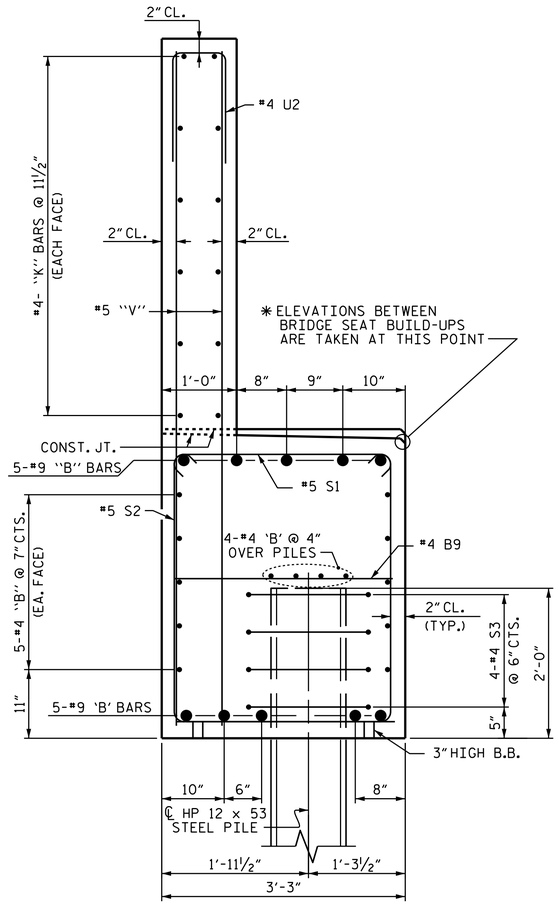
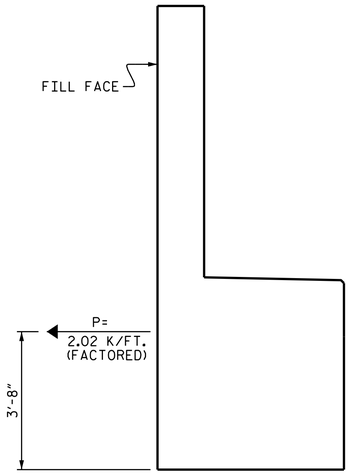
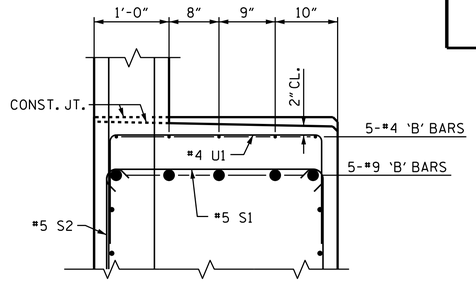


SECTION A-A



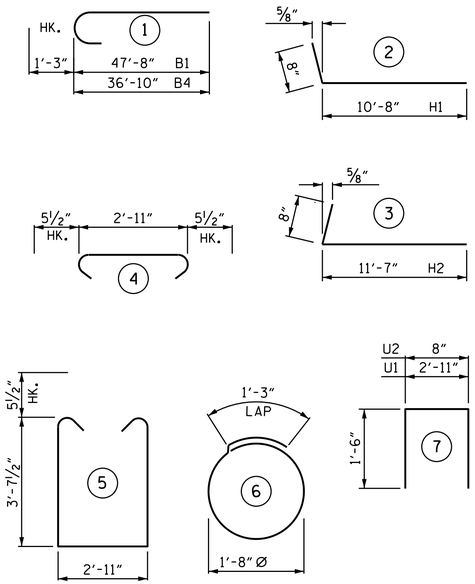
TIE BACK DETAILS

(DETAIL SHOWING TIE BACK RESTRAINT FOR END BENT)



PARTIAL SECTION B

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL
END BENT 1 - STAGE I

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	10	#9	1	48'-11"	1663
B2	5	#9	STR	38'-10"	660
B3	5	#9	STR	33'-10"	575
B5	42	#4	STR	25'-4"	711
B7	35	#4	STR	2'-4"	55
B9	17	#4	STR	2'-11"	33
H1	48	#5	2	11'-4"	567
K1	36	#4	STR	25'-5"	611
K3	4	#4	STR	4'-0"	11
S1	68	#5	4	3'-10"	272
S2	68	#5	5	11'-1"	786
S3	40	#4	6	6'-6"	174
U1	21	#4	7	5'-11"	83
U2	65	#4	7	3'-8"	159
V1	130	#5	STR	9'-2"	1243
V2	20	#5	STR	10'-11"	228
V3	6	#5	STR	11'-1"	69
V4	6	#5	STR	11'-3"	70

REINFORCING STEEL = 7,970 LBS

CLASS A CONCRETE:
POUR 1
CAP, LOWER WING = 36.2 C.Y.
POUR 2
BACKWALL, UPPER WING = 16.6 C.Y.
TOTAL: 52.8 C.Y.

HP 12 X 53 STEEL PILES
NO. 11 LIN. FT. 660

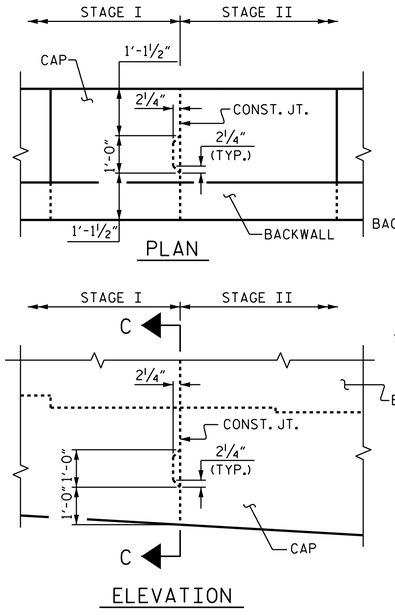
BILL OF MATERIAL
END BENT 1 - STAGE II

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B4	10	#9	1	38'-1"	1295
B6	28	#4	STR	19'-10"	371
B7	15	#4	STR	2'-4"	23
B8	5	#4	STR	7'-6"	25
B9	10	#4	STR	2'-11"	19
H2	50	#5	3	12'-3"	639
K2	24	#4	STR	19'-10"	318
K4	6	#4	STR	4'-1"	16
S1	37	#5	4	3'-10"	148
S2	37	#5	5	11'-1"	428
S3	20	#4	6	6'-6"	87
U1	14	#4	7	5'-11"	55
U2	33	#4	7	3'-8"	81
V1	66	#5	STR	9'-2"	631
V5	6	#5	STR	11'-8"	73
V6	6	#5	STR	11'-7"	72
V7	6	#5	STR	11'-5"	72
V8	16	#5	STR	11'-4"	189

REINFORCING STEEL = 4,542 LBS

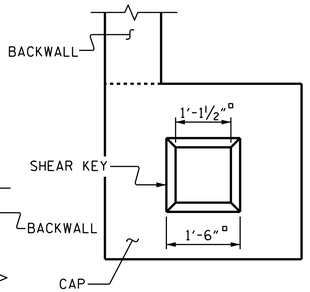
CLASS A CONCRETE:
POUR 1
CAP, LOWER WING = 20.6 C.Y.
POUR 2
BACKWALL, UPPER WING = 10.6 C.Y.
TOTAL: 31.2 C.Y.

HP 12 X 53 STEEL PILES
NO. 4 LIN. FT. 240



PLAN

ELEVATION



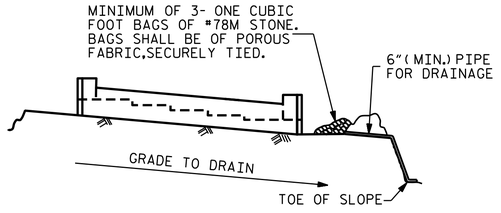
SECTION C-C

SHEAR KEY DETAIL

REINFORCING STEEL NOT SHOWN

TOTAL QUANTITIES STAGE I & II

	REINFORCING STEEL	CLASS A CONCRETE	HP 12 X 53 STEEL PILES		PILE REDRIVES
	LBS.	C.Y.	NO.	LIN. FT.	EACH
STAGE I	7,970	52.8	11	660	-
STAGE II	4,542	31.2	4	240	-
TOTAL	12,512	84.0	15	900	7

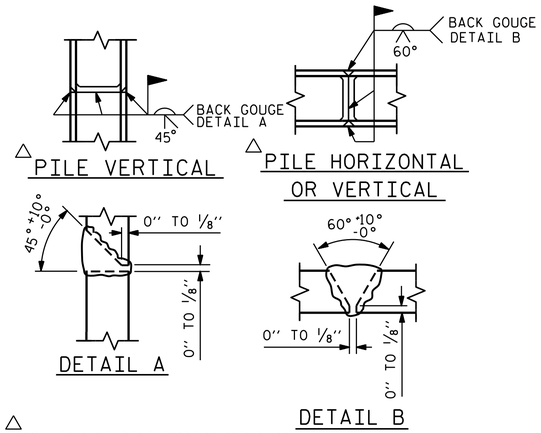


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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 VERTICAL

△ PILE HORIZONTAL OR VERTICAL

DETAIL A

DETAIL B

△ POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 29441 ENGINEER KRISTY W. ALFORD

DocuSigned by: F2458389308F40E...

3/29/2016

PROJECT NO. B-4490

CUMBERLAND COUNTY

STATION: 35+23.40 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT 1

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-77
1			3			TOTAL SHEETS
2			4			84

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : D. SHACKELFORD DATE : 02/2015
CHECKED BY : J.P. ADAMS DATE : 07/2015
DESIGN ENGINEER OF RECORD: P.K. NEWTON DATE : 09/2015

29-MAR-2016 09:20
R:\Structures\Plans\STR 2\SUBSTRUCTURE\B-4490_SD_E*.dgn
jpadams

STR. #2