

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	38586.1.1 (B-4816)	1	13

**STATE OF NORTH CAROLINA**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**GEOTECHNICAL ENGINEERING UNIT**

**STRUCTURE**  
**SUBSURFACE INVESTIGATION**

PROJ. REFERENCE NO. 38586.1.1 (B-4816) F.A. PROJ. BRSTP-0015(22)  
 COUNTY SCOTLAND  
 PROJECT DESCRIPTION BRIDGE 65 OVER JUNIPER CREEK ON  
US 15-501

SITE DESCRIPTION \_\_\_\_\_

**CONTENTS**

<u>SHEET</u>	<u>DESCRIPTION</u>
1	TITLE SHEET
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**CAUTION NOTICE**

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING, AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES, AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N.C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 707-6850. NEITHER THE SUBSURFACE PLANS AND REPORTS, NOR THE FIELD BORING LOGS, ROCK CORES, OR SOIL TEST DATA ARE PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION, AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THIS PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

**PERSONNEL**

**MIDATLANTIC**

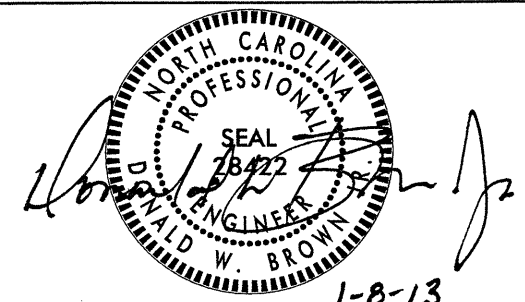
INVESTIGATED BY J. ULLUM, EI  
 CHECKED BY D. BROWN, PE  
 SUBMITTED BY D. BROWN, PE  
 DATE JANUARY 2013

**PROJECT: 38586.1.1 ID: B-4816**

DRAWN BY: D. BROWN, PE

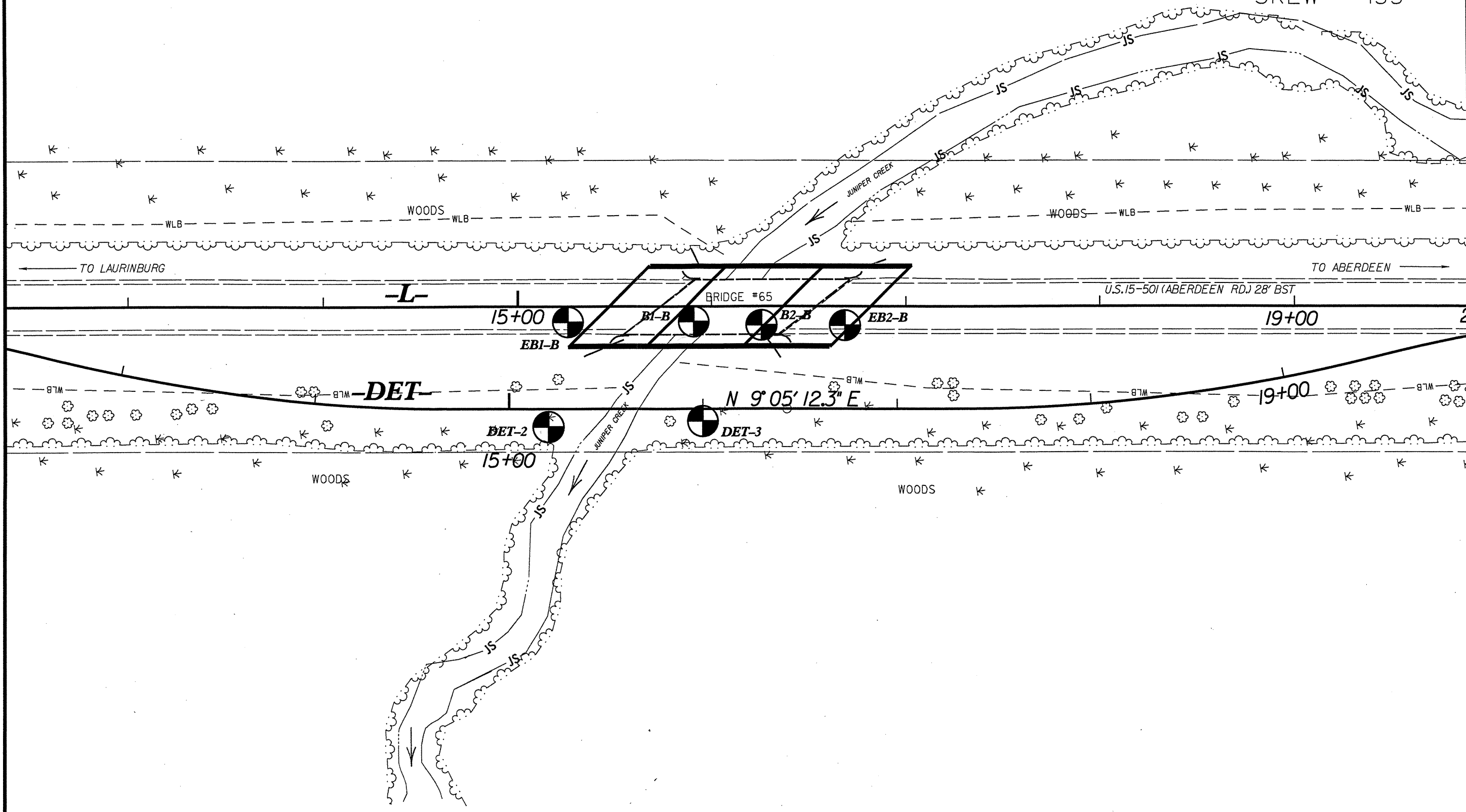
NOTE - THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N.C. DEPARTMENT OF TRANSPORTATION AS BEING ACCURATE NOR IT IS CONSIDERED TO BE PART OF THE PLANS, SPECIFICATIONS, OR CONTRACT FOR THE PROJECT.

NOTE - BY HAVING REQUESTED THIS INFORMATION THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.



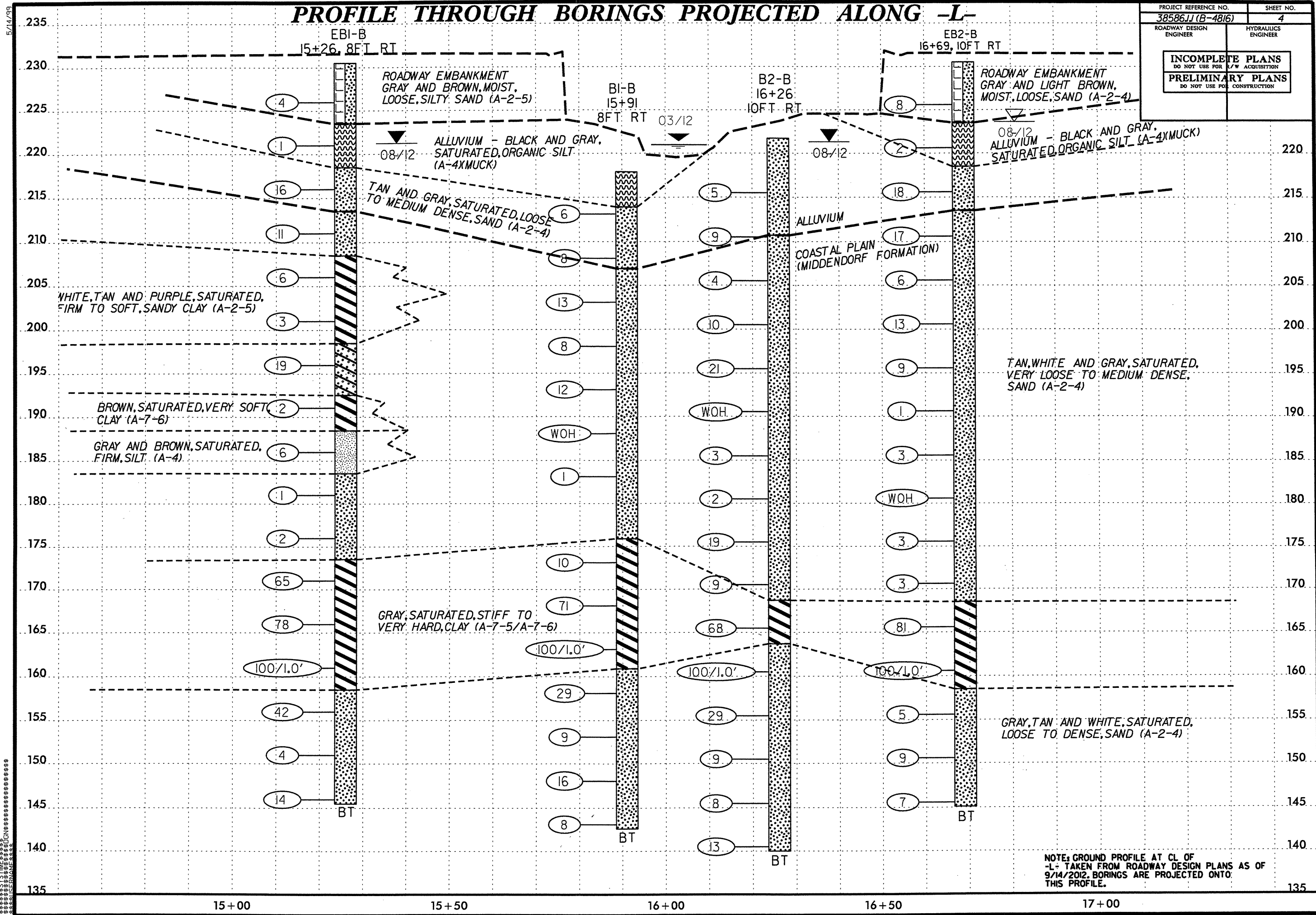


SKEW = 135°



# PROFILE THROUGH BORINGS PROJECTED ALONG -L-

PROJECT REFERENCE NO. 38586JJ (B-4816)	SHEET NO. 4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

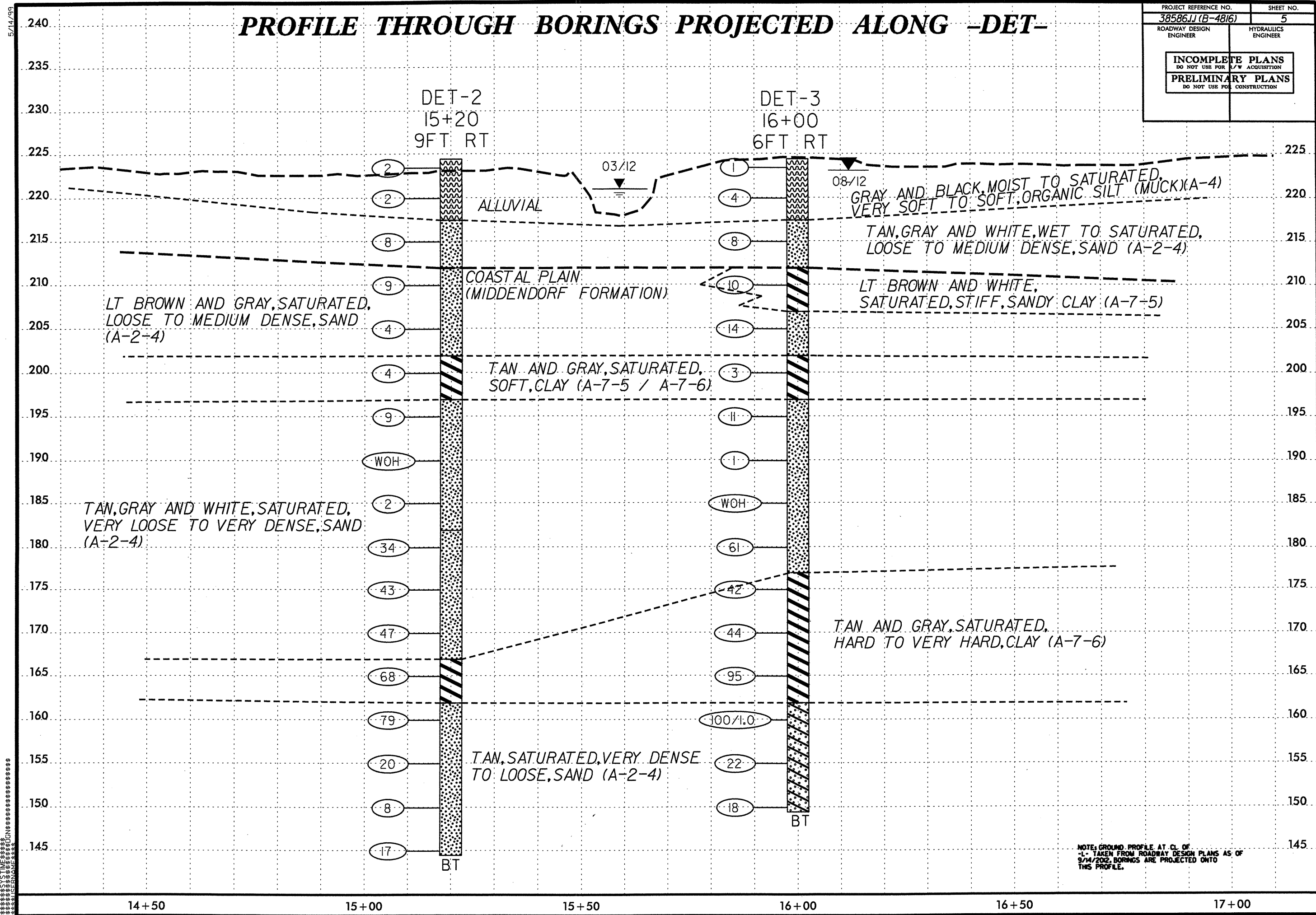


NOTE: GROUND PROFILE AT CL OF -L- TAKEN FROM ROADWAY DESIGN PLANS AS OF 9/14/2012. BORINGS ARE PROJECTED ONTO THIS PROFILE.

5/14/99  
 STIMES  
 DESIGN  
 ENGINEERS  
 P.C.  
 1000  
 W. 10TH  
 ST.  
 DENVER,  
 CO. 80202

# PROFILE THROUGH BORINGS PROJECTED ALONG -DET-

PROJECT REFERENCE NO. 38586JJ (B-4816)	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

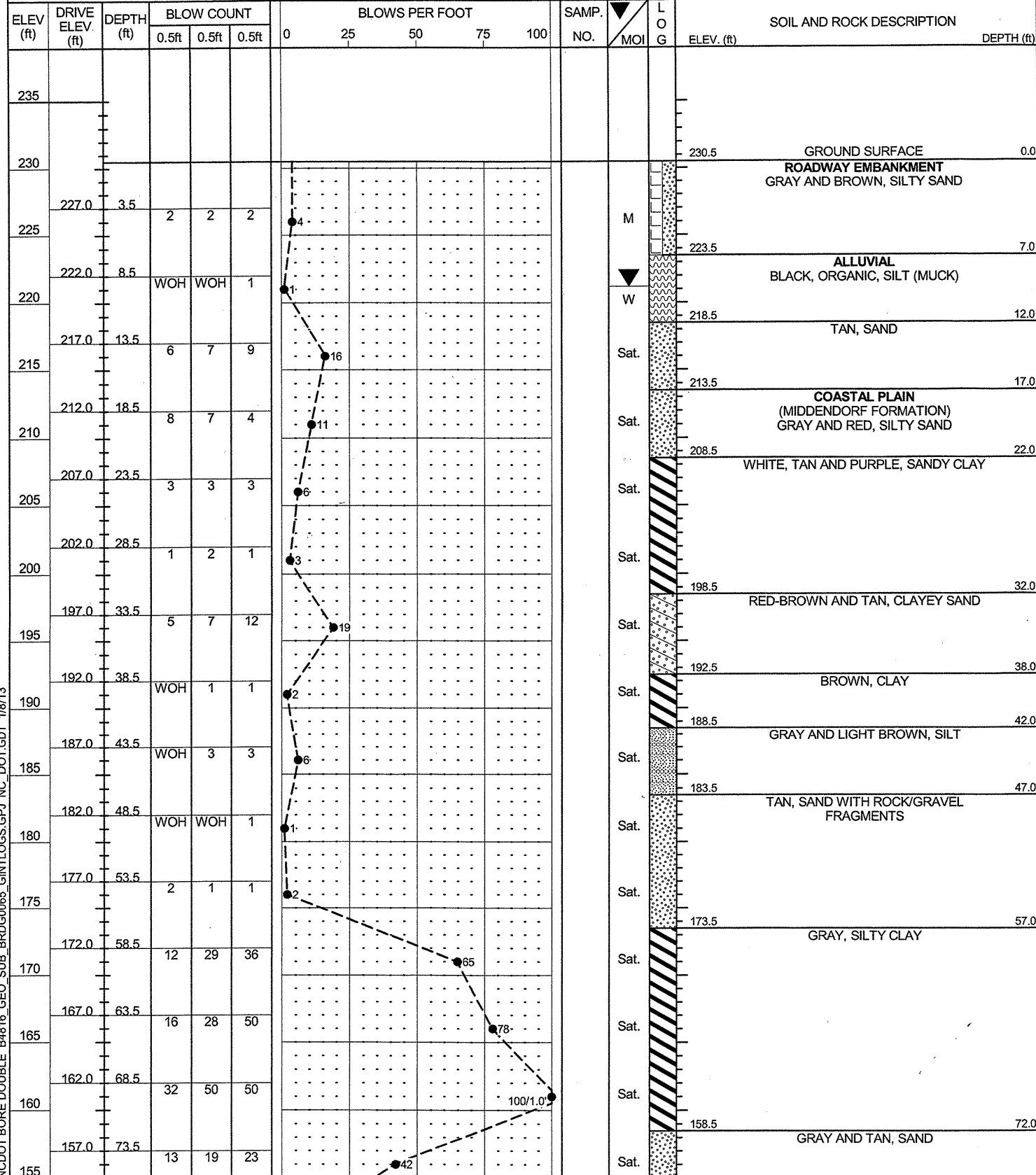


NOTE: GROUND PROFILE AT CL OF  
 -L- TAKEN FROM ROADWAY DESIGN PLANS AS OF  
 9/14/2002. BORINGS ARE PROJECTED ONTO  
 THIS PROFILE.

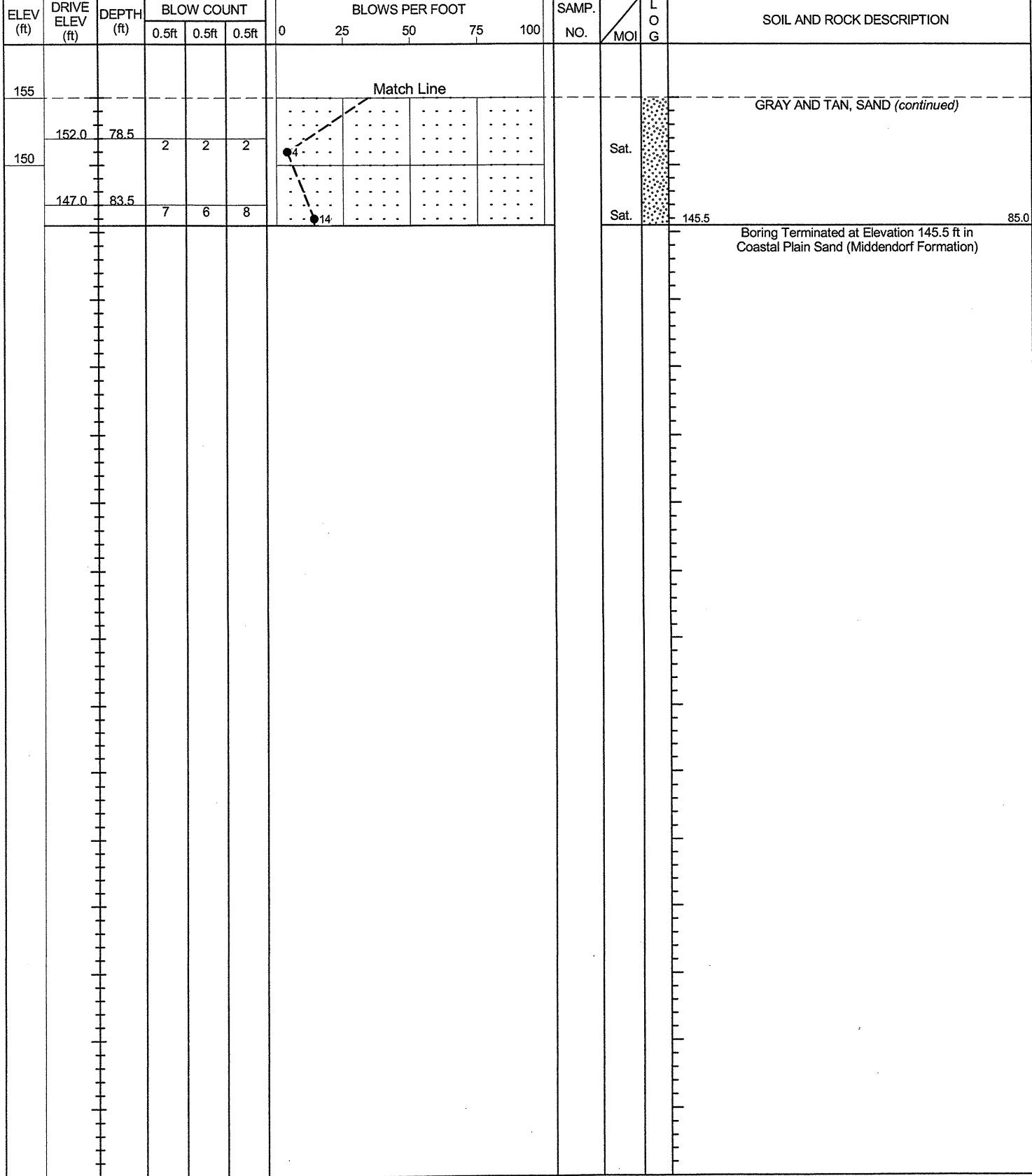
5/14/99  
 SYSTEMS  
 DESIGN  
 GROUP

**NCDOT GEOTECHNICAL ENGINEERING UNIT**  
**BORELOG REPORT**

WBS 38586.1.1	TIP B-4816	COUNTY SCOTLAND	GEOLOGIST J. ULLUM
SITE DESCRIPTION BRIDGE NO. 65 OVER JUNIPER CREEK ON US 15-501			GROUND WTR (ft)
BORING NO. EB1-B	STATION 15+26	OFFSET 8 ft RT	ALIGNMENT L
COLLAR ELEV. 230.5 ft	TOTAL DEPTH 85.0 ft	NORTHING 412,918	EASTING 1,864,453
DRILL RIG/HAMMER EFF./DATE MID2544 CME 45 87% 07/24/2012			HAMMER TYPE Automatic
DRILLER M. COOGAN	START DATE 08/28/12	COMP. DATE 08/28/12	SURFACE WATER DEPTH N/A



WBS 38586.1.1	TIP B-4816	COUNTY SCOTLAND	GEOLOGIST J. ULLUM
SITE DESCRIPTION BRIDGE NO. 65 OVER JUNIPER CREEK ON US 15-501			GROUND WTR (ft)
BORING NO. EB1-B	STATION 15+26	OFFSET 8 ft RT	ALIGNMENT L
COLLAR ELEV. 230.5 ft	TOTAL DEPTH 85.0 ft	NORTHING 412,918	EASTING 1,864,453
DRILL RIG/HAMMER EFF./DATE MID2544 CME 45 87% 07/24/2012			HAMMER TYPE Automatic
DRILLER M. COOGAN	START DATE 08/28/12	COMP. DATE 08/28/12	SURFACE WATER DEPTH N/A



NCDOT BORE DOUBLE B4816.GEO.SUB.BRDG0085.GINTLOGS.GPJ\_NC\_DOT.GDT 1/8/13

**NCDOT GEOTECHNICAL ENGINEERING UNIT**  
**BORELOG REPORT**

WBS 38586.1.1	TIP B-4816	COUNTY SCOTLAND	GEOLOGIST J. ULLUM
SITE DESCRIPTION BRIDGE NO. 65 OVER JUNIPER CREEK ON US 15-501			GROUND WTR (ft)
BORING NO. B1-B	STATION 15+91	OFFSET 8 ft RT	ALIGNMENT L
COLLAR ELEV. 217.9 ft	TOTAL DEPTH 75.3 ft	NORTHING 412,982	EASTING 1,864,463
DRILL RIG/HAMMER EFF./DATE MID2544 CME 45 87% 07/24/2012			DRILL METHOD Mud Rotary
DRILLER M. COOGAN			HAMMER TYPE Automatic
START DATE 08/28/12		COMP. DATE 08/28/12	SURFACE WATER DEPTH 2.5ft

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
235														
230														
225														
220														
215	214.1	3.8	1	1	5						Sat.		ALLUVIAL BLACK AND GRAY, ORGANIC, SILT (MUCK)	4.0
210	209.1	8.8	5	3	5						Sat.		TAN, SAND	11.0
205	204.1	13.8	6	5	8						Sat.		COASTAL PLAIN (MIDDENDORF FORMATION) TAN, WHITE AND GRAY, SAND	42.0
200	199.1	18.8	5	4	4						Sat.			
195	194.1	23.8	8	5	7						Sat.			
190	189.1	28.8	WOH	WOH	WOH						Sat.			
185	184.1	33.8	WOH	WOH	1						Sat.			
180														
175	174.1	43.8	5	4	6						Sat.		WHITE AND GRAY, CLAY	57.0
170	169.1	48.8	13	30	41						Sat.			
165	164.1	53.8	50	50	50						Sat.			
160	159.1	58.8	10	13	16						Sat.		WHITE, SAND	75.3
155														

WBS 38586.1.1	TIP B-4816	COUNTY SCOTLAND	GEOLOGIST J. ULLUM
SITE DESCRIPTION BRIDGE NO. 65 OVER JUNIPER CREEK ON US 15-501			GROUND WTR (ft)
BORING NO. B1-B	STATION 15+91	OFFSET 8 ft RT	ALIGNMENT L
COLLAR ELEV. 217.9 ft	TOTAL DEPTH 75.3 ft	NORTHING 412,982	EASTING 1,864,463
DRILL RIG/HAMMER EFF./DATE MID2544 CME 45 87% 07/24/2012			DRILL METHOD Mud Rotary
DRILLER M. COOGAN			HAMMER TYPE Automatic
START DATE 08/28/12		COMP. DATE 08/28/12	SURFACE WATER DEPTH 2.5ft

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
155														
150	154.1	63.8	3	4	5						Sat.		WHITE, SAND (continued)	
145	149.1	68.8	8	8	8						Sat.			
142.6	144.1	73.8	4	4	4						Sat.		Boring Terminated at Elevation 142.6 ft in Coastal Plain Sand (Middendorf Formation)	75.3

NCDOT BORE DOUBLE B4816\_GEO\_SUB\_BRD0085\_GINTLOGS.GPJ NC\_DOT\_GDT 1/8/13

**NCDOT GEOTECHNICAL ENGINEERING UNIT**  
**BORELOG REPORT**

WBS 38586.1.1	TIP B-4816	COUNTY SCOTLAND	GEOLOGIST J. ULLUM
SITE DESCRIPTION BRIDGE NO. 65 OVER JUNIPER CREEK ON US 15-501			GROUND WTR (ft)
BORING NO. B2-B	STATION 16+26	OFFSET 10 ft RT	ALIGNMENT L
COLLAR ELEV. 221.7 ft	TOTAL DEPTH 81.7 ft	NORTHING 413,016	EASTING 1,864,471
DRILL RIG/HAMMER EFF./DATE MID2544 CME 45 87% 07/24/2012			DRILL METHOD Mud Rotary
DRILLER M. COOGAN			HAMMER TYPE Automatic
START DATE 08/29/12		COMP. DATE 08/29/12	SURFACE WATER DEPTH N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
235														
230														
225														
220													GROUND SURFACE	0.0
215	216.5	5.2	WOH	1	4								ALLUVIAL WHITE AND GRAY, SAND	
210	211.5	10.2	6	4	5								COASTAL PLAIN (MIDDENDORF FORMATION) WHITE AND LIGHT BROWN, SAND	11.0
205	206.5	15.2	2	1	3									
200	201.5	20.2	3	4	6									
195	196.5	25.2	5	10	11									
190	191.5	30.2	WOH	WOH	WOH									
185	186.5	35.2	WOH	1	2									
180	181.5	40.2	1	1	1									
175	176.5	45.2	8	9	10									
170	171.5	50.2	3	2	7									
165	166.5	55.2	18	27	41								GRAY, CLAY	53.0
160	161.5	60.2	48	50	50								GRAY, WHITE AND TAN, SAND	58.0
155	156.5	65.2	13	16	13									

WBS 38586.1.1	TIP B-4816	COUNTY SCOTLAND	GEOLOGIST J. ULLUM
SITE DESCRIPTION BRIDGE NO. 65 OVER JUNIPER CREEK ON US 15-501			GROUND WTR (ft)
BORING NO. B2-B	STATION 16+26	OFFSET 10 ft RT	ALIGNMENT L
COLLAR ELEV. 221.7 ft	TOTAL DEPTH 81.7 ft	NORTHING 413,016	EASTING 1,864,471
DRILL RIG/HAMMER EFF./DATE MID2544 CME 45 87% 07/24/2012			DRILL METHOD Mud Rotary
DRILLER M. COOGAN			HAMMER TYPE Automatic
START DATE 08/29/12		COMP. DATE 08/29/12	SURFACE WATER DEPTH N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
155														
150	151.5	70.2	1	4	5								GRAY, WHITE AND TAN, SAND (continued)	
145	146.5	75.2	2	4	4									
140	141.5	80.2	2	5	8								Boring Terminated at Elevation 140.0 ft in Coastal Plain Sand (Middendorf Formation)	81.7

NCDOT BORE DOUBLE B4816\_GEO\_SUB\_BRD0065\_GINTLOGS.GPJ NC\_DOT\_GDT 1/8/13



# NCDOT GEOTECHNICAL ENGINEERING UNIT

## BORELOG REPORT

WBS 38586.1.1	TIP B-4816	COUNTY SCOTLAND	GEOLOGIST J. ULLUM
SITE DESCRIPTION BRIDGE NO. 65 OVER JUNIPER CREEK ON US 15-501			GROUND WTR (ft)
BORING NO. EB2-B	STATION 16+69	OFFSET 10 ft RT	ALIGNMENT L
COLLAR ELEV. 230.5 ft	TOTAL DEPTH 85.4 ft	NORTHING 413,059	EASTING 1,864,477
DRILL RIG/HAMMER EFF./DATE MID2544 CME 45 87% 07/24/2012			DRILL METHOD Mud Rotary
DRILLER M. COOGAN		START DATE 08/29/12	COMP. DATE 08/29/12
SURFACE WATER DEPTH N/A			HAMMER TYPE Automatic

WBS 38586.1.1	TIP B-4816	COUNTY SCOTLAND	GEOLOGIST J. ULLUM
SITE DESCRIPTION BRIDGE NO. 65 OVER JUNIPER CREEK ON US 15-501			GROUND WTR (ft)
BORING NO. EB2-B	STATION 16+69	OFFSET 10 ft RT	ALIGNMENT L
COLLAR ELEV. 230.5 ft	TOTAL DEPTH 85.4 ft	NORTHING 413,059	EASTING 1,864,477
DRILL RIG/HAMMER EFF./DATE MID2544 CME 45 87% 07/24/2012			DRILL METHOD Mud Rotary
DRILLER M. COOGAN		START DATE 08/29/12	COMP. DATE 08/29/12
SURFACE WATER DEPTH N/A			HAMMER TYPE Automatic

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)				
			0.5ft	0.5ft	0.5ft	0	25	50	75	100								
235																		
230																		
226.6		3.9	1	4	4													
225																		
221.6		8.9	WOH	1	1													
220																		
216.6		13.9	4	9	9													
215																		
211.6		18.9	4	7	10													
210																		
206.6		23.9	5	4	2													
205																		
201.6		28.9	5	6	7													
200																		
196.6		33.9	2	3	6													
195																		
191.6		38.9	WOH	WOH	1													
190																		
186.6		43.9	WOH	1	2													
185																		
181.6		48.9	WOH	WOH	WOH													
180																		
176.6		53.9	2	2	1													
175																		
171.6		58.9	2	1	2													
170																		
166.6		63.9	18	31	50													
165																		
161.6		68.9	50	50	50													
160																		
156.6		73.9	3	3	2													
155																		

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)				
			0.5ft	0.5ft	0.5ft	0	25	50	75	100								
155																		
151.6		78.9	2	3	6													
150																		
146.6		83.9	4	4	3													
145.1																		

NCDOT BORE DOUBLE B4816\_GEO\_SUB\_BRDGD085\_GINTLOGS.GPJ NC\_DOT\_GDT\_1/8/13

**NCDOT GEOTECHNICAL ENGINEERING UNIT**  
**BORELOG REPORT**

WBS 38586.1.1		TIP B-4816		COUNTY SCOTLAND		GEOLOGIST J. ULLUM									
SITE DESCRIPTION BRIDGE NO. 65 OVER JUNIPER CREEK ON US 15-501						GROUND WTR (ft)									
BORING NO. DET-2		STATION 15+20		OFFSET 9 ft RT		ALIGNMENT DET									
COLLAR ELEV. 224.4 ft		TOTAL DEPTH 80.0 ft		NORTHING 412,899		EASTING 1,864,505									
DRILL RIG/HAMMER EFF./DATE MID3964 CME-45C 83% 07/24/2012				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic									
DRILLER M. COOGAN		START DATE 08/31/12		COMP. DATE 08/31/12		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
225	224.4	0.0	WOH	1	1								M	GROUND SURFACE	0.0
220	220.9	3.5	WOH	1	1								Sat.	ALLUVIAL GRAY AND BLACK, ORGANIC-LADEN SAND	
215	215.9	8.5		3	4	4							Sat.	GRAY SAND	7.0
210	210.9	13.5		4	5	4							Sat.	COASTAL PLAIN LIGHT BROWN AND GRAY SAND	12.5
205	205.9	18.5		2	2	2							Sat.		
200	200.9	23.5		2	1	3							Sat.	SS-2 LIGHT BROWN AND GRAY CLAY	22.5
195	195.9	28.5		3	4	5							Sat.	LIGHT BROWN AND GRAY SAND	27.5
190	190.9	33.5	WOH	WOH	WOH								Sat.		
185	185.9	38.5	WOH	1	1								Sat.		
180	180.9	43.5		5	8	26							Sat.	GRAY CLAYEY SAND	42.5
175	175.9	48.5		18	21	22							Sat.		
170	170.9	53.5		10	16	31							Sat.		
165	165.9	58.5		15	24	44							Sat.	LIGHT GRAY CLAY	57.5
160	160.9	63.5		16	34	45							Sat.	LIGHT BROWN, GRAY AND WHITE SAND	62.5
155	155.9	68.5		7	8	12							Sat.		
150	150.9	73.5		5	4	4							Sat.		
145	145.9	78.5		10	10	7							Sat.		

NCDOT BORE DOUBLE B4816\_GEO\_SUB\_BRD0065\_GINTLOGS.GPJ\_NC\_DOT\_GDT\_18/13

WBS 38586.1.1		TIP B-4816		COUNTY SCOTLAND		GEOLOGIST J. ULLUM										
SITE DESCRIPTION BRIDGE NO. 65 OVER JUNIPER CREEK ON US 15-501						GROUND WTR (ft)										
BORING NO. DET-2		STATION 15+20		OFFSET 9 ft RT		ALIGNMENT DET										
COLLAR ELEV. 224.4 ft		TOTAL DEPTH 80.0 ft		NORTHING 412,899		EASTING 1,864,505										
DRILL RIG/HAMMER EFF./DATE MID3964 CME-45C 83% 07/24/2012				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic										
DRILLER M. COOGAN		START DATE 08/31/12		COMP. DATE 08/31/12		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
145															Match Line	
																Boring Terminated at Elevation 144.4 ft in Coastal Plain Sand (Middendorf Formation)

**NCDOT GEOTECHNICAL ENGINEERING UNIT**  
**BORELOG REPORT**

WBS 38586.1.1		TIP B-4816		COUNTY SCOTLAND		GEOLOGIST J. ULLUM										
SITE DESCRIPTION BRIDGE NO. 65 OVER JUNIPER CREEK ON US 15-501							GROUND WTR (ft)									
BORING NO. DET-3		STATION 16+00		OFFSET 6 ft RT		ALIGNMENT DET										
COLLAR ELEV. 224.4 ft		TOTAL DEPTH 75.0 ft		NORTHING 412,979		EASTING 1,864,515										
DRILL RIG/HAMMER EFF./DATE MID3964 CME-45C 83% 07/24/2012				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic										
DRILLER M. COOGAN		START DATE 08/30/12		COMP. DATE 08/30/12		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			ELEV. (ft)	DEPTH (ft)		
225	224.4	0.0	WOH	WOH	1									224.4	0.0	GROUND SURFACE
220	220.9	3.5	WOH	1	3									217.4	7.0	ALLUVIAL GRAY AND BLACK ORGANIC-LADEN SAND
215	215.9	8.5	4	4	4									211.9	12.5	LIGHT BROWN AND WHITE SAND
210	210.9	13.5	3	2	8									206.9	17.5	COASTAL PLAIN LIGHT BROWN AND WHITE SANDY CLAY
205	205.9	18.5	5	8	6									201.9	22.5	TAN AND WHITE CLAYEY SAND
200	200.9	23.5	1	2	1									196.9	27.5	TAN AND GRAY CLAY
195	195.9	28.5	3	8	3									176.9	47.5	TAN, GRAY AND WHITE SAND
190	190.9	33.5	1	WOH	1									161.9	62.5	TAN CLAY
185	185.9	38.5	1	WOH	WOH									149.4	75.0	TAN CLAYEY SAND
180	180.9	43.5	31	31	30											Boring Terminated at Elevation 149.4 ft in Coastal Plain Sand (Middendorf Formation)
175	175.9	48.5	13	17	25											
170	170.9	53.5	11	17	27											
165	165.9	58.5	30	45	50											
160	160.9	63.5	50	50	50											
155	155.9	68.5	4	11	11											
150	150.9	73.5	7	8	10											

NCDOT BORE DOUBLE B4816\_GEO\_SUB\_BRDC0065\_GINTLOGS.GPJ NC\_DOT.GDT 18/13

M&T 503E

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS-MATERIALS AND TESTS UNIT  
SOILS TEST REPORT-SOILS LABORATORY**

T.I.P. ID #: B-4816

REPORT ON SAMPLES OF:

<b>PROJECT:</b>	BRIDGE 65 OVER JUNIPER	<b>COUNTY:</b>	SCOTLAND	<b>Owner:</b>	NCDOT
<b>DATE SAMPLED:</b>	SEE REMARKS	<b>DATE RECEIVED:</b>	8-31-12	<b>DATE REPORTED:</b>	9-10-12
<b>SAMPLED FROM:</b>	SOIL TEST BORINGS		<b>SAMPLED BY:</b>	J. ULLUM, EI	
<b>SUBMITTED BY:</b>	D. BROWN, PE		<b>STANDARD SPECIFICATION</b>		
<b>LABORATORY:</b>	STEWART (LAB CERT. #128-1010)				

**TEST RESULTS**

<b>Project Sample No.</b>	SS-1	SS-2						
<b>Lab Sample No.</b>	A-							
<b>HICAMS Sample #</b>								
<b>Retained #4 Sieve %</b>	0	0						
<b>Passing #10 Sieve %</b>	100	100						
<b>Passing #40 Sieve %</b>	99	99						
<b>Passing #200 Sieve %</b>	90	87						

**MINUS #10 FRACTION**

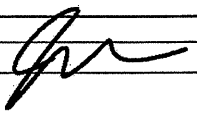
<b>Soil Mortar - 100%</b>								
<b>Coarse Sand -Ret. #60</b>	4.4	3.2						
<b>Fine Sand - Ret. #270</b>	8.4	12.4						
<b>Silt 0.05-0.005 mm %</b>	23.8	20.8						
<b>Clay &lt; 0.005 mm %</b>	63.4	63.6						
<b>Passing # 40 Sieve %</b>								
<b>Passing # 200 Sieve %</b>								

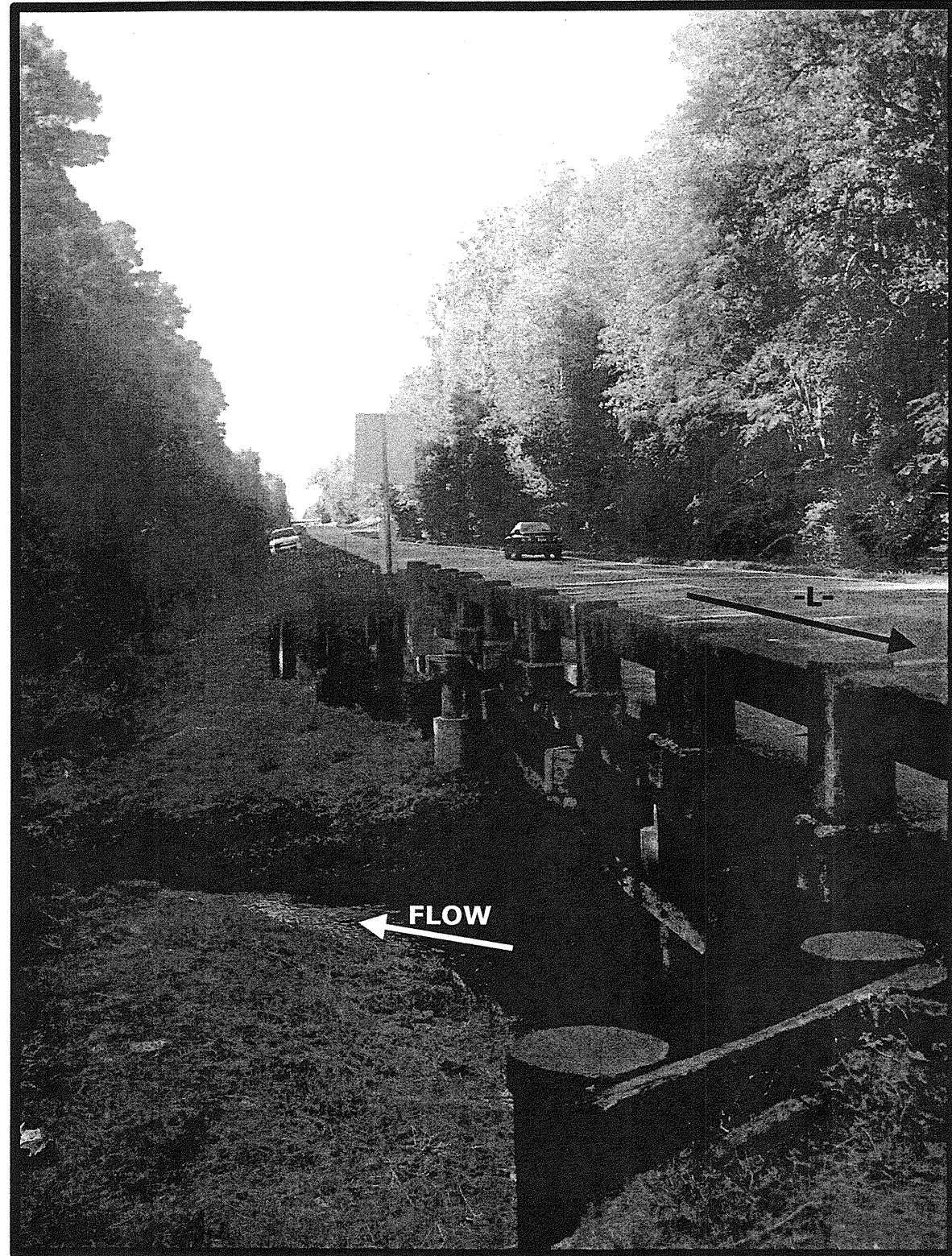
<b>Liquid Limit</b>	67	63						
<b>Plastic Index</b>	41	25						
<b>AASHTO Classification</b>	A-7-6 (42)	A-7-5 (25)						
<b>Texture</b>								
<b>Station</b>	16+00	15+20						
<b>Hole No.</b>	DET-3	DET-2						
<b>Depth (ft) From:</b>	23.5	23.5						
<b>To:</b>	25.0	25.0						

**Remarks:**  
SS-1 SAMPLED ON 8-30-12. SS-2 SAMPLED ON 8-31-12.

**CC:**


**SOILS ENGINEER:** JOHN CREECH (CERT. NO. 128-01-1010)





PHOTOGRAPH 1: VIEW OF RIGHT SIDE OF BRIDGE 65, LOOKING SOUTH FROM EXISTING END BENT 2