



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

December 27, 2005

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

FROM: Philip S. Harris, III, P.E., Unit Head *PH*
Natural Environment Unit
Project Development and
Environmental Analysis Branch

SUBJECT: Rowan County, I-85 Improvements from North of SR 1002 to
North of SR 2120; Federal Aid Project Number IR-IM-85-
3(132)74; State Project No. 8.1631503; TIP No. I-2511CB

Attached are the modifications of the U.S. Army Corps of Engineers 404 permit (Action ID 200221534) and Division of Water Quality 401 Water Quality Certification (No. 3456).

Attachment

cc: Mr. Art McMillan, P.E.
Mr. Jay Bennett, P.E.
Mr. David Chang, P.E.
Mr. Randy Garris, P.E.
Mr. Greg Perfetti, P.E.
Mr. Mark Staley
Mr. John F. Sullivan, III, FHWA
Mr. Majed Al-Ghandour
Ms. Diane Hampton, Division 9 DEO
Mr. Rodger Rochelle, P.E.

File: I-2511CB

PROJECT COMMITMENTS

ROWAN COUNTY
I-85 IMPROVEMENTS FROM NORTH OF SR 1002 TO NORTH OF SR 2120

FEDERAL-AID PROJECT NO. IR-IM-85-3(132)74
STATE PROJECT NO. 8.1631503
TIP NO. I-2511CB

All conditions of the original Department of Army permit (October 7, 2004) and the original Division of Water Quality, Water Quality Certification (April 20, 2004), including the expiration date (December 31, 2008), and of all subsequent modifications to each, remain applicable.

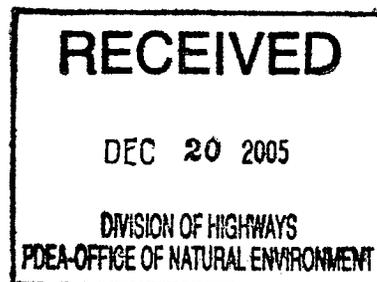


Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E., Director
Division of Water Quality
Coleen H. Sullins, Deputy Director
Division of Water Quality

December 16, 2005

Mr. Gregory J. Thorpe, Ph.D., Director
Planning and Environmental Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, NC, 27699-1548



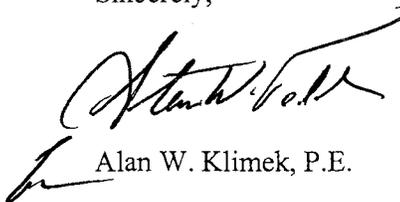
Dear Dr. Thorpe:

Re: Modification of Certification Pursuant to Section 401 of the Federal Clean Water Act,
Improvements to Interstate 85 from north of SR 1002 to north of SR 2120 in Rowan county.
Federal Aid Project No. IR-IM-85-3(132)74; State Project No. 8.1631503, TIP I-2511CB.
WQC Project No. 040271

Attached hereto is a copy of Certification No. 3456 issued to The North Carolina Department of Transportation originally issued on April 20, 2004, modified January 7, 2005, modified February 9, 2005, and October 6, 2005. This modification is being issued to address changes to construction sequence for the relocation of Town Creek.

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

Sincerely,



Alan W. Klimek, P.E.

Attachments

Pc: John Thomas, USACE Raleigh Field Office
~~Bill Burton, NCDOT, DEEA~~
Marla Chambers, NCWRC
Marella Buncick, USFWS
Diane K. Hampton, P.E., DEE, NCDOT Div. 9
DWQ Winston-Salem Regional Office
DWQ Wetlands 401/Transportation Unit
DWQ Central Files

NORTH CAROLINA 401 WATER QUALITY CERTIFICATION

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 Quality (DWQ) Regulations in 15 NCAC 2H, Section .0500. This certification authorizes the NCDOT to incur the following permanent impacts:

Wetland Impacts

Site	Riverine (acres)	Non-Riverine (acres)	Total (acres)
4	0.002	0.0	0.002
6	0.047	0.0	0.047
8	0.0	0.47	0.47
Total	0.049	0.47	0.519

Surface Water Impacts

Site	Temporary Stream Impacts (linear feet)	Permanent Stream Impacts (linear feet)	On-Site Natural Channel Design (linear feet)	Mitigation Required
1	30	102	0	102
2	20	163	0	163
3	10	80	0	0
4	10	90	0	90
5	0	864	1375	864
6	30	200	0	37
7A	10	162	0	0
7B	30	200	0	200
8	20	85	0	0
9	40	114	0	114
10	0	0	0	
Total	200	2060	1375	1570

I-2511CB shall be constructed pursuant to the application dated February 20, 2004 and any approved modifications, to improve I-85 from north of SR 1002 to north of SR 2120 in Rowan County.

The application provides adequate assurance that the discharge of fill material into the waters of nine unnamed tributaries to Town Creek 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, as described in the Public Notice. Should your project change, you are required to notify the DWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If total wetland fills for this project (now or in the future exceed one acre, 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, Non-discharge and Water Supply watershed regulations.

This Certification shall expire three (3) years from the date of the cover letter from DWQ or on the same day as the expiration date of the corresponding US Army Corps of Engineers Permit, whichever is later.

Condition(s) of Certification:

1. 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:
 - 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. Any reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.
2. No waste, spoil, solids, or fill of any kind shall occur in wetlands, waters, or riparian areas beyond the footprint of the impacts depicted in the Application. All construction activities shall be performed so that no violations of state water quality standards, statutes, or rules occur.
3. Sediment and erosion control measures shall not be placed in wetlands or waters to the maximum extent practicable. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, they shall be removed and the natural grade restored within 30 days after the project has been released.
4. The outside wetland or water boundary as well as along the construction corridor within these boundaries approved under this authorization shall be clearly marked by orange fabric fencing for the areas that have been approved to infringe within the wetland or water prior to any land disturbing activities.

5. NCDOT and its contractors and/or agents shall not excavate, fill, or perform mechanized land clearing at any time in the construction or maintenance of this project within waters and/or wetlands, except as authorized by this Certification, or any modification to this Certification. There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with this Certification without appropriate modification. If this occurs, compensatory mitigation will be required since it is a direct impact from road construction activities.
6. Excavation of stream crossings should be conducted in the dry unless demonstrated by the applicant or its authorized agent to be unfeasible. Sandbags, cofferdams, flexible pipe, or other diversion structures should be used to minimize excavation in flowing water.
7. Stormwater management shall be constructed in accordance with the hydraulic design plans submitted in the February 20, 2004 application.
8. Culverts that are less than 48-inch in diameter should be buried to a depth equal to or greater than 20% of their size to allow for aquatic life passage. Culverts that are 48-inch diameter or larger should be buried at least 12 inches below the stream bottom to allow natural stream bottom material to become established in the culvert following installation and to provide aquatic life passage during periods of low flow. *If* any of the existing pipes are perched, they shall be removed and replaced, and re-installed correctly, unless demonstrated that this is topographically unfeasible.
9. Live or fresh concrete shall not come into contact with waters of the state until the concrete has hardened. This will lessen the chance of a fish kill.
10. Discharging hydroseeding mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is strictly prohibited.
11. The removal of vegetation in riparian areas should be minimized. NCDOT is encouraged to use existing on-site vegetation and materials for stream bank stabilization and to minimize the use of rip rap. Riprap shall not be placed in the stream bottom. Riparian vegetation, using native trees and shrubs, must be re-established within the construction limits of the project by the end of the growing season following completion of construction to reestablish the riparian zone and to provide long-term erosion control.
12. Heavy equipment should be operated from the bank rather than in the stream channel unless demonstrated by the applicant or its authorized agent to be unfeasible. All mechanized equipment operated near surface waters should be inspected and maintained regularly to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids or other toxic substances.
13. *Summary of Compensatory Mitigation:* Compensatory mitigation shall be the same as that approved by the US Army Corps of Engineers, as long as the mitigation required equals a ratio of 1:1 restoration or creation of lost wetland acres as described in 15A NCAC 2H.0506 (h)(6), and consists of the following:

I-2511 Section CB

- 195 linear feet of stream impacts will be mitigated through NCDENR Ecosystem Enhancement Program (EEP).
- 0.47 acres of impacts to non-riverine wetlands will be mitigated through EEP.

- 1375 linear feet on on-site stream relocation using natural channel design technique (plans submitted with February 20, 2004 application and modification November 30, 2005). The natural channel design technique shall include the relocation of as much riffle substrate from the existing Town Creek channel into the relocated channel as feasible. NCDOT shall investigate and determine the amount of riffle substrate suitable for relocation to the new channel. Construction practicality may be taken into account in this determination. Riffle substrate will be relocated at the time that the live stream is moved into the new channel. Additional riffle material may be provided from appropriate offsite sources and shall be similar to existing material as much as practical.

In accordance with 15A NCAC 2R.0500, this contribution will satisfy NC Division of Water Quality's compensatory mitigation requirements under 15A NCAC 2H.0506(h). Until the EEP receives and clears your payments, wetland or stream fill shall not occur. The payments to EEP shall be sent within two (2) months of issuance of the 404 permit.

14. Rock check dams at culvert outlets should be removed at project completion to avoid blocking movement of aquatic life.
15. Two copies of the final construction drawings shall be furnished to NCDWQ prior to the pre-construction meeting. Written verification shall be provided that the final construction drawings comply with the attached permit drawings contained in the Application dated February 20, 2004.
16. Upon completion of the project, the NCDOT shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the 401 Certification has been completed. The responsible party shall complete the attached form and return it to the 401/Wetlands Unit of the Division of Water Quality upon completion of the project.
17. NCDOT and its authorized agents shall conduct its activities in a manner consistent with State water quality standards and any other appropriate requirements of State law and Federal law. If DWQ 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, DWQ may reevaluate and modify this Certification to include conditions appropriate to assure compliance with such standards and requirements in accordance with 15A NCAC 2H.0507(d). Before modifying the Certification, DWQ shall notify NCDOT and the US Army Corps of Engineers, provide public notice in accordance with 15A NCAC 2H.0503 and provide opportunity for public hearing in accordance with 15A NCAC 2H.0504. Any new or revised conditions shall be provided to NCDOT in writing, shall be provided to the United States Army Corps of Engineers for reference in any permit issued pursuant to Section 404 of the Clean Water Act, and shall also become conditions of the 404 Permit for the project.

NCDOT shall require its contractors (and/or agents) to comply with all of the terms of this Certification, and shall provide each of its contractors (and/or agents) a copy of this Certification.

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 Permit. This Certification shall expire upon the expiration of the 404 Permit.

§401 Water Quality Certification No. 3456
I-2511CB
December 16, 2005

If you do not accept any of the conditions of this certification, you may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. To ask for a hearing, send a written petition that conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. This certification and its conditions are final and binding unless you ask for a hearing.

This the 16th day of December 2005

DIVISION OF WATER QUALITY



 Alan W. Klimek, P.E.

WQC No. 3456

DWQ 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/Wetlands Unit, North Carolina Division of Water Quality, 1650 Mail Service Center, Raleigh, NC, 27699-1650. This form may be returned to DWQ 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, 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, 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, the approved plans and specifications, and other supporting materials.

Signature: _____ Registration No.: _____ Date: _____

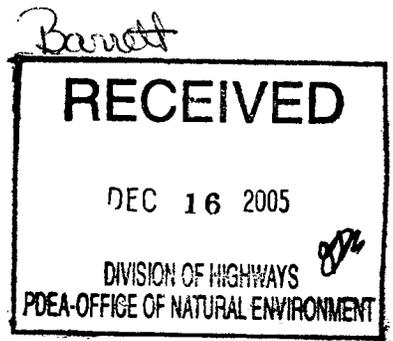


IN REPLY REFER TO

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS

P. O. BOX 1890
WILMINGTON, NORTH CAROLINA 28402-1890

December 13, 2005



Regulatory Division

Action ID. 200221534

Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA
N.C. Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548

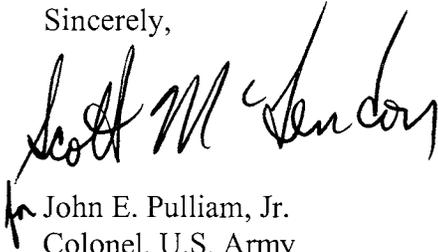
Dear Mr. Thorpe:

Please reference the Department of the Army permit issued on October 7, 2004, in which we authorized the discharge of fill materials into waters of the United States, for construction of Section CB of the I-85 widening and improvements (T.I.P. NO. I-2511CB), impacting Town Creek and its unnamed tributaries, from north of SR 1002 (Bringle Ferry Road) to north of SR 2120 (Long Ferry Road), east of Spencer, in Rowan County, North Carolina. Reference is also made to your written request of November 30, 2005, for a permit modification changing the construction method for SR 1915 (Old Union Church Road) associated with the relocated portion of Town Creek identified as site 5 in the referenced permit plans. The revised construction method as depicted in the attached plans does not include any additional impacts to jurisdictional waters of Town Creek. It eliminates a temporary crossing of Town Creek and maintains traffic on the existing SR 1915 until the new bridge on the relocated SR 1915 is completed.

We have determined that the proposed change in construction method would not result in additional impacts to the jurisdictional waters of Town Creek, and therefore a supplemental public notice is not necessary. Accordingly, the permit is hereby modified to include the referenced changes as defined in the attached plans. It is understood that all other conditions of the original permit and previous modifications remain applicable, including the permit expiration date of December 31, 2008.

If you have questions, please contact John Thomas of the Raleigh Regulatory Field Office, at telephone (919) 876-8441, extension 25.

Sincerely,

A handwritten signature in black ink, appearing to read "John E. Pulliam, Jr.", written in a cursive style.

John E. Pulliam, Jr.
Colonel, U.S. Army
District Engineer

Enclosure

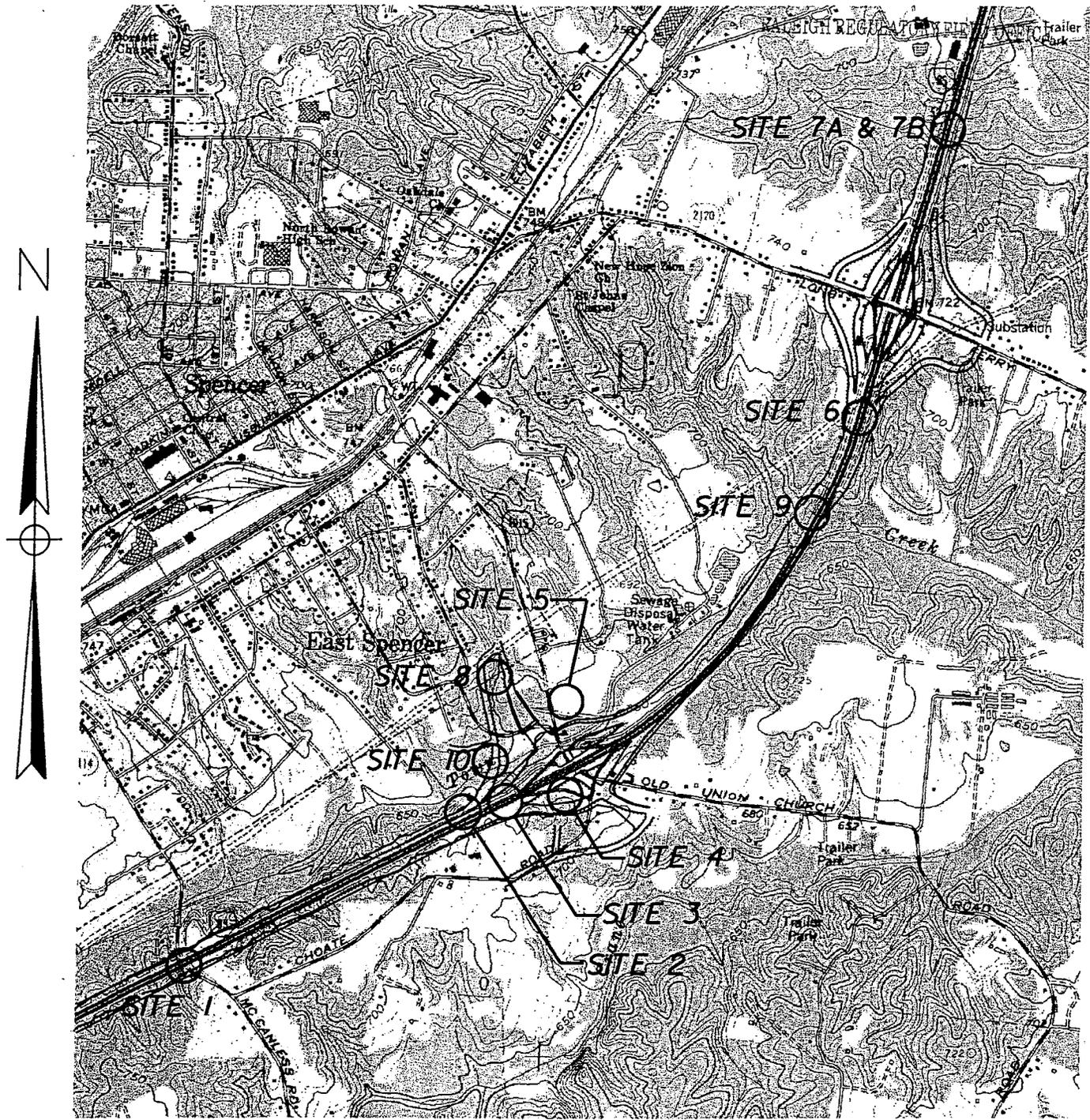
Copies Furnished (without enclosure):

Mr. John Hennessy
Division of Water Quality
North Carolina Department of
Environment and Natural Resources
1650 Mail Service Center
Raleigh, NC 27699-1650

RECEIVED

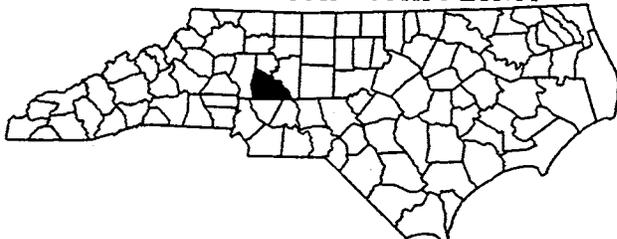
SITE MAP

DEC 02 2005



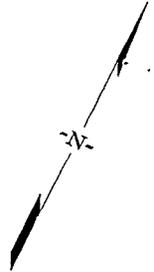
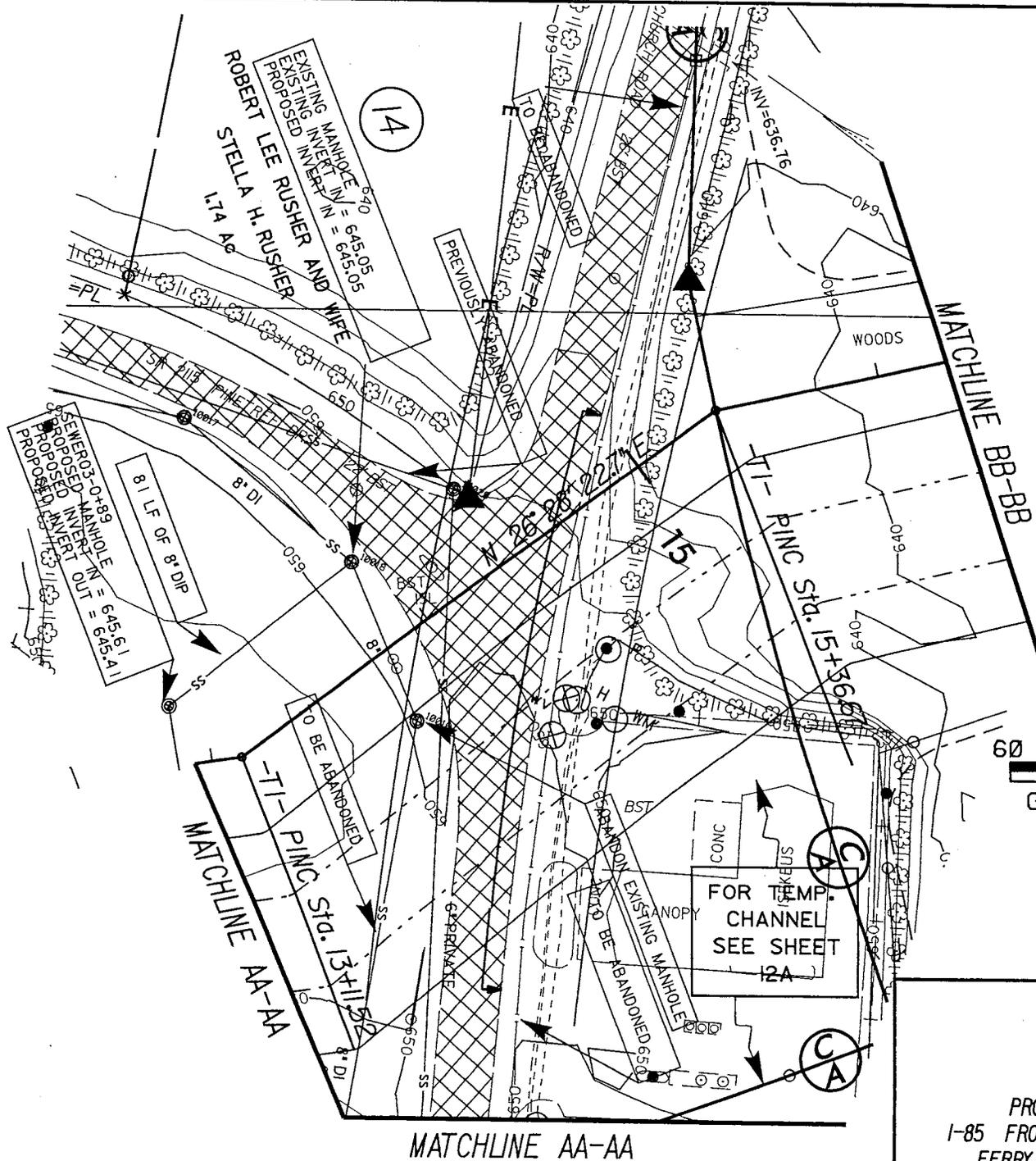
SALISBURY, NC QUAD MAP

NORTH CAROLINA

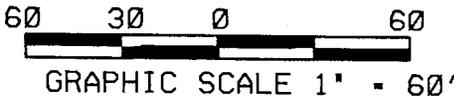


NCDOT

DIVISION OF HIGHWAYS
 ROWAN COUNTY
 PROJECT: 8J631503 (I-25/ICB)
 I-85 FROM NORTH OF SR 1002 (BRINGLE
 FERRY RD.) TO NORTH OF SR 2120
 (LONG FERRY RD.) NEAR SPENCER
 SHEET 2 OF 35
 DATE 8/10/05



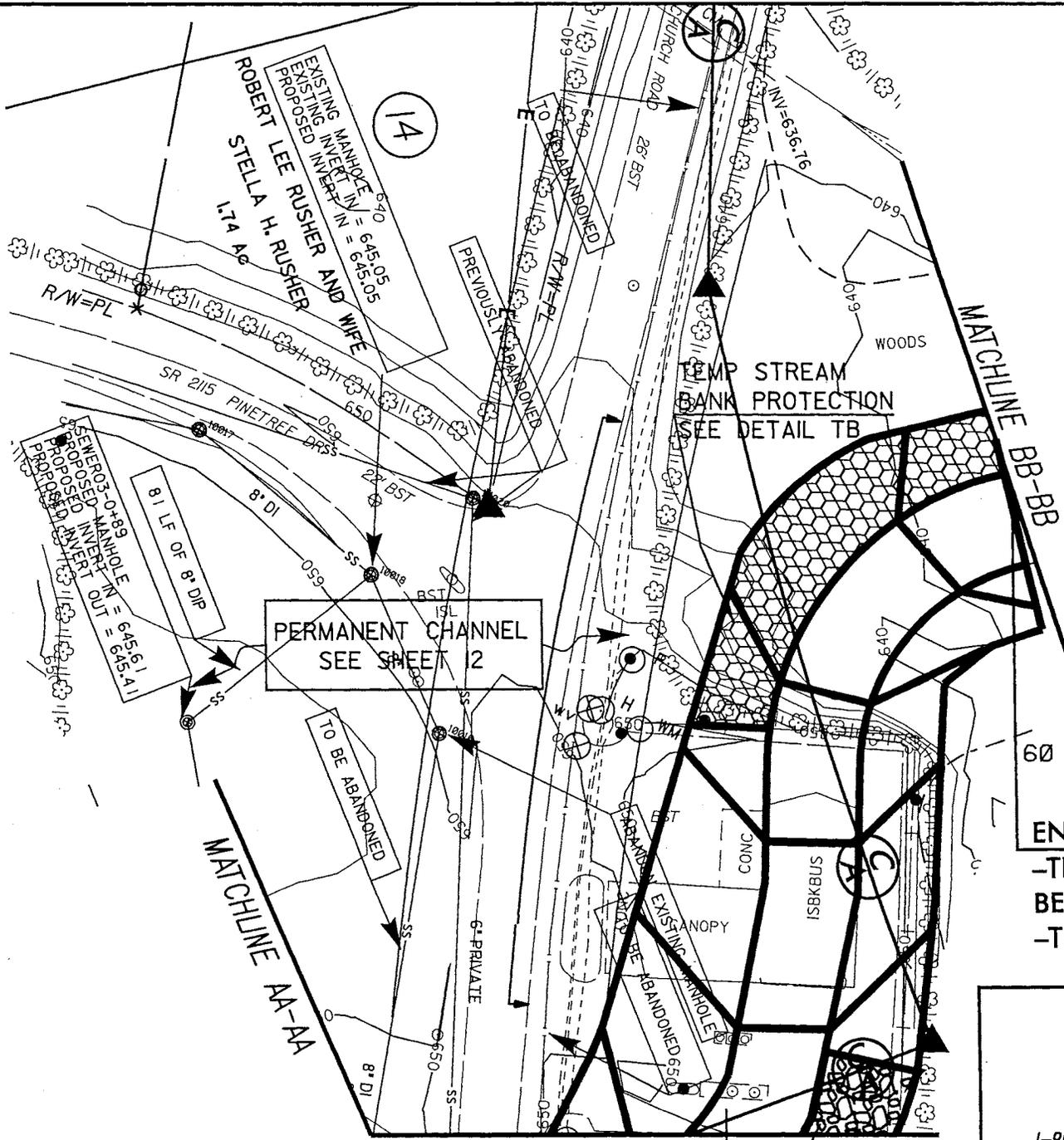
**SITE 5
PLAN VIEW**



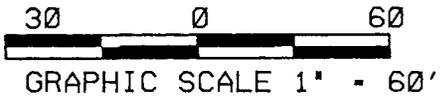
 DENOTES EXISTING ROADWAY TO BE ABANDONED

NCDOT
 DIVISION OF HIGHWAYS
 ROWAN COUNTY
 PROJECT: 8J631503 (1-25)ICB)
 I-85 FROM NORTH OF SR 1002 (BRINGLE
 FERRY RD) TO NORTH OF SR 2120
 (LONG FERRY RD) NEAR SPENCER
 SHEET 12 OF 35
 REVISED 11/23/05

MATCHLINE AA-AA



SITE 5
PLAN VIEW
TEMPORARY
CHANNEL



- DENOTES EXISTING ROADWAY TO BE ABANDONED
- DENOTES TEMPORARY FILL IN SURFACE WATER

END TEMPORARY STREAM
-TEMPSTRM- STA. 13+75
BEGIN NAT. STREAM DESIGN
-TI- STA. 16+29

NCDOT
DIVISION OF HIGHWAYS
ROWAN COUNTY
PROJECT: 8J631503 (I-25/ICB)
I-85 FROM NORTH OF SR 1002 (BRINGLE
FERRY RD) TO NORTH OF SR 2120
(LONG FERRY RD) NEAR SPENCER
SHEET 12A OF 35
REVISED 11/23/05

PROPOSED
TEMPORARY
CHANNEL
SEE DETAIL TA

TEMP STREAM
BANK RIP RAP
SEE DETAIL TC

PERMANENT CHANNEL
SEE SHEET 2

ROBERT LEE RUSHER AND WIFE
STELLA H. RUSHER
1.74 AC

14

MATCHLINE AA-AA

MATCHLINE BB-BB

MATCHLINE AA-AA

R/W=PL

PROPOSED MANHOLE
PROPOSED INVERT OUT T = 645.14
PROPOSED INVERT IN = 645.05

SR 2115 PINETREE DRSS

PREVIOUSLY ABANDONED

TEMP STREAM
BANK PROTECTION
SEE DETAIL TB

TO BE ABANDONED

PROPOSED
TEMPORARY
CHANNEL
SEE DETAIL TA

TEMP STREAM
BANK RIP RAP
SEE DETAIL TC

60

SEE DETAIL TA

SEE DETAIL TC

WOODS

WOODS

CONC
IS8KBUS

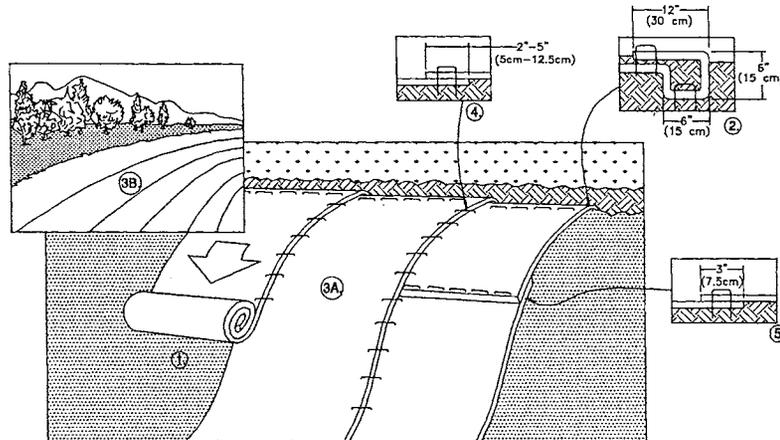
EXISTING MANHOLE

ABANDONED

6" PRIVATE

8" DI

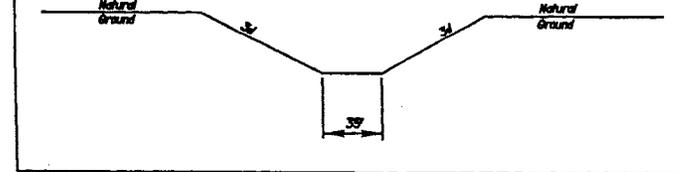
DETAIL TB
SLOPE INSTALLATION



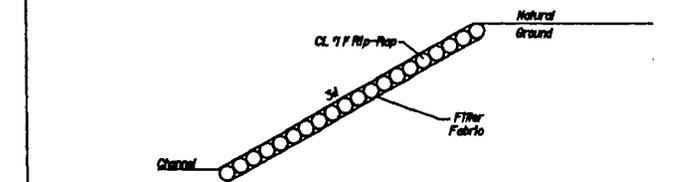
1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM*, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.

NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

DETAIL TA
TEMPORARY STREAM CHANNEL
(Not to Scale)



DETAIL TC
TEMPORARY STREAM BANK RIP-RAP
(Not to Scale)



SITE 5
DETAILS
TEMPORARY CHANNEL

NTS

NCDOT

DIVISION OF HIGHWAYS
ROWAN COUNTY

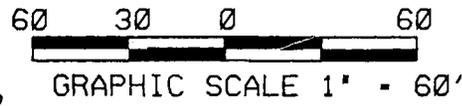
PROJECT: 8J631503 (I-25/ICB)

I-85 FROM NORTH OF SR 1002 (BRINGLE
FERRY RD) TO NORTH OF SR 2120
(LONG FERRY RD) NEAR SPENCER

SHEET 14 OF 35

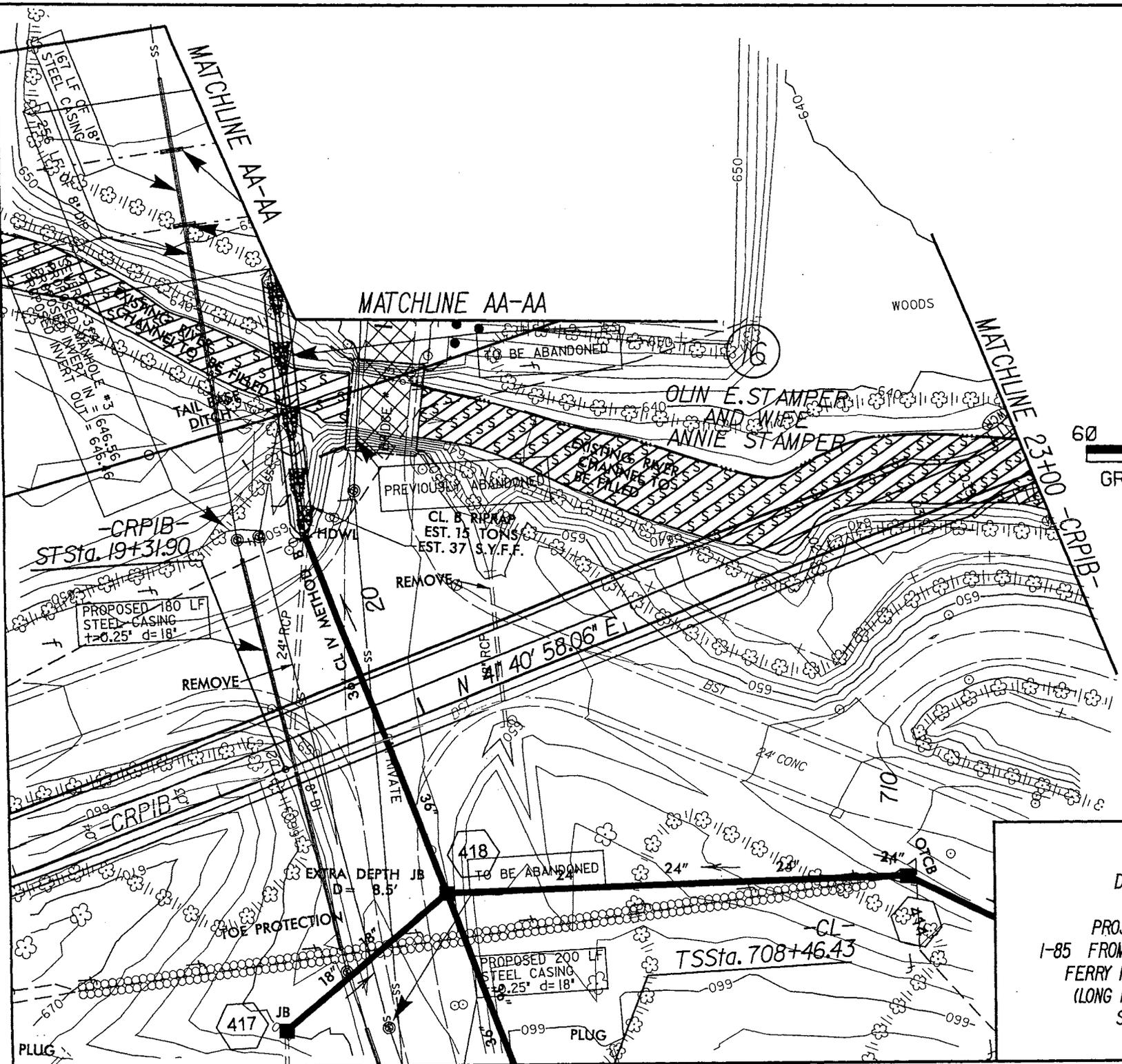
REVISED 11/23/05

SITE 5A
PLAN VIEW

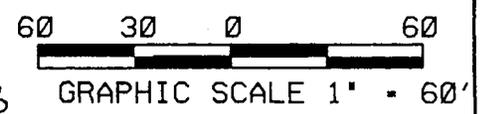


-  DENOTES TEMPORARY FILL IN SURFACE WATER
-  DENOTES FILL IN SURFACE WATER
-  DENOTES EXISTING ROADWAY TO BE ABANDONED

NCDOT
 DIVISION OF HIGHWAYS
 ROWAN COUNTY
 PROJECT: 8J631503 (I-25/ICB)
 I-85 FROM NORTH OF SR 1002 (BRINGLE FERRY RD) TO NORTH OF SR 2120 (LONG FERRY RD) NEAR SPENCER
 SHEET 15 OF 35
 REVISED 11/23/05

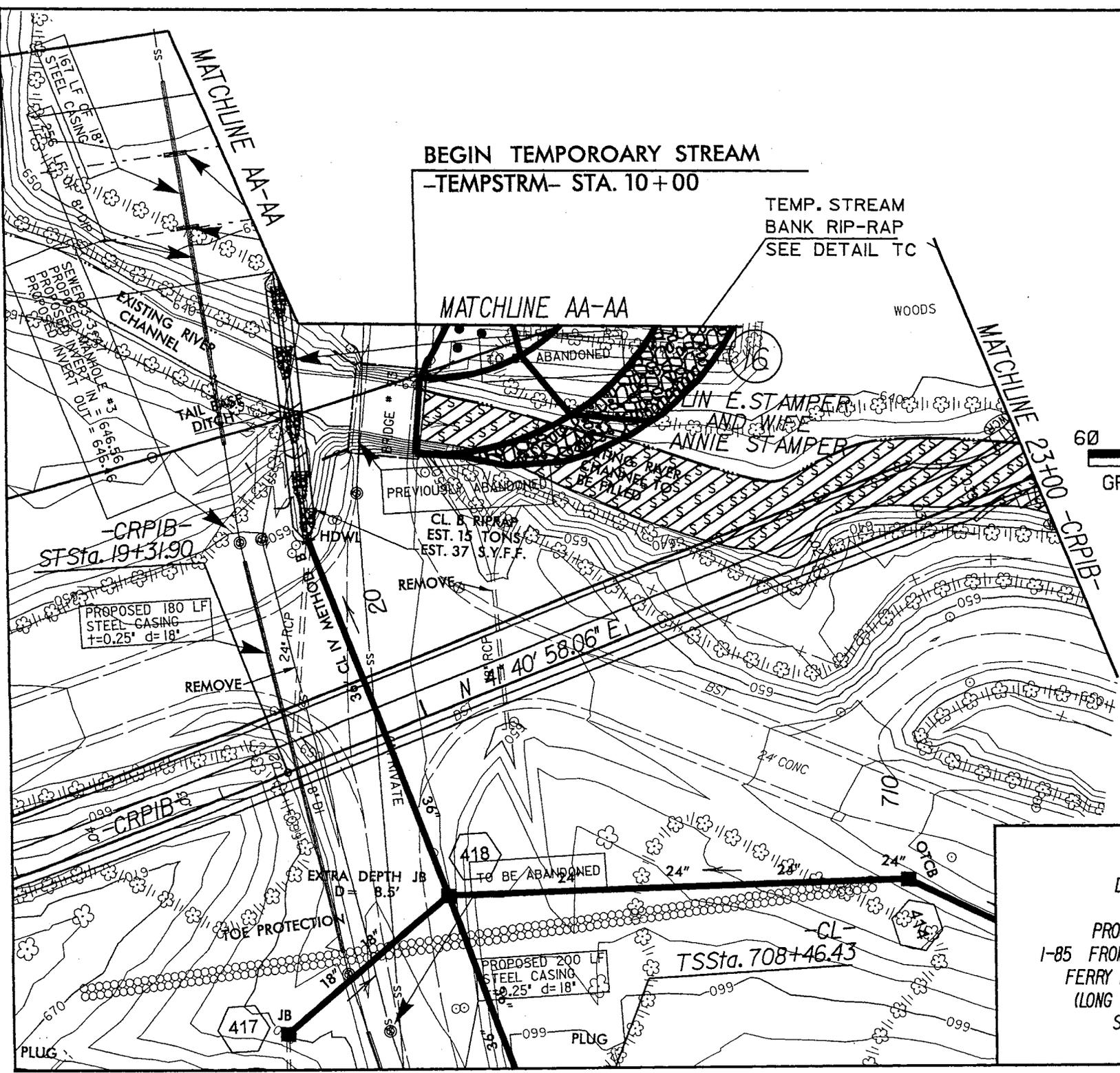


SITE 5A
PLAN VIEW
TEMPORARY
CHANNEL



-  DENOTES TEMPORARY FILL IN SURFACE WATER
-  DENOTES FILL IN SURFACE WATER
-  DENOTES EXISTING ROADWAY TO BE ABANDONED

NCDOT
DIVISION OF HIGHWAYS
ROWAN COUNTY
PROJECT: 8J631503 (I-25/ICB)
I-85 FROM NORTH OF SR 1002 (BRINGLE
FERRY RD) TO NORTH OF SR 2120
(LONG FERRY RD) NEAR SPENCER
SHEET 15A OF 35
REVISED 11/23/05



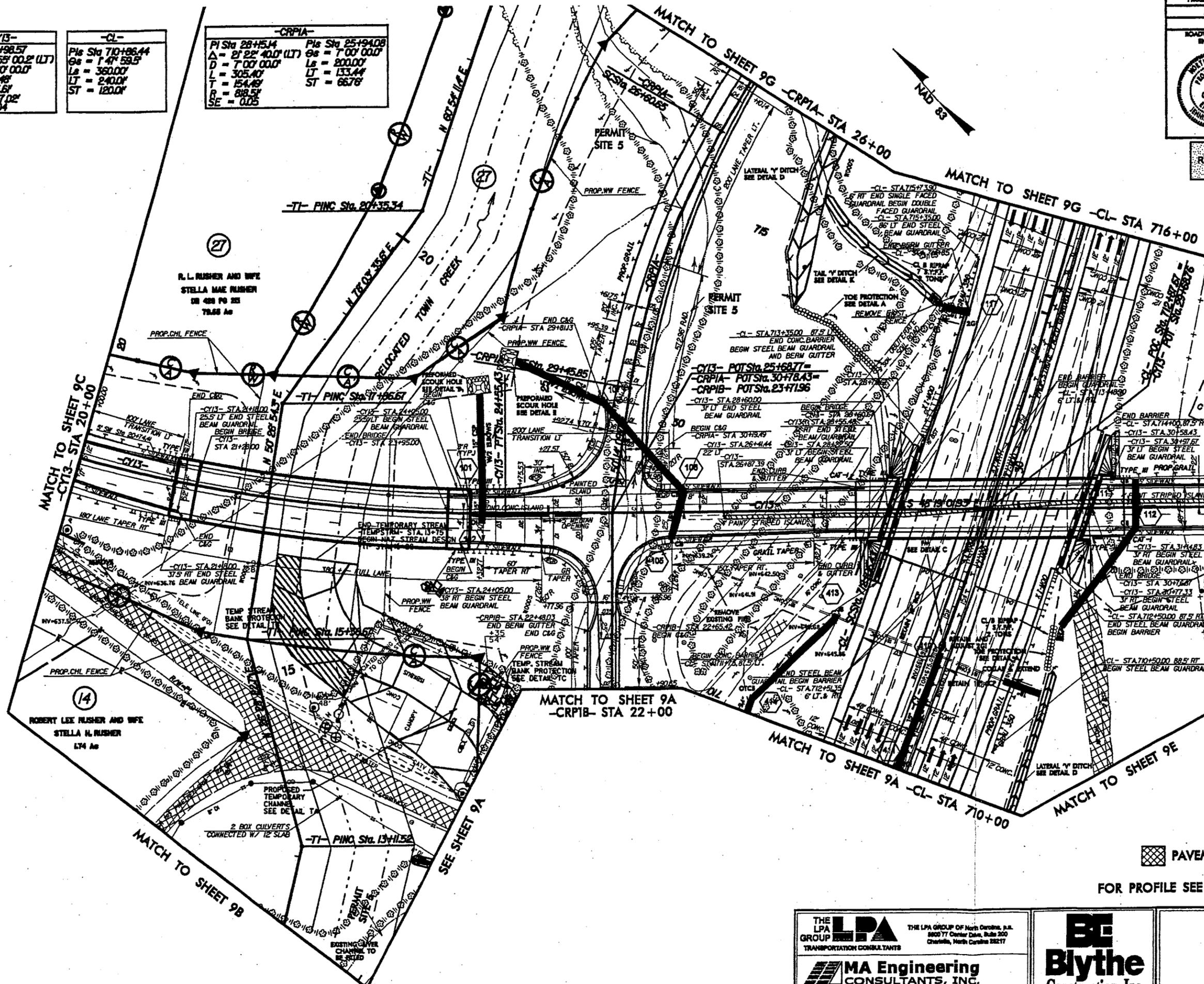
8/17/99

-CY13-	
PI Sta 19+98.57	$\Delta = 32' 55" 00.2' (LT)$
D = 3' 30" 00.0'	L = 940.48'
T = 483.61'	R = 1637.02'
SE = 0.04	

-CL-	
PIs Sta 710+86.44	$G_s = 1' 47" 59.5'$
Ls = 360.00'	LT = 240.0'
ST = 120.0'	

-CRPIA-	
PIs Sta 28+15.14	PIs Sta 25+194.08
$\Delta = 2' 22" 40.0' (LT)$	$G_s = 7' 00" 00.0'$
D = 7' 00" 00.0'	Ls = 800.00'
L = 305.40'	LT = 133.44'
T = 154.48'	ST = 66.78'
R = 818.51'	
SE = 0.05	

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	
RELEASE FOR CONSTRUCTION	



REVISIONS

4-OCT-2005 16:36
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baundan

 PAVEMENT REMOVAL

FOR PROFILE SEE SHEETS 22, 31, 33, 34

THE LPA GROUP
TRANSPORTATION CONSULTANTS

MA Engineering
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598 East Chatham Street, Suite 137, Cary, NC 27511

Blythe
Construction, Inc.

ROADWAY PLANS