



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

April 14, 2011

U.S. Army Corps of Engineers
Regulatory Field Office
Post Office Box 1000
Washington, NC 27889-1000

Attention: Thomas Steffens
NCDOT Coordinator

Dear Sir:

Subject: Application for Section 404 General Permit 31, Section 401 Water Quality Certification, and Tar-Pamlico Riparian Buffer Authorization for the replacement of Bridge #56 over the Tar River on SR 1544 in Nash County. State Project No. 8.2322601. Federal Aid Project Number BRZ-1544(5). Debit \$240 from WBS 33557.1.1.TIP No. B-4211.

Please find enclosed the PCN form, stormwater management plan, permit drawings, buffer drawings, half-size plan sheets, and Section 7 concurrence letter from the U.S. Fish and Wildlife Service for the above referenced project. A Categorical Exclusion (CE) was completed for this project on March 25, 2009, and distributed shortly thereafter. A Federal Highway Administration (FHWA) Right of Way Consultation was also completed in June of 2010. Additional copies are available upon request. The North Carolina Department of Transportation (NCDOT), Division of Highways, in consultation with the FHWA, proposes to replace Bridge No. 56 on SR 1544 over the Tar River in Nash County.

The let date for this project is October 18, 2011; however, the let date may advance as additional 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 a General Permit No. 198200031.

Section 401 Water Quality Certification: We anticipate 401 General Certification number 3820 will apply to this project. All general conditions of the Water Quality Certification will be met. NCDOT is providing five copies of this application to the NCDWQ for their approval. Authorization to debit the \$240 Permit Application Fee from WBS Element 33557.1.1 is hereby given.

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 on the NCDOT website at: <http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html>

If you have any questions or need additional information, please call Mr. Chris Manley, at 919-707-6135.

Sincerely,



for

Gregory J. Thorpe, Ph.D. Environmental Management Director
Project Development and Environmental Analysis Branch

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 _____ or General Permit (GP) number: 198200031		
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 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 56 over the Tar River on SR 1544
2b. County:	Nash
2c. Nearest municipality / town:	Rocky Mount
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P or state project no:	B-4211

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) 707-6135
3g. Fax no.:	(919) 212-5785
3h. Email address:	cdmanley@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: 35.899700 (DD.DDDDDD) Longitude: - 77.865400 (-DD.DDDDDD)
1c. Property size:	4 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Tar River
2b. Water Quality Classification of nearest receiving water:	WS-IV 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: The primary natural community found on the site is mesic mixed hardwood forest, the rest is maintained/disturbed; the principle land uses in the project vicinity include agriculture and residential development.	
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: 125	
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 321-foot bridge with a 330-foot, 4-span bridge on the existing alignment with an on-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):

- 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 type="checkbox"/> P <input checked="" type="checkbox"/> T	Fill	Tar River	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	150	70*
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		
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						0 Perm 70 Temp

3i. Comments: *Temporary work pads will result in 0.06 ac. of temporary fill. Additionally, there will be <0.01 ac. of temporary fill for temporary bents due to the detour bridge.

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

0 Permanent
0 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 type="checkbox"/> Catawba	<input checked="" 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 checked="" type="checkbox"/> P <input type="checkbox"/> T	Bridge	Tar River	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7,210	4,729
B2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Road Crossing	Tar River	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	0	7
B3 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Temporary Bridge	Tar River	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1,039	773
B4 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Temporary Fill	Tar River	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	0	62
6h. Total buffer impacts				8,249	5,571
6i. Comments:					

D. Impact Justification and Mitigation		
1. Avoidance and Minimization		
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project. The proposed bridge is 9 feet longer than the existing bridge; the proposed bridge will be at approximately the same grade as the existing structure; 7 existing bents will be replaced with 3 proposed bents. Design Standards in Sensitive Watersheds will be implemented.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. NCDOT Best Management Practices for Bridge Demolition, Removal and Construction will be followed, as well as those for Sedimentation and Erosion Control will be adhered to. No deck drains will be over the stream. Areas affected by the temporary workpad and detour will be returned to pre-construction elevations and revegetated, as appropriate.		
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: No permanent impacts to Waters of the U.S. are proposed, therefore no compensatory mitigation is 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.

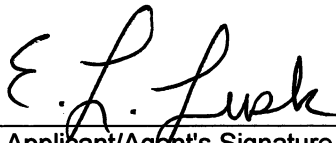
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
6f. Total buffer mitigation required:				

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 no, explain why. Comments: if yes, see attached permit drawings.	<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.	
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 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	

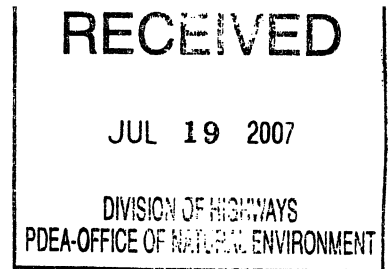
5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input checked="" 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? NHP, USFWS, NCDOT field surveys (see attached USFWS letter)		
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.)	April 12, 2011 Date



United States Department of the Interior

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

July 17, 2007



Gregory J Thorpe, Ph.D
North Carolina Department of Transportation
Project Development and Environmental Analysis
1598 Mail Service Center
Raleigh, North Carolina 27699-1598


Dear Dr. Thorpe:

This letter is in response to your letter of July 13, 2007 which provided the U.S. Fish and Wildlife Service (Service) with the biological determination of the North Carolina Department of Transportation (NCDOT) that the replacement of Bridge No. 56 on SR 1544 over the Tar River in Nash County (TIP No. B-4211) may affect, but is not likely to adversely affect the federally endangered dwarf wedgemussel (*Alasmidonta heterodon*) and Tar spiny mussel (*Elliptio steinstansana*). In addition, NCDOT has determined that the project will have no effect on the federally endangered red-cockaded woodpecker (*Picoides borealis*). These comments are provided in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

According to information provided, mussel surveys were conducted at the project site on June 15, 2005 and November 11, 2005. The surveys extended 100 meters upstream and 400 meters downstream of SR 1544. Although a diverse assemblage of mussel species (at least eight species) was observed, neither of the federally listed species was observed. Based on the survey results and other information available, the Service concurs with your determination that the proposed project may affect, but is not likely to adversely affect the dwarf wedgemussel and Tar spiny mussel. Also, due to the lack of habitat, the Service concurs with your determination that the proposed project will have no effect on the red-cockaded woodpecker. We believe that the requirements of section 7(a)(2) of the ESA have been satisfied. We remind you that obligations under section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered in this review; (2) this action is subsequently modified in a manner that was not considered in this review; or (3) a new species is listed or critical habitat determined that may be affected by this identified action.

The Service appreciates the opportunity to review this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Sincerely,


for Pete Benjamin
Field Supervisor

cc: William Wescott, USACE, Washington, NC
Rob Ridings, NCDWQ, Raleigh, NC
Travis Wilson, NCWRC, Creedmoor, NC
Chris Militscher, USEPA, Raleigh, NC
John Sullivan, FHWA, Raleigh, NC
David Harris, NCDOT, Raleigh, NC

STORMWATER MANAGEMENT PLAN

B-4211, WBS No. 33557.1.1

NASH COUNTY

Hydraulics Project Manager: Andrew Nottingham, PE

Date: 11/15/2010

ROADWAY DESCRIPTION

The project involves the replacement of bridge number 56 over Tar River on SR 1544 (Halifax Road) in Rocky Mount. The overall length of the project is 0.284 mile. The project will replace an existing 321 foot length bridge with a new 330 foot length, 4 spans, 2@75' and 2@90' 54" pre-stressed concrete girder bridge. A temporary on site detour will be required. The temporary detour bridge will be 306 linear feet.

ENVIRONMENTAL DESCRIPTION

The project is located in the Tar River Basin. The proposed bridge is over Tar River which is classified as WS-IV (water supply), NSW (nutrient sensitive water).

Approximately 70 feet of existing stream will be temporary impacted due to work bridge causeways.

Approximately 0.06 acre of existing stream will be temporary impacted.

Approximately 15981 square feet of buffer zones will be allowable impacted.

BEST MANAGEMENT PRACTICES AND MAJOR STRUCTURES

Best Management Practices (BMPs) and measures used on the project are an attempt to reduce the stormwater impacts to the receiving stream due to erosion and runoff. Grassed swales and preformed scour holes were used to treat stormwater runoff prior to entering the streams. Bridge deck drainage will not be allowed to directly discharge into the water.

GRASSED SWALES

-L- STA 24+00 TO STA 25+50 RT

-L- STA 25+85 TO STA 29+00 RT

-L- STA 25+00 TO STA 28+50 LT

PREFORMED SCOUR HOLES

-L- STA 20+32 RT

-L- STA 24+50 LT

BRIDGES

-L- STA 22+24.47 Replace existing bridge over Tar River. This includes a temporary work bridge.

-DET- STA 16+96.66 Detour Bridge

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

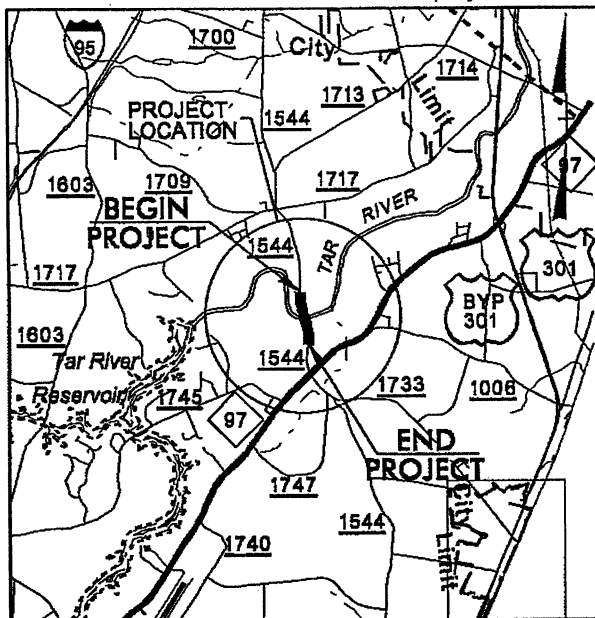
NASH COUNTY

LOCATION: BRIDGE NO. 56 OVER TAR RIVER ON SR 1544
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURES

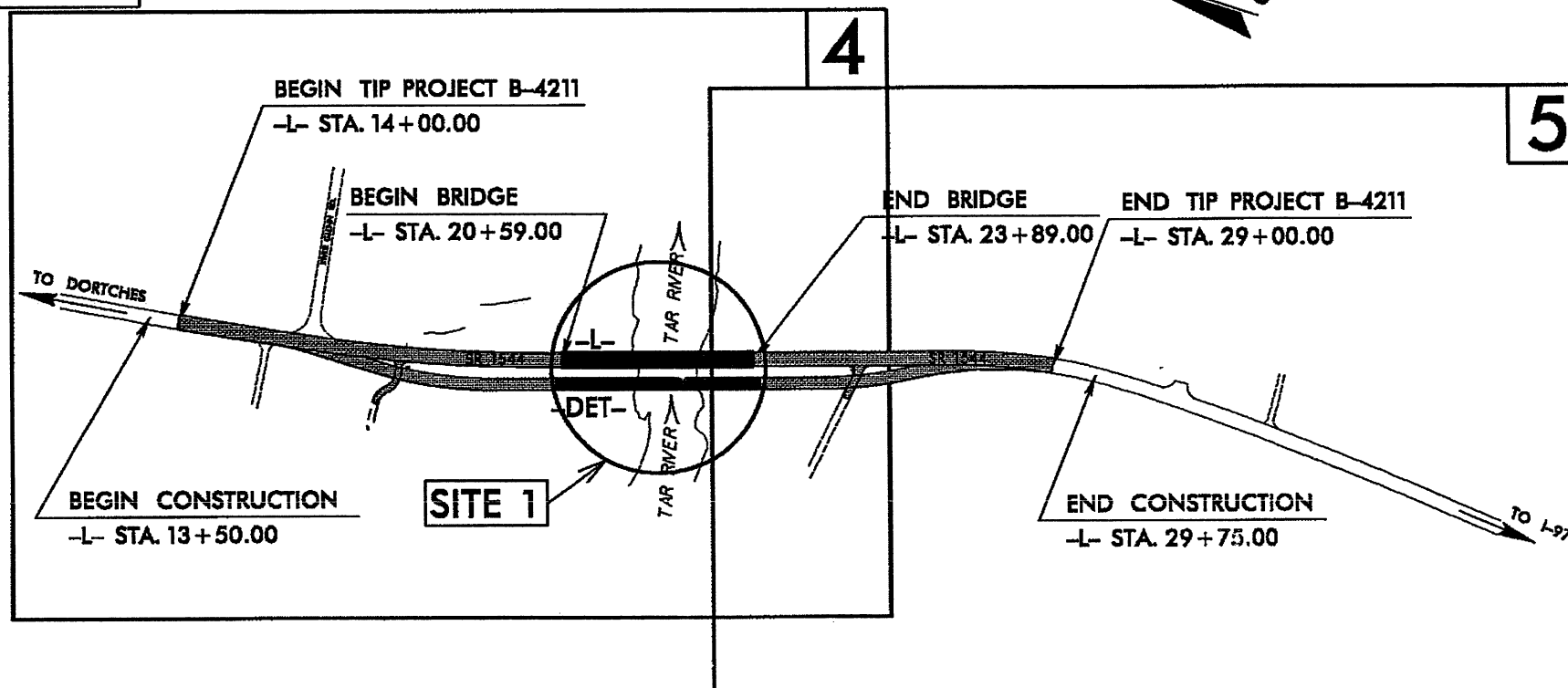
WETLAND /SURFACE WATER PERMIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4211	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33557.1.1	BRZ-1544(2)	PE	
33557.2.1	BRZ-1544(2)	RW, UTIL.	

TIP PROJECT: B-4211



VICINITY MAP

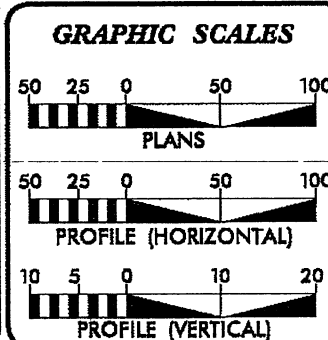


Permit Drawing
Sheet 1 of 12

METHOD OF CLEARING III
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA

ADT 2011 =	8950 VPD
ADT 2030 =	15600 VPD
DHV =	14 %
D =	55 %
T =	3 % *
V =	50 MPH
V _{DET} =	45 MPH
* TTST 1 %	DUAL 2 %
Func. Class. =	Collector

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4211 =	0.221 MI
LENGTH STRUCTURE TIP PROJECT B-4211 =	0.063 MI
TOTAL LENGTH TIP PROJECT B-4211 =	0.284 MI

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 20, 2010

LETTING DATE:
OCTOBER 18, 2011

JAMES A. SPEER, P.E.
PROJECT ENGINEER

NYA K. BOAYUE, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER

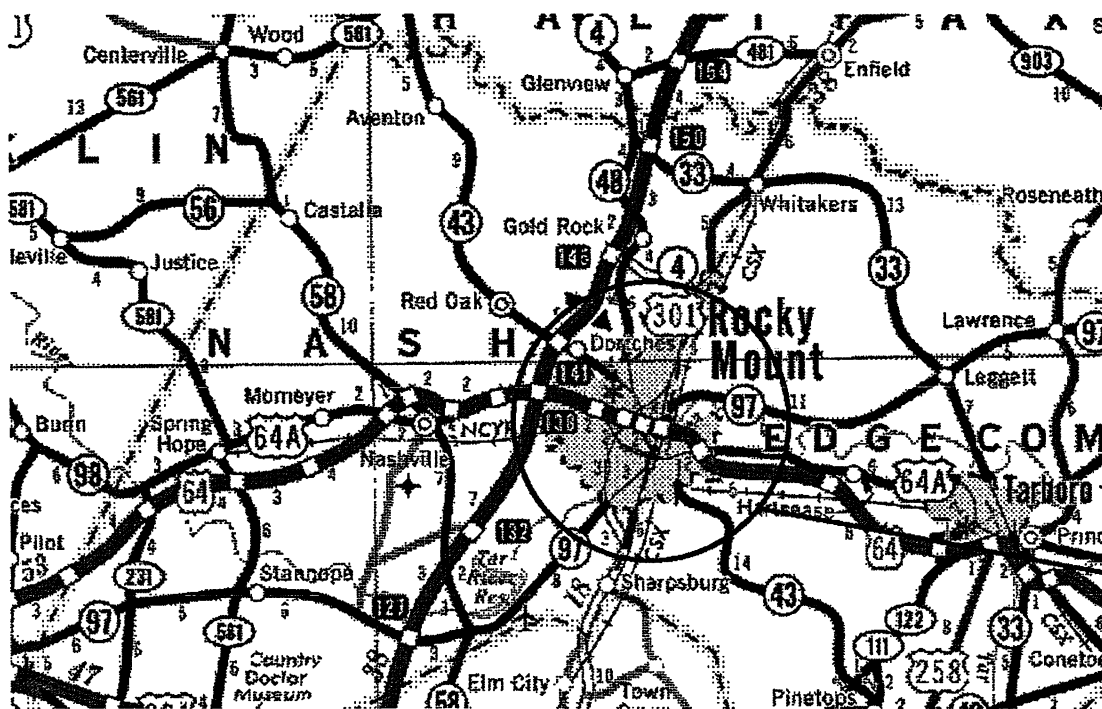
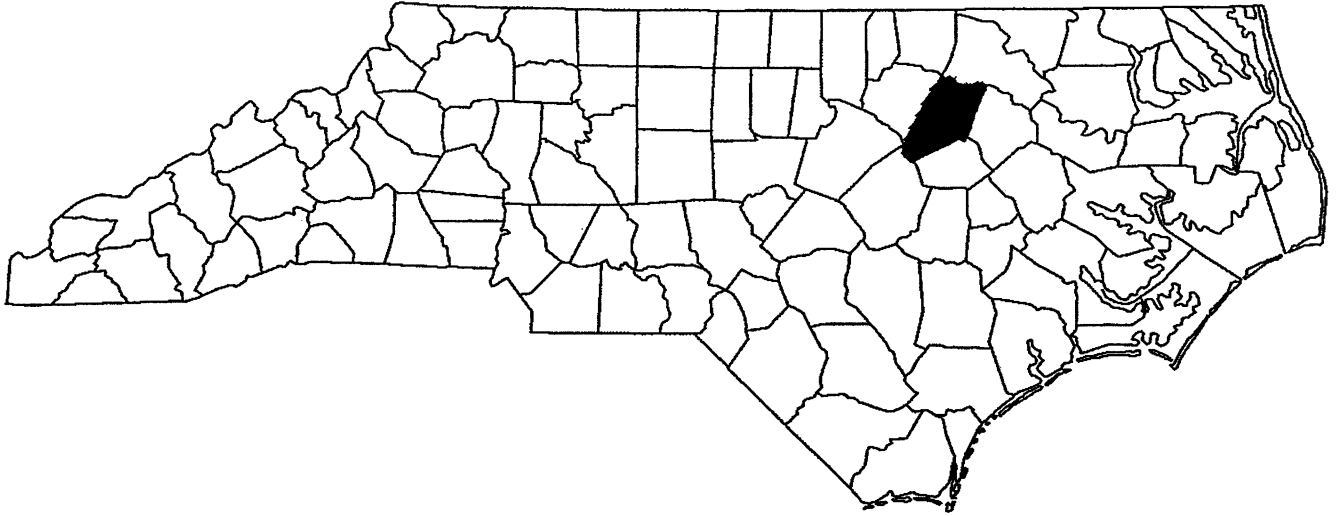
STATE HIGHWAY DESIGN ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER

SYSTEMS
DESIGN
SERVICES

NORTH CAROLINA



SITE 1

NOT TO SCALE

WETLAND // SURFACE WATER VICINITY MAP

NCDOT
DIVISION OF HIGHWAYS
NASH COUNTY
PROJECT: 33557.L1 (B-421D)
BRIDGE NO. 56
OVER TAR RIVER
ON SR 1544

Permit Drawing

SHEET

OF Sheet 2 of 12



NOT TO SCALE

WETLAND/SURFACE WATER
 LOCATION
 MAP

N. C. DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 NASH COUNTY

PROJECT: 33557.1.1 (B-421D)

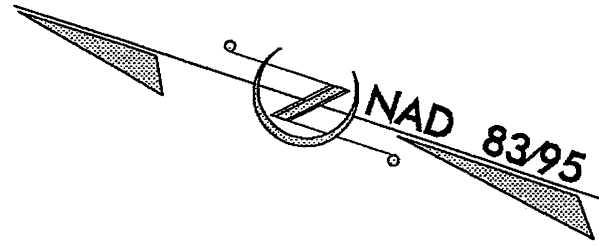
BRIDGE NO. 56 OVER TAR RIVER
 ON SR 1544

Permit Drawing

SHEET OF Sheet 3 of 12

PROJECT REFERENCE NO.		SHEET NO.	
B-4211			
RAW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

SITE 1 ENLARGEMENT



 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

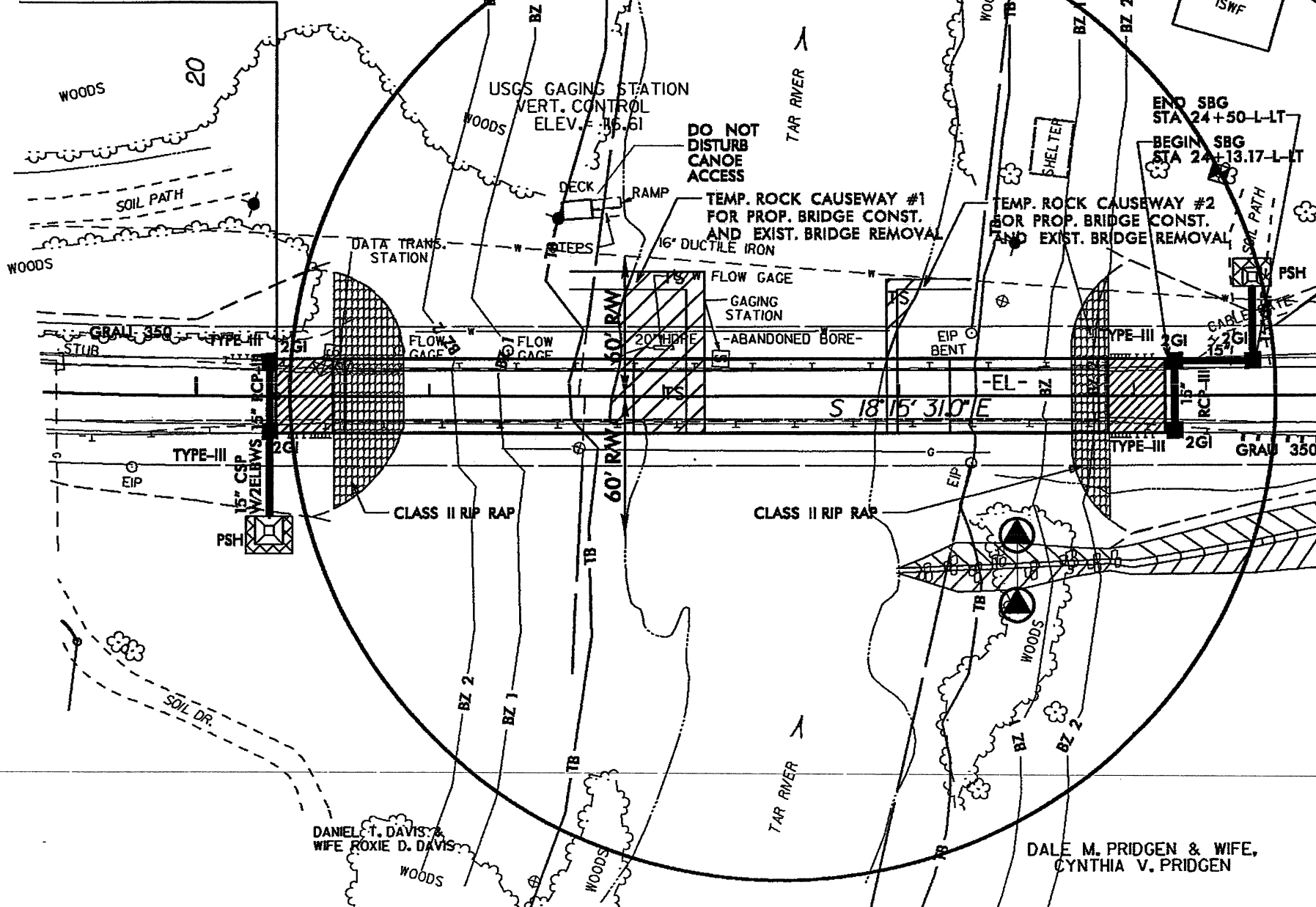
NOT TO SCALE

3

6

-L- PT Sta. 20+34.97

MATCHLINE SHEET 5 -L- STA 24+80.00

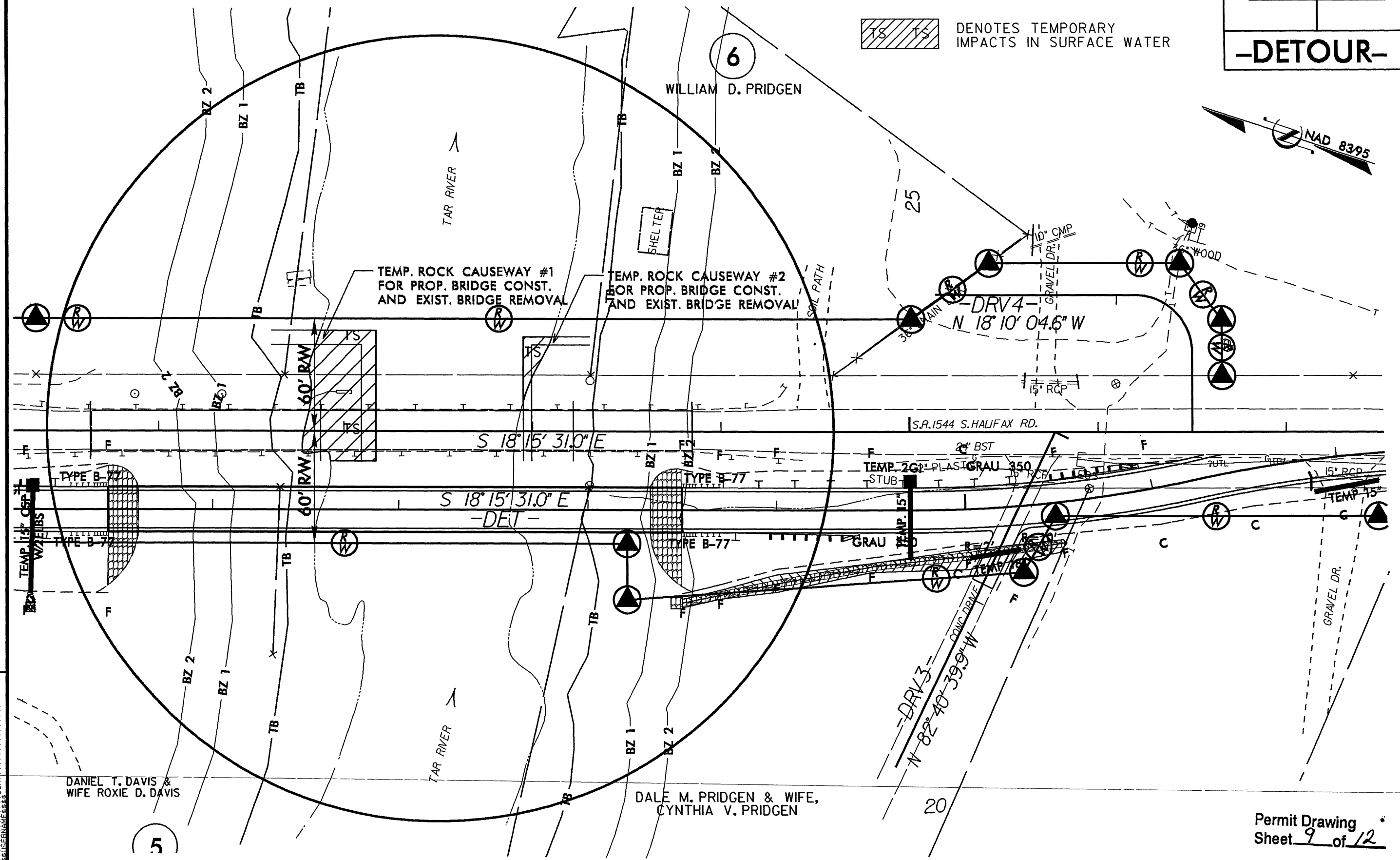


SITE 1 (DETOUR) ENLARGEMENT

NOT TO SCALE

PROJECT REFERENCE NO. B-4211	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
-DETOUR-	

 DENOTES TEMPORARY IMPACTS IN SURFACE WATER



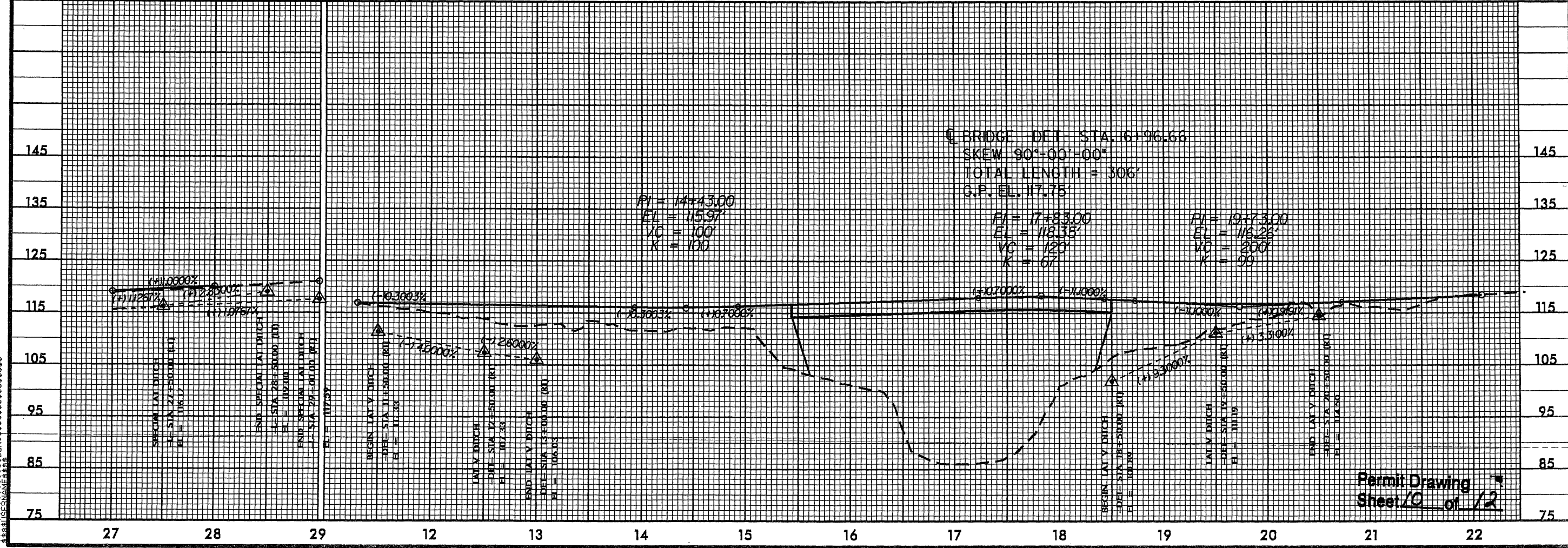
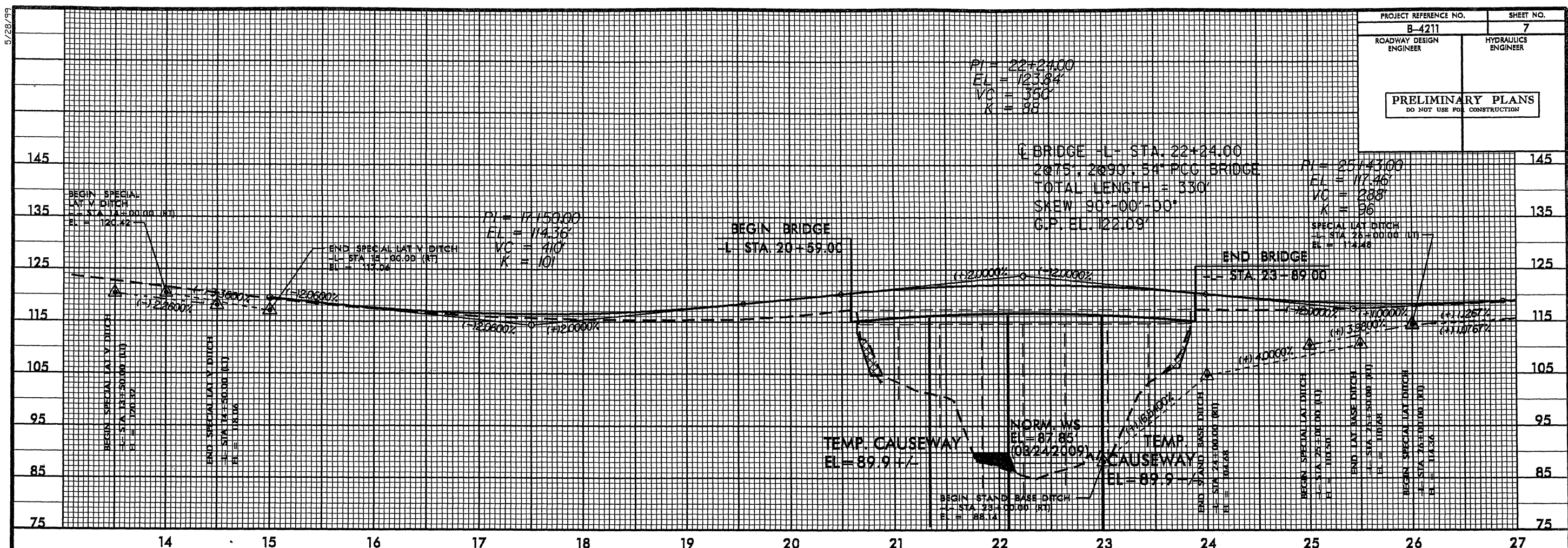
REVISIONS

 SYSTEMS
 DESIGN

DANIEL T. DAVIS &
 WIFE ROXIE D. DAVIS

DALE M. PRIDGEN & WIFE,
 CYNTHIA V. PRIDGEN

Permit Drawing
 Sheet 9 of 12



5/28/99
 14
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 22

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)	Existing Channel Impacts Temp (ft)	Natural Stream Design (ft)
1	21+75 / 23+15 L	Temporary Rock Causeways							0.06		70	
TOTALS.									0.06		70	

PERMANENT SURFACE WATER IMPACT DUE TO PIERS = 25 13 SQ. FT

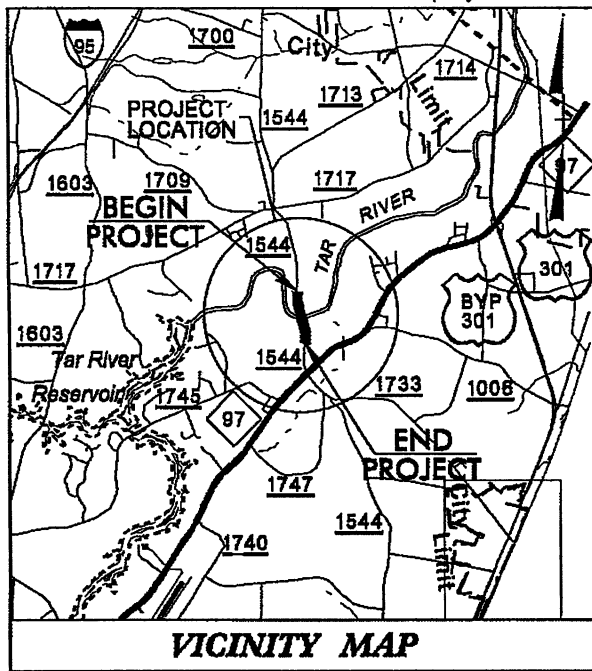
Temporary surface water impact due to detour piers = <0.01 ac

Permit Drawing
Sheet 12 of 12

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 NASH COUNTY
 WBS - 33557 1 1 (B-4211)
 SHEET 4/13/2011

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

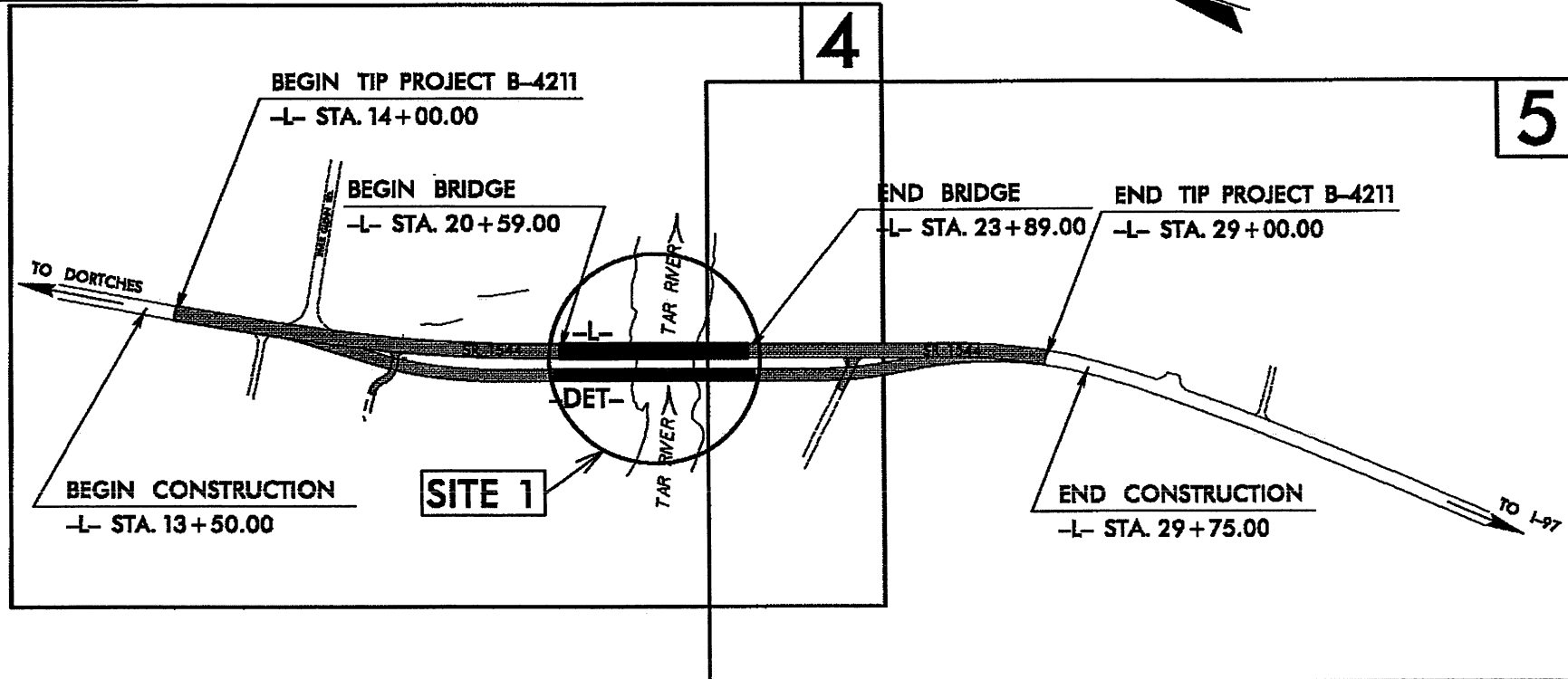
LOCATION: BRIDGE NO. 56 OVER TAR RIVER ON SR 1544

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

BUFFER PERMIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4211	1	
STATE PRELIM.	R.A. PRELIM.	DESCRIPTION	
33557.1.1	BRZ-1544(2)	PE	
33557.2.1	BRZ-1544(2)	RAW, UTIL.	

TIP PROJECT: B-4211

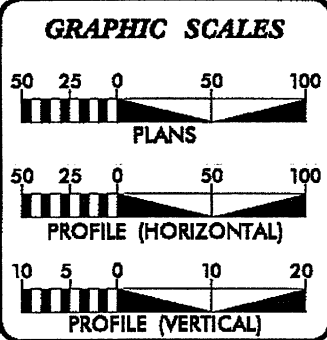


Buffer Drawing
Sheet 1 of 11

METHOD OF CLEARING III
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:



DESIGN DATA

ADT 2011 = 8950 VPD
ADT 2030 = 15600 VPD

DHV = 14 %
D = 55 %
T = 3 % *
V = 50 MPH
V_{DET} = 45 MPH

* TTST 1 % DUAL 2 %
Func. Class. = Collector

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4211 = 0.221 MI
LENGTH STRUCTURE TIP PROJECT B-4211 = 0.063 MI
TOTAL LENGTH TIP PROJECT B-4211 = 0.284 MI

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 20, 2010

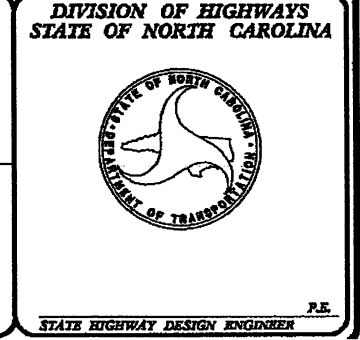
LETTING DATE:
OCTOBER 18, 2011

JAMES A. SPEER, P.E.
PROJECT ENGINEER

NYA K. BOAYUE, P.E.
PROJECT DESIGN ENGINEER

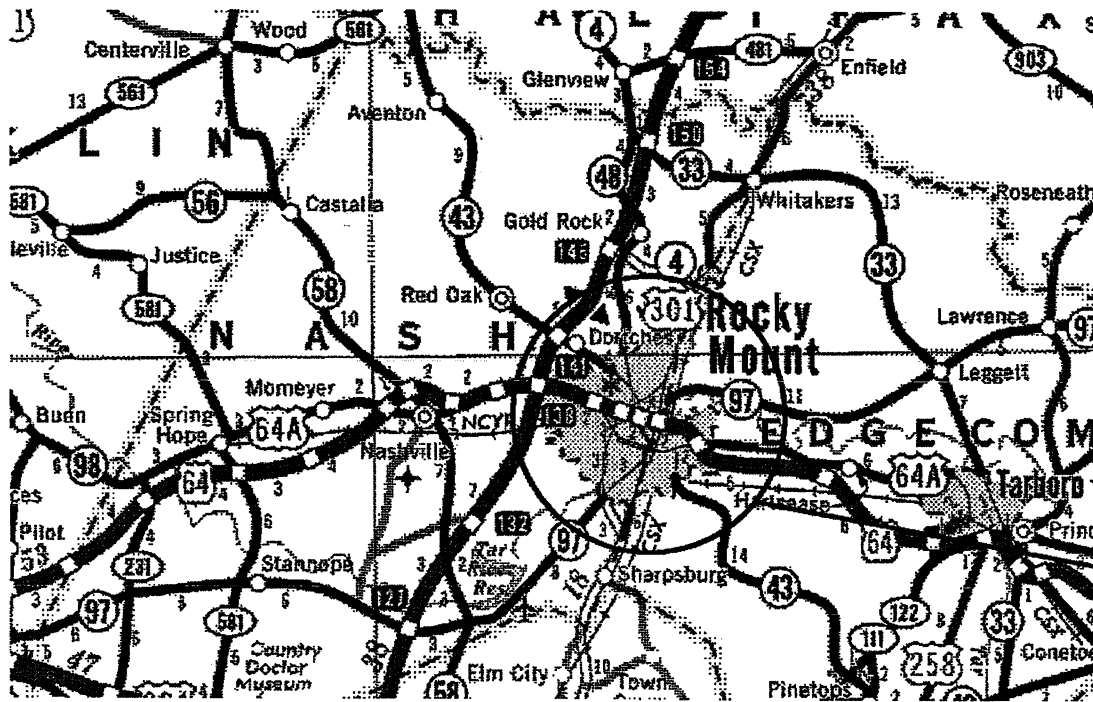
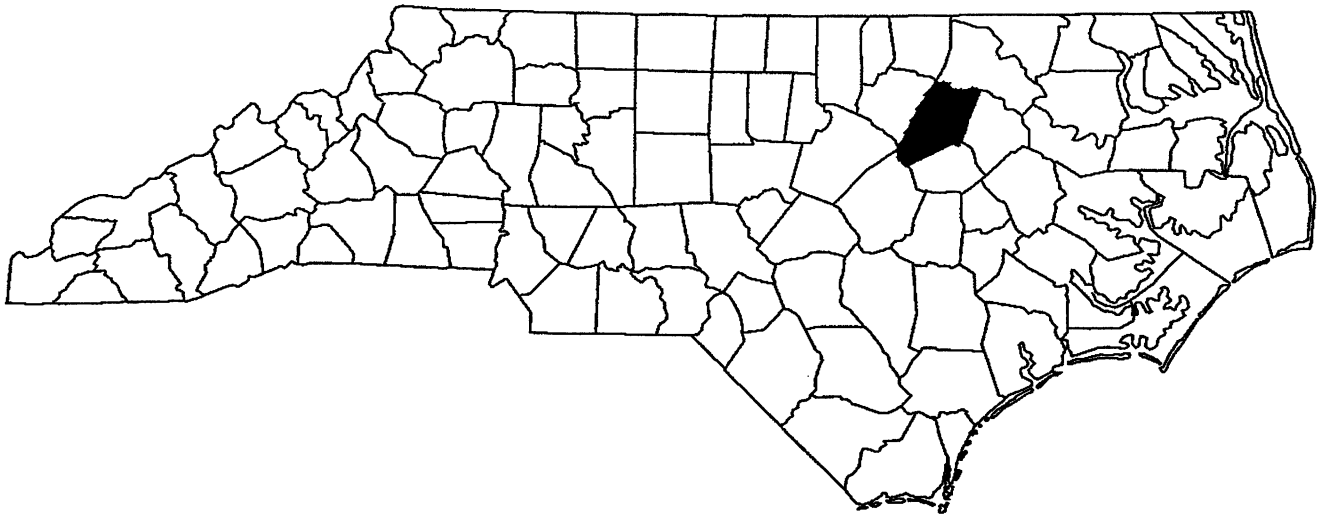
HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER



\$\$\$\$\$ SYSTEME\$\$\$\$\$
\$\$\$\$\$ DGN\$\$\$\$\$
\$\$\$\$\$ USERNAME\$\$\$\$\$

NORTH CAROLINA



SITE 1

NOT TO SCALE

BUFFER VICINITY MAP

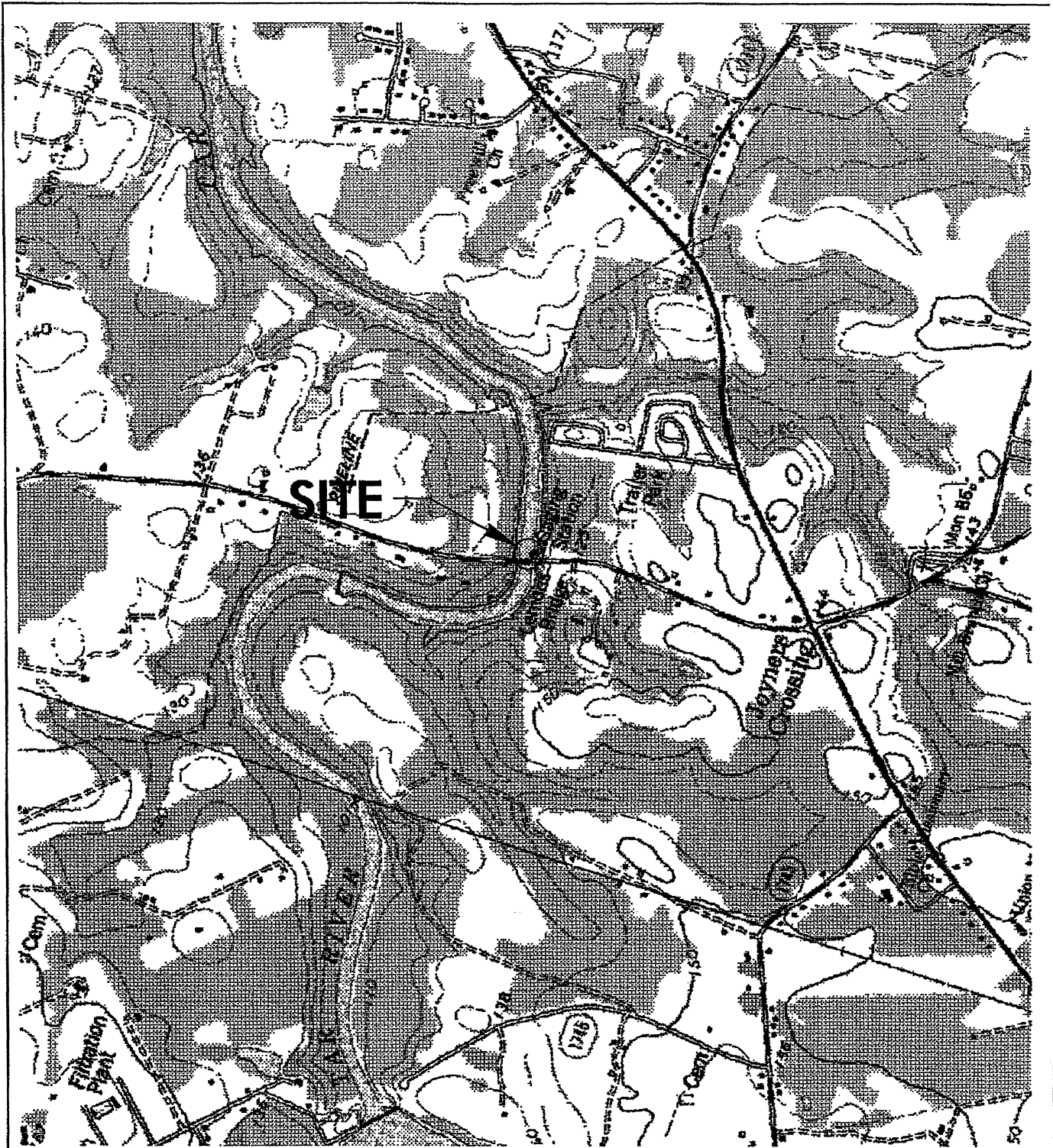
NCDOT
DIVISION OF HIGHWAYS
NASH COUNTY
PROJECT: 33557.1.1 (B-421D)
BRIDGE NO. 56
OVER TAR RIVER

ON ^{SB 1514} Buffer Drawing
Sheet 2 of 11

SHEET

OF

11/08/10



NOT TO SCALE

TAR RIVER BUFFER LOCATION MAP

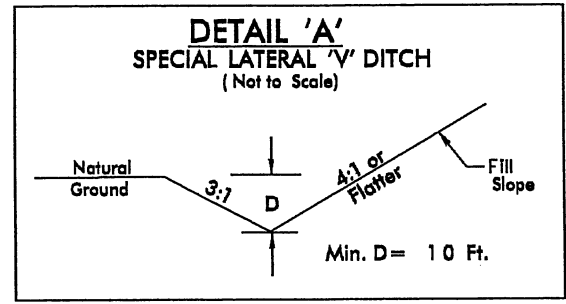
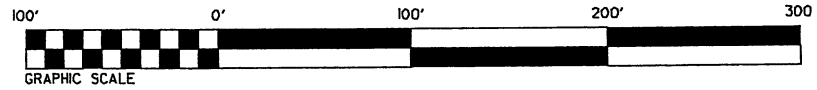
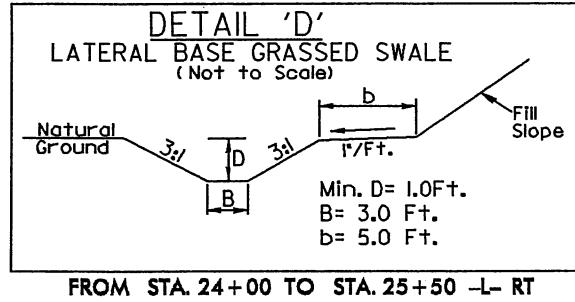
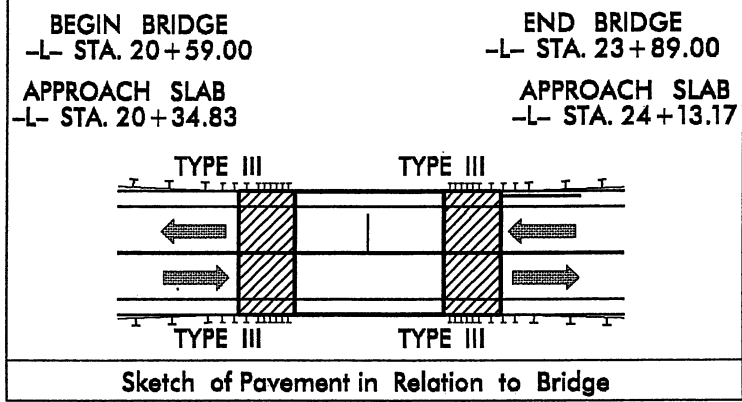
N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
NASH COUNTY

PROJECT: 33557.1.1 (B-4211)

BRIDGE NO. 56 OVER TAR RIVER

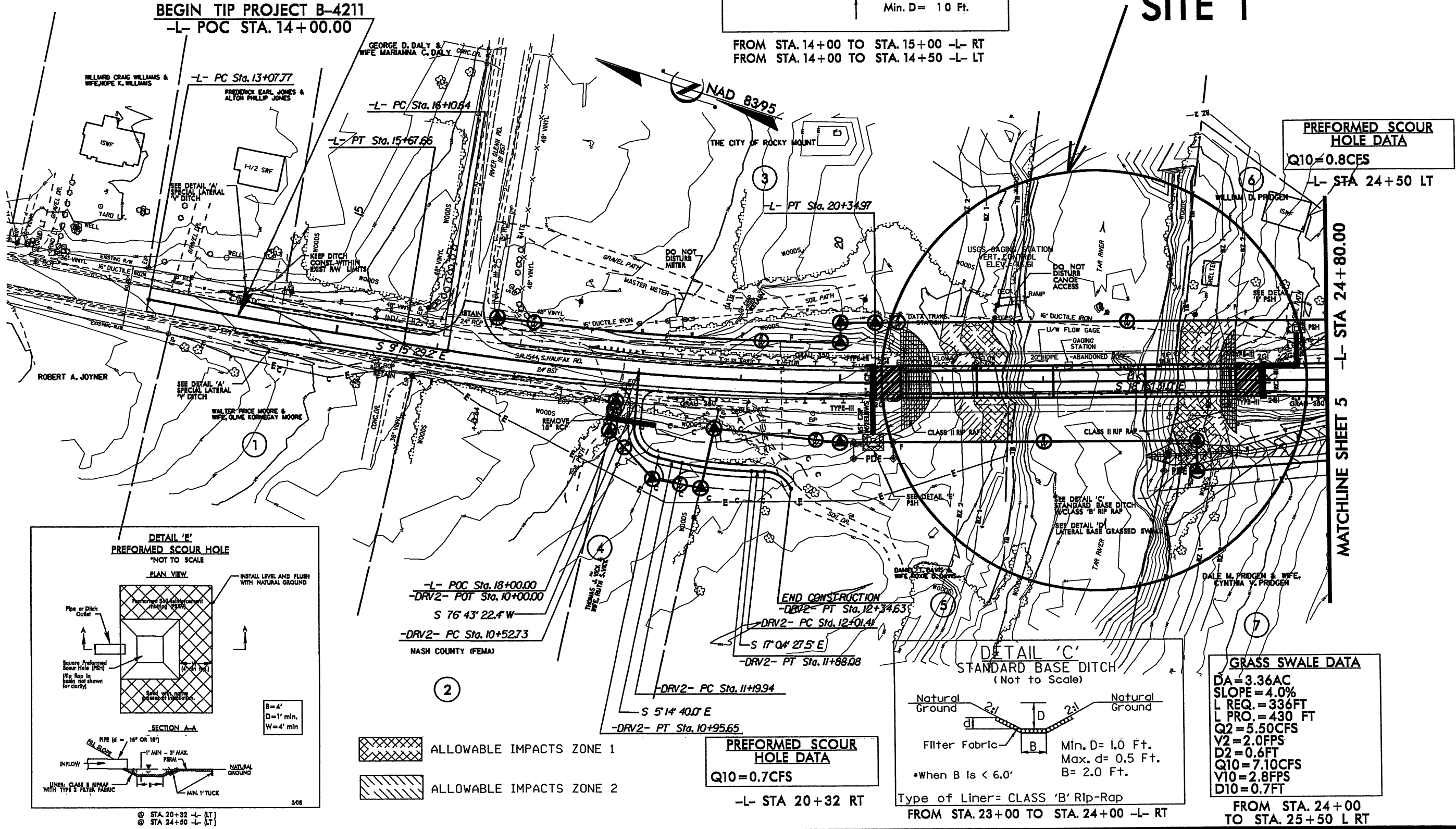
ON SR 1544
Buffer Drawing

SHEET OF Sheet 3 of 11



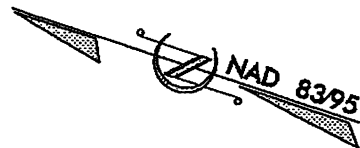
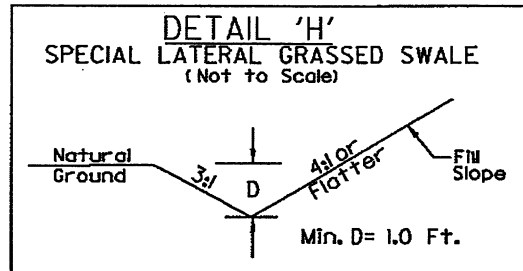
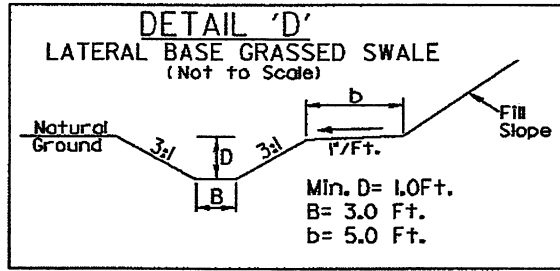
Buffer Drawing
Sheet 5 of 11

SITE 1



REVISIONS

PROJECT REFERENCE NO. B-4211	SHEET NO. 5
HW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

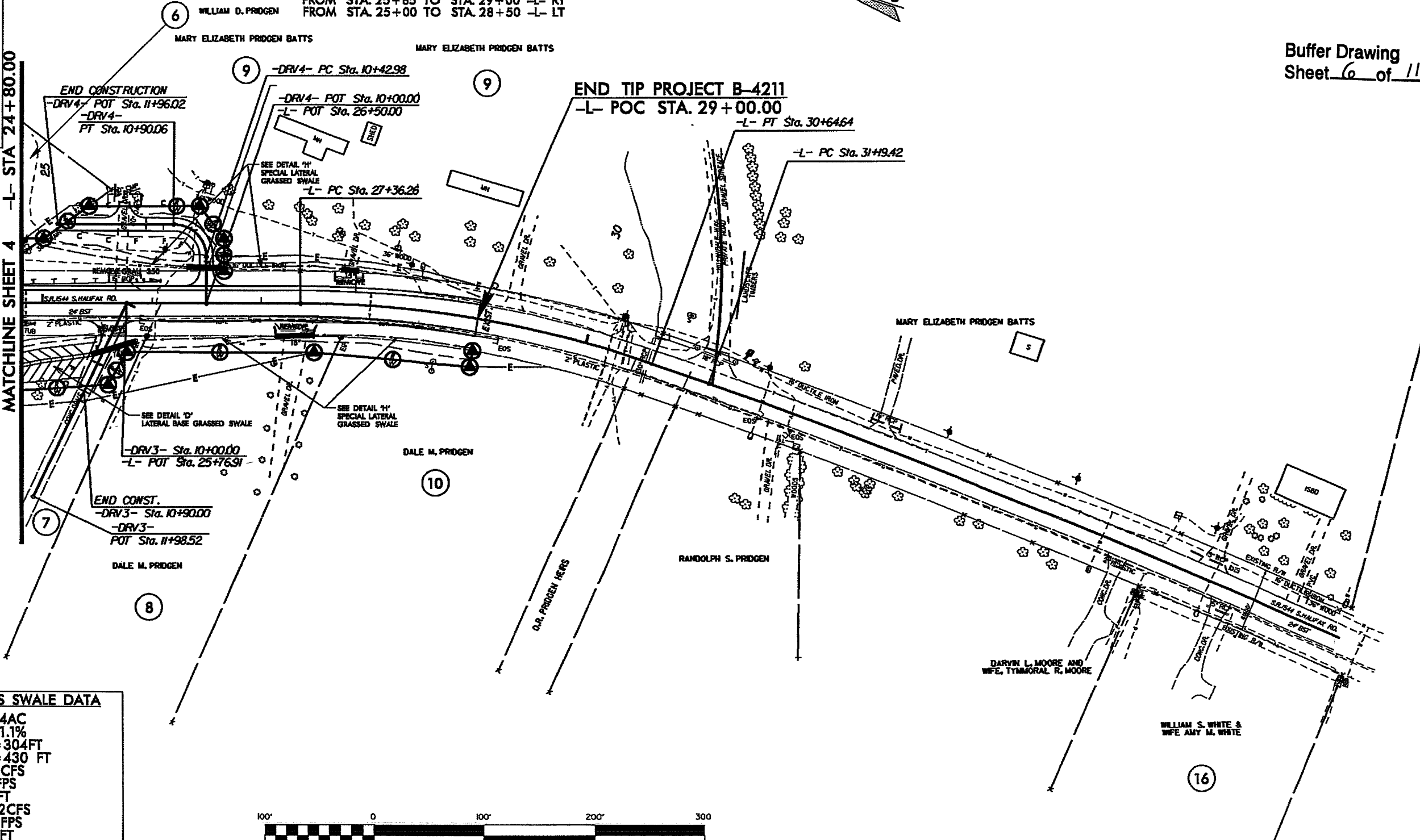


GRASS SWALE DATA
DA = 0.7AC
SLOPE = 4.0%
L REQ. = 70 FT
L PRO. = 304 FT
Q2 = 0.9 CFS
V2 = 1.5 FPS
D2 = 0.4 FT
Q10 = 1.2 CFS
V10 = 1.5 FPS
D10 = 0.5 FT

FROM STA. 25+00
TO STA. 28+50 L LT

FROM STA. 24+00 TO STA. 25+50 -L- RT

FROM STA. 25+85 TO STA. 29+00 -L- RT
FROM STA. 25+00 TO STA. 28+50 -L- LT



GRASS SWALE DATA
DA = 3.04AC
SLOPE = 1.1%
L REQ. = 304 FT
L PRO. = 430 FT
Q2 = 4.8 CFS
V2 = 1.6 FPS
D2 = 1.0 FT
Q10 = 6.2 CFS
V10 = 1.6 FPS
D10 = 1.1 FT

FROM STA. 25+85
TO STA. 29+00 L RT



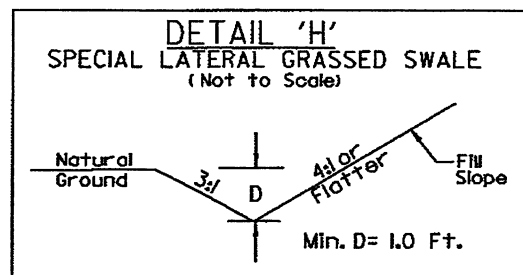
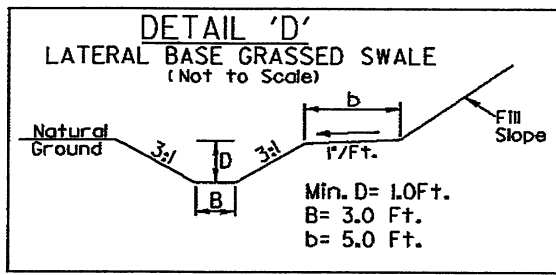
Buffer Drawing
Sheet 6 of 11

REVISIONS

8/17/99

SYSTEMS

PROJECT REFERENCE NO. B-4211	SHEET NO. 5
HWY SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

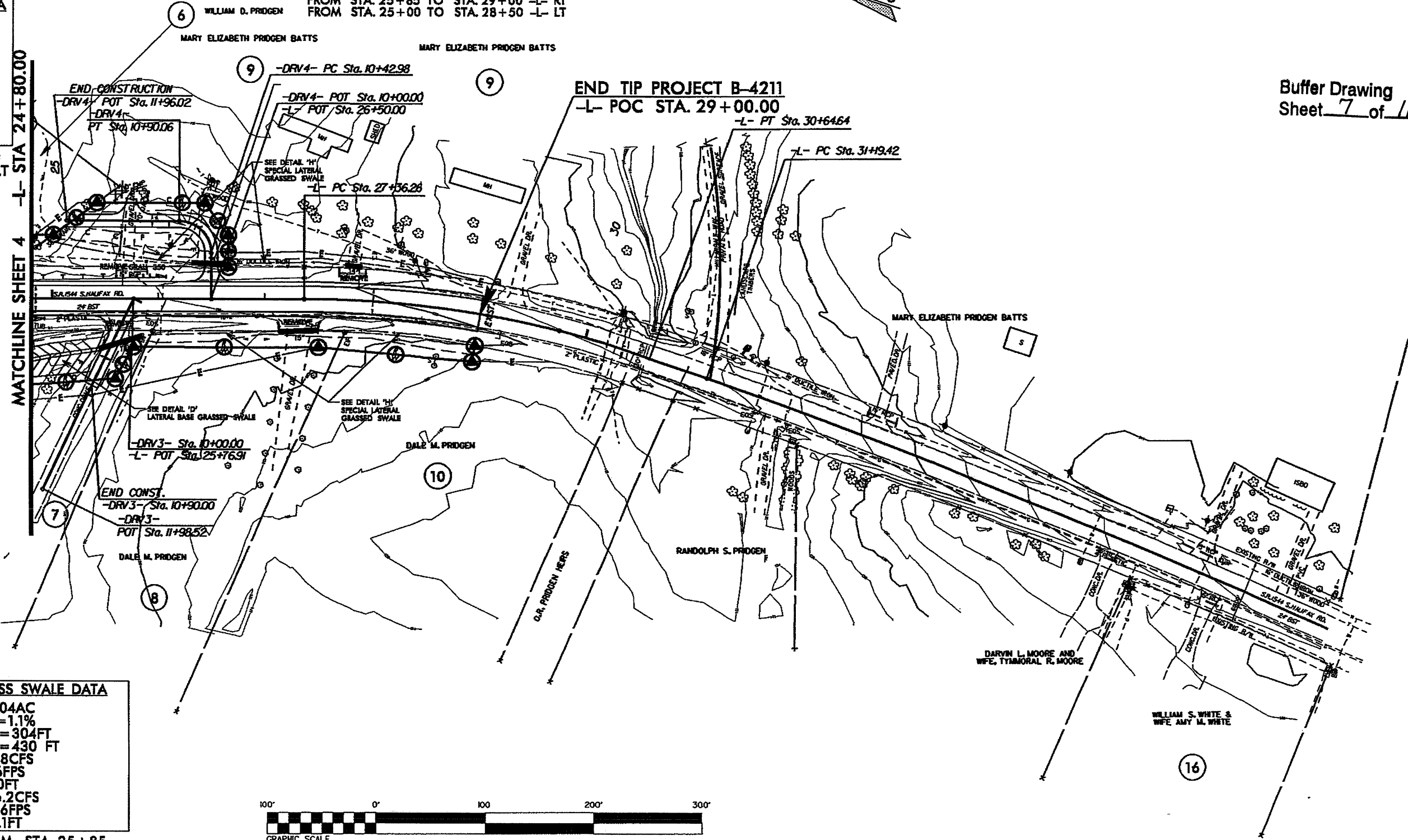


GRASS SWALE DATA
 DA=0.7AC
 SLOPE=4.0%
 L REQ.=70FT
 L PRO.=304FT
 Q2=0.9CFS
 V2=1.5FPS
 D2=0.4FT
 Q10=1.2CFS
 V10=1.5FPS
 D10=0.5FT

FROM STA. 25+00
 TO STA. 28+50 L LT

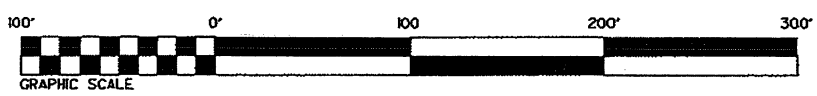
FROM STA. 24+00 TO STA. 25+50 -L- RT

FROM STA. 25+85 TO STA. 29+00 -L- RT
 FROM STA. 25+00 TO STA. 28+50 -L- LT



GRASS SWALE DATA
 DA=3.04AC
 SLOPE=1.1%
 L REQ.=304FT
 L PRO.=430 FT
 Q2=4.8CFS
 V2=1.6FPS
 D2=1.0FT
 Q10=6.2CFS
 V10=1.6FPS
 D10=1.1FT

FROM STA. 25+85
 TO STA. 29+00 L RT



Buffer Drawing
 Sheet 7 of 11

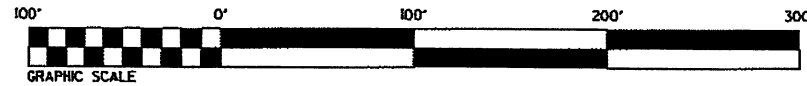
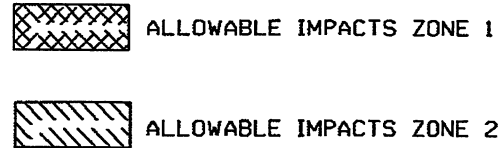
REVISIONS

8/17/95

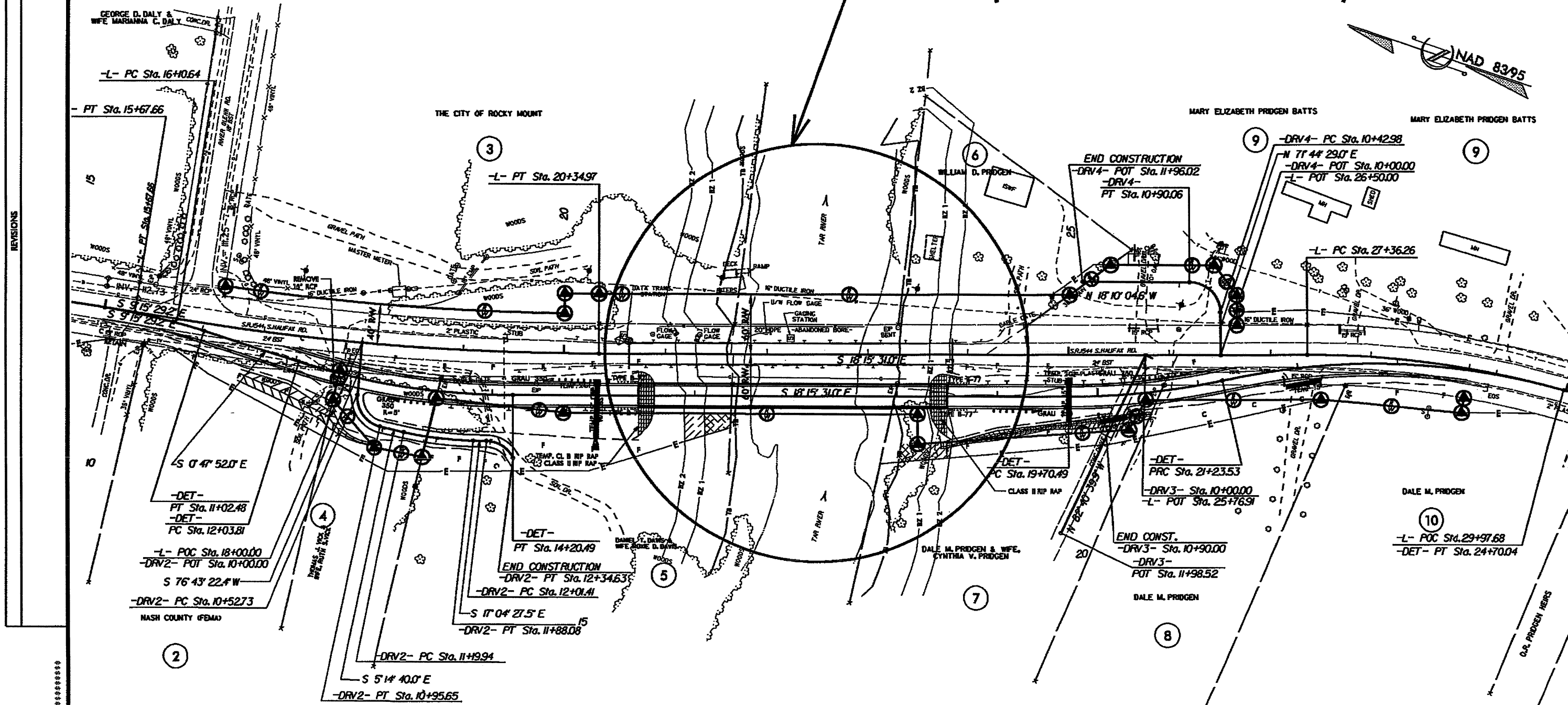
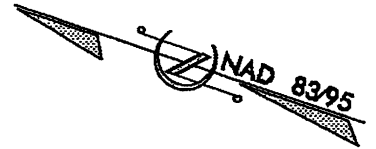
 SYSTEMS

8/17/99

PROJECT REFERENCE NO. B-4211	SHEET NO. 6
RDW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
-DETOUR-	



SITE 1 (DETOUR IMPACTS)

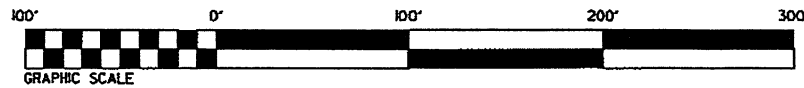
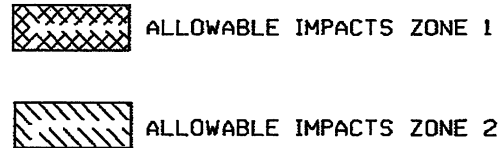


REVISIONS

 SYSTEMS

8/17/99

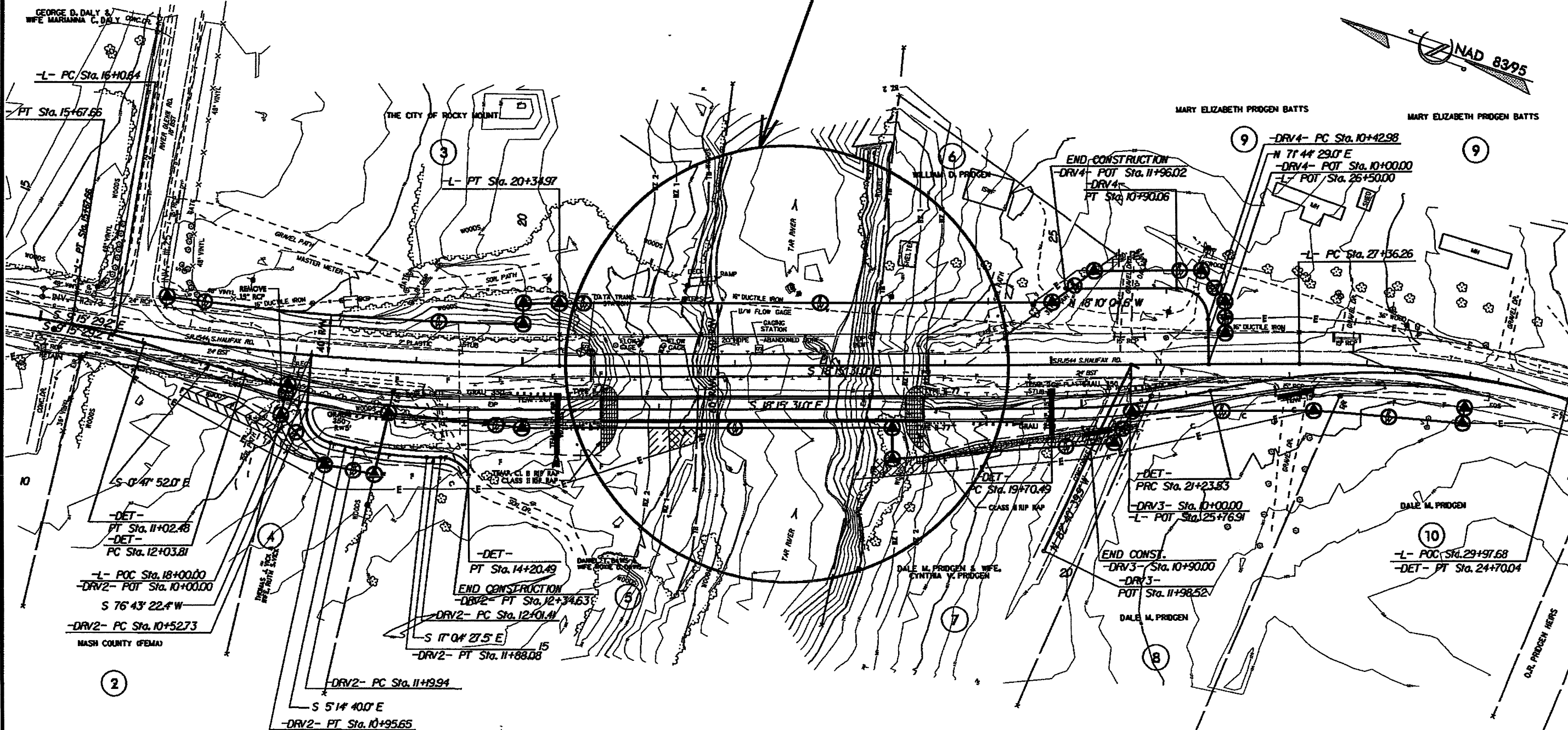
PROJECT REFERENCE NO. B-4211		SHEET NO. 6	
MW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			
-DETOUR-			



SITE 1 (DETOUR IMPACTS)

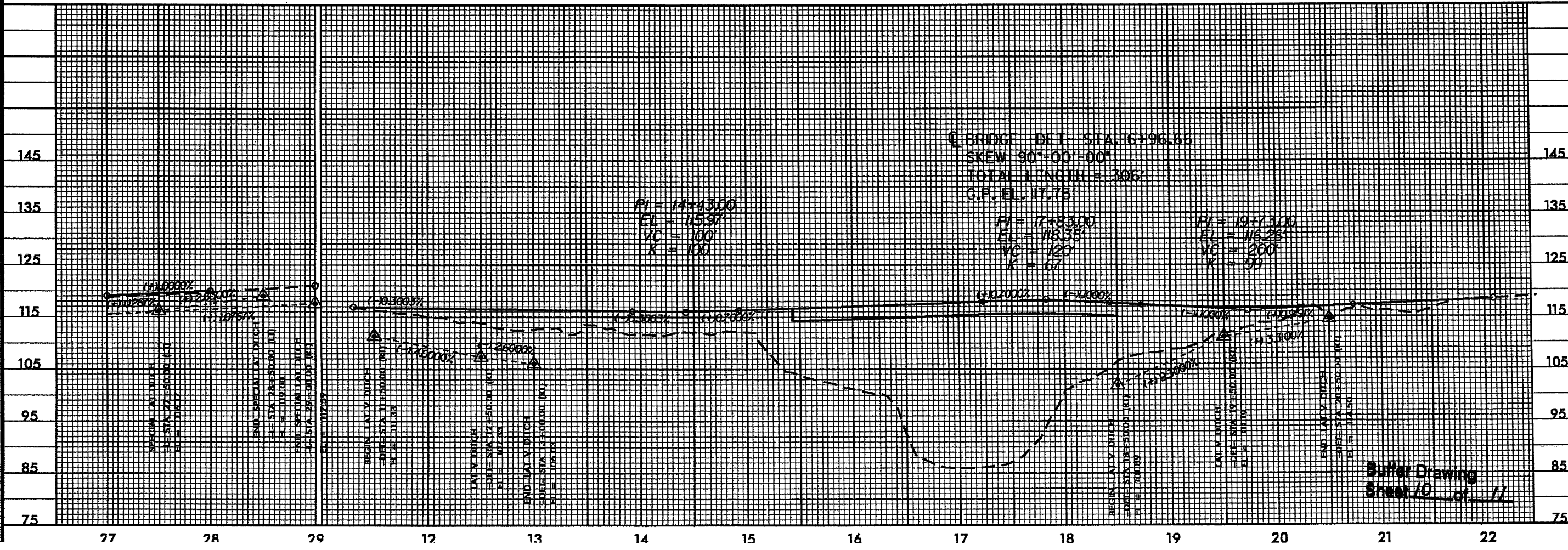
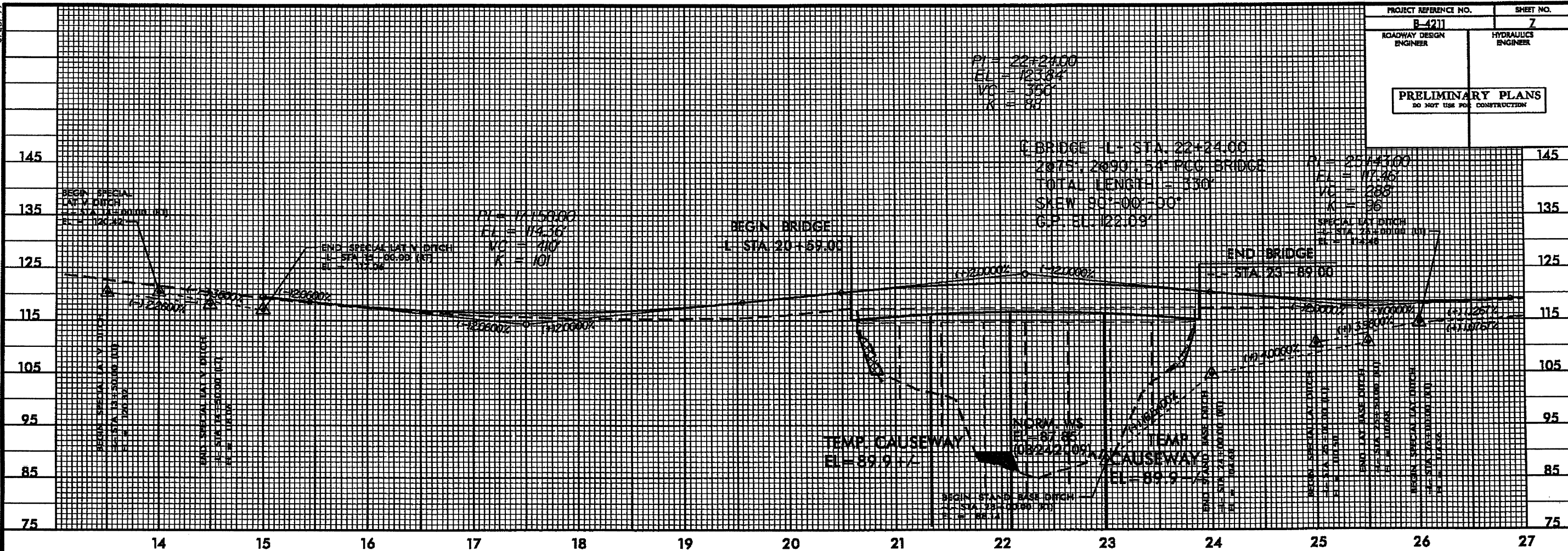


REVISIONS



5/28/95

PROJECT REFERENCE NO. B-4211		SHEET NO. 7	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



Buffer Drawing
Sheet 10 of 11

BUFFER IMPACTS SUMMARY

SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	IMPACT					BUFFER REPLACEMENT				
			TYPE		ALLOWABLE		MITIGABLE		ZONE 1 (ft ²)	ZONE 2 (ft ²)		
			ROAD CROSSING	BRIDGE	TEMP ROAD IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)			TOTAL (ft ²)	
1	2@75', 2@90' 54" Prestressed Bridge	21+75 / 23+15 L	X			7210	4729	11939				
1	Roadway Fill	23+90/23+90 L		X			7	7				
1	306' Detour Bridge	15+90/18+56 DIET	X			1039	773	1812				
1	306' Detour Fill	18+50/18+56 DIET			X		62	62				
TOTALS:							8249	5571	13820			

N C DEPT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 NASH COUNTY
 PROJECT: 33557 1 1 (B-4211)

Buffer Drawing
 Sheet of

09/20/11

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

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

NASH COUNTY

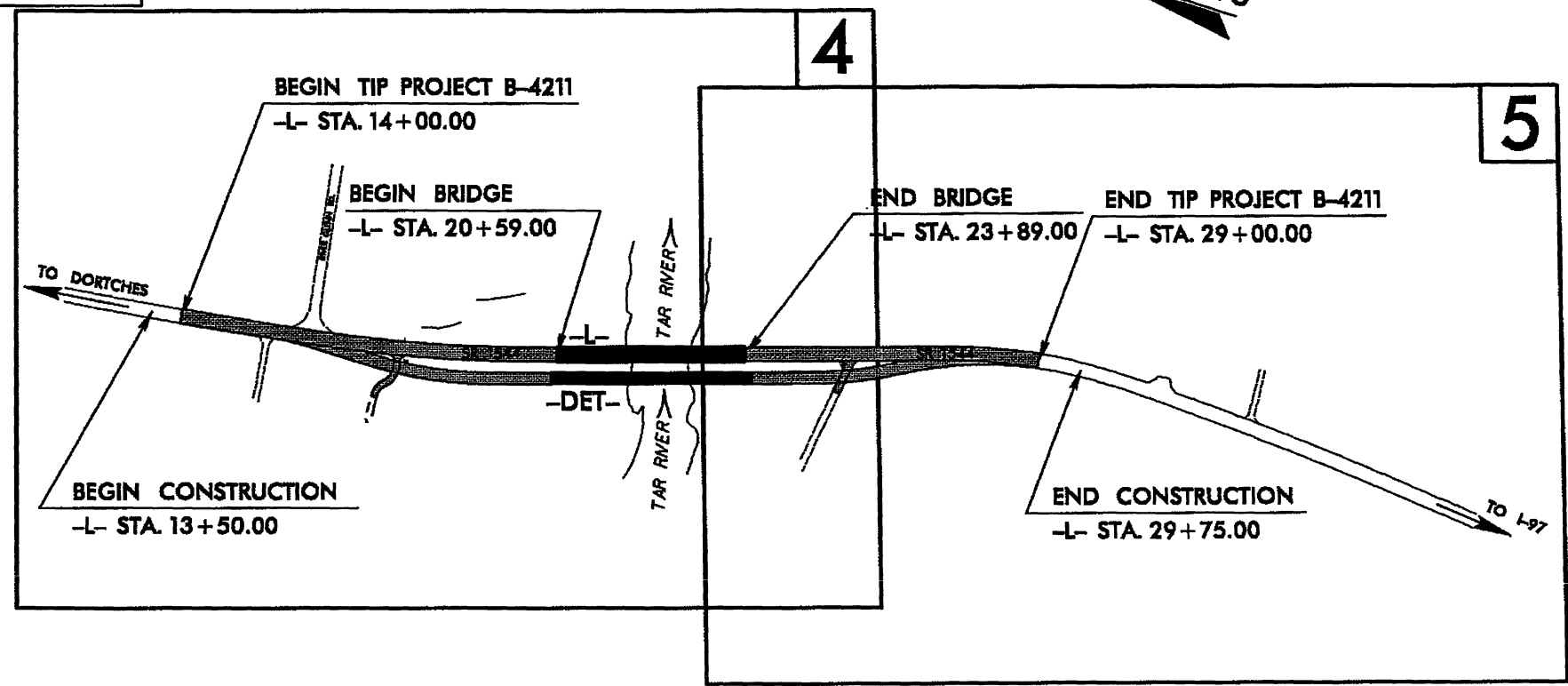
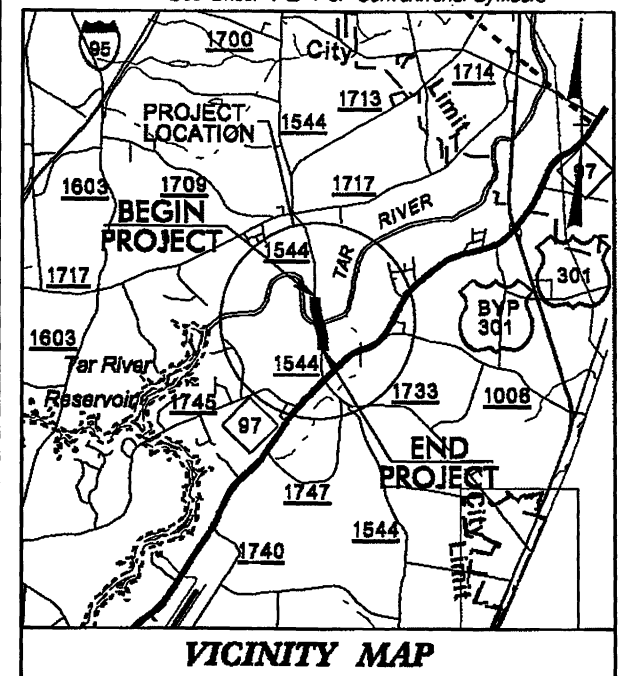
LOCATION: BRIDGE NO. 56 OVER TAR RIVER ON SR 1544

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4211	1	
STATE FUNDING	F.A. PROJECT NO.	DESCRIPTION	
33557.1.1	BRZ-1544(2)	PE	
33557.2.1	BRZ-1544(2)	RW, UTIL.	

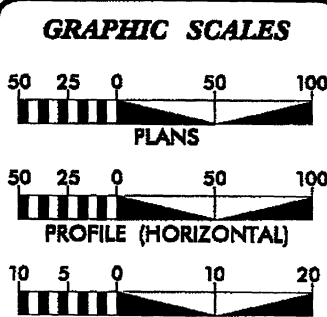
TIP PROJECT: B-4211

CONTRACT: C202657



METHOD OF CLEARING III
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



DESIGN DATA

ADT 2011 =	8950 VPD
ADT 2030 =	15600 VPD
DHV =	14 %
D =	55 %
T =	3 % *
V =	50 MPH
V _{DET} =	45 MPH
* TTST =	1 %
DUAL =	2 %

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4211 =	0.221 MI
LENGTH STRUCTURE TIP PROJECT B-4211 =	0.063 MI
TOTAL LENGTH TIP PROJECT B-4211 =	0.284 MI

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 20, 2010

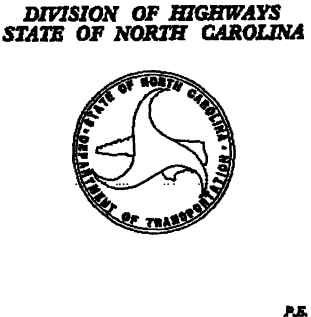
LETTING DATE:
OCTOBER 18, 2011

JAMES A. SPEER, P.E.
PROJECT ENGINEER

NYA K. BOAYUE, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER



\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DCN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

3/15/20

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	_____
County Line	_____
Township Line	_____
City Line	_____
Reservation Line	_____
Property Line	_____
Existing Iron Pin	⊙
Property Corner	⊠
Property Monument	⊠
Parcel/Sequence Number	⊠
Existing Fence Line	—x—x—x—
Proposed Woven Wire Fence	—○—
Proposed Chain Link Fence	—□—
Proposed Barbed Wire Fence	—◇—
Existing Wetland Boundary	—w—w—w—
Proposed Wetland Boundary	—w—w—w—
Existing Endangered Animal Boundary	—da—
Existing Endangered Plant Boundary	—dp—

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	—JS—
Buffer Zone 1	—BZ 1—
Buffer Zone 2	—BZ 2—
Flow Arrow	←
Disappearing Stream	→
Spring	⊙
Wetland	—w—
Proposed Lateral, Tail, Head Ditch	—l—
False Sump	—fs—

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	—E—
Proposed Temporary Construction Easement	—E—
Proposed Temporary Drainage Easement	—TDE—
Proposed Permanent Drainage Easement	—PDE—
Proposed Permanent Utility Easement	—PUE—

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	_____
Existing Curb	_____
Proposed Slope Stakes Cut	—C—
Proposed Slope Stakes Fill	—F—
Proposed Wheel Chair Ramp	⊠
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	_____
Bridge Wing Wall, Head Wall and End Wall	_____
MINOR:	
Head and End Wall	_____
Pipe Culvert	_____
Footbridge	_____
Drainage Box: Catch Basin, DI or JB	⊠
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	⊠
UG 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	⊠
UG 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	_____

TV:

TV Satellite Dish	⊙
TV Pedestal	⊠
TV Tower	⊠
UG 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	⊙
UG Sanitary Sewer Line	_____
Above Ground Sanitary Sewer	_____
Recorded SS Forced Main Line	_____
Designated SS Forced Main Line (S.U.E.*)	_____

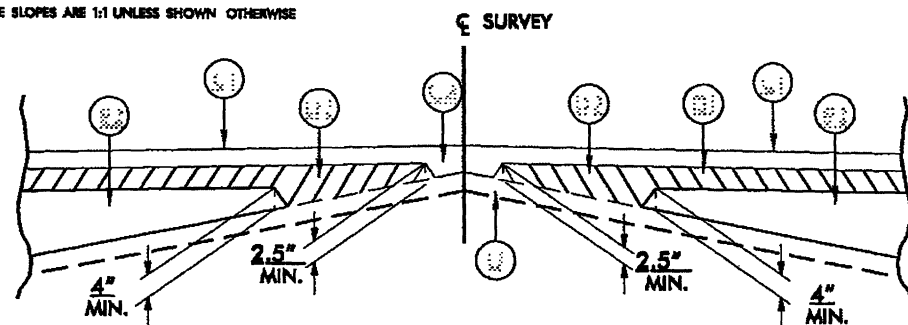
MISCELLANEOUS:

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

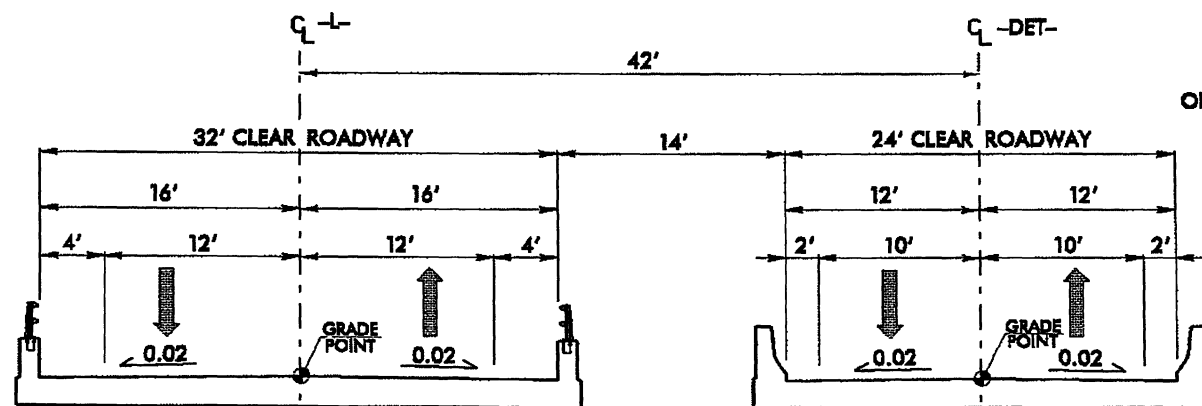
PROJECT REFERENCE NO. B-4211	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PAVEMENT SCHEDULE (PRELIMINARY PAVEMENT DESIGN)	
A	PROP. 6" PORTLAND CEMENT CONCRETE PAVEMENT.
C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.SB, AT AN AVERAGE RATE OF 140 LBS. PER SQ. YD IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.SB, AT AN AVERAGE RATE OF 168 LBS PER SQ YD IN EACH OF TWO LAYERS.
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. 3" ASPHALT CONCRETE BASE COURSE, TYPE B26.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE 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 4" IN DEPTH OR GREATER THAN 6.5" IN DEPTH.
J1	PROP. 8" AGGREGATE BASE COURSE.
J1	PROP. 8" AGGREGATE BASE COURSE.
T.	EARTH MATERIAL
U.	EXISTING PAVEMENT.
W.	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL NO. 1)

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

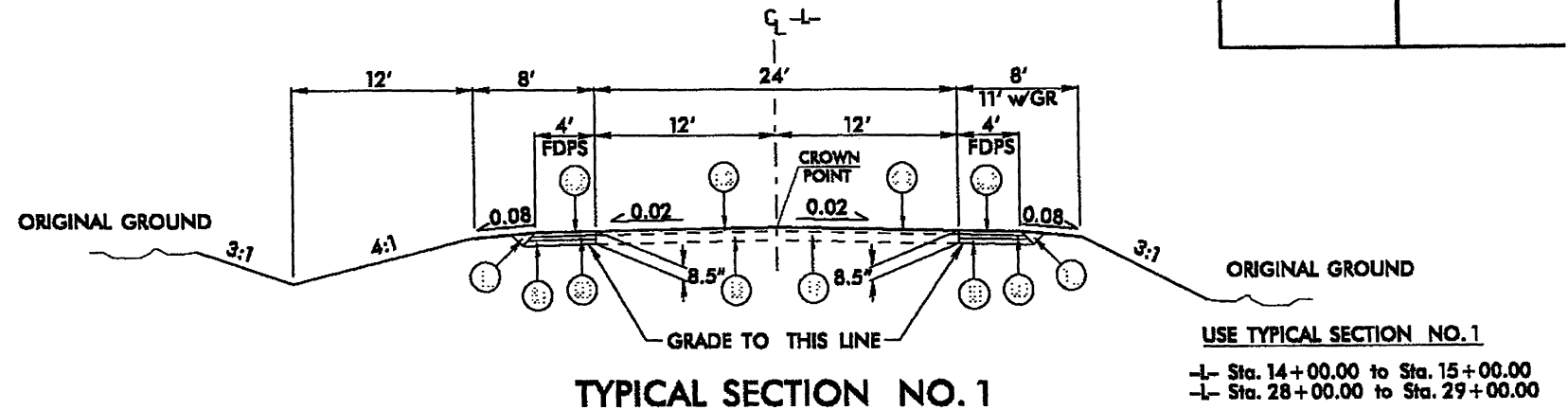


Detail Showing Method of Wedging
DETAIL NO. 1



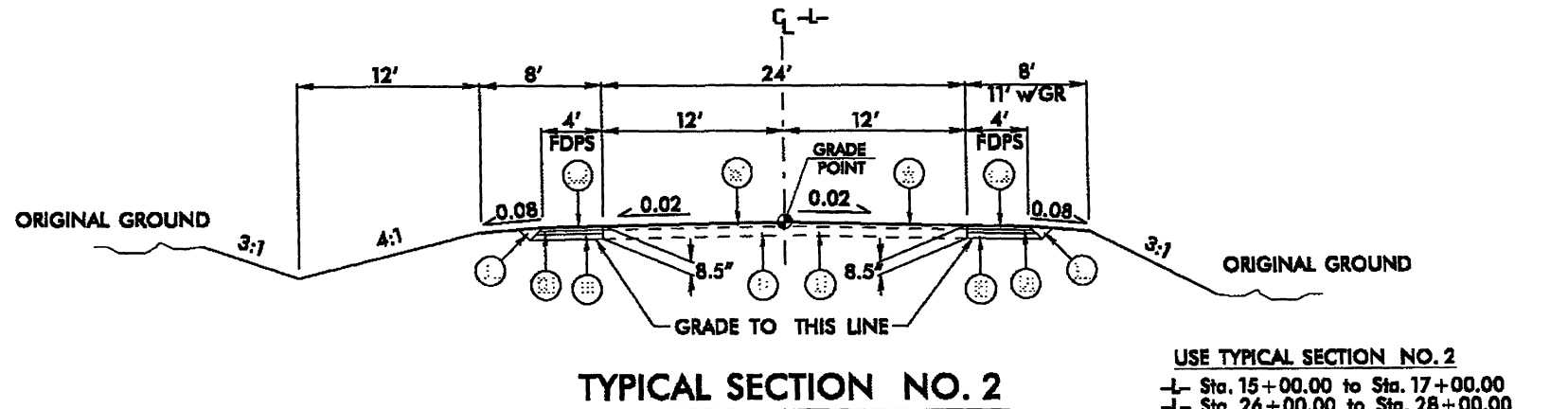
TYPICAL SECTION ON STRUCTURE

-L- STA. 20+59.00 (BEGIN BRIDGE) TO -L- STA. 23+89.00 (END BRIDGE)
-DET- STA. 15+44.00 (BEGIN BRIDGE) TO -DET- STA. 18+50.00 (END BRIDGE)



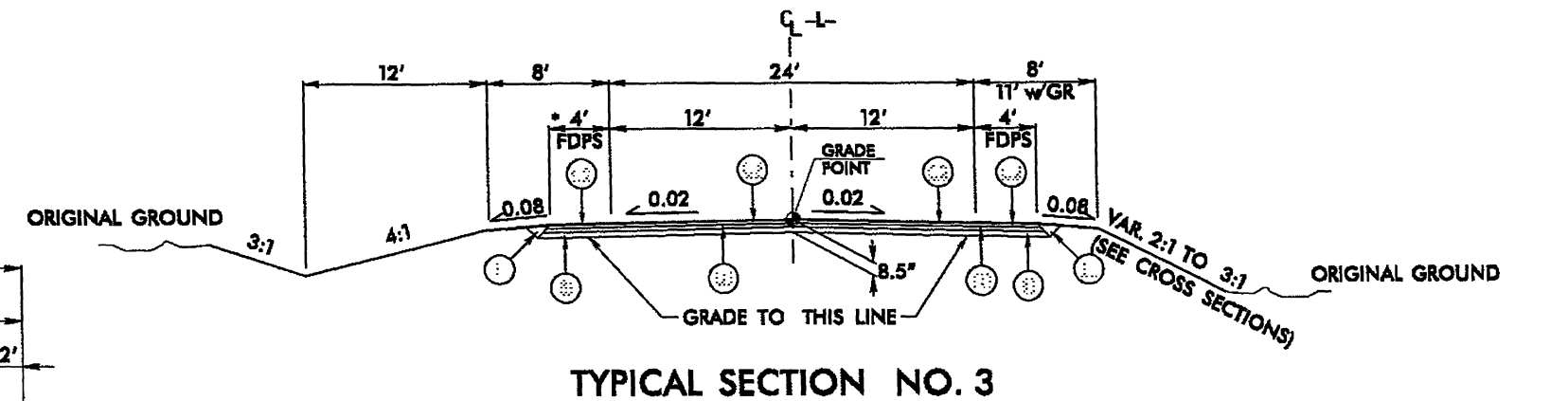
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
-L- Sta. 14+00.00 to Sta. 15+00.00
-L- Sta. 28+00.00 to Sta. 29+00.00



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
-L- Sta. 15+00.00 to Sta. 17+00.00
-L- Sta. 26+00.00 to Sta. 28+00.00



TYPICAL SECTION NO. 3

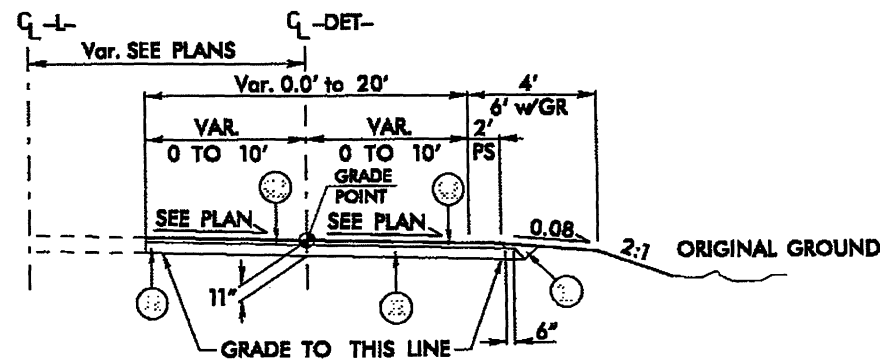
USE TYPICAL SECTION NO. 3
-L- Sta. 17+00.00 to Sta. 20+59.00 (BEG. BRIDGE)
-L- Sta. 23+89.00 (END BRIDGE) to Sta. 26+00.00

* INSTALL SHOULDER BERM GUTTER AS FOLLOWS:
-L- (LT) 24+13.17 TO -L- STA. 24+50.00
SEE ROADWAY STD. DWG. NO. 846.02

6/2/99

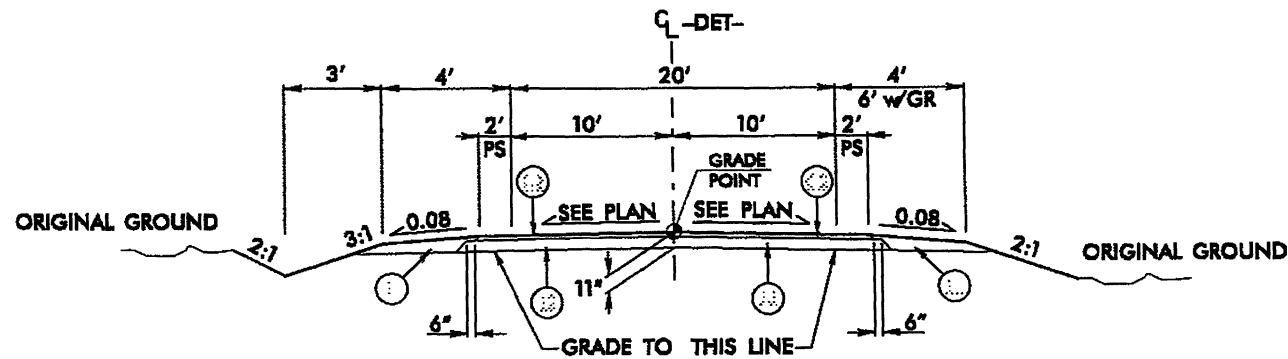
PROJECT REFERENCE NO. B-4211	SHEET NO. 2-A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

PAVEMENT SCHEDULE	
C2	3" S9.5B
J2	8" ABC
T	EARTH MATERIAL



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 6
 -DET- Sta. 10+00.00 to Sta. 11+84.02
 -DET- Sta. 21+41.15 to Sta. 23+72.46

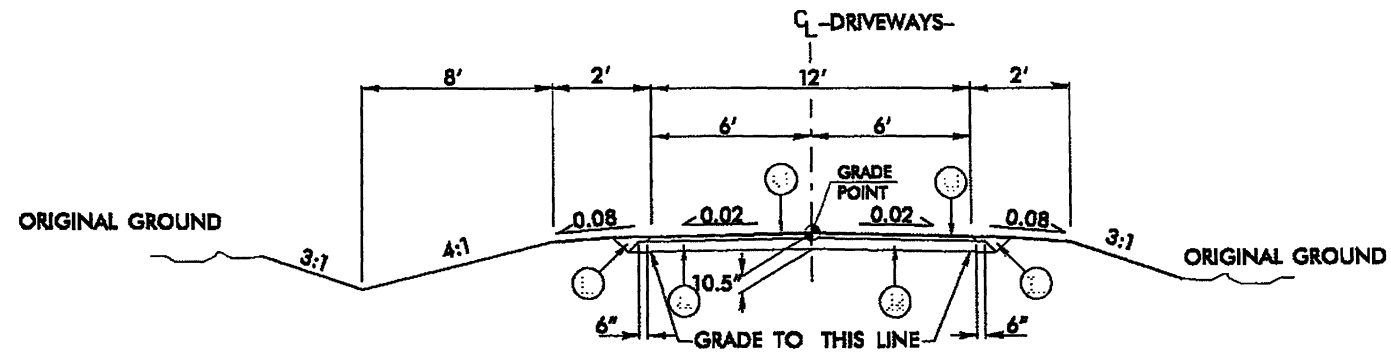


TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 7
 -DET- Sta. 11+84.02 to Sta. 15+44.00 (BEG. BRIDGE)
 -DET- Sta. 18+50.00 (END BRIDGE) to Sta. 21+41.15

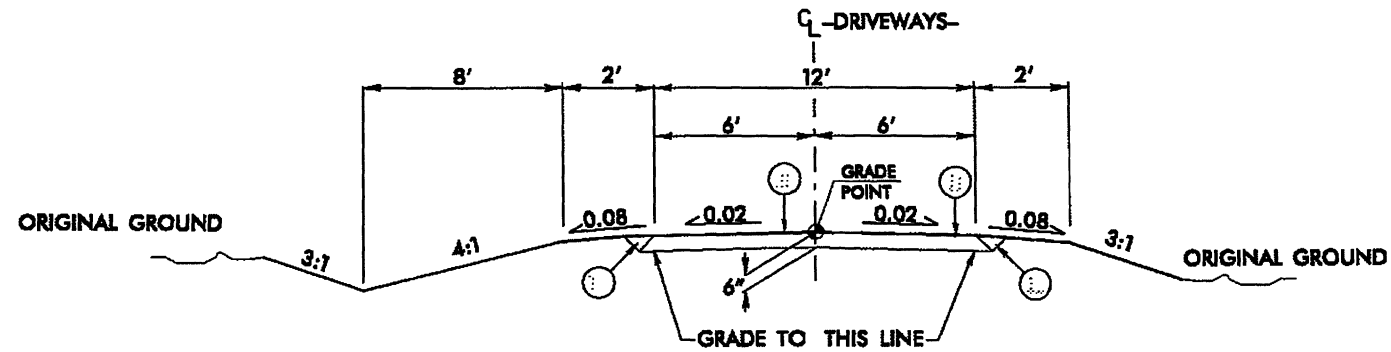
 SYSTEMS

PROJECT REFERENCE NO. B-4211	SHEET NO. 2-B
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



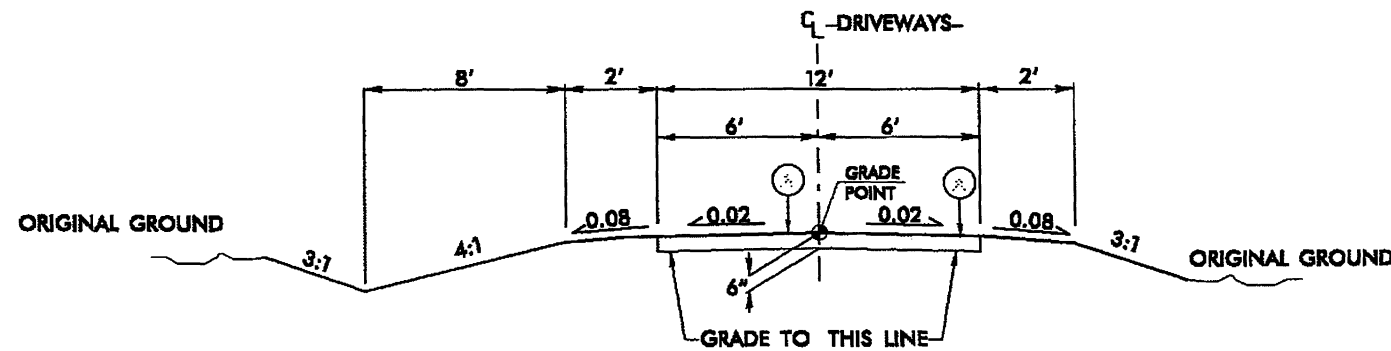
TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6
-DRV2- Sta. 10+16.00 to 11+45.00



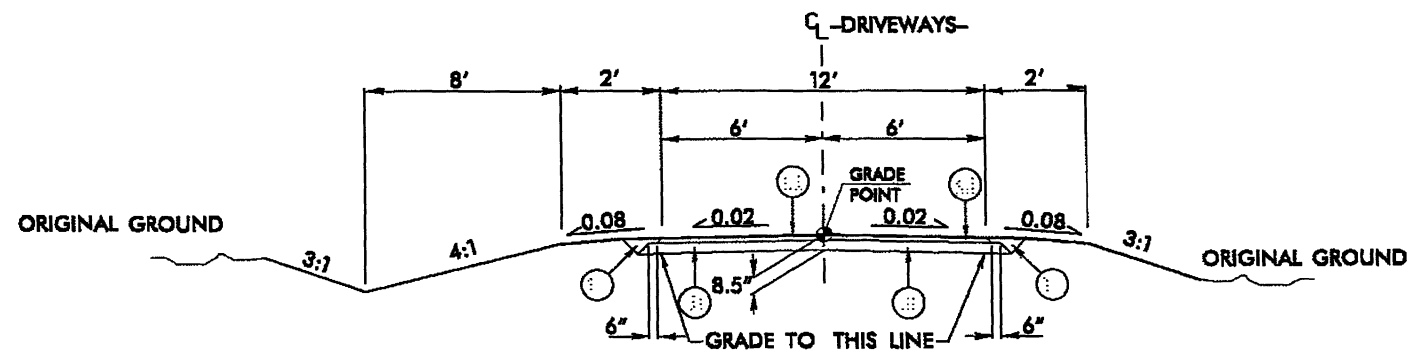
TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7
-DRV2- Sta. 11+45.00 to 12+34.63



TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO. 8
-DRV3- Sta. 10+12.00 to 10+65.00



TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO. 9
-DRV4- Sta. 10+12.00 to 11+96.02

PAVEMENT SCHEDULE	
A	6" CONCRETE
C1	2.5" S9.5B
J1	6" ABC
J2	8" ABC
T	EARTH MATERIAL

12/06/07

COMPUTED BY: TAH DATE: 6/29/10
 CHECKED BY: NKB DATE: 6/29/10

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. SHEET NO.
 B-4211 3

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LY/RV/CL	YD ³
-L-	17+00.00	20+64.00	CL	964.44
-L-	23+85.00	26+00.00	CL	556.67
TOTAL:				1521.11
SAY:				1530

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	EMBANK +25%	BORROW	WASTE
AREA 1 CONST.					
10+00.00 -DET-	15+20.00 -DET-	29	3095	3066	
SUBTOTAL:		29	3095	3066	
AREA 2 CONST.					
18+70.00 -DET-	22+00.00 -DET-	68	1719	1651	
SUBTOTAL:		68	1719	1651	
AREA 3 CONST.					
14+00.00 -L-	29+00.00 -L-	549	3869	3320	
SUBTOTAL:		549	3869	3320	
AREA 4 CONST (REMOVE DETOUR)					
16+50.00 -L-	27+00.00 -L-	579	178		5002
SUBTOTAL:		579	178		5002
LOSS TO CLEARING AND GRUBBING		-206		206	
PROJECT TOTALS:		5619	8860	8245	5002
8% FOR BORROW RT				412	
GRAND TOTALS:		5619		8657	
SAY:		6200		9500	

UNDERCUT EXCAVATION = 100 CY

Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LENGTH
-L-	24+19.17 (L)	24+90.00 (L)	36.83
TOTAL:			36.83
SAY:			40

7" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
 G = GATING IMPACT ATTENUATOR TYPE 350
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

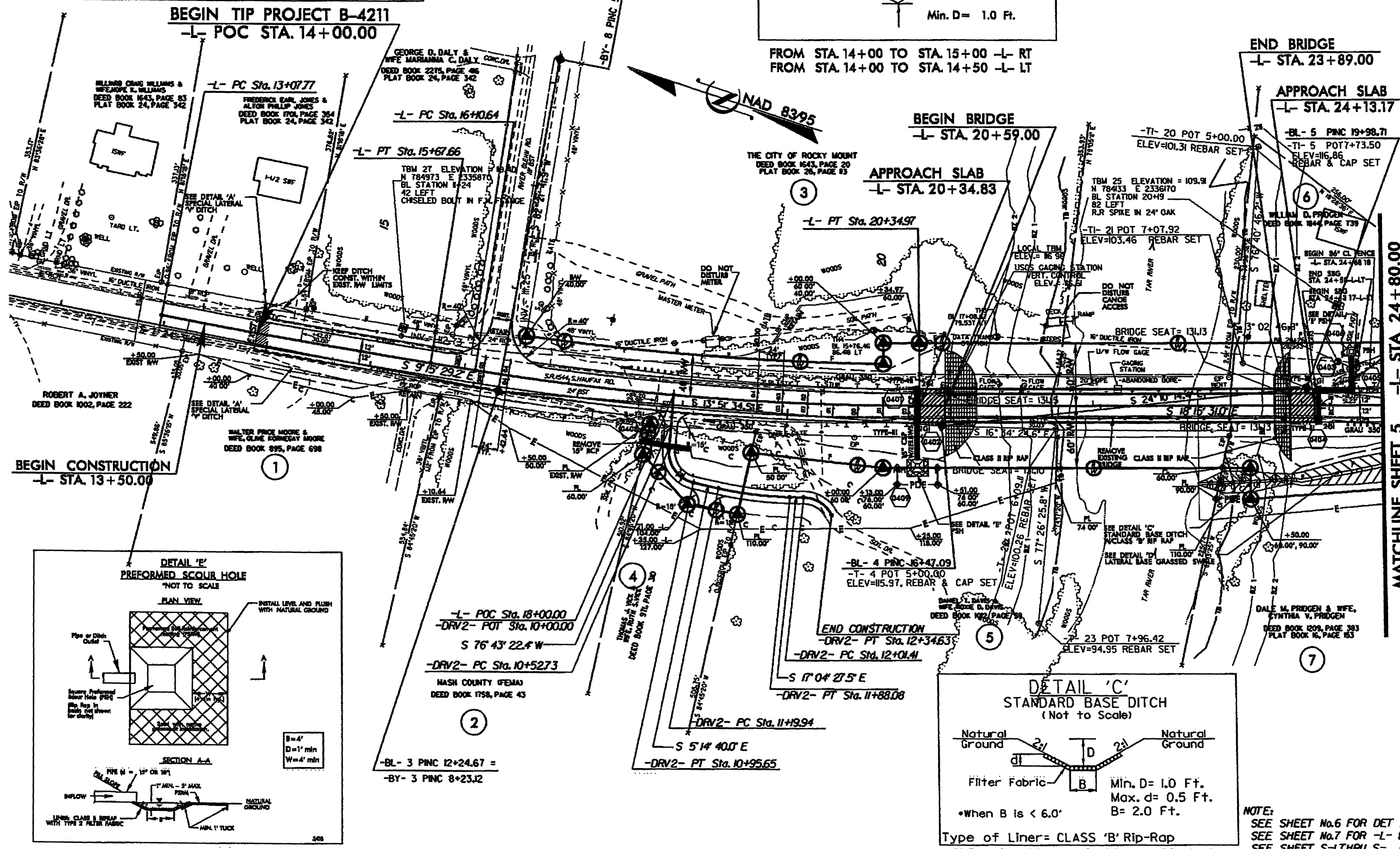
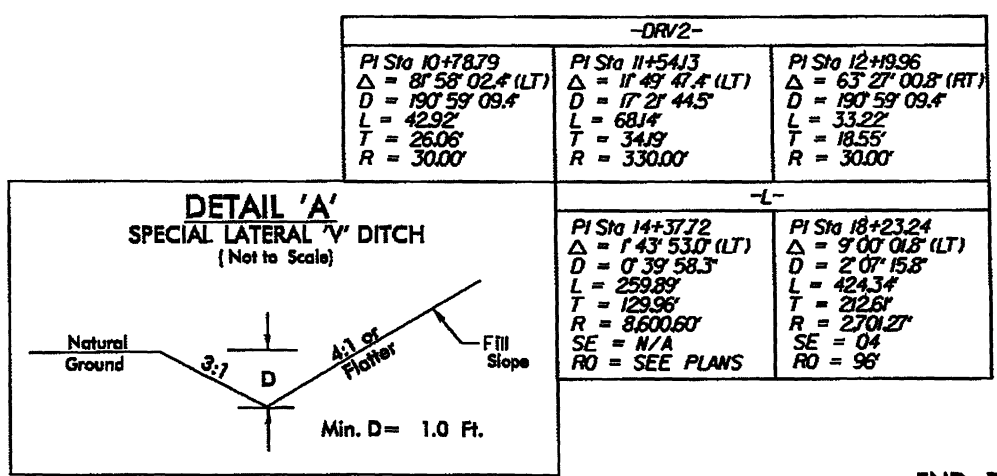
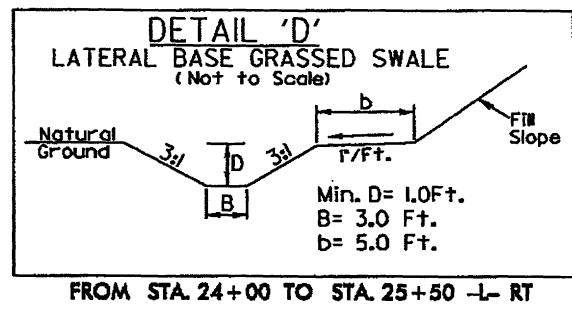
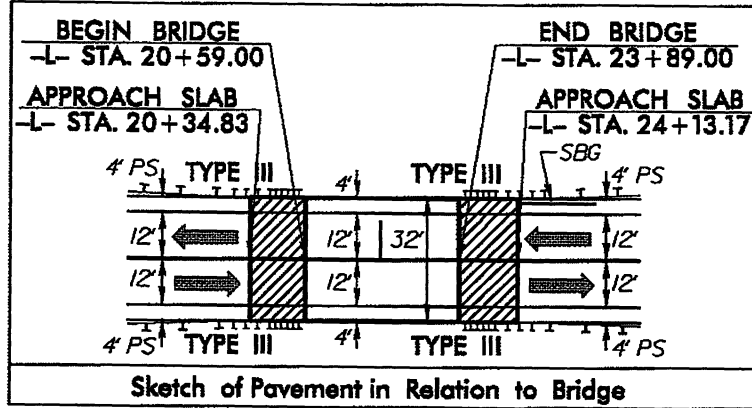
GUARDRAIL SUMMARY

SURVEY LINE	BEG STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		7" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS			IMPACT ATTENUATOR TYPE 350 PERMITTED NO. G NG	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	TYPE 350	TYPE III	TYPE B-77		
-L-	17+40.25	20+59.00	RT.	318.75'			17+40.25	20+59.00	8'-0"	11'-0"	250.00'		1'		1	1			
-L-	18+40.25	20+59.00	LT.	218.75'					8'-0"	11'-0"	150.00'		1'		1	1			
-L-	23+89.00	26+07.75	LT.	218.75'			26+07.75		8'-0"	11'-0"	150.00'		1'		1	1			
-L-	23+89.00	24+82.75	RT.	93.75'			24+82.75		8'-0"	11'-0"	25.00'		1'		1	1			
-DET-	13+00.25	15+44.00	RT.	243.75'			13+00.25		6'-0"	9'-0"	175.00'		1'		1				
-DET-	14+50.25	15+44.00	LT.	93.75'				14+50.25	6'-0"	9'-0"	25.00'		1'		1				
-DET-	16+50.00	20+93.75	LT.	93.75'			20+93.75		6'-0"	9'-0"	25.00'		1'		1				
-DET-	18+60.00	19+43.75	RT.	243.75'			19+43.75		6'-0"	9'-0"	175.00'		1'		1				
SUBTOTAL				500.00'											8	4	4		
LESS ANCHOR DEDUCTIONS:																			
GRAU-350 4 @ 50 ft.				400.00'															
TYPE III 4 @ 18.75 ft.				75.00'															
TYPE B-77 4 @ 18.75 ft.				75.00'															
ANCHOR TOTALS:				275.00'															
TOTAL				550.00'											8	4	4		
SAY:				550.00'															

THE STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
 PROJECT B-4211
 SHEET 3
 DATE 6/29/10
 DRAWN BY NKB
 CHECKED BY TAH
 APPROVED BY NKB

8/17/95

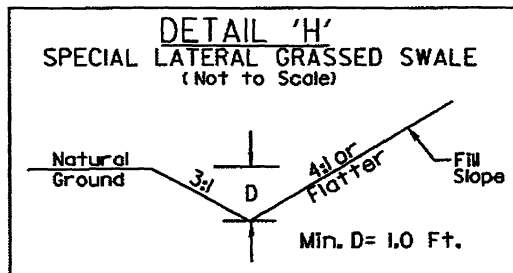
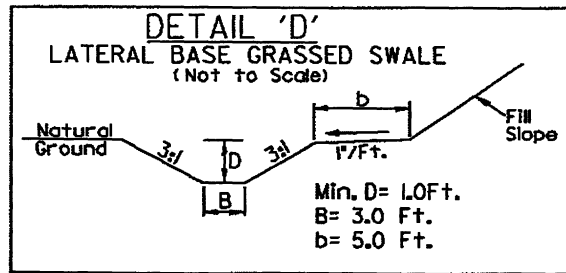
PROJECT REFERENCE NO.	SHEET NO.
B-4211	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



REVISIONS

*****SYSTEMS CONDITION*****
*****PERMANENT*****

MATCHLINE SHEET 5 -L- STA 24+80.00

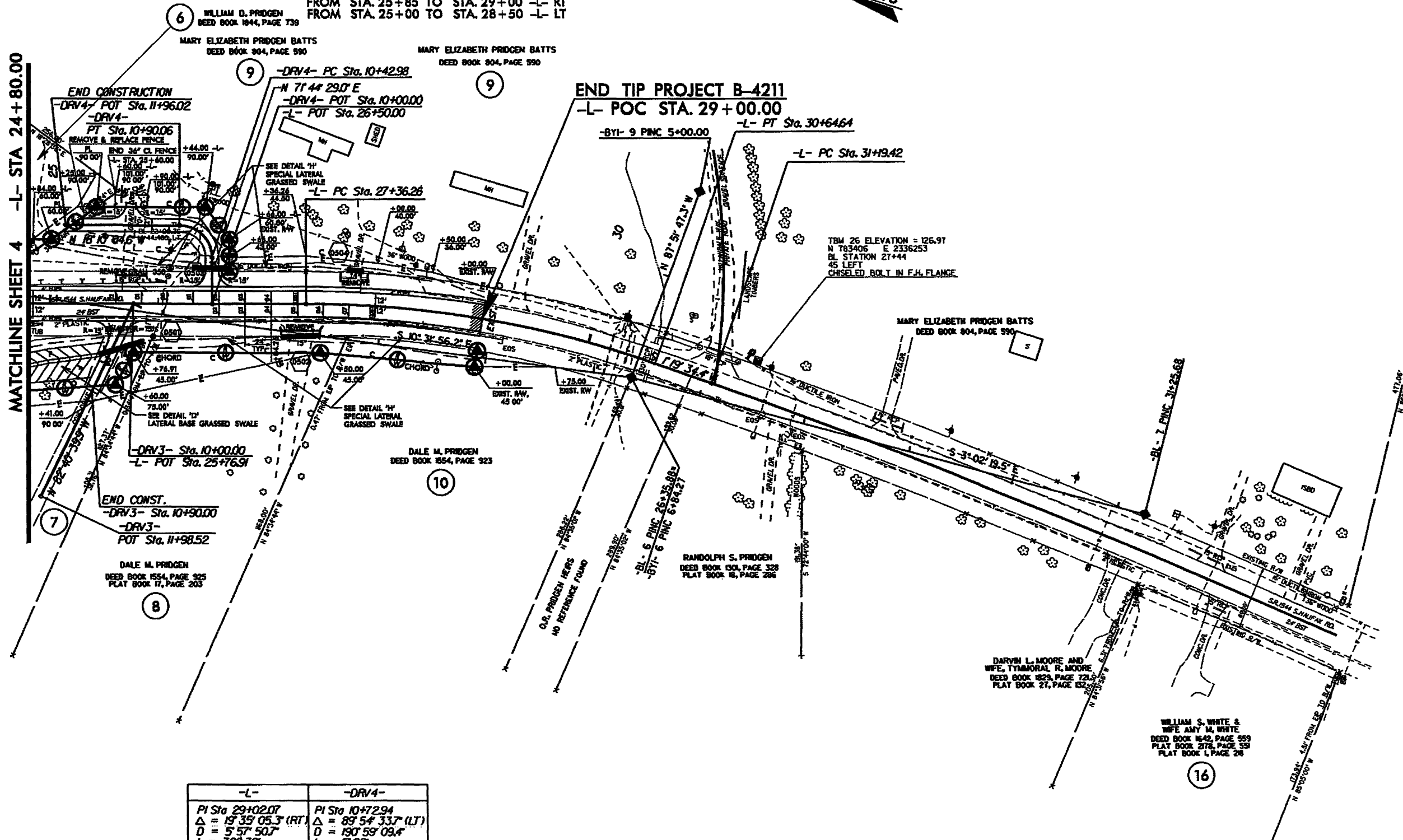


FROM STA. 24+00 TO STA. 25+50 -L- RT

FROM STA. 25+85 TO STA. 29+00 -L- RT
FROM STA. 25+00 TO STA. 28+50 -L- LT



MATCHLINE SHEET 4 -L- STA 24+80.00



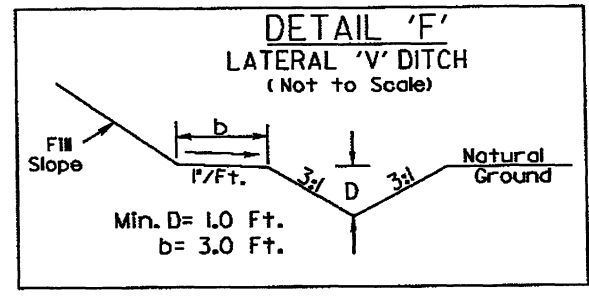
-L-	-DRV4-
PI Sta 29+02.07	PI Sta 10+72.94
$\Delta = 19^\circ 35' 05.3" (RT)$	$\Delta = 89^\circ 54' 33.7" (LT)$
$D = 5^\circ 57' 50.7"$	$D = 190^\circ 59' 09.4"$
$L = 328.38'$	$L = 47.08'$
$T = 165.81'$	$T = 29.95'$
$R = 960.68'$	$R = 30.00'$
SE =	
RO = SEE PLANS	

NOTE: SEE SHEET No.6 FOR DET ALIGNMENT
SEE SHEET No.7 FOR -L- & -DET- PROFILE
SEE SHEET S-1 THRU S-5 FOR STRUCTURE PLANS

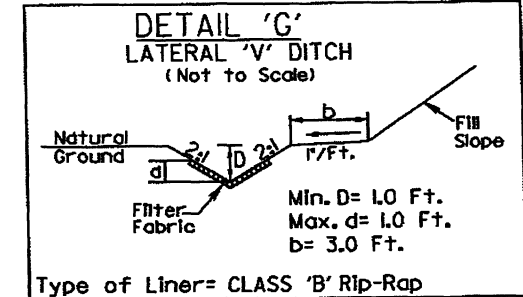
REVISIONS

8/17/95

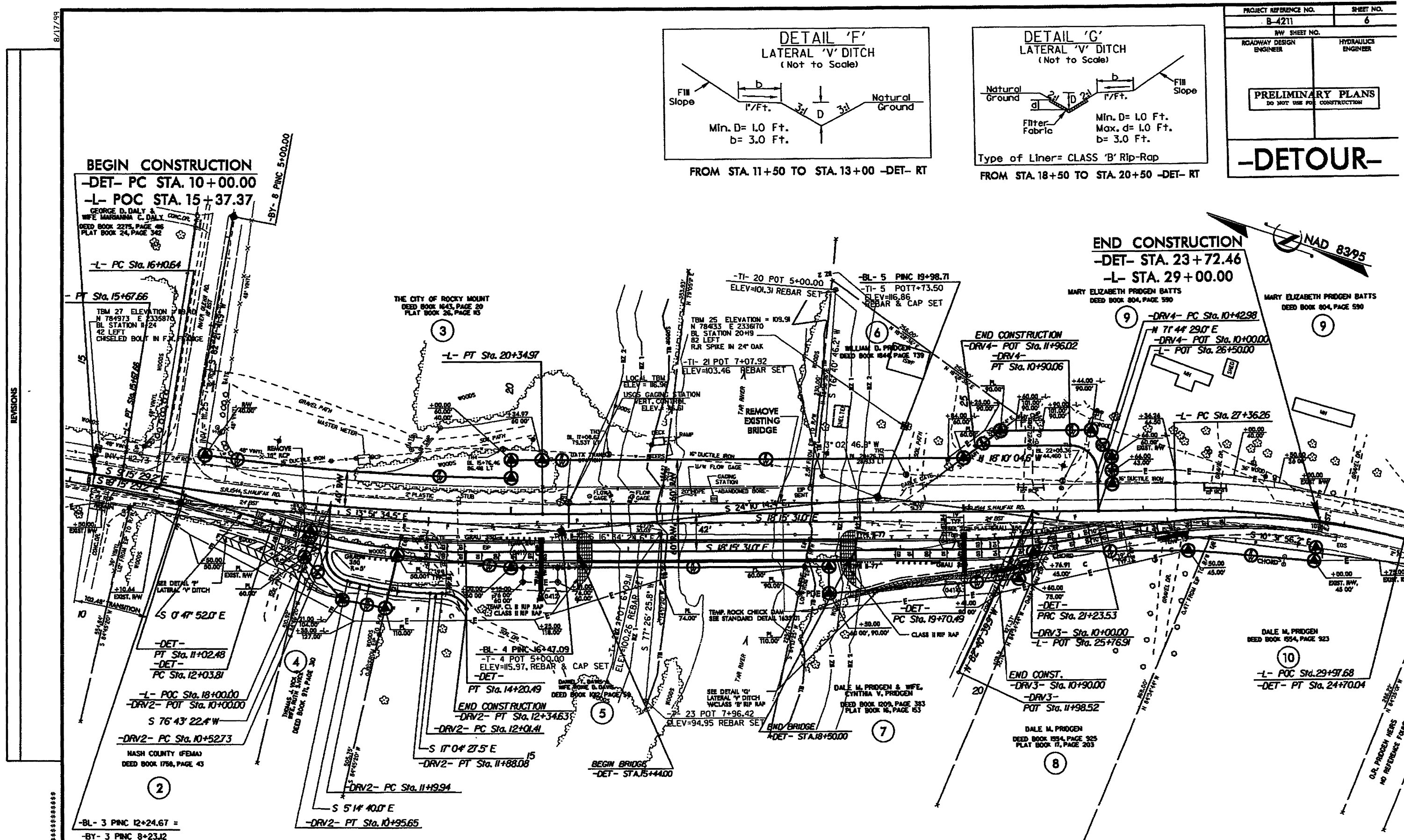
SYTIME



FROM STA. 11+50 TO STA. 13+00 -DET- RT



Type of Liner= CLASS 'B' Rip-Rap
FROM STA. 18+50 TO STA. 20+50 -DET- RT

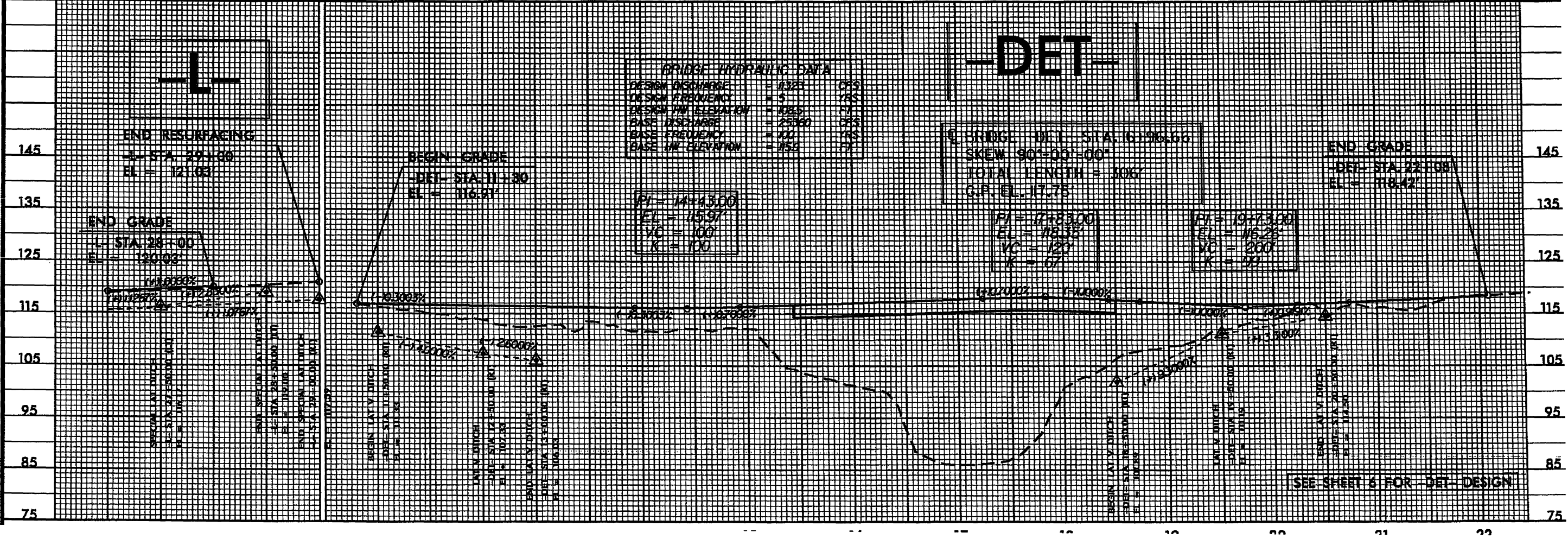
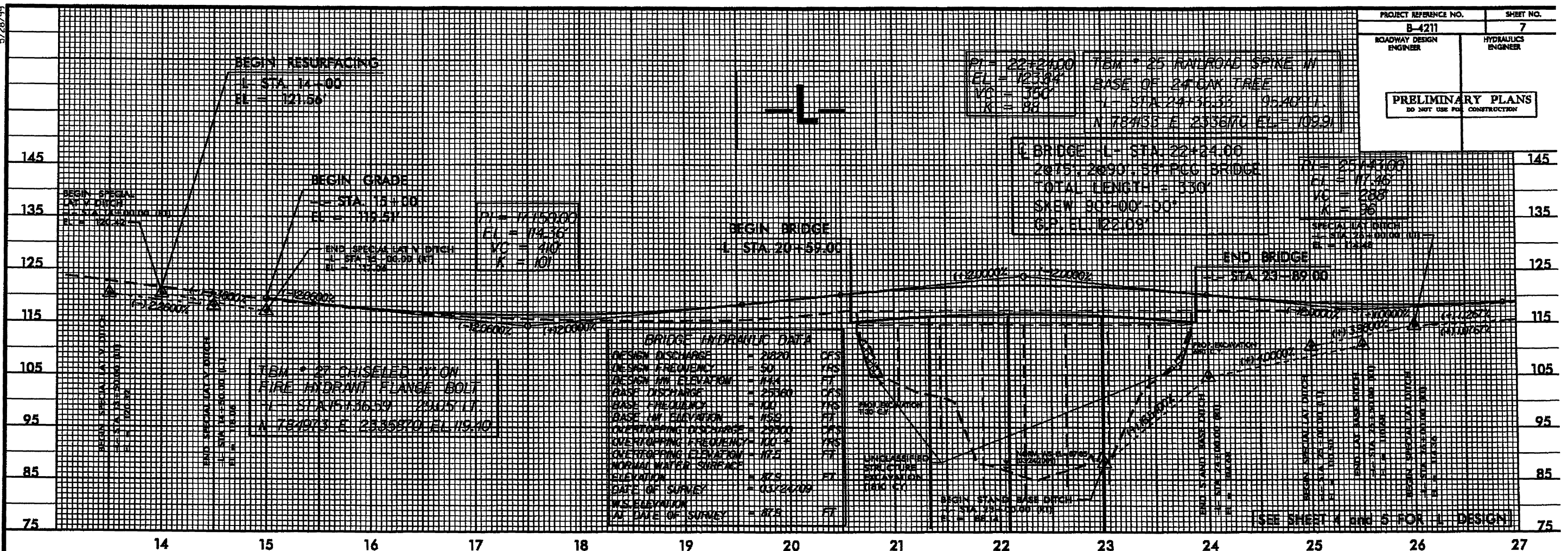


-L-	-DETOUR- V _{DES} = 45mph				-DRV2-		
SEE SHEETS 4 & 5 FOR -L- LINE CURVE DATA	PI Sta 10+51.33 $\Delta = 8' 15' 30.6''$ (RT) $D = 8' 03' 30.5''$ $L = 102.48'$ $T = 51.33'$ $R = 711.00'$ $SE = 04$ $RO = SFF$ PIANS	PI Sta 13+3.00 $\Delta = 17' 27' 39.0''$ (LT) $D = 8' 03' 30.5''$ $L = 216.68'$ $T = 109.18'$ $R = 711.00'$ $SE = 04$ $RO = SEE$ PLANS	PI Sta 20+47.30 $\Delta = 12' 19' 56.7''$ (LT) $D = 8' 03' 30.5''$ $L = 153.04'$ $T = 76.82'$ $R = 711.00'$ $SE = 04$ $RO = SEE$ PLANS	PI Sta 23+00.29 $\Delta = 27' 55' 24.9''$ (RT) $D = 8' 03' 30.5''$ $L = 346.51'$ $T = 176.77'$ $R = 711.00'$ $SE = 08$ $RO = SEE$ PLANS	PI Sta 10+78.79 $\Delta = 8' 58' 02.4''$ (LT) $D = 190' 59' 09.4''$ $L = 42.92'$ $T = 26.06'$ $R = 300.0'$	PI Sta 11+54.13 $\Delta = 11' 49' 47.4''$ (LT) $D = 17' 21' 44.5''$ $L = 68.13'$ $T = 34.19'$ $R = 330.00'$	PI Sta 12+19.96 $\Delta = 63' 27' 00.8''$ (RT) $D = 190' 59' 09.4''$ $L = 33.22'$ $T = 18.55'$ $R = 300.0'$

NOTE: SEE SHEET No.7 FOR -DET- PROFILE
SEE SHEET No.8 FOR -DRV2- PROFILE

5/28/95

PROJECT REFERENCE NO. B-4211	SHEET NO. 7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



SYSTEMS

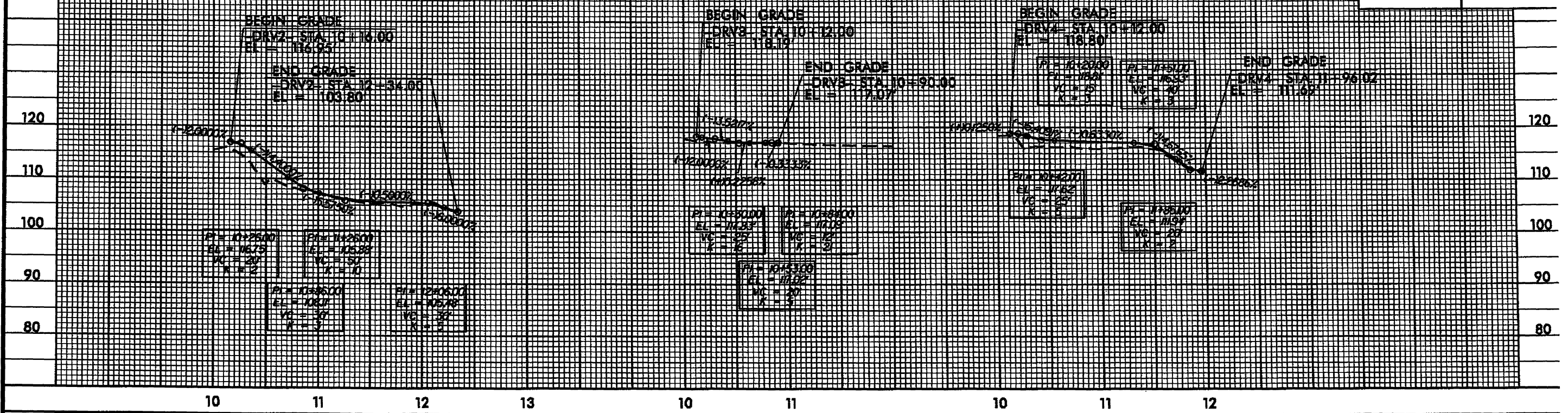
5/28/95

PROJECT REFERENCE NO. B-4211	SHEET NO. 8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

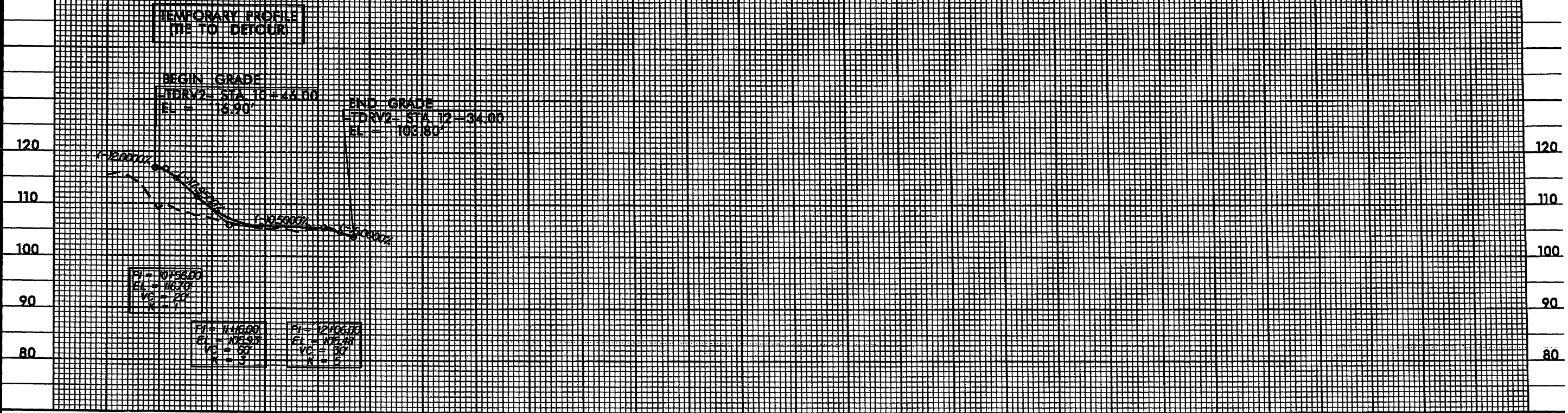
-DRV2-

-DRV3-

-DRV4-



-TDRV2-



5/28/95