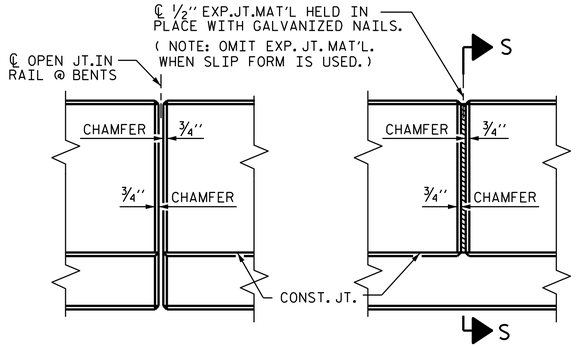
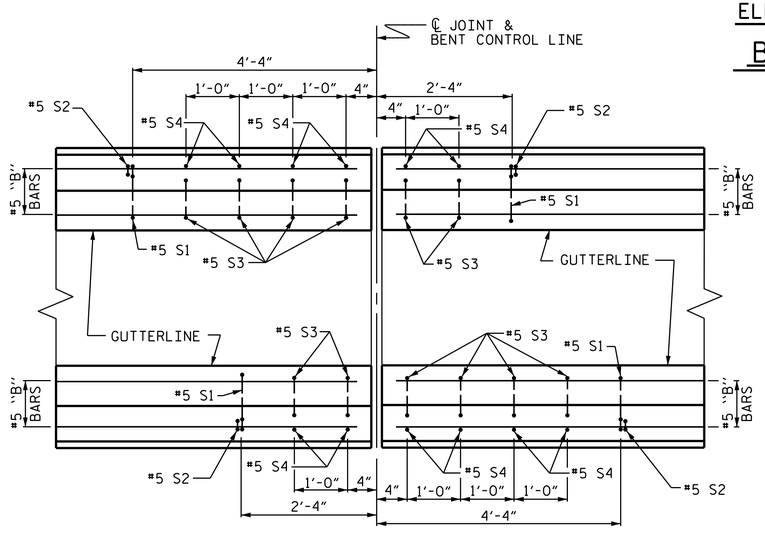
DocuSign Envelope ID: 1D51A847-E30B-42E6-ACC9-EF0A4AB3862F

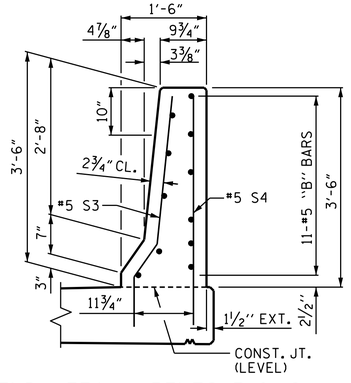


ELEVATION AT EXPANSION JOINTS

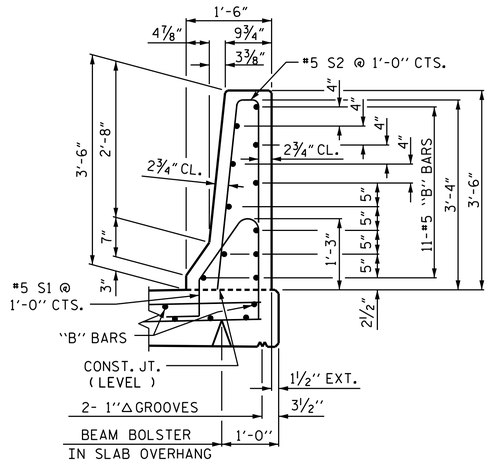
BARRIER RAIL DETAILS



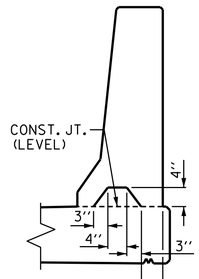
PLAN @ BENTS 3 & 6



END VIEW @ BENTS 3 & 6



SECTION THRU RAIL



SECTION S-S

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

NOTES

THE BARRIER RAIL IN EACH 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.

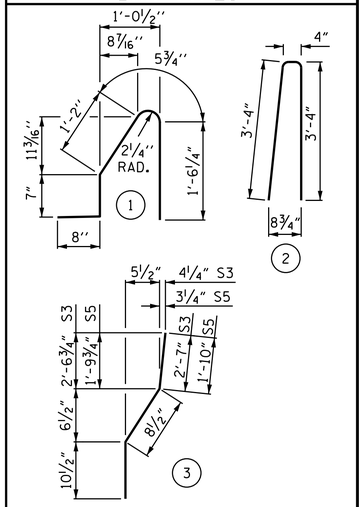
WHEN FOAM JOINT SEAL IS REQUIRED, THE JOINT IN THE DECK SHALL BE SAWED PRIOR TO THE CASTING OF BARRIER RAIL.

ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

THE #5 S3, S4, S5 AND S6 BARS SHALL BE INSTALLED, USING AN ADHESIVE ANCHORING SYSTEM, AFTER SAWING THE JOINT. THE YIELD LOAD FOR THE #5 S3, S4, S5 AND S6 BARS IS 18.6 KIPS. FIELD TESTING FOR THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.

GROOVED CONTRACTION JOINTS, ½" 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



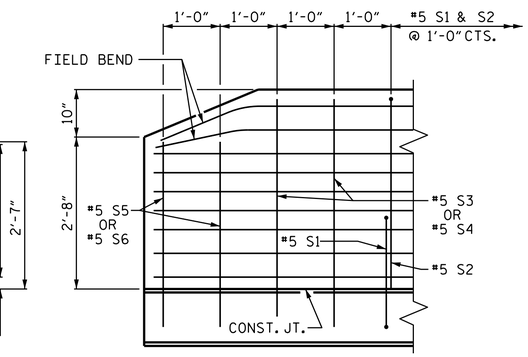
ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL

FOR CONCRETE BARRIER RAIL ONLY

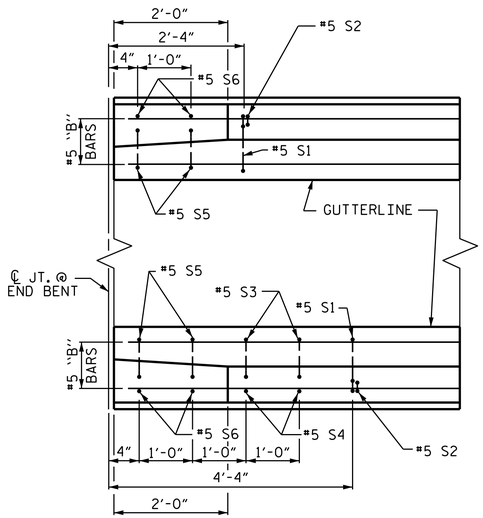
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B1	902	#5	STR.	24'-7"	23128
* B2	22	#5	STR.	24'-4"	558
* B3	22	#5	STR.	14'-4"	329
* S1	2100	#5	1	4'-5"	9674
* S2	2100	#5	2	7'-0"	15332
* S3	28	#5	3	4'-2"	122
* S4	28	#5	STR	4'-0"	117
* S5	8	#5	3	3'-5"	29
* S6	8	#5	STR	3'-3"	27

* EPOXY COATED REINFORCING STEEL	49316 LBS.
CLASS AA CONCRETE	289.7 CU. YDS.
CONCRETE BARRIER RAIL	2129.18 LIN. FT.



END VIEW

SIDE VIEW



PLAN @ END BENTS

END OF RAIL DETAILS

FOR ADHESIVE ANCHORING AT SAWED JOINTS

ASSEMBLED BY :	STM	DATE :	12/19
CHECKED BY :	MGC	DATE :	01/20
DRAWN BY : ARB 5/87	REV. 7/12		MAA/GM
CHECKED BY : SJD 9/87	REV. 6/13		MAA/GM
	REV. 12/17		MAA/THC

PROJECT NO. B-5825
YADKIN/FORSYTH COUNTY
STATION: 34+65.50 -L-

SHEET 4 OF 4

NORTH CAROLINA PROFESSIONAL SEAL 20125 ENGINEER MARSHALL G. CHEEK, JR.
DocuSigned by: Marshall G. Cheek Jr. 5FBCC2F3A4DC413...
4/14/2020

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
CONCRETE BARRIER RAIL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH STREET
SUITE 200
RALEIGH, NC 27603
PH. (919) 773-8887
CORP. LICENSE NO.: C-0275

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-32
1			3			TOTAL SHEETS
2			4			60

STD. NO. CBR1 (SHT 1)

2/6/2020
X:\NCDOT\B-5825\Structures\Str.#1 - 34+65.50 -L-\Final Plans\DGNs\401_067_B-5825_SMU_ BR04_980035.dgn
User:ZSmith