



PAT McCRORY  
Governor


NICHOLAS J. TENNYSON  
Secretary

August 30, 2016

MEMORANDUM TO: Mr. Mike Mills, PE  
Division 7 Engineer

FROM: Philip S. Harris, III, P.E.  
for Natural Environment Section  
Project Development and Environmental Analysis Unit

SUBJECT: Guilford County; Greensboro Eastern Loop from US 70  
Relocation to SR 2303 (Lawndale Drive);  
WBS No. 38421.1.1; **TIP U-2525B & C.**

A handwritten signature in blue ink, appearing to be 'PHS', is located to the right of the 'FROM' field.

Attached are modifications to the US Army Corps of Engineers Section 404 Individual Permit and NC Division of Water Resources Section 401 Water Quality Certification. Except as revised here, the permit conditions of the original U-2525 permits and subsequent modifications remain valid.

A copy of this permit modification package will be posted on the NCDOT website at: <https://connect.ncdot.gov/resources/Environmental>, under *Quick Links > Issued Permits*

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

Mr. Randy Garris, P.E. State Contract Officer  
Mr. Jerry Parker, Division Environmental Officer  
Dr. Majed Al-Ghandour, P. E., Program Dev. and TIP  
Mr. Clarence Coleman, FHWA  
Ms. Brenda Moore, P.E., Roadway Design  
Mr. Matt Lauffer, P.E., Hydraulics  
Mr. Tom Koch, P.E., Structure Design  
Mr. Mark Staley, Roadside Environmental  
Mr. Barry Whitaker, Utilities Unit  
Mr. Ron Hancock, P.E., State Roadway Construction Engineer  
Mr. Kevin Bowen, P.E., State Bridge Construction Engineer  
Mr. Jay McInnis, P.E., PDEA  
Ms. Beth Harmon, EEP  
Mr. Phillip Ayscue, Office of Inspector General



# PROJECT COMMITMENTS

TIP Project No. U-2525B and U-2525C  
Greensboro Eastern Loop from US 70 Relocation  
to SR 2303 (Lawndale Drive)  
Guilford County  
WBS Element 34821.1.1

## COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

### Project Development and Environmental Analysis Unit/ Human Environment Section

Noise abatement measures will continue to be considered throughout the design phase of the project.

*NOTES: Based on the noise wall survey results, the noise wall at the SR 2827 (Four Mile Loop Road) – Relocated US 70(Burlington Road) interchange will not be built. Landscape screening will be utilized instead of a noise wall. The landscape plans will be developed and planting will occur after the roadway construction is completed. Also, based on the noise analyses performed for the SR 2568 (Assembly Road) area at the US 29 interchange, the results showed that there are no anticipated noise impacts in accordance with NCDOT's Traffic Noise Abatement Policy. Noise abatement is not required for Quail Oaks subdivision.*

*The Kerenoff neighborhood service road redesign developed in 2011 was reviewed, and noise abatement is not required for Kerenoff subdivision.*

*The southeast quadrant of the US 29/Greensboro Loop interchange was reviewed since this interchange quadrant was not included in previous studies. A noise barrier was predicted to provide at least a 5 dB (A) noise reduction for three receptors, and as much as a 7 dB (A) noise level reduction for one front row receptor. However, the total area of the barrier per predicted benefited receptor was above the allowable square footage per benefit; therefore, a noise barrier in this location would not be reasonable and is not recommended for construction.*

Sidewalks will be incorporated into the project. Further coordination is needed with the City of Greensboro regarding the specific sidewalk locations. A municipal agreement will be executed for Greensboro's participation.

*NOTES: According to NCDOT's Pedestrian Policy guidelines, any pedestrian facilities that the City of Greensboro wishes to incorporate into the project plans must be sent in writing to NCDOT by the Project Final Field Inspection (FFI) date.*

*The City of Greensboro has verbally requested that sidewalks be incorporated into all proposed curb and gutter construction along –Y- lines. NCDOT will provide the City with cost estimates to initiate the municipal agreement process.*

*Response to NOTES: The municipal agreement is currently being finalized for signatures.*

### **Hydraulics Unit**

The final designs will be coordinated with appropriate state and local officials and the Federal Emergency Management Agency (FEMA) to assure compliance with FEMA, state, and local floodway and floodplain regulations.

*NOTE: Standard Commitment.*

The design of any necessary drainage structures at greenways will be coordinated with the Guilford County Parks and Recreation Department.

*NOTE: There are no greenways located within the U-2525B project limits.*

Bridges will be considered during the design phase at major waterway and floodplain crossings.

*NOTE: Bridges span North Buffalo Creek and the bridge at SR 2825 (Camp Burton Road) was lengthened to span an unnamed tributary of North Buffalo Creek and wetlands.*

### **Location & Survey Unit**

Geodetic survey control monuments will be located during design and the U.S. Coastal and Geodetic Survey and North Carolina Geodetic Survey will be notified of their location.

*NOTE: Standard commitment.*

### **Roadside Environmental Unit, Hydraulics Unit, and Division 7**

NCDOT's "Best Management Practices for Protection of Surface Waters" will be implemented, where applicable, including hazardous spill catch basins in water supply watershed critical areas where the roadway crosses a water supply.

*NOTE: Standard commitment.*

### **Geotechnical Unit and Division 7**

Any underground storage tanks discovered during construction will be reported to the North Carolina Division of Environmental Management.

*NOTE: Standard Commitment.*

## **Project Development and Environmental Analysis Unit**

Mitigation for unavoidable wetland loss will be provided through implementation of a wetland mitigation plan developed during the permitting phase of the project.

*NOTE: Standard Commitment.*

Recommendations to restore stream segments to resemble the destroyed habitat will be considered where practicable. Banks and beds of relocated channels will be stabilized with vegetation or other protective devices as practicable, including consideration of using logs to line banks.

*NOTE: NCDOT plans to use on-site stream mitigation, including relocation, restoration, and enhancement to offset unavoidable impacts to existing streams caused by the Greensboro Eastern Loop construction.*

*Response to NOTE: The on-site mitigation commitment has been fulfilled. NCDOT has provided 2,055 LF of on-site stream mitigation at three sites through stream relocation and restoration. The remainder of the mitigation will be provided by the Ecosystem Enhancement Program (EEP).*

Surveys for small whorled pogonia will be required for U-2525B due to the presence of potential, but limited, habitat. These surveys will be conducted within two to three years of the project Let date.

*NOTE: Small whorled pogonia surveys will be conducted within the project area later this year (2012) in the appropriate season.*

*Response to NOTE: Surveys for small whorled pogonia were conducted by Atkins, Inc. biologists on June 13-15 and June 18-19, 2012 in areas of suitable habitat. No specimens were found. A review of the North Carolina Natural Heritage Program (NCNHP) database on November 13, 2013, indicated no occurrences of small whorled pogonia within one mile of the project study area. Therefore, the biological conclusion of 'No Effect' was determined for small whorled pogonia which will remain valid for five years.*

A combined Screening ICE and ICE Land Use Scenario Assessment will be completed prior to obtaining permits for the project.

*NOTE: The ICE and ICE Land Use Scenario Assessment report was completed on October 30, 2009.*

NCDOT will mitigate for all of the wetland and stream impacts contained within Quadrant D of the US 29 interchange including areas not directly impacted by construction.

*NOTE: The permit included this mitigation.*

U-2525 B and C will be permitted together using a phased permit. Preliminary plans for U-2525 C will need to be submitted when permit drawings for U-2525 B are submitted.

*NOTE: The permit included this commitment.*

**Project Development and Environmental Analysis Unit and Division 7**  
**Historic Architecture Stipulations:**

1. *Recordation:*  
*Prior to the initiation of construction, NCDOT will record the existing condition of the Schoolfield-Hatcher Farm and its surroundings in accordance with the attached Historic Structures and Landscape Recordation Plan.*

*NOTE: The Schoolfield-Hatcher Farm Historic Structures and Landscape Recordation Plan was completed in October 2010.*

2. *Landscape Plan:*  
*In consultation with SHPO and the property owner, NCDOT will develop a landscape plan for the Schoolfield-Hatcher property. Installation of plantings will be limited to the non-wooded areas of the parcel north and east of the roadway. As the installed plantings mature, they are intended to form a natural buffer between the roadway and the farm's primary structures. NCDOT will replace in kind any landscape elements which die within two years of installation.*

*NOTE: The Schoolfield-Hatcher Farm landscape plan was developed and approved by the State Historic Preservation Office on January 21, 2014. See Appendix A for the landscape plan. A separate contract for landscaping will be developed by Division 7, and the landscaping will be installed after the roadway construction is completed. NCDOT will replace in kind any landscape elements planted as a buffer for the Schoolfield-Hatcher property which die within two years of installation.*

3. *Shifted Roadway Alignment:*  
*The original middle alternative alignment (ALT-1) will be shifted away from the farm's primary structures as described in the shifted alternative (ALT-2).*

*NOTE: The alignment was shifted as described in the shifted alternative (ALT-2) to reduce impacts to the Schoolfield-Hatcher Farm.*

4. *Access:*  
*The new transportation facility with control-of-access fencing will divide the farm into two discontinuous parcels. Access to the first parcel, containing the house and primary farm structures, will be retained via the current driveway. NCDOT will provide a cul-de-sac to allow access to the second parcel.*

*NOTE: The driveway and cul-de-sac are included in the U-2525B final design plans.*

**Project Development and Environmental Analysis Unit, Division 7 and Project Services Unit**

**Archaeological Commitments:**

*1. Archaeological Monitoring*

*The NCDOT will monitor initial ground-disturbing activities within the property limits of Sites 31GF452\*\* (Schoolfield-Hatcher Farm, U-2525B) and 31GF466 (Site in SE Quadrant of the proposed SR 2352 (North Elm Street) interchange, U-2525C) in accordance with the attached Archaeological Monitoring Plan.*

*Archaeological Monitoring Plan (to be included in the construction contract proposal)*

*NCDOT (Archaeology Group) Contact Information: Matt Wilkerson, 919-707-6089.*

- The contractor will contact the NCDOT (Archaeology Group) when ground-disturbing activities are anticipated within the property limits of Site 31GF452\*\* (Schoolfield-Hatcher Farm) and Site 31GF466 (i.e., SE quadrant of Elm Street Interchange).*
- The contractor will provide 48-hours' notice to the NCDOT (Archaeology Group) prior to ground-disturbing activities within the property limits of Site 31GF452\*\* (Schoolfield-Hatcher Farm) and Site 31GF466 (i.e., SE quadrant of Elm Street Interchange). The 48-hour period will begin upon acknowledgment by the NCDOT (Archaeology Group) that the contractor has contacted them.*
- The NCDOT (Archaeology Group) will be on-site during ground-disturbing activities in order to monitor said activities within the property limits of Site 31GF452\*\* (Schoolfield-Hatcher Farm) and Site 31GF466 (i.e., SE quadrant of Elm Street Interchange). Monitoring activities may include, but not be limited to: 1) cleaning and photographing areas exposed during construction, 2) mapping both plan and profile views of open trenches, and 3) collecting materials or artifacts exposed during construction. The NCDOT (Archaeology Group) will have the authority to halt all construction work within the property limits of Site 31GF452\*\* (Schoolfield-Hatcher Farm) and Site 31GF466 (i.e., SE quadrant of Elm Street Interchange) in order to assess the need for further archaeological excavations.*
- Should archaeological resource(s) deemed eligible for the National Register of Historic Places (NRHP) be discovered during the monitoring phase as determined by the NCDOT (Archaeology Group), then all work will be halted within the limits of the NRHP resource and the State Historic Preservation Office will be contacted. As per the Memorandum of Agreement (MOA), the SHPO will consult with the NCDOT (Archaeology Group), on-site if necessary, in order to develop appropriate protection/mitigation measures for the resource(s). Appropriate measures for the resource(s) may include preservation in place, photographing and mapping, and/or additional archaeological excavations.*
- Both the SHPO and the NCDOT (Archaeology Group) will agree upon and provide to the contractor a written description of the measures required for the resource(s). The description will include a schedule for implementing and completing the measures. Upon receipt of written confirmation from the NCDOT (Archaeology Group) that the resource measures have been completed, construction activities may resume in the location containing the resource.*

2. *Archaeological Data Recovery*  
*Sites 31GF456 (Site near Summit Avenue, U-2525C) and 31GF466 (Site in SE Quadrant of the proposed SR 2352 (North Elm Street) interchange, U-2525C) are recommended as eligible for the National Register of Historic Places (NRHP). Both archaeological sites will be avoided by the Undertaking as currently designed; however, if design plans change prior to construction thereby causing an adverse impact to either of these sites, the NCDOT, in consultation with the SHPO and USACE will develop archaeological Data Recovery Plans (DRPs) in order to mitigate the adverse impact(s) to these sites. Given their proximity to the Undertaking, a visual barrier will be placed along the proposed ROW in order to avoid and prevent any disturbance(s) to these sites.*

*NOTE: Both sites are located within the U-2525C project limits and will be reviewed during future consultations for U-2525C.*

3. *Cemetery Removal and Relocation*  
*The May/Hudson Cemetery (Site 31GF445\*\* in the NE quadrant of the proposed interchange at SR 2770 (Huffine Mill Road), U-2525 B) cannot be avoided and will be relocated in accordance with the provisions of NCGS Chapter 65.*
4. *Access-Denied Areas*  
*Of the five (5) areas not surveyed during the study due to denial of access, only the Louise Coble parcel (15.64 acres within the proposed SR 2770 (Huffine Mill Road) interchange, U-2525 B) is to be affected by the Undertaking and will require additional investigations once access has been granted or ROW has been acquired and prior to any construction activities.*

*NOTE: The Coble Parcel archaeological survey was completed in January 2014 and identified one archaeological site and two isolated finds with unknown prehistoric lithic components. None of the sites are recommended eligible for the NRHP, and no further archaeological investigation is recommended for this project as it is currently defined.*

### **Project Development and Environmental Analysis Unit, Roadside Environmental Unit and Division 7**

NCDOT will adhere to Design Standards for Sensitive Watersheds in the areas of the 5 unnamed tributaries (UTs) of South Buffalo Creek that drain into a section of the creek designated as Section 303(d) waters due to turbidity.

*NOTE: Since South Buffalo Creek and its UTs are not listed on the 2012 303(d) Final List of Impaired Waters of North Carolina for turbidity or sedimentation, NCDOT will not need to adhere to Design Standards for Sensitive Watersheds as previously mentioned.*

## **COMMITMENTS FROM PERMITTING**

### **Division 7, Natural Environment Section, and Hydraulics Unit**

This permit only authorizes work on Section B of TIP U-2525. Construction on Section C of TIP U-2525 shall not commence until final design has been completed for this section, 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 US Army Corps of Engineers (the Corps). Preliminary plans for U-2525C were provided with the August 28, 2013 application (Sheets 1-89) however, these plans are not to be used for construction purposes.

When final design plans are completed for U-2525C, a modification to the 401 Water Quality Certification shall be submitted with two copies and fees to the NC Division of Water Quality. 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, surface waters, or buffers located in U-2525C shall begin until after the permittee applies for, and receives a written modification of the 401 Water Quality Certification from the NC Division of Water Quality.

### **Natural Environment Section and Division 7**

The Permittee shall fully implement the compensatory mitigation plan, entitled, Mitigation Plan Greensboro Eastern Loop, Guilford County North Carolina T.I.P Number U-2525B dated August 12, 2013 and revised March 17, 2014. The mitigation plan includes 14 plan sheets received on August 28, 2013 (OSM-1, OSM-1A, OSM-1B, OSM-2, OSM-2A, OSM-2B, OSM-2C, OSM-2D, OSM-2E, OSM-2F, OSM-3, OSM-4, OSM-5, OSM-6, OSM-7). These mitigation plans are for the unavoidable impacts to 2,055 linear feet of streams. Activities prescribed by this plan shall be initiated prior to, or concurrently with, commencement of any construction activities within jurisdictional areas authorized by this permit. The permittee shall relocate and restore 2,055 linear feet of streams in accordance with the plan with the following conditions:

- a) The permittee, NCDOT, is the party responsible for the implementation, performance and long term management of the compensatory mitigation project.
- b) Any changes or modifications to your mitigation plan shall be approved by the Corps.
- c) The permittee shall maintain the entire mitigation site in its natural condition, as altered by the work in the mitigation plan, in perpetuity. Prohibited activities within the mitigation site specifically include, but are not limited to: Filling; grading; excavating; earth movement of any kind; construction of roads, walkways, buildings, signs, or any other structure; any activity that may alter the drainage patterns on the property; the destruction, cutting, removal, mowing, or other alteration of vegetation on the property; disposal or storage of any garbage, trash, debris or other waste material; graze or water animals, or use for any agricultural or horticultural purpose;



or any other activity which would result in the property being adversely impacted or destroyed, except as specifically authorized by this permit.

d) All mitigation areas shall be monitored for a minimum of 5 years or until deemed successful by the Corps in accordance with the monitoring requirements included in the mitigation plan.

Compensatory mitigation for impacts to 8,083 linear feet of streams at a replacement ratio of 1:1 is required. Partial compensatory mitigation for impacts to jurisdictional streams shall be provided by onsite stream relocations of 2,055 linear feet of stream. The onsite stream relocation shall be constructed in accordance with the design submitted in the August 27, 2013 application. All on-site mitigation sites shall be protected in perpetuity by a conservation easement or through NCDOT fee simple acquisition and recorded in the NCDOT Natural Environment Section mitigation geodatabase. Please be reminded that as-builts for the completed streams shall be submitted to the North Carolina Division of Water Resources 401 Wetlands Unit with the as-builts for the rest of the project. If the parameters of this condition are not met, then the permittee shall supply additional stream mitigation for the 2,055 linear feet of impacts. All channel relocations shall be allowed to stabilize for an entire growing season. All stream relocations shall have a 50-foot wide native wooded buffer planted on both sides of the stream unless otherwise authorized by this Certification. A transitional phase incorporating rolled erosion control product (RECP) and appropriate temporary ground cover is allowable. The stream mitigation site shall be monitored annually for five years or until success criteria are satisfied. Monitoring protocols shall follow the Monitoring Level I outlined in the Stream Mitigation Guidelines, April 2003. Success of the mitigation site shall be determined by the NCDWR during an on-site visit at or near the end of the monitoring period.

### **Human Environment Section and Division 7**

The Permittee shall fully implement the Archaeological Monitoring Plan, which was one of the environmental commitments agreed to by NCDOT, and is listed on Page 5 of 8 of this Greensheet.

### **Permit Modification March 2016:**

As a result of the 401 and 404 permit modifications issued March 18, 2016, the following special conditions were added due to modifications made near Permit Site 37 on U-2525B:

401 Condition 1: Downstream bi-monthly monitoring reports as described in the [March 9, 2016] application shall be submitted to NCDWR for review as soon as is practicable or within 15 days following the monitoring event.

404 Condition x: Within three days of the conclusion of bank stabilization installation described herein, the temporary wetland impact area shown on permit drawing Sheet 38A2 must be restored by re-establishing the pre-impact grade and contour, ameliorating

areas of soil compaction by disking or similar means, and seeding with wetland seed mix comprised of native species.

404 Condition xx: NCDOT shall monitor the bank stabilization area described herein, as well as the stream bank within 200 feet up and downstream of the bank stabilization area, for further stream bank instability. Monitoring reports shall be submitted to the Corps beginning within two weeks of the conclusion of bank stabilization installation described herein, and continuing on a bi-monthly basis for a period of six months. These monitoring reports shall include geo-referenced color photographs of the bank stabilization area as well as the entire stream bank within 200 feet up and downstream of the bank stabilization area. In addition, the monitoring reports shall include narrative descriptions of the relative stability of the stream bank monitoring area and detailed descriptions of any stream bank erosion occurring within this area.

404 Condition xxx: In the event that stream bank erosion occurs within the stream bank monitoring area during the monitoring period, NCDOT shall provide a stream bank restoration or contingency plan for Corps review and approval.

**Permit Modification August 2016:**

As a result of the 401 and 404 permit modifications issued August 2016, the following special condition was added due to the construction of Sites 11 and 12 under U-2525C to be constructed concurrently with U-2524D:

404 Condition x: This permit modification only authorizes work on Permit Sites 11 and 12 of Section C of TIP U-2525. Construction on the remaining Permit Sites of Section C of TIP U-2525 shall not commence until final design has been completed for these Sites, the permittee has minimized impacts to waters and wetlands to the maximum extent practicable, any modification to the plans, and a compensatory mitigation plan, have been approved by the US Army Corps of Engineers. Preliminary plans for U-2525C were provided with the August 28, 2013 application (sheets 1-89) however, these plans are not to be used for construction purposes.

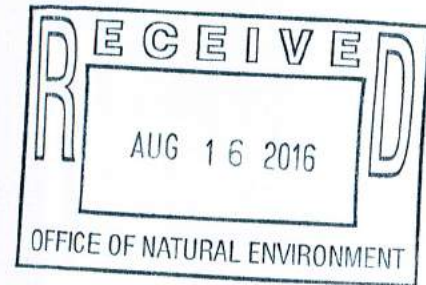


DEPARTMENT OF THE ARMY  
WILMINGTON DISTRICT, CORPS OF ENGINEERS  
69 DARLINGTON AVENUE  
WILMINGTON, NORTH CAROLINA 28403-1343

August 11, 2016

Regulatory Division/1200A

Action ID: SAW-2005-21386



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:

Reference the Department of the Army (DA) permit issued on April 15, 2014, to Ms. Deborah Barbour of the North Carolina Department of Transportation, for impacts associated with the project identified as U-2525BC. The project is a 9.7 mile, four-lane/six-lane divided facility on new location extending from the US 70 relocation to SR 2303 (Lawndale Drive) in Greensboro, Guilford County, North Carolina. Section B of this project begins at the US 70 relocation and terminates at US 29, and Section C begins at US 29 and ends at SR 2303 (Lawndale Drive). Coordinates (in decimal degrees) for the site are: 36.089772° North, -79.697302° West for the eastern terminus and 36.141773° North, -79.825120° West for the western terminus. The site contains portions of four (4) unnamed tributaries to South Buffalo Creek, twenty (20) unnamed tributaries to North Buffalo Creek, five (5) unnamed tributaries to an unnamed tributary at Camp Herman, fourteen (14) unnamed tributaries to Reedy Fork, a portion of Richland Creek, and ten (10) unnamed tributaries to Richland Creek, as well as 50 (50) adjacent wetland areas and five (5) open water ponds in the Cape Fear River Basin (8-Digit Cataloging Unit 03030002).

Impacts authorized by the permit as well as subsequent permit modifications dated June 18, 2014, October 31, 2014, December 4, 2014, March 12, 2015, July 24, 2015, and March, 18, 2016 include: 1) The permanent placement of fill material into 23,467 linear feet of jurisdictional stream channel, 9.95 acres of adjacent riparian wetlands, and 2.32 acres of jurisdictional open waters and, 2) the temporary placement of fill material into 785 linear feet of jurisdictional stream channel and 0.31 acre of adjacent riparian wetlands associated with construction access and the relocation of utility lines. Compensatory mitigation was implemented for the unavoidable impacts by payment into the North Carolina Ecosystem Enhancement Program, now known as the North Carolina Division of Mitigation Services (NCDMS), as well as permittee responsible mitigation referenced in the permit special conditions.

Also reference your "Request for Modification..." letter dated August 8, 2016 (received August 10, 2016), proposing the following:

- 1) Release of Permit Sites 11 and 12 of TIP U-2525C for construction per Special Condition 2 of the DA permit issued on April 15, 2014;
- 2) Authorization of a permanent discharge of fill material into 308 linear feet of stream channel related to:
  - a. Placing 284 linear feet of stream channel in culverts and other fills resulting in permanent loss of waters, and;
  - b. Adding rip rap bank stabilization to 24 linear feet of stream channel;
- 3) Authorization of a temporary discharge of fill material into 15 linear feet (0.01 acre) of stream channel related to temporary construction access and dewatering;
- 4) Authorization of a permanent discharge of fill material into 0.08 acre of riparian, non-riverine wetlands related to:
  - a. Placing fill for road slopes into 0.05 acre of wetlands resulting in permanent loss of waters, and;
  - b. Mechanized clearing in 0.03 acre of wetlands for installation and maintenance of sediment and erosion control devices.

Following evaluation of the information submitted in your modification request, the U.S. Army Corps of Engineers, Wilmington District has determined that it is appropriate and reasonable, is not contrary to the public interest, and no public notice is required for this modification. Therefore, the permit is modified to release Permit Sites 11 and 12 of TIP U-2525C for construction, as described in the Wetland & Stream Impacts drawings for U-2525C (Permit Drawings Sheets 2-8) submitted in the "Request for Modification ..." letter dated August 8, 2016.

In addition, the following special condition regarding additional compensatory mitigation has been incorporated:


x) PHASED PERMIT: This permit modification only authorizes work on Permit Sites 11 and 12 of Section C of TIP U-2525. Construction on the remaining Permit Sites of Sections C of TIP U-2525 shall not commence until final design has been completed for these Sites, 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 US Army Corps of Engineers. Preliminary plans for U-2525C were provided with the August 28, 2013 application (sheets 1-89) however, these plans are not to be used for construction purposes.

Since impacts to waters of the US for U-2525C were originally permitted as a conceptual sum, refinement of impacts to Sites 11 and 12 cannot be used to further update the total impact amount for the entire U-2525BC project. Rather, upon evaluation of a future modification request to release the remainder of U-2525C for construction, the impacts authorized by this modification will be added to the total proposed impacts for the entirety of the C section and compared with the originally permitted conceptual impact sum. Similarly, the original permit required compensatory mitigation for all of U-2525BC, including the use of the conceptual sum of stream and wetland impacts. This modification, concerning only Permit Sites 11 and 12, takes into account a compensatory mitigation requirement for losses of waters of the US, including 284 linear feet of stream and 0.08 acre of wetlands, via purchase of appropriate stream and wetland credits from NCDMS at a 2:1 mitigation to impact ratio. Since the above compensatory mitigation requirement falls below the amount of compensatory mitigation required in the original permit, any future change in the compensatory mitigation requirement will be based on the wetland and stream impacts proposed in the future modification request to release the remainder of U-2525C for construction.

All other conditions of the permit and subsequent modifications, including the permit expiration date of December 31, 2019, remain in effect as written. Should you have questions, contact Mr. David E. Bailey, Raleigh Regulatory Field Office at telephone (919) 554-4884, Extension 30 or [David.E.Bailey2@usace.army.mil](mailto:David.E.Bailey2@usace.army.mil).

Sincerely,



 Kevin P. Landers  
Colonel, U.S. Army  
District Commander

Copies Furnished with Attachment:

Mr. Brian Wrenn  
Transportation Permitting Unit  
Division of Water Resources  
North Carolina Department of  
Environment and Natural Resources  
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Raleigh, North Carolina 27699-1617

Ms. Erin Cheely  
North Carolina Department of Transportation  
Division of Highways  
1598 Mail Service Center  
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Mr. Jerry Parker  
Division Environmental Supervisor, Division 7  
North Carolina Department of Transportation  
Post Office Box 14996  
Greensboro, North Carolina 27415

Copies Furnished without Attachment:

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Technical Services Administrator  
North Carolina Department of Transportation  
1516 Mail Service Center  
Raleigh, North Carolina 27699-1516

U.S. Fish and Wildlife Services  
Fish and Wildlife Enhancement  
Post Office Box 33726  
Raleigh, North Carolina 28516

Ms. Cynthia Van Der Wiele  
U.S. Environmental Protection Agency  
Region 4 NEPA Program Office  
c/o USEPA-RTP  
109 T.W. Alexander Drive  
Mail Code: E143-08  
Research Triangle Park, North Carolina 27709

Mr. Travis Wilson  
North Carolina Wildlife Resources Commission  
1718 Hwy 56 West  
Credmoor, North Carolina 27522



PAT MCCRORY

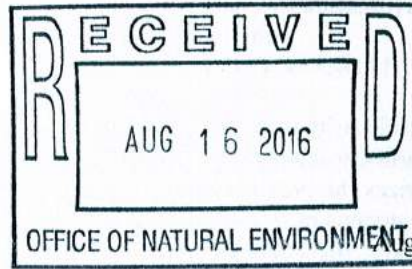
*Governor*

DONALD R. VAN DER VAART

*Secretary*

S. JAY ZIMMERMAN

*Director*



August 12, 2016

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: Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS for the proposed Greensboro Eastern Loop from US 70 Relocation to SR 2303 (Lawndale Drive) in Guilford County, Division 7; WBS Element 34821.1.1, TIP Project Nos. U-2525 B and C.  
NCDWR Project No. 20130918 v.8

Dear Mr. Harris:

Attached hereto is a modification of Certification No. 3978 issued to The North Carolina Department of Transportation (NCDOT) dated February 6, 2014 and subsequent modifications dated June 24, 2014, October 15, 2014, December 11, 2014, March 18, 2015, July 21, 2015, and March 18, 2016.

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

Sincerely,

S. Jay Zimmerman, Director  
Division of Water Resources

Attachments

Electronic copy only distribution:

- David Bailey, US Army Corps of Engineers, Raleigh Field Office
- Jerry Parker, Division 7 Environmental Officer
- Rodger Rochelle, NC Department of Transportation
- Erin Cheely, NC Department of Transportation
- Dr. Cynthia Van Der Wiele, US Environmental Protection Agency
- Gary Jordan, US Fish and Wildlife Service
- Travis Wilson, NC Wildlife Resources Commission
- Beth Harmon, Division of Mitigation Services
- File Copy

**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 0.08 acres of jurisdictional wetlands and 323 linear feet of jurisdictional streams in Guilford County. The project shall be constructed pursuant to the application dated received August 8, 2016. The authorized impacts are as described below:

**Table 1. Stream Impacts in the Cape Fear River Basin**

Site Number	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)
12	--	--	308	15	323	308
<b>Total Original Impacts</b>	--	--	<b>12,646</b>	--	--	<b>12,646</b>
<b>Total Additional Impacts</b>	--	--	<b>308</b>	<b>15</b>	<b>323</b>	<b>308</b>
<b>Total Impacts</b>	--	--	<b>12,954</b>	<b>15</b>	<b>12,969</b>	<b>12,954</b>

**Total Stream Impact for U-2525C: 12,969 linear feet.**

**Table 2. Riverine Wetland Impacts in the Cape Fear River Basin**

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Area under Bridge (ac)	Total Wetland Impact (ac)
11	0.05	--	--	0.03	--	--	0.08
<b>Total Original Impacts</b>	<b>2.4</b>	--	--	--	--	--	<b>2.4</b>
<b>Total Additional Impacts</b>	<b>0.05</b>	--	--	<b>0.03</b>	--	--	<b>0.08</b>
<b>Total Impacts</b>	<b>2.45</b>	--	--	<b>0.03</b>	--	--	<b>2.48</b>

**Total Wetland Impact for U-2525C: 2.48 acres.**

The application provides adequate assurance that the discharge of fill material into the waters of the Cape Fear 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 August 8, 2016. 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 150 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:

### Project Specific Conditions

1. This modification is applicable only to the additional proposed activities. All of the authorized activities and conditions of certification associated with the original Water Quality Certification dated February 6, 2014 and subsequent modifications dated June 24, 2014, October 15, 2014, December 11, 2014, March 18, 2015, July 21, 2015, and March 18, 2016 still apply except where superseded by this certification.
2. When final design plans are completed for U-2525C, 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, surface waters, or buffers located in U-2525C shall begin until after the permittee applies for, and receives a written modification of the 401 Water Quality Certification from the NC Division of Water Resources.

### General Conditions

1. Unless otherwise approved in this certification, placement of culverts and other structures in open waters and streams shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required. [15A NCAC 02H.0506(b)(2)]
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, including all non-commercial borrow and waste sites associated with the project, shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]
16. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.
17. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]
18. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]
19. Native riparian vegetation must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02B.0506(b)(2)]
20. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities. [15A NCAC 02H.0506(b)(3) and (c)(3)]
21. Erosion 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)]
23. 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. Sam M. Hayes, General Counsel  
Department of Environmental Quality  
1601 Mail Service Center

This the 12th day of August 2016

DIVISION OF WATER RESOURCES

A handwritten signature in blue ink that reads "S. Jay Zimmerman". The signature is written in a cursive style with a large initial "S" and "J".

S. Jay Zimmerman, Director

WQC No. 3978



NCDWR Project No.: \_\_\_\_\_ County: \_\_\_\_\_

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

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

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

**Certificate of Completion**

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

**Applicant's Certification**

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

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

**Agent's Certification**

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

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

**Engineer's Certification**

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

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

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

09.08/99

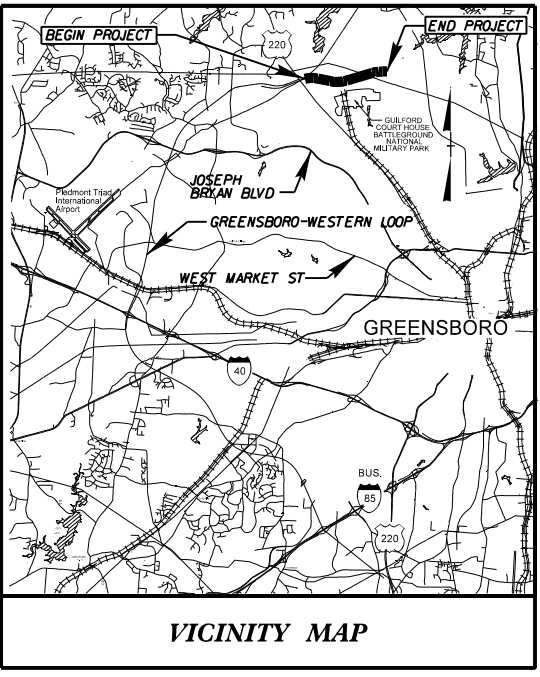
See Sheet 1A For Index of Sheets  
See Sheet 1B For Conventional Symbols

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS GUILFORD COUNTY

**U-2525C Modification Drawings**  
Greensboro Eastern Loop from US 29 north of  
Greensboro to SR 2303 (Lawndale Drive)  
34821.1.1

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
-------	-----------------------------	-----------	--------------

PERMIT DRAWINGS  
SHEET 1 OF 8



TYPE OF WORK: GRADING, PAVING, CULVERTS, DRAINAGE,  
STRUCTURES AND ITS

## WETLAND & STREAM IMPACTS

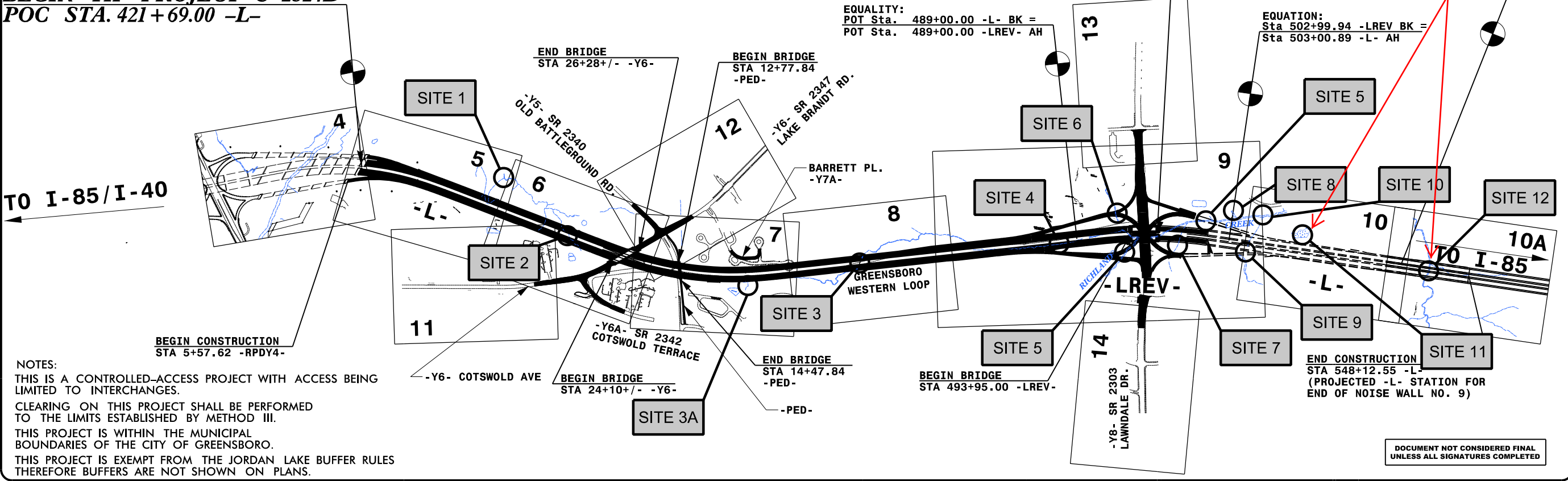
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N 871507.2766 E 1756411.5108

**END TIP PROJECT U-2525C**  
POT STA 552+99.67 -L- AH.  
N 871505.0126 E 1756411.6682

TIP PROJECT:

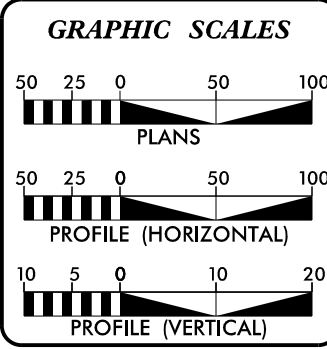
**BEGIN TIP PROJECT U-2524D**  
POC STA. 421+69.00 -L-

**U-2525C includes sites 11 and 12**



NOTES:  
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 PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF GREENSBORO.  
THIS PROJECT IS EXEMPT FROM THE JORDAN LAKE BUFFER RULES THEREFORE BUFFERS ARE NOT SHOWN ON PLANS.

CONTRACT:



**DESIGN DATA**

ADT 2016 =	65,756
ADT 2036 =	98,793
K =	10 %
D =	60 %
T =	14 % *
V =	70 MPH
* TTST =	8% DUAL 6%
FUNC CLASS =	FREEWAY
INTERSTATE TIER	

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT	
LENGTH STRUCTURES TIP PROJECT	
TOTAL LENGTH OF TIP PROJECT	

**NCDOT CONTACT:** REKHA PATEL, P.E.

PLANS PREPARED BY: **PARSONS** RALEIGH, NORTH CAROLINA

FOR THE DIVISION OF HIGHWAYS

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

**HNTB**  
HNTB  
543 E. SIX FORKS ROAD, SUITE 200  
RALEIGH, NC 27609  
NC License Number C-1554

TIM D. GOINS, P.E.  
PROJECT ENGINEER

DAVID GARRETT  
PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

ROADWAY DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

**DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA**

STATE HIGHWAY DESIGN ENGINEER

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**INCOMPLETE PLANS**  
DO NOT USE FOR A/W ACQUISITION  
**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

**U-2525C**

SCALE  
1" = 40'

**SITE 10**

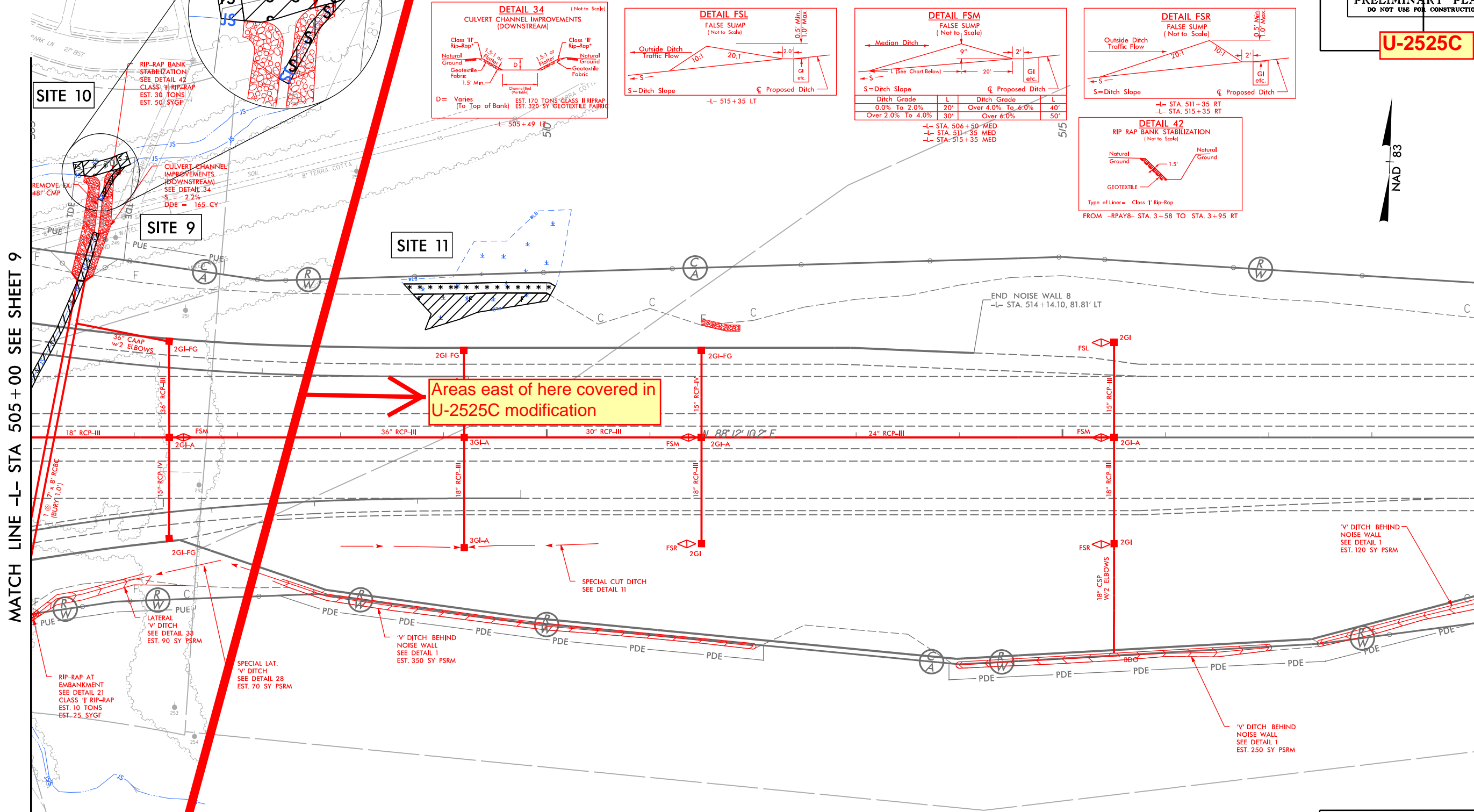
**SITE 9**

**SITE 11**

MATCH LINE -L- STA 505+00 SEE SHEET 9

MATCH LINE -L- STA 519+00 SEE SHEET 10A

Areas east of here covered in U-2525C modification



RIP-RAP BANK STABILIZATION  
SEE DETAIL 42  
CLASS 'I' RIP-RAP  
EST. 30 TONS  
EST. 50 SYGCF

CULVERT CHANNEL IMPROVEMENTS (DOWNSTREAM)  
SEE DETAIL 34  
S = -2.2%  
DDE = 165 CY

36" CAAP w/2 ELBOWS  
2GI-FG

18" RCP-III  
2GI-A

15" RCP-IV  
2GI-FG

18" RCP-III  
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3GI-A

30" RCP-III  
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FSM

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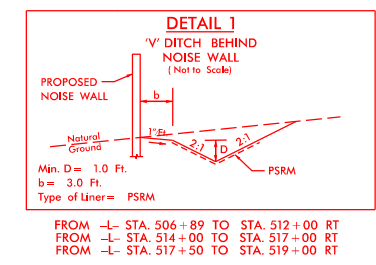
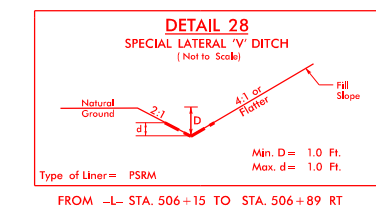
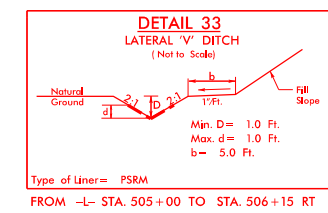
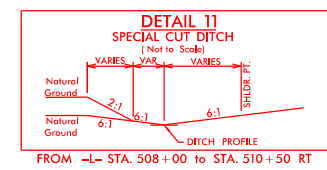
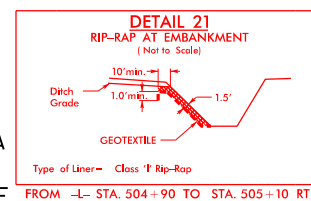
18" RCP-III  
2GI-FG

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3GI-A

30" RCP-III  
FSM

24" RCP-III  
FSM

15" RCP-IV  
2GI-FG



PERMIT DRAWINGS  
SHEET 2 of 8

**LEGEND**

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

NOTE:  
SEE SHEET 2B-2 FOR CURVE DATA  
SEE SHEET 19 FOR -L- PROFILE  
SEE SHEET 24 FOR RPAY8 PROFILE  
SEE SHEET 27 FOR RPDY8 PROFILE

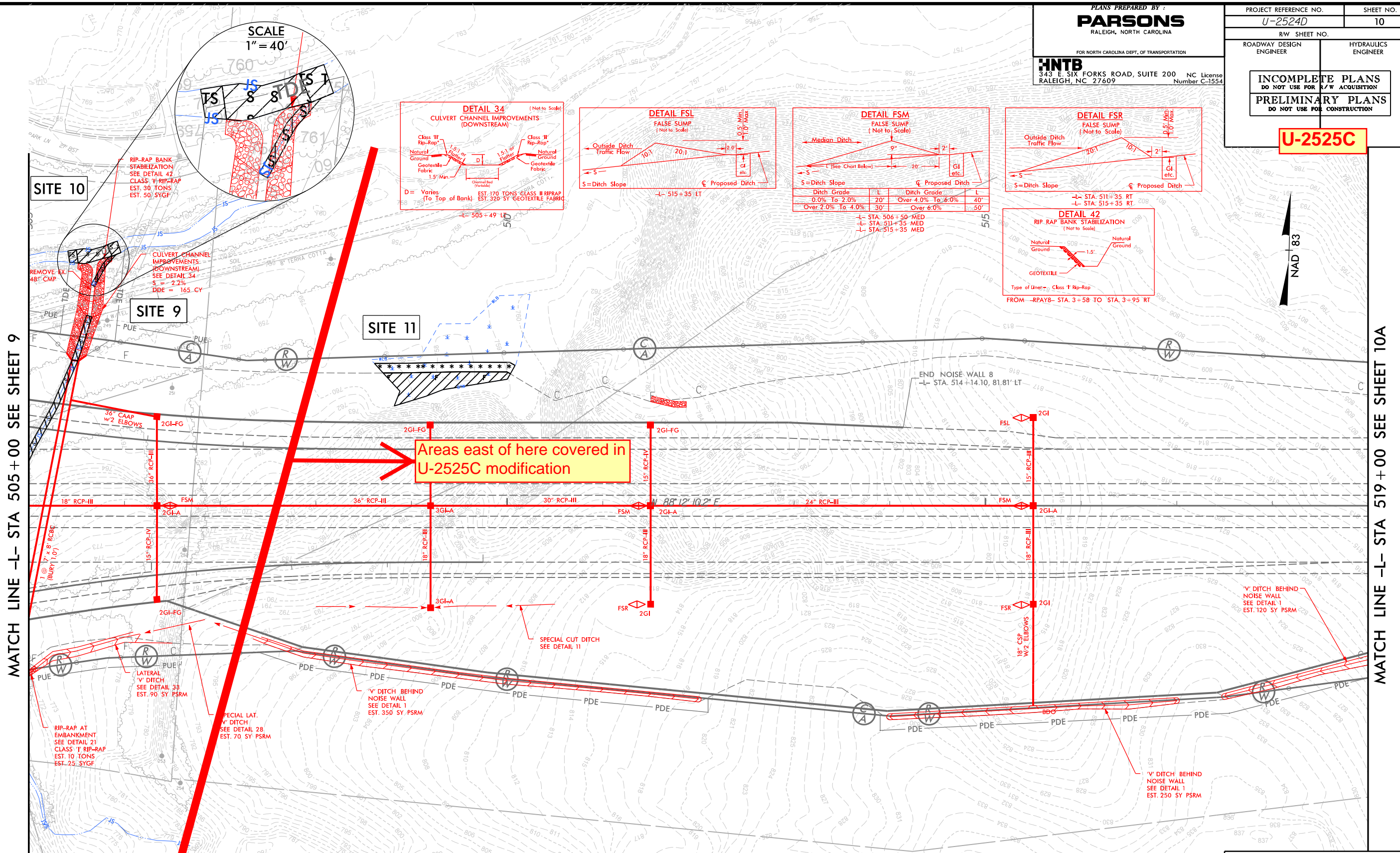
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**INCOMPLETE PLANS**  
DO NOT USE FOR A/W ACQUISITION  
**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

**U-2525C**

SCALE  
1" = 40'



MATCH LINE -L- STA 505+00 SEE SHEET 9

MATCH LINE -L- STA 519+00 SEE SHEET 10A

SITE 10

SITE 9

SITE 11

RIP-RAP BANK STABILIZATION  
SEE DETAIL 42  
CLASS 'I' RIP-RAP  
EST. 30 TONS  
EST. 50 SYGF

CULVERT CHANNEL IMPROVEMENTS (DOWNSTREAM)  
SEE DETAIL 34  
S = 2.2%  
DDE = 165 CY

36" CAAP w/2 ELBOWS  
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18" RCP-III  
2GI-A

REMOVE EX 48" CMP

36" CAAP w/2 ELBOWS

18" RCP-III

36" RCP-III

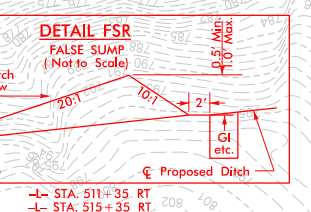
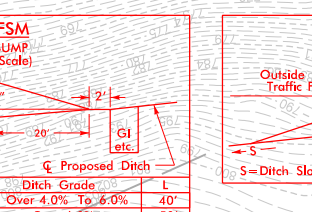
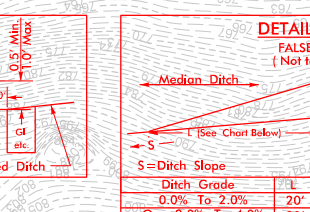
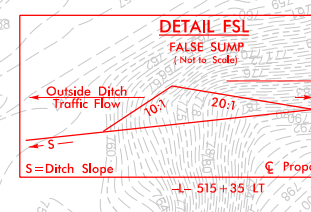
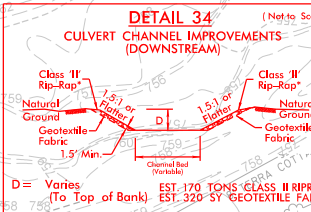
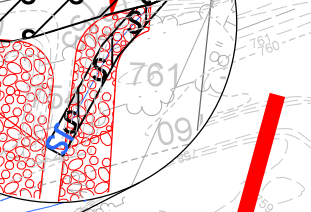
30" RCP-III

24" RCP-III

15" RCP-III

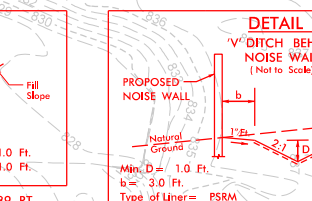
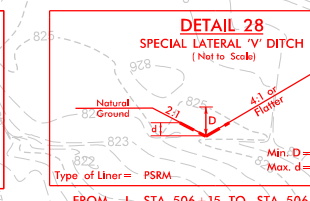
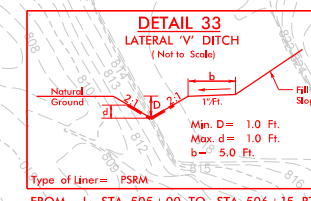
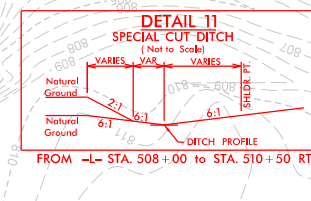
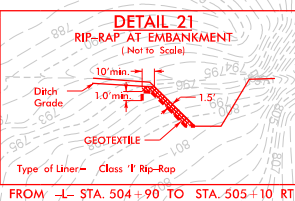
18" RCP-III

18" RCP-III



Areas east of here covered in U-2525C modification

NOTE:  
SEE SHEET 2B-2 FOR CURVE DATA  
SEE SHEET 19 FOR -L- PROFILE  
SEE SHEET 24 FOR RPY8 PROFILE  
SEE SHEET 27 FOR RPDY8 PROFILE



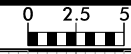
PERMIT DRAWINGS  
SHEET 3 of 8

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

REVISIONS

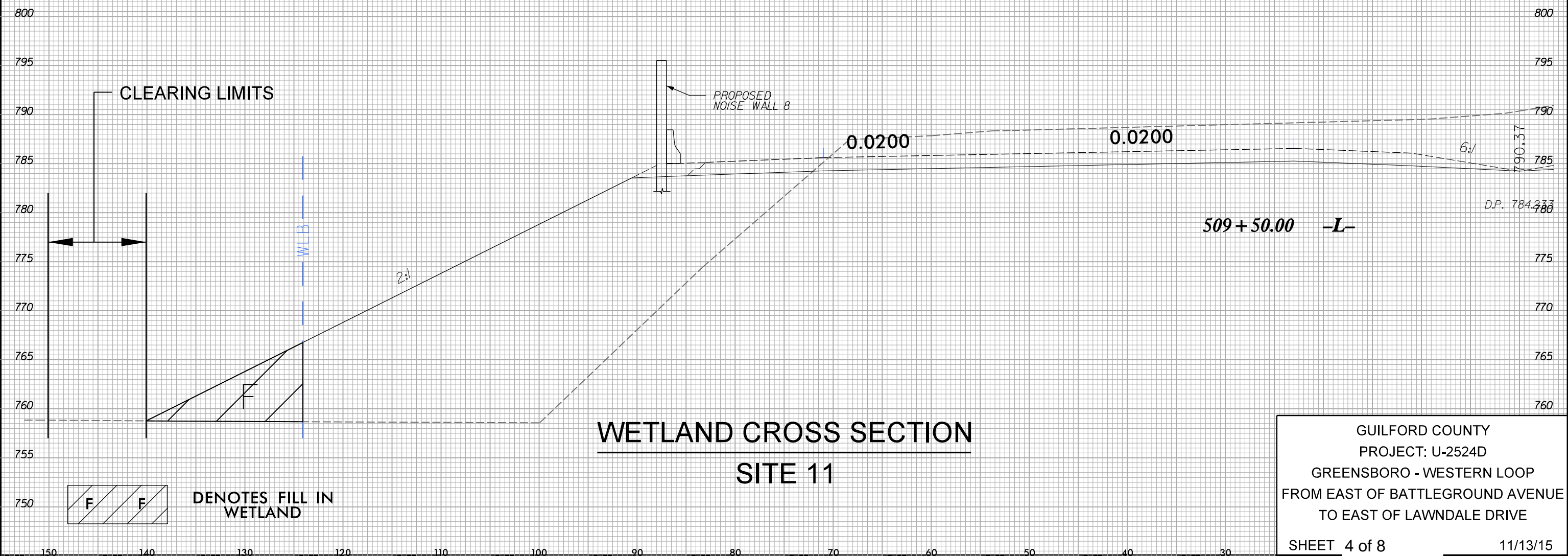
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8/23/99



**U-2525C**

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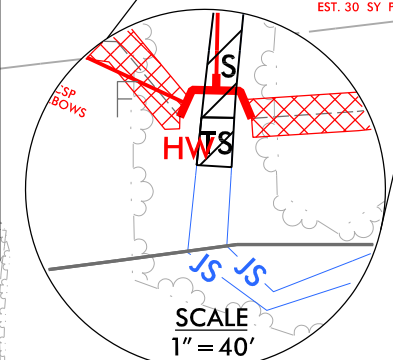
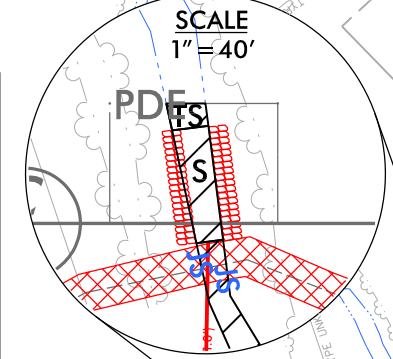
GUILFORD COUNTY  
 PROJECT: U-2524D  
 GREENSBORO - WESTERN LOOP  
 FROM EAST OF BATTLEGROUND AVENUE  
 TO EAST OF LAWDALE DRIVE

SHEET 4 of 8 11/13/15

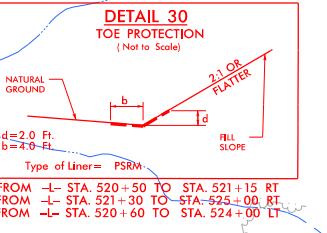
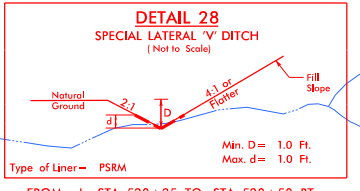
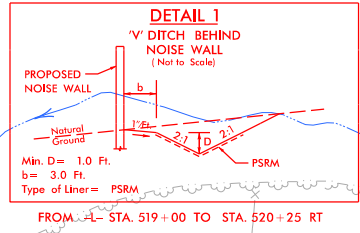
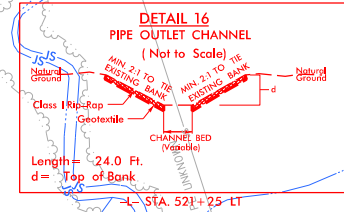
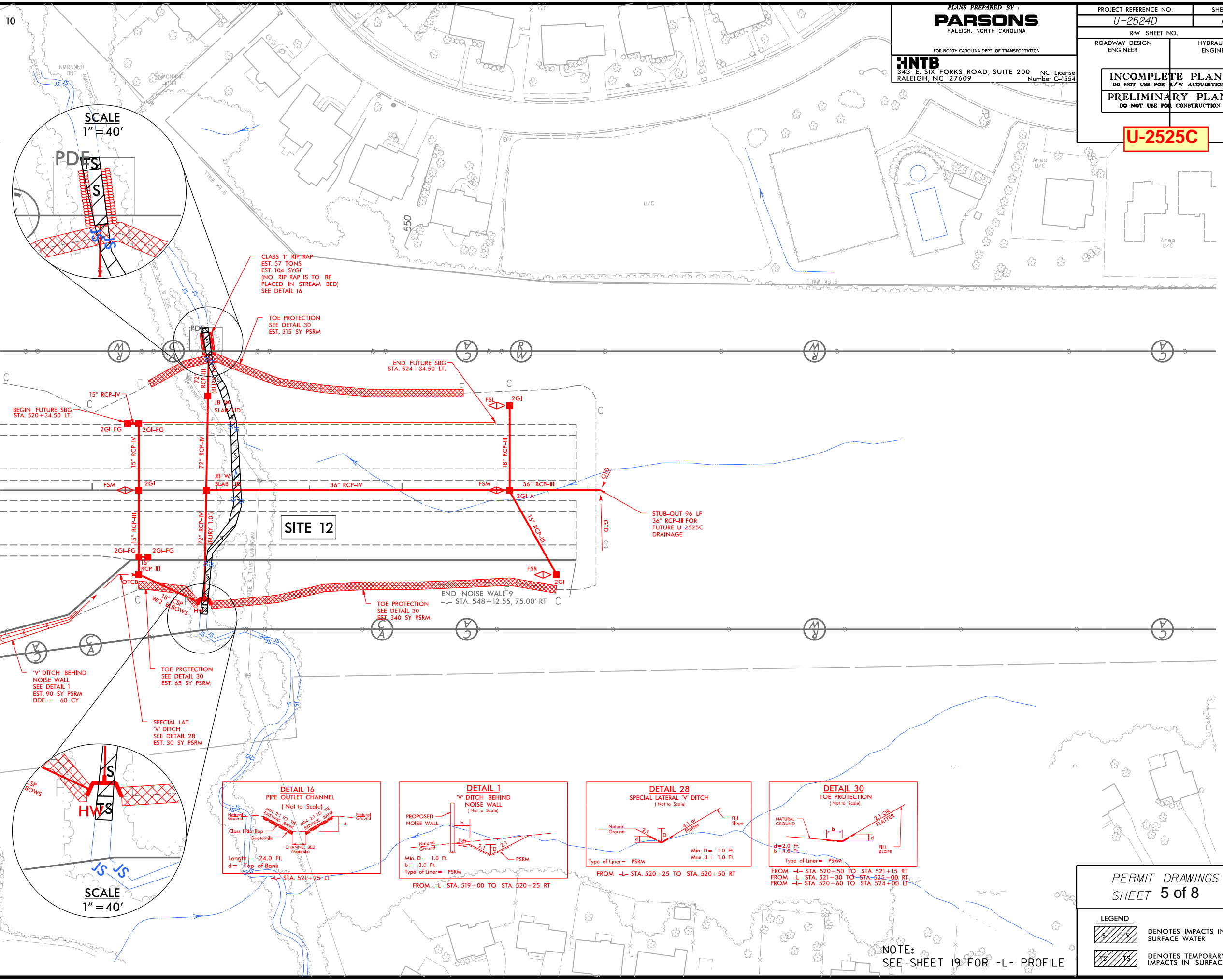


**INCOMPLETE PLANS**  
 DO NOT USE FOR A/W ACQUISITION  
**PRELIMINARY PLANS**  
 DO NOT USE FOR CONSTRUCTION

**U-2525C**



MATCH LINE -L- STA 519 + 00 SEE SHEET 10



PERMIT DRAWINGS  
 SHEET 5 of 8

**LEGEND**

	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTE:  
 SEE SHEET 19 FOR -L- PROFILE

REVISIONS

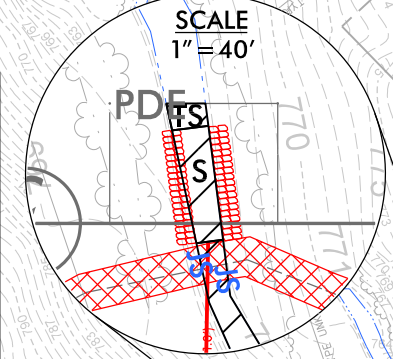
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**INCOMPLETE PLANS**  
 DO NOT USE FOR ACQUISITION  
**PRELIMINARY PLANS**  
 DO NOT USE FOR CONSTRUCTION

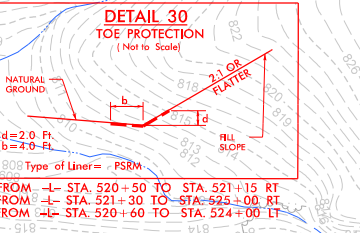
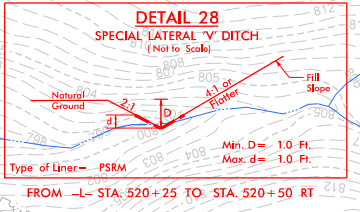
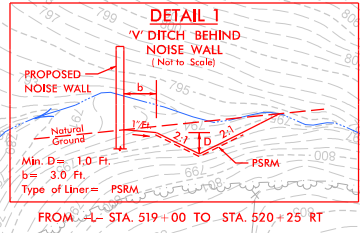
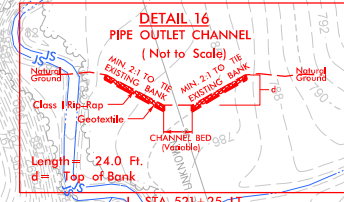
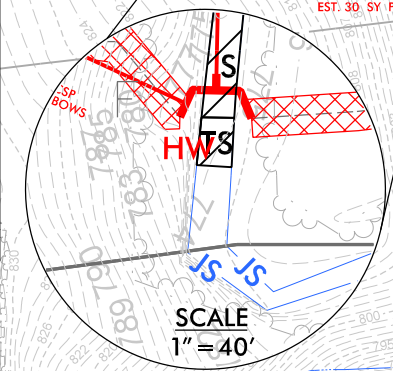
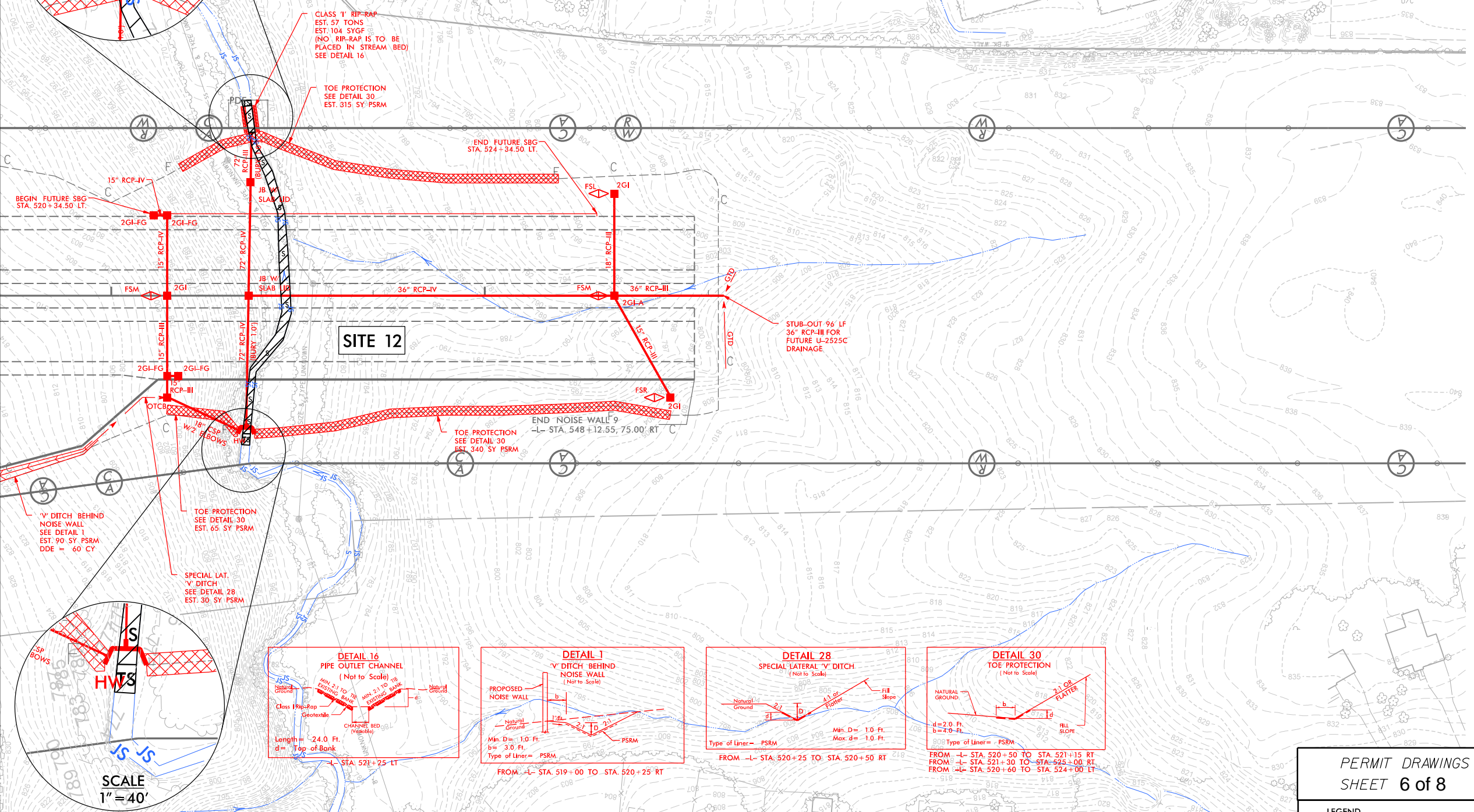
**U-2525C**

8/17/99

10



MATCH LINE -L- STA 519 + 00 SEE SHEET 10



PERMIT DRAWINGS  
 SHEET 6 of 8

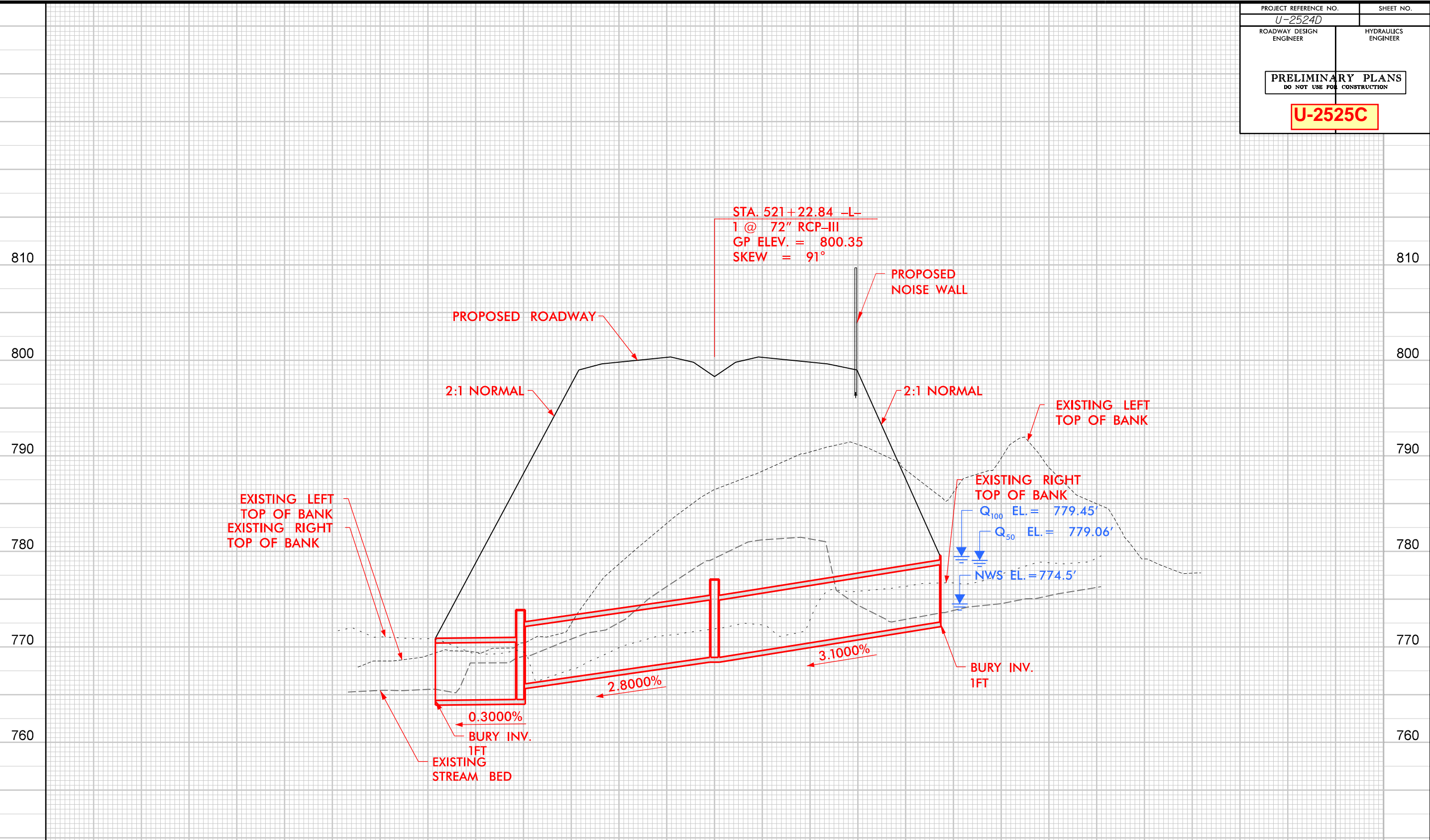
LEGEND	
	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTE:  
 SEE SHEET 19 FOR -L- PROFILE

REVISIONS

U-2524D-10A-C.dgn  
 8/17/99

5/14/99



**PROFILE ALONG STRUCTURE**

**SITE 12**

**SCALE**  
 1"=50' HORIZONTAL  
 1"=10' VERTICAL

GUILFORD COUNTY  
 PROJECT: U-2524D  
 GREENSBORO - WESTERN LOOP  
 FROM EAST OF BATTLEGROUND AVENUE  
 TO EAST OF LAWNSDALE DRIVE  
 SHEET 7 of 8  
 11/13/15

10:46:05 AM  
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**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)
11	- L- 508+61 - 510+08	Roadway Fill	0.05			0.03						
12	- L- 521+16 - 521+61	72"RCP						0.05	< 0.01	284	10	
		Bank Stabilization						< 0.01	< 0.01	24	5	
<b>TOTALS*:</b>			0.05			0.03		0.05	<0.01	308	15	0

\*Rounded totals are sum of actual impacts

NOTES:  
 - Sites 11 and 12 will be included in the construction of U-2524D due to construction of noise walls 8 and 9 which span these two TIPs

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
  
 Guilford  
 U-2525C  
 34821.1.1  
  
 SHEET 8 of 8