



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

JOSH STEIN  
GOVERNOR

DANIEL H. JOHNSON  
SECRETARY

October 3, 2025

MEMORANDUM TO: Division Environmental and Construction Units

FROM: *mat* Michael A. Turchy, ECAP Group Leader  
Environmental Analysis Unit

SUBJECT: Environmental Permits for the Proposed Widening of US 21 (Statesville Road) from SR 2136 (Gilead Road) to Holly Point Drive and from Northcross Center Court to SR 2147 (Westmoreland Road) in Mecklenburg County, Division 10, TIP Nos. **U-5771 and U-5767**

Please find enclosed the following permits for this project:

Agency	Permit Type	Permit Expiration
US Army Corps of Engineers Section 404 Clean Water Act Permit	Regional General Permit 50 (Approval for Final U-5771, Preliminary U-5767)	May 25, 2030
NC Division of Water Resources Section 401 Water Quality Certification	Individual Certification No. 008065 (Approval for Final U-5771, Preliminary U-5767)	May 25, 2030

Work is authorized by the above referenced permit provided it is accomplished in strict accordance with the permitted plans. The Environmental Coordination and Permitting Group or the Division Environmental Office must be consulted if any deviation from the permit(s) is required.

The General Conditions and Certifications for Nationwide and Regional Permits can be referenced at:  
[https://xfer.services.ncdot.gov/pdea/PermIssued/\\_General\\_Conditions\\_and\\_Certifications/](https://xfer.services.ncdot.gov/pdea/PermIssued/_General_Conditions_and_Certifications/)

The Project Commitments "Greensheet" is located on the Preconstruction SharePoint Dashboard at:  
<https://connect.ncdot.gov/site/preconstruction>



**DEPARTMENT OF THE ARMY**  
**U.S. ARMY CORPS OF ENGINEERS, WILMINGTON DISTRICT**  
**69 DARLINGTON AVENUE**  
**WILMINGTON, NORTH CAROLINA 28403-1343**

September 18, 2025

Regulatory Program/Division  
SAW-2016-02210

Sent Via Email: [recrowther@ncdot.gov](mailto:recrowther@ncdot.gov)

Rob Crowther, PWS  
NCDOT Environmental Coordination & Permitting  
1598 Mail Service Center  
Raleigh, NC 27699-1598

Dear Mr. Crowther:

This letter is in response to the application you received by the Wilmington District, WRDA/Transportation Branch on July 18, 2025, for a Department of the Army general permit verification. This project has been assigned the file number SAW-2016-02210 and is known as U-5767 & U-5771 US 21 Widening Project DOT Division 10. This file number should be referenced in all correspondence concerning this project.

A review of the information provided indicates that the U-5771 proposed work will impact Sites 1-5, including: placement of permanent fill/structures within 316 linear feet (lf) of tributaries, 58 lf temporary dewatering in tributaries, 0.02 ac permanent fill/structures in wetlands, and <0.01 ac mechanical clearing of wetlands. The U-5767 portion of the project will impact sites 6-9, including placement of permanent fill/structures within 830 lf of tributaries and 0.035 ac permanent fill in wetlands. The project area includes approximately 328 acres which is illustrated on the enclosed site plans/maps. The project is located along two separate segments of US-21 (Statesville Road) and will include widening of an approximately 1.8 mile long segment of US-21 from SR 2136 (Gilead Road) to Holly Point Drive (U-5771 project) and an approximately 1.6 mile long segment of US-21 from Northcross Center Court to SR 2147 West Moreland Road (U-5767 project), at Latitude 35.436390 and Longitude -80.863650; in Huntersville, Mecklenburg County, North Carolina.

We have determined that the proposed work is authorized by Regional General Permit 50 (RGP-50) pursuant to authorities under Section 404 of the Clean Water Act (33 U.S.C § 1344). The proposed work must be accomplished in strict accordance with the enclosed general permit conditions, any regional conditions, the special conditions listed in this letter, the application materials, and the enclosed plans "TIP Project: U-5771, Widen US 21 (Statesville Rd.) from south of Shiv Drive to south of Holly Point Drive in Mecklenburg County" and TIP Project: "U-5767, Widen US 21 (Statesville Rd.)



from south of Caldwell Creek Dr. to north of SR 21 47 (Westmoreland Rd.) in Mecklenburg County”. If the extent of the project area and/or nature of the authorized impacts to waters are modified, a revised application must be submitted to this office for written approval before work is initiated. Any deviation from the terms and conditions of the permit, or your submitted plans, may subject the permittee to enforcement action.

This verification is valid until May 25, 2030, unless the subject general permit(s) is suspended, revoked, or is modified prior to that date such that the activity no longer complies with the terms and conditions of the general permit.

**Project Specific Special Conditions:**

1. All work must be performed in strict compliance with (a) the description of work in the PCN and (b) the Wetlands and Surface Water Impact Permit Drawing(s) (Permit Plans) in the application dated July 10, 2025. Any modification to the description of work and/or the permit plans must be approved by the USACE prior to implementation.
2. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this authorization letter in the construction and maintenance of this project and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this authorization letter, all conditions, and any authorized modifications. A copy of this authorization letter, all conditions, and any authorized modifications, shall be available at the project site during construction and maintenance of this project.
3. The U.S. Fish and Wildlife Service approved a Programmatic Biological and Conference Opinion [Programmatic Opinion (PO)], and a Programmatic Conference Report titled "Five Imperiled Bat Species in Western North Carolina" on April 1, 2025. This PO contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with “incidental take” that are specified in the PO. Your authorization under this Corps permit is conditional upon your compliance with all the mandatory terms and conditions associated with incidental take of the PO, which are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the PO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its PO, and with the ESA.
4. In order to compensate for impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form.

The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit.

This general permit verification and any associated authorizations does not preclude the necessity to obtain any other Federal, State, or local permits, licenses, and/or certifications, which may be required.

If you have any questions related to this verification or have issues accessing documents referenced in this letter, please contact Stephen Brumagin, WRDA/Transportation Project Manager of the WRDA/Transportation Branch Office at 704-798-6471, by mail at the above address, or by email at [stephen.a.brumagin@usace.army.mil](mailto:stephen.a.brumagin@usace.army.mil). Please take a moment to complete our customer satisfaction survey located at <https://regulatory.ops.usace.army.mil/customer-service-survey/>.

Sincerely,

A handwritten signature in black ink that reads "M. Scott Jones". The signature is written in a cursive, flowing style.

M. Scott Jones  
WRDA/Transportation Branch Chief

Enclosures

Project Plans  
401 WQC  
RGP-50

cc (w/enclosures):

Erin Cheely, NCDOT (via [ekcheely@ncdot.gov](mailto:ekcheely@ncdot.gov))  
Joel Howard, NCDOT-Div 10(via [jmhoward@ncdot.gov](mailto:jmhoward@ncdot.gov))  
[ecap@ncdot.gov](mailto:ecap@ncdot.gov)

<b>U.S. Army Corps of Engineers (USACE)</b> <b>CERTIFICATION OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT</b> For use of this form, see Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, and Section 103 of the Marine Protection, Research, and Sanctuaries Act; the proponent agency is CECW-COR.		<i>Form Approved -</i> <b>OMB No. 0710-0003</b> <i>Expires 2027-10-31</i>
<b>The Agency Disclosure Notice (ADN)</b>		
<p>The Public reporting burden for this collection of information, 0710-0003, is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at <a href="mailto:whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil">whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil</a>. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.</p>		
<p><b>PURPOSE:</b> This form is used by recipients of U.S. Army Corps of Engineer Regulatory permits to certify compliance with the permit terms and conditions.</p> <p>Your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.</p>		
<p>Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the U.S. Army Corps of Engineers, Wilmington District, Regulatory Office.</p> <p>The certification can be submitted by email at <a href="mailto:stephen.a.brumagin@usace.army.mil">stephen.a.brumagin@usace.army.mil</a> or by mail at the below address:</p> <div style="text-align: center; margin-top: 20px;">       U.S. Army Corps of Engineers        Wilmington District, Charlotte Field Office        Street Address: 8430 University Executive Park Drive,        City: Charlotte      State: North Carolina      Zip Code: 28262     </div>		
<b>COMPLETED BY THE CORPS</b>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;">Corps Action Number:</div> <div style="width: 70%; border-bottom: 1px solid black;">SAW-2016-02210</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 30%;">Permit Type:</div> <div style="width: 70%; border-bottom: 1px solid black;">General Permit</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 30%;">General Permit Number and Name (if applicable):</div> <div style="width: 70%; border-bottom: 1px solid black;">RGP-50</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 30%;">Name of Permittee:</div> <div style="width: 70%; border-bottom: 1px solid black;">Rob Crowther</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 30%;">Project Name:</div> <div style="width: 70%; border-bottom: 1px solid black;">U-5767 &amp; U-5771 US 21 Widening Project DOT Division 10</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 30%;">Project Location (physical address):</div> <div style="width: 70%; border-bottom: 1px solid black;">along US 21 in</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 30%;"></div> <div style="width: 70%; border-bottom: 1px solid black;">Huntersville, North Carolina</div> </div>		
<b>PERMITTEE'S CERTIFICATION</b>		
<div style="display: flex; justify-content: space-between; margin-bottom: 10px;"> <div style="width: 30%;">Date Work Started:</div> <div style="width: 70%; border-bottom: 1px solid black;"></div> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 10px;"> <div style="width: 30%;">Date Work Completed:</div> <div style="width: 70%; border-bottom: 1px solid black;"></div> </div> <p>Enclose photographs showing the completed project (if available).</p> <p>I _____ hereby certify that the work authorized by the above referenced permit has been completed in accordance with all of the permit terms and conditions, and that any required compensatory mitigation has been completed in accordance with the permit conditions.</p>		
Name	Date	Signature

**US Army Corps of Engineers – Wilmington District**  
**Compensatory Mitigation Responsibility Transfer Form**

**Permittee: Rob Crowther**

**Action ID: SAW-2016-02210**

**Project Name: U-5767 & U-5771 US 21 Widening Project DOT Division 10**

**County: Mecklenburg**

**Instructions to Permittee:** The Permittee must provide a copy of this form to the Mitigation Sponsor, either an approved Mitigation Bank or the North Carolina Division of Mitigation Services (NCDMS), who will then sign the form to verify the transfer of the mitigation responsibility. Once the Sponsor has signed this form, it is the Permittee's responsibility to ensure that Wilmington District Project Manager identified on page two is in receipt of a signed copy of this form before conducting authorized impacts, unless otherwise specified below. If more than one Mitigation Sponsor will be used to provide the mitigation associated with the permit, or if the impacts and/or the mitigation will occur in more than one 8-digit Hydrologic Unit Code (HUC), multiple forms will be attached to the permit, and the separate forms for each Sponsor and/or HUC must be provided to the appropriate Mitigation Sponsors.

**Instructions to Sponsor:** The Sponsor verifies that the mitigation requirements (credits) shown below have been released and are available at the identified site. By signing below, the Sponsor is accepting full responsibility for the identified mitigation, regardless of whether they have received payment from the Permittee. Once the form is signed, the Sponsor must update the bank ledger and provide a copy of the signed form and the updated ledger to the Permittee, the Project Manager who issued the permit, the Bank Project Manager, and the District Mitigation Office (see contact information on page 2). The Sponsor must also comply with all reporting requirements established in their authorizing instrument.

**Permitted Impacts and Compensatory Mitigation Requirements**

**Permitted Impacts Requiring Mitigation\*:**

**8-digit HUC and Basin: 03050101, Catawba River Basin**

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian	Riparian Non-Riverine	Non-Riparian	Coastal
1146			0.065			

\*If more than one mitigation sponsor will be used for the permit, only include impacts to be mitigated by this sponsor.

**Compensatory Mitigation Requirements:**

**8-digit HUC and Basin: 03050101, Catawba River Basin**

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian	Riparian Non-Riverine	Non-Riparian	Coastal
2292			0.13			

**Mitigation Site Debited:** NCDMS.

***Section to be completed by the Mitigation Sponsor***

**Statement of Mitigation Liability Acceptance:** I, the undersigned, verify that I am authorized to approve mitigation transactions for the Mitigation Sponsor shown below, and I certify that the Sponsor agrees to accept full responsibility for providing the mitigation identified in this document (see the table above), associated with the USACE Permittee and Action ID number shown. I also verify that released credits (and/or advance credits for NCDMS), as approved by the Wilmington District, are currently available at the mitigation site identified above. Further, I understand that if the Sponsor fails to provide the required compensatory mitigation, the USACE Wilmington District Engineer may pursue measures against the Sponsor to ensure compliance associated with the mitigation requirements.

**Mitigation Sponsor Name:** NCDMS

**Name of Sponsor's Authorized Representative:** Beth Harmon

*Elizabeth Harmon*

**Signature of Sponsor's Authorized Representative**

09/19/2025

**Date of Signature**

## USACE Wilmington District – MRTF Page 2

### Conditions for Transfer of Compensatory Mitigation Credit:

- Once this document has been signed by the Mitigation Sponsor and the District is in receipt of the signed form, the Permittee is no longer responsible for providing the mitigation identified in this form, though the Permittee remains responsible for any other mitigation requirements stated in the permit conditions.
- Construction within jurisdictional areas authorized by the permit identified on page one of this form can begin only after the District is in receipt of a copy of this document signed by the Sponsor, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein. When NCDMS provides mitigation for authorized impacts conducted by the North Carolina Department of Transportation (NCDOT), construction within jurisdictional areas may proceed upon permit issuance; however, a copy of this form signed by NCDMS must be provided to the District within 30 days of permit issuance. NCDOT remains fully responsible for the mitigation until the District has received this form, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein.
- Signed copies of this document must be retained by the Permittee, Mitigation Sponsor, and in the USACE administrative records for both the permit and the Bank/ILF Instrument. It is the Permittee's responsibility to ensure that the District Project Manager (address below) is provided with a signed copy of this form.
- If changes are proposed to the type, amount, or location of mitigation after this form has been signed and returned to the District, the Sponsor must obtain case-by-case approval from the District Project Manager and/or North Carolina Interagency Review Team (NCIRT). If approved, higher mitigation ratios may be applied, as per current District guidance and a new version of this form must be completed and included in the District administrative records for both the permit and the Bank/ILF Instrument.

**Comments/Additional Conditions:** NCDMS provided approval letters dated February 24, 2025, to provide mitigation for 316 lf stream impacts and .034-acre wetlands in 03050101 for U-5771 project and 830 lf stream impacts and 0.035-acre wetland impact in 03050101 for U-5767 project.

This form is not valid unless signed below by the District Project Manager and by the Mitigation Sponsor on Page 1. ***Once signed, the Sponsor should provide copies of this form along with an updated bank ledger to: 1) the Permittee, 2) the District Project Manager at the address below, 3) the Bank Manager listed in RIBITS, and 4) the Wilmington District Mitigation Office, 3331 Heritage Trade Drive, Suite 105, Wake Forest, NC 27587 (or by email to [SAWMIT@usace.army.mil](mailto:SAWMIT@usace.army.mil)).*** Questions regarding this form or any of the permit conditions may be directed to the District Mitigation Office.

**USACE Project Manager:** Stephen Brumagin  
**USACE Field Office:** Charlotte Field Office  
US Army Corps of Engineers  
8430 University Executive Park Drive  
Charlotte  
**Email:** [stephen.a.brumagin@usace.army.mil](mailto:stephen.a.brumagin@usace.army.mil)

*Stephen A. Brumagin*

Wilmington District Project Manager Signature

September 18, 2025

Date of Signature

Current Wilmington District mitigation guidance, including information on mitigation ratios, functional assessments, and mitigation bank location and availability, and credit classifications (including stream temperature and wetland groupings) is available at <http://ribits.usace.army.mil>.

JOSH STEIN  
Governor

D. REID WILSON  
Secretary

RICHARD E. ROGERS, JR.  
Director



NORTH CAROLINA  
Environmental Quality

September 15, 2025  
Mecklenburg County  
NCDWR Project No. 20250940  
Widen US 21 From SR 2136 to SR 2147  
WBS Element #50180.1.1  
TIP #U-5771/U-5767

**APPROVAL of 401 WATER QUALITY CERTIFICATION with ADDITIONAL CONDITIONS**

Mr. Robert Crowther  
NCDOT  
1598 Mail Service Center  
Raleigh, NC 27699-1598  
RECrowther@NCDOT.gov

Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with  
ADDITIONAL CONDITIONS for Proposed Widening of US 21 From SR 2136 to SR 2147 in  
Mecklenburg County, NCDWR Project No. 20250940, WBS Element #50180.1.1, TIP #U-5771/U-5767.

Dear Mr. Crowther:

Attached hereto is a copy of Certification No. WQC008065 issued to The NCDOT dated September 9, 2025, and revised September 15, 2025.

This approval is for the purpose and design described in your application. The plans and specifications for this project are incorporated by reference as part of this Water Quality Certification. If you change your project, you must notify the Division, and you may be required to submit a new application package with the appropriate fee. If the property is sold, the new owner must be given a copy of this Certification and is responsible for complying with all conditions. [15A NCAC 02H .0507(d)(2)]. This Certification does not relieve the permittee of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations.

This letter completes the review of the Division under section 401 of the Clean Water Act and 15A NCAC 02H .0500. Please contact Mary Plummer at 704-235-2193 or [Mary.Plummer@deq.nc.gov](mailto:Mary.Plummer@deq.nc.gov) if you have any questions or concerns.

Sincerely,

Signed by:

*Paith Hardin*

3185423002EA45E...  
Richard E. Rogers, Jr., Director  
Division of Water Resources

Electronic copy only distribution:

Erin Cheely, NCDOT  
Joel Howard, NCDOT  
Steve Brumagin, US Army Corps of Engineers, Charlotte Field Office  
Holland Youngman, US Fish and Wildlife Service  
David McHenry, NC Wildlife Resources Commission  
Chris Hopper, Carolina Ecosystems Inc.  
Sean Kortovich, RS&H



North Carolina Department of Environmental Quality | Division of Water Resources  
512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1617  
919.707.9000

#### 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS

**THIS CERTIFICATION** is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500. This certification authorizes the NCDOT to impact 1,204 Linear Feet of jurisdictional streams and .075 Acres of jurisdictional wetlands in Mecklenburg County. The project shall be constructed pursuant to the application dated and received July 17, 2025. The authorized impacts are as described below:

##### U-5771 Stream Impacts (Linear Feet) in the Catawba River Basin

Site	Permanent in Perennial	Temporary in Perennial	Permanent in Intermittent	Total Stream Impacts	Stream Impacts Requiring Mitigation
	Culvert	Dewater/ Pump Around	Culvert		
1./1 5'X7' RCBC	153	24	-	177	153
2./3 48" RCP	-	-	53	53	53
3./4 6'X6' RCBC	110	34	-	144	110
Totals	263	58	53	374	316
	321				

**U-5771 Total Stream Impacts for Project: 374 Linear Feet.**

##### U-5771 Riverine Wetland Impacts (Acres) in the Catawba River Basin

Wetland	Site	Roadway		Utilities	Total Wetland Impacts	Impacts Requiring Mitigation
		Permanent Fill	Mechanized Clearing	Temp Hand Clearing		
WD	2	.018	.003	-	.021	.021
WF	5	.003	.010	-	.013	.013
WD	U2	-	-	.006	.006	-
Totals		.021	.013	.006	.04	.034

**U-5771 Total Wetland Impacts for Project: .04 Acres.**

##### U-5767 Stream Impacts (Linear Feet) in the Catawba River Basin

Site	Permanent in Perennial	Permanent in Intermittent	Total Stream Impacts	Stream Impacts Requiring Mitigation
	RCBC Culverts	Roadway Fill		
4./6	280	-	280	280
5./8	-	390	390	390
6./9	-	160	160	160
Totals	280	550	830	830

**U-5767 Total Stream Impacts for Project: 830 Linear Feet.**





**U-5767 Riverine Wetland Impacts (Acres) in the Catawba River Basin**

Wetland WH Site	Permanent Fill	Total Wetland Impacts	Impacts Requiring Mitigation
	RCP Culverts		
7	.035	.035	.035
<b>Totals</b>		<b>.035</b>	

**U-5767 Total Wetland Impacts for Project: .035 Acres.**

**Total Stream Impacts for Project: 1,204 Linear Feet.**

**Total Wetland Impacts for Project: .075 Acres.**

The application provides adequate assurance that the discharge of fill material into the waters of the Catawba River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application dated and received July 17, 2025. Should your project change, you are required to notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 300 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7).

For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

This Water Quality Certification neither grants nor affirms any property right, license, or privilege in any lands or waters, or any right of use in any waters. This Water Quality Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and does not create any prescriptive right or any right of priority regarding any usage of water. This Water Quality Certification shall not be interposed as a defense in any action respecting the determination of riparian or littoral rights or other rights to water use. No consumptive user is deemed by virtue of this Water Quality Certification to possess any prescriptive or other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded. Upon the presentation of proper credentials, the Division may inspect the property.

**Condition(s) of Certification:**

**Project Specific Conditions**

1. All work in or adjacent to stream waters shall be conducted per approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual. [15A NCAC 02H.0506(b)(3) and (c)(3)]
2. Design and placement of the culverts and other structures shall be installed in such a manner that the original stream profiles are not altered (i.e., the depth of the channel must not be reduced by a widening of the streambed). Existing stream dimensions (including pattern and profile) are to be maintained above and below locations of each culvert. The structures shall be designed and installed to allow for fish and other wildlife movement as well as prevent headcutting of the stream. The applicant may be required to provide evidence that the equilibrium has been maintained if requested in writing by the NCDWR. [15A NCAC 02H.0506(b)(2)]





3. Unless otherwise approved in this certification, placement of culverts and other structures in open waters and streams shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required. [15A NCAC 02H.0506(b)(2)]
4. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should 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. [15A NCAC 02H.0506(b)(2)]
5. Riprap shall not be placed in the active thalweg channel. If placement in the streambed is approved per plans and permit, the riprap must be keyed-into the streambed in a manner that shall not preclude aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed. [15A NCAC 02H.0506(b)(2)]
6. The stream channel shall be excavated no deeper than the natural bed material of the stream, to the maximum extent practicable. Efforts must be made to minimize impacts to the stream banks, as well as to vegetation responsible for maintaining the stream bank stability. Any applicable riparian buffer impact for access to stream channel shall be temporary and be revegetated with native riparian species. [15A NCAC 02H.0506(b)(2)]
7. Pipes and culverts used exclusively to maintain equilibrium in wetlands, where aquatic life passage is not a concern, shall not be buried. These pipes shall be installed at natural ground elevation.
8. Wetland areas impacted by temporary clearing shall be stabilized and reseeded with native wetland seed.
9. Due to the possibility that compaction and/or other site alterations might prevent the temporary wetland impact area from re-attaining jurisdictional wetland status; the permittee shall provide an update on the wetland areas temporarily impacted. This update shall be conducted two growing seasons after completion of the work and shall consist of photographs and a brief report on the progress of the areas in re-attaining wetland jurisdictional status. Upon submission of this update to the NCDWR, the permittee shall schedule an agency field meeting with the NCDWR to determine if the wetland areas temporarily impacted by this project have re-attained jurisdictional wetland status. If the wetland areas temporarily impacted by this project have not re-attained jurisdictional wetland status, the NCDWR shall determine if compensatory wetland mitigation is to be required.
10. Turbidity curtains shall be used to isolate all work areas from the stream, including pile or casement installation, placement of riprap, excavation or filling. Strict adherence to the Construction and Maintenance Best Management Practices will be required.
11. Compensatory mitigation for impacts to 1,146 linear feet of impact to perennial streams is required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Division of Mitigation Services (DMS), and that the DMS has agreed to implement the mitigation for the project. DMS has indicated in a letter dated February 24, 2025, that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with DMS's Mitigation Banking Instrument signed July 28, 2010
12. Compensatory mitigation for impacts to .069 acres of riverine wetlands is required. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands through the North Carolina Division of Mitigation Services (DMS), and that the DMS has agreed to implement the mitigation for the project. DMS has indicated in a letter dated February 24, 2025, that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with DMS's Mitigation Banking Instrument signed July 28, 2010.



13. When final design plans are completed for U-5767 a modification to the 401 Water Quality Certification shall be submitted with fees to the NC Division of Water Resources. Final designs shall reflect all appropriate avoidance, minimization, and mitigation for impacts to wetlands, streams, and other surface waters. No construction activities that impact any wetlands, streams, surface waters, or buffers located in U-5767 shall begin until after the permittee applies for and receives a written modification of the 401 Water Quality Certification from the NC Division of Water Resources.

#### **General Conditions**

1. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills. [15A NCAC 02B.0200]
2. For all streams being impacted due to site dewatering activities, the site shall be graded to its preconstruction contours and revegetated with appropriate native species. [15A NCAC 02H.0506(b)(2)]
3. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S. or protected riparian buffers. [15A NCAC 02H.0506(b)(2)]
4. The dimension, pattern and profile of the stream above and below any crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions. [15A NCAC 02H.0506(b)(2)]
5. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage. [15A NCAC 02H.0506(b)(2)]
6. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval. [15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
7. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water. [15A NCAC 02H.0506(b)(3)]
8. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream. [15A NCAC 02H.0506(b)(3)]
9. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials. [15A NCAC 02H.0506(b)(3)]
10. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification. [15A NCAC 02H.0506(b)(3)]
11. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]
12. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If the NCDWR determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, the NCDWR may reevaluate and modify this certification. [15A NCAC 02B.0200]
13. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification. [15A NCAC 02H.0506(b)(2)]





14. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
15. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization, including all non-commercial borrow and waste sites associated with the project, shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]
16. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.
17. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]
18. Upon completion of the project (including any impacts at associated borrow or waste sites), the authorized agent shall complete and return the "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0507]
19. Native riparian vegetation must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02B.0506(b)(2)]
20. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities. [15A NCAC 02H.0506(b)(3) and (c)(3)]
21. Erosion control matting that incorporates plastic mesh and/or plastic twine shall not be used along streambanks or within jurisdictional wetlands. [15A NCAC 2H.0506; 15A NCAC 2H.0507]
22. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards [15A NCAC 02H.0506(b)(3) and (c)(3)]:
  - a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
  - b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
  - c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
  - d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act
23. Sediment and erosion control measures shall not be placed in wetlands or surface waters, or within 5 feet of the top of bank, without prior approval from DWR. [15A NCAC 02H.0506(b)(3) and (c)(3)]
24. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control



of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur. [15A NCAC 02H .0506(b)(3) and (c)(3) and 15A NCAC 02B .0200]

25. Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*.
26. All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.
27. For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*. Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.

This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit. Please be aware that impacting waters without first applying for and securing the issuance of a 401 Water Quality Certification violates Title 15A of the North Carolina Administrative Code (NCAC) 2H .0500. Title 15A NCAC 2H .0500 requires certifications pursuant to Section 401 of the Clean Water Act whenever construction or operation of facilities will result in a discharge into navigable waters, including wetlands, as described in 33 Code of Federal Regulations (CFR) Part 323. It also states any person desiring issuance of the State certification or coverage under a general certification required by Section 401 of the Federal Water Pollution Control Act shall file with the Director of the North Carolina Division of Water Quality. Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. Pursuant to G.S. 143-215.6A, these violations and any future violations are subject to a civil penalty assessment of up to a maximum of \$25,000.00 per day for each violation.

This approval and its conditions are final and binding unless contested [G.S. 143-215.5]. Please be aware that impacting waters without first applying for and securing the issuance of a 401 Water Quality Certification violates Title 15A of the North Carolina Administrative Code (NCAC) 2H .0500. Title 15A NCAC 2H .0500 requires certifications pursuant to Section 401 of the Clean Water Act whenever construction or operation of facilities will result in a discharge into navigable waters, including wetlands, as described in 33 Code of Federal Regulations (CFR) Part 323. It also states any person desiring issuance of the State certification or coverage under a general certification required by Section 401 of the Federal Water Pollution Control Act shall file with the Director of the North Carolina Division of Water Quality. Pursuant to G.S. 143-215.6A, these violations and any future violations are subject to a civil penalty assessment of up to a maximum of \$25,000.00 per day for each violation.

This Certification can be contested as provided in Chapter 150B of the North Carolina General Statutes by filing a Petition for a Contested Case Hearing (Petition) with the North Carolina Office of Administrative Hearings (OAH) within sixty (60) calendar days. Requirements for filing a Petition are set forth in Chapter 150B of the North Carolina General Statutes and Title 26 of the North Carolina Administrative Code. Additional information regarding requirements for filing a Petition and Petition forms may be accessed at <http://www.ncoah.com/> or by calling the OAH Clerk's Office at (919) 431-3000.

A party filing a Petition must serve a copy of the Petition on:

Dan Hirschman, General Counsel  
Department of Environmental Quality  
1601 Mail Service Center  
Raleigh, NC 27699-1601

If the party filing the Petition is not the permittee, then the party must also serve the recipient of the Certification in accordance with N.C.G.S 150B-23(a).

This the 15<sup>th</sup> day of September 2025



North Carolina Department of Environmental Quality | Division of Water Resources  
512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1617  
919.707.9000

DIVISION OF WATER RESOURCES

Signed by:

*Faith Hardin*

3185423002EA45E...

Richard E. Rogers, Jr., Director

WQC No. WQC008065



North Carolina Department of Environmental Quality | Division of Water Resources  
512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1617  
919.707.9000



**JOSH STEIN**  
Governor

**D. REID WILSON**  
Secretary

**RICHARD E. ROGERS, JR.**  
Director



**NCDWR Project No.:** \_\_\_\_\_

**County:** \_\_\_\_\_

**Applicant:** \_\_\_\_\_

**Project Name:** \_\_\_\_\_

**Date of Issuance of 401 Water Quality Certification:** \_\_\_\_\_

**Certificate of Completion**

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401 Transportation Permitting Unit, North Carolina Division of Water Resources, 1617 Mail Service Center, Raleigh, NC, 27699-1617. This form may be returned to NCDWR by the applicant, the applicant's authorized agent, **or** the project engineer. It is not necessary to send certificates from all of these.

***Applicant's Certification***

I, \_\_\_\_\_, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

***Agent's Certification***

I, \_\_\_\_\_, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

***Engineer's Certification***

\_\_\_\_\_ Partial \_\_\_\_\_ Final

I, \_\_\_\_\_, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature \_\_\_\_\_ Registration No. \_\_\_\_\_

Date \_\_\_\_\_

Completed hard copies can be emailed to [kristilynn.carpenter@ncdenr.gov](mailto:kristilynn.carpenter@ncdenr.gov) or mailed to:  
NCDEQ Transportation Permitting  
1617 Mail Service Center  
Raleigh NC 27699-1617





## North Carolina Department of Transportation

Highway Stormwater Program  
STORMWATER MANAGEMENT PLAN  
FOR NCDOT PROJECTS

(Version 3.00; Released August 2021)

WBS Element: 50180.1.1 TIP/Proj No: U-5771 County(ies): Mecklenburg Page 1 of 2

## General Project Information

WBS Element:	50180.1.1	TIP Number:	U-5771	Project Type:	Roadway Widening	Date:	10/30/2023
NCDOT Contact:	Radha Attaluri, PE			Contractor / Designer:	Sean Kortovich, PE		
	Address: 1 South Wilmington Street Raleigh, NC 27601				Address: 8521 Six Forks Road Suite 400 Raleigh, NC 27610		
	Phone: 919-707-6038				Phone: 919-926-4107		
	Email: rattaluri@ncdot.gov				Email: sean.kortovich@rsandh.com		
City/Town:	Huntersville			County(ies):	Mecklenburg		
River Basin(s):	Catawba			CAMA County?	No		
Wetlands within Project Limits?	Yes						

## Project Description

Project Length (lin. miles or feet):	1.791 miles	Surrounding Land Use:	Business, Residential, Woods					
	Proposed Project		Existing Site					
Project Built-Upon Area (ac.)	26.8	ac.	11.4	ac.				
Typical Cross Section Description:	Four lane (12ft) median divided with curb and gutter and multi-use path on each side		Two 12ft lanes with paved shoulder					
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	60320	Year:	2044	Existing:	28720	Year:	2024

General Project Narrative:  
(Description of Minimization of Water  
Quality Impacts)

U-5771 proposes the asymmetrical widening of US 21 from Gilead Rd. to Holly Point Dr. and from Northcross Center Ct. to Westmoreland Rd. The existing project site is currently a two lane road and the widening will allow for four 12 ft lanes median divided. It will be converted to an RCI corridor. The project will extend two existing RC box culverts (2-6'x6' and 2-5'x7') that cross over Torrence Creek tributaries. Rip rap will be used at proposed culvert extension sites to provide bank stabilization. Rip rap pads will be used at all outlets to reduce velocities into wetlands. NCDOT will avoid and minimize impacts to streams and wetlands to the greatest extent practicable during project design and construction.



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



(Version 3.00; Released August 2021)

WBS Element: 50180.1.1 TIP/Proj No.: U-5771 County(ies): Mecklenburg Page 2 of 2

General Project Information

Waterbody Information

Surface Water Body (1):	Torrence Creek		NCDWR Stream Index No.:	11-115-4	
NCDWR Surface Water Classification for Water Body	Primary Classification:	Water Supply IV (WS-IV)			
	Supplemental Classification:	None			
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?		Comments:			
NRTR Stream ID:	UT to Torrence Creek		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?	
Deck Drains Discharge Over Water Body?	No	(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)					

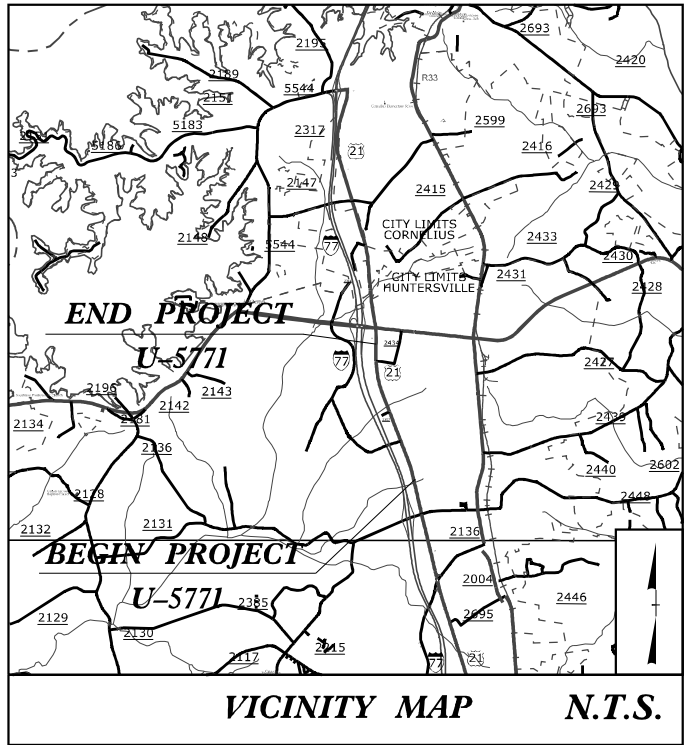
Surface Water Body (2):			NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body	Primary Classification:				
	Supplemental Classification:				
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?		Comments:			
NRTR Stream ID:			Buffer Rules in Effect:		
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?		Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?		(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)					

Surface Water Body (3):			NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body	Primary Classification:				
	Supplemental Classification:				
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?		Comments:			
NRTR Stream ID:			Buffer Rules in Effect:		
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?		Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?		(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

TIP PROJECT: U-5771



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**MECKLENBURG COUNTY**

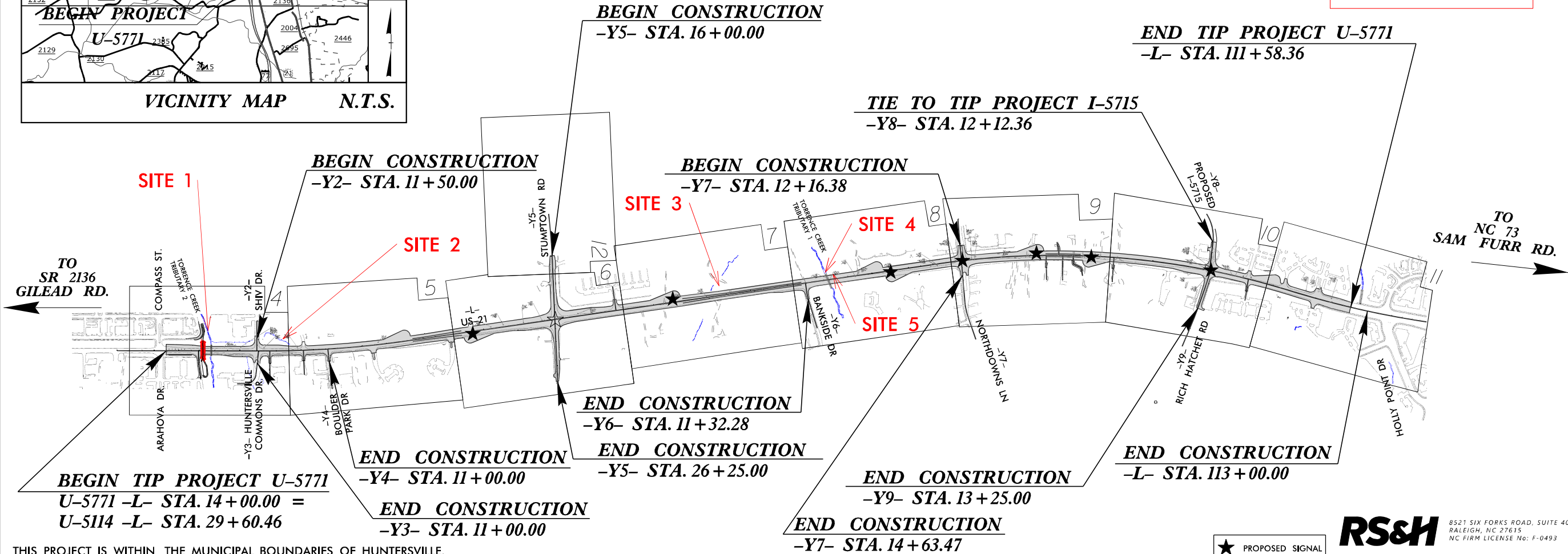
LOCATION: WIDEN US 21 (STATESVILLE RD.) FROM SOUTH OF SHIV DRIVE  
TO SOUTH OF HOLLY POINT DRIVE  
TYPE OF WORK: GRADING, DRAINAGE, PAVING, CULVERT, RETAINING WALLS,  
SIGNALS, AND SIGNING

**WETLAND AND SURFACE WATER IMPACTS PERMIT**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5771	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50183.1.1	N/A	PE	
50183.2.1	N/A	ROW	
50183.2.2	N/A	UTIL	

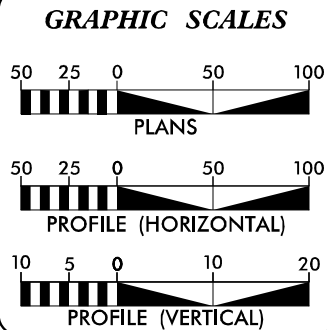


PERMIT DRAWING  
SHEET 1 OF 20



THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF HUNTERSVILLE.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.  
THERE IS NO CONTROL OF ACCESS ON THIS PROJECT WITH FULL CONTROL OF ACCESS AT U-TURN BULBS.

CONTRACT:



DESIGN DATA	
ADT 2024 =	28720
ADT 2044 =	60320
K =	8 %
D =	60 %
T =	4 % *
V =	50 MPH
* TTST =	1 DUAL = 3
FUNC CLASS =	ARTERIAL
REGIONAL TIER	

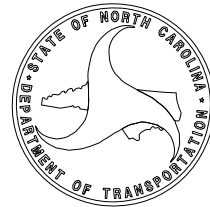
PROJECT LENGTH	
LENGTH ROADWAY TIP PROJECT U-5771	= 1.848 MILES
TOTAL LENGTH TIP PROJECT U-5771	= 1.848 MILES

Prepared In the Office of: <b>RS&amp;H</b> <b>ARCHITECTS-ENGINEERS-PLANNERS, INC.</b> 8521 SIX FORKS ROAD, SUITE 400 RALEIGH, NC, 27610 FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION 2018 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: DECEMBER 30, 2021	SEAN KORTOVICH, PE PROJECT ENGINEER
LETTING DATE: DECEMBER 17, 2024	ALLISON HARRIS, EI PROJECT DESIGN ENGINEER
	RADHA ATTALURI, PE NCDOT CONTACT

HYDRAULICS ENGINEER	
SIGNATURE:	P.E.
ROADWAY DESIGN ENGINEER	
SIGNATURE:	P.E.

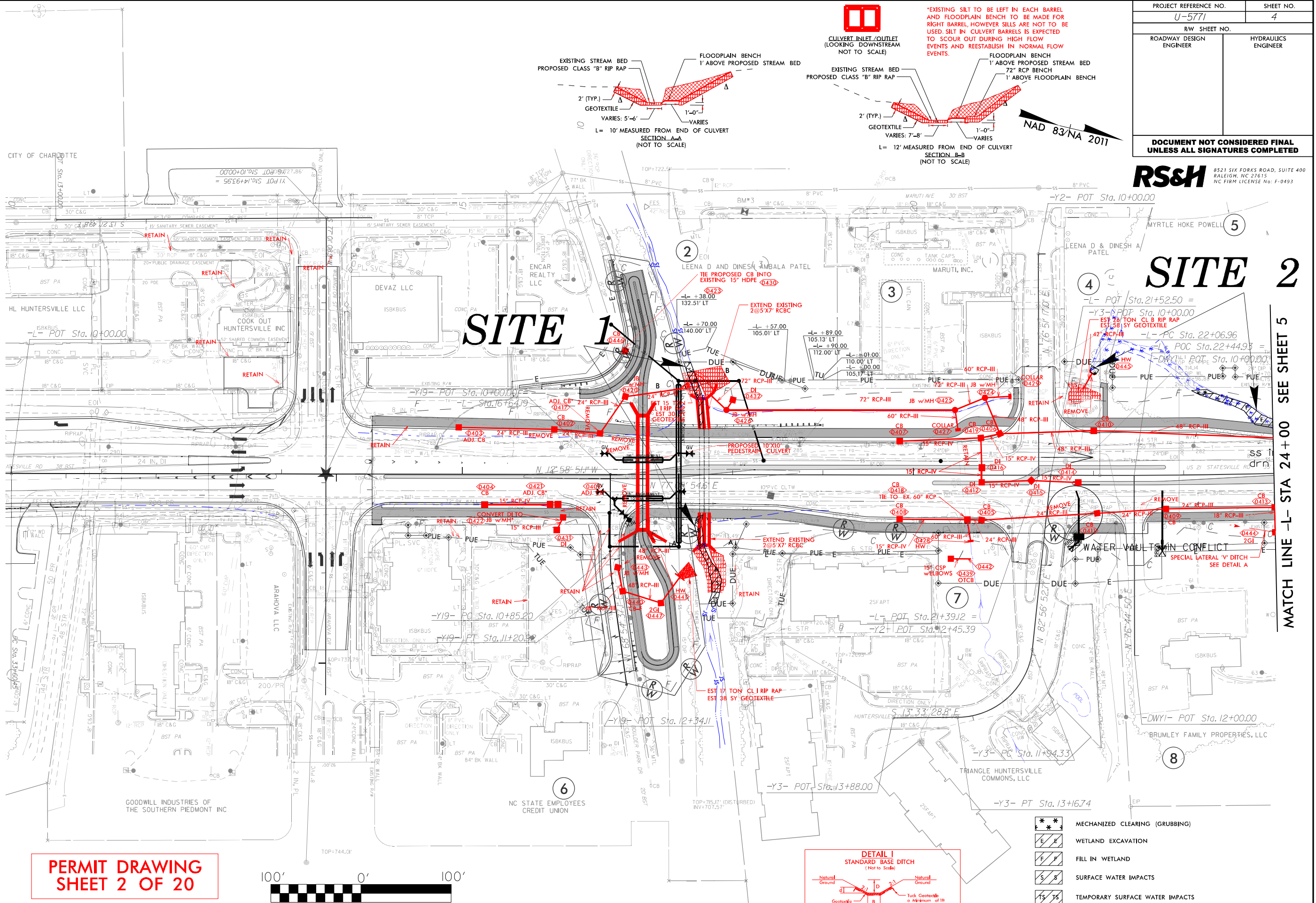
**RS&H** 8521 SIX FORKS ROAD, SUITE 400  
RALEIGH, NC 27615  
NC FIRM LICENSE No: F-0493

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



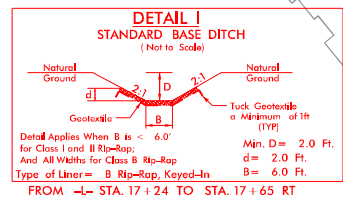
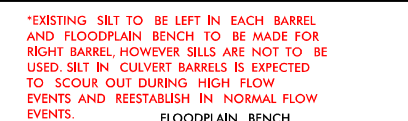
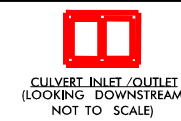
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\$\$\$\$\$SERNAME\$\$\$\$\$

REVISIONS



PERMIT DRAWING  
SHEET 2 OF 20

DO NOT ACQUIRE ANY ROW FOR PARCELS ON THIS PLAN SHEET.



- MECHANIZED CLEARING (GRUBBING)
- WETLAND EXCAVATION
- FILL IN WETLAND
- SURFACE WATER IMPACTS
- TEMPORARY SURFACE WATER IMPACTS

**RS&H** 8521 SIX FORKS ROAD, SUITE 400  
RALEIGH, NC 27615  
NC FIRM LICENSE NO. F-0493

**SITE 2**

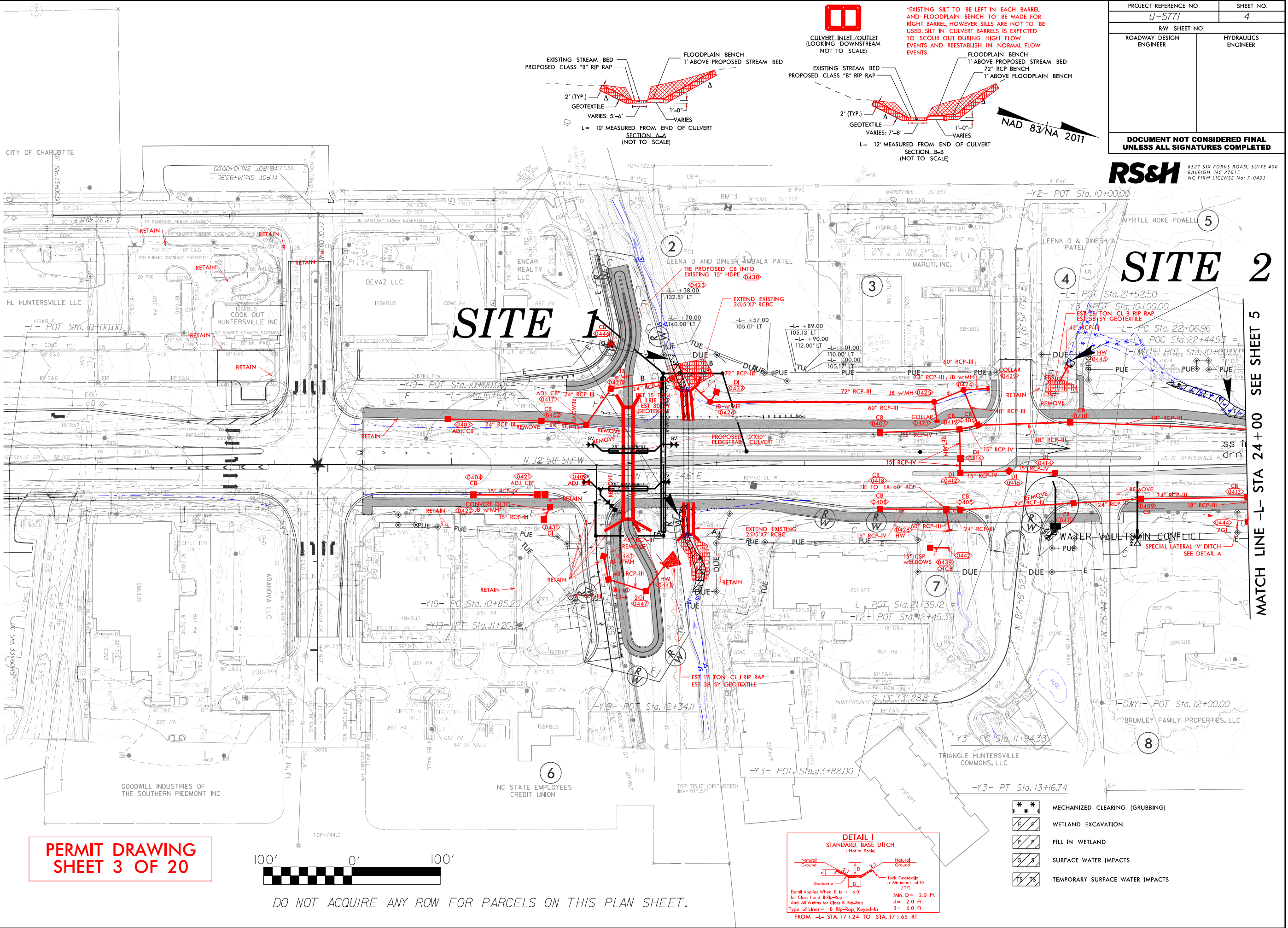
MATCH LINE -L- STA 24+00 SEE SHEET 5

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

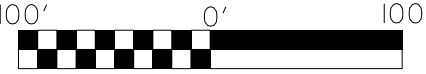
PROJECT REFERENCE NO. U-5771	SHEET NO. 4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



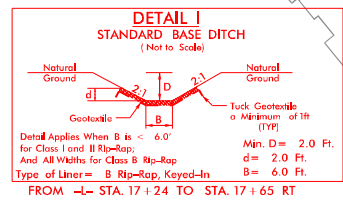
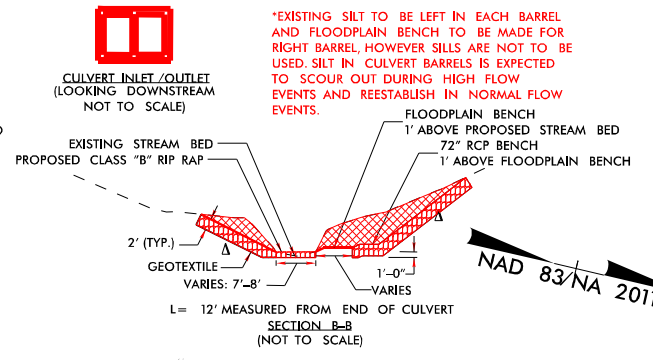
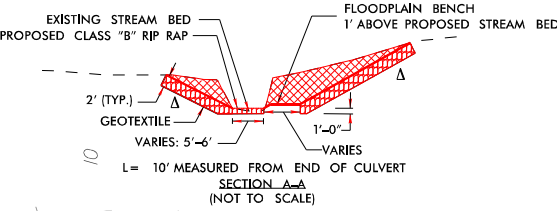
REVISIONS



PERMIT DRAWING  
SHEET 3 OF 20



DO NOT ACQUIRE ANY ROW FOR PARCELS ON THIS PLAN SHEET.



- MECHANIZED CLEARING (GRUBBING)
- WETLAND EXCAVATION
- FILL IN WETLAND
- SURFACE WATER IMPACTS
- TEMPORARY SURFACE WATER IMPACTS

8521 SIX FORKS ROAD, SUITE 400  
RALEIGH, NC 27615  
NC FIRM LICENSE NO. F-0493

SITE 2

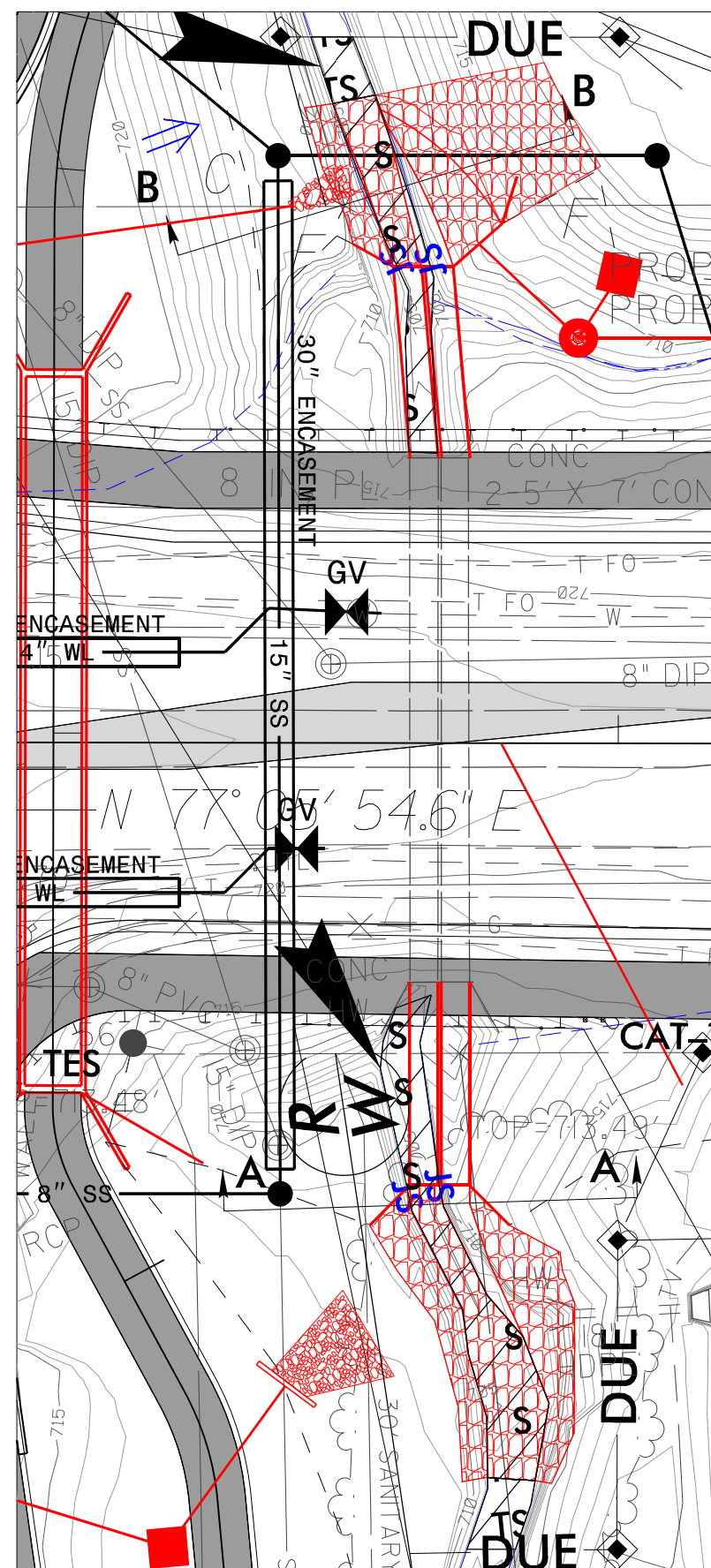
MATCH LINE -L- STA 24+00 SEE SHEET 5

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	U-5771
SHEET NO.	4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



*SITE 1 ENLARGEMENT*

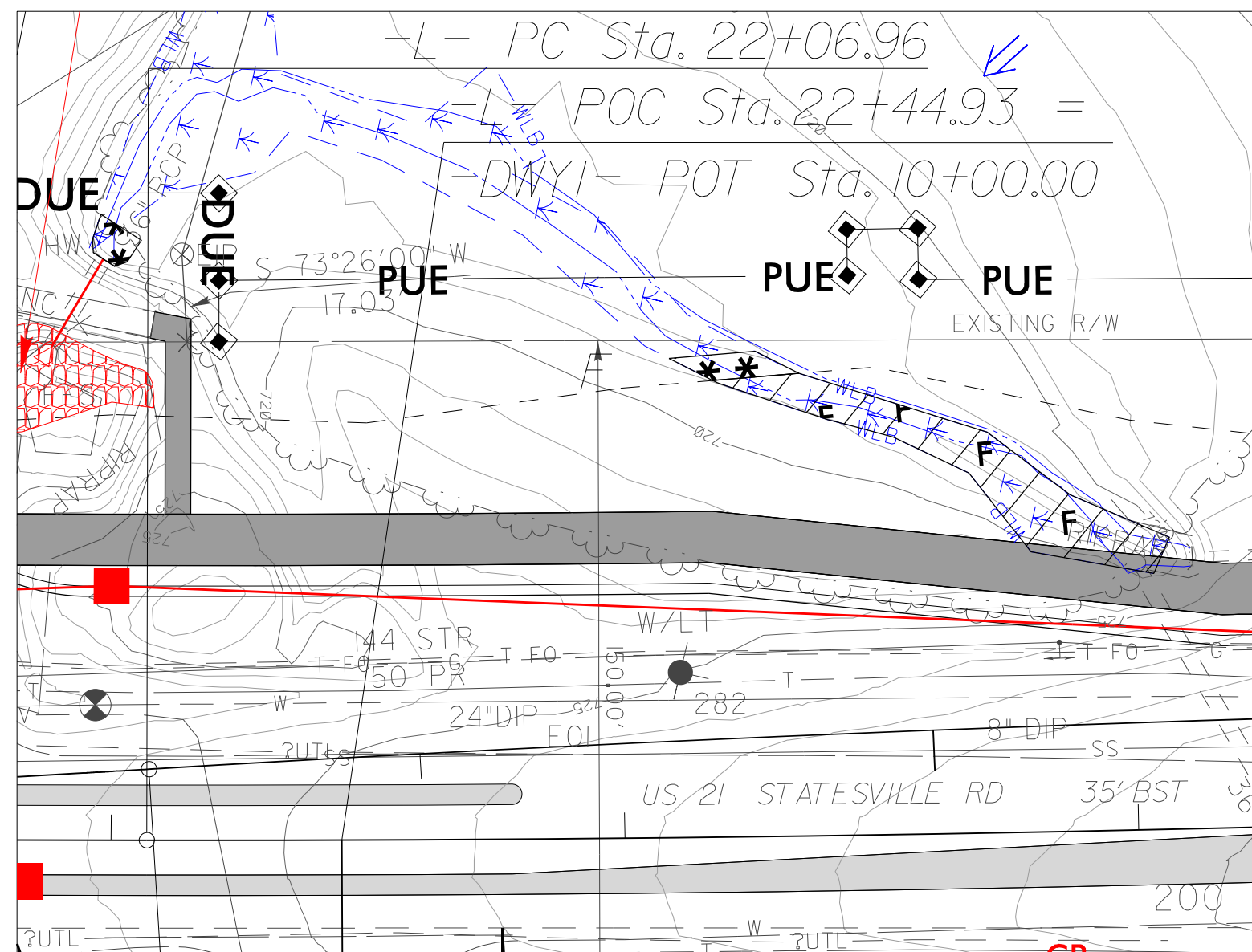


TS TS

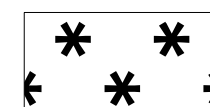
## TEMPORARY SURFACE WATER IMPACTS

## SURFACE WATER IMPACTS

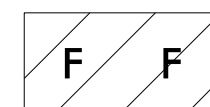
## SITE 2



PERMIT DRAWING  
SHEET 4 OF 20



## MECHANIZED CLEARING (GRUBBING)



## FILL IN WETLAND



5/14/99

19-NOV-2024 08:57  
R:\Hydro\licensing\PERMITS\Environmental\U-5771\Drawings\U-5771 Plansheets\U-5771.prm-5\_Rdy\_psh\_04 culvert profile.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$

PROJECT REFERENCE NO.		SHEET NO.
U-5771		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

PERMIT DRAWING  
SHEET 5 OF 20

SITE 1

100' LT      0'      100' RT

RETAIN AND EXTEND EXISTING DUAL 5'X7' CULVERTS  
Q STA 17+58.10 L  
Q G.P. ELEV. = 727.38'  
SKEW = 90° (EXISTING)

2:1 SIDE SLOPES (MAX)  
(NORMAL TYP. EA. SIDE)

NWS ELEV. = 706.21 ±  
DATE OF SURVEY: 2/8/2018  
Q100 ELEV. = 716.4'  
Q50 ELEV. = 715.3'

EXISTING  
LEFT TOB

EXISTING  
RIGHT TOB

EXISTING  
LEFT TOB

EXISTING  
RIGHT TOB

FLOW

Q INVERT ELEV. = 705.59'  
SLOPE = 0.97%

CLASS "B" RIP RAP  
(IN CHANNEL TYP.)

EXISTING STREAMBED

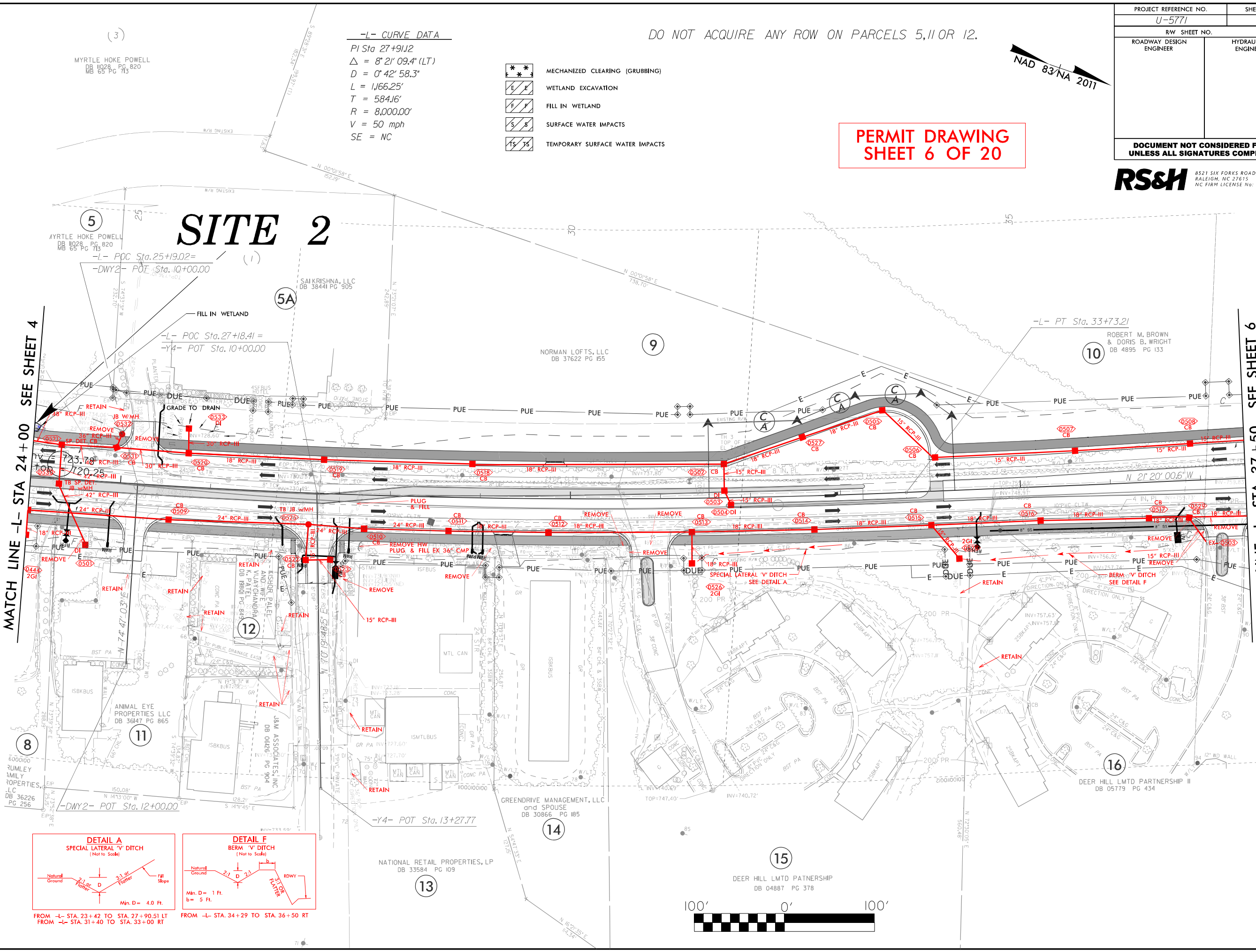
HORIZ. SCALE 1" = 50'



8521 SIX FORKS ROAD, SUITE 400  
RALEIGH, NC 27615  
NC FIRM LICENSE No: F-0493



8/17/99  
19-NOV-2024 09:00  
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19-NOV-2024 09:00  
R:\Hatch\Drawings\Environmental\U-5771\Drawings\U-5771 Plansheets\U5771.prm\_6\_Rdy\_psh\_05.dgn



-L- CURVE DATA  
PI Sta 27+91.2  
 $\Delta = 8^\circ 21' 09.4''$  (LT)  
 $D = 0^\circ 42' 58.3''$   
 $L = 1166.25'$   
 $T = 584.16'$   
 $R = 8,000.00'$   
 $V = 50$  mph  
 $SE = NC$

- MECHANIZED CLEARING (GRUBBING)
- WETLAND EXCAVATION
- FILL IN WETLAND
- SURFACE WATER IMPACTS
- TEMPORARY SURFACE WATER IMPACTS

DO NOT ACQUIRE ANY ROW ON PARCELS 5,11 OR 12.

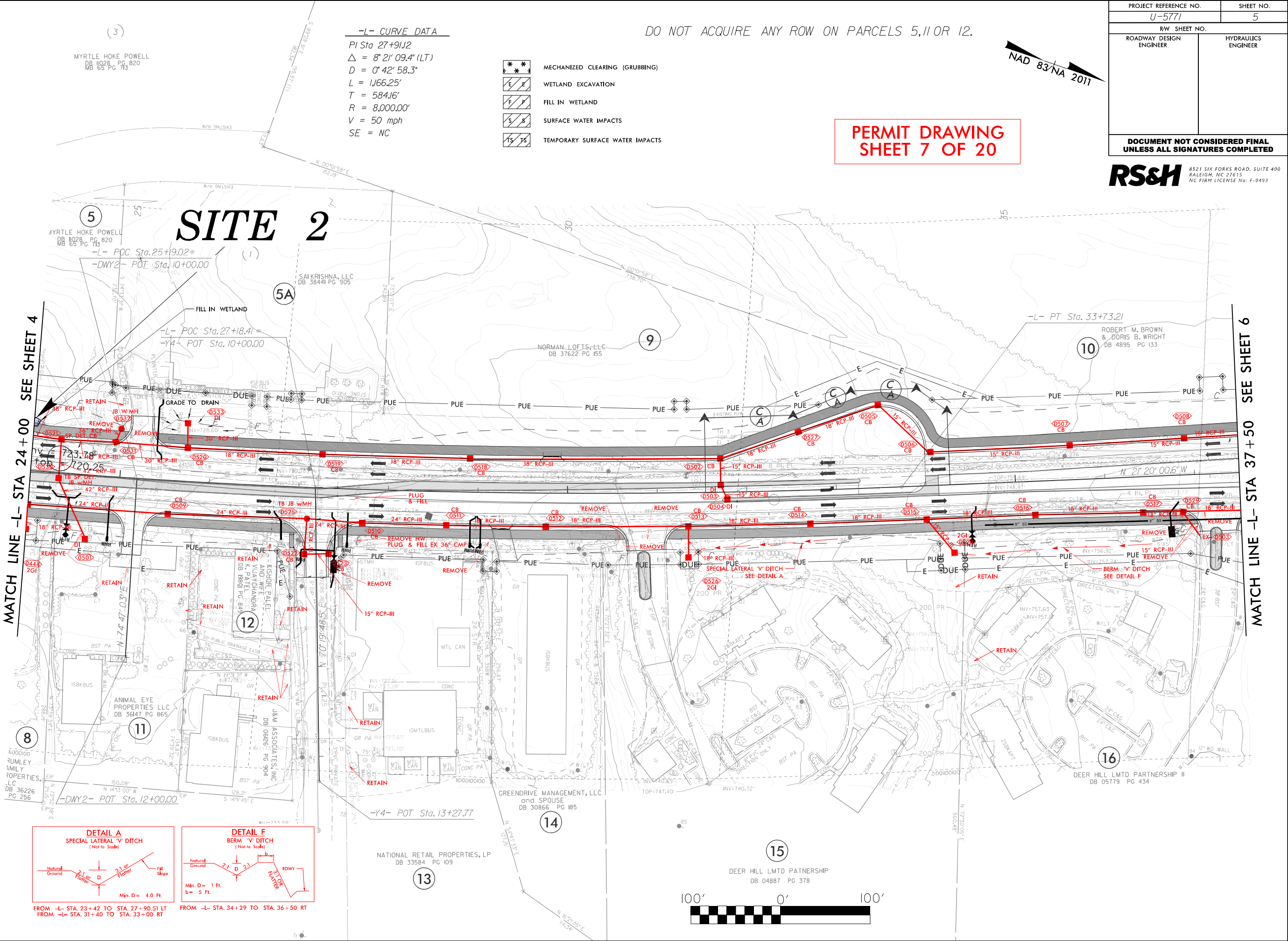
PERMIT DRAWING  
SHEET 6 OF 20

NAD 83/NA 2011

PROJECT REFERENCE NO.		SHEET NO.
U-5771		5
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

**RS&H**  
8521 SIX FORKS ROAD, SUITE 400  
RALEIGH, NC 27615  
NC FIRM LICENSE No: F-0493

8/17/99  
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**-L- CURVE DATA**  
PI Sta 27+91.2  
 $\Delta = 8^\circ 21' 09.4" (LT)$   
 $D = 0^\circ 42' 58.3"$   
 $L = 1,166.25'$   
 $T = 584.16'$   
 $R = 8,000.00'$   
 $V = 50 \text{ mph}$   
 $SE = NC$

- MECHANIZED CLEARING (GRUBBING)
- WETLAND EXCAVATION
- FILL IN WETLAND
- SURFACE WATER IMPACTS
- TEMPORARY SURFACE WATER IMPACTS

DO NOT ACQUIRE ANY ROW ON PARCELS 5,11 OR 12.

**PERMIT DRAWING  
SHEET 7 OF 20**

NAD 83/NA 2011

PROJECT REFERENCE NO.		SHEET NO.
U-5771		5
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

**RS&H** 8521 SIX FORKS ROAD, SUITE 400  
RALEIGH, NC 27615  
NC FIRM LICENSE No: F-0493



8/17/99

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REVISIONS

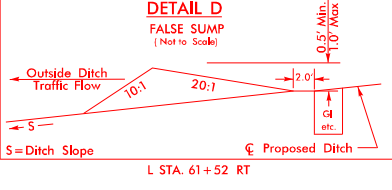
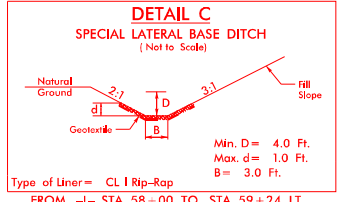
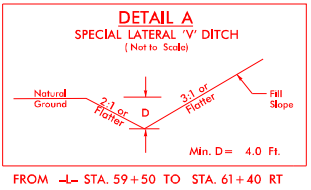
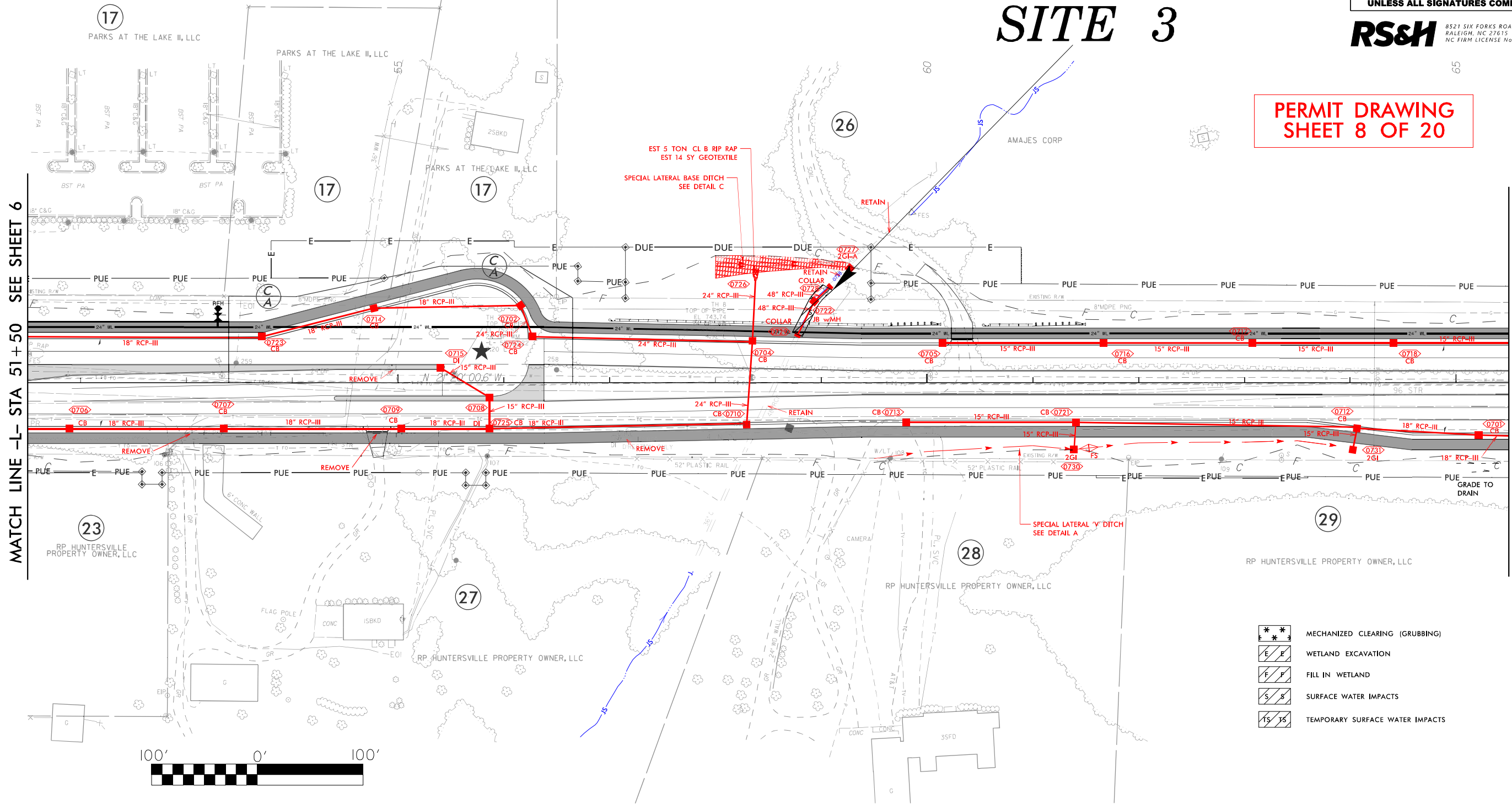
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U-5771		7	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			

**RS&H** 8521 SIX FORKS ROAD, SUITE 400  
RALEIGH, NC 27615  
NC FIRM LICENSE No: F-0493

NAD 83/NA 2011

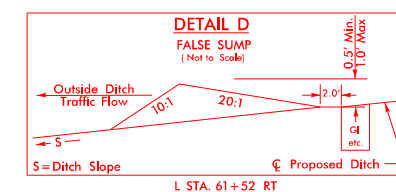
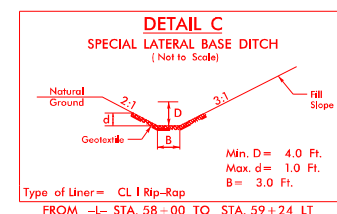
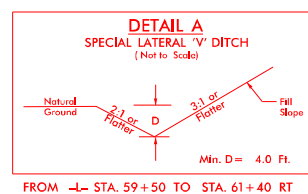
**SITE 3**

**PERMIT DRAWING  
SHEET 8 OF 20**





PERMIT DRAWING  
SHEET 9 OF 20



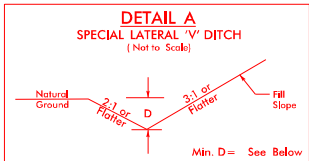
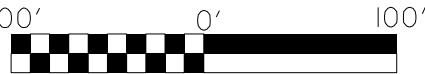




8/17/99

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REVISIONS



FROM -L- STA. 69+31 TO STA. 70+50 LT (Min. D=1')  
FROM -L- STA. 70+70 TO STA. 72+50 RT (Min. D=4')  
FROM -L- STA. 75+00 TO STA. 75+50 RT (Min. D=4')  
FROM -L- STA. 75+50 TO STA. 78+00 RT (Min. D=4')  
FROM -L- STA. 77+00 TO STA. 79+00 LT (Min. D=4')

- MECHANIZED CLEARING (GRUBBING)
- WETLAND EXCAVATION
- FILL IN WETLAND
- SURFACE WATER IMPACTS
- TEMPORARY SURFACE WATER IMPACTS

DO NOT ACQUIRE ANY ROW ON PARCEL 32.

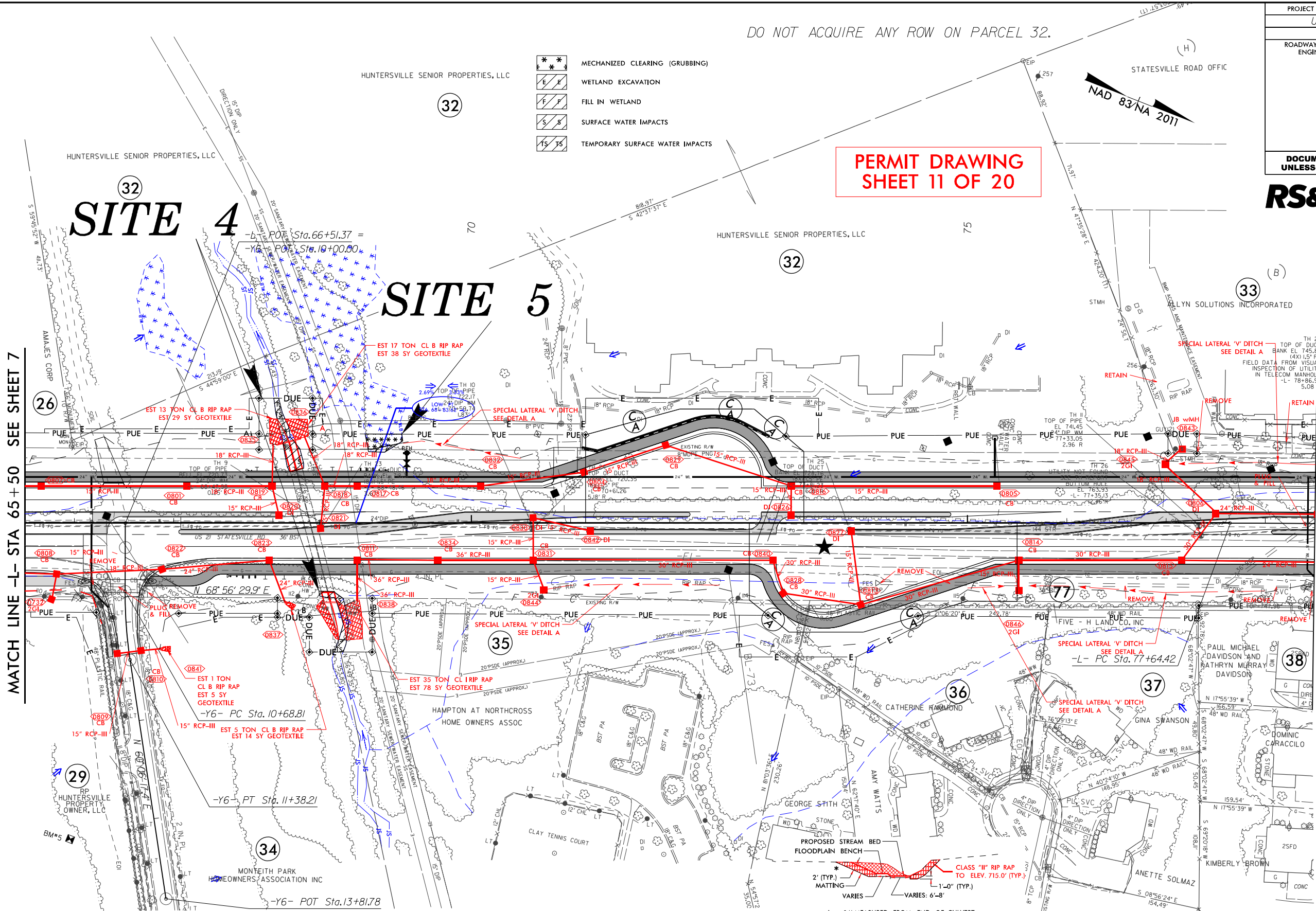
PERMIT DRAWING  
SHEET 11 OF 20

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**RS&H**  
8521 SIX FORKS ROAD, SUITE 400  
RALEIGH, NC 27615  
NC FIRM LICENSE No: F-0493

MATCH LINE -L- STA 65+50 SEE SHEET 7

MATCH LINE -L- STA 78+50 SEE SHEET 9



CULVERT INLET/OUTLET  
(LOOKING DOWNSTREAM  
NOT TO SCALE)

\*EXISTING SILT TO BE LEFT IN EACH BARREL  
AND FLOODPLAIN BENCH TO BE MADE FOR  
LEFT BARREL, HOWEVER SILLS ARE NOT TO BE  
USED AND THERE IS TO BE NO RIP RAP IN  
CHANNEL BOTTOM. SILT IN CULVERT BARRELS  
IS EXPECTED TO SCOUR OUT DURING HIGH  
FLOW EVENTS AND REESTABLISH IN NORMAL  
FLOW EVENTS.

PROPOSED STREAM BED  
EXISTING STREAM BED  
FLOODPLAIN BENCH  
\* SLOPES VARY FROM 2:1 TO EXISTING

SECTION B-B  
(NOT TO SCALE)  
L = 10' MEASURED FROM END OF CULVERT

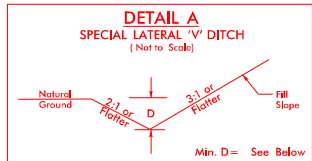
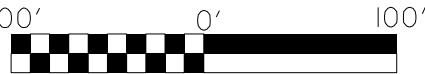
CHANNEL/ABUTMENT  
EXCAVATION



8/17/99

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REVISIONS



FROM -L- STA. 69+31 TO STA. 70+50 LT (Min. D=1')  
FROM -L- STA. 70+70 TO STA. 72+50 RT (Min. D=4')  
FROM -L- STA. 75+00 TO STA. 75+50 RT (Min. D=4')  
FROM -L- STA. 75+50 TO STA. 78+00 RT (Min. D=4')  
FROM -L- STA. 77+00 TO STA. 79+00 LT (Min. D=4')

- MECHANIZED CLEARING (GRUBBING)
- WETLAND EXCAVATION
- FILL IN WETLAND
- SURFACE WATER IMPACTS
- TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING  
SHEET 12 OF 20

**RS&H**  
8521 SIX FORKS ROAD, SUITE 400  
RALEIGH, NC 27615  
NC FIRM LICENSE No: F-0493

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN  
ENGINEER

HYDRAULICS  
ENGINEER

PROJECT REFERENCE NO.

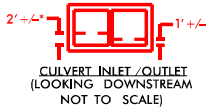
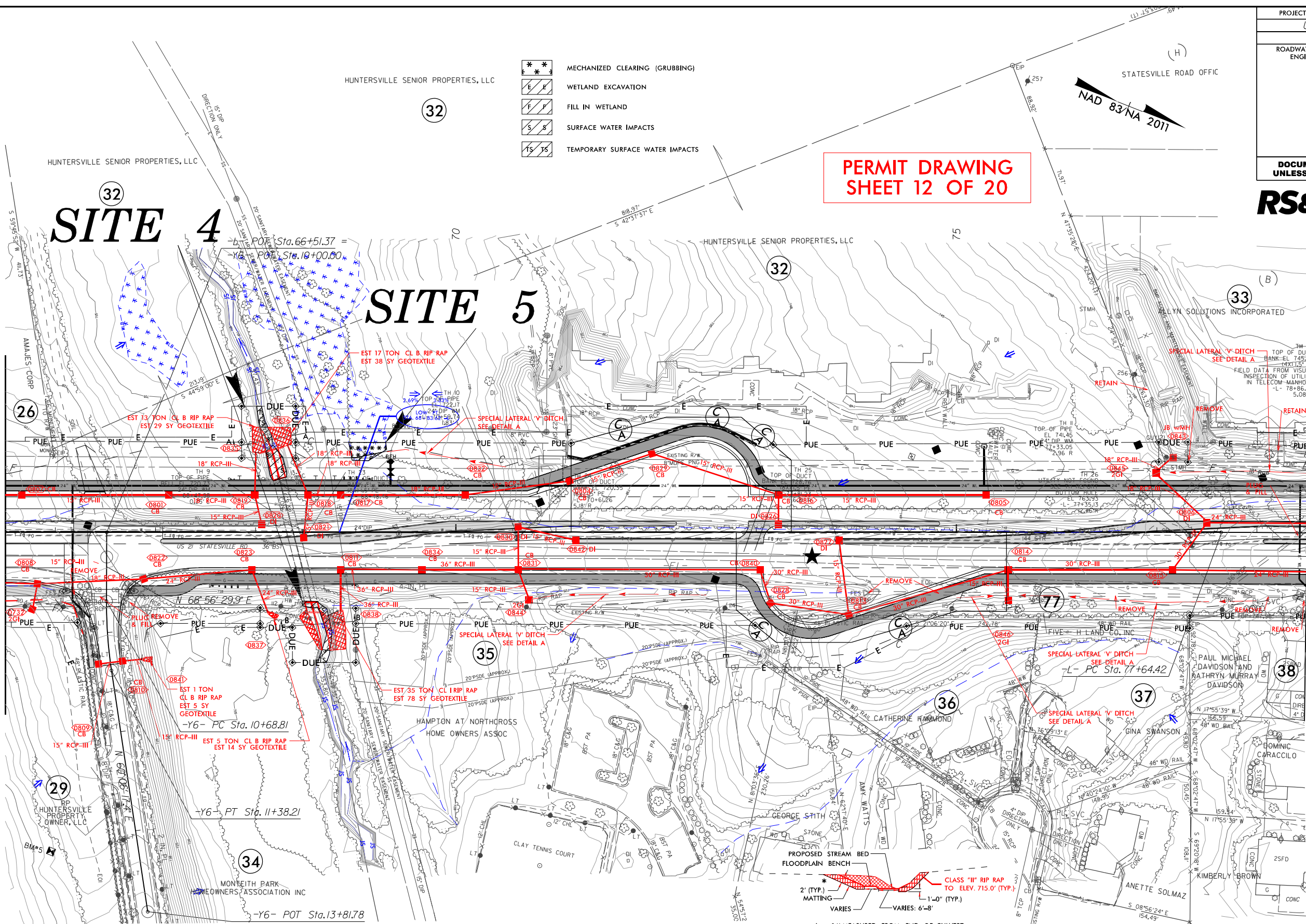
U-5771

SHEET NO.

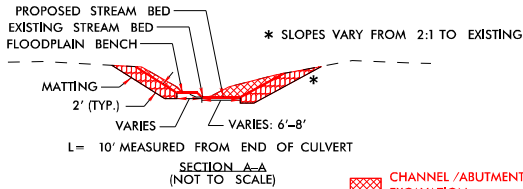
8

MATCH LINE -L- STA 65+50 SEE SHEET 7

MATCH LINE -L- STA 78+50 SEE SHEET 9



\*EXISTING SILT TO BE LEFT IN EACH BARREL AND FLOODPLAIN BENCH TO BE MADE FOR LEFT BARREL, HOWEVER SILLS ARE NOT TO BE USED AND THERE IS TO BE NO RIP RAP IN CHANNEL BOTTOM. SILT IN CULVERT BARRELS IS EXPECTED TO SCOUR OUT DURING HIGH FLOW EVENTS AND REESTABLISH IN NORMAL FLOW EVENTS.



# ENLARGEMENT

PROJECT REFERENCE NO.	SHEET NO.
U-5771	8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

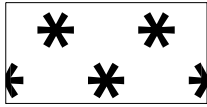
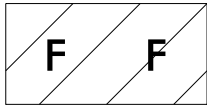
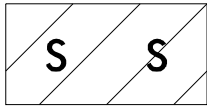

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UNLESS ALL SIGNATURES COMPLETED

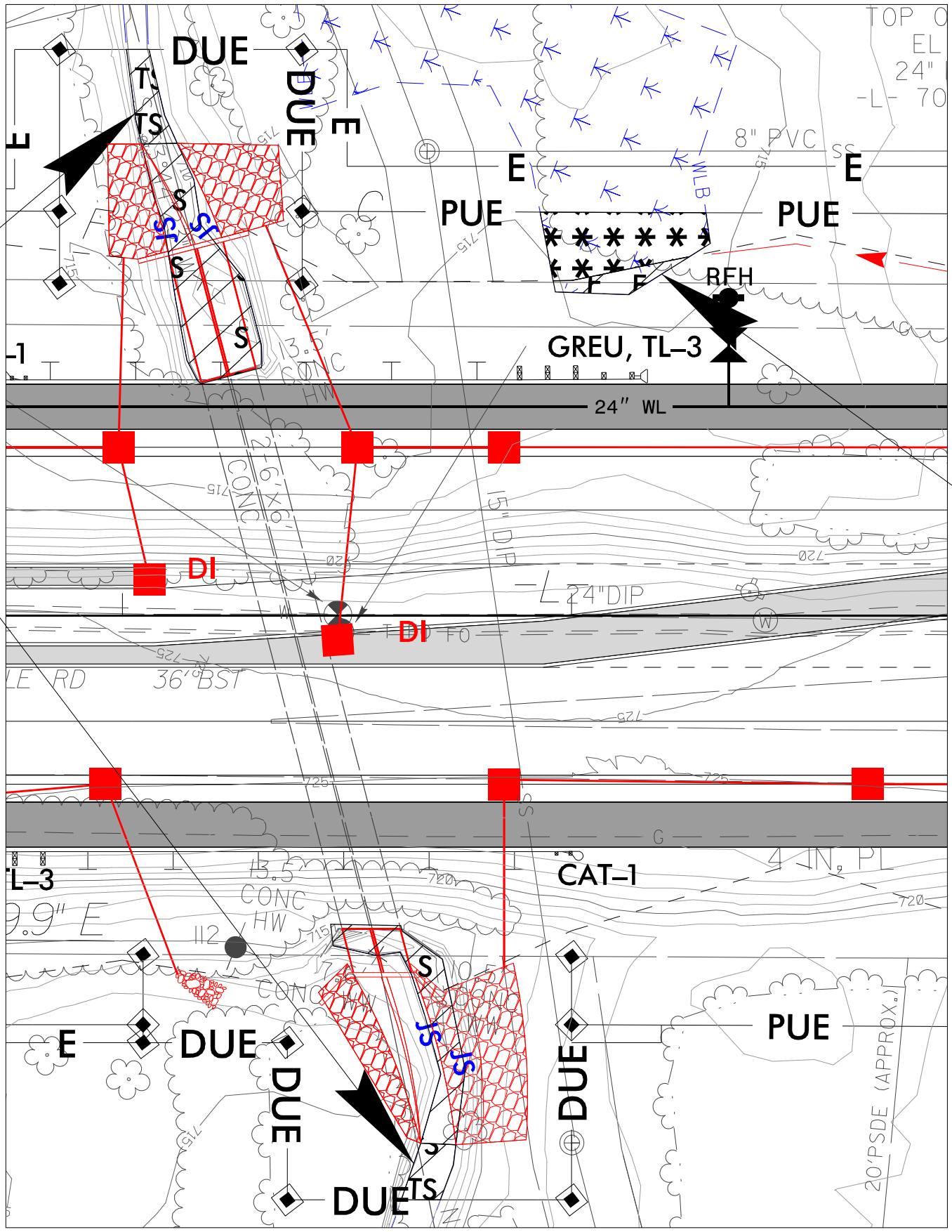
**RS&H** 8521 SIX FORKS ROAD, SUITE 400  
RALEIGH, NC 27615  
NC FIRM LICENSE No: F-0493

PERMIT DRAWING  
SHEET 13 OF 20

SITE 4

SITE 5

-  MECHANIZED CLEARING (GRUBBING)
-  FILL IN WETLAND
-  SURFACE WATER IMPACTS
-  TEMPORARY SURFACE WATER IMPACTS



8/17/99

REVISIONS

23-JAN-2005 ILQ5  
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5/14/99

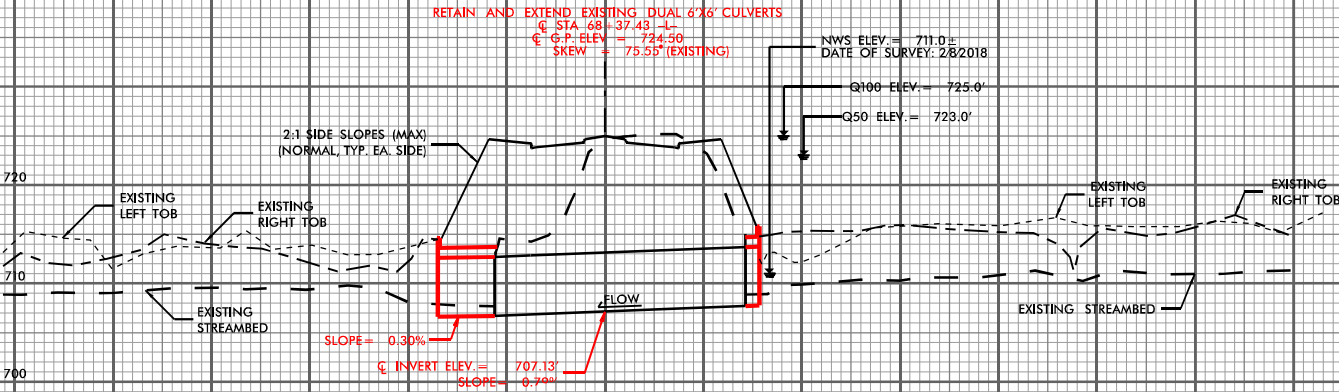
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PROJECT REFERENCE NO.		SHEET NO.
U-5771		
ROADWAY DESIGN ENGINEER		
		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

PERMIT DRAWING  
SHEET 14 OF 20

SITE 4

100' LT      0'      100' RT



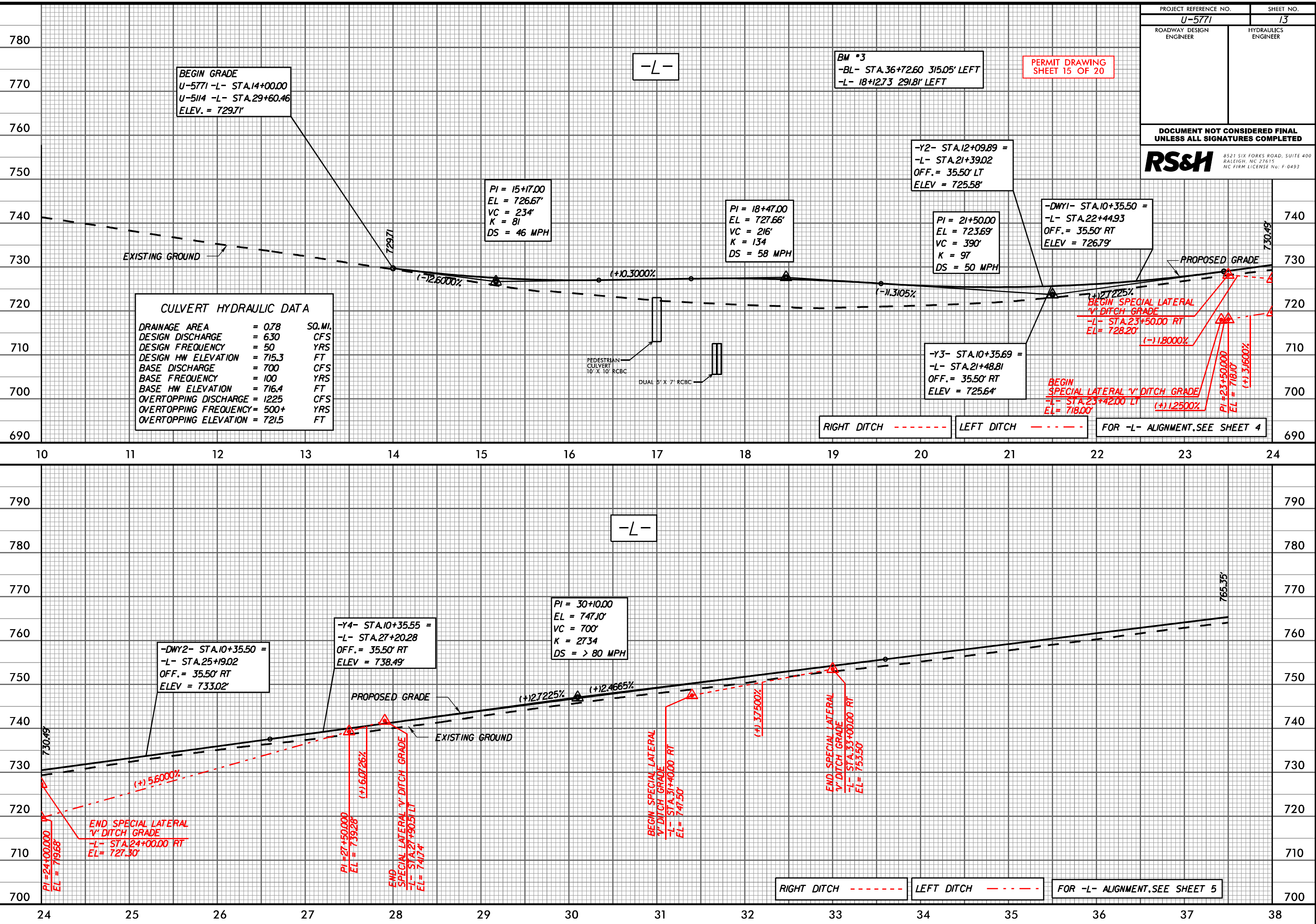
8521 SIX FORKS ROAD, SUITE 400  
RALEIGH, NC 27615  
NC FIRM LICENSE No: F-0493

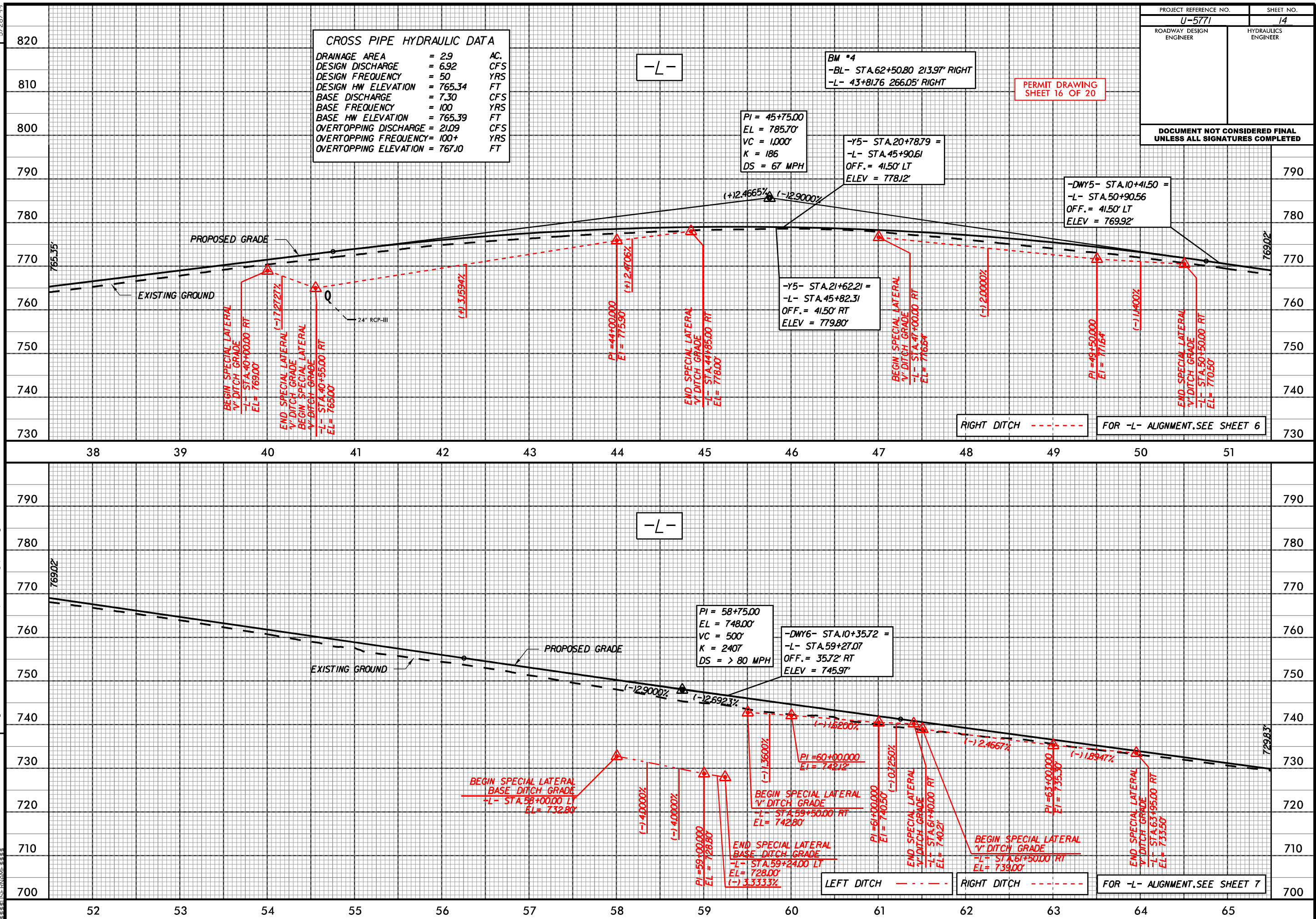
5/28/99

18 NOV 2024 09:54

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REVISIONS



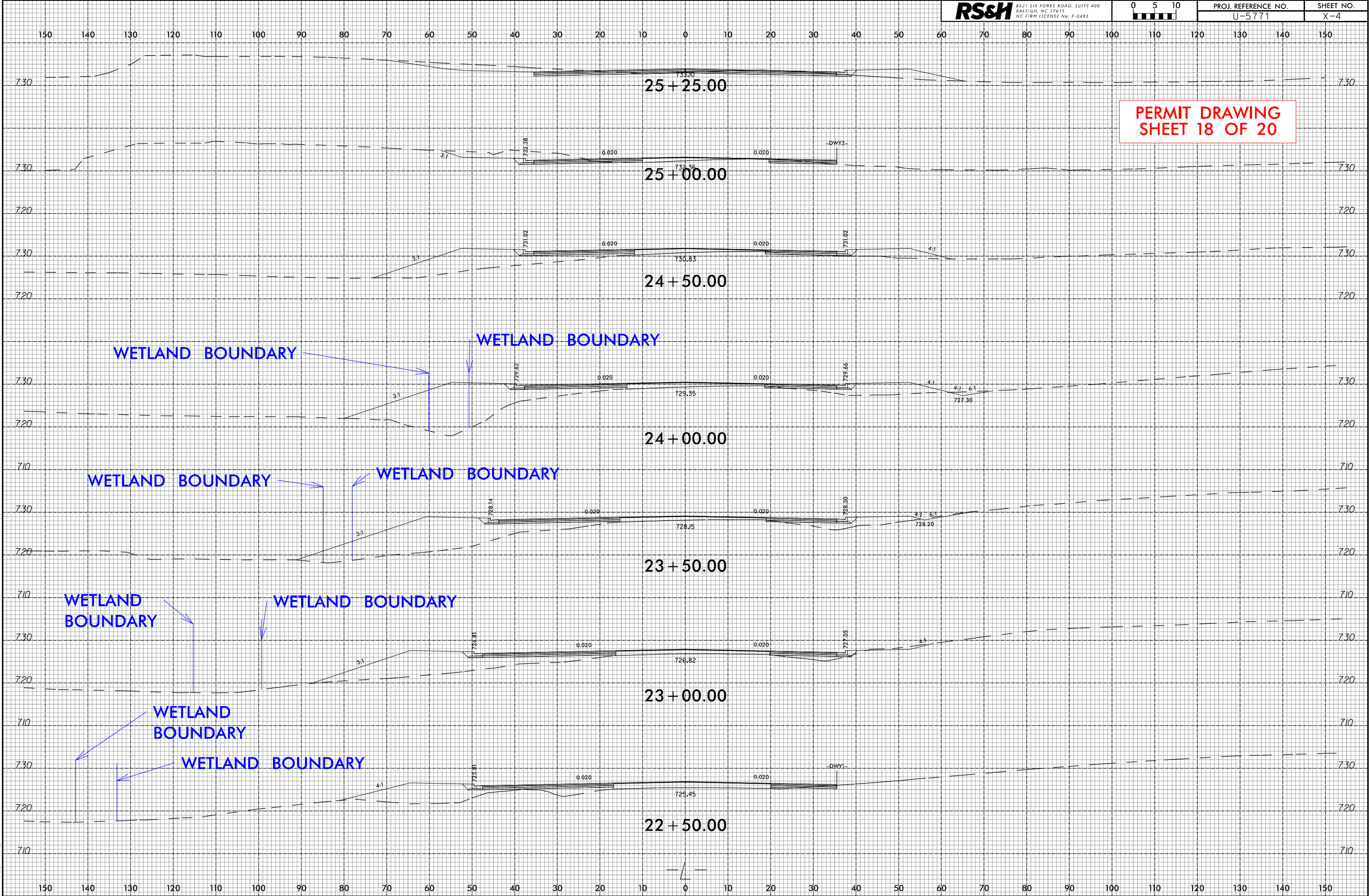






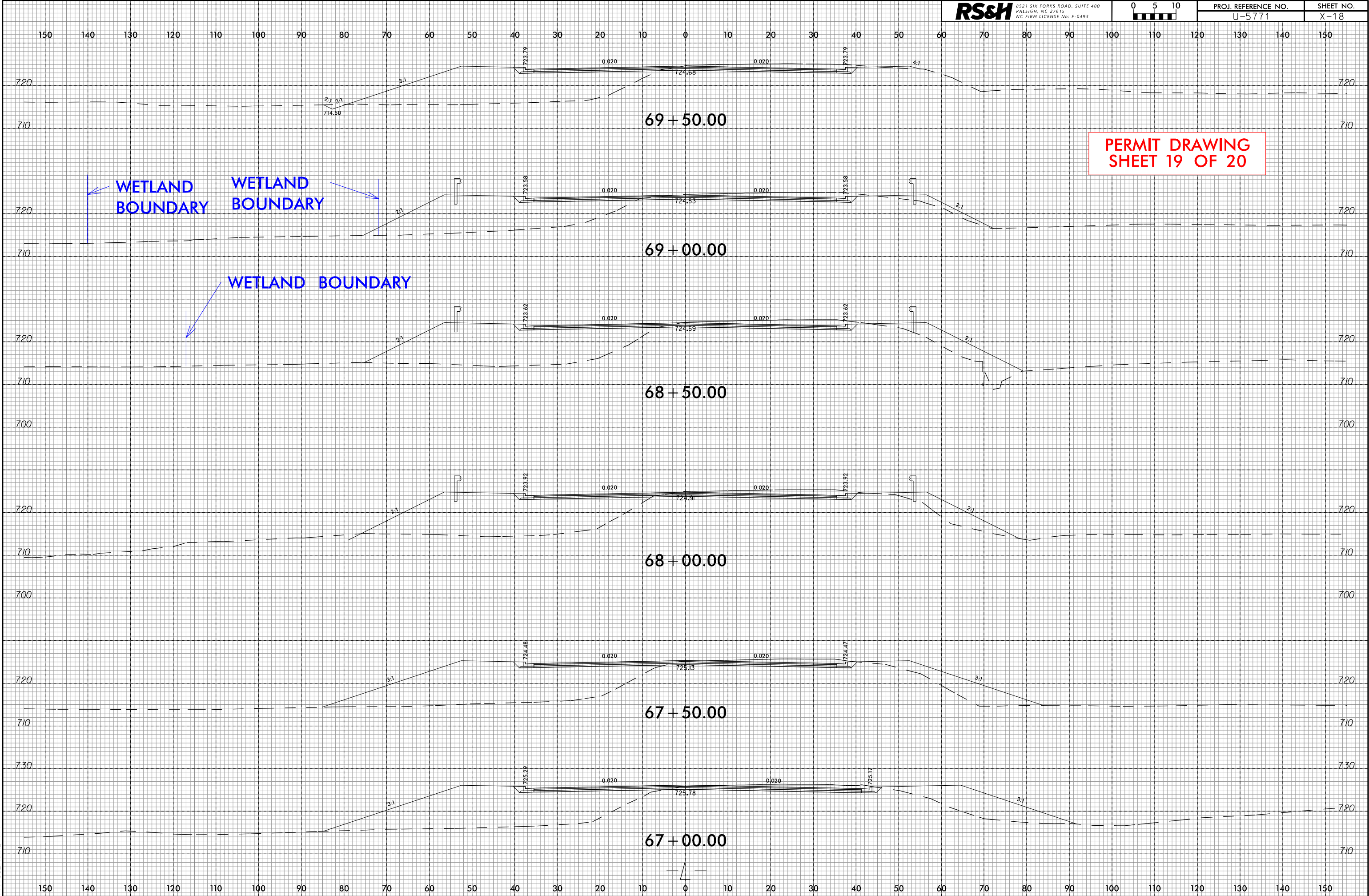
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6/23/16

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RS&H



WETLAND AND SURFACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	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- 17+45 / 17+88	2- 5'x7' RCBC Culvert Extension						0.02	< 0.01	153	24	
2	-L- 23+10 / 24+07 LT	Roadway Fill	0.02			< 0.01						
2	-L- 22+00 LT	Proposed 42" RCP-III				< 0.01						
3	-L- 58+66 / 59+11 LT	Collar 48" RCP-III						0.01		53		
4	-L- 68+01 / 68+76	2- 6'x6' RCBC Culvert Extension						0.02	< 0.01	110	34	
5	-L- 68+93 / 69+31 LT	Roadway Fill	< 0.01			< 0.01						
TOTALS*:			0.02			0.01		0.06	< 0.01	316	58	0

\*Rounded totals are sum of actual impacts

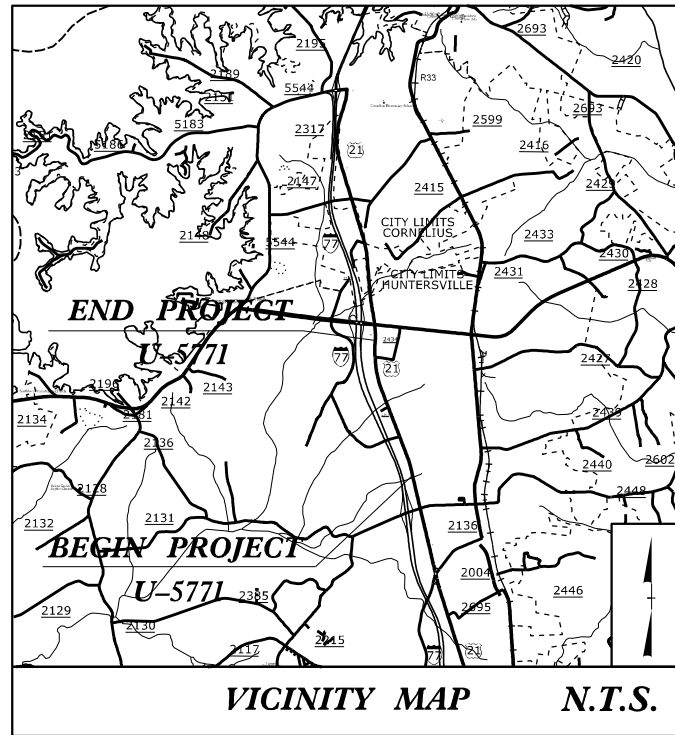
NOTES:

NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
11/19/2024  
Mecklenburg County  
U-5771

SHEET20OF20



TIP PROJECT: U-5771



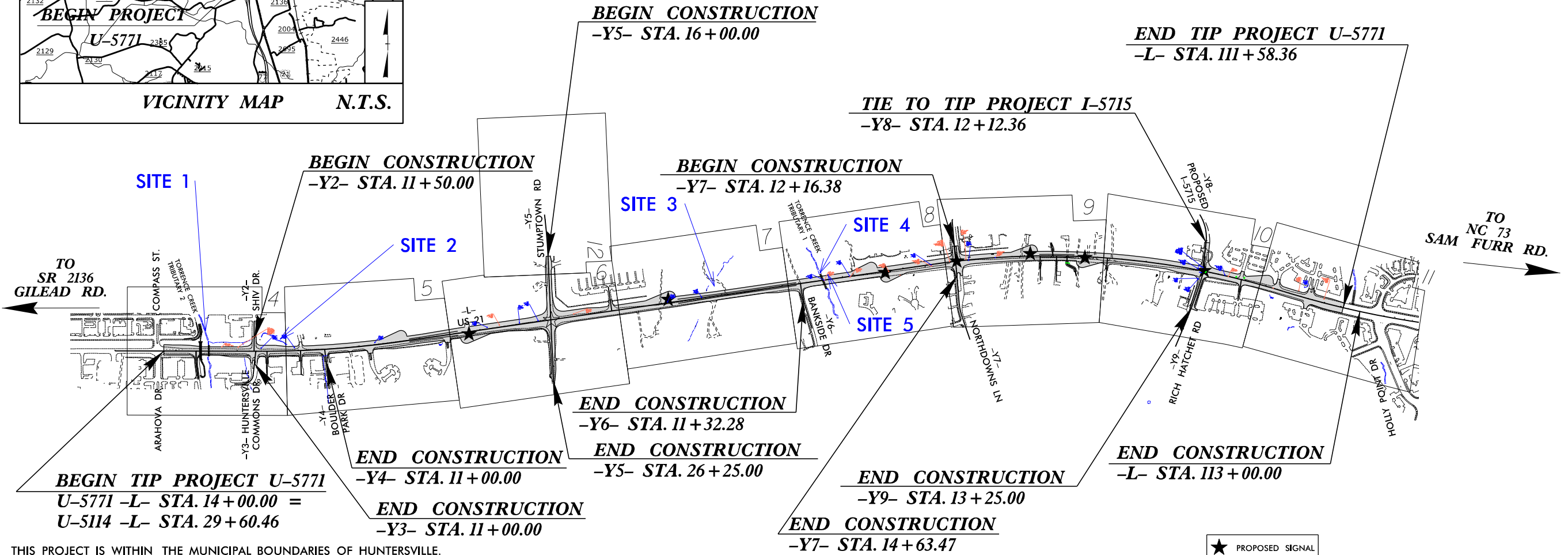
VICINITY MAP N.T.S.

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

UTILITIES ENVIRONMENTAL  
PERMIT PLANS  
MECKLENBURG COUNTY

LOCATION: WIDEN US 21 (STATESVILLE RD.) FROM SOUTH OF SHIV DRIVE  
TO SOUTH OF HOLLY POINT DRIVE  
TYPE OF WORK: DISTRIBUTION POWER, COMMUNICATIONS, CATV, & GAS.

NOTE:  
ALL UTILITY WORK SHOWN ON THIS  
SHEET WILL BE DONE BY OTHERS.  
NO PAYMENT WILL BE MADE TO  
THE CONTRACTOR FOR UTILITY WORK  
SHOWN ON THIS SHEET.

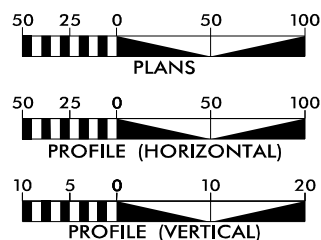


THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF HUNTERSVILLE.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.  
THERE IS NO CONTROL OF ACCESS ON THIS PROJECT WITH FULL CONTROL OF ACCESS AT U-TURN BULBS.

★ PROPOSED SIGNAL  
☆ EXISTING SIGNAL

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UE-1	TITLE SHEET
UE-2	UE PLAN SHEET
UE-3	IMPACT SUMMARY SHEET
UE-4	IMPACT NARRATIVE

UTILITY OWNERS WITH CONFLICTS

- (A) POWER - DUKE ENERGY
- (B) POWER - ENERGY UNITED
- (C) POWER - ELECTRICITIES
- (D) COMMUNICATIONS - AT&T
- (E) COMMUNICATIONS - CROWN CASTLE
- (F) COMMUNICATIONS - LUMEN
- (G) COMMUNICATIONS - MCNC
- (H) COMMUNICATIONS - SEGRA
- (I) COMMUNICATIONS - WINDSTREAM
- (J) COMMUNICATIONS - VERIZON
- (K) COMMUNICATIONS/CATV - CHARTER
- (L) GAS - PIEDMONT NATURAL GAS

PREPARED IN THE OFFICE OF:



TELICS  
1598 WESTBROOK PLAZA DR.  
SUITE 202  
WINSTON-SALEM, NC 27103  
(336) 803-6038

CORY WOOD UTILITY PROJECT MANAGER  
CHRIS KENNEDY PROJECT UTILITY COORDINATOR



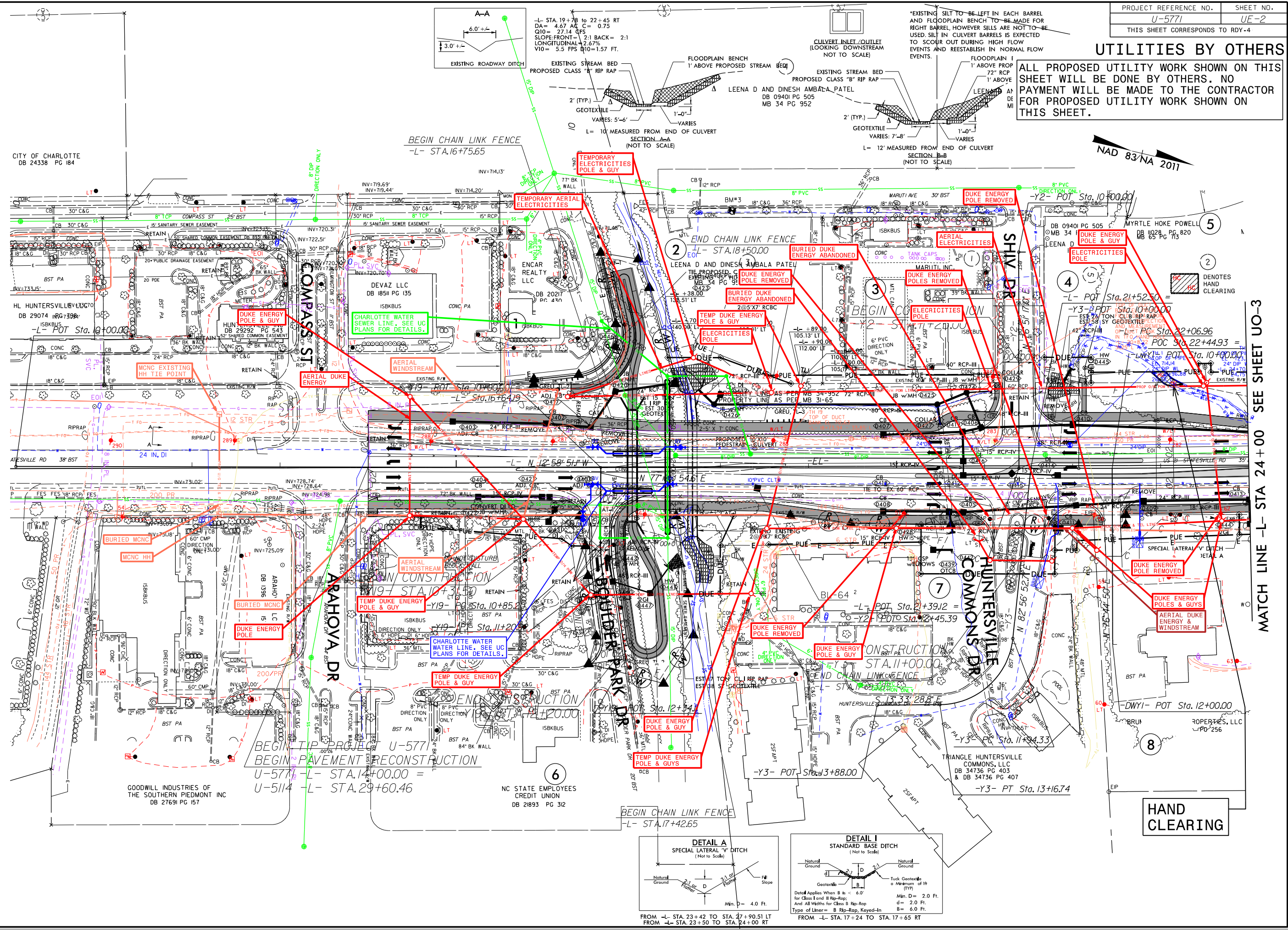
DIVISION OF HIGHWAYS  
UTILITIES UNIT  
1555 MAIL SERVICES CENTER  
RALEIGH NC 27699-1555  
PHONE (919) 707-6690  
FAX (919) 250-4151

DONALD HAMPTON REGIONAL UTILITIES ENGINEER  
LYNN BASINGER DIVISION UTILITY ENGINEER  
RADHA ATTALURI, PE SENIOR PROJECT MANAGER  
STEVE TREXLER UTILITY COORDINATOR



5/14/99

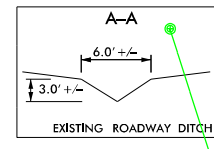
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PROJECT REFERENCE NO.	SHEET NO.
U-5771	UE-2
THIS SHEET CORRESPONDS TO RDY-4	

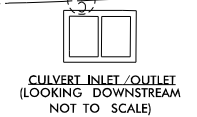
### UTILITIES BY OTHERS

ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.



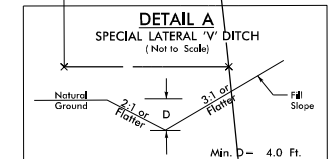
-L- STA. 19+78 TO 22+45 RT  
DA= 4.67 AC C= 0.73  
Q10= 27.14 CFS  
SLOPE: FRONT= 2:1 BACK= 2:1  
LONGITUDINAL= 2.67%  
V10= 5.3 FPS Q10= 1.57 FT.

SECTION A-A  
(NOT TO SCALE)

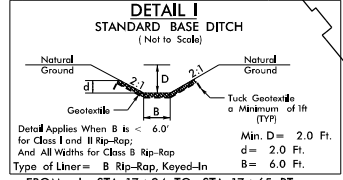


\*EXISTING SILT TO BE LEFT IN EACH BARREL AND FLOODPLAIN BENCH TO BE MADE FOR RIGHT BARREL, HOWEVER SILLS ARE NOT TO BE USED. SILT IN CULVERT BARRELS IS EXPECTED TO SCOUR OUT DURING HIGH FLOW EVENTS AND REESTABLISH IN NORMAL FLOW EVENTS.

SECTION B-B  
(NOT TO SCALE)



FROM -L- STA. 23+42 TO STA. 27+90.51 LT  
FROM -L- STA. 23+50 TO STA. 24+00 RT



FROM -L- STA. 17+24 TO STA. 17+65 RT

MATCH LINE -L- STA. 24+00 SEE SHEET UO-3

HAND CLEARING



## **WETLAND AND SURFACE WATER IMPACT SUMMARY NARRATIVE**

Proposed overhead power line crosses the wetland and needs hand clearing for <0.01 acres from

-L- Sta. 22+90 to Sta. 23+27 LT.



***TYPE OF WORK: GRADING, DRAINAGE, PAVING, CULVERT, RETAINING WALLS, SIGNALS, AND SIGNING***

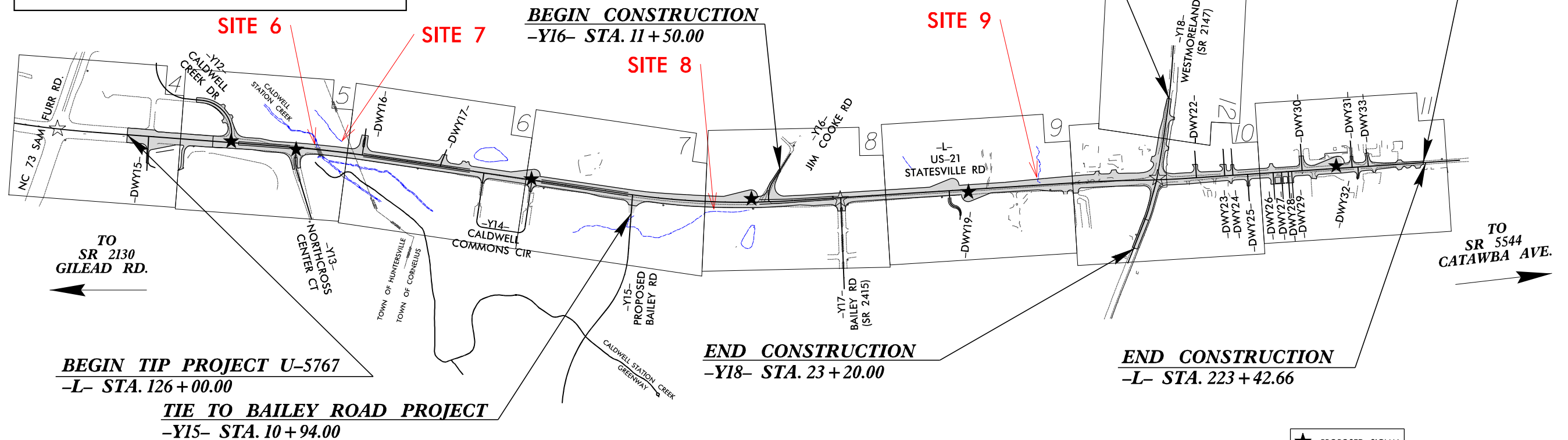
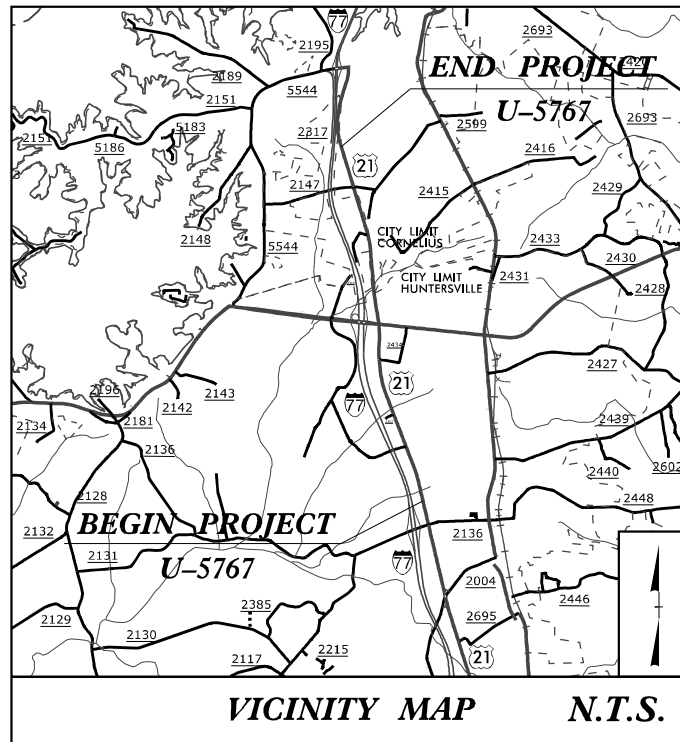
## WETLAND AND SURFACE WATER IMPACTS PERMIT

# PRELIMINARY

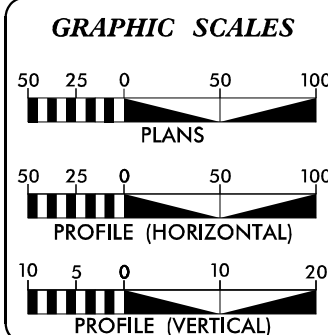
**BEGIN CONSTRUCTION**  
**-Y18- STA. 14 + 00.00**

***END TIP PROJECT U-5767***  
***-L- STA. 223+25.00***

PERMIT DRAWING  
SHEET 1 OF 17



THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF CORNELIUS AND HUNTERSVILLE.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.  
THERE IS NO CONTROL OF ACCESS ON THIS PROJECT WITH FULL CONTROL OF ACCESS AT U-TURN BULBS.



**DESIGN DATA**  
ADT 2020 = 29500  
ADT 2040 = 45300  
K = 8 %  
D = 60 %  
T = 4 % \*  
V = 50 MPH  
\* TTST = 1 DUAL = 3  
FUNC CLASS =  
ARTERIAL  
REGIONAL TIER

### PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-5767 = 1.842 MILES

TOTAL LENGTH TIP PROJECT U-5767 = 1.842 MILES

PREPARED IN THE OFFICE OF:

**RS&H**

8521 SIX FORKS ROAD, SUITE 400  
RALEIGH, NC 27615  
NC FIRM LICENSE No: F-0493

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY DATE:

---

**PROJECT ENGINEER**

**PROJECT DESIGN ENGINEER**

**LETTING DATE:**

---

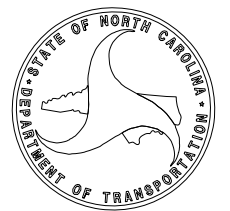
**NCDOT CONTACT**

**HYDRAULICS ENGINEER**

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

**ROADWAY DESIGN  
ENGINEER**

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



## SITE 7

MATCH LINE -L- STA 142 + 50 SEE SHEET 6

CONCRETE MONO. ISLAND  
CONCRETE SW & MUP

FOR -L- PROFILE, SEE SHEET NO. 13

FOR -Y12- AND -Y13- PROFILES, SEE SHEET NO. 18



PERMIT DRAWING  
SHEET 2 OF 17

## SURFACE WATER IMPACT

FILL IN WETLAND

CULVERT INLET /OUTLET  
(LOOKING DOWNSTREAM)  
NOT TO SCALE

END CONSTRUCTION  
-Y13- STA. 11+57.83

-Y13- PT Sta. 11+81.54

-Y1.3- POT Sta. 15+54.24

8

## REVISIONS

8/17/99

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# SITE 7



FOR -Y12- AND -Y13- PROFILES, SEE SHEET NO. 18

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# ENLARGEMENT

PROJECT REFERENCE NO.	SHEET NO.
U-5771	8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

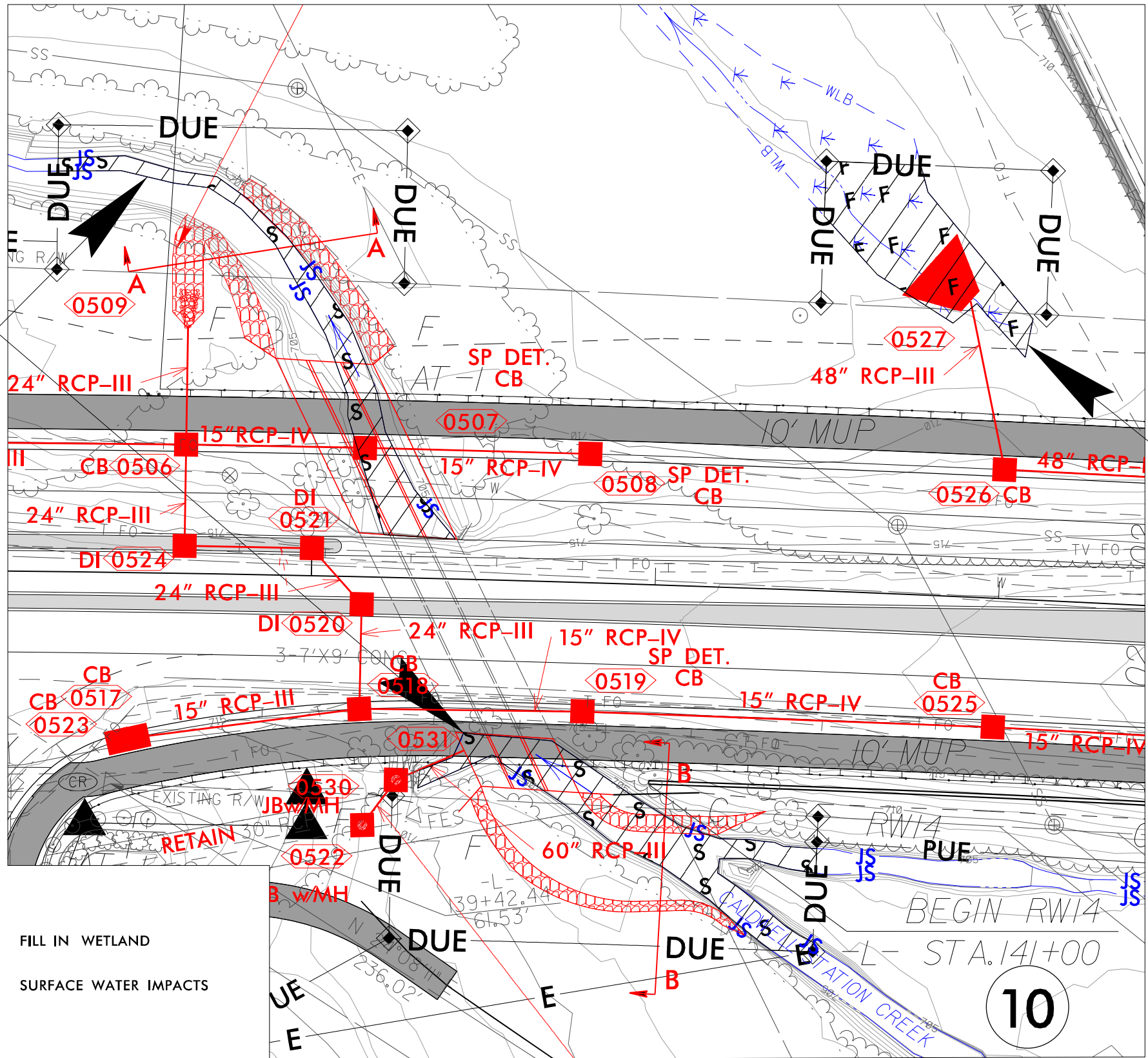
**RS&H**  
8521 SIX FORKS ROAD, SUITE 400  
RALEIGH, NC 27615  
NC FIRM LICENSE No: F-0493

PERMIT DRAWING  
SHEET 4 OF 17

NAD 83/NA 2011

SITE 7

SITE 6



F F FILL IN WETLAND

S S SURFACE WATER IMPACTS

36' 0' 36'

REVISIONS

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5/14/99

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PROJECT REFERENCE NO.		SHEET NO.
U-5771		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

PERMIT DRAWING  
SHEET 5 OF 17

SITE 6

760

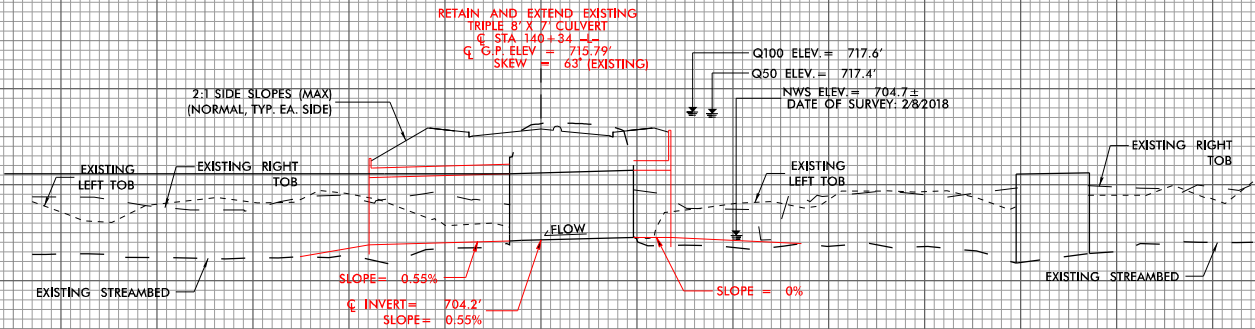
740

720

700

680

100' LT      0'      100' RT



8521 SIX FORKS ROAD, SUITE 400  
RALEIGH, NC 27615  
NC FIRM LICENSE No: F-0493

~~NAD 83/NA 20~~



FOR SUPERELEVATION, SEE SHEET NO. 2B-4

REVISIONS
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NAD 83/NA 2011



★ PROPOSED SIGNAL

## CONCRETE MONO. ISLAND


CONCRETE SW & MUP

FOR DETAILS, SEE SHEET NO. 2B-4

FOR -Y14- PROFILE, SEE SHEET NO. 17

FOR -L- PROFILE, SEE SHEET NO. 14

FOR SUPERELEVATION, SEE SHEET NO. 2B-4



**DETAIL H**  
**SPECIAL LATERAL 'V' D**  
**(Not to Scale)**

FROM -L- STA. 157+00 TO STA. 160+50 RT  
FROM -L- STA. 164+00 TO STA. 166+15 LT  
FROM -L- STA. 168+75 TO STA. 170+40 LT

**DETAIL I**  
**CHANNEL CHANGE**  
**( Not to Scale )**

Type of Liner= 77 TONS CLASS I RIP-RAP  
108 SY Geotextile

FROM -L- STA. 169+30 TO STA. 170+50 RT

**DETAIL F**  
**BERM BASE DITCH**  
(Not to Scale)

Min. D = 1 Ft.  
Max. d = 1 Ft.  
B = 1 Ft.  
b = 3 Ft.  
Type of Liner = 10 TONS Class B Rip-Rap  
17 SY Geotextile

**DETAIL W**  
**SPECIAL LATERAL BASE DITCH**  
(Not to Scale)

FROM -L- STA. 162+00 TO STA. 164+00 LT

**DETAIL E**  
**CONCRETE DITCH**  
**AND RETAINING WALL**  
(Not to Scale)

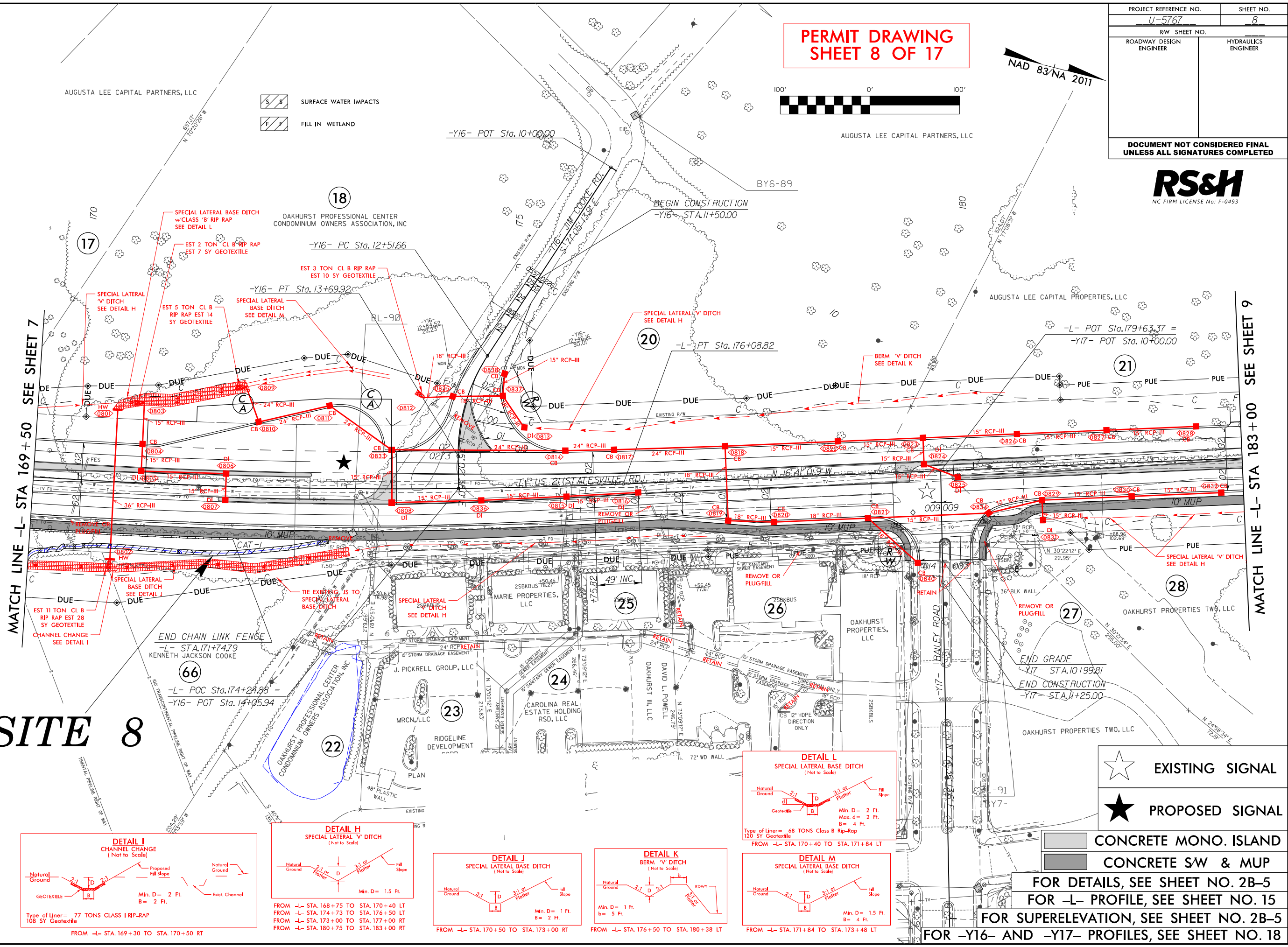
FROM -L- STA. 159+00 TO STA. 161+25 LT



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U-5717 US 21 Final Plans\Design\Hydraulics\PERMITS\Environmental\U-5767\Drawings\Plansheets\U5767\_prm.8\_Rdy\_psh.08.dgn  
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REVISIONS

SITE 8



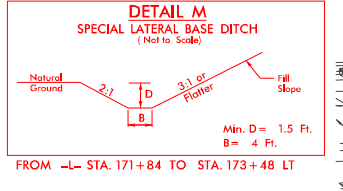
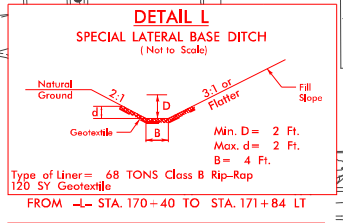
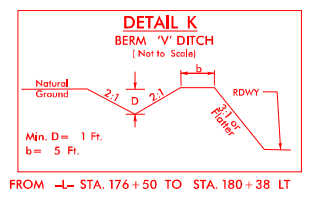
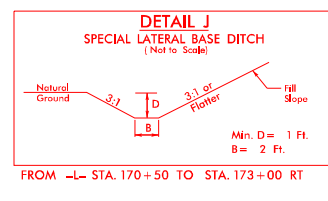
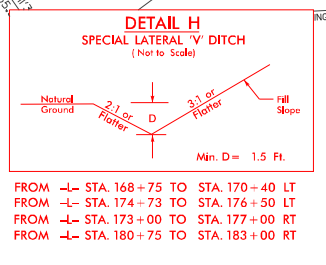
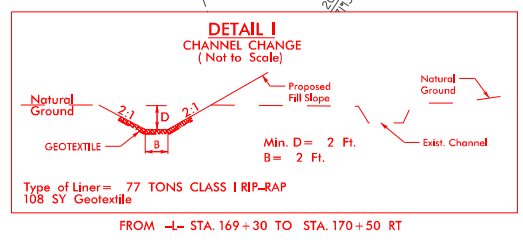
PERMIT DRAWING  
SHEET 8 OF 17



NAD 83/NA 2011

PROJECT REFERENCE NO. <u>U-5767</u>		SHEET NO. <u>8</u>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			

RS&H  
NC FIRM LICENSE No: F-0493



★ EXISTING SIGNAL

★ PROPOSED SIGNAL

CONCRETE MONO. ISLAND  
CONCRETE SW & MUP

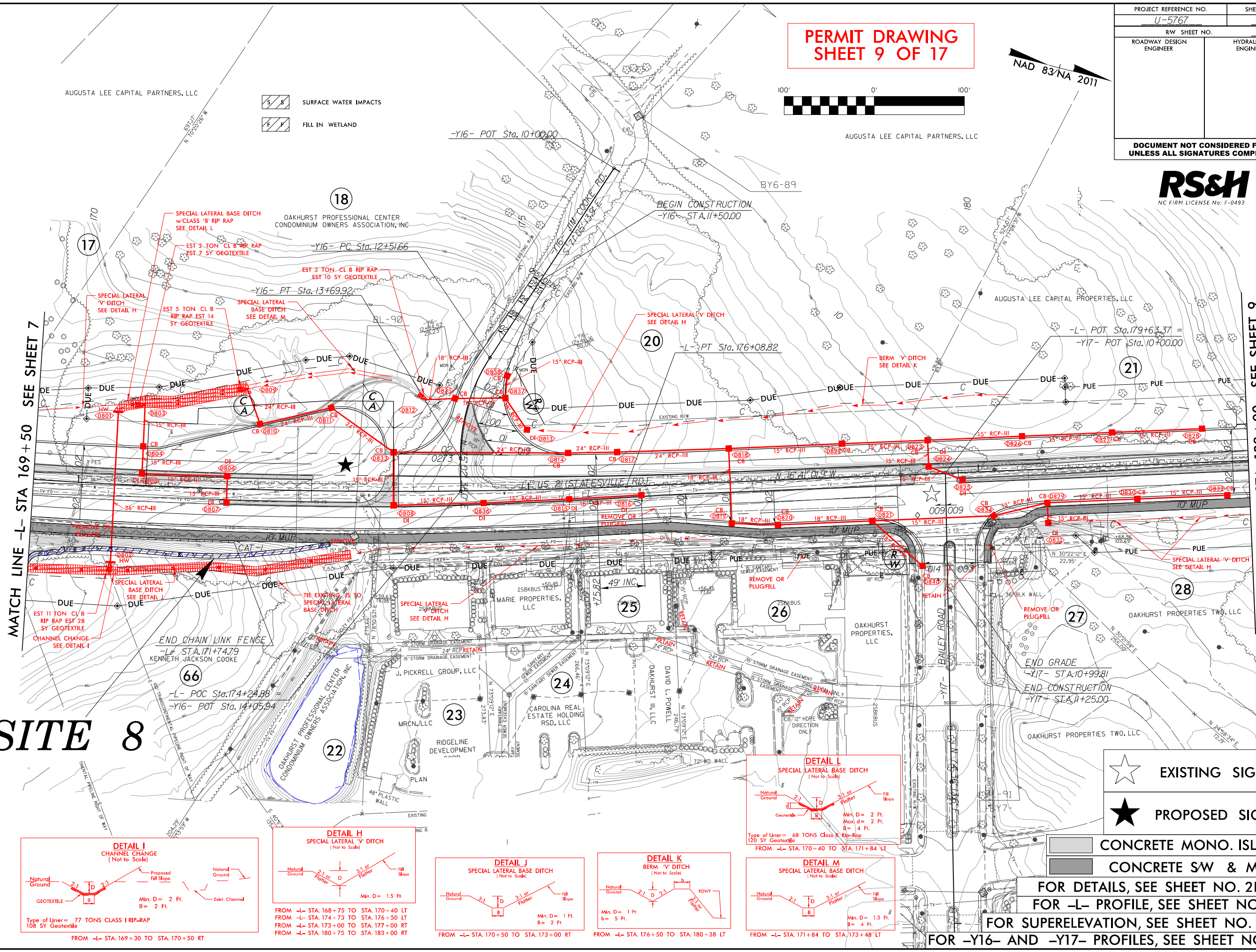
FOR DETAILS, SEE SHEET NO. 2B-5  
FOR -L- PROFILE, SEE SHEET NO. 15  
FOR SUPERELEVATION, SEE SHEET NO. 2B-5  
FOR -Y16- AND -Y17- PROFILES, SEE SHEET NO. 18



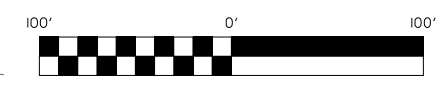
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REVISIONS

SITE 8



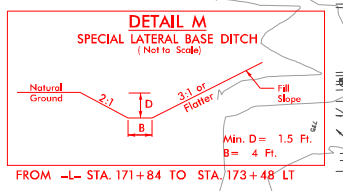
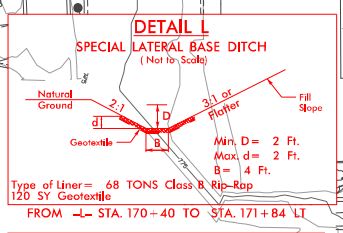
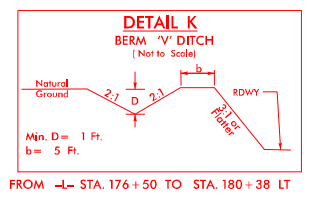
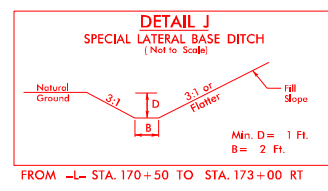
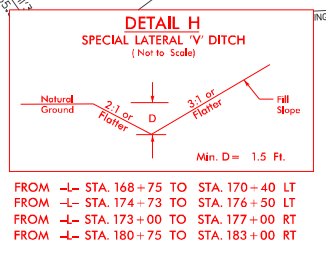
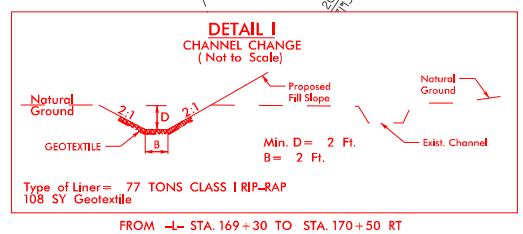
PERMIT DRAWING  
SHEET 9 OF 17



NAD 83/NA 2011

PROJECT REFERENCE NO.		SHEET NO.
<u>U-5767</u>		<u>8</u>
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>		

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NC FIRM LICENSE No: F-0493



☆	EXISTING SIGNAL
★	PROPOSED SIGNAL
■	CONCRETE MONO. ISLAND
■	CONCRETE SW & MUP

FOR DETAILS, SEE SHEET NO. 2B-5  
FOR -L- PROFILE, SEE SHEET NO. 15  
FOR SUPERELEVATION, SEE SHEET NO. 2B-5  
FOR -Y16- AND -Y17- PROFILES, SEE SHEET NO. 18









**DETAIL O**  
**SPECIAL LATERAL "V" DITCH**  
 (Not to Scale)

Natural Ground

3:1

D

3:1 or Flatter

Fill Slope

Min. D = 1 Ft.

**DETAIL AA**

**PIPE OUTLET CHANNEL STABILIZATION**  
(Not to Scale)

Natural Ground

1.0'

Geotextile

Channel Bed (Variable)

Natural Bed Elevation

Natural Ground

Length = 12.0 Ft.

Type of Liner = CL B Rip-Rap - Keyed-In

— STA. 194 + 64. LT

AUGUSTA LEE CAPITAL  
DB 27234 F

# SITE 9

MATCH LINE -L- STA 197+00 SEE SHEET 10

FOR SUPERELEVATION, SEE SHEET NO. 2B-6

**DETAIL Q**  
SPECIAL BACK OF CURB CUT DITCH  
(NOT TO SCALE)

NATURAL GROUND

3:1

5:1

FROM STA. 189+00 TO STA. 189+50 LT

**DETAIL R**  
**SPECIAL LATERAL "V" DITCH**  
(Not to Scale)

Existing Ground

3.1

D

3.1 or Flatter

Fill Slope

Min. D = 1.5 Ft.

FROM STA. 185 + 50 TO STA. 187 + 50 RT

FROM STA. 188 + 00 TO STA. 189 + 00 RT

**DETAIL P**  
**SPECIAL LATERAL 'V' DITCH**  
(Not to Scale)

Labels in diagram:  
Natural Ground  
2:1 or Flatter  
d  
Geotextile  
D  
3:1 or Flatter  
Fill Slope

Min. D = 1 Ft.  
Max. d = 1.5 Ft.

Type of Liner = 15 TONS Class B Rip-Rap  
2" SY Geotextile

**FROM -L- STA. 185+21 TO STA. 185+50 RT**

**DETAIL K**  
BERM "V" DITCH  
(Not to Scale)

Min. D = 1 Ft.  
b = 5 Ft.

FROM —L— STA. 189+50 TO STA. 190+50 LT  
FROM —L— STA. 189+00 TO STA. 189+60 RT  
FROM —L— STA. 189+60 TO STA. 191+00 RT

A diagram of a measuring tape. The left end is labeled '100'', the middle is labeled '0'', and the right end is labeled '100''. The tape is divided into alternating black and white segments. The left half (from 100' to 0') has a checkerboard pattern of alternating black and white squares. The right half (from 0' to 100') is solid black.

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CULVERT HYDRAULIC DATA

DRAINAGE AREA	= 2.49	SQ.MI.
DESIGN DISCHARGE	= 1800	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 717.4	FT
BASE DISCHARGE	= 1900	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 717.6	FT
OVERTOPPING DISCHARGE	= 1630	CFS
OVERTOPPING FREQUENCY	= 25+	YRS
OVERTOPPING ELEVATION	= 716.3	FT

$PI = 139 + 25.00$   
 $EL = 712.00'$   
 $VC = 570'$   
 $K = 97$   
 $DS = 50 \text{ MPH}$

$$\begin{aligned} & -Y13- STA.10+36.25 = \\ & -L- STA.138+66.69 \\ & OFF. = 36.24' RT \end{aligned}$$

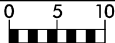
RIGHT-DITCH

FOR -L- ALIGNMENT, SEE SHEET NOS. 4 & 5

DESIGN REVISION: -L- BERM WIDTH MODIFIED FROM 21.5' TO 15' BASED ON CHANGES MADE TO THE BICYCLE AND PEDESTRIAN ACCOMMODATIONS.SPK 4/29/2019

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6/23/16



WETLAND  
BOUNDARY

WETLAND BOUNDARY

PERMIT DRAWING  
SHEET 15 OF 17

141 + 50.00

141 + 00.00

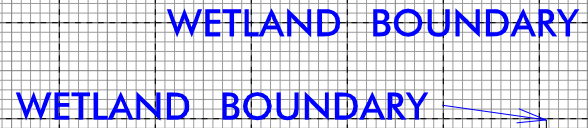
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140 + 00.00

139 + 50.00

139 + 00.00

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\*\*\*\*\*SUBMITTAL\*\*\*\*\*





# WETLAND AND SURFACE WATER IMPACTS 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)
6	-L- 139+00 / 141+50	3-8'x7' RCBC Culvert Extension						0.062		280		
7	-L- 141+45 / 142+04 LT	42" RCP-III	0.035									
8	-L- 169+00 / 172+80 RT	Roadway Fill						0.045		390		
9	-L- 194+38 / 194+70 LT	Roadway Fill						0.018		160		
TOTALS*:			0.03	0.00	0.00	0.00	0.00	0.13	0.00	830	0	0

\*Rounded totals are sum of actual impacts  
 NOTES:

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 12/5/2023  
 Mecklenburg County  
 U-5767