STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

February 28, 2023

MEMORANDUM TO: Division Environmental and Construction Units

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

SUBJECT: Environmental Permits for the Improvements to US 401 in Cumberland County, Division 6, **TIP: U-4405.**

The following approvals have been received for this project:

Agency	Permit Type	Date	Permit Expiration
US Army Corps of Engineers Section 404 Clean Water Act Permit	Regional General Permit 50	February 13, 2023	May 25, 2025
	Nationwide 12 & 14	December 1, 2017	Expired, but retained as referenced in 2/13/2023 permit.
NC Division of Water Resources Section 401 Water Quality Certification	General Certification No. 4135 [RGP50]	January 20, 2023	May 25, 2025
	General Certification No. 4086 [NWP 12] 4088 [NWP 14]	March 15, 2018	Expired, but retained as referenced in 1/20/2023 certification.

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/

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

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

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610

PROJECT COMMITMENTS

T.I.P Project No. U-4405
US 401 (Raeford Road) from Old Raeford Road
To East of Fairway Drive in Fayetteville
Cumberland County
Federal Aid Project No. STPDA-0401(230)
WBS Element 39049.1.1

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

Local Programs Management Unit
At the request of the City of Fayetteville, NCDOT will enter into a municipal agreement with the city to fund construction of five-foot sidewalks on both sides of the US 401 (Raeford Road) Road corridor. Under this municipal cost share agreement, the City of Fayetteville will be responsible for fifty percent of the additional cost and will be responsible for maintenance of the pedestrian facilities upon completion of the project.

PDEA – Human Environment Section, Traffic Noise and Air Quality Group
One noise barrier at the All American Expressway proposed off-ramp meets preliminary feasible and reasonable criteria found in the NCDOT Traffic Noise Abatement Policy. A more detailed analysis of this potential noise wall will be completed during project final design.

PDEA – Human Environment Section, Historic Architecture Group
NCDOT has shifted the alignment away from the Lindy's (Former A&W) historic property, and only one driveway will be provided to the property from US 401 (Raeford Road). The property sign will be moved towards the side street.

Roadway Design/ Right of Way/ Division 6 Construction
NCDOT has shifted the alignment away from Lafayette Lanes Bowling Alley property. New sidewalk will be outside the historic boundary. A small permanent utility easement (PUE) for an anchoring guywire allowed; temporary construction easement will be acceptable. Removal of parking or impact to the structure is not allowed.

Division 6 Construction
NCDOT will make sure to install tree protection (standard orange fencing) on Seventy First Consolidate School (CD0519-NR) property during construction (in southern half of the property along western boundary). Remove all existing asphalt sections not otherwise incorporated into new roadways as indicated on plans within the Seventy First Consolidated School Property.

COMMITMENTS FROM PERMITTING

Division 6 Construction/ Utilities Unit/ Roadside Environmental Unit

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.

Division 6 Construction/ Utilities Unit/ Roadside Environmental Unit

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.

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

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

GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION

Permittee: **Michael Turchy**
NC Department of Transportation
Address: **Natural Environment Unit**
Raleigh NC, 27699-1598
Telephone Number: **919.707.6111 (J. Dilday)**

Size (acres) **N/A** Nearest Town **Fayetteville**
Nearest Waterway **Beaver Creek** River Basin **Cape Fear**
USGS HUC **03030004** Coordinates Latitude: **35.0413189656353;** Longitude: **-78.9624331673919**
Location description: **US 401, from SR 1409 (71st School Road) to US 401 Business (Robeson Street), in Fayetteville, NC.**

Description of projects area and activity: **TIP U-4405; Improvements to US 401; 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. Some parts of the roadway may have to be widened/"bulbed out" to allow for turning around. Note: this reverification authorizes an additional 1 linear foot of permanent tributary loss, and 73 linear feet of temporary impact (dewatering). NCDMS has previously accepted responsibility for required mitigation (previous NWP authorization) by signed Mitigation Responsibility Transfer form. No additional mitigation is required for the revised impacts.**

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

Authorization: Regional General Permit Number: **GP 50 - NCDOT - Bridge, Road Widenings and Interchanges**
SEE ATTACHED RGP GENERAL, REGIONAL AND/OR 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 dated September 26, 2011, subsequent revisions, including the latest on December 19, 2022, and attached information. 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 and/or regional general permit authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide and/or regional general 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 and/or regional general 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 and/or regional general permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide and/or regional general 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.

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 **Eric Alsmeyer at (919) 817-1570 or Eric.C.Alsmeyer@usace.army.mil**.

Corps Regulatory Official: Monte Matthews 2023.02.13 13:05:06 -05'00' Date: **February 13, 2023**
Expiration Date of Verification: **May 25, 2025**

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 https://regulatory.ops.usace.army.mil/customer-service-survey/

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

Permittee: Michael Turchy
NC Department of Transportation

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

Date Verification Issued: February 13, 2023

Project Manager: Eric Alsmeyer

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: Eric Alsmeyer
Raleigh Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587
919.554.4884, Ext. 23

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**

ROY COOPER
Governor
ELIZABETH S. BISER
Secretary
RICHARD E. ROGERS, JR.
Director

NORTH CAROLINA
Environmental Quality

January 20, 2023

Mr. Jamie Lancaster
Environment Analysis Unit Head
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598

Subject: RE-ISSUE OF 401 WATER QUALITY CERTIFICATION WITH ADDITIONAL CONDITIONS for the purpose of Improvements to US Highway 401 (Raeford Road) from west of Hampton Oaks Drive to east of Fairway Drive in Cumberland County, STIP U-4405.
NCDWR Project No. 20171365 v.3

Dear Mr. Lancaster:

This certification re-issues the original certification issued on November 15, 2017 and modified on March 15, 2018. You have our approval for the impacts listed below for Improvements to US Highway 401 (Raeford Road) from west of Hampton Oaks Drive to east of Fairway Drive in Cumberland County. All the authorized activities and conditions associated with the original Water Quality Certification dated November 15, 2017 and modified March 15, 2018, still apply except where superseded by this certification.

These impacts are covered by the attached Water Quality General Certification Number 4135 and the conditions listed below. This certification is associated with the use of the Regional General Permit Number 50 once it is issued to you by the U.S. Army Corps of Engineers. Please note that you should get any other federal, state or local permits before proceeding with your project, including those required by (but not limited to) Sediment and Erosion Control, Non-Discharge, and Water Supply Watershed regulations.
The Division has determined that the proposed project will comply with water quality requirements provided that you adhere to the conditions listed in the enclosed certification and to the additional conditions itemized below.
The following proposed impacts are hereby approved. No other impacts are approved, including incidental impacts. [15A NCAC 02H .0506(b)]

Stream Impacts in the Cape Fear River Basin

Site	Permanent Fill in Intermittent Stream (lf)	Temporary Fill in Intermittent Stream (lf)	Permanent Fill in Perennial Stream (lf)	Temporary Fill in Perennial Stream (lf)	Total Impacts (lf)
Site 1	---	---	8	43	51
Site 2	---	---	201	41	242
Site 3	---	---	33	42	75
Site 3b (stabilization)	---	---	176	171	347
Site 4	---	---	216	51	267
Site 5	---	---	207	100	307
Site U5	---	---	---	45	45
Site U6	---	---	---	48	48
Total	---	---	841	541	1382

Total Stream Impacts for Project: 1382 linear feet (permanent impacts: 841f)
Bank stabilization does not count toward permanent impacts

Wetland Impacts in the Cape Fear River Basin

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impacts (ac)
Site 2	0.100	---	---	0.100	---	0.200
Site U1	0.007	---	---	---	---	0.007
Site U3	---	0.023	---	---	---	0.023
Site U4	0.012	---	---	---	---	0.012
Site U	---	---	---	---	0.020	0.020
Total	0.119	0.023	---	0.100	0.020	0.262

Total Wetland Impacts for Project: 0.262 acres (permanent impacts: 0.219 ac)

Open Water Impacts in the Cape Fear River Basin

Site	Permanent Fill in Open Waters (ac)	Temporary Fill in Open Waters (ac)	Total Open water Impacts (ac)
Site 1	0.010	0.010	0.020
Site 2	0.030	0.040	0.070
Site 3	0.030	0.010	0.040
Site 4	0.070	0.010	0.080
Site 5	0.090	0.030	0.120
Site U2	---	0.050	0.050
Site U5	---	0.010	0.010
Site U6	---	0.020	0.020
Total	0.230	0.180	0.410

Total Open Water Impacts for Project: 0.410 acres (permanent impacts: 0.230 ac)

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 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)]. If total wetland fills for this project (now or in the future) exceed one-tenth of an acre, or if total impacts to perennial streams (now or in the future) exceed 300 linear feet, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7).

If you are unable to comply with any of the conditions of the attached Water Quality General Certification or with the additional conditions itemized below, you must notify the DWR Transportation Permitting Branch within 24 hours (or the next business day if a weekend or holiday) from the time the permittee becomes aware of the circumstances.

The permittee shall report to the Wilmington Regional Office any noncompliance with, and/or any violation of, stream or wetland standards [15A NCAC 02B .0200] including but not limited to sediment impacts to streams or wetlands. Information shall be provided orally within 24 hours (or the next business day if a weekend or holiday) from the time the permittee became aware of the non-compliance circumstances.

Conditions of Certification:

1. The NCDOT will conduct a pre-construction meeting with all appropriate staff to ensure that the project supervisor and essential staff understand the permit conditions and any potential issues at the permitted site. NCDWR staff shall be invited to the pre-construction meeting. [15A NCAC 02H.0506(b)(2) and (b)(3)]

2. The excavation of utility trenches within wetlands shall limit the mixing of the topsoils and subsoils. During excavation, the soils shall be placed on fabric to minimize impacts whenever possible. Topsoil excavated from the utility trenches will be piled separately from the subsoils and will be backfilled into the trench only after the subsoils have been placed and compacted. The applicant shall have a specific plan for restoring the wetland contours. Any excess material will be removed to a high ground disposal area. [15A NCAC 02H.0506(b); 15A NCAC 02H.0507(c)]

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 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)]

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 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)]

6. 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]

7. 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)]

8. 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)]

9. 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)]

10. 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]

11. 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)]

12. 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)]

13. 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)]

14. 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)]

15. 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)]

16. 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]

    a. 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,* or for linear transportation projects, the *NCDOT Sediment and Erosion Control Manual.*
    b. 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.
    c. 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.
    d. If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), SA, WS-1, WS-11, High Quality Waters (HQW), or Outstanding Resource Waters (ORW), then the sedimentation and erosion control designs shall comply with the requirements set forth in 15A NCAC 04B .0124, *Design Standards in Sensitive Watershed.* [15A NCAC 02H.0506(b)(3) and (c)(3); GC 4135]

17. 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)]

18. Erosion control matting in riparian areas shall not contain a plastic or nylon mesh grid which can impinge and entrap small animals. Matting should be secured in place by staples, stakes, or wherever possible live stakes of native trees. Riparian areas are defined as a distance 25 feet from top of stream bank. [15A NCAC 02B.0201]

19. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, then design and placement of temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands, stream beds, or banks, adjacent to or upstream and downstream of the above structures. All sediment and erosion control devices shall be removed from wetlands and waters and the natural grade restored within two (2) months of the date that the Division of Energy, Mining and Land Resources (DEMLR) or locally delegated program has released the specific area within the project. [15A NCAC 02H.0506(b)(3) and (c)(3)]

20. As a condition of this 401 Water Quality Certification, the bridge demolition and construction must be accomplished in strict compliance with the most recent version of NCDOT's Best Management Practices for Construction and Maintenance Activities. [15A NCAC 02H .0507(d)(2) and 15A NCAC 02H .0506(b)(5)]

21. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly. [15A NCAC 02H .0506(b)(3)]

22. A turbidity curtain will be installed in the stream if driving or drilling activities occur within the stream channel, on the stream bank, or within 5 feet of the top of bank, or during the removal of bents from an old bridge. This condition can be waived with prior approval from the NCDWR. [15A NCAC 02H .0506(b)(3)]

23. 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 02H.0506(b)(2)]

24. 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)]

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

26. NCDOT shall be in compliance with the NCS00250 issued to the NCDOT, including the applicable requirements of the NCG01000.

27. 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]

28. 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.

29. 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)

30. 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)]

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

32. 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)]

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:

William F. Lane, 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 letter completes the review of the Division under section 401 of the Clean Water Act and 15A NCAC 02H .0500. Please contact Hannah Sprinkle at hannah.sprinkle@ncdenr.gov if you have any questions or concerns.

Sincerely,

DocuSigned by:
Amy Chapman
9C9886312DCD474...

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

cc:

Eric Alsmeyer, USACE Wilmington Regulatory Field Office (via email)
Michael Turchy, NC Department of Transportation
Jason Dilday, NC Department of Transportation
Gregory Price, Division 6 Environmental Officer
Gary Jordan, US Fish and Wildlife Service
Travis Wilson, NC Wildlife Resources Commission
Hannah Sprinkle, NC Division of Water Resources Wilmington Regional Office
File Copy

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

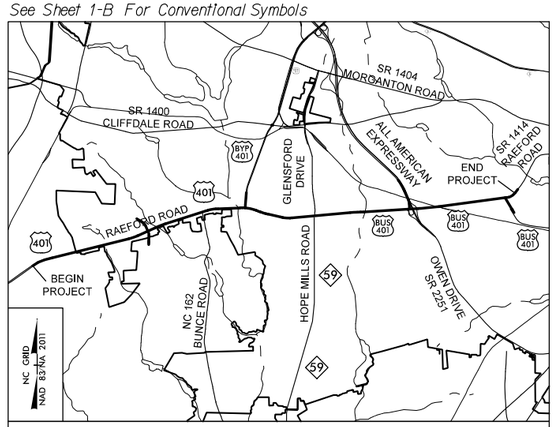
I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation 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

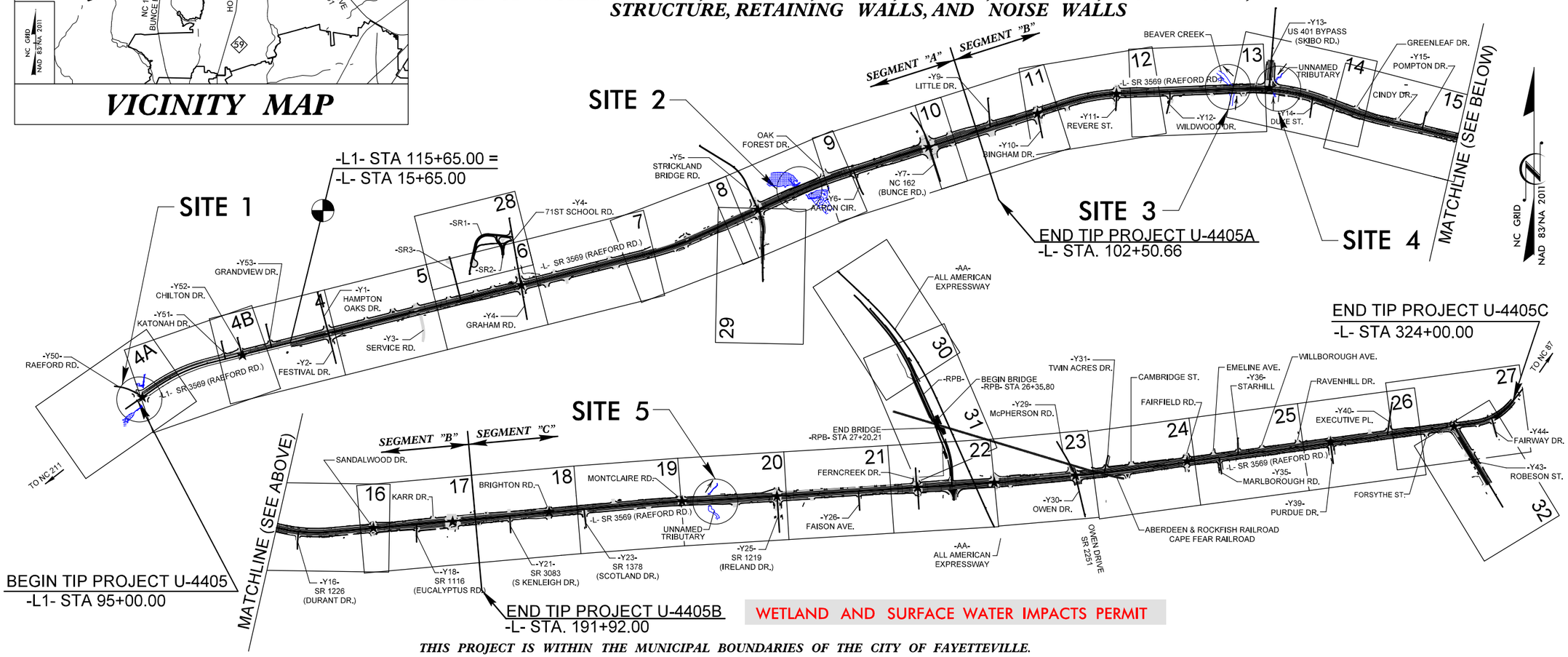
CUMBERLAND COUNTY

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***



BEGIN TIP PROJECT U-4405
-L1- STA 95+00.00

END TIP PROJECT U-4405A
-L- STA. 102+50.66

END TIP PROJECT U-4405B
-L- STA. 191+92.00

END TIP PROJECT U-4405C
-L- STA 324+00.00

WETLAND AND SURFACE WATER IMPACTS PERMIT

★ PROPOSED SIGNAL

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:

LETTING DATE:

CLINTON J. MORGAN, PE
PROJECT ENGINEER

VIRGINIA SCHAAR, PE
PROJECT DESIGN ENGINEER

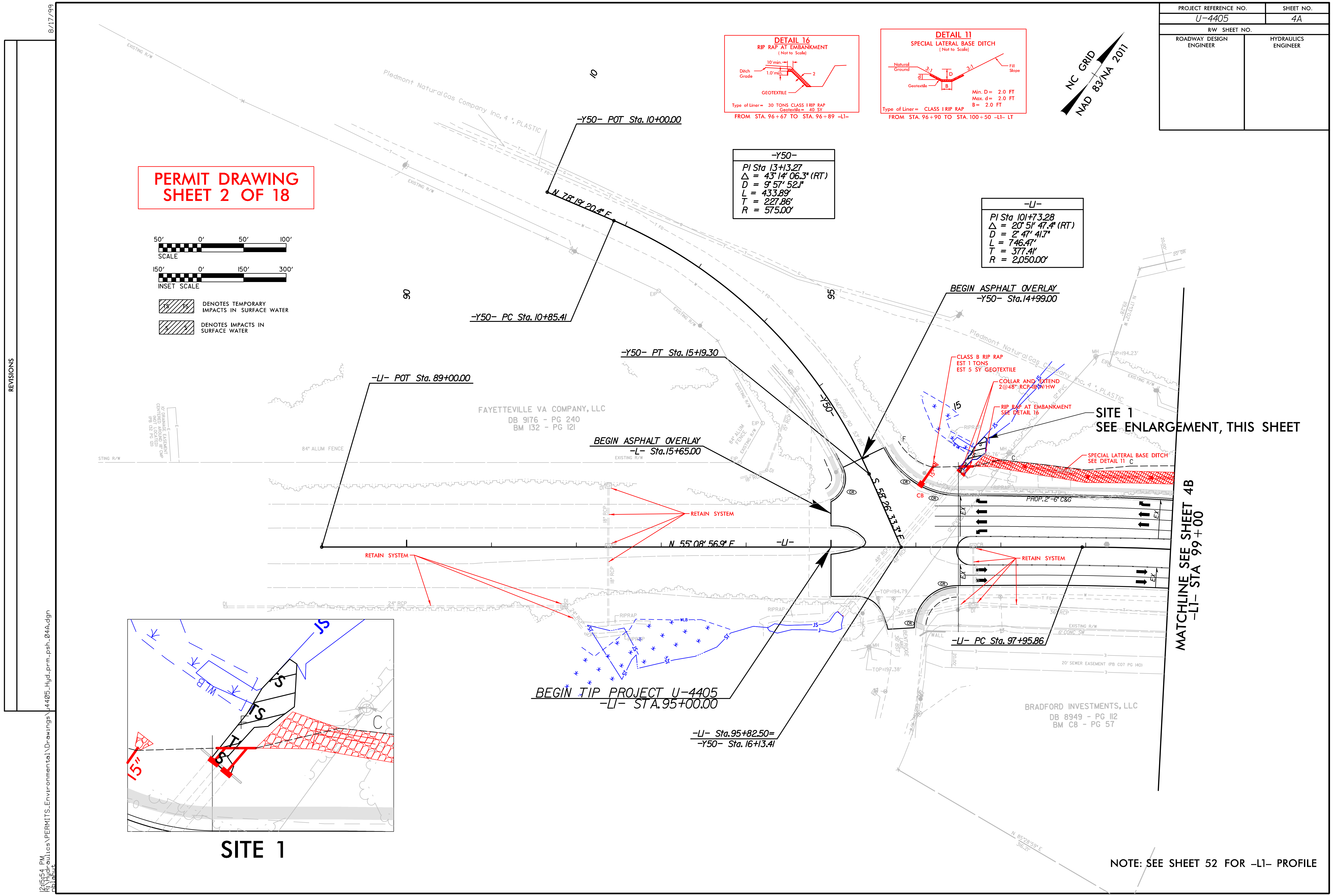
HYDRAULICS ENGINEER

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
SCALE
INSET SCALE
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES IMPACTS IN SURFACE WATER
-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'
-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'
N 78° 19' 20.4" E
-Y50- PC Sta. 10+85.41
BEGIN ASPHALT OVERLAY
-Y50- Sta.14+99.00
-Y50- PT Sta. 15+19.30
-L- POT Sta. 89+00.00
FAYETTEVILLE VA COMPANY, LLC
DB 9176 - PG 240
BM 132 - PG 121
BEGIN ASPHALT OVERLAY
-L- Sta.15+65.00
CLASS B RIP RAP
EST 1 TONS
EST 5 SY GEOTEXTILE
COLLAR AND EXTEND
2@48" RCP INV/HW
RIP RAP AT EMBANKMENT
SEE DETAIL 16
SITE 1
SEE ENLARGEMENT, THIS SHEET
SPECIAL LATERAL BASE DITCH
SEE DETAIL 11
RETAIN SYSTEM
N 55° 08' 56.9" E
S 58° 26' 33.3" E
-L-
PROP. 2'-6" C&G
BEGIN TIP PROJECT U-4405
-L- STA.95+00.00
-L- Sta.95+82.50=
-Y50- Sta. 16+13.41
-L- PC Sta. 97+95.86
BRADFORD INVESTMENTS, LLC
DB 8949 - PG 112
BM C8 - PG 57
MATCHLINE -L1- STA 99+00
SEE SHEET 4B
SITE 1
NOTE: SEE SHEET 52 FOR -L1- PROFILE
REVISIONS
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4405	4A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

8/17/99

REVISIONS

PERMIT DRAWING SHEET 3 OF 18

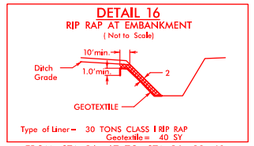
50' 0' 50' 100'
SCALE

150' 0' 150' 300'
INSET SCALE

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

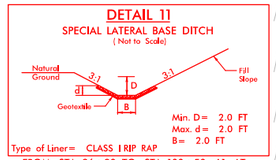
DENOTES IMPACTS IN SURFACE WATER

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

N 78° 19' 20.4" E

-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'

-Y50- PC Sta. 10+85.41

-Y50- PT Sta. 15+19.30

-L1- POT Sta. 89+00.00

BEGIN ASPHALT OVERLAY
-Y50- Sta.14+99.00

BEGIN ASPHALT OVERLAY
-L- Sta.15+65.00

CLASS B RIP RAP
EST 4 TONS
EST 5 SY GEOTEXTILE

COLLAR AND EXTEND
2@48" RCP-HW/HW

RIP RAP AT EMBANKMENT
SEE DETAIL 16

SITE 1
SEE ENLARGEMENT, THIS SHEET

SPECIAL LATERAL BASE DITCH
SEE DETAIL 11

S 58° 26' 33.7" E

RETAIN SYSTEM

N 55° 08' 56.9" E -L1-

RETAIN SYSTEM

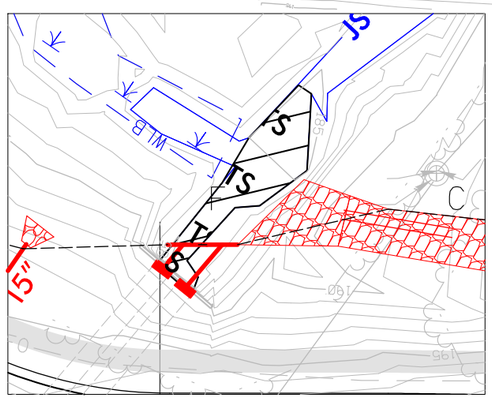
RETAIN SYSTEM

-L1- PC Sta. 97+95.86

BEGIN TIP PROJECT U-4405
-L1- STA. 95+00.00

-L1- Sta.95+82.50=
-Y50- Sta. 16+13.41

MATCHLINE SEE SHEET 4B
-L1- STA 99+00



SITE 1

NOTE: SEE SHEET 52 FOR -L1- PROFILE

Piedmont Natural Gas Company, Inc, 4" PLASTIC

FAYETTEVILLE VA COMPANY, LLC
DB 9176 - PG 240
BM 132 - PG 121

BRADFORD INVESTMENTS, LLC
DB 8949 - PG 112
BM C8 - PG 57

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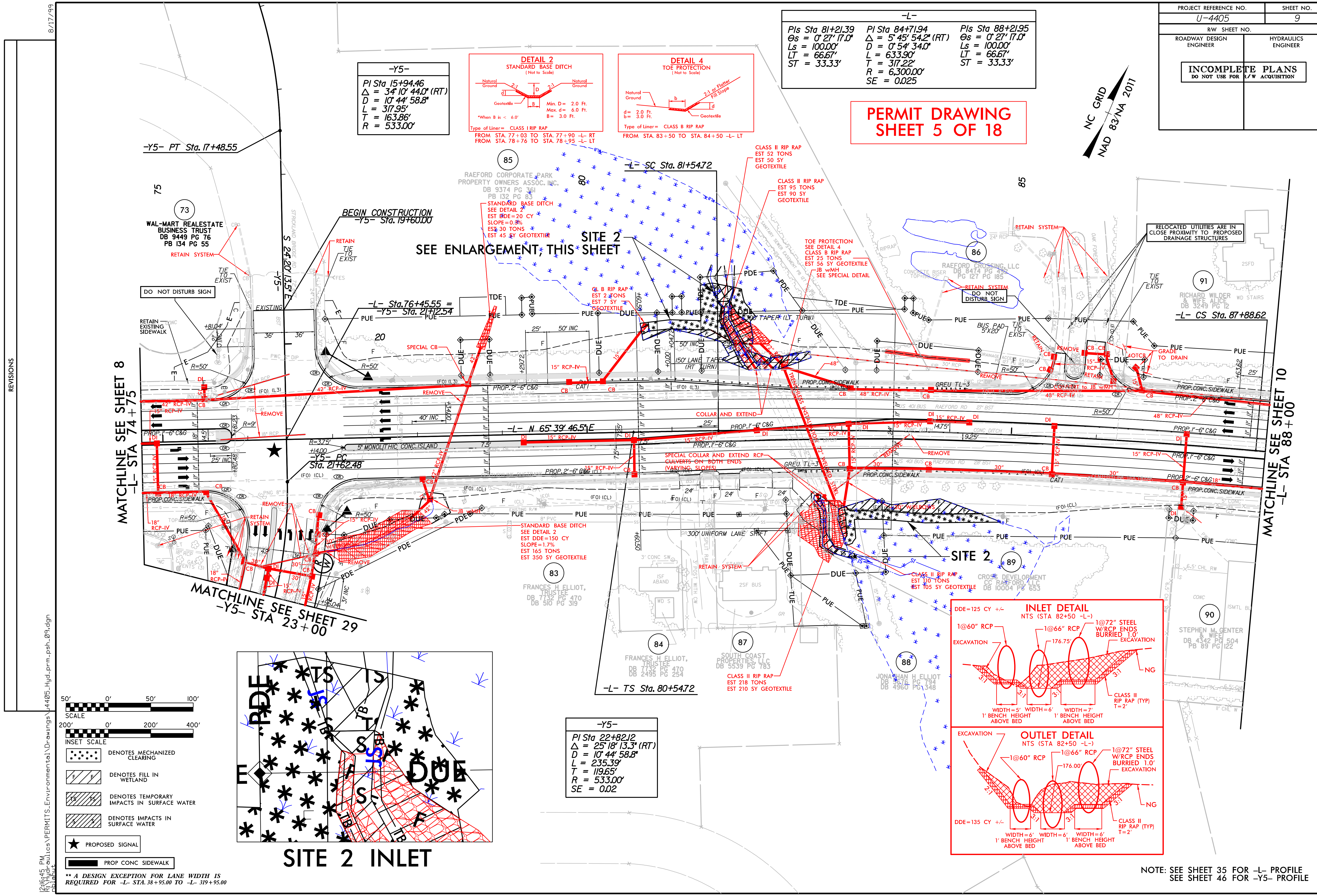
abbott

PROJ. REFERENCE NO.	SHEET NO.
U-4405	X-160

PERMIT DRAWING
SHEET 4 OF 18



PROJECT REFERENCE NO. U-4405
SHEET NO. 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
-L-
PIs Sta 81+21.39
Θs = 0° 27' 17.0"
Ls = 100.00'
LT = 66.67'
ST = 33.33'
PI Sta 84+71.94
Δ = 5° 45' 54.2" (RT)
D = 0° 54' 34.0"
L = 633.90'
T = 317.22'
R = 6,300.00'
SE = 0.025
PIs Sta 88+21.95
Θs = 0° 27' 17.0"
Ls = 100.00'
LT = 66.67'
ST = 33.33'
-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'
-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
DETAIL 2
STANDARD BASE DITCH
(Not to Scale)
Natural Ground
Geotextile
Min. D= 2.0 Ft.
Max. d= 6.0 Ft.
B= 3.0 Ft.
*When B is < 6.0'
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)
Natural Ground
2:1 or Flatter Fill Slope
d= 2.0 Ft.
b= 3.0 Ft.
Geotextile
Type of Liner= CLASS B RIP RAP
FROM STA. 83+50 TO STA. 84+50 -L- LT
NC GRID NAD 83/NA 2011
-Y5- PT Sta. 17+48.55
BEGIN CONSTRUCTION -Y5- Sta. 19+60.00
-L- Sta. 76+45.55 = -Y5- Sta. 21+12.54
-L- SC Sta. 81+54.72
-L- CS Sta. 87+88.62
-L- TS Sta. 80+54.72
-L- N 65° 39' 46.5" E
-Y5- PC Sta. 21+62.48
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 452 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 4516 PG 794 DB 4960 PG 348
89 CROSS DEVELOPMENT CC RAEFORD, LLC DB 10004 PG 653
90 STEPHEN M. GENTER & WIFE DB 4342 PG 504 PB 89 PG 122
STANDARD BASE DITCH SEE DETAIL 2 EST DDE=20 CY SLOPE=0.3% EST 30 TONS EST 45 SY GEOTEXTILE
CLASS II RIP RAP EST 52 TONS EST 50 SY GEOTEXTILE
CLASS II RIP RAP EST 95 TONS EST 90 SY GEOTEXTILE
TOE PROTECTION SEE DETAIL 4 CLASS B RIP RAP EST 25 TONS EST 56 SY GEOTEXTILE
JB w/MH SEE SPECIAL DETAIL
CL B RIP RAP EST 2 TONS EST 7 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 130 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)
RELOCATED UTILITIES ARE IN CLOSE PROXIMITY TO PROPOSED DRAINAGE STRUCTURES
DO NOT DISTURB SIGN
RETAIN SYSTEM
RETAIN EXISTING SIDEWALK
TIE TO EXIST
300' UNIFORM LANE SHIFT
150' LANE TAPER (RT TURN)
100' TAPER (LT TURN)
5' MONOLITHIC CONC. ISLAND
PROP. CONC. SIDEWALK
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-)
DDE=125 CY +/-
1@60" RCP
1@66" RCP
1@72" STEEL W/RCP ENDS BURRIED 1.0'
EXCAVATION
176.75'
CLASS II RIP RAP (TYP) T=2'
WIDTH=5' 1' BENCH HEIGHT ABOVE BED
WIDTH=6'
WIDTH=7' 1' BENCH HEIGHT ABOVE BED
NG
OUTLET DETAIL
NTS (STA 82+50 -L-)
DDE=135 CY +/-
176.00'
WIDTH=6' 1' BENCH HEIGHT ABOVE BED
SITE 2 INLET
SCALE 50' 0' 50' 100'
INSET SCALE 200' 0' 200' 400'
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
REVISIONS
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8/17/99

REVISIONS

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

NC GRID
NAD 83/NA 2011

-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	

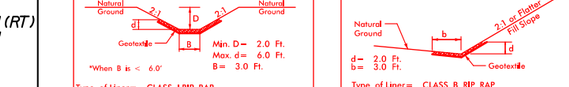
-Y5-

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

-L- N 65° 39' 46.5"E

-Y5- PC
Sta. 21+62.48

-L- CS Sta. 87+88.62

-L- TS Sta. 80+54.72

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 7516 PG 794 DB 4960 PG 1348

89 CROSS DEVELOPMENT OF RAEFORD, LLC DB 10001 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

TOE PROTECTION
SEE DETAIL 4
CLASS B RIP RAP
EST 25 TONS
EST 56 SY GEOTEXTILE
JB w/MH
SEE SPECIAL DETAIL

STANDARD BASE DITCH
SEE DETAIL 2
EST DDE=20 CY
SLOPE=0.8%
EST 30 TONS
EST 45 SY GEOTEXTILE

CLASS B RIP RAP
EST 2 TONS
EST 7 SY
GEOTEXTILE

CLASS II RIP RAP
EST 218 TONS
EST 210 SY GEOTEXTILE

CLASS II RIP RAP
EST 130 TONS
EST 105 SY GEOTEXTILE

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

RELOCATED UTILITIES ARE IN CLOSE PROXIMITY TO PROPOSED DRAINAGE STRUCTURES

DO NOT DISTURB SIGN

RETAIN SYSTEM

RETAIN EXISTING SIDEWALK

TIE TO EXIST

SPECIAL CB

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

COLLAR AND EXTEND

300' UNIFORM LANE SHIFT

150' LANE TAPER (RT TURN)

150' LANE TAPER (LT TURN)

50' INC

40' INC

25' INC

5' MONOLITHIC CONC. ISLAND

PROP. 2'-6" C&G

PROP. 1'-6" C&G

PROP. CONC. SIDEWALK

GRADE TO DRAIN

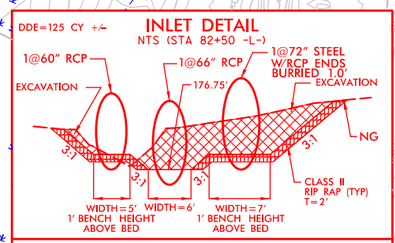
REMOVE

MATCHLINE SEE SHEET 8 -L- STA 74+75

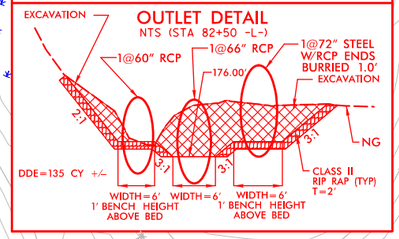
MATCHLINE SEE SHEET 29 -Y5- STA 23+00

MATCHLINE SEE SHEET 10 -L- STA 88+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

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

DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

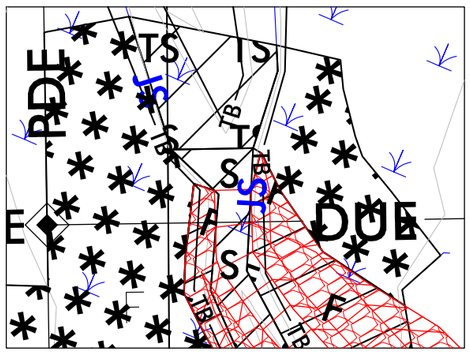
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

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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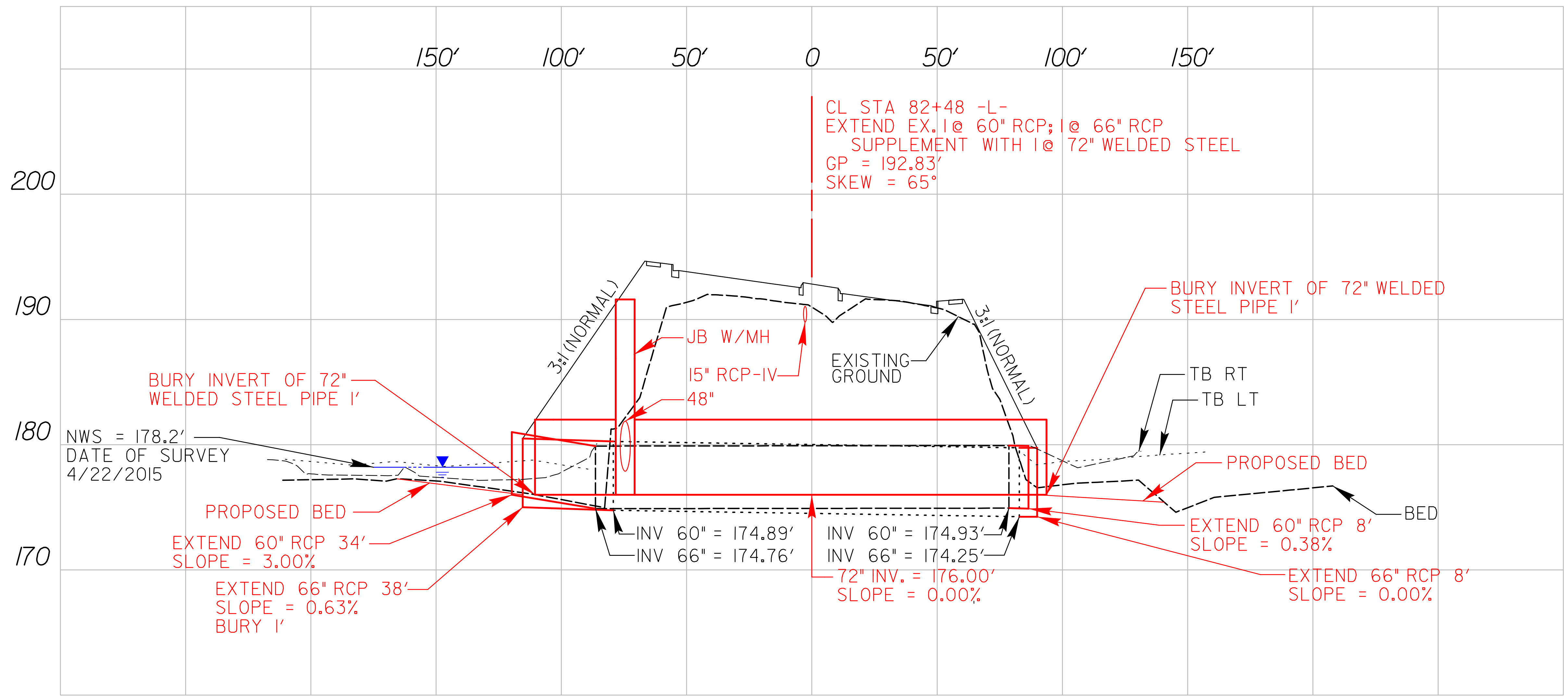
PERMIT DRAWING
SHEET 7 OF 18


150′
100′
50′
0
50′
100′
150′
200
190
180
170
CL STA 82+48 -L-
EXTEND EX. 1 @ 60" RCP; 1 @ 66" RCP
SUPPLEMENT WITH 1 @ 72" WELDED STEEL
GP = 192.83′
SKEW = 65°
3:1 (NORMAL)
3:1 (NORMAL)
JB W/MH
15" RCP-IV
48"
EXISTING GROUND
BURY INVERT OF 72" WELDED STEEL PIPE 1′
BURY INVERT OF 72" WELDED STEEL PIPE 1′
TB RT
TB LT
NWS = 178.2′
DATE OF SURVEY
4/22/2015
PROPOSED BED
PROPOSED BED
BED
EXTEND 60" RCP 34′
SLOPE = 3.00%
EXTEND 66" RCP 38′
SLOPE = 0.63%
BURY 1′
INV 60" = 174.89′
INV 66" = 174.76′
INV 60" = 174.93′
INV 66" = 174.25′
72" INV. = 176.00′
SLOPE = 0.00%
EXTEND 60" RCP 8′
SLOPE = 0.38%
EXTEND 66" RCP 8′
SLOPE = 0.00%

8/17/99
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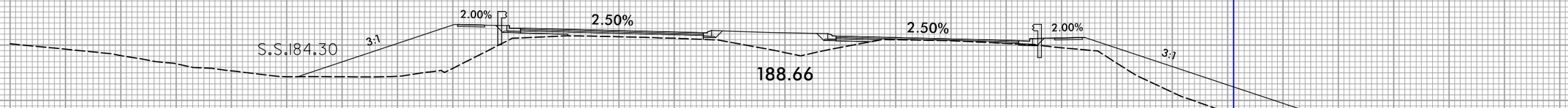


8/23/99

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

PERMIT DRAWING
SHEET 8 OF 18

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

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

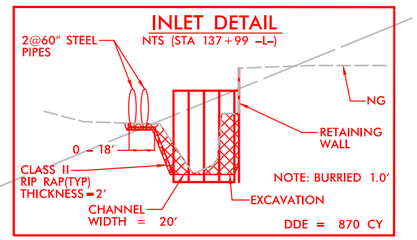
PERMIT DRAWING
SHEET 9 OF 18

-L-

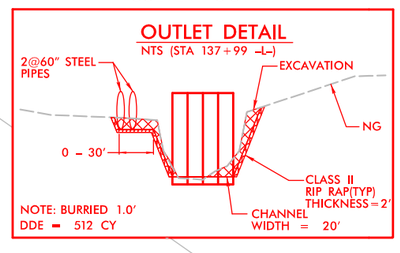
PIs Sta 139+95.56	PI Sta 144+71.01
Θs = 1° 43′ 07.9″	△ = 19° 18′ 58.8″ (RT)
Ls = 150.00′	D = 2° 17′ 30.6″
LT = 100.00′	L = 842.83′
ST = 50.00′	T = 425.45′
	R = 2,500.00′
	SE = 0.03

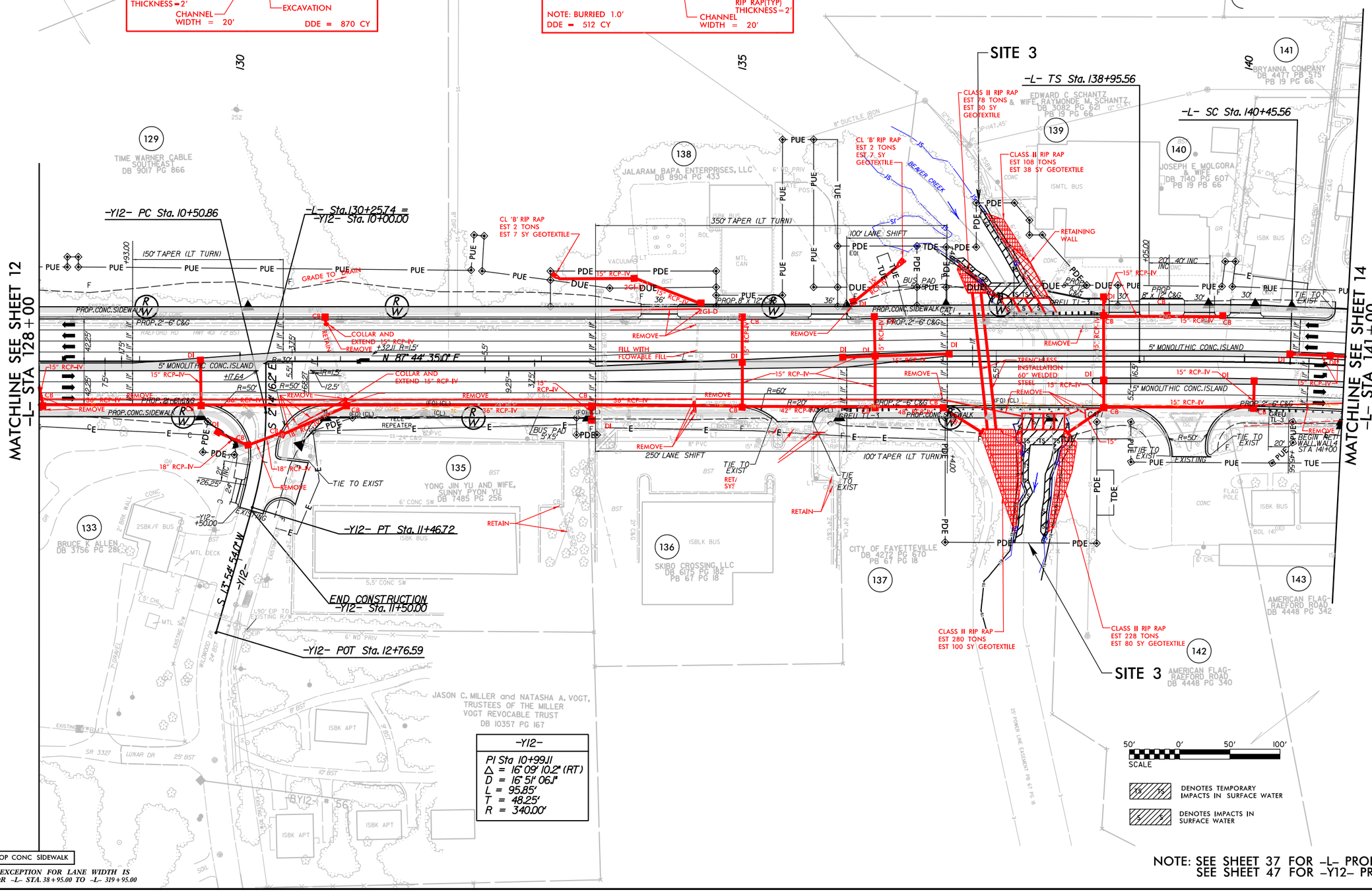
NC GRID NAD 83/NA 2011

CULVERT INLET



CULVERT OUTLET





-Y12-

PI Sta 10+99.11
△ = 16° 09′ 10.2″ (RT)
D = 16° 51′ 06.1″
L = 95.85′
T = 48.25′
R = 340.00′

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

▬ PROP CONC SIDEWALK

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

REVISIONS

8/17/99

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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

PERMIT DRAWING
SHEET 10 OF 18

-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

-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′

50′ 0′ 50′ 100′
SCALE

▨ TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
▨ S	DENOTES IMPACTS IN SURFACE WATER

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

■	PROP CONC SIDEWALK

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

REVISIONS

8/17/99

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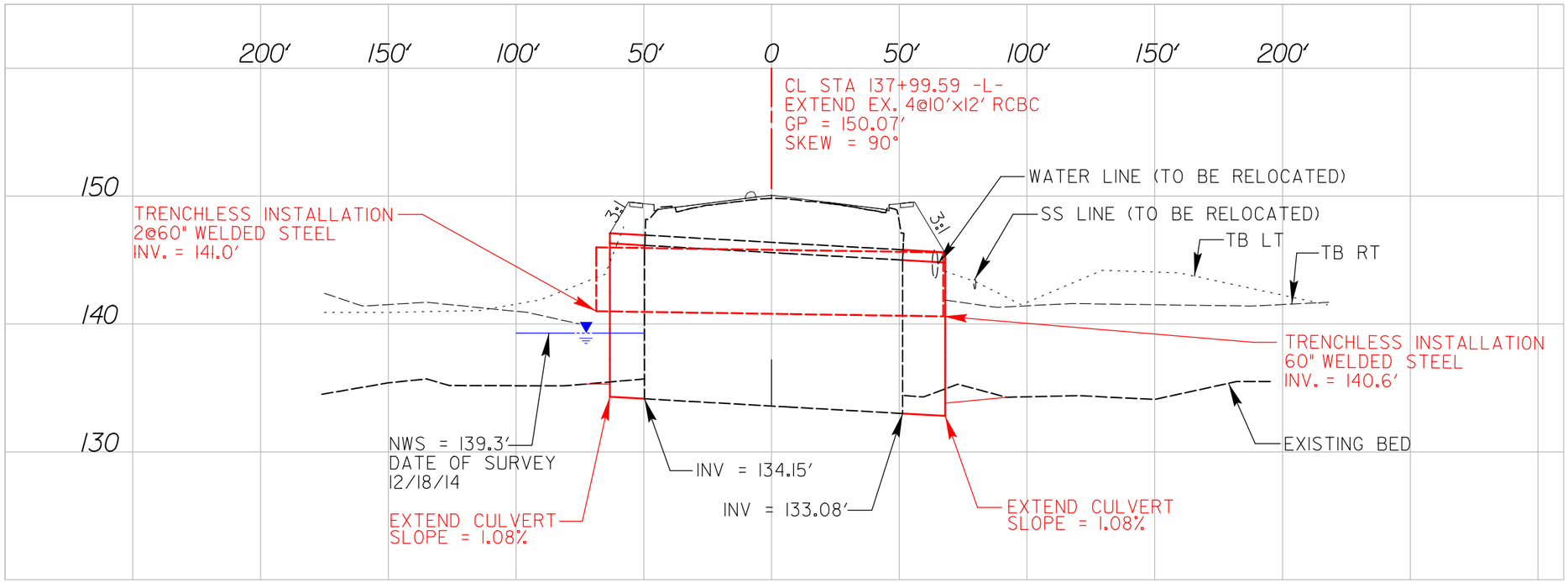
8/17/99

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



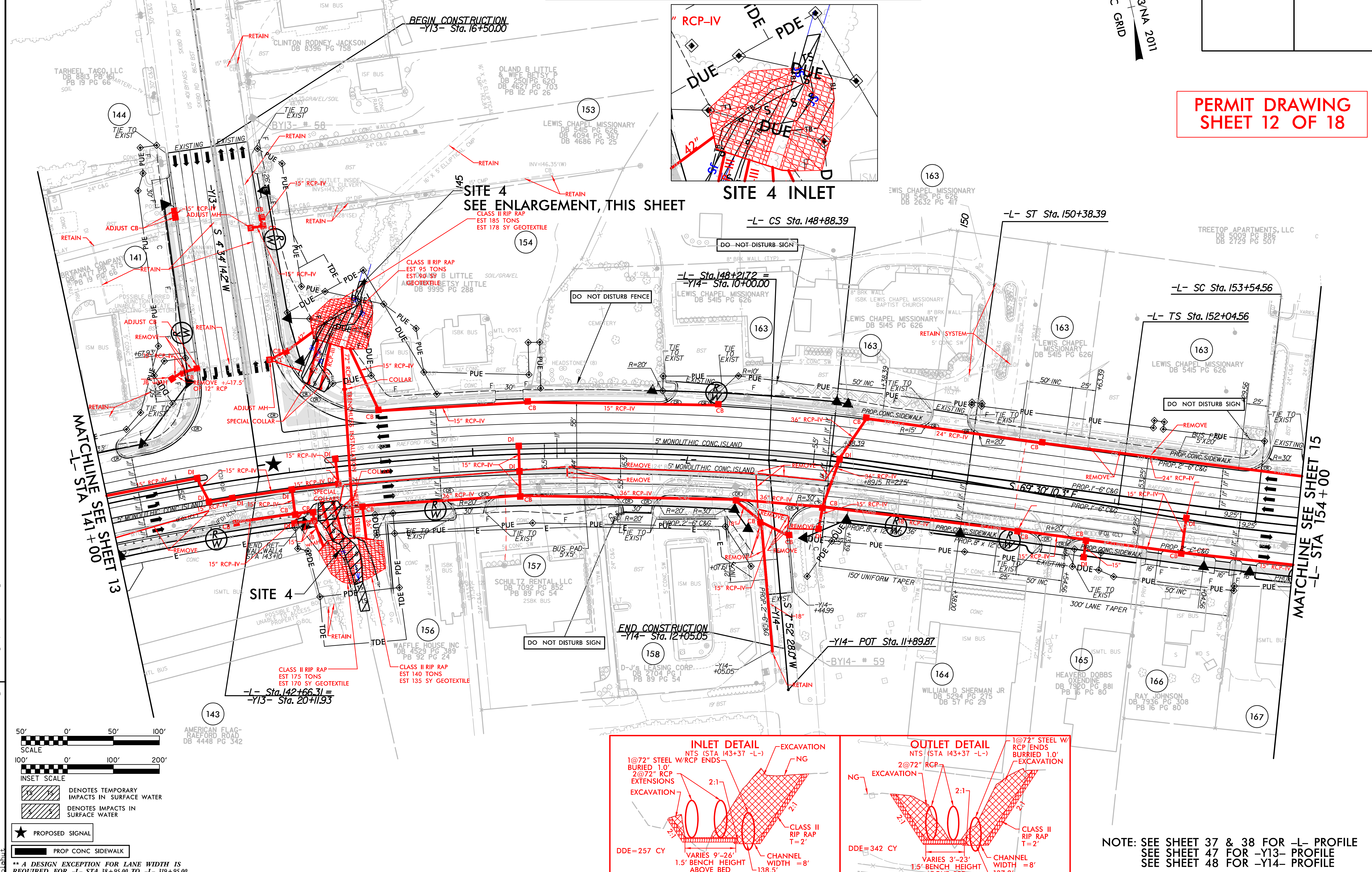
PROJECT REFERENCE NO.	SHEET NO.
U-4405	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING SHEET 12 OF 18

-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



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

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

–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

SITE 4

–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. 12+05.05

–Y14– POT Sta. 11+89.87

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

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 7° 52' 28.0" W

SCALE 50' 0' 50' 100'

INSET SCALE 100' 0' 100' 200'

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

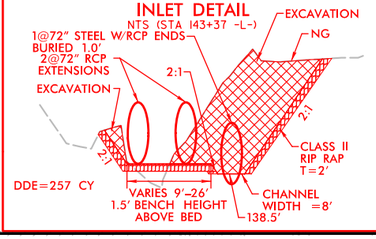
DENOTES IMPACTS IN SURFACE WATER

PROPOSED SIGNAL

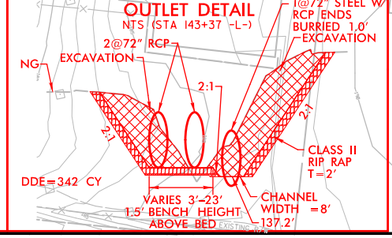
PROP CONC SIDEWALK

** *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–)



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

REVISIONS

8/17/99

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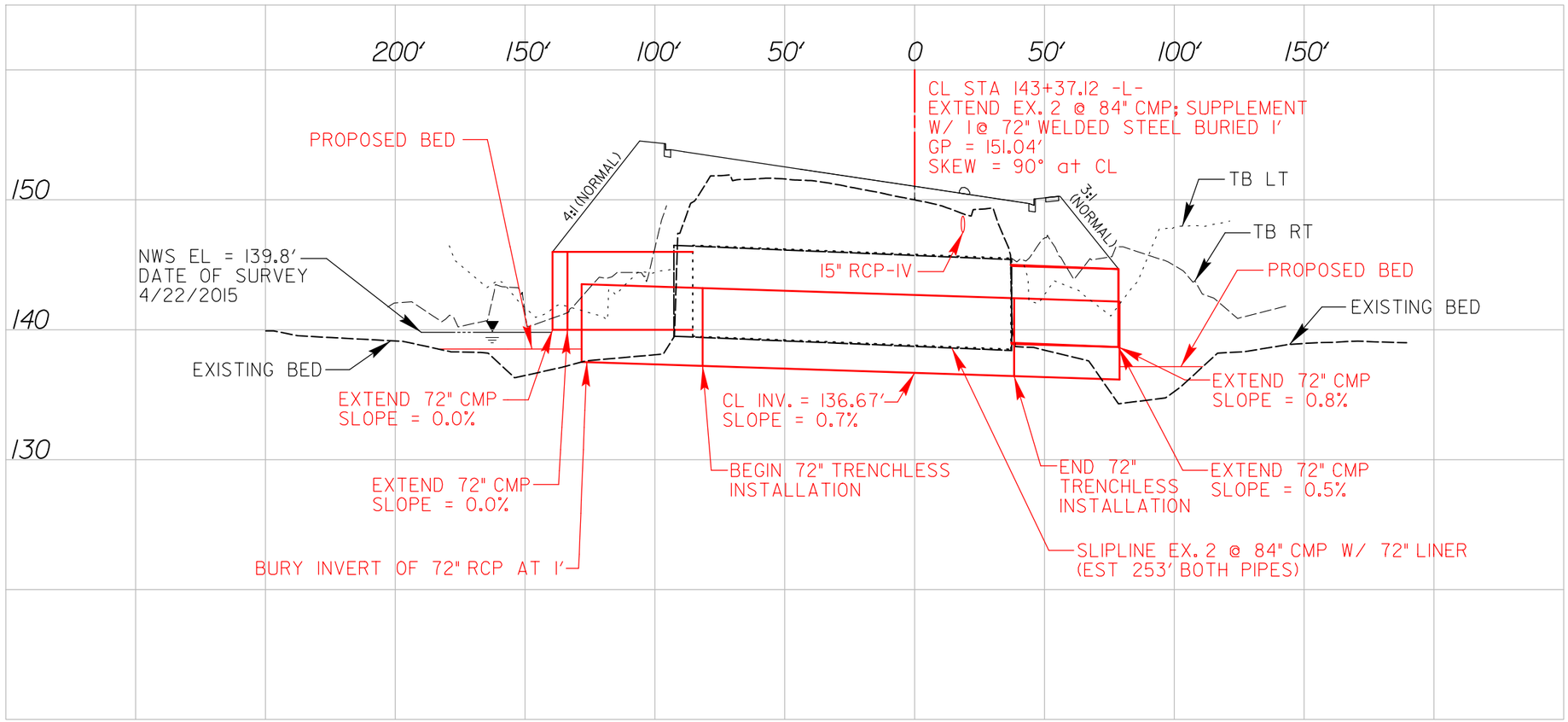
8/17/99

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 14 OF 18



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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

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

SITE 5 INLET

SITE 5
SEE ENLARGEMENT, THIS SHEET

-L- PT Sta. 221+61.17

-L- PC Sta. 219+73.45

MATCHLINE SEE SHEET 19
-L- STA 218+50

MATCHLINE SEE SHEET 21
-L- STA 231+50

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

N 87° 34' 14.6" E

N 86° 29' 42.7" E

S 3° 44' 47.0" E

-Y25-

SEE INLET DETAIL
CLASS II RIP RAP
EST 330 TONS
EST 600 SY GEOTEXTILE

REMOVE
TEMP. 18" OUTFALL OVER HW

REMOVE +/-9' OF EXISTING 18" DIP

SPECIAL HW

150' TAPER (LT TURN)

150' TAPER (RT TURN)

FILL W/ FLOWABLE MATERIAL

REMOVE +/-155' OF EXISTING 30" RCP

48" RCP-IV

RETAIN LCB AND TIE TOP TO 18" RCP-IV

RETAIN SYSTEM

FILL IN CHANNEL W/ENGINEER APPROVED MATERIAL AND TOP W/ CLASS II RIP RAP
EST 325 CY FILL
EST 80 TONS
EST 110 SY GEOTEXTILE

SEE OUTLET DETAIL
CLASS II RIP RAP
EST 550 TONS
EST 800 SY GEOTEXTILE

SITE 5

BUS PAD 5'X5'

4104 RAEFORD ROAD, LLC
DB 9484 PG 109

JOHN M TEW & WIFE SHIRLEY
DB 2542 PG 343
PB 23 PG 1

KENT A VAN BELOIS & WIFE
DB 3364 PG 865

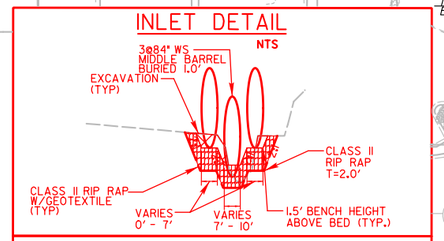
NCP FAYETTEVILLE, LLC
DB 6243 PG 563

RREF IIBB-NC, LLC
DB 9368 PG 66

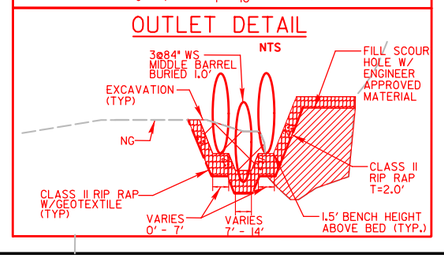
IRELAND CROSSING, INC
DB 4261 PG 210
PB 86 PG 110

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

INLET DETAIL
NTS



OUTLET DETAIL
NTS



END CONSTRUCTION
-Y25- Sta. 11+75.00

-Y25- POT Sta. 14+51.24

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*

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

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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

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

INLET DETAIL
NTS

3@84" WS MIDDLE BARREL BURIED 1.0'
EXCAVATION (TYP)
CLASS II RIP RAP T=2.0'
CLASS II RIP RAP W/GEOTEXTILE (TYP)
VARIES 0' - 7'
VARIES 7' - 10'
1.5' BENCH HEIGHT ABOVE BED (TYP.)

OUTLET DETAIL
NTS

3@84" WS MIDDLE BARREL BURIED 1.0'
EXCAVATION (TYP)
NG
FILL SCOUR HOLE W/ ENGINEER APPROVED MATERIAL
CLASS II RIP RAP T=2.0'
CLASS II RIP RAP W/GEOTEXTILE (TYP)
VARIES 0' - 7'
VARIES 7' - 14'
1.5' BENCH HEIGHT ABOVE BED (TYP.)

SCALE: 50' 0' 50' 100'

INSET SCALE: 100' 0' 100' 200'

▨ TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
▨ S	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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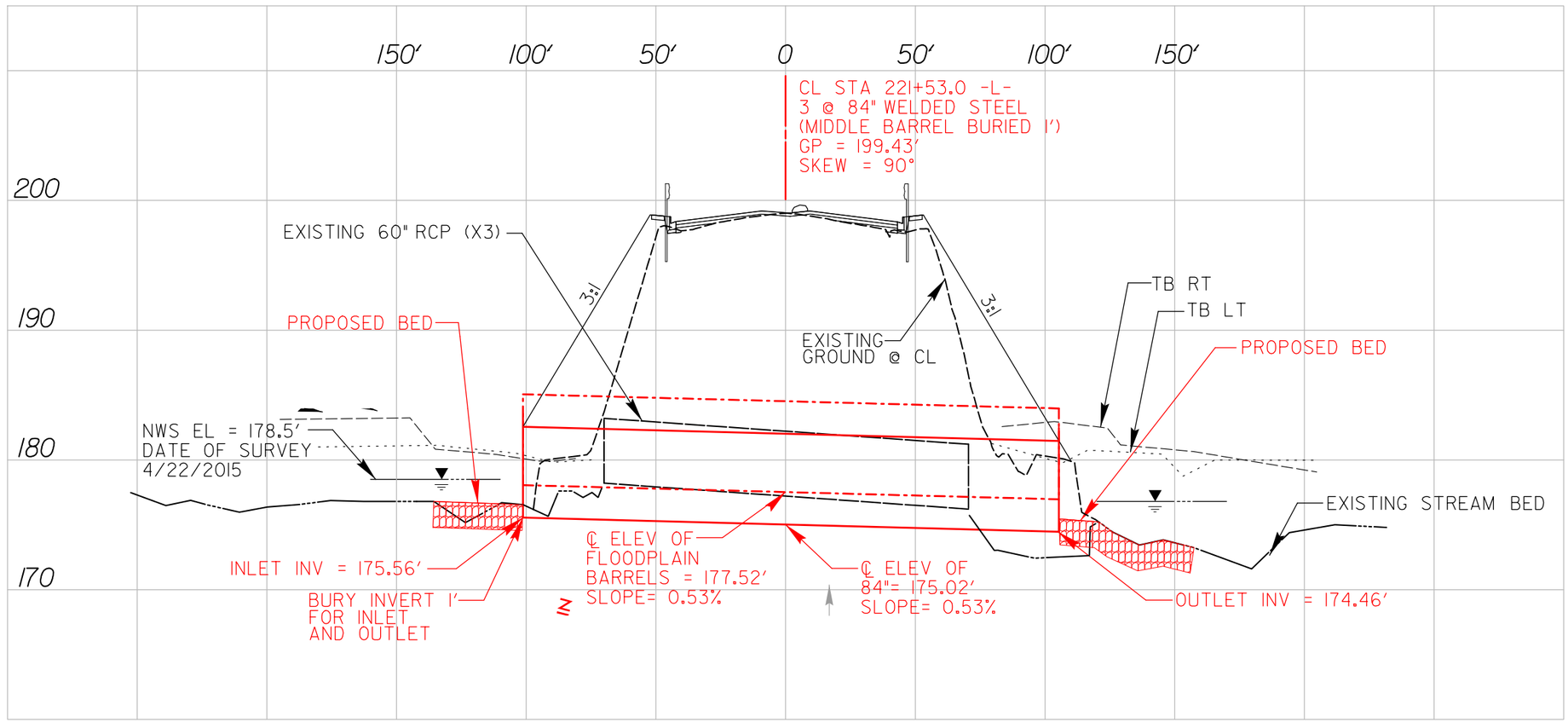
PROJECT REFERENCE NO.	SHEET NO.
U-4405	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PERMIT DRAWING
SHEET 17 OF 18



8/17/99

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	-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- 221+03/222+23 RT &LT	TRENCHLESS INSTALLATION OF 3@84" WELDED STEEL						0.09	0.03	207	100	
TOTALS*:			0.10			0.10		0.22	0.12	841	448	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
12/08/2022
CUMBERLAND COUNTY
U-4405
39049.1.1
SHEET 18 OF 18