

BILL OF MATERIAL FOR ONE 70' CORED SLAB UNIT								
EXTERIOR UNIT INTERIOR UNIT								
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT	
B22	6	#4	STR	24'-6"	98	24'-6"	98	
S10	8	<b>#</b> 5	3	5'-0"	42	5'-0"	42	
S11	170	#4	3	5'-10"	662	5'-10"	662	
<b>*</b> S12	79	<b>#</b> 5	1	5′-7″	460			
S14	4	#4	4	5'-11"	16	5'-11"	16	
S15	4	<b>#</b> 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	
REINF	ORCING	STEEL	LBS	5.	897		897	
* EPOXY COATED								
REINFORCING STEEL LBS. 460								
7000	7000 P.S.I. CONCRETE CU. YDS. 12.0 12.0							
0.6" Ø L.R. STRANDS No. 28 28								

## FIXED END (TYPE I - 20 REQ'D)

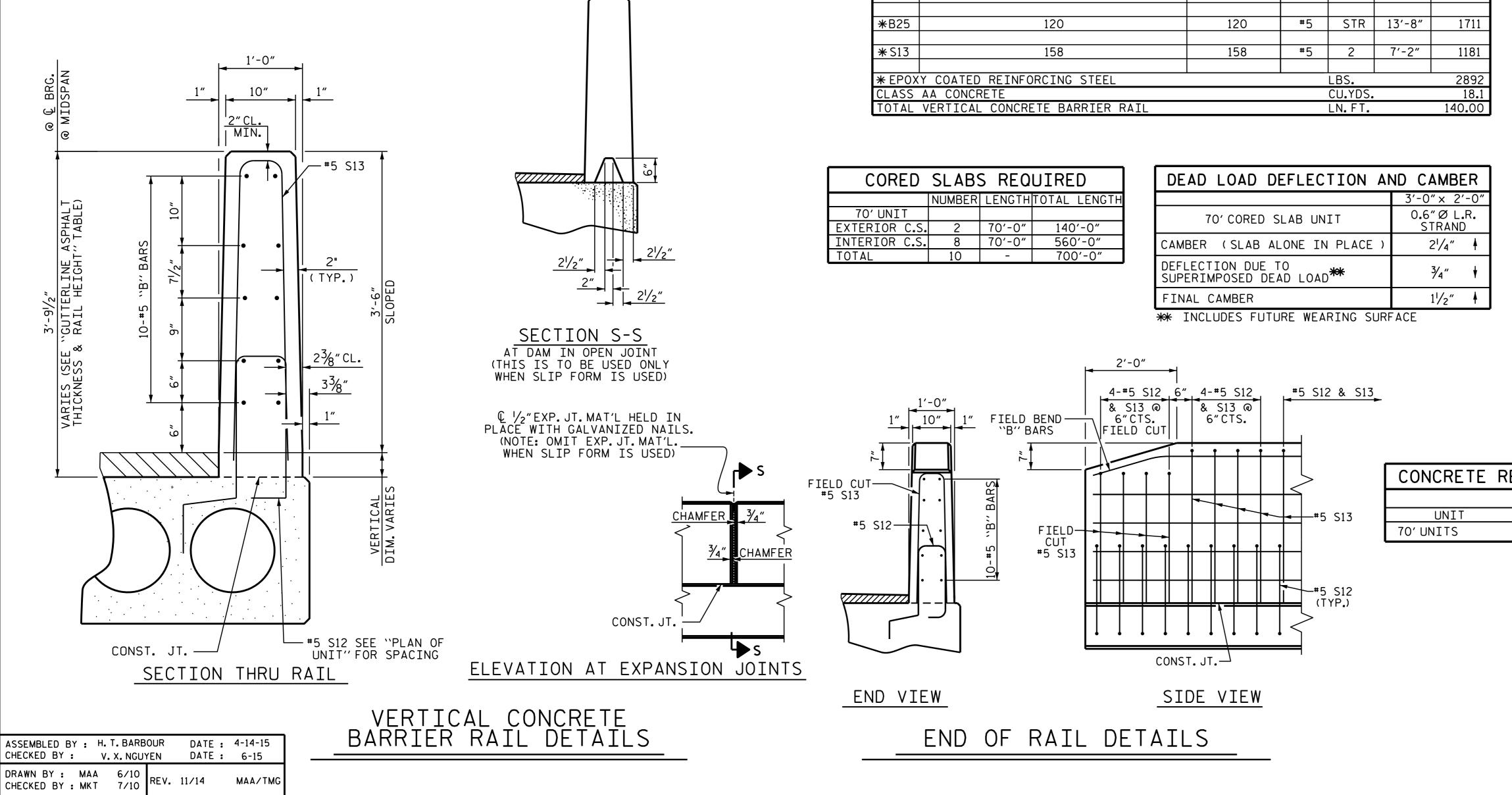
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## ELASTOMERIC BEARING DETAILS

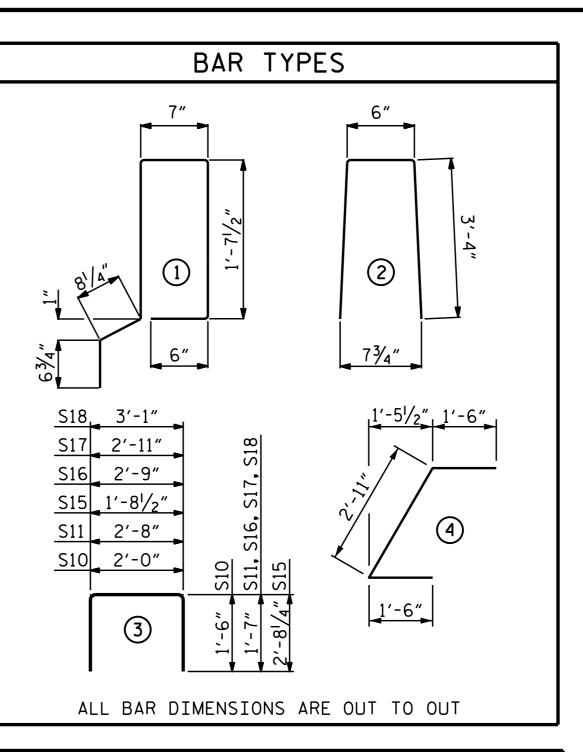
ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.

GUTTERLINE	ASPHALT	THICKNESS	& RAI	L HEIG
	ASPH.	ALT OVERLAY THI @ MID-SPAN	CKNESS	RAIL HE @ MID-1
70'UNITS		2″		3′-8



<sup>18-</sup>NOV-2015 09:11 Y:\Structures\FinalPlans\B5404\_SD\_TS.dgn warafat

GRADE 270 STRANDS					
	0.6″ØL.R.				
AREA (SQUARE INCHES)	0.217				
ULTIMATE STRENGTH (LBS.PER STRAND )	58,600				
APPLIED PRESTRESS (LBS.PER STRAND )	43,950				



4T
IGHT SPAN
"

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL							
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT	
	70' UNIT						
<b>*</b> B25	120	120	#5	STR	13'-8"	1711	
<b>*</b> S13	158	158	#5	2	7'-2″	1181	
★ EPOX	* EPOXY COATED REINFORCING STEEL LBS. 2892						
CLASS	CLASS AA CONCRETE CU.YDS. 18.					18.1	
TOTAL VERTICAL CONCRETE BARRIER RAIL LN.FT. 140.00					140.00		
-							

CORED SLABS REQUIRED								
NUMBER LENGTH TOTAL LENGTH								
70'UNIT								
EXTERIOR C.S.	2	70'-0"	140'-0"					
INTERIOR C.S.	8	70'-0"	560'-0"					
TOTAL	10	-	700'-0″					

DEAD LOAD DEFLECTION AN	ND CAMBER
	3'-0" × 2'-0"
70' CORED SLAB UNIT	0.6″ØL.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	2 <sup>1</sup> /4″ 🕴
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD	3∕₄″ ↓
FINAL CAMBER	1 <sup>1</sup> /2″

## NOTES

ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. ALL REINFORCING STEEL CAST WITH THE CORED SLAB SECTIONS SHALL 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.

:LEASE	STRENGTH	
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	5500	



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SHEET	3 OF 3							
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH 3'-0"X 2'-0" PRESTRESSED CONCRETE CORED SLAB UNIT								
		ISION:	_		SHEET NO.			
NO. BY:	DATE:	NO.	BY:	DATE:	S-7 total sheets			
<u>ା</u> ୭					SHEETS			

STD. NO. 24PCS3\_30\_60&120S