Pre-Construction Notification (PCN) Form

For Nationwide Permits and Regional General Permits

(along with corresponding Water Quality Certifications)

January 31, 2018 Ver 2.3

*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-4932 (Central)

WBS #

40137.1.1

(for NCDOT use only)

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

- [x] Section 404 Permit (wetlands, streams and waters, Clean Water Act)
- [x] 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 Corps to initiate the standard/individual permit process. Please contact your Corps representative for submittal of standard permits.

All required items that are not provided in the E-PCN and be added to the miscellaneous upload located at the bottom of this form.

Nationwide Permit (NWP) Number: **23 - Categorical Exclusions**

NWP Number Other:

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

1c. 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

1d. 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

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

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

◉ Yes ○ No

Acceptance Letter Attachment

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

B-4932 DMS Acceptance.pdf 144.45KB

FILE TYPE MUST BE PDF

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

○ Yes ◉ No

1h. 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: *

gcashin@ncdot.gov

1c. Primary Contact Phone: *

(xxx)xxx-xxxx

(919)707-6107

1d. Who is applying for the permit?

- [ ] Owner
- [x] Applicant (other than owner)
- [ ] Agent/Consultant

(Check all that apply)

2. Owner Information

2a. Name(s) on recorded deed:

2b. Deed book and page no.:

2c. Responsible party:

(for Corporations)

2d. Address

Street Address

Address Line 2

City

State / Province / Region

Postal / Zip Code

Country

2e. Telephone Number:

(xxx)xxx-xxxx

2f. Fax Number:

(xxx)xxx-xxxx

2g. Email Address: *

pharris@ncdot.gov

3. Applicant Information (if different from owner)

3a. Applicant is:

- Agent
- Other

If other please specify.

3b. Name:

3c. Business Name:

(if applicable)

3d. Address

Street Address

Address Line 2

City

State / Province / Region

Postal / Zip Code

Country

3e. Telephone Number:

(xxx)xxx-xxxx

3f. Fax Number:

(xxx)xxx-xxxx

3g. Email Address: *

gcashin@ncdot.gov

C. Project Information and Prior Project History

1. Project Information

1a. Name of project: *

B-4932, Bridge No. 28 on NC 42

1b. Subdivision name:

(if appropriate)

1c. Nearest municipality / town: *

Old Sparta

1d. Driving directions *

If it is a new project and can not easily be found in a GPS mapping system Please provide directions.

NC 42 over the Tar River, between Old Sparta and Scotts Crossroads

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: *

35.790557

ex: 34.208504

Longitude: *

-77.550289

-77.796371

3. Surface Waters

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

Tar River

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

C, NSW

Surface Water Lookup

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

Tar-Pamlico

River Basin Lookup

4. Project Description

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 vicinity consists of forest, agriculture, rural residential and commercial development. A NC Wildlife Resources Commission public boat ramp is adjacent to the project site.

4b. 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

4c. 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

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

1.48

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

(intermittent and perennial)

1,303

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

Replace the existing bridge built in 1952.

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

The existing 13-span, 606 foot structure will be replaced on a new location alignment northwest of the existing bridge. The new 6-span bridge will be 610 feet long, with a deck width of 34 feet. The new roadway grade will be approximately 6 feet above the existing structure. The existing bridge structure will serve as an onsite detour for traffic during construction. A temporary bridge will be used instead of a causeway for construction access. Standard roadbuilding equipment will be used.

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

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

B4932_Permit Drawing_Wetland _20171011.pdf	2.67MB
B4932_Permit Drawing_Buffer _20180503.pdf	1.17MB
B4932 Roadway Plans.pdf	2.62MB

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:

A Preliminary JS was requested 5/27/2010, and a revised Preliminary JD request was sent February 1, 2016. A site visit was made with Tom Steffens and Garcy Ward.

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

(•) Preliminary ( ) Approved ( ) Unknown ( ) N/A

Corps AID Number:

Example: SAW-2017-99999

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

Name (if known): **Tyler Stanton and Amy James, NCDOT**

Agency/Consultant Company:

Other:

5d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation.

5d1. Jurisdictional determination upload

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

File type must be PDF

6. Project History

6a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past? *

( ) Yes (•) No ( ) Unknown

7. Future Project Plans

7a. 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.

2a. Site # - Reason for impact *	2b. Impact type *	2c. Type of wetland *	2d. Wetland name *	2e. Forested *	2f. Type of Jurisdicition *	2g. Impact area *
Site 1 Map label (e.g. Road Crossing 1 - Culvert, dewatering, etc)	**P** Permanent (P) or Temporary (T)	**Headwater Forest**	**WH & WI**	**Yes**	**Both** (404, 10) or DWR (401, other)	**0.020** (acres)
Site 2 Map label (e.g. Road Crossing 1 - Culvert, dewatering, etc)	**P** Permanent (P) or Temporary (T)	**Bottomland Hardwood Forest**	**WJ**	**Yes**	**Both** (404, 10) or DWR (401, other)	**0.100** (acres)
Site 2A Map label (e.g. Road Crossing 1 - Culvert, dewatering, etc)	**P** Permanent (P) or Temporary (T)	**Bottomland Hardwood Forest**	**WK**	**Yes**	**Both** (404, 10) or DWR (401, other)	**0.010** (acres)
Site 4 Map label (e.g. Road Crossing 1 - Culvert, dewatering, etc)	**P** Permanent (P) or Temporary (T)	**Bottomland Hardwood Forest**	**WA**	**Yes**	**Both** (404, 10) or DWR (401, other)	**0.050** (acres)
Site 5 Map label (e.g. Road Crossing 1 - Culvert, dewatering, etc)	**P** Permanent (P) or Temporary (T)	**Bottomland Hardwood Forest**	**WB**	**Yes**	**Both** (404, 10) or DWR (401, other)	**0.030** (acres)
Site 6 Map label (e.g. Road Crossing 1 - Culvert, dewatering, etc)	**P** Permanent (P) or Temporary (T)	**Bottomland Hardwood Forest**	**WC**	**Yes**	**Both** (404, 10) or DWR (401, other)	**0.020** (acres)
Site 7 Map label (e.g. Road Crossing 1 - Culvert, dewatering, etc)	**P** Permanent (P) or Temporary (T)	**Bottomland Hardwood Forest**	**WF**	**Yes**	**Both** (404, 10) or DWR (401, other)	**0.010** (acres)
Site 8 Map label (e.g. Road Crossing 1 - Culvert, dewatering, etc)	**P** Permanent (P) or Temporary (T)	**Bottomland Hardwood Forest**	**WD**	**Yes**	**Both** (404, 10) or DWR (401, other)	**0.010** (acres)

2g. Total Temporary Wetland Impact

0.000

2g. Total Permanent Wetland Impact

0.250

2g. Total Wetland Impact

0.250

2h. Comments:

There will be <0.01 ac of hand clearing.

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.

	3a. Reason for impact *	3b.Impact type *	3c. Type of impact *	3d. Stream name *	3e. Stream Type *	3f. Type of Jurisdiction *	3g. Stream width *	3h. Impact length *
S1	Site 1 Map label (e.g. Road Crossing 1)	P Permanent (P) or Temporary (T)	Fill	SA	Perennial Perennial (PER) or intermittent (INT)	Both	3 Average (feet)	48 (linear feet)
S2	Site 1 Map label (e.g. Road Crossing 1)	T Permanent (P) or Temporary (T)	Fill	SA	Perennial Perennial (PER) or intermittent (INT)	Both	3 Average (feet)	17 (linear feet)
S3	Site 2 - relocation Map label (e.g. Road Crossing 1)	P Permanent (P) or Temporary (T)	Relocation	SA	Perennial Perennial (PER) or intermittent (INT)	Both	3 Average (feet)	271 (linear feet)
S4	Site 2 - relocation Map label (e.g. Road Crossing 1)	T Permanent (P) or Temporary (T)	Relocation	SA	Perennial Perennial (PER) or intermittent (INT)	Both	3 Average (feet)	36 (linear feet)
S5	Site 5 Map label (e.g. Road Crossing 1)	P Permanent (P) or Temporary (T)	Fill	SB	Perennial Perennial (PER) or intermittent (INT)	Both	2 Average (feet)	36 (linear feet)
S6	Site 5 Map label (e.g. Road Crossing 1)	T Permanent (P) or Temporary (T)	Fill	SB	Perennial Perennial (PER) or intermittent (INT)	Both	2 Average (feet)	7 (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:

355

3i. Total temporary stream impacts:

60

3i. Total stream and tributary impacts:

415

3j. Comments:

BRIDGE PERMANENT SURFACE WATER IMPACTS BASED ON 76 SF PER BENT (<.01 AC)
TEMPORARY WORK BRIDGE: TEMPORARY SURFACE WATER IMPACTS BASED ON 390 SF DUE TO BENTS
TEMPORARY DEMOLITION WORK BRIDGE: TEMPORARY SURFACE WATER IMPACTS BASED ON 240 SF DUE TO BENTS

4. Open Water Impacts

If there are proposed impacts to lakes, ponds, estuaries, tributaries, sounds, the Atlantic Ocean, or any other open water of the U.S. then individually list all open water impacts below.

4a. Site # - Reason for impact *	4b. Impact type *	4c. Name of waterbody *	4d. Activity type *	4e. Waterbody type *	4f. Impact area *
Site 3 construction and demolition Map label (e.g. Road Crossing 1)	T Permanent (P) or Temporary (T)	Tar River (if applicable)	Bridge	Other	0.01 (acres)
Site 3 Map label (e.g. Road Crossing 1)	P Permanent (P) or Temporary (T)	Tar River (if applicable)	Bridge	Other	0.01 (acres)

4g. Total temporary open water Impacts:

0.01

4g. Total permanent open water impacts:

0.01

4g. Total open water impacts:

0.02

4h. Comments:

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 *
Site 1 Allowable Location and Exempt, Allowable, allowable w/ mitigation	**P** Permanent (P) or Temporary (T)	**UT**	**Yes**	**4,286** (square feet)	**2,039** (square feet)
Site 2 Allowable w/ Mitigation Location and Exempt, Allowable, allowable w/ mitigation	**P** Permanent (P) or Temporary (T)	**Tar River**	**Yes**	**14,469** (square feet)	**6,316** (square feet)
Site 2 Allowable Location and Exempt, Allowable, allowable w/ mitigation	**P** Permanent (P) or Temporary (T)	**Tar River**	**Yes**	**7,205** (square feet)	**2,337** (square feet)
Site 3 Allowable Location and Exempt, Allowable, allowable w/ mitigation	**P** Permanent (P) or Temporary (T)	**Tar River**	**Yes**	**4,468** (square feet)	**2,932** (square feet)
Site 4 Allowable Location and Exempt, Allowable, allowable w/ mitigation	**P** Permanent (P) or Temporary (T)	**UT**	**Yes**	**4,367** (square feet)	**3,469** (square feet)
Site 5 Allowable Location and Exempt, Allowable, allowable w/ mitigation	**P** Permanent (P) or Temporary (T)	**UT**	**Yes**	**0** (square feet)	**1,022** (square feet)

6h. Total buffer impacts:

	Zone 1	Zone 2
Temporary impacts:	**0.00**	**0.00**

	Zone 1	Zone 2
Permanent impacts:	**34,795.00**	**18,115.00**

	Zone 1	Zone 2
Total buffer impacts:	**34,795.00**	**18,115.00**

6i. Comments:

A portion of the buffer impacts at Site 2 occur in wetlands and were removed from requested buffer mitigation.

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 preferred alternative avoided the impacts from a temporary detour and avoided impacts to the historic Old Sparta Vessel, and minimized impacts on the nearby WRC boat ramp.

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

Design Standards for Sensitive Watersheds will be incorporated throughout construction of the project. NCDOT has also agreed to special project conditions approved by the National Marine Fisheries Service (see attached letter). A split in-water work moratorium from February 15 to June 30 and August 15 to October 31 will be adhered to.

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

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

(•) Yes ( ) No

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

[x] DWR [ ] Corps

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

[ ] Mitigation bank [x] Payment to in-lieu fee program [ ] Permittee Responsible Mitigation

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

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

[x] Yes

4b. Stream mitigation requested:

(linear feet)

355

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

warm

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

4d. Buffer mitigation requested (DWR only):

(square feet)

19,473

4e. Riparian wetland mitigation requested:

(acres)

0.24

4f. Non-riparian wetland mitigation requested:

(acres)

0

4g. Coastal (tidal) wetland mitigation requested:

(acres)

0

4h. Comments

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

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

◉ Yes ○ No

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

	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1	**bridge construction**	**14,469**	**3**	**43,407**
Zone 2	**bridge construction**	**5,004**	**1.5**	**7,506**

6f. Total buffer mitigation required

50913

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-4932 DMS Acceptance.pdf 144.45KB

(PDF only)

6j. Comments:

A portion of the buffer impacts at Site 2 occur in wetlands and were removed from requested buffer mitigation.

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

(check all that apply)

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

Diffus 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

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

2b. Is this an after-the-fact permit application? *

( ) 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 the minimal transportation impact resulting from this bridge replacement, this project will neither influence nearby land use nor stimulate growth. Therefore,a detailed 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

What Federal Agency is involved?

National Marine Fisheries Service

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? *

USFWS County lists, coordination with USFWS Raleigh Field Office, field surveys, coordination with National Marine Fisheries Service, NCNHP data.

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 Essential Fish Habitat website

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/SEPA documentation

7c. Historic or Prehistoric Information Upload

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

B4932 Historic.pdf 257.47KB

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

Miscellaneous attachments not previously requested.

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

B4932 NMFS Concurrence Letter.pdf	164.93KB
B4932 USFWS Concurrence Letter.pdf	49.26KB

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: *

Colin Mellor

Signature

Date

5/3/2018

Environmental Quality

ROY COOPER
Governor

April 19, 2018

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:

B-4932, Replace Bridge Number 28 over the Tar River on NC 42), Edgecombe County

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the stream, wetland and buffer mitigation for the subject project. Based on the information supplied by you on April 17, 2018, the impacts are located in CU 03020103 of the Tar-Pamlico River basin in the Northern Inner Coastal Plain (NICP) Eco-Region, and are as follows:

Stream and Wetlands	River Basin	CU Location	Eco-Region	Stream			Wetlands		
				Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh
Impacts	Tar-Pamlico	03020103	NICP	0	0	355.0	0.24	0	0

*Some of the 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, 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 TIP Number B-4932. Subsequently, DMS will conduct a review of current NCDOT ILF Program mitigation projects in the river basin to determine if available buffer mitigation credits exist. If there are buffer mitigation credits available, then the Riparian Restoration Buffer Fund will purchase the appropriate amount of buffer mitigation credits from NCDOT ILF Program.

Buffer	River Basin	CU	Eco-Region	Buffer Impacts		
				Zone 1	Zone 2	TOTAL
Impacts	Tar-Pamlico	03020103	NICP	14,469.0	5,004.0	19,473.0

The impacts and associated mitigation needs were under projected by the NCDOT in the 2018 impact data. DMS commits to implement sufficient compensatory stream, wetland and buffer mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of the In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from DMS.

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

Sincerely,

James B. Stanfill
DMS Asset Management Supervisor

Cc: Mr. Tom Steffens, USACE – Washington Regulatory Field Office
Ms. Amy Chapman, NC Division of Water Resources
File: B-4932

United States Department of the Interior

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

May 3, 2018

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

Dear Mr. Harris:

This letter is in response to your letter of May 1, 2018 which provided the U.S. Fish and Wildlife Service (Service) with the biological conclusion of the North Carolina Department of Transportation (NCDOT) that the replacement of Bridge No. 28 on NC 42 over the Tar River in Edgecombe County (STIP No. B-4932) may affect, but is not likely to adversely affect the federally endangered Tar River Spinymussel (*Parvaspina steinstansana*) and the federally threatened Yellow Lance (*Elliptio lanceolata*). The following response is provided in accordance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

According to information provided, mussel surveys were conducted at the project site on October 16, 2013 and November 7, 2017. The surveys extended 100 meters upstream and 400 meters downstream of NC 42. No federally listed mussel species were observed. However, it is noted that both the Tar River Spinymussel and Yellow Lance have historically been observed in the vicinity of this project site (last seen in 2001 and 1970, respectively).

The Service met with the NCDOT and others on May 27, 2015 to discuss alternatives, designs, and construction methodology. Among other things, we discussed longer spans, a reduction in the number of bents in the river, and the use of a work bridge as opposed to a causeway. We note that the current plans reflect these minimization efforts.

Based on the mussel survey results and other available information, the Service concurs with your conclusion that the proposed project may affect, but is not likely to adversely affect the Tar River Spinymussel and Yellow Lance. We believe that the requirements of Section 7(a)(2) of the ESA have been satisfied for now. However, in the recent survey, the Atlantic Pigtoe (*Fusconaia masoni*) and Neuse River Waterdog (*Necturus lewisii*) were observed. These two species are not currently listed or proposed as federally protected species but are currently under review for proposed listing. Should one or both of these species be listed prior to the completion of this project, initiation of formal Section 7 consultation would be necessary.

We remind you that obligations under Section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered in this review; (2) this action is subsequently modified in a manner that was not considered in this review; or (3) a new species is listed or critical habitat determined that may be affected by this identified action. The Service appreciates the opportunity to review this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Sincerely,

Gary Jordan

for Pete Benjamin
Field Supervisor

Electronic copy:

Tom Steffens, USACE, Washington, NC
Eric Alsmeyer, USACE, Wake Forest, NC
Travis Wilson, NCWRC, Creedmoor, NC
Chris Rivenbark, NCDOT, Raleigh, NC
Marissa Cox, NCDOT, Raleigh, NC
Gordon Cashin, NCDOT, Raleigh, Nc

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
http://sero.nmfs.noaa.gov

F/SER46:DR

MAY 2 - 2018

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

Dear Mr. Harris:

This letter responds to your request for consultation with us, the National Marine Fisheries Service (NMFS), pursuant to Section 7 of the Endangered Species Act (ESA) for the following action.

SER Number	Project Type
SER-2017-18937	North Carolina Highway 42 (NC 42) Tar River Bridge replacement

Consultation History
We received your letter requesting consultation and a completed ESA Section 7 checklist on October 12, 2017. We requested additional information on February 1, 2018. We received a response on March 16, 2018. NMFS staff had a conference call with staff from the North Carolina Department of Transportation (NCDOT) and the North Carolina Wildlife Resource Commission (NCWRC) on April 5, 2018, to discuss finding in-water work moratorium windows and noise protection measures that would be suitable for all parties involved. We sent an email to NCDOT staff outlining the proposed measures to protect Atlantic sturgeon (based on the conference call discussions) on April 6, 2018, and requested their concurrence with the use of those measures. We received a final response agreeing to the measures on April 20, 2018, and we initiated consultation that day.

Project Location

Address	Latitude/Longitude	Water body
NC 42 Tar River Bridge, Edgecombe County, North Carolina	35.790534°N, 77.550389°W (North American Datum 1983)	Tar River

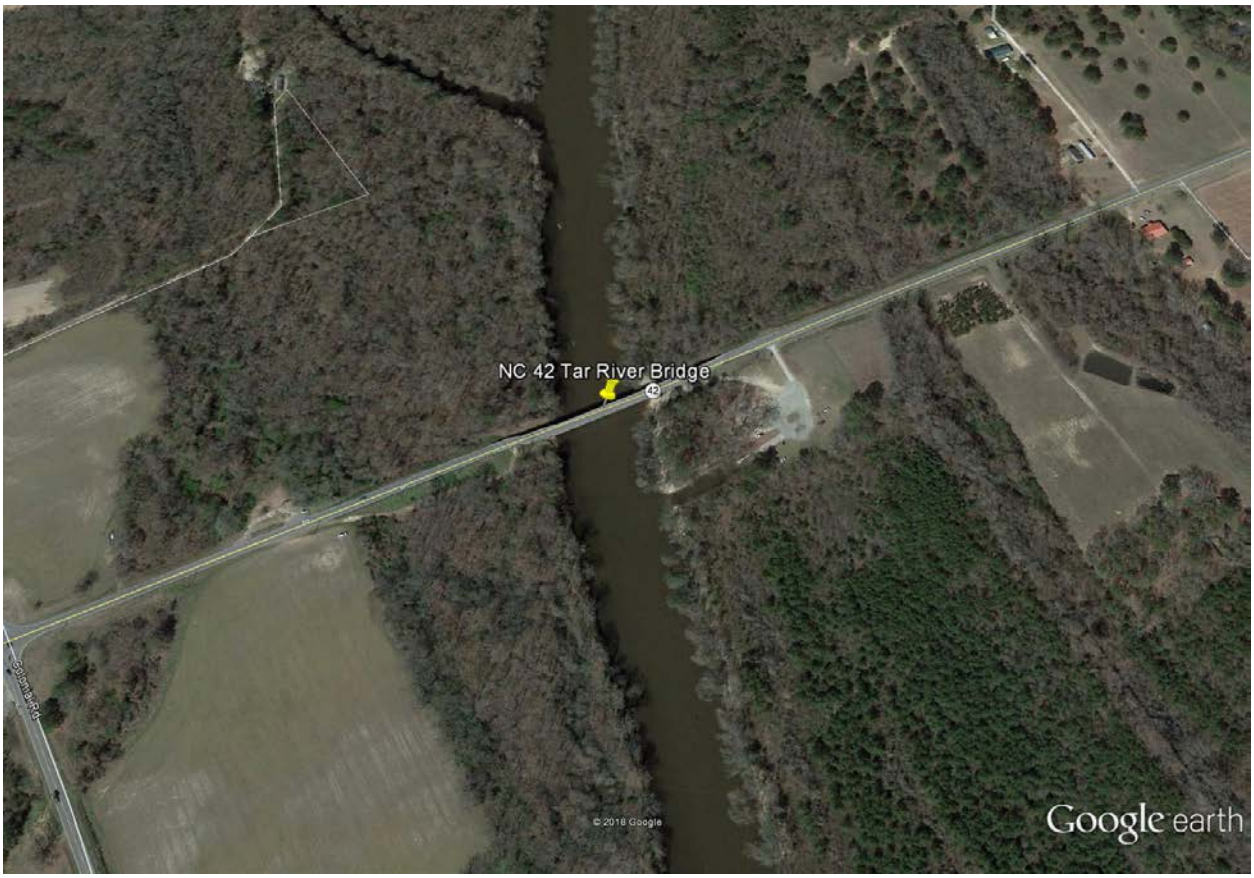


Image of the project location and surrounding area (©2018 Google)

Existing Site Conditions
The existing NC 42 Bridge spans the Tar River in Edgecombe County, approximately 12 miles northwest of Greenville, North Carolina. The NC 42 Tar River Bridge is located approximately 77.5 river miles upstream of mouth of the Tar River where it meets Pamlico Sound.

Under typical conditions the width of the river at the bridge is about 188.5 feet (ft). Water depths at the project location range from 0.5 to 4 ft deep. Bottom sediments at the project site consist of course sand and pebbles. Water quality is considered good.

Project Description
The NCDOT proposes replacing the existing 2-lane, 605-ft-long bridge with a new 2-lane 610-ft-long concrete fixed span bridge. The new bridge will be 37.25 ft wide with an overwater area of 7,022 square feet (ft^2), and the bridge will be approximately 29 ft above the river's mean water elevation. The new bridge will be built slightly north of the existing (old) bridge. Upon completion of the new bridge, traffic will be routed onto the new bridge and the old bridge will be demolished.

In-water and over-water construction and demolition work will be accomplished from temporary work bridges. The use of barges is not anticipated. As with similar bridge and transportation projects, it is expected that heavy equipment such as cranes, trucks, and bulldozers will be used to accomplish demolition and construction activities. It is estimated that demolition of the old

bridge and construction of the new bridge will take 27 months to complete. Pile driving operations are expected to take about 60 days to complete for the new bridge and work bridges (includes both in-water and land pile driving). Removal of the old bridge is estimated to take 60 days to complete. The new bridge will be supported by 39 steel pipe piles with diameters of 36 inches (in) that will be installed by impact hammer. Ten of these piles will be installed within the Tar River. The temporary bridges may require impact hammer installation of up to 120 steel piles, that may be H piles or 30-in pipe piles.

The demolition of the old bridge is expected to involve sawing the superstructure into manageable pieces that would be removed by crane for appropriate upland disposal. The use of jack hammers and/or hoe rams may be required to demolish the other portions of the bridge. The substructural elements (e.g., piles) are typically removed using a crane possibly in association with a vibratory device. Some parts of the substructure demolition may use sawing or shattering equipment as well. The use of explosives is not anticipated as part of the demolition process.

The construction of the new bridge will require the installation of 2 concrete bridge bents in the Tar River. Each bent will be supported by 5 steel pipe piles that have 36-in diameters (a total of 10 in-water pipe piles for the new bridge). About 6-10 piles may be driven each day. Based on data for past projects involving the impact driving of 36-in pipe piles, it will take up to 675 hammer strikes to install each pile resulting in up to 6,750 total strikes per day. It will take up to 1 week to install all 10 in-water bridge pipe piles. The 10 bridge pipe piles will displace about 70.7 square feet (ft^2) of river bottom.

The construction of the temporary work bridges will require the installation of steel H or pipe piles. About 6-10 piles may be driven each day. Based on data for past projects involving the impact driving of 30-in pipe piles, it will take up to 114 hammer strikes to install each pile resulting in up to 1,140 total strikes per day. It will take up to 20 days of impact driving to install up to 120 in-water temporary bridge piles. The temporary bridge pipe piles will temporarily displace up to 589 ft^2 of river bottom.

Pile Installation

Pile type	Number of Piles	Installation Method	Confined Space or Open Water
Steel pipe piles (36-in diameter)	10 in the river	Impact hammer	Open water
Steel H piles or 30-in diameter steel pipe piles	Up to 120 in the river	Impact hammer	Open water

Construction Conditions

The contractor will comply with NCDOT's Best Management Practices. The NCDOT has agreed to provide an additional measure of protection by requiring in-water construction activities to stop if a sturgeon is spotted within 50 ft of operations. No in-water work will be allowed in the Tar River between February 15 and June 30 based on the NCWRC's designation of this portion of the Tar River as an Inland Primary Nursery Area for juvenile anadromous fish. The NCWRC's principal concern is preventing the potential disruption of shad and herring spawning in the river, but the February 15-June 30 moratorium period would also protect a

spring spawning run by Atlantic sturgeon and the resulting downstream movement of larval and small juvenile sturgeon shortly thereafter. An additional in-water work moratorium will start on August 15 and end on October 31 to prevent the disruption of a possible fall spawning migration by Atlantic sturgeon and the subsequent downstream movement of larval and small juvenile sturgeon produced by the spawning event. Because of the lack of data on Atlantic sturgeon in the Tar River, NMFS is basing the in-water work moratoria on data from other river systems in the southeast, including the Roanoke River in North Carolina, where Atlantic sturgeon are known to spawn. All in-water work done during the allowed time periods (i.e., November 1-February 14 and July 1-August 14) will occur during daytime hours only.

Before the start of each day's full-force, in-water impact driving of piles (during the available in-water work windows), some form of low-level in-water noise will be generated that is loud enough to cause Atlantic sturgeon to leave the project area, but not loud enough to cause harm to the sturgeon (options include ramp-up, dry firing, or airguns). The low-level noise technique would be conducted for 5-10 minutes prior to full-force impact pile driving to allow animals the opportunity to leave the area. The chosen technique would be done before the beginning of the day's in-water impact driving, but would need to be repeated if a break in impact pile driving lasted more than 1 hour. Ramp-up involves slowly increasing the power of the impact hammer, and the noise it produces, over a pre-determined period of time. Dry-firing involves the raising and dropping of the impact hammer, but without any compression on the piston. Airguns are devices that produce in-water noise when they rapidly release pressurized air into the water column. The amount of noise produced by an airgun can be controlled based on pressure of the air that is released (i.e., higher air pressures produce louder noises).

Effects Determinations for Species the Action Agency or NMFS Believes May Be Affected by the Proposed Action

Species	ESA Listing Status	Action Agency Effect Determination	NMFS Effect Determination
Fish			
Atlantic sturgeon (Carolina DPS)	E	NLAA	NLAA
E = endangered; NLAA = may affect, not likely to adversely affect			

Critical Habitat

The project is located in Atlantic sturgeon critical habitat Carolina Unit 2 (Tar-Pamlico Unit). The physical and biological features (PBFs) of the critical habitat are described in the table below. We believe the proposed action may affect the salinity gradient and soft substrate, unobstructed water of appropriate depth, and water quality PBFs.

Atlantic Sturgeon Critical Habitat PBFs and their Purpose/Function		
PBF		**Purpose/Role of PBF**
Hard Substrate (PBF 1)	Hard bottom substrate (e.g., rock, cobble, gravel, limestone, boulder, etc.) in low salinity waters (i.e., 0.0-0.5 parts per thousand range)	Necessary for settlement of fertilized eggs, refuge, growth, and development of early life stages
Salinity Gradient and Soft Substrate (PBF 2)	Aquatic habitat with a gradual downstream salinity gradient of 0.5 up to as high as 30 parts per thousand and soft substrate (e.g., sand, mud) between the river mouth and spawning sites	Necessary for juvenile foraging and physiological development
Unobstructed Water of Appropriate Depth (PBF 3)	Water of appropriate depth and absent physical barriers to passage (e.g., locks, dams, thermal plumes, turbidity, sound, reservoirs, gear, etc.) between the river mouth and spawning sites	Necessary to support: • Unimpeded movement of adults to and from spawning sites; • Seasonal and physiologically-dependent movement of juvenile Atlantic sturgeon to appropriate salinity zones within the river estuary; and • Staging, resting, or holding of subadults or spawning condition adults. Water depths in main river channels must also be deep enough (at least 1.2 meters) to ensure continuous flow in the main channel at all times when any sturgeon life stage would be in the river
Water Quality (PBF 4)	Water quality conditions, especially in the bottom meter of the water column, with the appropriate combination of temperature and oxygen values	Necessary to support: • Spawning; • Annual and inter-annual adult, subadult, larval, and juvenile survival; and • Larval, juvenile, and subadult growth, development, and recruitment. Appropriate temperature and oxygen values will vary interdependently, and depending on salinity in a particular habitat. For example, 6.0 mg/L dissolved oxygen or greater likely supports juvenile rearing habitat, whereas dissolved oxygen less than 5.0 mg/L for longer than 30 days is less likely to support rearing when water temperature is greater than 25°C. In temperatures greater than 26°C, dissolved oxygen greater than 4.3 mg/L is needed to protect survival and growth. Temperatures of 13 to 26 °C likely to support spawning habitat.

Analysis of Potential Routes of Effects to Species

Atlantic sturgeon may be affected by (1) the potential risk of injury from direct impact by construction machinery and associated in-water activities (e.g., crane and impact hammer operations), (2) the risk of exposure to noise or turbidity from in-water demolition and construction activities, (3) the effects of temporarily avoiding the project site due to construction activities, and (4) noise related to in-water pile driving. We believe these effects are discountable due to the complete moratorium on in-water work from February 15-June 30 and August 15-October 31. Because of the moratoria, Atlantic sturgeon (adult, larval, and small juvenile sturgeon) will not be exposed to the risk of injury because they are extremely unlikely to be in the action area.

The permanent installation of 10 in-water steel pipe piles (36-in diameter) will result in the permanent loss of 70.7 ft^2 of unvegetated river bottom (i.e., course sand and pebbles) where sturgeon might forage for invertebrate prey. In addition, up to 589 ft^2 of river bottom will be temporarily displaced by the piles (up to 30-in diameter) installed for the temporary work bridges. We believe the effects on sturgeon caused by the loss of river bottom due to this project will be insignificant. Because sturgeon are opportunistic feeders and forage over large areas, they would be able to locate prey beyond the immediate area of the piles. The temporary work bridge piles will be removed once the new bridge is built and demolition of the old bridge is completed. Additionally, 440 ft^2 of river bottom will be once again made available for use by sturgeon when the old bridge's substructural elements (i.e., piles) are removed during the demolition process. Invertebrates, which are prey for Atlantic sturgeon, will quickly recolonize this river bottom upon removal of these substructures.

Analysis of Potential Routes of Effect to Critical Habitat

The project may affect aquatic habitat with a gradual salinity gradient and soft substrate (PBF 2) by covering soft substrate with new bridge piles and temporary work bridge piles. However, we believe this effect to PBF 2 will be insignificant. The soft substrate in the river bottom surrounding the bridge piles will continue to support juvenile foraging and development. Similarly, once the temporary work bridge piles are removed those areas of soft substrate will immediately become accessible again as foraging or developmental habitat. Also, more soft substrate will become available when the old bridge's substructural elements are removed from the river bottom during demolition. The project's demolition and construction activities will have no effect on the salinity gradient in the project area.

Unobstructed water of appropriate depth (PBF 3) that supports staging, resting, holding, or movement of various life stages of Atlantic sturgeon may be affected by the installation of steel piles. We believe the obstructions created by the installation of piles will have an insignificant effect on PBF 3 because the new bridge will have fewer supports (i.e., structures in the water) than the existing bridge. Additionally, the temporary work bridge piles and permanent new bridge piles will only affect small portions of the main channel. The temporary work bridge piles will be removed at the end of the project's construction and demolition activities, and the old bridge's in-water piles will be removed as part of the demolition process. The project's demolition and construction activities will have no effect on the water depth in the project area.

Water quality (PBF 4) supporting important life functions, such as growth and reproduction, of various life stages of Atlantic sturgeon may be affected by temporary and highly localized turbidity and associated effects on suitable water temperature and oxygen values caused during installation of piles for the temporary work bridges and the new bridge, and demolition activities. However, we believe the effects to PBF 4 will be discountable because all work will be completed from November 1-February 14 and July 1-August 14, to prevent adult, larval, and small juvenile sturgeon from being exposed to elevated turbidity levels during times of the year when they might be present in the project area.

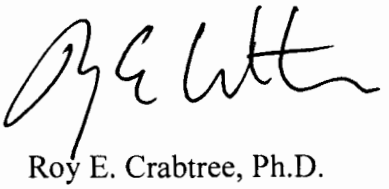
Conclusion

Because all potential project effects to listed species were found to be discountable, insignificant, or beneficial, we conclude that the proposed action is not likely to adversely affect listed species

under NMFS's purview. This concludes your consultation responsibilities under the ESA for species under NMFS's purview. Consultation must be reinitiated if a take occurs or new information reveals effects of the action not previously considered, or if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action. NMFS's findings on the project's potential effects are based on the project description in this response. Any changes to the proposed action may negate the findings of this consultation and may require reinitiation of consultation with NMFS.

We have enclosed additional relevant information for your review. We look forward to further cooperation with you on other projects to ensure the conservation of our threatened and endangered marine species and designated critical habitat. If you have any questions regarding this consultation, please contact Dr. Dave Rydene, Consultation Biologist, at (727) 824-5379, or by email at David.Rydene@noaa.gov.

Sincerely,



Roy E. Crabtree, Ph.D.
Regional Administrator

Enc.: 1. *PCTS Access and Additional Considerations for ESA Section 7 Consultations* (Revised March 10, 2015)

File: 1514-22.L.1

North Carolina Department of Cultural Resources

State Historic Preservation Office

Peter B. Sandbeck, Administrator

Beverly Eaves Perdue, Governor
Linda A. Carlisle, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

January 26, 2009

MEMORANDUM

TO: Hank Schwab, Project Engineer
Project Development, Bridge Unit
NCDOT Division of Highways

FROM: Peter Sandbeck Peter B Sandbeck

SUBJECT: Bridge 28 on NC 42 over the Tar River, B-4932, Edgecombe County, ER 08-2590

Thank you for sending information on the proposed bridge replacement.

Our files find two archaeological sites in the project area: 31ED62, a prehistoric site on the southwest side of the bridge represented by lithics and ceramics; and 0019TRR, the submerged remains of a steamboat. It is situated on the downstream side of the bridge, west side of the river, and parallel to the river bank. It has been reported in, "Enigma of the Old Sparta Vessel, the Phase II Pre-disturbance Archaeological Survey of a Tar River Steamboat," by Bradley A. Rogers, Theresa R. Hicks, and Elizabeth Wyllie of the Program in Maritime Studies at East Carolina University. While 0019TRR is considered eligible for the Register, 31ED62 has not been assessed to evaluate its significance for the National Register of Historic Places.

We, therefore, recommend an archaeological survey of the proposed replacement to include the relocation and evaluation of 31ED62. Potential effects on unknown resources must be assessed prior to the initiation of construction activities. Care should be taken to avoid any effects to 0019TRR. If this is not possible, appropriate mitigation will be needed.

Rodgers, et al. recommended full excavation of the steamboat, and suggest it may be accomplished in the summer or fall of 2009. This plan, however, is dependent upon finances and a place and means for conservation. If such are found, and dependent upon the DOT's schedule, it is possible that 0019TRR may have been excavated prior to Bridge 28's replacement. Please keep us closely updated on the progress of plans for this bridge.

Because the area under the bridge has been well examined, no new investigation there is warranted. If, however, a new alignment should put the replacement at least 250 m to the north, we recommend underwater investigation as well as terrestrial. In this area is the remnant of the former bridge, which likely dates to the 19th century.

Location: 109 East Jones Street, Raleigh NC 27601 **Mailing Address:** 4617 Mail Service Center, Raleigh NC 27699-4617 **Telephone/Fax:** (919) 807-6570/807-6599

Two copies of the resulting archaeological survey report, as well as one copy of the appropriate site forms, should be forwarded to us for review and comment as soon as they are available and well in advance of any construction activities.

We have determined that the project as proposed will not have an effect on any historic structures.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/807-6579. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Matt Wilkerson, NCDOT
Mary Pope Furr, NCDOT

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

May 20, 2010

Mr. Peter Sandbeck
Deputy SHPO
Historic Preservation Office
Dept. of Cultural Resources
4617 Mail Service Center
Raleigh, North Carolina 27699-46517

Dear Mr. Sandbeck:

Subject: Archaeological Survey and Evaluation: Replacement of Bridge No. 28 on NC42 over the Tar River, Edgecombe County, B-4932, Federal Aid Project No. BRSTP-0042(19), State Project No. 40137.1.1, ER 08-2590.

Enclosed are two copies of the final report prepared by our staff after completing the archaeological evaluation of the referenced project. This work was conducted in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and the guidelines issued by the Advisory Council on Historic Preservation. The survey identified two archaeological sites and revisited two previously recorded sites.

0019TRR/Old Sparta Vessel consists of the submerged wooden remains of a large watercraft lying immediately proximal to the west bank of the Tar River within the project APE. This resource is recommended eligible for the NRHP under criterion A based on its strong association with events that made a significant contribution to the broad patterns of local and regional history and under criterion D for the resources ability to yield information significant to historic, scientific, or scholarly research. Avoidance of this resource is recommended.

31ED62/62** is a surface/subsurface, prehistoric-historic archaeological site situated within the uplands of the two western project quadrants. Definitive components identified at the site include Middle Archaic, Woodland, and 19-20th century historic. The site possesses an insignificant range of characteristics relative to regional research questions, is unlikely to contain intact sub-plowzone patterned artifact distributions or significant cultural features within the construction footprint, and lacks attributes essential in establishing site integrity. As such, the portion of 31ED62/62** delineated and defined by the survey is considered ineligible for listing on the NRHP under criterion D. The cemetery section of the archaeological site within the northwest project quadrant containing the Rosa Tompkins gravesite and any additional unmarked gravesites should be preserved by avoidance. If construction is scheduled to occur in proximity to the cemetery, monitoring to insure the integrity of the gravesites is advocated. If avoidance is not possible, we request that the Office of State Archaeology make the determination as to how the relocation and removal of the gravesite(s) be treated, i.e. by following either NC General Statute 70, Article 3 or NC General Statute 65.

31ED372 is a low density, subsurface lithic scatter of undetermined age and cultural affiliation. The site is situated approximately 200ft. south of NC42 within the southwest project quadrant, and therefore, is unlikely to be affected by the construction effort as proposed. The site is unlikely to contain intact cultural features, deposits, or undisturbed patterned artifact concentrations. As such, the site is recommended not eligible for listing on the NRHP under criterion D. No further archaeological work is advocated for this resource.

31ED373 is a subsurface prehistoric site containing a Woodland period ceramic-lithic component. This diminutive site located within the northeast quadrant lacks attributes essential for establishing integrity, preservation, uniqueness, and relevance. 31ED373 is recommended not eligible for listing on the NRHP under criterion D. No further work is advocated for this archaeological resource.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
HUMAN ENVIRONMENT UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC, 27699-1598

TELEPHONE: 919-431-2000
FAX: 919-431-2001

WEBSITE: WWW.NCDOT.ORG

LOCATION:
PROJECT DEVELOPMENT &
ENVIRONMENTAL ANALYSIS BRANCH -
ENVIRONMENTAL RESOURCE CENTER
4701-116 ATLANTIC AVENUE
RALEIGH NC, 27604

The report concludes that the project, as proposed, will impact one NRHP eligible archaeological/underwater site within the APE and one historic cemetery within the northwest quadrant.

Any questions regarding the report findings should be directed to Scott Halvorsen at (919) 431-1590.

Sincerely,

Matt Wilkerson
Archaeology Supervisor
Human Environment Unit

MW/sh

Enclosures (2 copies of the report)

cc: Brenna Poole, NCDOT project engineer
Ron Lucas, FHwA

North Carolina Department of Cultural Resources

State Historic Preservation Office

Peter B. Sandbeck, Administrator

Beverly Eaves Perdue, Governor
Linda A. Carlisle, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

June 18, 2010

MEMORANDUM

TO: Matt Wilkerson
Office of Human Environment
NCDOT Division of Highways

FROM: Peter Sandbeck PBS for Peter Sandbeck

SUBJECT: Archaeological Survey and Evaluation, Bridge 28 on NC 42 over the Tar River, B-4932, Edgecombe County, ER 08-2590

Thank you for your letter of May 20, 2010, forwarding copies of the final report by Scott Halvorsen for the above project.

During the course of the survey, Mr. Halvorsen revisited two sites, 0019TRR/Old Sparta Vessel and 31ED62&62**, and recorded two sites, 31ED372 and 31ED373.

The following properties are determined not eligible for listing in the National Register of Historic Places:

> Sites 31ED372 and 31ED373; lack attributes necessary for establishing integrity, preservation, uniqueness, and relevance

We concur with the recommendations for no further work at 31ED372 and 31ED373.

> The portion of 31ED62&62** as delineated and defined by the survey does not provide information pertinent to regional research questions, is unlikely to contain intact subsurface features, and lacks integrity

No further archaeological investigation is recommended at that portion of 31ED62&62** as delineated and defined by the present survey. While 31ED62&62** contains the remains of one identified gravesite, that of Rosa Tompkins, and is believed to contain at least two more, this 'graveyard' component of the site (situated within its northwest quadrant) is likewise ineligible for the National Register of Historic Places. However, it must be protected.

We agree with the report's recommendation for its preservation by avoidance. Should avoidance be impossible, we recommend delineation of the cemetery—comprised of the Rosa Tompkins gravesite and the burials believed to be in its vicinity— to ascertain both its size and probable number of interments, followed by the cemetery's removal and relocation in accordance with NC General Statute 65.

For purposes of compliance with Section 106 of the National Historic Preservation Act, we concur that the following property is eligible for the National Register of Historic Places under the criteria cited:

> 0019TRR/Old Sparta Vessel under criteria A and D; A for its association with events making a significant contribution to the broad patterns of local and regional history; D for its ability to yield information significant to historic, scientific, or scholarly research

We also concur with the recommendation that the vessel be avoided during construction. To accomplish this, the site should be defined, visually marked, and the contractors informed that they are not to enter the area with any equipment or personnel. Placing sand on the wreck may actually endanger the integrity of the structure and is not recommended.

The most effective way to avoid the wreck with new construction would be to position the new bridge north (upstream) of the old one. In the event that the bridge must run along the same footprint as the old one, extreme care will be needed on the part of the contractor to avoid the upstream portion of the wreck during construction.

The removal of the old bridge structure requires special care. Temporary alteration of the river bottom topography by the removal of the pilings immediately upstream of the wreck may cause erosion of the supporting sediment beneath the wreck, possibly damaging the wreck's structure and integrity.

We concur that in the event the wreck cannot be avoided additional data recovery and possible recovery of all or part of the vessel will be warranted.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/807-6579. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Scott Halvorsen, NCDOT

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 2.04; Released November 2015)

WBS Element:	40137.1.1	TIP No.:	B-4932	County(ies):	Edgecombe	Page	1	of	2

General Project Information

WBS Element:	40137.1.1	**TIP Number:**	B-4932	**Project Type:**	Bridge Replacement	**Date:**	1/19/2017
NCDOT Contact:	Craig Freeman, PE			**Contractor / Designer:**	W. Henry Wells, Jr. PE, PLS, CPESC - Sungate Design Group		
Address:	Hydraulics Unit 1590 Mail Service Center Raleigh, NC 27699-1590			**Address:**	915 Jones Franklin Road Raleigh, NC 27606		
Phone:	(919) 707-6721			**Phone:**	(919) 859-2243		
Email:	cafreeman2@ncdot.gov			**Email:**	hwells@sungatedesign.com		
City/Town:	Old Sparta			**County(ies):**	Edgecombe		
River Basin(s):	Tar-Pamlico			**CAMA County?**	No		
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	0.51 Miles	**Surrounding Land Use:**	Rural, Agricultural		
	Proposed Project			**Existing Site**	
Project Built-Upon Area (ac.)	1.4 ac.			1.7 ac.	
Typical Cross Section Description:	Paved 11' lanes with 4' grassed shoulder section			Paved 12' lanes with 2' paved shoulder and 6' grassed shoulder section	
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: 3180	Year: 2037		Existing: 2410	Year: 2017
General Project Narrative: (Description of Minimization of Water Quality Impacts)	B-4932 is a bridge replacement project that involves removing Edgecombe County bridge #28, on NC 42 over the Tar River, and replacing with a 6 span 610' - 63" MBT. The existing bridge is a 13 span 605' Concrete Deck on Steel I-Beams. Deck drains on the proposed structure will not be discharged over open water, reducing stream pullution associated with roadway runoff. The run off from the deck drains will be discharged onto a class II riprap dissipator pad. Additional measures, such as the use of 3:1 side slopes on roadway ditches and rip rap energy dissipators, have been taken to reduce or eliminate impacts to surrounding properties and jurisdictional waters located within the project limts.				

Waterbody Information

Surface Water Body (1):	Tar River		**NCDWR Stream Index No.:**	28-(80)	
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C		
		Supplemental Classification:	Nutrient Sensitive Waters (NSW)		
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?		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 2.04; Released November 2015)

WBS Element: 40137.1.1 **TIP No.:** B-4932 **County(ies):** Edgecombe

Swales

Sheet No.	Station & Coordinates (Road and Non Road Projects)	Surface Water Body	Base Width (ft)	Front Slope (H:1)	Back Slope (H:1)	Drainage Area (ac)	Recommended Treatm't Length (ft)	Actual Length (ft)	Longitudinal Slope (%)	Q2 (cfs)	V2 (fps)	Q10 (cfs)	V10 (fps)	Rock Checks Used	BMP Associated w/ Buffer Rules?
4	13+50 -L- Lt 2428885.7, 745375.7	(1)Tar River	0.0	3.0	3.0	0.8	80	150	3.50%	1.4	1.9	2.4	2.2	No	Yes
4	14+50 -L- Rt 2429019.6, 745334.9	(1)Tar River	0.0	3.0	3.0	0.8	80	200	3.20%	1.4	1.9	2.4	2.2	No	Yes

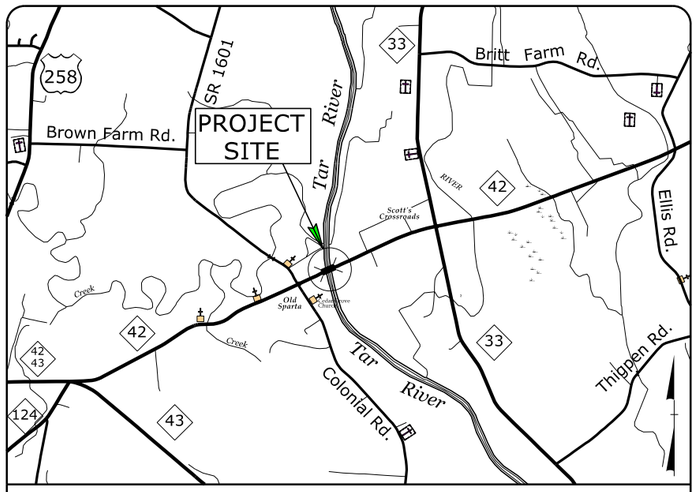
Additional Comments

09/08/99

TIP PROJECT: B-4932

CONTRACT:

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



VICINITY MAP
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

EDGECOMBE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4932	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
40137.1.1	BRSTP-0042(19)	PE
40137.2.1		R/W, UTIL.

PERMIT DRAWING
SHEET 1 OF 12

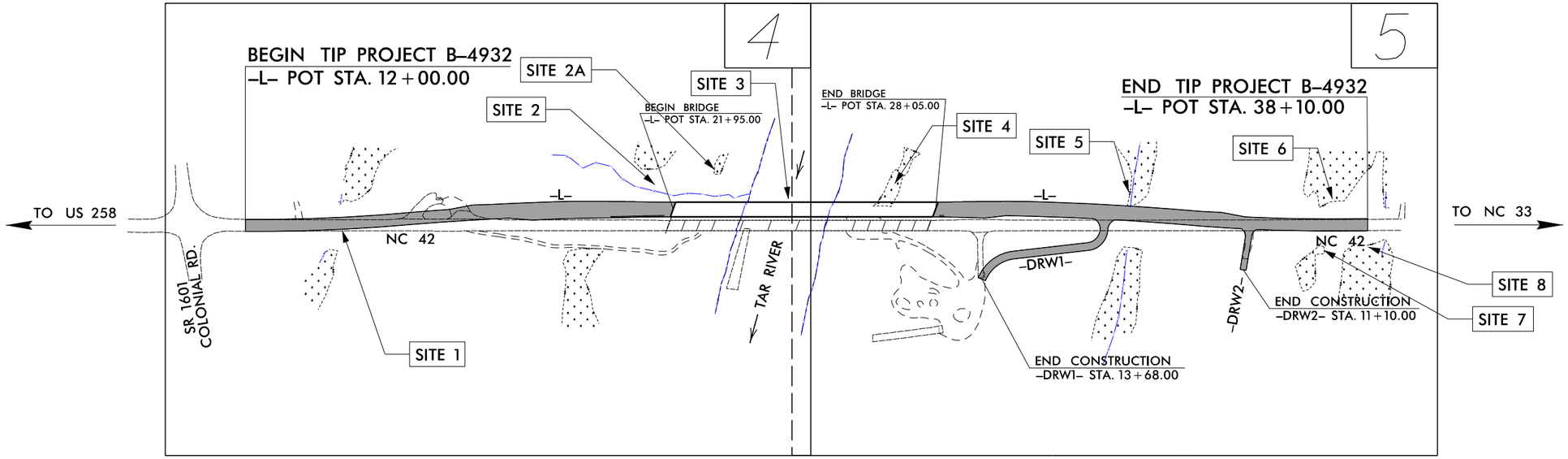
LOCATION: BRIDGE NO. 28 OVER TAR RIVER ON NC 42

TYPE OF WORK: GRADING, PAVING, DRAINAGE, TEMPORARY SIGNALS AND STRUCTURE

RIGHT OF WAY PLANS

WETLAND AND SURFACE WATER IMPACTS PERMIT

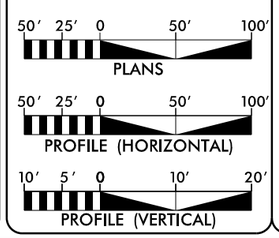
NAD 83/NSRS 2007



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2017 = 2410
ADT 2037 = 3180
K = 9 %
D = 60 %
T = 32 % *
V = 60 MPH
* TTST = 22% DUAL 10%
FUNC CLASS = MAJOR COLLECTOR
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4932 = 0.378 MI.
LENGTH STRUCTURE TIP PROJECT B-4932 = 0.116 MI.
TOTAL LENGTH OF TIP PROJECT B-4932 = 0.494 MI.

Prepared for the North Carolina Department of Transportation
In the Office of:
vhb
Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
NC License No. C-3705

SUNGATE DESIGN GROUP, P.A.
605 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
(O) (919) 859-2243
ENGINEERING LICENSE NO. C-4901

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 17, 2017

LETTING DATE:
MARCH 20, 2018

JIMMY GOODNIGHT, PE
PROJECT ENGINEER

JERRY JAVELLANA, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACT TATIA L. WHITE, PE, PLS
ROADWAY DESIGN PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

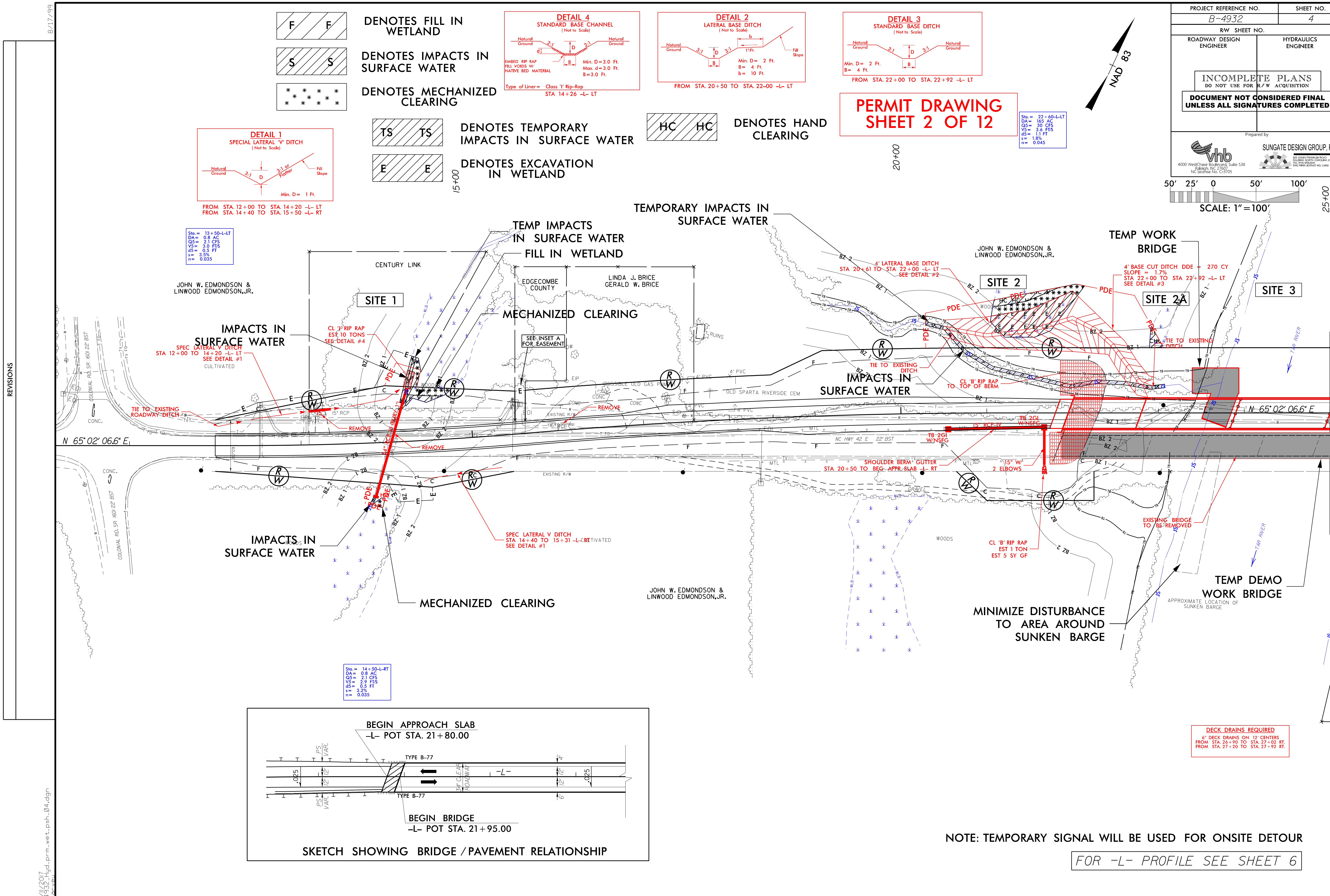
SIGNATURE: P.E.

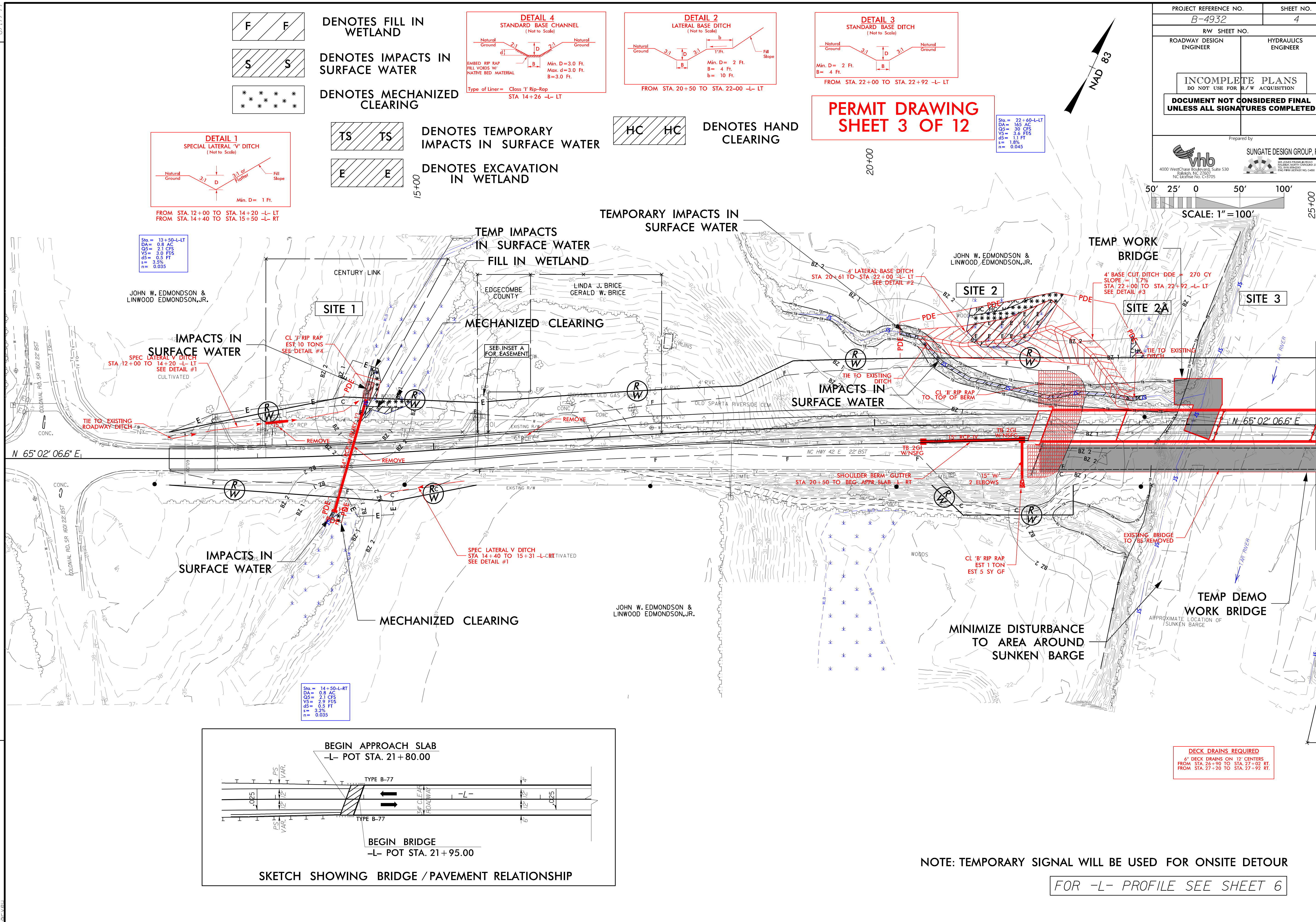
ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

10/11/2017
B4932_Hyd_prm_wet_psh_01.dgn
jharvey


PROJECT REFERENCE NO. B-4932
SHEET NO. 4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
Prepared by
vhb
SUNGATE DESIGN GROUP, P.A.
PERMIT DRAWING SHEET 2 OF 12
NAD 83
SCALE: 1"=100'
DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES MECHANIZED CLEARING
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES EXCAVATION IN WETLAND
DENOTES HAND CLEARING
DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D= 1 Ft.
FROM STA. 12+00 TO STA. 14+20 -L- LT
FROM STA. 14+40 TO STA. 15+50 -L- RT
DETAIL 4
STANDARD BASE CHANNEL
(Not to Scale)
Min. D=3.0 Ft.
Max. d=3.0 Ft.
B=3.0 Ft.
Type of Liner= Class 'I' Rip-Rap
STA 14+26 -L- LT
DETAIL 2
LATERAL BASE DITCH
(Not to Scale)
Min. D= 2 Ft.
B= 4 Ft.
b= 10 Ft.
FROM STA. 20+50 TO STA. 22+00 -L- LT
DETAIL 3
STANDARD BASE DITCH
(Not to Scale)
Min. D= 2 Ft.
B= 4 Ft.
FROM STA. 22+00 TO STA. 22+92 -L- LT
SITE 1
SITE 2
SITE 2A
SITE 3
TEMP IMPACTS IN SURFACE WATER
FILL IN WETLAND
MECHANIZED CLEARING
IMPACTS IN SURFACE WATER
TEMPORARY IMPACTS IN SURFACE WATER
TEMP WORK BRIDGE
TEMP DEMO WORK BRIDGE
MINIMIZE DISTURBANCE TO AREA AROUND SUNKEN BARGE
APPROXIMATE LOCATION OF SUNKEN BARGE
CENTURY LINK
JOHN W. EDMONDSON & LINWOOD EDMONDSON, JR.
EDGECOMBE COUNTY
LINDA J. BRICE GERALD W. BRICE
SEE INSET A FOR EASEMENT
4' LATERAL BASE DITCH
STA 20+61 TO STA 22+00 -L- LT
SEE DETAIL #2
4' BASE CUT DITCH DDE = 270 CY
SLOPE = 1.7%
STA 22+00 TO STA 22+92 -L- LT
SEE DETAIL #3
CL 'I' RIP RAP
EST 10 TONS
SEE DETAIL #4
SPEC LATERAL V DITCH
STA 12+00 TO 14+20 -L- LT
SEE DETAIL #1
SPEC LATERAL V DITCH
STA 14+40 TO 15+31 -L- RT
SEE DETAIL #1
TIE TO EXISTING ROADWAY DITCH
TIE TO EXISTING DITCH
CL 'II' RIP RAP TO TOP OF BERM
SHOULDER BERM GUTTER
STA 20+50 TO BEG. APPR. SLAB -L- RT
CL 'B' RIP RAP
EST 1 TON
EST 5 SY GF
EXISTING BRIDGE TO BE REMOVED
OLD SPARTA RIVERSIDE CEM
NC HWY 42 E 22' BST
COLONIAL RD. SR 1601 22' BST
N 65° 02' 06.6" E
MATCHLINE -L- STA. 25+00.00 SEE SHEET 5
TAR RIVER
WOODS
CULTIVATED
REMOVE
PDE
Sta.= 13+50-L-LT
DA= 0.8 AC
Q5= 2.1 CFS
VS= 3.0 FT/S
d5= 0.5 FT
s= 3.5%
n= 0.035
Sta.= 14+50-L-RT
DA= 0.8 AC
Q5= 2.1 CFS
VS= 2.9 FT/S
d5= 0.5 FT
s= 3.2%
n= 0.035
Sta.= 22+60-L-LT
DA= 165 AC
Q5= 30 CFS
VS= 3.6 FT/S
d5= 1.1 FT
s= 1.8%
n= 0.045
DECK DRAINS REQUIRED
6" DECK DRAINS ON 12' CENTERS
FROM STA. 26+90 TO STA. 27+02 RT.
FROM STA. 27+20 TO STA. 27+92 RT.
BEGIN APPROACH SLAB
-L- POT STA. 21+80.00
BEGIN BRIDGE
-L- POT STA. 21+95.00
SKETCH SHOWING BRIDGE / PAVEMENT RELATIONSHIP
NOTE: TEMPORARY SIGNAL WILL BE USED FOR ONSITE DETOUR
FOR -L- PROFILE SEE SHEET 6
REVISIONS
8/17/99
10/11/2017
B4932_Hyd_prm_wet_psh_04.dgn


PROJECT REFERENCE NO.
B-4932
SHEET NO.
4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
Prepared by
SUNGATE DESIGN GROUP, P.A.
PERMIT DRAWING SHEET 3 OF 12
NAD 83
SCALE: 1"=100'
DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES MECHANIZED CLEARING
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES EXCAVATION IN WETLAND
DENOTES HAND CLEARING
DETAIL 4
STANDARD BASE CHANNEL
STA 14+26 -L- LT
DETAIL 2
LATERAL BASE DITCH
FROM STA. 20+50 TO STA. 22+00 -L- LT
DETAIL 3
STANDARD BASE DITCH
FROM STA. 22+00 TO STA. 22+92 -L- LT
DETAIL 1
SPECIAL LATERAL 'V' DITCH
FROM STA. 12+00 TO STA. 14+20 -L- LT
FROM STA. 14+40 TO STA. 15+50 -L- RT
SITE 1
SITE 2
SITE 2A
SITE 3
TEMP IMPACTS IN SURFACE WATER
FILL IN WETLAND
TEMPORARY IMPACTS IN SURFACE WATER
MECHANIZED CLEARING
IMPACTS IN SURFACE WATER
TEMP WORK BRIDGE
TEMP DEMO WORK BRIDGE
MINIMIZE DISTURBANCE TO AREA AROUND SUNKEN BARGE
JOHN W. EDMONDSON & LINWOOD EDMONDSON,JR.
LINDA J. BRICE GERALD W. BRICE
EDGECOMBE COUNTY
CENTURY LINK
N 65° 02' 06.6" E
MATCHLINE -L- STA. 25+00.00 SEE SHEET 5
DECK DRAINS REQUIRED
BEGIN APPROACH SLAB -L- POT STA. 21+80.00
BEGIN BRIDGE -L- POT STA. 21+95.00
SKETCH SHOWING BRIDGE / PAVEMENT RELATIONSHIP
NOTE: TEMPORARY SIGNAL WILL BE USED FOR ONSITE DETOUR
FOR -L- PROFILE SEE SHEET 6
REVISIONS
8/17/99
10/11/2017
B4932_Hyd_prm_wet_psh_04a.dgn

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4932	X-1

PERMIT DRAWING
SHEET 4 OF 12

SITE 1

WETLAND

WETLAND

FILL IN WETLAND

14+50.00

0.040 0.040
41.47
3:1
3:1
3:1
35.32

14+00.00

0.040 0.040
41.62
3:1
3:1
3:1
31.71

13+50.00

0.040 0.040
41.74
3:1
3:1
3:1
33.47

13+00.00

0.040 0.023
41.81
3:1
3:1
3:1

12+50.00

0.039 0.005
41.80
3:1
3:1
3:1

12+00.00

EXIST. EXIST.
41.74

11+50.00

41.68

10/4/2017
B4932 Hyd_prm_wet_psh_04b_xpl.dgn
jharvey

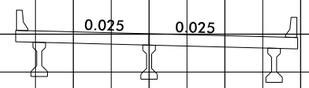
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4932	X-5

PERMIT DRAWING
SHEET 5 OF 12

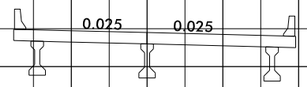
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

55 50 45 40 35 30 25 20 15 10



3.83:1
10.41
5.41:1
21.23

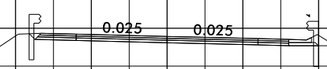
22+50.00



WETLAND
EXCAVATION
IMPACTS IN SURFACE WATER
3.04:1
11.39
3.10:1
26.69

22+00.00

SITE 2



WETLAND
1.50:1
1.50:1
EXCAVATION
IMPACTS IN SURFACE WATER
0.083
3:1
3:1
12.14
28.50
22.01

21+50.00

10/11/2017
B4932_hyd_prm_xet_psh_04c_xpl.dgn
jharvey

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
B-4932	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

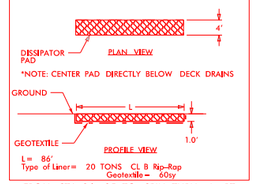
Prepared by

vhb
4000 WestChase Boulevard, Suite 530
Raleigh, NC 27607
NC License No. C-1705

SUNGATE DESIGN GROUP, P.A.

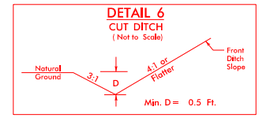
PERMIT DRAWING SHEET 6 OF 12

DETAIL 5
DECK DRAIN DISSIPATOR PAD
(Not to Scale)

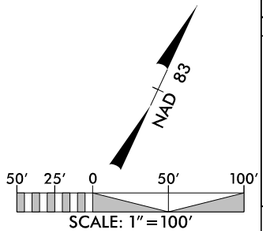


FROM STA. 26+85 TO SPILL THRU –L– RT

DETAIL 6
CUT DITCH
(Not to Scale)



FROM STA. 12+00 TO STA. 13+00 –DRW1– RT



DECK DRAINS REQUIRED
6" DECK DRAINS ON 12' CENTERS
FROM STA. 26+90 TO STA. 27+02 RT.
FROM STA. 27+20 TO STA. 27+92 RT.

25+00

35+00

SITE 3

TEMP WORK BRIDGE

SITE 4

TEMPORARY IMPACTS IN SURFACE WATER

MECHANIZED CLEARING

IMPACTS IN SURFACE WATER

FILL IN WETLAND

SITE 5

MECHANIZED CLEARING

FILL IN WETLAND

SITE 6

EUGENIA J. WADE

MATCHLINE –L– STA. 25+00.00 SEE SHEET 4

N 65° 02' 06.6" E

EOI

CL 'II' RIP RAP
TYP. 2 PLACES
DISSIPATOR PAD
SEE DETAIL #5

SHOULDER BERM GUTTER
END APPR SLAB TO STA 28+25 –L– RT

EXISTING BRIDGE TO BE REMOVED

THE STATE OF NORTH CAROLINA

TB 2GI W/NSFG
15"-W
2 ELBOWS

CL 'B' RIP RAP
EST 1 TON
EST 5 SY GF

TEMP DEMO WORK BRIDGE

REMOVE EXISTING ROADWAY FILL TO NATURAL GROUND FROM END OF BRIDGE TO STA 28+50 –L– RT
APPROX. ELEVATION 1'±
SEE CROSS SECTIONS

CL 'B' RIP RAP
EST 2 TON
EST 7 SY GF

CUT DITCH
STA 12+00 TO 13+00 –DW1– RT
SEE DETAIL #6

MONITORING WELLS
OLD SPARTA STA
SITE ID: K26M

COLLAR AND EXTEND

EXISTING R/W

NC HWY 42 E 22' BST

S 21° 51' 42.2" E

S 58° 31' 23.9" W

–DRW1–

–DRW2–

S 15° 50' 29.6" E

N 64° 46' 52.4" E

48" SPLIT RAIL

LONGLEAF SEEDLINGS

36" WW

GATE

SITE 7

SITE 8

MECHANIZED CLEARING

FILL IN WETLAND

MECHANIZED CLEARING

JERRY B. TYSON

SHELBY JEFFERSON

S 13° 37' 52.1" E

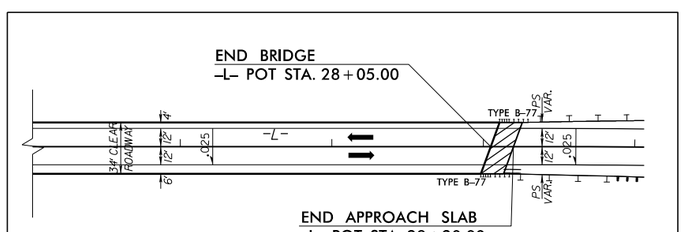
CONC BOAT RAMP

EIP

WOODS

GRAVEL

GRASS



SKETCH SHOWING BRIDGE / PAVEMENT RELATIONSHIP

F F	DENOTES FILL IN WETLAND
S S	DENOTES IMPACTS IN SURFACE WATER
* * *	DENOTES MECHANIZED CLEARING
TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTE: TEMPORARY SIGNAL WILL BE USED FOR ONSITE DETOUR

FOR –L– PROFILE SEE SHEET 6

FOR –DRW1– & –DRW2– PROFILES SEE SHEET 7

10/4/2017
B4932_Hyd_prm_wet_psh_05.dgn
barkley

PROJECT REFERENCE NO.	SHEET NO.
B-4932	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared by

vhb
4000 WestChase Boulevard, Suite 530
Raleigh, NC 27607
NC License No. C-3705

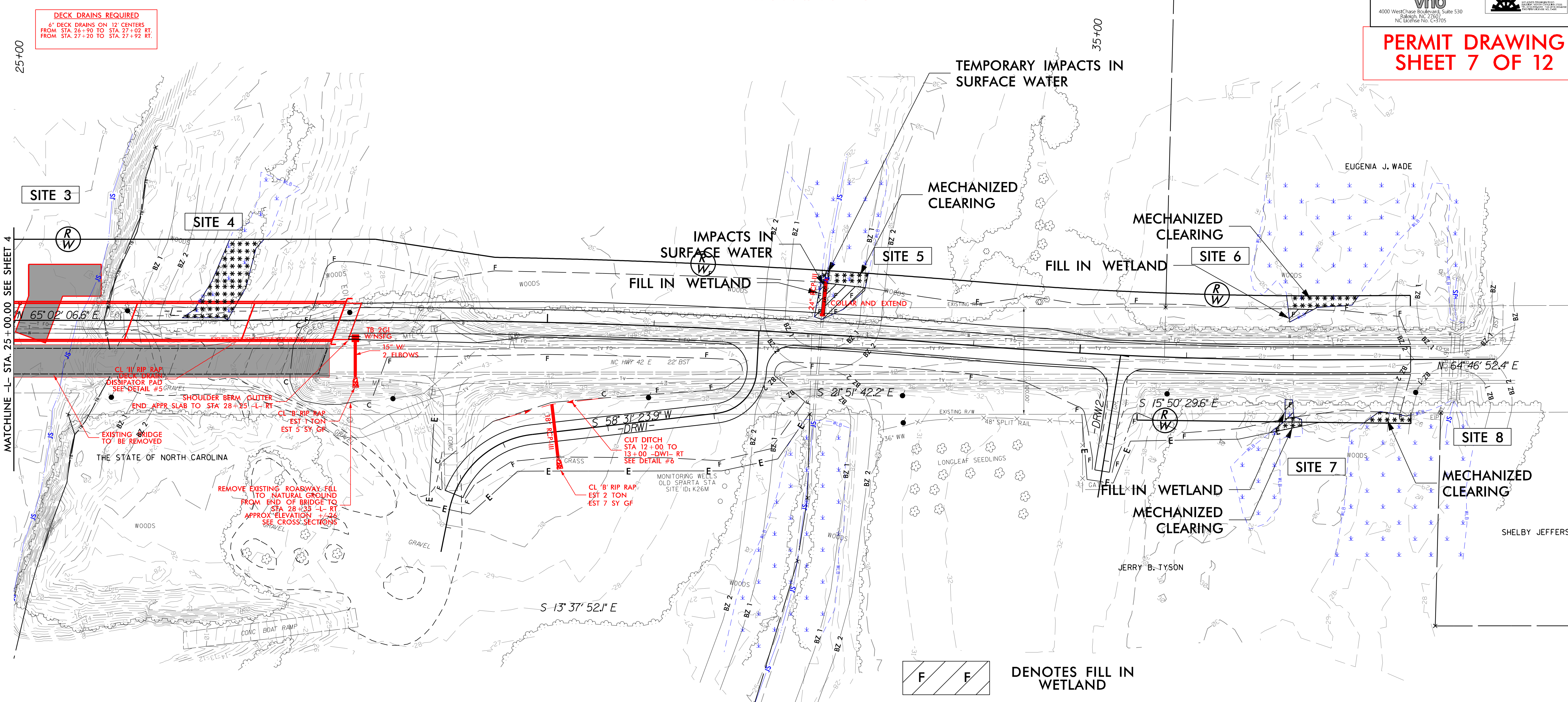
SUNGATE DESIGN GROUP, P.A.

PERMIT DRAWING SHEET 7 OF 12

DETAIL 5
DECK DRAIN DISSIPATOR PAD
(Not to Scale)
FROM STA. 26+85 TO SPILL THRU -L- RT

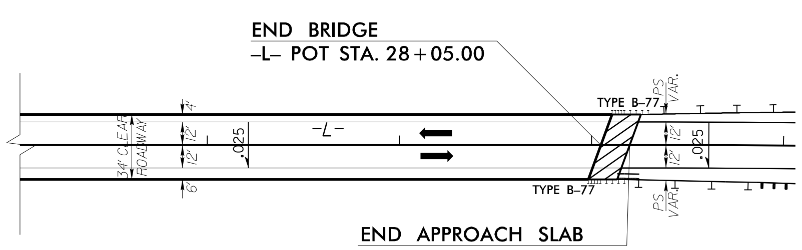
DETAIL 6
CUT DITCH
(Not to Scale)
FROM STA. 12+00 TO STA. 13+00 -DRW1- RT

DECK DRAINS REQUIRED
6" DECK DRAINS ON 12' CENTERS
FROM STA. 26+90 TO STA. 27+02 RT.
FROM STA. 27+20 TO STA. 27+92 RT.



Symbol	Meaning
F F	DENOTES FILL IN WETLAND
S S	DENOTES IMPACTS IN SURFACE WATER
* * *	DENOTES MECHANIZED CLEARING
TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTE: TEMPORARY SIGNAL WILL BE USED FOR ONSITE DETOUR



SKETCH SHOWING BRIDGE / PAVEMENT RELATIONSHIP

FOR -L- PROFILE SEE SHEET 6
FOR -DRW1- & -DRW2- PROFILES SEE SHEET 7

REVISIONS

8/17/99

10/11/2017
B4932_Hyd_prm_wet_psh_05a.dgn

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4932	X-8

PERMIT DRAWING
SHEET 8 OF 12

SITE 4

WETLAND

WETLAND

MECHANIZED CLEARING

0.025 0.025

18.51

27+00.00

0.025 0.025

18.96

26+50.00

0.025 0.025

18.75

26+00.00

10/4/2017
B4932_Hyd_prm_wet_psh_05b.xpl.dgn
jharvey

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
B-4932	X-12

0 5 10

PERMIT DRAWING
SHEET 9 OF 12

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

45 40 35 30 25

SITE 6

WETLAND

WETLAND

WETLAND

SITE 7

0.030 0.001
40.18
3:1 3:1
37+50.00

0.040 0.018
40.17
3:1 3:1
37+00.00

0.040 0.036
40.09
3:1 4:1
36+50.00

0.040 0.040
39.98
3:1 4:1
36+00.00

50 45 40 35 30

SHEARLINE

DRW2
INTERSECTION

0.040 0.040
39.87
3:1
35+50.00

45 40 35 30

0.039 0.039
39.78
3:1 3:1
35+00.00

10/11/2017
B4932 Hyd_prm_wet_psh_05c_xpl.dgn
jharvey

8/23/99

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
B-4932	X-13

PERMIT DRAWING
SHEET 10 OF 12

40.06

38+50.00

EXIST. EXIST.
40.10

38+10.00

WETLAND

SITE 8

0.031 0.019
40.12

3:1

3:1

38+00.00

10/11/2017
B4932_Hyd_prm_xet_psh_05d_xpl.dgn
jharvey

5/28/99

Prepared by

vhb Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27607
NC License No. C-3705

SUNGATE DESIGN GROUP, P.A.
101 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-0243
ENGINEERING LICENSE NO. C-0490

PROJECT REFERENCE NO.	SHEET NO.
B-4932	6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 11 OF 12

BM#1
RR SPIKE IN BASE OF 36" OAK
ELEV.=41.93'
-L- STA.15+96.67' LT

BEGIN GRADE
-L- STA. 12+00.00
EL. = 41.95'

PIPE HYDRAULIC DATA
54" RCP Sta. 14+06 -L-

DRAINAGE AREA	= 150	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 70	CFS
DESIGN HW ELEVATION	= 32.2	FT
100 YEAR DISCHARGE	= 85	CFS
100 YEAR HW ELEVATION	= 32.6	FT
OVERTOPPING FREQUENCY	= + 500	YRS
OVERTOPPING DISCHARGE	= + 120	CFS
OVERTOPPING ELEVATION	= 41	FT

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 42,400	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 38.6	FT
BASE DISCHARGE	= 49,600	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 40.2	FT
OVERTOPPING DISCHARGE	= 67,000	CFS
OVERTOPPING FREQUENCY	= <500	YRS
OVERTOPPING ELEVATION	= 40.5	FT
	=	FT
DATE OF SURVEY	= 11-24-15	
W.S.ELEVATION AT DATE OF SURVEY	= 15.4	FT

BEGIN BRIDGE
-L- STA. 21+95.00

PI = 17+00.00
EL = 43.95'
VC = 200'
K = 283

PI = 24+90.00
EL = 52.70'
VC = 350'
K = 153

TEMP WORK BRIDGE

EXISTING BRIDGE TO BE REMOVED

(-)15.6000%
(-)13.5294%
(+)3.1818%
(+)0.4010%
(+)11.1070%
(+)11.1070%

BEG LAT V DITCH -L- LT PI=12+00 EL=39.8
PI=12+50 -L- LT EL=37.0
EX 42 CMP
54" RCP
BURY 1'
END LAT V DITCH PI=14+20 -L- LT EL=31.0
BEG LAT V DITCH PI=14+40 -L- RT EL=36.0
END LAT V DITCH PI=15+50 -L- RT EL=38.5

BEG 4' LAT BASE DITCH PI=20+50 -L- LT EL=14.0
END 4' LAT BASE DITCH PI=22+00 -L- LT EL=11.45
(-)11.7000%

CL 'I' RIP RAP TO TOP OF BERM 1.5:1 NORMAL 1.6:1 SKEWED (STRUCTURE PAY ITEM)

EL=18.4

MIN 2' ABOVE NWS

FOR -L- PLAN SEE SHEET 4

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

11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00

0 10 20 30 40 50

BM#2
RR SPIKE IN BASE OF 14" GUM
ELEV.=22.03'
-L- STA.25+93.43' LT

CL STA.25+00 -L-
Ø85'.4@110'.Ø85'
SKEW = 110 DEG

END BRIDGE
-L- STA. 28+05.00

PIPE HYDRAULIC DATA
EX 24" RCP Sta. 32+57 -L-

DRAINAGE AREA	= 7.1	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 6	CFS
DESIGN HW ELEVATION	= 26.4	FT
100 YEAR DISCHARGE	= 7.3	CFS
100 YEAR HW ELEVATION	= 26.6	FT
OVERTOPPING FREQUENCY	= + 500	YRS
OVERTOPPING DISCHARGE	= + 11	CFS
OVERTOPPING ELEVATION	= 40.3	FT

BM#3
RR SPIKE IN BASE OF 12" PINE
ELEV.=34.27'
-L- STA.34+54.59' LT

END GRADE
-L- STA. 38+10.00
EL. = 40.31

PI = 33+90.00
EL = 42.09'
VC = 200'
K = 265

TEMP WORK BRIDGE

(-)11.1783%
(-)11.1783%
(-)10.4250%

CL 'I' RIP RAP TO TOP OF BERM 1.5:1 NORMAL 1.6:1 SKEWED (STRUCTURE PAY ITEM)

EX 24" RCP

EL=18.4
3.5' MIN
NWS 16.4

MIN 2' ABOVE NWS

FOR -L- PLAN SEE SHEET 5

25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00

0 10 20 30 40 50

10/12/2017
B4932_hyd_prm_wet_psh_06.dgn
jbarnes

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	13+78 to 14+68 -L- RT LT	54" RCP	< 0.01			0.02		< 0.01	< 0.01	48	17	
2	20+45 to 23+08 -L- LT	ROADSIDE DITCH			0.06	0.04		0.03	< 0.01	271	36	
2A	22+90 to 23+06 -L- LT	ROADSIDE DITCH					< 0.01					
3	21+95 to 28+05 -L-	TEMP CONST BRIDGE							< 0.01			
		TEMP DEMOLITION BRIDGE							< 0.01			
		BRIDGE						< 0.01				
4	26+58 to 27+13 -L- LT	BRIDGE				0.05						
5	32+50 to 32+97 -L- LT	24" RCP	0.02			0.01		< 0.01	< 0.01	36	7	
6	36+94 to 37+58 -L- LT	ROADWAY FILL	< 0.01			0.02						
7	36+81 to 37+08 -L- RT	ROADWAY FILL	< 0.01			< 0.01						
8	37+68 to 38+10 -L- RT	ROADWAY FILL				< 0.01						
TOTALS*:			0.03		0.06	0.15	< 0.01	0.04	< 0.01	355	60	0

*Rounded totals are sum of actual impacts

NOTES:
SITE 3:BRIDGE PERMANENT SURFACE WATER IMPACTS BASED ON 76 SF PER BENT (<.01 AC)
TEMPORARY WORK BRIDGE: TEMPORARY SURFACE WATER IMPACTS BASED ON 390 SF DUE TO BENTS
TEMPORARY DEMOLITION WORK BRIDGE: TEMPORARY SURFACE WATER IMPACTS BASED ON 240 SF DUE TO BENTS

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
10/09/17
EDGECOMBE
B-4932
40137.1.1
SHEET 12 OF 12

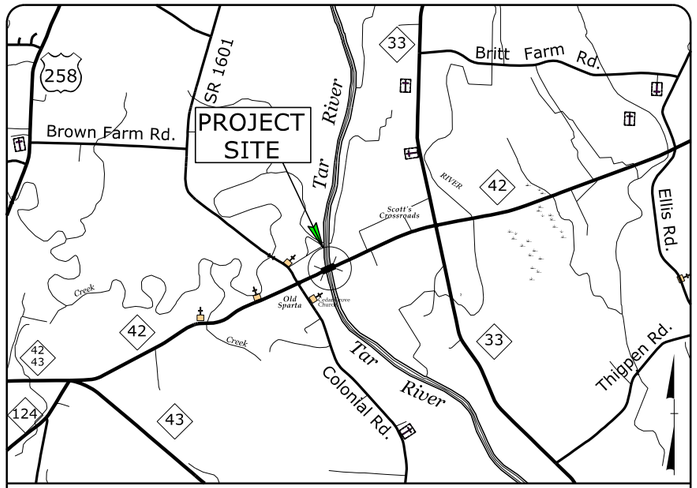
Revised September 2014

09/08/99

TIP PROJECT: B–4932

CONTRACT:

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



VICINITY MAP
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

EDGECOMBE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B–4932	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
40137.1.1	BRSTP–0042(19)	PE
40137.2.1		R/W, UTIL.

BUFFER DRAWING
SHEET 1 OF 5

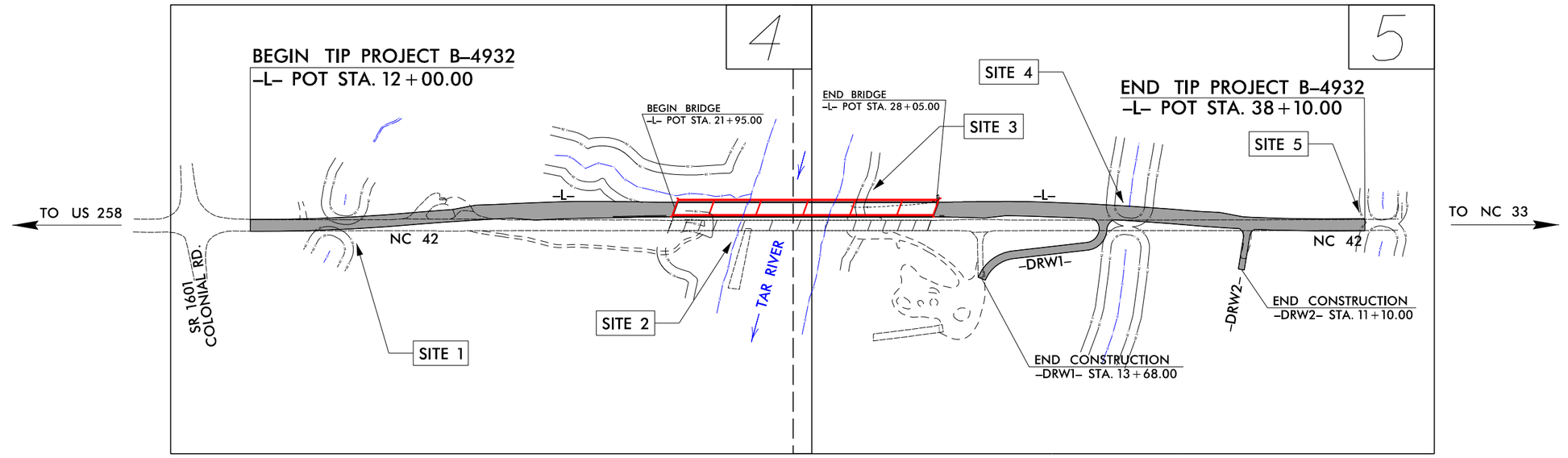
LOCATION: BRIDGE NO. 28 OVER TAR RIVER ON NC 42

TYPE OF WORK: GRADING, PAVING, DRAINAGE, TEMPORARY SIGNALS AND STRUCTURE

RIGHT OF WAY PLANS

BUFFER IMPACTS PERMIT

NAD 83/NSRS 2007



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 2017 = 2410
ADT 2037 = 3180
K = 9 %
D = 60 %
T = 32 % *
V = 60 MPH
* TTST = 22% DUAL 10%
FUNC CLASS =
MAJOR COLLECTOR
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B–4932	=	0.378 MI.
LENGTH STRUCTURE TIP PROJECT B–4932	=	0.116 MI.
TOTAL LENGTH OF TIP PROJECT B–4932	=	0.494 MI.

Prepared for the North Carolina Department of Transportation
In the Office of:
Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
NC License No. C-3705

SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 890-0245
ENGINEER LICENSE NO. C-4190

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 17, 2017

LETTING DATE:
MARCH 20, 2018

JIMMY GOODNIGHT, PE
PROJECT ENGINEER

JERRY JAVELLANA, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACT TATIA L. WHITE, PE, PLS
ROADWAY DESIGN PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

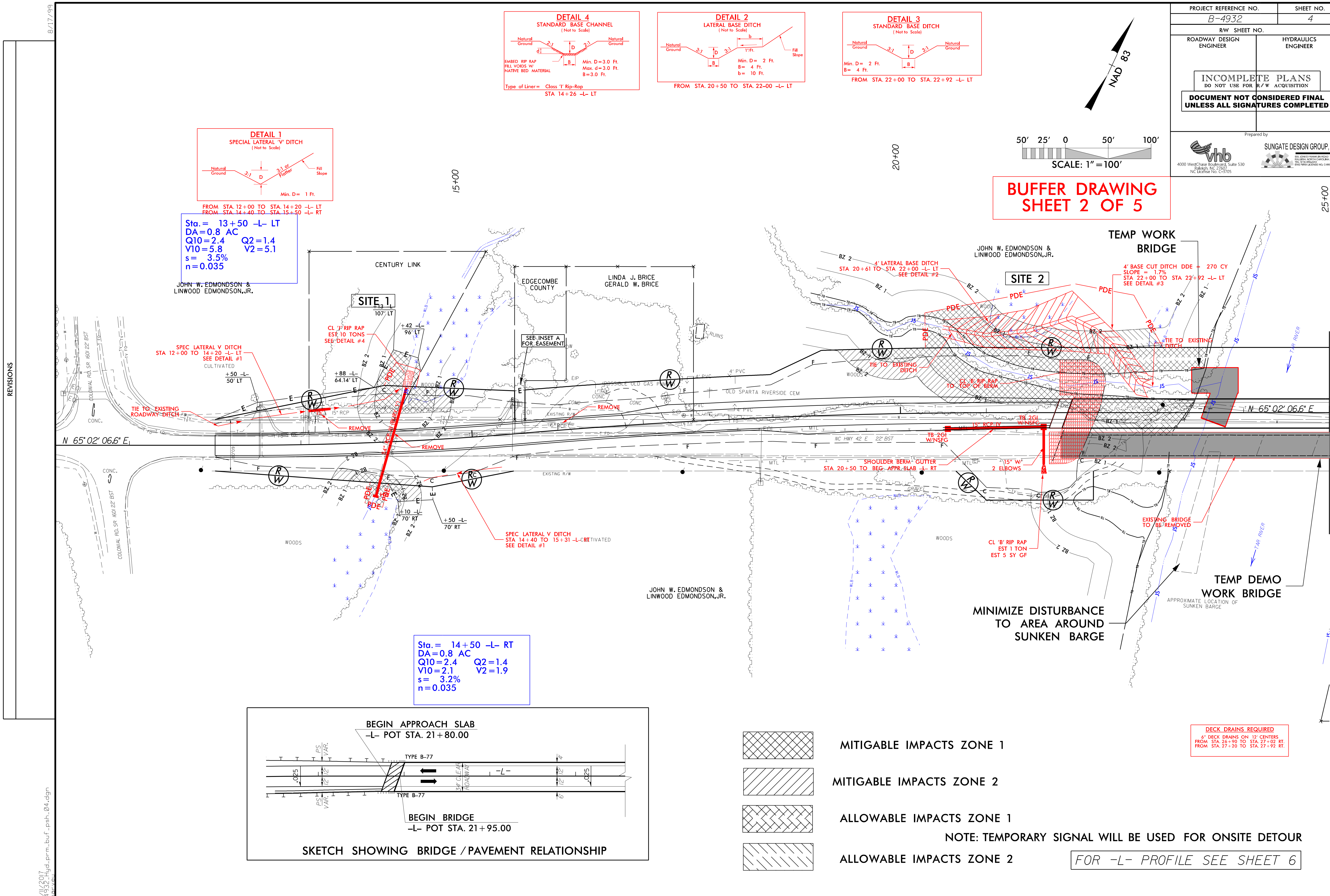
P.E.
SIGNATURE:

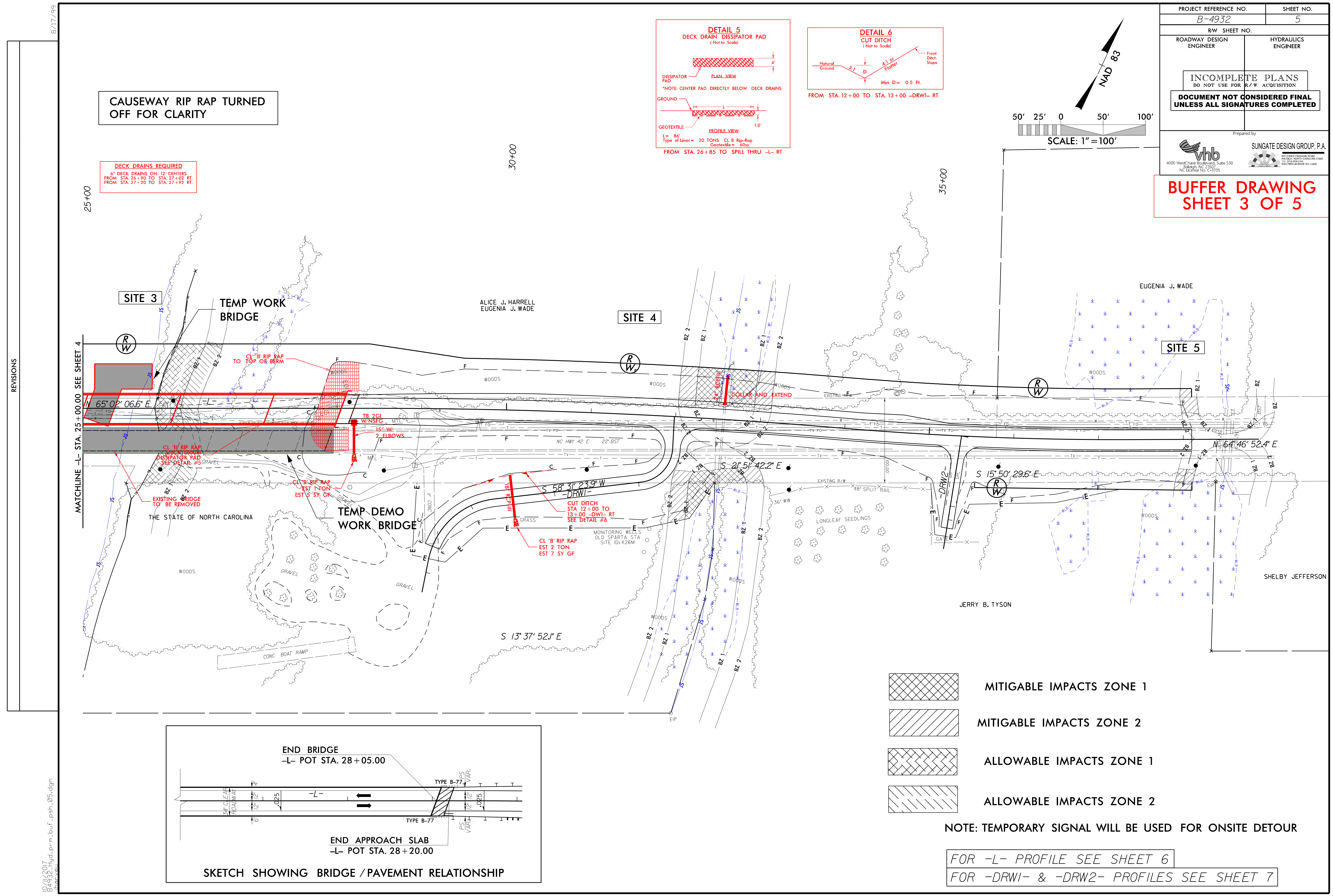
ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

10/11/2017
B4932_Hyd_prm_buf_psh_01.dgn
jharvey


PROJECT REFERENCE NO.
B-4932
SHEET NO.
4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
Prepared by
vhb
SUNGATE DESIGN GROUP, P.A.
BUFFER DRAWING
SHEET 2 OF 5
NAD 83
SCALE: 1" = 100'
DETAIL 4
STANDARD BASE CHANNEL
(Not to Scale)
Type of Liner = Class 'I' Rip-Rap
STA 14+26 -L- LT
DETAIL 2
LATERAL BASE DITCH
(Not to Scale)
FROM STA. 20+50 TO STA. 22+00 -L- LT
DETAIL 3
STANDARD BASE DITCH
(Not to Scale)
FROM STA. 22+00 TO STA. 22+92 -L- LT
DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
FROM STA. 12+00 TO STA. 14+20 -L- LT
FROM STA. 14+40 TO STA. 15+50 -L- RT
Sta. = 13+50 -L- LT
DA = 0.8 AC
Q10 = 2.4 Q2 = 1.4
V10 = 5.8 V2 = 5.1
s = 3.5%
n = 0.035
Sta. = 14+50 -L- RT
DA = 0.8 AC
Q10 = 2.4 Q2 = 1.4
V10 = 2.1 V2 = 1.9
s = 3.2%
n = 0.035
SITE 1
SITE 2
TEMP WORK BRIDGE
TEMP DEMO WORK BRIDGE
MINIMIZE DISTURBANCE TO AREA AROUND SUNKEN BARGE
EXISTING BRIDGE TO BE REMOVED
MATCHLINE -L- STA. 25+00.00 SEE SHEET 5
N 65° 02' 06.6" E
JOHN W. EDMONDSON & LINWOOD EDMONDSON, JR.
LINDA J. BRICE
GERALD W. BRICE
EDGECOMBE COUNTY
CENTURY LINK
TAR RIVER
BEGIN APPROACH SLAB
-L- POT STA. 21+80.00
BEGIN BRIDGE
-L- POT STA. 21+95.00
SKETCH SHOWING BRIDGE / PAVEMENT RELATIONSHIP
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2
ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2
NOTE: TEMPORARY SIGNAL WILL BE USED FOR ONSITE DETOUR
FOR -L- PROFILE SEE SHEET 6
DECK DRAINS REQUIRED
REVISIONS
8/17/99
10/11/2017
B4932_Hyd_prm_buf_psh_04.dgn



PROJECT REFERENCE NO.
B-4932
SHEET NO.
5
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
Prepared by
vhb
SUNGATE DESIGN GROUP, P.A.
BUFFER DRAWING
SHEET 3 OF 5
NAD 83
SCALE: 1" = 100'
CAUSEWAY RIP RAP TURNED OFF FOR CLARITY
DECK DRAINS REQUIRED
6" DECK DRAINS ON 12' CENTERS
FROM STA. 26+90 TO STA. 27+02 RT.
FROM STA. 27+20 TO STA. 27+92 RT.
DETAIL 5
DECK DRAIN DISSIPATOR PAD
(Not to Scale)
PLAN VIEW
PROFILE VIEW
*NOTE: CENTER PAD DIRECTLY BELOW DECK DRAINS
L= 86'
Type of Liner= 20 TONS CL B Rip-Rap
Geotextile= 60sy
FROM STA. 26+85 TO SPILL THRU -L- RT
DETAIL 6
CUT DITCH
(Not to Scale)
Min. D= 0.5 Ft.
FROM STA. 12+00 TO STA. 13+00 -DRW1- RT
25+00
30+00
35+00
MATCHLINE -L- STA. 25+00.00 SEE SHEET 4
SITE 3
SITE 4
SITE 5
TEMP WORK BRIDGE
TEMP DEMO WORK BRIDGE
ALICE J. HARRELL
EUGENIA J. WADE
EUGENIA J. WADE
THE STATE OF NORTH CAROLINA
JERRY B. TYSON
SHELBY JEFFERSON
N 65° 02' 06.6" E
N 64° 46' 52.4" E
S 58° 31' 23.9" W
S 21° 51' 42.2" E
S 15° 50' 29.6" E
S 13° 37' 52.1" E
-DRW1-
-DRW2-
CL 'II' RIP RAP TO TOP OF BERM
CL 'II' RIP RAP DECK DRAIN DISSIPATOR PAD SEE DETAIL #5
EXISTING BRIDGE TO BE REMOVED
CL 'B' RIP RAP EST 1 TON EST 5 SY GF
TB 2GI W/NSFG
15" W/ 2 ELBOWS
COLLAR AND EXTEND
CUT DITCH STA 12+00 TO 13+00 -DW1- RT SEE DETAIL #6
CL 'B' RIP RAP EST 2 TON EST 7 SY GF
MONITORING WELLS OLD SPARTA STA SITE ID: K26M
NC HWY 42 E
LONGLEAF SEEDLINGS
CONC BOAT RAMP
WOODS
GRAVEL
END BRIDGE
-L- POT STA. 28+05.00
END APPROACH SLAB
-L- POT STA. 28+20.00
SKETCH SHOWING BRIDGE / PAVEMENT RELATIONSHIP
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2
ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2
NOTE: TEMPORARY SIGNAL WILL BE USED FOR ONSITE DETOUR
FOR -L- PROFILE SEE SHEET 6
FOR -DRW1- & -DRW2- PROFILES SEE SHEET 7
REVISIONS
8/17/99
10/11/2017
B4932_Hyd_prm_buf_psh_05.dgn

RIPARIAN BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE				
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	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	54" RCP	13+38 to 14+78 -L-	X					0	4286	2039	6325		
2	BRIDGE	19+24 to 23+43 -L-		X				0	14469	6316	20785		
				X		7205	2337	9542			0		
3	BRIDGE	25+85 to 26+63 -L-		X		4468	2932	7400			0		
4	ROADWAY	32+02 to 33+12 -L-	X					0	4367	3469	7836		
5	ROADWAY	37+89 to 38+19 -L-	X					0		1022	1022		
TOTAL:						11673	5269	16942	23122	12846	35968	0.0	0.0

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
B-4932
EDGECOMBE COUNTY
PROJECT: 40137.1.1

DATE 04/07/17
SHEET 4 OF 5

Rev. May 2006

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	13+38 to 14+78 -L-		720	136
2	19+24 to 23+43 -L-			1312
4	32+02 to 33+12 -L-		1033	40
5	37+89 to 38+19 -L-			164
TOTAL:			1753	1652

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
B-4932
EDGECOMBE COUNTY
PROJECT: 40137.1.1

DATE 04/07/17
SHEET 5 OF 5

Rev. May 2006

WETHERILL ENGINEERING
WE Design Your Tomorrow . . .

Raleigh
Transportation
Planning
Bridge/Structural
Civil/Site
Construction Observation
Surveying

Wilmington
Surveying

Date: 25 October 2016
TIP Number: B-4932
County: Edgecombe
Description: Bridge #28 over Tar River on NC 42

B-4932 NEU Environmental Permit Narrative

This roadway project is located in the Tar-Pamlico River Basin. The adjacent area contains some delineated wetland areas.

Edgecombe County Public Utilities (Water)

The existing underground water main along the north side of NC 42 is in conflict with the proposed new bridge and must be relocated. Edgecombe County Public Utilities will install new valves at the beginning and end of the project limits to allow the existing water main to be isolated and abandoned. A new water main will be installed along the south side of the new bridge after the project is complete. The new water main will be bored under the Tar River to eliminate impacts to the river and buffer zones. The path of the proposed water main will follow the current alignment of NC 42 inside the existing ROW and will not create any wetland impacts.

Edgecombe Martin EMC (Power)

The existing overhead power lines the cross the Tar River will remain in place. There will be no environmental impacts from power.

CenturyLink (Telephone)

The existing underground telephone cables along the north side of the NC 42 are in conflict with the proposed new bridge and must be relocated. CenturyLink will bore under NC 42 at ± STA 12+50. They will then install new telephone cables along the south side on NC 42 staying approximately 5' inside the existing ROW. The creek crossing at ± STA 14+00 will be bored to eliminate impacts to the creek and buffer zones. There are no wetland impacts on this segment of CenturyLink's relocation route.

CenturyLink will bore under NC 42 at ± STA 19+08 to get back to the north side. A bore pit will be established inside the proposed ROW approximately 105' north of the existing centerline of NC 42. From there CenturyLink will bore under the Tar River, following approximately 5' inside the proposed ROW, to a receiving pit in an existing clearing at ± STA 35+00. The proposed telephone cables will be tied back to the existing underground telephone at ± STA 35+50. The crossing of the Tar River and wetland areas on the north side of NC 42 will be bored to eliminate impacts to the wetlands and buffer zones.

There will be hand clearing to create space for the bore pits and a path for equipment to reach the bore pits from the road. All of the proposed clearing will be outside the buffer zones and wetland areas.

Suddenlink (CATV)

The existing overhead CATV lines that cross the river will remain in place. The existing underground CATV lines on the east side of the Tar River will be relocated to the existing power poles. There will be no environmental impacts from CATV.

1223 Jones Franklin Road
Raleigh, NC 27606

Phone: 919.851.8077
Fax: 919.851.8107
www@wetherilleng.com

TIP PROJECT: B–4932

T.I.P. NO.	SHEET NO.
B–4932	UE–1

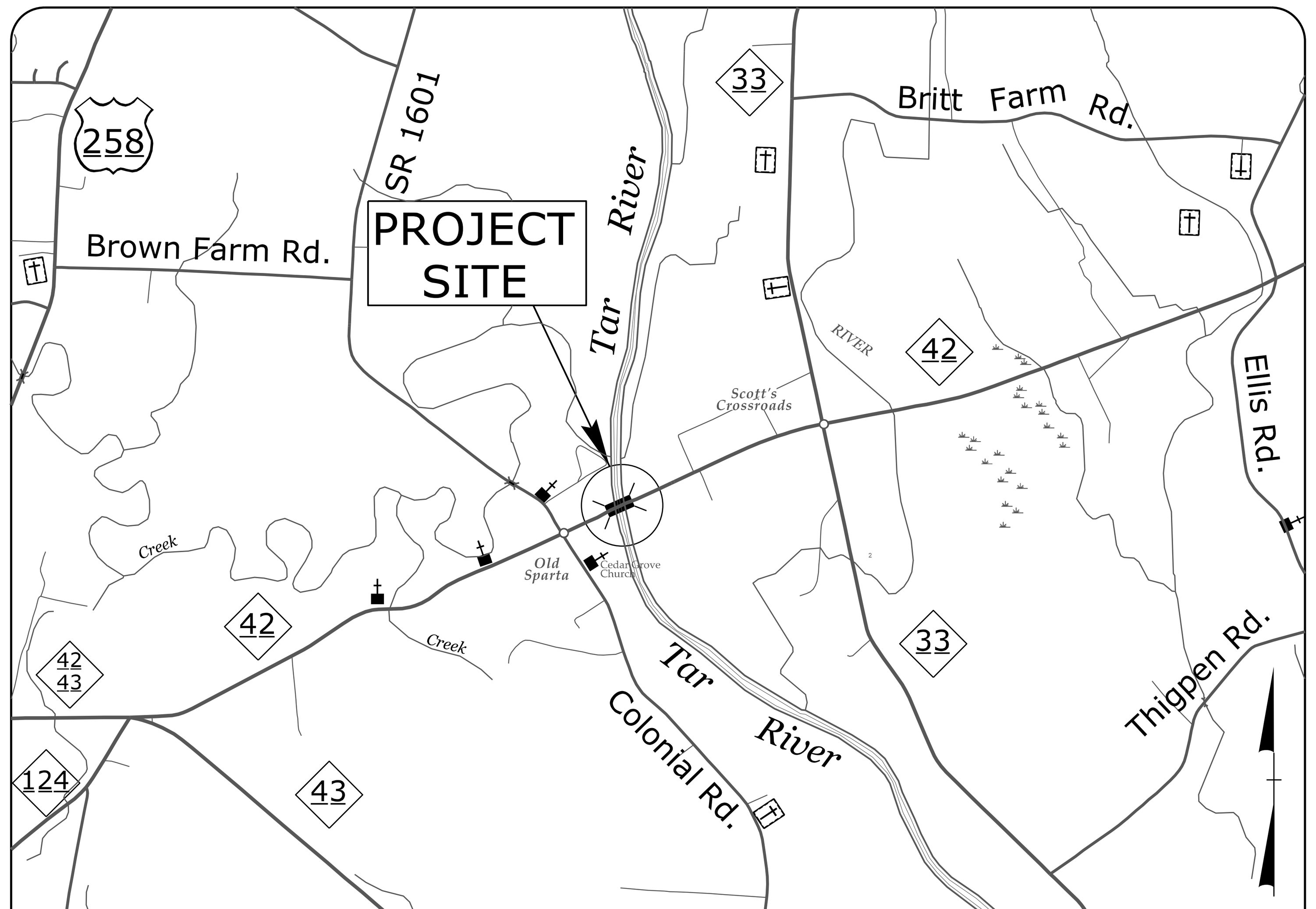
NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET IS DONE BY OTHERS.
NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NEU PERMIT PLANS EDGECOMBE COUNTY

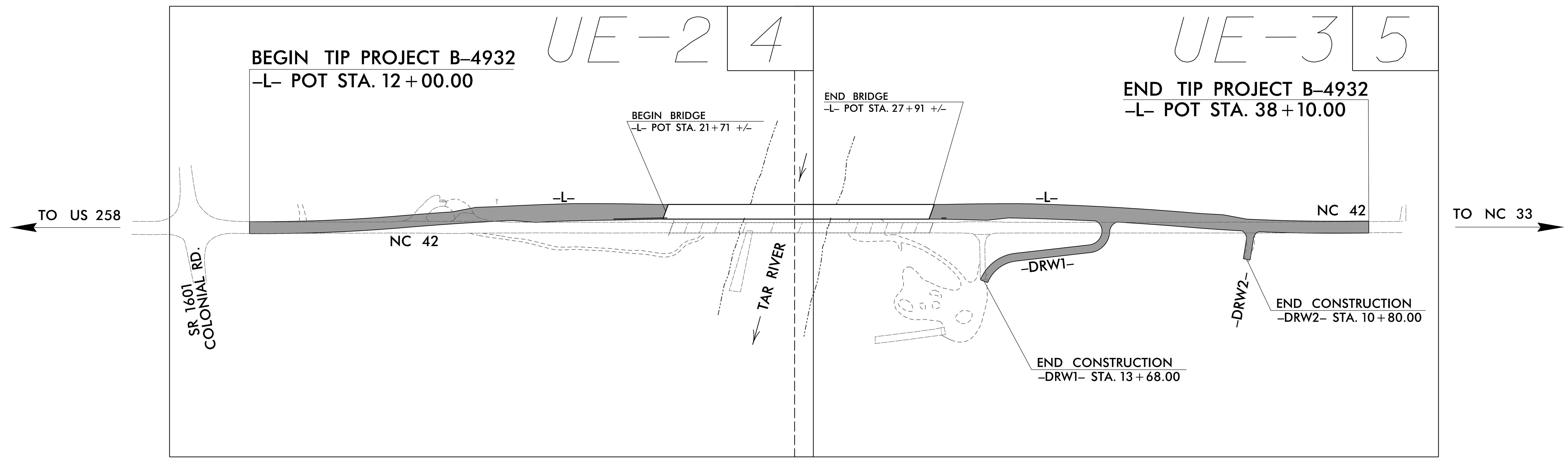
LOCATION: BRIDGE NO. 28 OVER TAR RIVER ON NC 42

TYPE OF WORK: WATER, TELEPHONE, POWER, AND CATV RELOCATION



VICINITY MAP
NOT TO SCALE

NAD 83



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

UTILITY OWNERS WITH CONFLICTS

(A) WATER – EDGECOMBE COUNTY
(B) POWER – EDGECOMBE MARTIN EMC
(C) TELEPHONE – CENTURYLINK
(D) CATV – SUDDENLINK

PREPARED IN THE OFFICE OF:

WETHERILL ENGINEERING
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F–0377
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN – BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN – GIS/GPS – CONSTRUCTION OBSERVATION

John D. Schriner, PLS — PROJECT UTILITY COORDINATOR

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

Bo Hemphill, PE — UTILITIES REGIONAL ENGINEER
Kelvin Martin — UTILITIES ENGINEER
Ed Reams — UTILITIES AREA COORDINATOR
Larry James — UTILITIES COORDINATOR

09/08/99
$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4932	UE-2

UTILITY IMPACTS

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83

TIED TO EXISTING UG TELEPHONE

BEGIN TELEPHONE BORE

PROPOSED TELEPHONE CONDUIT BORED UNDER RIVER. 5' INSIDE R/W (TYP)

BEGIN BRIDGE -L- POT STA. 21+71

BEGIN PROJECT B-4932
-L- POT STA. 12+00.00

-L- PC Sta. 12+27.96

-L- PRC Sta. 15+58.54

-L- PT Sta. 21+22.82

-B4932 GPS-2 POT

EXISTING O/H POWER TO REMAIN IN PLACE (TYP)

PROPOSED U/G TELEPHONE 5' INSIDE R/W (TYP)

EXISTING POWER POLE TO REMAIN IN PLACE (TYP)

SHOULDER BERM GUTTER STA 20+50 TO BEG APPR SLAB -L- RT

MATCHLINE -L- STA. 25+00.00 SEE SHEET UE-3

JOHN W. EDMONDSON & LINWOOD EDMONDSON, JR.
FILE 98-E/0367
MB IIPG 9

EDGECOMBE COUNTY
DB 1301 PG 1024

CAROLINA TELEPHONE AND TELEGRAPH
DB 1081 PG 125
3 SY 509

LINDA B. JOHNSON
FILE - 14E PG-363

BL 100 PINC

SPEC LATERAL V DITCH SEE DETAIL #1

4' LATERAL BASE DITCH SEE DETAIL #2

4' BASE CUT DITCH SLOPE = 1.7% SEE DETAIL #3

CL 'J' RIP RAP BANKS ONLY EST 45 TONS

CL 'I' RIP RAP TO TOP OF BERM

CL 'B' RIP RAP EST 1 TON EST 5 SY GF

TIE TO EXISTING ROADWAY DITCH

TIE TO EXISTING DITCH

EXISTING BRIDGE TO BE REMOVED

APPROXIMATE LOCATION OF SUNKEN BARGE

COLONIAL RD.-SR 1602 22' BST

TAR RIVER

BANK OF RIVER IS PROPERTY LINE

REVISIONS 5/14/99

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PROJECT REFERENCE NO.	SHEET NO.
B-4932	UE-3

UTILITY IMPACTS

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83

PROPOSED TELEPHONE CONDUIT BORED UNDER RIVER. 5' INSIDE R/W (TYP)

EXISTING O/H POWER TO REMAIN IN PLACE (TYP)

PROPOSED TELEPHONE CONDUIT 5' INSIDE R/W (TYP)

TIED TO EXISTING U/G TELEPHONE

NEW WATER VALVE TO BE INSTALLED OUTSIDE OF PROJECT LIMITS

END BRIDGE
-L- POT STA. 27+91 +/-

-L- PC Sta. 28+38.82

-L- POC Sta. 31+98.44 =
-DRW1- PC Sta. 10+00.00

-L- POC Sta. 35+38.22 =
-DRW2- POT Sta. 10+00.00

-L- POT Sta. 38+89.19

-L- PT Sta. 37+39.47

MATCHLINE -L- STA. 25+00.00 SEE SHEET UE-2

25+00

30+00

35+00

+38.82 -L- 65' LT

+50 -L- 60' LT

+60 -L- 65' LT 40' LT

+95.88 -L- 60' LT

+39.47 -L- 60' LT

+10 -L- 60' LT EX. R/W

+56 -L- EX. R/W 64' RT

+00 -L- 80' RT

+39.47 -L- 60' RT

+10 -L- EX. R/W 60' RT

CL "II" RIP RAP TO TOP OF BERM

TOP=48.36
INV=45.61

TYPE 8-77

TB 2GI W/NSFG

15" W/ 2 ELBOWS

GRAU 350 TL-3

COLLAR AND EXTEND

24" RCP III

INV=24.41

INV=28.76

INV=31.5

INV=31.0

18" RCP III

CUT DITCH SEE DETAIL #4

EXISTING BRIDGE TO BE REMOVED

EXISTING POWER POLE TO REMAIN IN PLACE (TYP)

PROPOSED POWER POLE

-DRW1- PC Sta. 12+71.15

END CONSTRUCTION
-DRW1- Sta. 13+68.00

-DRW1- PT Sta. 13+84.49

-DRW1- POT Sta. 14+23.63

PROPOSED POWER POLE

-DRW1- PC Sta. 10+38.01

-DRW1- PT Sta. 10+96.93

-L- PRC Sta. 33+95.88

END CONSTRUCTION
-DRW2- Sta. 11+10.00

-DRW2- POT Sta. 11+35.04

TIED TO EXISTING U/G CATV

TIED TO EXISTING POWER POLE

END PROJECT B-4932
-L- POT STA. 38+10.00

THE STATE OF NORTH CAROLINA
DB 571PG 451
MB 15 PG 79

ALICE HARRELL TIC &
EUGENIA WADE TIC
FILE 05-E-172
MB 15 PG 79

WADE E. JONES
DB 1464 PG 491
PC 9 FG 31

JERRY B. TYSON
DB 1015 PG 439
MB 15 PG 79

SHELBY JEFFERSON
DB 897 PG 522

MONITORING WELLS
OLD SPARTA STA
SITE ID: K26M

BANK OF RIVER IS PROPERTY LINE

S 65°02'04" W
704.00'

S 64°59'31" W
200.00'

NOTES:
1) THE EXISTING OVERHEAD POWER WILL BE DE-ENERGIZED AND GROUNDED FROM STA 12+00 TO STA 38+10 UNTIL THE PROJECT IS COMPLETE.
2) THE EXISTING OVERHEAD PWOER AND CATV WILL BE ALLOWED TO REMAIN IN PLACE UNDER THE CONDITION THAT THEY ACCEPT LIABILITY FOR ANY DAMAGE THAT MAY OCCUR DURING CONSTRUCTION.

REVISIONS

5/14/99

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PROJECT REFERENCE NO.	SHEET NO.
B-4932	UE-2

UTILITY IMPACTS

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83

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BEGIN TELEPHONE BORE

PROPOSED TELEPHONE CONDUIT BORED UNDER RIVER. 5' INSIDE R/W (TYP)

BEGIN BRIDGE -L- POT STA. 21+71

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-L- POT STA. 12+00.00

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JOHN W. EDMONDSON & LINWOOD EDMONDSON, JR.
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EDGECOMBE COUNTY
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CAROLINA TELEPHONE AND TELEGRAPH
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REVISIONS 5/14/99

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PROJECT REFERENCE NO.	SHEET NO.
B-4932	UE-3

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-DRW2- POT Sta. 10+00.00

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25+00

30+00

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THE STATE OF NORTH CAROLINA
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ALICE HARRELL TIC &
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FILE 05-E-172
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DB 897 PG 522

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OLD SPARTA STA
SITE ID: K26M

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REVISIONS

5/14/99

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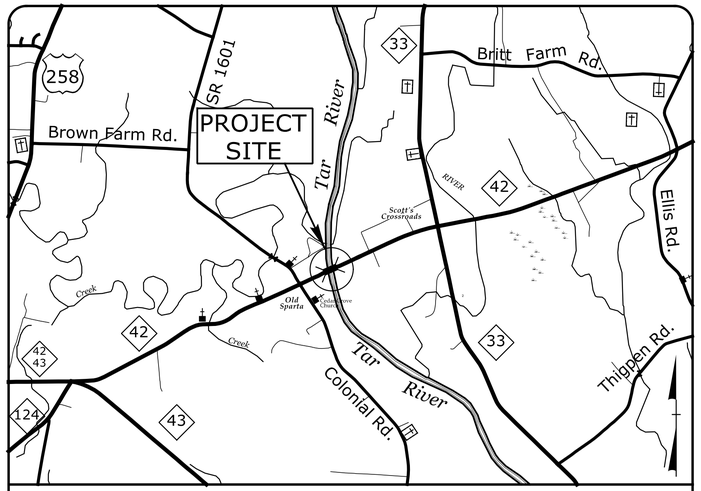
09/08/99

TIP PROJECT: B–4932

CONTRACT:

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



VICINITY MAP
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

EDGECOMBE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B–4932	1	

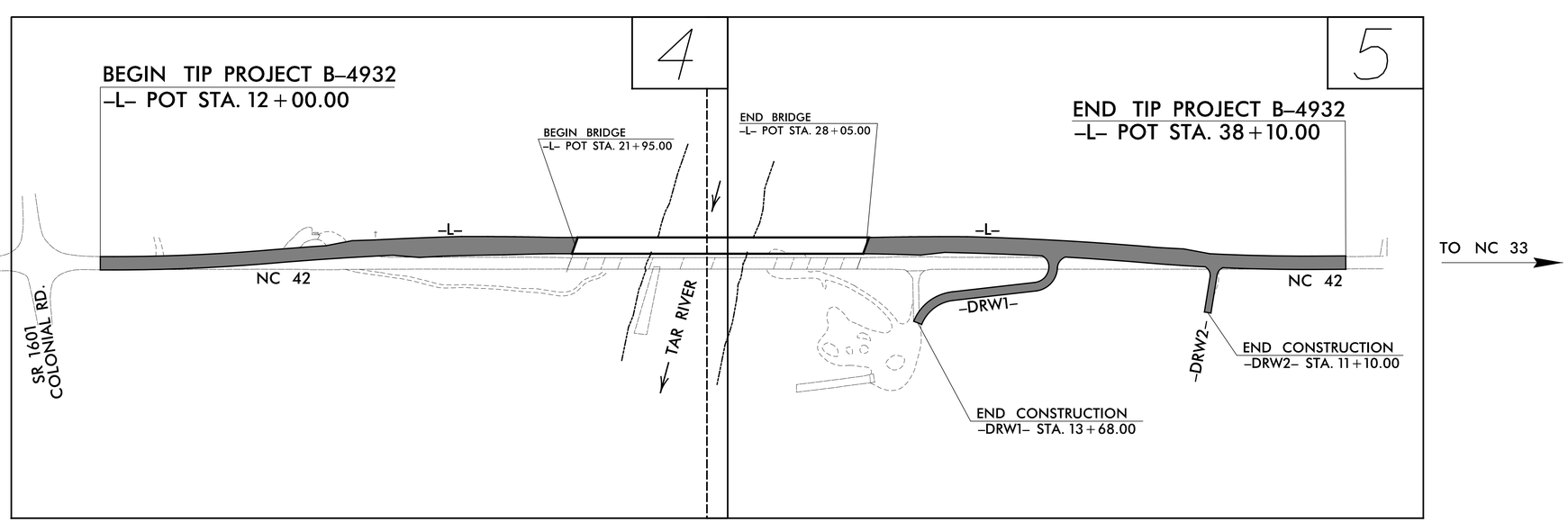
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
40137.1.1	BRSTP–0042(19)	PE
40137.2.1		R/W, UTIL.

LOCATION: BRIDGE NO. 28 OVER TAR RIVER ON NC 42

TYPE OF WORK: GRADING, PAVING, DRAINAGE, TEMPORARY SIGNALS AND STRUCTURE

RIGHT OF WAY PLANS

NAD 83/NSRS 2007



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 2017 = 2410
ADT 2037 = 3180
K = 9 %
D = 60 %
T = 32 % *
V = 60 MPH
* TTST = 22% DUAL 10%
FUNC CLASS =
MAJOR COLLECTOR
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B–4932 = 0.378 MI.
LENGTH STRUCTURE TIP PROJECT B–4932 = 0.116 MI.
TOTAL LENGTH OF TIP PROJECT B–4932 = 0.494 MI.

Prepared for the North Carolina Department of Transportation
In the Office of:
vhb
Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
NC License No. C-3705

SUNGATE DESIGN GROUP, P.A.
810 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243 FAX (919) 859-6259
ENG FIRM LICENSE NO. C-850

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 17, 2017

LETTING DATE:
MARCH 20, 2018

JIMMY GOODNIGHT, PE
PROJECT ENGINEER

JERRY JAVELLANA, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACT TATIA L. WHITE, PE, PLS
ROADWAY DESIGN PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

3/8/2017
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JJavellana

04/06/15

PROJECT REFERENCE NO.	SHEET NO.
B-4932	1B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale **S.U.E. = Subsurface Utility Engineering*

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — VINEYARD

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- U/G Power Line LOS B (S.U.E.*) — P
- U/G Power Line LOS C (S.U.E.*) — P
- U/G Power Line LOS D (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- U/G Telephone Cable LOS B (S.U.E.*) — T
- U/G Telephone Cable LOS C (S.U.E.*) — T
- U/G Telephone Cable LOS D (S.U.E.*) — T
- U/G Telephone Conduit LOS B (S.U.E.*) — TC
- U/G Telephone Conduit LOS C (S.U.E.*) — TC
- U/G Telephone Conduit LOS D (S.U.E.*) — TC
- U/G Fiber Optics Cable LOS B (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS C (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS D (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E*) — W
- U/G Water Line LOS C (S.U.E*) — W
- U/G Water Line LOS D (S.U.E*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Cable LOS B (S.U.E.*) — TV
- U/G TV Cable LOS C (S.U.E.*) — TV
- U/G TV Cable LOS D (S.U.E.*) — TV
- U/G Fiber Optic Cable LOS B (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS C (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS D (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) — G
- U/G Gas Line LOS C (S.U.E.*) — G
- U/G Gas Line LOS D (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Forced Main Line LOS B (S.U.E.*) — FSS
- SS Forced Main Line LOS C (S.U.E.*) — FSS
- SS Forced Main Line LOS D (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line LOS B (S.U.E.*) — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole LOS A (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

PROJECT REFERENCE NO.	SHEET NO.
B-4932	2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared by

vhb

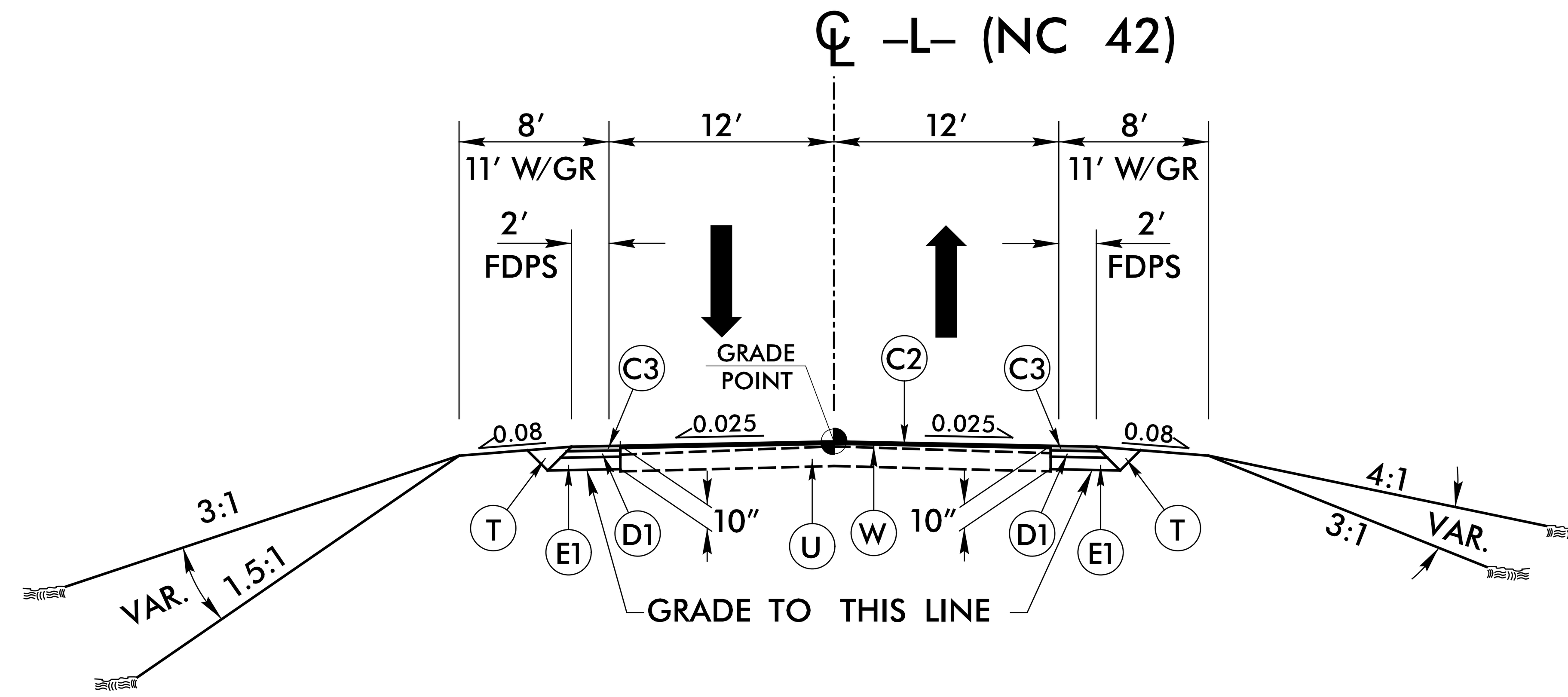
Venture I, 940 Main Campus Drive, Suite 500
Raleigh, NC 27606
NC License No. C-3705

SUNGATE DESIGN GROUP, P.A.

FINAL PAVEMENT SCHEDULE

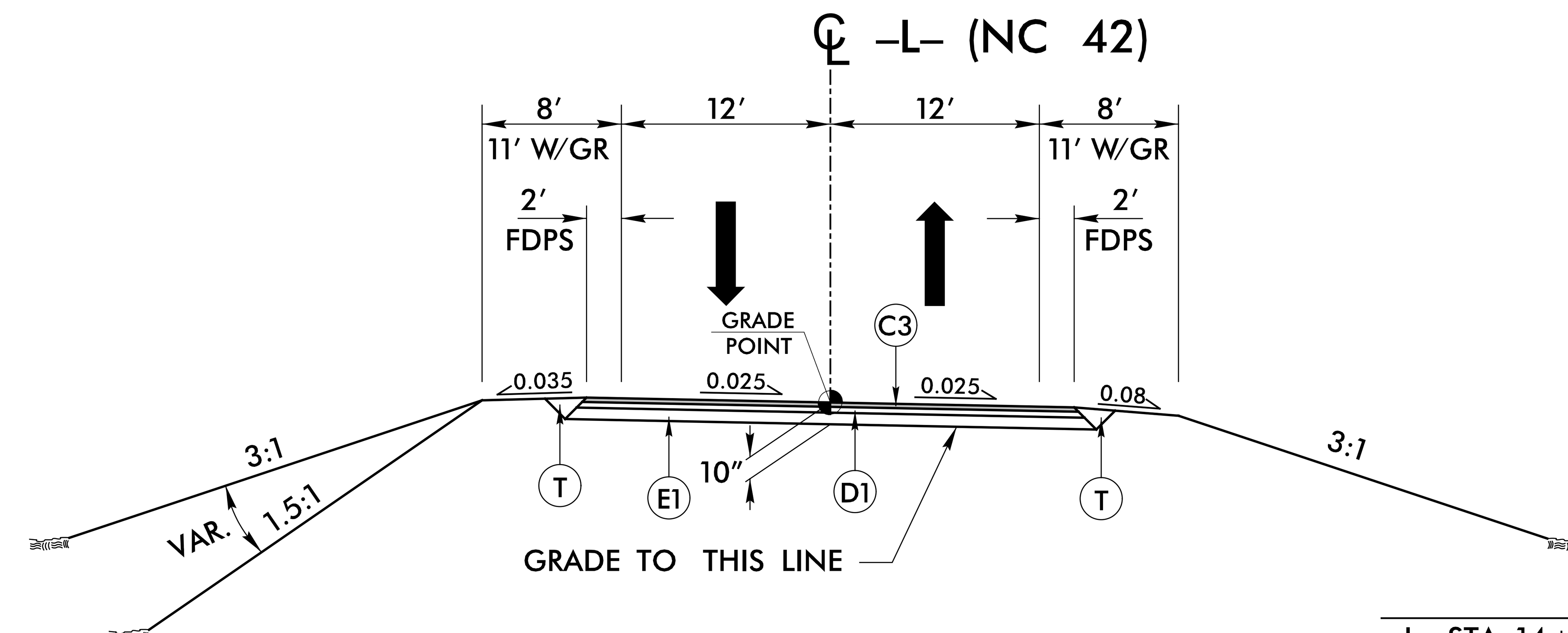
C1	PROP. APPROX. 2″ ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 1½″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1″ DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 2″ IN DEPTH.
D1	PROP. APPROX. 3″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½″ IN DEPTH OR GREATER THAN 4″ IN DEPTH.
E1	PROP. APPROX. 4″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3″ IN DEPTH OR GREATER THAN 5½″ IN DEPTH.
J	PROP. 8″ AGGREGATE BASE COURSE
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



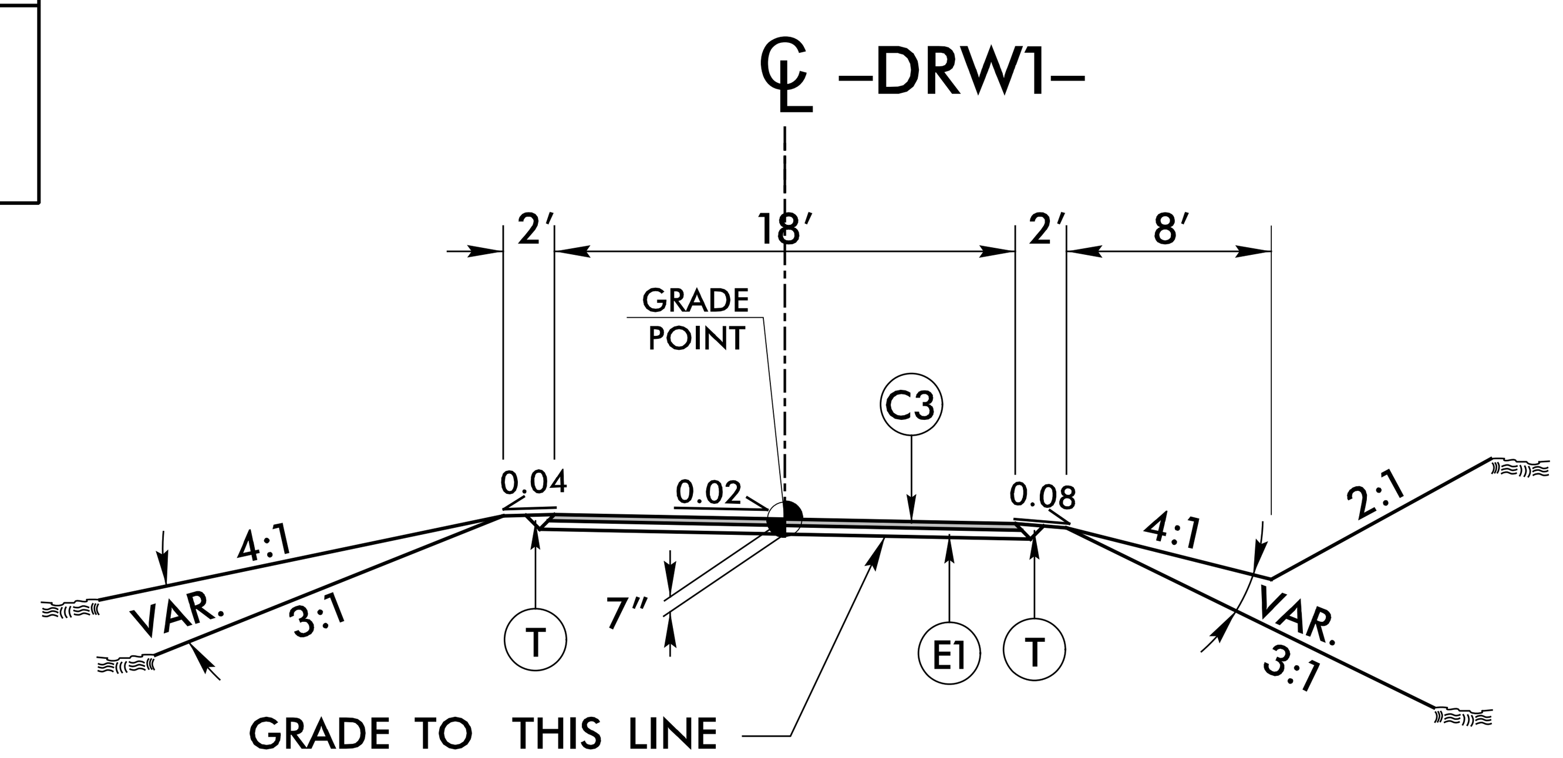
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
-L- STA. 12+00.00 TO STA. 14+20.00
-L- STA. 35+96.00 TO STA. 38+10.00



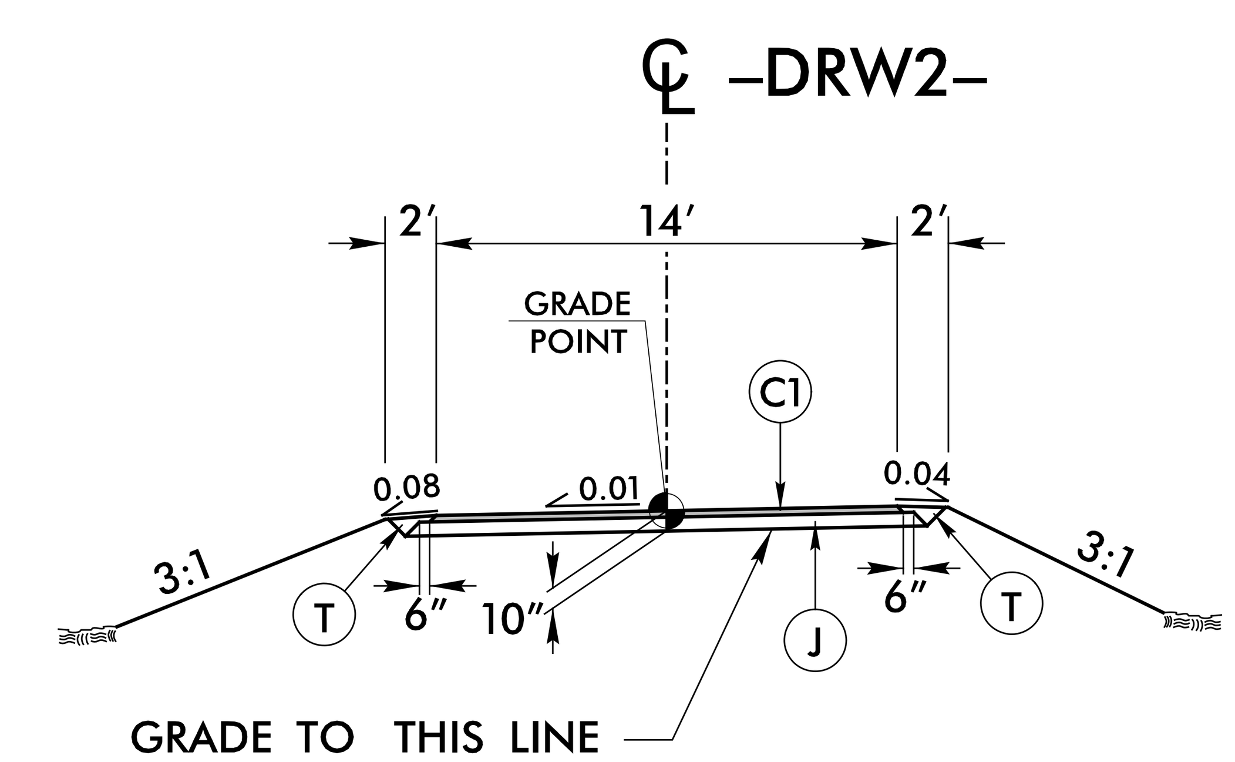
TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
-L- STA. 14+20.00 TO STA. 21+95.00 (BEGIN BRIDGE)
-L- STA. 28+05.00 (END BRIDGE) TO STA. 35+96.00



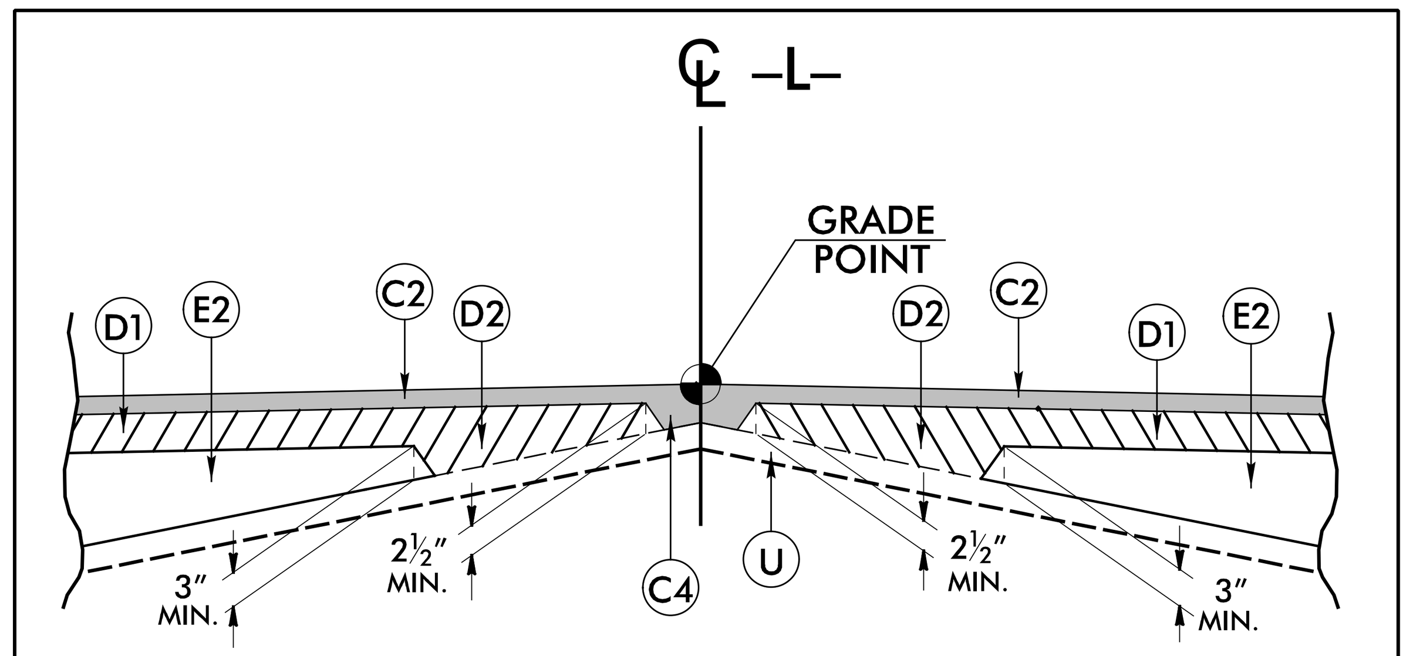
TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
-DRW1- STA. 10+12.00 TO STA. 13+68.00

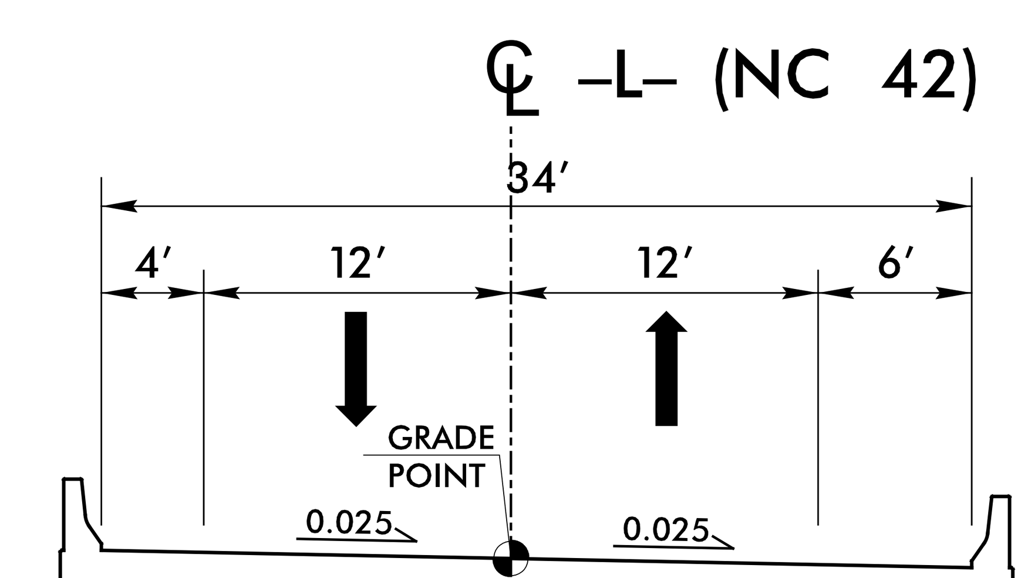


TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
-DRW2- STA. 10+12.08 TO STA. 11+10.00



DETAIL SHOWING METHOD OF WEDGING ON -L-



TYPICAL SECTION ON STRUCTURE

-L- STA. 21+95.00 (BEGIN BRIDGE) TO STA. 28+05.00 (END BRIDGE)

6/2/99

3/8/2017
R:\Roadway\Proj\B4932_rdy_typ.dgn

8/17/99

REVISIONS

041817 – ROW REVISION: REVISED PDE FROM –L– STA. 20+30.00 TO STA. 22+04.00 LT. ON PARCEL 1. – JJ

PROJECT REFERENCE NO.	SHEET NO.
B-4932	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared by

vhb
Venture I, 940 Main Campus Drive, Suite 500
Raleigh, NC 27606
NC License No. C-3705

SUNGATE DESIGN GROUP, P.A.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

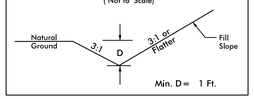
NAD 83/NSRS 2007

–L– CURVE DATA

PI Sta 13+93.35
Δ = 4° 52' 08.6" (LT)
D = 1° 28' 22.4"
L = 330.58'
T = 165.39'
R = 3,890.00'
SE = .04
RO = 107'

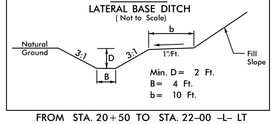
PI Sta 18+40.85
Δ = 4° 52' 08.6" (RT)
D = 0° 51' 46.4"
L = 564.28'
T = 282.31'
R = 6,640.00'
SE = .025
RO = 67'

DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



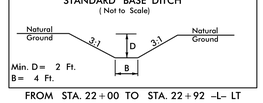
FROM STA. 12+00 TO STA. 14+20 –L– LT
FROM STA. 14+40 TO STA. 15+50 –L– RT

DETAIL 2
LATERAL BASE DITCH
(Not to Scale)



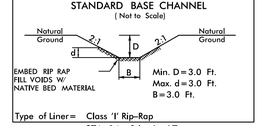
FROM STA. 20+50 TO STA. 22-00 –L– LT

DETAIL 3
STANDARD BASE DITCH
(Not to Scale)



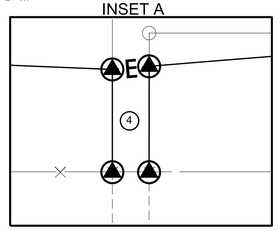
FROM STA. 22+00 TO STA. 22+92 –L– LT

DETAIL 4
STANDARD BASE CHANNEL
(Not to Scale)



Type of Liner= Class 'I' Rip-Rap
STA 14+26 –L– LT

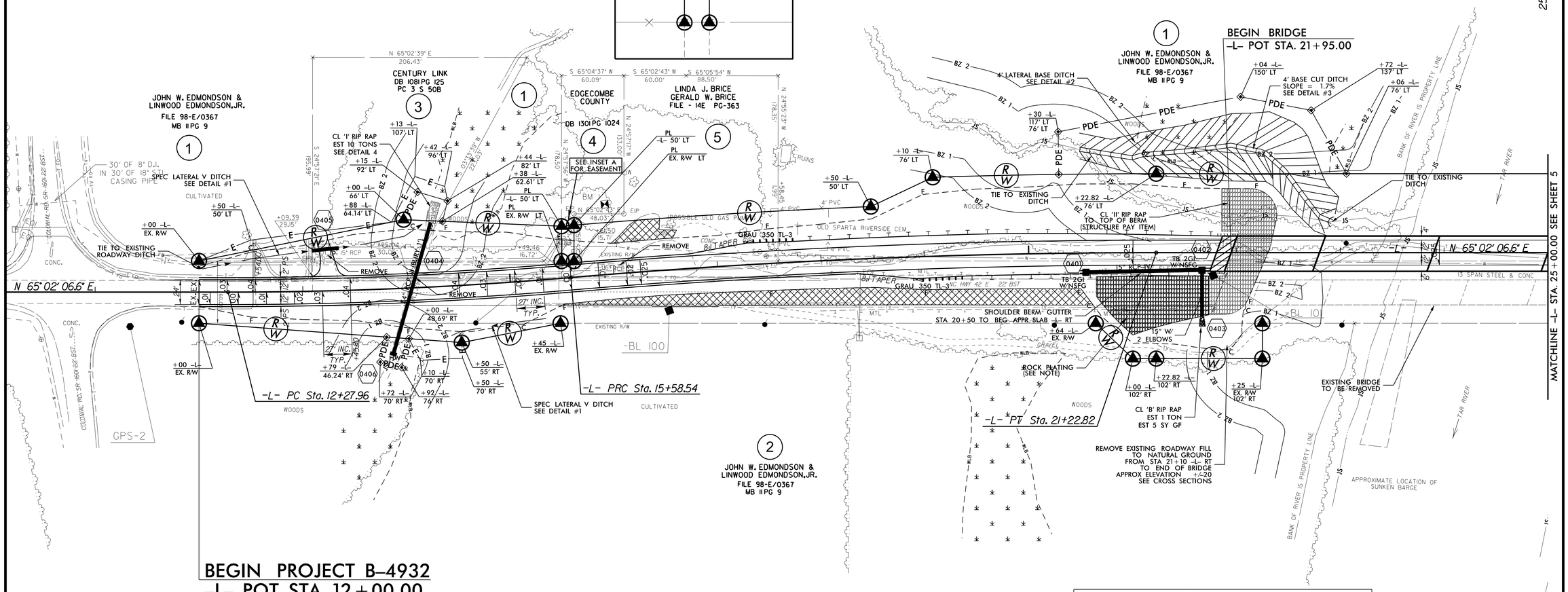
INSET A



15+00

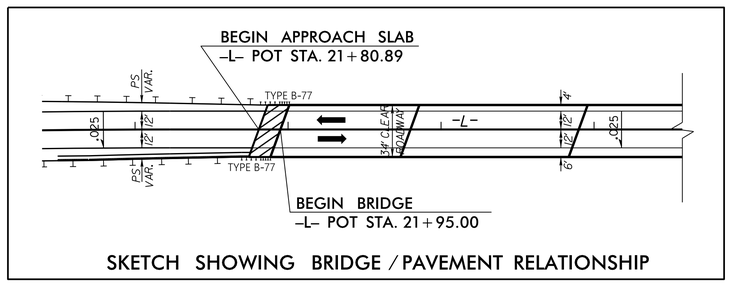
20+00

25+00



2
JOHN W. EDMONDSON & LINWOOD EDMONDSON,JR.
FILE 98-E/0367
MB II PG 9

BEGIN PROJECT B–4932
–L– POT STA. 12+00.00



SKETCH SHOWING BRIDGE / PAVEMENT RELATIONSHIP

NOTES:

USE REINFORCED SOIL SLOPES (RSS)
1.5:1 (H:V) SLOPES AT –L– STA. 18+25 TO 21+86 LT

"USE ROCK PLATING DETAIL NO. 2
AT –L– STA. 20+65+/- TO –L– STA. 21+73+/- RIGHT.
EXTEND ROCK PLATING LIMITS TO 2.75:1 (H:V) SLOPES.
SEE STANDARD ROCK PLATING DETAIL."

NOTE: TEMPORARY SIGNAL WILL BE USED FOR ONSITE DETOUR

FOR –L– PROFILE SEE SHEET 6

17-APR-2017 07:54
C:\Projects\B4932_rdy_psh04.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4932	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared by

vhb — Venture I, 940 MAin Campus Drive, Suite 500, Raleigh, NC 27606, NC License No. C-3705

SUNGATE DESIGN GROUP, P.A.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NSRS 2007

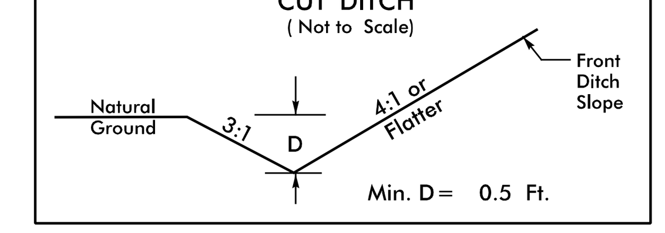
-L- CURVE DATA

PI Sta 31+17.51	PI Sta 35+67.79
△ = 4° 48' 24.6" (RT)	△ = 5° 03' 38.8" (LT)
D = 0° 51' 46.4"	D = 1° 28' 22.4"
L = 557.06'	L = 343.59'
T = 278.69'	T = 171.91'
R = 6,640.00'	R = 3,890.00'
SE = .025	SE = .04
RO = 67'	RO = 107'

-DRW1- CURVE DATA

PI Sta 10+73.49	PI Sta 13+36.72
△ = 80° 23' 06.1" (RT)	△ = 72° 09' 16.0" (LT)
D = 136° 25' 06.7"	D = 63° 39' 43.1"
L = 58.93'	L = 113.34'
T = 35.48'	T = 65.57'
R = 42.00'	R = 90.00'
SE = .04	SE = .03
RO = 48'	RO = 36'

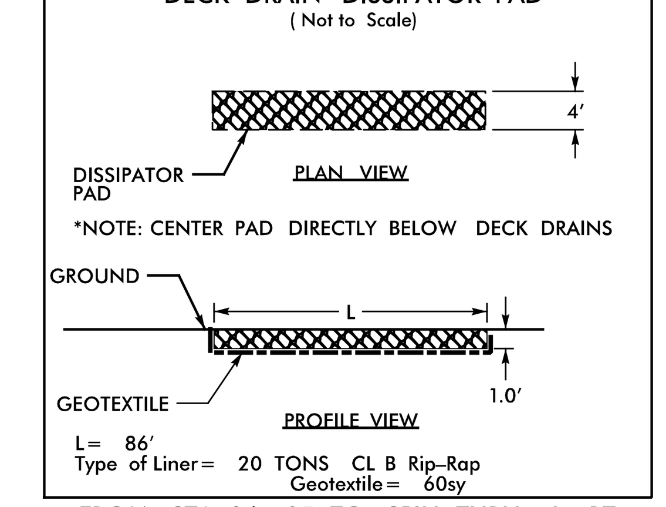
DETAIL 4
CUT DITCH
(Not to Scale)



FROM STA. 12+00 TO STA. 13+00 -DRW1- RT

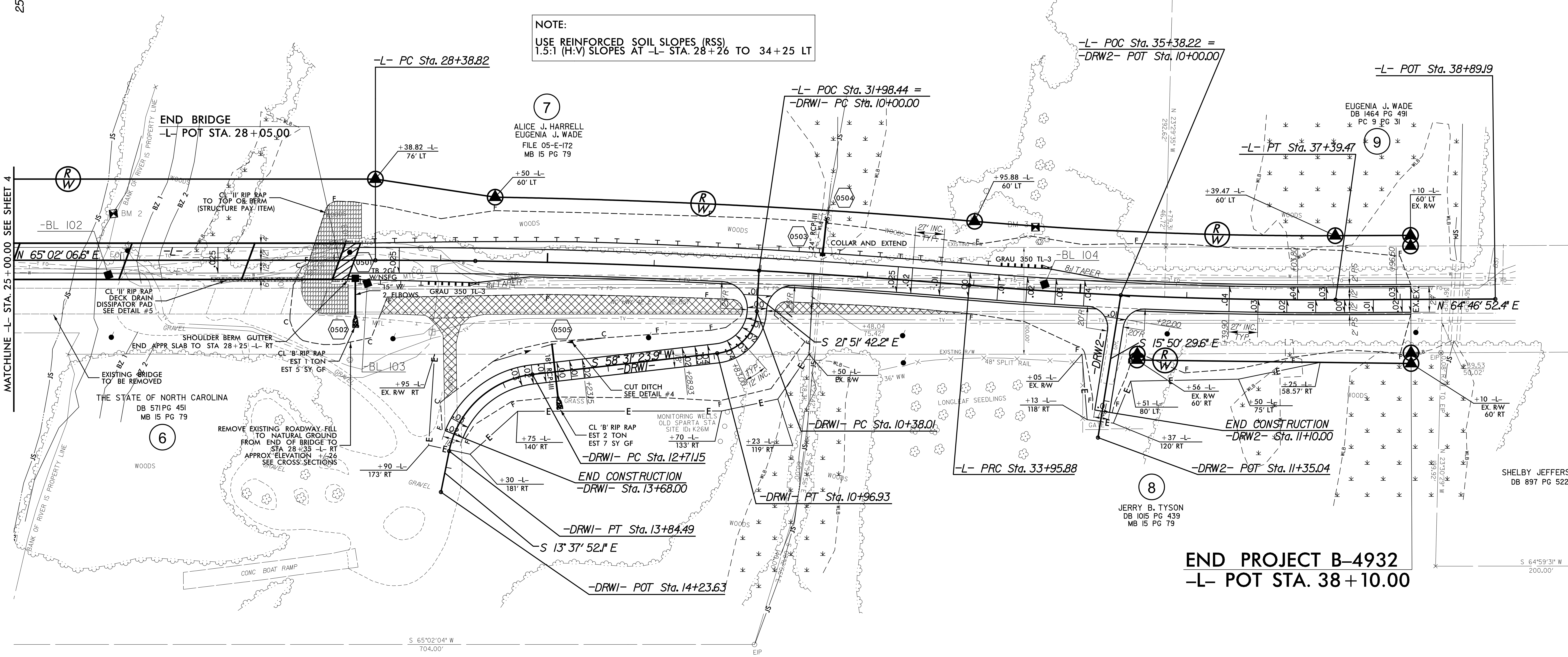
DECK DRAINS REQUIRED
6" DECK DRAINS ON 12' CENTERS
FROM STA. 26+90 TO STA. 27+02 RT.
FROM STA. 27+20 TO STA. 27+92 RT.

DETAIL 5
DECK DRAIN DISSIPATOR PAD
(Not to Scale)



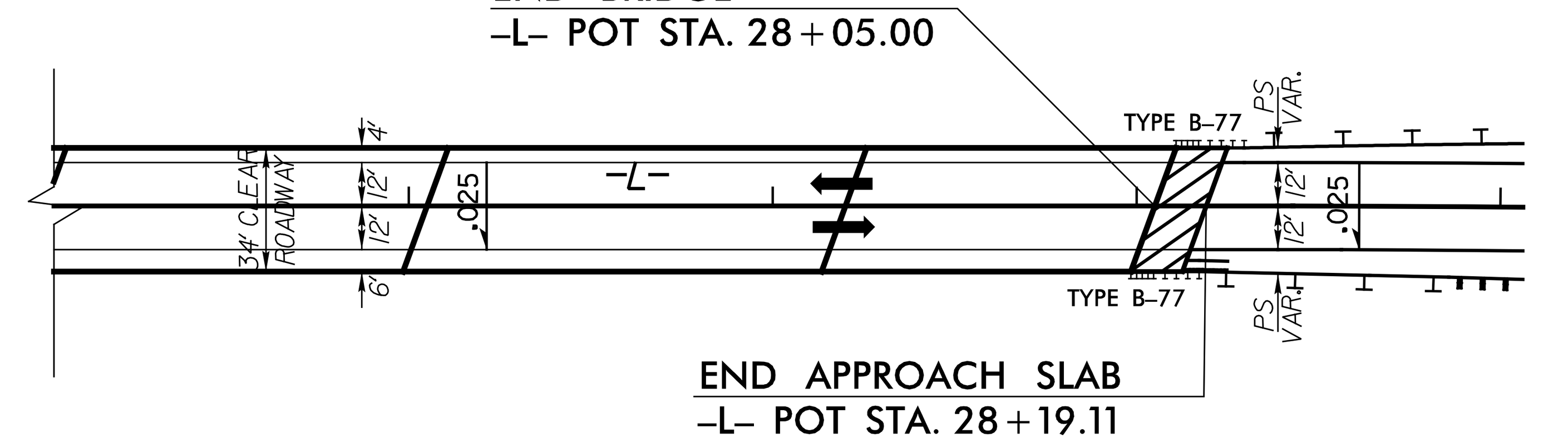
FROM STA. 26+85 TO SPILL THRU -L- RT

NOTE:
USE REINFORCED SOIL SLOPES (RSS)
1.5:1 (H:V) SLOPES AT -L- STA. 28+26 TO 34+25 LT



25+00
30+00
35+00
MATCHLINE -L- STA. 25+00.00 SEE SHEET 4
END BRIDGE
-L- POT STA. 28+05.00
-L- PC Sta. 28+38.82
7
ALICE J. HARRELL
EUGENIA J. WADE
FILE 05-E-172
MB 15 PG 79
-L- POC Sta. 31+98.44 =
-DRW1- PC Sta. 10+00.00
-L- POC Sta. 35+38.22 =
-DRW2- POT Sta. 10+00.00
-L- POT Sta. 38+89.19
EUGENIA J. WADE
DB 1464 PG 491
PC 9 PG 31
9
-L- PT Sta. 37+39.47
CL 'II' RIP RAP TO TOP OF BERM (STRUCTURE PAY ITEM)
-BL 102
BM 2
N 65° 02' 06.6" E
CL 'II' RIP RAP DECK DRAIN DISSIPATOR PAD SEE DETAIL #5
SHOULDER BERM GUTTER
END APPR SLAB TO STA 28+25 -L- RT
CL 'B' RIP RAP EST 1 TON EST 5 SY GF
EXISTING BRIDGE TO BE REMOVED
THE STATE OF NORTH CAROLINA
DB 571 PG 451
MB 15 PG 79
6
WOODS
REMOVE EXISTING ROADWAY FILL TO NATURAL GROUND FROM END OF BRIDGE TO STA 28+35 -L- RT APPROX ELEVATION +/-26 SEE CROSS SECTIONS
COLLAR AND EXTEND
GRAU 350 TL-3
-BL 104
-BL 103
S 21° 51' 42.2" E
S 58° 31' 23.9" W
-DRW1-
CUT DITCH SEE DETAIL #4
CL 'B' RIP RAP EST 2 TON EST 7 SY GF
MONITORING WELLS OLD SPARTA STA SITE ID: K26M
-DRW1- PC Sta. 12+71.15
END CONSTRUCTION
-DRW1- Sta. 13+68.00
-DRW1- PT Sta. 13+84.49
S 13° 37' 52.1" E
-DRW1- POT Sta. 14+23.63
-DRW1- PC Sta. 10+38.01
-DRW1- PT Sta. 10+96.93
-L- PRC Sta. 33+95.88
S 15° 50' 29.6" E
-DRW2-
END CONSTRUCTION
-DRW2- Sta. 11+10.00
-DRW2- POT Sta. 11+35.04
N 64° 46' 52.4" E
8
JERRY B. TYSON
DB 1015 PG 439
MB 15 PG 79
SHELBY JEFFERSON
DB 897 PG 522
LONGLEAF SEEDLINGS
CONC BOAT RAMP
S 65°02'04" W
704.00'
S 64°59'31" W
200.00'

END PROJECT B-4932
-L- POT STA. 38+10.00



SKETCH SHOWING BRIDGE / PAVEMENT RELATIONSHIP

NOTE: TEMPORARY SIGNAL WILL BE USED FOR ONSITE DETOUR

FOR -L- PROFILE SEE SHEET 6
FOR -DRW1- & -DRW2- PROFILES SEE SHEET 7

REVISIONS

8/17/99

3/16/2017
R:\Roadway\Proj\B4932_rdy_psh05.dgn