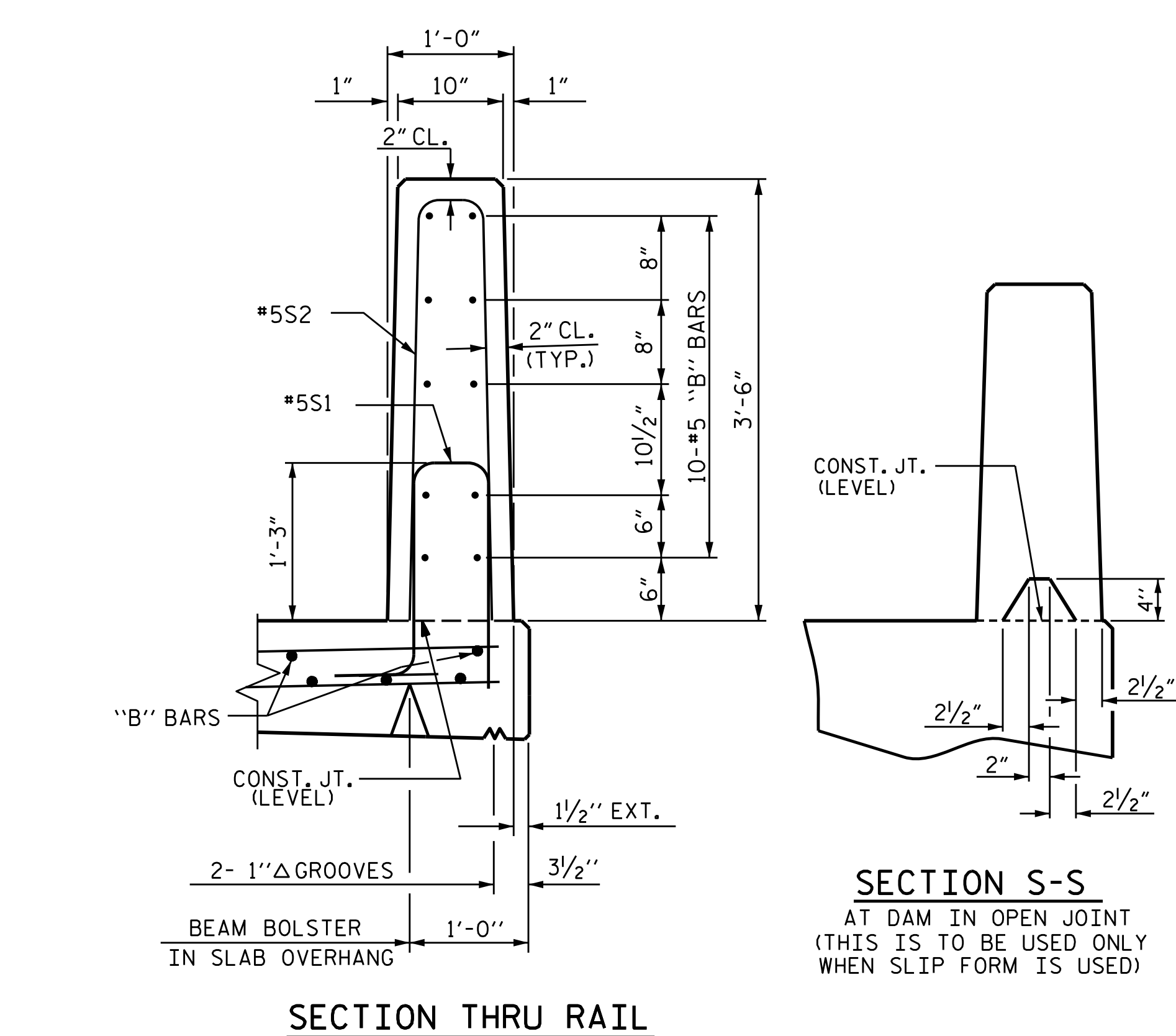
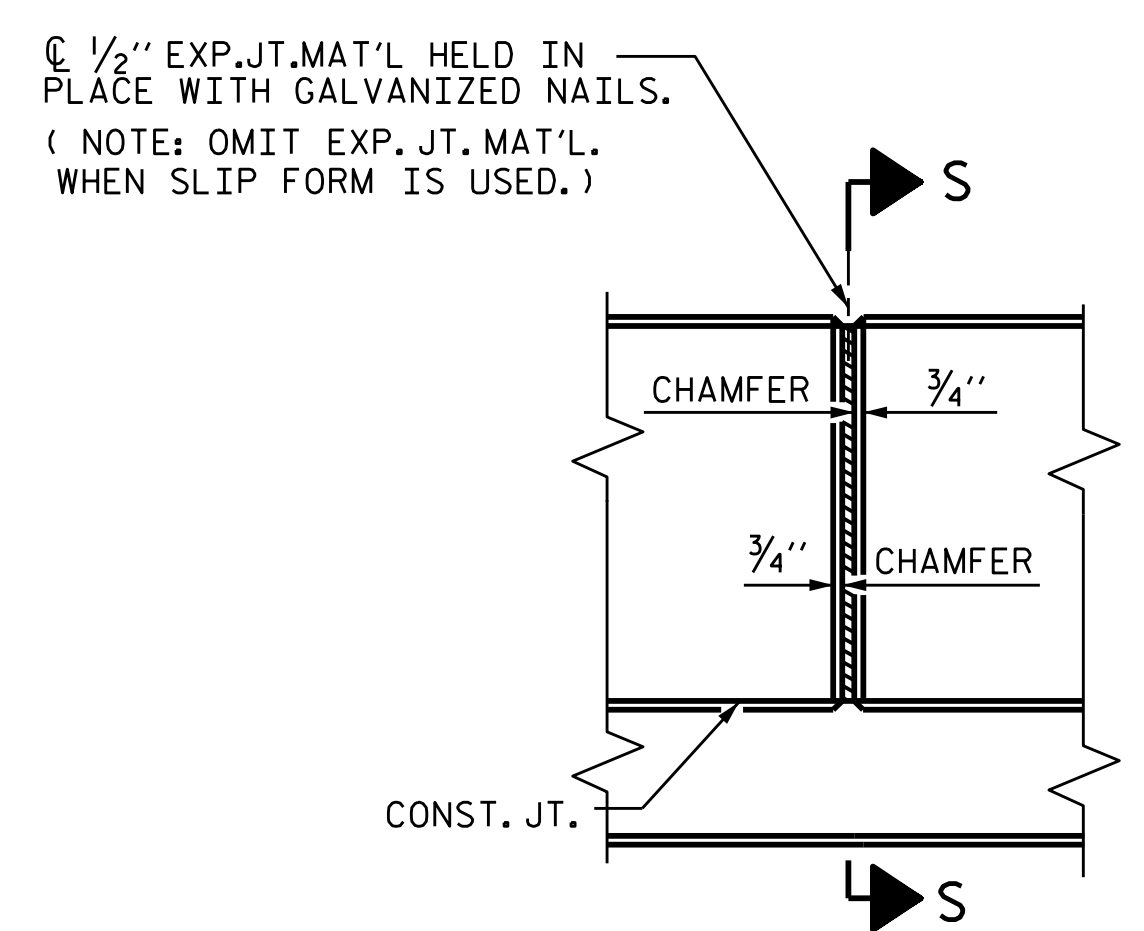


END OF RAIL DETAILS



SECTION THRU RAIL

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



ELEVATION AT EXPANSION JOINTS
BARRIER RAIL DETAILS

NOTES

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

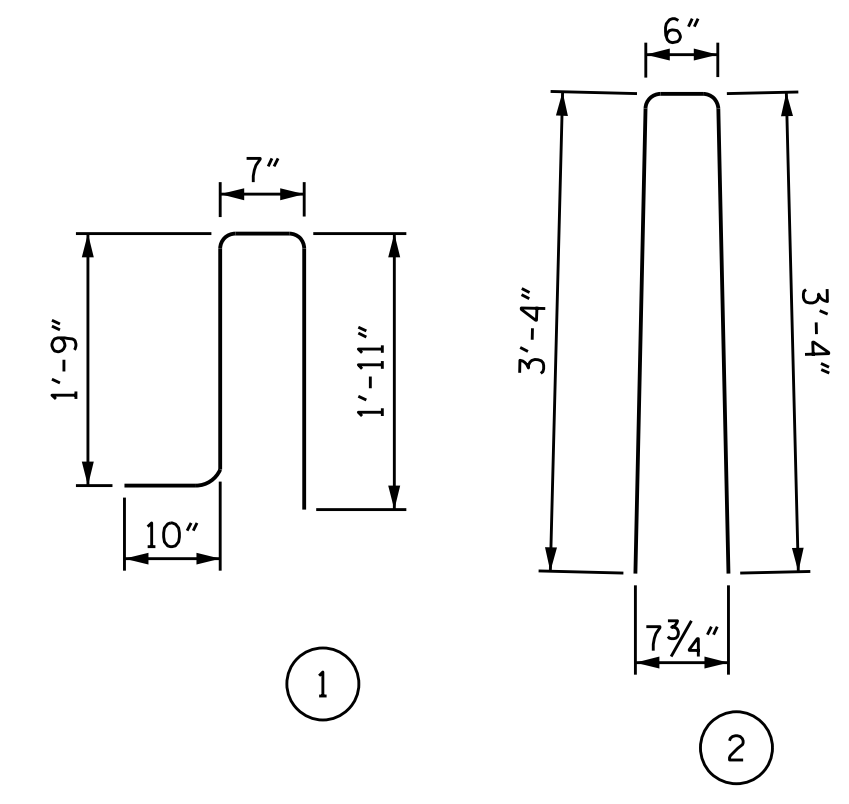
WHEN FOAM JOINT SEAL IS REQUIRED, THE JOINT IN THE DECK SHALL BE SAWED PRIOR TO THE CASTING OF VERTICAL CONCRETE BARRIER RAIL.

ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

THE #5S3 & #5S4 BARS SHALL BE INSTALLED, USING AN ADHESIVE ANCHORING SYSTEM, AFTER SAWING THE JOINT. THE YIELD LOAD FOR THE #5S3 & #5S4 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

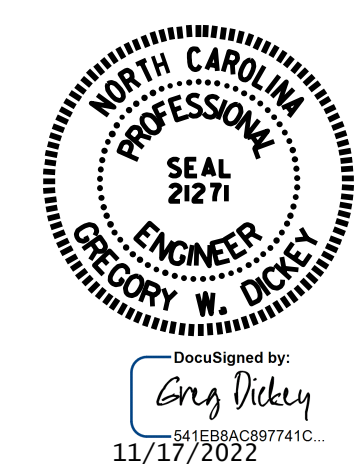
FOR VERTICAL CONCRETE BARRIER RAIL ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B1	5	#5	STR	21'-11"	114
* B2	5	#5	STR	21'-7"	113
* B3	30	#5	STR	24'-7"	769
* B4	5	#5	STR	25'-8"	134
* B5	5	#5	STR	26'-0"	136
* B6	5	#5	STR	21'-10"	114
* B7	5	#5	STR	21'-6"	112
* B8	30	#5	STR	27'-7"	863
* B9	5	#5	STR	24'-3"	126
* B10	5	#5	STR	24'-7"	128
* S1	246	#5	1	5'-1"	1304
* S2	246	#5	2	7'-2"	1839
* S3	16	#5	STR	4'-0"	67
* S4	32	#5	STR	3'-6"	117

* EPOXY COATED REINFORCING STEEL 5,936 LBS.
CLASS AA CONCRETE 30.3 CU. YDS.
VERTICAL CONCRETE BARRIER RAIL 254.71 LIN. FT.

Prepared in the Office of:
SUMMIT
DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
1110 Navaho Drive, Suite 600
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Ph: 919-322-0115 Fax: 919-322-0116
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PROJECT NO. B-5989
MADISON COUNTY
STATION: 16+18.00 -L-
SHEET 2 OF 2



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

ASSEMBLED BY : KEITH D. LAYNE	DATE : 10/19
CHECKED BY : NEIL C. ROHRBAUGH	DATE : 11/19
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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	5-17
1			3			TOTAL SHEETS
2			4			35