

REFERENCE: B-4648

PROJECT: 17BP.1.R.87

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

**STRUCTURE**  
**SUBSURFACE INVESTIGATION**

COUNTY TYRRELL  
PROJECT DESCRIPTION BRIDGE NO. 17 ON -L- (SR 1105)  
OVER RIDERS CREEK AT -L- STA. 20+28.5

**CONTENTS**

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	TITLE SHEET
2	LEGEND (SOIL & ROCK)
3	SITE PLAN
4	PROFILE
5-8	BORE LOGS
9	SOIL TEST RESULTS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4648	1	9

**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. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT 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 THE 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.

- NOTES:
1. THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.
  2. 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.

**PERSONNEL**

T.C. BOTTOMS

J.L. STONE

W.L. DALE

R.E. SMITH

TRIGON PERSONNEL

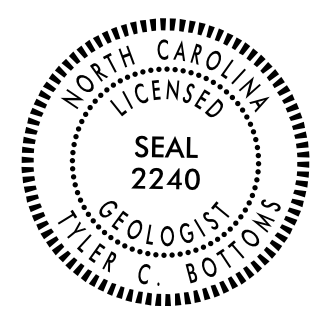
INVESTIGATED BY T.C. BOTTOMS

DRAWN BY T.C. BOTTOMS

CHECKED BY D.N. ARGENBRIGHT

SUBMITTED BY D.N. ARGENBRIGHT

DATE MAY 2019

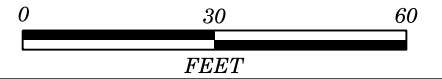


DocuSigned by:  
Tyler C. Bottoms 6/27/2019  
48A2D3BD08 SIGNATURE DATE

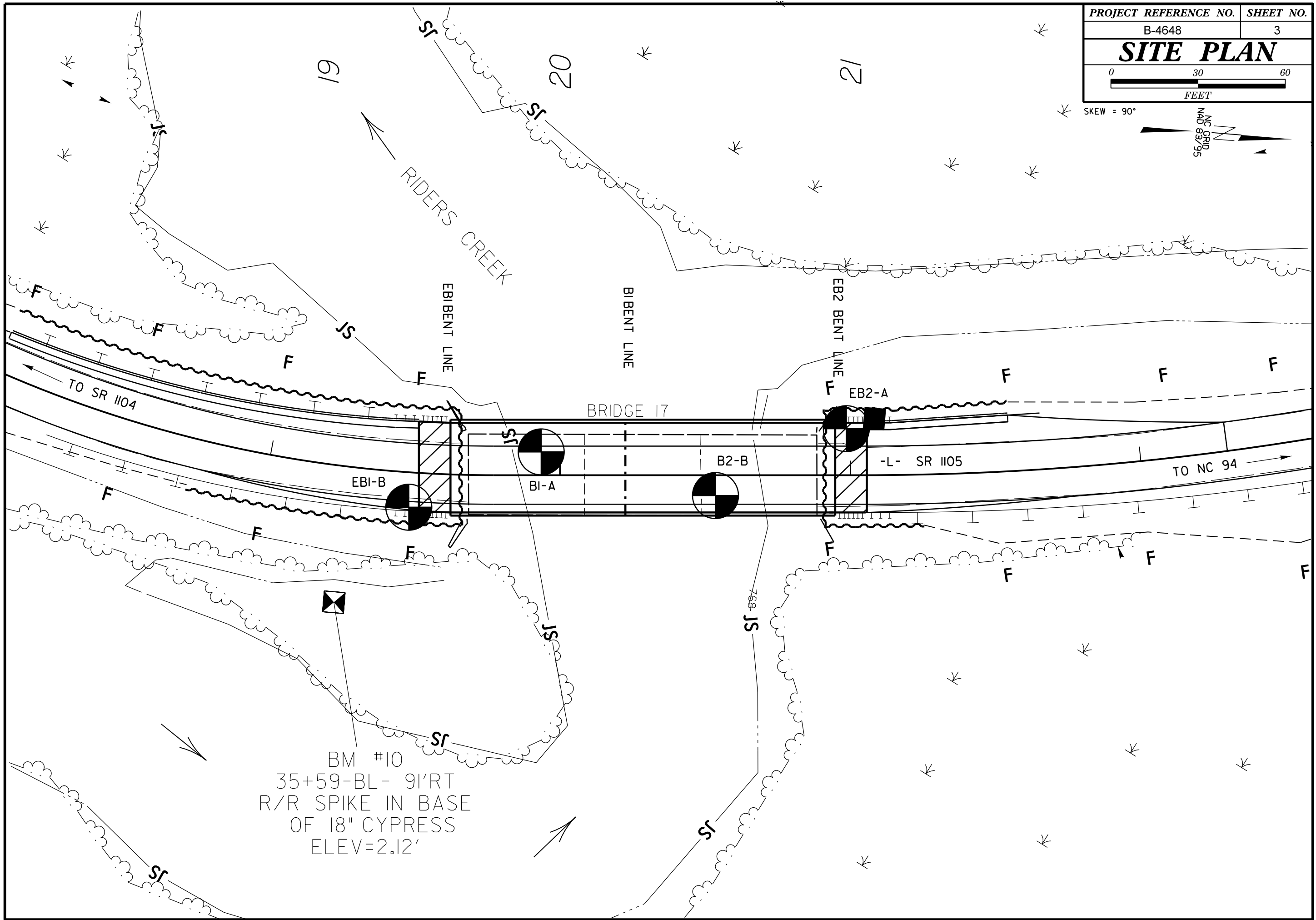
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



# SITE PLAN



SKEW = 90°



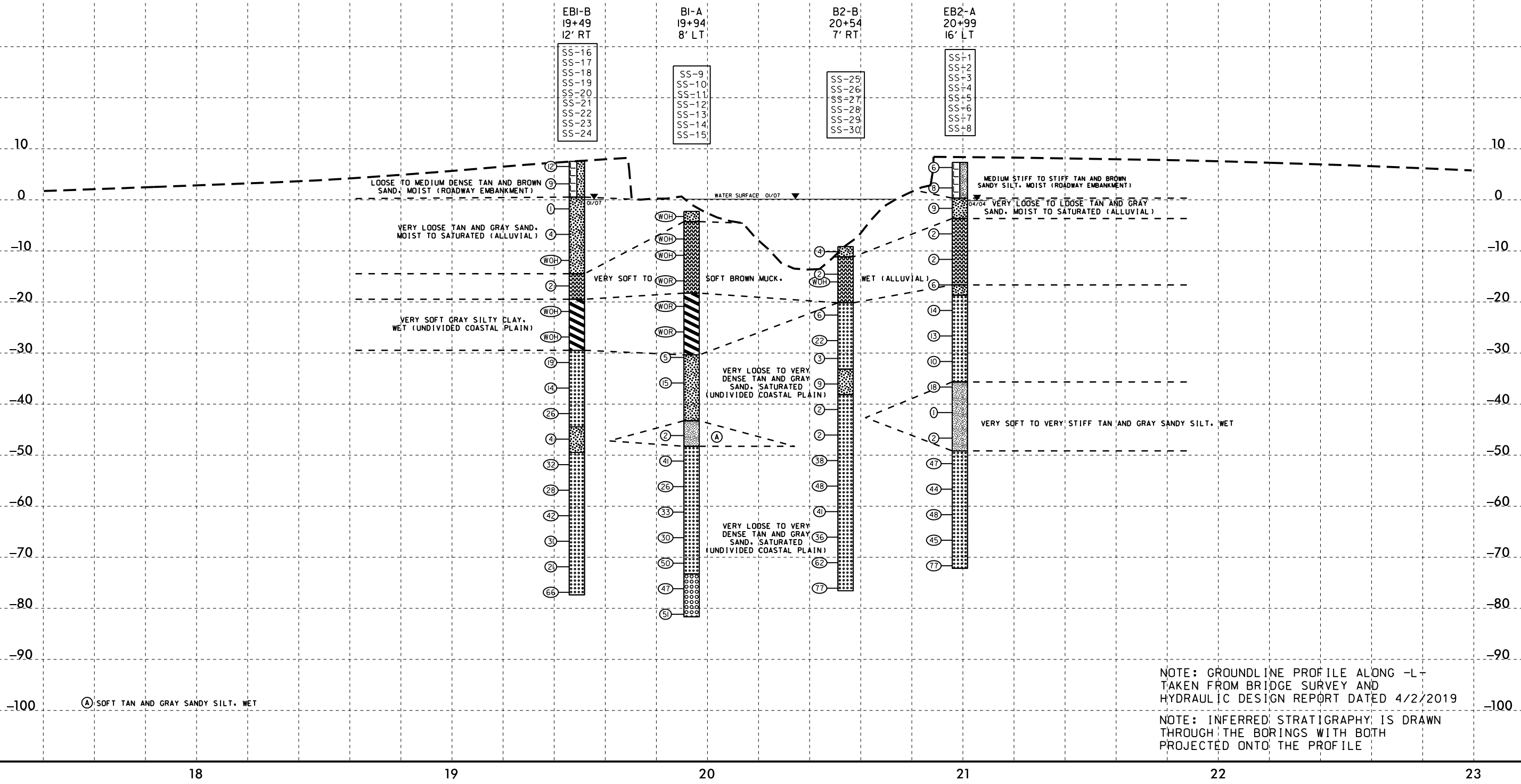
BM #10  
 35+59-BL - 91'RT  
 R/R SPIKE IN BASE  
 OF 18" CYPRESS  
 ELEV=2.12'

5/14/99

PROJECT REFERENCE NO. <b>B-4648</b>	SHEET NO. <b>4</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

# PROFILE THROUGH BORINGS PROJECTED ALONG -L-

VE=2



Ⓐ SOFT TAN AND GRAY SANDY SILT, WET

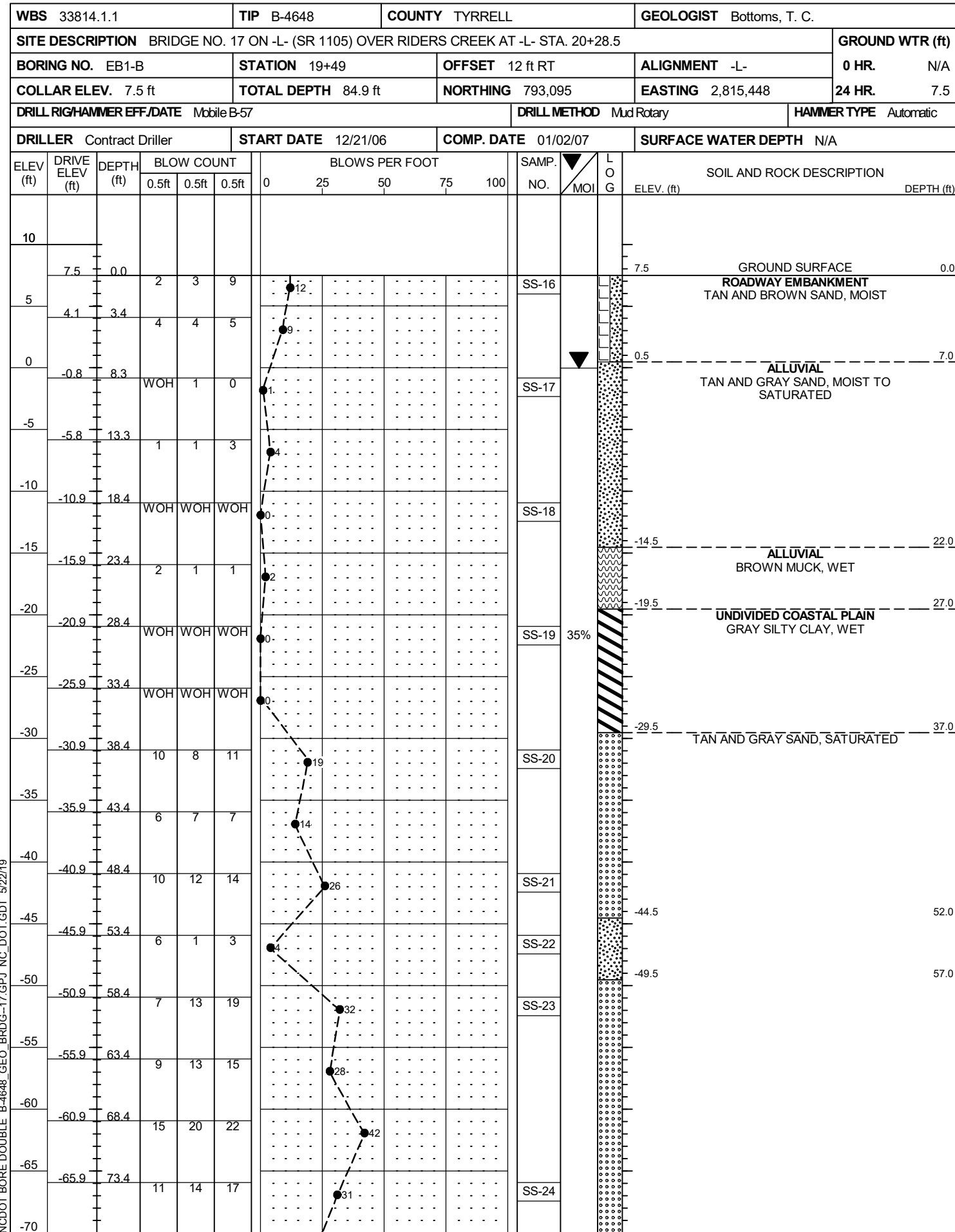
NOTE: GROUNDLINE PROFILE ALONG -L- TAKEN FROM BRIDGE SURVEY AND HYDRAULIC DESIGN REPORT DATED 4/2/2019

NOTE: INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE PROFILE

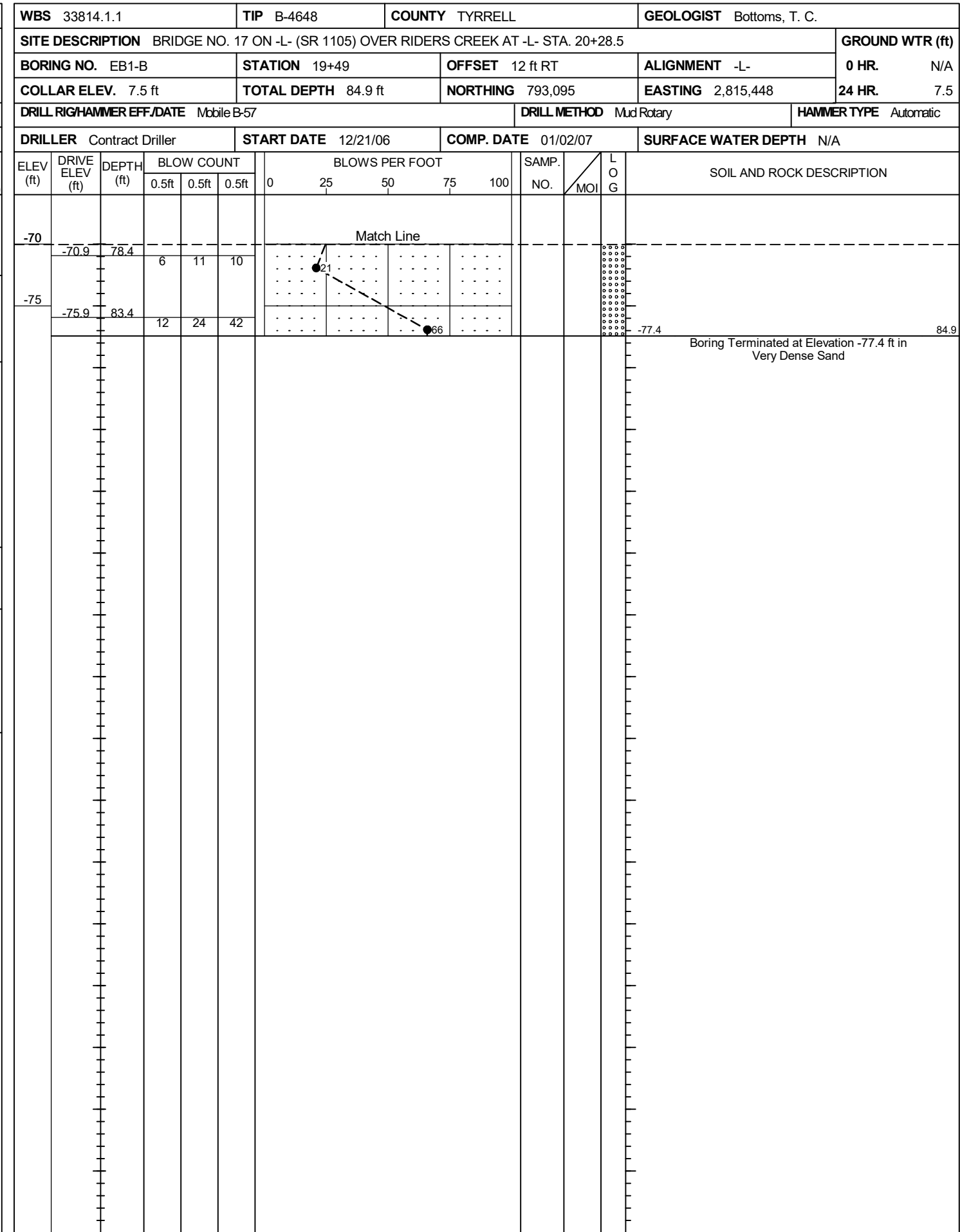
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X:\B4648-GEO-BROG-PFL.dgn  
SSS

# GEOTECHNICAL BORING REPORT

## BORE LOG



NCDOT BORE DOUBLE B-4648\_GEO\_BRDG--17.GPJ NC\_DOT.GDT 5/22/19





# GEOTECHNICAL BORING REPORT BORE LOG

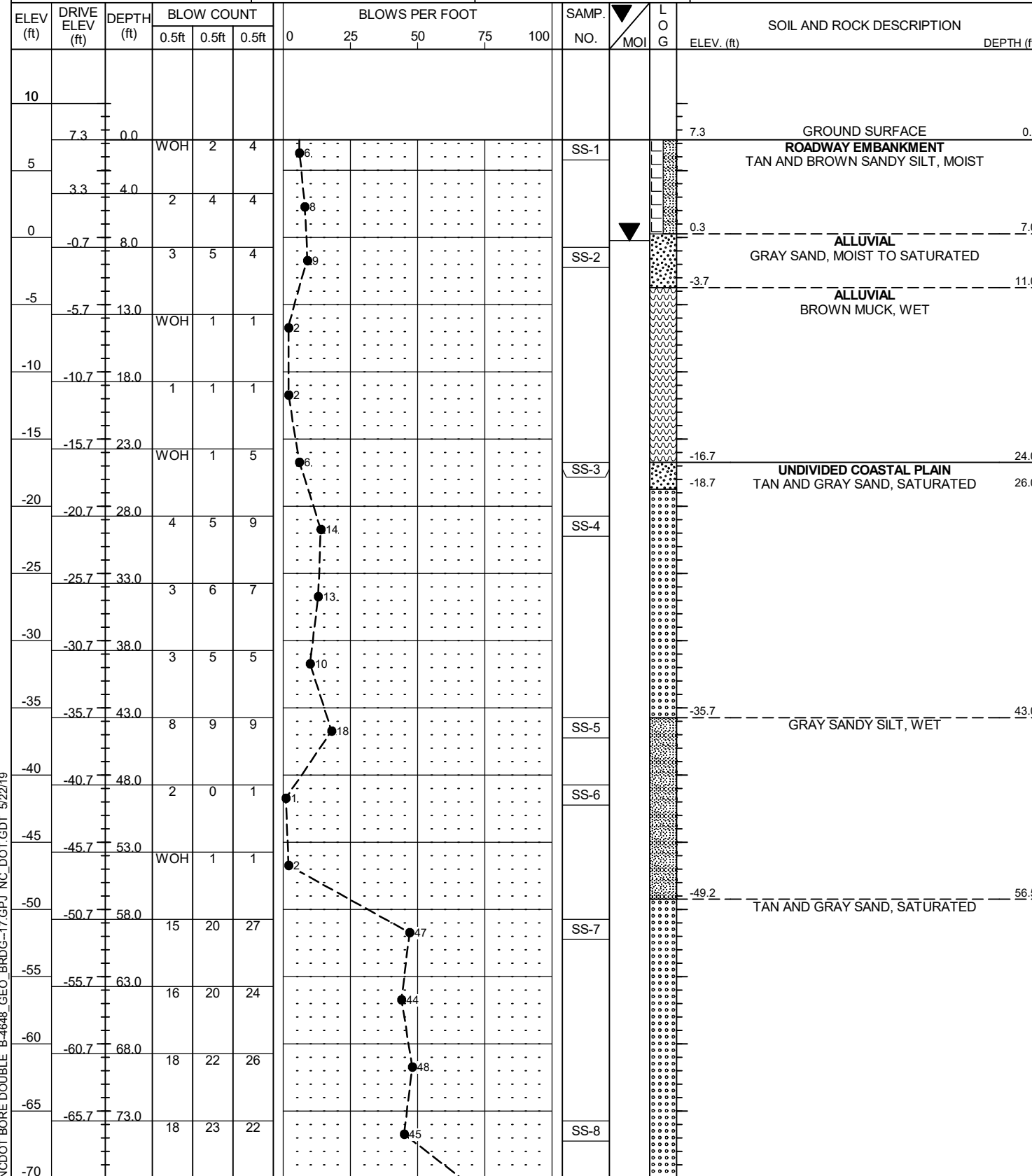
<b>WBS</b> 33814.1.1		<b>TIP</b> B-4648		<b>COUNTY</b> TYRRELL			<b>GEOLOGIST</b> Bottoms, T. C.								
<b>SITE DESCRIPTION</b> BRIDGE NO. 17 ON -L- (SR 1105) OVER RIDERS CREEK AT -L- STA. 20+28.5							<b>GROUND WTR (ft)</b>								
<b>BORING NO.</b> B2-B		<b>STATION</b> 20+54		<b>OFFSET</b> 7 ft RT			<b>ALIGNMENT</b> -L-		<b>0 HR.</b> N/A						
<b>COLLAR ELEV.</b> -9.2 ft		<b>TOTAL DEPTH</b> 67.4 ft			<b>NORTHING</b> 793,200			<b>EASTING</b> 2,815,436		<b>24 HR.</b> N/A					
<b>DRILL RIG/HAMMER EFF./DATE</b> Mobile B-57					<b>DRILL METHOD</b> Mud Rotary			<b>HAMMER TYPE</b> Automatic							
<b>DRILLER</b> Contract Driller		<b>START DATE</b> 01/03/07		<b>COMP. DATE</b> 01/04/07			<b>SURFACE WATER DEPTH</b> 9.3ft								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			ELEV. (ft)	DEPTH (ft)	
0													▼	WATER SURFACE (01/03/07)	
-5															
-9.2	-9.2	0.0												-9.2	0.0
-10			WOH	2	2	•	4							-11.2	2.0
-13.6	-13.6	4.4	1	1	1	•	2								
-15	-15.1	5.9	WOH	WOH	WOH	•	0								
-20															
-21.6	-21.6	12.4	2	2	4	•	6							-20.2	11.0
-25															
-26.6	-26.6	17.4	18	14	8			•	22						
-30															
-30.1	-30.1	20.9	2	1	2	•	3								
-35															
-35.1	-35.1	25.9	4	4	5	•	9							-33.2	24.0
-40															
-40.1	-40.1	30.9	WOH	1	1	•	2							-38.2	29.0
-45															
-45.1	-45.1	35.9	3	1	1	•	2								
-50															
-50.1	-50.1	40.9	15	17	21	•	38								
-55															
-55.1	-55.1	45.9	14	24	24			•	48						
-60															
-60.1	-60.1	50.9	6	14	27			•	41						
-65															
-65.1	-65.1	55.9	9	15	21			•	36						
-70															
-70.1	-70.1	60.9	19	26	36				•	62					
-75															
-75.1	-75.1	65.9	15	29	48				•	77					
														-76.6	67.4
Boring Terminated at Elevation -76.6 ft in Very Dense Sand															

NCDOT BORE DOUBLE B-4648\_GEO\_BRDG-17.GPJ NC\_DOT\_GDT\_5/22/19

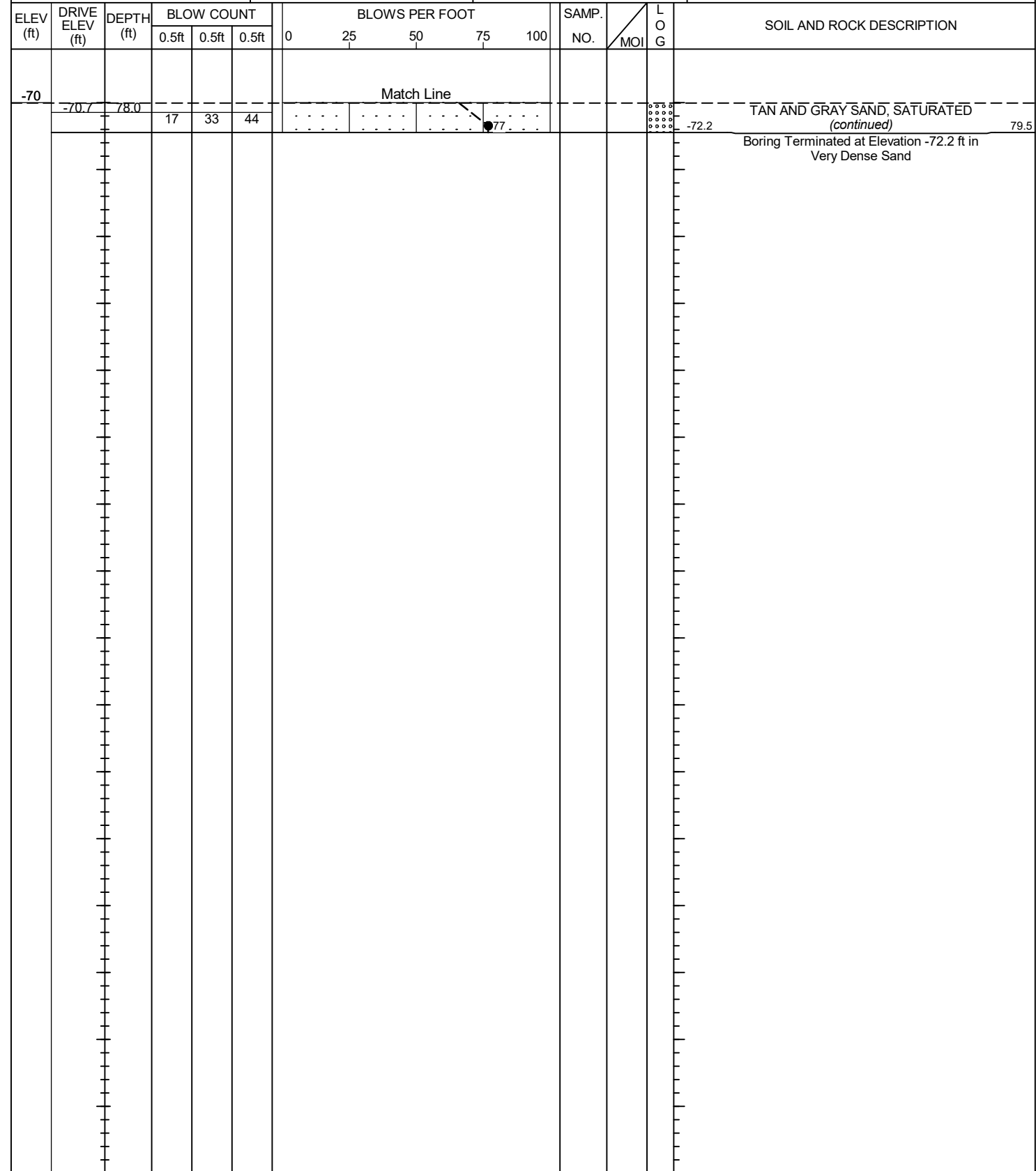
# GEOTECHNICAL BORING REPORT

## BORE LOG

<b>WBS</b> 33814.1.1	<b>TIP</b> B-4648	<b>COUNTY</b> TYRRELL	<b>GEOLOGIST</b> Stone, J. L.	
<b>SITE DESCRIPTION</b> BRIDGE NO. 17 ON -L- (SR 1105) OVER RIDERS CREEK AT -L- STA. 20+28.5				<b>GROUND WTR (ft)</b>
<b>BORING NO.</b> EB2-A	<b>STATION</b> 20+99	<b>OFFSET</b> 16 ft LT	<b>ALIGNMENT</b> -L-	<b>0 HR.</b> N/A
<b>COLLAR ELEV.</b> 7.3 ft	<b>TOTAL DEPTH</b> 79.5 ft	<b>NORTHING</b> 793,243	<b>EASTING</b> 2,815,410	<b>24 HR.</b> 7.5
<b>DRILL RIG/HAMMER EFF./DATE</b> CME-45B		<b>DRILL METHOD</b> Mud Rotary	<b>HAMMER TYPE</b> Automatic	
<b>DRILLER</b> DALE, W.L.		<b>START DATE</b> 04/01/04	<b>COMP. DATE</b> 04/01/04	<b>SURFACE WATER DEPTH</b> N/A



<b>WBS</b> 33814.1.1	<b>TIP</b> B-4648	<b>COUNTY</b> TYRRELL	<b>GEOLOGIST</b> Stone, J. L.	
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<b>DRILLER</b> DALE, W.L.		<b>START DATE</b> 04/01/04	<b>COMP. DATE</b> 04/01/04	<b>SURFACE WATER DEPTH</b> N/A



NCDOT BORE DOUBLE B-4648\_GEO BRDG--17.GPJ NC\_DOT.GDT 5/22/19



### SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS- 1	16' LT	20+99	1. 0' - 2. 0'	A- 4	18	NP	10. 0	53. 5	24. 1	12. 4	100	97	44	-	-
SS- 2	16' LT	20+99	8. 0' - 9. 5'	A- 2- 4	18	NP	16. 4	64. 9	10. 3	8. 4	100	96	26	-	-
SS- 3	16' LT	20+99	24. 0' - 24. 5'	A- 2- 4	18	NP	8. 4	71. 3	13. 9	6. 4	100	99	28	-	-
SS- 4	16' LT	20+99	28. 0' - 29. 5'	A- 3	17	NP	73. 7	25. 0	0. 9	0. 4	100	78	2	-	-
SS- 5	16' LT	20+99	43. 0' - 44. 5'	A- 3	19	NP	12. 8	84. 3	2. 5	0. 4	100	100	4	-	-
SS- 6	16' LT	20+99	48. 0' - 49. 5'	A- 4	34	NP	1. 0	49. 4	35. 1	14. 4	100	100	68	-	-
SS- 7	16' LT	20+99	58. 0' - 59. 5'	A- 3	19	NP	6. 0	87. 9	5. 7	0. 4	100	99	9	-	-
SS- 8	16' LT	20+99	73. 0' - 74. 5'	A- 3	11	NP	35. 2	59. 9	4. 5	0. 4	100	98	6	-	-
SS- 9	8' LT	19+94	0. 5' - 1. 5'	A- 2- 4	27	NP	11. 8	74. 3	9. 5	4. 4	94	92	19	-	-
SS- 10	8' LT	19+94	17. 6' - 19. 1'	A- 7- 5	70	20	2. 0	3. 0	38. 5	56. 5	100	99	96	41	-
SS- 11	8' LT	19+94	28. 1' - 29. 1'	A- 3	24	NP	29. 0	64. 7	3. 9	2. 4	100	95	8	-	-
SS- 12	8' LT	19+94	42. 9' - 44. 4'	A- 4	21	NP	1. 4	66. 1	22. 1	10. 4	100	100	46	-	-
SS- 13	8' LT	19+94	47. 9' - 49. 4'	A- 3	15	NP	43. 6	52. 5	3. 5	0. 4	100	93	6	-	-
SS- 14	8' LT	19+94	62. 9' - 64. 4'	A- 3	17	NP	33. 2	62. 5	1. 9	2. 4	100	98	6	-	-
SS- 15	8' LT	19+94	72. 9' - 74. 4'	A- 1- b	18	NP	84. 7	13. 2	1. 7	0. 4	86	26	2	-	-
SS- 16	12' RT	19+49	1. 0' - 1. 5'	A- 2- 4	22	NP	35. 4	43. 4	10. 7	10. 4	67	58	14	-	-
SS- 17	12' RT	19+49	8. 3' - 9. 8'	A- 2- 4	17	NP	17. 2	70. 3	4. 1	8. 4	100	98	17	-	-
SS- 18	12' RT	19+49	18. 4' - 19. 9'	A- 2- 4	18	NP	12. 0	64. 1	11. 5	12. 4	100	96	32	-	-
SS- 19	12' RT	19+49	28. 4' - 29. 9'	A- 7- 5	69	15	3. 2	2. 6	33. 1	61. 0	100	98	95	35	-
SS- 20	12' RT	19+49	28. 4' - 39. 9'	A- 3	20	NP	5. 0	89. 5	3. 1	2. 4	100	100	9	-	-
SS- 21	12' RT	19+49	48. 4' - 49. 9'	A- 3	22	NP	35. 6	59. 3	2. 7	2. 4	96	82	7	-	-
SS- 22	12' RT	19+49	53. 4' - 54. 9'	A- 2- 4	23	NP	3. 2	84. 3	4. 1	8. 4	100	99	20	-	-
SS- 23	12' RT	19+49	58. 4' - 59. 9'	A- 3	16	NP	26. 4	67. 1	6. 1	0. 4	100	94	7	-	-
SS- 24	12' RT	19+49	73. 4' - 74. 9'	A- 3	23	NP	38. 7	56. 5	0. 8	4. 0	100	94	6	-	-
SS- 25	7' RT	20+54	12. 4' - 13. 9'	A- 3	35	NP	28. 4	66. 5	1. 0	4. 0	100	99	6	-	-
SS- 26	7' RT	20+54	17. 0' - 18. 5'	A- 3	16	NP	13. 9	80. 8	1. 2	4. 0	100	97	10	-	-
SS- 27	7' RT	20+54	15. 9' - 27. 4'	A- 2- 4	19	NP	25. 2	57. 9	16. 9	0	100	91	18	-	-
SS- 28	7' RT	20+54	30. 9' - 32. 4'	A- 3	31	NP	28. 4	68. 8	2. 8	0	100	97	3	-	-
SS- 29	7' RT	20+54	40. 9' - 42. 4'	A- 3	19	NP	24. 4	70. 6	5. 0	0	100	92	7	-	-
SS- 30	7' RT	20+54	50. 9' - 52. 4'	A- 3	16	NP	49. 8	43. 2	2. 6	4. 4	100	87	9	-	-