

NOTES

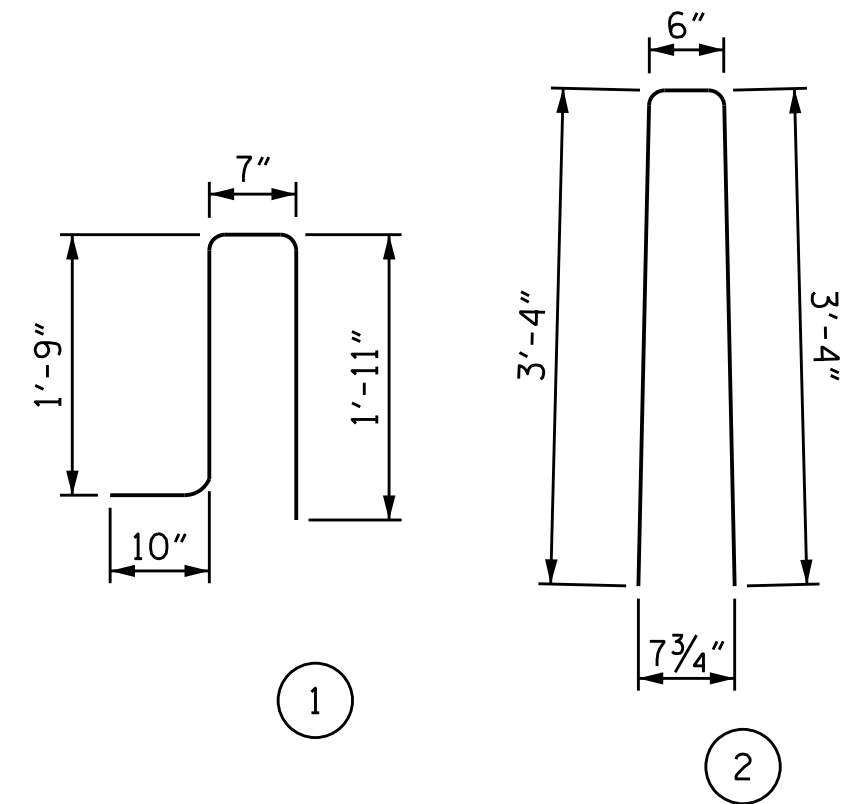
THE BARRIER RAIL IN A CONTINUOUS UNIT SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE IN THAT UNIT HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

THE #5 S3 & S4 BARS SHALL BE INSTALLED, USING AN ADHESIVE ANCHORING SYSTEM. THE YIELD LOAD FOR THE #5 S3 & S4 BARS IS 18.6 KIPS. FIELD TESTING FOR THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.

GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF BARRIER RAIL SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

BAR TYPES



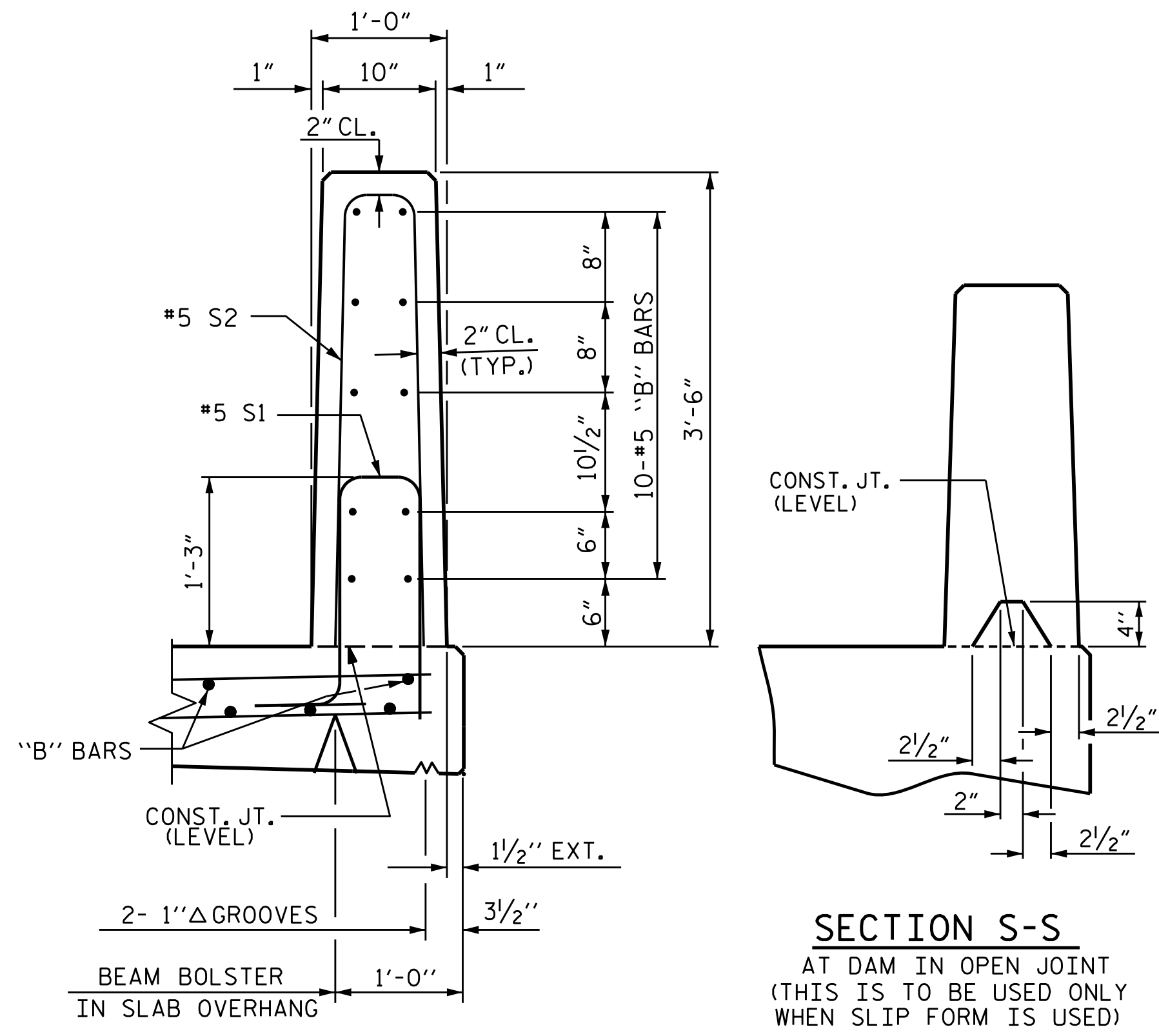
ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL

FOR VERTICAL CONCRETE BARRIER RAIL ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B1	100	#5	STR	21'-3"	2,216
* B2	80	#5	STR	13'-8"	1,140
* S1	310	#5	1	5'-1"	1,644
* S2	310	#5	2	7'-2"	2,317
* S3	16	#5	STR	4'-0"	67
* S4	32	#5	STR	3'-6"	117
* EPOXY COATED REINFORCING STEEL					7,501 LBS.
CLASS AA CONCRETE					37.7 CU. YDS.
VERTICAL CONCRETE BARRIER RAIL					317.13 LIN. FT.

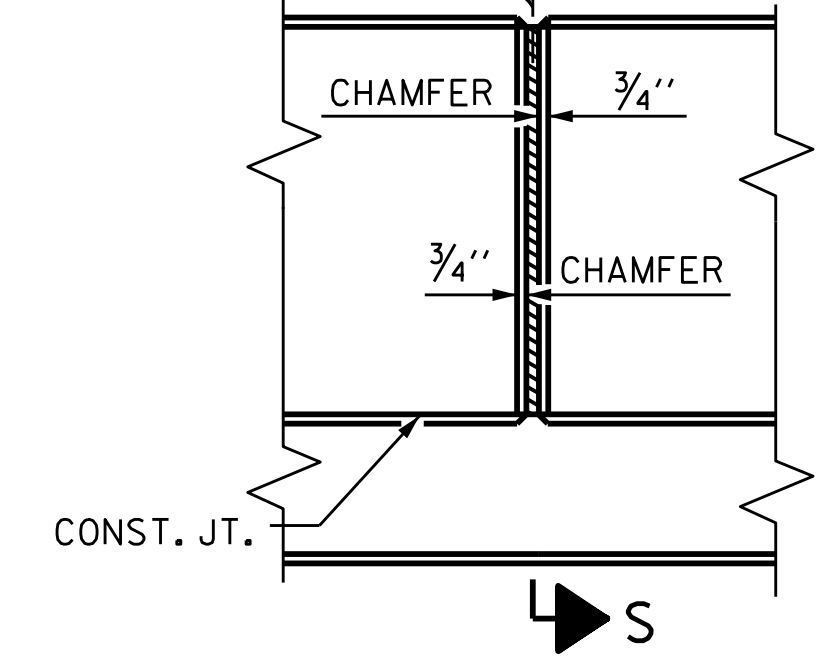
FOR PLAN OF VERTICAL CONCRETE BARRIER RAIL, SEE SHEET 1 OF 2.



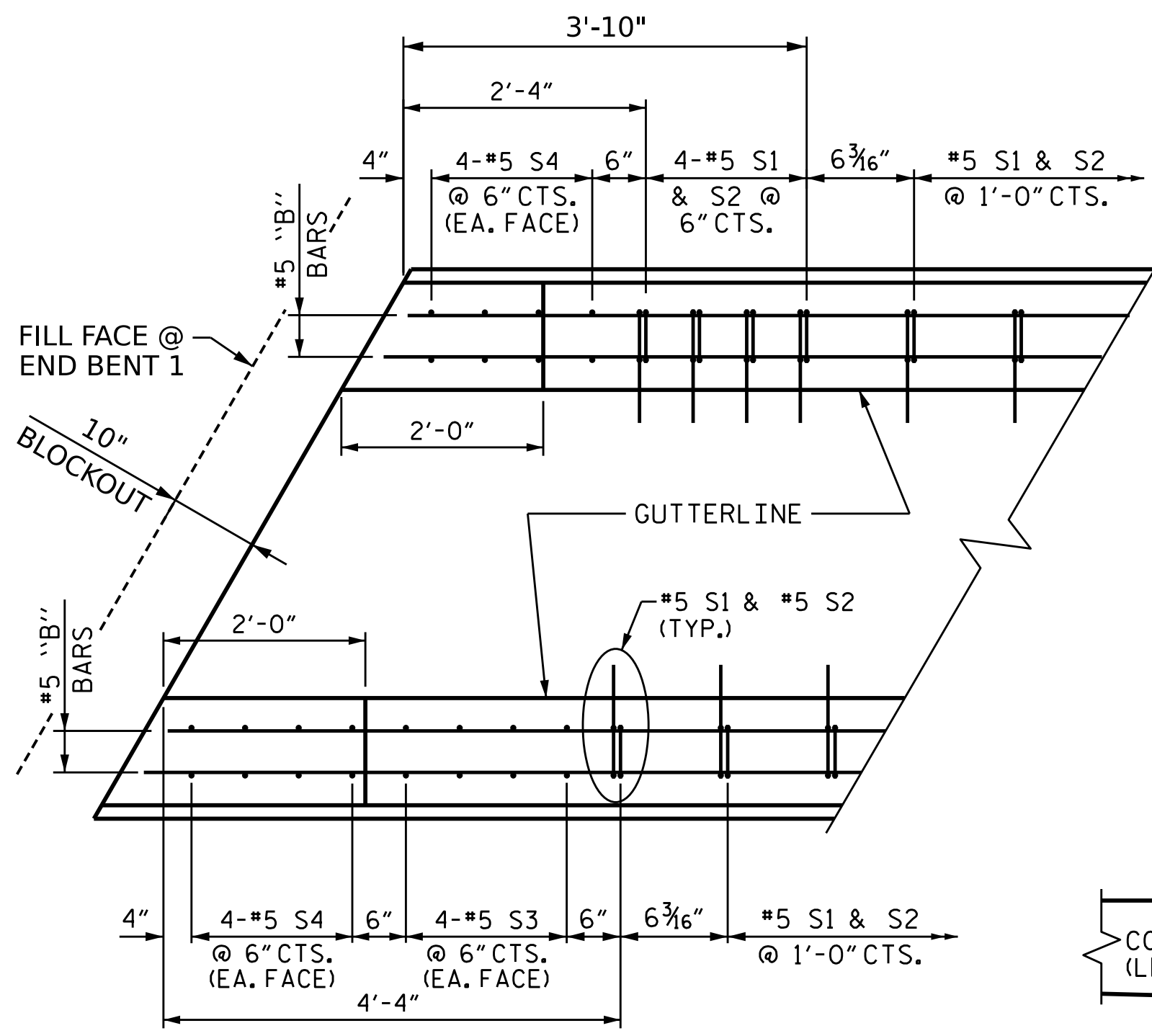
SECTION THRU RAIL

SECTION S-S
AT DAM IN OPEN JOINT
(THIS IS TO BE USED ONLY WHEN SLIP FORM IS USED)

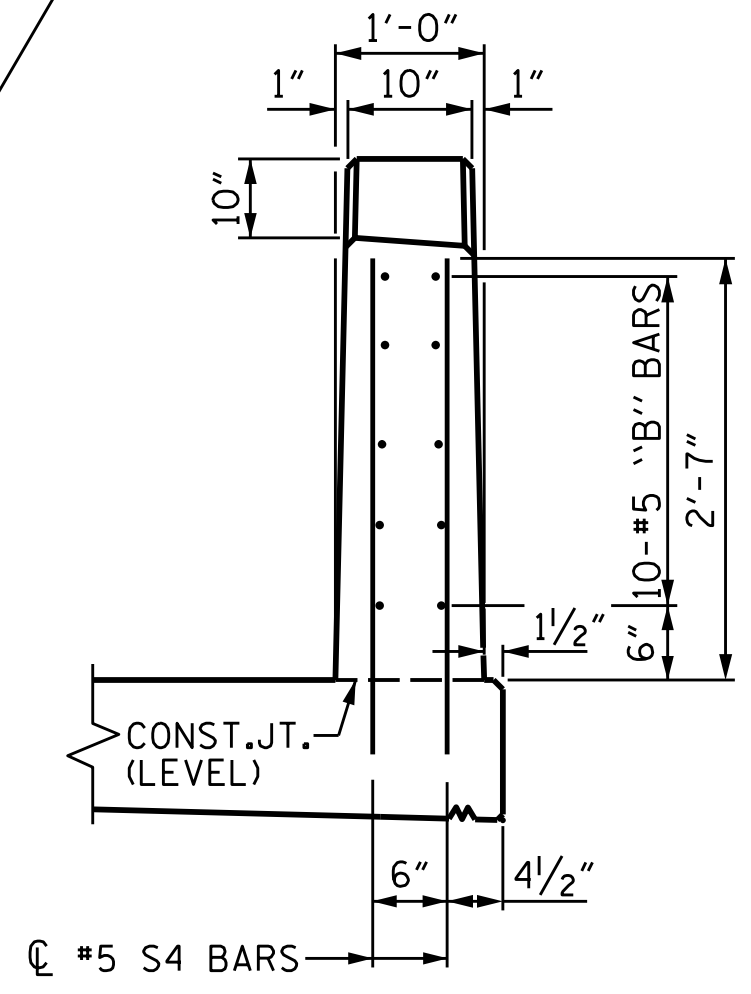
@ 1/2" EXP. JT. MAT'L HELD IN PLACE WITH GALVANIZED NAILS.
(NOTE: OMIT EXP. JT. MAT'L. WHEN SLIP FORM IS USED.)



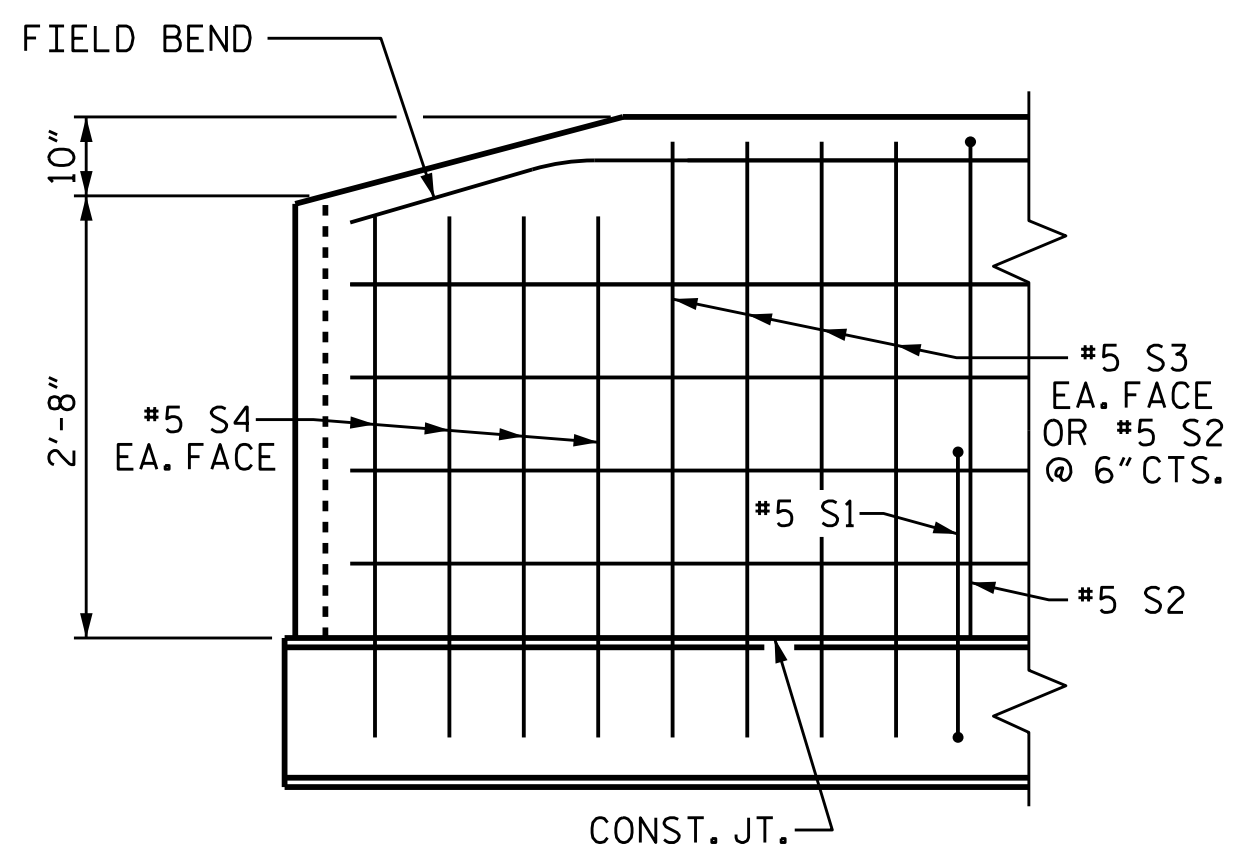
ELEVATION AT EXPANSION JOINTS
BARRIER RAIL DETAILS



PLAN



END VIEW



SIDE VIEW

END OF RAIL DETAILS

FOR ADHESIVE ANCHORING AT SAWS JOINTS

DRAWN BY : MAA	5/10	REV. 6/13	MAA/GM
CHECKED BY : GM	5/10	REV. 12/17	MAA/THC
		REV. 5/18	MAA/THC
DESIGNED BY : J. WHEATLEY	DATE : MAY 2024		
DRAWN BY : M. HOBBS	DATE : MAY 2024		
CHECKED BY : E. LAWES	DATE : MAY 2024		
DESIGN ENGINEER OF RECORD : E. LAWES	DATE : MAY 2024		

wsp
WSP USA Inc.
434 FAYETTEVILLE STREET
SUITE 1500
RALEIGH, NC 27601
TEL: 1.919.836.4040
LICENSE NO. F-0165

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

DocuSigned by:
Elizabeth F. Lawes
5356422322/18/2024

PROJECT NO. **BR-0100**
RUTHERFORD COUNTY
STATION: **18+28.00 -L-**
SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
VERTICAL CONCRETE BARRIER RAIL

REVISIONS			SHEET NO.		
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					S-19
					TOTAL SHEETS 30