



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

April 26, 2021

U.S. Army Corps of Engineers
Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587

ATTN: Mr. Eric Alsmeyer, NCDOT Regulatory Coordinator

Subject: **Application for Section 404 Nationwide Permit 14, and 401 Water Quality Certification** for the proposed replacement of Bridge 132 on NC 73 over Dutch Buffalo Creek in Cabarrus County, NCDOT Division 10.
TIP B-5813. Debit \$570 from WBS 45767.1.1

Reference: 1) NCDOT Permit Application for a 404 Permit and 401 Water Quality Certification dated September 2, 2020
2) NCDWR On Hold Notification dated October 30, 2020
3) NCDWR Returned Application Notification dated March 30, 2021

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge 132 on NC 73 over Dutch Buffalo Creek in Cabarrus County. The current structure is a 190-foot, 4-span structurally deficient and functional obsolete structure. The new bridge will be a 208-foot, 2-span bridge approximately 50 feet upstream of the existing bridge. The existing bridge will maintain traffic until the new structure is complete.

This revised application address four primary concerns that resulted in the return of the previous application.

On November 16, 2020, NCDOT and DWR staff met onsite to review the project. The following concerns were noted and have been addressed in the attached permit drawings.

Concern 1: A UT draining from the adjacent field is jurisdictional and the impacts should be accounted for.

The impacts for this stream are now accounted for on the permit drawings. Furthermore, the stream relocation portion of the project will start further downstream, so the previous permanent impacts to this system have been minimized to temporary impacts.

Concern 2: An unstable non-jurisdictional drainage from the adjacent field should be stabilized to prevent sediment discharge into the stream.

Riprap has been added to ensure this system transitions into the relocated channel in a stable manner.

Concern 3: Sewer crossing

A 12” ductile iron gravity sewer line runs parallel to Dutch Buffalo Creek through the project area. A manhole in the path of the new bridge will need to be relocated, thus requiring the relocation of the line coming into it.

The stream relocation channel will intersect this line, exposing it at approximately the same elevation as it is currently, approximately 1-foot above the stream bed.

The relocated sewer line will be secured to driven piles located on each side of the channel. Class II riprap on the banks will keep the streambanks stable in this area.

Concern 4: Please remove the bridge deck drain nearest the stream on the east side of the bridge.

This deck drain has been removed. The nearest deck drain is now approximately 12 feet from the stream.

By way of the above minimizations, the impacts for this project have changed:

Site	Previous Application			Revised Application		
	Permanent: Stream Relocation	Permanent: Bank Stabilization	Temp. Impacts	Permanent: Stream Relocation	Permanent: Bank Stabilization	Temp. Impacts
Site 1: Existing Bridge Removal	0	0	134	0	63	20
Site 2: Stream Relocation	220	0	8	219	0	117
Totals	220	0	142	219	63	137
				282		

Please see enclosed Pre-Construction Notification (PCN), NCDMS Acceptance, Stormwater Management Plan, and Permit Drawings. A copy of this permit application is posted on the NCDOT Permit Website at <http://xfer.services.ncdot.gov/pdea/PermApps/>. If you have questions or need additional information, please contact Jeff Hemphill at (919) 707-6126.

Sincerely,



for Philip S. Harris III, P.E., C.P.M.
Environmental Analysis Unit Head



Pre-Construction Notification (PCN) Form

For Nationwide Permits and Regional General Permits
(along with corresponding Water Quality Certifications)

April 4, 2021 Ver 4

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/0/edoc/624704/PCN%20Help%20File%202018-1-30.pdf>

A. Processing Information

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

Cabarrus

Is this a NCDMS Project?*

Yes No

Click Yes, only if NCDMS is the applicant 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:

B-5813

WBS #*

45767.1.1

(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

Please provide the date of the previous submission.*

9/2/2020

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

Nationwide Permit (NWP)

Regional General Permit (RGP)

Standard (IP)

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

Yes No

Nationwide Permit (NWP) Number:

14 - Linear transportation

NWP Numbers (for multiple NWPS):

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

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

check all that apply

401 Water Quality Certification - Regular

Non-404 Jurisdictional General Permit

Individual 401 Water Quality Certification

401 Water Quality Certification - Express

Riparian Buffer Authorization

Pre-Filing Meeting Information

Before submitting this form please ensure you have submitted the Pre-Filing Meeting Request Form as we will not be able to accept your application without this important first step. The Pre-Filing Meeting Request Form is used in accordance with 40 C.F.R. Section 121.4(a) "At least 30 days prior to submitting a certification request, the project proponent shall request a pre-filing meeting with the certifying agency" and in accordance with 40 C.F.R. Section 121.5(b)(7), and (c)(5) all certification requests shall include documentation that a pre-filing meeting request was submitted to the certifying authority at least 30 days prior to submitting the certification request. Click [here](#) to read more information on when this form is needed prior to application submission or [here](#) to view the form.

Is this a courtesy copy notification? *

Yes No

ID#

20201093

Version

Pre-filing Meeting or Request Date *

4/24/2021

Attach documentation of Pre-Filing Meeting Request here: *

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

B-5813 2021-03-31 401 Return Letter.pdf

1.11MB

File type must be PDF

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

B-5813 DMS Acceptance Letter.pdf

457.39KB

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? *

Michael Turchy

1b. Primary Contact Email: *

maturchy@ncdot.gov

1c. Primary Contact Phone: *

(xxx)xxx-xxxx
(919)707-6157

1d. Who is applying for the permit? *

Owner
(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)707-6157

2f. Fax Number:

(xxx)xxx-xxxx

2g. Email Address: *

pharris@ncdot.gov

3. Applicant Information (if different from owner)

3a. Name: *

NCDOT

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)707-6157

(xxx)xxx-xxxx

3e. Fax Number:

(xxx)xxx-xxxx

3f. Email Address: *

maturchy@ncdot.gov

C. Project Information and Prior Project History

1. Project Information

1a. Name of project: *

Replace Bridge 132 on NC 73 over Dutch Buffalo Creek

1b. Subdivision name:

(if appropriate)

1c. Nearest municipality / town: *

Mt. Pleasant

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: *

35.395927
ex: 34.208504

Longitude: *

-80.416077
-77.796371

3. Surface Waters

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

Dutch Buffalo Creek

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

C

[Surface Water Lookup](#)

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

Yadkin-PeeDee

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

030401050304

[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:*

The current conditions include a two-lane, 4-span structurally deficient, and functionally obsolete bridge over Dutch Buffalo Creek. The surrounding land use is agricultural, residential, and fragmented forest land.

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

Yes No Unknown

4d. Attach an 8 1/2 X 11 excerpt from the most recent version of the USGS topographic map indicating the location of the project site. (for DWR)

[Click the upload button or drag and drop files here to attach document](#)

File type must be pdf

4e. Attach an 8 1/2 X 11 excerpt from the most recent version of the published County NRCS Soil Survey map depicting the project site. (for DWR)

[Click the upload button or drag and drop files here to attach document](#)

File type must be pdf

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

0

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

(intermittent and perennial)

632

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

The purpose of this project is to replace Bridge 132 - a structurally deficient and functionally obsolete bridge. The concrete superstructure and substructure have reached a degree of deterioration that can no longer be addressed by maintenance activities and is reaching the end of its useful life. In addition, the new bridge will provide a left turn lane to the adjacent intersection with Dutch Road, which has a higher crash rate than the state average.

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

The existing 190', 4-span bridge will be replaced with a 2-span bridge north (upstream) of the existing bridge. The existing bridge will remain in use during construction. Standard road and bridge building equipment such as trucks, dozers, and cranes will be used.

4j. Please upload project drawings for the proposed project.

[Click the upload button or drag and drop files here to attach document](#)

B-5813 2021-03-05 Permit Drawings.pdf

5.88MB

File type must be pdf

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): Nathan Howell

Agency/Consultant Company: Three Oaks Engineering

Other:

5d1. Jurisdictional determination upload

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

File type must be PDF

6. Future Project Plans

6a. Is this a phased project? *

Yes No

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

D. Proposed Impacts Inventory

1. Impacts Summary

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

Wetlands Streams-tributaries Buffers
 Open Waters Pond Construction

3. Stream Impacts

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

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

	3a. Reason for impact * (?)	3b. Impact type *	3c. Type of impact *	3d. S. name *	3e. Stream Type * (?)	3f. Type of Jurisdiction *	3g. S. width * Average (feet)	3h. Impact length * (linear feet)
S1	Site 1: Existing Bridge Removal	Permanent	Bank Stabilization	Dutch Buffalo Creek	Perennial	Both	21 Average (feet)	63 (linear feet)
S2	Site 1: Existing Bridge Removal	Temporary	Workpad/Causeway	Dutch Buffalo Creek	Perennial	Both	21 Average (feet)	20 (linear feet)
S3	Site 2: Stream Relocation	Permanent	Relocation	UT to Dutch Buffalo Creek	Perennial	Both	7 Average (feet)	219 (linear feet)
S4	Site 2: Stream Relocation	Temporary	Dewatering	UT to Dutch Buffalo Creek	Perennial	Both	7 Average (feet)	117 (linear feet)

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

3i. Total jurisdictional ditch impact in square feet:

0

3i. Total permanent stream impacts:

282

3i. Total temporary stream impacts:

137

3i. Total stream and ditch impacts:

419

3j. Comments:

E. Impact Justification and Mitigation

1. Avoidance and Minimization

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

The new alignment shifts the road to the north to avoid taking two residences and a business on the south side of the road. The existing structure has two mass concrete bents that control the edges of Dutch Buffalo Creek. These will be removed, and the new structure will not have bents at the waters edge. Rip rap outlet pads will be utilized to dissipate the flow and minimize erosion. Special stilling basins placed on both sides of Dutch Buffalo Creek will help minimize sediment from passing into the stream.

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

Best Management Practices will be adhered to.

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)

219

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

warm

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)

4e. Riparian wetland mitigation requested:

(acres)

4f. Non-riparian wetland mitigation requested:

(acres)

4g. Coastal (tidal) wetland mitigation requested:

(acres)

4h. 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

For a list of options to meet the diffuse flow requirements, click [here](#).

If no, explain why:

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

NEPA or SEPA Final Approval Letter

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

B-5813 MCDC.pdf

1.12MB

FILE TYPE MUST BE PDF

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.

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

5d. Is another Federal agency involved? *

Yes No Unknown

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

Yes No

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

Yes No

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

Yes No

5g(1). If yes, have you inspected the bridge for signs of bat use such as staining, guano, bats, etc.? Representative photos of signs of bat use can be found in the NLEB SLOPES, Appendix F, pages 3-7.

Yes No

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

If you answered "Yes" to 5g(1), did you discover any signs of bat use? *

Yes No Unknown

*** If yes, please show the location of the bridge on the permit drawings/project plans.

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

Yes No

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

Yes No

If yes, please provide details to include type of percussive activity, purpose, duration, and specific location of this activity on the property.

[Click the upload button or drag and drop files here to attach document](#)

File must be PDF

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

USFWS Website.

Schweinitz's sunflower: No Effect, Habitat Present, last survey 10/21/2019

Carolina heelsplitter: No Effect, No Habitat Present 10/25/2018

Northern long-eared bat: NCDOT has determined that the proposed action does not require separate consultation on the grounds that the proposed action is consistent with the final Section 4(d) rule. NCDOT may presume its determination is informed by best available information and consider Section 7 responsibilities fulfilled for NLEB.

Approximately 0.47 acre of trees will be removed in the project footprint for construction purposes.

Consultation Documentation Upload

[Click the upload button or drag and drop files here to attach document](#)

B-5813 Mussel Survey Report.pdf

1.06MB

B-5813 SLOPES Memo.pdf

235.3KB

File type must be PDF

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? *

Review of online mapping sources.

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?*

MCDC and Archaeology Memo.

7c. Historic or Prehistoric Information Upload

[Click the upload button or drag and drop files here to attach document](#)

B-5813 Catawba Indian Nation Response 2020-01-16.pdf	273.92KB
B-5813 No Archaeology Survey Req.pdf	547.01KB

File must be PDF

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:

The project was determined by NCDOT to be a Type 2A Project during NCFMP and NCDOT MOA Project Review.

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

FEMA Flood Maps.

Miscellaneous

Comments

Miscellaneous attachments not previously requested.

[Click the upload button or drag and drop files here to attach document](#)

B-5813 Cover letter.pdf	262.93KB
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File must be PDF or KMZ

Signature

*

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

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

Full Name: *

Michael Anthony Turchy

Signature *



Date

4/26/2021



NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

TIM BAUMGARTNER
Director

July 30, 2020

Mr. Philip S. Harris, III, P.E.
Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

Subject: Mitigation Acceptance Letter:

B-5813, Replace Bridge 132 on NC 73 over Buffalo Creek, Cabarrus County

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the compensatory stream mitigation for the subject project. Based on the information supplied by you on July 29, 2020, the impacts are located in CU 03040105 of the Yadkin River basin in the Southern Piedmont (SP) Eco-Region, and are as follows:

Yadkin 03040105 SP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	220.0	0	0	0	0	0

*Some of the stream and/or wetland impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details.

The impacts and associated mitigation needs were under projected by the NCDOT in the 2020 impact data. DMS will commit to implement sufficient compensatory stream mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of 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 DMS.

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

Sincerely,

James B. Stanfill
DMS Asset Management Supervisor

cc: Mr. Monte Matthews, USACE – Raleigh Regulatory Field Office
Ms. Amy Chapman, NCDWR
File: B-5813





North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS



(Version 2.08; Released April 2018)

WBS Element: 45767.1.1 TIP No.: B-5813 County(ies): Cabarrus Page 1 of 1

General Project Information

WBS Element:	45767.1.1	TIP Number:	B-5813	Project Type:	Bridge Replacement	Date:	3/5/2021
NCDOT Contact:	David Stutts		Contractor / Designer:		STV Engineers, Inc. / Edward Vance		
Address:	1020 Birch Ridge Drive Raleigh, NC 27610		Address:	900 West Trade Street, Ste. 715 Charlotte, NC 28202			
	Phone: (919) 707-6442			Phone: (704) 816-2556			
	Email: dstutts@ncdot.gov			Email: Edward.Vance@stvinc.com			
City/Town:	Mount Pleasant		County(ies):	Cabarrus			
River Basin(s):	Yadkin-Pee Dee		CAMA County?	No			
Wetlands within Project Limits?	No						

Project Description

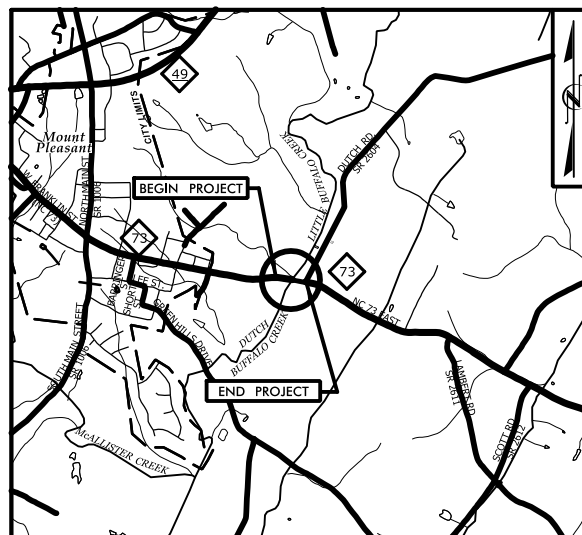
Project Length (lin. miles or feet):	0.348 MILES	Surrounding Land Use:	Partially Wooded				
	Proposed Project			Existing Site			
Project Built-Upon Area (ac.)	1.0	ac.	0.8	ac.			
Typical Cross Section Description:	Bridge : Two 12' lanes and 4' shoulders at both ends of the travel lanes. Approach: Two 12' lanes, 4' paved shoulders			Bridge: Two 12' lanes with 2' shoulders at both ends of the travel lanes. Approach: Two 12' lanes, variable shoulders			
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	10800	Year: 2040	Existing:	8600	Year:	2020
General Project Narrative: (Description of Minimization of Water Quality Impacts)	<p>The existing 190', 4 span bridge over Dutch Buffalo Creek on NC 73 is being replaced with a 2-span bridge with a span arrangement of 1@85' and 1@123' (63" Girder). The bridge will have 4' end bent caps with 1.5:1 sloping abutments skewed at 110 degrees. The bridge will be super elevated at 4% with 12' travel lanes, 4' shoulders and bridge railings on both the sides of the travel lanes. This gives the bridge a 44' clear roadway width and a 47'-3" out-to-out width. This existing bridge will be removed, and the proposed bridge will be placed about 50' upstream of the existing bridge alignment, keeping the existing bridge during construction as a detour bridge. The existing drainage patterns are being maintained in the proposed condition. A proposed ditch will convey water in place of the existing channel (per directions from NCDOT) with a 9' base and 3:1 side slopes. All proposed ditches and the channel change will flow towards and into the Dutch Buffalo Creek. 6" vertical PVC pipe slots at 5' centers line the low end of the super-elevated bridge to convey runoff and meet the requirement of 4' allowable spread. These deck drains will not discharge directly above the stream. At the beginning of the bridge one TB2GI's is placed in the shoulder berm gutters to convey the bridge runoff into a proposed lateral ditch lines with CL-B Riprap. The abutments of the bridge are protected by CL-II Riprap to prevent future erosion and stream migration. Impervious dikes and dewatering operation will be performed during the installation of streambank stabilization (riprap).</p>						

Waterbody Information

Surface Water Body (1):	Dutch Buffalo Creek		NCDWR Stream Index No.:	13-17-11-(5)			
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C				
	Supplemental Classification:		None				
Other Stream Classification:	None						
Impairments:	None						
Aquatic T&E Species?	No	Comments:					
NRTR Stream ID:				Buffer Rules in Effect:	N/A		
Project Includes Bridge Spanning Water Body?	Yes	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A		
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)						

TIP PROJECT: B-5813

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



VICINITY MAP N.T.S.

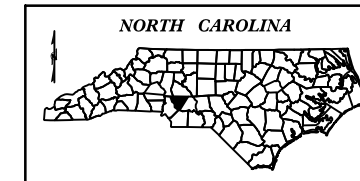
DESIGN EXCEPTION REQUIRED FOR SAG AND CREST FOR K FACTORS AND ASSOCIATED NIGHTTIME SSD FOR -Y- (SR 2604 DUTCH ROAD)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
CABARRUS COUNTY

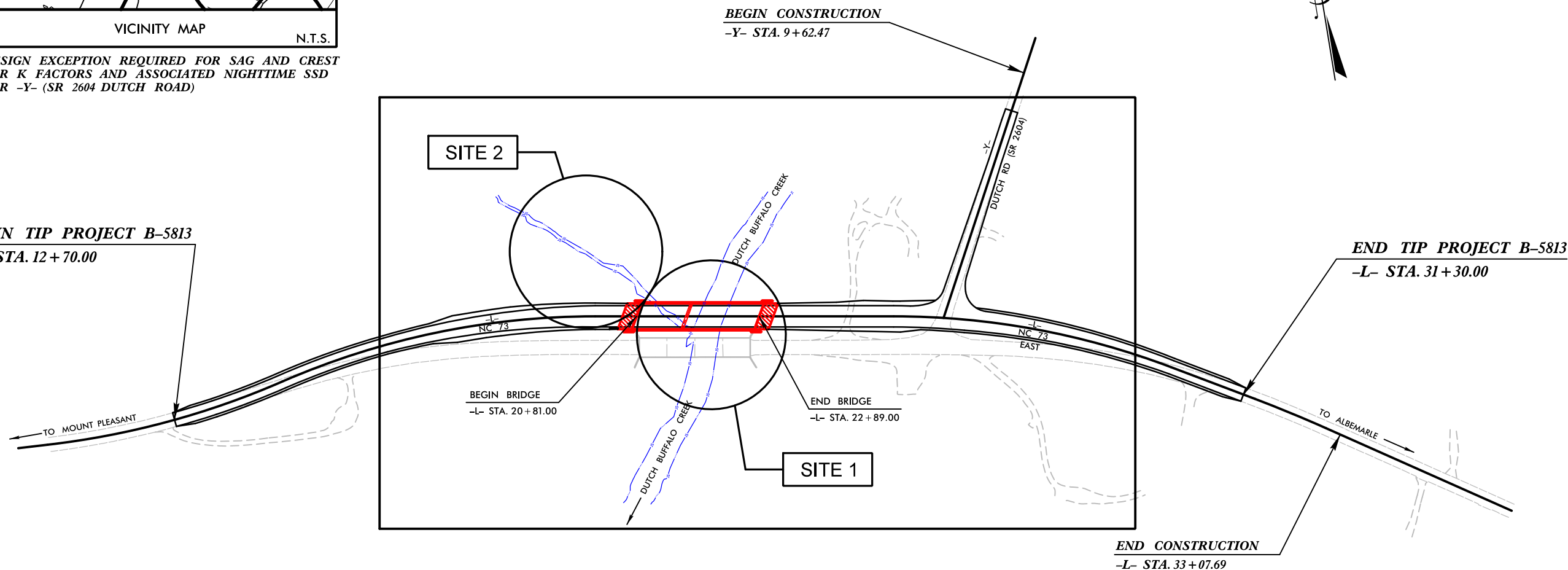
**LOCATION: BRIDGE #132 OVER DUTCH BUFFALO CREEK
ON NC 73**
TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

SURFACE WATER IMPACTS PERMIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5813	1	6
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45767.1.1		P.E.	
45767.2.1		ROW / UTILITIES	



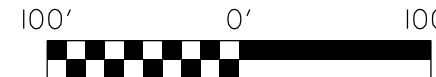
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END TIP PROJECT B-5813
-L- STA. 31+30.00

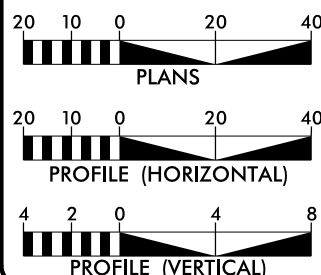
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED
TO THE LIMITS ESTABLISHED BY METHOD III.

Permit Drawing
Sheet 1 of 6



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2020 = 8,600
ADT 2040 = 10,800
K = 12%
D = 60%
T = 5%*
V = 60 MPH
FUNC. CLASSIFICATION:
MAJOR COLLECTOR
* (TTST 1% + DUALS 4%)
REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-5813 = 0.313 MILES
LENGTH OF STRUCTURE TIP PROJECT B-5813 = 0.039 MILES
TOTAL LENGTH OF TIP PROJECT B-5813 = 0.352 MILES

NCDOT CONTACT: KEITH PASCHAL, PE
Structure Management Unit

PLANS PREPARED FOR THE NCDOT BY:



STV Engineers, Inc.
900 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 14, 2019

LETTING DATE:
JUNE 15, 2021

NIKKI T. HONEYCUTT, PE
PROJECT ENGINEER

MAAMOON K. ABDELAZIZ
PROJECT DESIGNER

HYDRAULICS ENGINEER

SIGNATURE:
ROADWAY DESIGN ENGINEER

SIGNATURE:

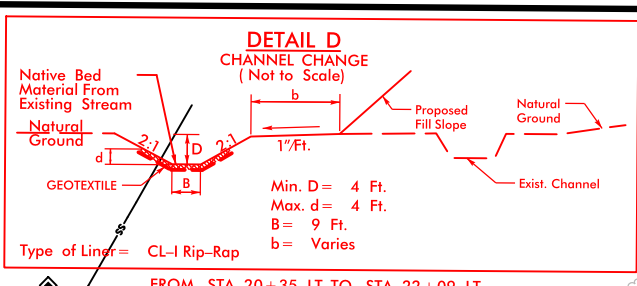
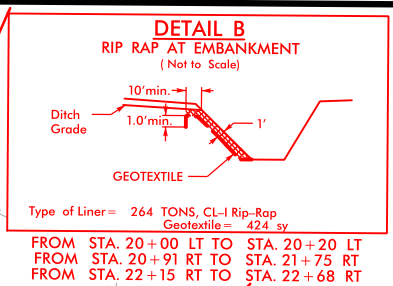
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P.E.



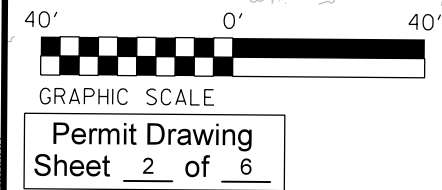
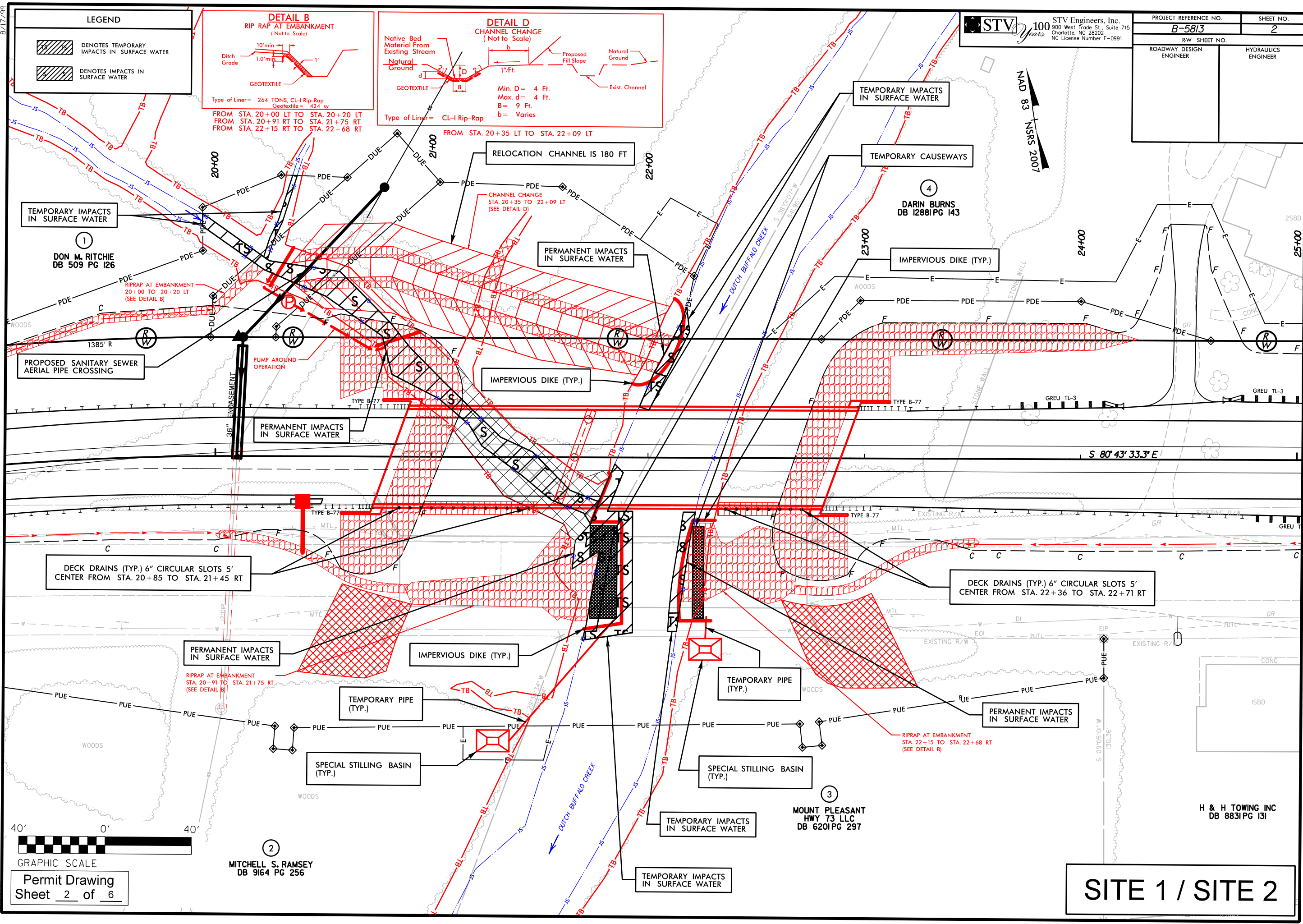
CONTRACT: C204417

LEGEND	
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
	DENOTES IMPACTS IN SURFACE WATER



STV 100 Years
 STV Engineers, Inc.
 900 West Trade St., Suite 715
 Charlotte, NC 28202
 NC License Number F-0991

PROJECT REFERENCE NO. B-5813	SHEET NO. 2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



2
 MITCHELL S. RAMSEY
 DB 9164 PG 256

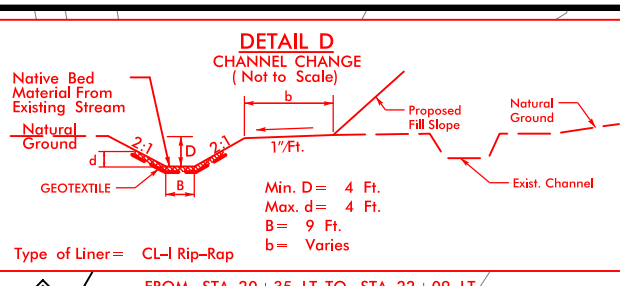
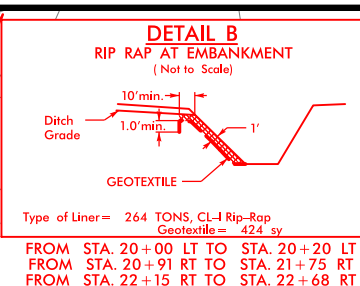
3
 MOUNT PLEASANT
 HWY 73 LLC
 DB 6201PG 297

H & H TOWING INC
 DB 8831PG 131

SITE 1 / SITE 2

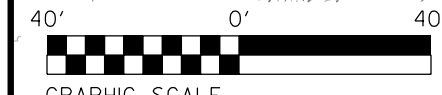
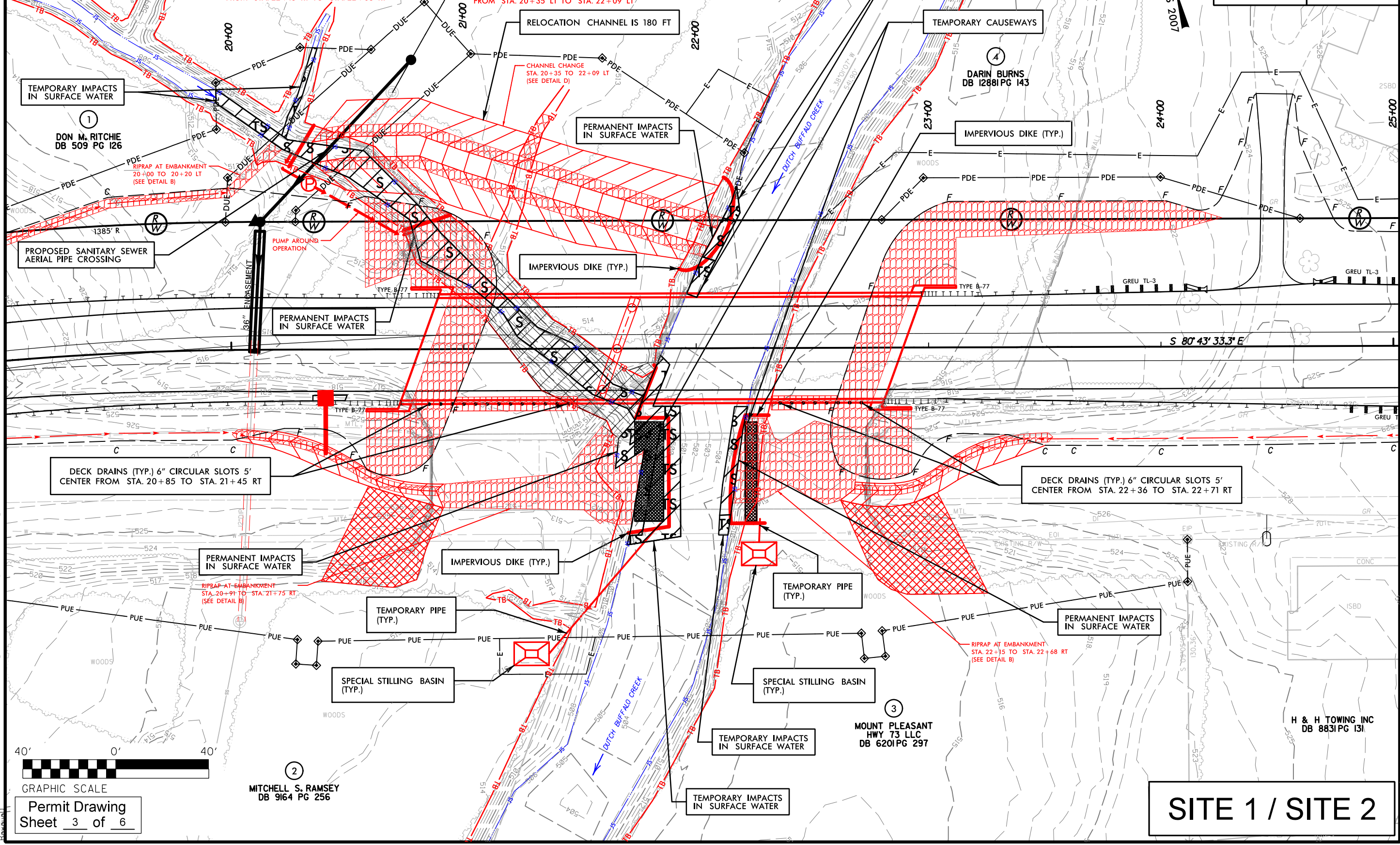
3/5/2021
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LEGEND	
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
	DENOTES IMPACTS IN SURFACE WATER



STV 100 years
 STV Engineers, Inc.
 900 West Trade St., Suite 715
 Charlotte, NC 28202
 NC License Number F-0991

PROJECT REFERENCE NO. B-5813	SHEET NO. 3
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	



Permit Drawing
 Sheet 3 of 6

MITCHELL S. RAMSEY
 DB 9164 PG 256

MOUNT PLEASANT
 HWY 73 LLC
 DB 6201 PG 297

H & H TOWING INC
 DB 8831 PG 131

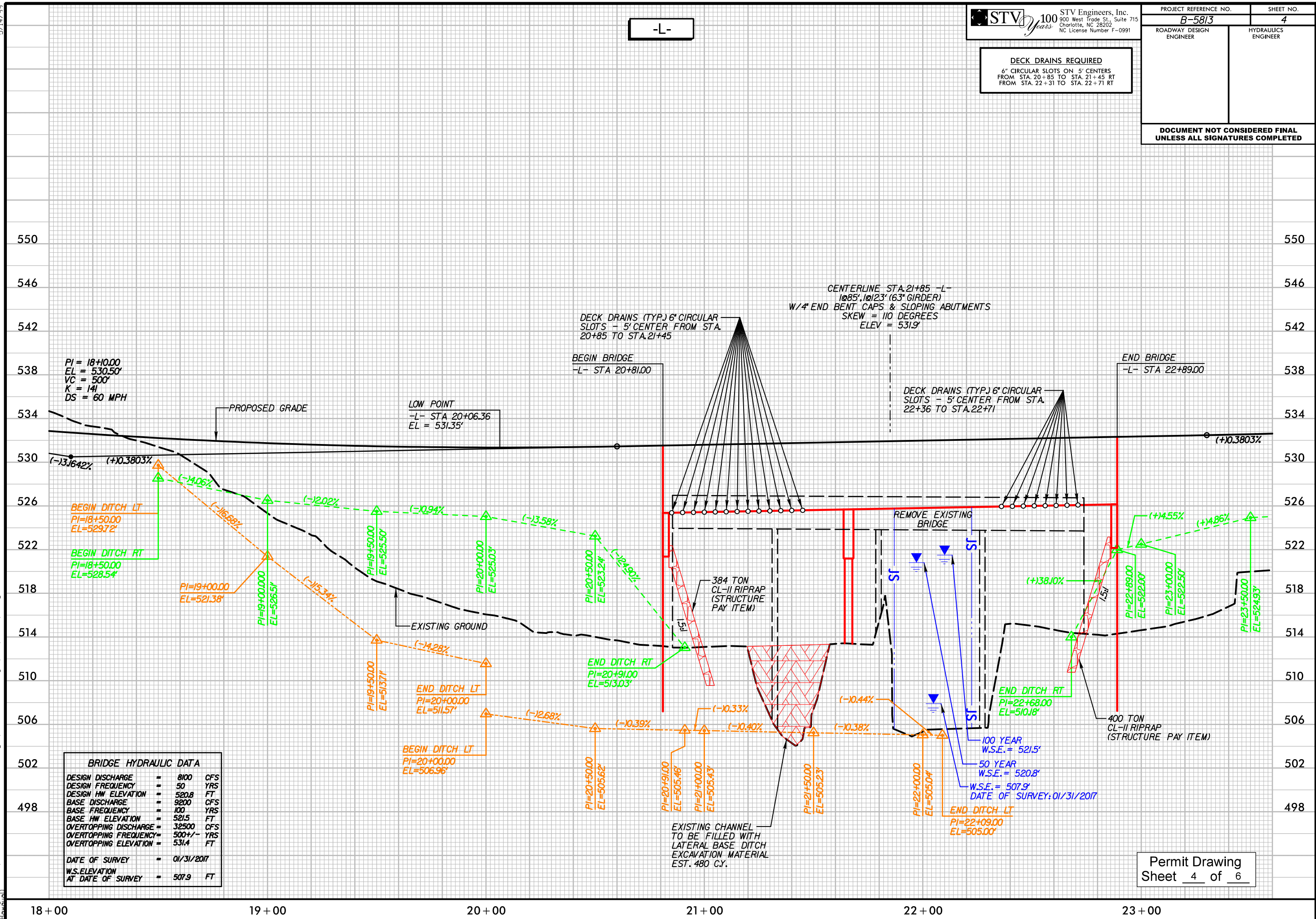
SITE 1 / SITE 2

3/5/2021
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 B:\7/99

3/5/2017 10:14:59 AM C:\Users\psh05\Documents\Drawings\psh05\psh05.pfl.dgn

DECK DRAINS REQUIRED
 6" CIRCULAR SLOTS ON 5' CENTERS
 FROM STA. 20+85 TO STA. 21+45 RT
 FROM STA. 22+31 TO STA. 22+71 RT

-L-



BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 8100 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 520.8 FT
BASE DISCHARGE	= 9200 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 521.5 FT
OVERTOPPING DISCHARGE	= 32500 CFS
OVERTOPPING FREQUENCY	= 500+/- YRS
OVERTOPPING ELEVATION	= 531.4 FT
DATE OF SURVEY	= 01/31/2017
W.S. ELEVATION AT DATE OF SURVEY	= 507.9 FT

Permit Drawing
 Sheet 4 of 6

WETLAND PERMIT IMPACT SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
SITE 1	21+65.10 RT / 21+93.07 RT	BANK STABILIZATION (TEMPORARY IMPACTS DUE TO IMPERVIOUS DIKE)						0.01	0.02	63	20*	
	22+09.39 RT / 22+22.34 RT											
SITE 2	19+95.00 LT / 21+77.74 RT	CHANNEL RELOCATION						0.04	0.01	219	117	
	21+95.93 LT / 22+23.18 LT											
TOTALS:								0.05	0.03	282	137	

*TEMPORARY IMPACTS LENGTH TOTAL = 83' (63' TAKEN INTO ACCOUNT IN PERMANENT IMPACTS)

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 BRIDGE #132 OVER DUTCH BUFFALO CREEK
 ON (NC 73)
 CABARRUS COUNTY
 B-5813
 SHEET 6 of 6 3/5/2021



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

DATE: August 24, 2020

TO: Jeff Hemphill, Senior Environmental Specialist
Environmental Coordination & Permitting Group Western, EAU

FROM: Chris Manley, Environmental Program Consultant
Biological Surveys Group, EAU

SUBJECT: Section 7 survey results for the northern long-eared bat (*Myotis septentrionalis*) associated with the replacement of Bridge 132 over Dutch Buffalo Creek on NC 73 in Carbarus County, **TIP No. B-5813**.

The North Carolina Department of Transportation (NCDOT, Division 10) proposes to replace Bridge No. 132 over Dutch Buffalo Creek on NC 73 in Carbarus County, TIP No. B-5813. The existing bridge is a four-span structure with reinforced concrete deck girders, abutments, and bents. The guardrail is also constructed of concrete. The overall length of the structure is 190 feet.

The project to replace Bridge No. 132 has been reviewed for effects on the northern long-eared bat (NLEB). As of May 4, 2015, NLEB is listed by the U.S. Fish and Wildlife Service (USFWS) as "Threatened" under the Endangered Species Act of 1973. As of July 17, 2020, NLEB is listed by USFWS (http://www.fws.gov/raleigh/species/cntylist/nc_counties.html) as "probable/potential" in Carbarus County.

According to the North Carolina Natural Heritage Program (NHP) Biotics Database, most recently updated July 2020, **there are no known hibernacula within 25 miles of the project and no known NLEB roost trees occur within 150 feet of the project area.**

NCDOT has also reviewed the USFWS Asheville Field office website (http://www.fws.gov/asheville/htmls/project_review/NLEB_in_WNC.html) for consistency with NHP records. This project is located entirely outside of the red highlighted areas (12-digit HUC) that the USFWS Asheville Field Office has determined to be representative of an area that may require consultation. The closest 12 digit (030501010502) red HUC is approximately 87 miles to the west northwest (Johns River) in Avery County.

On August 24, 2020, NCDOT biologist assessed Bridge No. 132 for potential NLEB habitat. Suitable roosting services were present on the structure, but no evidence (bats, guano, or staining) of bats was observed. This structure survey is outside the typical survey window

(May 15 – August 15) we have for the western part of North Carolina. Chris Manley had a phone conversation with Susan Cameron with the USFWS on August 21, 2020 asking if this project (B-5813) could be looked outside the survey window. USFWS agreed to letting NCDOT perform the survey later in August.

Based on the lack of evidence of bats on the bridge, no known roost trees within 150 feet of the project area, and being 87 miles to the closest 12 digit red HUC, NCDOT recommends a Biological Conclusion of **NO EFFECT** for the NLEB.

Final design and environmental impacts information will be provided in the permit application.

If you need any additional information, please contact Chris Manley at 919-707-6135.

Freshwater Mussel Survey Report

Replacement of Bridge No. 132 on NC 73
Over Dutch Buffalo Creek
Cabarrus County, North Carolina
STIP # B-5813
WBS Element # 45767.1.1

Prepared For:



NC Department of Transportation
Raleigh, North Carolina

Contact Person:

Jared Gray
Biological Surveys Group
North Carolina Department of Transportation
jgray@ncdot.gov
1598 Mail Service Center
Raleigh NC 27699-1598

May 18, 2018

Prepared by:



900 Ridgefield Drive, Suite 350
Raleigh, NC 27609

Contact Person:

Neil Medlin
Project Manager
nmedlin@rkk.com
919-878-9560

Table of Contents

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2.0	Waters Affected	1
	2.1 NPDES Dischargers.....	1
	2.2 303(d) Classification.....	1
3.0	Target Federally Protected Species Description	1
	3.1 Carolina Heelsplitter (<i>Lasmigona decorata</i>)	1
	3.1.1 Characteristics.....	1
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4.0	Survey Efforts	2
	4.1 Stream Conditions at Time of Survey: Dutch Buffalo Creek	2
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Appendix A. Figures:

Figure 1: Project Vicinity & Survey Location

Figure 2: NCNHP Element Occurrences

Figure 3: NPDES Dischargers and 303(d) Listed Streams

1.0 Introduction

The North Carolina Department of Transportation (NCDOT) proposes the replacement of Bridge No. 132 over Dutch Buffalo Creek on NC 73 in Cabarrus County (Appendix A, Figure 1). Dutch Buffalo Creek is in the Yadkin-Pee Dee River Basin. The Carolina Heelsplitter (*Lasmigona decorata*) is listed for Cabarrus County by the U.S. Fish and Wildlife Service (USFWS) as a protected species under the Endangered Species Act (ESA).

A review of the NC Natural Heritage Program (NCNHP) records, last accessed on April 23, 2018, indicated no element occurrence (EO) for the Carolina Heelsplitter located within a 5-mile buffer of the project bridge (Figure 2). The closest occurrence (EO ID 21454) is located in Goose Creek, approximately 17 stream miles downstream from the project location. This occurrence was first observed on August 26, 1987 and last observed on September 29, 2015.

As part of the federal permitting process that requires an evaluation of potential project related effects to federally protected species, Rummel, Klepper, and Kahl (RK&K) was contracted by NCDOT to conduct the freshwater mussel survey targeting the Carolina Heelsplitter.

2.0 Waters Affected

Dutch Buffalo Creek is located in the Yadkin-Pee Dee River Basin (HUC# 03040105). From the survey location, Dutch Buffalo Creek flows approximately 7.9 stream miles to the Rocky River.

2.1 NPDES dischargers

The closest permitted NPDES discharger is on a UT to Dutch Buffalo Creek (Figure 3). The Mount Pleasant Water Treatment Plant (NPDES Permit # NC0044717) is a minor facility located approximately 1.8 stream miles upstream of the project location.

2.2 303(d) Classification

Dutch Buffalo Creek is not on the North Carolina Department of Environmental Quality (NCDEQ) - Division of Water Resources 2016 303(d) list of impaired streams.

3.0 Target Federally Protected Species Description

3.1 Carolina Heelsplitter (*Lasmigona decorata*)

3.1.1 Characteristics

The Carolina Heelsplitter was first described in 1852. This species has an ovate, trapezoid-shaped shell. The outer surface of the shell varies from greenish brown to dark brown in color, and shells from younger specimens have faint greenish brown or black rays. The nacre (inside surface) is often pearly white to bluish white, grading to orange in the deepest part of the shell. However, in older specimens the entire nacre may be a mottled pale orange. The shell of the largest known specimen of the species measures 4.6 inches (11.684 centimeters) in length.

3.1.2 Distribution and Habitat Requirements

The Carolina Heelsplitter was historically known from several locations within the Catawba and Pee Dee River systems in North Carolina and the Pee Dee and Savannah River systems, and possibly the Saluda River system in South Carolina. In North Carolina, the species is now known only from a handful of streams in the Pee Dee and Catawba River systems. Today, only ten populations are known to survive. The species exists in very low abundances, usually within 6 feet of shorelines, throughout its known range.

The general habitat requirements for the Carolina Heelsplitter are shaded areas in large rivers to small streams, often burrowed into clay banks between the root systems of trees, or in runs along steep banks with moderate current. The more recent habitat where the Carolina Heelsplitter has been found is in sections of streams containing bedrock with perpendicular crevices filled with sand and gravel, and with wide riparian buffers.

4.0 Survey Efforts

A mussel survey was conducted in association with this project by RK&K personnel Neil Medlin (Permit # 16-ES00030), Hal Bain, and John Merritt on September 22, 2016.

4.1 Stream Conditions at Time of Survey: Dutch Buffalo Creek

The channel exhibited slack flow and ranged from 1-12 meters wide (widest below bridge) with eroded banks three meters high. The maximum depth here was 1.0 meter with an average depth of 0.25 meter. The substrate was dominated by silt and sand throughout the survey reach, with narrow gravel runs upstream of the bridge. Sand and gravel bars were abundant at this location. Moderately eroded banks consisted of clay, silt, and root mats. Beaver activity was observed in the form of gnawed sticks. A narrow forested buffer is present in the northwest quadrant (upstream) of the bridge crossing. The remaining three quadrants contain more substantial forested buffers along the survey location.

4.2 Methodology

The mussel survey was conducted from from approximately 400 meters downstream of the bridge crossing to approximately 100 meters upstream of the crossing for a total distance of approximately 500 meters. Areas of appropriate habitat were searched, concentrating on the stable habitats preferred by the target species. Visual surveys were conducted using glass bottom view buckets (bathyscopes) along with tactile methods that were employed where appropriate. All freshwater bivalves were recorded and returned to the substrate. Timed survey efforts provided Catch Per Unit Effort (CPUE) data for each species.

5.0 Results

A total of 3.5 person-hours of survey time was spent in the survey location with two species of freshwater mussels found (Table 1).

Table 1. CPUE for Freshwater Mussels in Dutch Buffalo Creek

Scientific Name	Common Name	# live	CPUE
<i>Elliptio complanata</i>	Eastern Elliptio	1 (+2 shells)	0.29/hr
<i>Villosa vaughaniana</i>	Carolina Creekshell	1	0.29/hr

6.0 Discussion/Conclusions

The results indicate that the study area supports a sparse freshwater mussel fauna of common species. Carolina Heelsplitter individuals were not found during the survey. Previous surveys in the vicinity of the subject bridge have resulted in no discovery of Carolina Heelsplitter within a 10-mile radius of the study location. Based on the presence of degraded habitat, distance to known Carolina Heelsplitter records, and these survey results, completion of the proposed project will not affect this species.

Biological Conclusion for Carolina Heelsplitter: No Effect

7.0 References

- Adams, W. F., J. M. Alderman, R. G. Biggins, A. G. Gerberich, E. P. Keferl, H. J. Porter, and A.S. Van Devender. 1990. A report on the conservation status of North Carolina's freshwater and terrestrial molluscan fauna. N.C. Wildlife Resources Commission, Raleigh. 246 pp, Appendix A, 37 pp.
- Eads, C. B. and J.F. Levine. 2008. Carolina heelsplitter (*Lasmigona decorata*) and Tar River Spiny mussel (*Elliptio steinstansana*) Conservation Research: July 2007-June 2008. Final report submitted to the North Carolina Wildlife Resources Commission. Raleigh, NC. 18 pp.
- LeGrand, Jr., H.E., J.T. Finnegan, S.E. McRae, S.P. Hall. 2010. Natural Heritage Program List of the Rare Animal Species of North Carolina. N.C. Natural Heritage Program, Raleigh, NC.
- North Carolina Department of Environmental Quality - Division of Water Resources. 2018. 2016 North Carolina 303(d) List. https://files.nc.gov/ncdeq/Water%Quality/Planning/TMDL/303d/2016/2016_NC_Category_5_303d_list.pdf (Accessed 05/14/18).
- North Carolina Department of Environmental Quality. NPDES Wastewater Treatment Facility Permits. http://data-ncdenr.opendata.arcgis.com/datasets/a86af4f7549343419b4c8177cedb3e4b_0 (Accessed 04/19/18).
- North Carolina Natural Heritage Program (NCNHP). 2018. nheo-2018-04. Natural Heritage Element Occurrence polygon shapefile. April, 2018.
- North Carolina Wildlife Resources Commission. Unpublished Aquatics Database.
- U.S. Fish and Wildlife Service (USFWS). 2011. Carolina heelsplitter (*Lasmigona decorata*) Species Profile. Raleigh Ecological Field Office Web site (Accessed 11/30/16). https://www.fws.gov/raleigh/species/es_carolina_heelsplitter.html
- U.S. Fish and Wildlife Service (USFWS). 1997. Carolina heelsplitter (*Lasmigona decorata*) Recovery Plan. Atlanta, Georgia. 30 pp.

Appendix A

Figures



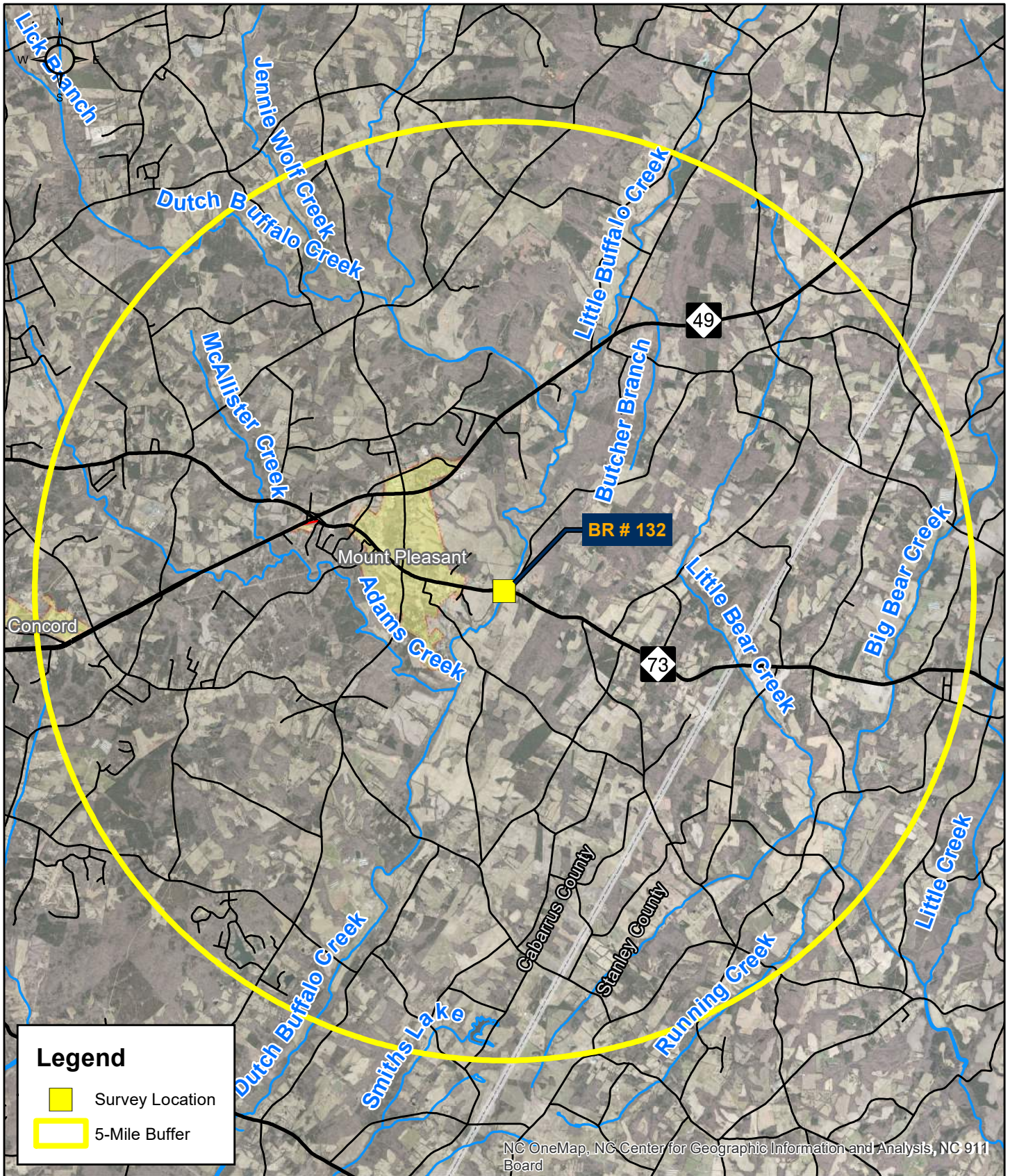
Prepared By:


Prepared For:




Freshwater Mussel Survey
 BRIDGE # 132 on NC 73
 OVER DUTCH BUFFALO CREEK
 B-5813
 CABARRUS COUNTY

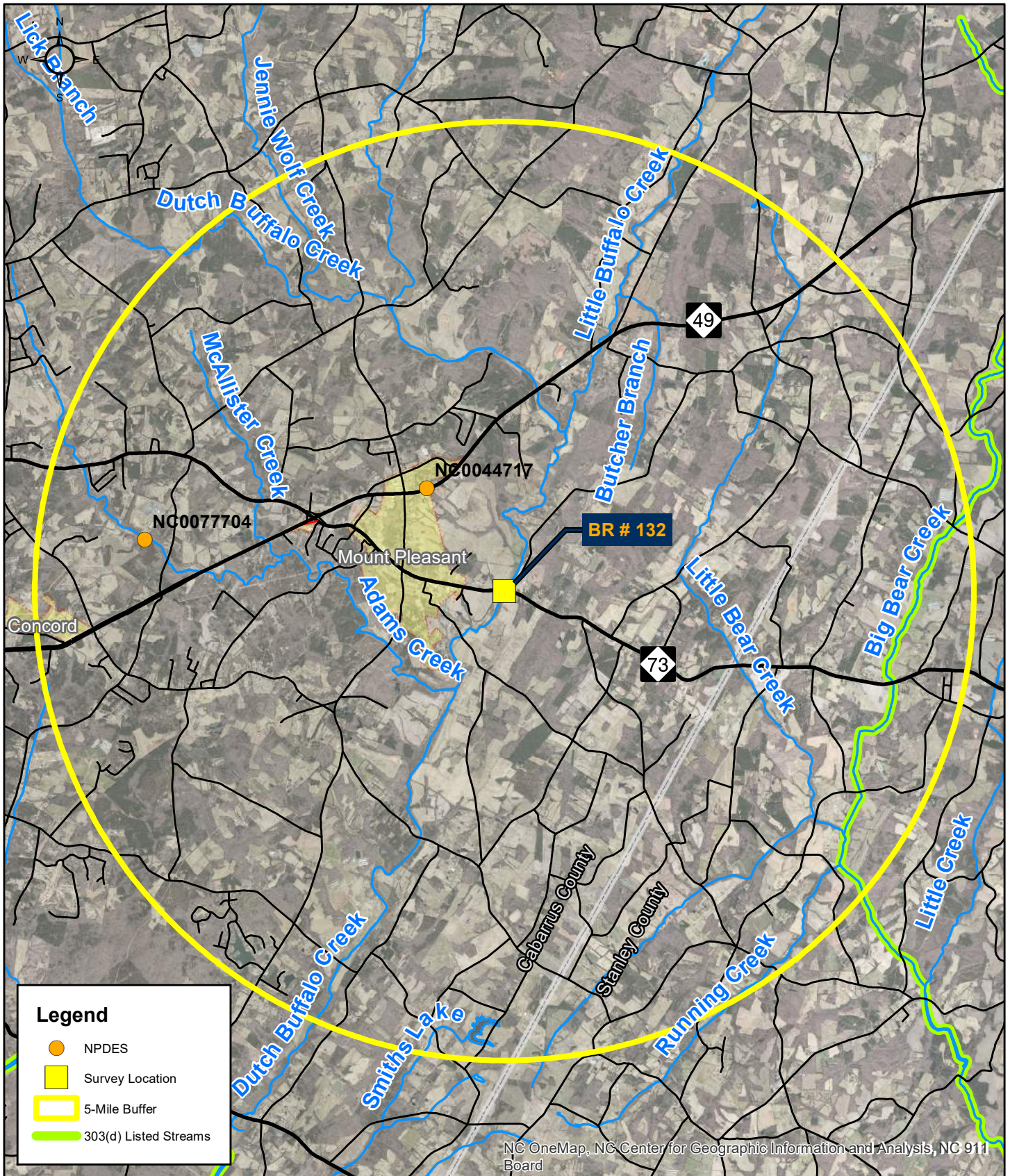
Date: May 2018
 Scale: 0 — 200 Feet
 Job No. B-5813
 Drawn by: GSM Checked by: KNM



Figure
1



NC OneMap, NC Center for Geographic Information and Analysis, NC 911 Board

Prepared By: 	Prepared For: 	NC NHP Element Occurrence BRIDGE # 132 on NC 73 OVER DUTCH BUFFALO CREEK B-5813 CABARRUS COUNTY		Date: May 2018	Figure 2
				Scale: 0 1 Miles	
				Job No. B-5813	
		Drawn by: GSM	Checked by: KNM		



Prepared By: 	Prepared For: 	NPDES Dischargers and 303(d) Listed Streams		Date: May 2018	Figure 3
		BRIDGE # 132 on NC 73 OVER DUTCH BUFFALO CREEK B-5813 CABARRUS COUNTY		Scale: 0 1 Miles	
		Job No. B-5813			
		Drawn by: GSM	Checked by: KNM		

16-01-00074



NO ARCHAEOLOGICAL SURVEY REQUIRED FORM

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



PROJECT INFORMATION

Project No: **B-5813** County: **Cabarrus**
 WBS No: **45767.1.1** Document: **M C C**
 F.A. No: Funding: State Federal

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

Project Description: NCDOT proposes to replace Bridge No. 132 on NC 73 over Dutch Buffalo Creek east of Mt. Pleasant in Cabarrus County. Conceptual design plans involves a new alignment adjacent to and north of the existing bridge. Traffic would be maintained on the existing Bridge No. 132. the two bridges would be replaced in-place with a single wider bridge using a phased on-site detour and cross-over during construction. The project length is about 1800 feet (0.34 miles) with a construction width expanding to the north a maximum of about 80 feet beyond the existing northern ROW at the new location bridge for construction and fill, tapering back to the existing ROW in either direction. For purposes of this archaeological review, the APE is about 1800 feet (0.34 miles) in length and 150 feet wide (approximate old and new ROW).

This is a state funded and federally permitted undertaking and therefore falls under Section 106 of the National Historic Preservation Act for archaeological review.

SUMMARY OF CULTURAL RESOURCES REVIEW

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

The bridge to be replaced is located along NC 73 in a rural setting east of Mt. Pleasant in Cabarrus County. at an urbanized crossroads west of Concord.

USGS mapping (Mt. Pleasant) and aerial photography was studied (see Figures 1 and 2). Google and Bing street view tools were used and confirm the forested and cleared nature of the APE which is rolling on the approaches from the east and west on NC 73. The area of greatest impact at the bridge is listed as Chewacla sandy loam (ChA) and is frequently flooded.

According to USGS mapping and GIS resources (data layer created by NCDOT archaeologist Paul J. Mohler), no cemetery is present at the APE.

Historic maps were examined to determine if any late historic structures, roads or other notations were present to help establish the a context of the recent past, especially farms, industry, land and transportation features which might offer hints to the presence of archaeological sites. The 1910 Soils Map of Cabarrus County (MC.016.1910a) depicts the road in roughly the same alignment and crossing, a includes "Kinleys Mill" mapped outside of the APE to the northeast on the other side of Dutch Road (SR 2604). The existing bridge is reportedly constructed in the 1920s with some later upgrades or repairs. By the 1930s, county highway maps (MC.016.1936n1 and MC.016.1938n) show that millpond and some industry upstream from the bridge at a distance and the location marked Kinleys Mill earlier is now shown as a prison camp or jail some distance from the road. Current USGS mapping shows no mill, though maybe now a sewage disposal or treatment plant and a former State Department of Corrections which research shows was shut down around 2011 and is now a brewery.

Some background and deed research was conducted to examine the nature of the industrial and institutional use of the nearby land to the north of the project area. Also, property and parcel mapping suggests that an

16-01-00074

older road may have existed a few hundred feet south of the existing alignment, suggesting the 1920s bridge brought with it a change in the NC 73 alignment. It also suggests that existing structures along the older road would not likely be encountered by the current undertaking.

The Office of State Archaeology was visited to review archaeological mapping and to reference any known archaeological surveys and sites. This helps establish an archaeological context for comparison. One or more environmental reviews are nearby (ER 99-8601, ER 99-9322, etc.), along Dutch and also running east-west along a small tributary north of the project bridge. Neither resulted in documentation of archaeological sites in the nearby project area.

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

The bridge replacement adjacent to the existing facility will have some new ground disturbances, much of it cut and fill to adjust the terrain on the north side of NC 73. Examination of historic resources suggests a shift of the roadway in the first part of the twentieth century towards the north when the new bridge was built. Some industrial use in the form of one or more mills has occurred north of the APE but will not be impacted, likewise a state prison camp facility. The context doesn't indicate a high probability for archaeological sites within the APE. It is unlikely that significant, intact archaeological remains would be present and impacted by the project. For archaeological review, this federally permitted undertaking should be considered compliant with Section 106.

SUPPORT DOCUMENTATION

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

FINDING BY NCDOT ARCHAEOLOGIST

NO ARCHAEOLOGY SURVEY REQUIRED



NCDOT ARCHAEOLOGIST

7/27/2018

Date

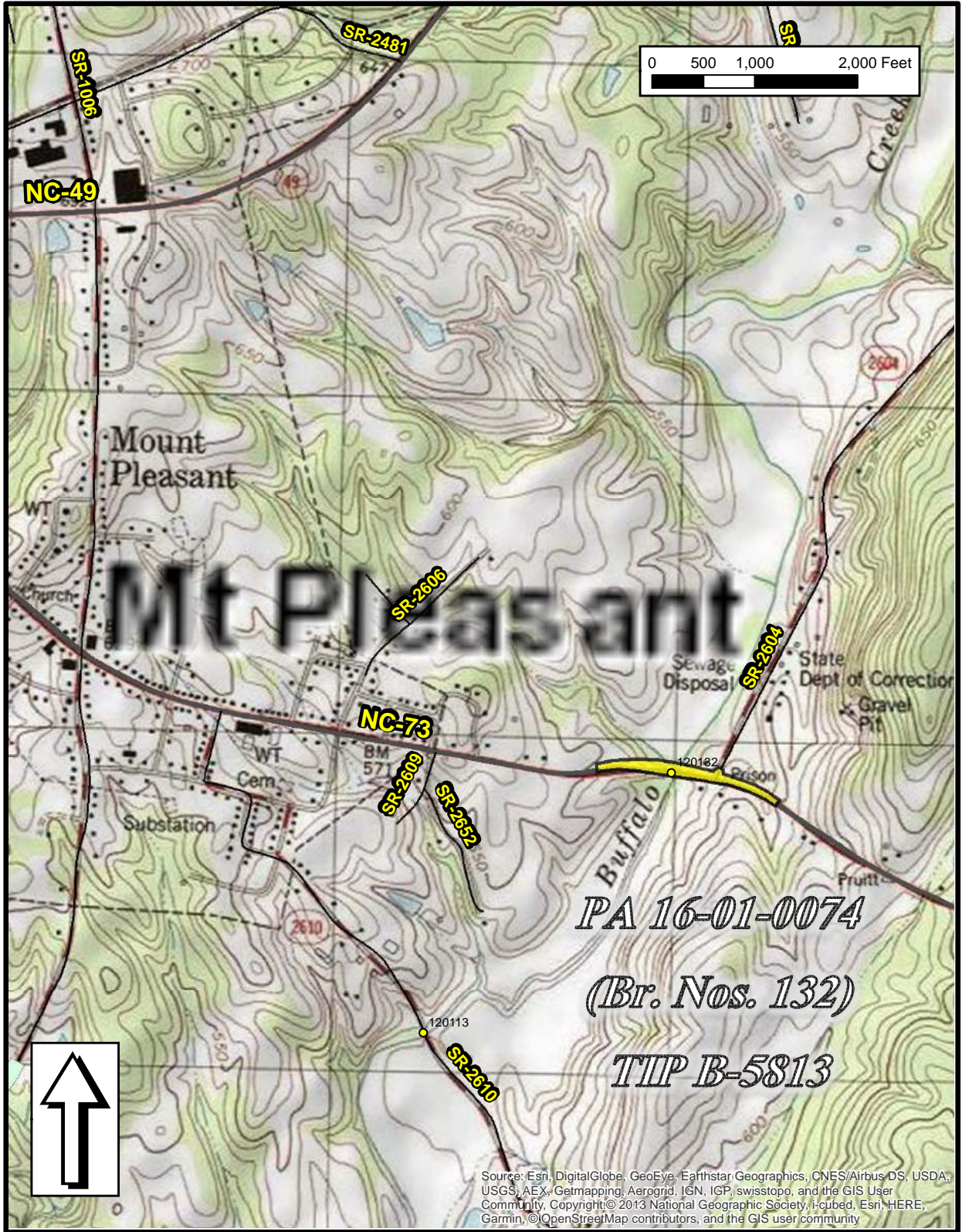


Figure 1. Vicinity of TIP # B-5813, PA 16-01-0074, the proposed replacement of Br. No. 132 on NC 73 over Dutch Buffalo Creek east of Mt. Pleasant.

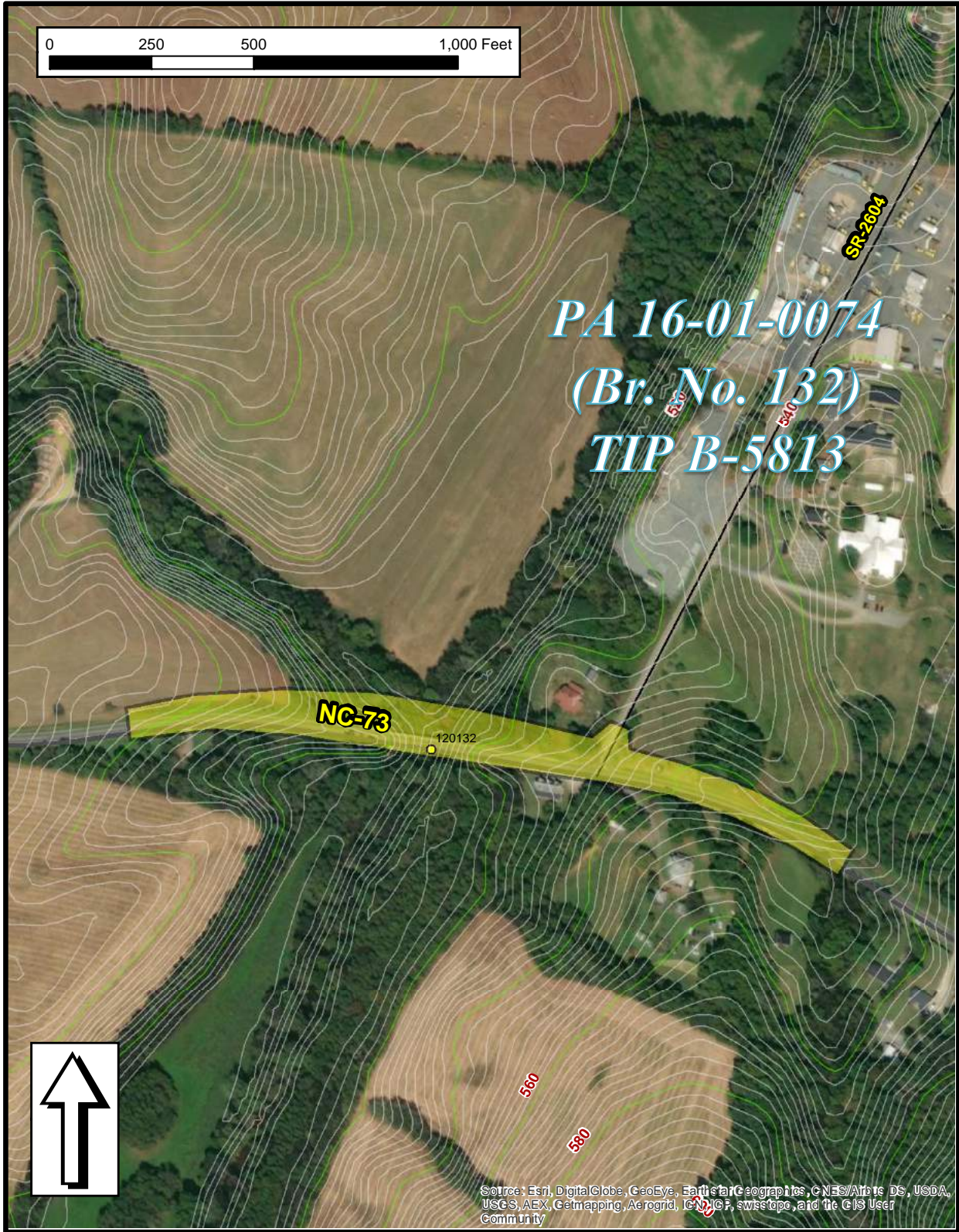
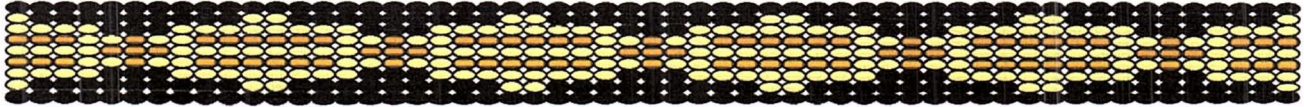


Figure 2. Aerial map of TIP # B-5813, PA 16-01-0074, the proposed replacement of Br. No. 132 on NC 73 over Dutch Buffalo Creek east of Mt. Pleasant. The approximate APE is shown in yellow with most work occurring on the north side of NC 73 where the new bridge will be constructed. Note contour lines at 2-ft are overlaid on the aerial to illustrate the moderately hilled terrain. The tree line south of NC 73 approximates a possible historic road which is outside of the APE.

"No ARCHAEOLOGY SURVEY REQUIRED" form for the Amended Minor Transportation Projects as Qualified in the 2015 Programmatic Agreement.

Catawba Indian Nation
Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, South Carolina 29730

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



January 16, 2020

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

Re. THPO #	Project #	Project Description
2020-193-82	B-5813	Replacement of Bridge No. 132 on NC 73 over Dutch Buffalo Creek in Cabarrus County

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 caitlinh@ccppcrafts.com.

Sincerely,

Wenonah G. Haire
Tribal Historic Preservation Officer