



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY PERDUE
GOVERNOR

GENE CONTI
SECRETARY

November 2, 2009

U. S. Army Corps of Engineers
Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28801-5006

ATTN: Mr. Steve Lund
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permits 13, 23, 33 and Section 401 Water Quality Certification** for the proposed replacement of Bridge No. 173 over Sailor's Branch on SR 1820 (Alexis-High Shoals Road) in Gaston County, Federal Aid Project No. BRZ-1820(3); Division 12; TIP No. B-4117
\$240.00 debit WBS 33472.1.1

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 173 over Sailor's Branch on SR 1820. There will be 67 feet of permanent surface water impacts, 74 feet of bank stabilization and 47 feet of temporary surface water impacts.

Please see enclosed copies of the Pre-Construction Notification (PCN), Stormwater Management Plan, permit drawings and design plans. The Programmatic Categorical Exclusion (PCE) was completed in February 2009. Documents were distributed shortly thereafter. Additional copies are available upon request.

This project calls for a letting date of May 18, 2010 and a review date of March 30, 2010; however, the let date may advance as additional funding becomes available.

A note on the *greensheet* calls for a Schweinitz's sunflower survey prior to construction. A survey by NCDOT biologists was conducted on October 14, 2009. No specimens were found.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-431-6680
FAX: 919-431-2002
WEBSITE: WWW.NCDOT.ORG

LOCATION:
ENVIRONMENTAL RESOURCE CENTER
4701 ATLANTIC AVENUE, SUITE 116
RALEIGH NC 27604

A copy of this permit application will be posted on the NCDOT Website at:
<http://www.ncdot.org/doh/preconstruct/pe/>. If you have any questions or need additional
information, please call Jeremy Leamer at (919) 431-6680.

Sincerely,



Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

w/attachment

Mr. Brian Wrenn, NCDWQ (5 copies)
Ms. Marla Chambers, NCWRC
Ms. Marella Buncick, USFWS

w/o attachment (see permit website for attachments)

Dr. David Chang, P.E., Hydraulics
Mr. Mark Staley, Roadside Environmental
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Greg Perfetti, P.E., Structure Design
Mr. Michael L. Holder, P.E., Division 12 Engineer
Mr. Mark Davis, DEO
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Scott McLendon, USACE, Wilmington
Mr. Hank Schwab, PDEA



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: 13 23 33 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 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 type="checkbox"/> Yes	<input checked="" 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:	Replacment of Bridge 173 over Sailor's Branch on SR 1820 (Alexis- High Shoals Road)
2b. County:	Gaston
2c. Nearest municipality / town:	Dallas
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no:	B-4117

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) 431-6680
3g. Fax no.:	(919) 431-2002
3h. Email address:	jtleamer@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: 35.40357 (DD.DDDDDD) Longitude: - 81.14817 (-DD.DDDDDD)
1c. Property size:	3.0 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Sailor's Branch Creek
2b. Water Quality Classification of nearest receiving water:	WS-IV
2c. River basin:	Catawba
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: SR 1820 is a two lane rural local route transecting a semi-rural area with mostly agricultural and residential development.	
3b. List the total estimated acreage of all existing wetlands on the property: N/A	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 300	
3d. Explain the purpose of the proposed project: To replace bridge No. 173 which is considered structurally deficient and functionally obsolete.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 41-foot bridge with a 23-foot, two-barrel reinforced concrete box culvert (RCBC) on the existing alignment with an off-site detour. 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:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input type="checkbox"/> Preliminary <input type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known):	Agency/Consultant Company: Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation.	
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 type="checkbox"/> Wetlands		<input checked="" type="checkbox"/> Streams - tributaries		<input type="checkbox"/> Buffers		
<input 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 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		
Site 5 <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 6 <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					X Permanent X Temporary	
2h. Comments:						
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	RCBC	Sailor's Branch	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	8.5	67
Site 2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank stabilization	Sailor's Branch	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	8.5	74
Site 3 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Impacts associated with culvert installation	Sailor's Branch	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	8.5	47
Site 4 <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 5 <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 6 <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						141 Perm 47 Temp

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 type="checkbox"/> T								
O2 <input type="checkbox"/> P <input type="checkbox"/> T								
O3 <input type="checkbox"/> P <input type="checkbox"/> T								
O4 <input type="checkbox"/> P <input type="checkbox"/> T								
4f. Total open water impacts						<input checked="" type="checkbox"/> Permanent <input checked="" type="checkbox"/> 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?				<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"/> Catawba		<input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Randleman		<input type="checkbox"/> 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 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No				
B2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No				
B3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No				
6h. Total buffer impacts							
6i. Comments: Currently the buffer rules administered by the DWQ within the Catawba River Basin only apply to the main stem of the Catawba River.							

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 structure will be in the same location as the existing structure with an off-site detour. The "do-nothing" alternative is not practicable due to the resulting elimination of the use of SR 1820 and closing or removing the bridge. The roadway grade will be the same as the existing structure. 3:1 fill slopes will be utilized where practicable.

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

Surficial bridge runoff will not be directed into Sailor's Branch via deck drains

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

<p>2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State?</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If no, explain: Minimal impacts of 67 linear feet due to a culvert and 74 linear feet of bank stabilization which results in no "loss of waters". Sailor's Branch is not a trout stream, HQW or ORW.</p>
<p>2b. If yes, mitigation is required by (check all that apply):</p>	<p><input type="checkbox"/> DWQ <input type="checkbox"/> Corps</p>
<p>2c. If yes, which mitigation option will be used for this project?</p>	<p><input type="checkbox"/> Mitigation bank <input type="checkbox"/> Payment to in-lieu fee program <input type="checkbox"/> Permittee Responsible Mitigation</p>

3. Complete if Using a Mitigation Bank

3a. Name of Mitigation Bank: not applicable

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

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

<p>4a. Approval letter from in-lieu fee program is attached.</p>	<p><input type="checkbox"/> Yes</p>
<p>4b. Stream mitigation requested:</p>	<p>linear feet</p>
<p>4c. If using stream mitigation, stream temperature:</p>	<p><input type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold</p>
<p>4d. Buffer mitigation requested (DWQ only):</p>	<p>square feet</p>
<p>4e. Riparian wetland mitigation requested:</p>	<p>acres</p>
<p>4f. Non-riparian wetland mitigation requested:</p>	<p>acres</p>
<p>4g. Coastal (tidal) wetland mitigation requested:</p>	<p>acres</p>
<p>4h. Comments:</p>	

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?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1b. If yes, then is a diffuse flow plan included? If no, explain why. Comments: if yes, see attached permit drawings.	<input 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.	
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 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 type="checkbox"/> No
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5b. Have all of the 401 Unit submittal requirements been met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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 checked="" type="checkbox"/> Yes	<input 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? Habitat assessment and survey by NCDOT biologists. NHP database check.		
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 type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
<u>Dr. Gregory J. Thorpe, Ph D</u> Applicant/Agent's Printed Name	 Applicant/Agent's Signature <small>(Agent's signature is valid only if an authorization letter from the applicant is provided.)</small>	11.2.09 Date

STORMWATER MANAGEMENT PLAN

Project: B-4117 (33472.1.1)
County: Gaston
Hydraulics Project Manager: Galen Cail, PE

October 5, 2009

ROADWAY DESCRIPTION

The project involves the replacement of Br. No. 173 over Sailor's Branch on SR 1820. The overall length of the project is 0.10mi., and the existing 41'-long bridge is being replaced with a 2 @ 11' x 9' reinforced concrete box culvert (RCBC) in-place. The proposed roadway utilizes shoulder section throughout. This is the only major crossing.

ENVIRONMENTAL DESCRIPTION

The project is located in the Catawba River Basin. Sailor's Branch has a best usage classification of WS-IV (aquatic life, secondary recreation, salt; nutrient sensitive waters).

There are no wetland areas impacted by this project. There are permanent surface water impacts on the project. The impact is less than 150 feet of permanent impacts.

BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) and measures used on the project to reduce stormwater impacts are listed below. All stormwater being discharged through the buffers is either diffuse flow or has been treated prior to entering Sailor's Branch. The banks were stabilized to prevent channel erosion.

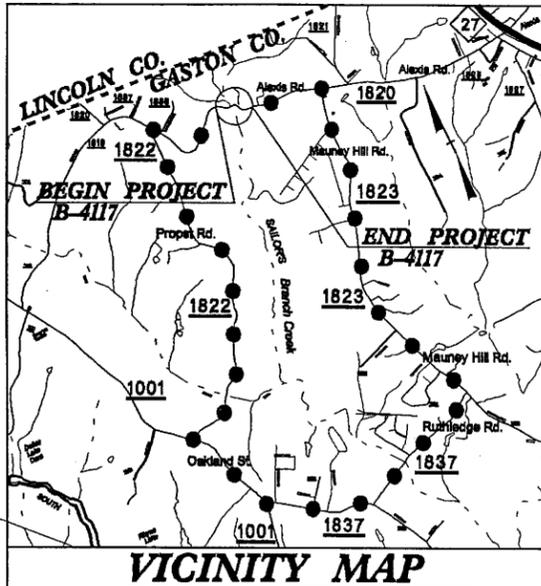
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GASTON COUNTY

LOCATION: BRIDGE No. 173 OVER SAILOR'S BRANCH CREEK
ON SR 1820

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4117	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
33472.1.1	BRZ-1820(3)	PE	
33472.2.1	BRZ-1820(3)	RW, UTIL.	

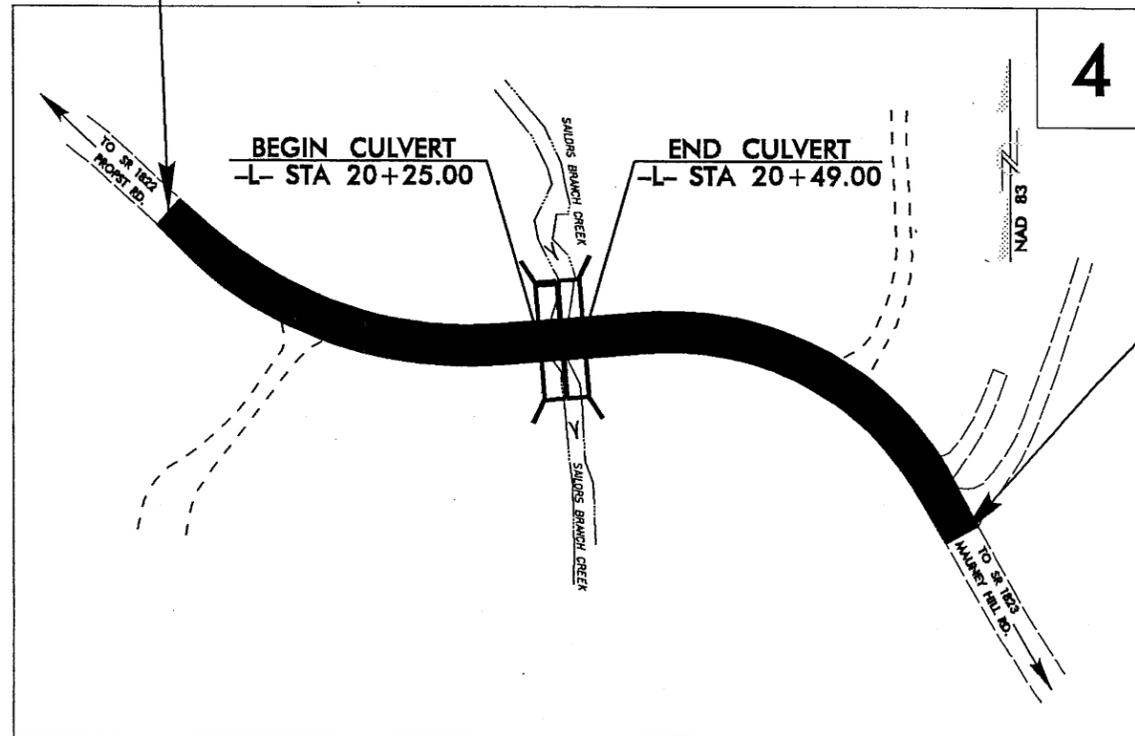


TIP PROJECT: B-4117

CONTRACT: C202374

OFFSITE DETOUR

BEGIN TIP PROJECT B-4117
-L- STA. 18+00.00

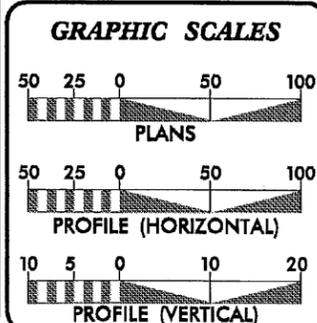


END TIP PROJECT B-4117
-L- STA. 23+00.00

Permit Drawing
Sheet 1 of 6

** DESIGN EXCEPTION REQUIRED FOR THE DESIGN SPEED 25 MPH.
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 2010 =	1900
ADT 2035 =	3500
DHV =	10 %
D =	60 %
T =	4 % *
** V =	25 MPH
* TTST 1 %	DUAL 3 %

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4117	=	0.090
LENGTH STRUCTURES TIP PROJECT B-4117	=	0.005
TOTAL LENGTH OF TIP PROJECT B-4117	=	0.095

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: MAY 7, 2009	JAMES A. SPEER, PE PROJECT ENGINEER
LETTING DATE: MAY 18, 2010	NYA K. BOAYUE, PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

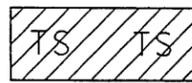
SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER

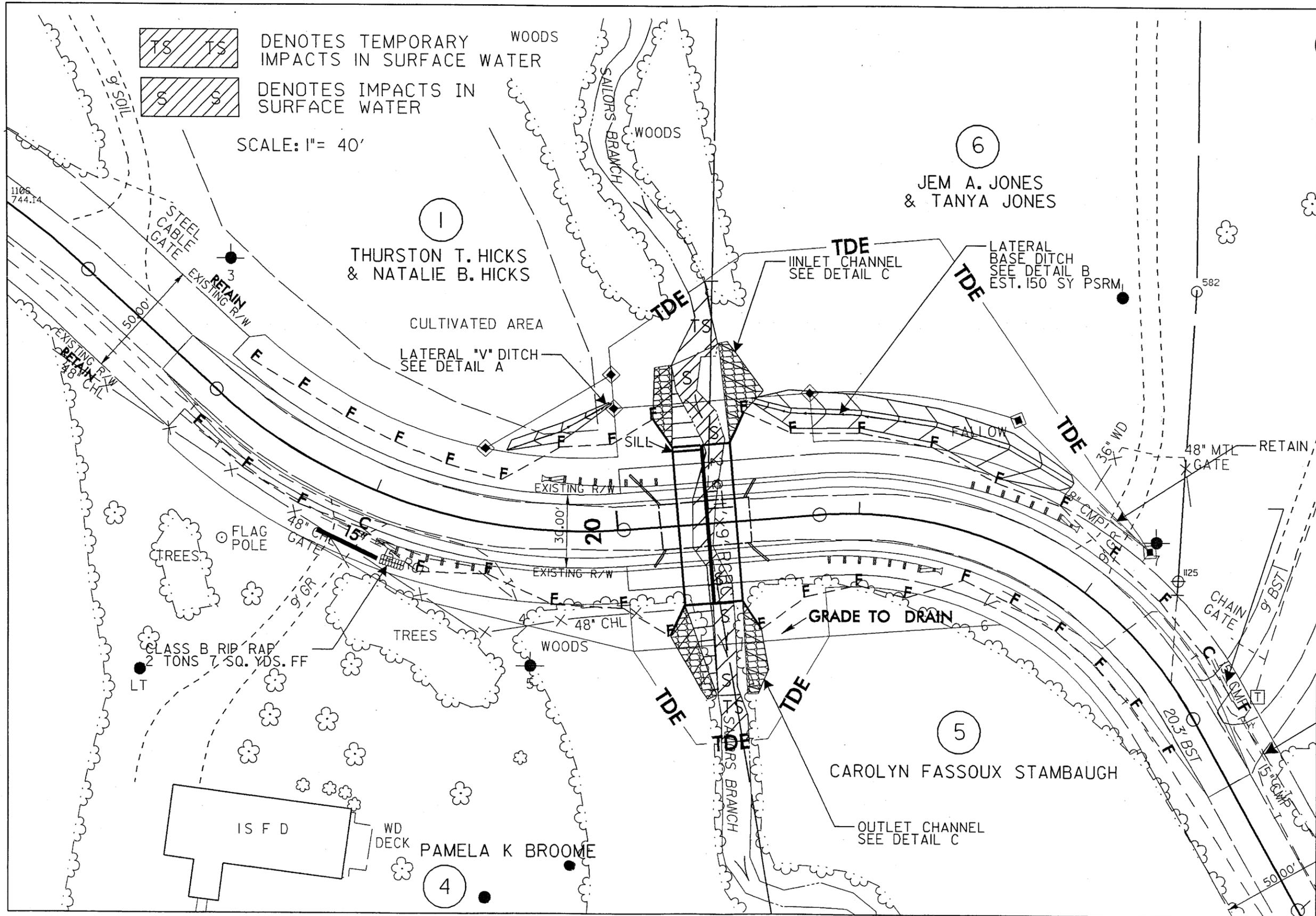


DENOTES TEMPORARY IMPACTS IN SURFACE WATER



DENOTES IMPACTS IN SURFACE WATER

SCALE: 1" = 40'



1

THURSTON T. HICKS & NATALIE B. HICKS

6

JEM A. JONES & TANYA JONES

4

PAMELA K BROOME

5

CAROLYN FASSOUX STAMBAUGH

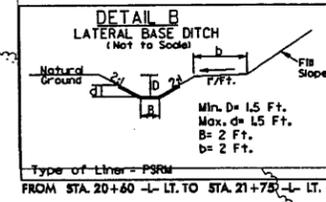
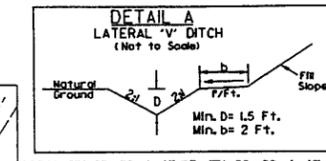
8/17/99

-GPS-2- 5+00.00 POT

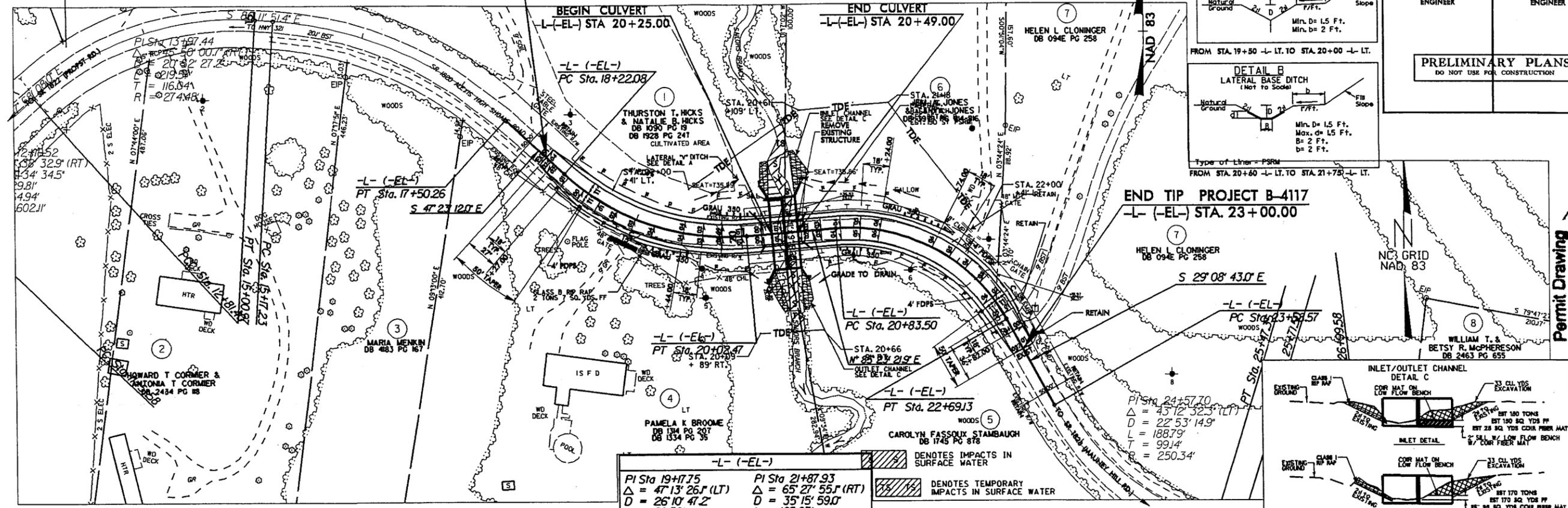
BEGIN TIP PROJECT B-4117
-L- (-EL-) STA. 18+00.00

BEGIN CULVERT
L- (-EL-) STA. 20+25.00

END CULVERT
L- (-EL-) STA. 20+49.00



PROJECT REFERENCE NO. B-4117	SHEET NO. 4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



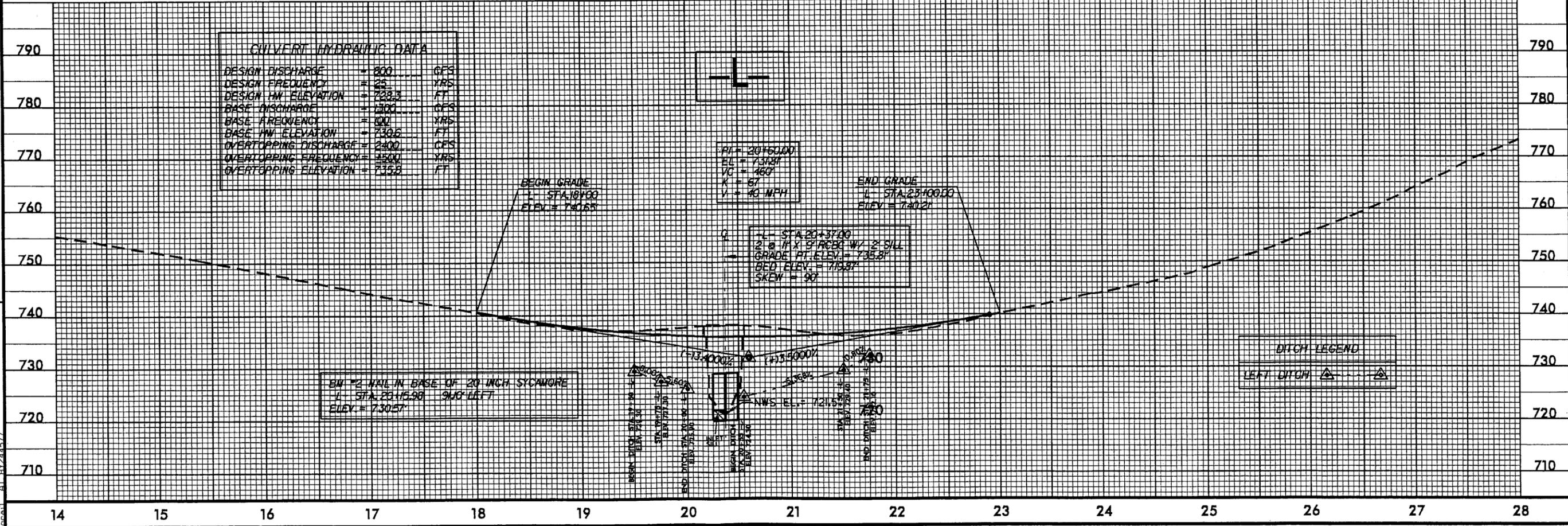
-L- (-EL-)

PI Sta 19+17.75 Δ = 47° 13' 26.7" (LT) D = 26° 10' 47.2" L = 180.38' T = 95.67' R = 218.86' V _o = 25 MPH	PI Sta 21+87.93 Δ = 65° 27' 55.7" (RT) D = 35° 15' 59.0" L = 185.63' T = 104.43' R = 162.47' V _o = 25 MPH
---	--

Denotes IMPACTS IN SURFACE WATER

Denotes TEMPORARY IMPACTS IN SURFACE WATER

** DESIGN SPEED EXCEPTION REQUIRED FOR 25 MPH.



Permit Drawing Sheet 3 of 6

REVISIONS

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r:\hydro\es\permits_environmental\drawings\4117_bud.dwg - gsk.dwg
8/17/99

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
①	Mr. and Mrs. Hicks	P.O. Box 406 Stanley, NC 28164
⑥	Mr. and Mrs. Jones	738 Alexis High Shoals Rd. Dallas, NC 28034
④	Ms. Broome	747 Alexis High Shoals Rd. Dallas, NC 28034
⑤	Ms. Stambaugh	P.O. Box 332 Palm Beach, FL 33480

Permit Drawing
Sheet 5 of 6

NCDOT
DIVISION OF HIGHWAYS
GASTON COUNTY
WSB: 33472.1.1 (B-4117)
REPLACE BR[#] 173 OVER
SAILORS BRANCH

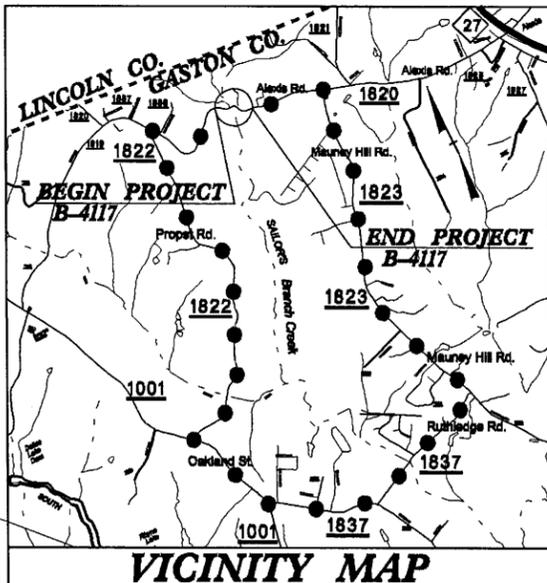
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GASTON COUNTY

LOCATION: BRIDGE No. 173 OVER SAILOR'S BRANCH CREEK
ON SR 1820

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

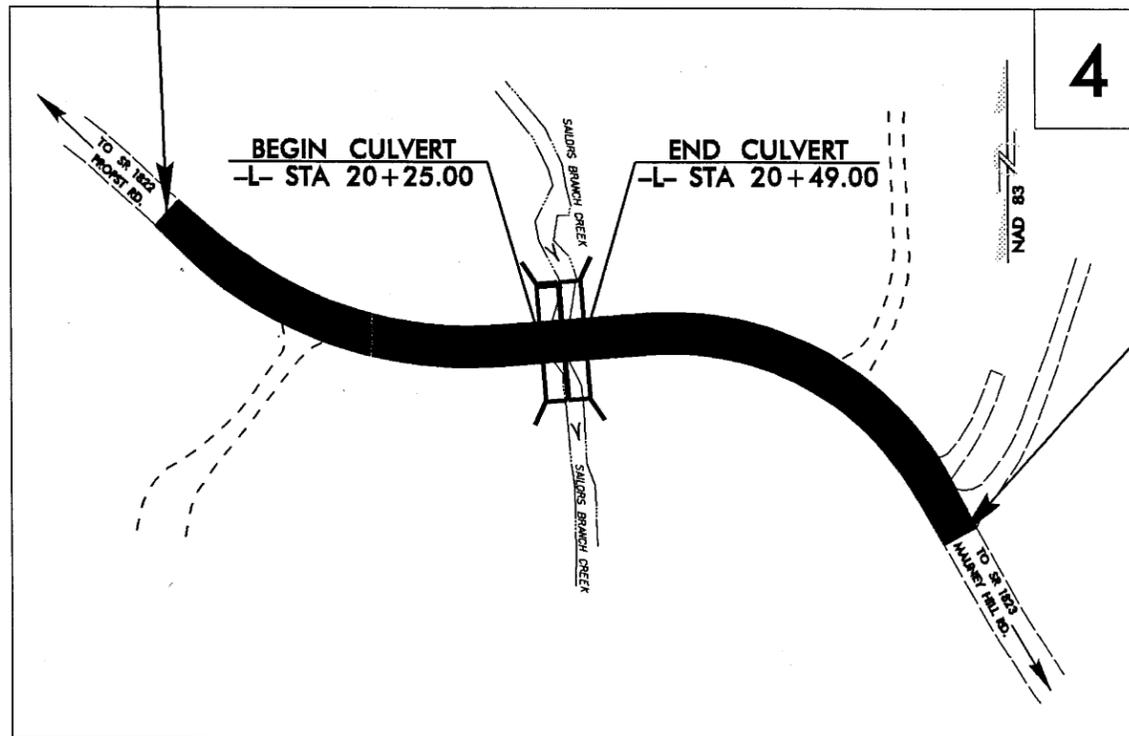
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4117	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33472.1.1	BRZ-1820(3)	PE	
33472.2.1	BRZ-1820(3)	R/W, UTIL.	



VICINITY MAP

●●●●● OFFSITE DETOUR

BEGIN TIP PROJECT B-4117
-L- STA. 18+00.00

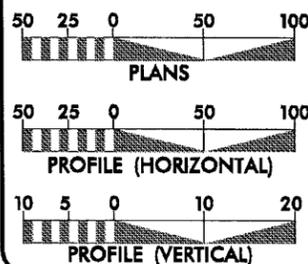


END TIP PROJECT B-4117
-L- STA. 23+00.00

** DESIGN EXCEPTION REQUIRED FOR THE DESIGN SPEED 25 MPH.
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

GRAPHIC SCALES



DESIGN DATA

ADT 2010 = 1900
ADT 2035 = 3500
DHV = 10 %
D = 60 %
T = 4 % *
** V = 25 MPH
* TTST 1 % DUAL 3 %

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4117 = 0.090
LENGTH STRUCTURES TIP PROJECT B-4117 = 0.005
TOTAL LENGTH OF TIP PROJECT B-4117 = 0.095

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MAY 7, 2009

LETTING DATE:
MAY 18, 2010

JAMES A. SPEER, PE
PROJECT ENGINEER

NYA K. BOAYUE, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.
STATE HIGHWAY DESIGN ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



P.E.
STATE HIGHWAY DESIGN ENGINEER

TIP PROJECT: B-4117

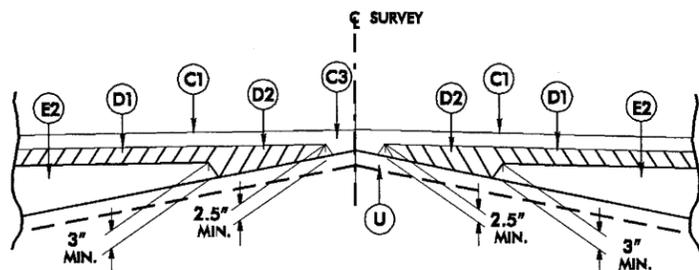
CONTRACT: C202374

6/2/99

PAVEMENT SCHEDULE

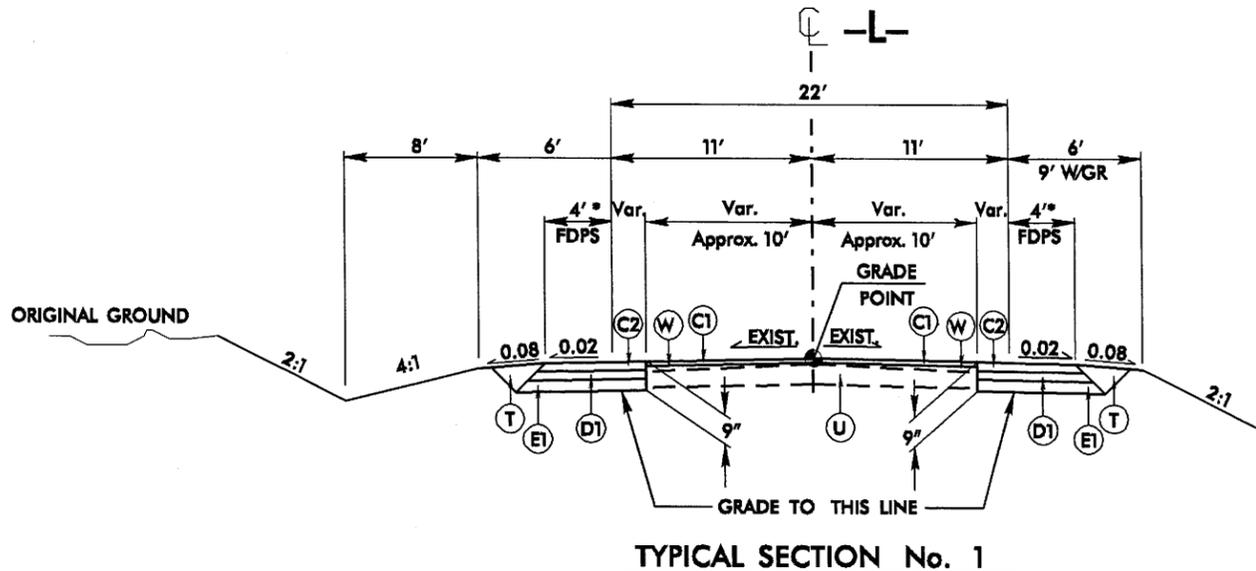
C1	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 3" IN DEPTH.
D1	PROP. APPROX. 2.5" 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 2.5" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 486 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 GREATER THAN 5.5" IN DEPTH OR LESS THAN 3" IN DEPTH.
T	EARTH MATERIAL.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL No.1)
U	EXISTING PAVEMENT.

NOTE: ALL SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

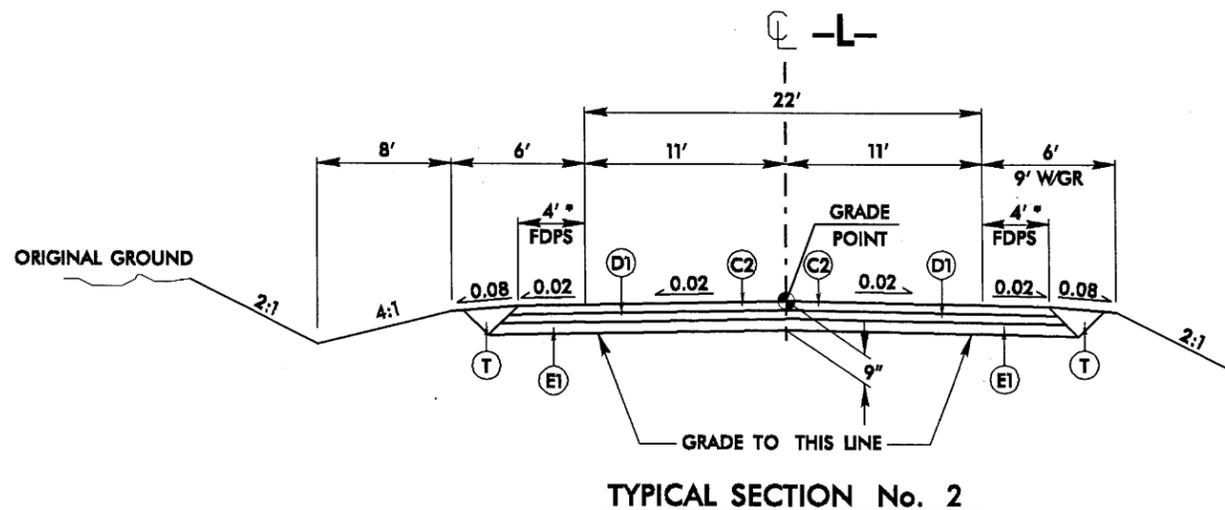


DETAIL SHOWING METHOD OF WEDGING
DETAIL NO. 1

PROJECT REFERENCE NO. B-4117	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



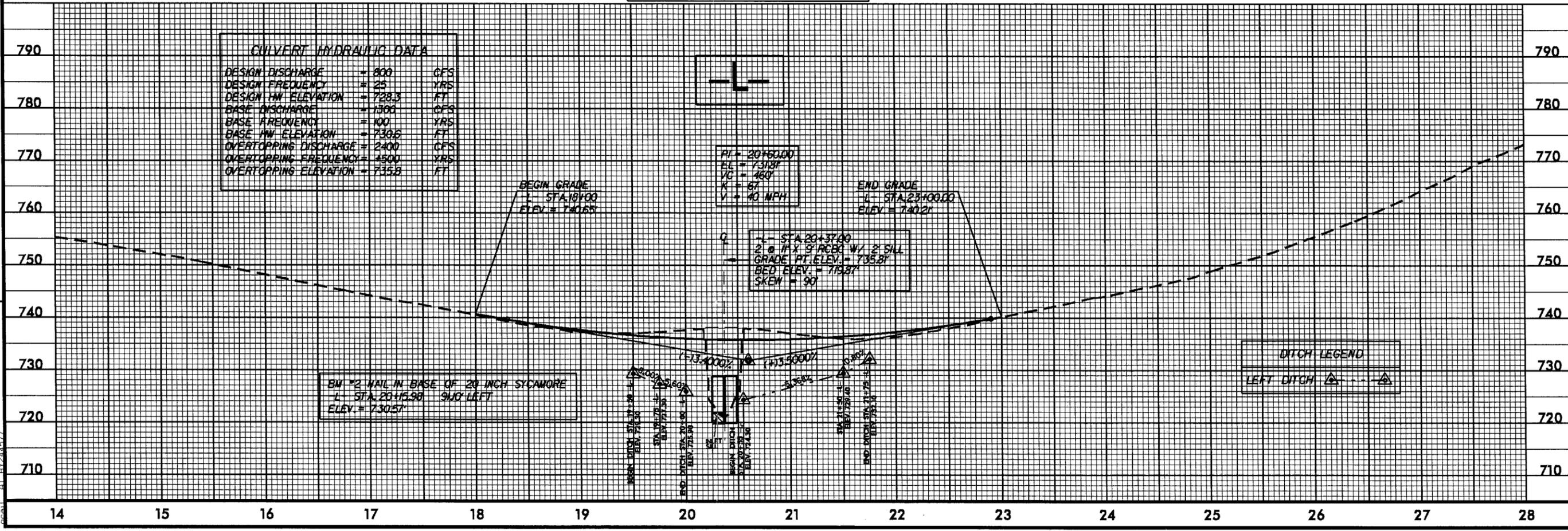
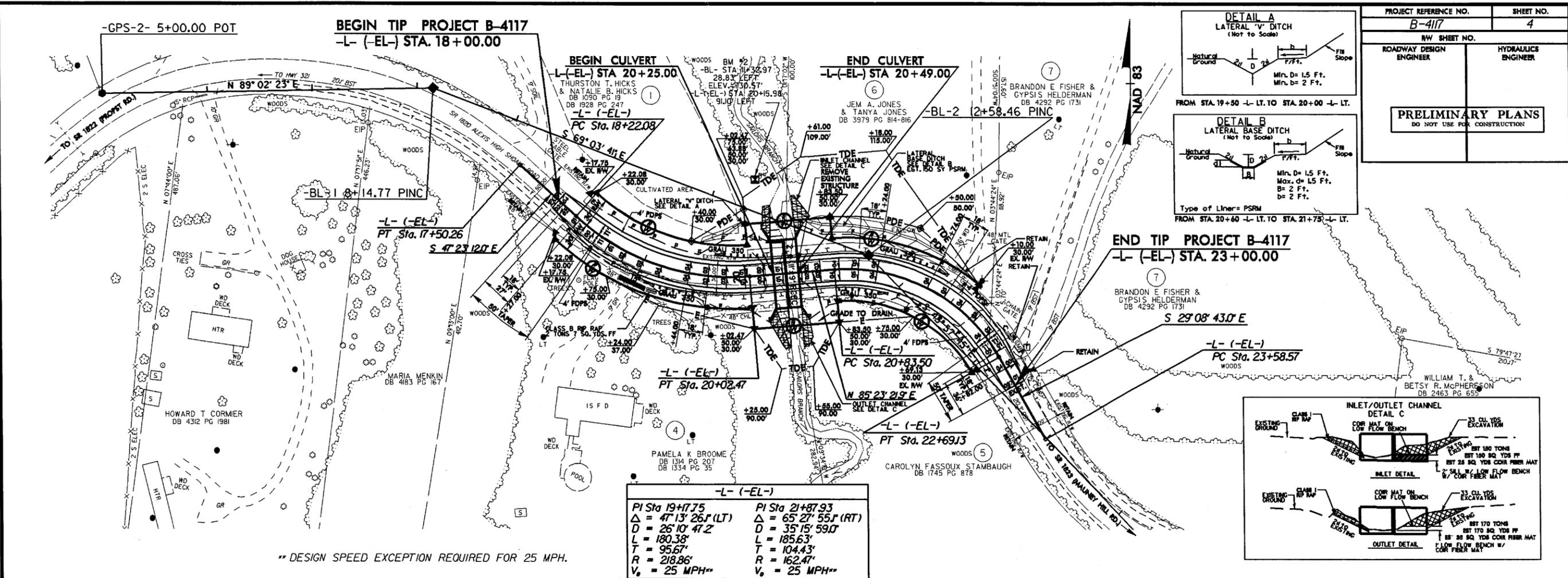
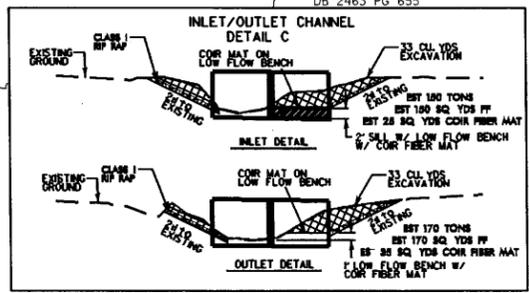
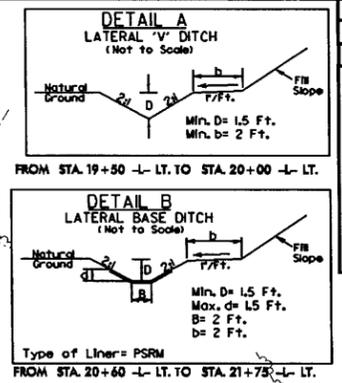
USE TYPICAL SECTION NO. 1 FOR :
 -L- STA 18+00.00 TO -L- STA 19+13.00
 -L- STA 21+40.00 TO -L- STA 23+00.00
 *NOTE: 4' FDPS USED FOR DESIGNATED BICYCLE ROUTE.



USE TYPICAL SECTION NO. 2 FOR :
 -L- STA 19+13.00 TO -L- STA 21+40.00
 *NOTE: 4' FDPS USED FOR DESIGNATED BICYCLE ROUTE.

18 JUN 2009 07:54
 P:\1\2009\B-4117_r.dwg -tjg.dgn

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

8/17/99

18 JUN 2008 07:53
C:\pwworkspace\B-417_r.dwg psh_04.dgn