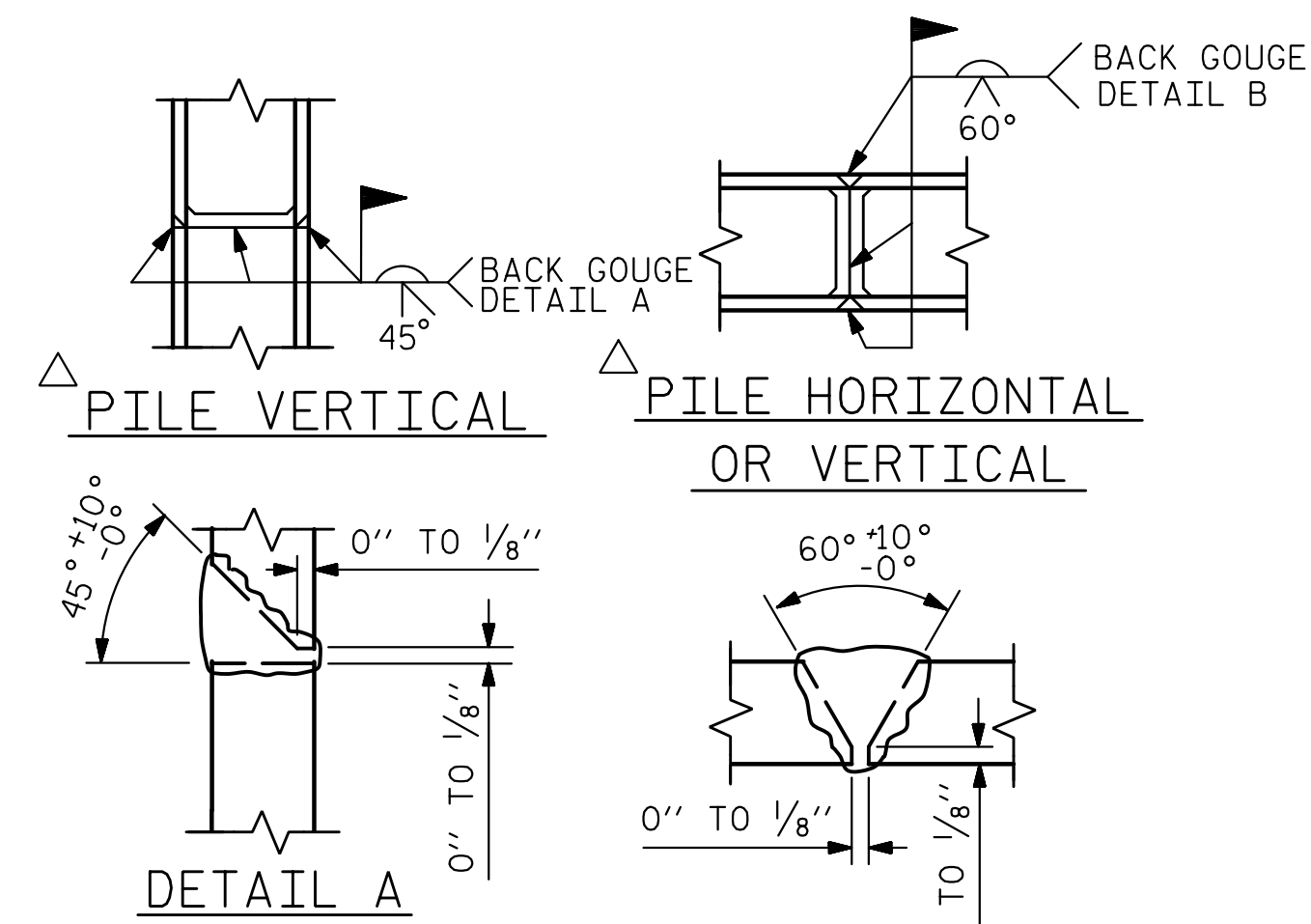


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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.

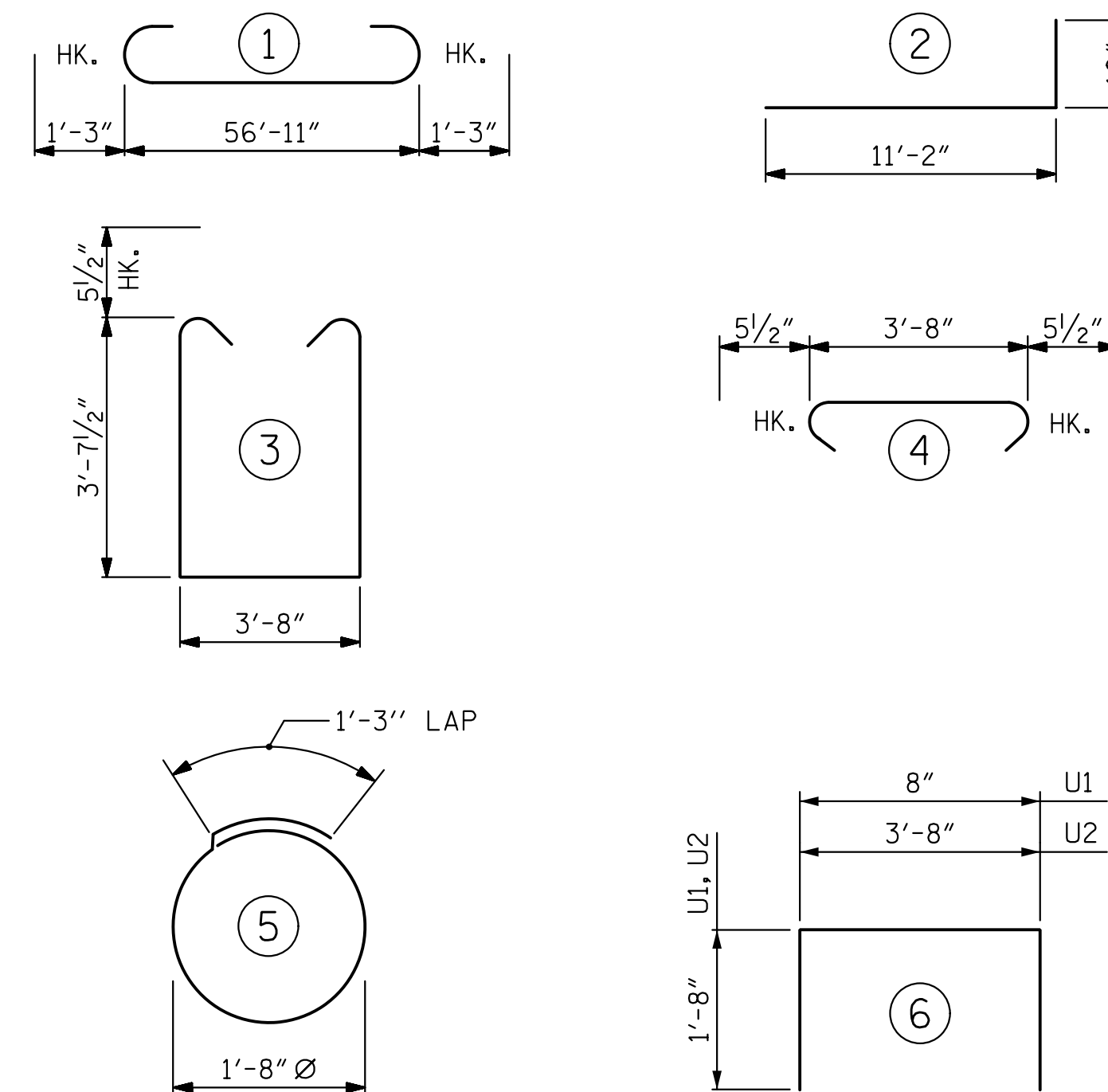
### TEMPORARY DRAINAGE AT END BENT



POSITION OF PILE DURING WELDING.

### PILE SPLICE DETAILS

### BAR TYPES

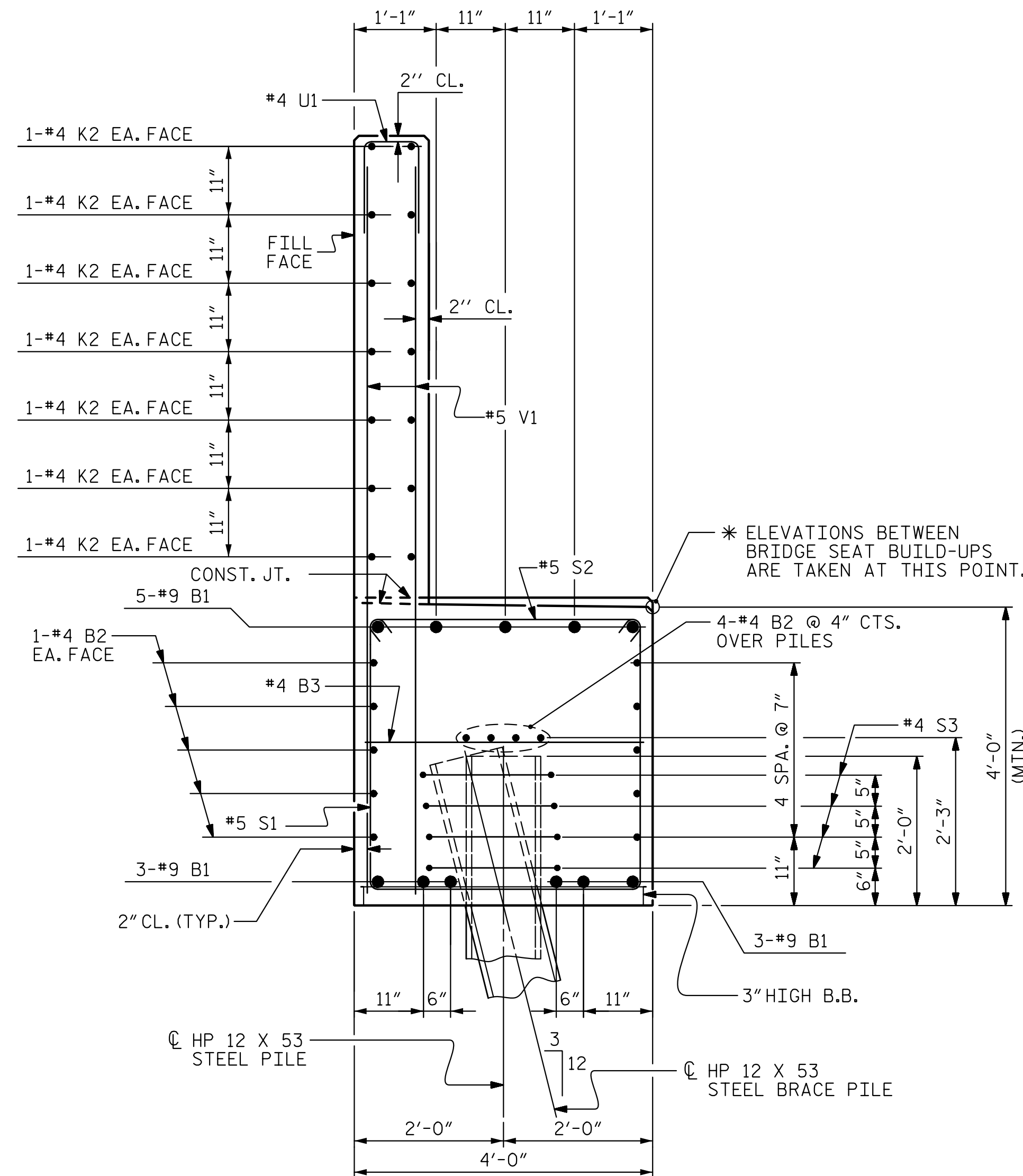


ALL BAR DIMENSIONS ARE OUT TO OUT.

HP 12 X 53 STEEL PILES  
NO: 8 LIN. FT. = 280

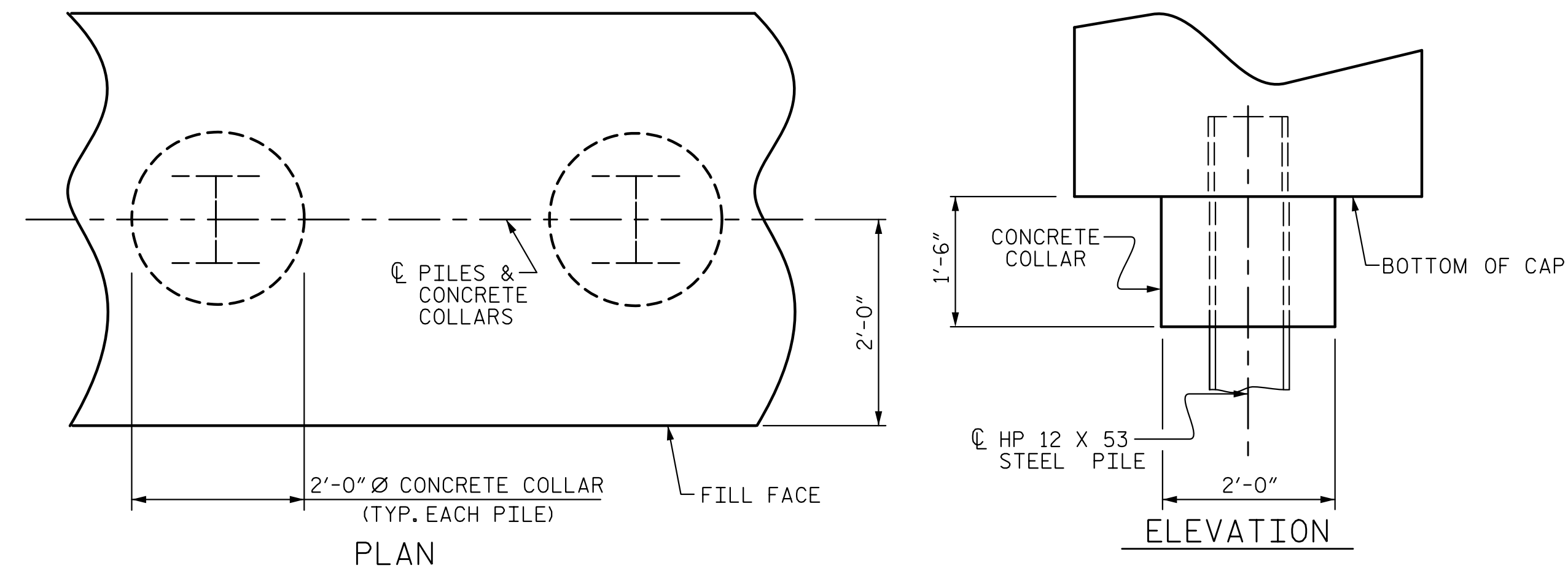
### BILL OF MATERIAL

END BENT 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	11	#9	1	59'-5"	2,222
B2	28	#4	STR	29'-8"	555
B3	15	#4	STR	3'-8"	37
B4	15	#4	STR	3'-3"	33
H1	100	#5	2	12'-0"	1,252
K1	8	#4	STR	3'-6"	19
K2	28	#4	STR	29'-8"	555
S1	60	#5	3	11'-10"	741
S2	60	#5	4	4'-7"	287
S3	32	#4	5	6'-6"	139
U1	50	#4	6	4'-0"	134
U2	9	#4	6	7'-0"	42
V1	100	#5	STR	9'-8"	1,008
V2	64	#5	STR	11'-4"	757
REINFORCING STEEL					7,781 LBS.
CLASS A CONCRETE BREAKDOWN					
POUR #1 CAP, LOWER PART OF WINGS & COLLARS					39.6 C.Y.
POUR #2 BACKWALL AND UPPER PART OF WINGS					19.2 C.Y.
TOTAL CLASS A CONCRETE					58.8 C.Y.

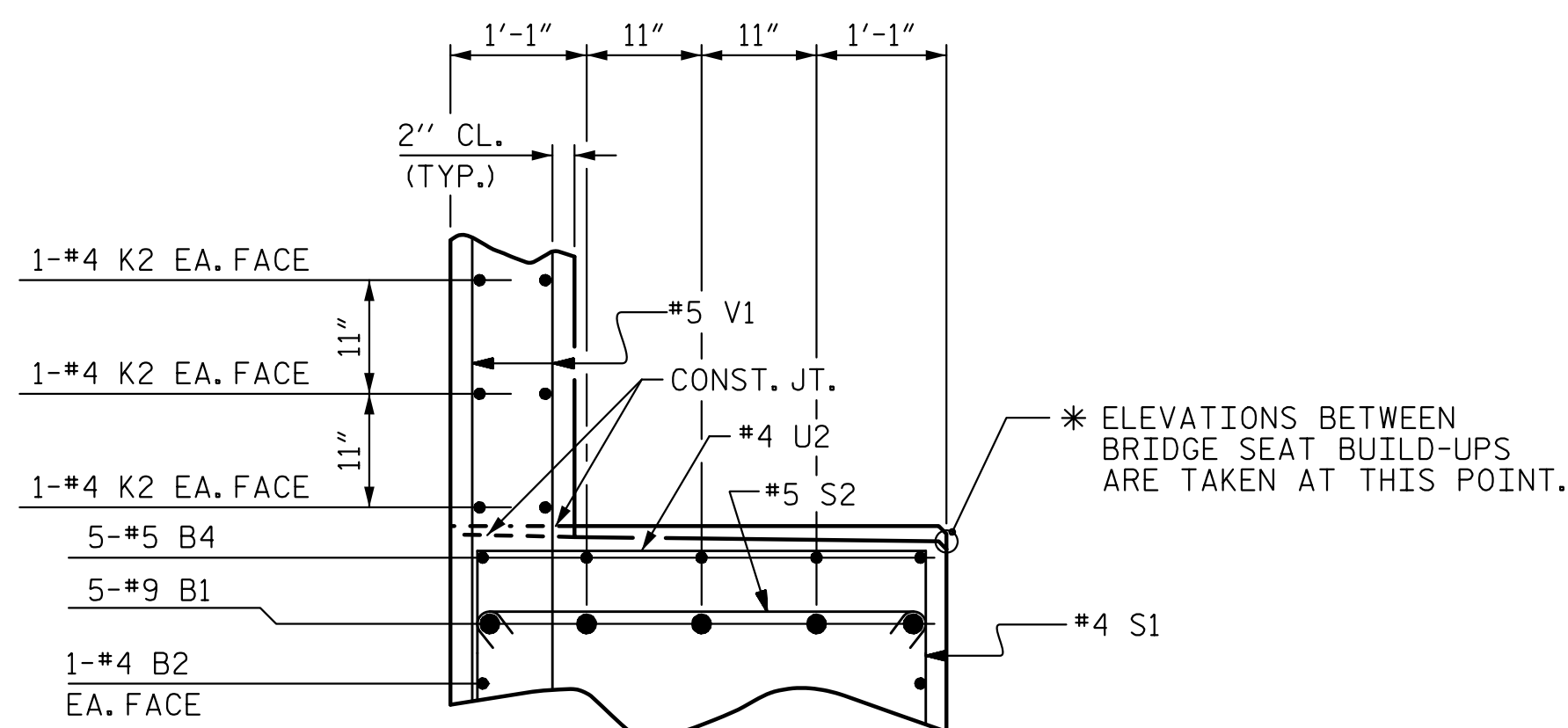


### SECTION A-A

(CONCRETE COLLAR NOT SHOWN FOR CLARITY. SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL.")



### CORROSION PROTECTION FOR STEEL PILES DETAIL



### PARTIAL SECTION B-B

PROJECT NO. W-5516

ROWAN COUNTY

STATION: 61+79.40 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

SUBSTRUCTURE  
END BENT 1  
DETAILS

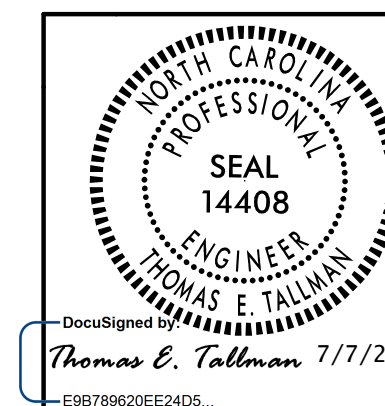
### REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. S-27  
TOTAL SHEETS 41

ICA  
Engineering

5121 Kingdom Way, Suite 100 Raleigh, NC 27607  
NC License No. P0295



Thomas E. Tallman 7/7/2015