BI	LL OF MATERIAL FOR VERTI	CAL CONCI	RETE	BARR	RIER R	AIL
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGH
	70' UNIT					
∗ B25	120	120	#5	STR	13′-8″	1711
* S13	158	158	#5	2	7′-2″	1181
* EPOX	(Y COATED REINFORCING STEEL			LBS.		2892
CLASS	CLASS AA CONCRETE CU.YDS.					18.3
TOTAL	TOTAL VERTICAL CONCRETE BARRIER RAIL LN.FT. 140					

REINFORCING STEEL

0.6" Ø L.R. STRANDS

7000 P.S.I. CONCRETE CU. YDS.

21/2"

SECTION S-S

BILL OF MATERIAL 70'CORED SLAB	

70' CORED SLAB UNIT							
				EXTERI(OR UNIT	INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B22	6	#4	STR	24'-6"	98	24'-6"	98
S10	8	#5	3	5′-0″	42	5′-0″	42
S11	170	#4	3	5′-10″	662	5′-10″	662
* S12	79	#5	1	5′-7″	460		
S14	4	#4	4	5′-11″	16	5′-11″	16
S15	4	#5	3	7′-1″	30	7′-1″	30
S16	4	#4	3	5′-11″	16	5′-11″	16
S17	4	#4	3	6′-1″	16	6′-1″	16
S18	4	#4	3	6′-3″	17	6′-3″	17
REINFORCING STEEL LBS.				5.	897		897
* FPO	Y COATE	-D	•				

460

12.0

28

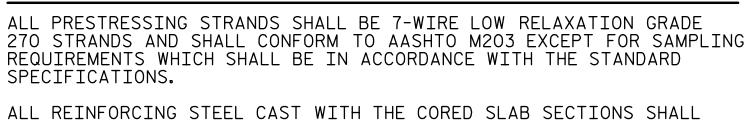
12.0

28

PSI

5500

NOTES



BE GRADE 60 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE CORED SLABS.

RECESSES FOR TRANSVERSE STRANDS SHALL BE GROUTED AFTER THE TENSIONING OF THE STRANDS.

THE 21/2" Ø DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH NON-SHRINK GROUT.

THE BACKER RODS SHALL CONFORM TO THE REQUIREMENTS OF TYPE M

BOND BREAKER. SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS. WHEN CORED SLABS ARE CAST, AN INTERNAL HOLD-DOWN SYSTEM SHALL BE

EMPLOYED TO PREVENT VOIDS FROM RISING OR MOVING SIDEWAYS. AT LEAST SIX WEEKS PRIOR TO CASTING CORED SLABS, THE CONTRACTOR SHALL

SUBMIT TO THE ENGINEER FOR REVIEW AND COMMENT, DETAILED DRAWINGS OF THE PROPOSED HOLD-DOWN SYSTEM. IN ADDITION TO STRUCTURAL DETAILS, LOCATION AND SPACING OF THE HOLD-DOWNS SHALL BE INDICATED.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE CORED SLAB UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN THE REQUIRED STRENGTH SHOWN IN THE "CONCRETE RELEASE STRENGTH" TABLE.

ALL REINFORCING STEEL IN VERTICAL CONCRETE BARRIER RAILS SHALL BE EPOXY COATED.

PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE CORED SLAB UNIT ENDS.

APPLY EPOXY PROTECTIVE COATING TO CORED SLAB UNIT ENDS.

GROOVED CONTRACTION JOINTS, $\frac{1}{2}$ " 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. A 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.

FLAME CUTTING OF THE TRANSVERSE POST-TENSIONING STRAND IS NOT ALLOWED.

MAINTAIN A SYMMETRIC TENSION FORCE BETWEEN EACH PAIR OF TRANSVERSE POST TENSIONING STRANDS IN THE DIAPHRAGM.

THE #4 S11 STIRRUPS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO THE GROUTED RECESS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THE PERMITTED THREADED INSERTS ARE DETAILED AS AN OPTION FOR THE CONTRACTOR TO ATTACH FALSEWORK AND FORMWORK DURING CONSTRUCTION.

THE PERMITTED THREADED INSERTS IN THE EXTERIOR UNITS SHALL BE SIZED BY THE CONTRACTOR, SPACED AT 4'-O"CENTERS AND GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS. STAINLESS STEEL THREADED INSERTS MAY BE USED AS AN ALTERNATE.

THE PERMITTED THREADED INSERTS SHALL BE GROUTED BY THE CONTRACTOR IMMEDIATELY FOLLOWING REMOVAL OF THE FALSEWORK.

THE COST OF THE PERMITTED THREADED INSERTS SHALL BE INCLUDED IN THE PRICE BID FOR THE PRECAST UNITS.

FOR FIBER OPTIC CONDUIT SYSTEM, SEE SPECIAL PROVISIONS.

 $2\frac{1}{2}$ PVC PIPE SHALL BE RAISED ABOVE TOP OF DECK DRAIN OPENINGS AS REQUIRED.

BR-0115 PROJECT NO._ **IREDELL** COUNTY 15+74.00 -L-STATION:

SHEET 3 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD 3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLAB UNIT (SPAN B)

REVISIONS					SHEET NO.
BY:	DATE:	NO.	BY:	DATE:	S-12
		8			TOTAL SHEETS
		4			23

FIXED END (TYPE I - 20 REQ'D)

ELASTOMERIC BEARING DETAILS

ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.

GUTTERLINE ASPI	HALT THICKNESS & RAI	L HEIGHT
	ASPHALT OVERLAY THICKNESS @ MID-SPAN	RAIL HEIGHT @ MID-SPAN
70'UNITS	2"	3′-8″

CONCRETE	RELEASE	STRENGTH

UNIT

70' UNITS

No.

DEAD LOAD DEELEGITON AN	ID OALABED
DEAD LOAD DEFLECTION AN	
	3'-0" × 2'-0"
70'CORED SLAB UNIT	0.6″Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	21/4"
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	3⁄4″ ♦
FINAL CAMBER	11/2"

\$10 \$11, \$15

ALL BAR DIMENSIONS ARE OUT TO OUT

CORED SLABS REQUIRED

EXTERIOR C.S. 2 70'-0''

INTERIOR C.S. 8 | 70'-0" |

10

NUMBER LENGTH TOTAL LENGTH

BAR TYPES

2'-9"

1'-81/2"

2'-8"

2'-0"

70'UNIT

TOTAL

73/4"

1'-51/2", 1'-6"

1'-6"

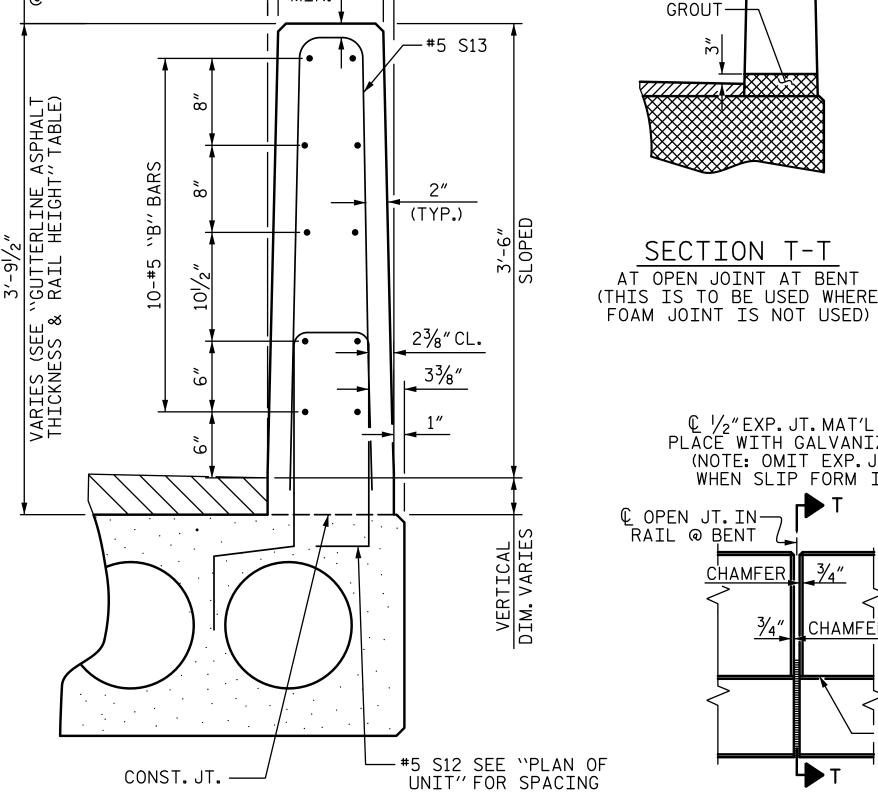
140'-0"

560′-0″

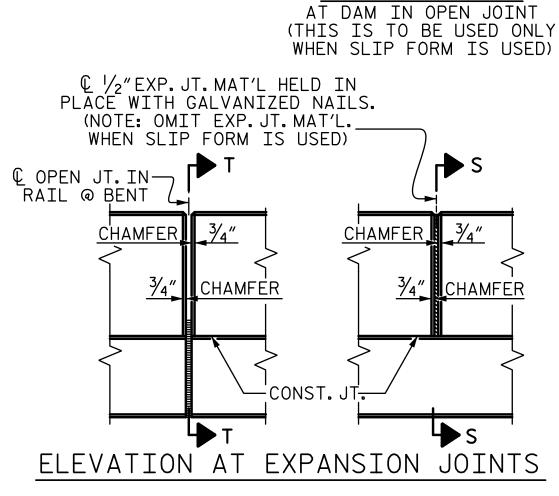
700'-0"

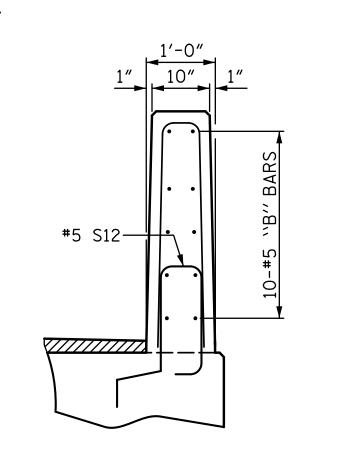
_				
**	INCLUDES	FUTURE	WEARING	SURFACE

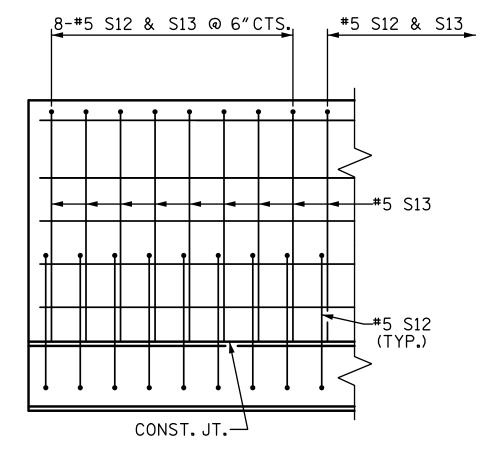
TDANDC					
GRADE 270 STRANDS					
0.6″Ø L.R.					
0.217					
58,600					
43,950					



<u>'2″CL.</u> | MIN.







END VIEW

SIDE VIEW

END OF RAIL DETAILS

_ DATE : <u>10-19</u> __ DATE : <u>12-19</u> JWJ DESIGN ENGINEER OF RECORD : JWJ DATE : 3-20 DRAWN BY: MAA 6/10

REV. 5/18

DRAWN BY :

CHECKED BY : ___

CHECKED BY : MKT 7/10

SECTION THRU RAIL

MAA/THC

VERTICAL CONCRETE BARRIER RAIL DETAILS

STV ENGINEERS, INC.
900 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL

SIGNATURES COMPLETED

038640

STD. NO. 24PCS3_30_60&120S