STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

September 11, 2013

Wilmington Regulatory Field Office
US Army Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403

ATTN: Mr. Brad Shaver
NCDOT Coordinator

N.C. Dept. of Environment and Natural Resources
Division of Coastal Management
400 Commerce Avenue
Morehead City, NC 28557

ATTN: Mr. Stephen Lane
NCDOT Coordinator

Dear Sirs:

Subject: **Application for a Section 404 Nationwide Permits 12 & 23, Section 401 Water Quality Certificaton, and CAMA Major Development Permit** for the proposed replacement of Bridge No. 4 over Island Creek on SR 1002 in New Hanover & Pender Cos. TIP No. B-4591; Federal Aid Project No. BRZ-1002(23); Debit $475 from WBS No. 38421.1.1

The North Carolina Department of Transportation (NCDOT) proposes to replace the 42-foot, 4-span Bridge No. 4 with a 90-foot, 2-span bridge on the existing alignment. Traffic will follow an offsite detour during construction. Permanent impacts to jurisdictional resources include 0.31 acre of wetland fill and 0.20 acre of mechanized clearing.

Please see enclosed copies of the Pre-Construction Notification (PCN), Preliminary Jurisdictional Determination Form, EEP Acceptance Letter, USCG Advance Permit Approval Letter, Division of Coastal Management Major Permit Forms 1 and 5, permit drawings, stormwater management plan, utility drawings, and design plans for the above referenced project. The Programmatic Categorical Exclusion (PCE) was completed in August 2010 and distributed shortly thereafter. Additional copies are available at the NCDOT website: http://207.4.62.65/PDEA/EnvironmentalDocs/.

This project calls for a letting date of May 5, 2014 and a review date of April 1, 2014. The project schedule may be advanced if funding becomes available.

Regulatory Approvals

Section 404 Permit: All aspects of this project are being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). The

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1548 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-707-6000
FAX: 919-250-4224
WEBSITE: WWW.NCDOT.GOV/DOH/PRECONSTRUCT/PE/

LOCATION:
CENTURY CENTER, BUILDING A
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610

NCDOT requests that the project be authorized by NW 23 for bridge construction and NW 12 for utility relocations.

Section 401 Permit: We anticipate 401 General Certification numbers 3891 and 3884 will apply to this project. NCDOT is requesting written concurrence from the North Carolina Department of Environmental and Natural Resources, Division of Water Quality. We are providing two copies of this application to the NCDWQ for their approval.

CAMA Major Permit: NCDOT requests that the proposed work be authorized under a Coastal Area Management Act Major Permit. The landowner receipts will be forwarded as soon as they are available. Authorization to debit the $475 Permit Application Fee from WBS Element 38421.1.1 is hereby given.

A copy of this permit application and its distribution list will be posted at the NCDOT Website at https://connect.ncdot.gov/resources/Environmental. If you have any questions or need additional information, please contact Tyler Stanton at tstanton@ncdot.gov or (919) 707-6156.

Sincerely,

Deborah M. Barbour, P.E.,
Director of Preconstruction

cc: NCDOT Permit Application Standard Distribution List

Office Use Only:
Corps action ID no. _____
DWQ project no. _____
Form Version 1.3 Dec 10 2008

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	☒ Section 404 Permit	☐ Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 12 23	or General Permit (GP) number:	
1c. Has the NWP or GP number been verified by the Corps?	☐ Yes	☒ No

1d. Type(s) of approval sought from the DWQ (check all that apply):

☒ 401 Water Quality Certification – Regular ☐ Non-404 Jurisdictional General Permit

☐ 401 Water Quality Certification – Express ☐ Riparian Buffer Authorization

1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: ☐ Yes ☒ No	For the record only for Corps Permit: ☐ Yes ☒ No
1f. 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
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	☒ Yes	☐ No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	☒ Yes	☐ No

2. Project Information

2a. Name of project:	Replacement of Bridge No. 4 over Island Creek on SR 1002
2b. County:	New Hanover & Pender Cos.
2c. Nearest municipality / town:	Castle Hayne
2d. Subdivision name:	*not applicable*
2e. NCDOT only, T.I.P. or state project no:	B-4591

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	*not applicable*
3c. Responsible Party (for LLC if applicable):	*not applicable*
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6156
3g. Fax no.:	(919) 250-4224
3h. Email address:	tstanton@ncdot.gov

4. Applicant Information (if different from owner)	
4a. Applicant is:	☐ Agent ☐ Other, specify:
4b. Name:	*not applicable*
4c. Business name (if applicable):	
4d. Street address:	
4e. City, state, zip:	
4f. Telephone no.:	
4g. Fax no.:	
4h. Email address:	
5. Agent/Consultant Information (if applicable)	
5a. Name:	*not applicable*
5b. Business name (if applicable):	
5c. Street address:	
5d. City, state, zip:	
5e. Telephone no.:	
5f. Fax no.:	
5g. Email address:	

B. Project Information and Prior Project History		
1. Property Identification		
1a. Property identification no. (tax PIN or parcel ID):	*not applicable*	
1b. Site coordinates (in decimal degrees):	Latitude: 34.367097 (DD.DDDDDD)	Longitude: - 78.815135 (-DD.DDDDDD)
1c. Property size:	5.10 acres	
2. Surface Waters		
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Island Creek	
2b. Water Quality Classification of nearest receiving water:	C;Sw	
2c. River basin:	Cape Fear	
3. Project Description		
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: Existing conditions at the site include maintained/disturbed roadside shoulder and forested areas. Land use in the project vicinity is predominantly forested with some agriculture, light residential development, and a limestone quarry.		
3b. List the total estimated acreage of all existing wetlands on the property: 1.02		
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 121		
3d. Explain the purpose of the proposed project: To replace a structurally deficient and functionally obsolete bridge		
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 42-foot, 4-span bridge with a 90-foot, dual-span bridge on the existing alignment. Traffic will follow an offsite detour during construction. Standard road building equipment, such as trucks, dozers, and cranes will be used.		
4. Jurisdictional Determinations		
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments:	☒ Yes	☐ No ☐ Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	☒ Preliminary	☐ Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): David Bailey	Agency/Consultant Company: NCDOT Other:	
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. November 23, 2009		
5. Project History		
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	☐ Yes	☒ No ☐ Unknown
5b. If yes, explain in detail according to “help file” instructions.		
6. Future Project Plans		
6a. Is this a phased project?	☐ Yes	☒ No
6b. If yes, explain.		

C. Proposed Impacts Inventory

1. Impacts Summary

1a. Which sections were completed below for 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. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)
Site 1 ☒ P ☐ T	Fill	Riverine	☐ Yes ☒ No	☒ Corps ☐ DWQ	0.31
Site 1 ☒ P ☐ T	Mechanized Clearing	Riverine	☒ Yes ☐ No	☒ Corps ☐ DWQ	0.20
Site 3 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 4 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 5 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
Site 6 ☐ P ☐ T			☐ Yes ☐ No	☐ Corps ☐ DWQ	
				2g. **Total wetland impacts**	0.51 Permanent

2h. Comments: There will be 0.47 ac (0.36 ac for bridge construction, 0.11 ac for utility relocation) of hand clearing in wetlands. Additionally there will be 0.01 ac of temporary fill for erosion control devices in the hand clearing areas and <0.01 ac of permanent fill from power pole relocations.

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. Stream impact number - Permanent (P) or Temporary (T)	3b. Type of impact	3c. Stream name	3d. Perennial (PER) or intermittent (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
Site 1 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 2 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 3 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
Site 4 ☐ P ☐ T			☐ PER ☐ INT	☐ Corps ☐ DWQ		
					3h. **Total stream and tributary impacts**	0 Perm 0 Temp

3i. Comments: Estimated impact is approximately 55 sq. ft. due to the interior bent piles

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. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 ☐ P ☐ T				
O1 ☐ P ☐ T				
O2 ☐ P ☐ T				
O3 ☐ P ☐ T				
		4f. Total open water impacts		X Permanent X Temporary

4g. Comments:

5. Pond or Lake Construction

If pond or lake construction proposed, then complete the chart below.

5a. Pond ID number	5b. Proposed use or purpose of pond	5c. Wetland Impacts (acres)			5d. Stream Impacts (feet)			5e. Upland (acres)
		Flooded	Filled	Excavated	Flooded	Filled	Excavated	Flooded
P1								
P2								
	5f. Total							

5g. Comments:

5h. Is a dam high hazard permit required?	☐ Yes ☐ No If yes, permit ID no:
5i. Expected pond surface area (acres):	
5j. Size of pond watershed (acres):	
5k. Method of construction:	

6. Buffer Impacts (for DWQ)

If project will impact a protected riparian buffer, then complete the chart below. If yes, then individually list all buffer impacts below. If any impacts require mitigation, then you **MUST** fill out Section D of this form.

6a. Project is in which protected basin?			☐ Neuse ☐ Catawba	☐ Tar-Pamlico ☐ Randleman	☐ Other:
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 ☐ P ☐ T			☐ Yes ☐ No		
B2 ☐ P ☐ T			☐ Yes ☐ No		
B3 ☐ P ☐ T			☐ Yes ☐ No		
		6h. **Total buffer impacts**			
6i. Comments:					

D. Impact Justification and Mitigation

1. Avoidance and Minimization

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

The proposed bridge is 48 feet longer than the existing bridge. The removal of existing road fill for longer bridge and increasing bridge openings will improve hydrological conveyance and wildlife passage, and reduce bridge opening velocities.

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

Construction will be top-down. Best Management Practices for the Protection of Surface Waters, as well as, Best Management Practices for Construction and Maintenance Activities will be implemented.

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 If no, explain:
2b. If yes, mitigation is required by (check all that apply):	☐ DWQ ☒ Corps
2c. If yes, which mitigation option will be used for this project?	☐ Mitigation bank ☒ Payment to in-lieu fee program ☐ Permittee Responsible Mitigation

3. Complete if Using a Mitigation Bank

3a. Name of Mitigation Bank: not applicable

3b. Credits Purchased (attach receipt and letter)	Type	Quantity

3c. Comments:

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

4a. Approval letter from in-lieu fee program is attached.	☒ Yes
4b. Stream mitigation requested:	linear feet
4c. If using stream mitigation, stream temperature:	☐ warm ☐ cool ☐ cold
4d. Buffer mitigation requested (DWQ only):	square feet
4e. Riparian wetland mitigation requested:	1.02 acres
4f. Non-riparian wetland mitigation requested:	acres
4g. Coastal (tidal) wetland mitigation requested:	acres

4h. Comments:

5. Complete if Using a Permittee Responsible Mitigation Plan

5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.

6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ				
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?			☐ 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.				
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
	6f. **Total buffer mitigation required:**			
6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).				
6h. Comments:				

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
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. If yes, then is a diffuse flow plan included? If not, explain why. Comments:	☐ Yes ☐ No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	☒ Yes ☐ No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: See attached permit drawings and stormwater management plan.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	☐ Certified Local Government ☐ DWQ Stormwater Program ☒ DWQ 401 Unit
3. Certified Local Government Stormwater Review	
3a. In which local government's jurisdiction is this project?	not applicable
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	☐ Phase II ☐ NSW ☐ USMP ☐ Water Supply Watershed ☐ Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	☐ Coastal counties ☐ HQW ☐ ORW ☐ Session Law 2006-246 ☐ Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	☐ Yes ☐ No N/A
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	☒ Yes ☐ No N/A
5b. Have all of the 401 Unit submittal requirements been met?	☒ Yes ☐ No N/A

F. Supplementary Information		
1. Environmental Documentation (DWQ Requirement)		
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.) Comments:	☒ Yes	☐ No
2. Violations (DWQ Requirement)		
2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ 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
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):		
3. Cumulative Impacts (DWQ 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 "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. 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 uses nor stimulate growth. Therefore, a detailed indirect or cumulative effects study will not be necessary.		
4. Sewage Disposal (DWQ Requirement)		
4a. Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility. not applicable		

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, ind icate the USFWS Field Office you have contacted.	☐ Raleigh ☐ Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? NCNHP, USFWS website, field surveys		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	☐ Yes	☒ No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	☐ Yes	☒ No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
8. Flood Zone Designation (Corps Requirement)		
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		

Deborah M. Barbour, P.E. Applicant/Agent's Printed Name	Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	09/11/2013 Date

DCM MP-1

APPLICATION for Major Development Permit

(last revised 12/27/06)

North Carolina DIVISION OF COASTAL MANAGEMENT

1. Primary Applicant/ Landowner Information

Business Name: North Carolina Department Of Transportation (NCDOT)		Project Name (if applicable): B-4591		
Applicant 1: First Name: Deborah	MI: M	Last Name: Barbour, P.E.		
Applicant 2: First Name:	MI:	Last Name:		
If additional applicants, please attach an additional page(s) with names listed.				
Mailing Address: 1548 Mail Service Center		PO Box:	City: Raleigh	State: NC
ZIP: 27699 1548	Country: USA	Phone No.: 919 - 707 - 6000 ext.	FAX No.: 919 - 250 - 4224	
Street Address *(if different from above)*: PDEA--Century Center Building B, 1020 Birch Ridge Dr.		City: Raleigh	State: NC	ZIP: 27610- 4328
Email: pharris@ncdot.gov				

2. Agent/Contractor Information

Business Name:				
Agent/ Contractor 1: First Name:	MI:	Last Name:		
Agent/ Contractor 2: First Name:	MI:	Last Name:		
Mailing Address:		PO Box:	City:	State:
ZIP:		Phone No. 1: - - ext.	Phone No. 2: - - ext.	
FAX No.:		Contractor #:		
Street Address *(if different from above)*:		City:	State:	ZIP: -
Email:				

<Form continues on back>

3. Project Location

County (can be multiple)	Street Address		State Rd. #
Pender New Hanover	SR 1002 over Island Creek		N/A
Subdivision Name	**City**	**State**	**Zip**
N/A	New Hanover Co./ Pender Co.	NC	N/A -

Phone No.	Lot No.(s) *(if many, attach additional page with list)*
N/A - - ext.	N/A, , , ,
a. In which NC river basin is the project located? Cape Fear	b. Name of body of water nearest to proposed project Island Creek
c. Is the water body identified in (b) above, natural or manmade? ☒Natural ☐Manmade ☐Unknown	d. Name the closest major water body to the proposed project site. Cape Fear River
e. Is proposed work within city limits or planning jurisdiction? ☐Yes ☒No	f. If applicable, list the planning jurisdiction or city limit the proposed work falls within. N/A

4. Site Description

a. Total length of shoreline on the tract (ft.)	b. Size of entire tract (sq.ft.)
247'	243,934 sq.ft. (5.6 ac.)
c. Size of individual lot(s) N/A, , , *(If many lot sizes, please attach additional page with a list)*	d. Approximate elevation of tract above NHW *(normal high water)* or NWL *(normal water level)* approx. 1' to 3.5' ☐NHW or ☒NWL

e. Vegetation on tract
Forestland

f. Man-made features and uses now on tract
Bridge No. 4 and SR 1002

g. Identify and describe the existing land uses adjacent to the proposed project site.
Forested Wetland

h. How does local government zone the tract?	i. Is the proposed project consistent with the applicable zoning? (Attach zoning compliance certificate, if applicable)
Office & Institutional, Rural, & Planned Development	☐Yes ☐No ☒NA

j. Is the proposed activity part of an urban waterfront redevelopment proposal? ☐Yes ☒No

k. Has a professional archaeological assessment been done for the tract? If yes, attach a copy. ☒Yes ☐No ☐NA

If yes, by whom? NCDOT (Reference CE)

l. Is the proposed project located in a National Registered Historic District or does it involve a National Register listed or eligible property? ☐Yes ☒No ☐NA

<Form continues on next page>

m. (i) Are there wetlands on the site?	☒Yes ☐No
(ii) Are there coastal wetlands on the site?	☐Yes ☒No
(iii) If yes to either (i) or (ii) above, has a delineation been conducted? *(Attach documentation, if available)*	☒Yes ☐No
n. Describe existing wastewater treatment facilities. None	
o. Describe existing drinking water supply source. None	
p. Describe existing storm water management or treatment systems. None	

5. Activities and Impacts

a. Will the project be for commercial, public, or private use?	☐Commercial ☒Public/Government ☐Private/Community
b. Give a brief description of purpose, use, and daily operations of the project when complete. The purpose of the project is replace the existing bridge, to improve the level of service for the traveling public. This stretch of roadway has been known to flood on a frequent basis.	
c. Describe the proposed construction methodology, types of construction equipment to be used during construction, the number of each type of equipment and where it is to be stored. Typical highway and bridge construction vehicles and equipment will be used, including, but not limited to, dump trucks, cranes, graders, and bull dozers. Storage and staging areas will be located on uplands.	
d. List all development activities you propose. Replace/Lengthen bridge; Remove portion of existing road fill/causeway to improve bridge hydraulic conveyance and offset surface water being filled in. Addition of fill due to widening facility and raising of the existing road grade. The grade has to be raised to provide access for future bridge maintenance/inspection activities. Relocate overhead power and buried telephone utilities.	
e. Are the proposed activities maintenance of an existing project, new work, or both?	New Work
f. What is the approximate total disturbed land area resulting from the proposed project?	5.6 ☐Sq.Ft or ☒Acres
g. Will the proposed project encroach on any public easement, public accessway or other area that the public has established use of?	☐Yes ☒No ☐NA
h. Describe location and type of existing and proposed discharges to waters of the state. 2 GI's are located on either side of the proposed bridge that discharge on high ground just outside of wetlands	
i. Will wastewater or stormwater be discharged into a wetland?	☐Yes ☒No ☐NA
If yes, will this discharged water be of the same salinity as the receiving water?	☐Yes ☐No ☐NA
j. Is there any mitigation proposed? If yes, attach a mitigation proposal.	☒Yes ☐No ☐NA

<Form continues on back>

6. Additional Information

In addition to this completed application form, (MP-1) the following items below, if applicable, must be submitted in order for the application package to be complete. Items (a) – (f) are always applicable to any major development application. Please consult the application instruction booklet on how to properly prepare the required items below.

a. A project narrative.

b. An accurate, dated work plat (including plan view and cross-sectional drawings) drawn to scale. Please give the present status of the proposed project. Is any portion already complete? If previously authorized work, clearly indicate on maps, plats, drawings to distinguish between work completed and proposed.

c. A site or location map that is sufficiently detailed to guide agency personnel unfamiliar with the area to the site.

d. A copy of the deed (with state application only) or other instrument under which the applicant claims title to the affected properties.

e. The appropriate application fee. Check or money order made payable to DENR.

f. A list of the names and complete addresses of the adjacent waterfront (riparian) landowners and signed return receipts as proof that such owners have received a copy of the application and plats by certified mail. Such landowners must be advised that they have 30 days in which to submit comments on the proposed project to the Division of Coastal Management.

Name See Attached Phone No.

Address

Name Phone No.

Address

Name Phone No.

Address

g. A list of previous state or federal permits issued for work on the project tract. Include permit numbers, permittee, and issuing dates.

N/A

h. Signed consultant or agent authorization form, if applicable.

i. Wetland delineation, if necessary.

j. A signed AEC hazard notice for projects in oceanfront and inlet areas. *(Must be signed by property owner)*

k. A statement of compliance with the N.C. Environmental Policy Act (N.C.G.S. 113A 1-10), if necessary. If the project involves expenditure of public funds or use of public lands, attach a statement documenting compliance with the North Carolina Environmental Policy Act.

7. Certification and Permission to Enter on Land

I understand that any permit issued in response to this application will allow only the development described in the application. The project will be subject to the conditions and restrictions contained in the permit.

I certify that I am authorized to grant, and do in fact grant permission to representatives of state and federal review agencies to enter on the aforementioned lands in connection with evaluating information related to this permit application and follow-up monitoring of the project.

I further certify that the information provided in this application is truthful to the best of my knowledge.

Date 09/11/2013 Print Name Philip S. Harris III

Signature

Please indicate application attachments pertaining to your proposed project.

☐DCM MP-2 Excavation and Fill Information ☒DCM MP-5 Bridges and Culverts

☐DCM MP-3 Upland Development

☐DCM MP-4 Structures Information

Form DCM MP-5

BRIDGES and CULVERTS

Attach this form to Joint Application for CAMA Major Permit, Form DCM MP-1. Be sure to complete all other sections of the Joint Application that relate to this proposed project. Please include all supplemental information.

1. BRIDGES

☐ *This section not applicable*

a. Is the proposed bridge:
☐Commercial ☒Public/Government ☐Private/Community

b. Water body to be crossed by bridge:
Island Creek

c. Type of bridge (construction material):
36" PPC Girder

d. Water depth at the proposed crossing at NLW or NWL:
3.5'

e. (i) Will proposed bridge replace an existing bridge? ☒Yes ☐No
If yes,
(ii) Length of existing bridge: 42'
(iii) Width of existing bridge: 24'
(iv) Navigation clearance underneath existing bridge: 2'
(v) Will all, or a part of, the existing bridge be removed?
(Explain) All of the existing bridge will be removed.

f. (i) Will proposed bridge replace an existing culvert? ☐Yes ☒No
If yes,
(ii) Length of existing culvert: _____
(iii) Width of existing culvert: _____
(iv) Height of the top of the existing culvert above the NHW or NWL: _____
(v) Will all, or a part of, the existing culvert be removed?
(Explain)

g. Length of proposed bridge: 90'

h. Width of proposed bridge: 32'

i. Will the proposed bridge affect existing water flow? ☒Yes ☐No
If yes, explain: The proposed bridge while being considerably longer will raise the Q100 water surface level. The roadway grade has been raised to improve the level of service to the traveling public. This includes a thicker depth superstructure.

j. Will the proposed bridge affect navigation by reducing or increasing the existing navigable opening? ☒Yes ☐No
If yes, explain: The proposed bridge will reduce the clearance by a half of foot (6").

k. Navigation clearance underneath proposed bridge: 1.5'

l. Have you contacted the U.S. Coast Guard concerning their approval? ☒Yes ☐No
If yes, explain: USCG issued an exemption in a letter dated April 2009 (See attached).

m. Will the proposed bridge cross wetlands containing no navigable waters? ☐Yes ☒No
If yes, explain:

n. Height of proposed bridge above wetlands: N/A

2. CULVERTS

☒ *This section not applicable*

a. Number of culverts proposed: _____

b. Water body in which the culvert is to be placed:

< Form continues on back>

c. Type of culvert (construction material):

d. (i) Will proposed culvert replace an existing bridge? ☐Yes ☐No

If yes,

(ii) Length of existing bridge: _____

(iii) Width of existing bridge: _____

(iv) Navigation clearance underneath existing bridge: _____

(v) Will all, or a part of, the existing bridge be removed? (Explain)

e. (i) Will proposed culvert replace an existing culvert? ☐Yes ☐No

If yes,

(ii) Length of existing culvert(s): _____

(iii) Width of existing culvert(s): _____

(iv) Height of the top of the existing culvert above the NHW or NWL: _____

(v) Will all, or a part of, the existing culvert be removed? (Explain)

f. Length of proposed culvert: _____

g. Width of proposed culvert: _____

h. Height of the top of the proposed culvert above the NHW or NWL. _____

i. Depth of culvert to be buried below existing bottom contour. _____

j. Will the proposed culvert affect navigation by reducing or increasing the existing navigable opening? ☐Yes ☐No

If yes, explain:

k. Will the proposed culvert affect existing water flow? ☐Yes ☐No

If yes, explain:

3. EXCAVATION and FILL

☐*This section not applicable*

a. (i) Will the placement of the proposed bridge or culvert require any excavation below the NHW or NWL? ☐Yes ☒No

If yes,

(ii) Avg. length of area to be excavated: _____

(iii) Avg. width of area to be excavated: _____

(iv) Avg. depth of area to be excavated: _____

(v) Amount of material to be excavated in cubic yards: _____

b. (i) Will the placement of the proposed bridge or culvert require any excavation within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

☐CW _____ ☐SAV _____ ☐SB _____

☐WL _____ ☒None

(ii) Describe the purpose of the excavation in these areas:

c. (i) Will the placement of the proposed bridge or culvert require any high-ground excavation? ☒Yes ☐No

If yes,

(ii) Avg. length of area to be excavated: 120

(iii) Avg. width of area to be excavated: 22.5

(iv) Avg. depth of area to be excavated: 2.5

(v) Amount of material to be excavated in cubic yards: 250

d. If the placement of the bridge or culvert involves any excavation, please complete the following:

(i) Location of the spoil disposal area: TBD by contractor. If material is suitbable, it may be used as part of the proposed roadway fill.

(ii) Dimensions of the spoil disposal area: TBD

(iii) Do you claim title to the disposal area? ☐Yes ☐No *(If no, attach a letter granting permission from the owner.)*

(iv) Will the disposal area be available for future maintenance? ☐Yes ☐No

(v) Does the disposal area include any coastal wetlands/marsh (CW), submerged aquatic vegetation (SAVs), other wetlands (WL), or shell bottom (SB)?

☐CW ☐SAV ☐WL ☐SB ☒None

If any boxes are checked, give dimensions if different from (ii) above.

(vi) Does the disposal area include any area below the NHW or NWL? ? ☐Yes ☒No

If yes, give dimensions if different from (ii) above.

e. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item **d** above) to be placed below NHW or NWL? ☐Yes ☒No

If yes,

(ii) Avg. length of area to be filled: _____

(iii) Avg. width of area to be filled: _____

(iv) Purpose of fill:

f. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item **d** above) to be placed within coastal wetlands/marsh (CW), submerged aquatic vegetation (SAV), shell bottom (SB), or other wetlands (WL)? If any boxes are checked, provide the number of square feet affected.

☐CW _____ ☐SAV _____ ☐SB _____

☒WL 22,215 ☐None

(ii) Describe the purpose of the excavation in these areas:

Addition of fill due to widening facility and raising of the existing road grade. The grade has to be raised to provide access for future bridge maintenance/inspection activities.

g. (i) Will the placement of the proposed bridge or culvert result in any fill (other than excavated material described in Item **d** above) to be placed on high-ground? ☒Yes ☐No

If yes,

(ii) Avg. length of area to be filled: 2,120'

(iii) Avg. width of area to be filled: 24'

(iv) Purpose of fill: The roadway grade has been raised to improve the level of service to the traveling public.

4. GENERAL

a. Will the proposed project require the relocation of any existing utility lines? ☒Yes ☐No

b. Will the proposed project require the construction of any temporary detour structures? ☐Yes ☒No

If yes, explain: Existing utilities will be relocated by others. Overhead power lines and buried telephone lines to be relocated North of the existing

If this portion of the proposed project has already received approval from local authorities, please attach a copy of the approval or certification.

If yes, explain:

< Form continues on back>

c. Will the proposed project require any work channels? ☐Yes ☒No

If yes, complete Form DCM-MP-2.

d. How will excavated or fill material be kept on site and erosion controlled?

Use of Standard NCDOT BMP's and erosion control measures.

e. What type of construction equipment will be used (for example, dragline, backhoe, or hydraulic dredge)?

Typical highway construction vehicles and equipment.

f. Will wetlands be crossed in transporting equipment to project site? ☐Yes ☒No

If yes, explain steps that will be taken to avoid or minimize environmental impacts.

g. Will the placement of the proposed bridge or culvert require any shoreline stabilization? ☐Yes ☒No

If yes, complete form MP-2, Section 3 for Shoreline Stabilization only.

09/11/2013

Date

B-4591

Project Name

Philip S. Harris III

Applicant Name

Applicant Signature

Ecosystem

PROGRAM

July 30, 2013

Mr. Gregory J. Thorpe, Ph.D.
Manager, Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

B-4591, Replace Bridge Number 4 over Island Creek on SR 1002, New Hanover and Pender Counties

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory riparian wetland mitigation for the subject project. Based on the information supplied by you on July 26, 2013, the impacts are located in CU 03030007 of the Cape Fear River basin in the Southern Outer Coastal Plain (SOCP) Eco-Region, and are as follows:

Cape Fear 03030007 SOCP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	0	0.51	0	0	0	0

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

This impact and associated mitigation need were under projected by the NCDOT in the 2013 impact data. EEP will commit to implement sufficient compensatory riparian wetland 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 N.C. Department of Environment and Natural Resources' Ecosystem Enhancement Program 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 EEP.

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

Sincerely,

James B. Stanfill
EEP Asset Management Supervisor

cc: Mr. Brad Shaver, USACE – Wilmington Regulatory Field Office
Mr. Mason Herndon, Division of Water Quality – Fayetteville Office
Mr. Steve Sollod, Division of Coastal Management
File: B-4591

U.S. Department of Homeland Security
United States Coast Guard

Commander
United States Coast Guard
Fifth Coast Guard District

431 Crawford Street
Portsmouth, Va. 23704-5004
Staff Symbol: dpb
Phone: (757) 398-6422
Fax: (757) 398-6334
Email: Bill.H.Brazier@uscg.mil

16591
6 APR 09

Mr. John Williams, P.E.
North Carolina Department of Transportation
1551 Mail Service Center
Raleigh, NC 27699-1551

Dear Mr. Williams:

I apologize for our late response to your letter of December 19, 2008, requesting Advance Permit Approval for the following North Carolina Department of Transportation Bridge Replacement Projects:

1) B-4922, Bridge No. 23 over Knobbs Creek;

2) B-4787, Bridge No. 95 over Johnson's Mill Run;

3) B-4772, Bridge No. 326 over Mill Branch Creek;

4) B-4736, Bridge No. 233 over Slades Swamp;

5) B-4728, Bridge No. 251 over Brush Creek;

6) B-4710, Bridge No. 3 over Browns Creek;

7) B-4711, Bridge No. 5 over Horsepin Branch;

8) B-4591, Bridge No. 4 over Island Creek;

9) B-4421, Bridge No. 42 over Durham Creek;

10) B-4418, Bridge No. 54 over St. Clair Creek; and

11) B-2948, Bridge No. 78 over Little Rockfish Creek

The Coast Guard Authorization Act of 1982 exempts bridge projects from a Coast Guard bridge permit when the bridge project crosses non-tidal waters which are not used, susceptible to use in their natural condition, or susceptible to use by reasonable improvement as a means to transport interstate commerce. The information provided with the aforementioned letter indicates that these bridge projects are exempt; therefore, a Coast Guard Bridge permit will not be required for these proposed bridge replacement projects.

These determinations are for the location and replacement of the Abovementioned Bridge projects and **are valid for five years from the date of this letter.** If the construction does not commence within this time period, you must contact this office for reaffirmation of this

authorization. Further bridge projects along the same waterways will have to be independently evaluated before they may be considered for this determination.

The fact that a Coast Guard permit is not required does not relieve you of the responsibility for compliance with the requirements of any other Federal, State, or local agency who may have jurisdiction over any aspect of the project. Please contact Mr. Bill H. Brazier at the above address or telephone number for any further assistance.

Sincerely,

WAVERLY W. GREGORY, JR.
Chief, Bridge Administration Branch
By direction of the Commander
Fifth Coast Guard District

Copy: Coast Guard Sector North Carolina, Waterways Management

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR LINEAR ROADWAY PROJECTS

(Version 1.2; Released July 2012)

Project/TIP No.: B-4591 **County(ies):** New Hanover

General Project Information

Project No.:	B-4591		**Project Type:**	Bridge Replacement		**Date:**	4/15/2013
NCDOT Contact:	Paul Fisher / Shawn Harris		**Contractor / Designer:**				
Address:			**Address:**				
Phone:	(919) 707-6720 / (919) 707-6725		**Phone:**				
Email:	pfisher@ncdot.gov / shawnharrris@ncdot.gov		**Email:**	pfisher@ncdot.gov shawnharrris@ncdot.gov			
City/Town:			**County(ies):**	New Hanover			
River Basin(s):	Cape Fear		**CAMA County?**	Yes			
Primary Receiving Water:	Island Creek		**NCDWQ Stream Index No.:**				
NCDWQ Surface Water Classification for Primary Receiving Water	**Primary:**		Class C				
	Supplemental:		SW				
Other Stream Classification:							
303(d) Impairments:							
Buffer Rules in Effect							

Project Description

Project Length (lin. Miles or feet):	0.42 mi.	**Surrounding Land Use:**	Suburb / Rural

	Proposed Project	**Existing Site**
Project Built-Upon Area (ac.)	ac.	ac.
Typical Cross Section Description:	2 - 12' lanes with 4' shoulders	
Average Daily Traffic (veh/hr/day):	Design/Future: ADT 2011 = 3516 / ADT 2035 = 6100	Existing:
General Project Narrative:	Replacement of Bridge No. 4 over Island Creek on SR 1002 (Holly Shelter Rd./Island Creek Rd.) The main SCM's were no deck drains were placed over open water from the bridge, roadway stormwater discharge is sheet flow with non-erosive velocities, and consentrated flows where discharged onto riprap pads with non-erosive velocities and located as far away from stream as practicable.	

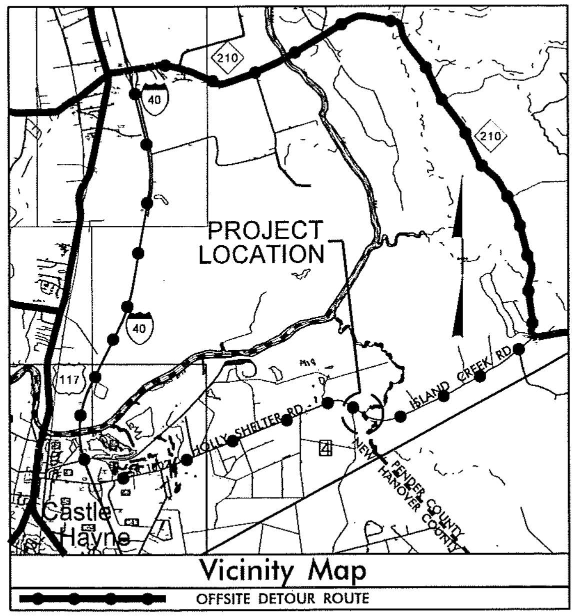
References

09/08/99

TIP PROJECT: B-4591

CONTRACT:

See Sheet 1-A For Index of Sheets



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PERMIT DRAWINGS
SHEET 1 OF 9

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4591	1	

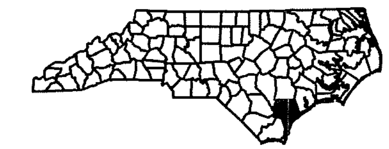
STATE PROJ.NO.	F.A. PROJ.NO.	DESCRIPTION
38421.1.1	BRZ-1002-(23)	PE
38421.2.1	BRZ-1002-(23)	RW,UTIL
38421.3.1	BRZ-1002-(23)	CONST.

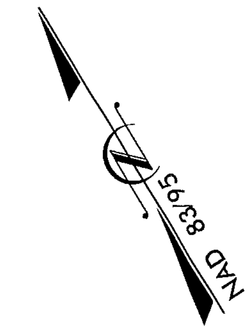
PENDER/ NEW HANOVER COUNTIES

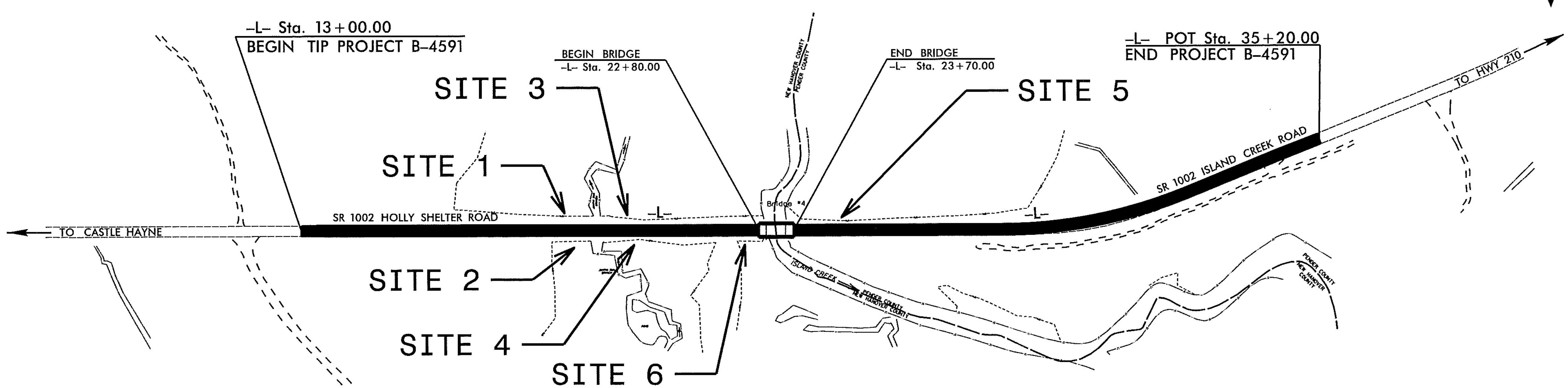
LOCATION: BRIDGE #4 OVER ISLAND CREEK ON SR 1002 (HOLLY SHELTER RD./ISLAND CREEK RD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE

WETLAND AND SURFACE WATER IMPACTS PERMIT







NOTES:
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES
TRAFFIC TO BE MAINTAINED WITH AN OFFSITE DETOUR

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
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)

DESIGN DATA

ADT 2011 = 3,516
ADT 2035 = 6,100
DHV = 12 %
D = 65 %
T = 9 % *
V = 60 MPH
* TTST 3 DUAL 6
FUNC CLASS =
RURAL MINOR COLLECTOR
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY F.A. PROJECT BRZ-1002-(23) = 0.403
LENGTH STRUCTURE F.A. PROJECT BRZ-1002-(23) = 0.017
TOTAL LENGTH STATE PROJECT 38421.1.1 = 0.420

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 21, 2013

LETTING DATE:
MAY 20, 2014

JASON MOORE, PE
PROJECT ENGINEER

JEANIE TYSON
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION

P.E.
STATE HIGHWAY DESIGN ENGINEER

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

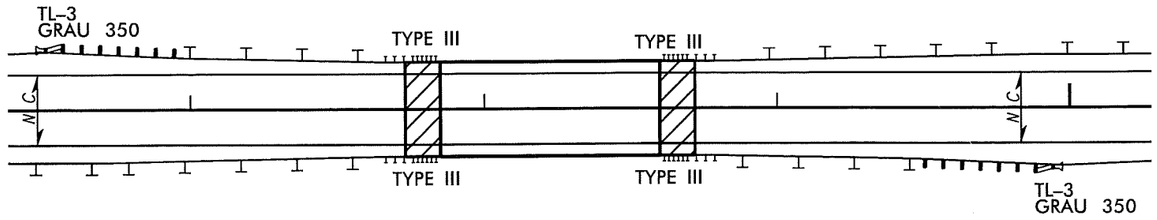
PROJECT REFERENCE NO.	SHEET NO.
B-4591	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWINGS
SHEET 2 OF 9

8/17/99

REVISIONS



NAD 83-95

SITE 3

SITE 5

SITE 1

SITE 2

SITE 4

SITE 6

15+00

20+00

25+00

CASTLE HAYNE DEVELOPMENT, LLC

CASTLE HAYNE DEVELOPMENT, LLC

NEW HANOVER COUNTY

PENDER COUNTY

RUNS W/CREEK AND COUNTY LINE

PROPERTY LINE

3 LAWRENCE PARKS

-L- POT Sta. 13+00.00
BEGIN PROJECT B-4591

EX. ENDBENT TO BE REMOVED DOWN TO EL. 1.0'

BEG SBG @ BRIDGE

END SBG @ BRIDGE

BEG SBG @ STA. 21+92 -L-

15' BELLSOUTH UTILITY EASEMENT

ISLAND CREEK

TDE

PDE

DUE

SR 1002 HOLLY SHELTER RD/
ISLAND CREEK RD. 22' BST

SR 1002 HOLLY SHELTER RD/
ISLAND CREEK RD. 24' BST

60.00'

EXISTING R/W

15" RCP

STEEL GATE

15' SOIL

REMOVE EX. HW

JUMPIN RUN BRANCH

BEG SBG @ STA. 20+30 -L-

END SBG @ BRIDGE

POND

2 SIDBURY LAND & TIMBER, LLC

SIDBURY LAND & TIMBER, LLC

EX. ENDBENT TO BE REMOVED DOWN TO EL. 1.0

END SBG @ STA. 24+58 -L-

-L- STA. 25+40.00
MATCHLINE SEE SHEET 5

-L- Sta. 22+80.00
BEGIN BRIDGE

-L- Sta. 23+70.00
END BRIDGE

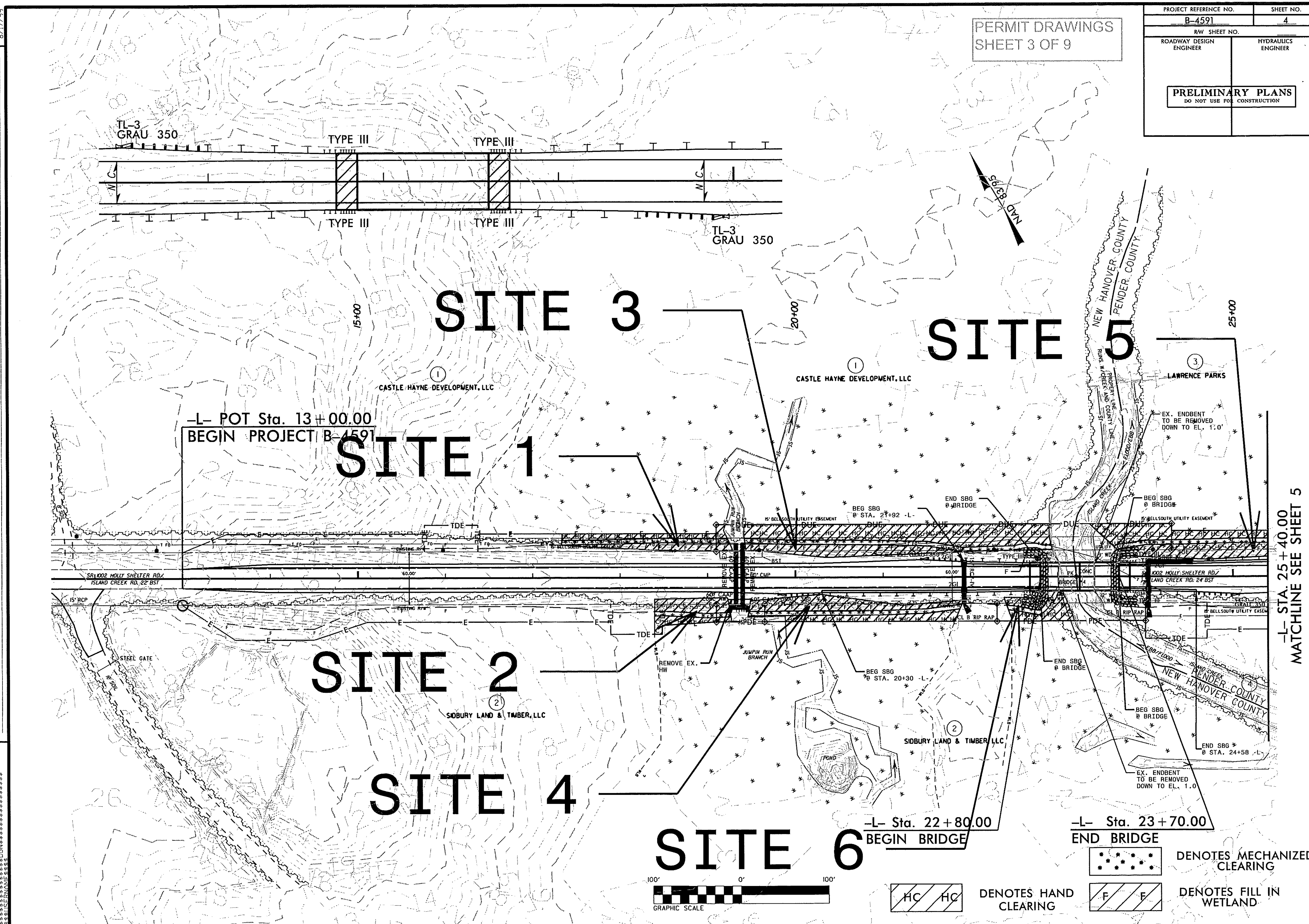
100' 0' 100'
GRAPHIC SCALE

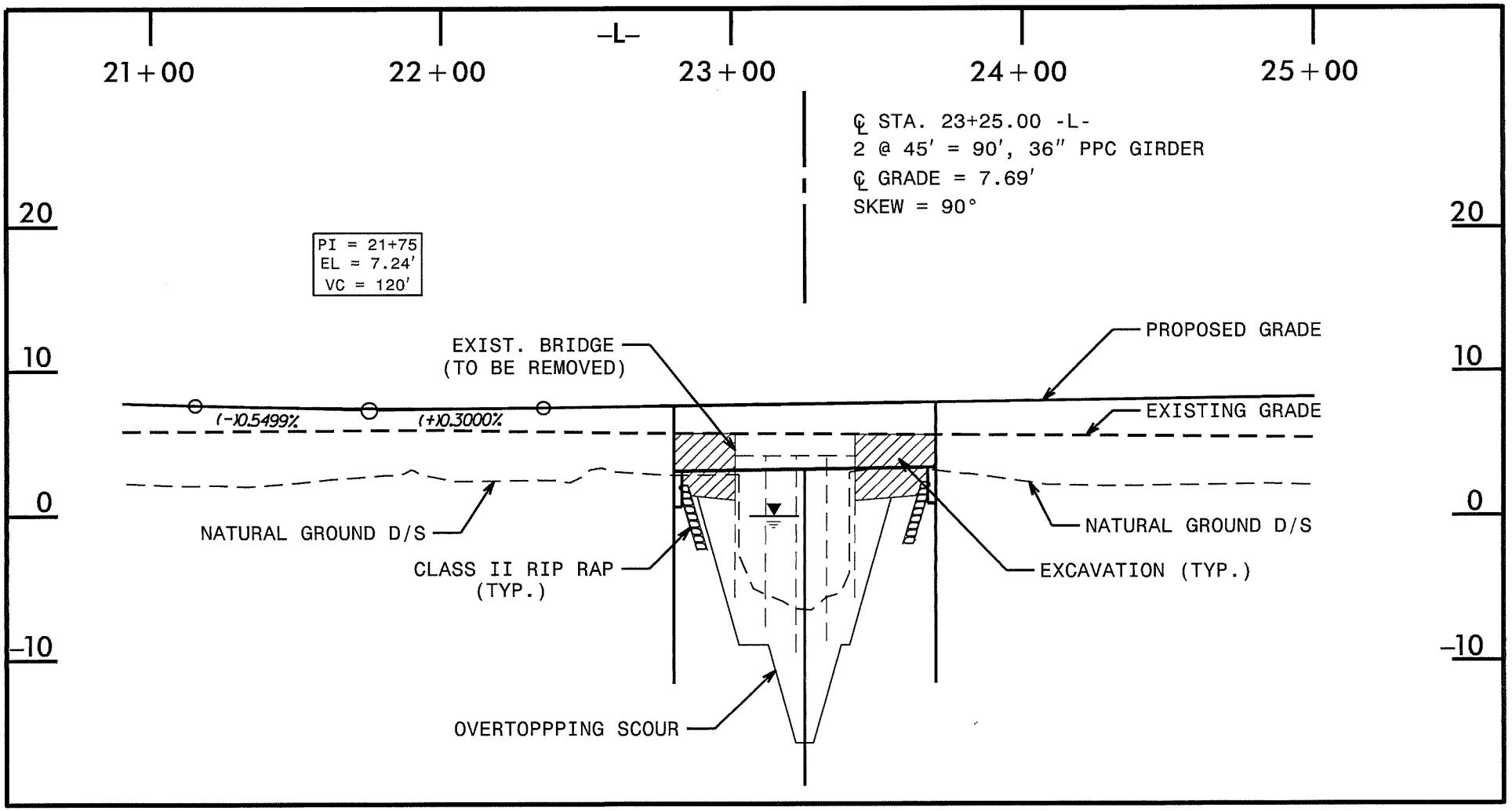
DENOTES MECHANIZED CLEARING

HC HC DENOTES HAND CLEARING

F F DENOTES FILL IN WETLAND

$$$$$SYSTIME$$$$$
$$$$$USERNAME$$$$$
$$$$$FILENAME$$$$$

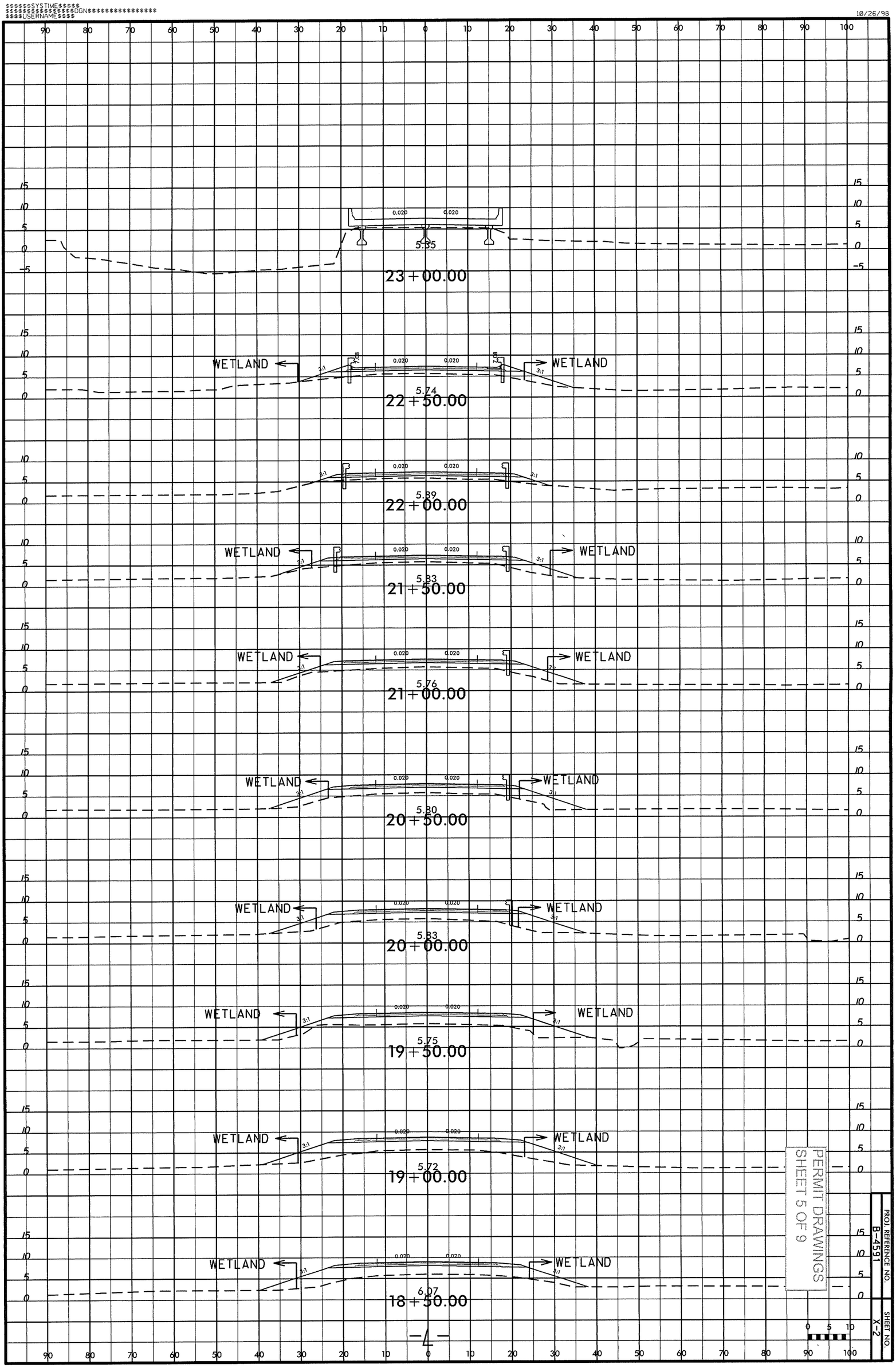

PROJECT REFERENCE NO.
B-4591
SHEET NO.
4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PERMIT DRAWINGS
SHEET 3 OF 9
8/17/99
REVISIONS
TL-3
GRAU 350
TYPE III
TYPE III
TYPE III
TYPE III
N.C.
N.C.
TL-3
GRAU 350
NAD 83/95
NEW HANOVER COUNTY
PENDER COUNTY
SITE 3
SITE 5
SITE 1
SITE 2
SITE 4
SITE 6
15+00
20+00
25+00
CASTLE HAYNE DEVELOPMENT, LLC
CASTLE HAYNE DEVELOPMENT, LLC
LAWRENCE PARKS
SIDBURY LAND & TIMBER, LLC
SIDBURY LAND & TIMBER, LLC
-L- POT Sta. 13+00.00
BEGIN PROJECT B-4591
PROPERTY LINE RUNS W/CREEK AND COUNTY LINE
EX. ENDBENT TO BE REMOVED DOWN TO EL. 1.0'
END SBG @ BRIDGE
BEG SBG @ STA. 21+92 -L-
BEG SBG @ BRIDGE
15' BELLSOUTH UTILITY EASEMENT
ISLAND CREEK
FLOOD/EBB
JUMPIN RUN BRANCH
SR 1002 HOLLY SHELTER RD./ ISLAND CREEK RD. 22' BST
SR 1002 HOLLY SHELTER RD./ ISLAND CREEK RD. 24' BST
15" RCP
STEEL GATE
8' SOIL
16' SOIL
TDE
REMOVE EX. HW
BEG SBG @ STA. 20+30 -L-
END SBG @ BRIDGE
BEG SBG @ BRIDGE
END SBG @ STA. 24+58 -L-
EX. ENDBENT TO BE REMOVED DOWN TO EL. 1.0
CL B RIP RAP
EBB/FLOOD
ISLAND CREEK
PENDER COUNTY
NEW HANOVER COUNTY
POND
-L- STA. 25+40.00
MATCHLINE SEE SHEET 5
-L- Sta. 22+80.00
BEGIN BRIDGE
-L- Sta. 23+70.00
END BRIDGE
100'
0'
100'
GRAPHIC SCALE
DENOTES MECHANIZED CLEARING
HC HC DENOTES HAND CLEARING
F F DENOTES FILL IN WETLAND



PERMIT DRAWINGS
SHEET 4 OF 9

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

10/26/98



PERMIT DRAWINGS
SHEET 5 OF 9

PROJ. REFERENCE NO. B-4591

SHEET NO. X-2

PROJECT REFERENCE NO.	SHEET NO.
B-4591	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWINGS
SHEET 6 OF 9

8/17/99

REVISIONS

SITE 5

NAD 83/95

30+00

35+00

3 LAWRENCE PARKS

END SBG
@ STA. 26+20 -L-

-L- PC Sta. 28+03.69

-L- PT Sta. 32+08.87

-L- POT Sta. 35+20.00
END PROJECT B-4591

-L- STA. 25+40.00
MATCHLINE SEE SHEET 4

SR 1002 HOLLY SHELTER RD/
ISLAND CREEK RD, 24' BST

GRAU 350

EXISTING R/W

60.00'

TDE

U/G TO VAULT

PUE

15' BELLSOUTH UTILITY EASEMENT

GR

4 BUYERS, BROKERS & CONSULTANTS, INC

PROPERTY LINE RUNS W/CREEK AND COUNTY LINE

EBB/FLOOD

ISLAND CREEK

PENDER COUNTY

NEW HANOVER COUNTY

DENOTES MECHANIZED CLEARING

HC HC DENOTES HAND CLEARING

F F DENOTES FILL IN WETLAND

100' 0' 100'
GRAPHIC SCALE

$$$$SYSTIME$$$$
$$$$SYSTIME$$$$
$$$$FILENAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4591	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWINGS
SHEET 7 OF 9

8/17/99

REVISIONS

SITE 5

NAD 83/95

-L- STA. 25+40.00
MATCHLINE SEE SHEET 4

-L- POT Sta. 35+20.00
END PROJECT B-4591

-L- PC Sta. 28+03.69

-L- PT Sta. 32+08.87

30+00

35+00

END SBG
@ STA. 26+20 -L-

LAWRENCE PARKS

BUYERS, BROKERS & CONSULTANTS, INC.

SR 1002 HOLLY SHELTER RD/
ISLAND CREEK RD, 24' BST

GRAU 350

U/G TO VALA

PUE

EXISTING R/W

60.00'

TDE

GR

15' BELLSOUTH UTILITY EASEMENT

PROPERTY LINE RUNS W/CREEK AND COUNTY LINE

EBB/FLOOD

ISLAND CREEK

PENDER COUNTY

NEW HANOVER COUNTY

DENOTES MECHANIZED CLEARING

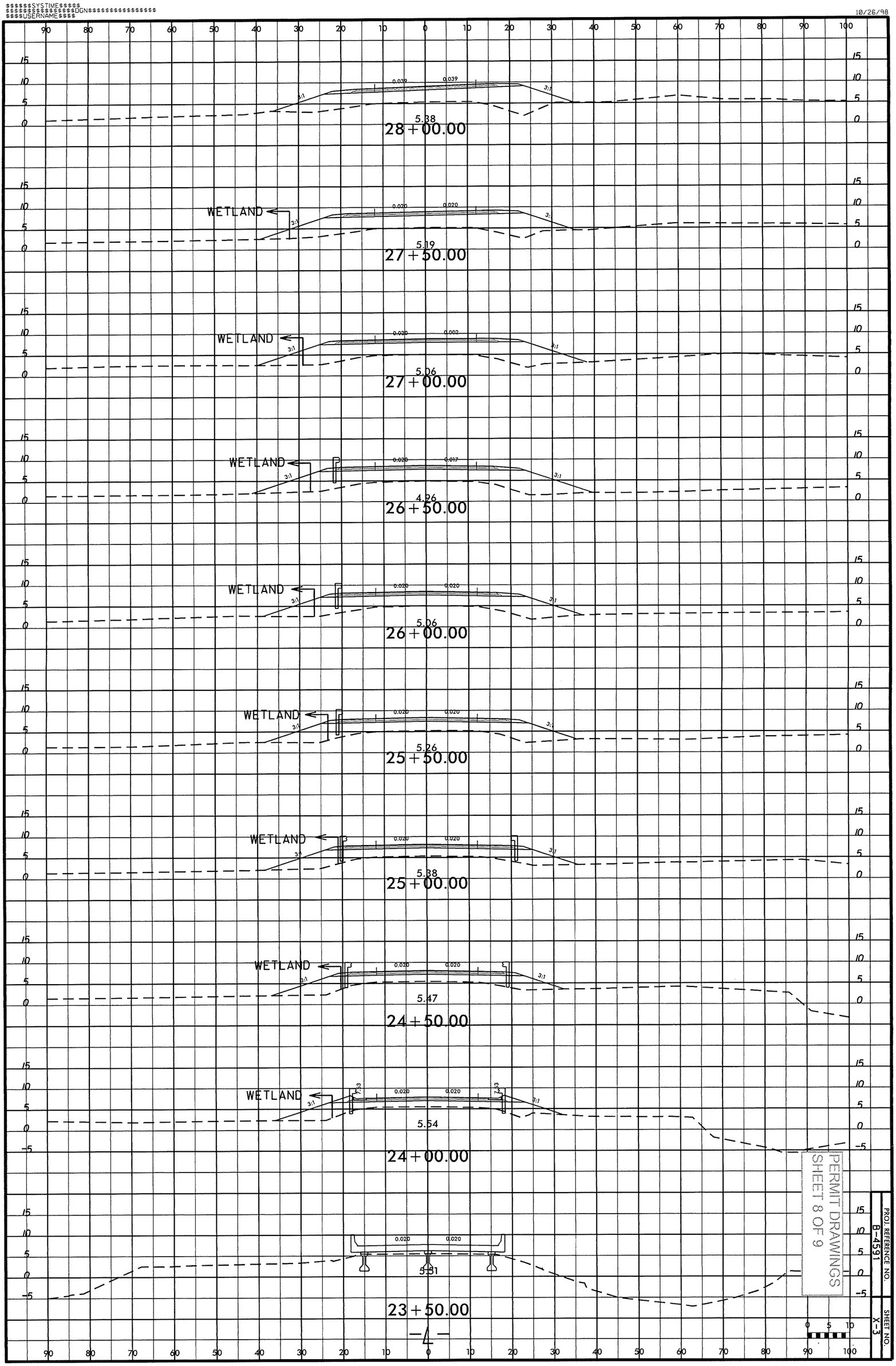
DENOTES HAND CLEARING

DENOTES FILL IN WETLAND

100' 0' 100'
GRAPHIC SCALE

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

10/26/98



PERMIT DRAWINGS
SHEET 8 OF 9

PROJ. REFERENCE NO.
B-4591

SHEET NO.
X-3

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	17+33 -L- (LT)		0.03			0.02	0.03					
	19+29 -L- (LT)											
2	18+39 -L- (RT)		0.03			0.01	0.02					
	19+38 -L- (RT)											
3	19+41 -L- (LT)		0.06			0.04	0.16					
	22+84 -L- (LT)											
4	19+45 -L- (RT)		0.06			0.07						
	21+92 -L- (RT)											
5	19+41 -L- (LT)		0.12			0.05	0.13					
6	22+38 -L- (RT)	FILL/BRIDGE	0.01			0.01	0.02					
	22+89 -L- (RT)											
TOTALS:			0.31			0.20	0.36					

PERMIT DRAWINGS

SHEET 9 OF 9

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

NEW HANOVER/PENDER COUNTIES

WBS - 38421.1.1 (B-4591)

SHEET 6/11/2013

ATN Revised 3/31/05

April 18, 2013

B-4591 NEU Narrative

Utility Owners:

- **Power:** Progress Energy – contact: Eddie Watkins
  (919) 882-5051 (Office)
  (919) 518-5248 (Mobile)
  ewatkins@uc-synergetic.com

- **Telephone:** AT&T – contact: Shannon Coston (910)-341-1623
  wc1166@att.com

General Utility Relocation:
All utility lines inside project limits currently within construction limits will be adjusted as necessary or relocated away from construction before project let.

Existing Utilities:

- **Power:** existing power lines run overhead on poles along the north side of the project.
- **Telephone:** existing telephone lines run underground along the north side the project.

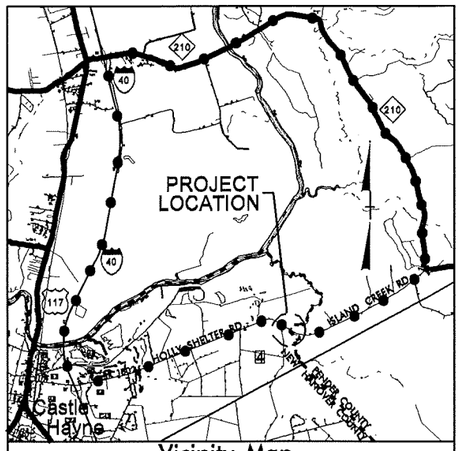
Proposed Utility Relocation:

- **Power:** Overhead power lines and power poles will be relocated further out to the same side (north side).
- **Telephone:** proposed telephone line will be relocated to the same side (north side) of the project by directional bore.

09/08/99

TIP PROJECT: B-4591

See Sheet 1-A For Index of Sheets



Vicinity Map

OFFSITE DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PENDER/ NEW HANOVER COUNTIES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4591	1	

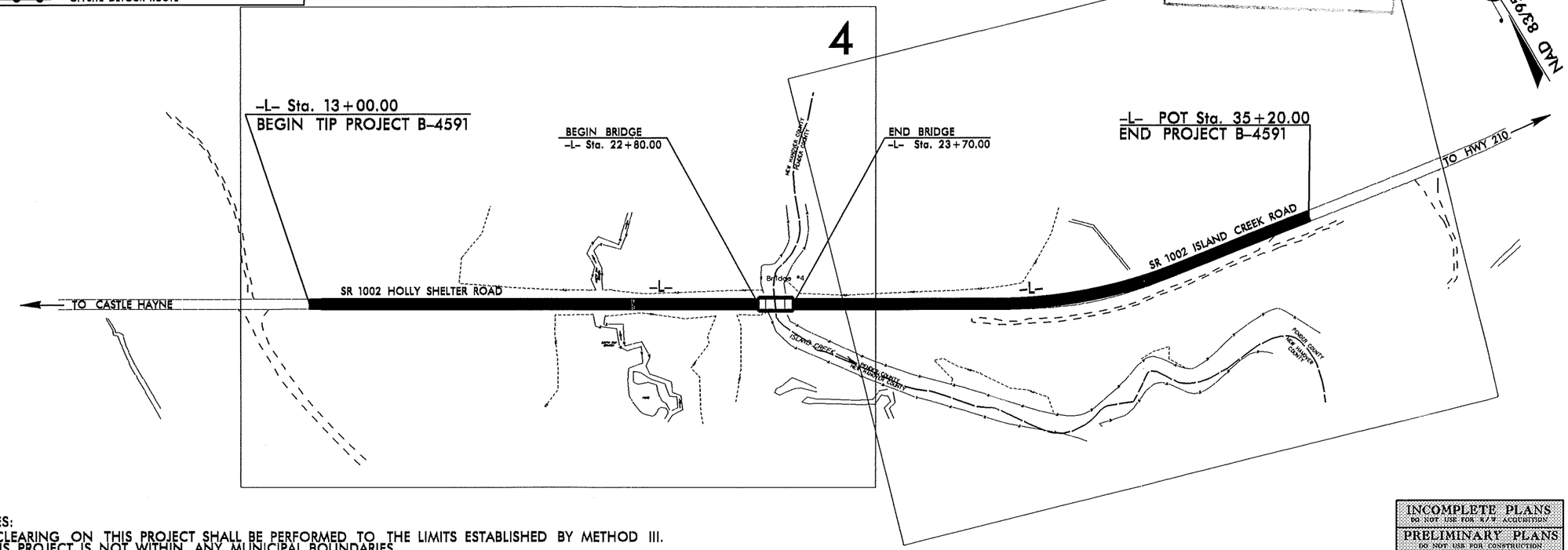
STATE PROJ.NO.	F.A. PROJ.NO.	DESCRIPTION
38421.1.1	BRZ-1002-(23)	PE
38421.2.1	BRZ-1002-(23)	RW,UTIL
38421.3.1	BRZ-1002-(23)	CONST.

LOCATION: BRIDGE #4 OVER ISLAND CREEK ON SR 1002 (HOLLY SHELTER RD./ISLAND CREEK RD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE

Utility Permit Drawing
Sheet 1 of 10

NEU PERMIT PLANS
(April 18, 2013)

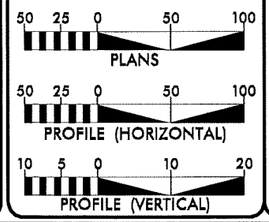


NOTES:
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES
TRAFFIC TO BE MAINTAINED WITH AN OFFSITE DETOUR

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:

GRAPHIC SCALES



DESIGN DATA

ADT 2011 = 3,516
ADT 2035 = 6,100
DHV = 12 %
D = 65 %
T = 9 % *
V = 60 MPH
* TTST 3 DUAL 6
FUNC CLASS =
RURAL MINOR COLLECTOR
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY F.A. PROJECT BRZ-1002-(23) = 0.403
LENGTH STRUCTURE F.A. PROJECT BRZ-1002-(23) = 0.017
TOTAL LENGTH STATE PROJECT 38421.1.1 = 0.420

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS
PROJECT UNDER CONSIDERATION FOR ACCELERATED SCHEDULE
RIGHT OF WAY DATE:
JUNE 21, 2013
LETTING DATE:
MAY 20, 2014

JASON MOORE, PE
PROJECT ENGINEER

JEANIE TYSON
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

18-APR-2013 15:21
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$$$$USERNAME$$$$

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
B-4591	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

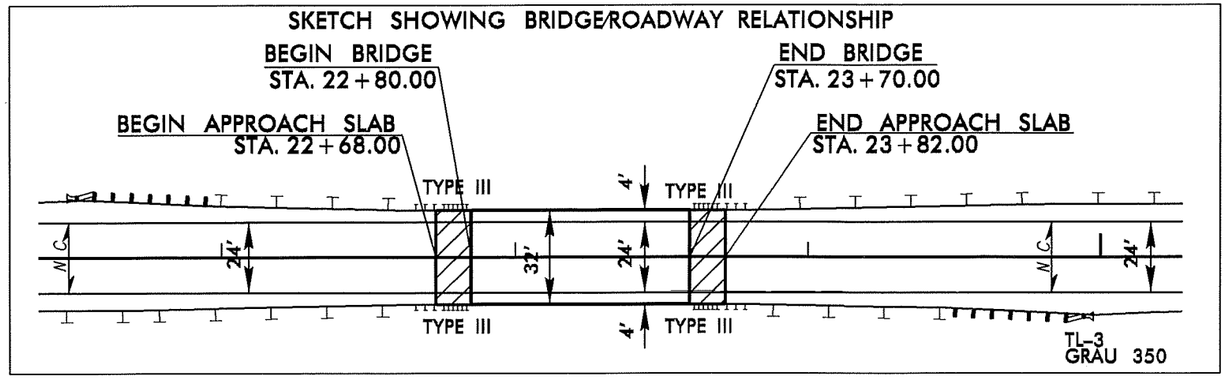
NEU PERMIT PLANS
Rev. (July 31, 2013)

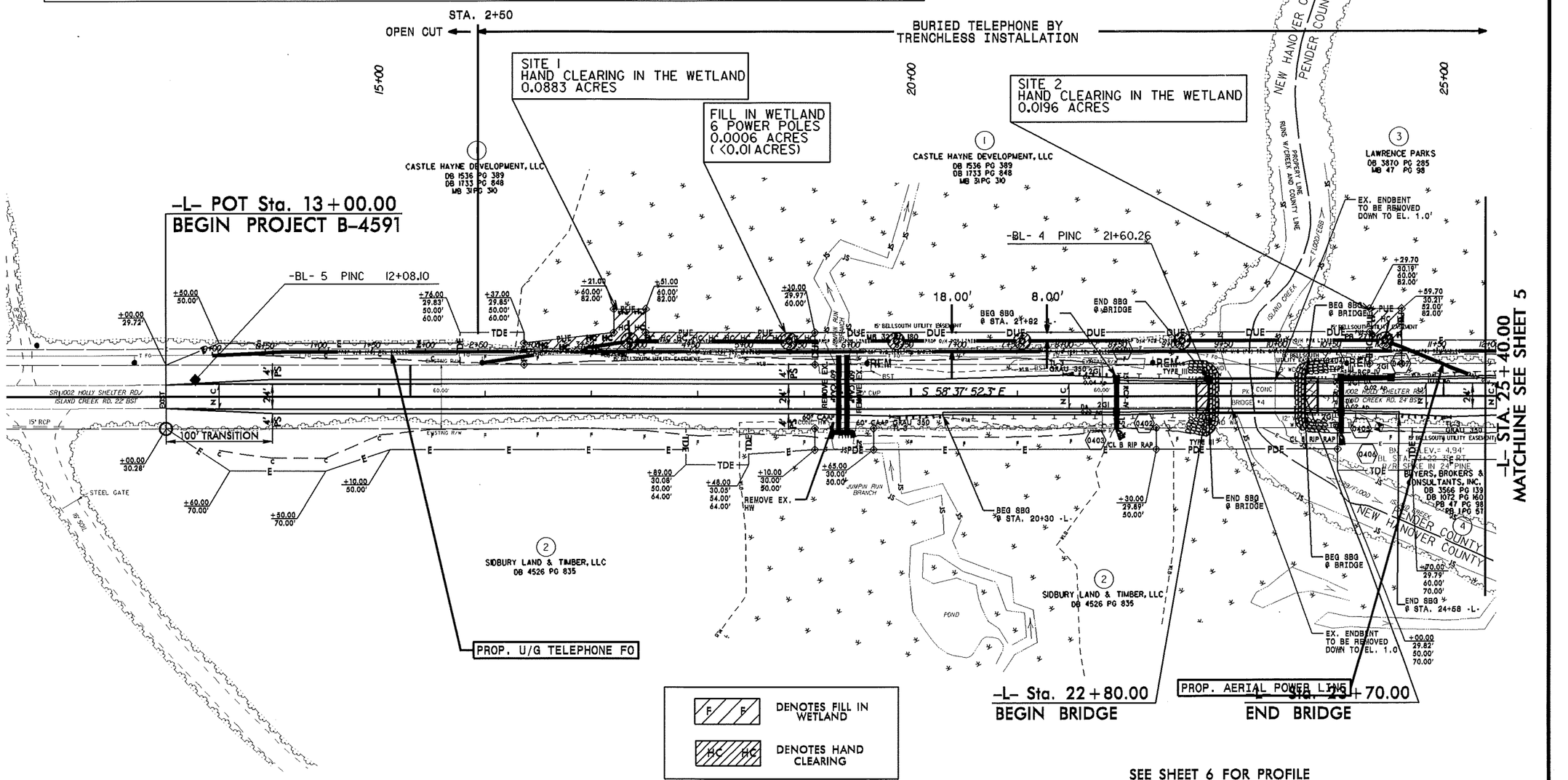
PLAN SCALE:
1"=50' (FULL-SIZE)
1"=100' (HALF-SIZE)

Utility Permit Drawing
Sheet 2 of 10

NAD 83/95

SKETCH SHOWING BRIDGE/ROADWAY RELATIONSHIP





SEE SHEET 6 FOR PROFILE
SEE SHEET S-1 THRU S-?? FOR STRUCTURE PLANS
TRAFFIC IS TO BE MAINTAINED ON AN OFFSITE DETOUR

31-JUL-2013 16:22
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NEU PERMIT PLANS
(April 18, 2013)

PLAN SCALE:
1"=50' (FULL-SIZE)
1"=100' (HALF-SIZE)

PROJECT REFERENCE NO.	SHEET NO.
B-4591	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Utility Permit Drawing
Sheet 3 of 10

NAD 83/95

L
PI Sta 30+08.79
△ = 21° 54' 03.8" (LT)
D = 5° 24' 18.9"
L = 405.18'
T = 205.09'
R = 1,060.00'
e = 0.06
RO = 162'

BURIED TELEPHONE BY TRENCHLESS INSTALLATION

OPEN CUT

STA. 15+25

30+00

35+00

-L- STA. 25+40.00
MATCHLINE SEE SHEET 4

PROP. U/G TELEPHONE FO

END BBG
@ STA. 28+20 -L-

③ LAWRENCE PARKS
DB 3870 PG 285
MB 47 PG 98

-L- PC Sta. 28+03.69

-L- PT Sta. 32+08.87

-L- POT Sta. 35+20.00
END PROJECT B-4591

SR 1002 HOLLY SHELTER RD/ISLAND CREEK RD

S 58° 37' 52.3" E

S 80° 31' 56" E

PROP. AERIAL POWER LINE

PROPERTY LINE RUNS W/CREEK AND COUNTY LINE

NCDOT GPS B4591-3
-BL- PINC 26+83.29

④ BUYERS, BROKERS & CONSULTANTS, INC.
DB 3566 PG 139
DB 1072 PG 160
PB 47 PG 98
PB 1 PG 57

④ BUYERS, BROKERS & CONSULTANTS, INC
DB 3566 PG 139
DB 1072 PG 160
PB 47 PG 98
PB 1 PG 57

NCDOT GPS B4591-2
-BL- POT 36+10.91

100' TRANSITION

EBB/FLOOD

ISLAND CREEK

PENDER COUNTY
NEW HANOVER COUNTY

SEE SHEET 6 FOR PROFILE
TRAFFIC IS TO BE MAINTAINED ON AN OFFSITE DETOUR

REVISIONS 8/17/99

18-APR-2013 15:05
C:\Users\...\Proj\NEU\b4591_rdy_psh5.dgn

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5122	6
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE: (919)707-6690
FAX: (919)250-4151

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

Utility Permit Drawing
Sheet 44 of 70

OPEN CUT

EXIST. GRADE

PROP. TELEPHONE CONDUIT

TELEPHONE CONDUIT

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

18-APR-2013 15:19
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$$$$USERNAME$$$$

100 90 80 70 60 50 40 30 20 10 0 -10 -20 -30 -40 -50 -60 -70 -80 -90

0 1+00 2+00

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5122	7
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

Utility Permit Drawing
Sheet 5 of 19

EXIST. GRADE

20'

PROP. POWER POLE

PROP. POWER POLE

PROP. TELEPHONE CONDUIT

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TELEPHONE CONDUIT

80 70 60 50 40 30 20 10 0 -10 -20 -30 -40 -50 -60 -70 -80 -90 -100 -110

60 50 40 30 20 10 0 -10 -20 -30 -40 -50 -60 -70 -80 -90 -100 -110

3+00 4+00 5+00

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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5122	8
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE: (919)707-6690
FAX: (919)250-4151

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION
Utility Permit Drawing
Sheet 6e of 10

70 60 50 40 30 20 10 0 -10 -20 -30 -40 -50 -60 -70 -80 -90 -100 -110 -120

20'

EXIST. GRADE

PROP. POWER POLE

20'

EXIST. GRADE

PROP. POWER POLE

PROP. TELEPHONE CONDUIT

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TELEPHONE CONDUIT

6+00 7+00 8+00

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$$$$USERNAME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5122	9
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

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

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

Utility Permit Drawing
Sheet 7 of 10

TRENCHLESS INSTALLATION

20'

20'

11'

PROP. POWER POLE

PROP. POWER POLE

PROP. TELEPHONE CONDUIT

70 60 50 40 30 20 10 0 -10 -20 -30 -40 -50 -60 -70 -80 -90 -100 -110 -120

9+00 10+00 11+00

TELEPHONE CONDUIT

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

18-APR-2013 15:12
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$$$$TELEPHONE$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5122	10

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:
REVISED:

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

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

UTILITY CONSTRUCTION PLANS ONLY

Utility Permit Drawing
Sheet 8 of 10

UTILITY CONSTRUCTION

70 60 50 40 30 20 10 0 -10 -20 -30 -40 -50 -60 -70 -80 -90 -100 -110 -120

20'

EXIST. GRADE

20'

PROP. POWER POLE

PROP. TELEPHONE CONDUIT

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TELEPHONE CONDUIT

12+00 13+00 14+00

18-APR-2013 15:12
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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5122	11
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

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

UTILITY CONSTRUCTION PLANS ONLY

Utility Permit Drawing
Sheet 9 of 10

UTILITY CONSTRUCTION

80 70 60 50 40 30 20 10 0 -10 -20 -30 -40 -50 -60 -70 -80 -90 -100 -110

OPEN CUT

EXIST. GRADE

PROP. POWER POLE

PROP. TELEPHONE CONDUIT

14+00 15+00 16+00

TELEPHONE CONDUIT

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

18-APR-2013 15:12
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$$$$CELLNAME$$$$

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	-L-15+30 TO 19+10	Aerial Power line					0.09					
	-L-17+35 TO 24+45	Power Poles	< 0.01									
3	-L-24+30 TO 25+20	Aerial Power line					0.02					
TOTALS:			< 0.01	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00

Note :

Utility Permit Drawing
Sheet 10 of 10

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PENDER/ NEW HANOVER COUNTY
TIP PROJECT (B-4591)

Rev. 7/31/2013

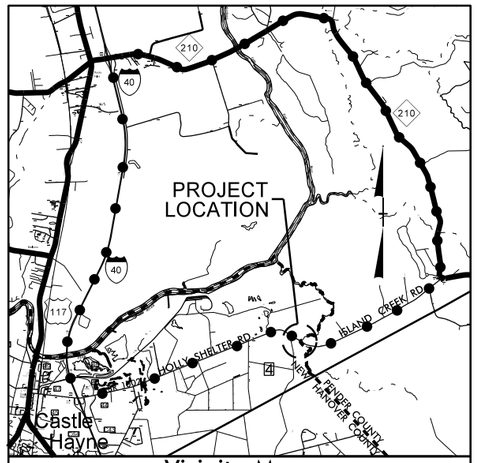
ATN Revised 3/31/05

09/08/09

TIP PROJECT: B-4591

CONTRACT:

See Sheet 1-A For Index of Sheets



Vicinity Map

OFFSITE DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

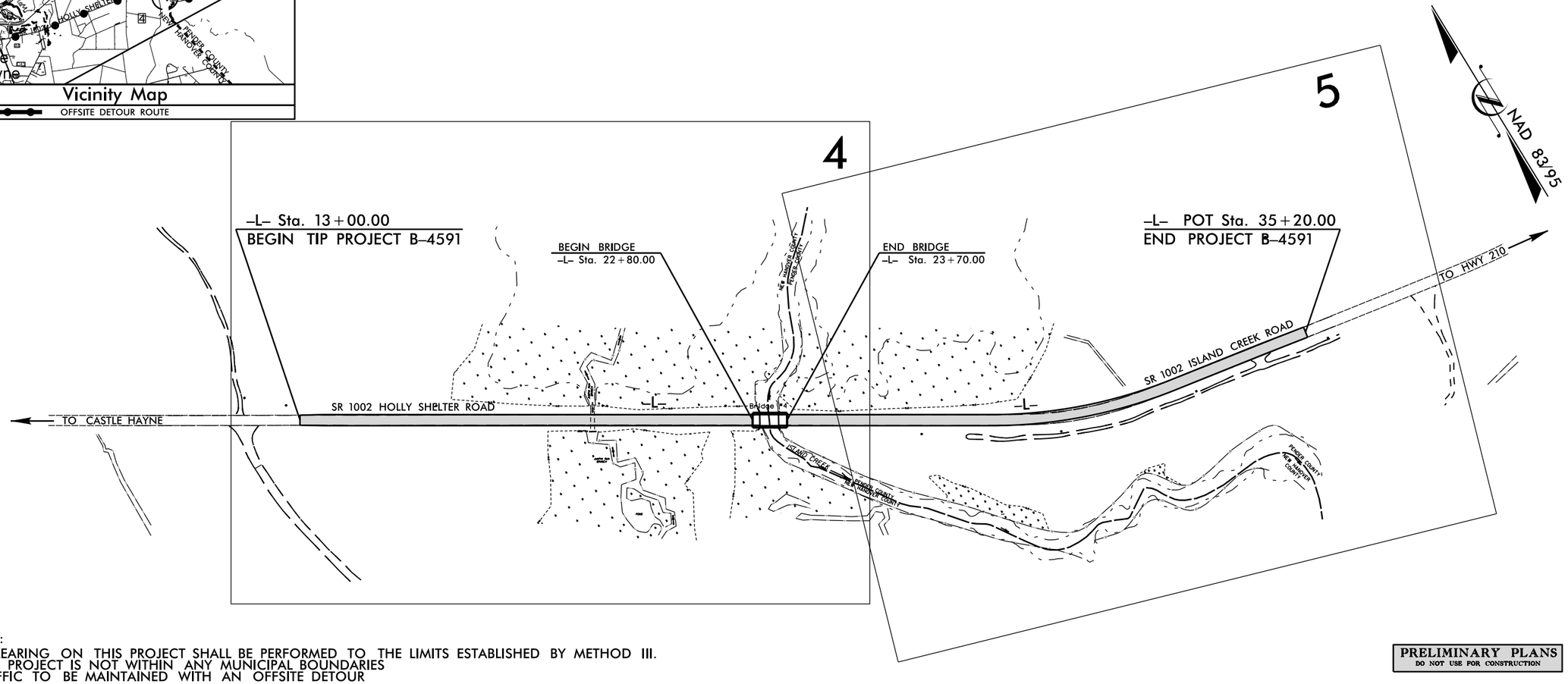
PENDER/ NEW HANOVER COUNTIES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4591	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38421.1.1	BRZ-1002-(23)	PE
38421.2.1	BRZ-1002-(23)	RW,UTIL
38421.3.1	BRZ-1002-(23)	CONST.

LOCATION: BRIDGE #4 OVER ISLAND CREEK ON SR 1002 (HOLLY SHELTER RD./ISLAND CREEK RD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE



NOTES:
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES
TRAFFIC TO BE MAINTAINED WITH AN OFFSITE DETOUR

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)

DESIGN DATA

ADT 2013 = 3,731
ADT 2035 = 6,100
DHV = 12 %
D = 65 %
T = 9 % *
V = 60 MPH
* TTST 3 DUAL 6
FUNC CLASS =
RURAL MINOR COLLECTOR
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY F.A. PROJECT BRZ-1002-(23) = 0.403
LENGTH STRUCTURE F.A. PROJECT BRZ-1002-(23) = 0.017
TOTAL LENGTH STATE PROJECT 38421.1.1 = 0.420

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MAY 24, 2013

LETTING DATE:
MAY 20, 2014

JASON MOORE, PE
PROJECT ENGINEER

JEANIE TYSON
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

04-JUN-2013 15:42
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$$$$USERNAME$$$$

3/15/06

PROJECT REFERENCE NO.	SHEET NO.
B-4591	1-B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

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

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 Marker — RW
- 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 Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- 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 Wheel Chair Ramp — WCR
- 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 — HH
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

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

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line
- Designated U/G Water Line (S.U.E.*)
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (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
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

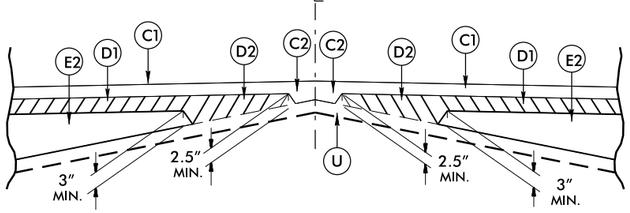
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- A/G Tank; Water, Gas, Oil
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

5/14/99

C1	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.
C2	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. 2½″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 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 B25.0, 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 4″ IN DEPTH OR GREATER THAN 5½″ IN DEPTH.
J	PROP. 8″ AGGREGATE BASE COURSE.
P	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING.

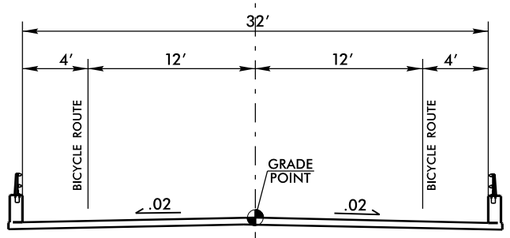
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

℄ SURVEY



Detail Showing Method of Wedging

℄ –L– SR 1002



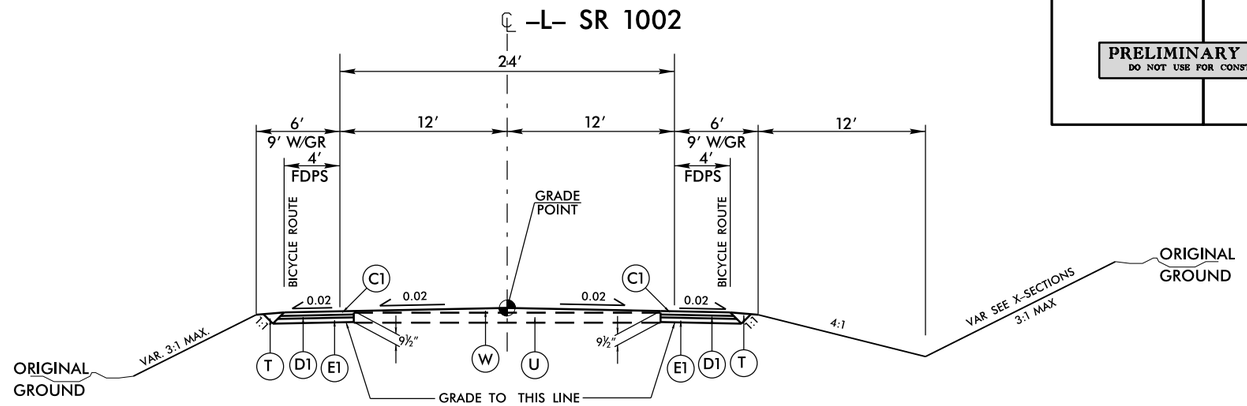
TYPICAL SECTION ON STRUCTURE

–L– STA. 22+80.00 TO STATION 23+70.00

PROJECT REFERENCE NO.	SHEET NO.
B-4591	2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

℄ –L– SR 1002



TYPICAL SECTION NO.1

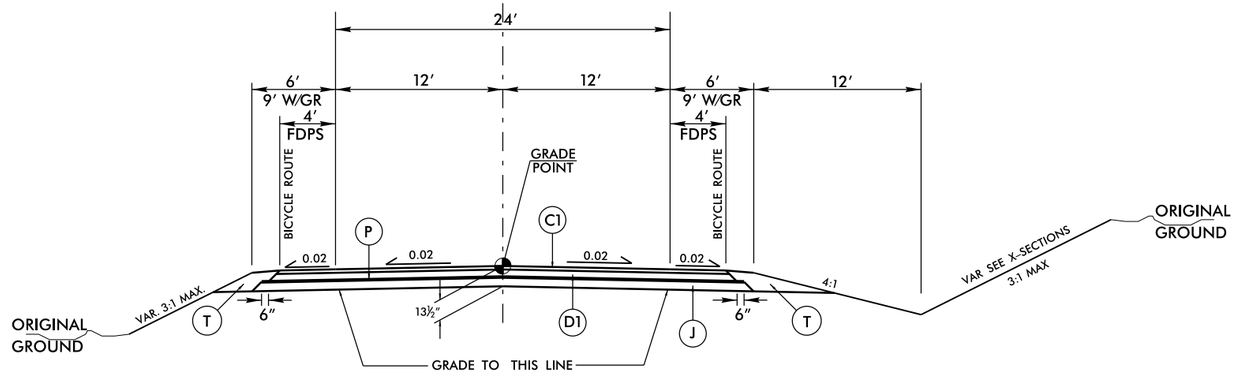
USE TYPICAL SECTION NO.1 AS FOLLOWS

–L– STA. 13+50.00 TO STATION 14+00.00
–L– STA. 33+00.00 TO STATION 34+70.00

TRANSITION FROM EXISTING TO TYPICAL SECTION NO.1

–L– STA. 13+00.00 TO STATION 13+50.00
–L– STA. 34+70.00 TO STATION 35+20.00

℄ –L– SR 1002



TYPICAL SECTION NO.2

USE TYPICAL SECTION NO.2 AS FOLLOWS:

–L– STA. 14+00.00 TO STATION 22+80.00 (BEGIN BRIDGE)
–L– STA. 23+70.00 (END BRIDGE) TO STATION 33+00.00

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$$$$LICENSE$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4591	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

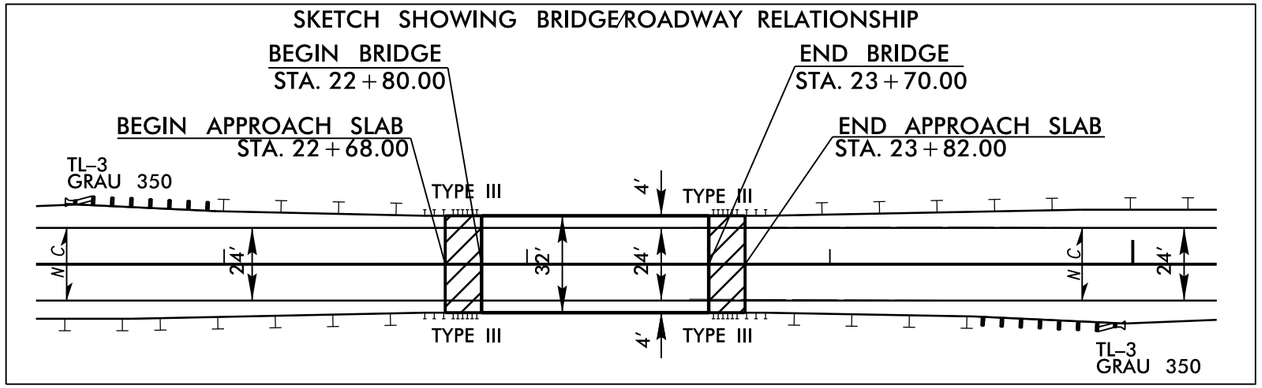
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

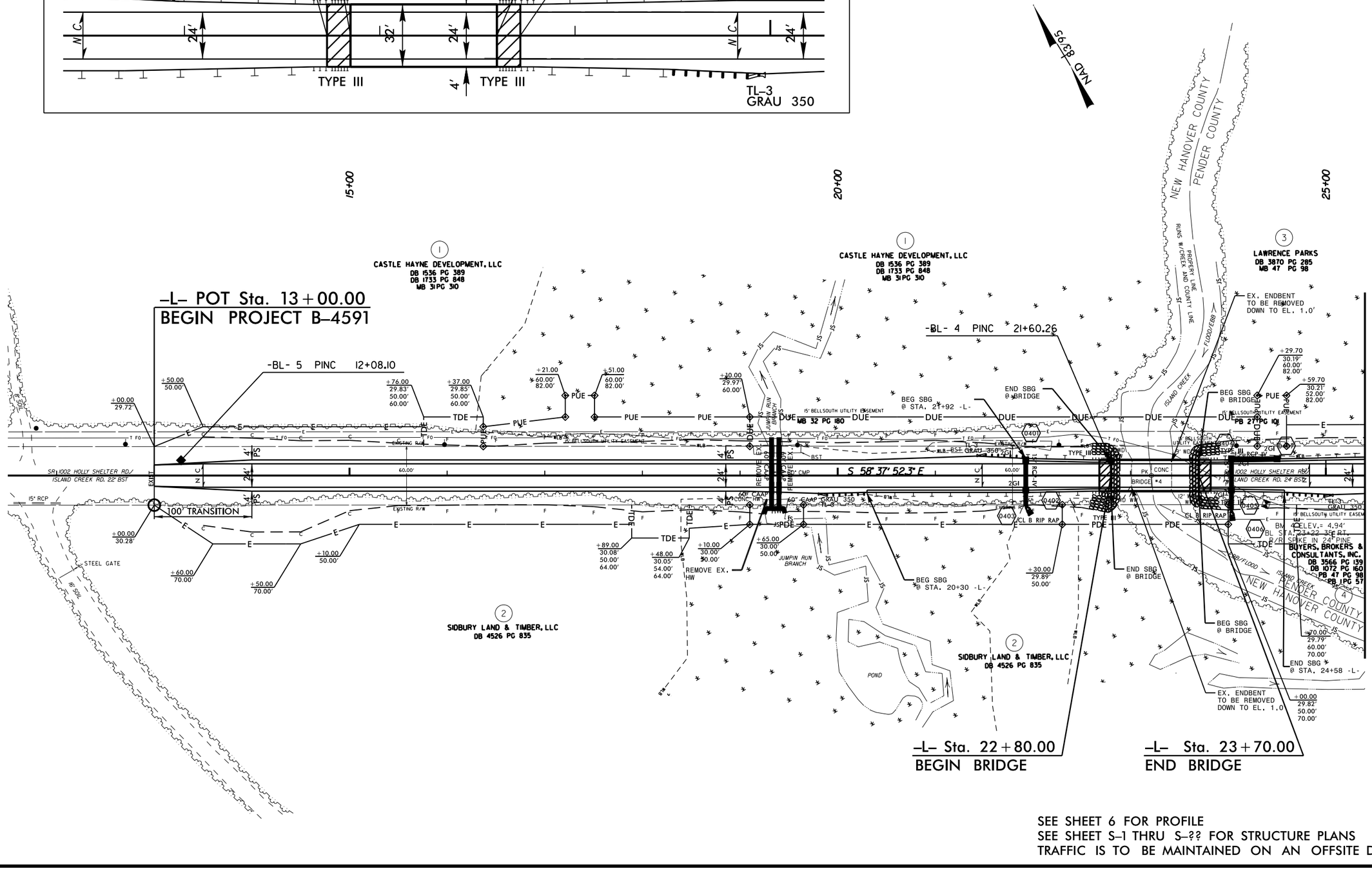
REVISIONS

8/17/99

R/W REVISION – ADDED PERMANENT UTILITY EASEMENT LIMITS FROM –L– STA. 16+37.00 TO STA. 19+10.00 LT AND FROM –L– STA. 24+29.70 LT. — SEC 07/24/13

SKETCH SHOWING BRIDGE/ROADWAY RELATIONSHIP





–L– STA. 25+40.00
MATCHLINE SEE SHEET 5

SEE SHEET 6 FOR PROFILE
SEE SHEET S-1 THRU S-?? FOR STRUCTURE PLANS
TRAFFIC IS TO BE MAINTAINED ON AN OFFSITE DETOUR

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PROJECT REFERENCE NO.	SHEET NO.
B-4591	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

L
PI Sta 30+08.79
△ = 21° 54' 03.8" (LT)
D = 5° 24' 18.9"
L = 405.18'
T = 205.09'
R = 1,060.00'
e = 0.06
RO = 162'

-L- STA. 25+40.00
MATCHLINE SEE SHEET 4

30+00

35+00

NAD

3
LAWRENCE PARKS
DB 3870 PG 285
MB 47 PG 98

END SBG
@ STA. 26+20 -L-

-L- PC Sta. 28+03.69

-L- PT Sta. 32+08.87

-L- POT Sta. 35+20.00
END PROJECT B-4591

SR 1002 HOLLY SHELTER RD./ISLAND CREEK RD. 24' BST

GRAU 350

S 58° 37' 52.3" E

S 80° 31' 56" E

U/G FO VAULT

PUE

27' TYP

+68.69

+05.00
29.73'
60.00'

+03.69
29.65'
52.00'
60.00'

+32.00
61.00'

+24.00
61.00'

+84.00
50.00'
65.00'

+48.00
50.00'
65.00'

+64.00
50.00'

+20.00
29.65'

+20.00
50.00'

+70.00
50.00'

+20.00
30.35'

+70.87

100' TRANSITION

15' BELLSOUTH UTILITY EASEMENT

NCDOT GPS B4591-1
-BL- POT 36+10.91

NCDOT GPS B4591-2
-BL- POT 36+10.91

NCDOT GPS B4591-3
-BL- PINC 26+83.29

4
BUYERS, BROKERS & CONSULTANTS, INC.
DB 3566 PG 139
DB 1072 PG 160
PB 47 PG 98
PB 1 PG 57

4
BUYERS, BROKERS & CONSULTANTS, INC
DB 3566 PG 139
DB 1072 PG 160
PB 47 PG 98
PB 1 PG 57

PROPERTY LINE RUNS W/CREEK AND COUNTY LINE

EBB/FLOOD

ISLAND CREEK

PENDER COUNTY

NEW HANOVER COUNTY

SEE SHEET 6 FOR PROFILE
TRAFFIC IS TO BE MAINTAINED ON AN OFFSITE DETOUR

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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
B-4591	6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L- SR 1002 HOLLY SHELTER /ISLAND CREEK RD

BEGIN GRADE
-L- STATION 13+50.00
EL. 19.40

PI = 16+00.00
EL = 10.40'
VC = 420'
K = 138

-L- 10.5499%

PI = 21+75.00
EL = 7.24'
VC = 120'
K = 141

-L- 10.5499% → -L- 10.3000%

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 2200	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 7.3	FT
BASE DISCHARGE	= 2700	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 7.9	FT
OVERTOPPING DISCHARGE	= 2660	CFS
OVERTOPPING FREQUENCY	= 100	YRS
OVERTOPPING ELEVATION	= 7.9	FT
	=	FT
DATE OF SURVEY	= 8/17/2011	
W.S. ELEVATION AT DATE OF SURVEY	= 0.5	FT

SEE SHEETS 4 & 5 FOR PLAN VIEW

PI = 32+70.00
EL = 10.52'
VC = 320'
K = 136

-L- 10.3000% → -L- 12.6482%

END GRADE
-L- STATION 34+70.00
EL. 15.82

SEE SHEETS 4 & 5 FOR PLAN VIEW

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

40 30 20 10 0 –10 –20 –30 –40

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