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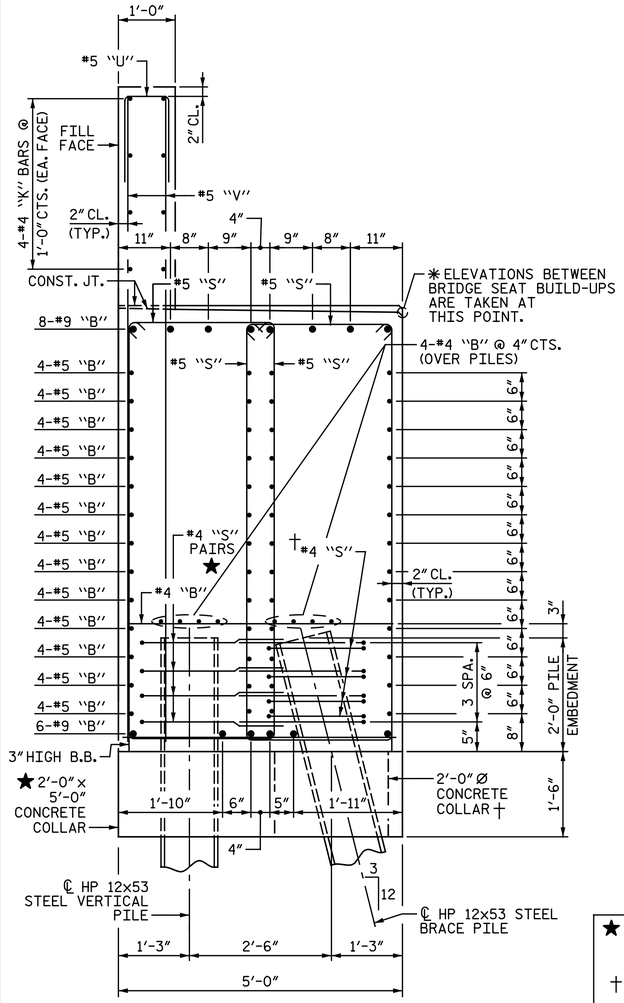


SECTION A-A

BILL OF MATERIAL

END BENT 1 STAGE I

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	6	#9	1	59' - 11"	1,222
B2	8	#9	1	38' - 9"	1,054
B3	8	#9	STR.	30' - 0"	816
B4	104	#5	STR.	31' - 11"	3,462
B5	16	#4	STR.	31' - 4"	335
B6	8	#4	STR.	6' - 10"	37
B7	16	#4	STR.	4' - 2"	45
B8	17	#4	STR.	4' - 8"	53
H1	10	#4	5	23' - 2"	155
H2	17	#4	5	19' - 1"	217
H3	7	#4	5	18' - 7"	87
H4	14	#4	5	3' - 6"	33
K1	16	#4	STR.	31' - 4"	335
S1	108	#5	2	18' - 4"	2,065
S2	154	#5	3	3' - 7"	576
S3	100	#5	2	17' - 5"	1,817
S4	40	#4	7	7' - 8"	205
S5	16	#4	4	6' - 6"	69
S16	3	#6	8	5' - 4"	24
S17	3	#6	9	10' - 1"	45
U1	54	#5	7	7' - 4"	413
U2	14	#4	7	7' - 8"	72
V1	108	#5	STR.	10' - 9"	1,211
V2	48	#5	STR.	12' - 5"	622
V3	5	#5	STR.	6' - 11"	36

REINFORCING STEEL LBS. 15,006

CLASS A CONCRETE
POUR 1 -
CAP, COLLARS, LOWER PART OF WING & WING BRACE PILE CAP C.Y. 89.3
POUR 2 -
BACKWALL & UPPER PART OF WING C.Y. 12.2
TOTAL C.Y. 101.5

PILE DRIVING EQUIPMENT SETUP FOR HP 12x53 STEEL PILES EA. 17

HP 12x53 STEEL PILES
NO. 17 LIN. FT. 1,180

PILE REDRIVES EA. 9

END BENT 1 STAGE II

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B9	6	#9	1	59' - 8"	1,217
B10	8	#9	1	38' - 3"	1,040
B11	8	#9	STR.	19' - 9"	537
B12	8	#9	STR.	19' - 4"	526
B13	88	#5	STR.	31' - 10"	2,922
B14	4	#5	STR.	26' - 9"	112
B15	4	#5	STR.	15' - 9"	66
B16	16	#4	STR.	31' - 3"	334
B17	8	#4	STR.	10' - 9"	57
B18	8	#4	STR.	7' - 1"	38
B19	8	#4	STR.	4' - 2"	22
B20	20	#4	STR.	4' - 8"	62
H5	9	#4	6	21' - 3"	128
H6	16	#4	6	16' - 5"	175
H7	7	#4	6	16' - 8"	78
H8	14	#4	6	3' - 5"	32
K2	16	#4	STR.	30' - 1"	322
S6	68	#5	2	17' - 10"	1,265
S7	154	#5	3	3' - 7"	576
S8	42	#5	2	16' - 10"	737
S9	98	#5	2	15' - 10"	1,618
S10	40	#4	7	7' - 8"	205
S11	16	#4	4	6' - 6"	69
S18	3	#6	8	5' - 4"	24
S19	3	#6	9	10' - 1"	45
U3	52	#5	7	7' - 4"	398
U4	18	#4	7	7' - 8"	92
V4	30	#5	STR.	11' - 1"	347
V5	74	#5	STR.	9' - 11"	765
V6	44	#5	STR.	11' - 8"	535
V7	5	#5	STR.	6' - 2"	32

REINFORCING STEEL LBS. 14,376

CLASS A CONCRETE
POUR 1 -
CAP, COLLARS, LOWER PART OF WING & WING BRACE PILE CAP C.Y. 82.1
POUR 2 -
BACKWALL & UPPER PART OF WING C.Y. 11.3
TOTAL C.Y. 93.4

PILE DRIVING EQUIPMENT SETUP FOR HP 12x53 STEEL PILES EA. 17

HP 12x53 STEEL PILES
NO. 17 LIN. FT. 1,180

PILE REDRIVES EA. 9

END BENT 1 STAGE III

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B21	16	#9	STR.	37' - 1"	2,017
B22	12	#9	STR.	35' - 5"	1,445
B23	8	#9	STR.	7' - 11"	215
B24	104	#5	STR.	34' - 8"	3,760
B25	16	#4	STR.	34' - 4"	367
B26	8	#4	STR.	18' - 10"	101
B27	24	#4	STR.	4' - 2"	67
B28	20	#4	STR.	4' - 8"	62
K3	16	#4	STR.	34' - 4"	367
S12	266	#5	2	18' - 4"	5,086
S13	212	#5	3	3' - 7"	792
S14	40	#4	7	7' - 8"	205
S15	16	#4	4	6' - 6"	69
U5	67	#5	7	7' - 4"	512
U6	26	#4	7	7' - 8"	133
V8	134	#5	STR.	11' - 4"	1,584

REINFORCING STEEL LBS. 16,782

CLASS A CONCRETE
POUR 1 -
CAP & COLLARS C.Y. 102.8
POUR 2 -
BACKWALL C.Y. 9.6
TOTAL C.Y. 112.4

PILE DRIVING EQUIPMENT SETUP FOR HP 12x53 STEEL PILES EA. 10

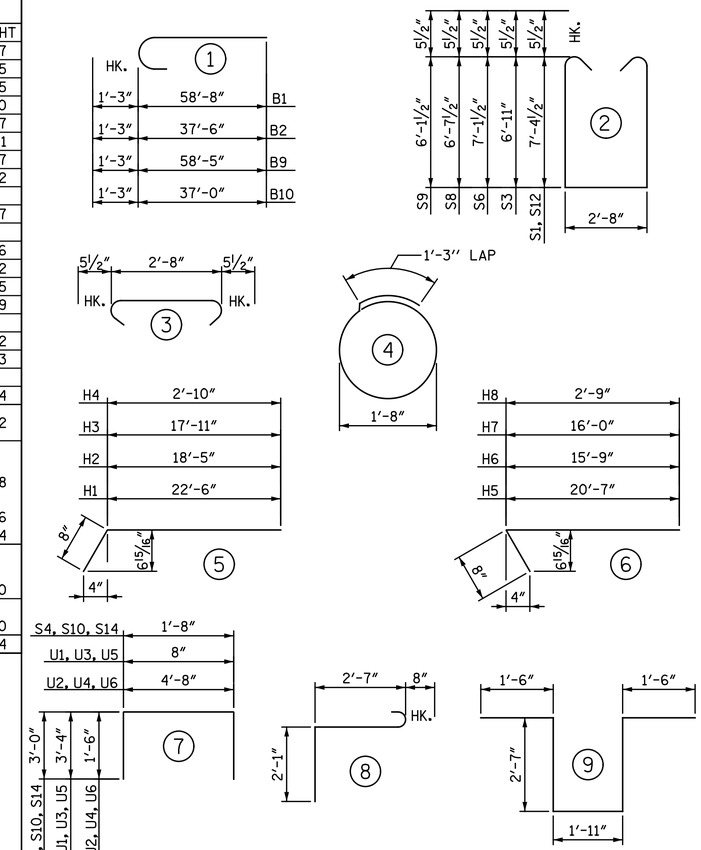
HP 12x53 STEEL PILES
NO. 10 LIN. FT. 650

PILE REDRIVES EA. 4

★ TYP. EA. LOCATION WITH BRACE PILE AND VERTICAL PILE PAIR (PILES 1&2, 4&5, 7&8, ETC.)

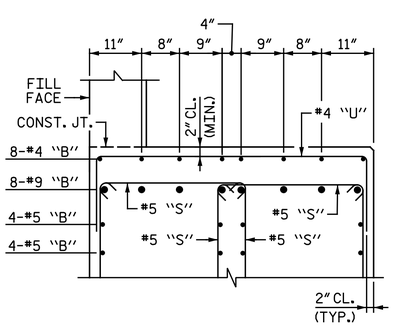
† TYP. EA. LOCATION WITH SINGLE BRACE PILE (PILES 3, 6, 9, ETC.)

BAR TYPES



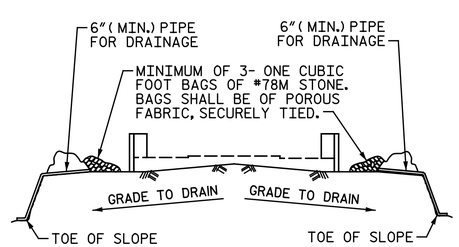
ALL BAR DIMENSIONS ARE OUT TO OUT.

NOTE:
FOR "PILE SPLICE DETAILS", SEE "END BENT 2 DETAILS" SHEET.



PARTIAL SECTION B-B

"V" & "K" BARS NOT SHOWN FOR CLARITY.

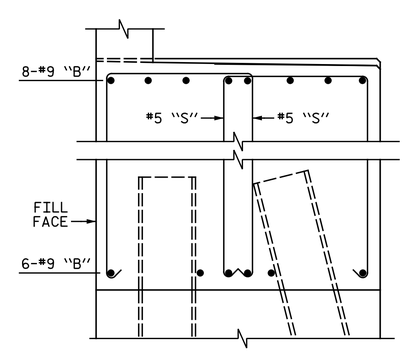


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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.

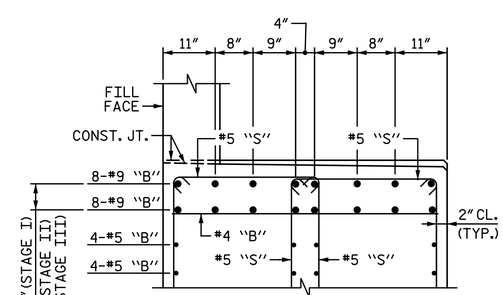
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT



PARTIAL SECTION C-C

ONLY #9 "B" & #5 "S" BARS SHOWN FOR CLARITY. (TYP. EA. PILE)



PARTIAL SECTION D-D

"V" & "K" BARS NOT SHOWN FOR CLARITY.

PROJECT NO. I-5986B
JOHNSTON COUNTY
STATION: 1391+19.65 -L-

SHEET 5 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT 1 DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 033139 ENGINEER TODD M. GARRISON

DocuSigned by: Todd M. Garrison
616EAF7523943466...
4/30/2020

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Michael Baker INTERNATIONAL
Michael Baker Engineering
8000 Regency Parkway, Suite 600
Cary, North Carolina 27518
NC License No.: F-1084

REVISIONS								SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:			S3-34
1			3					TOTAL SHEETS
2			4					44

DRAWN BY : M. D. MAYHEW DATE : 2-26-20
CHECKED BY : T. M. GARRISON DATE : 3-4-20