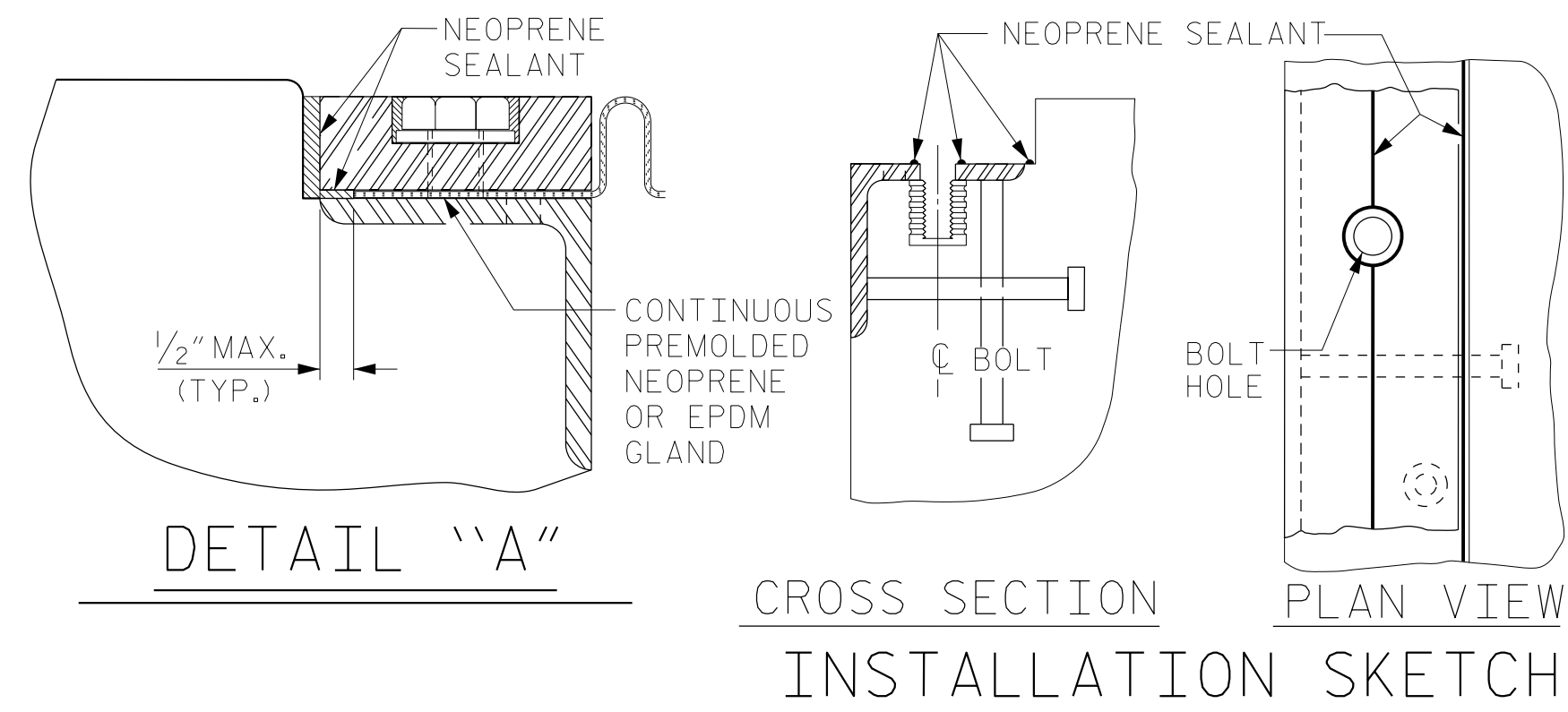


INSTALLATION PROCEDURE

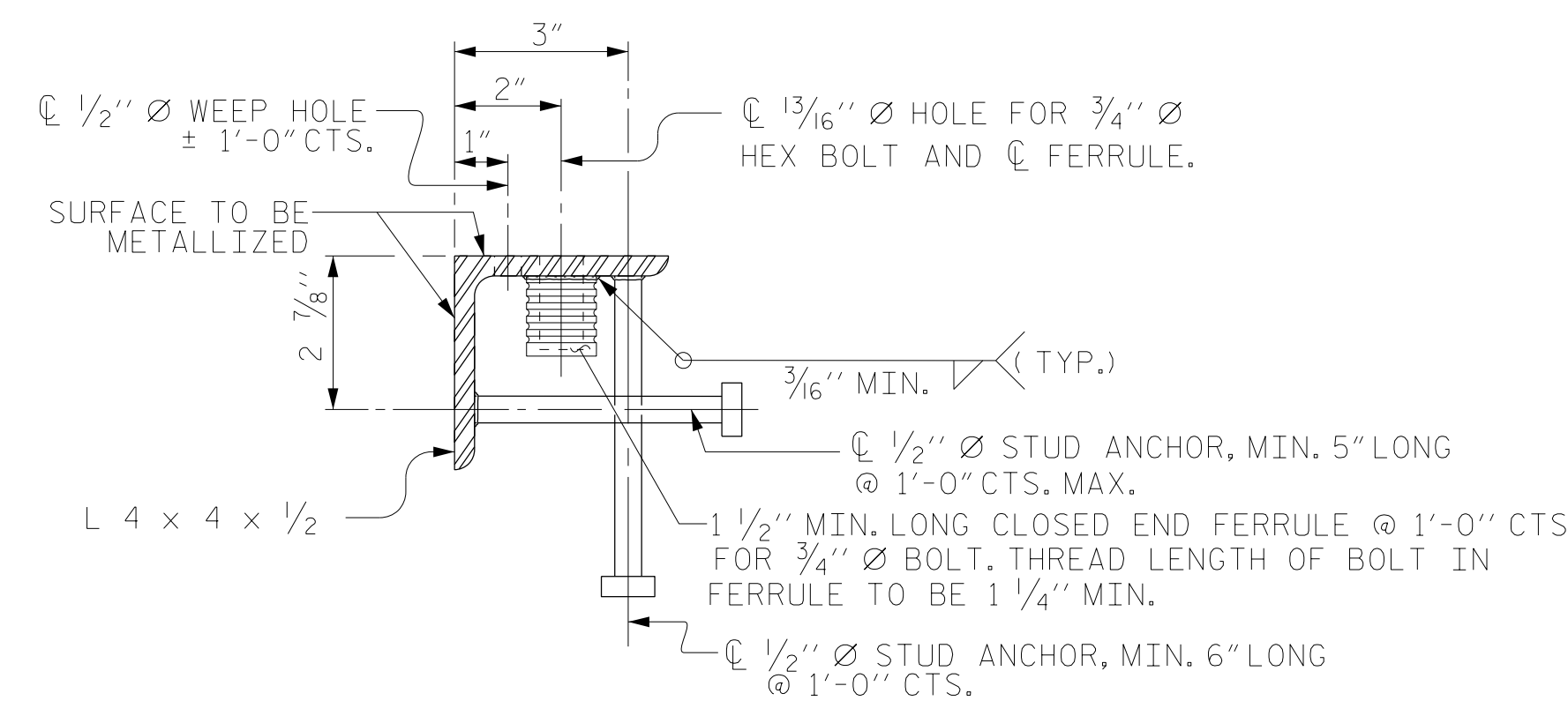
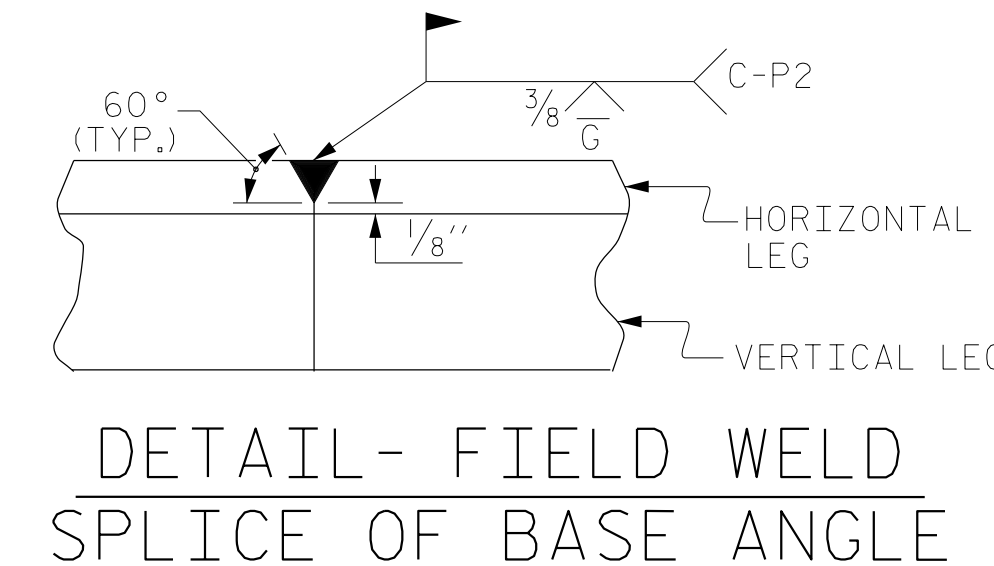
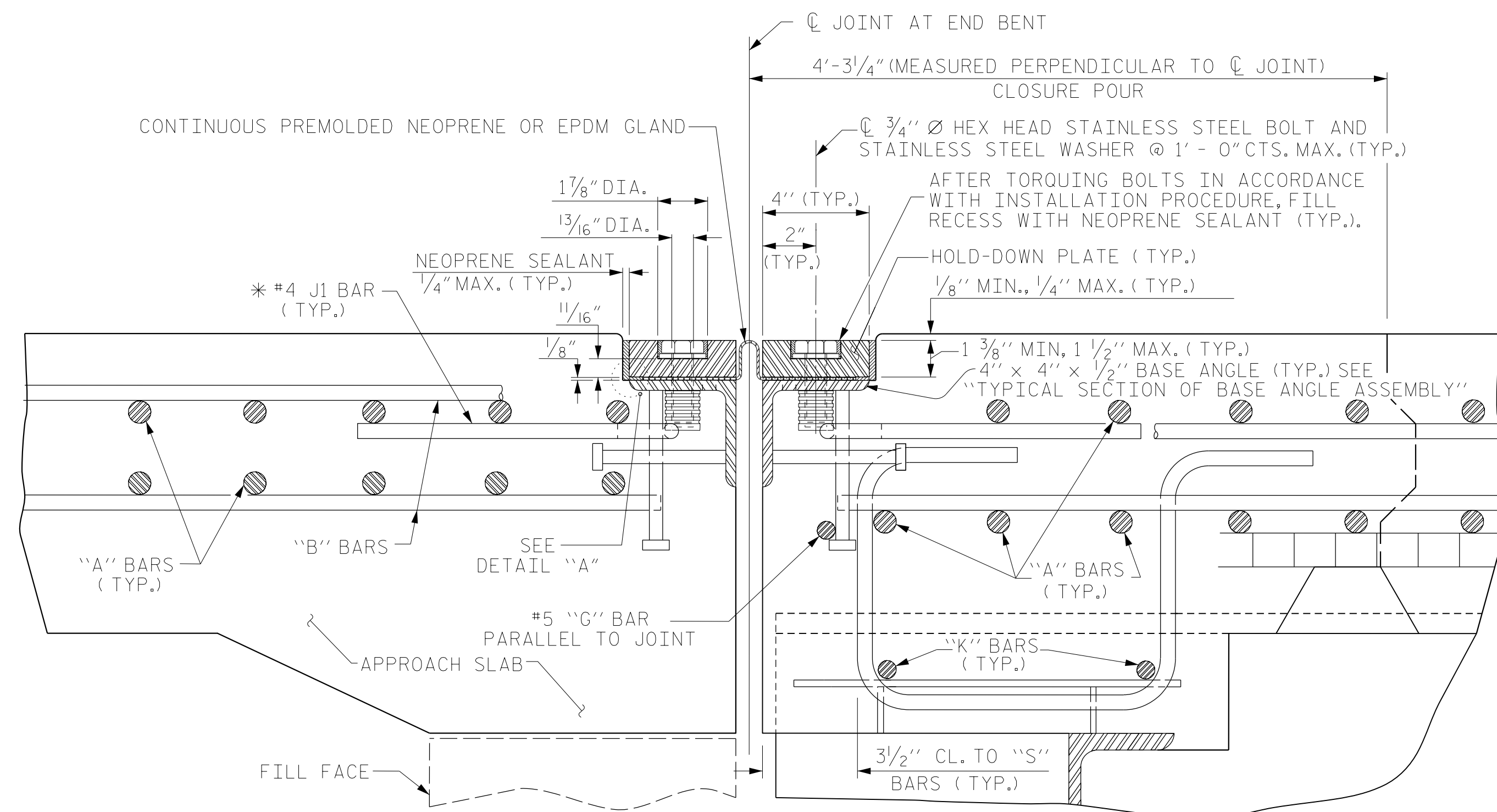
GENERAL NOTES



1. A TEMPLATE OR OTHER SUITABLE DEVICE SHALL BE USED TO FORM THE TOP OF THE EXPANSION JOINT SEAL BLOCKOUT TO THE PROPER DEPTH AND WIDTH. THE TEMPLATE SHALL BE 4/8" TO 4/4" WIDE AND OF SUCH THICKNESS AS TO PROVIDE FOR CORRECT FINAL ELEVATION OF TOP OF HOLD-DOWN PLATES. THE TEMPLATE SHALL BE ATTACHED TO THE BASE ANGLE ASSEMBLY WITH THE 3/4" Ø HEX HEAD BOLTS PROVIDED FOR THE HOLD-DOWN PLATES. A 1" Ø HOLE SHALL BE PROVIDED IN THE TEMPLATE CENTERED OVER EACH WEEP HOLE IN THE 4" X 4" X 1/2" BASE ANGLE. OTHER METHODS OF INSURING DRAINAGE THROUGH WEEP HOLES MAY BE EMPLOYED SUBJECT TO ENGINEER'S APPROVAL.
2. AFTER THE CONCRETE HAS BEEN CAST ON BOTH SIDES OF THE JOINT, REMOVE THE TEMPLATE. THOROUGHLY CLEAN THE BOLT HOLES AND THE ANGLE PLATE. REMOVE ANY EXCESS CONCRETE THAT COMES OUT OF THE WEEP HOLES. ANY DAMAGED STEEL SHALL BE REPAIRED IN ACCORDANCE WITH THE SPECIAL PROVISION FOR THERMAL SPRAYED COATINGS (METALLIZATION).
3. LAY THE GLAND ON THE BASE ANGLE AND FIELD MARK THE GLAND FOR THE BOLT HOLES. HOLES IN THE GLAND SHALL BE PUNCHED 1/8" IN DIAMETER WITH A HAND PUNCH.
4. IN ORDER TO CHECK FOR PROPER ALIGNMENT, PLACE THE GLAND AND HOLD-DOWN PLATES ON THE BASE ANGLE. DO NOT APPLY NEOPRENE SEALANT. BOLT THE HOLD-DOWN PLATES TO THE BASE ANGLE BUT DO NOT TIGHTEN. THE ENGINEER SHALL INSPECT THE JOINT SEAL DEVICE FOR PROPER ALIGNMENT.
5. AFTER INSPECTION, REMOVE THE HOLD-DOWN PLATES AND GLAND. APPLY NEOPRENE SEALANT TO THE BASE ANGLE IN ACCORDANCE WITH THE "INSTALLATION SKETCH". PLACE GLAND AND HOLD-DOWN PLATES ON THE BASE ANGLE. BOLT THE HOLD-DOWN PLATES TO THE BASE ANGLE ASSEMBLY AND TORQUE THE BOLTS TO 88 FT-LBS WITH A TORQUE WRENCH. CHECK THE TORQUE AFTER THREE (3) HOURS AND, IF NECESSARY, RETIGHTEN TO 88 FT-LBS. A FINAL CHECK SHALL BE MADE AT SEVEN (7) DAYS. TORQUE SHALL NOT BE LESS THAN 80 FT-LBS AFTER SEVEN (7) DAYS.
6. AFTER PROPER TORQUING, CLEAN THE BOLT HOLE RECESSES, THE RECESS BETWEEN THE JOINT SEAL DEVICE AND CONCRETE, AND THE LIFTING HOLES IN THE HOLD-DOWN PLATE, AND COMPLETELY FILL THE RECESSES AND LIFTING HOLES WITH NEOPRENE SEALANT.

1. FOR EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.
2. ALL PLATES AND ANGLES SHALL CONFORM TO AASHTO M270 GRADE 36 STEEL OR APPROVED EQUAL. ALL HOLD-DOWN BOLTS SHALL CONFORM TO ASTM F593 ALLOY 304 STAINLESS STEEL AND WASHERS SHALL CONFORM TO ASTM F844 EXCEPT THEY SHALL BE MADE FROM ALLOY 304 STAINLESS STEEL. ALL STUD ANCHORS SHALL CONFORM TO AASHTO M169, GRADES 1010 THRU 1020 OR APPROVED EQUAL. ALL CONCRETE INSERTS SHALL BE CLOSED END AND SHALL CONFORM TO AASHTO M169, GRADE 12L14. TENSILE CAPACITY SHALL BE 3000 LBS. MINIMUM.
3. A PREMOLDED CORRUGATED OR NON-CORRUGATED GLAND SHALL BE USED FOR JOINTS SKEWED BETWEEN 50° THRU 130°. FOR JOINTS SKEWED LESS THAN 50° OR MORE THAN 130°, ONLY A CORRUGATED GLAND SHALL BE USED.
4. CLOSED END FERRULES AND STUD ANCHORS SHALL BE SHOP WELDED AND ALL HOLES SHALL BE SHOP DRILLED AS SHOWN ON PLANS. STUD ANCHORS SHALL BE ELECTRIC ARC END WELDED WITH COMPLETE FUSION.
5. SURFACES COMING IN CONTACT WITH NEOPRENE SHALL BE GROUND SMOOTH PRIOR TO METALLIZING.
6. UPON COMPLETION OF SHOP FABRICATION, THE HOLD-DOWN PLATE AND BASE ANGLE ASSEMBLY, AS SHOWN IN THE "TYPICAL SECTION OF BASE ANGLE ASSEMBLY", SHALL BE METALLIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. FOR THERMAL SPRAYED COATINGS (METALLIZATION), SEE SPECIAL PROVISIONS.
7. THE COVER PLATES SHALL BE GALVANIZED OR METALLIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. FOR THERMAL SPRAYED COATINGS (METALLIZATION), SEE SPECIAL PROVISIONS.
8. BASE ANGLE ASSEMBLY SHALL BE CONTINUOUS FOR THE LENGTH OF THE JOINT. AT CROWN BREAKS, THE ENDS OF THE BASE ANGLE ASSEMBLY SHALL BE CUT PARALLEL TO THE BRIDGE CENTERLINE FOR SKEWS LESS THAN 80° AND GREATER THAN 100°. FINISHED WELD SHALL BE REPAIRED IN ACCORDANCE WITH THE SPECIAL PROVISION FOR THERMAL SPRAYED COATINGS (METALLIZATION).
9. FIELD SPLICES OF HOLD-DOWN PLATES SHALL BE KEPT TO A MINIMUM. CONTRACTOR SHALL FURNISH DETAILED PLANS SHOWING PROPOSED SPLICE LOCATIONS FOR APPROVAL. HOLD-DOWN PLATES SHALL NOT EXCEED 20' LENGTHS UNLESS APPROVED BY THE ENGINEER.
10. NO ALTERNATE JOINT DETAILS SHALL BE PERMITTED IN LIEU OF THOSE SHOWN ON THESE PLANS.
11. THE CONTRACTOR MAY, AT HIS OPTION, USE ADHESIVELY ANCHORED ANCHOR BOLTS, IN PLACE OF CONCRETE INSERTS FOR COVER PLATES. THE YIELD LOAD OF THE 3/4" Ø BOLT IS 10 KIPS. FIELD TESTING OF THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.
12. THE FABRICATOR SHALL PROVIDE 1/2" Ø THREADED HOLES IN THE HOLD-DOWN PLATES TO ASSIST IN LIFTING AND PLACING. THE HOLES SHALL BE 3/4" DEEP AT 6'-0" MAXIMUM SPACING AND A MINIMUM OF TWO HOLES PER PLATE.

MOVEMENT AND SETTING AT JOINT					
END BENT NO.	SKEW ANGLE	TOTAL MOVEMENT (ALONG C RDWY)	PERPENDICULAR JOINT OPENING AT 45° F	PERPENDICULAR JOINT OPENING AT 60° F	PERPENDICULAR JOINT OPENING AT 90° F
1	144°-6'-59"	2 1/8"	1 13/16"	1 5/8"	1 1/4"
2	144°-6'-59"	1 5/8"	1 5/8"	1 1/2"	1 3/16"



* THE QUANTITY OF #4 J1 BARS ON THE BILL OF MATERIAL IS BASED ON 1'-0" CENTERS. J1 BARS SHALL BE PLACED AT EACH VERTICAL STUD ANCHOR BOLT, IN THE EVENT THAT THE NUMBER OF VERTICAL STUD ANCHORS EXCEEDS THE NUMBER OF J1 BARS SPECIFIED, ADDITIONAL J1 BARS WILL NOT BE REQUIRED.

PROJECT NO. U-2579AB
 FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

SHEET 1 OF 4

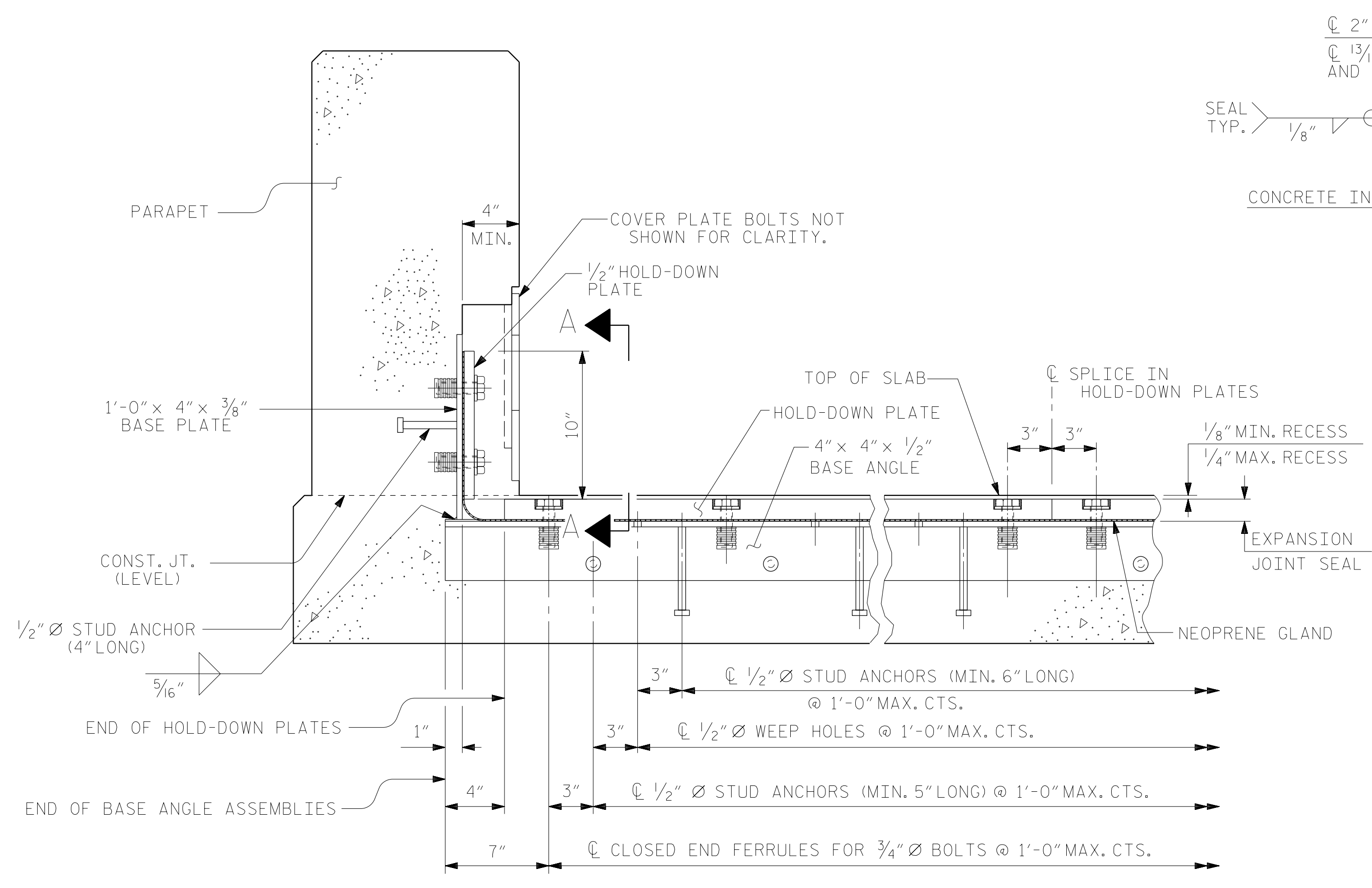


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 STANDARD
 EXPANSION JOINT
 SEAL DETAILS

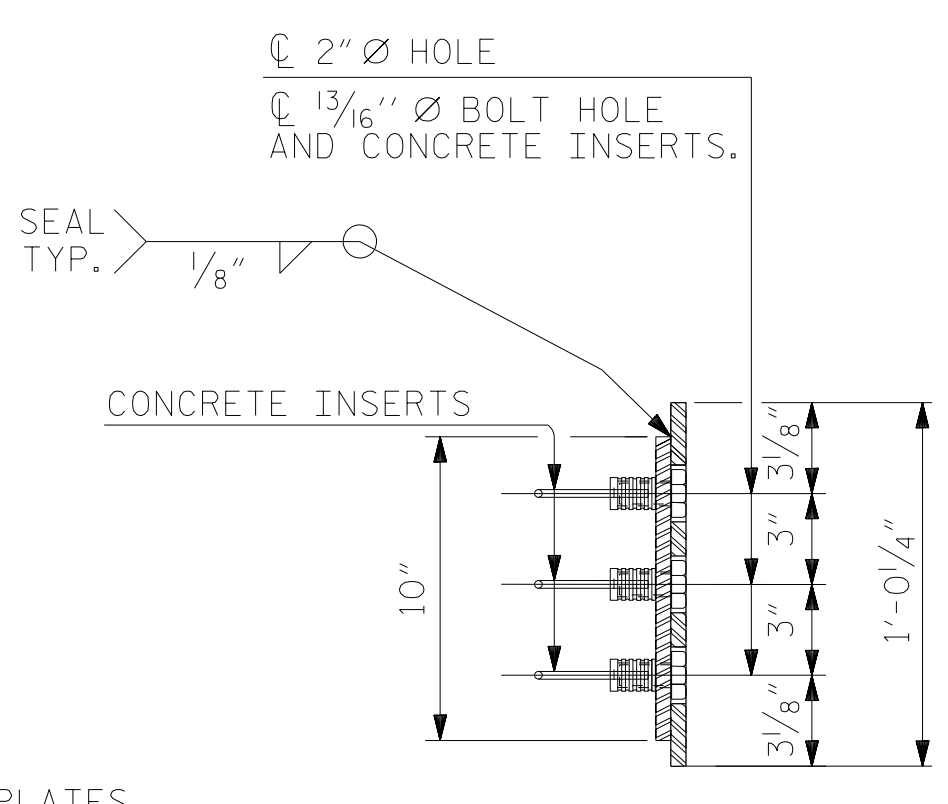
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			48
2			4			

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

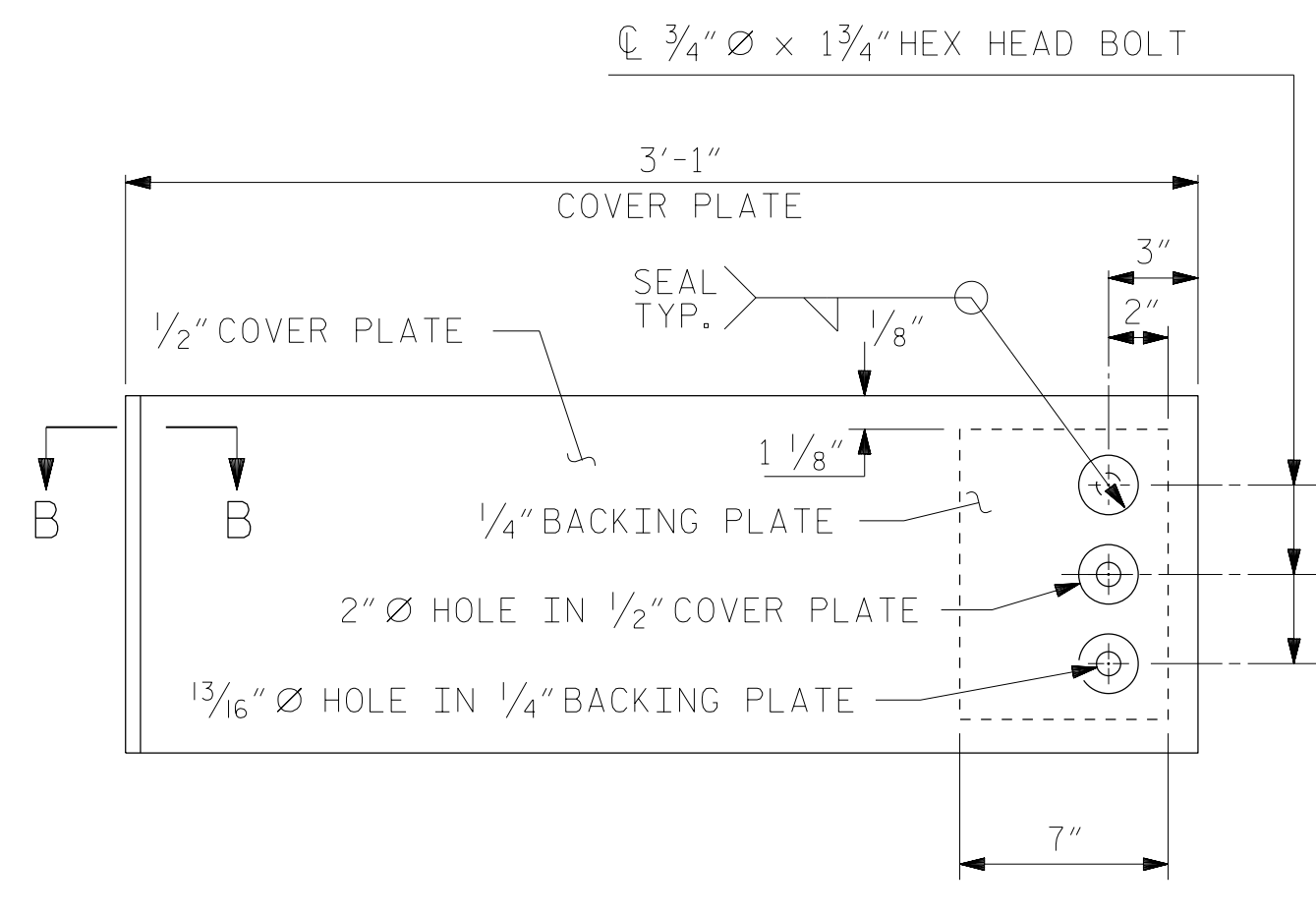
ASSEMBLED BY : TWL	DATE : 08/2019
CHECKED BY : MRA	DATE : 12/2019
DRAWN BY : REK 9/87	REV. 10/11 MAA/TMC
CHECKED BY : CRK 10/87	REV. 10/11 MAA/TMC
	REV. 6/18 MAA/TMC



SECTION THRU RAIL NORMAL TO JOINT

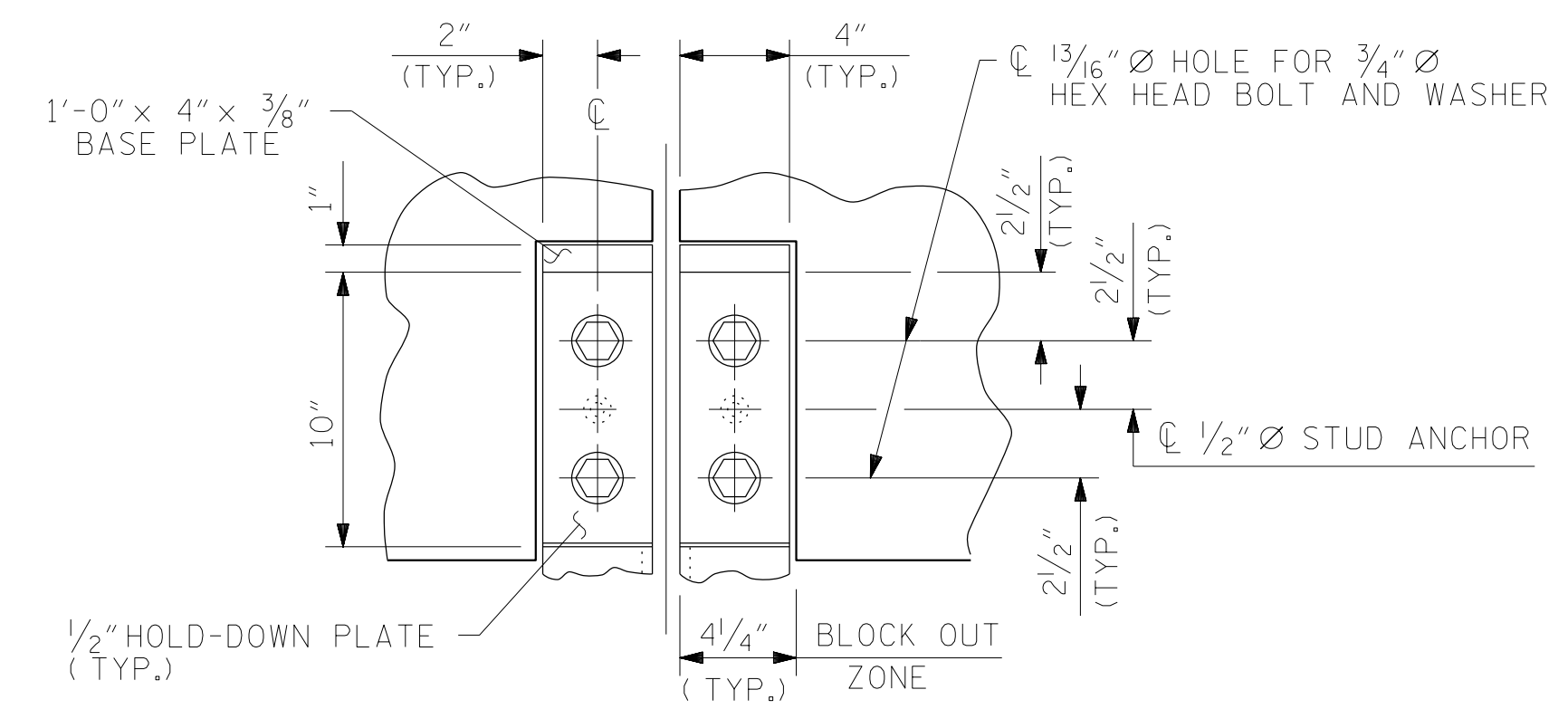


END VIEW

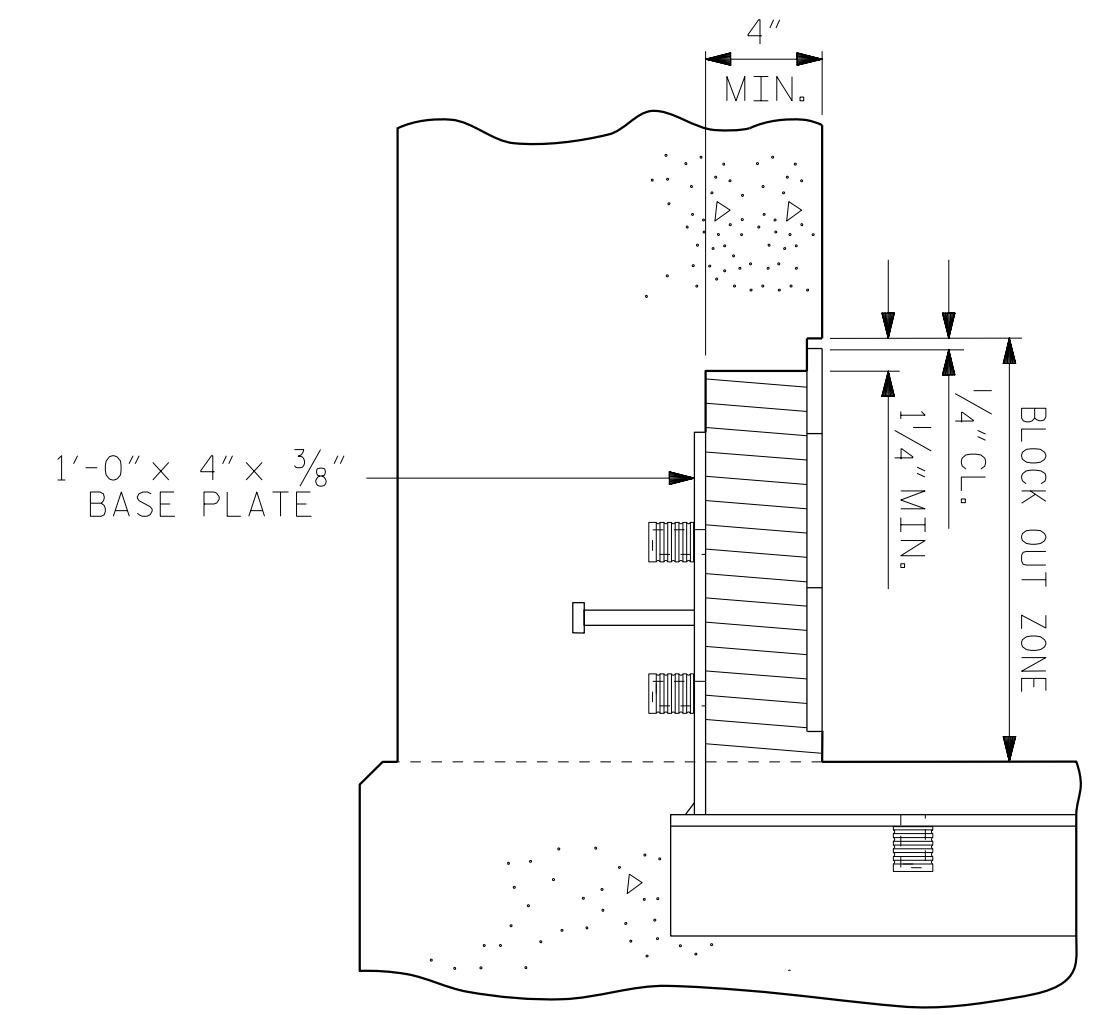


TYPE II - ELEVATION VIEW

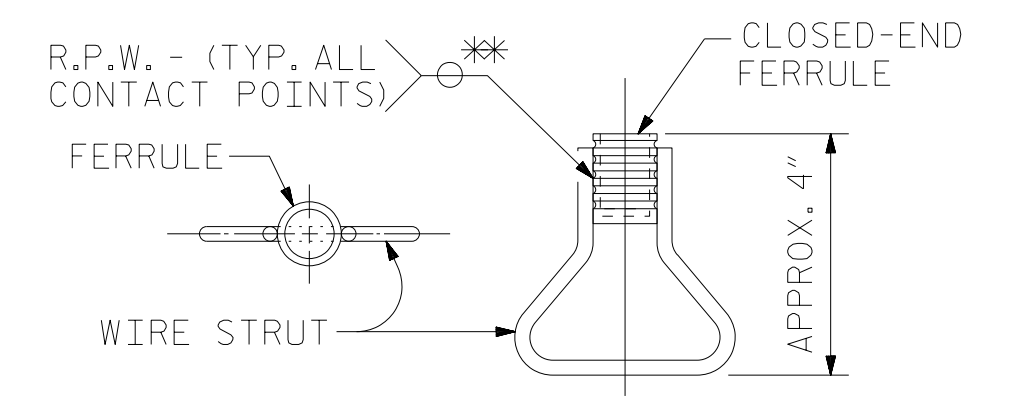
COVER PLATE DETAILS



SECTION A - A

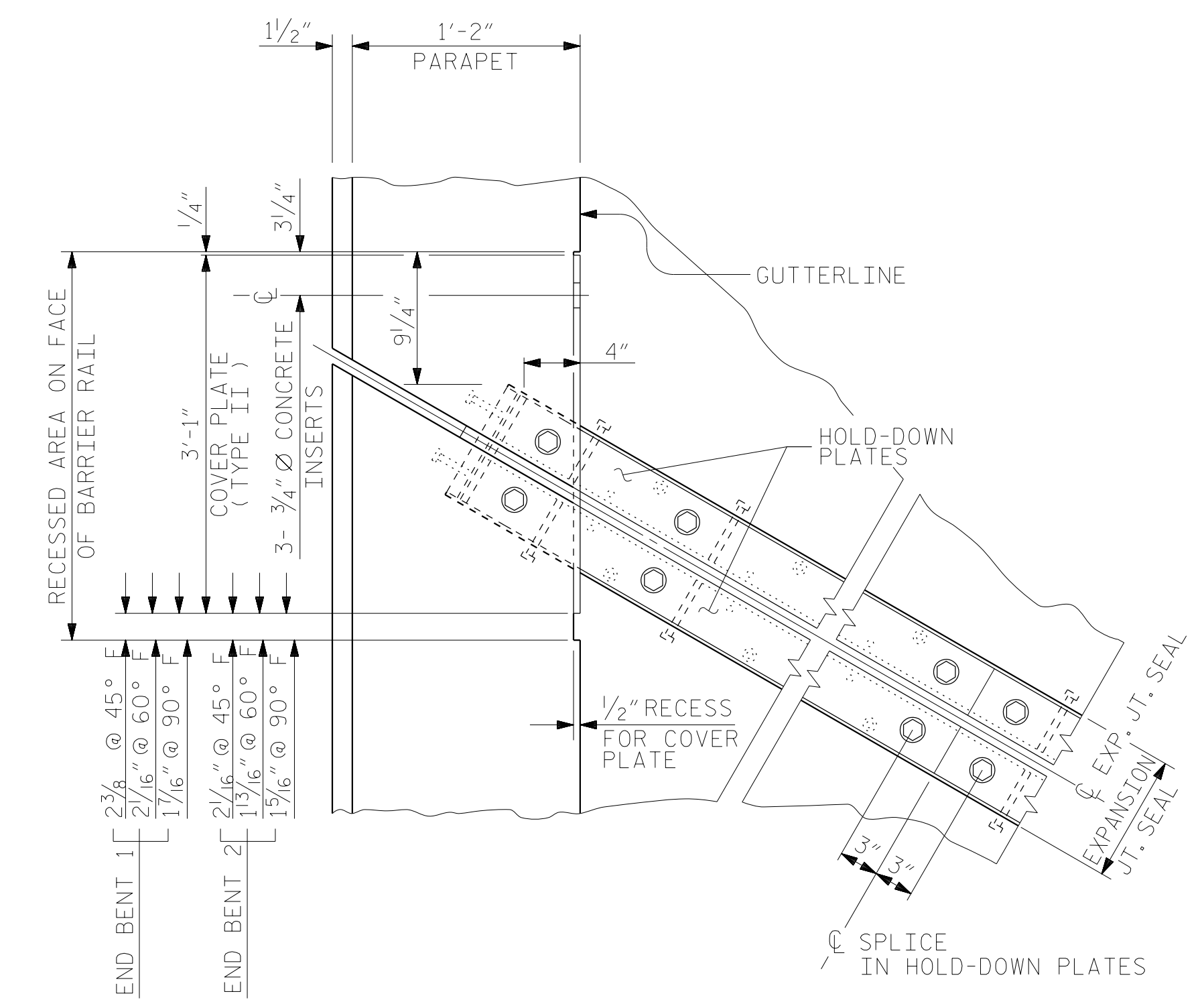


BLOCK OUT DETAIL
SEE "SECTION A - A" FOR OTHER DETAILS.

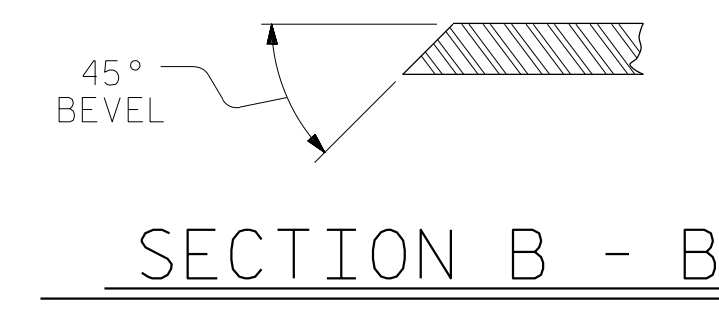


CONCRETE INSERT

** EACH WELDED ATTACHMENT OF WIRE TO FERRULE SHALL DEVELOP THE TENSILE STRENGTH OF THE WIRE.



PLAN OF EXPANSION JOINT SEAL



SECTION B - B

PROJECT NO. U-2579AB
FORSYTH COUNTY
STATION: 23+43.03 -Y16-

SHEET 2 OF 4



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SUPERSTRUCTURE
EXPANSION JOINT
SEAL DETAILS
FOR PARAPET

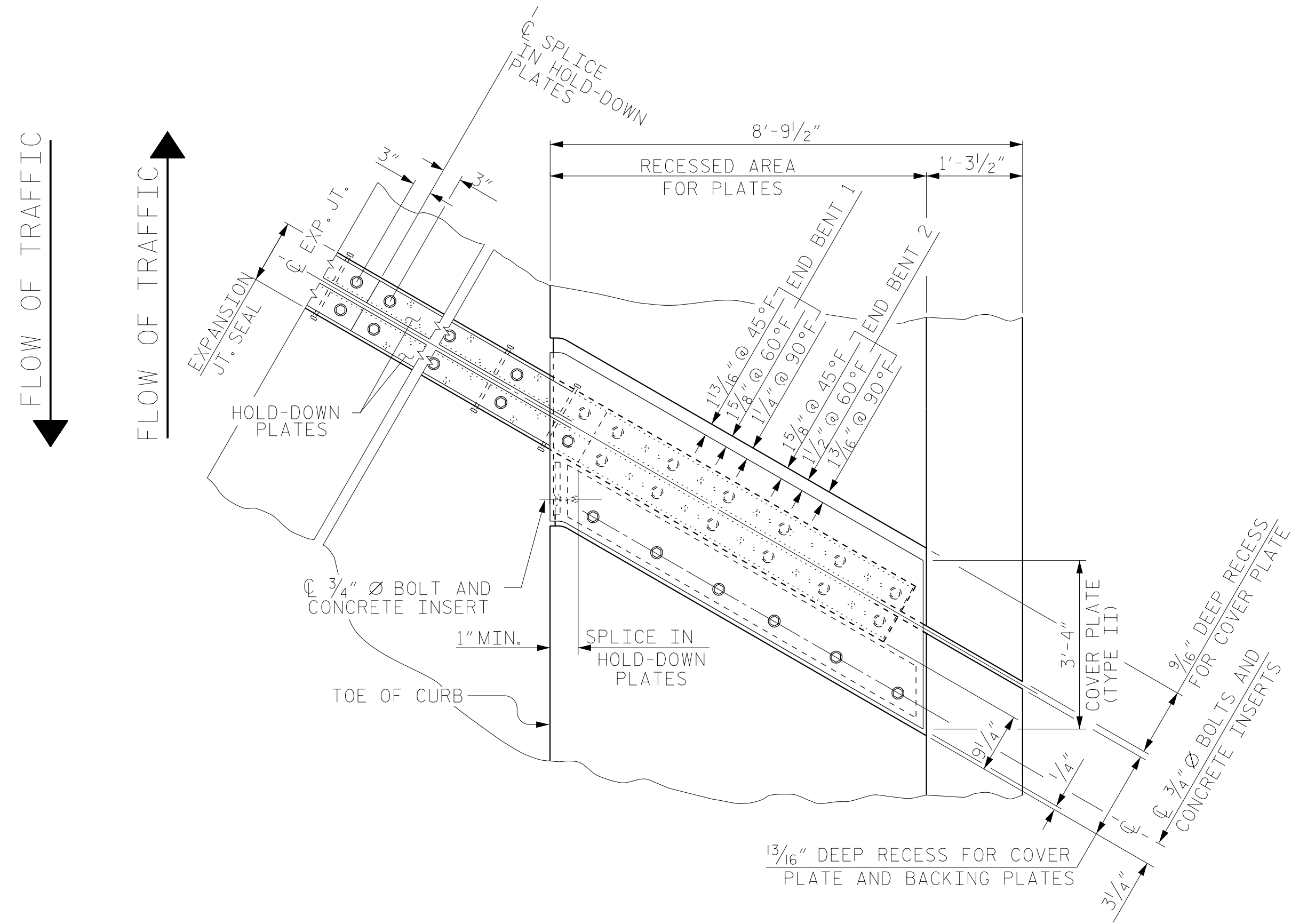
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S7-28
1			3			TOTAL SHEETS
2			4			48

DRAWN BY : MRA DATE : 12/2019
CHECKED BY : JMR DATE : 12/2019
DESIGN ENGINEER OF RECORD: JMR DATE : 12/2019

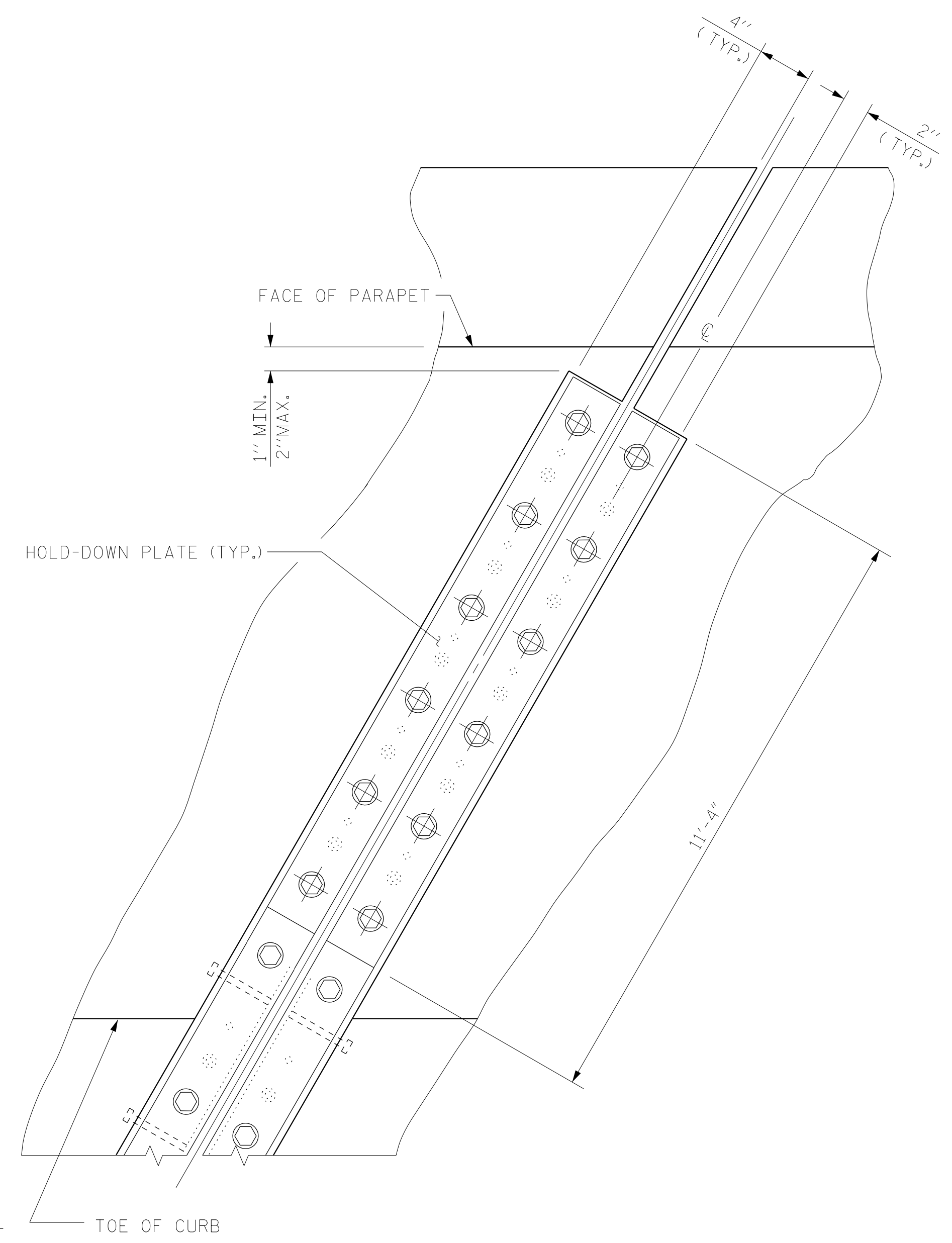
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SIGNATURES COMPLETED

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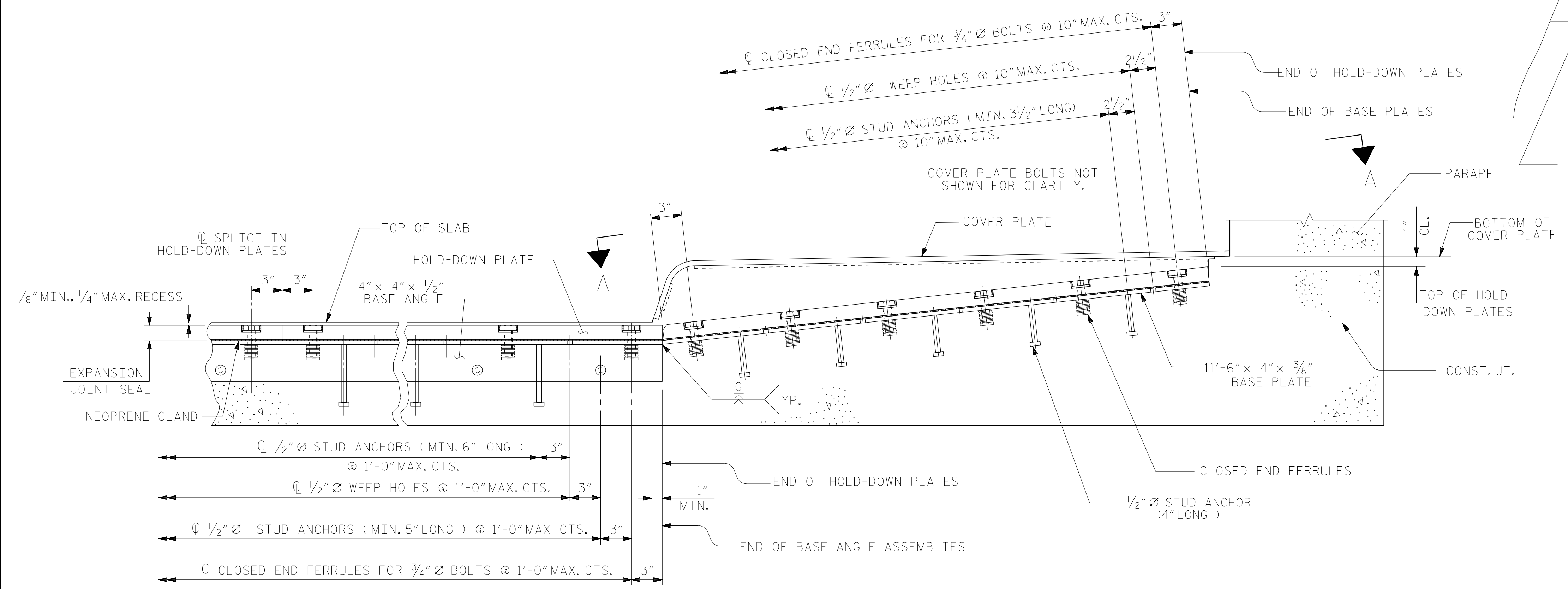
FOR SIDEWALK COVER PLATE DETAILS, SEE SHEET 4 OF 4.
 FOR DETAILS NOT SHOWN, SEE SHEET 2 OF 4.



PLAN OF EXPANSION JOINT SEAL - RIGHT SIDE



SECTION A - A



SECTION THRU SIDEWALK NORMAL TO JOINT

PROJECT NO. U-2579AB
FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

SHEET 3 OF 4



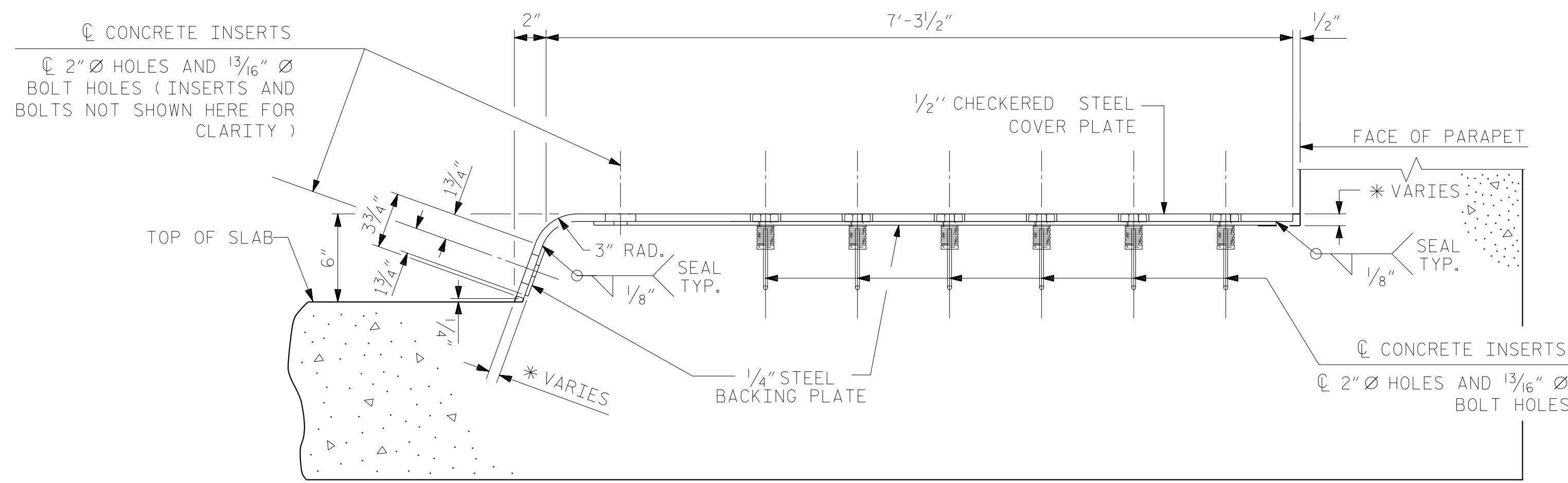
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 EXPANSION JOINT
 SEAL DETAILS
 FOR SIDEWALK

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S7-29
1			3			TOTAL SHEETS
2			4			48

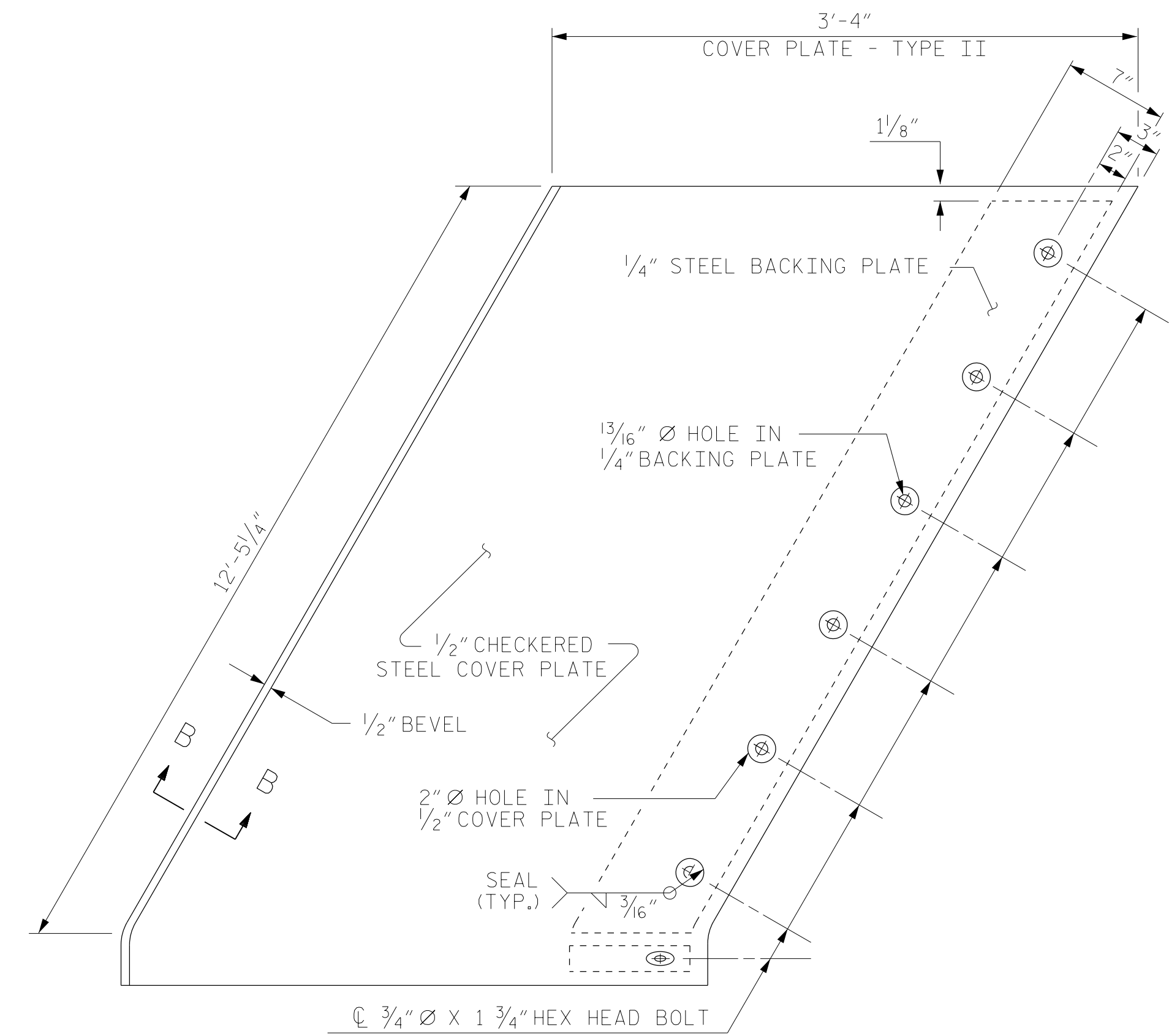
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ASSEMBLED BY : TWL	DATE : 08/2019
CHECKED BY : MRA	DATE : 12/2019
DRAWN BY : REK 10/87	REV. 5/1/06 TLA/GM
CHECKED BY : CRK 1/88	REV. 10/1/11 MAA/GM
	REV. 12/17 MAA/THG



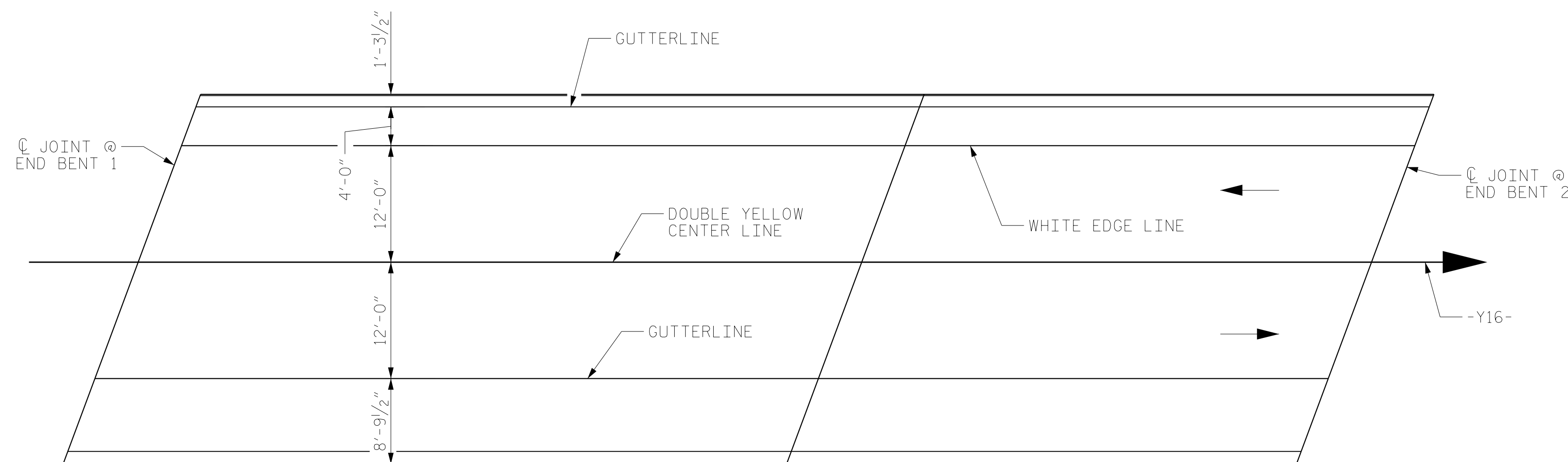
END VIEW
(NORMAL TO SIDEWALK)

* CONCRETE RECESS DIMENSIONS:
 13/16" FOR THE SIDE OF THE JOINT HAVING THE 1/2" COVER PLATE WITH A 1/4" BACKING PLATE.
 9/16" FOR THE SIDE OF THE JOINT HAVING ONLY THE 1/2" COVER PLATE.



TYPE II - PLAN VIEW

COVER PLATE DETAILS



PAVEMENT MARKING ALIGNMENT

NOTE:
 FOR DETAILS NOT SHOWN, SEE SHEET 2 OF 4.

PROJECT NO. U-2579AB
FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

SHEET 4 OF 4

ASSEMBLED BY : TWL	DATE : 08/2019
CHECKED BY : MRA	DATE : 12/2019
DRAWN BY : REK 10/87	REV. 5/1/06 TLA/GM
CHECKED BY : CRK 1/88	REV. 10/1/11 MAA/GM
	REV. 12/17 MAA/THC

10/14/2021
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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD EXPANSION JOINT SEAL DETAILS FOR SIDEWALK					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S7-30					TOTAL SHEETS 48

REINFORCING BAR SCHEDULE

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
* A1001	916	#5	STR	37'-9"	36066	* A1077	2	#5	STR	26'-8"	56	A2042	2	#5	STR	15'-0"	31	* J1	130	#4	1	1'-5"	123	
* A1002	2	#5	STR	1'-9"	4	* A1078	2	#5	STR	27'-0"	56	A2043	2	#5	STR	15'-4"	32							
* A1003	2	#5	STR	2'-1"	4	* A1079	2	#5	STR	27'-4"	57	A2044	2	#5	STR	15'-8"	33	* K1	20	#8	2	23'-7"	1259	
* A1004	2	#5	STR	2'-5"	5	* A1080	2	#5	STR	27'-8"	58	A2045	2	#5	STR	16'-0"	33	* K2	20	#8	3	37'-0"	1976	
* A1005	2	#5	STR	2'-9"	6	* A1081	2	#5	STR	28'-0"	58	A2046	2	#5	STR	16'-4"	34							
* A1006	2	#5	STR	3'-1"	6	* A1082	2	#5	STR	28'-4"	59	A2047	2	#5	STR	16'-8"	35	* S1	78	#4	4	5'-10"	304	
* A1007	2	#5	STR	3'-5"	7	* A1083	2	#5	STR	28'-8"	60	A2048	2	#5	STR	17'-0"	35	REINFORCING STEEL 63,380 LBS.						
* A1008	2	#5	STR	3'-9"	8	* A1084	2	#5	STR	29'-0"	60	A2049	2	#5	STR	17'-4"	36	* EPOXY COATED REINFORCING STEEL 75,221 LBS.						
* A1009	2	#5	STR	4'-1"	9	* A1085	2	#5	STR	29'-4"	61	A2050	2	#5	STR	17'-8"	37							
* A1010	2	#5	STR	4'-5"	9	* A1086	2	#5	STR	29'-8"	62	A2051	2	#5	STR	18'-0"	38							
* A1011	2	#5	STR	4'-9"	10	* A1087	2	#5	STR	30'-0"	63	A2052	2	#5	STR	18'-4"	38							
* A1012	2	#5	STR	5'-1"	11	* A1088	2	#5	STR	30'-4"	63	A2053	2	#5	STR	18'-8"	39							
* A1013	2	#5	STR	5'-5"	11	* A1089	2	#5	STR	30'-8"	64	A2054	2	#5	STR	19'-0"	40							
* A1014	2	#5	STR	5'-9"	12	* A1090	2	#5	STR	31'-0"	65	A2055	2	#5	STR	19'-4"	40							
* A1015	2	#5	STR	6'-1"	13	* A1091	2	#5	STR	31'-4"	65	A2056	2	#5	STR	19'-8"	41							
* A1016	2	#5	STR	6'-5"	13	* A1092	2	#5	STR	31'-8"	66	A2057	2	#5	STR	20'-0"	42							
* A1017	2	#5	STR	6'-9"	14	* A1093	2	#5	STR	32'-0"	67	A2058	2	#5	STR	20'-4"	42							
* A1018	2	#5	STR	7'-1"	15	* A1094	2	#5	STR	32'-4"	67	A2059	2	#5	STR	20'-8"	43							
* A1019	2	#5	STR	7'-5"	15	* A1095	2	#5	STR	32'-8"	68	A2060	2	#5	STR	21'-0"	44							
* A1020	2	#5	STR	7'-9"	16	* A1096	2	#5	STR	33'-0"	69	A2061	2	#5	STR	21'-4"	45							
* A1021	2	#5	STR	8'-1"	17	* A1097	2	#5	STR	33'-4"	70	A2062	2	#5	STR	21'-8"	45							
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* A1034	2	#5	STR	12'-4"	26	* A1110	16	#6	STR	30'-0"	721	A2075	2	#5	STR	26'-0"	54							
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* A1048	2	#5	STR	17'-0"	35	A2013	2	#5	STR	5'-5"	11	A2089	2	#5	STR	30'-8"	64							
* A1049	2	#5	STR	17'-4"	36	A2014	2	#5	STR	5'-9"	12	A2090	2	#5	STR	31'-0"	65							
* A1050	2	#5	STR	17'-8"	37	A2015	2	#5	STR	6'-1"	13	A2091	2	#5	STR	31'-4"	65							
* A1051	2	#5	STR	18'-0"	38	A2016	2	#5	STR	6'-5"	13	A2092	2	#5	STR	31'-8"	66							
* A1052	2	#5	STR	18'-4"	38	A2017	2	#5	STR	6'-9"	14	A2093	2	#5	STR	32'-0"	67							
* A1053	2	#5	STR	18'-8"	39	A2018	2	#5	STR	7'-1"	15	A2094	2	#5	STR	32'-4"	67							
* A1054	2	#5	STR	19'-0"	40	A2019	2	#5	STR	7'-5"	15	A2095	2	#5	STR	32'-8"	68							
* A1055	2	#5	STR	19'-4"	40	A2020	2	#5	STR	7'-9"	16	A2096	2	#5	STR	33'-0"	69							
* A1056	2	#5	STR	19'-8"	41	A2021	2	#5	STR	8'-1"	17	A2097	2	#5	STR	33'-4"	70							
* A1057	2	#5	STR	20'-0"	42	A2022	2	#5	STR	8'-5"	18	A2098	2	#5	STR	33'-8"	70							
* A1058	2	#5	STR	20'-4"	42	A2023	2	#5	STR	8'-9"	18	A2099	2	#5	STR	34'-0"	71							
* A1059	2	#5	STR	20'-8"	43	A2024	2	#5	STR	9'-1"	19	A2100	2	#5	STR	34'-4"	72							
* A1060	2	#5	STR	21'-0"	44	A2025	2	#5	STR	9'-5"	20	A2101	2	#5	STR	34'-8"	72							
* A1061	2	#5	STR	21'-4"	45	A2026	2	#5	STR	9'-9"	20	A2102	2	#5	STR	35'-0"	73							
* A1062	2	#5	STR	21'-8"	45	A2027	2	#5	STR	10'-1"	21	A2103	2	#5	STR	35'-4"	74							
* A1063	2	#5	STR	22'-0"	46	A2028	2	#5	STR	10'-5"	22	A2104	2	#5	STR	35'-8"	74							
* A1064	2	#5	STR	22'-4"	47	A2029	2	#5	STR	10'-8"	22	A2105	2	#5	STR	36'-0"	75							
* A1065	2	#5	STR	22'-8"	47	A2030	2	#5	STR	11'-0"	23	A2106	2	#5	STR	36'-4"	76							
* A1066	2	#5	STR	23'-0"	48	A2031	2	#5	STR	11'-4"	24	A2107	2	#5	STR	36'-8"	76							
* A1067	2	#5	STR	23'-4"	49	A2032	2	#5	STR	11'-8"	24	A2108	2	#5	STR	37'-0"	77							
* A1068	2	#5	STR	23'-8"	49	A2033	2	#5	STR	12'-0"	25	A2109	2	#5	STR	37'-4"	78							
* A1069	2	#5	STR	24'-0"	50	A2034	2	#5	STR	12'-4"	26													
* A1070	2	#5	STR	24'-4"	51	A2035	2	#5	STR	12'-8"	26	* B1	228	#4	STR	37'-4"	5686							
* A1071	2	#5	STR	24'-8"	51	A2036	2	#5	STR	13'-0"	27	* B2	300	#6	STR	48'-8"	21929							
* A1072	2	#5	STR	25'-0"	52	A2037	2	#5	STR	13'-4"	28	* B3	76	#4	STR	38'-7"	1959							
* A1073	2	#5	STR	25'-4"	53	A2038	2	#5	STR	13'-8"	29	* B4	26	#4	STR	38'-1"	661							
* A1074	2	#5	STR	25'-8"	54	A2039	2	#5	STR	14'-0"	29	B5	405	#5	STR	54'-3"	22916							
* A1075	2	#5	STR	26'-0"	54	A2040	2	#5	STR	14'-4"	30													
* A1076	2	#5	STR	26'-4"	55	A2041	2	#5	STR	14'-8"	31	* G1	4	#5	STR	33'-5"	139							

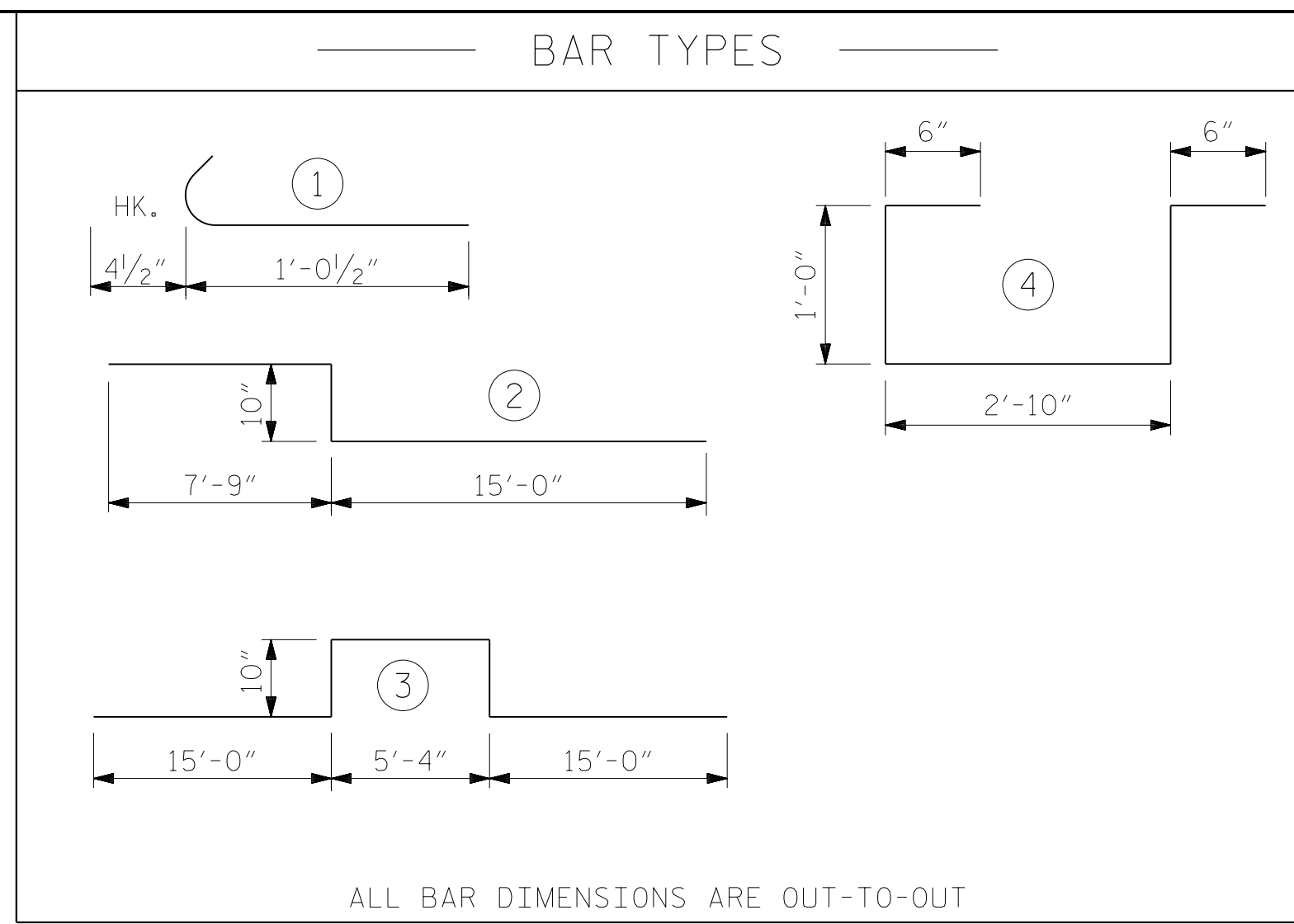
GROOVING BRIDGE FLOORS

APPROACH SLABS	694 SQ. FT.
BRIDGE DECK	11,789 SQ. FT.
TOTAL	12,483 SQ. FT.

CLASS AA CONCRETE

POUR 1	158.0 CU. YDS.
POUR 2	190.9 CU. YDS.
POUR 3	244.5 CU. YDS.
POUR 4	22.5 CU. YDS.
TOTALS**	615.9 CU. YDS.

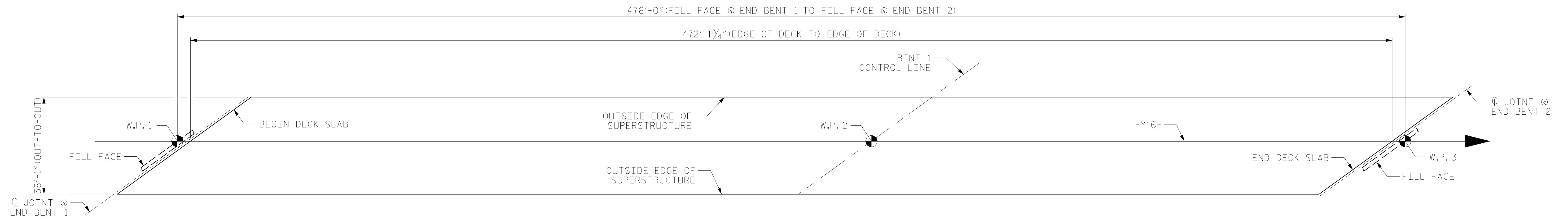
**QUANTITIES FOR PARAPET AND SIDEWALK ARE NOT INCLUDED



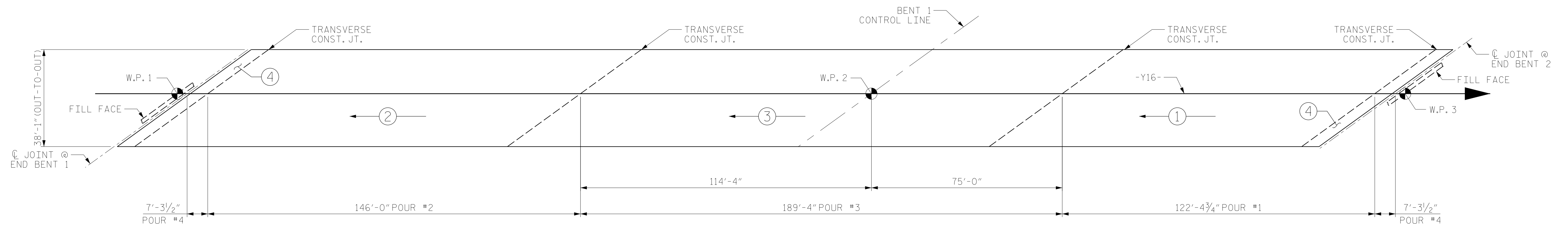
SUPERSTRUCTURE REINFORCING STEEL LENGTHS ARE BASED ON THE FOLLOWING MINIMUM SPLICE LENGTHS

BAR SIZE	SUPERSTRUCTURE EXCEPT APPROACH SLABS, PARAPET, AND BARRIER RAIL		APPROACH SLABS		PARAPETS AND BARRIER RAILS
	EPOXY COATED	UNCOATED	EPOXY COATED	UNCOATED	EPOXY COATED
#4	1'-11"	1'-7"	1'-11"	1'-7"	2'-6"
#5	2'-5"	2'-0"	2'-5"	2'-0"	3'-1"
#6	2'-10"	2'-5"	3'-7"	2'-5"	3'-8"
#7	4'-2"	2'-9"	--	--	--
#8	4'-9"	3'-2"	--	--	--

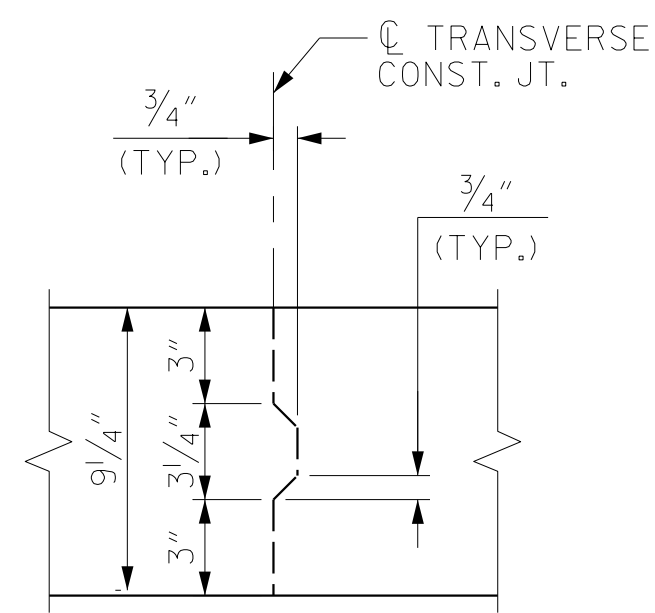
PROJECT NO. U-2579AB
FORSYTH COUNTY
 STATION: 23+43.03 -Y16-



LAYOUT FOR COMPUTING AREA
OF REINFORCED CONCRETE DECK SLAB
(SQ. FT = 17,987)



POURING SEQUENCE



TRANSVERSE
CONSTRUCTION JOINT DETAIL

REINFORCING STEEL IN SLAB NOT SHOWN. LONGITUDINAL REINFORCEMENT SHALL BE CONTINUOUS THROUGH JOINT.

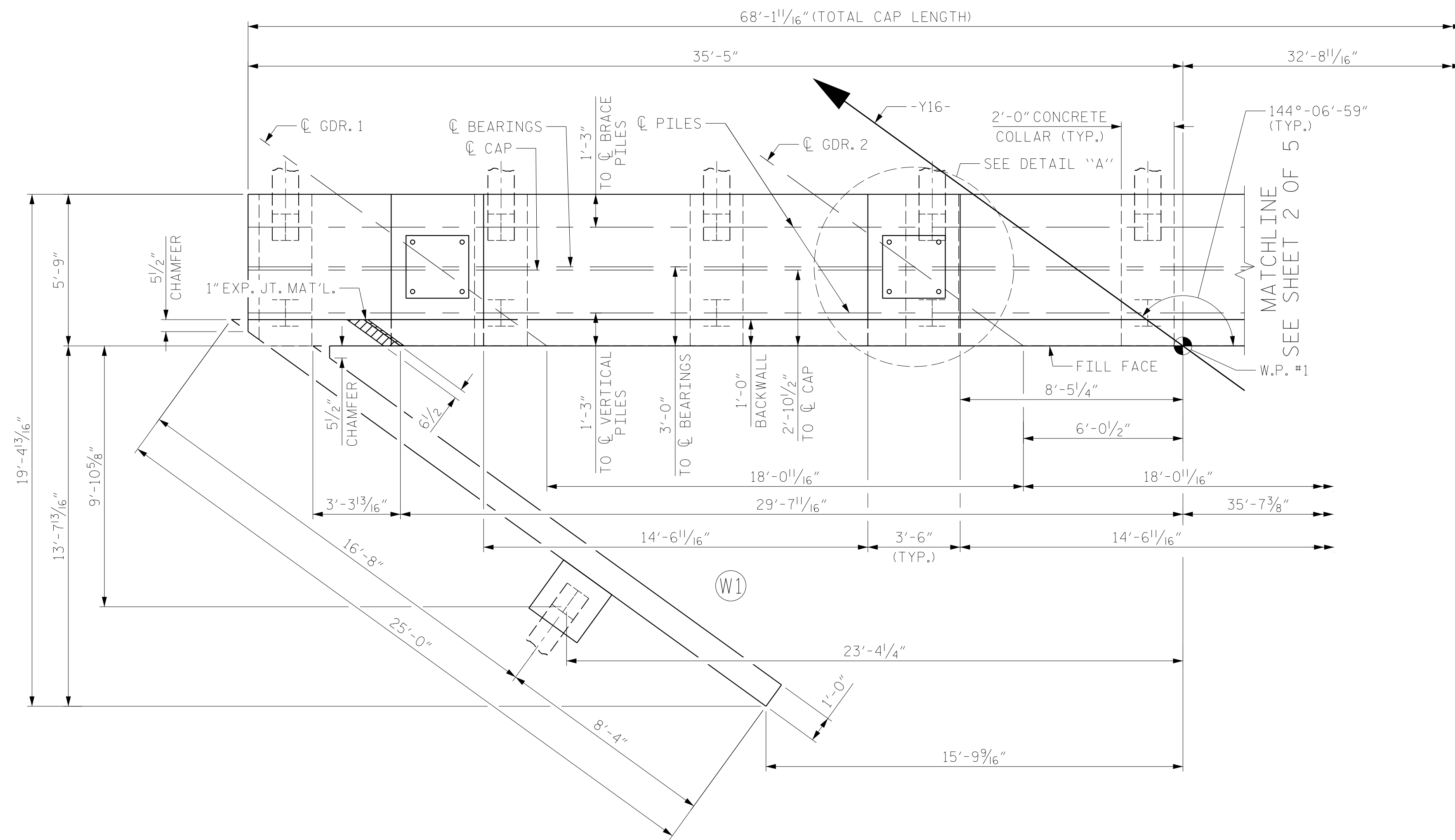
PROJECT NO. U-2579AB
FORSYTH COUNTY
STATION: 23+43.03 -Y16-

SHEET 2 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE BILL OF MATERIAL					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					S7-32
TOTAL SHEETS					48

DRAWN BY :	MRA	DATE :	12/2019
CHECKED BY :	JMR	DATE :	12/2019
DESIGN ENGINEER OF RECORD:	JMR	DATE :	12/2019

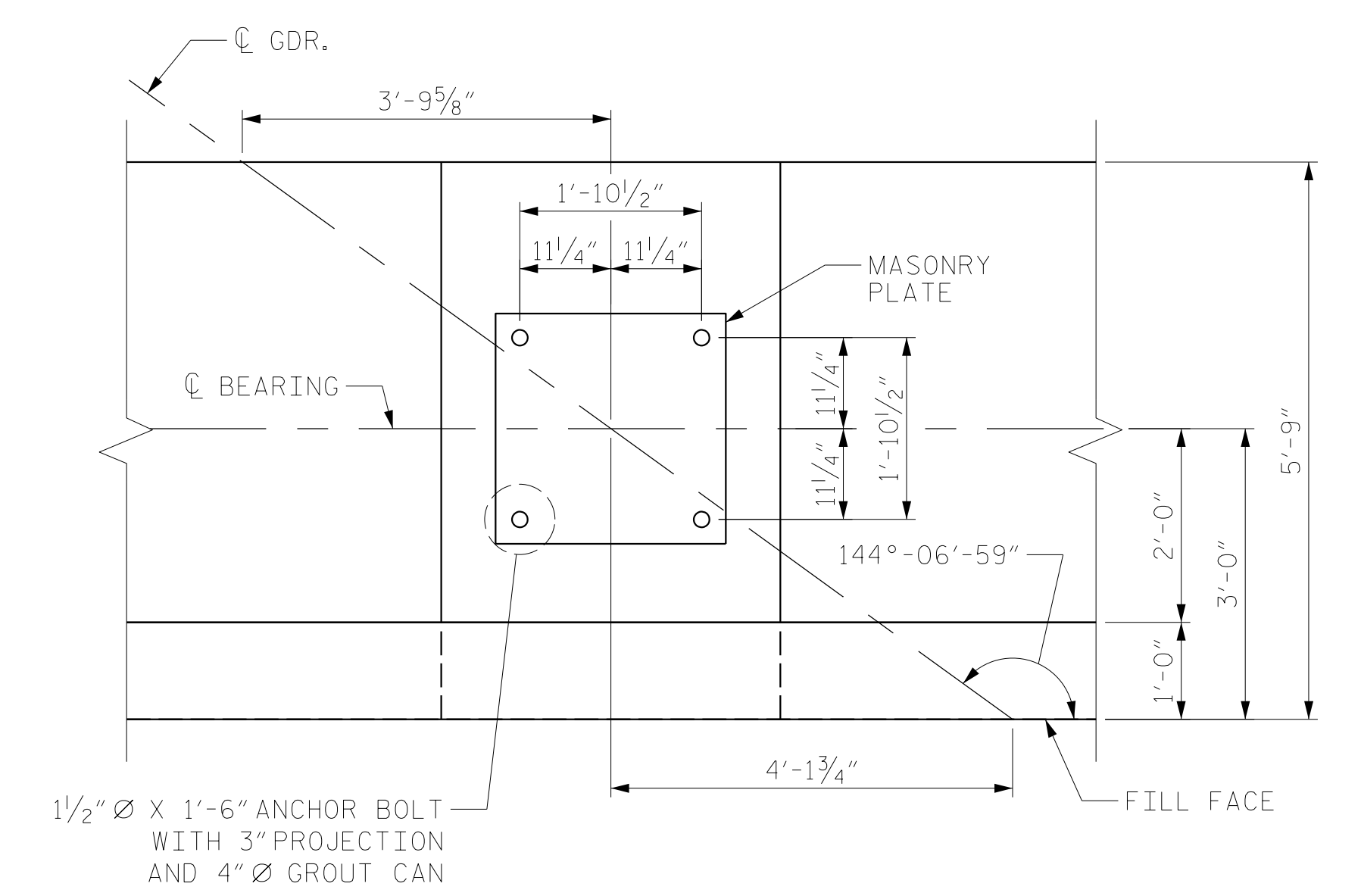
DOCUMENT NOT CONSIDERED
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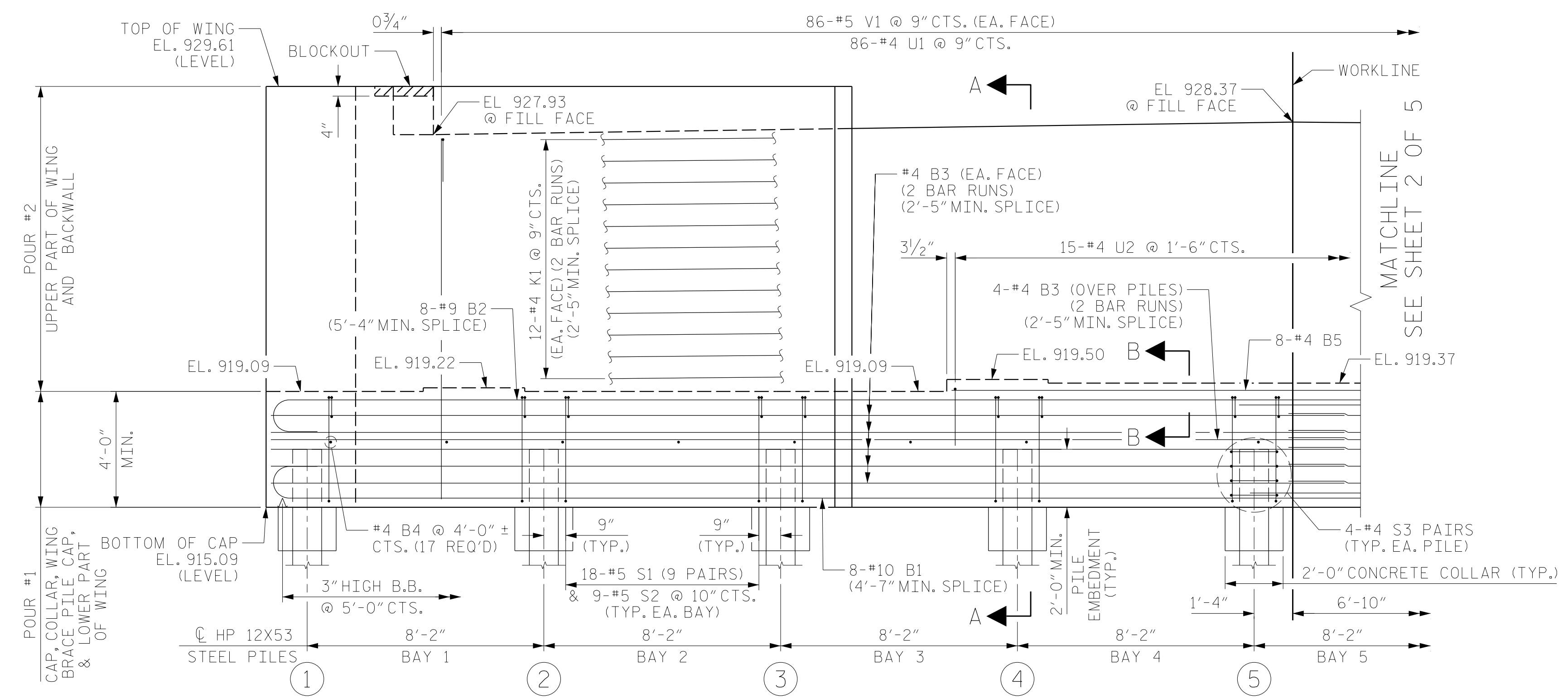
PARTIAL PLAN

NOTES:

- FOR SECTION A-A AND PARTIAL SECTION B-B, SEE SHEET 5 OF 5.
- STIRRUPS AND #4 U2 BARS MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
- BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.
- THE TOP SURFACE OF THE END BENT CAP EXCEPT THE BRIDGE SEAT BUILDUPS SHALL BE SLOPED TRANSVERSELY FROM THE FILL FACE TO THE BACK FACE AT THE RATE OF 2%.
- THE TOP SURFACE OF THE END BENT CAPS SHALL BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, EXCEPT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.



DETAIL "A"
PILES NOT SHOWN FOR CLARITY



PARTIAL ELEVATION

(BRACE PILES IN WING NOT SHOWN FOR CLARITY)

PROJECT NO. U-2579AB
FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

SHEET 1 OF 5



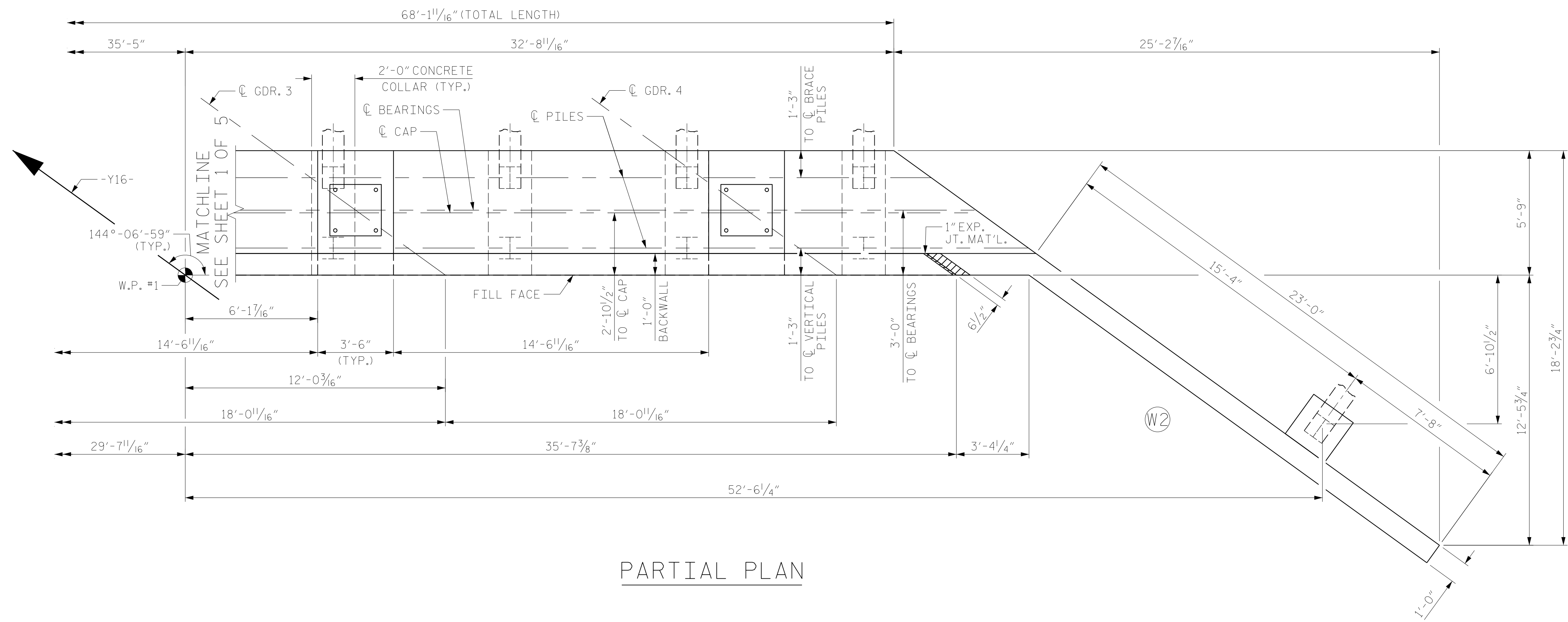
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT 1 PARTIAL
 PLAN AND ELEVATION

DRAWN BY : NSC	DATE : .09/2019
CHECKED BY : MAL	DATE : .12/2019
DESIGN ENGINEER OF RECORD: JMR	DATE : .12/2019

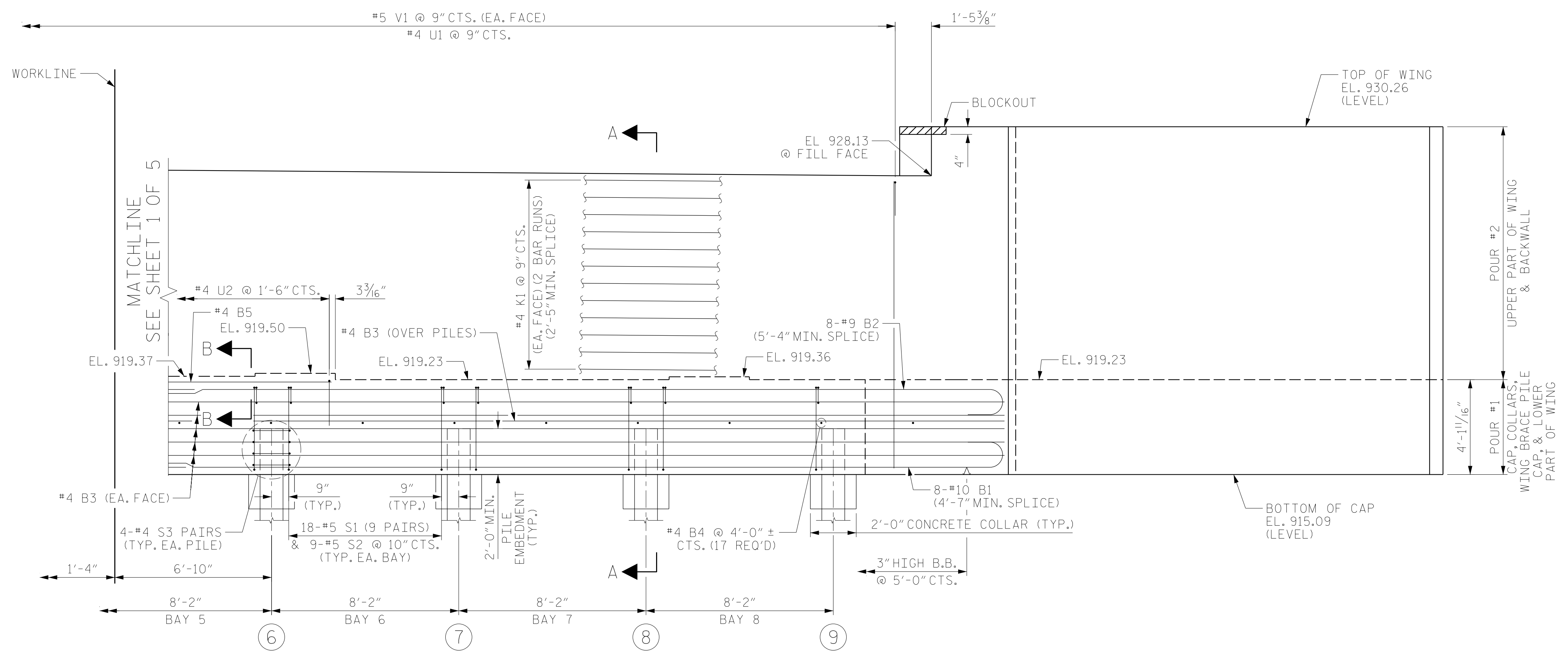
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S7-33
1			3			TOTAL SHEETS 48
2			4			



NOTES:
 FOR SECTION A-A AND PARTIAL SECTION B-B, SEE SHEET 5 OF 5.
 FOR ADDITIONAL NOTES, SEE SHEET 1 OF 5.



PROJECT NO. U-2579AB
FORSYTH COUNTY
 STATION: 23+43.03 -Y16-
 SHEET 2 OF 5



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT 1 PARTIAL
 PLAN AND ELEVATION

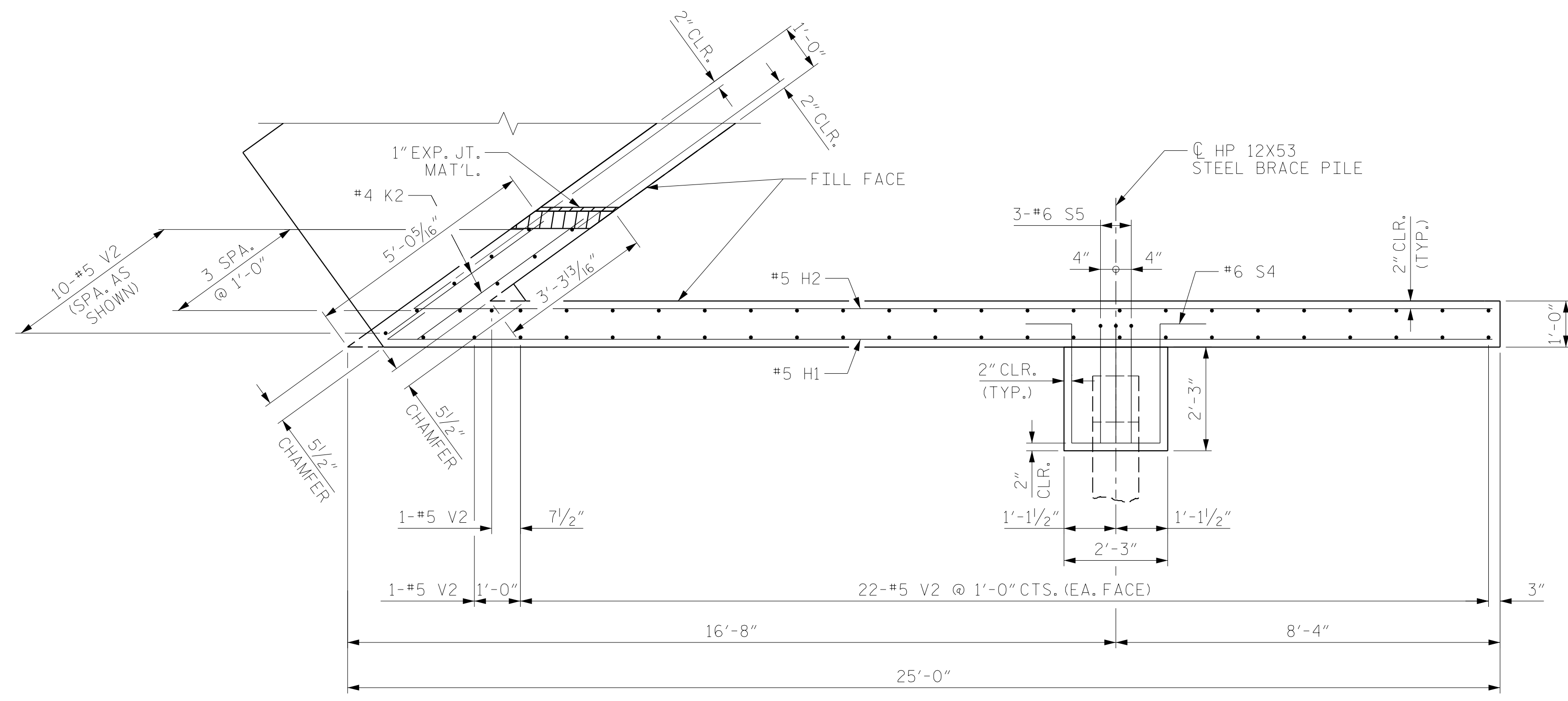
DRAWN BY : NSC DATE : .09/2019
 CHECKED BY : MAL DATE : .12/2019
 DESIGN ENGINEER OF RECORD: JMR DATE : .12/2019

PARTIAL ELEVATION
 (BRACE PILES IN WING NOT SHOWN FOR CLARITY)

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

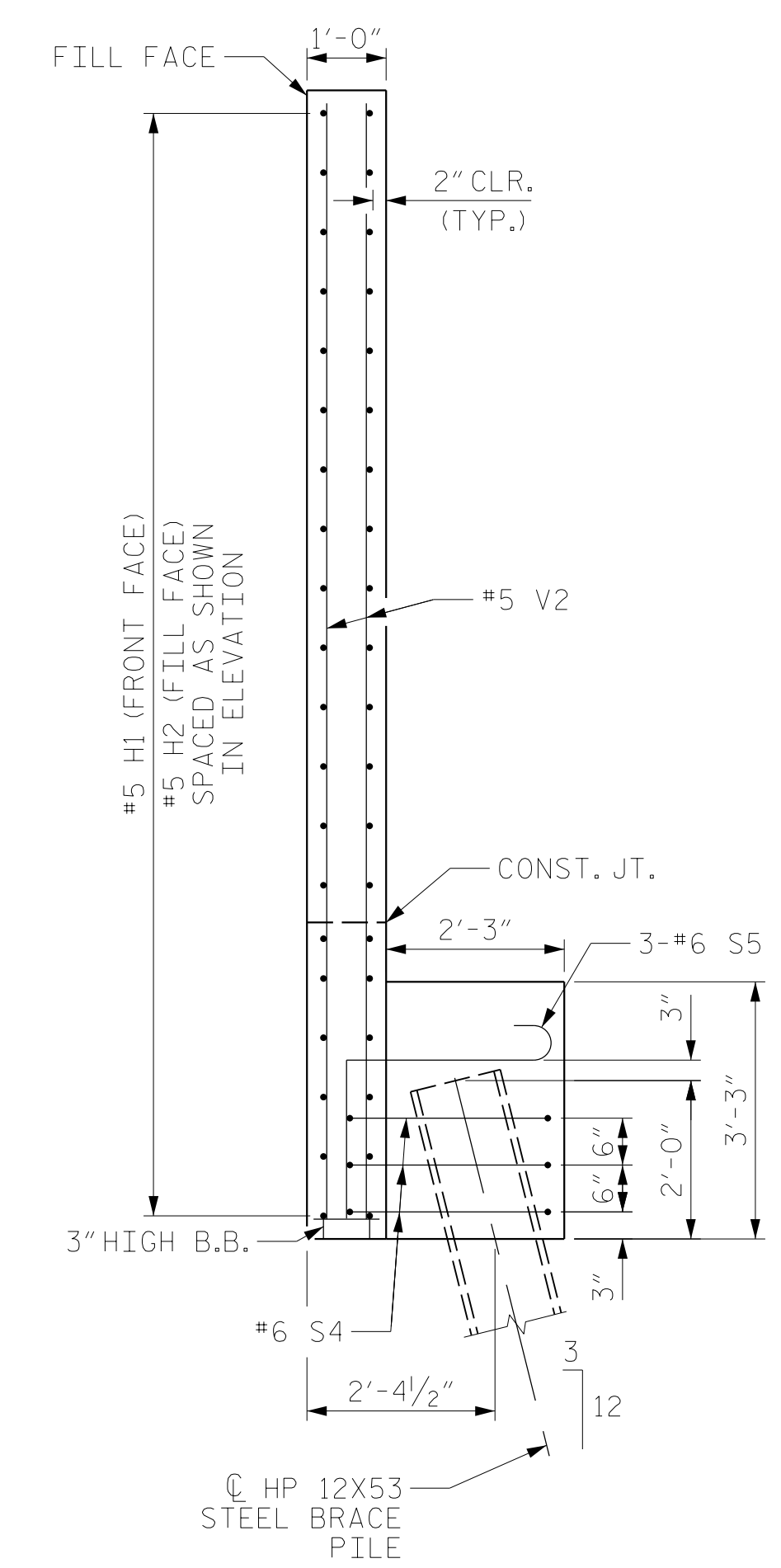
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S7-34
1			3			TOTAL SHEETS
2			4			48

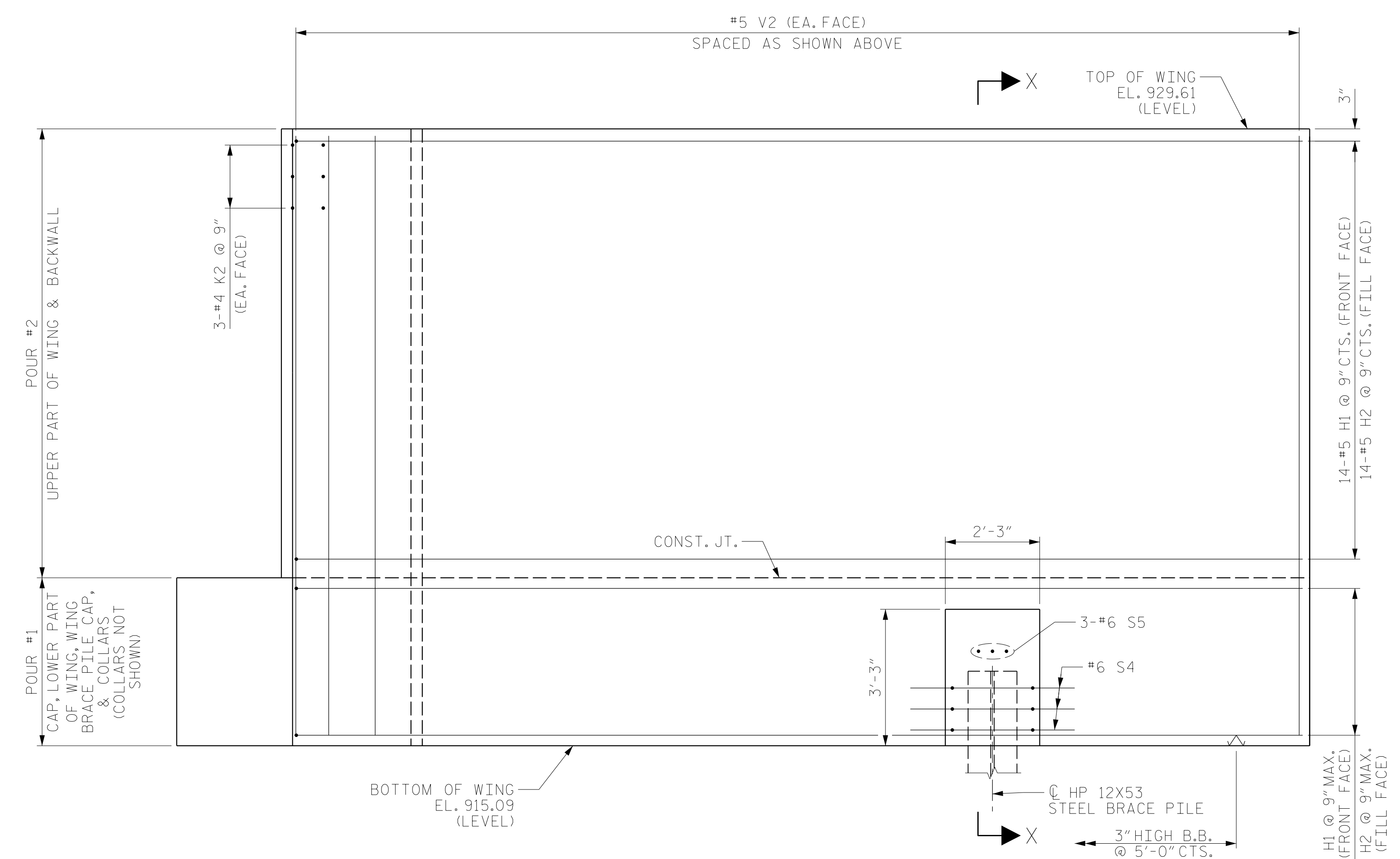


PLAN OF WING W1

THE STRAIGHT ENDS OF #5 H2 BARS CAN BE TRIMMED AS NECESSARY TO AVOID CONFLICT WITH PILE IN CAP. HOOKED ENDS SHALL NOT BE CUT.



SECTION X-X



ELEVATION OF WING W1

PROJECT NO. U-2579AB
FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

SHEET 3 OF 5

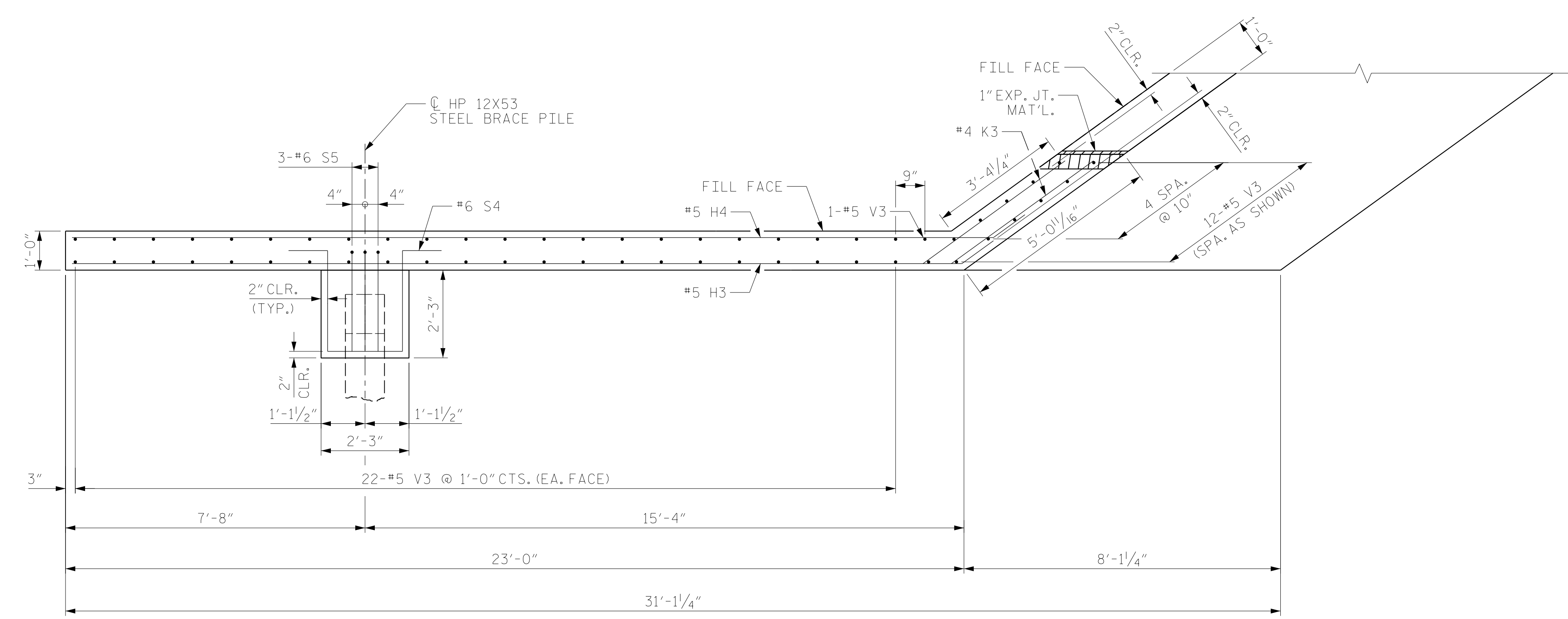


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT 1
 WING W1

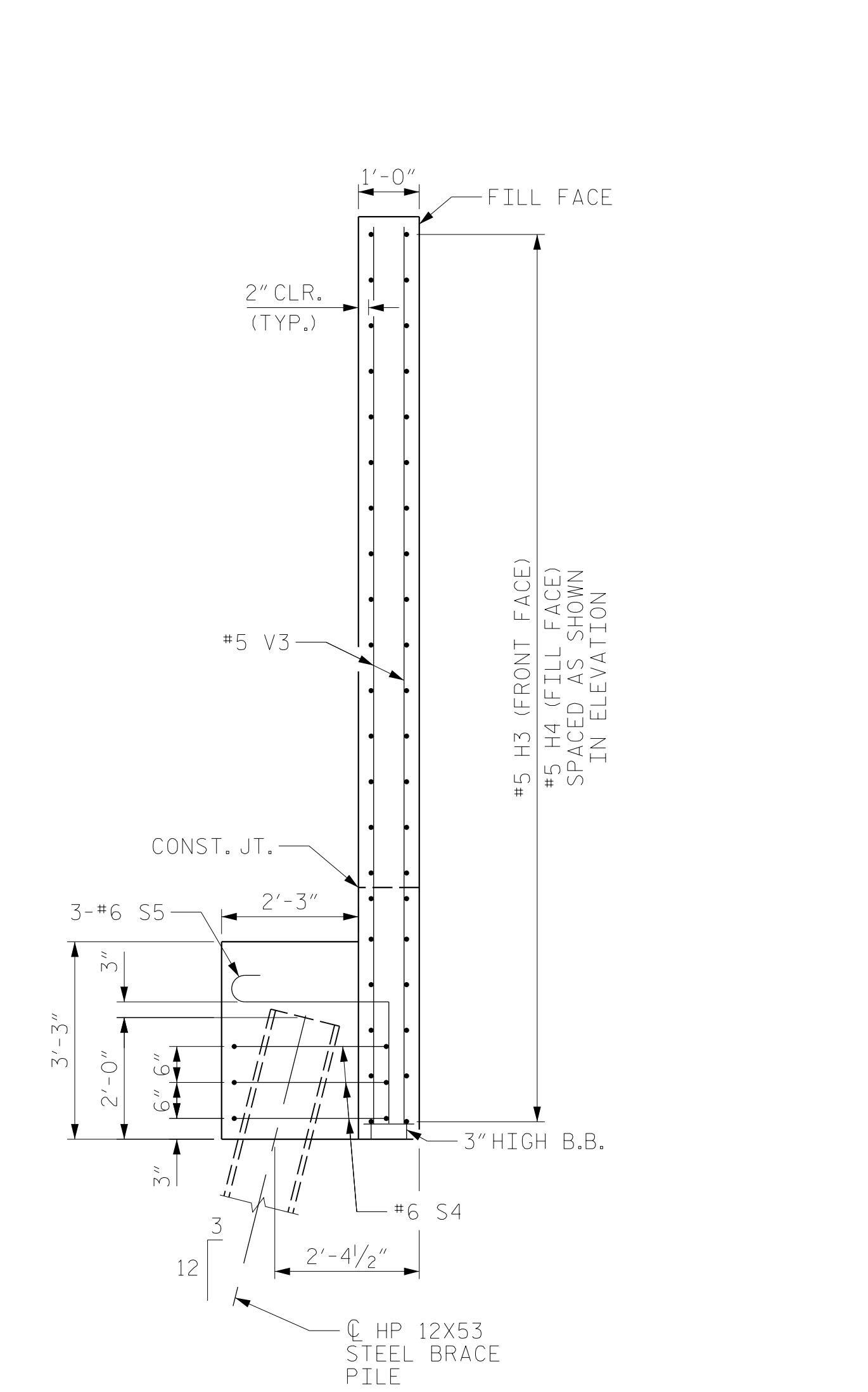
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S7-35
1			3			TOTAL SHEETS
2			4			48

DRAWN BY : TRM DATE : 08/2019
 CHECKED BY : MAL DATE : 12/2019
 DESIGN ENGINEER OF RECORD: JMR DATE : 12/2019

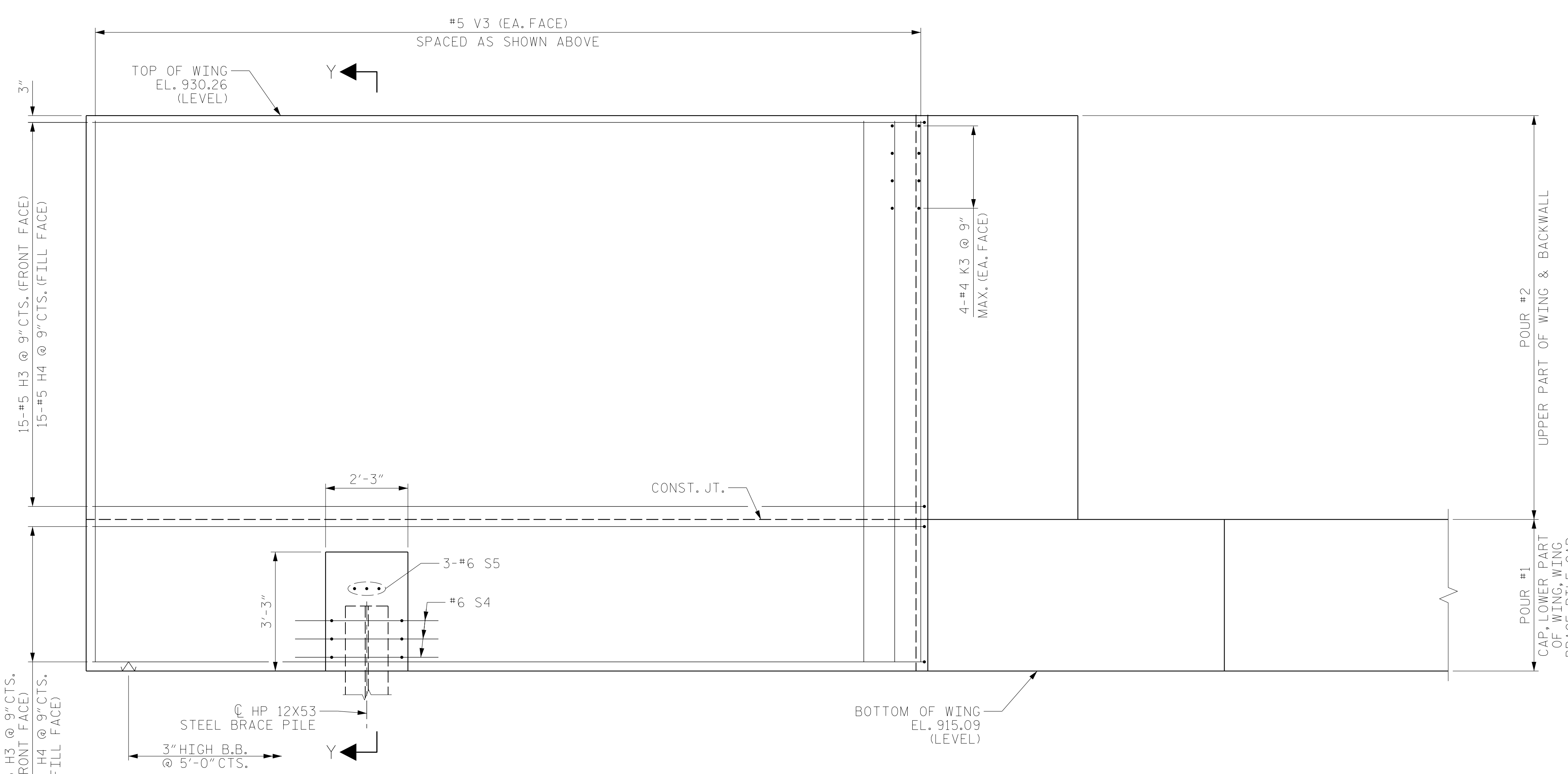
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PLAN OF WING W2



SECTION Y-Y



ELEVATION OF WING W2

PROJECT NO. U-2579AB
 FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

SHEET 4 OF 5



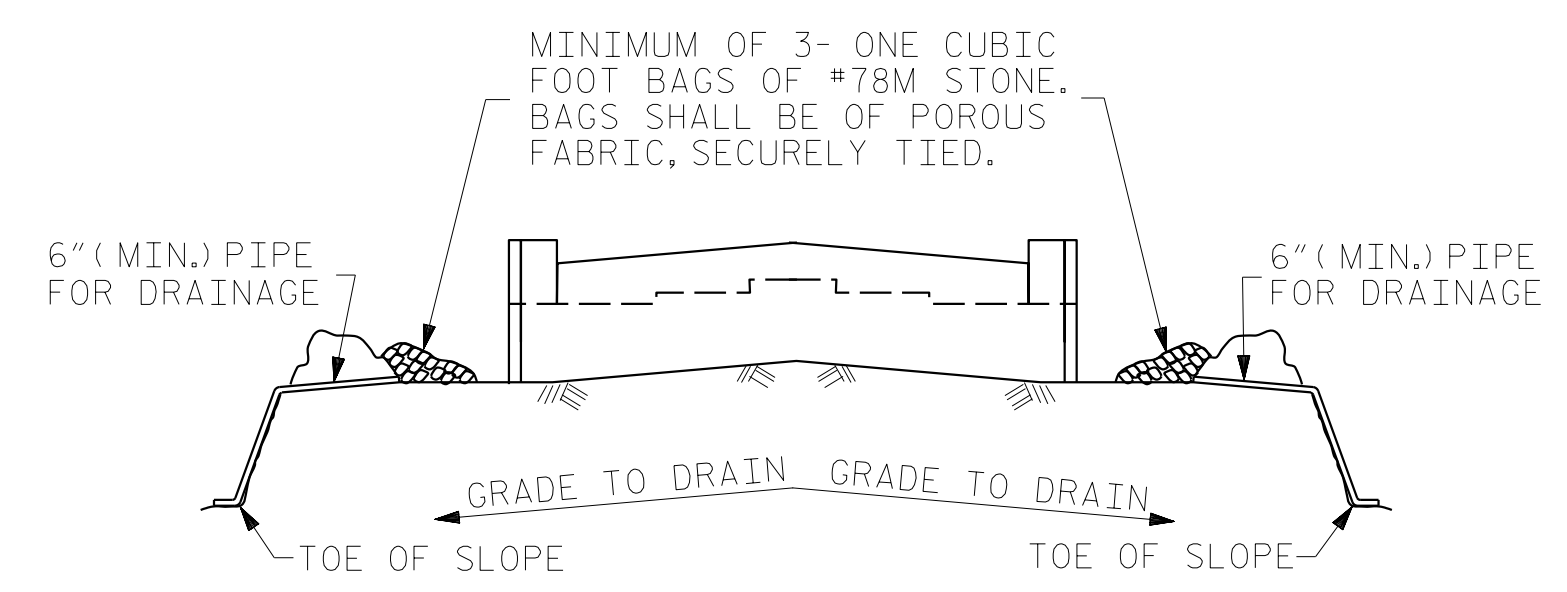
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT 1
 WING W2

DRAWN BY :	TRM	DATE :	08/2019
CHECKED BY :	MAL	DATE :	12/2019
DESIGN ENGINEER OF RECORD:	JMR	DATE :	12/2019

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S7-36
1			3			TOTAL SHEETS
2			4			48

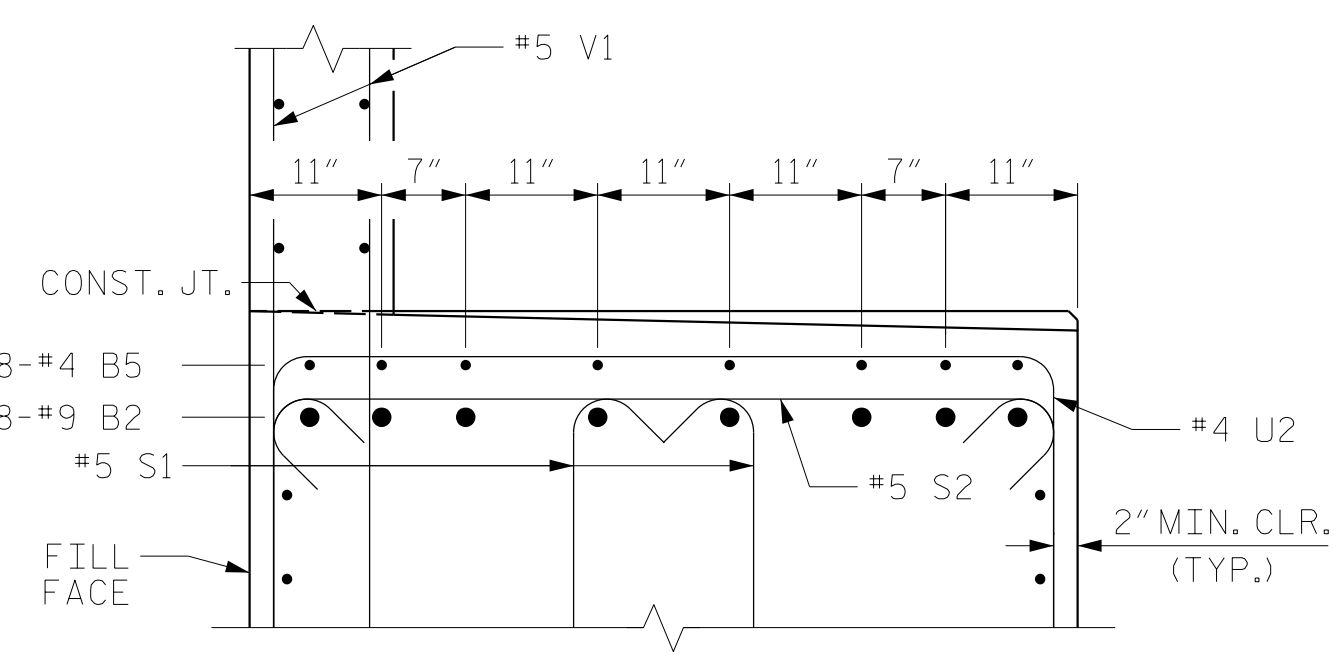


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

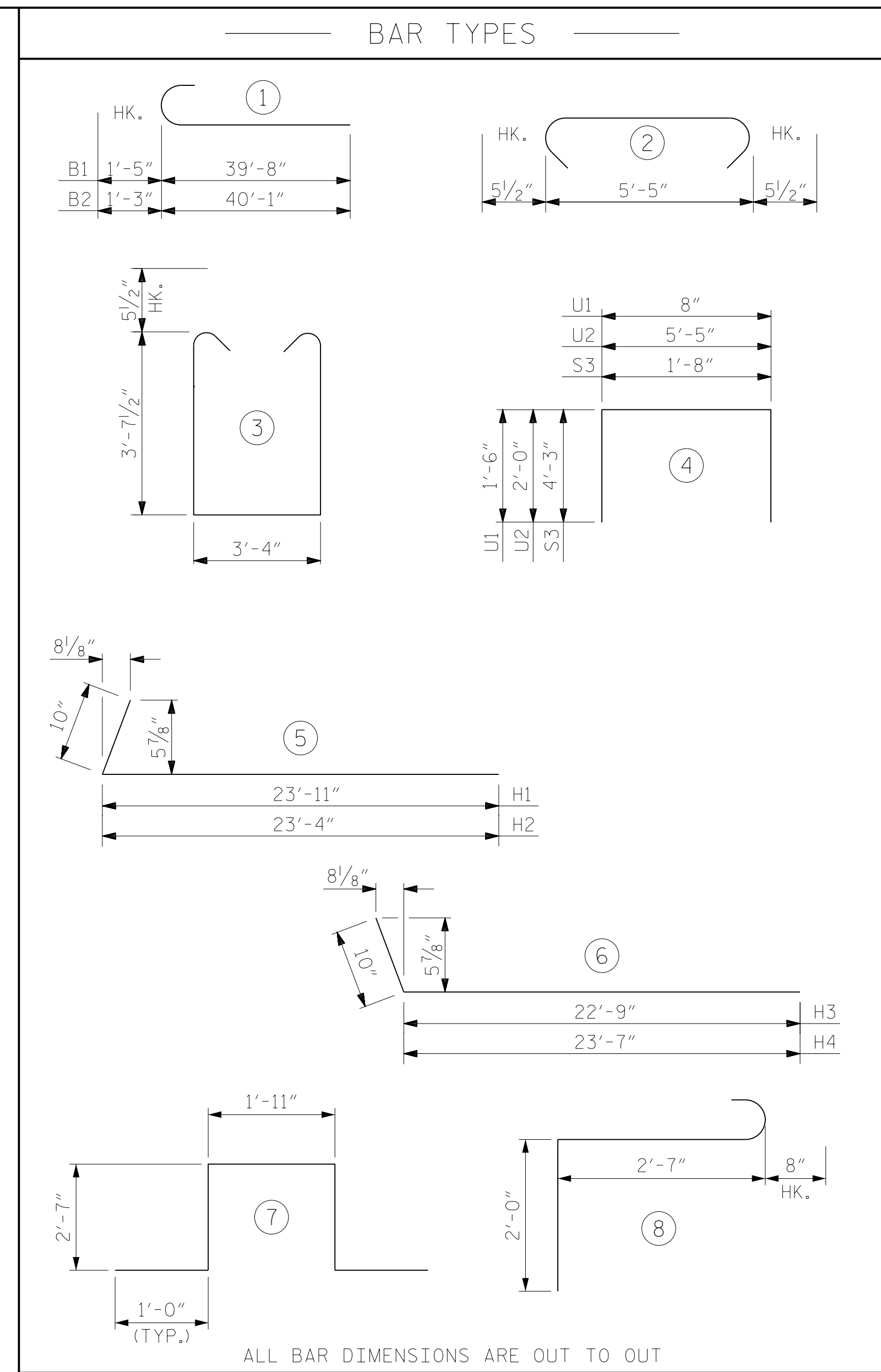
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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



PARTIAL SECTION B-B



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL

END BENT NO. 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	16	#10	1	41'-1"	2829
B2	16	#9	1	41'-4"	2249
B3	36	#4	STR	38'-7"	928
B4	17	#4	STR	5'-5"	62
B5	8	#4	STR	21'-2"	113
H1	20	#5	5	24'-9"	516
H2	20	#5	5	24'-2"	504
H3	21	#5	6	23'-7"	517
H4	21	#5	6	24'-5"	535
K1	48	#4	STR	38'-7"	1237
K2	6	#4	STR	4'-2"	17
K3	8	#4	STR	4'-5"	24
S1	144	#5	3	11'-6"	1727
S2	72	#5	2	6'-4"	476
S3	72	#4	4	10'-2"	489
S4	6	#6	7	9'-1"	82
S5	6	#6	8	5'-3"	47
U1	86	#4	4	3'-8"	211
U2	15	#4	4	9'-5"	94
V1	172	#5	STR	12'-3"	2198
V2	56	#5	STR	14'-2"	827
V3	57	#5	STR	14'-9"	877

REINFORCING STEEL 16,559 LBS.

CLASS A CONCRETE

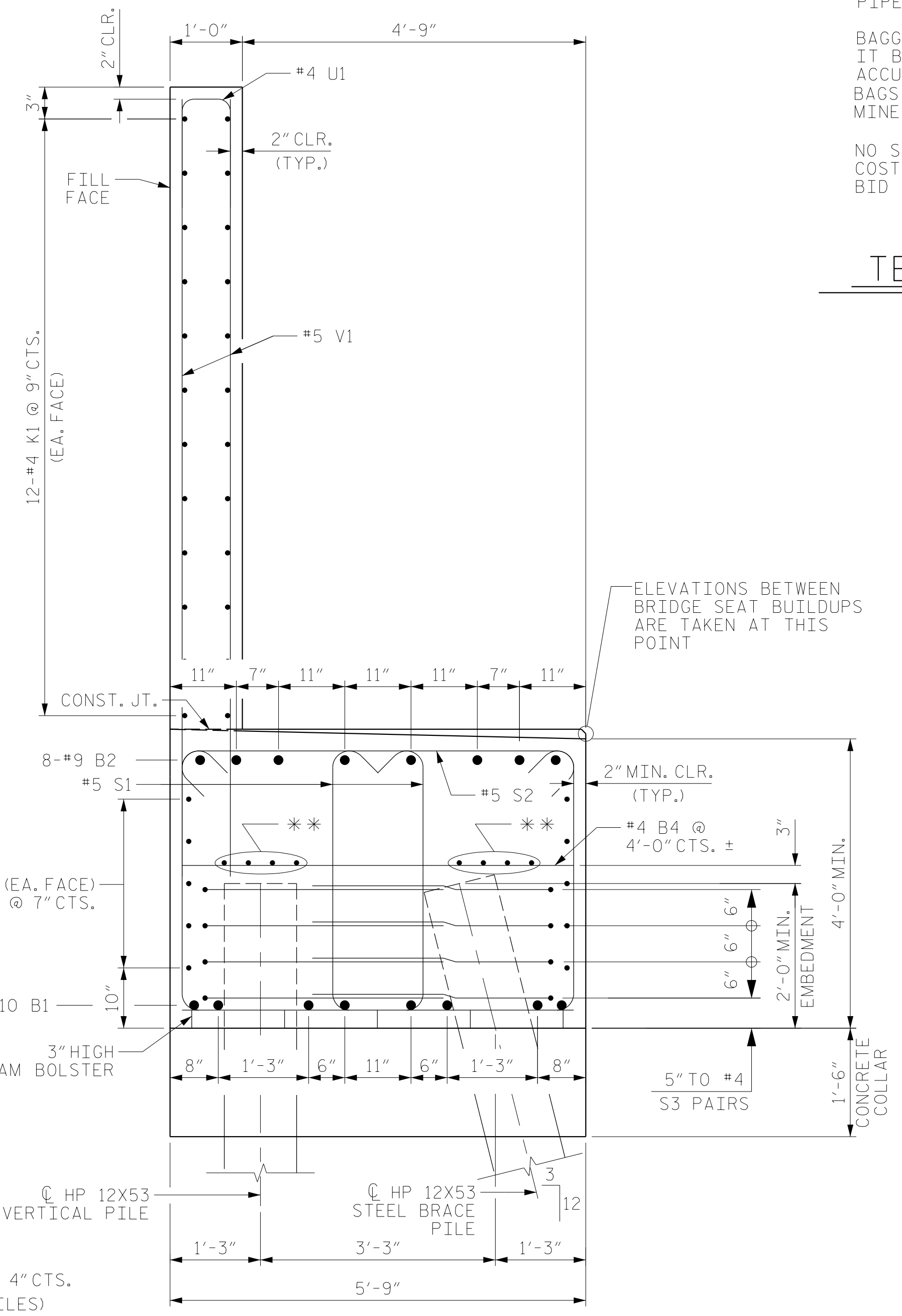
POUR #1
CAP, COLLARS AND LOWER PART OF WINGS 78.0 C.Y.

POUR #2
UPPER PART OF WINGS AND BACKWALL 43.4 C.Y.

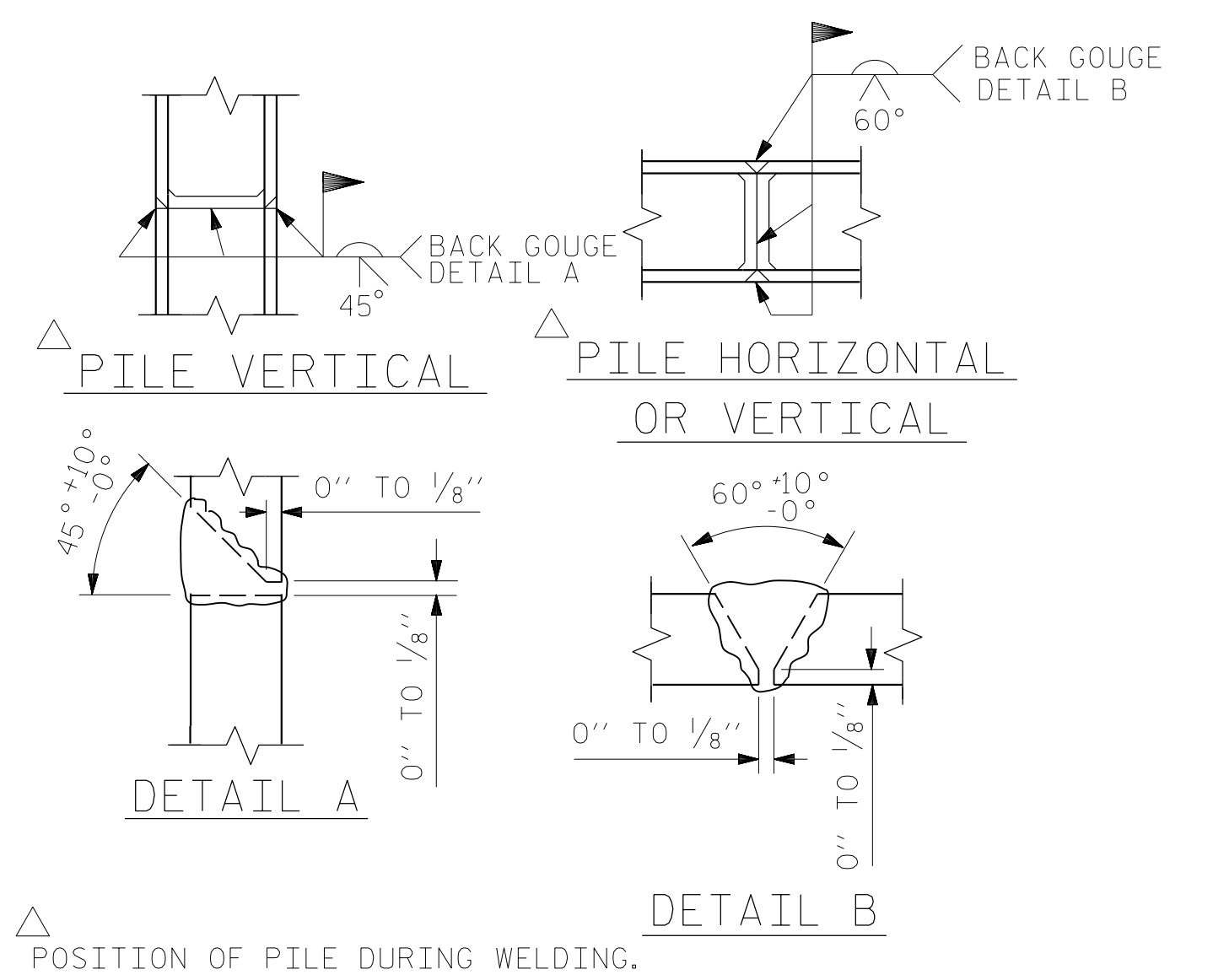
TOTAL CLASS A CONCRETE 121.4 C.Y.

HP 12 X 53 STEEL PILES NO. 20 900.0 LIN. FT.

PILE DRIVING EQUIPMENT SETUP NO. 20



SECTION A-A



PILE SPLICE DETAILS

PROJECT NO. U-2579AB
FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

SHEET 5 OF 5

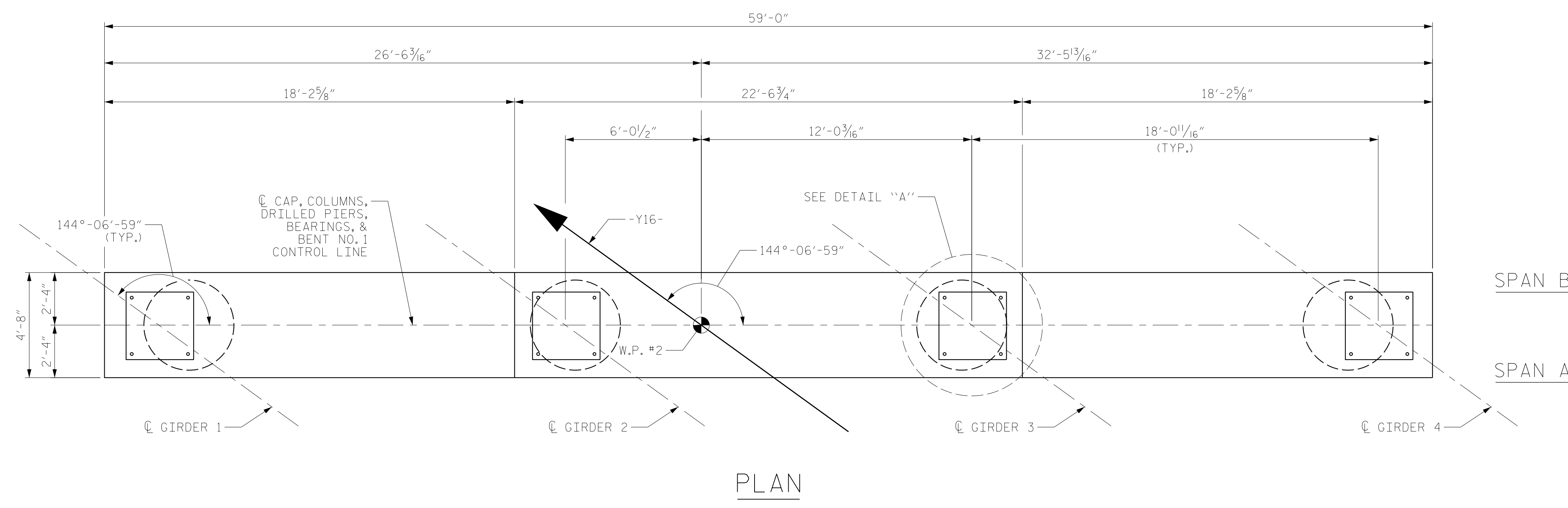


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT 1
 DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S7-37
1			3			TOTAL SHEETS
2			4			48

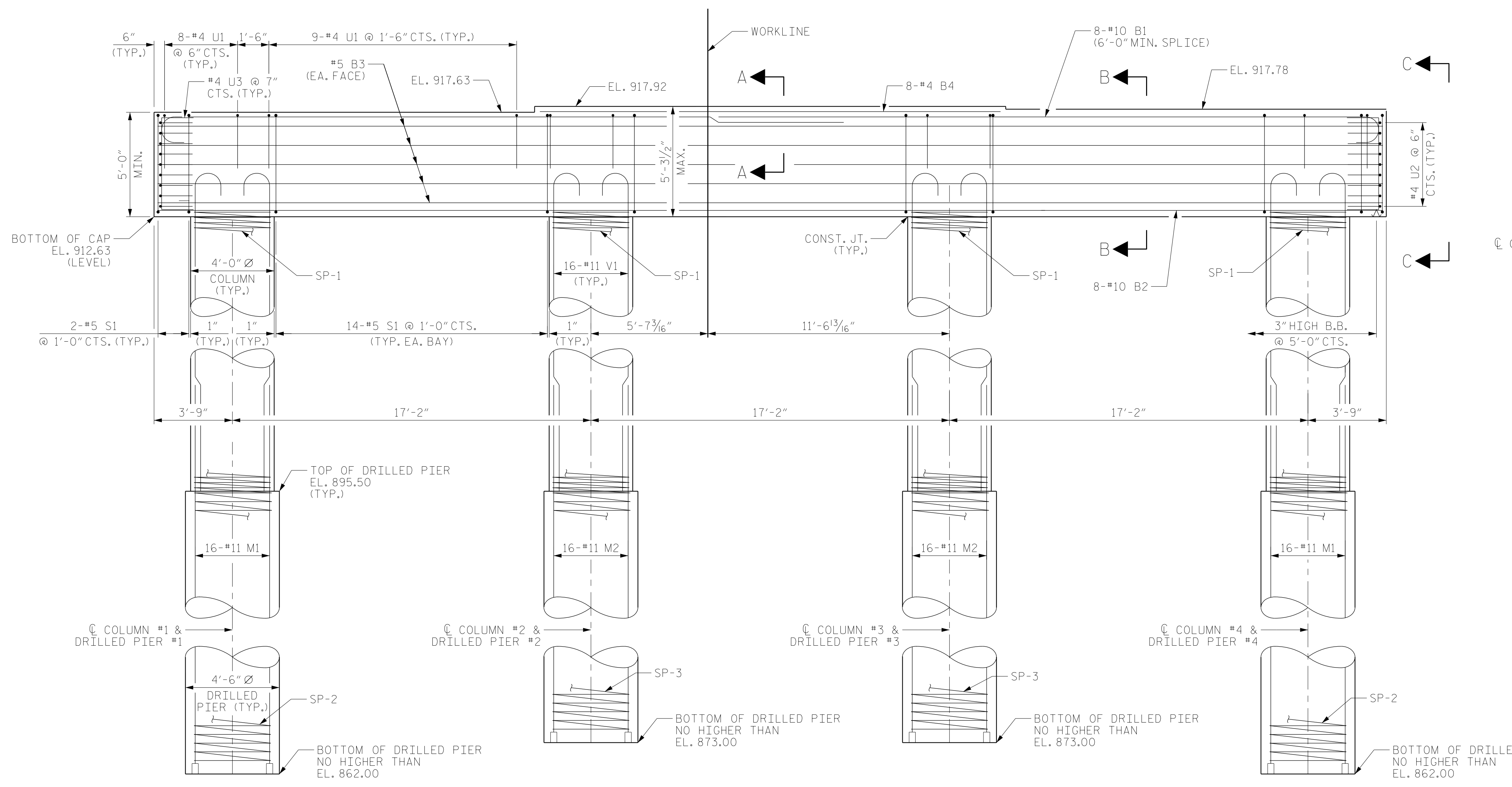
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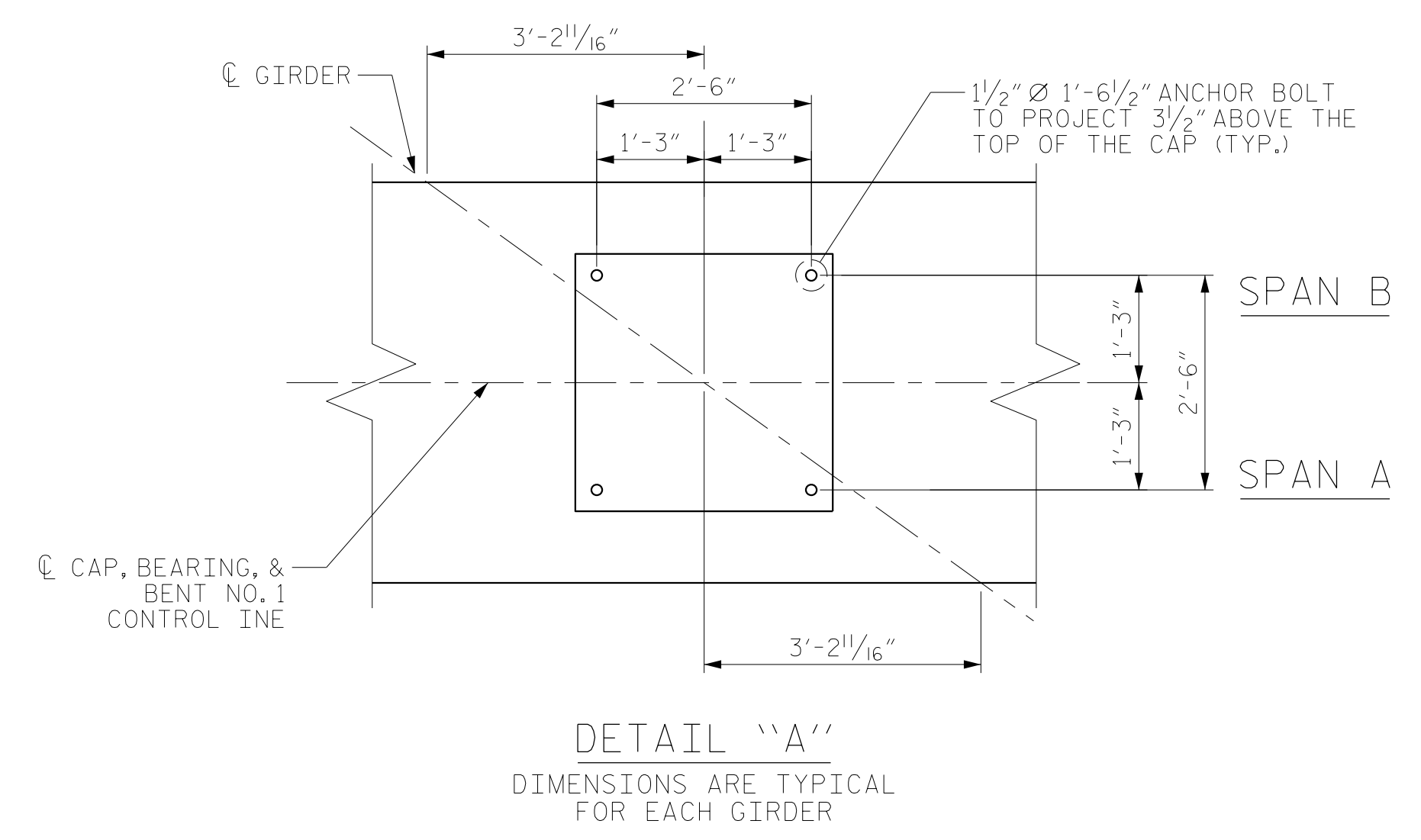


PLAN

NOTES:
 FOR PARTIAL SECTION A-A, SECTION B-B AND VIEW C-C SEE SHEET 2 OF 2.
 FOR REINFORCING STEEL BILL OF MATERIAL, SEE SHEET 2 OF 2.
 STIRRUPS AND #4 U1 BARS IN CAP MAY BE SHIFTED AS NECESSARY TO AVOID ANCHOR BOLTS.
 HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.
 ALL STEEL IN THE DRILLED SHAFTS IS INCLUDED IN THE PAY ITEMS FOR "REINFORCING STEEL" AND "SPIRAL COLUMN REINFORCING STEEL".
 THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE LONGITUDINAL REINFORCEMENT FOR THE DRILLED PIERS IS DETAILED WITH 3 FEET OF EXTRA LENGTH.



ELEVATION
 INVERT ALTERNATE STIRRUPS



DETAIL "A"
 DIMENSIONS ARE TYPICAL FOR EACH GIRDER

PROJECT NO. U-2579AB
FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

SHEET 1 OF 2

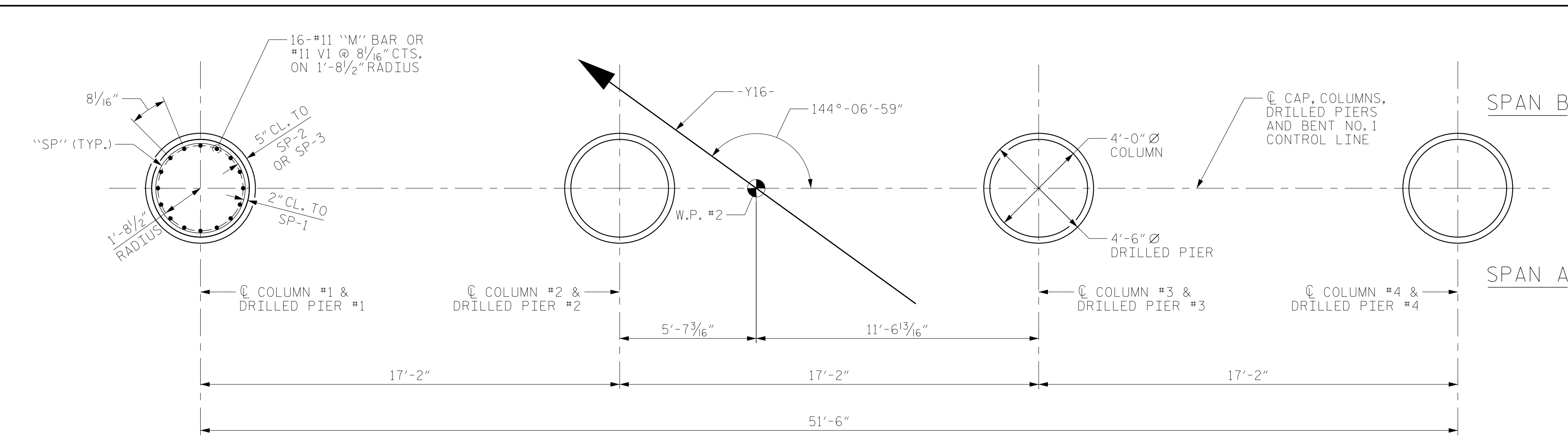


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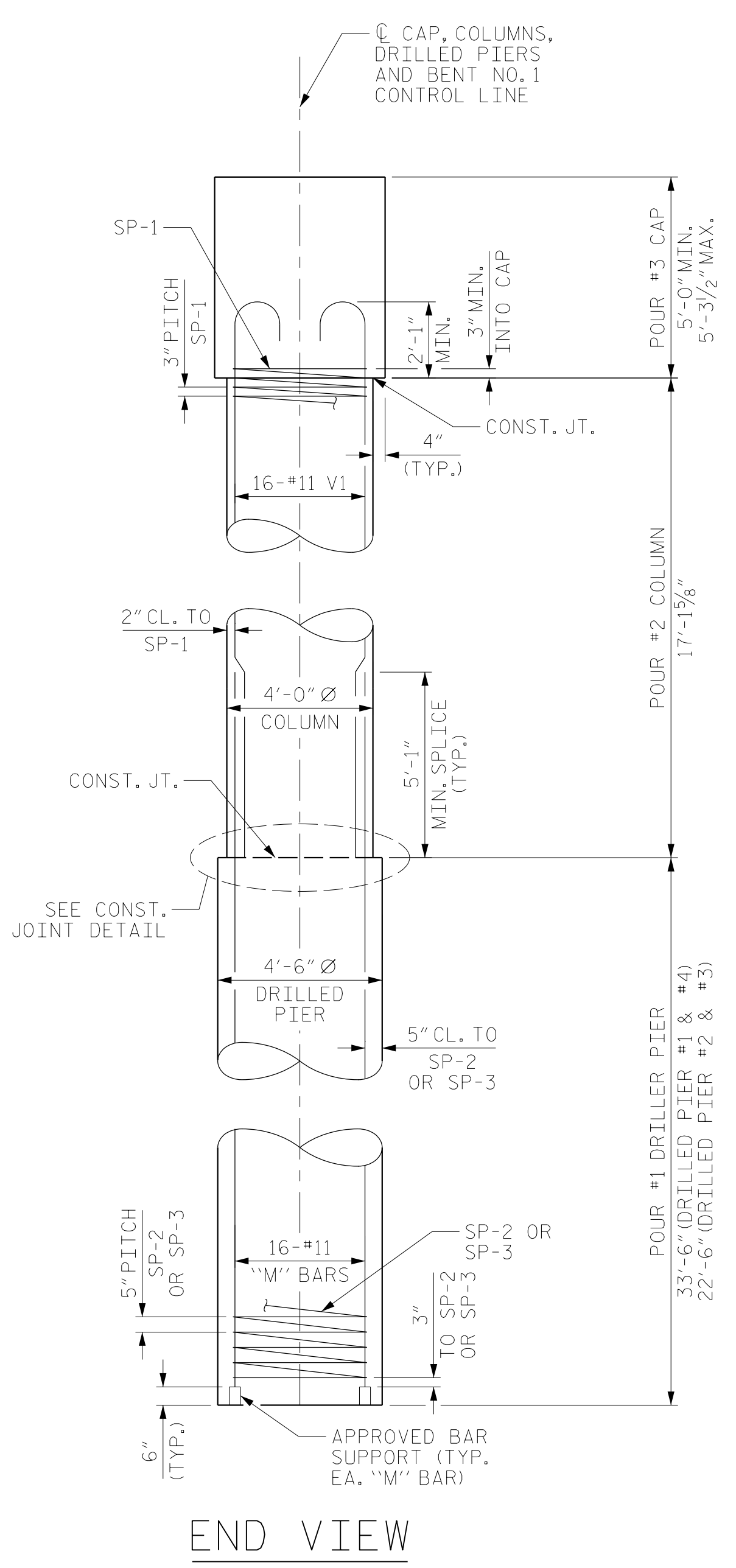
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO. S7-38	
SUBSTRUCTURE BENT NO. 1						TOTAL SHEETS 48	
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S7-38	
1			3			TOTAL SHEETS	
2			4			48	

DRAWN BY : TWL DATE : 12/2019
 CHECKED BY : MRA DATE : 12/2019
 DESIGN ENGINEER OF RECORD: JMR DATE : 12/2019

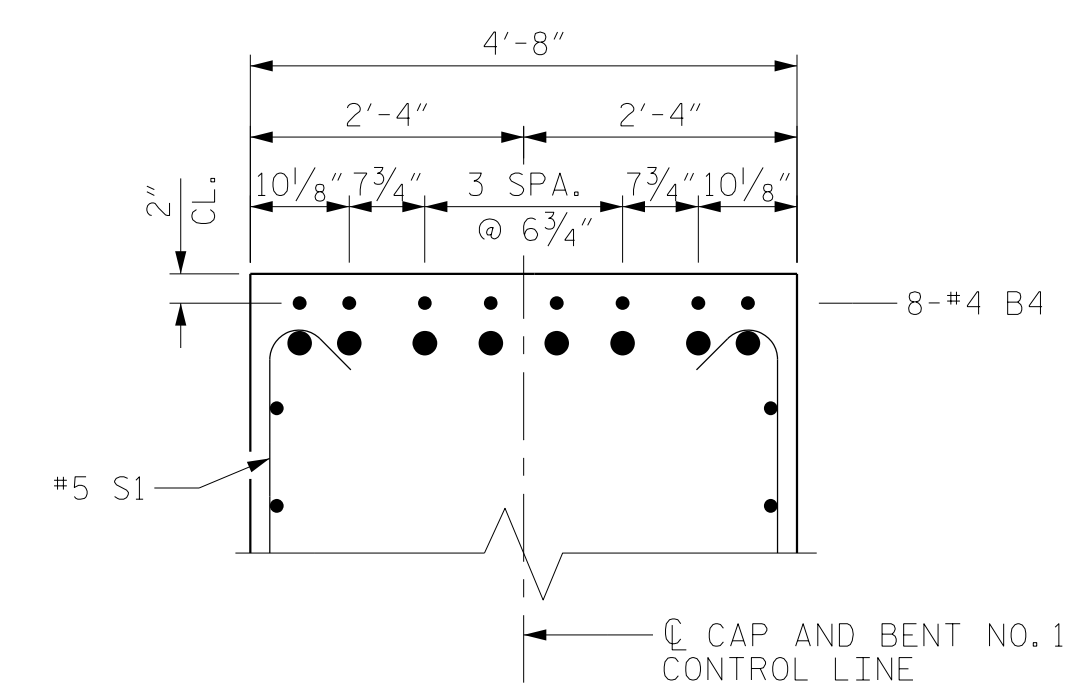
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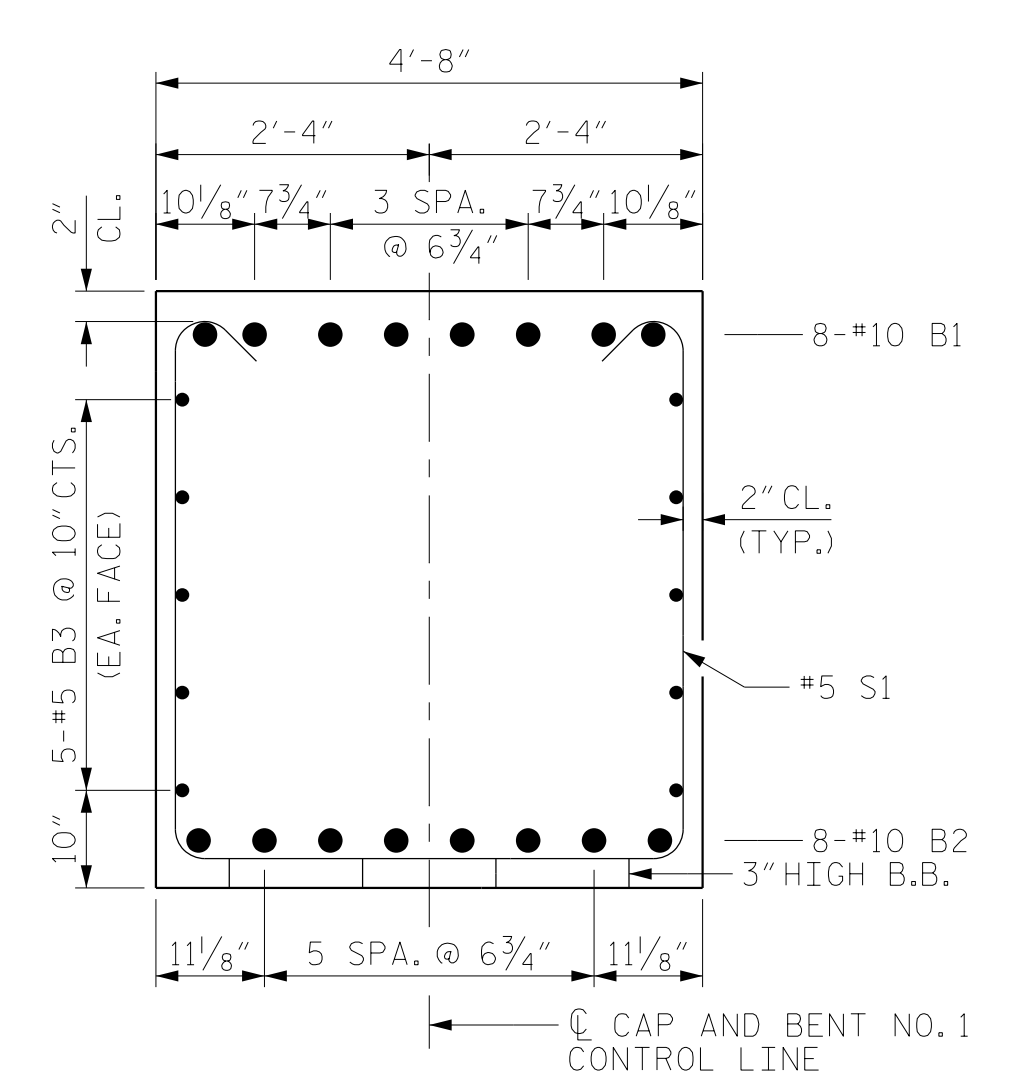
PLAN OF DRILLED PIERS & COLUMNS



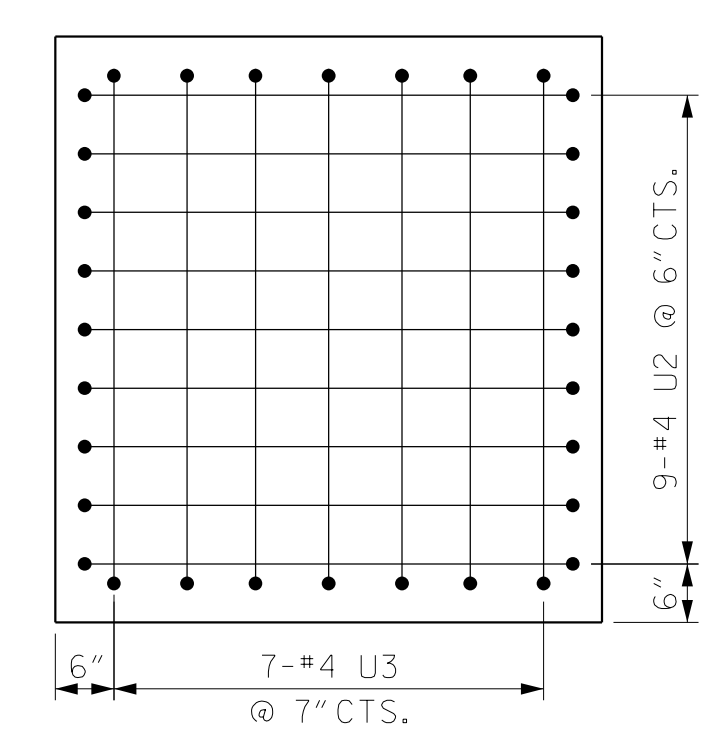
END VIEW



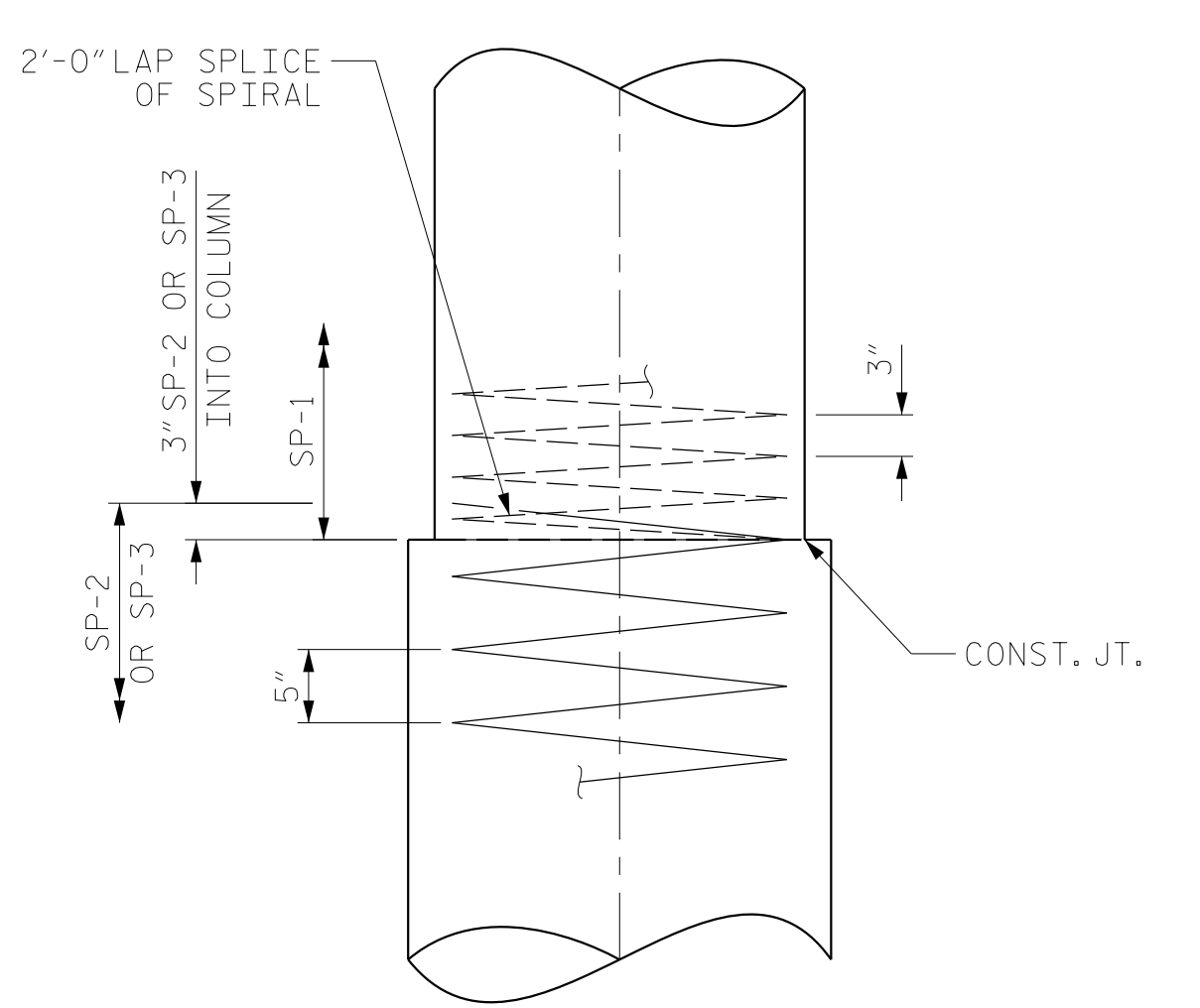
PARTIAL SECTION A-A



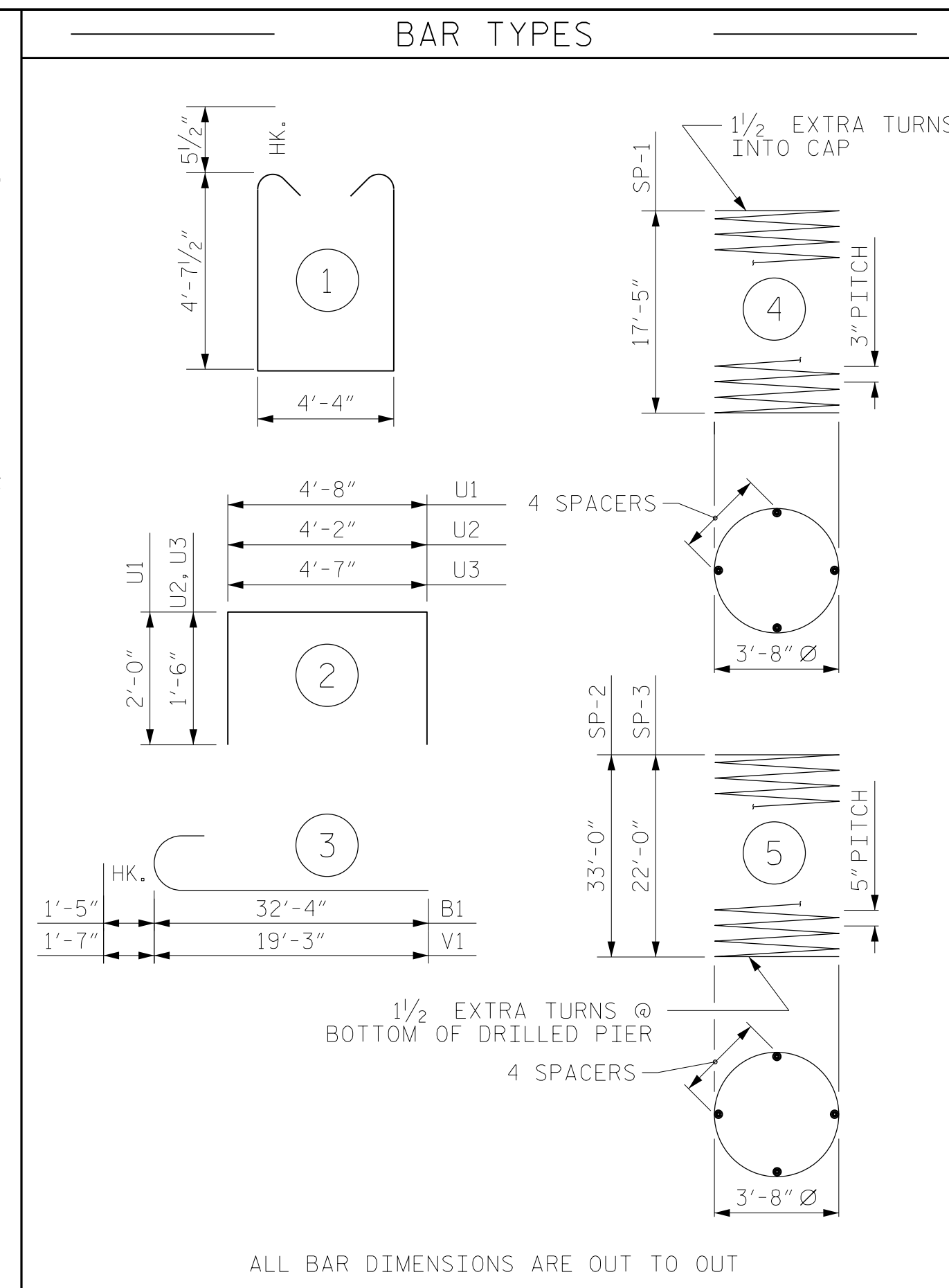
SECTION B-B



VIEW C-C



CONSTRUCTION JOINT DETAIL



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR BENT NO. 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	16	#10	3	33'-9"	2324
B2	8	#10	STR.	58'-8"	2020
B3	10	#5	STR.	58'-8"	612
B4	8	#4	STR.	22'-2"	118
M1	32	#11	STR.	41'-1"	6985
M2	32	#11	STR.	30'-1"	5115
S1	46	#5	1	14'-6"	696
U1	59	#4	2	8'-8"	342
U2	18	#4	2	7'-2"	86
U3	14	#4	2	7'-7"	71
V1	64	#11	3	20'-10"	7084
REINFORCING STEEL					25,453 LBS.
SP-1	4	*	4	811'-7"	2169
SP-2	2	**	5	917'-7"	1914
SP-3	2	**	5	619'-4"	1292
SPIRAL COLUMN REINFORCING STEEL					5,375 LBS.
* THE SP-1 SPIRAL REINFORCING STEEL SHALL BE W20 OR D-20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR					
** THE SP-2 OR SP-3 SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR					
CLASS A CONCRETE BREAKDOWN					
POUR #2 (COLUMNS)					31.9 C.Y.
POUR #3 (CAP)					52.6 C.Y.
TOTAL CLASS A CONCRETE					84.5 C.Y.
DRILLED PIERS:					
DRILLED PIER CONCRETE POUR #1 (DRILLED PIERS)					66.0 C.Y.
4'-6" Ø DRILLED PIER NOT IN SOIL					56.0 LIN. FT.
4'-6" Ø DRILLED PIER IN SOIL					56.0 LIN. FT.
Δ CSL TUBES					472.0 LIN. FT.
Δ NO SEPARATE PAYMENT WILL BE MADE FOR CSL TUBES. CSL TUBES WILL BE INCLUDED IN THE UNIT BID PRICE FOR DRILLED PIERS.					

PROJECT NO. U-2579AB
 FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

SHEET 2 OF 2



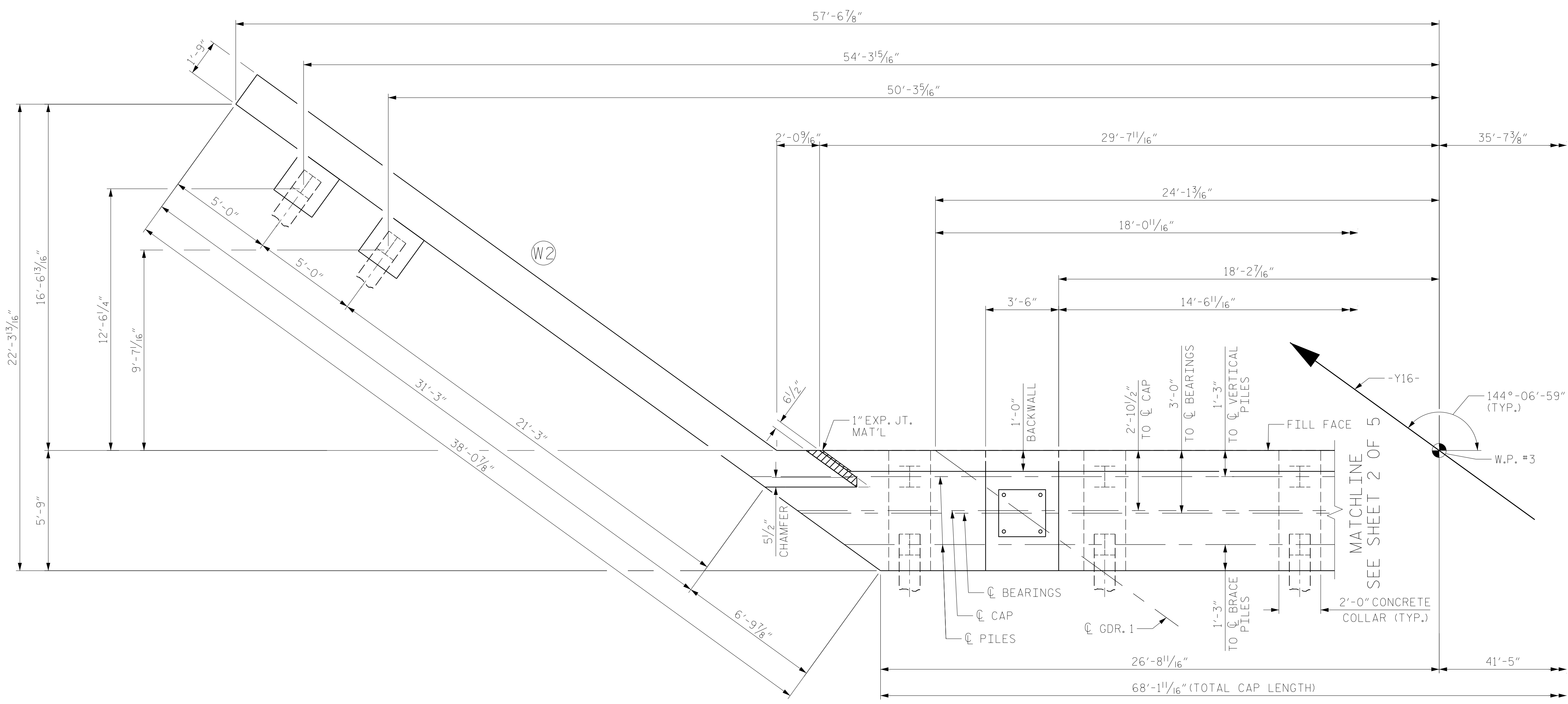
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 BENT NO. 1
 DETAILS

DRAWN BY : TWL DATE : 12/2019
 CHECKED BY : MRA DATE : 12/2019
 DESIGN ENGINEER OF RECORD: JMR DATE : 12/2019

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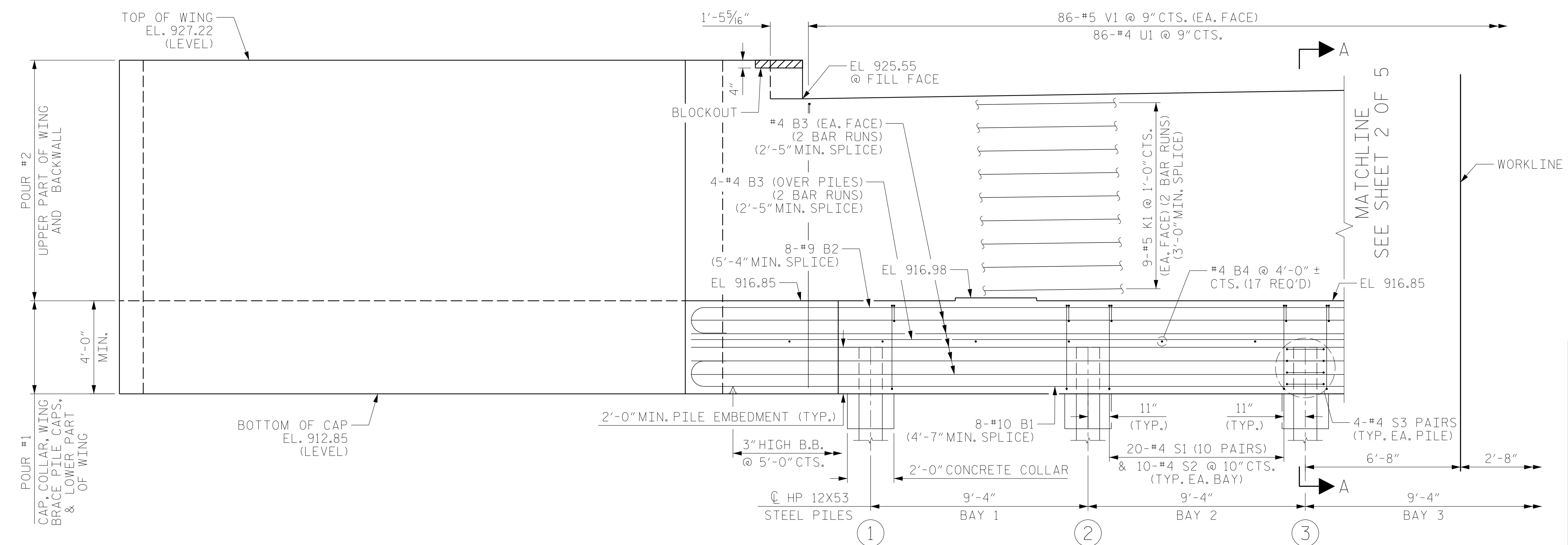
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S7-39
1			3			TOTAL SHEETS 48
2			4			



PARTIAL PLAN

NOTES:
 FOR SECTION A-A, SEE SHEET 5 OF 5.
 STIRRUPS AND #4 U2 BARS MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
 BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.
 THE TOP SURFACE OF THE END BENT CAP EXCEPT THE BRIDGE SEAT BUILDUPS SHALL BE SLOPED TRANSVERSELY FROM THE FILL FACE TO THE BACK FACE AT THE RATE OF 2%.
 THE TOP SURFACE OF THE END BENT CAPS SHALL BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, EXCEPT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.



PARTIAL ELEVATION
 (BRACE PILES IN WING NOT SHOWN FOR CLARITY)

PROJECT NO. U-2579AB
FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

SHEET 1 OF 5



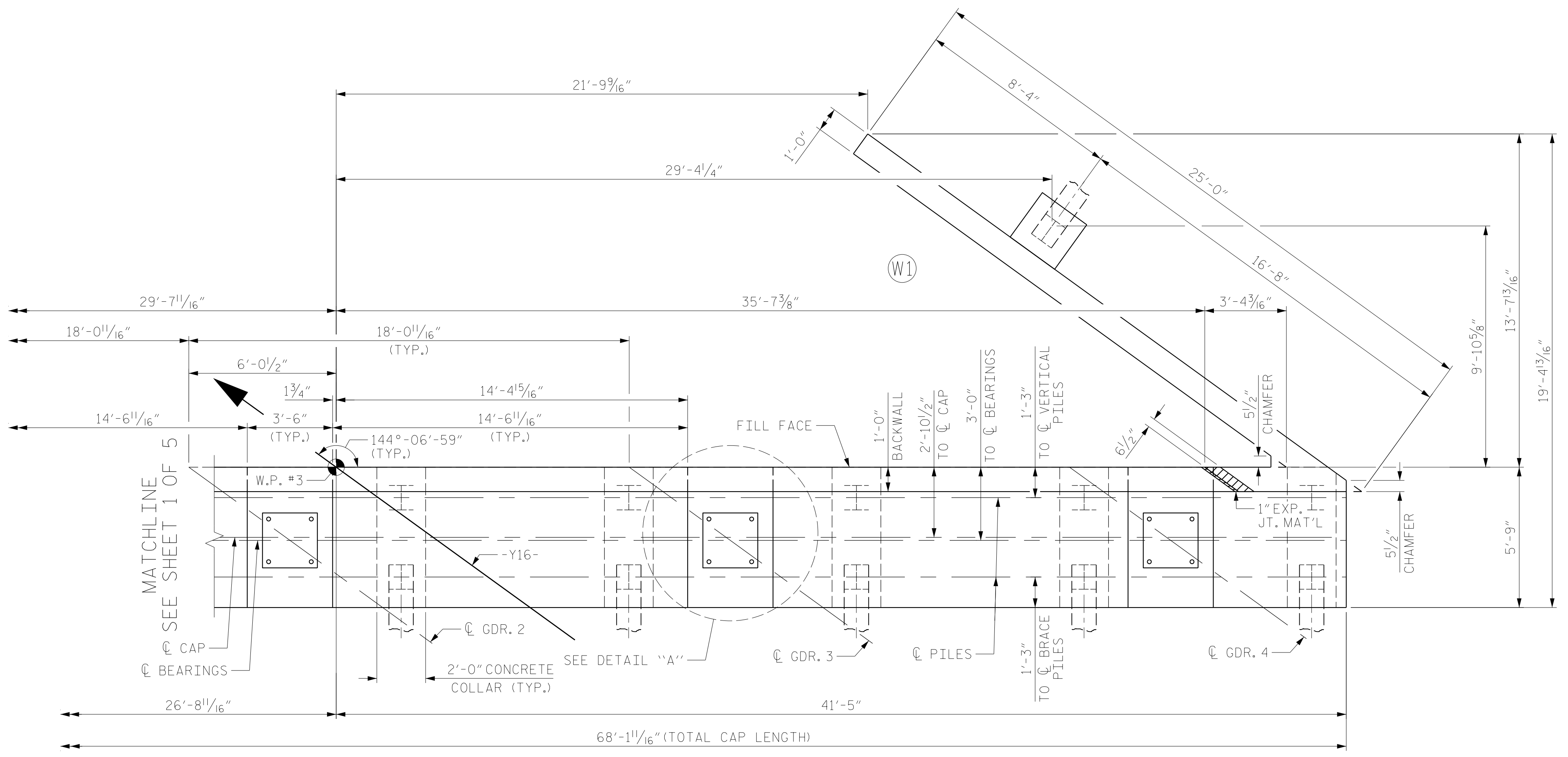
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT 2 PARTIAL
 PLAN AND ELEVATION

DRAWN BY : NSC DATE : .09/2019
 CHECKED BY : MAL DATE : .12/2019
 DESIGN ENGINEER OF RECORD: JMR DATE : .12/2019

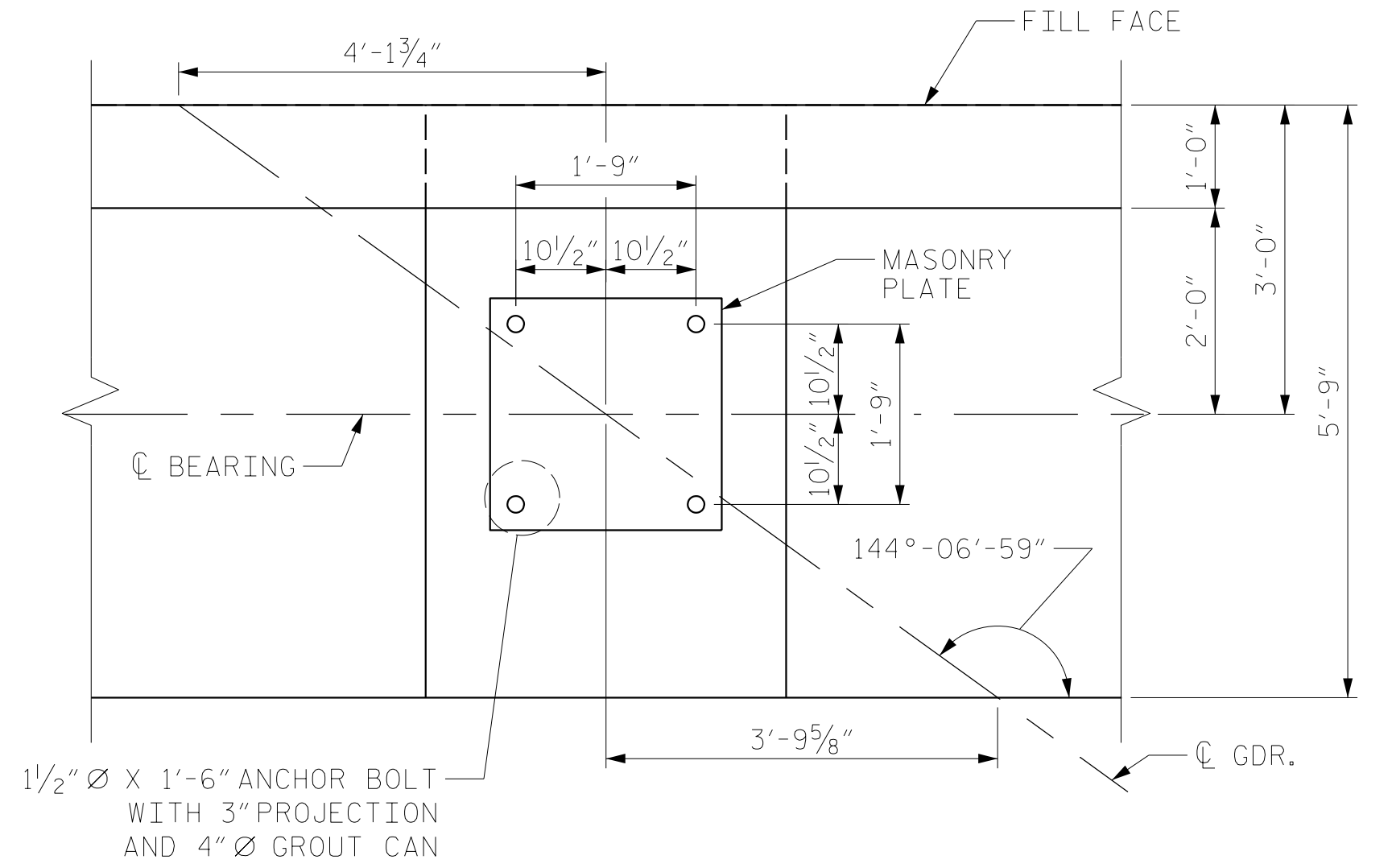
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S7-40
1			3			TOTAL SHEETS
2			4			48

NOTES:
 FOR SECTION A-A AND PARTIAL SECTION B-B,
 SEE SHEET 5 OF 5.
 FOR ADDITIONAL NOTES, SEE SHEET 1 OF 5.



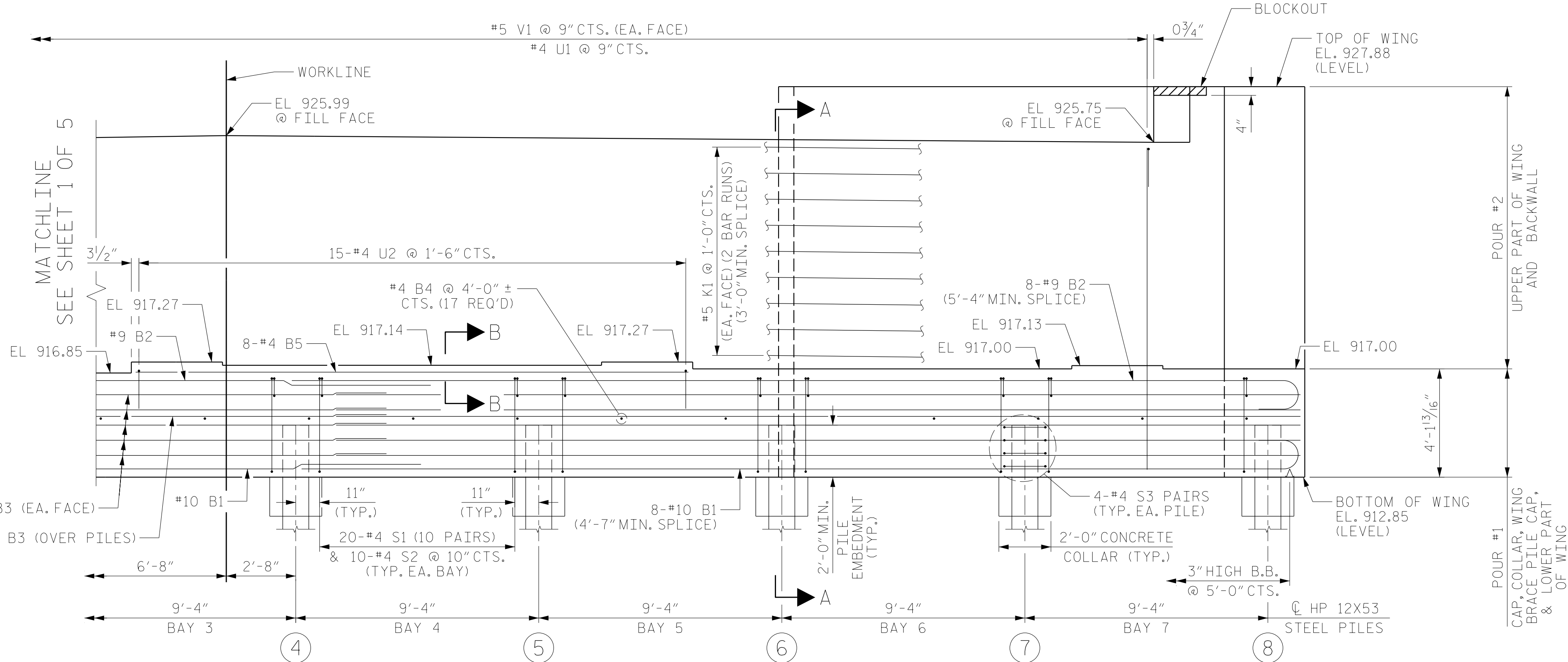
PARTIAL PLAN



DETAIL "A"
 PILES NOT SHOWN FOR CLARITY

PROJECT NO. U-2579AB
FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

SHEET 2 OF 5



PARTIAL ELEVATION

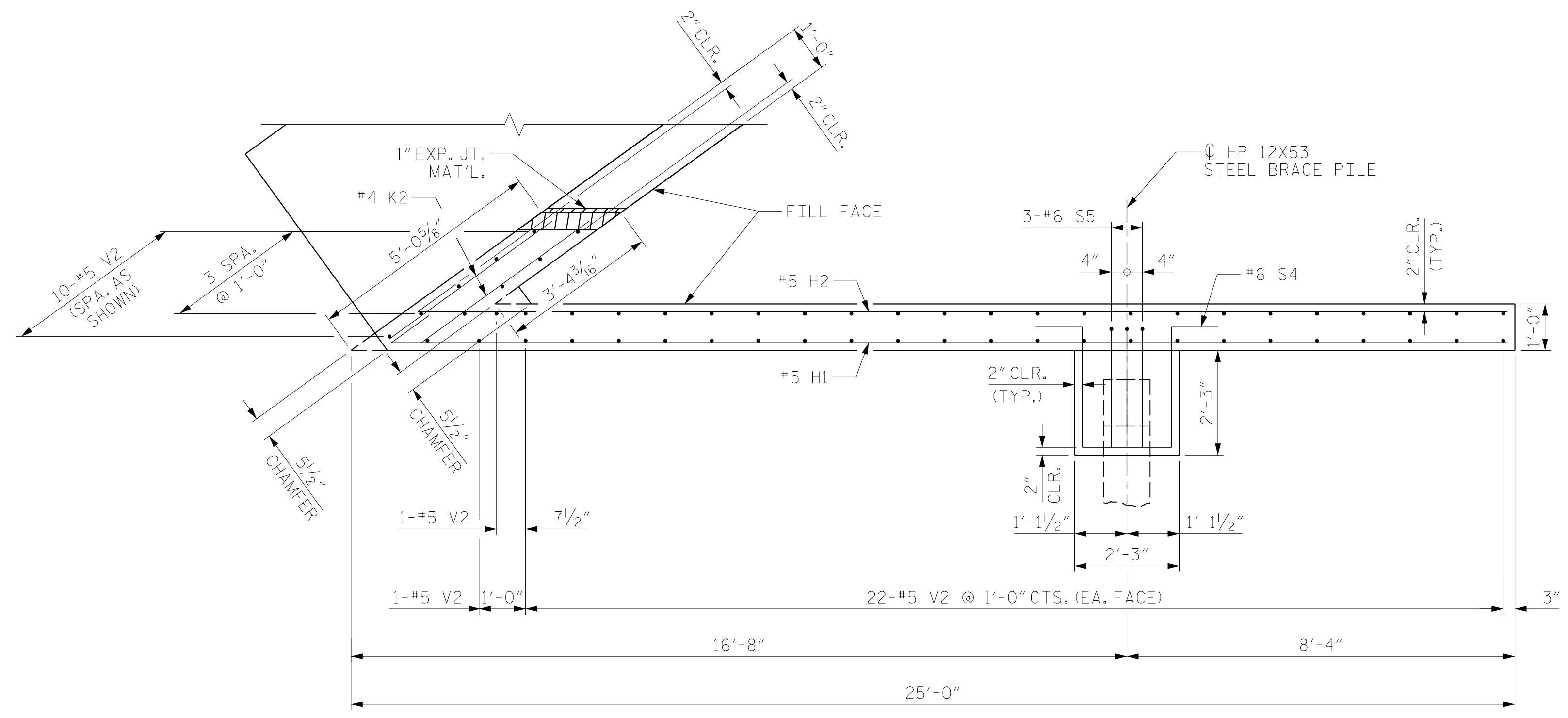
(BRACED PILES IN WING NOT SHOWN FOR CLARITY)

DRAWN BY : NSC DATE : 09/2019
 CHECKED BY : MAL DATE : 12/2019
 DESIGN ENGINEER OF RECORD: JMR DATE : 12/2019

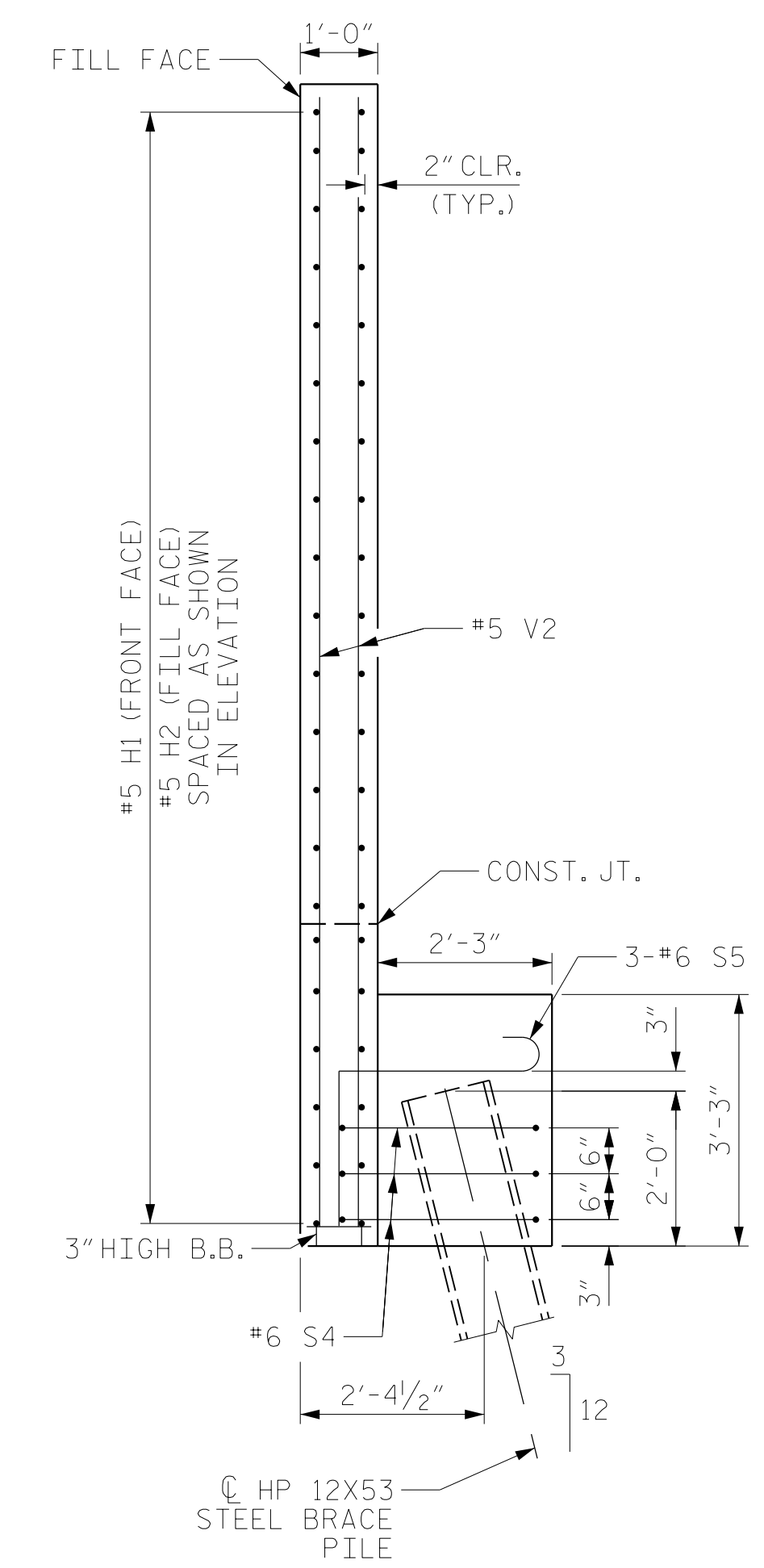
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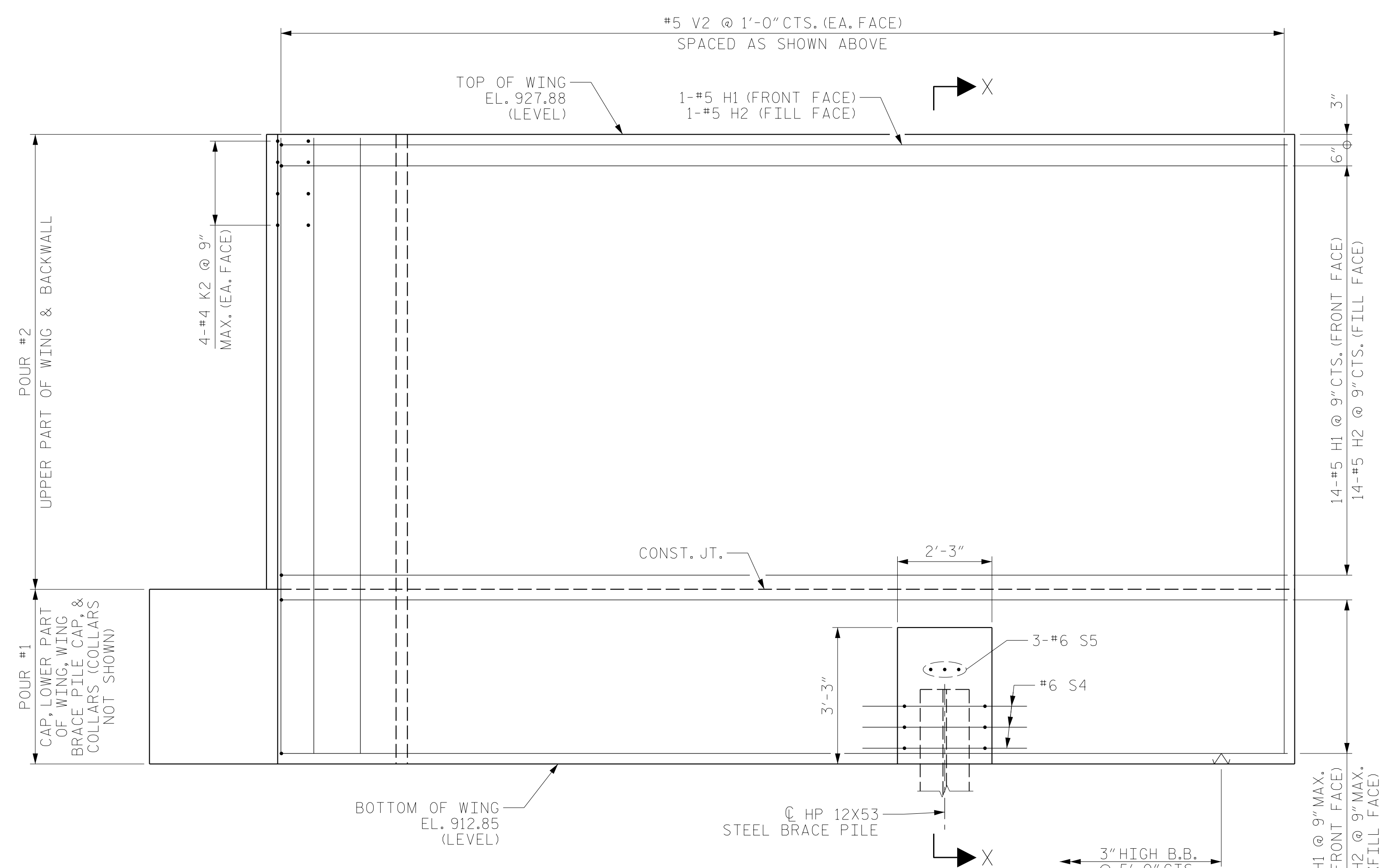
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO. ST-41	
SUBSTRUCTURE END BENT 2 PARTIAL PLAN AND ELEVATION						TOTAL SHEETS 48	
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	ST-41	
1			3			TOTAL SHEETS	
2			4			48	



PLAN OF WING W1
 THE STRAIGHT ENDS OF #5 H2 BARS CAN BE TRIMMED AS NECESSARY TO AVOID CONFLICT WITH PILE IN CAP. HOOKED ENDS SHALL NOT BE CUT.



SECTION X-X



ELEVATION OF WING W1

PROJECT NO. U-2579AB
FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

SHEET 3 OF 5

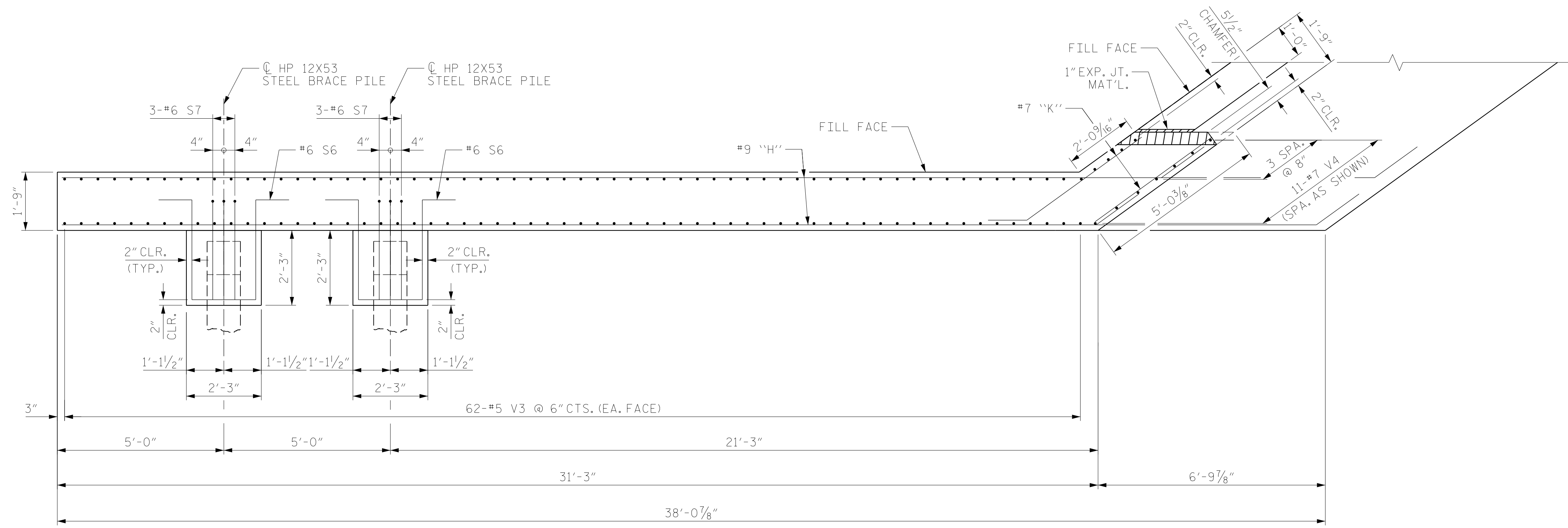


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT 2
 WING W1

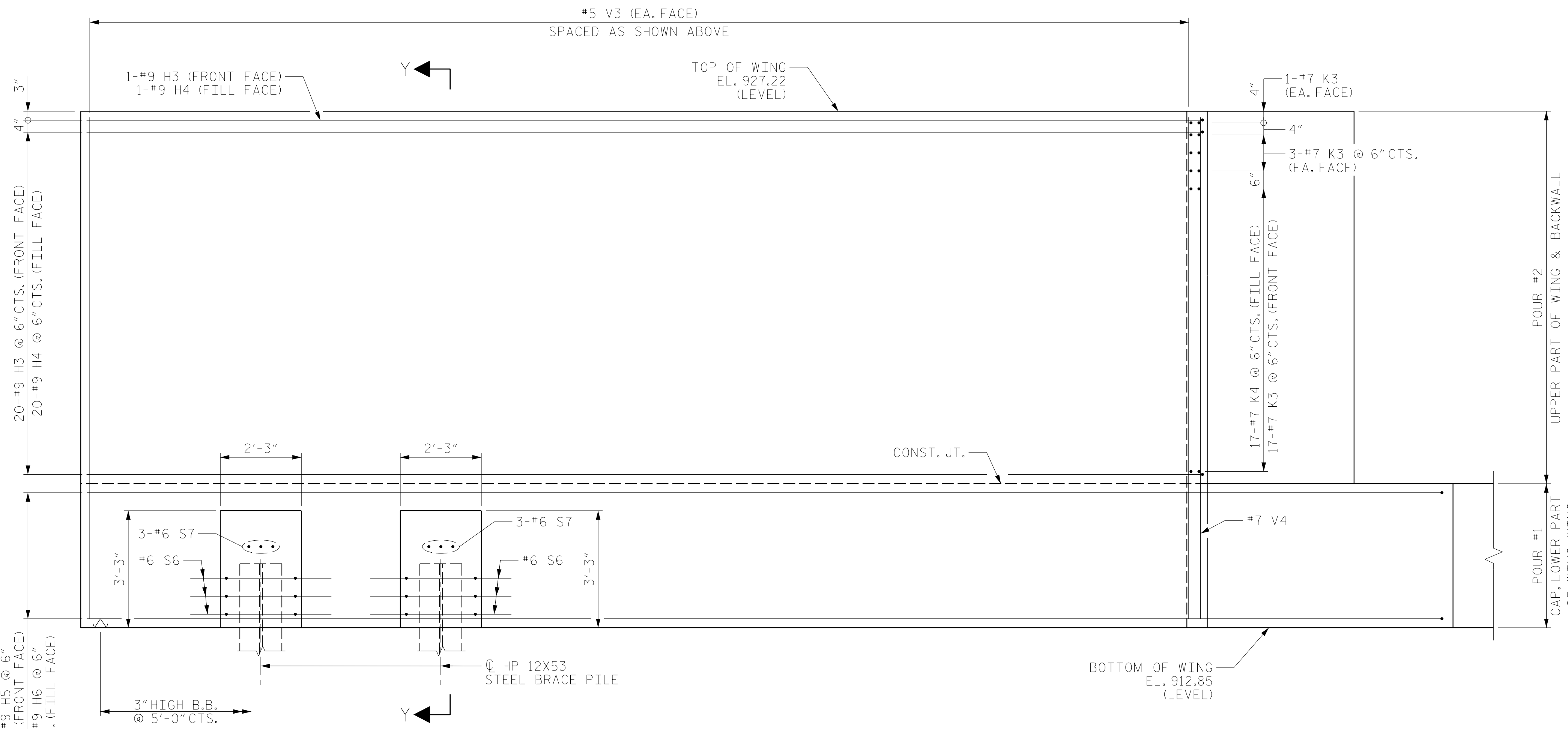
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S7-42
1			3			TOTAL SHEETS
2			4			48

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 DESIGN ENGINEER OF RECORD: JMR DATE : 12/2019

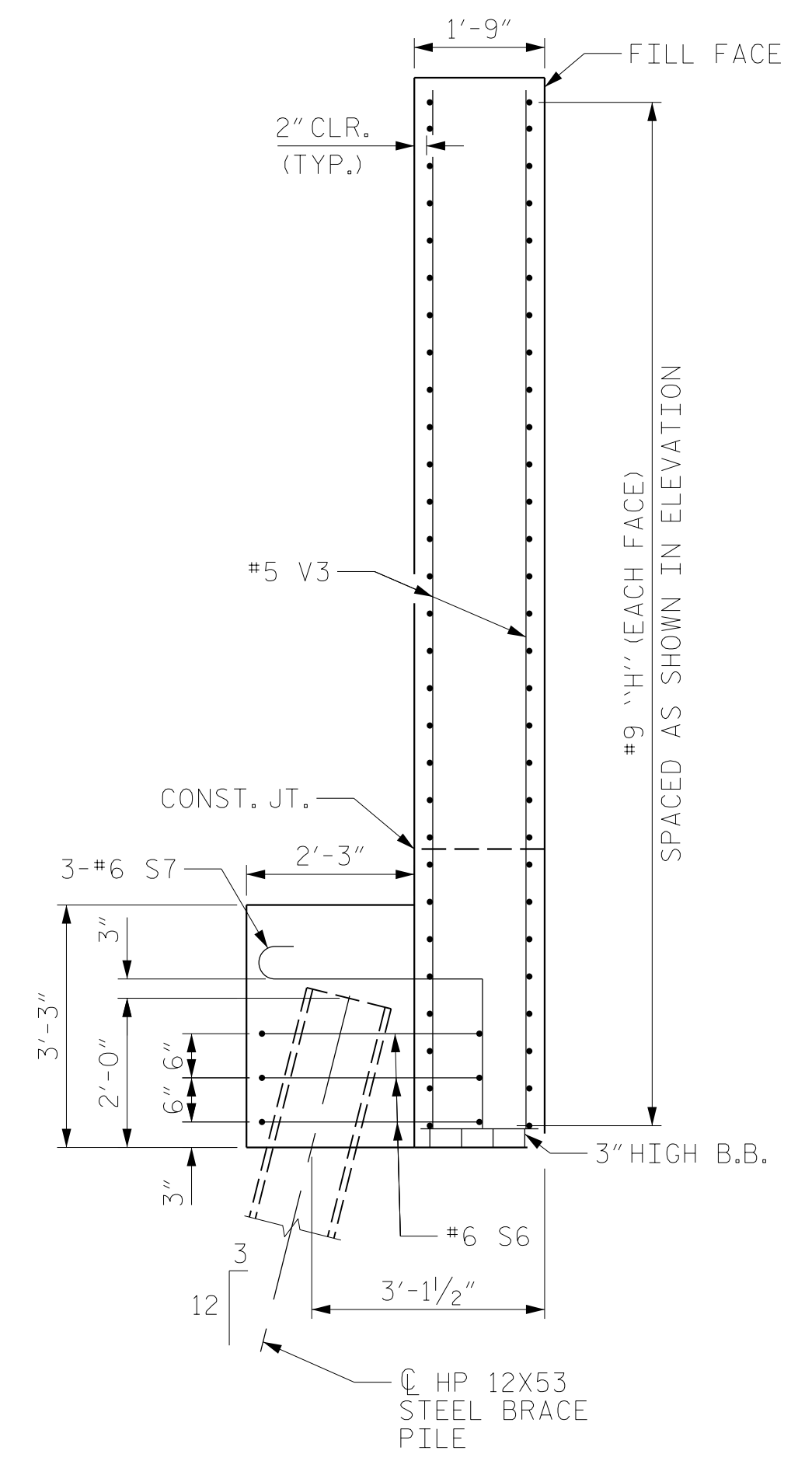
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PLAN OF WING W2



ELEVATION OF WING W2



SECTION Y-Y
(TYP. EA. WING BRACE PILE)

PROJECT NO. U-2579AB
FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

SHEET 4 OF 5



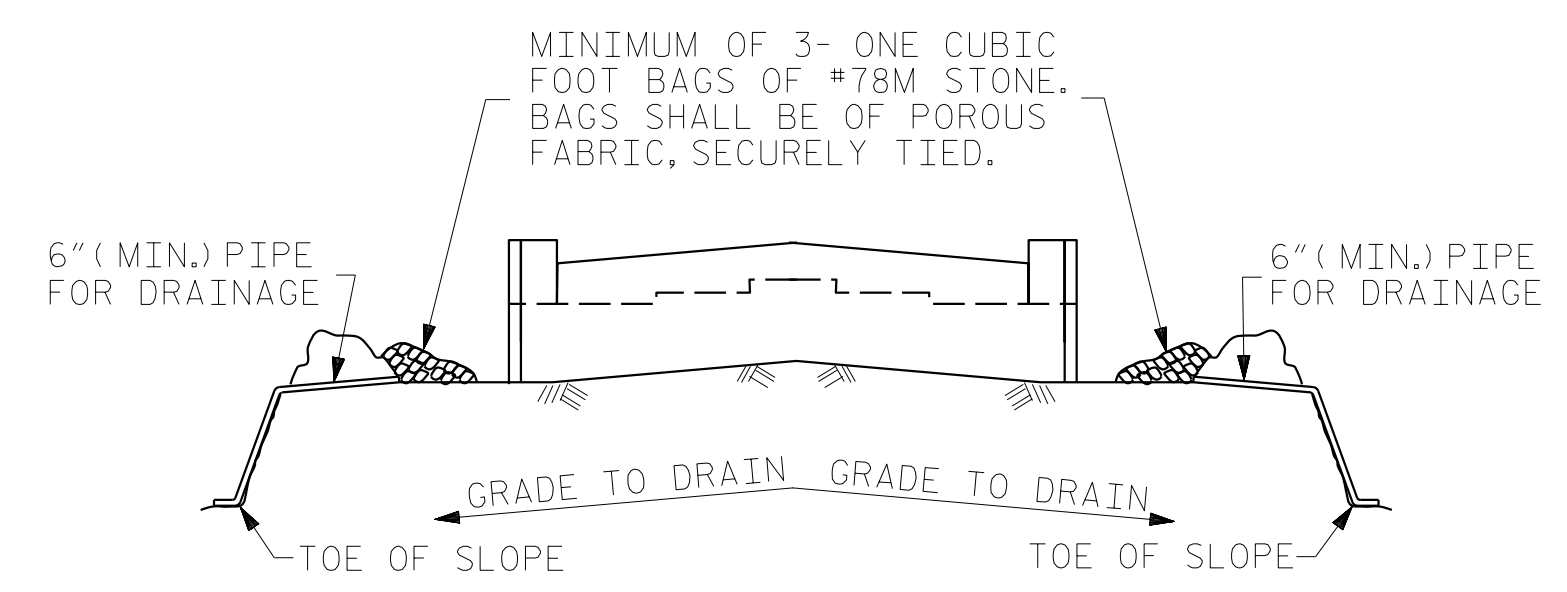
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 SUBSTRUCTURE
 END BENT 2
 WING W2

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S7-43
1			3			TOTAL SHEETS
2			4			48

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 CHECKED BY : MAL DATE : 12/2019
 DESIGN ENGINEER OF RECORD: JMR DATE : 12/2019

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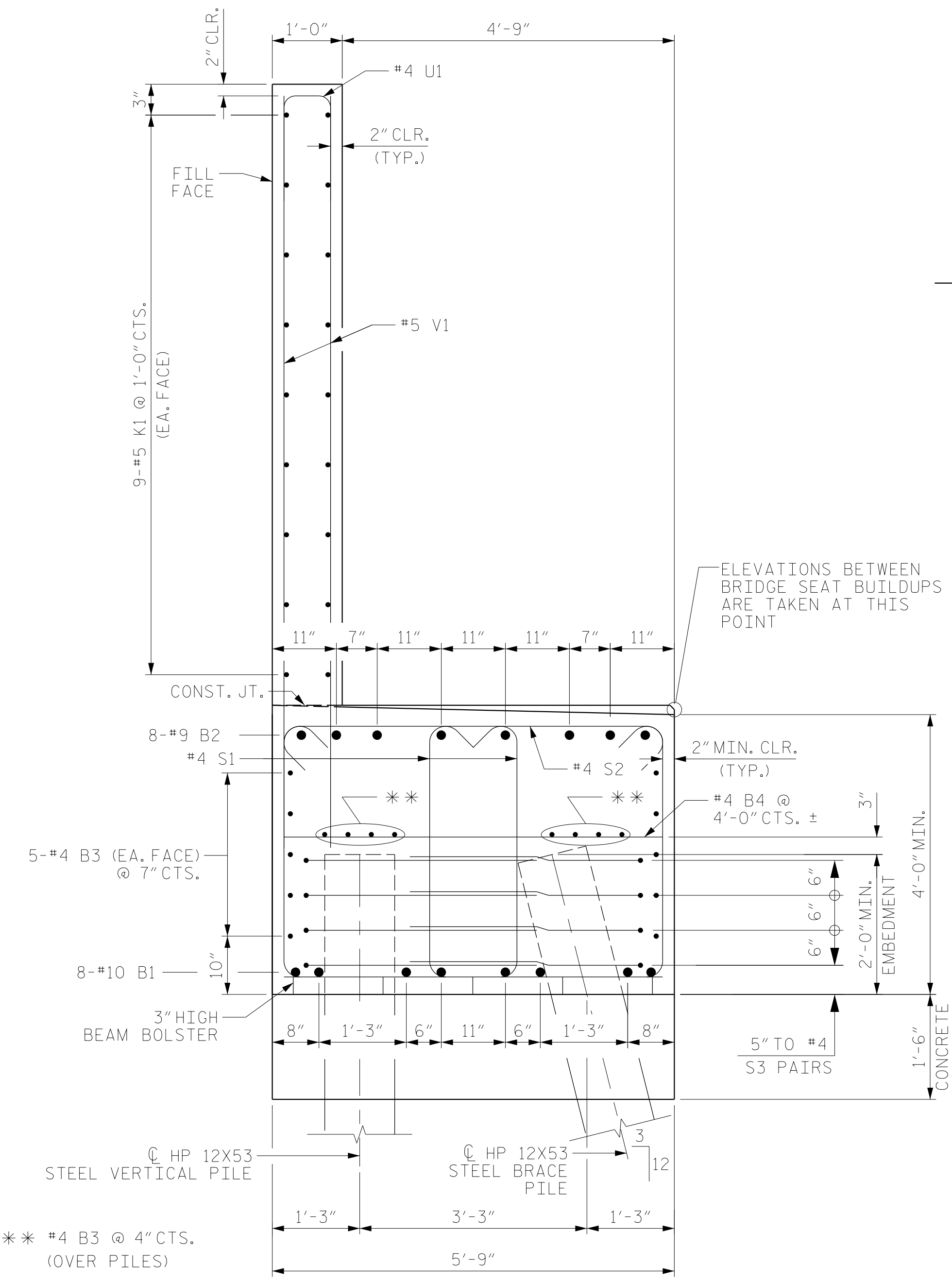


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

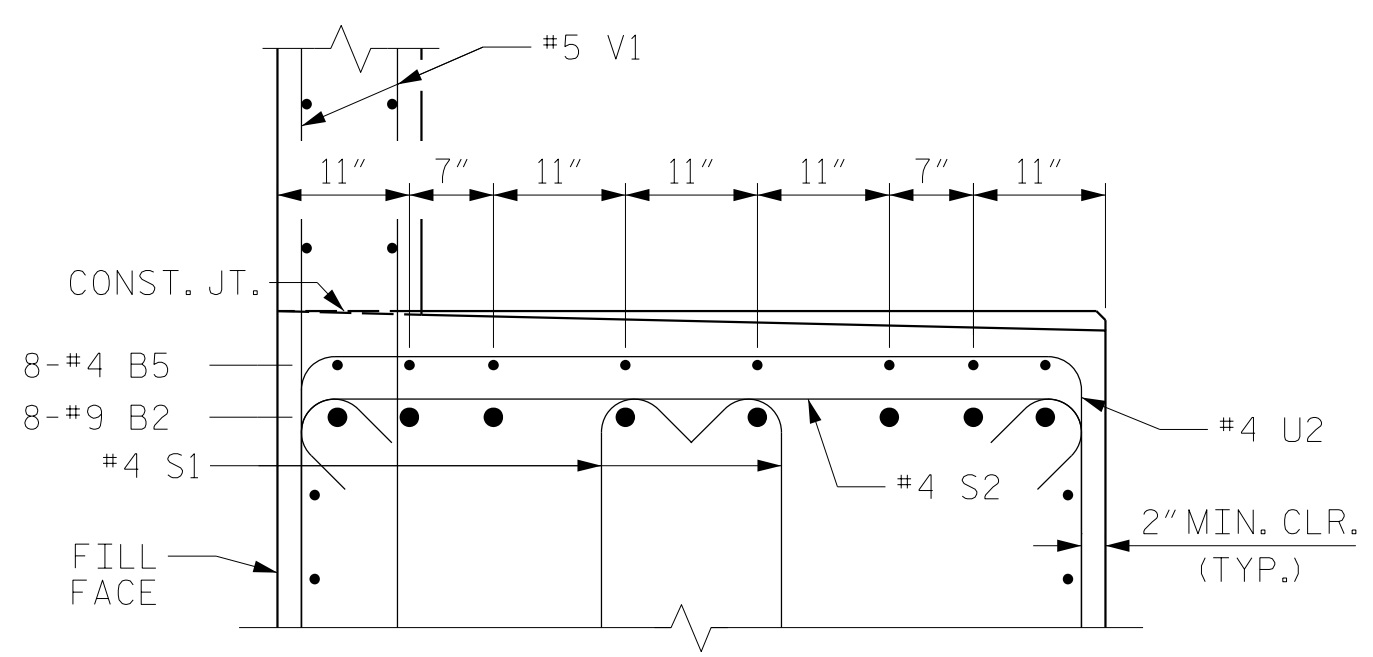
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

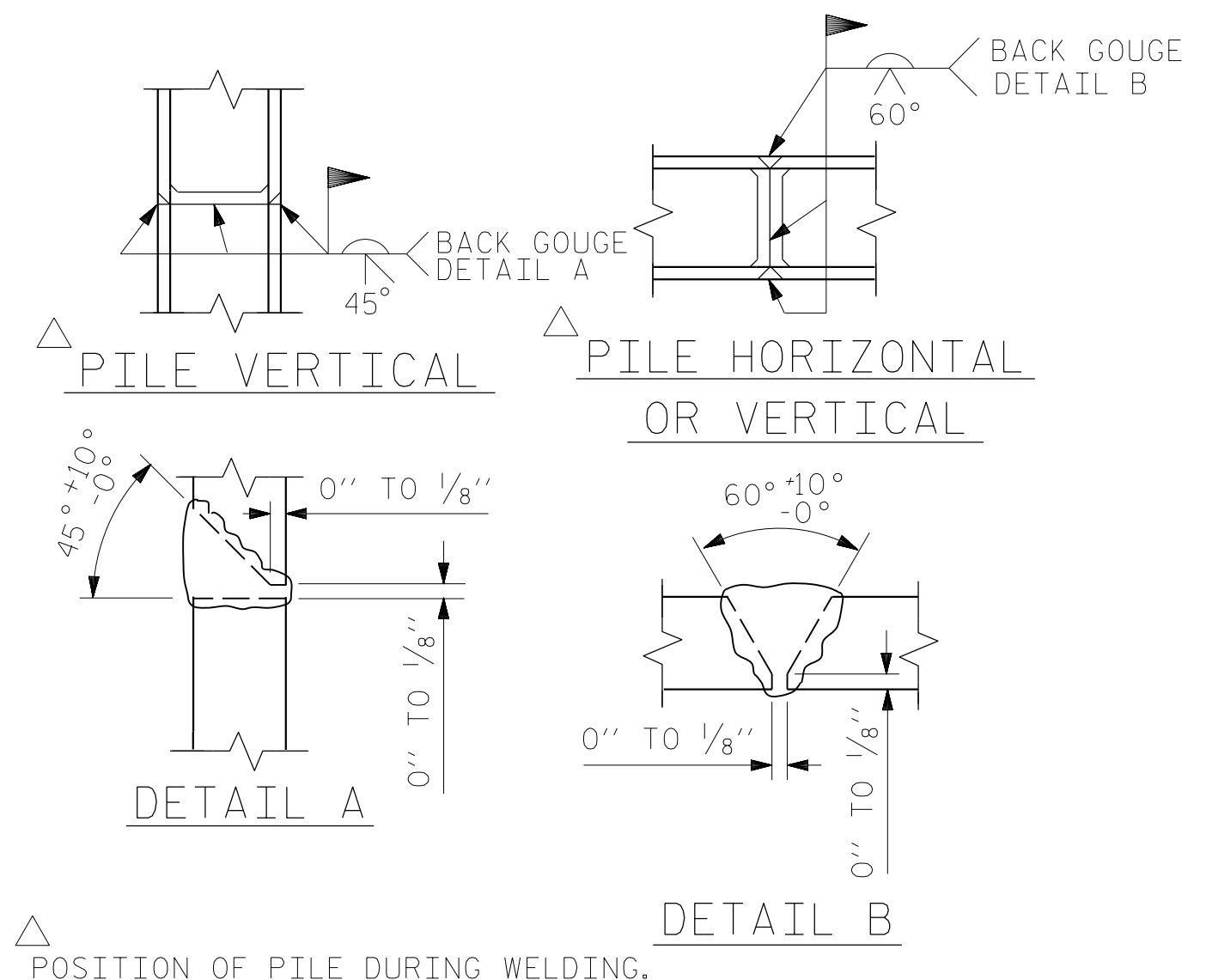
TEMPORARY DRAINAGE AT END BENT



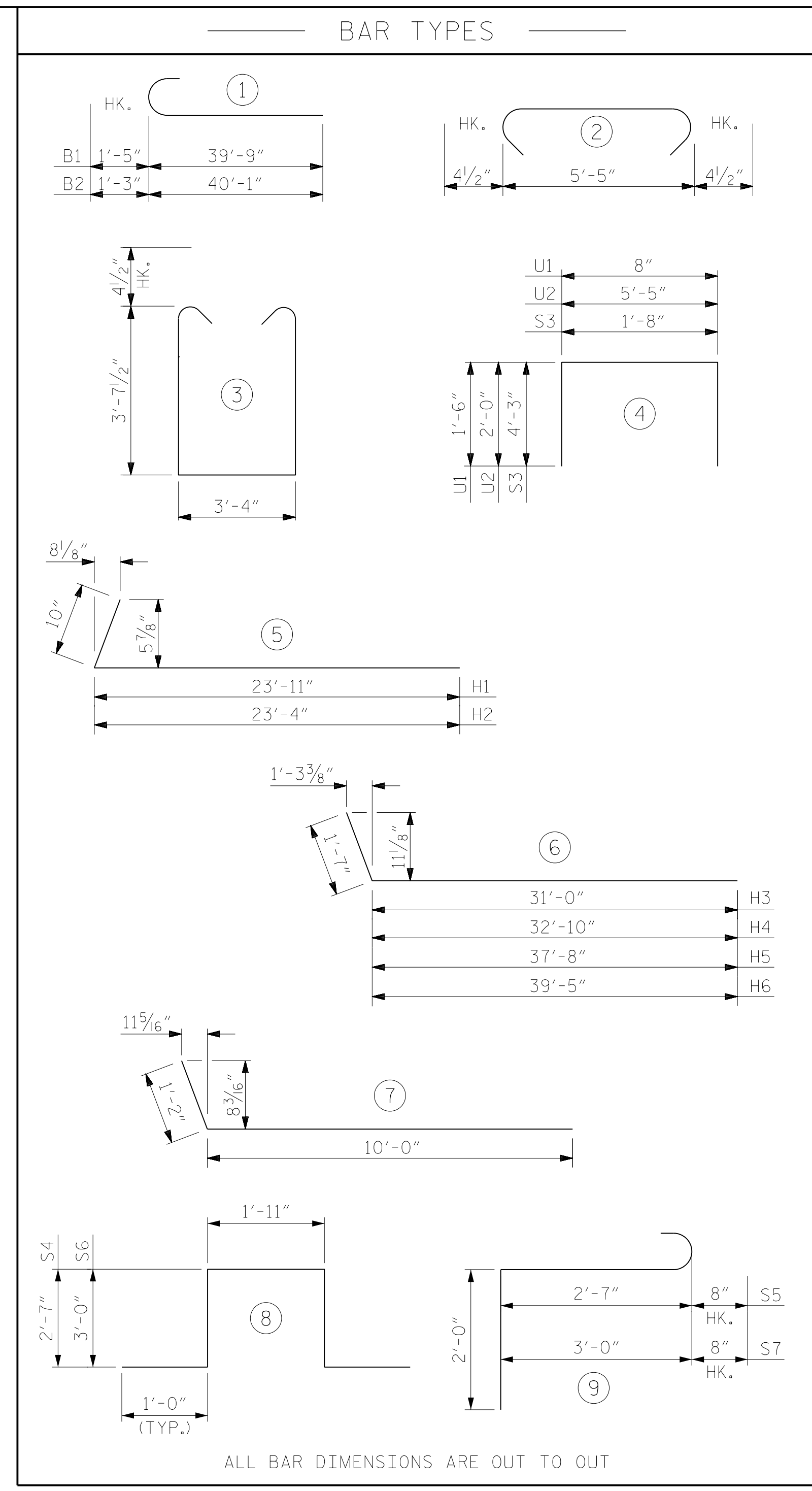
SECTION A-A



PARTIAL SECTION B-B



PILE SPLICE DETAILS



BILL OF MATERIAL					
END BENT NO. 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	16	#10	1	41'-2"	2834
B2	16	#9	1	41'-4"	2249
B3	36	#4	STR	38'-8"	930
B4	17	#4	STR	5'-5"	62
B5	8	#4	STR	21'-2"	113
H1	21	#5	5	24'-9"	542
H2	21	#5	5	24'-2"	529
H3	21	#9	6	32'-7"	2326
H4	21	#9	6	34'-5"	2457
H5	8	#9	6	39'-3"	1068
H6	8	#9	6	41'-0"	1115
K1	36	#5	STR	38'-11"	1461
K2	8	#4	STR	4'-2"	22
K3	25	#7	STR	4'-2"	213
K4	17	#7	7	11'-2"	388
S1	140	#4	3	11'-4"	1060
S2	70	#4	2	6'-2"	288
S3	64	#4	4	10'-2"	435
S4	3	#6	8	9'-1"	41
S5	3	#6	9	5'-3"	24
S6	6	#6	8	9'-11"	89
S7	6	#6	9	5'-8"	51
U1	86	#4	4	3'-8"	211
U2	15	#4	4	9'-5"	94
V1	172	#5	STR	12'-3"	2198
V2	56	#5	STR	14'-8"	857
V3	124	#5	STR	14'-0"	1811
V4	11	#7	STR	14'-0"	315
REINFORCING STEEL 23,783 LBS.					
CLASS A CONCRETE					
POUR #1 CAP, COLLARS AND LOWER PART OF WINGS 82.4 C.Y.					
POUR #2 UPPER PART OF WINGS AND BACKWALL 56.4 C.Y.					
TOTAL CLASS A CONCRETE 138.8 C.Y.					
HP 12 X 53 STEEL PILES NO. 19 860.0 LIN. FT.					
PILE DRIVING EQUIPMENT SETUP NO. 19					

PROJECT NO. U-2579AB
 FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

SHEET 5 OF 5

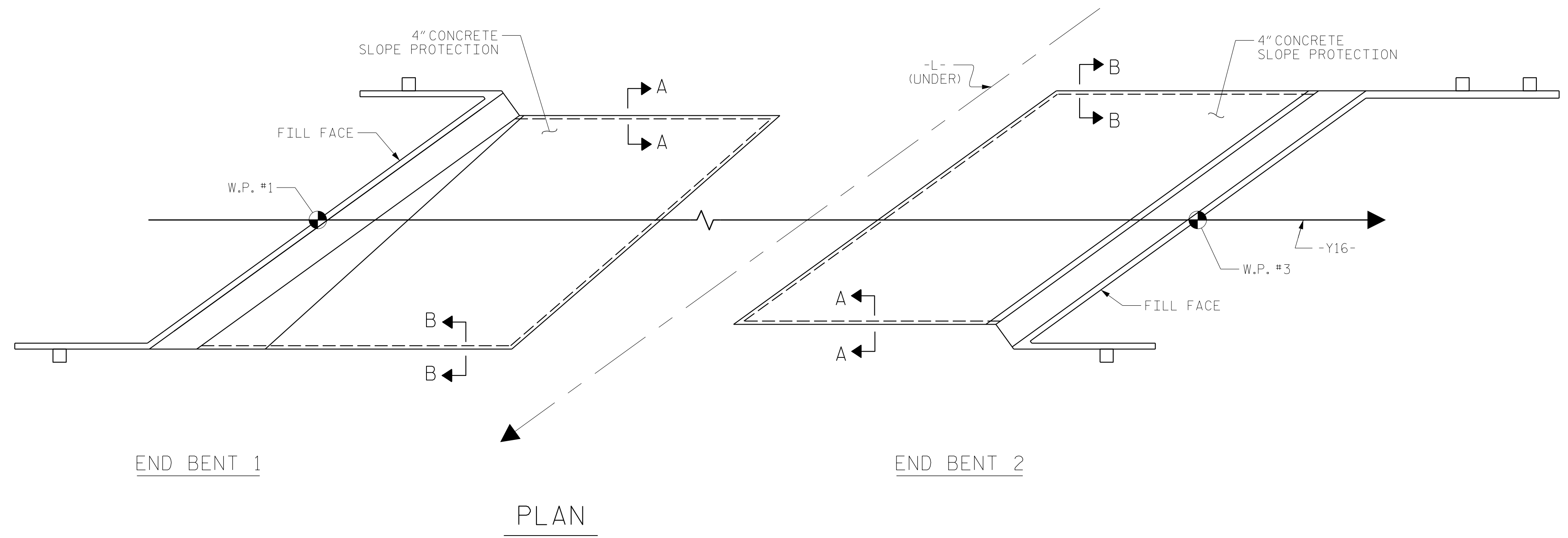


REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S7-44
1			3			TOTAL SHEETS 48
2			4			

DRAWN BY : NSC DATE : .09/2019
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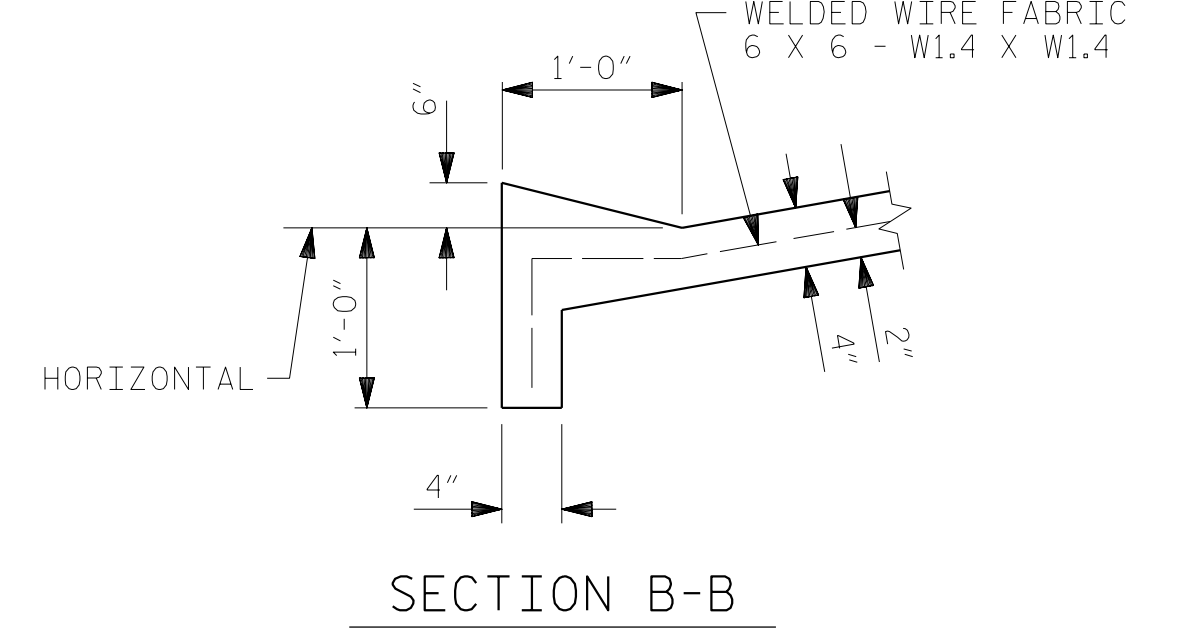
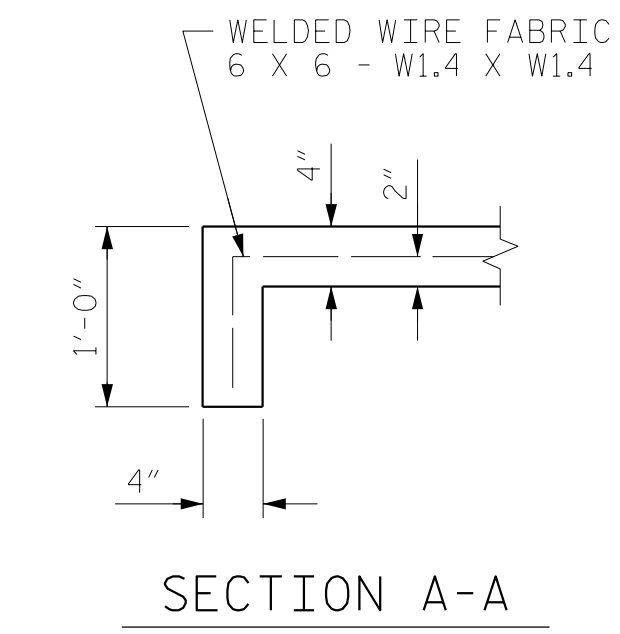
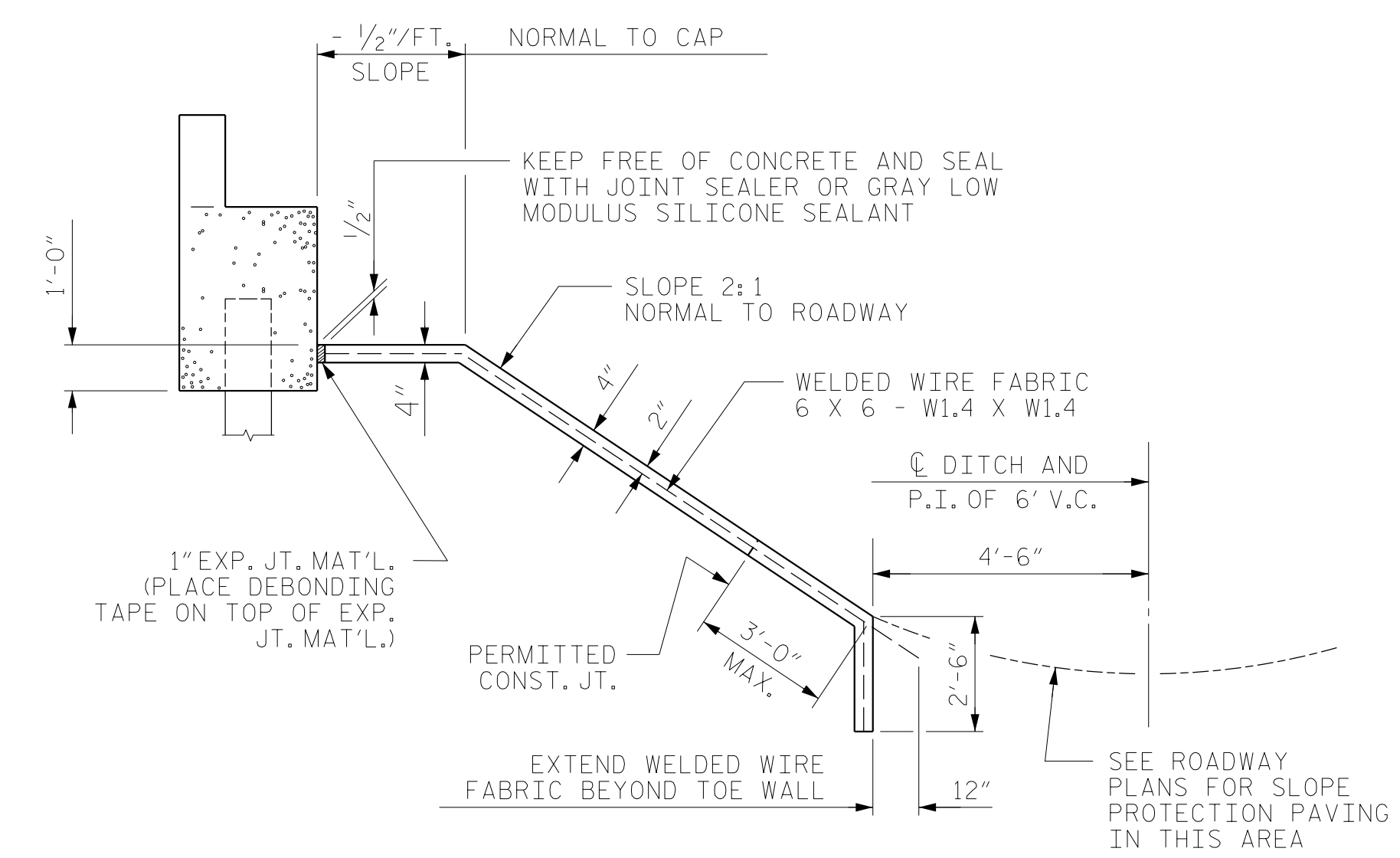
GENERAL NOTES

SLOPE PROTECTION SHALL BE PLACED UNDER THE ENDS OF THE BRIDGE AS SHOWN IN THE DETAILS. STRAIGHT EDGING WILL NOT BE REQUIRED UNLESS, IN THE OPINION OF THE ENGINEER, VISUAL INSPECTION INDICATES A NEED FOR IT. MEASUREMENT AND PAYMENT SHALL BE AS PRESCRIBED IN SECTION 462 OF THE STANDARD SPECIFICATIONS. FOR BERM WIDTH, SEE GENERAL DRAWING.

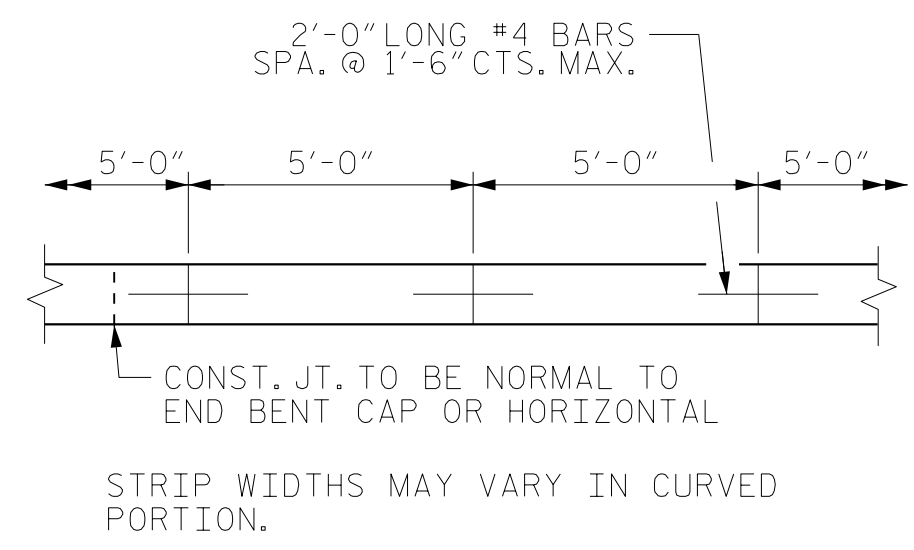
THE SLOPE PROTECTION SHALL CONSIST OF 4" POURED-IN-PLACE CONCRETE PAVING AS SHOWN IN THE DETAILS ON THIS SHEET. CONCRETE SHALL BE CLASS "B". THE CONCRETE SURFACE SHALL BE FLOATED WITH A WOODEN FLOAT AND FINISHED. WELDED WIRE FABRIC REINFORCING SHALL BE 6 X 6 - W1.4 X W1.4, 60" WIDE. SLOPE PROTECTION SHALL BE POURED IN 5' STRIPS AS SHOWN IN THE "POURING DETAIL" WITH 2'-0" LONG #4 BARS PLACED ALONG THE SLOPE BETWEEN STRIPS AT 1'-6" MAXIMUM SPACING. SLOPE PROTECTION MAY BE POURED IN ALTERNATE 4' AND 5' STRIPS AS SHOWN IN THE "OPTIONAL POURING DETAIL" WITH ADJACENT RUNS OF WELDED WIRE FABRIC LAPPING AT LEAST 6". THE COST OF THE WELDED WIRE FABRIC AND #4 BARS, IF USED, SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID PER SQUARE YARD FOR SLOPE PROTECTION.

BRIDGE @ STA. 23+43.03 -Y16-	4 INCH SLOPE PROTECTION	* WELDED WIRE FABRIC 60 INCHES WIDE
	SQUARE YARDS	APPROX. L.F.
END BENT 1	240	482
END BENT 2	222	468

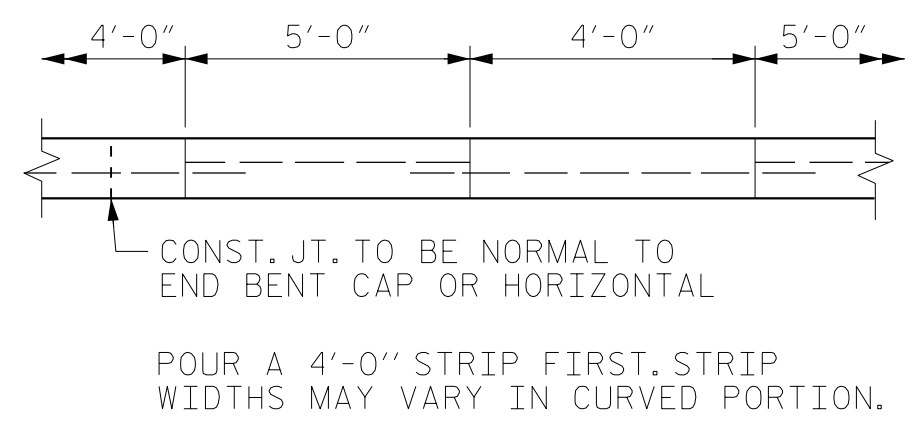
* QUANTITY SHOWN IS BASED ON 5' POURS.



SECTION ALONG C SURVEY WHEN FILL CATCHES IN DITCH



POURING DETAIL



OPTIONAL POURING DETAIL

PROJECT NO. U-2579AB
FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

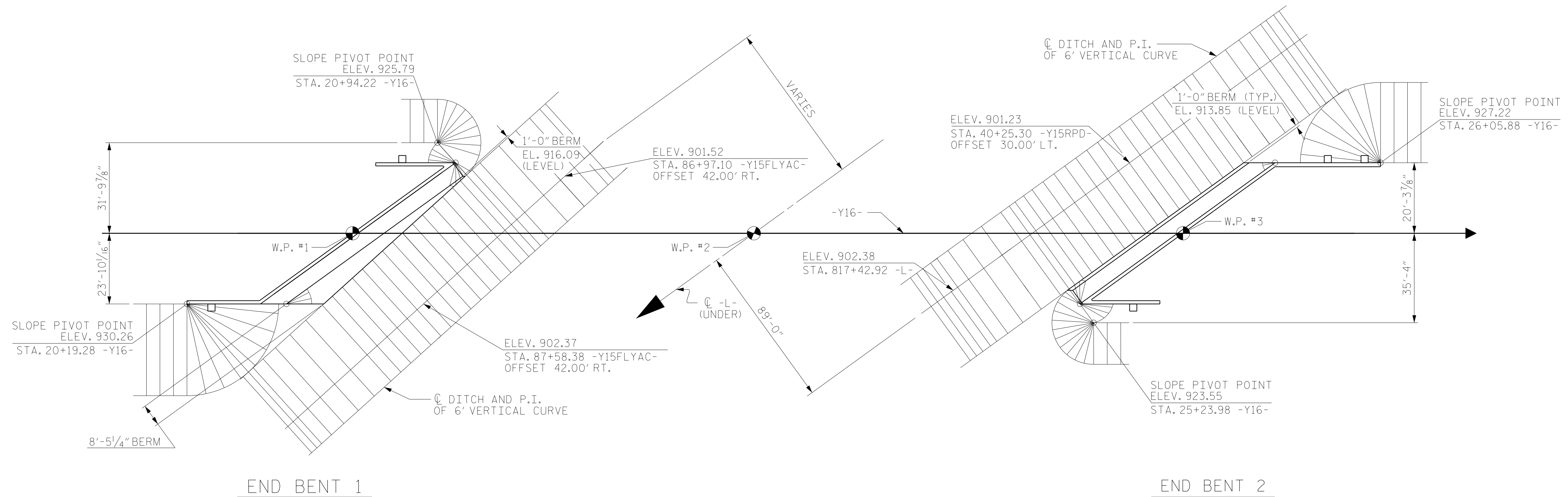
SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**STANDARD
 SLOPE PROTECTION
 DETAILS**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			48
2			4			

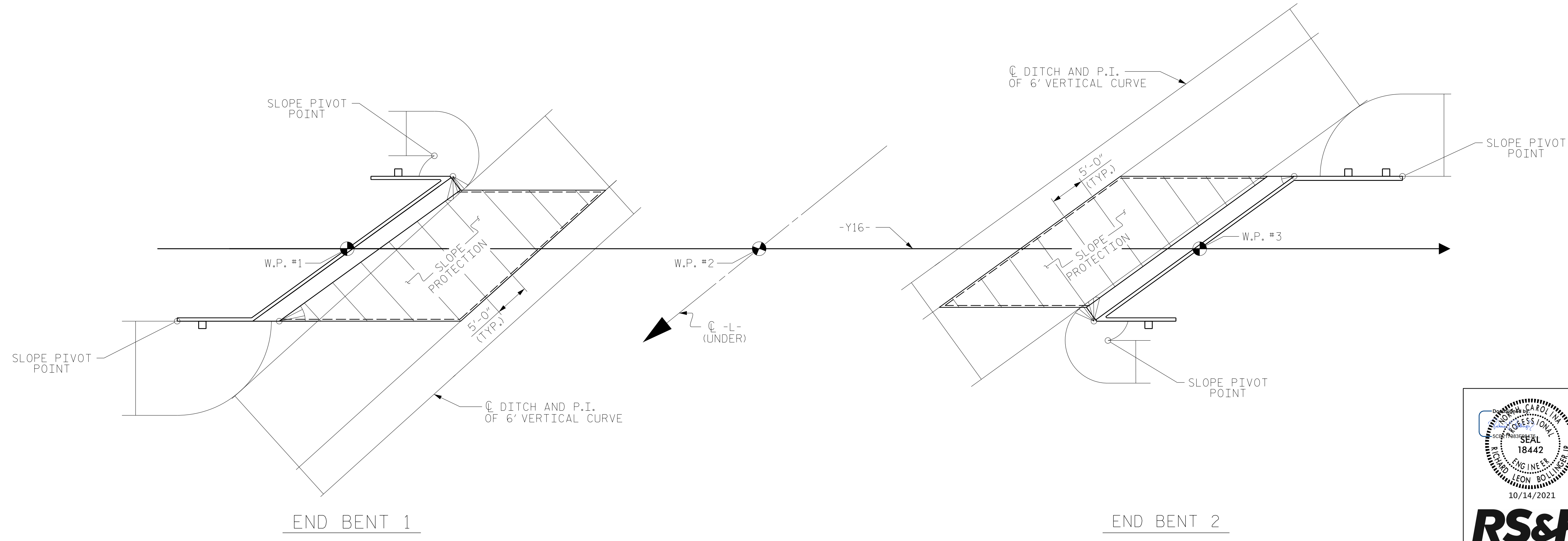
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ASSEMBLED BY : TWL	DATE : 08/2019
CHECKED BY : JMR	DATE : 12/2019
DRAWN BY : ELR 5/92	REV. 12/21/11 MAA/GM
CHECKED BY : GRP 6/92	REV. 1/16 MAA/TMG
	REV. 12/17 MAA/THC



PLAN - GRADING

NOTE: OFFSETS GIVEN ABOVE ARE TO THEIR RESPECTIVE GRADE LINES



PLAN - CONCRETE PLACEMENT

PROJECT NO. U-2579AB
 FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

SHEET 2 OF 2

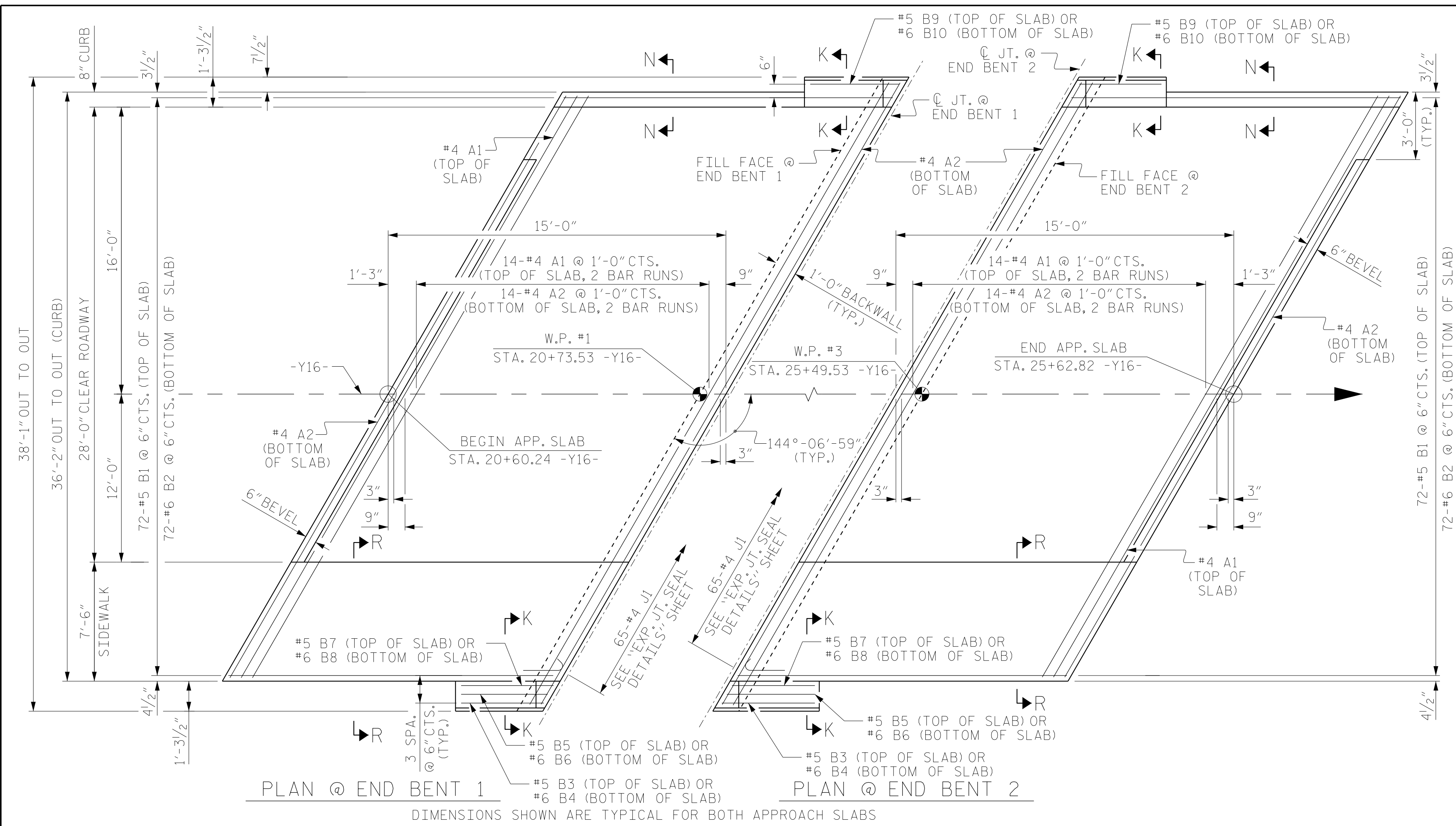


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 SLOPE PROTECTION
 DETAILS

ASSEMBLED BY : TWL	DATE : 12/2019
CHECKED BY : JMR	DATE : 12/2019
DRAWN BY : WJH 10/88	REV. 10/1/11 MAA/GM
CHECKED BY : FCJ 10/88	REV. 1/16 MAA/TMG
	REV. 12/17 MAA/THG

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S7-46
1			3			TOTAL SHEETS
2			4			48



NOTES

FOR BRIDGE APPROACH FILL INCLUDING GEOTEXTILE, 6" Ø DRAINAGE PIPE, AND SELECT MATERIAL BACKFILL, SEE ROADWAY PLANS.

GEOTEXTILE SHALL BE TYPE 1 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 1056.

SELECT MATERIAL BACKFILL (CLASS V OR CLASS VI) SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 1016.

SELECT MATERIAL BACKFILL IS TO BE CONTINUOUS ALONG FILL FACE OF BACKWALL FROM OUTSIDE EDGE TO OUTSIDE EDGE OF APPROACH SLAB.

APPROACH SLAB SHALL NOT BE CONSTRUCTED PRIOR TO COMPLETION OF THE BRIDGE DECK.

FOR THE 6" Ø DRAINAGE PIPE OUTLET(S), SEE ROADWAY STANDARD DRAWINGS.

AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.

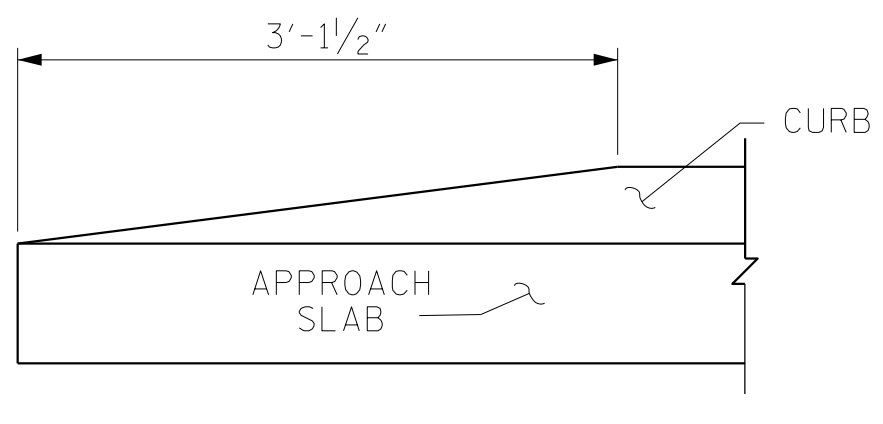
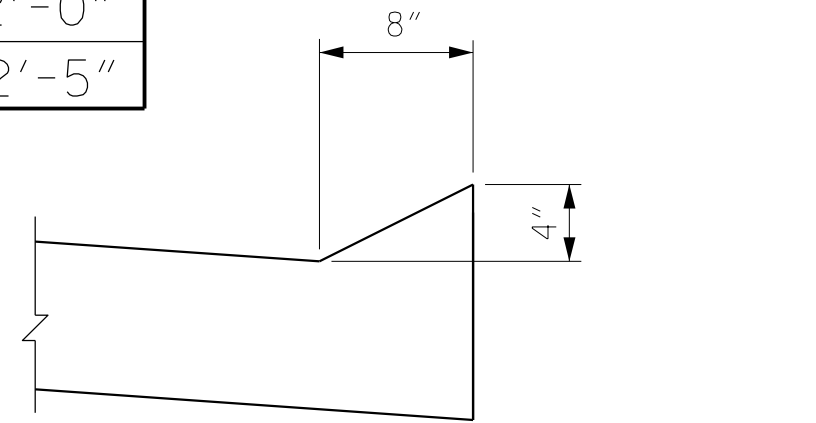
FOR EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR SIDEWALK REINFORCING, SEE SHEET 2 OF 2.

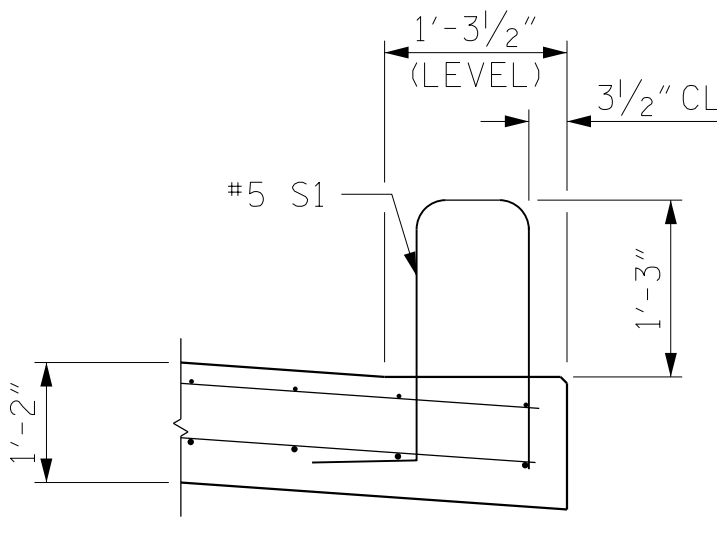
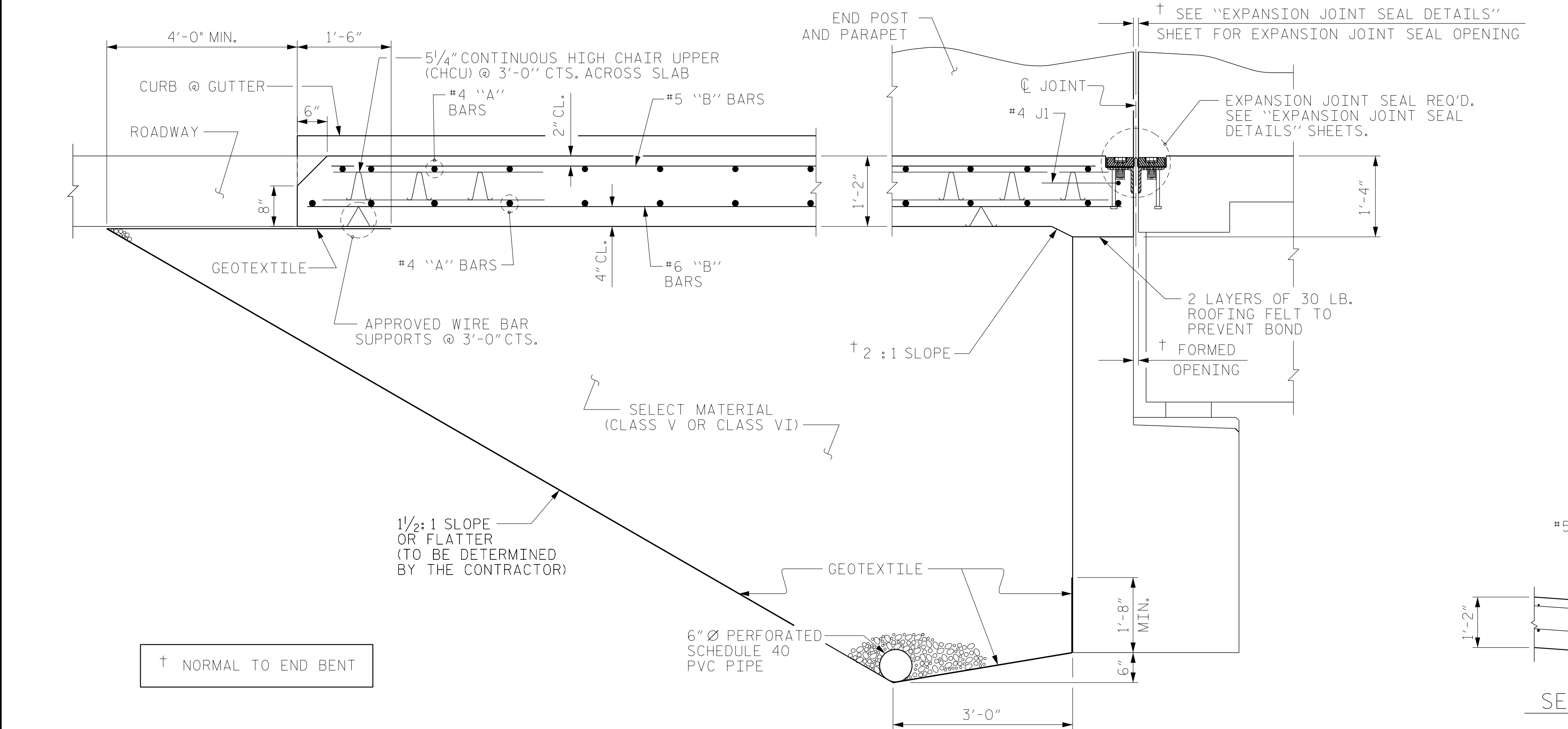
THE QUANTITY OF #4 J1 BARS ON THE BILL OF MATERIAL IS BASED ON 1'-0" CENTERS. J1 BARS SHALL BE PLACED AT EACH VERTICAL STUD ANCHOR BOLT. IN THE EVENT THAT THE NUMBER OF VERTICAL STUD ANCHORS EXCEEDS THE NUMBER OF J1 BARS SPECIFIED, ADDITIONAL J1 BARS WILL NOT BE REQUIRED.

FOR SECTION R-R, SEE SHEET 2 OF 2.

SPlice LENGTHS		
BAR SIZE	EPOXY COATED	UNCOATED
#4	1'-11"	1'-7"
#5	2'-5"	2'-0"
#6	3'-7"	2'-5"



CURB DETAILS



SECTION K-K

BILL OF MATERIAL					
APPROACH SLAB AT BENT 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	30	#4	STR	31'-7"	633
A2	32	#4	STR	31'-5"	672
*B1	72	#5	STR	13'-5"	1008
B2	72	#6	STR	14'-5"	1559
*B3	1	#5	STR	3'-5"	4
B4	1	#6	STR	3'-5"	5
*B5	1	#5	STR	4'-1"	4
B6	1	#6	STR	4'-1"	6
*B7	1	#5	STR	4'-10"	5
B8	1	#6	STR	4'-10"	7
*B9	1	#5	STR	4'-6"	5
B10	1	#6	STR	4'-6"	7
*J1	65	#4	1	1'-5"	62
REINFORCING STEEL				2256 LBS.	
*EPOXY COATED REINFORCING STEEL				1721 LBS.	
CLASS AA CONCRETE				24.0 C. Y.	

APPROACH SLAB AT BENT 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	30	#4	STR	31'-7"	633
A2	32	#4	STR	31'-5"	672
*B1	72	#5	STR	13'-5"	1008
B2	72	#6	STR	14'-5"	1559
*B3	1	#5	STR	4'-10"	5
B4	1	#6	STR	4'-10"	7
*B5	1	#5	STR	4'-1"	4
B6	1	#6	STR	4'-1"	6
*B7	1	#5	STR	3'-5"	4
B8	1	#6	STR	3'-5"	5
*B9	1	#5	STR	3'-10"	4
B10	1	#6	STR	3'-10"	6
*J1	65	#4	1	1'-5"	62
REINFORCING STEEL				2255 LBS.	
*EPOXY COATED REINFORCING STEEL				1720 LBS.	
CLASS AA CONCRETE				24.0 C. Y.	

BAR TYPE

ALL BAR DIMENSIONS ARE OUT TO OUT

** QUANTITIES FOR SIDEWALK AND END POST ARE NOT INCLUDED. SEE SHEET 2 OF 2.

PROJECT NO. U-2579AB
 FORSYTH COUNTY
 STATION: 23+43.03 -Y16-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD
 BRIDGE APPROACH SLAB
 FOR FLEXIBLE PAVEMENT



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			57-47
2			4			TOTAL SHEETS 48

ASSEMBLED BY : TWL	DATE : 08/2019
CHECKED BY : JMR	DATE : 01/2020
DRAWN BY : EEM 3/95	REV. 6/13 MAA/GM
CHECKED BY : VAP 3/95	REV. 12/17 MAA/THC
	REV. 06/19 BNB/THC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

