

**PLAN OF BARRIER RAIL**

\*\*\* SEE "END OF RAIL DETAILS" BELOW FOR ADDITIONAL REINFORCEMENT.  
 \*\*\* BARRIER RAIL DIMENSIONS ARE MEASURED ALONG ARC AT OUTSIDE FACE OF BARRIER RAIL. (EXCEPT AS NOTED)

**NOTES**

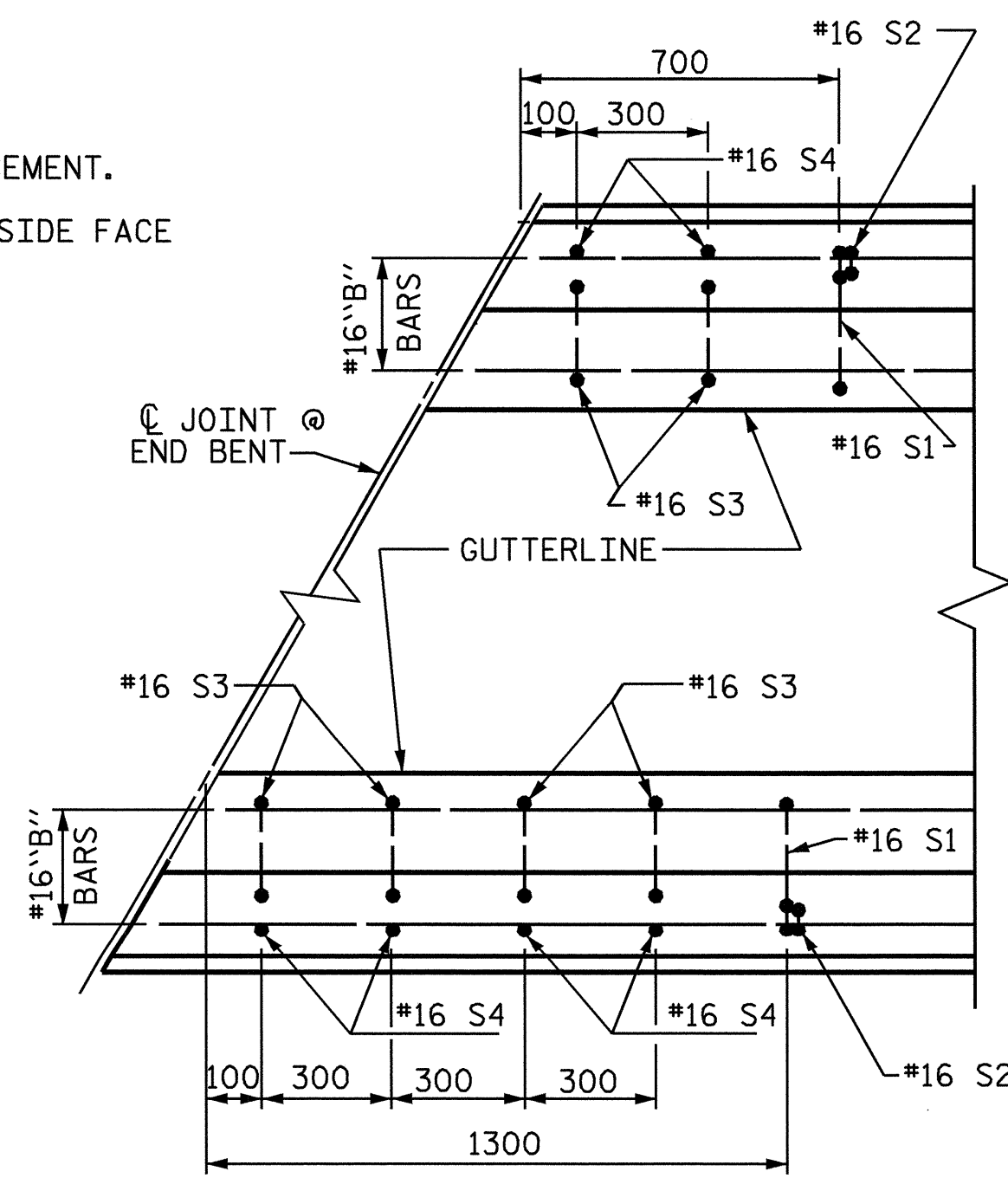
THE BARRIER RAIL IN A CONTINUOUS UNIT SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE IN THAT SPAN HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 20.7 MPa.

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

ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

THE #16 S3 AND #16 S4 BARS SHALL BE INSTALLED, USING AN ADHESIVE ANCHORING SYSTEM, AFTER SAWING THE JOINT. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE SPECIAL PROVISIONS. THE YIELD LOAD FOR THE #16 S3 AND #16 S4 BARS IS 82.7 kN. FIELD TESTING FOR THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.

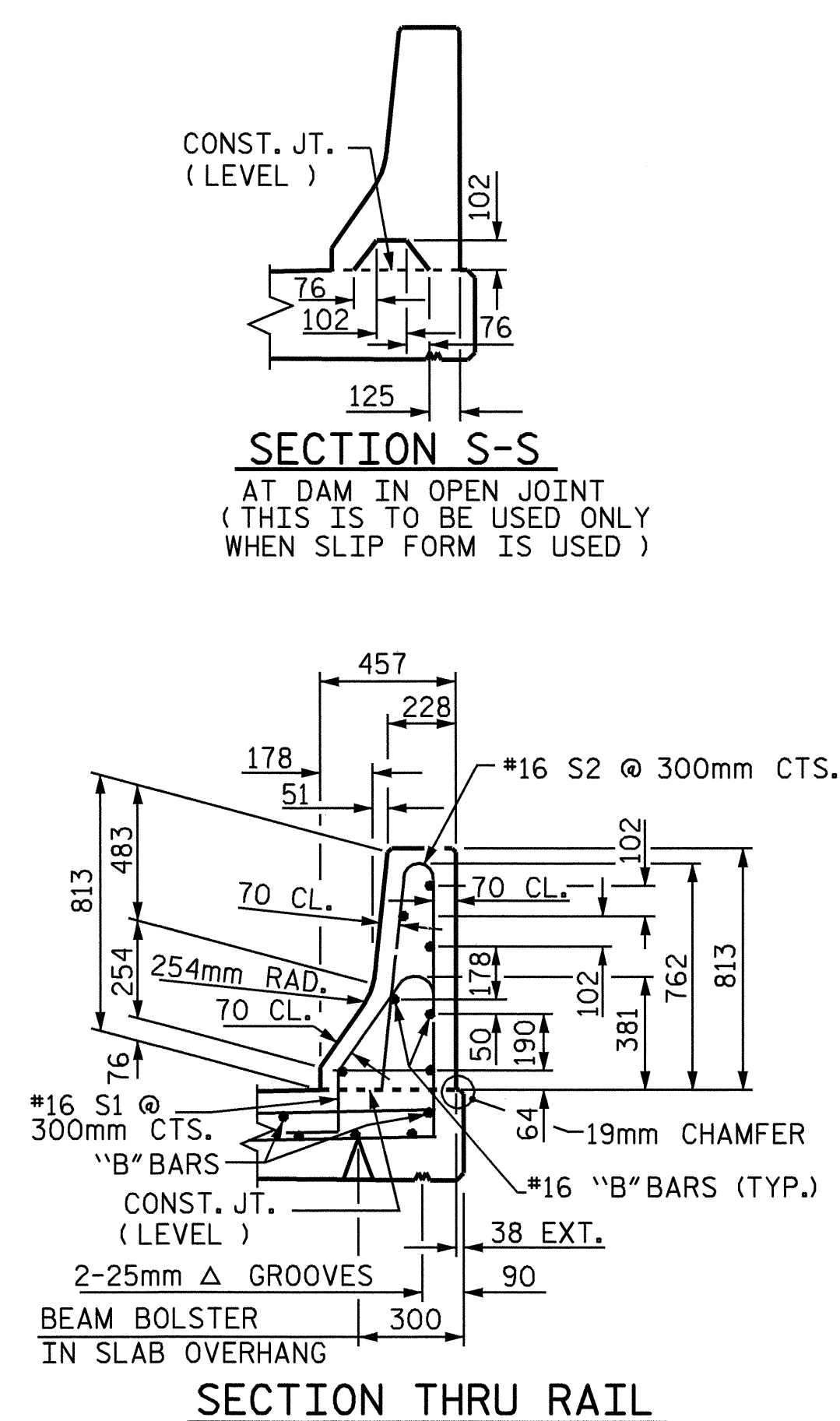
VERTICAL GROOVED CONTRACTION JOINTS, 12mm IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF BARRIER RAIL SEGMENTS LESS THAN 6.100m IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 3.500m IN LENGTH.



**PLAN**

**END OF RAIL DETAILS**

FOR ADHESIVE ANCHORING AT SAWSAW JOINTS

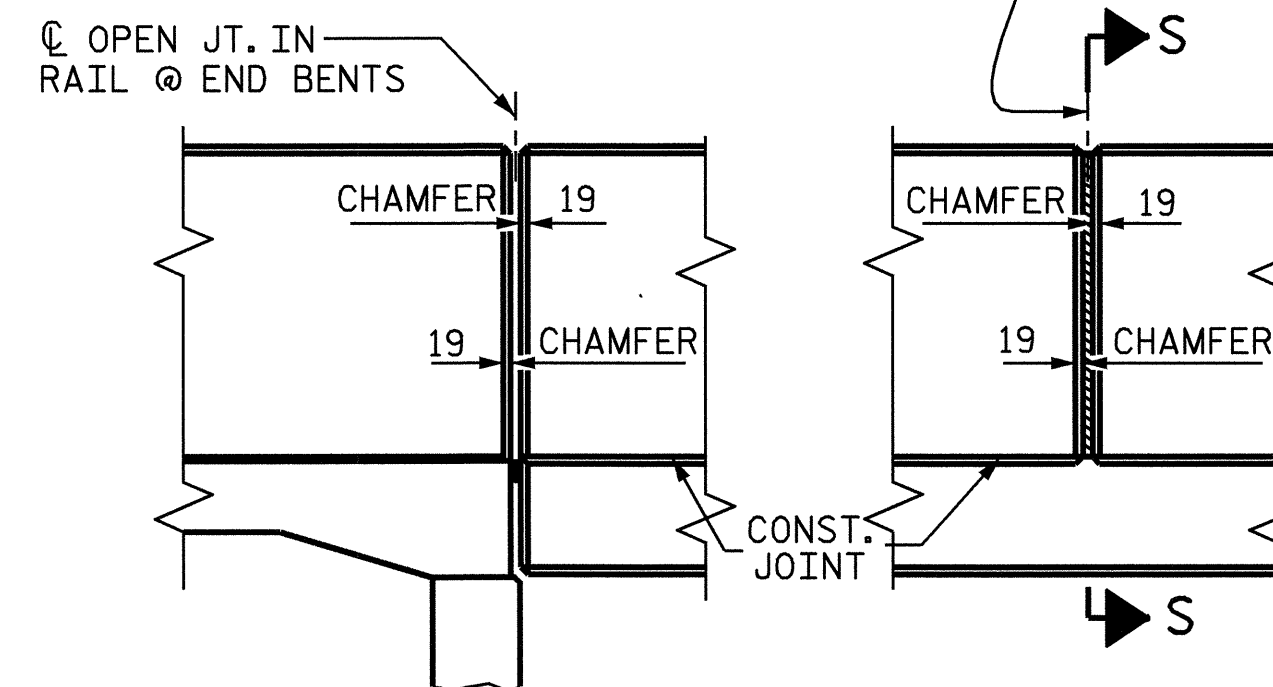


**SECTION S-S**

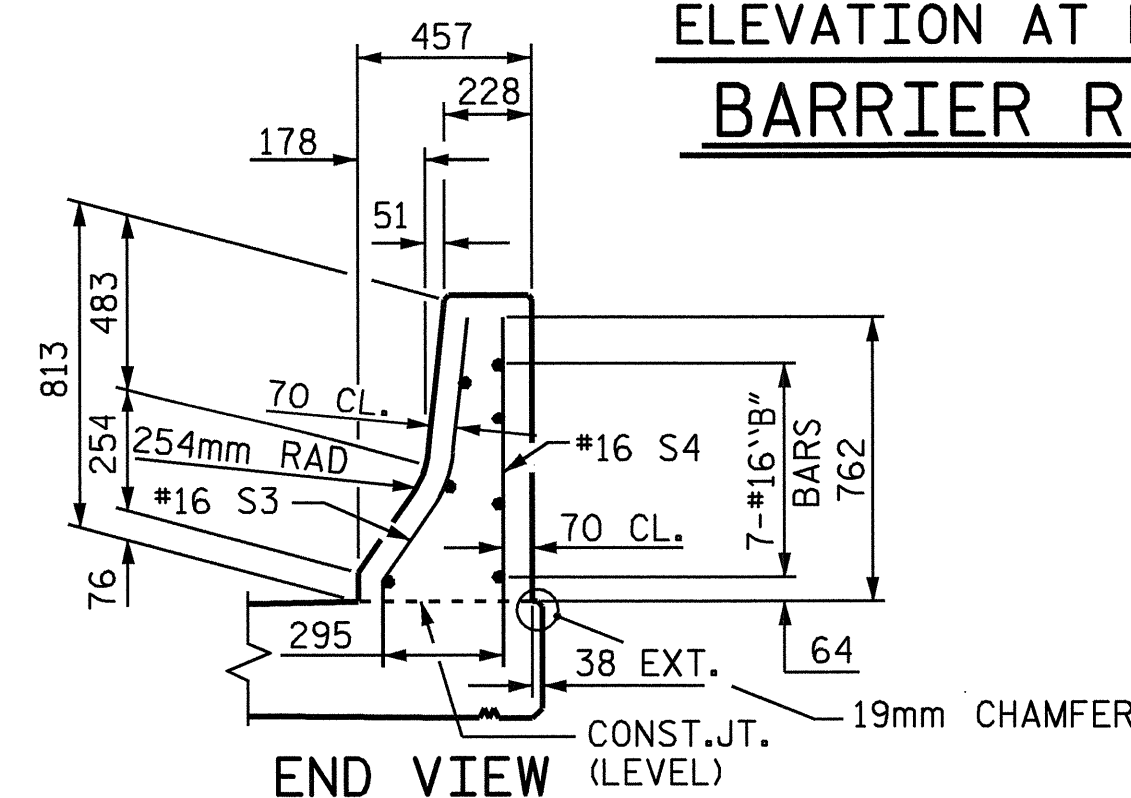
AT DAM IN OPEN JOINT  
(THIS IS TO BE USED ONLY WHEN SLIP FORM IS USED)

**SECTION THRU RAIL**

13mm EXP. JT. MAT'L HELD IN PLACE WITH GALVANIZED NAILS.  
(NOTE: OMIT EXP. JT. MAT'L. WHEN SLIP FORM IS USED.)



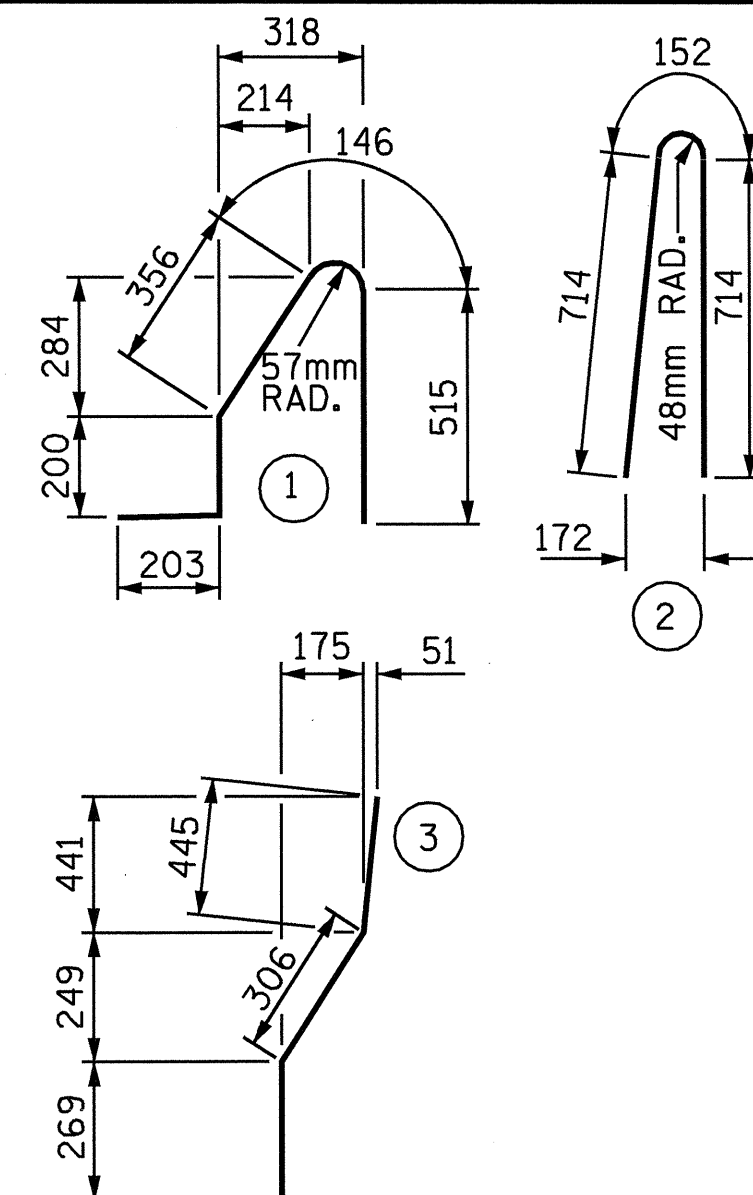
**ELEVATION AT EXPANSION JOINTS  
BARRIER RAIL DETAILS**



**END VIEW**



**BAR TYPES**



ALL BAR DIMENSIONS ARE OUT TO OUT

**BILL OF MATERIAL**

FOR CONCRETE BARRIER RAIL ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B1	56	#16	STR	4540	395
* B2	112	#16	STR	7900	1373
* S1	518	#16	1	1420	1135
* S2	518	#16	2	1580	1270
* S3	12	#16	3	1020	19
* S4	12	#16	STR	960	18

\*EPOXY COATED REINFORCING STEEL 4210 kg

CLASS AA CONCRETE 39.9 CU. METER

CONCRETE BARRIER RAIL 158.724 METERS

PROJECT NO. R-513BB  
ROBESON COUNTY  
 STATION: 209+17.263 -L-

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**STANDARD  
SUPERSTRUCTURE  
CONCRETE  
BARRIER RAIL**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-47
1			3			TOTAL SHEETS 312
2			4			

ASSEMBLED BY :	N. Q. TRAN	DATE :	7/29/03
CHECKED BY :	M.A. ALLEN	DATE :	2/04
DRAWN BY :	ARB 5/87	REV. 8/16/99	RWW/LES
CHECKED BY :	SJD 9/87	REV. 10/17/00	RWW/LES
		REV. 5/7/03	RWW/JTE