

Cheely, Erin K

From: Cheely, Erin K
Sent: Monday, July 7, 2025 8:13 PM
To: Locklear, Susan P; NCDOT_REG
Cc: Carpenter, Kristi; Harmon, Beth; Davenport, Ronald E; Al-Dhalimy, Nadia; Staley, Mark K; smupez; Stutts, David S; Griffin, Randy W; Elliott, Jason C; Barrett, William A; Turchy, Michael A; NCDOT_Service_Account_ECAP; Stanton, Tyler P; Gray, Jared S; Alsmeyer, Eric C CIV USARMY CESAW (USA); Conchilla, Ryan; Wilson, Travis W.; Gary Jordan (gary_jordan@fws.gov); Anderson, Brook E; York, Amy D; Cvijetic, Bojan; Chris Rivenbark
Subject: BR-0060 | Alamance | Permit Application Distribution

The Permit Application for BR-0060 (Bridge 14 on NC 87 over Cane Creek in Alamance County) has been submitted via the DWR ePCN with automatic distribution to the USACE, NCDWR, NCWRC and USFWS.

The application package has been posted to the NCDOT Permit Application Website at:

<https://xfer.services.ncdot.gov/pdea/PermApps/>
(or [Direct link](#))

This email serves as NCDOT's permit application distribution notification.

Thank you,
erin

Erin Cheely

Western Team Lead
Environmental Coordination & Permitting
Environmental Analysis Unit
N.C. Department of Transportation

919 707 6108 office
919 323 5192 mobile
ekcheely@ncdot.gov

1598 Mail Service Center
Raleigh, NC 27699-1598



Pre-Construction Notification



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: *

Alamance

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:

BR-0060

WBS # *

67060.1.1

(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

Regional General Permit (RGP) Number:

201902350 - Work associated with bridge construction, widening, replacement, and interchanges

RGP Numbers (for multiple RGPS):

List all RGP 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
☐ Non-404 Jurisdictional General Permit
☒ Individual 401 Water Quality Certification

- ☐ 401 Water Quality Certification - Express
☒ Riparian Buffer Authorization

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

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? *

William A. Barrett

1c. Primary Contact Phone: *

(xxx)xxx-xxxx

(919)707-6103

1b. Primary Contact Email: *

wabarrett@ncdot.gov

1d. Who is applying for the permit? *

☐ Owner

(Check all that apply)

☒ Applicant (other than owner)

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

Postal / Zip Code

27699-1598

State / Province / Region

NC

Country

US

2e. Telephone Number: *

(xxx)xxx-xxxx

(919)707-6108

2f. Fax Number:

(xxx)xxx-xxxx

2g. Email Address: *

ekcheely@ncdot.gov

3. Applicant Information (if different from owner)

3a. Name: *

William A. Barrett

3b. Business Name:

(if applicable)

3c. Address *

Street Address

1598 Mail Service Center

Address Line 2

City

Raleigh

Postal / Zip Code

27699-1598

State / Province / Region

NC

Country

US

3d. Telephone Number: *

(919)707-6103

(xxx)xxx-xxxx

3e. Fax Number:

(xxx)xxx-xxxx

3f. Email Address: *

wabarrett@ncdot.gov

C. Project Information and Prior Project History

1. Project Information

1a. Name of project: *

BR-0060 - Bridge 14 on NC 87 over Cane Creek

1b. Subdivision name:

(if appropriate)

1c. Nearest municipality / town: *

Eli Whitney

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

Postal / Zip Code

State / Province / Region

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: *

35.884544

ex: 34.208504

Longitude: *

-79.295853

-77.796371

3. Surface Waters

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

Cane Creek

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

WS-V; NSW

[Surface Water Lookup](#)

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

Cape Fear

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

030300020505

[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: *

Bridge Project. Existing conditions: Project BR-0060 includes replacing Bridge No. 000014, located on N.C. 87 over Cane Creek in Alamance County. The replacement structure will be a bridge approximately 230 feet long providing a minimum 36-foot clear deck width. The bridge will include two 12-foot lanes with 6-foot offsets on both sides. The bridge length is based on preliminary design information and is set by hydraulic requirements. The approach roadway will extend approximately 788 feet from the west end of the new bridge and 1,230 feet from the east end of the new bridge. The approaches will be widened to include a 24-foot pavement width providing two 12-foot lanes, 8-foot shoulders (2-foot paved) on both sides (13-foot shoulders where guardrail is included). The roadway will be designed as a Minor Arterial using Regional Tier guidelines with a 60mph design speed. The new bridge will be constructed in its existing location. Traffic will be detoured onsite and will utilize a detour bridge that will be constructed just north of the existing bridge.

General land use: The bridge lies south of the unincorporated community of Eli Whitney, NC and is surrounded by mostly open, wooded and agricultural properties, with sparse residential properties and few commercial properties.

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:

0.12

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

(intermittent and perennial)

947

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

The purpose of this project is to replace a structurally deficient bridge. Bridge No. 000014 was built in 1929, was widened in 1969, and is considered structurally deficient with a substructure rating of 4 out of 9 by FHWA standards. There is notable cracking and spalling. The most recent bridge inspection for the structure was on 12/15/2020.

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

The existing bridge carries NC 87 over Cane Creek between Lewis Road and Greenhill Road.

The new bridge will be constructed in its existing location. Traffic will be detoured onsite and will utilize a detour bridge that will be constructed just north of the existing bridge. The replacement structure will be a bridge approximately 230 feet long providing a minimum 36-foot clear deck width. The 3-span structure will consist of 1 @ 50', 1 @ 95', and 1 @ 85' girders with 4-foot deep caps. The bridge will include two 12-foot lanes with 6-foot paved shoulders. The bridge length is based on preliminary design information and is set by hydraulic requirements.

The approach roadway will extend approximately 788 feet from the west end of the new bridge and 1,230 feet from the east end of the new bridge. The approaches will be widened to include a 24-foot pavement width providing two 12-foot lanes, 8-foot shoulders (2-foot paved) on both sides (13-foot shoulders where guardrail is included). The roadway will be designed as a Minor Arterial using Regional Tier guidelines with a 60mph design speed.

The proposed temporary structure is a 1 @ 130' detour bridge with 4-foot deep caps, located downstream from the existing alignment.

Standard road and bridge-building equipment such as trucks, dozers, and cranes will be used.

5. Jurisdictional Determinations

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

☒ Yes ☐ No ☐ Unknown

Comments:

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): Adam Efird, Annie Welch, and John Dorney

Agency/Consultant Company: Moffatt & Nichol

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.

no

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

2. Wetland Impacts

If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.

"W." will be used in the table below to represent the word "wetland".

2a. Site # * (?)	2a1 Reason * (?)	2b. Impact type * (?)	2c. Type of W. *	2d. W. name *	2e. Forested *	2f. Type of Jurisdiction * (?)	2g. Impact area *
1	Detour	T	Floodplain Pool	WA	No	Corps	0.021 (acres)
2	Mechanized clearing	P	Floodplain Pool	WA	No	Corps	0.025 (acres)
2	Fill slope	P	Floodplain Pool	WA	No	Corps	0.002 (acres)
WU1	Mechanized clearing	P	Floodplain Pool	WA	No	Corps	0.025 (acres)
WU2	Mechanized clearing	P	Floodplain Pool	WA	No	Corps	0.025 (acres)

2g. Total Temporary Wetland Impact

0.021

2g. Total Permanent Wetland Impact

0.077

2g. Total Wetland Impact

0.098

2i. Comments:

0.05 ac of the total wetland impacts are due to temporary access for utility relocations (sites WU1, WU2)

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 * Average (feet)	3h. Impact length * (linear feet)
S1	Bridge/pier removal	Temporary	Workpad/Causeway	Cane Creek	Perennial	Both	50	44

** 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:

0

3i. Total temporary stream impacts:

44

3i. Total stream and ditch impacts:

44

3j. Comments:

The temporary stream impact does not span the width of the stream; the area of impact is 0.013 acre.

6. Buffer Impacts (for DWR)

If project will impact a protected riparian buffer, then complete the chart below. Individually list all buffer impacts below.

6a. Project is in which protect basin(s)? *

Check all that apply.

☐ Neuse

☐ Catawba

☐ Goose Creek

☐ Other

☐ Tar-Pamlico

☐ Randleman

☒ Jordan Lake

6b. Impact Type * (?)	6c. Per or Temp * (?)	6d. Stream name *	6e. Buffer mitigation required? *	6f. Zone 1 impact *	6g. Zone 2 impact *
Allowable	P	Cane Creek	No	10,858 (square feet)	7,644 (square feet)
Allowable w/ Mitigation	P	Cane Creek	Yes	5,202 (square feet)	3,640 (square feet)
Allowable w/ Mitigation	P	SA (UT to Cane Creek)	Yes	435 (square feet)	2,555 (square feet)
Allowable	T	Cane Creek	No	1,953 (square feet)	1,300 (square feet)

6h. Total buffer impacts:

	Zone 1	Zone 2
Total Temporary impacts:	1,953.00	1,300.00

	Zone 1	Zone 2
Total Permanent impacts:	16,495.00	13,839.00

	Zone 1	Zone 2
Total combined buffer impacts:	18,448.00	15,139.00

6i. Comments:

The first "Allowable" impact is associated with the bridge.
The "Allowable w/ Mitigation" impacts are Parallel Impacts.
The 2nd "Allowable" impact is associated with aerial utility crossing.

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 proposed bridge does not utilize deck drains.
Runoff from the bridge roadway and paved shoulders at the bridge approaches drains into inlets. The stormwater is then diffused at a riprap pad outlet prior to discharging into Cane Creek.
The existing abutment on the start of bridge side is to be retained and cut off to avoid impacts to Cane Creek along the streambank and channel from the removal of the abutment and its foundation.
There is a riprap outlet pad provided in Buffer Zone 2 at station -L- 26+17 RT. Its purpose is to diffuse the stormwater flow from the proposed roadway into the riparian buffer zone of Stream SA, a tributary into Cane Creek.
The detour alignment is downstream from the existing alignment to minimize impacts to the jurisdictional streams that run parallel to the existing roadway on the upstream side of the crossing.
The slopes from the Detour were steepened to 2:1 slopes to minimize the fill in wetlands and mechanized clearing impacts to the wetland.

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

NCDOT will utilize Best Management Practices (BMPs) during construction.

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

2c. If yes, mitigation is required by (check all that apply):

☒ DWR

☒ Corps

2d. If yes, which mitigation option(s) will be used for this project?

☐ Mitigation bank

☒ Payment to in-lieu fee program

☐ Permittee Responsible Mitigation

4. Complete if Making a Payment to In-lieu Fee Program

4a. Approval letter from in-lieu fee program is attached.

☒ Yes

☐ No

4b. Stream mitigation requested:

(linear feet)

0

4c. If using stream mitigation, what is the stream temperature:

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

4d. Buffer mitigation requested (DWR only):

(square feet)

11832

4e. Riparian wetland mitigation requested:

(acres)

0.03

4f. Non-riparian wetland mitigation requested:

(acres)

4g. Coastal (tidal) wetland mitigation requested:

(acres)

4h. Comments

6. Buffer mitigation (State Regulated Riparian Buffer Rules) - required by DWR

6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation? If yes, you must fill out this entire form - please contact DWR for more information.

☒ Yes ☐ No

6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation calculate the amount of mitigation required in the table below.

	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)	
Zone 1	parallel impacts	5,637	2	11,274	

Zone 2 parallel impacts 6,195 1.5 9,293

6f. Total buffer mitigation required

20567

6g. If buffer mitigation is required, is payment to a mitigation bank or NC Division of Mitigation Services proposed?

☒ Yes ☐ No

6j. Comments:

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

1b. All buffer impacts and high ground impacts require diffuse flow or other form of stormwater treatment. If the project is subject to a state implemented riparian buffer protection program, include a plan that fully documents how diffuse flow will be maintained.

All Stormwater Control Measures (SCM)s must be designed in accordance with the NC Stormwater Design Manual. Associated supplement forms and other documentation shall be provided.

What type of SCM are you providing?

- ☐ Level Spreader
 - ☐ Vegetated Conveyance (lower SHWT)
 - ☐ Wetland Swale (higher SHWT)
 - ☐ Other SCM that removes minimum 30% nitrogen
 - ☒ Proposed project will not create concentrated stormwater flow through the buffer
- (check all that apply)

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

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

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.

Due to minimal transportation impact resulting from the bridge replacement, the project will not stimulate growth but may influence nearby land use.

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.

Raleigh

5d. Is another Federal agency involved? *

☒ Yes ☐ No ☐ Unknown

What Federal Agency is involved?

FHWA

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

☒ Yes ☐ No

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

IPaC and on-site freshwater fish survey. Cape Fear Shiner in range per IPaC - informal concurrence from USFWS attached.

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? *

National Marine Fisheries Service (NMFS).

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/hpweb/>)

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? *

Archaeological Form/Letter and Historic Properties and Landscapes Form/Letter (attached).

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 Hydraulics Unit's Highway Floodplain Program.

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

FEMA Floodplain maps.

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

BR-0060 Alamance July 07 2025.pdf

22.46MB

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: *

Erin K. Cheely

Signature *

Erin K. Cheely

Date

7/7/2025

Permit Drawings



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS



(Version 3.00; Released August 2021)

WBS Element:	67060.1.1	TIP/Proj No:	BR-0060	County(ies):	Alamance	Page	1	of	2
General Project Information									
WBS Element:	67060.1.1	TIP Number:	BR-0060	Project Type:	Bridge Replacement	Date:	1/13/2025		
NCDOT Contact:	Galen Cail			Contractor / Designer:	Justin Davenport, PE				
	Address:	HYDRAULICS UNIT 1000 BIRCH RIDGE DRIVE RALEIGH, NC 27610			Address:	MOFFATT & NICHOL 4700 FALLS OF NEUSE RD, SUITE 300 RALEIGH, NC 27609			
	Phone:	(919) 707-6711			Phone:	(919) 781-4626			
	Email:	gcail@ncdot			Email:	jdavenport@moffattnichol.com			
City/Town:	Pittsboro			County(ies):	Alamance				
River Basin(s):	Cape Fear			CAMA County?	No				
Wetlands within Project Limits?	Yes								
Project Description									
Project Length (lin. miles or feet):	0.43		Surrounding Land Use:	Agriculture, Forest					
Proposed Project									
Project Built-Upon Area (ac.)	1.8		ac.	Existing Site					
Typical Cross Section Description:	THE PROPOSED ROADWAY WILL BE A TWO-WAY ALIGNMENT WITH 12' TRAVEL LANES, 2' PAVED SHOULDERS, AND VARYING SLOPES. THE PROPOSED BRIDGE WILL HAVE A CLEAR ROADWAY WIDTH OF 36'-0". THE BRIDGE WILL HAVE 12' TRAVEL LANES AND 6' PAVED SHOULDERS.			THE EXISTING ROADWAY IS A TWO-WAY ALIGNMENT WITH 12' TRAVEL LANES, 1.5' PAVED SHOULDERS, AND VARYING SLOPES. THE EXISTING BRIDGE HAS A CLEAR ROADWAY WIDTH OF 36'-7".					
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	3300	Year:	2043	Existing:	3000	Year:	2023	
General Project Narrative: (Description of Minimization of Water Quality Impacts)	The project consists of the replacement of of Bridge #000014 in Alamance County. The existing bridge carries NC 87 over Cane Creek between Lewis Road and Greenhill Road. The proposed structure for Bridge #000014 is a three span bridge consisting of 1@50', 1@95', 1@85' 54" girders with 4'-0" deep caps. The proposed alignment is at the same location as the existing alignment. The proposed structure for the detour bridge is a 1@130' detour bridge with 4'-0" deep caps. The detour alignment is downstream from the existing alignment to minimize impacts to the jurisdictional streams that run parallel to the existing roadway on the upstream side of the crossing. There are wetlands located within the project limits. STORMWATER CONTROLS: The proposed bridge does not utilize deck drains. Runoff from the bridge roadway and paved shoulders at the bridge approaches drains into inlets. The stormwater is then diffused at a riprap pad outlet prior to discharging into Cane Creek. Shoulders will be paved. The existing abutment on the start of bridge side is to be retained and cut off to avoid impacts to Cane Creek along the streambank and channel from the removal of the abutment and its foundation. There is a riprap outlet pad provided in Buffer Zone 2 at station -L- 26+17 RT. Its purpose is to diffuse the stormwater flow from the proposed roadway into the riparian buffer zone of Stream SA, a tributary into Cane Creek. The slopes along the proposed driveway were steepened to 2:1 slopes and the slopes along the detour alignment were steepened to 3:1 where possible to minimize the fill in wetlands and mechanized clearing impacts to the wetland.								



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 3.00; Released August 2021)

WBS Element: 67060.1.1

TIP/Proj No.: BR-0060

County(ies): Alamance

Page 2 of 2

General Project Information

Waterbody Information

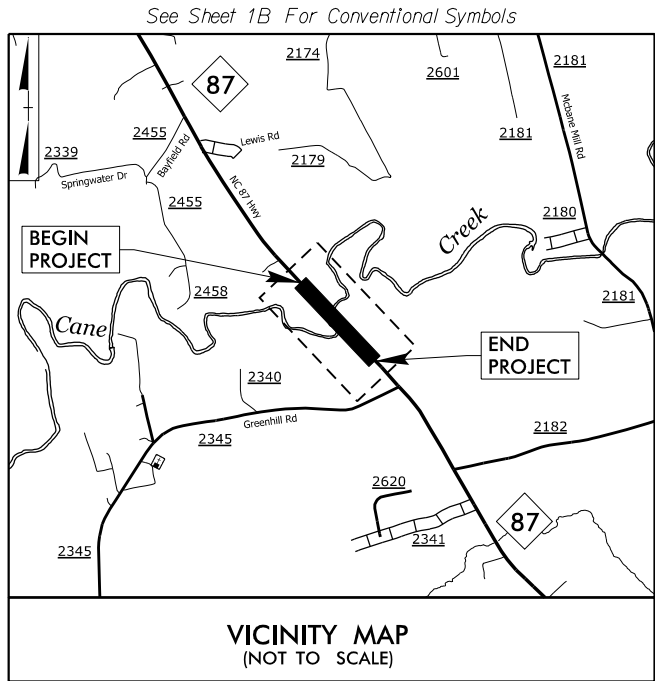
Surface Water Body (1):	Cane Creek (South side of Haw River)		NCDWR Stream Index No.:	16-28	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Water Supply V (WS-V)		
	Supplemental Classification:		Nutrient Sensitive Waters (NSW)		
Other Stream Classification:					
Impairments:	None				
Aquatic T&E Species?	No	Comments:	Cape Fear shiner are listed as ESA federally protected species but no known occurrences were found within 1 mile of the study area.		
NRTR Stream ID:	Cane Creek		Buffer Rules in Effect:	Jordan Lake	
Project Includes Bridge Spanning Water Body?	Yes	Deck Drains Discharge Over Buffer?	No	Dissipator Pads Provided in Buffer?	Yes
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					
Surface Water Body (2):			NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body	Primary Classification:				
	Supplemental Classification:				
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?		Comments:			
NRTR Stream ID:			Buffer Rules in Effect:		
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?		Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					
Surface Water Body (3):			NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body	Primary Classification:				
	Supplemental Classification:				
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?		Comments:			
NRTR Stream ID:			Buffer Rules in Effect:		
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?		Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

09/08/99

1/13/2025
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tdavenport

TIP PROJECT: BR-0060

CONTRACT:



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ALAMANCE COUNTY

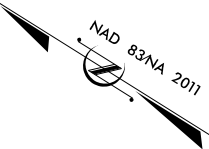
LOCATION: REPLACE BRIDGE 000014 ON NC 87 OVER CANE CREEK

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

WETLAND AND SURFACE WATER IMPACTS PERMIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0060	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
67060.1.1	N/A	PE	
67060.2.1	N/A	ROW/UTIL	

PERMIT DRAWING
SHEET 1 OF 12



BEGIN STATE TIP PROJECT BR-0060
-L- STA 12+16.55

BEGIN CONSTRUCTION
-L- STA 11+49.63

TO LEWIS RD

BEGIN BRIDGE
-L- STA 20+04.00

END BRIDGE
-L- STA 22+34.00

NC 87

-L- DETOUR-

SITE 1

SITE 2

END CONSTRUCTION
-L- STA 35+16.10

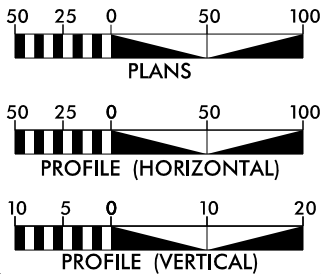
TO GREENHILL RD

END STATE TIP PROJECT BR-0060
-L- STA 34+64.00

THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2023 = 3,000
ADT 2043 = 3,300
K = 10 %
D = 60 %
T = 7 % *
V = 60 MPH
* TTST = 3% DUAL 4%
FUNC CLASS =
MINOR ARTERIAL-
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT BR-0060 = 0.382
LENGTH STRUCTURE TIP PROJECT BR-0060 = 0.044
TOTAL LENGTH TIP PROJECT BR-0060 = 0.426

Prepared for NCDOT in the Office of:

moftatt & nichol
4700 FALLS OF NEUSE ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27609
(919) 781-4625 VOICE (919) 781-4845 FAX
NC License NO.: F-0105

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 27, 2023

LETTING DATE:
SEPTEMBER 16, 2025

TRENT HUFFMAN, P.E.
PROJECT ENGINEER

GRAY MODLIN, P.E.
PROJECT DESIGN ENGINEER

DAVID STUTTS, P.E.
NCDOT CONTACT

HYDRAULICS ENGINEER

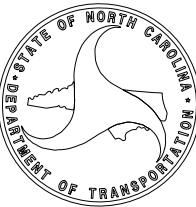
moftatt & nichol

SIGNATURE: P.E.

ROADWAY DESIGN
ENGINEER

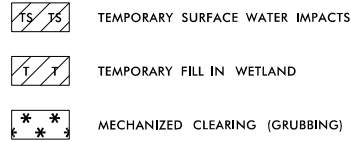
moftatt & nichol

SIGNATURE: P.E.



DETOUR STRUCTURE HYDRAULIC DATA

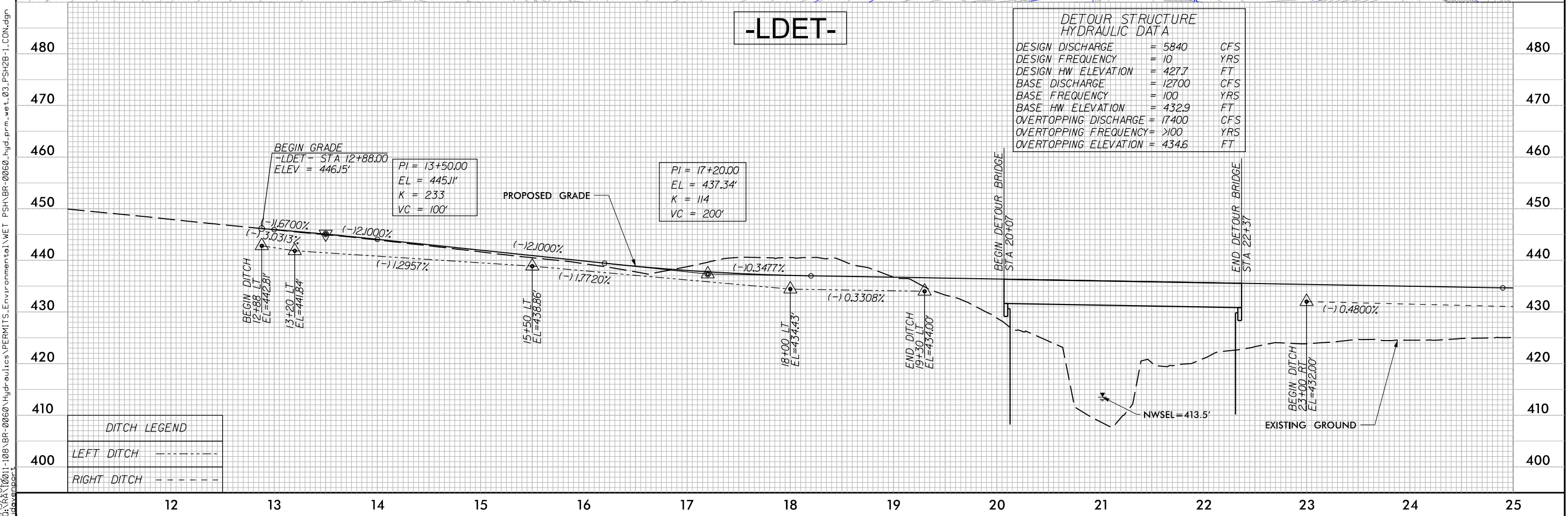
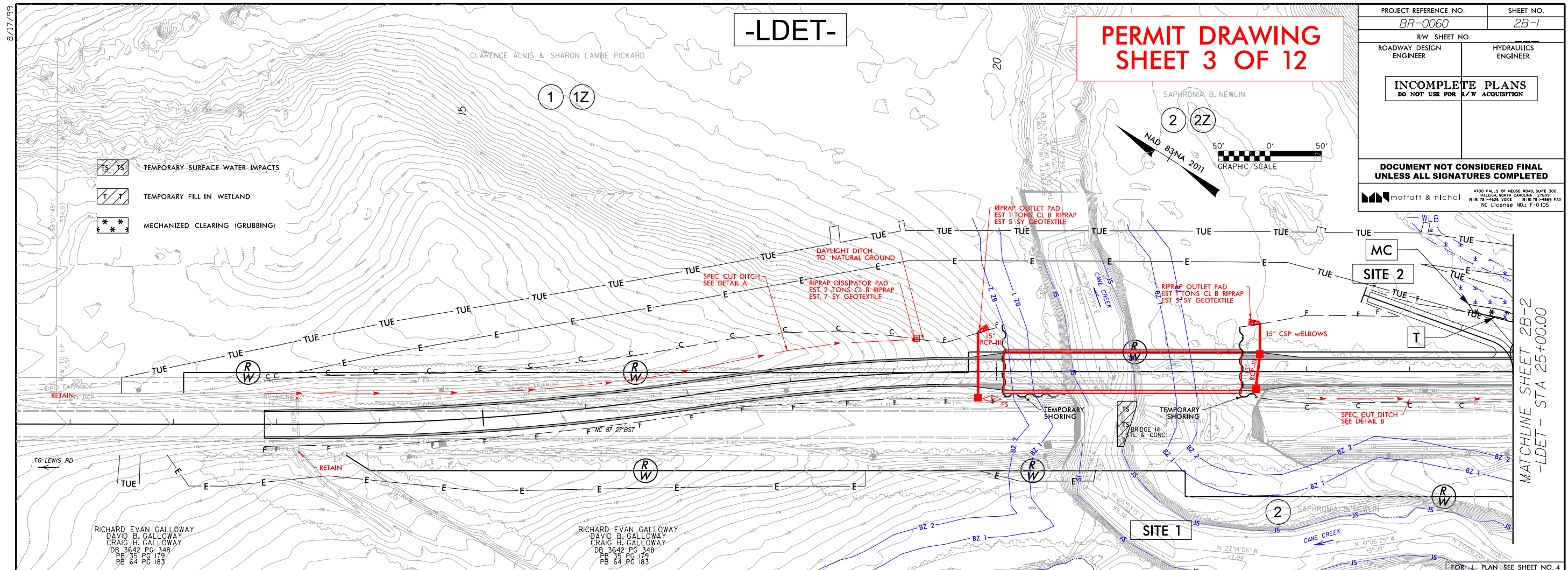
DETOUR STRUCTURE HYDRAULIC DATA		
DESIGN DISCHARGE	= 5840	CFS
DESIGN FREQUENCY	= 10	YRS
DESIGN HW ELEVATION	= 427.7	FT
BASE DISCHARGE	= 12700	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 432.9	FT
OVERTOPPING DISCHARGE	= 17400	CFS
OVERTOPPING FREQUENCY	= >100	YRS
OVERTOPPING ELEVATION	= 434.6	FT



RICHARD EVAN GALLOWAY
DAVID B. GALLOWAY
CRAIG H. GALLOWAY
DB 3642 PG 348
PB 35 PG 179
PB 64 PG 183

RICHARD EVAN GALLOWAY
DAVID B. GALLOWAY
CRAIG H. GALLOWAY
DB 3642 PG 348
PB 35 PG 179
PB 64 PG 183

DITCH LEGEND	
LEFT DITCH	-----
RIGHT DITCH	-----



8/17/99

25

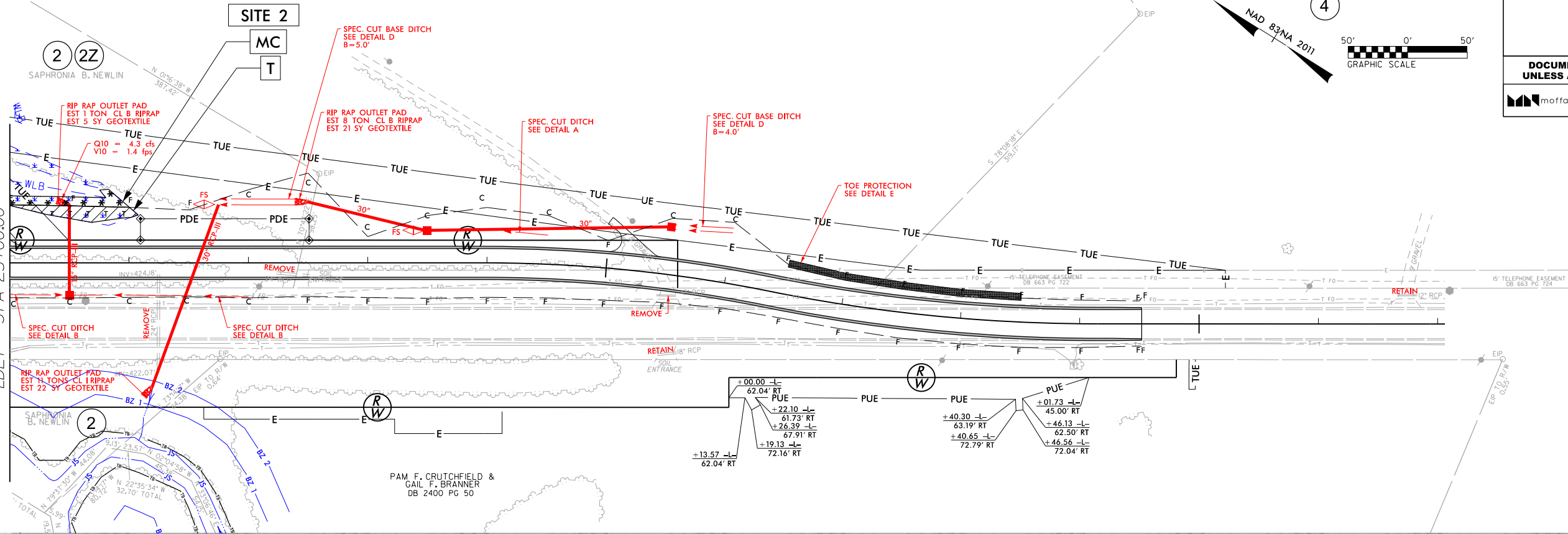
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-LDET-

PERMIT DRAWING
SHEET 4 OF 12

PROJECT REFERENCE NO.	SHEET NO.
BR-0060	2B-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
moftatt & nichol	

MATCHLINE SHEET 2B-1
-LDET- STA 25+00.00



FOR -L- PLAN SEE SHEET NO. 5

485

475

465

455

445

435

425

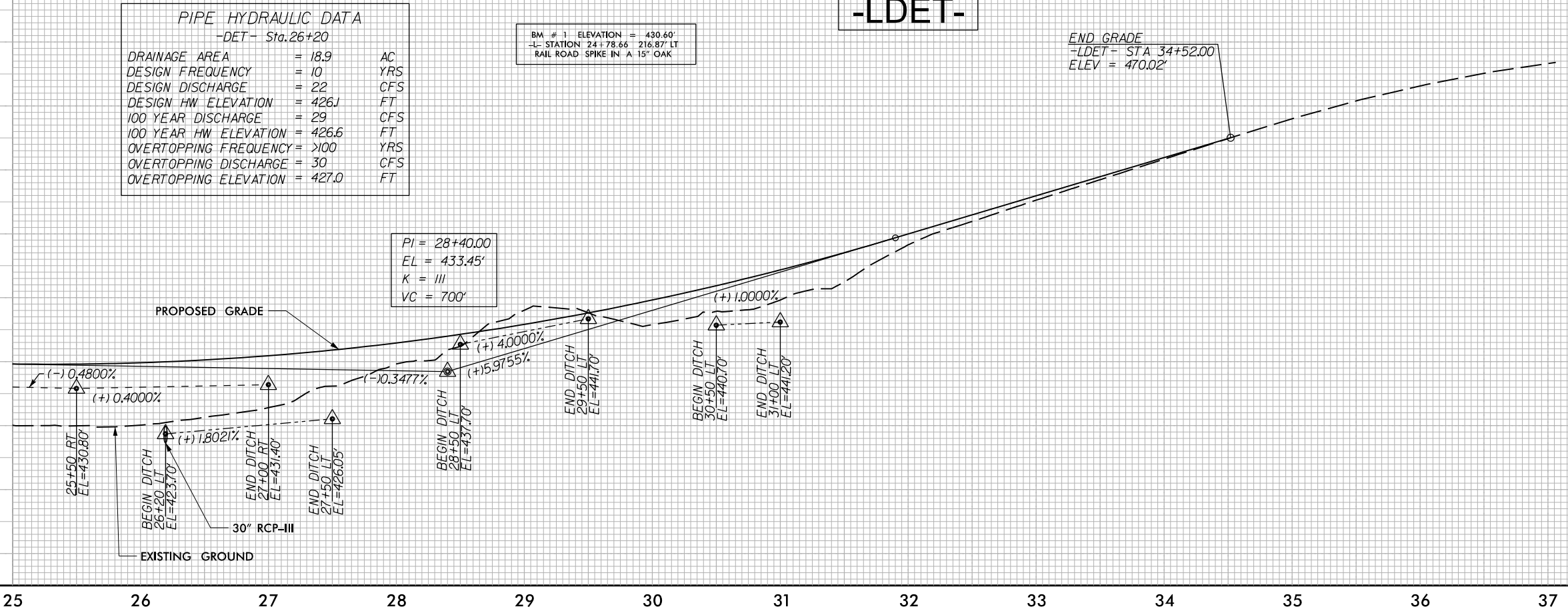
415

405

PIPE HYDRAULIC DATA		
-DET- Sta. 26+20		
DRAINAGE AREA	= 18.9	AC
DESIGN FREQUENCY	= 10	YRS
DESIGN DISCHARGE	= 22	CFS
DESIGN HW ELEVATION	= 426.1	FT
100 YEAR DISCHARGE	= 29	CFS
100 YEAR HW ELEVATION	= 426.6	FT
OVERTOPPING FREQUENCY	= 100	YRS
OVERTOPPING DISCHARGE	= 30	CFS
OVERTOPPING ELEVATION	= 427.0	FT

BM # 11 ELEVATION = 430.60'
-L- STATION 24+78.66 216.87' LT
RAIL ROAD SPIKE IN A 15" OAK

PI = 28+40.00
EL = 433.45'
K = III
VC = 700'



DITCH LEGEND	
LEFT DITCH	-----
RIGHT DITCH	-----

485

475

465

455

445

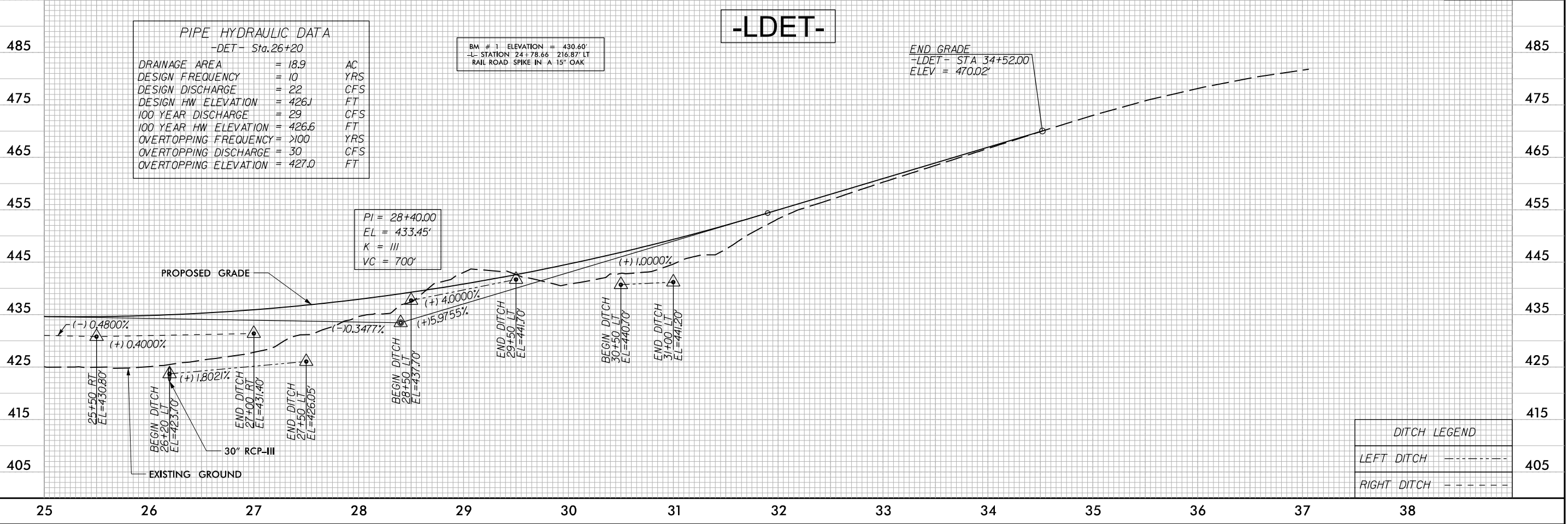
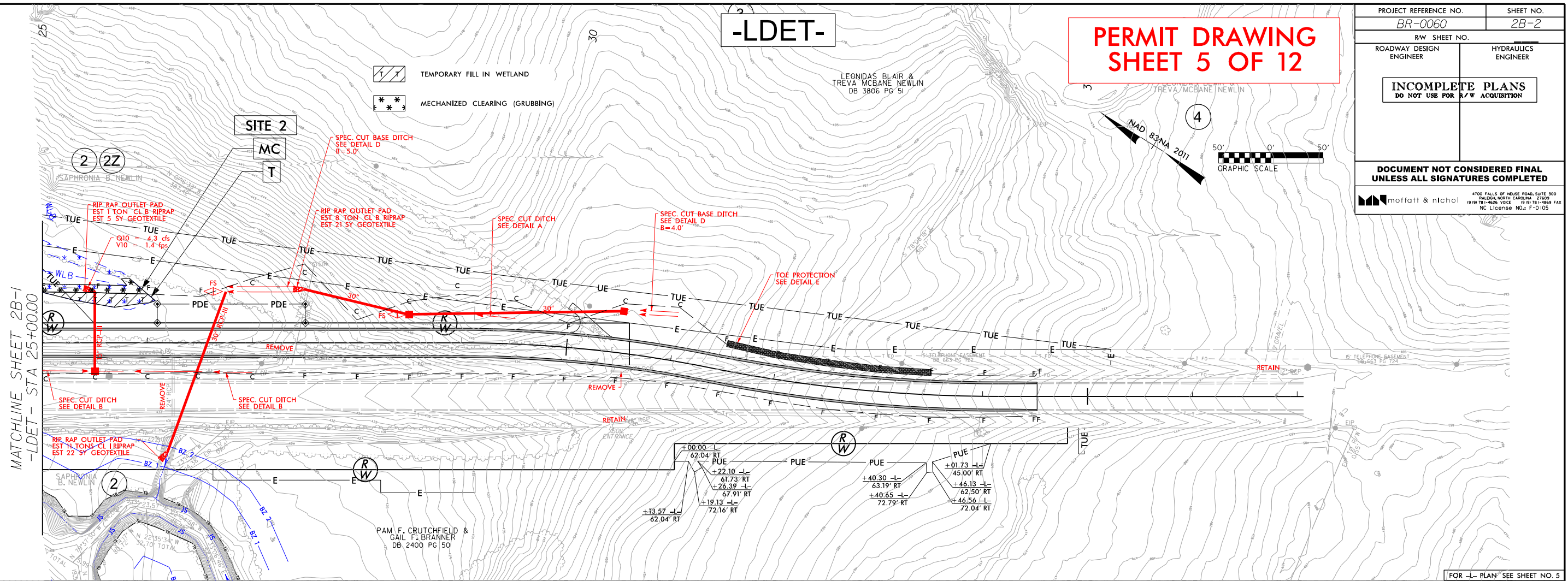
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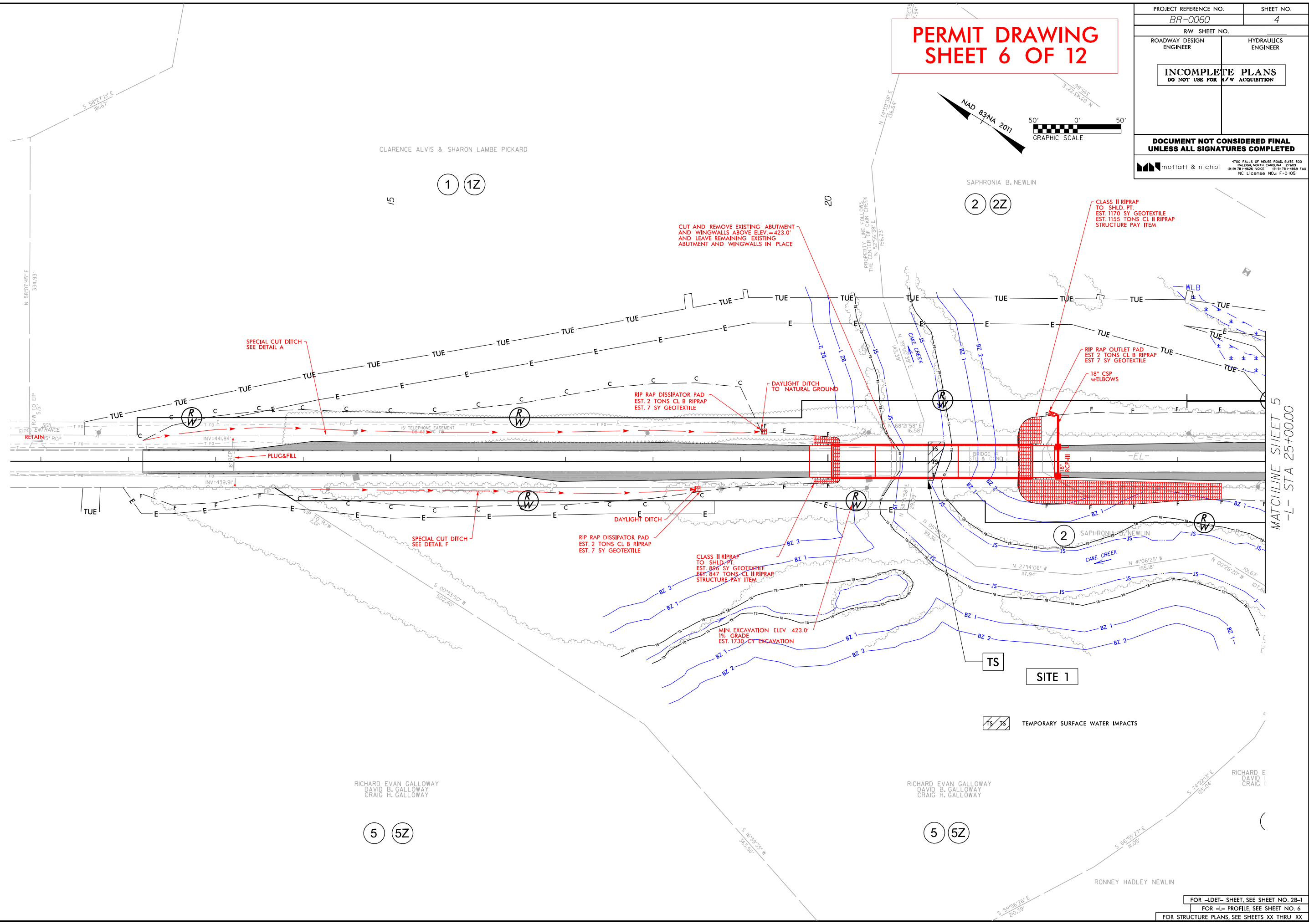
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8/17/99
1/3/2025
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develop

PERMIT DRAWING
SHEET 6 OF 12

PROJECT REFERENCE NO. BR-0060		SHEET NO. 4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
moffatt & nichol		4700 FALLS OF NEUSE ROAD, SUITE 300 WALTON, NORTH CAROLINA 27159 (919) 781-4626 VOICE (919) 781-4869 FAX NC License NO.: F-0105	



RICHARD EVAN GALLOWAY
DAVID B. GALLOWAY
CRAIG H. GALLOWAY

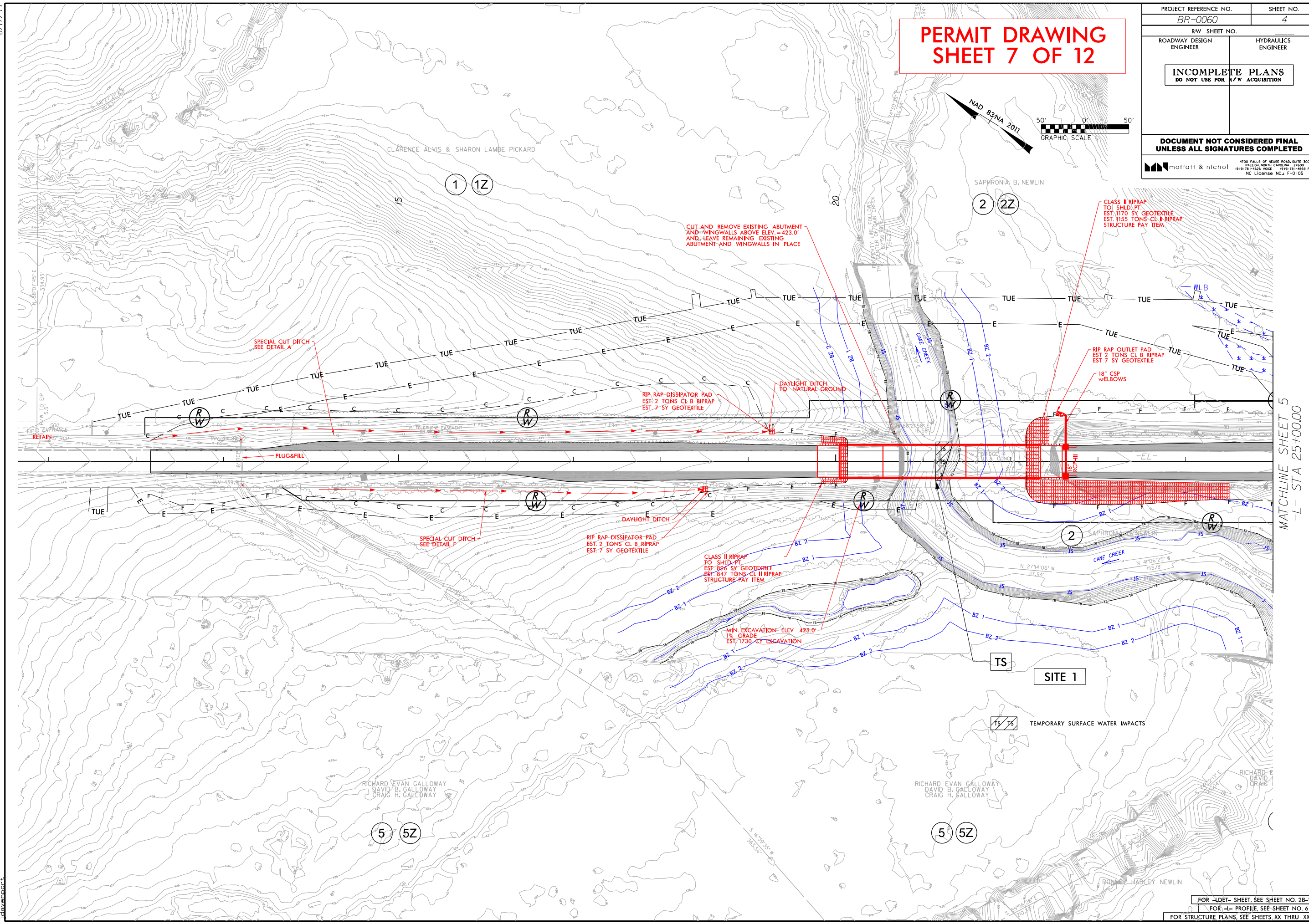
RICHARD EVAN GALLOWAY
DAVID B. GALLOWAY
CRAIG H. GALLOWAY

RICHARD E
DAVID I
CRAIG I

FOR -LDET- SHEET, SEE SHEET NO. 2B-1
FOR -L- PROFILE, SEE SHEET NO. 6
FOR STRUCTURE PLANS, SEE SHEETS XX THRU XX

50' 0' 50'

GRAPHIC SCALE



REVISIONS

I/13/2025
Q:\RA\10011-108\BR-0060\Hydraulics\PERMITS-Environmental\WET_PSH\BR-0060_hyd-prm_wet-08_PSH05.dgn
Chavarron

SITE 2

MATCHLINE SHEET 4
-L- STA 25+00.00

RICHARD EVAN GALLOWAY
DAVID B. GALLOWAY
CRAIG H. GALLOWAY

RONNEY HADLEY NEWLIN

LEONIDAS BLAIR &
TREVA MCBANE NEWLIN

PAM F. CRUTCHFIELD &
GAIL F. BRANNER

6 6Z

DETAIL H
WETLAND TOE PROTECTION
(Not to Scale)

The diagram illustrates a cross-section of a wetland toe protection structure. A horizontal line represents the 'Natural Ground'. Below this, a layer of 'Geotextile' is shown, with a thickness 'd'. On top of the geotextile is a layer of 'Rip-Rap' (labeled 'Type of Liner = C1 B Rip-Rap') with a thickness 'd'. Above the rip-rap is a 'Fill Slope' with a ratio of '2:1 or Flatter'. The total thickness of the protection layers is indicated as 'd = 1.0 Ft.'.

Natural Ground

d = 1.0 Ft.

Type of Liner = C1 B Rip-Rap

2:1 or Flatter Fill Slope

d

Geotextile

FROM -< STA. 25 + 57 LT TO -< STA. 26 + 06 LT

PERMIT DRAWING
SHEET 8 OF 12

NAD 83 NA 2011

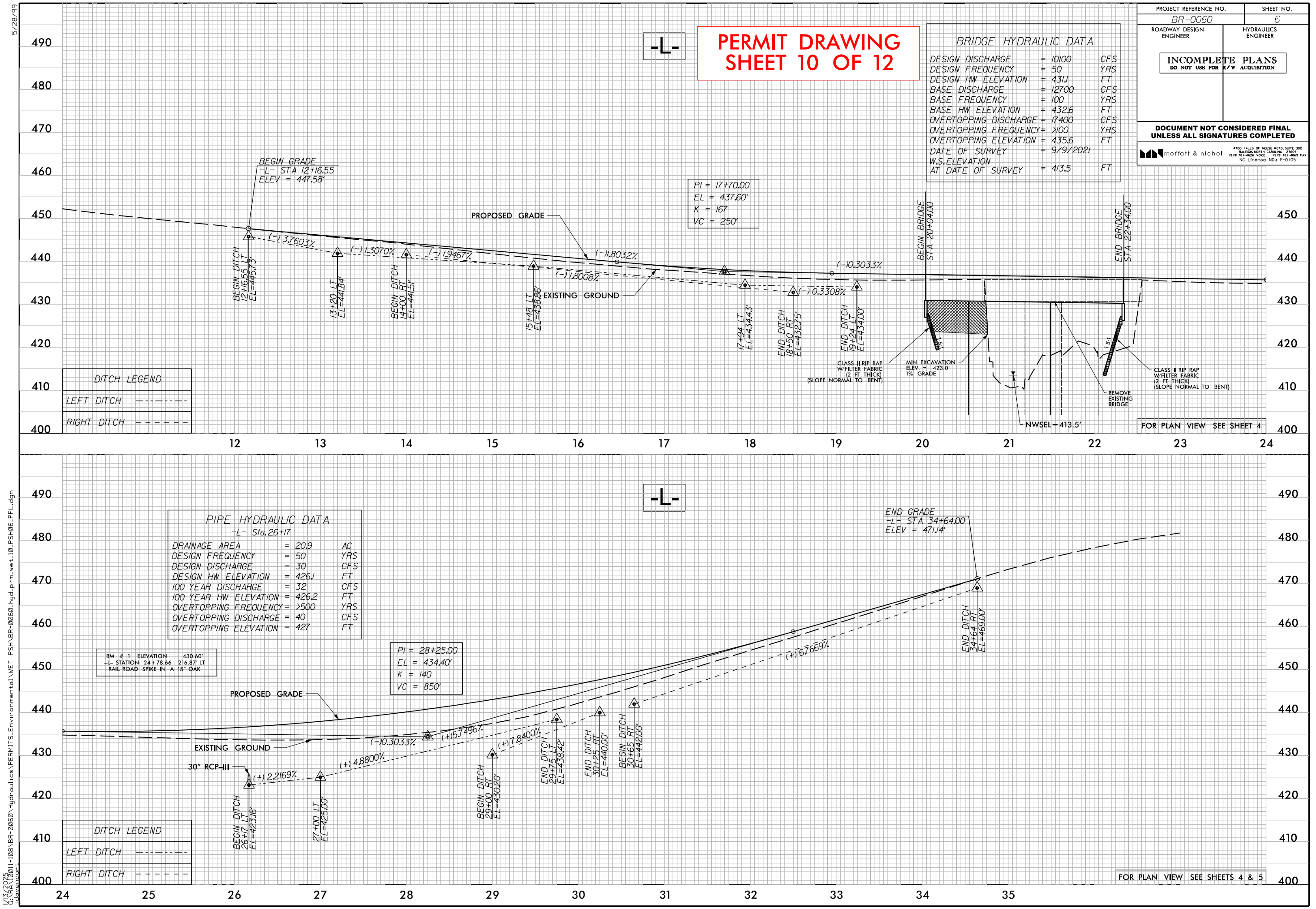
50' 0' 50'

GRAPHIC SCALE

 FILL IN WETLAND

PROJECT REFERENCE NO.		SHEET NO.	
BR-0060		5	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
4100 FALLS OF NEUSE ROAD, SUITE 300 RALEIGH, NORTH CAROLINA 27609 (919) 781-4626 VOICE (919) 781-4663 FAX NC LICENSE NO.: F-0105			

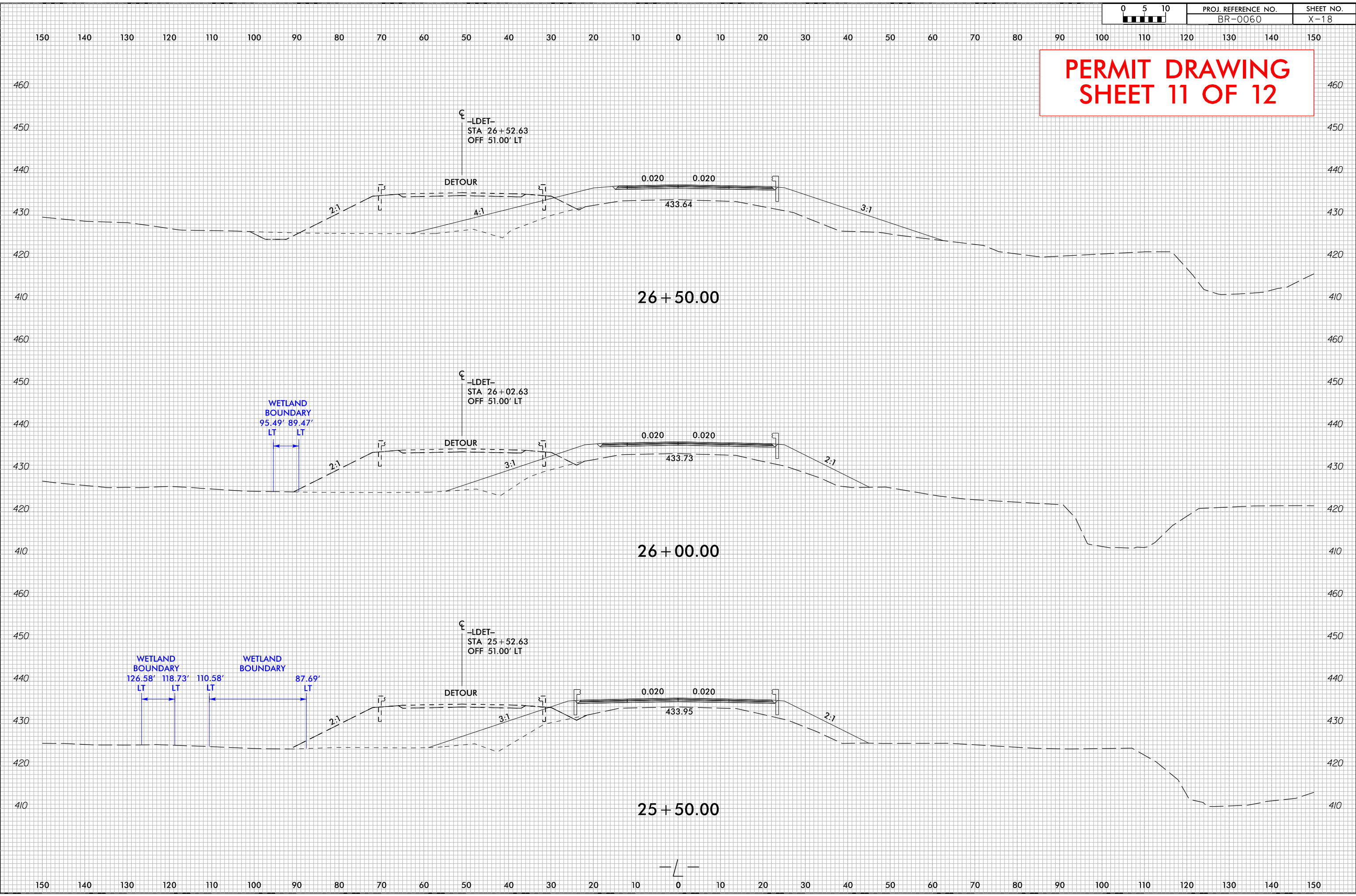
FOR -LDET- SHEET, SEE SHEET NO. 2B-2
FOR -L- PROFILE, SEE SHEET NO. 6



PROJECT REFERENCE NO. BR-0060		SHEET NO. 6	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
moftatt & nichol		4700 FALLS OF NEUSE ROAD, SUITE 300 RALEIGH, NORTH CAROLINA 27609 (919) 881-4626 VOICEMAIL FAX NC LICENSE NO.: F-0105	

6/23/16
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development

	PROJ. REFERENCE NO.	SHEET NO.
	BR-0060	X-18



WETLAND AND SURACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L- 21+14 LT TO 21+34 LT	BRIDGE-EXISTING PIER REMOVAL							0.01		44	
2	-L- 24+57 LT TO 26+07 LT	FILL SLOPE-DETOUR & PROPOSED	< 0.01	0.02		0.03						
TOTALS*			< 0.01	0.02		0.03			0.01	0	44	0

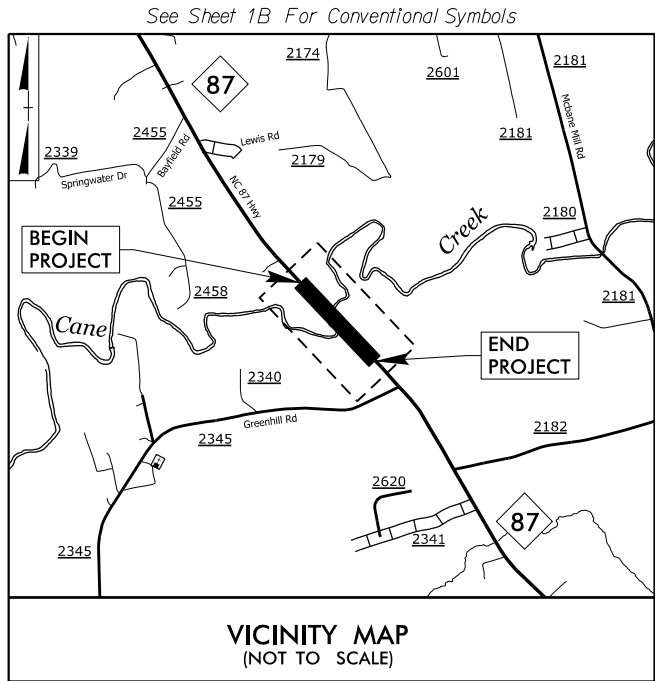
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SHEET 12 OF 12

09/08/99
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tdavenport

TIP PROJECT: BR-0060

CONTRACT:



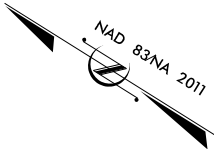
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ALAMANCE COUNTY

LOCATION: REPLACE BRIDGE 000014 ON NC 87 OVER CANE CREEK
TYPE OF WORK: PAVING, GRADING, GUARDRAIL, DRAINAGE,
AND STRUCTURES

BUFFER IMPACTS PERMIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0060	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
67060.1.1	N/A	PE	
67060.2.1	N/A	ROW/UTIL	

**BUFFER DRAWING
SHEET 1 OF 5**



BEGIN STATE TIP PROJECT BR-0060
-L- STA 12+16.55

BEGIN CONSTRUCTION
-L- STA 11+49.63

TO LEWIS RD

BEGIN BRIDGE
-L- STA 20+04.00

END BRIDGE
-L- STA 22+34.00

SITE 1

-L- DETOUR-

SITE 2

END CONSTRUCTION
-L- STA 35+16.10

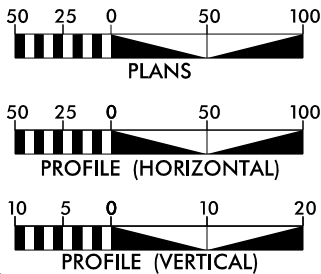
TO GREENHILL RD

END STATE TIP PROJECT BR-0060
-L- STA 34+64.00

THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2023 = 3,000
ADT 2043 = 3,300
K = 10 %
D = 60 %
T = 7 % *
V = 60 MPH
* TTST = 3% DUAL 4%
FUNC CLASS =
MINOR ARTERIAL-
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT BR-0060 = 0.382
LENGTH STRUCTURE TIP PROJECT BR-0060 = 0.044
TOTAL LENGTH TIP PROJECT BR-0060 = 0.426

Prepared for NCDOT in the Office of:

moffatt & nichol
4700 FALLS OF NEUSE ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27609
(919) 781-4625 VOICE (919) 781-4845 FAX
NC License NO.: F-0105

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 27, 2023

LETTING DATE:
SEPTEMBER 16, 2025

TRENT HUFFMAN, P.E.
PROJECT ENGINEER

GRAY MODLIN, P.E.
PROJECT DESIGN ENGINEER

DAVID STUTTS, P.E.
NCDOT CONTACT

HYDRAULICS ENGINEER

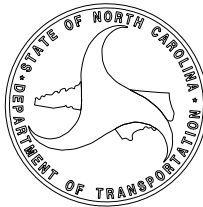
moffatt & nichol

SIGNATURE: P.E.

ROADWAY DESIGN
ENGINEER

moffatt & nichol

SIGNATURE: P.E.



8/17/99
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1/3/2025
0:16:11
ideveloper

PI Sta 12+39.48
 $\Delta = 90^{\circ} 00' 00.0''$ (RT)
 $D = 114^{\circ} 35' 29.6''$
 $L = 78.54'$
 $T = 50.00'$
 $R = 50.00'$

MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2

TOE PROTECTION
SEE DETAIL H
EST 13 SY GEOTEXTILE
EST 6 TONS CL B RIPRAP

REMOVE 32 LF OF
30" RCP-III FROM
DETOUR PHASE

RETAIN 130 LF OF
30" RCP-III FROM
DETOUR PHASE

REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

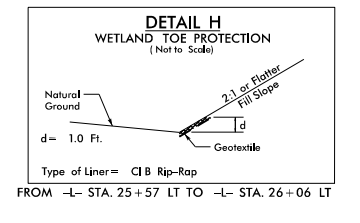
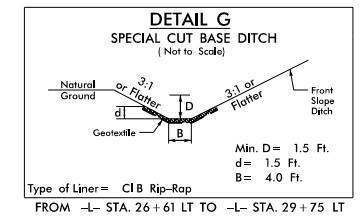
REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

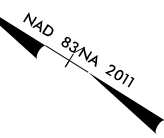
REMOVE 18" RCP-IV

REMOVE 18" RCP-IV

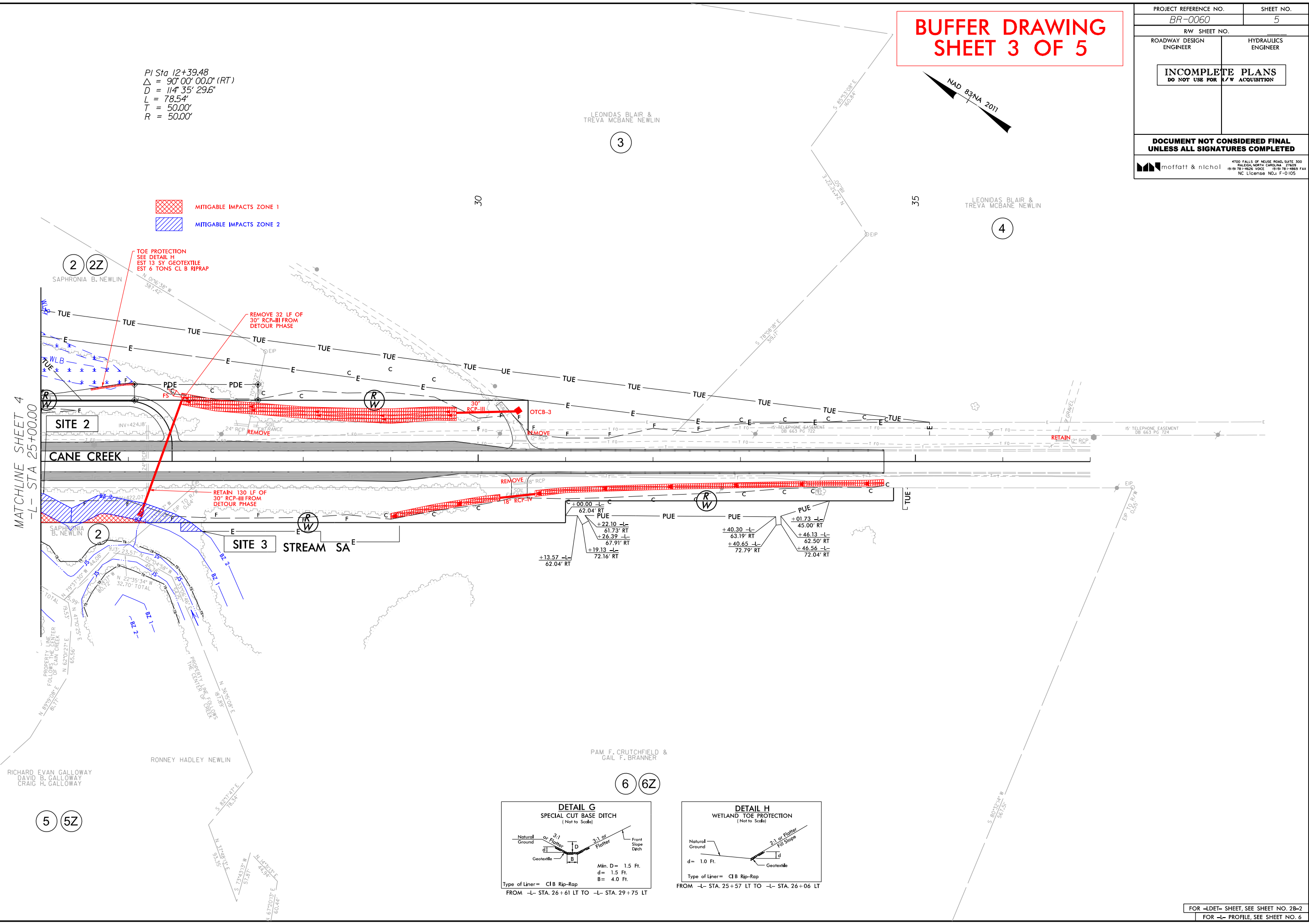
REMOVE 18" RCP-IV



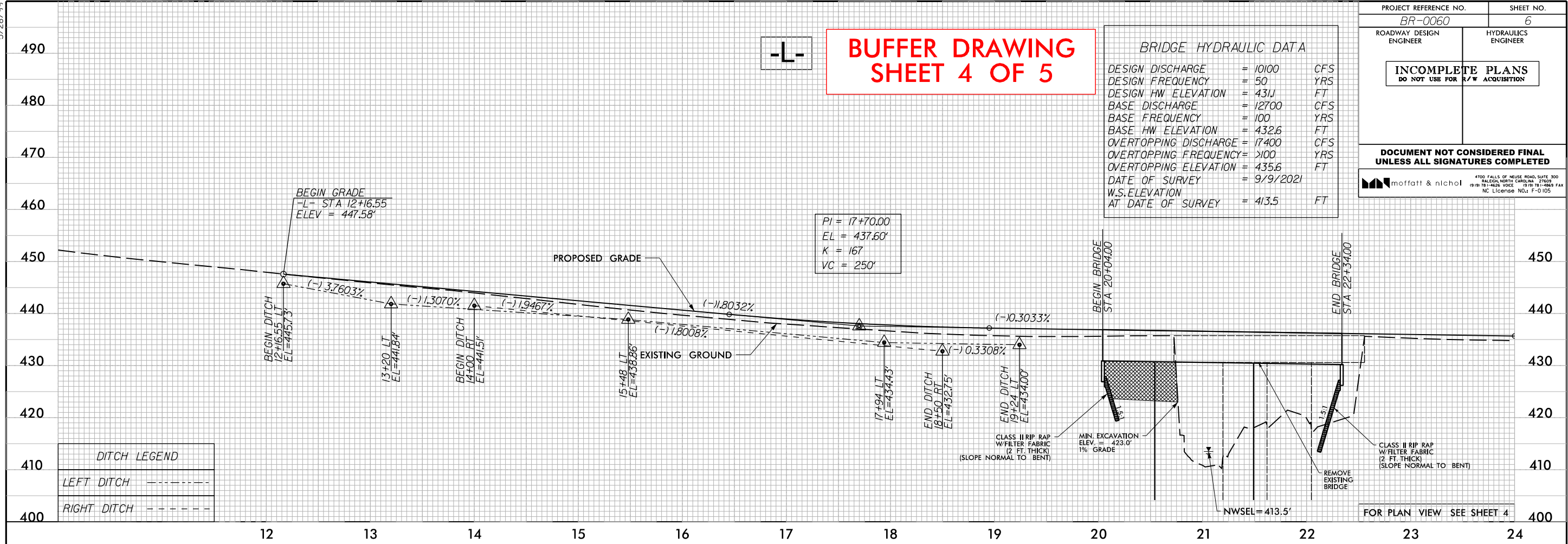
BUFFER DRAWING SHEET 3 OF 5



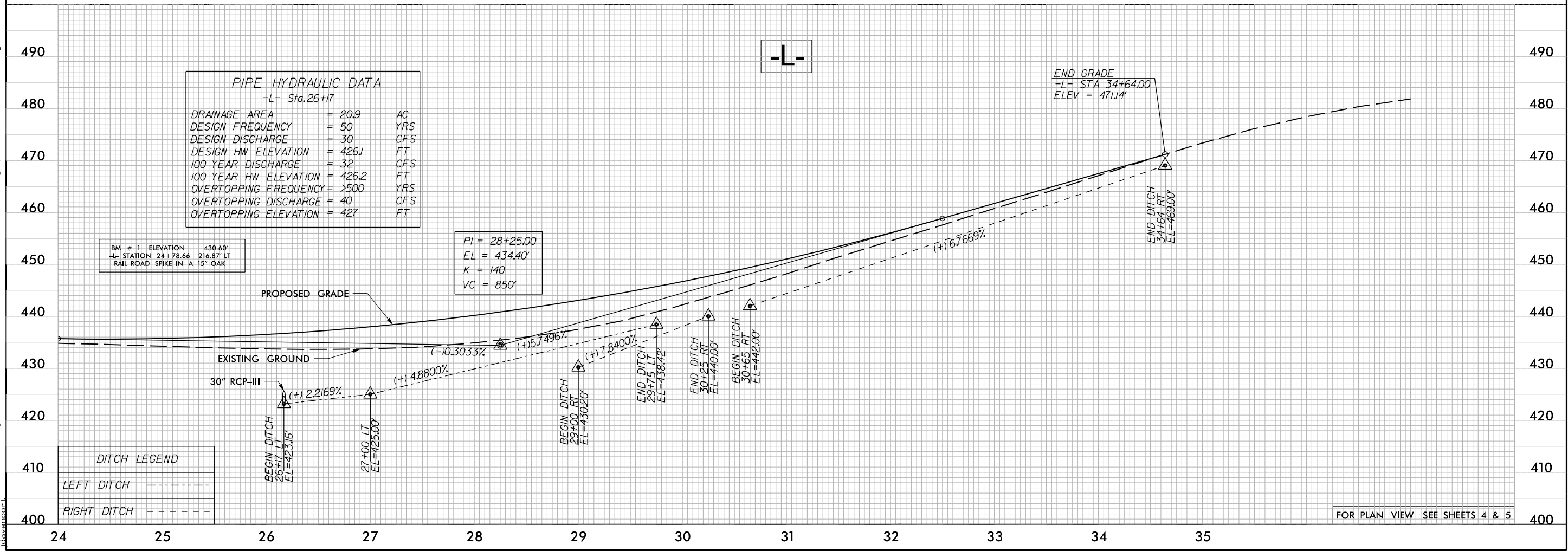
PROJECT REFERENCE NO. <i>BR-0060</i>		SHEET NO. <i>5</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
 moffatt & nichol		4700 FALLS OF NEUSE ROAD, SUITE 300 DALLAS, NORTH CAROLINA 77609 (979) 781-4626 VOICE (979) 781-4669 FAX NC License No.: F-0105	



5/28/99



I:\3\2025\011-108\BR-0060\Hydraulics\PERMITS\Environmental\PSH\BUFF\BR-0060_hyd_prm.buf.06.PSH06_PFL.dgn



RIPARIAN BUFFER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	IMPACTS									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft²)	ZONE 2 (ft²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft²)	ZONE 2 (ft²)	TOTAL (ft²)	ZONE 1 (ft²)	ZONE 2 (ft²)	TOTAL (ft²)		
1	-L- 19+78 LT TO 22+34 RT	BRIDGE		X		10858	7644	18502					
2	-L- 22+34 RT TO 25+34 RT	PARALLEL IMPACT			X				5202	3640	8842		
3	-L- 25+34 RT TO 26+85 RT	PARALLEL IMPACT			X				435	2555	2990		
TOTALS*:						10858	7644	18502	5637	6195	11832	0	0

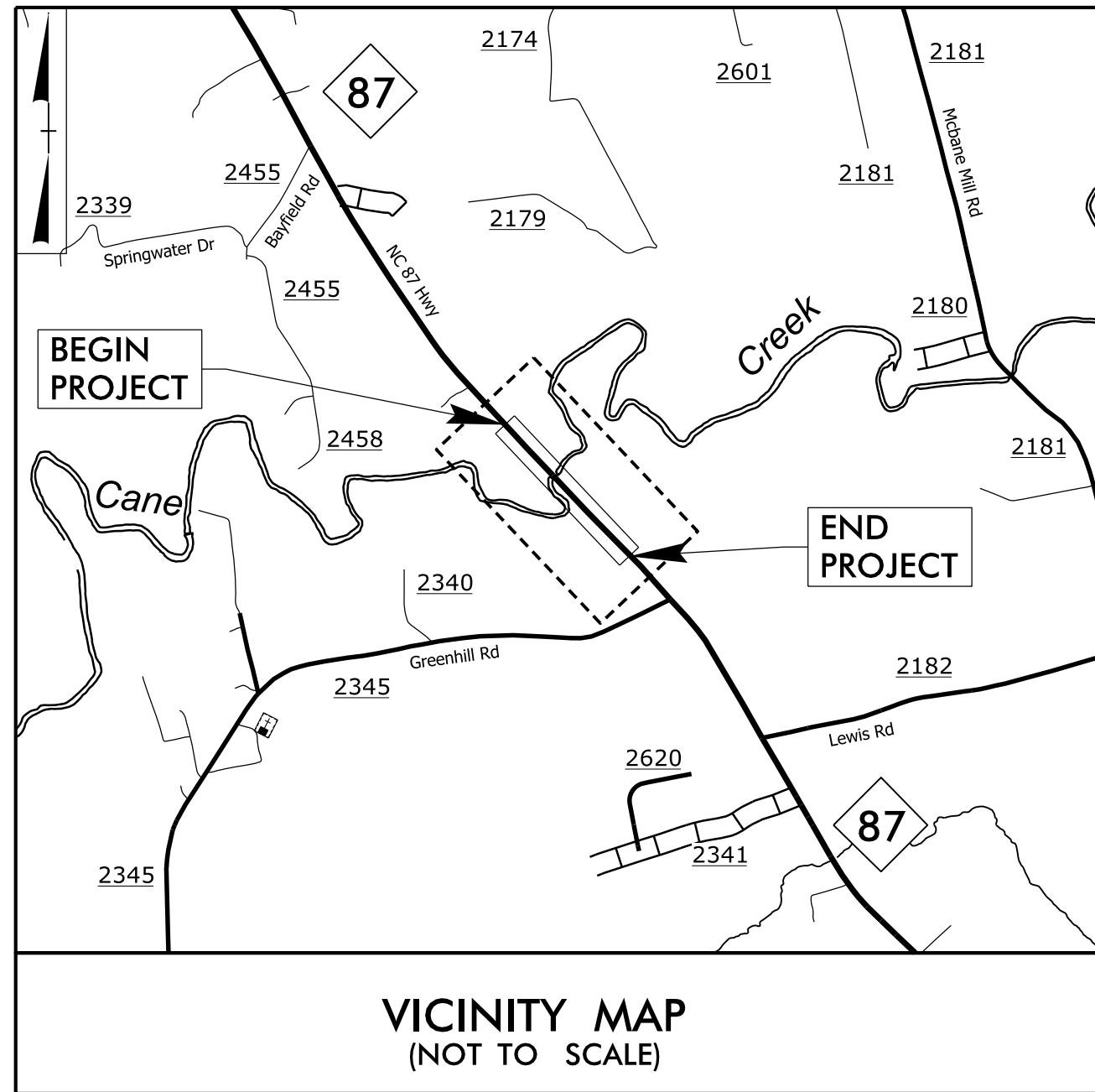
NOTES:
SITE 1 & 2 - CANE CREEK
SITE 3 - STREAM SA

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
01-13-2025
ALAMANCE
BR-0060
67060.1.1
SHEET 5 OF 5

24-JUN-2025 10:47 P:\2019\190020\NCDOT Files\BR-0060\Utilities\Engineering\UB0\Proj\BR-0060_ut_tsh_U001_UWL_psh.dgn \$\$\$\$USERNAME\$\$\$\$

09/08/99

TIP PROJECT: BR-0060



VICINITY MAP
(NOT TO SCALE)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS PLANS
ALAMANCE COUNTY

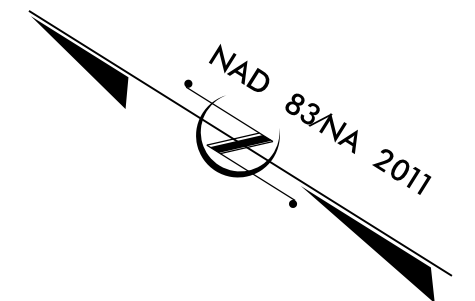
LOCATION: REPLACE BRIDGE 000014 ON NC 87 OVER CANE CREEK

UTILITY WETLAND IMPACTS

T.I.P. NO.	SHEET NO.
BR-0060	UO-1

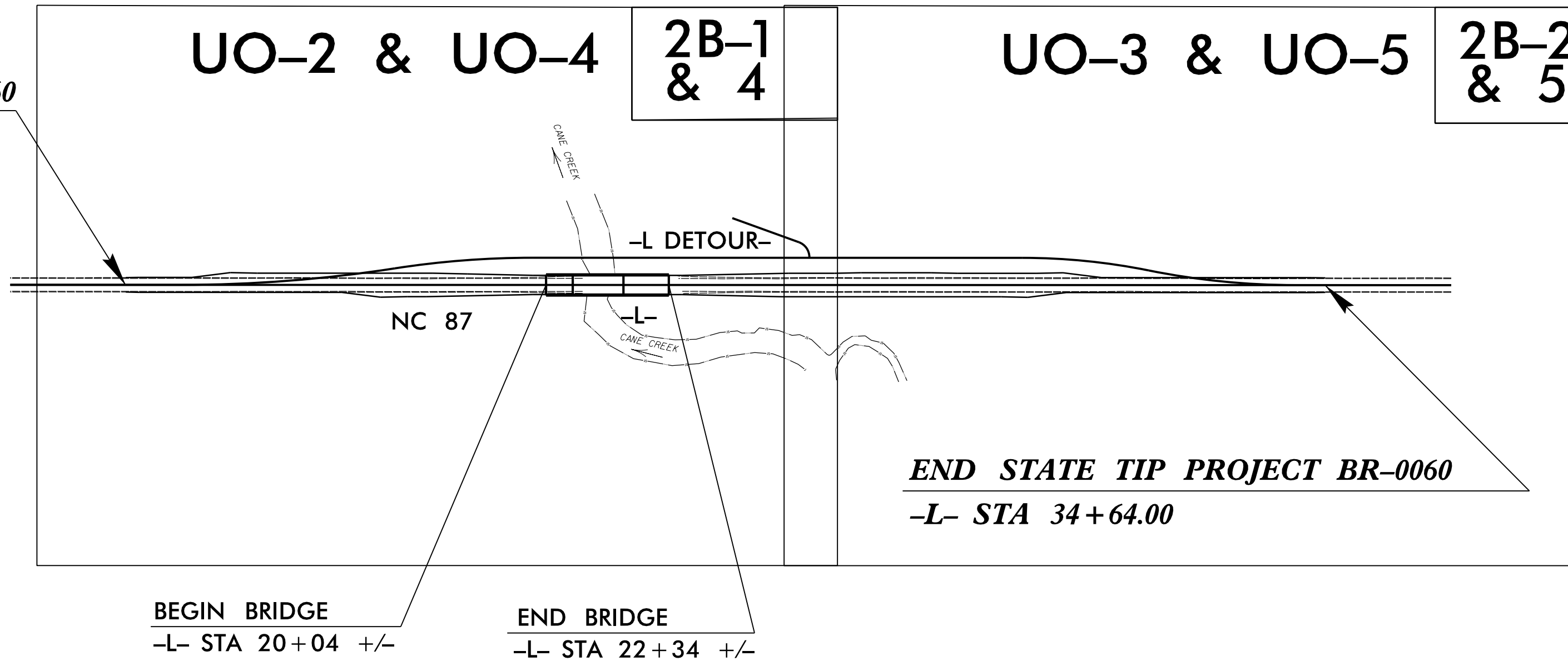
NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET IS DONE BY OTHERS.
NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

UTILITY WETLAND
IMPACTS DRAWING
SHEET 1 OF 4



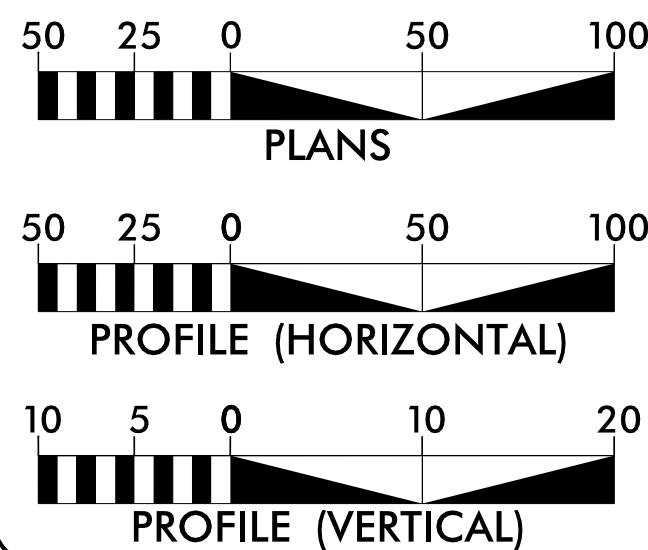
BEGIN STATE TIP PROJECT BR-0060
-L- STA 12+16.55

TO LEWIS RD



END STATE TIP PROJECT BR-0060
-L- STA 34+64.00

GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UO-1	TITLE SHEET
UO-2 - UO-5	UO PLAN SHEETS

UTILITIES OWNERS WITH CONFLICTS

- A) POWER (DISTRIBUTION) - DUKE ENERGY
- B) COMMUNICATIONS - AT&T
- C) COMMUNICATIONS - CHARTERS/SPECTRUM

PREPARED IN THE OFFICE OF:

DAVIS • MARTIN • POWELL
ENGINEERS & SURVEYORS
6415 OLD PLANK RD., HIGH POINT, NC 27285
PHONE: (336)886-4921 FAX: (336)886-4458
WWW.DMP-INC.COM LICENSE: F-0245



Kelly Hayes, PE, PLS UTILITY PROJECT MANAGER
Kyle Stalls PROJECT UTILITY COORDINATOR



DIVISION OF HIGHWAYS
UTILITIES UNIT
1535 MAIL SERVICE CENTER
RALEIGH, NC 27699-1535
PHONE (919) 707-6690
FAX (919) 250-4151

Amy York CENTRAL UTILITIES MANAGER
Ali Kouchehi, PE REGIONAL UTILITIES ENGINEER
Dayton Martin REGIONAL UTILITY COORDINATOR
O'Hara Parker SENIOR UTILITY COORDINATOR

PROJECT REFERENCE NO.	SHEET NO.
BR-0060	UO-2
THIS SHEET CORRESPONDS TO RDY 2B-1	

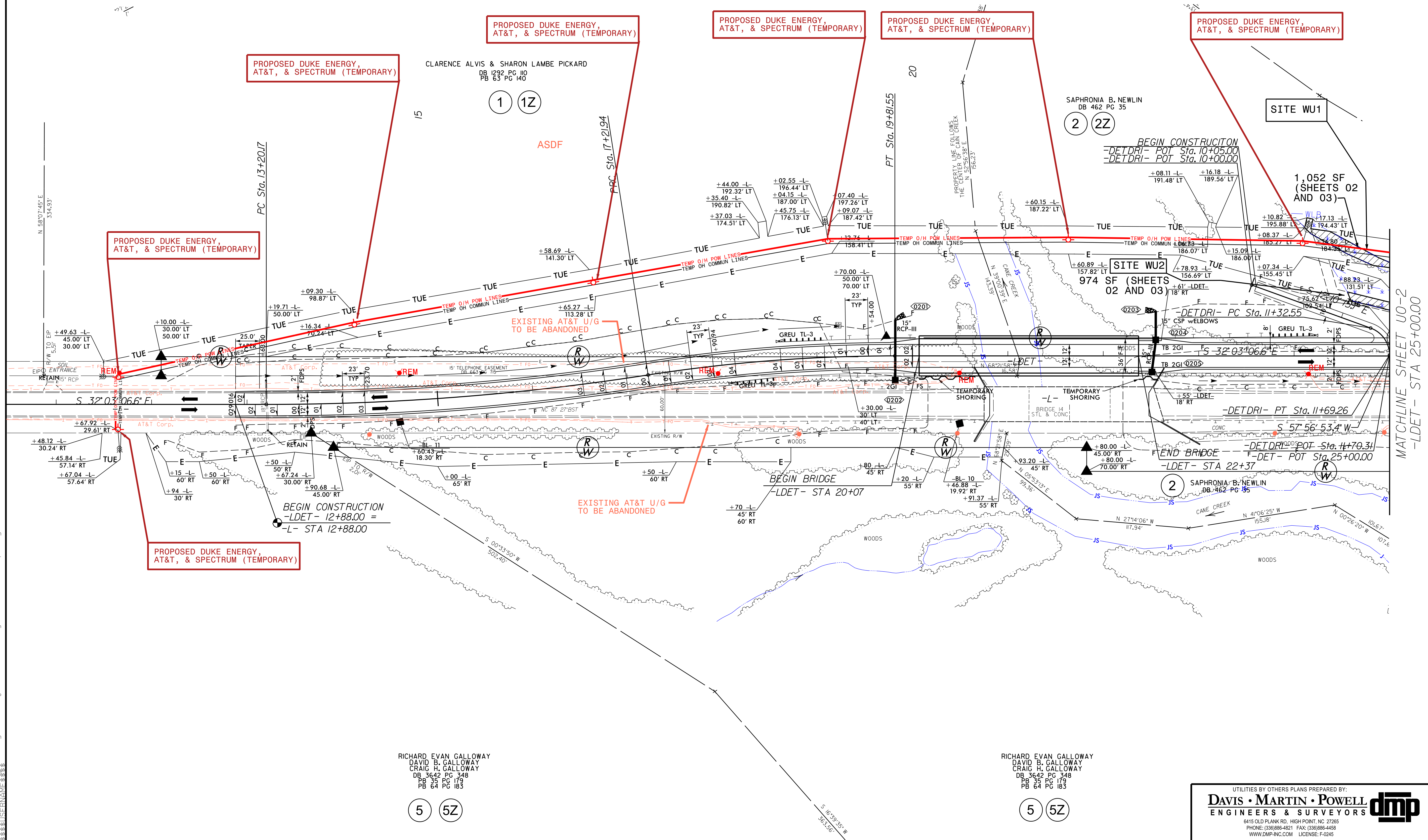
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

UTILITIES BY OTHERS

ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS. NO
PAYMENT WILL BE MADE TO
THE CONTRACTOR FOR PROPOSED
UTILITY WORK SHOWN ON
THIS SHEET.

UTILITY WETLAND
IMPACTS DRAWING
SHEET 2 OF 4

-LDET-



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)
WU1	-L- 24+00 LT TO 25+15 LT	Temporary Aerial Utility Poles, lines				0.02						
		and Guy Anchors										
WU2	-L- 24+50 LT TO 26+10 LT	Temporary Access				0.02						
TOTALS*:						0.05				0	0	0

*Rounded totals are sum of actual impacts

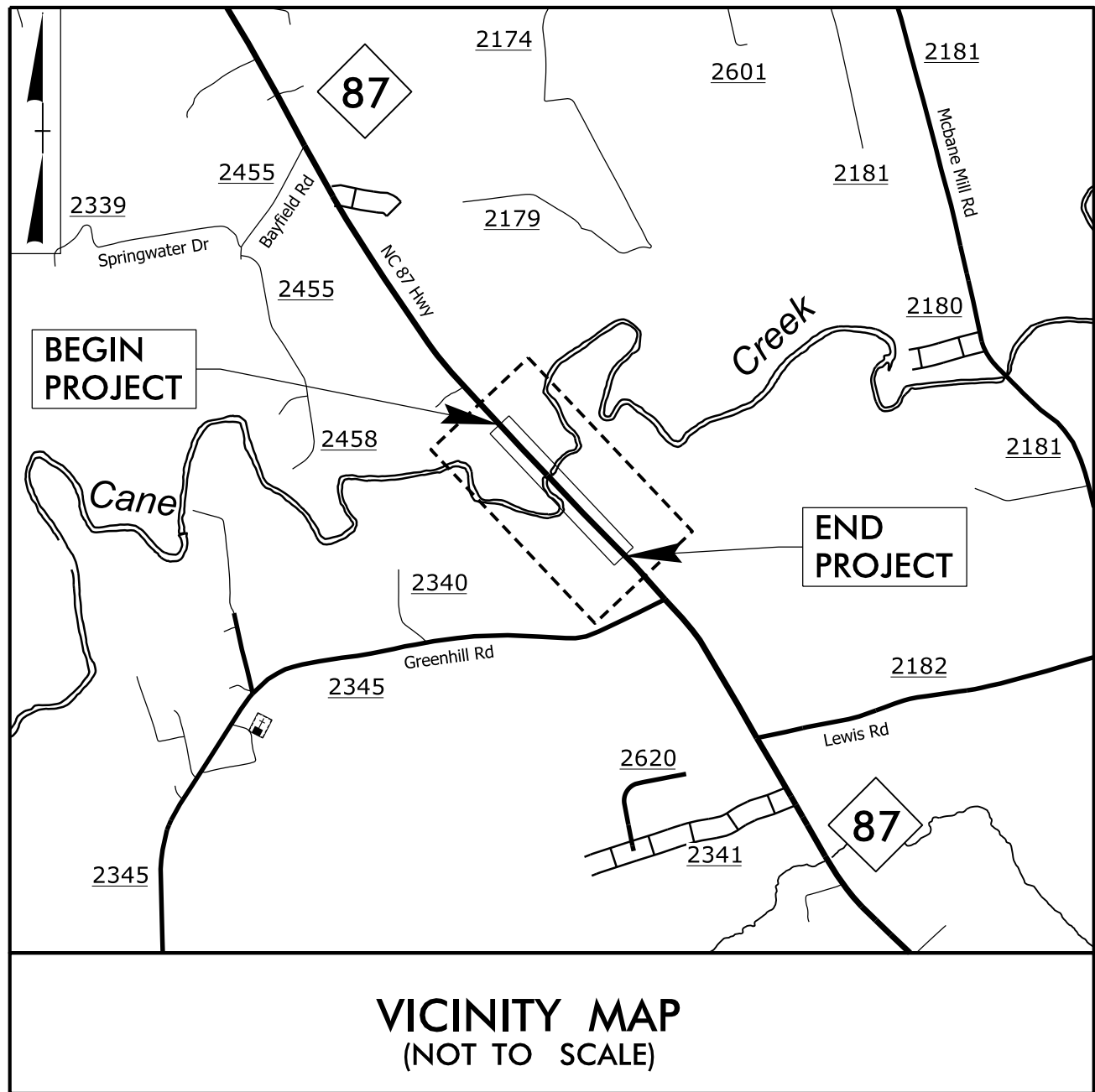
NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
6-26-2025
ALAMANCE
BR-0060

SHEET 4 OF 4

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\$\$\$\$\$USERNAME\$\$\$\$\$

TIP PROJECT: BR-0060



VICINITY MAP
(NOT TO SCALE)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

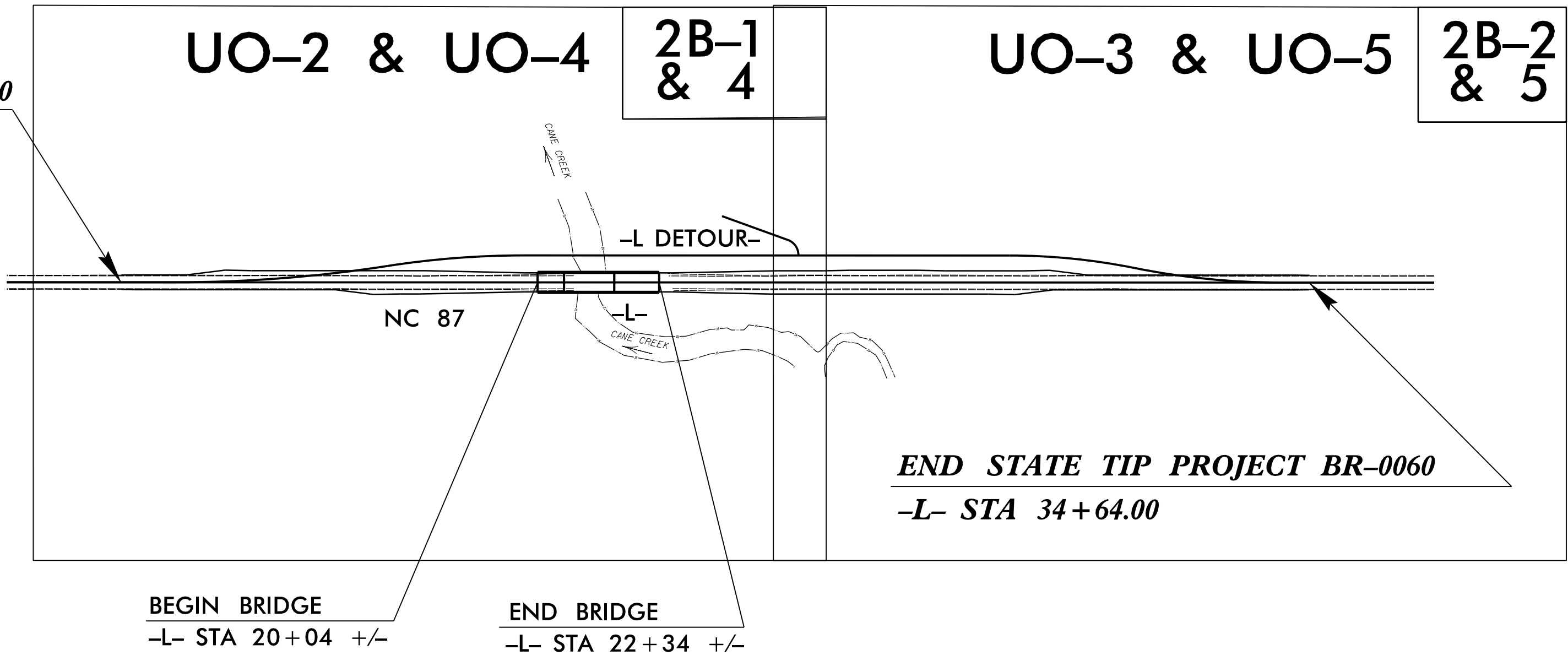
UTILITIES BY OTHERS PLANS
ALAMANCE COUNTY

LOCATION: REPLACE BRIDGE 000014 ON NC 87 OVER CANE CREEK

UTILITY BUFFER IMPACTS

BEGIN STATE TIP PROJECT BR-0060
-L- STA 12+16.55

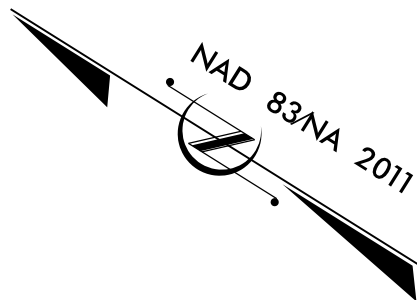
TO LEWIS RD



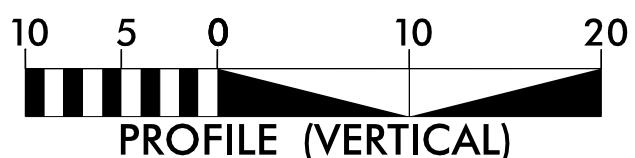
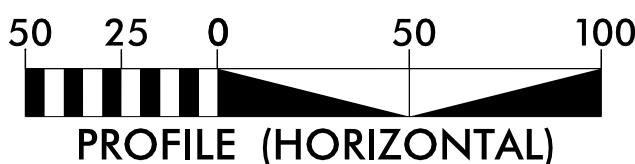
TO GREENHILL RD

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET IS DONE BY OTHERS.
NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

UTILITY BUFFER
IMPACTS DRAWING
SHEET 1 OF 4



GRAPHIC SCALES



INDEX OF SHEETS

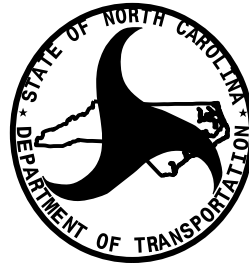
SHEET NO.:	DESCRIPTION:
UO-1	TITLE SHEET
UO-2 - UO-5	UO PLAN SHEETS

UTILITIES OWNERS WITH CONFLICTS

- A) POWER (DISTRIBUTION) - DUKE ENERGY
- B) COMMUNICATIONS - AT&T
- C) COMMUNICATIONS - CHARTERS/SPECTRUM

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Dayton Martin REGIONAL UTILITY COORDINATOR
O'Hara Parker SENIOR UTILITY COORDINATOR

RIPARIAN BUFFER IMPACTS SUMMARY

			IMPACTS									BUFFER REPLACEMENT	
Site No.	Station (From/To)	Structure Size / Type	TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)		
1	-L- 19+80 LT TO 21+60 LT	Aerial Utility Crossing				1953	1300	3253					
											0		
											0		
TOTALS*:						1953	1300	3253	0	0	0	0	0

NOTES:
SITE 1 - CANE CREEK

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
06-26-2025
ALAMANCE
BR-0060

SHEET 4 OF 4

Mitigation

JOSH STEIN
Governor
D. REID WILSON
Secretary
MARC RECKTENWALD
Director



April 9, 2025

Mr. Jamie Lancaster, P.E.
Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Lancaster:

Subject: Mitigation Acceptance Letter: **TIP BR-0060**, Replace Bridge 000014 on NC 87 over Cane Creek, Alamance County

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the mitigation for the subject project. Based on the information supplied by you on April 8, 2025, the impacts are located in CU 03030002 of the Cape Fear River basin as follows:

Stream and Wetlands	Service Area	Stream			Wetlands		
		Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh
Impacts	Cape Fear 03030002	0	0	0	0.030	0	0

*Some of the impacts may be proposed to be mitigated at various ratios. See permit application for details. DMS will provide the amount of stream and wetland mitigation included in the environmental permits.

All buffer mitigation requests and approvals are administrated through the Riparian Restoration Buffer Fund. The NCDOT will be responsible to ensure that appropriate compensation for the buffer mitigation will be provided in the agreed upon method of fund transfer. Upon receipt of the NCDWR's Buffer Authorization Certification, DMS will transfer funds from the NCDOT Fund into the Riparian Restoration Buffer Fund. Upon completion of transfer payment, NCDOT will have completed its riparian buffer mitigation responsibility for TIP BR-0060. Subsequently, DMS will conduct a review of current NCDOT ILF Program mitigation projects in the river basin to determine if available buffer mitigation credits exist. If there are buffer mitigation credits available, then the Riparian Restoration Buffer Fund will purchase the appropriate amount of buffer mitigation credits from NCDOT ILF Program.



North Carolina Department of Environmental Quality | Division of Mitigation Services
217 West Jones Street | 1652 Mail Service Center | Raleigh, North Carolina 27699-1652
919.707.8976

Mr. Lancaster
April 9, 2025
Page Two
NCDOT TIP BR-0060

Buffer	Service Area	Buffer Impacts		
		Zone 1	Zone 2	TOTAL
Impacts	Cape Fear Jordan Haw Arm	5,637.000	6,195.000	11,832.000

The impacts and associated mitigation needs were not projected by the NCDOT in the 2025 impact data. NCDEQ – DMS will commit to implement sufficient compensatory mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies in accordance with the In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from NCDEQ – DMS.

If you have any questions or need additional information, please contact Beth Harmon at 919-707-8420.

Sincerely,



Elizabeth A. Harmon
DMS NCDOT ILF Coordinator

cc: Mr. Scott Jones, USACE
Ms. Kristie Carpenter, NCDWR
Mr. Brad Chilton, NCDOT – EAU
File: BR-0060



North Carolina Department of Environmental Quality | Division of Mitigation Services
217 West Jones Street | 1652 Mail Service Center | Raleigh, North Carolina 27699-1652
919.707.8976

JOSH STEIN
Governor
D. REID WILSON
Secretary
MARC RECKTENWALD
Director



July 1, 2025

Mr. Jamie Lancaster, P.E.
Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Lancaster:

Subject: Mitigation Acceptance Letter: **TIP BR-0060 (Utility)**, Replace Bridge 000014 on NC 87 over Cane Creek, Alamance County

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the mitigation for the subject project. Based on the information supplied by you on June 27 and July 1, 2025, the impacts are located in CU 03030002 of the Cape Fear River basin as follows:

Stream and Wetlands	Service Area	Stream			Wetlands		
		Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh
Impacts	Cape Fear 03030002	0	0	0	0.050	0	0

*Some of the impacts may be proposed to be mitigated at various ratios. See permit application for details. DMS will provide the amount of stream and wetland mitigation included in the environmental permits.

The impacts associated with this mitigation acceptance letter are associated with the Utility portion of TIP BR-0060 and not for the impacts associated with the replacement of the bridge. The mitigation acceptance letter issued on April 9, 2025, for the impacts associated with the replacement of the bridge remains in effect. The impacts and associated mitigation needs were not projected by the NCDOT in the 2025 impact data. NCDEQ – DMS will commit to implement sufficient compensatory mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies in accordance with the In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from NCDEQ – DMS.

If you have any questions or need additional information, please contact Beth Harmon at 919-707-8420.

Sincerely,

A handwritten signature in cursive script that reads "Elizabeth Harmon".

Elizabeth A. Harmon
DMS NCDOT ILF Coordinator

cc: Mr. Scott Jones, USACE
Ms. Kristie Carpenter, NCDWR
Mr. Brad Chilton, NCDOT – EAU
File: BR-0060 Utility Revised



North Carolina Department of Environmental Quality | Division of Mitigation Services
217 West Jones Street | 1652 Mail Service Center | Raleigh, North Carolina 27699-1652
919.707.8976

Protected Species/ Section 7



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh ES Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726
December 27, 2023



William A. Barrett
NC Department of Transportation
Environmental Analysis Unit
1598 Mail Service Center
Raleigh, NC 27699-1598

Dear Mr. Barrett:

This letter is in response to your letter of December 19, 2023 and attached Freshwater Fish Survey Report which provided the U.S. Fish and Wildlife Service (Service) with the biological conclusion of the North Carolina Department of Transportation that the replacement of Bridge No. 000014 on NC 87 over Cane Creek in Alamance County (STIP No. BR-0060) may affect, but is not likely to adversely affect the federally endangered Cape Fear Shiner (*Notropis mekistocholas*). The following response is provided in accordance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

According to information provided, a fish survey was conducted at the project site on June 2, 2022. The survey extended 100 meters upstream and 400 meters downstream of the bridge. No Cape Fear Shiners were observed, and the closest known occurrence is approximately 10 river miles downstream in the Haw River. Based on the survey results and other available information, the Service concurs with your conclusion that the proposed action may affect, but is not likely to adversely affect the Cape Fear Shiner. We also acknowledge that the federally endangered Northern Long-eared Bat (*Myotis septentrionalis*) and proposed endangered Tricolored Bat (*Perimyotis subflavus*) have previously been addressed through Programmatic Biological/Conference Opinions. We believe that the requirements of Section 7(a)(2) of the ESA have been satisfied. We remind you that obligations under Section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered in this review; (2) this action is subsequently modified in a manner that was not considered in this review; or (3) a new species is listed or critical habitat determined that may be affected by this identified action. If you have any questions regarding our response, please contact Mr. Gary Jordan at gary_jordan@fws.gov.

Sincerely,

for Pete Benjamin
Field Supervisor

Electronic copy:

Eric Alsmeyer, USACE, Wake Forest, NC

Travis Wilson, NCWRC, Creedmoor, NC

Jerry Parker, NCDOT, Greensboro, NC

Archaeology



NO NATIONAL REGISTER OF HISTORIC PLACES ELIGIBLE OR LISTED ARCHAEOLOGICAL SITES PRESENT FORM



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

PROJECT INFORMATION

Project No: **B-0060** County: Alamance
WBS No: 67060.1.1 Document: MCC
F.A. No: Funding: ☒ State ☐ Federal

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

Project Description: NCDOT proposes construction of a replacement bridge on NC 87 over Cane Creek in Alamance County between Saxapahaw and Pittsboro (see Figure 1). Alternatives may include an on-site detour or bridge construction adjacent to the existing route.

For purposes of this investigation, the archaeological Area of Potential Effects (APE) includes all areas and soils likely to be disturbed during the construction, including up to the limits of any new right of way, cut and fill lines, and easements, permanent or temporary. The original project length for the cultural resources screening was 1500 feet, 0.28 miles, roughly centered on the current bridge. The width is 400 feet, two hundred to either side of NC 87 which allows coverage and a buffer for multiple designs. For the survey, preliminary mapping of alternatives was then available therefore the APE was revised to include additional, tapered length on both ends for a total of 2300 feet, 0.44 miles (see Figure 2).

The project is state funded though will require a permit by the USACE, thus Section 106 of the National Historic Preservation Act applies for this federal undertaking.

SUMMARY OF ARCHAEOLOGICAL FINDINGS

The North Carolina Department of Transportation (NCDOT) Archaeology Team has reviewed the subject project and determined:

- ☒ There are no National Register listed ARCHAEOLOGICAL SITES within the project's area of potential effects. (Attach any notes or documents as needed.)
- ☐ No subsurface archaeological investigations were required for this project.
- ☐ Subsurface investigations did not reveal the presence of any archaeological resources.
- ☒ Subsurface investigations did not reveal the presence of any archaeological resources considered eligible for the National Register.
- ☒ All identified archaeological sites located within the APE have been considered and all compliance for archaeological resources with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.

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

The undertaking was reviewed for archaeology and determined to require a survey to determine if there may be impacts to significant archaeological remains under Section 106 of the National Historic Preservation Act (see PA 18-09-0004 Archaeological Survey Required Form dated 9/19/2019). The decision notes relatively close proximity to archaeological site 31Am148, also known as the Guthrie Site UNC-CH 31Am145, west of the bridge on the opposite side of the adjacent agricultural field about 600 feet from the roadway and bridge, UNC-CH conducted extensive testing

at this site in the 1980s which included twelve large excavation blocks and 3900 auger tests. The site form, report and personal communication with the lead Archaeologist suggest that the site did not extend to the east across the field and into the project APE. Proximity to 31Am138 rather than the environmental context, the recommendation to conduct a survey of higher probability landforms for archaeological sites was made for this project, especially because it may have impacts beyond the original roadway and bridge construction. See the survey required form for more details.

Soils, topographic and LIDAR mapping were examined prior to fieldwork to identify landforms with greater probability to contain archaeological sites, especially significant, intact resources. Areas of lower probability were also noted. The APE was transferred to field GPS equipment which was used to navigate and plan subsurface testing, and also to record and map specific locations and results.

Archaeological testing of the APE was conducted on April 28, 2021 by NCDOT Archaeologists Brian Overton and Shane C. Petersen. A total of eleven shovel test pits were fully excavated and screened (1/4 inch) on the well drained, upland, grassy landform north of the bridge with a concentration of effort east of NC 87. The cut for the roadway and other landscape modification, including a possible unpaved old or farm road, was evident during fieldwork. The west side of the roadway was included in the subsurface methodology (see Figure 3), too, but was much narrower, modified and also heavily eroded with saprolitic soils present.

For this project, all of the STPs were placed along transects parallel to NC 87 at an interval of 30 meters in grassy fields. Cuts and modifications to the landform were apparent inside the APE especially the northeast quadrant. The typical soil profile recorded from all of the shovel test pits showed a shallow A horizon with weak, recent topsoil development. This zone was about 5 to 10 cm in depth with 2.5 YR 4/6, 5/6 and 5/8, 5 YR 4/6 and 5/6, or 10 YR 5/6 clay loams, if present. The subsoil was encountered quickly past a depth of 5 to 12 cmbs, a clay which was sometimes saprolitic, as noted on all of the northwest quadrant near STPs 9, 10 and 11.

Three of the eleven shovel test pits yielded a total of six artifacts. STP 4 was the first positive test followed by 15 m radials STP 7 and 8 resulted. This resulted in documentation of archaeological site 31Am464 (see Figure 4), a lithic scatter of Native American origin. A heavily eroded landform, STP 4 was only dug to a depth of 10 cm of 2.5 YR 5/8 clay loam soil. Other shovel test pits along the planned intervals of this transect were negative, containing similar stratigraphy and no other cultural materials. The site boundary was established using a combination of negative shovel test pits, the NC 87 road cut to the west and downsloping terrain to the east and south. The artifacts are described below.

Archaeological site 31Am464 was identified during excavation of three positive shovel test pits on an extensively eroded hilltop overlooking Cane Creek. Erosion at the site, which had patches gravelly soil where no grass was growing, was evident on the ground surface.

STP 4, one of the 30-m interval units in the northeastern transect, contained one artifact, a chipped stone project point or knife fragment, specifically the tip. The raw material is metavolcanic stone. While the tip lacks the diagnostic information that a cspp/k base provides, the size suggests it represents the Archaic period. Two radial tests at 15-m, STP 7 to the east just before the topography drops in that direction, and STP 8 to the north, yielded metavolcanic and quartz debitage consisting of interior flakes or shatter. In total six artifacts were identified, one cspp/k tip and five pieces of debitage. The Office of State Archaeology assigned the following accession number: 2021.0126.

This low density site has a small number of artifacts in a heavily eroded context. None of the lithic artifacts were diagnostic, though one probably is a fragment of an Archaic cspp/k. No ceramics were recovered. No cultural features were identified in the thin, grassy topsoil or subsoil below. Lacking diagnostic or abundant artifacts, features or other data, 31Am464 is not likely to contain significant, new information about Native American activities and lifeways. The site is recommended as not eligible for listing on the National Register of Historic Places.

Pedestrian survey north of Cane Creek within the APE confirmed the modified topography that resulted from construction of the highway and bridge, also ditching and the natural and migrating stream channel present north of Cane Creek. More low, frequently flooded soils were present south of Cane Creek, especially southeast of the bridge where water was pooling on top of or near the surface of the ground. As expected, these lower, often wet, areas demonstrated and confirmed a lowered probability to contain archaeological remains, especially significant, intact deposits.

The southern limits of the project gradually climb from the low bottoms and had been noted as a possible location for subsurface testing. However, visual inspection and selective soil probes and turning over the A horizon with a shovel showed more eroded soils on a sloped hillside. A relatively level landform more suitable to contain an archaeological site was not present until and beyond the far limits of the APE to the south. Noting the sloped landform and heavily eroded context, no shovel test pits were excavated towards the southern end of the APE.

As expected, the Guthrie Site, 31Am148 (also noted as 31Am145), was not encountered during the archaeological investigation. The mapped location and site plan of the excavation place the site outside of the APE about six hundred feet to the west.

In summary, the entire APE was subjected to a pedestrian inspection to look for surface artifacts and above ground features like walls, cellars or cemeteries; none were observed. The hill tops and side slopes were visibly eroded with bare subsoil exposed in spots. The lower elevations contained characteristically wet soils, or were sloped or modified for drainage and the highway bridge. Eleven shovel test pits were excavated and screened on the relatively level northern upland within the APE. One of the shovel test pits on the transect northeast of the bridge contained a cspp/k tip in a very eroded context. Nearby, two of the radial tests yielded a small number of lithic debitage. The site is now registered with the Office of State Archaeology as 31Am464. A low density lithic site lacking diagnostic artifacts on an eroded landform, the site is not recommended as eligible for listing on the National Register of Historic Places. Site 31Am464 may be directly impacted by proposed plans or avoided depending on the selected alternative, on-site temporary detours and construction approach.

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

SUPPORT DOCUMENTATION

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

Other:

Signed:

BRIAN P. OVERTON

7/9/2021

NCDOT ARCHAEOLOGIST

Date

ARTIFACT INVENTORY

PA 18-09-0004 **SITE 31Am464** **Accession Number: 2021-0126**

BR-0060 excavation date 4/28/2021

BPO SCP

STP 4 plowzone, eroded

1 cspp/k fragment, Archaic, tip, metavolcanic

STP 7 east radial of STP 4, plowzone, eroded

2 interior flakes, metavolcanic

1 shatter, quartz

STP 8 north radial of STP 4, plowzone, eroded

1 flake fragment, metavolcanic

1 shatter, quartz

18-09-0004

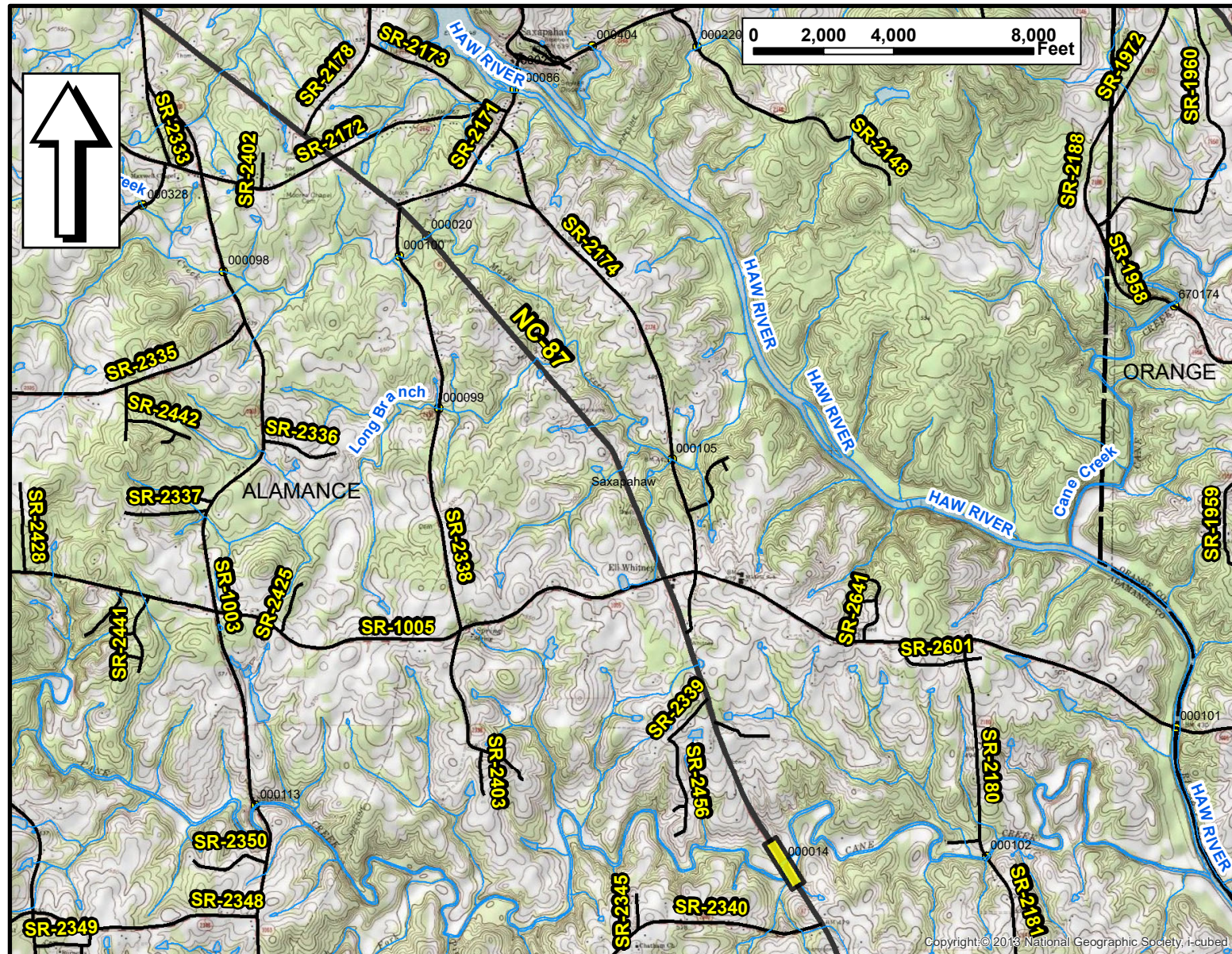


Figure 1. Vicinity USGS mapping (Saxapahaw) showing the location of the proposed replacement of Bridge No. 0014 on NC 87 over Cane Creek, TIP BR-0060 / PA 18-09-0004, northwest of Pittsboro. The APE is shown in yellow.

18-09-0004

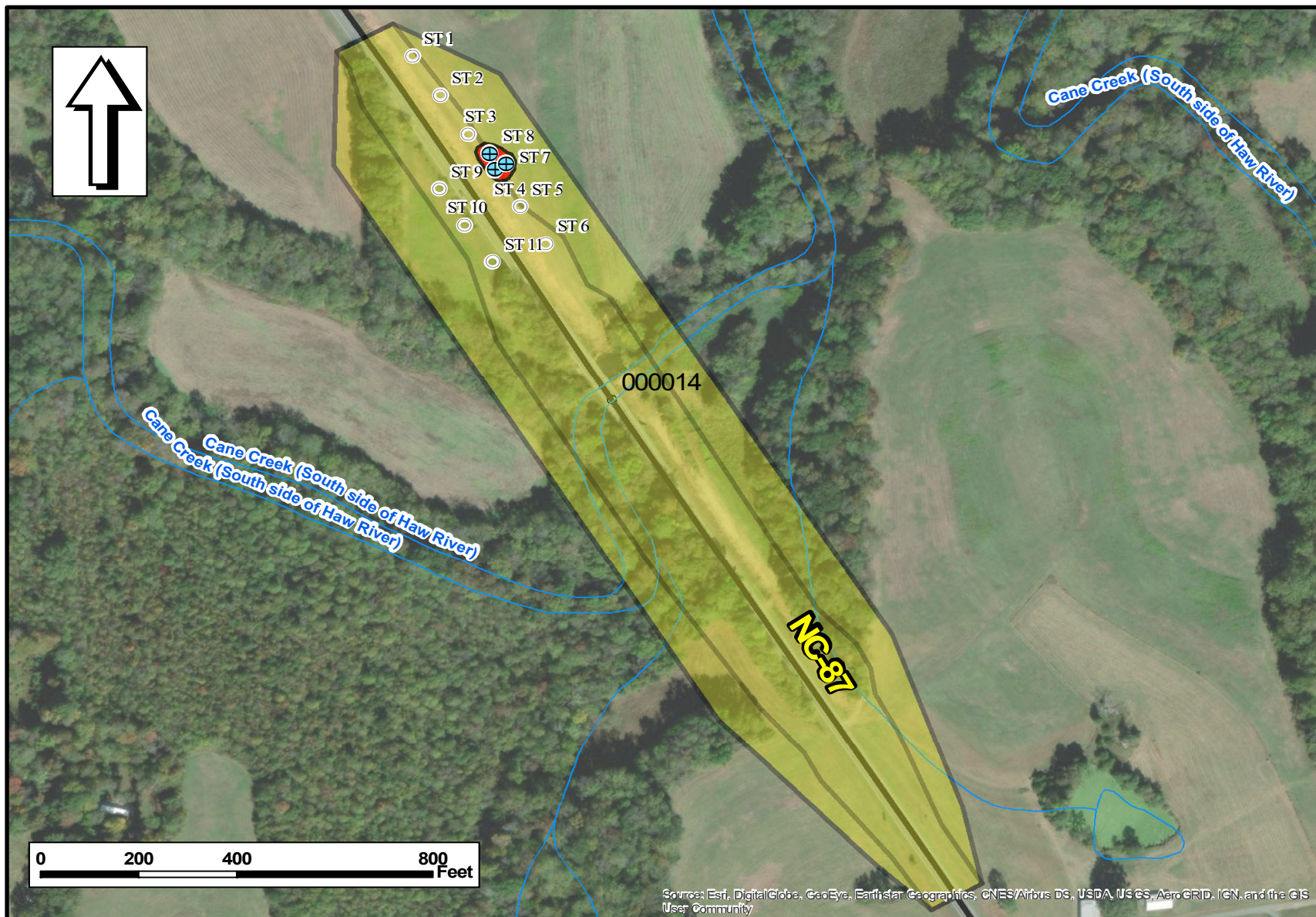


Figure 2. Aerial showing environmental context, updated APE, and shovel test pits for TIP BR-0060 / PA 18-09-0004. 31Am464 is mapped in red. The new APE, yellow, is longer than the original. An interior outline shows limits of proposed alternatives.

18-09-0004

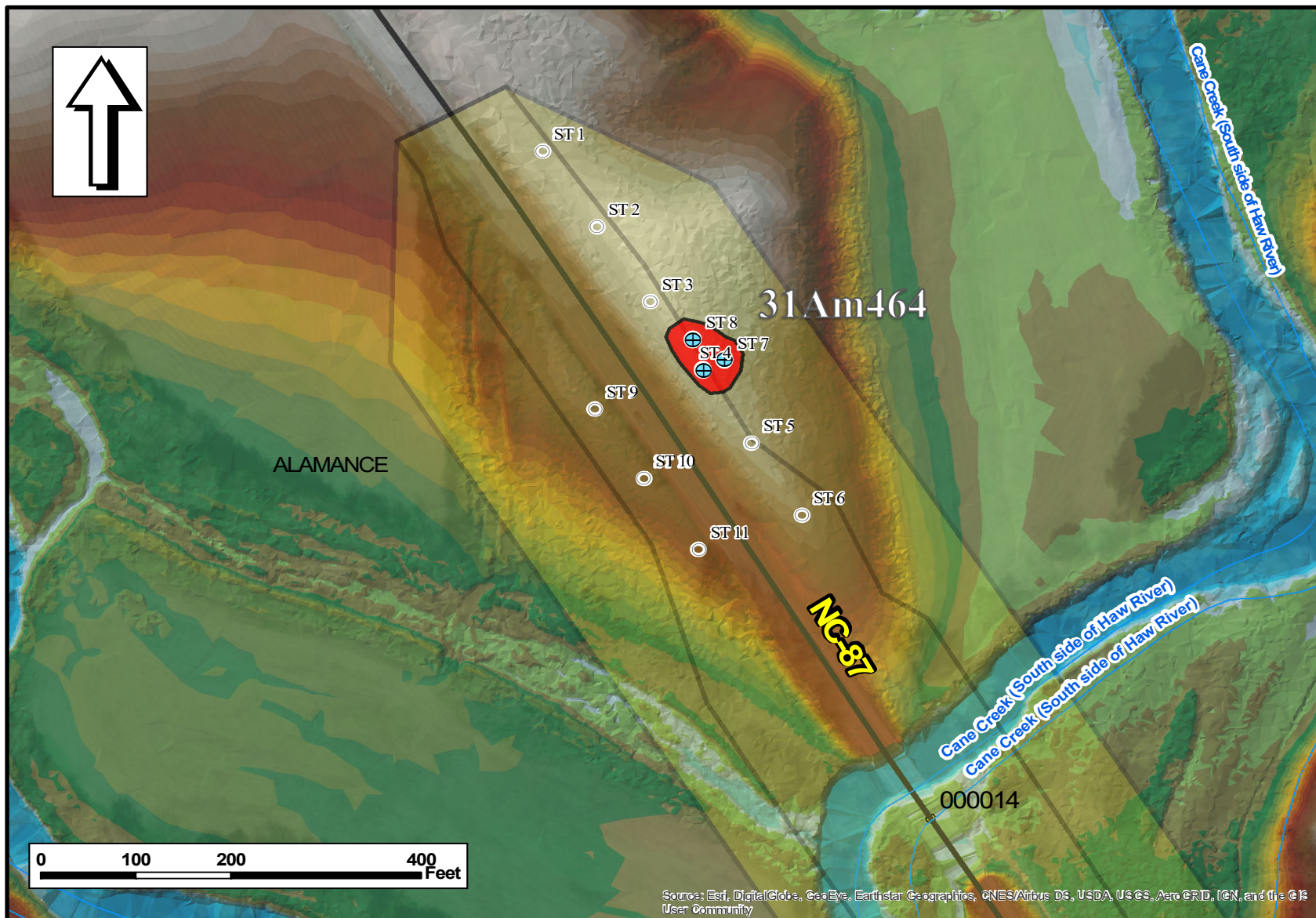


Figure 3. LIDAR-based elevation map of the northern half of the revised APE, yellow, containing the newly recorded 31Am464, shown in red, and shovel test placement including three positive pits. Note the subsurface tested hilltop, sloped and low terrain.

Historic Architecture and Landscapes

18-09-0004



HISTORIC ARCHITECTURE AND LANDSCAPES NO HISTORIC PROPERTIES PRESENT OR AFFECTED FORM

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

PROJECT INFORMATION

Project No:	BR-0060	County:	Alamance
WBS No.:	67060.1.1	Document Type:	MCC
Fed. Aid No:		Funding:	☒ State ☐ Federal
Federal Permit(s):	☒ Yes ☐ No	Permit Type(s):	USACE
<u>Project Description:</u> Replace Bridge No. 14 on NC 87 over Cane Creek			

SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

- ☒ There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- ☒ There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's area of potential effects.
- ☐ There are no properties within the project's area of potential effects.
- ☐ There are properties over fifty years old within the area of potential effects, but they do not meet the criteria for listing on the National Register.
- ☒ There are no historic properties present or affected by this project. (Attach any notes or documents as needed.)

Date of field visit: n/a

Description of review activities, results, and conclusions:

Review of HPO quad maps, relevant background reports, historic designations roster, and indexes was undertaken on October 3, 2018. A search of Alamance County Tax Parcel Data did not reveal any properties over fifty years of age. There is a property south of the project area which dates from 1890. If the project area extends farther south, please resubmit for further review. No historic properties will be affected by this project.

SUPPORT DOCUMENTATION

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

FINDING BY NCDOT ARCHITECTURAL HISTORIAN

Historic Architecture and Landscapes – NO HISTORIC PROPERTIES PRESENT OF AFFECTED

Shelby Reap

NCDOT Architectural Historian

October 3, 2018

Date



8636 S NC 87 HWY c.1890



Historic Architecture and Landscapes NO HISTORIC PROPERTIES PRESENT OR AFFECTED form for Minor Transportation Projects as Qualified in the 2007 Programmatic Agreement.



ALAMANCE
COUNTY

Project Study Area

USGS Topo Quad - Saxapahaw

0 500 1,000 2,000
Feet

BR-0060

Tribal Coordination

[External] RE: NCDOT Projects BR-0060, BR-0069, & BR-0097 - Project Study Letters**Kaleigh Pollak <Kaleigh@monacannation.com>**

Mon 8/9/2021 4:55 PM

To: Peterson, Tierre R <trpeterson@ncdot.gov>**Cc:** Tribal Office <TribalOffice@monacannation.com>**CAUTION:** External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to [Report Spam](#).

Good Afternoon,

Thank you for contacting us regarding the proposed projects.

The Monacan Indian Nation is a federally recognized sovereign tribe, headquartered on Bear Mountain in Amherst County. Citizens of the Nation are descended from Virginia and North Carolina Eastern Siouan cultural and linguistic groups, and our ancestral territory includes Virginia west of the fall line of the rivers, sections of southeastern West Virginia, and portions of northern North Carolina. At this time, the active Monacan consultation areas include:

Virginia: Albemarle, Alleghany, Amherst, Appomattox, Augusta, Bath, Bedford, Bland, Buchanan, Buckingham, Campbell, Carroll, Charlotte, Clarke, Craig, Culpepper, Cumberland, Dickenson, Floyd, Fluvanna, Franklin, Frederick, Giles, Goochland, Grayson, Greene, Halifax, Henry, Highland, Lee, Loudoun, Louisa, Madison, Mecklenburg, Montgomery, Nelson, Orange, Page, Patrick, Pittsylvania, Powhatan, Prince Edward, Pulaski, Rappahannock, Roanoke, Rockbridge, Rockingham, Russell, Scott, Shenandoah, Smyth, Tazewell, Warren, Washington, Wise, and Wythe Counties, and all contiguous cities.

West Virginia: Greenbrier, Mercer, Monroe, Pendleton, Pocahontas, and Summers Counties.

North Carolina: Alamance, Caswell, Granville, Orange, Person, Rockingham, Vance, and Warren Counties.

At this time, the Nation does not wish to actively participate in this consultation project, because:

	This project is outside our ancestral territory
X	The project's impacts are anticipated to be minimal
	The project is more closely related to _____, which should be contacted to participate in consultation
	The tribal office does not currently have the capacity to participate in this project
	Other:

However, the Nation requests to be contacted if:

- Sites associated with native history may be impacted by this project;
- Adverse effects associated with this project are identified;
- Human remains are encountered during this project;
- Unanticipated native cultural remains are encountered during this project;
- Other tribes consulting on this project cease consultation; or
- The project size or scope becomes larger or more potentially destructive than currently described.

Please do not make any assumptions about future consultation interests based on this decision, as priorities and information may change. We request that you send any future consultation communications in electronic form to Kaleigh@MonacanNation.com. We appreciate your outreach to the Monacan Indian Nation and look forward to working with you in the future.

Thank you,

Kaleigh Pollak
Program Manager
Monacan Indian Nation
O: (434) 363-4864
C: (434) 473-1029
111 Highview Drive
Madison Heights, VA 24572



NOTICE OF CONFIDENTIALITY

This e-mail message and its attachments (if any) are intended solely for the use of the addressee hereof. In addition, this message and the attachments (if any) may contain information that is confidential, privileged and exempt from disclosure under applicable law. Unless you are the addressee (or authorized to receive for the addressee), you are prohibited from reading, disclosing, reproducing, distributing, disseminating or otherwise using this transmission. Delivery of this message to any person other than the intended recipient is not intended to waive any right or privilege. If you have received this message in error, please promptly notify the sender by reply e-mail and immediately delete this message from your system. Thank you.

From: Tribal Office <TribalOffice@monacannation.com>
Sent: Friday, August 6, 2021 12:57 PM
To: Kaleigh Pollak <Kaleigh@monacannation.com>
Subject: FW: NCDOT Projects BR-0060, BR-0069, & BR-0097 - Project Study Letters

From: Peterson, Tierre R <trpeterson@ncdot.gov>
Sent: Friday, August 6, 2021 12:52 PM
To: Tribal Office <TribalOffice@monacannation.com>
Cc: Bowles, Jacquelyn K <jkbowles@ncdot.gov>; Stutts, David S <dstutts@ncdot.gov>; Demery, Dustin A <dademery@ncdot.gov>; Welch, Annie <awelch@moffattnichol.com>; Wilkerson, Matt T <mtwilkerson@ncdot.gov>; omojojadavwe.morales@ncdot.gov
Subject: NCDOT Projects BR-0060, BR-0069, & BR-0097 - Project Study Letters

Ms. Kaleigh Pollak,

Please see the attached project study letter for NCDOT Projects BR-0060, BR-0069, and BR-0097
If you have any questions or comments, please let us know by September 6, 2021.

Sincerely,

Tierre Peterson, PE
Team Leader - PEF Coordination
Structures Management Unit

919 707 6488 office
trpeterson@ncdot.gov

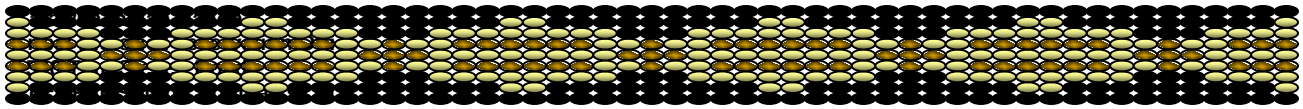
1000 Birch Ridge Drive
Raleigh, NC 27610



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Email correspondence to and from this sender is subject to the N.C. Public Records Law and may be disclosed to third parties.



Office 803-328-2427
Fax 803-328-5791

September 10, 2021

Attention: David Stutts
NC Department of Transportation
1581 Mail Service Center
Raleigh, NC 27699

Re. THPO #	TCNS #	Project Description
2021-193-165		BR-0060, BR-0069 and BR-0097

Dear Mr. Stutts,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

If you have questions please contact Caitlin Rogers at 803-328-2427 ext. 226, or e-mail Caitlin.Rogers@catawba.com.

Sincerely,

Wenonah G. Haire
Tribal Historic Preservation Officer

NEPA/SEPA Document

Type I or II Categorical Exclusion Action Classification Form

TIP Project No.	BR-0060
WBS Element	67060.1.1
Federal Project No.	N/A

A. Project Description:

Structures Management Unit (SMU) Bridge Program Project BR-0060 includes replacing Bridge No. 000014, located on N.C. 87 over Cane Creek in Alamance County. The bridge lies south of the unincorporated community of Eli Whitney, NC and is surrounded by mostly open, wooded and agricultural properties, with sparse residential properties and few commercial properties.

The replacement structure will be a bridge approximately 230 feet long providing a minimum 36-foot clear deck width. The bridge will include two 12-foot lanes with 6-foot offsets on both sides. The bridge length is based on preliminary design information and is set by hydraulic requirements. The approach roadway will extend approximately 788 feet from the west end of the new bridge and 1,230 feet from the east end of the new bridge. The approaches will be widened to include a 24-foot pavement width providing two 12-foot lanes, 8-foot shoulders (2-foot paved) on both sides (13-foot shoulders where guardrail is included). The roadway will be designed as a Minor Arterial using Regional Tier guidelines with a 60mph design speed. See attached figures for reference.

The new bridge will be constructed in its existing location. Traffic will be detoured onsite and will utilize a detour bridge that will be constructed just north of the existing bridge.

See maps below for reference.

B. Description of Need and Purpose:

Estimated remaining life of bridge was 6 years according to the inspection conducted in 2016. Priority maintenance was issued during this inspection as well. The purpose of this project is to replace a structurally deficient bridge.

Bridge No. 000014 was built in 1929, was widened in 1969 and is considered structurally deficient with a substructure rating of 4 out of 9 by FHWA standards. There is notable cracking and spalling. The most recent bridge inspection for the structure was on 12/15/2020.

C. Categorical Exclusion Action Classification:

Type I(A) - Ground Disturbing Action

D. Proposed Improvements:

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

E. Special Project Information:**Estimated Costs**

Type	Estimated Costs 2022
Construction Cost (65% Plans, Oct. 2022)	\$6,900,000
Right-of-Way	\$273,200
Utilities	\$138,000
Total	\$7,311,200

Roadway Traffic Data is as follows:

ADT 2023 = 3,000

ADT 2043 = 3,300

K = 10%

D = 60%

T = 7%

TTST = 3%

Dual = 4%

V = 60 mph

The Functional Classification is a Minor Arterial – Regional Tier.

There are no anticipated design exceptions.

Alternative analysis (if any):

Alternative 1 was chosen for this project, placing the temporary on-site detour on the eastern side of the proposed alignment. This alternative had less stream impacts, less right-of-way to purchase, and lower overall cost.

Other alternatives considered were:

- An On-site detour (Alternative 2) on the west side was investigated but Cane Creek turns south and parallels the road on this side. The impacts to the creek were higher with a detour designed on this side of the road. The overall cost was higher, as was the needed right-of-way to purchase.
- This is an NC route, and a detour route would need to provide similar lane and shoulder widths. There is no suitable offsite detour available in this area, therefore the offsite detour option was not deemed feasible.

Public Involvement:

A project newsletter was sent on 07/05/2022 to 113 adjacent or nearby affected property owners on this project. Property owners were invited to comment. No comments have been received to date.

Outreach was made to the Catawba and Monacan Tribal Nations during the planning process. A response was received from the Catawba Nation stating, *"The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American*

archaeological sites within the boundaries of the proposed project areas. However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.” We received no response from the Monacan Nation.

Water Resources:

Water resources in the study area drain into the Haw River which is part of the Cape Fear River Basin. Hydrologic Unit 03030002. Four potential jurisdictional streams were identified in the study area (see Stream Table below). North Carolina Stream Assessment Method (NCSAM) and Division of Water Resources (DWR) stream identification forms are included in a separate Jurisdictional Determination (JD) Package. The jurisdictional streams in the study area have been designated as warm water streams for the purposes of stream mitigation.

Streamside riparian zones within the study area are protected under provisions of the Jordan Lake Watershed Buffer Rule administered by NCDWR. The table below indicates which streams are subject to buffer rule protection.

Status of streams in the study area

Map ID	Length (ft.)	Classif.	Comp. Mitigation Required	River Basin Buffer Ruled?	NCDWR Index Number	Best Usage Classif.
Cane Creek	891	Perennial	Yes	Yes	16-28	WS-V; NSW
SA	244	Perennial	Yes	Yes	16-28	WS-V; NSW
SB	40	Ephemeral	No	No	16-28	WS-V; NSW
SC	192	Ephemeral	No	No	16-28	WS-V; NSW
Total	1,367					

Two jurisdictional wetlands were identified within the study area (see Wetland Table below). The location of these wetlands is shown in Figure 3. All wetlands in the study area drain into the Haw River which is part of the Cape Fear River Basin, U.S. Geological Survey (USGS) Hydrologic Unit 03030002. U.S. Army Corps of Engineers (USACE) wetland determination forms and North Carolina Wetland Assessment Method (NCWAM) forms for each site are included in a separate Preliminary Jurisdictional Determination (PJD) Package.

Characteristics of wetlands in the study area

Map ID	NCWAM Classification	Forested	NCWAM Rating	Hydrologic Classification	404/401 Or 401	Area (ac.) in Study Area
WA	Bottomland Hardwood Forest	No	Low	Riparian	404/401	0.1233
WB	Bottomland Hardwood Forest	Yes	Low	Riparian	404/401	0.0013
					Total	0.1246

There are no streams that have been designated as an Outstanding Resource Water (ORW). There are no designated High Quality Waters (HQW) or water supply watersheds (WS-I or WS-II)

within or within 1.0 mile downstream of the study area. The North Carolina 2022 Final 303(d) list of impaired waters does not identify any streams within the study area as an impaired water.

One surface water feature was identified in the study area (see table below). This pond is connected to Cane Creek by a non-jurisdictional ephemeral channel.

Surface waters in the study area

Surface Water	Map ID of Connection	Area (ac) in Study Area
Pond	PA	0.0287 acres

Findings from Natural Resources Technical Report:

The biological conclusion for Cape Fear Shiner is “May Affect, Not Likely to Adversely Affect (MA-NLAA), one of two federally listed species within the BR-0060 project study area per USFWS IPaC database and NOAA NMFS.

The biological conclusion is currently “Unresolved” for the Tricolored bat. Since the completion of the NRTR, the tricolored bat (*Perimyotis subflavus*) has been added as "Proposed Endangered" to the list of protected species for this project. Note: without the results of the surveys for Tricolored bat, it is not yet known if “formal concurrence” is required. NCDOT will ensure compliance with the Endangered Species Act for tricolored bat (and all protected species) for the project.

See Section G below.

F. Project Impact Criteria Checklists:

F2. Ground Disturbing Actions – Type I (Appendix A) & Type II (Appendix B)				
Proposed improvement(s) that fit Type I Actions (NCDOT-FHWA CE Programmatic Agreement, Appendix A) including 2, 3, 6, 7, 9, 12, 18, 21, 22 (ground disturbing), 23, 24, 25, 26, 27, 28, &/or 30; &/or Type II Actions (NCDOT-FHWA CE Programmatic Agreement, Appendix B) answer the project impact threshold questions (below) and questions 8 – 31. <i>If any question 1-7 is checked "Yes" then NCDOT certification for FHWA approval is required.</i> <i>If any question 8-31 is checked "Yes" then additional information will be required for those questions in Section G.</i>				
<u>PROJECT IMPACT THRESHOLDS</u> (FHWA signature required if any of the questions 1-7 are marked "Yes".)			Yes	No
1	Does the project require formal consultation with U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS)?	☐	☒	
2	Does the project result in impacts subject to the conditions of the Bald and Golden Eagle Protection Act (BGEPA)?	☐	☒	
3	Does the project generate substantial controversy or public opposition, for any reason, following appropriate public involvement?	☐	☒	
4	Does the project cause disproportionately high and adverse impacts relative to low-income and/or minority populations?	☐	☒	
5	Does the project involve a residential or commercial displacement, or a substantial amount of right of way acquisition?	☐	☒	
6	Does the project require an Individual Section 4(f) approval?	☐	☒	
7	Does the project include adverse effects that cannot be resolved with a Memorandum of Agreement (MOA) under Section 106 of the National Historic Preservation Act (NHPA) or have an adverse effect on a National Historic Landmark (NHL)?	☐	☒	
If any question 8-31 is checked "Yes" then additional information will be required for those questions in Section G.				
<u>Other Considerations</u>			Yes	No
8	Is an Endangered Species Act (ESA) determination unresolved or is the project covered by a Programmatic Agreement under Section 7?	☒	☐	
9	Is the project located in anadromous fish spawning waters?	☐	☒	
10	Does the project impact waters classified as Outstanding Resource Water (ORW), High Quality Water (HQW), Water Supply Watershed Critical Areas, 303(d) listed impaired water bodies, buffer rules, or Submerged Aquatic Vegetation (SAV)?	☒	☐	
11	Does the project impact Waters of the United States in any of the designated mountain trout streams?	☐	☒	
12	Does the project require a U.S. Army Corps of Engineers (USACE) Individual Section 404 Permit?	☐	☒	
13	Will the project require an easement from a Federal Energy Regulatory Commission (FERC) licensed facility?	☐	☒	

Other Considerations for Type I and II Ground Disturbing Actions (continued)		Yes	No
14	Does the project include a Section 106 of the National Historic Preservation Act (NHPA) effects determination other than a No Effect, including archaeological remains?	☐	☒
15	Does the project involve GeoEnvironmental Sites of Concerns such as gas stations, dry cleaners, landfills, etc.?	☐	☒
16	Does the project require work encroaching and adversely affecting a regulatory floodway or work affecting the base floodplain (100-year flood) elevations of a water course or lake, pursuant to Executive Order 11988 and 23 CFR 650 subpart A?	☒	☐
17	Is the project in a Coastal Area Management Act (CAMA) county and substantially affects the coastal zone and/or any Area of Environmental Concern (AEC)?	☐	☒
18	Does the project require a U.S. Coast Guard (USCG) permit?	☐	☒
19	Does the project involve construction activities in, across, or adjacent to a designated Wild and Scenic River present within the project area?	☐	☒
20	Does the project involve Coastal Barrier Resources Act (CBRA) resources?	☐	☒
21	Does the project impact federal lands (e.g. U.S. Forest Service (USFS), USFWS, etc.) or Tribal Lands?	☐	☒
22	Does the project involve any changes in access control or the modification or construction of an interchange on an interstate?	☐	☒
23	Does the project have a permanent adverse effect on local traffic patterns or community cohesiveness?	☐	☒
24	Will maintenance of traffic cause substantial disruption?	☐	☒
25	Is the project inconsistent with the STIP, and where applicable, the Metropolitan Planning Organization's (MPO's) Transportation Improvement Program (TIP)?	☐	☒
26	Does the project require the acquisition of lands under the protection of Section 6(f) of the Land and Water Conservation Act, the Federal Aid in Fish Restoration Act, the Federal Aid in Wildlife Restoration Act, Tennessee Valley Authority (TVA), Tribal Lands, or other unique areas or special lands that were acquired in fee or easement with public-use money and have deed restrictions or covenants on the property?	☐	☒
27	Does the project involve Federal Emergency Management Agency (FEMA) buyout properties under the Hazard Mitigation Grant Program (HMGP)?	☐	☒
28	Does the project include a <i>de minimis</i> or programmatic Section 4(f)?	☐	☒
29	Is the project considered a Type I under the NCDOT Noise Policy?	☐	☒
30	Is there prime or important farmland soil impacted by this project as defined by the Farmland Protection Policy Act (FPPA)?	☒	☐
31	Are there other issues that arose during the project development process that affected the project decision?	☐	☒

G. Additional Documentation as Required from Section F (ONLY for questions marked 'Yes'):**Question 8 - Is an Endangered Species Act (ESA) determination unresolved or is the project covered by a Programmatic Agreement under Section 7?**

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
<i>Notropis mekistocholas</i>	Cape Fear shiner	E	Yes	MA-NLAA
<i>Perimyotis subflavus</i>	Tricolored bat	PE	Yes	Unresolved

¹ IPaC data checked on January 9, 2023

E - Endangered PE – Proposed Endangered

Cape Fear shiner

USFWS optimal survey window: April – June (tributaries); year-round (large rivers)

Biological Conclusion: May Affect – Not Likely to Adversely Affect

A fish survey was conducted on June 2, 2022, for the Cape Fear Shiner in Cane Creek. The Cape Fear Shiner was not collected during the survey, but several congeners were collected. Additionally, there are no reservoirs between the project study area and the closest EO of the species. Suitable habitat (i.e., riffle/run/pool sequences) is present within the surveyed section of Cane Creek for the Cape Fear Shiner. However, due to the absence of Water Willow beds and boulder substrates, the surveyed section of Cane Creek is considered marginally suitable habitat for the Cape Fear Shiner.

Considering the survey results, the lack of impediments from the nearest EO, and the presence of marginally suitable habitat, it can be concluded that the completion of this project may affect but, is not likely to adversely affect the Cape Fear Shiner.

Tricolored bat

USFWS optimal survey window: Structure checks May 1-September 15

Biological Conclusion: Unresolved

A review of NCNHP records dated November 30, 2022 indicates no known occurrences within 1.0 mile of the study area.

Since the completion of the NRTR, the tricolored bat (*Perimyotis subflavus*) has been added as "Proposed Endangered" to the list of protected species for this project. NCDOT will ensure compliance with the Endangered Species Act for tricolored bat (and all protected species) for the project. Concurrence for this species will be resolved prior to permitting.

Question 10 - Riparian Buffer Rules

Streamside riparian zones within the study area are protected under provisions of the Jordan Lake Watershed Buffer administered by NCDWR. Potential impacts to protected stream buffers will be determined once a final alignment and design have been determined.

Question 16 - FEMA Floodplain

This project involves construction activities on or adjacent to a FEMA-regulated stream(s). Therefore, the Division will submit sealed as-built construction plans to the NCDOT Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP) to determine the status of the project with regard to applicability of NCDOT'S Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

Question 30 – Farmlands

There will be no permanent conversion of farmlands for the temporary easement to accommodate the onsite detour. In conversation with NCDOT EAU, it was determined that a Preliminary Screening of Farmland Conversion Impacts (NRCS Form AD-1006) initiative is not needed.

H. Project Commitments:

NCDOT PROJECT COMMITMENTS

TIP Project No. **BR-0060**
Replace Bridge No. 000014 on NC 87 Over Cane Creek
Alamance County
Federal Aid Project No. N/A
WBS Element 67060.1.1

NCDOT Roadside Environmental and EAU - N.C. River Basin Buffer Rules

Streamside riparian zones within the study area are protected under provisions of the Jordan Lake Watershed Buffer administered by NCDWR. Potential impacts to protected stream buffers will be determined once a final alignment and design have been determined.

NCDOT EAU - ESA federally protected species within the Study Area

Cape Fear Shiner – Survey/screening information and a biological conclusion will be provided by the NCDOT Biological Surveys Group. Based on a data request from the NCNHP (NCNHDE-13595) received on December 31, 2020, there are no records of this species in the project area or within one mile of the project area. ***Post survey, the Biological Conclusion for the Cape Fear Shiner is May Affect – Not Likely to Adversely Affect.***

NCDOT Division 7 - N.C. Wildlife Resources Commission Contact

The N.C. Wildlife Resources Commission (NCWRC) requests that they be contacted by NCDOT prior to the implementation of this project regarding the potential for state list mussels to be present within the project study area. Travis Wilson, Eastern NCDOT Permit Coordinator with NCWRC, is the point of contact for this.

NCDOT Division 7 - FEMA

This project involves construction activities on or adjacent to a FEMA-regulated stream(s). Therefore, the Division will submit sealed as-built construction plans to the NCDOT Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

NCDOT Hydraulic Design Unit - FEMA

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP) to determine the status of the project with regard to applicability of NCDOT's Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR)

I. Categorical Exclusion Approval:

TIP Project No.	BR-0060
WBS Element	67060.1.1
Federal Project No.	N/A

Prepared By:

3/9/2023
Date

DocuSigned by:

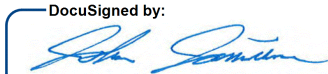
3B72951E7BAA452...
Marc L. Hamel
M&N Project Manager

Prepared For:

NCDOT Structures Management Unit

Reviewed By:

3/10/2023
Date

DocuSigned by:

CA084B4A6412432...
John Jamison, Unit Head
NCDOT Environmental Policy Unit

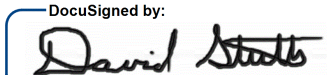
**Approved**

- If NO grey boxes are checked in Section F (pages 2 and 3), NCDOT approves the Type I or Type II Categorical Exclusion.

**Certified**

- If ANY grey boxes are checked in Section F (pages 2 and 3), NCDOT certifies the Type I or Type II Categorical Exclusion for FHWA approval.
- If classified as Type III Categorical Exclusion.

3/9/2023
Date

DocuSigned by:

A4A29899A897C64F2...
David Stutts, PE – PEF / Program Manager, SMU
North Carolina Department of Transportation

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

N/A

Date

for John F. Sullivan, III, PE, Division Administrator
Federal Highway Administration

Note: Prior to ROW or Construction authorization, a consultation may be required (please see Section VII of the NCDOT-FHWA CE Programmatic Agreement for more details).

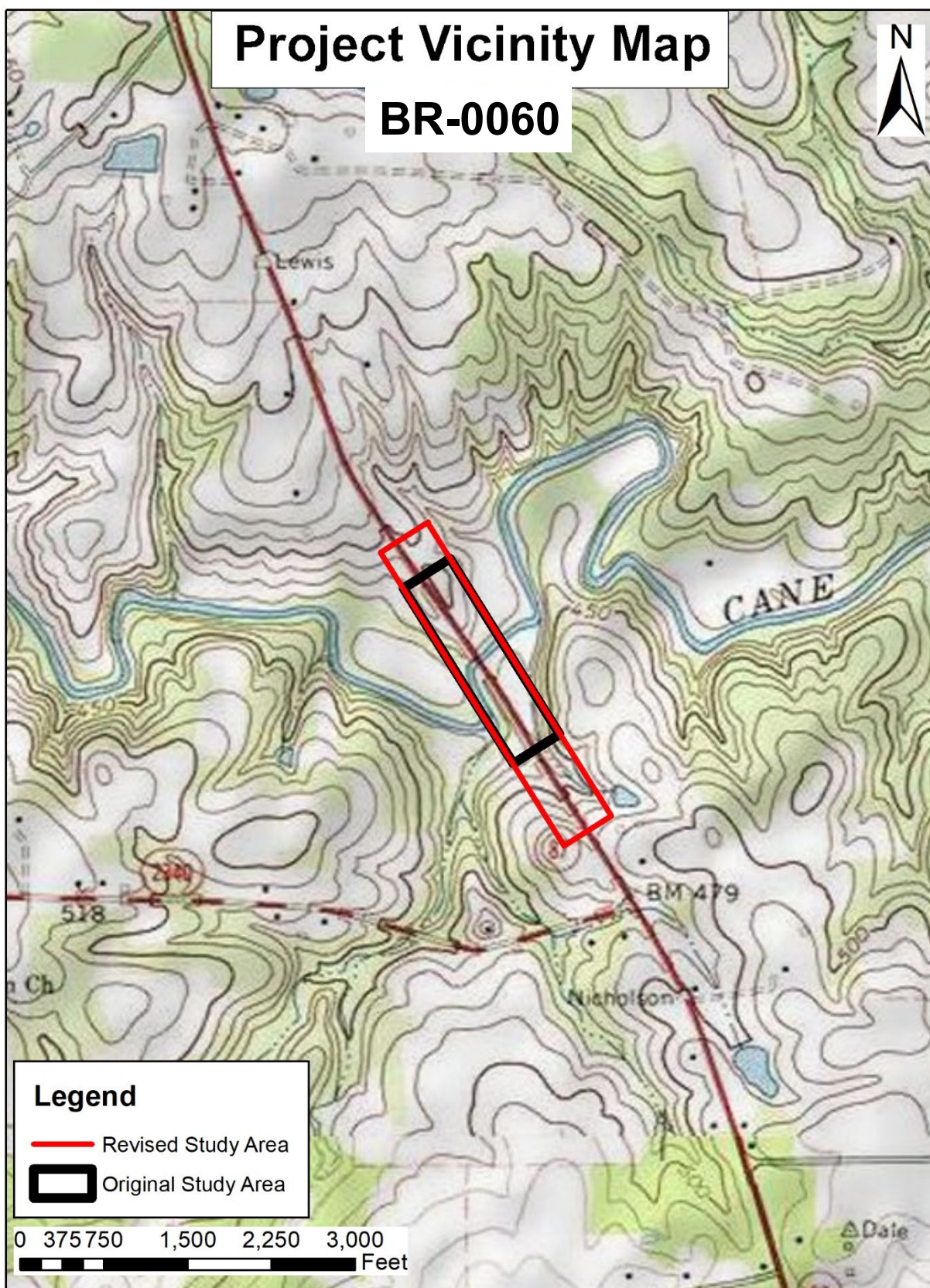


Figure 1: Vicinity Map



Figure 2: Project Study Area Map

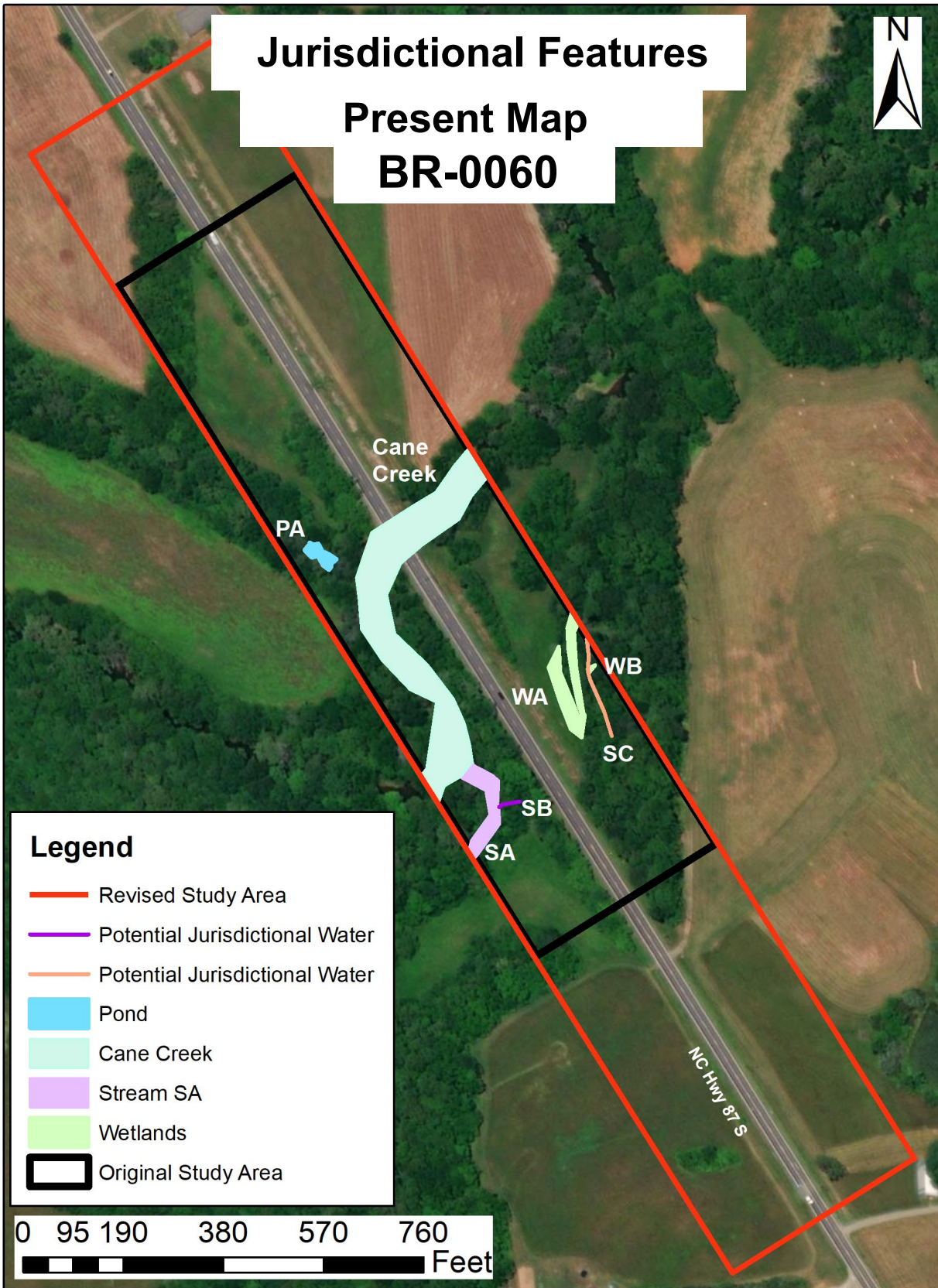


Figure 3: Jurisdictional Features Present Map

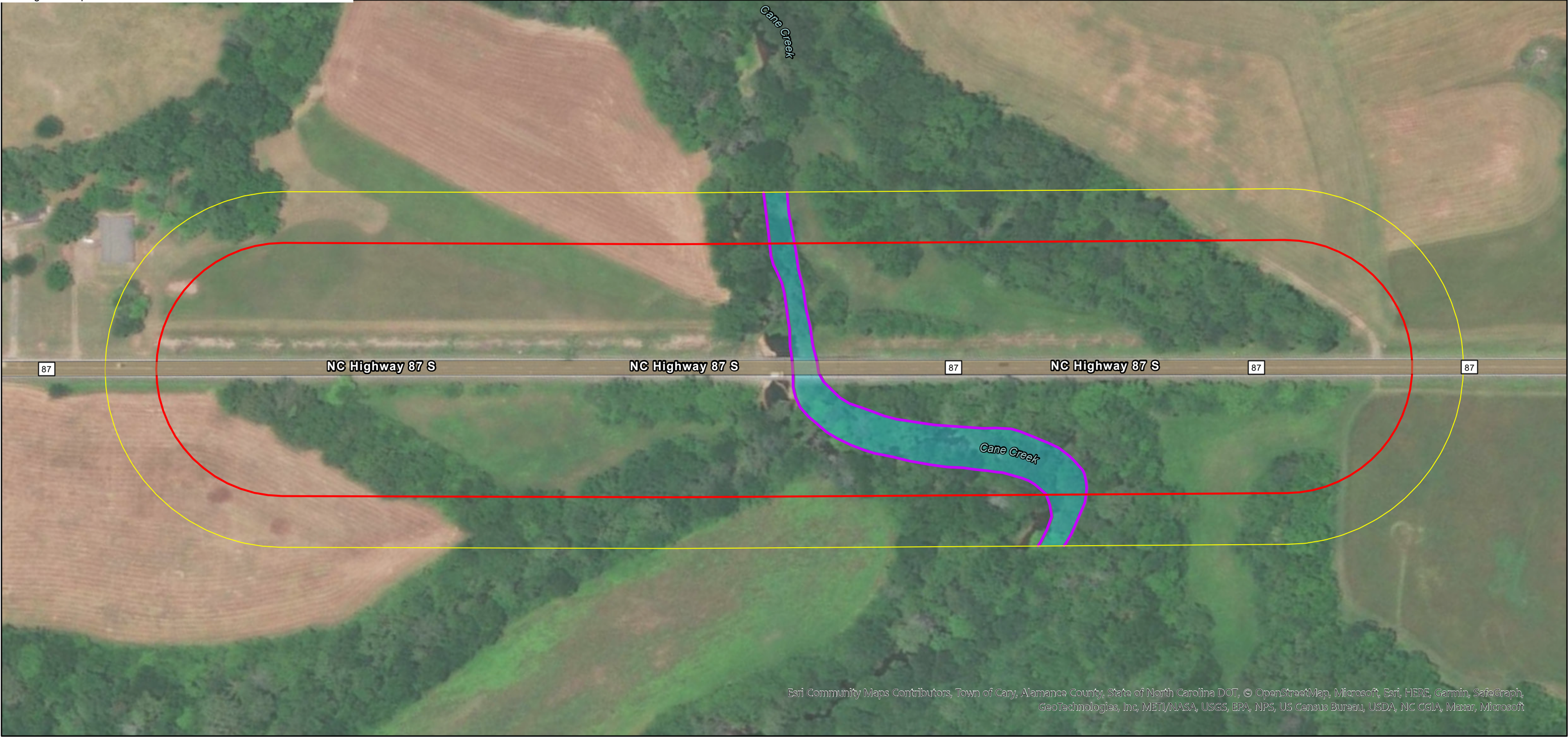


Figure 4: NC ATLAS Screening Map

- ATLAS Screening Area
- Study Area BR-0060
- Bat Bridge Habitat - High Probability
- Water Supply-V: Nutrient Sensitive Water; 303(d) and 305(b): 4t: Category 4 Hg Only (2008 listing, Exceeding Criteria)
- NC Natural Heritage Natural Areas: Collective Rating: C3 (High), Representational Rating: R2 (Very High)

Other Information:
Cane Creek - WS-V:NSW
Water Supply-V - Waters protected as water supplies
which are generally upstream and draining to Class WS-IV waters or waters used by industry to supply their employees with drinking water or as waters formerly used as water supply. These waters are also protected for Class C uses. More information is available on the Water Supply Watershed Protection Program Homepage. While not a classification, the designated area of a critical area associated with a water supply watershed is 1/2 mile and draining to a riverine or normal pool elevation of a reservoir. The protected area is generally 10 miles run of river, and for a reservoir, it is 5 miles and draining to normal pool elevation of the reservoir.
NSW:Nutrient Sensitive waters

Complete Study Area:
ATLAS IPaC Ranges: Cape Fear Shiner, Endangered Tricolored Bat, Proposed Endangered
NC Jordan Lake Watershed Boundary
NC_DEQ Major Basin: Cape Fear
NC_DEQ Riparian Buffer Area: Jordan Lake Buffer
NC - Jordan Lake Watershed Boundary

18-09-0004



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: **B-0060**

County: **Alamance**

WBS No: **67060.1.1**

Document: **M C C**

F.A. No:

Funding: ☒ State ☐ Federal

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

Project Description: NCDOT proposes construction of replacement bridge on NC 87 over Cane Creek in Alamance County between Saxapahaw and Pittsboro. Alternatives may include on-site detours or bridge construction adjacent to the existing route.

For purposes of this investigation, the archaeological Area of Potential Effects (APE) includes all areas and soils likely to be disturbed during the construction including right of way, cut and fill lines and easements. The working APE may be refined as designs are further developed. The project length is 1500 feet, or about 0.28 miles. The width is 400 feet, two hundred to either side of NC 87.

The project is state funded and but will be permitted by the USACE; thus Section 106 of the National Historic Preservation Act applies.

SUMMARY OF ARCHAEOLOGICAL RESOURCES REVIEW: ***SURVEY REQUIRED***

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

USGS mapping and aerial photography was examined (see Figures 1 and 2). Most of the surrounding terrain is wooded or open agricultural land in a rural setting. The terrain dips down into the Cane Creek drainage with some likely artificially built-up soil to launch the bridge.

Archaeological background research shows that several archaeological sites have been recorded along the Haw River and Cane Creek drainages, many by UNC-CH as part of a larger research project. Of special interest for the review is the investigations of 31Am148 (also known as UNC-CH 31Am145), west of the bridge that was conducted by UNC-CH in the 1980s. Data recovery efforts included surface inspections of the freshly plowed field, mapping results of 3900 auger tests, and twelve 10x10 ft excavations blocks. The results suggested the Native American site represents a small occupation with some intact features in areas while other portions are eroded and/or more extensively plowed-disturbed. Mapped some six hundred feet away, it is unlikely that the site would be impacted by the bridge construction which is located overtop somewhat lower terrain with less likelihood for cultural horizons.

No cemeteries are present in close proximity to the bridge replacement project according to USGS mapping and the GIS database of cemeteries maintained by NCDOT Archaeologist, Paul Mohler.

While the project limits are somewhat confined, alternatives may include construction expansion adjacent to the current bridge. Undocumented archaeological sites may be present within the archaeological APE that were not recorded during previous investigations. There is potential for intact, significant archaeological resources, ones that might be eligible for listing on the National Register of Historic Places.

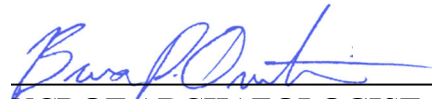
18-09-0004

An archaeological survey including a complete surface inspection and areas of limited subsurface testing, if warranted, is recommended for this project under Section 106 to identify any significant archaeological sites which may be eligible for listing on the National Register of Historic Places within the APE. We can complete these investigations using one of the Archaeology Group's on-call firms or if Division 7 would like to manage and complete the survey they can use a NCDOT prequalified archaeologist under contract with one of the Division's on-call firms. We can provide a scope of work for the Division to use, but we do need to know within seven days which path the Division plans to follow. All products produced by the Division's consultant will need to be submitted to the Archaeology Group for review, acceptance, and submittal to the Office of State Archaeology as per the Programmatic Agreement. We would be happy to discuss this approach with you.

Please note that the project falls within a county, Alamance, in which the Catawba Indian Nation has expressed interest. We suggest that the Division contact all federal agencies involved with the project to determine their individual Tribal Consultation requirements.

SUPPORT DOCUMENTATION

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

FINDING BY NCDOT ARCHAEOLOGIST – *SURVEY REQUIRED***NCDOT ARCHAEOLOGIST****9/19/2019****Date***tbd*

Proposed fieldwork completion date

18-09-0004



NO NATIONAL REGISTER OF HISTORIC PLACES ELIGIBLE OR LISTED ARCHAEOLOGICAL SITES PRESENT FORM



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

PROJECT INFORMATION

Project No: **B-0060** County: Alamance
WBS No: 67060.1.1 Document: MCC
F.A. No: Funding: ☒ State ☐ Federal

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

Project Description: NCDOT proposes construction of a replacement bridge on NC 87 over Cane Creek in Alamance County between Saxapahaw and Pittsboro (see Figure 1). Alternatives may include an on-site detour or bridge construction adjacent to the existing route.

For purposes of this investigation, the archaeological Area of Potential Effects (APE) includes all areas and soils likely to be disturbed during the construction, including up to the limits of any new right of way, cut and fill lines, and easements, permanent or temporary. The original project length for the cultural resources screening was 1500 feet, 0.28 miles, roughly centered on the current bridge. The width is 400 feet, two hundred to either side of NC 87 which allows coverage and a buffer for multiple designs. For the survey, preliminary mapping of alternatives was then available therefore the APE was revised to include additional, tapered length on both ends for a total of 2300 feet, 0.44 miles (see Figure 2).

The project is state funded though will require a permit by the USACE, thus Section 106 of the National Historic Preservation Act applies for this federal undertaking.

SUMMARY OF ARCHAEOLOGICAL FINDINGS

The North Carolina Department of Transportation (NCDOT) Archaeology Team has reviewed the subject project and determined:

- ☒ There are no National Register listed ARCHAEOLOGICAL SITES within the project's area of potential effects. (Attach any notes or documents as needed.)
- ☐ No subsurface archaeological investigations were required for this project.
- ☐ Subsurface investigations did not reveal the presence of any archaeological resources.
- ☒ Subsurface investigations did not reveal the presence of any archaeological resources considered eligible for the National Register.
- ☒ All identified archaeological sites located within the APE have been considered and all compliance for archaeological resources with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.

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

The undertaking was reviewed for archaeology and determined to require a survey to determine if there may be impacts to significant archaeological remains under Section 106 of the National Historic Preservation Act (see PA 18-09-0004 Archaeological Survey Required Form dated 9/19/2019). The decision notes relatively close proximity to archaeological site 31Am148, also known as the Guthrie Site UNC-CH 31Am145, west of the bridge on the opposite side of the adjacent agricultural field about 600 feet from the roadway and bridge, UNC-CH conducted extensive testing

at this site in the 1980s which included twelve large excavation blocks and 3900 auger tests. The site form, report and personal communication with the lead Archaeologist suggest that the site did not extend to the east across the field and into the project APE. Proximity to 31Am138 rather than the environmental context, the recommendation to conduct a survey of higher probability landforms for archaeological sites was made for this project, especially because it may have impacts beyond the original roadway and bridge construction. See the survey required form for more details.

Soils, topographic and LIDAR mapping were examined prior to fieldwork to identify landforms with greater probability to contain archaeological sites, especially significant, intact resources. Areas of lower probability were also noted. The APE was transferred to field GPS equipment which was used to navigate and plan subsurface testing, and also to record and map specific locations and results.

Archaeological testing of the APE was conducted on April 28, 2021 by NCDOT Archaeologists Brian Overton and Shane C. Petersen. A total of eleven shovel test pits were fully excavated and screened (1/4 inch) on the well drained, upland, grassy landform north of the bridge with a concentration of effort east of NC 87. The cut for the roadway and other landscape modification, including a possible unpaved old or farm road, was evident during fieldwork. The west side of the roadway was included in the subsurface methodology (see Figure 3), too, but was much narrower, modified and also heavily eroded with saprolitic soils present.

For this project, all of the STPs were placed along transects parallel to NC 87 at an interval of 30 meters in grassy fields. Cuts and modifications to the landform were apparent inside the APE especially the northeast quadrant. The typical soil profile recorded from all of the shovel test pits showed a shallow A horizon with weak, recent topsoil development. This zone was about 5 to 10 cm in depth with 2.5 YR 4/6, 5/6 and 5/8, 5 YR 4/6 and 5/6, or 10 YR 5/6 clay loams, if present. The subsoil was encountered quickly past a depth of 5 to 12 cmbs, a clay which was sometimes saprolitic, as noted on all of the northwest quadrant near STPs 9, 10 and 11.

Three of the eleven shovel test pits yielded a total of six artifacts. STP 4 was the first positive test followed by 15 m radials STP 7 and 8 resulted. This resulted in documentation of archaeological site 31Am464 (see Figure 4), a lithic scatter of Native American origin. A heavily eroded landform, STP 4 was only dug to a depth of 10 cm of 2.5 YR 5/8 clay loam soil. Other shovel test pits along the planned intervals of this transect were negative, containing similar stratigraphy and no other cultural materials. The site boundary was established using a combination of negative shovel test pits, the NC 87 road cut to the west and downsloping terrain to the east and south. The artifacts are described below.

Archaeological site 31Am464 was identified during excavation of three positive shovel test pits on an extensively eroded hilltop overlooking Cane Creek. Erosion at the site, which had patches gravelly soil where no grass was growing, was evident on the ground surface.

STP 4, one of the 30-m interval units in the northeastern transect, contained one artifact, a chipped stone project point or knife fragment, specifically the tip. The raw material is metavolcanic stone. While the tip lacks the diagnostic information that a cspp/k base provides, the size suggests it represents the Archaic period. Two radial tests at 15-m, STP 7 to the east just before the topography drops in that direction, and STP 8 to the north, yielded metavolcanic and quartz debitage consisting of interior flakes or shatter. In total six artifacts were identified, one cspp/k tip and five pieces of debitage. The Office of State Archaeology assigned the following accession number: 2021.0126.

This low density site has a small number of artifacts in a heavily eroded context. None of the lithic artifacts were diagnostic, though one probably is a fragment of an Archaic cspp/k. No ceramics were recovered. No cultural features were identified in the thin, grassy topsoil or subsoil below. Lacking diagnostic or abundant artifacts, features or other data, 31Am464 is not likely to contain significant, new information about Native American activities and lifeways. The site is recommended as not eligible for listing on the National Register of Historic Places.

18-09-0004

Pedestrian survey north of Cane Creek within the APE confirmed the modified topography that resulted from construction of the highway and bridge, also ditching and the natural and migrating stream channel present north of Cane Creek. More low, frequently flooded soils were present south of Cane Creek, especially southeast of the bridge where water was pooling on top of or near the surface of the ground. As expected, these lower, often wet, areas demonstrated and confirmed a lowered probability to contain archaeological remains, especially significant, intact deposits.

The southern limits of the project gradually climb from the low bottoms and had been noted as a possible location for subsurface testing. However, visual inspection and selective soil probes and turning over the A horizon with a shovel showed more eroded soils on a sloped hillside. A relatively level landform more suitable to contain an archaeological site was not present until and beyond the far limits of the APE to the south. Noting the sloped landform and heavily eroded context, no shovel test pits were excavated towards the southern end of the APE.

As expected, the Guthrie Site, 31Am148 (also noted as 31Am145), was not encountered during the archaeological investigation. The mapped location and site plan of the excavation place the site outside of the APE about six hundred feet to the west.

In summary, the entire APE was subjected to a pedestrian inspection to look for surface artifacts and above ground features like walls, cellars or cemeteries; none were observed. The hill tops and side slopes were visibly eroded with bare subsoil exposed in spots. The lower elevations contained characteristically wet soils, or were sloped or modified for drainage and the highway bridge. Eleven shovel test pits were excavated and screened on the relatively level northern upland within the APE. One of the shovel test pits on the transect northeast of the bridge contained a cspp/k tip in a very eroded context. Nearby, two of the radial tests yielded a small number of lithic debitage. The site is now registered with the Office of State Archaeology as 31Am464. A low density lithic site lacking diagnostic artifacts on an eroded landform, the site is not recommended as eligible for listing on the National Register of Historic Places. Site 31Am464 may be directly impacted by proposed plans or avoided depending on the selected alternative, on-site temporary detours and construction approach.

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

SUPPORT DOCUMENTATION

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

Other:

Signed:

BRIAN P. OVERTON

7/9/2021

NCDOT ARCHAEOLOGIST

Date

18-09-0004



HISTORIC ARCHITECTURE AND LANDSCAPES NO HISTORIC PROPERTIES PRESENT OR AFFECTED FORM

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

PROJECT INFORMATION

Project No:	BR-0060	County:	Alamance
WBS No.:	67060.1.1	Document Type:	MCC
Fed. Aid No:		Funding:	☒ State ☐ Federal
Federal Permit(s):	☒ Yes ☐ No	Permit Type(s):	USACE
<u>Project Description:</u> Replace Bridge No. 14 on NC 87 over Cane Creek			

SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

- ☒ There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- ☒ There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's area of potential effects.
- ☐ There are no properties within the project's area of potential effects.
- ☐ There are properties over fifty years old within the area of potential effects, but they do not meet the criteria for listing on the National Register.
- ☒ There are no historic properties present or affected by this project. (Attach any notes or documents as needed.)

Date of field visit: n/a

Description of review activities, results, and conclusions:

Review of HPO quad maps, relevant background reports, historic designations roster, and indexes was undertaken on October 3, 2018. A search of Alamance County Tax Parcel Data did not reveal any properties over fifty years of age. There is a property south of the project area which dates from 1890. If the project area extends farther south, please resubmit for further review. No historic properties will be affected by this project.

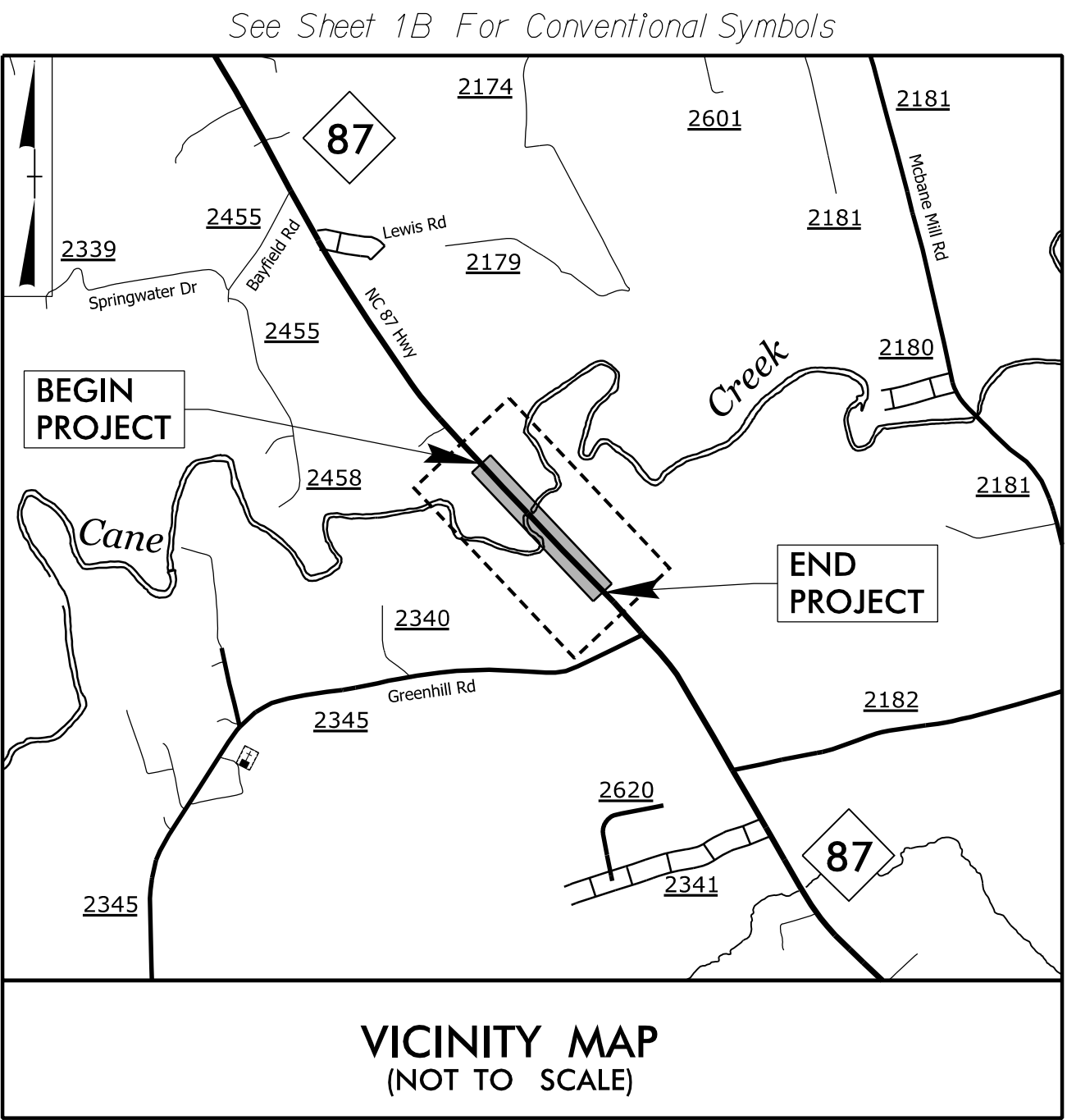
SUPPORT DOCUMENTATION

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

09.08/2019

TIP PROJECT: BR-0060

CONTRACT:



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

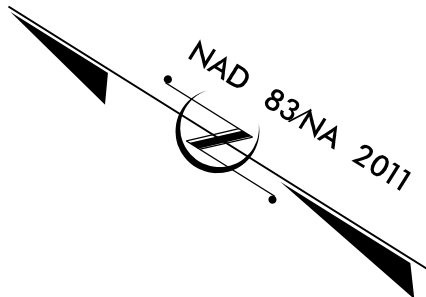
ALAMANCE COUNTY

LOCATION: REPLACE BRIDGE 000014 ON NC 87 OVER CANE CREEK

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

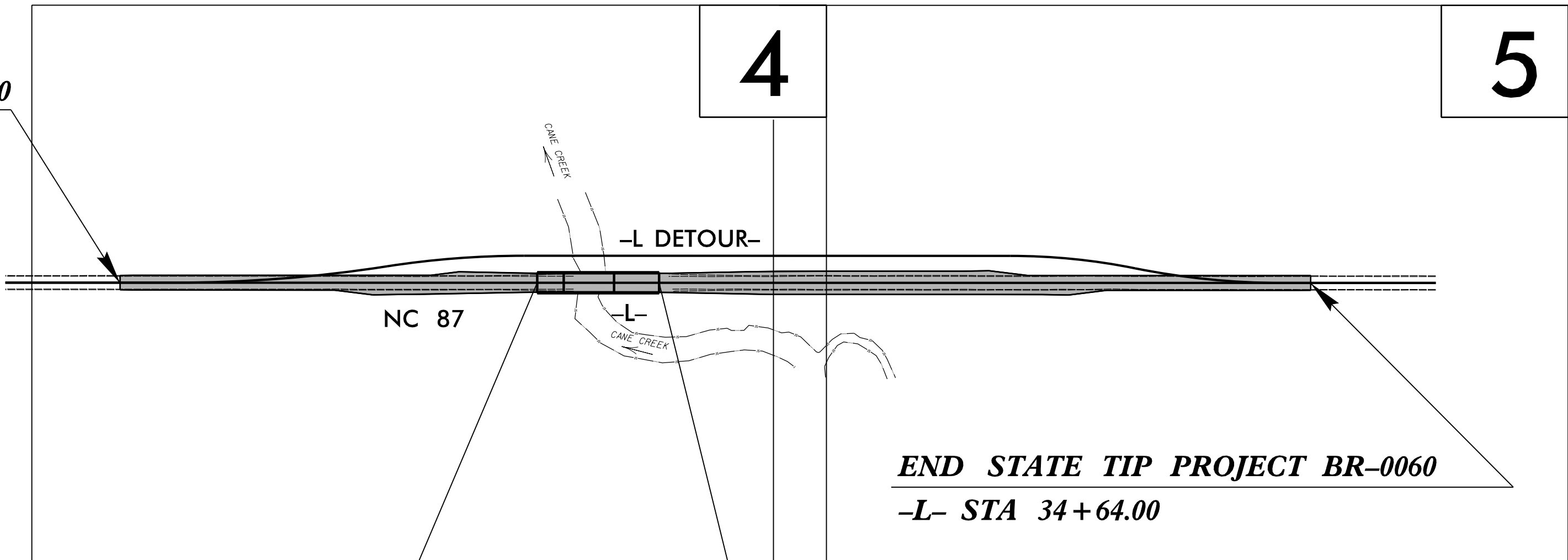
FIELD INSPECTION PLANS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0060	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
67060.1.1	N/A	PE	



BEGIN STATE TIP PROJECT BR-0060
-L- STA 12+16.55

TO LEWIS RD



TO GREENHILL RD

END STATE TIP PROJECT BR-0060
-L- STA 34+64.00

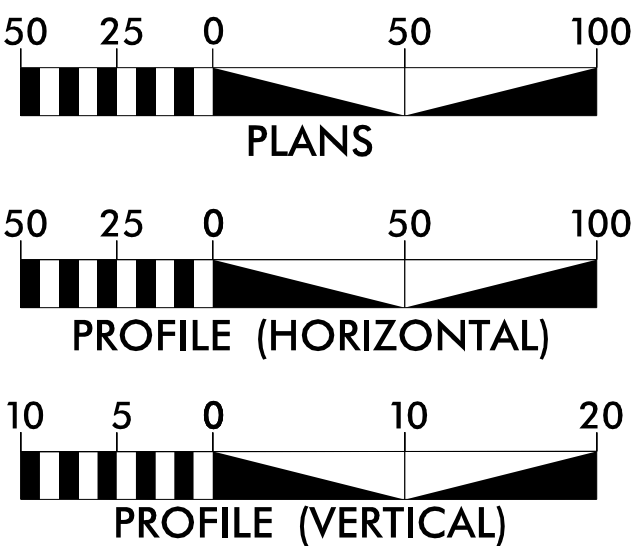
BEGIN BRIDGE
-L- STA 20+04 +/-

END BRIDGE
-L- STA 22+34 +/-

THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II

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

GRAPHIC SCALES



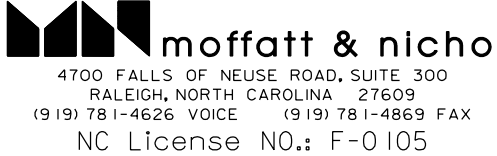
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K = 10 %
D = 60 %
T = 7 % *
V = 60 MPH
* TTST = 3% DUAL 4%
FUNC CLASS =
MINOR ARTERIAL-
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT BR-0060 = 0.382
LENGTH STRUCTURE TIP PROJECT BR-0060 = 0.044
TOTAL LENGTH TIP PROJECT BR-0060 = 0.426

Prepared for NCDOT In the Office of:



2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 31, 2023

LETTING DATE:
DECEMBER 13, 2023

TRENT HUFFMAN, P.E.
PROJECT ENGINEER

GRAY MODLIN, P.E.
PROJECT DESIGN ENGINEER

DAVID STUTTS, P.E.
NCDOT CONTACT

HYDRAULICS ENGINEER

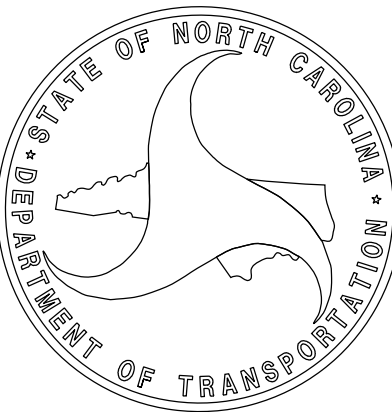


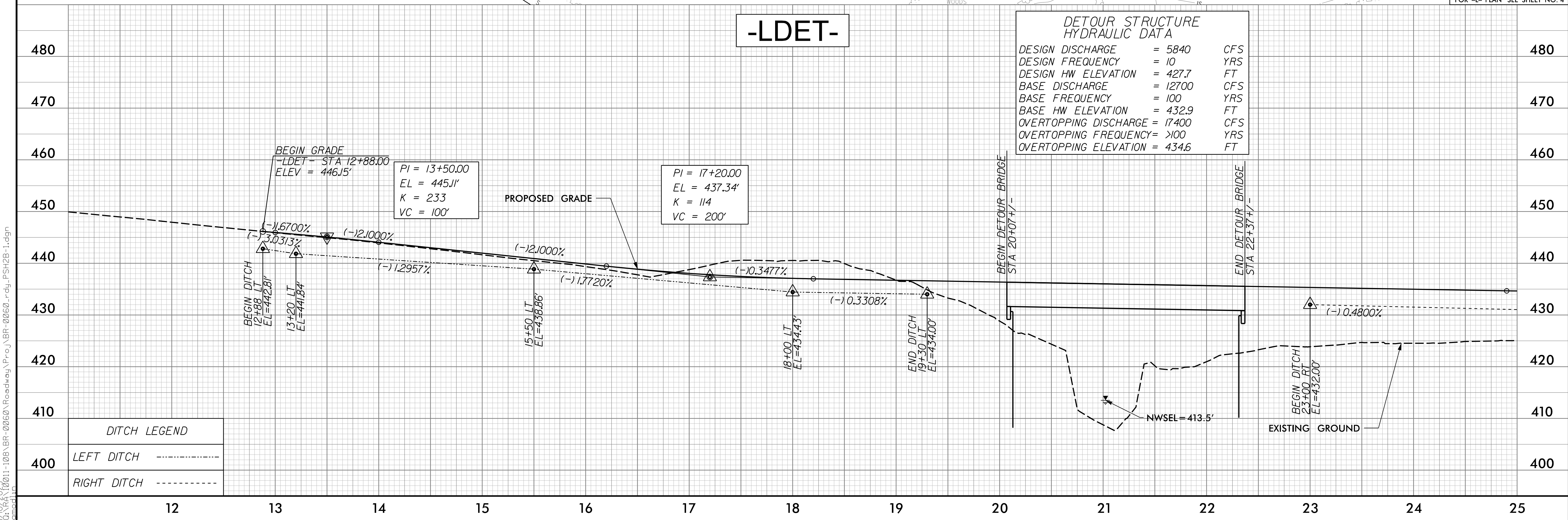
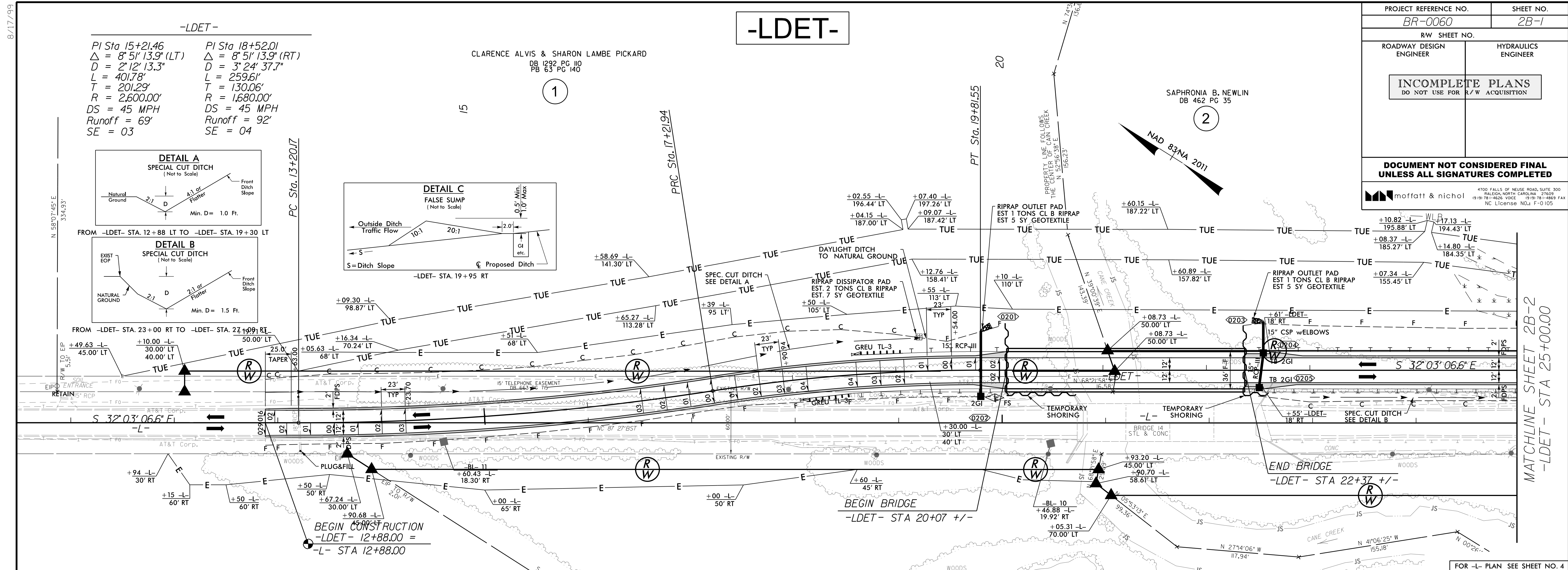
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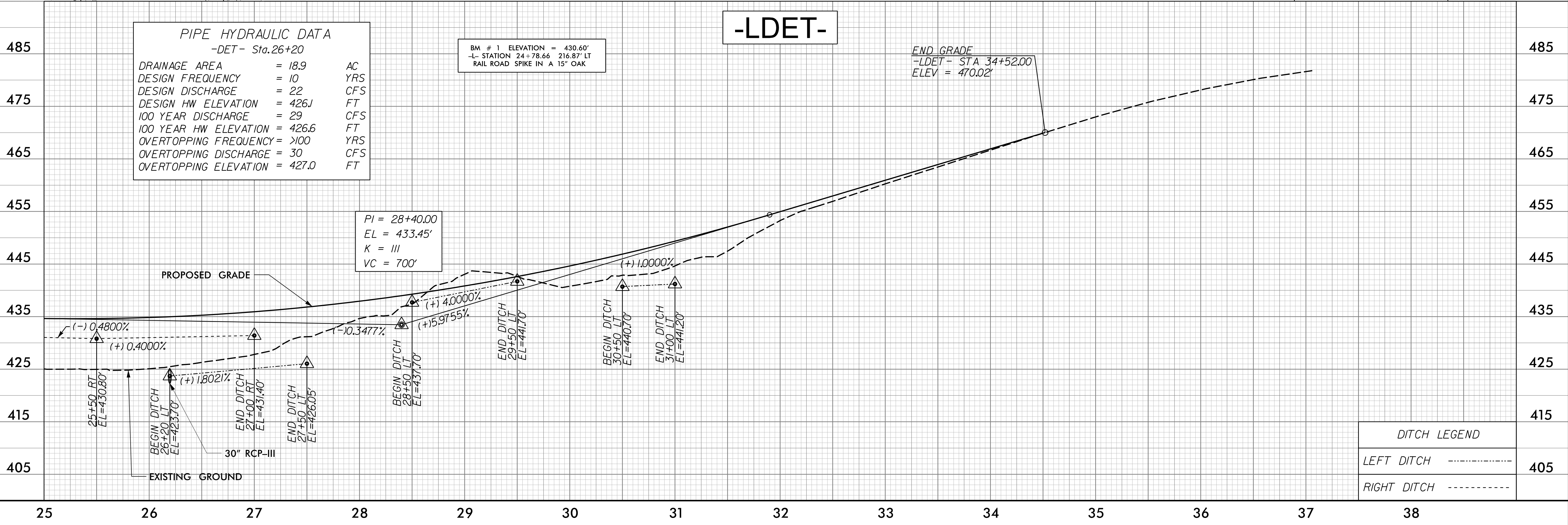
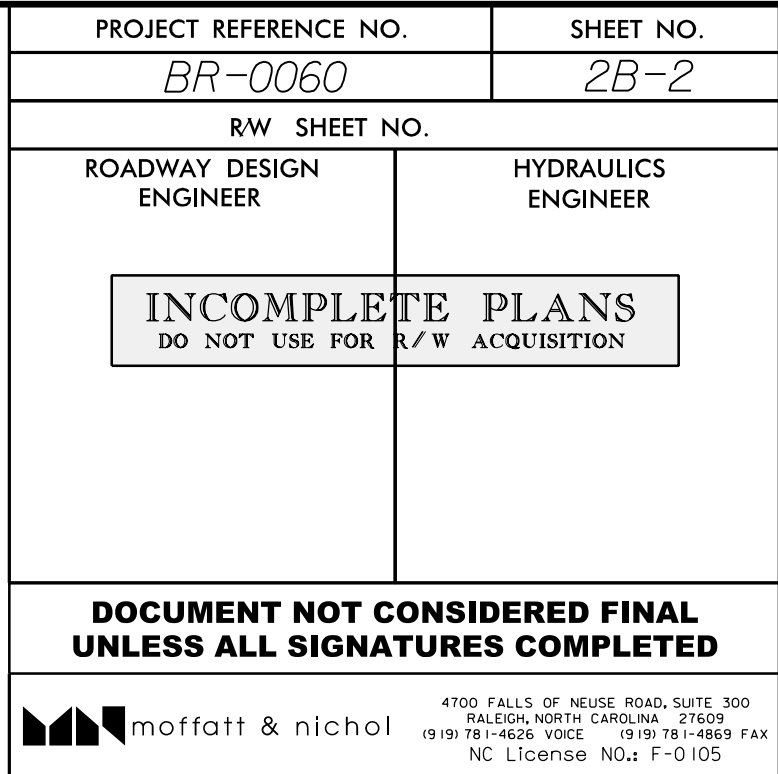
ROADWAY DESIGN
ENGINEER



SIGNATURE: P.E.









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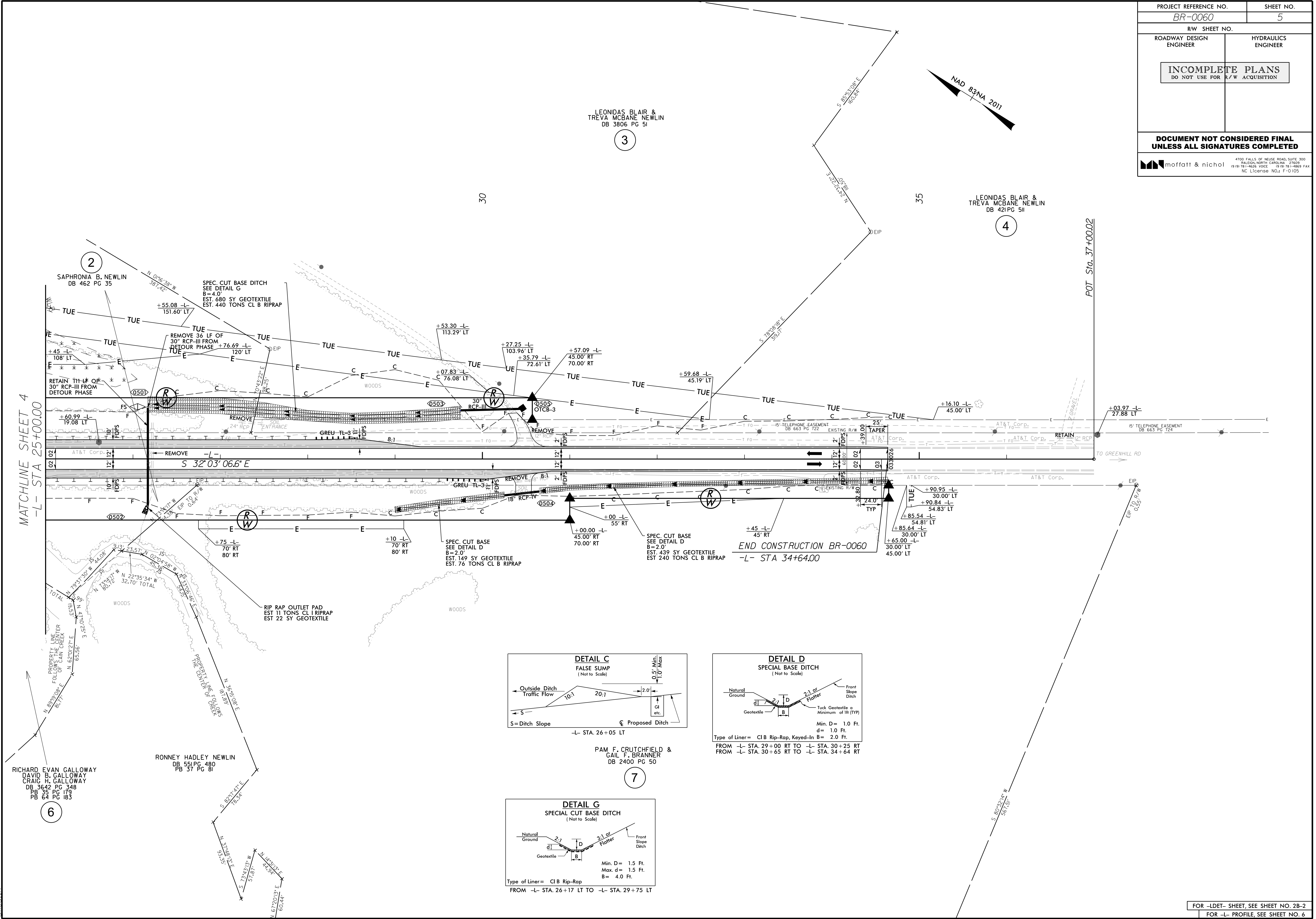
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FOR -LDET- SHEET, SEE SHEET NO. 2B-1
FOR -L- PROFILE, SEE SHEET NO. 6
FOR STRUCTURE PLANS, SEE SHEETS XX THRU XX

8/17/99

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BR-0060		5	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
 moffatt & nichol		4700 FALLS OF NEUSE ROAD, SUITE 300 RALEIGH, NORTH CAROLINA 27609 (919) 781-4626 VOICE (919) 781-4869 FAX NC License No. F-0105	

