



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

August 3, 2022

MEMORANDUM TO: Mr. Pat Ivey, P.E.
Division 9 Engineer

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

SUBJECT: Environmental Permits for the Winston-Salem Northern Beltway in
Forsyth County, Division 9, **TIP U-2579AA.**

Please find enclosed the following permits for this project:

Agency	Permit Type	Permit Expiration
US Army Corps of Engineers Section 404 Clean Water Act Permit	Individual Permit, dated 7/29/2022 <i>Replaces previous January 22, 2018 Preliminary Approval for this [AA] Section</i>	Dec. 31, 2028
NC Division of Water Resources Section 401 Water Quality Certification	Individual Cert. No. 4131, dated 1/10/2022 <i>Previous Certifications remain applicable except where superseded by this modification</i> Original Water Quality Certification, dated November 14, 2017 for R-2247 B Phase 2, CA, CB, CD, D, EA, EB, and EC, U-2579 C Phase 2, D, E, and F, and U-2579 AA and AB and subsequently modified Revision 2 dated December 21, 2017; Revision 3 dated February 7, 2019; Revision 4 dated August 13, 2019; Revision 5 dated November 14, 2019; Revision 6, dated November 30, 2020; In-Field Modification dated January 14, 2021; and, Revision 7 dated February 9, 2021	Dec. 31, 2028

Please feel free to contact our Unit for any questions.

ec:
NCDOT Permit Website (<https://xfer.services.ncdot.gov/pdea/PermIssued/>)

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-2579AA
Winston-Salem Northern Beltway (eastern Section of Future I-74)
from US 311 to I-40
Forsyth County
Federal-Aid Project No. NHF-0918 (94)
WBS Element 34839.1.7

All commitments developed during the project development and design phases for the Winston-Salem Northern Beltway have been incorporated into the current design. Commitments that apply specifically to STIP Projects U-2579AA are shown in black. Those which are not pertinent to U-2579AA have been grayed out.

* Commitments marked by asterisk (*) are taken from the Memorandum of Agreement between SHPO, NCDOT, and FHWA regarding addressing the Adverse Effects to historic resources.

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

PDEA, Roadway Design, Division 9

1. Archaeological site 31FY570, a historic cemetery, will require avoidance or compliance with North Carolina General Statute, Chapter 70.

Action: The commitment will be fulfilled during final design and construction.

2. Temporary construction easements may be required for the historic Clayton Family Farm Property. Temporary easements would not constitute a use under Section 4(f). No permanent right of way (ROW) will be acquired from the Clayton Family Farm Property, and the encroachment on the property will be minimal. The duration of the temporary encroachment on the property will be shorter than the timeframe of construction for the project. The land temporarily occupied from the Clayton Family Farm will be fully restored, that is, the Clayton Family Farm will be returned to a condition that is at least as good as that which existed prior to the project. Based on preliminary plans, a temporary easement is required.

Action: The commitment will be fulfilled during final design and construction.

3. The Eligibility of Site 31FY64 is unknown because archaeologists were denied access to the property. If changes to the preferred alternative causes this site to fall within the area

of potential disturbance, an assessment will be conducted prior to construction. Currently, this site is adjacent to a non-selected alternative.

Action: The commitment will be fulfilled during ROW acquisition.

4. A Design Noise Study was conducted in 2016 for the project, including R-2247 Sections EC and CD. *The study includes an evaluation of Ronald Reagan High School. Update 3/28/2017: A DNR for U-2579C was completed in July 2016 under the 2011 NCDOT Traffic Noise Abatement Policy. An Addendum to the DNR will be prepared in 2017 to reflect additional changes that have occurred during the final design process.*

Action: The ROD was signed in February 2008. Design Noise Reports based upon preliminary design were completed for U-2579 AB, B & C in 2009. A Revised Design Noise Report based upon final design was completed for U-2579B and approved by FHWA in 2014. A Revised Design Noise Report based upon final design will be completed for U-2579C in 2015. Revised Design Noise Reports based upon final design of U-2579AA and AB will be completed prior to Project Letting scheduled for October 2021. All Design Noise Reports are subject to approval by NCDOT and FHWA. The original Date of Public Knowledge of February 15, 2008 will remain unchanged for all sections of U-2579. A revised DNR will be prepared in 2015 for U-2579C under the NCDOT 2011 noise abatement criteria.

The design noise study for the Project R-2247 portion of the Beltway will include an evaluation of Ronald Reagan High School.

- *6. NCDOT will develop Data Recovery Plans (DRPs) for Sites 31FY888, 31FY893, 31FY902, 31FY903, 31FY910, 31FY911, 31FY912, 31FY921, 31FY925, 31FY944, and 31FY1053, all of which will be affected by the subject project, in consultation with the North Carolina State Historic Preservation Office (NC-HPO).

*Action: A Data Recovery Plan for excavation of site 31FY925** was developed and implemented. Data recovery was completed in February 2019.*

- *7. The NCDOT will ensure that each DRP is implemented after Right-of-Way is acquired or once Right-of-Entry is secured from the property owners and prior to construction activities within the site location as shown in the DRP.

Action: A Data Recovery Plan was developed and implemented after design was completed and Right-of-Way was acquired. Data recovery was completed in February 2019.

- *8. As they are developed, each individual DRP will be forwarded for review by the SHPO.

Action: The data recovery plan was submitted to SHPO on 9/30/2018. SHPO concurred with the data recovery plan on 11/9/2018.

- *9. Upon completion of each Data Recovery effort, the NCDOT will prepare and forward a Management Summary to the SHPO detailing the results of the Data Recovery field investigations. The Management Summary will contain sufficient information to demonstrate that the field investigation portion of the DRP has been implemented.

Action: The end of fieldwork management summary was submitted to SHPO on 2/26/2019.

- *10. Upon receipt of the Management Summary detailed in Section 5, NC-HPO will respond within ten days to the recommendations contained in the document.

Action: SHPO concurred with the results of the management summary on 3/18/2019.

- *11. Upon acceptance of the recommendations contained in the Management Summary, NC-HPO will issue to NCDOT documentation that the Data Recovery field investigations have been completed.

Action: SHPO concurred with the recommendation that no further archaeological work is required on 3/18/2019.

- *12. The analysis and report preparation, detailing sites 31FY888, 31FY893, 31FY901, 31FY902, 31FY903, 31FY910, 31FY911, 31FY912, 31FY921, 31FY925, 31FY944, 31FY1053 will be completed by NCDOT, or their consultants, within 24 months after completion of each site's fieldwork schedule.

*Action: This commitment is not necessary for site 31FY925** because the end of fieldwork management summary recommended no further work. SHPO agreed on 3/18/2019.*

PDEA, Roadway Design, Division 9, ROW Branch:

1. In the vicinity of the Alexander Hege House, NCDOT in consultation with NC-HPO will determine the extent of control-of-access fencing, as well as its type, material, and finish. NCDOT will purchase and then install the control-of-access fencing within NCDOT ROW. NCDOT will maintain the control-of-access fencing.

Action: The commitment will be fulfilled during final design and construction.

Roadway Design, Utility Unit. Division 9, ROW Branch, Geotechnical:

1. NCDOT will continue to work with residents of affected communities to develop mitigation strategies for community impacts. The following options will be considered during final design to minimize impacts to communities/subdivisions: construction of noise abatement barriers landscaping, or vegetative screens based on NCDOT policies and guidelines. These types of options already have been incorporated into the preliminary engineering designs where practicable but will be further considered during final design.
Action: This commitment has been implemented into the design through the completion of the noise wall abatement process for U-2579AA and U-2579AB. NCDOT will prepare a post construction landscape design/corridor plan.
2. During final design, all utility providers and railroad operators would be coordinated with to ensure that the proposed design and construction of the project would not substantially disrupt service.
This is a standard commitment.
3. The development of this project will be further coordinated with the City of Winston-Salem and Forsyth County Parks and Recreation Departments to minimize any conflicts with future parks and greenways planning. Provisions will be considered to maintain the future viability of any impacted proposed greenways.
Action: The Department has coordinated with the City of Winston Salem to review options that would not preclude future greenway plans.
4. NCDOT will coordinate with the NCDENR Division of Waste Management regarding the Reynolds Auto Junkyard and other solid waste sites along the selected alternatives for Projects R-2247, U-2579, and U-2579A. Impacted sites will be remediated as required.
Action: The GeoEnvironmental Section of the Geotechnical Engineering Unit will coordinate with the Right of Way Branch to provide acquisition recommendations for potentially contaminated parcels. This coordination will occur prior to the parcel being acquired. Prior to construction the GeoEnvironmental Section will also coordinate with the NCDENR Division of Waste Management to address contaminated soil and ground water that may be encountered during construction.
5. NCDOT will consider wildlife crossings where appropriate in the vicinity of stream crossings, which will allow animals to cross under the Beltway.
Action: No special wildlife crossings are proposed. Opportunities for wildlife to cross exist along streams under bridges and through culverts. Also, small wildlife can use floodplain drains which are provided in the B and C projects.

6. NCDOT will coordinate with the Town of Kernersville regarding the compatibility of the Beltway design with the proposed Big Mill Farm Road interchange at US 421. This coordination will take place once all relevant design information has been obtained regarding the design of the Big Mill Farm Road interchange.

Action: Roadway Design coordinated and will continue to coordinate until project completion.

7. NCDOT intends to maintain a connection from Northampton Road to Old Walkertown Road. The final design will be developed based on design constraints and cost considerations.

Action: Current connection will be maintained.

- *8. NCDOT will align the Alexander Hege House driveway opposite the new intersection ramp, so property access will be under full traffic control. This will allow NCDOT and the property owner full movement for equipment and trucks.

Hydraulics Unit:

1. All bridges and culverts located in designated FEMA flood zones will be designed such that an increase in flood elevations would not exceed the lesser of 0.5 foot per the 100-year flood event or the elevation needed to protect structures.

Action: The commitment will be fulfilled during final design and construction. All MOAs have been approved by NCFPM.

2. The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of project with regard to applicability of NCDOT'S Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

Action: The commitment will be fulfilled during final design and construction. Coordination with the FMP will continue through project completion.

3. NCDOT will avoid installing bridge bents in creeks to the maximum extent practicable.

Action: The commitment will be fulfilled during final design and construction.

Roadside Environmental, Division 9:

1. During design and construction, efforts will be made to minimize the impact to existing vegetative buffers and natural areas. NCDOT will prepare a post construction landscape

design/corridor plan to mitigate construction impacts and integrate enhancements, while remaining sensitive to the environment and to the safety of the traveling public.

Action: This is a standard commitment; post construction plans will be prepared.

2. NCDOT will incorporate sediment and erosion control measures according to the Design Standards in Sensitive Watersheds for all construction in the 303(d) listed portions of Muddy Creek in compliance with 15a NCAC 04B.0124.

Action: The commitment will be fulfilled during final design and construction.

- *3 NCDOT will provide tree protection measures along the National Register boundary lines adjoining project construction areas. NCDOT will exercise best management practices to minimize, as practicable, tree trimming and disturbance of existing plantings along the National Register boundary.

Action: NCDOT will implement this commitment as described in the concurrence form with SHPO. Properties listed are Alexander Hege House, Samuel Stauber House & Barn John Henry Kapp Farm, Clayton Family Farm Seaver's Gas Station, Hammock Family Farm And John & Charles Fries Day Farm.

Roadway, Hydraulics:

1. Generally, 2:1 slopes will be used where possible to minimize culvert length, and NCDOT will shorten culvert lengths where possible and daylight systems between culverts where possible in interchange areas.

Action: Where streams and wetlands are located, where possible, 2:1 slopes were used to minimize impacts.

Right of Way Branch:

1. NCDOT will work with the property owner of Walker Mobile Home Park off of Bethania-Tobaccoville Road to determine the feasibility of relocating the homes to another area of the parcel.

This commitment will take place after design is complete and during Right of Way acquisition.

2. NCDOT will contact the pastor of Mount Pleasant Holiness Church prior to the public hearing and will, if desired, meet with the pastor and members of the church to discuss the impact of Project U-2579 on the church, NCDOT relocation policies, and potential mitigation.

Action: Since the 2004 SFEIS/SDEIS, NCDOT and consultant staff met with the Pastor and members of Mount Pleasant Holiness Church during the 2005 Public hearings. The church representatives declined to attend an Additional meeting regarding this project or impacts of the Northern Beltway on the church.

3. NCDOT will contact minority residents of North Oaks subdivision prior to the public hearing and will, if desired, meet with them to discuss the impacts of Project U-2579 on the community, NCDOT relocation policies, and potential mitigation.

Action: NCDOT and consultant staff met with North Oaks community on November 15, 2004.

Division 9 Construction Unit:

1. A pre-construction survey will be done in areas of possible concern regarding structural damage to assess a pre-construction condition.

Action: The commitment will be done prior to initiation of construction.

Division 9:

1. During construction for Project U-2579AB, NCDOT will coordinate with the Forsyth County School Board to ensure the safety of those students bicycling and/or walking to Sedge Garden Elementary School. If a portion of school property is needed for a temporary construction easement that area will be fenced to keep school children out of the construction site. The school property will be restored following construction. *Action: This commitment will be implemented during construction.*

2. NCDOT will coordinate with local media during the construction of the project to alert the public of traffic restrictions and construction related activities.

Action: This commitment will be implemented during construction.

3. NCDOT shall not approve any new driveway permits along the property of the historic John Henry Kapp Farm within the right of way for the Preferred Alternative. This condition shall be filed in the NCDOT Division office responsible for driveway permits.

Action: This commitment will be implemented as described in the concurrence form with SHPO, during construction of the project.

4. This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics

Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

Action: The commitment will be fulfilled during final design and construction.

PDEA-NES EAU:

1. The biological conclusion for the Northern long-eared bat is Unresolved. Construction authorization will not be requested until ESA compliance is satisfied for the northern long-eared bat.

Action: NCDOT has determined that the proposed action does not require separate consultation on the grounds that the proposed action is consistent with the final Section 4(d) rule, codified at 50 C.F.R. § 17.40(o) and effective February 16, 2016. NCDOT may presume its determination is informed by best available information and consider Section 7 responsibilities fulfilled for NLEB.

COMMITMENTS FROM PERMITTING

No new commitments were developed during permitting.



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

Original Phased
404 Permit

January 22, 2018

Regulatory Division

Action ID: SAW-2017-02112

Mr. Philip S. Harris III, P.E., C.P.M.
Natural Environment Section Head
North Carolina Department of Transportation
Division of Highways
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

In accordance with the written request of 2 October 2017, and the ensuing administrative record, enclosed is a Department of the Army (DA) Permit to construct a 34.5 mile long portion of new location roadway known as the Winston-Salem Northern Beltway, TIPS R-2247 (Western Section), U-2579 (Eastern Section), and U-2579A (Eastern Section Extension), in Forsyth County.

Any deviation in the authorized work will likely require modification of this permit. If a change in the authorized work is necessary, you should promptly submit revised plans to the Corps showing the proposed changes. You may not undertake the proposed changes until the Corps notified you that your permit has been modified.


Carefully read your permit. The general and special conditions are important. Your failure to comply with these conditions could result in a violation of Federal law. Certain significant general conditions require that:

- a. You must complete construction before December 31, 2028.
- b. You must notify this office in advance as to when you intend to commence and complete work.
- c. You must allow representatives from this office to make periodic visits to your worksite as deemed necessary to assure compliance with permit plans and conditions.

You should address all questions regarding this authorization to Mr. James Lastinger in the Raleigh Regulatory Field Office, telephone number (919) 554-4884 ext. 32.

Thank you in advance for completing our Customer Survey Form. This can be accomplished by visiting our web-site at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0 and completing the survey on-line. We value your comments and appreciate your taking the time to complete a survey each time you interact with our office.

Sincerely,


For / Robert J. Clark
Colonel, U.S. Army
District Commander

Enclosures

Copy Furnished (with enclosures):

Chief, Source Data Unit
NOAA/National Ocean Service
Attn: Sharon Tear N/CS261
1315 East-West Hwy., Rm 7316
Silver Spring, Maryland 20910-3282

Copies Furnished with special conditions and plans:

Mr. Pete Benjamin
U.S. Fish and Wildlife Service
Raleigh Ecological Service Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

Mr. Kenneth Riley, Ph.D.
Habitat Conservation Division
National Marine Fisheries Service Southeast Region
101 Pivers Island Road
Beaufort, North Carolina 28516

DEPARTMENT OF THE ARMY PERMIT

Permittee **NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**
ATTN: MR. PHILIP S. HARRIS III, P.E., C.P.M.

Permit No. **SAW-2017-02112**

Issuing Office **CESAW-RG-R**

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: The project involves construction of 34.5 mile long portion of new location roadway known as the Winston-Salem Northern Beltway in Forsyth County, TIPS R-2247 (Western Section), U-2579 (Eastern Section), and U-2579A (Eastern Section Extension). The project involves the permanent discharge of dredged or fill material into 59,395 linear feet of stream channel, and 9.41 acre of riparian wetlands.

Project Location: The project area is a new alignment linear transportation corridor from I-40 near the Town of Clemmons to US 311 North near the town of Walkertown and from I-40 Business to US 311 South around Winston-Salem, Forsyth County, North Carolina.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **December 31, 2028.** If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached, if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit,

Special Conditions:

SEE ATTACHED SPECIAL CONDITIONS

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

- ☐ Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- ☒ Section 404 of the Clean Water Act (33 U.S.C. 1344).
- ☐ Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

- a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- d. Design or construction deficiencies associated with the permitted work.
- e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:


- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

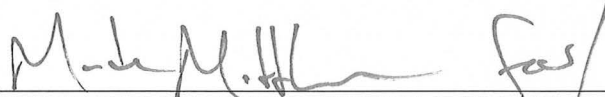
6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit, Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.


for (PERMITTEE) NC DEPARTMENT OF TRANSPORTATION
ATTN: MR. PHILIP S. HARRIS III

01-22-2018
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.


(DISTRICT COMMANDER) ROBERT J. CLARK, COLONEL

22 June 2018
(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE)

(DATE)

SPECIAL CONDITIONS
ACTION ID. SAW-2017-02112
NC DEPARTMENT OF TRANSPORTATION
WINSTON-SALEM NORTHERN BELTWAY
TIP NO.'S R-2247EC, R-2247CD AND U-2579C PHASE 2

Work Limits

1. CONSTRUCTION PLANS: All work authorized by this permit must be performed in strict compliance with the attached plans for U-2579C phase 2, R-2247EC, and R-2247CD, Wetland Surface Water Impacts Permit, dated October 2, 2017, Any modification to these plans must be approved by the US Army Corps of Engineers (Corps) prior to implementation.
2. PHASED PERMIT: This permit only authorizes work on Sections U-2579C phase 2, R-2247EC, and R-2247CD. Construction on any other phase of the Winston-Salem Northern Beltway shall not commence until final design has been completed for those sections, the permittee has minimized impacts to waters and wetlands to the maximum extent practicable, any modifications to the plans, and a compensatory mitigation plan, have been approved by the USACE.
3. UNAUTHORIZED DREDGE OR FILL: Except as authorized by this permit or any Corps approved modification to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area. This prohibition applies to all borrow and fill activities connected with this project.
4. MAINTAIN CIRCULATION AND FLOW OF WATERS: Except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within waters or wetlands or to reduce the reach of waters or wetlands.
5. DEVIATION FROM PERMITTED PLANS: The permittee shall ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Written verification shall be provided that the final construction drawings comply with the attached permit drawings prior to any active construction in waters of the United States, including wetlands. Any deviation in the construction design plans will be brought to the attention of the Corps of Engineers, Mr. James Lastinger of the Raleigh Regulatory Field Office prior to any active construction in waters or wetlands.
6. PRECONSTRUCTION MEETING: The Permittee shall schedule an onsite preconstruction meeting between its representatives, the contractor's representatives and the appropriate Corps of Engineers Project Manager prior to undertaking any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all terms and conditions contained within the Department of the Army permit. The Permittee shall notify the Corps of Engineers Project Manager a minimum of thirty (30) days

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TIP NO.'S R-2247EC, R-2247CD AND U-2579C PHASE 2

in advance of the scheduled meeting in order to provide that individual with ample opportunity to schedule and participate in the required meeting.

7. BORROW AND WASTE: To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent wetlands and streams, except as authorized by this permit, the permittee shall require its contractors and/or agents to identify all areas to be used to borrow material, or to dispose of dredged, fill, or waste material. The permittee shall provide the Corps with appropriate maps indicating the locations of proposed borrow or waste sites as soon as the permittee has that information. The permittee will coordinate with the Corps before approving any borrow or waste sites that are within 400 feet of any streams or wetlands.

Related Laws

8. WATER CONTAMINATION: All mechanized equipment will be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. In the event of a spill of petroleum products or any other hazardous waste, the permittee shall immediately report it to the N.C. Division of Water Quality at (919) 733-3300 or (800) 858-0368 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.

9. The North Carolina Division of Environmental Quality (DEQ) permit/certification number 4131 was issued for this project on December 21, 2017. Special conditions were issued associated with this water quality permit/certification and a copy of these conditions is attached as Exhibit A. These referenced conditions are hereby incorporated as special conditions of this permit.

Project Maintenance

10. NOTIFICATION OF CONSTRUCTION COMMENCEMENT AND COMPLETION: The permittee shall advise the Corps in writing prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.

11. PERMIT DISTRIBUTION: The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit. A copy of this permit, including all conditions, shall be available at the project site during construction and maintenance of this project.

12. PERMIT REVOCATION: The permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the work will, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the water or wetland to its pre-project condition.

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TIP NO.'S R-2247EC, R-2247CD AND U-2579C PHASE 2

13. CLEAN FILL: Unless otherwise authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities. Metal products, organic materials (including debris from land clearing activities), or unsightly debris will not be used. Soils used for fill shall not be contaminated with any toxic substance in concentrations governed by Section 307 of the Clean Water Act.

14. SILT-FENCING: The permittee shall employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation or turbidity within waters and wetlands outside the permit area. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4). Fescue will not be planted within wetland areas.

15. EROSION CONTROL MEASURES IN JURISDICTIONAL WATERS:

A. During the clearing phase of the project, heavy equipment must not be operated in surface waters or stream channels. Temporary stream crossings will be used to access the opposite sides of stream channels. All temporary diversion channels and stream crossings will be constructed of non-erodible materials. Grubbing of riparian vegetation will not occur until immediately before construction begins on a given segment of stream channel.

B. No fill or excavation impacts for the purposes of sedimentation and erosion control shall occur within jurisdictional waters, including wetlands, unless the impacts are included on the plan drawings and specifically authorized by this permit.

C. The permittee shall remove all sediment and erosion control measures placed in wetlands or waters, and shall restore natural grades in those areas, prior to project completion.

16. PROHIBITION ON CONCRETE: The permittee shall take measures to prevent live or fresh concrete, including bags of uncured concrete, from coming into contact with any water in or entering into waters of the United States. Water inside coffer dams or casings that has been in contact with concrete shall only be returned to waters of the United States when it no longer poses a threat to aquatic organisms (i.e. concrete is set and cured).

17. INSTALLATION OF CULVERTS: Unless otherwise requested in the applicant's application and depicted on the approved work plans, culverts greater than 48 inches in diameter will be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter and less shall be buried or placed on the stream bed as practicable and appropriate to maintain aquatic passage, and every effort shall be made to maintain existing channel slope. The bottom of the culvert must be placed at a depth below the natural

SPECIAL CONDITIONS
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stream bottom to provide for passage during drought or low flow conditions. Destabilizing the channel and head cutting upstream should be considered in the placement of the culvert. The following pipes are exempt from this condition:

R-2247CD			
Pipe Location	Size & Material	Impact Site	Pipe Invert Burial Depth (feet)
-Y17- 54+96	48" WSP	4, 5	0.0
-DW1- 15+46	54" RCP	5	0.0
-Y17- 63+32	60" WSP	7	0.0
R-2247EC			
Pipe Location	Size & Material	Impact Site	Pipe Invert Burial Depth (feet)
-L- 108+08	48" WSP	1	0.0
-Y1- 26+19	60" RCP	2	0.0
-L- 111+69	66" WSP	3	0.0
-Y62LPA- INT 13+91	42" RCP/WSP	4, 6	0.0
-Y62RPB- INT 19+95	42" RCP	6	0.0
-L- 141+03	42" WSP	7	0.0

18. AQUATIC PASSAGE: Measures will be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a pipe or culvert should not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed opening should be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow should be determined from gauge data, if available. In the absence of such data, bankfull flow can be used as a comparable level.

ESA

19. THREATENED AND ENDANGERED SPECIES: All necessary precautions and measures will be implemented so that any activity will not kill, injure, capture, harass, or otherwise harm any protected federally listed species. While accomplishing the authorized work, if the permittee discovers or observes a damaged or hurt listed endangered or threatened species, the District Engineer will be immediately notified to initiate the required Federal coordination.

SPECIAL CONDITIONS
ACTION ID. SAW-2017-02112
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WINSTON-SALEM NORTHERN BELTWAY
TIP NO.'S R-2247EC, R-2247CD AND U-2579C PHASE 2

Section 103

20. CULTURAL RESOURCES: The Permittee shall fully implement the Memorandum of Agreement between the Permittee, the North Carolina State Historic Preservation Officer, and the Federal Highway Administration, dated March 15, 2006, which is incorporated herein by reference. (See Exhibit B)

21. UNKNOWN CULTURAL RESOURCES: While accomplishing the authorized work, if the permittee discovers any previously unknown cultural resources, the District Engineer will be immediately notified so that required coordination can be initiated with the North Carolina Division of Cultural Resources.

Enforcement

22. REPORTING ADDRESS: All reports, documentation and correspondence required by the conditions of this permit shall be submitted to the following address: U.S. Army Corps of Engineers, Regulatory Division, Raleigh Regulatory Field Office, c/o Mr. James Lastinger, 3331 Heritage Trade Drive, Suite 105, Wake Forest, North Carolina 27587, and by telephone at: 919-554-4884, extension 32. The Permittee shall reference the following permit number, SAW-2017-02112, on all submittals.

23. REPORTING VIOLATIONS OF THE CLEAN WATER ACT AND RIVERS AND HARBORS ACT: Violation of these conditions or violation of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act must be reported in writing to the Wilmington District U.S. Army Corps of Engineers within 24 hours of the permittee's discovery of the violation.

24. COMPLIANCE INSPECTION: A representative of the Corps of Engineers will periodically and randomly inspect the work for compliance with these conditions. Deviations from these procedures may result in an administrative financial penalty and/or directive to cease work until the problem is resolved to the satisfaction of the Corps.

Compensatory Mitigation

25. 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. (See Exhibit C)

Wilmington District

Compensatory Mitigation Responsibility Transfer Form

Permittee: North Carolina Department of Transportation
Project Name: Winston Salem Northern Beltway

Action ID: SAW-2017-02112
County: Forsyth

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:** 03040101, Yadkin River Basin

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
4,834				1.03		

*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:** 03040101, Yadkin River Basin

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
9,668				2.06		

Mitigation Site Debited: NCDMS

(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:

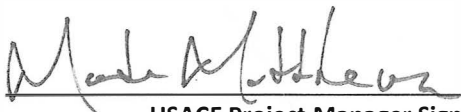
- Once this document has been signed by the Mitigation Sponsor and the USACE is in receipt of the signed form, the Permittee is no longer responsible for providing the mitigation identified in this form, though the Permittee remains responsible for any other mitigation requirements stated in the permit 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 Mitigation Transfer responsibility form is only for final design sections R-2247CD, R-2247EC, and U-2579C phase 2 of the Winston Salem Northern Beltway.

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: James Lastinger
USACE Field Office: Raleigh Regulatory Field Office
US Army Corps of Engineers
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587

Email: james.c.lastinger@usace.army.mil



USACE Project Manager Signature

January 12, 2018

Date of Signature

**AMENDED MEMORANDUM OF AGREEMENT
BETWEEN THE FEDERAL HIGHWAY ADMINISTRATION AND
NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER
FOR
WINSTON-SALEM NORTHERN BELTWAY
(TIP No.'s R-2247, U-2579 & U-2579A)
Federal Aid No. NHF-0918(14)
TO ADDRESS EFFECTS TO
The Alexander Hege House
and
Archaeological Sites 31FY888, 31FY893**, 31FY901, 31FY902**, 31FY903,
31FY910**, 31FY911**, 31FY912**, 31FY921, 31FY925**,
31FY944, and 31FY1053/1053**.
Forsyth County, North Carolina**

WHEREAS, the Federal Highway Administration (FHWA) has determined that the Winston-Salem Northern Beltway, Forsyth County, North Carolina (the Undertaking) will have an effect upon the Alexander Hege House and upon archaeological sites 31FY888, 31FY893**, 31FY901, 31FY902**, 31FY903, 31FY910**, 31FY911**, 31FY912**, 31FY921, 31FY925**, 31FY944, and 31FY1053/1053**, properties determined eligible for listing in the National Register of Historic Places, and has consulted with the North Carolina State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

WHEREAS, in accordance with 36 CFR Part 800, the North Carolina Department of Transportation (NCDOT) acknowledges and accepts the advice and conditions outlined in the Advisory Council on Historic Preservation's (Council) "Recommended Approach for Consultation on the Recovery of Significant Information from Archaeological Sites," published in the Federal Register (FR Doc. 99-12055) on May 17, 1999; and

WHEREAS, this Amended Memorandum of Agreement (MOA) supercedes a previously executed MOA signed by FHWA, SHPO, and NCDOT on April 26, 1996; and

WHEREAS, NCDOT and Bettie P. Slater, owner of the Alexander Hege House (Owner), participated in the consultation and has been invited to concur in this Amended Memorandum of Agreement (Agreement) pursuant only to the Alexander Hege House; and

WHEREAS, the consulting parties agree that the recovery of significant information from the archaeological sites listed above may be done in accordance with the published guidance; and

WHEREAS, the consulting parties agree that it is in the public interest to expend funds for the recovery of significant information from these archaeological sites to mitigate the adverse effects of the project; and

WHEREAS, the consulting parties concur, to the best of their knowledge and belief, that no Native American Tribes or Native Hawaiian organizations attach religious or cultural importance to the affected property and that no objections from such groups have been raised to the work proposed; and

WHEREAS, to the best of our knowledge and belief, no human remains, associated or unassociated funerary objects or sacred objects, or objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001), are expected to be encountered in the archaeological work;

NOW, THEREFORE, FHWA and the North Carolina SHPO agree that the Undertaking will be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on the historic properties. FHWA will ensure that the following terms and conditions will be implemented in a timely manner and with adequate resources in compliance with the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470).

STIPULATIONS

I. Data Recovery of Archaeological Sites:

- ◆ The NCDOT will develop Data Recovery Plans (DRP) for Sites 31FY888, 31FY893**, 31FY901, 31FY902**, 31FY903, 31FY910**, 31FY911**, 31FY912**, 31FY921, 31FY925**, 31FY944, 31FY1053/1053**, all of which will be affected by the subject project, in consultation with the North Carolina SHPO.
- ◆ The NCDOT will ensure that each DRP is implemented after Right-of-Way is acquired or once Right-of-Entry is secured from the property owners and prior to construction activities within the site location as shown in the DRP.
- ◆ As they are developed, each individual DRP will be forwarded for review by the SHPO.
- ◆ Upon completion of each Data Recovery effort, the NCDOT will prepare and forward a Management Summary to the SHPO detailing the results of the Data Recovery field investigations. The Management Summary will contain sufficient information to demonstrate that the field investigation portion of the DRP has been implemented.
- ◆ Upon receipt of the Management Summary, the SHPO will respond within ten (10) days to the recommendations contained within the document.
- ◆ Upon acceptance of the recommendations contained in the Management Summary, the SHPO will issue the NCDOT documentation that the Data Recovery field investigations have been completed.
- ◆ The analysis and report preparation, detailing Sites 31FY888, 31FY893**, 31FY901, 31FY902**, 31FY903, 31FY910**, 31FY911**, 31FY912**, 31FY921, 31FY925**, 31FY944, 31FY1053/1053** will be completed by the NCDOT, or their consultants, within twenty-four (24) months after completion of each site's fieldwork schedule.

II. Alexander Hege House Recordation:

- ◆ Prior to the initiation of construction, NCDOT will record the existing condition of the Alexander Hege House and its surroundings in accordance with the attached Historic Structures and Landscape Recordation Plan (Appendix A).

III. Alexander Hege House and Project Construction:

- ◆ NCDOT will align the Alexander Hege House driveway opposite the new intersection ramp, so property access will be under full traffic signal control. This will allow NCDOT and the property owner full movement for equipment and trucks.
- ◆ In consultation with SHPO, NCDOT will determine the extent of control-of-access fencing, as well as its type, material, and finish. NCDOT will purchase and then install the control-of-access fencing within the NCDOT right-of-way. NCDOT will maintain the control-of-access fencing.
- ◆ NCDOT will provide tree protection measures along the National Register boundary lines adjoining project construction areas. NCDOT will exercise best management practices to minimize, as practicable, tree trimming and disturbance of existing plantings along the National Register boundary.

IV. Preservation Easement:

- ◆ The Alexander Hege House property owner may pursue a preservation easement for the National Register-eligible Alexander Hege House at the owner's discretion.

OTHER TERMS AND CONDITIONS

Unanticipated Discovery

In accordance with 36 CFR 800.11(a), and prior to initiation of construction activities, NCDOT will ensure preparation of a plan of action should archaeological or architectural resources be inadvertently or accidentally discovered during the construction phase of the project. The plan will provide for an assessment of the significance of the discovery in consultation amongst NCDOT, FHWA, and the SHPO. Inadvertent or accidental discovery of human remains will be handled in accordance with North Carolina General Statutes 65 and 70.

Dispute Resolution

Modification, amendment, or termination of this agreement as necessary will be accomplished by the signatories in the same manner as the original agreement. Disputes regarding the completion of the terms of this agreement will be resolved by the signatories. If the signatories cannot agree regarding a dispute, any one of the signatories may request the participation of the Council to assist in resolving the dispute.

Should the North Carolina SHPO object within (30) days to any plans or documentation provided for review pursuant to this Agreement, FHWA will consult with the North Carolina SHPO to resolve the objection. If FHWA or the North Carolina SHPO determines that the objection cannot be resolved, FHWA will forward all documentation relevant to the dispute to the Council. Within thirty (30) days after receipt of all pertinent documentation, the Council will either:

Provide FHWA with recommendations, which FHWA will take into account in reaching a final decision regarding the dispute, or

Notify FHWA that it will comment pursuant to 36 CFR Section 800.7(c) and proceed to comment. Any Council comment provided in response to such a request will be taken

into account by FHWA in accordance with 36 CFR Section 800.7 (c) (4) with reference to the subject of the dispute.

Any recommendation or comment provided by the Council will be understood to pertain only to the subject of the dispute; FHWA's responsibility to carry out all the actions under this Agreement that are not the subject of the dispute will remain unchanged.

Execution of Agreement

Execution of this Amended Memorandum of Agreement by FHWA and the North Carolina SHPO, its subsequent filing with the Council, and implementation of its terms evidence that FHWA has afforded the Council an opportunity to comment on the Undertaking and its effects on the historic properties, and that FHWA has taken into account the effects of the Undertaking on the historic properties.

Expiration and Extension of Agreement

This agreement will be null and void if its terms are not carried out within five (5) years from the date of its execution, unless the signatories agree in writing to an extension for carrying out its terms.

AGREE:

Federal Highway Administration:

John F. Sullivan, III

FOR John F. Sullivan, III, P.E.
Division Administrator

Date: 3/29/06

State Historic Preservation Officer:

Jeffrey J. Crow

Jeffrey J. Crow
North Carolina State Historic Preservation Officer

Date: 2/17/06

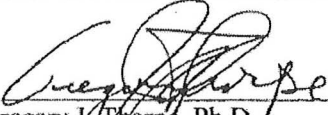
FILED BY:

Advisory Council on Historic Preservation

Date: _____

CONCUR:

North Carolina Department of Transportation:



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

Date: 15 Mar 06

CONCUR:

Alexander Hege House:

Bettie P. Slater, Owner

Date: _____

APPENDIX A

**Historic Structures and Landscape Recordation Plan
For the Alexander Hege House and Site
TIP No. 's R-2247, U-2579 & U-2579A
Winston-Salem Northern Beltway
Federal Aid No. NHF-0918(14)
Forsyth County, North Carolina**

Photographic Requirements

- Overall views of the Alexander Hege House and surrounding landscape (elevations and oblique views).
- Selected photographic views of the Alexander Hege House.
- Views of the property and landscape showing the relationship to existing roads.

Photographic Format

- Color slides (all views)
- 35 mm or larger black and white negatives (all views)
- Two (2) sets of black and white contact sheets (all views)
- All processing to be done to archival standards
- All photographs and negatives to be labeled according to Division of Archives and History standards

Copies and Curation

One (1) set of all photographic documentation will be deposited with the North Carolina Division of Archives and History/State Historic Preservation Office to be made a permanent part of the statewide survey and iconographic collection. One contact sheet will be deposited in the files of the Historic Architecture Section of NCDOT.



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

404 Phased
Modification

July 29, 2022

Regulatory Division

Action ID. SAW-2017-02112

NC DOT TIP No.: U-2579AA and U-2579AB

Philip S. Harris III, P.E., C.P.M.
Environmental Analysis Unit Head
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

Reference the Department of the Army (DA) phased permit issued on January 22, 2018, and subsequent modifications dated March 4, 2019, August 13, 2019, January 29, 2020, December 9, 2020, and February 10, 2021, for the impacts associated with the new location project (TIPs R-2247 and U-2579), the Winston-Salem Beltway, in Forsyth County, North Carolina. Reference is also made to your Section U-2579 AB and AA permit modification request dated November 3, 2021. This modification requests the following:

1) To revise the previously permitted U-2579AB section (USACE 404 Permit Modification for U-2579AB dated February 10, 2021; NCDWR 401 WQC Revision 7, dated February 9, 2021) with impacts associated with the inclusion of the construction of a noise wall, and

2) To provide final design and impact calculations for the Winston-Salem Northern Beltway (Eastern Section of Future I-74), from US 311 to I-40 (U-2579AA). This U-2579AA section was in preliminary design phase when the original permit application was submitted on October 2, 2017.

Impacts associated with the modifications are as follows:

U-2579AB—sites added					
Permit Site	Waters ID	Permanent Impact	Temporary Impact	Mechanized Clearing Impact	Impacts requiring mitigation

14B	ESE-W36 (wetland)	0.01 ac	0 acre	0.02 acre	0.02 acre
31	ESE-S48 (tributary)	15 lf	10 lf	NA	15 lf

U-2579AA —Changes from Preliminary to Final Design			
	Wetland Impacts	Stream Impacts	Open Water
<u>Preliminary Plans</u> (permitted January 22, 2018)	1.43 acre	3,019 lf	0 acres
<u>Final Plans</u> (with Mod)	1.56 acre	3,044 lf	3.04 acres

The Corps has completed the evaluation of your request and has determined that it is appropriate and reasonable, and a public notice is not required for this modification. Furthermore, we have determined the proposed project modifications described above are not contrary to the public interest and are consistent with the 404(b)(1) Guidelines and therefore, the DA permit is hereby modified with the additional Special Condition detailed below.

Additional Special Condition(s):

1. All work authorized by this permit modification shall be performed in strict compliance with the plans submitted with the November 3rd, 2021, modification request (TIP U-2579 Permit Drawings Sheets 1-79 and TIP U-2579AA Permit Drawing Sheets 1-32). These plans are now considered a part of this permit. The Permittee shall ensure that the construction design plans for this project do not deviate from these permit plans. Any modification to the submitted permit plans must be approved by the US Army Corps of Engineers prior to any active construction in waters or wetlands.

All other conditions of the original permit and previous modifications remain applicable, and the expiration date is unchanged. No additional compensatory mitigation is required for this specific request.

This approved modification should be attached to the original permit and will be utilized for future compliance reviews of the project. If you have questions, please contact Andy Williams of the Wilmington District Regulatory Division, at telephone (919) 554-4884.

FOR THE DISTRICT COMMANDER

*Monte
Matthews*

Date: 2022.07.29
14:59:34 -04'00'

Monte Matthews
Lead Project Manager
Wilmington District

cc. electronic

Amy Chapman, NCDEQ
Dave Wanucha, NCDEQ



Original Phased 401 Certification

EXHIBIT A

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

LINDA CULPEPPER
Interim Director

December 21, 2017

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

Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with
ADDITIONAL CONDITIONS for Proposed Winston Salem Northern Beltway from I-40 to US 52 (TIP
Nos. R-2247B Phase 2, CA, CB, CD, D, EA, EB, and EC); and from US 52 to US 311 north (U-2579C
Phase 2, D, E, and F); and, from I-40 Business to US 311 South (U-2579AA, and AB) in Forsyth County.
State Project Nos. 6.628001T and 8.2625101. NCDWR Project No. 19980260 v2. Revision 2.

Dear Mr. Harris:

Attached hereto is a copy of Certification No. WQC004131 issued to The North Carolina Department of
Transportation (NCDOT) dated December 21, 2017.

*The original Certification dated November 14, 2017 was revised (Revision 1) to include Table 7. Revision 1 was
signed and dated November 27, 2017.*

*This hereto is a revision to the November 27, 2017 Certification. This revision clarifies Condition No. 4 of
Condition(s) of Certification below with respect to culvert burial at Sites 2 and 3A of U-2579C Phase 2; adds a
General Condition 1 relative to culvert burial practices; clarifies the type of permanent impacts at Sites 4 and 5 of
R-2247CD as footnoted in Table 3 below; designates mitigation requirements to Sites 4 and 5 in Table 3; and,
accounts for additional mitigation in Condition 1 of Condition(s) of Certification relative to Sites 4 and 5.*

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

Linda Culpepper, Interim Director
Division of Water Resources

Attachments

Electronic copy only distribution:

James Lastinger, US Army Corps of Engineers, Raleigh Field Office
Amy Euliss, Division 9 Environmental Officer
Carla Dagnino, NC Department of Transportation
Bill Barret, NC Department of Transportation
Chris Militscher, US Environmental Protection Agency
Marella Buncick, US Fish and Wildlife Service
Marla Chambers, NC Wildlife Resources Commission
Beth Harmon, Division of Mitigation Services
File Copy

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

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500. This certification authorizes the NCDOT to impact 1.03 acres of jurisdictional wetlands and 5,519 linear feet of jurisdictional streams in Forsyth County as summarized in Tables 1 through 6 below. This portion of the phased project shall be constructed pursuant to the application dated received October 2, 2017.

This certification also authorizes future wetland and stream impacts for other Sections as summarized in Table 7 below.

Table 1. Stream Impacts in the Yadkin Pee Dee River Basin (U-2579C Phase 2)

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 Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
	Roadway Fill		Roadway Fill/Culvert	Bank Stabilization			
1	-	-	1,148	40	31	1,219	1,148
2	-	-	552	45	35	632	552
3A	-	-	914	33	55	1,002	914
4	-	-	405	-	40	445	405
5	390	-	-	-	-	390	-
Total	390	-	3,019	118	161	3,688	3,019

Total Stream Impacts for this Section: 3,688 linear feet

Table 2. Wetland (Riverine) Impacts in the Yadkin Pee Dee River Basin (U-2579C Phase 2)

Site	Fill (ac)	Excavation (ac)	Mechanized Clearing (ac)	Total Wetland Impact (ac)	Impacts Requiring Mitigation (ac)
1	0.57	-	-	0.57	0.57
3B	0.02	0.01	0.01	0.04	0.04
3C	0.06	-	-	0.06	0.06
5	0.02	-	-	0.02	0.02
Total	0.66	0.01	0.01	0.68	0.68

Total Wetland Impacts for this Section 0.68 acres.

Table 3. Stream Impacts in the Yadkin Pee Dee River Basin (R-2247CD)

Site	Permanent Fill in Perennial Stream (linear ft)				Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
	Fill	Ditch	Channel Change/Fill	Bank Stabilization/ RipRap			
2	-	75	-	-	7	82	-
4	-	-	56*	-	4	60	56
5	160	-	15*	72*	-	247	247
6	-	-	-	-	45	45	-
7	17	-	216	-	26	259	-
8	-	-	-	16	10	26	-
9	-	-	-	55	15	70	-
10	-	-	-	17	14	31	-
Total	177	75	287	160	121	820	303

**Note: Impacts at Sites 4 and 5 include riprap in the stream bed which will require mitigation.*

Total Stream Impacts for this Section: 820 linear feet

Table 4. Wetland (Riverine) Impacts in the Yadkin Pee Dee River Basin (R-2247CD)

Site	Fill (ac)	Excavation (ac)	Mechanized Clearing (ac)	Total Wetland Impact (ac)	Impacts Requiring Mitigation (ac)
1	<0.01	-	<0.01	<0.01	<0.01
2	<0.01	<0.01	-	<0.01	<0.01
3	0.01	-	-	0.01	0.01
7	-	-	0.01	0.01	0.01
Total	0.02	<0.01	0.02	0.04	0.04

Total Wetland Impacts for this Section: 0.04 acres.

Table 5. Stream Impacts in the Yadkin Pee Dee River Basin (R-2247EC)

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 Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
	Pipe	Channel Change		Channel Change	Bank Stabilization			
1	-	-	-	112	15	20	147	-
2	-	-	-	156	21	25	202	156
3	-	-	-	165	15	19	199	165
4	54	-	10	-	-	-	64	-
6	-	275	44	-	-	-	319	-
7	-	-	-	22	-	11	33	-
8	-	-	-	30	-	17	47	-
Total	54	275	54	485	51	92	1,011	321

Total Stream Impacts for this Section: 1,011 linear feet

Table 6. Wetland (Riverine) Impacts in the Yadkin Pee Dee River Basin (R-2247EC)

Site	Fill (ac)	Excavation (ac)	Mechanized Clearing (ac)	Total Wetland Impact (ac)	Impacts Requiring Mitigation (ac)
1	<0.01	<0.01	<0.01	<0.01	<0.01
4	0.04	-	0.02	0.06	0.06
5	0.22	-	0.01	0.24	0.24
Total	0.26	<0.01	0.04	0.31	0.31

Total Wetland Impacts for this Section: 0.31 acres.

Table 7. Summary of Preliminary Stream and Wetland Impacts for Future Sections

Section	Stream Impacts (linear feet)	Wetland Impacts (acres)	Impacts Requiring Mitigation	
			Streams (linear feet)	Wetlands (acres)
U-2579AA	3,019	1.43	3,019	1.43
U-2579AB	10,351	1.50	10,351	1.50
U-2579D	5,043	0.08	5,043	0.08
U-2579E	4,864	0.99	4,864	0.99
U-2579F	2,544	0.24	2,544	0.24
R-2247EA	6,536	0.57	6,536	0.57
R-2247EB	6,593	0.09	6,593	0.09
R-2247B Phase 2	862	0.27	862	0.27
R-2247CA	3,056	0.71	3,056	0.71
R-2247CB	5,674	1.98	5,674	1.98
R-2247D	5,762	0.52	5,762	0.52
Total	54,304	8.38	54,304	8.38

Notes: Mitigation totals are estimates. Mitigation is not required for intermittent streams. Final mitigation requirements will be determined once permit is modified and preliminary impacts are finalized for other Sections.

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

This approval is only valid for the purpose and design that you submitted in your application dated received October 2, 2017. Should your project change, you are required to notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 300 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Condition(s) of Certification:

1. Compensatory mitigation for 3,643 linear feet of impacts to streams and 1.03 acres of wetlands is required for Sections R-2247EC, R-2247CD and U-2579C Phase 2. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Division of Mitigation Service (DMS) (formerly NCEEP), and that the DMS has agreed to implement the mitigation for the project. The DMS has indicated in a letter dated September 29, 2017 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the DMS Mitigation Banking Instrument signed July 28, 2010.
2. When final design plans are completed for other Sections (in Table 7) of this phased project, a modification to the 401 Water Quality Certification shall be submitted with five copies and fees to the NC Division of Water Resources. Final designs shall reflect all appropriate avoidance, minimization, and mitigation for impacts to wetlands, streams, and other surface waters, and buffers. No construction activities that impact any wetlands, streams or surface waters, other than those referenced above in Tables 1 through 6 for U-2579C Phase 2, R-2247 CD and R-2247EC, shall begin until after the permittee applies for, and receives a written modification of the 401 Water Quality from the NC Division of Water Resources. [15A NCAC 02H. 0506(b)]
3. As discussed in Merger and restated in the above reference permit application, NCDWR will not require burial of pipes/culverts in the streambed at impact sites for R-2247CD and EC. However, design and placement of culverts and other structures shall be constructed in such a manner that the original stream profiles are not altered (i.e., the depth of the channel must not be reduced by a widening of the streambed). Existing stream dimensions (including pattern and profile) are to be maintained above and below locations of each culvert. The structures shall be designed and installed to allow for fish and other wildlife movement as well as prevent headcutting of the stream. The applicant may be required to provide evidence that the equilibrium has been maintained if requested in writing by the NCDWR. [15A NCAC 02H.0506(b)(2)]
4. For U-2579C Phase 2, the inlet invert of the 60-inch pipe crossing at Site 2 will not be buried to prevent head cutting. However, the outlet will be buried one foot. At Site 3A, the culvert will be buried 0.75 feet. 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 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)]
5. The post-construction removal of any temporary bridge structures must return the project site to its preconstruction contours and elevations. The impacted areas shall be revegetated with appropriate native species. [15A NCAC 02H .0506(b)(2)]
6. 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)]
7. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. [15A NCAC 02H .0507(d)(2) and 15A NCAC 02H .0506(b)(5)]

General Conditions

1. Unless otherwise approved in this certification, placement of culverts and other structures in open waters and streams shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required. [15A NCAC 02H.0506(b)(2)]

2. 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]
3. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers. [15A NCAC 02H.0506(b)(2)]
4. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions. [15A NCAC 02H.0506(b)(2)]
5. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage. [15A NCAC 02H.0506(b)(2)]
6. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
7. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water. [15A NCAC 02H.0506(b)(3) and (c)(3)]
8. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream. [15A NCAC 02H.0506(b)(3)]
9. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials. [15A NCAC 02H.0506(b)(3)]
10. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification. [15A NCAC 02H.0506(b)(3)]
11. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]
12. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If the NCDWR determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, the NCDWR may reevaluate and modify this certification. [15A NCAC 02B.0200]
13. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification. [15A NCAC 02H.0506(b)(2)]
14. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
15. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing/flagging prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]
16. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having

jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.

17. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]
18. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer (or appointee) 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)]
19. Native riparian vegetation must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02H.0506(b)(2)]
20. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities. [15A NCAC 02H.0506(b)(3) and (c)(3)]
21. Erosion 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.
22. 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)]

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

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. Bill F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center

This the 21st day of December 2017

DIVISION OF WATER RESOURCES

Ang Chapman for:
Linda Culpepper, Interim Director

WQC No. WQ004131

ROY COOPER
Governor

ELIZABETH S. BISER
Secretary

S. DANIEL SMITH
Director



401 Phased
Modification

January 10, 2022

Mr. Philip S. Harris, III, P.E., CPM
Environment Analysis Unit Head
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598

Subject: Modification to the 401 Water Quality Certification (WQC 004131) Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS, for additional portions of the Winston Salem Northern Beltway (Eastern Section of Future I-74) from US 311 to I-40 of which includes Sections **U-2579AB and U-2579AA** (I-40 Business to US 311 South); Federal Aid Project No. NHF-0918(14); WBS No. 34839.1.7; NCDWR Project No. 19980260 version 8.

Dear Mr. Harris:

Attached hereto is a modification of Certification No. 004131 issued to The North Carolina Department of Transportation (NCDOT) originally issued and dated November 14, 2017 for the Winston Salem Northern Beltway from I-40 to US 52 (R-2247B Phase 2, CA, CB, CD, D, EA, EB, and EC), from US 52 to US 311 North (U-2579C Phase 2, D, E, and F), and from I-40 Business to US 311 South (U-2579AA and AB); Revision 2 dated December 21, 2017; Revision 3 dated February 7, 2019; Revision 4 dated August 13, 2019; Revision 5 dated November 14, 2019; Revision 6, dated November 30, 2020; In-Field Modification dated January 14, 2021; and, Revision 7 dated February 9, 2021.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

DocuSigned by:

Amy Chapman

S. Daniel Smith
9C9886312DCD474...
Division of Water Resources

Attachments

Electronic copy only distribution:

Andrew Williams, US Army Corps of Engineers, Raleigh Field Office
Amy Euliss, NC Department of Transportation, Division 9
Colin Mellor, NC Department of Transportation
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North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1617
919.707.9000

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

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500. This certification authorizes the NCDOT to impact an additional 3,491 linear feet of jurisdictional streams, 1.64 acres of wetlands and 3.04 acres of open water (ponds) in Forsyth County (for U-2579AA and AB). The project shall be constructed pursuant to the modification dated November 3, 2021. The authorized impacts are as described in Tables 1 through 7 below:

Table 1. New (Modified) Wetland Impacts in the Yadkin Pee Dee River Basin; U-2579AB.

New Permit Site	Permanent Fill (ac)	Excavation (ac)	Mechanized Clearing (ac)	Impacts Requiring Mitigation (ac)
14B	<0.01	-	0.02	0.02
Previously Permitted Totals (for all Sites)	1.11	0.02	0.29	1.43

Notes: Data are rounded.

Table 2. New (Modified) Intermittent Stream Impacts in the Yadkin Pee Dee River Basin; U-2579AB.

New Permit Site	Impact Type	Permanent Impacts (linear ft)	Temporary Impacts (linear ft)	Impacts Requiring Mitigation (linear ft)
	Roadway Fill			
31		15	10	-
Previously Permitted Totals (for all Sites)		9,180	824	5,222

Table 3. Stream Impacts in the Yadkin Pee Dee River Basin - U-2579AA.

Permit Site	Stream Type	Impact Type	Permanent Impacts (linear ft)	Temporary Impacts (linear ft)	Impacts Requiring Mitigation (linear ft)
1	I	42-inch RCP-V (not buried)	392	0	--
		Channel armoring	14	24	--
		Bank Stabilization	15	9	--
2C	P		16	20	--
3		2 @ 9'X 9' RCBC	240	0	240
		Channel Change	124	0	124
		Bank Stabilization	26	20	26
3A		Bank stabilization (detour-ditch outlets)	20	40	20
3B		Bank Stabilization - (detour bridge)	35	18	35
4		2 @ 10'X 9' RCBC	418	0	418
		Channel Change	85	0	85
		Bank Stabilization	80	0	80
4A		Bank Stabilization – (culvert phasing)	67	10	67

Table 3. Stream Impacts in the Yadkin Pee Dee River Basin - U-2579AA.

Permit Site	Stream Type	Impact Type	Permanent Impacts (linear ft)	Temporary Impacts (linear ft)	Impacts Requiring Mitigation (linear ft)
5A	P	Scour Hole Stabilization (assoc. w/ 60” CMP removal)	42	40	42
5B		Scour Hole Stabilization (assoc. w/ 60” CMP removal)	8	10	8
5C		Bank Stabilization	236	17	236
5D			173	0	173
6	I	36-inch Welded Steel Pipe / channel armoring	57	0	--
		Bank Stabilization	68	20	--
7	P	72-inch Alt/Welded Steel Pipe	26	0	--
		Bank Stabilization	23	15	--
7A		72-inch Alt/Welded Steel Pipe	11	0	--
Bank Stabilization		35	10	--	
		10	60	20	--
		10A	9	22	--
		10B	8	10	--
		10C	8	10	--
		10D	10	10	--
12A		I	Channel armoring (for Energy Dissipator Basin)	33	0
12B	Channel change		80	10	--
13	60-inch Alt/Welded Steel Pipe		32	0	--
	Channel Armoring		31	25	--
14	P	3 @ 8’X 8’ RCBC Extension	150	0	150
		Bank Stabilization	97	20	97
14A	I	3’ Base Ditch	50	10	--
15	P	36-inch RCP - III	249	0	--
		Bank Stabilization	16	32	--
Totals			3,044	422	1,801

Notes: For stream types; I = Intermittent, P = Perennial.

Table 4. Wetland Impacts in the Yadkin PeeDee River Basin - U-2579AA.

Permit Site	Permanent Fill Impacts (ac)	Excavation Impacts (ac)	Mechanized Clearing Impacts (ac)	Impacts Requiring Mitigation (ac)
5	<0.01	0	0.02	0.02
8	0.04	0.04	0.02	0.10
9	0	0	0.06	0.06
11	0	0	0.03	0.03
14B	0.38	0	0.05	0.43
15A	0.64	0.07	0.20	0.92
Totals	1.07	0.11	0.38	1.56

Notes: Data are rounded.

Table 5. Open Water Impact (Ponds) in the Yadkin PeeDee River Basin - U-2579AA.

Permit Site	Pond Size (ac)	Permanent Fill (ac)	Impacts Requiring Mitigation (ac)
2	0.50	0.50	-
2A	0.12	0.12	-
2B	2.31	2.31	-
6A	0.11	0.11	-
Totals	3.04	3.04	-

Table 6. Wetland Impacts in the Yadkin PeeDee from Utilities - U-2579AA.

Utility Site	Impact Type	Excavation (ac)	Impacts Requiring Mitigation (ac)
	Gravity Sewer Line (inch)		
Site 5	30	0.02	0.02
Site 16	16	< 0.01	< 0.01
Site 17	16	0.03	0.03
Site 18	30	< 0.01	< 0.01
Totals		0.06	0.06

Notes: Impacts for Sites 5 and 18 are outside of permanent fill at Wetland Site 5. Data are rounded.

Table 7. Permit Sites where culvert/pipe inverts are to be buried vs. not buried – U-2579AA.

Yes	3	4	--				
No	1	6	7	7A	13	14	15

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

This approval is only valid for the purpose and design that you submitted in your modification application dated November 3, 2021. All the authorized activities and conditions associated with the original Water Quality Certification dated November 14, 2017 for the Winston Salem Northern Beltway from I-40 to US 52 (R-2247B Phase 2, CA, CB, CD, D, EA, EB, and EC), from US 52 to US 311 North (U-2579C Phase 2, D, E, and F), and from I-40 Business to US 311 South (U-2579AA and AB) and subsequently modified (Revision 2 dated December 21, 2017; Revision 3 dated February 7, 2019; Revision 4 dated August 13, 2019; Revision 5 dated November 14, 2019; Revision 6, dated November 30, 2020; In-Field Modification dated January 14, 2021; and, Revision 7 dated February 9, 2021) still apply except where superseded by this certification.

Should your project change, you are required to notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 300 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Condition(s) of Certification:

1. This modification is applicable only to the additional proposed activities and design that you submitted in your request for modification dated November 3, 2021. All the authorized activities and conditions

associated with the original Water Quality Certification dated November 14, 2017 for the Winston Salem Northern Beltway from I-40 to US 52 (R-2247B Phase 2, CA, CB, CD, D, EA, EB, and EC), from US 52 to US 311 North (U-2579C Phase 2, D, E, and F), and from I-40 Business to US 311 South (U-2579AA and AB) and subsequently modified (Revision 2 dated December 21, 2017; Revision 3 dated February 7, 2019; Revision 4 dated August 13, 2019; Revision 5 dated November 14, 2019; Revision 6, dated November 30, 2020; In-Field Modification dated January 14, 2021; and, Revision 7 dated February 9, 2021) still apply [15A NCAC 02H.0506(b) (1, 2)].

2. 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. Table 7 above lists those permit sites where culvert/pipe burial is exempt from this condition or not. 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)]

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

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. Bill F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center

This the 10th day of January 2022

DIVISION OF WATER RESOURCES

DocuSigned by:

Amy Chapman

9C9886312DCD474...

S. Daniel Smith, Director

WQC No. 004131

CONTRACT:

SITE 10

SITE 10A

SITE 10B

SITE 10C

SITE 10D

SITE 15A

SITE 15

SITE 2B

SITE 2C

SITE 1

SITE 2

SITE 3A

SITE 3B

SITE 3

SITE 4

SITE 5

SITE 5A

SITE 5B

SITE 5C

SITE 6A

SITE 6

SITE 7A

SITE 7

SITE 8

SITE 9

SITE 11

SITE 12

SITE 13

SITE 14

SITE 14A

SITE 14B

SITE 4A

SITE 5D

CITY OF WINSTON SALEM
FORSYTH COUNTY

CITY OF WINSTON SALEM
FORSYTH COUNTY

CITY OF WINSTON SALEM
FORSYTH COUNTY

TO WINSTON SALEM

TO HIGH POINT

V&M
Vaughn & Melton
Consulting Engineers
Asheville,
North Carolina
828-252-2796
Boone, NC 828-355-9933
Tiptonville, TN 423-467-8401
Knoxville, TN 865-546-5800
Spartanburg, SC 864-574-4775
Charleston, SC 843-974-5650
Middleboro, KY 502-248-6600
Atlanta, GA 770-627-3509
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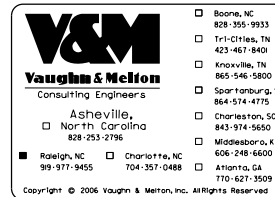
WV
ETHERILL
ENGINEERING

PERMIT DRAWING
SHEET 1 OF 32

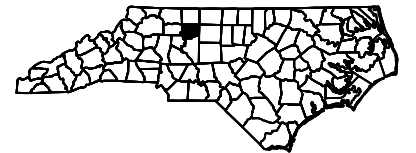
END TIP PROJECT U-2579AA
-L- STA. 91+10.37
TIE TO U-4909

THIS IS A CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

THIS IS A CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2579AA	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
34839.1.7	N/A	PE	
34839.2.3	N/A	ROW, UTIL.	
34839.3.GV3	N/A	CONSTRUCTION	



PERMIT DRAWING
SHEET 1 OF 32

GRAPHIC SCALES		DESIGN DATA	
<p>50 25 0 50 100</p> <p>PLANS</p>		ADT 2020 = 10,733	
		ADT 2040 = 16,400	
		K = 9 %	
		D = 60 %	
		T = 7 % *	
		V = 70 MPH	
<p>50 25 0 50 100</p> <p>PROFILE (HORIZONTAL)</p>		* (TTST = 4% & DUAL = 3%)	
		FUNC CLASS = INTERSTATE	
<p>10 5 0 10 20</p> <p>PROFILE (VERTICAL)</p>		STATEWIDE TIER	

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT U-2579AA	=	1.524 MILES
LENGTH OF STRUCTURES TIP PROJECT U-2579AA	=	0.012 MILES
TOTAL LENGTH TIP PROJECT U-2579AA	=	1.536 MILES

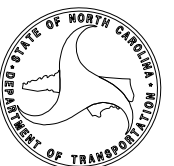
<p>Prepared In the Office of:</p> <p>VAUGHN & MELTON, INC</p> <p>3509 Haworth Dr. #100, Raleigh NC, 27609 Phone (919)-977-9455</p>	
<p>2018 STANDARD SPECIFICATIONS</p> <p>RIGHT OF WAY DATE:</p> <p><u>AUGUST 31, 2018</u></p> <p>LETTING DATE:</p> <p><u>OCTOBER 18, 2022</u></p>	<p>JOHN LANSFORD, PE</p> <p><i>PROJECT ENGINEER</i></p> <p>WARREN JOHNSON</p> <p><i>PROJECT DESIGN ENGINEER</i></p>
<p>NCDOT CONTACT:</p>	<p>PAMELA R. WILLIAMS</p>

HYDRAULICS ENGINEER

SIGNATURE:

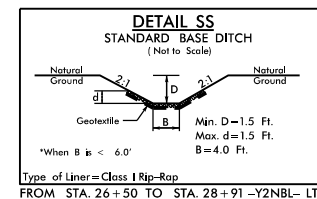
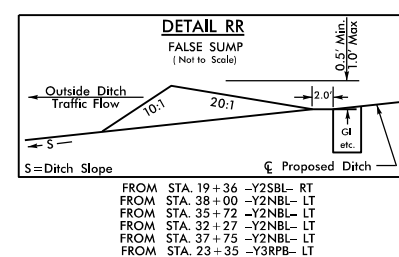
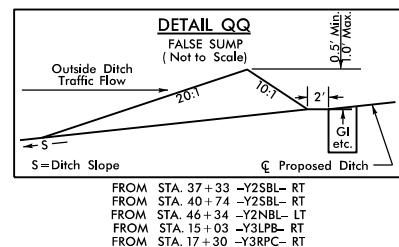
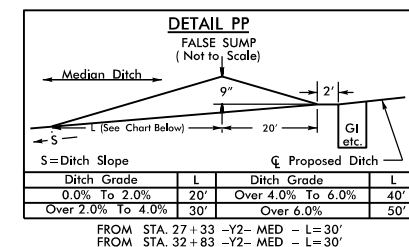
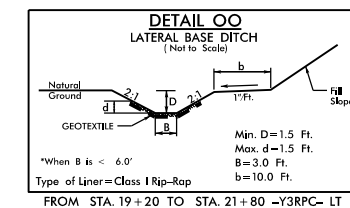
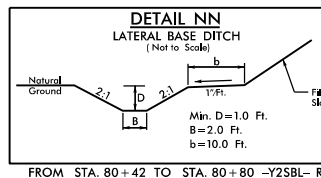
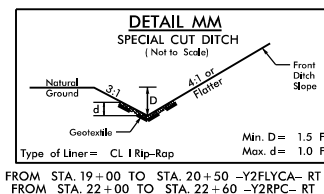
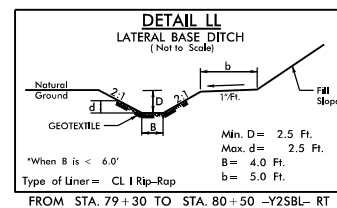
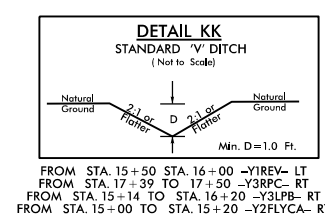
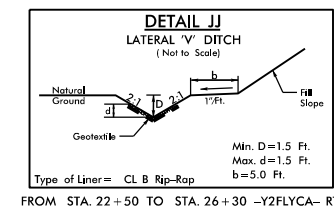
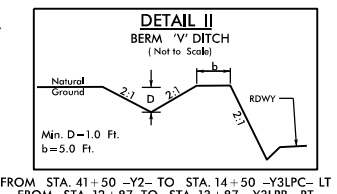
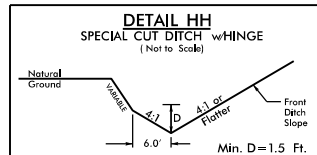
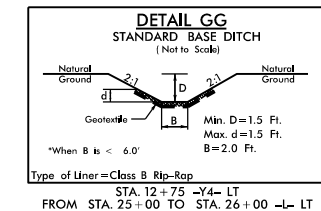
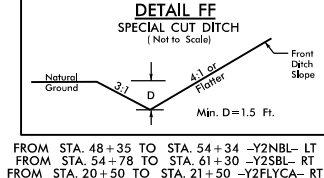
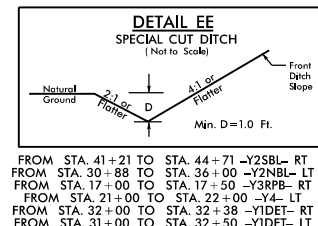
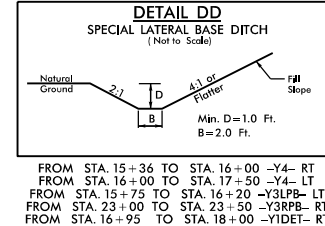
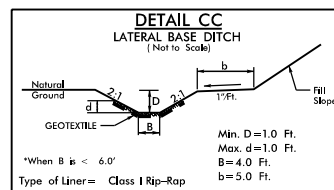
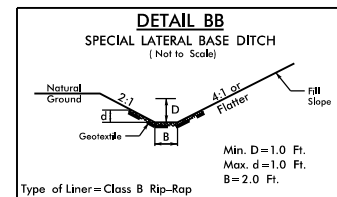
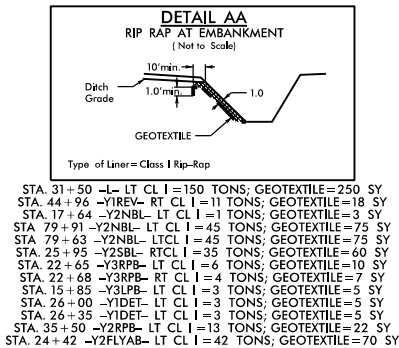
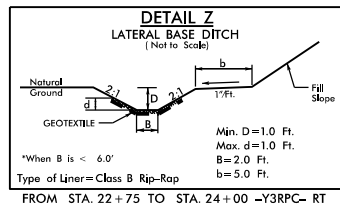
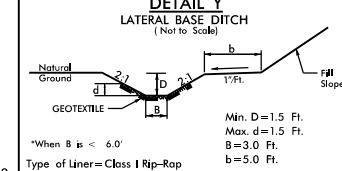
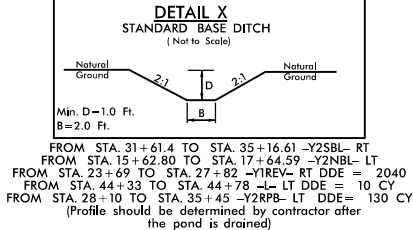
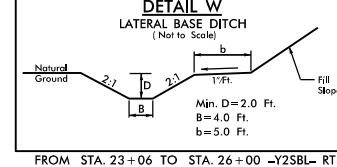
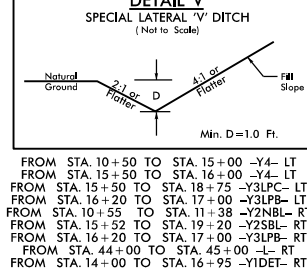
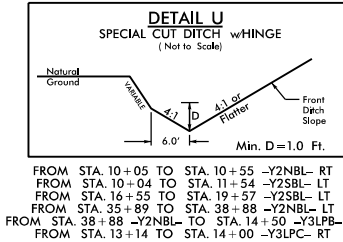
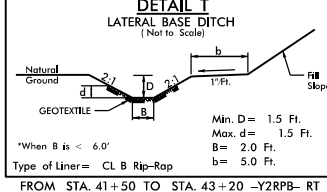
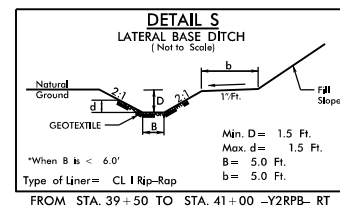
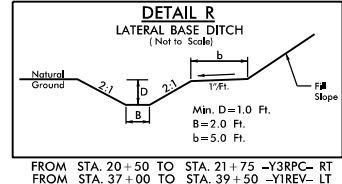
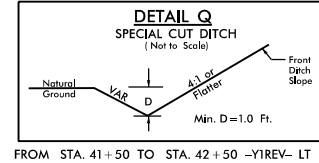
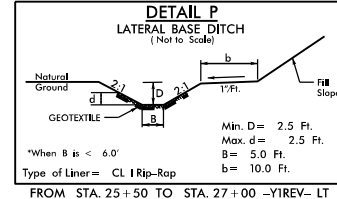
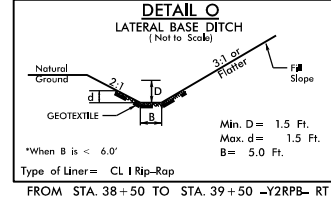
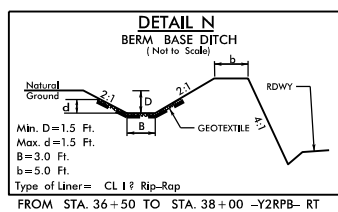
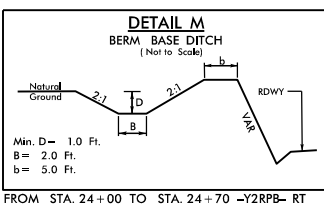
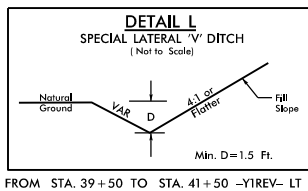
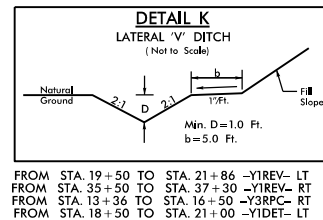
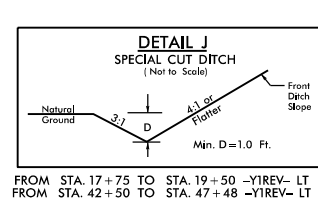
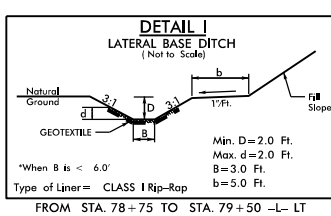
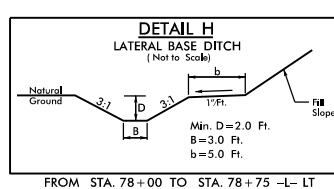
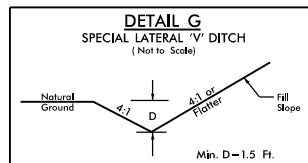
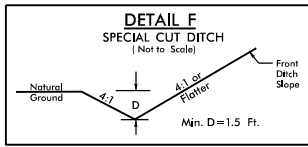
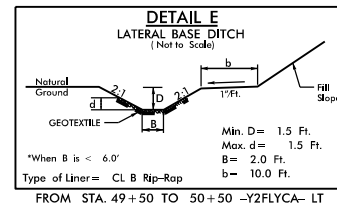
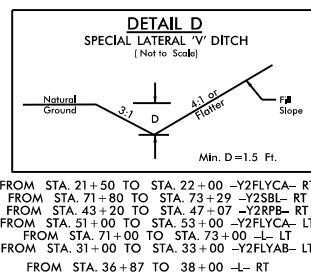
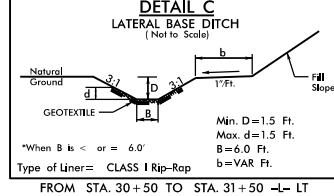
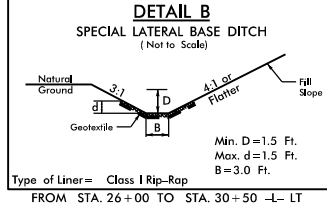
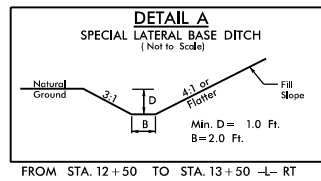
**ROADWAY DESIGN
ENGINEER**

SIGNATURE:



PROJECT REFERENCE NO.		SHEET NO.	
		2D-1	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER			HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

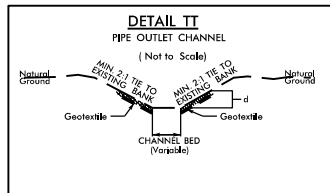
PERMIT DRAWING
SHEET 2 OF 32



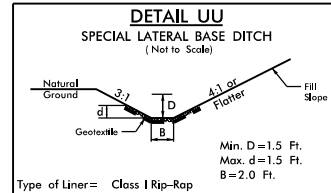
INCOMPLETE PLANS
DO NOT USE FOR A/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

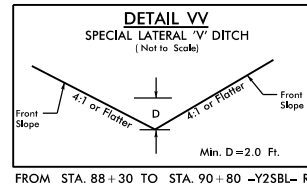
PERMIT DRAWING
SHEET 3 OF 32



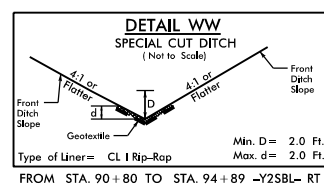
STA. 18+81 -Y2NBL- LT; 11 TON CL I; 18 SY GF; d=3 Ft; L=26 Ft
STA. 21+62 -Y2NBL- LT; 4 TON CL I; 7 SY GF; d=3 Ft; L=8 Ft
STA. 22+95 -Y2NBL- LT; 4 TON CL I; 7 SY GF; d=3 Ft; L=8 Ft
STA. 69+45 -Y2NBL- LT; 47 TON CL I; 80 SY GF; d=3 Ft; L=20 Ft
STA. 14+75 -L- RT; 7 TON CL B; 12 SY GF; d=3 Ft; L=15 Ft
STA. 54+35 -L- RT; 16 TON CL I; 27 SY GF; d=5 Ft; L=35 Ft
STA. 23+00 -Y2RPC- RT; 5 TON CL B; 9 SY GF; d=3 Ft; L=11 Ft
STA. 41+30 -Y2RPB- RT; 18 TON CL B; 31 SY GF; d=3 Ft; L=15 Ft



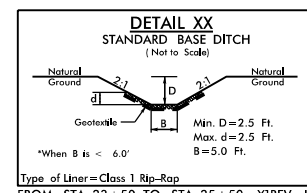
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FROM STA. 50+50 TO STA. 51+00 -Y2FLYCA- LT



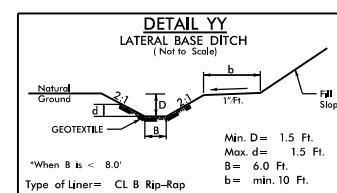
FROM STA. 88+30 TO STA. 90+80 -Y2SBL- RT



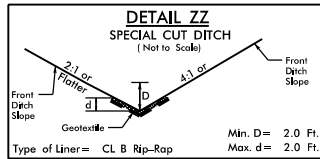
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FROM STA. 90+80 TO STA. 94+89 -Y2SBL- RT



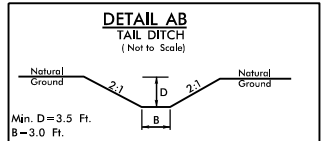
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FROM STA. 23+50 TO STA. 25+50 -Y1REV- LT
FROM STA. 19+00 TO STA. 27+30 -Y1DET- RT



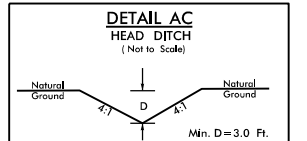
Type of Liner = CL B Rip-Rap
FROM STA. 40+86 TO STA. 42+00 -Y2RPB- LT



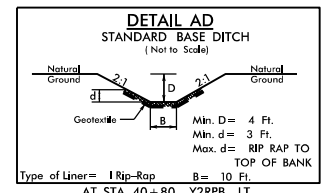
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FROM STA. 42+50 TO STA. 43+20 -Y2RPB- LT



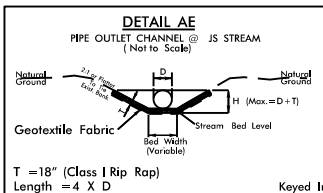
FROM STA. 77+60 TO STA. 78+00 -L- LT



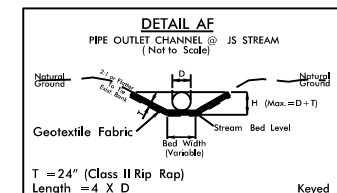
FROM STA. 21+00 CUL TO STA. 22+11 -Y1REV- RT
STA. 26+78 -Y2RPB- RT



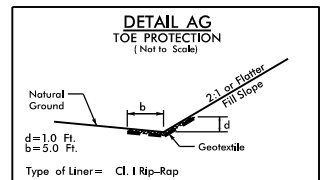
Type of Liner = I Rip-Rap
AT STA. 40+80 -Y2RPB- LT



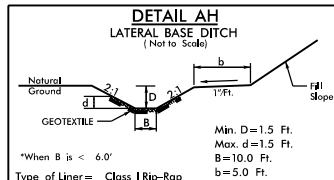
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Keyed In
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AT STA. 24+50 -Y2FLYAB- LT



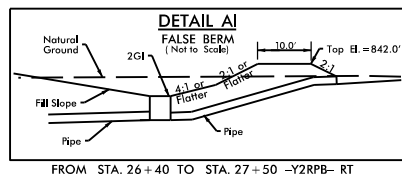
T = 24" (Class II Rip Rap)
Length = 4 X D
Keyed In
AT STA. 18+12 -Y2FLYAB- RT
AT STA. 62+28 -Y2SLB- RT



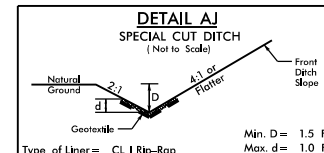
FROM STA. 15+75 TO STA. 17+50 -Y2FLYCA- RT
FROM STA. 22+63 TO STA. 23+63 -Y2RPC- RT
FROM STA. 54+50 TO STA. 55+00 -L- RT
FROM STA. 38+00 TO STA. 40+08 -L- RT



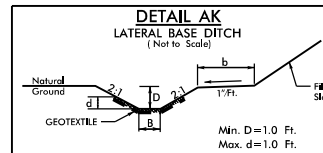
Type of Liner = Class I Rip-Rap
FROM STA. 52+50 TO STA. 53+00 -L- RT
FROM STA. 53+10 TO STA. 54+00 -L- RT



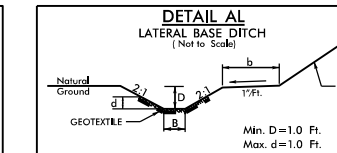
FROM STA. 26+40 TO STA. 27+50 -Y2RPB- RT



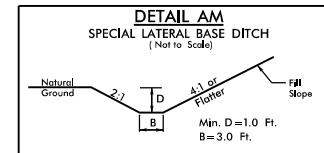
Type of Liner = CL I Rip-Rap
FROM STA. 15+00 TO STA. 16+30 -Y1DET- LT



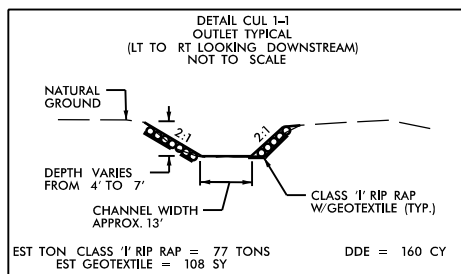
Type of Liner = Class I Rip-Rap
FROM STA. 16+30 TO STA. 18+50 -Y1DET- LT



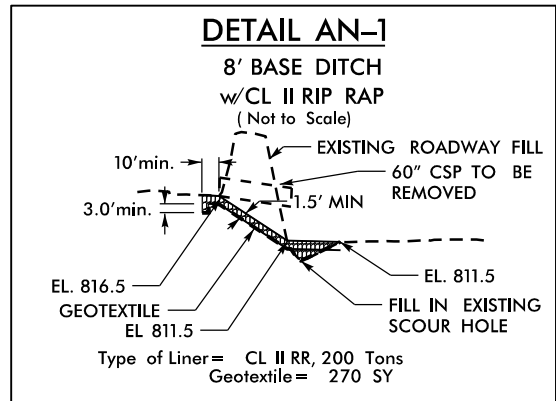
Type of Liner = CL I Rip-Rap
FROM STA. 21+00 TO STA. 26+00 -Y1DET- LT



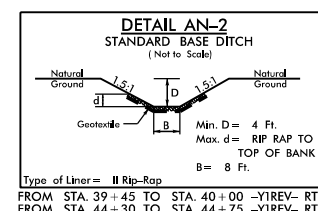
FROM STA. 26+25 TO STA. 30+00 -Y1DET- LT



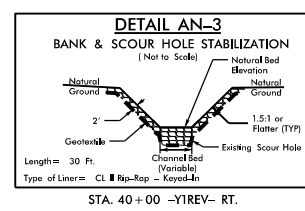
EST TON CLASS 'I' RIP RAP = 77 TONS
EST GEOTEXTILE = 108 SY
DDE = 160 CY



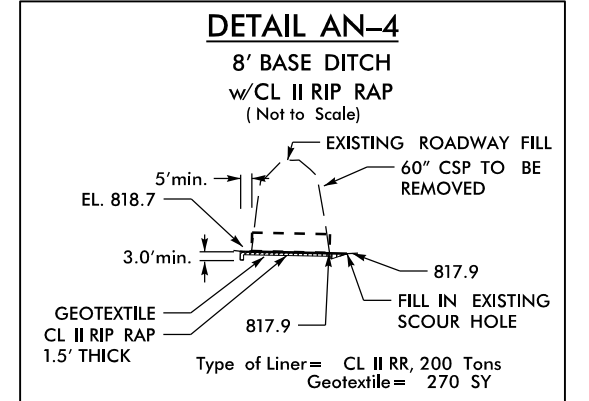
FROM STA. 39+45 TO STA. 40+00 -Y1REV- RT.



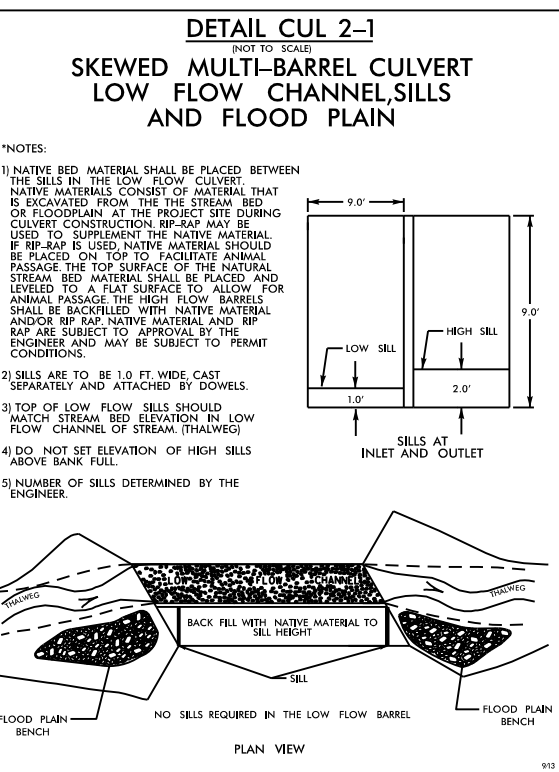
Type of Liner = II Rip-Rap
FROM STA. 39+45 TO STA. 40+00 -Y1REV- RT
FROM STA. 44+30 TO STA. 44+75 -Y1REV- RT



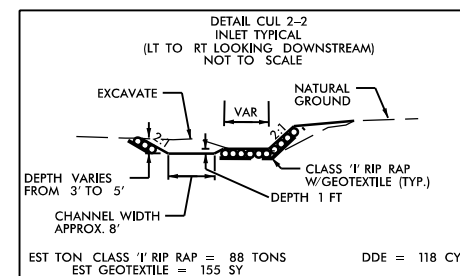
Type of Liner = CL II Rip-Rap - Keyed-In
STA. 40+00 -Y1REV- RT.



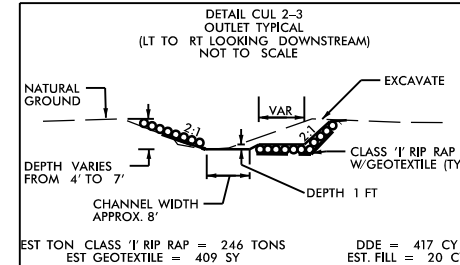
FROM STA. 44+30 TO STA. 44+75 -Y1REV- RT.



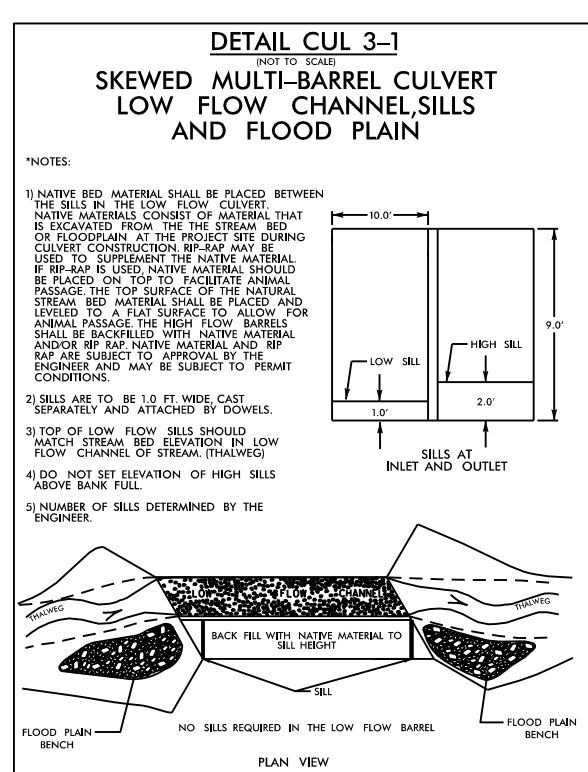
- *NOTES:
- 1) NATIVE BED MATERIAL SHALL BE PLACED BETWEEN THE SILLS IN THE LOW FLOW CULVERT. NATIVE MATERIALS CONSIST OF MATERIAL THAT IS EXCAVATED FROM THE THE STREAM BED OR FLOODPLAIN AT THE PROJECT SITE DURING CULVERT CONSTRUCTION. RIP-RAP MAY BE USED TO SUPPLEMENT THE NATIVE MATERIAL IF RIP-RAP IS USED NATIVE MATERIAL SHOULD BE PLACED ON TOP TO FACILITATE ANIMAL PASSAGE. THE TOP SURFACE OF THE NATURAL STREAM BED MATERIAL SHALL BE PLACED AND LEVELED TO A FLAT SURFACE TO ALLOW FOR ANIMAL PASSAGE. THE HIGH FLOW BARRELS SHALL BE BACKFILLED WITH NATIVE MATERIAL AND/OR RIP RAP. NATIVE MATERIAL AND RIP RAP ARE SUBJECT TO APPROVAL BY THE ENGINEER AND MAY BE SUBJECT TO PERMIT CONDITIONS.
 - 2) SILLS ARE TO BE 1.0 FT. WIDE, CAST SEPARATELY AND ATTACHED BY DOWELS.
 - 3) TOP OF LOW FLOW SILLS SHOULD MATCH STREAM BED ELEVATION IN LOW FLOW CHANNEL OF STREAM. (THALWEG)
 - 4) DO NOT SET ELEVATION OF HIGH SILLS ABOVE BANK FULL.
 - 5) NUMBER OF SILLS DETERMINED BY THE ENGINEER.



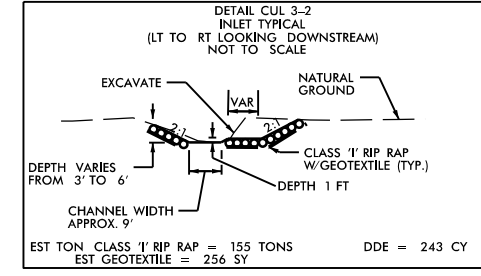
EST TON CLASS 'I' RIP RAP = 88 TONS
EST GEOTEXTILE = 155 SY
DDE = 118 CY



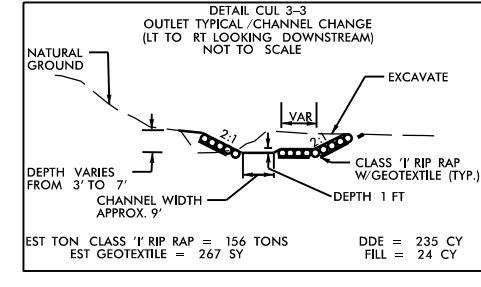
EST TON CLASS 'I' RIP RAP = 246 TONS
EST GEOTEXTILE = 409 SY
DDE = 417 CY
EST. FILL = 20 CY



- *NOTES:
- 1) NATIVE BED MATERIAL SHALL BE PLACED BETWEEN THE SILLS IN THE LOW FLOW CULVERT. NATIVE MATERIALS CONSIST OF MATERIAL THAT IS EXCAVATED FROM THE THE STREAM BED OR FLOODPLAIN AT THE PROJECT SITE DURING CULVERT CONSTRUCTION. RIP-RAP MAY BE USED TO SUPPLEMENT THE NATIVE MATERIAL IF RIP-RAP IS USED NATIVE MATERIAL SHOULD BE PLACED ON TOP TO FACILITATE ANIMAL PASSAGE. THE TOP SURFACE OF THE NATURAL STREAM BED MATERIAL SHALL BE PLACED AND LEVELED TO A FLAT SURFACE TO ALLOW FOR ANIMAL PASSAGE. THE HIGH FLOW BARRELS SHALL BE BACKFILLED WITH NATIVE MATERIAL AND/OR RIP RAP. NATIVE MATERIAL AND RIP RAP ARE SUBJECT TO APPROVAL BY THE ENGINEER AND MAY BE SUBJECT TO PERMIT CONDITIONS.
 - 2) SILLS ARE TO BE 1.0 FT. WIDE, CAST SEPARATELY AND ATTACHED BY DOWELS.
 - 3) TOP OF LOW FLOW SILLS SHOULD MATCH STREAM BED ELEVATION IN LOW FLOW CHANNEL OF STREAM. (THALWEG)
 - 4) DO NOT SET ELEVATION OF HIGH SILLS ABOVE BANK FULL.
 - 5) NUMBER OF SILLS DETERMINED BY THE ENGINEER.



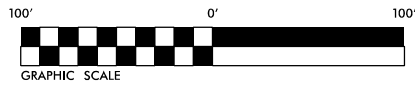
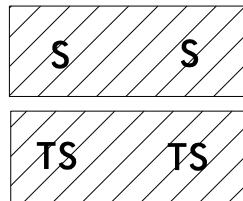
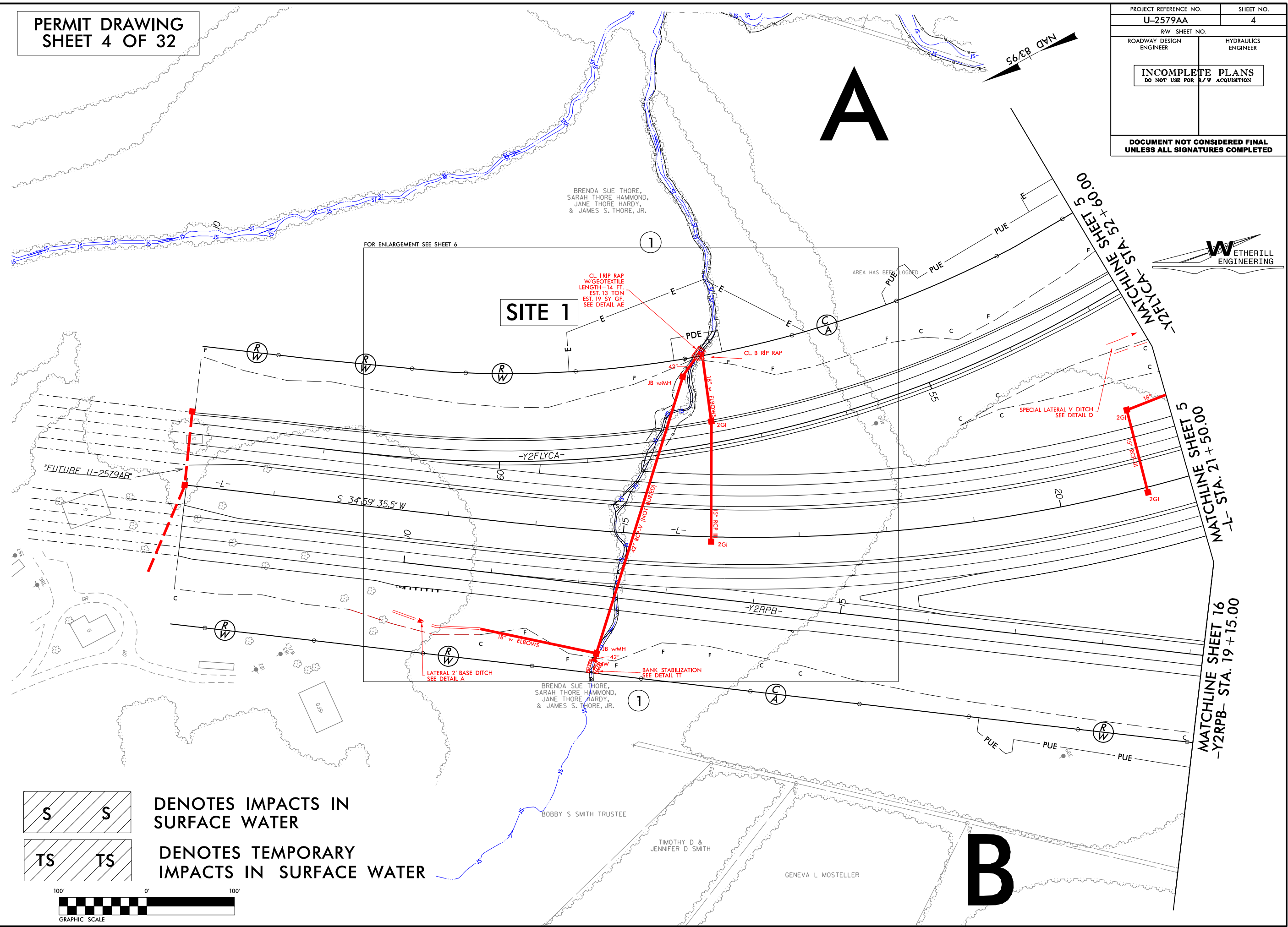
EST TON CLASS 'I' RIP RAP = 155 TONS
EST GEOTEXTILE = 256 SY
DDE = 243 CY



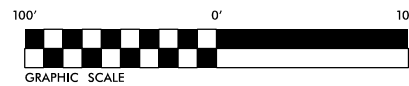
EST TON CLASS 'I' RIP RAP = 156 TONS
EST GEOTEXTILE = 267 SY
DDE = 235 CY
FILL = 24 CY

PERMIT DRAWING
SHEET 4 OF 32

PROJECT REFERENCE NO.		SHEET NO.	
U-2579AA		4	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div>INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION</div>			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

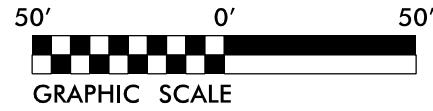


8/17/99
6/3/2021
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USER: mwa



8/17/99
6/3/2021
8:31:10
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JTHORPE

PERMIT DRAWING
SHEET 6 OF 32



SITE 1

CL. I RIP RAP
W/GEOTEXTILE
LENGTH=14 FT.
EST. 13 TON
EST. 19 SY GF.
SEE DETAIL AE

CL. B RIP RAP

42"

JB w/MH

18" w ELBOWS

2GI

15" RCP-II

2GI

42" RCP-V (NOT BURIED)

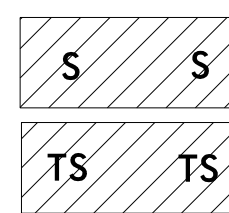
-Y2FLYCA-

9' 35.5" W

-Y2RPB-

LATERAL 2' BASE DITCH
SEE DETAIL A

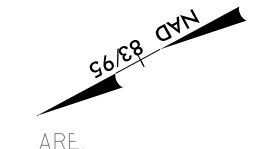
BANK STABILIZATION
SEE DETAIL TT



DENOTES IMPACTS IN
SURFACE WATER

DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

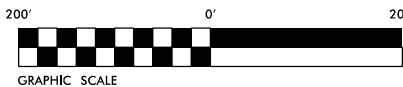
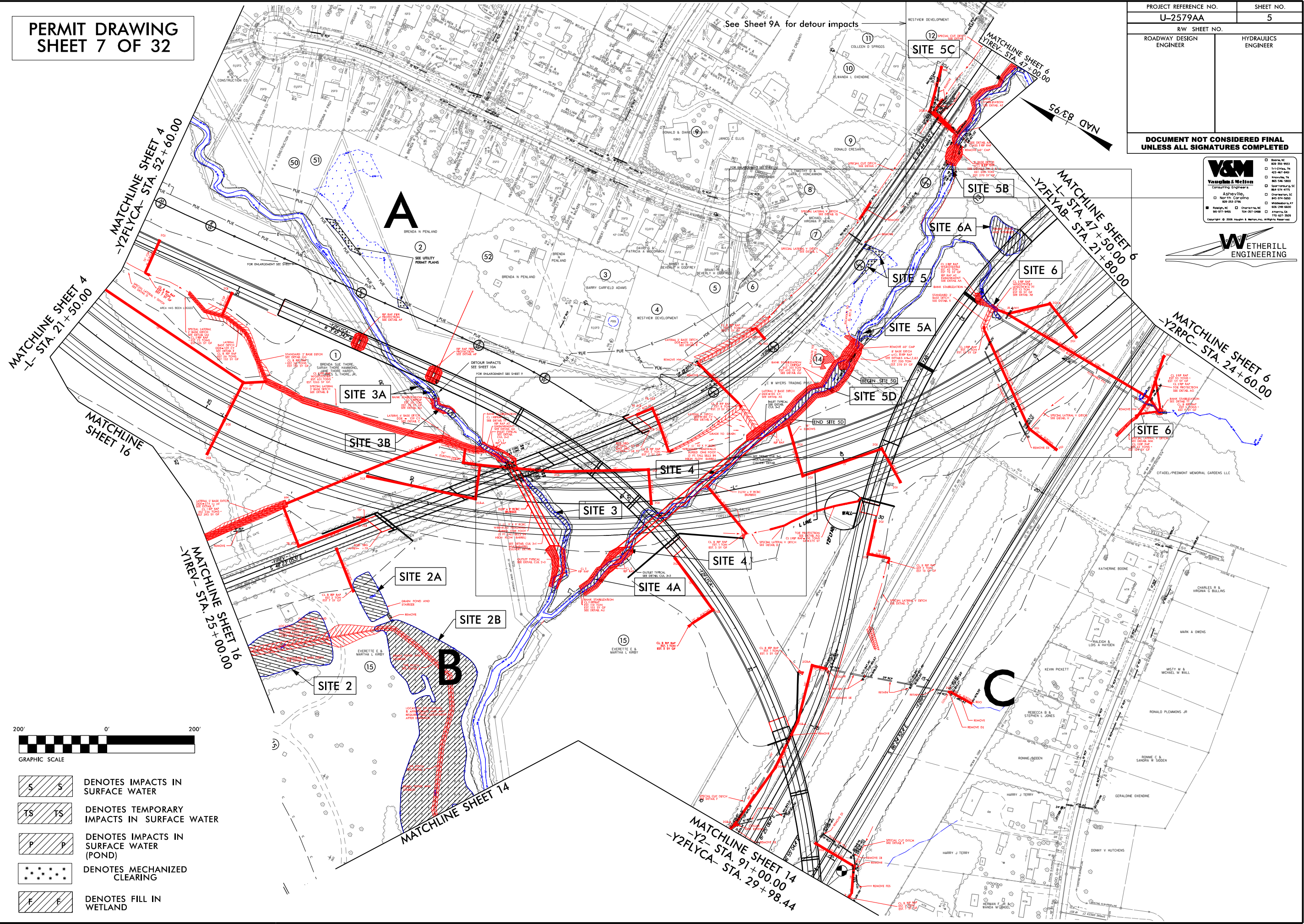
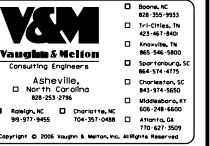
PROJECT REFERENCE NO.	SHEET NO.
U-2579AA	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



BRENDA SUE THORE

PERMIT DRAWING
SHEET 7 OF 32

PROJECT REFERENCE NO.	SHEET NO.
U-2579AA	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



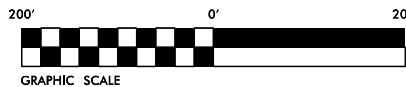
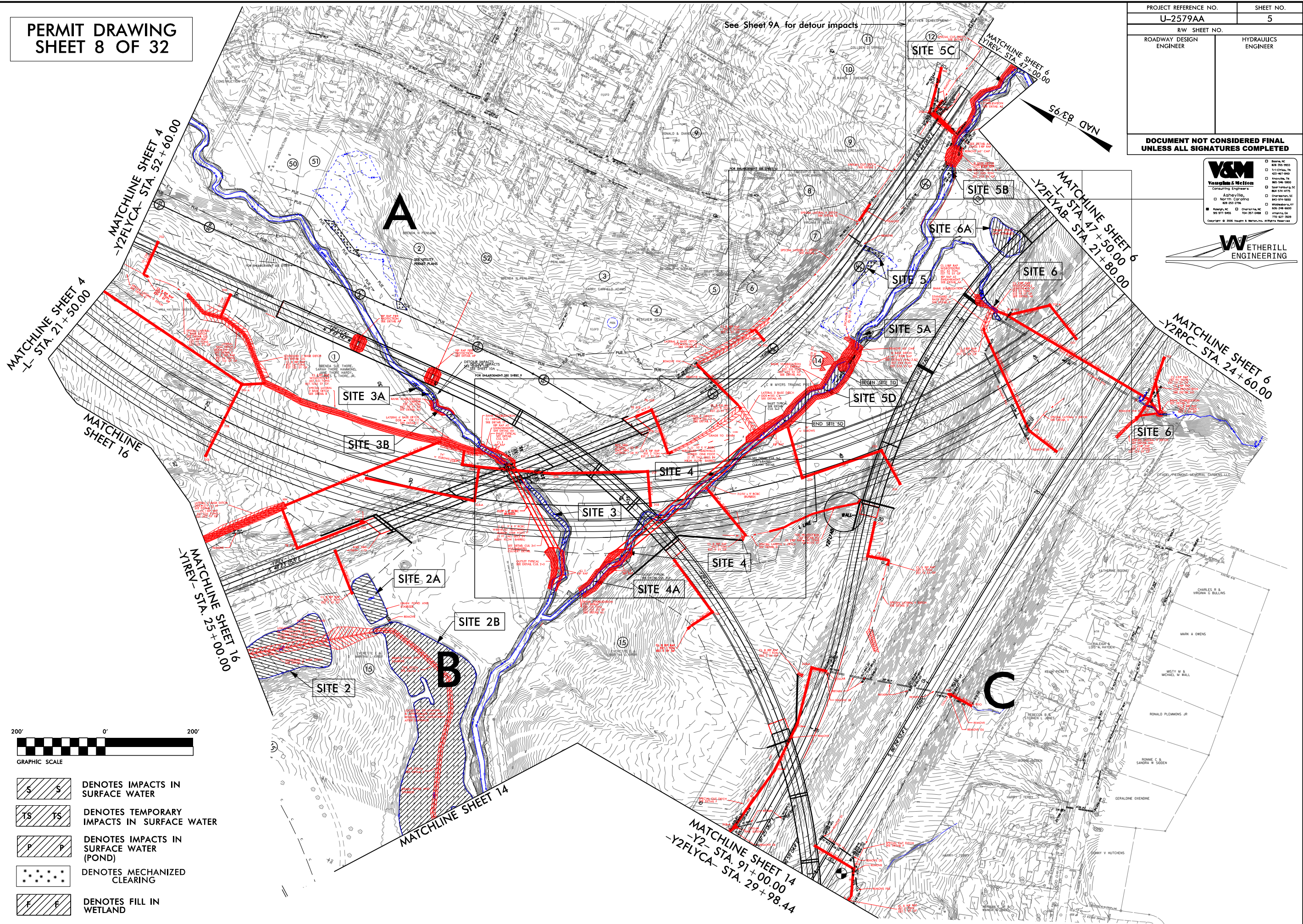
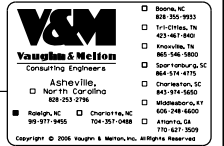
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES IMPACTS IN SURFACE WATER (POND)
- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND

8/17/99

6/24/2021
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PERMIT DRAWING
SHEET 8 OF 32

PROJECT REFERENCE NO.	SHEET NO.
U-2579AA	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



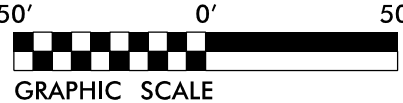
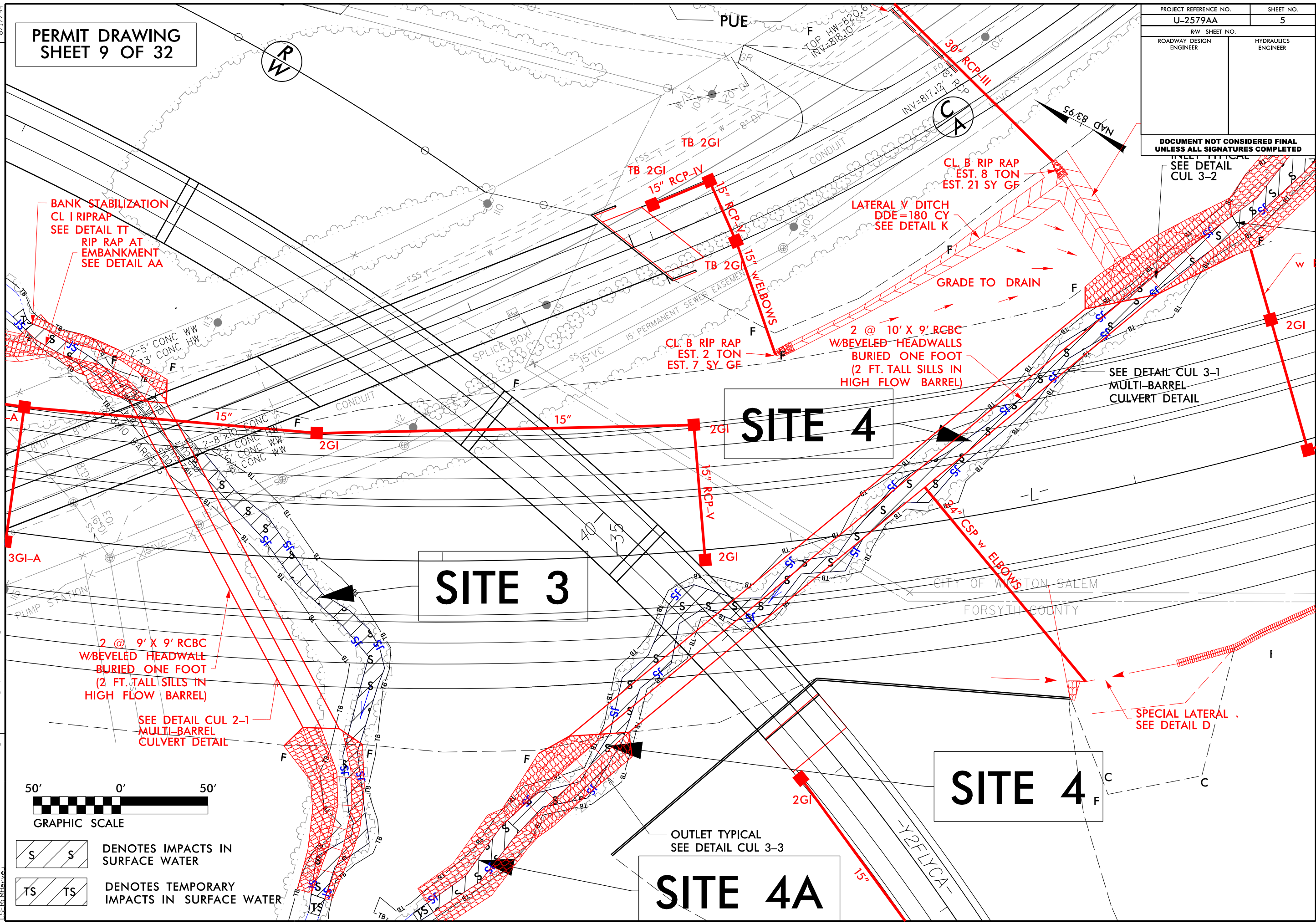
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES IMPACTS IN SURFACE WATER (POND)
- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND

8/17/99

6/24/2021
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PERMIT DRAWING
SHEET 9 OF 32

PROJECT REFERENCE NO.	SHEET NO.
U-2579AA	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



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


SITE 4

SITE 3

SITE 4

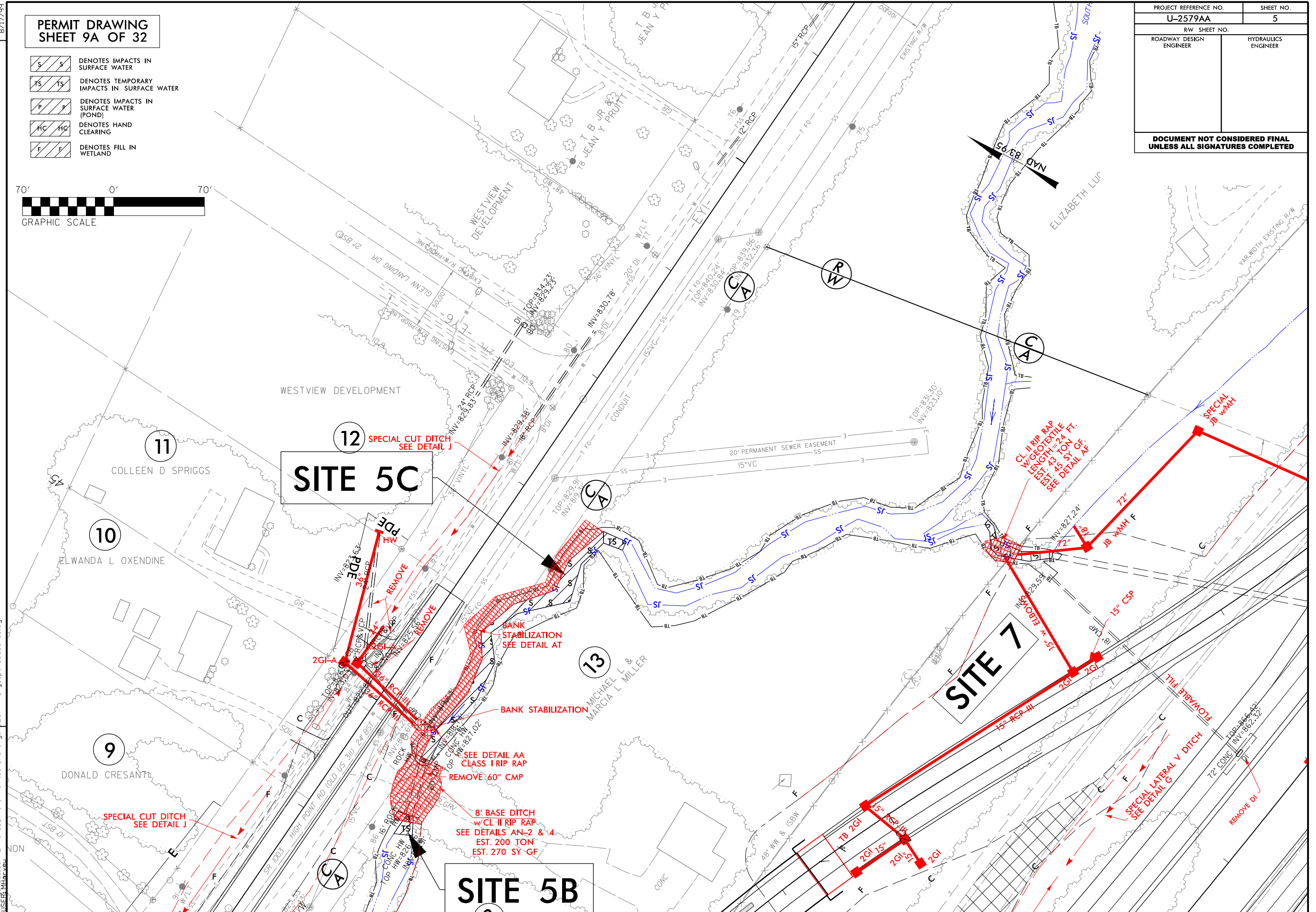
SITE 4A

70' 0' 70'



GRAPHIC SCALE

PROJECT REFERENCE NO.		SHEET NO.	
U-2579AA		5	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
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8/17/99

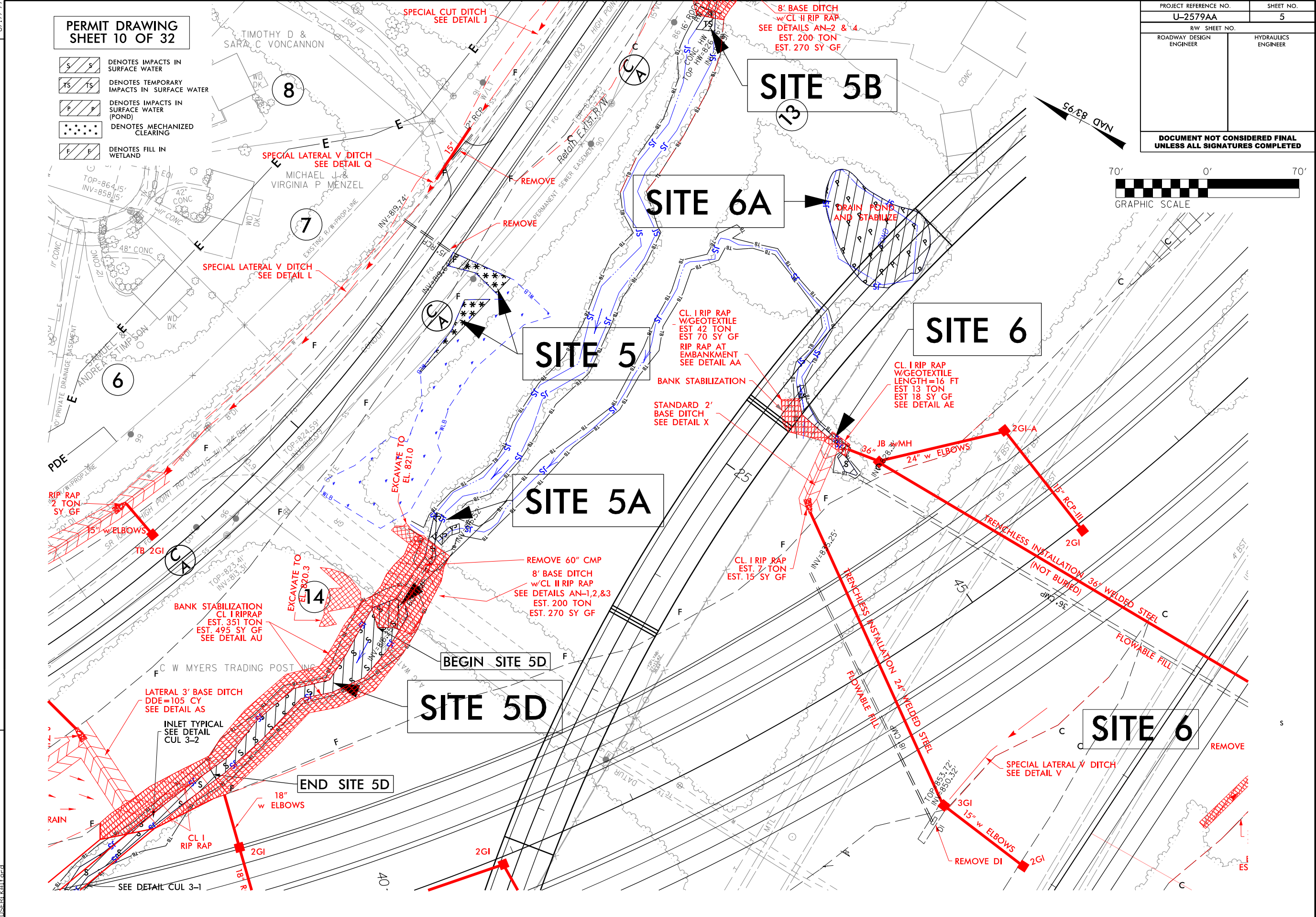
PERMIT DRAWING
SHEET 10 OF 32

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

REVISIONS

REVISION 10/19/99 ADDED DO NOT DISTURB STAIRS NOTE TO PARCEL 2
REVISION 2/10/2000 ACT. REVISED TCE ON PARCELS 6 AND 7

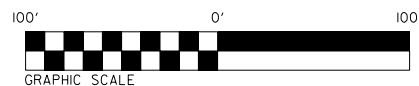
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PROJECT REFERENCE NO.	SHEET NO.
U-2579AA	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

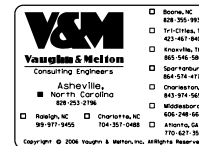
DENOTES IMPACTS IN
SURFACE WATER

DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

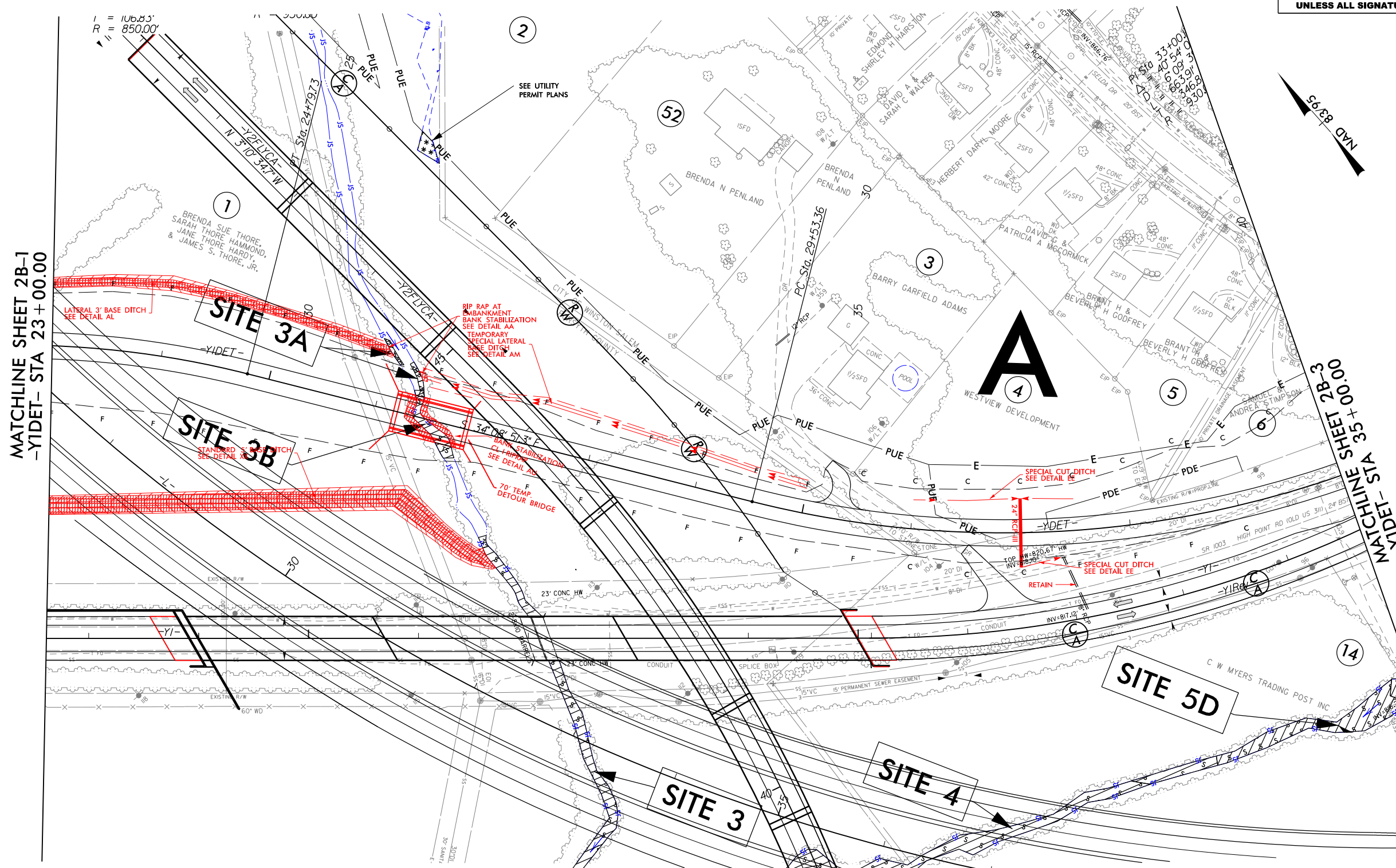


PERMIT DRAWING
SHEET 10A OF 32

**DETAIL FOR HIGH POINT RD
ON-SITE DETOUR (-YIDET-)**



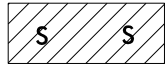
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U-2579AA	2B-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



SEE PERMIT SHEET 31 FOR
PROFILE OF -Y1DET- BRIDGE

NOTES:
SEE SHEETS 41 & 42 FOR -Y1DET- PROFILE
SEE SHEETS 5, 15 & 16 FOR -Y1- PLANS AND CURVE DATA

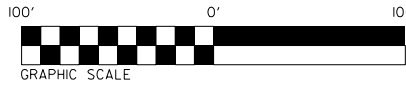
8/17/99



DENOTES IMPACTS IN
SURFACE WATER

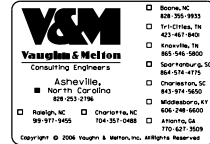


DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

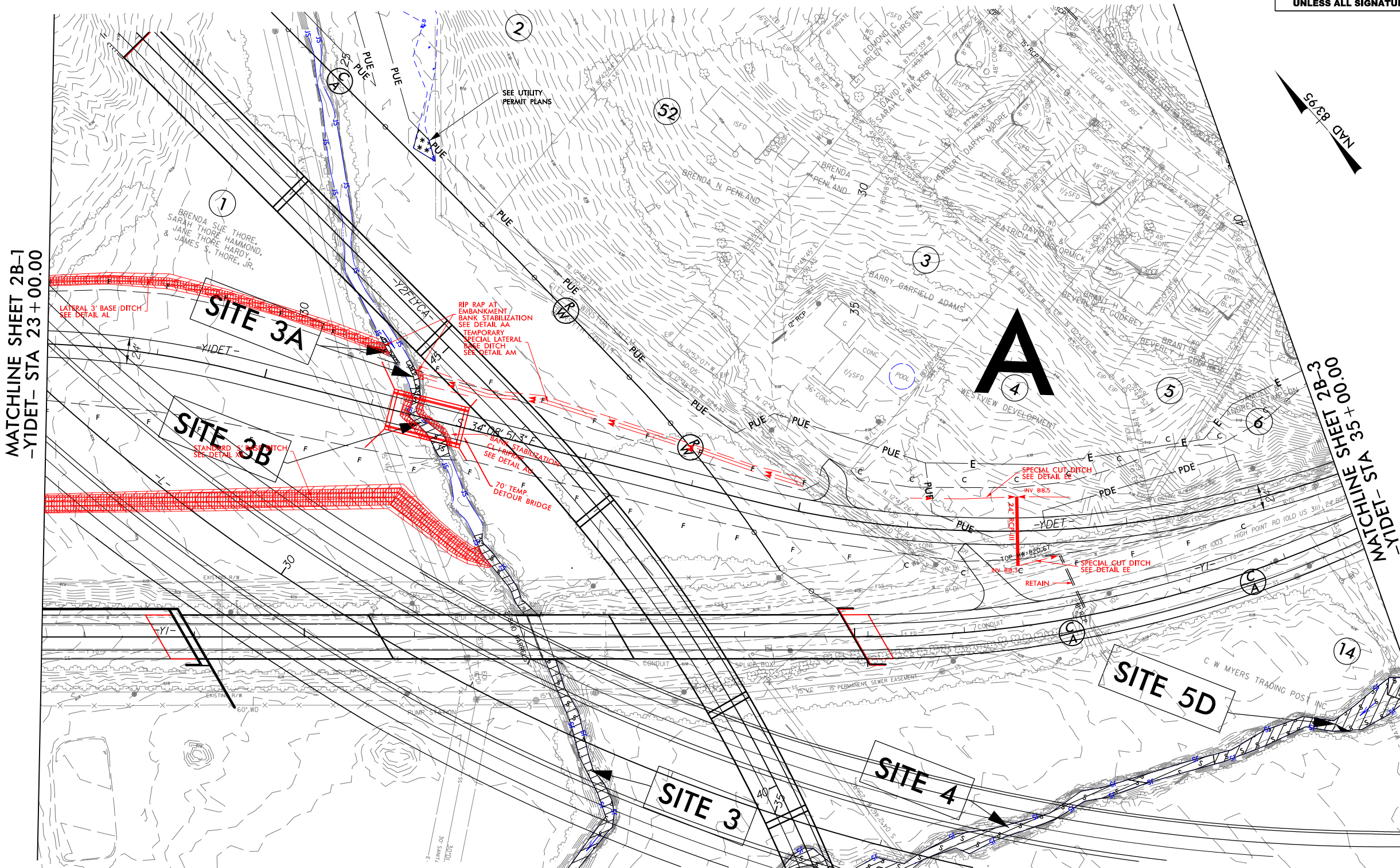


PERMIT DRAWING
SHEET 10B OF 32

DETAIL FOR HIGH POINT RD ON-SITE DETOUR (-YIDET-)



PROJECT REFERENCE NO.		SHEET NO.
U-2579AA		2B-2
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		



SEE PERMIT SHEET 31 FOR
PROFILE OF -YIDET- BRIDGE

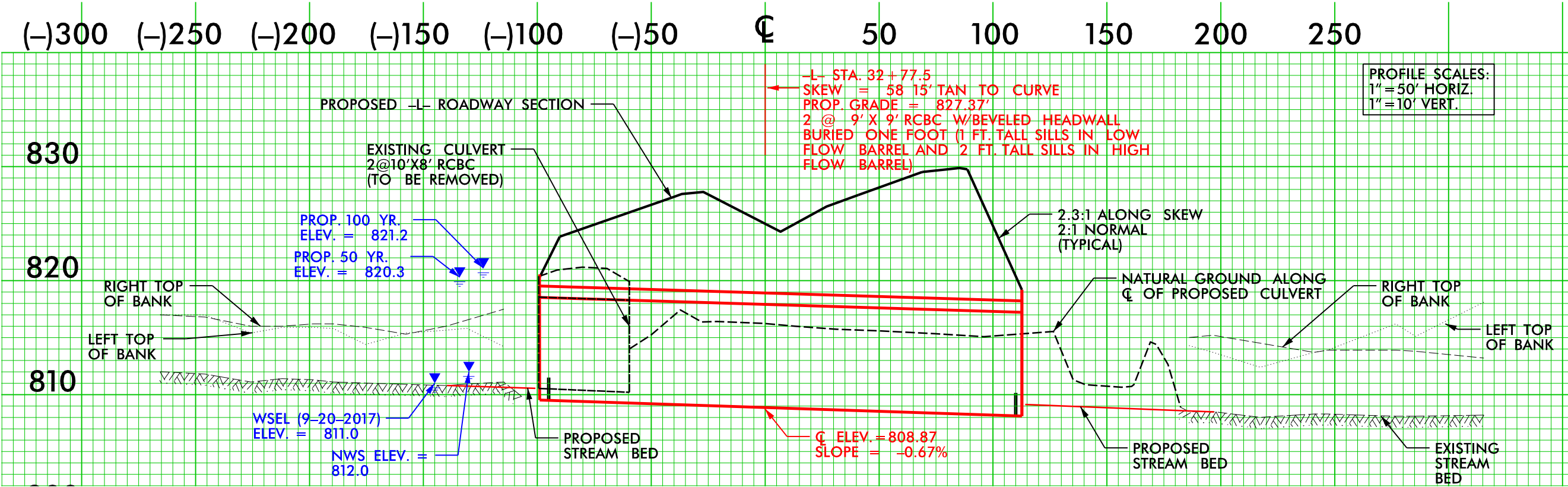
NOTES:
SEE SHEETS 41 & 42 FOR -YIDET- PROFILE
SEE SHEETS 5, 15 & 16 FOR -YI- PLANS AND CURVE DATA

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PROJECT REFERENCE NO.		SHEET NO.
U-2579AA		
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR E/W ACQUISITION		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

SITE 3

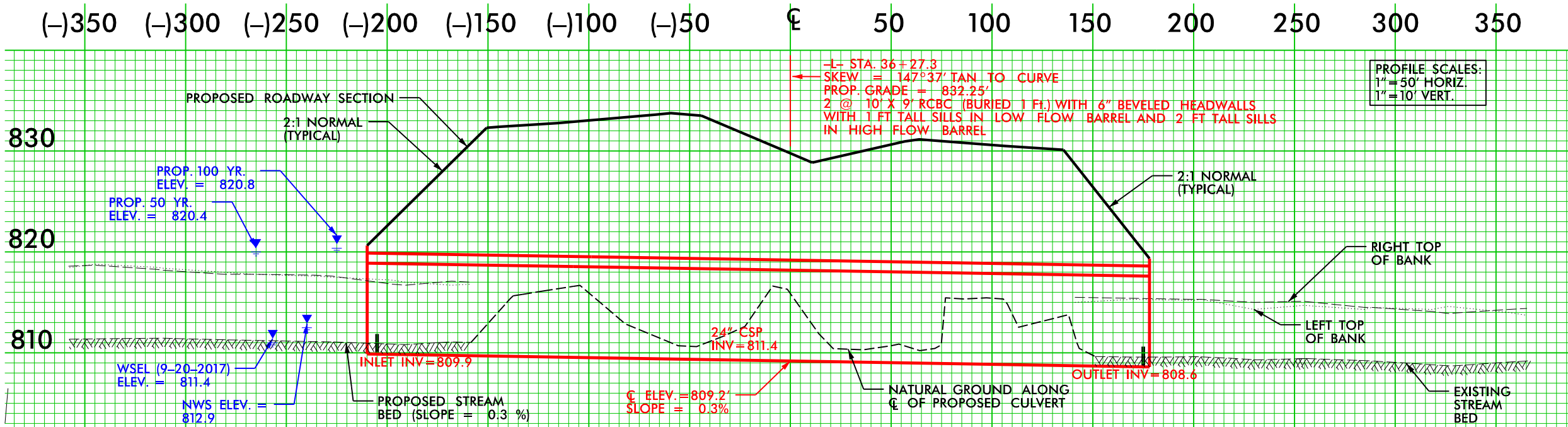
PERMIT DRAWING
SHEET 11 OF 32

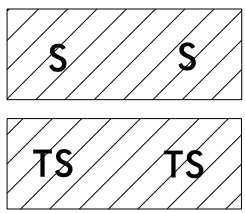


PROJECT REFERENCE NO.		SHEET NO.	
U-2579AA			
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR E/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

SITE 4

PERMIT DRAWING
SHEET 12 OF 32





DENOTES IMPACTS IN
SURFACE WATER

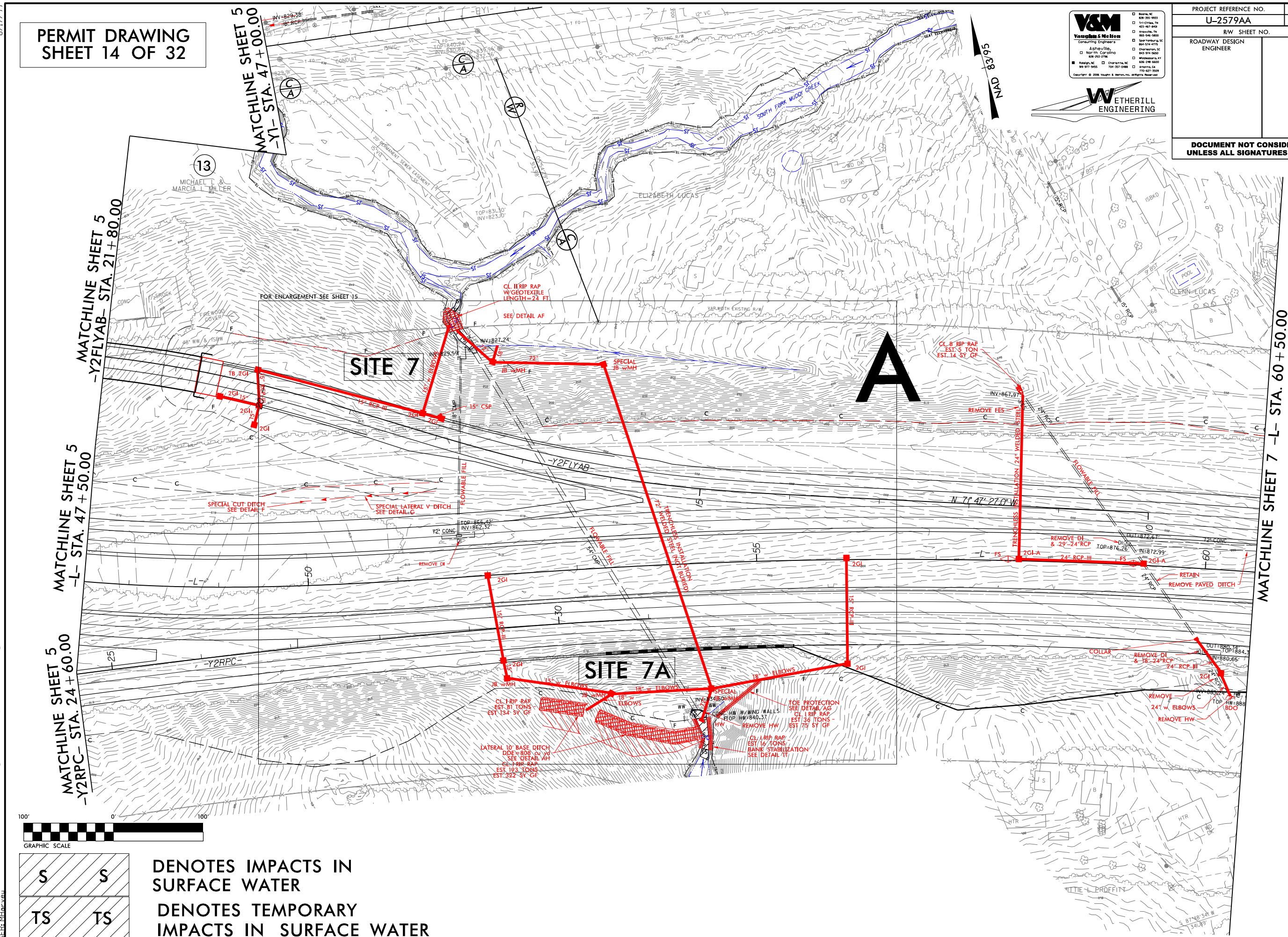
DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

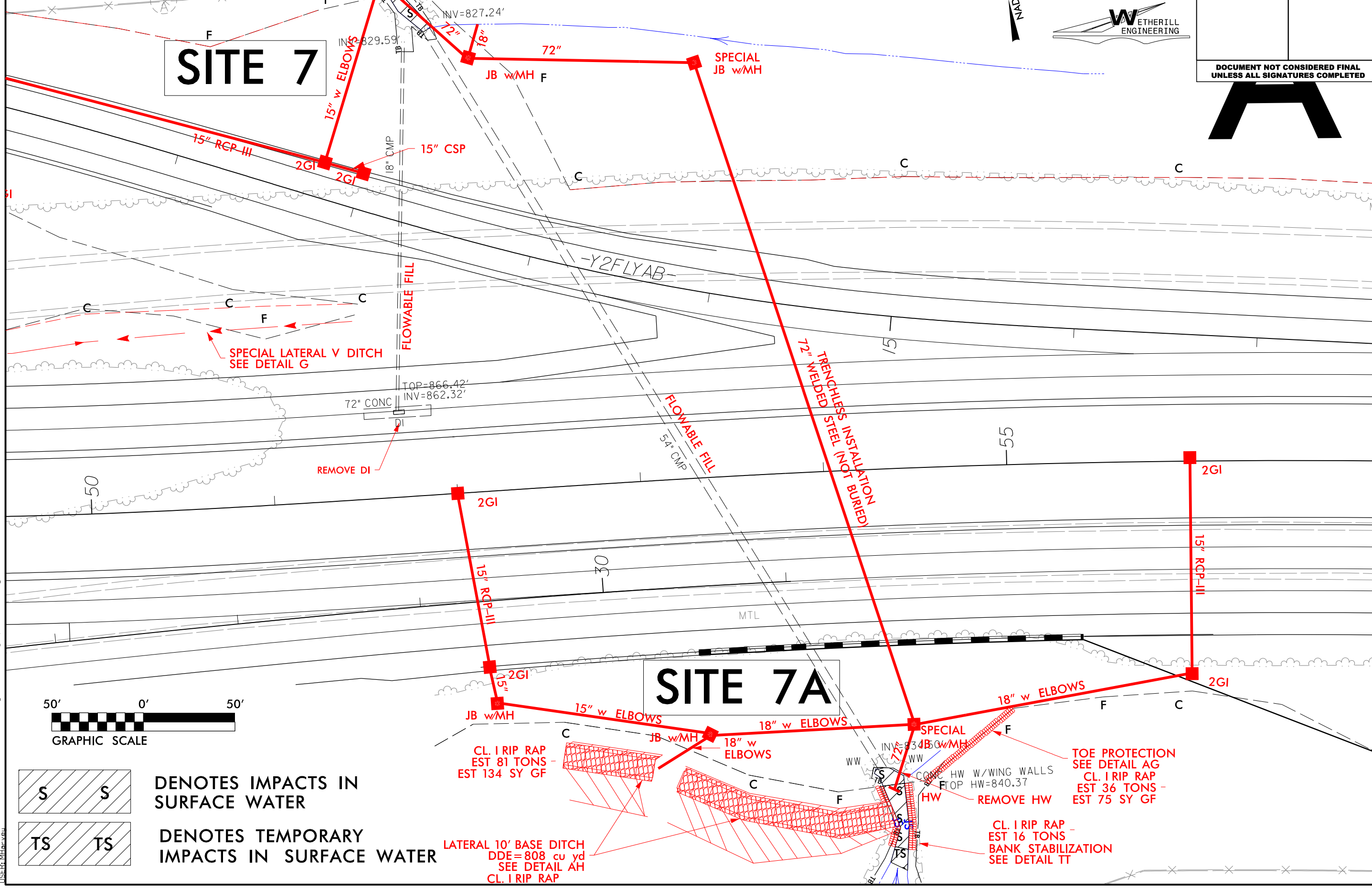
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GRAPHIC SCALE

DENOTES IMPACTS IN
SURFACE WATER

DENOTES TEMPORARY
IMPACTS IN SURFACE WATER





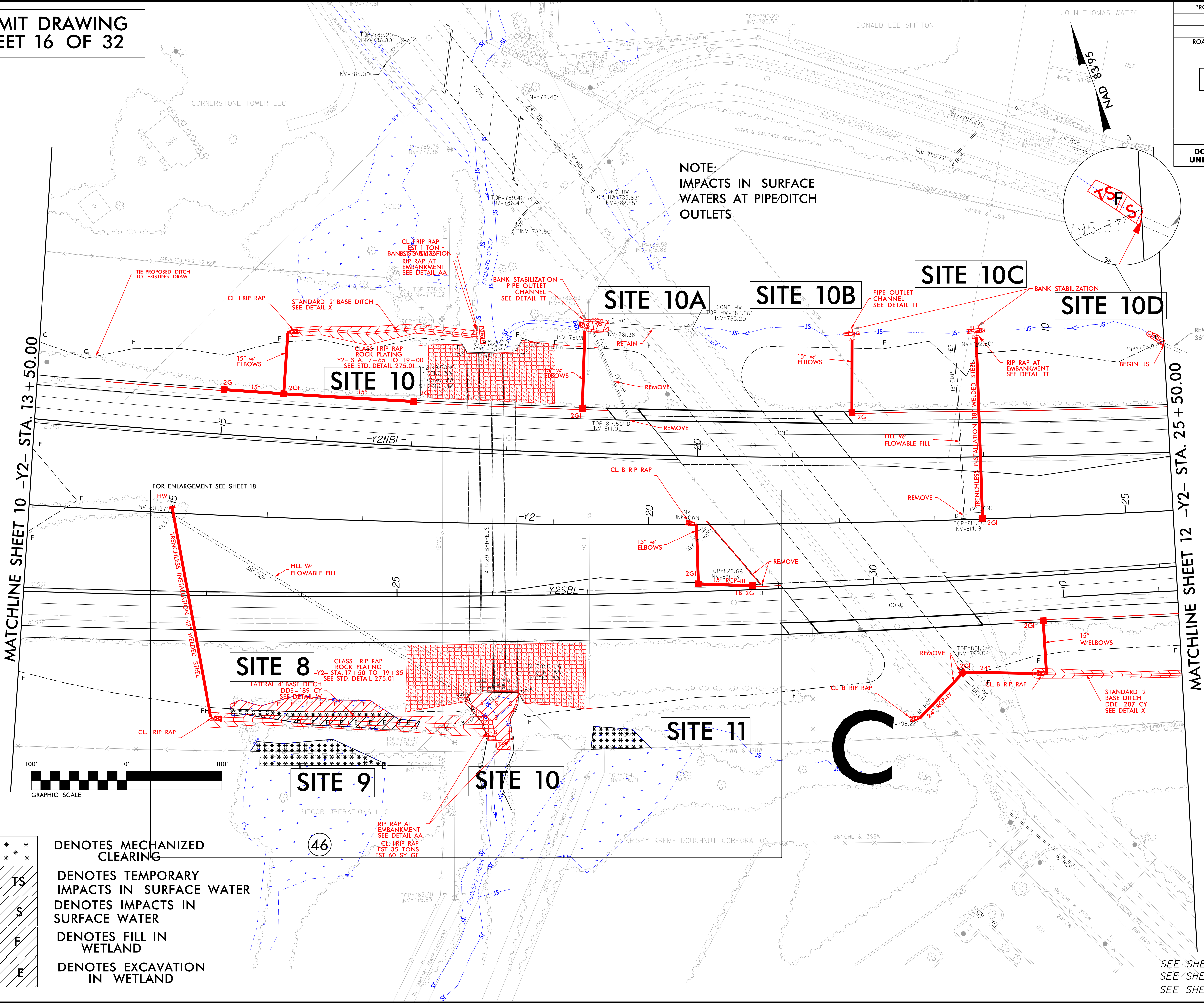
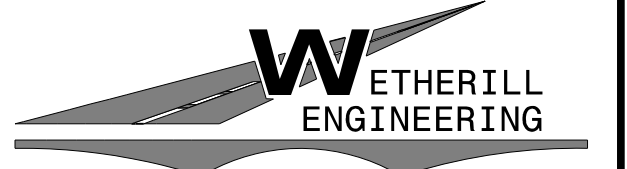
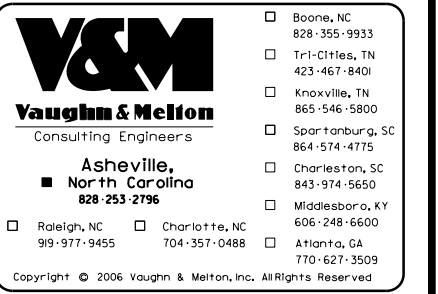
GRAPHIC SCALE



LATERAL 10' BASE DITCH
DDE=808 cu yd
SEE DETAIL AH
CL. 1 RIP RAP

PERMIT DRAWING
SHEET 16 OF 32

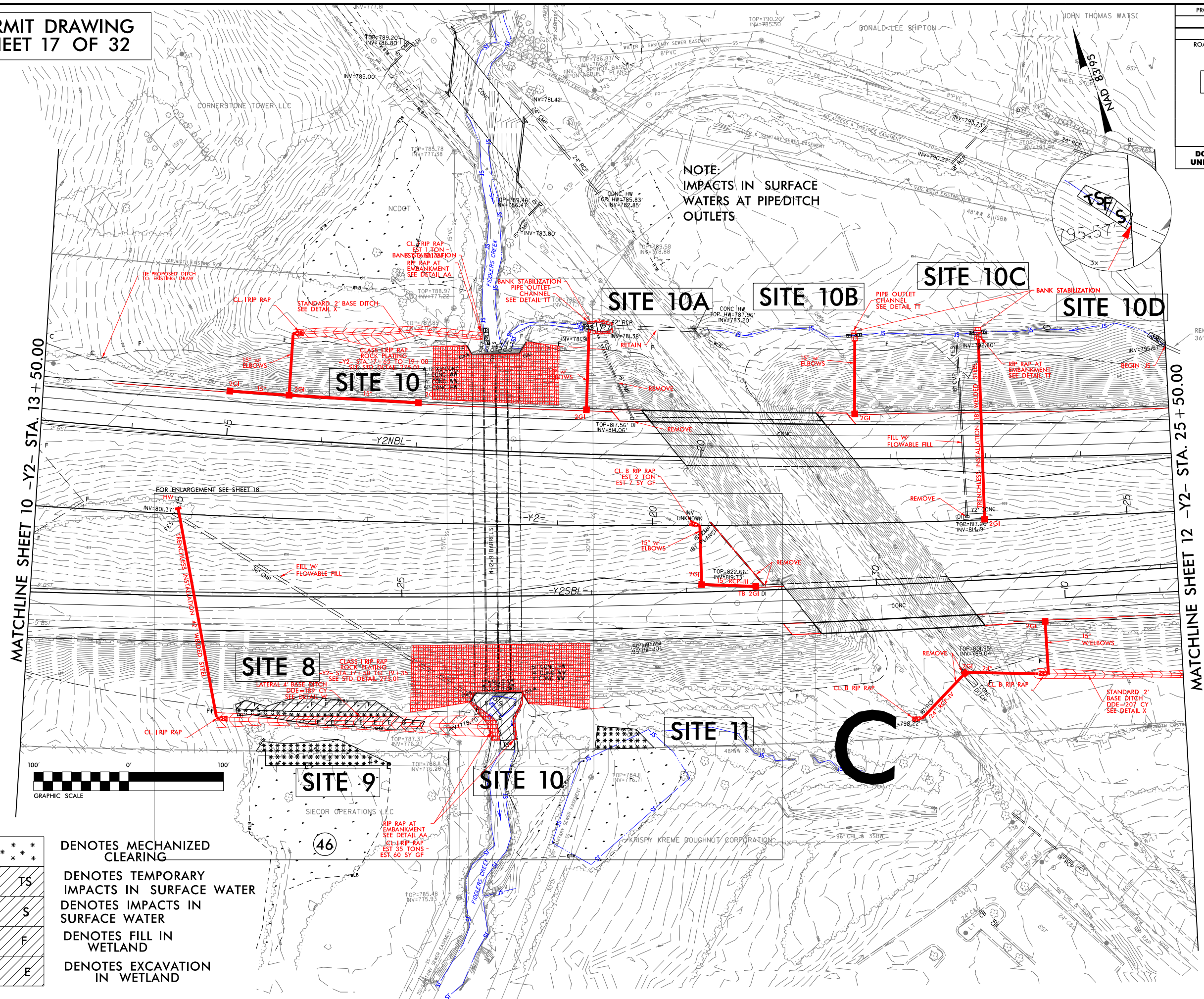
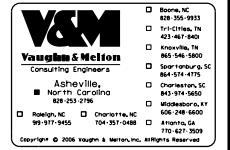
PROJECT REFERENCE NO.	SHEET NO.
U-2579AA	11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



SEE SHEET 26 FOR -Y2NBL- PROFILE
SEE SHEET 29 FOR -Y2SBL- PROFILE
SEE SHEET 38 FOR -Y3RPC- PROFILE

PERMIT DRAWING
SHEET 17 OF 32

PROJECT REFERENCE NO.		SHEET NO.	
U-2579AA		11	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div>INCOMPLETE PLANS</div> <div>DO NOT USE FOR R/W ACQUISITION</div>			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



TS	TS
S	S
F	F
E	E

DENOTES MECHANIZED
CLEARING

TS TS
DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

S S
DENOTES IMPACTS IN
SURFACE WATER

F F
DENOTES FILL IN
WETLAND

E E
DENOTES EXCAVATION
IN WETLAND

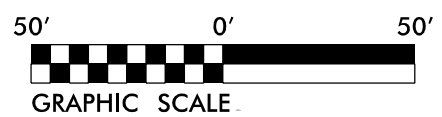
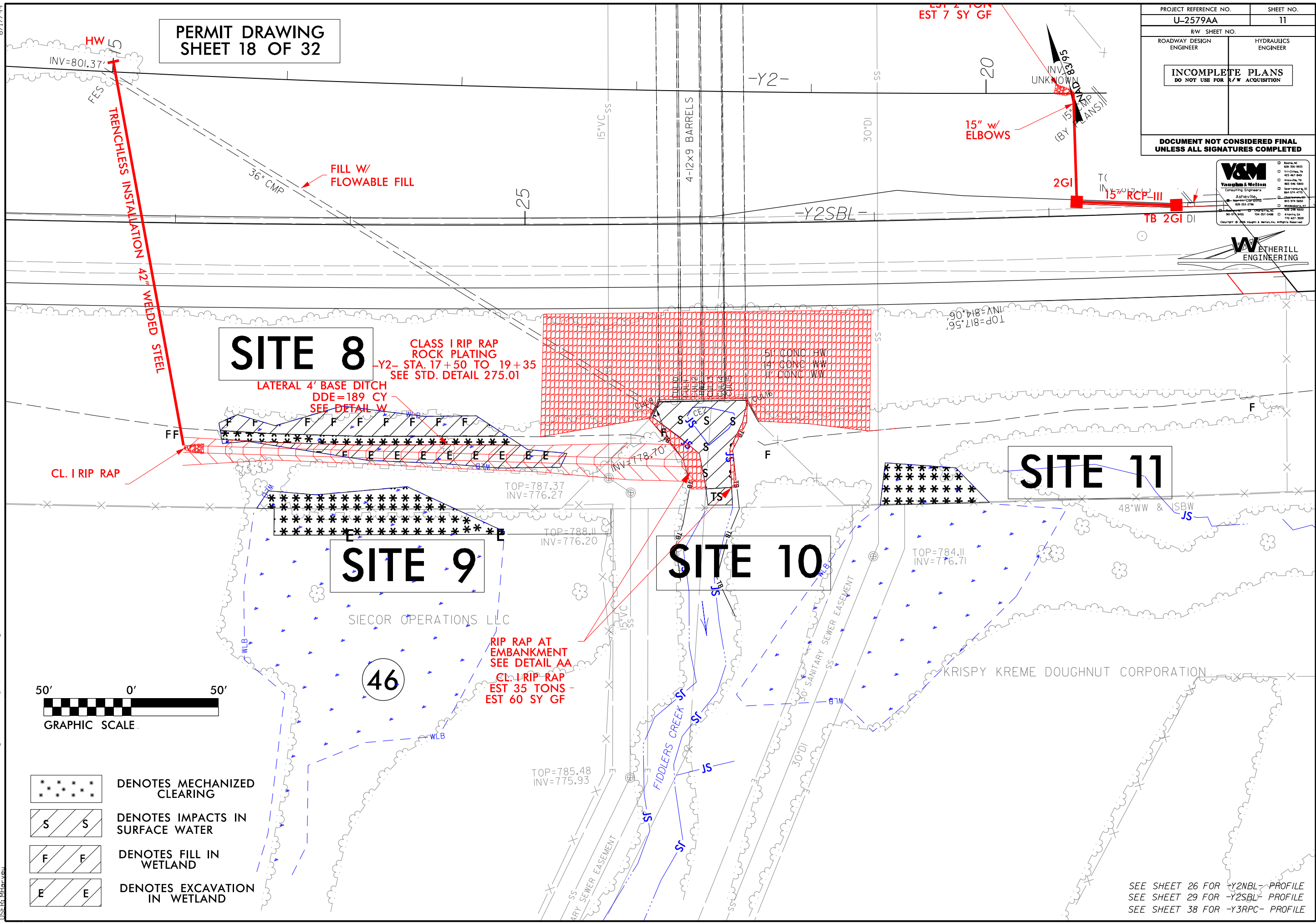
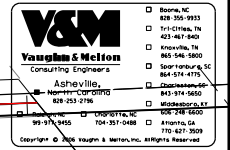
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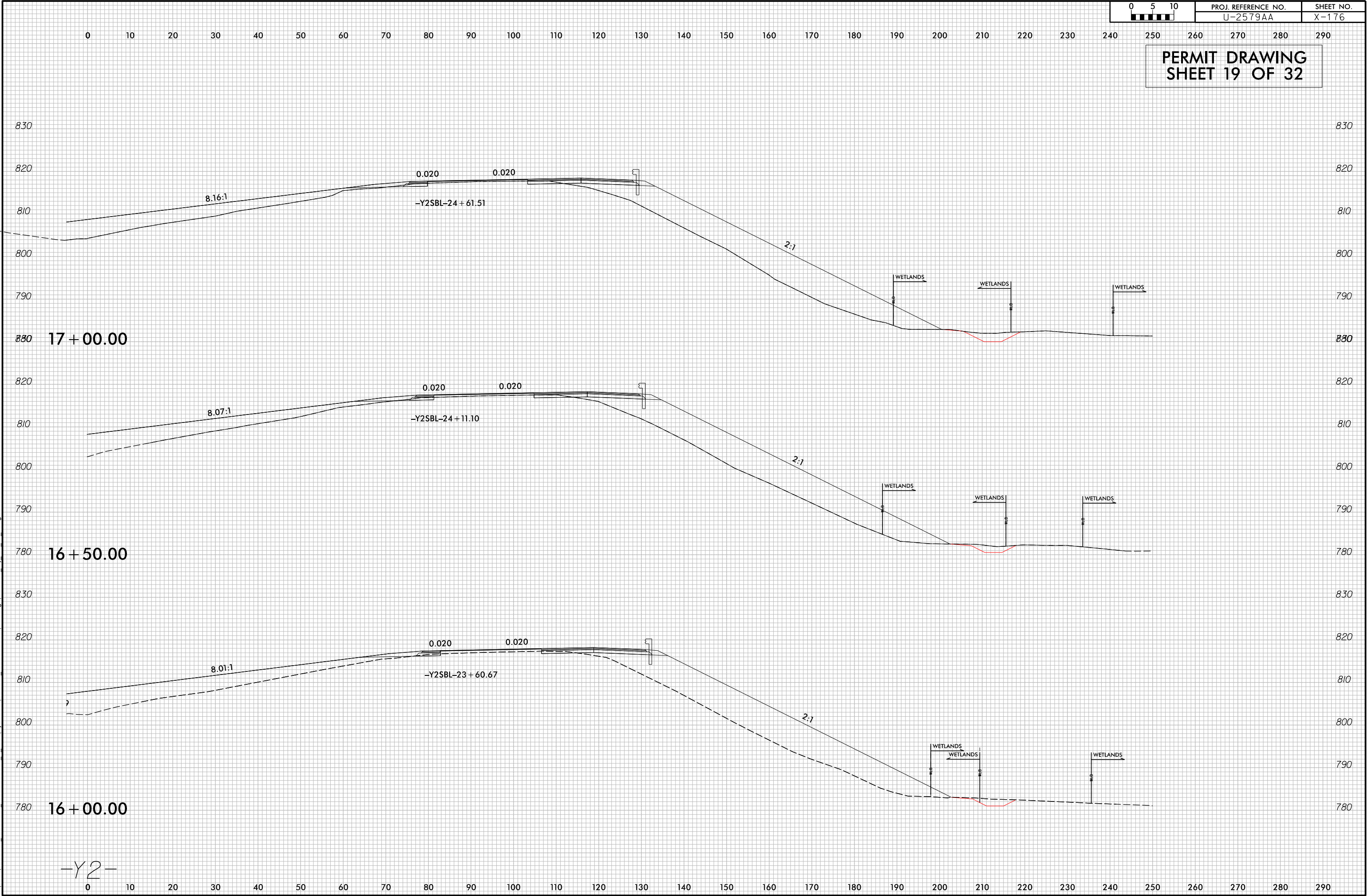
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SHEET 18 OF 32

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U-2579AA		11	
RW SHEET NO.			
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<div>INCOMPLETE PLANS</div> <div>DO NOT USE FOR R/W ACQUISITION</div>			
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- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND
- DENOTES EXCAVATION IN WETLAND

SEE SHEET 26 FOR -Y2NBL- PROFILE
SEE SHEET 29 FOR -Y2SBL- PROFILE
SEE SHEET 38 FOR -Y3RPC- PROFILE

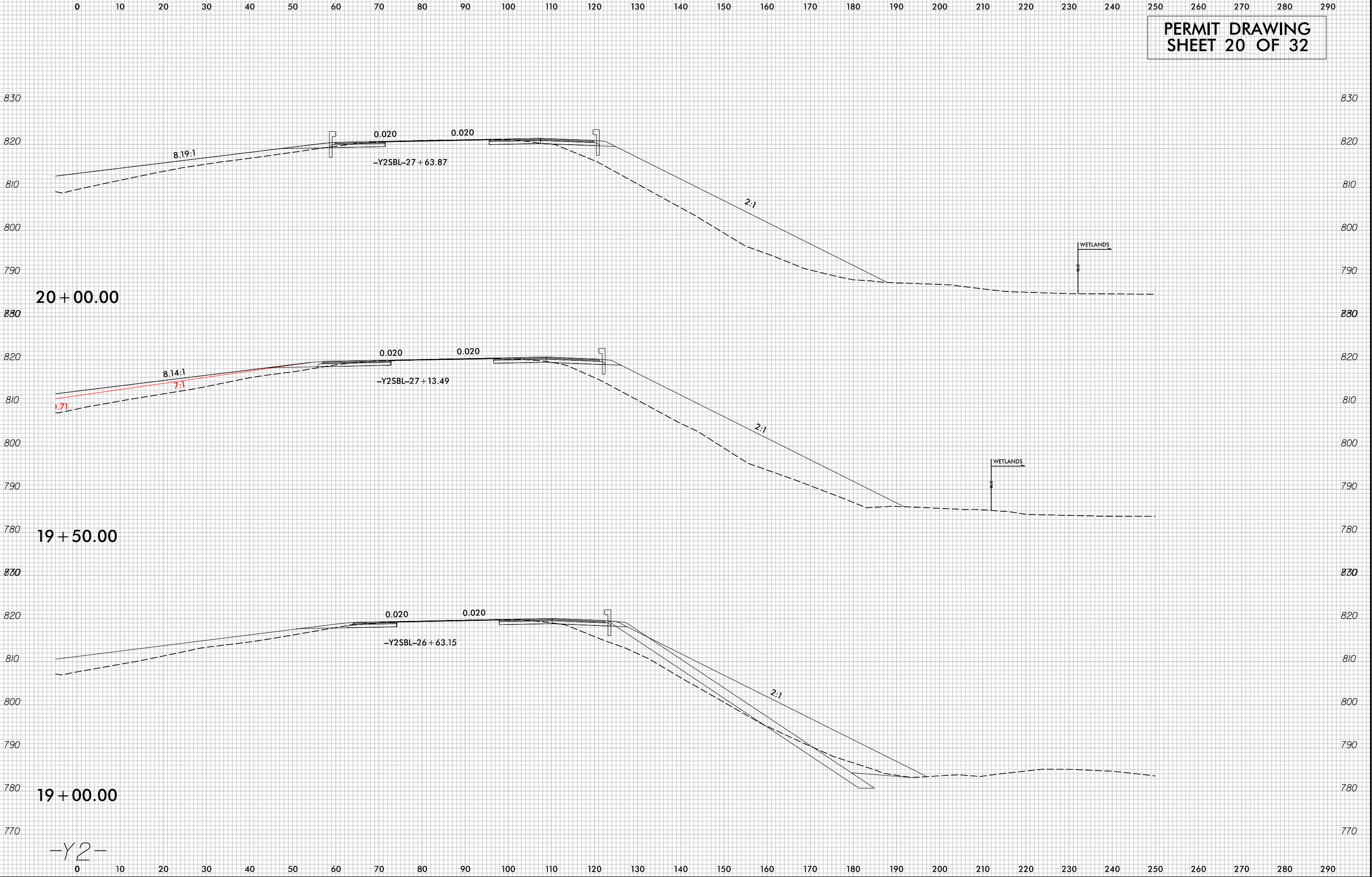


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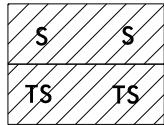
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	U-2579AA	X-178

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SHEET 20 OF 32

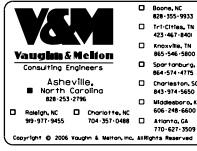


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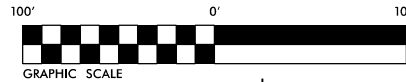
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DENOTES IMPACTS IN
SURFACE WATER
DENOTES TEMPORARY
IMPACTS IN SURFACE WATER



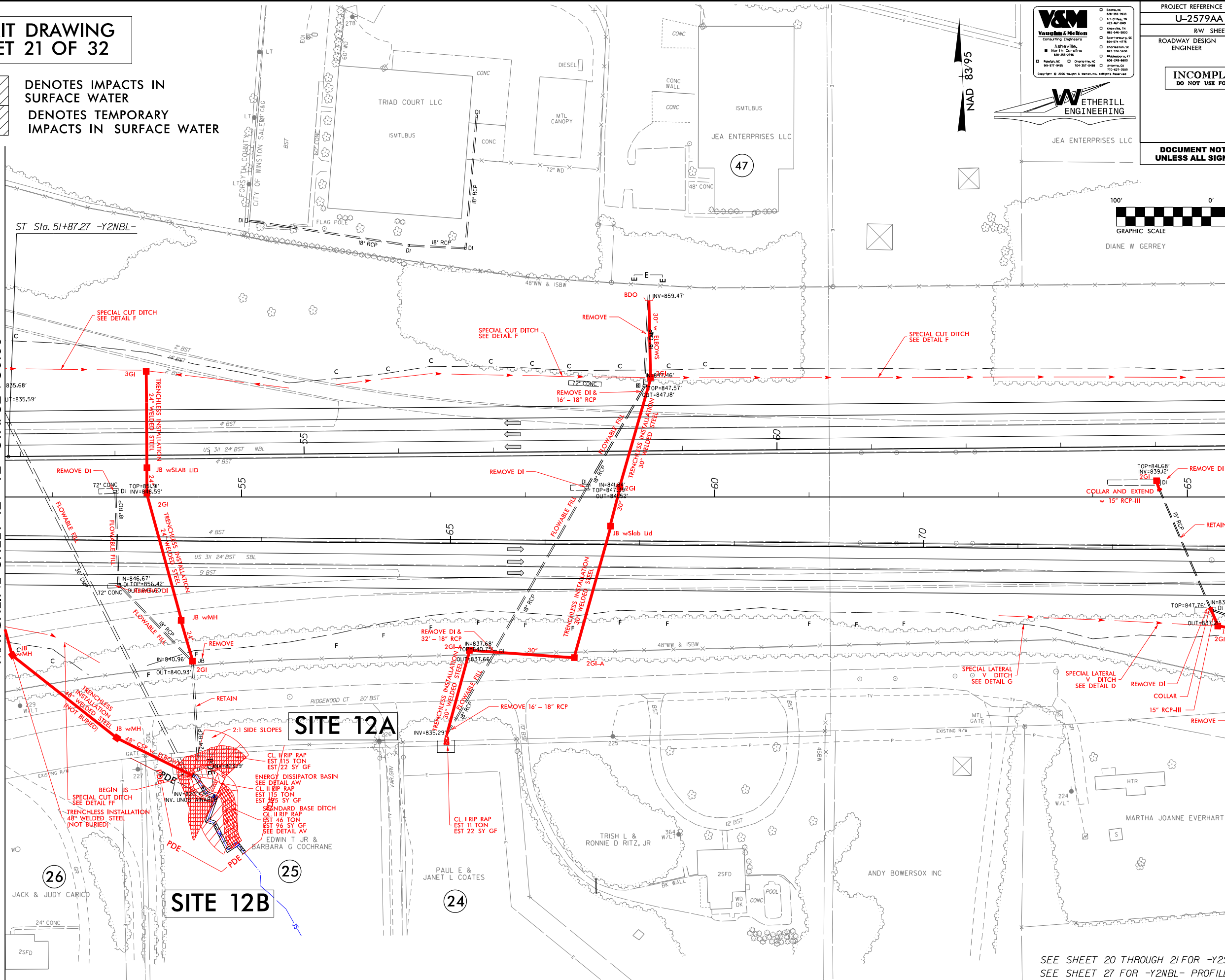
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DIANE W. GERREY

MATCHLINE SHEET 12 -Y2- STA. 52 + 50.00

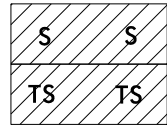
MATCHLINE SHEET 14 -Y2- STA. 65 + 50.00



SEE SHEET 20 THROUGH 21 FOR -Y2SBL- PROFILE
SEE SHEET 27 FOR -Y2NBL- PROFILE

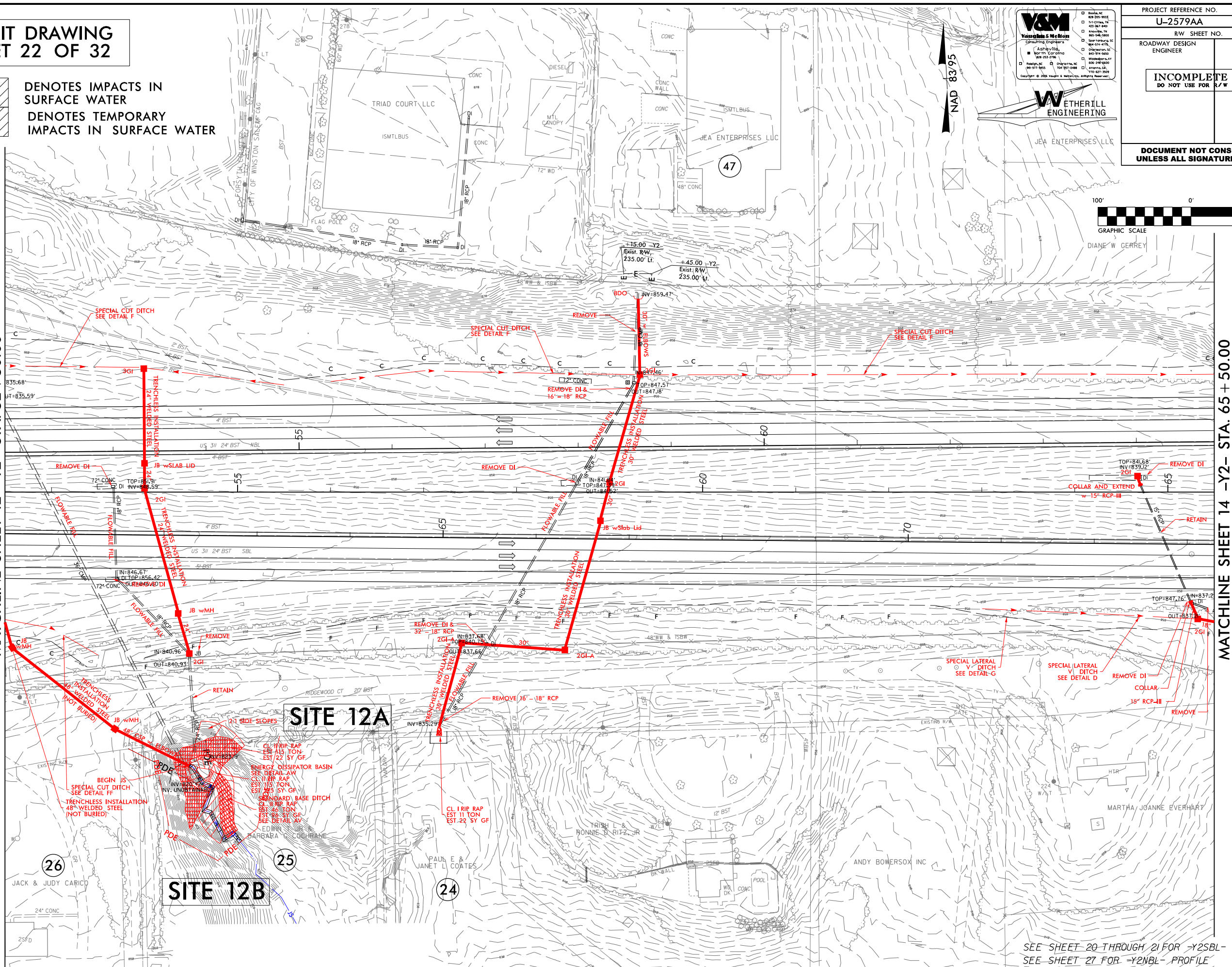
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SHEET 22 OF 32



DENOTES IMPACTS IN
SURFACE WATER
DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

MATCHLINE SHEET 12 -Y2- STA. 52 + 50.00



MATCHLINE SHEET 14 -Y2- STA. 65 + 50.00

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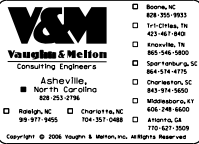
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ENGINEERING
JEAN ENTERPRISES LLC

PROJECT REFERENCE NO.		SHEET NO.	
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ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
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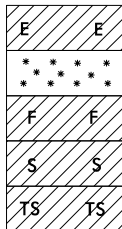
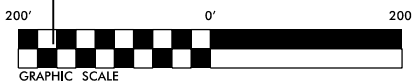
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SEE SHEET 27 FOR -Y2NBL- PROFILE

PERMIT DRAWING
SHEET 23 OF 32

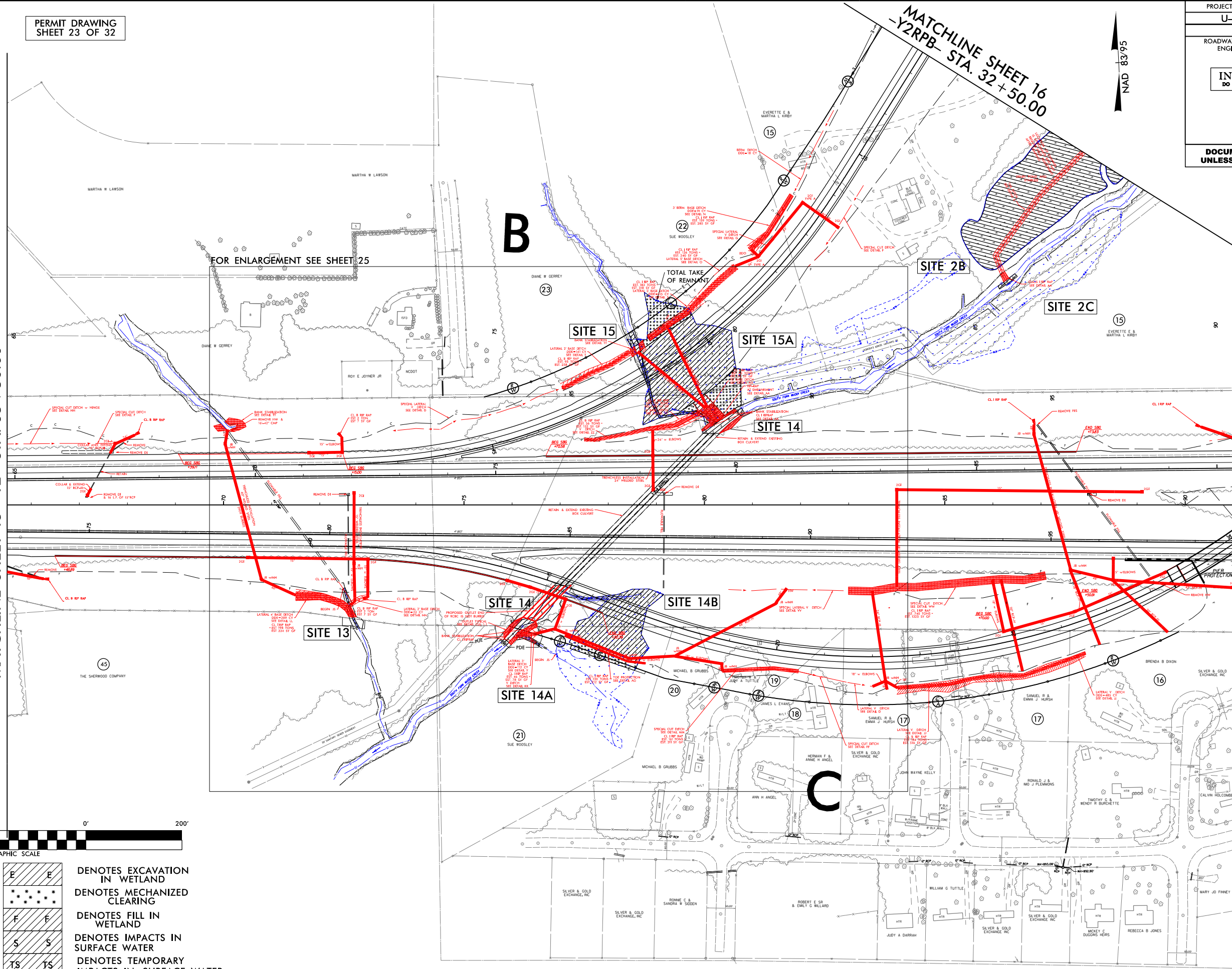
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MATCHLINE SHEET 13 -Y2- STA. 65 + 50.00



DENOTES EXCAVATION
IN WETLAND
DENOTES MECHANIZED
CLEARING
DENOTES FILL IN
WETLAND
DENOTES IMPACTS IN
SURFACE WATER
DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

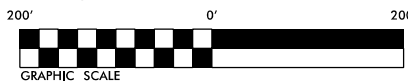


MATCHLINE SHEET 5
-Y2- STA. 91 + 00.00
-Y2FLYCA- STA. 29 + 98.44

SEE SHEET 25 FOR -Y2FLYCA- PROFILE
SEE SHEETS 27 THROUGH 28 FOR -Y2NBL- PROFILE
SEE SHEETS 31 THROUGH 32 FOR -Y2SBL- PROFILE
SEE SHEETS 33 THROUGH 34 FOR -Y2RPB- PROFILE

PERMIT DRAWING
SHEET 24 OF 32

MATCHLINE SHEET 13 -Y2- STA. 65 + 50.00



E	E
*	*
F	F
S	S
TS	TS

DENOTES EXCAVATION
IN WETLAND

DENOTES MECHANIZED
CLEARING

DENOTES FILL IN
WETLAND

DENOTES IMPACTS IN
SURFACE WATER

DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

ENLARGEMENTS INCLUDED
PERMIT DRAWING SHEET 25

FOR ENLARGEMENT SEE SHEET 25

B

C

SITE 15

SITE 15A

SITE 2B

SITE 2C

SITE 14

SITE 14B

SITE 14

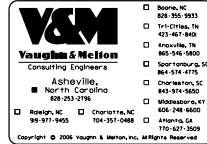
SITE 14A

SITE 13

MATCHLINE SHEET 16
-Y2RPB- STA. 32 + 50.00

NAD 83 95

PROJECT REFERENCE NO.	SHEET NO.
U-2579AA	14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
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MATCHLINE SHEET 5
-Y2- STA. 91 + 00.00
-Y2FLYCA- STA. 29 + 98.44

SEE SHEET 25 FOR -Y2FLYCA- PROFILE
SEE SHEETS 27 THROUGH 28 FOR -Y2NBL- PROFILE
SEE SHEETS 31 THROUGH 32 FOR -Y2SBL- PROFILE
SEE SHEETS 33 THROUGH 34 FOR -Y2RPB- PROFILE

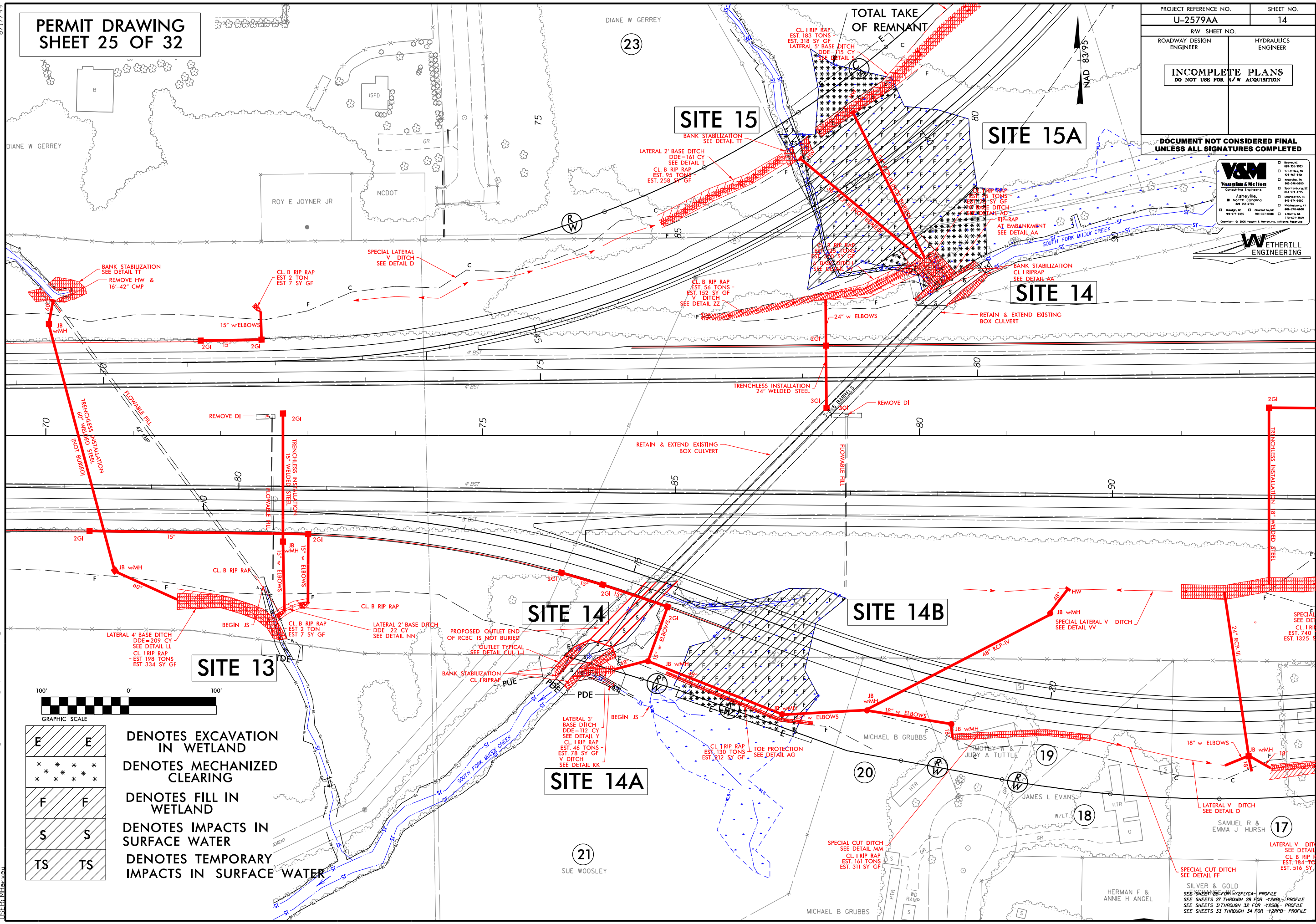
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PERMIT DRAWING
SHEET 25 OF 32

PROJECT REFERENCE NO.		SHEET NO.
U-2579AA		14
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
<div>INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION</div>		
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W
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PROJECT REFERENCE NO.
U-2579AA

SHEET NO.

RW SHEET NO.

ROADWAY DESIGN ENGINEER

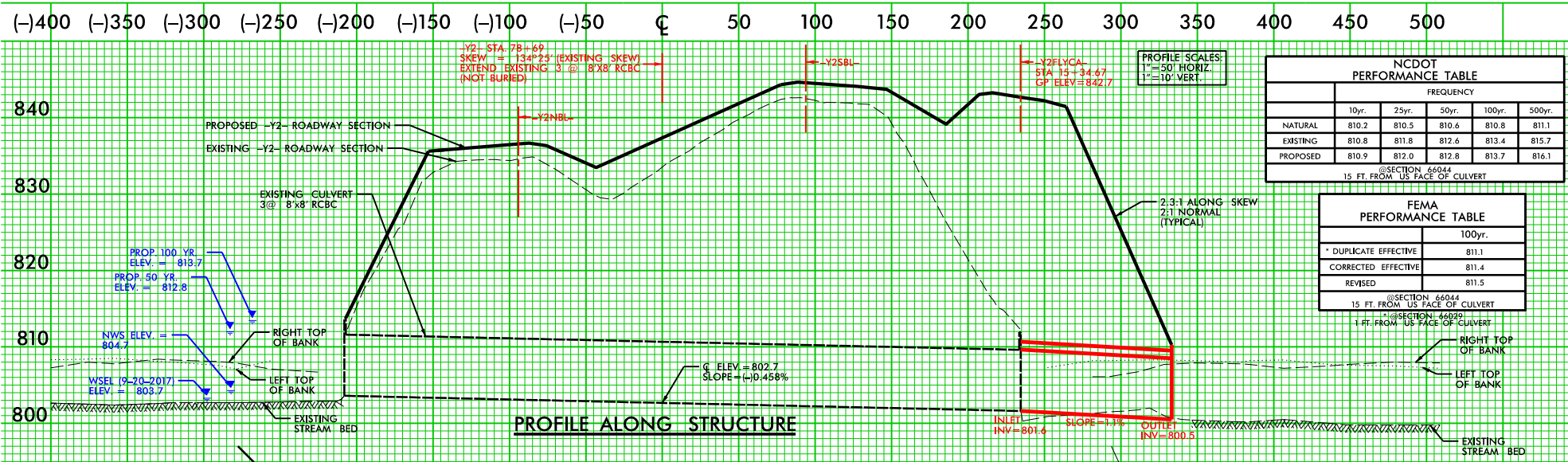
HYDRAULICS ENGINEER

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SITE 14

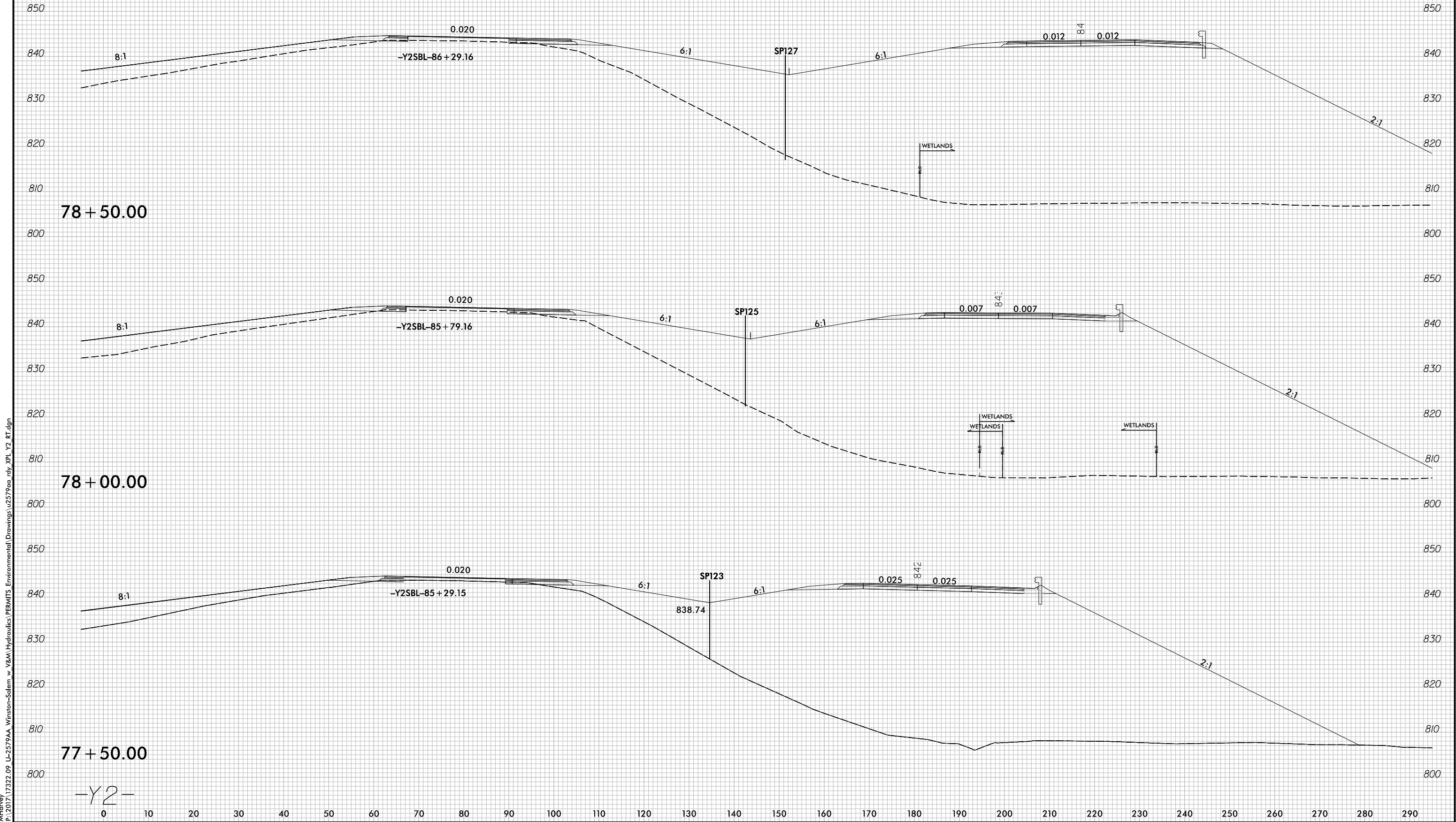
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SHEET 26 OF 32



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PERMIT DRAWING
SHEET 27 OF 32

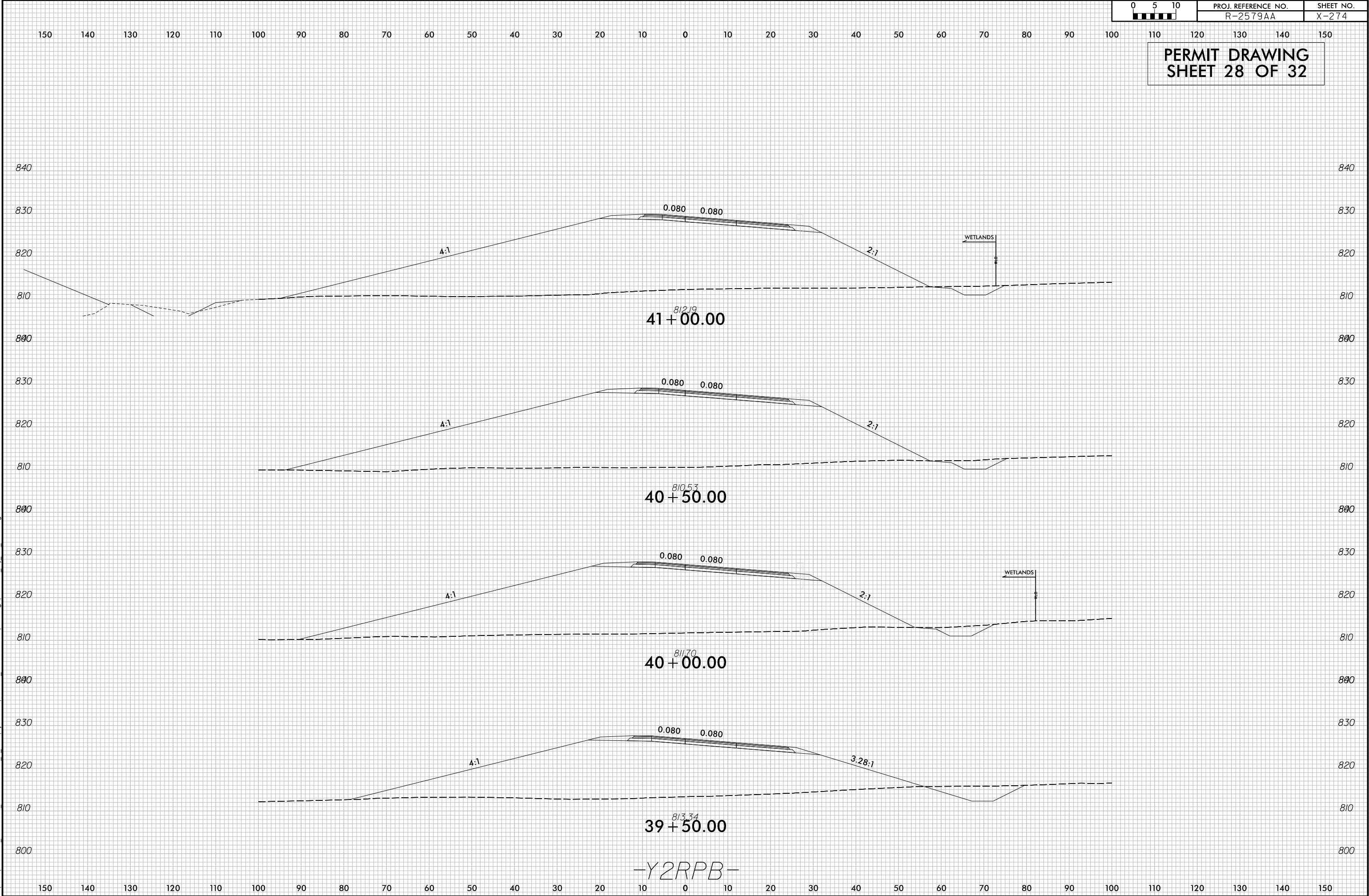


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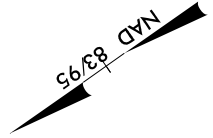
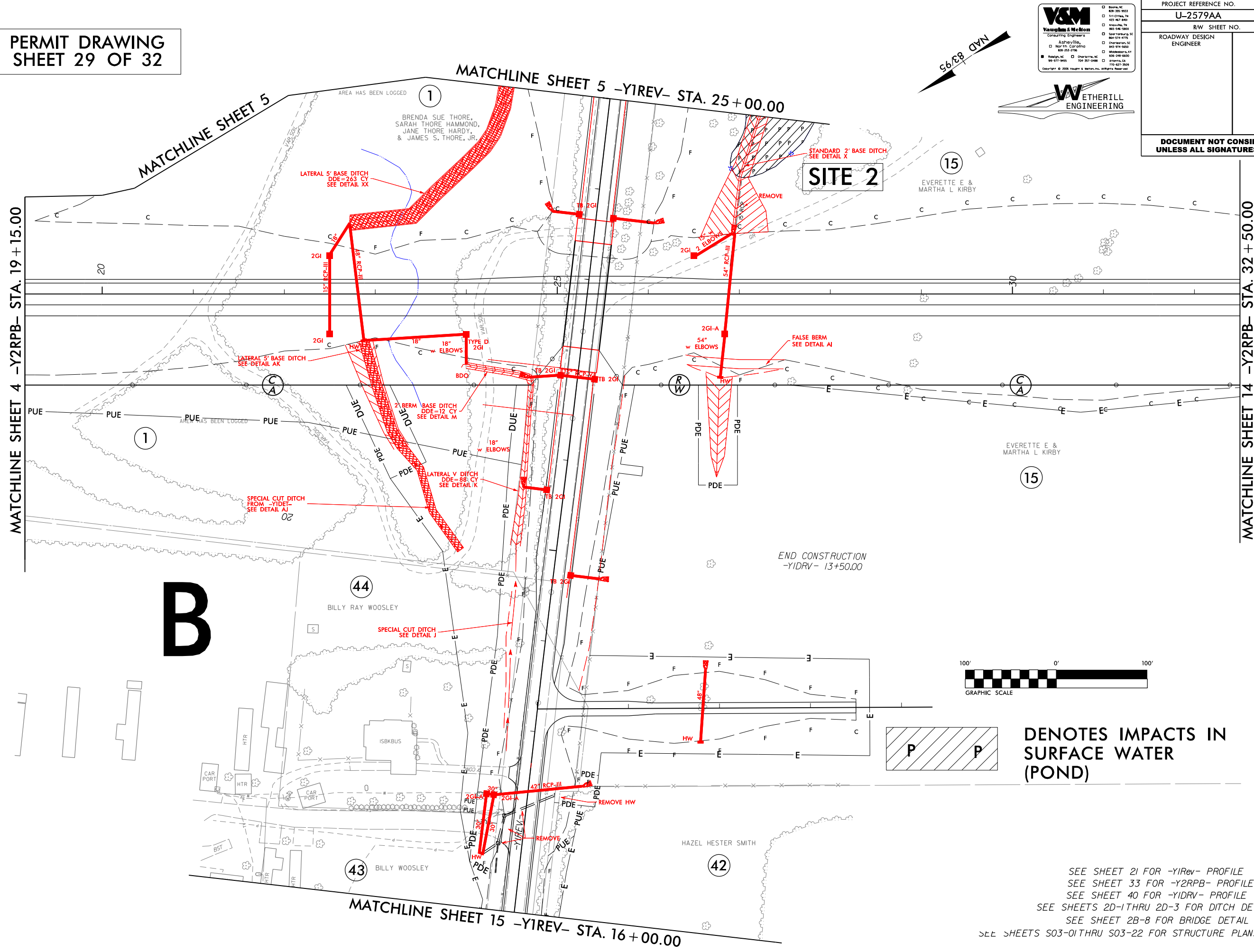
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PERMIT DRAWING
SHEET 28 OF 32



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SHEET 29 OF 32

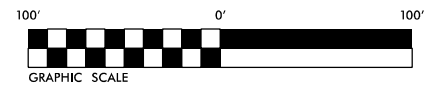


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PROJECT REFERENCE NO.		SHEET NO.
U-2579AA		16
RW SHEET NO.		
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Denotes Impacts in Surface Water (Pond)

SEE SHEET 21 FOR -YIREV- PROFILE
SEE SHEET 33 FOR -Y2RPB- PROFILE
SEE SHEET 40 FOR -YIDRV- PROFILE
SEE SHEETS 2D-1THRU 2D-3 FOR DITCH DETAILS
SEE SHEET 2B-8 FOR BRIDGE DETAIL
SEE SHEETS S03-01THRU S03-22 FOR STRUCTURE PLANS

MATCHLINE SHEET 5

MATCHLINE SHEET 5 -Y1REV- STA. 25+00.00

SITE 2

MATCHLINE SHEET 4 -Y2RPB- STA. 19+15.00

MATCHLINE SHEET 14 -Y2RPB- STA. 32 + 50.00

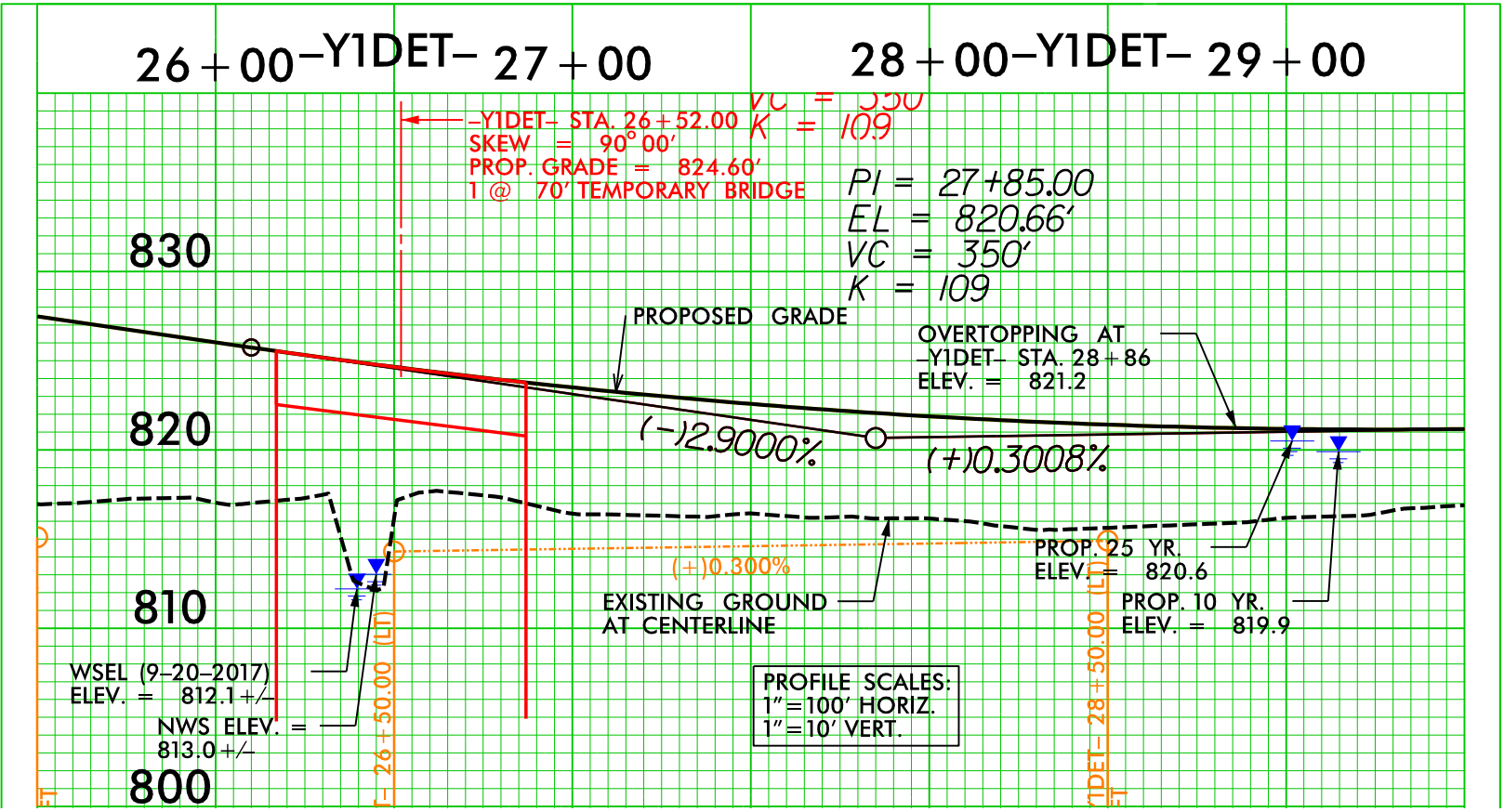
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DENOTES IMPACTS IN
SURFACE WATER
(POND)

SEE SHEET 21 FOR -Y1Rev- PROFILE
SEE SHEET 33 FOR -Y2RPB- PROFILE
SEE SHEET 40 FOR -Y1DRV- PROFILE
SEE SHEETS 2D-1THRU 2D-3 FOR DITCH DETAILS
SEE SHEET 2B-8 FOR BRIDGE DETAIL
TS S03-01THRU S03-22 FOR STRUCTURE PLANS

R/W REVISION 4/10/19 JCL CHANGED PROPERTY OWNER NAMES AND INFORMATION FOR PARCELS 43 AND 44.

5/3/2021
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U-2579AA			
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PERMIT DRAWING
SHEET 31 OF 32

SEE PERMIT SHEET 10A FOR
PLAN OF -Y1DET- BRIDGE

WETLAND PERMIT IMPACT SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L- 15+12	42" RCP-V (Not Buried)						0.03		392		
1		Channel Armoring						< 0.01	< 0.01	14	24	
1		Bank Stabilization						< 0.01	< 0.01	15	9	
2	-Y1REV- 25+60 RT	Drain and Stabilize Pond						0.50				
2A	-Y1REV- 28+00 RT	Drain and Stabilize Pond						0.12				
2B	-Y1REV- 28+60 RT	Drain and Stabilize Pond						2.31				
2C	-Y1REV- 28+60 RT	Bank Stabilization						< 0.01	< 0.01	16	20	
3	-Y1REV-32+78	2 @ 9'x9' RCBC						0.05		240		
3		Channel Change						0.02		124		
3		Bank Stabilization						< 0.01	< 0.01	26	20	
3A	-Y2FLYCA- 46+56 LT to 46+92	Detour Ditch Outlets						< 0.01	< 0.01	20	40	
3B	-Y2FLYCA- 46+56 LT to 46+92	Detour Bridge/Bank Stabilization						0.01	< 0.01	35	18	
4	-L- 36+28	2 @ 10'x9' RCBC						0.10		418		
4	-L- 34+68 RT	Channel Change						0.02		85		
4	-L- 38+65 LT	Bank Stabilization						0.01		80		
4A	-L- 33+95 to 34+33 RT	Bank Stabilization and Temporary Diversion Channel for Culvert Phasing						0.01	< 0.01	67	10	
5	-Y1REV- 41+70 RT	15" Pipe Removal	< 0.01			0.02						
5A	-Y1REV- 39+50 RT	60" Pipe Removal/Scour Hole Stabilization						< 0.01	< 0.01	42	40	
5B	-Y1REV- 44+50 RT	60" Pipe Removal/Scour Hole Stabilization						< 0.01	< 0.01	8	10	
5C	-Y1REV- 44+83 to 47+09 RT	Bank Stabilization						0.05	< 0.01	236	17	
5D	-L- 39+22 to 39+93 RT	Bank Stabilization and Temporary Diversion Channel for Culvert Phasing						0.06		173		
6	-L- 45+60	36" Welded Steel						< 0.01		57		
6		Bank Stabilization						< 0.01	< 0.01	68	20	
6A	-Y2 FLYAB- 23+00	Drain and Stabilize Pond						0.11				
7	-L- 54+04	72" Alt/Welded Steel						< 0.01		26		
7		Bank Stabilization						< 0.01	< 0.01	23	15	
7A	-L- 54+04	72" Alt/Welded Steel						< 0.01		11		
7A		Bank Stabilization						< 0.01	< 0.01	35	10	
8	-Y2- 15+70 to 17+65 RT	4' Base Ditch	0.04		0.04	0.02						
9	-Y2- 15+92 to 17+31 RT	Erosion Control Practices				0.06						
10	-Y2- 18+36	Bank Stabilization						0.04	< 0.01	60	20	
10A	-Y2- 19+50 LT	Bank Stabilization						< 0.01	< 0.01	9	22	
10B	-Y2- 22+10 LT	Bank Stabilization						< 0.01	< 0.01	8	10	
10C	-Y2- 23+50 LT	Bank Stabilization						< 0.01	< 0.01	8	10	
10D	-Y2- 25+50 LT	Bank Stabilization						< 0.01	< 0.01	10	10	
11	-Y2- 19+40 to 20+01 RT	Erosion Control Practices				0.03						
12A	-Y2- 52+60	Channel Armoring for Energy Dissipator Basin						< 0.01		33		
12B	-Y2- 54+75	Channel Change						< 0.01	< 0.01	80	10	
13	-Y2- 72+48 RT	60" Alt/Welded Steel						< 0.01		32		
13		Channel Armoring						< 0.01	< 0.01	31	25	
14	-Y2- 78+70	3 @ 8'x8' RCBC Extension						0.06		150		
14		Bank Stabilization						0.03	< 0.01	97	20	
14A	-Y2FLYCA- 14+75 to 15+30	3' Base Ditch						< 0.01	< 0.01	50	10	
14B	-Y2FLYCA- 15+68 to 17+46	Y2 FLYCA	0.38			0.05						
15	-Y2RPB- 41+50	36" RCP-III						0.03		249		
15		Bank Stabilization						< 0.01	< 0.01	16	32	
15A	-Y2RPB- 39+50 to 42+00	Y2RPB	0.64		0.07	0.20						
TOTALS*:			1.07		0.11	0.38		3.63	0.06	3044	422	0

*Rounded totals are sum of actual impacts

NOTES:
15A - There will be total take of the remnant, shown in the quantities.

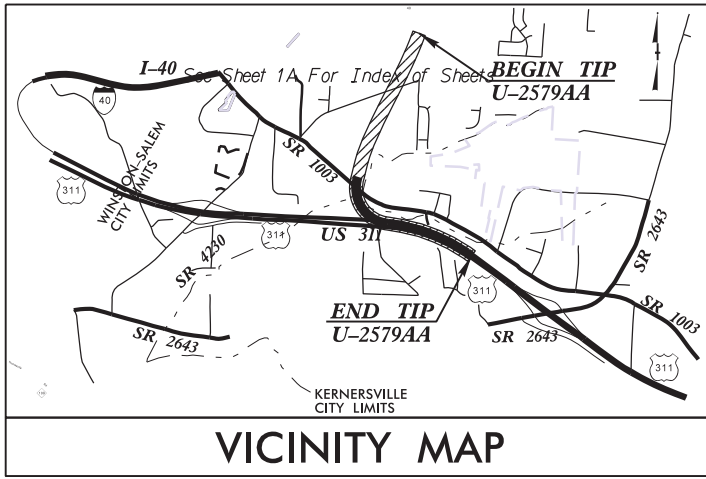
NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
6/24/2021
Forsythe Co.
U-2579AA

SHEET 32 OF 32

Revised 2013 10 24

09/08/99

TIP PROJECT: U-2579AA



VICINITY MAP

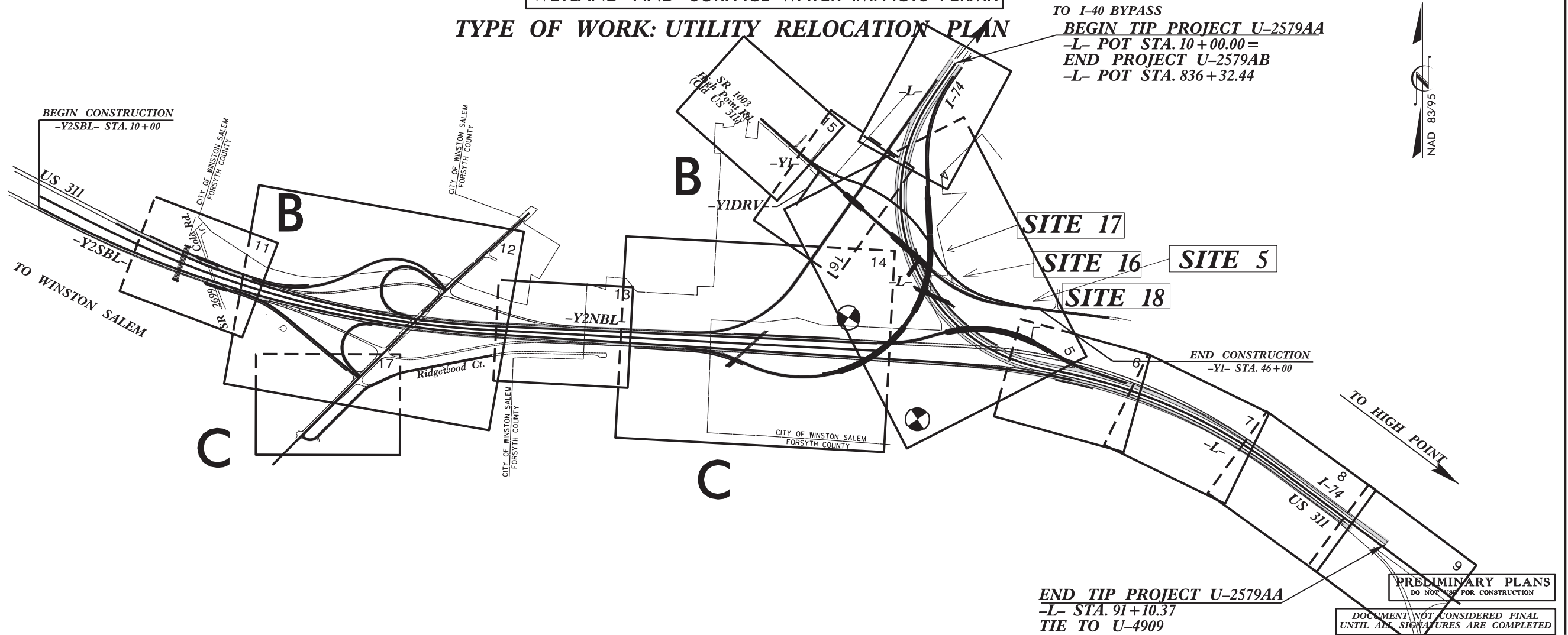
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS FORSYTH COUNTY

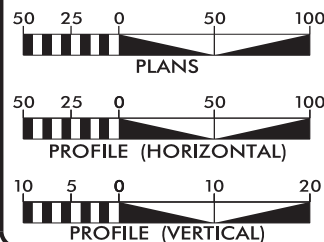
LOCATION: WINSTON SALEM NORTHERN BELTWAY EASTERN SECTION
(FUTURE I-74) FROM US 311 TO I-40

WETLAND AND SURFACE WATER IMPACTS PERMIT

TYPE OF WORK: UTILITY RELOCATION PLAN



GRAPHIC SCALES



WATER AND SEWER
OWNERS ON PROJECT

- (A) WATER XXXXXXXX
- (B) SANITARY SEWER
- (C) XXXXX
- (D) XXXXX
- (E) XXXXX

SEAL



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

TUCKER MARTIN UTILITIES REGIONAL MANAGER
ALI KOUCHEKI UTILITIES REGIONAL ENGINEER
JON LOUGHRY UTILITIES ENGINEER

Utility Drawings

Sheet 2 of 4

MATCHLINE SHEET 4
-Y2FLYCA- STA. 52+60.00

SITE 17

SITE 16

SITE 3A

Utility Drawings

Sheet 3 of 4

