



PAT McCrory
Governor

NICHOLAS J. TENNYSON
Secretary

November 10, 2016

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

ATTN: Mr. Steven L. Kichefski
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permits 13, 33 and Section 401 Water Quality Certification** for the Proposed Replacement of Bridge 143 on SR 1536 over the Linville River in Avery County, Federal Aid Project No. BRZ-1536(5); TIP B-5383, Division 11; \$240.00 Debit Work Order WBS Element 46098.1.1.

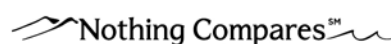
Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to replace bridge number 143 on SR 1536 (Greene Road) over the Linville River in Avery County with a two span, 45 feet long cored slab bridge on the existing alignment. The existing bridge will be utilized as an onsite detour during construction. There will be 63 lf of permanent impacts to surface waters from bank stabilization. There will be <0.01 acre of temporary impacts to open waters from the onsite detour and 8 lf of permanent impacts to open waters from outlet protection on a new 24" RCP. No mitigation will be required for the permanent impacts from this project.

Please see enclosed copies of the Pre-Construction Notification (PCN), PJD Form; NCWRC Letter; Stormwater Management Plan, Permit Drawings, and Roadway Plansheets. A Categorical Exclusion (CE) was completed in October 2015 and distributed shortly thereafter. Additional copies are available upon request.

This project is located in a trout county; therefore comments from the NCWRC will be required prior to authorization by the Corps of Engineers. By copy of this letter and attachment, NCDOT hereby requests NCWRC Review. NCDOT requests that NCWRC forward their comments to the Corps of Engineers and the NCDOT within 30 calendar days of receipt of this application.

This project calls for a letting date of February 21, 2017 and a review date of January 3, 2017.



A copy of this permit application and its distribution list will be posted on the NCDOT Website at: <http://connect.ncdot.gov/resources/Environmental>. If you have any questions or need additional information, please call Jeff Hemphill at (919) 707-6126.

Sincerely,



PS Philip S. Harris, P.E., Manager
Project Development and Environmental Analysis Unit

cc:
NCDOT Permit Application Standard Distribution List



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

Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	<input checked="" type="checkbox"/> Section 404 Permit	<input type="checkbox"/> Section 10 Permit
1b. Specify Nationwide Permit (NWP) number: 13,33 or General Permit (GP) number:		
1c. Has the NWP or GP number been verified by the Corps?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
1d. Type(s) of approval sought from the DWQ (check all that apply):		
<input checked="" type="checkbox"/> 401 Water Quality Certification – Regular <input type="checkbox"/> Non-404 Jurisdictional General Permit <input type="checkbox"/> 401 Water Quality Certification – Express <input checked="" type="checkbox"/> Riparian Buffer Authorization		
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: <input checked="" type="checkbox"/> Yes <input 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 143 over the Linville River on SR 1536 (Greene Road)
2b. County:	Avery
2c. Nearest municipality / town:	Crossnore
2d. Subdivision name:	<i>not applicable</i>
2e. NCDOT only, T.I.P. or state project no.:	B-5383

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation
3b. Deed Book and Page No.	<i>not applicable</i>
3c. Responsible Party (for LLC if applicable):	<i>not applicable</i>
3d. Street address:	1598 Mail Service Center
3e. City, state, zip:	Raleigh, NC 27699-1598
3f. Telephone no.:	(919) 707-6126
3g. Fax no.:	(919) 212-5785
3h. Email address:	jhemphill@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: 36.00361 (DD.DDDDDD) Longitude: - (-DD.DDDDDD)
1c. Property size:	0.41 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Linville River
2b. Water Quality Classification of nearest receiving water:	B;Tr
2c. River basin:	Catawba
3. Project Description	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application: Forest communities, minor residential and business development	
3b. List the total estimated acreage of all existing wetlands on the property: 0.02 acre	
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property: 80 lf	
3d. Explain the purpose of the proposed project: To replace a structurally deficient and functionally obsolete bridge.	
3e. Describe the overall project in detail, including the type of equipment to be used: The project involves replacing a two span 62-foot wood & steel I beam bridge with a two span, 90' precast concrete core slab bridge on the existing alignment and a onsite detour bridge that will be constructed to the south of the existing bridge. Standard road building equipment, such as trucks, dozers, and cranes will be used.	
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input type="checkbox"/> Preliminary <input type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known):	Agency/Consultant Company: Other: NCDOT
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. 7/27/2011 w/ Lori Beckwith – she said she would issue a verification at permitting	
5. Project History	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
5b. If yes, explain in detail according to "help file" instructions.	
6. Future Project Plans	
6a. Is this a phased project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, explain.	

C. Proposed Impacts Inventory						
1. Impacts Summary						
1a. Which sections were completed below for your project (check all that apply):						
<input type="checkbox"/> Wetlands		<input checked="" type="checkbox"/> Streams - tributaries		<input type="checkbox"/> Buffers		
<input type="checkbox"/> Open Waters		<input type="checkbox"/> Pond Construction				
2. Wetland Impacts						
If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.						
2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)	
Site 1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		
Site 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 <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 <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						
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 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 checked="" type="checkbox"/> P <input type="checkbox"/> T	Bank Stabilization	Linville River	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input type="checkbox"/> Corps <input type="checkbox"/> DWQ		63
Site <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input checked="" type="checkbox"/> DWQ		
Site <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input checked="" type="checkbox"/> DWQ		
Site <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						63 If Perm 0 temp
. 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 checked="" type="checkbox"/> P <input type="checkbox"/> T		Outlet protection	Pond	<0.01
O1 <input type="checkbox"/> P <input checked="" type="checkbox"/> T		Detour	Pond	<0.01
O3 <input type="checkbox"/> P <input type="checkbox"/> T				
O4 <input type="checkbox"/> P <input type="checkbox"/> T				
4f. Total open water impacts				<0.01 Permanent <0.01 Temporary

4g. Comments:

5. Pond or Lake Construction

If pond or lake construction proposed, then complete the chart below.

5a. Pond ID number	5b. Proposed use or purpose of pond	5c. Wetland Impacts (acres)			5d. Stream Impacts (feet)			5e. Upland (acres)
		Flooded	Filled	Excavated	Flooded	Filled	Excavated	Flooded
P1								
P2								
5f. Total								

5g. Comments:

5h. Is a dam high hazard permit required?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, permit ID no:
5i. Expected pond surface area (acres):	
5j. Size of pond watershed (acres):	
5k. Method of construction:	

6. Buffer Impacts (for DWQ)

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

6a. Project is in which protected basin?			<input type="checkbox"/> Neuse <input type="checkbox"/> Catawba	<input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Randleman	<input type="checkbox"/> Other:
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
B2 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
B3 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
6h. Total buffer impacts					
6i. Comments:					

D. Impact Justification and Mitigation		
1. Avoidance and Minimization		
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project. See Stormwater Management Plan. The middle bent of the new bridge will be out of the water on a bedrock outcropping. No deck drains will be required on the proposed bridge. A Letter from the North Carolina Wildlife Resources Commission (NCWRC) dated June 27, 2012 lists a trout moratorium for the Linville River from October 15 to April 15. Design Standards in Sensitive Watersheds will be implemented for this project.		
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. Best Management Practices for Surface Waters will be used during all phases of construction.		
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	
	<input type="checkbox"/> DWQ <input type="checkbox"/> Corps	
2c. If yes, which mitigation option will be used for this project?	<input type="checkbox"/> Mitigation bank <input type="checkbox"/> Payment to in-lieu fee program <input type="checkbox"/> Permittee Responsible Mitigation	
3. Complete if Using a Mitigation Bank		
3a. Name of Mitigation Bank: not applicable		
3b. Credits Purchased (attach receipt and letter)	Type	Quantity
3c. Comments:		
4. Complete if Making a Payment to In-lieu Fee Program		
4a. Approval letter from in-lieu fee program is attached.	<input type="checkbox"/> Yes	
4b. Stream mitigation requested:	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):	0 square feet	
4e. Riparian wetland mitigation requested:		
4f. Non-riparian wetland mitigation requested:	0 acres	
4g. Coastal (tidal) wetland mitigation requested:	0 acres	
4h. Comments:		
5. Complete if Using a Permittee Responsible Mitigation Plan		
5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.		

6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ

6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?

Yes No

6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.


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

6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).

6h. Comments:

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)	
1. Diffuse Flow Plan	
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1b. If yes, then is a diffuse flow plan included? If no, explain why. Comments:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Stormwater Management Plan	
2a. What is the overall percent imperviousness of this project?	N/A
2b. Does this project require a Stormwater Management Plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:	
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: See attached.	
2e. Who will be responsible for the review of the Stormwater Management Plan?	<input type="checkbox"/> Certified Local Government <input type="checkbox"/> DWQ Stormwater Program <input 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4. DWQ Stormwater Program Review	
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Coastal counties <input type="checkbox"/> HQW <input type="checkbox"/> ORW <input type="checkbox"/> Session Law 2006-246 <input type="checkbox"/> Other:
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No NA
5. DWQ 401 Unit Stormwater Review	
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No NA
5b. Have all of the 401 Unit submittal requirements been met?	<input type="checkbox"/> Yes <input type="checkbox"/> No NA

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

5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input 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? N.C. Natural Heritage Program database; USFWS-website; biological surveys for protected species listed for Avery County. Biological Conclusions of "No Effect"/No Habitat were rendered for Virginia big-eared bat after onsite evaluations in June 2012. A bat survey report dated June 15, 2016 determined NCDOT is in compliance with the 4(d) rules for this project and a call of No Effect for Virginia big-eared bat. Andrew Henderson of USFWS in email correspondence dated October 20, 2016, stated that the biological conclusion for the recently listed gray bat is No Effect.		
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat? NMFS County Index		
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources? NEPA Documentation		
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
for <u>Philip S. Harris, P.E.</u> Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	11-10-2016 Date

**ATTACHMENT A
PRELIMINARY JURISDICTIONAL DETERMINATION FORM**

BACKGROUND INFORMATION

- A. **REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD):** _____
- B. **NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:**

- C. **DISTRICT OFFICE, FILE NAME, AND NUMBER:**

- D. **PROJECT LOCATION(S) AND BACKGROUND INFORMATION:**

(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State: NC County/parish/borough: _____ City: _____

Center coordinates of site (lat/long in degree decimal format):

Lat. _____°N; Long. _____°W.
(XX.XXXXX) (-XX.XXXXX)

Universal Transverse Mercator: **Z:** _____ **E:** _____ **N:** _____

Name of nearest waterbody: _____

Identify (estimate) amount of waters in the review area:

Non-wetland waters:

_____ linear feet: _____ width (ft) and/or _____ acres.

Cowardin Class: _____

Stream Flow: _____

Wetlands: _____ acres.

Cowardin Class: _____

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal: _____

Non-Tidal: _____

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date: _____

Field Determination. Date(s): _____

SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: _____

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

Office concurs with data sheets/delineation report.

Office does not concur with data sheets/delineation report.

Data sheets prepared by the Corps: _____

Corps navigable waters' study: _____

U.S. Geological Survey Hydrologic Atlas: _____

USGS NHD data

USGS 8 and 12 digit HUC maps

U.S. Geological Survey map(s). Cite scale & quad name: _____

USDA Natural Resources Conservation Service Soil Survey.
Citation: _____

National wetlands inventory map(s). Cite name: _____

State/Local wetland inventory map(s): _____

FEMA/FIRM maps: _____

100-year Floodplain Elevation is: _____
(National Geodetic Vertical Datum of 1929)

Photographs: Aerial (Name & Date): _____ or

Other (Name & Date): _____

Previous determination(s). File no. and date of response letter: _____

Other information (please specify): _____

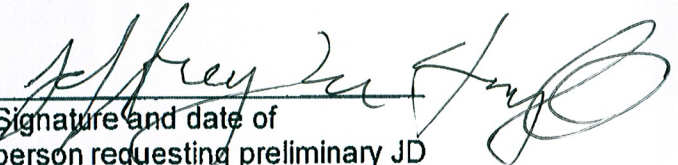
1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and date of
Regulatory Project Manager
(REQUIRED)



Signature and date of
person requesting preliminary JD
(REQUIRED, unless obtaining
the signature is impracticable)

Site Number	Latitude (XX.XXXXX)	Longitude (-XX.XXXXX)	Cowardin Class	Estimated Amount of Aquatic Resource in the Review Area (lin. ft.or ac.)	Class of Aquatic Resource



☒ North Carolina Wildlife Resources Commission ☒

Gordon Myers, Executive Director

TO: Carla Dagnino, Project Management, Western Region
Natural Environment Section, PDEA Branch, NCDOT

FROM: Marla Chambers, Western NCDOT Permit Coordinator
Habitat Conservation Program, NCWRC

Marla Chambers

DATE: June 27, 2012

SUBJECT: Scoping review of NCDOT's proposed replacements in Avery, Burke, Rutherford, Transylvania and Wilkes Counties. TIP Nos. B-5380, B-5383, B-5398, B-5397, B-4823 and B-5381..

North Carolina Department of Transportation (NCDOT) has requested comments from the North Carolina Wildlife Resources Commission (NCWRC) regarding impacts to fish and wildlife resources resulting from the subject project. Staff biologists have reviewed the information provided. The following preliminary comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

Our standard recommendations for bridge replacement projects of this scope are as follows:

1. We generally prefer spanning structures. Spanning structures usually do not require work within the stream and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges allows for human and wildlife passage beneath the structure, does not block fish passage, and does not block navigation by canoeists and boaters.
2. Bridge deck drains should not discharge directly into the stream.
3. Live concrete should not be allowed to contact the water in or entering into the stream.
4. If possible, bridge supports (bents) should not be placed in the stream.

5. If temporary access roads or detours are constructed, they should be removed back to original ground elevations immediately upon the completion of the project. Disturbed areas should be seeded or mulched to stabilize the soil and native tree species should be planted with a spacing of not more than 10'x10'. If possible, when using temporary structures the area should be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact, allows the area to revegetate naturally and minimizes disturbed soil.
6. A clear bank (riprap free) area of at least 10 feet should remain on each side of the stream underneath the bridge.
7. In trout waters, the N.C. Wildlife Resources Commission reviews all U.S. Army Corps of Engineers nationwide and general '404' permits. We have the option of requesting additional measures to protect trout and trout habitat and we can recommend that the project require an individual '404' permit.
8. In streams that contain threatened or endangered species, Mr. Logan Williams with the NCDOT - ONE should be notified. Special measures to protect these sensitive species may be required. NCDOT should also contact the U.S. Fish and Wildlife Service for information on requirements of the Endangered Species Act as it relates to the project.
9. In streams that are used by anadromous fish, the NCDOT official policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage (May 12, 1997)" should be followed.
10. In areas with significant fisheries for sunfish, seasonal exclusions may also be recommended.
11. Sedimentation and erosion control measures sufficient to protect aquatic resources must be implemented prior to any ground disturbing activities. Structures should be maintained regularly, especially following rainfall events.
12. Temporary or permanent herbaceous vegetation should be planted on all bare soil within 15 days of ground disturbing activities to provide long-term erosion control.
13. All work in or adjacent to stream waters should be conducted in a dry work area. Sandbags, rock berms, cofferdams, or other diversion structures should be used where possible to prevent excavation in flowing water.
14. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams.
15. Only clean, sediment-free rock should be used as temporary fill (causeways), and should be removed without excessive disturbance of the natural stream bottom when construction is completed.

16. During subsurface investigations, equipment should be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.
17. If culvert installation is being considered, conduct subsurface investigations prior to structure design to determine design options and constraints and to ensure that wildlife passage issues are addressed.

If corrugated metal pipe arches, reinforced concrete pipes, or concrete box culverts are used:

1. The culvert must be designed to allow for aquatic life and fish passage. Generally, the culvert or pipe invert should be buried at least 1 foot below the natural streambed (measured from the natural thalweg depth). If multiple barrels are required, barrels other than the base flow barrel(s) should be placed on or near stream bankfull or floodplain bench elevation (similar to Lyonsfield design). These should be reconnected to floodplain benches as appropriate. This may be accomplished by utilizing sills on the upstream end to restrict or divert flow to the base flow barrel(s). Silled barrels should be filled with sediment so as not to cause noxious or mosquito breeding conditions. Sufficient water depth should be provided in the base flow barrel during low flows to accommodate fish movement. If culverts are longer than 40-50 linear feet, alternating or notched baffles should be installed in a manner that mimics existing stream pattern. This should enhance aquatic life passage: 1) by depositing sediments in the barrel, 2) by maintaining channel depth and flow regimes, and 3) by providing resting places for fish and other aquatic organisms. In essence, the base flow barrel(s) should provide a continuum of water depth and channel width without substantial modifications of velocity.
2. If multiple pipes or cells are used, at least one pipe or box should be designed to remain dry during normal flows to allow for wildlife passage.
3. Culverts or pipes should be situated along the existing channel alignment whenever possible to avoid channel realignment. Widening the stream channel must be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
4. Riprap should not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be professionally designed, sized, and installed.

In most cases, we prefer the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour should be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure should be removed and the approach fills removed from the 100-year floodplain. Approach fills should be removed down to the

natural ground elevation. The area should be stabilized with grass and planted with native tree species. Tall fescue should not be used in riparian areas. If the area that is reclaimed was previously wetlands, NCDOT should restore the area to wetlands. If successful, the site may be used as wetland mitigation for the subject project or other projects in the watershed.

Project specific comments:

1. B-5380, Avery Co., Bridge No. 141 over Fall Branch on SR 1114 (Big Plumtree Cr. Rd). Fall Branch supports wild rainbow and brown trout in the project area. A moratorium prohibiting in-stream work and land disturbance within the 25-foot trout buffer is recommended from October 15 to April 15 to protect the egg and fry stages of trout. Sediment and erosion control measures should adhere to the Design Standards in Sensitive Watersheds.
2. B-5383, Avery Co., Bridge No. 143 over Linville R., on SR 1536 (Greene Rd). Linville River is Hatchery Supported Designated Public Mountain Trout Water (HS-DPMTW) and supports wild brown trout in the project area. A moratorium prohibiting in-stream work and land disturbance within the 25-foot trout buffer is recommended from October 15 to April 15 to protect the egg and fry stages of trout. Sediment and erosion control measures should adhere to the Design Standards in Sensitive Watersheds. We also recommend that NCDOT incorporate angler access into their plans for this project for safe public access, in accordance with the MOA between our agencies.
3. B-5398, Burke Co., Bridge No. 21 over Henry Fork River on SR 1803 (Johnson Bridge Rd.). To protect the egg and fry stages of spawning smallmouth bass, a popular game fish, we recommend that NCDOT voluntarily make special efforts to prevent sediment from entering the waterway from May 1 to July 15. We also recommend that NCDOT incorporate angler access parking into their plans for this project for safe public access, in accordance with the MOA between our agencies.
4. B-5397, Rutherford Co., Bridge No. 51 over Floyds Creek on SR 2213 (Bethany Church Rd.). Rare species of fish and crayfish occur in Floyds Creek. Stringent sedimentation and erosion control measures and standard recommendations should apply.
5. B-4823, Transylvania Co., Bridge No. 12 over E. Branch of French Broad R.? (Appears to be Hogsed Creek) on SR 1538 (Becky Mountain Rd.). This stream supports wild rainbow and brown trout in the project area. A moratorium prohibiting in-stream work and land disturbance within the 25-foot trout buffer is recommended from October 15 to April 15 to protect the egg and fry stages of trout. Sediment and erosion control measures should adhere to the Design Standards in Sensitive Watersheds.
6. B-5381, Wilkes Co., Bridge No. 403 over Harley Creek? (Appears to be Little Creek) on SR 1302. No special concerns are indicated at this time. Standard recommendations should apply.

We request that NCDOT routinely minimize adverse impacts to fish and wildlife resources in the vicinity of bridge replacements. The NCDOT should install and maintain sedimentation control measures throughout the life of the project and prevent wet concrete from contacting water in or entering into these streams. Replacement of bridges with spanning structures of some type, as opposed to pipe or box culverts, is recommended in most cases. Spanning structures allow wildlife passage along streambanks, reducing habitat fragmentation and vehicle related mortality at highway crossings.

If you need further assistance or information on NCWRC concerns regarding bridge replacements, please contact me at (704) 485-8291. Thank you for the opportunity to review and comment on this project.

cc: Mike Parker, NCDWQ
Amy Euliss, NCDWQ
Jason Mayes, USFWS



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS



(Version 2.04; Released November 2015)

WBS Element: 46098.1.1 TIP No.: B-5383 County(ies): Avery Page 1 of 1

General Project Information

WBS Element:	46098.1.1	TIP Number:	B-5383	Project Type:	Bridge Replacement	Date:	2/29/2016
NCDOT Contact:	Chris Lewis		Contractor / Designer:				
Address:	1020 Birch Ridge Dr. Raleigh, NC 27610		Address:				
	Phone:	(919) 707-6714		Phone:			
	Email:	crlewis2@ncdot.gov		Email:			
City/Town:	Crossnore		County(ies):	Avery			
River Basin(s):	Catawba	CAMA County?	No				
Wetlands within Project Limits?	Yes						

Project Description

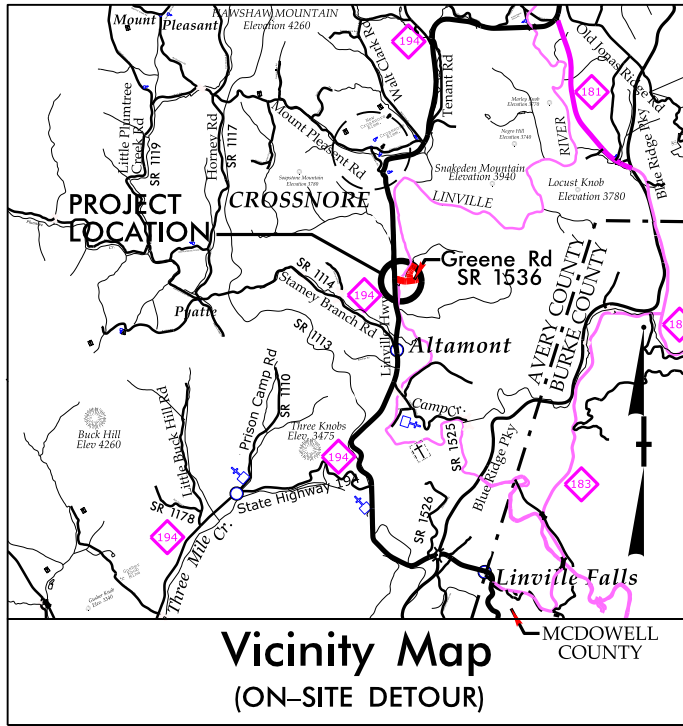
Project Length (lin. miles or feet):	0.10	Surrounding Land Use:	Rural
Project Built-Up Area (ac.)	Proposed Project		Existing Site
	0.3	ac.	0.3 ac.
Typical Cross Section Description:	2-10' Lanes with 3' shoulders, 7' with guardrail		Single lane road with approximate 3' shoulders
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	186	Year: 2036
	Existing:	114	Year: 2016
General Project Narrative: (Description of Minimization of Water Quality Impacts)	B-5383 is the replacement of Bridge 143 in Avery County. The existing structure is a low water bridge with 2@31' spans for a total length of 62'. The bridge is timber decking on I-beams with a 9" rub-rail. The existing structure has no deck drains, however slots in the rub-rail allow water to runoff into the river. The proposed replacement for bridge 143 is a 2@45' 18" cored slab structure with T-101 railing. The proposed interior bent will be in the location of the existing bent, which is not in the normal water surface. Rock plating is proposed on the east side of the structure to protect the fill slope during overtopping events.		

Waterbody Information

Surface Water Body (1):	Linville River		NCDWR Stream Index No.:	11-29-(4.5)		
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class B				
	Supplemental Classification:	Trout Waters (Tr)				
Other Stream Classification:						
Impairments:						
Aquatic T&E Species?	Comments:					
NRTR Stream ID:				Buffer Rules in Effect:	N/A	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

09/08/99

See Sheet 1-A For Index of Sheets



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

AVERY COUNTY

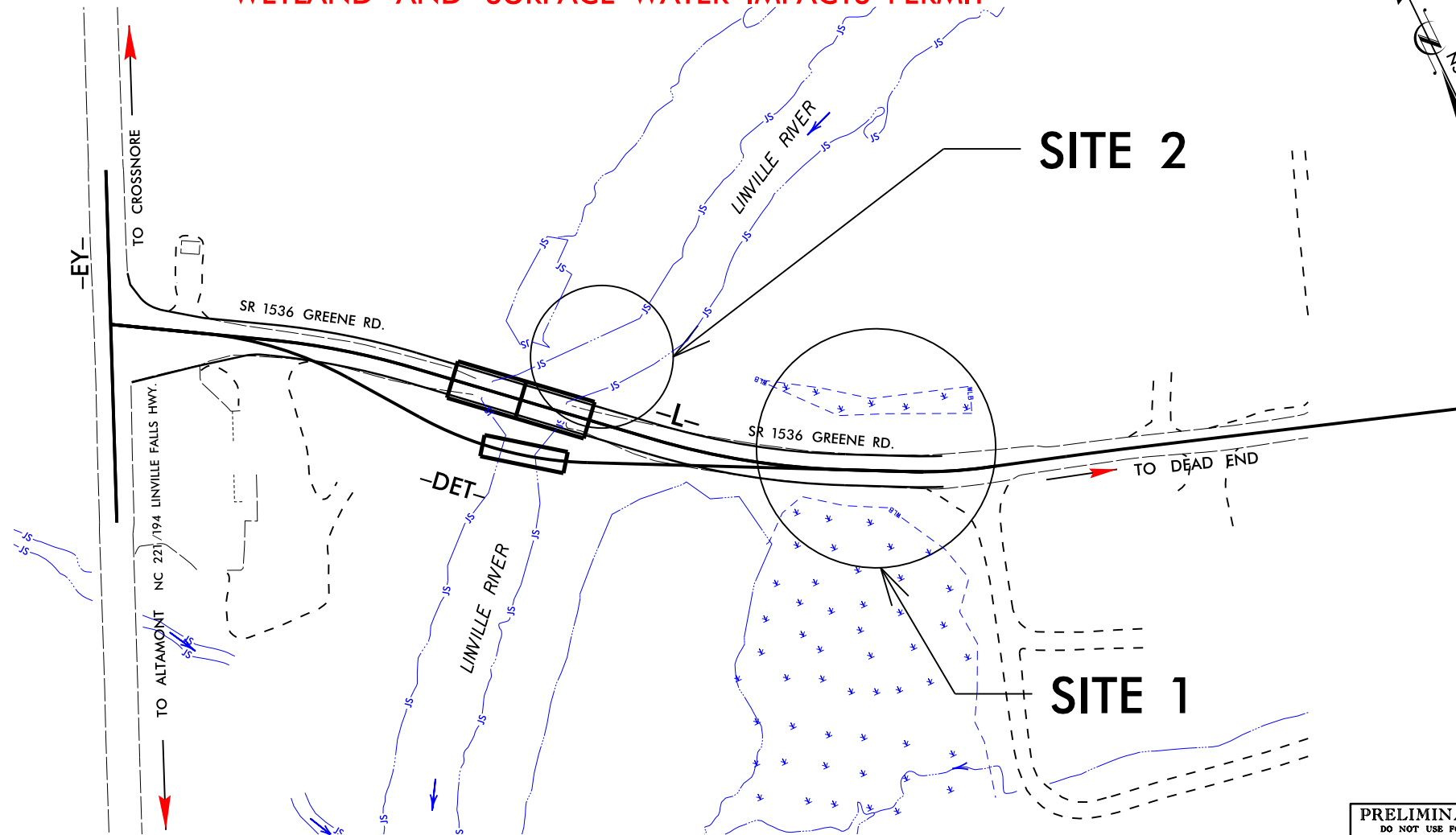
LOCATION: BRIDGE NO. 143 OVER LINVILLE RIVER ON SR 1536 (GREENE ROAD)

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

WETLAND AND SURFACE WATER IMPACTS PERMIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5383	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
46098.1.1	BRZ-1536 (5)	P.E.	
46098.2.1		RW	
46098.2.2		UTIL.	

**PERMIT DRAWING
SHEET 1 OF 10**



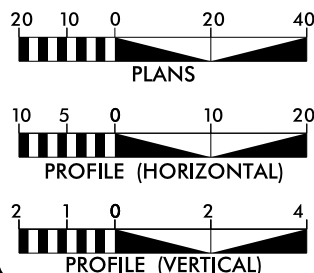
NOTES:
CLEARING ON THIS PROJECT SHOULD BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
SEE SHEET 4A FOR DETOUR.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TIP PROJECT: B-5383

CONTRACT:

GRAPHIC SCALES



DESIGN DATA

ADT 2016 = 114
ADT 2036 = 186
K = 14 %
D = 60 %
T = 8 % *
V = 40 MPH
* TTST = 1 % DUAL 7 %
FUNC CLASS = LOCAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5383 = 0.085 MI
LENGTH STRUCTURE TIP PROJECT B-5383 = 0.017 MI
TOTAL LENGTH TIP PROJECT B-5383 = 0.102 MI

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBRUARY 25, 2016

LETTING DATE:
FEBRUARY 21, 2017

GREGORY E. BREW, PE
PROJECT ENGINEER

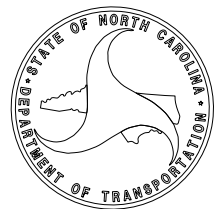
BRYAN KEY, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

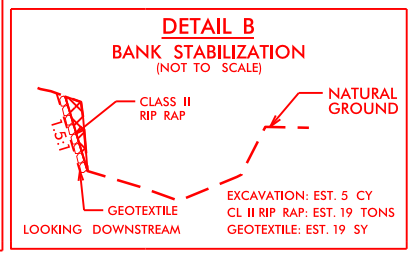
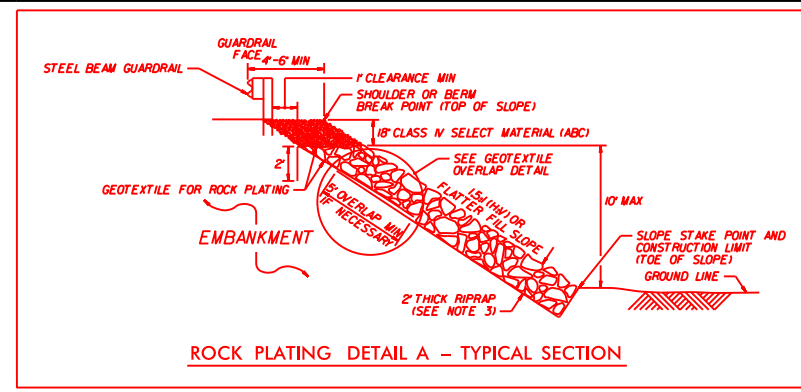
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3/10/2016
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PROJECT REFERENCE NO. B-5383	SHEET NO. 4
RW SHEET NO.	
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

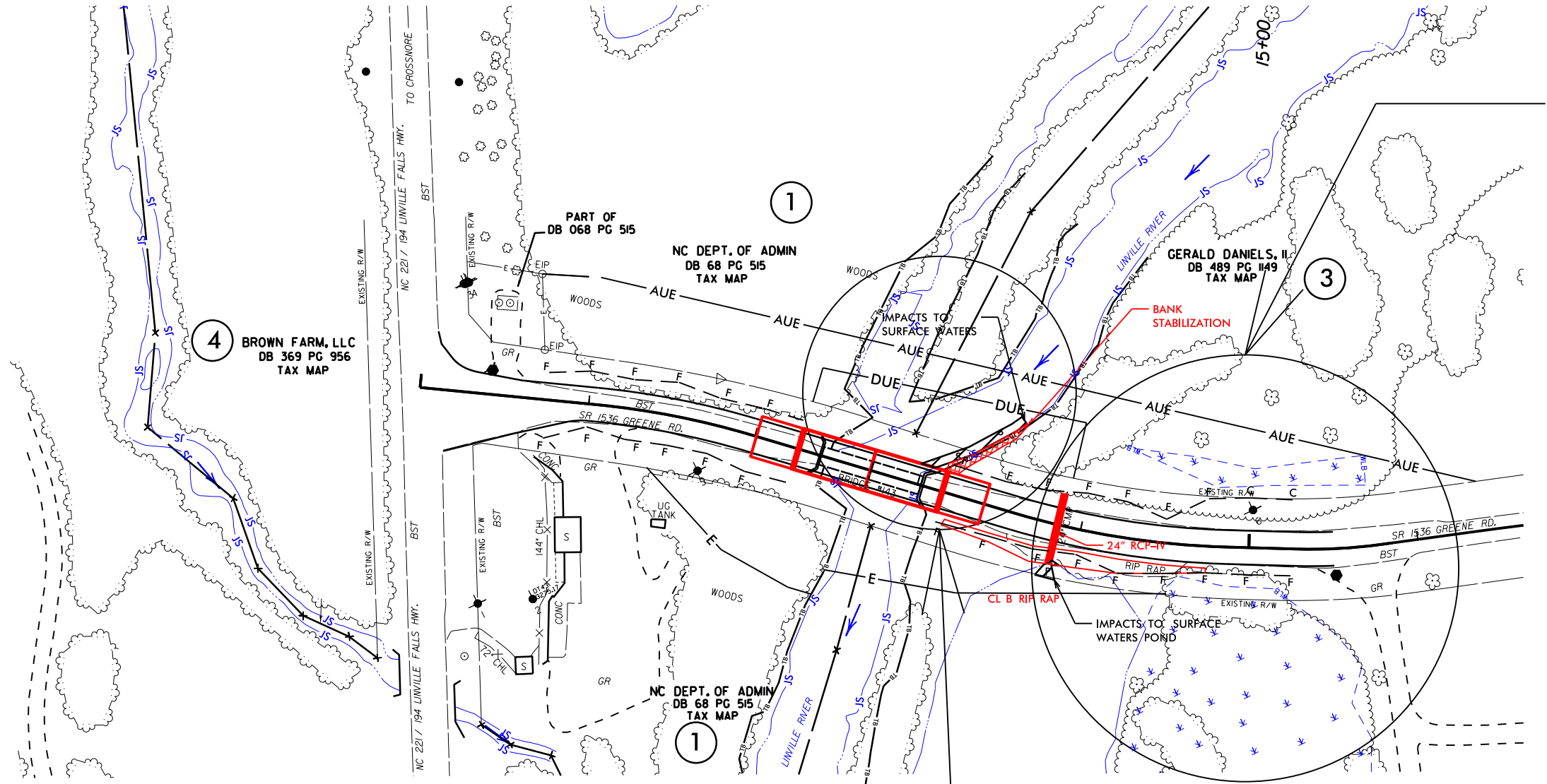
NAD 83/NRS 2007



-L- STA. 13+20 TO 14+75 RT.
-L- STA. 13+22 TO 14+50 LT.

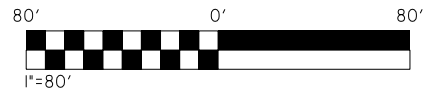
PERMIT DRAWING
SHEET 2 OF 10

SITE 1



DENOTES IMPACTS IN SURFACE WATER (POND)
 DENOTES IMPACTS IN SURFACE WATER

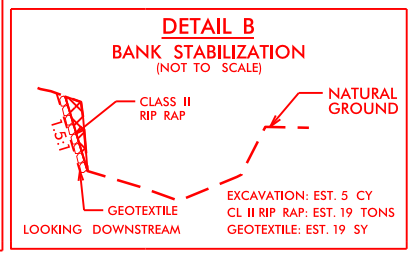
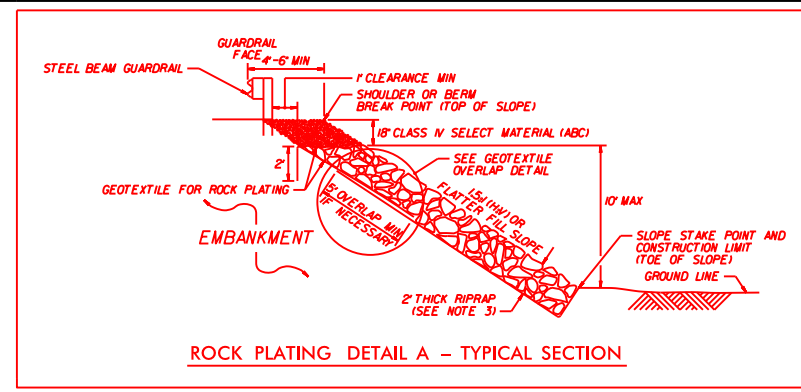
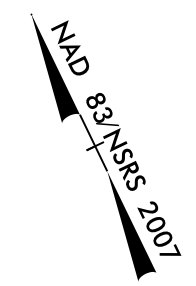
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REVISIONS
RIGHT OF WAY REVISION: REMOVE PUE ON PARCEL 4. DKK 7/13/2016

10/31/2016
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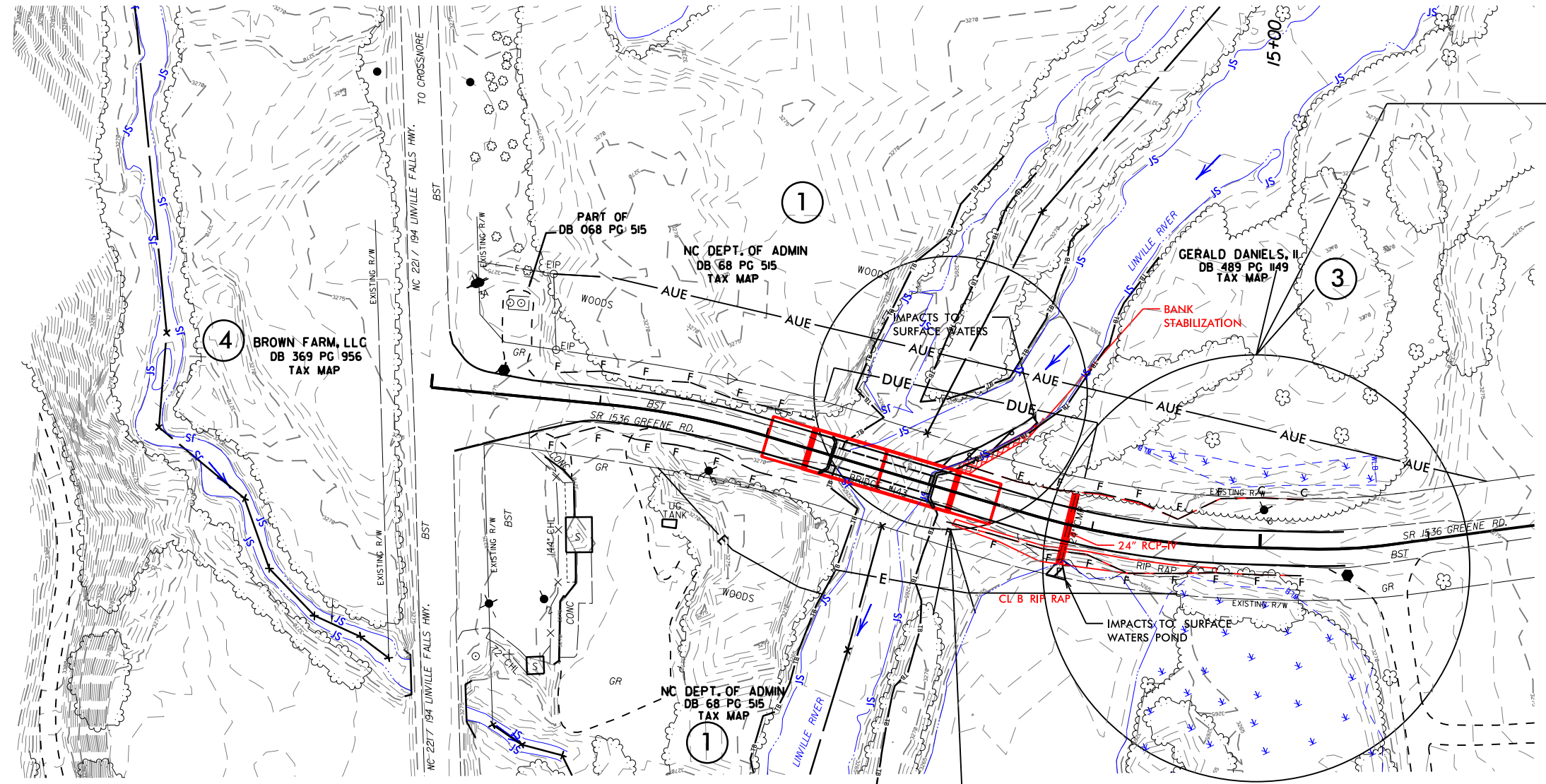
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RW SHEET NO.	
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



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-L- STA. 13+22 TO 14+50 LT.

PERMIT DRAWING
SHEET 3 OF 10

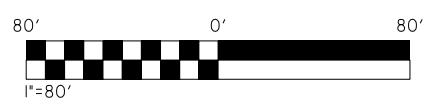
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DENOTES IMPACTS IN SURFACE WATER (POND)

DENOTES IMPACTS IN SURFACE WATER

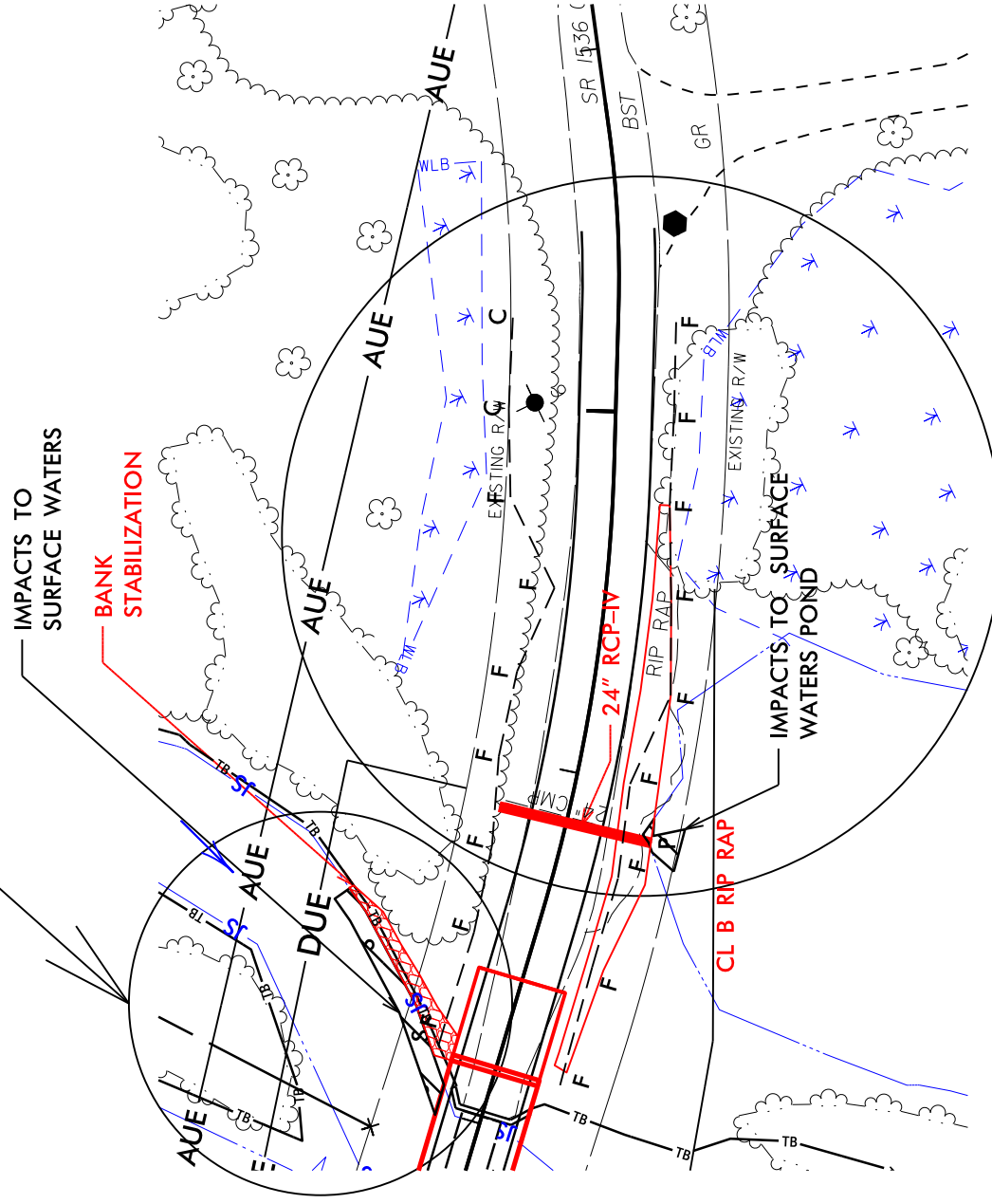
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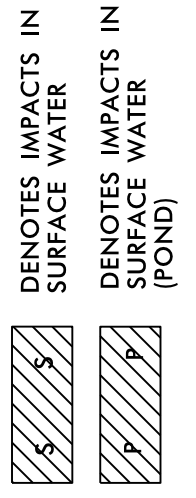
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10/31/2016
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SITE 2



SITE 1



PLAN VIEW

NCDOT
DIVISION OF HIGHWAYS
AVERY COUNTY
PROJECT: 46098.1.1 (B-5383)
BRIDGE #143 OVER
LINVILLE RIVER ON
SR 1536 (GREENE ROAD)

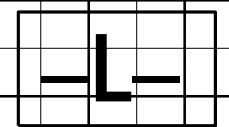
SHEET 4 OF 10 10/31/16

5/28/99

PROJECT REFERENCE NO. B-5383	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

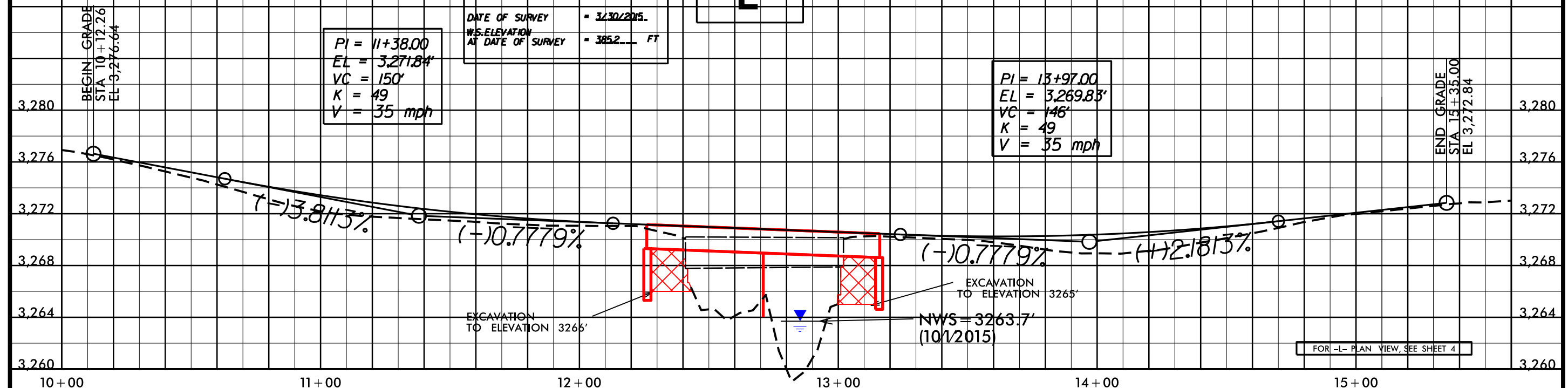
PERMIT DRAWING
SHEET 5 OF 10

BRIDGE HYDRAULIC DATA		
DESIGN DISCHARGE	= 2230	CFS
DESIGN FREQUENCY	= 5	YRS
DESIGN HW ELEVATION	= 3270.4	FT
BASE DISCHARGE	= 9980	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 3274.84	FT
OVERTOPPING DISCHARGE	= 2230	CFS
OVERTOPPING FREQUENCY	= 5	YRS
OVERTOPPING ELEVATION	= 3270.2	FT
DATE OF SURVEY = 3/30/2015		
W.S. ELEVATION AT DATE OF SURVEY = 325.2 FT		



PI = 11+38.00
 EL = 3,271.84'
 VC = 150'
 K = 49
 V = 35 mph

PI = 13+97.00
 EL = 3,269.83'
 VC = 146'
 K = 49
 V = 35 mph



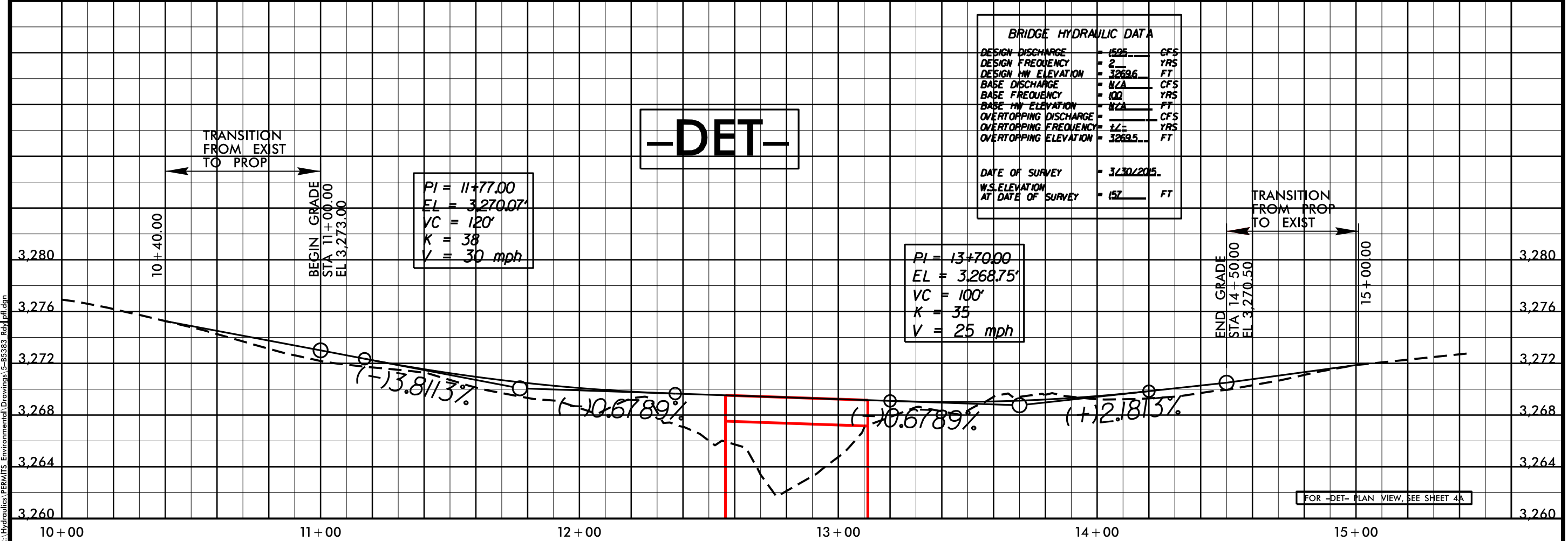
REVISIONS

-DET-

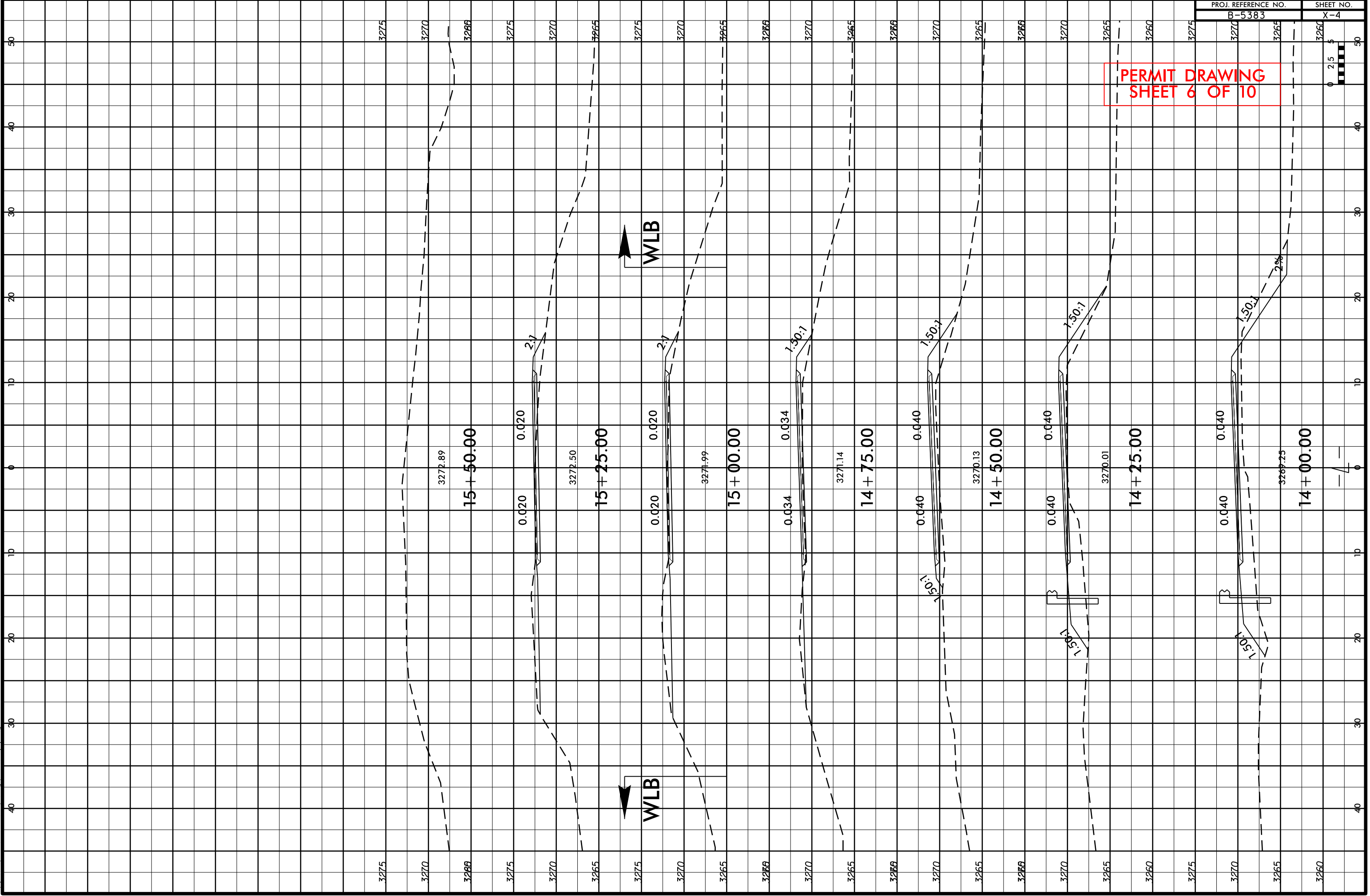
BRIDGE HYDRAULIC DATA		
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DESIGN FREQUENCY	= 2	YRS
DESIGN HW ELEVATION	= 3269.6	FT
BASE DISCHARGE	= N/A	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= N/A	FT
OVERTOPPING DISCHARGE	= 1595	CFS
OVERTOPPING FREQUENCY	= 2	YRS
OVERTOPPING ELEVATION	= 3269.5	FT
DATE OF SURVEY = 3/30/2015		
W.S. ELEVATION AT DATE OF SURVEY = 152 FT		

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 VC = 120'
 K = 38
 V = 30 mph

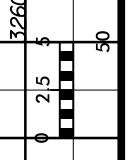
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 VC = 100'
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 V = 25 mph



3/2016
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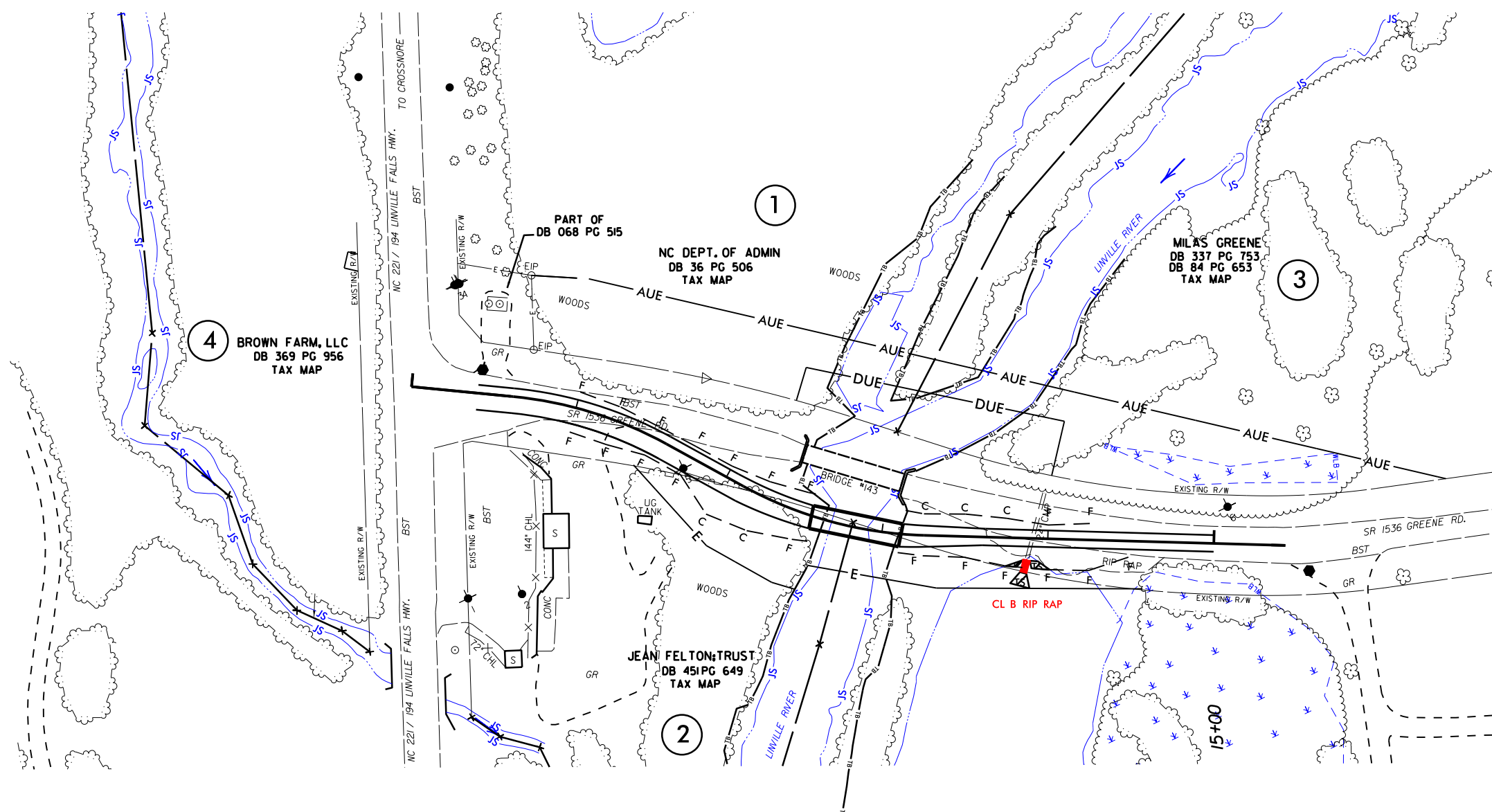
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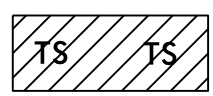
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NAD 83 NSRS 2007

PERMIT DRAWING
SHEET 7 OF 10

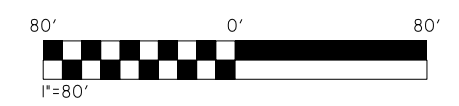


REVISIONS



TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SITE 1 DETOUR

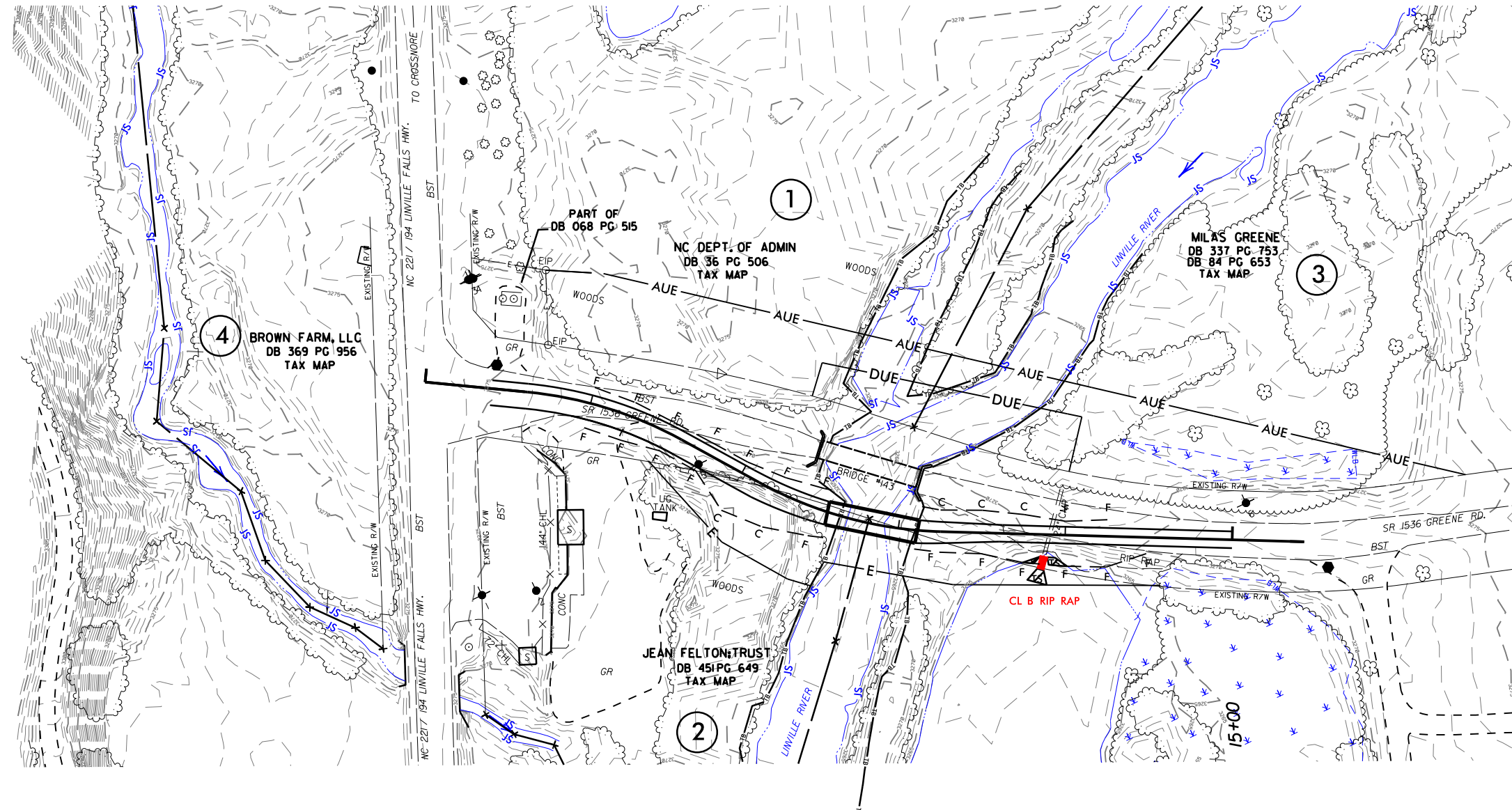


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 3/2/2016
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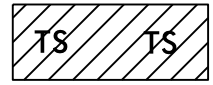
PROJECT REFERENCE NO. B-5383	SHEET NO. 4A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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NAD 83/NRS 2007

PERMIT DRAWING
SHEET 8 OF 10

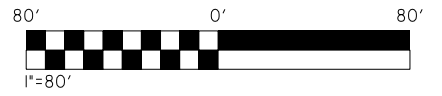


REVISIONS

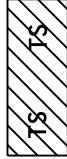
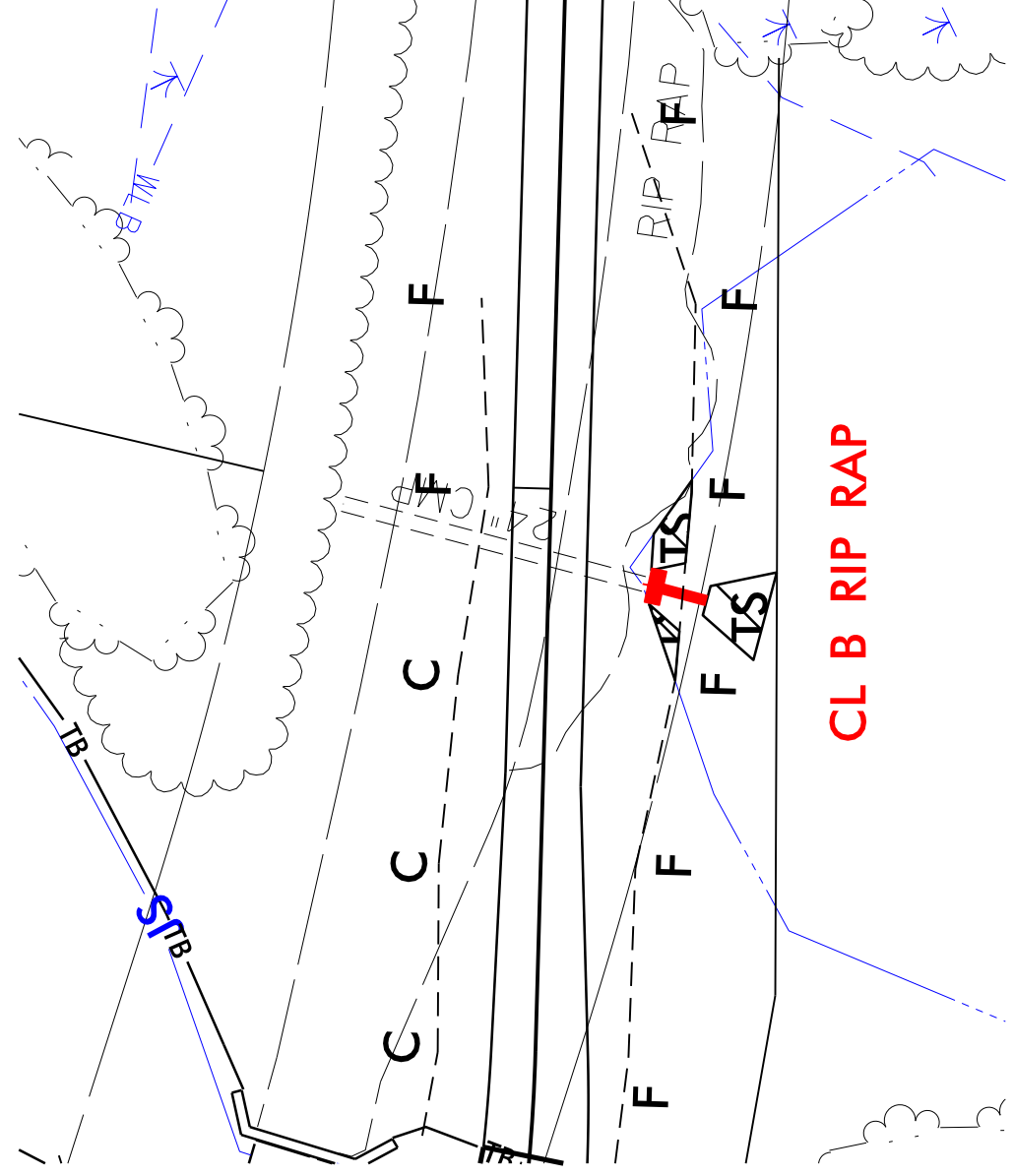


TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

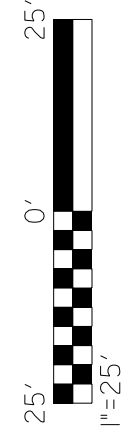
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8/17/99
 3/2/2016
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DENOTES TEMPORARY IMPACTS IN SURFACE WATER



PLAN VIEW
SITE 1
DETOUR

NCDOT
 DIVISION OF HIGHWAYS
 AVERY COUNTY
 PROJECT: 46098.1.1 (B-5383)
 BRIDGE #143 OVER
 LINVILLE RIVER ON
 SR 1536 (GREENE ROAD)

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	-L- 14+51 TO 15+26								< 0.01		8		
1	-DET- 13+85	Detour								< 0.01		8	
2	-L- 12+99 TO 13+52	BANK STABILIZATION							< 0.01		63		
TOTALS*:									< 0.01	< 0.01	71	8	0

*Rounded totals are sum of actual impacts

NOTES:
Permanent Surface Water Impacts in site 1 are due to outlet protection from 24" RCP in pond.

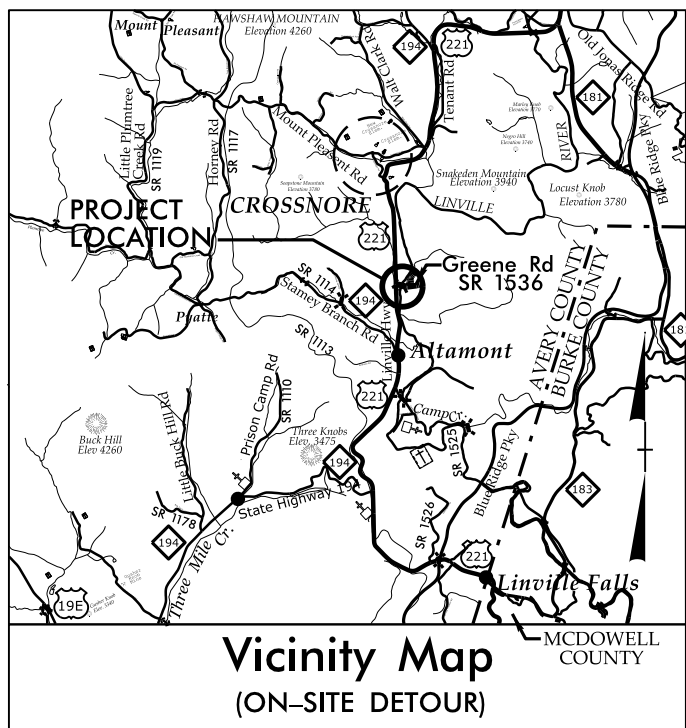
NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
11/8/2016
AVERY COUNTY
BRIDGE 143 ON SR 1536
OVER LINVILLE RIVER
SHEET 10 OF 10

09/08/99

TIP PROJECT: B-5383

CONTRACT:

See Sheet 1-A For Index of Sheets



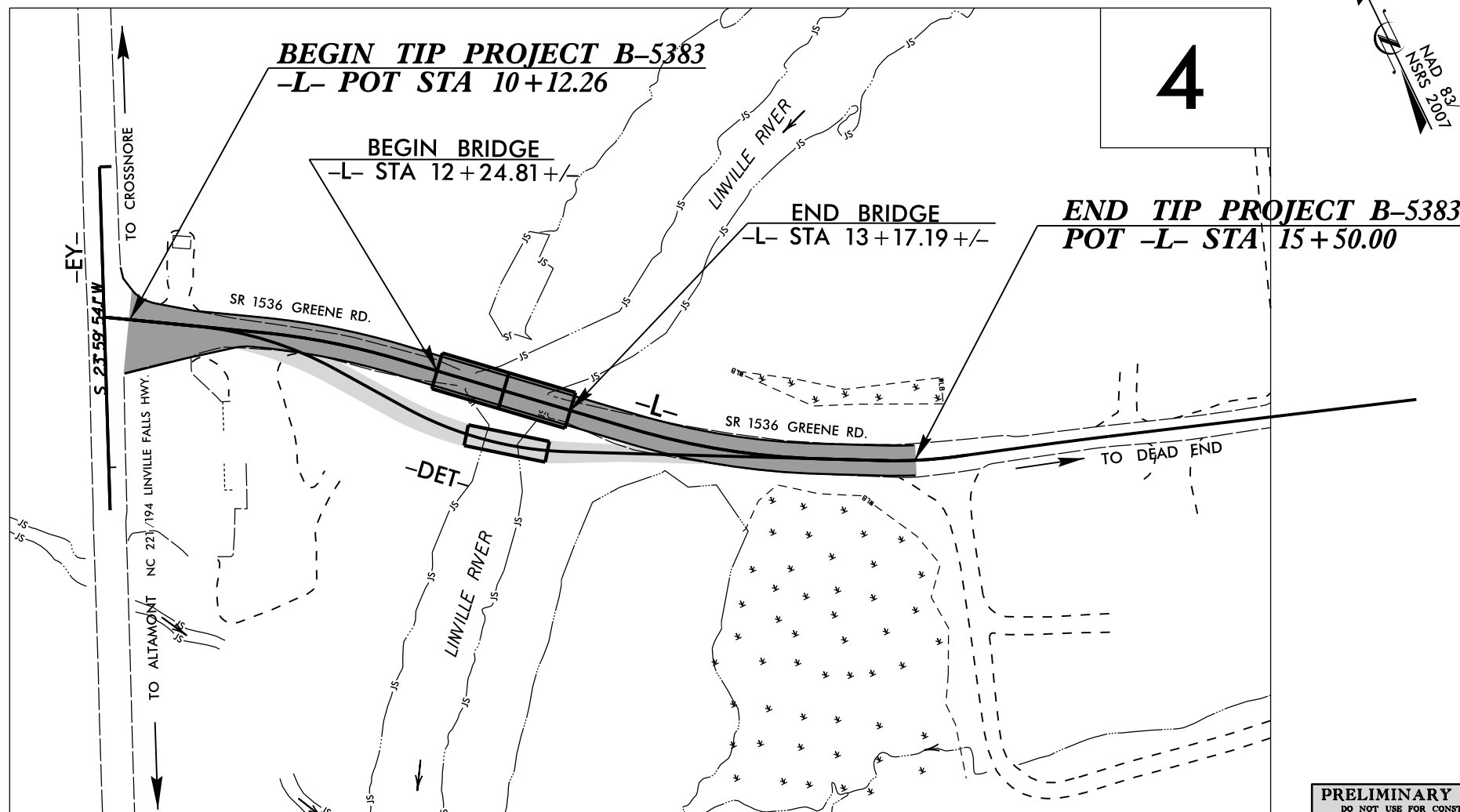
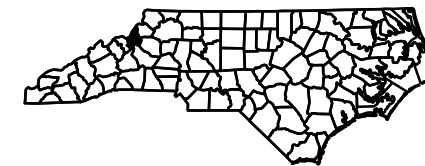
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

AVERY COUNTY

LOCATION: BRIDGE NO. 143 OVER LINVILLE RIVER ON SR 1536 (GREENE ROAD)

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

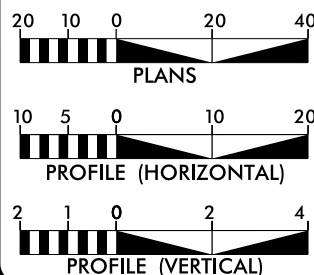
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5383	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
46098.1.1	BRZ-1536 (5)	P.E.	
46098.2.1		RW	
46098.2.2		UTIL.	



NOTES:
CLEARING ON THIS PROJECT SHOULD BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
SEE SHEET 4A FOR DETOUR.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2016 = 114
ADT 2036 = 186
K = 14 %
D = 60 %
T = 8 % *
V = 40 MPH
* TTST = 1 % DUAL 7 %
FUNC CLASS = LOCAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5383 = 0.085 MI
LENGTH STRUCTURE TIP PROJECT B-5383 = 0.017 MI
TOTAL LENGTH TIP PROJECT B-5383 = 0.102 MI

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBRUARY 25, 2016

LETTING DATE:
FEBRUARY 21, 2017

GREGORY E. BREW, PE
PROJECT ENGINEER

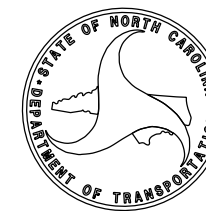
BRYAN KEY, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



23-MAR-2016 15:54
R:\Roadway\Proj\B5383_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	⑫③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	----- MLB
Proposed Wetland Boundary	----- MLB
Existing Endangered Animal Boundary	----- EAB
Existing Endangered Plant Boundary	----- EPB
Existing Historic Property Boundary	----- HPB
Known Contamination Area: Soil	----- ☠
Potential Contamination Area: Soil	----- ☠
Known Contamination Area: Water	----- ☠
Potential Contamination Area: Water	----- ☠
Contaminated Site: Known or Potential	----- ☠

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	-----
Switch	-----
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite RW Marker	-----
Proposed Control of Access Line with Concrete CA 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	-----

VEGETATION:

Single Tree	☼
Single Shrub	☼
Hedge	-----
Woods Line	-----

Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	----- CONC
Bridge Wing Wall, Head Wall and End Wall	----- CONC WW
MINOR:	
Head and End Wall	----- CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊙
Storm Sewer	----- S

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	-----
U/G Power Line LOS B (S.U.E.*)	----- P
U/G Power Line LOS C (S.U.E.*)	----- P
U/G Power Line LOS D (S.U.E.*)	----- P

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊙
Telephone Pedestal	⊠
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	□
U/G Telephone Cable LOS B (S.U.E.*)	----- T
U/G Telephone Cable LOS C (S.U.E.*)	----- T
U/G Telephone Cable LOS D (S.U.E.*)	----- T
U/G Telephone Conduit LOS B (S.U.E.*)	----- TC
U/G Telephone Conduit LOS C (S.U.E.*)	----- TC
U/G Telephone Conduit LOS D (S.U.E.*)	----- TC
U/G Fiber Optics Cable LOS B (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS C (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS D (S.U.E.*)	----- T FO

WATER:

Water Manhole	⊙
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	-----
U/G Water Line LOS C (S.U.E.*)	-----
U/G Water Line LOS D (S.U.E.*)	-----
Above Ground Water Line	----- A/G Water

TV:

TV Pedestal	⊠
TV Tower	⊗
U/G TV Cable Hand Hole	□
U/G TV Cable LOS B (S.U.E.*)	----- TV
U/G TV Cable LOS C (S.U.E.*)	----- TV
U/G TV Cable LOS D (S.U.E.*)	----- TV
U/G Fiber Optic Cable LOS B (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS C (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS D (S.U.E.*)	----- TV FO

GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	----- G
U/G Gas Line LOS C (S.U.E.*)	----- G
U/G Gas Line LOS D (S.U.E.*)	----- G
Above Ground Gas Line	----- A/G Gas

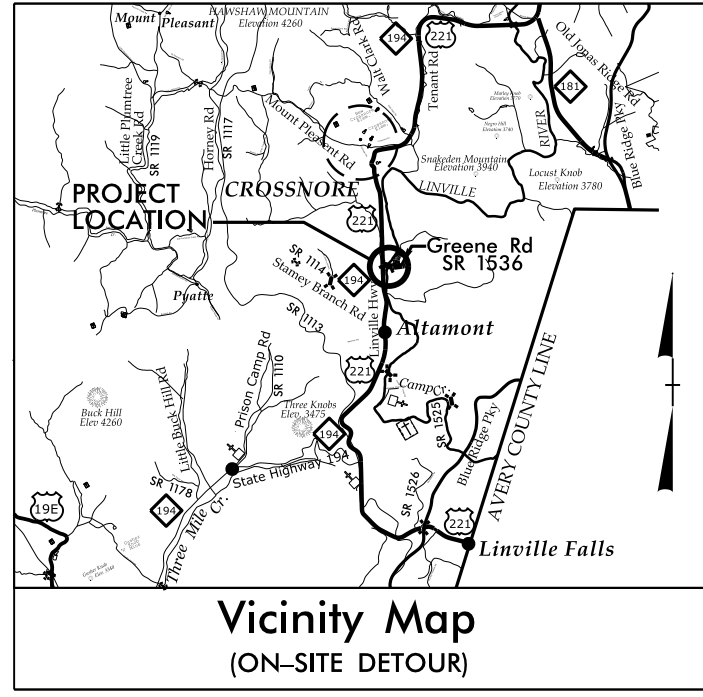
SANITARY SEWER:

Sanitary Sewer Manhole	⊙
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
SS Forced Main Line LOS B (S.U.E.*)	----- FSS
SS Forced Main Line LOS C (S.U.E.*)	----- FSS
SS Forced Main Line LOS D (S.U.E.*)	----- FSS

MISCELLANEOUS:

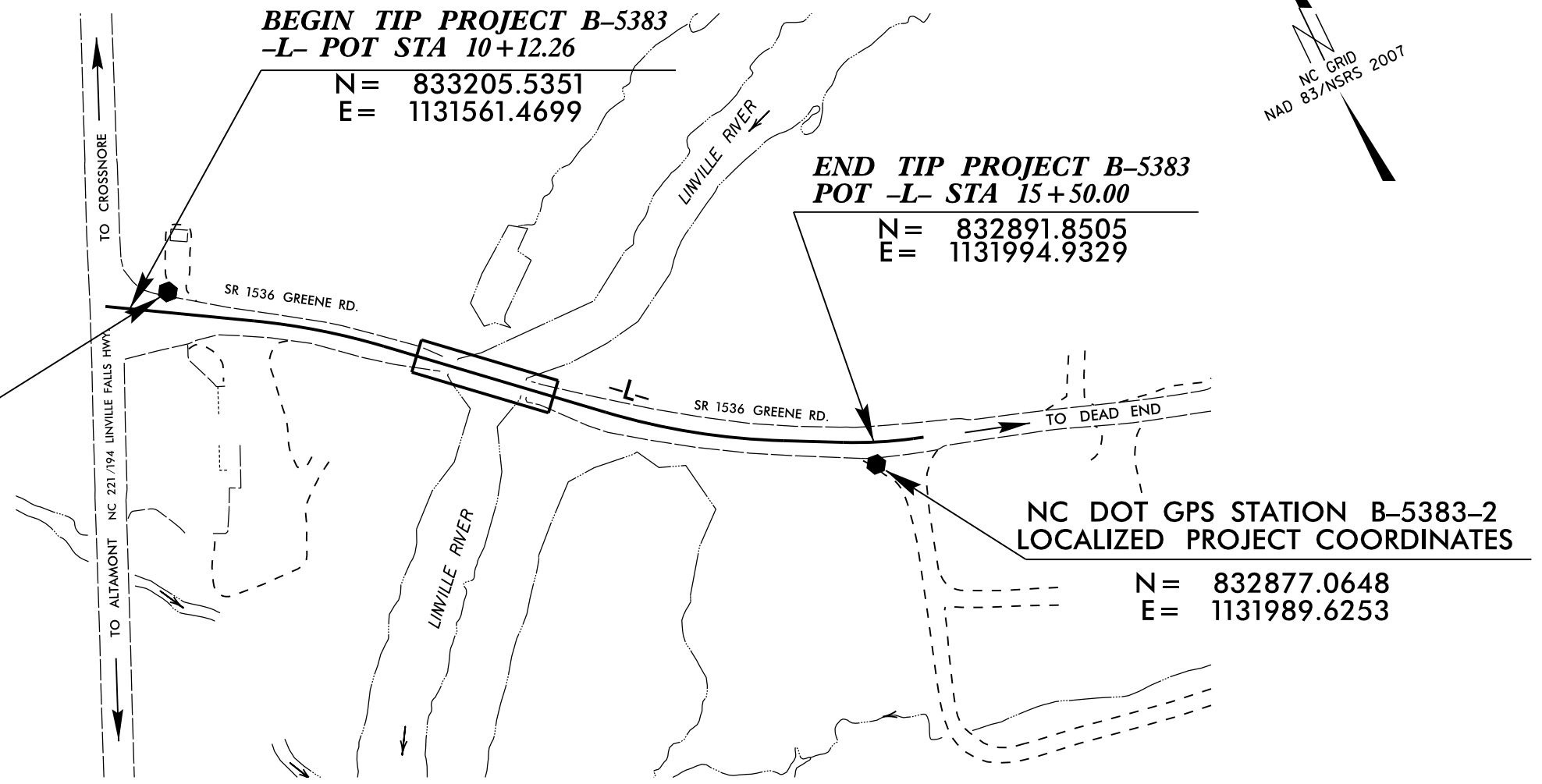
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line LOS B (S.U.E.*)	----- TUL
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)	⊕
Abandoned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

SURVEY CONTROL SHEET B-5383



BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
B53831	GPS B5383-1	833202.4218	1131594.0450	3275.29	10+41.70	14.28 LT
B53832	GPS B5383-2	832877.0648	1131989.6253	3271.30	15+50.92	15.68 RT

**NC DOT GPS STATION B-5383-1
LOCALIZED PROJECT COORDINATES**
 N= 833202.4218
 E= 1131594.0450



DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B-5383-2"
 WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
 NORTHING: 832877.0648(ft) EASTING: 1131989.6253(ft)
 ELEVATION: 3271.2963(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998071990
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B-5383-2" TO -L- STATION 10+12.26 IS
 N 52°30'20" W 539.64'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 B5383_LS_CONTROL.TXT
 SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

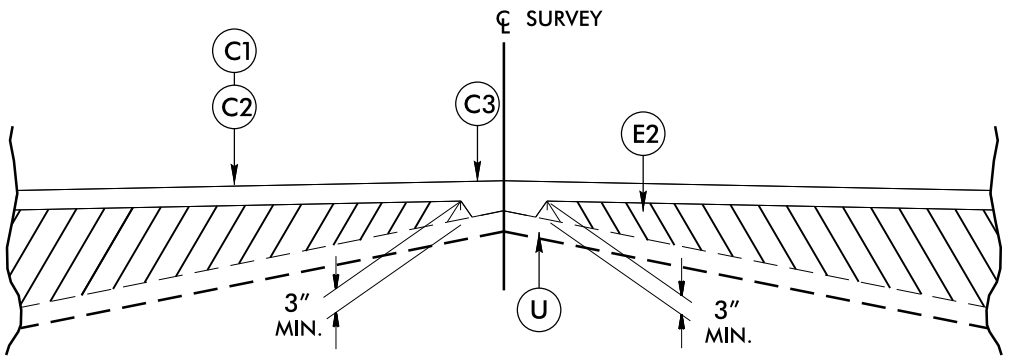
● INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

NOTE: DRAWING NOT TO SCALE

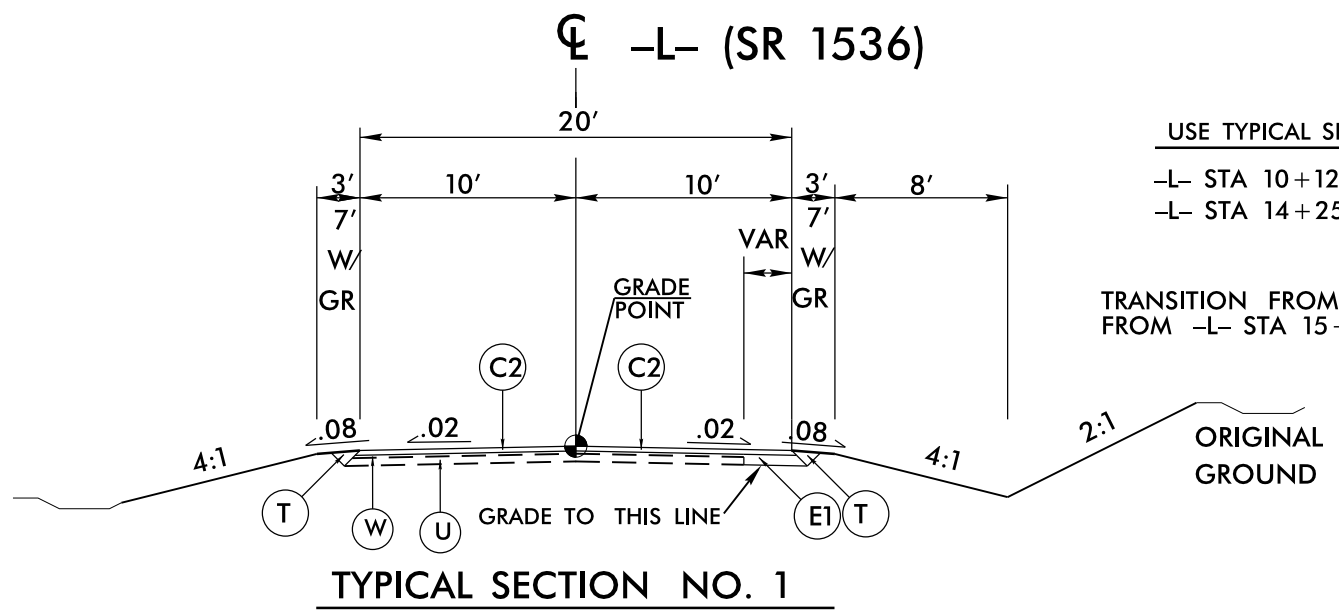
6/2/99
 23 MAR 2016 15:55
 R:\GIS\PROJECTS\B5383\1c-1.dgn

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165.0 LBS. PER SQ. YD.
C2	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J	PROP. 6" AGGREGATE BASE COURSE.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).

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



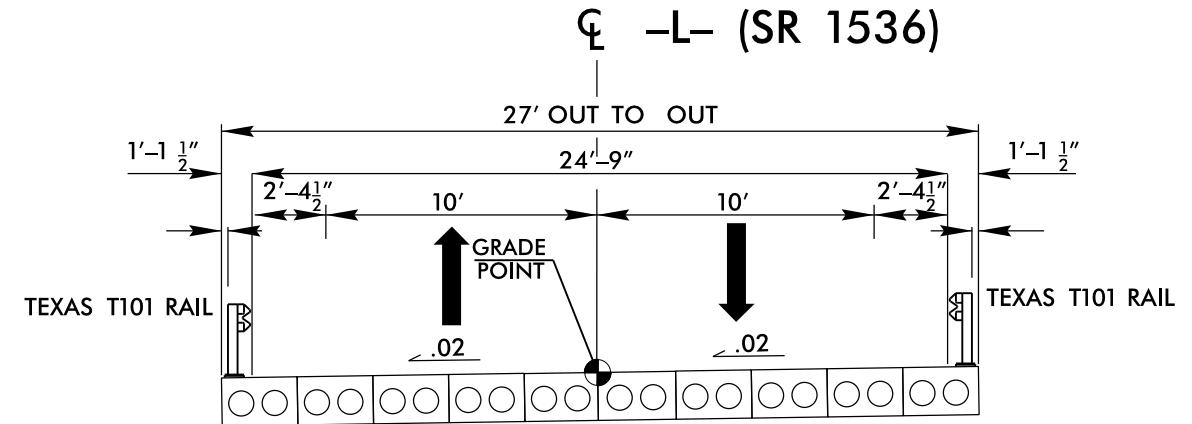
Detail Showing Method of Wedging



USE TYPICAL SECTION NO. 1

-L- STA 10+12.26 TO 11+00.00
-L- STA 14+25.00 TO 15+35.00

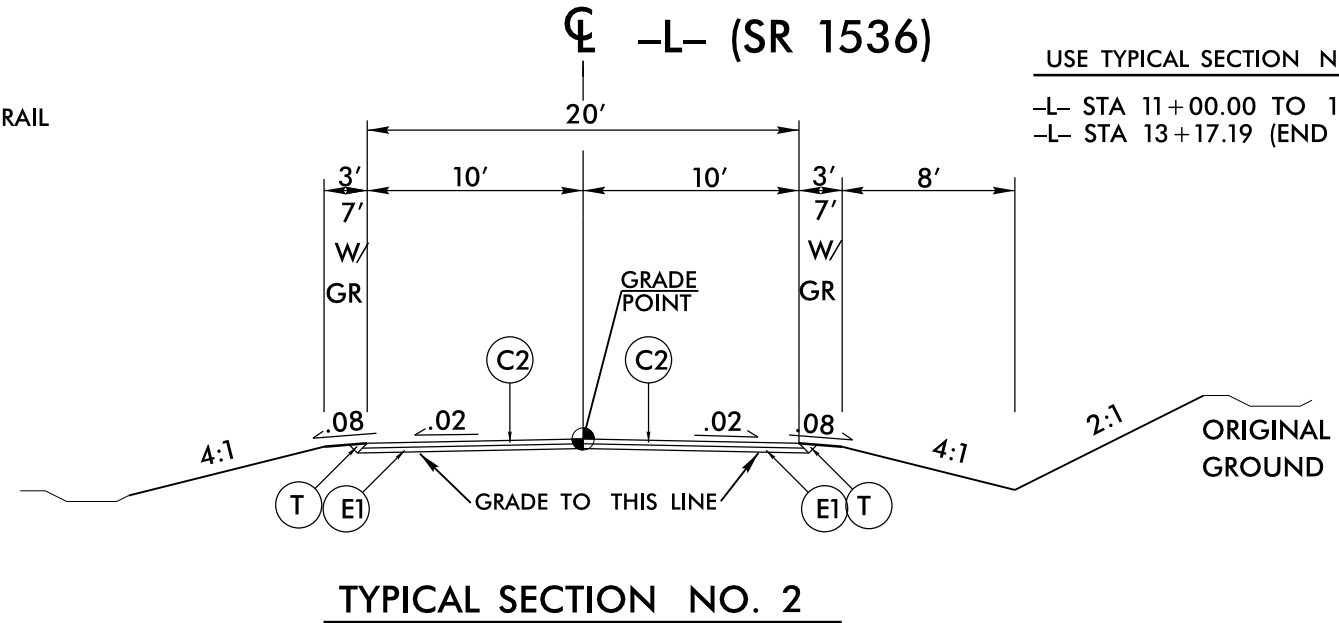
TRANSITION FROM TYPICAL NO. 1 TO EXISTING FROM -L- STA 15+35.00 TO 15+50.00



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

-L- STA 12+24.81 TO 13+17.19
(BEGIN BRIDGE) (END BRIDGE)



USE TYPICAL SECTION NO. 2

-L- STA 11+00.00 TO 12+24.81 (BEGIN BRIDGE)
-L- STA 13+17.19 (END BRIDGE) TO 14+25.00

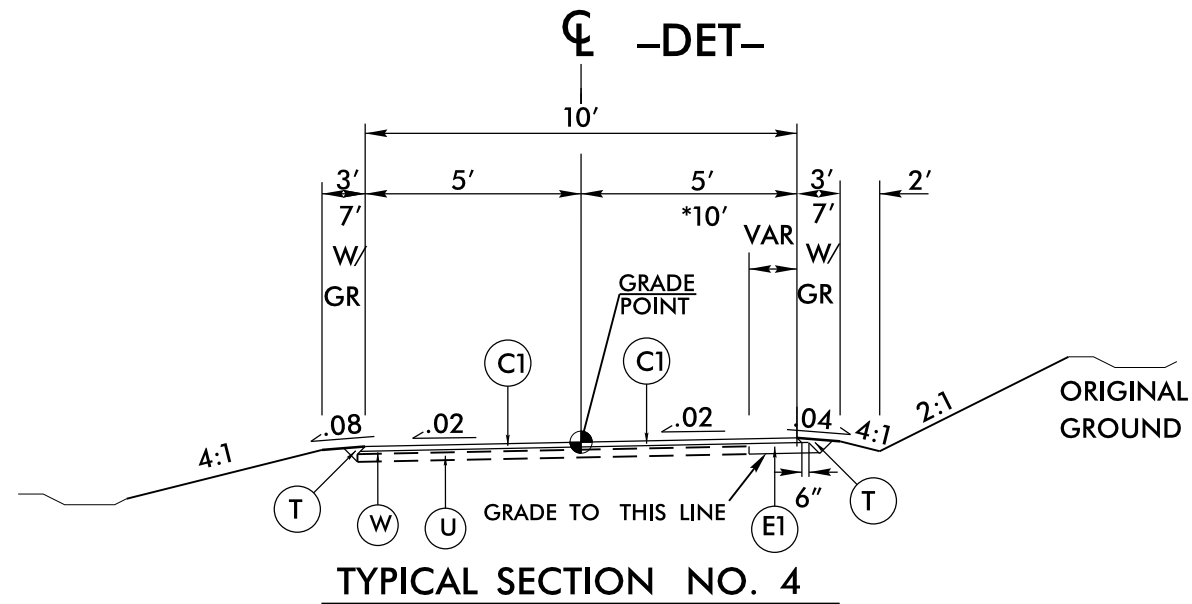
TYPICAL SECTION NO. 2

REVISIONS

6/2/99

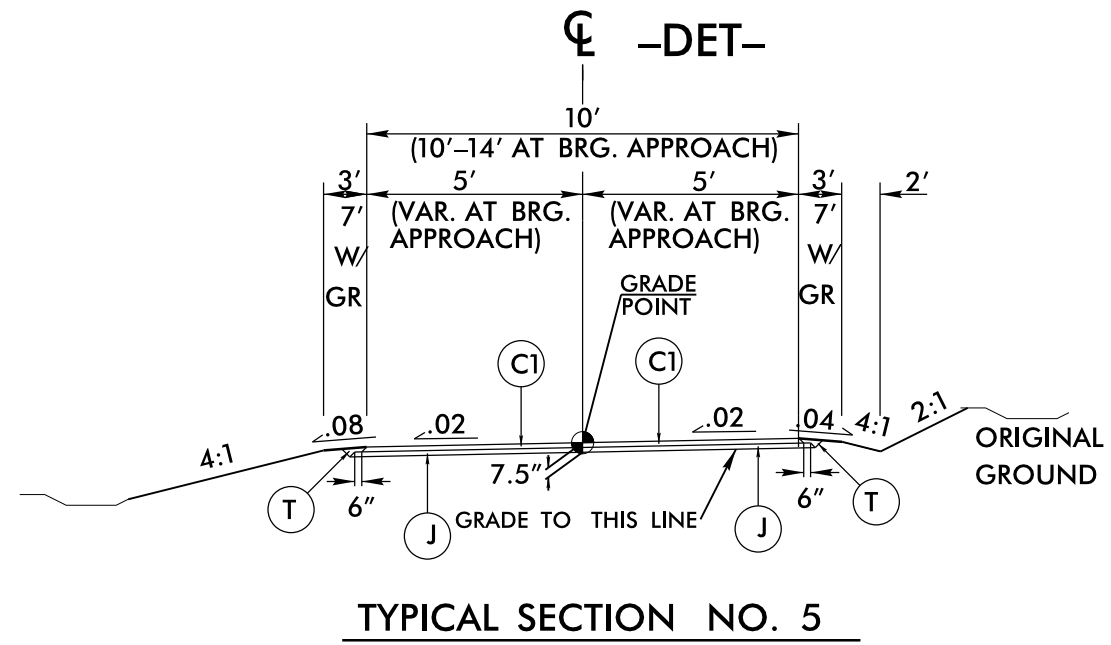
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R:\Roadway\Proj\B5383-Rdy-tpj.dgn
\$\$\$\$\$

PROJECT REFERENCE NO. B-5383	SHEET NO. 2A-2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

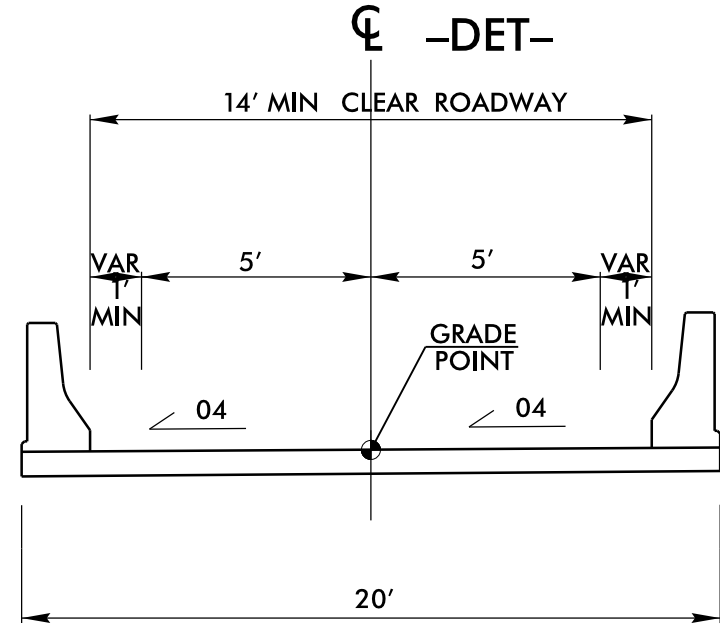


TRANSITION FROM EXISTING TO TYPICAL NO. 4
FROM -DET- STA 10+40.00 TO 11+00.00
TRANSITION FROM TYPICAL NO. 4 TO EXISTING
FROM -DET- STA 14+50.00 TO 15+00.00

USE TYPICAL SECTION NO. 4
-DET- STA 11+00.00 TO 11+35.63
-DET- STA 13+82.44 TO 14+50.00
* -DET- STA 10+90.30 TO 12+11.62



USE TYPICAL SECTION NO. 5
-DET- STA 11+35.63 TO 12+56.41 (BEGIN BRIDGE)
-DET- STA 13+11.54 (END BRIDGE) TO 13+82.44

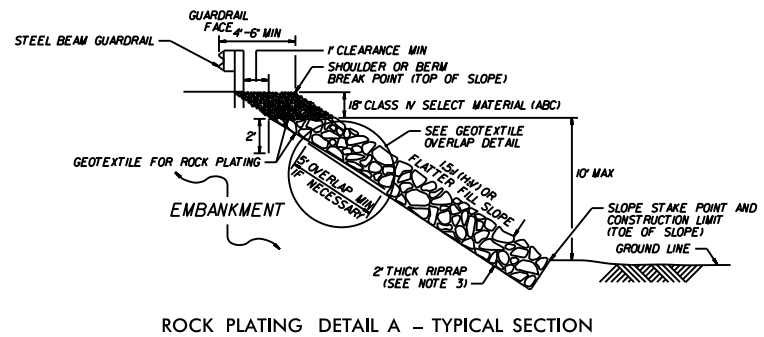
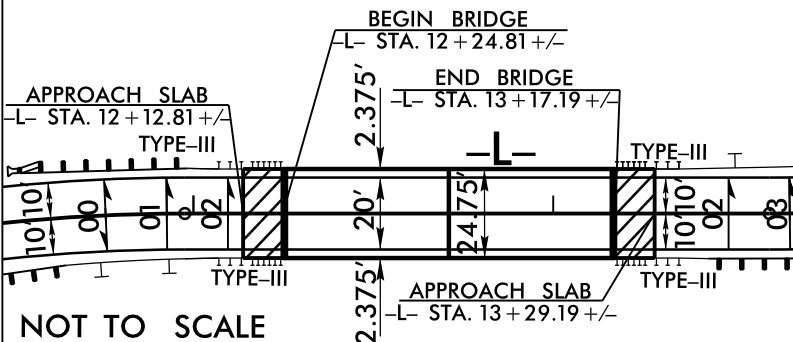


USE TYPICAL SECTION NO. 6
-DET- STA 12+56.41 TO 13+11.54
(BEGIN BRIDGE) (END BRIDGE)

C1	1 1/2" SF9.5A
C3	VAR. SF9.5A
E1	4" B25.0B
J	PROP. 6" ABC.
T	EARTH MATERIAL.
U	EXISTING PVMNT
W	VARIABLE DEPTH

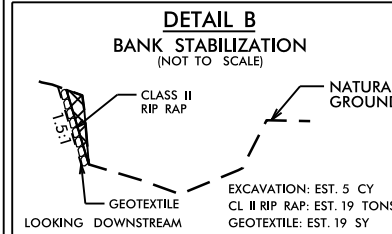
REVISIONS

Sketch Showing Bridge/Roadway Relationship

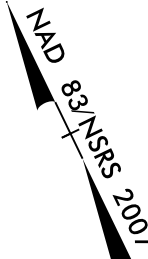


NOTES:

- SEE ROADWAY PLANS AND SUMMARY SHEETS FOR ROCK PLATING LOCATIONS.
- FOR STANDARD ROCK PLATING, SEE SECTION 275 OF THE STANDARD SPECIFICATIONS.
- USE CLASS I, 2 OR B RIPRAP UNLESS REQUIRED OTHERWISE IN THE ROADWAY SUMMARY SHEETS.

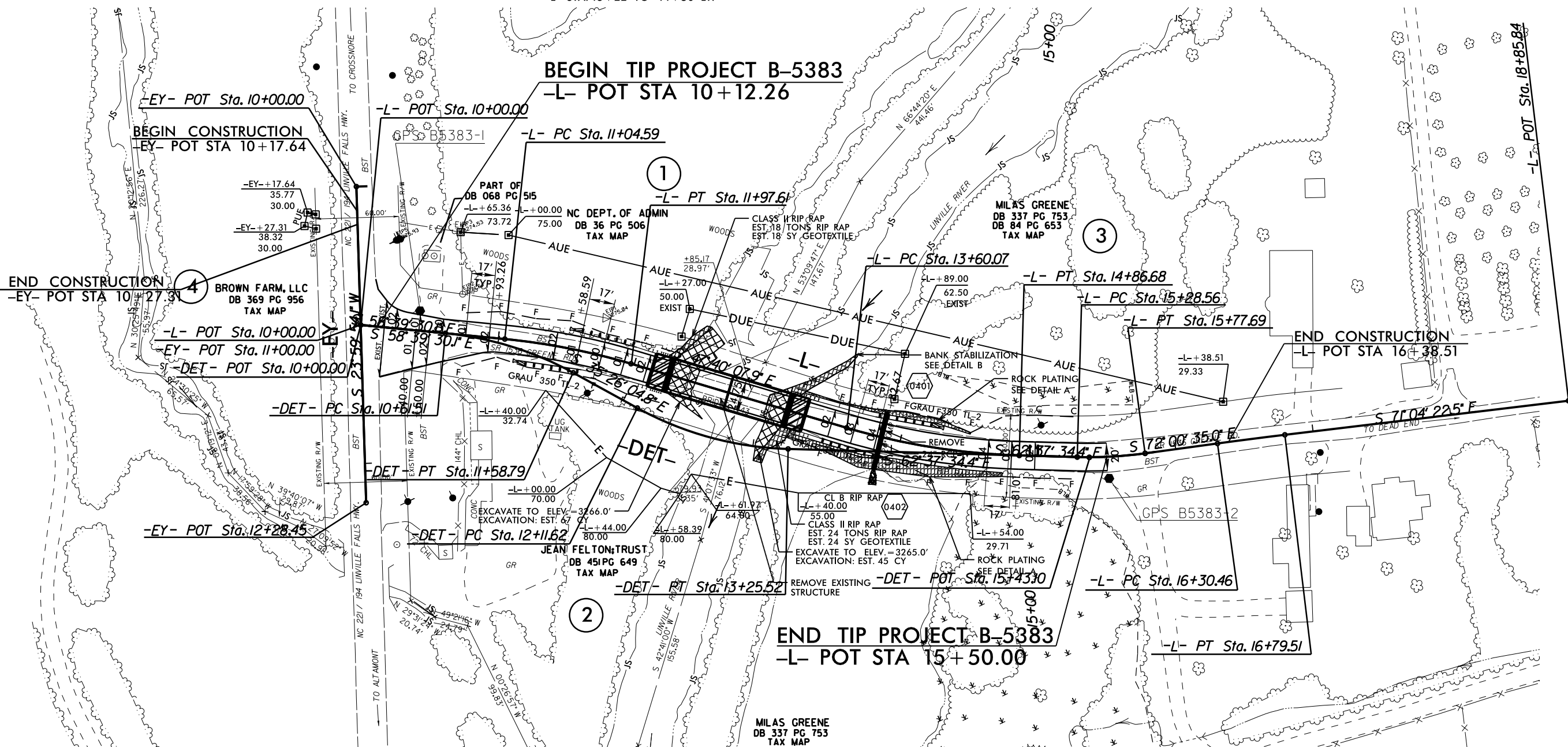


-L- STA. 13+20 TO 14+75 RT.
-L- STA. 13+22 TO 14+50 LT.



PROJECT REFERENCE NO. B-5383	SHEET NO. 4
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

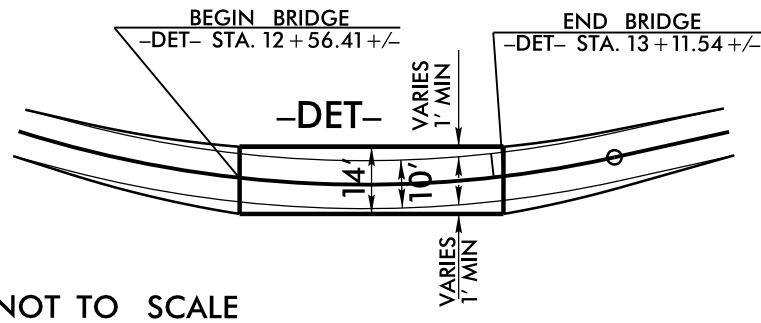
REVISIONS



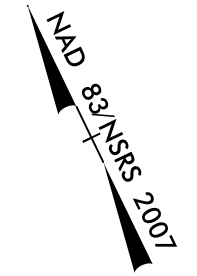
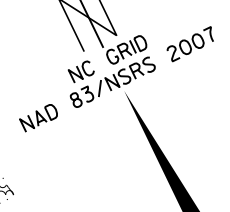
PI Sta 11+51.24	PI Sta 14+23.74	PI Sta 15+53.18	PI Sta 16+54.99
$\Delta = 10^{\circ} 59' 22.2''$ (RT)	$\Delta = 14^{\circ} 57' 26.5''$ (LT)	$\Delta = 9^{\circ} 23' 00.6''$ (LT)	$\Delta = 0^{\circ} 56' 12.5''$ (RT)
$D = 11^{\circ} 48' 48.8''$	$D = 11^{\circ} 48' 48.8''$	$D = 19^{\circ} 05' 54.9''$	$D = 1^{\circ} 54' 35.5''$
$L = 93.02'$	$L = 126.61'$	$L = 49.13'$	$L = 49.05'$
$T = 46.66'$	$T = 63.67'$	$T = 24.62'$	$T = 24.53'$
$R = 485.00'$	$R = 485.00'$	$R = 300.00'$	$R = 3,000.00'$
$SE = .02$	$SE = .04$	$SE = EXIST.$	$SE = EXIST.$
$V_s = 40$	$V_s = 40$	$V_s = EXIST.$	$V_s = EXIST.$

FOR -DET-, SEE SHEET NO. 4A
 FOR -L- PROFILE, SEE SHEET NO. 5
 FOR STRUCTURE PLANS, SEE SHEET S-? THRU S-??

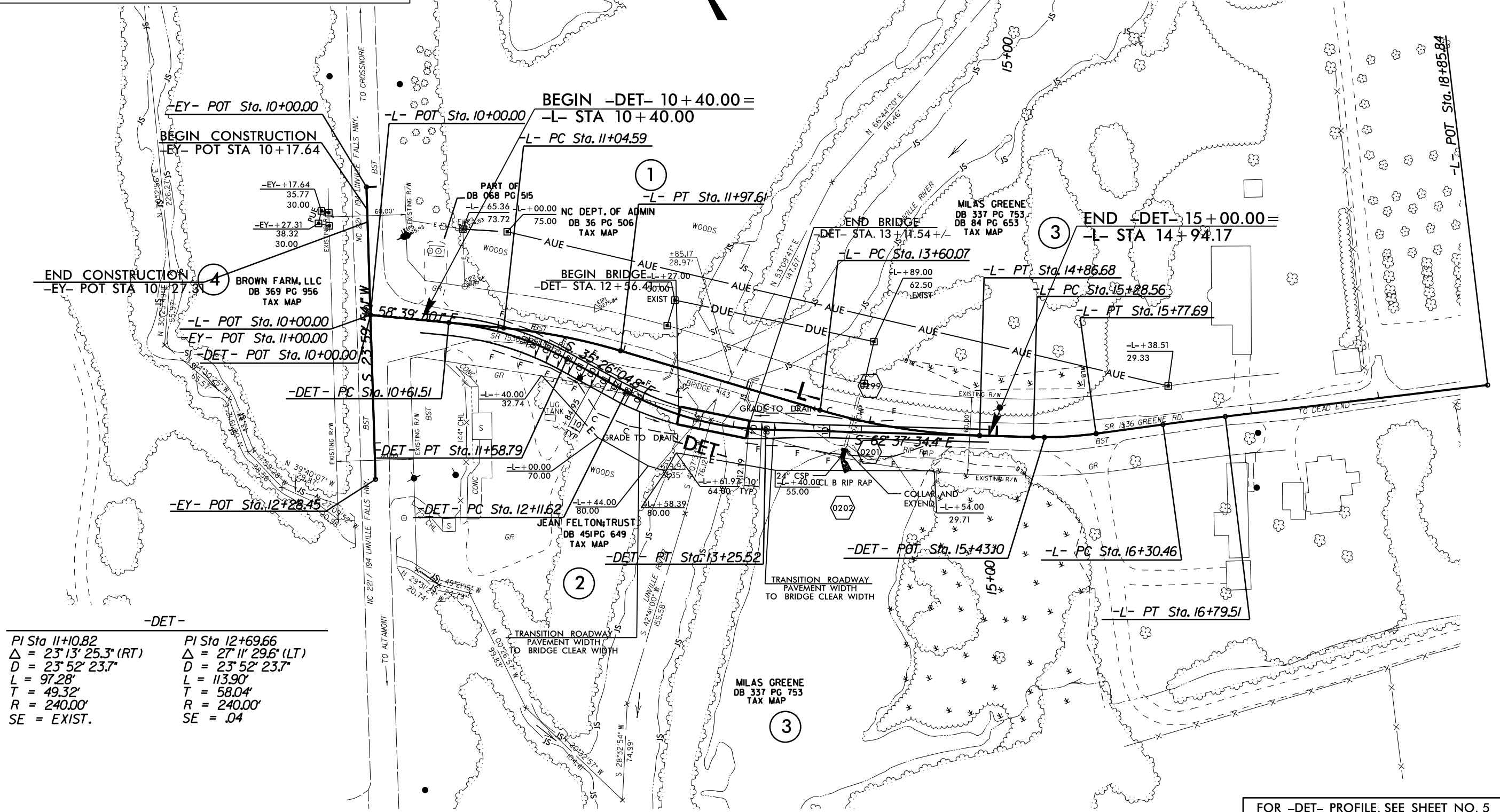
Sketch Showing Bridge/Roadway Relationship



PROJECT REFERENCE NO. B-5383	SHEET NO. 4A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



REVISIONS



-DET-	
PI Sta 11+10.82	PI Sta 12+69.66
$\Delta = 23^\circ 13' 25.3" (RT)$	$\Delta = 27^\circ 11' 29.6" (LT)$
$D = 23^\circ 52' 23.7"$	$D = 23^\circ 52' 23.7"$
$L = 97.28'$	$L = 113.90'$
$T = 49.32'$	$T = 58.04'$
$R = 240.00'$	$R = 240.00'$
SE = EXIST.	SE = .04

FOR -DET- PROFILE, SEE SHEET NO. 5
FOR -L-, SEE SHEET NO. 4
FOR STRUCTURE PLANS, SEE SHEET S-? THRU S-??

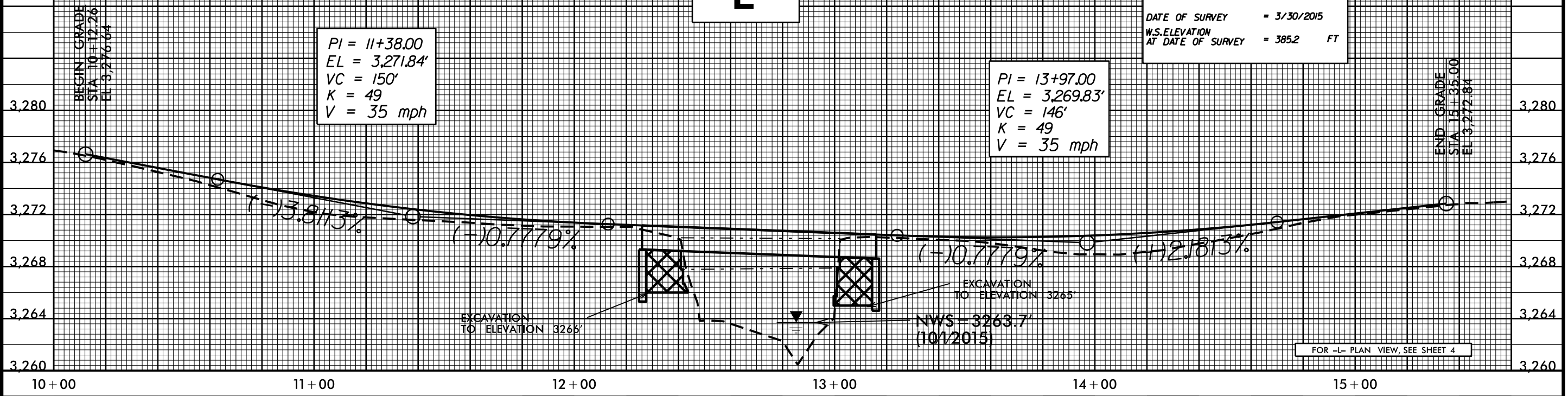
8/17/99
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R:\Roadway\Projects\B5383-rdy_psh_4A.dgn
R:\Roadway\Projects\B5383-rdy_psh_4A.dgn

5/28/99

BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 2730 CFS
DESIGN FREQUENCY	= 5 YRS
DESIGN HW ELEVATION	= 3270.4 FT
BASE DISCHARGE	= 9980 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 3274.84 FT
OVERTOPPING DISCHARGE	= 2730 CFS
OVERTOPPING FREQUENCY	= 5 YRS
OVERTOPPING ELEVATION	= 3270.2 FT
DATE OF SURVEY = 3/30/2015	
W.S.ELEVATION AT DATE OF SURVEY = 385.2 FT	

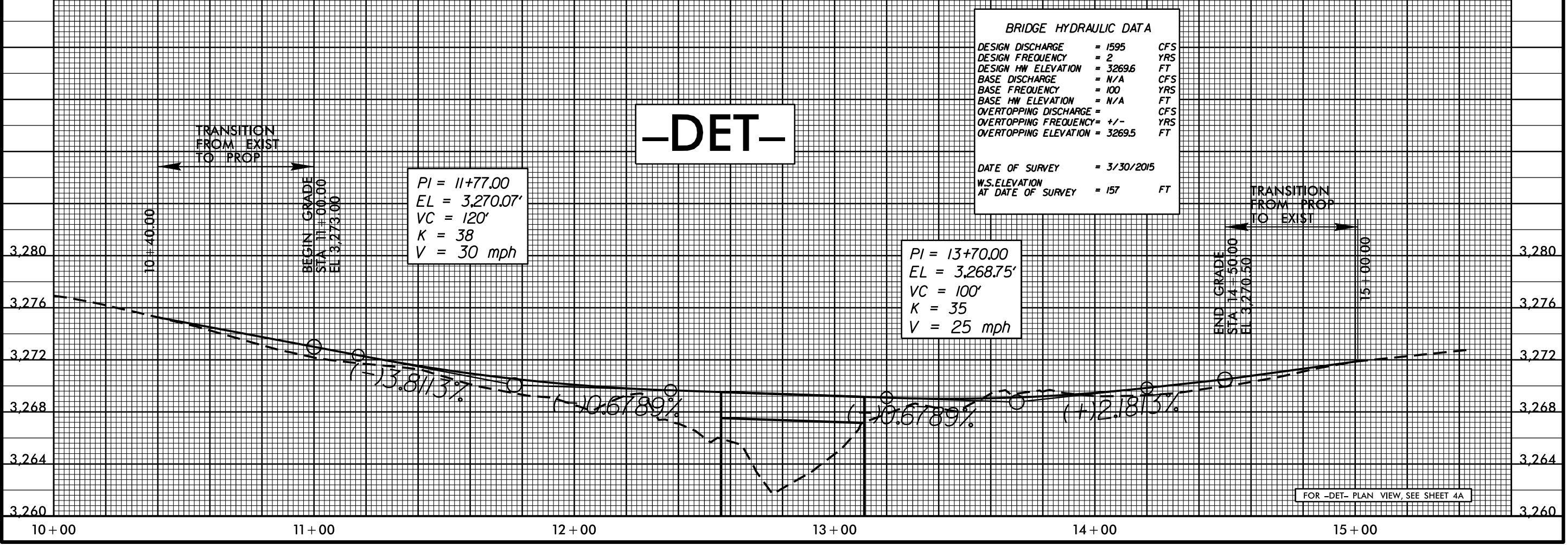
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-



REVISIONS

-DET-



BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 1595 CFS
DESIGN FREQUENCY	= 2 YRS
DESIGN HW ELEVATION	= 3269.6 FT
BASE DISCHARGE	= N/A CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= N/A FT
OVERTOPPING DISCHARGE	= CFS
OVERTOPPING FREQUENCY	= +/- YRS
OVERTOPPING ELEVATION	= 3269.5 FT
DATE OF SURVEY = 3/30/2015	
W.S.ELEVATION AT DATE OF SURVEY = 157 FT	

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