



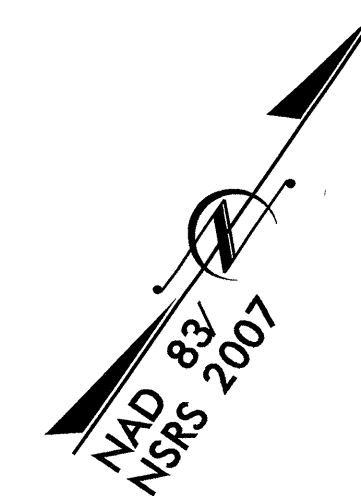
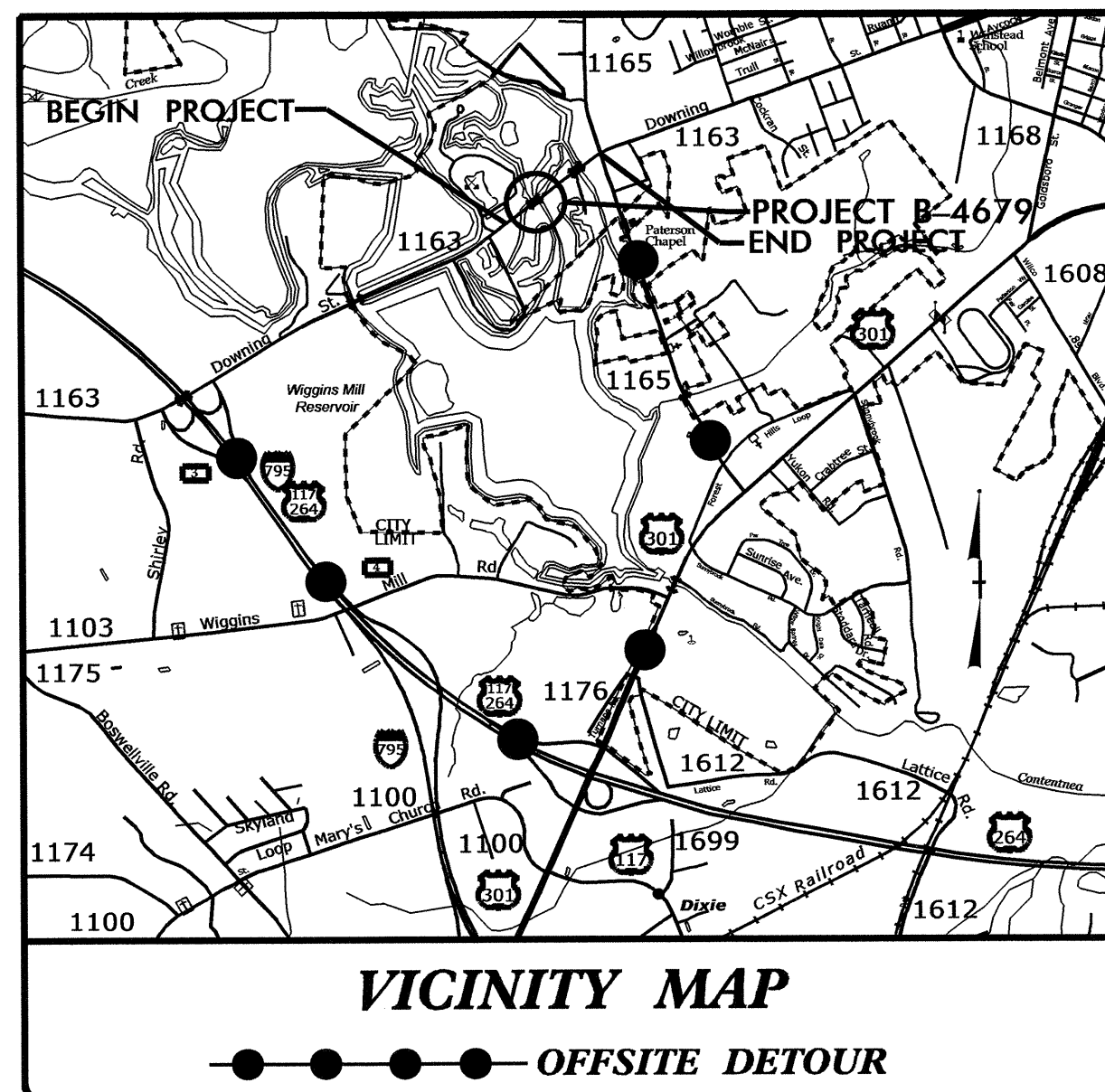
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4679		
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
33833.1.1	BRSTP-1163(4)	PE	
33833.2.1	BRSTP-1163(4)	RW & UTIL	
33833.3.1	BRSTP-1163(4)	CONST.	

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**WILSON COUNTY**

LOCATION: BRIDGE NO. 66 OVER A SWAMP OF CONTENTNEA CREEK  
AT WIGGINS MILL RESERVOIR ON SR 1163  
(DOWNING ROAD) IN WILSON

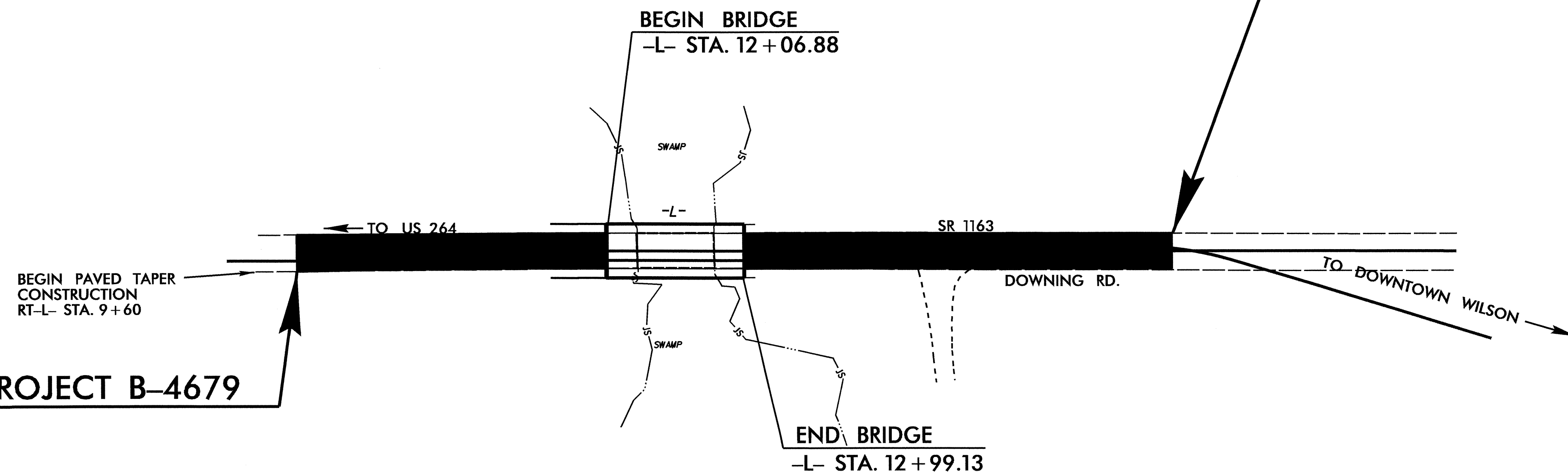
TYPE OF WORK: GRADING, DRAINAGE, PAVING, SIGNALS, AND STRUCTURE



TIP PROJECT: B-4679

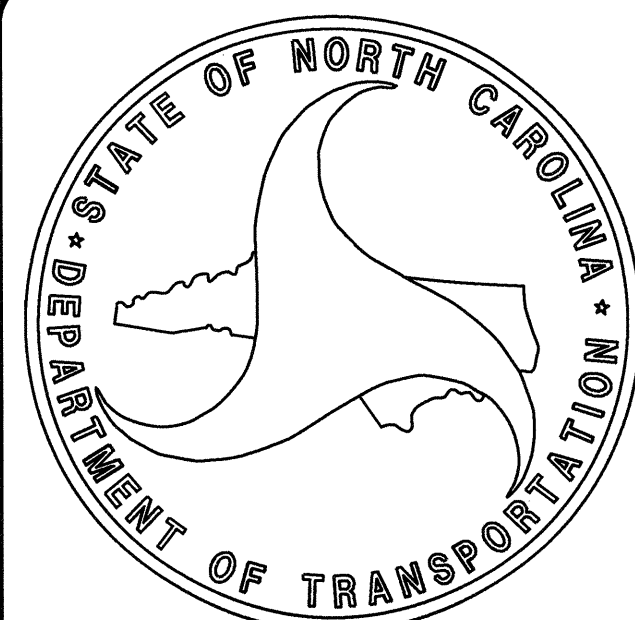
STRUCTURE

-L- STA 15+86.00 END TIP PROJECT B-4679



-L- STA 10+00.00 BEGIN TIP PROJECT B-4679

CONTRACT: C203157



**DESIGN DATA**

ADT 2012 =	8,774
ADT 2035 =	14,700
DHV =	14 %
D =	80 %
T =	3 % *
V =	60 MPH
* TTST =	1% DUAL = 2%
FUNC CLASS =	LOCAL
SUB REGIONAL TIER	

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT B-4679 =	0.094 MILES
LENGTH OF STRUCTURE TIP PROJECT B-4679 =	0.017 MILES
TOTAL LENGTH OF STATE PROJECT B-4679 =	0.111 MILES

Prepared In the Office of:  
**DIVISION OF HIGHWAYS**  
1000 Birch Ridge Dr., Raleigh NC, 27610

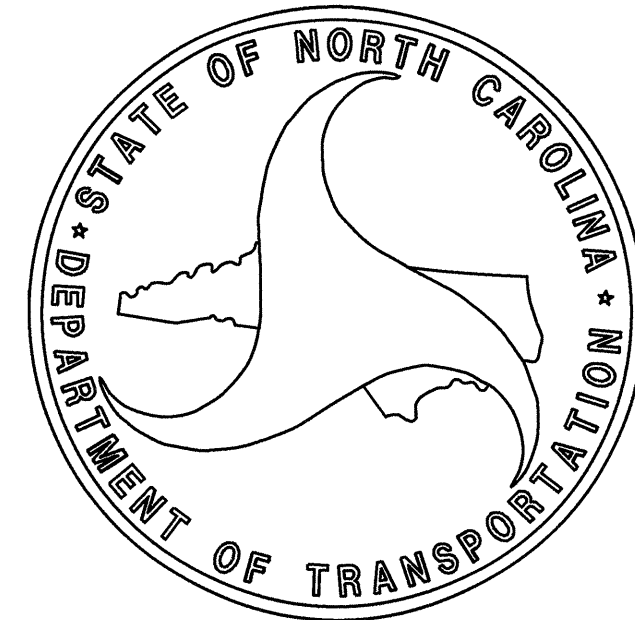
2012 STANDARD SPECIFICATIONS

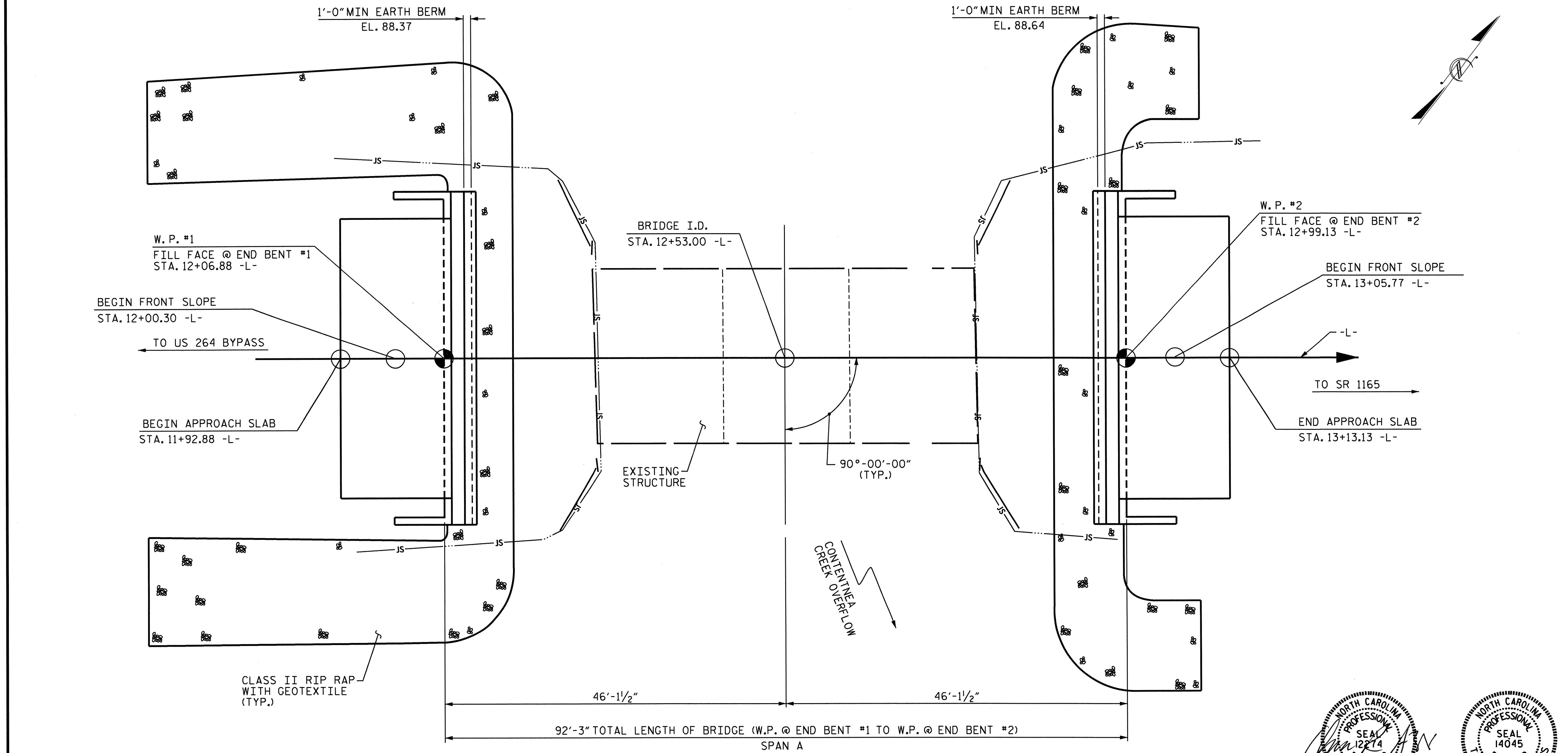
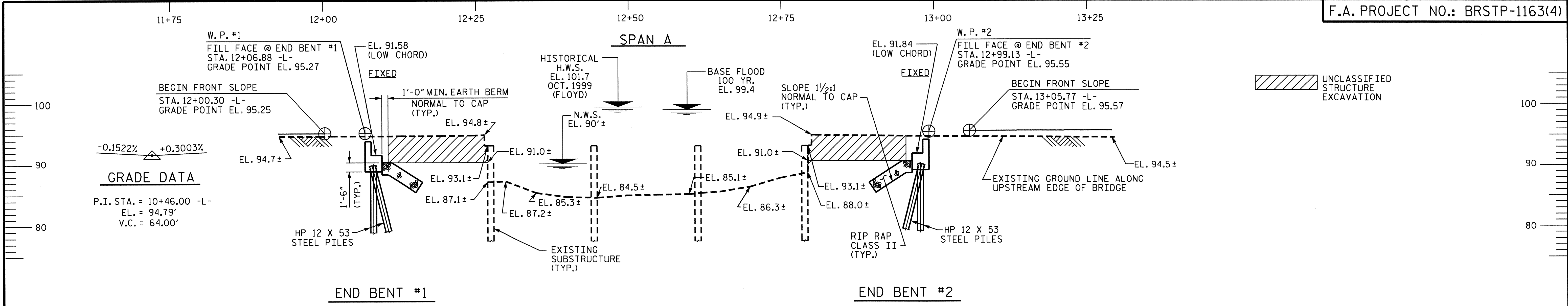
LETTING DATE:  
June 18, 2013

OMAR R. AZIZI, PE  
PROJECT ENGINEER

TIMOTHY L. COGGINS, PE  
PROJECT DESIGN ENGINEER

STRUCTURES MANAGEMENT UNIT





I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS.

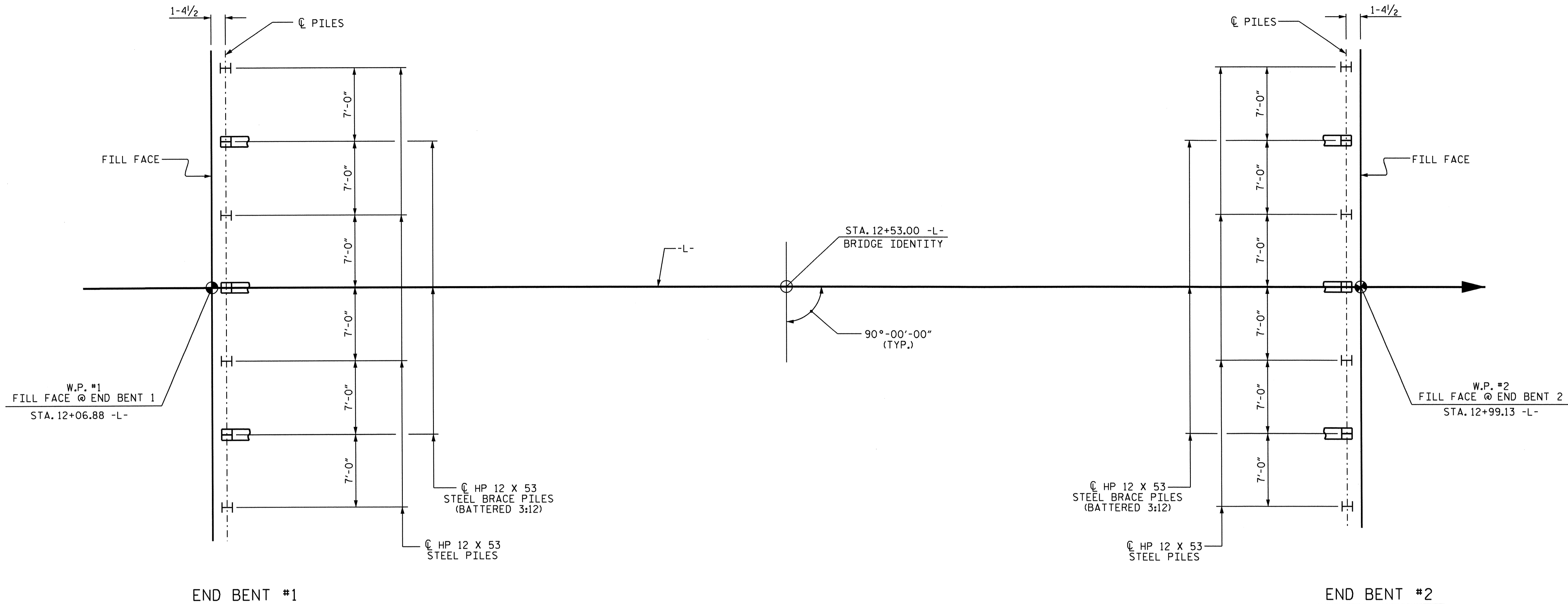
PROJECT NO. B-4679  
WILSON COUNTY  
 STATION: 12+53.00 -L-  
 SHEET 1 OF 3 REPLACES BRIDGE NO. 66

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 FOR BRIDGE OVER  
 CONTENTNEA CREEK OVERFLOW  
 ON SR 1163 BETWEEN  
 US 264 BYPASS AND SR 1165

DRAWN BY : K. P. SEDAİ DATE : 7/24/12  
 CHECKED BY : E. K. POPE DATE : 7/30/12  
 DESIGN ENGINEER OF RECORD: K. P. SEDAİ DATE : 8/9/12

**PLAN**  
 PILES NOT SHOWN FOR CLARITY.

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			21



**FOUNDATION LAYOUT**

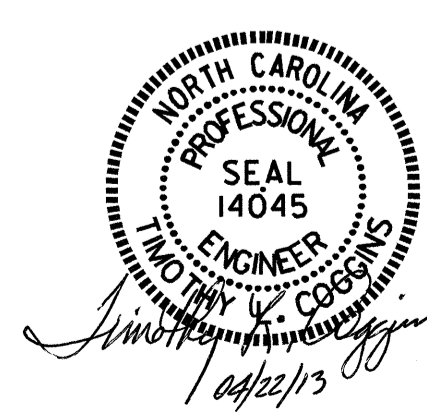
DIMENSIONS LOCATING PILES ARE SHOWN TO PILE CENTERLINE.  
BRACED PILES ARE TO BE BATTERED AT 3:12

**FOUNDATION NOTES:**

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.  
PILES AT END BENT NO.1 AND END BENT NO.2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 105 TONS PER PILE.  
DRIVE PILES AT END BENT NO.1 AND END BENT NO.2 TO A REQUIRED DRIVING RESISTANCE OF 175 TONS PER PILE.

PROJECT NO. B-4679  
WILSON COUNTY  
STATION: 12+53.00 -L-

SHEET 2 OF 3

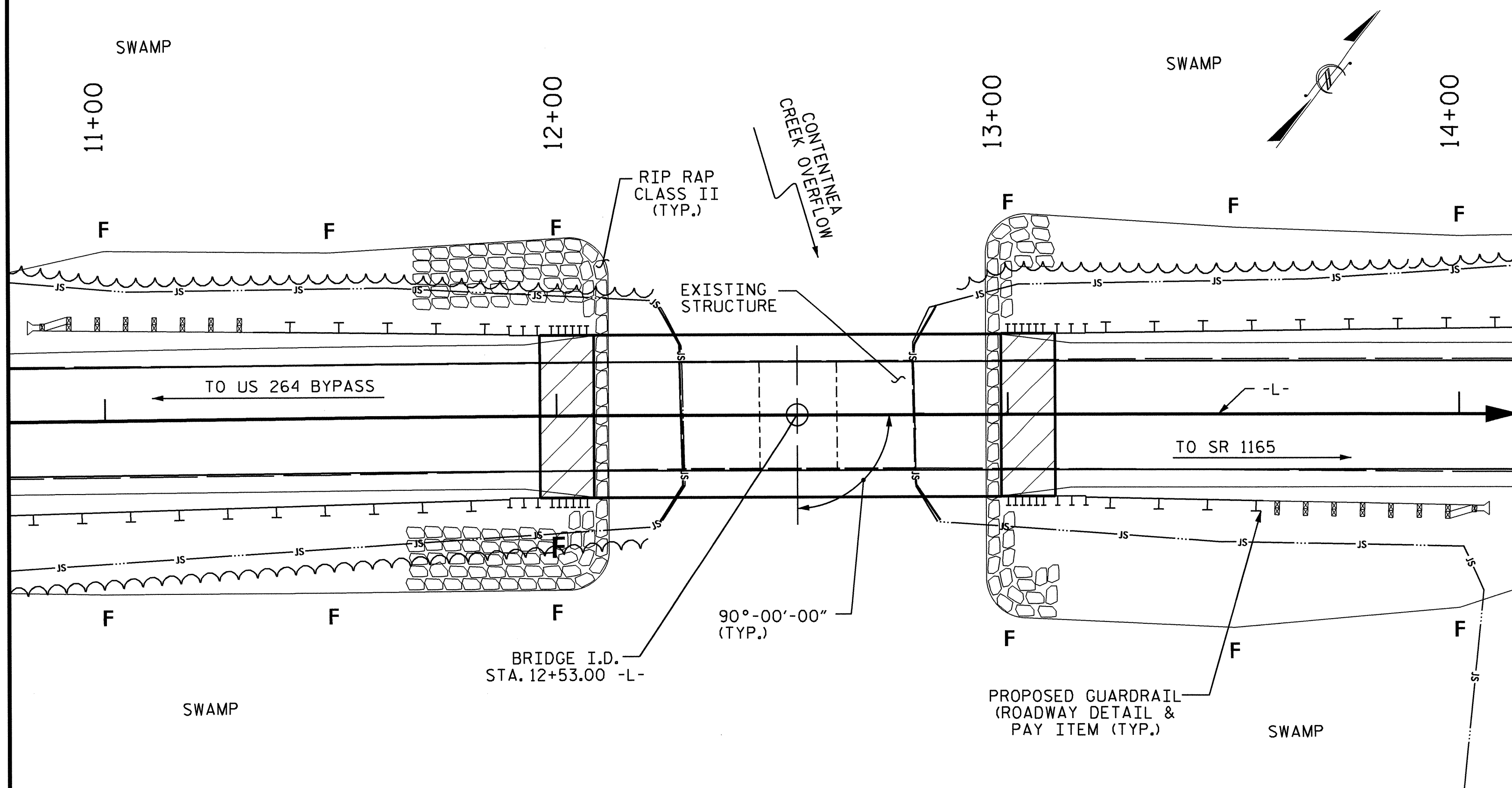


STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
**GENERAL DRAWING**  
FOR BRIDGE OVER  
CONTENTNEA CREEK OVERFLOW  
ON SR 1163 BETWEEN  
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DRAWN BY : K. P. SEDAİ DATE : 7/24/12  
CHECKED BY : E. K. POPE DATE : 7/30/12  
DESIGN ENGINEER OF RECORD : K. P. SEDAİ DATE : 8/9/12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			21

BM #1: RAILROAD SPIKE IN BASE OF 20" PINE, 32.6' RT OF STA. 15+12.02 -L-, ELEV. 93.72', NAVD 88.



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH

HYDRAULIC DATA

DESIGN DISCHARGE = 18700 CFS  
 FREQUENCY OF DESIGN FLOOD = 50 YR.  
 DESIGN HIGH WATER ELEVATION = 98.1'  
 DRAINAGE AREA = 237 Sq. MILES  
 BASE DISCHARGE (Q100) = 22100 CFS  
 BASE HIGH WATER ELEVATION = 99.4'

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 5500 CFS  
 FREQUENCY OF OVERTOPPING FLOOD = < 10 YR.  
 OVERTOPPING FLOOD ELEVATION = 94.4'

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	UNCLASSIFIED STRUCTURE EXCAVATION	CONCRETE WEARING SURFACE	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12 X 53 STEEL PILES	TWO BAR METAL RAIL	1'-2"X3'-1/8" CONCRETE PARAPET	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	FOAM JOINT SEALS	3'-0" x 2'-9" PRESTRESSED CONCRETE BOX BEAMS	
	LUMP SUM	LUMP SUM	SO. FEET	SO. FEET	CU. YDS.	LUMP SUM	LBS.	NO.	LIN. FT.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	LUMP SUM	NO.	LIN. FT.
SUPERSTRUCTURE			3285	3903		LUMP SUM			165.00	180.00			LUMP SUM	LUMP SUM	13	1170.00
END BENT NO. 1		LUMP SUM			21.6		3349	7	105		283	314				
END BENT NO. 2		LUMP SUM			21.6		3349	7	175		175	194				
TOTAL	LUMP SUM	LUMP SUM	3285	3903	43.2	LUMP SUM	6698	14	280	165.00	458	508	LUMP SUM	LUMP SUM	13	1170.00

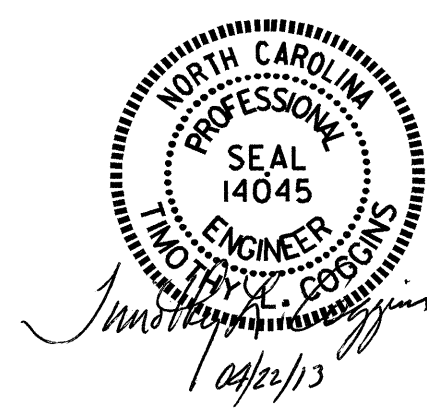
DRAWN BY : K. P. SEDAI DATE : 7/24/12  
 CHECKED BY : E. K. POPE DATE : 7/30/12  
 DESIGN ENGINEER OF RECORD : K. P. SEDAI DATE : 8/9/12

NOTES

- ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.
- FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.
- FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.
- THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
- REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.
- THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.
- ALL PAVEMENT MARKING WILL BE IN ACCORDANCE WITH THE PAVEMENT MARKING PLANS AND SHALL PROVIDE FOR BICYCLES.
- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18, EVALUATING SCOUR AT BRIDGES".
- THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPICE OF THIRTY BAR DIAMETERS. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.
- FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS.
- FOR CONCRETE WEARING SURFACE, SEE SPECIAL PROVISIONS.
- THE EXISTING STRUCTURE CONSISTING OF 3 SPANS (1 SPAN @ 17'-9", 1 SPAN @ 17'-0" AND 1 SPAN @ 17'-9") FOR A TOTAL LENGTH OF 52'-6"; CLEAR ROADWAY WIDTH OF 24.0' WITH A REINFORCED CONCRETE FLOOR ON TIMBER JOISTS AT VARIABLE CENTERS; SUBSTRUCTURE CONSISTING OF TIMBER CAPS ON TIMBER PILES AT VARIABLE CENTERS LOCATED AT PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMITATION MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.
- THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 26.0 FT. EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

PROJECT NO. B-4679  
 WILSON COUNTY  
 STATION: 12+53.00 -L-

SHEET 3 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 GENERAL DRAWING  
 FOR BRIDGE OVER  
 CONTENTNEA CREEK OVERFLOW  
 ON SR 1163 BETWEEN  
 US 264 BYPASS AND SR 1165

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

TOTAL SHEETS: 21

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	$\gamma_{DC}$	$\gamma_{DW}$
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

LOAD AND RESISTANCE FACTOR RATING (LRFD) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS																								
LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING #	MINIMUM RATING FACTORS (RF)	TONS = W X RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE					COMMENT NUMBER			
						MOMENT					SHEAR					MOMENT								
						LIVELOAD FACTORS	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	LIVELOAD FACTORS	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93(Inv)	N/A	1	1.18	--	1.75	0.269	1.52	A	EL	44.25	0.49	1.31	A	EL	4.425	0.80	0.269	1.18	A	EL	44.250		
	HL-93(0pr)	N/A	--	1.69	--	1.35	0.269	1.97	A	EL	44.25	0.49	1.69	A	EL	4.425	N/A	--	--	--	--	--		
	HS-20(Inv)	36,000	2	1.61	57.782	1.75	0.269	2.07	A	EL	44.25	0.49	1.71	A	EL	4.425	0.80	0.269	1.61	A	EL	44.250		
	HS-20(0pr)	36,000	--	2.22	79.875	1.35	0.269	2.68	A	EL	44.25	0.49	2.22	A	EL	4.425	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13,500	--	3.75	50.589	1.4	0.269	6.04	A	EL	44.25	0.49	5.23	A	EL	4.425	0.80	0.269	3.75	A	EL	44.250	
		SNGARBS2	20,000	--	2.74	54.774	1.4	0.269	4.41	A	EL	44.25	0.49	3.68	A	EL	4.425	0.80	0.269	2.74	A	EL	44.250	
		SNAGRIS2	22,000	--	2.57	56.575	1.4	0.269	4.14	A	EL	44.25	0.49	3.40	A	EL	4.425	0.80	0.269	2.57	A	EL	44.250	
		SNCOTTS3	27,250	--	1.86	50.773	1.4	0.269	3.00	A	EL	44.25	0.49	2.61	A	EL	4.425	0.80	0.269	1.86	A	EL	44.250	
		SNAGGRS4	34,925	--	1.54	53.656	1.4	0.269	2.48	A	EL	44.25	0.49	2.13	A	EL	4.425	0.80	0.269	1.54	A	EL	44.250	
		SNS5A	35,550	--	1.50	53.459	1.4	0.269	2.42	A	EL	44.25	0.49	2.14	A	EL	4.425	0.80	0.269	1.50	A	EL	44.250	
		SNS6A	39,950	--	1.37	54.779	1.4	0.269	2.21	A	EL	44.25	0.49	1.94	A	EL	4.425	0.80	0.269	1.37	A	EL	44.250	
	SNS7B	42,000	--	1.31	54.830	1.4	0.269	2.10	A	EL	44.25	0.49	1.89	A	EL	4.425	0.80	0.269	1.31	A	EL	44.250		
	TTST	TNAGRIT3	33,000	--	1.67	55.096	1.4	0.269	2.69	A	EL	44.25	0.49	2.32	A	EL	4.425	0.80	0.269	1.67	A	EL	44.250	
		TNT4A	33,075	--	1.68	55.388	1.4	0.269	2.70	A	EL	44.25	0.49	2.28	A	EL	4.425	0.80	0.269	1.67	A	EL	44.250	
		TNT6A	41,600	--	1.36	56.626	1.4	0.269	2.19	A	EL	44.25	0.49	1.99	A	EL	4.425	0.80	0.269	1.36	A	EL	44.250	
		TNT7A	42,000	--	1.36	57.278	1.4	0.269	2.20	A	EL	44.25	0.49	1.95	A	EL	4.425	0.80	0.269	1.36	A	EL	44.250	
		TNT7B	42,000	--	1.40	58.820	1.4	0.269	2.26	A	EL	44.25	0.49	1.86	A	EL	4.425	0.80	0.269	1.40	A	EL	44.250	
		TNAGRIT4	43,000	--	1.34	57.618	1.4	0.269	2.16	A	EL	44.25	0.49	1.81	A	EL	4.425	0.80	0.269	1.34	A	EL	44.250	
TNAGT5A		45,000	--	1.27	57.017	1.4	0.269	2.04	A	EL	44.25	0.49	1.78	A	EL	4.425	0.80	0.269	1.27	A	EL	44.250		
TNAGT5B	45,000	3	1.25	56.474	1.4	0.269	2.02	A	EL	44.25	0.49	1.72	A	EL	4.425	0.80	0.269	1.25	A	EL	44.250			

NOTES:

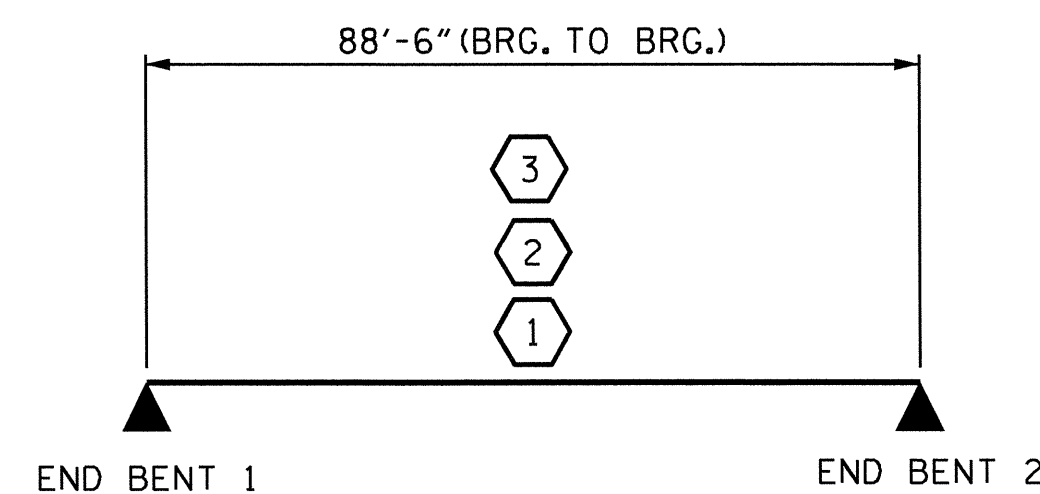
MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

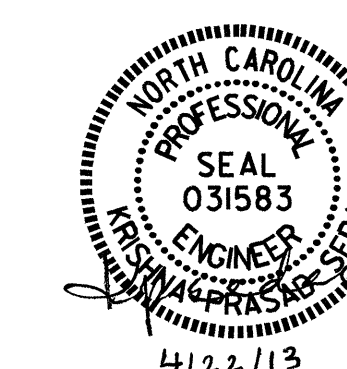
- 1.
- 2.
- 3.
- 4.

#	CONTROLLING LOAD RATING
1	DESIGN LOAD RATING (HL-93)
2	DESIGN LOAD RATING (HS-20)
3	LEGAL LOAD RATING **
** SEE CHART FOR VEHICLE TYPE	
GIRDER LOCATION	
I - INTERIOR GIRDER	
EL - EXTERIOR LEFT GIRDER	
ER - EXTERIOR RIGHT GIRDER	



LRFR SUMMARY

PROJECT NO. B-4679  
WILSON COUNTY  
 STATION: 12+53.00 -L-



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD LRFR SUMMARY FOR 90' BOX BEAM UNIT 90° SKEW (NON-INTERSTATE TRAFFIC)					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S-4
					TOTAL SHEETS 21

ASSEMBLED BY : K. P. SEDAI	DATE : 7/13/12
CHECKED BY : E. K. POPE	DATE : 7/30/12
DESIGN ENGINEER OF RECORD: K. P. SEDAI	DATE : 8/9/12
DRAWN BY : MAA 1/08	REV. 11/12/08RR MAA/GM
CHECKED BY : GM/DI 2/08	REV. 10/11/11 MAA/GM

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 BOX BEAM SECTIONS SHALL BE GRADE 60 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE BOX BEAMS.

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

THE 2 1/2" Ø DOWEL HOLES AT FIXED ENDS OF BOX BEAM SECTIONS SHALL BE FILLED WITH NON-SHRINK GROUT. THE 2 1/2" Ø DOWEL HOLES AT EXPANSION ENDS OF BOX BEAM SECTIONS SHALL BE FILLED WITH JOINT SEALER MATERIAL TO 1/2" ABOVE THE TOP OF DOWELS AND THEN FILLED WITH GROUT.

THE JOINT SEALER MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TYPE SL LOW MODULUS SILICONE SEALANT. SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE BOX BEAM UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 6000 PSI.

ALL REINFORCING STEEL IN CONCRETE PARAPET AND CONCRETE WEARING SURFACE SHALL BE EPOXY COATED.

PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE BOX BEAM UNIT ENDS.

APPLY EPOXY PROTECTIVE COATING TO BOX BEAM UNIT ENDS.

VERTICAL 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. A VERTICAL 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.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 3" AT END BENT.

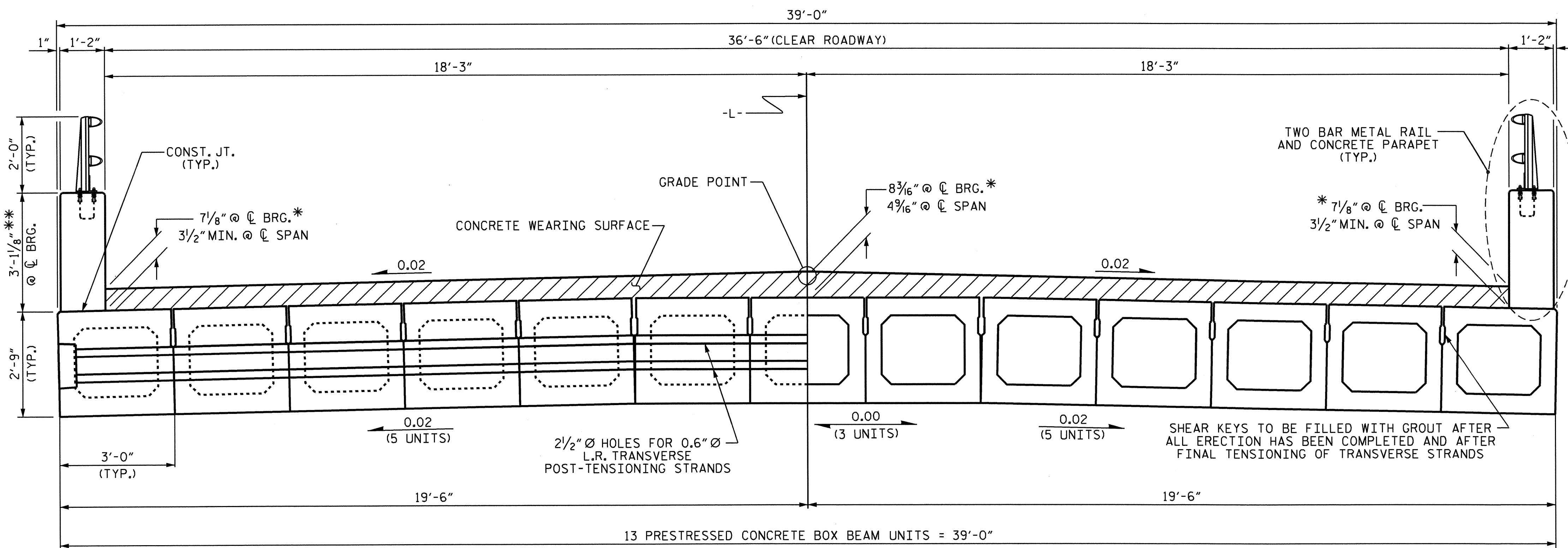
PLACEMENT OF THE CONCRETE WEARING SURFACE SHALL OCCUR AFTER CASTING THE CONCRETE RAIL. THE COST OF THE REINFORCING STEEL CAST WITH THE CONCRETE WEARING SURFACE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE WEARING SURFACE. FOR CONCRETE WEARING SURFACE, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

THE LOCATION OF THE VOID DRAINS MAY BE SHIFTED SLIGHTLY WHERE NECESSARY TO CLEAR PRESTRESSING STRANDS OR TRANSVERSE REINFORCING STEEL.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THE TOP SURFACE OF THE BOX BEAM UNITS SHALL HAVE A 3/8" RAKED FINISH.



HALF SECTION  
AT INTERMEDIATE DIAPHRAGMS

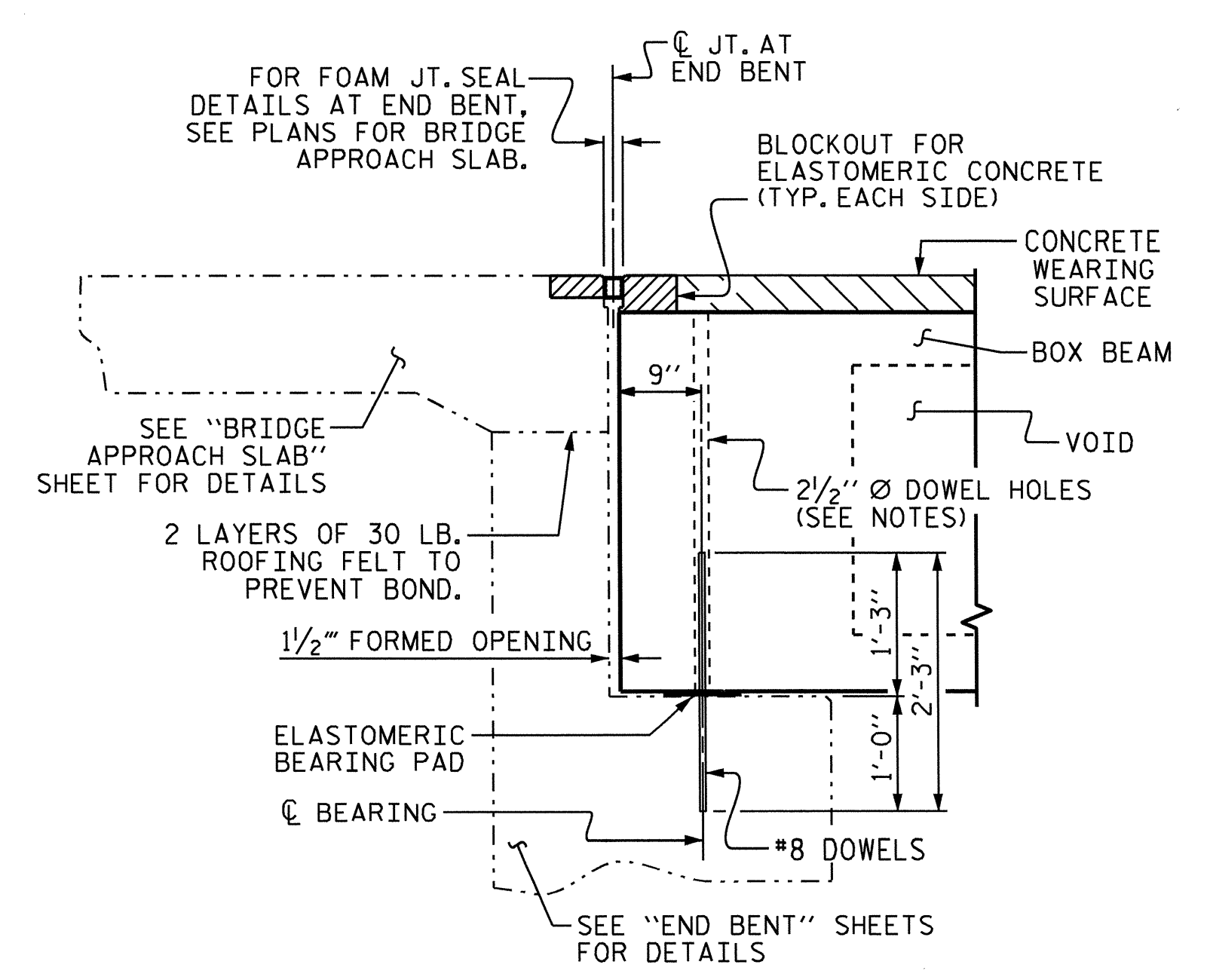
HALF SECTION  
THROUGH VOIDS

TYPICAL SECTION

\* BASED ON PREDICTED FINAL CAMBER AND THEORETICAL GRADE LINE ELEVATIONS

\*\* THE MAXIMUM PARAPET HEIGHT AND MAXIMUM AND MINIMUM CONCRETE WEARING SURFACE THICKNESS IS SHOWN. THE HEIGHT OF THE PARAPET AND CONCRETE WEARING SURFACE THICKNESS VARIES WHILE THE TOP OF THE PARAPET FOLLOWS THE PROFILE OF THE GUTTERLINE.

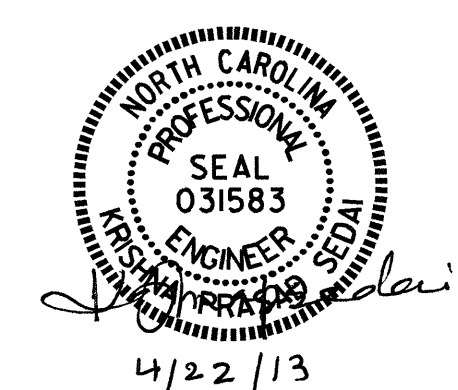
FIXED END OR EXPANSION END



SECTION AT END BENT

ASSEMBLED BY : K. P. SEDAİ	DATE : 7/11/12
CHECKED BY : E. K. POPE	DATE : 7/30/12
DESIGN ENGINEER OF RECORD : K. P. SEDAİ	DATE : 8/9/12
DRAWN BY : TLA 5/05	ADDED 7/11/05R
CHECKED BY : GM 6/05	REV. 5/1/06R KMM/GM
	REV. 10/1/11 MAA/GM

22-APR-2013 12:55  
R:\Structures\Plans\Final Plans\B4679.sd.plans.01.dgn  
rcogline



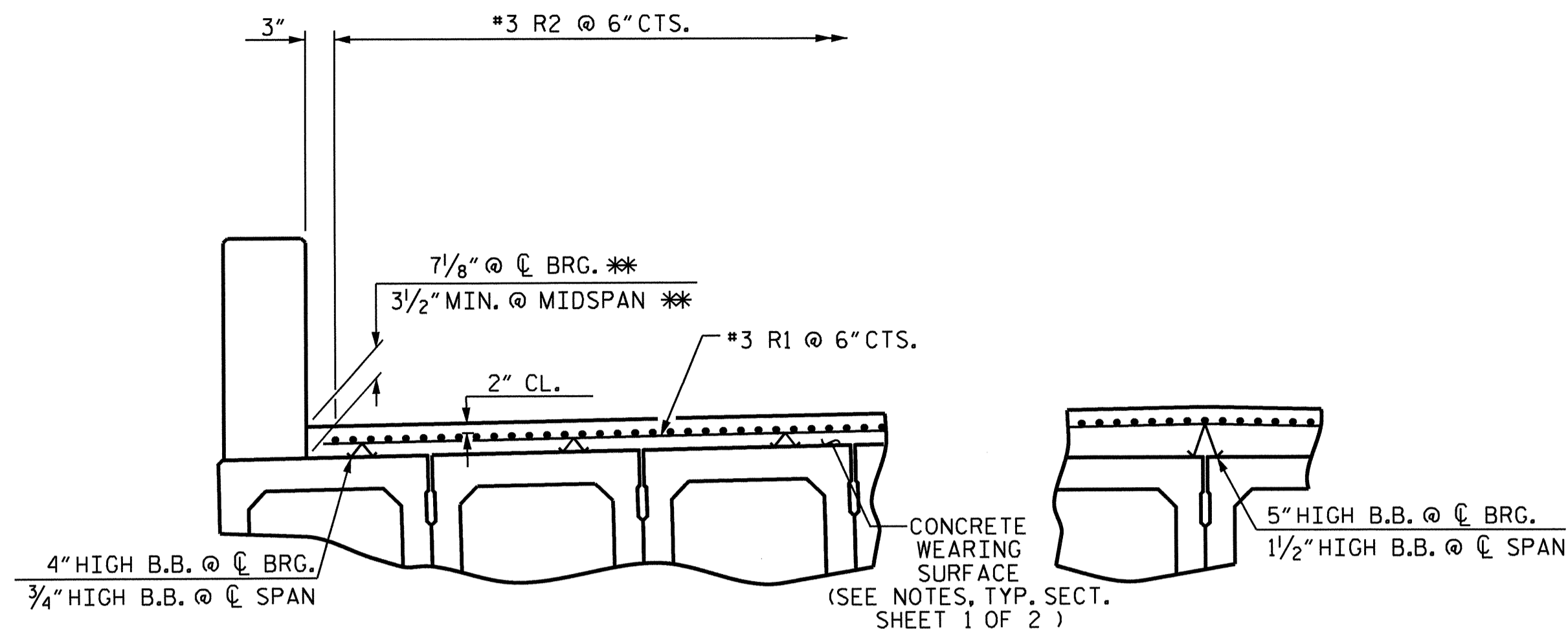
PROJECT NO. B-4679  
WILSON COUNTY  
STATION: 12+53.00 -L-

SHEET 1 OF 2

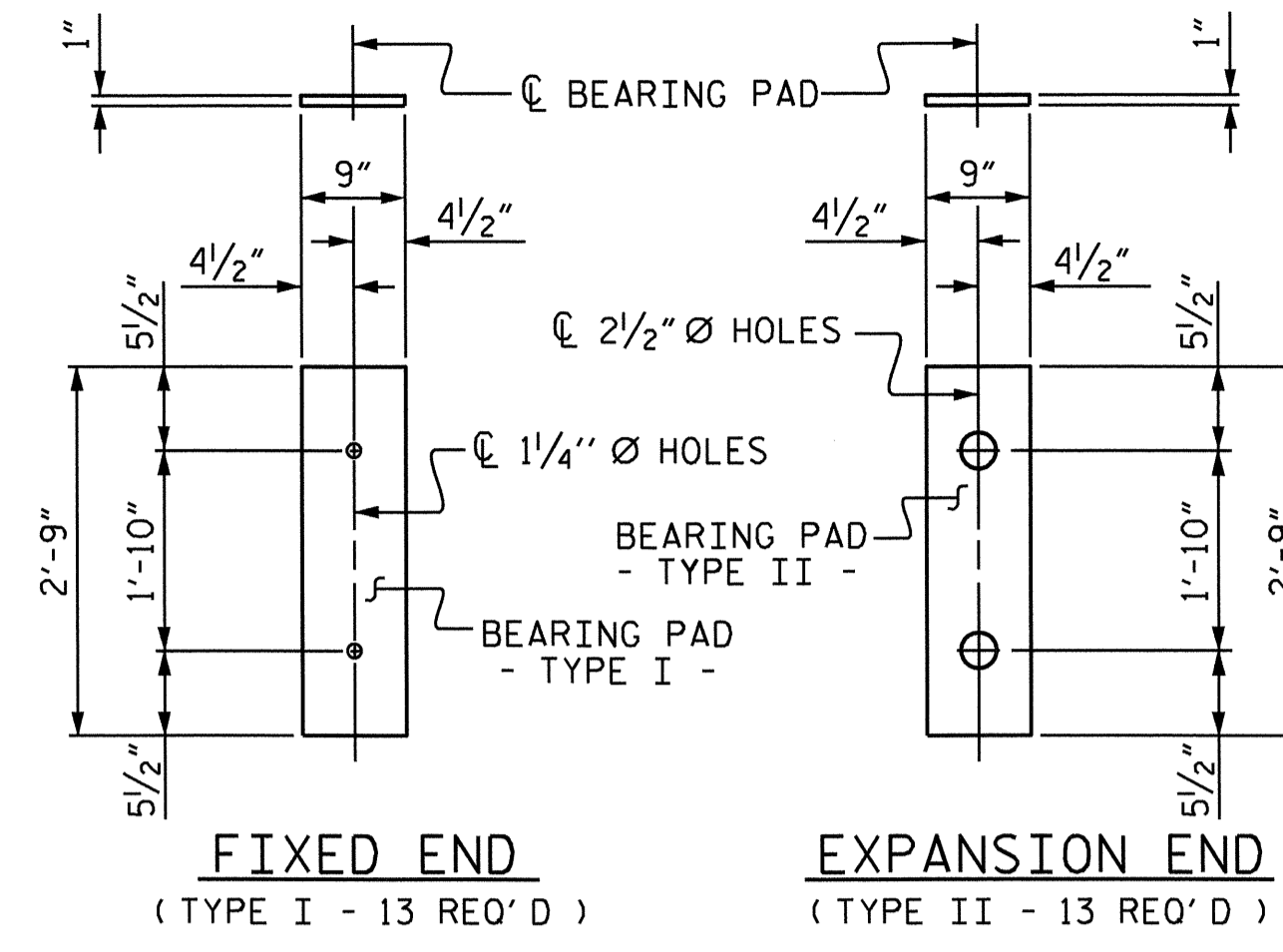
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
STANDARD  
3'-0" X 2'-9"  
PRESTRESSED CONCRETE  
BOX BEAM UNIT

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5	
1			3			TOTAL SHEETS	
2			4			21	

(SHT 1) STD. NO. PCBB1

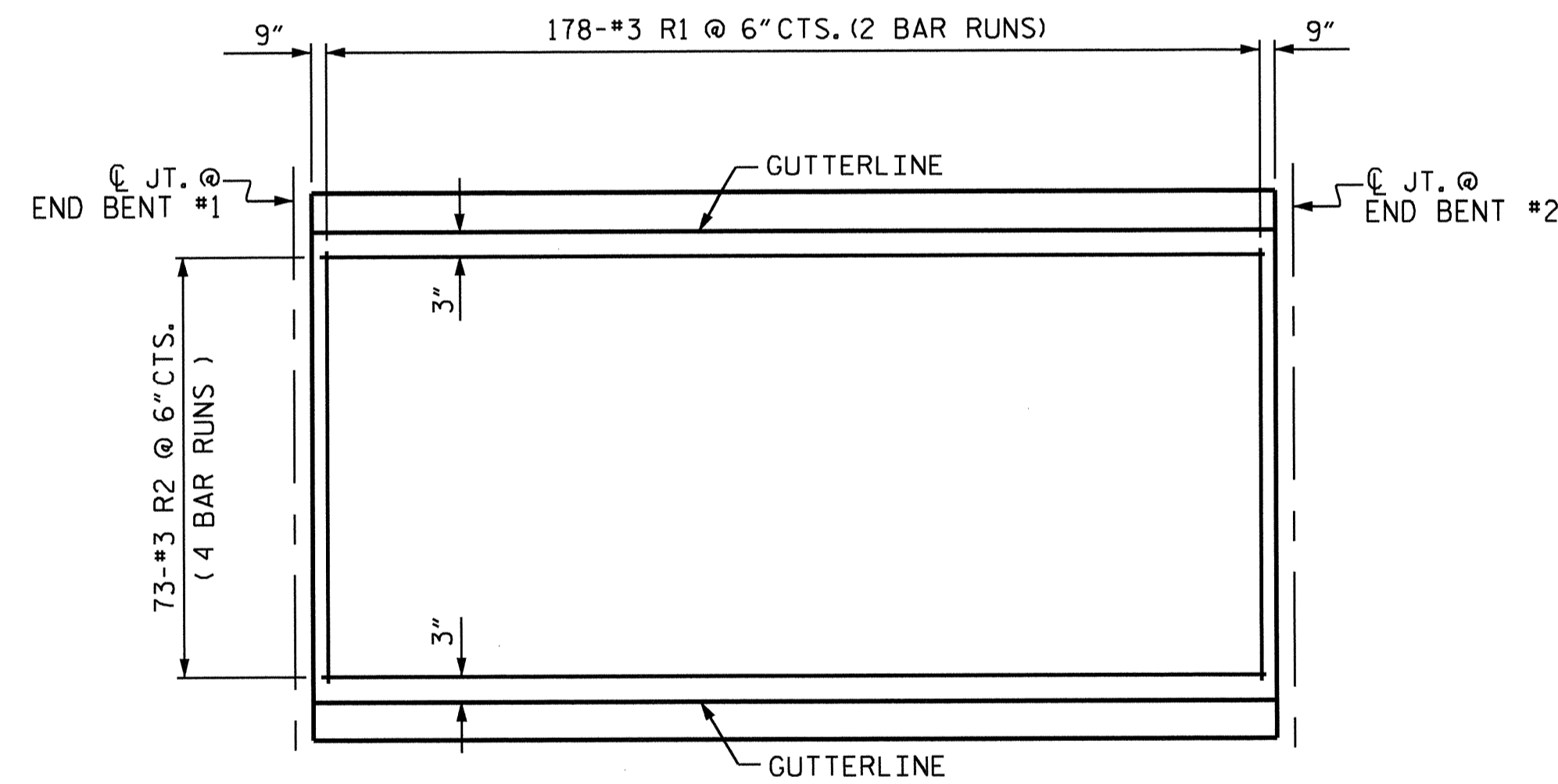


REINFORCING FOR CONCRETE WEARING SURFACE  
 \*BASED ON PREDICTED FINAL CAMBER AND THEORETICAL GRADE LINE ELEVATIONS



ELASTOMERIC BEARING DETAILS  
 ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.

BOX BEAM UNITS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR B.B.	2	90'-0"	180'-0"
INTERIOR B.B.	11	90'-0"	990'-0"
TOTAL	13		1170'-0"



PLAN SHOWING CONCRETE WEARING SURFACE REINFORCING STEEL

BILL OF MATERIAL FOR CONCRETE WEARING SURFACE					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*R1	356	#3	STR	19'-1"	2554
*R2	292	#3	STR	23'-11"	2626
* EPOXY COATED REINFORCING STEEL					LBS. 5180
CONCRETE WEARING SURFACE					SQ. FT. 3285

GROOVING BRIDGE FLOORS	
APPROACH SLABS	930 SQ.FT.
BRIDGE DECK	2973 SQ.FT.
TOTAL	3903 SQ.FT.

SPLICE LENGTH CHART	
BAR SIZE	EPOXY COATED
#3	2'-0"

GUTTERLINE CONCRETE THICKNESS & PARAPET HEIGHT		
	CONCRETE OVERLAY THICKNESS @ MID-SPAN	PARAPET HEIGHT @ MID-SPAN
90' UNITS	3 1/2"	2'-9 1/2"

PROJECT NO. B-4679  
 WILSON COUNTY  
 STATION: 12+53.00 -L-

SHEET 2 OF 2

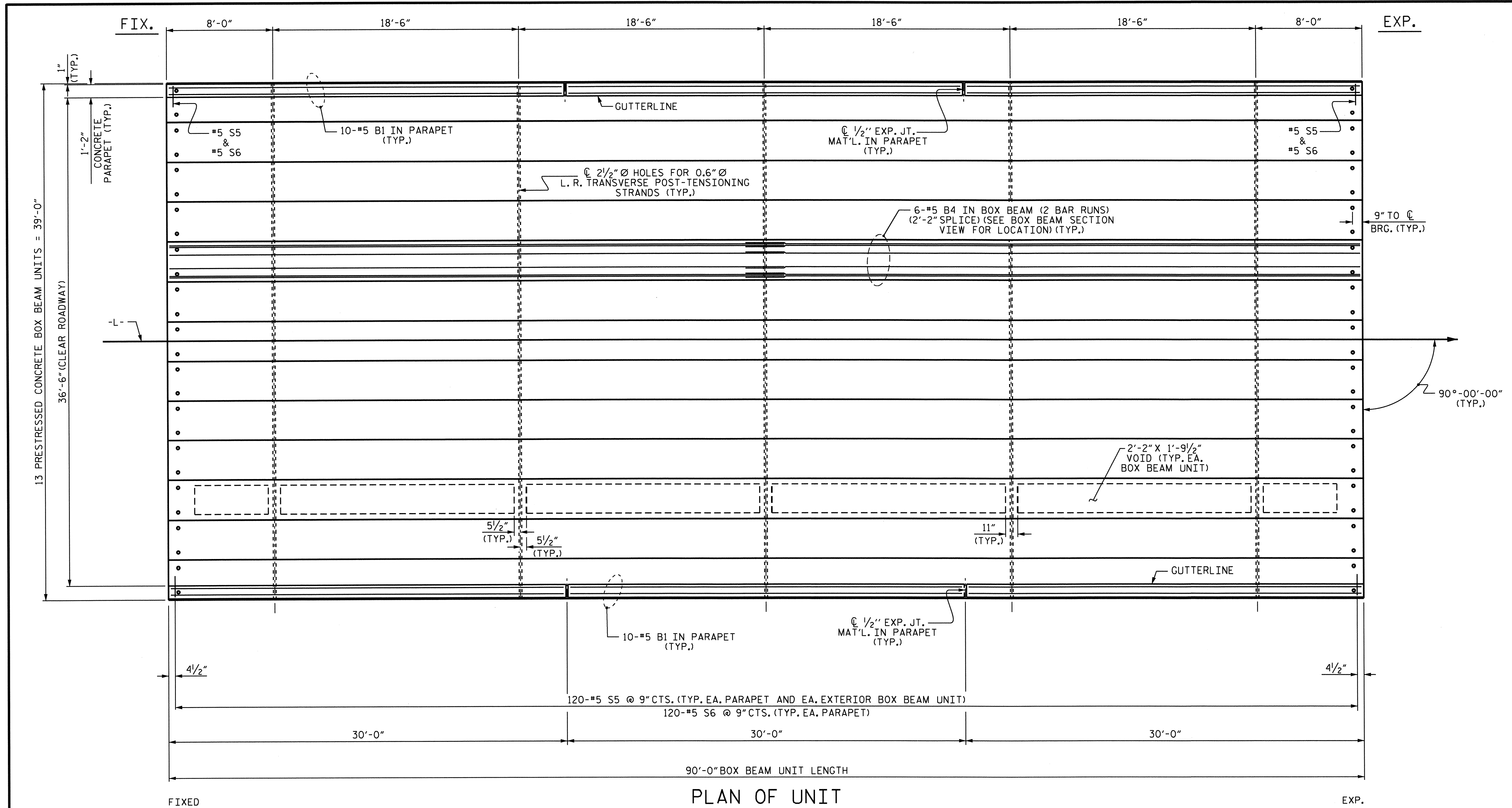


STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 3'-0" X 2'-9"  
 PRESTRESSED CONCRETE  
 BOX BEAM UNIT DETAILS

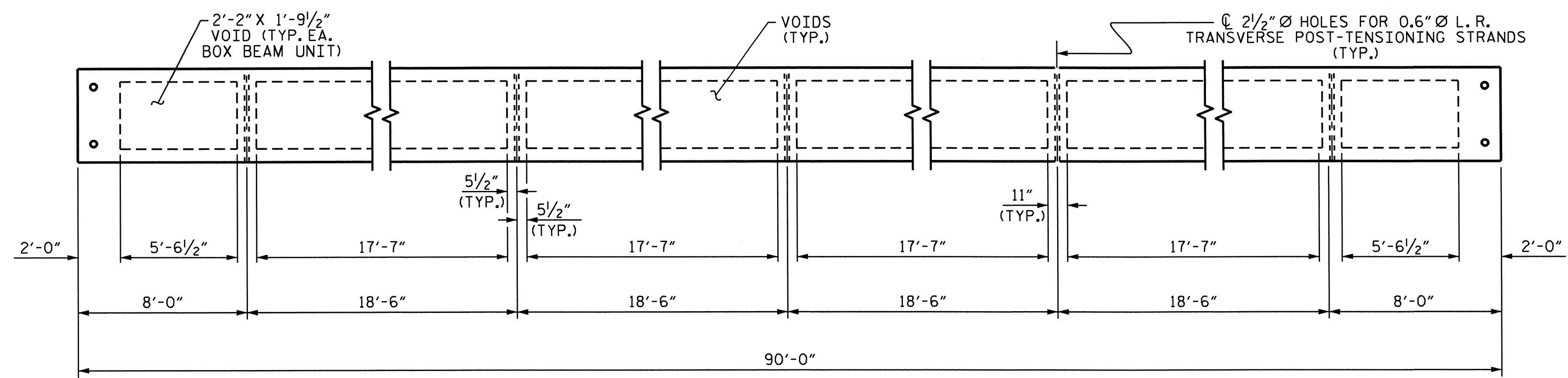
ASSEMBLED BY : K. P. SEDAI DATE : 7/11/12  
 CHECKED BY : E. K. POPE DATE : 7/30/12  
 DESIGN ENGINEER OF RECORD:  
 K. P. SEDAI DATE : 8/9/12  
 DRAWN BY : TLA 5/05 REV. 5/1/06RR TLA/GM  
 CHECKED BY : GM 6/05 REV. 10/1/11 MAA/GM  
 REV. 10/12 MAA/GM

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS
2			4			21





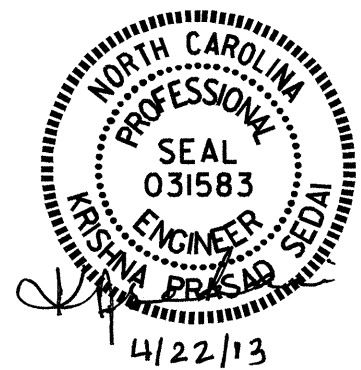
PLAN OF UNIT



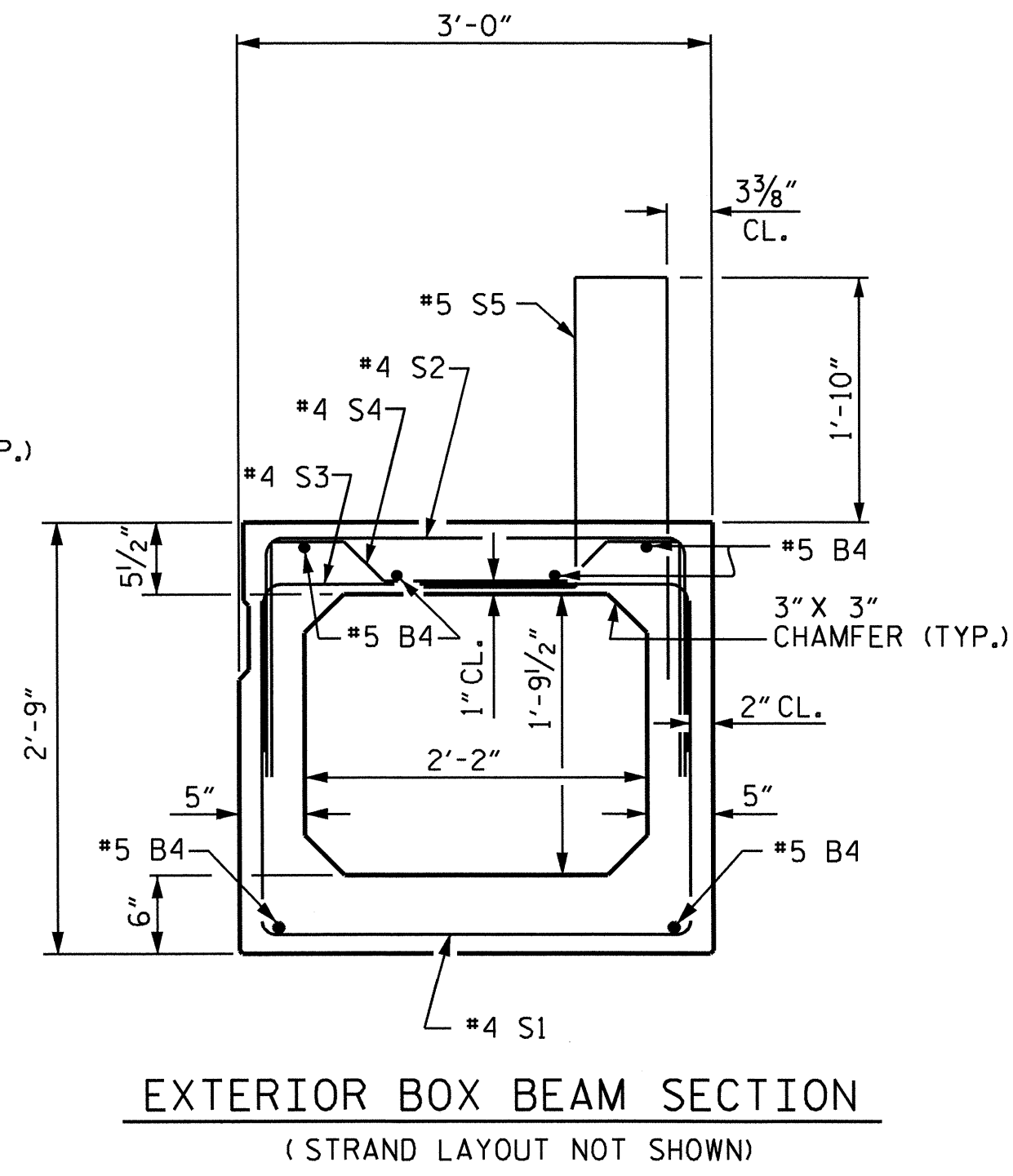
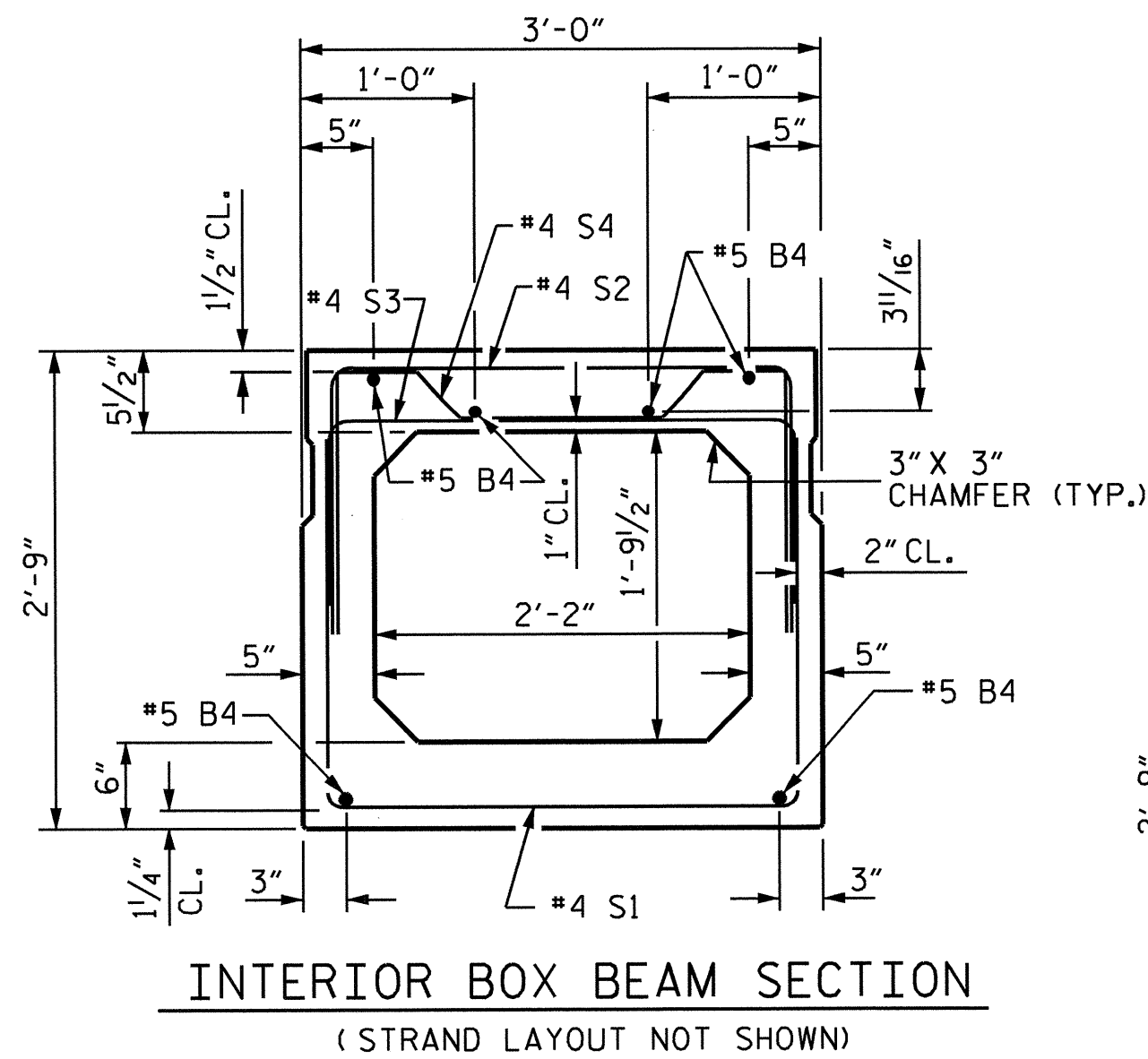
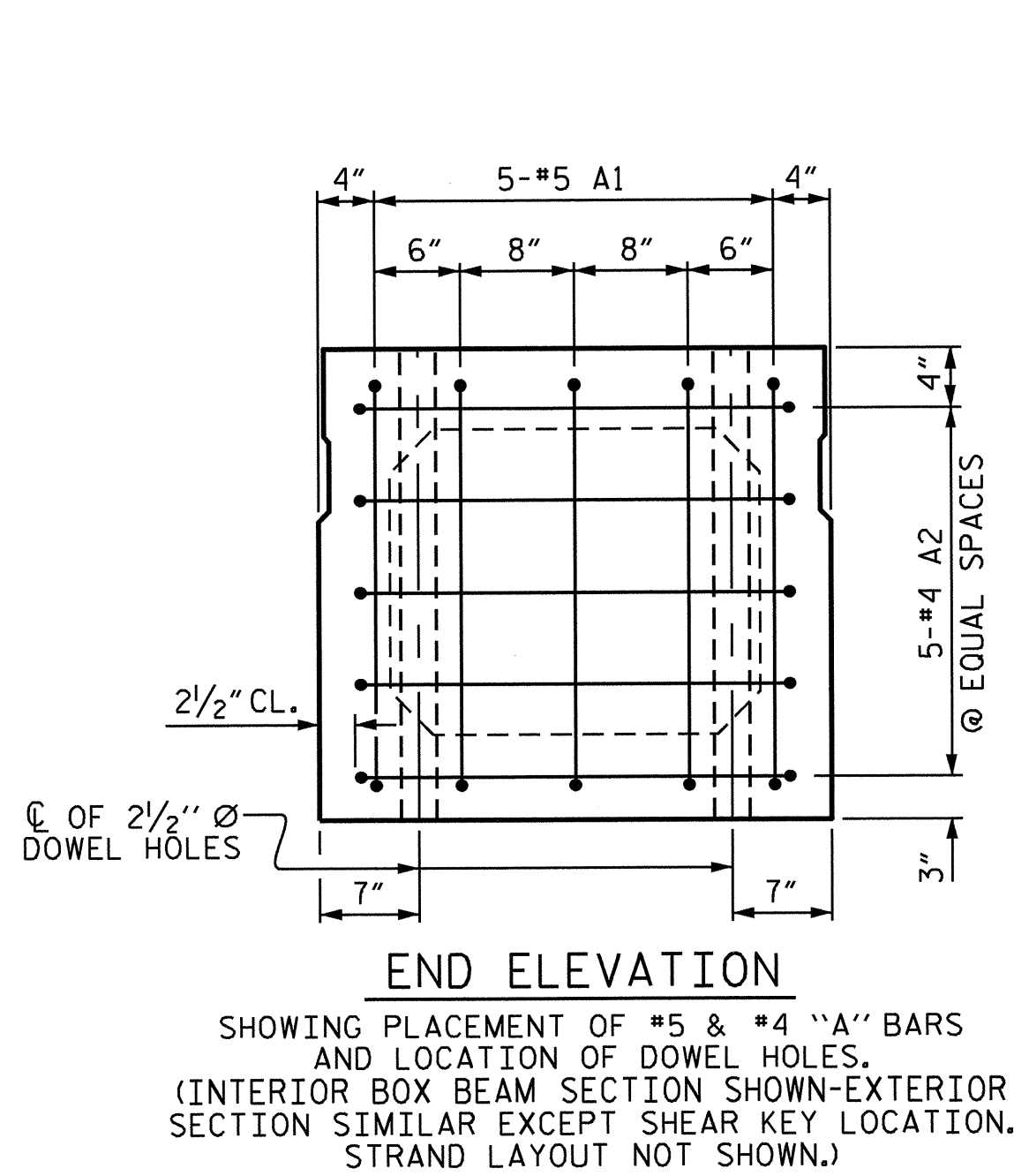
DIAPHRAGM AND VOID LAYOUT

PROJECT NO. B-4679  
WILSON COUNTY  
 STATION: 12+53.00 -L-

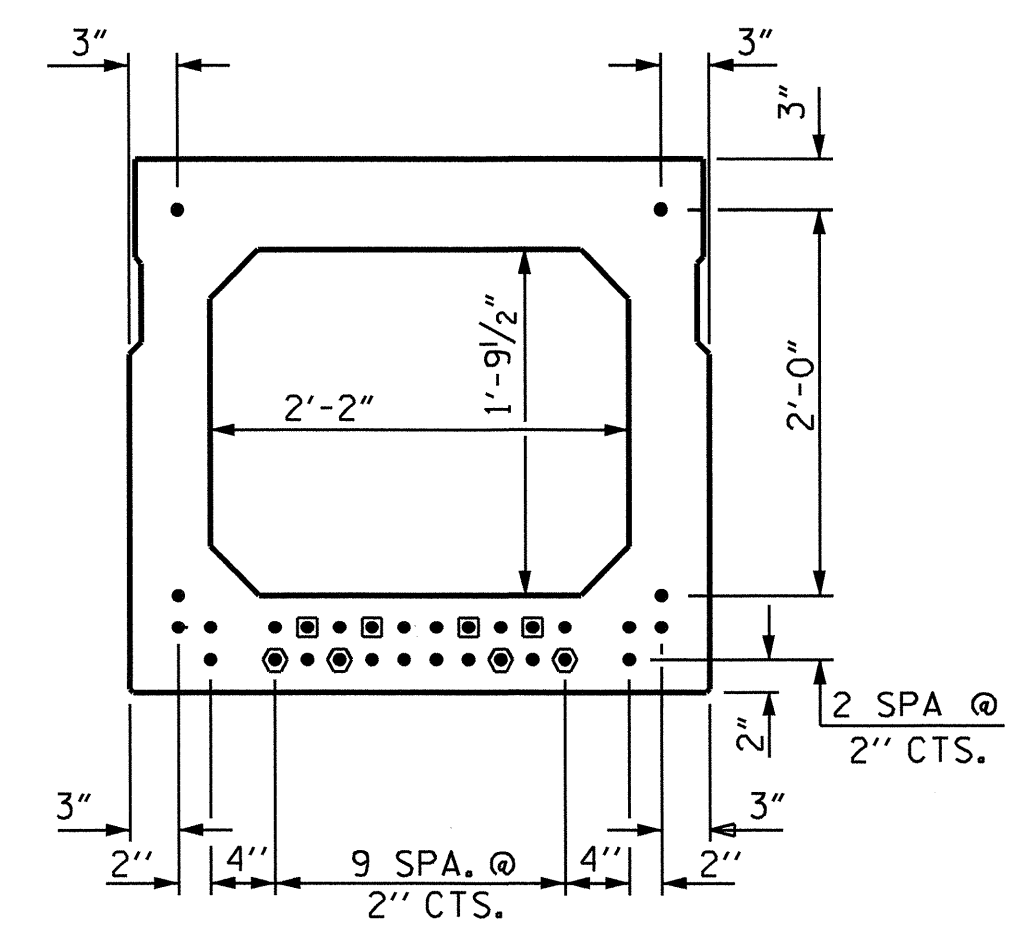
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PLAN OF 90' UNIT 36'-6" CLEAR ROADWAY 90° SKEW					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S-7
					TOTAL SHEETS 21



ASSEMBLED BY : K. P. SEDA DATE : 7/12/12  
 CHECKED BY : E. K. POPE DATE : 7/30/12  
 DESIGN ENGINEER OF RECORD : K. P. SEDA DATE : 8/9/12  
 DRAWN BY : DGE 8/10  
 CHECKED BY : TMC 11/11



**0.6" Ø LOW RELAXATION STRAND LAYOUT**

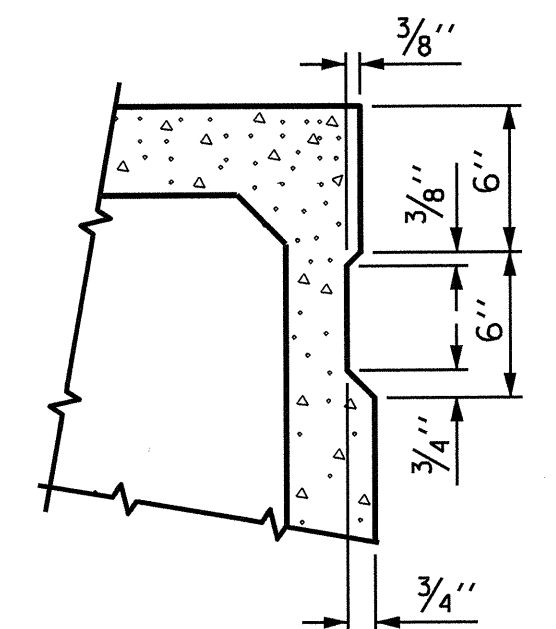


**DEBONDING LEGEND**

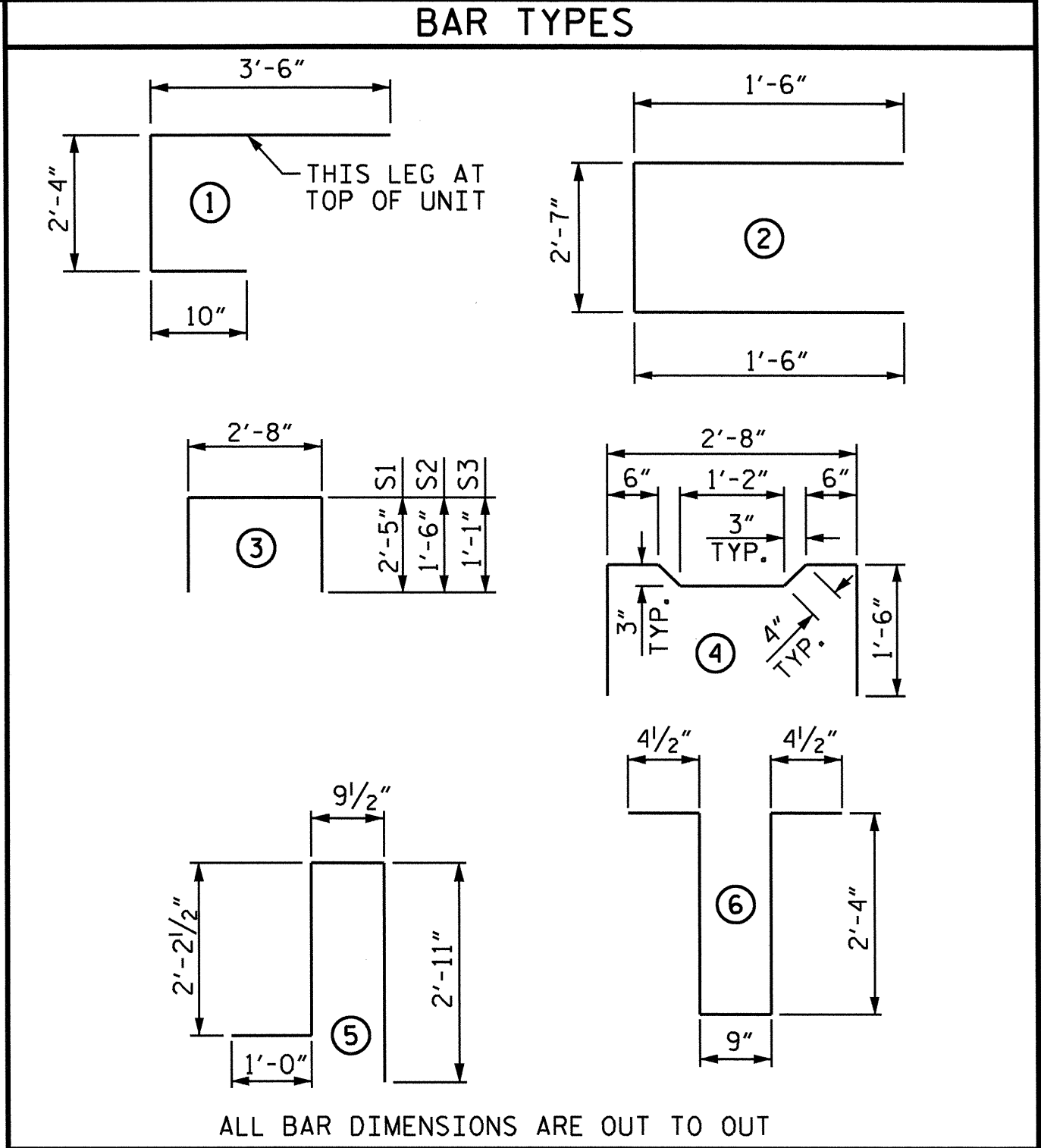
- FULLY BONDED STRANDS
- STRANDS DEBONDED FOR 4'-0" FROM END OF GIRDER
- STRANDS DEBONDED FOR 12'-0" FROM END OF GIRDER

BOND BE BROKEN ON STRANDS AS SHOWN FOR THE SPECIFIED LENGTH FROM EACH END OF THE BOX BEAM. SEE STANDARD SPECIFICATIONS ARTICLE 1078-7.

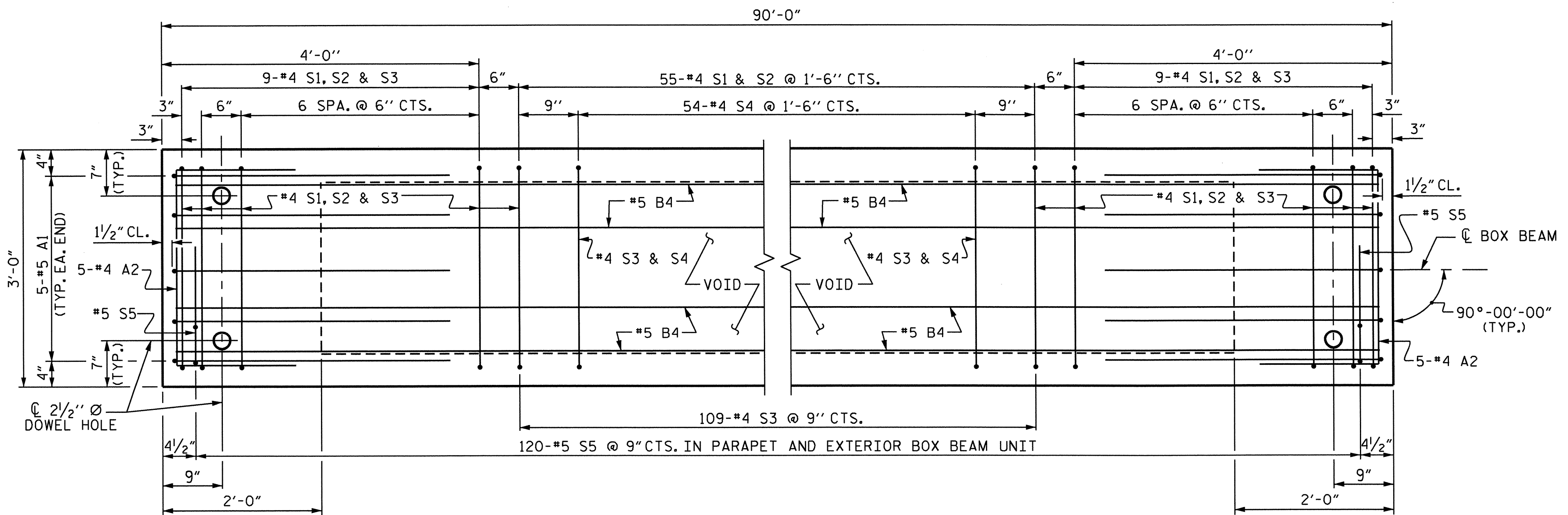
GRADE 270 STRANDS	
AREA (SQUARE INCHES)	0.217
ULTIMATE STRENGTH (LBS. PER STRAND)	58,600
APPLIED PRESTRESS (LBS. PER STRAND)	43,950



NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF EXTERIOR BOX BEAMS.

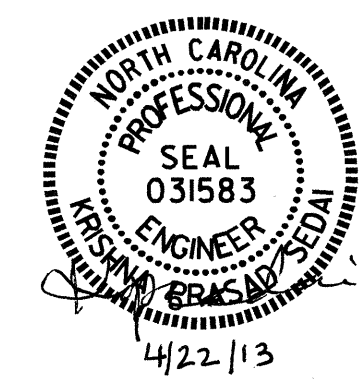


BILL OF MATERIAL FOR ONE BOX BEAM SECTION							
BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT LENGTH	EXTERIOR UNIT WEIGHT	INTERIOR UNIT LENGTH	INTERIOR UNIT WEIGHT
A1	10	#5	1	6'-8"	70	6'-8"	70
A2	40	#4	2	5'-7"	149	5'-7"	149
B4	12	#5	STR	45'-11"	575	45'-11"	575
K1	15	#4	6	6'-2"	62	6'-2"	62
K2	10	#4	STR	2'-7"	17	2'-7"	17
S1	73	#4	3	7'-6"	366	7'-6"	366
S2	73	#4	3	5'-8"	276	5'-8"	276
S3	127	#4	3	4'-10"	410	4'-10"	410
S4	54	#4	4	5'-10"	210	5'-10"	210
* S5	120	#5	5	6'-11"	866	--	--
REINFORCING STEEL				2135	LBS.	2135	LBS.
* EPOXY COATED REINF. STEEL				866	LBS.		
8000 P.S.I. CONCRETE				15.9	CU. YDS.	15.9	CU. YDS.
0.6" Ø L.R. STRANDS				No. 30		No. 30	



EXTERIOR UNIT SHOWN, INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S5 BARS. FOR LOCATION OF DIAPHRAGMS, SEE PLAN OF UNIT. FOR REINFORCING STEEL IN DIAPHRAGMS, SEE DIAPHRAGM DETAILS.

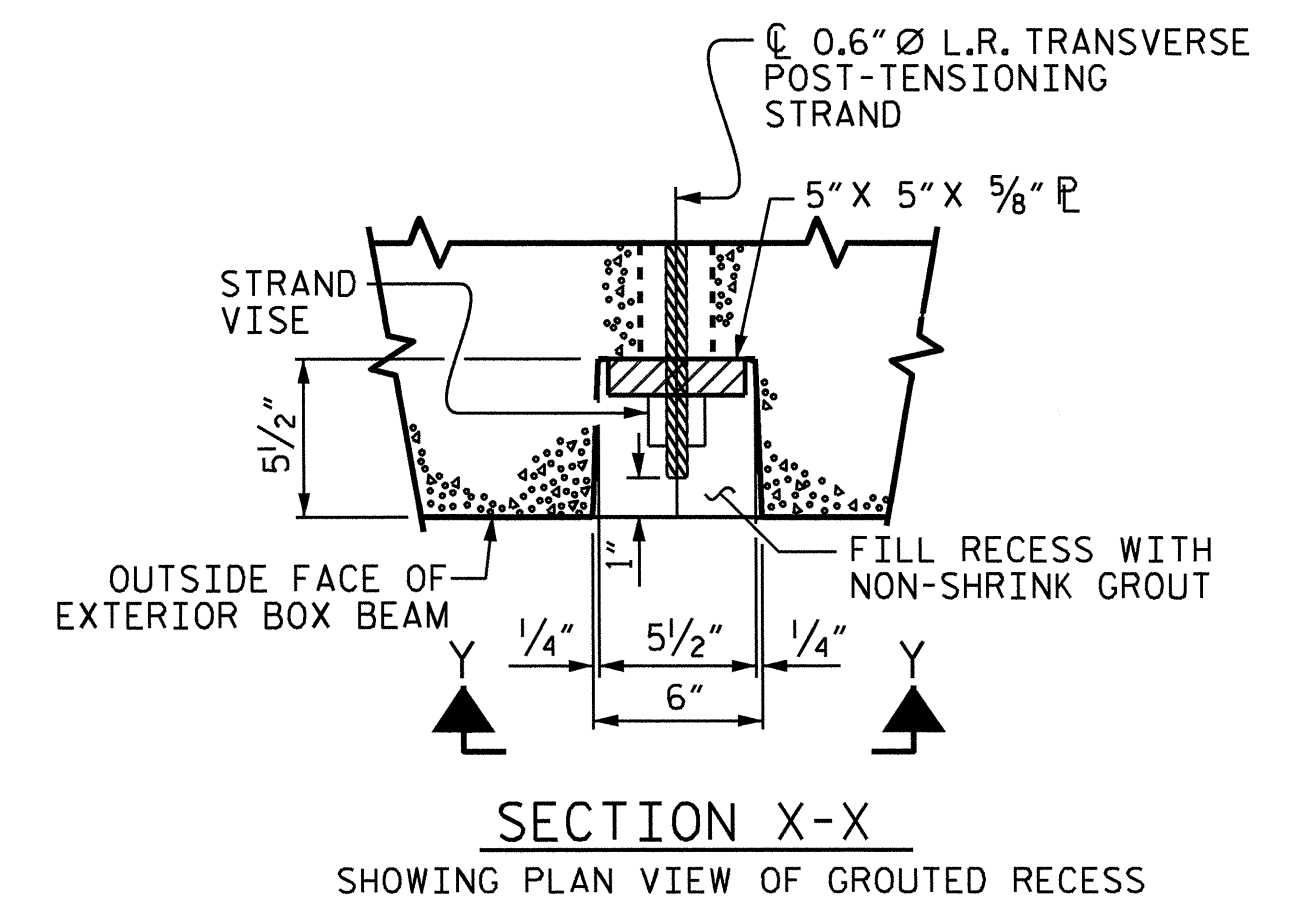
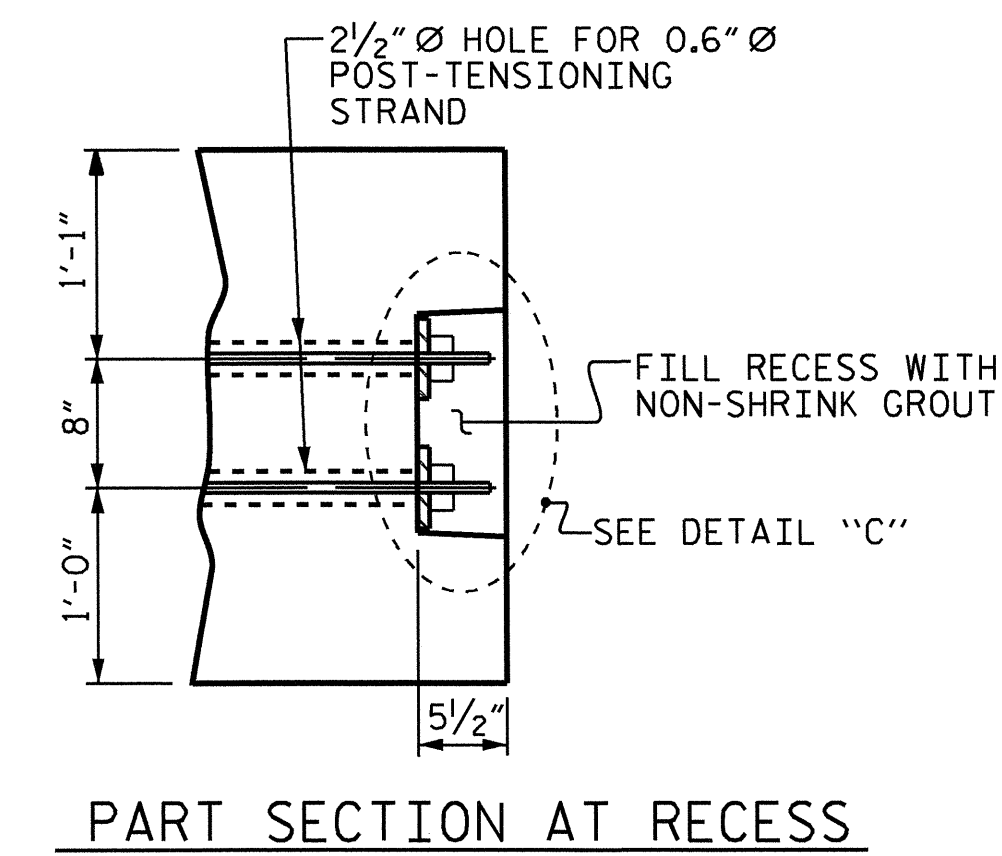
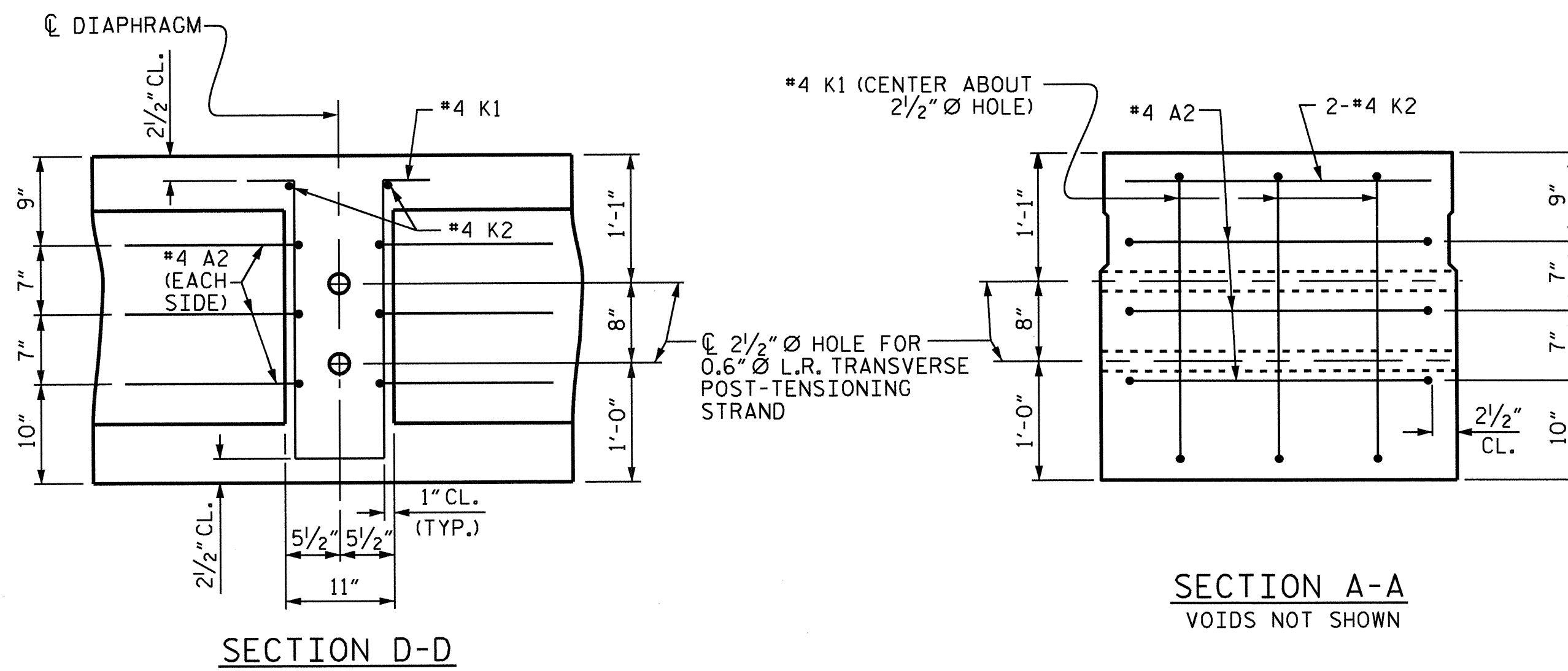
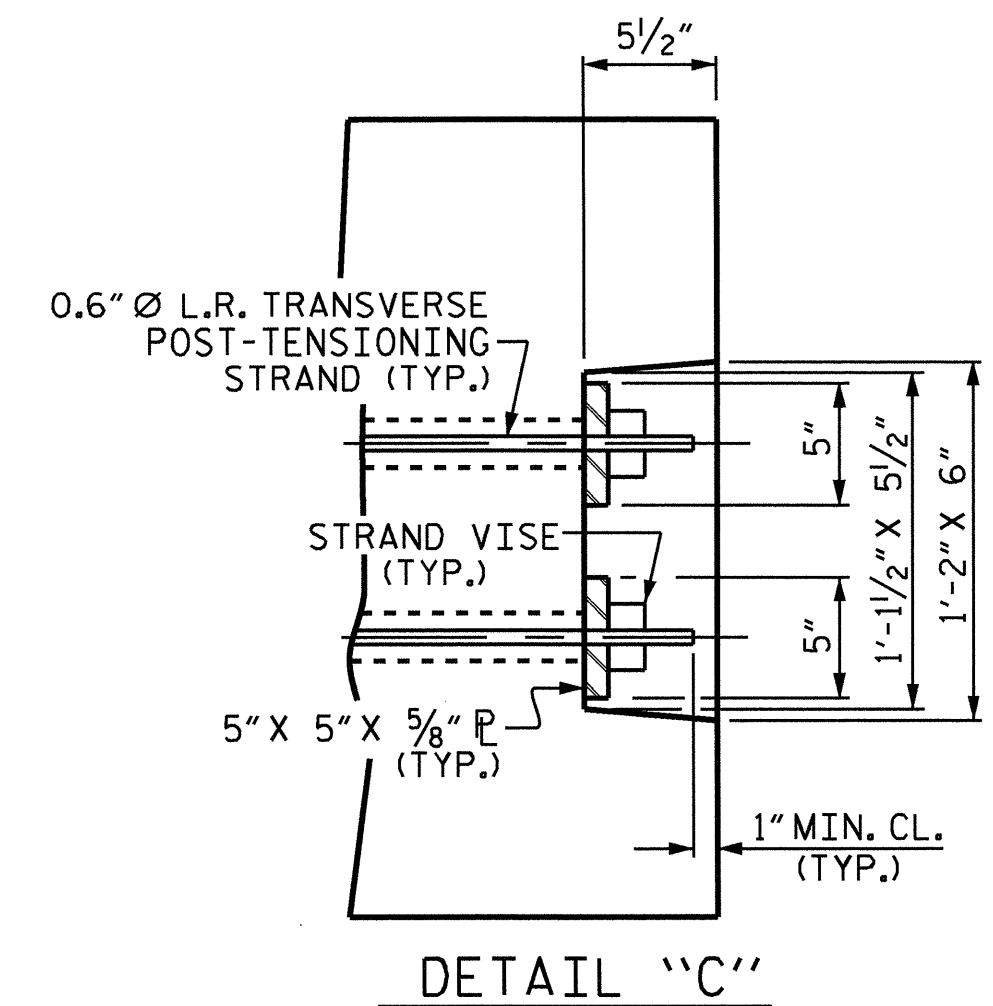
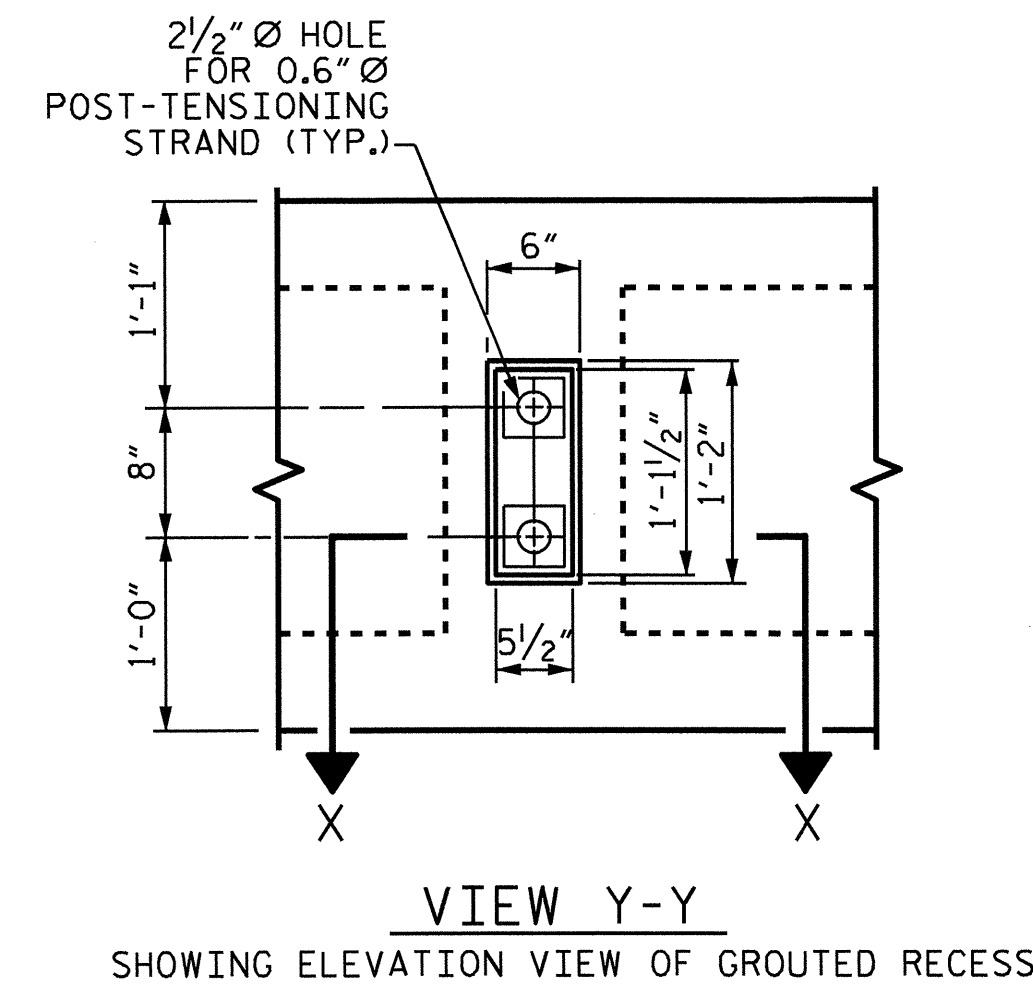
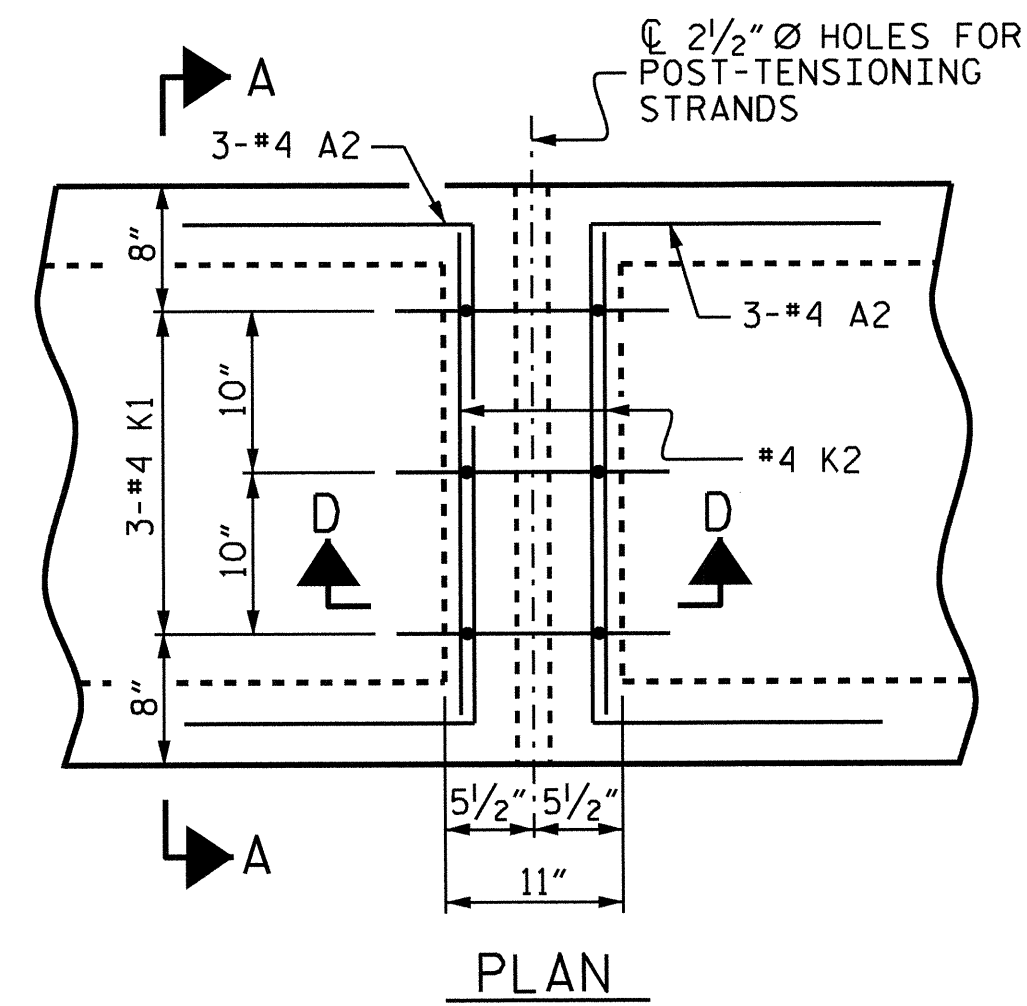
PROJECT NO. B-4679  
WILSON COUNTY  
 STATION: 12+53.00 -L-  
 SHEET 1 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 3'-0" X 2'-9"  
 PRESTRESSED CONCRETE  
 BOX BEAM UNIT

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS 21
2			4			

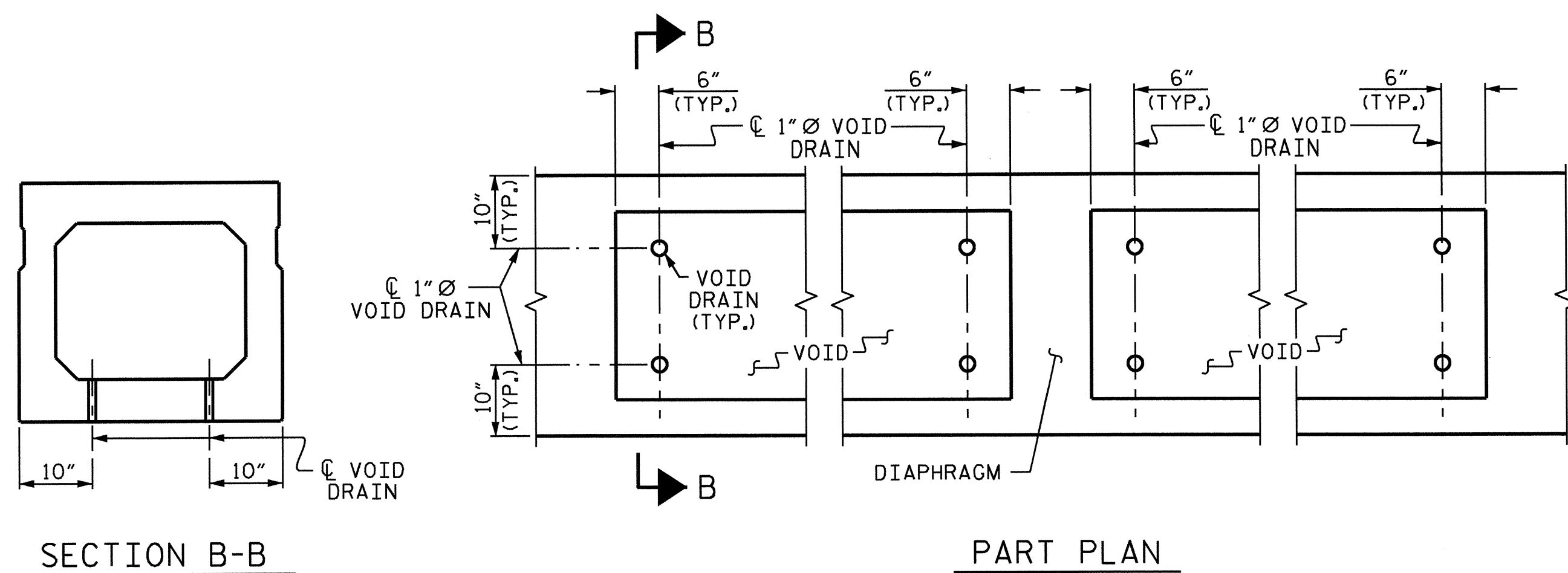
ASSEMBLED BY : K. P. SEDAI DATE : 7/13/12  
 CHECKED BY : E. K. POPE DATE : 7/30/12  
 DRAWN BY : DGE 10/11  
 CHECKED BY : TMG 11/11



**DOUBLE DIAPHRAGM DETAILS**

#4 "S" BARS NOT SHOWN. #4 "S" BARS MAY BE SHIFTED SLIGHTLY TO CLEAR 2 1/2" Ø HOLE.

**GROUDED RECESS DETAIL AT END OF POST-TENSIONED STRANDS OF EXTERIOR BOX BEAM**



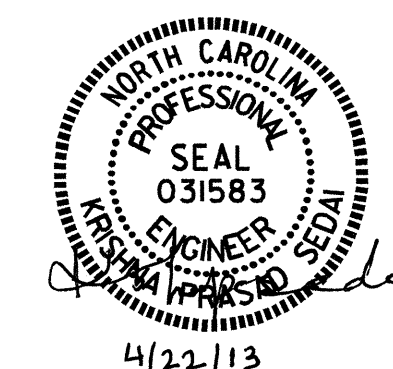
**VOID DRAIN DETAILS**

(DIMENSIONS SHOWN ARE TYPICAL FOR EACH VOID)

DEAD LOAD DEFLECTION AND CAMBER	
90' BOX BEAM UNIT (NC)	3'-0" x 2'-9" 0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	4 5/8" ↑
DEFLECTION DUE TO CONCRETE WEARING SURFACE	1/2" ↓
FINAL CAMBER	4 1/8" ↑

PROJECT NO. B-4679  
WILSON COUNTY  
 STATION: 12+53.00 -L-

SHEET 2 OF 2

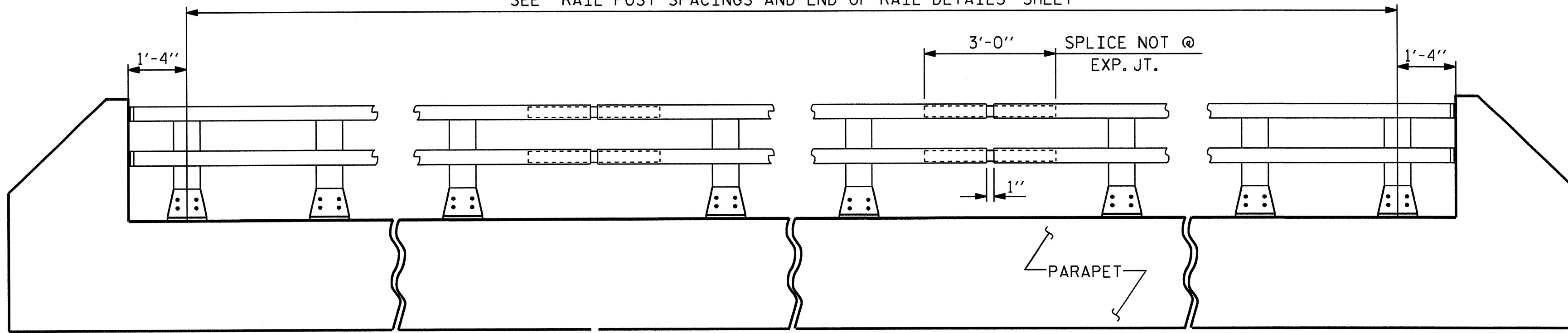


STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 3'-0" X 2'-9"  
 PRESTRESSED CONCRETE  
 BOX BEAM UNIT

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS 21
2			4			

ASSEMBLED BY : K. P. SEDAI DATE : 7/13/12  
 CHECKED BY : E. K. POPE DATE : 7/30/12  
 DRAWN BY : DGE 10/11  
 CHECKED BY : TMG 11/11

SEE "RAIL POST SPACINGS AND END OF RAIL DETAILS" SHEET



**ELEVATION**

NOTE : FOR ATTACHMENT OF METAL RAIL TO END POST, SEE STANDARD NO. BMR2.

**NOTES**

AT THE CONTRACTOR'S OPTION, METAL RAIL MAY BE EITHER ALUMINUM OR GALVANIZED STEEL IN ACCORDANCE WITH THE REQUIREMENTS OF THE GENERAL NOTES AND THE FOLLOWING SPECIFICATIONS FOR THE ALTERNATE MATERIALS; HOWEVER, THE CONTRACTOR WILL BE REQUIRED TO USE THE SAME RAIL MATERIAL ON ALL STRUCTURES ON THE PROJECT FOR WHICH METAL RAIL IS DESIGNATED.

**ALUMINUM RAILS**

MATERIAL FOR POSTS, BASES AND RAILS, EXPANSION BARS AND CLAMP BARS SHALL BE ASTM B-221 ALLOY 6061-T6. MATERIAL FOR RIVETS SHALL BE ASTM B316 ALLOY 6061-T6. RIVETS SHALL BE STANDARD BUTTON HEAD AND CONE POINT COLD DRIVEN AS PER DRAWING.

THE BASE OF RAIL POSTS, OR ANY OTHER ALUMINUM SURFACE IN CONTACT WITH CONCRETE SHALL BE THOROUGHLY COATED WITH AN ALUMINUM IMPREGNATED CAULKING COMPOUND OF APPROVED QUALITY.

MATERIAL FOR SHIMS TO BE ASTM B209 ALLOY 6061-T6.

**GALVANIZED STEEL RAILS**

MATERIAL AND GALVANIZING ARE TO CONFORM TO THE FOLLOWING SPECIFICATIONS:

POST, POST BASES, RAILS, EXPANSION BARS AND CLAMP BARS: AASHTO M270 GRADE 36 STRUCTURAL STEEL - GALVANIZED TO AASHTO M111.

RIVETS: RIVETS SHALL MEET THE REQUIREMENTS OF ASTM A502 FOR GRADE 1 RIVETS.

THE CUT ENDS OF GALVANIZED STEEL RAILING, AFTER GRINDING SMOOTH SHALL BE GIVEN TWO COATS OF ZINC RICH PAINT MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATION MIL-P-26915 USAF TYPE 1, OR OF FEDERAL SPECIFICATIONS TT-P-641.

SHIMS: SHIMS SHALL MEET THE REQUIREMENTS OF ASTM A570 FOR GRADE 33 OR A611 FOR GRADE C AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M111.

RAIL CAPS: RAIL CAPS SHALL MEET THE REQUIREMENTS OF ASTM A570 FOR GRADE 33 OR A611 FOR GRADE C AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M111.

**GENERAL NOTES**

RAILING SHALL BE CONTINUOUS FROM END POST TO END POST OF BRIDGE. EACH JOINT IN RAIL LENGTH SHALL BE SPLICED AS DETAILED. PANEL LENGTHS OF RAIL SHALL BE ATTACHED TO A MINIMUM OF THREE POSTS.

FOR END OF RAIL TO CLEAR FACE OF CONCRETE END POST DIMENSION, SEE STANDARD NO. BMR2.

CAP SCREWS SHALL BE ASTM F593 ALLOY 305 STAINLESS STEEL. WASHERS SHALL MEET THE REQUIREMENTS OF ASTM F844 EXCEPT THEY SHALL BE MADE FROM ALLOY 304 STAINLESS STEEL.

CERTIFIED MILL REPORTS ARE REQUIRED FOR RAILS AND POSTS. SHOP INSPECTION IS NOT REQUIRED.

METAL RAIL POSTS SHALL BE SET NORMAL TO CURB GRADE.

METHOD OF MEASUREMENT FOR METAL RAILS: FOR LENGTH OF METAL RAILS TO BE PAID FOR, SEE THE STANDARD SPECIFICATIONS.

CURVED RAIL USAGE: WHERE RAILS ARE TO BE USED ON BRIDGES ON HORIZONTAL AND/OR VERTICAL CURVATURE THE CONTRACTOR MAY, AT HIS OPTION, HAVE THE REQUIRED CURVATURE IN THE RAIL FORMED IN THE SHOP OR IN THE FIELD. IN EITHER EVENT, THE RAIL SHALL CONFORM WITHOUT BUCKLING OR KINKING TO THE REQUIRED CURVATURE IN A UNIFORM MANNER ACCEPTABLE TO THE ENGINEER.

TO INSURE FUTURE IDENTIFICATION OF THE FABRICATOR, A PERMANENT IDENTIFYING MARK SHALL BE PLACED ON EACH POST. THE METHOD OF MARKING AND LOCATION SHALL BE SUCH THAT IT DOES NOT DETRACT FROM THE APPEARANCE OF THE POST, BUT REMAINS VISIBLE AFTER RAIL PLACEMENT.

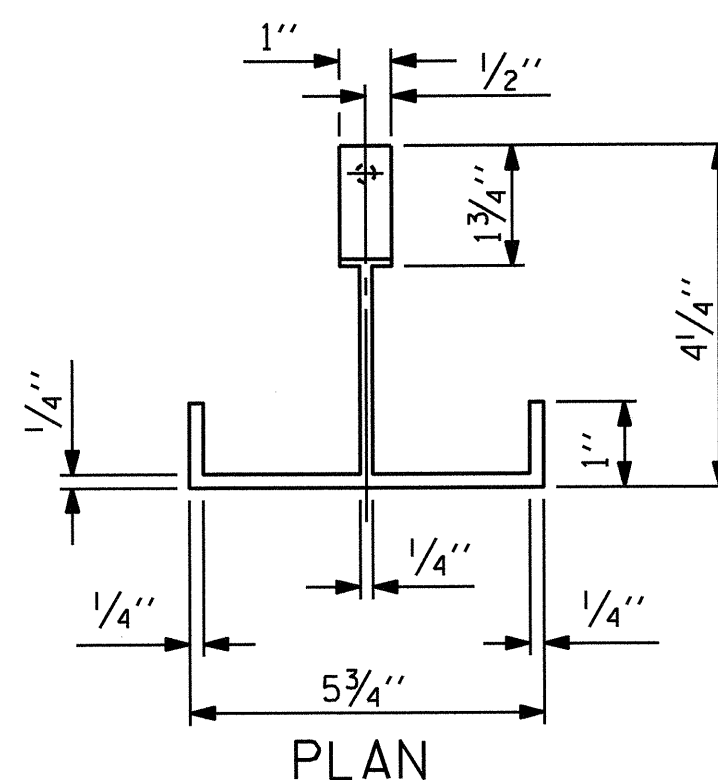
SHIMS SHALL BE USED AS NECESSARY FOR POST ALIGNMENT.

ALLOY 6351-T5 MAY BE SUBSTITUTED FOR ALLOY 6061-T6 WHERE APPLICABLE.

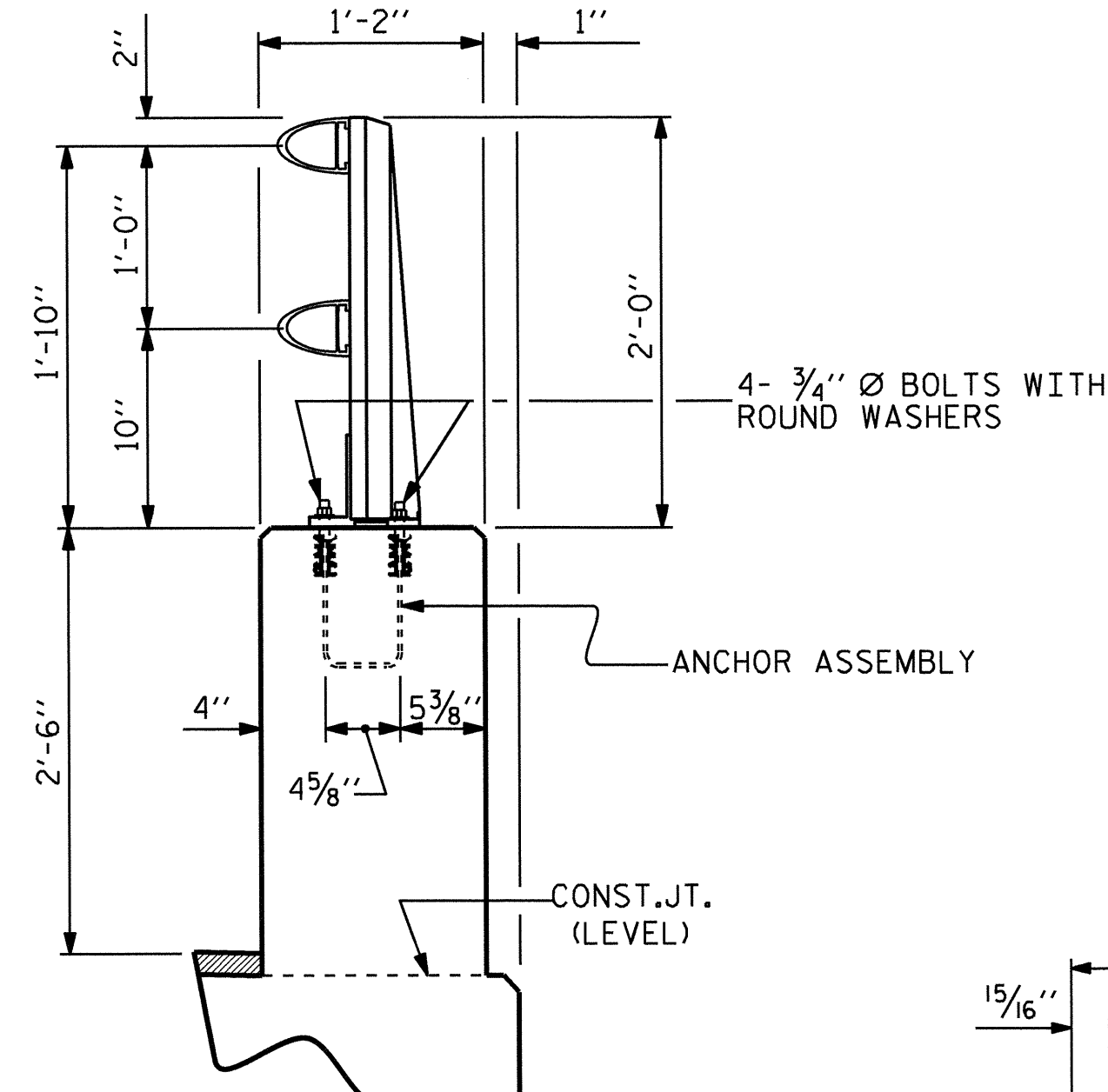
MINOR VARIATIONS IN DETAILS OF METAL RAIL WILL BE CONSIDERED. DETAILS OF SUCH VARIATIONS, IF DESIRED, SHALL BE SUBMITTED FOR APPROVAL.

GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE PARAPET AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN PARAPET EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF PARAPET SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

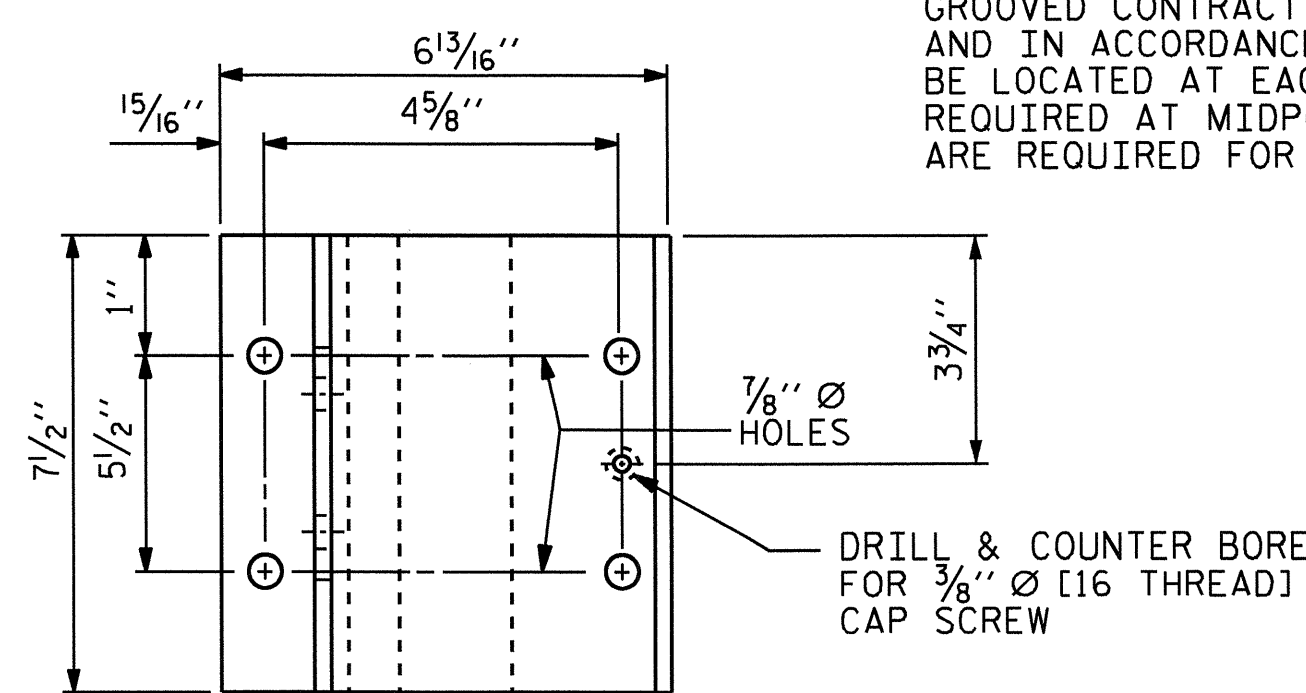
PAY LENGTH = 165.00 LIN. FT.



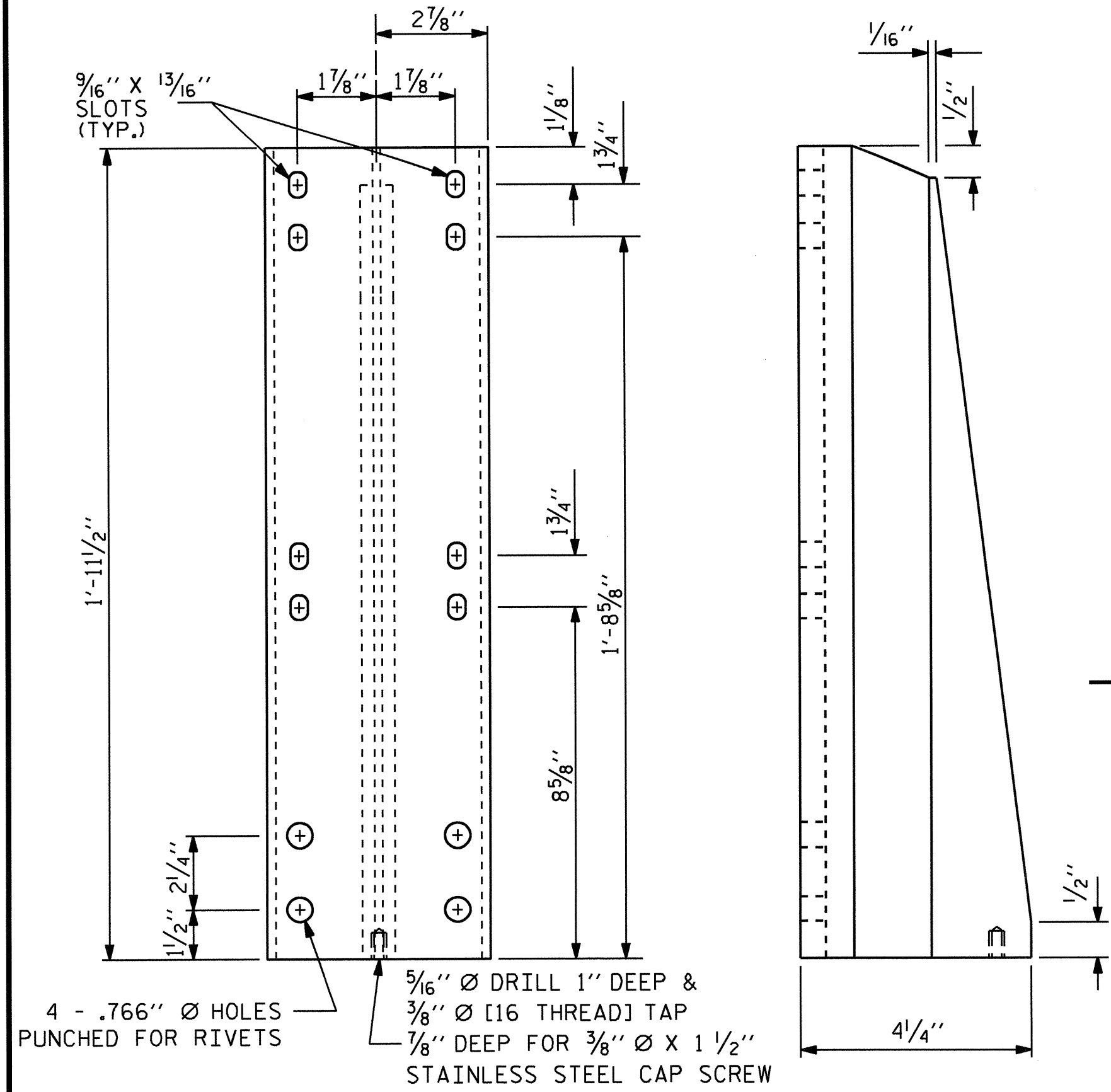
**PLAN**



**SECTION THRU PARAPET AND RAIL**



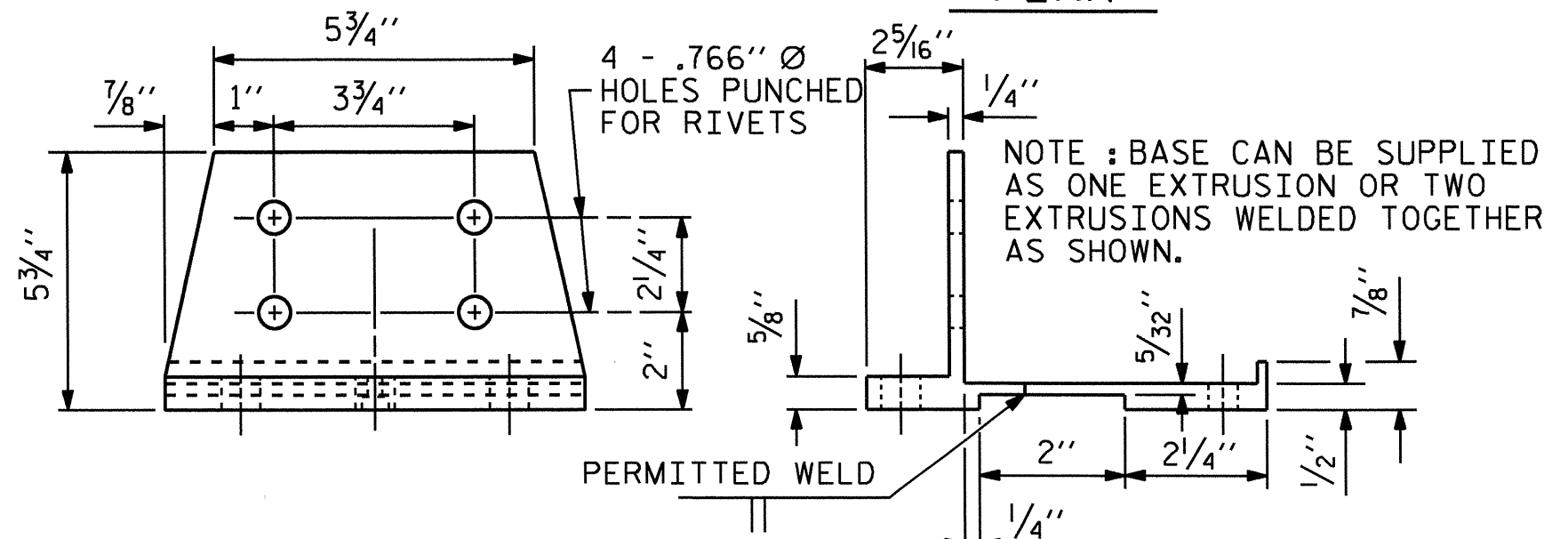
**PLAN**



**FRONT ELEVATION**

**SIDE ELEVATION**

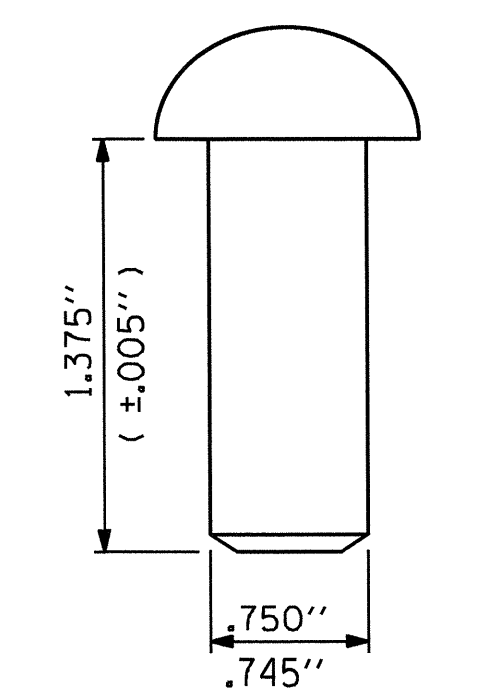
**DETAILS OF POST**



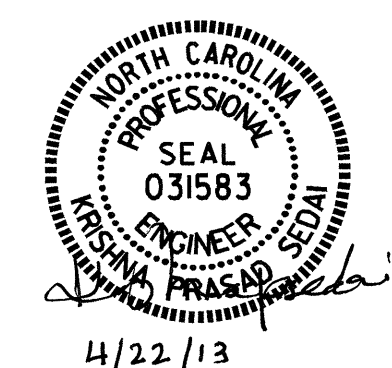
**FRONT ELEVATION**

**SIDE ELEVATION**

**POST BASE DETAILS**



**RIVET DETAIL**



PROJECT NO. B-4679  
WILSON COUNTY  
 STATION: 12+53.00 -L-

SHEET 1 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD					
2 BAR METAL RAIL					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S-10
					TOTAL SHEETS 21

ASSEMBLED BY : K. P. SEDA	DATE : 7/12/12
CHECKED BY : E. K. POPE	DATE : 7/30/12
DRAWN BY : EEM 6/94	REV. 5/7/03R RWW/JTE
CHECKED BY : RCW 6/94	REV. 5/1/06 TLA/GM
	REV. 10/1/11 MAA/GM

NOTES

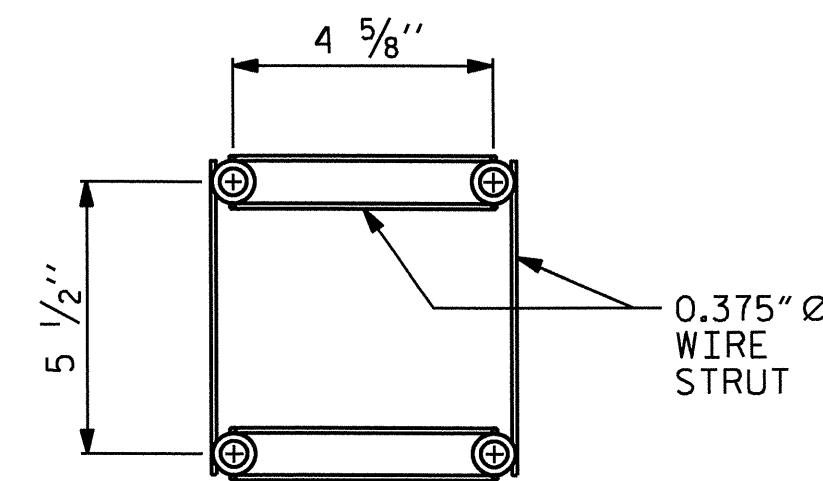
STRUCTURAL CONCRETE ANCHOR ASSEMBLY

THE STRUCTURAL CONCRETE ANCHOR ASSEMBLY SHALL CONSIST OF THE FOLLOWING COMPONENTS :

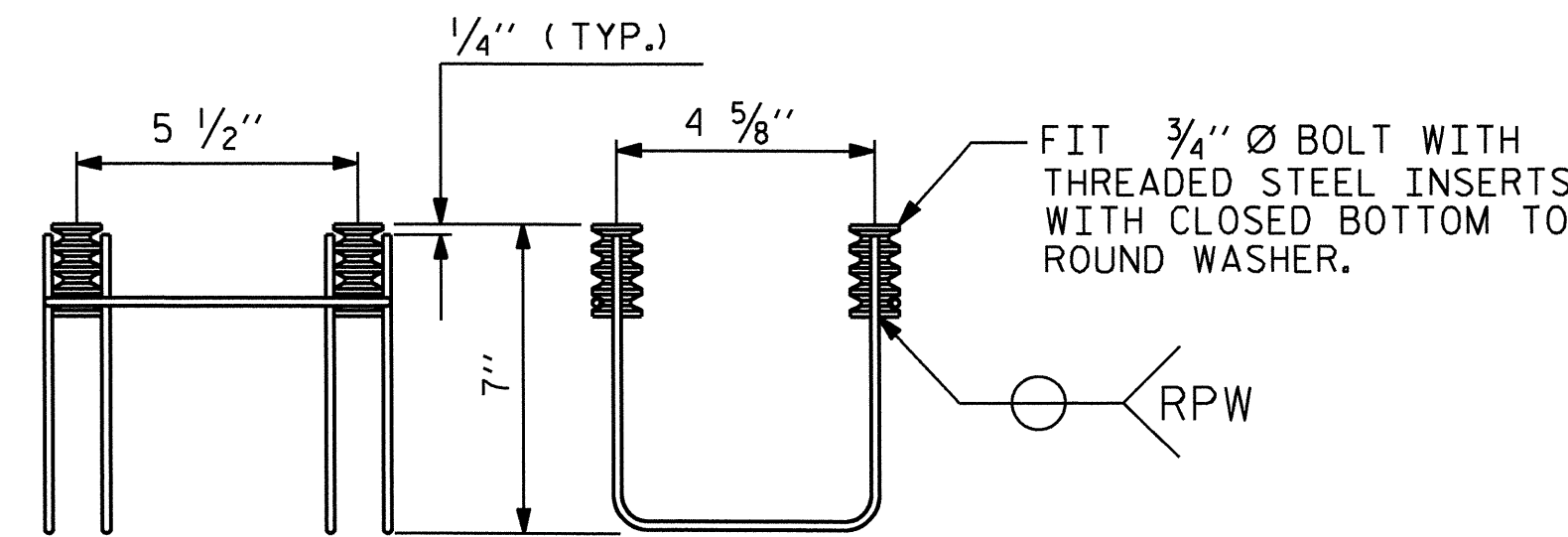
- A. FERRULES SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF AASHTO M169, GRADE 12L14 AND SHALL HAVE A MINIMUM LENGTH OF THREADS OF 2" FOR 3/4" FERRULES.
- B. 4 - 3/4" Ø X 2 1/2" BOLTS WITH WASHERS. BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. BOLTS AND WASHERS SHALL BE GALVANIZED. AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 3/4" Ø X 2 1/2" GALVANIZED BOLTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.
- C. WIRE STRUT SHOWN IN THE CONCRETE ANCHOR ASSEMBLY DETAIL IS THE MINIMUM ALLOWABLE SIZE AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 100,000 PSI. AS AN OPTION, A 1/16" Ø WIRE STRUT WITH A MINIMUM TENSILE STRENGTH OF 90,000 PSI IS ACCEPTABLE.
- D. THE METAL RAIL ANCHOR ASSEMBLIES TO BE HOT DIPPED GALVANIZED TO CONFORM TO REQUIREMENTS OF AASHTO M111.
- E. THE COST OF THE METAL RAIL ANCHOR ASSEMBLY WITH BOLTS AND WASHERS COMPLETE IN PLACE SHALL BE INCLUDED IN THE PRICE BID FOR LINEAR FEET OF METAL RAIL.
- F. BOLTS TO BE TIGHTENED ONE-HALF TURN WITH A WRENCH FROM A FINGER-TIGHT POSITION.

THE CONTRACTOR MAY USE ADHESIVELY ANCHORED ANCHOR BOLTS IN PLACE OF THE METAL RAIL ANCHOR ASSEMBLY. LEVEL ONE FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE 3/4" Ø BOLT IS 10 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE THE STANDARD SPECIFICATIONS.

WHEN ADHESIVELY ANCHORED ANCHOR BOLTS ARE USED, BOLTS SHALL MEET THE REQUIREMENTS OF ASTM F593 ALLOY 304 STAINLESS STEEL WITH MINIMUM 75,000 PSI ULTIMATE STRENGTH. NUTS SHALL MEET THE REQUIREMENTS OF ASTM F594 ALLOY 304 STAINLESS STEEL AND WASHERS SHALL MEET THE REQUIREMENTS OF ASTM F844 EXCEPT THEY SHALL BE MADE FROM ALLOY 304 STAINLESS STEEL.



PLAN

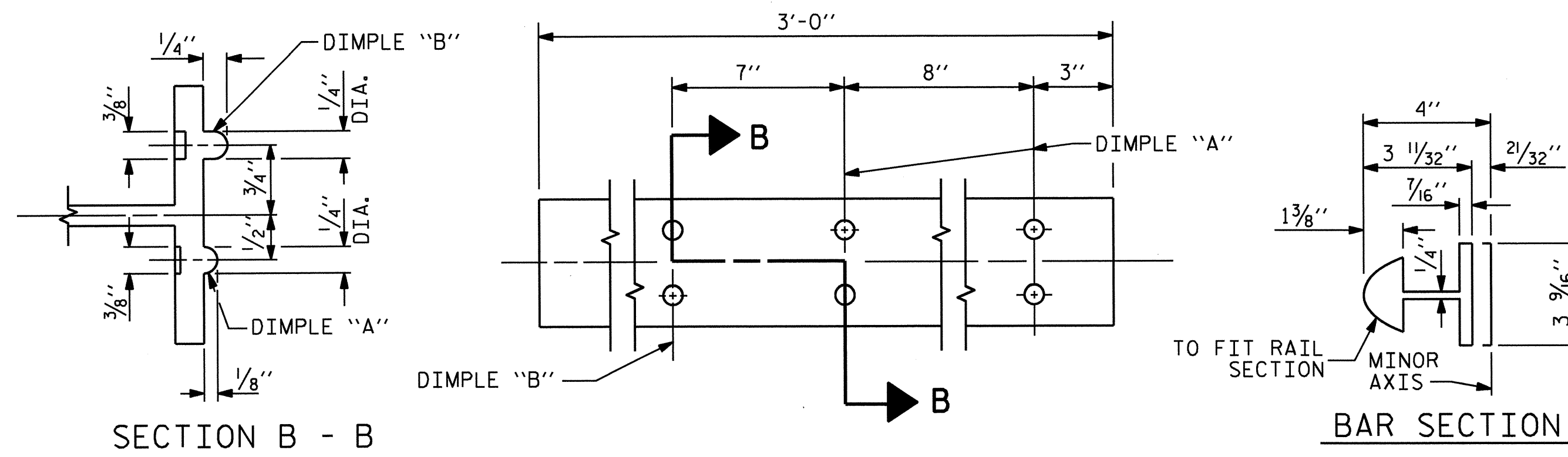


SIDE VIEW

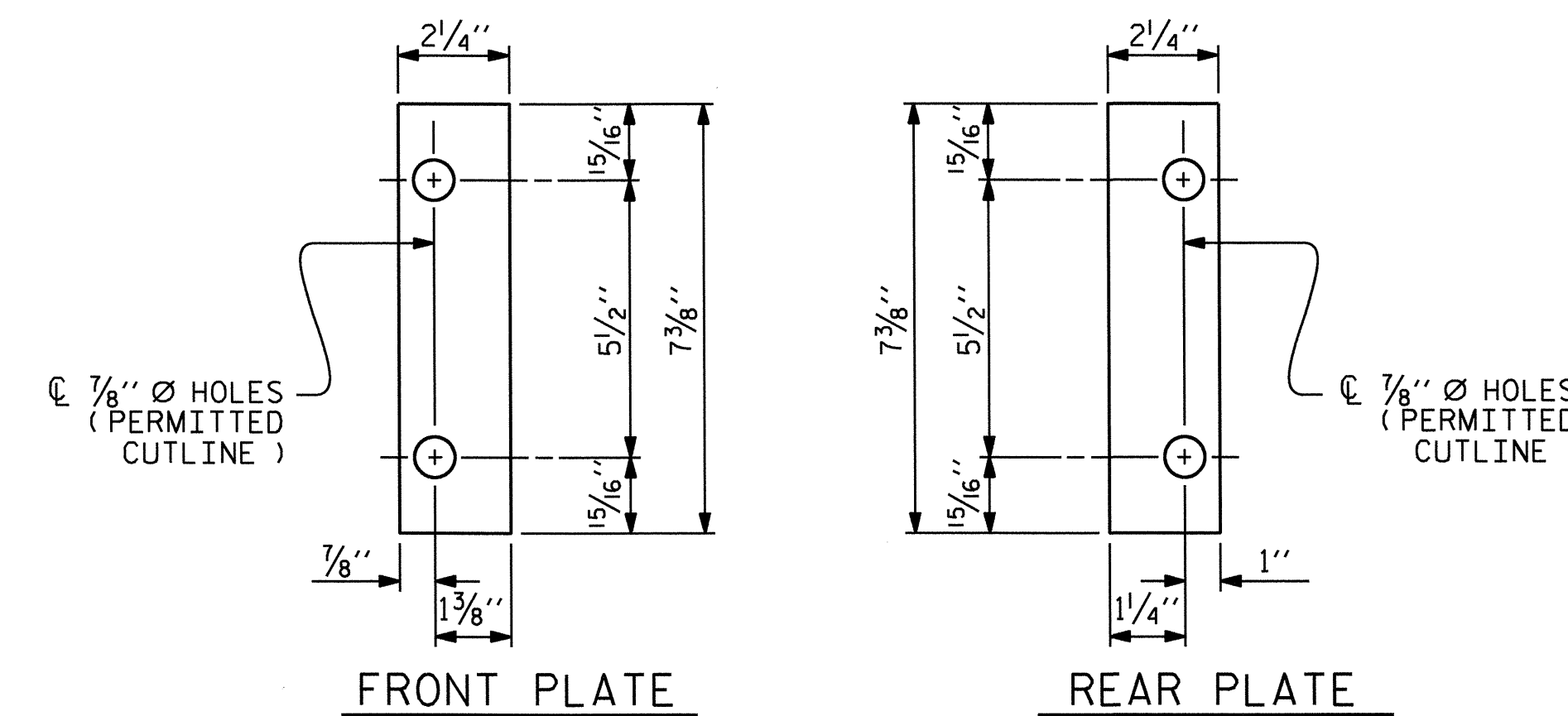
ELEVATION

4-BOLT METAL RAIL ANCHOR ASSEMBLY

( 32 ASSEMBLIES REQUIRED )

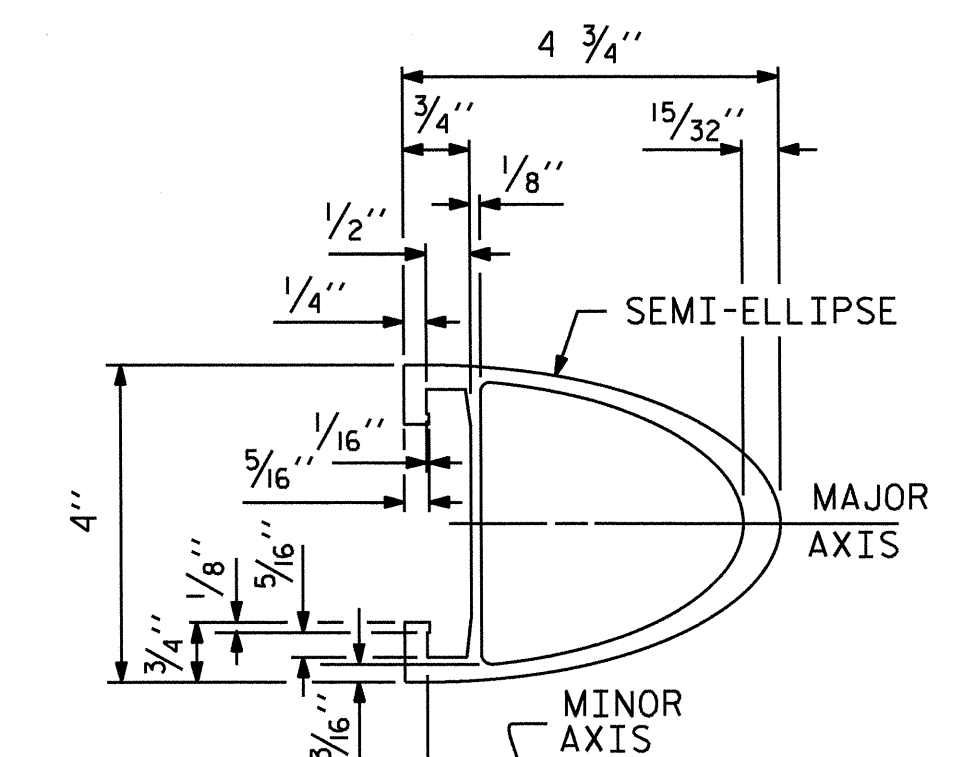


EXPANSION BAR DETAILS

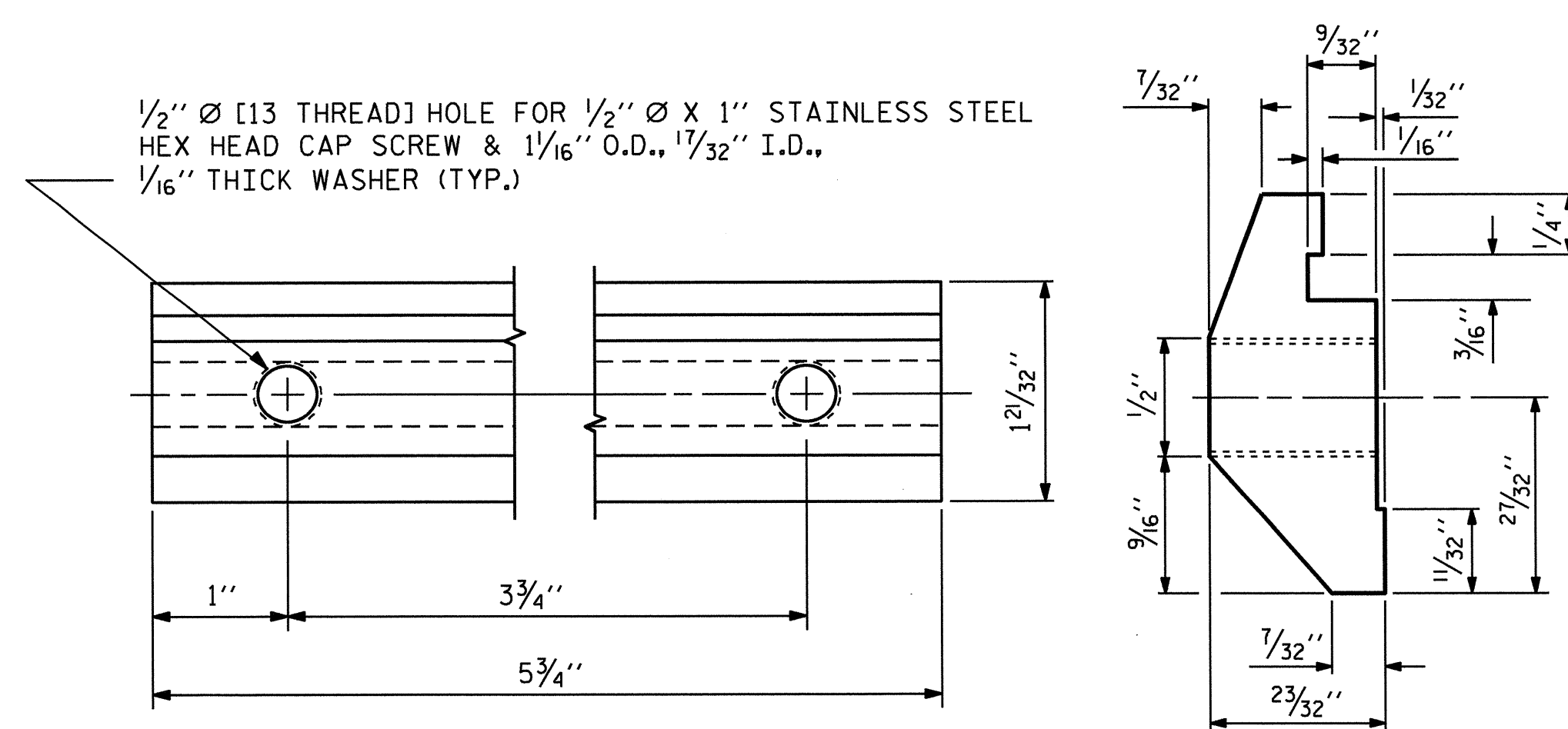


SHIM DETAILS

NOTE : SHIMS MAY BE CUT ALONG PERMITTED CUTLINE OR SLOTTED TO EDGE OF PLATE TO FACILITATE PLACEMENT.

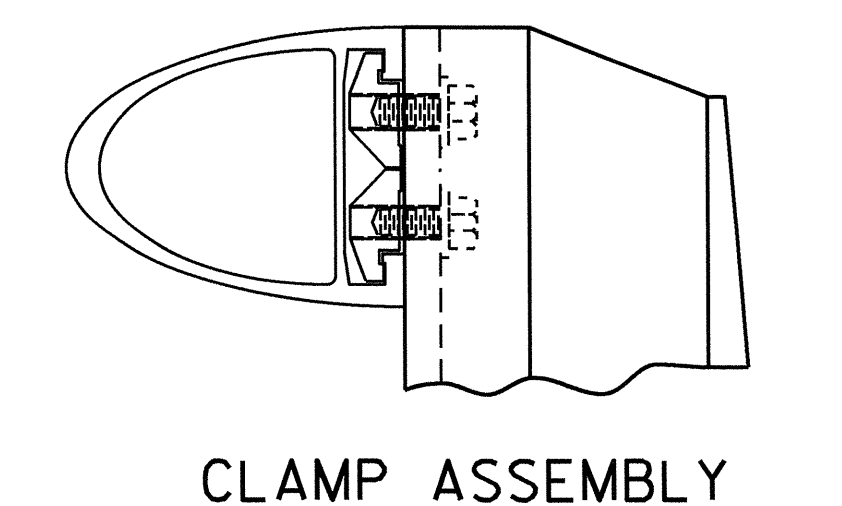


RAIL SECTION

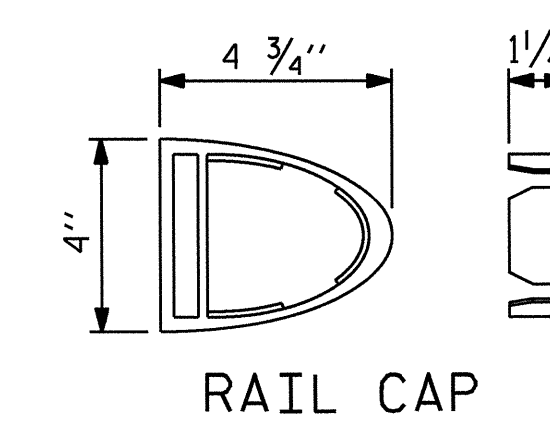


CLAMP BAR DETAIL

( 4 REQUIRED PER POST )



CLAMP ASSEMBLY

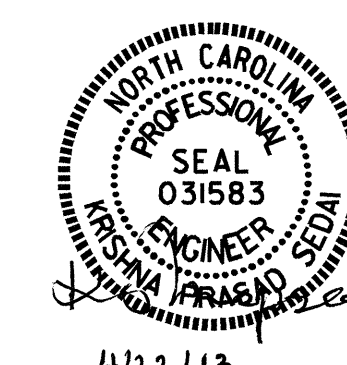


RAIL CAP

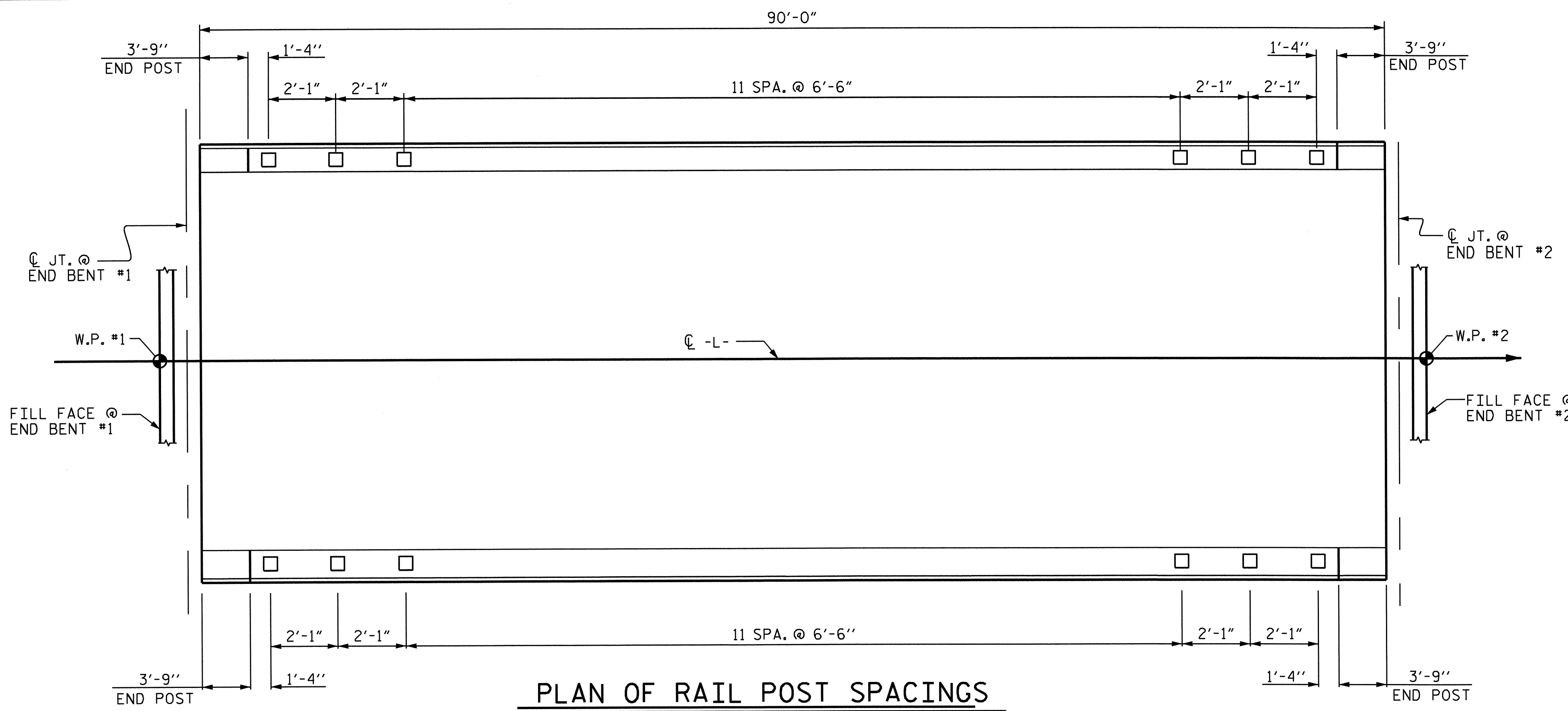
PROJECT NO. B-4679  
WILSON COUNTY  
STATION: 12+53.00 -L-

SHEET 2 OF 5

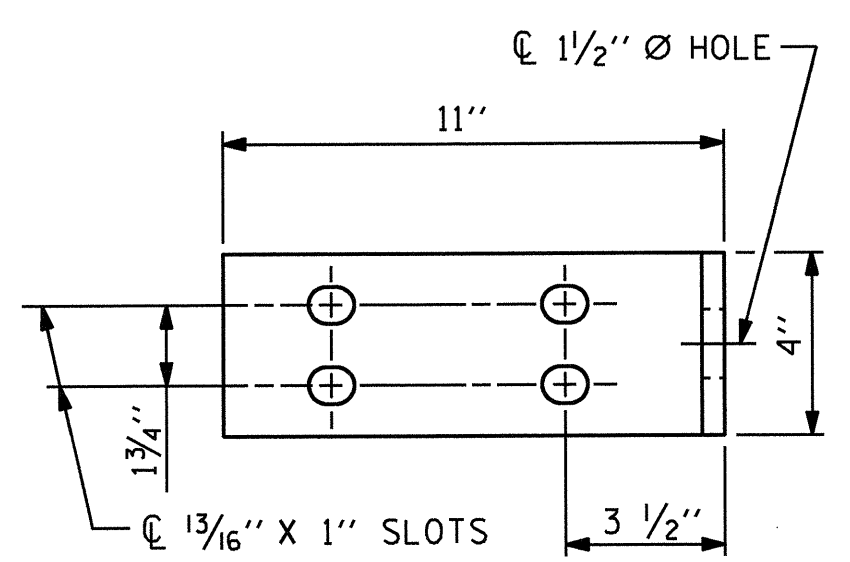
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD					
2 BAR METAL RAIL					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					S-11
TOTAL SHEETS					21



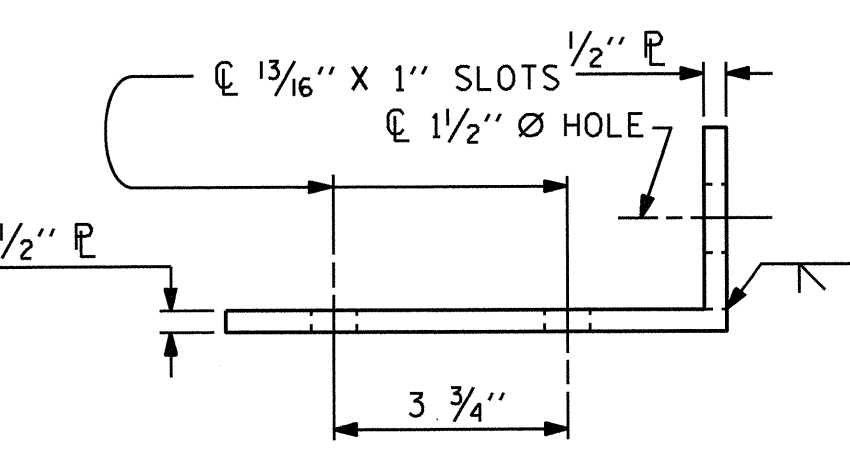
ASSEMBLED BY : K. P. SEDA	DATE : 7/12/12
CHECKED BY : E. K. POPE	DATE : 7/30/12
DRAWN BY : EEM 6/94	REV. 8/16/99 MAB/LES
CHECKED BY : RGW 6/94	REV. 5/1/06R KMM/GM
	REV. 10/1/11 MAA/GM



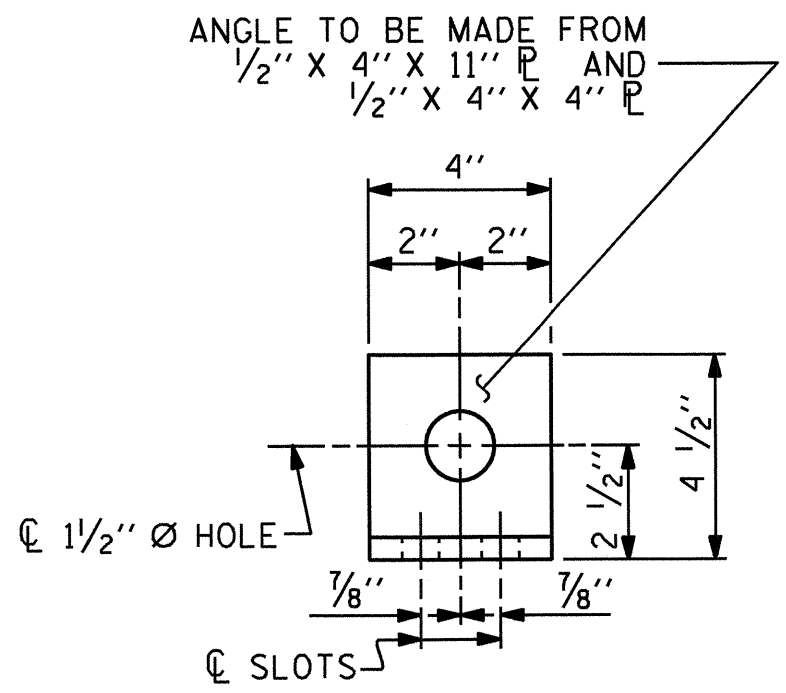
**PLAN OF RAIL POST SPACINGS**  
(32 POST AND ANCHOR ASSEMBLIES REQUIRED)



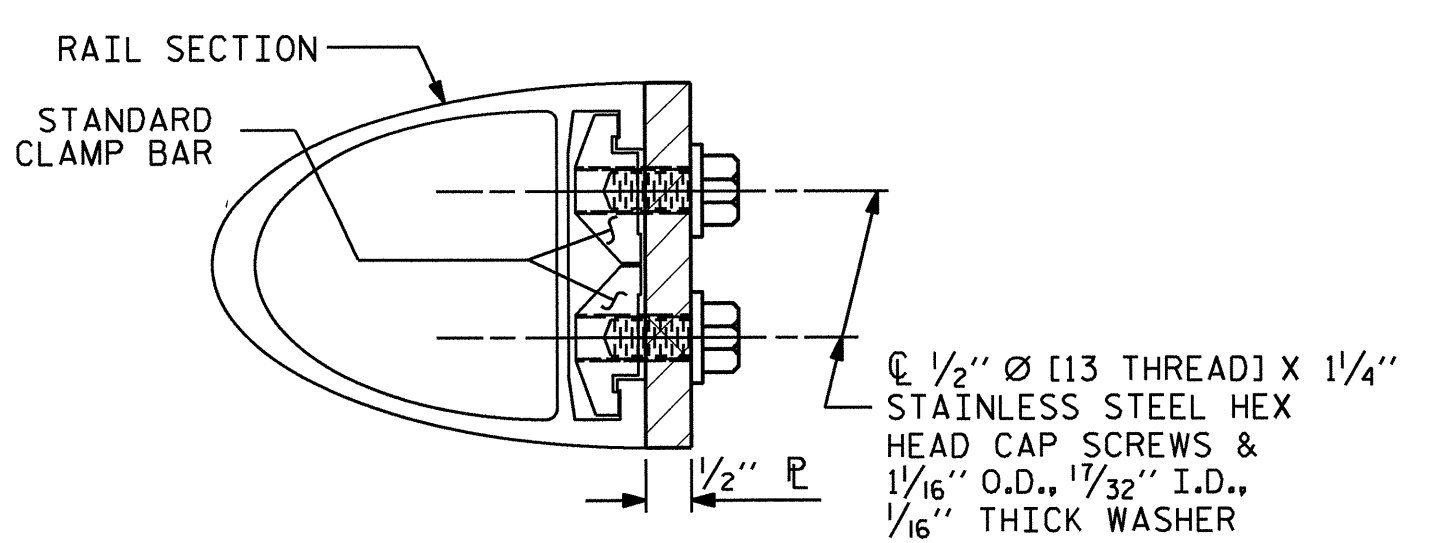
**ELEVATION**



**TOP VIEW**

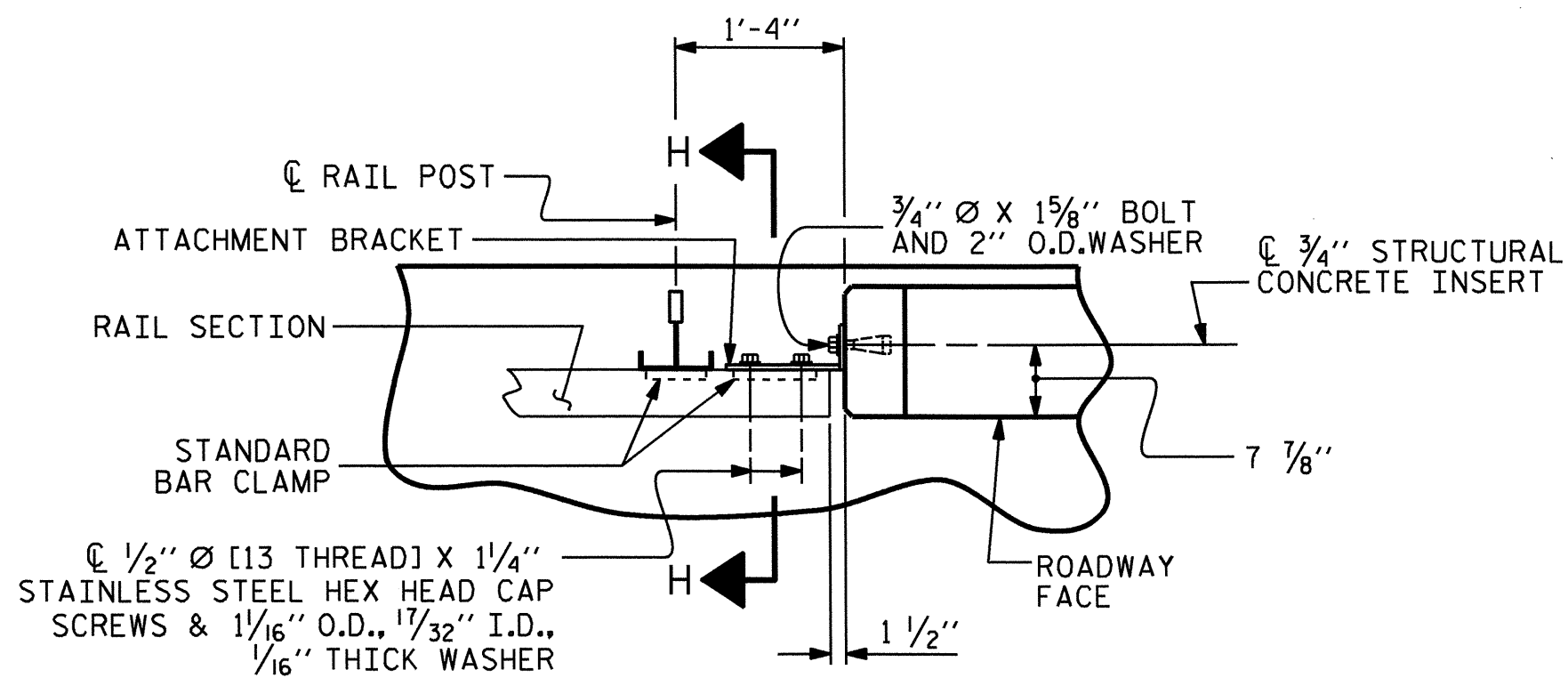


**END VIEW (FIX.)**



**SECTION H-H (FIX.)**

**FIXED**



**PLAN - RAIL AND END POST**

**NOTES**

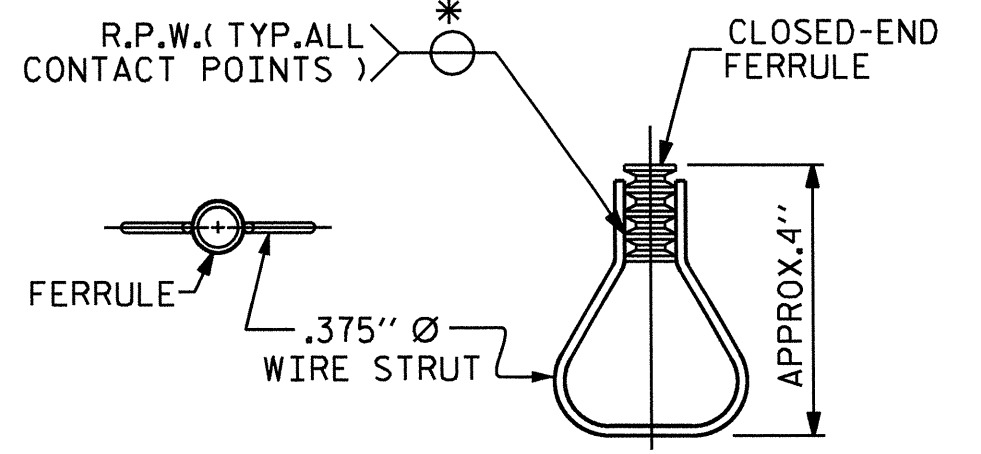
**STRUCTURAL CONCRETE INSERT**

- THE STRUCTURAL CONCRETE INSERT ASSEMBLY SHALL CONSIST OF THE FOLLOWING COMPONENTS:
- A. FERRULES SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF AASHTO M169, GRADE 12L14 AND SHALL HAVE A MINIMUM LENGTH OF THREADS OF 1/2".
  - B. 1 - 3/4" Ø X 1 5/8" BOLT WITH WASHER. BOLT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. BOLT AND WASHER SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLT AND WASHER MAY BE USED AS AN ALTERNATE FOR THE 3/4" Ø X 1 5/8" GALVANIZED BOLT AND WASHER. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)
  - C. WIRE STRUT SHOWN IN THE CONCRETE INSERT ASSEMBLY DETAIL IS THE MINIMUM ALLOWABLE SIZE AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 100,000 PSI. AS AN OPTION, A 1/16" Ø WIRE STRUT WITH A MINIMUM TENSILE STRENGTH OF 90,000 PSI IS ACCEPTABLE.

**NOTES**

**METAL RAIL TO END POST CONNECTION**

- THE METAL RAIL TO END POST CONNECTION SHALL CONSIST OF THE FOLLOWING COMPONENTS:
- A. 1/2" PLATES SHALL CONFORM TO AASHTO M270 GRADE 36 AND SHALL BE GALVANIZED AFTER FABRICATION.
  - B. 3/4" STRUCTURAL CONCRETE INSERT SHALL HAVE A WORKING LOAD SHEAR CAPACITY OF 4800 LBS. THE FERRULES SHALL ENGAGE A 3/4" Ø X 1 5/8" BOLT WITH 2" O.D. WASHER IN PLACE. THE 3/4" Ø X 1 5/8" BOLT SHALL HAVE N. C. THREADS.
  - C. CAP SCREWS FOR RAIL ATTACHMENT TO ANGLE SHALL CONFORM TO THE REQUIREMENTS OF ASTM F593 ALLOY 305 STAINLESS STEEL. CAP SCREWS TO BE CENTERED IN SLOTS AT 60°F.
  - D. STANDARD CLAMP BARS (SEE METAL RAIL SHEET).
  - E. 1/2" Ø PIPE SLEEVES (IF REQUIRED) TO BE GALVANIZED.
- THE COST OF THE STANDARD CLAMP BARS AND CAP SCREWS USED IN THE METAL RAIL TO END POST CONNECTION SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR LINEAR FEET OF 2 BAR METAL RAIL.
- THE 3/4" STRUCTURAL CONCRETE INSERT WITH BOLT SHALL BE ASSEMBLED IN THE SHOP.
- THE COST OF THE 3/4" STRUCTURAL CONCRETE INSERT ASSEMBLY, AND THE 1/2" PLATES COMPLETE IN PLACE SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.
- THE CONTRACTOR, AT HIS OPTION, MAY USE AN ADHESIVE BONDING SYSTEM IN LIEU OF THE STRUCTURAL CONCRETE INSERT EMBEDDED IN THE END POST. IF THE ADHESIVE BONDING SYSTEM IS USED, THE 3/4" Ø X 1 5/8" BOLT WITH WASHER SHALL BE REPLACED WITH A 3/4" Ø X 6 1/2" BOLT AND 2" O.D. WASHER. ALL SPECIFICATIONS THAT APPLY TO THE 3/4" Ø X 1 5/8" BOLT SHALL APPLY TO THE 3/4" Ø X 6 1/2" BOLT. FIELD TESTING OF THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.



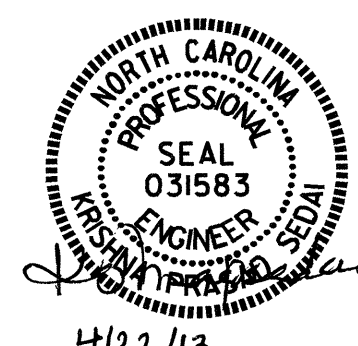
**PLAN ELEVATION**  
**STRUCTURAL CONCRETE INSERT**

\* EACH WELDED ATTACHMENT OF WIRE TO FERRULE SHALL DEVELOP THE TENSILE STRENGTH OF THE WIRE.

PROJECT NO. B-4679  
WILSON COUNTY  
STATION: 12+53.00 -L-

SHEET 3 OF 5

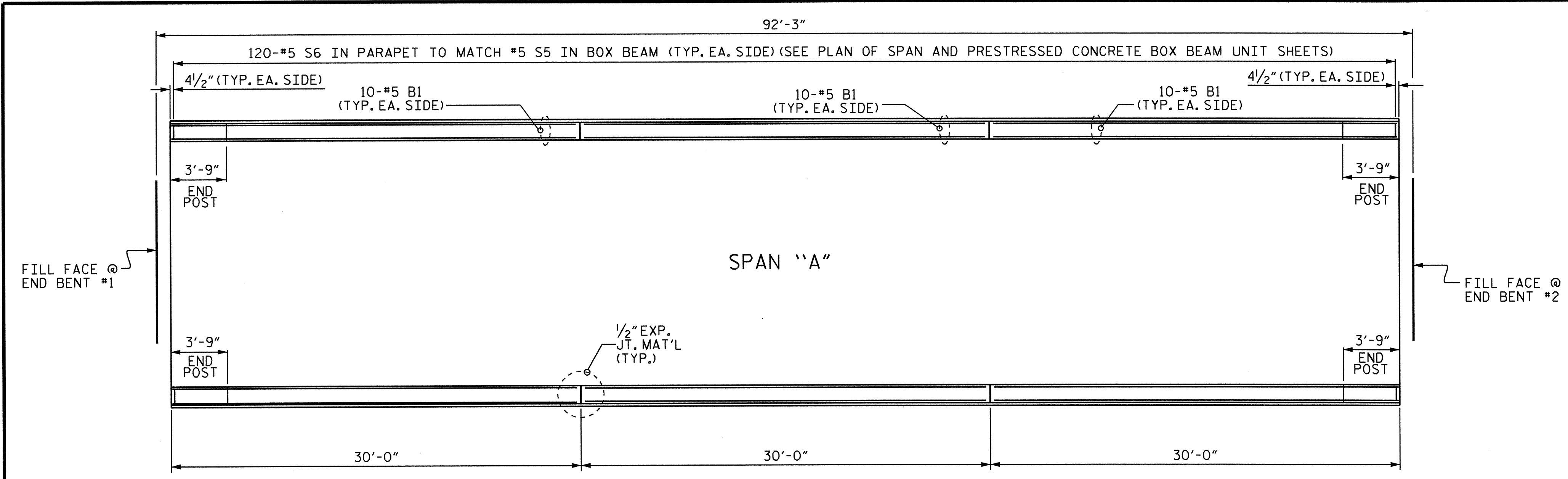
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
STANDARD  
RAIL POST SPACINGS  
AND  
END OF RAIL DETAILS  
FOR TWO BAR METAL RAIL



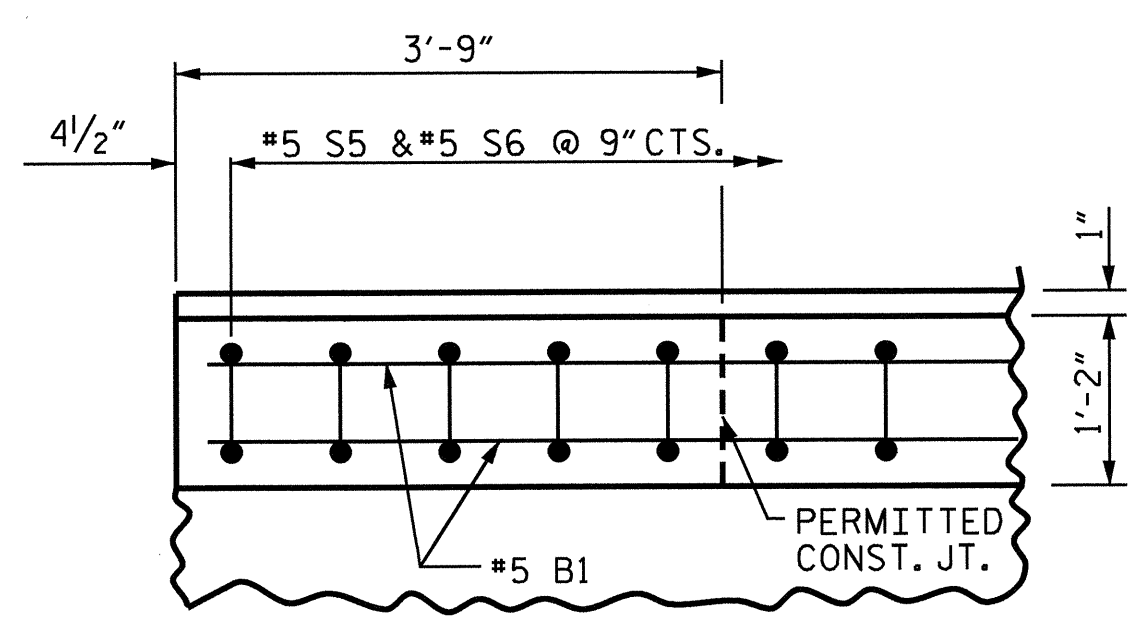
ASSEMBLED BY : K. P. SEDAI	DATE : 7/12/12
CHECKED BY : E. K. POPE	DATE : 7/30/12
DESIGN ENGINEER OF RECORD : K. P. SEDAI	DATE : 8/9/12
DRAWN BY : FCJ 1/88	REV. 5/7/03 RWW/JTE
CHECKED BY : CRK 3/89	REV. 5/1/06 TLA/GM
	REV. 10/1/11 MAA/GM

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			5-12
2			4			21

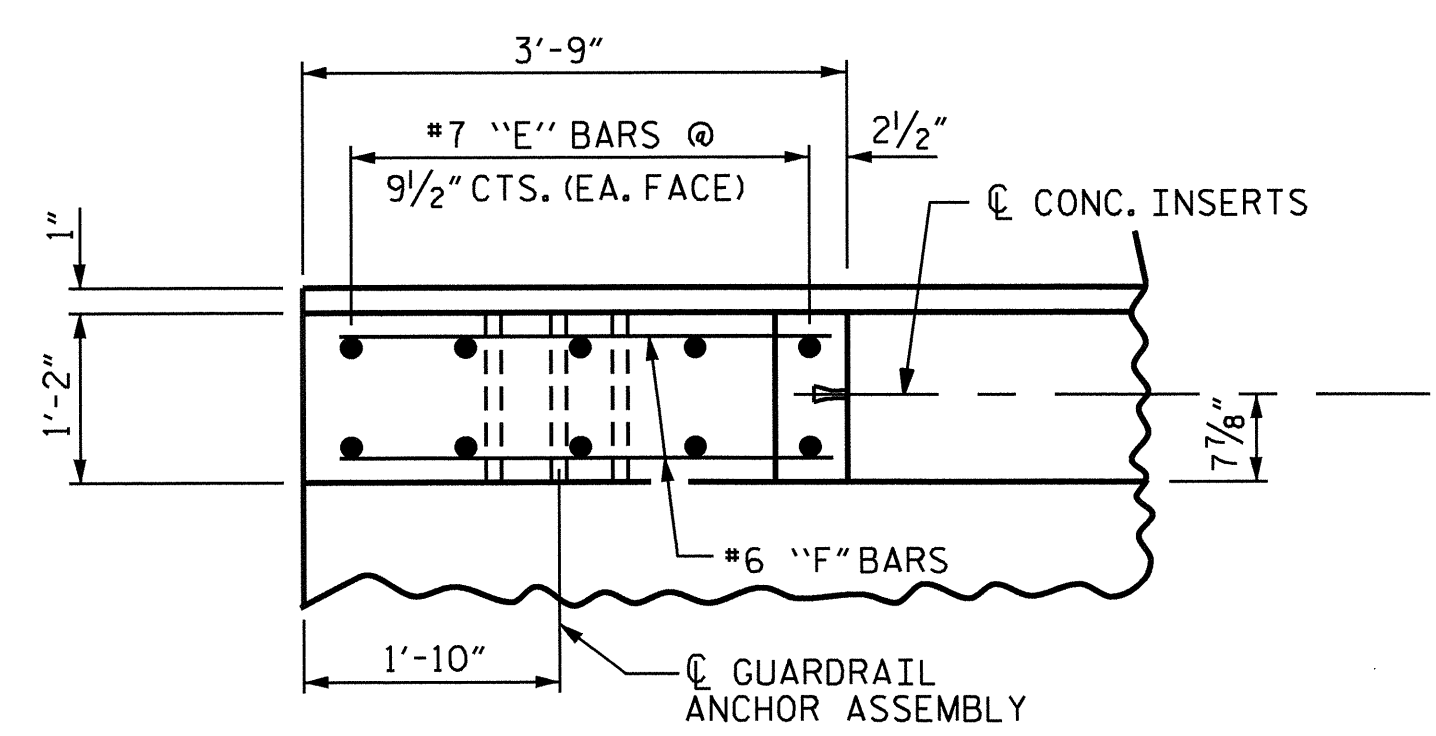
BILL OF MATERIAL FOR CONCRETE PARAPET AND END POSTS					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B1	60	#5	STR	29'-7"	1851
* E1	8	#7	STR	3'-0"	49
* E2	8	#7	STR	3'-6"	57
* E3	8	#7	STR	4'-0"	65
* E4	8	#7	STR	4'-6"	74
* E5	8	#7	STR	4'-11"	80
* F1	8	#6	STR	1'-10"	22
* F2	8	#6	STR	3'-0"	36
* F3	8	#6	STR	3'-11"	47
* S6	240	#5	1	6'-7"	1648
* EPOXY COATED REINFORCING STEEL (LBS.)				3929 LBS.	
CLASS AA CONCRETE C.Y.				23.7 CU.YDS.	
TOTAL LENGTH OF 1'-2" x 3'-1/8" CONCRETE PARAPET 180.00 LIN. FT.					
BAR TYPES					
ALL BAR DIMENSIONS ARE OUT TO OUT					



PLAN OF PARAPET

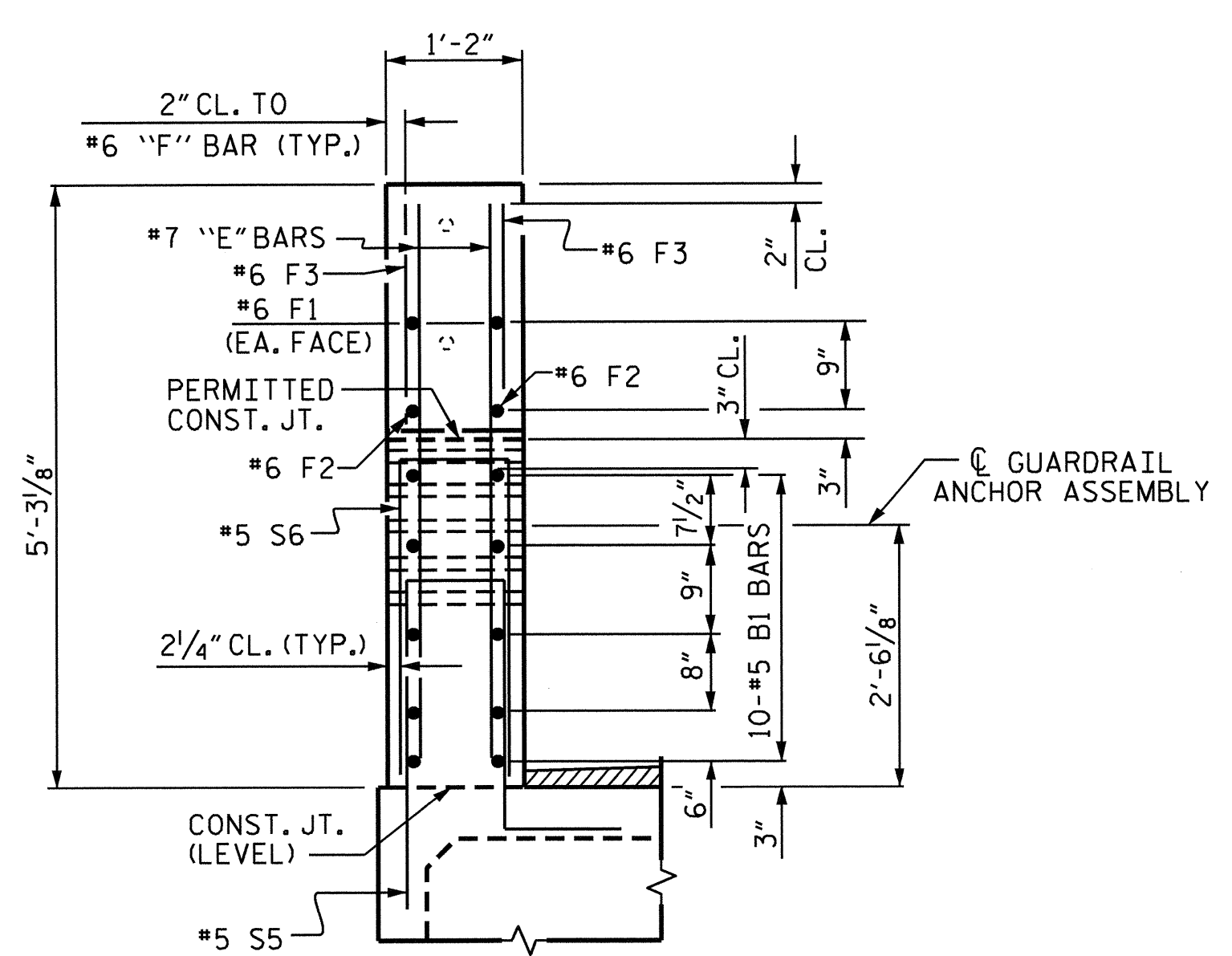


PLAN OF PARAPET

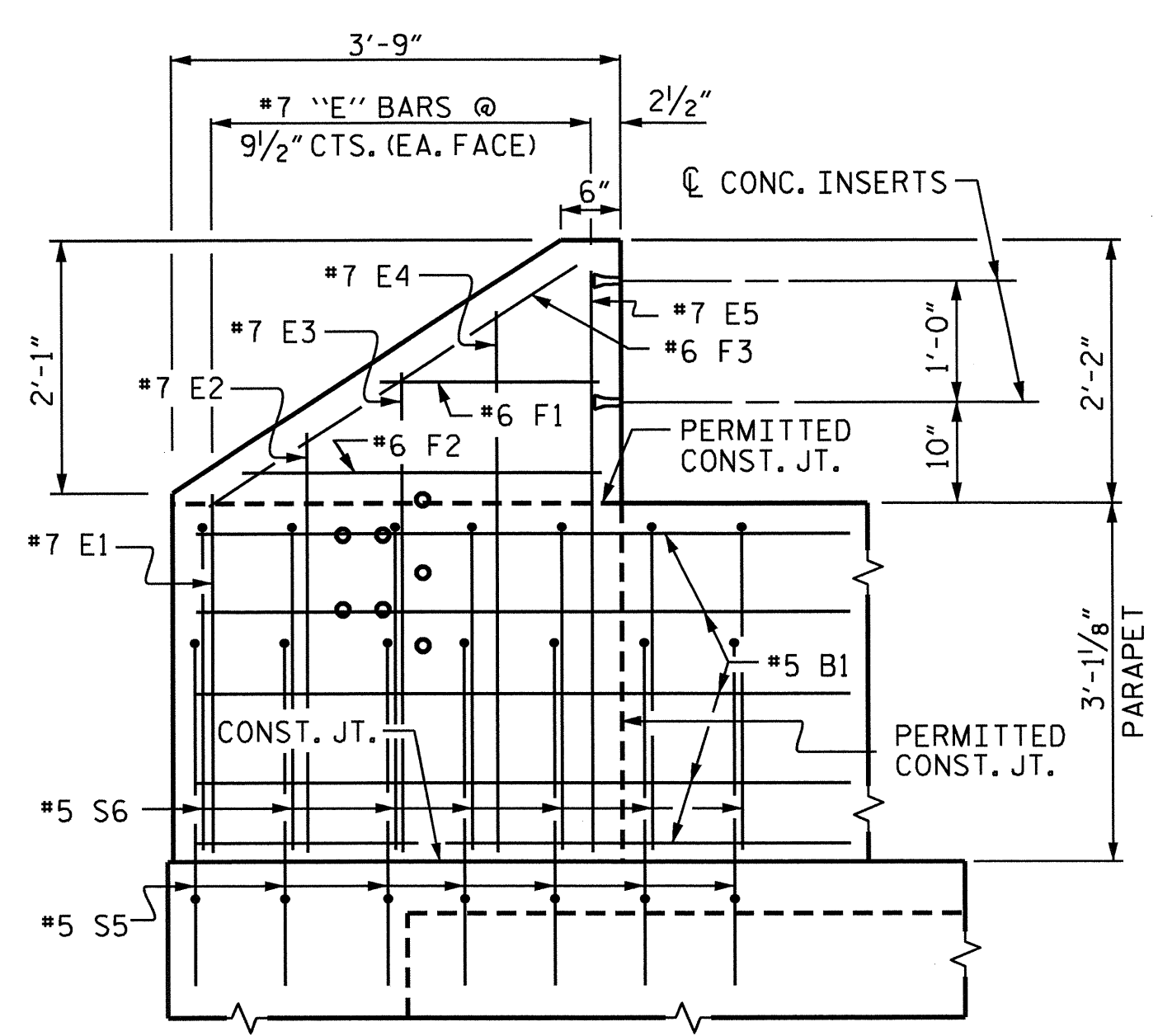


PLAN OF END POST

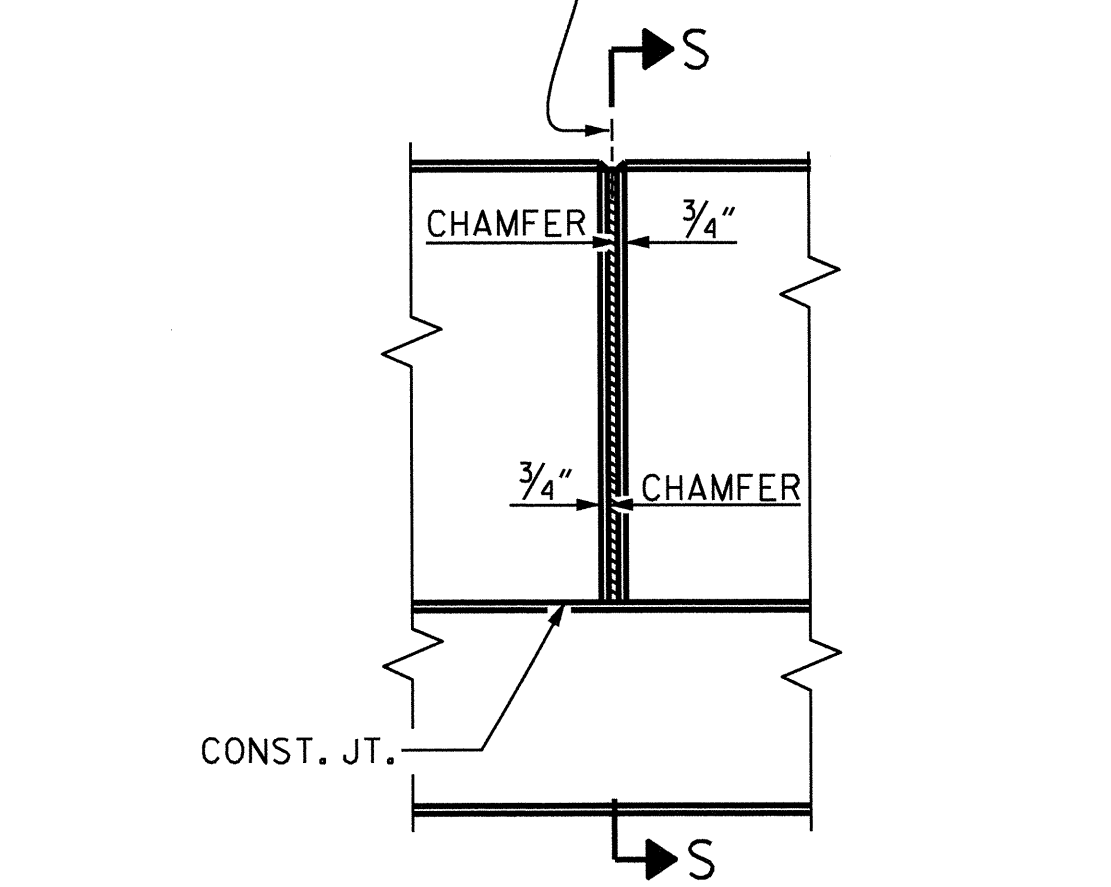
1/2" EXP. JT. MAT'L HELD IN PLACE WITH GALVANIZED NAILS. (NOTE: OMIT EXP. JT. MAT'L. WHEN SLIP FORM IS USED.)



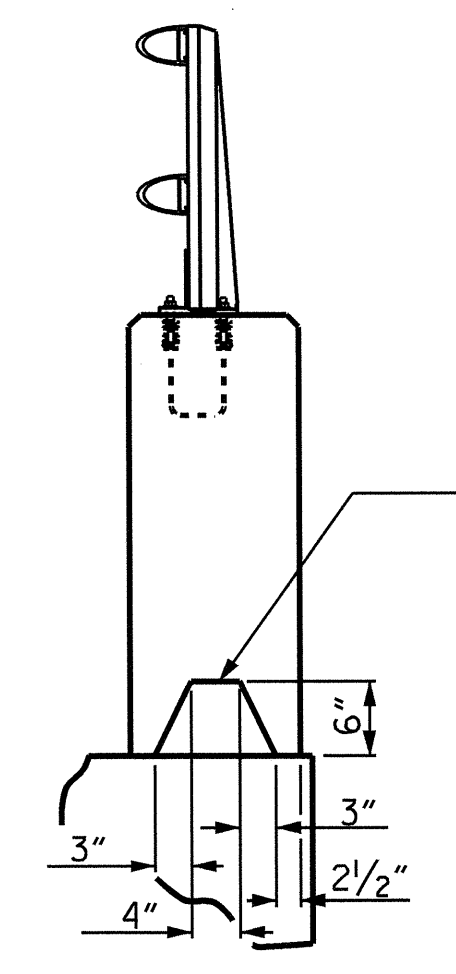
END VIEW



ELEVATION



ELEVATION AT EXPANSION JOINTS



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

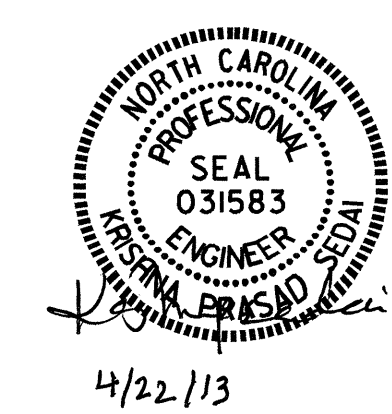
SECTION S-S

PARAPET DETAILS

PARAPET AND END POST FOR TWO BAR RAIL

DESIGN ENGINEER OF RECORD: K. P. SEDA1 DATE: 8/9/12  
 DRAWN BY: K. P. SEDA1 DATE: 7/12/12  
 CHECKED BY: E. K. POPE DATE: 7/30/12

22-APR-2013 12:49 R:\Structures\Plans\Final Plans\B4679\_sd\_plans\_01.dgn tcoggins



PROJECT NO. B-4679  
 WILSON COUNTY  
 STATION: 12+53.00 -L-

SHEET 4 OF 5

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SUPERSTRUCTURE  
 CONCRETE PARAPET  
 AND END POST  
 DETAILS

REVISIONS						TOTAL SHEETS
NO.	BY:	DATE:	NO.	BY:	DATE:	21
1			3			
2			4			

SHEET NO. S-13

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 7 - 1/8" Ø BOLTS WITH NUTS AND WASHERS.

THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 1/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.

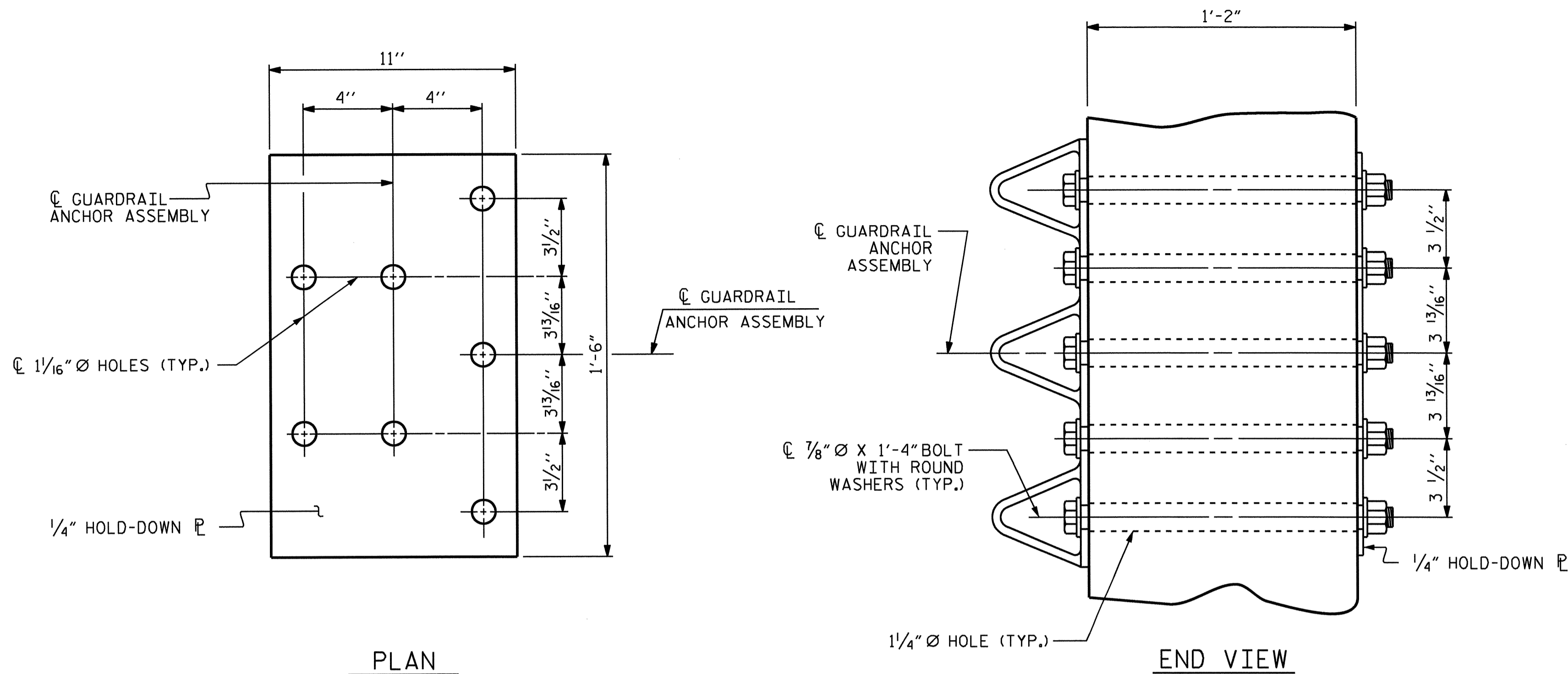
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF THE PARAPET. FOR POINTS OF ATTACHMENT, SEE SKETCH.

AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

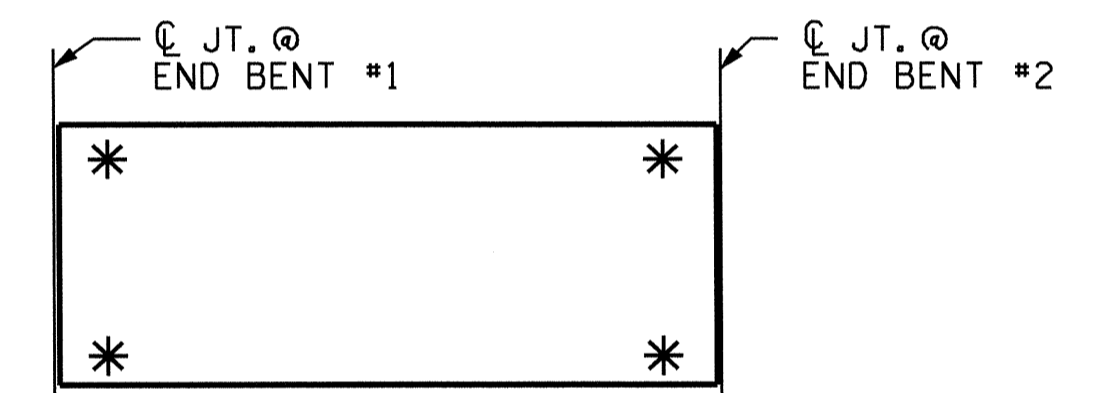
THE COST OF THE GUARDRAIL ANCHOR ASSEMBLIES WITH BOLTS, NUTS AND WASHERS COMPLETE IN PLACE, SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.

THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE END POST TO CLEAR ASSEMBLY BOLTS.

THE 1 1/4" Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

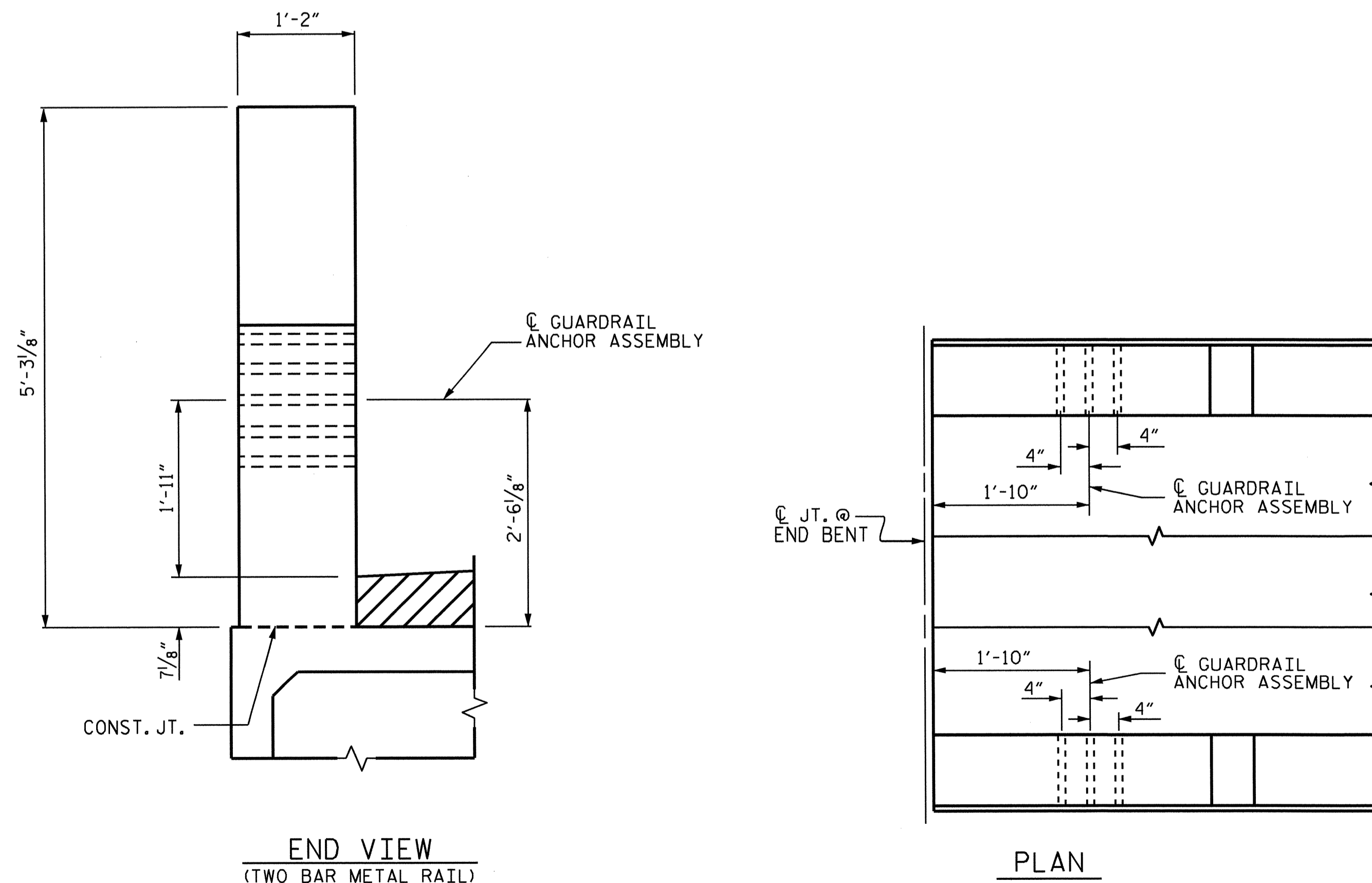


GUARDRAIL ANCHOR ASSEMBLY DETAILS



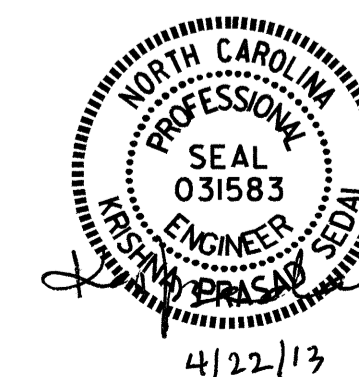
SKETCH SHOWING POINTS OF ATTACHMENT

\* LOCATION OF GUARDRAIL ATTACHMENT



LOCATION OF GUARDRAIL ANCHOR AT END POST

ASSEMBLED BY : K. P. SEDAI	DATE : 7/12/12
CHECKED BY : E. K. POPE	DATE : 7/30/12
DRAWN BY : MAA 5/10	ADDED 5/6/10
CHECKED BY : GM 5/10	REV. 10/1/11
	REV. 12/5/11



PROJECT NO. B-4679  
WILSON COUNTY  
 STATION: 12+53.00 -L-

SHEET 5 OF 5

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 GUARDRAIL ANCHORAGE  
 DETAILS  
 FOR METAL RAILS

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-14	
1			3			TOTAL SHEETS	21
2			4				

(SHT 4) STD. NO. GRA3



NOTES

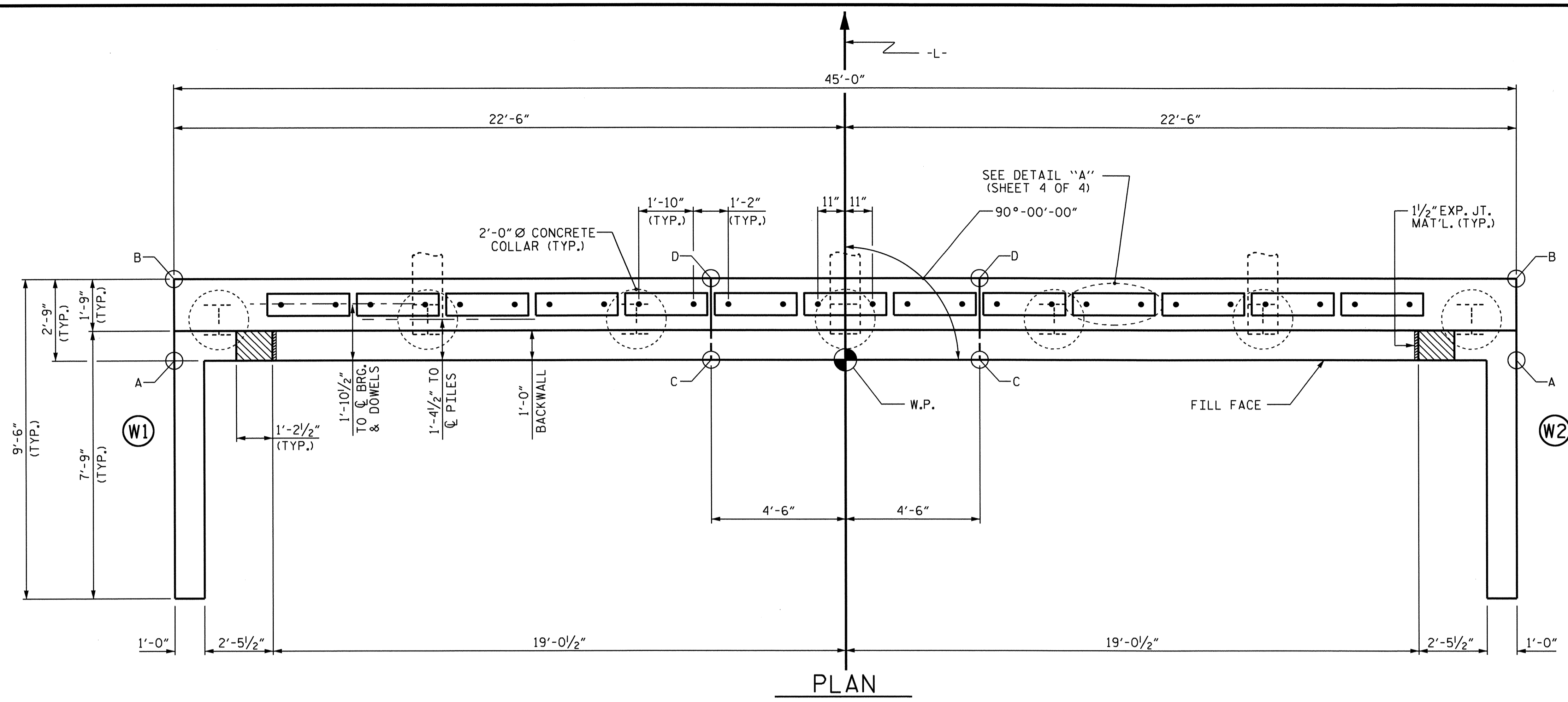
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.

THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE JOINT BETWEEN THE DECK AND APPROACH SLAB HAS BEEN SAWED AND THE PARAPET FOR 2 BAR METAL RAIL IS CAST IF SLIP FORMING IS USED.

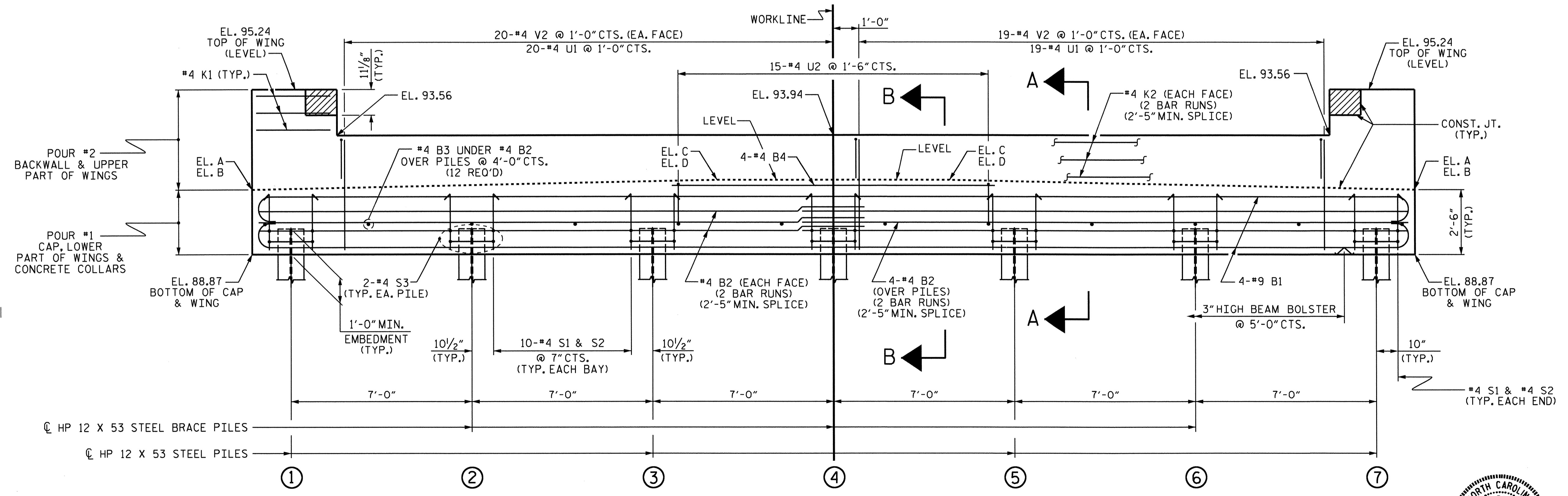
FOR PILE SPLICE DETAILS, SEE SHEET 4 OF 4.

FOR WING DETAILS, SEE SHEET 3 OF 4.

	TOP OF CAP ELEVATIONS
A	91.37
B	91.42
C	91.73
D	91.78



PLAN



ELEVATION

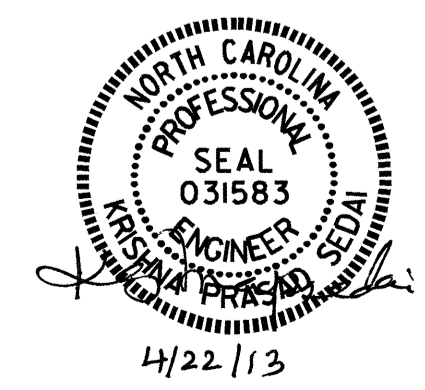
WINGS NOT SHOWN FOR CLARITY.  
 FOR SECTION A-A AND B-B, SEE SHEET 4 OF 4.  
 CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN ELEVATION VIEW FOR CLARITY.  
 SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 4 OF 4.

PROJECT NO. B-4679  
WILSON COUNTY  
 STATION: 12+53.00 -L-

SHEET 1 OF 4

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SUBSTRUCTURE  
 END BENT No. 1



ASSEMBLED BY : K. P. SEDA DATE : 7/16/12  
 CHECKED BY : E. K. POPE DATE : 7/30/12  
 DESIGN ENGINEER OF RECORD:  
 K. P. SEDA DATE : 8/9/12  
 DRAWN BY : WJH 12/11  
 CHECKED BY : AAC 12/11

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-15
1			3			TOTAL SHEETS 21
2			4			

NOTES

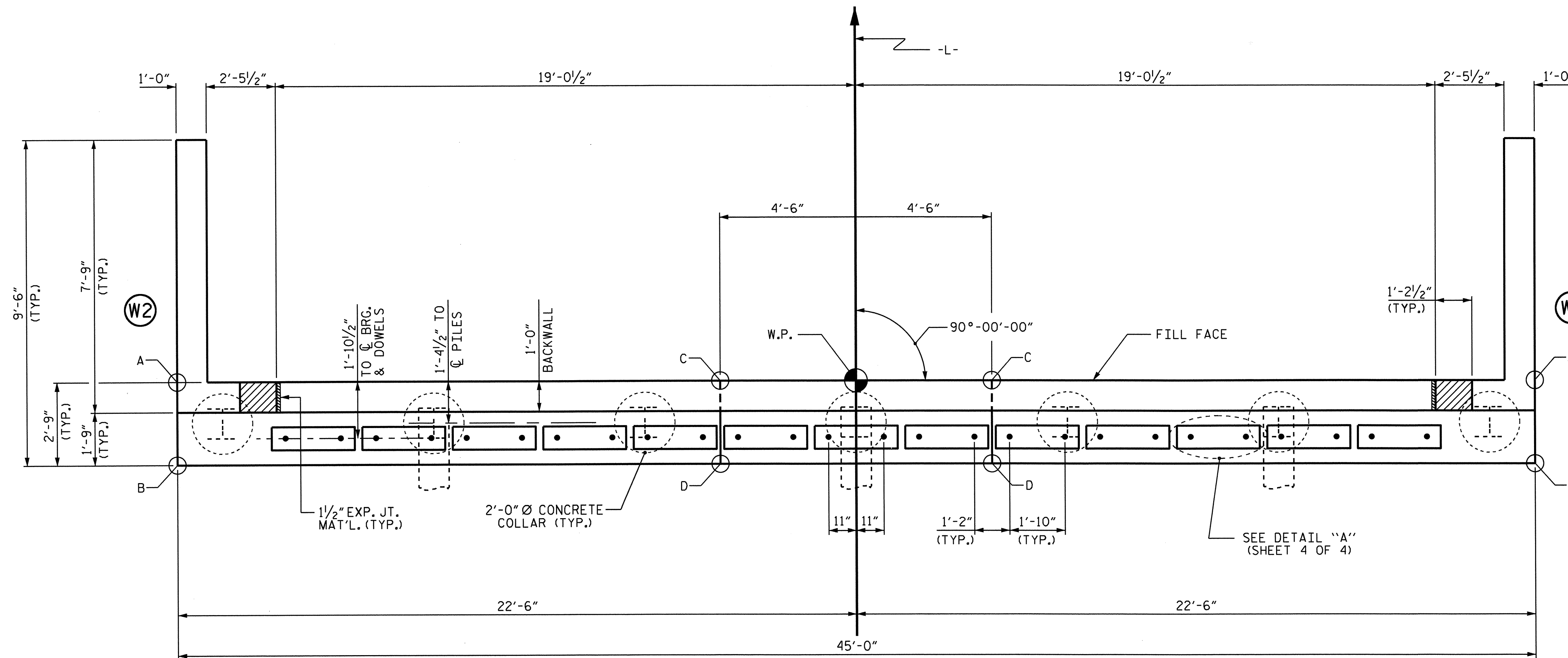
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.

THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE JOINT BETWEEN THE DECK AND APPROACH SLAB HAS BEEN SAWED AND THE PARAPET FOR 2 BAR METAL RAIL IS CAST IF SLIP FORMING IS USED.

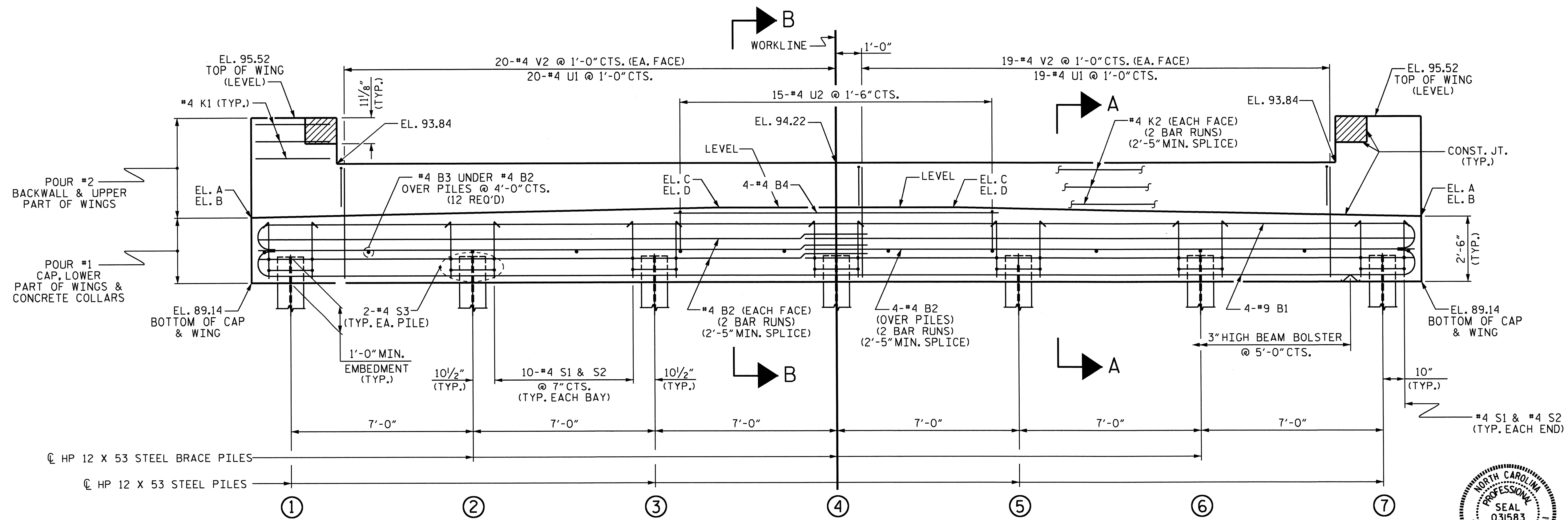
FOR PILE SPLICE DETAILS, SEE SHEET 4 OF 4.

FOR WING DETAILS, SEE SHEET 3 OF 4.

	TOP OF CAP ELEVATIONS
A	91.64
B	91.68
C	92.00
D	92.04



PLAN



ELEVATION

WINGS NOT SHOWN FOR CLARITY.  
 FOR SECTION A-A AND B-B, SEE SHEET 4 OF 4.  
 CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN ELEVATION VIEW FOR CLARITY.  
 SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 4 OF 4.

PROJECT NO. B-4679  
 WILSON COUNTY  
 STATION: 12+53.00 -L-

SHEET 2 OF 4

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SUBSTRUCTURE

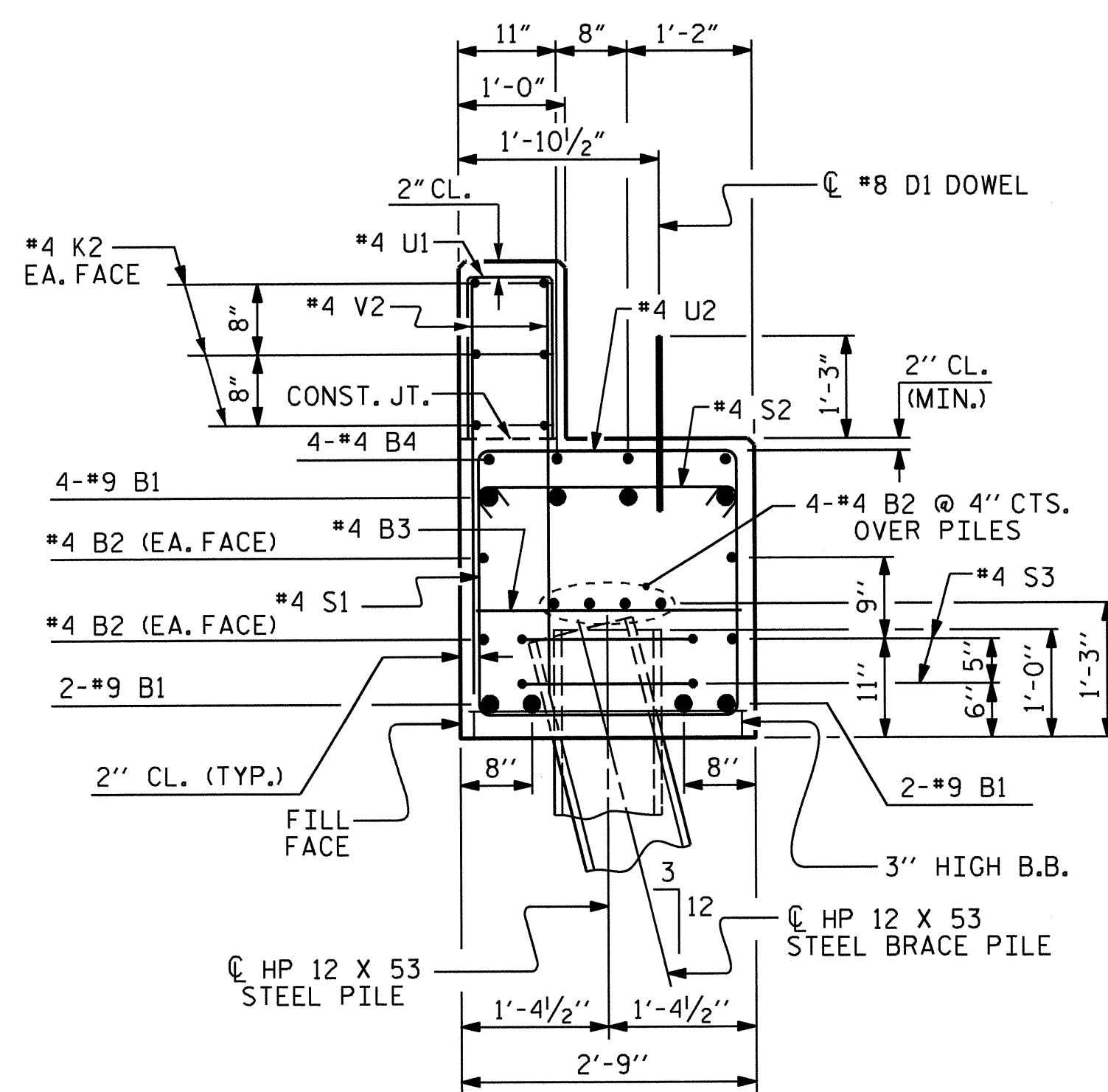
END BENT No. 2



4/22/13

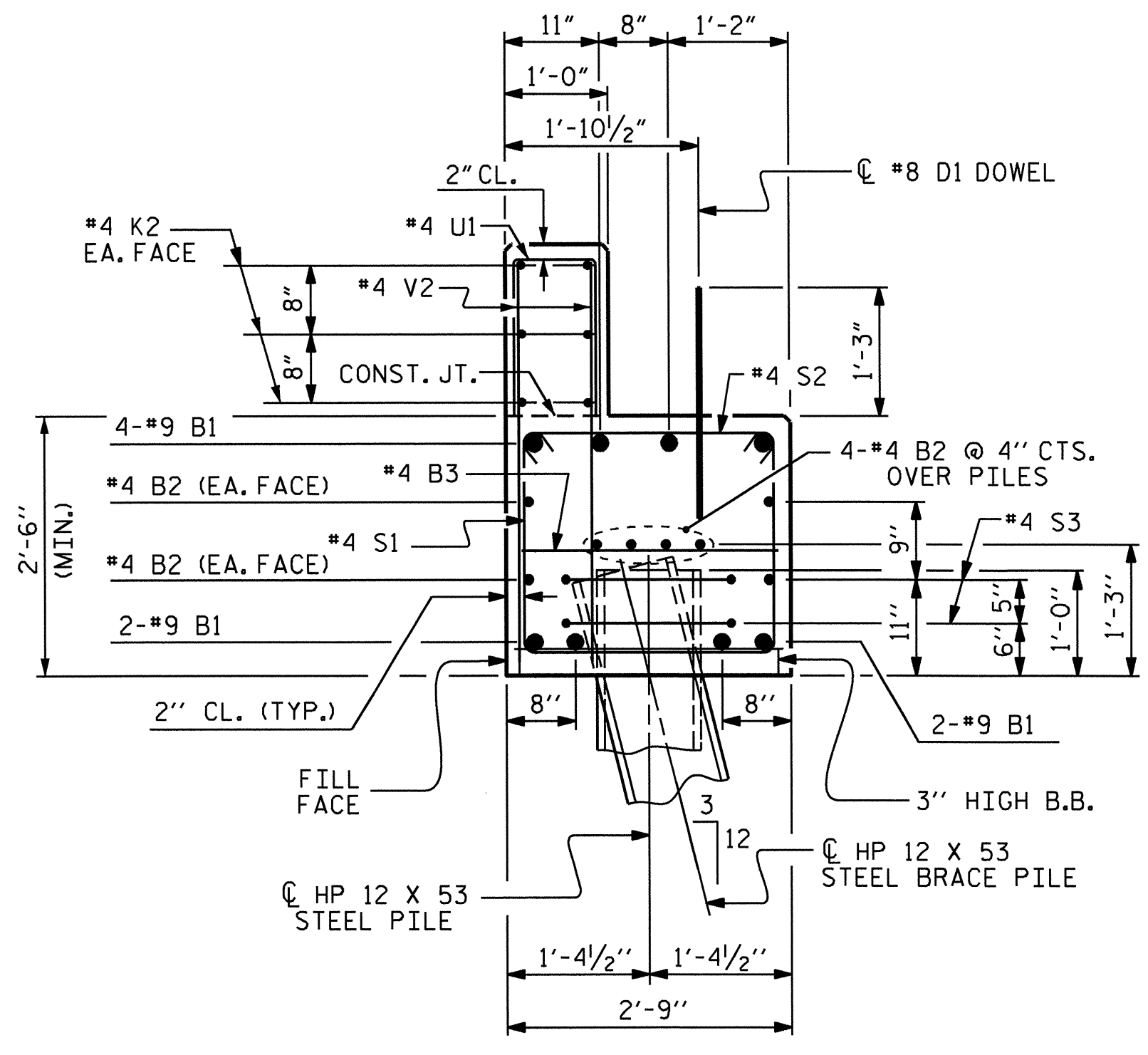
ASSEMBLED BY : K. P. SEDA DATE : 7/16/12  
 CHECKED BY : E. K. POPE DATE : 7/30/12  
 DESIGN ENGINEER OF RECORD : K. P. SEDA DATE : 8/9/12  
 DRAWN BY : WJH 12/11  
 CHECKED BY : AAC 12/11

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	5-16
1			3			TOTAL SHEETS
2			4			21



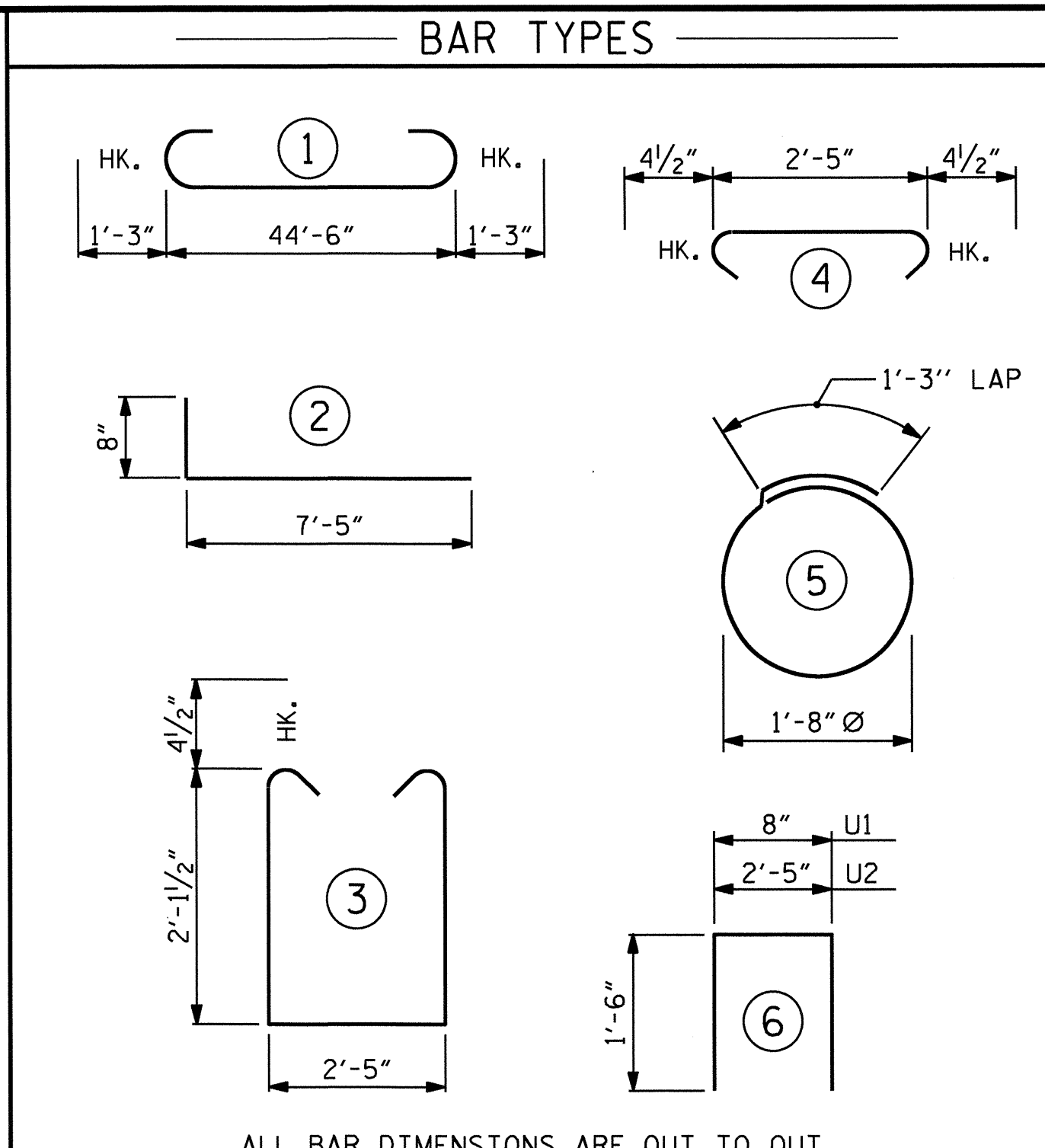
**SECTION B-B**

(CONCRETE COLLAR NOT SHOWN FOR CLARITY. SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL.")



**SECTION A-A**

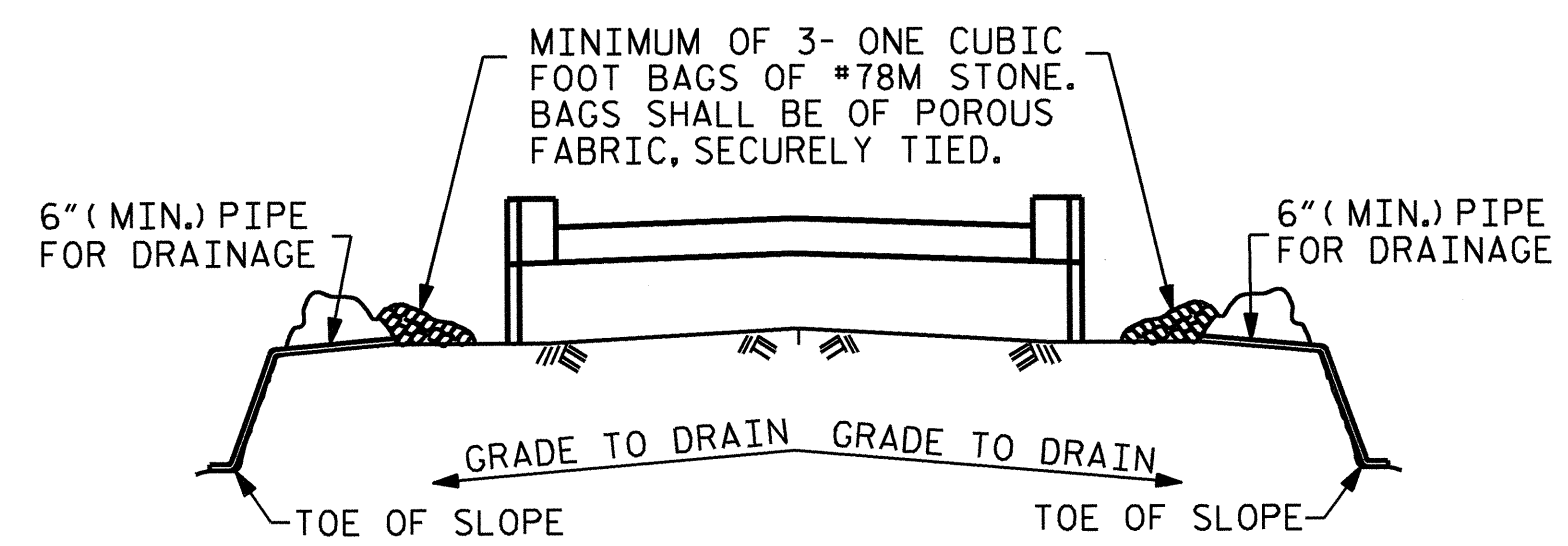
(CONCRETE COLLAR NOT SHOWN FOR CLARITY. SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL.")



END BENT No. 1  
HP 12 X 53 STEEL PILES  
NO: 7 LIN. FT. = 105

END BENT No. 2  
HP 12 X 53 STEEL PILES  
NO: 7 LIN. FT. = 175

BILL OF MATERIAL FOR ONE END BENT					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9		47'-0"	1278
B2	16	#4	STR	23'-7"	252
B3	12	#4	STR	2'-5"	19
B4	4	#4	STR	22'-0"	59
D1	26	#8	STR	2'-3"	156
H1	36	#5	2	8'-1"	304
K1	12	#4	STR	3'-1"	25
K2	12	#4	STR	23'-7"	189
S1	62	#4	3	7'-5"	307
S2	62	#4	4	3'-2"	131
S3	14	#4	5	6'-6"	61
U1	39	#4	6	3'-8"	96
U2	15	#4	6	5'-5"	54
V1	48	#4	STR	6'-0"	192
V2	78	#4	STR	4'-4"	226
REINFORCING STEEL (FOR ONE END BENT)					3349 LBS.
CLASS A CONCRETE BREAKDOWN (FOR ONE END BENT)					
POUR #1 CAP, LOWER PART OF WINGS & COLLARS				15.7 C.Y.	
POUR #2 BACKWALL & UPPER PART OF WINGS				5.9 C.Y.	
TOTAL CLASS A CONCRETE					21.6 C.Y.

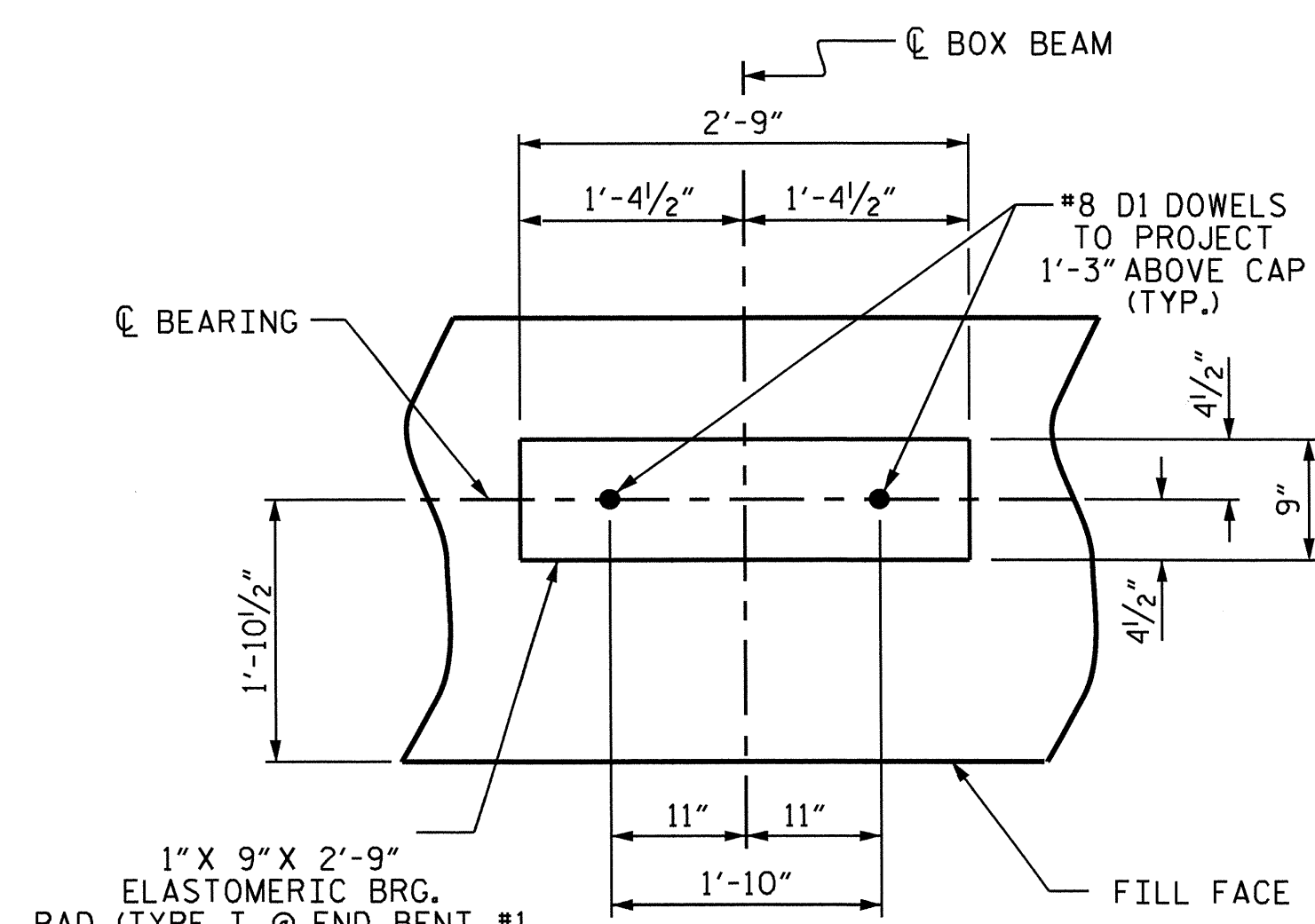


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

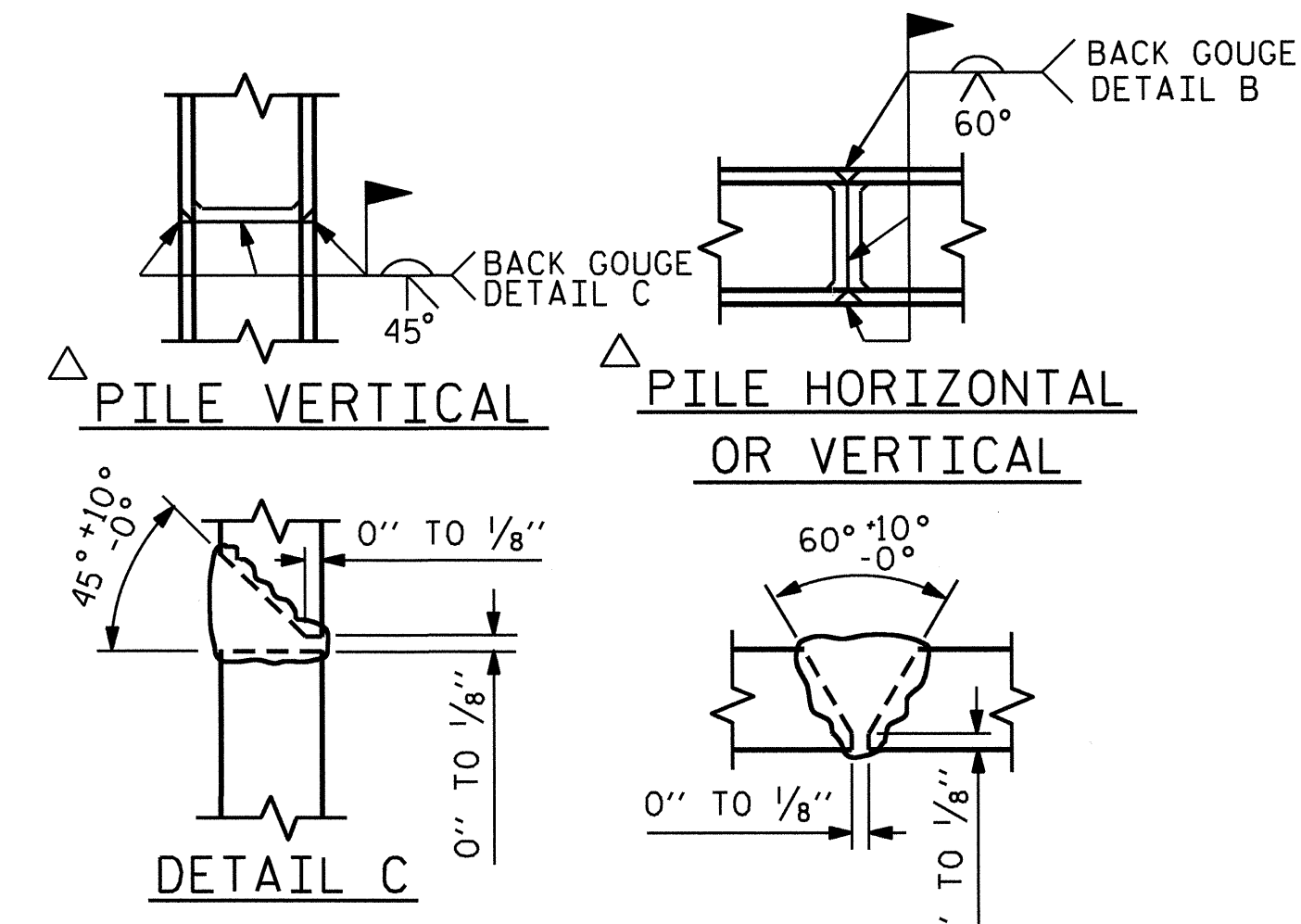
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

**TEMPORARY DRAINAGE AT END BENT**

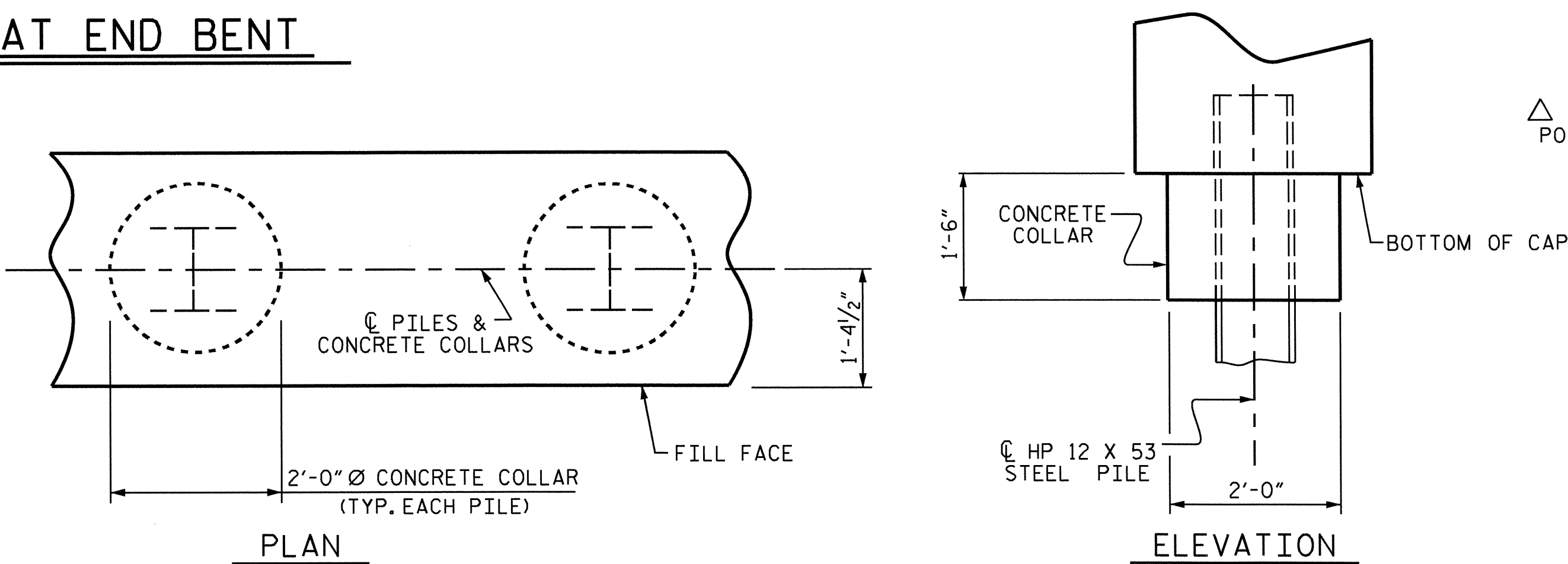


**DETAIL "A"**

(END BENT No. 1 SHOWN, END BENT No. 2 SIMILAR BY ROTATION)



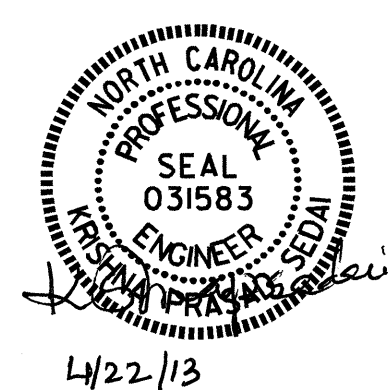
**PILE SPLICE DETAILS**



**CORROSION PROTECTION FOR STEEL PILES DETAIL**

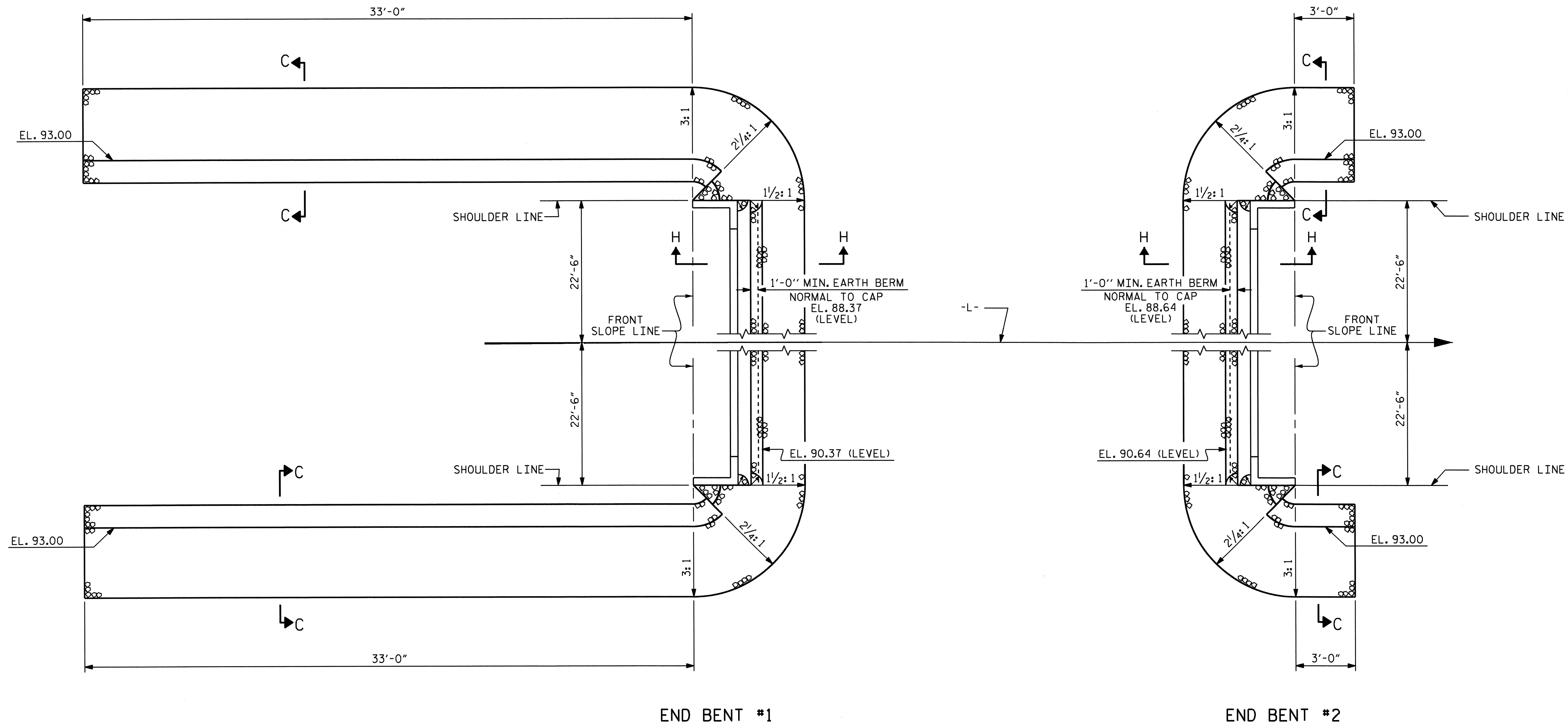
(END BENT No. 1 SHOWN, END BENT No. 2 SIMILAR BY ROTATION)

ASSEMBLED BY : K. P. SEDA	DATE : 7/17/12
CHECKED BY : E. K. POPE	DATE : 7/30/12
DESIGN ENGINEER OF RECORD : K. P. SEDA	DATE : 8/9/12
DRAWN BY : WJH 12/11	
CHECKED BY : AAC 12/11	



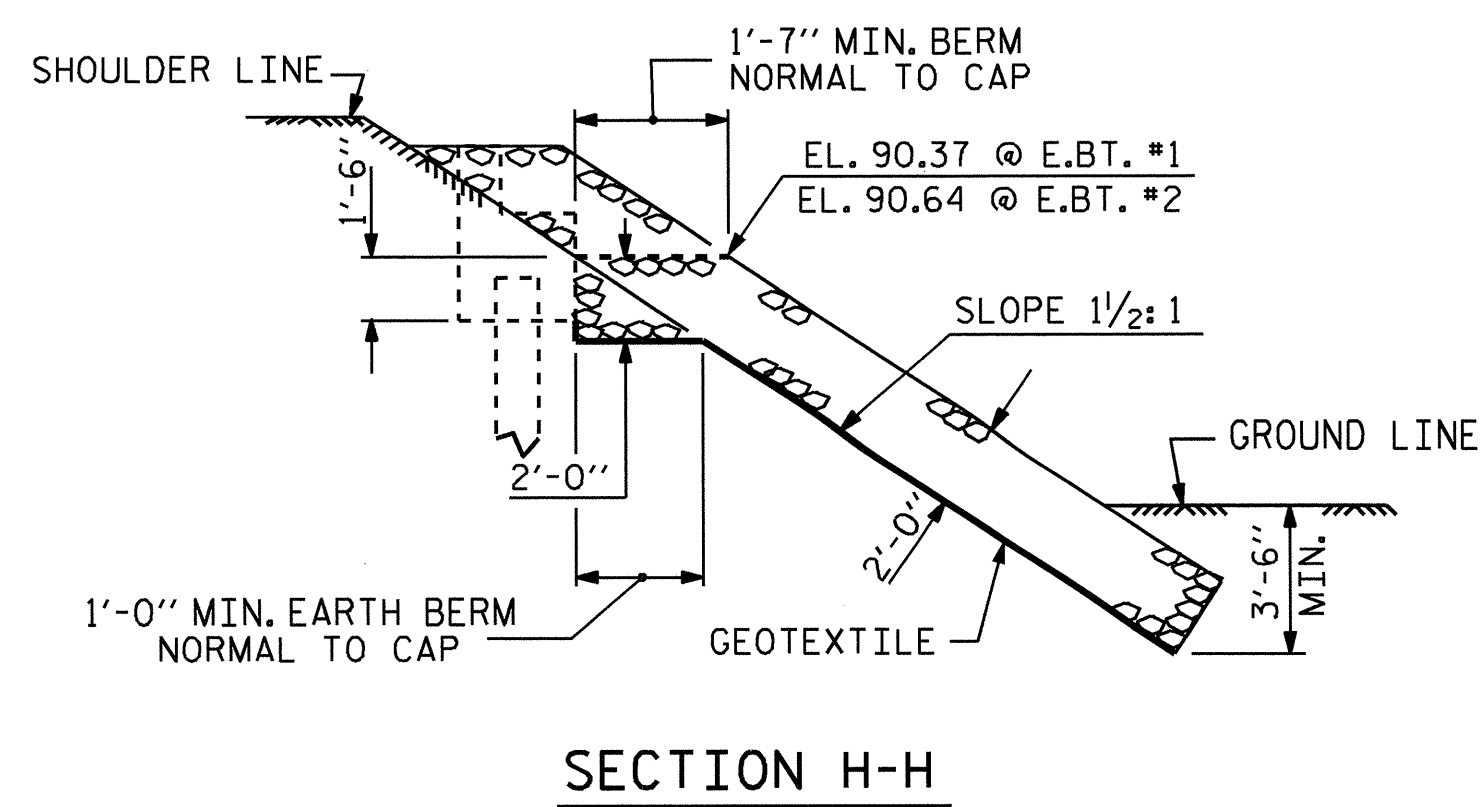
PROJECT NO. B-4679  
WILSON COUNTY  
 STATION: 12+53.00 -L-

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE					
END BENT No. 1 & 2 DETAILS					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-18					TOTAL SHEETS 21

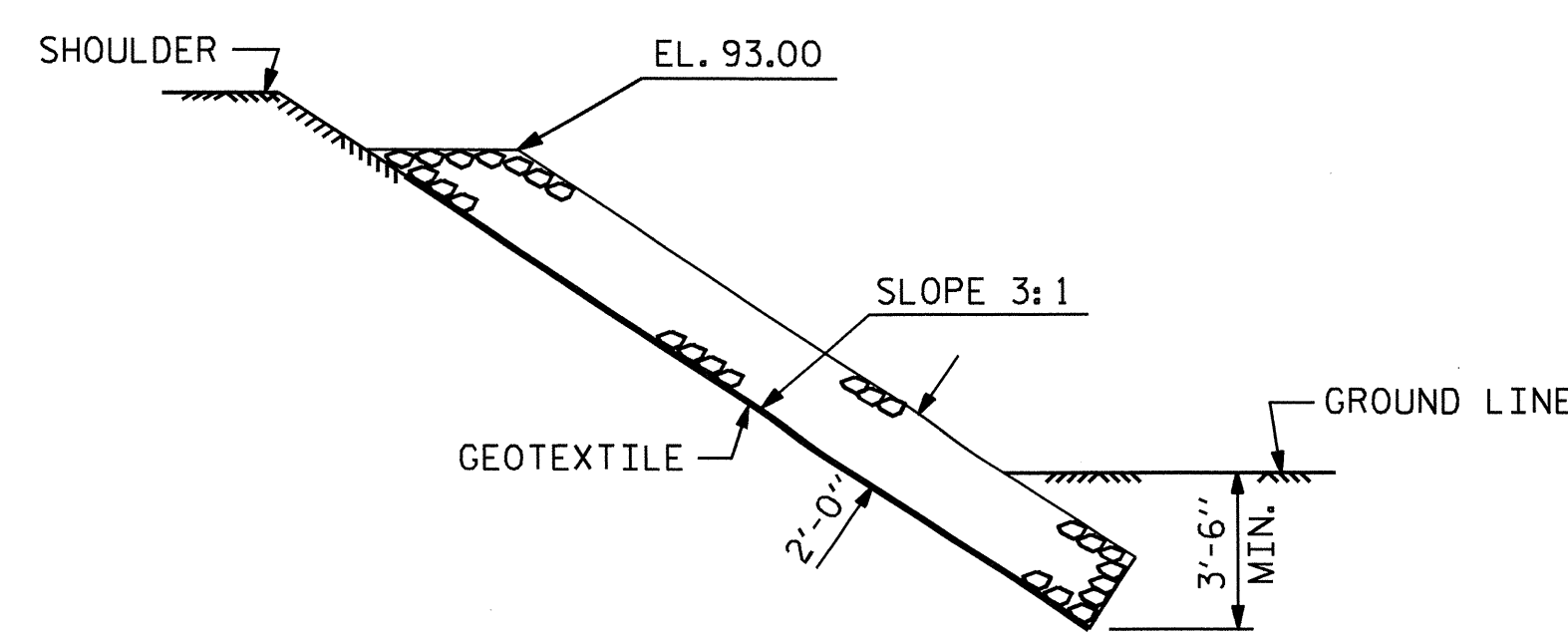


PLAN

ESTIMATED QUANTITIES		
BRIDGE @ STA. 12+53.00 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	283	314
END BENT 2	175	194

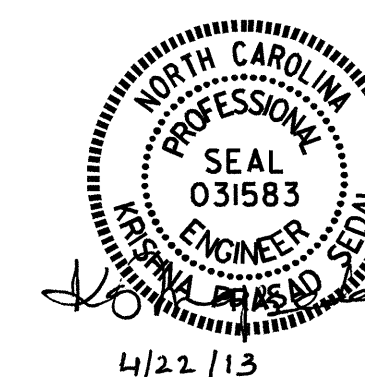


SECTION H-H



SECTION C-C

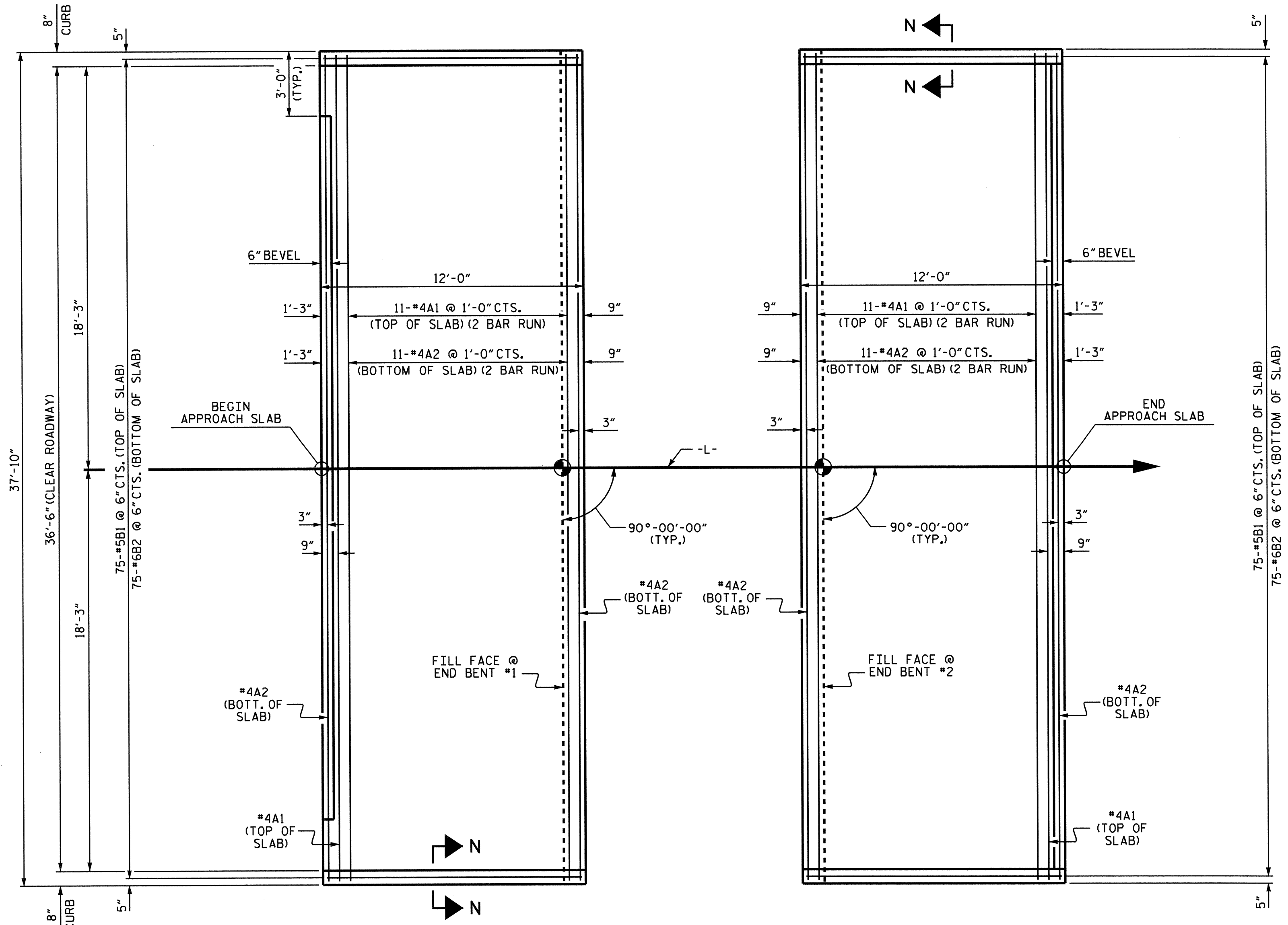
PROJECT NO. B-4679  
WILSON COUNTY  
 STATION: 12+53.00 -L-



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARD  
 = RIP RAP DETAILS =

ASSEMBLED BY : K. P. SEDAI DATE : 7/18/12  
 CHECKED BY : E. K. POPE DATE : 7/30/12  
 DRAWN BY : REK 1/84 REV. 5/1/06R TLA/GM  
 CHECKED BY : RDU 1/84 REV. 10/1/11 MAA/GM  
 REV. 12/21/11 MAA/GM

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-19
1			3			TOTAL SHEETS
2			4			21



PLAN @ END BENT #1  
 PLAN @ END BENT #2  
 DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS

**NOTES**

FOR BRIDGE APPROACH FILL INCLUDING GEOTEXTILE, 4" Ø DRAINAGE PIPE, AND #78M STONE BACKFILL, SEE ROADWAY PLANS.

GEOTEXTILE SHALL BE TYPE 1 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 1056.

#78M STONE BACKFILL (CLASS V SELECT MATERIAL) SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 1016.

#78M STONE BACKFILL IS TO BE CONTINUOUS ALONG FILL FACE OF BACKWALL FROM OUTSIDE EDGE TO OUTSIDE EDGE OF APPROACH SLAB.

FOR THE 4" Ø DRAINAGE PIPE OUTLET(S), SEE ROADWAY STANDARD DRAWINGS.

AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED, SEE ROADWAY PLANS.

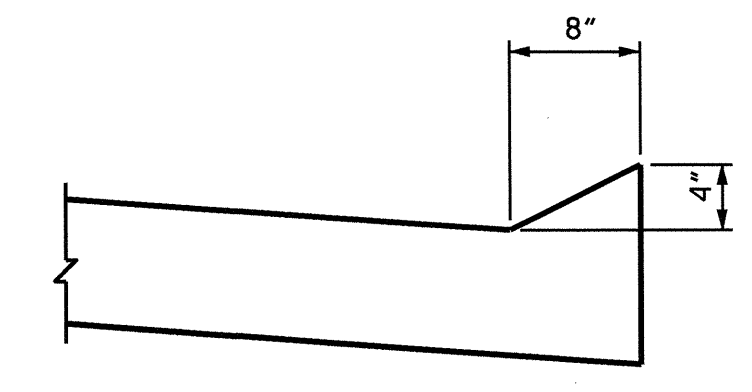
APPROACH SLAB GROOVING IS NOT REQUIRED.

**WITH FOAM JOINT SEAL**

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

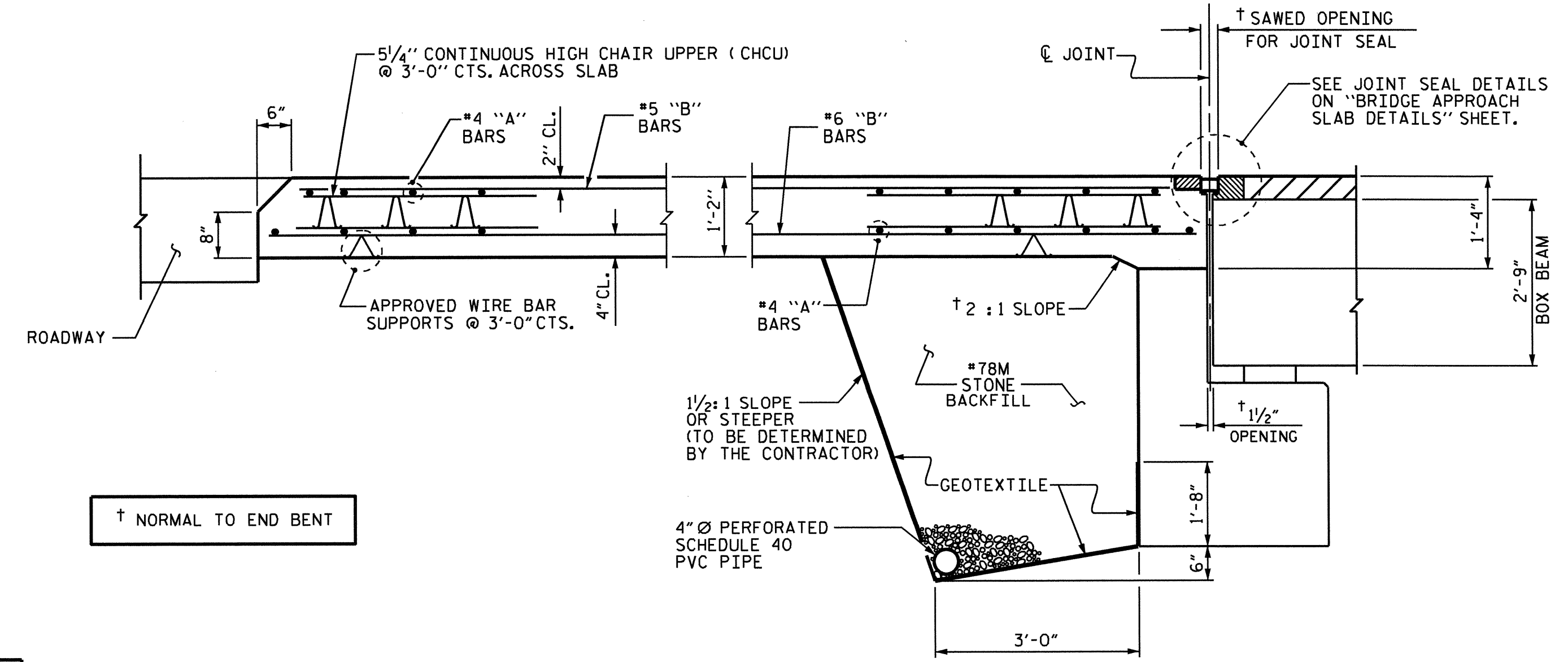
THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 3".

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

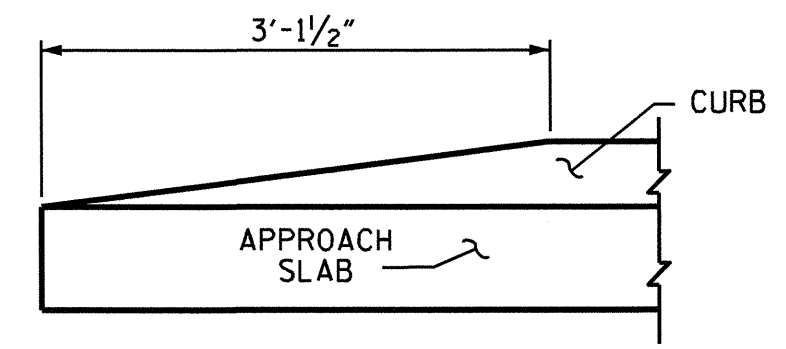


SECTION N-N

SPLICE LENGTHS		
BAR SIZE	EPOXY COATED	UNCOATED
#4	2'-0"	1'-9"
#5	2'-6"	2'-2"
#6	3'-10"	2'-7"



SECTION THRU SLAB



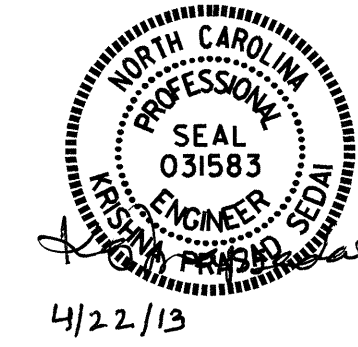
END OF CURB WITHOUT SHOULDER BERM GUTTER

CURB DETAILS

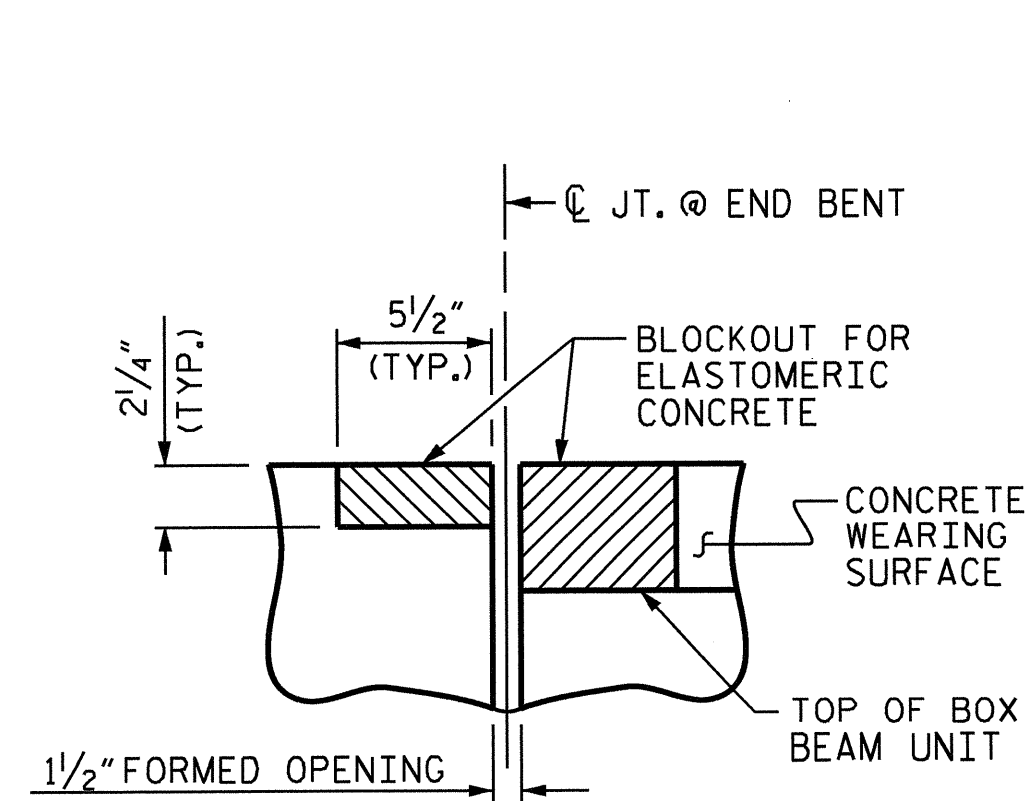
PROJECT NO. B-4679  
 WILSON COUNTY  
 STATION: 12+53.00 -L-

SHEET 1 OF 2

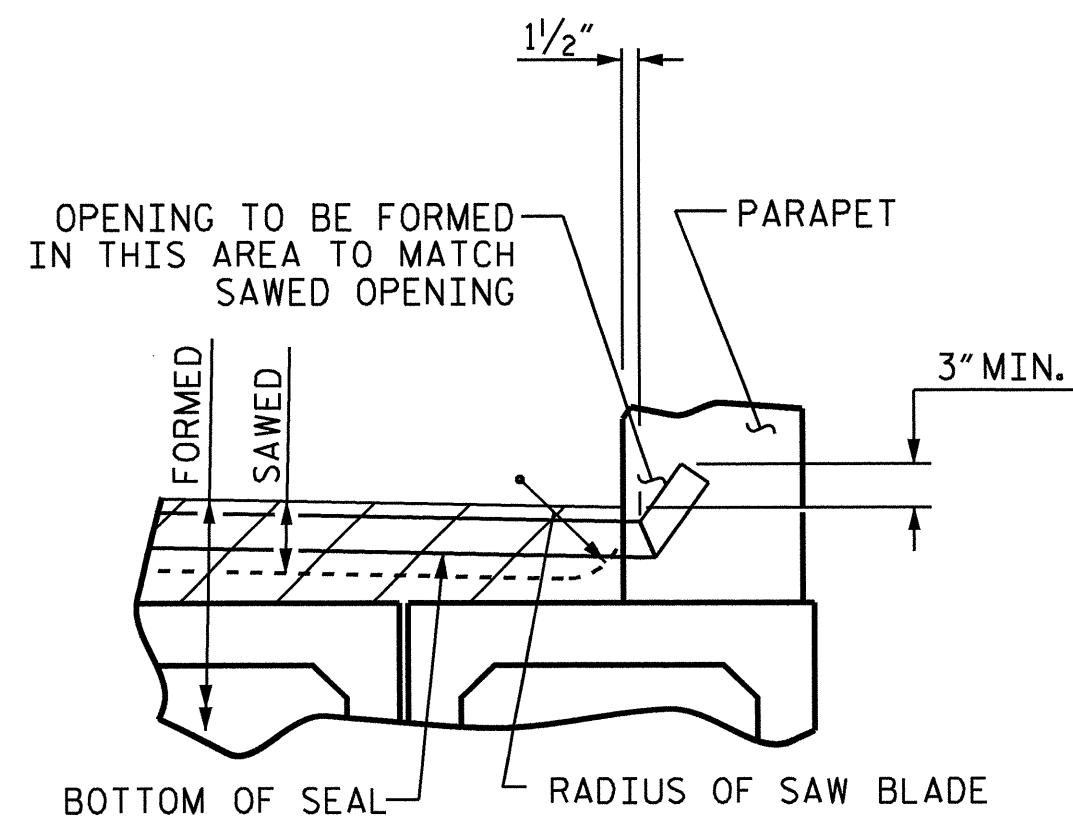
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD BRIDGE APPROACH SLAB FOR PRESTRESSED CONCRETE BOX BEAM UNIT 90° SKEW					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					S-20
					TOTAL SHEETS 21



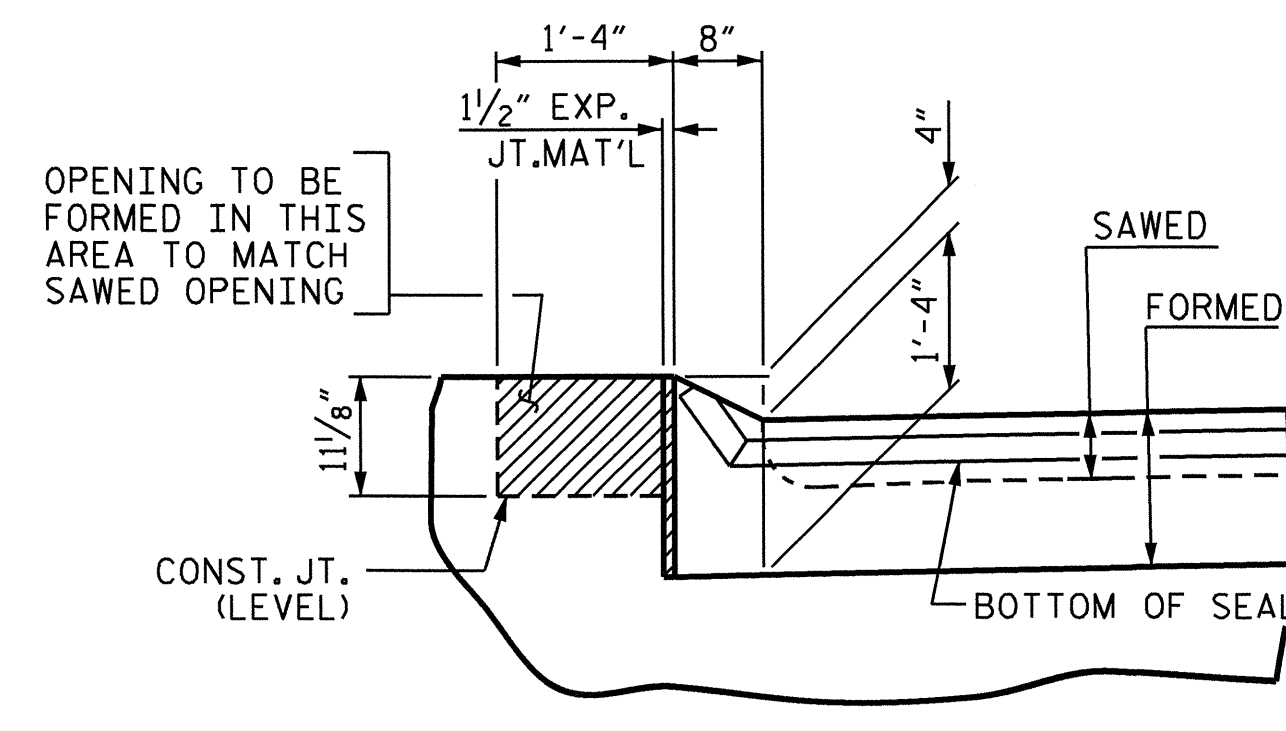
ASSEMBLED BY : K. P. SEDAI DATE : 7/11/12  
 CHECKED BY : E. K. POPE DATE : 7/30/12  
 DESIGN ENGINEER OF RECORD : K. P. SEDAI DATE : 8/9/12  
 DRAWN BY : MAA 11/11  
 CHECKED BY : AAC 11/11



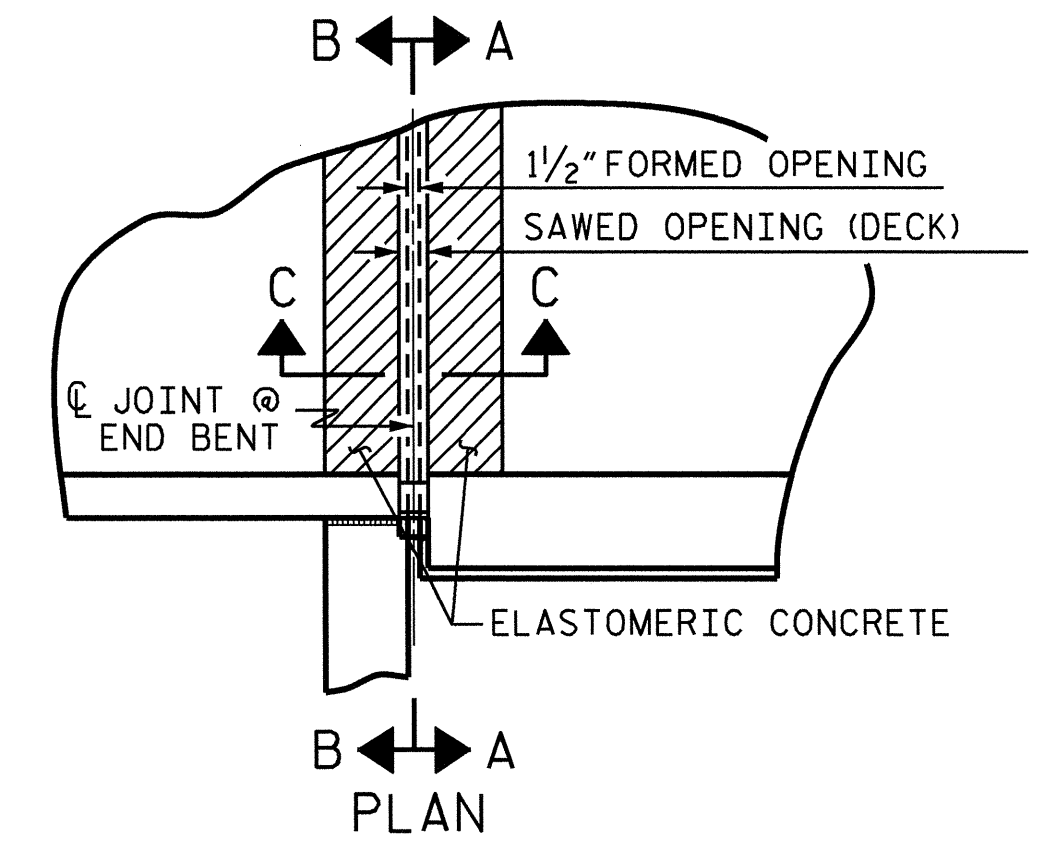
**SECTION C-C**  
FOAM JOINT SEAL  
(PRE-SAWED ELASTOMERIC  
CONCRETE DIMENSIONS)



**SECTION A-A**



**SECTION B-B**

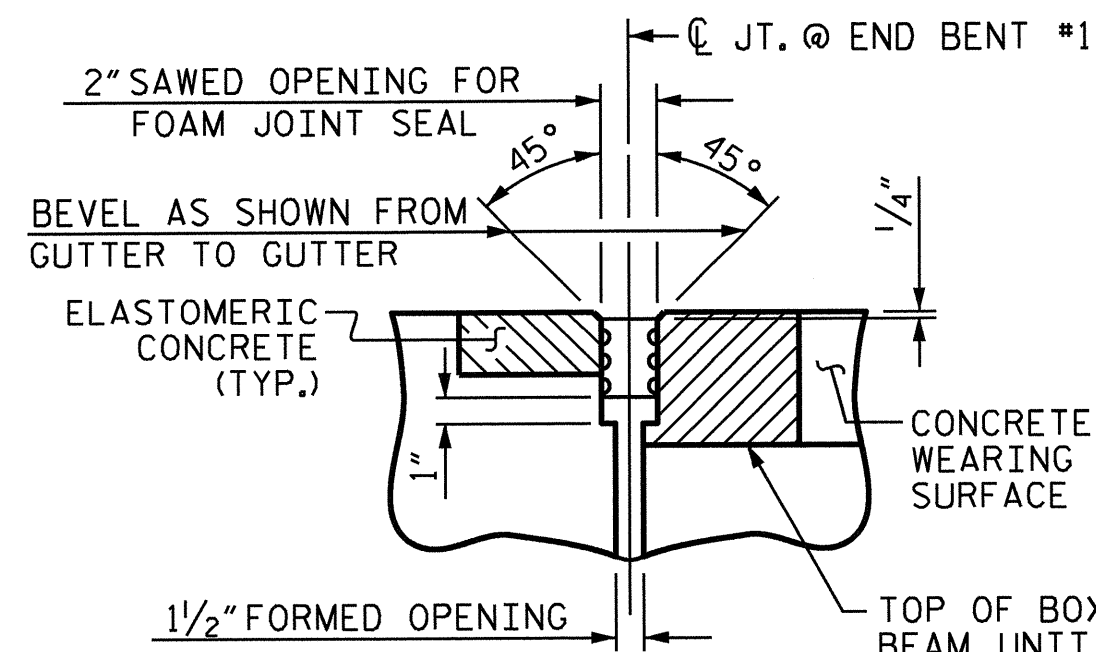


**PLAN**

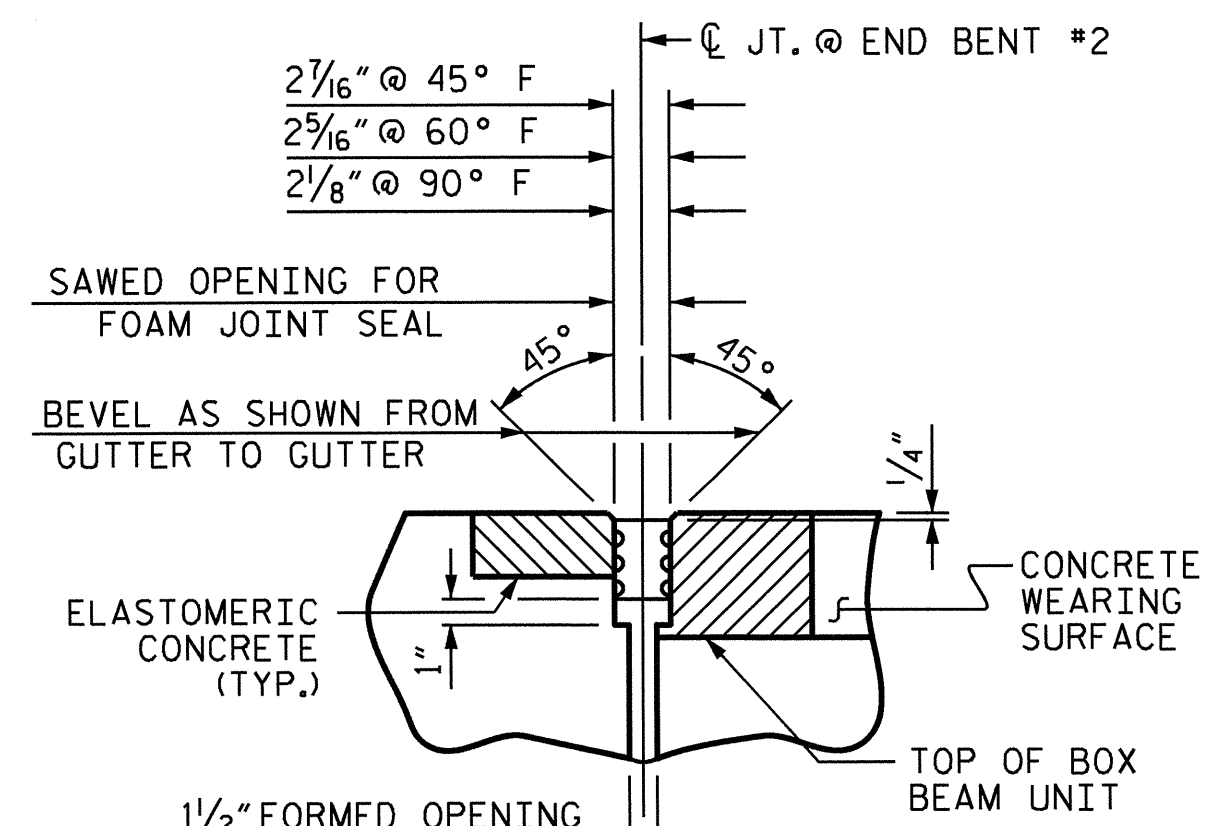
**JOINT SEAL DETAILS @ END BENT**

(FOR METAL RAILS WITH CURB)

FOAM JOINT SEAL TO BE CUT, HEAT WELDED AND TURNED UP AS SHOWN.  
\* FORMED OPENING TO MATCH ACTUAL OPENING BETWEEN THE TOP OF THE BOX BEAM UNIT AND THE BACKWALL WITH A MINIMUM FORMED OPENING OF 1/2\"/>



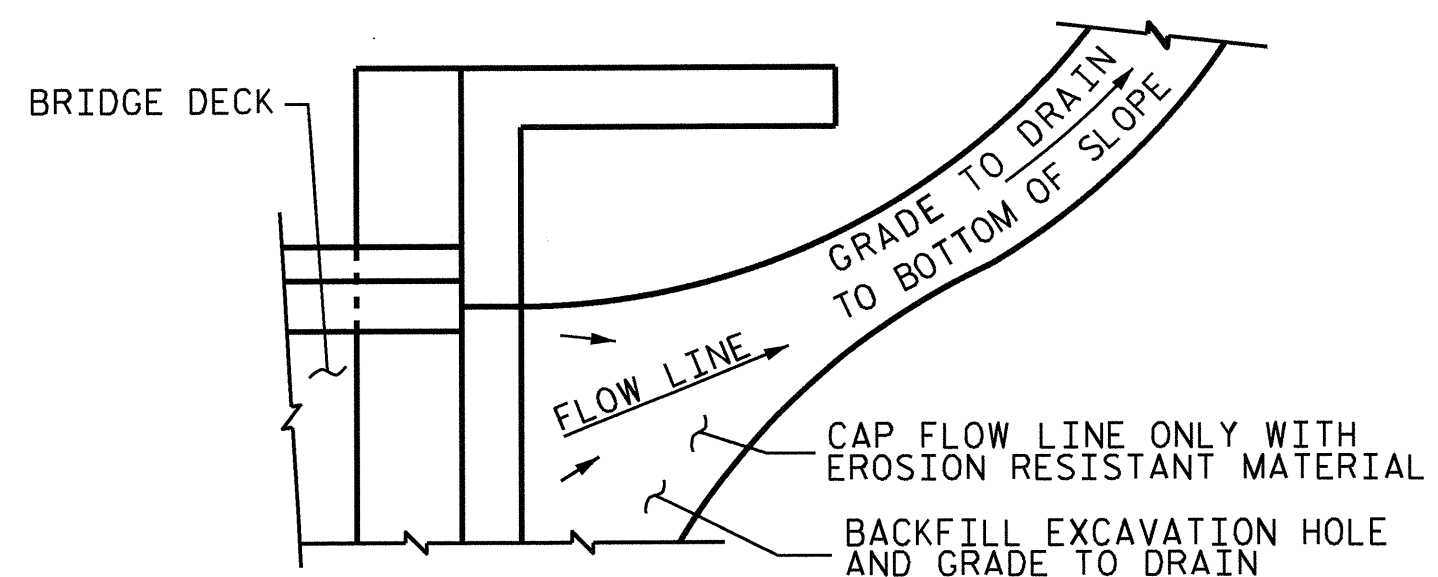
**SECTION C-C**  
FOAM JOINT SEAL  
(FIX.)



**SECTION C-C**  
FOAM JOINT SEAL  
(EXP.)

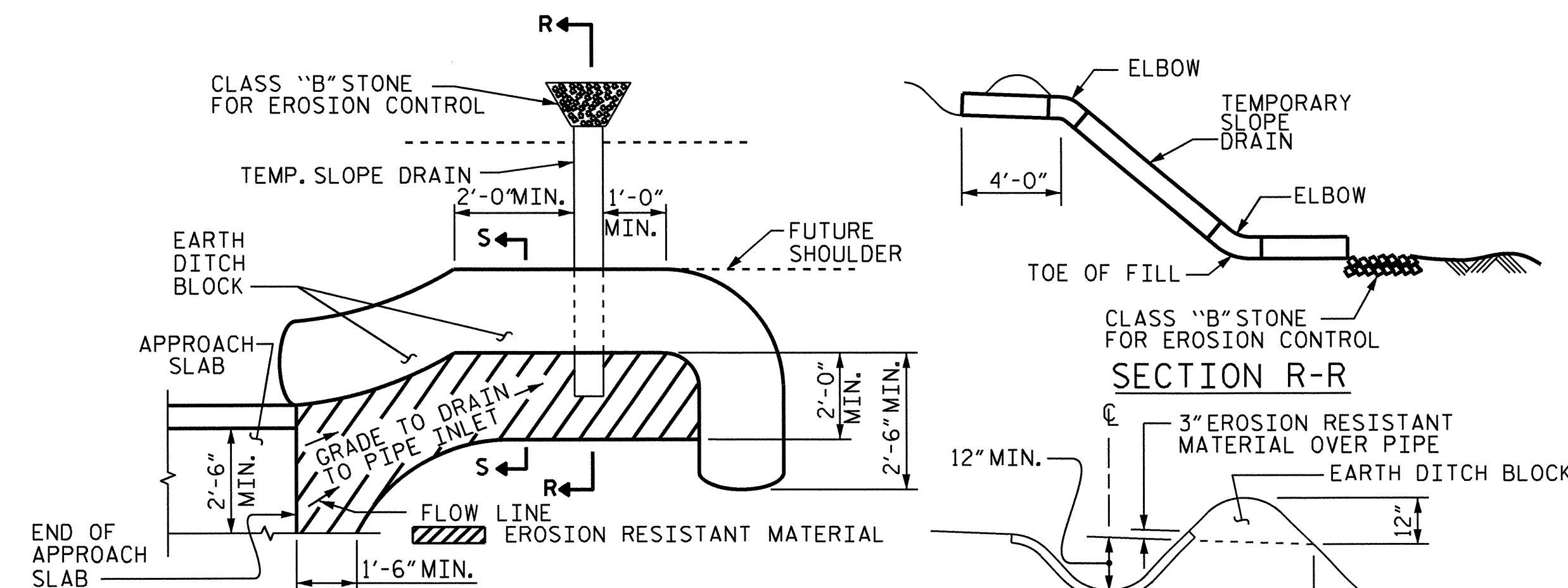
ELASTOMERIC CONCRETE	
END BENT NO.	ELASTOMERIC CONCRETE * (CU. FT.)
1	13.4
2	13.4
TOTAL	26.8

\* BASED ON THE MINIMUM BLOCKOUT SHOWN.



NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT TO THE STRUCTURE. THE CONTRACTOR WILL BE REQUIRED TO REMOVE THESE MATERIALS PRIOR TO CONSTRUCTION OF THE APPROACH SLAB.

**TEMPORARY DRAINAGE DETAIL**



NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN. 2\"/>

**PLAN VIEW**

**TEMPORARY BERM AND SLOPE DRAIN DETAILS**

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



4/22/13

PROJECT NO. B-4679  
WILSON COUNTY  
STATION: 12+53.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

STANDARD  
BRIDGE APPROACH SLAB  
FOR PRESTRESSED CONCRETE  
BOX BEAM UNIT  
90° SKEW

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-21	
1			3			TOTAL SHEETS	21
2			4				

ASSEMBLED BY : K. P. SEDA I	DATE : 7/11/12
CHECKED BY : E. K. POPE	DATE : 7/30/12
DESIGN ENGINEER OF RECORD : K. P. SEDA I	DATE : 8/9/12
DRAWN BY : TLA 5/05	ADDED 7/11/05R
CHECKED BY : GM 6/05	REV. 5/1/06RR TLA/GM
	REV. 10/1/11 MAA/GM