



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY  
GOVERNOR

April 19, 2013

ANTHONY J. TATA  
SECRETARY

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

ATTN: Ms. Sarah Elizabeth Hair  
NCDOT Coordinator

Dear Madam:

Subject: **Application for Section 404 Nationwide 23, 33, and 13 Permits, Section 401 Water Quality Certification and Goose Creek Buffer Certification** for the proposed replacement of Bridge No. 29 over Goose Creek on NC 218 in Union County, Federal Aid Project No. BRSTP-0218(7); Division 10; TIP No. B-5109; Debit \$240 from WBS 42246.1.1.

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 29 over Goose Creek on NC 218. There will be less than 0.01 acre (38 square feet) of mechanized clearing of wetlands, 6 linear feet of stream bank stabilization, and less than 0.01 acre of temporary stream impacts associated with a temporary causeway and installation of bank stabilization. There will also be 31,250 square feet of impact to Zone 1 of the Goose Creek Buffers.

Please see enclosed copies of the Pre-Construction Notification (PCN), Stormwater management plan, permit drawings, buffer drawings, design plans, and jurisdictional determination for the above referenced project. The Biological Opinion for this project will be submitted under separate cover once the document is received. The Programmatic Categorical Exclusion (PCE) was completed in January 2012. Documents were distributed shortly thereafter. Additional copies are available upon request.

This project calls for a letting date of November 19, 2013 and a review date of October 1, 2013.

A copy of this permit application and its distribution list will be posted on the NCDOT Website at: <http://207.4.62.65/PDEA/PermApps/>. If you have any questions or need additional information, please contact Michael Turchy at [maturchy@ncdot.gov](mailto:maturchy@ncdot.gov) or (919) 707-6157.

Sincerely,

*for* 

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

"cc" List: NCDOT Permit Application Standard Distribution List.

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

TELEPHONE: 919-707-6100  
FAX: 919-212-5785  
WEBSITE: [WWW.NCDOT.ORG](http://WWW.NCDOT.ORG)

LOCATION:  
1020 BIRCH RIDGE DRIVE  
RALEIGH NC 27610-4328



Office Use Only:  
 Corps action ID no. \_\_\_\_\_  
 DWQ project no. \_\_\_\_\_  
 Form Version 1.3 Dec 10 2008

## Pre-Construction Notification (PCN) Form

### A. Applicant Information

#### 1. Processing

1a. Type(s) of approval sought from the Corps:	<input checked="" type="checkbox"/> Section 404 Permit	<input type="checkbox"/> Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 23 33 13 or General Permit (GP) number:		
1c. Has the NWP or GP number been verified by the Corps?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1d. Type(s) of approval sought from the DWQ (check all that apply):		
<input checked="" type="checkbox"/> 401 Water Quality Certification – Regular <span style="margin-left: 100px;"><input type="checkbox"/> Non-404 Jurisdictional General Permit</span> <input type="checkbox"/> 401 Water Quality Certification – Express <span style="margin-left: 100px;"><input checked="" type="checkbox"/> Riparian Buffer Authorization</span>		
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	For the record only for Corps Permit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

#### 2. Project Information

2a. Name of project:	Replacement of Bridge No. 29 over Goose Creek on NC 218.
2b. County:	Union
2c. Nearest municipality / town:	Fairview
2d. Subdivision name:	not applicable
2e. NCDOT only, T.I.P. or state project no.:	B-5109

#### 3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	not applicable
3c. Responsible Party (for LLC if applicable):	not applicable
3d. Street address:	1 South Wilmington Street
3e. City, state, zip:	Raleigh, NC 27601
3f. Telephone no.:	(919) 707-6157
3g. Fax no.:	(919) 431-2002
3h. Email address:	maturchy@ncdot.gov

<b>4. Applicant Information (if different from owner)</b>	
4a. Applicant is:	<input type="checkbox"/> Agent <input type="checkbox"/> Other, specify:
4b. Name:	not applicable
4c. Business name (if applicable):	
4d. Street address:	
4e. City, state, zip:	
4f. Telephone no.:	
4g. Fax no.:	
4h. Email address:	
<b>5. Agent/Consultant Information (if applicable)</b>	
5a. Name:	not applicable
5b. Business name (if applicable):	
5c. Street address:	
5d. City, state, zip:	
5e. Telephone no.:	
5f. Fax no.:	
5g. Email address:	

<b>B. Project Information and Prior Project History</b>	
<b>1. Property Identification</b>	
1a. Property identification no. (tax PIN or parcel ID):	not applicable
1b. Site coordinates (in decimal degrees):	Latitude: 35.14610 (DD.DDDDDD) Longitude: - 80.55190 (-DD.DDDDDD)
1c. Property size:	3 acres
<b>2. Surface Waters</b>	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Goose
2b. Water Quality Classification of nearest receiving water:	C
2c. River basin:	Yadkin-Pee Dee
<b>3. Project Description</b>	
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: Mixed use of agricultural, forested & rural low density residential.	
3b. List the total estimated acreage of all existing wetlands on the property: 0.14	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 250	
3d. Explain the purpose of the proposed project: To replace a structurally deficient and functionally obsolete bridge.	
3e. Describe the overall project in detail, including the type of equipment to be used: Replacement of bridge number 29, a three span, 113' structure, with a three span 135' structure, over Goose Creek on NC 218. Cranes, backhoes, excavators will be used.	
<b>4. Jurisdictional Determinations</b>	
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): Mulkey/ Steven W. Lund	Agency/Consultant Company: Mulkey Other:
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. December 8, 2009.	
<b>5. Project History</b>	
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.	
<b>6. Future Project Plans</b>	
6a. Is this a phased project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, explain.	

C. Proposed Impacts Inventory						
1. Impacts Summary						
1a. Which sections were completed below for your project (check all that apply):						
<input checked="" type="checkbox"/> Wetlands		<input checked="" type="checkbox"/> Streams - tributaries		<input checked="" type="checkbox"/> Buffers		
<input type="checkbox"/> Open Waters		<input type="checkbox"/> Pond Construction				
2. Wetland Impacts						
If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.						
2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)	
W1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Mechanized Clearing	Riparian	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	<0.01	
W2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
W3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
W4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
W5 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
<b>2g. Total wetland impacts</b>					<0.01 (38 sq ft) mechanized clearing	
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)
S1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank Stabilization	Goose Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	35	6
S2 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Temporary Causeway	Goose Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	35	<0.01
S1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Temporary Fill assoc. w/ Bank Stabilization	Goose Creek	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	35	<0.01
S4 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
<b>3h. Total stream and tributary impacts</b>						6' linear, permanent impact  47 feet (0.01) acre of temporary impact

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3i. Comments:

**4. Open Water Impacts**

If there are proposed impacts to lakes, ponds, estuaries, tributaries, sounds, the Atlantic Ocean, or any other open water of the U.S. then individually list all open water impacts below.

4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 <input type="checkbox"/> P <input type="checkbox"/> T				
O2 <input type="checkbox"/> P <input type="checkbox"/> T				
O3 <input type="checkbox"/> P <input type="checkbox"/> T				
O4 <input type="checkbox"/> P <input type="checkbox"/> T				
<b>4f. Total open water impacts</b>				

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									
<b>5f. Total</b>									

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.

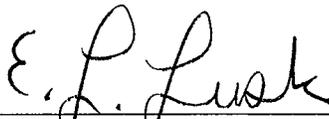
6a. Project is in which protected basin?		<input type="checkbox"/> Neuse <input type="checkbox"/> Tar-Pamlico <input checked="" type="checkbox"/> Other: Goose Creek <input type="checkbox"/> Catawba <input type="checkbox"/> Randleman			
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	3 Span Bridge	Goose	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7,854	0
B2 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Road Fill	Goose	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7,272	0
B3 <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Ditch/Road	Goose	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	16,124	0
<b>6h. Total buffer impacts</b>				31,250	0
6i. Comments:					

<b>D. Impact Justification and Mitigation</b>		
<b>1. Avoidance and Minimization</b>		
<p>1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project.</p> <ul style="list-style-type: none"> <li>-Promotion of sheet flow and infiltration with grassed shoulders except where shoulder berm gutter was used in the NW &amp; SW quadrants.</li> <li>-Drainage system in SE quadrant outlets to rip rap pad. Systems in NE &amp; NW quadrants outlet to pre formed scour hole.</li> <li>-No deck drains on bridge.</li> <li>-Removal of existing road fill under bridge will improve bridge conveyance and reduce bridge opening velocities.</li> <li>-Two (2) Hazardous Spill Basins and Detention Basin combination provided in SE and SW quadrant.</li> <li>-Grassed swale provided in SE quadrant.</li> </ul>		
<p>1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. Design Standards for Sensitive Watersheds will be used for this project.</p>		
<b>2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State</b>		
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	
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	
<b>3. Complete if Using a Mitigation Bank</b>		
3a. Name of Mitigation Bank: not applicable		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity

3c. Comments:				
<b>4. Complete if Making a Payment to In-lieu Fee Program</b>				
4a. Approval letter from in-lieu fee program is attached.		<input type="checkbox"/> Yes		
4b. Stream mitigation requested:		0 linear feet  The NCDOT does not propose mitigation for stream bank stabilization activities. Stabilizing the bank of a stream does not require fill in the stream bed and, therefore, under Section 404 of the Clean Water Act, does not constitute Loss of Waters of the U.S. and is not subject to compensatory mitigation. Furthermore, the proposed bank stabilization activities are necessary to prevent erosion and sedimentation, i.e. preventing bank destabilization and minimizing impacts to the environment.		
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):		n/a 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:				
<b>5. Complete if Using a Permittee Responsible Mitigation Plan</b>				
5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.				
<b>6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ</b>				
6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.				
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
<b>6f. Total buffer mitigation required:</b>				
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:				

<b>E. Stormwater Management and Diffuse Flow Plan (required by DWQ)</b>	
<b>1. Diffuse Flow Plan</b>	
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:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>2. Stormwater Management Plan</b>	
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 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
<b>3. Certified Local Government Stormwater Review</b>	
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
<b>4. DWQ Stormwater Program Review</b>	
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    N/A
<b>5. DWQ 401 Unit Stormwater Review</b>	
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

<b>F. Supplementary Information</b>	
<b>1. Environmental Documentation (DWQ Requirement)</b>	
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: PCE Signed January 2012.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>2. Violations (DWQ Requirement)</b>	
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):	
<b>3. Cumulative Impacts (DWQ Requirement)</b>	
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.	
<b>4. Sewage Disposal (DWQ Requirement)</b>	
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	

<b>5. Endangered Species and Designated Critical Habitat (Corps Requirement)</b>		
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 type="checkbox"/> Raleigh <input checked="" type="checkbox"/> Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat?  A BA/ BO is required for this project due to the Critical Area designation for the Carolina Heelsplitter by the USFWS. The remaining federally listed species for Union County include Michaux's sumac and Schweinitz's sunflower which were last surveyed for in 2012 and received a biological conclusion of No Effect.		
<b>6. Essential Fish Habitat (Corps Requirement)</b>		
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?		
<b>7. Historic or Prehistoric Cultural Resources (Corps Requirement)</b>		
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?		
<b>8. Flood Zone Designation (Corps Requirement)</b>		
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		
Applicant/Agent's Printed Name	 Applicant/Agent's Signature <small>(Agent's signature is valid only if an authorization letter from the applicant is provided.)</small>	4.18.13 Date



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



(Version 1.2; Released September 2011)

Project/TIP No.: B-5109 (42246.1.1) County(ies): Union Page 1 of 5

General Project Information

Project No.:	B-5109 (42246.1.1)		Project Type:	Bridge Replacement	Date:	11/19/2012	
NCDOT Contact:	Galen Cail		Contractor / Designer:	Galen Cail			
	Address:	1020 Birch Ridge Dr. Raleigh, N.C. 27610			Address:	1020 Birch Ridge Dr. Raleigh, N.C. 27610	
	Phone:	919.707.6711			Phone:	919.707.6711	
	Email:	gcail@ncdot.gov			Email:	gcail@ncdot.gov	
City/Town:	Nearest Town - Indian Trail		County(ies):	Union			
River Basin(s):	Yadkin-Pee Dee		CAMA County?	No			
Primary Receiving Water:	Goose Creek		NCDWQ Stream Index No.:				
NCDWQ Surface Water Classification for Primary Receiving Water	Primary:			Class C			
	Supplemental:						
Other Stream Classification:							
303(d) Impairments:							
Buffer Rules in Effect	Goose Creek						

Project Description

Project Length (lin. Miles or feet):	0.12	Surrounding Land Use:	Wooded/Fields			
	Proposed Project		Existing Site			
Project Built-Upon Area (ac.)	0.58	ac.	0.39	ac.		
Typical Cross Section Description:	12' Travel Lanes, 4' Paved Shoulder, 4' Grass Shoulders.Varying Side Slopes			10' Travel Lanes, 4' Grassed Shoulders RT, 5' Grassed Shoulder LT, 2:1 Side Slopes		
Average Daily Traffic (veh/hr/day):	Design/Future:	15,500 (2035)		Existing:	8,480 (2013)	

**General Project Narrative:**

The project consists of relocating Bridge# 29 on NC 218 over Goose Creek. The approach work will consist of raising the existing roadway grade and providing grass shoulders and guardrail. Bridge #29 existing 3 span structure (113' total length) will be replaced with a 3 span (1@35', 1@65',1@35') total 135' - 36" PSG bridge. Proposed Bridge #29 eliminates 1 bent in water.

Best Mgmt. Practices:

- Promotion of sheet flow and infiltration with grassed shoulders except where shoulder berm gutter to 2GI in the NW & SW quadrants.
- Drainage system in SE quadrant outlets to rip rap pad. Systems in NE & NW quadrants outlet to PSH.
- No Deck Drains on bridge.
- Removal of existing road fill under bridges will improve bridge conveyance and reduce bridge opening velocities.
- Two (2) Hazardous Spill Basins (HSB) and Detention Basin combo provided in SE and SW quad.
- Grassed swale provided in SE quad.

References









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

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**UNION COUNTY**

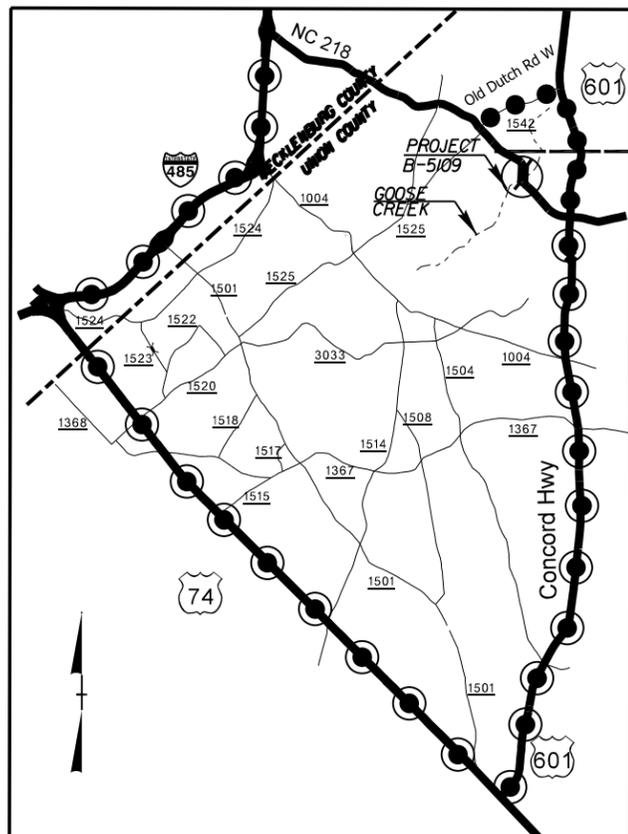
LOCATION: BRIDGE NO. 29 ON NC 218 OVER GOOSE CREEK

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5109	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
42246.1.1	BRSTP-0218(7)	PE	
42246.2.1	BRSTP-0218(7)	ROW, UTIL	



TIP PROJECT: B-5109

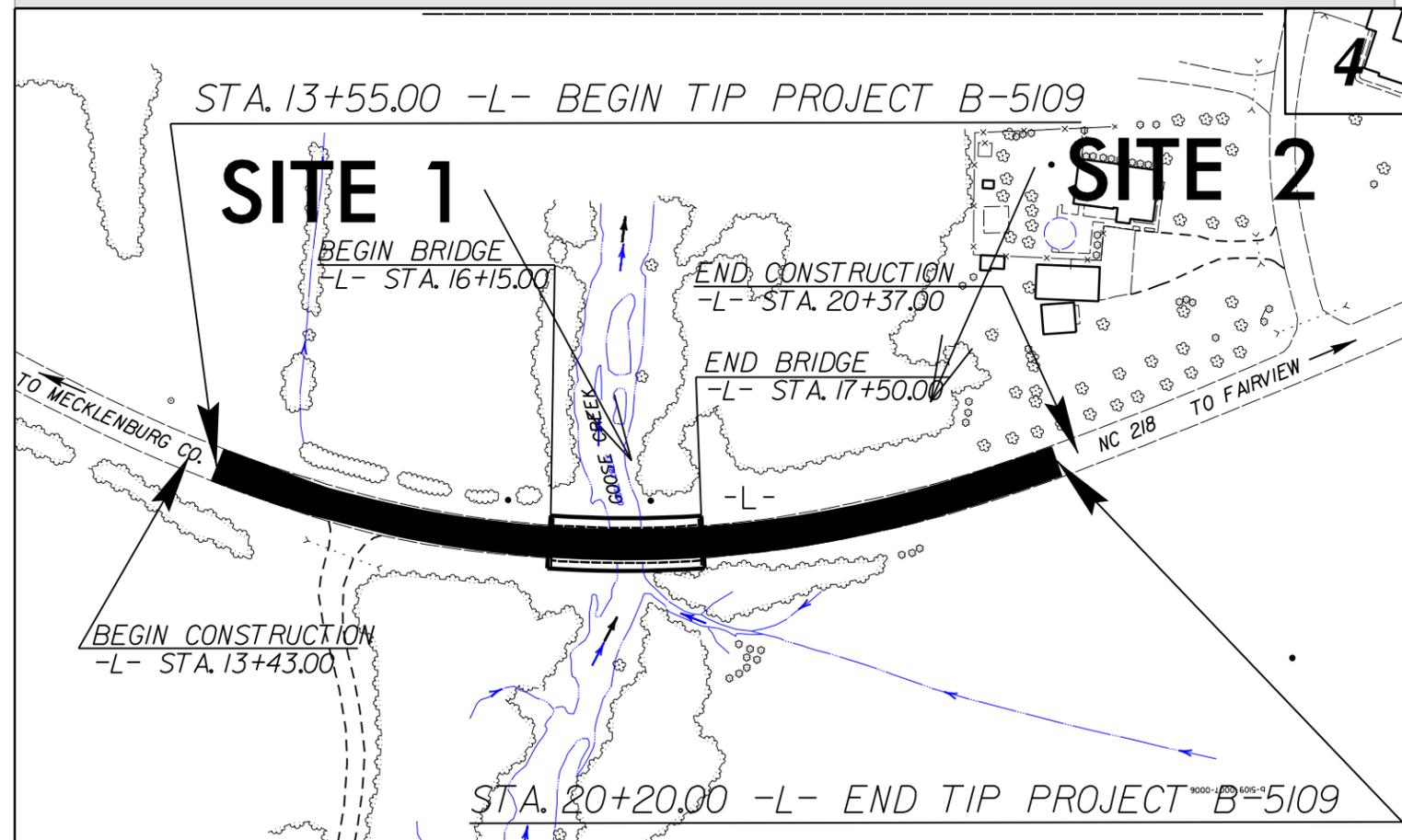


- DETOUR ROUTE
- TRUCK DETOUR ROUTE



**WETLAND AND SURFACE WATER IMPACTS PERMIT**

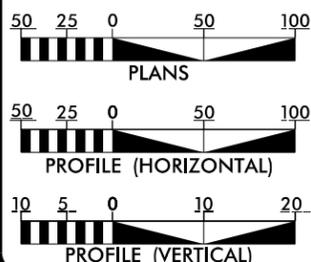
PERMIT DRAWING SHEET 1 OF 8



DESIGN EXCEPTION REQUIRED FOR: MIN. HORIZONTAL CURVE RADIUS AND HORIZONTAL SSD.  
THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF FAIRVIEW.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 8,480  
ADT 2035 = 15,500  
DHV = 12 %  
D = 65 %  
T = 17 % \*  
V = 55 MPH  
\*(TTST 8% + DUAL 9%)  
MAJOR COLLECTOR  
REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-5109 = 0.098 MILES  
LENGTH OF STRUCTURE TIP PROJECT B-5109 = 0.026 MILES  
TOTAL LENGTH OF TIP PROJECT B-5109 = 0.124 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
JULY 20, 2012  
LETTING DATE:  
OCTOBER 15, 2013

G. E. BREW, PE  
PROJECT ENGINEER

THAD F. DUNCAN, PE  
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.



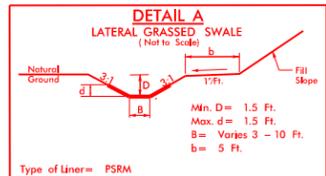
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CONTRACT: C203263

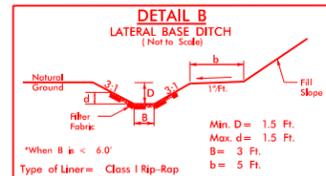


PROJECT REFERENCE NO. <b>B-5109</b>	SHEET NO. <b>4</b>
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

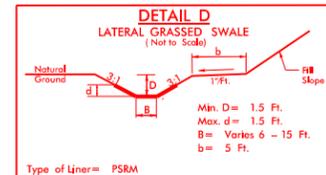
**PERMIT DRAWING**  
**SHEET 3 OF 8**



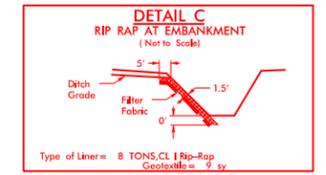
FROM STA. 16+90 TO STA. 19+85 -L- RT (DDE = ??? CY)  
(17+15 TO 19+00 - 10 Ft. WIDTH)  
(19+25 TO 19+85 - 3 Ft. WIDTH)



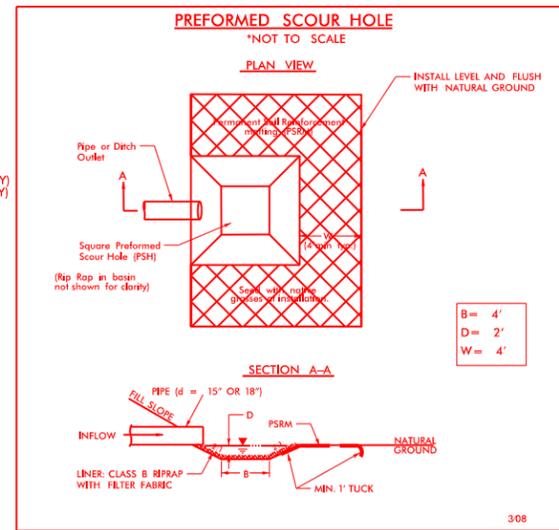
FROM STA. 19+50 TO STA. 20+35 -L- RT (DDE = 30 CY)  
FROM STA. 19+85 TO STA. 20+35 -L- LT (DDE = 25 CY)



FROM STA. 18+00 TO STA. 19+50 -L- RT (DDE = ??? CY)  
(18+15 TO 18+75 - 15 Ft. WIDTH)  
(19+00 TO 19+50 - 6 Ft. WIDTH)



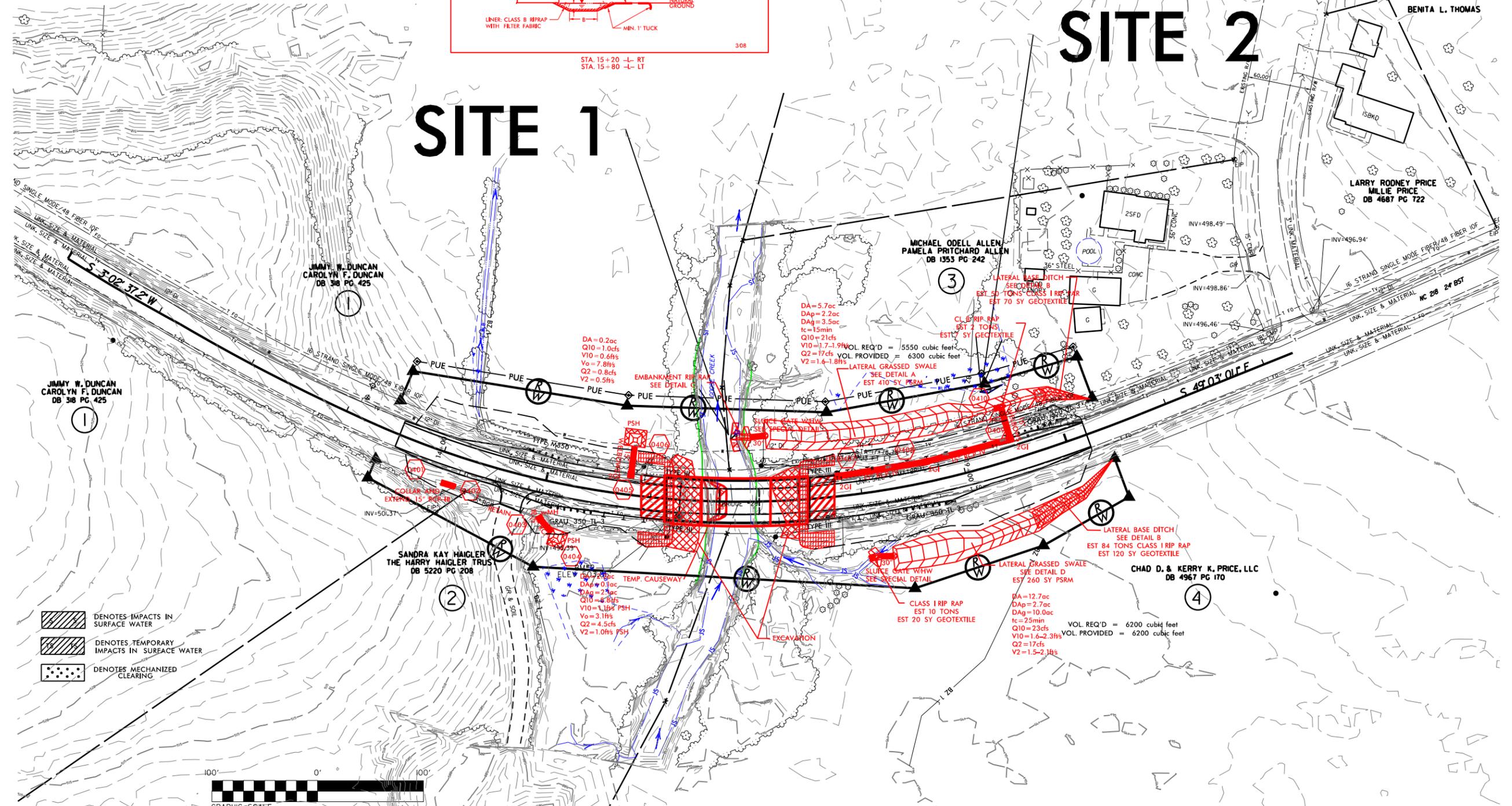
FROM STA. 16+82 TO STA. 16+95 -L- LT



STA. 15+20 -L- RT  
STA. 15+80 -L- LT

# SITE 1

# SITE 2



- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES MECHANIZED CLEARING



REVISIONS

2/27/2013  
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 \$\$\$\$\$\$APPROVED\$\$\$\$\$\$  
 \$\$\$\$\$\$DATE\$\$\$\$\$\$

# SITE 1

# SITE 2

PROJECT REFERENCE NO. B-5109	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

**PERMIT DRAWING**  
SHEET 4 OF 8

MICHAEL ODELL ALLEN  
PAMELA PRITCHARD ALLEN  
DB 1353 PG 242

LATERAL BASE DITCH  
SEE DETAIL B  
EST 50 TONS CLASS I RIP RAP  
EST 70 SY GEOTEXTILE

CL B RIP RAP  
EST 2 TONS  
EST 7 SY GEOTEXTILE

VOL. REQ'D = 5550 cubic feet  
VOL. PROVIDED = 6300 cubic feet

LATERAL GRASSED SWALE  
SEE DETAIL A  
EST 410 SY PSRM

DA = 0.2ac  
Q10 = 1.0cfs  
V10 = 0.6ft/s  
Vo = 7.8ft/s  
Q2 = 0.8cfs  
V2 = 0.5ft/s

EMBANKMENT RIP RAP  
SEE DETAIL C

SLUICE GATE WHW  
SEE SPECIAL DETAIL

COLLAR AND  
EXTEND 15" RCP-III

SANDRA KAY HAIGLER  
THE HARRY HAIGLER TRUST  
DB 5220 PG 208

DA = 2.2ac  
DAp = 0.1ac  
DAg = 2.1ac  
Q10 = 5.8cfs  
V10 = 1.1ft/s PSH  
Vo = 3.1ft/s  
Q2 = 4.5cfs  
V2 = 1.0ft/s PSH

TEMP. CAUSEWAY

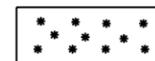
EXCAVATION

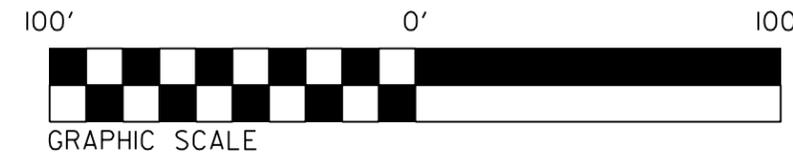
LATERAL BASE  
SEE DETAIL  
EST 84 TONS C  
EST 120 SY

LATERAL GRASSED SWALE  
SEE DETAIL D  
EST 260 SY PSRM

DA = 12.7ac  
DAp = 2.7ac  
DAg = 10.0ac  
tc = 25min  
Q10 = 23cfs  
V10 = 1.6-2.3ft/s  
Q2 = 17cfs  
V2 = 1.5-2.1ft/s

VOL. REQ'D = 6200 cubic feet  
VOL. PROVIDED = 6200 cubic feet

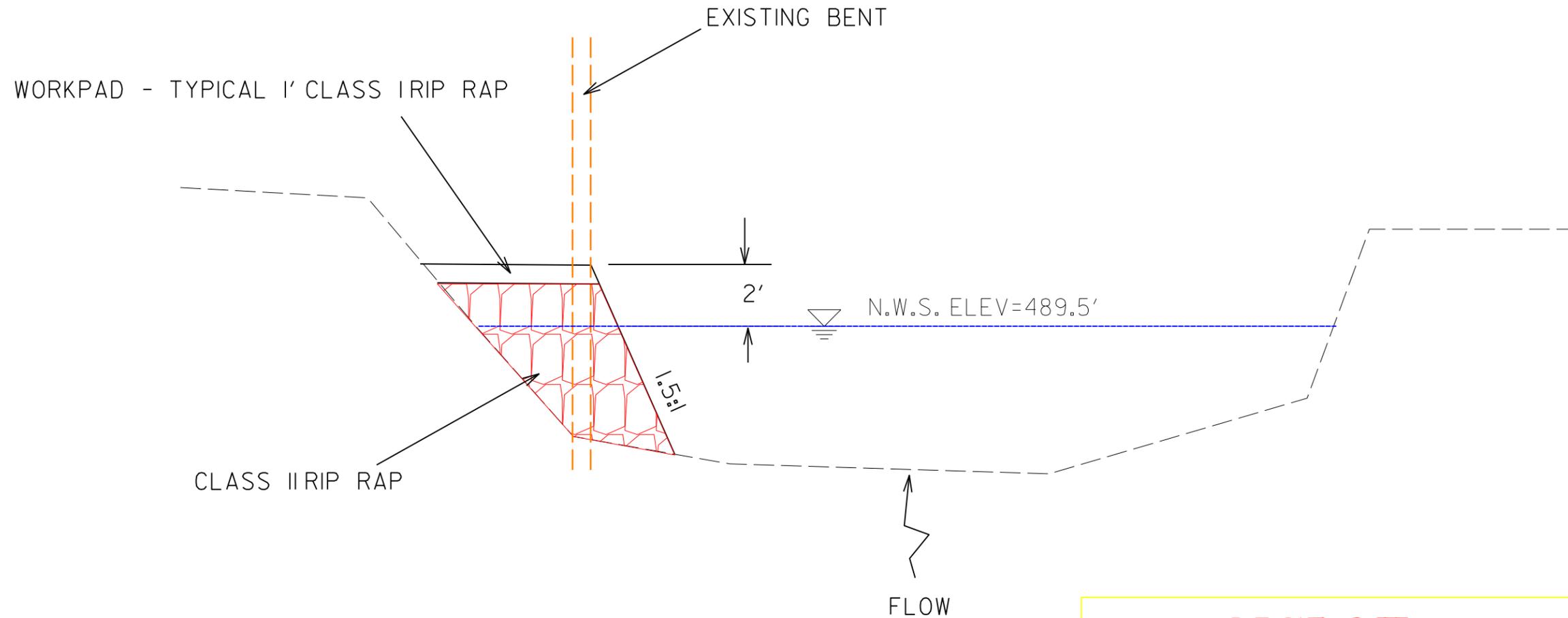
-  DENOTES MECHANIZED CLEARING
-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER



8/17/99  
 REVISIONS  
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 \$\$\$\$\$SYTIME\$\$\$\$\$\$  
 \$\$\$\$\$SYTIME\$\$\$\$\$\$

# WORKPAD DETAIL (NOT TO SCALE)

PERMIT DRAWING  
SHEET 5 OF 8



### QUANTITIES OF ESTIMATES

VOLUME OF CLASS II RIP RAP= 2200 cy  
AREA OF CLASS II RIP RAP= 0.01 ac  
ESTIMATE 120 TONS CLASS II RIP RAP  
ESTIMATE 15 TONS CLASS I RIP RAP

**NCDOT**  
**DIVISION OF HIGHWAYS**  
**UNION COUNTY**  
**PROJECT: 42246.1.1 (B-5109)**

**BRG. #29 ON NC 218**  
**OVER GOOSE CREEK**

**DEC 2012**



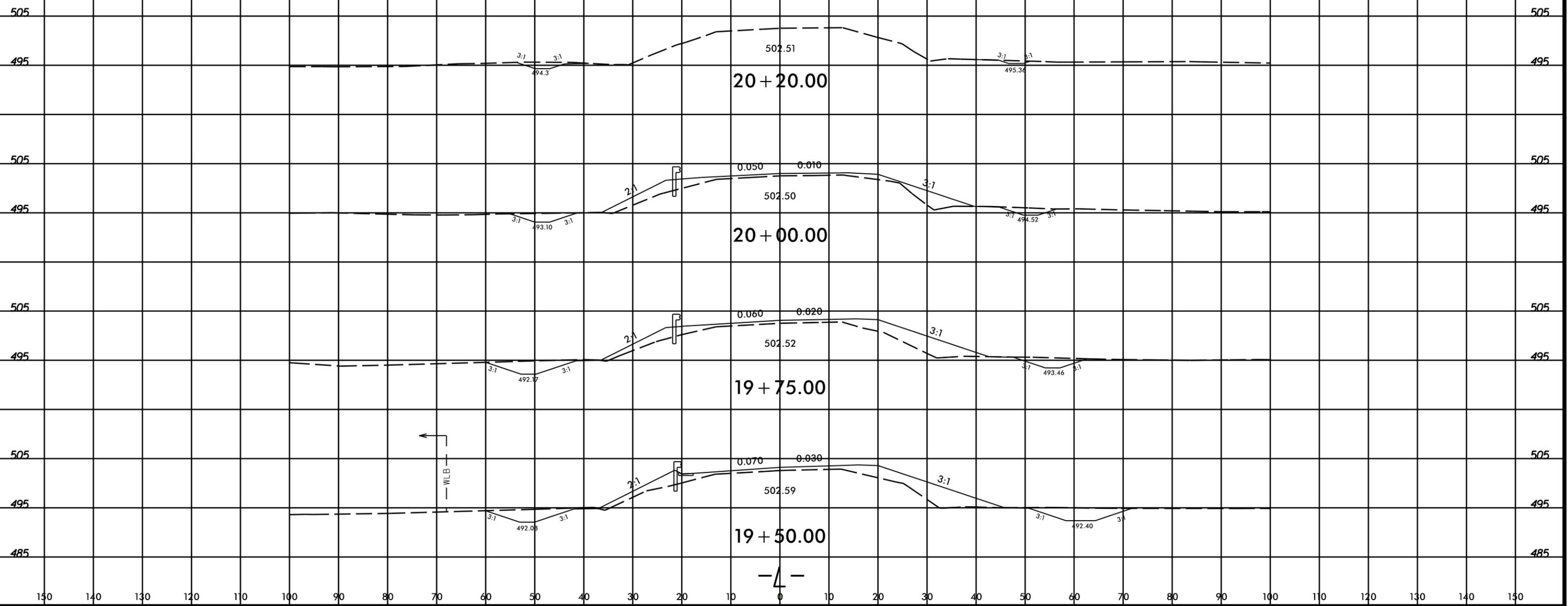
8/23/99



150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

PERMIT DRAWING  
SHEET 7 OF 8

END STATE PROJECT B-5109 STA. 20 + 20.00



2/27/2013  
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 User: j...  
 Title: B-5109\_Rdy\_xpl\_cm.dgn

**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	16+75 to 16+90-L-LT	Bank Stabilization						<0.01	<0.01	6	20	
	16+55 to 16+70-L-	Temp. Causeway							<0.01		27	
2	19+35 to 19+58-L-LT	Ditch				<0.01						
<b>TOTALS:</b>									0.01	6	47	



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



(Version 1.2; Released September 2011)

**Project/TIP No.:** B-5109 (42246.1.1)      **County(ies):** Union      **Page** 1 **of** 5

**General Project Information**

<b>Project No.:</b>	B-5109 (42246.1.1)		<b>Project Type:</b>	Bridge Replacement	<b>Date:</b>	11/19/2012
<b>NCDOT Contact:</b>	Galen Cail		<b>Contractor / Designer:</b>	Galen Cail		
	<b>Address:</b>	1020 Birch Ridge Dr. Raleigh, N.C. 27610			<b>Address:</b>	1020 Birch Ridge Dr. Raleigh, N.C. 27610
	<b>Phone:</b>	919.707.6711			<b>Phone:</b>	919.707.6711
	<b>Email:</b>	gcail@ncdot.gov			<b>Email:</b>	gcail@ncdot.gov
<b>City/Town:</b>	Nearest Town - Indian Trail		<b>County(ies):</b>	Union		
<b>River Basin(s):</b>	Yadkin-Pee Dee		<b>CAMA County?</b>	No		
<b>Primary Receiving Water:</b>	Goose Creek		<b>NCDWQ Stream Index No.:</b>			
<b>NCDWQ Surface Water Classification for Primary Receiving Water</b>			<b>Primary:</b>	Class C		
			<b>Supplemental:</b>			
<b>Other Stream Classification:</b>						
<b>303(d) Impairments:</b>						
<b>Buffer Rules in Effect</b>	Goose Creek					

**Project Description**

<b>Project Length (lin. Miles or feet):</b>	0.12	<b>Surrounding Land Use:</b>	Wooded/Fields			
	<b>Proposed Project</b>			<b>Existing Site</b>		
<b>Project Built-Upon Area (ac.)</b>	0.58	ac.	0.39	ac.		
<b>Typical Cross Section Description:</b>	12' Travel Lanes, 4' Paved Shoulder, 4' Grass Shoulders.Varying Side Slopes			10' Travel Lanes, 4' Grassed Shoulders RT, 5' Grassed Shoulder LT, 2:1 Side Slopes		
<b>Average Daily Traffic (veh/hr/day):</b>	<b>Design/Future:</b>	15,500 (2035)	<b>Existing:</b>	8,480 (2013)		

**General Project Narrative:**

The project consists of relocating Bridge# 29 on NC 218 over Goose Creek. The approach work will consist of raising the existing roadway grade and providing grass shoulders and guardrail. Bridge #29 existing 3 span structure (113' total length) will be replaced with a 3 span (1@35', 1@65',1@35') total 135' - 36" PSG bridge. Proposed Bridge #29 eliminates 1 bent in water.

Best Mgmt. Practices:

- Promotion of sheet flow and infiltration with grassed shoulders except where shoulder berm gutter to 2GI in the NW & SW quadrants.
- Drainage system in SE quadrant outlets to rip rap pad. Systems in NE & NW quadrants outlet to PSH.
- No Deck Drains on bridge.
- Removal of existing road fill under bridges will improve bridge conveyance and reduce bridge opening velocities.
- Two (2) Hazardous Spill Basins (HSB) and Detention Basin combo provided in SE and SW quad.
- Grassed swale provided in SE quad.

**References**









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

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**UNION COUNTY**

LOCATION: BRIDGE NO. 29 ON NC 218 OVER GOOSE CREEK

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

**BUFFER IMPACTS PERMIT**

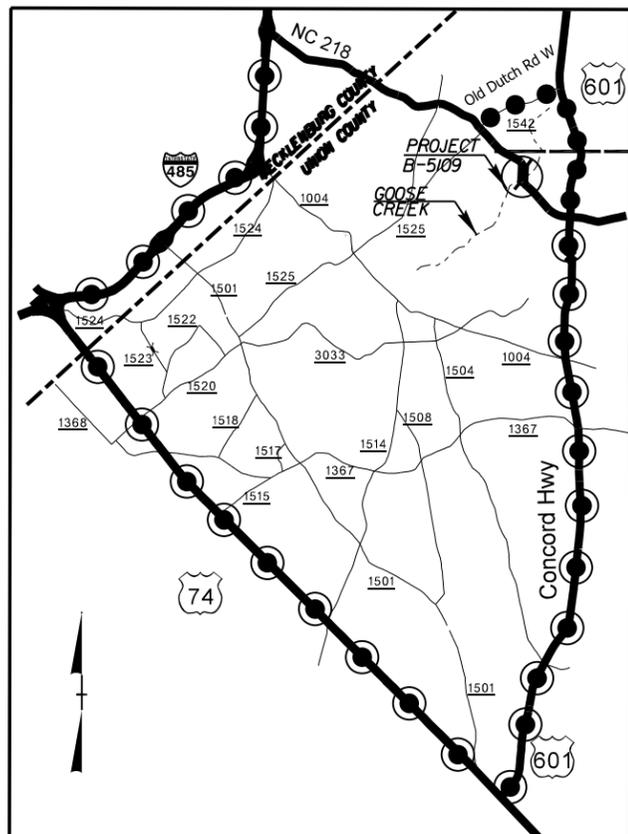
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5109	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
42246.1.1	BRSTP-0218(7)	PE	
42246.2.1	BRSTP-0218(7)	ROW, UTIL	



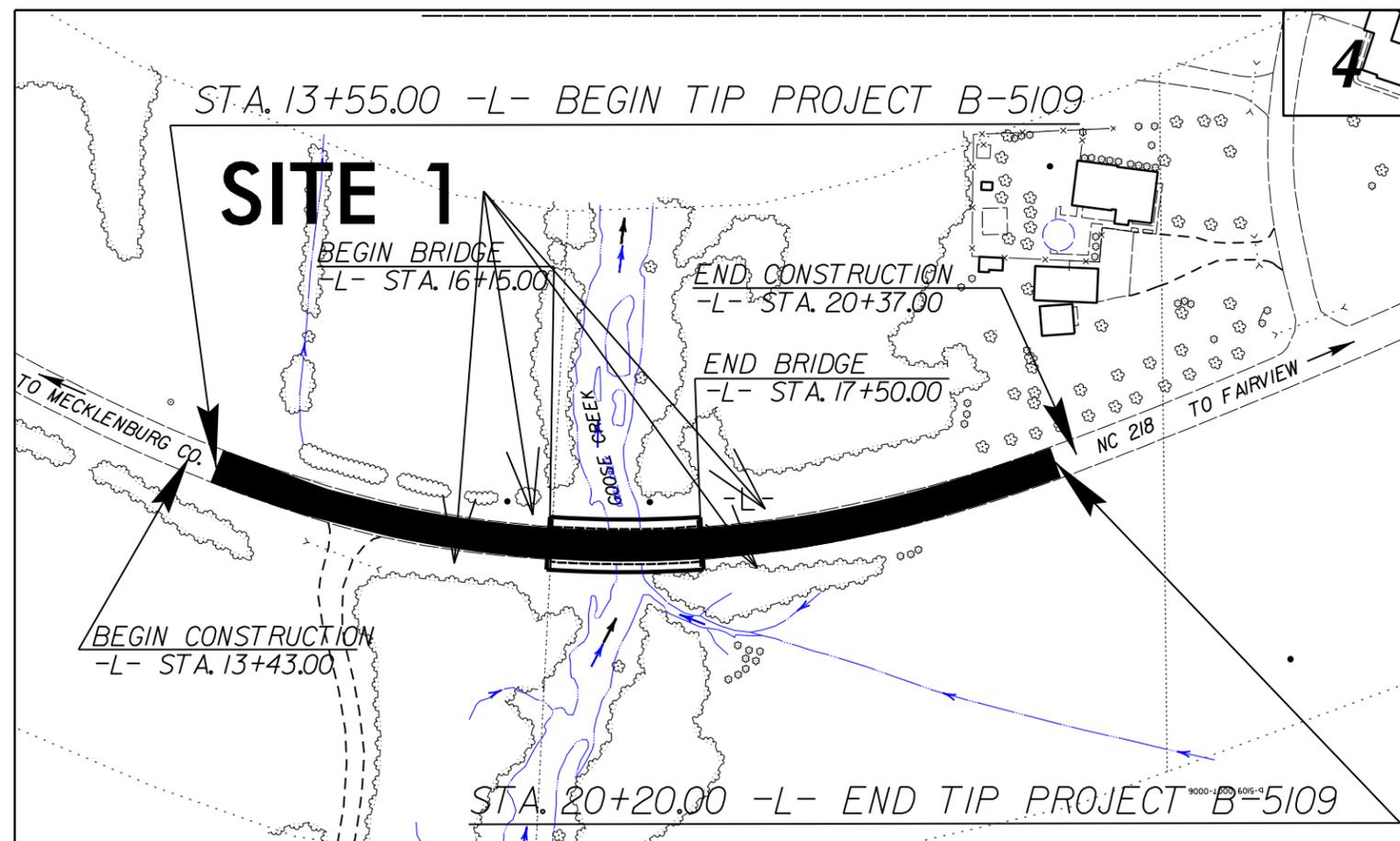
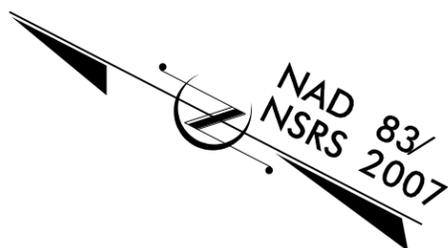
BUFFER DRAWING SHEET 1 OF 7

TIP PROJECT: B-5109

CONTRACT: C203263



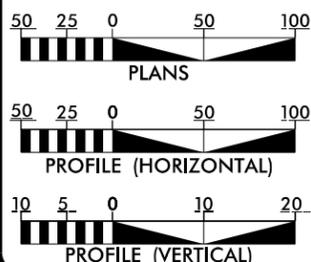
- DETOUR ROUTE
- TRUCK DETOUR ROUTE



DESIGN EXCEPTION REQUIRED FOR: MIN. HORIZONTAL CURVE RADIUS AND HORIZONTAL SSD.  
THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF FAIRVIEW.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

**GRAPHIC SCALES**



**DESIGN DATA**

ADT 2013 = 8,480  
ADT 2035 = 15,500  
DHV = 12 %  
D = 65 %  
T = 17 % \*  
V = 55 MPH  
\*(TTST 8% + DUAL 9%)  
MAJOR COLLECTOR  
REGIONAL TIER

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT B-5109 = 0.098 MILES  
LENGTH OF STRUCTURE TIP PROJECT B-5109 = 0.026 MILES  
TOTAL LENGTH OF TIP PROJECT B-5109 = 0.124 MILES

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

2012 STANDARD SPECIFICATIONS  
RIGHT OF WAY DATE:  
JULY 20, 2012  
LETTING DATE:  
OCTOBER 15, 2013

G. E. BREW, PE  
PROJECT ENGINEER

THAD F. DUNCAN, PE  
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.

ROADWAY DESIGN  
ENGINEER

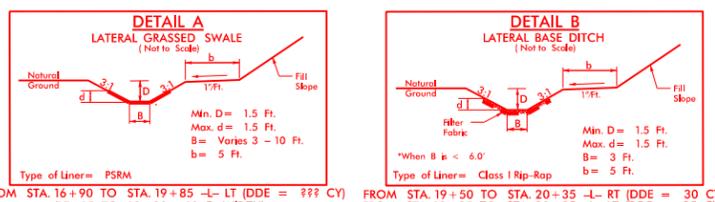
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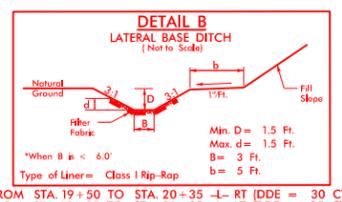
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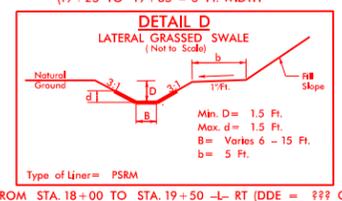
## SHEET 2 OF 7



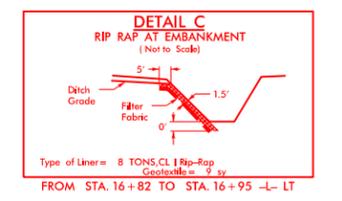
FROM STA. 16+90 TO STA. 19+85 -L- LT (DDE = ??? CY)  
(17+15 TO 19+00 - 10 Ft. WIDTH)  
(19+25 TO 19+85 - 3 Ft. WIDTH)



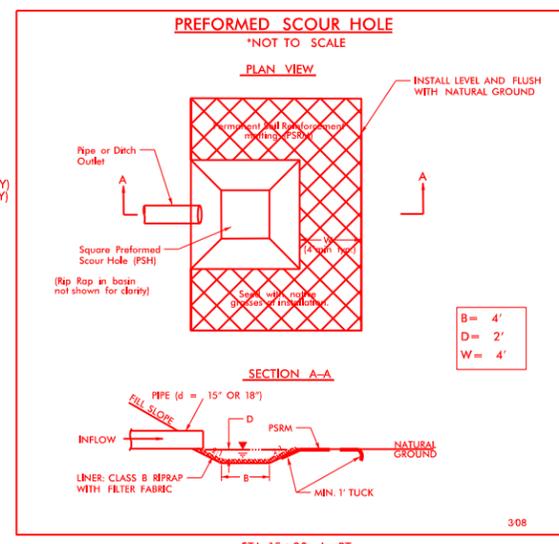
FROM STA. 19+50 TO STA. 20+35 -L- RT (DDE = 30 CY)  
FROM STA. 19+85 TO STA. 20+35 -L- LT (DDE = 25 CY)



FROM STA. 18+00 TO STA. 19+50 -L- RT (DDE = ??? CY)  
(18+15 TO 18+75 - 15 Ft. WIDTH)  
(19+00 TO 19+50 - 6 Ft. WIDTH)

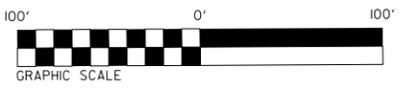
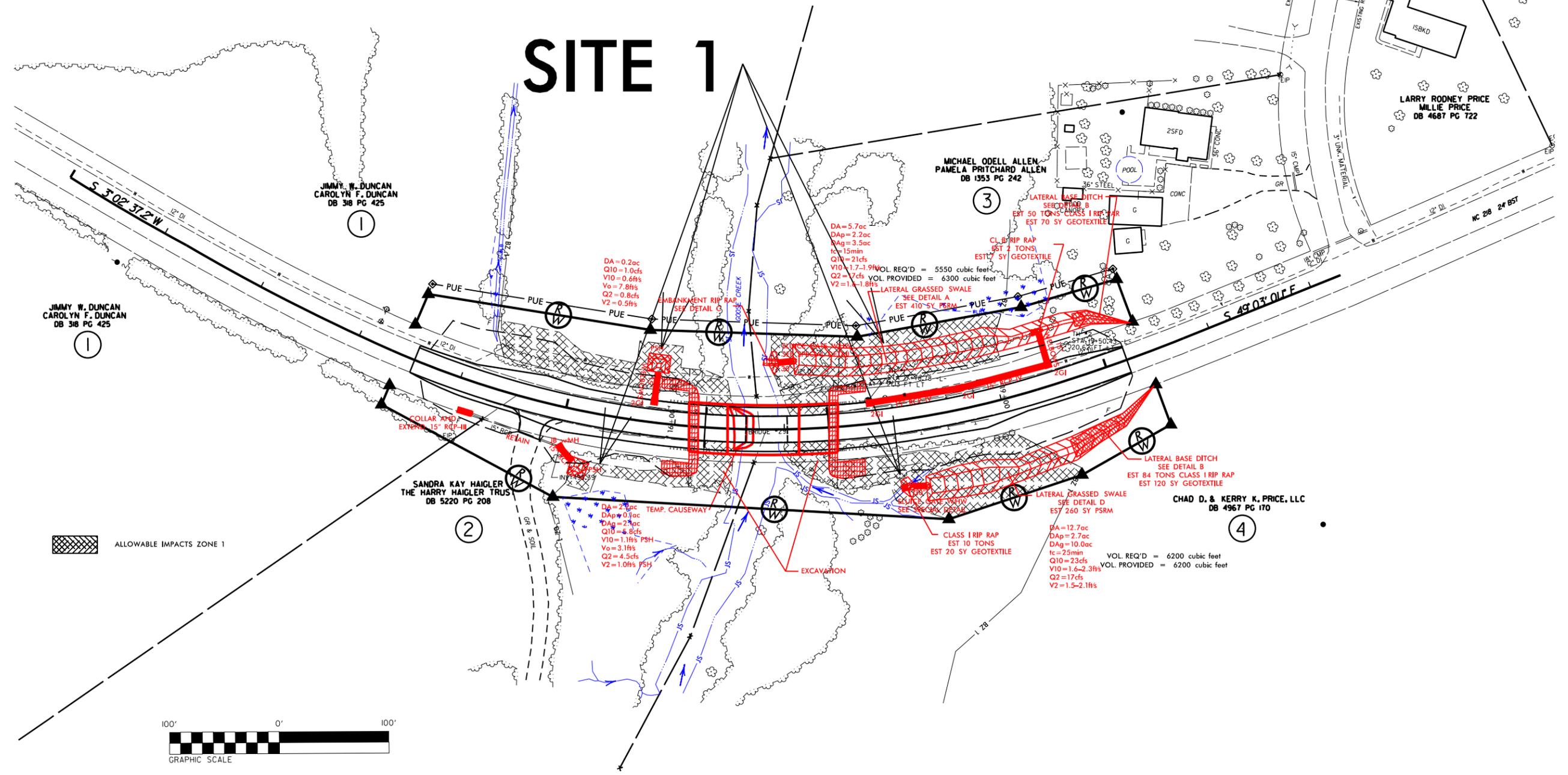


FROM STA. 16+82 TO STA. 16+95 -L- LT



STA. 15+20 -L- RT  
STA. 15+80 -L- LT

# SITE 1

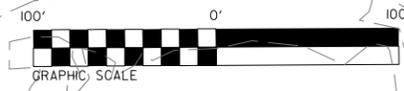
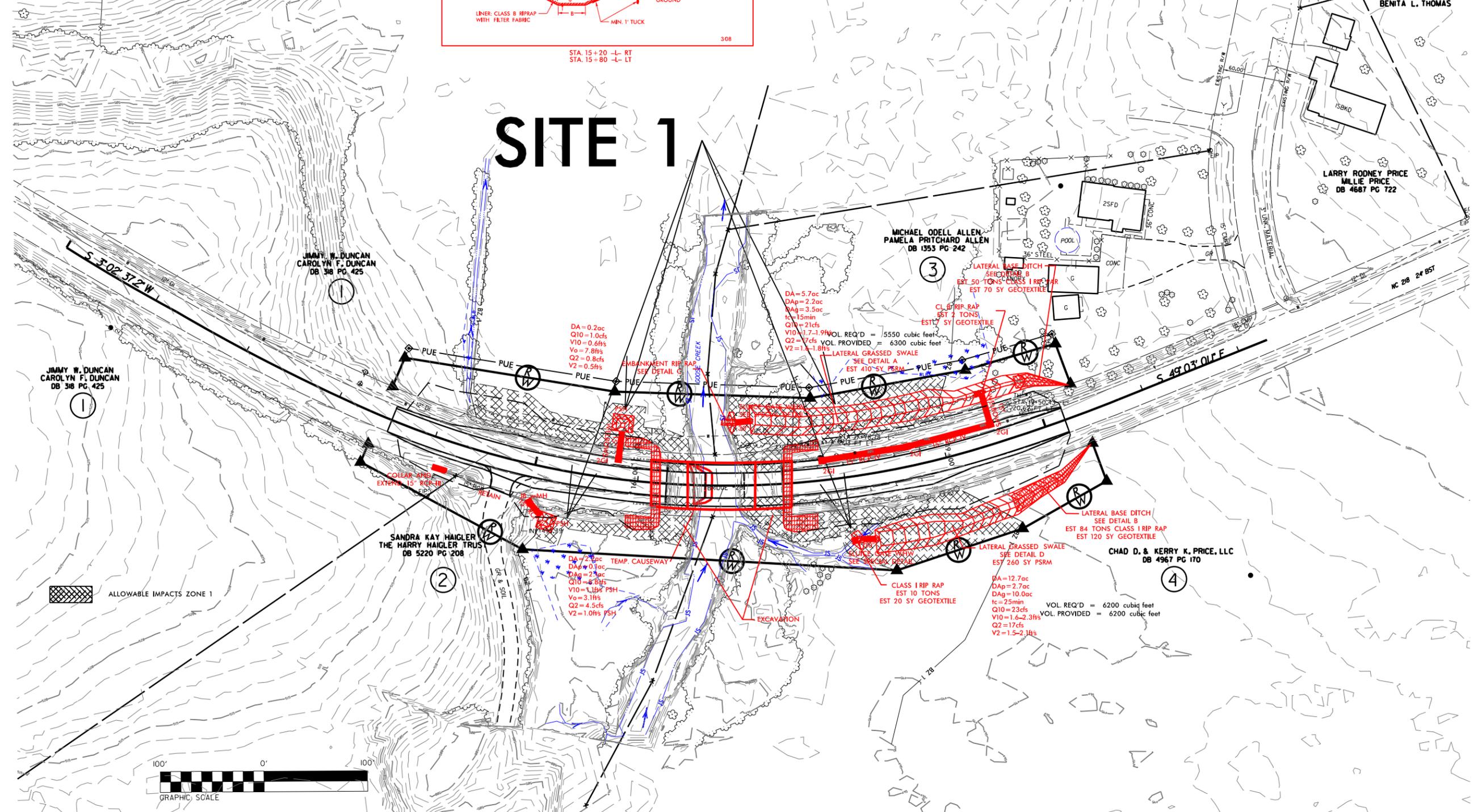
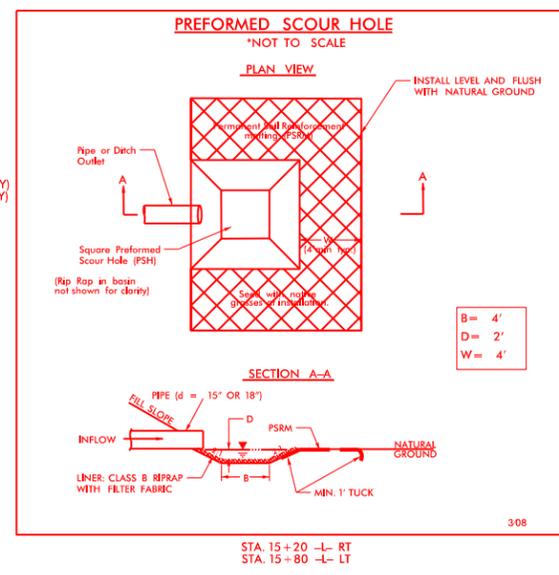
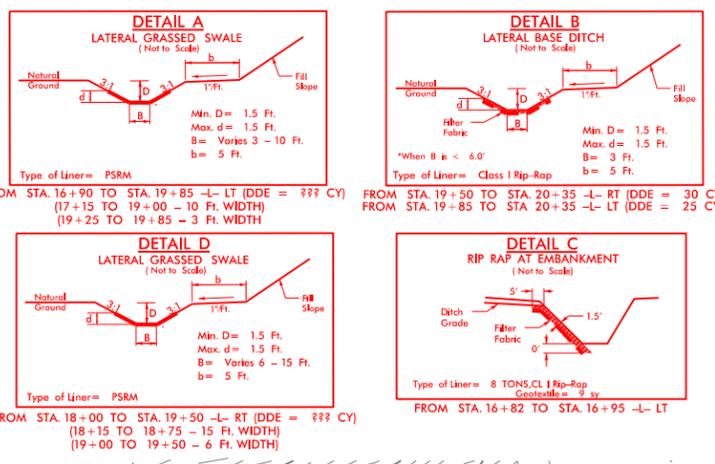


REVISIONS

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PROJECT REFERENCE NO. <b>B-5109</b>	SHEET NO. <b>4</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

**BUFFER DRAWING**  
**SHEET 3 OF 7**



REVISIONS

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PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

PERMIT DRAWING  
SHEET 5 OF 7

BM \* 2 ELEV. 503.05'  
DESCRIPTION: CHISELED SQUARE ON NW SIDE  
OF BRIDGE WING WALL

BRIDGE HYDRAULIC DATA		
DESIGN DISCHARGE	= 4030	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 497.8	FT
BASE DISCHARGE	= 5746	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 498.9	FT
OVERTOPPING DISCHARGE	= 7480	CFS
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING ELEVATION	= 502.3	FT
	=	FT
DATE OF SURVEY	=	
N.W.S. ELEVATION AT DATE OF SURVEY	= 489.5	FT

BEGIN GRADE -L- STA. 13+55.00  
ELEV. 508.19'

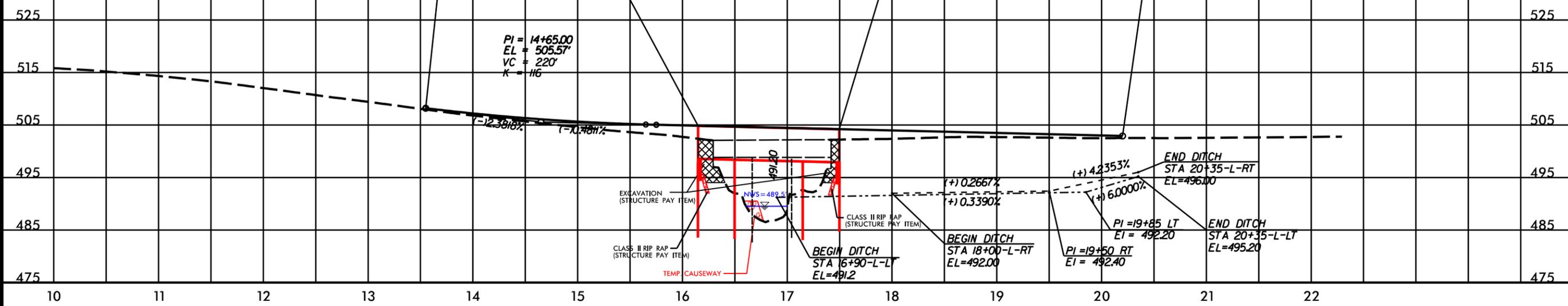
**-L-**

END GRADE -L- STA. 20+20.00  
ELEV. 502.90'

BEGIN BRIDGE  
STA. 16+15.00

END BRIDGE  
STA. 17+50.00

PI = 14+65.00  
EL = 505.57'  
VC = 220'  
K = 116



EXCAVATION  
(STRUCTURE PAY ITEM)

CLASS II RIP RAP  
(STRUCTURE PAY ITEM)

TEMP. CAUSEWAY

CLASS II RIP RAP  
(STRUCTURE PAY ITEM)

BEGIN DITCH  
STA 16+90-L-LT  
EL=491.2

BEGIN DITCH  
STA 18+00-L-RT  
EL=492.00

PI=19+50 RT  
EI= 492.40

PI=19+85 LT  
EI= 492.20

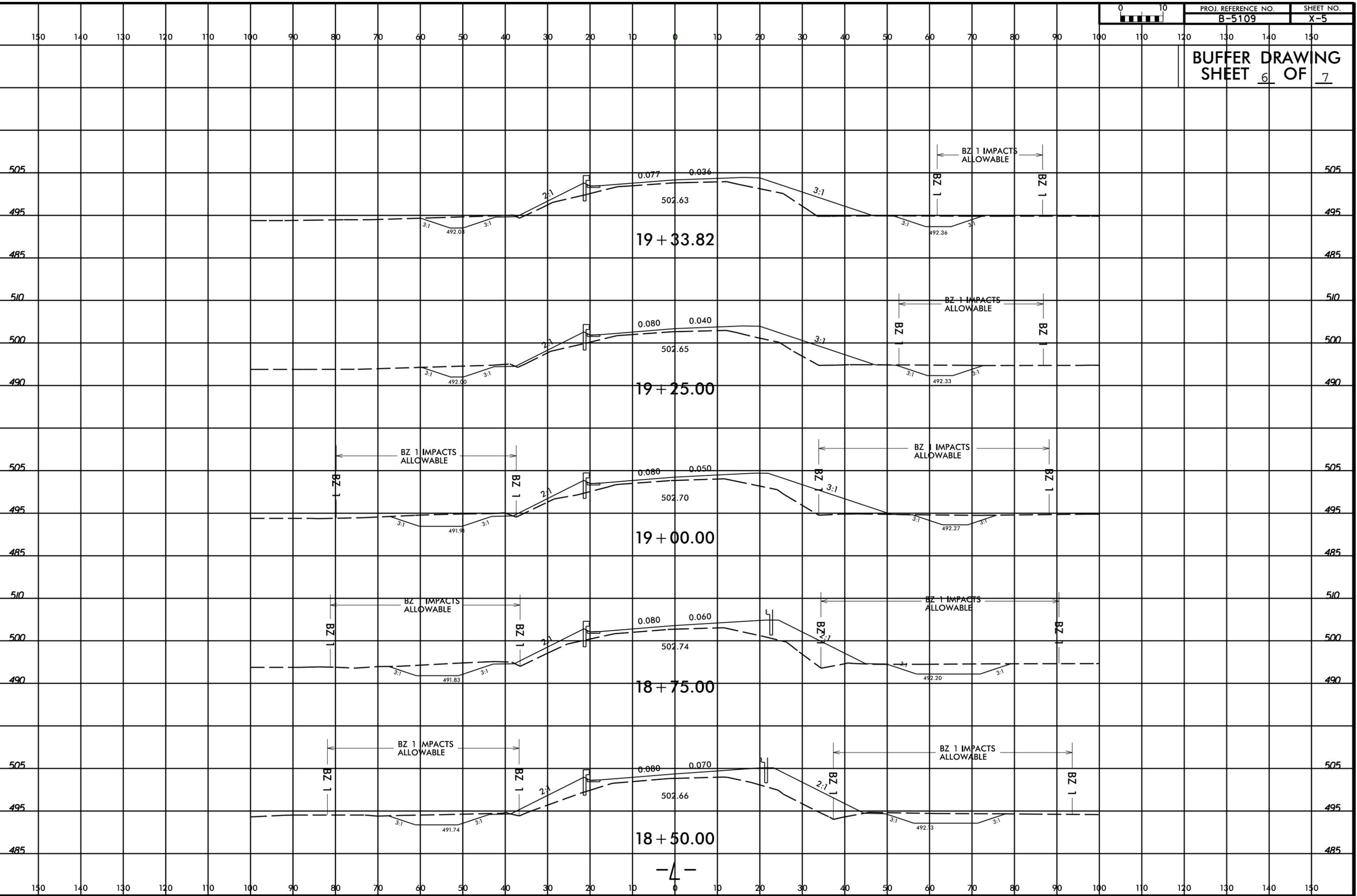
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STA 20+35-L-RT  
EL=496.00

END DITCH  
STA 20+35-L-LT  
EL=495.20

8/23/99



BUFFER DRAWING SHEET 6 OF 7



2/27/2013  
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### BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )	TOTAL (ft <sup>2</sup> )	ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )	TOTAL (ft <sup>2</sup> )		
1	3 Span Bridge	16+15 to 17+50 -L-		X		7854		7854					
1	Road/PSH	14+30 LT to 16+15-L- LT/RT	X			7272		7272					
1	Ditch/Road	17+50 LT/RT to 19+51-L- RT	X			16124		16124					
<b>TOTAL:</b>						31250.0	0.0	31250.0	0.0	0.0	0.0		

\* Linear impacts along Goose Creek = 150 Feet

N.C. DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
  
 UNION COUNTY  
 PROJECT: 42246.1.1 (B-5109)  
  
 2/25/2013  
 SHEET 7 OF 7

09/08/14

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

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

## UNION COUNTY

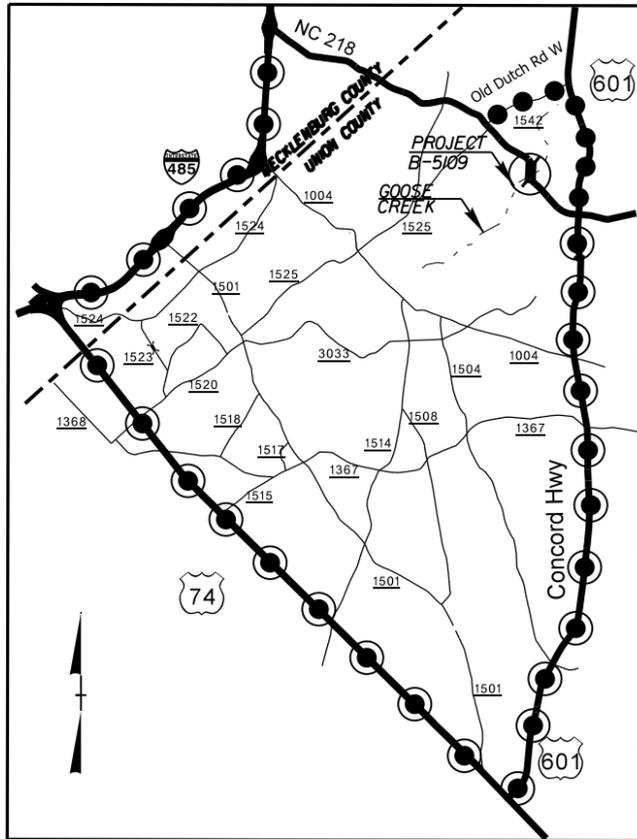
LOCATION: BRIDGE NO. 29 ON NC 218 OVER GOOSE CREEK

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

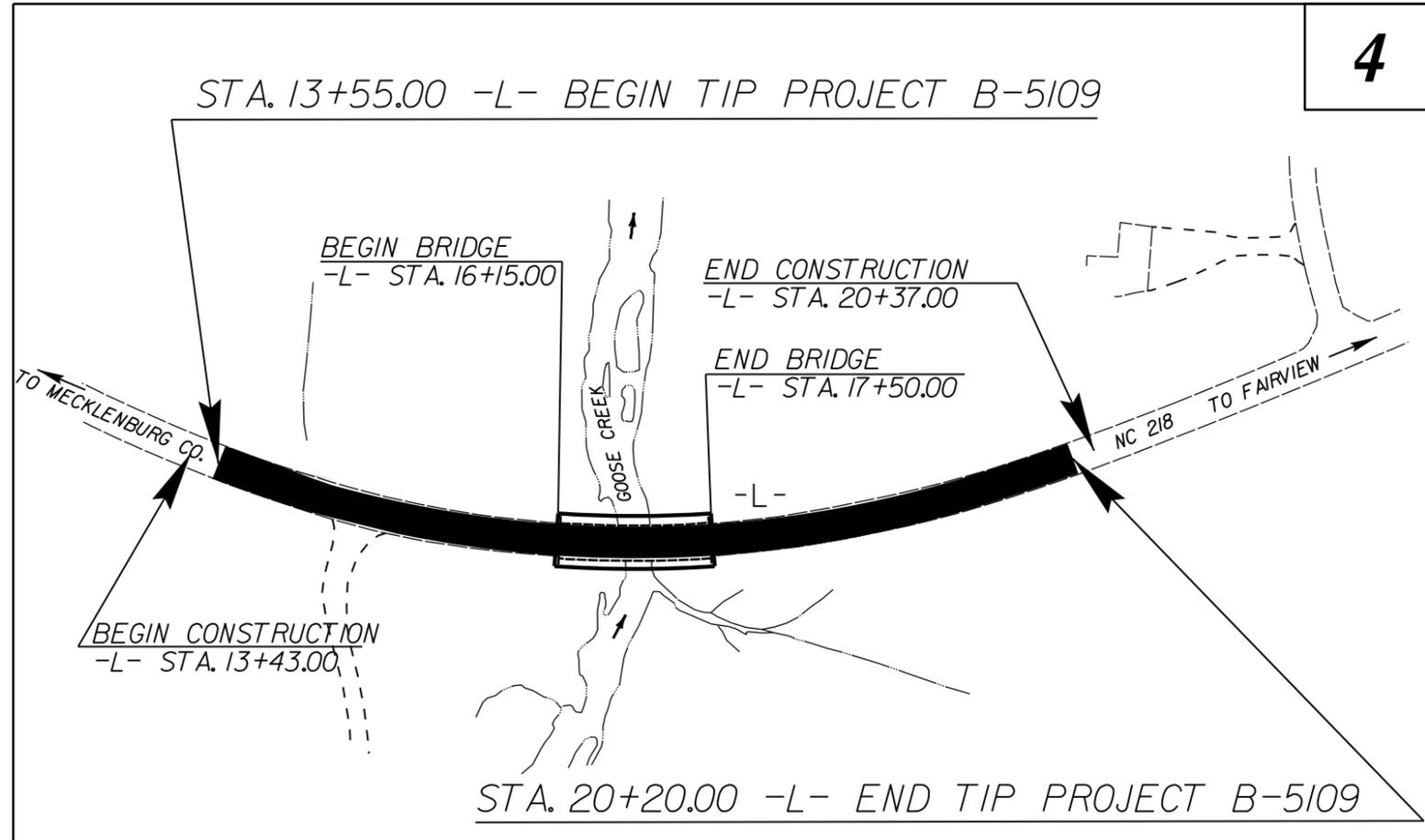
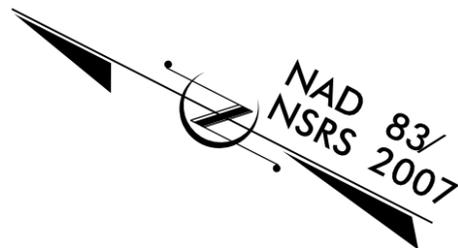
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5109	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
42246.1.1	BRSTP-0218(7)	PE	
42246.2.1	BRSTP-0218(7)	ROW, UTIL	



TIP PROJECT: B-5109



- DETOUR ROUTE
- TRUCK DETOUR ROUTE

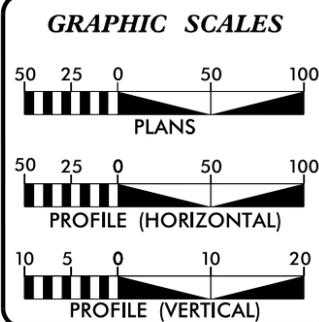


4

DESIGN EXCEPTION REQUIRED FOR: MIN. HORIZONTAL CURVE RADIUS AND HORIZONTAL SSD.  
 THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF FAIRVIEW.  
 CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

CONTRACT:



**DESIGN DATA**

ADT 2013 =	8,480
ADT 2035 =	15,500
DHV =	12 %
D =	65 %
T =	17 % *
V =	55 MPH
*(TTST 8% + DUAL 9%)	
MAJOR COLLECTOR REGIONAL TIER	

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT B-5109 =	0.098 MILES
LENGTH OF STRUCTURE TIP PROJECT B-5109 =	0.026 MILES
TOTAL LENGTH OF TIP PROJECT B-5109 =	0.124 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JULY 20, 2012	G. E. BREW, PE PROJECT ENGINEER
LETTING DATE: OCTOBER 15, 2013	THAD F. DUNCAN, PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.



24-JUL-2012 10:51 R:\PROJECTS\14-0001\B-5109\_Rdy\_tsh.dgn \$\$\$USERNAME\$\$\$

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# CONVENTIONAL PLAN SHEET SYMBOLS

**Note: Not to Scale**

\*S.U.E. = *Subsurface Utility Engineering*

**BOUNDARIES AND PROPERTY:**

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

**BUILDINGS AND OTHER CULTURE:**

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□ †
Building	□
School	□
Church	□
Dam	▬

**HYDROLOGY:**

Stream or Body of Water	-----
Hydro, Pool or Reservoir	-----
Jurisdictional Stream	---JS---
Buffer Zone 1	---BZ 1---
Buffer Zone 2	---BZ 2---
Flow Arrow	←
Disappearing Stream	-----
Spring	○
Wetland	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	-----

**RAILROADS:**

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

**RIGHT OF WAY:**

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite RW Marker	-----
Proposed Control of Access Line with Concrete C/A Marker	-----
Existing Control of Access	-----
Proposed Control of Access	-----
Existing Easement Line	---E---
Proposed Temporary Construction Easement	---E---
Proposed Temporary Drainage Easement	---TDE---
Proposed Permanent Drainage Easement	---PDE---
Proposed Permanent Drainage / Utility Easement	---DUE---
Proposed Permanent Utility Easement	---PUE---
Proposed Temporary Utility Easement	---TUE---
Proposed Aerial Utility Easement	---AUE---
Proposed Permanent Easement with Iron Pin and Cap Marker	-----

**ROADS AND RELATED FEATURES:**

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	---C---
Proposed Slope Stakes Fill	---F---
Proposed Curb Ramp	○ CR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----
<b>VEGETATION:</b>	
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	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊕
Storm Sewer	-----

**UTILITIES:**

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

**TELEPHONE:**

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

**WATER:**

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	-----

**TV:**

TV Satellite Dish	☼
TV Pedestal	□
TV Tower	⊗
U/G TV Cable Hand Hole	□
Recorded U/G TV Cable	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

**GAS:**

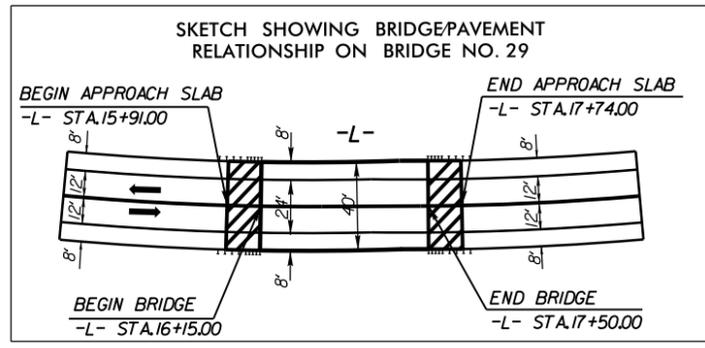
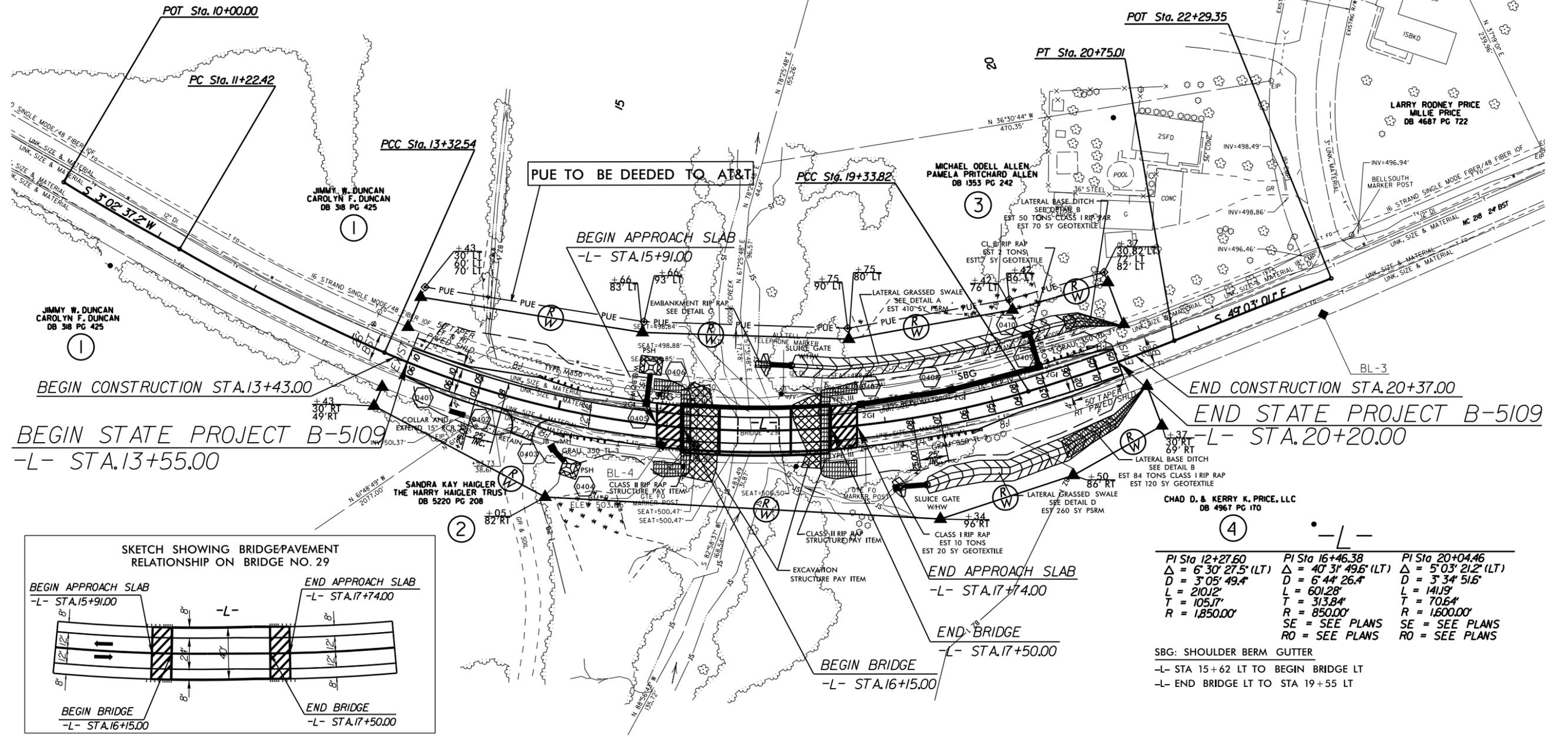
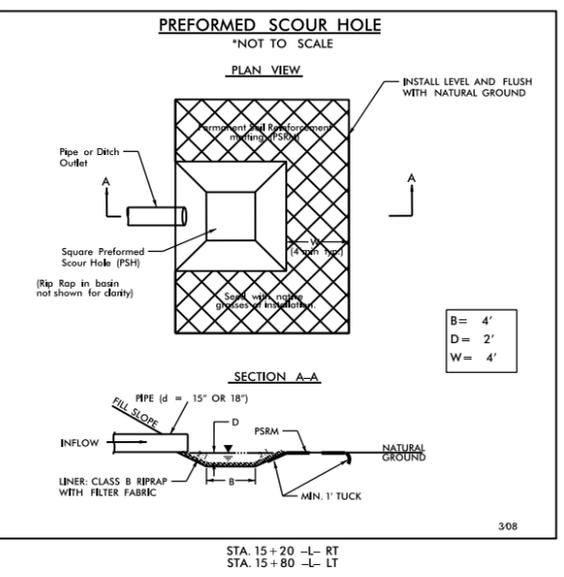
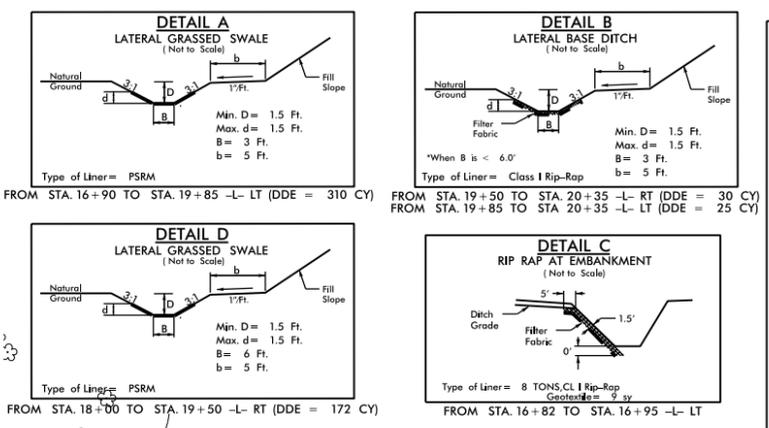
Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	-----

**SANITARY SEWER:**

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

**MISCELLANEOUS:**

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	□
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊗
U/G Test Hole (S.U.E.*)	⊗
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.



PI Sta 12+27.60 Δ = 6' 30" 27.5' (LT) D = 3' 05" 49.4" L = 210.12' T = 105.17' R = 1,850.00'	PI Sta 16+46.38 Δ = 40' 31" 49.6' (LT) D = 6' 44" 26.4" L = 60.28' T = 313.84' R = 850.00' SE = SEE PLANS RO = SEE PLANS	PI Sta 20+04.46 Δ = 5' 03" 21.2' (LT) D = 3' 34" 51.6" L = 141.9' T = 70.64' R = 1,600.00' SE = SEE PLANS RO = SEE PLANS
---	---	---

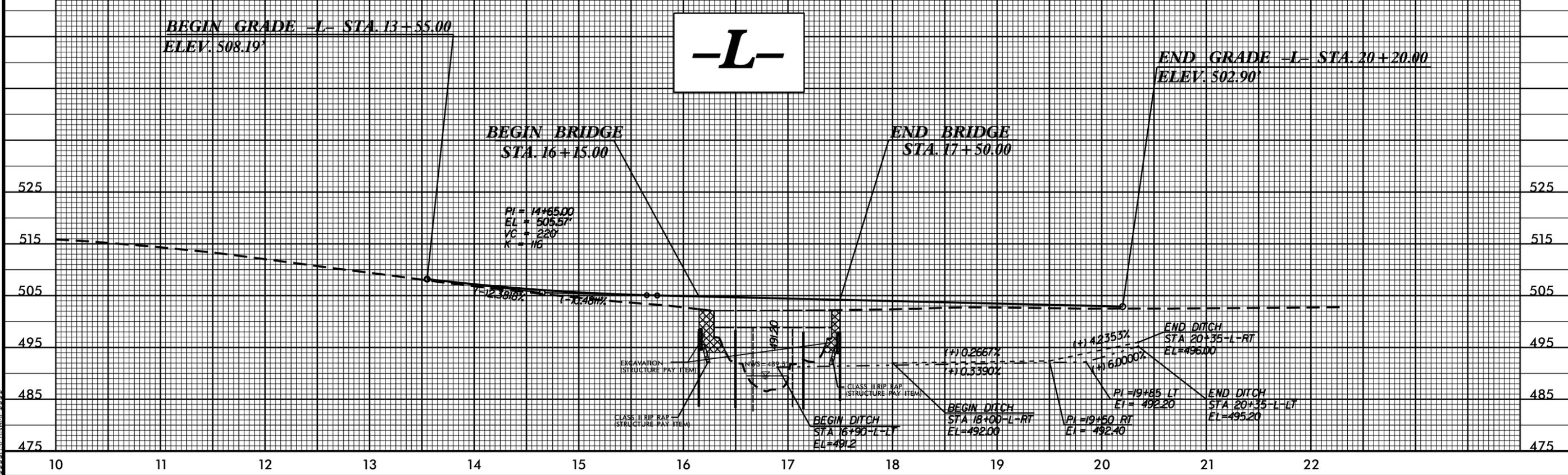
SBG: SHOULDER BERM GUTTER  
 -L- STA 15+62 LT TO BEGIN BRIDGE LT  
 -L- END BRIDGE LT TO STA 19+55 LT

REVISIONS

24-JUL-2012 10:51 AM  
 R:\Road\B-5109\_Rd\psh.dgn  
 \$\$\$\$  
 \$\$\$\$  
 \$\$\$\$

BM \* 2 ELEV. 503.05'  
DESCRIPTION: CHISELED SQUARE ON NW SIDE OF BRIDGE WING WALL

BRIDGE HYDRAULIC DATA		
DESIGN DISCHARGE	= 4030	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 497.8	FT
BASE DISCHARGE	= 4900	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 498.9	FT
OVERTOPPING DISCHARGE	= +7480	CFS
OVERTOPPING FREQUENCY	= +500	YRS
OVERTOPPING ELEVATION	= 502.3	FT
DATE OF SURVEY	=	FT
N.W.S. ELEVATION AT DATE OF SURVEY	= 489.5	FT



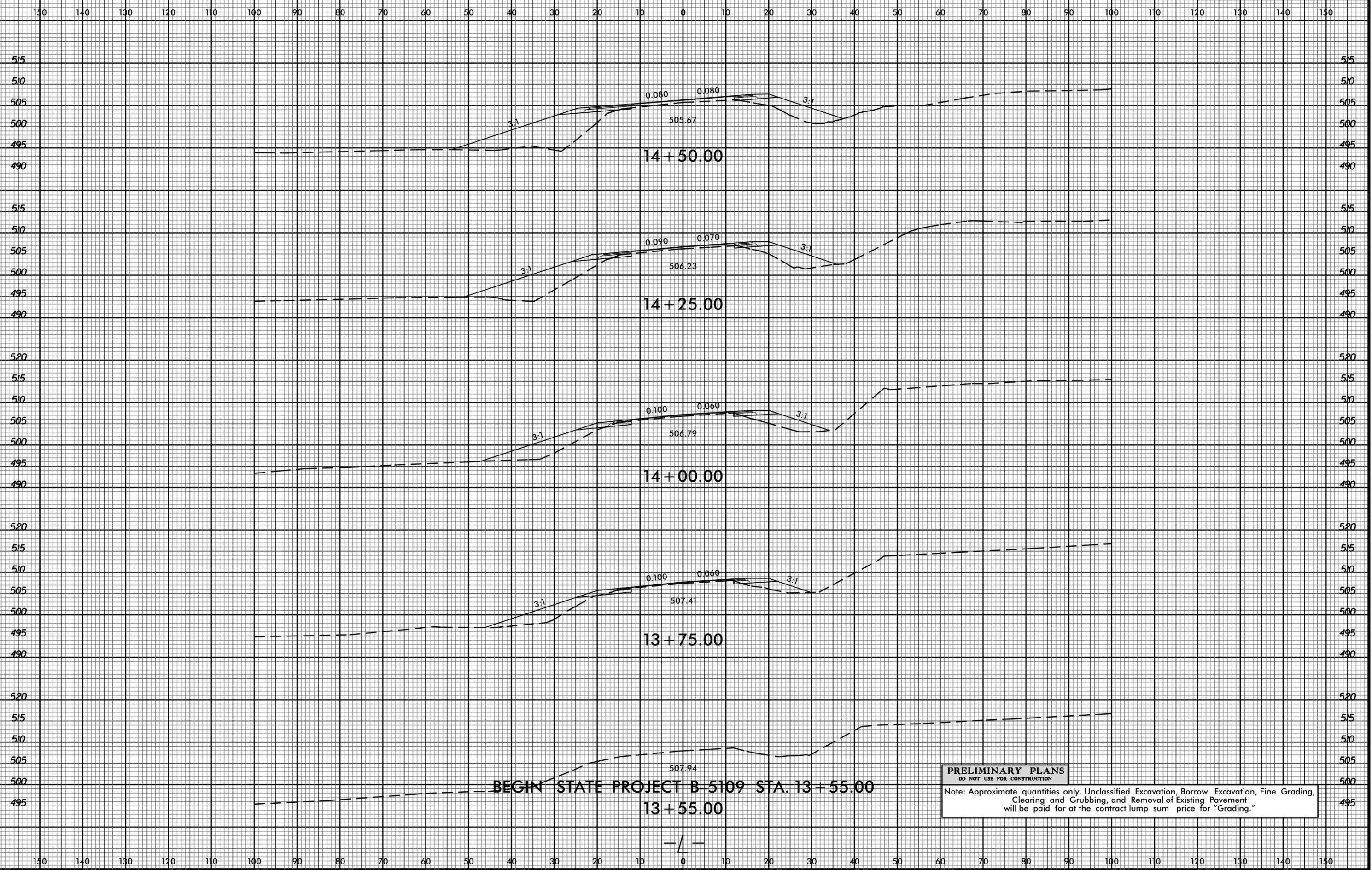
5/14/99  
24-JUL-2012 10:51  
R:\RoadPlan\B-5109\_Rd.pfl.dgn

8/23/99



PROJ. REFERENCE NO.  
B-5109

SHEET NO.  
X-1

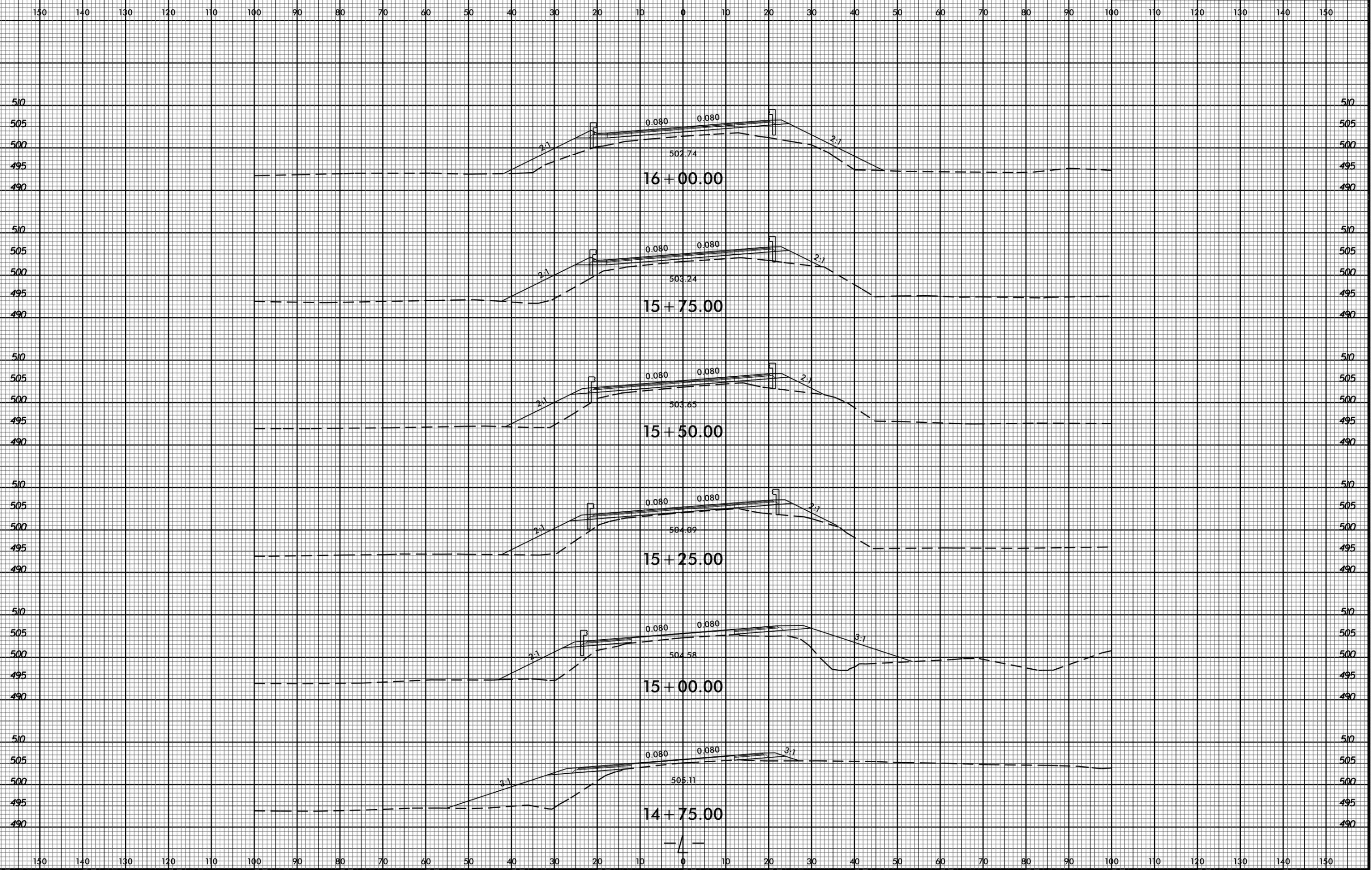


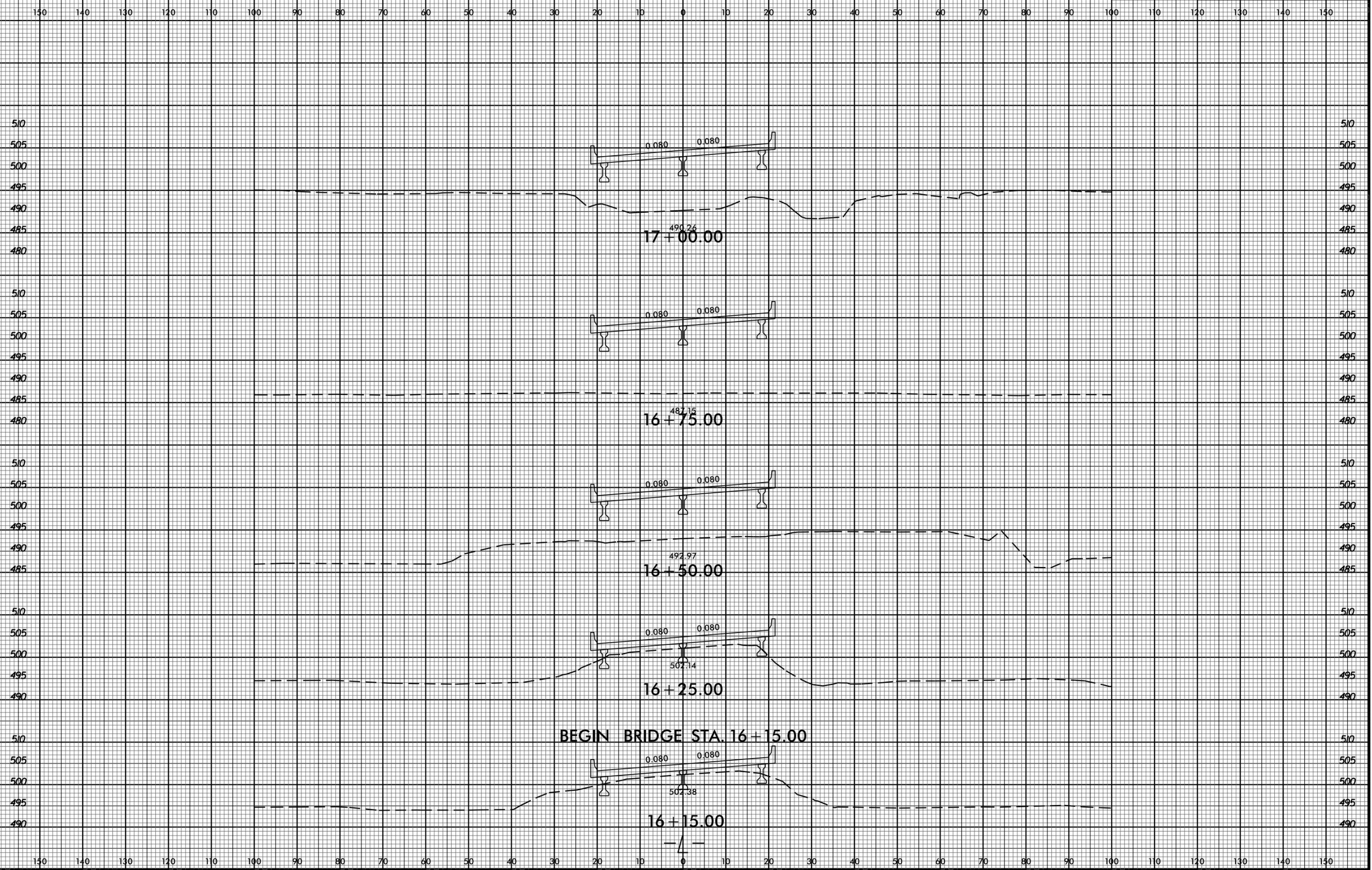
**BEGIN STATE PROJECT B-5109 STA. 13+55.00**

**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

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."

24 JUL -2002 10:52 AM B5109\_Rdy\_xp1.cmc.dgn



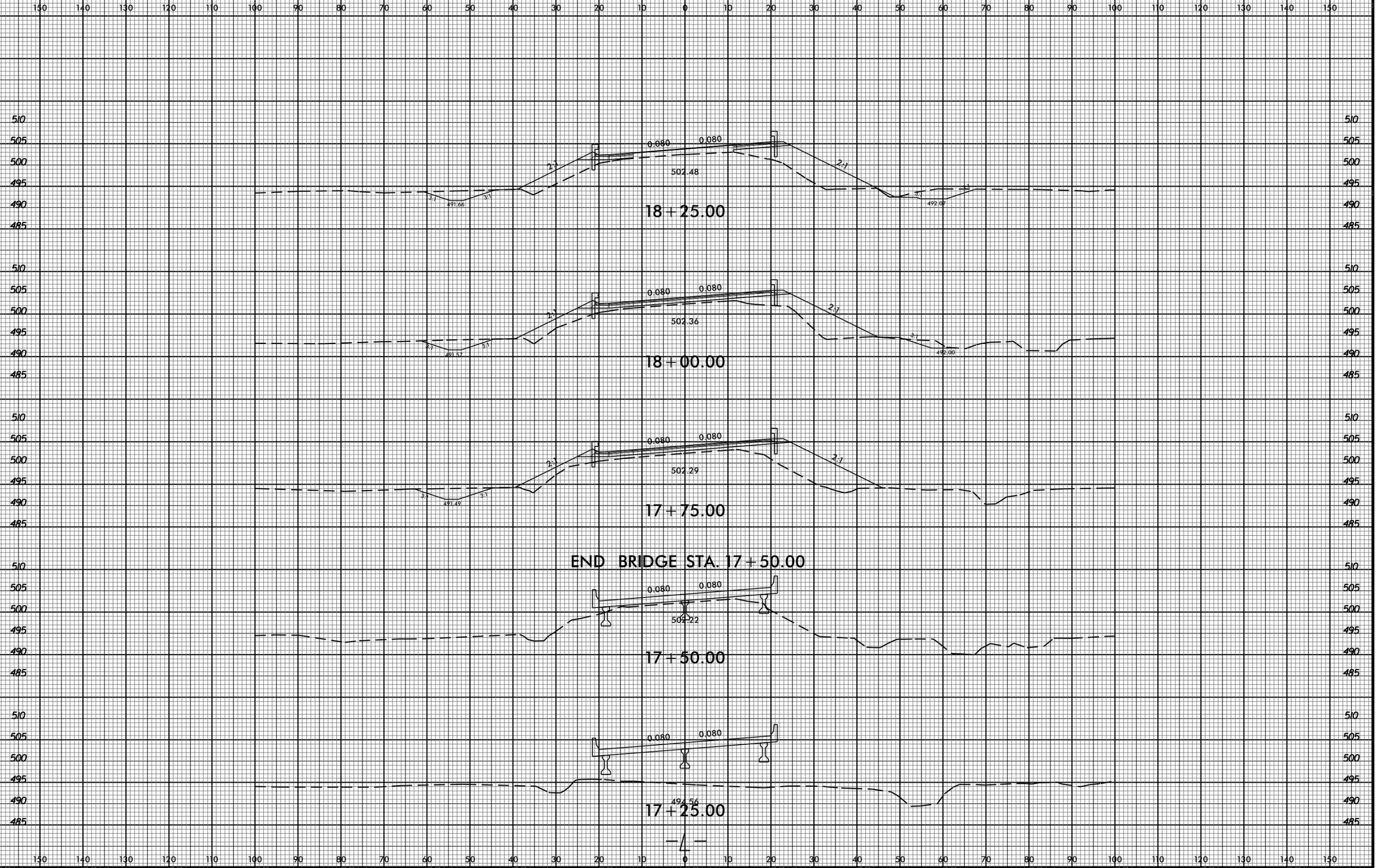


8/23/99



PROJ. REFERENCE NO. B-5109

SHEET NO. X-4



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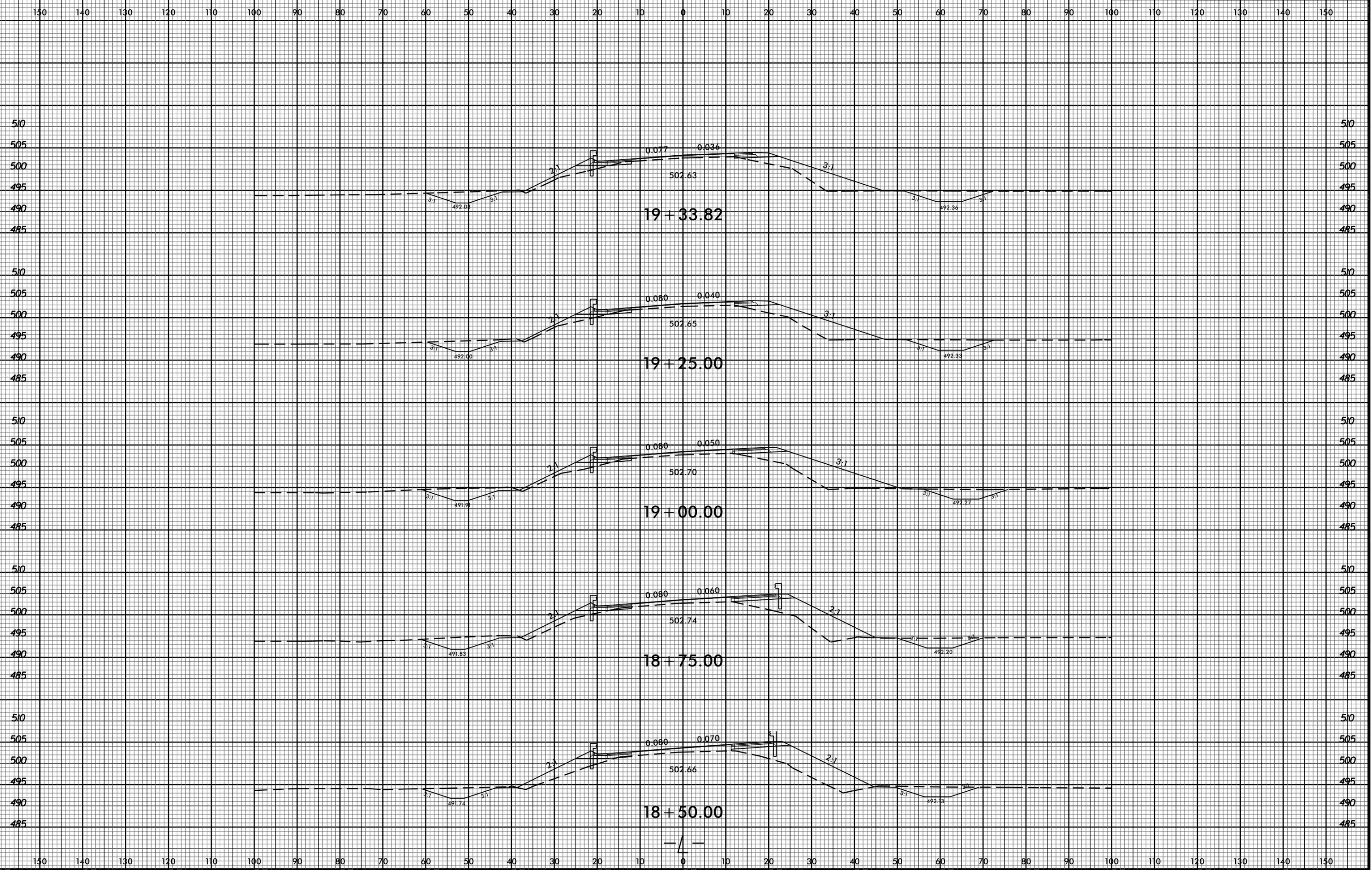
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8/23/99



PROJ. REFERENCE NO.  
B-5109

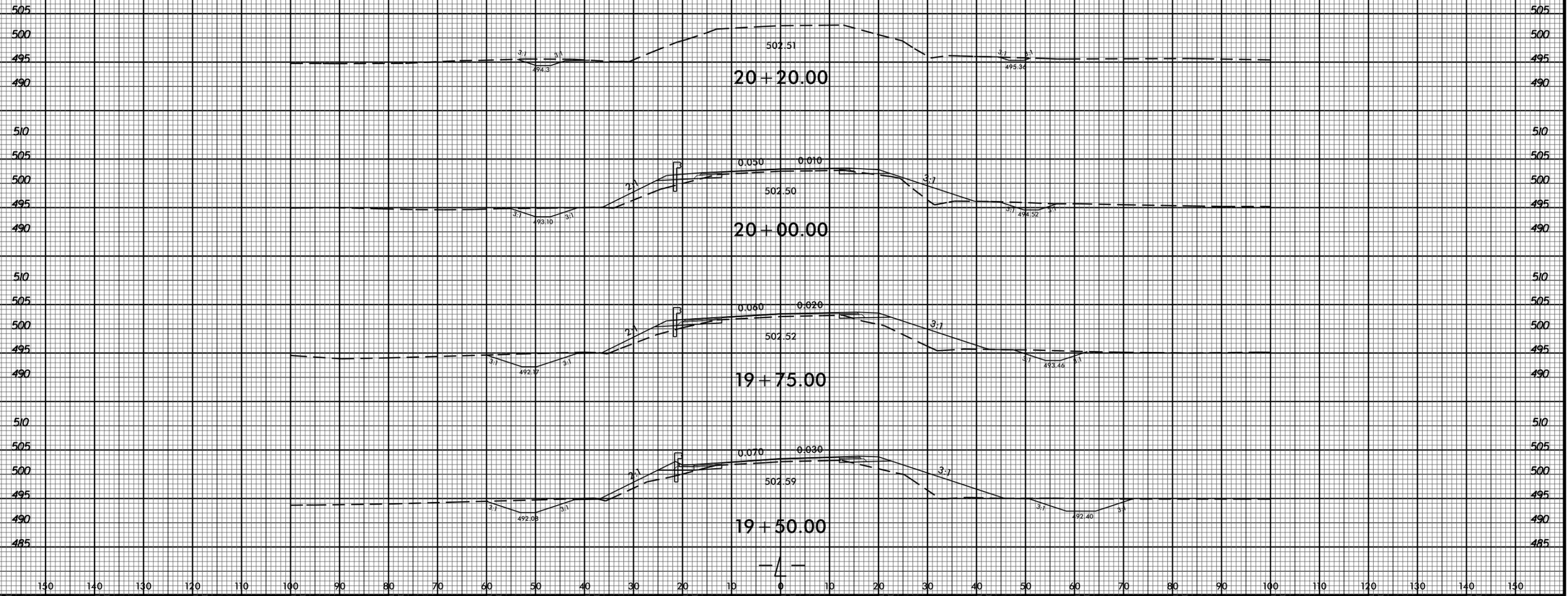
SHEET NO.  
X-5



24 JUL -202 10:52:05 B5109\_Rdy\_xp1.cmc.dgn  
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\$\$\$\$\$  
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\$\$\$\$\$  
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150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

END STATE PROJECT B-5109 STA. 20 + 20.00



150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

**U.S. ARMY CORPS OF ENGINEERS  
WILMINGTON DISTRICT**

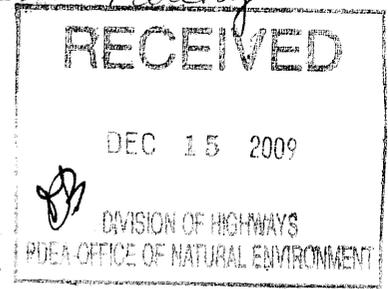
Action Id. SAW-2009-1152

County: Union

U.S.G.S. Quad: Midland

**NOTIFICATION OF JURISDICTIONAL DETERMINATION**

Property Owner/Agent: NC Department of Transportation, Attn: Gregory J. Thorpe  
Address: Project Development and Environmental Analysis  
1598 Mail Service Center  
Raleigh, NC 27699-1548  
Telephone No.: 919-715-1334



Property description:  
Size (acres) 4 approx. Nearest Town Midland  
Nearest Waterway Goose Creek River Basin Yadkin  
USGS HUC 03040105 Coordinates N 35.1459 W 80.5520  
Location description Bridge No. 29, NC Hwy 218, TIP B-5109

**Indicate Which of the Following Apply:**

**A. Preliminary Determination**

- Based on preliminary information, there may be wetlands on the above described property. We strongly suggest you have this property inspected to determine the extent of Department of the Army (DA) jurisdiction. To be considered final, a jurisdictional determination must be verified by the Corps. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).

**B. Approved Determination**

- There are Navigable Waters of the United States within the above described property subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

- There are waters and wetlands on the above described property subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

We strongly suggest you have the wetlands on your property delineated. Due to the size of your property and/or our present workload, the Corps may not be able to accomplish this wetland delineation in a timely manner. For a more timely delineation, you may wish to obtain a consultant. To be considered final, any delineation must be verified by the Corps.

The waters and wetlands on your property have been delineated and the delineation has been verified by the Corps. We strongly suggest you have this delineation surveyed (GPS). Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on your property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years.

The surface waters and/or wetlands have been delineated and surveyed and are accurately depicted on the maps and GPS surveys from Mulkey, Inc. dated 29 May 2009. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

- There are no waters of the U.S., to include wetlands, present on the above described property which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- 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: \_\_\_\_\_  
SAW-2009-1152

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 Steven Lund at 828-271-7980.

### **C. Basis For Determination**

Stream Quality Assessment/Identification Forms, Wetland Determination Forms and Jurisdictional Determination Forms included with the submittal of 29 May 2009 from Mulkey Inc.

### **D. Remarks**

Goose Creek and unnamed tributaries are relatively permanent waters (RPWs) flowing to the Rocky River, a traditionally navigable water (TNW).

### **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 following address:

District Engineer, Wilmington Regulatory Division  
Attn: Steven Lund, Project Manager,  
Asheville Regulatory Field Office  
151 Patton Avenue, Room 208  
Asheville, North Carolina 28801-5006

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 District 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 within 60 days of the date of this verification.

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

Corps Regulatory Official: Steven W. Lund *SWL*

Date: December 8, 2009

Expiration Date: December 8, 2014

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the attached customer Satisfaction Survey or visit <http://www.saw.usace.army.mil/WETLANDS/index.html> to complete the survey online.

Copy furnished: Mark Mickley, Mulkey Engineers & Consultants, Inc., PO Box 33127, Raleigh, NC 27636