STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

April 13, 2018

MEMORANDUM TO: Mr. Greg Burns, P.E.
Division 6 Engineer

FROM: for Philip S. Harris, III, P.E., Manager
Environmental Analysis Unit

DocuSigned by:
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SUBJECT: Cumberland County; US 401 (Raeford Road) from Old Raeford Road to East of Fairway Drive in Fayetteville;
Federal Aid No. STPDA-0401(230); WBS 39049.1.1; **STIP U-4405.**

Attached are the Modified US Army Corps of Engineers Nationwide Permits and N.C. Division of Water Resources (NCDWR) Water Quality Certification. All environmental permits have been received for the construction of this project.

A copy of this permit package will be posted on the NCDOT website at:
https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx
Quick Links>Permit Documents> Issued Permits.

cc: w/o attachment (see website for attachments)

Mr. James Rerko, Division Environmental Officer
Dr. Majed Al-Ghandour, P.E., Programming and TIP
Mr. Lamar Sylvester, P.E., State Roadway Construction Engineer
Mr. Gary Lovering, P.E., Project Delivery
Mr. Carl Barclay, P.E., Utilities Unit
Mr. Stephen Morgan, P.E., Hydraulics
Mr. Brian Hanks, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. Ron Hancock, P.E., State Roadway Construction Engineer
Ms. Beth Harmon, NCDWR
Ms. Cheterra Sheff, Single Audit Compliance

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
NATURAL ENVIRONMENT SECTION
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

Telephone: (919) 707-6000
Fax: (919) 212-5785
Customer Service: 1-877-368-4968
Website: www.ncdot.gov

Location:
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action Id. **SAW-2011-01806** County: **Cumberland County** U.S.G.S. Quad: **Fayetteville**

GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION

Permittee: **Mr. Phillip S. Harris, III, PE, CPM**
NC DOT-PDEA
Address: **1598 Mail Service Center**
Raleigh, NC 27699

Size (acres) N/A
Nearest Waterway **Beaver Creek**
USGS HUC **03030004**
Nearest Town **Fayetteville**
River Basin **Cape Fear**
Coordinates Latitude: **35.0413189656353**
Longitude: **-78.9624331673919**

Location description: **The project site is located along US 401 from SR 1409 (71st School Road) to US 401 Business (Robeson Street), in Fayetteville, Cumberland County, North Carolina.**

Description of projects area and activity: **This verification authorizes impacts to waters of the U.S. in association with an NC DOT road improvement project along an approximate 6- mile section of US 401 from SR 1409 (71st School Road) to US 401 Business (Robeson Street). The existing facility is a seven lane roadway with a center turn lane. The proposed facility will be a 6 lane roadway with a raised median. Permanent impacts total 0.21 acre wetlands filled, 840 linear feet of stream channel for and 0.23 acre open waters filled for culvert extensions, bank stabilization and utility line relocations.**

Applicable Law: ☒ Section 404 (Clean Water Act, 33 USC 1344)
☐ Sections 10 (Rivers and Harbors Act, 33 USC 403)

Authorization: Regional General Permit Number or Nationwide Permit Number: **NWPs 14 and 12**
SEE ATTACHED RGP or NWP GENERAL, REGIONAL AND SPECIAL CONDITIONS

Your work is authorized by the above referenced permit provided it is accomplished in strict accordance with the attached conditions and your submitted application and attached information dated October 25, 2017. Any violation of the attached conditions or deviation from your submitted plans may subject the permittee to a stop work order, a restoration order, a Class I administrative penalty, and/or appropriate legal action.

This verification will remain valid until the expiration date identified below unless the nationwide authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide permit authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all requirements of the modified nationwide permit. If the nationwide permit authorization expires or is suspended, revoked, or is modified, such that the activity would no longer comply with the terms and conditions of the nationwide permit, activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon the nationwide permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide permit's expiration, modification or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend or revoke the authorization.

Activities subject to Section 404 (as indicated above) may also require an individual Section 401 Water Quality Certification. You should contact the NC Division of Water Resources (telephone 919-807-6300) to determine Section 401 requirements.

For activities occurring within the twenty coastal counties subject to regulation under the Coastal Area Management Act (CAMA), prior to beginning work you must contact the N.C. Division of Coastal Management in Wilmington, NC, at (910) 796-7215.

This Department of the Army verification does not relieve the permittee of the responsibility to obtain any other required Federal, State or local approvals/permits.

If there are any questions regarding this verification, any of the conditions of the Permit, or the Corps of Engineers regulatory program, please contact **Sarah Hair at (910) 251-4049 or Sarah.E.Hair@usace.army.mil**.

Corps Regulatory Official: Liz Hair Date: **December 1, 2017**
Expiration Date of Verification: **March 18, 2022**

Determination of Jurisdiction:

A. ☐ There are waters, including wetlands, on the above described project area that may be subject to Section 404 of the Clean Water Act (CWA) (33 USC § 1344) and/or Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403). This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331). However, you may request an approved JD, which is an appealable action, by contacting the Corps district for further instruction. Please note, if work is authorized by either a general or nationwide permit, and you wish to request an appeal of an approved JD, the appeal must be received by the Corps and the appeal process concluded prior to the commencement of any work in waters of the United States and prior to any work that could alter the hydrology of waters of the United States.

B. ☐ There are Navigable Waters of the United States within the above described project area subject to the permit requirements of Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403) and Section 404 of the Clean Water Act (CWA) (33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

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

D. ☒ The jurisdictional areas within the above described project area have been identified under a previous action. Please reference jurisdictional determination issued August 9, 2012. Action ID: **SAW-2011-01806**.

Basis For Determination: *see previously verified PJD dated August 12, 2012

Remarks:

E. Attention USDA Program Participants

This delineation/determination has been conducted to identify the limits of Corps' Clean Water Act jurisdiction for the particular site identified in this request. The delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA Program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

F. Appeals Information **(This information applies only to approved jurisdiction determinations as indicated in B and C above).**

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

US Army Corps of Engineers
South Atlantic Division
Attn: Jason Steele, Review Officer
60 Forsyth Street SW, Room 10M15
Atlanta, Georgia 30303-8801
Phone: (404) 562-5137

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by N/A.
It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.

Corps Regulatory Official: Liz Hair
Sarah Hair

Date of JD: **August 9, 2012**
Expiration Date of JD: N/A

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete our Customer Satisfaction Survey, located online at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.

Electronic copies furnished:

Ms. Joanne Steenhuis, NC DWR
Mr. Jim Rerko, NC DOT Division 6 DEO
Mr. Colin Mellor, NC DOT PDEA
Mr. Chris Rivenbark, NC DOT PDEA

SPECIAL CONDITIONS

1) 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 authorization.

Action ID Number: **SAW-2011-01806** **County:** **Cumberland County**

Permittee: **NC DOT/ PDEA, Mr. Phillip S. Harris, III, P.E. CPM**

Project Name: **NCDOT/U-4405/US 401 and US 401 Business/Division 6**

Date Verification Issued: **December 1, 2017**

Project Manager: **Sarah Hair**

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

US ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT
Attn: Sarah Hair
69 Darlington Avenue
Wilmington, North Carolina 28403

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. Failure to comply with any terms or conditions of this authorization may result in the Corps suspending, modifying or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and condition of the said permit, and required mitigation was completed in accordance with the permit conditions.

_____ _____

Signature of Permittee **Date**

Rivenbark, Chris

From: Hair, Sarah E CIV CESAW CESAD (US) <Sarah.E.Hair@usace.army.mil>
Sent: Thursday, March 22, 2018 3:22 PM
To: Rivenbark, Chris; Cashin, Gordon E
Cc: Rerko, James J; Steenhuis, Joanne
Subject: [External] U-4405 additional temporary impacts
Attachments: U-4405 Modification Cumberland February 16 2018.pdf

Please reference the attached permit modification request dated February 16, 2018 for the following project:

Corps Action ID: SAW-2011-01806
County: Cumberland
Project TIP: U-4405

The applicant proposes additional temporary impacts associated with impacts sites 2, 3, 4, and 5 as a result of sediment/erosion control requirements.

Additional temporary impacts as proposed are hereby authorized. The original December 1, 2017 verification and all conditions remain applicable for permanent impacts.

The plans dated February 2018 will be added to the administrative erecord. Please allow this email to serve as official notification.

Thank you,

Liz Hair
Regulatory Project Manager
Wilmington District
US Army Corps of Engineers
69 Darlington Avenue
Wilmington, NC 28403
Sarah.e.hair@usace.army.mil
910-251-4049

U.S. ARMY CORPS OF ENGINEERS
Wilmington District
Compensatory Mitigation Responsibility Transfer Form

Permittee: NC DOT, PDEA, MR. Phillip S. Harris, III, PE, CPM **Action ID:** SAW-2011-01806
Project Name: U-4405/Raeford Road **County:** Cumberland

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 to the U.S. Army Corps of Engineers (USACE) 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 must verify that the mitigation requirements (credits) shown below are available at the identified site. By signing below, the Sponsor is accepting full responsibility for the identified mitigation, regardless of whether or not 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 bank ledger to the Permittee, the USACE Project Manager, and the Wilmington 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:** Choose the 8-digit HUC

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
664				**0.21**		

*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:** Choose the 8-digit HUC

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
1,328				**0.42**		

Mitigation Site Debited: NC DMS
(List the name of the bank to be debited. For umbrella banks, also list the specific site. For NCDMS, list NCDMS. If the NCDMS acceptance letter identifies a specific site, also list the specific site to be debited).

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 USACE, 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: _____

Name of Sponsor's Authorized Representative: _____

_____ _____
Signature of Sponsor's Authorized Representative **Date of Signature**

USACE Wilmington District
Compensatory Mitigation Responsibility Transfer Form, Page 2

Conditions for Transfer of Compensatory Mitigation Credit:

- Once this document has been signed by the Mitigation Sponsor and the USACE 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 USACE 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. 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 the Sponsor must be provided to the USACE within 30 days of permit issuance. NCDOT remains fully responsible for the mitigation until the USACE 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 USACE 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 USACE, the Sponsor must obtain case-by-case approval from the USACE 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 USACE administrative records for both the permit and the Bank/ILF Instrument.

Comments/Additional Conditions:

This form is not valid unless signed below by the USACE 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 USACE Project Manager at the address below, and 3) the Wilmington District Mitigation Office, Attn: Todd Tugwell, 3331 Heritage Trade Drive, Suite 105, Wake Forest, NC 27587 (email: todd.tugwell@usace.army.mil)***. Questions regarding this form or any of the permit conditions may be directed to the USACE Project Manager below.

USACE Project Manager: Liz Hair
USACE Field Office: Wilmington Regulatory Field Office
US Army Corps of Engineers
69 Darlington Avenue
Wilmington, NC 28403
Email: sarah.e.hair@usace.army.mil

Liz Hair

USACE Project Manager Signature

December 1, 2017

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.

Environmental Quality

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

LINDA CULPEPPER
Interim Director

March 15, 2018
Cumberland County
NCDWR Project No.20171365 V2
TIP Project No. U-4405

REVISED APPROVAL of 401 WATER QUALITY CERTIFICATION with ADDITIONAL CONDITIONS

Mr. Philip S. Harris, III, P.E. CPM
Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, NC 27699-1598

Dear Mr. Harris:

This certification rescinds and replaces the certification issued on November 17, 2017. You have our approval, in accordance with the conditions listed below, for the following impacts for the purpose of improvements to US Highway 401(Raeford Road) from west of Hampton Oaks Drive to east of Fairway Drive (approximately 6 miles) in Cumberland County:

Stream Impacts in the Cape Fear River Basin

Site	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total stream Impacts (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
1			8	43	51	
2			201	41	242	
3			33		33	
3b (stabilization)			176	171	347	
4			216	20	236	
5			206	27	233	
U5				45	45	
U6				48	48	
TOTAL			840	395	1,235	

Total Stream Impact for Project: 1,235 linear feet.

Wetland Impacts in the Cape Fear River Basin

Site	Fill (ac)	Fill (Temporary)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impacts (ac)	Impacts Requiring Mitigation (ac)
2	0.200					0.200	N/A
U1	0.007					0.007	N/A
U3		0.023				0.023	N/A
U4	0.012					0.012	N/A
U					0.02	0.02	N/A
TOTAL	0.219	0.023				0.262	

Total Wetland Impact for Project: 0.262 acres.

Open Water Impacts in the Cape Fear River Basin

Site	Permanent Fill in Open Waters (ac)	Temporary Fill in Open Waters (ac)	Total Fill in Open Waters (ac)
1	0.01	0.01	0.02
2	0.03	0.04	0.07
3	0.03	0.01	0.04
4	0.07	0.01	0.08
5	0.09	0.03	0.12
U2		0.05	0.05
U5		0.01	0.01
U6		0.02	0.02
TOTAL	0.23	0.18	0.41

Total Open Water Impact for Project: 0.41 acres.

The project shall be constructed in accordance with your application modification request dated received February 16, 2018. After reviewing your application, we have decided that these impacts are covered by General Water Quality Certification Numbers 4088 and 4086. This certification corresponds to the Nationwide Permit 14 and Nationwide Permit 12 issued by the Corps of Engineers. In addition, you should acquire any other federal, state or local permits before you proceed with your project including (but not limited to) Sediment and Erosion Control, Non-Discharge and Water Supply Watershed regulations. This approval will expire with the accompanying 404 permit.

This approval is valid solely for the purpose and design described in your application (unless modified below). Should your project change, you must 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 total wetland fills for this project (now or in the future) exceed one acre, or of total impacts to streams (now or in the future) exceed 150 linear feet, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you must adhere to the conditions listed in the attached certifications and any additional conditions listed below.

Condition(s) of Certification:

Project Specific Conditions

1. The NCDOT Division Environmental Officer or Environmental Assistant will conduct a pre-construction meeting with all appropriate staff to ensure that the project supervisor and essential staff understand the potential issues with stream and pipe alignment at the permitted site. NCDWR staff shall be invited to the pre-construction meeting. [15A NCAC 02H.0506(b)(2) and (b)(3)

2. 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 the NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the 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)]

3. 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)]

4. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed. [15A NCAC 02H.0506(b)(2)]

5. **For the open cut trenching of the utility lines, the mixing of topsoil and the subsoils within the wetlands shall be minimized to the greatest extent practical. During, excavation, the soils shall be placed on fabric to minimize impacts whenever possible. Topsoil excavated from utility trenches in wetlands will be piled separately from the subsoils and will be backfilled into the trench only after the subsoils have been placed in the trench and compacted.**

6. Sediment and Erosion Control 15A NCAC 02H .0506 (b)(3) and (c)(3)
Turbidity curtains shall be used to isolate all work areas from the stream at Beaver Creek, including pile or casement installation, placement of riprap, excavation or filling. Strict adherence to the Construction and Maintenance Best Management Practices will be required.

General Conditions

7. 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 downstream 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)]

8. 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]

9. 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)]

10. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions. [15A NCAC 02H.0506(b)(2)]

11. 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)]

12. 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)]

13. 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) and (c)(3)]

14. 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)]

15. 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)]

16. 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)]

17. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]

18. 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]

19. 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)]

20. 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 Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]

21. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization 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]

22. 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.

23. 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)]

24. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]

25. 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.0231(a)(6)]

26. 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)]

27. 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.

28. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification. [15A NCAC 02H.0506(b)(3) and (c)(3)]

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission.
The mailing address for the Office of Administrative Hearings is:

Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone: (919) 431-3000, Facsimile: (919) 431-3100

A copy of the petition must also be served on DEQ as follows:

Mr. Sam M. Hayes, General Counsel
Department of Environmental Quality
1601 Mail Service Center
Raleigh, NC 27699-1601

This letter completes the review of the Division of Water Resources under Section 401 of the Clean Water Act. If you have any questions, please contact Joanne Steenhuis at (910) 796-7306 or joanne.steenhuis@ncdenr.gov.

Sincerely,

Linda Culpepper, Interim Director
Division of Water Resources

Electronic copy only distribution:
Liz Hair, US Army Corps of Engineers, Wilmington Field Office
Jim Rerko, Division 6 Environmental Officer
Colin Mellor, NC Department of Transportation
Gordon Cashin, NC Department of Transportation
Chris Rivenbark, NC Department of Transportation
Gary Jordan, US Fish and Wildlife Service
Travis Wilson, NC Wildlife Resources Commission
Beth Harmon, Division of Mitigation Services
James Michel, Fayetteville Public Works Commission (james.michel@faypwc.com)
Joanne Steenhuis, NC Division of Water Resources Wilmington Regional Office
File Copy

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

LINDA CULPEPPER
Interim Director

Environmental Quality

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.

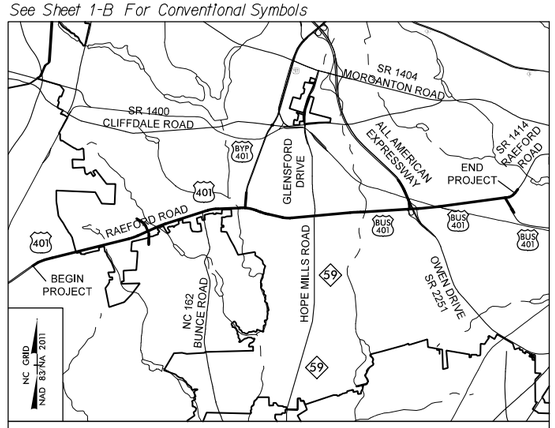
Signature _____ Registration No. _____

Date _____

TIP PROJECT: U-4405

CONTRACT:

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

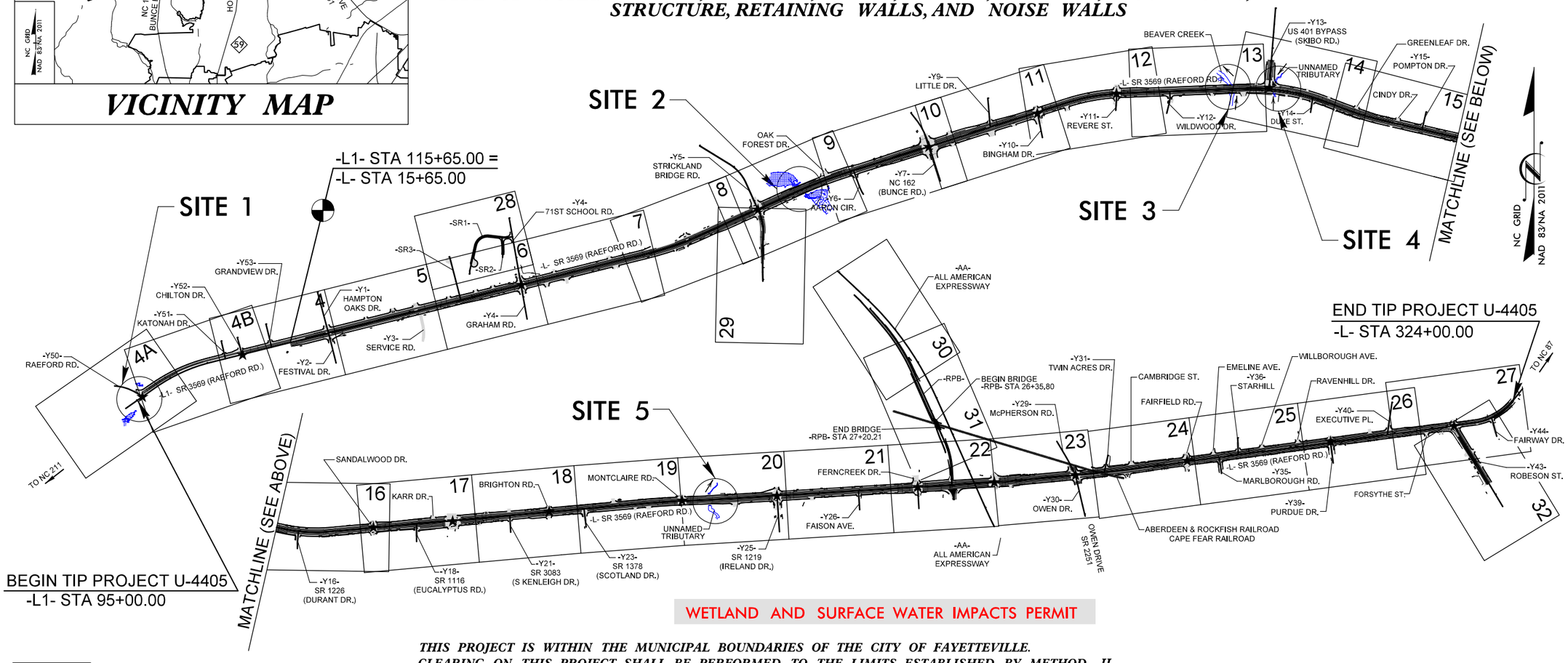
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4405	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
39049.1.1	STPDA-0401(230)	PE

PERMIT DRAWING
SHEET 1 OF 17

LOCATION: ***US 401 FROM WEST OF HAPTON OAKS DRIVE TO EAST OF FAIRWAY DRIVE IN FAYETTEVILLE***

TYPE OF WORK: ***GRADING, DRAINAGE, PAVING, SIGNALS, WIDENING, RESURFACING, STRUCTURE, RETAINING WALLS, AND NOISE WALLS***



★ PROPOSED SIGNAL

WETLAND AND SURFACE WATER IMPACTS PERMIT

THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF FAYETTEVILLE.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II .
***** A DESIGN EXCEPTION FOR LANE WIDTH IS REQUIRED***

GRAPHIC SCALES

50 25 0 50 100
PLANS

100 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2018 = 63,150
ADT 2038 = 70,975
K = 10 %
D = 60%
T = 3%*
V = 50 MPH
*TTST = 1% DUAL = 2%
FUNC CLASS = URBAN ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-4405 = 6.231 MILES
TOTAL LENGTH TIP PROJECT U-4405 = 6.231 MILES

NCDOT CONTACT: BRENDA MOORE, PE

Prepared In the Office of:
ATKINS
1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JULY 29, 2016

LETTING DATE: JULY 17, 2018

CLINTON J. MORGAN, PE
PROJECT ENGINEER

VIRGINIA SCHAAR, PE
PROJECT DESIGN ENGINEER

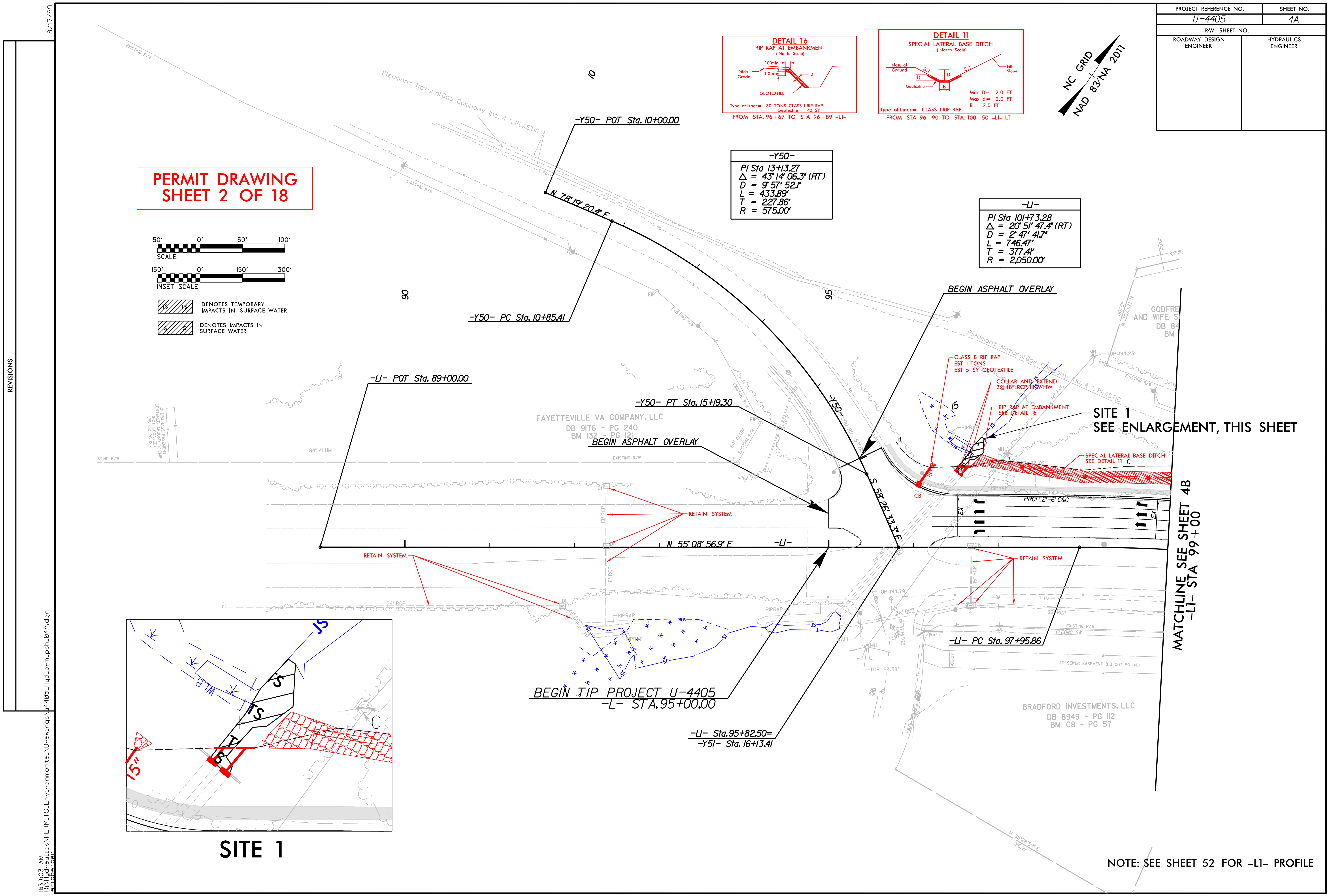
HYDRAULICS ENGINEER

SIGNATURE: _____ *P.E.*

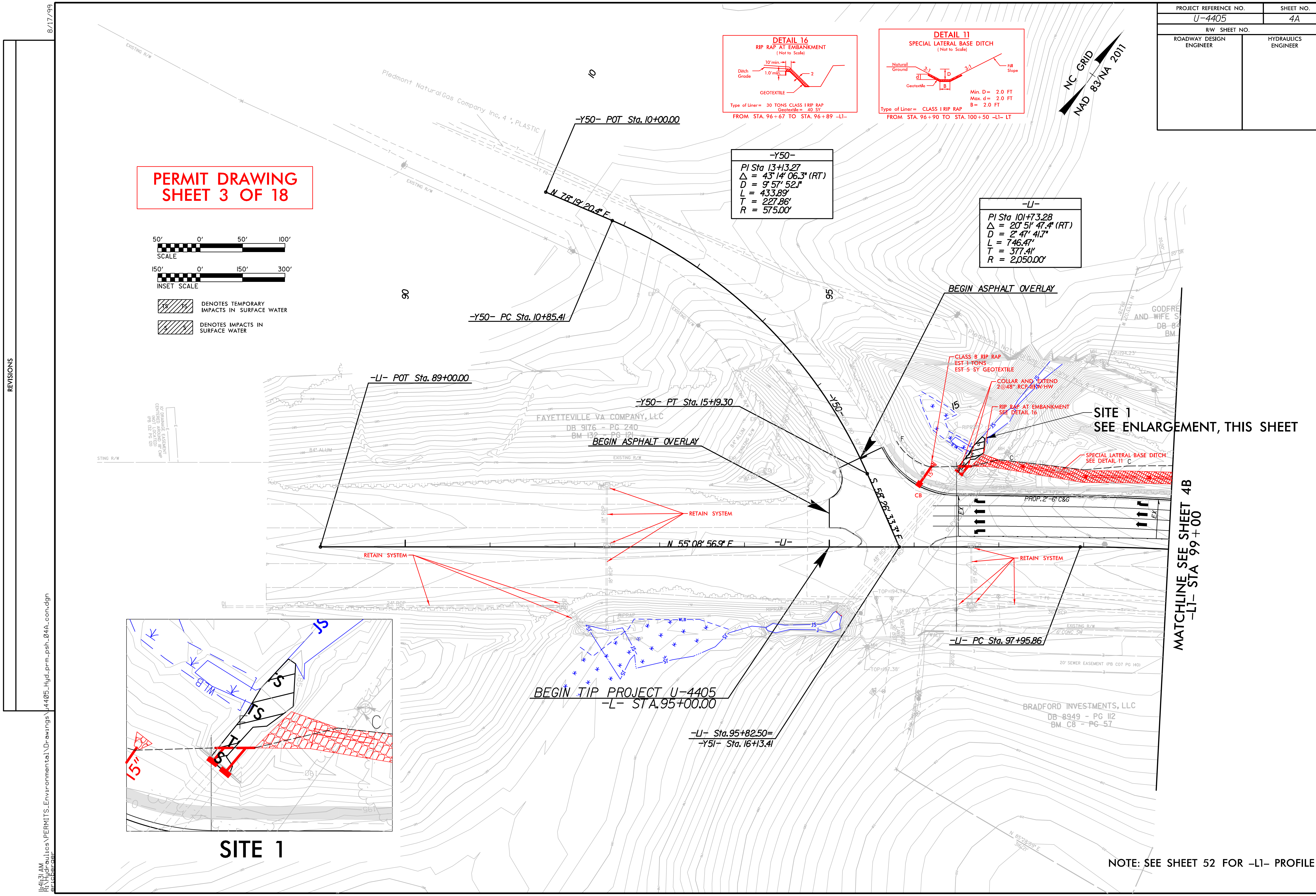
ROADWAY DESIGN ENGINEER

SIGNATURE: _____ *P.E.*

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION



PROJECT REFERENCE NO.
U-4405
SHEET NO.
4A
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PERMIT DRAWING
SHEET 2 OF 18
DETAIL 16
RIP RAP AT EMBANKMENT
(Not to Scale)
Type of Liner= 30 TONS CLASS I RIP RAP
Geotextile= 40 SY
FROM STA. 96+67 TO STA. 96+89 -L1-
DETAIL 11
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Min. D= 2.0 FT
Max. d= 2.0 FT
B= 2.0 FT
Type of Liner= CLASS I RIP RAP
FROM STA. 96+90 TO STA. 100+50 -L1- LT
NC GRID
NAD 83/NA 2011
-Y50- POT Sta. 10+00.00
-Y50-
PI Sta 13+13.27
Δ = 43° 14' 06.3" (RT)
D = 9° 57' 52.1"
L = 433.89'
T = 227.86'
R = 575.00'
-L1-
PI Sta 101+73.28
Δ = 20° 51' 47.4" (RT)
D = 2° 47' 41.7"
L = 746.47'
T = 377.41'
R = 2,050.00'
N 78° 19' 20.4" E
-Y50- PC Sta. 10+85.41
BEGIN ASPHALT OVERLAY
SCALE
INSET SCALE
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES IMPACTS IN SURFACE WATER
-L1- POT Sta. 89+00.00
-Y50- PT Sta. 15+19.30
FAYETTEVILLE VA COMPANY, LLC
DB 9176 - PG 240
BM 132 - PG 121
CLASS B RIP RAP
EST 1 TONS
EST 5 SY GEOTEXTILE
COLLAR AND EXTEND 2@48" RCP-IIN/HW
RIP RAP AT EMBANKMENT SEE DETAIL 16
SITE 1
SEE ENLARGEMENT, THIS SHEET
SPECIAL LATERAL BASE DITCH SEE DETAIL 11
PROP. 2'-6" C&G
RETAIN SYSTEM
S 58° 26' 33.3" E
N 55° 08' 56.9" E
-L1-
MATCHLINE SEE SHEET 4B
-L1- STA 99+00
-L1- PC Sta. 97+95.86
BEGIN TIP PROJECT U-4405
-L- STA. 95+00.00
-L1- Sta. 95+82.50=
-Y51- Sta. 16+13.41
BRADFORD INVESTMENTS, LLC
DB 8949 - PG 112
BM C8 - PG 57
SITE 1
NOTE: SEE SHEET 52 FOR -L1- PROFILE
REVISIONS
8/17/99



PROJECT REFERENCE NO. U-4405
SHEET NO. 4A
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PERMIT DRAWING SHEET 3 OF 18
DETAIL 16
RIP RAP AT EMBANKMENT
(Not to Scale)
FROM STA. 96+67 TO STA. 96+89 -L1-
DETAIL 11
SPECIAL LATERAL BASE DITCH
FROM STA. 96+90 TO STA. 100+50 -L1- LT
NC GRID NAD 83/NA 2011
-Y50-
PI Sta 13+13.27
Δ = 43° 14' 06.3" (RT)
D = 9° 57' 52.1"
L = 433.89'
T = 227.86'
R = 575.00'
-L-
PI Sta 101+73.28
Δ = 20° 51' 47.4" (RT)
D = 2° 47' 41.7"
L = 746.47'
T = 377.41'
R = 2,050.00'
-Y50- POT Sta. 10+00.00
N 78° 19' 20.4" E
-Y50- PC Sta. 10+85.41
-Y50- PT Sta. 15+19.30
S 58° 26' 33.3" E
-L- POT Sta. 89+00.00
N 55° 08' 56.9" E
BEGIN ASPHALT OVERLAY
BEGIN ASPHALT OVERLAY
FAYETTEVILLE VA COMPANY, LLC
DB 9176 - PG 240
BM 132 - PG 121
Piedmont Natural Gas Company Inc. 4" PLASTIC
RETAIN SYSTEM
RETAIN SYSTEM
RETAIN SYSTEM
CLASS B RIP RAP
EST 1 TONS
EST 5 SY GEOTEXTILE
COLLAR AND EXTEND 2@48" RCP
RIP RAP AT EMBANKMENT SEE DETAIL 16
SPECIAL LATERAL BASE DITCH SEE DETAIL 11
SITE 1
SEE ENLARGEMENT, THIS SHEET
PROP. 2'-6" C&G
MATCHLINE SEE SHEET 4B
-L1- STA 99+00
-L- PC Sta. 97+95.86
BEGIN TIP PROJECT U-4405
-L- STA. 95+00.00
-L- Sta. 95+82.50=
-Y51- Sta. 16+13.41
BRADFORD INVESTMENTS, LLC
DB 8949 - PG 112
BM C8 - PG 57
SCALE
INSET SCALE
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES IMPACTS IN SURFACE WATER
SITE 1
NOTE: SEE SHEET 52 FOR -L1- PROFILE
REVISIONS
8/17/99
R:\Hydraulics\PERMITS_Environmental\Drawings\U4405_Hyd_prm_psh_04A_con.dgn

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-4405	X-160

PERMIT DRAWING
SHEET 4 OF 18

WETLANDS

97+50.00

97+00.00

3:1

195.15

96+50.00

SITE 1

96+00.00

95+50.00

95+00.00

-L1-

$$$$SYSTIME$$$$
$$$$SAVEDON$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-4405	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING
SHEET 5 OF 18
REVISED: 2/6/2018

NC GRID
NAD 83/NA 2011

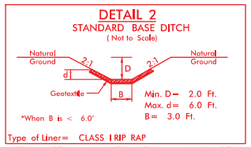
8/17/99

REVISIONS

-L-		
PIs Sta 81+21.39	PI Sta 84+71.94	PIs Sta 88+21.95
θs = 0° 27' 17.0"	Δ = 5° 45' 54.2" (RT)	θs = 0° 27' 17.0"
Ls = 100.00'	D = 0° 54' 34.0"	Ls = 100.00'
LT = 66.67'	L = 633.90'	LT = 66.67'
ST = 33.33'	T = 317.22'	ST = 33.33'
	R = 6,300.00'	
	SE = 0.025	

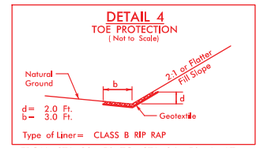
-Y5-
PI Sta 15+94.46
Δ = 34° 10' 44.0" (RT)
D = 10° 44' 58.8"
L = 317.95'
T = 163.86'
R = 533.00'

DETAIL 2
STANDARD BASE DITCH
(Not to Scale)



Type of Liner= CLASS I RIP RAP
FROM STA. 77+03 TO STA. 77+90 -L- RT
FROM STA. 78+76 TO STA. 78+95 -L- LT

DETAIL 4
TOE PROTECTION
(Not to Scale)



Type of Liner= CLASS B RIP RAP
FROM STA. 83+50 TO STA. 84+50 -L- LT

-Y5- PT Sta. 17+48.55

BEGIN CONSTRUCTION
-Y5- Sta. 19+60.00

-L- SC Sta. 81+54.72

-L- Sta.76+45.55 =
-Y5- Sta. 21+12.54

-Y5- PC
Sta. 21+62.48

-L- N 65° 39' 46.5"E

-L- TS Sta. 80+54.72

-L- CS Sta. 87+88.62

SITE 2
SEE ENLARGEMENT, THIS SHEET

SITE 2

73 WAL-MART REALESTATE BUSINESS TRUST DB 9449 PG 76 PB 134 PG 55

85 RAEFORD CORPORATE PARK PROPERTY OWNERS ASSOC. INC. DB 9374 PG 361 PB 132 PG 83

86 RAEFORD CROSSING LLC DB 8474 PG 295 PG 127 PG 185

91 RICHARD WILDER & WIFE ALICE DB 3249 PG 12

83 FRANCES H ELLIOT, TRUSTEE DB 7732 PG 470 DB 510 PG 319

84 FRANCES H ELLIOT, TRUSTEE DB 7732 PG 470 DB 2495 PG 254

87 SOUTH COAST PROPERTIES, LLC DB 5539 PG 783

88 JONATHAN H ELLIOT DB 7676 PG 794 DB 4960 PG 348

89 CROSS DEVELOPMENT CC RAEFORD LLC DB 10004 PG 653

90 STEPHEN M. CENTER & WIFE DB 4342 PG 504 PB 89 PG 122

CLASS II RIP RAP
EST 52 TONS
EST 50 SY
GEOTEXTILE

CLASS II RIP RAP
EST 95 TONS
EST 90 SY
GEOTEXTILE

CLASS B RIP RAP
EST 2 TONS
EST 7 SY
GEOTEXTILE

TOE PROTECTION
SEE DETAIL 4

JB w/MH
SEE SPECIAL DETAIL

STANDARD BASE DITCH
SEE DETAIL 2
EST DDE=20 CY
SLOPE=0.3%
EST 30 TONS
EST 45 SY GEOTEXTILE

STANDARD BASE DITCH
SEE DETAIL 2
EST DDE=150 CY
SLOPE=1.7%
EST 165 TONS
EST 350 SY GEOTEXTILE

CLASS II RIP RAP
EST 140 TONS
EST 105 SY GEOTEXTILE

CLASS II RIP RAP
EST 218 TONS
EST 210 SY GEOTEXTILE

COLLAR AND EXTEND

SPECIAL COLLAR AND EXTEND RCP CULVERTS ON BOTH ENDS (VARYING SLOPES)

300' UNIFORM LANE SHIFT

360° TAPER (LT. TURN)

150' LANE TAPER (RT. TURN)

DO NOT DISTURB SIGN

RETAIN EXISTING SIDEWALK

RETAIN SYSTEM

TIE TO EXIST

REMOVE

PROP. CONC. SIDEWALK

PROP. 1'-6" C&G

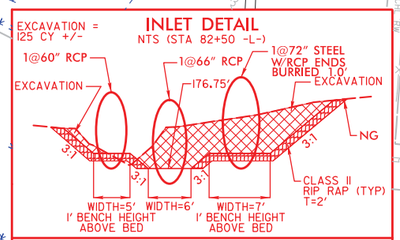
PROP. 2'-6" C&G

MATCHLINE SEE SHEET 8 -L- STA 74+75

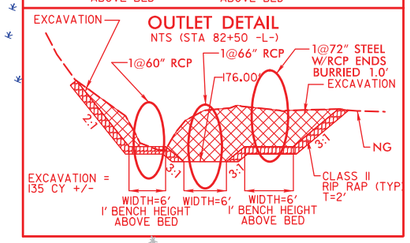
MATCHLINE SEE SHEET 10 -L- STA 88+00

MATCHLINE SEE SHEET 29 -Y5- STA 23+00

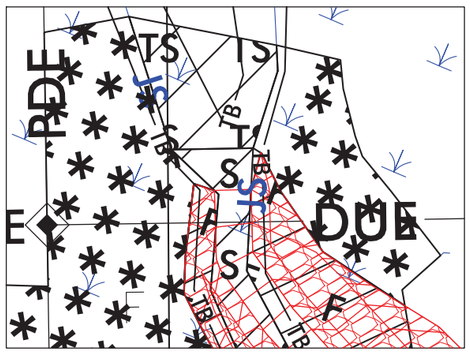
INLET DETAIL
NTS (STA 82+50 -L-)



OUTLET DETAIL
NTS (STA 82+50 -L-)



-Y5-
PI Sta 22+82.12
Δ = 25° 18' 13.3" (RT)
D = 10° 44' 58.8"
L = 235.39'
T = 119.65'
R = 533.00'
SE = 0.02



SITE 2 INLET

50' 0' 50' 100'
SCALE
200' 0' 200' 400'
INSET SCALE

DENOTES MECHANIZED CLEARING
DENOTES FILL IN WETLAND
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES IMPACTS IN SURFACE WATER
PROPOSED SIGNAL
PROP CONC SIDEWALK

** A DESIGN EXCEPTION FOR LANE WIDTH IS REQUIRED FOR -L- STA. 38+95.00 TO -L- 319+95.00

NOTE: SEE SHEET 35 FOR -L- PROFILE
SEE SHEET 46 FOR -Y5- PROFILE

5:00:31 PM
R:\Hydraulics\PERMITS_Environmental\Drawings\u4405_Hyd_prm_psh_09.dgn
erobeson

PROJECT REFERENCE NO.	SHEET NO.
U-4405	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING
SHEET 6 OF 18
REVISED: 2/6/2018

NC GRID
NAD 83/NA 2011

8/17/99
REVISIONS

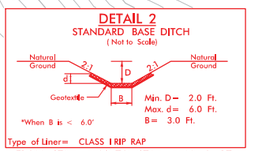
-L-

PIs Sta 81+21.39	PI Sta 84+71.94	PIs Sta 88+21.95
Θs = 0° 27' 17.0"	Δ = 5° 45' 54.2" (RT)	Θs = 0° 27' 17.0"
Ls = 100.00'	D = 0° 54' 34.0"	Ls = 100.00'
LT = 66.67'	L = 633.90'	LT = 66.67'
ST = 33.33'	T = 317.22'	ST = 33.33'
	R = 6,300.00'	
	SE = 0.025	

-Y5-

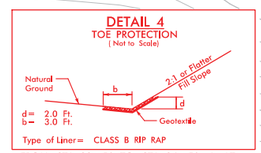
PI Sta 15+94.46
Δ = 34° 10' 44.0" (RT)
D = 10° 44' 58.8"
L = 317.95'
T = 163.86'
R = 533.00'

DETAIL 2
STANDARD BASE DITCH
(Not to Scale)



Type of Liner= CLASS I RIP RAP
FROM STA. 77+03 TO STA. 77+90 -L- RT
FROM STA. 78+76 TO STA. 78+95 -L- LT

DETAIL 4
TOE PROTECTION
(Not to Scale)



Type of Liner= CLASS B RIP RAP
FROM STA. 83+50 TO STA. 84+50 -L- LT

-Y5- PT Sta. 17+48.55

BEGIN CONSTRUCTION
-Y5- Sta. 19+60.00

-L- SC Sta. 81+54.72

-L- Sta. 76+45.55 = -Y5- Sta. 21+12.54

-Y5- PC Sta. 21+62.48

-L- N 65° 39' 46.5"E

-L- TS Sta. 80+54.72

-L- CS Sta. 87+88.62

SITE 2
SEE ENLARGEMENT THIS SHEET

SITE 2

73 WAL-MART REALESTATE BUSINESS TRUST DB 9449 PG 76 PB 134 PG 55

85 RAEFORD CORPORATE PARK PROPERTY OWNERS ASSOC. INC. DB 9374 PG 361 PB 132 PG 83

86 RAEFORD CROSSING LLC DB 8474 PG 355 PG 127 PG 185

91 RICHARD WILDER & WIFE ALICE DB 3249 PG 12

83 FRANCES H ELLIOT, TRUSTEE DB 7732 PG 470 DB 510 PG 319

84 FRANCES H ELLIOT, TRUSTEE DB 7732 PG 470 DB 2495 PG 254

87 SOUTH COAST PROPERTIES, LLC DB 5539 PG 783

88 JONATHAN H ELLIOT DB 7416 PG 794 DB 4960 PG 1348

89 CROSS DEVELOPMENT OC RAEFORD LLC DB 10004 PG 653

90 STEPHEN M. CENTER & WIFE DB 4342 PG 504 PB 89 PG 122

MATCHLINE SEE SHEET 8 -L- STA 74+75

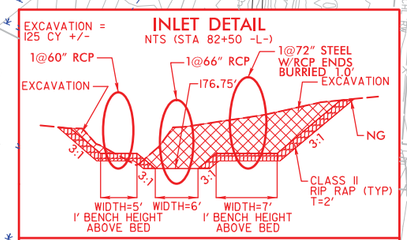
MATCHLINE SEE SHEET 29 -Y5- STA 23+00

MATCHLINE SEE SHEET 10 -L- STA 88+00

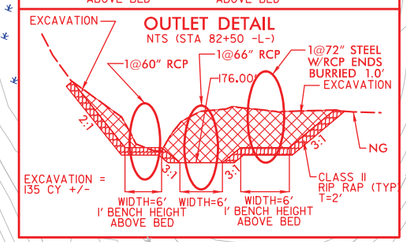
-Y5-

PI Sta 22+82.12
Δ = 25° 18' 13.3" (RT)
D = 10° 44' 58.8"
L = 235.39'
T = 119.65'
R = 533.00'
SE = 0.02

INLET DETAIL
NTS (STA 82+50 -L-)



OUTLET DETAIL
NTS (STA 82+50 -L-)



CLASS II RIP RAP
EST 52 TONS
EST 50 SY
GEOTEXTILE

CLASS II RIP RAP
EST 95 TONS
EST 90 SY
GEOTEXTILE

CLASS B RIP RAP
EST 2 TONS
EST 7 SY
GEOTEXTILE

CLASS II RIP RAP
EST 140 TONS
EST 105 SY GEOTEXTILE

CLASS II RIP RAP
EST 218 TONS
EST 210 SY GEOTEXTILE

STANDARD BASE DITCH
SEE DETAIL 2
EST DDE=20 CY
SLOPE=0.3%
EST 30 TONS
EST 45 SY GEOTEXTILE

STANDARD BASE DITCH
SEE DETAIL 2
EST DDE=150 CY
SLOPE=1.7%
EST 165 TONS
EST 350 SY GEOTEXTILE

TOE PROTECTION
SEE DETAIL 4

JB w/MH
SEE SPECIAL DETAIL

SPECIAL COLLAR AND EXTEND RCP CULVERTS ON BOTH ENDS (VARYING SLOPES)

COLLAR AND EXTEND

300' UNIFORM LANE SHIFT

150' LANE TAPER (RT TURN)

360' TAPER (LT TURN)

DO NOT DISTURB SIGN

RETAIN EXISTING SIDEWALK

RETAIN SYSTEM

TIE TO EXIST

REMOVE

PROP. CONC. SIDEWALK

PROP. 2'-6" C&G

PROP. 1'-6" C&G

TYPE 350

50' 0' 50' 100'
SCALE
200' 0' 200' 400'
INSET SCALE

DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER

PROPOSED SIGNAL

PROP CONC SIDEWALK

** *A DESIGN EXCEPTION FOR LANE WIDTH IS REQUIRED FOR -L- STA. 38+95.00 TO -L- 319+95.00*

SITE 2 INLET

NOTE: SEE SHEET 35 FOR -L- PROFILE
SEE SHEET 46 FOR -Y5- PROFILE

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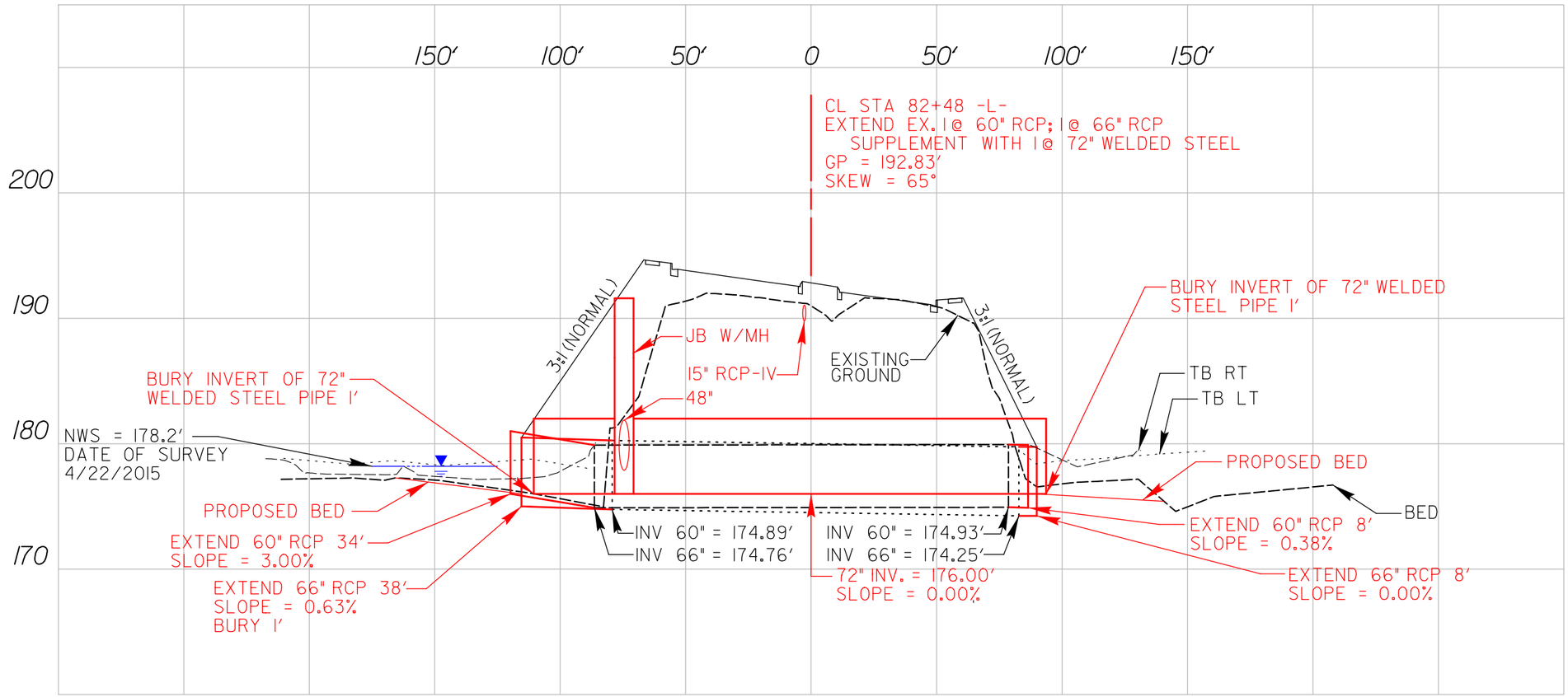
erobeson

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4405	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING SHEET 7 OF 18



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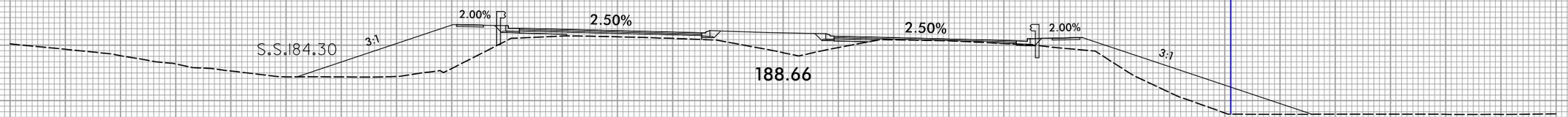
$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$$$



8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-4405	X-24

PERMIT DRAWING
SHEET 8 OF 18

$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

8/17/99

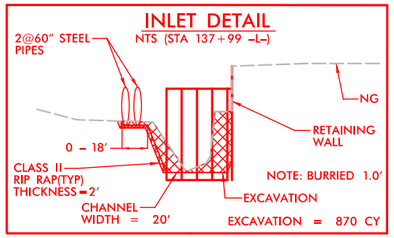
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-4405	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

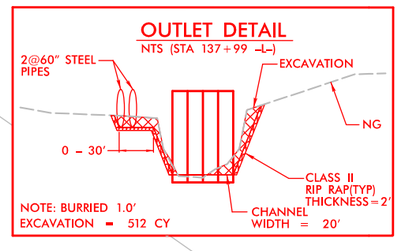
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

NC GRID
NAD 83/NA 2011

INLET DETAIL
NTS (STA 137+99 -L-)



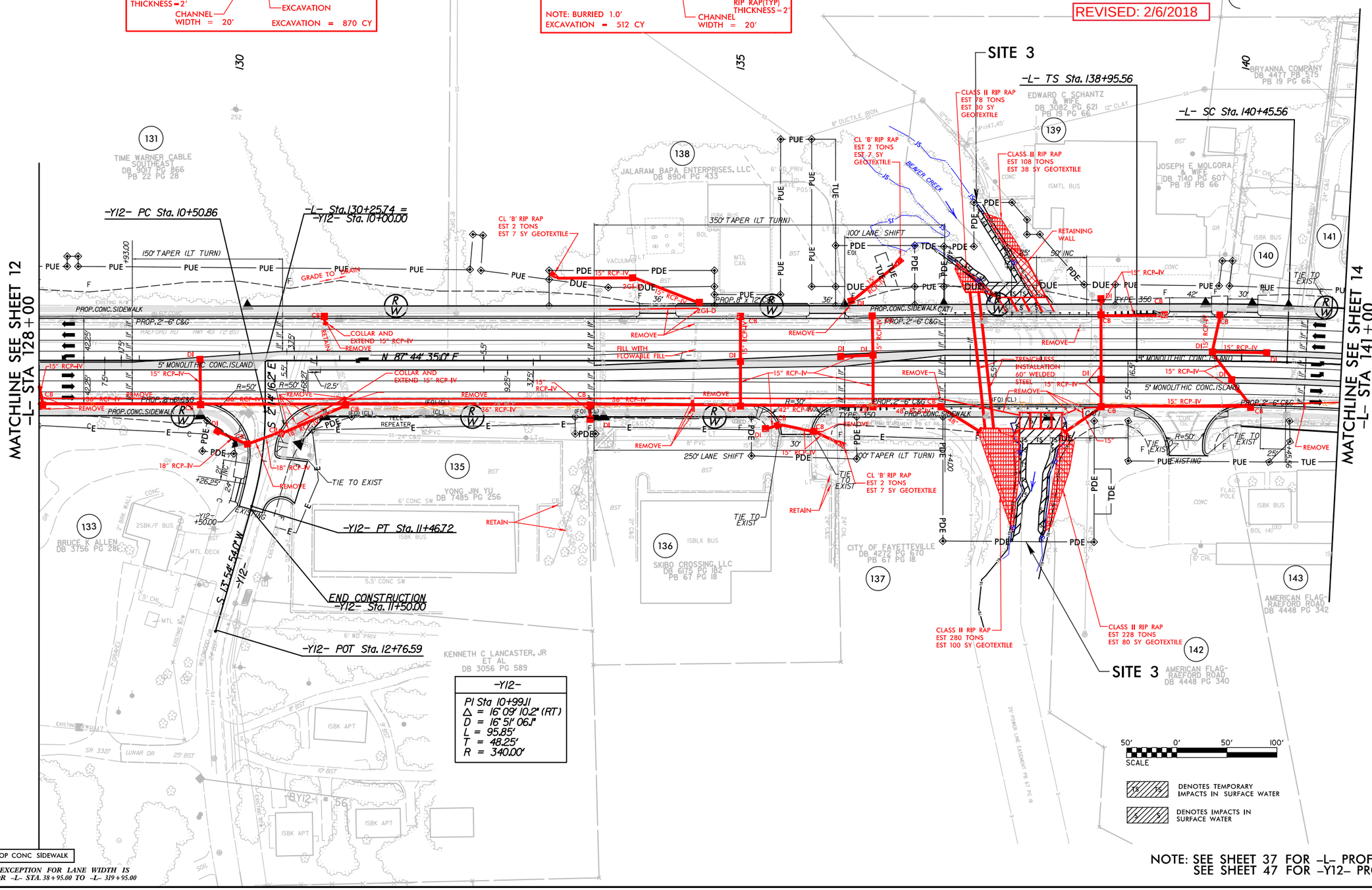
OUTLET DETAIL
NTS (STA 137+99 -L-)



-L-
PIs Sta 139+95.56
Θs = 1° 43' 07.9"
Ls = 150.00'
LT = 100.00'
ST = 50.00'
PI Sta 144+71.01
Δ = 19° 18' 58.8" (RT)
D = 2° 17' 30.6"
L = 842.83'
T = 425.45'
R = 2,500.00'
SE = 0.03

PERMIT DRAWING
SHEET 9 OF 18

REVISED: 2/6/2018



-Y12-
PI Sta 10+99.11
Δ = 16° 09' 10.2" (RT)
D = 16° 51' 06.1"
L = 95.85'
T = 48.25'
R = 340.00'

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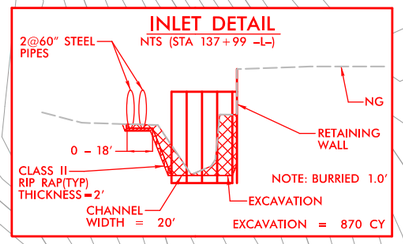
8/17/99

REVISIONS

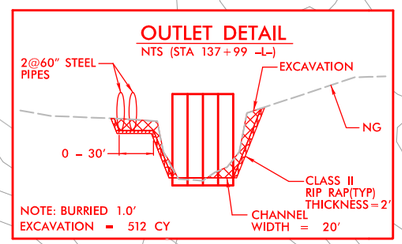
PROJECT REFERENCE NO.	SHEET NO.
U-4405	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

INLET DETAIL
NTS (STA 137+99 -L-)



OUTLET DETAIL
NTS (STA 137+99 -L-)



NC GRID
NAD 83/NA 2011

-L-	
PIs Sta 139+95.56	PI Sta 144+71.01
Θs = 1° 43' 07.9"	Δ = 19° 18' 58.8" (RT)
Ls = 150.00'	D = 2° 17' 30.6"
LT = 100.00'	L = 842.83'
ST = 50.00'	T = 425.45'
	R = 2,500.00'
	SE = 0.03

PERMIT DRAWING SHEET 10 OF 18

REVISED: 2/6/2018

MATCHLINE SEE SHEET 12 -L- STA 128+00

MATCHLINE SEE SHEET 14 -L- STA 141+00

SITE 3

-L- TS Sta. 138+95.56

-L- SC Sta. 140+45.56

-Y12- PC Sta. 10+50.86

-L- Sta.130+25.74 = -Y12- Sta. 10+00.00

-Y12- PT Sta. 11+46.72

END CONSTRUCTION -Y12- Sta. 11+50.00

-Y12- POT Sta. 12+76.59

-Y12-
PI Sta 10+99.11
Δ = 16° 09' 10.2" (RT)
D = 16° 51' 06.1"
L = 95.85'
T = 48.25'
R = 340.00'

PROP CONC SIDEWALK

** A DESIGN EXCEPTION FOR LANE WIDTH IS REQUIRED FOR -L- STA. 38+95.00 TO -L- 319+95.00

50' 0' 50' 100'
SCALE

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER

NOTE: SEE SHEET 37 FOR -L- PROFILE
SEE SHEET 47 FOR -Y12- PROFILE

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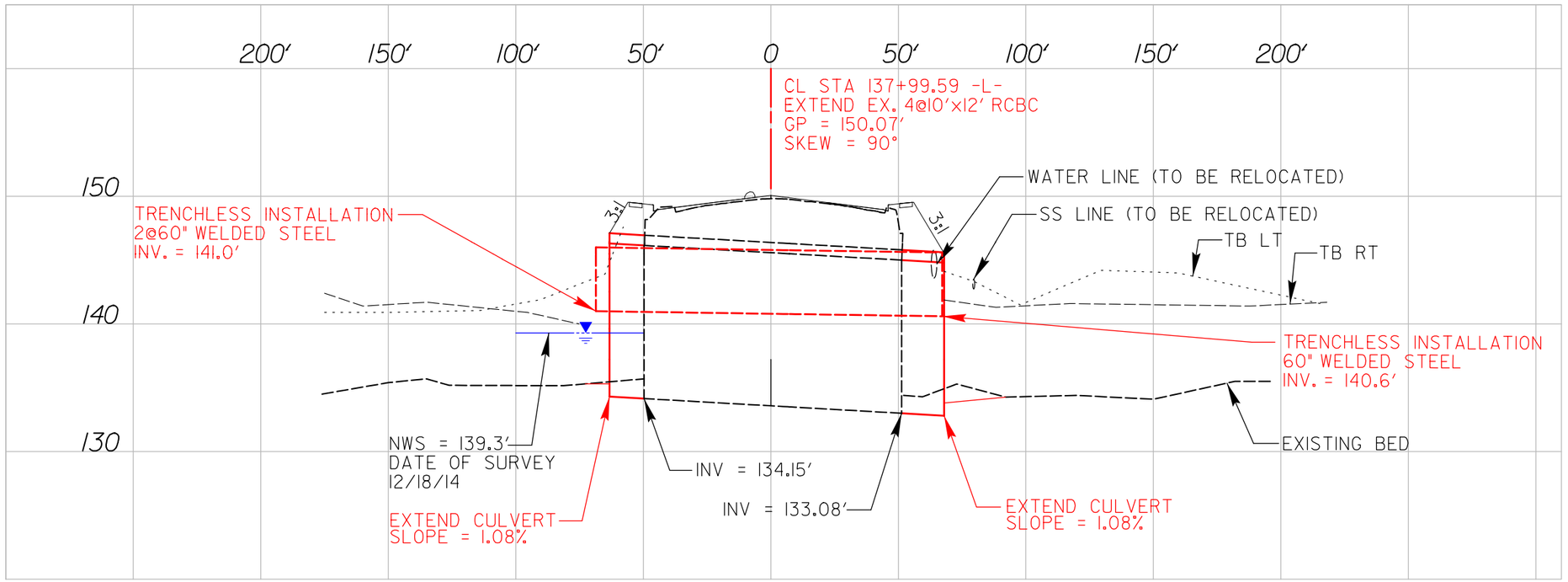
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4405	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING
SHEET 11 OF 18



PROJECT REFERENCE NO.	SHEET NO.
U-4405	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING SHEET 12 OF 18

REVISED: 2/6/2018

NAD 83/NA 2011
NC GRID

–L–			
PI Sta 144+71.01	PIs Sta 149+38.40	PIs Sta 153+04.56	PI Sta 155+10.17
Δ = 19° 18' 58.8" (RT)	Θs = 1° 43' 07.9"	Θs = 1° 14' 50.5"	Δ = 5° 10' 21.2" (LT)
D = 2° 17' 30.6"	Ls = 150.00'	Ls = 150.00'	D = 1° 39' 47.4"
L = 842.83'	LT = 100.00'	LT = 100.00'	L = 311.01'
T = 425.45'	ST = 50.00'	ST = 50.00'	T = 155.61'
R = 2,500.00'			R = 3,445.00'
SE = 0.03			SE = 0.03

BEGIN CONSTRUCTION
–Y13– Sta. 16+50.00

SITE 4
SEE ENLARGEMENT, THIS SHEET

SITE 4 INLET

–L– CS Sta. 148+88.39

–L– Sta. 148+21.72 =
–Y14– Sta. 10+00.00

–L– ST Sta. 150+38.39

–L– SC Sta. 153+54.56

–L– TS Sta. 152+04.56

END CONSTRUCTION
–Y14– Sta. 11+45.00

–Y14– POT Sta. 11+89.87

MATCHLINE SEE SHEET 13
–L– STA 141+00

MATCHLINE SEE SHEET 15
–L– STA 154+00

–L– Sta. 142+66.31 =
–Y13– Sta. 20+11.93

SCALE 50' 0' 50' 100'

INSET SCALE 100' 0' 100' 200'

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER

PROPOSED SIGNAL

PROP CONC SIDEWALK

** *A DESIGN EXCEPTION FOR LANE WIDTH IS REQUIRED FOR –L– STA. 38+95.00 TO –L– 319+95.00*

INLET DETAIL
NTS (STA 143+37 –L–)

EXCAVATION = 257 CY

VARIES 9'–26'
1.5' BENCH HEIGHT
ABOVE BED

CHANNEL WIDTH = 8'
138.5'

CLASS II RIP RAP T = 2'

1@72" STEEL W/RCP ENDS BURIED 1.0'
2@72" RCP EXTENSIONS
EXCAVATION
NG
2:1

OUTLET DETAIL
NTS (STA 143+37 –L–)

EXCAVATION = 342 CY

VARIES 3'–23'
1.5' BENCH HEIGHT
ABOVE BED

CHANNEL WIDTH = 8'
137.2'

CLASS II RIP RAP T = 2'

1@72" STEEL W/RCP ENDS BURIED 1.0'
2@72" RCP
EXCAVATION
NG
2:1

NOTE: SEE SHEET 37 & 38 FOR –L– PROFILE
SEE SHEET 47 FOR –Y13– PROFILE
SEE SHEET 48 FOR –Y14– PROFILE

REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-4405	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

NAD 83/NA 2011
NC GRID

PERMIT DRAWING
SHEET 13 OF 18
REVISED: 2/6/2018

–L–

PI Sta 144+71.01	PIs Sta 149+38.40	PIs Sta 153+04.56	PI Sta 155+10.17
Δ = 19° 18' 58.8" (RT)	Θs = 1° 43' 07.9"	Θs = 1° 14' 50.5"	Δ = 5° 10' 21.2" (LT)
D = 2° 17' 30.6"	Ls = 150.00'	Ls = 150.00'	D = 1° 39' 47.4"
L = 842.83'	LT = 100.00'	LT = 100.00'	L = 311.01'
T = 425.45'	ST = 50.00'	ST = 50.00'	T = 155.61'
R = 2,500.00'			R = 3,445.00'
SE = 0.03			SE = 0.03

REVISIONS

8/17/99

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erichberger

SITE 4
SEE ENLARGEMENT, THIS SHEET

SITE 4 INLET

SITE 4

–L– Sta.142+66.31 =
–Y13– Sta. 20+11.93

BEGIN CONSTRUCTION
–Y13– Sta. 16+50.00

–L– CS Sta. 148+88.39

–L– Sta.148+21.72 =
–Y14– Sta. 10+00.00

–L– ST Sta. 150+38.39

–L– SC Sta. 153+54.56

–L– TS Sta. 152+04.56

END CONSTRUCTION
–Y14– Sta. 11+45.00

–Y14– POT Sta. 11+89.87

MATCHLINE SEE SHEET 13
–L– STA 141+00

MATCHLINE SEE SHEET 15
–L– STA 154+00

S 43° 34' 14.2" W

S 69° 30' 10.3" E

S 52° 28' 0.3" W

50' 0' 50' 100'
SCALE

100' 0' 100' 200'
INSET SCALE

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

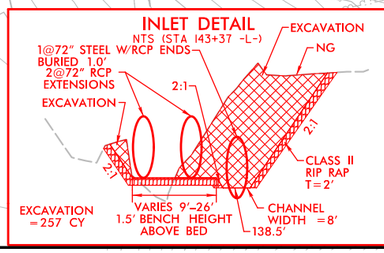
DENOTES IMPACTS IN SURFACE WATER

PROPOSED SIGNAL

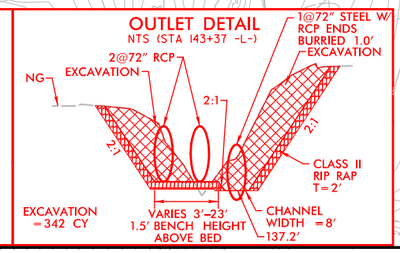
PROP CONC SIDEWALK

** *A DESIGN EXCEPTION FOR LANE WIDTH IS REQUIRED FOR –L– STA. 38+95.00 TO –L– 319+95.00*

INLET DETAIL
NTS (STA 143+37 –L–)



OUTLET DETAIL
NTS (STA 143+37 –L–)



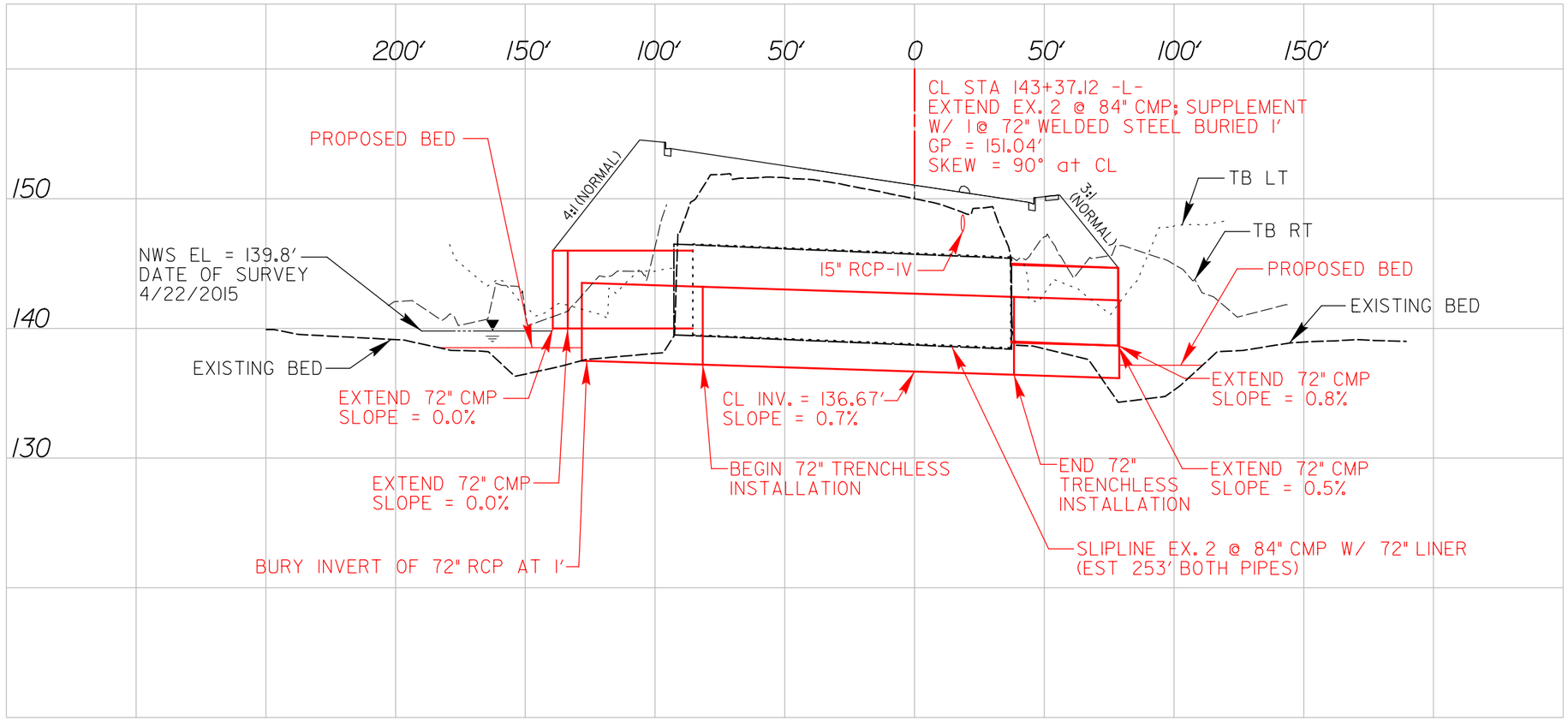
NOTE: SEE SHEET 37 & 38 FOR –L– PROFILE
SEE SHEET 47 FOR –Y13– PROFILE
SEE SHEET 48 FOR –Y14– PROFILE

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4405	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING
SHEET 14 OF 18



$$$$USERNAME$$$$
$$$$DESIGN$$$$
$$$$SYSTIME$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-4405	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING SHEET 15 OF 18

REVISED: 2/6/2018

NC GRID
NAD 83/NA 2011

8/17/99

REVISIONS

-L-
PI Sta 220+67.31
Δ = 1° 04' 31.9" (LT)
D = 0° 34' 22.6"
L = 187.71'
T = 93.86'
R = 10,000.00'
SE = NC

-L- PT Sta. 221+61.17

-L- PC Sta. 219+73.45

SITE 5
SEE ENLARGEMENT, THIS SHEET

SITE 5 INLET

FLOODPLAIN BENCH W/
CLASS II RIP RAP
146 TONS
188 SY GEOTEXTILE

CLASS II RIP RAP
25 TONS
32 SY GEOTEXTILE

NORWOOD E BRYAN, JR & DAVID C BRYAN DB 2389 PG 719

-L- Sta. 229+68.64 = -Y25- Sta. 10+00.00

MATCHLINE SEE SHEET 19 -L- STA 218+50

MATCHLINE SEE SHEET 21 -L- STA 231+50

N 87° 34' 14.6" E

N 86° 29' 42.7" E

S 3° 44' 47.0" E

-Y25-

END CONSTRUCTION -Y25- Sta. 11+75.00

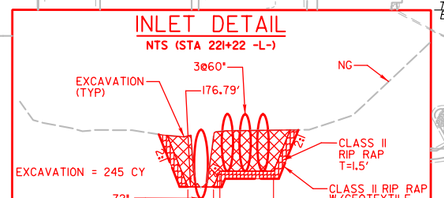
-Y25- POT Sta. 14+51.24

SITE 5

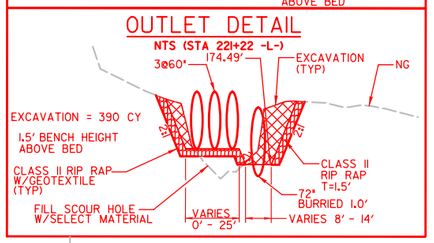
FLOODPLAIN BENCH W/
CLASS II RIP RAP
397 TONS
420 SY GEOTEXTILE

CLASS II RIP RAP
178 TONS
188 SY GEOTEXTILE

INLET DETAIL
NTS (STA 221+22 -L-)



OUTLET DETAIL
NTS (STA 221+22 -L-)



SCALE
50' 0' 50' 100'
INSET SCALE
100' 0' 100' 200'

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER

PROPOSED SIGNAL

PROP CONC SIDEWALK

** *A DESIGN EXCEPTION FOR LANE WIDTH IS REQUIRED FOR -L- STA. 38+95.00 TO -L- 319+95.00*

NOTE: SEE SHEET 40 FOR -L- PROFILE
SEE SHEET 48 FOR -Y25- PROFILE

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erichberger

PROJECT REFERENCE NO.	SHEET NO.
U-4405	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING SHEET 16 OF 18

REVISED: 2/6/2018

8/17/99

REVISIONS

-L-
PI Sta 220+67.31
Δ = 1° 04' 31.9" (LT)
D = 0° 34' 22.6"
L = 187.71'
T = 93.86'
R = 10,000.00'
SE = NC

NC GRID
NAD 83/NA 2011

-L- PT Sta. 221+61.17

-L- PC Sta. 219+73.45

SITE 5
SEE ENLARGEMENT, THIS SHEET

SITE 5 INLET

MATCHLINE SEE SHEET 19
-L- STA 218+50

MATCHLINE SEE SHEET 21
-L- STA 231+50

N 87° 34' 14.6" E

N 86° 29' 42.7" E

S 3° 44' 47.0" E

-Y25-

-L- Sta. 229+68.64 =
-Y25- Sta. 10+00.00

END CONSTRUCTION
-Y25- Sta. 11+75.00

-Y25- POT Sta. 14+51.24

NORWOOD E BRYAN, JR & DAVID C BRYAN DB 2389 PG 719

JOHN M TEW & WIFE SARAH N DB 23246 PG 1171

VINCENT A VAN BELOIS & WIFE DB 3364 PG 865

RREF HBB-NC, LLC DB 9368 PG 66

NCP FAYETTEVILLE, LLC DB 6243 PG 562

IRELAND CROSSING, INC DB 4261 PG 210 PB 86 PG 110

IRELAND CROSSING, INC DB 4262 PG 371 PB 73 PG 61

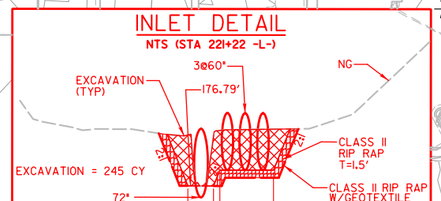
FLOODPLAIN BENCH W/ CLASS II RIP RAP 146 TONS 188 SY GEOTEXTILE

CLASS II RIP RAP 25 TONS 32 SY GEOTEXTILE

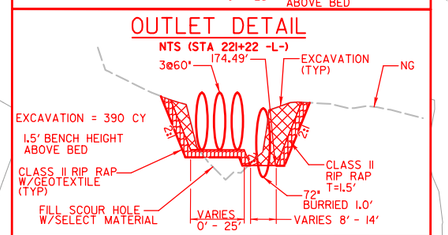
FLOODPLAIN BENCH W/ CLASS II RIP RAP 397 TONS 420 SY GEOTEXTILE

CLASS II RIP RAP 178 TONS 188 SY GEOTEXTILE

INLET DETAIL
NTS (STA 221+22 -L-)



OUTLET DETAIL
NTS (STA 221+22 -L-)



SCALE 50' 0' 50' 100'

INSET SCALE 100' 0' 100' 200'

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER

PROPOSED SIGNAL

PROP CONC SIDEWALK

** *A DESIGN EXCEPTION FOR LANE WIDTH IS REQUIRED FOR -L- STA. 38+95.00 TO -L- 319+95.00*

NOTE: SEE SHEET 40 FOR -L- PROFILE
SEE SHEET 48 FOR -Y25- PROFILE

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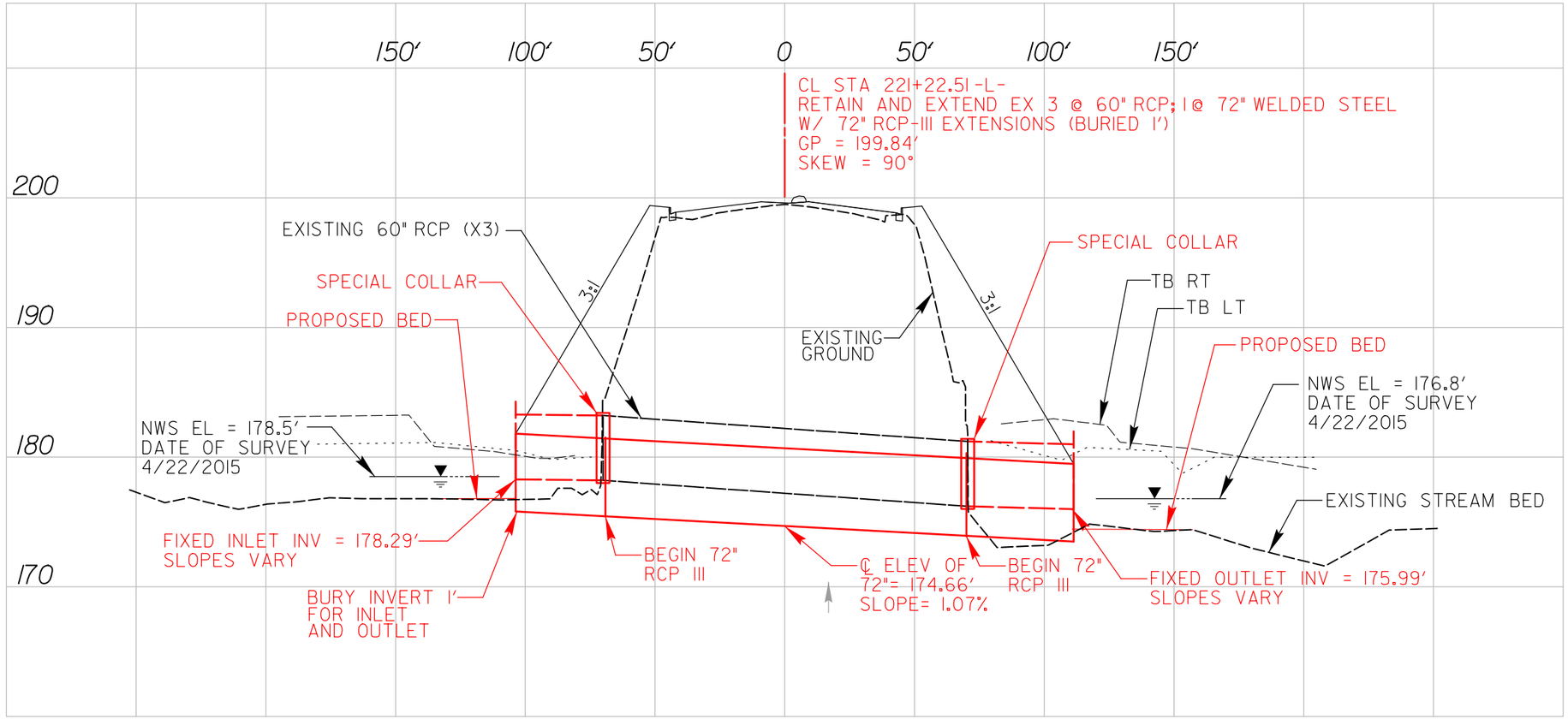
erichberger

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4405	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING
SHEET 17 OF 18



$$$$SYSTIME$$$$ $$$$DGN$$$$
$$$$USERNAME$$$$

WETLAND AND SURACE 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	-L1- 96+44/96+82 LT	EXTENSION OF 2@48" RCP						< 0.01	< 0.01	8	43	
2	-L- 81+47/84+92 RT & LT	EXTENSION OF 1@60", 1@66" RCP & 1@72" TRENCHLESS WELDED STEEL	0.10			0.10		0.03	0.04	201	41	
3	-L- 137+03/138+25 RT & LT	EXTENSION OF 4@10'X12' RCBC & 2@60" TRENCHLESS WELDED STEEL						0.03	0.03	33	42	
	BANK STABLIIZATION	EXTENSION OF 4@10'X12' RCBC & 2@60" TRENCHLESS WELDED STEEL								176	171	
4	-L- 143+03/144+02 RT &LT	SLIPLINE EX. 2@84" CMP W/ 72" LINER & 1@72" TRENCHLESS WELDED STEEL						0.07	< 0.01	216	51	
5	-L- 143+03/144+02 RT &LT	EXTENSION OF 3@60" RCP & 1@72" TRENCHLESS WELDED STEEL						0.09	0.02	206	27	
TOTALS*:			0.10			0.10		0.22	0.11	840	375	0

*Rounded totals are sum of actual impacts

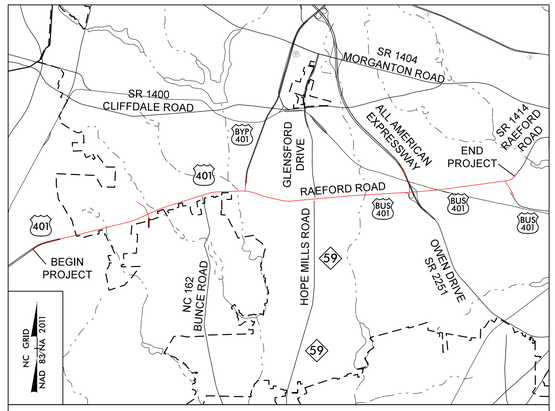
NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
REVISED 2/6/2018
CUMBERLAND COUNTY
U-4405
39049.1.1

Revised 2018 02 06

09/08/99

TIP PROJECT: U-4405



VICINITY MAP

90% PLANS

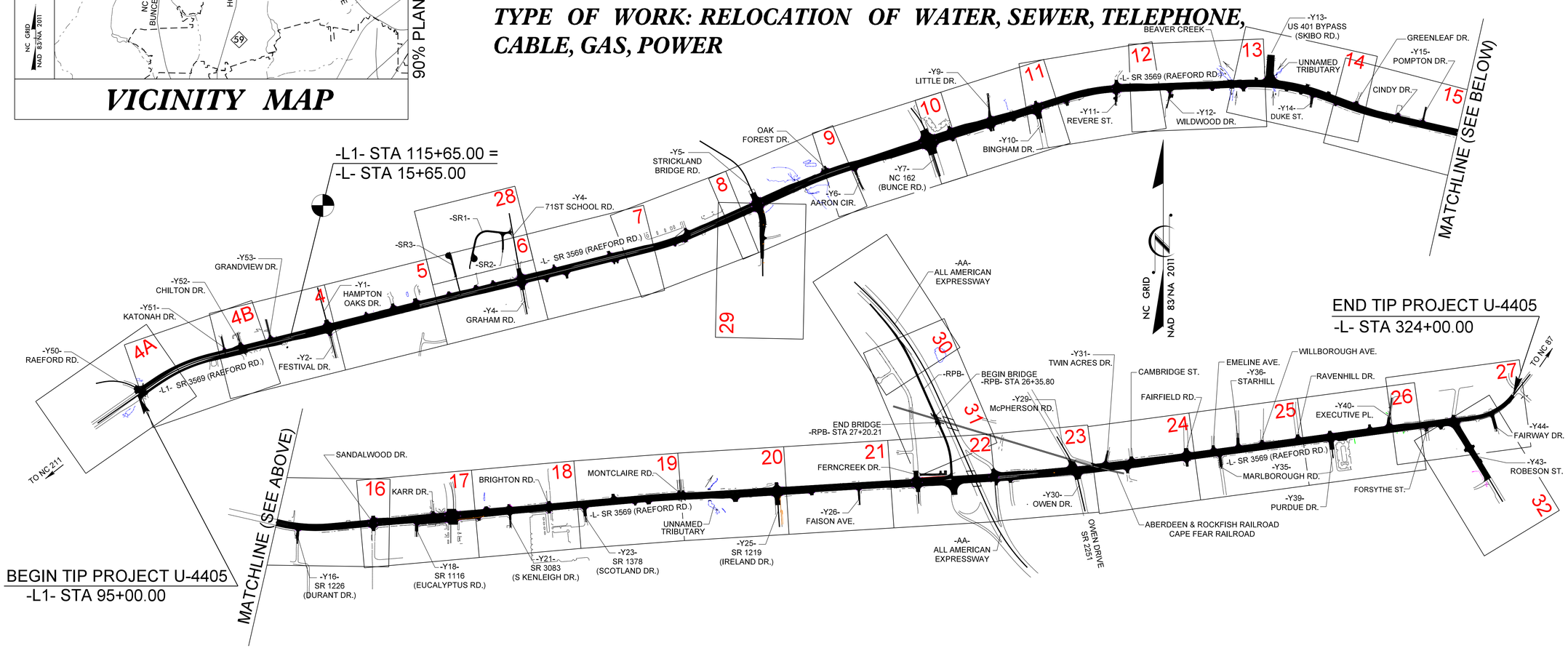
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
U–4405	UE–1

NEU PERMIT PLANS
CUMBERLAND COUNTY

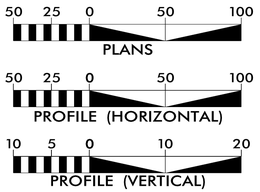
LOCATION: US 401 FROM WEST OF HAMPTON OAKS DRIVE TO EAST OF FAIRWAY DRIVE IN FAYETTEVILLE

TYPE OF WORK: RELOCATION OF WATER, SEWER, TELEPHONE, CABLE, GAS, POWER



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



INDEX OF SHEETS

UTILITY OWNERS WITH CONFLICTS

(A) WATER – PWC WATER AND SEWER
(B) SEWER – PWC WATER AND SEWER
(C) POWER – PWC POWER
(D) TELEPHONE – CENTURYLINK
(E) CABLE – SPECTRUM
(F) POWER – PWC POWER
(G) GAS – PIEDMONT NATURAL GAS
(H) WATER – AQUA INC.

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

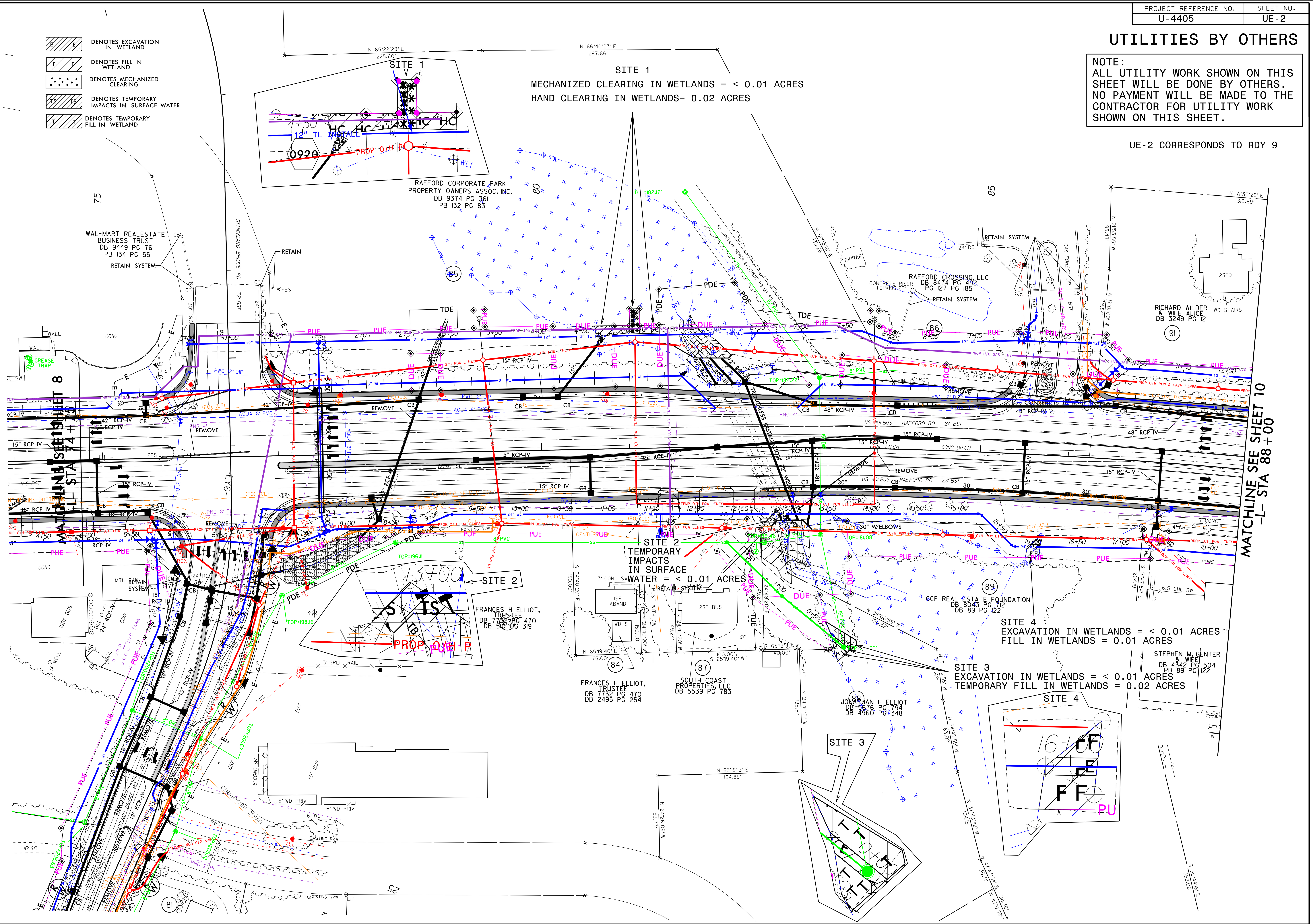
BO HEMPHILL, P.E.	UTILITIES REGIONAL ENGINEER
KELVIN MARTIN	UTILITIES ENGINEER
KYLE PLEASANT	UTILITIES AREA COORDINATOR
LARRY JAMES JR.	UTILITIES COORDINATOR

PROJECT REFERENCE NO.	SHEET NO.
U-4405	UE-2

UTILITIES BY OTHERS

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.

UE-2 CORRESPONDS TO RDY 9

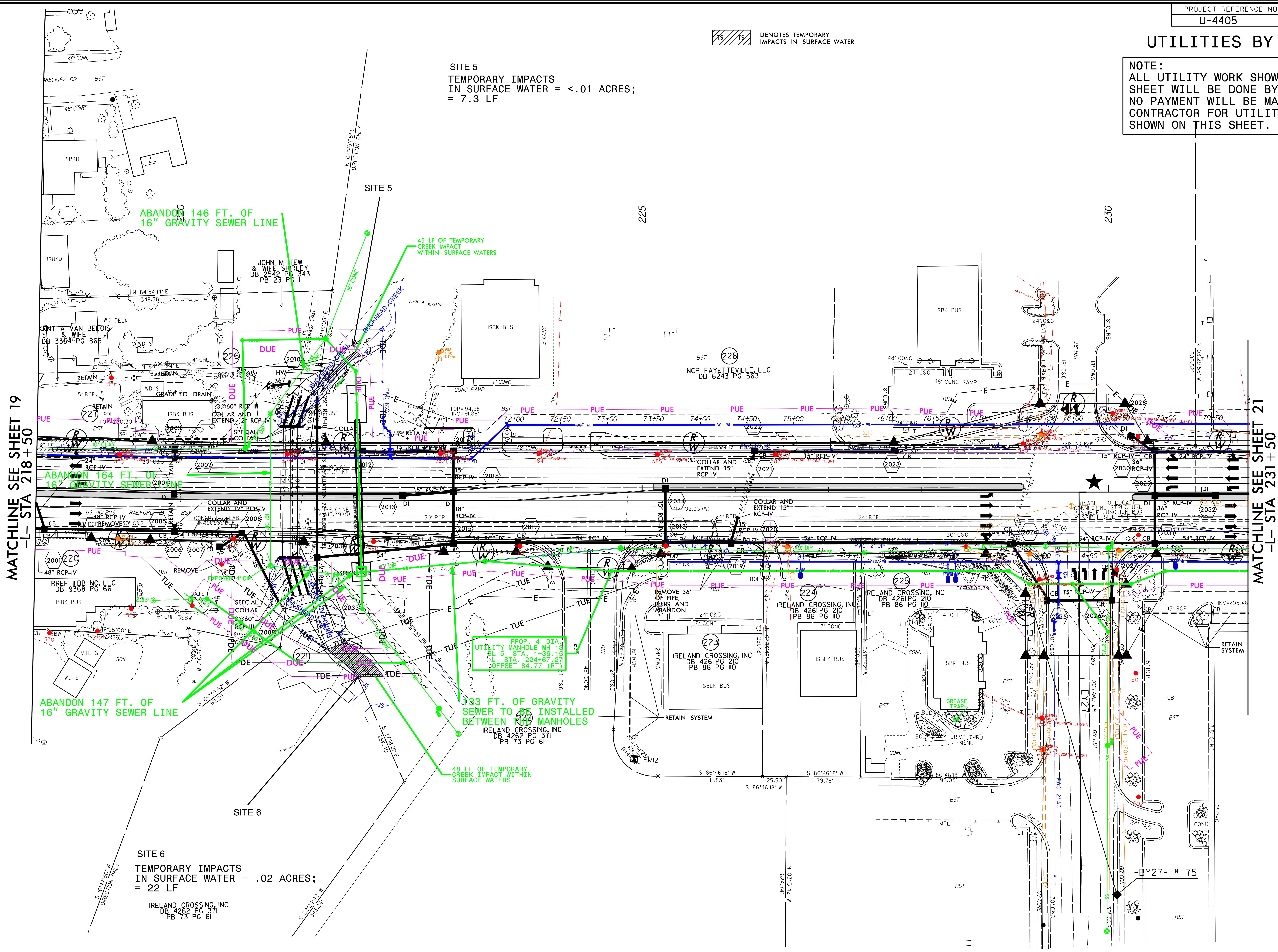


DENOTES EXCAVATION IN WETLAND
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES TEMPORARY FILL IN WETLAND
SITE 1
MECHANIZED CLEARING IN WETLANDS = < 0.01 ACRES
HAND CLEARING IN WETLANDS= 0.02 ACRES
SITE 2
TEMPORARY IMPACTS IN SURFACE WATER = < 0.01 ACRES
SITE 3
EXCAVATION IN WETLANDS = < 0.01 ACRES
TEMPORARY FILL IN WETLANDS = 0.02 ACRES
SITE 4
EXCAVATION IN WETLANDS = < 0.01 ACRES
FILL IN WETLANDS = 0.01 ACRES
MATCHLINE SEE SHEET 8 -L- STA 74+75
MATCHLINE SEE SHEET 10 -L- STA 88+00
RAEFORD CORPORATE PARK PROPERTY OWNERS ASSOC. INC. DB 9374 PG 361 PB 132 PG 83
WAL-MART REALESTATE BUSINESS TRUST DB 9449 PG 76 PB 134 PG 55
RAEFORD CROSSING, LLC DB 8474 PG 492 PG 127 PG 185
RICHARD WILDER & WIFE ALICE DB 3249 PG 12
FRANCES H ELLIOT, TRUSTEE DB 7732 PG 470 DB 2495 PG 254
SOUTH COAST PROPERTIES, LLC DB 5539 PG 783
JONATHAN H ELLIOT DB 5676 PG 794 DB 4960 PG 348
CCF REAL ESTATE FOUNDATION DB 8043 PG 712 DB 89 PG 122
STEPHEN M. CENTER & WIFE DB 4342 PG 504 PB 89 PG 122
US 401 BUS RAEFORD RD
STRICKLAND BRIDGE RD
24-OCT-2017 11:46

PROJECT REFERENCE NO.	SHEET NO.
U-4405	UE-5

UTILITIES BY OTHERS

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.



DENOTES TEMPORARY IMPACTS IN SURFACE WATER
SITE 5
TEMPORARY IMPACTS IN SURFACE WATER = <.01 ACRES; = 7.3 LF
SITE 5
ABANDON 146 FT. OF 16" GRAVITY SEWER LINE
45 LF OF TEMPORARY CREEK IMPACT WITHIN SURFACE WATERS
JOHN M TEW & WIFE SHIRLEY DB 2542 PG 343 PB 23 PG 1
KENT A VAN BELOIS & WIFE DB 3364 PG 865
NCP FAYETTEVILLE, LLC DB 6243 PG 563
MATCHLINE SEE SHEET 19 -L- STA 218+50
MATCHLINE SEE SHEET 21 -L- STA 231+50
ABANDON 164 FT. OF 16" GRAVITY SEWER LINE
RREF II BB-NC, LLC DB 9368 PG 66
PROP. 4' DIA. UTILITY MANHOLE MH-13 -SL-5- STA. 1+36.15 -L- STA. 224+67.27 OFFSET 84.77 (RT)
ABANDON 147 FT. OF 16" GRAVITY SEWER LINE
133 FT. OF GRAVITY SEWER TO BE INSTALLED BETWEEN THE MANHOLES
IRELAND CROSSING, INC DB 4262 PG 371 PB 73 PG 61
48 LF OF TEMPORARY CREEK IMPACT WITHIN SURFACE WATERS
REMOVE 36" OF PIPE, PLUG AND ABANDON
IRELAND CROSSING, INC DB 4261 PG 210 PB 86 PG 110
RETAIN SYSTEM
UNABLE TO LOCATE CONNECTING STRUCTURE POSSIBLE JUNCTION BOX POSSIBLE SIDE PIPE TIE
SITE 6
SITE 6
TEMPORARY IMPACTS IN SURFACE WATER = .02 ACRES; = 22 LF
IRELAND CROSSING, INC DB 4262 PG 371 PB 73 PG 61
-BY27- # 75

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	WETLAND IMPACTS: Temp. Fill In Wetlands (ac)	WETLAND IMPACTS: Excavation in Wetlands (ac)	WETLAND IMPACTS: Mechanized Clearing in Wetlands (ac)	WETLAND IMPACTS: Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	SURFACE WATER IMPACTS: Temp. SW impacts (ac)	SURFACE WATER IMPACTS: Existing Channel Impacts Permanent (ft)	SURFACE WATER IMPACTS: Existing Channel Impacts Temp. (ft)	SURFACE WATER IMPACTS: Natural Stream Design (ft)
U1	80+33 to 81+36 -L-	Water/Power Line				< 0.01	0.02					
U2	82+54 to 82+88 -L-	Water Line							< 0.01			
U3	83+24 to 83+63 -L-	Sewer Line		0.02	< 0.01							
U4	85+57 to 85+74 -L-	Water Line	0.01		< 0.01							
U5	221.52 to 222+01	Sewer Line							< 0.01		45	
U6	221+59 to 222+28	Sewer Line							0.02		48	
TOTALS*:			0.01	0.02	< 0.01	< 0.01	0.02		0.03	0	93	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
10/24/17
CUMBERLAND
U-4405
39049.1.1