# Pre-Construction Notification (PCN) Form

**For Nationwide Permits and Regional General Permits**

**(along with corresponding Water Quality Certifications)**

**September 29, 2018 Ver 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/0/edoc/624704/PCN%20Help%20File%202018-1-30.pdf

## A. Processing Information

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

Edgecombe

**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-5671

**WBS #***

45626.1.1

(for NCDOT use only)

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

[x] Section 404 Permit (wetlands, streams and waters, Clean Water Act)

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

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

[x] Nationwide Permit (NWP)

[ ] Regional General Permit (RGP)

[ ] Standard (IP)

This form may be used to initiate the standard/individual permit process with the Corps. Please contact your Corps representative concerning submittals for standard permits. All required items that are not provided in the E-PCN can be added to the miscellaneous upload area located at the bottom of this form.

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

( ) Yes (•) No

**Nationwide Permit (NWP) Number:** 03 - Maintenance

**NWP Numbers (for multiple NWPS):**

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

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

check all that apply

[x] 401 Water Quality Certification - Regular

[ ] 401 Water Quality Certification - Express

[ ] Non-404 Jurisdictional General Permit

[x] Riparian Buffer Authorization

[ ] Individual Permit

**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?***

NCDOT

**1b. Primary Contact Email:***

jldilday@ncdot.gov

**1c. Primary Contact Phone:***

(xxx)xxx-xxxx

(919)707-6111

**1d. Who is applying for the permit?***

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

(Check all that apply)

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

( ) Yes (•) No

## 2. Owner Information

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

NCDOT

**2b. Deed book and page no.:**

**2c. Responsible party:**

(for Corporations)

**2d. Address***

Street Address

1000 Birch Ridge Drive

Address Line 2

City

Raleigh

State / Province / Region

NC

Postal / Zip Code

27604

Country

USA

**2e. Telephone Number:***

(xxx)xxx-xxxx

(919)707-6000

**2f. Fax Number:**

(xxx)xxx-xxxx

**2g. Email Address:***

pharris@ncdot.gov

# C. Project Information and Prior Project History

## 1. Project Information

**1a. Name of project:***

Bridge 87 over Swift Creek on NC 97 (B-5671 - Central)

**1b. Subdivision name:**

(if appropriate)

**1c. Nearest municipality / town:***

Leggett

## 2. Project Identification

**2a. Property Identification Number:**

(tax PIN or parcel ID)

**2b. Property size:**

(in acres)

**2c. Project Address**

Street Address

Address Line 2

City

State / Province / Region

Postal / Zip Code

Country

**2d. Site coordinates in decimal degrees**

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

**Latitude:** *

35.980516

ex: 34.208504

**Longitude:** *

-77.594053

-77.796371

## 3. Surface Waters

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

Swift Creek

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

WS-IV; NSW

Surface Water Lookup

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

Tar-Pamlico

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

030201010803

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:** *

Land use in the project vicinity consists primarily of agricultural fields interspersed with forestland along the stream corridor.

**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:**

2.0

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

(intermittent and perennial)

350

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

The purpose of this project is to replace a structurally deficient bridge.

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

This project involves replacing the 187-foot, 5 span bridge with a 200-foot, 2 span on the existing alignment using an off-site detour. Standard road 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-5671_Permit_Drawings_Buffer20191204.pdf | 1.07MB |
| B-5671_Permit_Drawings_20191204.pdf | 2.01MB |

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:**

Preliminary JD package is attached.

**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):** Beth Reed

**Agency/Consultant Company:** Kimley Horn

**Other:**

**5d1. Jurisdictional determination upload**

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

TIP_B5671_PreliminaryJD_Request.pdf 10.84MB

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

## 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 Jurisdicition* (?) | 2g. Impact area* |
|---|---|---|---|---|---|---|---|
| Site 2 | Mechanized Clearing | P | Bottomland Hardwood Forest | WB | Yes | Corps | 0.003 (acres) |
| Site 3 | Mechanized Clearing | P | Bottomland Hardwood Forest | WC | Yes | Corps | 0.002 (acres) |
| Site 4 | Mechanized Clearing | P | Bottomland Hardwood Forest | WC | Yes | Corps | 0.036 (acres) |
| Site 4 | Fill | P | Bottomland Hardwood Forest | WC | Yes | Corps | 0.020 (acres) |
| Site 5 | Mechanized Clearing | P | Bottomland Hardwood Forest | WC | Yes | Corps | 0.011 (acres) |
| Site 5 | Fill | P | Bottomland Hardwood Forest | WC | Yes | Corps | 0.005 (acres) |

**2g. Total Temporary Wetland Impact**

0.000

**2g. Total Permanent Wetland Impact**

0.077

**2g. Total Wetland Impact**

0.077

**2h. Comments:**

There will be an additional 0.05 acre of handclearing in wetlands within the right-of-way.

## 3. Stream Impacts

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

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

| | 3a. Reason for impact * (?) | 3b.Impact type * | 3c. Type of impact * | 3d. S. name * | 3e. Stream Type * (?) | 3f. Type of Jurisdiction * | 3g. S. width * | 3h. Impact length * |
|---|---|---|---|---|---|---|---|---|
| S1 | Site 1-Causeway | Temporary | Workpad/Causeway | Swift Creek | Perennial | Both | 75 Average (feet) | 66 (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:**

0

**3i. Total temporary stream impacts:**

66

**3i. Total stream and ditch impacts:**

66

**3j. Comments:**

Temporary impact to Swift Creek is due to a rock causeway that will result in 0.07 ac of temporary impact.

## 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 * |
|---|---|---|---|---|---|
| 1-Bridge-Allowable | P | Swift Creek | No | 8,014 (square feet) | 3,984 (square feet) |
| 2-Parallel | P | Swift Creek | Yes | 0 (square feet) | 1,167 (square feet) |

## 6h. Total buffer impacts:

| | Zone 1 | Zone 2 |
|---|---|---|
| Total Temporary impacts: | 0.00 | 0.00 |

| | Zone 1 | Zone 2 |
|---|---|---|
| Total Permanent impacts: | 8,014.00 | 5,151.00 |

| | Zone 1 | Zone 2 |
|---|---|---|
| Total combined buffer impacts: | 8,014.00 | 5,151.00 |

**6i. Comments:**

**Supporting Documentation - i.e. Impact Maps, Plan Sheet, etc.**

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

File must be PDF

# 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 bridge will be replaced on the existing alignment. The new bridge will have less bents in the water than the existing structure. See stormwater management plan for additional minimization measures.

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

An offsite detour will be used during construction. NCDOT's Design Standards in Sensitive Watersheds 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

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

Impacts are minimal therefore no compensatory mitigation is proposed.

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

**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 | | 0 | | 0 | |
| Zone 2 | Parallel Roadway Impact | 1,167 | 1.5 | 1,751 | |

**6f. Total buffer mitigation required**

1751

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

◉ Yes ○ No

**6h. Attach the acceptance letter from the mitigation bank or NC Division of Mitigation Services.**

B-5671 - Buffer - TP 01 - Edgecombe.pdf 72.5KB

(PDF only)

**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.

**Diffuse Flow Documentation**

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

File type must be PDF

## 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

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.**

Due to minimal transportation impact resulting from this bridge replacement, this project will neither influence nearby land uses nor stimulate growth. Therefore, a detailed indirect or cumulative effects study will not be necessary.

## 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

**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?** *

N.C. Natural Heritage Program database; USFWS-Raleigh Field Office website; biological surveys for protected species listed for Edgecombe County, which include Tar River spinymussel, yellow lance, dwarf wedgemussel, red-cockaded woodpecker. The red-cockaded woodpecker and dwarf wedgemussel received biological conclusions of "No Effect". The Tar River spinymussel and yellow lance received biological conclusions of "May Affect, Not Likely to Adversely Affect". NCDOT proposes to satisfy impacts to Section 7 for the species by making payment to the N.C. Non-game Aquatic Species Fund as set in the Programmatic Biological Opinion for freshwater mussels.

**Consultation Documentation Upload**

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

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?** *

NMFS county index

## 7. Historic or Prehistoric Cultural Resources (Corps Requirement)

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

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

○ Yes ◉ No

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

NEPA documentation

**7c. Historic or Prehistoric Information Upload**

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

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:**

NCDOT Hydraulics Unit coordination with FEMA

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

FEMA maps

## Miscellaneous

**Comments**

**Miscellaneous attachments not previously requested.**

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

File must be PDF or KMZ

## Signature

*

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

- 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:** *

Mack Christopher Rivenbark, III

**Signature**

Mack C. Rivenbark, III

**Date**

1/17/2020

# Project Submittal Interim Form

Updated June 20, 2017

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

**Project Type:** *

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

**Is this supplemental information that needs to be sent to the Corps?** *

◉ Yes ○ No

**New Project -** Please check the new project type if you are trying to submit a new project that needs an official approval decision.

**Pre-Application Submittal -** Please check the pre-application submittal if you just want feedback on your submittal and do not have the expectation that your submittal will be considered a complete application requiring a formal decision.

**More Information Response -** Please check this type if you are responding to a request for information from staff and you have and ID# and version for this response.

**Other Agency Comments -** Please check this if you are submitting comments on an existing project.

## Project Contact Information

**Name:** NCDOT

Who is submitting the information?

**Email Address:** * jldilday@ncdot.gov

## Project Information

**Existing ID #:** * 20200089

20170001 (no dashes)

**Existing Version:** * 1

**Project Name:** * Bridge 87 over Swift Creek on NC 97 (B-5671-Central)

**Is this a public transportation project?** *

- ◉ Yes
- ○ No

**Is this a DOT project?** *

- ◉ Yes
- ○ No

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

○ Yes ◉ No ○ Unknown

| **TIP#:** | **WBS#:** |
|---|---|
| B-5671 | 45626.1.1 |
| | (Applies to DOT projects only) |

**County (ies)** *

Edgecombe

**Please upload all files that need to be submited.**

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

| | |
|---|---|
| B5671_Permit Drawings_utilities.pdf | 3.26MB |
| B5671_Buffer_utilities.pdf | 2.09MB |

Only pdf or kmz files are accepted.

**Describe the attachments:**

Attached are utility drawings showing additional impact to jurisdictional resources.

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

- I have given true, accurate, and complete information on this form;
- I agree that submission of this form is a “transaction” subject to Chapter 66, Article 40 of the NC General Statutes (the “Uniform Electronic Transactions Act”)
- I agree to conduct this transaction by electronic means pursuant to Chapter 66, Article 40 of the NC General Statutes (the “Uniform Electronic Transactions Act”);
- I understand that an electronic signature has the same legal effect and can be enforced in the same way as a written signature; AND
- I intend to electronically sign and submit the online form.”

**Signature:** *

Mack C. Riverbark, III

**Submittal Date:** Is filled in automatically once submitted.

**North Carolina Department of Transportation**

**Highway Stormwater Program**

**STORMWATER MANAGEMENT PLAN**

**FOR NCDOT PROJECTS**

(Version 2.08; Released April 2018)



## General Project Information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **WBS Element:** | 45626.1.1 | **TIP Number:** | B-5671 | **Project Type:** | Bridge Replacement | **Date:** | Dec 2019 |
| **NCDOT Contact:** | Tierre Peterson | | | **Contractor / Designer:** | Leah Young, PE | | |
| | **Address:** | 940 Main Campus Drive<br>Suite 500<br>Raleigh, NC 27606 | | | **Address:** | 4505 Falls of Neuse Road<br>Suite 400<br>Raleigh, NC 27609 | |
| | **Phone:** | (919) 707-6488 | | | **Phone:** | (919) 783 9214 | |
| | **Email:** | trpeterson@ncdot.gov | | | **Email:** | Leah.Young@kci.com | |
| **City/Town:** | Leggett, NC | | | **County(ies):** | Edgecombe | | |
| **River Basin(s):** | Tar-Pamlico | | | **CAMA County?** | No | | |
| **Wetlands within Project Limits?** | Yes | | | | | | |

## Project Description

| | | | |
|---|---|---|---|
| **Project Length (lin. miles or feet):** | 0.189 miles | **Surrounding Land Use:** | Forest/Wetlands |

| | **Proposed Project** | **Existing Site** |
|---|---|---|
| **Project Built-Upon Area (ac.)** | 0.7 ac. | 0.5 ac. |
| **Typical Cross Section Description:** | -L- STA. 12+00.00 TO STA. 13+20.00 and -L- STA. 20+35.00 TO STA. 22+00.00 have 12' lanes and 8' shoulders (4' FDPS). -L- STA. 13+20.00 TO STA. 16+00.00 and -L- STA 18+00.00 TO STA 20+35.00 have 12' lanes and 8' shoulders (4' FDPS). The bridge section (-L- STA. 16+00.00 TO STA 18+00.00 will have 12' lanes with 4' shoulders. -L- STA. 14.45.92 TO STA. 15+94.97 and STA. 17+96.38 TO STA 21.08.60 on the left will have guardrail. -L- STA. 12+97.09 TO STA. 16+04.96 and -L- STA. 18+03.60 TO 19+50.93 on the right will also have the guardrail. | 23' roadway with 3' paved shoulder |
| **Annual Avg Daily Traffic (veh/hr/day):** | Design/Future: 4600 Year: 2040 | Existing: 3434 Year: 2020 |
| **General Project Narrative: (Description of Minimization of Water Quality Impacts)** | The project will replace Edgecombe County Bridge #87 and its approaches. The proposed replacement is 200' long with a clear roadway width of 32'. The structure provides 2-12' travel lanes with 4' shoulders. The proposed bridge will have 1.5:1 abutments and 4' caps at the end bents. There are wetlands within the proposed project limits. Placement and construction of the propoosed bridge end bents, caps and associated roadway fill will result in both temporary and permanent wetland impact. A temporary causeway is anticipated to be added, so temporary stream impacts will result to encompass this work pad.<br><br>STORMWATER CONTROLS: The discharge upstream of the bridge discharges through inlet/pipe systems outside of the jurisdictional stream at non-erosive velocities. Roadway runoff is treated via vegetated roadway shoulders prior to entering the stream. Class II riprap will be placed under the bridge on either side of the channel at a minimum elevation of one foot above the natural water surface to provide bank stabilization and prevent impacts to the stream. | |

## Waterbody Information

| | | | | | |
|---|---|---|---|---|---|
| **Surface Water Body (1):** | Swift Creek | | **NCDWR Stream Index No.:** | 28-78-(6.5) | |
| **NCDWR Surface Water Classification for Water Body** | | **Primary Classification:** | Water Supply IV (WS-IV) | | |
| | | **Supplemental Classification:** | Nutrient Sensitive Waters (NSW) | | |
| **Other Stream Classification:** | None | | | | |
| **Impairments:** | None | | | | |
| **Aquatic T&E Species?** | No | Comments: | | | |
| **NRTR Stream ID:** | | | | **Buffer Rules in Effect:** | Tar-Pamlico |
| **Project Includes Bridge Spanning Water Body?** | Yes | **Deck Drains Discharge Over Buffer?** | No | **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) | | | | | |

North Carolina Department of Transportation

Highway Stormwater Program

**STORMWATER MANAGEMENT PLAN**

**FOR NCDOT PROJECTS**

(Version 2.08; Released April 2018)

**WBS Element:** **TIP No.:** B-5671 **County(ies):** Edgecombe 

## Preformed Scour Holes and Energy Dissipators

| Sheet No. | Station & Coordinates (Road and Non Road Projects) | Surface Water Body | Energy Dissipator Type | Riprap Type | Drainage Area (ac) | Conveyance Structure | Pipe/Structure Dimensions (in) | Q10 (cfs) | V10 (fps) | BMP Associated w/ Buffer Rules? |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | -L- 15+66.00 | (1)Swift Creek | Riprap Pad at Outlet | Class 'B' | 0.1 | Pipe | 15 | 0.4 | 0.4 | Yes |
| 4 | -L- 18+26.00 | (1)Swift Creek | Riprap Pad at Outlet | Class 'B' | 0.1 | Pipe | 15 | 0.4 | 0.4 | Yes |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

**Additional Comments**

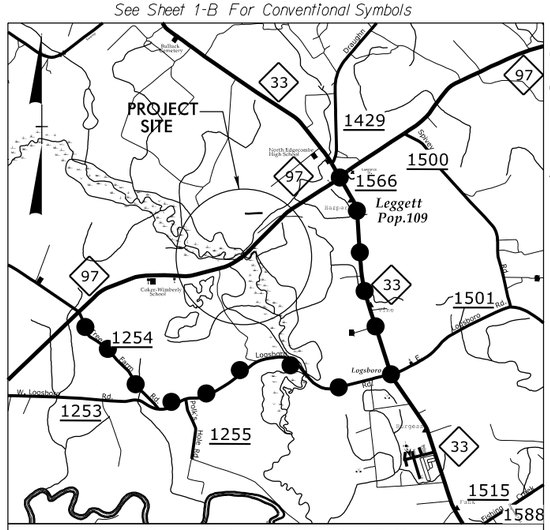
Buffer Zones present within limits of the project. All riprap pads are outside buffer zones and promote sheet flow.

* Refer to the NCDOT Best Management Practices Toolbox (2014), NCDOT Standards, the Federal Highway Administration (FHWA) Hydraulic Engineering Circular No. 14 (HEC-14), Third Edition, Hydraulic Design of Energy Dissipators for Culverts and Channels (July 2006), as applicable, for design guidance and criteria.

09/08/99

**CONTRACT:** **TIP PROJECT: B-5671**

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




VICINITY MAP (NTS)
DETOUR ROUTE

75% PLANS

# STATE OF NORTH CAROLINA
# DIVISION OF HIGHWAYS

PERMIT DRAWING
SHEET 1 OF 10

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|
| N.C. | B-5671 | 1 | |

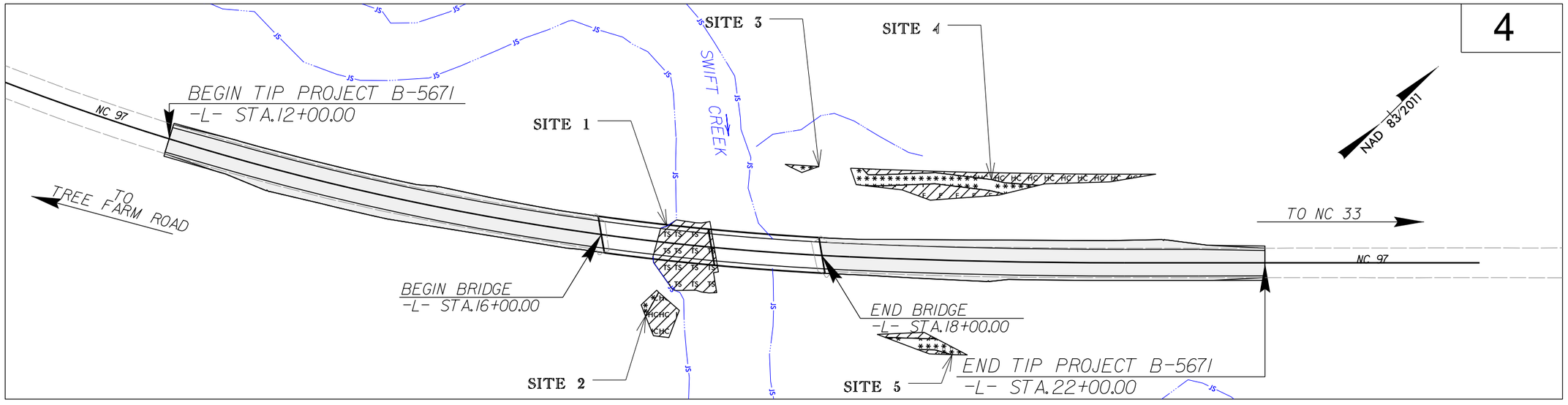
| STATE PROJ. NO. | F. A. PROJ. NO. | DESCRIPTION |
|---|---|---|
| 45626.1.1 | | P.E. |
| 45626.2.1 | | R/W & UTIL. |
| 45626.3.1 | | CONSTR. |

# *EDGECOMBE COUNTY*

***LOCATION: REPLACE BRIDGE NO. 87 OVER SWIFT CREEK ON NC 97***

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

## WETLAND AND STREAM IMPACTS




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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

### *GRAPHIC SCALES*

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

### *DESIGN DATA*

ADT 2020 = 3434
ADT 2040 = 4600
K = 8 %
D = 55 %
T = 13 % *
V = 60 MPH
* TTST = 5% DUAL 8%
FUNC CLASS = MAJOR COLLECTOR
REGIONAL TIER

### *PROJECT LENGTH*

LENGTH OF ROADWAY TIP PROJECT B-5671 = .151 MILES
LENGTH OF STRUCTURE TIP PROJECT B-5671 = .038 MILES
TOTAL LENGTH OF TIP PROJECT B-5671 = .189 MILES

*Prepared In the Office of:*
KCI Associates of N.C., P.A.
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609
Phone (919) 783-9214
Fax (919) 783-9266

2018 STANDARD SPECIFICATIONS

***RIGHT OF WAY DATE:***
NOVEMBER 18, 2019

***LETTING DATE:***
MAY 19, 2020

***NCDOT CONTACT:*** DAVID STUTTS, P.E.
*STRUCTURES MANAGEMENT UNIT*

*Plans Prepared For:*
***DIVISION OF HIGHWAYS***
*1000 Birch Ridge Dr.*
*Raleigh NC, 27610*

DEWAYNE L. SYKES, P.E.
*PROJECT ENGINEER*

BRYAN E. HOUGH, P.E.
*PROJECT DESIGN ENGINEER*

***HYDRAULICS ENGINEER***
P.E.
SIGNATURE:

***ROADWAY DESIGN ENGINEER***
P.E.
SIGNATURE:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

12/5/2019
M:\2018\25180945.24 B-5671\Hydraulics\PERMITS_Environmental\Drawings\WET\B-5671_prm_tsh.dgn
Elizabeth.Sheldon

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| B-5671 | PRM-2 |
| R/W SHEET NO. | 4 |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

**INCOMPLETE PLANS**
DO NOT USE FOR R/W ACQUISITION

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

**PERMIT DRAWING SHEET 2 OF 10**

NC GRID NAD 83 NA 2011

REVISIONS 8/17/99

INSET A (SEE PRM 04)

SITE 1

SITE 2

SITE 3

SITE 4

SITE 5

SWIFT CREEK

MICAJAH V. ANDERSON, JR.
DB 1423 PG 508
MB 1 PG 125

DON M. ANDERSON FARMS INC
DB 1613 PG 956
PC 4 SLIDE 140-A
MB 16 PG 44

NC 97 22' BST

N 44° 28' 02.6" E

15" PIPE W/2 ELBOWS

CLASS B RIPRAP PAD EST 1 TON EST 5 SY GT

CLASS II RIPRAP TO ELEV. = 55.6'

TEMPORARY CAUSEWAY

8:1 TAPER GREU TL-3

TB 2GI

B-77

8" PVC

## IMPACTS LEGEND

- F F — DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- HC HC — DENOTES HAND CLEARING

50 25 0 50 100

FOR -L- PROFILE SEE SHEET 5

12/5/2018
M:\2018\25180194524 B-5671\Hydraulics\PERMITS\Environmental\Drawings\WETLB-5671_prm_psh.dgn
Elizabeth Sheldon

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| B-5671 | PRM-3 |
| R/W SHEET NO. | 4 |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

**INCOMPLETE PLANS**
DO NOT USE FOR R/W ACQUISITION

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

**PERMIT DRAWING SHEET 3 OF 10**

REVISIONS 8/17/99

NC GRID NAD 83 NA 2011

INSET A
(SEE PRM 04)

SITE 1

SITE 2

SITE 3

SITE 4

SITE 5

## IMPACTS LEGEND

- F F — DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- HC HC — DENOTES HAND CLEARING

50 25 0 50 100

FOR -L- PROFILE SEE SHEET 5

12/5/2018
M:\2018\25180194524 B-5671\Hydraulics\PERMITS\Environmental\Drawings\WETLB-5671_prm_psh_con.dgn
Elizabeth Sheldon

8/17/99

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| B-5671 | PRM-4 |

| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
|---|---|

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

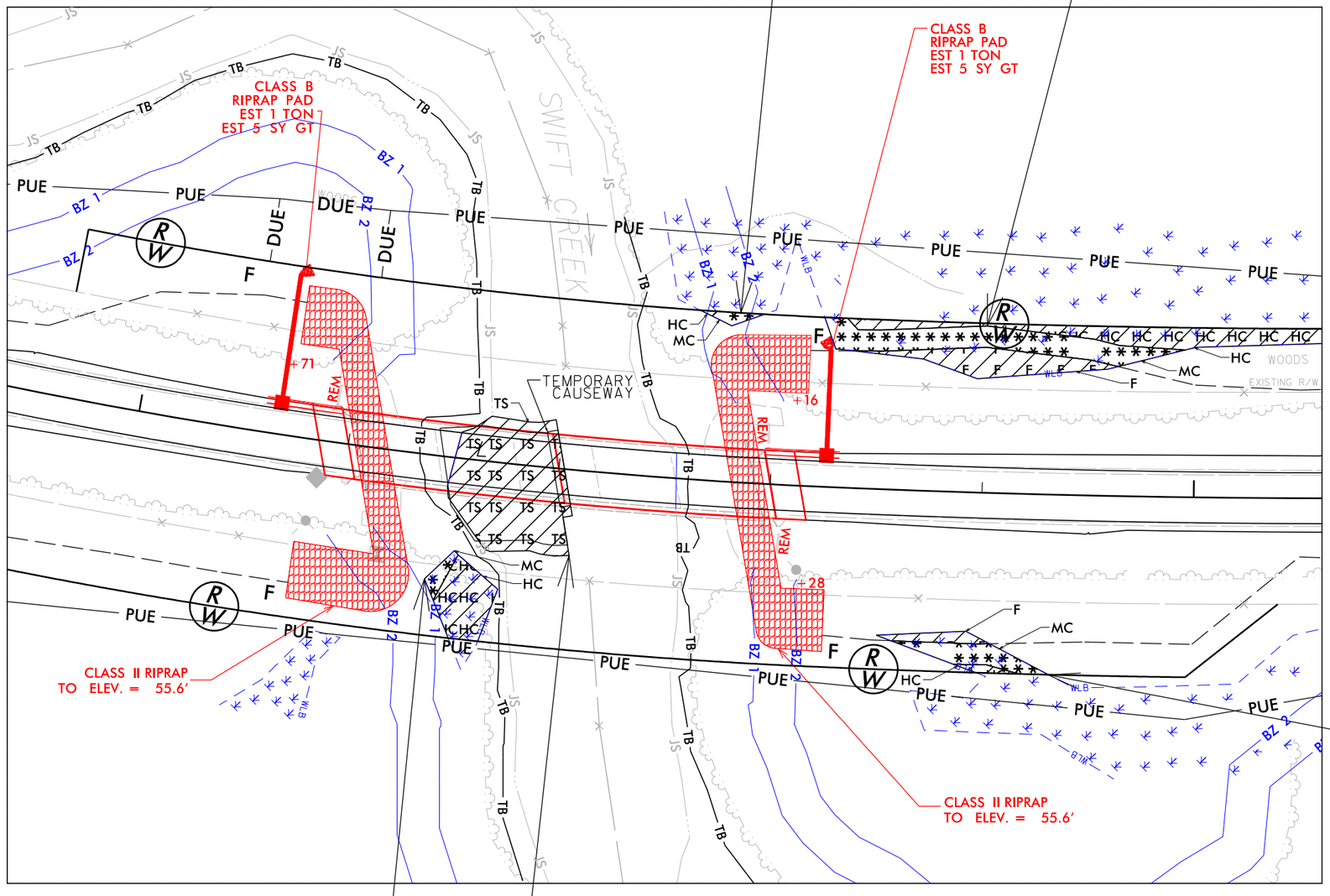
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

**PERMIT DRAWING SHEET 4 OF 10**

# INSET A

SITE 3

SITE 4




NC GRID NAD 83 NA 2011

100' 0' 100' 200' 300'

GRAPHIC SCALE

## IMPACTS LEGEND

| | |
|---|---|
| F / F — DENOTES FILL IN WETLAND | DENOTES MECHANIZED CLEARING |
| TS / TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER | HC / HC — DENOTES HAND CLEARING |

12/5/2019
M:\2018\25180194S.24 B-5671\Hydraulics\PERMITS_Environmental\Drawings\WET\B-5671_prm_Inset_A.dgn
Elizabeth Sheldon

5/14/99

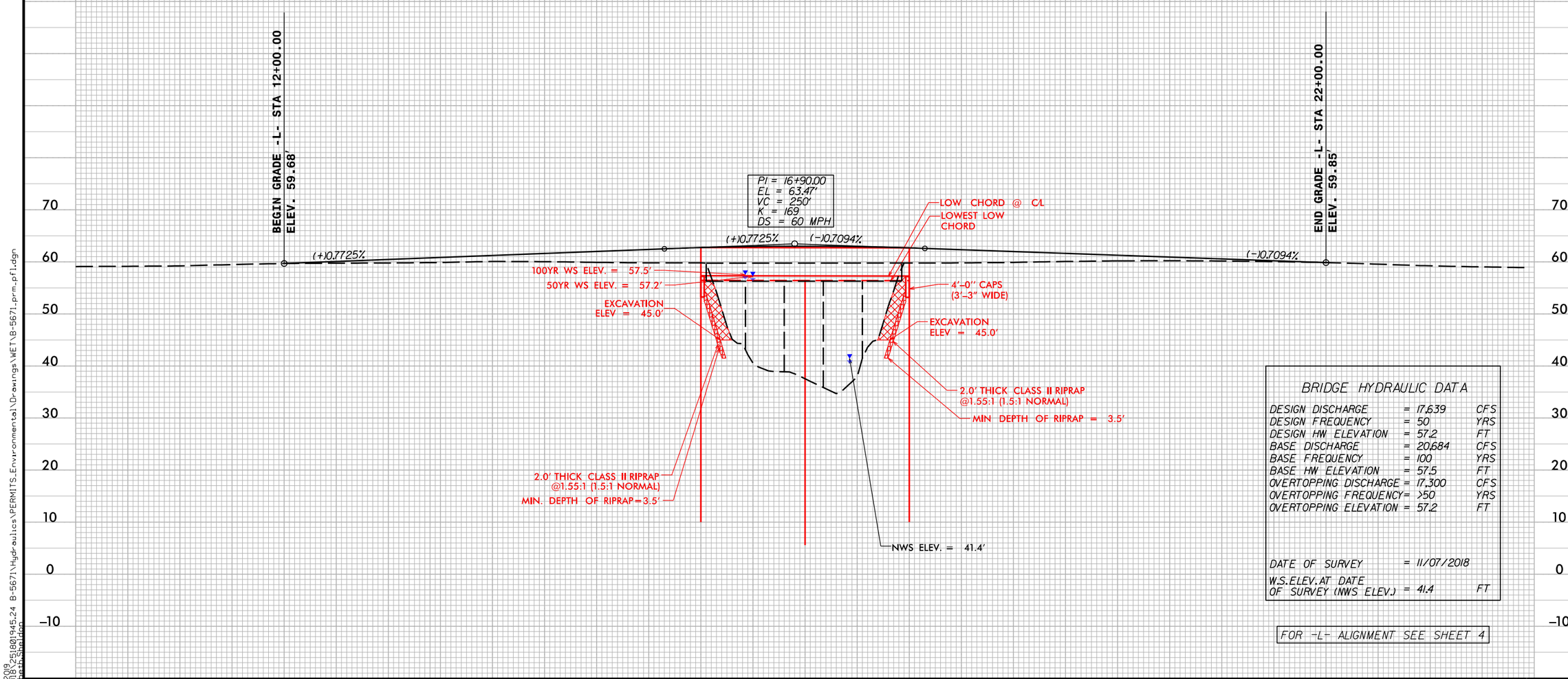
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| B-5671 | PRM-5 |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 5 OF 10

BM #2 - RR SPIKE IN BASE OF 15"ASH
-L- STA. 16+20.11, 49.71' RT
EL = 48.88'




BRIDGE HYDRAULIC DATA

| | | |
|---|---|---|
| DESIGN DISCHARGE | = 17,639 | CFS |
| DESIGN FREQUENCY | = 50 | YRS |
| DESIGN HW ELEVATION | = 57.2 | FT |
| BASE DISCHARGE | = 20,684 | CFS |
| BASE FREQUENCY | = 100 | YRS |
| BASE HW ELEVATION | = 57.5 | FT |
| OVERTOPPING DISCHARGE | = 17,300 | CFS |
| OVERTOPPING FREQUENCY | = >50 | YRS |
| OVERTOPPING ELEVATION | = 57.2 | FT |
| DATE OF SURVEY | = 11/07/2018 | |
| W.S.ELEV. AT DATE OF SURVEY (NWS ELEV.) | = 41.4 | FT |

FOR -L- ALIGNMENT SEE SHEET 4

12/5/2018
2:26:08 PM
Elizabeth Sheldon
C:\Users\251801945.24 B-5671\Hydraulics\PERMITS_Environmental\Drawings\WET\B-5671_prm_pf1.dgn

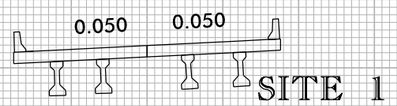
6/23/16

| 0 10 20 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | B-5671 | X-6 |

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

**PERMIT DRAWING**
**SHEET 6 OF 10**

70
60
50
40




SITE 1

TS

SITE 1

TS

WETLANDS

MC

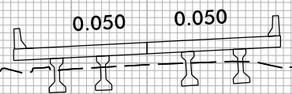
SITE 2

40.53

16+50.00

30

70
60
50
40




59.79

WETLANDS

16+00.00

30

—L—

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

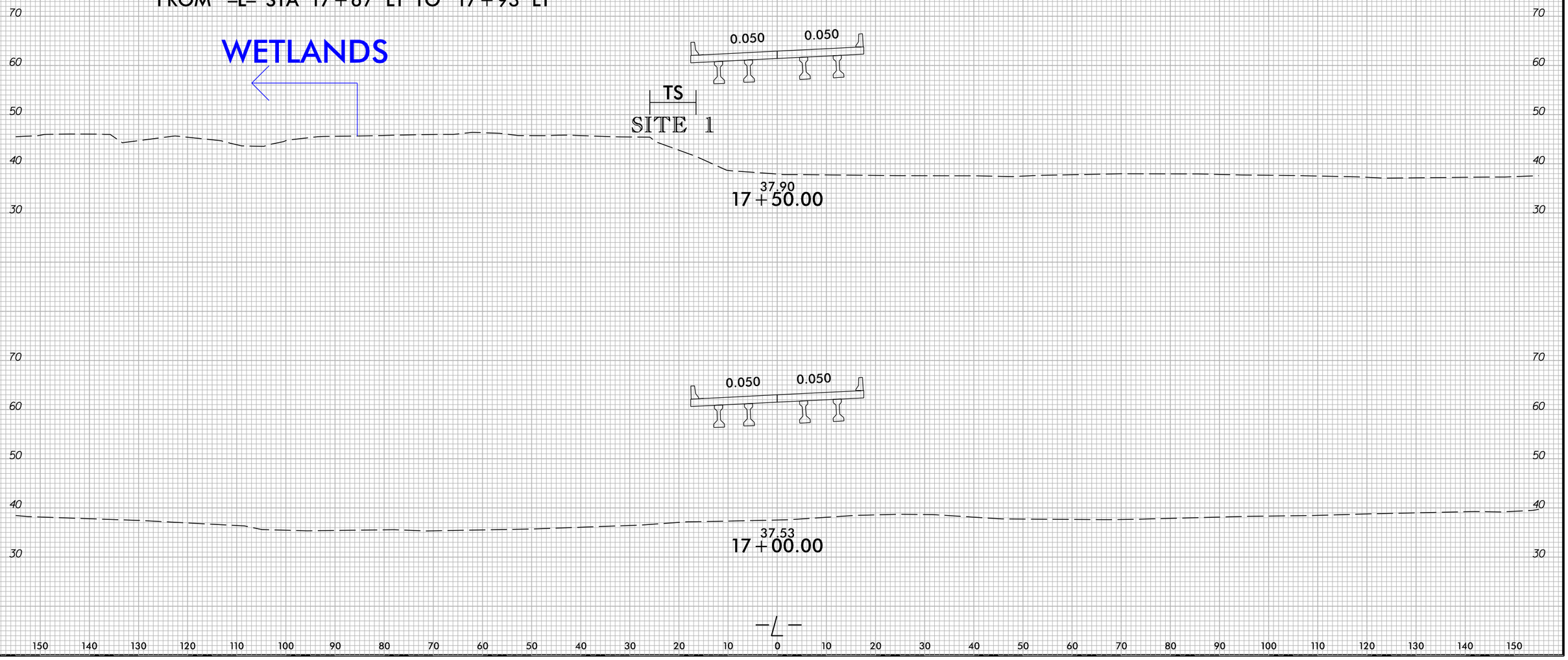
9/4/2019
M:\2018\25180945.24 B-5671\Hydraulics\PERMITS.Environmental\Drawings\WET\B-5671_prm_xpl.dgn
Sawyer-Walters

6/23/16

| 0 10 20 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | B-5671 | X-7 |

PERMIT DRAWING
SHEET 7 OF 10

## MECHANIZED CLEARING IN WETLANDS (SITE 3)
## FROM –L– STA 17+67 LT TO 17+93 LT

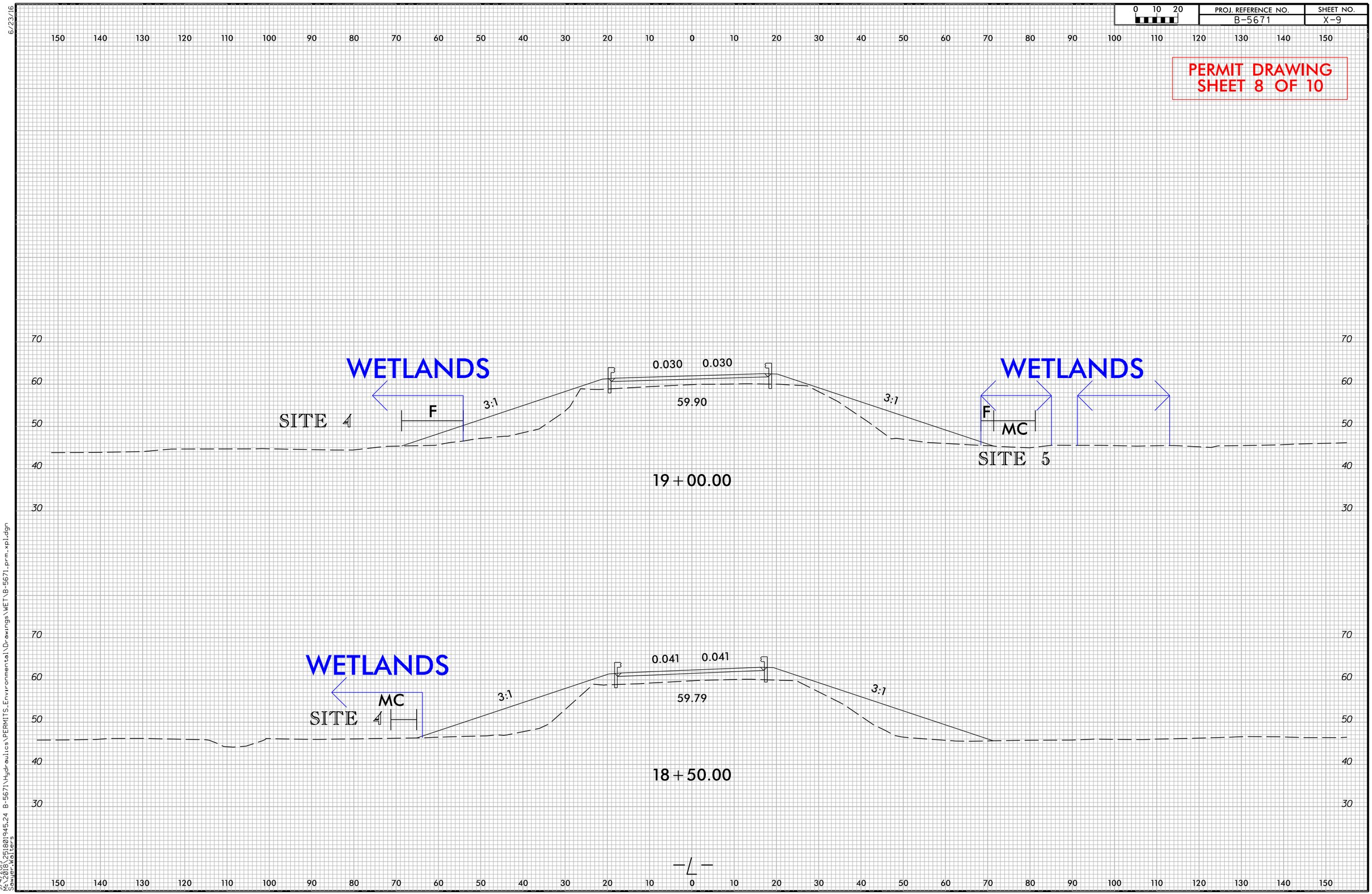



9/4/2019
M:\2018\25180194S.24 B-5671\Hydraulics\PERMITS_Environmental\Drawings\WET\B-5671_prm_xpl.dgn
Sawyer-Walters

6/23/16

| 0 10 20 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | B-5671 | X-9 |

PERMIT DRAWING
SHEET 8 OF 10

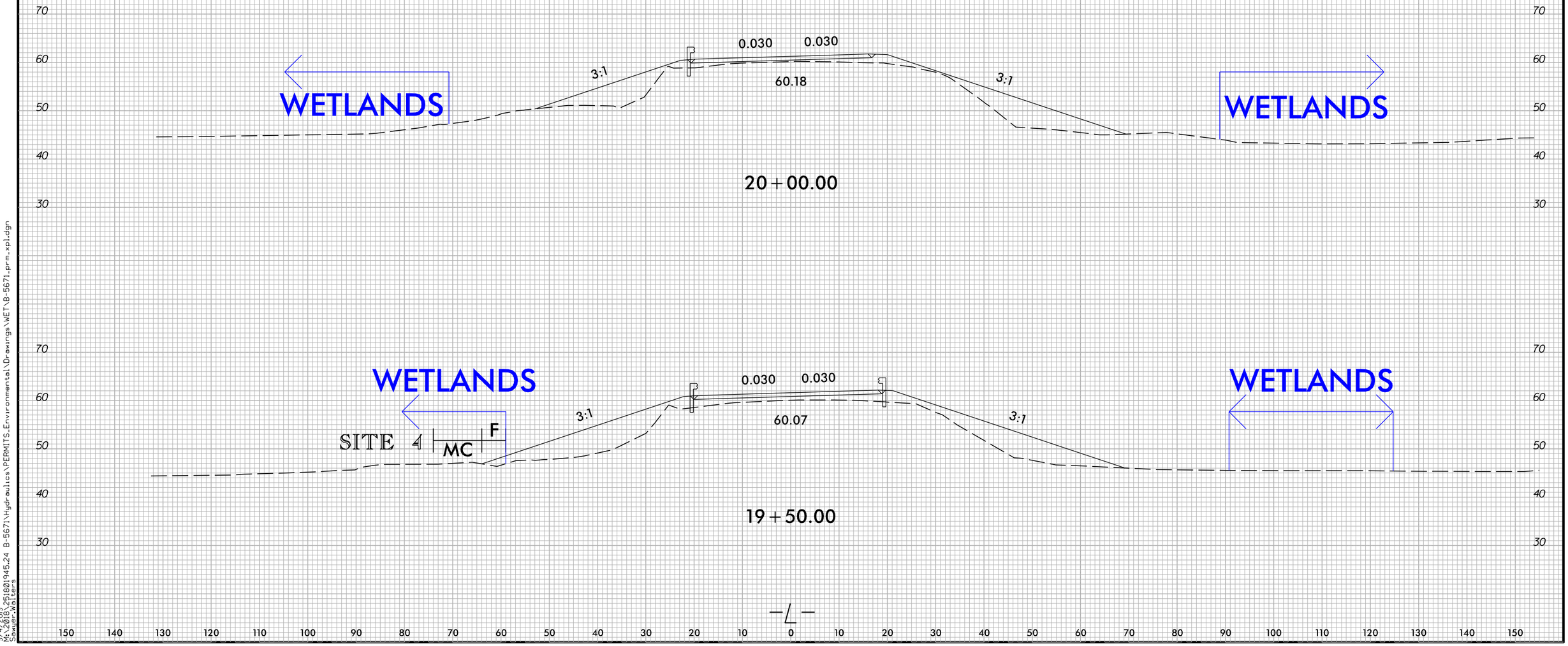



9/4/2018
M:\2018\25180194S.24 B-5671\Hydraulics\PERMITS_Environmental\Drawings\WETLB-5671_prm_xpl.dgn
Sawyer, Walters

6/23/16

| 0 10 20 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | B-5671 | X-10 |

PERMIT DRAWING
SHEET 9 OF 10




9/4/2019
M:\2018\25180194S.24 B-5671\Hydraulics\PERMITS_Environmental\Drawings\WET\B-5671_prm_xpl.dgn
Sawyer-Walters

## WETLAND AND SURACE WATER IMPACTS SUMMARY

| Site No. | Station (From/To) | Structure Size / Type | WETLAND 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) | SURFACE WATER IMPACTS: Permanent SW impacts (ac) | Temp. SW impacts (ac) | Existing Channel Impacts Permanent (ft) | Existing Channel Impacts Temp. (ft) | Natural Stream Design (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -L- 16+48 LT/RT | BENT REMOVAL | | | | | | | 0.07 | | | |
| | TO 17+08 LT/RT | & INSTALLATION | | | | | | | | | | |
| | | | | | | | | | | | | |
| 2 | -L- 16+43 RT | BRIDGE ABUTMENTS | | | | < 0.01 | 0.02 | | | | | |
| | TO 16+77 RT | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 3 | -L- 17+62 LT | BRIDGE ABUTMENTS | | | | < 0.01 | < 0.01 | | | | | |
| | TO 17+93 LT | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 4 | -L- 18+22 LT | ROADWAY FILL | 0.02 | | | 0.04 | 0.03 | | | | | |
| | TO 21+01 LT | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 5 | -L- 18+53 RT | ROADWAY FILL | < 0.01 | | | 0.01 | < 0.01 | | | | | |
| | TO 19+34 RT | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| TOTALS*: | | | 0.02 | | | 0.05 | 0.05 | | 0.07 | | | |

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DECEMBER 2019
EDGECOMBE COUNTY
B-5671
45626.1.1
SHEET 10 OF 10

Revised 2018 Feb

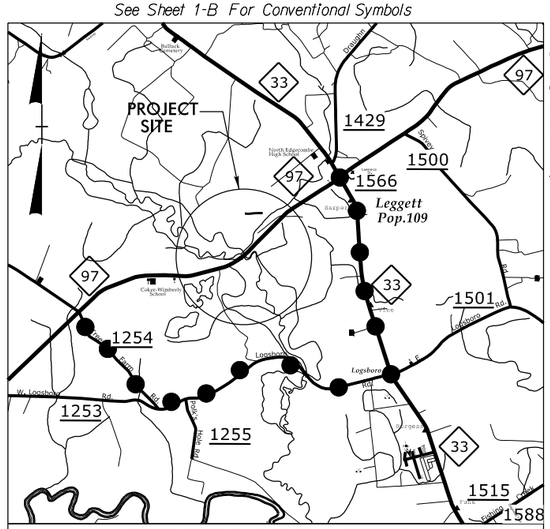
09/08/99

TIP PROJECT: B-5671

CONTRACT:

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

75% PLANS




# STATE OF NORTH CAROLINA
# DIVISION OF HIGHWAYS

# *EDGECOMBE COUNTY*

***LOCATION: REPLACE BRIDGE NO. 87 OVER SWIFT CREEK ON NC 97***

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

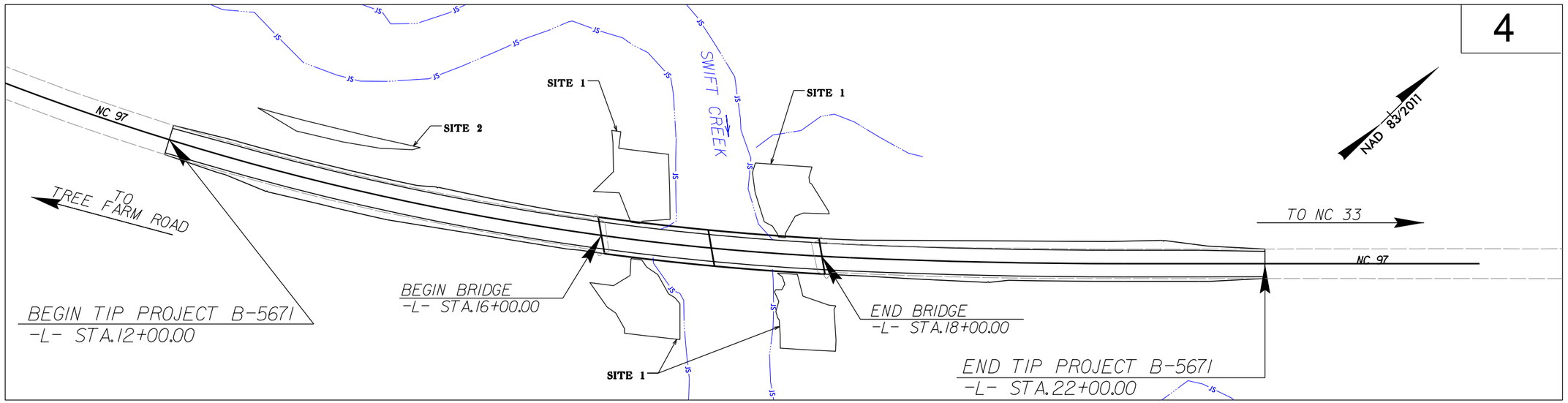
PERMIT DRAWING
SHEET 1 OF 5

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|
| N.C. | **B-5671** | 1 | |

| STATE PROJ. NO. | F. A. PROJ. NO. | DESCRIPTION |
|---|---|---|
| 45626.1.1 | | P.E. |
| 45626.2.1 | | R/W & UTIL. |
| 45626.3.1 | | CONSTR. |

BUFFER IMPACTS

4




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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

## GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

## DESIGN DATA

ADT 2020 = 3434
ADT 2040 = 4600
K = 8 %
D = 55 %
T = 13 % *
V = 60 MPH
* TTST = 5% DUAL 8%
FUNC CLASS = MAJOR COLLECTOR
REGIONAL TIER

## PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-5671 = .151 MILES
LENGTH OF STRUCTURE TIP PROJECT B-5671 = .038 MILES
TOTAL LENGTH OF TIP PROJECT B-5671 = .189 MILES

*Prepared In the Office of:*
KCI Associates of N.C., P.A.
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609
Phone (919) 783-9214
Fax (919) 783-9266

2018 STANDARD SPECIFICATIONS

***RIGHT OF WAY DATE:***
SEPTEMBER 3, 2019

***LETTING DATE:***
MAY 19, 2020

***NCDOT CONTACT:*** DAVID STUTTS, P.E.
*STRUCTURES MANAGEMENT UNIT*

*Plans Prepared For:*
***DIVISION OF HIGHWAYS***
*1000 Birch Ridge Dr.*
*Raleigh NC, 27610*

DEWAYNE L. SYKES, P.E.
*PROJECT ENGINEER*

BRYAN E. HOUGH, P.E.
*PROJECT DESIGN ENGINEER*

***HYDRAULICS ENGINEER***
*P.E.*
*SIGNATURE:*

***ROADWAY DESIGN ENGINEER***
*P.E.*
*SIGNATURE:*

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

9/19/2019
M:\2018\25180945.24 B-5671\Hydraulics\PERMITS_Environmental\Drawings\BUFF\B-5671_prm_tsh_buff.dgn
Elizabeth.Sheldon

8/17/99

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| B-5671 | BUF-2 |
| R/W SHEET NO. | 4 |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

**INCOMPLETE PLANS**
DO NOT USE FOR R/W ACQUISITION

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

NC GRID
NAD 83 NA 2011

**PERMIT DRAWING SHEET 2 OF 5**

| BUFFER IMPACTS SITE | ZONE 1 IMPACTS | ZONE 2 IMPACTS |
|---|---|---|
| SITE 2 | 0 SF | 1167 SF |

| BUFFER IMPACTS SITE | ZONE 1 IMPACTS | ZONE 2 IMPACTS |
|---|---|---|
| SITE 1 | 2160 SF | 1039 SF |

| BUFFER IMPACTS SITE | ZONE 1 IMPACTS | ZONE 2 IMPACTS |
|---|---|---|
| SITE 1 | 1841 SF | 968 SF |

| BUFFER IMPACTS SITE | ZONE 1 IMPACTS | ZONE 2 IMPACTS |
|---|---|---|
| SITE 1 | 2198 SF | 1115 SF |

| BUFFER IMPACTS SITE | ZONE 1 IMPACTS | ZONE 2 IMPACTS |
|---|---|---|
| SITE 1 | 1815 SF | 862 SF |

SITE 2
SITE 1
SITE 1
SITE 1
SITE 1

15" PIPE W/2 ELBOWS
CLASS B RIPRAP PAD EST 1 TON EST 5 SY GT
15" PIPE W/2 ELBOWS
CLASS B RIPRAP PAD EST 1 TON EST 5 SY GT

MICAJAH V. ANDERSON, JR.
DB 1423 PG 508
MB 1 PG 125

DON M. ANDERSON FARMS INC
DB 1613 PG 956
PC 4 SLIDE 140-A
MB 16 PG 44

SWIFT CREEK

NC 97 22' BST

N 44° 28' 02.6" E

8" PVC

WOODS

EXISTING R/W

## IMPACTS LEGEND

- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2
- MITIGABLE IMPACTS ZONE 2

FOR -L- PROFILE SEE SHEET 5

12/5/2018
M:\2018\25180194S.24 B-5671\Hydraulics\PERMITS_Environmental\Drawings\BUFF\B-5671_prm_psh.dgn
Elizabeth Sheldon

8/17/99

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| B-5671 | BUF-3 |
| R/W SHEET NO. | 4 |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

**INCOMPLETE PLANS**
DO NOT USE FOR R/W ACQUISITION

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

**PERMIT DRAWING SHEET 3 OF 5**

NC GRID NAD 83 NA 2011

| BUFFER IMPACTS SITE | ZONE 1 IMPACTS | ZONE 2 IMPACTS |
|---|---|---|
| SITE 2 | 0 SF | 1167 SF |

| BUFFER IMPACTS SITE | ZONE 1 IMPACTS | ZONE 2 IMPACTS |
|---|---|---|
| SITE 1 | 2160 SF | 1039 SF |

| BUFFER IMPACTS SITE | ZONE 1 IMPACTS | ZONE 2 IMPACTS |
|---|---|---|
| SITE 1 | 2198 SF | 1115 SF |

| BUFFER IMPACTS SITE | ZONE 1 IMPACTS | ZONE 2 IMPACTS |
|---|---|---|
| SITE 1 | 1841 SF | 968 SF |

| BUFFER IMPACTS SITE | ZONE 1 IMPACTS | ZONE 2 IMPACTS |
|---|---|---|
| SITE 1 | 1815 SF | 862 SF |

SITE 2
SITE 1
SITE 1
SITE 1
SITE 1

15" PIPE W/2 ELBOWS
CLASS B RIPRAP PAD EST 1 TON EST 5 SY GT
15" PIPE W/2 ELBOWS
CLASS B RIPRAP PAD EST 1 TON EST 5 SY GT

NC SR 22 BST
N 44° 28' 02.6" E
NC SR 22 BST

MICAJAH V ANDERSON JR
DB 423 PG 508
MB 1 PG 125

DON M. ANDERSON FARMS INC
DB 1613 PG 956
PC 4 SLIDE 140-A
MB 16 PG 44

SWIFT CREEK

## IMPACTS LEGEND

- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2
- MITIGABLE IMPACTS ZONE 2

FOR -L- PROFILE SEE SHEET 5

12/5/2018
M:\2018\12\05\18001945.24 B-5671\Hydraulics\PERMITS_Environmental\Drawings\BUFF_B-5671_prm_psh_con.dgn
Elizabeth.Sheldon

# RIPARIAN BUFFER IMPACTS SUMMARY

| Site No. | Station (From/To) | Structure Size / Type | IMPACTS | | | | | | | | | BUFFER REPLACEMENT | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | TYPE | | | ALLOWABLE | | | MITIGABLE | | | | |
| | | | 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 ($ft^2$) | ZONE 1 ($ft^2$) | ZONE 2 ($ft^2$) |
| 1 | 15+87 TO 16+60 | BRIDGE | | X | | 2160.0 | 1039.0 | 3199.0 | | | | | |
| 1 | 15+96 TO 16+77 | BRIDGE | | X | | 2198.0 | 1115.0 | 3348.0 | | | | | |
| 1 | 17+31 TO 18+05 | BRIDGE | | X | | 1841.0 | 968.0 | 2809.0 | | | | | |
| 1 | 17+60 TO 18+15 | BRIDGE | | X | | 1815.0 | 862.0 | 2677.0 | | | | | |
| 2 | 12+70 TO 14+24 | ROADWAY | | | X | | | | 0.0 | 1167.0 | 1167.0 | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| TOTALS*: | | | | | | **8014** | **3984** | **12033** | **0** | **1167** | **1167** | **0** | **0** |

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
9/12/2019
EDGECOMBE COUNTY
B-5671
45626.1.1
SHEET 4 OF 5

# WETLANDS IN BUFFER IMPACTS SUMMARY

| SITE NO. | STATION (FROM/TO) | | WETLANDS IN BUFFERS ZONE 1 ($ft^2$) | WETLANDS IN BUFFERS ZONE 2 ($ft^2$) |
|---|---|---|---|---|
| 1 | STA 16+43 | | 897 | |
| | TO 16+77 RT | | | |
| 1 | STA 17+61 | | 3 | |
| | TO 17+65 LT | | | |
| 1 | STA 17+65 | | | 85 |
| | TO 17+86 LT | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| **TOTAL:** | | | **900** | **85** |

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
9/19/2019
EDGECOMBE COUNTY
B-5671
45626.1.1
SHEET 5 OF 5

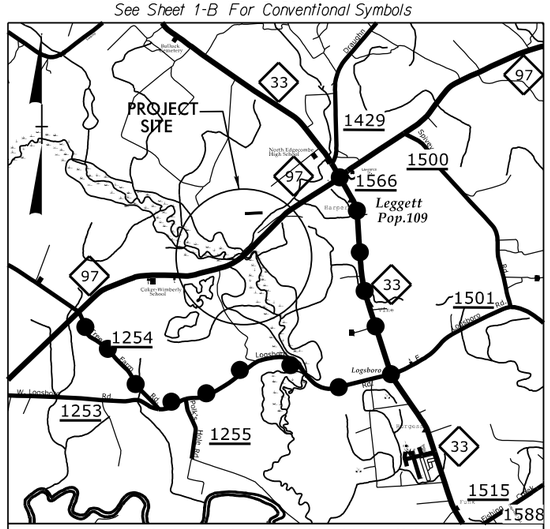
Submitted 2/10/2020

09/08/99

**TIP PROJECT:**

**CONTRACT:**

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




VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**PERMIT DRAWING SHEET 1 OF 6**

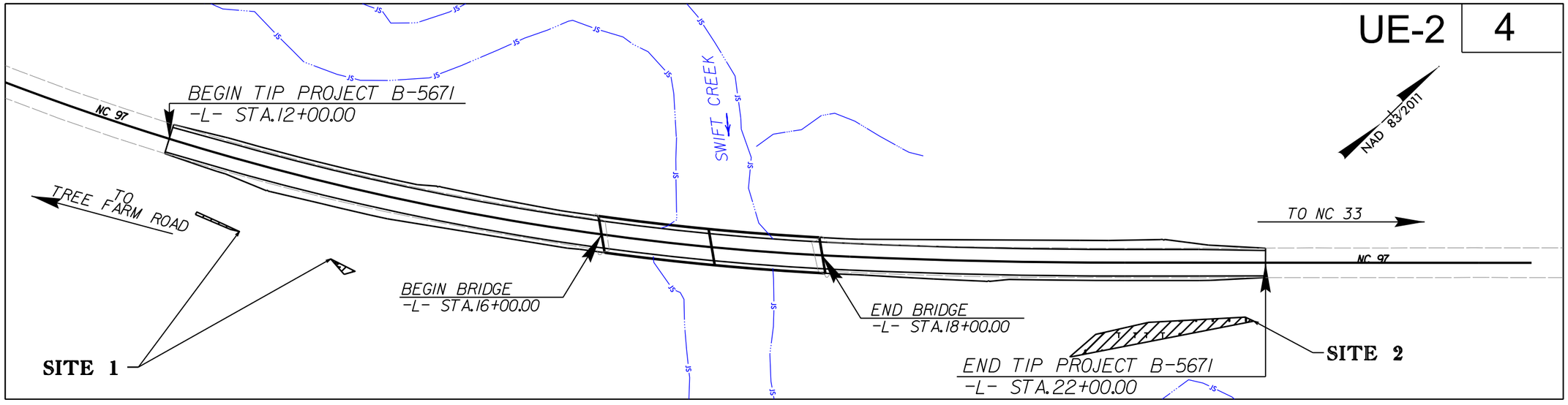
| T.I.P. NO. | SHEET NO. |
|---|---|
| B–5671 | UE–1 |

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

# *UTILITIES ENVIRONMENTAL PERMIT PLANS EDGECOMBE COUNTY*

***LOCATION: REPLACE BRIDGE NO. 87 OVER SWIFT CREEK ON NC 97***

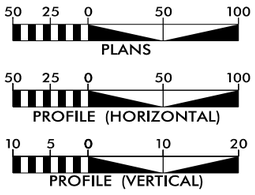
***TYPE OF WORK: TELEPHONE, SANITARY SEWER, AND WATERLINE RELOCATION***




UE-2 | 4

**PRELIMINARY PLANS**
DO NOT USE FOR CONSTRUCTION

## *GRAPHIC SCALES*




## *INDEX OF SHEETS*

| *SHEET NO.:* | *DESCRIPTION:* |
|---|---|
| *UE–1* | *TITLE SHEET* |
| *UE–2–3* | *UE PLAN SHEETS* |
| *UE–4–5* | *UE PROFILE SHEETS* |
| *UE–6* | *IMPACTS SUMMARY SHEET* |

## *UTILITY OWNERS WITH CONFLICTS*

*(A) CENTURYLINK – COMMUNICATIONS*
*(B) EDGECOMBE COUNTY – WATER & SEWER*

*PREPARED IN THE OFFICE OF:*

KCI ASSOCIATES OF N.C.
*CIVIL ENGINEERS*
*ENVIRONMENTAL - CEI*
*LAND SURVEYING*
*SUBSURFACE UTILITY ENGINEERING*
4505 FALLS OF NEUSE RD
SUITE 400
RALEIGH, NORTH CAROLINA 27609
(919) 783-9214
WWW.KCI.COM

| | |
|---|---|
| *JOHN FAISON* | *UTILITY PROJECT MANAGER* |
| *JOHN FAISON* | *PROJECT UTILITY COORDINATOR* |
| *KELSEY BARTLETT* | *PROJECT UTILITY DESIGNER* |


*DIVISION OF HIGHWAYS*
*UTILITIES UNIT*
*1555 MAIL SERVICES CENTER*
*RALEIGH NC 27699–1555*
*PHONE (919) 707–6690*
*FAX (919) 250–4151*

| | |
|---|---|
| *NABIL HAMDAN* | *UTILITIES REGIONAL MANAGER* |
| *KELVIN MARTIN* | *UTILITIES PROJECT ENGINEER* |
| *KYLE PLEASANT* | *AREA UTILITIES COORDINATOR* |
| *LARRY M. JAMES JR.* | *UTILITIES COORDINATOR* |


2/3/2020
M:\2018\25180945.24 B-5671\Hydraulics\PERMITS_Environmental\Utilities\B-5671_UT_tsh_01.dgn
Elizabeth.Sheldon

Submitted 2/10/2020

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| B-5671 | UE-2/RDY-4 |

PERMIT DRAWING
SHEET 2 OF 6

# UTILITIES BY OTHERS

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.

PROPOSED OPEN CUT
BEGIN: -FM- STA 0+00.00
(-L- STA 11+66.10)

PROPOSED 10'Lx10'Wx5'D
ENTRY POINT SLURRY
CONTAINMENT PIT/
BEGIN BORE/END OPEN CUT:
-FM- STA 0+62.50
(-L- STA 12+17.45)

CENTURYLINK PROPOSED BURIED
TELEPHONE CABLE

NC GRID
NAD 83 NA 2011

INSET A

PROPOSED 10'L x 10'W x 5'D
EXIT POINT SLURRY CONTAINMENT PIT/
END BORE/BEGIN OPEN CUT:
-FM- STA 9+30.20
(-L- STA 21+00.43)

PROPOSED SANITARY
SEWER RELOCATION

PROPOSED OPEN CUT
END: -FM- STA 10+52.18
(-L- STA 22+04.30)

-FM- Sta. 0+00.00

-FM- Sta. 10+52.18

-W/L- Sta. 0+00.00

-W/L- FOR Sta. 6+76.76

MICAJAH V. ANDERSON, JR
DB 1423 PG 508
MB 1 PG 125

MICAJAH V. ANDERSON, JR
DB 1423 PG 508
MB 1 PG 125

DON M. ANDERSON FARMS INC
DB 1613 PG 956
PC 4 SLIDE 140-A
MB 16 PG 44

DON M. ANDERSON FARMS INC
DB 1613 PG 956
PC 4 SLIDE 140-A
MB 16 PG 44

SWIFT CREEK

NC 97 22' BST

N 44° 28' 02.6" E

CLASS B
RIPRAP PAD
EST 1 TON
EST 5 SY GT

15" PIPE
W/2 ELBOWS

ABANDON

EXISTING
BRIDGE

CLASS II RIPRAP
TO ELEV. = 55.6'

APPROX. AT&T OPEN TRENCH
BEGIN: -L- STA 12+33

SITE 1

PROPOSED OPEN
CUT BEGIN
-W/L- STA 0+00.00
(-L- STA 14+21.78)

PROPOSED 10'L x 10'W x 5'D
ENTRY POINT SLURRY
CONTAINMENT PIT/
BEGIN BORE/END OPEN CUT:
-W/L- STA 0+60.70
(-L- STA 14+65.89)

PROPOSED WATER
RELOCATION

END OPEN TRENCH
APPROX. AT&T DIRECTIONAL BORE
BEGIN: -L- STA 15+04

BEGIN OPEN TRENCH
APPROX. AT&T DIRECTIONAL
BORE & PIT END: -L- STA 19+76

PROPOSED 10'L x 10'W x 5'D
EXIT POINT SLURRY CONTAINMENT PIT/
END BORE/BEGIN OPEN CUT:
-W/L- STA 6+13.85
(-L- STA 19+98.78)

PROPOSED OPEN CUT END
-W/L- STA 6+76.76
(-L- STA 20+46.69)

APPROX. AT&T OPEN TRENCH
END: -L- STA 22+00

SITE 2

IMPACTS LEGEND

DENOTES TEMPORARY FILL IN WETLAND

FOR -L- PROFILE SEE SHEET 5


CIVIL ENGINEERS
ENVIRONMENTAL - CEI
LAND SURVEYING
SUBSURFACE UTILITY ENGINEERING
KCI ASSOCIATES OF N.C.
4505 FALLS OF NEUSE RD
SUITE 400
RALEIGH, NORTH CAROLINA 27609
(919) 783-9214
WWW.KCI.COM



5/14/99
2/3/2020
B-5671\Hydraulics\PERMITS_Environmental\Utilities\B-5671_UT_psh_02.dgn

Submitted 2/10/2020

5/14/99

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| B-5671 | UE-3 |

PERMIT DRAWING
SHEET 3 OF 6

# UTILITIES BY OTHERS

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.

NAD 83/2001

APPROX. AT&T OPEN TRENCH
BEGIN: -L- STA 12+33

CENTURYLINK PROPOSED BURIED TELEPHONE CABLE

END OPEN TRENCH
APPROX. AT&T DIRECTIONAL BORE
BEGIN: -L- STA 15+04

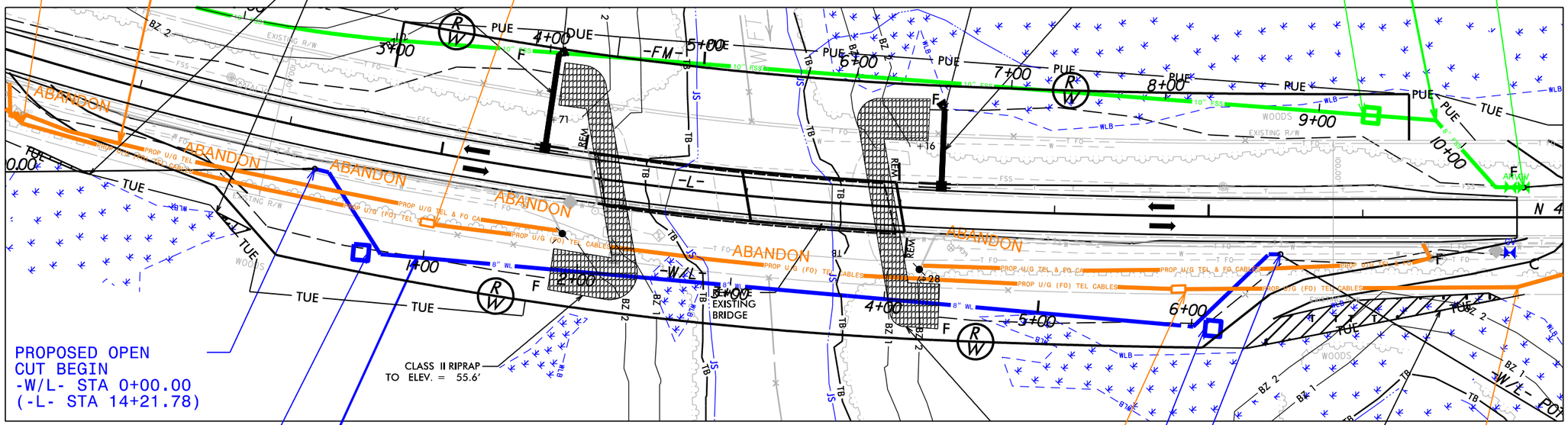
PROPOSED OPEN CUT
END: -FM- STA 10+52.18
(-L- STA 22+04.30)

PROPOSED SANITARY SEWER RELOCATION

PROPOSED 10'L x 10'W x 5'D
EXIT POINT SLURRY CONTAINMENT PIT/
END BORE/BEGIN OPEN CUT:
-FM- STA 9+30.20
(-L- STA 21+00.43)

SITE 1

# INSET A




PROPOSED OPEN
CUT BEGIN
-W/L- STA 0+00.00
(-L- STA 14+21.78)

PROPOSED 10'L x 10'W x 5'D
ENTRY POINT SLURRY
CONTAINMENT PIT/
BEGIN BORE/END OPEN CUT:
-W/L- STA 0+60.70
(-L- STA 14+65.89)

PROPOSED WATER RELOCATION

CLASS II RIPRAP
TO ELEV. = 55.6'

BEGIN OPEN TRENCH
APPROX. AT&T DIRECTIONAL
BORE & PIT END: -L- STA 19+76

PROPOSED 10'L x 10'W x 5'D
EXIT POINT SLURRY CONTAINMENT PIT/
END BORE/BEGIN OPEN CUT:
-W/L- STA 6+13.85
(-L- STA 19+98.78)

PROPOSED OPEN CUT END
-W/L- STA 6+76.76
(-L- STA 20+46.69)

SITE 2

APPROX. AT&T OPEN TRENCH
END: -L- STA 22+00

100' 0' 100' 200' 300'
GRAPHIC SCALE

## IMPACTS LEGEND

DENOTES TEMPORARY FILL IN WETLAND

KCI ASSOCIATES OF N.C.
CIVIL ENGINEERS
ENVIRONMENTAL - CEI
LAND SURVEYING
SUBSURFACE UTILITY ENGINEERING
4505 FALLS OF NEUSE RD
SUITE 400
RALEIGH, NORTH CAROLINA 27609
(919) 783-9214
WWW.KCI.COM

2/3/2020
C:\Projects\5671\Roadway\PLANS\Environmental\Utilities\B-5671_UT_psh_INSET_A_03.dgn
Elizabeth Shelton

Submitted 2/10/2020

5/14/99

-W/L-

PERMIT DRAWING
SHEET 4 OF 6

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| B-5671 | UE-4 |
| DESIGNED BY: DK | |
| DRAWN BY: AP | |
| CHECKED BY: MM | |
| APPROVED BY: | |
| REVISED: | |

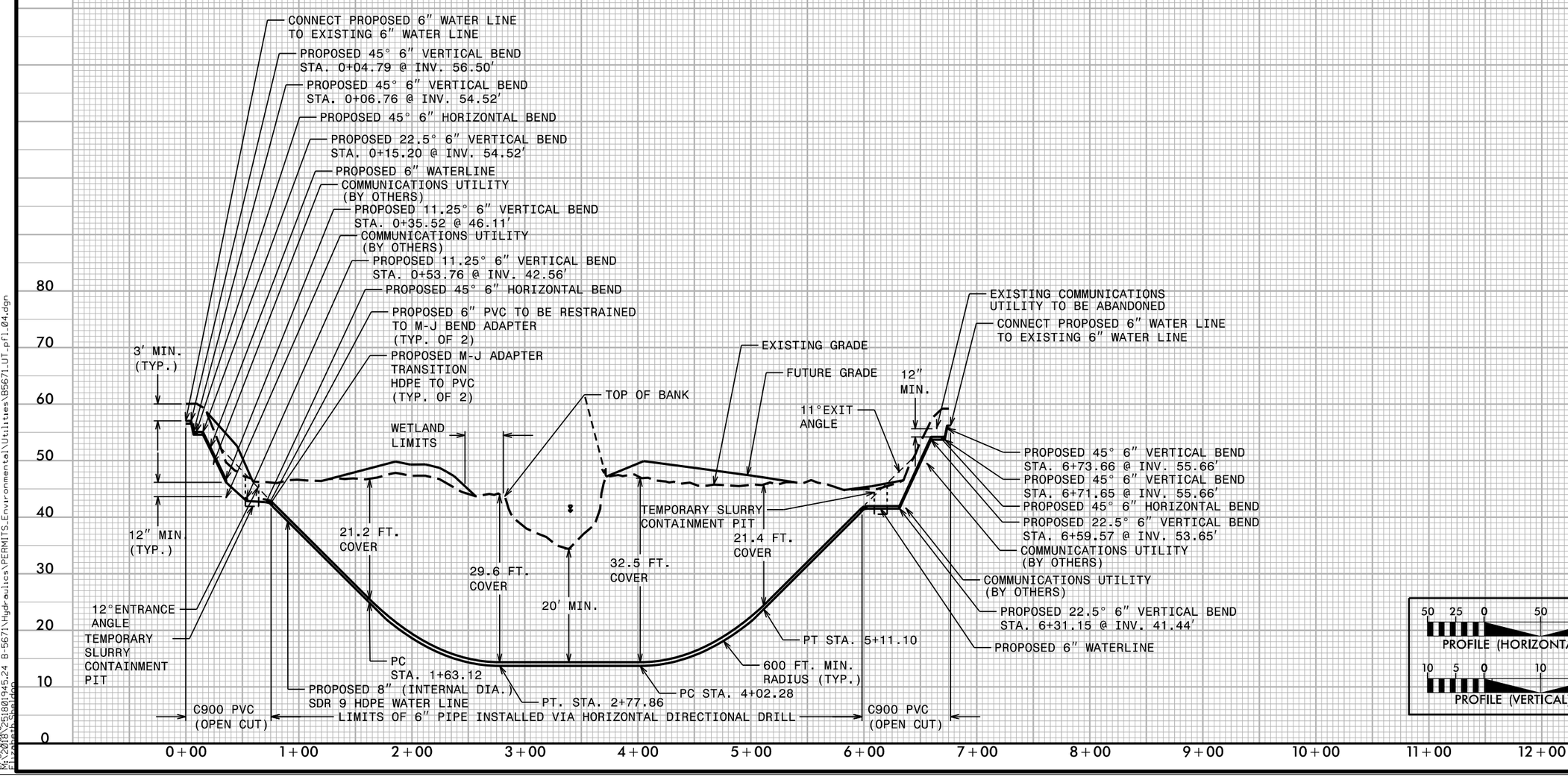

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE: (919)707-6690
FAX: (919)250-4151

KCI http://www.kci.com
Engineers • Planners • Scientists • Construction Managers
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609
Phone (919) 783-9214 • Fax (919) 783-9266
License No. C-764


UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED




2/3/2020
M:\2018\25180945.24 B-5671\Hydraulics\PERMITS_Environmental\Utilities\B5671_UT_pf1_04.dgn
User: Hayden

Submitted 2/10/2020

5/14/99

-FM-

PERMIT DRAWING
SHEET 5 OF 6

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| B-5671 | UC-5 |
| DESIGNED BY: DK | |
| DRAWN BY: AP | |
| CHECKED BY: MM | |
| APPROVED BY: | |
| REVISED: | |


NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE: (919)707-6690
FAX: (919)250-4151

UTILITY CONSTRUCTION PLANS ONLY

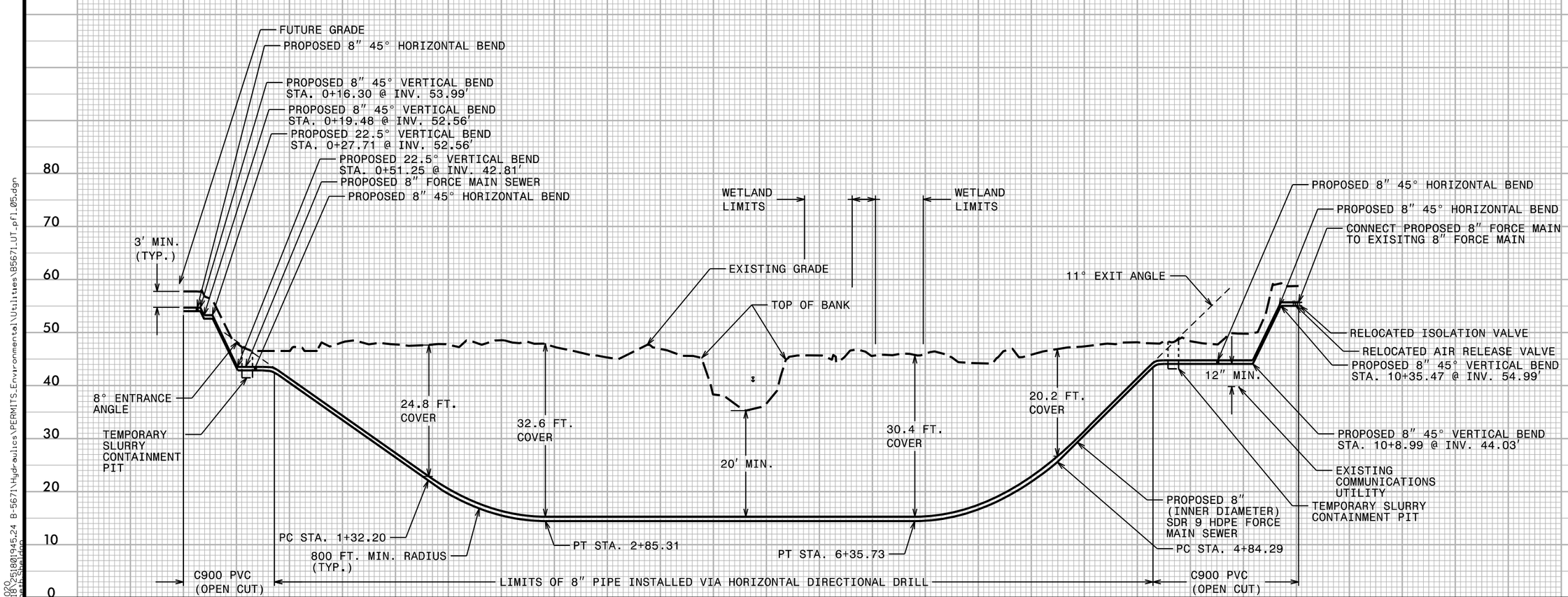
KCI http://www.kci.com
Engineers • Planners • Scientists • Construction Managers
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609
Phone (919) 783-9214 • Fax (919) 783-9266
License No. C-764


UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)




2/3/2020
M:\2018\25180945.24 B-5671\Hydraulics\PERMITS_Environmental\Utilities\B5671_UT_pf1_05.dgn
Lizabeth Shelton

Submitted 2/10/2020

## WETLAND PERMIT IMPACT 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 | STA 12+42 TO | TEMPORARY CONSTRUCTION ROAD | | < 0.01 | | | | | | | | |
| | STA 12+83 RT | | | | | | | | | | | |
| 1 | STA 13+67 TO | TEMPORARY CONSTRUCTION ROAD | | < 0.01 | | | | | | | | |
| | STA 13+90 RT | | | | | | | | | | | |
| 2 | STA 20+24 TO | TEMPORARY CONSTRUCTION ROAD | | 0.05 | | | | | | | | |
| | STA 21+89 RT | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| TOTALS*: | | | | 0.05 | | | | | | 0 | 0 | 0 |

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
January 2020
EDGECOMBE
B-5671
45626.1.1
SHEET 6 OF 6

Revised September 2014

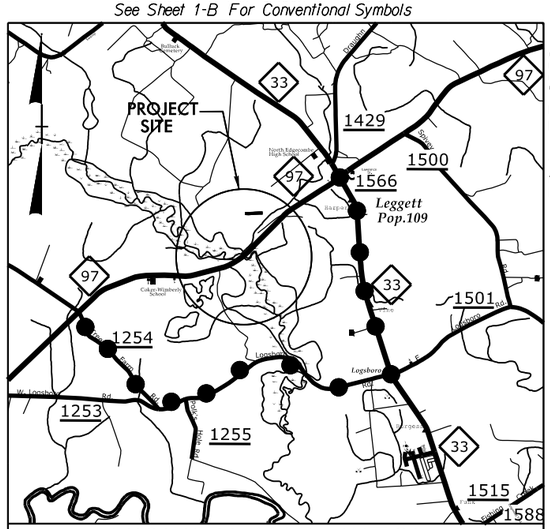
Submitted 2/10/2020

09/08/99

**TIP PROJECT:**

**CONTRACT:**

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




VICINITY MAP (NTS)
DETOUR ROUTE

75% PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PERMIT DRAWING
SHEET 1 OF 3

| T.I.P. NO. | SHEET NO. |
|---|---|
| B–5671 | UE–1 |

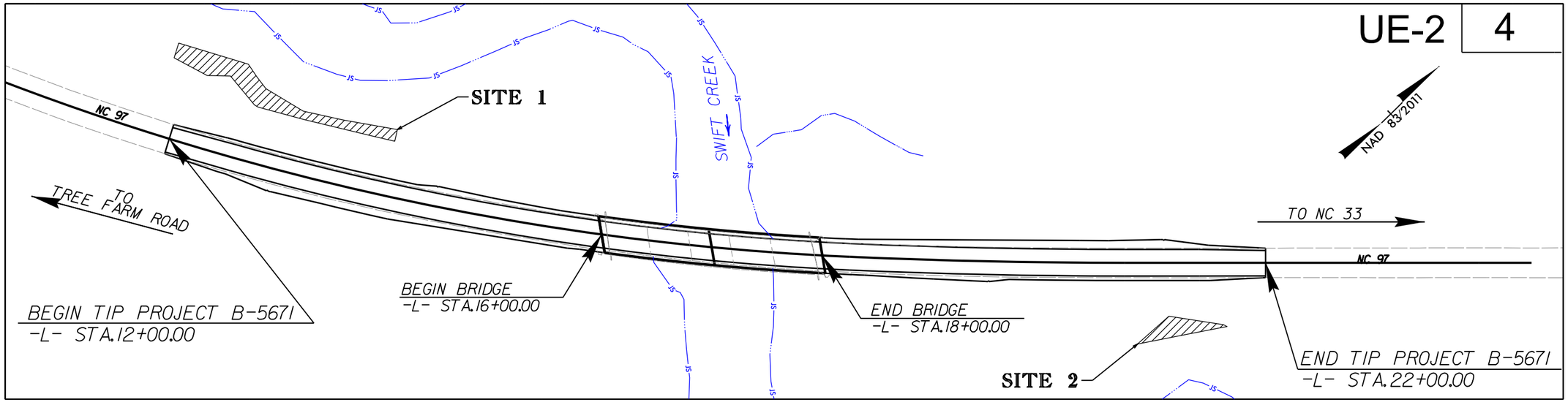
NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

# *UTILITIES ENVIRONMENTAL PERMIT PLANS EDGECOMBE COUNTY*

***LOCATION: REPLACE BRIDGE NO. 87 OVER SWIFT CREEK ON NC 97***

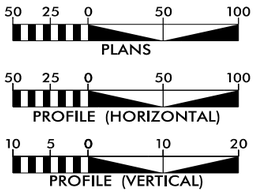
***TYPE OF WORK: TELEPHONE, SANITARY SEWER, AND WATERLINE RELOCATION***

## BUFFER IMPACTS




PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

### GRAPHIC SCALES




### INDEX OF SHEETS



### UTILITY OWNERS WITH CONFLICTS

(A) CENTURYLINK – COMMUNICATIONS
(B) EDGECOMBE COUNTY – WATER & SEWER


PREPARED IN THE OFFICE OF:

KCI ASSOCIATES OF N.C.
CIVIL ENGINEERS
ENVIRONMENTAL - CEI
LAND SURVEYING
SUBSURFACE UTILITY ENGINEERING
4505 FALLS OF NEUSE RD
SUITE 400
RALEIGH, NORTH CAROLINA 27609
(919) 783-9214
WWW.KCI.COM

| | |
|---|---|
| JOHN FAISON | UTILITY PROJECT MANAGER |
| JOHN FAISON | PROJECT UTILITY COORDINATOR |
| KELSEY BARTLETT | PROJECT UTILITY DESIGNER |

DIVISION OF HIGHWAYS
UTILITIES UNIT
1555 MAIL SERVICES CENTER
RALEIGH NC 27699–1555
PHONE (919) 707–6690
FAX (919) 250–4151

| | |
|---|---|
| NABIL HAMDAN | UTILITIES REGIONAL MANAGER |
| KELVIN MARTIN | UTILITIES PROJECT ENGINEER |
| KYLE PLEASANT | AREA UTILITIES COORDINATOR |
| LARRY M. JAMES JR. | UTILITIES COORDINATOR |


2/3/2020
M:\2018\25180945.24 B-5671\Hydraulics\PERMITS_Environmental\Utilities\Buffer Impacts\B-5671_buff_UT_01.dgn
Elizabeth.Sheldon

Submitted 2/10/2020

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| B-5671 | UE-BUF-2 |
| R/W SHEET NO. | 4 |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 2 OF 3

NC GRID
NAD 83 NA 2011

8/17/99

SITE 1

HAND CLEARING

| BUFFER IMPACTS SITE | ZONE 1 IMPACTS | ZONE 2 IMPACTS |
|---|---|---|
| SITE 1 | 0 SF | 2852 SF |

-FM- Sta. 0+00.00

-W/L- Sta. 0+00.00

-FM- Sta. 10+52.18

MICAJAH V. ANDERSON, JR
DB 1423 PG 508
MB 1 PG 125

DON M. ANDERSON FARMS INC
DB 1613 PG 956
PC 4 SLIDE 140-A
MB 16 PG 44

SWIFT CREEK

WET CREEK

NC 97 22' BST

PROPOSED OPEN CUT
BEGIN: -FM- STA 0+00.00
(-L- STA 11+66.10)

PROPOSED 10'Lx10'Wx5'D
ENTRY POINT SLURRY
CONTAINMENT PIT/
BEGIN BORE/END OPEN CUT:
-FM- STA 0+62.50
(-L- STA 12+17.45)

APPROX. AT&T OPEN TRENCH
BEGIN: -L- STA 12+33

CENTURYLINK PROPOSED BURIED
TELEPHONE CABLE

PROPOSED OPEN
CUT BEGIN
-W/L- STA 0+00.00
(-L- STA 14+21.78)

PROPOSED 10'L x 10'W x 5'D
ENTRY POINT SLURRY
CONTAINMENT PIT/
BEGIN BORE/END OPEN CUT:
-W/L- STA 0+60.70
(-L- STA 14+65.89)

PROPOSED WATER
RELOCATION

END OPEN TRENCH
APPROX. AT&T DIRECTIONAL BORE
BEGIN: -L- STA 15+04

15" PIPE W/2 ELBOWS

CLASS B RIPRAP PAD EST 1 TON EST 5 SY GT

ABANDON

PROP U/G TEL & FO CABLES

PROP U/G (FO) TEL CABLES

PROPOSED 10'L x 10'W x 5'D
EXIT POINT SLURRY CONTAINMENT PIT/
END BORE/BEGIN OPEN CUT:
-FM- STA 9+30.20
(-L- STA 21+00.43)

PROPOSED SANITARY
SEWER RELOCATION

PROPOSED OPEN CUT
END: -FM- STA 10+52.18
(-L- STA 22+04.30)

N 44°28'02.6" E

BEGIN OPEN TRENCH
APPROX. AT&T DIRECTIONAL
BORE & PIT END: -L- STA 19+76

PROPOSED 10'L x 10'W x 5'D
EXIT POINT SLURRY CONTAINMENT PIT/
END BORE/BEGIN OPEN CUT:
-W/L- STA 6+13.85
(-L- STA 19+98.78)

PROPOSED OPEN CUT END
-W/L- STA 6+76.76
(-L- STA 20+46.69)

APPROX. AT&T OPEN TRENCH
END: -L- STA 22+00

SITE 2

DON M. ANDERSON FARMS INC
DB 1613 PG 956
PC 4 SLIDE 140-A
MB 16 PG 44

-W/L- POT Sta. 6+76.76

TEMPORARY FILL

| BUFFER IMPACTS SITE | ZONE 1 IMPACTS | ZONE 2 IMPACTS |
|---|---|---|
| SITE 2 | 0 SF | 818 SF |

IMPACTS LEGEND

MITIGABLE IMPACTS ZONE 2

FOR -L- PROFILE SEE SHEET 5

2/3/2020
8:32:18 AM
Elizabeth Sheldon
U:\Projects\51801945.24 B-5671\Hydraulics\PERMITS_Environmental\Utilities\Buffer Impacts\B-5671_buff_UT_02.dgn

Submitted 2/10/2020

# RIPARIAN BUFFER IMPACTS SUMMARY

| Site No. | Station (From/To) | Structure Size / Type | IMPACTS | | | | | | | | | | BUFFER REPLACEMENT | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | TYPE | | | ALLOWABLE | | | MITIGABLE | | | | | |
| | | | 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 ($ft^2$) | | ZONE 1 ($ft^2$) | ZONE 2 ($ft^2$) |
| 1 | 11+83 TO 13+99 | TEMPORARY UTILITY | | | X | 0.0 | 2852 | 2852 | | | | | | |
| | | RELOCATION | | | | | | | | | | | | |
| 2 | 20+84 TO 21+65 | TEMPORARY UTILITY | | | X | 0.0 | 818 | 818 | | | | | | |
| | | RELOCATION | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| TOTALS*: | | | | | | 0 | 3670 | 3670 | **0** | **0** | **0** | | **0** | **0** |

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
1/30/2020
EDGECOMBE COUNTY
B-5671
45626.1.1
SHEET 3 OF 3

Revised 2018 Feb

ROY COOPER
*Governor*
MICHAEL S. REGAN
*Secretary*
TIM BAUMGARTNER
*Director*

NORTH CAROLINA
*Environmental Quality*

October 21, 2019

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

Dear Mr. Harris:

Subject: DMS Mitigation Acceptance Letter:

TIP Number B-5671 – Replace Bridge 87 over Swift Creek on NC 97, Edgecombe County

The purpose of this letter is to notify you that the NCDEQ Division of Mitigation Services (NCDEQ DMS) will provide the buffer mitigation for the subject project. Based on the information supplied by you on October 19, 2019, the impacts are located in CU 03020101 of the Tar-Pamlico River basin in the Northern Inner Coastal Plain (NICP) Eco-Region, and are as follows:

| **Tar-Pamlico 03020101** NICP | Stream | | | Wetlands | | | Buffer (Sq. Ft.) | |
|---|---|---|---|---|---|---|---|---|
| | Cold | Cool | Warm | Riparian | Non-Riparian | Coastal Marsh | Zone 1 | Zone 2 |
| Impacts (feet/acres) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,167.0 |

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

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, NCDEQ DMS will transfer funds from the NCDOT 2984 Fund into the Riparian Restoration Buffer Fund. Upon completion of transfer payment, NCDOT will have completed its riparian buffer mitigation responsibility for this project. 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
Ms. Linda Fitzpatrick, NCDOT – PDEA
File: B-5671

# Jurisdictional Determination Request

US Army Corps of Engineers
Wilmington District

This form is intended for use by anyone requesting a jurisdictional determination (JD) from the U.S. Army Corps of Engineers, Wilmington District (Corps). Please include all supporting information, as described within each category, with your request. You may submit your request to the appropriate Corps Field Office (or project manager, if known) via mail, electronic mail, or facsimile. A current list of county assignments by Field Office and project manager can be found on-line at: http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram.aspx , by telephoning: 910-251-4633, or by contacting any of the field offices listed below:

**ASHEVILLE REGULATORY FIELD OFFICE**

US Army Corps of Engineers
151 Patton Avenue, Room 208
Asheville, North Carolina 28801-5006
General Number: (828) 271-7980
Fax Number: (828) 281-8120

**WASHINGTON REGULATORY FIELD OFFICE**

US Army Corps of Engineers
2407 West Fifth Street
Washington, North Carolina 27889
General Number: (910) 251-4610
Fax Number: (252) 975-1399

**RALEIGH REGULATORY FIELD OFFICE**

US Army Corps of Engineers
3331 Heritage Trade Drive, Suite 105
Wake Forest, North Carolina 27587
General Number: (919) 554-4884
Fax Number: (919) 562-0421

**WILMINGTON REGULATORY FIELD OFFICE**

US Army Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403
General Number: 910-251-4633
Fax Number: (910) 251-4025

INSTRUCTIONS:

**All requestors must complete Parts A, B, C, D, E and F**.

NOTE TO CONSULTANTS AND AGENCIES: If you are requesting a JD on behalf of a paying client or your agency, please note the specific submittal requirements in **Part G**.

NOTE ON PART D – PROPERTY OWNER AUTHORIZATION: Please be aware that all JD requests must include the current property owner authorization for the Corps to proceed with the determination, which may include inspection of the property when necessary. This form must be signed by the current property owner to be considered a complete request.

NOTE ON PART D - NCDOT REQUESTS: Property owner authorization/notification for JD requests associated with North Carolina Department of Transportation (NCDOT) projects will be conducted according to the current NCDOT/USACE protocols.

NOTE TO USDA PROGRAM PARTICIPANTS: A Corps approved or preliminary JD may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA Program participants, or anticipate participation in USDA programs, you should also request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

## A. PARCEL INFORMATION

Street Address: N/A Linear Transportation Project
City, State: Tarboro, North Carolina
County: Edgecombe
Directions: See Figure 1: Vicinity Map

Parcel Index Number(s) (PIN): N/A (Linear Transportation Project)

## B. REQUESTOR INFORMATION

Name: NCDOT; ATTN: Chris Rivenbark, Natural Environment Section
Mailing Address: 1598 Mail Service Center; Raleigh, NC 27699-1598
Telephone Number: (919) 707-6152
Electronic Mail Address[1]: crivenbark@ncdot.gov

Select one:

- [x] I am the current property owner.
- [ ] I am an Authorized Agent or Environmental Consultant[2]
- [ ] Interested Buyer or Under Contract to Purchase
- [ ] Other, please explain.

## C. PROPERTY OWNER INFORMATION

Name: NCDOT; ATTN: Chris Rivenbark, Natural Environment Section
Mailing Address: 1598 Mail Service Center
Raleigh, NC 27699-1598
Telephone Number: (919) 707-6152
Electronic Mail Address[3]: crivenbark@ncdot.gov

- [ ] Proof of Ownership Attached (e.g. a copy of Deed, County GIS/Parcel/Tax Record data)

[1] If available
[2] Must attach completed Agent Authorization Form
[3] If available

## D. PROPERTY OWNER CERTIFICATION[4]

I, the undersigned, a duly authorized owner of record of the property/properties identified herein, do authorize representatives of the Wilmington District, U.S. Army Corps of Engineers (Corps) to enter upon the property herein described for the purpose of conducting on-site investigations and issuing a determination associated with Waters of the U.S. subject to Federal jurisdiction under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899.

Property Owner (please print) _____ Date _____

Property Owner Signature _____

## E. JURISDICTIONAL DETERMINATION TYPE

Select One:

☑ I am requesting that the Corps provide a preliminary JD for the property identified herein. This request does include a delineation.

☐ I am requesting that the Corps provide a preliminary JD for the property identified herein. This request does NOT include a delineation.

☐ I am requesting that the Corps investigate the property/project area for the presence or absence of WoUS[5] and provide an approved JD for the property identified herein. This request does NOT include a request for a verified delineation.

☐ I am requesting that the Corps delineate the boundaries of all WoUS on a property/project area and provide an approved JD (this may or may not include a survey plat).

☐ I am requesting that the Corps evaluate and approve a delineation of WoUS (conducted by others) on a property/project area and provide an approved JD (may or may not include a survey plat).

[4] For NCDOT requests following the current NCDOT/USACE protocols, skip to Part E.
[5] Waters of the United States

## F. ALL REQUESTS

☑ Map of Property or Project Area (attached). This Map must clearly depict the boundaries of the area of evaluation.

☑ Size of Property or Project Area 10.96 acres

☑ I verify that the property (or project) boundaries have recently been surveyed and marked by a licensed land surveyor OR are otherwise clearly marked or distinguishable.

## G. JD REQUESTS FROM CONSULTANTS OR AGENCIES

(1) Preliminary JD Requests:

☑ Completed and signed Preliminary Jurisdictional Determination Form[6].

☑ Project Coordinates: 35.980622 Latitude -77.593712 Longitude

Maps (no larger than 11x17) with Project Boundary Overlay:

☑ Large and small scale maps that depict, at minimum: streets, intersections, towns

☑ Aerial Photography of the project area

☑ USGS Topographic Map

☑ Soil Survey Map

☐ Other Maps, as appropriate (e.g. National Wetland Inventory Map, Proposed Site Plan, previous delineation maps, LIDAR maps, FEMA floodplain maps)

[6] See Appendix A of this Form. From Regulatory Guidance Letter No. 08-02, dated June 26, 2008

Delineation Information (when applicable)[7]:

Wetlands:

☑ Wetland Data Sheets[8]

☑ Upland Data Sheets

☐ Landscape Photos, if taken

Tributaries:

☐ USACE Assessment Forms

☑ Other Assessment Forms (when appropriate)

☑ Field Sketch overlain on legible Map that includes:

- All aquatic resources (for sites with multiple resources, label and identify)
- Locations of wetland data points and/or tributary assessment reaches
- Locations of photo stations
- Approximate acreage/linear footage of aquatic resources

(2) Approved JDs including Verification of a Delineation:

☐ Project Coordinates: _____ Latitude _____ Longitude

Maps (no larger than 11x17) with Project Boundary Overlay:

☐ Large and small scale maps that depict, at minimum: streets, intersections, towns

☐ Aerial Photography of the project area

☐ USGS Topographic Map

☐ Soil Survey Map

☐ Other Maps, as appropriate (e.g. National Wetland Inventory Map, Proposed Site Plan, previous delineation maps)

[7] 1987 Manual Regional Supplements and Data forms can be found at:
http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/reg_supp.aspx
Wetland and Stream Assessment Methodologies can be found at:
http://portal.ncdenr.org/c/document_library/get_file?uuid=76f3c58b-dab8-4960-ba43-45b7faf06f4c&groupId=38364 and,
http://www.saw.usace.army.mil/Portals/59/docs/regulatory/publicnotices/2013/NCSAM_Draft_User_Manual_130318.pdf

[8] Delineation information must include, at minimum, one wetland data sheet for each wetland/community type.

Delineation Information (when applicable):

Wetlands:

☐ Wetland Data Sheets[9]

☐ Upland Data Sheets

☐ Landscape Photos, if taken

Tributaries:

☐ USACE Assessment Forms

☐ Other Assessment Forms (when appropriate)

☐ Field Sketch overlain on legible Map that includes:

- All aquatic resources (for sites with multiple resources, label and identify)
- Locations of wetland data points and/or tributary assessment reaches
- Locations of photo stations
- Approximate acreage/linear footage of aquatic resources

Supporting Jurisdictional Information (for Approved JDs only)

☐ Approved Jurisdictional Determination Form(s) (also known as "Rapanos Form(s)")

☐ Map(s) depicting the potential (or lack of potential) hydrologic connection(s), adjacency, etc. to navigable waters.

[9] Delineation information must include, at minimum, one wetland data sheet for each wetland/community type.

## I. REQUESTS FOR CORPS APPROVAL OF SURVEY PLAT

Prior to final production of a Plat, the Wilmington District recommends that the Land Surveyor electronically submit a draft of a Survey Plat to the Corps project manager for review.

Due to storage limitations of our administrative records, the Corps requires that all hard-copy submittals include at least one original Plat (to scale) that is no larger than 11"x17" (the use of match lines for larger tracts acceptable). Additional copies of a plat, including those larger than 11"x17", may also be submitted for Corps signature as needed. The Corps also accepts electronic submittals of plats, such as those transmitted as a Portable Document Format (PDF) file. Upon verification, the Corps can electronically sign these plats and return them via e-mail to the requestor.

### (1) PLATS SUBMITTED FOR APPROVAL

☐ Must be sealed and signed by a licensed professional land surveyor

☐ Must be to scale (all maps must include both a graphic scale and a verbal scale)

☐ Must be legible

☐ Must include a North Arrow, Scale(s), Title, Property Information

☐ Must include a legible WoUS Delineation Table of distances and bearings/metes and bounds/GPS coordinates of all surveyed delineation points

☐ Must clearly depict surveyed property or project boundaries

☐ Must clearly identify the known surveyed point(s) used as reference (e.g. property corner, USGS monument)

☐ When wetlands are depicted:

- Must include acreage (or square footage) of wetland polygons
- Must identify each wetland polygon using an alphanumeric system

☐ When tributaries are depicted:

- Must include either a surveyed, approximate centerline of tributary with approximate width of tributary OR surveyed Ordinary High Water Marks (OHWM) of tributary
- Must identify each tributary using an alphanumeric system
- Must include linear footage of tributaries and calculated area (using approximate widths or surveyed OHWM)
- Must include name of tributary (based on the most recent USGS topographic map) or, when no USGS name exists, identify as "unnamed tributary"

☐ all depicted WoUS (wetland polygons and tributary lines) must intersect or tie-to surveyed project/property boundaries

☐ Must include the location of wetland data points and/or tributary assessment reaches

☐ Must include, label accordingly, and depict acreage of all waters not currently subject to the requirements of the CWA (e.g. "isolated wetlands", "non-jurisdictional waters"). NOTE: An approved JD must be conducted in order to make an official Corps determination that a particular waterbody or wetland is <u>not</u> jurisdictional.

☐ Must include and survey all existing conveyances (pipes, culverts, etc.) that transport WoUS

**(2) CERTIFICATION LANGUAGE**

☐ When the entire actual Jurisdictional Boundary is depicted:

include the following Corps Certification language:

*"This certifies that this copy of this plat accurately depicts the boundary of the jurisdiction of Section 404 of the Clean Water Act as determined by the undersigned on this date. Unless there is a change in the law or our published regulations, the determination of Section 404 jurisdiction may be relied upon for a period not to exceed five (5) years from this date. The undersigned completed this determination utilizing the appropriate Regional Supplement to the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual."*

*Regulatory Official:* _____

*Title:* _____

*Date:* _____

*USACE Action ID No.:* _____

☐ When uplands may be present within a depicted Jurisdictional Boundary:

include the following Corps Certification language:

*"This certifies that this copy of this plat identifies all areas of waters of the United States regulated pursuant to Section 404 of the Clean Water Act as determined by the undersigned on this date. Unless there is change in the law or our published regulations, this determination of Section 404 jurisdiction may be relied upon for a period not to exceed five years from this date. The undersigned completed this determination utilizing the appropriate Regional Supplement to the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual."*

*Regulatory Official:* _____

*Title:* _____

*Date:* _____

*USACE Action ID No.:* _____

**(3) GPS SURVEYS**

For Surveys prepared using a Global Positioning System (GPS), the Survey must include all of the above, as well as:

☐ be at sub-meter accuracy at each survey point.

☐ include an accuracy verification:
One or more known points (property corner, monument) shall be located with the GPS and cross-referenced with the existing traditional property survey (metes and bounds).

☐ include a brief description of the GPS equipment utilized.

*ATTACHMENT A*
**PRELIMINARY JURISDICTIONAL DETERMINATION FORM**

## BACKGROUND INFORMATION

**A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD):** _____

**B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:**
NCDOT; ATTN: Chris Rivenbark, Natural Environment Section
1598 Mail Service Center; Raleigh, NC 27699-1598

**C. DISTRICT OFFICE, FILE NAME, AND NUMBER:**
_____

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:**
_____

**(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)**

State: NC County/parish/borough: Edgecombe City: Tarboro

Center coordinates of site (lat/long in degree decimal format):
Lat. 35.980622 °N; Long. 77.593712 °W.

Universal Transverse Mercator: 18

Name of nearest waterbody: Swift Creek

Identify (estimate) amount of waters in the review area:
Non-wetland waters:
358 linear feet: 15-75 width (ft) and/or N/A acres.

Cowardin Class: Riverine

Stream Flow: Perennial (Swift Creek, Leggett Canal)

Wetlands: 1.99 acres.

Cowardin Class: Palustrine

Name of any water bodies on the site that have been identified as Section 10 waters:
Tidal: N/A
Non-Tidal: N/A

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

☐ Office (Desk) Determination. Date: _____

☐ Field Determination. Date(s): _____

**SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):**

☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: NCDOT

☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.

- ☐ Office concurs with data sheets/delineation report.
- ☐ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps: _____

☐ Corps navigable waters' study: _____

☐ U.S. Geological Survey Hydrologic Atlas: _____

☐ USGS NHD data

☐ USGS 8 and 12 digit HUC maps

☑ U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000 - Tarboro

☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Edgecombe County Area, 1979

☐ National wetlands inventory map(s). Cite name: _____

☐ State/Local wetland inventory map(s): _____

☐ FEMA/FIRM maps: _____

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

☑ Photographs: ☑ Aerial (Name & Date): NC Statewide Orthoimagery Project (2015) or ☐ Other (Name & Date): _____

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

☐ Other information (please specify): _____

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

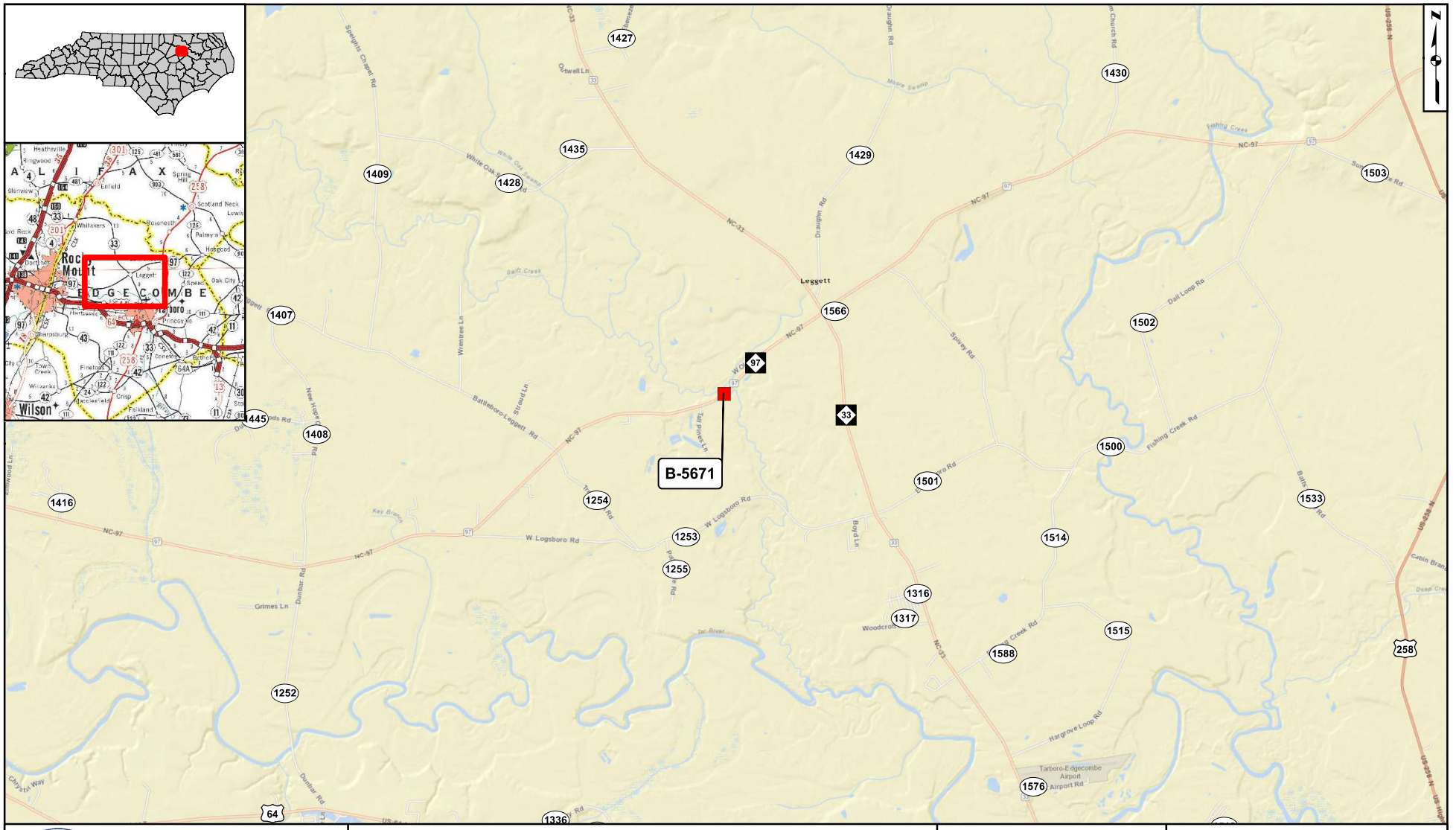
This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

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

Jason Dilday Digitally signed by Jason Dilday Date: 2019.10.14 14:53:10 -04'00'

| | |
|---|---|
| _____ | _____ |
| Signature and date of Regulatory Project Manager (REQUIRED) | Signature and date of person requesting preliminary JD (REQUIRED, unless obtaining the signature is impracticable) |

| Site number | Latitude | Longitude | Cowardin Class | Estimated amount of aquatic resource in review area | Class of aquatic resource |
|---|---|---|---|---|---|
| Swift Creek | 35.980423 | -77.594013 | Riverine | 275 linear feet | Non-section 10 – non-tidal |
| Leggett Canal | 35.981914 | -77.591754 | Riverine | 83 linear feet | Non-section 10 – non-tidal |
| WA | 35.979859 | -77.595765 | Palustrine | 0.04 acres | Non-section 10 – wetland |
| WB | 35.980260 | -77.594002 | Palustrine | 0.02 acres | Non-section 10 – wetland |
| WC | 35.981028 | -77.592841 | Palustrine | 1.9 acres | Non-section 10 – wetland |
| WE | 35.979251 | -77.596121 | Palustrine | 0.03 acres | Non-section 10 – wetland |




NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS UNIT

**VICINITY MAP**
**Replace Bridge No. 87 on NC 97**
**over Swift Creek in Edgecombe County**

TIP Project B-5671

| Div: | TIP# |
|---|---|
| 4 | B-5671 |

Date: DECEMBER 2015

**Figure 1**

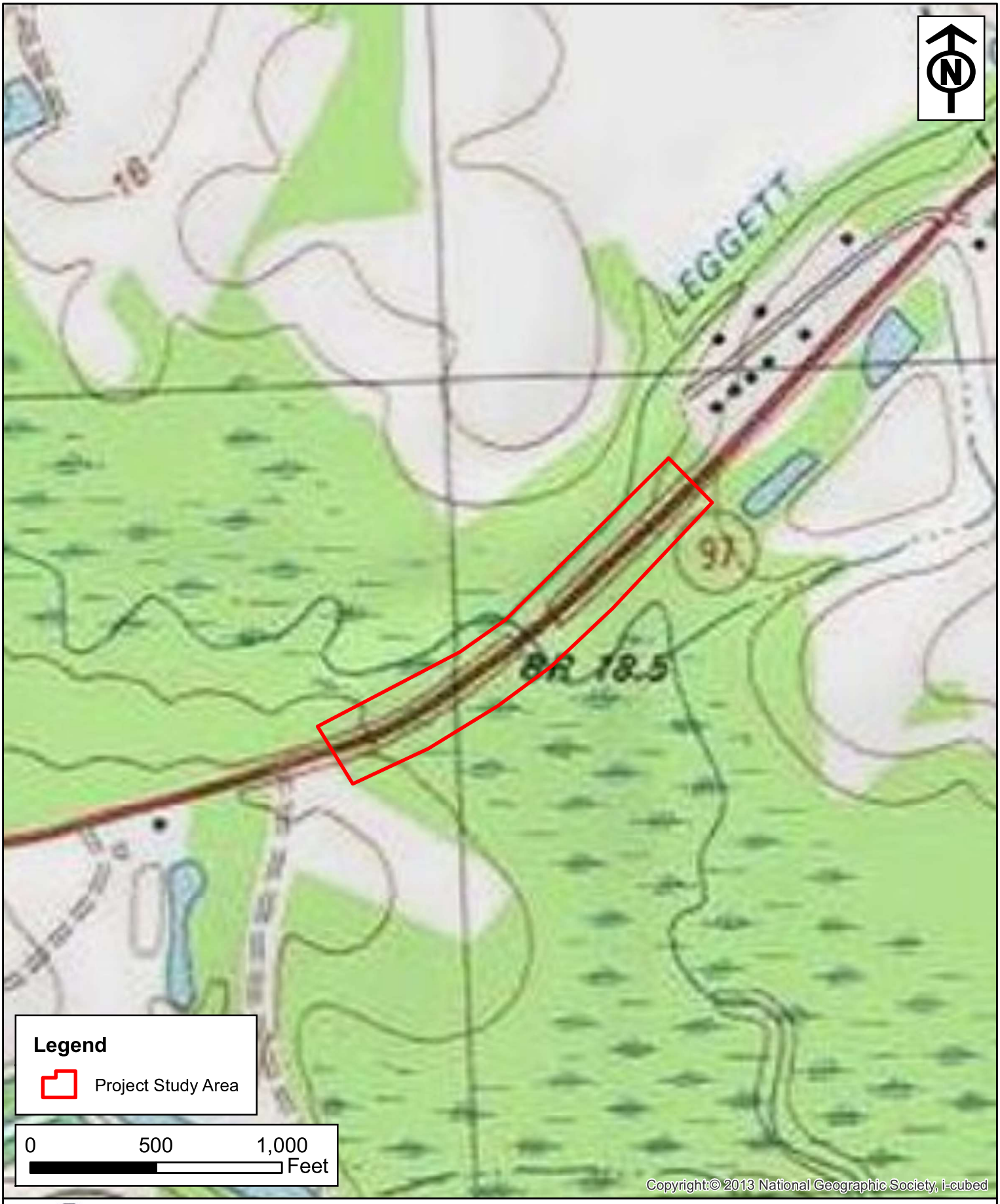



**Figure 2: Project Study Area Map**
TIP B-5671
Replace Bridge No. 87 on NC 97 over Swift Creek
Edgecombe County, NC

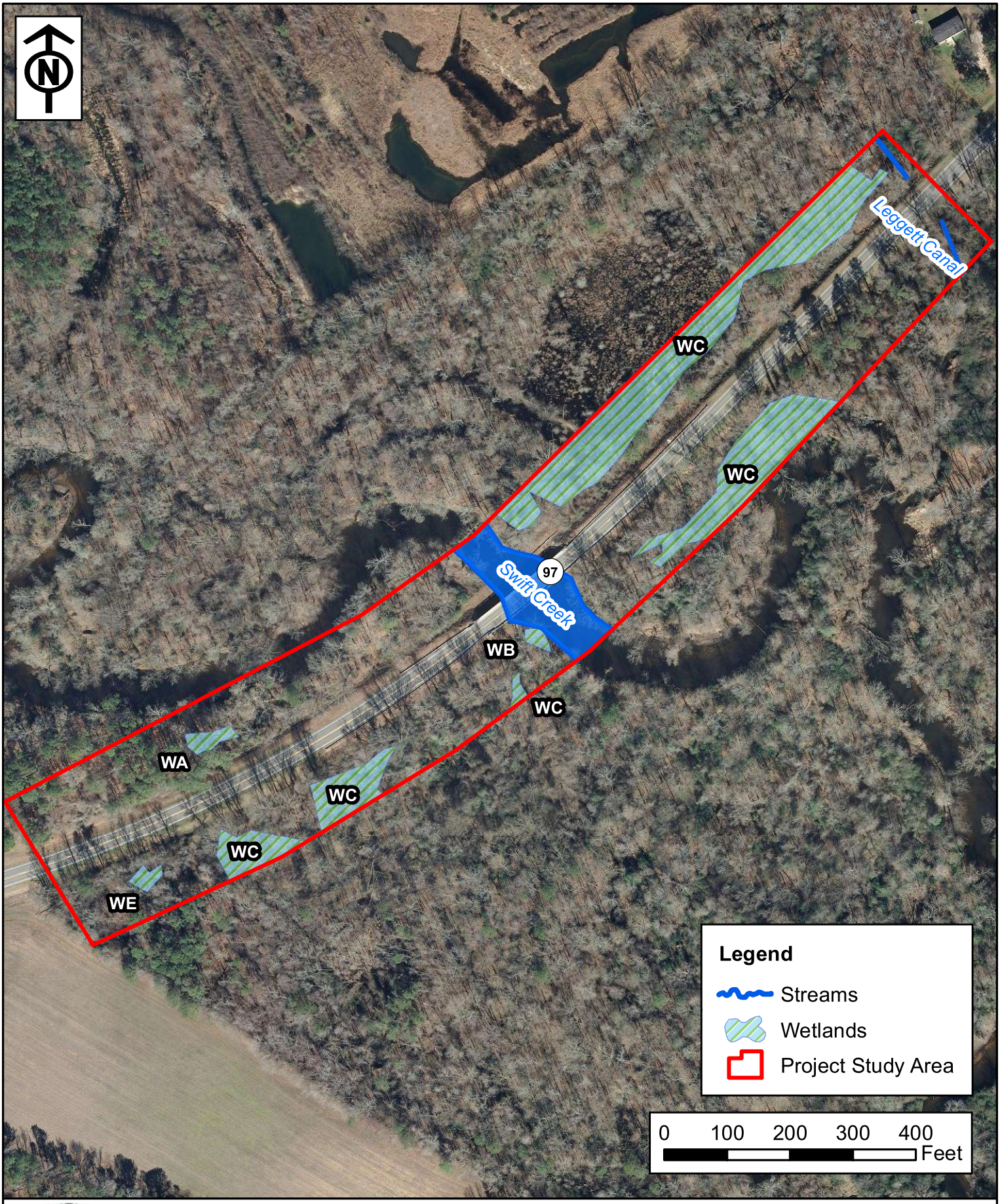



**Figure 3: Jurisdictional Features Map**
TIP B-5671
Replace Bridge No. 87 on NC 97 over Swift Creek
Edgecombe County, NC

| Hydric Soil Table | | |
|---|---|---|
| Map Unit Symbol | Map Unit Name | Hydric |
| Cc | Chewacla silt loam | Incl. |
| Ro | Roanoke loam | Yes |
| TaB | Tarboro loamy sand, 0 to 6 percent slopes | No |
| Wh | Wehadkee silt loam | Yes |

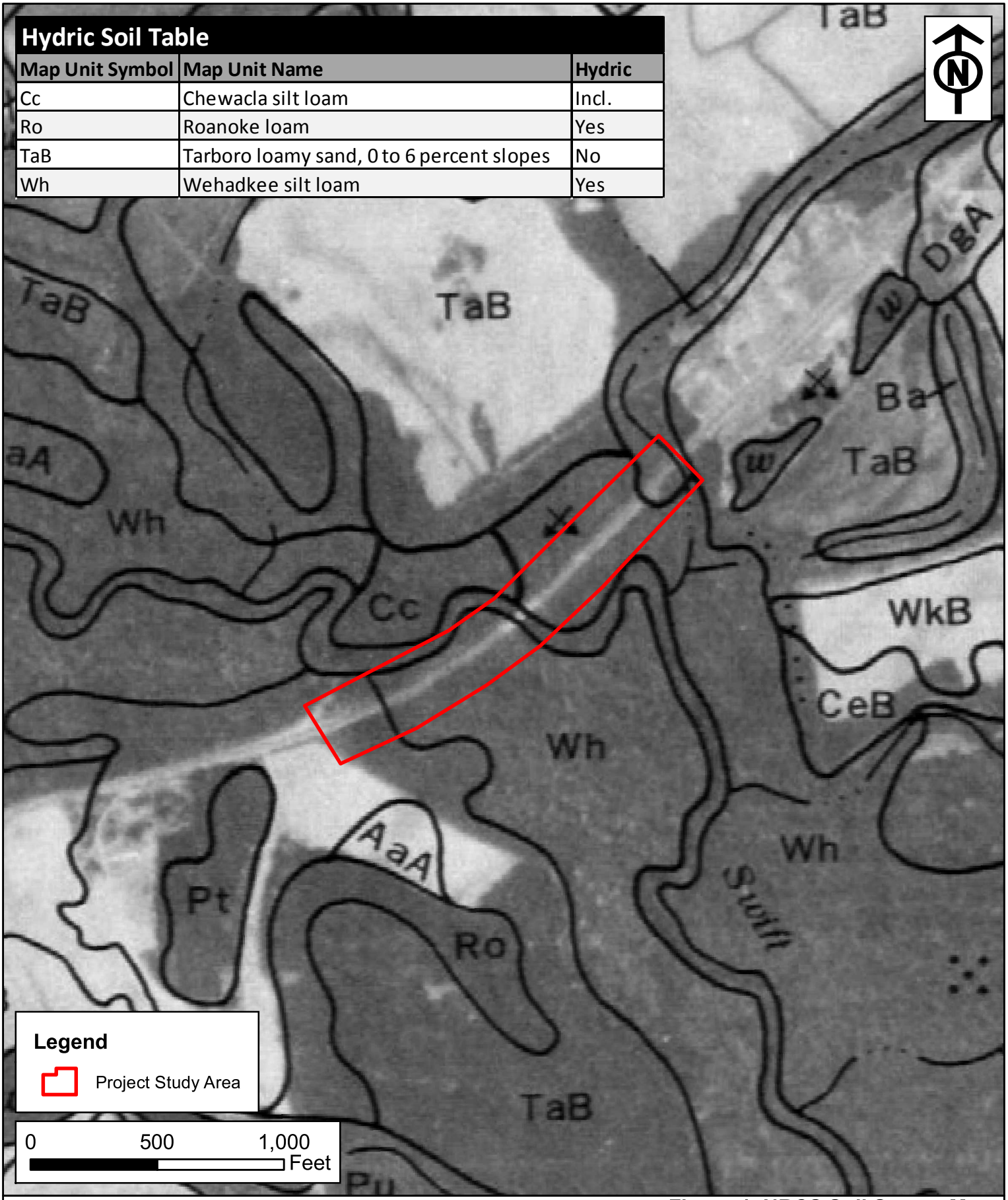



**Figure 4: NRCS Soil Survey Map**
**Edgecombe County, 1979**
TIP B-5671
Replace Bridge No. 87 on NC 97 over Swift Creek
Edgecombe County, NC

**North Carolina Division of Water Quality - Stream Identification Form, Version 4.11**

| | | | | |
|---|---|---|---|---|
| Date: 6/8/2016 | Project/Site: | Stream SB (Leggett Canal) TIP #B-5671 | Latitude: 35.981791 | **SB B-5671** |
| Evaluator: R. Sullivan (Kimley-Horn) W. Sullivan (Kimley-Horn) | County: | Edgecombe | Longitude: -77.591695 | |
| **Total Points: 39** Stream is at least intermittent if ≥ 19 or perennial if ≥ 30 | Stream Determination (circle one) Ephemeral Intermittent Perennial | | Other e.g. Quad Name: | Tarboro Quad |

| A. Geomorphology Subtotal = 18.5 | Absent | Weak | Moderate | Strong | Score |
|---|---|---|---|---|---|
| 1[a]. Continuity of channel bed and bank | 0 | 1 | 2 | 3 | **3** |
| 2. Sinuosity of channel along thalweg | 0 | 1 | 2 | 3 | **3** |
| 3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence | 0 | 1 | 2 | 3 | **2** |
| 4. Particle size of stream substrate | 0 | 1 | 2 | 3 | **3** |
| 5. Active/relic floodplain | 0 | 1 | 2 | 3 | **1** |
| 6. Depositional bars or benches | 0 | 1 | 2 | 3 | **3** |
| 7. Recent alluvial deposits | 0 | 1 | 2 | 3 | **3** |
| 8. Headcuts | 0 | 1 | 2 | 3 | **0** |
| 9. Grade control | 0 | 0.5 | 1 | 1.5 | **0** |
| 10. Natural valley | 0 | 0.5 | 1 | 1.5 | **0.5** |
| 11. Second or greater order channel | No = 0 | | Yes = 3 | | **0** |

[a] artificial ditches are not rated; see discussions in manual

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

| C. Biology Subtotal = 9 | | | | | |
|---|---|---|---|---|---|
| 18. Fibrous roots in streambed | 3 | 2 | 1 | 0 | **3** |
| 19. Rooted upland plants in streambed | 3 | 2 | 1 | 0 | **3** |
| 20. Macrobenthos (note diversity and abundance) | 0 | 1 | 2 | 3 | **0** |
| 21. Aquatic Mollusks | 0 | 1 | 2 | 3 | **0** |
| 22. Fish | 0 | 0.5 | 1 | 1.5 | **1.5** |
| 23. Crayfish | 0 | 0.5 | 1 | 1.5 | **1** |
| 24. Amphibians | 0 | 0.5 | 1 | 1.5 | **0.5** |
| 25. Algae | 0 | 0.5 | 1 | 1.5 | **0** |
| 26. Wetland plants in streambed | FACW = 0.75; OBL = 1.5; Other = 0 | | | | **0** |

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

Notes:
SB is Leggett Canal within the study area. Leggett Canal is a strong perennial stream that appears to have been ditched historically. The bankful width is 15' and the height is 5-6'. The water is 6-12" deep and clear. Leggett Canal has a sandy substrate and strong flows. Numerous fish and crayfish were observed within Leggett Canal.

**North Carolina Division of Water Quality - Stream Identification Form, Version 4.11**

| | | | | |
|---|---|---|---|---|
| Date: 6/8/2016 | Project/Site: Swift Creek TIP #B-5671 | Latitude: 35.980508 | **Swift Creek B-5671** |
| Evaluator: R. Sullivan (Kimley-Horn) W. Sullivan (Kimley-Horn) | County: Edgecombe | Longitude: -77.593968 | |
| **Total Points: 42** Stream is at least intermittent if ≥ 19 or perennial if ≥ 30 | Stream Determination (circle one) Ephemeral Intermittent Perennial | Other e.g. Quad Name: Tarboro Quad | |

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

[a] artificial ditches are not rated; see discussions in manual

| B. Hydrology Subtotal = 10 | | | | | |
|---|---|---|---|---|---|
| 12. Presence of Baseflow | 0 | 1 | 2 | 3 | **3** |
| 13. Iron oxidizing bacteria | 0 | 1 | 2 | 3 | **0** |
| 14. Leaf litter | 1.5 | 1 | 0.5 | 0 | **1** |
| 15. Sediment on plants or debris | 0 | 0.5 | 1 | 1.5 | **1.5** |
| 16. Organic debris lines or piles | 0 | 0.5 | 1 | 1.5 | **1.5** |
| 17. Soil-based evidence of high water table? | No = 0 | | Yes = 3 | | **3** |

| C. Biology Subtotal = 10 | | | | | |
|---|---|---|---|---|---|
| 18. Fibrous roots in streambed | 3 | 2 | 1 | 0 | **3** |
| 19. Rooted upland plants in streambed | 3 | 2 | 1 | 0 | **3** |
| 20. Macrobenthos (note diversity and abundance) | 0 | 1 | 2 | 3 | **0** |
| 21. Aquatic Mollusks | 0 | 1 | 2 | 3 | **0** |
| 22. Fish | 0 | 0.5 | 1 | 1.5 | **1.5** |
| 23. Crayfish | 0 | 0.5 | 1 | 1.5 | **1.5** |
| 24. Amphibians | 0 | 0.5 | 1 | 1.5 | **1** |
| 25. Algae | 0 | 0.5 | 1 | 1.5 | **0** |
| 26. Wetland plants in streambed | FACW = 0.75; OBL = 1.5; Other = 0 | | | | **0** |

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

Notes:
Swift Creek is a brownwater perennial stream within the study area. The bankful width is roughly 75' and the height is 6-7'. The water is 1-5' deep and slightly turbid. Swift Creek has a sand and silt substrate and moderate flows. During sampling, fish were observed feeding on the surface of Swift Creek.

## WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: TIP# B-5671 City/County: Edgecombe Sampling Date: 6/8/16

Applicant/Owner: NCDOT State: NC Sampling Point: WA-UP

Investigator(s): R. Sullivan & W. Sullivan (Kimley-Horn) Section, Township, Range: Lower Fishing Creek

Landform (hillslope, terrace, etc.): Slight hillslope Local relief (concave, convex, none): None Slope (%): 4%

Subregion (LRR or MLRA): LRR P Lat: 35.979802 Long: -77.595964 Datum: NAD83

Soil Map Unit Name: Wh - Wehadkee silt loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes [✓] | No [ ] | **Is the Sampled Area within a Wetland?** Yes [ ] No [✓] |
| Hydric Soil Present? | Yes [ ] | No [✓] | |
| Wetland Hydrology Present? | Yes [ ] | No [✓] | |

Remarks:

Data point WA-UP is located on a slight hillslope 1' higher in elevation and 40' north of WA-WET.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) **(LRR T, U)**

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes [ ] | No [✓] | Depth (inches): |
| Water Table Present? | Yes [ ] | No [✓] | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes [ ] | No [✓] | Depth (inches): |

**Wetland Hydrology Present?** Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators were observed.

**VEGETATION (Four Strata) –** Use scientific names of plants. Sampling Point: WA-UP

| Tree Stratum (Plot size: 30' ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Pinus taeda* | 50% | Y | FAC |
| 2. *Quercus alba* | 10% | N | FAC |
| 3. *Acer rubrum* | 10% | N | FAC |
| 4. *Carpinus caroliniana* | 10% | N | FAC |
| 5. *Liquidambar styraciflua* | 5% | N | FAC |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 85% = Total Cover | | |
| 50% of total cover: _____ 20% of total cover: _____ | | | |
| Sapling/Shrub Stratum (Plot size: 30' ) | | | |
| 1. *Carpinus caroliniana* | 15% | Y | FAC |
| 2. *Vaccinium sp.* | 10% | Y | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 25% = Total Cover | | |
| 50% of total cover: _____ 20% of total cover: _____ | | | |
| Herb Stratum (Plot size: 30' ) | | | |
| 1. *None* | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | _____ = Total Cover | | |
| 50% of total cover: _____ 20% of total cover: _____ | | | |
| Woody Vine Stratum (Plot size: 30' ) | | | |
| 1. *Smilax rotundifolia* | 10% | Y | FAC |
| 2. *Vitis rotundifolia* | 5% | Y | FAC |
| 3. *Lonicera japonica* | 5% | Y | FACU |
| 4. *Toxicodendron radicans* | 5% | Y | FAC |
| 5. | | | |
| | 25% = Total Cover | | |
| 50% of total cover: _____ 20% of total cover: _____ | | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

Remarks: (If observed, list morphological adaptations below).

**SOIL**

Sampling Point: WA-UP

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-4" | 10YR 4/4 | 85% | 5YR 5/6 | 15% | C | M | Loam | |
| 4-24" | 10YR 7/1 | 90% | 10YR 5/6 | 10% | C | M | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ☐ No ☑

Remarks:

Soils at data point WA-UP were friable throughout the profile. WA-UP may be inundated during significant rain events.

## WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: TIP# B-5671 City/County: Edgecombe Sampling Date: 6/8/2016

Applicant/Owner: NCDOT State: NC Sampling Point: WA-WET

Investigator(s): R. Sullivan & W. Sullivan (Kimley-Horn) Section, Township, Range: Lower Fishing Creek

Landform (hillslope, terrace, etc.): Depressional floodplain Local relief (concave, convex, none): Concave Slope (%): 3%

Subregion (LRR or MLRA): LRR P Lat: 35.979857 Long: -77.595847 Datum: NAD83

Soil Map Unit Name: Wh - Wehadkee silt loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes [✓] | No [ ] | **Is the Sampled Area within a Wetland?** Yes [✓] No [ ] |
| Hydric Soil Present? | Yes [✓] | No [ ] | |
| Wetland Hydrology Present? | Yes [✓] | No [ ] | |

Remarks:

WA is a small, depressional floodplain wetland that is separated from Swift Creek by a levee. Water impounds in WA after high water in Swift Creek and precipitation.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [✓] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [✓] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) **(LRR T, U)**

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes [ ] | No [✓] | Depth (inches): >18" |
| Water Table Present? | Yes [ ] | No [✓] | Depth (inches): >18" |
| Saturation Present? (includes capillary fringe) | Yes [ ] | No [✓] | Depth (inches): >18" |

**Wetland Hydrology Present?** Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology in WA is sourced from rain events and flooding from Swift Creek.

**VEGETATION (Four Strata) –** Use scientific names of plants. Sampling Point: WA-WET

| Tree Stratum (Plot size: 30' ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 40% | Y | FAC |
| 2. *Pinus taeda* | 20% | Y | FAC |
| 3. *Nyssa sylvatica* | 10% | N | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 70% = Total Cover | | |
| 50% of total cover: ____ 20% of total cover: ____ | | | |
| **Sapling/Shrub Stratum** (Plot size: 30' ) | | | |
| 1. *Liquidambar styraciflua* | 5% | Y | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 5% = Total Cover | | |
| 50% of total cover: ____ 20% of total cover: ____ | | | |
| **Herb Stratum** (Plot size: 30' ) | | | |
| 1. *Carex sp.* | 10% | Y | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 10% = Total Cover | | |
| 50% of total cover: ____ 20% of total cover: ____ | | | |
| **Woody Vine Stratum** (Plot size: 30' ) | | | |
| 1. *Smilax rotundifolia* | 5% | Y | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 5% = Total Cover | | |
| 50% of total cover: ____ 20% of total cover: ____ | | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species ____ | x 1 = ____ |
| FACW species ____ | x 2 = ____ |
| FAC species ____ | x 3 = ____ |
| FACU species ____ | x 4 = ____ |
| UPL species ____ | x 5 = ____ |
| Column Totals: ____ (A) | ____ (B) |

Prevalence Index = B/A = ____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

Remarks: (If observed, list morphological adaptations below).

**SOIL**

Sampling Point: WA-WET

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5" | 10YR 3/2 | 95% | 10YR 5/6 | 5% | C | M | Loam | |
| 5-12" | 10YR 4/2 | 85% | 10YR 5/6 | 15% | C | M | Sandy clay | |
| 12-18" | 10YR 6/3 | 100% | | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ☑ No ☐

Remarks:

Soils could not be removed for analysis below 18" due to sand. The 7" sandy clay layer prevents drainage through the soil profile.

## WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: TIP# B-5671 City/County: Edgecombe Sampling Date: 6/8/2016

Applicant/Owner: NCDOT State: NC Sampling Point: WB-UP

Investigator(s): R. Sullivan & W. Sullivan (Kimley-Horn) Section, Township, Range: Lower Fishing Creek

Landform (hillslope, terrace, etc.): Levee, hillslope Local relief (concave, convex, none): Convex Slope (%): 4%

Subregion (LRR or MLRA): LRR P Lat: 35.980225 Long: -77.593904 Datum: NAD83

Soil Map Unit Name: Wh - Wehadkee silt loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes [✓] | No [ ] | **Is the Sampled Area within a Wetland?** Yes [ ] No [✓] |
| Hydric Soil Present? | Yes [ ] | No [✓] | |
| Wetland Hydrology Present? | Yes [ ] | No [✓] | |

Remarks:

Data point WB-UP was taken on the levee between wetland WB and Swift Creek. WB-UP is roughly 3' higher and 40' east of WB-WET.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) **(LRR T, U)**

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes [ ] | No [✓] | Depth (inches): |
| Water Table Present? | Yes [ ] | No [✓] | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes [ ] | No [✓] | Depth (inches): |

**Wetland Hydrology Present?** Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators were observed.

**VEGETATION (Four Strata) –** Use scientific names of plants. Sampling Point: WB-UP

| Tree Stratum (Plot size: 30' ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Quercus michauxii* | 30% | Y | FACW |
| 2. *Acer rubrum* | 20% | Y | FAC |
| 3. *Ilex opaca* | 10% | N | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 70% = Total Cover | | |
| 50% of total cover: _____ 20% of total cover: _____ | | | |
| Sapling/Shrub Stratum (Plot size: 30' ) | | | |
| 1. *None* | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | _____ = Total Cover | | |
| 50% of total cover: _____ 20% of total cover: _____ | | | |
| Herb Stratum (Plot size: 30' ) | | | |
| 1. *Chasmanthium latifolium* | 20% | Y | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 20% = Total Cover | | |
| 50% of total cover: _____ 20% of total cover: _____ | | | |
| Woody Vine Stratum (Plot size: 30' ) | | | |
| 1. *Smilax rotundifolia* | 10% | Y | FAC |
| 2. *Toxicodendron radicans* | 5% | Y | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 15% = Total Cover | | |
| 50% of total cover: _____ 20% of total cover: _____ | | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

Remarks: (If observed, list morphological adaptations below).

**SOIL**

Sampling Point: WB-UP

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6" | 10YR 7/3 | 100% | | | | | Sand | |
| 6-15" | 10YR 6/3 | 85% | 10YR 4/5 | 15% | C | M | Sand | |
| 15-24" | 10YR 5/5 | 100% | | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ☐ No ☑

Remarks:

No hydric soil indicators were observed.

## WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: TIP# B-5671 City/County: Edgecombe Sampling Date: 6/8/2016

Applicant/Owner: NCDOT State: NC Sampling Point: WB-WET

Investigator(s): R. Sullivan & W. Sullivan Section, Township, Range: Lower Fishing Creek

Landform (hillslope, terrace, etc.): Floodplain depression Local relief (concave, convex, none): Concave Slope (%): <1%

Subregion (LRR or MLRA): LRR P Lat: 35.980240 Long: -77.594034 Datum: NAD83

Soil Map Unit Name: Wh - Wehadkee silt loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes [✓] | No [ ] | **Is the Sampled Area within a Wetland?** Yes [✓] No [ ] |
| Hydric Soil Present? | Yes [✓] | No [ ] | |
| Wetland Hydrology Present? | Yes [✓] | No [ ] | |

Remarks:

WB is a small floodplain depression next to Swift Creek.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [✓] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [✓] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [✓] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) **(LRR T, U)**

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes [ ] | No [✓] | Depth (inches): |
| Water Table Present? | Yes [ ] | No [✓] | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes [ ] | No [✓] | Depth (inches): |

**Wetland Hydrology Present?** Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WA is a small, sandy depression with algal mats and sparse vegetation. The clay layer likely holds water when Swift Creek floods and during rain events.

**VEGETATION (Four Strata) –** Use scientific names of plants. Sampling Point: WB-WET

| Tree Stratum (Plot size: 30' ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *None* | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | = Total Cover | | |

50% of total cover: _____ 20% of total cover: _____

| Sapling/Shrub Stratum (Plot size: 30' ) | | | |
|---|---|---|---|
| 1. *None* | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | = Total Cover | | |

50% of total cover: _____ 20% of total cover: _____

| Herb Stratum (Plot size: 30' ) | | | |
|---|---|---|---|
| 1. *Carex sp.* | 15% | Y | FAC |
| 2. *Polygonum sp.* | 5% | Y | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 20% = Total Cover | | |

50% of total cover: _____ 20% of total cover: _____

| Woody Vine Stratum (Plot size: 30' ) | | | |
|---|---|---|---|
| 1. *Smilax rotundifolia* | 5% | Y | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 5% = Total Cover | | |

50% of total cover: _____ 20% of total cover: _____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

Remarks: (If observed, list morphological adaptations below).

Vegetation is sparse within wetland WB.

**SOIL**

Sampling Point: WB-WET

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-2" | 10YR 8/1 | 100% | | | | | Sand | |
| 2-5" | 10YR 5/2 | 90% | 10YR 3/4 | 10% | C | M | Clayey sand | |
| 5-18" | 10YR 5/1 | 85% | 7.5YR 4/5 | 15% | C | PL | Silty clay | |
| 18-24" | 10YR 5/1 | 75% | 5YR 4/5 | 25% | C | M | Clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ☑ No ☐

Remarks:

Concentrations in the soil profile increase with depth.

## WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: TIP# B-5671 City/County: Edgecombe Sampling Date: 6/8/2016

Applicant/Owner: NCDOT State: NC Sampling Point: WC/WF-UP

Investigator(s): R. Sullivan & W. Sullivan (Kimley-Horn) Section, Township, Range: Lower Fishing Creek

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-2%

Subregion (LRR or MLRA): LRR P Lat: 35.979127 Long: -77.595715 Datum: NAD83

Soil Map Unit Name: TaB - Tarboro loamy sand, 0 to 6 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes [✓] | No [ ] | **Is the Sampled Area within a Wetland?** Yes [ ] No [✓] |
| Hydric Soil Present? | Yes [ ] | No [✓] | |
| Wetland Hydrology Present? | Yes [ ] | No [✓] | |

Remarks:

Data point WC/WF-UP was taken 4' higher in elevation and 30' northwest of WC/WF-WET.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) **(LRR T, U)**

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes [ ] | No [✓] | Depth (inches): |
| Water Table Present? | Yes [ ] | No [✓] | Depth (inches): >24" |
| Saturation Present? (includes capillary fringe) | Yes [ ] | No [✓] | Depth (inches): >24" |

**Wetland Hydrology Present?** Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators were observed.

**VEGETATION (Four Strata) –** Use scientific names of plants. Sampling Point: WC/WF-UP

| Tree Stratum (Plot size: 30' ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Pinus taeda* | 25% | Y | FAC |
| 2. *Quercus michauxii* | 25% | Y | FACW |
| 3. *Carpinus caroliniana* | 20% | Y | FAC |
| 4. *Fraxinus pennsylvanica* | 20% | Y | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 90% = Total Cover | | |
| 50% of total cover: ____ | 20% of total cover: ____ | | |
| **Sapling/Shrub Stratum** (Plot size: 30' ) | | | |
| 1. *Carpinus caroliniana* | 10% | Y | FAC |
| 2. *Ligustrum sinense* | 5% | Y | FAC |
| 3. *Ilex opaca* | 5% | Y | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 20% = Total Cover | | |
| 50% of total cover: ____ | 20% of total cover: ____ | | |
| **Herb Stratum** (Plot size: 30' ) | | | |
| 1. *Asplenium platyneuron* | 5% | Y | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 5% = Total Cover | | |
| 50% of total cover: ____ | 20% of total cover: ____ | | |
| **Woody Vine Stratum** (Plot size: 30' ) | | | |
| 1. *Vitis rotundifolia* | 5% | Y | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 5% = Total Cover | | |
| 50% of total cover: ____ | 20% of total cover: ____ | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 88.9% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species ____ | x 1 = ____ |
| FACW species ____ | x 2 = ____ |
| FAC species ____ | x 3 = ____ |
| FACU species ____ | x 4 = ____ |
| UPL species ____ | x 5 = ____ |
| Column Totals: ____ (A) | ____ (B) |

Prevalence Index = B/A = ____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

Remarks: (If observed, list morphological adaptations below).

**SOIL**

Sampling Point: WC/WF-UP

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-4" | 10YR 2/2 | 100% | | | | | Sandy loam | |
| 4-24" | 10YR 4/4 | 100% | | | | | Loamy sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ☐ No ☑

Remarks:

No hydric soil indicators were observed.

## WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: TIP# B-5671 City/County: Edgecombe Sampling Date: 6/8/2016

Applicant/Owner: NCDOT State: NC Sampling Point: WC/WF-WET

Investigator(s): R. Sullivan & W. Sullivan (Kimley-Horn) Section, Township, Range: Lower Fishing Creek

Landform (hillslope, terrace, etc.): Floodplain wetland Local relief (concave, convex, none): Concave Slope (%): <1%

Subregion (LRR or MLRA): LRR P Lat: 35.979183 Long: -77.595638 Datum: NAD83

Soil Map Unit Name: TaB - Tarboro loamy sand, 0 to 6 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ☑ | No ☐ | **Is the Sampled Area within a Wetland?** Yes ☑ No ☐ |
| Hydric Soil Present? | Yes ☑ | No ☐ | |
| Wetland Hydrology Present? | Yes ☑ | No ☐ | |

Remarks:

WC and WF are floodplain wetlands around Swift Creek. They contain similar hydrology and vegetation. There is standing water in the lower elevation areas of the wetland and some beaver activity was observed.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ☐ | No ☑ | Depth (inches): |
| Water Table Present? | Yes ☑ | No ☐ | Depth (inches): 5" |
| Saturation Present? (includes capillary fringe) | Yes ☑ | No ☐ | Depth (inches): 5" |

**Wetland Hydrology Present?** Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology in WC and WF is sourced from groundwater and flooding from Swift Creek. Both wetlands are mostly bound topographically. No surface water was present at data point WC/WF-WET, but surface water was observed from 2-36" within the wetland.

**VEGETATION (Four Strata) –** Use scientific names of plants.

Sampling Point: WC/WF-WET

| Tree Stratum (Plot size: 30' ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Fraxinus pennsylvanica* | 25% | Y | FACW |
| 2. *Quercus michauxii* | 25% | Y | FACW |
| 3. *Acer rubrum* | 25% | Y | FAC |
| 4. *Nyssa sylvatica* | 15% | N | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 90% = Total Cover | | |
| 50% of total cover: _____ | 20% of total cover: _____ | | |
| **Sapling/Shrub Stratum** (Plot size: 30' ) | | | |
| 1. *Carpinus caroliniana* | 10% | Y | FAC |
| 2. *Ilex opaca* | 10% | Y | FAC |
| 3. *Vaccinium sp.* | 5% | Y | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 25% = Total Cover | | |
| 50% of total cover: _____ | 20% of total cover: _____ | | |
| **Herb Stratum** (Plot size: 30' ) | | | |
| 1. *Saururus cernuus* | 70% | Y | OBL |
| 2. *Carex sp.* | 10% | N | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 80% = Total Cover | | |
| 50% of total cover: _____ | 20% of total cover: _____ | | |
| **Woody Vine Stratum** (Plot size: 30' ) | | | |
| 1. *Smilax rotundifolia* | 5% | Y | FAC |
| 2. *Vitis rotundifolia* | 5% | Y | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 10% = Total Cover | | |
| 50% of total cover: _____ | 20% of total cover: _____ | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 9 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

Remarks: (If observed, list morphological adaptations below).

**SOIL**

Sampling Point: WC/WF-WET

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6" | 10YR 2/1 | 100% | | | | | Loam | Organic matter |
| 6-12" | 10YR 3/1 | 100% | | | | | Clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☑ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ☑ No ☐

Remarks:

Lots of organic matter present in the upper 6". Could not remove soil for analysis below 12" due to saturation.

## WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: TIP# B-5671 City/County: Edgecombe Sampling Date: 6/8/2016

Applicant/Owner: NCDOT State: NC Sampling Point: WE-UP

Investigator(s): R. Sullivan & W. Sullivan (Kimley-Horn) Section, Township, Range: Lower Fishing Creek

Landform (hillslope, terrace, etc.): Spoil pile Local relief (concave, convex, none): Convex Slope (%): 3%

Subregion (LRR or MLRA): LRR P Lat: 35.979179 Long: -77.596085 Datum: NAD83

Soil Map Unit Name: TaB - Tarboro loamy sand, 0 to 6 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes [✓] | No [ ] | **Is the Sampled Area within a Wetland?** Yes [ ] No [✓] |
| Hydric Soil Present? | Yes [ ] | No [✓] | |
| Wetland Hydrology Present? | Yes [ ] | No [✓] | |

Remarks:

Data point WE-UP was taken on a spoil pile, roughly 3' higher in elevation and 20' from WE-WET.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) **(LRR T, U)**

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes [ ] | No [✓] | Depth (inches): |
| Water Table Present? | Yes [ ] | No [✓] | Depth (inches): >8" |
| Saturation Present? (includes capillary fringe) | Yes [ ] | No [✓] | Depth (inches): >8" |

**Wetland Hydrology Present?** Yes [ ] No [✓]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators were observed.

**VEGETATION (Four Strata) –** Use scientific names of plants. Sampling Point: WE-UP

| Tree Stratum (Plot size: 30' ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 30% | Y | FAC |
| 2. *Prunus serotina* | 30% | Y | FACU |
| 3. *Carpinus caroliniana* | 25% | Y | FAC |
| 4. *Ilex opaca* | 10% | N | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 95% = Total Cover | | |
| 50% of total cover: ____ 20% of total cover: ____ | | | |
| **Sapling/Shrub Stratum** (Plot size: 30' ) | | | |
| 1. *Ulmus alata* | 15% | Y | FACU |
| 2. *Carya glabra* | 5% | Y | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 20% = Total Cover | | |
| 50% of total cover: ____ 20% of total cover: ____ | | | |
| **Herb Stratum** (Plot size: 30' ) | | | |
| 1. *Carex sp.* | 5% | Y | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 5% = Total Cover | | |
| 50% of total cover: ____ 20% of total cover: ____ | | | |
| **Woody Vine Stratum** (Plot size: 30' ) | | | |
| 1. *Parthenocissus quinquefolia* | 10% | Y | FACU |
| 2. *Vitis rotundifolia* | 10% | Y | FAC |
| 3. *Smilax rotundifolia* | 5% | Y | FAC |
| 4. | | | |
| 5. | | | |
| | 25% = Total Cover | | |
| 50% of total cover: ____ 20% of total cover: ____ | | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 55.6% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species ____ | x 1 = ____ |
| FACW species ____ | x 2 = ____ |
| FAC species ____ | x 3 = ____ |
| FACU species ____ | x 4 = ____ |
| UPL species ____ | x 5 = ____ |
| Column Totals: ____ (A) | ____ (B) |

Prevalence Index = B/A = ____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

Remarks: (If observed, list morphological adaptations below).

**SOIL**

Sampling Point: WE-UP

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5" | 10YR 2/2 | 100% | | | | | Sandy loam | Many uncoated sand grains. |
| 5-8" | 10YR 6/6 | 100% | | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ☐ No ☑

Remarks:

Soils could not be removed for analysis below 8" due to lose sand.

## WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: TIP# B-5671 City/County: Edgecombe Sampling Date: 6/8/2016

Applicant/Owner: NCDOT State: NC Sampling Point: WE-WET

Investigator(s): R. Sullivan & W. Sullivan Section, Township, Range: Lower Fishing Creek

Landform (hillslope, terrace, etc.): Borrow Pit Local relief (concave, convex, none): Concave Slope (%): <1%

Subregion (LRR or MLRA): LRR P Lat: 35.979206 Long: -77.596130 Datum: NAD83

Soil Map Unit Name: TaB - Tarboro loamy sand, 0 to 6 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes [✓] | No [ ] | **Is the Sampled Area within a Wetland?** Yes [✓] No [ ] |
| Hydric Soil Present? | Yes [✓] | No [ ] | |
| Wetland Hydrology Present? | Yes [✓] | No [ ] | |

Remarks:

WE is an old borrow pit within the floodplain of Swift Creek and is surrounded by spoil piles. WE is completely isolated from downstream waters.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- [✓] Surface Water (A1)
- [✓] High Water Table (A2)
- [✓] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [✓] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- [ ] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [✓] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [✓] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] Sphagnum moss (D8) **(LRR T, U)**

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes [✓] | No [ ] | Depth (inches): 4" |
| Water Table Present? | Yes [✓] | No [ ] | Depth (inches): 5" |
| Saturation Present? (includes capillary fringe) | Yes [✓] | No [ ] | Depth (inches): Surface |

**Wetland Hydrology Present?** Yes [✓] No [ ]

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology within wetland WE is maintained through precipitation and the geomorphic position.

**VEGETATION (Four Strata) –** Use scientific names of plants. Sampling Point: WE-WET

| Tree Stratum (Plot size: 30' ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 40% | Y | FAC |
| 2. *Liquidambar styraciflua* | 15% | Y | FAC |
| 3. *Carpinus caroliniana* | 5% | N | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 60% = Total Cover | | |
| 50% of total cover: _____ 20% of total cover: _____ | | | |
| Sapling/Shrub Stratum (Plot size: 30' ) | | | |
| 1. *Liquidambar styraciflua* | 5% | Y | FAC |
| 2. *Acer rubrum* | 5% | Y | FAC |
| 3. *Carpinus caroliniana* | 5% | Y | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 15% = Total Cover | | |
| 50% of total cover: _____ 20% of total cover: _____ | | | |
| Herb Stratum (Plot size: 30' ) | | | |
| 1. *Diospyros virginiana* | 5% | Y | FAC |
| 2. *Acer rubrum* | 5% | Y | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 10% = Total Cover | | |
| 50% of total cover: _____ 20% of total cover: _____ | | | |
| Woody Vine Stratum (Plot size: 30' ) | | | |
| 1. *Smilax rotundifolia* | 15% | Y | FAC |
| 2. *Vitis rotundifolia* | 5% | Y | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 20% = Total Cover | | |
| 50% of total cover: _____ 20% of total cover: _____ | | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 9 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☑ No ☐

Remarks: (If observed, list morphological adaptations below).

**SOIL**

Sampling Point: WE-WET

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5" | 10YR 2/2 | 100% | | | | | Sandy loam | Organic matter |
| 5-11" | 10YR 6/2 | 100% | | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☑ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ☑ No ☐

Remarks:

The top layer of soils contained a lot of organic matter. Could not remove soil for sampling below 8" due to sand and high water table.