



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

Minutes of Pre-Bid Conference

DATE: Thursday, July 22, 2010

TIME: 1:30 p.m.

PROJECTS: Person County Bridge No. 93 (MA05013B)
Contract Number: DO00043
WBS: 42817

LOCATION: Chief Engineer's Conference Room, Bridge Management Building, Raleigh, Wake County

A mandatory pre-bid conference was held for the above listed project. A list of attendees is attached to these minutes. Mr. Michael Summers of the Bridge Management Unit conducted the pre-bid conference. The bid opening date is at 2:00 p.m., Tuesday, August 10, 2010. The following items are noted and are hereby made part of the contract:

1. Proposal page 6 Section C – Should read – “The date of availability for this contract is the date the Contractor begins work but not before the issuance of the purchase order and *no later than* September 17, 2010.
2. Proposal page 6 Section A – The proposal has been revised to include final pavement markings to be placed by the Contractor. The pay item will be ‘Paint Pavement Marking Lines (4”’) and the quantity will be 1500 LF.
3. Extra length guardrail posts will be required for this project.
4. To get a smooth tie of the new asphalt wearing surface to the existing, milling may be required at the transitions. The cost of milling shall be considered incidental to the cost of the paving bid items in the contract.
5. Two piles at each end bent are shown on the plans as battered. The piles require “excavation not in soil.” To facilitate construction, the contract plans are being revised to eliminate the battered piles and use all vertical piles. The bid quantities for HP 12x53 steel piles and the pile excavation in and not in soil will not be affected by the change in

MAILING ADDRESS:
Bridge Management Unit
1565 Mail Service Center
Raleigh, NC 27699-1565

Telephone: 919-733-4362
FAX: 919-733-2348

WEBSITE: www.doh.dot.state.nc.us

LOCATION
4809 Beryl Road
Raleigh, NC 27606

orientation of the piles. Revised plan sheets (S-1, S-6, S-7 and S-13) will be issued for this change.

6. Boring logs in the contract are difficult to read. A “cleaner” copy of the borings will be posted for Contractors to download.

Attachments

GSP/JTD/ZW

Cc: Prospective Bidders
File

BID FORM**CONTRACT COST PROPOSAL**

The Contractor agrees to provide the services outlined in this proposal for the following fixed unit prices:

BRIDGE REPLACEMENT WITH PRESTRESSED CONCRETE CORED SLABS

LINE #	ITEM NUMBER	SEC #	DESCRIPTION	QUANTITY	UNIT COST	AMOUNT
1.	0000100000-N	800	MOBILIZATION	L.S.	_____	_____
2.	0030000000-N	SP	BRIDGE APPROACH FILL – SUB REGIONAL TIER, Station 15+74.26	L.S.	_____	_____
3.	0248000000-N	SP	GENERIC GRADING ITEM (EXCAVATION AND EMBANKMENT)	L.S.	_____	_____
4.	0318000000-E	300	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	7 TONS	_____	_____
5.	0335200000-E	SP	15” DRAINAGE PIPE	48 LIN. FT.	_____	_____
6.	0335300000-E	SP	18” DRAINAGE PIPE	4 LIN. FT.	_____	_____
7.	1489000000-E	610	ASPHALT CONCRETE BASE COURSE, TYPE B25.0B	165 TONS	_____	_____
8.	1498000000-E	610	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B	102 TONS	_____	_____
9.	1519000000-E	610	ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B	135 TONS	_____	_____
10.	1560000000-E	620	ASPHALT BINDER FOR PLANT MIX, TYPE PG64-22	20 TONS	_____	_____
11.	2253000000-E	840	PIPE COLLARS	0.5 C.Y.	_____	_____
12.	2286000000-N	840	MASONRY DRAINAGE STRUCTURE TBDI, Std. Dwg. No. 840.35	2 EACH	_____	_____
13.	2355000000-N	840	FRAME WITH GRATE, Std. Dwg. No. 840.29	2 EACH	_____	_____
14.	2556000000-E	846	SHOULDER BERM GUTTER	30 LIN. FT.	_____	_____

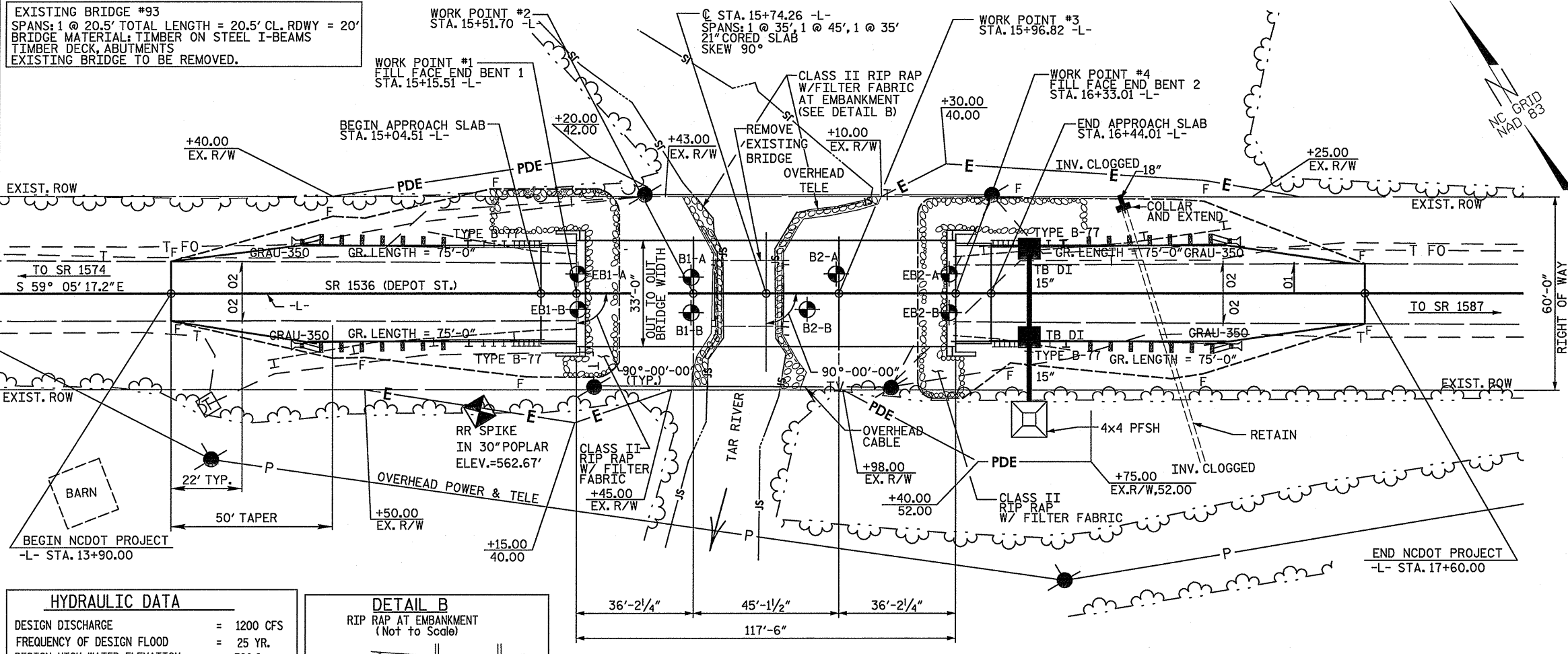
LINE #	ITEM NUMBER	SEC #	DESCRIPTION	QUANTITY	UNIT COST	AMOUNT
15.	3030000000-E	862	STEEL BM GUARDRAIL	50 LIN. FT.	_____	_____
16.	3150000000-N	862	ADDITIONAL GUARDRAIL POSTS	5 EACH	_____	_____
17.	3270000000-N	862	G-R ANCHOR UNIT, TYPE 350	4 EACH	_____	_____
18.	3317000000-N	862	G-R ANCHOR UNIT, TYPE B-77	4 EACH	_____	_____
19.	3691000000-N	SP	GENERIC EROSION CONTROL ITEM - PREFORMED SCOUR HOLE	1 EACH	_____	_____
20.	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	1,500 LIN. FT.	_____	_____
21.	6000000000-E	1605	TEMPORARY SILT FENCE	895 LIN. FT	_____	_____
22.	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	1 TONS	_____	_____
23.	6036000000-E	1631	MATTING FOR EROSION CONTROL	1,800 S.Y.	_____	_____
24.	6048000000-E	SP	FLOATING TURBIDITY CURTAIN	75 S.Y.	_____	_____
25.	6133000000-N	SP	GENERIC EROSION CONTROL ITEM	L.S.	_____	_____
26.	8035000000-N	402	REMOVAL EXISTING STRUCTURE	L.S.	_____	_____
27.	8096000000-E	SP	PILE EXCAVATION IN SOIL	108 LIN. FT.	_____	_____
28.	8097000000-E	SP	PILE EXCAVATION NOT IN SOIL	92 LIN. FT.	_____	_____
29.	8105520000-E	SP	3'-0" DIA. DRILLED PIER IN SOIL	35 LIN. FT	_____	_____
30.	8105620000-E	SP	3'-0" DIA. DRILLED PIER NOT IN SOIL	28 LIN. FT	_____	_____
31.	8111200000-E	SP	PERMANENT STEEL CASING FOR 3'-0" DIA. DRILLED PIER	34 LIN. FT	_____	_____

	ITEM NUMBER	SEC #	DESCRIPTION	QUANTITY	UNIT COST	AMOUNT
32.	8113000000-N	SP	SID INSPECTION	1 EACH	_____	_____
33.	8115000000-N	SP	CROSSHOLE SONIC LOGGING	1 EACH	_____	_____
34.	8210000000-N	422	BRIDGE APPROACH SLAB	L.S.	_____	_____
35.	8365000000-E	450	HP 12x53 GALVANIZED STEEL PILES	200 LIN. FT.	_____	_____
36.	8608000000-E	876	RIP RAP, CLASS II (2'-0" THICK)	380 TONS	_____	_____
37.	8622000000-E	876	FILTER FABRIC FOR DRAINAGE	403 S.Y.	_____	_____
38.	8765000000-N	SP	CONSTRUCTION OF SUBSTRUCTURE	L.S.	_____	_____
39.	8766000000-N	SP	CONST OF SUPERSTRUCTURE	L.S.	_____	_____

TOTAL PROJECT BID _____

#93 PERSON TIP PROJECT # B-5220

EXISTING BRIDGE #93
 SPANS: 1 @ 20.5' TOTAL LENGTH = 20.5' CL. RDWY = 20'
 BRIDGE MATERIAL: TIMBER ON STEEL I-BEAMS
 TIMBER DECK, ABUTMENTS
 EXISTING BRIDGE TO BE REMOVED.

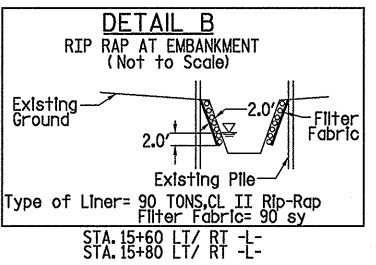


HYDRAULIC DATA

DESIGN DISCHARGE	= 1200 CFS
FREQUENCY OF DESIGN FLOOD	= 25 YR.
DESIGN HIGH WATER ELEVATION	= 560.8
DRAINAGE AREA	= 4.4 SQ. MI.
BASIC DISCHARGE (Q100)	= 1900 CFS
BASIC HIGH WATER ELEVATION	= 562.6

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 1900 CFS
FREQUENCY OF OVERTOPPING FLOOD	= 100 YR.
OVERTOPPING FLOOD ELEVATION	= 562.22



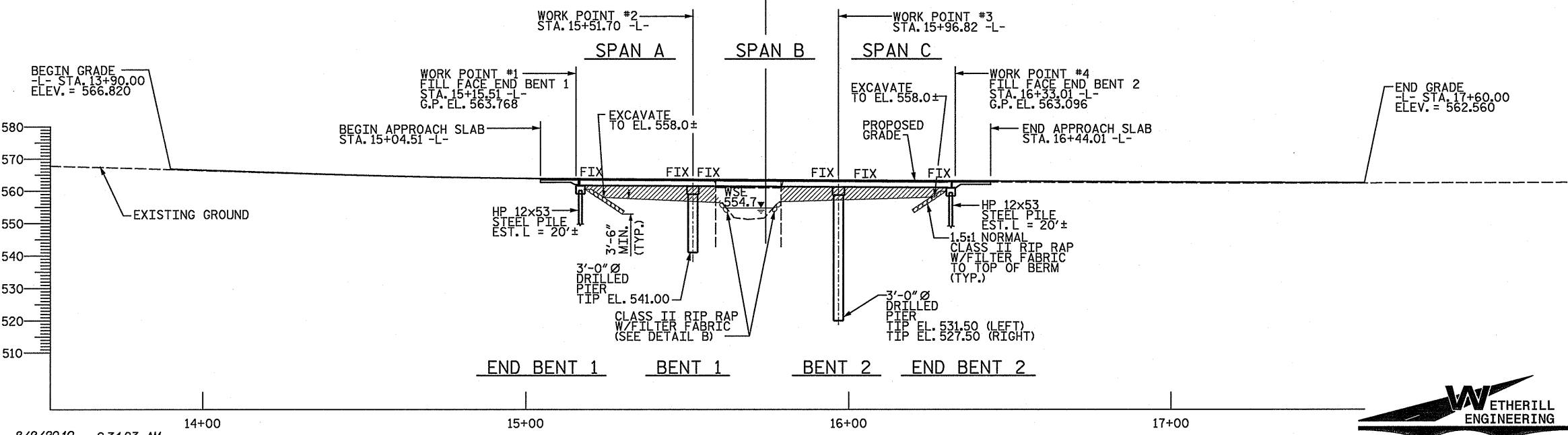
GRADE DATA

PI = 14+75.00	EL = 564.00'	VC = 75'
(-)3.3217% (-)0.5724%		

C. STA. 15+74.26 -L-
 SPANS: 1 @ 35', 1 @ 45', 1 @ 35'
 21" CORED SLAB
 SKEW 90°
 G.P. EL. 563.432

GRADE DATA

PI = 16+88.39	EL = 562.78'	VC = 75'
(-)0.5724% (-)0.3033%		



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 DRAWN BY: J.C. PENDERGRAFT DATE: 12/09
 CHECKED BY: J. DILWORTH DATE: 12/09

PROFILE ALONG C SURVEY -L-
 SCALE = 1" = 20'

- NOTES**
- FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.
 - DRILLED PIERS AT INTERIOR BENT NO. 1 AND 2 ARE DESIGNED FOR AN APPLIED LOAD OF 305 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED END BEARING OF 50 TSF.
 - INSTALL DRILLED PIERS AT INTERIOR BENT NO. 1 THAT EXTEND TO AN ELEVATION NO HIGHER THAN 541.0 FEET. SATISFY THE REQUIRED END BEARING CAPACITY AND HAVE A MINIMUM PENETRATION OF 10 FEET INTO ROCK AS DEFINED BY THE DRILLED PIER SPECIAL PROVISIONS.
 - PERMANENT STEEL CASING IS REQUIRED FOR DRILLED PIERS AT INTERIOR BENT NO. 1. DO NOT EXTEND CASING BELOW ELEVATION 551 FEET.
 - INSTALL DRILLED PIERS AT INTERIOR BENT NO. 2 THAT EXTEND TO AN ELEVATION NO HIGHER THAN 531.5 FEET, LEFT AND 527.5 FEET, RIGHT. SATISFY THE REQUIRED END BEARING CAPACITY AND HAVE A MINIMUM PENETRATION OF 5 FEET, LEFT AND 11.5 FEET, RIGHT, INTO ROCK AS DEFINED BY THE DRILLED PIER SPECIAL PROVISIONS.
 - PERMANENT STEEL CASING IS REQUIRED FOR DRILLED PIERS AT INTERIOR BENT NO. 2. DO NOT EXTEND CASING BELOW ELEVATION 547 FEET.
 - THE SCOUR CRITICAL ELEVATION FOR INTERIOR BENTS NO. 1 AND 2 ARE 549 AND 539 FEET, RESPECTIVELY. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF STRUCTURE.
 - CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR DRILLED PIERS AT INTERIOR BENT NO. 1 AND 2. THE ENGINEER WILL DETERMINE THE NEED FOR SID INSPECTIONS IF CLEANLINESS OF THE SHAFT IS IN QUESTION.
 - SID INSPECTIONS MAY BE REQUIRED FOR DRILLED PIERS AT INTERIOR BENT NO. 1 AND 2. THE ENGINEER WILL DETERMINE THE NEED FOR SID INSPECTIONS IF CLEANLINESS OF THE SHAFT IS IN QUESTION.
 - PILES AT END BENTS 1 AND 2 SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 60 TONS EACH.
 - PILE EXCAVATION IS REQUIRED TO INSTALL PILES AT BOTH END BENT NO. 1 AND 2. FOR PILE EXCAVATION, SEE SPECIAL PROVISIONS.
 - INSTALL PILES AT END BENT NO. 1 TO A TIP ELEVATION NO HIGHER THAN 540.5 FEET.
 - INSTALL PILES AT END BENT NO. 2 TO A TIP ELEVATION NO HIGHER THAN 540.7 FEET.
 - FOR PILE EXCAVATION, SEE SPECIAL PROVISIONS.
 - THE QUANTITY OF RIP RAP TO BE PAID FOR WILL BE THE ACTUAL NUMBER OF TONS OF EACH CLASS OF RIP RAP WHICH HAS BEEN INCORPORATED INTO THE COMPLETED AND ACCEPTED WORK. THE RIP RAP WILL BE MEASURED BY BEING WEIGHED IN TRUCKS CERTIFIED WEIGHING DEVICES. THE QUANTITY OF RIP RAP WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON.

	PLAIN RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC
END BENT NO. 1	= 140 TONS	148 SY
WEST EMBANKMENT	= 35 TONS	37 SY
EAST EMBANKMENT	= 55 TONS	58 SY
END BENT NO. 2	= 150 TONS	159 SY
TOTAL:	= 380 TONS	403 SY

- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH FHWA'S TECHNICAL ADVISORY T5140.20 (SCOUR AT BRIDGES).
 - THE EXISTING BRIDGE SHALL BE REMOVED BY SAWING AND/OR NON SHATTERING METHODS SUCH THAT DEBRIS WILL NOT FALL INTO THE WATER.
 - THE EXISTING ABUTMENT CONCRETE FOOTINGS TO REMAIN. CUT EXISTING TIMBER PILES AT GROUND LINE.
 - FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
 - FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
 - FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
 - FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.
- DENOTES GEO-TECH BORING HOLE LOCATIONS.

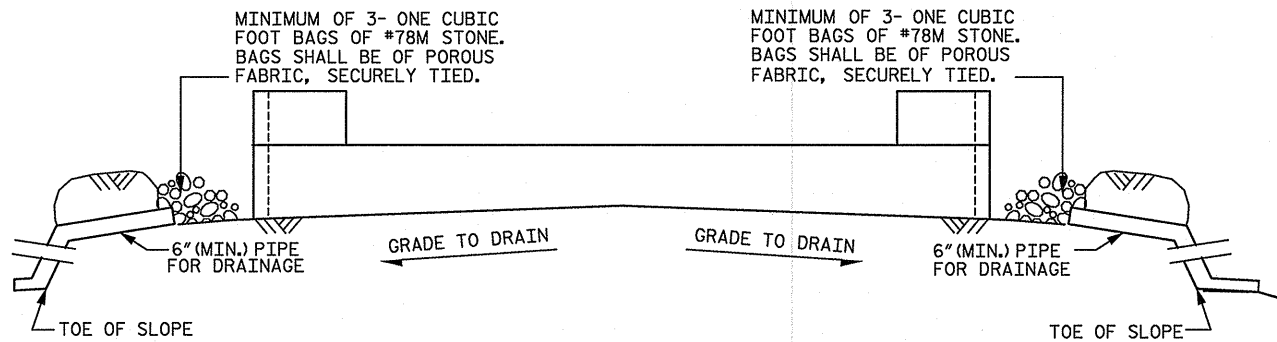
WBS NO. 42817.1.1
 PERSON _____ COUNTY _____
 STATION: 15+74.26
 REPLACES BRIDGE NO. 93

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 BRIDGE # 93 ON SR 1536
 OVER TAR RIVER
 559 Jones Franklin Rd. Suite 164
 Raleigh, N.C. 27606
 Bus: 919 851 8077
 Fax: 919 851 8107
 License No. F-0377

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
BRIDGE # 93 ON SR 1536
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1	JAD	7-22-10	3			TOTAL SHEETS 15
2			4			

ETHERILL ENGINEERING
 TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

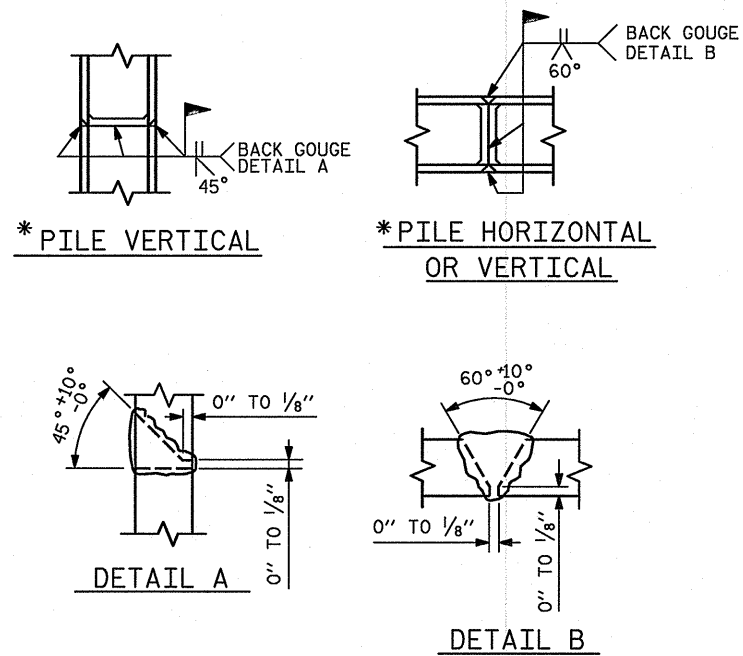


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

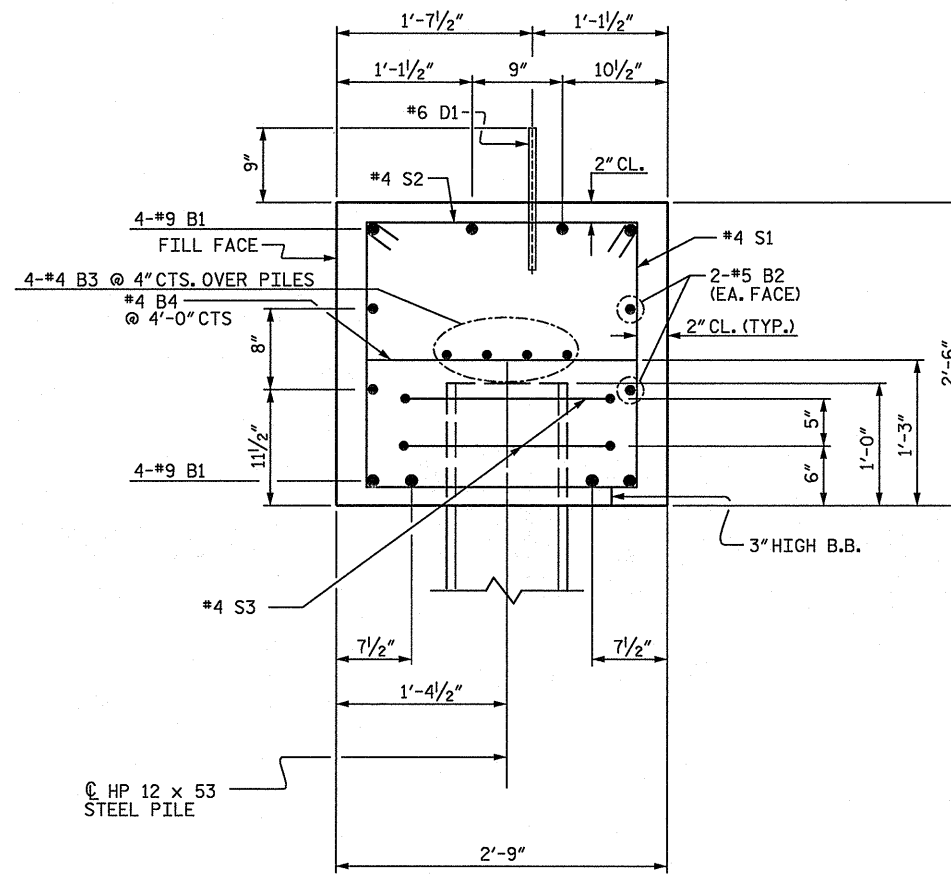
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT

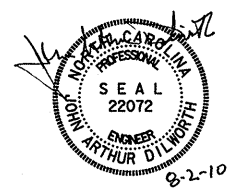


PILE SPLICE DETAILS

* POSITION OF PILE DURING WELDING.



SECTION A-A



WBS NO. 37018
FRANKLIN COUNTY
 STATION: 10+35.000
 REPLACES BRIDGE NO. 76

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 END BENT 1**

WETHERILL ENGINEERING
 559 Jones Franklin Rd. Suite 164
 Raleigh, N.C. 27606
 Bus: 919 851 8077
 Fax: 919 851 8107
 LICENSE NO. F-0377

NOTE: NOT TO SCALE

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

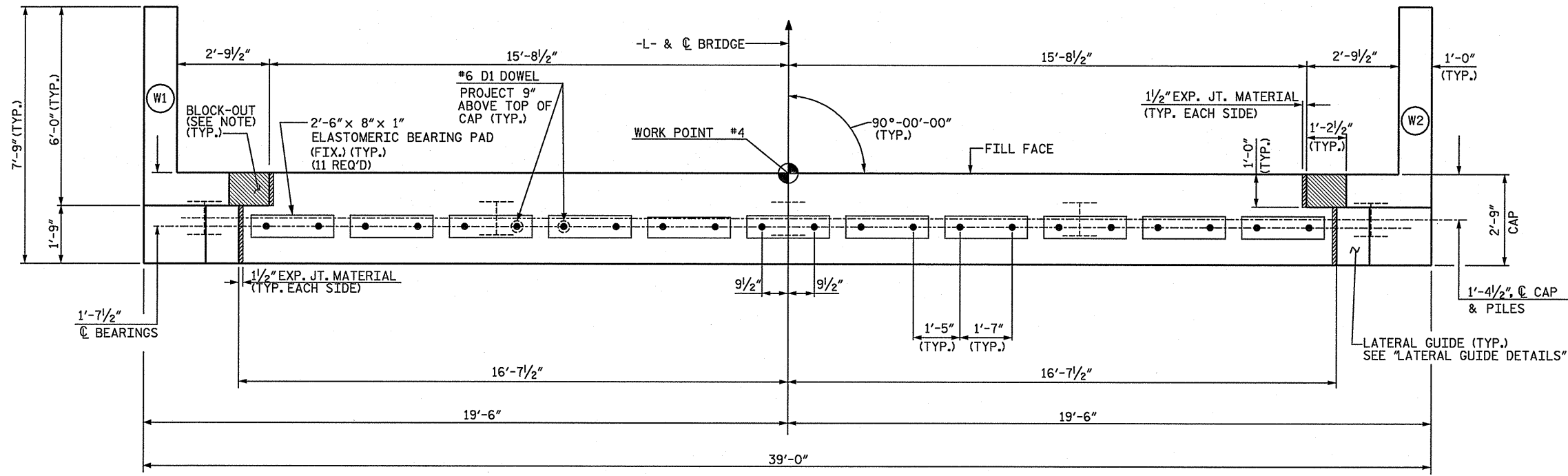
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1	JAD	7-22-10	3			20
2			4			

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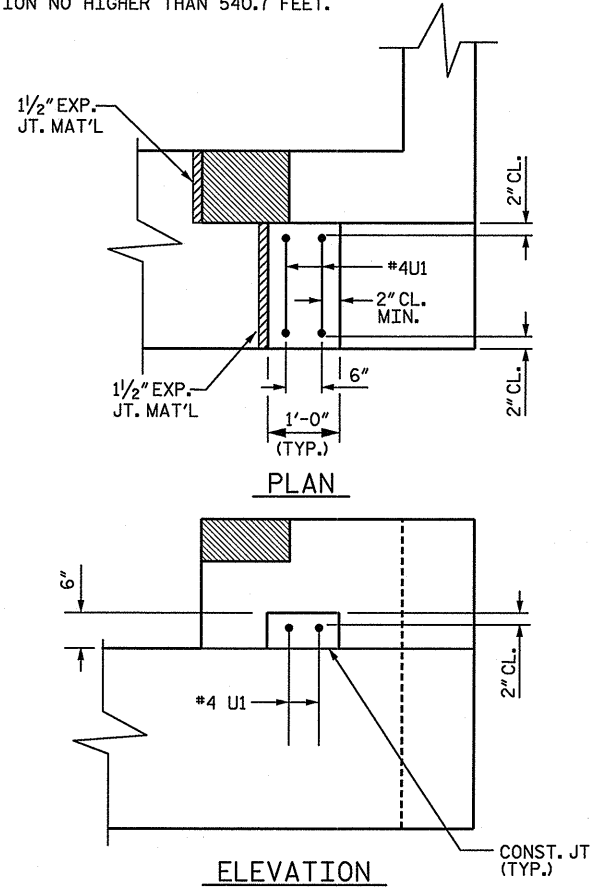
DRAWN BY: J.C. PENDERGRAFT DATE: 8/09
 CHECKED BY: J.A. DILWORTH DATE: 8/09

NOTES:

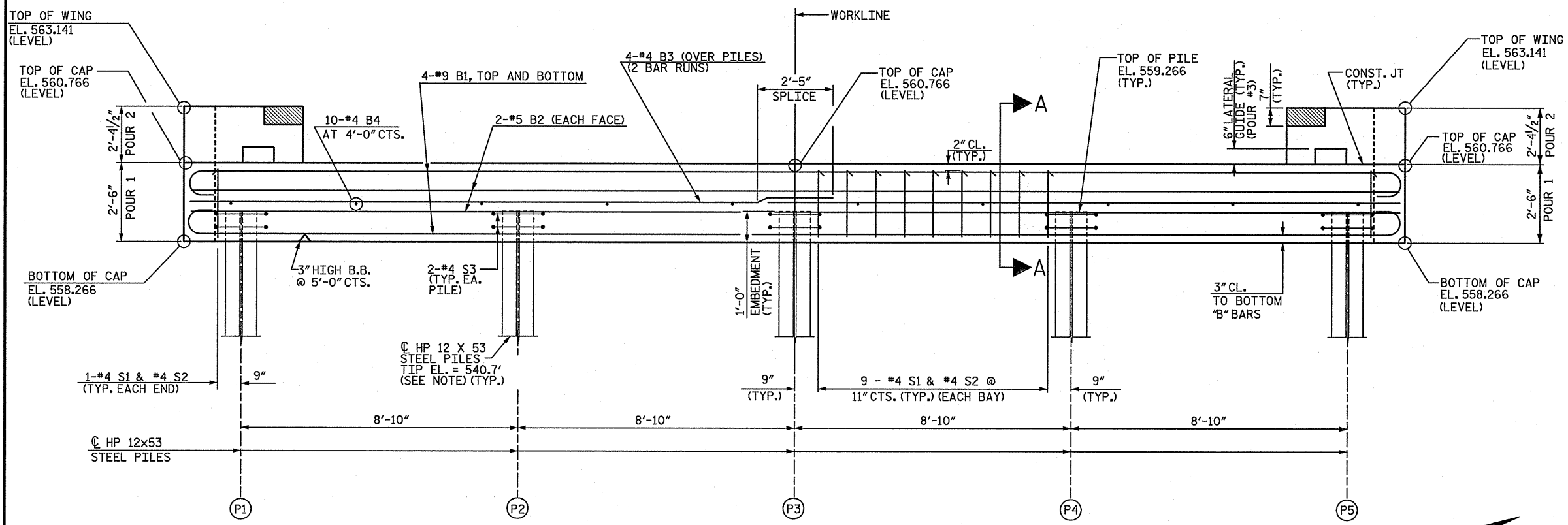
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.
 FOR SECTION A-A, SEE END BENT 1 SHEET 2 OF 3.
 FOR MISC. DETAILS, SEE END BENT 1 SHEET 2 OF 3.
 THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.
 THE LATERAL GUIDE AT EACH END OF THE CAP IS NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.
 INSTALL PILES AT END BENT 2 TO A TIP ELEVATION NO HIGHER THAN 540.7 FEET.



PLAN



**ELEVATION
LATERAL GUIDE DETAILS**



ELEVATION

NOTE: ALL PILES ARE HP 12x53 GALVANIZED STEEL PILES.



WBS NO. 42817.1.1
 PERSON _____ COUNTY _____
 STATION: 15+74.26
 REPLACES BRIDGE NO. 93

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 END BENT 2**

559 Jones Franklin Rd. Suite 164
 Raleigh, N.C. 27606
 Bus: 919 851 8077
 Fax: 919 851 8107
 License No. F-0377



TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

REVISIONS						SHEET NO. S-13
NO.	BY:	DATE:	NO.	BY:	DATE:	
1	JAD	7-22-10	3			TOTAL SHEETS 15
2			4			

DRAWN BY: J.C. PENDERGRAFT DATE: 12/09
 CHECKED BY: J.A. DILWORTH DATE: 12/09

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PROJECT NO. MA05013B	ID. B-5220	COUNTY Person	GEOLOGIST M. Skeen
SITE DESCRIPTION Bridge # 93 on SR 1536 (Denny Store Road) over Tar River			GROUND WTR (ft)
BORING NO. EB1-A	STATION 15+16	OFFSET 6 ft LT	ALIGNMENT -L-
COLLAR ELEV. 563.5 ft	TOTAL DEPTH 13.7 ft	NORTHING 960,449	EASTING 2,045,771
DRILL MACHINE Diedrich D-50	DRILL METHOD 2-1/4 HSA	HAMMER TYPE Automatic	
DRILLER W. T. Duggins	START DATE 01/04/10	COMP. DATE 01/04/10	SURFACE WATER DEPTH N/A

PROJECT NO. MA05013B	ID. B-5220	COUNTY Person	GEOLOGIST M. Skeen
SITE DESCRIPTION Bridge # 93 on SR 1536 (Denny Store Road) over Tar River			GROUND WTR (ft)
BORING NO. EB1-B	STATION 15+16	OFFSET 5 ft RT	ALIGNMENT -L-
COLLAR ELEV. 563.5 ft	TOTAL DEPTH 13.5 ft	NORTHING 960,458	EASTING 2,045,772
DRILL MACHINE Diedrich D-50	DRILL METHOD 2-1/4 HSA	HAMMER TYPE Automatic	
DRILLER W. T. Duggins	START DATE 01/04/10	COMP. DATE 01/04/10	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				
565													GROUND SURFACE	0.0
													Asphalt	0.0
560	560.0	3.5	2	3	3							D	ROADWAY EMBANKMENT Orange and brown medium stiff silty CLAY (A-7-5)	
555	555.0	8.5	2	4	7							D	ALLUVIAL Gray stiff silty CLAY (A-7-6) with trace organics	7.0
550	550.0	13.5										D	WEATHERED ROCK (Gray Metavolcanic)	12.0
												D	Boring Terminated BY AUGER REFUSAL at Elevation 549.8 ft on Non-Crystalline Rock: Gray Metavolcanic	13.7
													1) Advanced 2-1/4 HSA to 13.5 feet.	

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				
565													GROUND SURFACE	0.0
													Asphalt	0.0
560	560.0	3.5	3	4	4							D	ROADWAY EMBANKMENT Orange and brown medium stiff silty CLAY (A-7-5)	
555	555.0	8.5	3	5	6							M	ALLUVIAL Gray stiff silty CLAY (A-7-6)	8.0
550	550.3	13.2										M	WEATHERED ROCK (Gray Metavolcanic)	13.0
													Boring Terminated BY AUGER REFUSAL at Elevation 550.0 ft on Non-Crystalline Rock: Gray Metavolcanic	13.5
													1) Advanced 2-1/4 HSA to 13.2 feet.	

NCDOT BORE DOUBLE 09-0500.GPJ NC_DOT.GDT 2/2/10



NCDOT GEOTECHNICAL ENGINEERING UNIT
BORELOG REPORT

PROJECT NO. MA05013B	ID. B-5220	COUNTY Person	GEOLOGIST M. Skeen
SITE DESCRIPTION Bridge # 93 on SR 1536 (Denny Store Road) over Tar River			GROUND WTR (ft)
BORING NO. B1-A	STATION 15+51	OFFSET 5 ft LT	ALIGNMENT -L-
COLLAR ELEV. 563.1 ft	TOTAL DEPTH 36.3 ft	NORTHING 960,453	EASTING 2,045,736
DRILL MACHINE Diedrich D-50	DRILL METHOD 2-7/8 tricone with rotary wash	HAMMER TYPE Automatic	
DRILLER W. T. Duggins	START DATE 01/05/10	COMP. DATE 01/06/10	SURFACE WATER DEPTH N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
565																
563.1														GROUND SURFACE	0.0	
562.3														Asphalt	0.8	
560	559.6	3.5	1	3	4									ROADWAY EMBANKMENT Orange and brown medium stiff silty CLAY (A-7-5)		
555	554.6	8.5												ALLUVIAL Gray stiff silty CLAY (A-7-6) with trace organics	7.0	
550	550.8	12.3												WEATHERED ROCK (Gray Metavolcanic)	12.0	
545														NON-CRYSTALLINE ROCK Hard to very hard, fresh to slightly weathered, very close to moderately close fractured spacing, GRAY METAVOLCANIC ROCK	12.3	
540																
535																
530																
525																
520																
515																
510																
505																
500																
495																
490																
485																

NCDOT BORE DOUBLE 09-0500.GPJ NC_DOT_GDT 2/3/10



NCDOT GEOTECHNICAL ENGINEERING UNIT
CORE BORING REPORT

PROJECT NO. MA05013B	ID. B-5220	COUNTY Person	GEOLOGIST M. Skeen
SITE DESCRIPTION Bridge # 93 on SR 1536 (Denny Store Road) over Tar River			GROUND WTR (ft)
BORING NO. B1-A	STATION 15+51	OFFSET 5 ft LT	ALIGNMENT -L-
COLLAR ELEV. 563.1 ft	TOTAL DEPTH 36.3 ft	NORTHING 960,453	EASTING 2,045,736
DRILL MACHINE Diedrich D-50	DRILL METHOD 2-7/8 tricone with rotary wash	HAMMER TYPE Automatic	
DRILLER W. T. Duggins	START DATE 01/05/10	COMP. DATE 01/06/10	SURFACE WATER DEPTH N/A

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN		SAMP. NO.	STRATA		LOG	DESCRIPTION AND REMARKS	DEPTH (ft)
					REC. (%)	ROD (%)		REC. (%)	ROD (%)			
550.8												
550.8	550.8	12.3	4.0	18:33/1.0 N=60/0 9:32/1.0 9:43/1.0 7:37/1.0	(3.1) 77%	(0.6) 14%		(20.8) 86%			Begin Coring @ 12.3 ft	12.3
546.8	546.8	16.3	5.0	9:48/1.0 11:41/1.0 7:48/1.0 7:40/1.0 12:17/1.0	(5.0) 100%	(4.0) 80%					Hard to very hard, fresh to slightly weathered, very close to moderately close fractured spacing, GRAY METAVOLCANIC ROCK	
545											Vertical joint between 12.3 to 16.3 with soil in filling	
540	541.8	21.3	5.0	7:21/1.0 7:56/1.0 5:01/1.0 7:14/1.0 14:36/1.0	(4.3) 85%	(2.2) 43%					Rock continuity - extremely fractured between 15.6 to 17, 24.6 to 27.4, 28.0 to 28.8	
535	536.8	26.3	5.0	10:46/1.0 9:51/1.0 10:16/1.0 7:48/1.0 7:41/1.0	(3.7) 73%	(0.4) 8%						
530	531.8	31.3	5.0	9:53/1.0 5:56/1.0 5:01/1.0 4:46/1.0 3:35/1.0	(5.0) 100%	(4.1) 82%						
526.8	526.8	36.3									Boring Terminated at Elevation 526.8 ft in Non-Crystalline Rock: Gray Metavolcanic	36.3
525											1) Advanced 2-7/8 tricone bit to 12.3 feet. 2) Advanced NQWL core barrel between 12.3 to 36.3 feet. 3) Used water as drilling fluid.	
520												
515												
510												
505												
500												
495												
490												
485												

NCDOT CORE SINGLE 09-0500.GPJ NC_DOT_GDT 2/3/10



NCDOT GEOTECHNICAL ENGINEERING UNIT BORELOG REPORT

PROJECT NO. MA05013B	ID. B-5220	COUNTY Person	GEOLOGIST M. Skeen
SITE DESCRIPTION Bridge # 93 on SR 1536 (Denny Store Road) over Tar River			GROUND WTR (ft)
BORING NO. B2-A	STATION 15+96	OFFSET 6 ft LT	ALIGNMENT -L-
COLLAR ELEV. 563.0 ft	TOTAL DEPTH 26.9 ft	NORTHING 960,457	EASTING 2,045,682
DRILL MACHINE Diedrich D-50	DRILL METHOD 2-1/4 HSA	HAMMER TYPE Automatic	
DRILLER W. T. Duggins	START DATE 01/05/10	COMP. DATE 01/05/10	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	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
565															
560	559.5	3.5	2	1	2									563.0 562.2	0.0 0.8
555	554.5	8.5	2	3	5										
550	549.5	13.5	20	80/0.5											
545	544.5	18.5	47	25	75/0.2										
540	539.5	23.5	100/0.2												
535															
530															
525															
520															
515															
510															
505															
500															
495															
490															
485															

NCDOT BORE DOUBLE 08-0500.GPJ NC_DOT_GDT 2/3/10

PROJECT NO. MA05013B	ID. B-5220	COUNTY Person	GEOLOGIST M. Skeen
SITE DESCRIPTION Bridge # 93 on SR 1536 (Denny Store Road) over Tar River			GROUND WTR (ft)
BOREING NO. B2-B	STATION 15+87	OFFSET 5 ft RT	ALIGNMENT -L-
COLLAR ELEV. 563.0 ft	TOTAL DEPTH 44.6 ft	NORTHING 960,465	EASTING 2,045,692
DRILL MACHINE Diedrich D-50		DRILL METHOD 2-7/8 tricone with rotary wash	
DRILLER W. T. Duggins		HAMMER TYPE Automatic	
START DATE 01/07/10		COMP. DATE 01/07/10	
SURFACE WATER DEPTH N/A			

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
565																
														563.0	0.0	GROUND SURFACE
														562.4	0.8	Asphalt
560	559.5	3.5														ROADWAY EMBANKMENT
																Orange and brown medium stiff silty CLAY (A-7-5)
555	554.5	8.5	1	2	2											
550	549.5	13.5	3	3	6											ALLUVIAL
																Gray stiff silty CLAY (A-7-6) with trace organics
545	544.5	18.5														
540	539.5	23.5	11	25	53											RESIDUAL
																Gray hard silty CLAY (A-7-6)
535	534.5	28.5														
530	532.8	30.2	60/0.1													
525																
520																
515																
510																
505																
500																
495																
490																
485																

NCDOT BORE DOUBLE 09-0500.GPJ NC_DOT_GDT_2/4/10

PROJECT NO. MA05013B	ID. B-5220	COUNTY Person	GEOLOGIST M. Skeen
SITE DESCRIPTION Bridge # 93 on SR 1536 (Denny Store Road) over Tar River			GROUND WTR (ft)
BOREING NO. B2-B	STATION 15+87	OFFSET 5 ft RT	ALIGNMENT -L-
COLLAR ELEV. 563.0 ft	TOTAL DEPTH 44.6 ft	NORTHING 960,465	EASTING 2,045,692
DRILL MACHINE Diedrich D-50		DRILL METHOD 2-7/8 tricone with rotary wash	
DRILLER W. T. Duggins		HAMMER TYPE Automatic	
START DATE 01/07/10		COMP. DATE 01/07/10	
SURFACE WATER DEPTH N/A			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN		SAMP. NO.	STRATA		LOG	DESCRIPTION AND REMARKS	DEPTH (ft)
					REC (%)	ROD (%)		REC (%)	ROD (%)			
532.8												
	532.8	30.2	4.4	6:51/1.0 N=60/0	(5.0) 114%	(5.0) 114%		(14.0) 97%	(10.5) 73%		Begin Coring @ 30.2 ft	30.2
530											NON-CRYSTALLINE ROCK	
	528.4	34.6	5.0	5:56/1.0 4:29/1.0 5:46/1.0 5:03/1.0	(5.0) 100%	(4.5) 90%					Very hard, freshly weathered, very close to moderately close fractured spacing, GRAY METAVOLCANIC ROCK	
											Vertical joint between 39.4 to 44.6	
525												
	523.4	39.6	4.0	4:18/1.0 4:25/1.0 4:50/1.0 5:24/1.0 5:27/1.0	(4.0) 100%	(0.0) 0%						
520												
	519.4	43.6		4:36/1.0 4:40/1.0 4:43/1.0 4:53/1.0								
515												
510												
505												
500												
495												
490												
485												

NCDOT CORE SINGLE 09-0500.GPJ NC_DOT_GDT_2/4/10

Boring Terminated at Elevation 518.4 ft in Non-Crystalline Rock: Gray Metavolcanic

- 1) Advanced 2-7/8 tricone bit to 30.2 feet.
- 2) Advanced NQWL core barrel between 30.2 to 44.6 feet.
- 3) Used water as drilling fluid.

PROJECT NO. MA05013B	ID. B-5220	COUNTY Person	GEOLOGIST M. Skeen
SITE DESCRIPTION Bridge # 93 on SR 1536 (Denny Store Road) over Tar River			GROUND WTR (ft)
BORING NO. EB2-A	STATION 16+31	OFFSET 6 ft LT	ALIGNMENT -L-
COLLAR ELEV. 562.7 ft	TOTAL DEPTH 12.2 ft	NORTHING 960,460	EASTING 2,045,656
DRILL MACHINE Diedrich D-50	DRILL METHOD 2-1/4 HSA	HAMMER TYPE Automatic	
DRILLER W. T. Duggins	START DATE 01/04/10	COMP. DATE 01/04/10	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				
565													GROUND SURFACE	0.0
													Asphalt	0.8
560	559.2	3.5	2	3	4							D	ROADWAY EMBANKMENT Orange and brown medium stiff silty CLAY (A-7-5)	
555	554.2	8.5	2	2	3							D	ALLUVIAL Gray stiff silty CLAY (A-7-6) with trace organics	7.0
550	550.5	12.2	60/0			60/0						No Rec	WEATHERED ROCK (Gray Metavolcanic) Boring Terminated BY AUGER REFUSAL at Elevation 550.5 ft on Non-Crystalline Rock: Gray Metavolcanic 1) Advanced 2-1/4 HSA to 12.2 feet.	12.0

PROJECT NO. MA05013B	ID. B-5220	COUNTY Person	GEOLOGIST M. Skeen
SITE DESCRIPTION Bridge # 93 on SR 1536 (Denny Store Road) over Tar River			GROUND WTR (ft)
BORING NO. EB2-B	STATION 16+31	OFFSET 6 ft RT	ALIGNMENT -L-
COLLAR ELEV. 562.8 ft	TOTAL DEPTH 13.2 ft	NORTHING 960,468	EASTING 2,045,657
DRILL MACHINE Diedrich D-50	DRILL METHOD 2-1/4 HSA	HAMMER TYPE Automatic	
DRILLER W. T. Duggins	START DATE 01/05/10	COMP. DATE 01/05/10	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				
565													GROUND SURFACE	0.0
													Asphalt	0.8
560	559.3	3.5	3	3	5							D	ROADWAY EMBANKMENT Orange and brown medium stiff silty CLAY (A-7-5)	
555	554.3	8.5	3	8	13							M	ALLUVIAL Gray stiff silty CLAY (A-7-6) with trace organics	6.0
550	549.6	13.2	60/0			60/0						D	WEATHERED ROCK (Gray Metavolcanic) Boring Terminated BY AUGER REFUSAL at Elevation 549.6 ft on Non-Crystalline Rock: Gray Metavolcanic 1) Advanced 2-1/4 HSA to 13.2 feet.	11.0

NCDOT BORE DOUBLE 09-0500.GPJ NC_DOT_GDT 2/3/10