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

REPLY TO
ATTENTION OF:

October 28, 2015

Regulatory Division

Action ID. SAW-2007-00983

Mr. Richard Hancock, P.E.
Manager, PDEA
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Hancock:

Reference the Department of the Army permit issued on February 26, 2013 and after the fact modification issued May 27, 2014 for the proposed construction of an extension of SR 1163 (Old Georgetown Rd) from SR 1184 (Ocean Isle Beach Rd) to NC 179 in Brunswick County, TIP R-3432. Reference is also made to a permit modification request dated October 12, 2015 to account for impact changes to Sites #1 and # 5 as well as non-impact changes at Sites # 2, 3, and 4.

The impact of your proposal on the environment have been reviewed and found to be not significant, therefore a supplemental public notice is not necessary. Your permit is hereby modified to include the aforementioned changes as described in the October 12, 2015 modification request. It is understood that all other conditions of the original permit and previous modifications remain applicable, including the permit expiration date of December 31, 2018. The authorized changes are included in the attached revised sheets 3, 4, 5, 10, 12, 16, 17, 18, 22, 23, 24, 26, and 29 of 29 (dated 10/8/2015), and 8, 9 of 29 (revised 10/12/2015).

Additional Special Conditions:

1. In order to compensate for additional impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit modification authorization.

You should attach this permit modification letter to the permit. This modification approval and referenced plans will be utilized for future compliance of the project. If you have questions, please contact Brad Shaver of the Wilmington Regulatory Field Office, at telephone (910) 251-4611.

Sincerely,

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

Enclosures:
Plan sheets
Mitigation transfer form

Electronic Copies Furnished (w/o enclosure):

Mr. Stonewall Mathis
NCDOT-Division 3 DEO

Mr. Mason Herndon
Division of Water Resources
NC DEQ

Ms. Cathy Brittingham
Division of Coastal Management
NC DEQ

Mr. Stephen Lane
Division of Coastal Management
NC DEQ

Mr. Tyler Stanton
NCDOT-NES

Electronic Copies Furnished (w/ mitigation transfer form):

Mr. Todd Tugwell, USACE
Ms. Cindy Corbett, USACE
Ms. Beth Harmon, NC DEQ

North Carolina Department of Environmental Quality

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

October 15, 2015

Mr. Colin Mellor, Group Leader
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 proposed construction of an extension of SR 1163(Old Georgetown Rd) from SR 1184 (Ocean Isle Beach Rd) to NC 179 in Brunswick County, State Project 6.231023, WBS 35501.1.1, TIP R-3432.

NCDWQ Project No. 20120935v.3
NCDWQ Certification No. 3948

Dear Mr. Mellor:

Attached hereto is a modification of Certification No. 3948 issued to The North Carolina Department of Transportation (NCDOT) dated January 4, 2013 and modification dated May 30, 2014.

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:
Brad Shaver, US Army Corps of Engineers, Wilmington Field Office
Stoney Mathis, Division 3 Environmental Officer
Chris Rivenbark, NC Department of Transportation
Travis Wilson, NC Wildlife Resources Commission
Stephen Lane, NC Division of Coastal Management
Jason Elliott, NCDOT, Natural Environment Section
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 97 linear feet of jurisdictional streams and 0.01 acres of surface waters in Brunswick County. The project shall be constructed pursuant to the revised modification dated received October 12, 2015. The authorized impacts are as described below:

Stream Impacts in the Lumber River Basin

Site	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Bank Stabilization (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
Original approved impacts at Site 5A/B (Sta, 29+37 to 29+83-Y10-)	97*	10	39	5	28	179	0
Revised impacts with this approval at Site 5A/B, (Sta, 29+37 to 29+83-Y10-)	97*	10	39	5	28	179	164
Revised Total	97*	10	39	5	28	179	164

Revised Total Stream Impact for Site 5A/B: 179 linear feet
***Rip rap to be added to bed and banks of relocated channel requiring additional mitigation.**

Open Water (Tributary) Impacts in the Lumber River Basin

Site	Permanent Fill in Open Waters (ac)	Temporary Fill in Open Waters (ac)	Total Fill in Open Waters (ac)
Original approved impacts at Site 1 (Sta. 46+95/49+28 -L-	0.03	< 0.01	0.03
New additional impacts with this approval at Site 1 (Sta. 46+95/49+28 -L-	0.01	0	0.01
Revised Total	0.04	< 0.01	0.04

Revised Total Open Water Impact for Site 1: 0.04 acres.

The application provides adequate assurance that the discharge of fill material into the waters of the Lumber 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 modified application dated received October 12, 2015. All the authorized activities and conditions of certification associated with the original Water Quality

Certification dated January 4, 2013 and subsequent modification dated May 30, 2014 still apply except where superceded by this certification. Should your project change, you are required to notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 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:

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 January 4, 2013 and subsequent modification dated May 30, 2014 still apply except where superseded by this certification.
2. Compensatory mitigation for 164 linear feet of additional impact to streams is required (new project total of stream impacts requiring compensatory mitigation is 364 linear feet). We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Division of Mitigation Service (DMS) (formerly NCEEP), and that the DMS has agreed to implement the mitigation for the project. The DMS has indicated in a letter dated September 29, 2015 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the DMS Mitigation Banking Instrument signed July 28, 2010.

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 15th day of October 2015

DIVISION OF WATER RESOURCES

S. Jay Zimmerman, Director

WQC No. 3948

North Carolina Department of Environmental Quality

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

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 _____

Environmental Quality

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

October 29, 2015

Richard W. Hancock, PE, Manager
Project Development and Environmental Analysis Branch
NC Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

SUBJECT: **CD13-001,** Consistency Concurrence Supplemental Coordination.
TIP No. R-3432, Old Georgetown Road Extension (SR 1163), from SR 1184 (Ocean Isle Beach Road) to NC 179, Brunswick County, NC. DCM#20120105.

Dear Mr. Hancock:

The N.C. Division of Coastal Management (DCM) received correspondence from the N.C. Department of Transportation (NCDOT) dated October 1, 2015, October 12, 2015, and October 28, 2015 regarding changes to the above referenced project for which Federal Consistency Concurrence CD 13-001 was issued by DCM on January 8, 2013. The correspondence from NCDOT included 14 revised workplan drawings: 12 dated October 8, 2015, and 2 dated October 12, 2015. The correspondence also included a mitigation acceptance letter from the N.C. Division of Mitigation Services dated September 29, 2015 stating that it will provide wetland mitigation for 97 feet of additional permanent stream impacts. The N.C. Division of Water Resources (DWR) issued a modification of the Section 401 Water Quality Certification No. 3948 on October 15, 2015 (NCDWQ Project No. 20120935v.3).

Changes to the originally authorized project are due to the following: additional riprap will be added at the inlet of the 84" CAAP at Site 1; the ditch block and special lateral ditch will be removed from Site 2 to the ditch block at 100+50 LT at Site 2; riprap will be added to line the ditch from Station 106+00 to 108+67 LT, and additional riprap will be added at the inlet of the main culvert to fill in the hole created by construction of the culvert, headwall, and wing walls at Site 3; and additional riprap will be added to the bed and slopes of the relocated channel to stabilize the slopes and prevent undercutting of the log sills at Site 5A.

In accordance with provisions of Federal Consistency under 15 CFR § 930.46, Supplemental Coordination for Proposed Activities, the preparation of a supplemental consistency determination is required only if the proposed activity will affect any coastal use or resource substantially different than originally described.
Based on the review of the proposed changes and information as described above, and review of the original Consistency Concurrence, DCM has concluded that the new information or changes in the proposed activity, in this case, would not be considered substantially different in coastal effects than the activity originally described in your Federal Consistency Certification. Therefore, the preparation of a supplemental consistency certification will not be necessary, and the project with the proposed changes is still consistent with North Carolina's Coastal Management Program.

Should the project be further modified or revised NCDOT should consult with DCM. A Supplemental Consistency Certification pursuant to 15 CFR 930.66 may be necessary.

If you have any questions on this correspondence, please contact Cathy Brittingham at (919) 707-9149 or via e-mail at cathy.brittingham@ncdenr.gov or Stephen Lane at (252) 808-2808 x208 or via e-mail at Stephen.Lane@ncdenr.gov. Thank you for your consideration of the North Carolina Coastal Management Program.

Sincerely,

Doug Huggett

Doug Huggett
Manager, Major Permits Unit
NC Division of Coastal Management

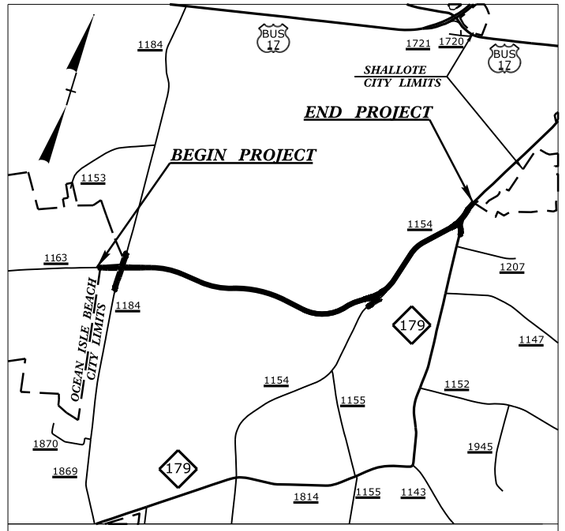
cc: Beth Harmon, DMS
Mason Herndon, DWR
Stephen Lane, DCM
Stonewall Mathis, NCDOT
Tyler Stanton, NCDOT
Brad Shaver, USACE

09/08/99

TIP PROJECT: R-3432

CONTRACT: C203163

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3432	1	

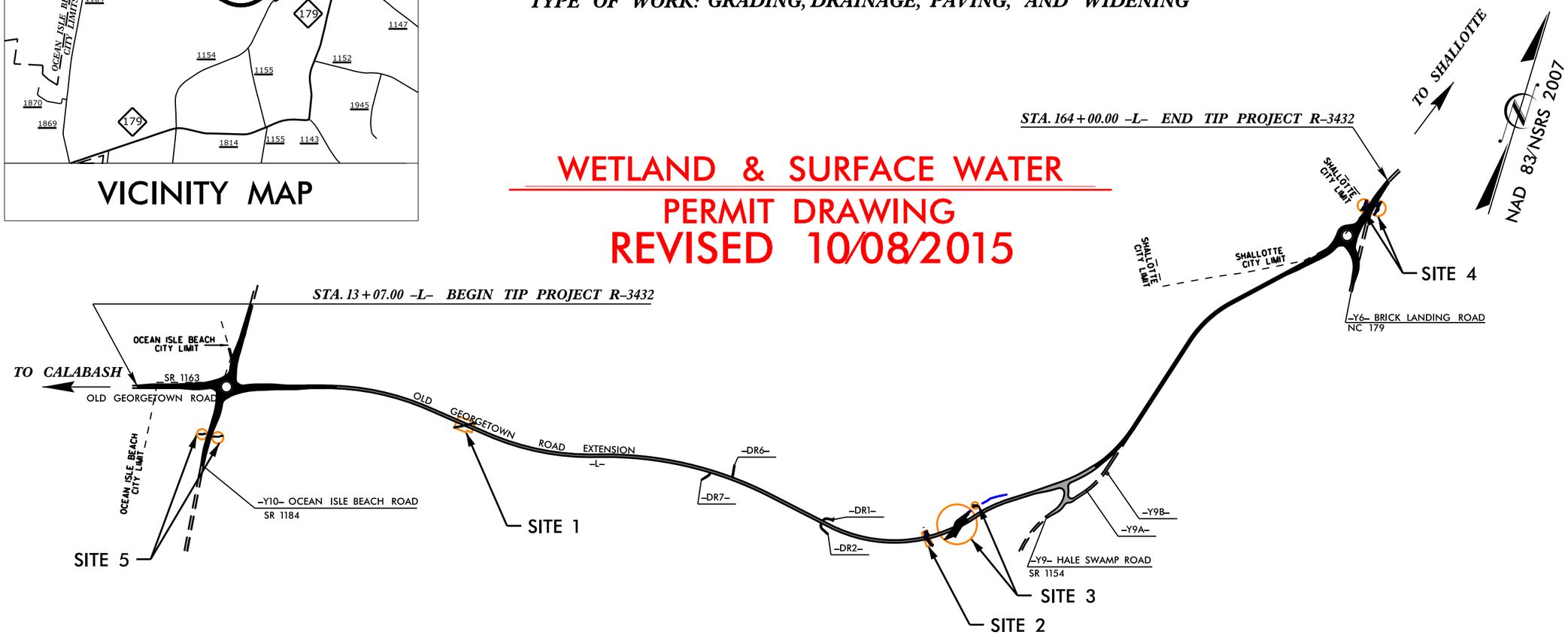
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
35501.1.1		P.E.
35501.2.1		R/W,UTL.
35501.3.D1		CONST.

ENGLISH

LOCATION: SR 1163 (OLD GEORGETOWN ROAD EXTENSION) FROM SR 1184 (OCEAN ISLE BEACH ROAD) TO NC 179

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND WIDENING

WETLAND & SURFACE WATER
PERMIT DRAWING
REVISED 10/08/2015



THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.

GRAPHIC SCALES

50 25 0 50 100 — PLANS

50 25 0 50 100 — PROFILE (HORIZONTAL)

10 5 0 10 20 — PROFILE (VERTICAL)

DESIGN DATA

ADT 2013 = 7,312
ADT 2033 = 12,592
DHV = 55 %
D = 13 %
T = 3 % *
V = 60 MPH
* (TTST 1 % + DUAL 2 %)
FUNC. CLASS. = COLLECTOR
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-3432 = 2.859 MILES
TOTAL LENGTH TIP PROJECT R-3432 = 2.859 MILES

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 29, 2011

LETTING DATE:
DECEMBER 17, 2013

G. E. BREW, PE
PROJECT ENGINEER

THAD F. DUNCAN, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

$$$$$SYSTIME$$$$$
$$$$$

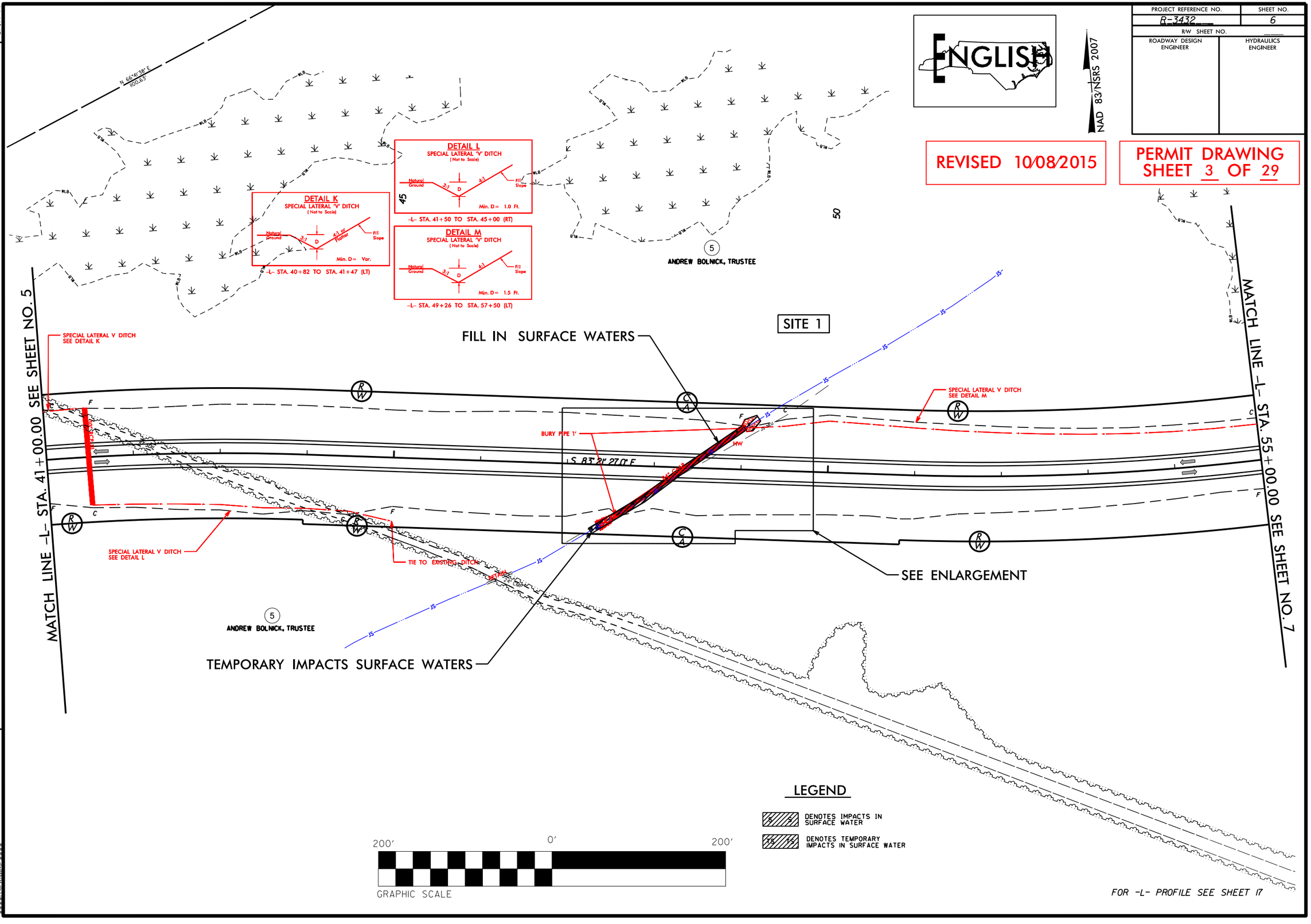
PROJECT REFERENCE NO.	SHEET NO.
R-3432	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENGLISH

NAD 83/NSRS 2007

REVISED 10/08/2015

PERMIT DRAWING
SHEET 3 OF 29

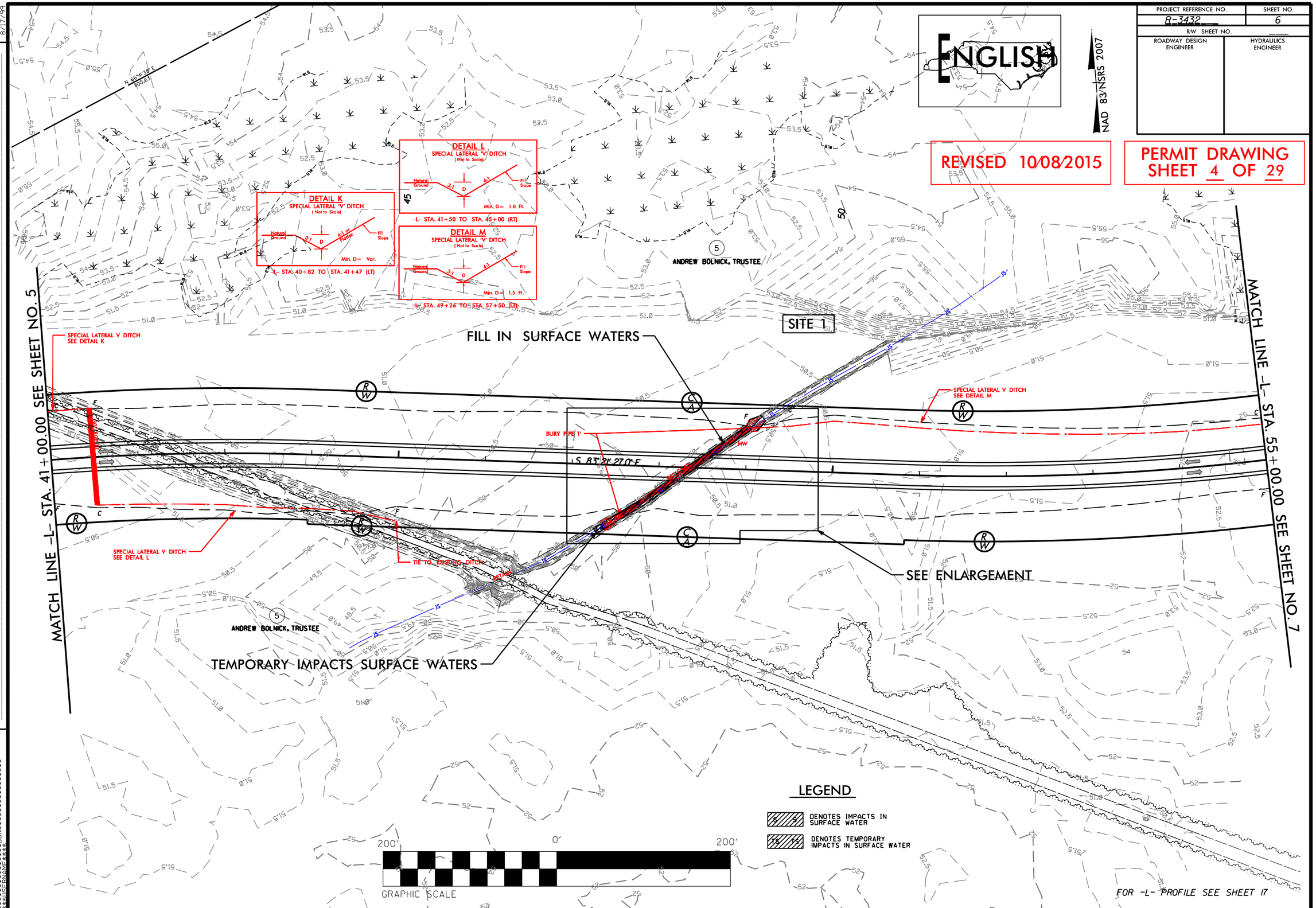


REVISIONS

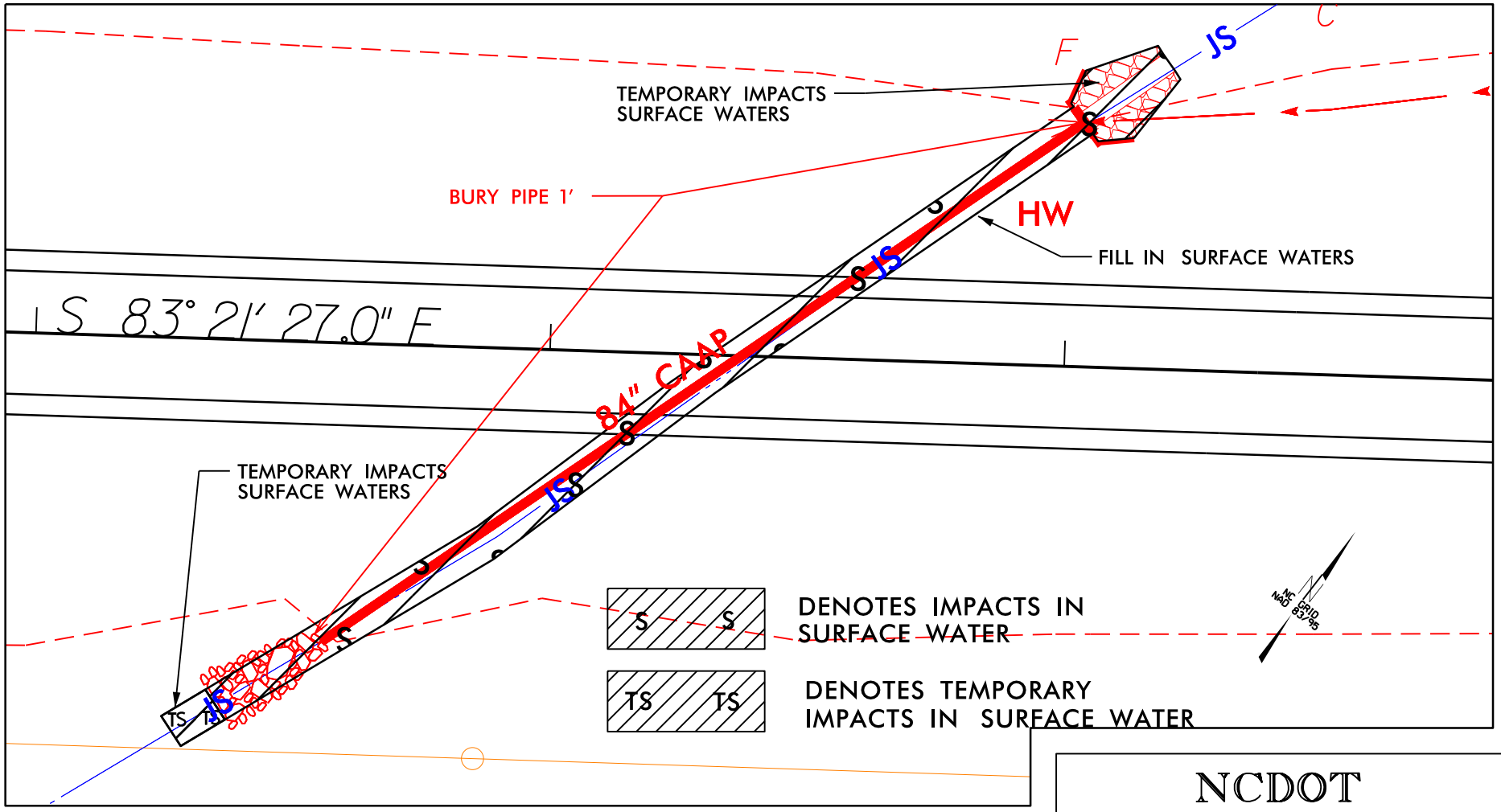
HYDRO-REV.: ADDED RIPRAP AT PIPE INLET 10/8/15 MGB

8/17/99

$$$$$$$SYSTIME$$$$$$
$$$$$$$



PROJECT REFERENCE NO.
R-3432
SHEET NO.
6
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
ENGLISH
NAD 83/NSRS 2007
REVISED 10/08/2015
PERMIT DRAWING
SHEET 4 OF 29
DETAIL L
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D = 1.0 Ft.
-L- STA. 41+50 TO STA. 45+00 (RT)
DETAIL K
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D = Var.
-L- STA. 40+82 TO STA. 41+47 (LT)
DETAIL M
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D = 1.5 Ft.
-L- STA. 49+26 TO STA. 57+50 (LT)
ANDREW BOLNICK, TRUSTEE
SITE 1
FILL IN SURFACE WATERS
SPECIAL LATERAL V DITCH
SEE DETAIL K
SPECIAL LATERAL V DITCH
SEE DETAIL M
BURY PIPE 1'
S 83°21'27.0"E
SPECIAL LATERAL V DITCH
SEE DETAIL L
TIE TO EXISTING DITCH
SEE ENLARGEMENT
TEMPORARY IMPACTS SURFACE WATERS
MATCH LINE -L- STA. 41+00.00 SEE SHEET NO. 5
MATCH LINE -L- STA. 55+00.00 SEE SHEET NO. 7
LEGEND
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
200'
0'
200'
GRAPHIC SCALE
FOR -L- PROFILE SEE SHEET 17
REVISIONS
HYDRO REV.: ADDED RIPRAP AT PIPE INLET 10/8/15 MGB
8/17/99



SITE 1
ENLARGEMENT

30' 0' 30'
1" = 30' GRAPHIC SCALE

NCDOT

DIVISION OF HIGHWAYS
BRUNSWICK COUNTY
PROJECT: 35501.1.1 (R-3432)
SR 1163 (OLD GEORGETOWN RD. EXTENSION) FROM SR 1184 (OCEAN ISLE BEACH RD.) TO NC 179

SHEET 5 **OF** 29 **10/08/15**

PROJECT REFERENCE NO.	SHEET NO.
R-3432	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 8 OF 29

REVISED 10/12/2015

LEGEND

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

NAD 83/NSRS 2007

DETAIL OA
LATERAL BASE DITCH
(Not to Scale)
Natural Ground
Fill Slope
Min. D = 1 Ft.
B = 2 Ft.
b = 5 Ft.
Type of Liner = Class B Rip-Rap
-L- STA. 106+00 TO STA. 108+67 (LT)

SEE ENLARGEMENT
FILL IN SURFACE WATERS (POND)
MATCH LINE -L- STA. 97+00.00 SEE SHEET NO. 9
MATCH LINE -L- STA. 111+00.00 SEE SHEET NO. 11
GLENN N. WILLIAMSON, JR. ET UX
LINZIE CLIFTON THOMAS
MARY LILLY WIGFALL
CATHERINE MORRIS HILL, ET AL
CHARLES D. HILL, ET UX
GLEN NORWOOD WILLIAMSON
GLORIA RENEE BELL
JOHN HENRY HILL, ET UX
HORACE L. DANIELS, ET AL
PAULINE GRAHAM
SITE 2
SITE 3
MECHANIZED CLEARING
EXCAVATION IN WETLAND
RIP RAP
ROCK CHECK DAM
FILL IN WETLAND
ROCK FILL IN POND SEE DETAIL N
SPECIAL LATERAL V DITCH SEE DETAIL L
ROCK EMBANKMENT SEE DETAIL HH
LATERAL 2' BASE DITCH SEE DETAIL O
LATERAL 2' BASE DITCH SEE DETAIL P
LATERAL 2' BASE DITCH SEE DETAIL OA
BURY PIPE 1'
LATERAL 5' BASE DITCH SEE DETAIL D
LATERAL 6' BASE DITCH W/CLASS B RIP RAP EST. 170 TONS EST. 370 SY FF SEE DETAIL S
LATERAL 2' BASE DITCH SEE DETAIL R
SPECIAL LATERAL 'V' DITCH SEE DETAIL A
TEMPORARY IMPACTS SURFACE WATER
N 55°41'53.7" E
GRAU 350
ACCESS EASEMENT
HTR (DOUBLEWIDE)
ISFD
CONC.
HTR
ELEC. BOX
HILL RD
PED NOT FOUND IN FIELD ADDED AS PER UTILITY RECORD
MTL. CANOPY
REBAR
ENGLISH

200' 0' 200'
GRAPHIC SCALE

FOR -L- PROFILE SEE SHEET 19

REVISIONS
PARCEL 8 IN 08/20/03 A.M. 10:50 LT. 6/11/15 GSB
PROPERLY PROVIDED FOR DRAINAGE EASEMENT 108+50 LT.
HYDROPLEX PROVIDED FOR DRAINAGE EASEMENT 108+50 LT.

8/17/99

$$$$$$$SYSTIME$$$$$
$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-3432	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

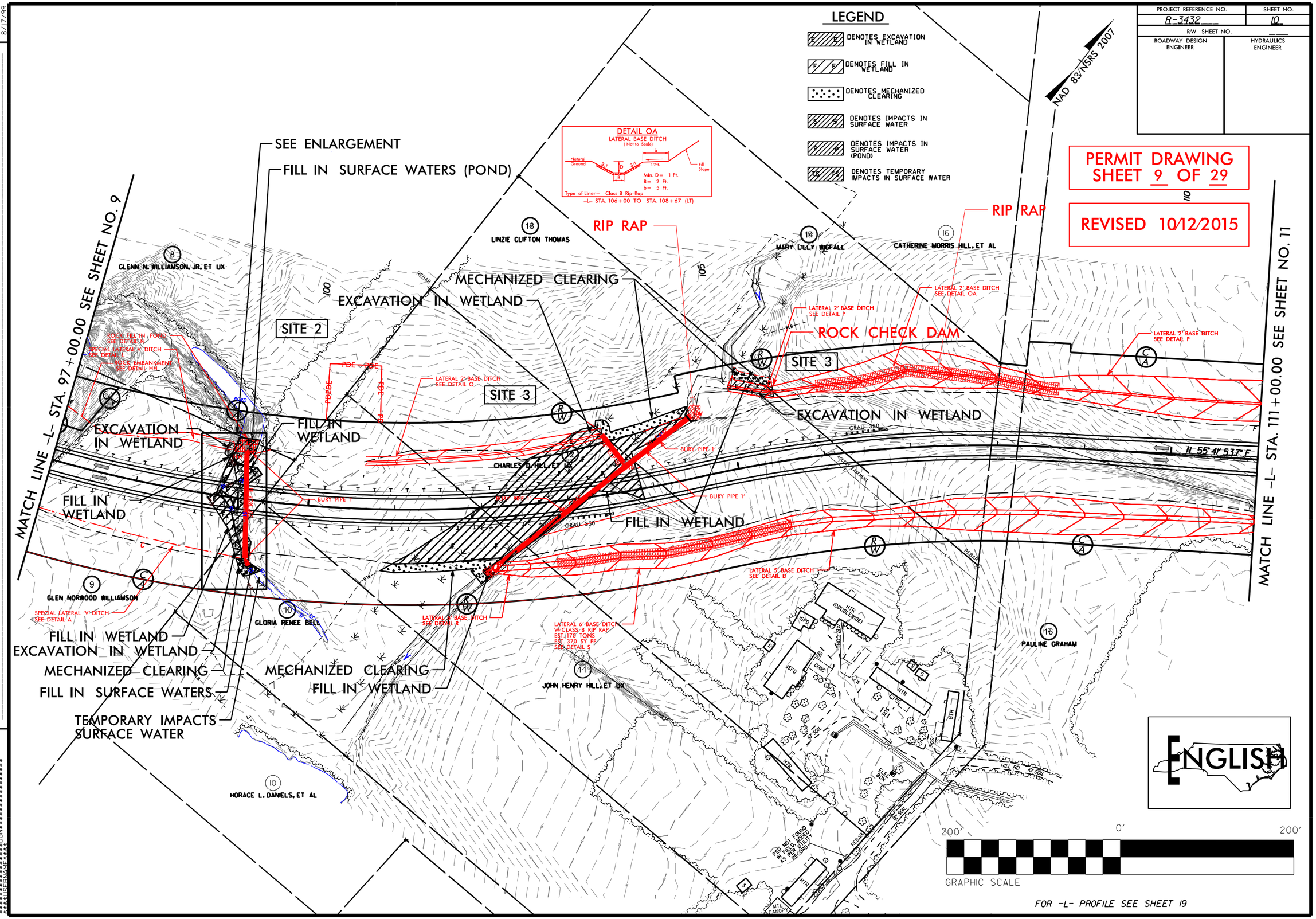
PERMIT DRAWING
SHEET 9 OF 29

REVISED 10/12/2015

LEGEND

- E E — DENOTES EXCAVATION IN WETLAND
- F F — DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- S S — DENOTES IMPACTS IN SURFACE WATER
- P P — DENOTES IMPACTS IN SURFACE WATER (POND)
- TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NAD 83/NSRS 2007



FOR -L- PROFILE SEE SHEET 19

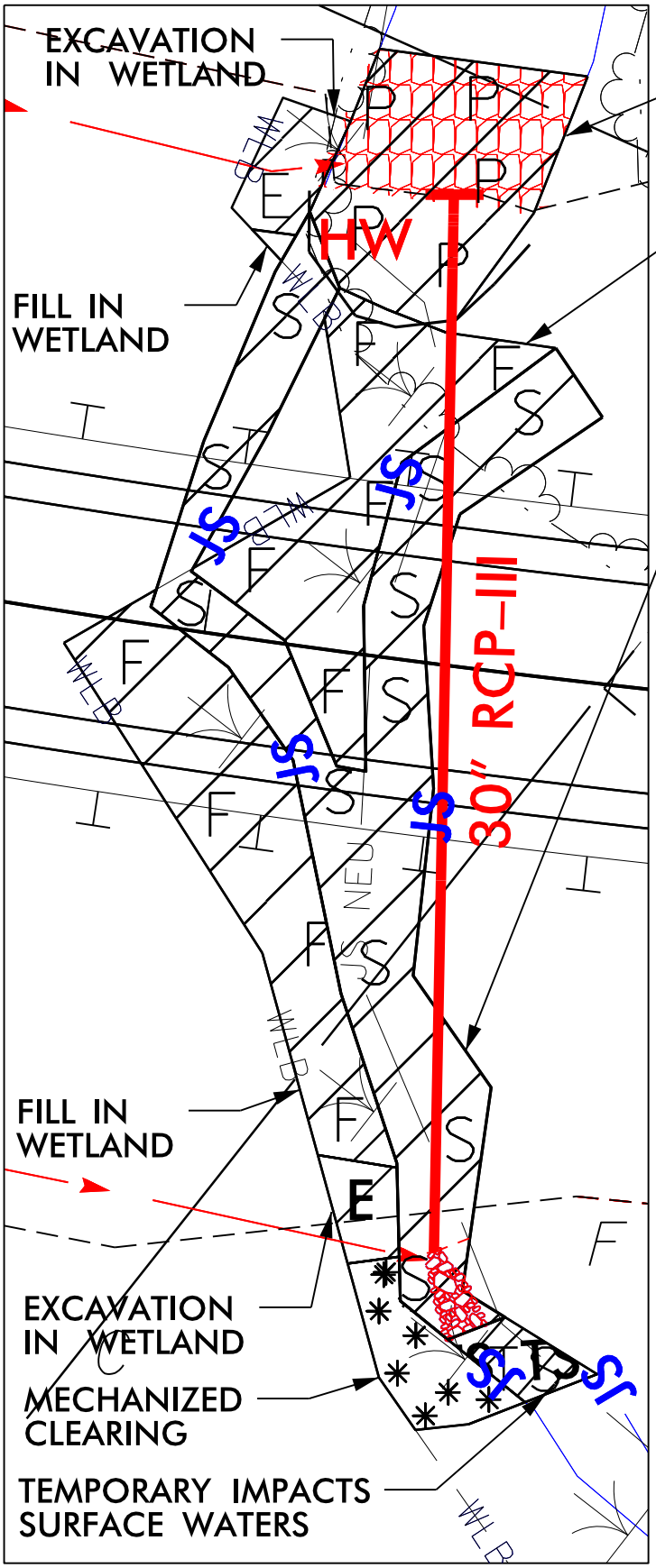
REVISIONS

8/17/99

HYDROPERIOD PROVIDED FOR WETLANDS DOWNSTREAM OF DRAINAGE EASEMENT 108+50 LT. 6/11/15 GSB

PARCEL 8 IN 08/2015 A.M. 108+50 LT. 6/11/15 GSB

$$$$$$$SYSTIME$$$$$
$$$$$$$



DENOTES EXCAVATION IN WETLAND

DENOTES IMPACTS IN SURFACE WATER (POND)

DENOTES IMPACTS IN SURFACE WATER

DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

20' 0' 20'

GRAPHIC SCALE

SITE 2 ENLARGEMENT

NCDOT

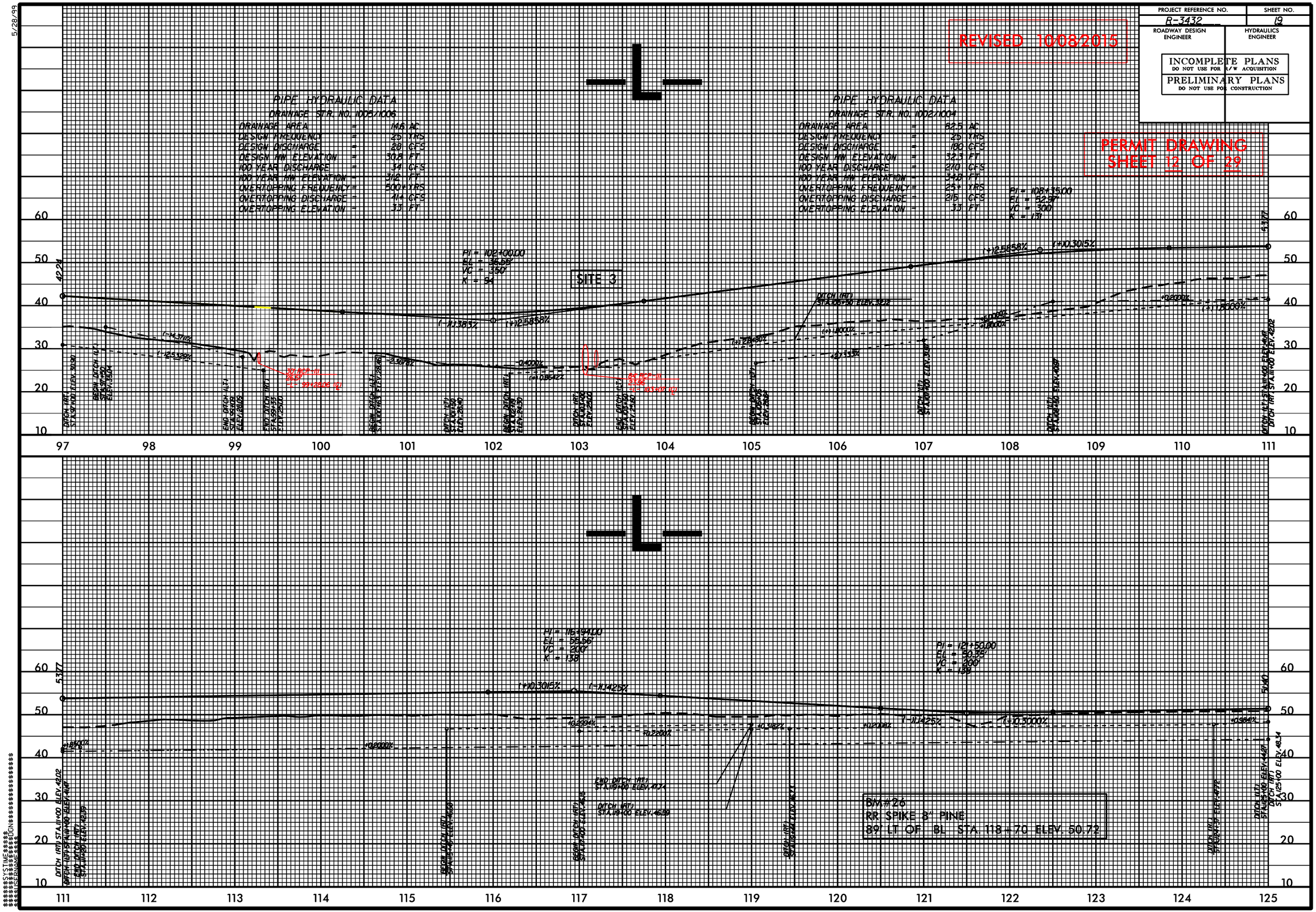
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

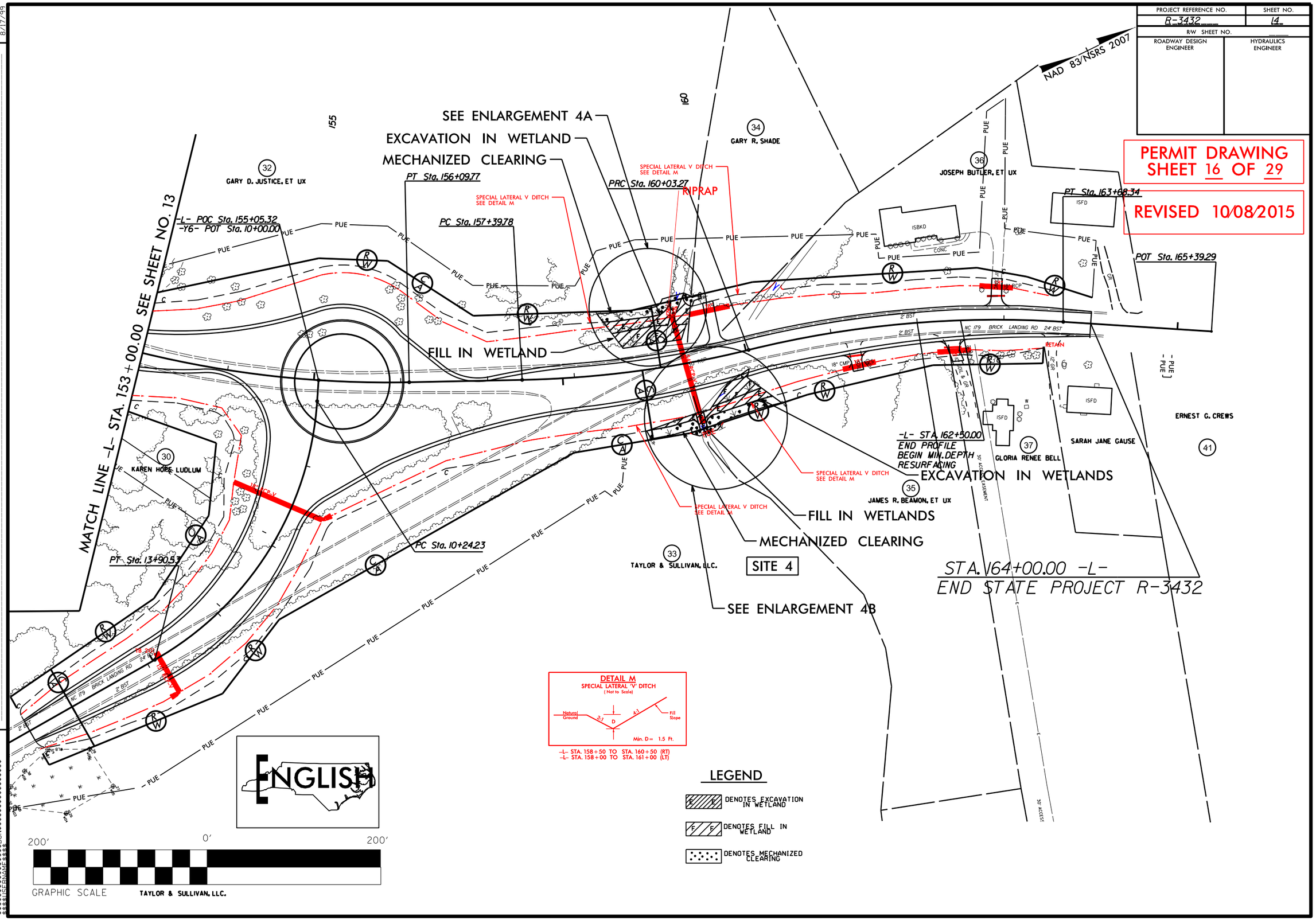
PROJECT: 35501.1.1 (R-3432)

SR 1163 (OLD GEORGETOWN RD. EXTENSION) FROM SR 1184 (OCEAN ISLE BEACH RD.) TO NC 179

SHEET 10 OF 29 **10/08/15**



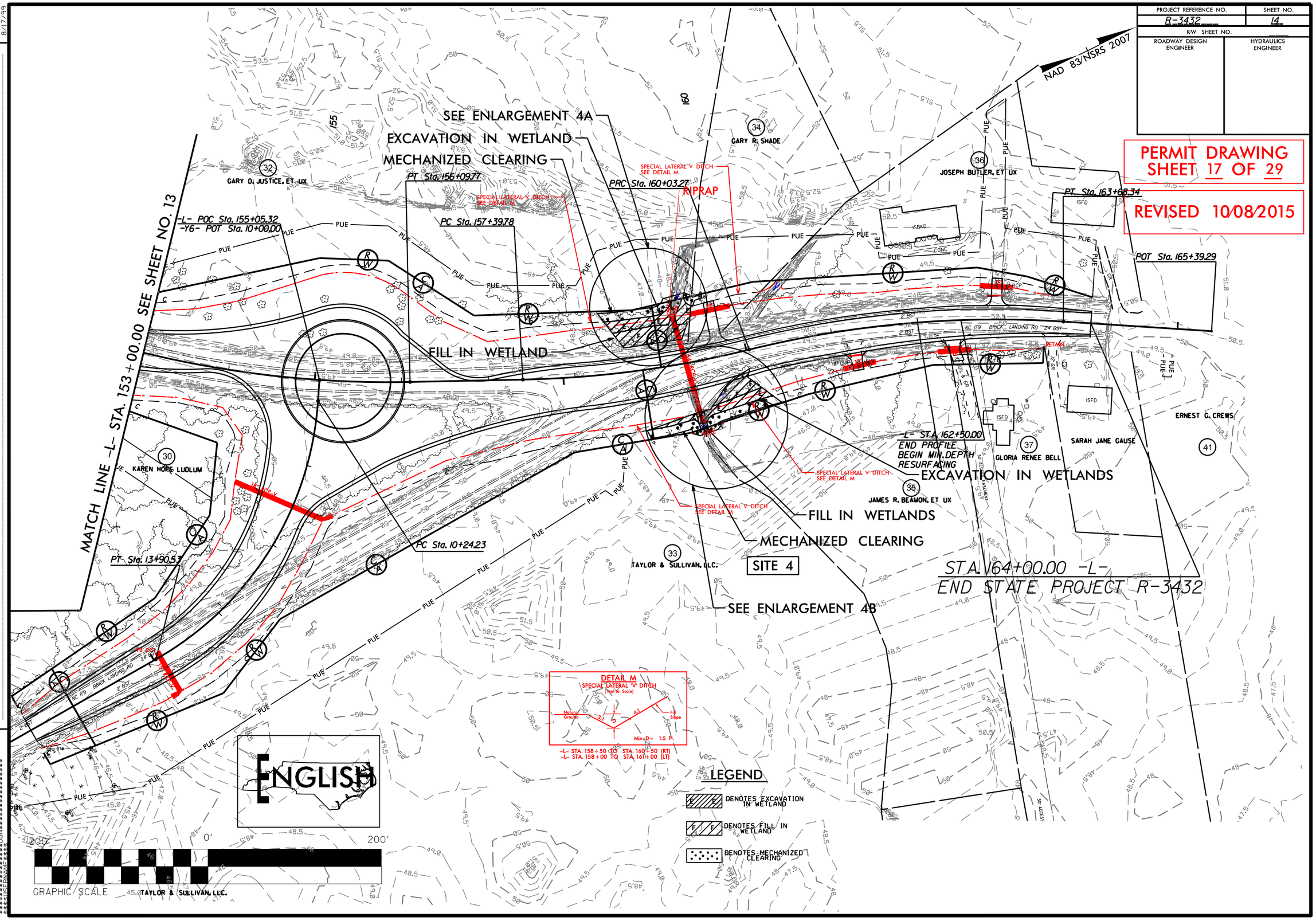
PROJECT REFERENCE NO.
R-3432
SHEET NO.
19
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
REVISED 10/08/2015
PERMIT DRAWING
SHEET 12 OF 29
-L-
PIPE HYDRAULIC DATA
DRAINAGE STR. NO. 1005/1006
DRAINAGE AREA = 14.6 AC
DESIGN FREQUENCY = 25 YRS
DESIGN DISCHARGE = 28 CFS
DESIGN HW ELEVATION = 30.8 FT
100 YEAR DISCHARGE = 34 CFS
100 YEAR HW ELEVATION = 31.2 FT
OVERTOPPING FREQUENCY = 500+ YRS
OVERTOPPING DISCHARGE = 41+ CFS
OVERTOPPING ELEVATION = 33 FT
PIPE HYDRAULIC DATA
DRAINAGE STR. NO. 1002/1004
DRAINAGE AREA = 82.5 AC
DESIGN FREQUENCY = 25 YRS
DESIGN DISCHARGE = 180 CFS
DESIGN HW ELEVATION = 32.3 FT
100 YEAR DISCHARGE = 270 CFS
100 YEAR HW ELEVATION = 34.8 FT
OVERTOPPING FREQUENCY = 25+ YRS
OVERTOPPING DISCHARGE = 215 CFS
OVERTOPPING ELEVATION = 33 FT
PI = 108+35.00
EL = 52.97'
VC = 300'
K = 131
PI = 102+00.00
EL = 36.55'
VC = 350'
K = 94
SITE 3
PI = 116+94.00
EL = 55.56'
VC = 200'
K = 138
PI = 121+50.00
EL = 50.35'
VC = 200'
K = 139
BM#26
RR SPIKE 8" PINE
89' LT OF BL STA. 118+70 ELEV. 50.72


PROJECT REFERENCE NO.
R-3432
SHEET NO.
14
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PERMIT DRAWING
SHEET 16 OF 29
REVISED 10/08/2015
NAD 83/NSRS 2007
SEE ENLARGEMENT 4A
EXCAVATION IN WETLAND
MECHANIZED CLEARING
PT Sta. 156+09.77
PC Sta. 157+39.78
PRC Sta. 160+03.27
RIPRAP
SPECIAL LATERAL V DITCH SEE DETAIL M
-L- POC Sta. 155+05.32
-Y6- POT Sta. 10+00.00
MATCH LINE -L- STA. 153+00.00 SEE SHEET NO. 13
FILL IN WETLAND
GARY D. JUSTICE, ET UX
GARY R. SHADE
JOSEPH BUTLER, ET UX
PT Sta. 163+68.34
POT Sta. 165+39.29
ERNEST G. CREWS
SARAH JANE GAUSE
GLORIA RENEE BELL
-L- STA. 162+50.00
END PROFILE
BEGIN MIN. DEPTH
RESURFACING
EXCAVATION IN WETLANDS
JAMES R. BEAMON, ET UX
FILL IN WETLANDS
MECHANIZED CLEARING
SITE 4
TAYLOR & SULLIVAN, LLC.
SEE ENLARGEMENT 4B
KAREN HOPE LUDLUM
PT Sta. 13+90.53
PC Sta. 10+24.23
STA. 164+00.00 -L-
END STATE PROJECT R-3432
DETAIL M
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Fill Slope
Min. D = 1.5 Ft.
-L- STA. 158+50 TO STA. 160+50 (RT)
-L- STA. 158+00 TO STA. 161+00 (LT)
LEGEND
DENOTES EXCAVATION IN WETLAND
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
ENGLISH
200'
0'
200'
GRAPHIC SCALE
TAYLOR & SULLIVAN, LLC.
REVISIONS
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-3432	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

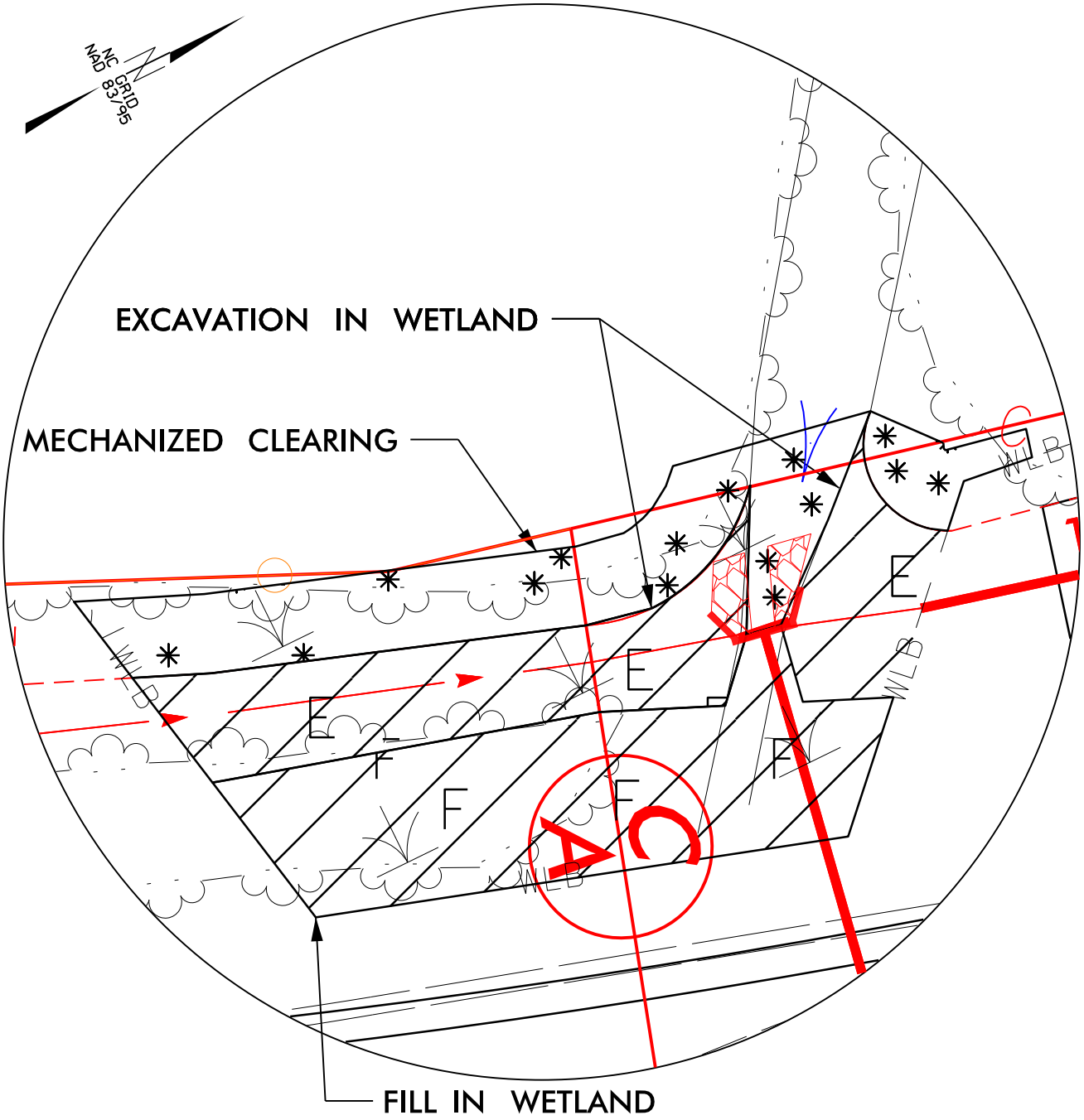
PERMIT DRAWING
SHEET 17 OF 29

REVISED 10/08/2015



REVISIONS

8/17/99



SITE 4A ENLARGEMENT

E E DENOTES EXCAVATION IN WETLAND

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

20′ 0′ 20′

GRAPHIC SCALE

NCDOT

DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

PROJECT: 35501.1.1 (R-3432)

SR 1163 (OLD GEORGETOWN RD. EXTENSION) FROM SR 1184 (OCEAN ISLE BEACH RD.) TO NC 179

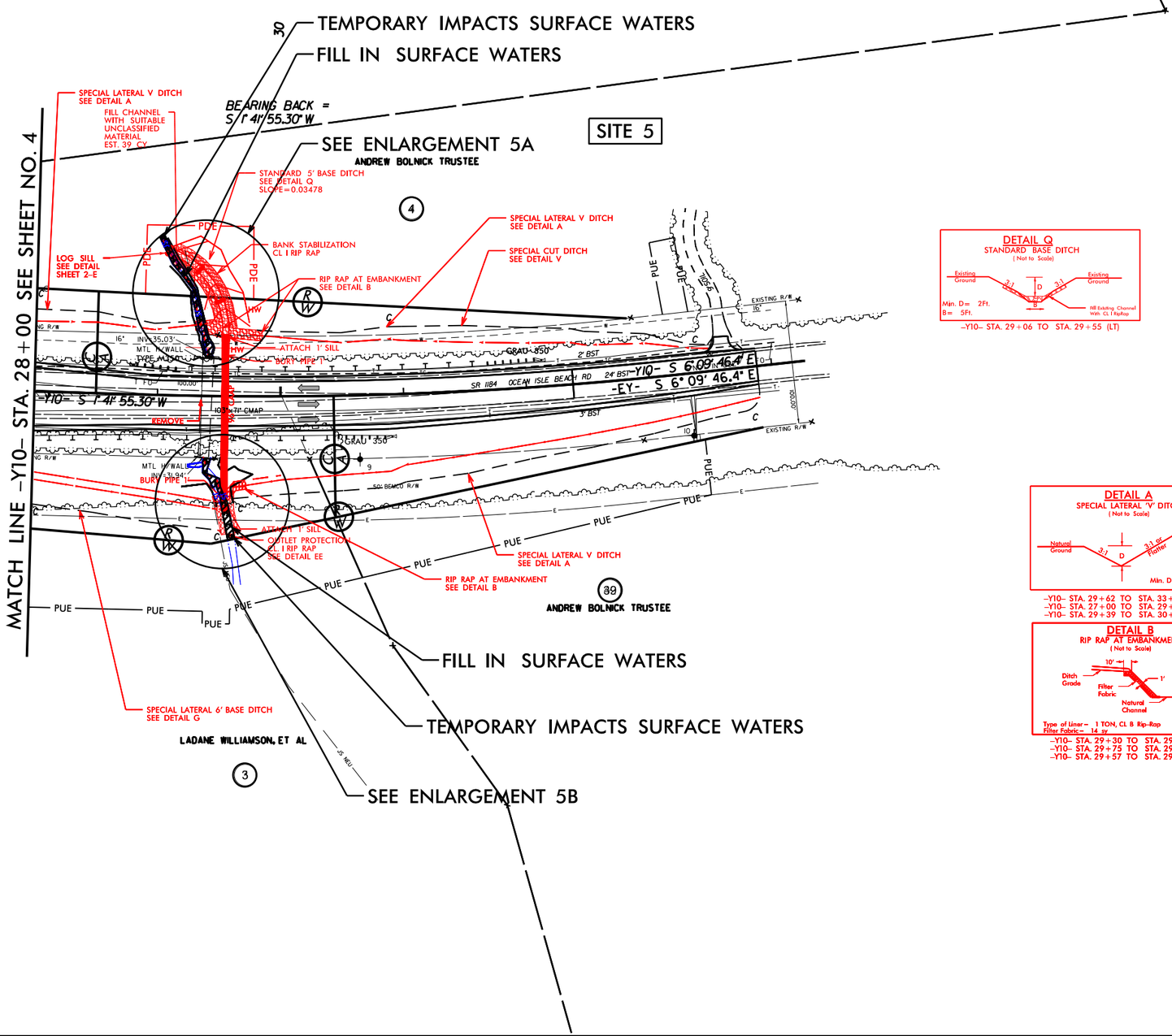
PROJECT REFERENCE NO.	SHEET NO.
R-3432	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 22 OF 29

REVISED 10/08/2015

NAD 83/NSRS 2007

-Y10-
PI Sta 31+16.11
Δ = 7° 51' 41.7" (LT)
D = 1° 47' 25.8"
L = 439.07'
T = 219.88'
R = 3,200.00'
SE = .03
RO = 81'

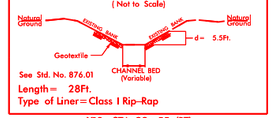


STREAMBANK REFORESTATION TO BE USED ON BANKS

DETAIL Q
STANDARD BASE DITCH
(Not to Scale)

-Y10- STA. 29+06 TO STA. 29+55 (LT)

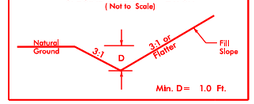
DETAIL EE
OUTLET PROTECTION
(Not to Scale)



See Std. No. 876.01
Length= 28Ft.
Type of Liner= Class I Rip-Rap

-Y10- STA. 29+55 (RT)

DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D= 1.0 Ft.

-Y10- STA. 29+62 TO STA. 33+88 (RT)
-Y10- STA. 27+00 TO STA. 29+28 (LT)
-Y10- STA. 29+39 TO STA. 30+50 (LT)

DETAIL B
RIP RAP AT EMBANKMENT
(Not to Scale)

Type of Liner- 1 TON, CL B Rip-Rap
Filter Fabric- 14 sy

-Y10- STA. 29+30 TO STA. 29+40 (LT)
-Y10- STA. 29+75 TO STA. 29+85 (LT)
-Y10- STA. 29+57 TO STA. 29+73 (RT)

LEGEND

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

ENGLISH

200' 0' 200'
GRAPHIC SCALE

FOR -Y10- PROFILE SEE SHEET 21A

REVISIONS
HYDRO REV: REVISING INLET DITCH Q FOR RIRRAP LINING. 10/08/15 MGB

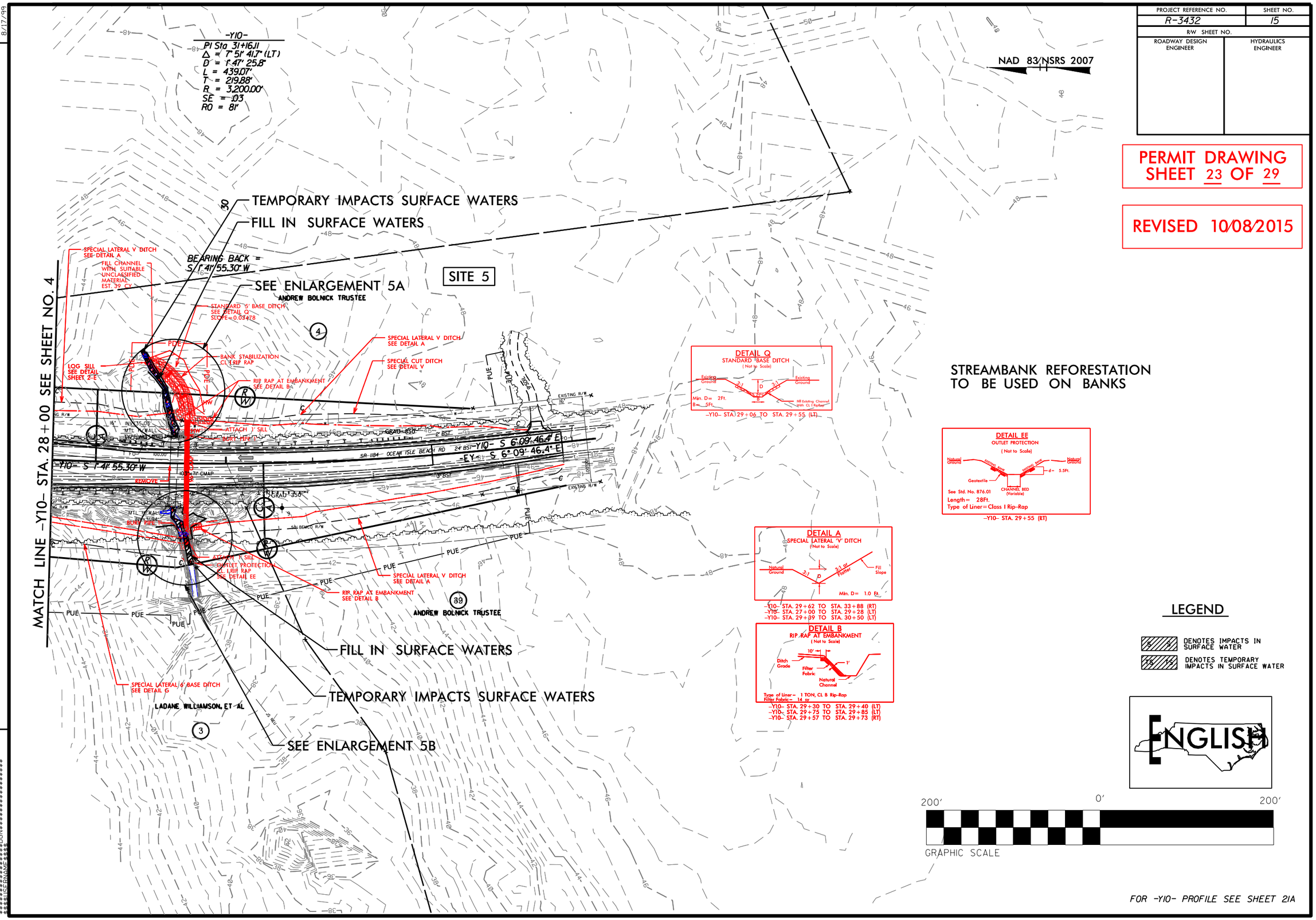
8/17/99

$$$$$SYSTIME$$$$
$$$$$DGN$$$$$$$$$$$$$$$$
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-3432	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWING
SHEET 23 OF 29

REVISED 10/08/2015

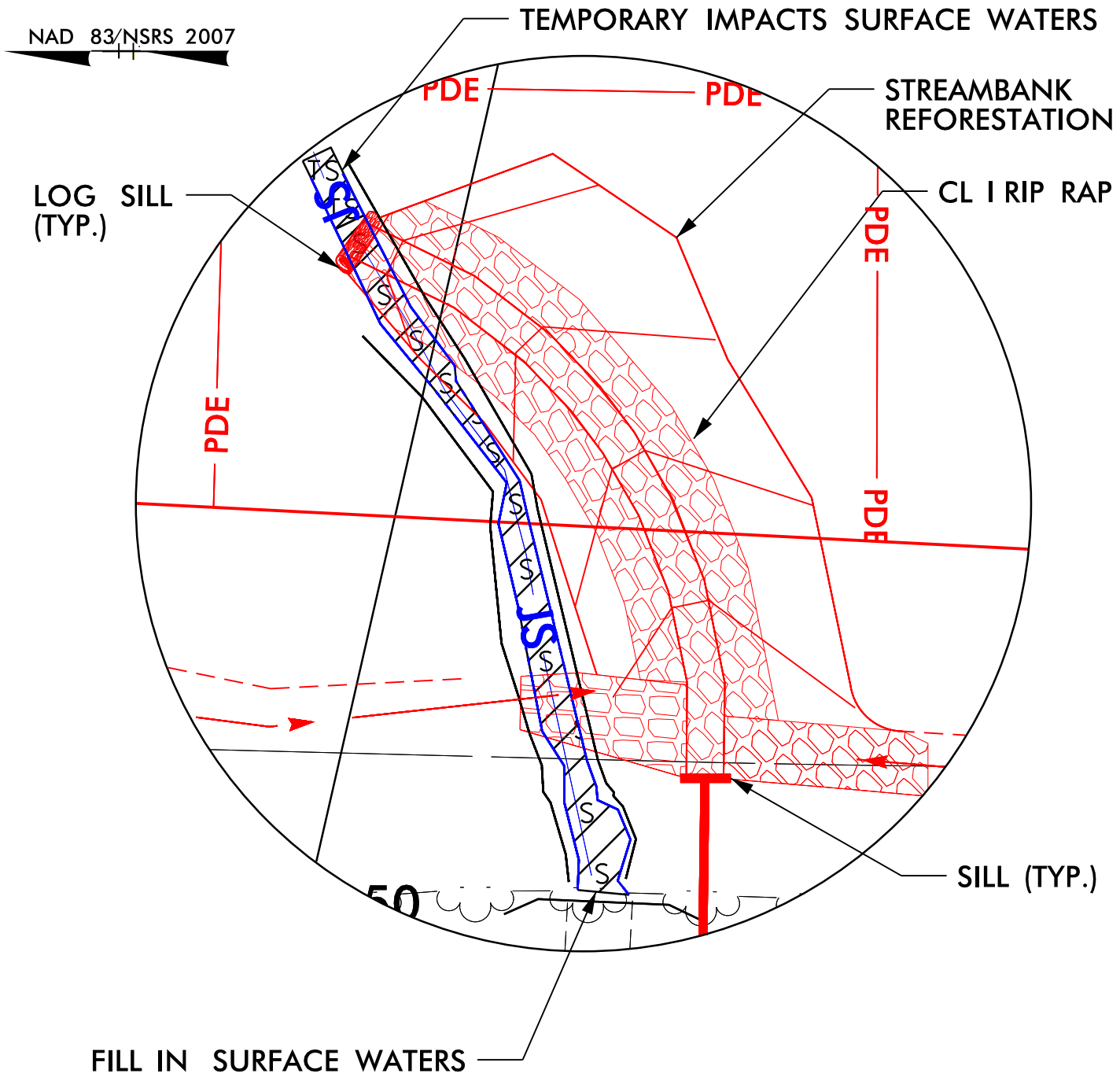


FOR -Y10- PROFILE SEE SHEET 21A

REVISIONS

HYDRO REV.: REVISING INLET DITCH Q FOR RIRRAP LINING. 10/08/15 MGB

8/17/99



SITE 5A ENLARGEMENT

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S S DENOTES IMPACTS IN SURFACE WATER

20' 0' 20'
GRAPHIC SCALE

NCDOT
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY
PROJECT: 35501.1.1 (R-3432)
SR 1163 (OLD GEORGETOWN RD. EXTENSION) FROM SR 1184 (OCEAN ISLE BEACH RD.) TO NC 179

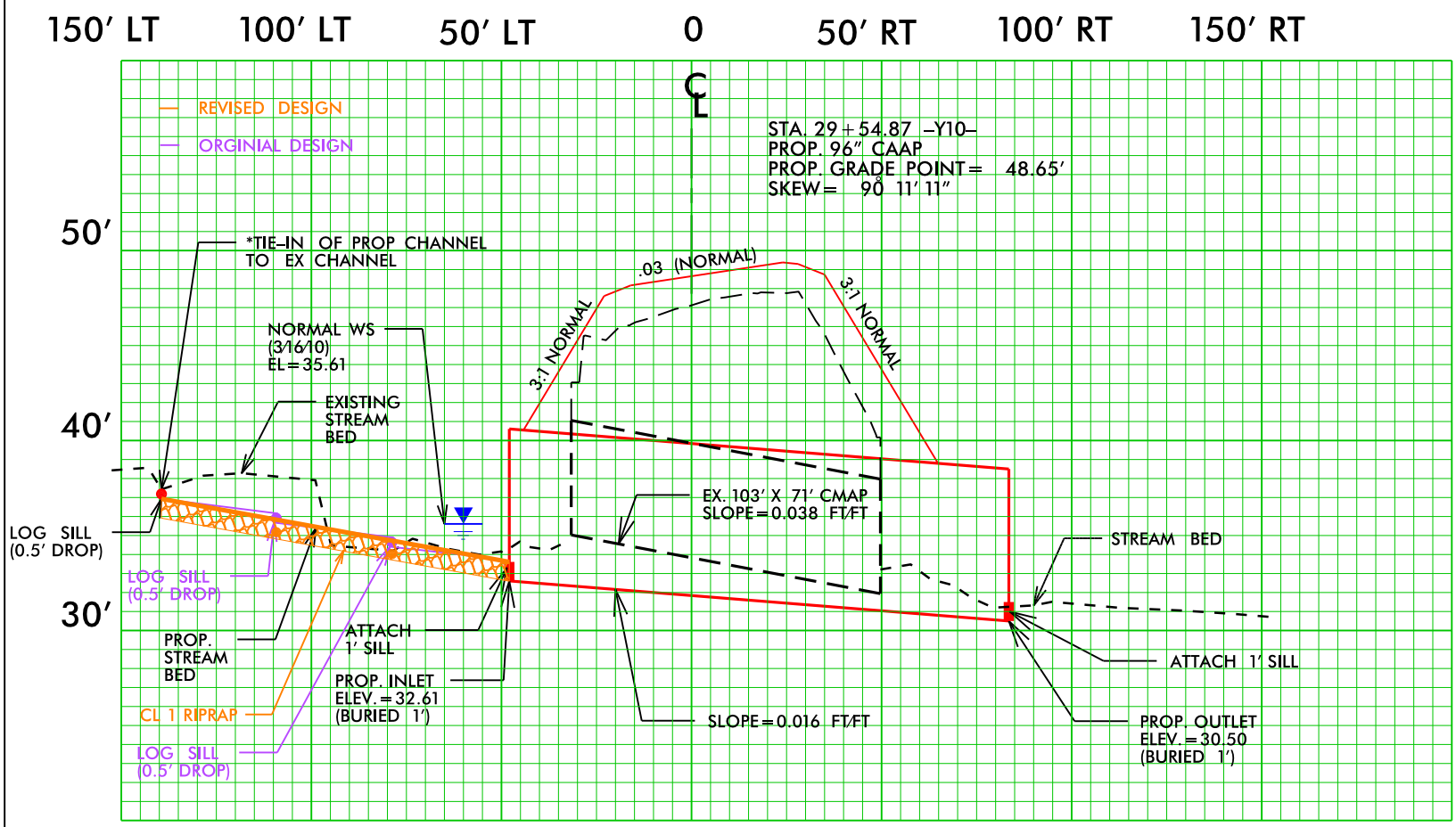
SITE 5
JURISDICTIONAL
STREAM PROFILE

REVISED

NCDOT
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY
PROJECT: 35501.1.1 (R-3432)
SR 1163 (OLD GEORGETOWN RD. EXTENSION) FROM SR 1184 (OCEAN ISLE BEACH RD.) TO NC 179

SHEET 26 OF 29 10/08/15



SCALE
HORIZ: 1" = 50'
VERT: 1" = 10'

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L- 46+95/49+28	84" CAAP						0.04	<0.01			
2	-L- 98+85/99+39	30" RCP	0.03		<0.01	<0.01		0.05	<0.01	200	10	
3	-L- 100+97/105+53	84" CAAP	0.40		0.04	0.07						
4	-L- 158+32/160+27	54" RCP-V	0.06		0.06	0.07						
5A	-Y10- 29+37/29+63	96" CAAP						0.01	<0.01	97	10	
5B	-Y10- 29+37/29+63	96" CAAP						<0.01	<0.01	39	33	
TOTALS:			0.49		0.10	0.14		0.10	0.01	336	53	

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY
WBS - 35501.1.1 (R-3432)