



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

May 14, 2013

U. S. Army Corps of Engineers
Regulatory Field Office
2407 West 5th Street
Washington, NC 27889

ATTN: Mr. Tom Steffens
NCDOT Coordinator

Dear Sir:

Subject: Application for Section 404 Nationwide Permits 23 & 13, Section 401 Water Quality Certification and Tar-Pamlico Riparian Buffer Authorization for the proposed replacement of Bridge No. 156 over Pigbasket Creek on SR 1433 in Nash County. Federal Aid Project No. BRZ-1433(4), TIP No. B-4939, Debit \$240.00 from WBS Element 40170.1.1.

The North Carolina Department of Transportation (NCDOT) proposes to replace the 91-foot, 3-span Bridge No. 156 with a 157.5-foot, 3-span bridge on the existing alignment. Traffic will follow an offsite detour during construction. Permanent impacts to jurisdictional resources include 0.01 acre of wetland fill and 52 feet of bank stabilization.

Please see enclosed copies of the Pre-Construction Notification (PCN), permit drawings, stormwater management plan, and design plans for the above referenced project. The Categorical Exclusion (CE) was completed in March 2012. Copies were distributed shortly thereafter. Additional copies are available upon request.

This project calls for a letting date of December 17, 2013 and a review date of October 29, 2013. 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 NCDOT requests that these activities be authorized by Nationwide Permit 23 and 13.

Section 401 Permit: We anticipate 401 General Certification numbers 3891 and 3885 will apply to this project.

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

Tar-Pamlico Riparian Buffer Authorization: NCDOT requests that the NC Division of Water Quality review this application and issue a written approval for a Tar-Pamlico Riparian Buffer Authorization.

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,


for

Gregory J. Thorpe, Ph.D., Manager
Project Development and Environmental Analysis Unit

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:	<input checked="" type="checkbox"/> Section 404 Permit	<input type="checkbox"/> Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 23 or General Permit (GP) number:		
1c. Has the NWP or GP number been verified by the Corps?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1d. Type(s) of approval sought from the DWQ (check all that apply):		
<input checked="" type="checkbox"/> 401 Water Quality Certification – Regular <input type="checkbox"/> Non-404 Jurisdictional General Permit <input type="checkbox"/> 401 Water Quality Certification – Express <input checked="" type="checkbox"/> 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: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	For the record only for Corps Permit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

2. Project Information

2a. Name of project:	Replacement of Bridge No. 156 over Pigbasket Creek on SR 1443
2b. County:	Nash
2c. Nearest municipality / town:	Nashville
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	B-4939

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	<i>not applicable</i>
3c. Responsible Party (for LLC if applicable):	<i>not applicable</i>
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:	<input type="checkbox"/> Agent <input type="checkbox"/> Other, specify:
4b. Name:	<i>not applicable</i>
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:	<i>not applicable</i>
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):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: 35.9989 (DD.DDDDDD) Longitude: - 77.9436 (-DD.DDDDDD)
1c. Property size:	1.18 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Pigbasket Creek
2b. Water Quality Classification of nearest receiving water:	C; NSW
2c. River basin:	Tar Pamlico
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 agriculture with some residential properties.	
3b. List the total estimated acreage of all existing wetlands on the property: 0.1	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 250	
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 91-foot 3-span bridge with a 157.5-foot, 3-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: See attached	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input checked="" type="checkbox"/> Preliminary <input type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known): Veronica Barnes	Agency/Consultant Company: NCDOT Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. 27 October 2009	
5. Project History	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
5b. If yes, explain in detail according to "help file" instructions.	
6. Future Project Plans	
6a. Is this a phased project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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):						
<input checked="" type="checkbox"/> Wetlands		<input checked="" type="checkbox"/> Streams - tributaries		<input checked="" type="checkbox"/> Buffers		
<input checked="" type="checkbox"/> Open Waters		<input type="checkbox"/> 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 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Fill	Riparian	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	0.01	
Site 1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Fill	Riparian	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	<0.01	
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
2g. Total wetland impacts					0.01 Perm <0.01 Temp	
2h. Comments: <0.01 acre of Temp. Fill in wetlands will result from erosion control measures						
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 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank Stabilization	Pigbasket Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ		52
Site 1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
3h. Total stream and tributary impacts						52 Perm
3i. Comments:						

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 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Pigbasket Creek	Fill	Stream	0.01
O1 <input type="checkbox"/> P <input type="checkbox"/> T				
O2 <input type="checkbox"/> P <input type="checkbox"/> T				
O3 <input type="checkbox"/> P <input type="checkbox"/> T				
4f. Total open water impacts				X Permanent 0.01 Temporary

4g. Comments: Work pad will be necessary to construct drilled piers, the deck will be constructed top-down.

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?	<input type="checkbox"/> Yes <input type="checkbox"/> 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?		<input type="checkbox"/> Neuse <input checked="" type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Other: <input type="checkbox"/> Catawba <input type="checkbox"/> Randleman			
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 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Road	Pigbasket Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	390	476
B2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Road	Pigbasket Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	0	314
B3 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bridge	Pigbasket Creek	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5,655	1,818
6h. Total buffer impacts				6,045	2,608
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 No. 156 is 66.5 feet longer than the existing bridge and will be at a slightly higher grade as the existing structure; there will minimal fill and no excavation in jurisdictional areas. Deck drains have been eliminated and there will be no direct discharge into surface water. 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. Stream-side areas will be graded such that elevations match natural/undeveloped floodplain in project vicinity. Promotion of sheet flow and infiltration over rip/rap pads is proposed.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. Construction will be top-down. Design Standares in Sensitive Watersheds and Best Management Practices for Bridge Demolition and Removal 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If no, explain: Due to the minimal amount of impacts compensatory mitigation is not proposed.	
2b. If yes, mitigation is required by (check all that apply):	<input type="checkbox"/> DWQ <input type="checkbox"/> Corps	
2c. If yes, which mitigation option will be used for this project?	<input type="checkbox"/> Mitigation bank <input type="checkbox"/> Payment to in-lieu fee program <input type="checkbox"/> 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.	<input type="checkbox"/> Yes	
4b. Stream mitigation requested:	linear feet	
4c. If using stream mitigation, stream temperature:	<input type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold	
4d. Buffer mitigation requested (DWQ only):	square feet	
4e. Riparian wetland mitigation requested:	acres	
4f. Non-riparian wetland mitigation requested:	acres	
4g. Coastal (tidal) wetland mitigation requested:	acres	
4h. Comments:		
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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1b. If yes, then is a diffuse flow plan included? If not, explain why. Comments:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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?	<input type="checkbox"/> Certified Local Government <input type="checkbox"/> DWQ Stormwater Program <input checked="" type="checkbox"/> 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):	<input type="checkbox"/> Phase II <input type="checkbox"/> NSW <input type="checkbox"/> USMP <input type="checkbox"/> Water Supply Watershed <input type="checkbox"/> Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Coastal counties <input type="checkbox"/> HQW <input type="checkbox"/> ORW <input type="checkbox"/> Session Law 2006-246 <input type="checkbox"/> Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A
5b. Have all of the 401 Unit submittal requirements been met?	<input type="checkbox"/> Yes <input type="checkbox"/> 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2b. Is this an after-the-fact permit application?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input type="checkbox"/> Raleigh <input type="checkbox"/> 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?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> 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?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> 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		
Dr. Gregory J. Thorpe, Ph D Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	5-13-13 Date



North Carolina Department of Transportation
Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
 FOR LINEAR ROADWAY PROJECTS



(Version 1.2; Released September 2011)

Project/TIP No.: B-4939 County(ies): Nash Page 1 of 1

General Project Information

Project No.:	B-4939	Project Type:	Bridge Replacement	Date:	2/21/2013
NCDOT Contact:	Charles Smith, PE	Contractor / Designer:	Sungate Design Group, P.A.		
Address:	1020 Birch Ridge Road Raleigh, NC 27610	Address:	915 Jones Franklin Road Raleigh, NC 27606		
Phone:	919-707-6716	Phone:	919-859-2243		
Email:	crsmith5@ncdot.gov	Email:	belam@sungatedesign.com		
City/Town:		County(ies):	Nash		
River Basin(s):	Tar-Pamlico	CAMA County?	No		
Primary Receiving Water:	Pig Basket Creek	NCDWQ Stream Index No.:	28-68-3-(2)		
NCDWQ Surface Water Classification for Primary Receiving Water	Primary:	Class C			
	Supplemental:	Nutrient Sensitive Waters (NSW)			
Other Stream Classification:	None				
303(d) Impairments:	None				
Buffer Rules in Effect	Tar-Pamlico				

Project Description

Project Length (lin. Miles or feet):	0.08	Surrounding Land Use:	Rural, Agriculture		
	Proposed Project		Existing Site		
Project Built-Upon Area (ac.)	0.25 ac.		0.21 ac.		
Typical Cross Section Description:	2-Lane Shoulder Section		2-Lane Shoulder Section		
Average Daily Traffic (veh/hr/day):	Design/Future: 585		Existing: 435		

General Project Narrative: B-4939 involves the removal and replacement of Nash County bridge number 156. Rip-rap dissipators are proposed at the outlet of the bridge end drain to provide diffuse flow prior to entering Buffer Zone 2. Preformed Scour Holes were not used on this project due to proximity to wetlands. Placement of the interior bents are in or near the Stream limits. This was necessary in order to provide a span length that could be constructed using Top Down methods to avoid further impacts.

References

09.08/09

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

LOCATION: BRIDGE NO. 156 OVER BASKET CREEK ON SR 1433

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

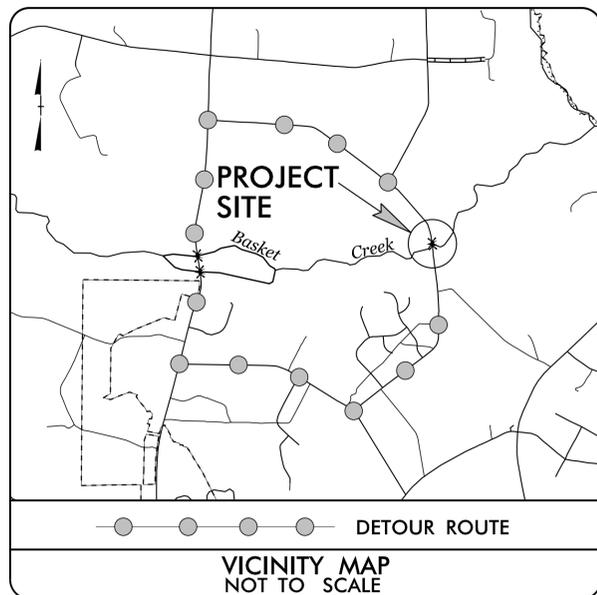
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4939	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
40170.1.1	BRZ-1433(4)	PE	
40170.2.1	BRZ-1433(4)	RW & UTIL.	

**PERMIT DRAWING
SHEET 1 OF 7**

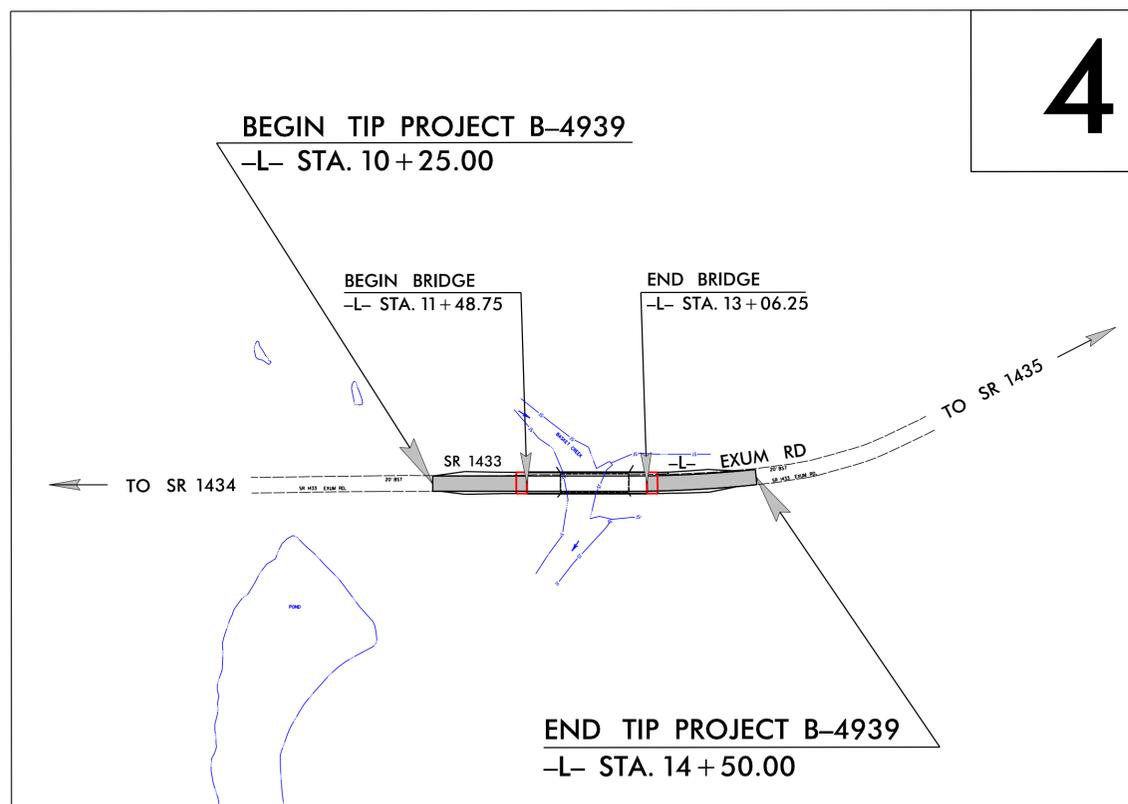
NCGRID
NAD 83/NSRS 2007



TIP PROJECT: B-4939



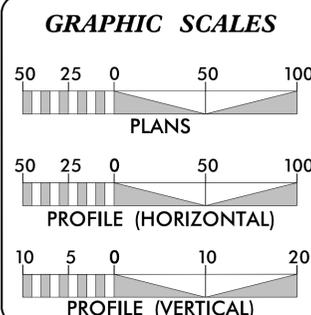
WETLAND AND SURFACE WATER IMPACTS PERMIT



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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA

ADT 2013 = 435
ADT 2033 = 585

DHV = 10 %
D = 60 %
T = 5 % *
V = 60 MPH
* (TTST 2% + DUALS 3%)

FUNC CLASS = RURAL LOCAL

SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4939 = 0.050 MILES

LENGTH OF STRUCTURE TIP PROJECT B-4939 = 0.030 MILES

TOTAL LENGTH TIP PROJECT B-4939 = 0.080 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 17, 2012

LETTING DATE:
DECEMBER 17, 2013

GARY LOVERING, PE
PROJECT ENGINEER

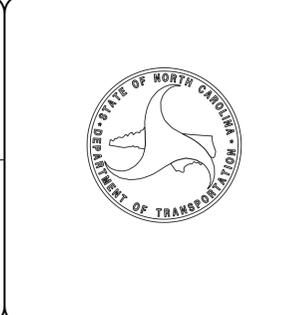
SUSAN C. LANCASTER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

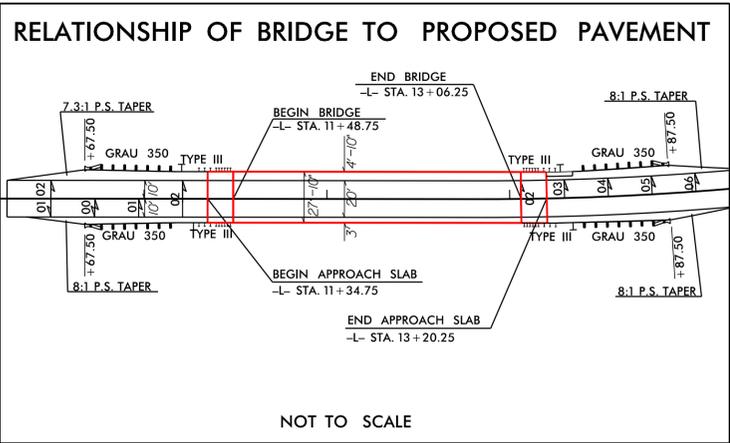


3/12/2013
B4939_Hyd_prm_wet_psh01.dgn
User: jharvey

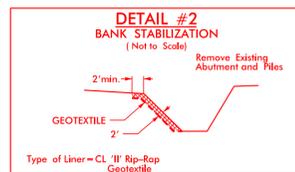
PROJECT REFERENCE NO.	SHEET NO.
B-4939	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 2 OF 7

NCGRID
NAD 83/NSRS 2007

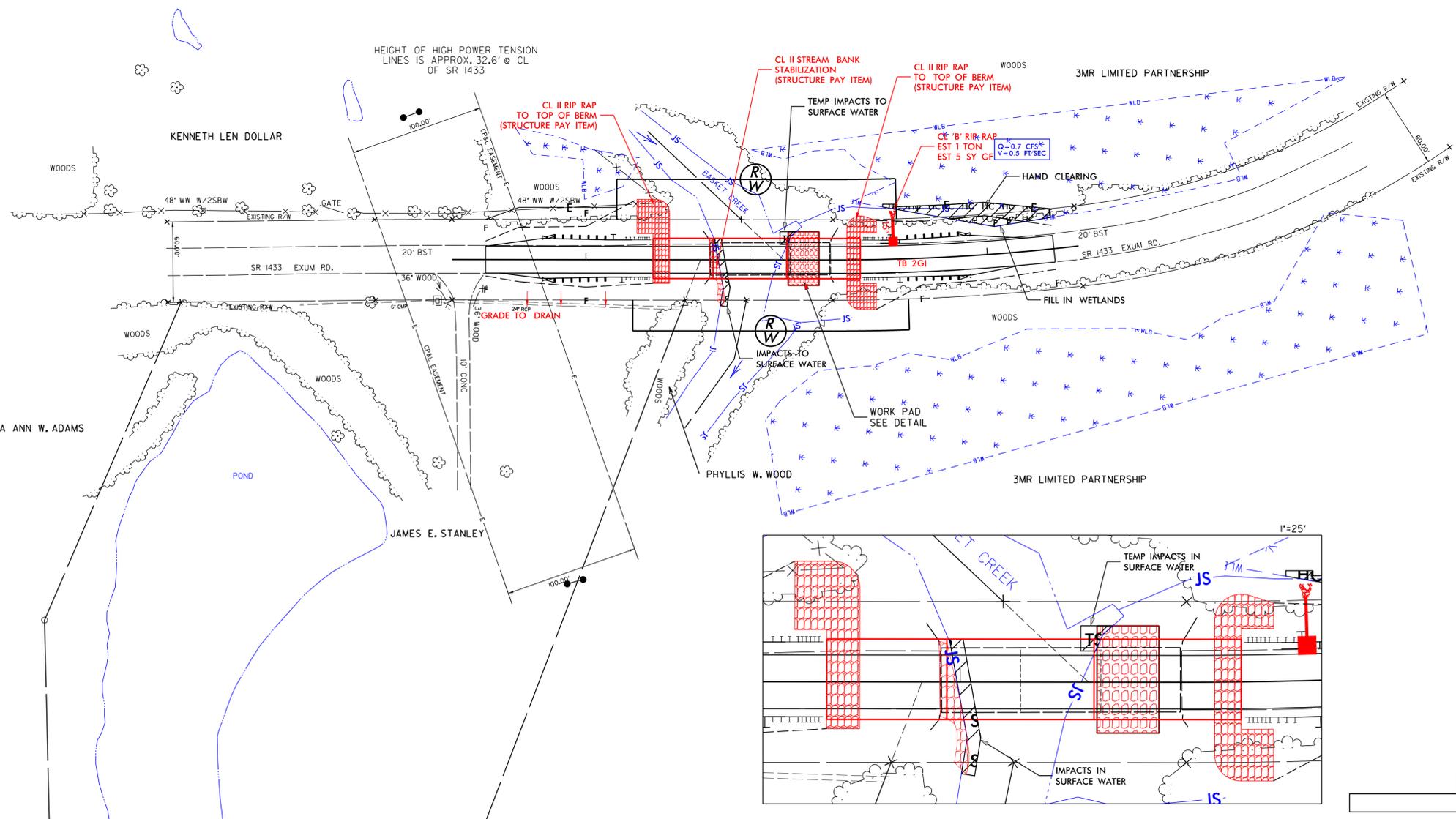


NOT TO SCALE



- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES HAND CLEARING
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- WORK PAD
- RIP RAP

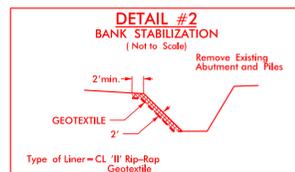
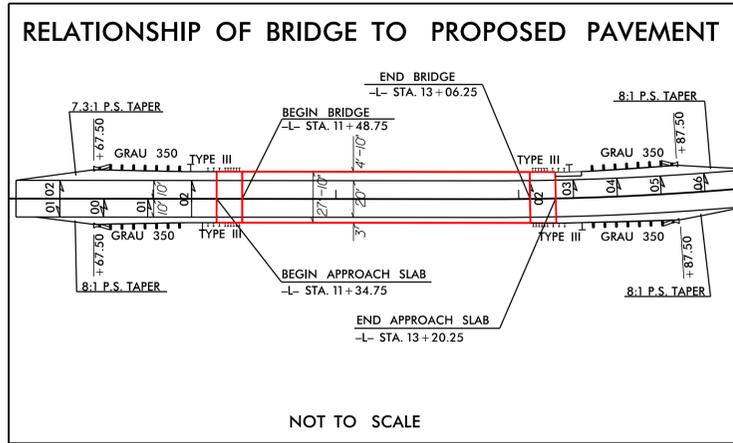
REVISIONS



3/12/2013 11:45:45 AM d:\prj\wet\psh04.dgn
User: tharve

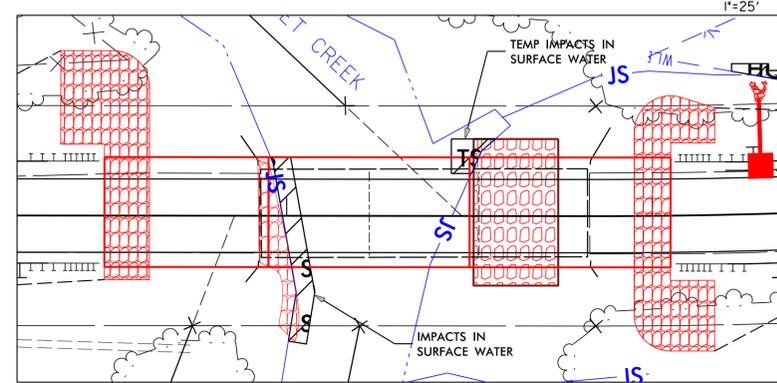
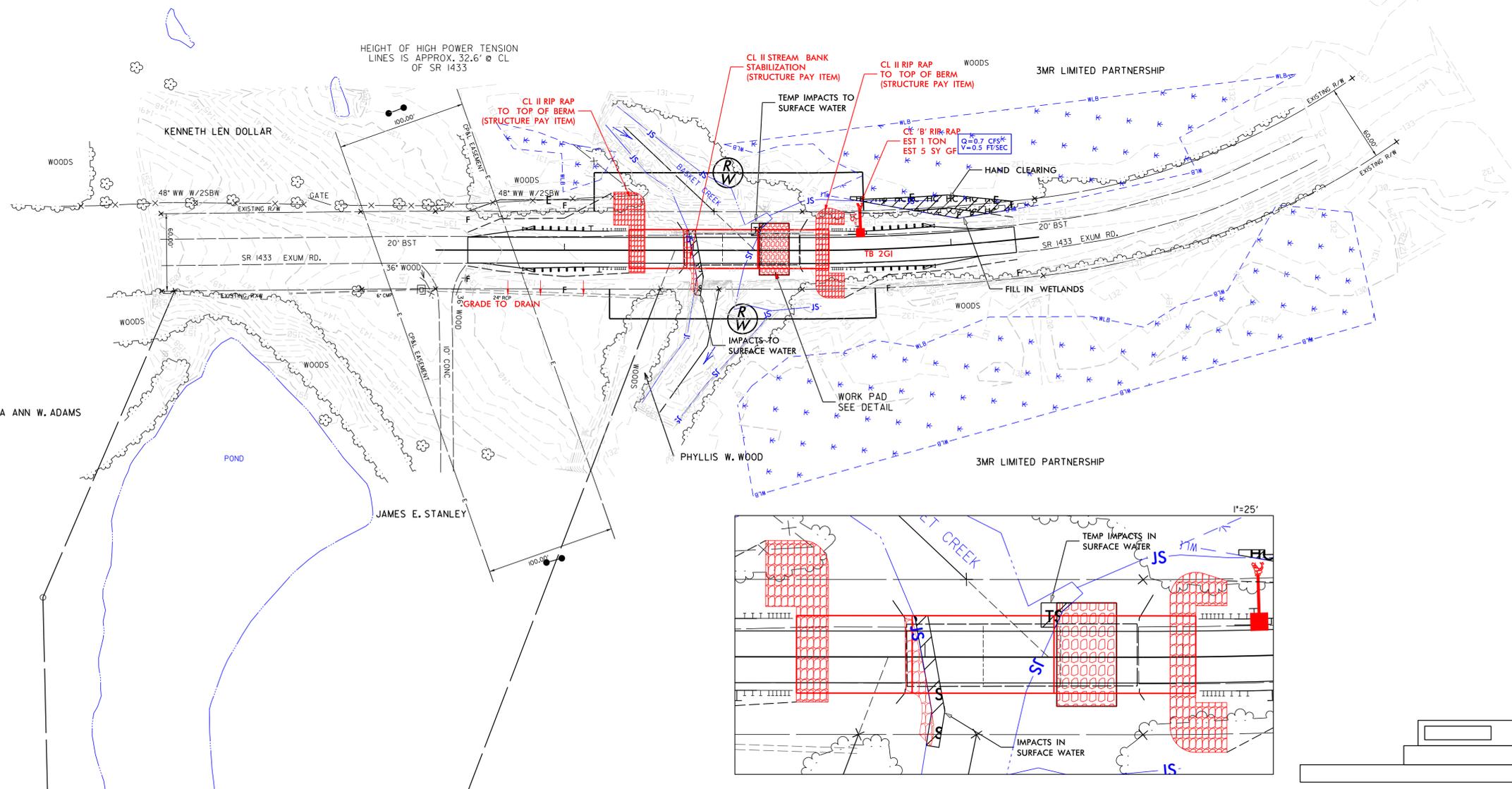
PROJECT REFERENCE NO. B-4939	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

NCGRID
NAD 83/NSRS 2007



- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES HAND CLEARING
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- WORK PAD
- RIP RAP

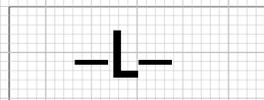
REVISIONS



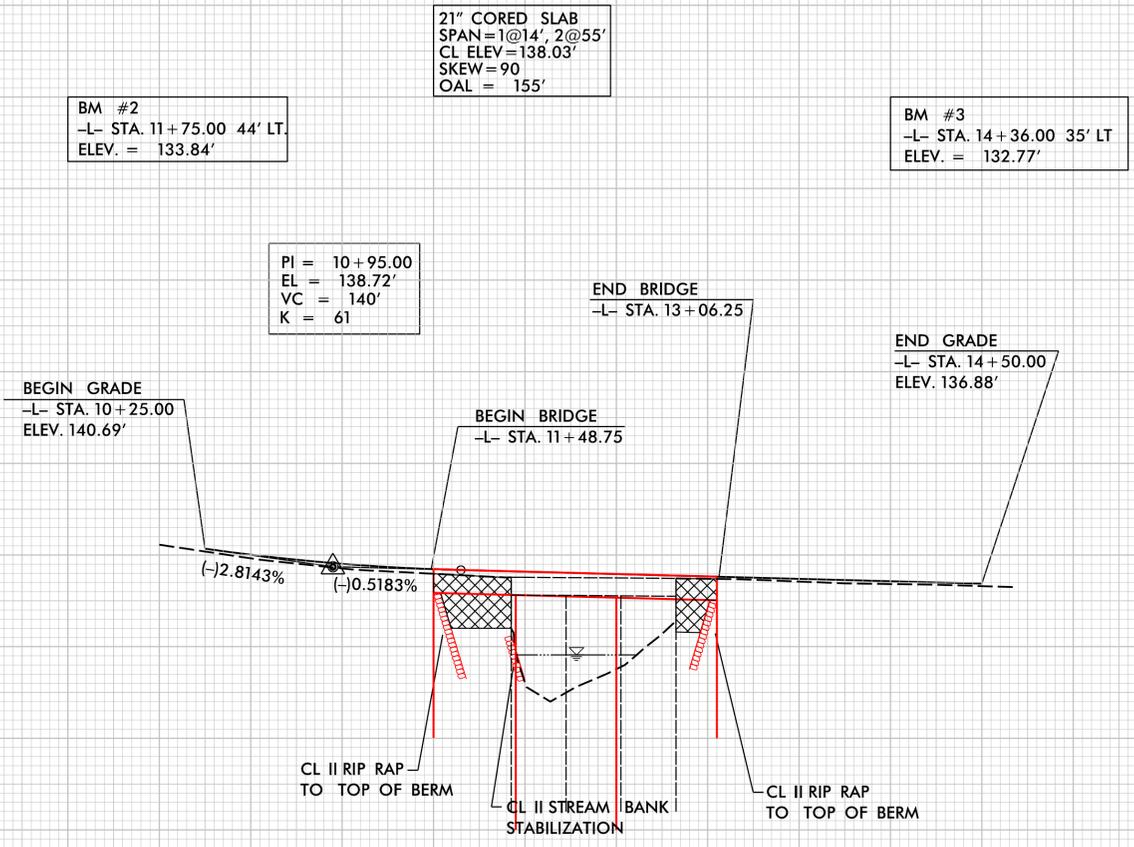
5/14/99

PROJECT REFERENCE NO. B-4939	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PERMIT DRAWING
SHEET 4 OF 7



BRIDGE HYDRAULIC DATA		
DESIGN DISCHARGE	= 1975	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 134.6	FT
BASE DISCHARGE	= 2884	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 135J	FT
OVERTOPPING DISCHARGE	= 1975	CFS
OVERTOPPING FREQUENCY	= <25	YRS
OVERTOPPING ELEVATION	= 134.28	FT
DATE OF SURVEY	= 10-20-11	
W.S. ELEVATION AT DATE OF SURVEY	= 129J	FT



BM #2
-L- STA. 11+75.00 44' LT.
ELEV. = 133.84'

21" CORED SLAB
SPAN = 1@14', 2@55'
CL ELEV = 138.03'
SKEW = 90
OAL = 155'

BM #3
-L- STA. 14+36.00 35' LT
ELEV. = 132.77'

PI = 10+95.00
EL = 138.72'
VC = 140'
K = 61

END BRIDGE
-L- STA. 13+06.25

END GRADE
-L- STA. 14+50.00
ELEV. 136.88'

BEGIN GRADE
-L- STA. 10+25.00
ELEV. 140.69'

BEGIN BRIDGE
-L- STA. 11+48.75

CL II RIP RAP
TO TOP OF BERM

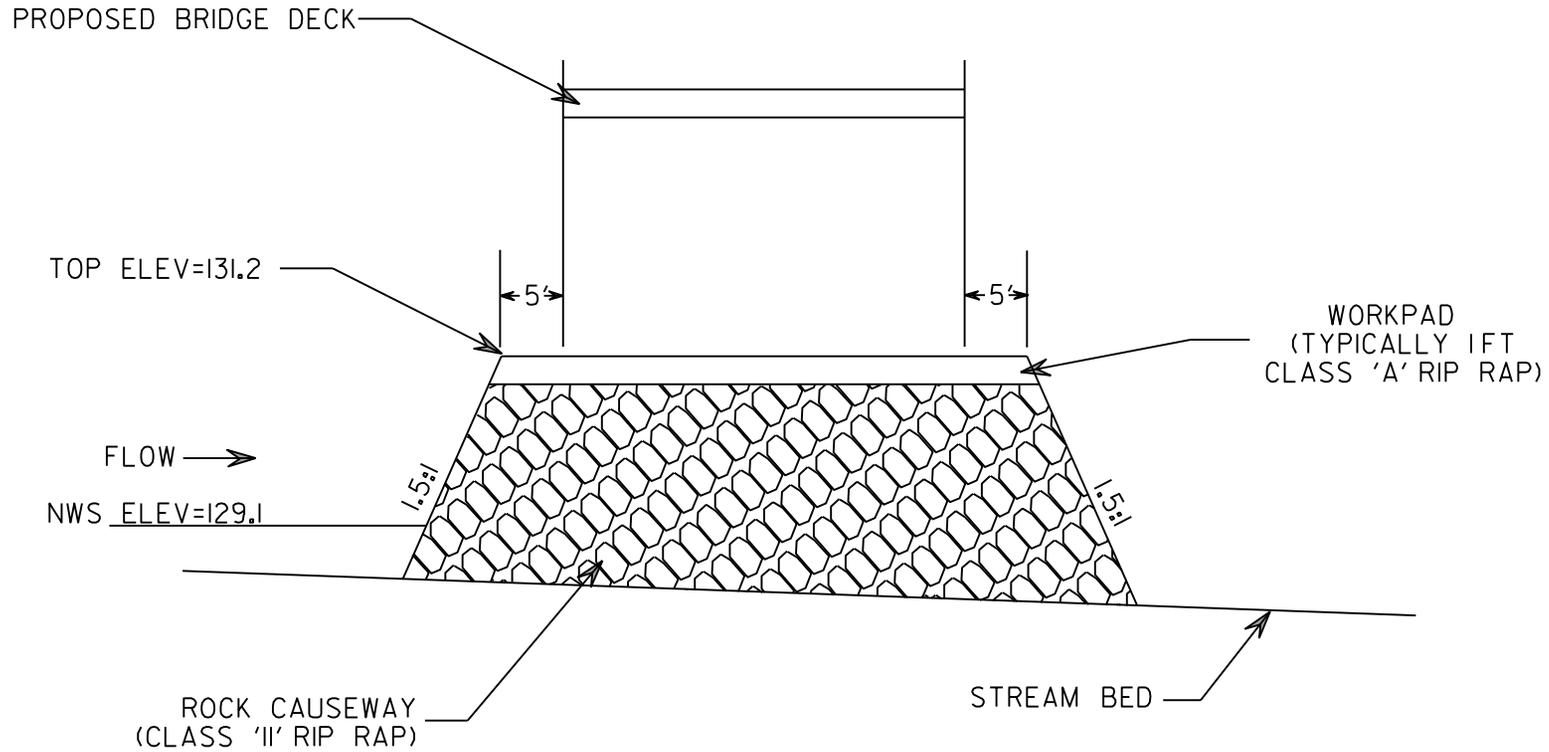
CL II STREAM
BANK
STABILIZATION

CL II RIP RAP
TO TOP OF BERM

3/16/2017 11:41:36 AM d:\p\rm\wet\psh05.dgn User: jbarney

10 11 12 13 14

WORKPAD DETAIL #1 (NOT TO SCALE)



QUANTITIES OF ESTIMATES

VOLUME OF CLASS II RIP RAP= 50 yds³
 AREA OF CLASS II RIP RAP= 0.02 ac
 Estimate 125 Tons Class 'II' Rip Rap
 Estimate 40 Tons Class 'A' Rip Rap

**N.C. DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS**

NASH COUNTY

PROJECT: 40170.1.1 (B-4939)
 BRIDGE NO. 156 OVER
 BASKET CREEK ON SR 1433

09.08/99

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

LOCATION: BRIDGE NO. 156 OVER BASKET CREEK ON SR 1433

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

BUFFER IMPACTS PERMIT

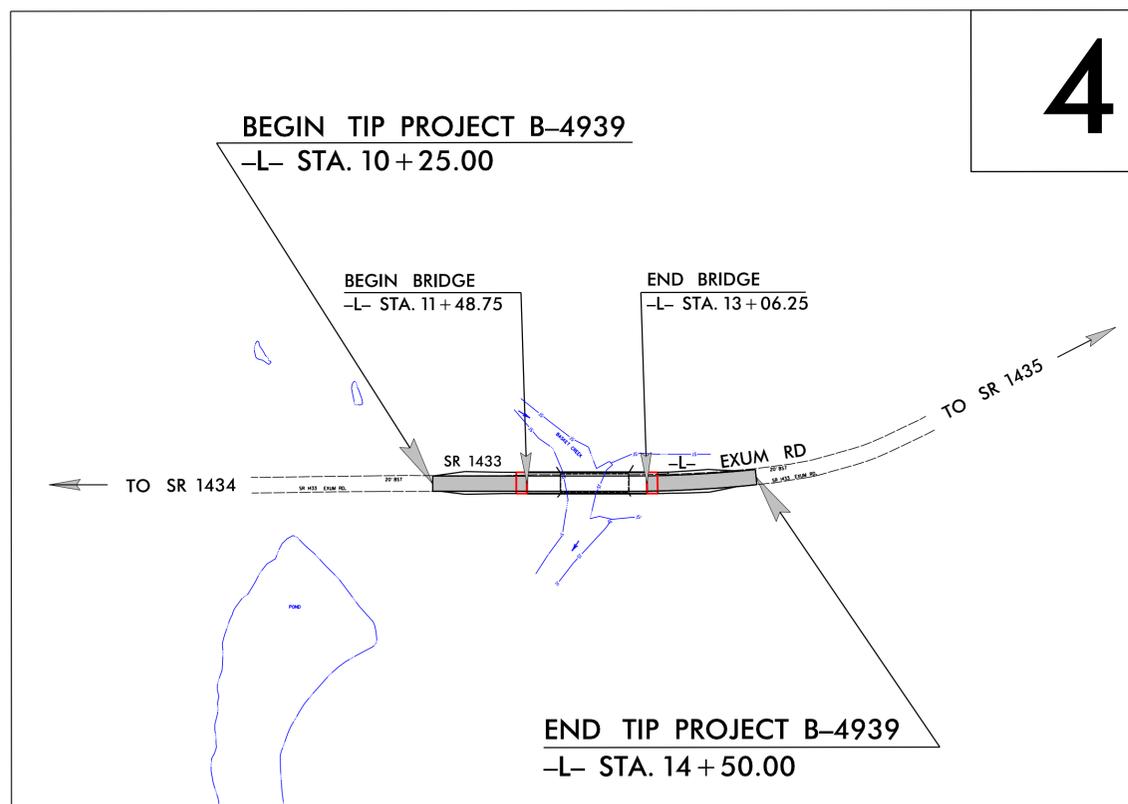
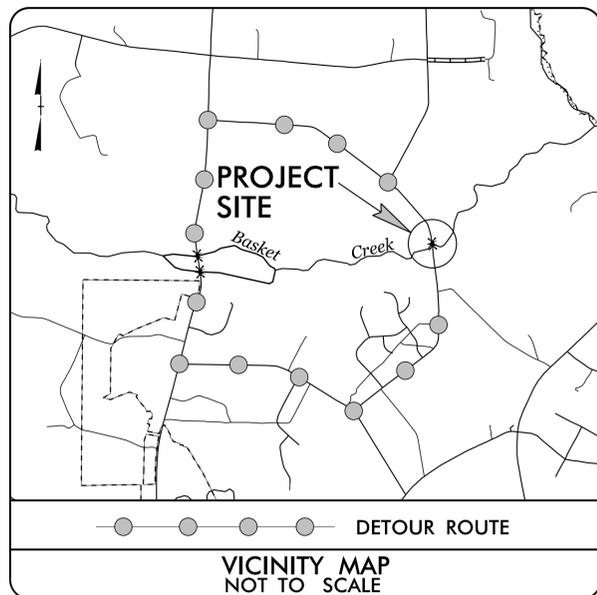
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4939	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
40170.1.1	BRZ-1433(4)	PE	
40170.2.1	BRZ-1433(4)	RW & UTIL.	

**BUFFER DRAWING
SHEET 1 OF 5**

NCGRID
NAD 83/NSRS 2007



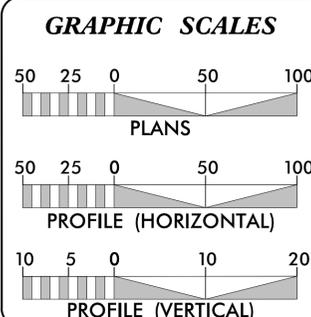
TIP PROJECT: B-4939



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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA

ADT 2013 = 435
ADT 2033 = 585
DHV = 10 %
D = 60 %
T = 5 % *
V = 60 MPH
* (TTST 2% + DUALS 3%)
FUNC CLASS = RURAL LOCAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4939 = 0.050 MILES
LENGTH OF STRUCTURE TIP PROJECT B-4939 = 0.030 MILES
TOTAL LENGTH TIP PROJECT B-4939 = 0.080 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 17, 2012

LETTING DATE:
DECEMBER 17, 2013

GARY LOVERING, PE
PROJECT ENGINEER

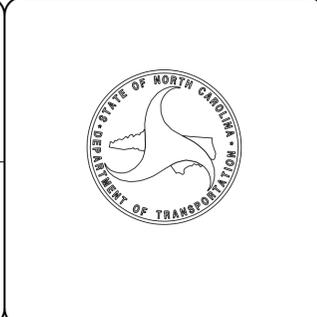
SUSAN C. LANCASTER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.



3/13/2013
B4939_Hyd_prm_buf_psh01.dgn
User: jharvey

BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)		
	Road	11+23 - 11+50 -L-	X			390	476	866					
		13+06 - 13+10 -L-	X			0	314	314					
	Bridge	11+50 - 13+06 -L-		X		5655	1818	7473					
TOTAL:						6045	2608	8653	0	0	0		

N.C. DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS

 NASH COUNTY
 PROJECT: 40170.1.1 (B-4939)

 3/13/2013
 SHEET 4 OF 5

09/08/99

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

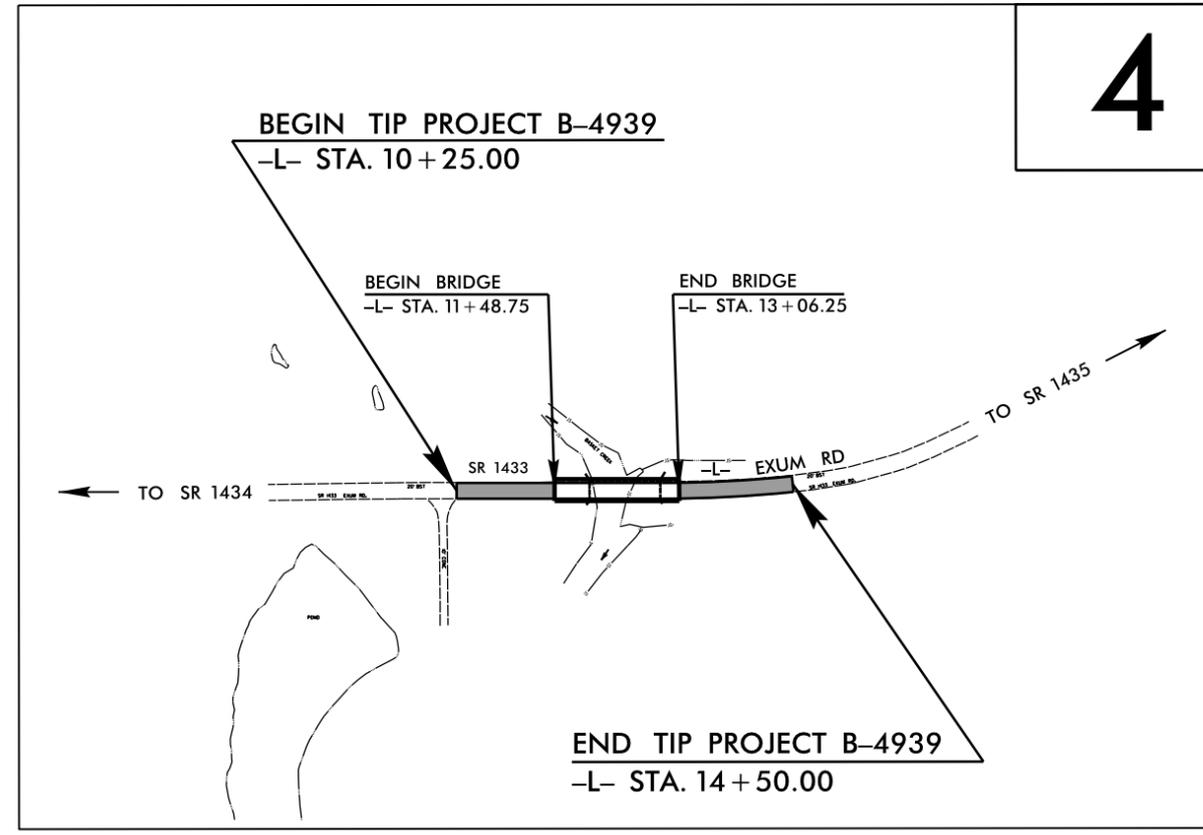
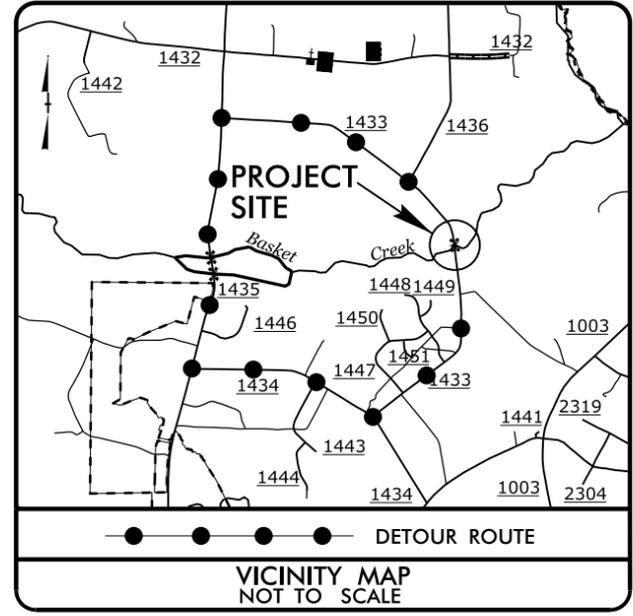
LOCATION: BRIDGE NO. 156 OVER BASKET CREEK ON SR 1433

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4939	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
40170.1.1	BRZ-1433(4)	PE	
40170.2.1	BRZ-1433(4)	R/W & UTIL.	

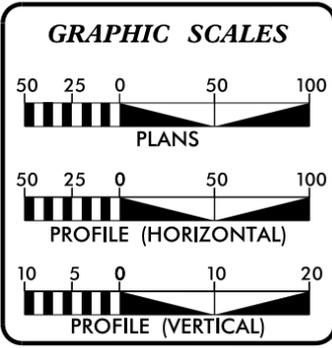


TIP PROJECT: B-4939



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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DESIGN DATA

ADT 2013 =	435
ADT 2033 =	585
DHV =	10 %
D =	60 %
T =	5 % *
V =	60 MPH
* (TTST 2% + DUALS 3%)	
FUNC CLASS =	RURAL LOCAL
SUB-REGIONAL TIER	

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4939	=	0.050 MILES
LENGTH OF STRUCTURE TIP PROJECT B-4939	=	0.030 MILES
TOTAL LENGTH TIP PROJECT B-4939	=	0.080 MILES

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

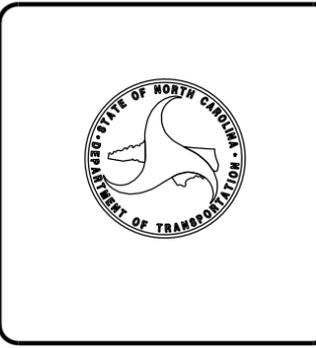
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: AUGUST 17, 2012	GARY LOVERING, PE PROJECT ENGINEER
LETTING DATE: OCTOBER 15, 2013	SUSAN C. LANCASTER, PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



27-AUG-2012 13:49
R:\Roadway\Proj\B4939_Rdy_t.sh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

CONTRACT:

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
Property Corner	✕
Property Monument	□ ECM
Parcel/Sequence Number	②③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	MLB
Proposed Wetland Boundary	MLB
Existing Endangered Animal Boundary	EAB
Existing Endangered Plant Boundary	EPB
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	☠ ?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
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	▬
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
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	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	○
Proposed Right of Way Line with Concrete or Granite RW Marker	△
Proposed Control of Access Line with Concrete C/A Marker	△
Existing Control of Access	△
Proposed Control of Access	△
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage / Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
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	-----

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	⊕
Storm Sewer	-----

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	-----
H-Frame Pole	-----
Recorded U/G Power Line	-----
Designated U/G Power Line (S.U.E.*)	-----

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	-----
Recorded U/G Telephone Cable	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

WATER:

Water Manhole	⊕
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	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	-----
Recorded U/G TV Cable	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

GAS:

Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	-----
Designated U/G Gas Line (S.U.E.*)	-----
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	⊕
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	-----
Underground Storage Tank, Approx. Loc.	UST
A/G Tank; Water, Gas, Oil	-----
Geoenvironmental Boring	⊕
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

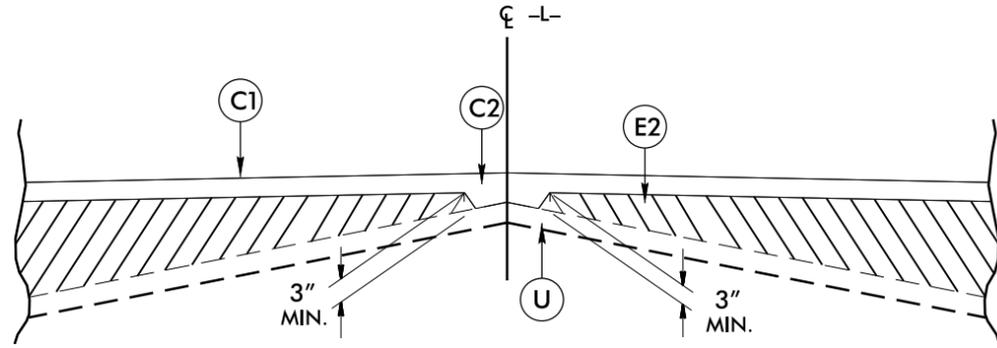
6/2/99

PAVEMENT SCHEDULE

FINAL PAVEMENT DESIGN

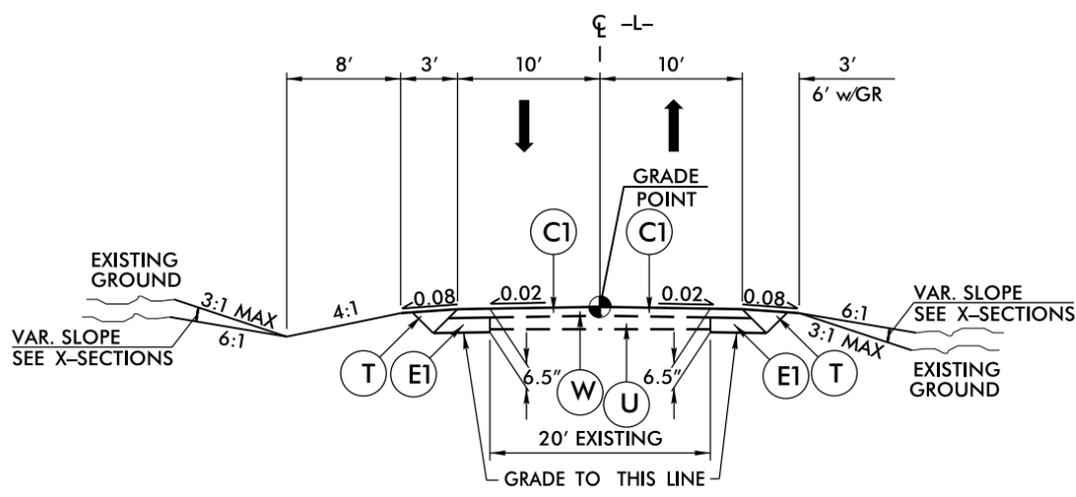
C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.50 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1.5" 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 TO EXCEED 5.5" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING)

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



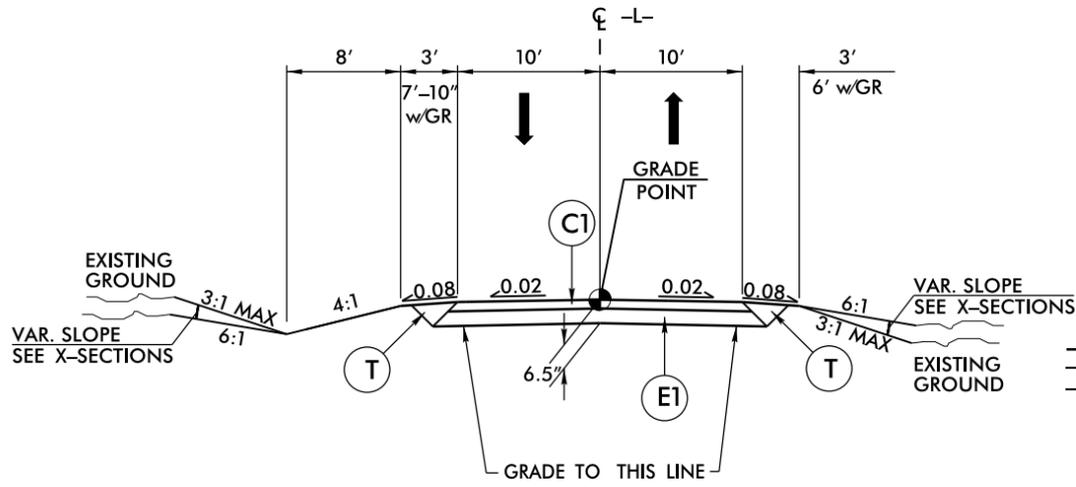
Detail Showing Method of Wedging

PROJECT REFERENCE NO. B-4939	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



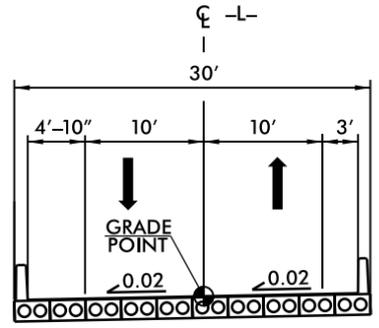
USE TYPICAL SECTION NO. 1
 -L- STA. 10+25.00 TO -L- STA. 11+00.00
 -L- STA. 13+75.00 TO -L- STA. 14+50.00

TYPICAL SECTION NO. 1



USE TYPICAL SECTION NO. 2
 -L- STA. 11+00.00 TO -L- STA. 11+48.75 (BEGIN BRIDGE)
 -L- STA. 13+06.25 (END BRIDGE) TO -L- STA. 13+75.00

TYPICAL SECTION NO. 2



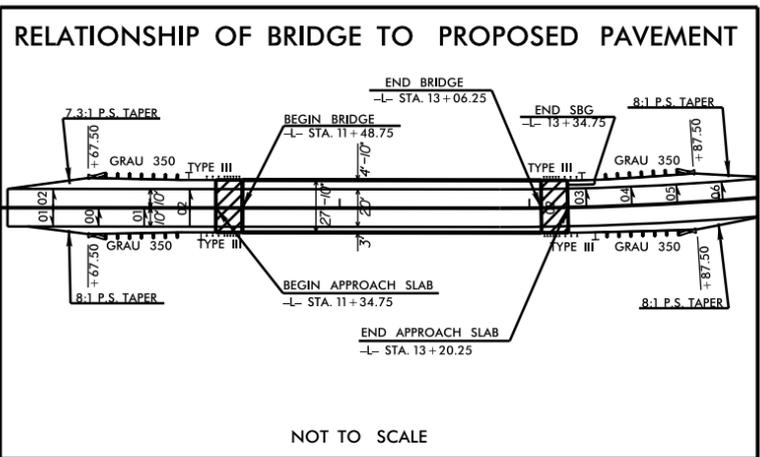
USE TYPICAL SECTION ON STRUCTURE
 -L- STA. 11+48.75 (BEGIN BRIDGE) TO
 -L- STA. 13+06.25 (END BRIDGE)

TYPICAL SECTION ON STRUCTURE

DESIGN REVISION - DECEMBER 13, 2011 - WIDENED THE BRIDGE AND APPROACH SLABS ON THE LEFT SIDE BY 1'-0" TO ACCOUNT FOR SPREAD IN THE TRAVEL LANE.

REVISIONS

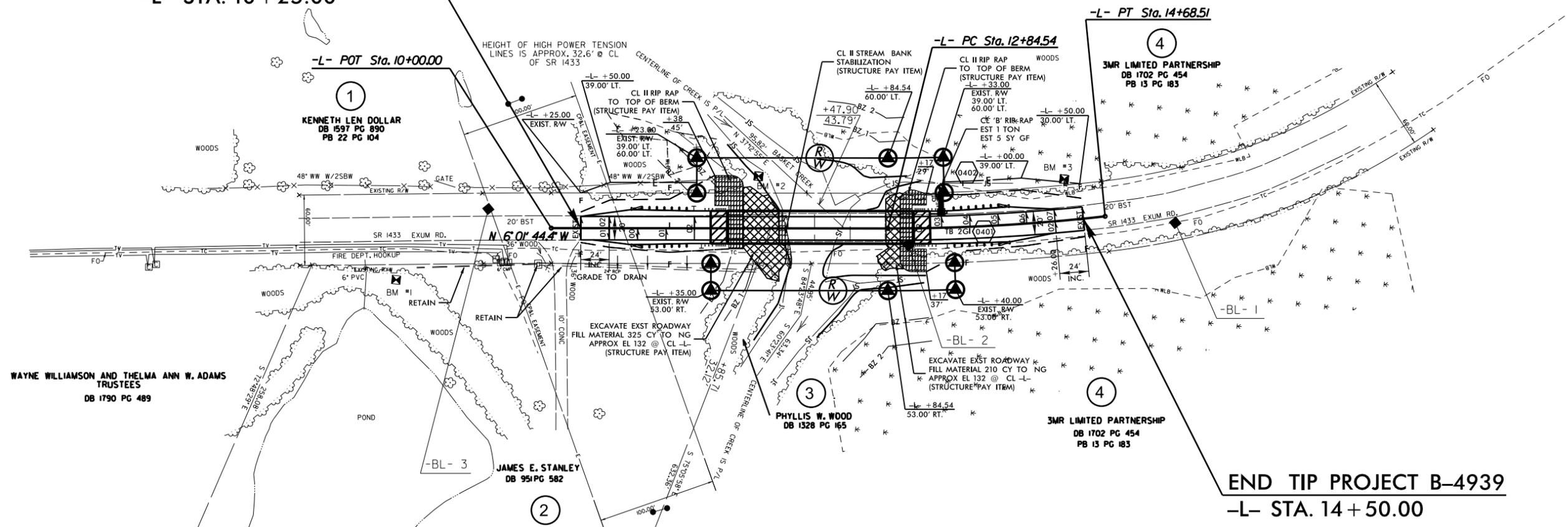
27-AUG-2012 13:49 B-4939-Rdy-tyj.p.dgn



-L- CURVE DATA
 PI Sta 13+76.63
 $\Delta = 6^\circ 35' 17.4" (LT)$
 $D = 3^\circ 34' 51.6"$
 $L = 183.98'$
 $T = 92.09'$
 $R = 1,600.00'$

NCGRID
 NAD 83/NSRS 2007

BEGIN TIP PROJECT B-4939
-L- STA. 10 + 25.00



REVISIONS

8/17/99

27-AUG-2012 13:51 B-4939_Rdy_psh.dgn
 \$\$\$\$\$\$
 \$\$\$\$\$\$

BRIDGE APPROACH SLAB
 FOR -L- PROFILE, SEE SHEET 5

FOR STRUCTURE PLANS, SEE SHEET S-? THROUGH S-??