



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

June 5, 2015

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

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

SUBJECT: NC 68/US 220 Connector from NC 68 at SR 2133 to the
existing intersection of NC 68 and US 220 in Guilford and
Rockingham Counties; WBS No. 34429.1.1
TIP R-2413A

Attached are the most recent modification to the U.S. Army Corps of Engineers Section 404 Individual Permit and the N.C. Division of Water Resources (NCDWR) Section 401 Water Quality Certification. All environmental permits have been received for the continued construction of this project.

A copy of this permit 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 Garriss, P.E. State Contract Officer
Mr. Jerry Parker, Division Environ. Officer
Dr. Majed Al-Ghandour, P. E., Program Dev. and TIP
Mr. Glenn Mumford, P.E., Roadway Design
Mr. Matt Lauffer, P.E., Hydraulics
Mr. Tom Koch, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. Robert Memory, Utilities Unit
Mr. Ron Hancock, P.E., State Roadway Construction Engineer
Mr. Kevin Bowen, P.E., State Bridge Construction Engineer
Mr. Eric Midkiff, P.E., PDEA
Ms. LeiLani Paugh, Natural Environment Section
Mr. Randy Griffin, Natural Environment Section
Ms. Beth Harmon, NCEEP
Ms. Karen Capps, PE, Transportation Program Management

PROJECT COMMITMENTS

NC 68- US 220 Connector
From NC 68 at SR 2133 to existing intersection of NC 68 and US 220
Guilford and Rockingham Counties
WBS Element 34429.1.1
TIP Project R-2413

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

Current status, changes, or additions to the project commitments as shown in the environmental document for the project are printed in italics. All commitments, which are not pertinent to R-2413-A & B have been grayed out.

Hydraulics Unit/ Roadside Environmental Unit:

- Best Management Practices will be employed.

Action: Standard Commitment.

Roadway Design Unit/ PDEA Unit/ Division 7:

- NCDOT will coordinate with resource agencies (USCOE, USFWS, NCWRC and DEM) during the permitting phase of the project to develop a mutually agreeable mitigation plan.

Mitigation opportunities will be explored that will provide for wetland restoration, enhancement, and/or creation within the same drainage as the wetland loss.

*Action: There is ongoing coordination with the resource agencies.
Mitigation plans to be included with the permit application.*

The use of previously converted farmland will be explored for wetland restoration sites.

Action: No suitable sites found.

The donation of orphaned plots (uneconomic remnants) of farmland and forest to the county greenway and/or parks and recreation programs will be considered

Action: This will be addressed after project construction by Division 7.

Roadway Design/Hydraulics/ Structures/ PDEA/ Roadside Environmental:

- There will be continuing efforts for cooperation between NCDOT and the resource agencies with respect to the crossings of Reedy Fork Creek and the Haw River.

NCDOT will construct a hazardous spill catch basin (HSCB) at the Reedy Fork Creek Crossing, which lies within the Greensboro watershed. Additional HSCBs will be considered for other locations within the Greensboro Watershed during the development of preliminary and final design plans.

NCDOT will provide a self-contained bridge drainage system for the crossing of Reedy Fork Creek. The bridge drainage will be tied in with the hazardous spill catch basin.

Action: This commitment will not be implemented. NCDOT policy does not require the construction of HSCB basin at this site. A Basin is not required if it is over 1/2 mile from the critical area of a stream classified WS-III (Reedy Fork). This project is at 1.9 miles from the critical area. BMP's on the design plans are avoiding direct discharge into the surface water and discharging as far away from the surface water as practicable. Also grassed swales and preformed scour holes are being used where practicable. No hazardous catch basin is being constructed.

NCDOT will provide bridged crossings of Reedy Fork Creek and the Haw River that allow wildlife, pedestrian, and equestrian access along both sides of the waterway. The Reedy Fork Creek crossing will provide 10 feet of natural surface on one bank, and 10 feet of natural surface as well as 10 feet of stabilized trail on the other bank for passage beneath the bridge. *The Haw River crossing will provide 10 feet of natural surface on each side of the channel for passage beneath the bridge.*

Action: The bridge length will accommodate wildlife, pedestrian and equestrian access per the commitment. The trail will be stabilized with vegetation.

PDEA Unit:

- NCDOT will coordinate with the USCOE and the NC Department of Cultural Resources (NCD CR) regarding the possible need for archaeological survey in the vicinity of 404 permit areas to assess the nature, extent, condition and significance of archaeological resources that might be damaged or destroyed by the proposed action.

Action: Coordination between USACE and NCDOT was completed in 2007; Concurrence in November 2007 from SHPO concluded no property is eligible for the National Register.

Contract and Proposal Unit/ Division 7:

- NCDOT will attempt to salvage merchantable timber during the clearing of right-of-way for the project. NCDOT's general contract for right-of-way clearing provides opportunity for contractors to market saleable trees.

Action: This commitment is standard and general in NCDOT contracts.

Roadway Design Unit/ Hydraulics Unit/ Structures Unit:

- The project will include pedestrian culverts at Brookbank Road and at the abandoned railroad. At Deboe Road, a 7.5-foot offset will be included on one side of the bridge for the accommodation of future sidewalks.

Action: (14'X10') pedestrian culverts are included at the Brookbank Road and the abandoned railroad. Also, a 7.5 foot off-set is included for future sidewalks at Deboe Road, Alcorn Road and Bunch Road.

- NCDOT committed to altering their design plans for the southbound off-ramp at NC 150 to avoid direct impacts to the private recreation center for the Henson Forest subdivision.

Action: The current design avoids any impacts to the recreation center.

- NCDOT agreed to include equalizer pipes in the design for water flow between the wetland areas, and include sills in the culverts to prevent head cuts at a crossing of an unnamed tributary to Reedy Fork Creek.

Action: The current design includes 10'X10' equalizer culvert, sills are included in pipes where required and necessary.

- NCDOT will construct a single 7-foot by 8-foot culvert at a crossing of unnamed tributary to Haw River.

Action: The current design includes 10'X8' culvert with sills.

PDEA Unit:

- *Based on preliminary noise studies, NCDOT will evaluate noise abatement measures at the following locations during final design:*

*-Golden Acres Subdivision south of Alcorn Road
-Trailer court at US 220 and NC 65
-Trailer court across US 220 from Spotswood Road
-Homes west of US 220 at Ogborn Mill Road (SR 1100)
-Homes east of US 220 at Ogborn Mill Road (SR 1100)*

NOTE: Noise Barriers: For the updated traffic noise analysis prepared in April 2009, only one barrier was found to be reasonable and feasible. This barrier is located along Section C near Spotswood Road, north of the Connector/US 220 interchange from Station 34+80 to Station 39+60. This barrier is 19 feet high and 1,576 feet long and is located on the west side of US 220.

COMMITMENTS DEVELOPED FROM PERMITTING

Natural Environment Engineering Group and Onsite Mitigation Group:

404 condition 20

Mitigation:

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

B. Permittee Responsible Mitigation:

1. The Permittee shall fully implement the compensatory mitigation plan, entitled, R-2413 A & B, Plan for Onsite Mitigation, dated (revised) July 1, 2013 for the unavoidable impacts to 2,945 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 (re-establish, rehabilitate, enhance, establish) 2,945 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.

2. Remedial Mitigation Plan: If the compensatory mitigation fails to meet the performance standards 5 years after completion of the compensatory mitigation objectives, the compensatory mitigation will be deemed unsuccessful. Within 60 days of notification by the Corps that the compensatory mitigation is unsuccessful, the Permittee shall submit to the Corps an alternate compensatory mitigation proposal to fully offset the functional loss that occurred as a result of the project. The alternate compensatory mitigation proposal may be required to include additional mitigation to compensate for the temporal loss of wetland function associated with the unsuccessful compensatory mitigation activities. The Corps reserves the right to fully evaluate, amend, and approve or reject the alternate compensatory mitigation proposal. Within 120 days of Corps approval, the Permittee will complete the alternate compensatory mitigation proposal.

3. Mitigation Release: The Permittee's responsibility to complete the required compensatory mitigation, as set forth in the Compensatory Mitigation Special Condition of this permit will not be considered fulfilled until mitigation success has been demonstrated and written verification has been provided by the Corps. A mitigation area which has been released will no longer require monitoring or reporting by the Permittee; however the Permittee, Successors and subsequent Transferees remain perpetually responsible to ensure that the mitigation area(s) remain in a condition appropriate to offset the authorized impacts in accordance with the approved mitigation and monitoring plan and the general and special conditions of this permit.

401 condition 4

Compensatory mitigation for impacts to 8,015 linear feet of streams for the R-2413A project and 3,594 for the R-2413B project at a replacement ratio of 1:1 is required. Compensatory mitigation for impacts to jurisdictional streams shall be provided by onsite stream relocations of 2,180 linear feet of stream for the R-2413A project and 765 linear feet for the R-2413B project. The onsite stream relocation shall be constructed in accordance with the design submitted in your application dated received July 19, 2013 and August 23, 2013. All onsite 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 Wetland 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 2,180 linear feet of impacts. All channel relocations will be constructed in a dry work area, will be completed and stabilized, and must be approved on site by NCDWR staff, prior to diverting water into the new channel. Whenever possible, 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.

401 condition 5

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.

Division 7/ Roadside Environmental Unit:

401 condition 16

For the 1,149 linear feet of streams being impacted due to site dewatering activities, the site shall be graded to its preconstruction contours and revegetated with appropriated native species.

Permit Modification:

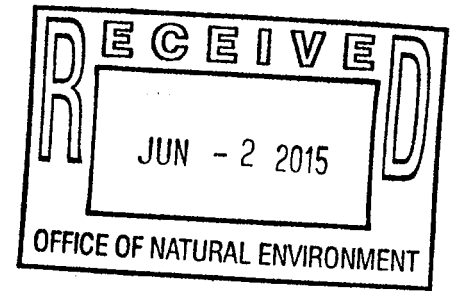
No new special conditions were added.



REPLY TO
ATTENTION OF:

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

May 26, 2015



Regulatory Division/1200A

Action ID No: SAW-2013-00557

Mr. Richard W. Hancock, P.E.
Manager, Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Hancock:

Reference the Department of the Army (DA) permit issued on January 28, 2014, to Mr. Richard Hancock, of the North Carolina Department of Transportation for impacts associated with the new location project identified as R-2314 A&B. The project, future I-73, is a 7.8 mile, four-lane divided facility on new location extending from SR 2011 (Edgefield Road) to the Haw River at US 220 in Summerfield, Guilford County, North Carolina. Section A starts at SR 2011 (Edgefield Road) and extends to SR 2127 (Brookbank Road) and Section B starts at SR 2127 and extends to the Haw River at US 220. Coordinates (in decimal degrees) for the site are 36.1775° N, -79.9350° W. The project area contains a portion of Reedy Fork, four (4) unnamed tributaries to Brush Creek, thirty-one (31) unnamed tributaries to Reedy Fork, seven (7) unnamed tributaries to the Haw River, and fourteen (14) adjacent wetland areas in the Cape Fear River Basin (8-Digit Cataloging Unit 03030002).

Impacts authorized by the permit include: 1) the permanent discharge of fill material into 12,912 linear feet of jurisdictional stream channel, 5.47 acres of adjacent riparian wetlands, and 0.6 acre of jurisdictional open waters, and 2) the temporary discharge of fill material into 1,151 linear feet of jurisdictional stream channel and 0.18 acre of adjacent riparian wetlands. Mitigation was implemented for the unavoidable impacts by on-site mitigation as described in the July 18, 2013, mitigation plan, including the revisions provided on January 15, 2014, as well as payment into the North Carolina Ecosystem Enhancement Program.

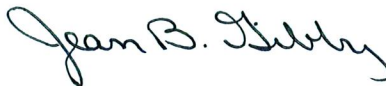
A permit modification dated October 14, 2014, authorized a net decrease of permanent impacts to streams of 156 linear feet and a net increase of temporary impacts to streams of 29 linear feet, associated with revisions to Sites 1, 2, 3, 4, and 22.

Also reference your letter to the Corps dated May 13, 2015 (received May 14, 2015), requesting modification of the permit for 1) a change in classification of 10 linear feet of temporary stream impacts to 10 linear feet of permanent stream impacts, due to additional bank stabilization needed at R-2413A Permit Site 7A, and 2) an additional <0.01 acre (40 square feet) of permanent wetland impacts due to a change in classification in impact type for bridge bent installation at Permit Site 18.

The Corps has completed the evaluation of your request and determined that it is appropriate and reasonable, and no public notice is required for this modification. Therefore, the permit is modified as listed and shown in the modified drawings in the May 13, 2015 modification request (enclosure), for a net increase of permanent impacts to streams of 10 linear feet, a net decrease of temporary impacts to streams of 10 linear feet, and a net increase of permanent impacts to wetlands of <0.01 acre (40 square feet). Project R-2413 A&B now totals permanent impacts to 12,766 linear feet of streams, 5.47 acre of wetlands, and 0.6 acre of jurisdictional open waters, and temporary impacts to 1,170 linear feet of jurisdictional stream channel, and 0.18 acre of adjacent riparian wetlands.

All other conditions of the permit, 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 David.E.Bailey2@usace.army.mil or telephone (919) 554-4884, Extension 30.

Sincerely,



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

Enclosure

Copy Furnished (w/enclosure):

Mr. Dave Wanucha
Transportation Permitting Unit
NCDENR – Division of Water Resources
585 Waughtown Street
Winston-Salem, North Carolina 27107

Mr. Jerry Parker
Division Environmental Supervisor, Division 7
North Carolina Department of Transportation
Post Office Box 14996
Greensboro, North Carolina 27415

Ms. Deanna Riffey
North Carolina Department of Transportation
Division of Highways
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Copy Furnished (w/o enclosure):

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

Mr. Todd Bowers
U.S. Environmental Protection Agency Region 4
Wetlands and Marine Regulatory Section
61 Forsyth Street, Southwest
Atlanta, Georgia 30303



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

June 2, 2015

Mr. Richard W. Hancock, P.E., Manager
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 new location facility from SR 2011 to the Haw River at US 220 in Guilford County; TIP No. 2413A. NCDWR Project No. 20130517 v4.

Dear Mr. Hancock:

Attached hereto is a modification of Certification No. 3971 originally issued to The North Carolina Department of Transportation (NCDOT) and dated October 28, 2013. Previous modifications include version 2 issued on February 3, 2014; and, version 3 issued on October 13, 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:

Dave Bailey, US Army Corps of Engineers, Raleigh Field Office
Jerry Parker, Division 7 Environmental Officer
Colin Mellor, NC Department of Transportation
Rachelle Beauregard, NC Department of Transportation
Dr. Cynthia Van Der Wiele, US Environmental Protection Agency
Travis Wilson, NC Wildlife Resources Commission
Dave Wanucha, NC Division of Water Resources Winston Salem Regional Office
File Copy

**Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act
and Jordan Lake Buffer Rules 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 and 15A NCAC 2B.0267. This certification authorizes the NCDOT to impact an additional <0.01 acres (40 square feet) of jurisdictional wetlands and 10 linear feet of jurisdictional streams (bank stabilization) in Guilford County as summarized in Tables 1 and 2 below. The project is **not subject to the Jordan Lake Rules per 15A NCAC 2B.0267** because this project was authorized in March 1995, prior to the adoption of the Jordan Lake Riparian Buffer Rules. The project shall be constructed pursuant to the modification dated May 13, 2015. The authorized impacts are as described below:

Table 1. Stream Impacts in the Cape Fear River Basin

Site	Permanent Fill in Perennial Stream (linear ft) Bank Stabilization	Temporary Fill in Perennial Stream (linear ft) Bank Stabilization	Stream Impacts Requiring Mitigation (linear ft)
Original approved impacts at Site 7A	45	21	0
New revised impacts with this approval at Site 7A	10	(10)	0
Total	55	11	0

Total Stream Impact for Modification: a net gain of 10 feet of permanent impacts and a net loss of 10 feet of temporary impacts (linear feet).

Table 2. Wetland Impacts in the Cape Fear River Basin

Site	Fill (ac)	Total Wetland Impact (ac)
Original approved impacts at Site 18 (Bridge Bents)	0	0
New additional impacts with this approval at Site 18 (Bridge Bents)	<0.01 (40 sq ft)	0
Total	<0.01 (40 sq ft)	<0.01 (40 sq ft)

Total Wetland Impact for Modification: <0.01 acres (40 sq ft).

The application provides adequate assurance that the discharge of fill material into the waters of the Cape 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 May 13, 2015. All the authorized activities and conditions of certification associated with the original Water Quality Certification dated October 28, 2013 including previous modifications (version 2 issued on February 3, 2014; and, version 3 issued on October 13, 2014, still apply except where superseded by this certification. Should your project change, you are required to notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h).(6) and (7). Additional buffer impacts may require compensatory mitigation as described in 15A NCAC 2B .0268. 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.

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 DENR as follows:

Mr. Sam M. Hayes, General Counsel
Department of Environment and Natural Resources
1601 Mail Service Center

This the 2nd day of June 2015

DIVISION OF WATER RESOURCES



S. Jay Zimmerman, Director
Division of Water Resources



North Carolina Department of Environment and Natural Resources

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

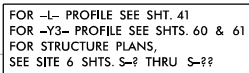
I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation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

1617 Mail Service Center, Raleigh, North Carolina 27699-1617
Phone: 919-807-6300 \ Internet: www.ncdenr.gov

An Equal Opportunity \ Affirmative Action Employer

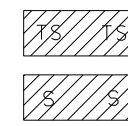
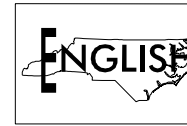




RK&K
RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
EIGH, NORTH CAROLINA 27609-3945
LICENSE NO. F-0112 • (919) 878-9545

8/17/99

GRAPHIC SCALE



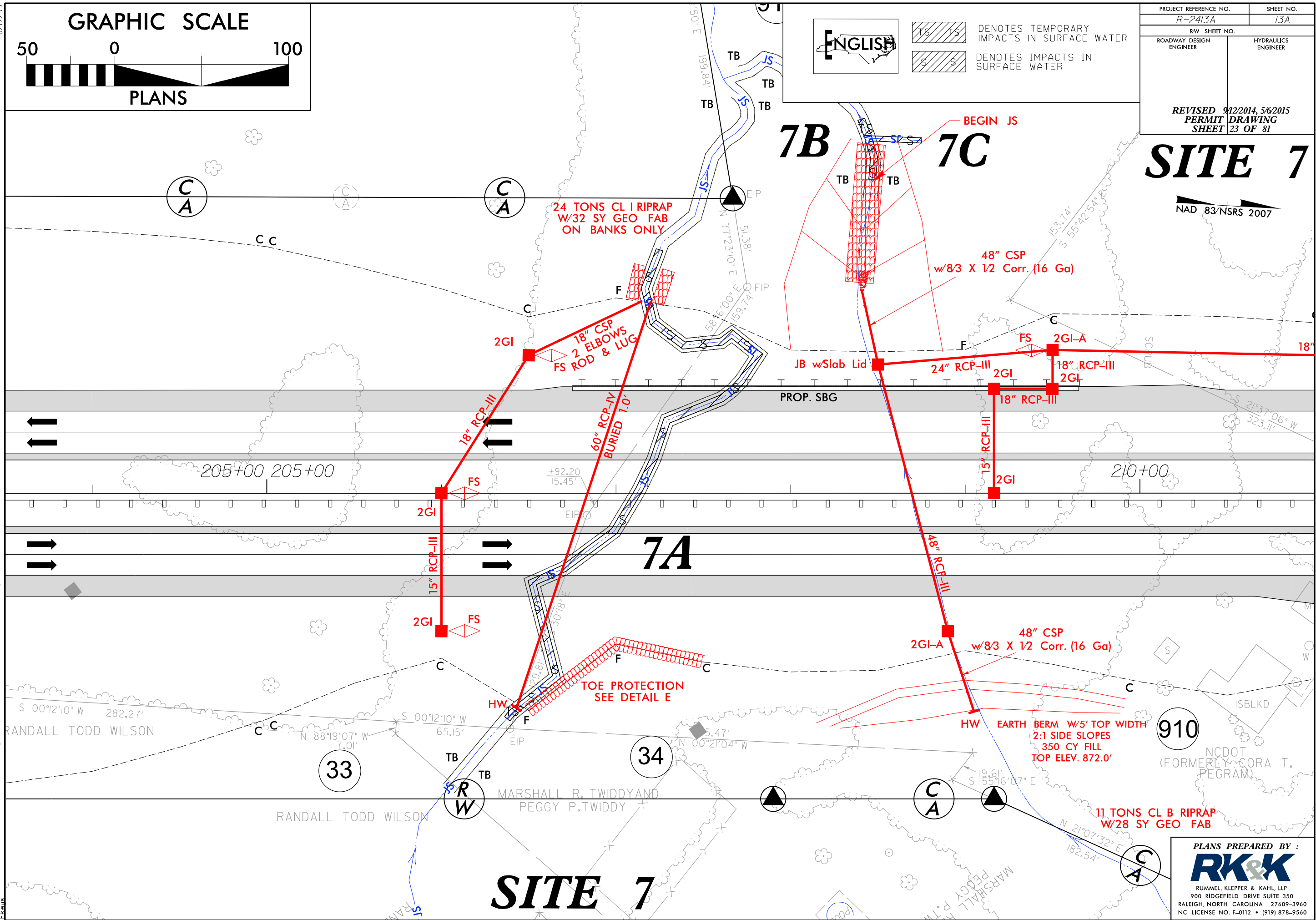
DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN
SURFACE WATER

PROJECT REFERENCE NO. <i>R-2413A</i>		SHEET NO. <i>13A</i>	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		REVISED 9/12/2014, 5/6/2015 PERMIT DRAWING SHEET 23 OF 81	

SITE 7

NAD 83/NSRS 2007



910

(FORMERLY CORA T. PEGRAM)

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W/28 SY GEO FAB

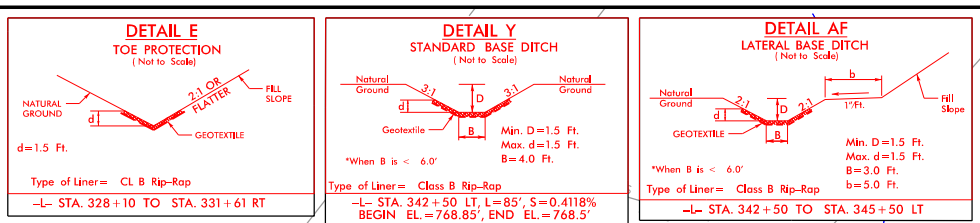
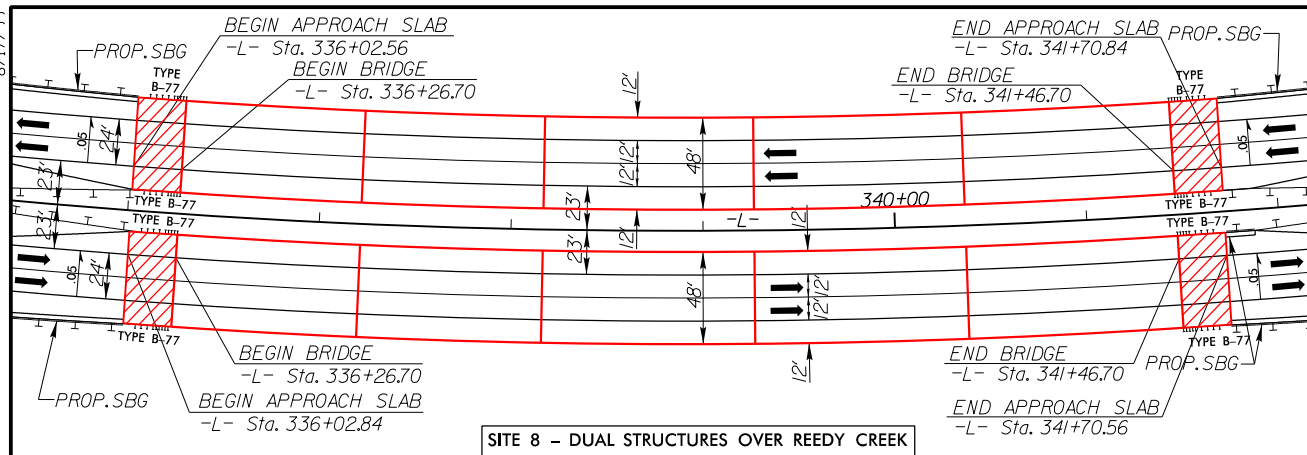
PLANS PREPARED BY :

RK&K

RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NO. F-0112 • (919) 878-9560

5/6/2015
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CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	331+00.00	336+01.33	LT
SBG	-L-	341+72.07	344+00.00	LT
SBG	-L-	331+00.00	336+02.06	RT
SBG	-L-	341+71.34	344+00.00	RT
SBG	-L-	341+71.62	341+87.00	MED RT

PROJECT REFERENCE NO.
R-2413A

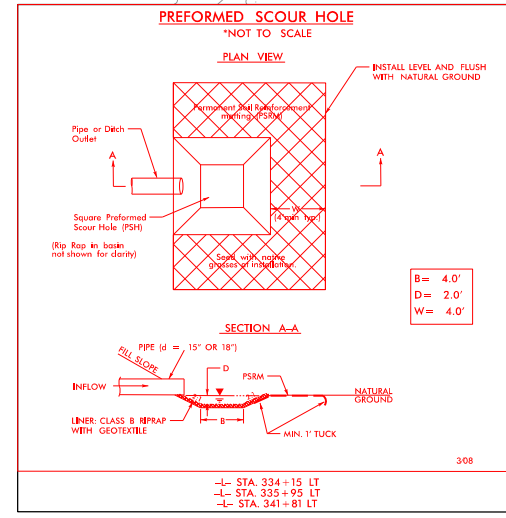
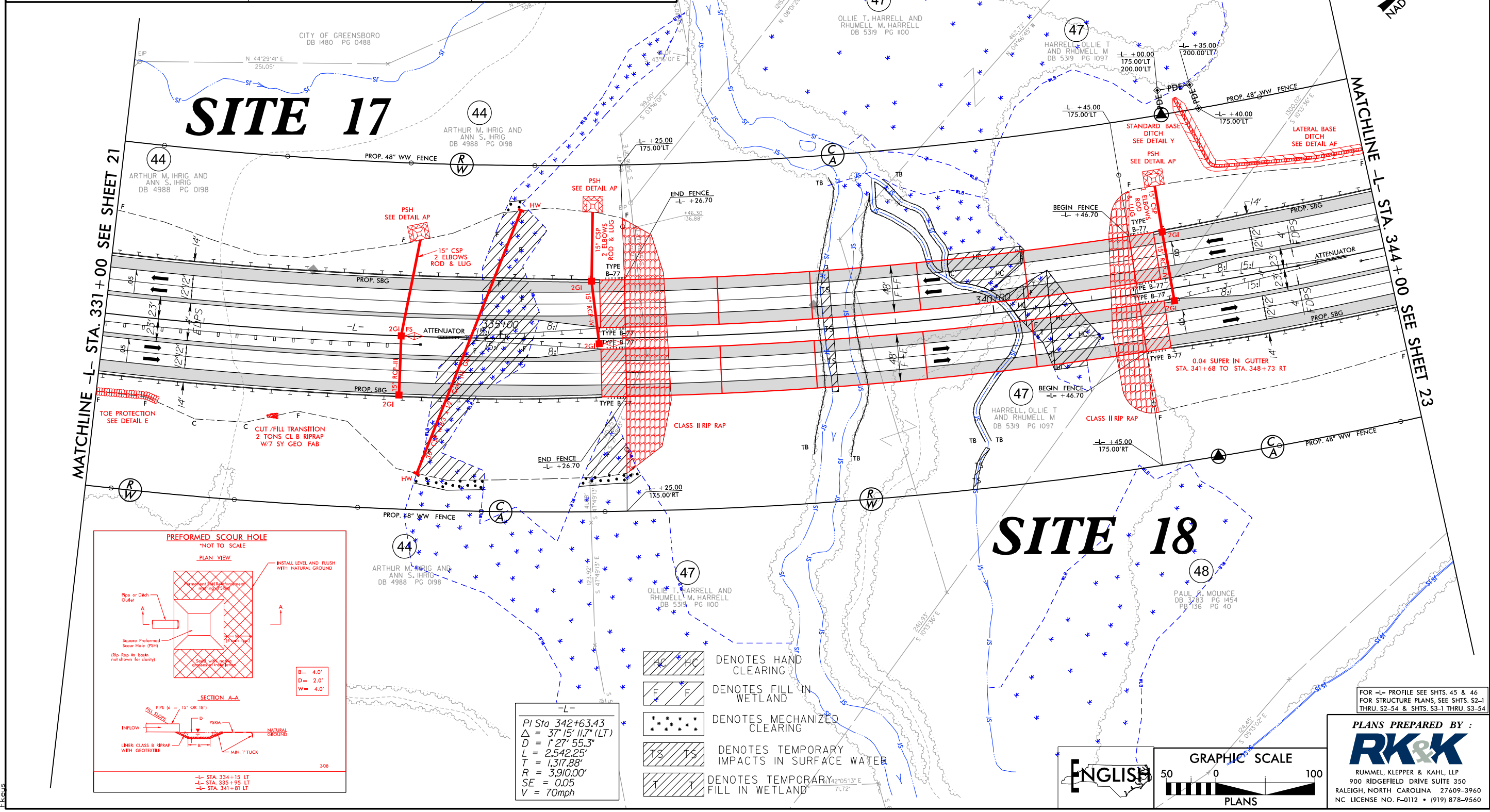
SHEET NO.
22

RW SHEET NO.

ROADWAY DESIGN ENGINEER

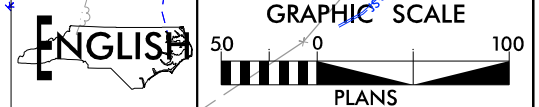
HYDRAULICS ENGINEER

REVISED 9/22/2014, 5/6/2015
PERMIT DRAWING
SHEET 53 OF 81



-L-
PI Sta 342+63.43
Δ = 37°15'11.7" (LT)
D = 1'27" 55.3"
L = 2,542.25'
T = 1,317.88'
R = 3,910.00'
SE = 0.05
V = 70mph

- HC HC DENOTES HAND CLEARING
- F F DENOTES FILL IN WETLAND
- * * * * * DENOTES MECHANIZED CLEARING
- TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- 1 1 DENOTES TEMPORARY FILL IN WETLAND



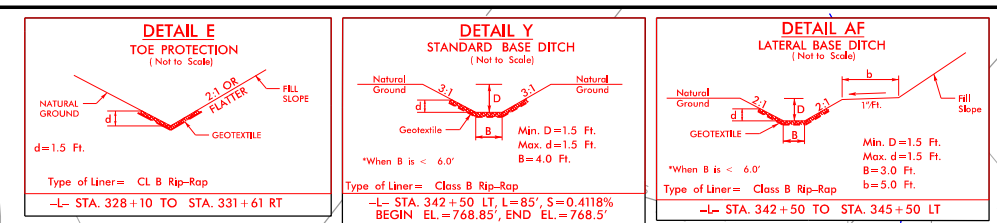
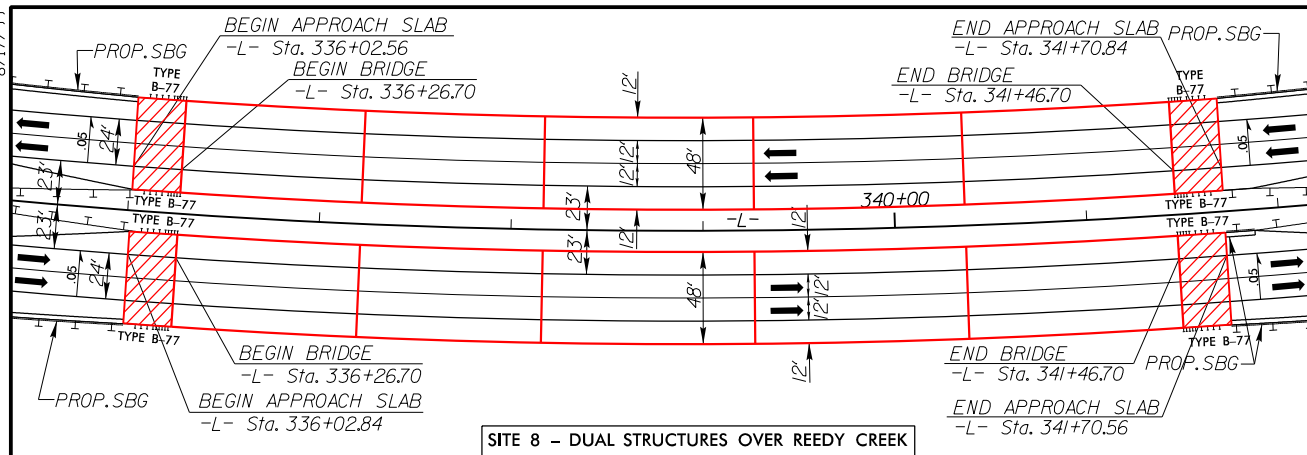
FOR -L- PROFILE SEE SHTS. 45 & 46
FOR STRUCTURE PLANS, SEE SHTS. S2-1
THRU. S2-54 & SHTS. S3-1 THRU. S3-54

PLANS PREPARED BY :

RK&K

RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NO. F-0112 • (919) 878-9560

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5/6/2015
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CURB & GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	331+00.00	336+01.33	LT
SBG	-L-	341+72.07	344+00.00	LT
SBG	-L-	331+00.00	336+02.06	RT
SBG	-L-	341+71.34	344+00.00	RT
SBG	-L-	341+71.62	341+87.00	MED RT

PROJECT REFERENCE NO.
R-2413A

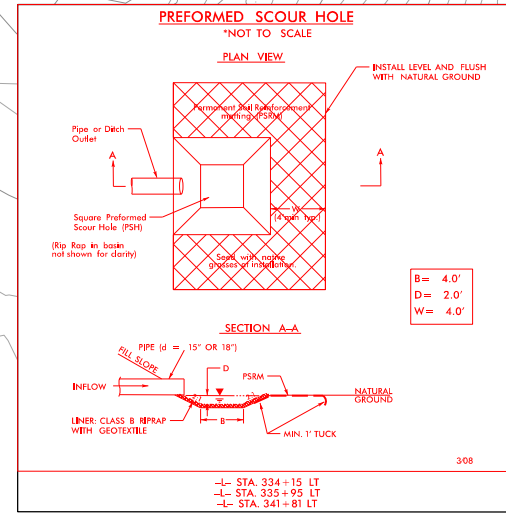
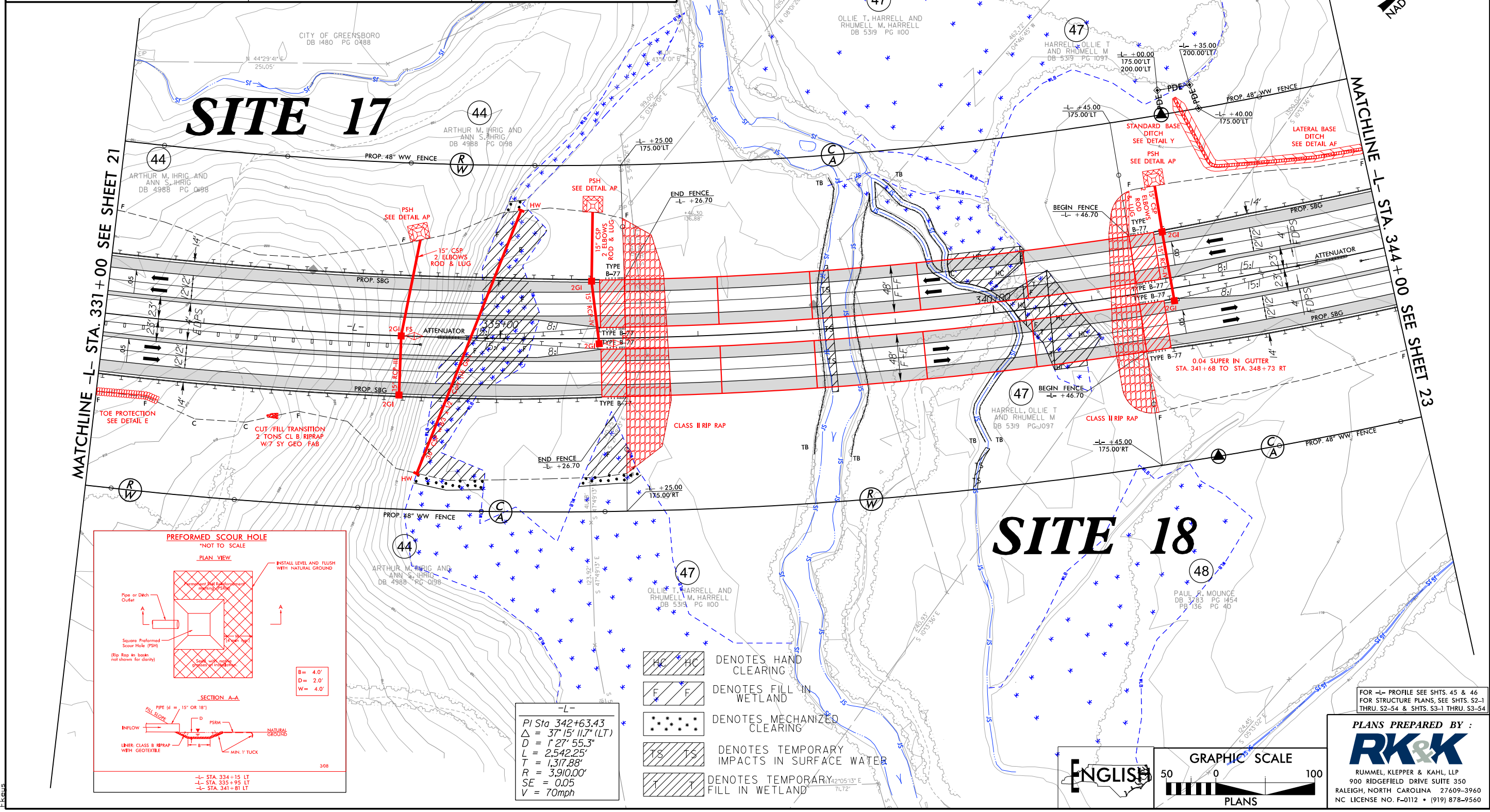
SHEET NO.
22

RW SHEET NO.

ROADWAY DESIGN ENGINEER

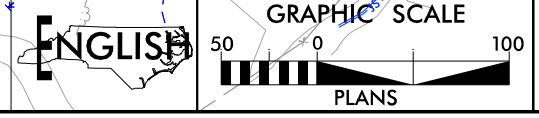
HYDRAULICS ENGINEER

REVISED 9/22/2014, 5/6/2015
PERMIT DRAWING
SHEET 54 OF 81



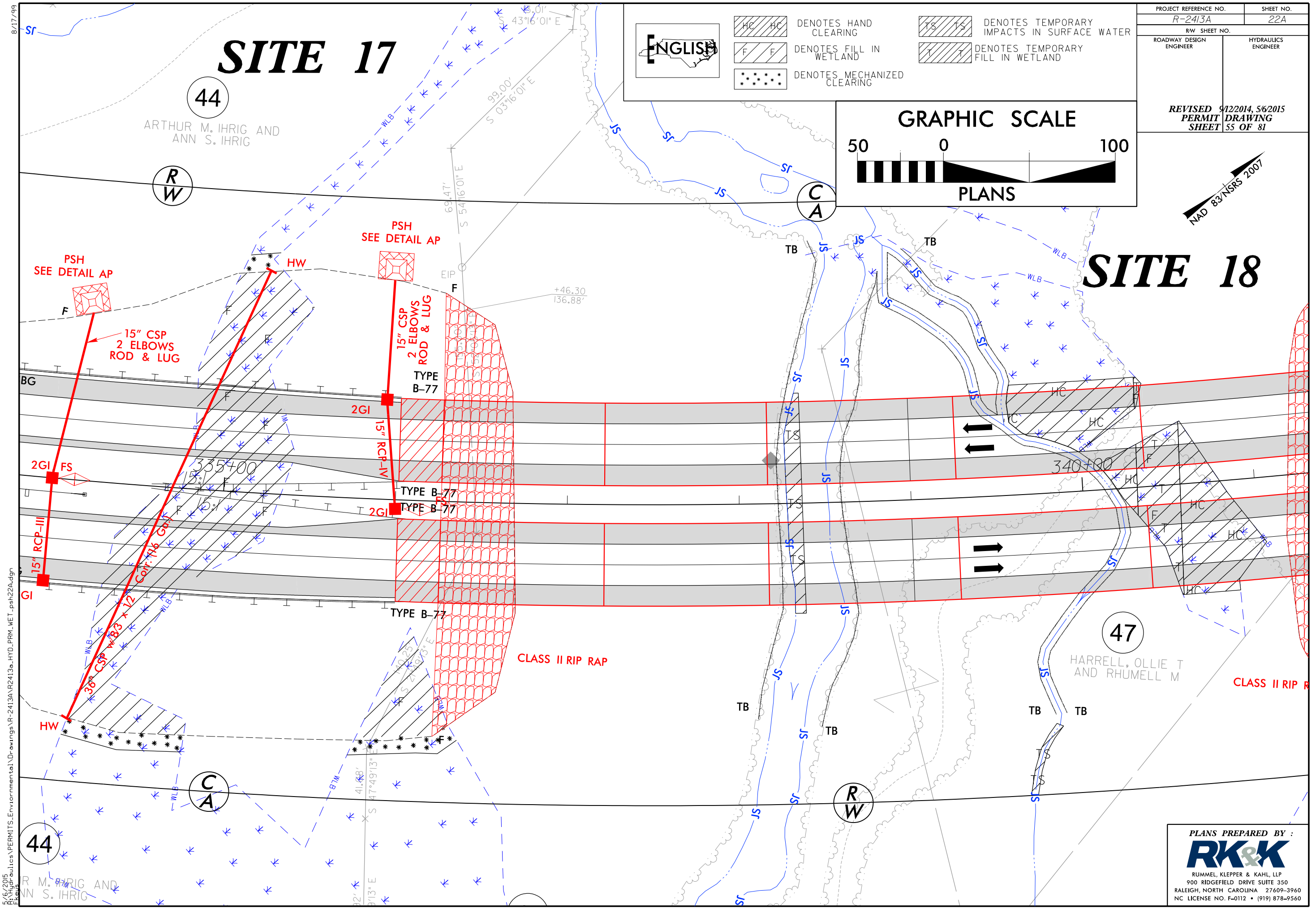
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FOR -L- PROFILE SEE SHTS. 45 & 46
FOR STRUCTURE PLANS, SEE SHTS. S2-1
THRU. S2-54 & SHTS. S3-1 THRU. S3-54

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HC HC DENOTES HAND CLEARING
F F DENOTES FILL IN WETLAND
M M DENOTES MECHANIZED CLEARING
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
T T DENOTES TEMPORARY FILL IN WETLAND

GRAPHIC SCALE
50 0 100
PLANS

PROJECT REFERENCE NO.	SHEET NO.
R-2413A	22A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
REVISED 9/12/2014, 5/6/2015 PERMIT SHEET 55 OF 81	DRAWING

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5/6/2015
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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)
7	206+50 to 208+50 -L-	60" CSP & 54" CSP										
7a.								0.03	<0.01	379	11	
7b.								<0.01	<0.01	26	10	
7c.								<0.01		31		
		Bank Stabilization								55		
8	228+00 TO 233+50 -L-	66" CSP										
8a.								0.06	<0.01	654	50	
8b.								<0.01		50		
8c.								<0.01		34		
		Bank Stabilization								21		
9	232+50 TO 235+50 -L-	42" CSP						0.60 (pond)				
10	247+50 -L-	72" CSP										
10a.			0.01		<0.01			0.05	<0.01	426	41	
10b.								<0.01		49		
10c.						0.01		0.01		116		
		Bank Stabilization								20		
11	249+50 TO 251+50 -L-	48" CSP	0.12					<0.01	<0.01	47	17	
SUBTOTALS:			0.14		<0.01	0.00		0.00	<0.06	1908	129	
<div> <div>NC DEPARTMENT OF TRANSPORTATION</div> <div>DIVISION OF HIGHWAYS</div> <div>GUILFORD COUNTY</div> <div>WBS - 34429.3.58 (R-2413A)</div> <div>REVISED</div> <div>SHEET 79 OF 81</div> <div>5/6/2015</div> </div>												

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)
17	-L- 334+00-336+50	36" CSP	0.35			0.03						
18****	-L- 338+00-340+50	Bridge		0.04			0.13		0.03		172	
19	-L- 348+00-353+00	60" RCP						0.03	<0.01	507	34	
20	-Y4- 17+50-19+00	36" CSP	0.11					0.02		240		
21	-Y5- 29+00-36+00	1@12'x12' RCBC										
21A			2.11			0.13		0.06	0.09	288	262	250*
21B		Road Fill						0.01		149		
22	Y1C- 25+50	48" CSP						0.02	<0.01	177	40	
		Bank Stabilization								16		
23	-Y5- 16+50	30" CSP/PDE							<0.01		12	
SUBTOTALS:			2.57	0.04		0.16	0.13	0.14	0.15	1377	520	250
TOTALS:			3.11 **	0.04	<0.01	0.19	0.13	1.42	0.30	8937	967 ***	2390

* SEE PLAN FOR ON-SITE MITIGATION

** PERMANENT FILL IN WETLAND IN ORIGINAL PERMIT WAS SUMMED WRONG. IT WAS LISTED AS 3.13ac; IT SHOULD HAVE BEEN 3.14ac

*** TEMP CHANNEL IMPACT IN ORIGINAL PERMIT WAS SUMMED WRONG. IT WAS LISTED AS 922'; IT SHOULD HAVE BEEN 952'

**** PERMANENT PIER WETLAND IMPACTS= 40sqft

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GUILFORD COUNTY
WBS - 34429.3.58 (R-2413A)

REVIS
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4/21/2015