



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

March 7, 2011

U. S. Army Corps of Engineers
Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587

ATTN: Mr. Monte Matthews
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permits 33 and 13 and 401 General Water Quality Certifications** for the proposed replacement of Bridge No. 33 over Meat Camp Creek on SR 1335 in Watauga County, Federal Aid Project No. BRZ-1335(2); Division 11; TIP No. B-3924; WBS 36271.1.1 Debit work order \$240.00

Dear Mr. Matthews:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 33, a 26-foot one-span bridge over Meat Camp Creek on Meat Camp Road (SR 1335), with a 35-foot long single span bridge. The new structure will be located in approximately the same location of the current bridge. Traffic will use an onsite detour to the south of the existing structure during construction. There will be 72 linear feet of permanent stream impacts from bank stabilization and 0.01 acre of temporary stream impacts from the removal of the concrete mill race.

Comments from the North Carolina Wildlife Resources Commission (NCWRC) will be required prior to authorization by the Corps of Engineers. By copy of this letter and attachment, NCDOT hereby requests NCWRC review. NCDOT requests that NCWRC forward their comments to the Corps of Engineers and the NCDOT within 30 calendar days of receipt of this application.

Please see enclosed copies of the Pre-Construction Notification (PCN) Form, stormwater management plan, permit drawings and design plans. The Categorical Exclusion (CE) was completed on March 29, 2007. Documents were distributed shortly thereafter. Additional copies are available upon request.

This project calls for a letting date of September 20, 2011 and a review date of August 2, 2011; however the let date may advance as additional funding becomes available.

If you have any questions or need additional information, please call Brett Feulner at (919) 707-6116. A copy of this permit application and distribution list will be posted on the NCDOT Website at: <http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html>

Sincerely,



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

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: 13 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:	Replacement of Bridge No. 33 over Meat Camp Creek (SR 1335)
2b. County:	Watauga
2c. Nearest municipality / town:	Boone
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P or state project no:	B-3924

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) 431-6663
3g. Fax no..	(919) 431-2002
3h. Email address:	bmfeulner@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: 35.85 (DD.DDDDDDD)	Longitude: -82.48 (-DD.DDDDDDD)
1c. Property size:	443'L x 120' W = 82,592 sq. ft. (53,160) / (43,650) = 1.22 acres	

2. Surface Waters

2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Meat Camp Creek
2b. Water Quality Classification of nearest receiving water:	C Tr(+)
2c. River basin:	Watauga

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: Maintained/Disturbed mostly and scrub-shrub communities
3b. List the total estimated acreage of all existing wetlands on the property: 0
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 350
3d. Explain the purpose of the proposed project: To replace a functionally obsolete and structurally deficient bridge
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 26 foot single span bridge with a 35 foot long single span bridge. An onsite detour will be utilized during the replacement. 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):

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 <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					0 Permanent 0 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	Bank Stabilization	Meat Camp Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	25	72 perm/ bank stabilization
Site 2 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Mill Race Removal/ temp fill	Meat Camp Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	25	26 ft (0.01 ac) temporary
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		
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					72 perm 26 Temp	

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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				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	Excavat ed	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 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:					

D. Impact Justification and Mitigation**1. Avoidance and Minimization**

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

A low flow channel has been created in both culverts; sills are present in both structures.

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

The Stormwater Management Plan states that there will be no direct discharge into the stream; Sheet flow will be utilized as much as practicable and discharged onto grassed surfaces; Runoff from the proposed structures will be discharged into grass lined ditches and as far away from the stream as practicable. A trout moratorium from 10/15-4/15 and Design Standards in Sensitive Watersheds will be implemented for this project.

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: Impacts are from bank stabilization and do not constitute loss of waters of the US
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
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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):	0 square feet
4e. Riparian wetland mitigation requested:	0 acres
4f. Non-riparian wetland mitigation requested:	0 acres
4g. Coastal (tidal) wetland mitigation requested:	0 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?			<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: NA	<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		
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 checked="" 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, Final approval pending	
5. DWQ 401 Unit Stormwater Review		
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No NA	
5b. Have all of the 401 Unit submittal requirements been met?	<input type="checkbox"/> Yes <input type="checkbox"/> No NA	

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 impacts resulting from these bridge replacements, this project will neither influence nearby land uses nor stimulate growth. Therefore, a detailed indirect and 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
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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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input type="checkbox"/> Raleigh <input checked="" type="checkbox"/> Asheville	

5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat?

USFWS web page of T/E species for Watauga County; NHP database of element occurrences

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 - memo from NC Dept. of Cultural Resources dated May 2, 2006.	

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:		
8c. What source(s) did you use to make the floodplain determination?	NCDOT Hydraulics Unit Coordination w/ FEMA	

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.)

3-7-11
Date

TIP PROJECT: B-3924

CONTACT:

GRAPHIC SCALES

PLANS

50 25 0 50 100

PROFILE (HORIZONTAL)

50 25 0 50 100

PROFILE (VERTICAL)

10 5 0 10 20

DESIGN DATA

ADT 2012 = 1880
ADT 2032 = 2680
DHV = 12 %
D = 60 %
T = 3 % *
V = 40 MPH
* TTST 1 % DUAL 2%
FUNC. CLASS =
RURAL LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

<p style="text-align: center;"><i>Prepared In the Office of:</i></p> <p style="text-align: center;">WANG ENGINEERING COMPANY, INC.</p> <p style="text-align: center;">CARY, N.C.</p> <p style="text-align: center;">FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION</p>	
<p>2006 STANDARD SPECIFICATIONS</p>	
<p><u>RIGHT OF WAY DATE:</u> <u>SEPTEMBER 13, 2010</u></p> <p><u>LETTING DATE:</u> <u>FEBRUARY 21, 2012</u></p>	<p><u>CLIFTON T. REGISTER, PE</u> <u>PROJECT ENGINEER</u></p> <p><u>SCOTT L. KENNEDY</u> <u>PROJECT DESIGN ENGINEER</u></p>

HYDRAULICS ENGINEER	
<hr/>	
<i>P.E.</i>	
<u>SIGNATURE:</u>	
ROADWAY DESIGN	
ENGINEER	
<hr/>	
<i>P.E.</i>	
<u>SIGNATURE:</u>	

FOR DETOUR ALIGNMENT AND PROFILE SEE SHEET 2-A

SEE STRUCTURE PLANS
S-1 THRU S-
SKETCH SHOWING BRIDGE

**SKETCH SHOWING BRIDGE
IN RELATIONSHIP TO ROADWAY**

RIDGE HYDRAULIC DATA

DISCHARGE	=	1400 CFS
FREQUENCY	=	25 YR
HW ELEVATION	=	3358.3'
DISCHARGE	=	2130 CFS
FREQUENCY	=	100 YR
HW ELEVATION	=	3358.8'
DROPPING DISCHARGE	=	550 CFS
DROPPING FREQUENCY	=	22 YR
DROPPING ELEVATION	=	3355.5'
OF SURVEY	=	11/17/08
LEVATION		
EE OF SURVEY	=	3351.12'

1. REVISED PLAN TO ADD TUE ON PARCELS 1, 2, & 3 OCTOBER 6, 2010.

*****\$SYSTIME\$\$\$\$\$DGN\$\$\$\$\$*****

DETAIL 1

SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground 2V D 4V Flatter

Min. D= 1 Ft.

FROM STA. 15+75 TO STA. 16+00 -L- LT

PI = 16+40.00
EL = 3,357.61'
VC = 80'
K = 48
DS = 30 MPH

PI = 17+15.00
EL = 3,356.71'
VC = 50'
K = 272
DS = 60 MPH

PI = 18+00.00
EL = 3,355.53'
VC = 50'
K = 61
DS = 55 MPH

PI = 18+77.00
EL = 3,355.10'
VC = 60'
K = 51
DS = 40 MPH

CL STA. 17+52.5 -L-
1@35'18" CORED-SLAB
SKEW=100°

MILL EXISTING
PAVEMENT 1.25"

STA 15+50.00
ELEV. 3360.8

BEGIN GRADE
STA 15+75.00
ELEV. 3359.47

END BRIDGE
STA. 17+35.00

END GRADE
STA 19+25.00
ELEV. 3354.26

25' TAPER
TO EXIST

END GRADE
STA 19+50.00
ELEV. 3353.52

WSE ON
11/7/2008
3351.12'

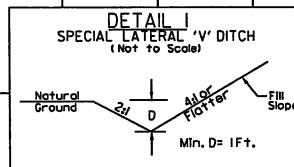
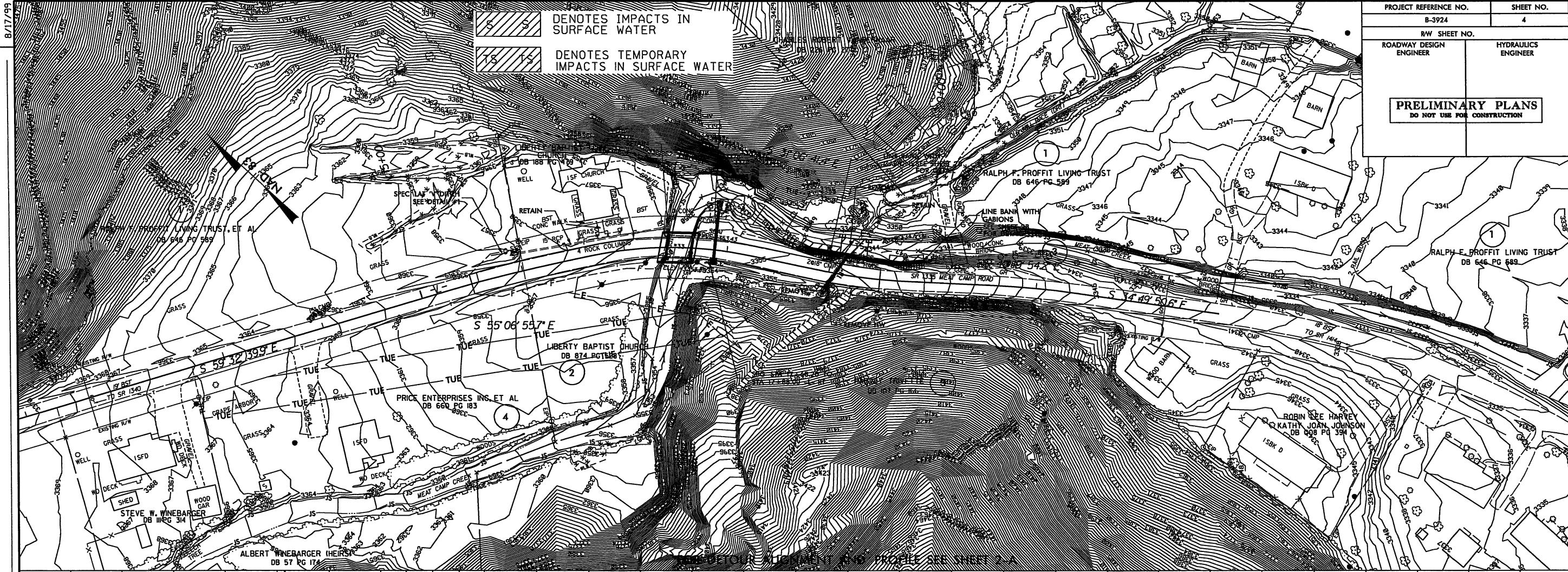
BEG SPEC LAT 'Y' DITCH
STA 15+75 LT ELEV=3357.30'
END SPEC LAT 'Y' DITCH
STA 16+00 LT ELEV=3357.00'

BM# 2 ELEV. 3356.70'
N 937359 E 1212263
BL- STA 14+58.41 68.40' LT.
= -L- STA. 17+48.13
80.65' LT.
8" SPIKE IN ROOT OF 18" BEECH TREE

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 1400 CFS
DESIGN FREQUENCY	= 25 YR
DESIGN HW ELEVATION	= 3358.3'
BASE DISCHARGE	= 2130 CFS
BASE FREQUENCY	= 100 YR
BASE HW ELEVATION	= 3358.8'
OVERTOPPING DISCHARGE	= 550 CFS
OVERTOPPING FREQUENCY	>2 YR
OVERTOPPING ELEVATION	= 3355.5'
DATE OF SURVEY	= 11/17/08
W.S.ELEVATION AT DATE OF SURVEY	= 3351.12'

Permit Drawing
Sheet 2 of 2



FROM STA. 15+75 TO STA. 16+00 - LT

-L-
PI = 16+40.00
EL = 3,357.61'
VC = 80'
K = 48
DS = 30 MPH

MILL EXISTING
PAVEMENT 1.25"

STA 15+50.00
ELEV. 3360.18

25'

BEGIN GRADE
STA 15+75.00
ELEV. 3359.77

(-1) 1983% (-1) 389%

(-1) 0.5% (-1) 1983%

(-1) 12.858% (-1) 1983%

(-1) 10.564% (-1) 1983%

(-1) 1.7500% (-1) 1983%

WSE ON
11/17/2008
3351.12'

BIG SPEC LAT 'V' DITCH
STA 15+75 LT ELEV = 3357.30'
END 'V' DITCH
STA 16+00 LT ELEV = 3357.10'

BL - STA 14+58.41 68.40' LT.
= -L - STA. 17+48.13
80.65' LT.

8" SPIKE IN ROOT OF 18" BEECH TREE

DENOTES IMPACTS IN
SURFACE WATER

DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

-L-
PI = 17+15.00
EL = 3,356.71'
VC = 50'
K = 272
DS = 60 MPH

CL STA 17+52.5 - L-
1@35° 18' CORED SLAB

SKEW = 100°

END GRADE
STA 19+25.00
ELEV. 3354.26

25' TAPER
TO EXIST

END GRADE
STA 19+50.00
ELEV. 3353.52

-L-
PI = 18+00.00
EL = 3,355.53'
VC = 50'
K = 272
DS = 55 MPH

END GRADE
STA 19+52.50
ELEV. 3355.53

25' TAPER
TO EXIST

END GRADE
STA 19+55.00
ELEV. 3355.53

-L-
PI = 18+77.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
STA 19+75.00
ELEV. 3355.50

25' TAPER
TO EXIST

END GRADE
STA 19+80.00
ELEV. 3355.50

-L-
PI = 19+00.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
STA 19+85.00
ELEV. 3355.50

25' TAPER
TO EXIST

END GRADE
STA 19+90.00
ELEV. 3355.50

-L-
PI = 19+77.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
STA 19+85.00
ELEV. 3355.50

25' TAPER
TO EXIST

END GRADE
STA 19+90.00
ELEV. 3355.50

-L-
PI = 19+80.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
STA 19+85.00
ELEV. 3355.50

25' TAPER
TO EXIST

END GRADE
STA 19+90.00
ELEV. 3355.50

-L-
PI = 19+85.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
STA 19+90.00
ELEV. 3355.50

25' TAPER
TO EXIST

END GRADE
STA 19+95.00
ELEV. 3355.50

-L-
PI = 19+90.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
STA 19+95.00
ELEV. 3355.50

25' TAPER
TO EXIST

END GRADE
STA 19+95.00
ELEV. 3355.50

-L-
PI = 19+95.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
STA 19+95.00
ELEV. 3355.50

25' TAPER
TO EXIST

END GRADE
STA 19+95.00
ELEV. 3355.50

-L-
PI = 19+95.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
STA 19+95.00
ELEV. 3355.50

25' TAPER
TO EXIST

END GRADE
STA 19+95.00
ELEV. 3355.50

-L-
PI = 19+95.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
STA 19+95.00
ELEV. 3355.50

25' TAPER
TO EXIST

END GRADE
STA 19+95.00
ELEV. 3355.50

-L-
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K = 51
DS = 40 MPH

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ELEV. 3355.50

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TO EXIST

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ELEV. 3355.50

-L-
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DS = 40 MPH

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TO EXIST

END GRADE
STA 19+95.00
ELEV. 3355.50

-L-
PI = 19+95.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
STA 19+95.00
ELEV. 3355.50

25' TAPER
TO EXIST

END GRADE
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ELEV. 3355.50

-L-
PI = 19+95.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
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ELEV. 3355.50

25' TAPER
TO EXIST

END GRADE
STA 19+95.00
ELEV. 3355.50

-L-
PI = 19+95.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
STA 19+95.00
ELEV. 3355.50

25' TAPER
TO EXIST

END GRADE
STA 19+95.00
ELEV. 3355.50

-L-
PI = 19+95.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
STA 19+95.00
ELEV. 3355.50

25' TAPER
TO EXIST

END GRADE
STA 19+95.00
ELEV. 3355.50

-L-
PI = 19+95.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
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ELEV. 3355.50

25' TAPER
TO EXIST

END GRADE
STA 19+95.00
ELEV. 3355.50

-L-
PI = 19+95.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
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ELEV. 3355.50

25' TAPER
TO EXIST

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STA 19+95.00
ELEV. 3355.50

-L-
PI = 19+95.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
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ELEV. 3355.50

25' TAPER
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END GRADE
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PI = 19+95.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

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ELEV. 3355.50

25' TAPER
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ELEV. 3355.50

-L-
PI = 19+95.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
STA 19+95.00
ELEV. 3355.50

25' TAPER
TO EXIST

END GRADE
STA 19+95.00
ELEV. 3355.50

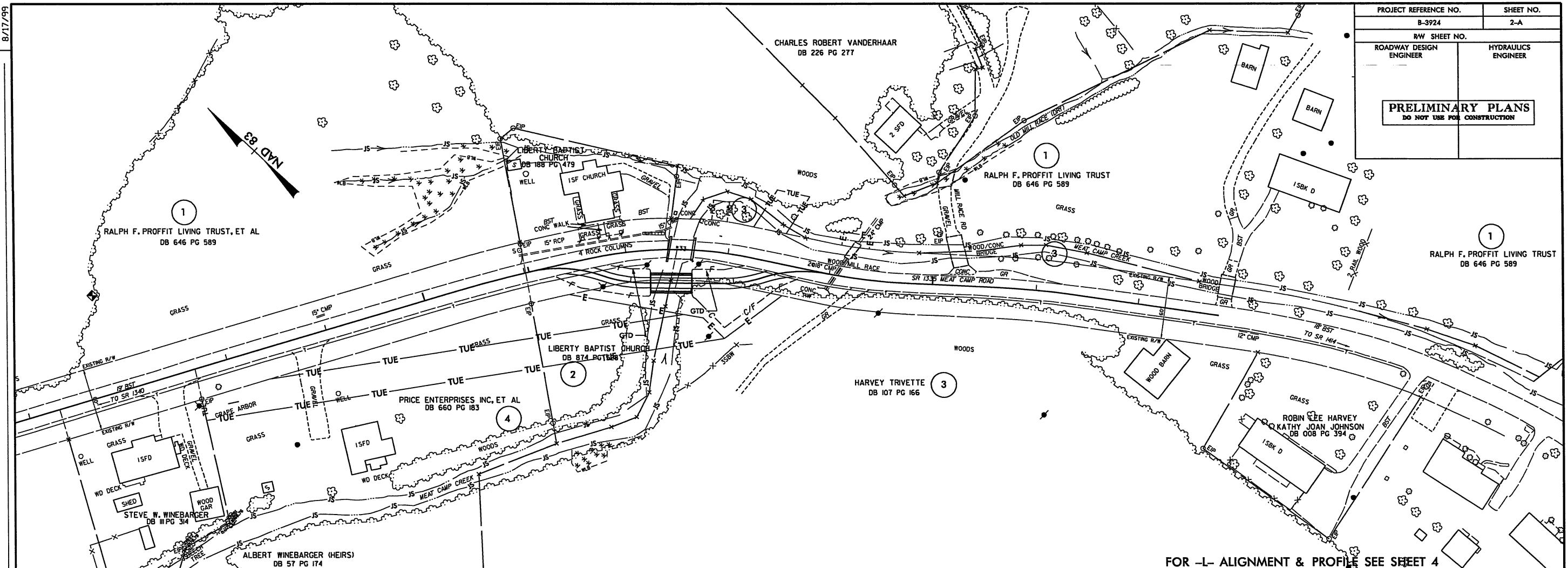
-L-
PI = 19+95.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH

END GRADE
STA 19+95.00
ELEV. 3355.50

25' TAPER
TO EXIST

END GRADE
STA 19+95.00
ELEV. 3355.50

-L-
PI = 19+95.00
EL = 3,355.50'
VC = 60'
K = 51
DS = 40 MPH



FOR L ALIGNMENT & PROFILE SEE SHEET 4

SKETCH SHOWING BRIDGE IN RELATIONSHIP TO ROADWAY

-DET-

BEGIN -DEF- GRADE
STA 10+50.39
ELEV. 3357.32

CL STA 11+37.50 -DET-
10'40"
SKEW = 90

BEGIN BRIDGE
STA 11+19.44

END BRIDGE
STA 11+59.44

EXISTING
GROUND

PROPOSED
GRADE

BM# 2 ELEV. 3356.70'
N 937359 E 1212283
-BL STA 14+58.41 68.40' LT.
= STA 17+48.13

80.65' LT.
8" SPIKE IN ROOT OF 18" BEECH TREE

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE = 850 CFS
DESIGN FREQUENCY = 5 YR
DESIGN HW ELEVATION = 3358.9'
BASE DISCHARGE =
BASE FREQUENCY = 100 YR
BASE HW ELEVATION =
OVERTOPPING DISCHARGE =
OVERTOPPING FREQUENCY =
OVERTOPPING ELEVATION =
DATE OF SURVEY =
W.S.ELEVATION AT DATE OF SURVEY =

Permit Drawing
Sheet 1 of 9

SYSTEMS
SERVICES

REVISIONS

PROJECT REFERENCE NO.	2-A
R/W SHEET NO.	B-3924
ROADWAY DESIGN ENGINEER	
HYDRAULICS ENGINEER	

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

3,370
3,360
3,350
3,340
3,330
3,320

10 11 12 13



	DET	DET	DET
0	$PI = 11+05.58$	$PI = 11+79.94$	$PI = 12+2$
2'	$EL = 3,357.25'$	$EL = 3,356.08'$	$EL = 3,35$
	$VC = 30'$	$VC = 40'$	$VC = 40'$
	$K = 16$	$K = 32$	$K = 15$
H	$DS = 25 MPH$	$DS = 40 MPH$	$DS = 15 MPH$

-DET- GRADE
0+5039
3357.32

-DET-

LISTING
OUND

**PROPOSED
RADE**

BM# 2 ELEV. 3356
N 937359 E 121
-BL- STA 14 + 58.41 6
- STA 17 1

80.65' LT.
8" SPIKE IN ROOT OF 18' BEECH TREE

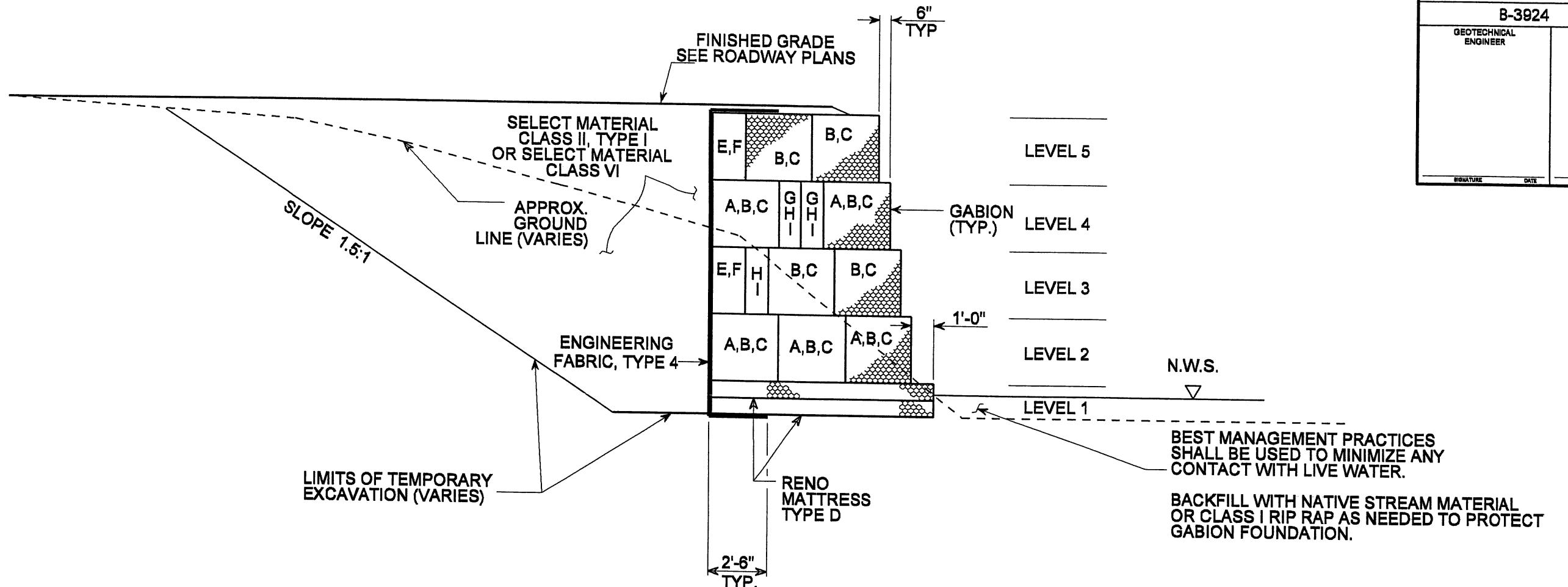
**SKETCH SHOWING BRIDGE
IN RELATIONSHIP TO ROADWAY**

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	850 CFS
DESIGN FREQUENCY	=	5 YR
DESIGN HW ELEVATION	=	3358.9'
BASE DISCHARGE	=	
BASE FREQUENCY	=	100 YR
BASE HW ELEVATION	=	
OVERTOPPING DISCHARGE	=	
OVERTOPPING FREQUENCY	=	
OVERTOPPING ELEVATION	=	
DATE OF SURVEY	=	
WS.ELEVATION AT DATE OF SURVEY	=	

Permit Drawing
Sheet 5 of

PROJECT REFERENCE NO. / SHEET	
B-3924	2-B
GEOTECHNICAL ENGINEER	ENGINEER
SIGNATURE	SIGNATURE



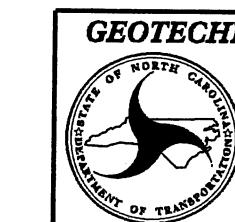
GABION BASKET SHOULDER CONSTRUCTION

NOTES:

1. RENO MATTRESSES ARE TO BE FILLED WITH THE SIZE AND TYPE OF STONE AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS.
2. RENO MATTRESSES ARE TO BE CUT AND FITTED TO CREATE A LEVEL PLATFORM FOR THE GABIONS, IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
3. GABIONS ARE TO BE FILLED WITH THE SIZE AND TYPE OF STONE AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS.
4. GABIONS ARE TO BE CUT AND FITTED TO CREATE THE END BENT BACKWALL AND WINGWALL LIMITS AS DESCRIBED IN THE ELEVATION VIEW, IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
5. OVERLAP FABRIC A MINIMUM 18" OR AS DIRECTED BY THE ENGINEER.

TYPICAL SIZES			
GABIONS	LENGTH	WIDTH	HEIGHT
TYPE "A"	6' X	3' X	3'
TYPE "B"	9' X	3' X	3'
TYPE "C"	12' X	3' X	3'
TYPE "D"	6' X	3' X	1.5'
TYPE "E"	9' X	3' X	1.5'
TYPE "F"	12' X	3' X	1.5'
TYPE "G"	6' X	3' X	1'
TYPE "H"	9' X	3' X	1'
TYPE "I"	12' X	3' X	1'
RENO MATTRESS	LENGTH	WIDTH	HEIGHT
TYPE "D"	12' X	6' X	9"

Permit Drawing
Sheet 6 of 8

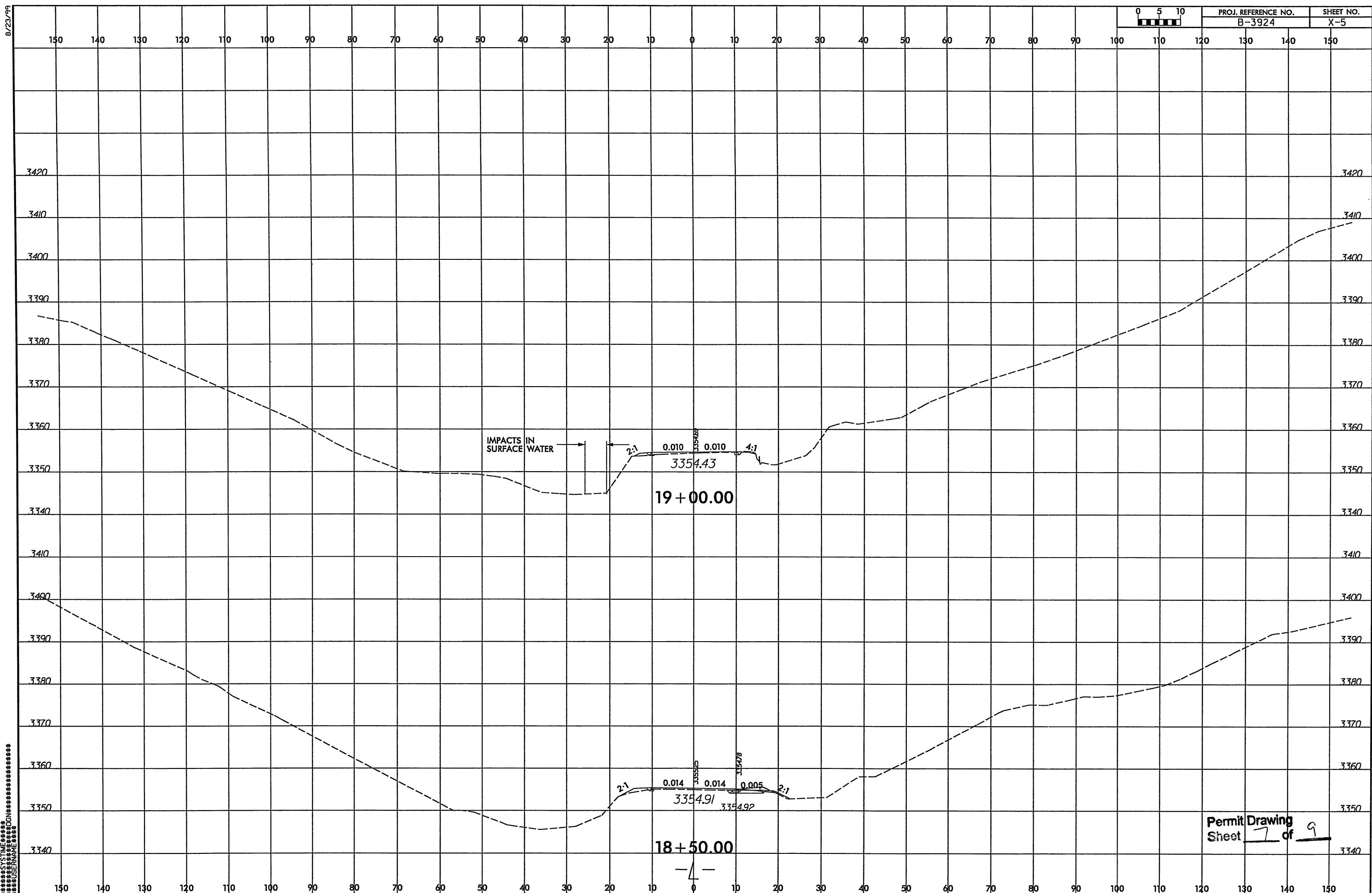


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GEOTECHNICAL ENGINEERING UNIT
 EASTERN REGIONAL OFFICE
 WESTERN REGIONAL OFFICE
 CONTRACT OFFICE

GABION BASKET
SHOULDER CONSTRUCTION
DETAILS

REVISIONS				
NO.	BY	DATE NO.	BY	DATE
1			3	
2			4	



WETLAND PERMIT IMPACT SUMMARY

Site No	Station (From/To)	Structure Size / Type	WETLAND IMPACTS			SURFACE WATER IMPACTS				
			Permanent Fill in Wetlands (ac)	Temp Fill in Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW Impacts (ac)	Temp SW Impacts (ac)	Existing Channel Impacts Permanent (ft)
18+64 to 19+08 -L- Lt	Bank Stabilization						<.01		39	
19+08 to 19+36 -L- Lt	Mill Race Removal							0.01		26
19+58 to 19+92 -L- Lt	Bank Stabilization						<.01		33	
TOTALS.								0.010	0.01	72
										26

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

WATAUGA COUNTY
WBS - 36271 1 1 (B-3924)

Permit Drawing
Sheet 1 of 1

PROPERTY OWNERS

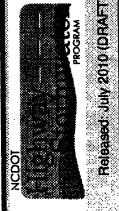
NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	RALPH PROFFIT LIVING TRUST	2240 MEAT CAMP ROAD BOONE, NC 28607
2	LIBERTY BAPTIST CHURCH	1264 MEAT CAMP ROAD BOONE, NC 28607
3	HARVEY AND STELLA TRIVETTE	583 JEFFERSON ROAD BOONE, NC 28607

Permit Drawing
Sheet 9 of 9

WETLAND/STREAM
IMPACTS

NCDOT
 DIVISION OF HIGHWAYS
 WATAUGA COUNTY
 PROJECT: 36271.1.1 (B-3924)
 BRIDGE NO. 33 OVER MEAT CAMP CR
 ON SR 1335 (MEAT CAMP RD.)
 BETWEEN SR 1340
 AND SR 1339
 SHEET 9 OF 9 9 / 22 / 10



Released: July 2010 (DRAFT)

North Carolina Department of Transportation
Highway Stormwater Program
STORMWATER MANAGEMENT PLAN

Version 1.1

Page

1

General Project Information

Project No.:	36271.1.1	Date:	9/20/2010
City/Town:	Meat Camp	Designer:	SDG
County(ies):	Watauga County	Project Manager:	WHW
River Basin(s):	New	CAMA County?	yes
Primary Receiving Water:	Meat Camp Creek	NCDWQ Stream Index:	10-1-10
NCDWQ Surface Water Classification for Primary Receiving Water	Primary: Class C Supplemental: Trout Waters (Tr)		

Other Stream Classification:

303(d) Stream?	no	Type(s) of Impairment:	
State Stormwater Permit Required?	no	If yes, why?	
Could the Project Impact Threatened or Endangered Species?	no		

Description:

no

Description:

no

Buffer Rules in Effect?

no

Buffer Rules:

no

Description of Existing Project Area:

1800

Bridge No. 33 on SR 1335 over Meat Camp Creek

Average Daily Traffic (existing):

Two lane with no paved shoulder

Church and Rural Residential

Existing Cross Section:

Surrounding Land Use:

General Comments:

Project Description

Description of Proposed Project:

Replacement of Bridge No. 33 on SR 1335 over Meat Camp Creek with temporary upstream detour

Average Daily Traffic (proposed):

1800

Proposed Cross-Section:

Two 10 ft lanes with no paved shoulder

Median Type:

no

Interchange Modification:

no

Little Creek Rd

Mill Race Rd

Project Length (lin. miles/feet):

400 ft

Added Impervious Area (ac.):

0.03 ac

General Comments:

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line _____
 County Line _____
 Township Line _____
 City Line _____
 Reservation Line _____
 Property Line _____

Existing Iron Pin 
 Property Corner 
 Property Monument 
 Parcel/Sequence Number 
 Existing Fence Line 
 Proposed Woven Wire Fence 
 Proposed Chain Link Fence 
 Proposed Barbed Wire Fence 
 Existing Wetland Boundary 
 Proposed Wetland Boundary 
 Existing Endangered Animal Boundary 
 Existing Endangered Plant Boundary 

BUILDINGS AND OTHER CULTURE:

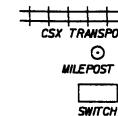
Gas Pump Vent or U/G Tank Cap 
 Sign 
 Well 
 Small Mine 
 Foundation 
 Area Outline 
 Cemetery 
 Building 
 School 
 Church 
 Dam 

HYDROLOGY:

Stream or Body of Water _____
 Hydro, Pool or Reservoir 
 Jurisdictional Stream 
 Buffer Zone 1 
 Buffer Zone 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 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 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 Wheel Chair Ramp 
 Existing Metal Guardrail 
 Proposed Guardrail 
 Existing Cable Guiderail 
 Proposed Cable Guiderail 

VEGETATION:

Single Tree 
 Single Shrub 
 Hedge 
 Woods Line 
 Orchard 
 Vineyard 

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 _____ 

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 _____ 

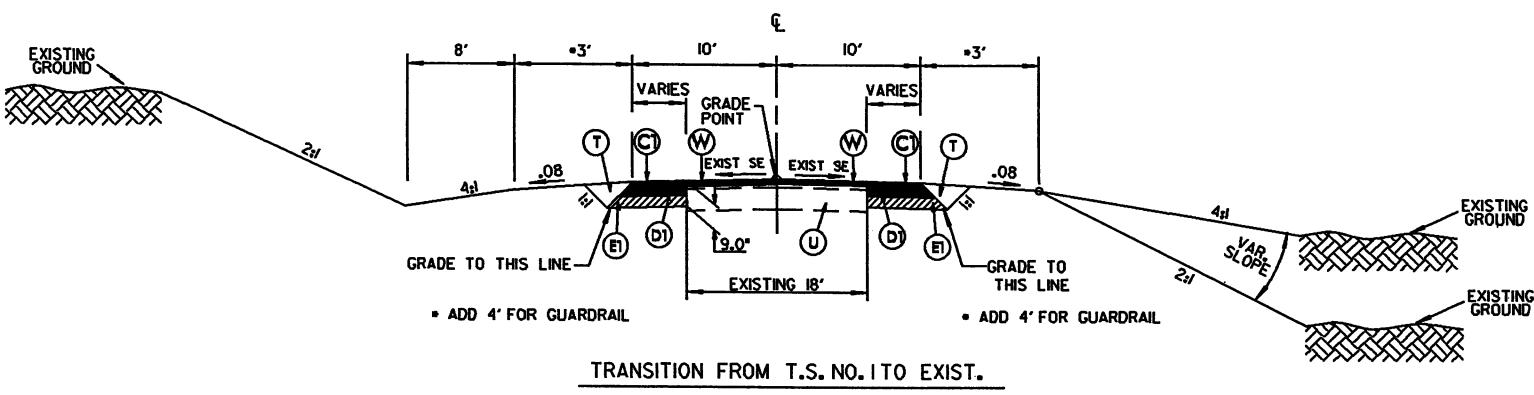
SANITARY SEWER:

Sanitary Sewer Manhole 
 Sanitary Sewer Cleanout
 U/G Sanitary Sewer Line 
 Above Ground Sanitary Sewer _____ 
 Recorded SS Forced Main Line _____ 
 Designated SS Forced Main Line (S.U.E.*): _____ 

MISCELLANEOUS:

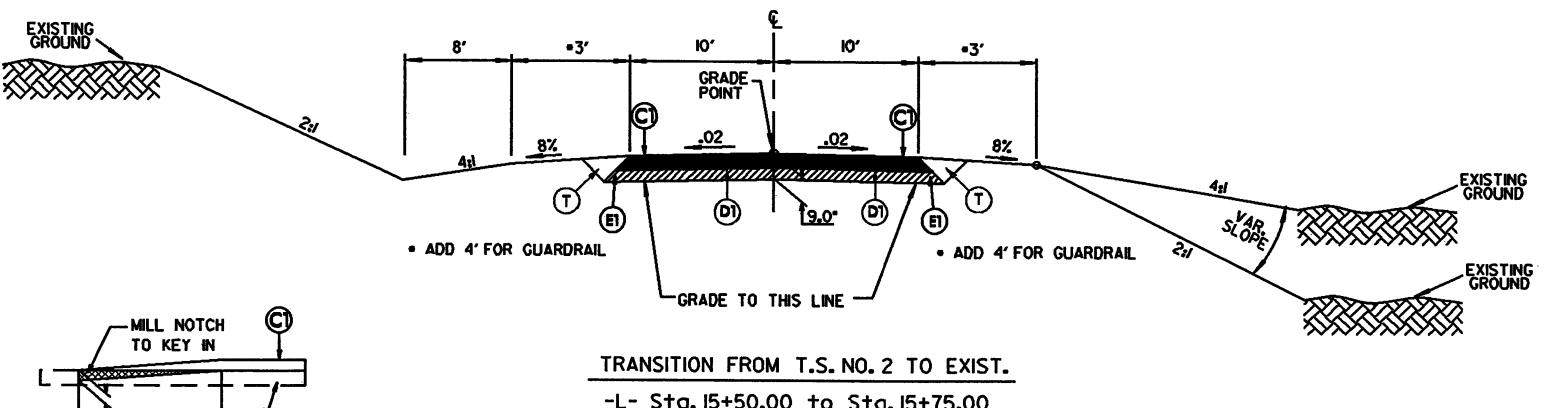
Utility Pole 
 Utility Pole with Base 
 Utility Located Object 
 Utility Traffic Signal Box 
 Utility Unknown U/G Line 
 U/G Tank; Water, Gas, Oil 
 A/G Tank; Water, Gas, Oil 
 U/G Test Hole (S.U.E.*): _____
 Abandoned According to Utility Records 
 End of Information 

PROJECT REFERENCE NO.		SHEET NO.
B-3924	2	
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER	
PREFIMINARY PLANS NOT FOR CONSTRUCTION		



TYPICAL SECTION NO. 1
USE TYPICAL SECTION NO. 1 AS FOLLOWS

-L- Sta. I8+42.00 to Sta. I9+25.00

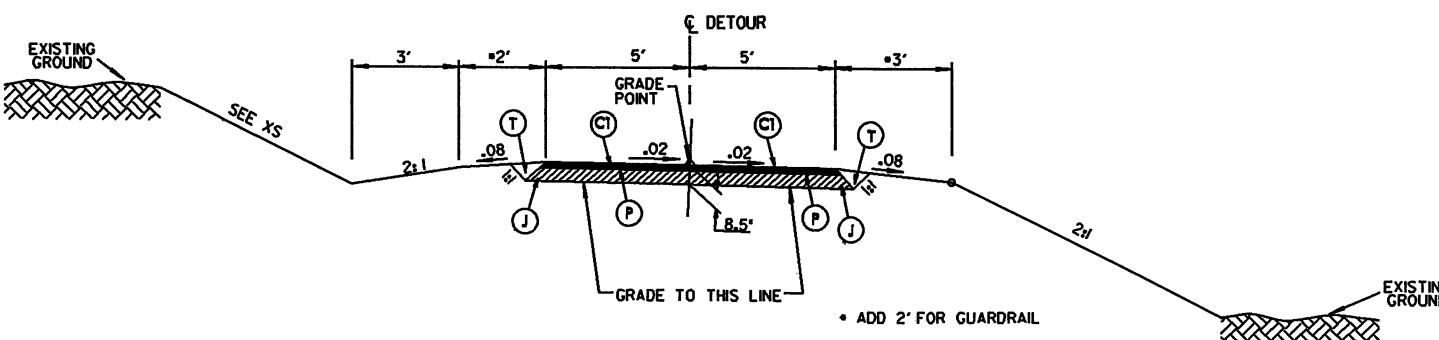


TYPICAL SECTION NO. 2
USE TYPICAL SECTION NO. 1 AS FOLLOWS

-L- Sta. I5+75.00 to Sta. I7+35.00 (BEGIN BRIDGE)
-L- Sta. I7+70.00 (END BRIDGE) to Sta. I8+42.00

MILL EXISTING PAVEMENT 1.25" DEPTH

MILL 25' AS DIRECTED BY ENGINEER

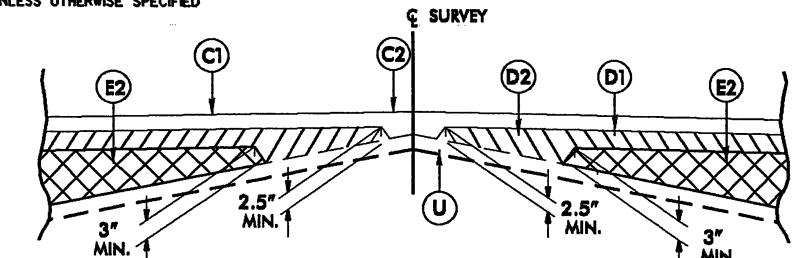


TYPICAL SECTION NO. 3
USE TYPICAL SECTION NO. 3 AS FOLLOWS

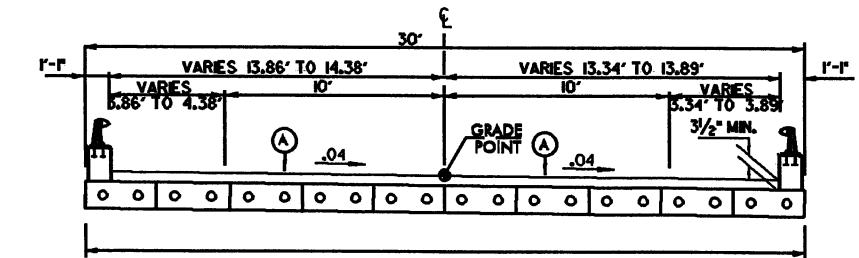
-DET- Sta. I0+50.39 to Sta. I1+19.44
-DET- Sta. I1+59.44 to Sta. I2+45.66

PAVEMENT SCHEDULE	
A	CONCRETE WEARING SURFACE
C	PROP. APPROX. 1.25" ASPHALT CONC. SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS PER SQ. YD.
C1	PROP. APPROX. 2.5" ASPHALT CONC. SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE BF9.5A, AT AN AVERAGE RATE OF 110 LBS PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1" OR GREATER THAN 1.5" IN DEPTH.
D1	PROP. APPROX. 2.5" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS PER SQ. YD.
D2	PROP. VAR. DEPTH ASPH. CONC. 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" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4.0" ASPHALT CONC. BASE COURSE, TYPE B26.0B, AT AN AVERAGE RATE OF 458 LBS PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B26.0B, AT AN AVERAGE RATE OF 114 LBS PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH.
J	PROPOSED 6" AGGREGATE BASE COURSE
P	PRIME COAT
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH PAVEMENT (SEE WEDGING DETAILS)

NOTE: ALL SLOPES 1:1 UNLESS OTHERWISE SPECIFIED

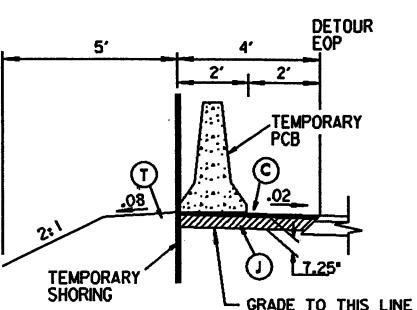


Detail Showing Method of Wedging



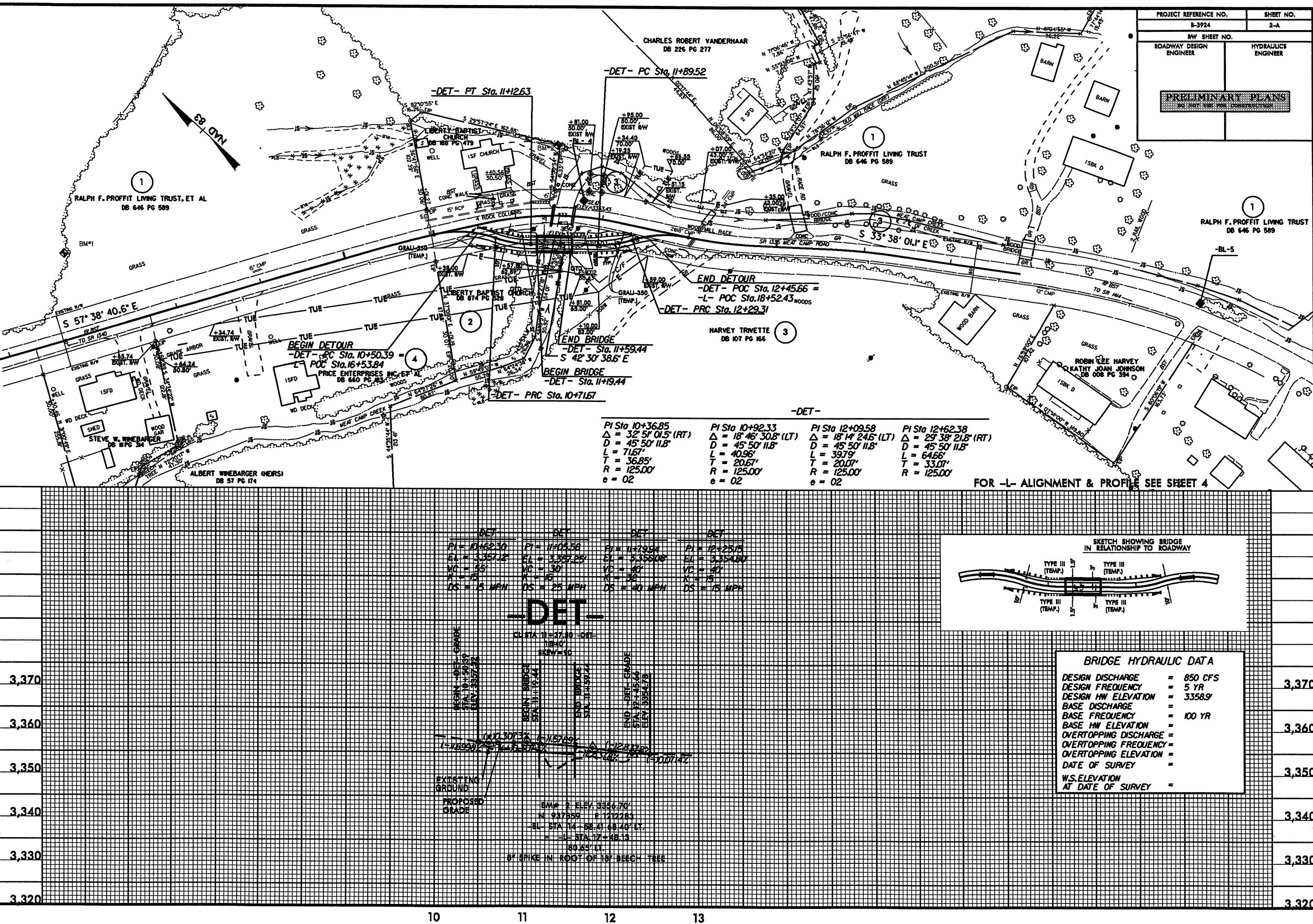
NOTE: VARIABLE WIDTH DUE TO
TANGENT BRIDGE ON HORIZONTAL CURVE.

TYPICAL BRIDGE SECTION
-L- Sta. I7+35.00 to Sta. I7+70.00

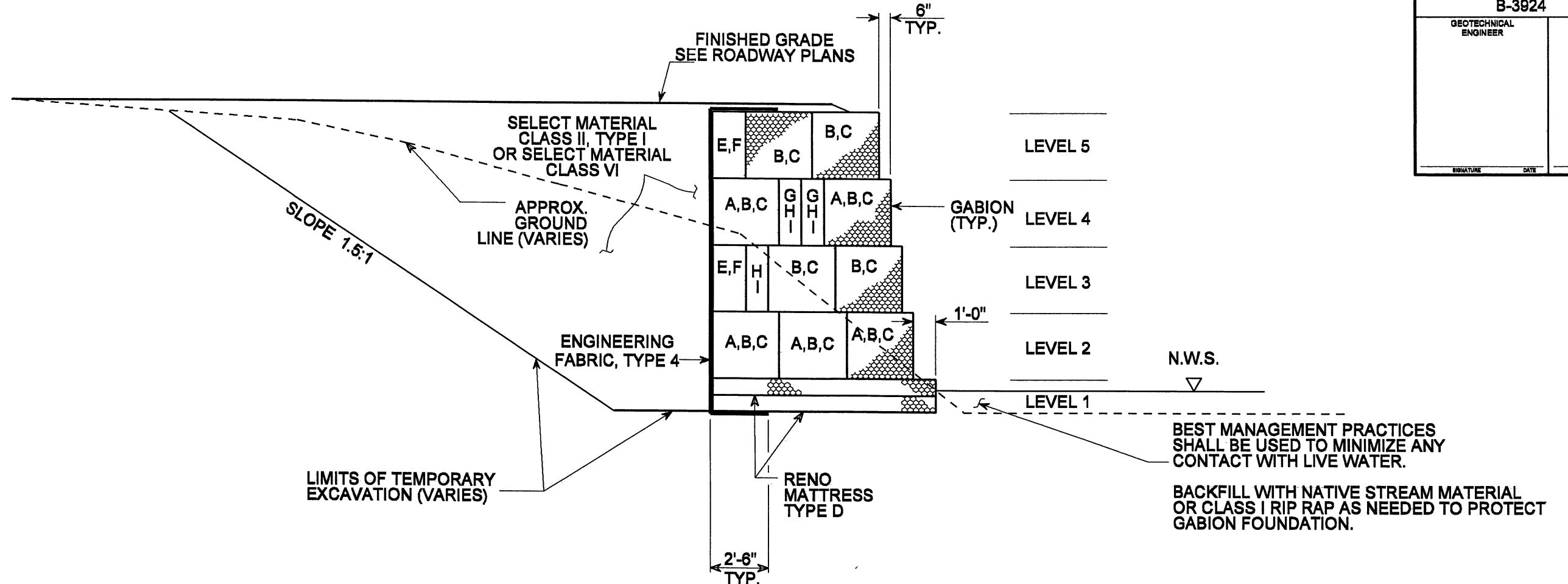


INSET TO TYPICAL SECTION NO. 3
USE INSET

-L- Sta. I7+60.00 to Sta. I7+80.00



PROJECT REFERENCE NO.		SHEET
B-3924		2-B
GEOTECHNICAL ENGINEER		ENGINEER

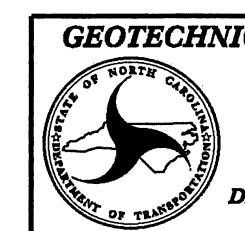


GABION BASKET SHOULDER CONSTRUCTION

NOTES:

1. RENO MATTRESSES ARE TO BE FILLED WITH THE SIZE AND TYPE OF STONE AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS.
2. RENO MATTRESSES ARE TO BE CUT AND FITTED TO CREATE A LEVEL PLATFORM FOR THE GABIONS, IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
3. GABIONS ARE TO BE FILLED WITH THE SIZE AND TYPE OF STONE AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS.
4. GABIONS ARE TO BE CUT AND FITTED TO CREATE THE END BENT BACKWALL AND WINGWALL LIMITS AS DESCRIBED IN THE ELEVATION VIEW, IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
5. OVERLAP FABRIC A MINIMUM 18" OR AS DIRECTED BY THE ENGINEER.

TYPICAL SIZES			
GABIONS	LENGTH	WIDTH	HEIGHT
TYPE "A"	6' X	3' X	3'
TYPE "B"	9' X	3' X	3'
TYPE "C"	12' X	3' X	3'
TYPE "D"	6' X	3' X	1.5'
TYPE "E"	9' X	3' X	1.5'
TYPE "F"	12' X	3' X	1.5'
TYPE "G"	6' X	3' X	1'
TYPE "H"	9' X	3' X	1'
TYPE "I"	12' X	3' X	1'
RENO MATTRESS	LENGTH	WIDTH	HEIGHT
TYPE "D"	12' X	6' X	9"



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GABION BASKET SHOULDER CONSTRUCTION DETAILS

REVISIONS				
NO.	BY	DATE	NO.	BY
1			3	
2			4	

