



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

December 16, 2010

Mr. Garcy Ward
N.C. Division of Water Quality
Washington Regional Office
943 Washington Square Mall
Washington, NC 27889-3532

Mr. Stephen Lane
N. C. Dept. of Environment & Natural Resources
Division of Coastal Management
400 Commerce Ave.
Morehead City, NC 28557

Dear Sirs:

Subject: Application for a CAMA General Permit and Tar-Pamlico Riparian Buffer Authorization for the replacement of Bridge No. 45 over Outfall Canal on US 264 in Hyde County. State Project No. 8.1081001; Federal Aid Project Number BRSTP-0264(23); Debit \$400.00 from WBS 33764.1.1; TIP No. B-4551.

The North Carolina Department of Transportation (NCDOT), Division of Highways, in consultation with the Federal Highway Administration (FHWA), proposes to replace Bridge No. 45 in Hyde County. The proposed let date for the project is October 18, 2011 with a review date of August 18, 2011; however, the let date may advance as additional funds become available.

Please find enclosed a Pre-Construction Notification (PCN) form, permit drawings, buffer drawings, utility drawings and narrative, roadway plans, a copy of the State Stormwater Permit Exclusion, EEP Mitigation Acceptance Letter, North Carolina Division of Coastal Management Major Permit Forms 1 and 5, and adjacent riparian landowner return receipts for the above referenced project. A Categorical Exclusion (CE) was completed for this project on December 16, 2008, and distributed shortly thereafter. Additional copies are available upon request.

Regulatory Approvals

Section 404 Permit: There are no impacts to waters of the U.S..

Section 401 Permit: There are no impacts to waters of the U.S..

CAMA: NCDOT requests that the proposed work be authorized under a Coastal Area Management Act General Permit. The landowner receipts are provided with this permit application. Authorization to debit the \$400 Permit Application Fee from WBS Element 33764.1.1 is hereby given.

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

TELEPHONE: 919-431-2000
FAX: 919-431-2002
WEBSITE: WWW.NCDOT.ORG

LOCATION:
4701 ATLANTIC AVENUE
SUITE 116
RALEIGH NC 27604

Tar-Pamlico River Basin 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 application has been sent to the regional office.

A copy of this permit application 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 or email Dr. Lance P. Fontaine at 919-431-6667 or lpfontaine@ncdot.gov.

Sincerely,



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

W/attachment

Mr. Brian Wrenn, NCDWQ (4 Copies)

W/o attachment (see website for attachments)

Mr. Biddlecome, USACE, Washington
Mr. Scott McLendon, USACE, Wilmington
Mr. Travis Wilson, NCWRC
Mr. Gary Jordan, USFWS
Mr. Ron Sechler, NMFS
Ms. Anne Deaton, NCDMF
Dr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Jerry Jennings, P.E., Division 1 Engineer
Mr. Clay Willis, Division 1 Environmental Officer
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Ms. Beth Harmon, EEP
Mr. Phillip Ayscue, NCDOT External Audit Branch
Ms. Christy M. Huff, P.E., Project Planning Engineer

STORMWATER MANAGEMENT PLAN

Project: 33764.1.1

TIP No. B-4551

Hyde County

06/11/2009

Hydraulics Project Manager: Roger Weadon, P.E. (MA Engineering),
Marshal Clawson, P.E. (NCDOT Hydraulics Unit)

ROADWAY DESCRIPTION

The project B-4551 consists of replacing the Bridge No.45 on US-264 over an outfall canal for Lake Mattamuskeet with a 3-span (2@40', 1@45', total length 125') 21" cored slab bridge in Hyde County, North Carolina. The total project length is 0.214 miles. The project creates impacts to the outfall canal, which is in the Tar-Pamlico River Basin. The project drainage systems consist of storm drainage grate inlet, pipes, driveway pipes, roadside ditches, and drainage swales.

Jurisdiction Stream: Outfall Canal for Lake Mattamuskeet

ENVIRONMENTAL DESCRIPTION

The project is located within the Tar Pamlico River Basin in Hyde County. Since the body of water is an outfall canal it classified as "SC" by the North Carolina Department of Environment and Natural Resources (DENR) – Division of Water Quality. The Canal and the stream buffers will be impact by the proposed project. The outfall canal does have stream buffer requirements although much what could be classified as buffer area is already occupied by existing roads and driveways.

BEST MANAGEMENT PRACTICES AND MAJOR STRUCTURES

The primary goal of Best Management Practices (BMPs) is to prevent degradation of the states surface waters by the location, construction and operation of the highway system. The BMPs are activities, practices and procedures taken to prevent or reduce stormwater pollution. The BMP measures used on this project to reduce stormwater impacts are:

- Grassed Swale - 425 feet in length
- Rip rap pads at pipe outlets.
- No bridge deck drains over canal



November 4, 2009

Mr. Brian Wrenn
 N. C. Division of Water Quality
 Mail Service Center 1650
 Raleigh, North Carolina 27699-1650

Dear Mr. Wrenn:

Subject: EEP Mitigation Acceptance Letter:

B-4551, Replace Bridge Number 45 over a canal on US 264, Hyde County; Tar-Pamlico River Basin (Cataloging Unit 03020105); Northern Outer Coastal Plain (NOCP) Eco-Region

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the buffer mitigation for the unavoidable impact associated with the above referenced project. Based on the information supplied by the NCDOT on November 3, 2009, the impacts are located in CU 03020105 of the Tar-Pamlico River Basin in the Northern Outer Coastal Plain (NOCP) Eco-Region, and the anticipated mitigation credits needed to offset the impacts are as follows:

Tar-Pamlico 03020105 NOCP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	0	0	0	0	0	158
Mitigation Units	0	0	0	0	0	0	0	237

The NCDOT will be responsible to ensure that the appropriate compensation for the buffer mitigation will be provided in the agreed upon method of fund transfer. Upon receipt of the NCDWQ's Buffer Authorization Certification, EEP will transfer funds from Fund 2984 (Tri-Party MOA Account) into Fund 2982 and commit to provide the appropriate buffer mitigation to offset the impacts associated with this project. If the buffer impacts or the amount of mitigation required from EEP increases or decreases for this project, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required. All buffer mitigation requests and approvals are administrated through the Riparian Restoration Buffer Fund (Fund 2982).

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-715-1929.

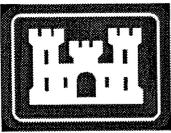
Sincerely,

William D. Gilmore, P.E.
 EEP Director

cc: Mr. Gregory J. Thorpe, Ph.D., NCDOT-PDEA
 Mr. Bill Biddlecome, USACE – Washington Regulatory Field Office
 File: B-4551

Restoring... Enhancing... Protecting Our State





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 type="checkbox"/> Section 404 Permit	<input type="checkbox"/> Section 10 Permit
1b. Specify Nationwide Permit (NWP) number:		or General Permit (GP) number:
1c. Has the NWP or GP number been verified by the Corps?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1d. Type(s) of approval sought from the DWQ (check all that apply):		
<input 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 type="checkbox"/> No	For the record only for Corps Permit: <input type="checkbox"/> Yes <input type="checkbox"/> No
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

2. Project Information

2a. Name of project:	Replacement of Bridge 45 over Outfall Canal on US 264
2b. County:	Hyde
2c. Nearest municipality / town:	New Holland
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no:	B-4551

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) 431-6667
3g. Fax no.:	(919) 431-2002
3h. Email address:	lpfontaine@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: 35.443343 (DD.DDDDDD)	Longitude: - 76.169758 (-DD.DDDDDD)
1c. Property size:	0.26 acre	

2. Surface Waters

2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Outfall Canal
2b. Water Quality Classification of nearest receiving water:	SC
2c. River basin:	Tar Pamlico

3. Project Description

3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: Existing conditions on the site include maintained/disturbed, agricultural/cultivated land, and some woodland adjacent to Albemarle Canal. General land use is residential with very low-density detached dwelling and cropland and pasture.
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: Outfall Canal - 460 feet along Y-line
3d. Explain the purpose of the proposed project: To replace a structurally deficient bridge.
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a 104-foot bridge with a 125-foot, 3-span bridge on the existing alignment with an on-site detour. Standard road & bridge building equipment, such as trucks, dozers, and cranes will be used. Telephone utilities will be relocated on-site via the directional bore method. Tideland EMC (power utility) will remove aerials proximate to the proposed construction and will reroute their aerials to the north and south farther away from the bridge. Embarq (telephone utility) will remove aerials and will bore facility under canal (north of bridge). Hyde County Water will relocate water line via trenchless method under canal. Bridge will be replaced on existing location with a bridge using phased construction. Two-way traffic will be maintained using signals during construction in phases. During phase 1, traffic will be maintained on south half of existing bridge, and reversed to north on new half of bridge during phase 2. No temporary bridge structure will be utilized.

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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input type="checkbox"/> Preliminary <input checked="" type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known):	Agency/Consultant Company: Ecoscience Corp. Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. Action ID - 200511637 - February 16, 2006 site visit and verification	

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?

Yes

No

6b. If yes, explain.

C. Proposed Impacts Inventory

1. Impacts Summary

1a. Which sections were completed below for your project (check all that apply):

- Wetlands Streams - tributaries Buffers
 Open Waters Pond Construction

2. Wetland Impacts

If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.

2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)
Site 1 <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 type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
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
0 Temp

3i. Comments: Impacts due to the proposed bents is 30 square feet (< 0.01 ac).

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?

Yes

No

If yes, permit ID no:

5i. Expected pond surface area (acres):

5j. Size of pond watershed (acres):

5k. Method of construction:

6. Buffer Impacts (for DWQ)

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

6a. Project is in which protected basin?			<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	Outfall Canal	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3,137	9
B2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Roadway Fill	Outfall Canal	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1,204	797
B3 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Roadway Fill	Outfall Canal	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	0	158
6h. Total buffer impacts				4,341	964
6i. Comments: B1 captures impacts directly associated with the bridge. B2 captures impacts due to road crossing/roadway fill that are associated with the Y-lines along SR 1330 and SR 1164; B3 captures impacts associated with replacing the driveway in SE quad.					

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 21 feet longer than the existing bridge. The proposed bridge will be at approximately the same grade as the existing structure. The existing road facility for SR 1164 from approximately Sta. -Y- 11+00 to -Y- 13+40.00 will be removed, graded to drain towards canal and re-seeded with grass. This will produce a vegetated BZ-2 where it is currently compact gravel. The majority of drainage from SW quadrant of project area will be collected in grassy swale and directed away from stream. The existing road facility for SR 1330 from approximately Sta. -Y1- 14+02 to -Y1- 15+66 will be removed, graded to drain towards canal and re-seeded with grass. The driveway in SE quad is being moved out of BZ 1--old footprint will be seeded with grass. 3:1 fill slopes where practicable.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. Sedimentation and erosion control measures; Design Standards in Sensitive Watersheds; top-down construction; adherence to in-water work moratorium of February 15 to June 15; phased construction utilized to avoid construction of temporary bridge structure or in-water causeway. Power utility will reduce the number of aerial poles in buffer zone; telephone utility will remove aerials from buffer zone and will directional bore their facility under the stream; staging area for telephone utility will be outside buffer zone. The 4" water line will be relocated during construction via trenchless method under the canal thereby not interfering with Outfall Canal. A "phased" on-site detour will be used.		
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: There are no impacts to Waters of the U.S. or to Waters of the State.	
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 checked="" type="checkbox"/> Yes	
4b. Stream mitigation requested:	0 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):	237 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: Buffer mitigation in BZ-2 as a result of driveway re-alignment.		

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 checked="" type="checkbox"/> Yes <input 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	N/A	0	3 (2 for Catawba)	0
Zone 2	Roadway Fill	158	1.5	237
6f. Total buffer mitigation required:				237
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). NC EEP will provide buffer mitigation.				
6h. Comments: Unavoidable impacts due to moving driveway out of BZ1 into BZ2 in SE quad.				

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: 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 and stormwater management plan.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	<input type="checkbox"/> Certified Local Government <input type="checkbox"/> DWQ Stormwater Program <input checked="" type="checkbox"/> DWQ 401 Unit
3. Certified Local Government Stormwater Review	
3a. In which local government's jurisdiction is this project?	not applicable
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Phase II <input type="checkbox"/> NSW <input type="checkbox"/> USMP <input type="checkbox"/> Water Supply Watershed <input type="checkbox"/> Other:
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	<input checked="" type="checkbox"/> Coastal counties <input type="checkbox"/> HQW <input type="checkbox"/> ORW <input type="checkbox"/> Session Law 2006-246 <input type="checkbox"/> Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No-In Process
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A
5b. Have all of the 401 Unit submittal requirements been met?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A

F. Supplementary Information	
1. Environmental Documentation (DWQ Requirement)	
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) Comments:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Violations (DWQ Requirement)	
2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 2B .0200)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2b. Is this an after-the-fact permit application?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):	
3. Cumulative Impacts (DWQ Requirement)	
3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3b. If you answered "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. If you answered "no," provide a short narrative description. Due to the minimal transportation impact resulting from this bridge replacement, this project will neither influence nearby land uses nor stimulate growth. Therefore, a detailed indirect or cumulative effects study will not be necessary.	
4. Sewage Disposal (DWQ Requirement)	
4a. Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility. not applicable	

5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input type="checkbox"/> Raleigh	<input type="checkbox"/> Asheville
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat? NCNHP, USFWS, field surveys		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index; EFH Assessment sent to NMFS on September 17, 2009.		
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 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.)	12.15.10 Date

- The property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in Washington, NC, at (252) 946-6481 to determine their requirements.

Action ID: 200511637

Placement of dredged or fill material within waters of the US and/or wetlands without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). If you have any questions regarding this determination and/or the Corps regulatory program, please contact **Bill Biddlecome** at **(252) 975-1616 ex 26**.

C. Basis For Determination

This site exhibits wetland criteria as described in the 1987 Corps Wetland Delineation Manual and is adjacent to Outfall Canal, which is a tributary to the Pamlico Sound.

D. Remarks

E. Appeals Information (This information applies only to approved jurisdictional determinations as indicated in B. above)

This correspondence constitutes an approved jurisdictional determination for the above described site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the South Atlantic Division, Division Office at the Following address:

Mr. Michael F. Bell, Administrative Appeal Review Officer
CESAD-ET-CO-R
U.S. Army Corps of Engineers, South Atlantic Division
60 Forsyth Street, Room 9M15
Atlanta, Georgia 30303-8801

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by **04/18/2006**.

It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.

Corps Regulatory Official: *Brian C. Vennia*

Date **02/16/2006**

Expiration Date **02/16/2011**

Copy furnished:

JURISDICTIONAL DETERMINATION
U.S. Army Corps of Engineers

Revised 8/13/04

DISTRICT OFFICE: CESAW-RG-W
FILE NUMBER: 200511637

PROJECT LOCATION INFORMATION:

State: North Carolina
County: Hyde
Center coordinates of site (latitude/longitude): N 35.4432757/ W-76.169726
Approximate size of area (parcel) reviewed, including uplands: 5.0 acres.
Name of nearest waterway: Outfall Canal
Name of watershed: Tar/Pamlico River Basin

JURISDICTIONAL DETERMINATION

Completed: Desktop determination Date:
Site visit(s) Date(s): 02/16/2006

Jurisdictional Determination (JD):

- Preliminary JD - Based on available information, *there appear to be* (or) *there appear to be no* "waters of the United States" and/or "navigable waters of the United States" on the project site. A preliminary JD is not appealable (Reference 33 CFR part 331).
- Approved JD - An approved JD is an appealable action (Reference 33 CFR part 331).
Check all that apply:
- There are* "navigable waters of the United States" (as defined by 33 CFR part 329 and associated guidance) within the reviewed area. Approximate size of jurisdictional area:
- There are* "waters of the United States" (as defined by 33 CFR part 328 and associated guidance) within the reviewed area. Approximate size of jurisdictional area: 3.0 acres.
- There are* "isolated, non-navigable, intra-state waters or wetlands" within the reviewed area.
 Decision supported by SWANCC/Migratory Bird Rule Information Sheet for Determination of No Jurisdiction.

BASIS OF JURISDICTIONAL DETERMINATION:

A. Waters defined under 33 CFR part 329 as "navigable waters of the United States":

- The presence of waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

B. Waters defined under 33 CFR part 328.3(a) as "waters of the United States":

- (1) The presence of waters, which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
- (2) The presence of interstate waters including interstate wetlands¹.
- (3) The presence of other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate commerce including any such waters (check all that apply):
- (i) which are or could be used by interstate or foreign travelers for recreational or other purposes.
- (ii) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- (iii) which are or could be used for industrial purposes by industries in interstate commerce.
- (4) Impoundments of waters otherwise defined as waters of the US.
- (5) The presence of a tributary to a water identified in (1) - (4) above.
- (6) The presence of territorial seas.
- (7) The presence of wetlands adjacent² to other waters of the US, except for those wetlands adjacent to other wetlands.

Rationale for the Basis of Jurisdictional Determination (applies to any boxes checked above). *If the jurisdictional water or wetland is not itself a navigable water of the United States, describe connection(s) to the downstream navigable waters. If B(1) or B(3) is used as the Basis of Jurisdiction, document navigability and/or interstate commerce connection (i.e., discuss site conditions, including why the waterbody is navigable and/or how the destruction of the waterbody could affect interstate or foreign commerce). If B(2, 4, 5 or 6) is used as the Basis of Jurisdiction, document the rationale used to make the determination. If B(7) is used as the Basis of Jurisdiction, document the rationale used to make adjacency determination.* This site exhibits wetland criteria as described in the 1987 Corps Wetland Delineation Manual and is adjacent to Outfall Canal, which is a tributary to the Pamlico Sound.

Lateral Extent of Jurisdiction: (Reference: 33 CFR parts 328 and 329)

- | | |
|--------------------------------------------------------------------|--------------------------------------------------------------------|
| <input type="checkbox"/> Ordinary High Water Mark indicated by: | <input type="checkbox"/> High Tide Line indicated by: |
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> oil or scum line along shore objects |
| <input type="checkbox"/> the presence of litter and debris | <input type="checkbox"/> fine shell or debris deposits (foreshore) |
| <input type="checkbox"/> changes in the character of soil | <input type="checkbox"/> physical markings/characteristics |
| <input type="checkbox"/> destruction of terrestrial vegetation | <input type="checkbox"/> tidal gages |
| <input type="checkbox"/> shelving | <input type="checkbox"/> other: |
| <input type="checkbox"/> other: | |
- Mean High Water Mark indicated by:
 survey to available datum; physical markings; vegetation lines/changes in vegetation types.
- Wetland boundaries, as shown on the attached wetland delineation map and/or in a delineation report prepared by: M. Golden, Ecoscience Corporation

Basis For Not Asserting Jurisdiction:

- The reviewed area consists entirely of uplands.
- Unable to confirm the presence of waters in 33 CFR part 328(a)(1, 2, or 4-7).
- Headquarters declined to approve jurisdiction on the basis of 33 CFR part 328.3(a)(3).
- The Corps has made a case-specific determination that the following waters present on the site are not Waters of the United States:
- Waste treatment systems, including treatment ponds or lagoons, pursuant to 33 CFR part 328.3.
 - Artificially irrigated areas, which would revert to upland if the irrigation ceased.
 - Artificial lakes and ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing.
 - Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.
 - Water-filled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States found at 33 CFR 328.3(a).
 - Isolated, intrastate wetland with no nexus to interstate commerce.
 - Prior converted cropland, as determined by the Natural Resources Conservation Service. Explain rationale:
 - Non-tidal drainage or irrigation ditches excavated on dry land. Explain rationale:
 - Other (explain):

DATA REVIEWED FOR JURISDICTIONAL DETERMINATION (mark all that apply):

- Maps, plans, plots or plat submitted by or on behalf of the applicant.
- Data sheets prepared/submitted by or on behalf of the applicant.
 - This office concurs with the delineation report, dated 01/06/2006, prepared by (company): Ecoscience Corporation
 - This office does not concur with the delineation report, dated _____, prepared by (company): _____
- Data sheets prepared by the Corps.
- Corps' navigable waters' studies:
- U.S. Geological Survey Hydrologic Atlas:
- U.S. Geological Survey 7.5 Minute Topographic maps: New Holland
- U.S. Geological Survey 7.5 Minute Historic quadrangles:
- U.S. Geological Survey 15 Minute Historic quadrangles:
- USDA Natural Resources Conservation Service Soil Survey:
- National wetlands inventory maps:
- State/Local wetland inventory maps:
- FEMA/FIRM maps (Map Name & Date):
- 100-year Floodplain Elevation is: _____ (NGVD)
- Aerial Photographs (Name & Date):
- Other photographs (Date):
- Advanced Identification Wetland maps:
- Site visit/determination conducted on: 02/16/2006
- Applicable/supporting case law:
- Other information (please specify):

¹Wetlands are identified and delineated using the methods and criteria established in the Corps Wetland Delineation Manual (87 Manual) (i.e., occurrence of hydrophytic vegetation, hydric soils and wetland hydrology).

²The term "adjacent" means bordering, contiguous, or neighboring. Wetlands separated from other waters of the U.S. by man-made dikes or barriers, natural river berms, beach dunes, and the like are also adjacent.

09/08/09

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

HYDE COUNTY

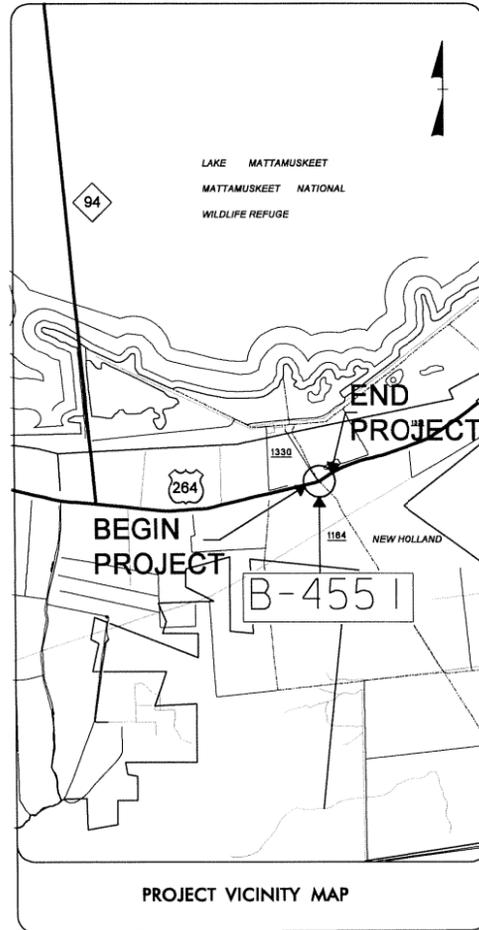
LOCATION: BRIDGE NO. 45 OVER A CANAL ON US 264

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4551	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33764.1.1	BRSTP-0264(23)	P.E.	
33764.2.1	BRSTP-0264(23)	R/W & UTILITY	

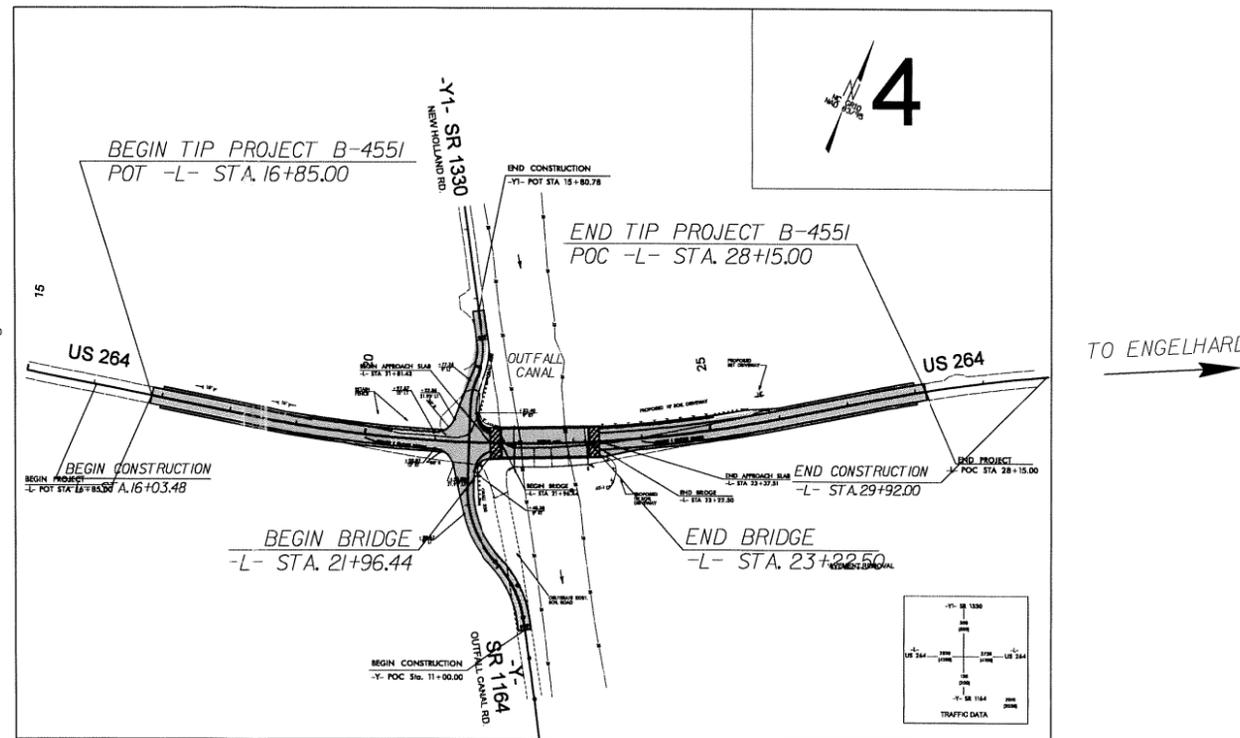
Buffer Drawing
Sheet 1 of 5

TIP PROJECT: B-4551



75% PLANS

BUFFER PERMIT

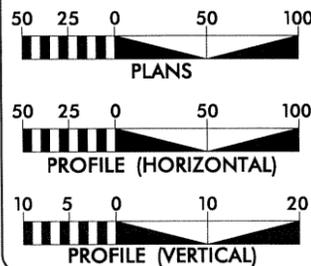


- THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES
- CLEARING ON THIS PROJECT SHALL BE TO THE LIMITS ESTABLISHED BY METHOD II

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NCDOT Contact: B. Doug Taylor, PE
Roadway Design-Engineering Coordination

GRAPHIC SCALES



DESIGN DATA

ADT 2010 = 2820
 ADT 2030 = 4200
 DHV = 10 %
 D = 60 %
 T = 5% (TTST 2%, DUAL 3%)
 V = 60 MPH
 DESIGN EXCEPTION SUPERELEVATION RATE =
 e_{max} 4%
 FUNC CLASS = MINOR ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4551 = 0.190 MILE
 LENGTH STRUCTURE TIP PROJECT B-4551 = 0.024 MILE
 TOTAL LENGTH TIP PROJECT B-4551 = 0.214 MILE

Prepared in the Office of
 DYER, RIDDE, MILLS & PRECOURT, INC. (DRMP)
 7506 EAST INDEPENDENCE BLVD., SUITE 105
 CHARLOTTE, NORTH CAROLINA 28227
 (704) 332-2289 NC LICENSE NO. C-2213

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER, 2010

LETTING DATE:
OCTOBER, 2011

Ronald C. Smith, PE
PROJECT ENGINEER

A. Matthew Thigpen, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____
ROADWAY DESIGN ENGINEER

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA



SIGNATURE: _____ P.E.
STATE HIGHWAY DESIGN ENGINEER

09/01/2009 R:\Roadway\Proj\B4551_Rdy_tsh.dgn 11:16:57 AM

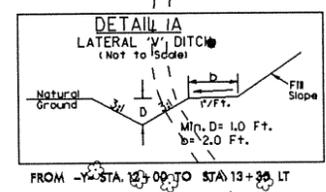
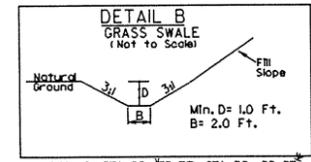
CONTRACT:

DRMP
 ENGINEERS, ARCHITECTS & PLANNERS
 1706 EAST WASHINGTON ST., SUITE 100
 CHARLOTTE, NORTH CAROLINA 28203
 (704) 332-2889
 NC LICENSE NO. C-2213

MA Engineering CONSULTANTS, INC.
 1111 W. CHERRY STREET, SUITE 100
 CHARLOTTE, NORTH CAROLINA 28202
 (704) 332-2889
 NC LICENSE NO. P-1016

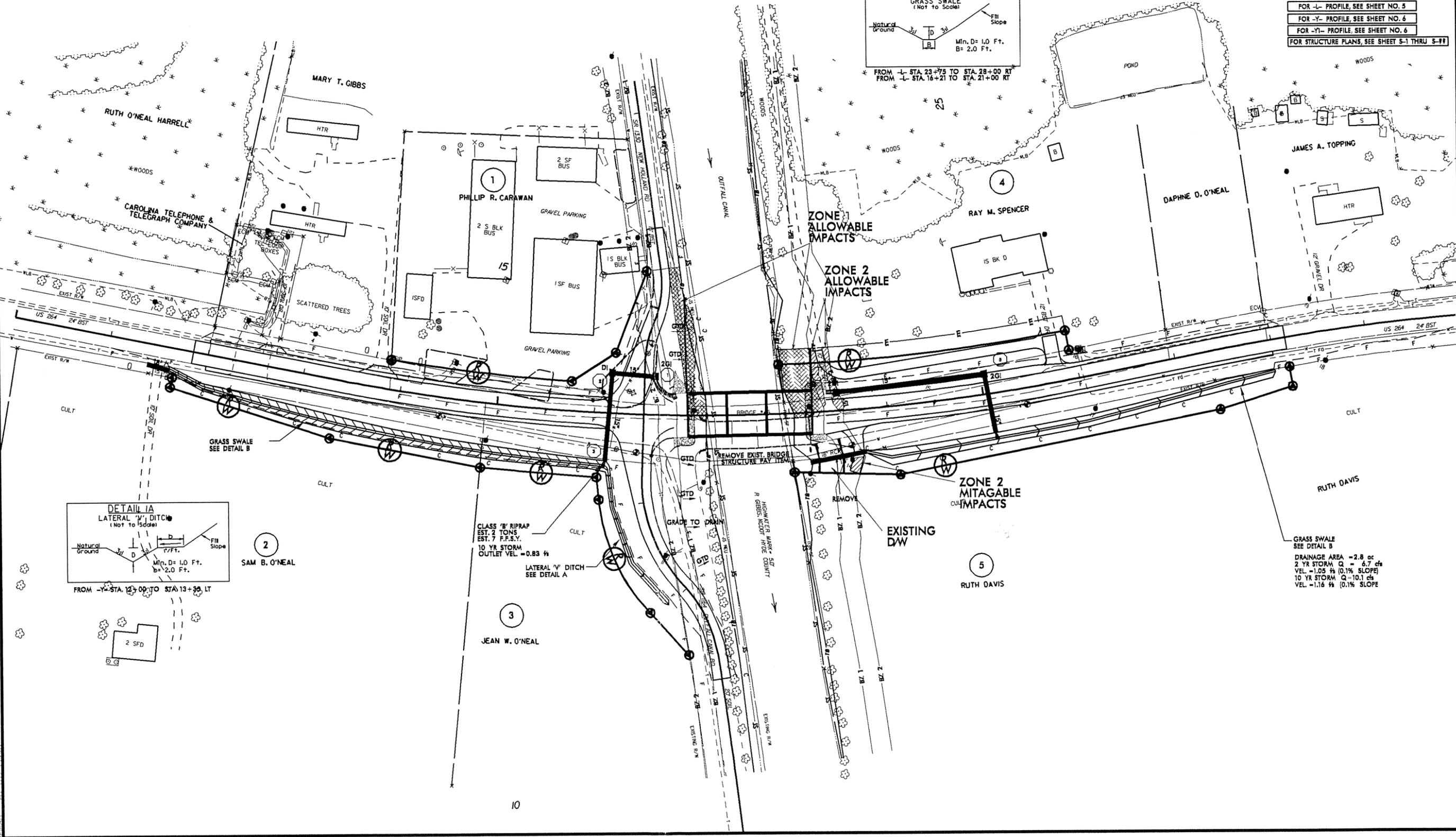
FOR -L- PROFILE, SEE SHEET NO. 5
 FOR -Y- PROFILE, SEE SHEET NO. 6
 FOR -YI- PROFILE, SEE SHEET NO. 6
 FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-11

-  ALLOWABLE IMPACTS ZONE 1
-  MITIGABLE IMPACTS ZONE 1
-  ALLOWABLE IMPACTS ZONE 2
-  MITIGABLE IMPACTS ZONE 2



GRASS SWALE
 SEE DETAIL B
 DRAINAGE AREA = 2.8 ac
 2 YR STORM Q = 6.7 cfs
 VEL = 1.05 ft/s (0.1% SLOPE)
 10 YR STORM Q = 10.1 cfs
 VEL = 1.16 ft/s (0.1% SLOPE)

19-OCT-2009 16:19
 permits_environ\dr-swings\4551_hyd-prm-buf.dgn



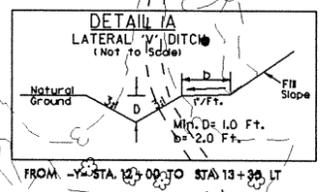
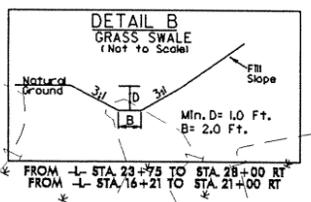
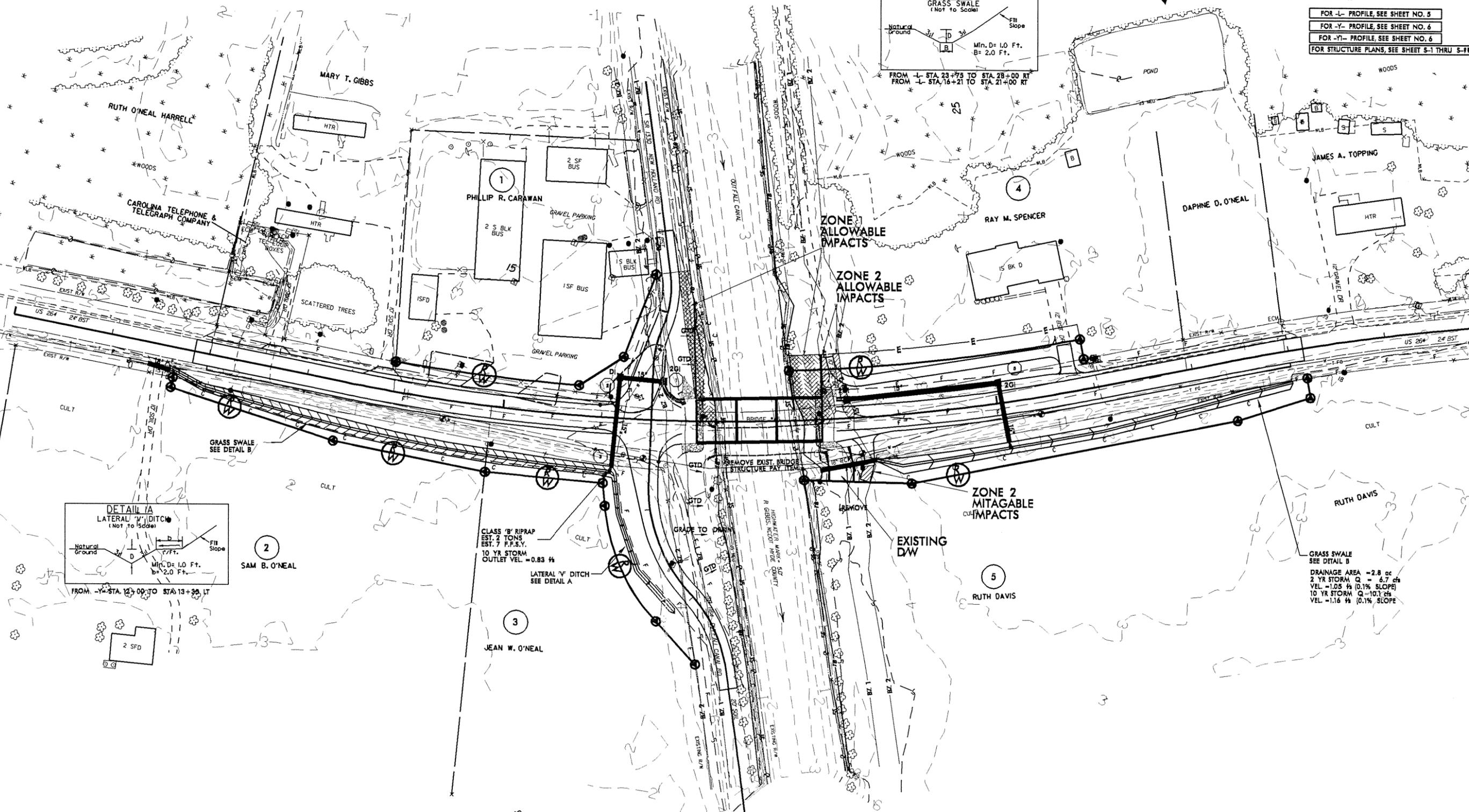
PROJECT REFERENCE NO. B-4551	SHEET NO. 4
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULIC ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
Buffer Drawing Sheet 3 of 5	

DRMP
ENGINEERS, PLANNERS, SCIENTISTS
1706 EAST WASHINGTON ST., SUITE 205
CHARLOTTE, NORTH CAROLINA 28203
PHONE 704-333-2289
FAX 704-333-2287
NC LICENSE NO. C-223

MA Engineering CONSULTANTS, INC.
1706 EAST WASHINGTON ST., SUITE 205
CHARLOTTE, NORTH CAROLINA 28203
PHONE 704-333-2289
FAX 704-333-2287
NC LICENSE NO. E-210

- FOR L- PROFILE, SEE SHEET NO. 5
- FOR Y- PROFILE, SEE SHEET NO. 6
- FOR YI- PROFILE, SEE SHEET NO. 6
- FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-11

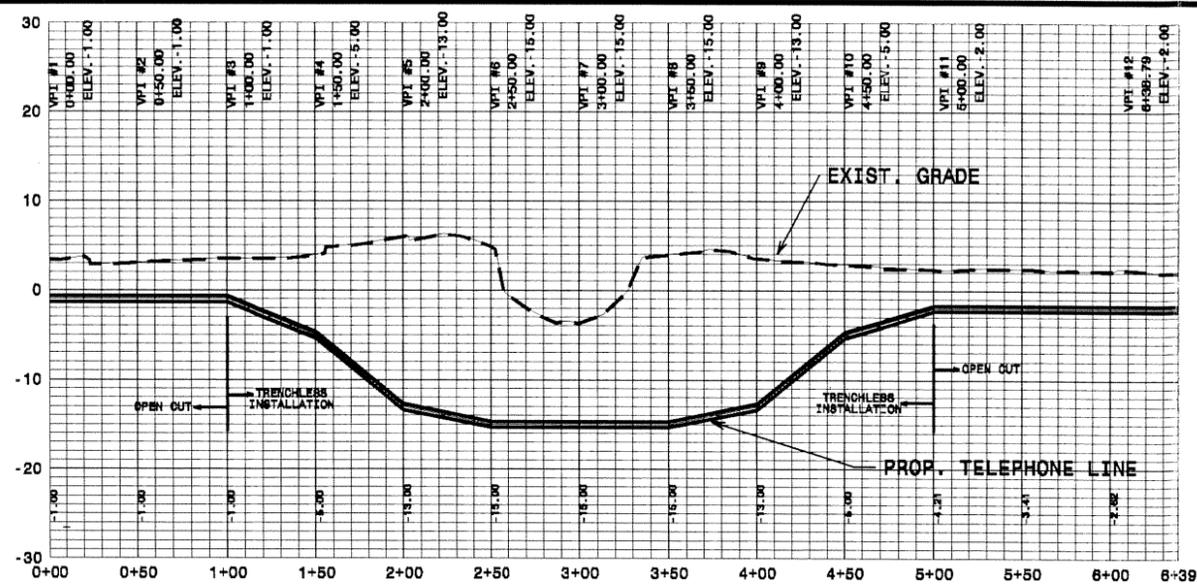
-  ALLOWABLE IMPACTS ZONE 1
-  MITIGABLE IMPACTS ZONE 1
-  ALLOWABLE IMPACTS ZONE 2
-  MITIGABLE IMPACTS ZONE 2



CLASS 'B' RIPRAP
EST. 2 TONS
EST. 7 F.F.S.Y.
10 YR STORM
OUTLET VEL. = 0.83 ft/s

GRASS SWALE
SEE DETAIL B
DRAINAGE AREA = 2.8 ac
2 YR STORM Q = 6.7 cfs
VEL. = 1.03 ft/s (0.1% SLOPE)
10 YR STORM Q = 10.1 cfs
VEL. = 1.16 ft/s (0.1% SLOPE)

19-OCT-2009 15:18
permits\environmental\drawings\b4551_hyd.prm.buf.dgn



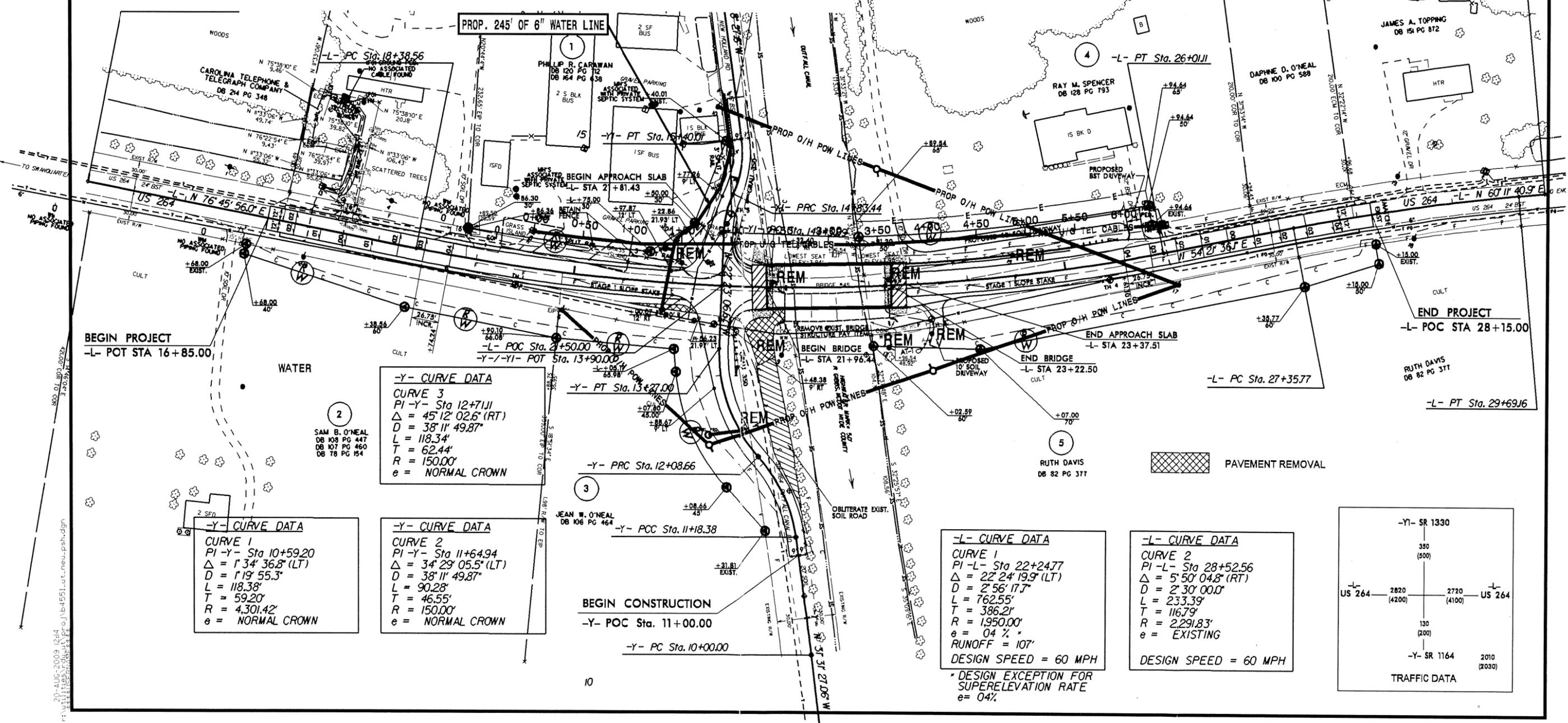
-YI- CURVE DATA
CURVE 1
 PI -YI- Sta 14+63.93
 $\Delta = 22' 39' 32.5''$ (RT)
 $D = 57' 17' 44.8''$
 $L = 39.55'$
 $T = 20.04'$
 $R = 100.00'$
 $e = \text{NORMAL CROWN}$

-YI- CURVE DATA
CURVE 2
 PI -YI- Sta 15+12.51
 $\Delta = 32' 24' 53.5''$ (LT)
 $D = 57' 17' 44.8''$
 $L = 56.57'$
 $T = 29.07'$
 $R = 100.00'$
 $e = \text{NORMAL CROWN}$

PROJECT REFERENCE NO. B-4551	SHEET NO. 4
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
Permit Drawing Sheet 1 of 1	

DRMP
 MA Engineering
 CONSULTANTS, INC.
 1506 EAST INDEPENDENCE BLVD., SUITE 105
 CHARLOTTE, NORTH CAROLINA 28227
 (704) 332-2289
 NC LICENSE NO. C-2263

- FOR -L- PROFILE, SEE SHEET NO. 5
- FOR -Y- PROFILE, SEE SHEET NO. 6
- FOR -YI- PROFILE, SEE SHEET NO. 6
- FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-11



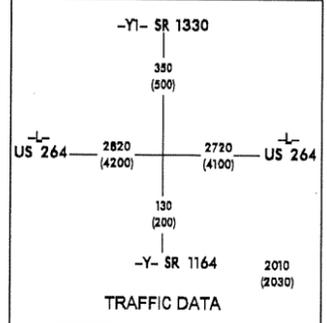
-Y- CURVE DATA
CURVE 3
 PI -Y- Sta 12+71.11
 $\Delta = 45' 12' 02.6''$ (RT)
 $D = 38' 11' 49.8''$
 $L = 118.34'$
 $T = 62.44'$
 $R = 150.00'$
 $e = \text{NORMAL CROWN}$

-Y- CURVE DATA
CURVE 1
 PI -Y- Sta 10+59.20
 $\Delta = 1' 34' 36.8''$ (LT)
 $D = 1' 19' 55.3''$
 $L = 118.38'$
 $T = 59.20'$
 $R = 4,301.42'$
 $e = \text{NORMAL CROWN}$

-Y- CURVE DATA
CURVE 2
 PI -Y- Sta 11+64.94
 $\Delta = 34' 29' 05.5''$ (LT)
 $D = 38' 11' 49.8''$
 $L = 90.28'$
 $T = 46.55'$
 $R = 150.00'$
 $e = \text{NORMAL CROWN}$

-L- CURVE DATA
CURVE 1
 PI -L- Sta 22+24.77
 $\Delta = 22' 24' 19.9''$ (LT)
 $D = 2' 56' 17.7''$
 $L = 762.55'$
 $T = 386.21'$
 $R = 1,950.00'$
 $e = 04\%$
 RUNOFF = 107'
 DESIGN SPEED = 60 MPH
 * DESIGN EXCEPTION FOR SUPERELEVATION RATE
 $e = 04\%$

-L- CURVE DATA
CURVE 2
 PI -L- Sta 28+52.56
 $\Delta = 5' 50' 04.8''$ (RT)
 $D = 2' 30' 00.0''$
 $L = 233.39'$
 $T = 116.79'$
 $R = 2,291.83'$
 $e = \text{EXISTING}$
 DESIGN SPEED = 60 MPH



5/14/99
 20-AUG-2009 12:14
 \\vill11188\Toussaint\proj\B4551\ut_neu_psh.dgn

Property Owners

Parcel Number	Names	Addresses			
1	Phillip R Carawan	PO Box 164	Columbia	NC	27925
2	Sam B. O'Neal	23080 US 264	Swan Quarter	NC	27885
3	Jean W. O'Neal	23700 US 264	Swan Quarter	NC	27885
4	Daphne Spencer	1079 US 264	Swan Quarter	NC	27885
5	Ruth Davis	19770 US 264	Swan Quarter	NC	27885

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

HYDE COUNTY
WBS - 33764.1.1 (B-4551)

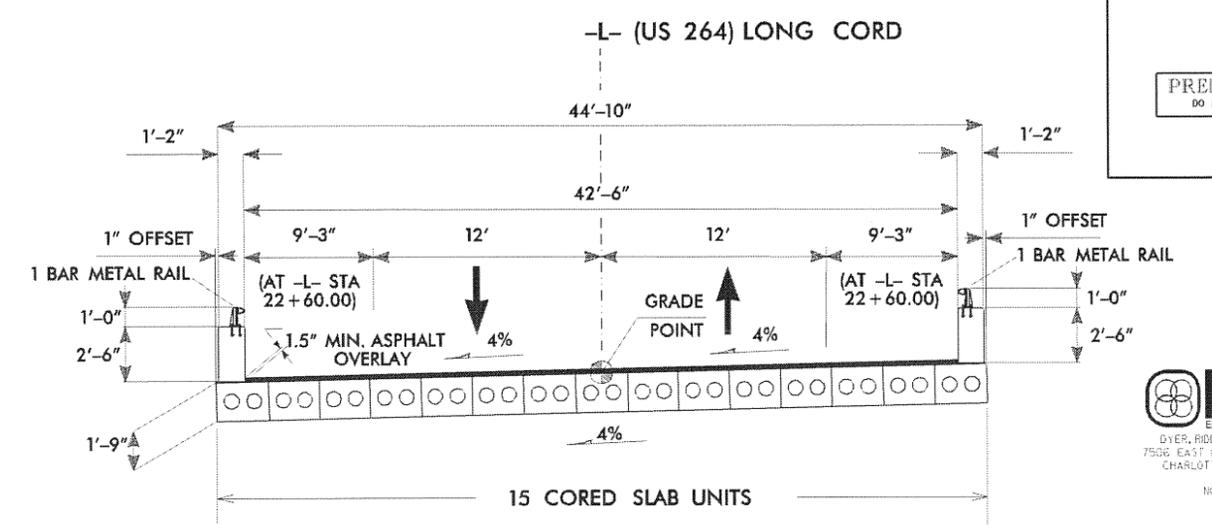
Buffer Drawing
Sheet 4 of 5

SHEET

6/1/2010

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C3	PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2.0" IN DEPTH.
E1	PROP. APPROX. 4.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. APPROX. 5.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING. (SEE WEDGING DETAIL, THIS SHEET)

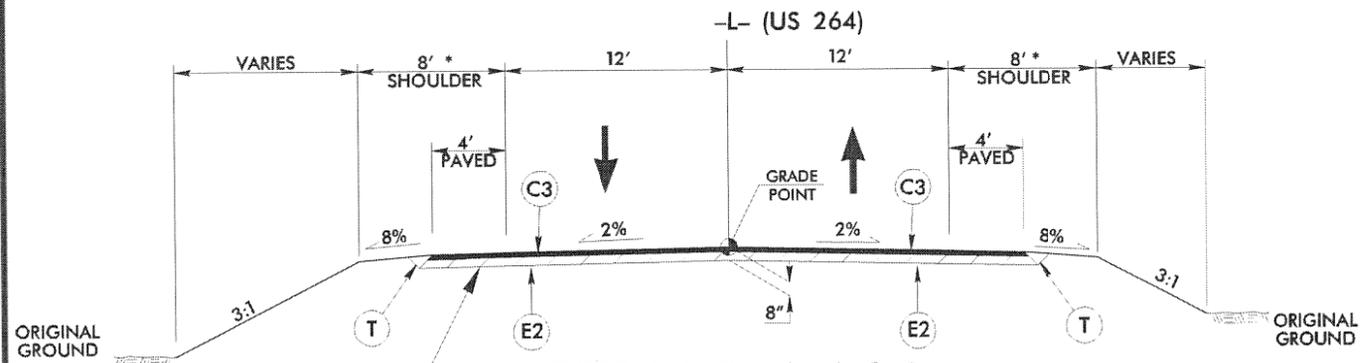
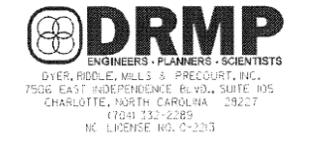
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 3

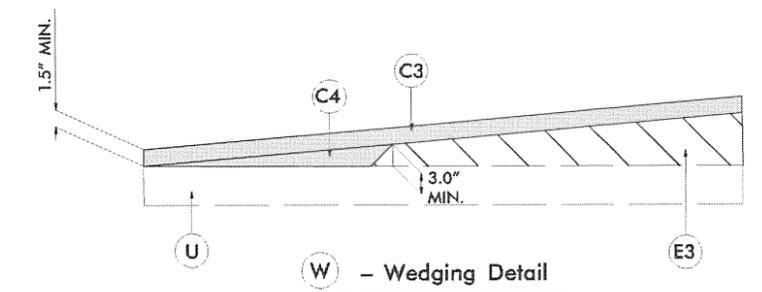
(NOTE: BRIDGE IS CENTERED ON THE LONG CORD BETWEEN -L- STA 21+69.44 AND -L- STA 23+22.50 AND IS PARALLEL TO THE TANGENT TO THE -L- CURVE AT -L- STA 22+59.47)

USE TYPICAL SECTION NO. 3
-L- STA 21+96.44 (BEGIN BRIDGE)
TO -L- STA 23+22.50 (END BRIDGE)

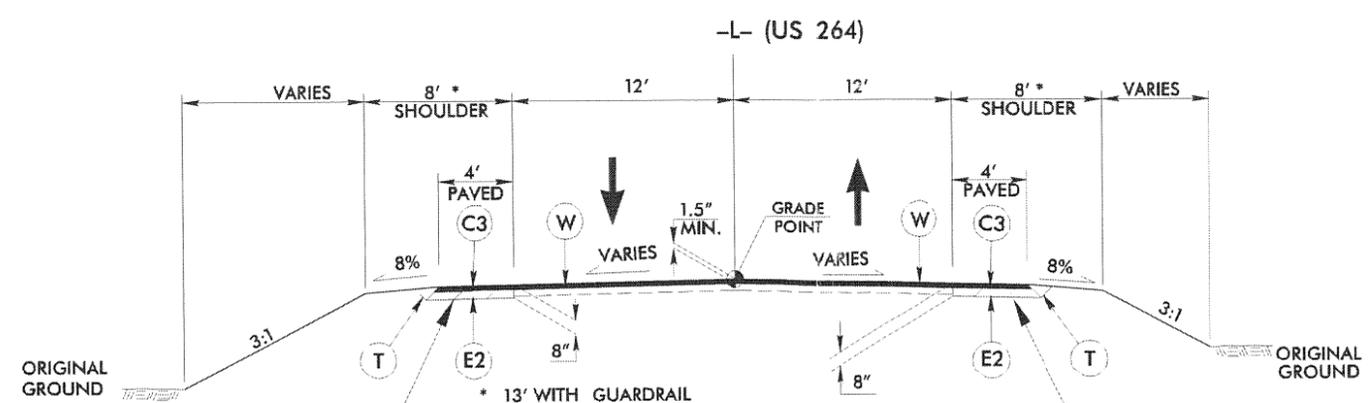


TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
-L- STA 19+28.00 TO -L- STA 21+96.44 (BEGIN BRIDGE)
-L- STA 23+22.50 (END BRIDGE) TO -L- STA 25+93.00



W - Wedging Detail



TYPICAL SECTION NO. 2

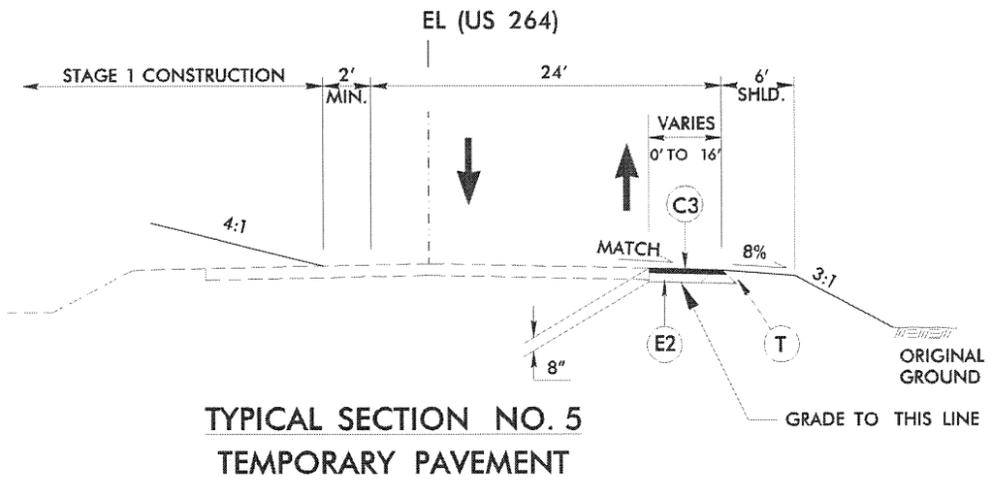
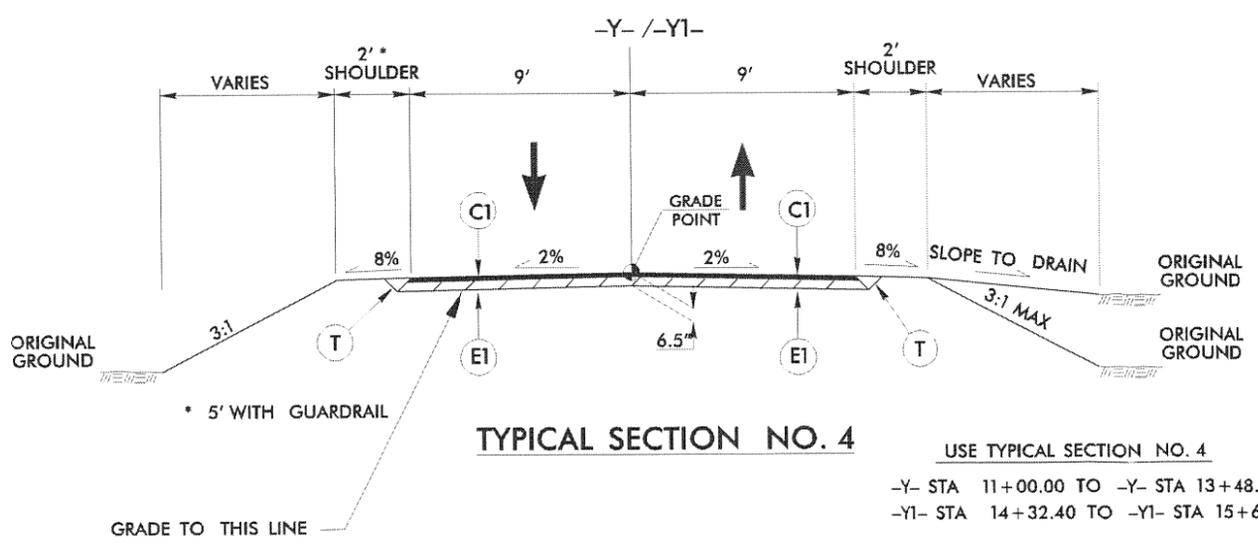
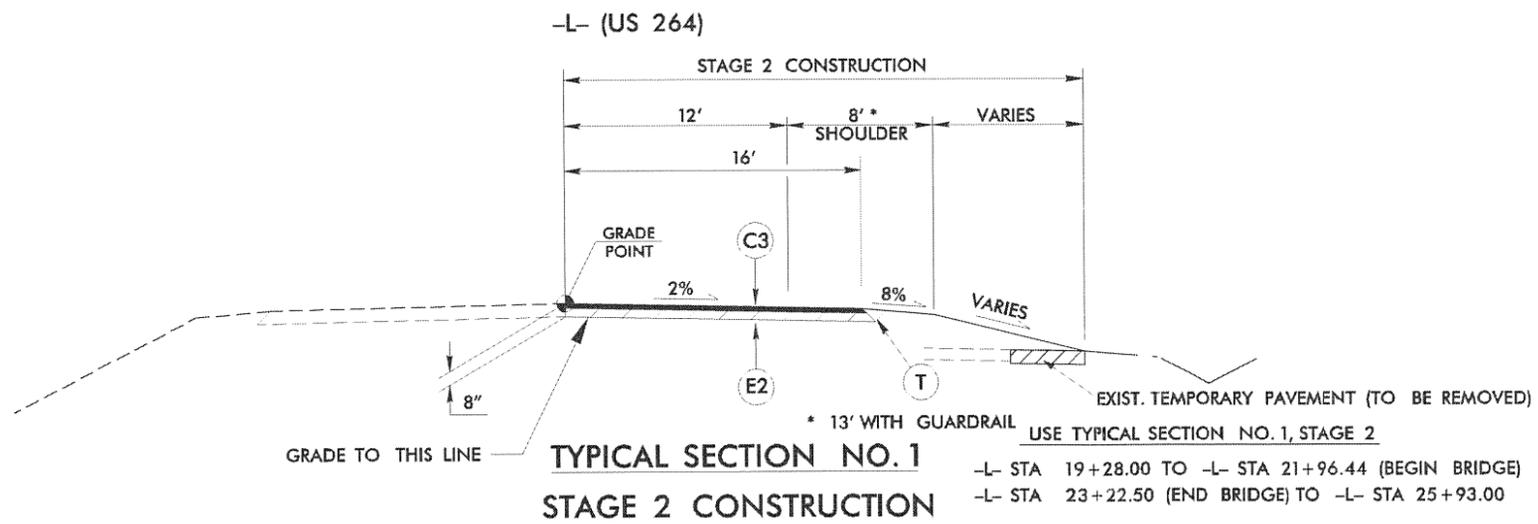
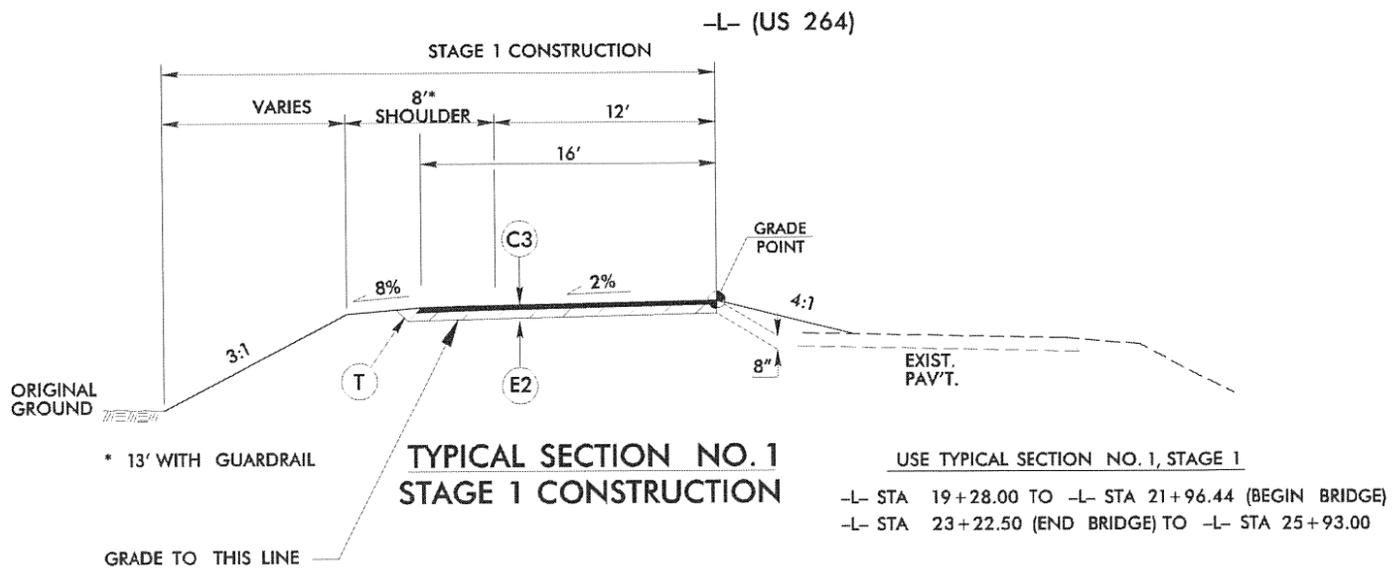
USE TYPICAL SECTION NO. 2
-L- STA 17+00.00 TO -L- STA 19+28.00
-L- STA 25+93.00 TO -L- STA 28+00.00

TRANSITION FROM TYPICAL SECTION NO. 1 TO EXISTING (INCLUDES FEATHERING)
-L- STA 16+85.00 (BEGIN PROJECT) TO -L- STA 17+00.00

TRANSITION FROM TYPICAL SECTION NO. 2 TO EXISTING (INCLUDES FEATHERING)
-L- STA 28+00.00 TO -L- STA 28+15.00 (END PROJECT)



PAVEMENT SCHEDULE	
C1	2.5" SF9.5A
C2	1.5" S9.5B
C3	3.0" TYPE S9.5B
C4	VAR. DEPTH S9.5B
E1	4.0" B25.0B
E2	5.0" B25.0B
E3	VAR. DEPTH TYPE B25.0B
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING



USE TYPICAL SECTION NO. 5

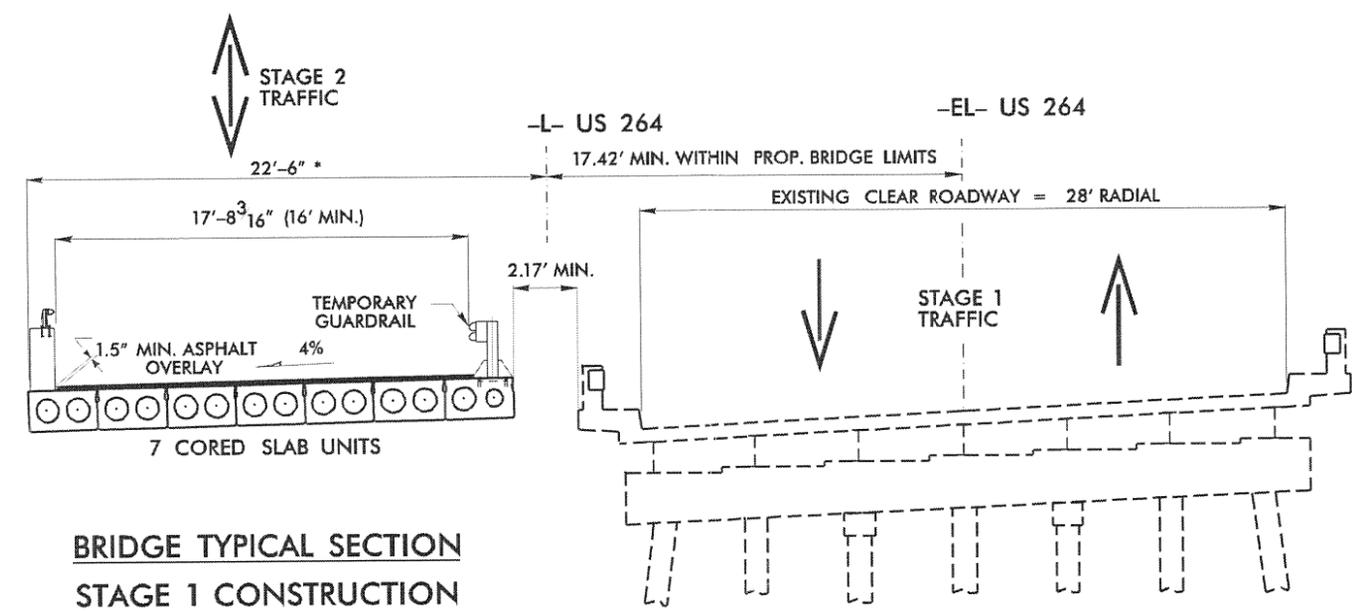
-L- STA 16+03.45 TO -L- STA 21+64.00

-L- STA 23+36.79 TO -L- STA 29+92.00

TRANSITION FROM TYPICAL SECTION NO. 4
TO EXISTING (INCLUDES FEATHERING)

-Y1- STA 15+65.78 TO -Y1- STA 15+80.78

PROJECT REFERENCE NO. B-4551	SHEET NO. 2B
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



**BRIDGE TYPICAL SECTION
STAGE 1 CONSTRUCTION**

**EXISTING TYPICAL SECTION
FACING EAST**

* 22.50' AT -L- STA 21+96.44
 23.52' AT -L- STA 22+59.47 (CENTER OF BRIDGE)
 22.50' AT -L- STA 23+22.50

(NOTE: BRIDGE IS CENTERED ON THE LONG CORD
 BETWEEN -L- STA 21+69.44 AND -L- STA 23+22.50
 AND IS PARALLEL TO THE TANGENT TO THE -L- CURVE
 AT -L- STA 22+59.47)

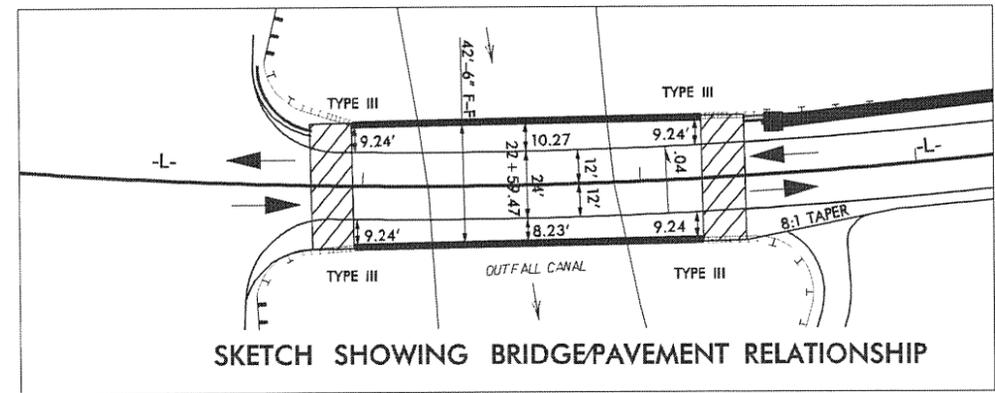
NOTE: THIS SHEET IS FOR INFORMATION ONLY AND
 NOT FOR CONSTRUCTION.
 (SEE STRUCTURE PLANS FOR CONSTRUCTION DETAILS)

6-12-93

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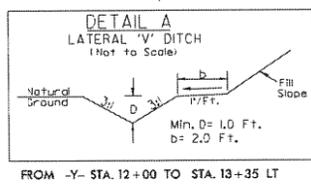
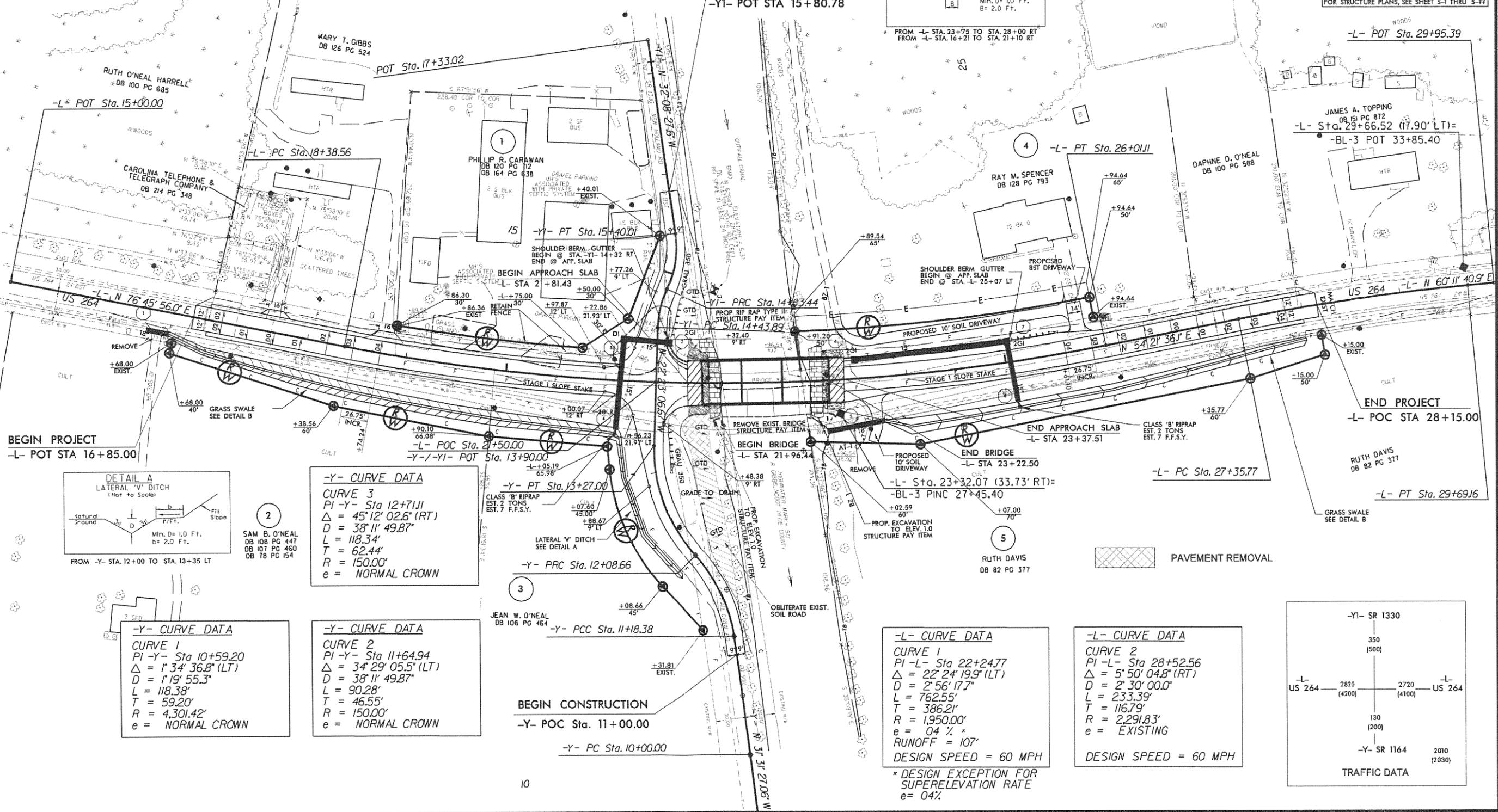
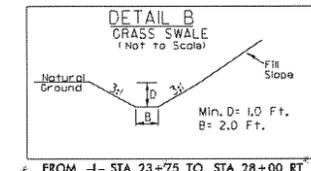


FOR -L- PROFILE, SEE SHEET NO. 5
 FOR -Y- PROFILE, SEE SHEET NO. 6
 FOR -YI- PROFILE, SEE SHEET NO. 6
 FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-11



-YI- CURVE DATA
 CURVE 1
 PI -YI- Sta 14+63.93
 $\Delta = 22^\circ 39' 32.5''$ (RT)
 $D = 57^\circ 17' 44.81''$
 $L = 39.55'$
 $T = 20.04'$
 $R = 100.00'$
 $e = \text{NORMAL CROWN}$

-YI- CURVE DATA
 CURVE 2
 PI -YI- Sta 15+12.51
 $\Delta = 32^\circ 24' 53.5''$ (LT)
 $D = 57^\circ 17' 44.81''$
 $L = 56.57'$
 $T = 29.07'$
 $R = 100.00'$
 $e = \text{NORMAL CROWN}$



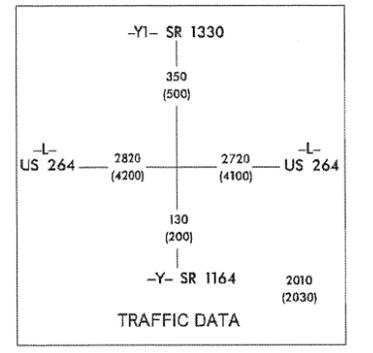
-Y- CURVE DATA
 CURVE 3
 PI -Y- Sta 12+71.11
 $\Delta = 45^\circ 12' 02.6''$ (RT)
 $D = 38^\circ 11' 49.87''$
 $L = 118.34'$
 $T = 62.44'$
 $R = 150.00'$
 $e = \text{NORMAL CROWN}$

-Y- CURVE DATA
 CURVE 1
 PI -Y- Sta 10+59.20
 $\Delta = 1^\circ 34' 36.8''$ (LT)
 $D = 1^\circ 19' 55.3''$
 $L = 118.38'$
 $T = 59.20'$
 $R = 4,301.42'$
 $e = \text{NORMAL CROWN}$

-Y- CURVE DATA
 CURVE 2
 PI -Y- Sta 11+64.94
 $\Delta = 3^\circ 29' 05.5''$ (LT)
 $D = 38^\circ 11' 49.87''$
 $L = 90.28'$
 $T = 46.55'$
 $R = 150.00'$
 $e = \text{NORMAL CROWN}$

-L- CURVE DATA
 CURVE 1
 PI -L- Sta 22+24.77
 $\Delta = 22^\circ 24' 19.9''$ (LT)
 $D = 2^\circ 56' 17.7''$
 $L = 762.55'$
 $T = 386.21'$
 $R = 1,950.00'$
 $e = 0.4\%$
 $\text{RUNOFF} = 107'$
DESIGN SPEED = 60 MPH
 $e = 0.4\%$

-L- CURVE DATA
 CURVE 2
 PI -L- Sta 28+52.56
 $\Delta = 5^\circ 50' 04.8''$ (RT)
 $D = 2^\circ 30' 00.0''$
 $L = 233.39'$
 $T = 116.79'$
 $R = 2,291.83'$
 $e = \text{EXISTING}$
DESIGN SPEED = 60 MPH



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-Y- SR 1164

-Y1- SR 1330

