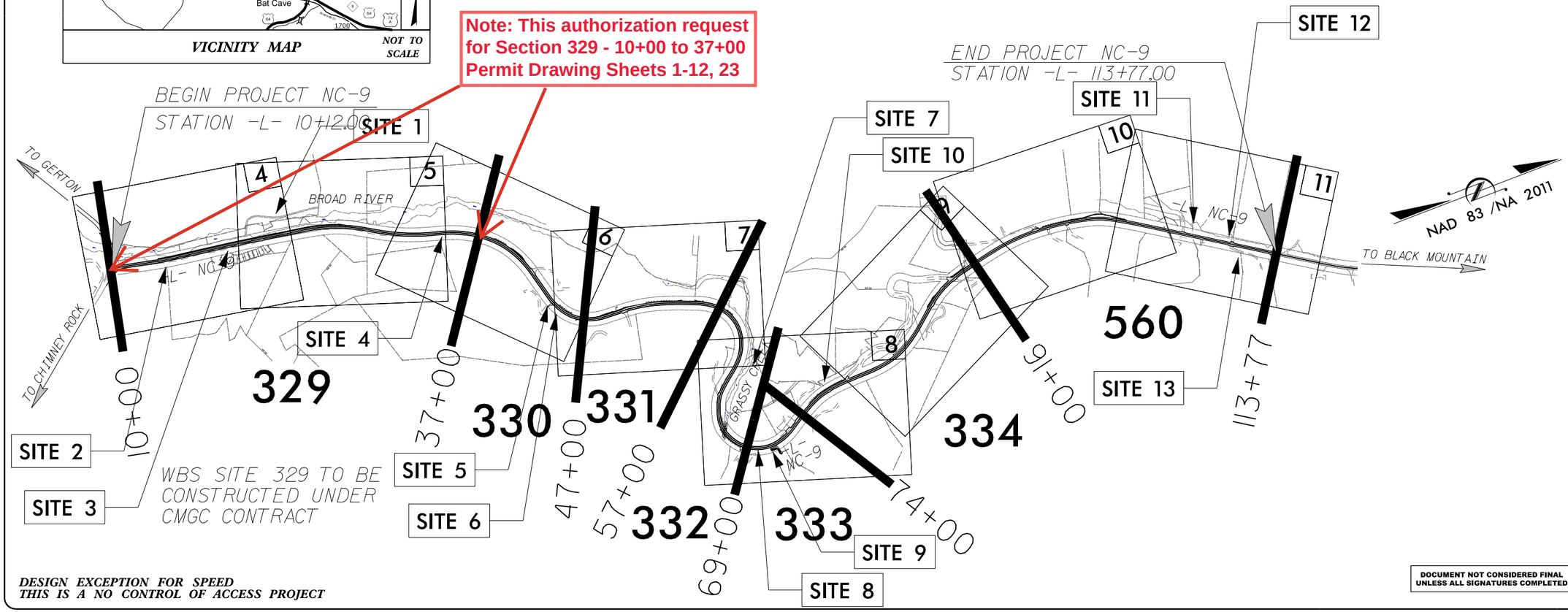
DATE: 5/1/2025

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	NC-9	1	

STATE PROJ. NO.	DESCRIPTION	
18314.1045061	329	
18314.1045035	330	
18314.1045063	331	
18314.1045062	332	
18314.1045074	333	
18314.1045073	334	
18314.1045135	560	

RIGHT OF WAY PLAN SET

Note: This authorization request for Section 329 - 10+00 to 37+00 Permit Drawing Sheets 1-12, 23

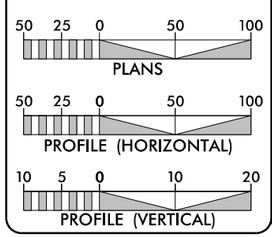


DESIGN EXCEPTION FOR SPEED
THIS IS A NO CONTROL OF ACCESS PROJECT

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT:

GRAPHIC SCALES



DESIGN DATA

ADT 2025 = 1000
K = N/A
D = N/A
T = 7%
V = 45 MPH

FUNC CLASSIFICATION = MAJOR COLLECTOR REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT Nc-9 = 1.454 MILES
TOTAL LENGTH TIP PROJECT NC-9 = 1.454 MILES

PREPARED IN THE OFFICES OF:

Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL. (919) 859-2243
ENG FIRM LICENSE NO. C-690

Weston & Sampson
2052 Energy Drive
Apex, NC 27502
Phone: 919.297.0220
NC License: C-4047
WSE of North Carolina, PC

8848 RED OAK BLVD
SUITE A
CHARLOTTE, NC 28217
(704) 523-4726

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2024 STANDARD SPECIFICATIONS 3R GUIDELINES

STEVE SMALLWOOD, P.E.
PROJECT ENGINEER

A. DEAN SARVIS, P.E.
PROJECT DESIGN ENGINEER

JOSH B DEYTON, P.E.
NCDOT DIVISION 14 CONTACT

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY ENGINEER

SIGNATURE: *P.E.*

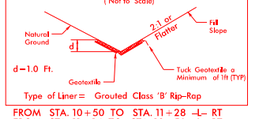
STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

5//2025
NC-9_Hyd_prm_wet_psh_01.dgn
jstanovich

8/17/99

REVISIONS

DETAIL 1
TOE PROTECTION
(Not to Scale)



d = 1.0 Ft.

Type of Liner = Grouted Class 'B' Rip-Rap

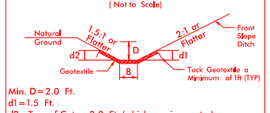
FROM STA. 10+50 TO STA. 11+28 –L– RT
FROM STA. 11+34 TO STA. 13+50 –L– RT
FROM STA. 53+00 TO STA. 56+80 –L– RT
FROM STA. 73+50 TO STA. 75+50 –L– RT
FROM STA. 77+68 TO STA. 80+00 –L– RT

DETAIL 2
SPECIAL 'V' DITCH
(Not to Scale)

Min. D = 1.5 Ft.
d1 = 1.5 Ft.
d2 = Top of Cut or 1.5 Ft. (whichever is greater)
Type of Liner = Grouted Class 'B' Rip-Rap, Keyed-In

FROM STA. 14+00 TO STA. 17+50 –L– RT

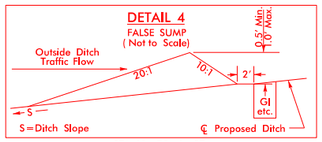
DETAIL 3
SPECIAL BASE DITCH
(Not to Scale)



Min. D = 2.0 Ft.
d1 = 1.5 Ft.
d2 = Top of Cut or 2.0 Ft. (whichever is greater)
B = 2.0 Ft.
Type of Liner = Grouted Class 'B' Rip-Rap, Keyed-In

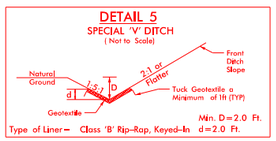
FROM STA. 17+50 TO STA. 18+30 –L– RT

DETAIL 4
FALSE SUMP
(Not to Scale)



STA. 19+75 –L– RT
STA. 29+80 –L– RT
STA. 39+57 –L– RT
STA. 64+86 –L– RT
STA. 82+50 –L– RT

DETAIL 5
SPECIAL 'V' DITCH
(Not to Scale)

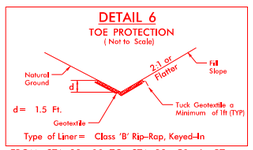


Min. D = 2.0 Ft.

Type of Liner = Class 'B' Rip-Rap, Keyed-In d = 2.0 Ft.

FROM STA. 20+00 TO STA. 22+00 –L– RT

DETAIL 6
TOE PROTECTION
(Not to Scale)

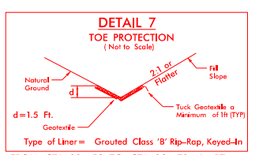


d = 1.5 Ft.

Type of Liner = Class 'B' Rip-Rap, Keyed-In

FROM STA. 22+00 TO STA. 22+50 –L– RT
FROM STA. 32+50 TO STA. 33+50 –L– RT
FROM STA. 86+50 TO STA. 87+14 –L– LT

DETAIL 7
TOE PROTECTION
(Not to Scale)

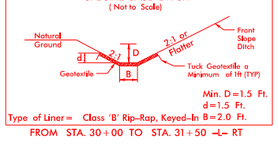


d = 1.5 Ft.

Type of Liner = Grouted Class 'B' Rip-Rap, Keyed-In

FROM STA. 22+50 TO STA. 29+72 –L– RT
FROM STA. 33+50 TO STA. 35+00 –L– RT

DETAIL 8
SPECIAL BASE DITCH
(Not to Scale)

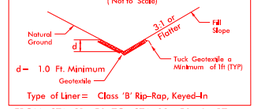


Min. D = 1.5 Ft.
d = 1.5 Ft.
B = 2.0 Ft.

Type of Liner = Class 'B' Rip-Rap, Keyed-In

FROM STA. 30+00 TO STA. 31+50 –L– RT

DETAIL 9
TOE PROTECTION
(Not to Scale)

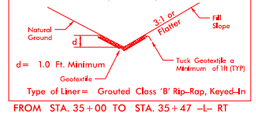


d = 1.0 Ft. Minimum

Type of Liner = Class 'B' Rip-Rap, Keyed-In

FROM STA. 31+50 TO STA. 32+50 –L– RT

DETAIL 10
TOE PROTECTION
(Not to Scale)

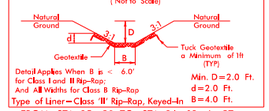


d = 1.0 Ft. Minimum

Type of Liner = Grouted Class 'B' Rip-Rap, Keyed-In

FROM STA. 35+00 TO STA. 35+47 –L– RT

DETAIL 11
STANDARD BASE DITCH
(Not to Scale)



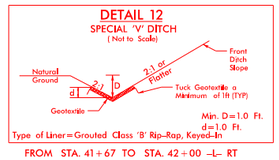
Detail Applies When B is < 6.0' for Class I and II Rip-Rap; And All Widths for Class B Rip-Rap

Min. D = 2.0 Ft.
d = 2.0 Ft.
B = 4.0 Ft.

Type of Liner = Class 'B' Rip-Rap, Keyed-In

FROM STA. 35+90 TO STA. 36+18 –L– RT

DETAIL 12
SPECIAL 'V' DITCH
(Not to Scale)

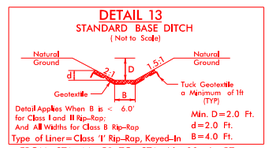


Min. D = 1.0 Ft.
d = 1.0 Ft.

Type of Liner = Grouted Class 'B' Rip-Rap, Keyed-In

FROM STA. 41+67 TO STA. 42+00 –L– RT

DETAIL 13
STANDARD BASE DITCH
(Not to Scale)



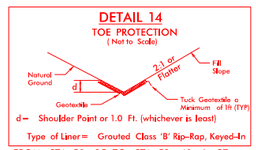
Detail Applies When B is < 6.0' for Class I and II Rip-Rap; And All Widths for Class B Rip-Rap

Min. D = 2.0 Ft.
d = 2.0 Ft.
B = 4.0 Ft.

Type of Liner = Class 'I' Rip-Rap, Keyed-In

FROM STA. 44+50 TO STA. 46+00 –L– RT

DETAIL 14
TOE PROTECTION
(Not to Scale)

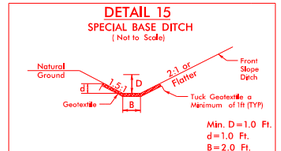


d = Shoulder Point or 1.0 Ft. (whichever is least)

Type of Liner = Grouted Class 'B' Rip-Rap, Keyed-In

FROM STA. 50+25 TO STA. 52+40 –L– RT

DETAIL 15
SPECIAL BASE DITCH
(Not to Scale)

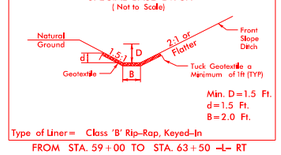


Min. D = 1.0 Ft.
d = 1.0 Ft.
B = 2.0 Ft.

Type of Liner = Grouted Class 'B' Rip-Rap, Keyed-In

FROM STA. 52+50 TO STA. 53+00 –L– RT
FROM STA. 73+28 TO STA. 73+50 –L– RT

DETAIL 16
SPECIAL BASE DITCH
(Not to Scale)



Min. D = 1.5 Ft.
d = 1.5 Ft.
B = 2.0 Ft.

Type of Liner = Class 'B' Rip-Rap, Keyed-In

FROM STA. 59+00 TO STA. 63+50 –L– RT

DETAIL 17
SPECIAL 'V' DITCH
(Not to Scale)

Min. D = 1.0 Ft.

FROM STA. 64+41 TO STA. 65+00 –L– RT
FROM STA. 95+50 TO STA. 97+36 –L– RT
FROM STA. 99+00 TO STA. 101+50 –L– RT

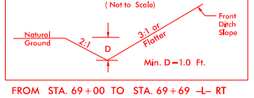
DETAIL 18
SPECIAL 'V' DITCH
(Not to Scale)

Min. D = 1.5 Ft.
d = 1.5 Ft.

Type of Liner = Class 'B' Rip-Rap, Keyed-In

FROM STA. 65+00 TO STA. 66+50 –L– RT

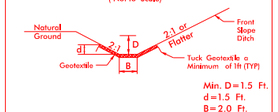
DETAIL 19
SPECIAL 'V' DITCH
(Not to Scale)



Min. D = 1.0 Ft.

FROM STA. 69+00 TO STA. 69+69 –L– RT

DETAIL 20
SPECIAL BASE DITCH
(Not to Scale)

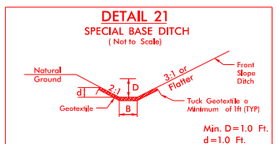


Min. D = 1.5 Ft.
d = 1.5 Ft.
B = 2.0 Ft.

Type of Liner = Grouted Class 'B' Rip-Rap, Keyed-In

FROM STA. 70+50 TO STA. 72+15 –L– RT

DETAIL 21
SPECIAL BASE DITCH
(Not to Scale)

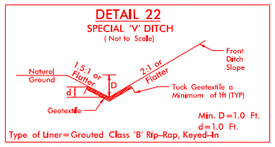


Min. D = 1.0 Ft.
d = 1.0 Ft.
B = 2.0 Ft.

Type of Liner = Grouted Class 'B' Rip-Rap, Keyed-In

FROM STA. 75+50 TO STA. 77+68 –L– RT

DETAIL 22
SPECIAL 'V' DITCH
(Not to Scale)



Min. D = 1.0 Ft.
d = 1.0 Ft.

Type of Liner = Grouted Class 'B' Rip-Rap, Keyed-In

FROM STA. 80+00 TO STA. 82+00 –L– RT
FROM STA. 83+00 TO STA. 85+50 –L– RT

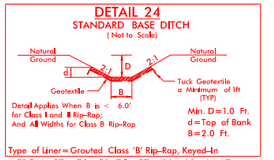
DETAIL 23
SPECIAL BASE DITCH
(Not to Scale)

Min. D = 1.5 Ft.
d = 1.5 Ft.
B = 3.0 Ft.

Type of Liner = Grouted Class 'B' Rip-Rap, Keyed-In

FROM STA. 82+75 TO STA. 83+00 –L– RT

DETAIL 24
STANDARD BASE DITCH
(Not to Scale)



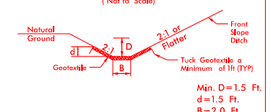
Detail Applies When B is < 6.0' for Class I and II Rip-Rap; And All Widths for Class B Rip-Rap

Min. D = 1.0 Ft.
d = Top of Bank
B = 2.0 Ft.

Type of Liner = Grouted Class 'B' Rip-Rap, Keyed-In

FROM STA. 79+52 TO STA. 80+08 –L– LT

DETAIL 25
SPECIAL BASE DITCH
(Not to Scale)

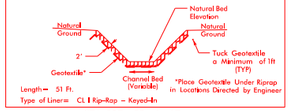


Min. D = 1.5 Ft.
d = 1.5 Ft.
B = 2.0 Ft.

Type of Liner = Grouted Class 'B' Rip-Rap, Keyed-In

FROM STA. 90+70 TO STA. 93+50 –L– RT

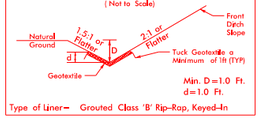
DETAIL 26
PIPE OUTLET CHANNEL STABILIZATION
(Not to Scale)



Length = 51 Ft.
Type of Liner = CL I Rip-Rap – Keyed-In

STA. 107+52 –L– LT

DETAIL 27
SPECIAL 'V' DITCH
(Not to Scale)

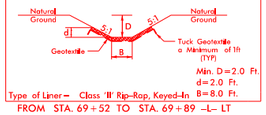


Min. D = 1.0 Ft.
d = 1.0 Ft.

Type of Liner = Grouted Class 'B' Rip-Rap, Keyed-In

FROM STA. 111+00 TO STA. 113+00 –L– RT

DETAIL 28
STANDARD BASE DITCH
(Not to Scale)

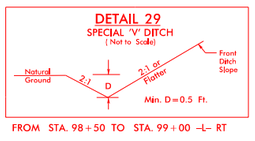


Min. D = 2.0 Ft.
d = 2.0 Ft.
B = 8.0 Ft.

Type of Liner = Class 'II' Rip-Rap, Keyed-In

FROM STA. 69+52 TO STA. 69+89 –L– LT

DETAIL 29
SPECIAL 'V' DITCH
(Not to Scale)



Min. D = 0.5 Ft.

FROM STA. 98+50 TO STA. 99+00 –L– RT

PERMIT DRAWING
SHEET 2 OF 24

DATE: 5/1/2025

PROJECT REFERENCE NO.	SHEET NO.
NC-9	2B-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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REVISIONS

PERMIT DRAWING
SHEET 3 OF 24

DATE: 5/1/2025

PROJECT REFERENCE NO.	SHEET NO.
NC-9	2B-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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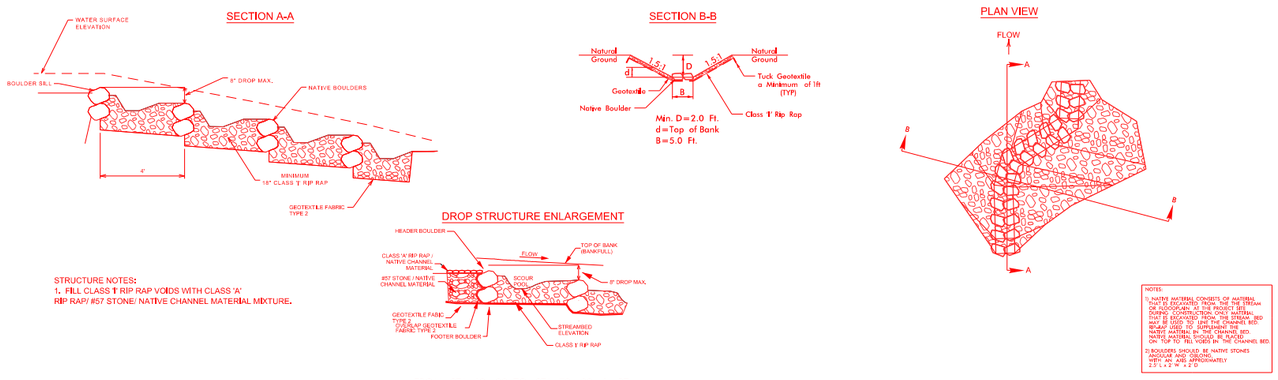
DETAIL 30
DROP STRUCTURE
(Not to Scale)



STRUCTURE NOTES:
1. FILL CLASS 'I' RIP RAP VOIDS WITH CLASS 'A' RIP RAP/ #57 STONE/ NATIVE CHANNEL MATERIAL MIXTURE.

NOTES:
1) NATIVE MATERIAL CONSISTS OF MATERIAL THAT IS EXCAVATED FROM THE STREAM OR FLOODPLAIN AT THE PROJECT SITE DURING CONSTRUCTION. ONLY MATERIAL THAT IS EXCAVATED FROM THE STREAM BED MAY BE USED TO INFILL THE CHANNEL BED. IMPORT USED TO SUPPLEMENT THE NATIVE MATERIAL IN THE CHANNEL BED. NATIVE MATERIAL SHOULD BE PLACED ON TOP TO FILL VOIDS IN THE CHANNEL BED.
2) BOULDERS SHOULD BE NATIVE STONES ANGULAR AND OBLONG WITH AN AXIS APPROXIMATELY 2.0'L x 2.0'W x 2.0'D

FROM STA. 69+90 TO STA. 70+00 -L- RT

DETAIL 31
DROP STRUCTURE
(Not to Scale)

STRUCTURE NOTES:
1. FILL CLASS 'I' RIP RAP VOIDS WITH CLASS 'A' RIP RAP/ #57 STONE/ NATIVE CHANNEL MATERIAL MIXTURE.

NOTES:
1) NATIVE MATERIAL CONSISTS OF MATERIAL THAT IS EXCAVATED FROM THE STREAM OR FLOODPLAIN AT THE PROJECT SITE DURING CONSTRUCTION. ONLY MATERIAL THAT IS EXCAVATED FROM THE STREAM BED MAY BE USED TO INFILL THE CHANNEL BED. IMPORT USED TO SUPPLEMENT THE NATIVE MATERIAL IN THE CHANNEL BED. NATIVE MATERIAL SHOULD BE PLACED ON TOP TO FILL VOIDS IN THE CHANNEL BED.
2) BOULDERS SHOULD BE NATIVE STONES ANGULAR AND OBLONG WITH AN AXIS APPROXIMATELY 2.0'L x 2.0'W x 2.0'D

FROM STA. 70+50 TO STA. 70+82 -L- RT

5/1/2025
NC_9_Hyd_prm_wet_psh_02B2.dgn
jstanovich

8/17/99

S S SURFACE WATER IMPACTS

TS TS TEMPORARY SURFACE WATER IMPACTS

NOTE: FOR –L– PROFILE SEE SHEET 12

50′ 25′ 0 50′ 100′

SCALE: 1″ = 50′

NAD 83 /NA 2011

PROJECT REFERENCE NO.	SHEET NO.
NC-9	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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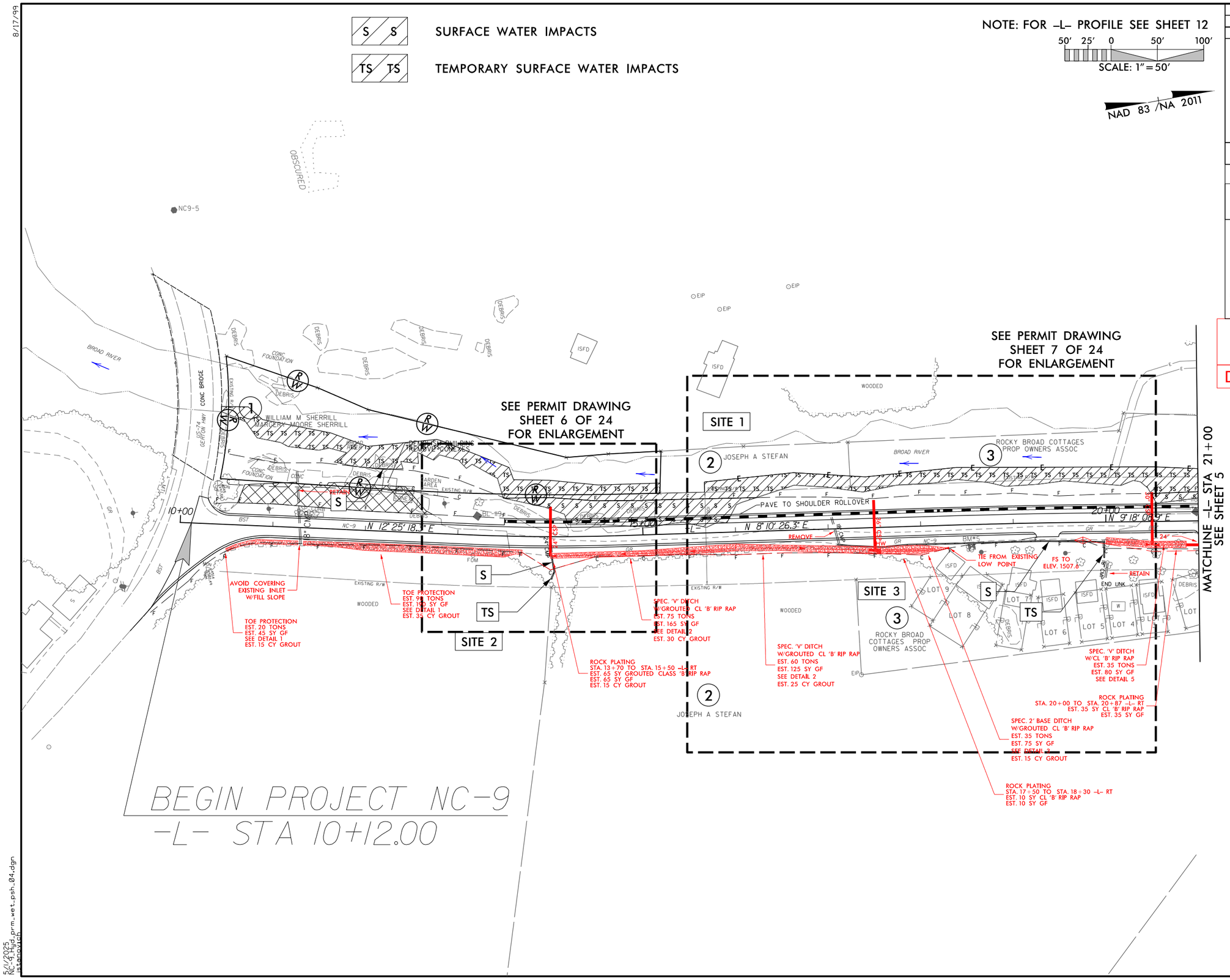
PERMIT DRAWING SHEET 4 OF 24

DATE: 5/1/2025



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PROJECT REFERENCE NO.	SHEET NO.
NC-9	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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PERMIT DRAWING SHEET 5 OF 24

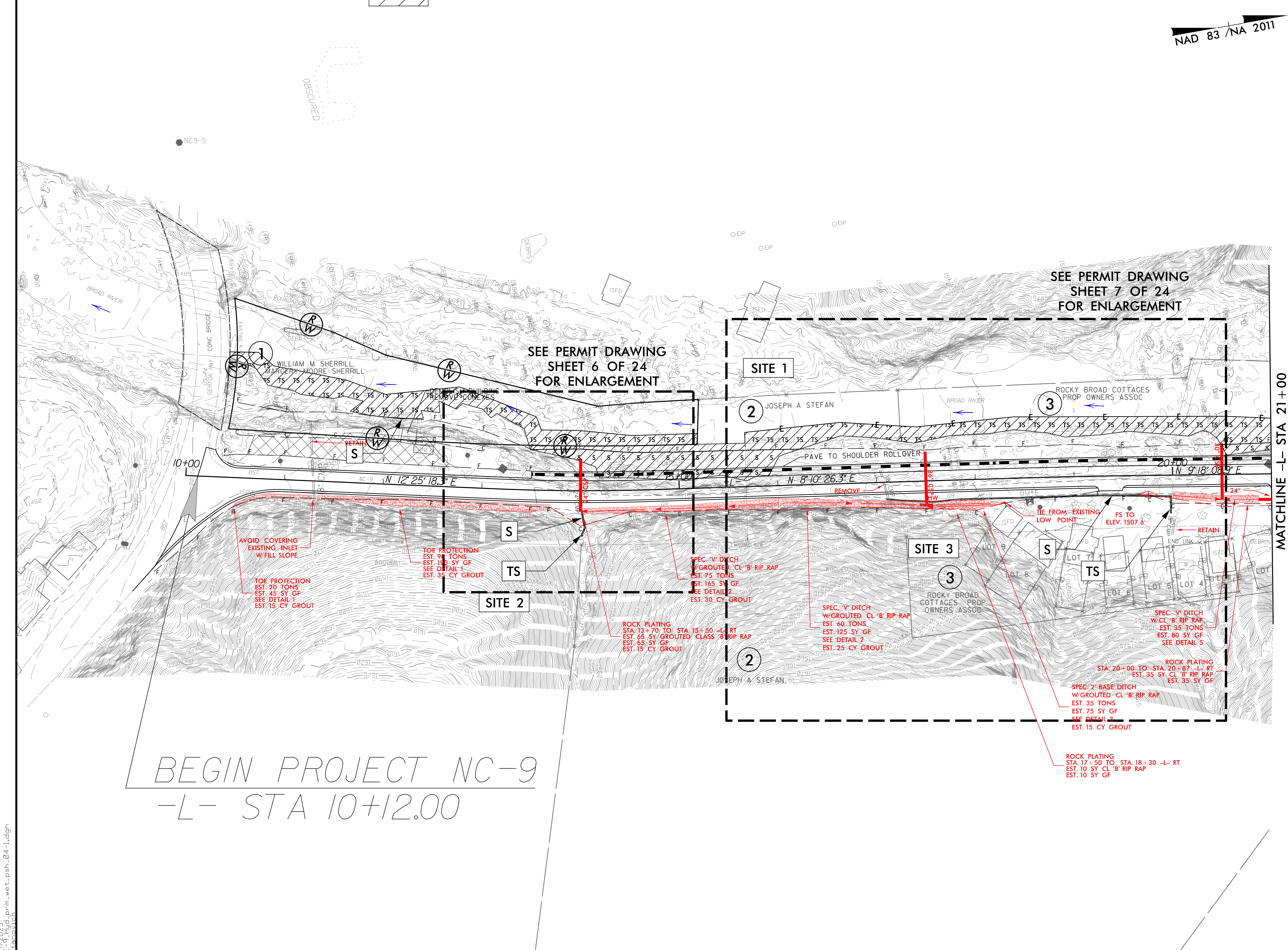
DATE: 5/1/2025

S / S — SURFACE WATER IMPACTS

TS / TS — TEMPORARY SURFACE WATER IMPACTS

NOTE: FOR -L- PROFILE SEE SHEET 12

SCALE: 1" = 50'



8/17/99

SITE 1

SCALE: 1"=10'

NAD 83 /NA 2011

S S SURFACE WATER IMPACTS

TS TS TEMPORARY SURFACE WATER IMPACTS

GARDEN AREA

EXISTING R/W

DEBRIS

13+00

15+00

24" CSP

24" CMP

FOM

GR

S

TS

SITE 2

PROJECT REFERENCE NO.	SHEET NO.
NC-9	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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PERMIT DRAWING
SHEET 6 OF 24

DATE: 5/1/2025

5/1/2025
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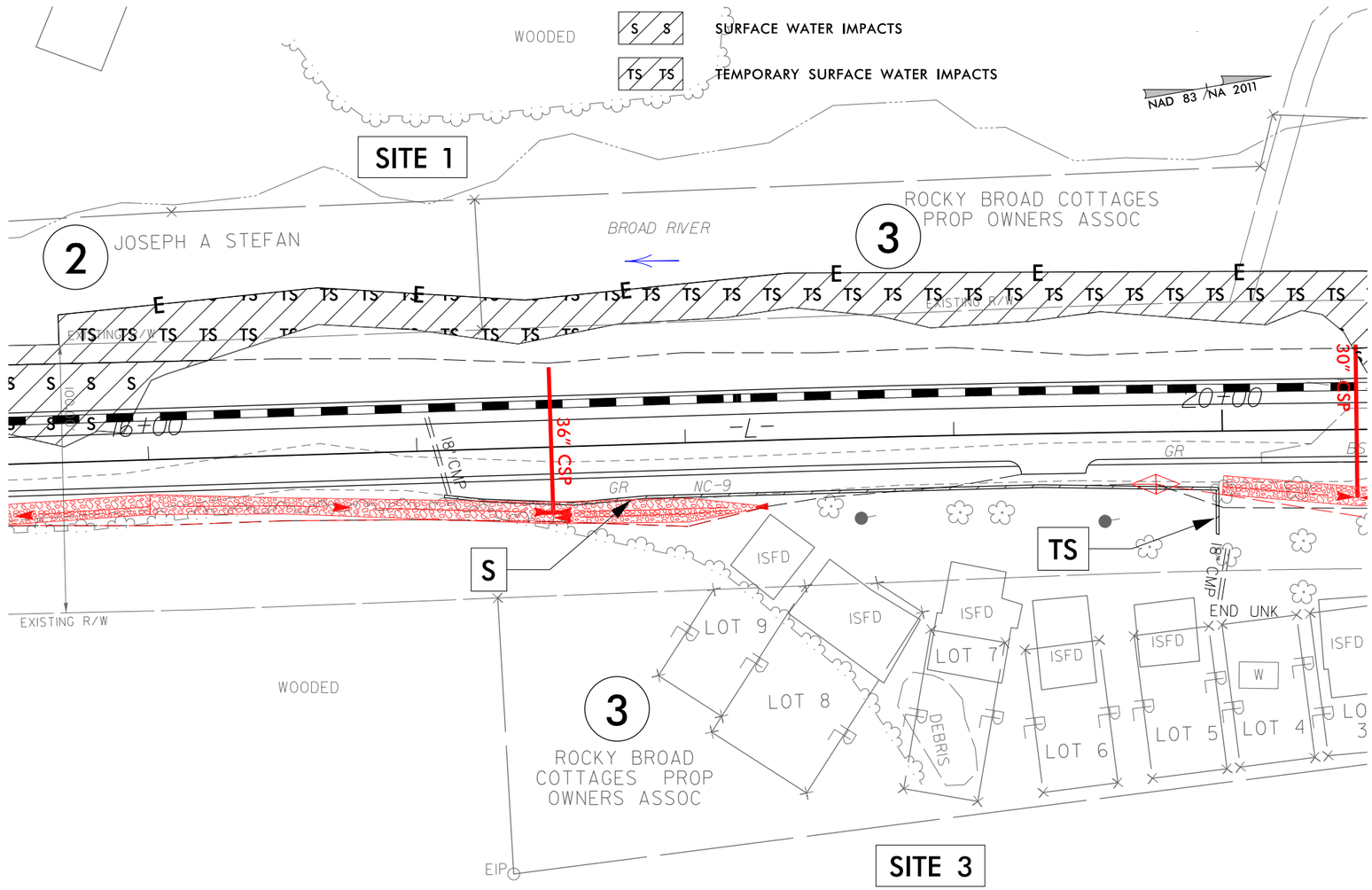
jstanovich

8/17/99

25′ 12.5′ 0 25′ 50′

SCALE: 1″=25′



PROJECT REFERENCE NO.	SHEET NO.
NC-9	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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PERMIT DRAWING SHEET 7 OF 24

DATE: 5/1/2025

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PERMIT DRAWING
SHEET 8 OF 24
DATE: 5/1/2025

PROJECT REFERENCE NO.	SHEET NO.
NC-9	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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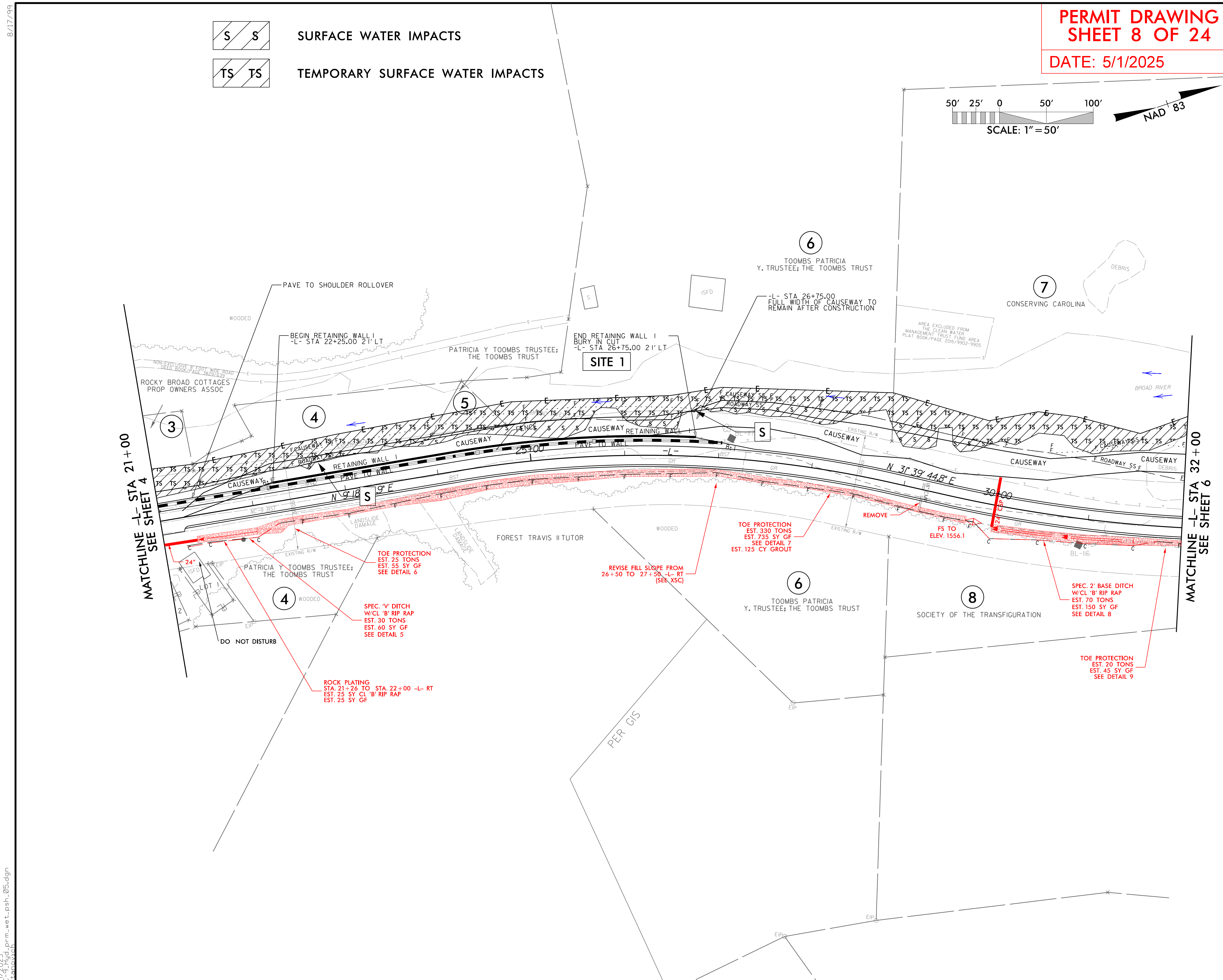
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
SCALE: 1" = 50'
NAD 83
PAVE TO SHOULDER ROLLOVER
BEGIN RETAINING WALL I
-L- STA 22+25.00 21' LT
PATRICIA Y TOOMBS TRUSTEE; THE TOOMBS TRUST
END RETAINING WALL I
BURY IN CUT
-L- STA 26+75.00 21' LT
SITE 1
-L- STA 26+75.00
FULL WIDTH OF CAUSEWAY TO REMAIN AFTER CONSTRUCTION
TOOMBS PATRICIA Y. TRUSTEE; THE TOOMBS TRUST
CONSERVING CAROLINA
ROCKY BROAD COTTAGES PROP OWNERS ASSOC
CAUSEWAY
RETAINING WALL I
PAVE TO WALL
BROAD RIVER
N 31° 39' 44.8" E
MATCHLINE -L- STA 21+00 SEE SHEET 4
MATCHLINE -L- STA 32+00 SEE SHEET 6
FOREST TRAVIS II TUTOR
LANDSLIDE DAMAGE
TOE PROTECTION
EST. 25 TONS
EST. 55 SY GF
SEE DETAIL 6
REVISE FILL SLOPE FROM 26+50 TO 27+50 -L- RT (SEE XSC)
TOE PROTECTION
EST. 330 TONS
EST. 735 SY GF
SEE DETAIL 7
EST. 125 CY GROUT
REMOVE
FS TO ELEV. 1556.1
PATRICIA Y TOOMBS TRUSTEE; THE TOOMBS TRUST
SPEC. 'V' DITCH
W/CL 'B' RIP RAP
EST. 30 TONS
EST. 60 SY GF
SEE DETAIL 5
DO NOT DISTURB
ROCK PLATING
STA. 21+26 TO STA. 22+00 -L- RT
EST. 25 SY CL 'B' RIP RAP
EST. 25 SY GF
SOCIETY OF THE TRANSFIGURATION
SPEC. 2' BASE DITCH
W/CL 'B' RIP RAP
EST. 70 TONS
EST. 150 SY GF
SEE DETAIL 8
TOE PROTECTION
EST. 20 TONS
EST. 45 SY GF
SEE DETAIL 9
PER GIS

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S S SURFACE WATER IMPACTS

TS TS TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING
SHEET 9 OF 24
DATE: 5/1/2025

PROJECT REFERENCE NO.	SHEET NO.
NC-9	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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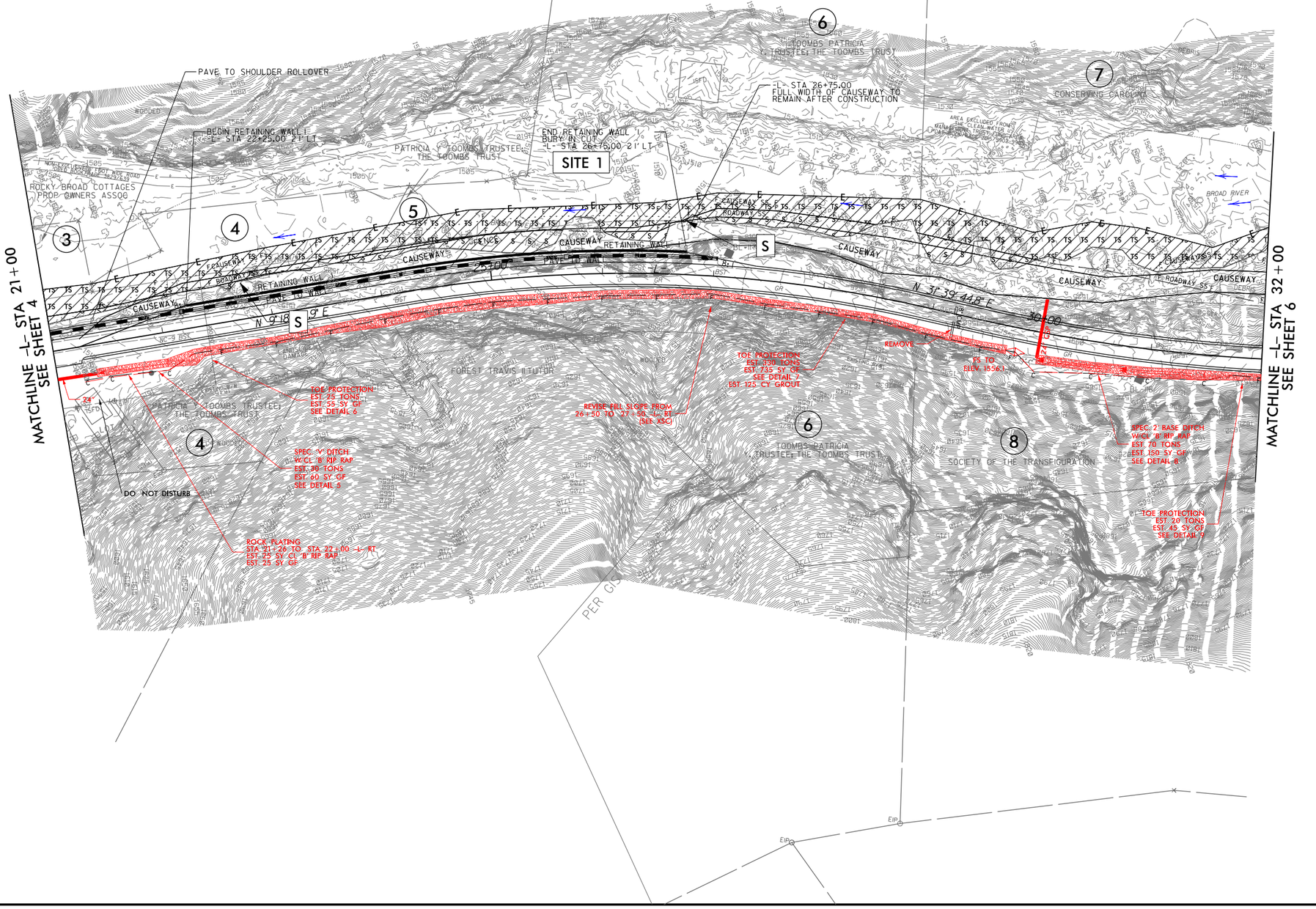
50′ 25′ 0 50′ 100′
SCALE: 1″ = 50′
NAD 83



5/1/2025
NC-9_Hyd_prm_wet_psh_05-1.dgn
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PROJECT REFERENCE NO.	SHEET NO.
NC-9	6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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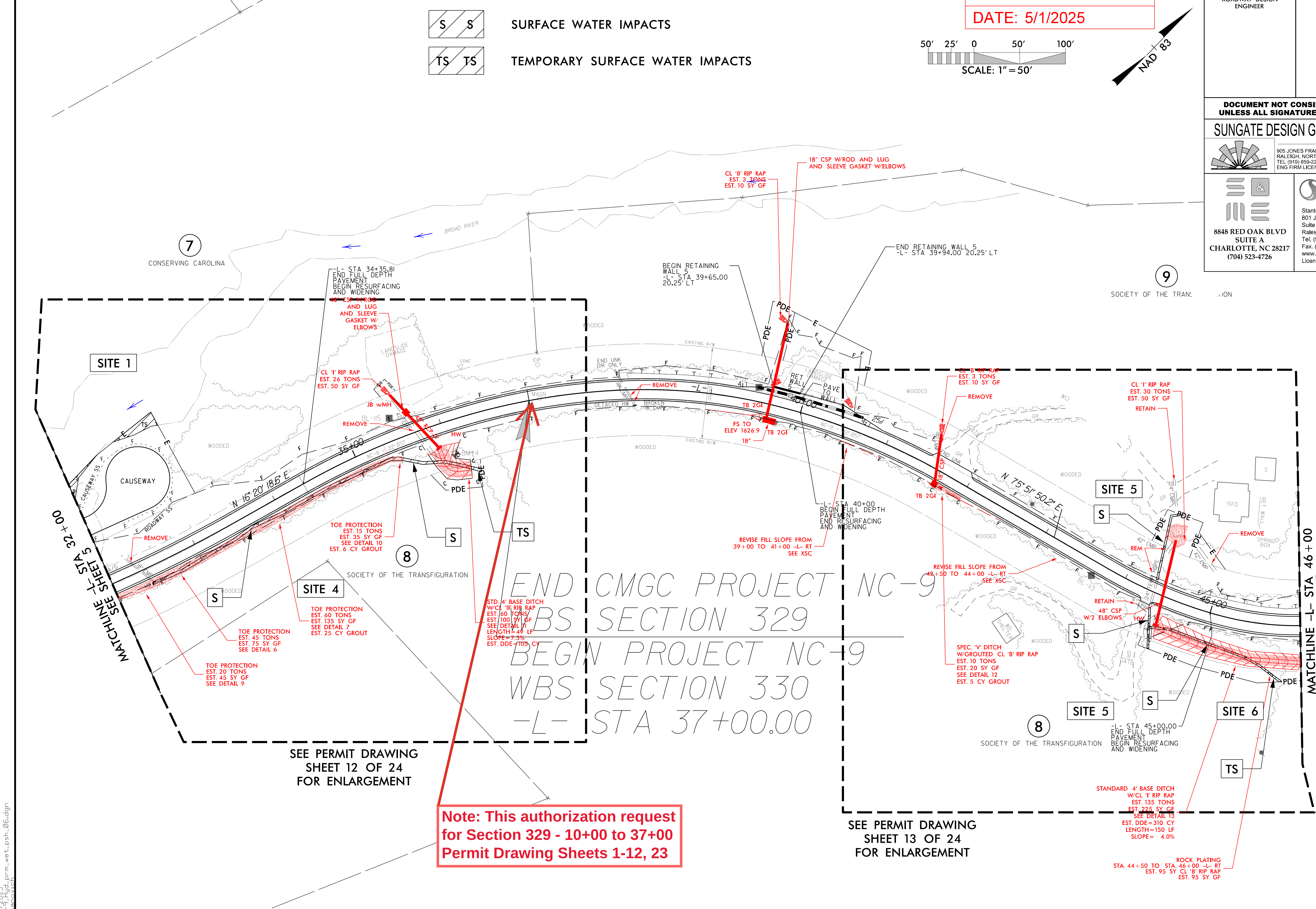
S S — SURFACE WATER IMPACTS

TS TS — TEMPORARY SURFACE WATER IMPACTS

SCALE: 1″ = 50′


NAD 83
50′ 25′ 0 50′ 100′
7
CONSERVING CAROLINA
BROAD RIVER
9
SOCIETY OF THE TRANSFIGURATION
SITE 1
CAUSEWAY
-L- STA 34+35.81
END FULL DEPTH
PAVEMENT
BEGIN RESURFACING
AND WIDENING
CL 'I' RIP RAP
EST. 26 TONS
EST. 50 SY GF
REMOVE
N 16°20′18.6″ E
35+00
TOE PROTECTION
EST. 15 TONS
EST. 35 SY GF
SEE DETAIL 10
EST. 6 CY GROUT
S
TS
8
SOCIETY OF THE TRANSFIGURATION
SITE 4
TOE PROTECTION
EST. 60 TONS
EST. 135 SY GF
SEE DETAIL 7
EST. 25 CY GROUT
TOE PROTECTION
EST. 45 TONS
EST. 75 SY GF
SEE DETAIL 6
TOE PROTECTION
EST. 20 TONS
EST. 45 SY GF
SEE DETAIL 9
STD. 4′ BASE DITCH
W/CL 'II' RIP RAP
EST. 60 TONS
EST. 100 SY GF
SEE DETAIL 11
LENGTH=49 LF
SLOPE=7.3%
MATCHLINE -L- STA 32+00
SEE SHEET 5
END CMGC PROJECT NC-9
WBS SECTION 329
BEGIN PROJECT NC-9
WBS SECTION 330
-L- STA 37+00.00
SEE PERMIT DRAWING
SHEET 12 OF 24
FOR ENLARGEMENT
CL 'B' RIP RAP
EST. 3 TONS
EST. 10 SY GF
18″ CSP W/ROD AND LUG
AND SLEEVE GASKET W/ELBOWS
BEGIN RETAINING
WALL 5
-L- STA 39+65.00
20.25′ LT
END RETAINING WALL 5
-L- STA 39+94.00 20.25′ LT
PDE
TB 2GI
FS TO
ELEV 1626.9
-L- STA 40+00
BEGIN FULL DEPTH
PAVEMENT
END RESURFACING
AND WIDENING
REVISE FILL SLOPE FROM
39+00 TO 41+00 -L- RT
SEE XSC
REVISE FILL SLOPE FROM
42+50 TO 44+00 -L- RT
SEE XSC
N 75°51′50.2″ E
SITE 5
CL 'I' RIP RAP
EST. 30 TONS
EST. 50 SY GF
RETAIN
48″ CSP
W/2 ELBOWS
45+00
SPEC. 'V' DITCH
W/GROUTED CL 'B' RIP RAP
EST. 10 TONS
EST. 20 SY GF
SEE DETAIL 12
EST. 5 CY GROUT
-L- STA 45+00.00
END FULL DEPTH
PAVEMENT
BEGIN RESURFACING
AND WIDENING
SITE 6
MATCHLINE -L- STA 46+00
SEE SHEET 7
STANDARD 4′ BASE DITCH
W/CL 'I' RIP RAP
EST. 135 TONS
EST. 225 SY GF
SEE DETAIL 13
EST. DDE=310 CY
LENGTH=150 LF
SLOPE= 4.0%
ROCK PLATING
STA. 44+50 TO STA. 46+00 -L- RT
EST. 95 SY CL 'B' RIP RAP
EST. 95 SY GF
SEE PERMIT DRAWING
SHEET 13 OF 24
FOR ENLARGEMENT

Note: This authorization request for Section 329 - 10+00 to 37+00 Permit Drawing Sheets 1-12, 23

8/17/99
5/1/2025
NC-9_Hyd_prm_wet_psh_06.dgn

PROJECT REFERENCE NO.	SHEET NO.
NC-9	6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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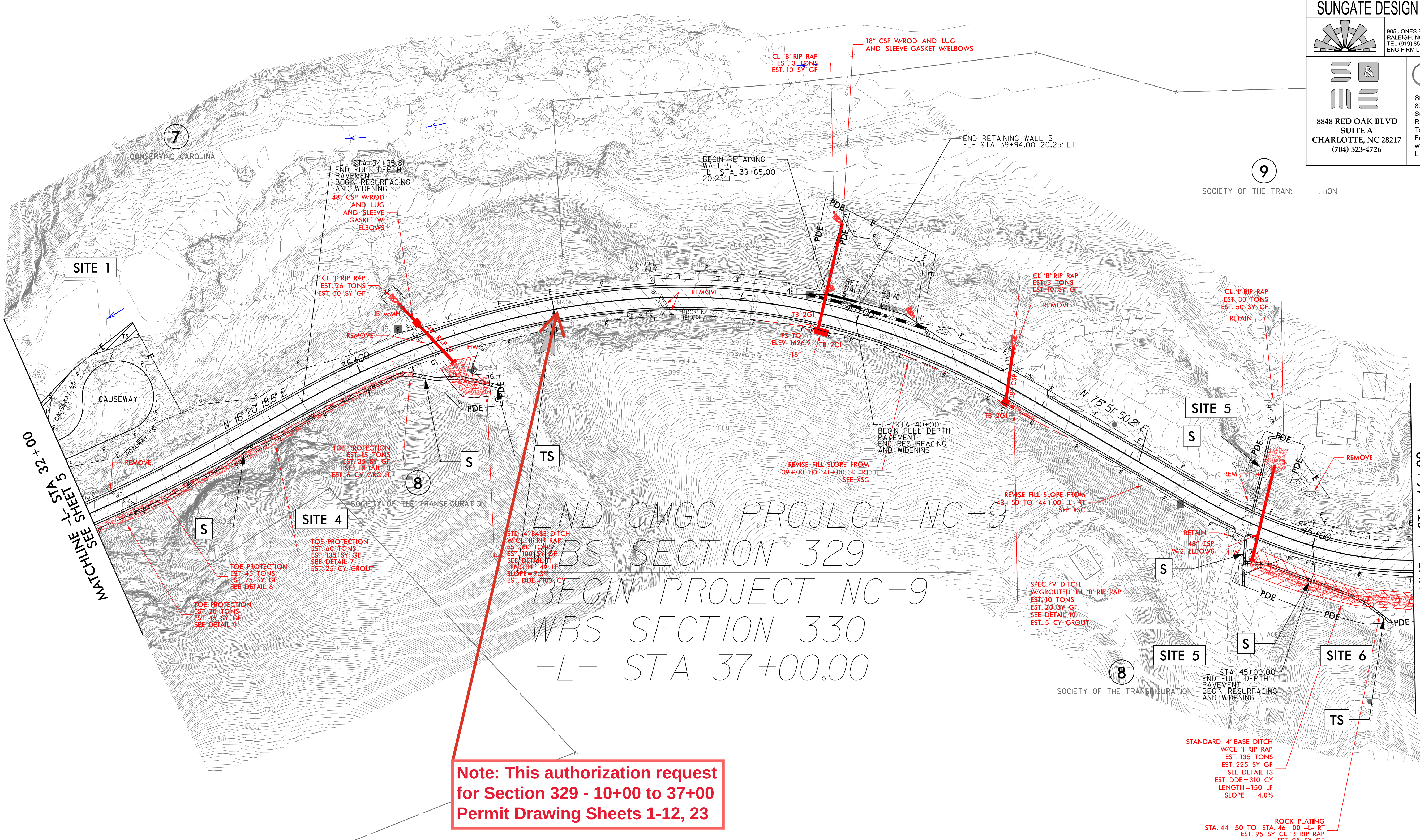
S / S — SURFACE WATER IMPACTS

TS / TS — TEMPORARY SURFACE WATER IMPACTS

SCALE: 1" = 50'


NAD 83
SITE 1
SITE 4
SITE 5
SITE 6
CONSERVING CAROLINA
SOCIETY OF THE TRANSFIGURATION
CAUSEWAY
MATCHLINE -L- STA 32+00 SEE SHEET 5
MATCHLINE -L- STA 46+00 SEE SHEET 7
N 16°20' 18.6" E
N 75°51' 50.2" E
-L- STA 34+35.81 END FULL DEPTH PAVEMENT BEGIN RESURFACING AND WIDENING
48" CSP W/ROD AND LUG AND SLEEVE GASKET W/ ELBOWS
CL 'I' RIP RAP EST. 26 TONS EST. 50 SY GF
REMOVE
TOE PROTECTION EST. 15 TONS EST. 35 SY GF SEE DETAIL 10 EST. 6 CY GROUT
TOE PROTECTION EST. 60 TONS EST. 135 SY GF SEE DETAIL 7 EST. 25 CY GROUT
TOE PROTECTION EST. 45 TONS EST. 75 SY GF SEE DETAIL 6
TOE PROTECTION EST. 20 TONS EST. 45 SY GF SEE DETAIL 9
STD. 4' BASE DITCH W/CL 'II' RIP RAP EST. 60 TONS EST. 100 SY GF SEE DETAIL 11 LENGTH=49 LF SLOPE=7.3% EST. DDE=105 CY
BEGIN RETAINING WALL 5 -L- STA 39+65.00 20.25' LT
END RETAINING WALL 5 -L- STA 39+94.00 20.25' LT
CL 'B' RIP RAP EST. 3 TONS EST. 10 SY GF
18" CSP W/ROD AND LUG AND SLEEVE GASKET W/ELBOWS
-L- STA 40+00 BEGIN FULL DEPTH PAVEMENT END RESURFACING AND WIDENING
REVISE FILL SLOPE FROM 39+00 TO 41+00 -L- RT SEE XSC
REVISE FILL SLOPE FROM 42+50 TO 44+00 -L- RT SEE XSC
SPEC. 'V' DITCH W/GROUTED CL 'B' RIP RAP EST. 10 TONS EST. 20 SY GF SEE DETAIL 12 EST. 5 CY GROUT
CL 'I' RIP RAP EST. 30 TONS EST. 50 SY GF
RETAIN
48" CSP W/2 ELBOWS
-L- STA 45+00.00 END FULL DEPTH PAVEMENT BEGIN RESURFACING AND WIDENING
STANDARD 4' BASE DITCH W/CL 'I' RIP RAP EST. 135 TONS EST. 225 SY GF SEE DETAIL 13 EST. DDE=310 CY LENGTH=150 LF SLOPE= 4.0%
ROCK PLATING STA. 44+50 TO STA. 46+00 -L- RT EST. 95 SY CL 'B' RIP RAP EST. 95 SY GF
END CMGC PROJECT NC-9 WBS SECTION 329
BEGIN PROJECT NC-9 WBS SECTION 330
-L- STA 37+00.00

Note: This authorization request for Section 329 - 10+00 to 37+00 Permit Drawing Sheets 1-12, 23

NOTE: FOR -L- PROFILE SEE SHEET 12 & 13

8/17/99

25' 12.5' 0 25' 50'

SCALE: 1"=25'

PROJECT REFERENCE NO.	SHEET NO.
NC-9	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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PERMIT DRAWING SHEET 12 OF 24

DATE: 5/1/2025

NAD 83

SITE 1

LANDSLIDE DAMAGE

CONC

EIP

MAGN

WOODED

CAUSEWAY

TS

E

35+00

NC-9 - 22' BST

42" CMP

48" RCP-N

PDE

PDE

PDE

PDE

S

TS

SITE 4

33+00

S

A/C

18" CMP

8

SOCIETY OF THE TRANSFIGURATION

WOODED

S S SURFACE WATER IMPACTS

TS TS TEMPORARY SURFACE WATER IMPACTS

5/1/2025
NC-9_Hyd_prm_wet_psh_06-2-View1n.dgn
stanovich

WETLAND AND SURFACE 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	10+40 to 33+27-L-LT	ROADWAY FILL						0.278	1.029	1073	1222	
2	14+01 to 14+05-L-RT	ROADWAY FILL						0.001	0.001	15	12	
3	17+10 to 19+98-L-RT	ROADWAY FILL						0.007	0.001	295	11	
4	32+41 to 36+29-L-RT	ROADWAY FILL						0.024	0.001	340		
		PIPE INLET						0.003		42	11	
TOTALS*:			**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.313**	**1.032**	**1765**	**1256**	**0**

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
04-17-2025
HENDERSON COUNTY
NC-9
18314.4045135

Section 7
Concurrence

Turchy, Michael A

From: Youngman, Holland J <holland_youngman@fws.gov>
Sent: Thursday, May 15, 2025 4:21 PM
To: Stanton, Tyler P
Cc: mark endries(contact); Knepp, Cheryl L
Subject: Re: [EXTERNAL] western bat PBO project notification - batch 1

Hey Tyler and Cheryl, given the timeline constraints with this power pole/tree clearing topic, we wanted to go ahead and provide a response. Let us know if the below will work for y'all.

Informal Consultation for northern long-eared bat (*Myotis septentrionalis*) Relating to - Utility Pole Tree Clearing Associated with US74A Gerton from Bearwallow Mtn Rd to US64/74A/NC9 Intersection

We have reviewed the information you submitted, and the following is provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C.§ 4321 et seq.); the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661 - 667e); and section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 - 1543) (ESA).

Duke Energy/NCDOT plans to conduct a small area of tree clearing in order to replace a damaged power pole at 35.453486, -82.289922 in Henderson County. This work is being done prior to but in association with the larger subject NCDOT project. The group of trees consists of several small saplings and a few trees ≥3" DBH. The trees are smooth-barked and largely lack the suitable northern long-eared bat roosting features of exfoliating bark, cracks, crevices, and/or cavities. Given the small number of trees to be cleared, and the lack of suitable roosting features, effects on northern long-eared bat are extremely unlikely to occur.

Based on the information provided and the analysis above, impacts on northern long-eared bat are not expected to rise to a level where take occurs. Therefore, we would concur with a determination from NCDOT that the project may affect but is not likely to adversely affect (NLAA) the species.

We believe the requirements under section 7 of the ESA are fulfilled for the federally listed species discussed above. However, obligations under section 7 must be reconsidered if: (1) new information reveals impacts of this proposed action 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.

We appreciate the opportunity to provide these comments.

Holland Youngman
(she/her)
Wildlife Biologist
U.S. Fish and Wildlife Service
Asheville Ecological Services Field Office
160 Zillicoa Street, Asheville, North Carolina, 28801
Cell: 828-575-3920

From: Stanton, Tyler P <tpstanton@ncdot.gov>
Sent: Thursday, May 15, 2025 1:38 PM
To: Youngman, Holland J <holland_youngman@fws.gov>

Cc: Endries, Mark <mark_endries@fws.gov>; Knepp, Cheryl L <clknepp@ncdot.gov>
Subject: RE: [EXTERNAL] western bat PBO project notification - batch 1

I'm fairly certain they are sycamore and >3" dbh. I asked Melissa her opinion and she said sycamore are probably not ideal, especially considering the abundance of more suitable trees in the area, but we couldn't rule it out completely.

I thought about emergence surveys, but I think everyone is spread so thin it would be difficult to find someone to do them.

From: Youngman, Holland J <holland_youngman@fws.gov>
Sent: Thursday, May 15, 2025 12:38 PM
To: Stanton, Tyler P <tpstanton@ncdot.gov>
Cc: mark endries(contact) <mark_endries@fws.gov>; Knepp, Cheryl L <clknepp@ncdot.gov>
Subject: Re: [EXTERNAL] western bat PBO project notification - batch 1

Hey Tyler, for this patch of trees - can y'all confirm that it fits the suitable habitat definition for NLEB? Not trying to harp on that, but it's an important element.

Another option for these trees may be to conduct an emergence survey following Appendix E here: https://www.fws.gov/sites/default/files/documents/2024-10/2024_usfws_rangewide_ibat-nleb_survey_guidelines.pdf This can be a helpful approach for these types of scenarios - in the interest of giving y'all options to move this along quickly.

Holland Youngman
(she/her)
Wildlife Biologist
U.S. Fish and Wildlife Service
Asheville Ecological Services Field Office
160 Zillicoa Street, Asheville, North Carolina, 28801
Cell: 828-575-3920

From: Stanton, Tyler P <tpstanton@ncdot.gov>
Sent: Thursday, May 15, 2025 11:14 AM
To: Youngman, Holland J <holland_youngman@fws.gov>
Cc: Endries, Mark <mark_endries@fws.gov>; Knepp, Cheryl L <clknepp@ncdot.gov>
Subject: RE: [EXTERNAL] western bat PBO project notification - batch 1

18314.1045999CMGC is NC9/US74 which includes the patch of trees we talked about yesterday. They were factored into the tree removal estimate.

Please prioritize this project.

Thanks,
T

From: Youngman, Holland J <holland_youngman@fws.gov>
Sent: Thursday, May 15, 2025 11:12 AM
To: Knepp, Cheryl L <clknepp@ncdot.gov>; mark endries(contact) <mark_endries@fws.gov>

Cc: Stanton, Tyler P <tpstanton@ncdot.gov>; Jones, M Scott (Scott) CIV USARMY CESAW (USA) <scott.jones@usace.army.mil>; Coleman, Clarence (FHWA) <clarence.coleman@dot.gov>
Subject: Re: [EXTERNAL] western bat PBO project notification - batch 1

Hi Cheryl, received. Mark and I will review and will get back to you with any questions/concerns.

Thank you,

Holland Youngman
(she/her)
Wildlife Biologist
U.S. Fish and Wildlife Service
Asheville Ecological Services Field Office
160 Zillicoa Street, Asheville, North Carolina, 28801
Cell: 828-575-3920

From: Knepp, Cheryl L <clknepp@ncdot.gov>
Sent: Thursday, May 15, 2025 11:05 AM
To: Youngman, Holland J <holland_youngman@fws.gov>; Endries, Mark <mark_endries@fws.gov>
Cc: Stanton, Tyler P <tpstanton@ncdot.gov>; Jones, M Scott (Scott) CIV USARMY CESAW (USA) <scott.jones@usace.army.mil>; Coleman, Clarence (FHWA) <clarence.coleman@dot.gov>
Subject: [EXTERNAL] western bat PBO project notification - batch 1

Good morning Holland and Mark, please find the attached first batch of projects that qualify for use under the western bat PBO (USFWS Log #22-224). I am providing the attached information, in accordance with the pre-notification requirement of the PBO as described on pg. 39, with some additional information columns as requested by your office. Please let me know if you have any questions. If NCDOT is not contacted by the USFWS within 14 calendar days of the confirmed transmittal, we may proceed under the programmatic consultation.

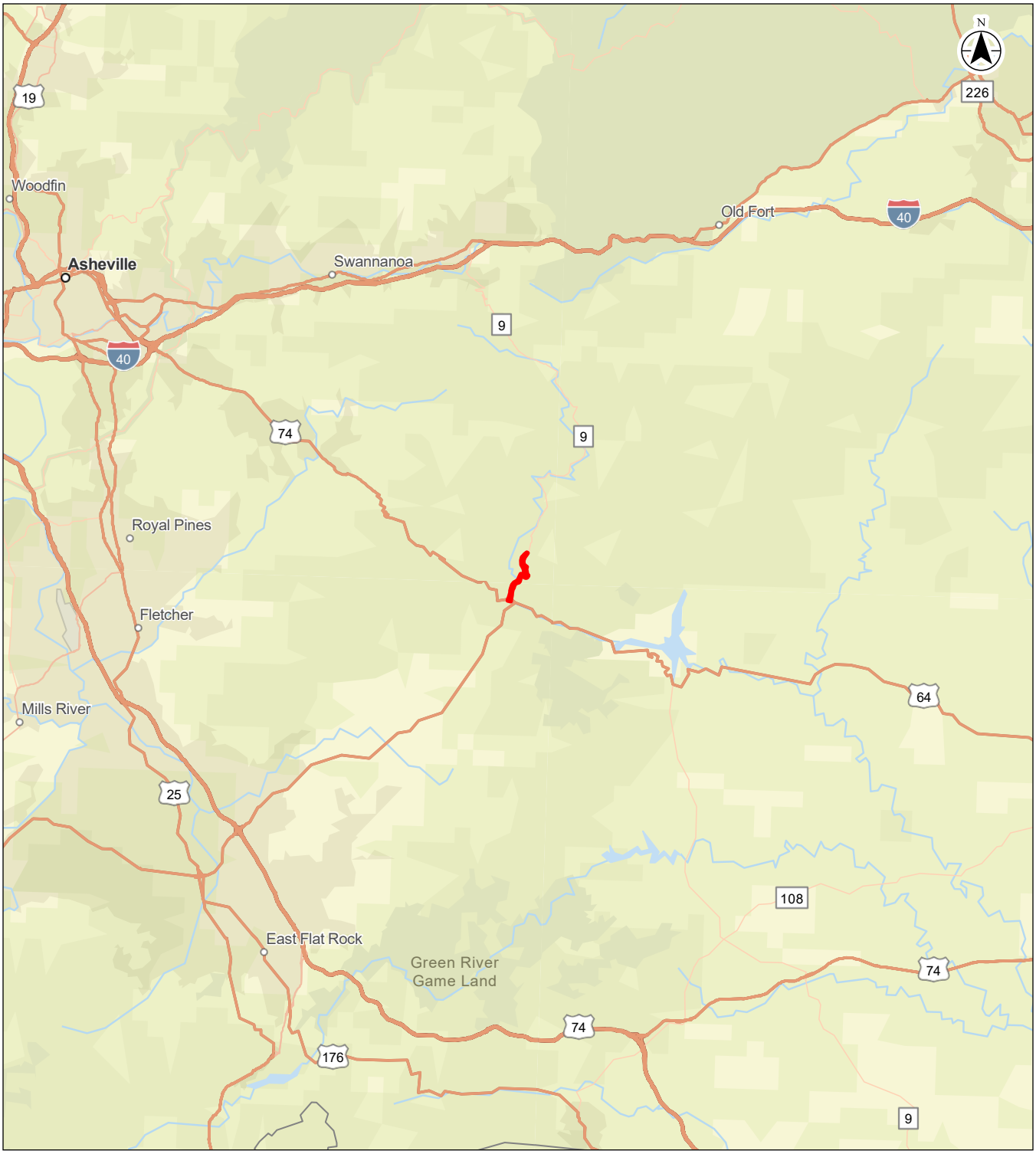
Thank you,

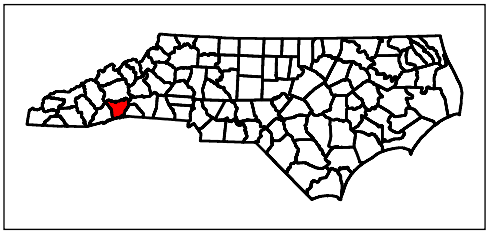
Cheryl Knepp
Terrestrial Team Supervisor
Biological Surveys Group
Environmental Analysis Unit
North Carolina Department of Transportation

919 707 6102 office
919 995 4409 cell
clknepp@ncdot.gov

1000 Birch Ridge Drive
Raleigh, NC 27610
1548 Mail Service Center
Raleigh, NC 27699-1548

Jurisdictional Resources Forms





Legend

Project Study Area (~96.33 AC)

0 2.5 5 Miles

1:300,000 (at original document size of 8.5x11)

Notes
1. Coordinate System: NAD 1983 StatePlane North Carolina FIPS 3200 Feet
2. Base features NCDOT, NC Onemap, ESRI.

NC DEPARTMENT OF TRANSPORTATION
DIVISION 14

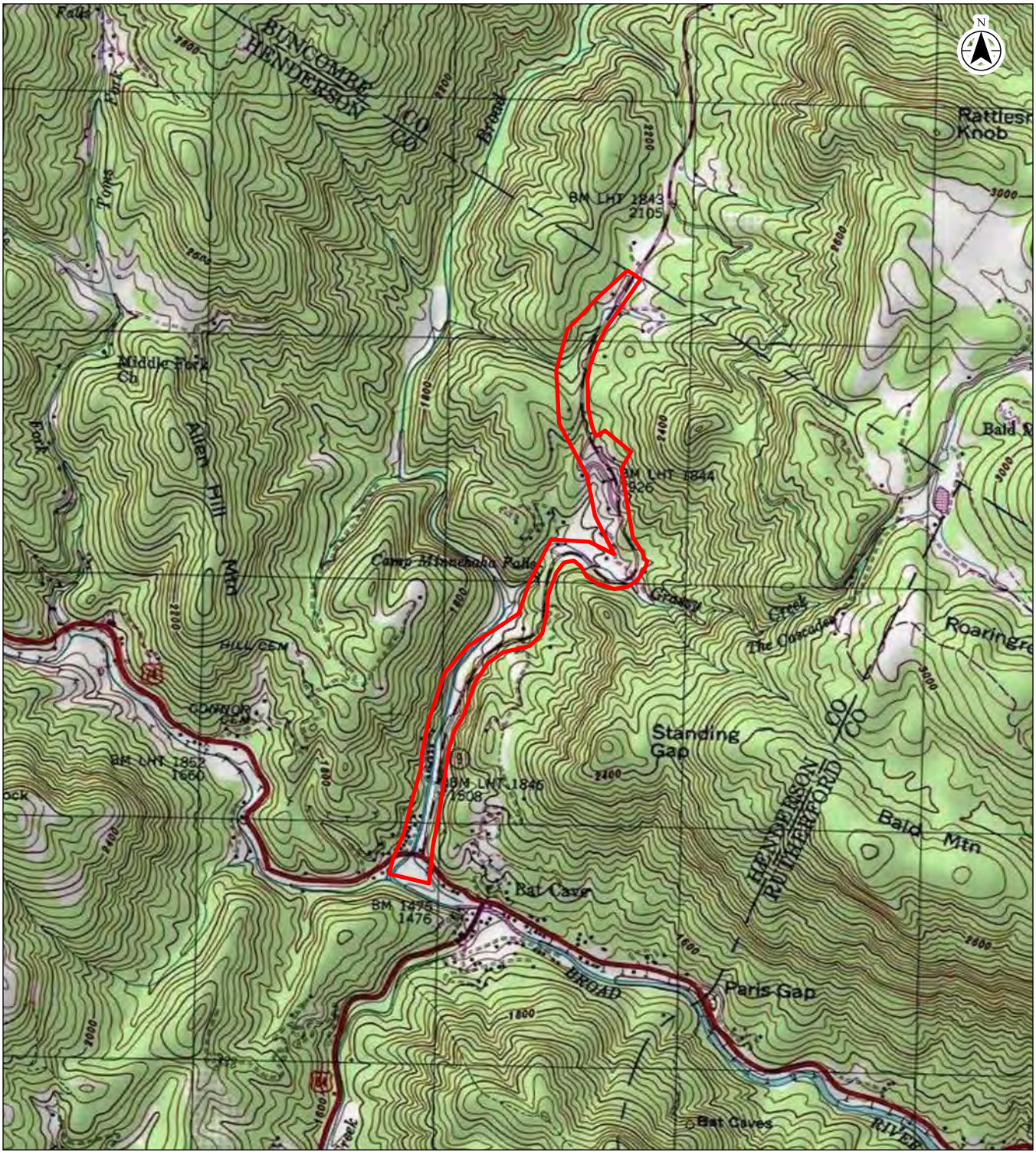
Project Location
Henderson County, NC

Prepared by KLA on 2025-02-26
Technical Review by AM on 2025-03-10
Independent Review by ALC on 2025-03-10

Client/Project
NCDOT - Highway Division 14
NC 9 Helene Repairs
From US-74A (Bat Cave) to Buncombe County Line

Figure No.
1

Title
Vicinity Map



Legend

Project Study Area (~96.33 AC)

0 0.25 0.5 Miles

1:24,000 (at original document size of 8.5x11)

Notes

1. Coordinate System: NAD 1983 StatePlane North Carolina FIPS 3200 Feet
2. Base features NCDOT, NC Onemap, ESRI.

NC DEPARTMENT OF TRANSPORTATION
DIVISION 14

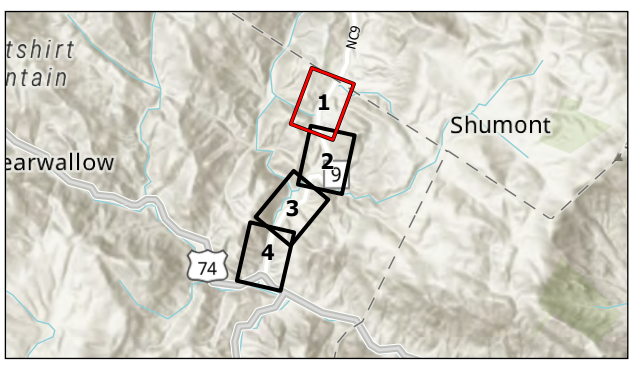
Project Location
Henderson County, NC

Prepared by KLA on 2025-02-26
Technical Review by AM on 2025-03-10
Independent Review by ALC on 2025-03-10

Client/Project
NCDOT - Highway Division 14
NC 9 Helene Repairs
From US-74A (Bat Cave) to Buncombe County Line

Figure No.
2

Title
Topographic Map



Notes

1. Coordinate System: NAD 1983 StatePlane North Carolina FIPS 3200 Feet
2. Base features NCDOT, ESRI. Project aerial photo NCDOT 11/6/2024. Surrounding aerial NCOnemap 2023
3. Field work completed on 02/24/25.

Legend

- Project Study Area
- Intermittent Stream
- Perennial Stream
- Select Pipes / Culverts / Bridges

0 100 200 Feet

1:2,400 (at original document size of 8.5x11)

NC DEPARTMENT OF TRANSPORTATION
DIVISION 14

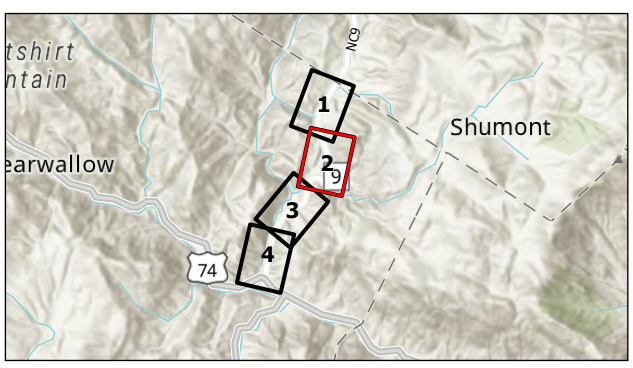
Project Location
Henderson County, NC

Prepared by KLA on 2025-02-26
Technical Review by AM on 2025-02-27
Independent Review by ALC on 2025-02-27

Client/Project
NCDOT - Highway Division 14
NC 9 Helene Repairs
From US-74A (Bat Cave) to Buncombe County Line

Figure No.
3-1

Title
Water Resources Map



Notes
1. Coordinate System: NAD 1983 StatePlane North Carolina FIPS 3200 Feet
2. Base features NCDOT, ESRI. Project aerial photo NCDOT 11/6/2024. Surrounding aerial NCOnemap 2023
3. Field work completed on 02/24/25.

Legend

- Project Study Area
- Intermittent Stream
- Perennial Stream
- Select Pipes / Culverts / Bridges

0 100 200 Feet
1:2,400 (at original document size of 8.5x11)

NC DEPARTMENT OF TRANSPORTATION
DIVISION 14

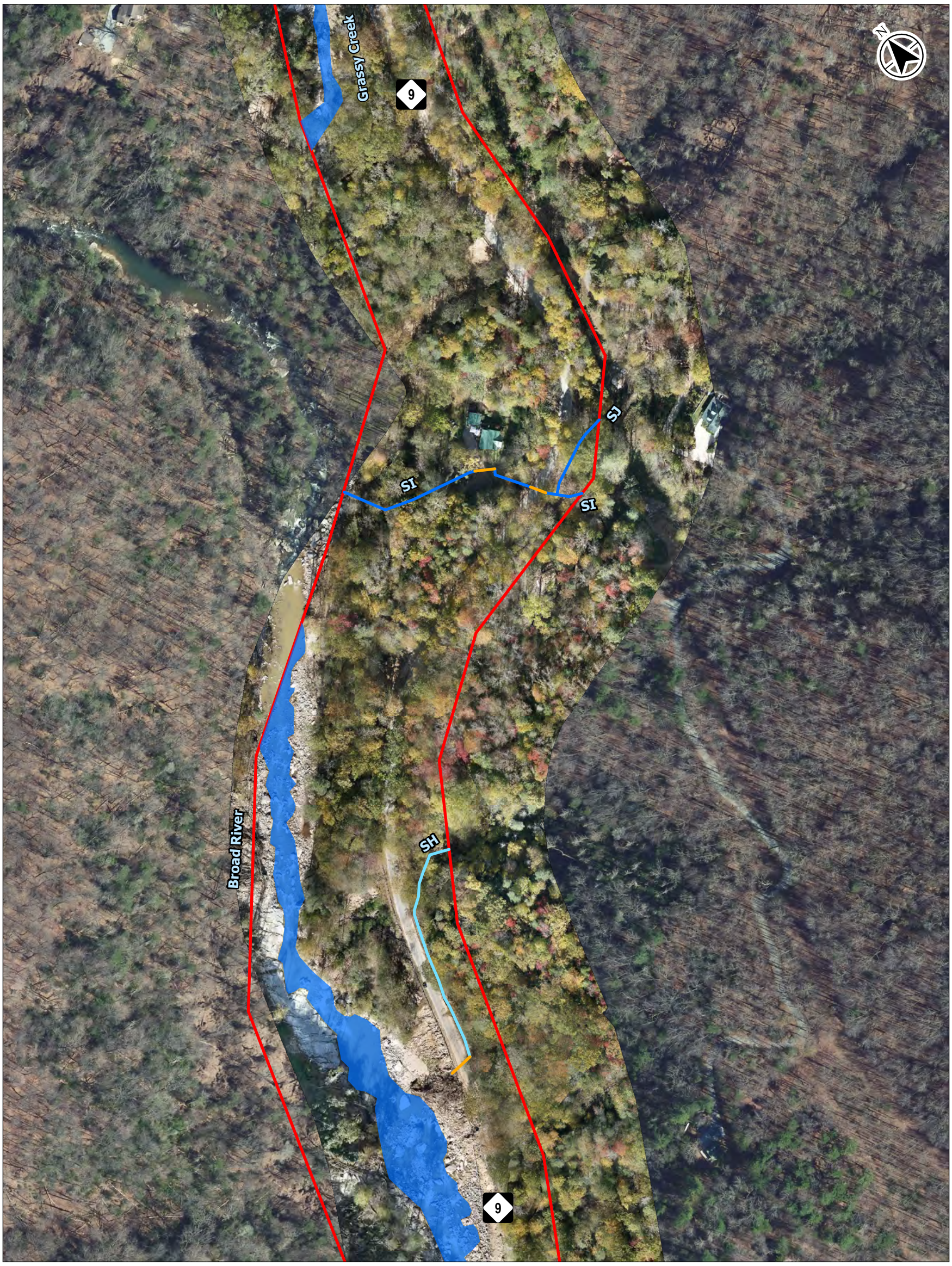
Project Location
Henderson County, NC

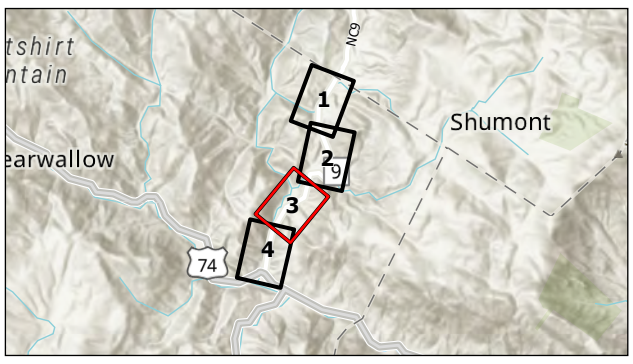
Prepared by KLA on 2025-02-26
Technical Review by AM on 2025-02-27
Independent Review by ALC on 2025-02-27

Client/Project
NCDOT - Highway Division 14
NC 9 Helene Repairs
From US-74A (Bat Cave) to Buncombe County Line

Figure No.
3-2

Title
Water Resources Map





Notes
1. Coordinate System: NAD 1983 StatePlane North Carolina FIPS 3200 Feet
2. Base features NCDOT, ESRI. Project aerial photo NCDOT 11/6/2024. Surrounding aerial NCOnemap 2023
3. Field work completed on 02/24/25.

Legend

- Project Study Area
- Intermittent Stream
- Perennial Stream
- Select Pipes / Culverts / Bridges

0 100 200 Feet
1:2,400 (at original document size of 8.5x11)

NC DEPARTMENT OF TRANSPORTATION
DIVISION 14

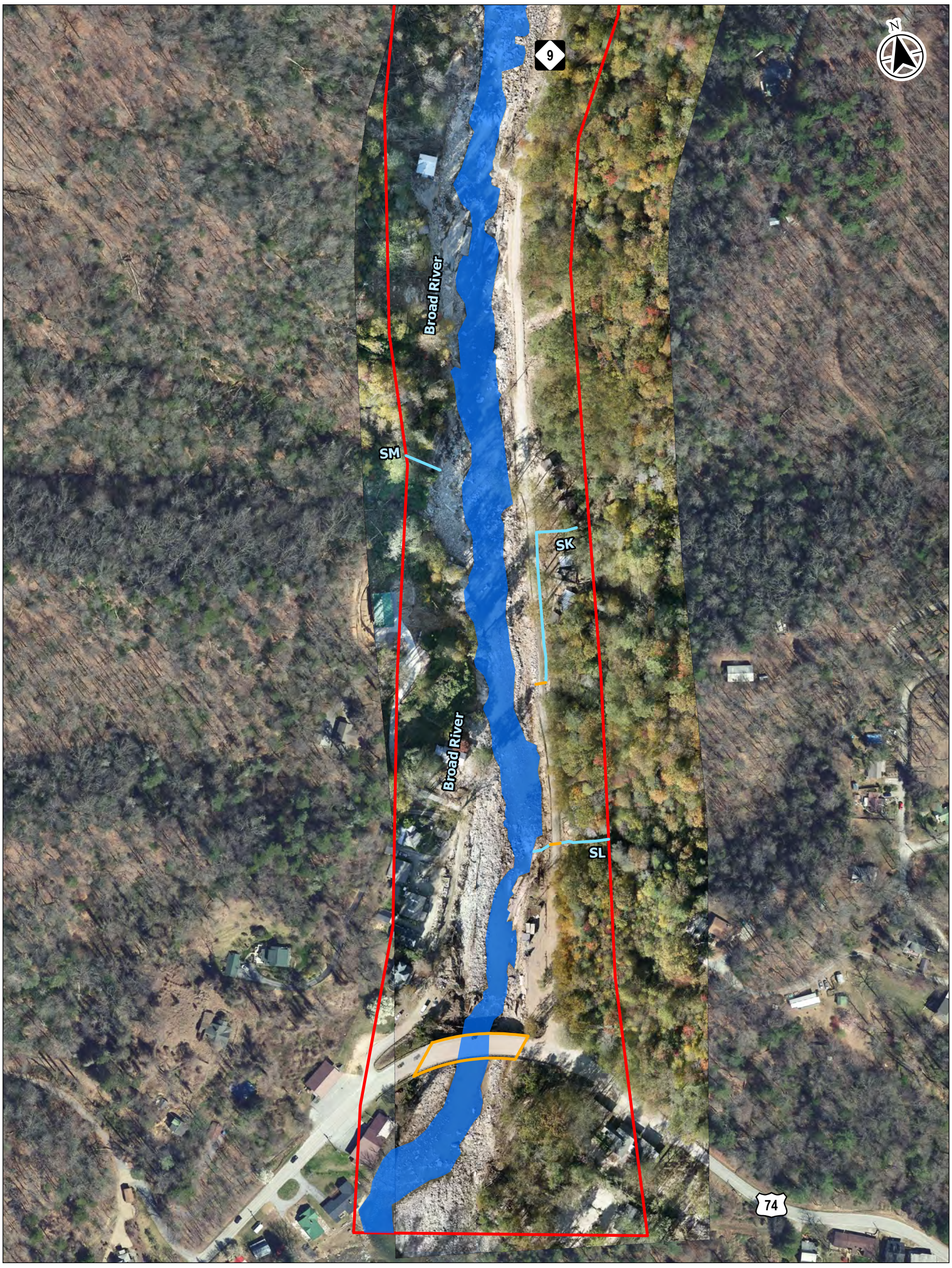
Project Location
Henderson County, NC

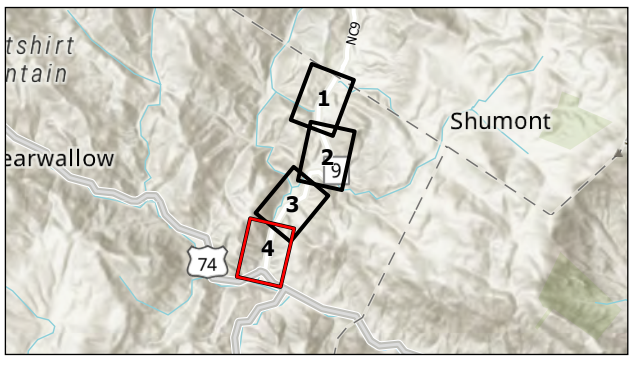
Prepared by KLA on 2025-02-26
Technical Review by AM on 2025-02-27
Independent Review by ALC on 2025-02-27

Client/Project
NCDOT - Highway Division 14
NC 9 Helene Repairs
From US-74A (Bat Cave) to Buncombe County Line

Figure No.
3-3

Title
Water Resources Map





Notes
1. Coordinate System: NAD 1983 StatePlane North Carolina FIPS 3200 Feet
2. Base features NCDOT, ESRI. Project aerial photo NCDOT 11/6/2024. Surrounding aerial NCOnemap 2023
3. Field work completed on 02/24/25.

Legend

- Project Study Area
- Intermittent Stream
- Perennial Stream
- Select Pipes / Culverts / Bridges

0 100 200 Feet

1:2,400 (at original document size of 8.5x11)

NC DEPARTMENT OF TRANSPORTATION
DIVISION 14

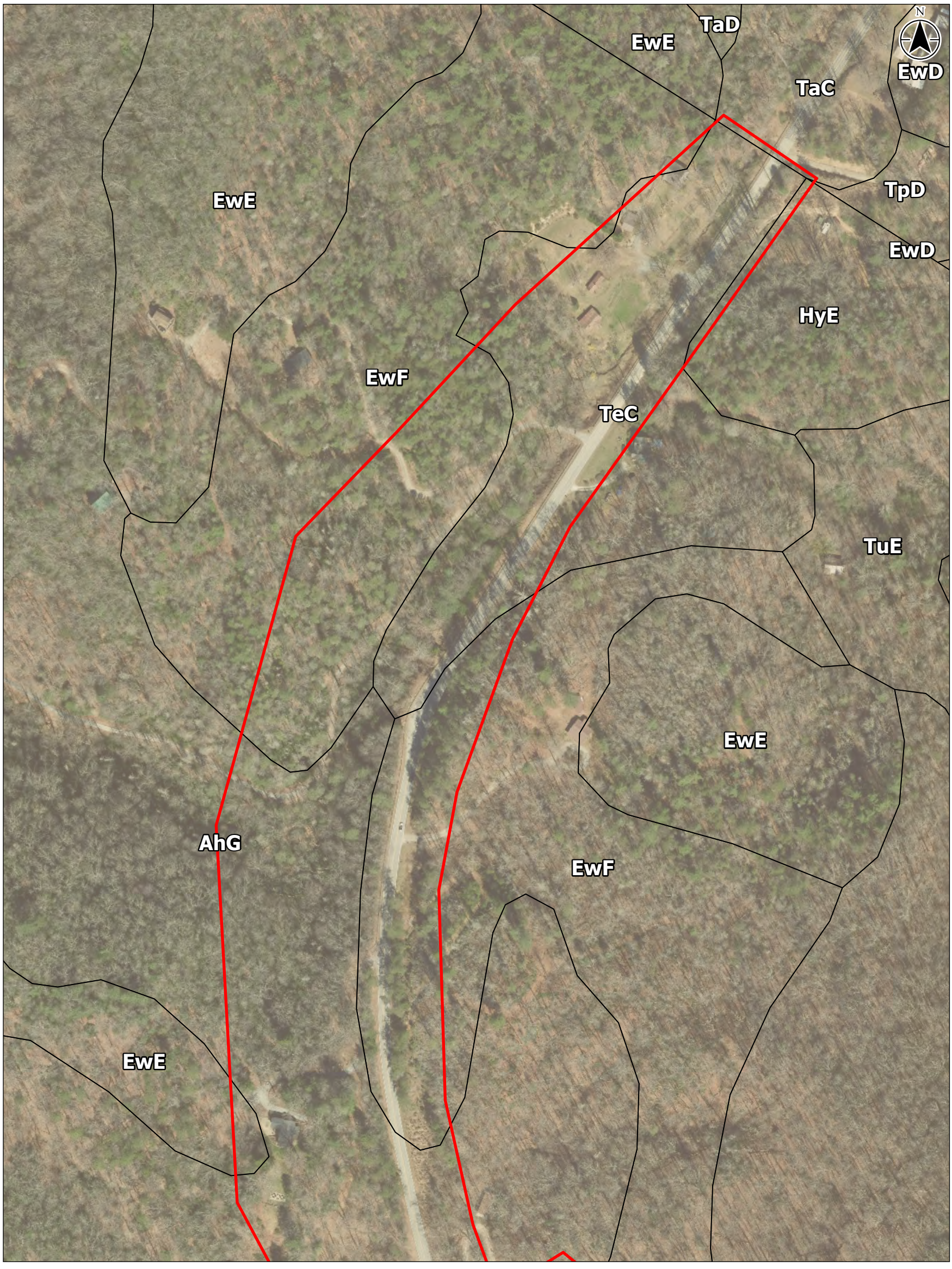
Project Location
Henderson County, NC

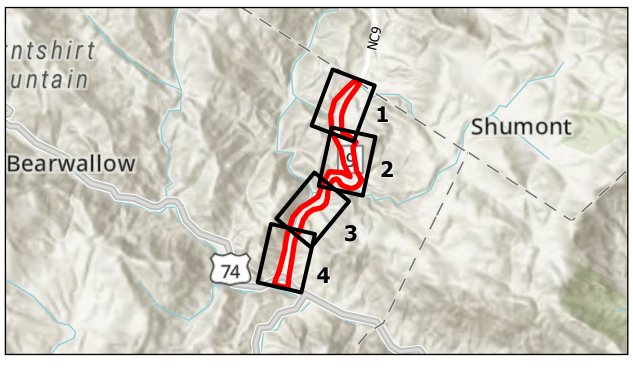
Prepared by KLA on 2025-02-26
Technical Review by AM on 2025-02-27
Independent Review by ALC on 2025-02-27

Client/Project
NCDOT - Highway Division 14
NC 9 Helene Repairs
From US-74A (Bat Cave) to Buncombe County Line

Figure No.
3-4

Title
Water Resources Map





Notes
1. Coordinate System: NAD 1983 StatePlane North Carolina FIPS 3200 Feet
2. Base features NCDOT, NC Onemap, ESRI.

Legend

Project Study Area (~96.33 AC)

Soils

Hydric (1%-32%)

Not Hydric (0%)

0 100 200 Feet

1:2,400 (at original document size of 8.5x11)

AhE	Ashe stony sandy loam, 15 to 25 percent slopes
AhG	Ashe stony sandy loam, 45 to 70 percent slopes
ArG	Ashe-Rock outcrop complex, 15 to 70 percent slopes
Cu	Comus (colvard) fine sandy loam
EwD	Evard-Cowee complex, basin, 15 to 30 percent slopes, stony
EwE	Evard-Cowee complex, basin, 30 to 50 percent slopes, stony
EwF	Evard soils, 25 to 45 percent slopes
HyE	Hayesville loam, 15 to 25 percent slopes
TaC	Tate loam, basin, 8 to 15 percent slopes
TaD	Tate loam, basin, 15 to 30 percent slopes
TeC	Tate fine sandy loam, 7 to 15 percent slopes
TpD	Toecane-Tusquitee complex, 15 to 30 percent slopes, very bouldery
TuE	Tusquitee stony loam, 15 to 25 percent slopes
TuF	Tusquitee stony loam, 25 to 45 percent slopes
TsC	Tusquitee loam, 7 to 15 percent slopes
TsE	Tusquitee loam, 15 to 25 percent slopes

NC DEPARTMENT OF TRANSPORTATION
DIVISION 14

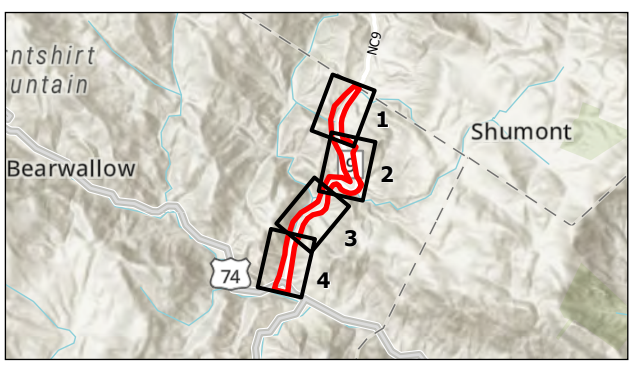
Project Location
Henderson County, NC

Prepared by KLA on 2025-02-26
Technical Review by AM on 2025-02-26
Independent Review by ALC on 2025-02-26

Client/Project
NCDOT - Highway Division 14
NC 9 Helene Repairs
From US-74A (Bat Cave) to Buncombe County Line

Figure No.
4-1

Title
Soils Map



Notes
1. Coordinate System: NAD 1983 StatePlane North Carolina FIPS 3200 Feet
2. Base features NCDOT, NC Onemap, ESRI.

Legend

Project Study Area (~96.33 AC)

Soils

Hydric (1%-32%)

Not Hydric (0%)

0 100 200 Feet

1:2,400 (at original document size of 8.5x11)

AhE	Ashe stony sandy loam, 15 to 25 percent slopes
AhG	Ashe stony sandy loam, 45 to 70 percent slopes
ArG	Ashe-Rock outcrop complex, 15 to 70 percent slopes
Cu	Comus (colvard) fine sandy loam
EwD	Evard-Cowee complex, basin, 15 to 30 percent slopes, stony
EwE	Evard-Cowee complex, basin, 30 to 50 percent slopes, stony
EwF	Evard soils, 25 to 45 percent slopes
HyE	Hayesville loam, 15 to 25 percent slopes
TaC	Tate loam, basin, 8 to 15 percent slopes
TaD	Tate loam, basin, 15 to 30 percent slopes
TeC	Tate fine sandy loam, 7 to 15 percent slopes
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TuE	Tusquitee stony loam, 15 to 25 percent slopes
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TsC	Tusquitee loam, 7 to 15 percent slopes
TsE	Tusquitee loam, 15 to 25 percent slopes

NC DEPARTMENT OF TRANSPORTATION
DIVISION 14

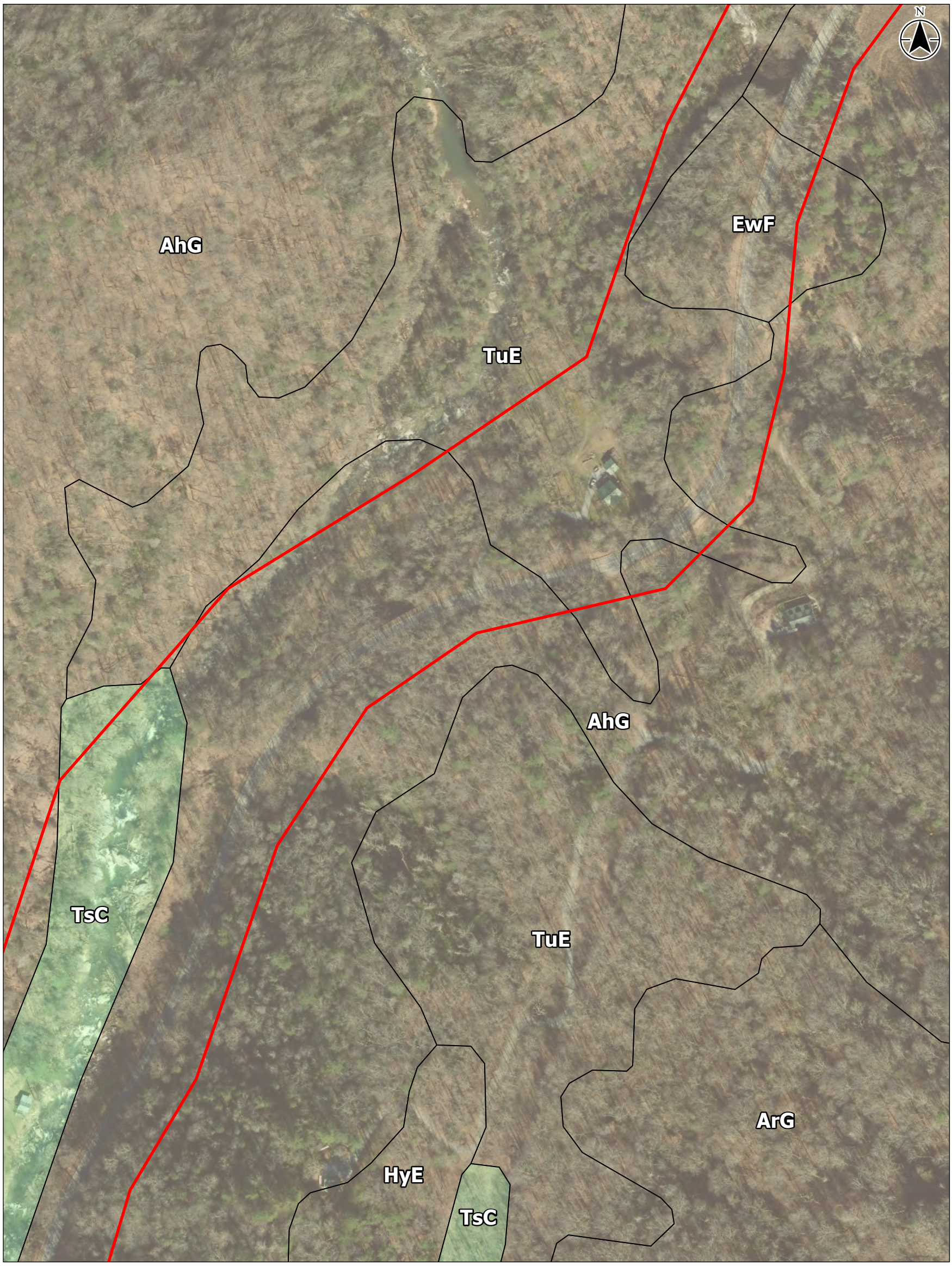
Project Location
Henderson County, NC

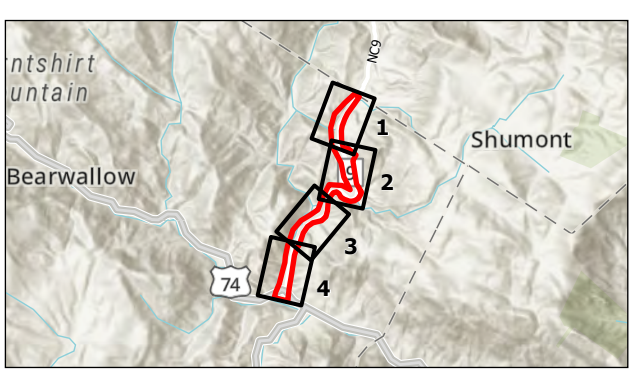
Prepared by KLA on 2025-02-26
Technical Review by AM on 2025-02-26
Independent Review by ALC on 2025-02-26

Client/Project
NCDOT - Highway Division 14
NC 9 Helene Repairs
From US-74A (Bat Cave) to Buncombe County Line

Figure No.
4-2

Title
Soils Map





Legend

Project Study Area (~96.33 AC)

Soils

Hydric (1%-32%)

Not Hydric (0%)

0 100 200 Feet

1:2,400 (at original document size of 8.5x11)

AhE	Ashe stony sandy loam, 15 to 25 percent slopes
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TuE	Tusquitee stony loam, 15 to 25 percent slopes
TuF	Tusquitee stony loam, 25 to 45 percent slopes
TsC	Tusquitee loam, 7 to 15 percent slopes
TsE	Tusquitee loam, 15 to 25 percent slopes

Notes

1. Coordinate System: NAD 1983 StatePlane North Carolina FIPS 3200 Feet
2. Base features NCDOT, NC Onemap, ESRI.

NC DEPARTMENT OF TRANSPORTATION
DIVISION 14

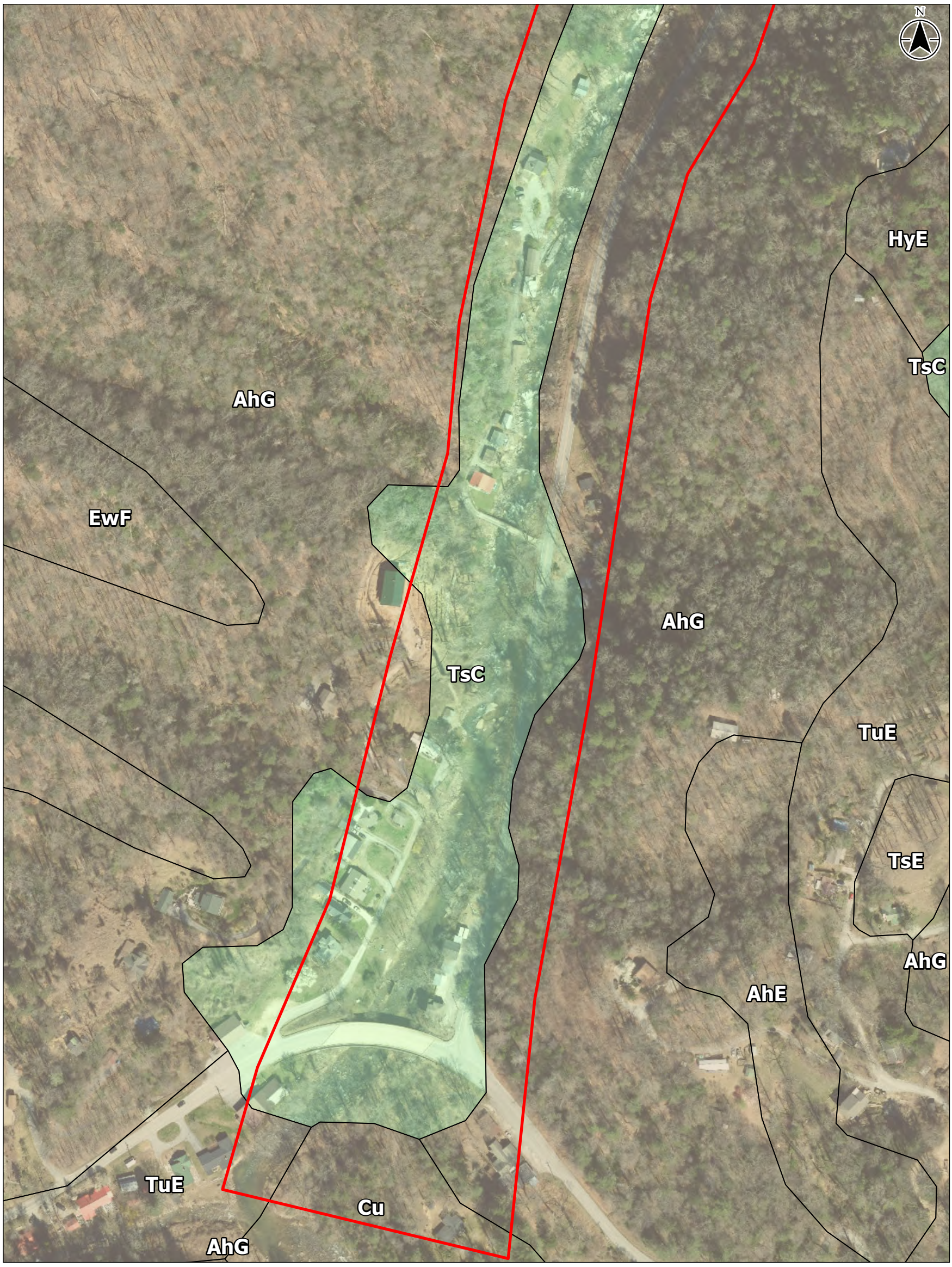
Project Location
Henderson County, NC

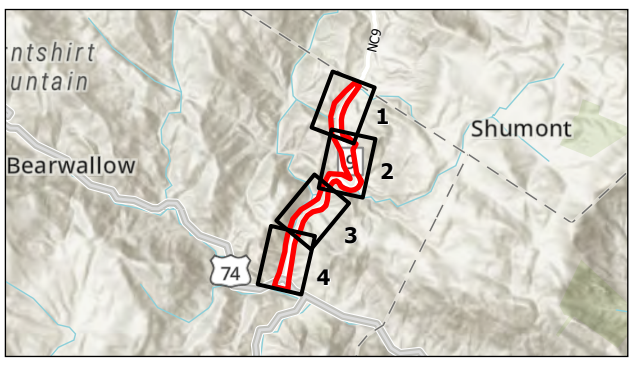
Prepared by KLA on 2025-02-26
Technical Review by AM on 2025-02-26
Independent Review by ALC on 2025-02-26

Client/Project
NCDOT - Highway Division 14
NC 9 Helene Repairs
From US-74A (Bat Cave) to Buncombe County Line

Figure No.
4-3

Title
Soils Map





Notes

1. Coordinate System: NAD 1983 StatePlane North Carolina FIPS 3200 Feet
2. Base features NCDOT, NC Onemap, ESRI.

Legend

Project Study Area (~96.33 AC)

Soils

Hydric (1%-32%)

Not Hydric (0%)

0 100 200 Feet

1:2,400 (at original document size of 8.5x11)

AhE	Ashe stony sandy loam, 15 to 25 percent slopes
AhG	Ashe stony sandy loam, 45 to 70 percent slopes
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EwD	Evard-Cowee complex, basin, 15 to 30 percent slopes, stony
EwE	Evard-Cowee complex, basin, 30 to 50 percent slopes, stony
EwF	Evard soils, 25 to 45 percent slopes
HyE	Hayesville loam, 15 to 25 percent slopes
TaC	Tate loam, basin, 8 to 15 percent slopes
TaD	Tate loam, basin, 15 to 30 percent slopes
TeC	Tate fine sandy loam, 7 to 15 percent slopes
TpD	Toecane-Tusquitee complex, 15 to 30 percent slopes, very bouldery
TuE	Tusquitee stony loam, 15 to 25 percent slopes
TuF	Tusquitee stony loam, 25 to 45 percent slopes
TsC	Tusquitee loam, 7 to 15 percent slopes
TsE	Tusquitee loam, 15 to 25 percent slopes

NC DEPARTMENT OF TRANSPORTATION
DIVISION 14

Project Location
Henderson County, NC

Prepared by KLA on 2025-02-26
Technical Review by AM on 2025-02-26
Independent Review by ALC on 2025-02-26

Client/Project
NCDOT - Highway Division 14
NC 9 Helene Repairs
From US-74A (Bat Cave) to Buncombe County Line

Figure No.
4-4

Title
Soils Map

NC DWQ Stream Identification Form Version 4.11

Date: February 24, 2025	**Project/Site: SA- BAT CAVE**	**Latitude: 35.473904**
Evaluator: TW	**County: Henderson**	**Longitude: -82.282316**
Total Points: 31 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	**Stream Determination: Perennial**	**Other:** e.g. Quad Name:

A. Geomorphology (Subtotal = 12.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of bed and bank	☐ 0	☐ 1	☐ 2	☑ 3
2. Sinuosity of channel along thalweg	☐ 0	☑ 1	☐ 2	☐ 3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	☐ 0	☑ 1	☐ 2	☐ 3
4. Particle size of stream substrate	☐ 0	☐ 1	☑ 2	☐ 3
5. Active/relict floodplain	☐ 0	☑ 1	☐ 2	☐ 3
6. Depositional bars or benches	☐ 0	☑ 1	☐ 2	☐ 3
7. Recent alluvial deposits	☐ 0	☐ 1	☑ 2	☐ 3
8. Headcuts	☐ 0	☑ 1	☐ 2	☐ 3
9. Grade controls	☑ 0	☐ 0.5	☐ 1	☐ 1.5
10. Natural valley	☐ 0	☑ 0.5	☐ 1	☐ 1.5
11. Second or greater order channel	☑ No		☐ Yes	

[a] Man-made ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 9)				
12. Presence of Baseflow	☐ 0	☐ 1	☐ 2	☑ 3
13. Iron oxidizing bacteria	☐ 0	☑ 1	☐ 2	☐ 3
14. Leaf litter	☐ 1.5	☐ 1	☑ 0.5	☐ 0
15. Sediment on plants or debris	☐ 0	☑ 0.5	☐ 1	☐ 1.5
16. Organic debris lines or piles	☐ 0	☐ 0.5	☑ 1	☐ 1.5
17. Soil-based evidence of high water table?	☐ No		☑ Yes	

C. Biology (Subtotal = 9.5)				
18. Fibrous roots in streambed	☑ 3	☐ 2	☐ 1	☐ 0
19. Rooted upland plants in streambed	☑ 3	☐ 2	☐ 1	☐ 0
20. Macrobenthos (note diversity and abundance)	☐ 0	☐ 1	☑ 2	☐ 3
21. Aquatic Mollusks	☑ 0	☐ 1	☐ 2	☐ 3
22. Fish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
23. Crayfish	☐ 0	☑ 0.5	☐ 1	☐ 1.5
24. Amphibians	☐ 0	☐ 0.5	☑ 1	☐ 1.5
25. Algae	☑ 0	☐ 0.5	☐ 1	☐ 1.5
26. Wetland plants in streambed	☐ FACW ☐ OBL ☑ Other			

* perennial streams may also be identified using other methods. See p. 35 of manual

Notes:

Sketch:

Bank Height (ft): 3

Bank full Width (ft): 8

Water Depth (in): 6

NC DWQ Stream Identification Form Version 4.11

Date: February 24, 2025	**Project/Site: SB- batcave**	**Latitude: 35.474437**
Evaluator: am, TW	**County: Henderson**	**Longitude: -82.281422**
Total Points: 21 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	**Stream Determination: Intermittent**	**Other:** e.g. Quad Name:

A. Geomorphology (Subtotal = 10)	Absent	Weak	Moderate	Strong
1[a]. Continuity of bed and bank	☐ 0	☑ 1	☐ 2	☐ 3
2. Sinuosity of channel along thalweg	☑ 0	☐ 1	☐ 2	☐ 3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	☐ 0	☑ 1	☐ 2	☐ 3
4. Particle size of stream substrate	☐ 0	☑ 1	☐ 2	☐ 3
5. Active/relict floodplain	☑ 0	☐ 1	☐ 2	☐ 3
6. Depositional bars or benches	☑ 0	☐ 1	☐ 2	☐ 3
7. Recent alluvial deposits	☐ 0	☑ 1	☐ 2	☐ 3
8. Headcuts	☐ 0	☐ 1	☐ 2	☑ 3
9. Grade controls	☐ 0	☐ 0.5	☐ 1	☑ 1.5
10. Natural valley	☐ 0	☐ 0.5	☐ 1	☑ 1.5
11. Second or greater order channel	☑ No		☐ Yes	

[a] Man-made ditches are not rated; see discussions in manual

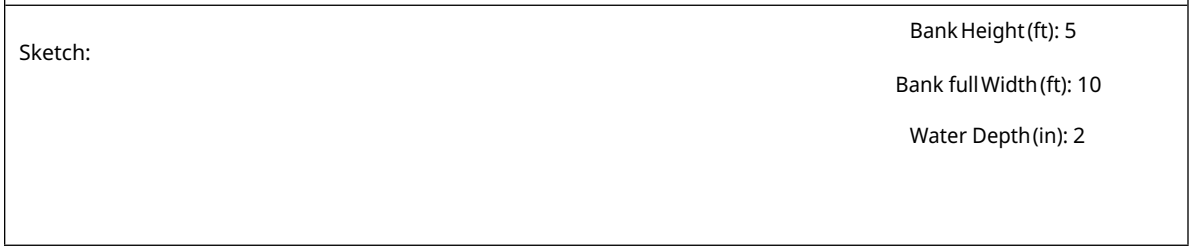
B. Hydrology (Subtotal = 5)				
12. Presence of Baseflow	☐ 0	☐ 1	☑ 2	☐ 3
13. Iron oxidizing bacteria	☑ 0	☐ 1	☐ 2	☐ 3
14. Leaf litter	☐ 1.5	☐ 1	☐ 0.5	☑ 0
15. Sediment on plants or debris	☑ 0	☐ 0.5	☐ 1	☐ 1.5
16. Organic debris lines or piles	☑ 0	☐ 0.5	☐ 1	☐ 1.5
17. Soil-based evidence of high water table?	☐ No		☑ Yes	

C. Biology (Subtotal = 6)				
18. Fibrous roots in streambed	☑ 3	☐ 2	☐ 1	☐ 0
19. Rooted upland plants in streambed	☑ 3	☐ 2	☐ 1	☐ 0
20. Macrobenthos (note diversity and abundance)	☑ 0	☐ 1	☐ 2	☐ 3
21. Aquatic Mollusks	☑ 0	☐ 1	☐ 2	☐ 3
22. Fish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
23. Crayfish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
24. Amphibians	☑ 0	☐ 0.5	☐ 1	☐ 1.5
25. Algae	☑ 0	☐ 0.5	☐ 1	☐ 1.5
26. Wetland plants in streambed	☐ FACW ☐ OBL ☑ Other			

* perennial streams may also be identified using other methods. See p. 35 of manual

Notes:

Sketch:



NC DWQ Stream Identification Form Version 4.11

Date: February 24, 2025	**Project/Site: SC- Bat cave**	**Latitude: 35.474214**
Evaluator: TW	**County: Henderson**	**Longitude: -82.282337**
Total Points: 24.5 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	**Stream Determination: Intermittent**	**Other:** e.g. Quad Name:

A. Geomorphology (Subtotal = 13.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of bed and bank	☐ 0	☐ 1	☐ 2	☑ 3
2. Sinuosity of channel along thalweg	☑ 0	☐ 1	☐ 2	☐ 3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	☐ 0	☑ 1	☐ 2	☐ 3
4. Particle size of stream substrate	☐ 0	☑ 1	☐ 2	☐ 3
5. Active/relict floodplain	☑ 0	☐ 1	☐ 2	☐ 3
6. Depositional bars or benches	☐ 0	☐ 1	☐ 2	☑ 3
7. Recent alluvial deposits	☐ 0	☐ 1	☐ 2	☑ 3
8. Headcuts	☐ 0	☑ 1	☐ 2	☐ 3
9. Grade controls	☑ 0	☐ 0.5	☐ 1	☐ 1.5
10. Natural valley	☐ 0	☐ 0.5	☐ 1	☑ 1.5
11. Second or greater order channel	☑ No		☐ Yes	

[a] Man-made ditches are not rated; see discussions in manual

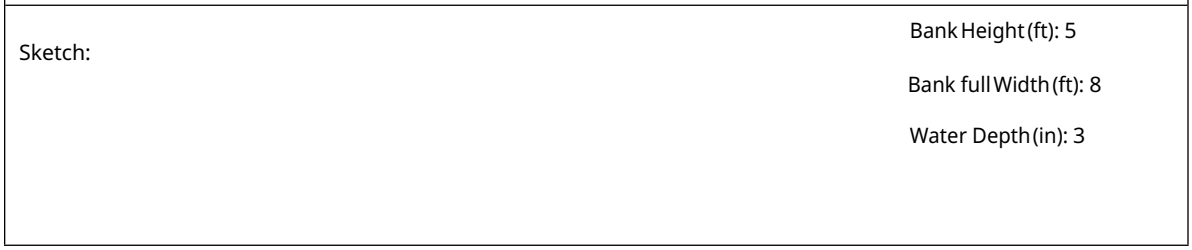
B. Hydrology (Subtotal = 8)				
12. Presence of Baseflow	☐ 0	☐ 1	☑ 2	☐ 3
13. Iron oxidizing bacteria	☑ 0	☐ 1	☐ 2	☐ 3
14. Leaf litter	☑ 1.5	☐ 1	☐ 0.5	☐ 0
15. Sediment on plants or debris	☐ 0	☐ 0.5	☐ 1	☑ 1.5
16. Organic debris lines or piles	☑ 0	☐ 0.5	☐ 1	☐ 1.5
17. Soil-based evidence of high water table?	☐ No		☑ Yes	

C. Biology (Subtotal = 3)				
18. Fibrous roots in streambed	☑ 3	☐ 2	☐ 1	☐ 0
19. Rooted upland plants in streambed	☐ 3	☐ 2	☐ 1	☑ 0
20. Macrobenthos (note diversity and abundance)	☑ 0	☐ 1	☐ 2	☐ 3
21. Aquatic Mollusks	☑ 0	☐ 1	☐ 2	☐ 3
22. Fish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
23. Crayfish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
24. Amphibians	☑ 0	☐ 0.5	☐ 1	☐ 1.5
25. Algae	☑ 0	☐ 0.5	☐ 1	☐ 1.5
26. Wetland plants in streambed	☐ FACW ☐ OBL ☑ Other			

* perennial streams may also be identified using other methods. See p. 35 of manual

Notes:

Sketch:



Bank Height (ft): 5

Bank full Width (ft): 8

Water Depth (in): 3

NC DWQ Stream Identification Form Version 4.11

Date: February 24, 2025	**Project/Site: SD-bat cave**	**Latitude: 35.471641**
Evaluator: TW	**County: Henderson**	**Longitude: -82.283988**
Total Points: 42.5 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	**Stream Determination: Perennial**	**Other:** e.g. Quad Name:

A. Geomorphology (Subtotal = 25.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of bed and bank	☐ 0	☐ 1	☐ 2	☑ 3
2. Sinuosity of channel along thalweg	☐ 0	☐ 1	☑ 2	☐ 3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	☐ 0	☐ 1	☐ 2	☑ 3
4. Particle size of stream substrate	☐ 0	☐ 1	☐ 2	☑ 3
5. Active/relict floodplain	☐ 0	☐ 1	☑ 2	☐ 3
6. Depositional bars or benches	☐ 0	☐ 1	☑ 2	☐ 3
7. Recent alluvial deposits	☐ 0	☐ 1	☑ 2	☐ 3
8. Headcuts	☐ 0	☐ 1	☐ 2	☑ 3
9. Grade controls	☐ 0	☐ 0.5	☑ 1	☐ 1.5
10. Natural valley	☐ 0	☐ 0.5	☐ 1	☑ 1.5
11. Second or greater order channel	☐ No		☑ Yes	

[a] Man-made ditches are not rated; see discussions in manual

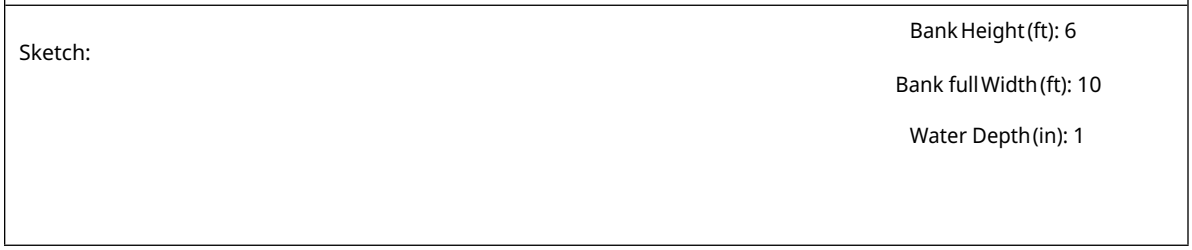
B. Hydrology (Subtotal = 8.5)				
12. Presence of Baseflow	☐ 0	☐ 1	☐ 2	☑ 3
13. Iron oxidizing bacteria	☑ 0	☐ 1	☐ 2	☐ 3
14. Leaf litter	☐ 1.5	☐ 1	☑ 0.5	☐ 0
15. Sediment on plants or debris	☐ 0	☐ 0.5	☑ 1	☐ 1.5
16. Organic debris lines or piles	☐ 0	☐ 0.5	☑ 1	☐ 1.5
17. Soil-based evidence of high water table?	☐ No		☑ Yes	

C. Biology (Subtotal = 8.5)				
18. Fibrous roots in streambed	☑ 3	☐ 2	☐ 1	☐ 0
19. Rooted upland plants in streambed	☑ 3	☐ 2	☐ 1	☐ 0
20. Macrobenthos (note diversity and abundance)	☐ 0	☐ 1	☑ 2	☐ 3
21. Aquatic Mollusks	☑ 0	☐ 1	☐ 2	☐ 3
22. Fish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
23. Crayfish	☐ 0	☑ 0.5	☐ 1	☐ 1.5
24. Amphibians	☑ 0	☐ 0.5	☐ 1	☐ 1.5
25. Algae	☑ 0	☐ 0.5	☐ 1	☐ 1.5
26. Wetland plants in streambed	☐ FACW ☐ OBL ☑ Other			

* perennial streams may also be identified using other methods. See p. 35 of manual

Notes: Stream intact near roadway gets blown out by dammed steep slopes OHWM lost

Sketch:



Bank Height (ft): 6

Bank full Width (ft): 10

Water Depth (in): 1

NC DWQ Stream Identification Form Version 4.11

Date: February 24, 2025	**Project/Site: SE-Bat cave**	**Latitude: 35.473370**
Evaluator: TW	**County: Henderson**	**Longitude: -82.282544**
Total Points: 24 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	**Stream Determination: Intermittent**	**Other:** e.g. Quad Name:

A. Geomorphology (Subtotal = 10.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of bed and bank	☐ 0	☐ 1	☐ 2	☑ 3
2. Sinuosity of channel along thalweg	☐ 0	☑ 1	☐ 2	☐ 3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	☑ 0	☐ 1	☐ 2	☐ 3
4. Particle size of stream substrate	☐ 0	☑ 1	☐ 2	☐ 3
5. Active/relict floodplain	☐ 0	☑ 1	☐ 2	☐ 3
6. Depositional bars or benches	☐ 0	☐ 1	☑ 2	☐ 3
7. Recent alluvial deposits	☑ 0	☐ 1	☐ 2	☐ 3
8. Headcuts	☐ 0	☑ 1	☐ 2	☐ 3
9. Grade controls	☑ 0	☐ 0.5	☐ 1	☐ 1.5
10. Natural valley	☐ 0	☐ 0.5	☐ 1	☑ 1.5
11. Second or greater order channel	☑ No		☐ Yes	

[a] Man-made ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 7)				
12. Presence of Baseflow	☐ 0	☐ 1	☑ 2	☐ 3
13. Iron oxidizing bacteria	☑ 0	☐ 1	☐ 2	☐ 3
14. Leaf litter	☑ 1.5	☐ 1	☐ 0.5	☐ 0
15. Sediment on plants or debris	☐ 0	☑ 0.5	☐ 1	☐ 1.5
16. Organic debris lines or piles	☑ 0	☐ 0.5	☐ 1	☐ 1.5
17. Soil-based evidence of high water table?	☐ No		☑ Yes	

C. Biology (Subtotal = 6.5)				
18. Fibrous roots in streambed	☑ 3	☐ 2	☐ 1	☐ 0
19. Rooted upland plants in streambed	☐ 3	☑ 2	☐ 1	☐ 0
20. Macrobenthos (note diversity and abundance)	☐ 0	☑ 1	☐ 2	☐ 3
21. Aquatic Mollusks	☑ 0	☐ 1	☐ 2	☐ 3
22. Fish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
23. Crayfish	☐ 0	☑ 0.5	☐ 1	☐ 1.5
24. Amphibians	☑ 0	☐ 0.5	☐ 1	☐ 1.5
25. Algae	☑ 0	☐ 0.5	☐ 1	☐ 1.5
26. Wetland plants in streambed	☐ FACW ☐ OBL ☑ Other			

* perennial streams may also be identified using other methods. See p. 35 of manual

Notes:

Sketch:

Bank Height (ft): 2

Bank full Width (ft): 4

Water Depth (in): 1

NC DWQ Stream Identification Form Version 4.11

Date: February 24, 2025	**Project/Site: NC 9 SG Downstream**	**Latitude: 35.464229**
Evaluator: AM	**County: Henderson**	**Longitude: -82.281204**
Total Points: 38.5 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	**Stream Determination: Perennial**	**Other:** e.g. Quad Name:

A. Geomorphology (Subtotal = 22)	Absent	Weak	Moderate	Strong
1[a]. Continuity of bed and bank	☐ 0	☐ 1	☑ 2	☐ 3
2. Sinuosity of channel along thalweg	☐ 0	☐ 1	☑ 2	☐ 3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	☐ 0	☐ 1	☑ 2	☐ 3
4. Particle size of stream substrate	☐ 0	☐ 1	☑ 2	☐ 3
5. Active/relict floodplain	☐ 0	☑ 1	☐ 2	☐ 3
6. Depositional bars or benches	☐ 0	☐ 1	☐ 2	☑ 3
7. Recent alluvial deposits	☐ 0	☐ 1	☐ 2	☑ 3
8. Headcuts	☐ 0	☐ 1	☑ 2	☐ 3
9. Grade controls	☐ 0	☐ 0.5	☑ 1	☐ 1.5
10. Natural valley	☐ 0	☐ 0.5	☑ 1	☐ 1.5
11. Second or greater order channel	☐ No		☑ Yes	

[a] Man-made ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 10.5)				
12. Presence of Baseflow	☐ 0	☐ 1	☐ 2	☑ 3
13. Iron oxidizing bacteria	☐ 0	☑ 1	☐ 2	☐ 3
14. Leaf litter	☑ 1.5	☐ 1	☐ 0.5	☐ 0
15. Sediment on plants or debris	☐ 0	☑ 0.5	☐ 1	☐ 1.5
16. Organic debris lines or piles	☐ 0	☐ 0.5	☐ 1	☑ 1.5
17. Soil-based evidence of high water table?	☐ No		☑ Yes	

C. Biology (Subtotal = 6)				
18. Fibrous roots in streambed	☑ 3	☐ 2	☐ 1	☐ 0
19. Rooted upland plants in streambed	☑ 3	☐ 2	☐ 1	☐ 0
20. Macrobenthos (note diversity and abundance)	☑ 0	☐ 1	☐ 2	☐ 3
21. Aquatic Mollusks	☑ 0	☐ 1	☐ 2	☐ 3
22. Fish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
23. Crayfish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
24. Amphibians	☑ 0	☐ 0.5	☐ 1	☐ 1.5
25. Algae	☑ 0	☐ 0.5	☐ 1	☐ 1.5
26. Wetland plants in streambed	☐ FACW ☐ OBL ☑ Other			

* perennial streams may also be identified using other methods. See p. 35 of manual

Notes: Stream SF completely blown out. Car sized boulders near stream. Totally eroded. Piles of LWM. Downstream

Sketch:

Bank Height (ft): 2

Bank full Width (ft): 3

Water Depth (in): 4

NC DWQ Stream Identification Form Version 4.11

Date: February 24, 2025	**Project/Site:** SF_Upstream	**Latitude:** 35.464617
Evaluator: AM	**County:** Henderson	**Longitude:** -82.280262
Total Points: 30.5 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	**Stream Determination:** Perennial	**Other:** e.g. Quad Name:

A. Geomorphology (Subtotal = 16)	Absent	Weak	Moderate	Strong
1[a]. Continuity of bed and bank	☐ 0	☐ 1	☑ 2	☐ 3
2. Sinuosity of channel along thalweg	☐ 0	☐ 1	☑ 2	☐ 3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	☐ 0	☑ 1	☐ 2	☐ 3
4. Particle size of stream substrate	☐ 0	☐ 1	☑ 2	☐ 3
5. Active/relict floodplain	☐ 0	☐ 1	☑ 2	☐ 3
6. Depositional bars or benches	☐ 0	☐ 1	☑ 2	☐ 3
7. Recent alluvial deposits	☐ 0	☐ 1	☑ 2	☐ 3
8. Headcuts	☐ 0	☑ 1	☐ 2	☐ 3
9. Grade controls	☐ 0	☐ 0.5	☑ 1	☐ 1.5
10. Natural valley	☐ 0	☐ 0.5	☑ 1	☐ 1.5
11. Second or greater order channel	☑ No		☐ Yes	

[a] Man-made ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 8.5)				
12. Presence of Baseflow	☐ 0	☐ 1	☑ 2	☐ 3
13. Iron oxidizing bacteria	☑ 0	☐ 1	☐ 2	☐ 3
14. Leaf litter	☑ 1.5	☐ 1	☐ 0.5	☐ 0
15. Sediment on plants or debris	☐ 0	☑ 0.5	☐ 1	☐ 1.5
16. Organic debris lines or piles	☐ 0	☐ 0.5	☐ 1	☑ 1.5
17. Soil-based evidence of high water table?	☐ No		☑ Yes	

C. Biology (Subtotal = 6)				
18. Fibrous roots in streambed	☑ 3	☐ 2	☐ 1	☐ 0
19. Rooted upland plants in streambed	☑ 3	☐ 2	☐ 1	☐ 0
20. Macrobenthos (note diversity and abundance)	☑ 0	☐ 1	☐ 2	☐ 3
21. Aquatic Mollusks	☑ 0	☐ 1	☐ 2	☐ 3
22. Fish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
23. Crayfish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
24. Amphibians	☑ 0	☐ 0.5	☐ 1	☐ 1.5
25. Algae	☑ 0	☐ 0.5	☐ 1	☐ 1.5
26. Wetland plants in streambed	☐ FACW ☐ OBL ☑ Other			

* perennial streams may also be identified using other methods. See p. 35 of manual

Notes: Heavy erosion and disturbance from Helene. OHWM and flow pattern re-forming

Sketch:

Bank Height (ft): 0.5

Bank full Width (ft): 4

Water Depth (in): 2

NC DWQ Stream Identification Form Version 4.11

Date: February 24, 2025	**Project/Site: NC-9 SG**	**Latitude: 35.464185**
Evaluator: AM	**County: Henderson**	**Longitude: -82.280336**
Total Points: 35 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	**Stream Determination: Perennial**	**Other:** e.g. Quad Name:

A. Geomorphology (Subtotal = 20)	Absent	Weak	Moderate	Strong
1[a]. Continuity of bed and bank	☐ 0	☐ 1	☐ 2	☑ 3
2. Sinuosity of channel along thalweg	☐ 0	☐ 1	☑ 2	☐ 3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	☐ 0	☐ 1	☐ 2	☑ 3
4. Particle size of stream substrate	☐ 0	☐ 1	☐ 2	☑ 3
5. Active/relict floodplain	☑ 0	☐ 1	☐ 2	☐ 3
6. Depositional bars or benches	☐ 0	☑ 1	☐ 2	☐ 3
7. Recent alluvial deposits	☐ 0	☑ 1	☐ 2	☐ 3
8. Headcuts	☐ 0	☐ 1	☑ 2	☐ 3
9. Grade controls	☐ 0	☐ 0.5	☑ 1	☐ 1.5
10. Natural valley	☐ 0	☐ 0.5	☑ 1	☐ 1.5
11. Second or greater order channel	☐ No		☑ Yes	

[a] Man-made ditches are not rated; see discussions in manual

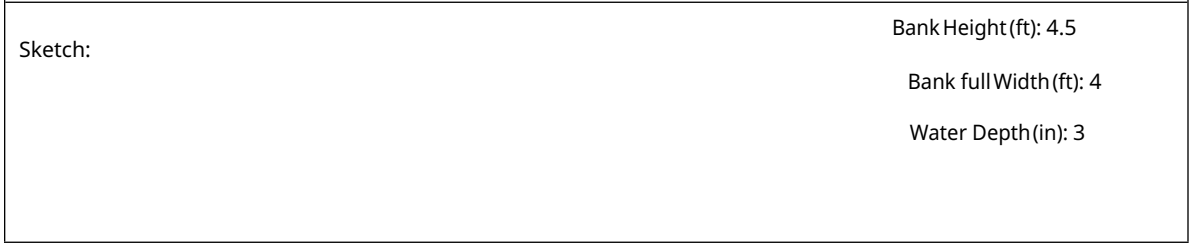
B. Hydrology (Subtotal = 8.5)				
12. Presence of Baseflow	☐ 0	☐ 1	☐ 2	☑ 3
13. Iron oxidizing bacteria	☑ 0	☐ 1	☐ 2	☐ 3
14. Leaf litter	☐ 1.5	☑ 1	☐ 0.5	☐ 0
15. Sediment on plants or debris	☐ 0	☑ 0.5	☐ 1	☐ 1.5
16. Organic debris lines or piles	☐ 0	☐ 0.5	☑ 1	☐ 1.5
17. Soil-based evidence of high water table?	☐ No		☑ Yes	

C. Biology (Subtotal = 6.5)				
18. Fibrous roots in streambed	☑ 3	☐ 2	☐ 1	☐ 0
19. Rooted upland plants in streambed	☑ 3	☐ 2	☐ 1	☐ 0
20. Macrobenthos (note diversity and abundance)	☑ 0	☐ 1	☐ 2	☐ 3
21. Aquatic Mollusks	☑ 0	☐ 1	☐ 2	☐ 3
22. Fish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
23. Crayfish	☐ 0	☑ 0.5	☐ 1	☐ 1.5
24. Amphibians	☑ 0	☐ 0.5	☐ 1	☐ 1.5
25. Algae	☑ 0	☐ 0.5	☐ 1	☐ 1.5
26. Wetland plants in streambed	☐ FACW ☐ OBL ☑ Other			

* perennial streams may also be identified using other methods. See p. 35 of manual

Notes: SG is perennial stream on side of house. Lots of bedrock and headcuts. Downstream Blown out and outlets

Sketch:



Bank Height (ft): 4.5

Bank full Width (ft): 4

Water Depth (in): 3

NC DWQ Stream Identification Form Version 4.11

Date: February 24, 2025	**Project/Site:** SH	**Latitude:** 35.459695
Evaluator: AM	**County: Henderson**	**Longitude:** -82.288010
Total Points: 21.5 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	**Stream Determination: Intermittent**	**Other:** e.g. Quad Name:

A. Geomorphology (Subtotal = 9)	Absent	Weak	Moderate	Strong
1[a]. Continuity of bed and bank	☐ 0	☑ 1	☐ 2	☐ 3
2. Sinuosity of channel along thalweg	☐ 0	☑ 1	☐ 2	☐ 3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	☐ 0	☑ 1	☐ 2	☐ 3
4. Particle size of stream substrate	☑ 0	☐ 1	☐ 2	☐ 3
5. Active/relict floodplain	☑ 0	☐ 1	☐ 2	☐ 3
6. Depositional bars or benches	☐ 0	☐ 1	☑ 2	☐ 3
7. Recent alluvial deposits	☐ 0	☐ 1	☑ 2	☐ 3
8. Headcuts	☐ 0	☑ 1	☐ 2	☐ 3
9. Grade controls	☐ 0	☑ 0.5	☐ 1	☐ 1.5
10. Natural valley	☐ 0	☑ 0.5	☐ 1	☐ 1.5
11. Second or greater order channel	☑ No		☐ Yes	

[a] Man-made ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 7.5)				
12. Presence of Baseflow	☐ 0	☐ 1	☑ 2	☐ 3
13. Iron oxidizing bacteria	☑ 0	☐ 1	☐ 2	☐ 3
14. Leaf litter	☑ 1.5	☐ 1	☐ 0.5	☐ 0
15. Sediment on plants or debris	☐ 0	☑ 0.5	☐ 1	☐ 1.5
16. Organic debris lines or piles	☐ 0	☑ 0.5	☐ 1	☐ 1.5
17. Soil-based evidence of high water table?	☐ No		☑ Yes	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	☐ 3	☑ 2	☐ 1	☐ 0
19. Rooted upland plants in streambed	☑ 3	☐ 2	☐ 1	☐ 0
20. Macrobenthos (note diversity and abundance)	☑ 0	☐ 1	☐ 2	☐ 3
21. Aquatic Mollusks	☑ 0	☐ 1	☐ 2	☐ 3
22. Fish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
23. Crayfish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
24. Amphibians	☑ 0	☐ 0.5	☐ 1	☐ 1.5
25. Algae	☑ 0	☐ 0.5	☐ 1	☐ 1.5
26. Wetland plants in streambed	☐ FACW ☐ OBL ☑ Other			

* perennial streams may also be identified using other methods. See p. 35 of manual

Notes: Heavily disturbed channel. Evidence of grading and clearing. Little veg. Barely an OHWM but starting to

Sketch:

Bank Height (ft): 0.5

Bank full Width (ft): 1

Water Depth (in): 1

NC DWQ Stream Identification Form Version 4.11

Date: February 24, 2025	**Project/Site: NC-9 SI**	**Latitude: 35.461170**
Evaluator: AM	**County: Henderson**	**Longitude: -82.285587**
Total Points: 36.5 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	**Stream Determination: Perennial**	**Other:** e.g. Quad Name:

A. Geomorphology (Subtotal = 22.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of bed and bank	☐ 0	☐ 1	☑ 2	☐ 3
2. Sinuosity of channel along thalweg	☐ 0	☐ 1	☑ 2	☐ 3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	☐ 0	☐ 1	☑ 2	☐ 3
4. Particle size of stream substrate	☐ 0	☐ 1	☑ 2	☐ 3
5. Active/relict floodplain	☐ 0	☑ 1	☐ 2	☐ 3
6. Depositional bars or benches	☐ 0	☐ 1	☐ 2	☑ 3
7. Recent alluvial deposits	☐ 0	☐ 1	☐ 2	☑ 3
8. Headcuts	☐ 0	☐ 1	☑ 2	☐ 3
9. Grade controls	☐ 0	☐ 0.5	☑ 1	☐ 1.5
10. Natural valley	☐ 0	☐ 0.5	☐ 1	☑ 1.5
11. Second or greater order channel	☐ No		☑ Yes	

[a] Man-made ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 8)				
12. Presence of Baseflow	☐ 0	☐ 1	☑ 2	☐ 3
13. Iron oxidizing bacteria	☑ 0	☐ 1	☐ 2	☐ 3
14. Leaf litter	☑ 1.5	☐ 1	☐ 0.5	☐ 0
15. Sediment on plants or debris	☑ 0	☐ 0.5	☐ 1	☐ 1.5
16. Organic debris lines or piles	☐ 0	☐ 0.5	☐ 1	☑ 1.5
17. Soil-based evidence of high water table?	☐ No		☑ Yes	

C. Biology (Subtotal = 6)				
18. Fibrous roots in streambed	☑ 3	☐ 2	☐ 1	☐ 0
19. Rooted upland plants in streambed	☑ 3	☐ 2	☐ 1	☐ 0
20. Macrobenthos (note diversity and abundance)	☑ 0	☐ 1	☐ 2	☐ 3
21. Aquatic Mollusks	☑ 0	☐ 1	☐ 2	☐ 3
22. Fish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
23. Crayfish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
24. Amphibians	☑ 0	☐ 0.5	☐ 1	☐ 1.5
25. Algae	☑ 0	☐ 0.5	☐ 1	☐ 1.5
26. Wetland plants in streambed	☐ FACW ☐ OBL ☑ Other			

* perennial streams may also be identified using other methods. See p. 35 of manual

Notes: SI channel has been blown out upstream near roadway. Has rechannelized. Downstream culvert is very

Sketch:

Bank Height (ft): 2

Bank full Width (ft): 3

Water Depth (in): 5

NC DWQ Stream Identification Form Version 4.11

Date: February 24, 2025	**Project/Site: SJ-bat cave**	**Latitude: 35.461376**
Evaluator: TW	**County: Henderson**	**Longitude: -82.285367**
Total Points: 36.5 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	**Stream Determination: Perennial**	**Other:** e.g. Quad Name:

A. Geomorphology (Subtotal = 17.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of bed and bank	☐ 0	☐ 1	☑ 2	☐ 3
2. Sinuosity of channel along thalweg	☐ 0	☐ 1	☑ 2	☐ 3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	☐ 0	☑ 1	☐ 2	☐ 3
4. Particle size of stream substrate	☐ 0	☑ 1	☐ 2	☐ 3
5. Active/relict floodplain	☐ 0	☐ 1	☑ 2	☐ 3
6. Depositional bars or benches	☐ 0	☐ 1	☐ 2	☑ 3
7. Recent alluvial deposits	☐ 0	☐ 1	☐ 2	☑ 3
8. Headcuts	☐ 0	☑ 1	☐ 2	☐ 3
9. Grade controls	☐ 0	☐ 0.5	☑ 1	☐ 1.5
10. Natural valley	☐ 0	☐ 0.5	☐ 1	☑ 1.5
11. Second or greater order channel	☑ No		☐ Yes	

[a] Man-made ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 11.5)				
12. Presence of Baseflow	☐ 0	☐ 1	☐ 2	☑ 3
13. Iron oxidizing bacteria	☐ 0	☐ 1	☑ 2	☐ 3
14. Leaf litter	☐ 1.5	☑ 1	☐ 0.5	☐ 0
15. Sediment on plants or debris	☐ 0	☐ 0.5	☐ 1	☑ 1.5
16. Organic debris lines or piles	☐ 0	☐ 0.5	☑ 1	☐ 1.5
17. Soil-based evidence of high water table?	☐ No		☑ Yes	

C. Biology (Subtotal = 7.5)				
18. Fibrous roots in streambed	☑ 3	☐ 2	☐ 1	☐ 0
19. Rooted upland plants in streambed	☑ 3	☐ 2	☐ 1	☐ 0
20. Macrobenthos (note diversity and abundance)	☑ 0	☐ 1	☐ 2	☐ 3
21. Aquatic Mollusks	☑ 0	☐ 1	☐ 2	☐ 3
22. Fish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
23. Crayfish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
24. Amphibians	☐ 0	☐ 0.5	☐ 1	☑ 1.5
25. Algae	☑ 0	☐ 0.5	☐ 1	☐ 1.5
26. Wetland plants in streambed	☐ FACW ☐ OBL ☑ Other			

* perennial streams may also be identified using other methods. See p. 35 of manual

Notes:

Sketch:

Bank Height (ft): 2

Bank full Width (ft): 10

Water Depth (in): 6

NC DWQ Stream Identification Form Version 4.11

Date: February 24, 2025	**Project/Site: NC 9 SK**	**Latitude: 35.4552166**
Evaluator: AM	**County: Henderson**	**Longitude: -82.289456**
Total Points: 21.5 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	**Stream Determination: Intermittent**	**Other:** e.g. Quad Name:

A. Geomorphology (Subtotal = 9)	Absent	Weak	Moderate	Strong
1[a]. Continuity of bed and bank	☐ 0	☑ 1	☐ 2	☐ 3
2. Sinuosity of channel along thalweg	☐ 0	☑ 1	☐ 2	☐ 3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	☐ 0	☑ 1	☐ 2	☐ 3
4. Particle size of stream substrate	☑ 0	☐ 1	☐ 2	☐ 3
5. Active/relict floodplain	☑ 0	☐ 1	☐ 2	☐ 3
6. Depositional bars or benches	☐ 0	☐ 1	☑ 2	☐ 3
7. Recent alluvial deposits	☐ 0	☐ 1	☑ 2	☐ 3
8. Headcuts	☐ 0	☑ 1	☐ 2	☐ 3
9. Grade controls	☐ 0	☑ 0.5	☐ 1	☐ 1.5
10. Natural valley	☐ 0	☑ 0.5	☐ 1	☐ 1.5
11. Second or greater order channel	☑ No		☐ Yes	

[a] Man-made ditches are not rated; see discussions in manual

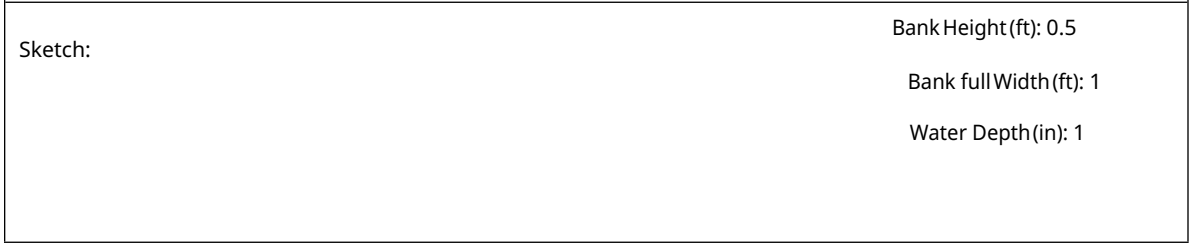
B. Hydrology (Subtotal = 7.5)				
12. Presence of Baseflow	☐ 0	☐ 1	☑ 2	☐ 3
13. Iron oxidizing bacteria	☑ 0	☐ 1	☐ 2	☐ 3
14. Leaf litter	☑ 1.5	☐ 1	☐ 0.5	☐ 0
15. Sediment on plants or debris	☐ 0	☑ 0.5	☐ 1	☐ 1.5
16. Organic debris lines or piles	☐ 0	☑ 0.5	☐ 1	☐ 1.5
17. Soil-based evidence of high water table?	☐ No		☑ Yes	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	☐ 3	☑ 2	☐ 1	☐ 0
19. Rooted upland plants in streambed	☑ 3	☐ 2	☐ 1	☐ 0
20. Macrobenthos (note diversity and abundance)	☑ 0	☐ 1	☐ 2	☐ 3
21. Aquatic Mollusks	☑ 0	☐ 1	☐ 2	☐ 3
22. Fish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
23. Crayfish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
24. Amphibians	☑ 0	☐ 0.5	☐ 1	☐ 1.5
25. Algae	☑ 0	☐ 0.5	☐ 1	☐ 1.5
26. Wetland plants in streambed	☐ FACW ☐ OBL ☑ Other			

* perennial streams may also be identified using other methods. See p. 35 of manual

Notes: Heavily disturbed channel. Evidence of grading and clearing. Little veg. Barely an OHWM but starting to

Sketch:



NC DWQ Stream Identification Form Version 4.11

Date: February 24, 2025	**Project/Site: SL-Bat Cave**	**Latitude: 35.456243**
Evaluator: TW, AM	**County: Henderson**	**Longitude: -82.289287**
Total Points: 26 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	**Stream Determination: Intermittent**	**Other:** e.g. Quad Name:

A. Geomorphology (Subtotal = 15.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of bed and bank	☐ 0	☑ 1	☐ 2	☐ 3
2. Sinuosity of channel along thalweg	☐ 0	☑ 1	☐ 2	☐ 3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	☐ 0	☐ 1	☑ 2	☐ 3
4. Particle size of stream substrate	☐ 0	☐ 1	☐ 2	☑ 3
5. Active/relict floodplain	☑ 0	☐ 1	☐ 2	☐ 3
6. Depositional bars or benches	☐ 0	☐ 1	☐ 2	☑ 3
7. Recent alluvial deposits	☐ 0	☐ 1	☑ 2	☐ 3
8. Headcuts	☐ 0	☐ 1	☑ 2	☐ 3
9. Grade controls	☑ 0	☐ 0.5	☐ 1	☐ 1.5
10. Natural valley	☐ 0	☐ 0.5	☐ 1	☑ 1.5
11. Second or greater order channel	☑ No		☐ Yes	

[a] Man-made ditches are not rated; see discussions in manual

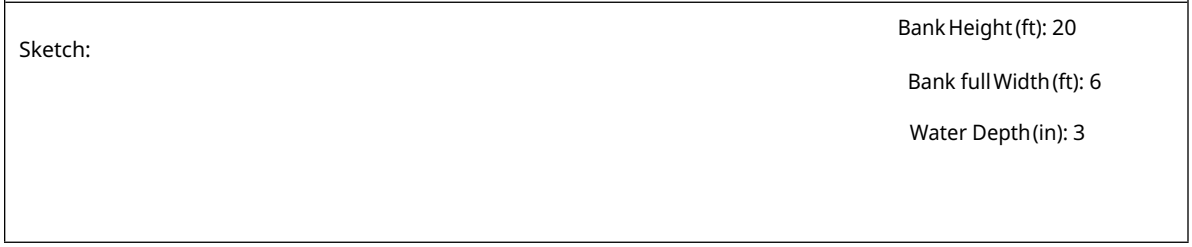
B. Hydrology (Subtotal = 4.5)				
12. Presence of Baseflow	☐ 0	☐ 1	☐ 2	☑ 3
13. Iron oxidizing bacteria	☑ 0	☐ 1	☐ 2	☐ 3
14. Leaf litter	☑ 1.5	☐ 1	☐ 0.5	☐ 0
15. Sediment on plants or debris	☑ 0	☐ 0.5	☐ 1	☐ 1.5
16. Organic debris lines or piles	☑ 0	☐ 0.5	☐ 1	☐ 1.5
17. Soil-based evidence of high water table?	☑ No		☐ Yes	

C. Biology (Subtotal = 6)				
18. Fibrous roots in streambed	☑ 3	☐ 2	☐ 1	☐ 0
19. Rooted upland plants in streambed	☑ 3	☐ 2	☐ 1	☐ 0
20. Macrobenthos (note diversity and abundance)	☑ 0	☐ 1	☐ 2	☐ 3
21. Aquatic Mollusks	☑ 0	☐ 1	☐ 2	☐ 3
22. Fish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
23. Crayfish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
24. Amphibians	☑ 0	☐ 0.5	☐ 1	☐ 1.5
25. Algae	☑ 0	☐ 0.5	☐ 1	☐ 1.5
26. Wetland plants in streambed	☐ FACW ☐ OBL ☑ Other			

* perennial streams may also be identified using other methods. See p. 35 of manual

Notes:

Sketch:



Bank Height (ft): 20

Bank full Width (ft): 6

Water Depth (in): 3

NC DWQ Stream Identification Form Version 4.11

Date: February 24, 2025	**Project/Site:** SM	**Latitude:** 35.459528
Evaluator: TW	**County: Henderson**	**Longitude:** -82.288072
Total Points: 27.25 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	**Stream Determination: Intermittent**	**Other:** e.g. Quad Name:

A. Geomorphology (Subtotal = 11.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of bed and bank	☐ 0	☐ 1	☐ 2	☑ 3
2. Sinuosity of channel along thalweg	☑ 0	☐ 1	☐ 2	☐ 3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	☐ 0	☑ 1	☐ 2	☐ 3
4. Particle size of stream substrate	☑ 0	☐ 1	☐ 2	☐ 3
5. Active/relict floodplain	☑ 0	☐ 1	☐ 2	☐ 3
6. Depositional bars or benches	☐ 0	☐ 1	☑ 2	☐ 3
7. Recent alluvial deposits	☐ 0	☐ 1	☑ 2	☐ 3
8. Headcuts	☐ 0	☐ 1	☑ 2	☐ 3
9. Grade controls	☑ 0	☐ 0.5	☐ 1	☐ 1.5
10. Natural valley	☐ 0	☐ 0.5	☐ 1	☑ 1.5
11. Second or greater order channel	☑ No		☐ Yes	

[a] Man-made ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 9)				
12. Presence of Baseflow	☐ 0	☐ 1	☐ 2	☑ 3
13. Iron oxidizing bacteria	☑ 0	☐ 1	☐ 2	☐ 3
14. Leaf litter	☑ 1.5	☐ 1	☐ 0.5	☐ 0
15. Sediment on plants or debris	☐ 0	☐ 0.5	☑ 1	☐ 1.5
16. Organic debris lines or piles	☐ 0	☑ 0.5	☐ 1	☐ 1.5
17. Soil-based evidence of high water table?	☐ No		☑ Yes	

C. Biology (Subtotal = 6.75)				
18. Fibrous roots in streambed	☑ 3	☐ 2	☐ 1	☐ 0
19. Rooted upland plants in streambed	☑ 3	☐ 2	☐ 1	☐ 0
20. Macrobenthos (note diversity and abundance)	☑ 0	☐ 1	☐ 2	☐ 3
21. Aquatic Mollusks	☑ 0	☐ 1	☐ 2	☐ 3
22. Fish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
23. Crayfish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
24. Amphibians	☑ 0	☐ 0.5	☐ 1	☐ 1.5
25. Algae	☑ 0	☐ 0.5	☐ 1	☐ 1.5
26. Wetland plants in streambed	☑ FACW ☐ OBL ☐ Other			

* perennial streams may also be identified using other methods. See p. 35 of manual

Notes:

Sketch:

Bank Height (ft): 6

Bank full Width (ft): 6

Water Depth (in): 1

NC DWQ Stream Identification Form Version 4.11

Date: February 24, 2025	**Project/Site: SO- bat cave**	**Latitude: 35.466011**
Evaluator: TW	**County: Henderson**	**Longitude: -82.281460**
Total Points: 27.5 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	**Stream Determination: Intermittent**	**Other:** e.g. Quad Name:

A. Geomorphology (Subtotal = 13.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of bed and bank	☐ 0	☐ 1	☐ 2	☑ 3
2. Sinuosity of channel along thalweg	☑ 0	☐ 1	☐ 2	☐ 3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	☐ 0	☑ 1	☐ 2	☐ 3
4. Particle size of stream substrate	☐ 0	☐ 1	☑ 2	☐ 3
5. Active/relict floodplain	☐ 0	☑ 1	☐ 2	☐ 3
6. Depositional bars or benches	☐ 0	☐ 1	☑ 2	☐ 3
7. Recent alluvial deposits	☐ 0	☐ 1	☑ 2	☐ 3
8. Headcuts	☐ 0	☑ 1	☐ 2	☐ 3
9. Grade controls	☑ 0	☐ 0.5	☐ 1	☐ 1.5
10. Natural valley	☐ 0	☐ 0.5	☐ 1	☑ 1.5
11. Second or greater order channel	☑ No		☐ Yes	

[a] Man-made ditches are not rated; see discussions in manual

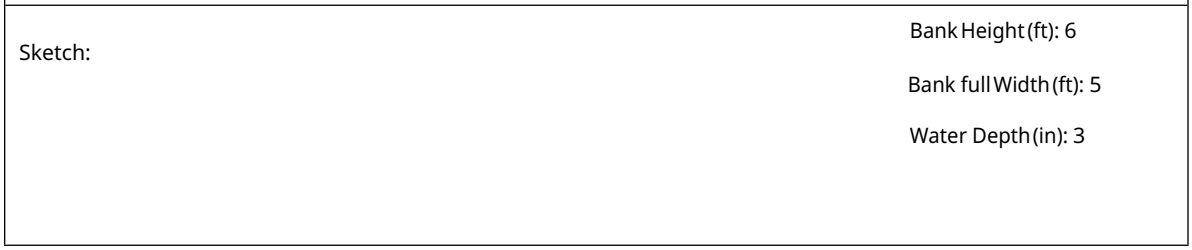
B. Hydrology (Subtotal = 7)				
12. Presence of Baseflow	☐ 0	☐ 1	☑ 2	☐ 3
13. Iron oxidizing bacteria	☑ 0	☐ 1	☐ 2	☐ 3
14. Leaf litter	☑ 1.5	☐ 1	☐ 0.5	☐ 0
15. Sediment on plants or debris	☑ 0	☐ 0.5	☐ 1	☐ 1.5
16. Organic debris lines or piles	☐ 0	☑ 0.5	☐ 1	☐ 1.5
17. Soil-based evidence of high water table?	☐ No		☑ Yes	

C. Biology (Subtotal = 7)				
18. Fibrous roots in streambed	☑ 3	☐ 2	☐ 1	☐ 0
19. Rooted upland plants in streambed	☑ 3	☐ 2	☐ 1	☐ 0
20. Macrobenthos (note diversity and abundance)	☐ 0	☑ 1	☐ 2	☐ 3
21. Aquatic Mollusks	☑ 0	☐ 1	☐ 2	☐ 3
22. Fish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
23. Crayfish	☑ 0	☐ 0.5	☐ 1	☐ 1.5
24. Amphibians	☑ 0	☐ 0.5	☐ 1	☐ 1.5
25. Algae	☑ 0	☐ 0.5	☐ 1	☐ 1.5
26. Wetland plants in streambed	☐ FACW ☐ OBL ☑ Other			

* perennial streams may also be identified using other methods. See p. 35 of manual

Notes:

Sketch:



Bank Height (ft): 6

Bank full Width (ft): 5

Water Depth (in): 3

U.S. Army Corps of Engineers (USACE)

PRELIMINARY JURISDICTIONAL DETERMINATION (PJD)

For use of this form, see Sec 404 CWA, Sec 10 RHA, Sec 103 MPRSA; the proponent agency is CECW-COR.

Form Approved -
OMB No. 0710-0024
Expires 2024-04-30

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; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.

Principal Purpose The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the review area that may be subject to federal jurisdiction under the regulatory authorities referenced above.

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 a public notice or FOIA request as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in any resulting jurisdictional determination (JD), which may be made available to the public on the District's website and/or on the Headquarters USACE website.

Disclosure Submission of requested information is voluntary; however, if information is not provided, the request for a JD cannot be evaluated nor can a PJD be issued.

The Agency Disclosure Notice (ADN)

The public reporting burden for this collection of information, 0710-0024, is estimated to average 25 minutes 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.

SECTION I - BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 4/11/2025

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:
North Carolina Department of Transportation

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:
Asheville Field Office, NC 9 from US-74A (Bat Cave) to Buncombe County Line Helene Repairs - PJD Request

D. PROJECT LOCATION AND BACKGROUND INFORMATION:
(*USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES*)

State: North Carolina County/Parish/Borough: Henderson County City: N/A

Center coordinates of site (*lat/long in degree decimal format*): Latitude: 35.461736, ° Longitude: -82.285619 °

Universal Transverse Mercator:

Name of nearest waterbody: Broad River

E. REVIEW PERFORMED FOR SITE EVALUATION (*CHECK ALL THAT APPLY*):

[X] Office (*Desk*) Determination. Date: 2025-02-10

[X] Field Determination

Date(s): 2025-02-24

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

	Site Number	Latitude (*decimal degrees*)	Longitude (*decimal degrees*)	Estimated amount of aquatic resource in review area (*acreage and linear feet, if applicable*)	Type of aquatic resource (*i.e., wetland vs. non-wetland waters*)	Geographic authority to which the aquatic resource "may be" subject (*i.e., Section 404 or Section 10/404*)
	See Attachment					

	Site Number	Latitude (*decimal degrees*)	Longitude (*decimal degrees*)	Estimated amount of aquatic resource in review area (*acreage and linear feet, if applicable*)	Type of aquatic resource (*i.e., wetland vs. non-wetland waters*)	Geographic authority to which the aquatic resource "may be" subject (*i.e., Section 404 or Section 10/404*)

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD or no JD whatsoever, which do not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the USACE has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD or reliance on no JD whatsoever; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of USACE permit authorization based on a PJD or no JD whatsoever constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the USACE will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

F. SUPPORTING DATA. Data reviewed for PJD (*check all that apply)*

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

[X] Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:

Map: Vicinity Map,Topographical Map, Soil Survey Map, and Aerial Map included

[X] Data sheets prepared/submitted by or on behalf of the PJD requestor.

[ ] Office concurs with data sheets/delineation report.

[ ] Office does not concur with data sheets/delineation report.

Rationale: _____

[ ] Data sheets prepared by the USACE:

_____

[ ] Corps navigable waters' study:

_____

[ ] U.S. Geological Survey Hydrologic Atlas:

_____

☐ USGS NHD data.

☐ USGS 8 and 12 digit HUC maps.

☒ U.S. Geological Survey map(s). Cite scale & quad name:

1"=200' & 2022 Bat Cave, NC Topographic Quadrangle 7.5 Minute Series

☒ USDA Natural Resources Conservation Service Soil Survey.

Citation: U.S.D.A, NRCS. 2024. Web Soil Survey, Buncombe County, Survey Area Data: Version 25, September 9, 2024

☐ National Wetlands Inventory map(s).

Cite Name: _____

☐ State/Local Wetland Inventory map(s):

☐ FEMA/FIRM maps:

☐ 100-year Floodplain Elevation is: _____. (National Geodectic Vertical Datum of 1929)

☐ Photographs: ☒ Aerial (*Name & Date*): Aerial Map & 2025-03-11

or ☐ Other (*Name & Date*): _____

☐ Previous determination(s). File no. and date of response letter:

☐ Other information (*please specify*):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the USACE and should not be relied upon for later jurisdictional determinations.

Name of Regulatory Staff Member Completing PJD	Date	Signature of Regulatory Staff Member Completing PJD
Name of Person Requesting PJD	Date	Signatureof Person Requesting PJD *(REQUIRED, unless obtaining the Signature is Impracticable*

[1] Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

Site Number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
SA	35.473904	-82.282316	671	non-wetland	Section 404
SB	35.47443735	-82.2814228	47	non-wetland	Section 404
SC	35.4742142	-82.282337	143	non-wetland	Section 404
SD	35.474214	-82.282337	1287	non-wetland	Section 404
SE	35.471641	-82.283988	94	non-wetland	Section 404
SF	35.464228	-82.281204	180	non-wetland	Section 404
SG	35.464185	-82.280336	447	non-wetland	Section 404
SI	35.46117	-82.285587	426	non-wetland	Section 404
SJ	35.461376	-82.285367	167	non-wetland	Section 404
SH	35.459695	-82.28801	450	non-wetland	Section 404
SL	35.456243	-82.289287	129	non-wetland	Section 404
SK	35.455216	-82.289456	366	non-wetland	Section 404
SM	35.459528	-82.288072	71	non-wetland	Section 404
SO	35.466011	-82.28146	284	non-wetland	Section 404
Broad River	35.455618	-82.289546	3574	non-wetland	Section 404
Grassy Creek	35.464465	-82.281855	1628	non-wetland	Section 404

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
SA	NORTH CAROLINA	R2		Linear	671	FOOT	DELIN.PJD-404	35.47390400	-82.28231600	
SB	NORTH CAROLINA	R4		Linear	47	FOOT	DELIN.PJD-404	35.47443735	-82.28142280	
SC	NORTH CAROLINA	R4		Linear	143	FOOT	DELIN.PJD-404	35.47421420	-82.28233700	
SD	NORTH CAROLINA	R2		Linear	1287	FOOT	DELIN.PJD-404	35.47421400	-82.28233700	
SE	NORTH CAROLINA	R4		Linear	94	FOOT	DELIN.PJD-404	35.47164100	-82.28398800	
SF	NORTH CAROLINA	R2		Linear	180	FOOT	DELIN.PJD-404	35.46422800	-82.28120400	
SG	NORTH CAROLINA	R2		Linear	447	FOOT	DELIN.PJD-404	35.46418500	-82.28033600	
SI	NORTH CAROLINA	R2		Linear	426	FOOT	DELIN.PJD-405	35.46117000	-82.28558700	
SJ	NORTH CAROLINA	R2		Linear	167	FOOT	DELIN.PJD-406	35.46137600	-82.28536700	
SH	NORTH CAROLINA	R4		Linear	450	FOOT	DELIN.PJD-407	35.45969500	-82.28801000	
SL	NORTH CAROLINA	R4		Linear	129	FOOT	DELIN.PJD-408	35.45624300	-82.28928700	
SK	NORTH CAROLINA	R4		Linear	366	FOOT	DELIN.PJD-409	35.45521600	-82.28945600	
SM	NORTH CAROLINA	R4		Linear	71	FOOT	DELIN.PJD-410	35.45952800	-82.28807200	
SO	NORTH CAROLINA	R4		Linear	284	FOOT	DELIN.PJD-411	35.46601100	-82.28146000	
Broad River	NORTH CAROLINA	R2		Linear	3574	FOOT	DELIN.PJD-412	35.45561800	-82.28954600	Broad River
Grassy Creek	NORTH CAROLINA	R2		Linear	1628	FOOT	DELIN.PJD-413	35.46446500	-82.28185500	Grassy Creek

Table 1. Stream Table

Stream Name	Length (ft.)	Map ID	Classification	NCDWR Index Number	Best Usage Classification	Bank Height (ft)	Bankfull width (ft)	Depth (in)	Compensatory Mitigation Required	River Basin Buffer
SA	671	SA	Perennial	9-(1)	C;Tr	3	8	6	Yes	Not Subject
SB	47	SB	Intermittent	9-(1)	C;Tr	5	10	2	Yes	Not Subject
SC	143	SC	Intermittent	9-(1)	C;Tr	5	8	3	Yes	Not Subject
SD	1287	SD	Perennial	9-(1)	C;Tr	6	10	12	Yes	Not Subject
SE	94	SE	Intermittent	9-(1)	C;Tr	2	4	1	Yes	Not Subject
SF	180	SF	Perennial	9-13	C;Tr	2	3	4	Yes	Not Subject
SG	447	SG	Perennial	9-13	C;Tr	4.5	4	3	Yes	Not Subject
SI	426	SI	Perennial	9-(1)	C;Tr	2	3	5	Yes	Not Subject
SJ	167	SJ	Perennial	9-(1)	C;Tr	2	10	6	Yes	Not Subject
SH	450	SH	Intermittent	9-(1)	C;Tr	0.5	1	1	Yes	Not Subject
SL	129	SL	Intermittent	9-(1)	C;Tr	2	6	3	Yes	Not Subject
SK	366	SK	Intermittent	9-(1)	C;Tr	0.5	1	1	Yes	Not Subject
SM	71	SM	Intermittent	9-(1)	C;Tr	6	6	1	Yes	Not Subject
SO	284	SO	Intermittent	9-13	C;Tr	6	5	3	Yes	Not Subject
Broad River	3574	Broad River	Perennial	9-(1)	C;Tr	6	25	16	Yes	Not Subject
Grassy Creek	1628	Grassy Creek	Perennial	9-13	C;Tr	6	15	12	Yes	Not Subject

Archaeology

And

Historic Architecture & Landscapes

Project Tracking No.:

25-02-0003

NO ARCHAEOLOGICAL SURVEY REQUIRED FORM

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

PROJECT INFORMATION

Project No:	**NC 9 Helene**	*County:*	**Henderson**
WBS No:	18314.1045035 W0920	*Document:*	**CE**
F.A. No:	**tbd**	*Funding:*	☐ State ☒ Federal

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

Project Description:

NCDOT proposes to repair and reestablish portions of the NC 9 highway in Henderson County damaged or destroyed by Hurricane Helene parallel to the Broad River from US 74A in Bat Cave and continuing north to the Buncombe County line (see Figure 1). For this emergency restoration and repair for segments of the highway damaged or removed from the landscape following devastating flooding, there is potential for federal funding and USACE coordination is expected. Section 106 of the National Historic Preservation Act applies for this federal undertaking.

The project's southern limit is near the intersection of US 74A and Red Anderson Road (SR 1611) where US 64 meets in the Bat Cave vicinity. NC 9 continues northward along the Broad River for half of the project before shifting to a tributary, Grassy Creek which it crosses before reaching the Buncombe County line near Old Berlin Way. Overall, the project length covers about 2.0 miles of highway including travel lanes which have been removed, destroyed, damaged, or compromised by flooding. Repair, temporary roadway, or road rebuilding is required throughout the project. Note, PA 24-11-0012 and PA 25-01-0001 are related, separate archaeological reviews for repairs to US 74A and US 64, which travel from Gerton to Chimney Rock project at Bat Cave perpendicular to NC 9.

For the Archaeological Area of Potential Effects (APE), this investigation considers all areas of potential earth disturbing activities, including all the current and any proposed new ROW. The scouring volume of flooding deposited new terrain and reformed or replaced much of the landforms associated with NC 9 (see Figure 2). This unique circumstance requires earthmoving, fill, and cuts to grade and drain the recently modified terrain. The APE length end to end is about 2.0 miles (10,560 feet). No formal design was available at the time of this review; therefore, the APE width is buffered to allow flexibility to study a range of potential, successful roadway solutions. The width is 150 feet to either side of NC 9 with an emphasis on repair and areas immediately adjacent to the highway.

SUMMARY OF CULTURAL RESOURCES REVIEW

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

Portions of NC 9 were strongly affected by Hurricane Helen in late September 2024. Severe flooding, characterized by massive quantities and rapid flow, surpassed the established banks of the Broad River, Grassy Creek, and other drainages. The rushing water expanded and reformed channels, obliterating portions of the highway and removing vulnerable ditches, culverts, retaining walls, and other structures or buildings from the landscape. New deposits are now present, consisting of debris, boulders, and alluvium originating upstream and from the mountain slopes (see Figure 3). Most of the APE now has modified terrain, especially at areas closely parallel to the Broad River and Grassy Creek. The volume and extent of changes caused by flooding results in a rearranged landscape with large areas scoured or filled-in with flood deposits. This flooding event, and previous floods c. 1916, combines with major 20th century grading for the roads to leave little chance for intact soils containing cultural materials and living horizons in situ, a poor archaeological context.

There are no recorded archaeological sites within, adjacent or in the nearby vicinity of the APE. Seven archaeological sites are recorded within a two-mile buffer of the project. Southeast of the project about 1.65 miles, outside of the Broad River valley bottom on a ridge spur, is the Native American archaeological site, 31Rf177. Site 31Hn68 is located southeast of the APE about 0.9 miles away, a Native American archaeological site near a previously reviewed debris site (Edney Inn 1 &2). One mile north of the project, off NC 9 on a side road, New Sage Lane, is 31Bn1130, the Old Broad River or Old Field Cemetery. Four unassessed Native American sites are recorded northeast of the project, 31Bn169, 31Bn170, 31Bn171, and 31Bn172, about a mile away. None of these distant sites will be impacted by the current project.

The NC Office of State Archaeology reviewed an area inside of the current APE for a (rock) slide waste site at the bend of NC 9 over Grassy Creek (18-1276) which did not require a survey. Another series of recent, small environmental reviews (ER 25-0621, DR-4827-NC) are associated with the Helene flooding along the Broad River as close as 500 feet (0.1 miles), though, too, none were recommended for survey. A very recent survey has occurred on the north side of the Broad River about a mile to the southeast for the "Chimney Rock Borrow Site." No sites were identified on the 45-acre, mostly sloped mountainside (ER 24-2608). Also, there are a few, small NCDOT reviews in the general area (ex., PA 12-08-0082 and PA 13-08-0050) that did not receive recommendations for survey. PA 24-11-0012 and PA 25-01-01, the previously mentioned emergency repairs to US 64/US 74A at the south end of the current project, are all strongly associated in nature and scale. Neither of those two projects to restore the highways after flood damage were recommended for archeological survey.

The terrain in the project area is mountainous and steep. Available aerial, drone and roadside imagery was examined for portions of the highway. Contour mapping was studied. The APE for urgently required repairs and restoration of services for NC 9 has portions which were swept away by Helene flooding or are otherwise majorly altered. Construction of the highway and other twentieth century development graded the terrain. A large volume of creek bank has been scoured and new alluvium deposited, most recently by Helene flood waters, but also in 1916 when the mountains endured an earlier damaging flood event of similar scale. The probability to encounter and affect undocumented, intact, and significant archaeological sites within the APE is low. No archaeological survey is required. A separate cultural resources review is underway by NCDOT Architecture Historians which will address above ground structures and properties.

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

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

The undertaking involves needed restoration of travel lanes, drainage, and road shoulders which were removed from the landscape or otherwise damaged due to Hurricane Helene flooding. The corridor, which includes the Broad River and Grassy Creek, witnessed massive amounts of soil and rock displacement. The river and creek banks have changed, reshaping the terrain. Earth removed and swept away has been replaced with new alluvium. No archaeological sites are expected to remain where the riverbed and banks have been reformed. Previous road construction work also contributed to the poor archaeological context at damaged areas of the highway. No archaeological survey is warranted for this highway repair project.

SUPPORT DOCUMENTATION

See attached: ☒ Map(s) ☐ Previous Survey Info ☐ Photos ☐ Correspondence
☐ Photocopy of County Survey Notes Other:

FINDING BY NCDOT ARCHAEOLOGIST

NO ARCHAEOLOGY SURVEY REQUIRED

4/8/2025

NCDOT ARCHAEOLOGIST Date

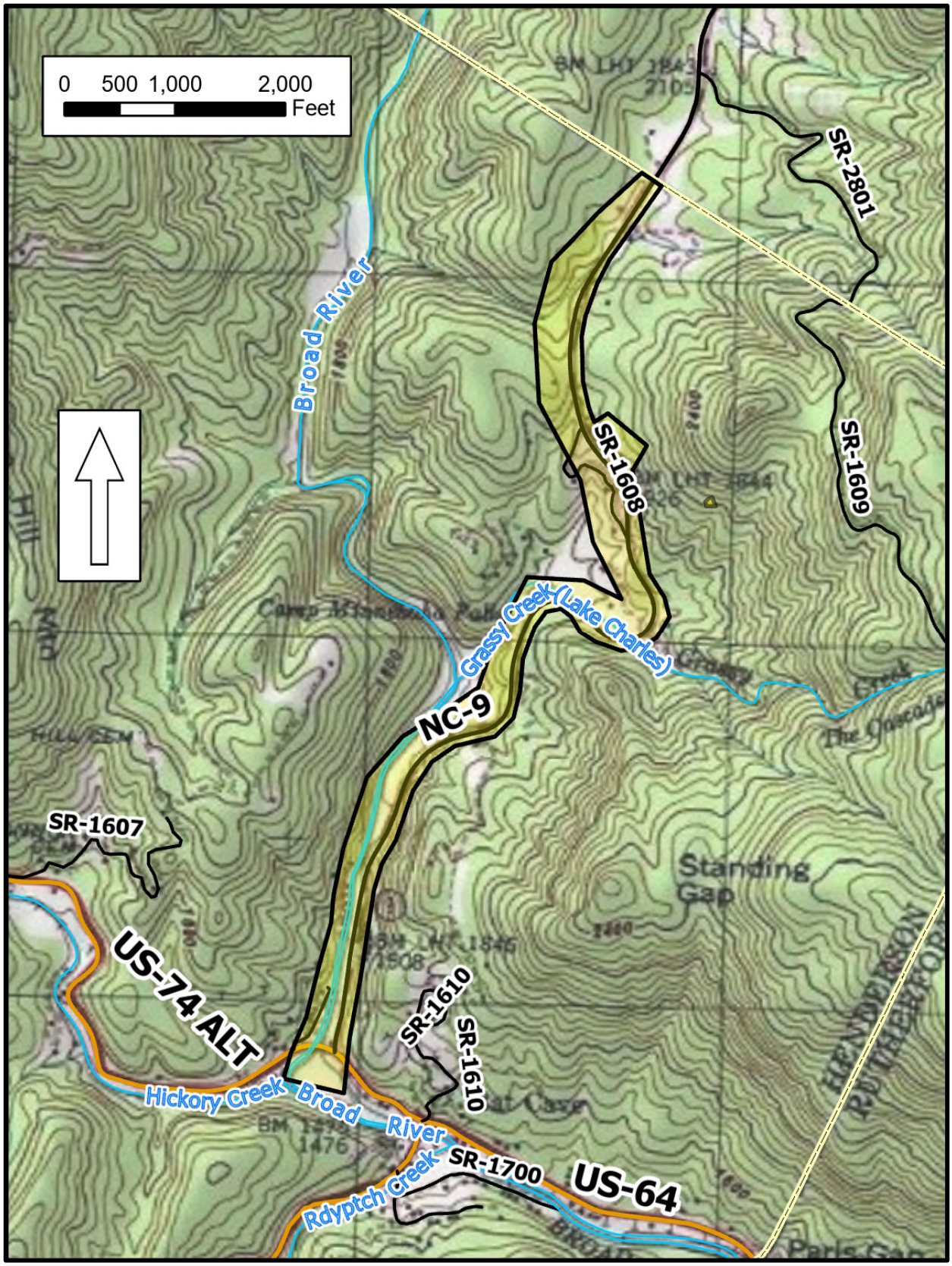


Figure 1. Vicinity for the repair of destroyed, damaged, and compromised portions of NC 9 between Bat Cave and the Buncombe County line shown on USGS mapping (Bat Cave). The approximate APE is shaded yellow with a black outline. Note the steep, mountainous terrain.

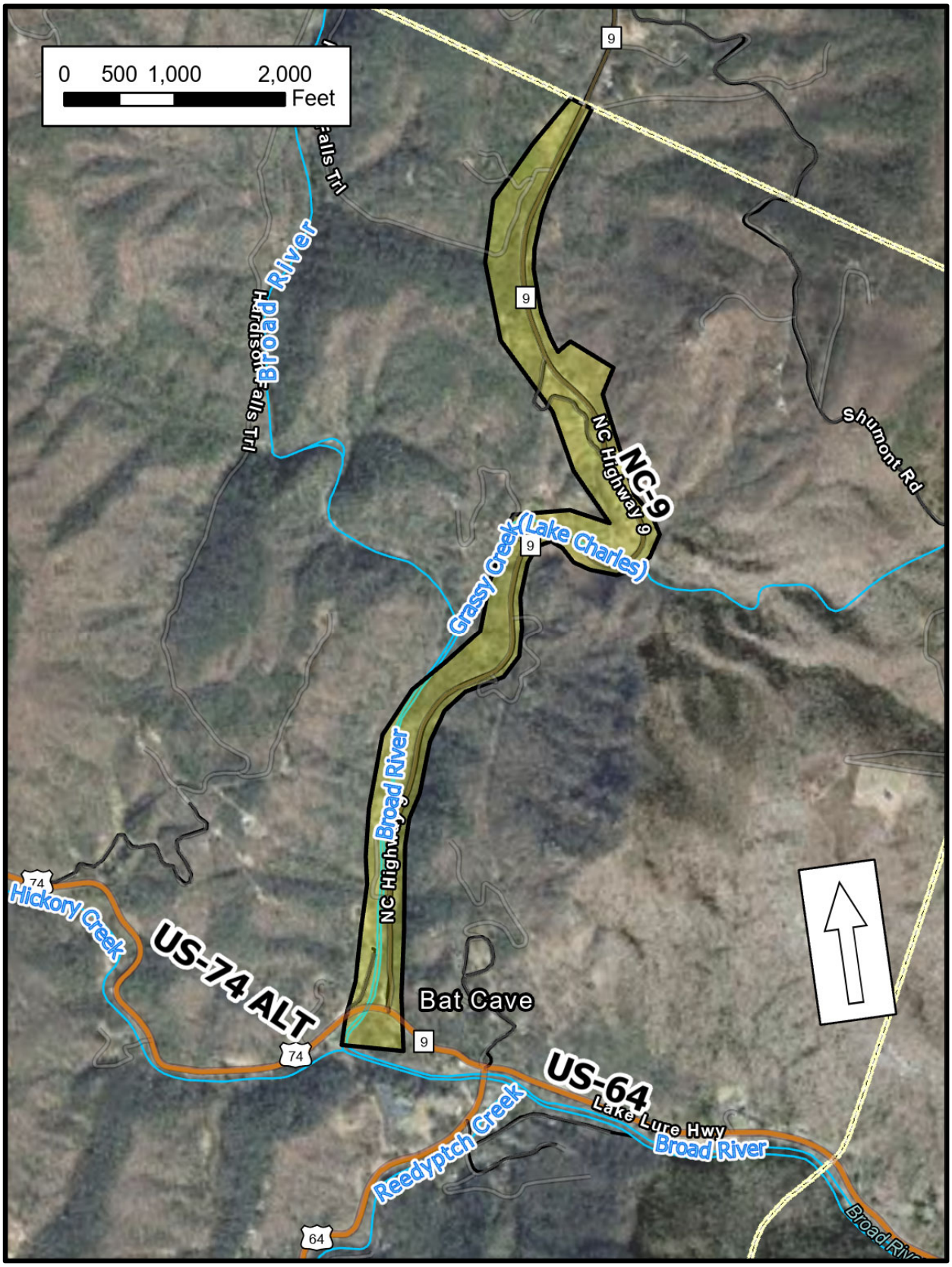


Figure 2. Aerial photography of the damaged, and compromised portions of NC 9 between Bat Cave and the Buncombe County line. Helene flooding in narrow valleys damaged the highway and reshaped section of terrain. The approximate APE is shaded yellow with a black outline.

Figure 3. Detail from aerial imagery showing the nature and scale of the altered landscape after the Helene floods along a bend on NC 9 at the crossing of Grassy Creek (image extracted from Nearmap, image date January 25, 2025). Note the heavy erosion, shift of the creek banks, and alluvium deposits which swept and redeposited massive amounts of soil, large boulders, and other debris.