



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE  
GOVERNOR

EUGENE A. CONTI, JR.  
SECRETARY

November 12, 2009

U. S. Army Corps of Engineers  
69 Darlington Ave  
Wilmington, NC 28402

ATTENTION: Ms. Kim Garvey  
NCDOT Coordinator

SUBJECT: **Permit Modification Request** for High Point East Beltway, US 311 from south of US 29/70 to US 220, Guilford and Randolph Counties, State Project Nos. 8.1570601, Federal Aid Nos. MAF-F-119-1(1), TIP R-0609IA, IB, R-2606A & B, WBS # 34345.1.8

Reference: NCDWQ 401 Certification No. WQC003592, issued December 18, 2006.  
USACE 404 Permit Action ID SAW-2004-00340, issued March 14, 2007.  
NCDWQ 401 Modification issued June 8, 2009  
USACE 404 Permit Modification issued September 3, 2009

Dear Ms. Garvey:

Please find enclosed revised permit drawings for the above referenced project. During project construction, the road bed for US 311 was excavated in order to allow the roadway clearance under Interstate 85. The excavation of the roadbed resulted in lowering of the groundwater table and therefore the adjacent stream lost all ground water flow. The impacts occur at Stream Site 10-Tributary 1 (Buffer Site 8-Tributary 1) within the Cape River Basin (HUC 03030003). The dewatering of the stream increases stream impacts by 109 feet and buffer impacts by 5,645 ft<sup>2</sup> in Zone 1 and 4,078 ft<sup>2</sup> in Zone 2. There will be no changes to impacts to Waters of the US at any other sites.

Mitigation requirements for the additional impacts are covered because original project impacts were overestimated. Stream impacts requiring mitigation within the Cape River Basin recently decreased by 1,064 feet on the R-2606 B portion of this project as part of the previous permit modification. Buffer impacts also decreased on the R-2606B portion by 202,204 feet<sup>2</sup>, therefore no additional buffer mitigation will be required.

**MAILING ADDRESS:**  
NC DEPARTMENT OF TRANSPORTATION  
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS  
1598 MAIL SERVICE CENTER  
RALEIGH NC 27699-1548

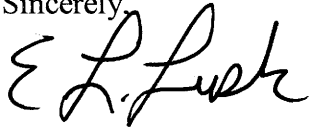
TELEPHONE: 919-431-2000  
FAX: 919-431-2002  
WEBSITE: [WWW.NCDOT.ORG](http://WWW.NCDOT.ORG)

**LOCATION:**  
NATURAL ENVIRONMENT UNIT  
4701 ATLANTIC AVE  
SUITE 116.  
RALEIGH NC 27604

Application is hereby made to the Department of the Army for the modification of the Section 404 Individual Permit, Section 401 Water Quality Certification and Randleman Buffer Variance for the above described activities.

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Brett Feulner at [bmfeulner@ncdot.gov](mailto:bmfeulner@ncdot.gov) or (919) 431-6663.

Sincerely,



*for* Gregory J. Thorpe, Ph.D., Environmental Management Director  
Project Development and Environmental Analysis Branch

cc:

W/attachment

Mr. Brian Wrenn, NCDWQ (5 Copies)

Ms. Kathy Matthews

W/o attachment (see website for attachments)

Mr. J.M. Mills, P.E. Division 7 Engineer

Mr. Jerry Parker, Division 7 Environmental Officer

Dr. David Chang, P.E., Hydraulics

Mr. Victor Barbour, P.E., Project Services Unit

Mr. Mark Staley, Roadside Environmental

Mr. Scott McLendon, USACE, Wilmington

Mr. Majed Alghandour, P. E., Programming and TIP

Mr. Travis Wilson, NCWRC

Mr. Gary Jordan, USFWS

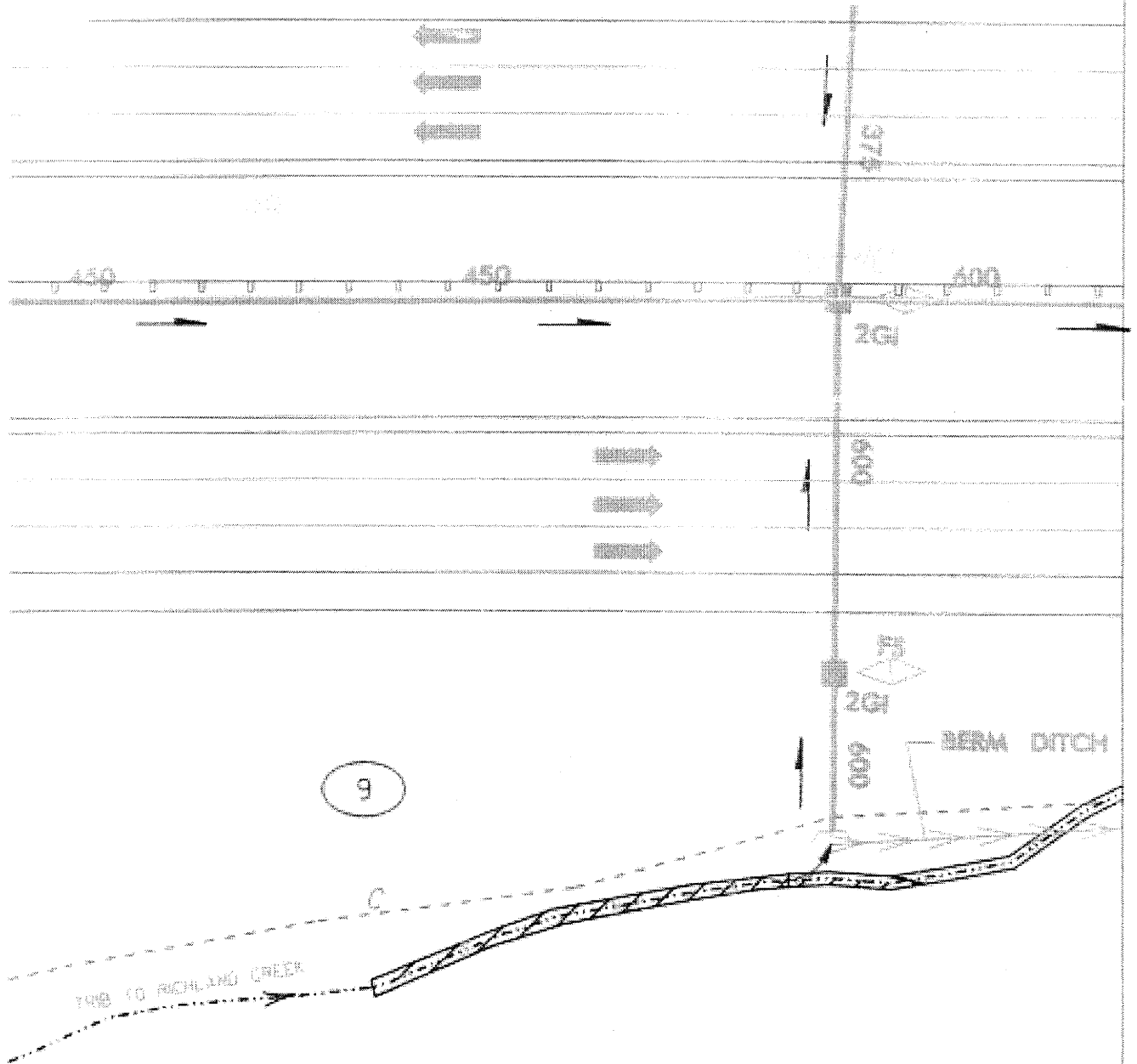
Mr. Jay Bennett, P.E., Roadway Design

Mr. Art McMillan, P.E., Highway Design

Mr. Mike Penney, PDEA

Mr. Greg Perfetti, P.E., Structure Design

MATCH LINE SHEET 10E



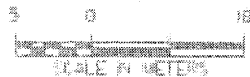
Revised 10/09  
 Permit Drawing  
 Sheet 35 of 74

SHEET 10D

PLAN VIEW  
 SITE 10

LEGEND

 DENOTES SURFACE WATER LOSS



**NORTH CAROLINA  
 DIVISION OF HIGHWAYS**

GUILFORD COUNTY  
 EL1570001 (R4-2000M)  
 US 311 HIGH POINT EAST BELTWAY FROM US 29-70  
 TO NORTH OF NC 82 NORTH OF ARCHDALE

REV 000

SCALE AS SHOWN

SHEET \_\_\_ OF \_\_\_

### WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS				SURFACE WATER IMPACTS				Natural Stream Design (ft)	
			Permanent Fill In Wetlands (Ac)	Temp. Fill In Wetlands (Ac)	Excavation In Wetlands (Ac)	Mechanized Clearing (Method III) (Ac)	Hand Clearing in Wetlands (Ac)	Permanent SW impacts (Ac)	Temp. SW impacts (Ac)	Existing Channel Impacts Permanent (ft)		Existing Channel Impacts Temporary (ft)
1	12+00 to 12+80 *	750mm			0.04	0.01		0.12	0			
2	19+30 to 20+40	1350mm					0.03	0.03	461	69		
3	23+45 to 23+60	450mm	0.03					0	0	69		
4	25+65 to 25+95	1350mm	0.16			0.03		0.025	363	46		
5	28+00 to 28+30	900mm						0.01	231	49		
6 (Main)	31+70 to 33+60	3@3.4m x 2.4m RCBC						0.30	967	0		659
6 (Trib 1)	32+00	Stream						0.06	152	0		
6 (Trib 2)	33+00	Stream						0.02	384	0		
7	35+20 to 35+50	600mm						0.01	146	0		
8	40+20 to 40+40	1050mm						0.04	591	0		
9	45+30 to 46+30 **	1 @ 3.7m x 3.7m						2.37	0	0		
10 (Trib 1)	48+85 to 50+75	Interchange						0.05	743	0		
10 (Trib 2)	51+20	Interchange						0.00	68	0		
10 (Trib 3)	50+20 to 51+60	Interchange						0.14	1838	0		
10 (Trib 4)	50+70 to 51+90	Interchange						0.07	452	0		
11 (Trib 1)	53+00 to 56+75	Interchange	0.20		0.030	0.04		0.10	1495	69		
11 (Trib 2)	54+40 to 55+45	Interchange				0.007		0.03	438	0		
12	58+20 to 59+00	900mm	0.12					0.03	390	0		
13	10+20 R -SBCD-	900mm						0.00	5	0		
14	12+80 R -SBCD-	1050						0.007	79	38		
15	14+00 -NBCD- **	900 mm						0.27	75	0		
16	10+90 -RPD-	900mm & 1050mm						0.01	177	66		
17	12+20 -Y5-	Roadway Fill	0.012					0.00	0	0		
TOTALS:			0.52	0.00	0.03	0.08		3.69	9053	406		659

\* Excavation in Pond (0.12 ac)

\*\* Fill in Surface Water (Pond): Site 9 = 2.37 ac; Site 15 = 0.026 ac

N.C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS

GUILFORD COUNTY  
PROJECT: 34345.1.1 (R-6091A)

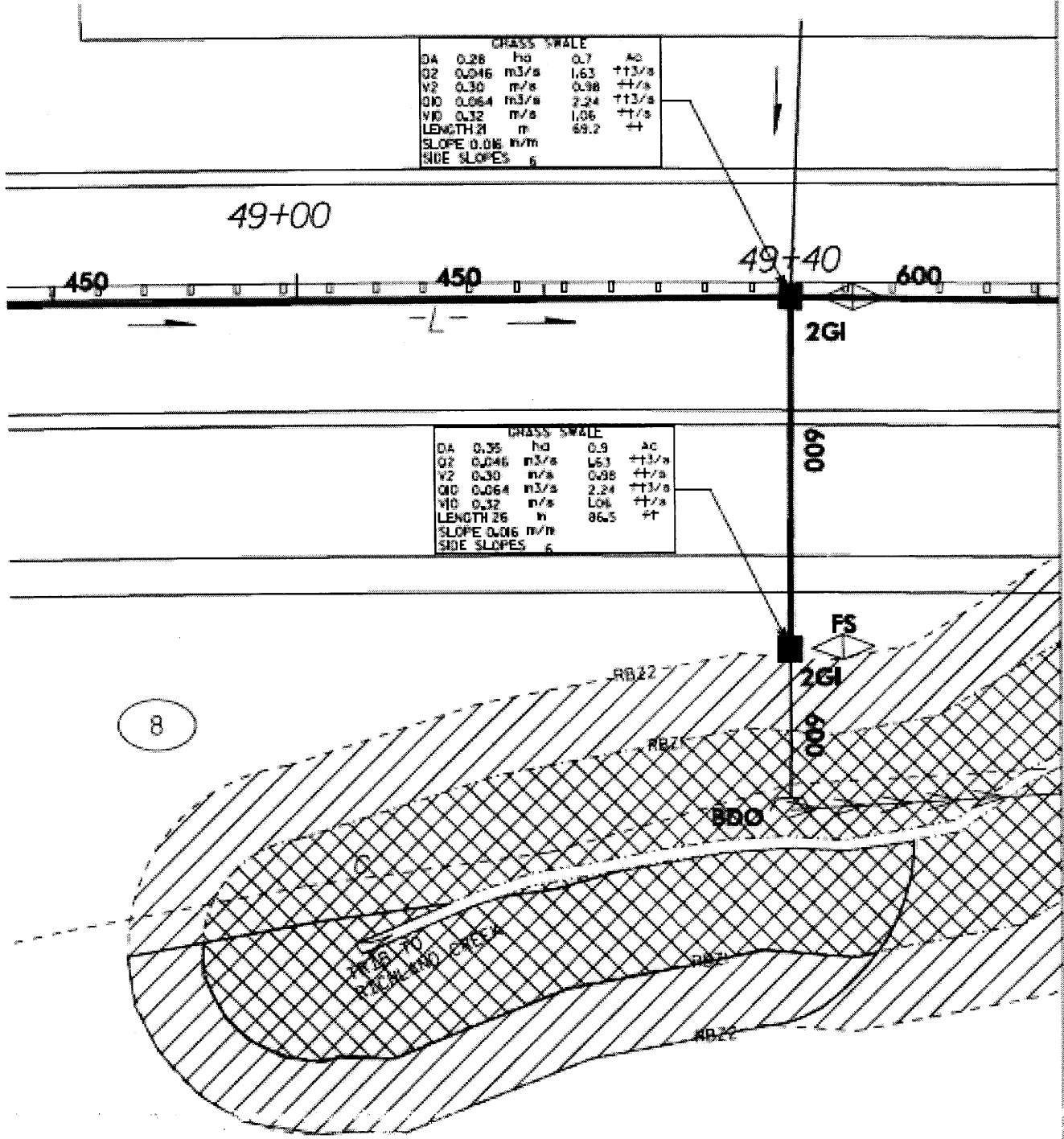
Form Revised 3/22/01

SHEET 73 OF 74 Revised 10/09

Permit Drawing  
Sheet 73 of 74

GRASS SWALE			
Q4	0.28	hd	0.7
Q2	0.046	m <sup>3</sup> /s	1.63
V2	0.30	m/s	0.98
Q10	0.064	m <sup>3</sup> /s	2.24
V10	0.32	m/s	1.96
LENGTH	21	m	69.2
SLOPE	0.016	m/m	1%
SIDE SLOPES	g		

GRASS SWALE			
Q4	0.35	hd	0.9
Q2	0.046	m <sup>3</sup> /s	1.63
V2	0.30	m/s	0.98
Q10	0.064	m <sup>3</sup> /s	2.24
V10	0.32	m/s	1.96
LENGTH	26	m	86.5
SLOPE	0.016	m/m	1%
SIDE SLOPES	g		



**LEGEND**

- RBZ1 RIPARIAN BUFFER - ZONE 1
- RBZ2 RIPARIAN BUFFER - ZONE 2
- MITIGABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 2

PLAN VIEW  
SITE 8



Revised 10/09

SHEET 8E

**NORTH CAROLINA**  
**DIVISION OF HIGHWAYS**

**GUILFORD COUNTY**  
#1570001 (PL-00000A)

US 311 HIGH POINT EAST BELTWAY FROM US 29-70  
TO NORTH OF NC 82 NORTH OF ARCHDALE

Buffer Drawing  
Sheet 38 of 92

REV 10/09 SHEET OF

SCALE AS SHOWN

## BUFFER IMPACTS SUMMARY

SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	IMPACT						BUFFER REPLACEMENT			
			TYPE		ALLOWABLE		MITIGABLE		TOTAL (ft <sup>2</sup> )	ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )	
			ROAD CROSSING	PARALLEL IMPACT	ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )	TOTAL (ft <sup>2</sup> )	ZONE 1 (ft <sup>2</sup> )				ZONE 2 (ft <sup>2</sup> )
1	54 inch	19+60 to 20+20	X					28578	18697	47275		
2	54 inch	25+55 to 25+90	X					25858	14759	40617		
3 (Trib)	36 inch	27+95 to 28+35	X					13738	11028	24766		
3 (Main)	Bridge	28+60 to 29+00	X		8618	8487	17105					
4 (Trib 1)	Stream	32+00		X				7266	4601	11867		
4 (Trib 2)	Stream	33+00		X				19786	9486	29272		
4 (Main)	3 @ 11.2 ft x 7.8 ft	31+60 to 33+80	X					57809	30408	88217	43513	28708
5	24 inch	35+10 to 35+65	X					8962	7934	16896		
6	42 inch	40+00 to 40+40	X					33645	21562	55207		
7	1 @ 12.5 ft x 12.5 ft	45+30 to 46+50	X					28472	19278	47750		
8 (Trib 1)	Interchange	48+85 to 50+75	X					37981	24718	62699		
8 (Trib 2)	Interchange	51+20	X					8291	7406	15697		
8 (Trib 3)	Interchange	50+20 to 51+60	X					102950	64581	167531		
8 (Trib 4)	Interchange	50+70 to 51+90	X					21234	16759	37993		
8 (Trib 5)	Interchange	53+00 to 56+75	X					84514	59469	143983		
8 (Trib 6)	Interchange	54+40 to 55+45	X					24586	16981	41567		
9	36 inch	58+20 to 59+00	X					29915	16227	46142		
10	900mm	10+20 R -SBCD-	X		5935	5056	10991					
11	1050mm	12+80 R -SBCD-	X		6325	4294	10619					
12	900mm	14+00 -NBCD-	X		20878	17837	38715	22575	15354	37929	16554	13261
<b>TOTAL:</b>							38715	556160	359248	915408	60067	41969

N.C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS

GUILFORD COUNTY  
PROJECT: 8-1570601 (R-6091A)

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**Buffer Drawing**  
**Sheet 90 of 92**