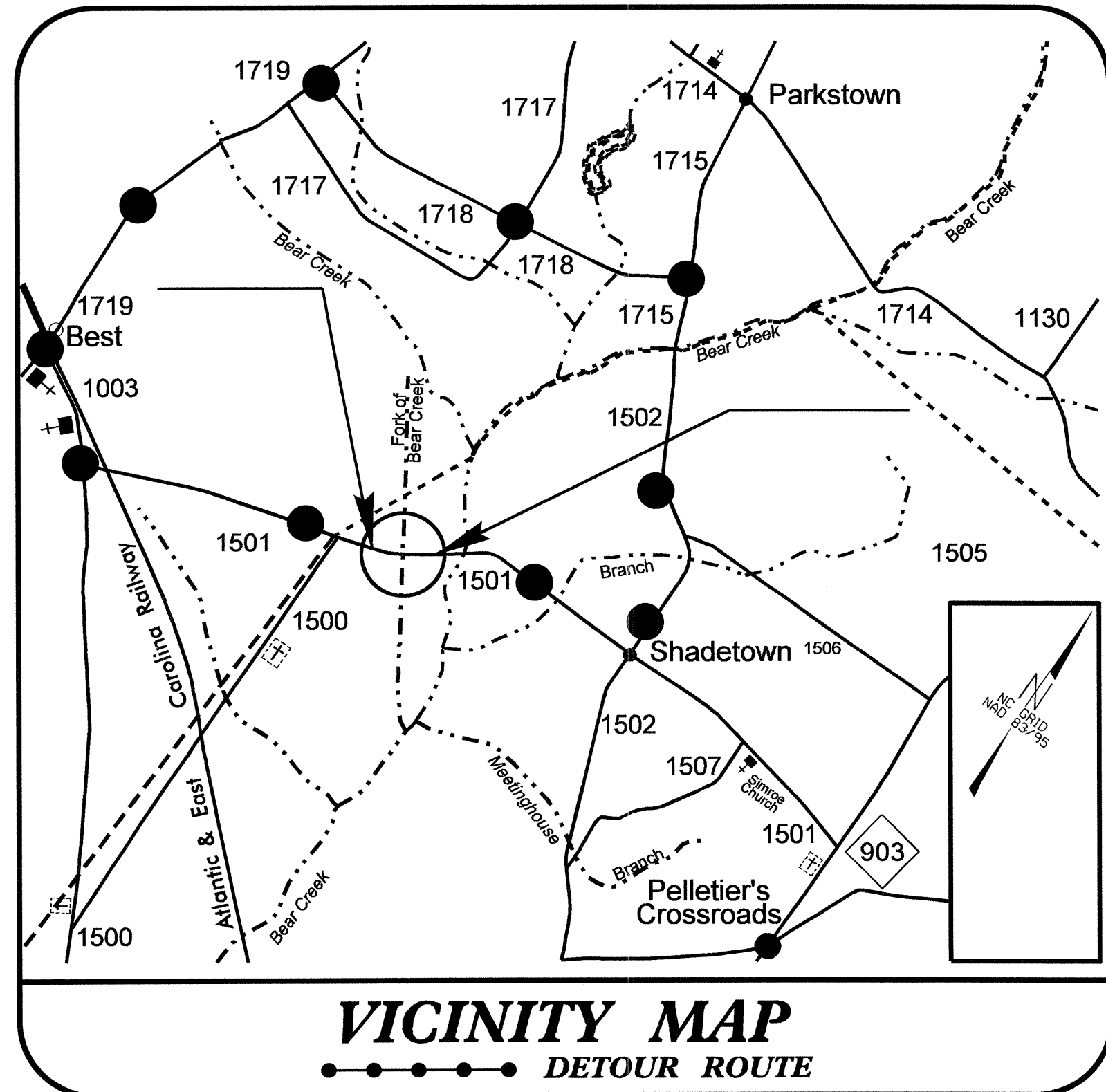


CONTRACT: C202741 TIP PROJECT: B-4567



VICINITY MAP
 - - - - - DETOUR ROUTE

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
LENOIR COUNTY

**LOCATION: REPLACEMENT OF BRIDGE No. 69 ON SR 1501
 (OLD JASON ROAD) OVER A FORK OF WEST BEAR CREEK.**

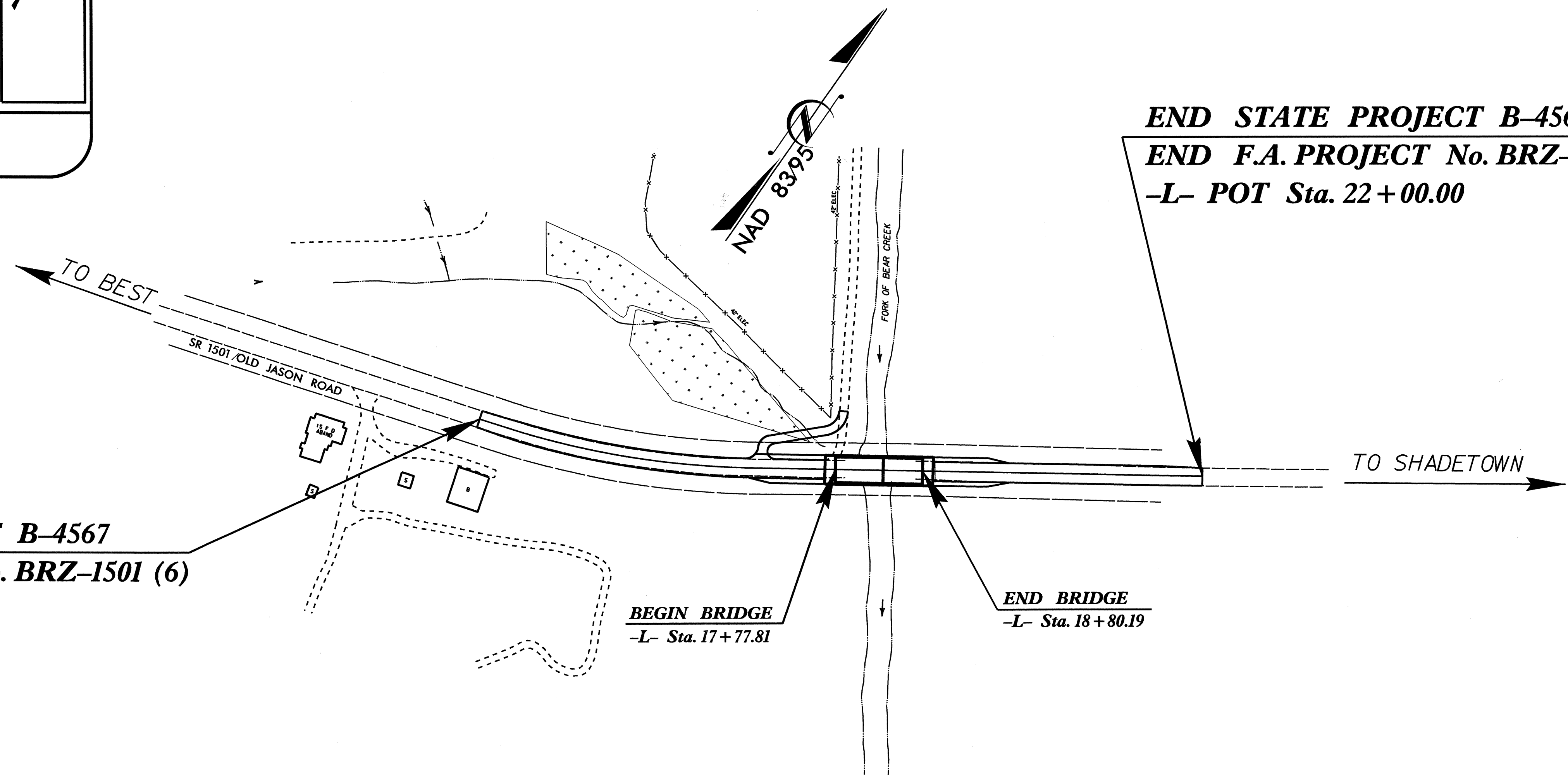
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4567		
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33774.1.1	BRZ-1501 (6)	PE	
33774.2.1	BRZ-1501 (6)	R/W & UTIL.	
33774.3.1	BRZ-1501 (6)	CONST.	

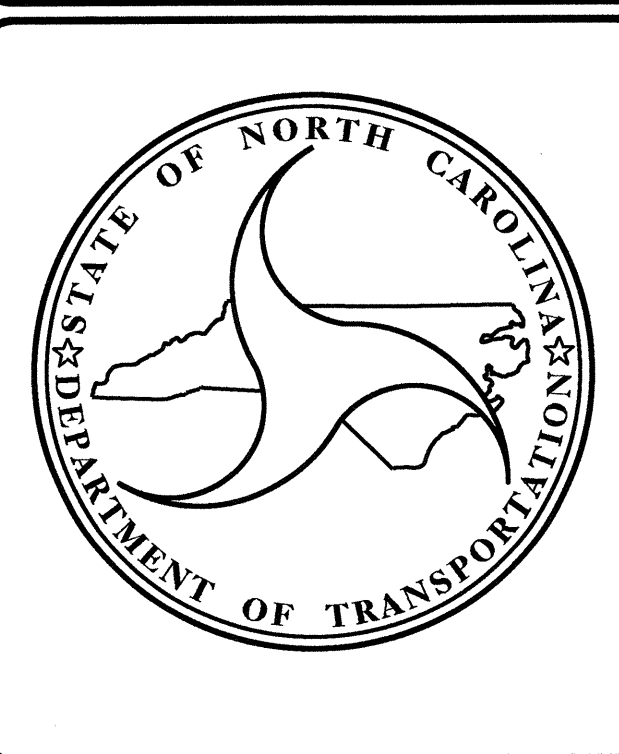


STRUCTURE

**BEGIN STATE PROJECT B-4567
 BEGIN F.A. PROJECT No. BRZ-1501 (6)
 -L- POT Sta. 13+65.00**



**END STATE PROJECT B-4567
 END F.A. PROJECT No. BRZ-1501 (6)
 -L- POT Sta. 22+00.00**



DESIGN DATA

ADT 2011 =	389
ADT 2030 =	700
DHV =	10 %
D =	60 %
T =	3 % *
V =	55 MPH

* TTST 1 % DUAL 2 %
 FUNC CLASS = RURAL LOCAL
 SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4567 =	0.139 MI.
LENGTH OF STRUCTURE TIP PROJECT B-4567 =	0.019 MI.
TOTAL LENGTH OF TIP PROJECT B-4567 =	0.158 MI.

Prepared in the Office of:
DIVISION OF HIGHWAYS
 1000 BIRCH RIDGE DR. RALEIGH, NC 27610

2006 STANDARD SPECIFICATIONS

LETTING DATE:
 DECEMBER 20, 2011

N. N. BULLOCK, PE
 PROJECT ENGINEER

D. R. CALHOUN, PE
 PROJECT DESIGN ENGINEER

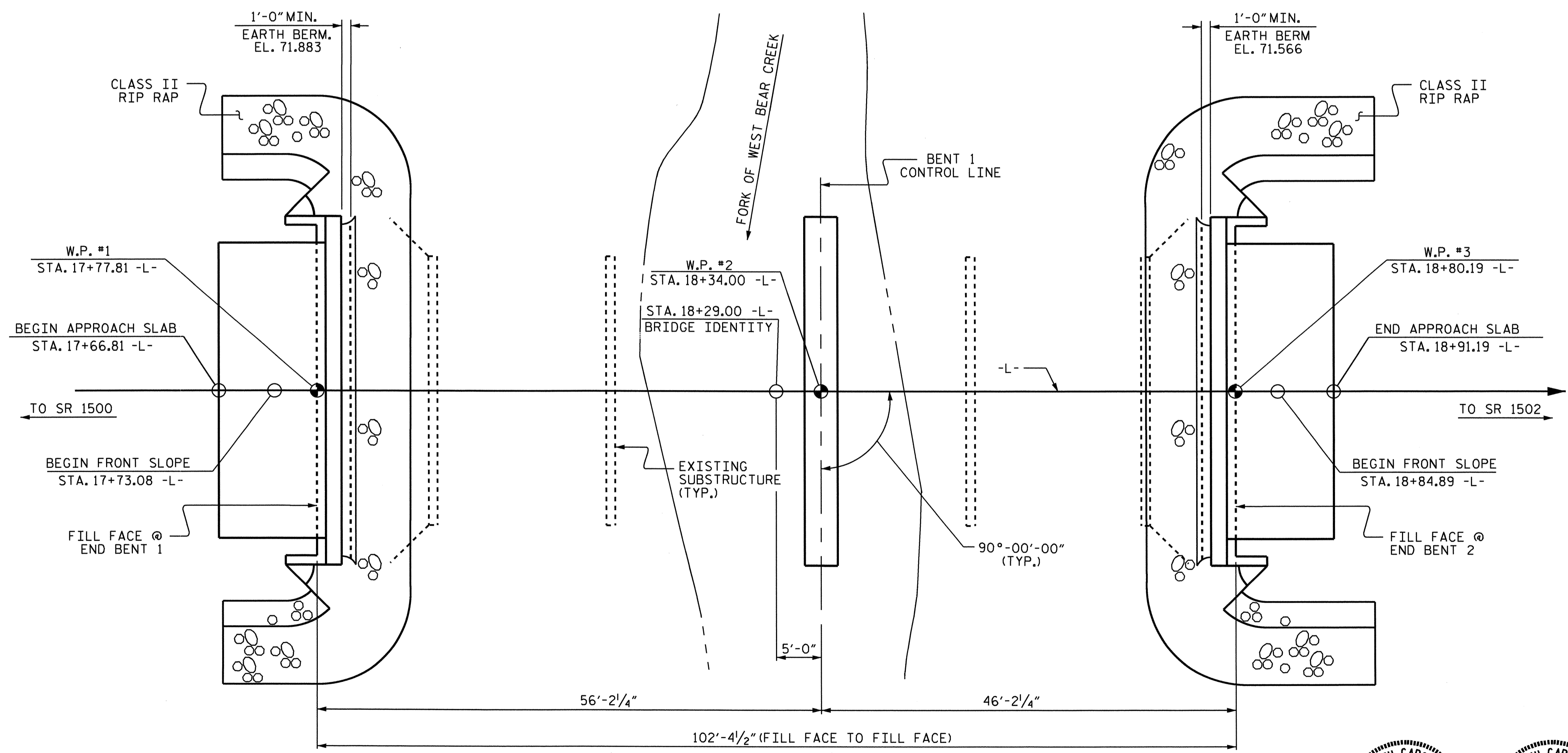
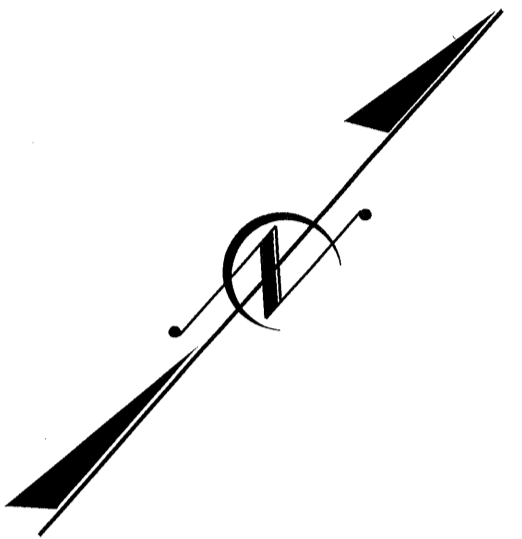
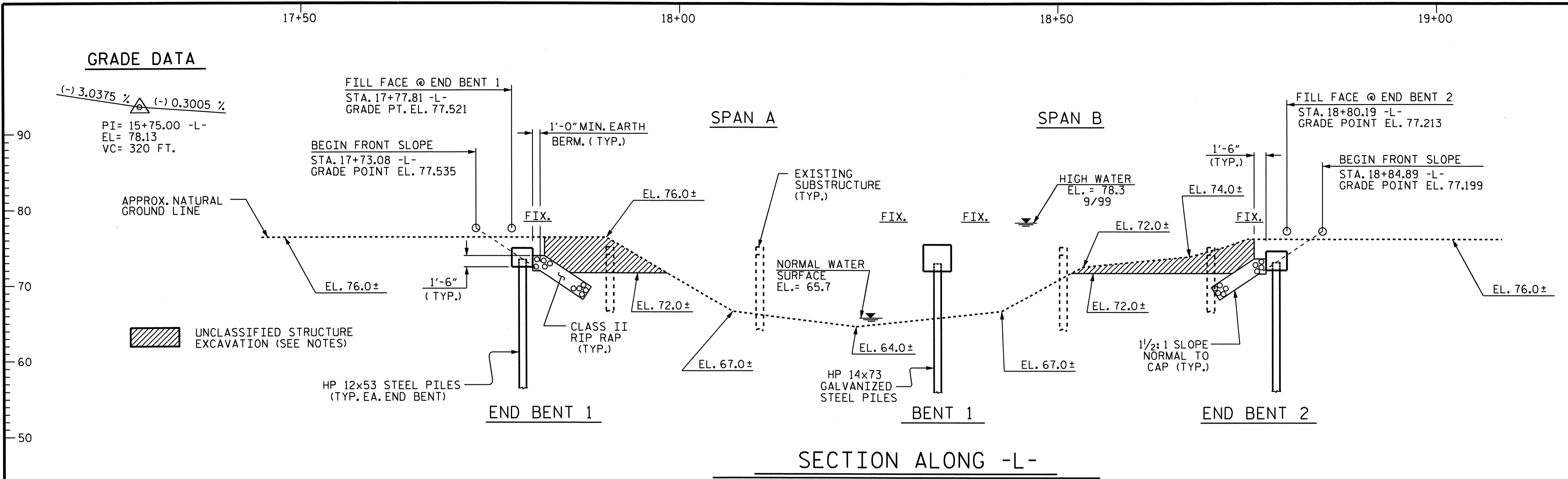
STRUCTURE DESIGN UNIT

**DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA**

STATE DESIGN ENGINEER _____ P.E.
 DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____
 DIVISION ADMINISTRATOR DATE _____

17-OCT-2011 08:04
 R:\S\Structures\Final Plans\B4567.scd_TShdgn
 galien



PLAN
(PILES ARE NOT SHOWN FOR CLARITY)

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

PROJECT NO. B-4567
LENOIR COUNTY
 STATION: 18+29.00 -L-
 SHEET 1 OF 3 REPLACES BRIDGE NO. 69

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE ON SR 1501
 OVER FORK OF WEST BEAR CREEK
 BETWEEN SR 1500 AND SR 1502

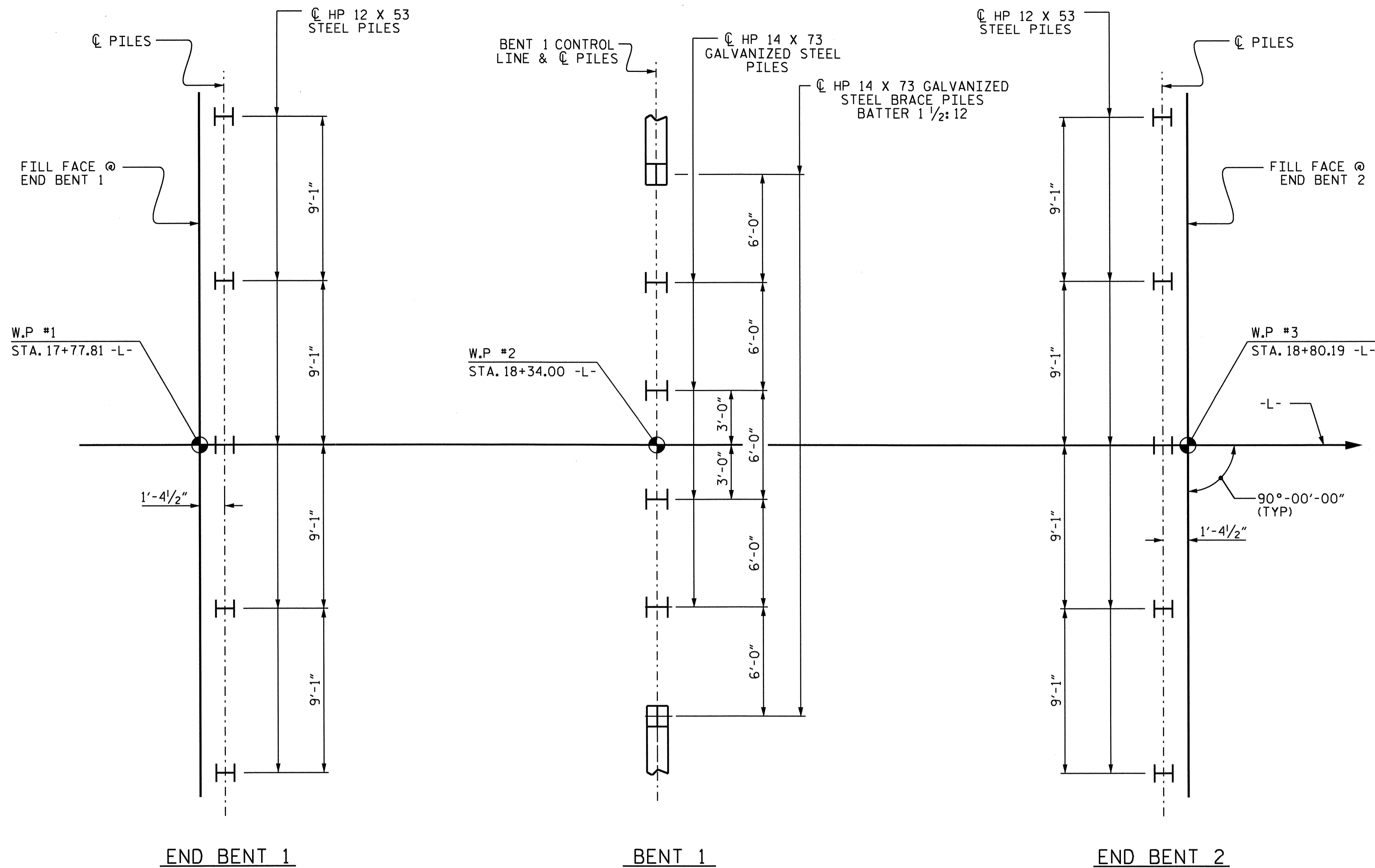
PROFESSIONAL ENGINEER
 SEAL 12929
 NORTH CAROLINA
 10-24-11

PROFESSIONAL ENGINEER
 SEAL 14855
 NORTH CAROLINA
 DOUGLAS R. CALDWELL
 10-17-11

DRAWN BY : J.L. WALTON DATE : 3/26/10
 CHECKED BY : B.N. GRADY DATE : 5/11/10

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			18

25-AUG-2011 08:11
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 galien



FOUNDATION LAYOUT

(DIMENSIONS LOCATING PILES ARE SHOWN TO CENTERLINE OF PILES)

FOUNDATION NOTES :

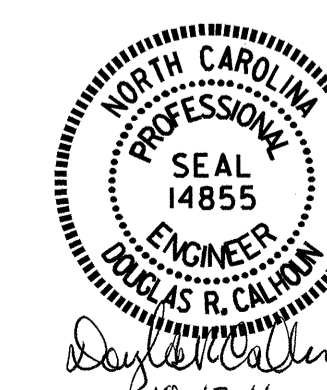
- FOR PILES, SEE SPECIAL PROVISIONS.
- PILES AT END BENT 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 85 TONS PER PILE.
- DRIVE PILES AT END BENT 1 TO A REQUIRED DRIVING RESISTANCE OF 145 TONS PER PILE.
- PILES AT END BENT 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 75 TONS PER PILE.
- DRIVE PILES AT END BENT 2 TO A REQUIRED DRIVING RESISTANCE OF 125 TONS PER PILE.
- PILES AT BENT 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 125 TONS PER PILE.
- DRIVE PILES AT BENT 1 TO A REQUIRED DRIVING RESISTANCE OF 215 TONS PER PILE. THIS REQUIRED DRIVING RESISTANCE INCLUDES ADDITIONAL RESISTANCE FOR DOWNDRAG OR SCOUR.
- INSTALL PILES AT BENT 1 TO A TIP ELEVATION NO HIGHER THAN 33 FT.
- THE SCOUR CRITICAL ELEVATION FOR BENT 1 IS ELEVATION 48 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

NOTES :

- ASSUMED LIVE LOAD = HL 93 OR ALTERNATE LOADING.
- FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.
- THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
- FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.
- THE EXISTING STRUCTURE CONSISTING OF 3 (1 @ 20'-3", 1 @ 40'-1", 1 @ 20'-5") STEEL PLANK FLOORS ON I-BEAM SPANS WITH A CLEAR ROADWAY WIDTH OF 28'-0" SUPPORTED BY TIMBER CAP & PILE END BENTS AND BENTS AND LOCATED AT THE PROPOSED STRUCTURE SHALL BE REMOVED.
- 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.
- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES", MAY, 2001.
- 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 SPLICE OF THIRTY BAR DIAMETERS. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS PAY ITEMS.
- THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 30 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.
- ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.
- INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STATION 18+29.00 -L-."
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.
- FOR CURING CONCRETE, SEE SPECIAL PROVISIONS.

PROJECT NO. B-4567
LENOIR COUNTY
 STATION: 18+29.00 -L-

SHEET 2 OF 3



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON SR 1501
 OVER FORK OF WEST BEAR CREEK
 BETWEEN SR 1500 AND SR 1502

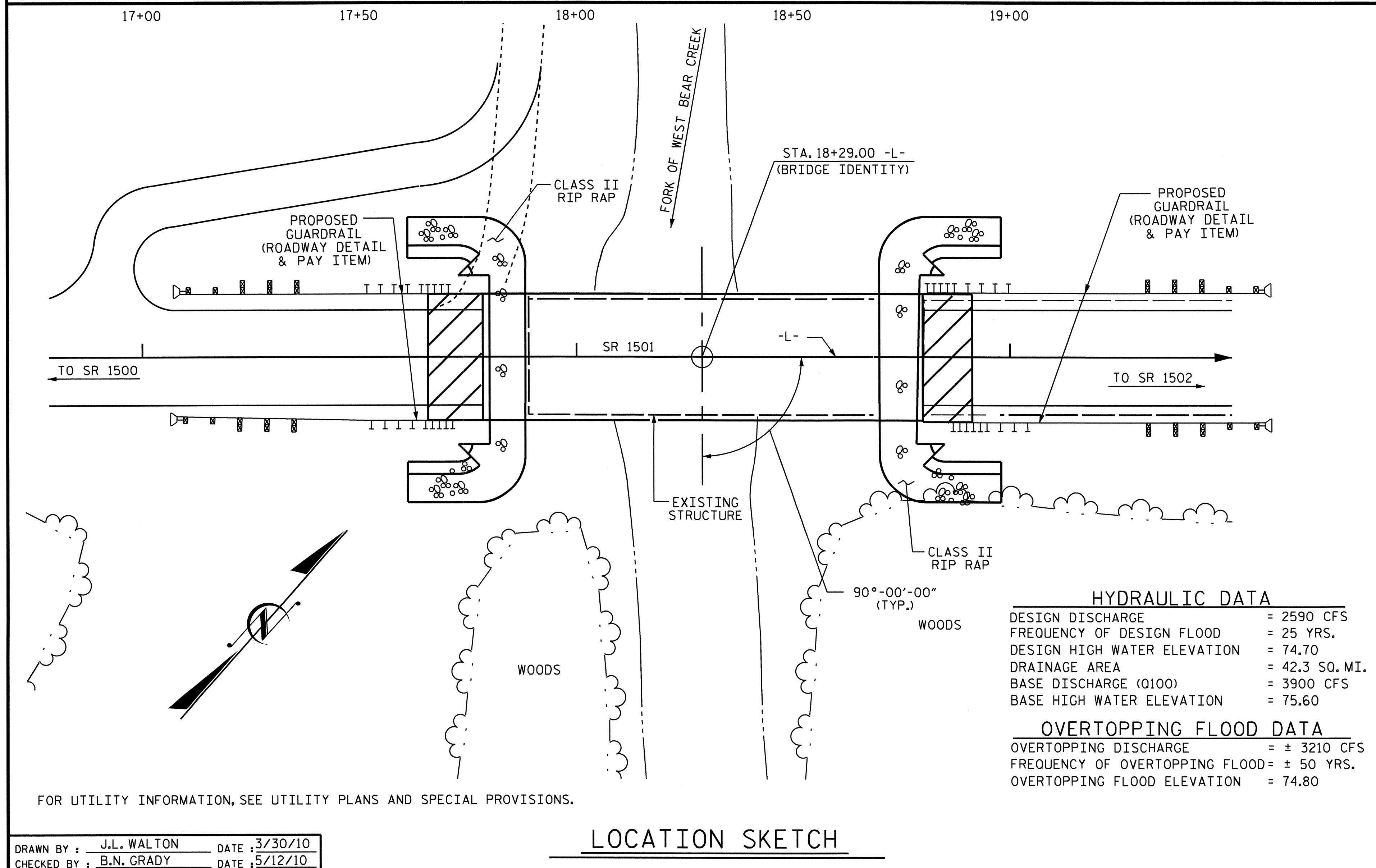
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			18

DRAWN BY : J.L. WALTON DATE : 4-6-10
 CHECKED BY : B.N. GRADY DATE : 5-12-10

TOTAL BILL OF MATERIAL																
	REMOVAL OF EXISTING STRUCTURE	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12 X 53 STEEL PILES		▲ HP 14 X 73 GALVANIZED STEEL PILES		PILE REDRIVES	CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLABS	
	LUMP SUM	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	NO.	LIN. FT.	NO.	LIN. FT.	EACH	LIN. FT.	TONS	SO. YDS.	LUMP SUM	NO.	LIN. FT.
SUPERSTRUCTURE				LUMP SUM							200.25			LUMP SUM	22	1100
END BENT 1		LUMP SUM	13.8		2033	5	250			3		94	104			
BENT 1			10.7		2068			6	330	3						
END BENT 2		LUMP SUM	13.9		2033	5	225			3		100	112			
TOTAL	LUMP SUM	LUMP SUM	38.4	LUMP SUM	6134	10	475	6	330	9	200.25	194	216	LUMP SUM	22	1100

▲ FOR INTERIOR BENT 1, ONLY PARTIAL GALVANIZING OF THE PILES IS REQUIRED. SEE BENT 1 SHEET FOR REQUIRED GALVANIZED LENGTHS. PAYMENT FOR THE PARTIALLY GALVANIZED PILES WILL BE MADE UNDER THE CONTRACT UNIT PRICE FOR GALVANIZED STEEL PILES.

B.M. #1 : RR SPIKE SET IN 18" CHERRY TREE 132.45' LEFT OF STA. 16+64.10 -L- ELEV. 77.11



HYDRAULIC DATA

DESIGN DISCHARGE	= 2590 CFS
FREQUENCY OF DESIGN FLOOD	= 25 YRS.
DESIGN HIGH WATER ELEVATION	= 74.70
DRAINAGE AREA	= 42.3 SQ. MI.
BASE DISCHARGE (Q100)	= 3900 CFS
BASE HIGH WATER ELEVATION	= 75.60

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= ± 3210 CFS
FREQUENCY OF OVERTOPPING FLOOD	= ± 50 YRS.
OVERTOPPING FLOOD ELEVATION	= 74.80

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

DRAWN BY : J.L. WALTON DATE : 3/30/10
 CHECKED BY : B.N. GRADY DATE : 5/12/10

24-AUG-2011 09:19
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 jmya

PROJECT NO. B-4567
LENOIR COUNTY
 STATION: 18+29.00 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON SR 1501
 OVER FORK OF WEST BEAR CREEK
 BETWEEN SR 1500 AND SR 1502



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			18

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ_{dc}	γ_{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			
						LIVELOAD FACTORS	MOMENT					SHEAR					LIVELOAD FACTORS	MOMENT						
							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)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93(Inv)	N/A	1	1.034	--	1.75	0.273	1.34	A	EL	27	0.528	1.03	B	EL	2.2	0.80	0.273	1.06	A	EL	27		
	HL-93(0pr)	N/A	--	1.34	--	1.35	0.273	1.74	A	EL	27	0.528	1.34	B	EL	2.2	N/A	--	--	--	--	--		
	HS-20(Inv)	36.000	2	1.224	44.049	1.75	0.273	1.68	A	EL	27	0.528	1.22	B	EL	2.2	0.80	0.273	1.33	A	EL	27		
	HS-20(0pr)	36.000	--	1.586	57.101	1.35	0.273	2.18	A	EL	27	0.528	1.59	B	EL	2.2	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13.500	--	2.797	37.755	1.4	0.275	4.21	B	EL	22	0.528	3.38	B	EL	2.2	0.80	0.273	2.80	A	EL	27	
		SNGARBS2	20.000	--	2.171	43.416	1.4	0.275	3.4	B	EL	22	0.528	2.48	B	EL	2.2	0.80	0.273	2.17	A	EL	27	
		SNAGRIS2	22.000	--	2.094	46.076	1.4	0.275	3.29	B	EL	17.6	0.528	2.33	B	EL	2.2	0.80	0.273	2.09	A	EL	27	
		SNCOTTS3	27.250	--	1.394	37.99	1.4	0.275	2.1	B	EL	22	0.528	1.69	B	EL	2.2	0.80	0.273	1.39	A	EL	27	
		SNAGGRS4	34.925	--	1.198	41.836	1.4	0.275	1.85	B	EL	22	0.528	1.46	B	EL	2.2	0.80	0.273	1.20	A	EL	27	
		SNS5A	35.550	--	1.169	41.563	1.4	0.275	1.81	B	EL	22	0.528	1.51	B	EL	2.2	0.80	0.273	1.17	A	EL	27	
		SNS6A	39.950	--	1.087	43.423	1.4	0.275	1.7	B	EL	22	0.528	1.41	B	EL	2.2	0.80	0.273	1.09	A	EL	27	
	SNS7B	42.000	--	1.036	43.497	1.4	0.275	1.62	B	EL	22	0.528	1.41	B	EL	2.2	0.80	0.273	1.04	A	EL	27		
	TTST	TNAGRIT3	33.000	--	1.33	43.881	1.4	0.275	2.09	B	EL	22	0.528	1.65	B	EL	2.2	0.80	0.273	1.33	A	EL	27	
		TNT4A	33.075	--	1.34	44.307	1.4	0.275	2.11	B	EL	22	0.528	1.58	B	EL	2.2	0.80	0.273	1.34	A	EL	27	
		TNT6A	41.600	--	1.109	46.153	1.4	0.273	1.75	A	EL	27	0.528	1.54	B	EL	2.2	0.80	0.273	1.11	A	EL	27	
		TNT7A	42.000	--	1.123	47.153	1.4	0.273	1.77	A	EL	27	0.528	1.42	B	EL	2.2	0.80	0.273	1.12	A	EL	27	
		TNT7B	42.000	--	1.172	49.213	1.4	0.273	1.85	A	EL	27	0.528	1.36	B	EL	2.2	0.80	0.273	1.17	A	EL	27	
		TNAGRIT4	43.000	--	1.109	47.683	1.4	0.273	1.75	A	EL	27	0.528	1.3	B	EL	2.2	0.80	0.273	1.11	A	EL	27	
TNAGT5A		45.000	--	1.039	46.751	1.4	0.273	1.64	A	EL	27	0.528	1.34	B	EL	2.2	0.80	0.273	1.04	A	EL	27		
TNAGT5B	45.000	3	1.02	45.922	1.4	0.273	1.61	A	EL	27	0.528	1.24	B	EL	2.2	0.80	0.273	1.02	A	EL	27			

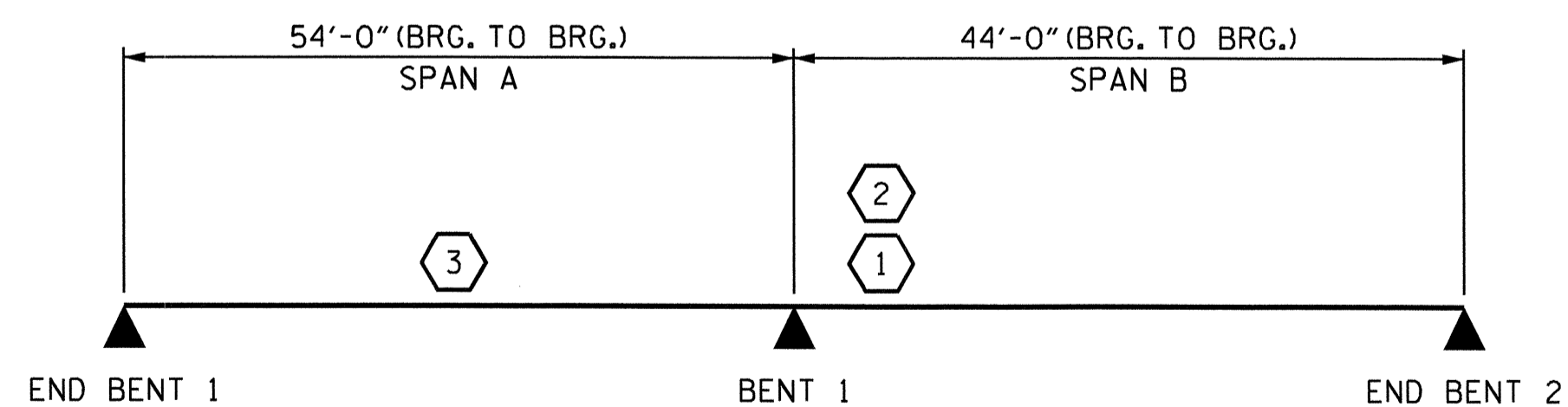
NOTES:
MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

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	

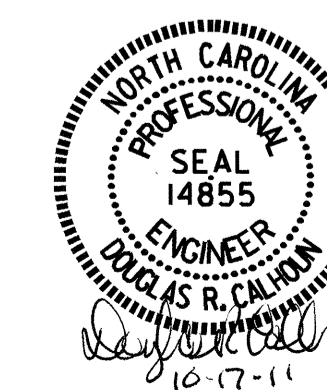


LRFR SUMMARY

PROJECT NO. B-4567
LENOIR COUNTY
STATION: 18+29.00 -L-

ASSEMBLED BY : K. P. SEDAI DATE : 10/17/11
CHECKED BY : W. S. ARAFAT DATE : 10/17/11
DRAWN BY : MAA 1/08 REV. 11/12/08R MAA/GM
CHECKED BY : GM/DI 2/08

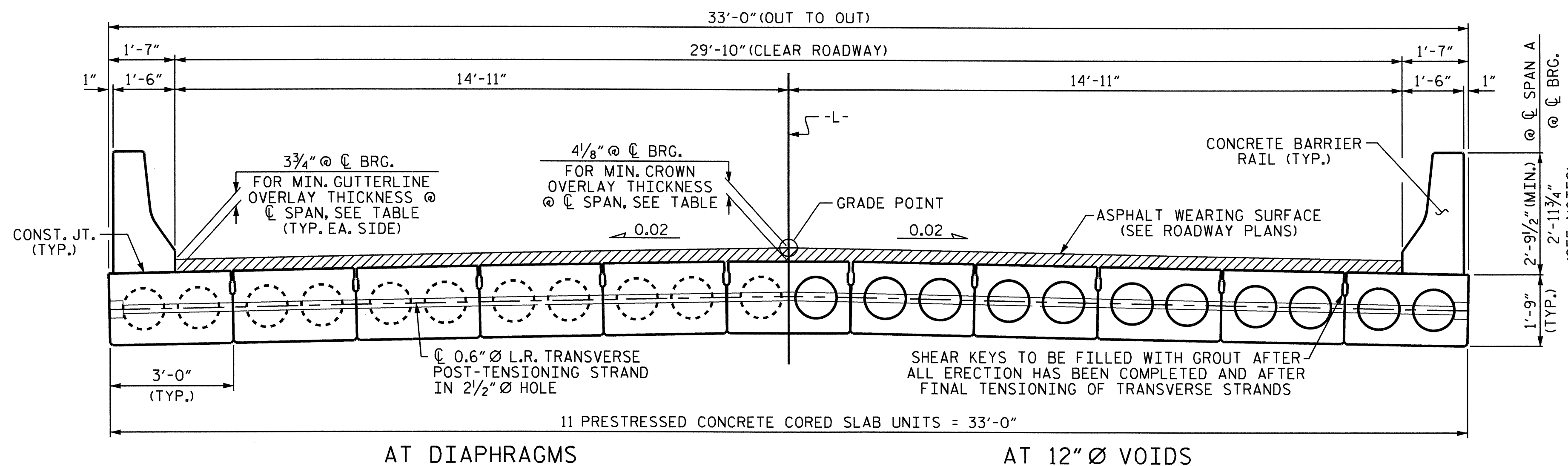
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
LRFR SUMMARY FOR
PRESTRESSED
CONCRETE GIRDERS
(NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS 18
2			4			

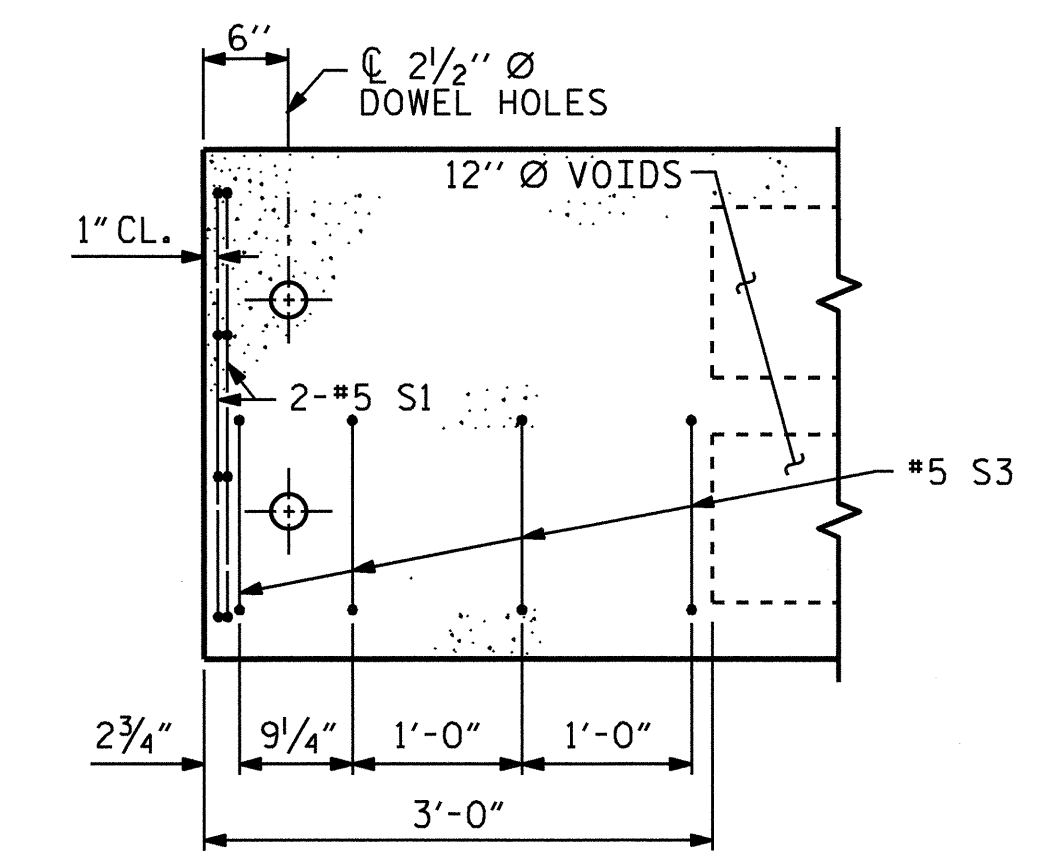
STD. NO. LRFR1



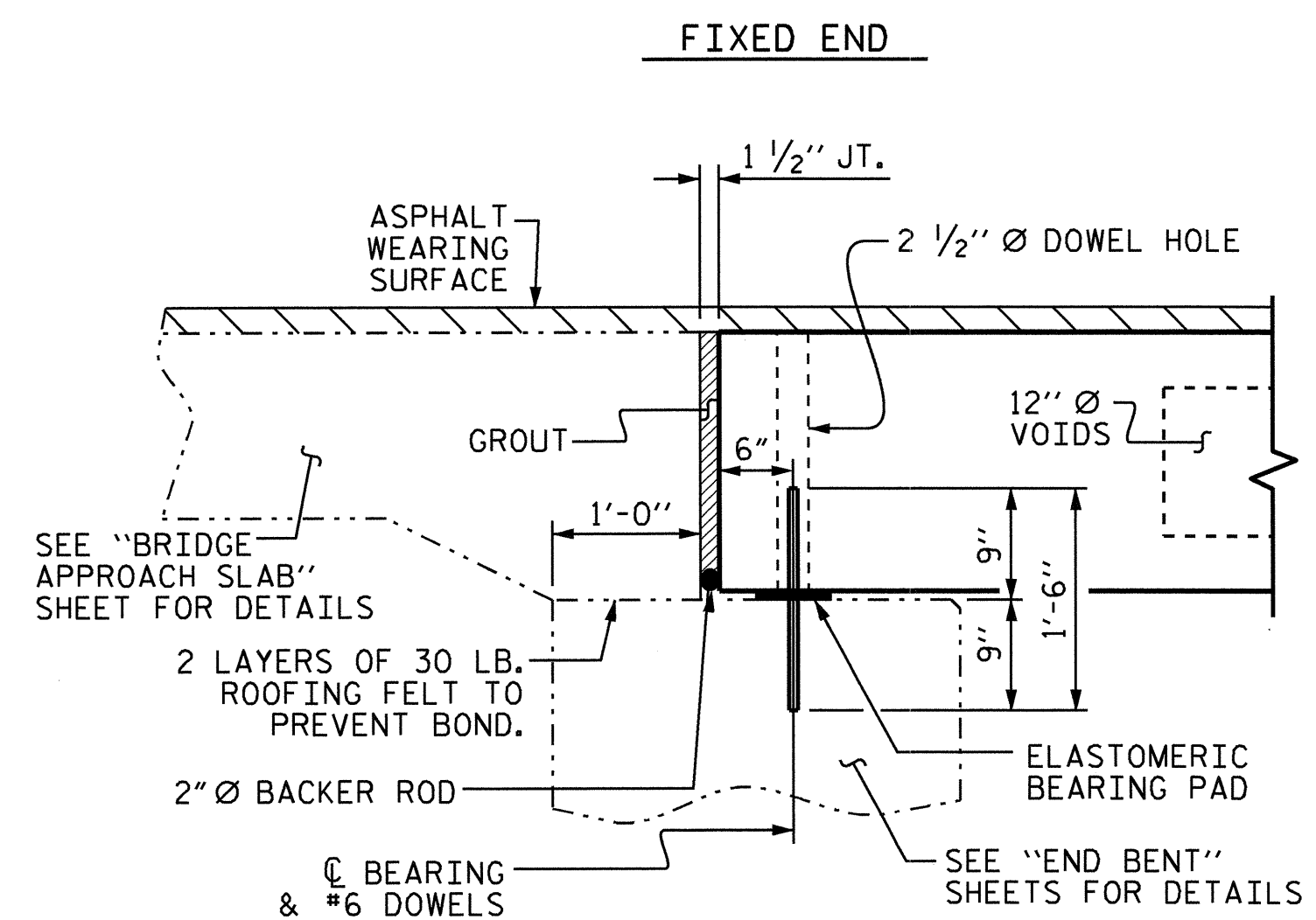
AT DIAPHRAGMS AT 12" Ø VOIDS

TYPICAL SECTION

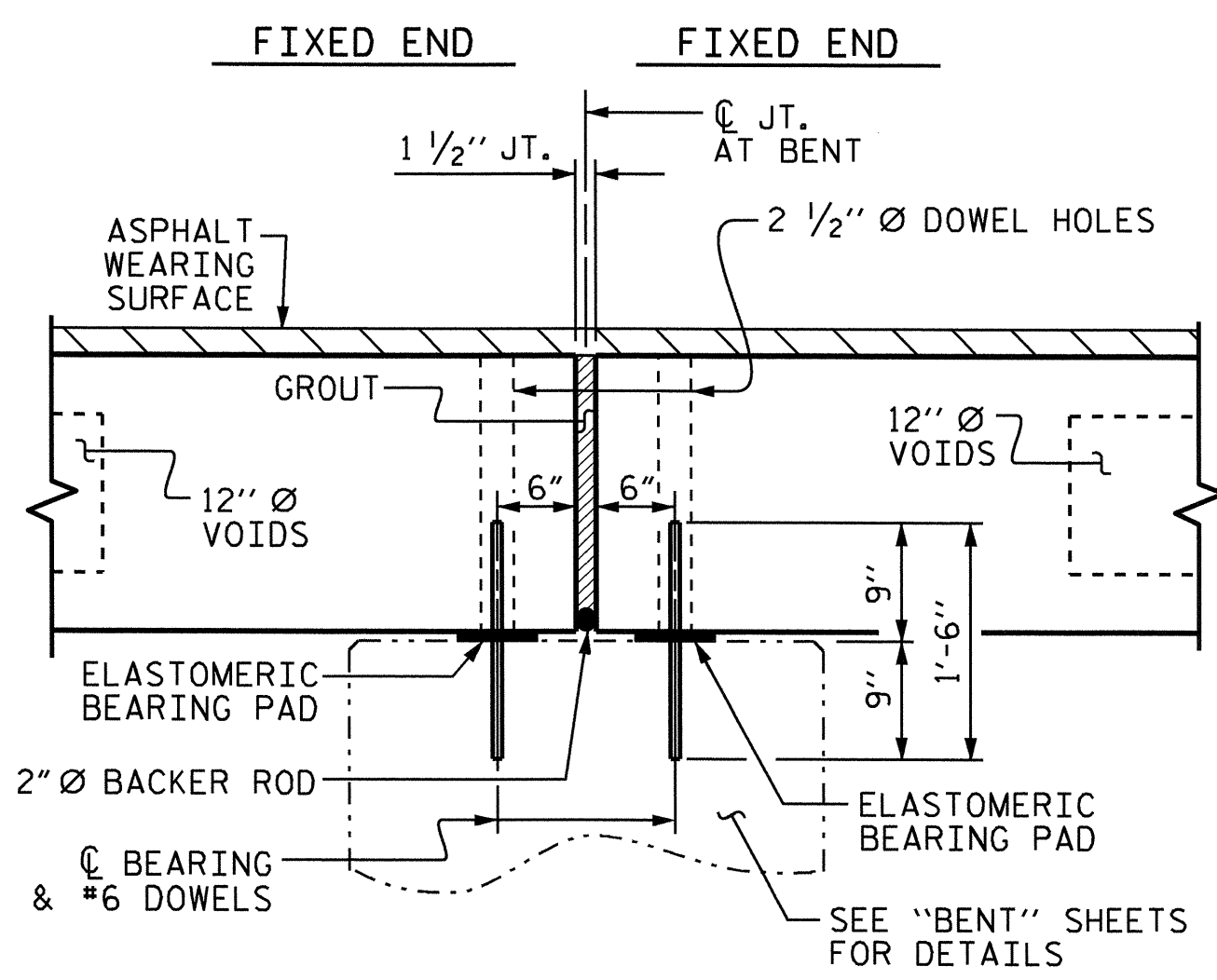
MIN. OVERLAY THICKNESS @ CL SPAN		
SPAN	@ GUTTERLINE	@ CROWN
A	1 1/2"	1 7/8"
B	2 5/8"	2 15/16"



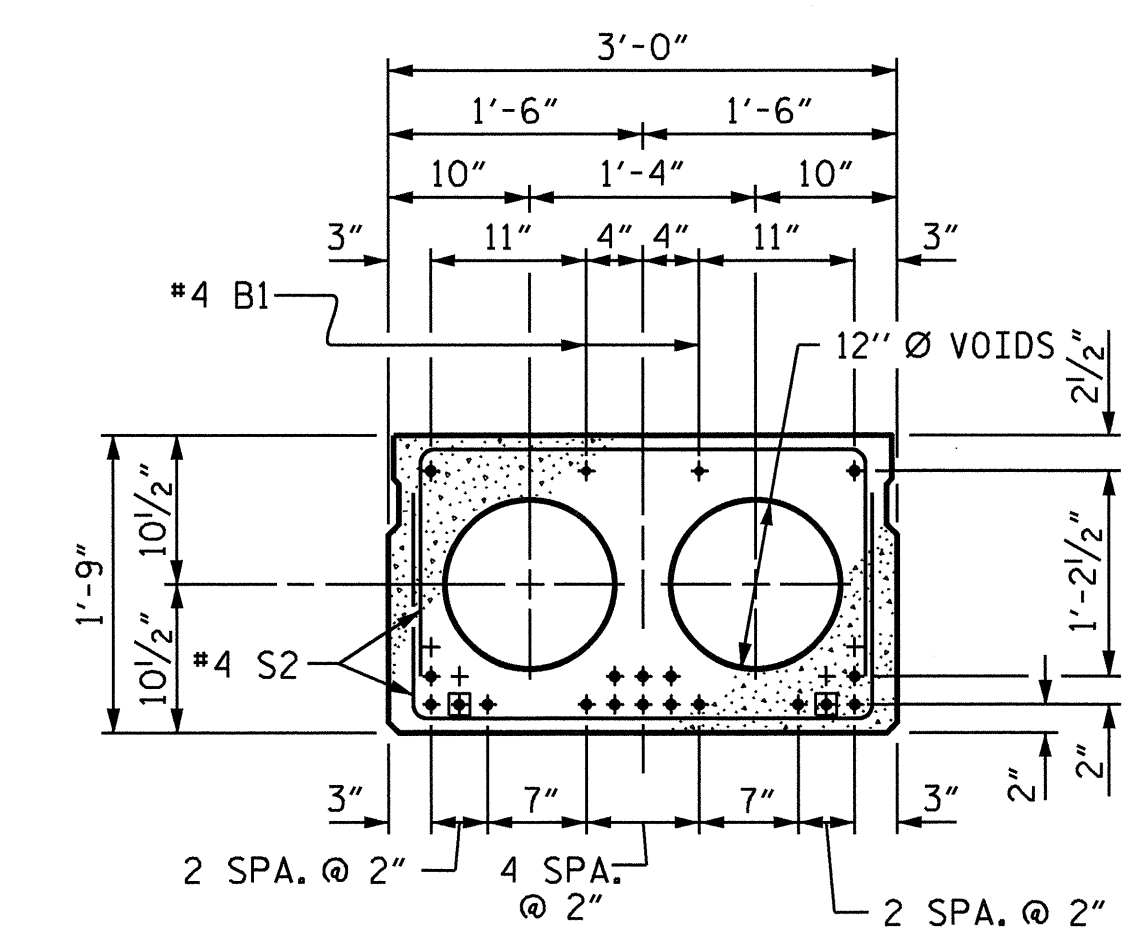
PART PLAN-EXTERIOR SECTION
NOTE: EXTERIOR SECTION SHOWN-INTERIOR SECTION SIMILAR EXCEPT OMIT S3 BARS.



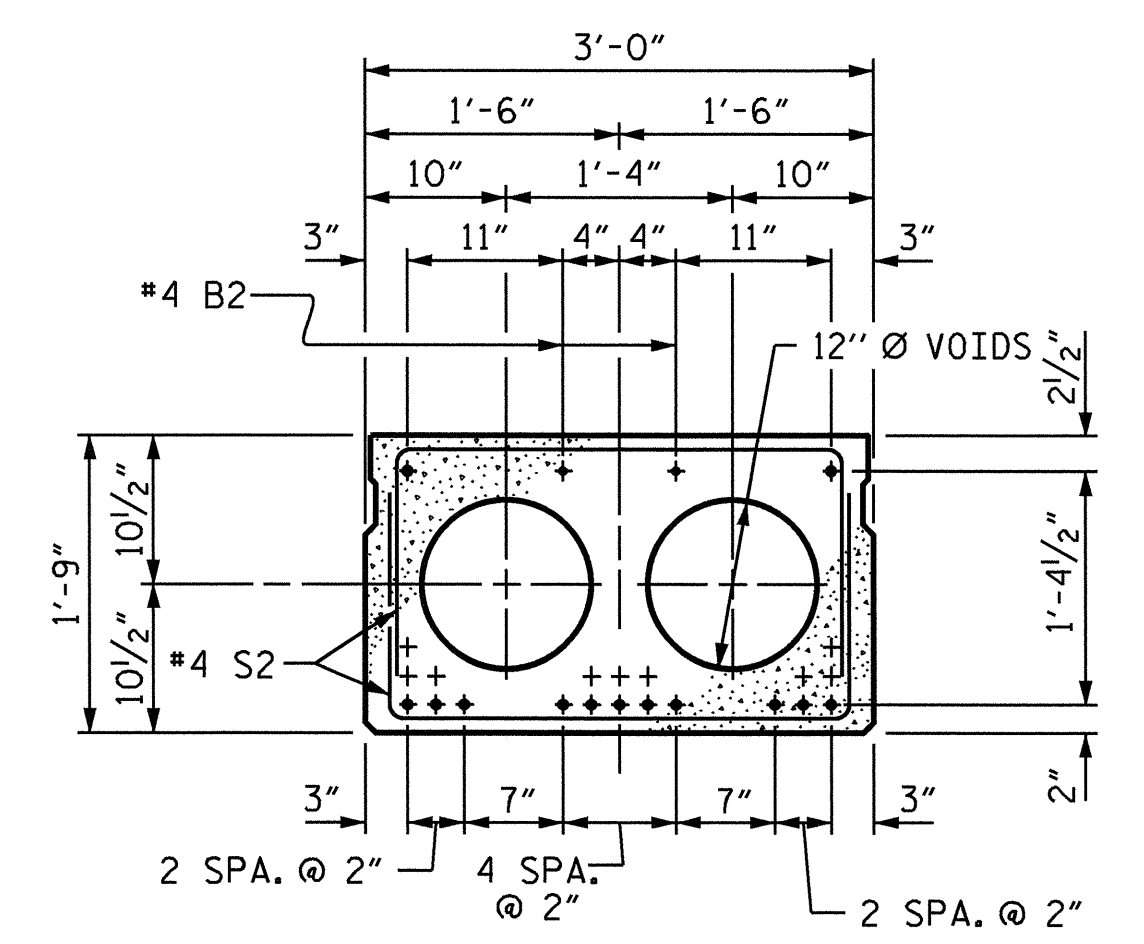
SECTION AT END BENT



SECTION AT BENT

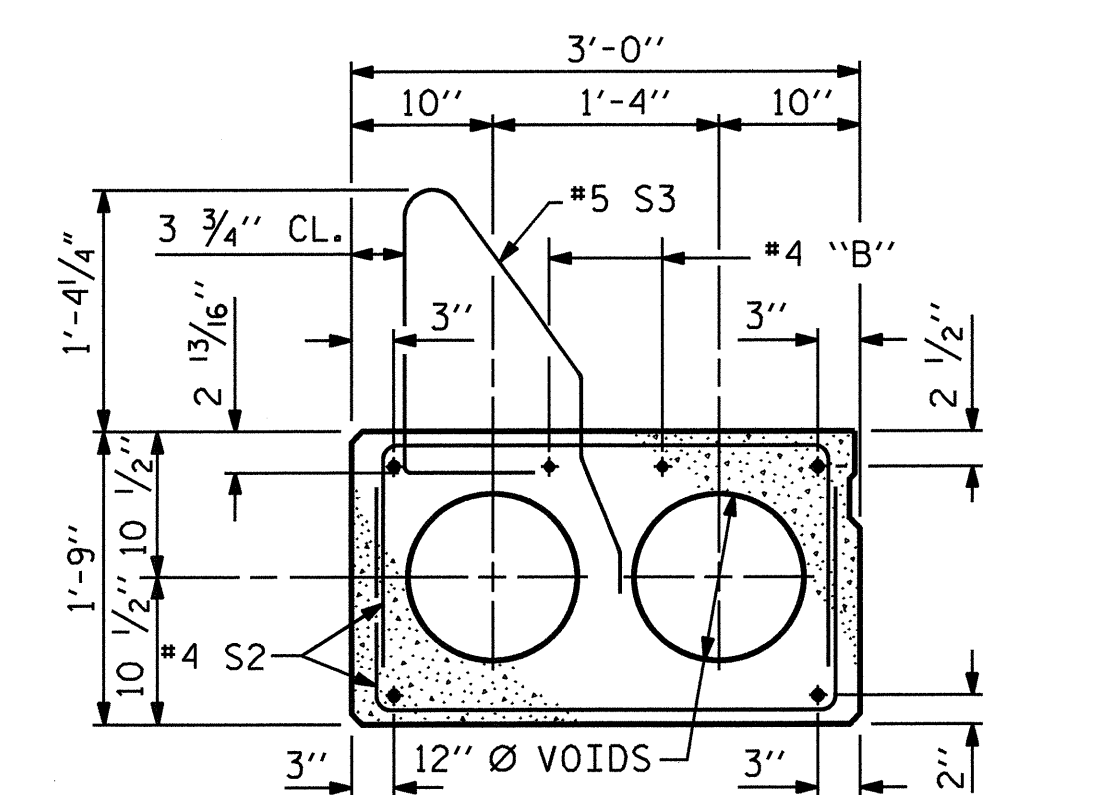


INTERIOR SLAB SECTION
SPAN A
0.6" Ø LOW RELAXATION STRAND LAYOUT (18 STRANDS, 2 SHEATHED)

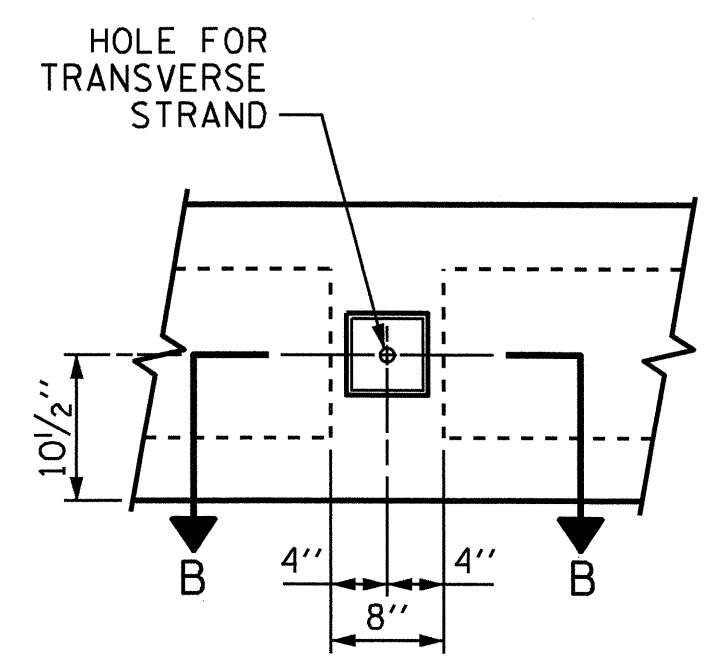


INTERIOR SLAB SECTION
SPAN B
0.6" Ø LOW RELAXATION STRAND LAYOUT (13 STRANDS)

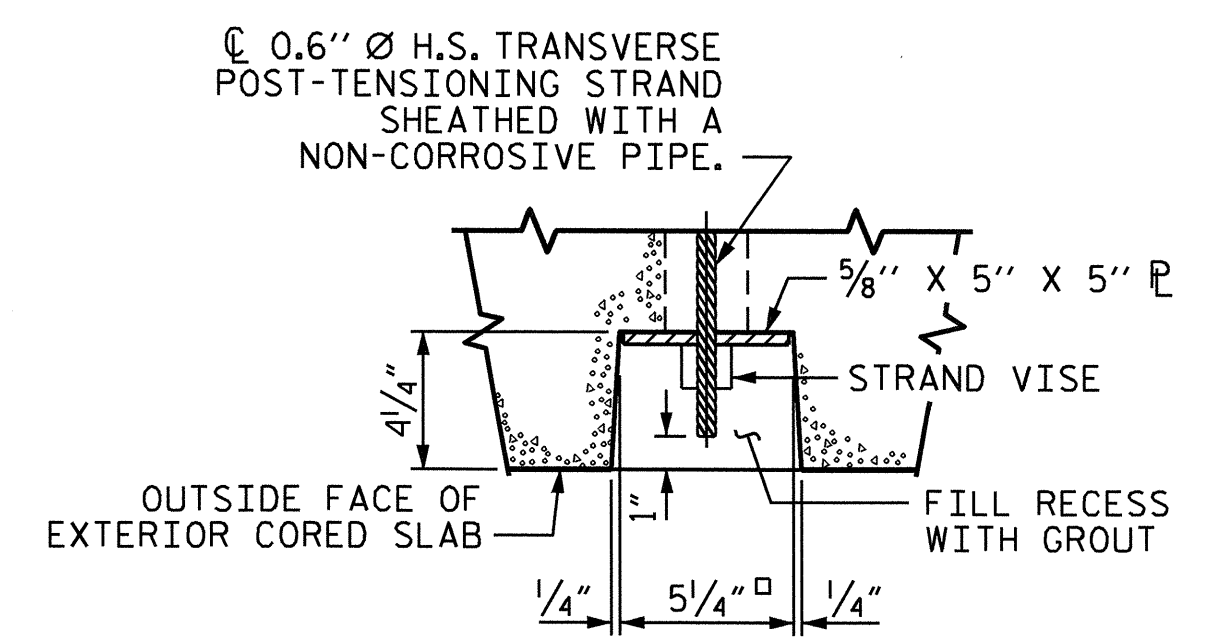
THE BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 4'-0" FROM END OF THE CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS ARTICLE 1078-7.



EXTERIOR SLAB SECTION
(FOR PRESTRESSED STRAND LAYOUT, SEE INTERIOR SLAB SECTION.)

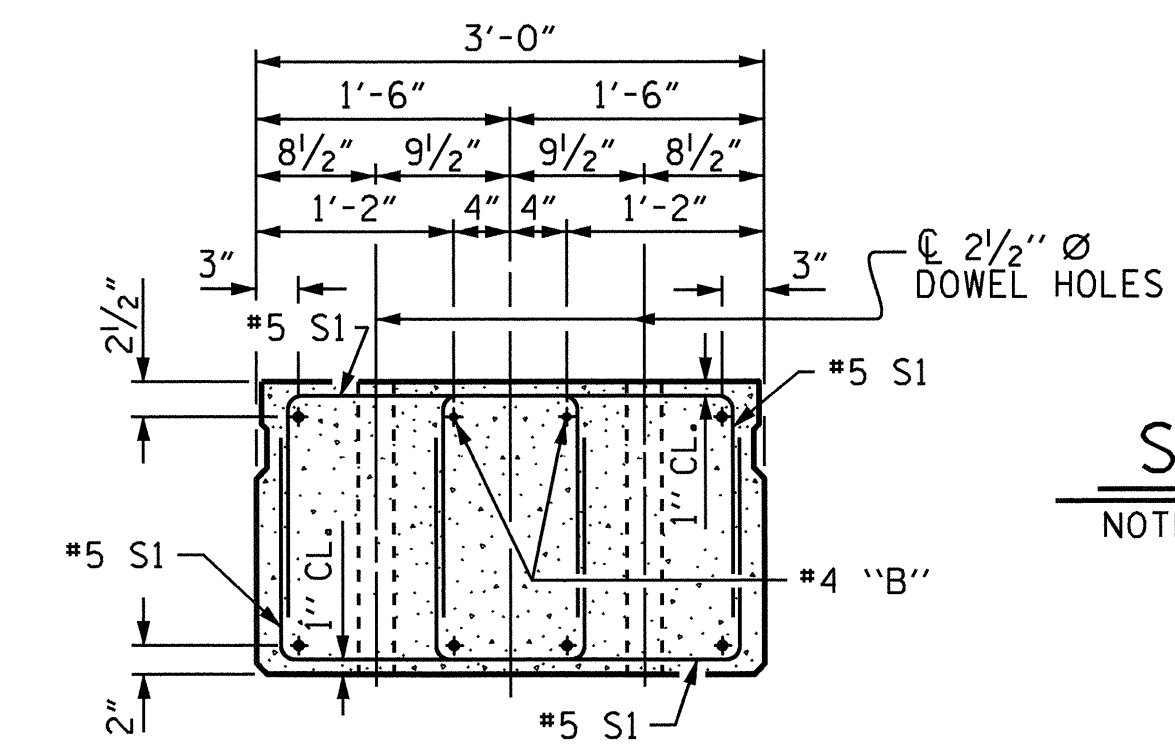


ELEVATION VIEW

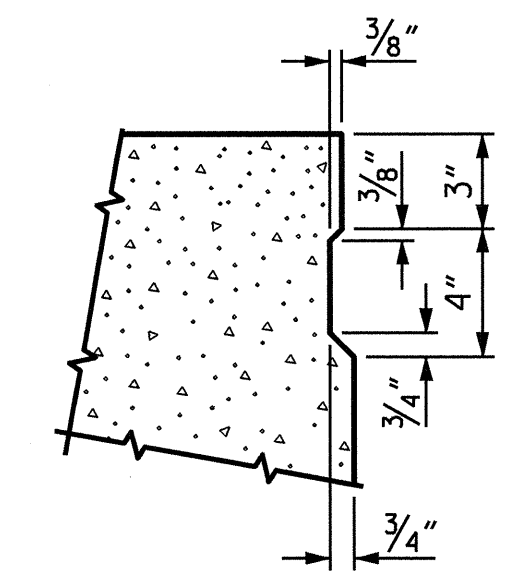


SECTION B-B

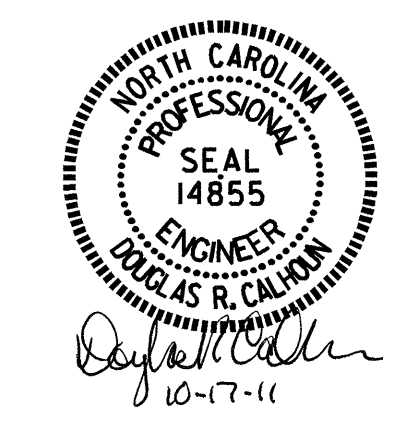
GROUTED RECESS AT END OF POST-TENSIONED STRAND OF CORED SLABS



END ELEVATION
SHOWING PLACEMENT OF DOUBLE STIRRUPS AND LOCATION OF DOWEL HOLES. (STRAND LAYOUT NOT SHOWN.) INTERIOR SLAB SECTION SHOWN-EXTERIOR SLAB SECTION SIMILAR EXCEPT SHEAR KEY LOCATION.



SHEAR KEY DETAIL
NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF EXTERIOR CORED SLABS.

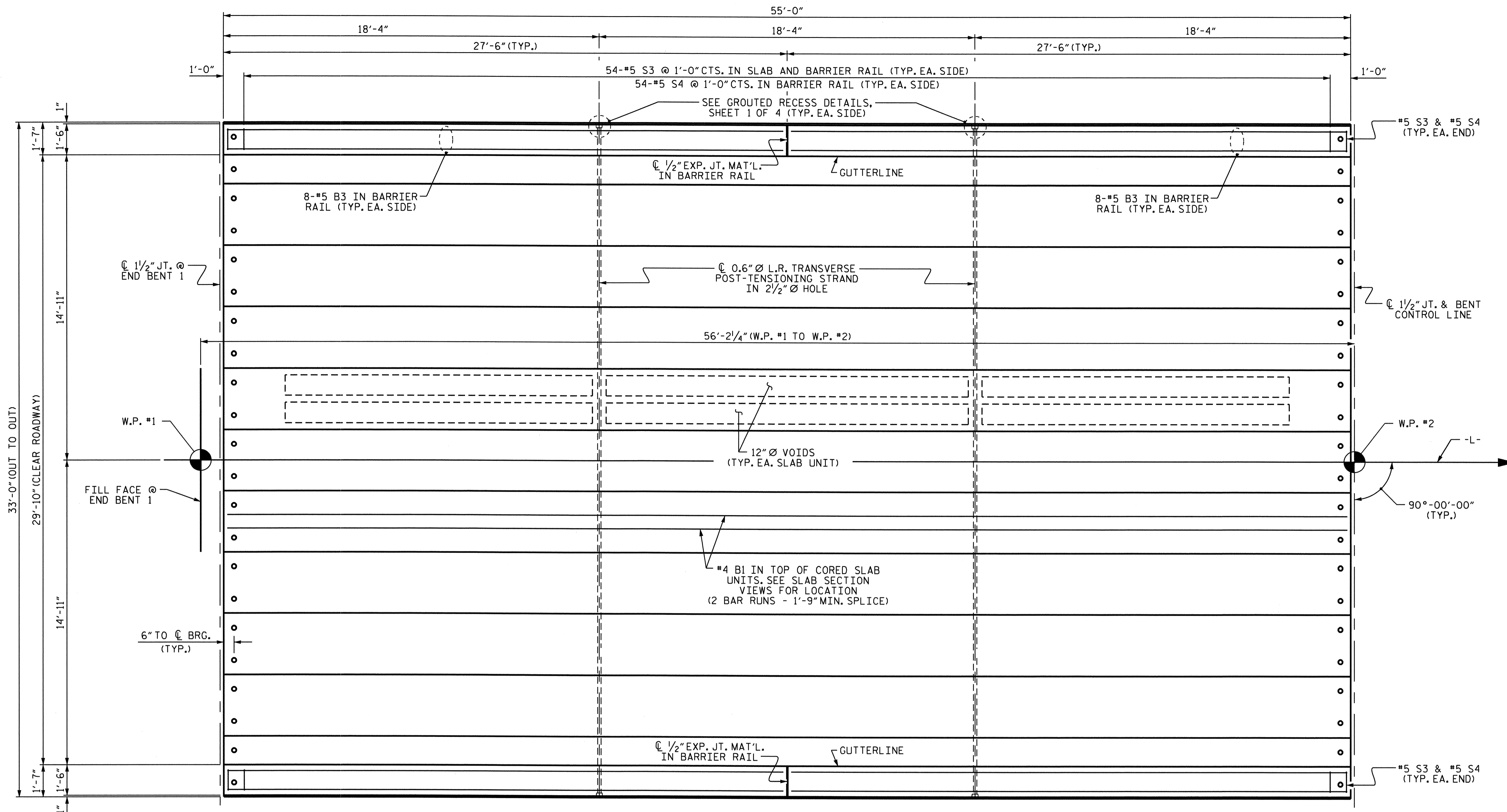


PROJECT NO. B-4567
LENOIR COUNTY
STATION: 18+29.00 -L-

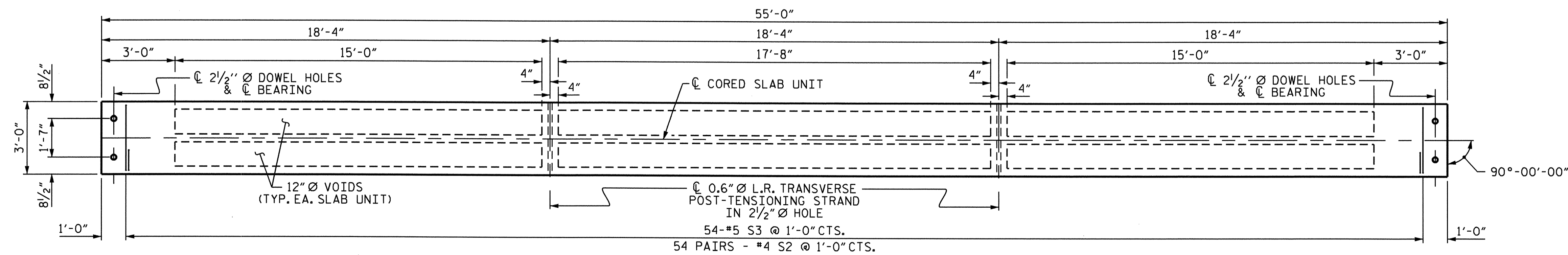
SHEET 1 OF 4

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO. S-5
STANDARD 3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLAB UNIT						
REVISIONS						TOTAL SHEETS 18
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

ASSEMBLED BY: B.N. GRADY	DATE: 1/20/10
CHECKED BY: J.L. WALTON	DATE: 3/18/10
DRAWN BY: WJH 4/89	REV. 10/17/00 RWW/LES
CHECKED BY: FCJ 5/89	REV. 7/10/01RR RWW/LES
	REV. 5/1/06R TLA/GM



PLAN OF SPAN A

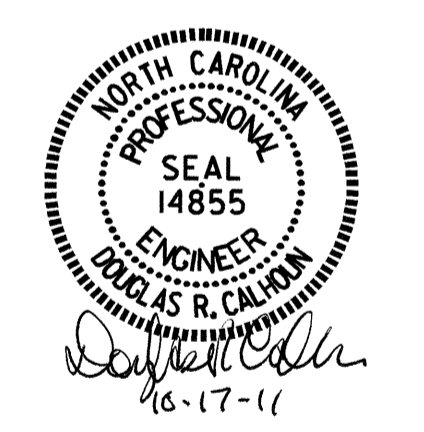


PLAN OF CORED SLAB UNIT

(EXTERIOR UNIT SHOWN, INTERIOR UNIT SIMILAR EXCEPT OMIT S3 BARS)
FOR REINFORCING STEEL AT END OF CORED SLABS, SEE "PART PLAN EXTERIOR SECTION", SHEET 1 OF 4.

DRAWN BY: B.N. GRADY DATE: 1/20/10
CHECKED BY: J.L. WALTON DATE: 3/18/10

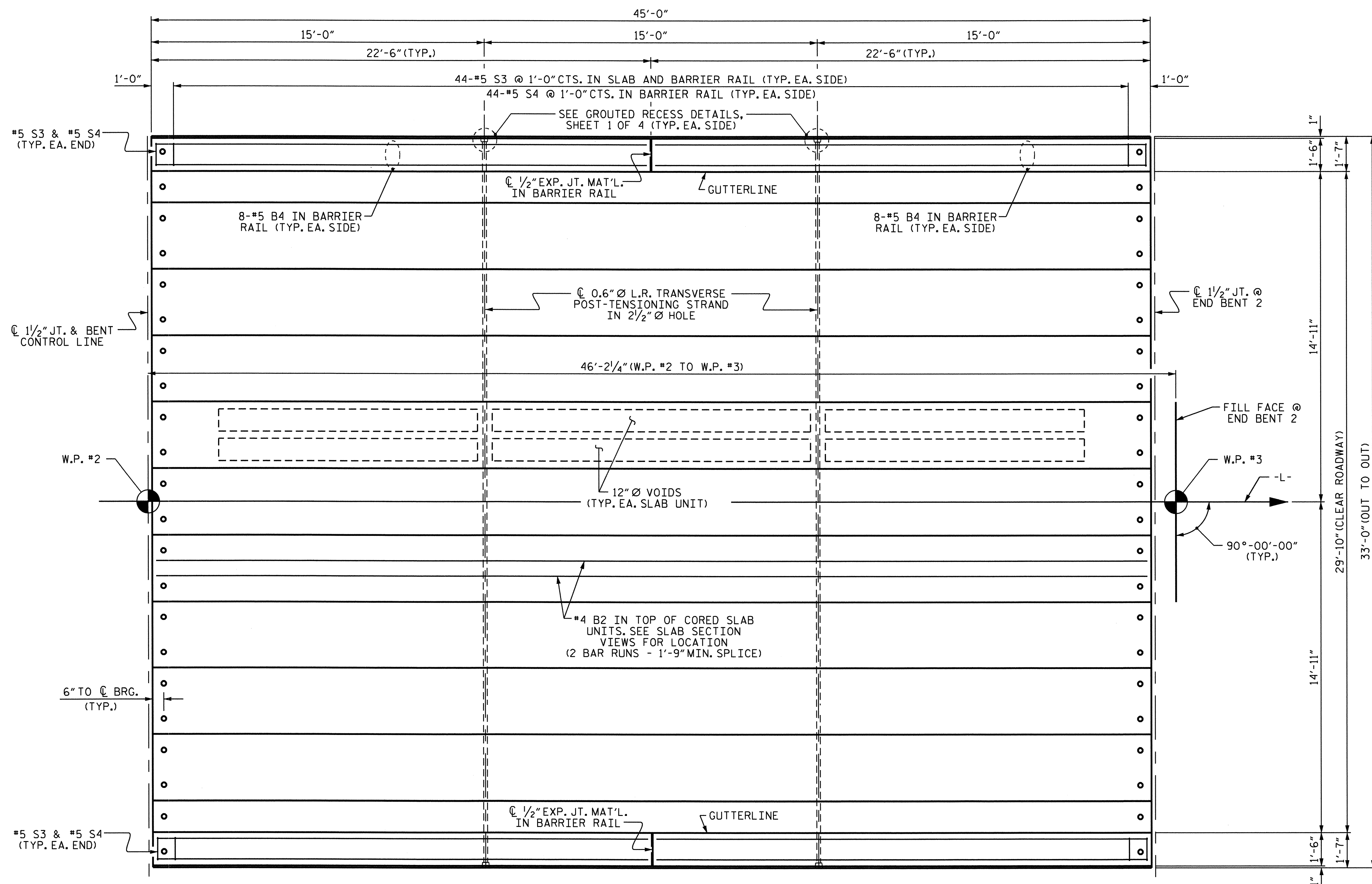
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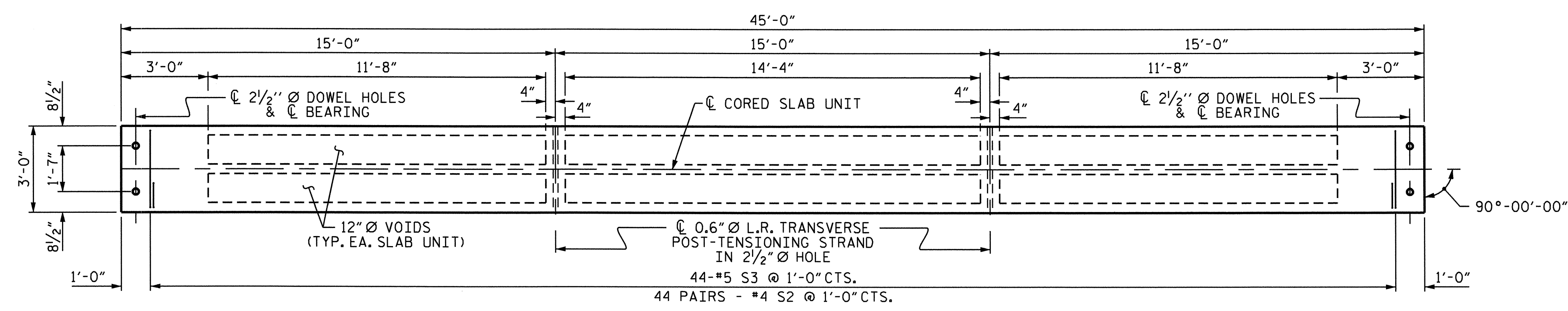
PROJECT NO. B-4567
LENOIR COUNTY
STATION: 18+29.00 -L-

SHEET 2 OF 4

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO. S-6
SUPERSTRUCTURE PLAN OF SPAN A						TOTAL SHEETS 18
REVISIONS						NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



PLAN OF SPAN B

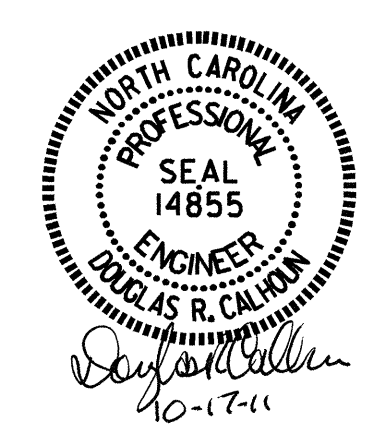


PLAN OF CORED SLAB UNIT

(EXTERIOR UNIT SHOWN, INTERIOR UNIT SIMILAR EXCEPT OMIT S3 BARS)
 FOR REINFORCING STEEL AT END OF CORED SLABS, SEE "PART PLAN EXTERIOR SECTION", SHEET 1 OF 4.

DRAWN BY : B.N. GRADY DATE : 1/20/10
 CHECKED BY : J.L. WALTON DATE : 3/18/10

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PROJECT NO. B-4567
 LENOIR COUNTY
 STATION: 18+29.00 -L-

SHEET 3 OF 4

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO. S-7
SUPERSTRUCTURE PLAN OF SPAN B						
REVISIONS						TOTAL SHEETS 18
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

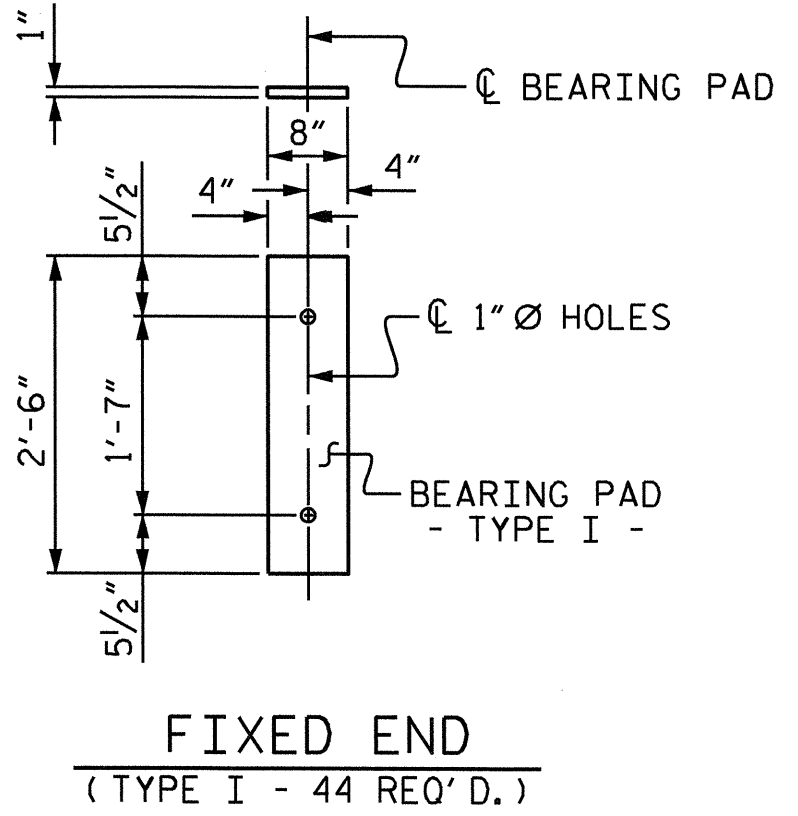
BILL OF MATERIAL FOR ONE CORED SLAB SECTION																
SPAN A							SPAN B									
BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT LENGTH	EXTERIOR UNIT WEIGHT	INTERIOR UNIT LENGTH	INTERIOR UNIT WEIGHT	BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT LENGTH	EXTERIOR UNIT WEIGHT	INTERIOR UNIT LENGTH	INTERIOR UNIT WEIGHT	
B1	4	#4	STR	28'-3"	75	28'-3"	75	B2	4	#4	STR	23'-3"	62	23'-3"	62	
S1	8	#5	3	4'-3"	35	4'-3"	35	S1	8	#5	3	4'-3"	35	4'-3"	35	
S2	108	#4	3	5'-4"	385	5'-4"	385	S2	88	#4	3	5'-4"	314	5'-4"	314	
*S3	56	#5	1	5'-2"	302			*S3	46	#5	1	5'-2"	248			
REINFORCING STEEL				495 LBS.			495 LBS.			REINFORCING STEEL				411 LBS.		
*EPOXY COATED REINFORCING STEEL				302 LBS.			302 LBS.			*EPOXY COATED REINFORCING STEEL				248 LBS.		
6500 P.S.I. CONCRETE				7.9 CU. YDS.			7.8 CU. YDS.			5000 P.S.I. CONCRETE				6.5 CU. YDS.		
0.6" Ø L.R. STRANDS				No. 18			18			0.6" Ø L.R. STRANDS				No. 13		

BILL OF MATERIAL FOR CONCRETE BARRIER RAIL									
BAR	BARS PER SPAN		TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT		
	SPAN A	SPAN B							
*B3	32		32	#5	STR	27'-1"	904		
*B4		32	32	#5	STR	22'-1"	737		
*S4	112	92	204	#5	2	5'-5"	1153		
*EPOXY COATED REINFORCING STEEL							LBS.	2794	
CLASS AA CONCRETE							CU.YDS.	22.5	
TOTAL LIN. FT. OF CONCRETE BARRIER RAIL								200.25	

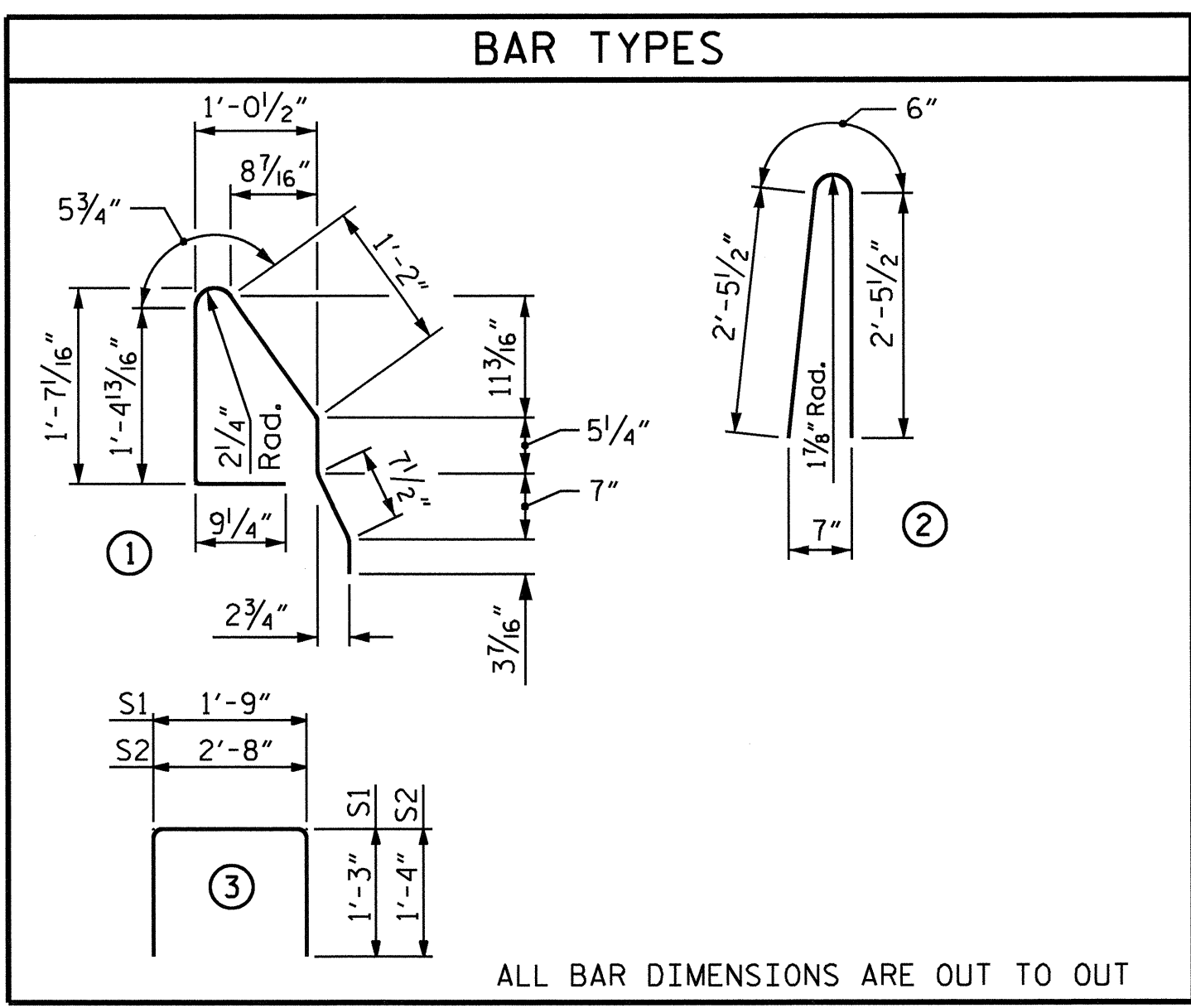
DEAD LOAD DEFLECTION AND CAMBER		
	SPAN A	SPAN B
CAMBER (SLAB ALONE IN PLACE) ↑	2 3/8"	1 3/8"
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD ** ↓	3/8"	3/16"
FINAL CAMBER ↑	2"	1 3/16"

** INCLUDES FUTURE WEARING SURFACE

CORED SLAB UNITS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR C.S.-SPAN A	2	55'-0"	110'-0"
INTERIOR C.S.-SPAN A	9	55'-0"	495'-0"
EXTERIOR C.S.-SPAN B	2	45'-0"	90'-0"
INTERIOR C.S.-SPAN B	9	45'-0"	405'-0"
TOTAL	22		1100'-0"

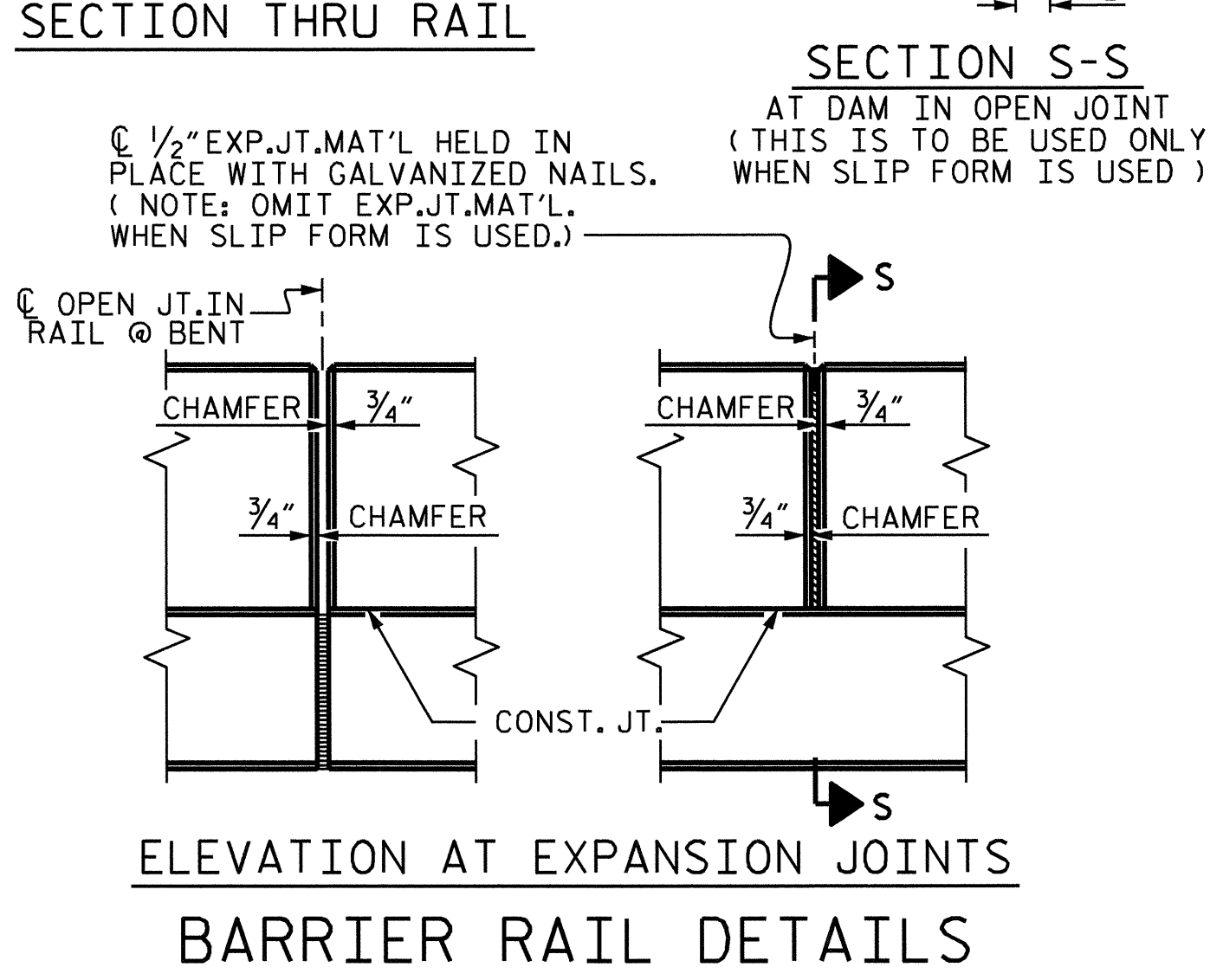
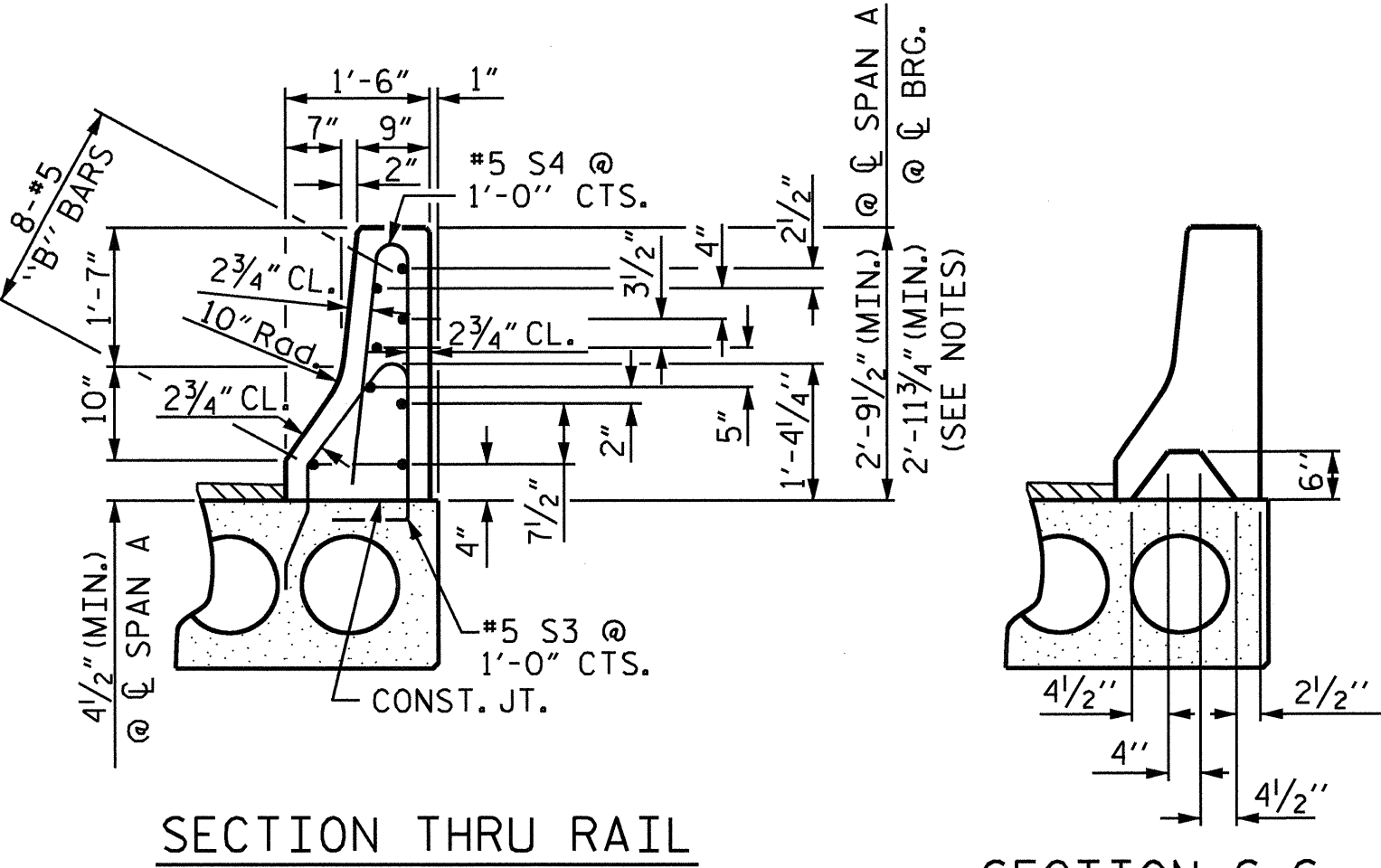


ELASTOMERIC BEARING DETAILS
(50 DUROMETER HARDNESS)



ALL BAR DIMENSIONS ARE OUT TO OUT

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



ELEVATION AT EXPANSION JOINTS
BARRIER RAIL DETAILS

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 2 1/2" Ø DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH GROUT.

THE 2" Ø BACKER ROD 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 4600 PSI FOR SPAN A AND 4000 PSI FOR SPAN B.

ALL REINFORCING STEEL IN 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, 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.

TRANSVERSE POST TENSIONING OF THE CORED SLAB UNITS SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, EXCEPT THAT THE STRANDS SHALL BE 0.6" Ø AND TENSIONED TO 43,950 POUNDS.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

THE HEIGHT OF THE BARRIER RAIL VARIES WHILE THE TOP OF THE BARRIER RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE.

PROJECT NO. B-4567
LENOIR COUNTY
STATION: 18+29.00 -L-
SHEET 4 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
3'-0" X 1'-9"
PRESTRESSED CONCRETE
CORED SLAB UNIT

REVISIONS				SHEET NO.			
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8	
1			3			TOTAL SHEETS 18	
2			4				

ASSEMBLED BY : B.N. GRADY DATE : 1/21/10
CHECKED BY : J.L. WALTON DATE : 3/18/10
DRAWN BY : WJH 4/89 REV. 7/10/01 RWW/LES
CHECKED BY : FCJ 5/89 REV. 5/7/03RRR RWW/JTE
REV. 5/1/06R TLA/GM

NOTES

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

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 M11.

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 7/8" 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.)

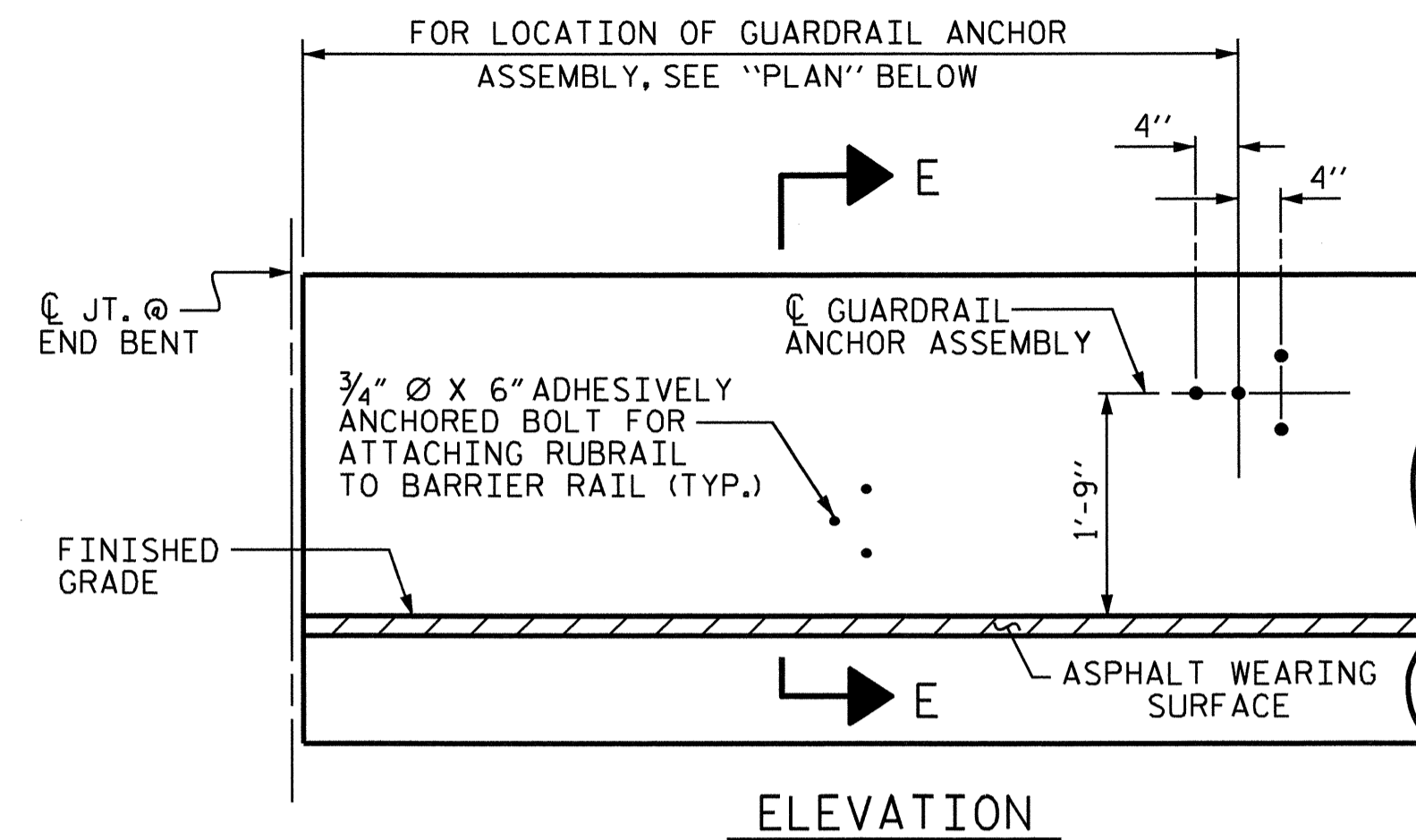
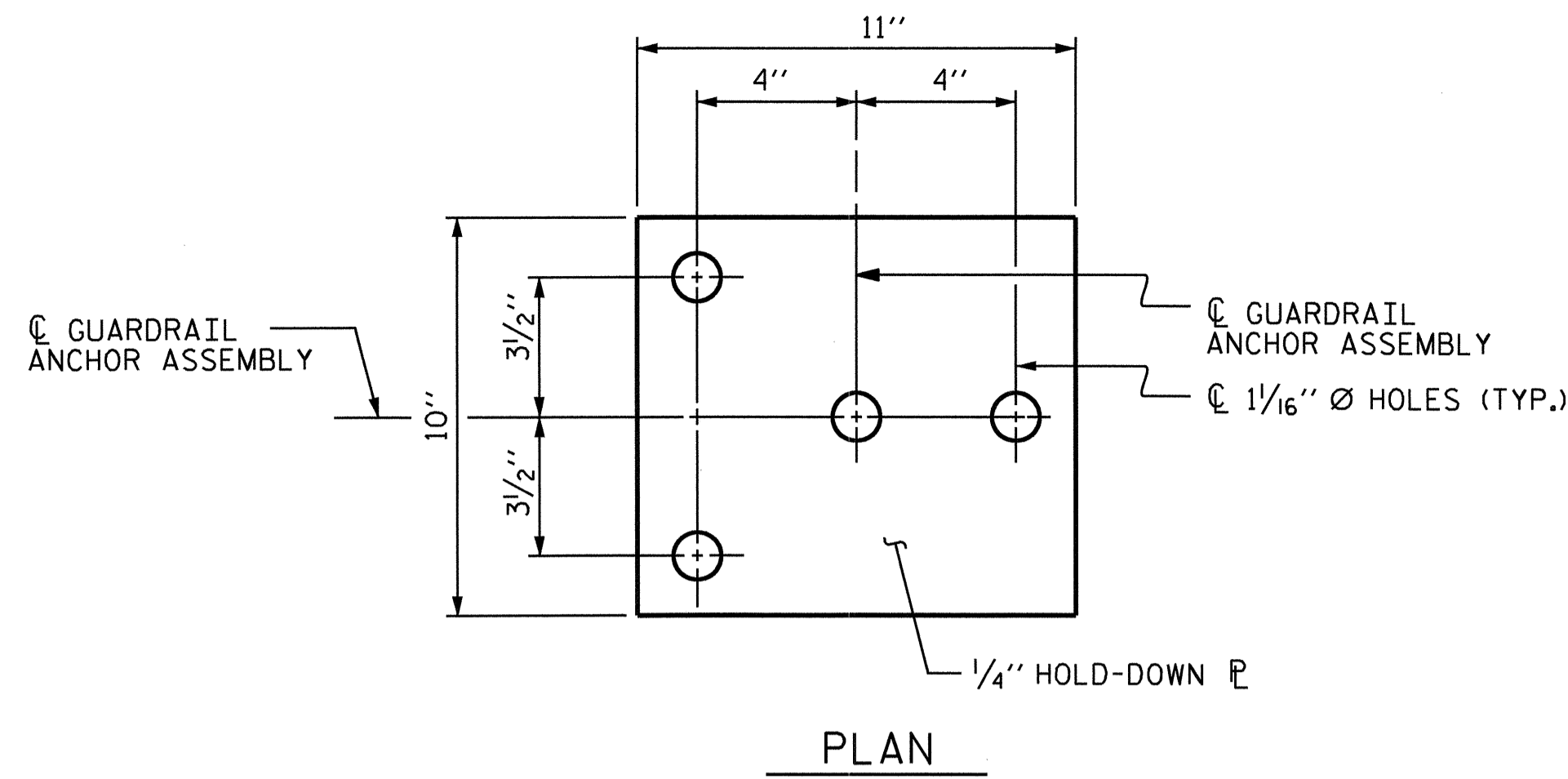
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

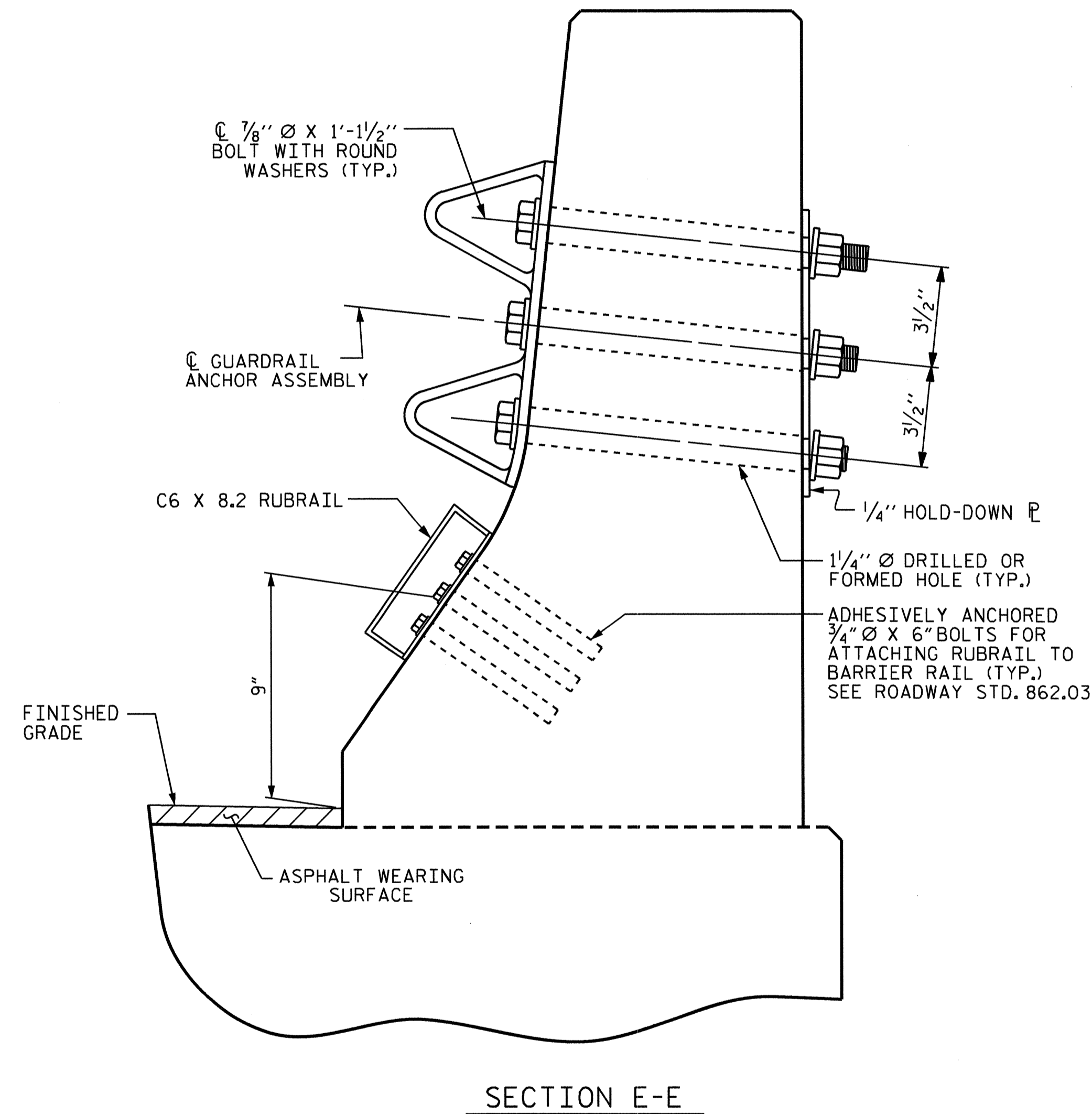
THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR CONCRETE BARRIER RAIL.

THE 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.

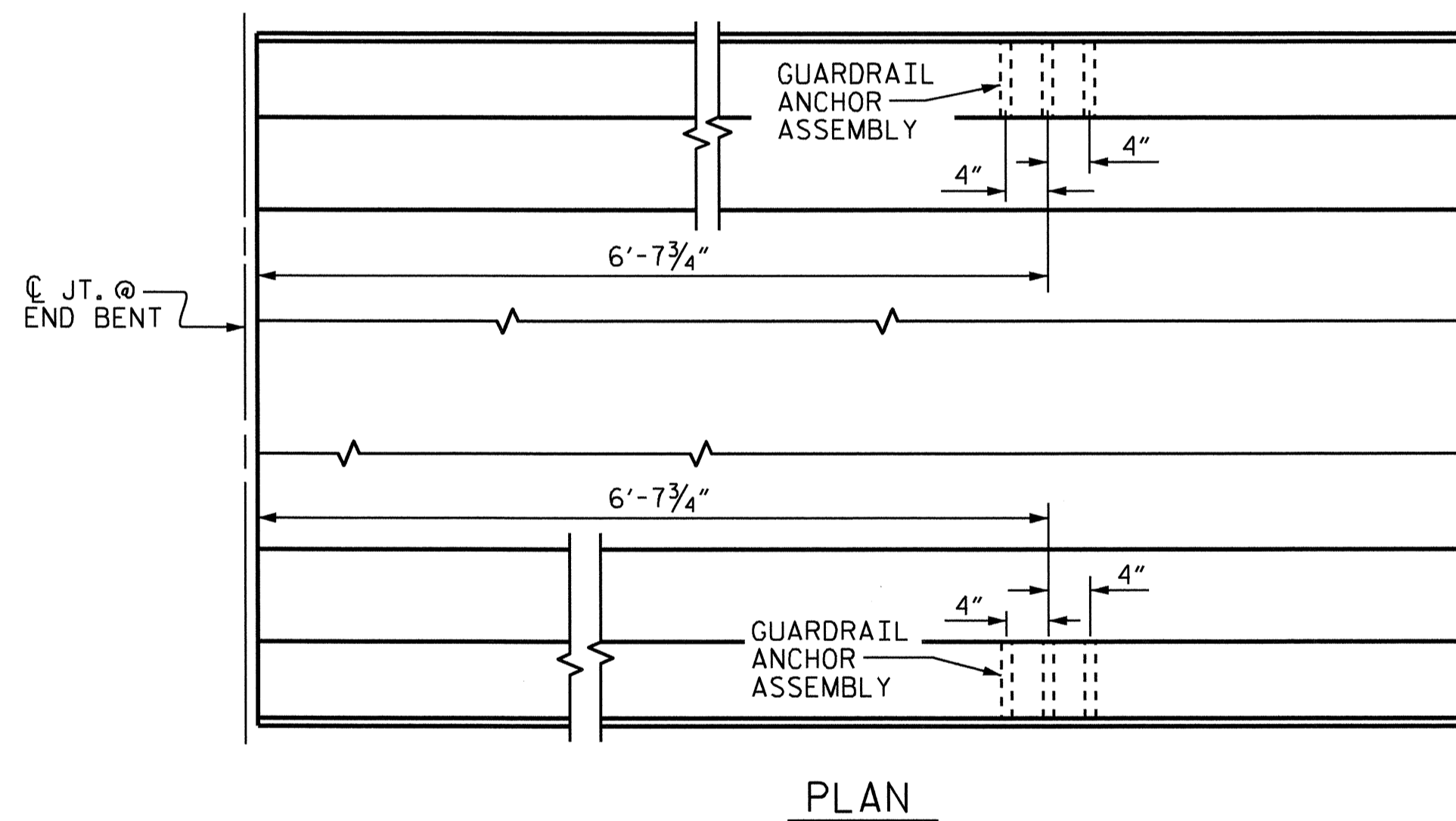
THE C6 X 8.2 RUBRAIL IS TO BE ADHESIVELY ANCHORED TO THE RAIL USING THREE 3/4" Ø X 6" BOLTS WITH WASHERS. LEVEL ONE FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE 3/4" Ø BOLT IS 12 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE SPECIAL PROVISIONS. SEE ROADWAY STANDARD 862.03 FOR DETAILS AND LOCATION OF THE RUBRAIL.



FOR LOCATION OF RUBRAIL, SEE ROADWAY STD. 862.03

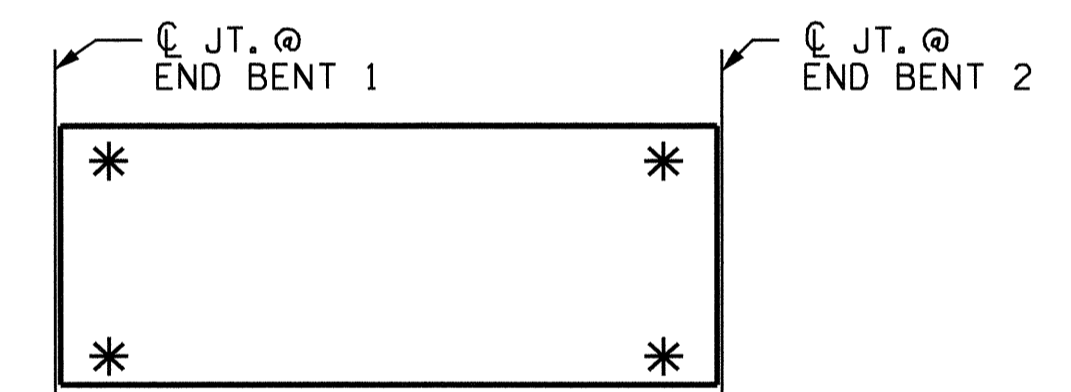


GUARDRAIL ANCHOR ASSEMBLY DETAILS



LOCATION OF ANCHORS FOR GUARDRAIL

END BENT 1 SHOWN, END BENT 2 SIMILAR.

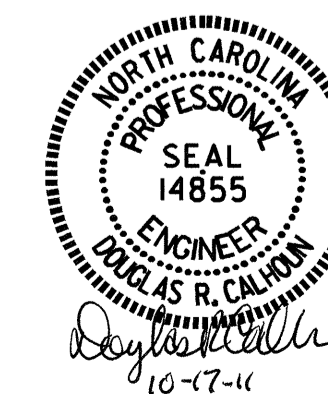


SKETCH SHOWING POINTS OF ATTACHMENTS

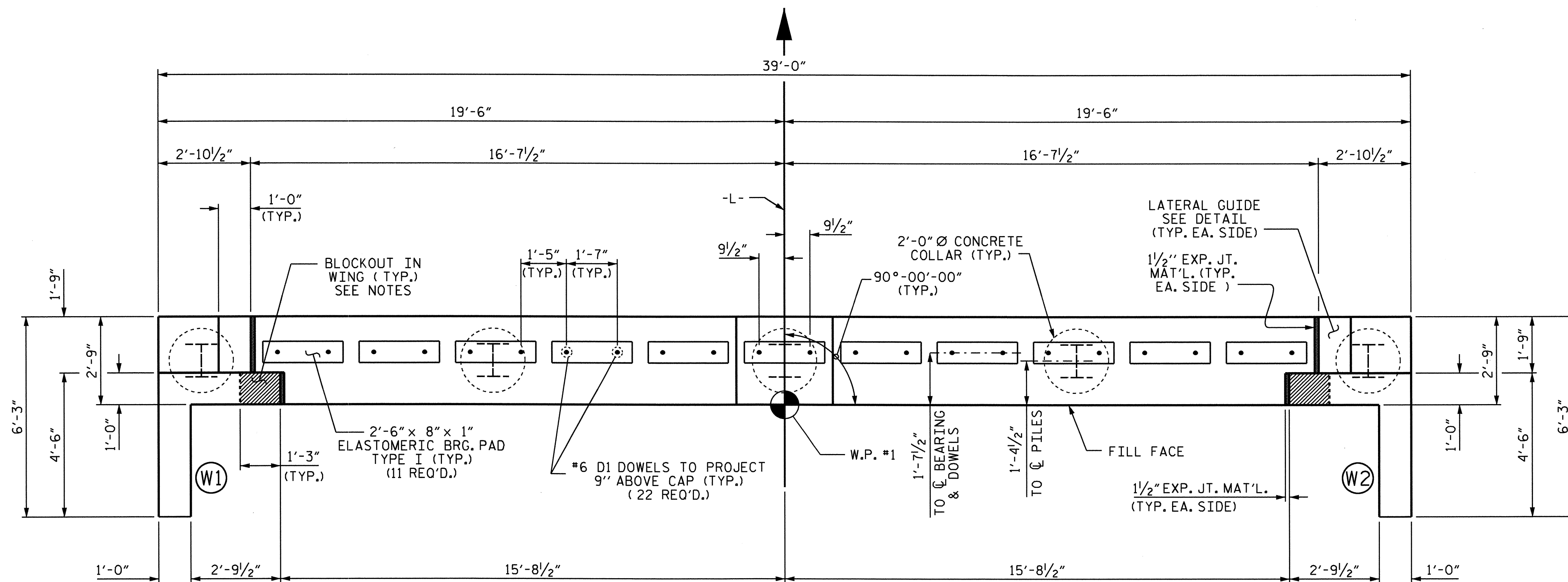
* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. B-4567
LENOIR COUNTY
 STATION: 18+29.00 -L-

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO. S-9
STANDARD GUARDRAIL ANCHORAGE FOR BARRIER RAIL						
REVISIONS						TOTAL SHEETS 18
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



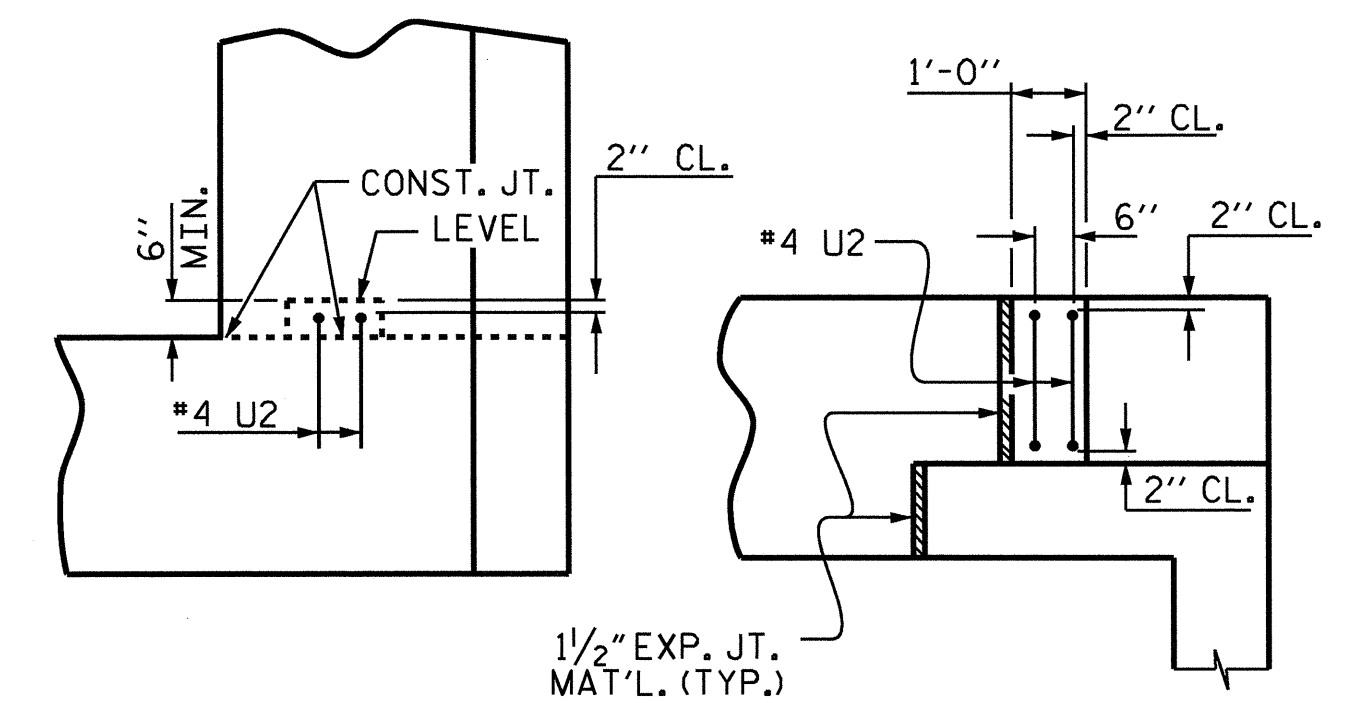
ASSEMBLED BY : B.N. GRADY	DATE : 1/21/10
CHECKED BY : J.L. WALTON	DATE : 3/18/10
DRAWN BY : TLA 5/06	ADDED 5/1/06R KMM/GM
CHECKED BY : GM 5/06	



PLAN

NOTES

- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.
- THE LATERAL GUIDE AT EACH END OF THE CAP IS NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.
- THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.
- THE CONTRACTOR SHALL PROVIDE FOR INSTALLATION OF THE 4" DIAMETER DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS, SEE THE ROADWAY PLANS. REINFORCING STEEL IN THE WING WALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.
- THE CONTRACTOR HAS THE OPTION TO OMIT THE LATERAL GUIDES IF APPROVED BY THE ENGINEER.

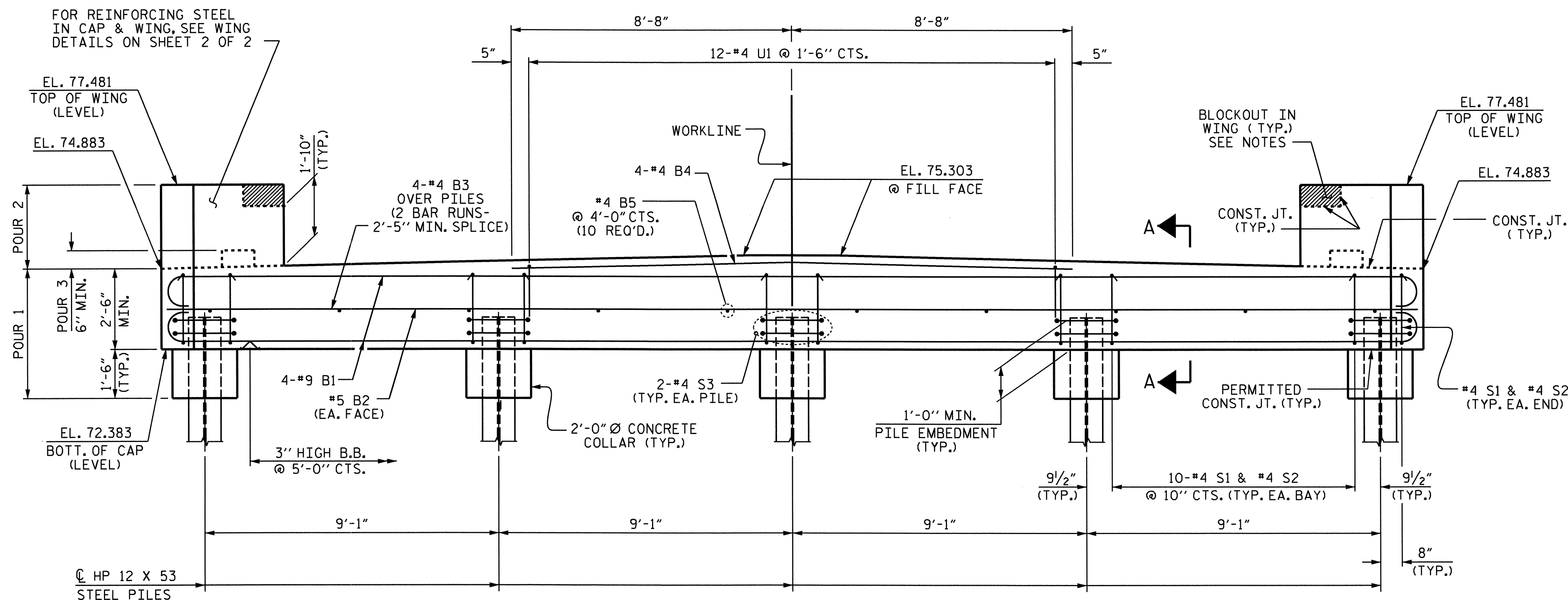


ELEVATION

PLAN

LATERAL GUIDE

(RIGHT SIDE SHOWN, LEFT SIDE SIMILAR)



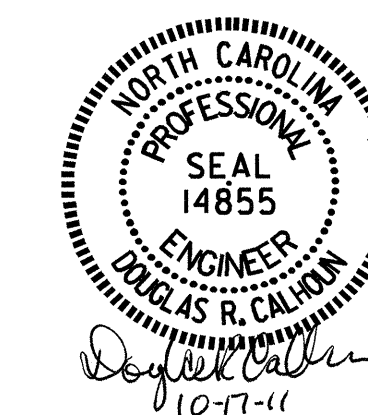
ELEVATION

PROJECT NO. B-4567
LENOIR COUNTY
 STATION: 18+29.00 -L-

SHEET 1 OF 2

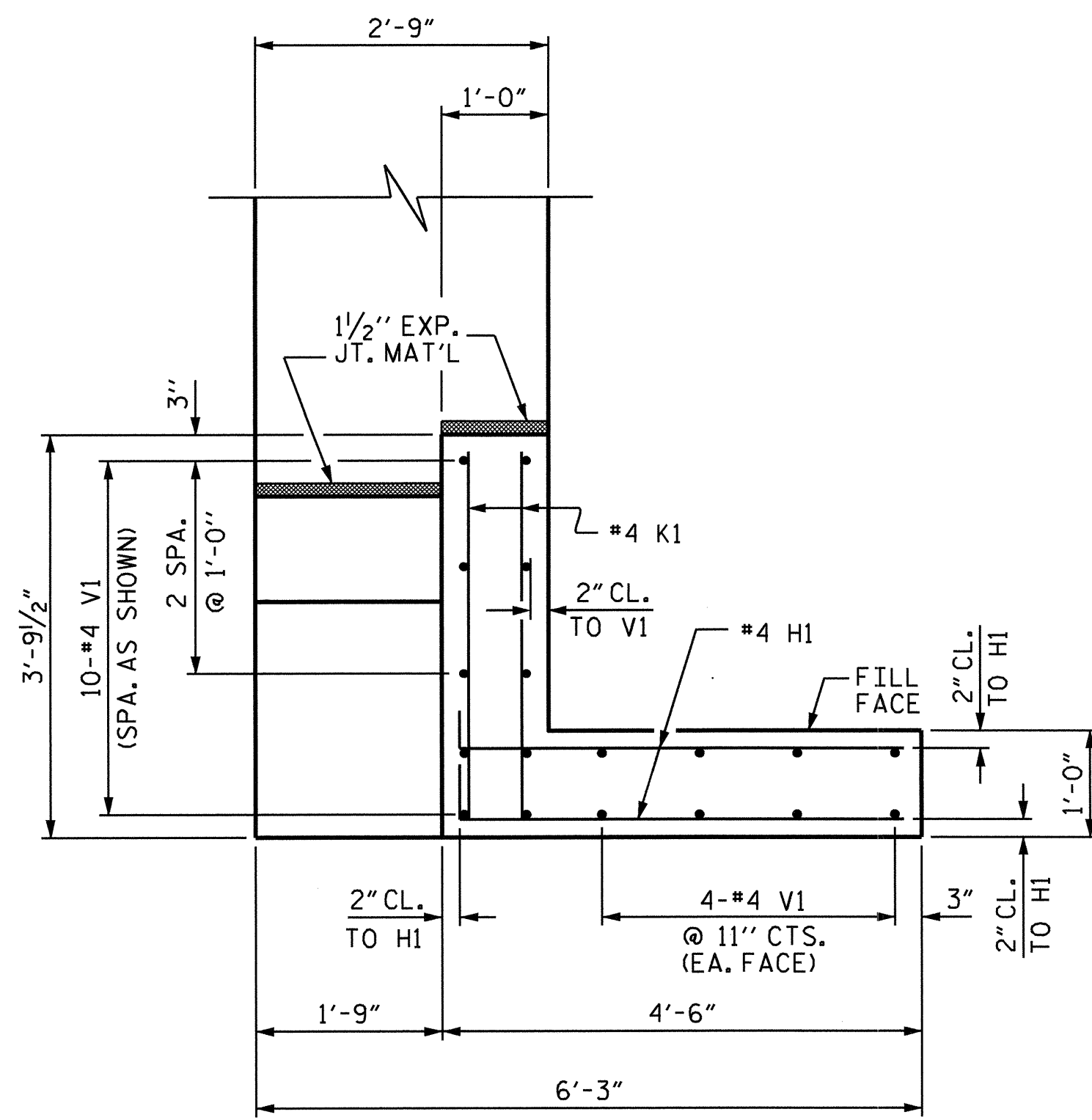
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT 1



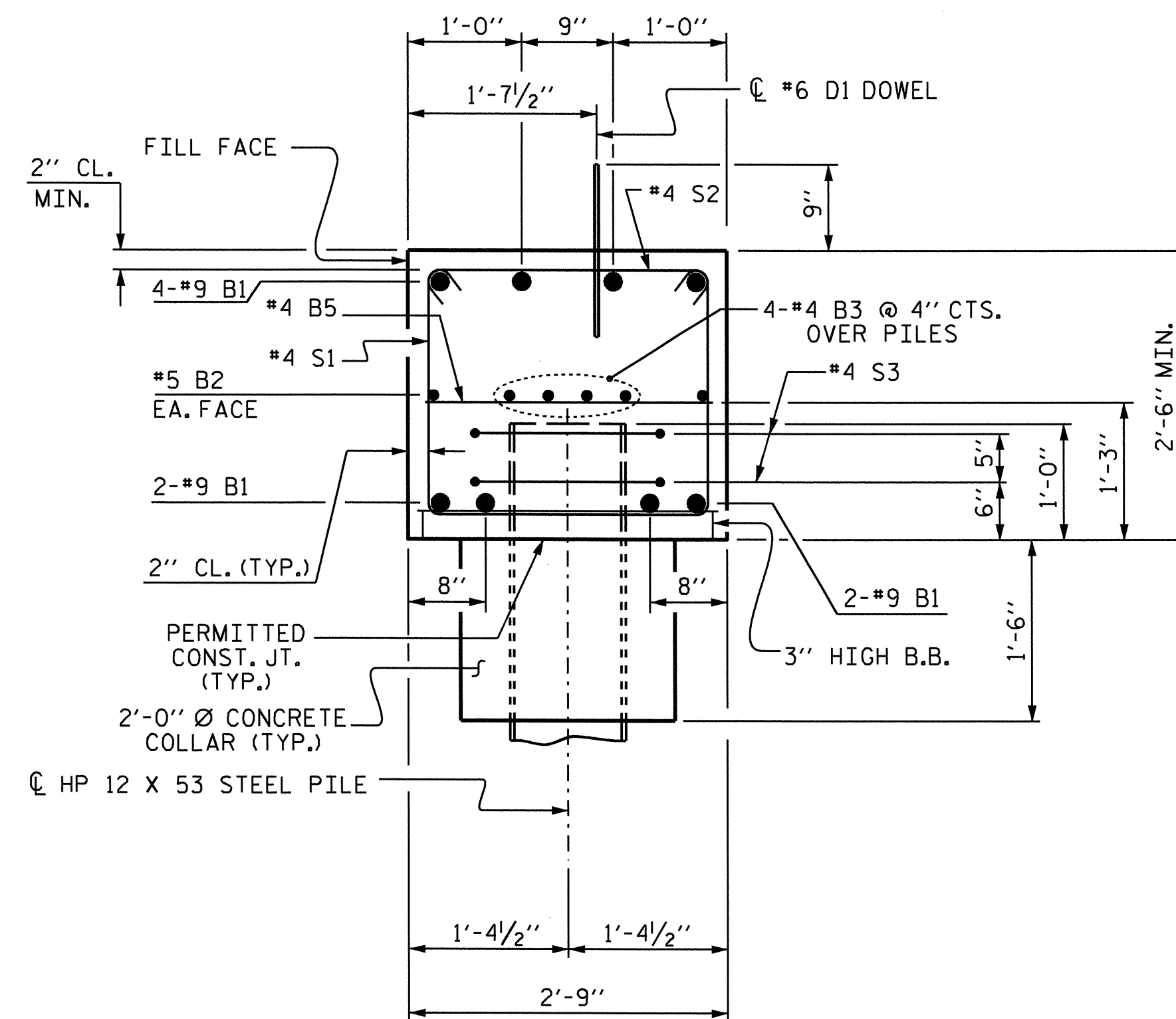
REVISIONS						SHEET NO. S-10
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 18
2			4			

DRAWN BY: J. MYA DATE: 1-28-10
 CHECKED BY: J. L. WALTON DATE: 3-14-10

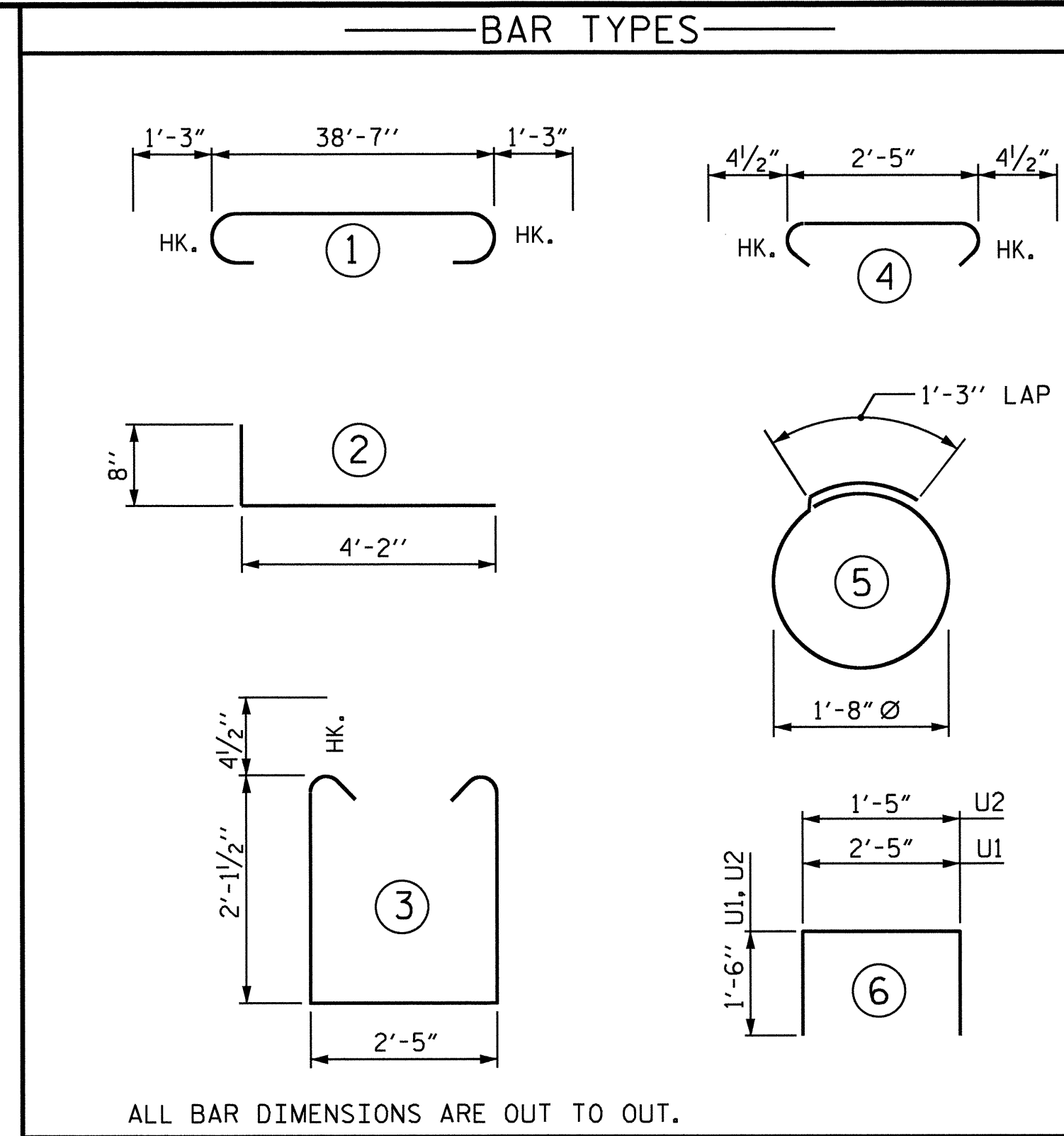


PLAN OF WING - W1

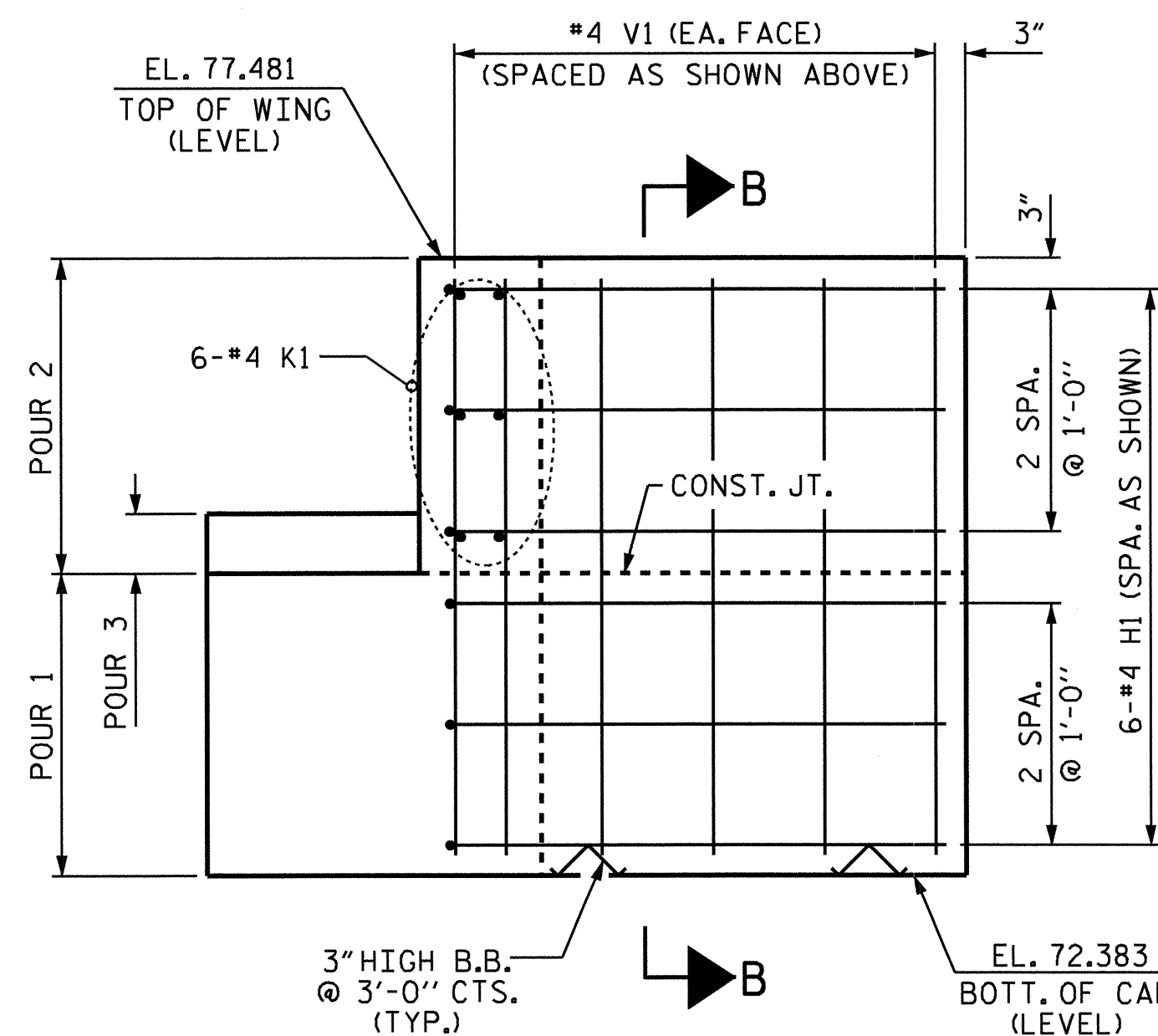
(WING 2 SIMILAR)



SECTION A-A

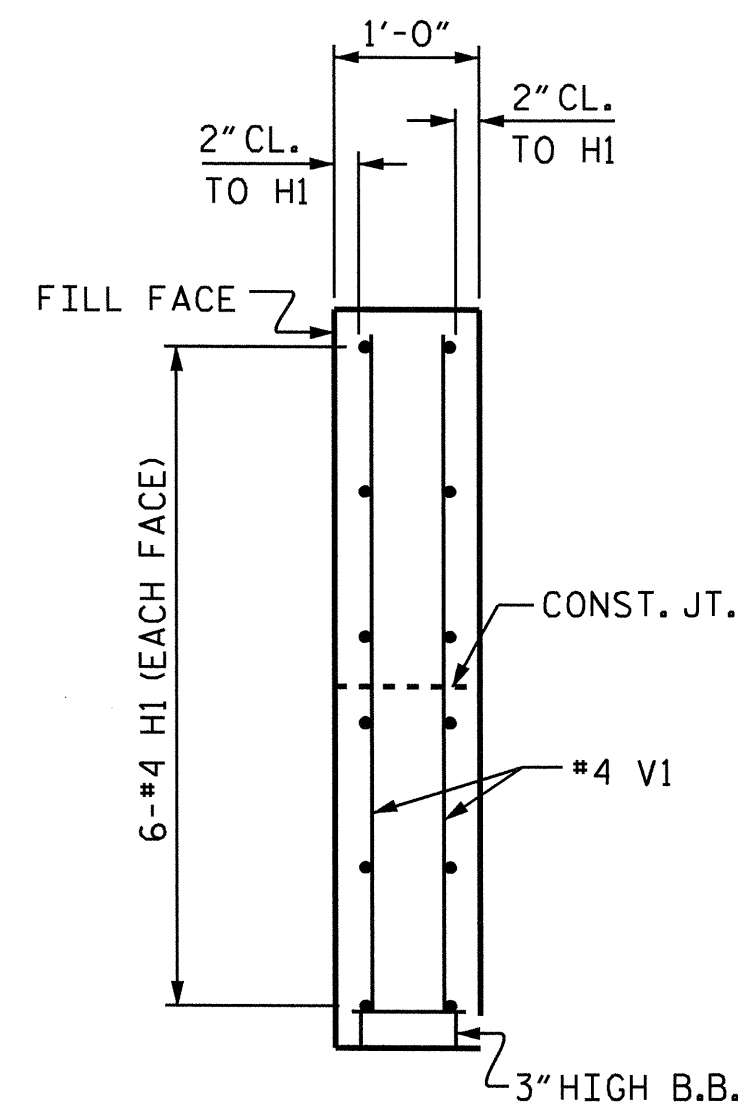


ALL BAR DIMENSIONS ARE OUT TO OUT.

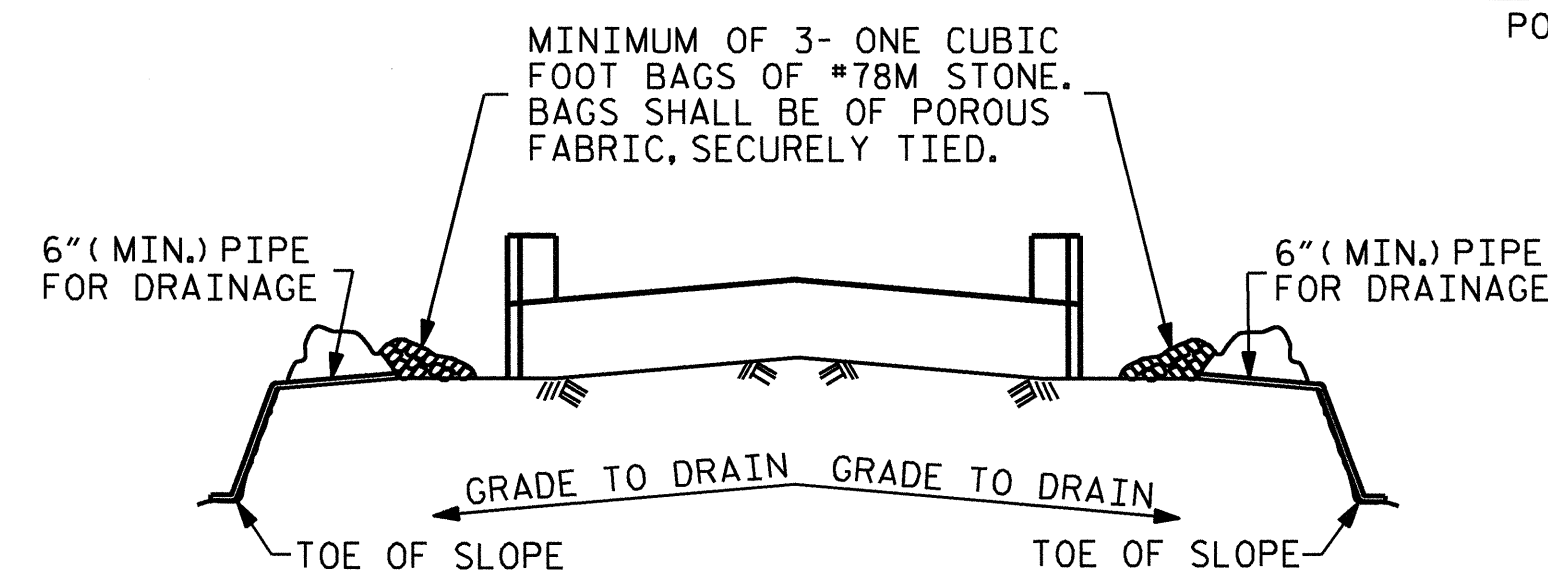


ELEVATION OF WING - W1

(WING 2 SIMILAR)



SECTION B-B

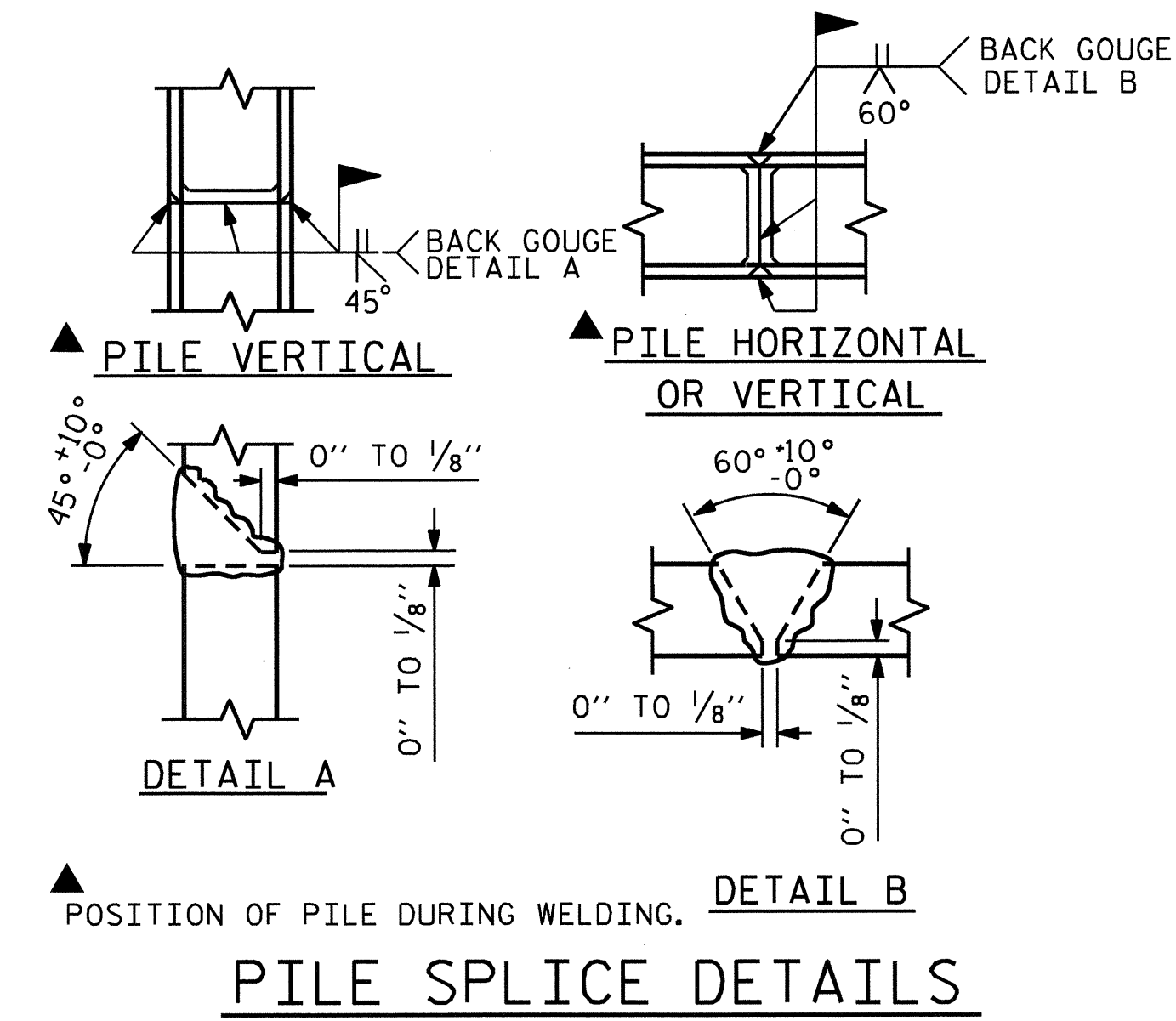


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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



PILE SPLICE DETAILS

BILL OF MATERIAL

END BENT 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	41'-1"	1117
B2	2	#5	STR	38'-8"	81
B3	8	#4	STR	20'-7"	110
B4	4	#4	STR	17'-4"	46
B5	10	#4	STR	2'-5"	16
D1	22	#6	STR	1'-6"	50
H1	24	#4	2	4'-10"	77
K1	12	#4	STR	3'-5"	27
S1	42	#4	3	7'-5"	208
S2	42	#4	4	3'-2"	89
S3	10	#4	5	6'-6"	43
U1	12	#4	6	5'-5"	43
U2	4	#4	6	4'-5"	12
V1	36	#4	STR	4'-9"	114
REINFORCING STEEL				LBS.	2033

CLASS A CONCRETE BREAKDOWN

POUR 1 (CAP, LOWER PART OF WINGS & CONCRETE COLLARS)	C.Y.	12.3
POUR 2 (UPPER PART OF WINGS)	C.Y.	1.4
POUR 3 (LATERAL GUIDES)	C.Y.	0.1
TOTAL	C.Y.	13.8

HP 12 X 53 STEEL PILES :
NO. : 5 LIN. FT. : 250

PILE REDRIVES EA. : 3

PROJECT NO. B-4567

LENOIR COUNTY

STATION: 18+29.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

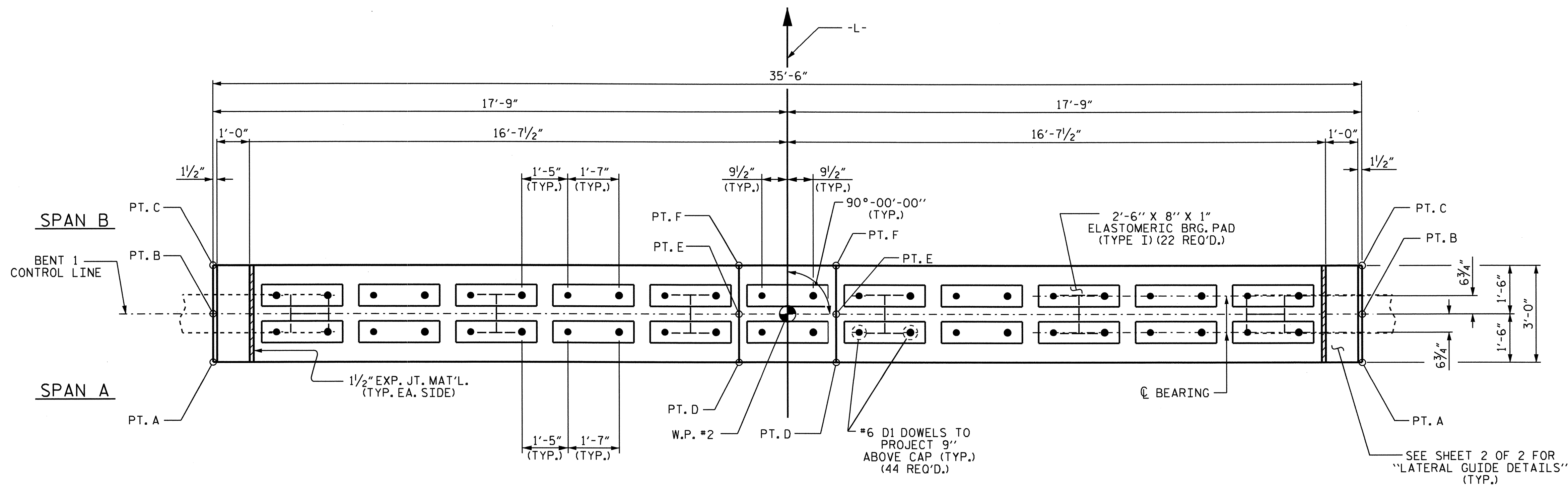
SUBSTRUCTURE
END BENT 1



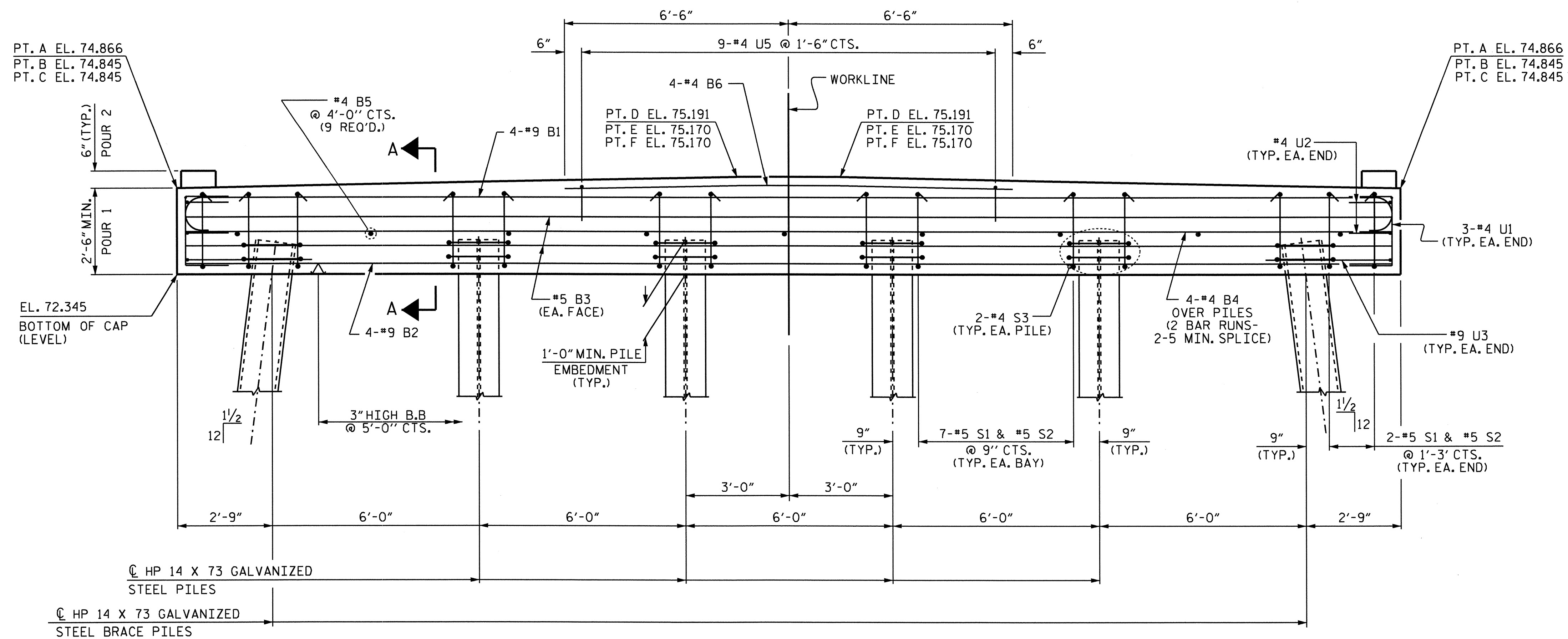
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CHECKED BY : J. L. WALTON DATE : 3-14-10

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			18



PLAN



ELEVATION

NOTES

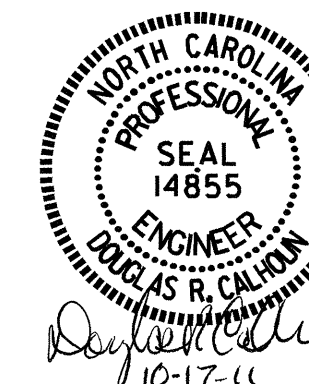
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.
 THE LATERAL GUIDE AT EACH END OF THE CAP IS NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.
 GALVANIZE THE TOP 28 FEET OF EACH INTERIOR BENT PILE IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS.
 THE CONTRACTOR HAS THE OPTION TO OMIT THE LATERAL GUIDES IF APPROVED BY THE ENGINEER.

PROJECT NO. B-4567
LENOIR COUNTY
 STATION: 18+29.00 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

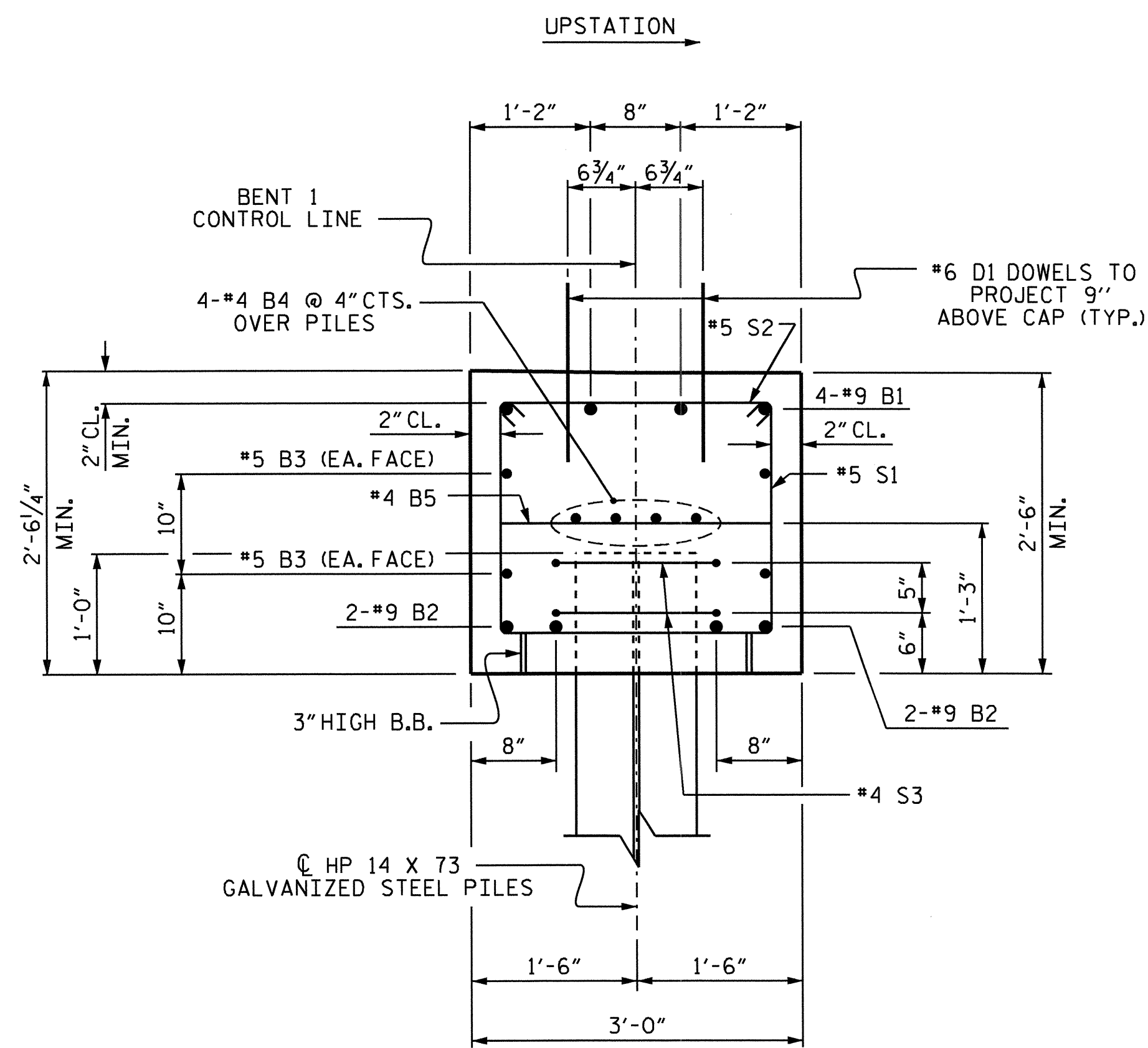
SUBSTRUCTURE
 BENT 1



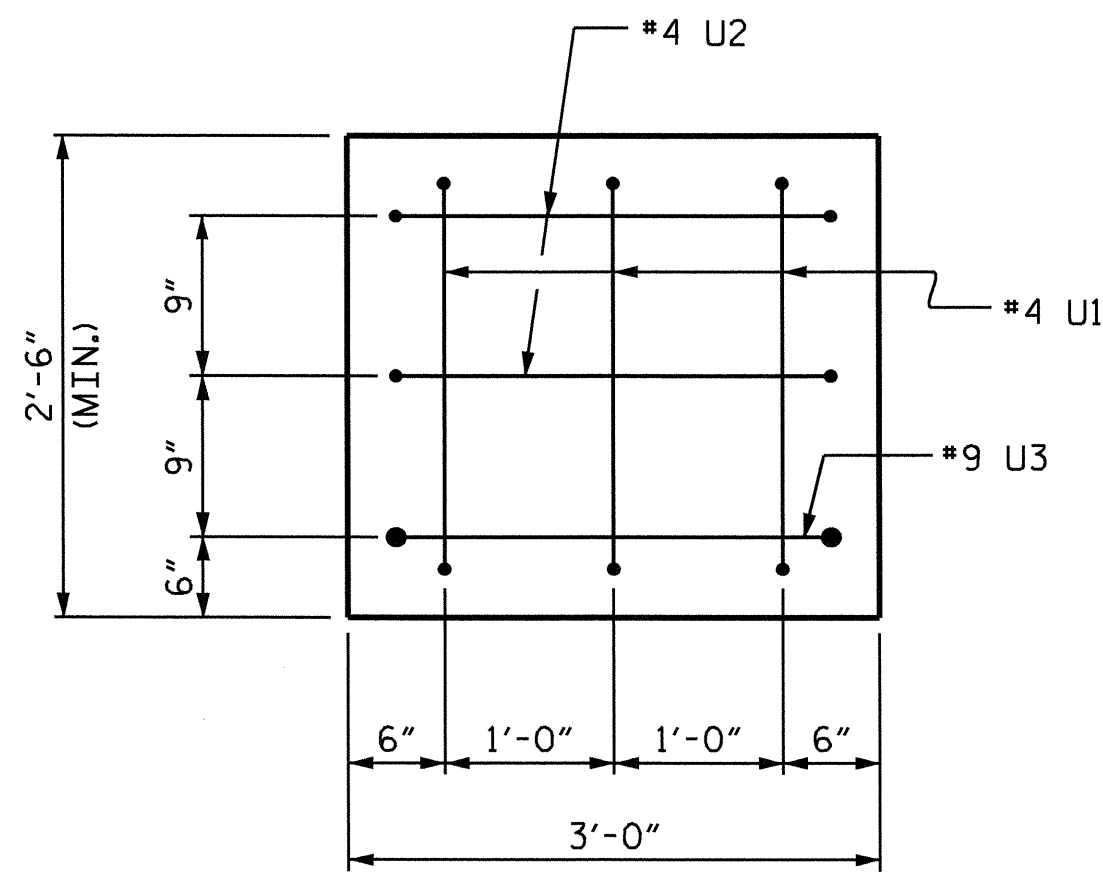
DRAWN BY : J. L. WALTON DATE : 3-17-10
 CHECKED BY : J. MYA DATE : 4-8-10

17-OCT-2011 08:01
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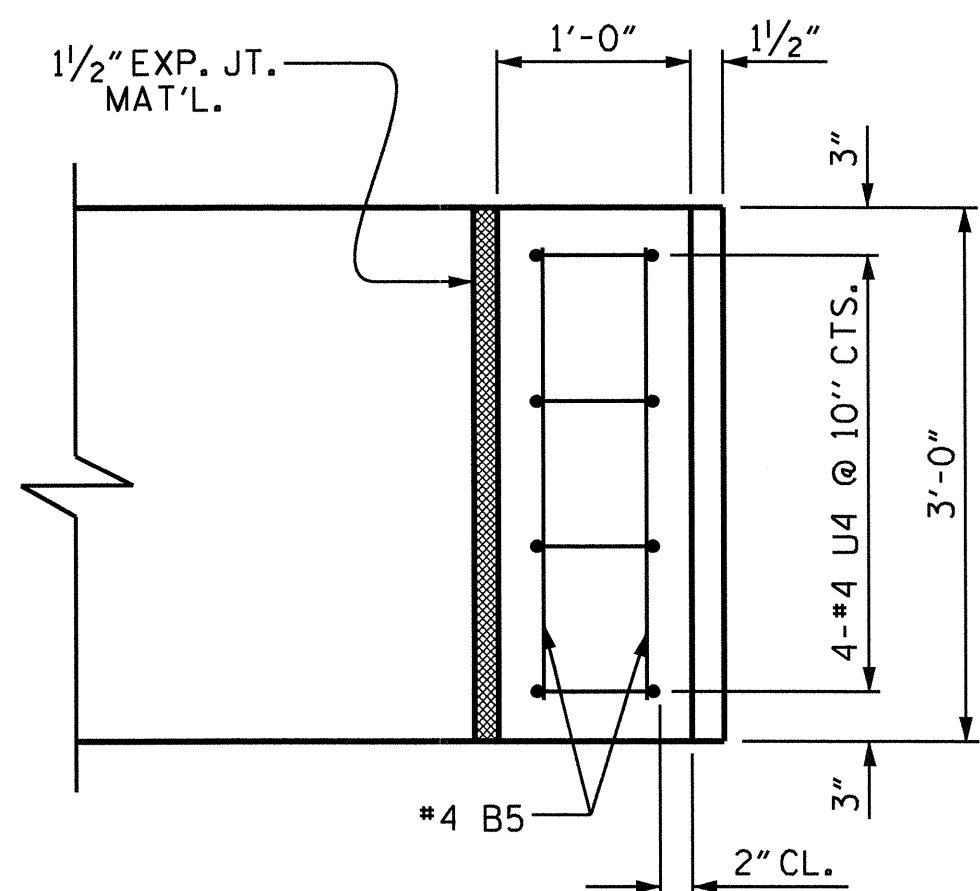
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-12	
1			3			TOTAL SHEETS	
2			4			18	



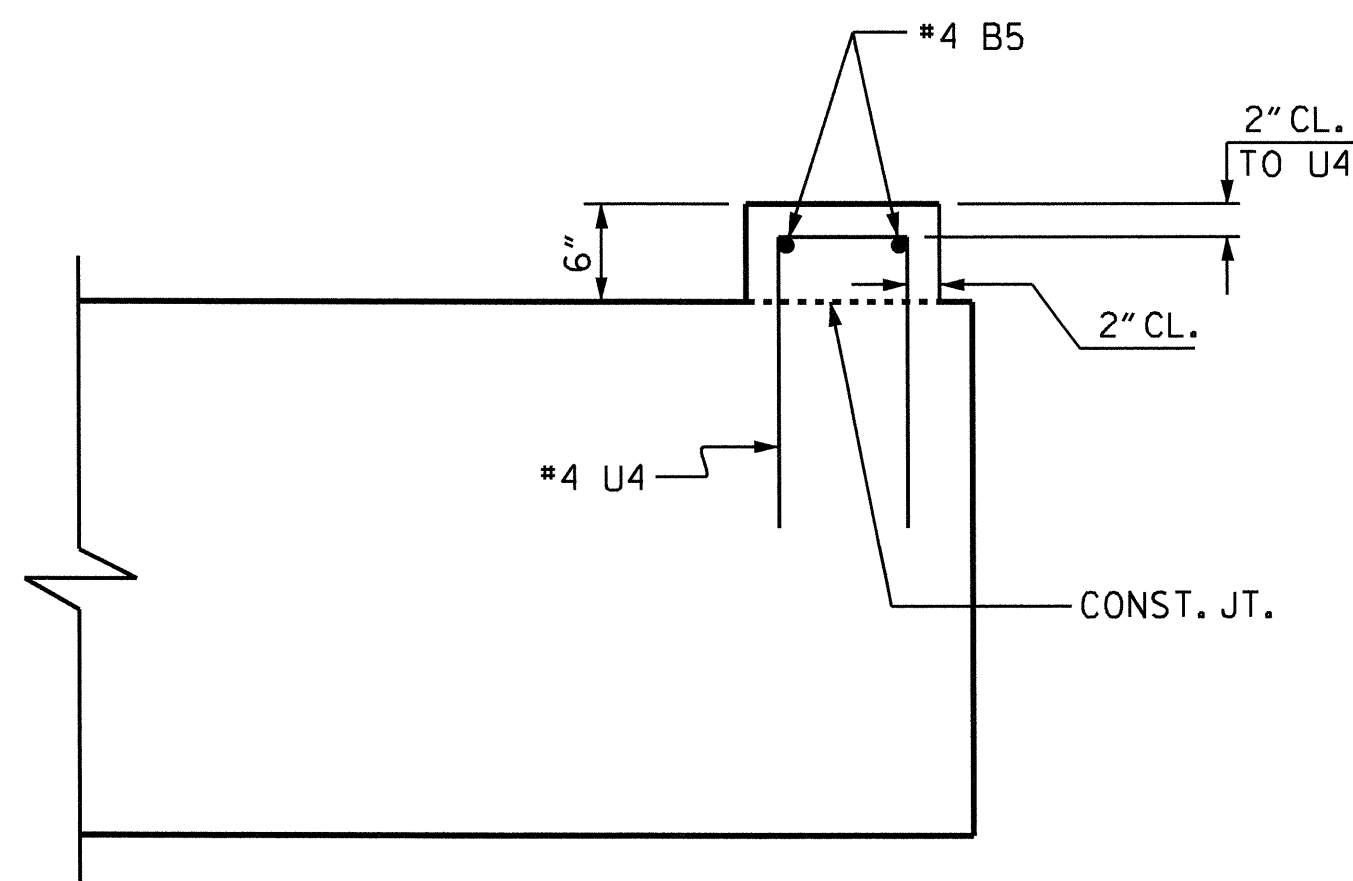
SECTION A-A



END VIEW
(BOTH ENDS TYPICAL)



PLAN

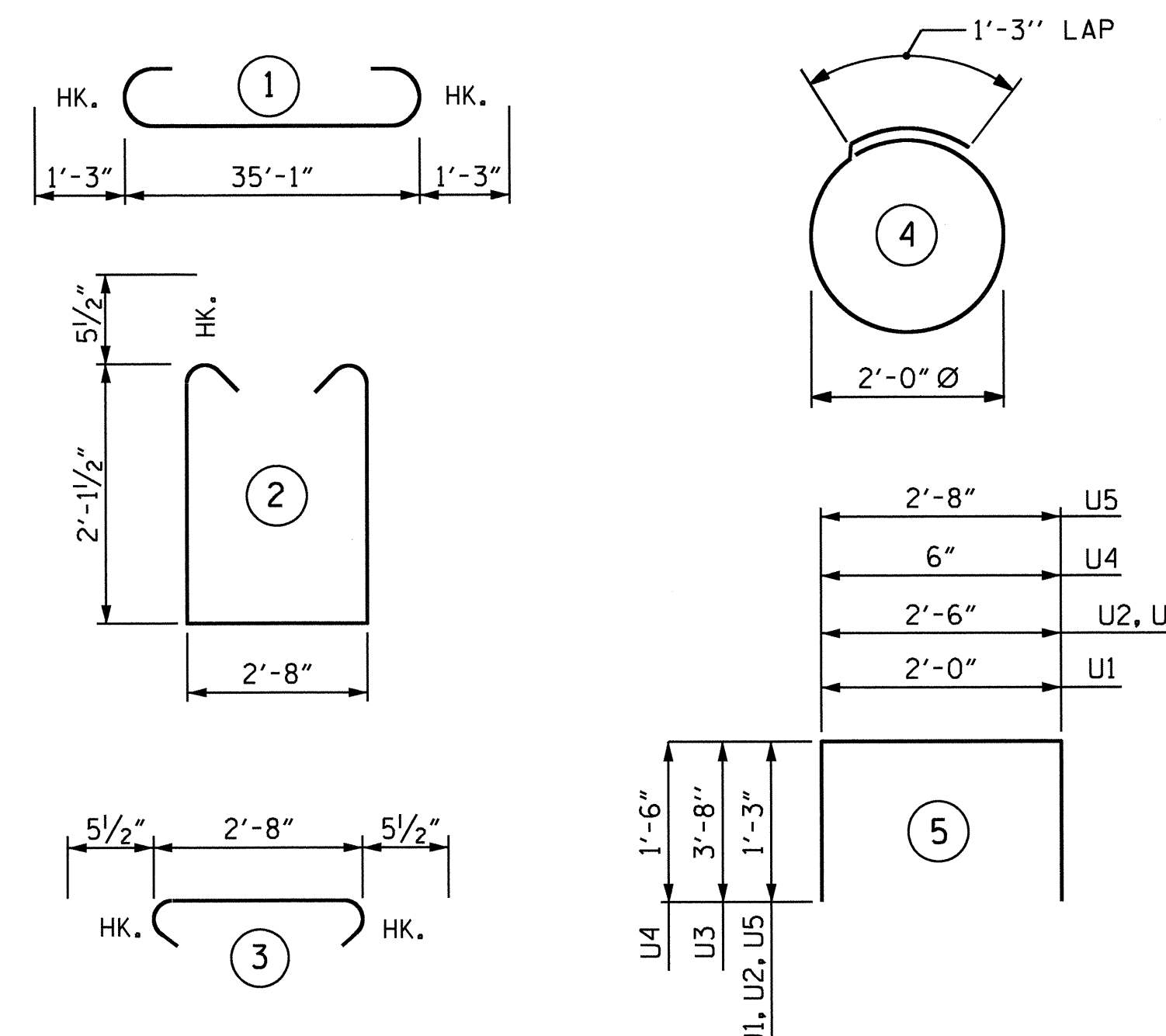


ELEVATION

LATERAL GUIDE REINFORCING DETAIL

(RIGHT END OF THE CAP SHOWN, LEFT END SIMILAR)

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

BENT 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	4	#9		37'-7"	511
B2	4	#9	STR	35'-2"	478
B3	4	#5	STR	35'-2"	147
B4	8	#4	STR	18'-10"	101
B5	13	#4	STR	2'-8"	23
B6	4	#4	STR	13'-0"	35

D1	44	#6	STR	1'-6"	99
S1	39	#5		7'-10"	319
S2	39	#5		3'-7"	146
S3	12	#4		7'-7"	61

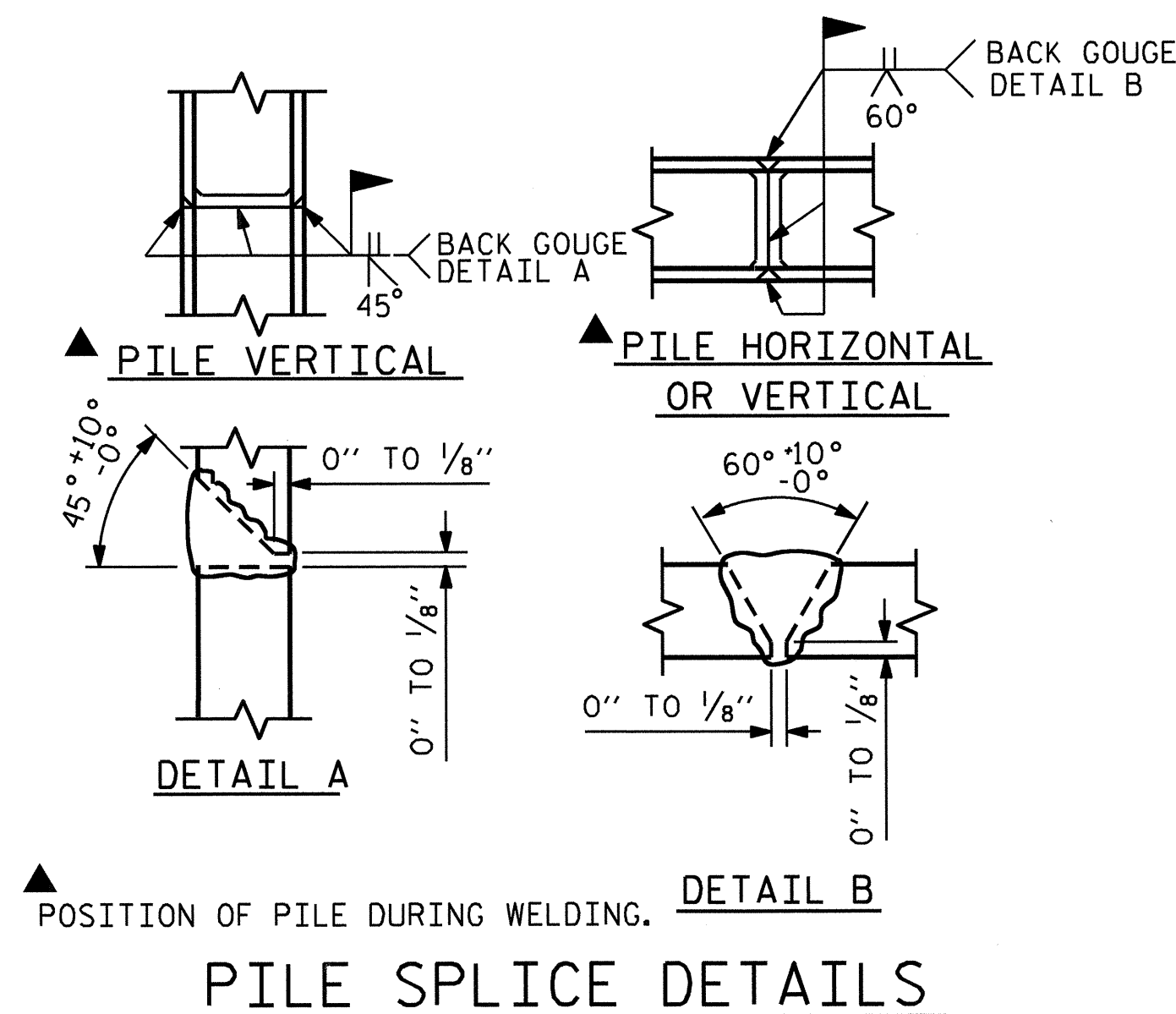
U1	6	#4		4'-6"	18
U2	4	#4		5'-0"	13
U3	2	#9		9'-10"	67
U4	8	#4		3'-6"	19
U5	9	#4		5'-2"	31

REINFORCING STEEL 2068 LBS.

CLASS A CONCRETE					
POUR 1 (CAP)				C.Y.	10.6
POUR 2 (LATERAL GUIDE)				C.Y.	0.1
TOTAL				C.Y.	10.7

HP 14 X 73 GALVANIZED STEEL PILES
NO. : 6 LIN. FT. : 330

PILES REDRIVES EA. 3



PILE SPLICE DETAILS

PROJECT NO. B-4567
LENOIR COUNTY
STATION: 18+29.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT 1



DRAWN BY : J. L. WALTON DATE : 3-23-10
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23-AUG-2011 15:04
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REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

S-13
TOTAL SHEETS
18

NOTES

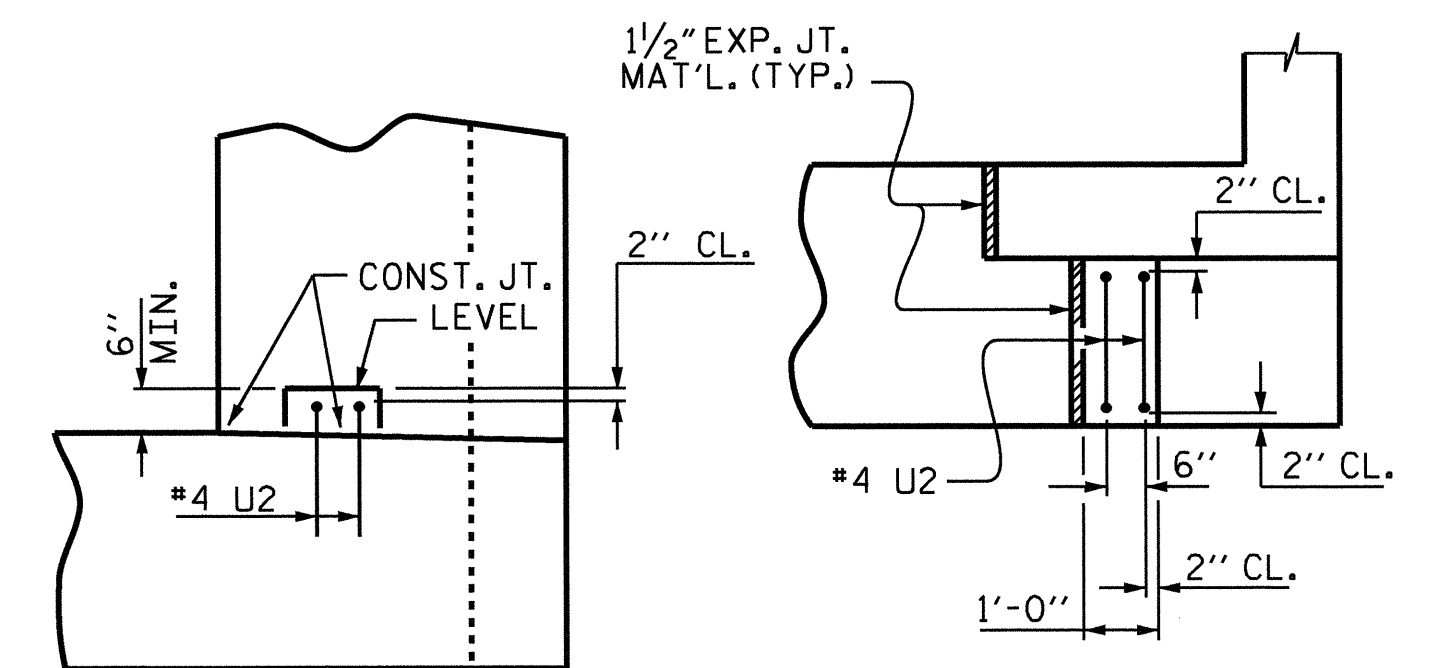
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.

THE LATERAL GUIDE AT EACH END OF THE CAP IS NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.

THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

THE CONTRACTOR SHALL PROVIDE FOR INSTALLATION OF THE 4" DIAMETER DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS, SEE THE ROADWAY PLANS. REINFORCING STEEL IN THE WING WALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.

THE CONTRACTOR HAS THE OPTION TO OMIT THE LATERAL GUIDES IF APPROVED BY THE ENGINEER.

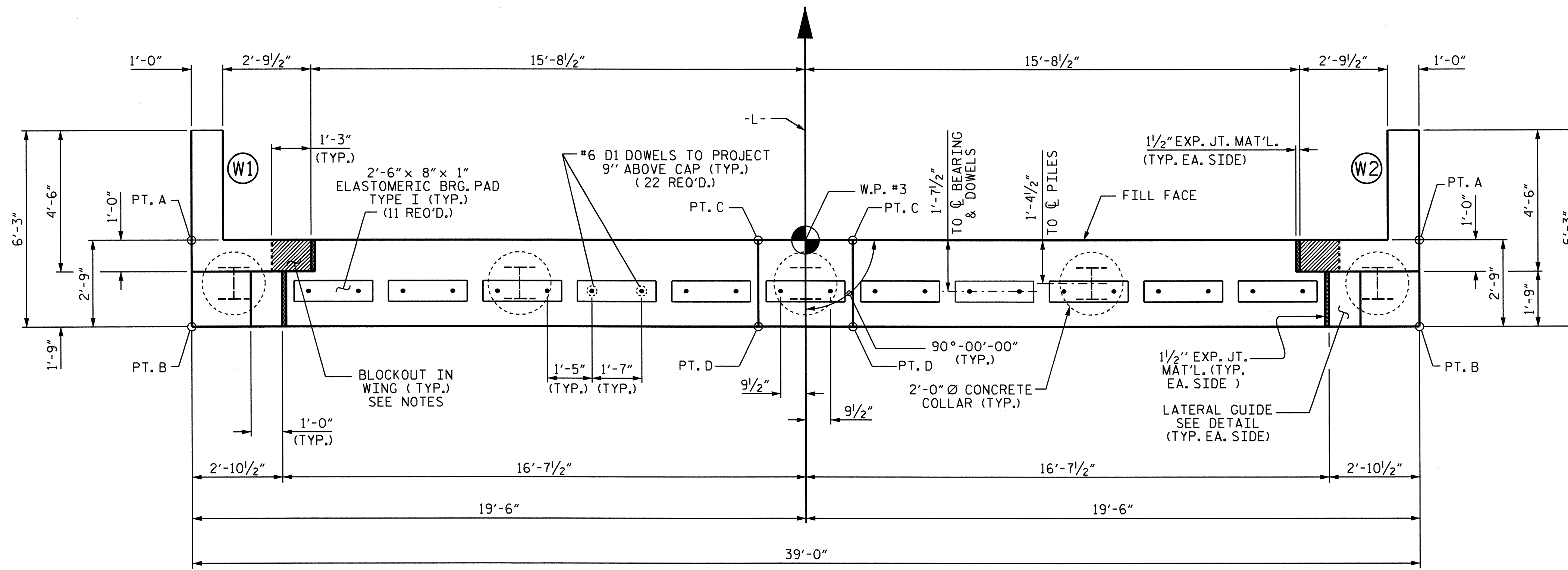


ELEVATION

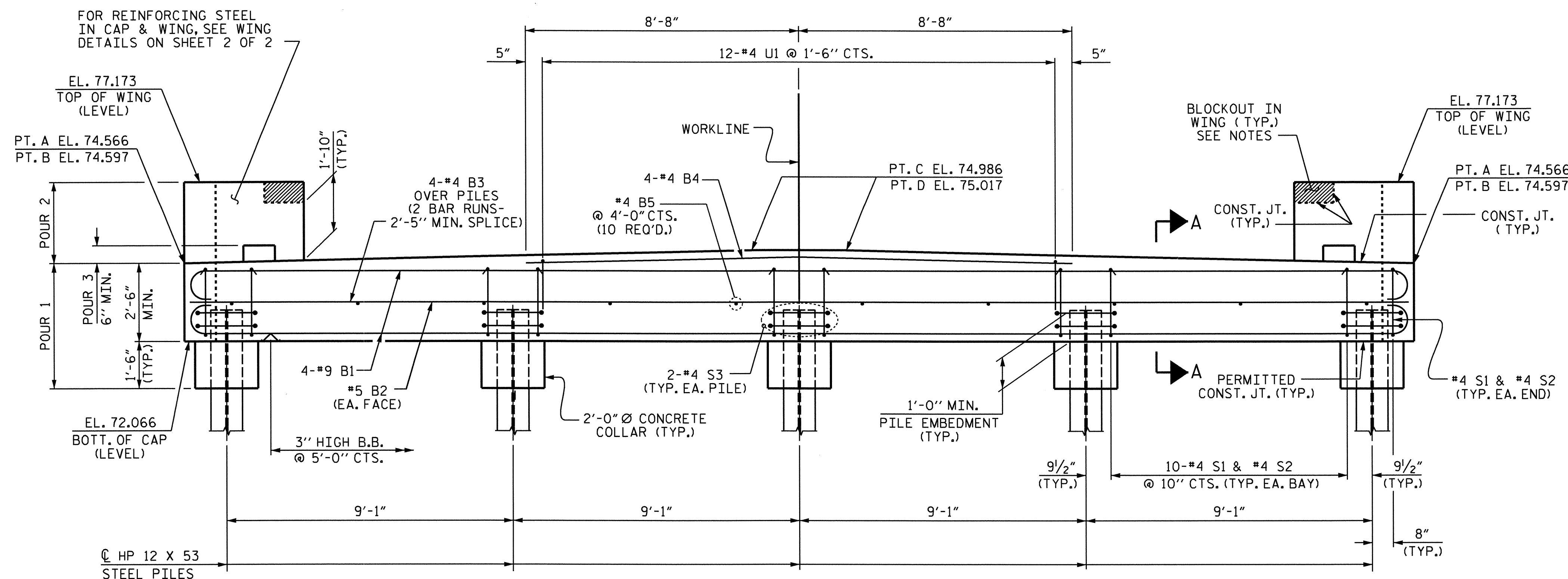
PLAN

LATERAL GUIDE

(RIGHT SIDE SHOWN, LEFT SIDE SIMILAR)



PLAN



ELEVATION

DRAWN BY : J. MYA DATE : 1-28-10
 CHECKED BY : J. L. WALTON DATE : 3-14-10

17-OCT-2011 08:00
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PROJECT NO. B-4567
LENOIR COUNTY
 STATION: 18+29.00 -L-

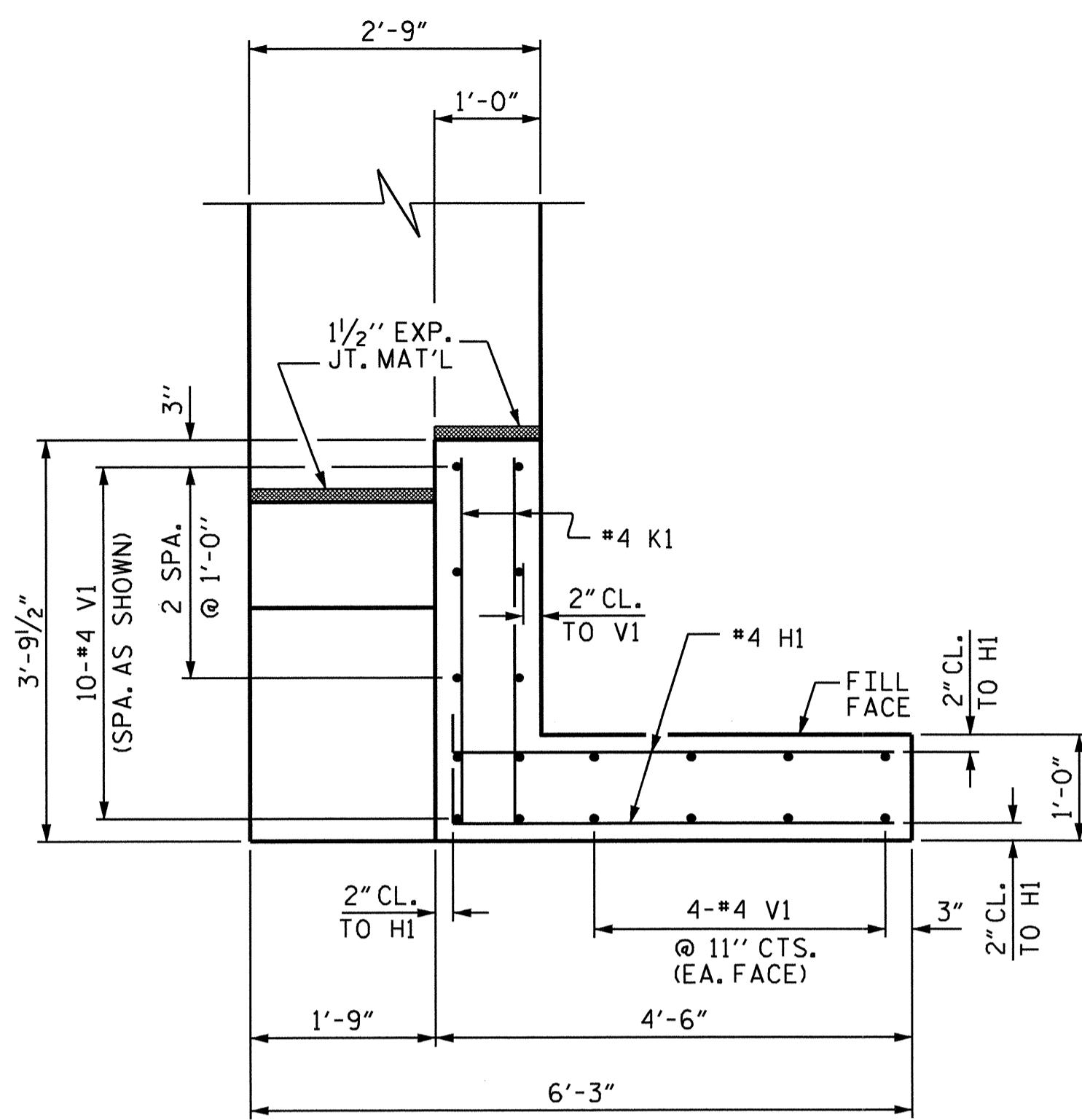
SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

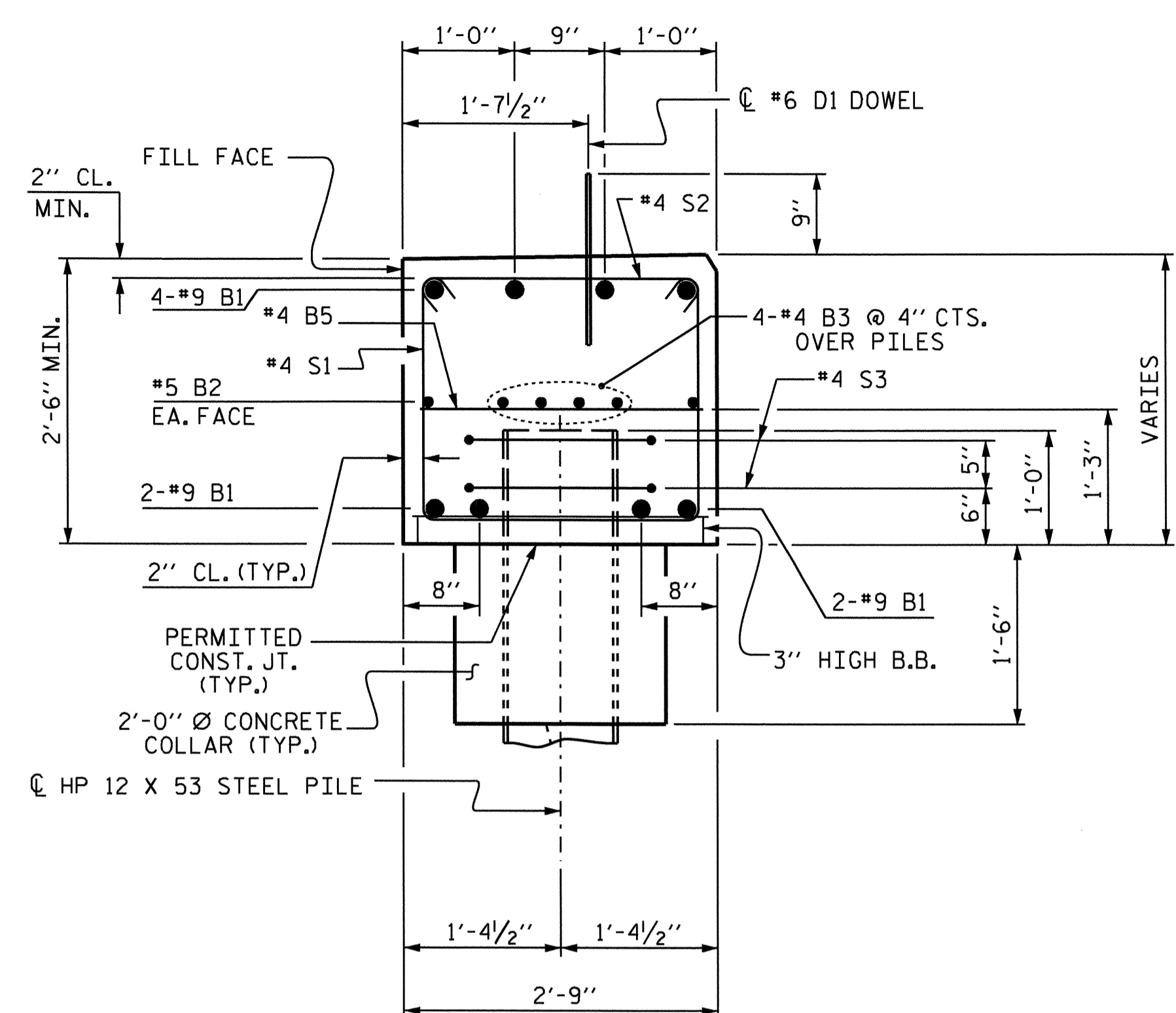
SUBSTRUCTURE
 END BENT 2



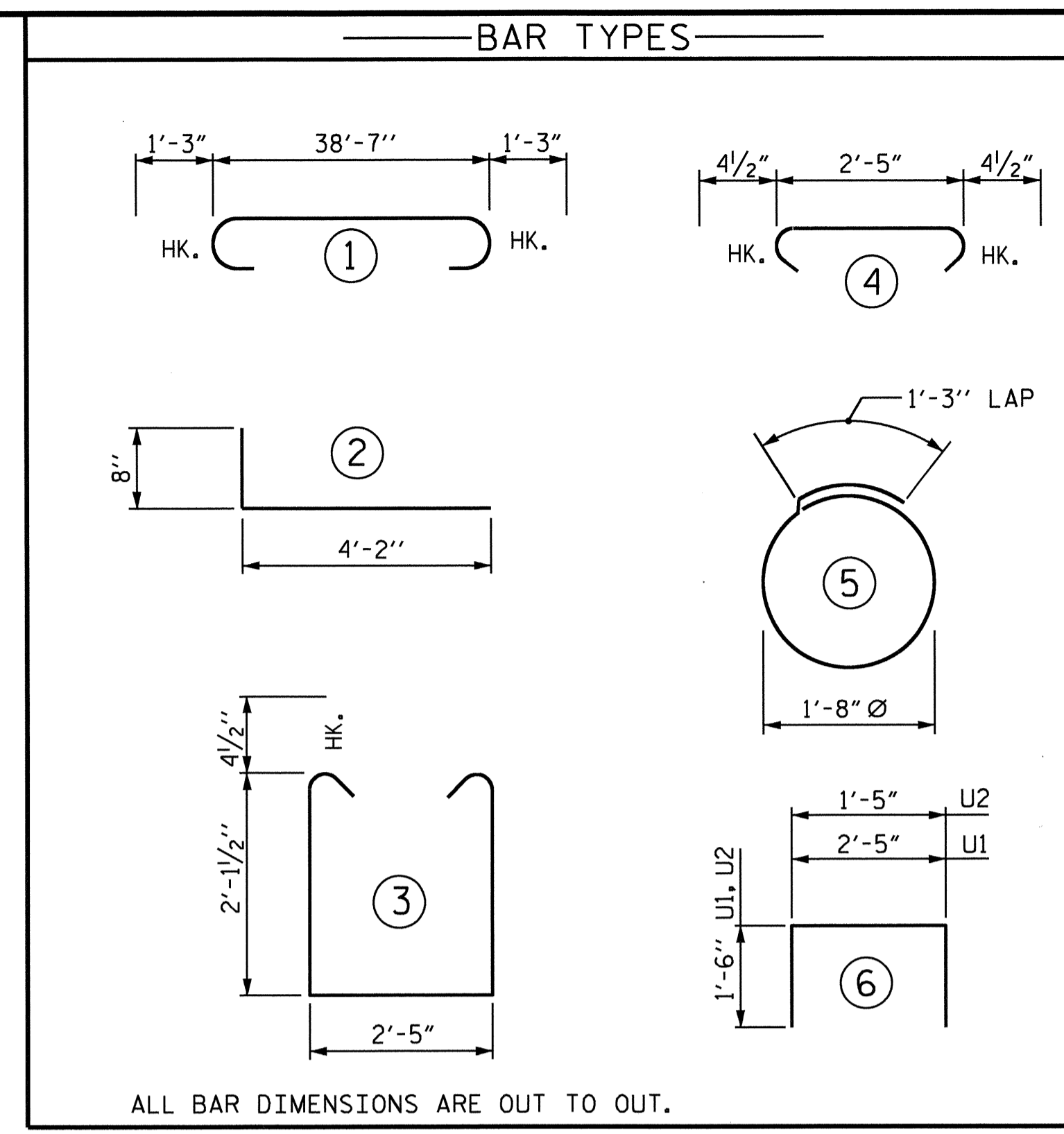
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-14	
1			3			TOTAL SHEETS	
2			4			18	



PLAN OF WING - W2
(WING 1 SIMILAR)

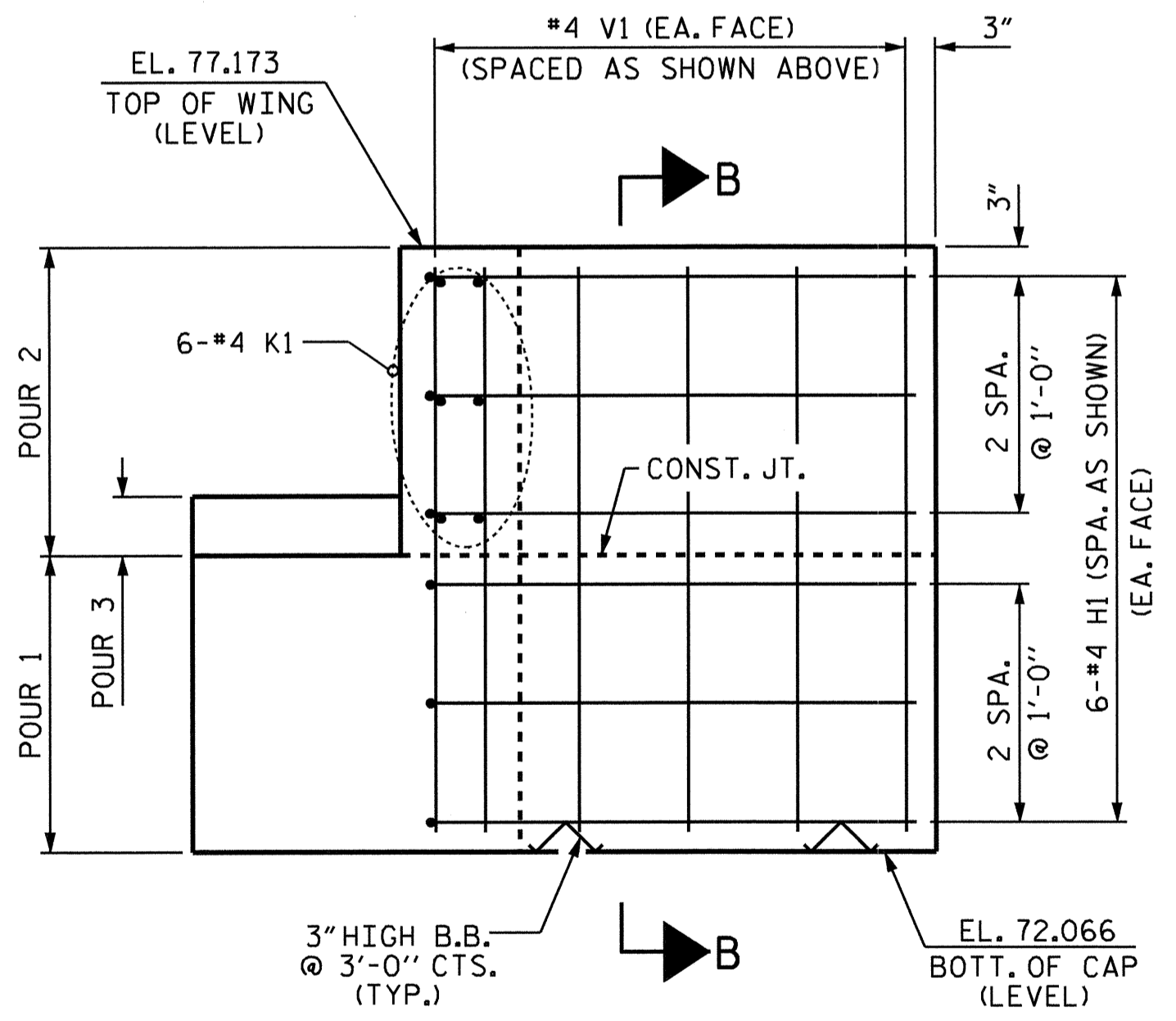
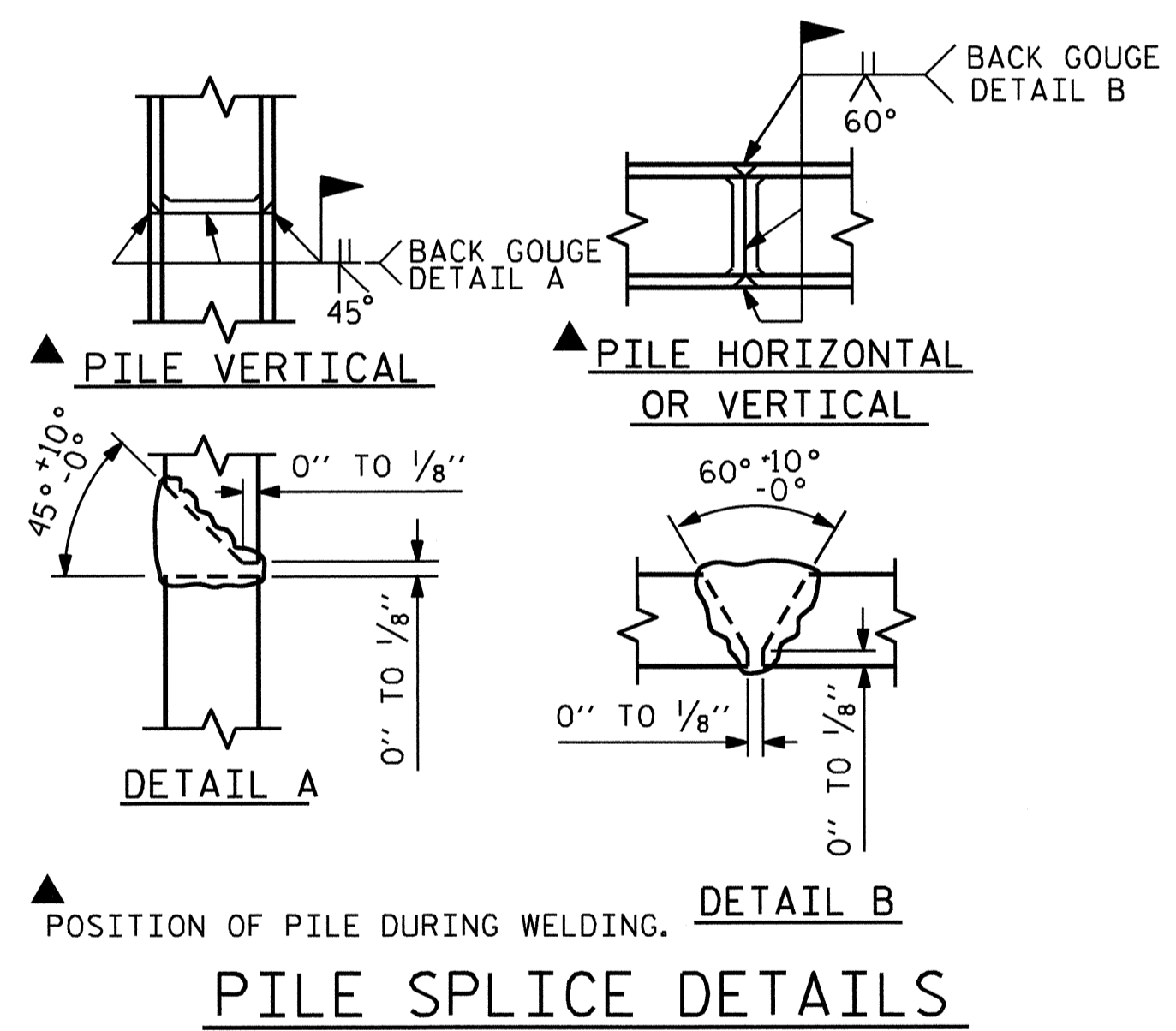


SECTION A-A

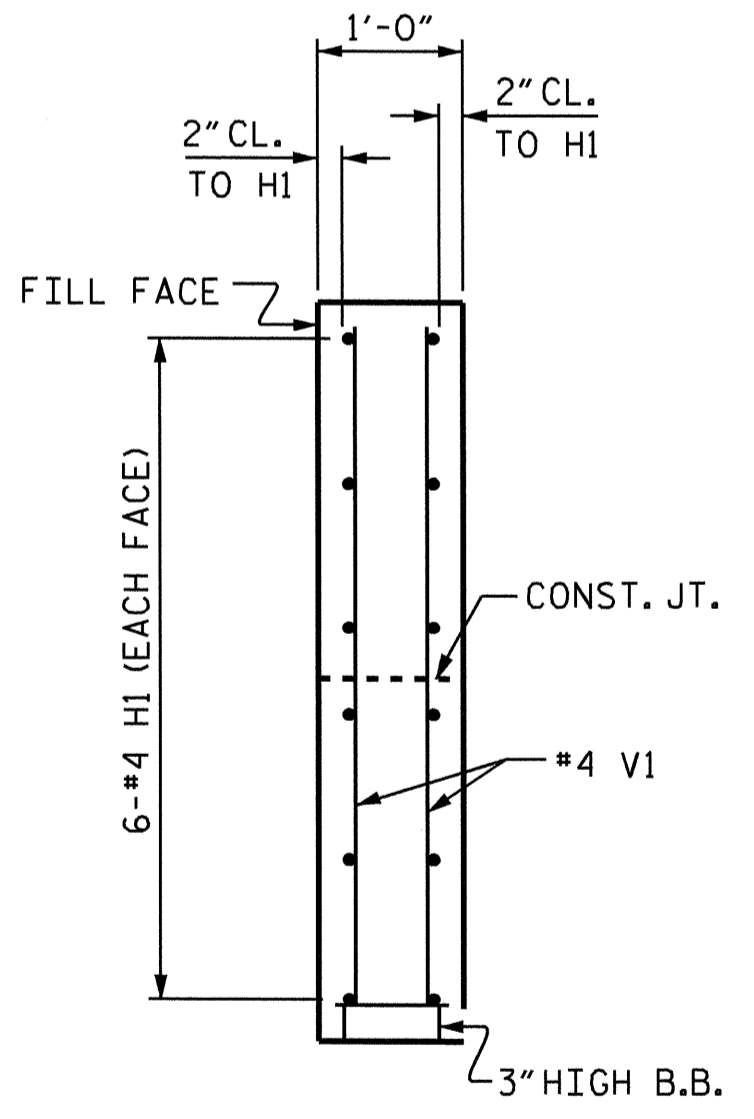


ALL BAR DIMENSIONS ARE OUT TO OUT.

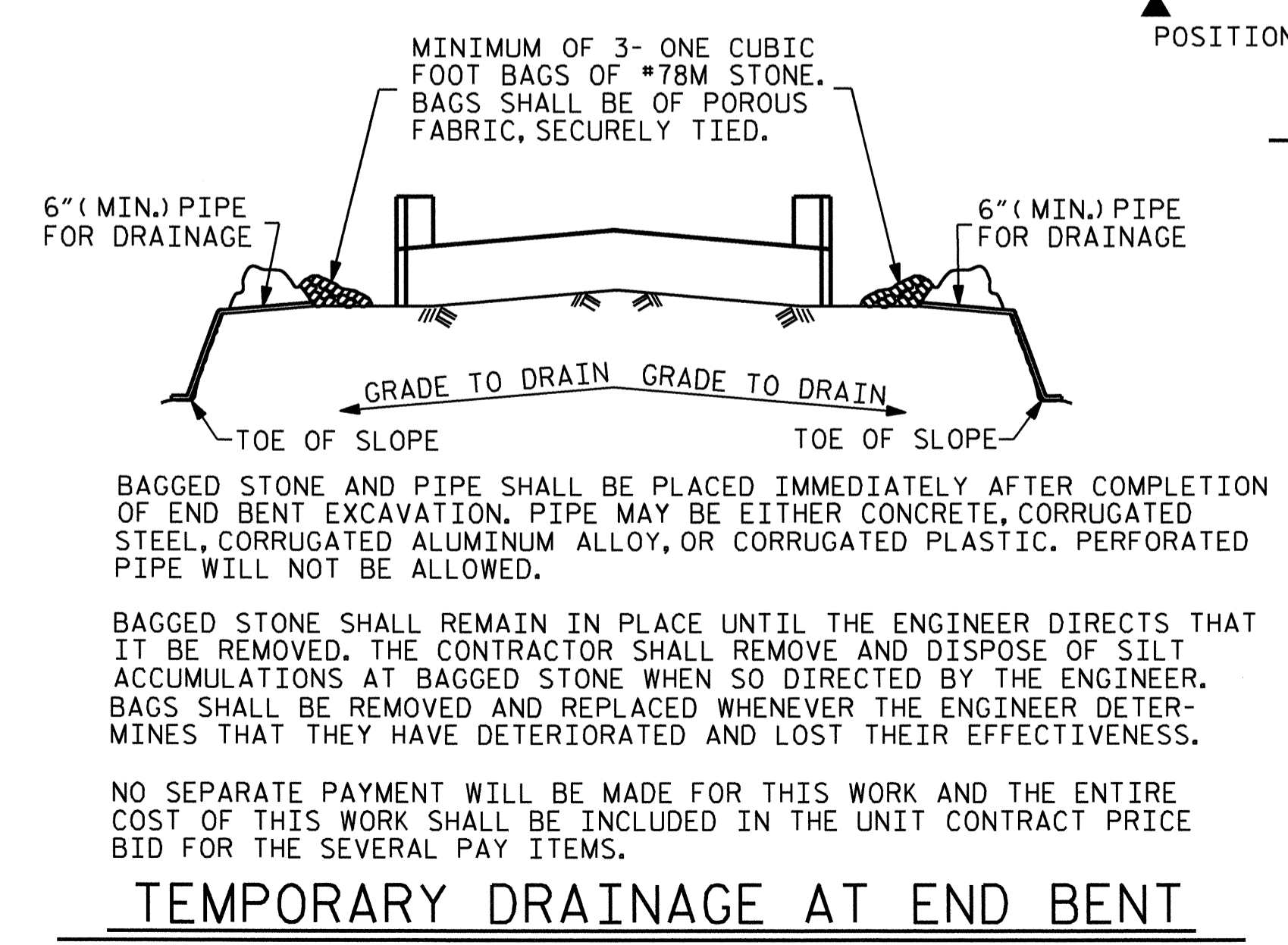
BILL OF MATERIAL					
END BENT 2					
BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	
B1	#8		41'-1"	1117	
B2	#5	STR	38'-8"	81	
B3	#4	STR	20'-7"	110	
B4	#4	STR	17'-4"	46	
B5	#4	STR	2'-5"	16	
D1	#6	STR	1'-6"	50	
H1	#4	2	4'-10"	77	
K1	#4	STR	3'-5"	27	
S1	#4	3	7'-5"	208	
S2	#4	4	3'-2"	89	
S3	#4	5	6'-6"	43	
U1	#4	6	5'-5"	43	
U2	#4	6	4'-5"	12	
V1	#4	STR	4'-9"	114	
REINFORCING STEEL			LBS.	2033	
CLASS A CONCRETE BREAKDOWN					
POUR 1 (CAP, LOWER PART OF WINGS & CONCRETE COLLARS			C.Y.	12.4	
POUR 2 (UPPER PART OF WINGS)			C.Y.	1.4	
POUR 3 (LATERAL GUIDES)			C.Y.	0.1	
TOTAL			C.Y.	13.9	
HP 12 X 53 STEEL PILES :					
NO. : 5				LIN. FT. : 225	
PILE REDRIVES			EA. :	3	



ELEVATION OF WING - W2
(WING 1 SIMILAR)



SECTION B-B



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.

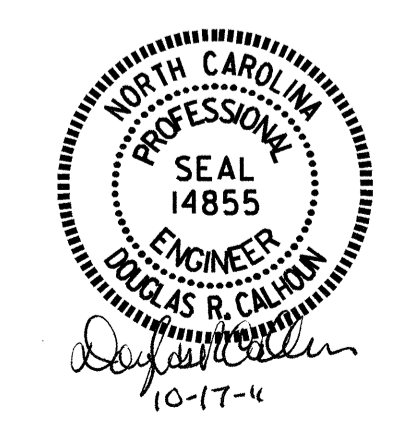
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

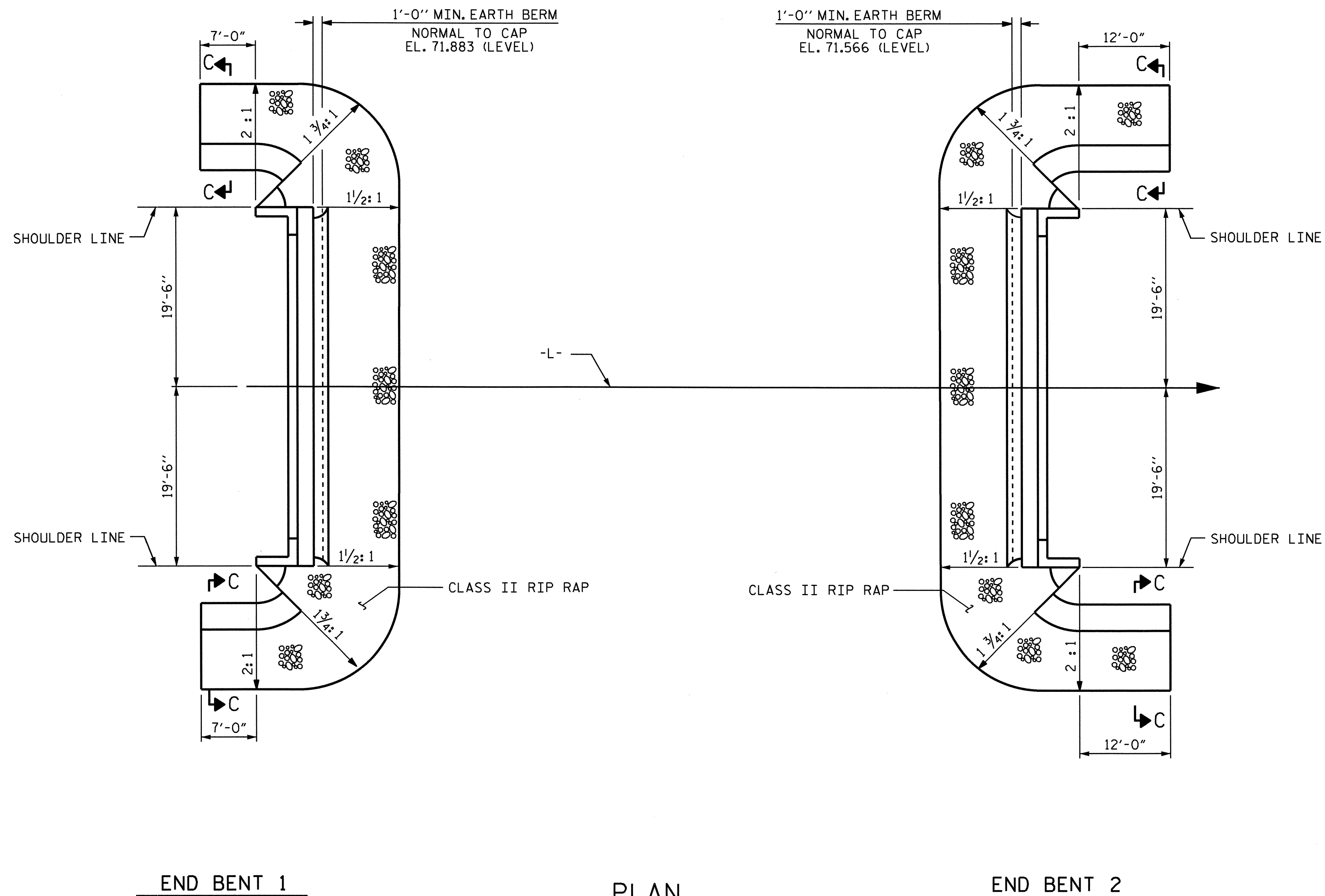
TEMPORARY DRAINAGE AT END BENT

PROJECT NO. B-4567
LENOIR COUNTY
 STATION: 18+29.00 -L-
 SHEET 2 OF 2

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



DRAWN BY : J. MYA DATE : 1-28-10
 CHECKED BY : J. L. WALTON DATE : 3-14-10

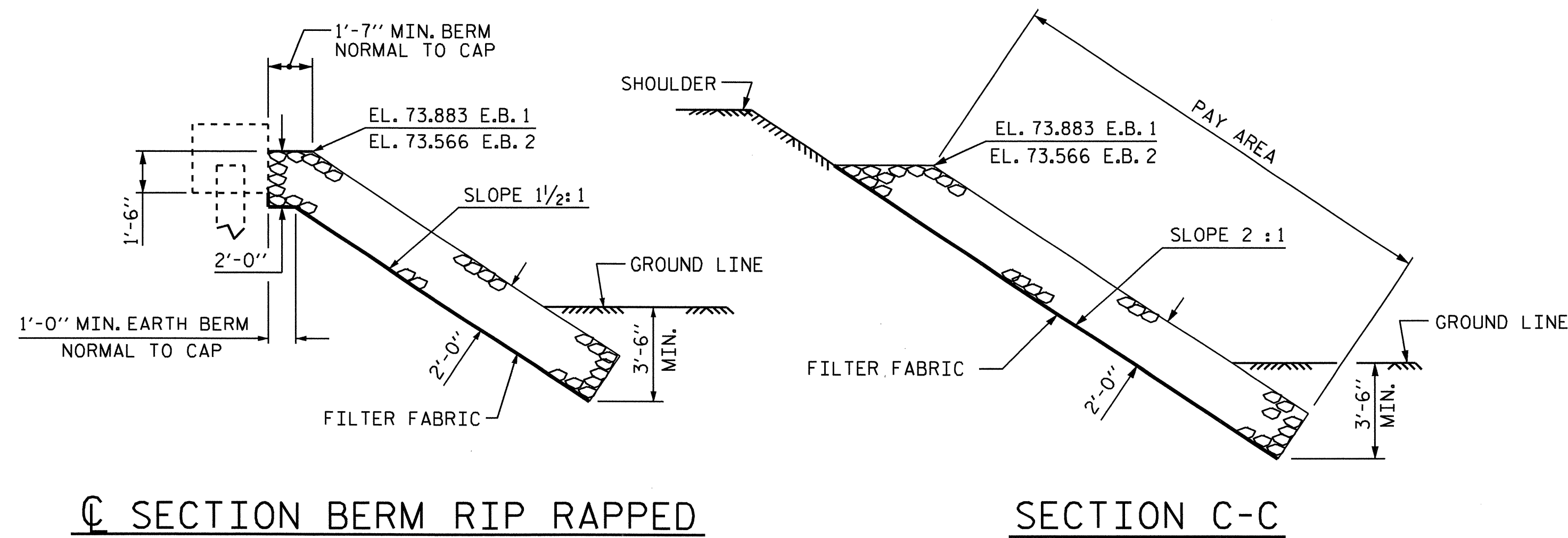


ESTIMATED QUANTITIES		
BRIDGE @ STA. 18+29.00 -L-	RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	94	104
END BENT 2	100	112

END BENT 1

PLAN

END BENT 2



SECTION BERM RIP RAPPED

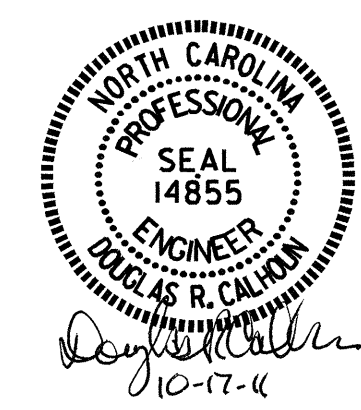
SECTION C-C

PROJECT NO. B-4567
LENOIR COUNTY
 STATION: 18+29.00 -L-

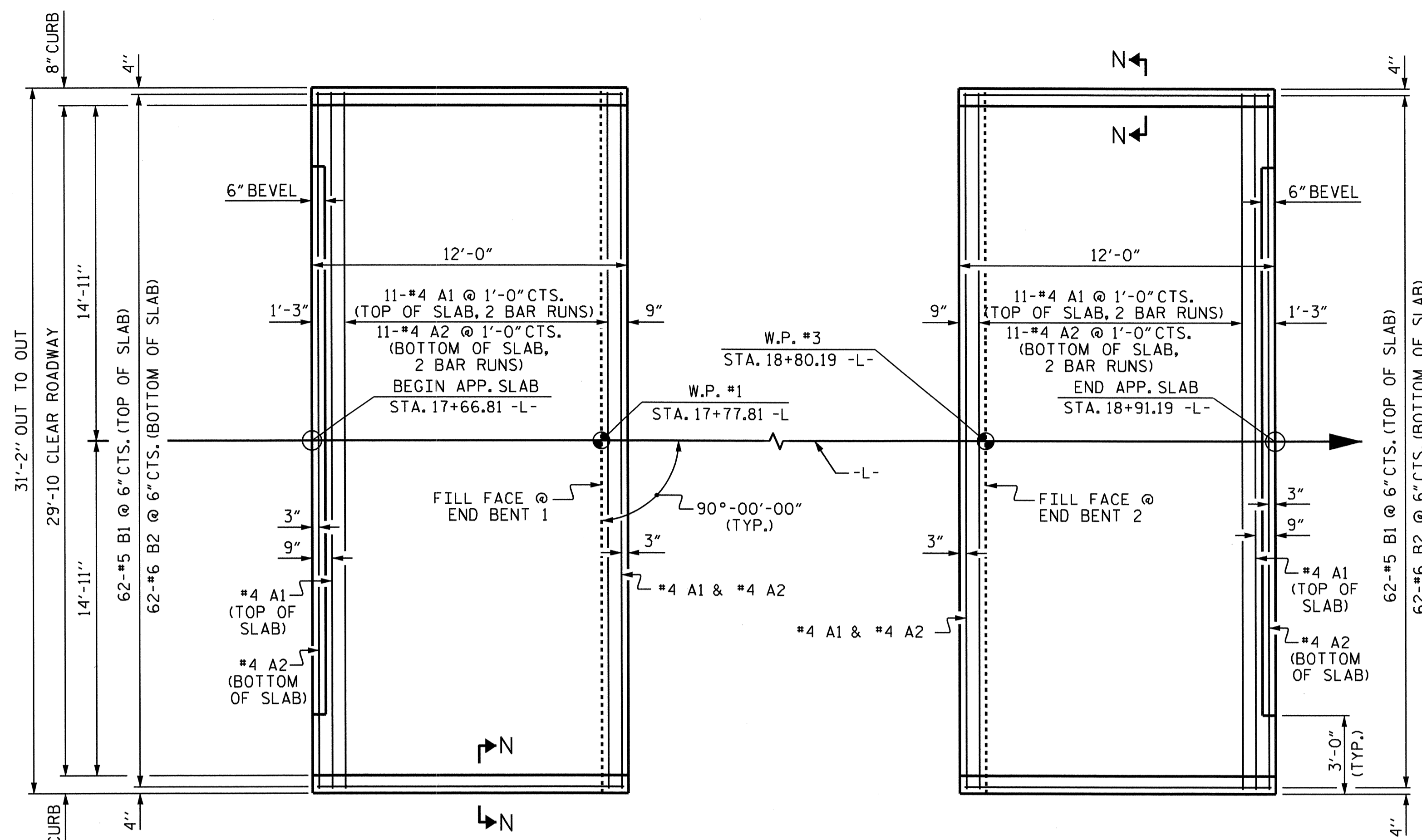
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD
 RIP RAP DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-16
1			3			TOTAL SHEETS
2			4			18



ASSEMBLED BY : J. L. WALTON DATE : 3-24-10
 CHECKED BY : J. MYA DATE : 4-23-10
 DRAWN BY : FCJ 2/88 REV. 8/16/99 RWW/LES
 CHECKED BY : ARB 8/88 REV. 10/17/00 RWW/LES
 REV. 5/1/06 TLA/GM



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

NOTES

FOR REINFORCED BRIDGE APPROACH FILL INCLUDING FABRIC, IMPERMEABLE GEOMEMBRANE, 4" Ø DRAINAGE PIPE, #78M STONE, AND SELECT MATERIAL, SEE ROADWAY PLANS.

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.

THE 6" COMP. A.B.C. SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB AND SHALL EXTEND 1'-0" OUTSIDE OF EACH EDGE OF THE APPROACH SLAB.

THE CONTRACTOR MAY USE 4" TYPE B-25.0B ASPHALT CONCRETE BASE COURSE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE BASE COURSE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB, AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB.

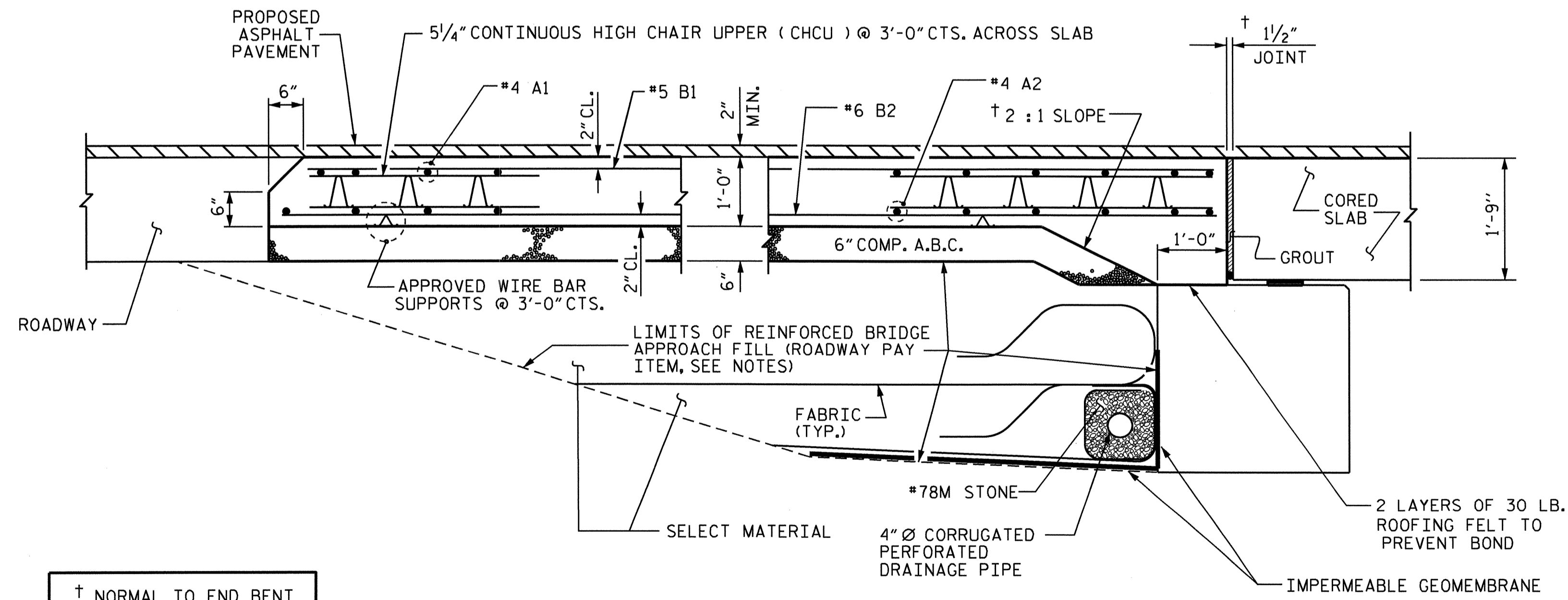
THE CONTRACTOR MAY USE 5" CLASS "A" CONCRETE BASE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE CONCRETE BASE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB, AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB. THE CONCRETE SHALL BE FINISHED TO A SMOOTH SURFACE AND A LAYER OF 30 LB ROOFING FELT SHALL BE PLACED BETWEEN THE CONCRETE BASE AND THE APPROACH SLAB TO PREVENT BOND. THE APPROACH SLAB SHALL NOT BE CAST UNTIL THE CONCRETE BASE HAS REACHED AN AGE OF THREE CURING DAYS.

FOR JOINT DETAILS, SEE "PRESTRESSED CONCRETE CORED SLAB UNIT" SHEETS.

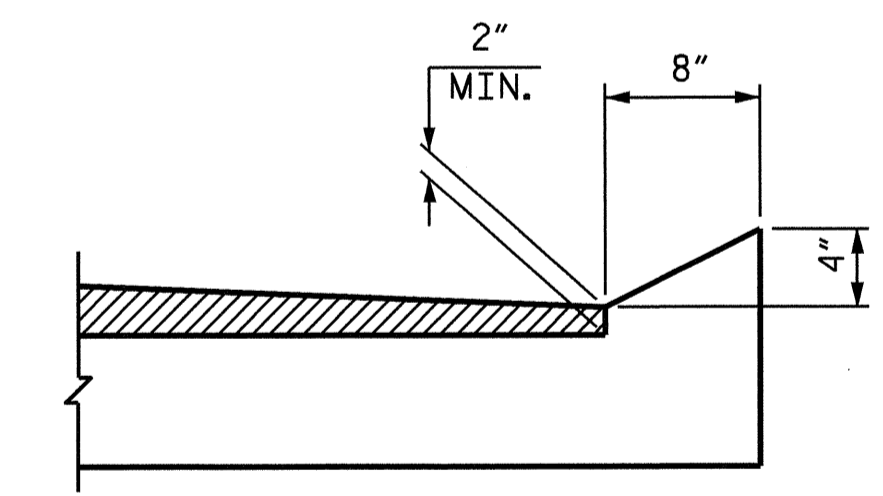
THE JOINT AT THE END BENT SHALL BE GROUTED AS SOON AS PRACTICAL AFTER THE CONSTRUCTION OF THE APPROACH SLABS.

APPROACH SLAB GROOVING IS NOT REQUIRED.

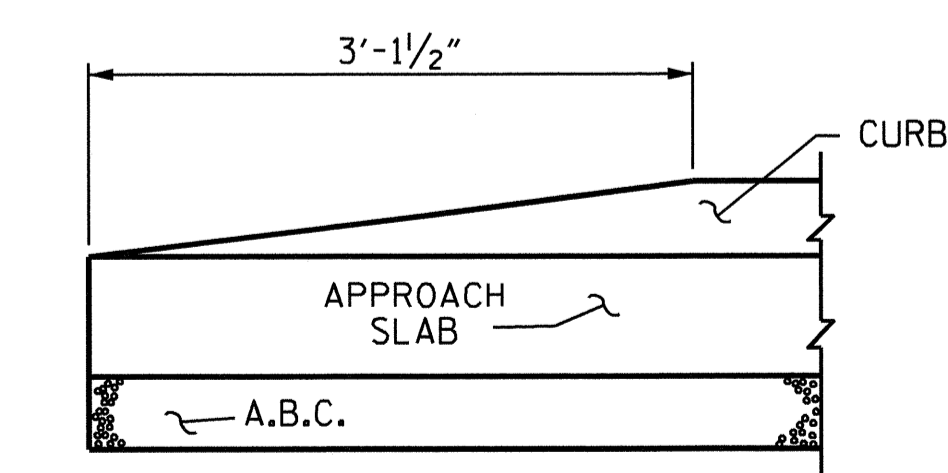
BILL OF MATERIAL					
FOR ONE APPROACH SLAB (2 REQ'D.)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	26	#4	STR	16'-5"	285
A2	26	#4	STR	16'-4"	284
*B1	62	#5	STR	11'-2"	722
B2	62	#6	STR	11'-8"	1086
REINFORCING STEEL				LBS.	1370
*EPOXY COATED REINFORCING STEEL				LBS.	1007
CLASS AA CONCRETE				C. Y.	15.8
SPlice BAR LENGTH					
*A1		#4		2'-0"	
A2		#4		1'-9"	



SECTION THRU SLAB



SECTION N-N

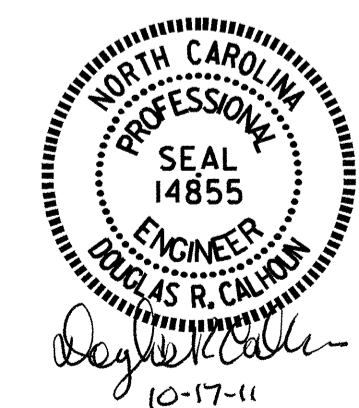


END OF CURB WITHOUT SHOULDER BERM GUTTER
 (OMIT TAPER WHEN SHOULDER BERM GUTTER IS USED)

CURB DETAILS

PROJECT NO. B-4567
 LENOIR COUNTY
 STATION: 18+29.00 -L-
 SHEET 1 OF 2

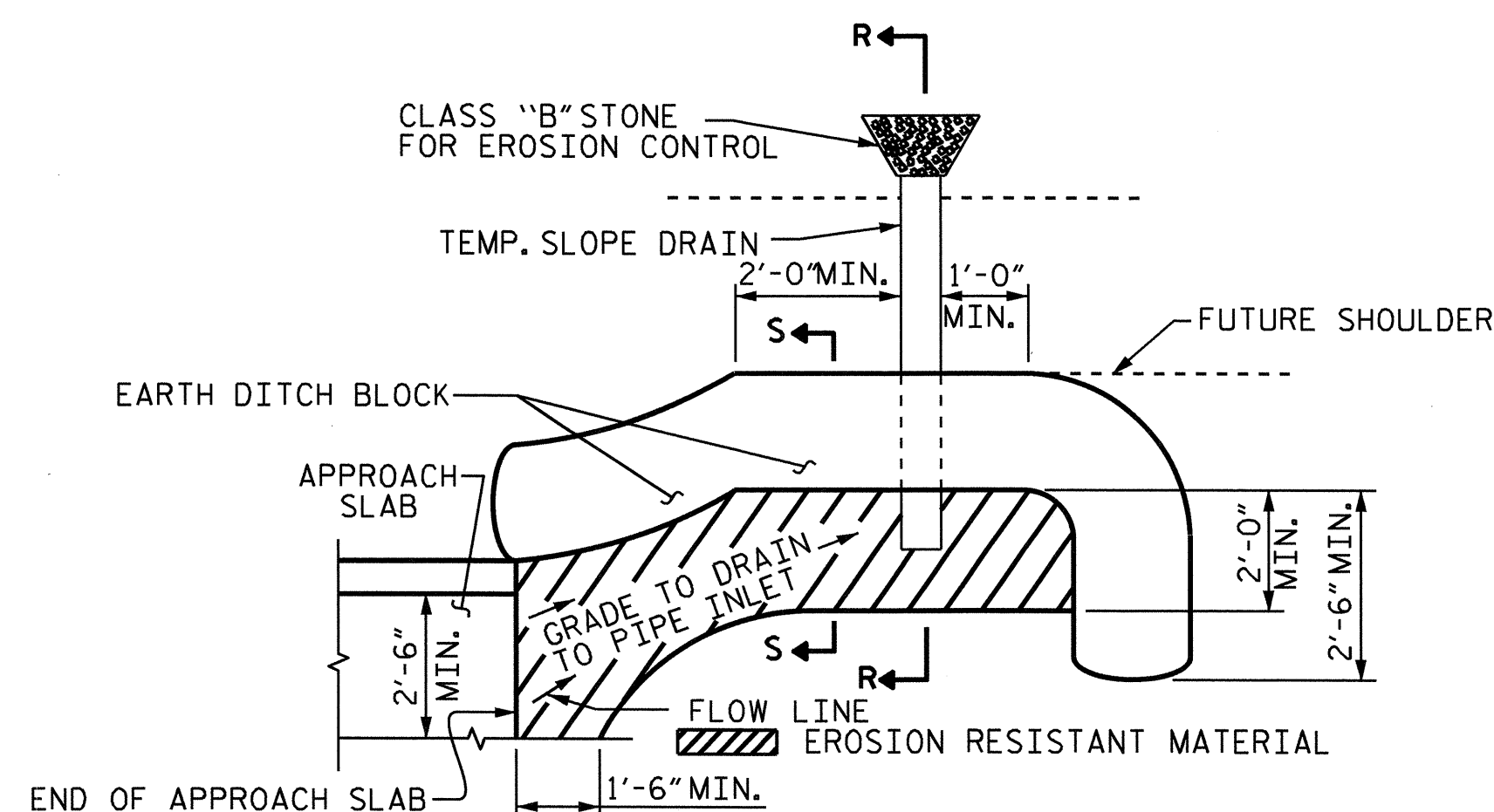
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 BRIDGE APPROACH SLAB
 FOR PRESTRESSED CONCRETE
 CORED SLAB UNIT
 (SUB-REGIONAL TIER)



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-17
2			4			TOTAL SHEETS 18

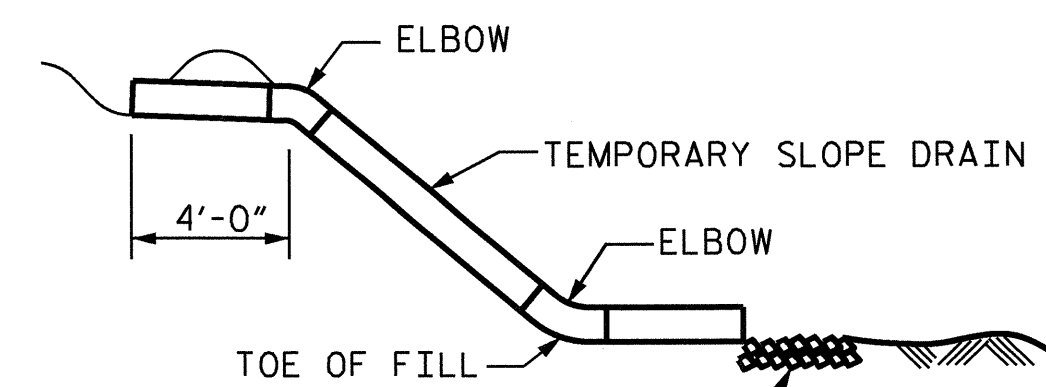
ASSEMBLED BY: J. L. WALTON DATE: 3-24-10
 CHECKED BY: J. MYA DATE: 4-23-10
 DRAWN BY: KMM 3-08
 CHECKED BY: GM 3-08

17-OCT-2011 08:28
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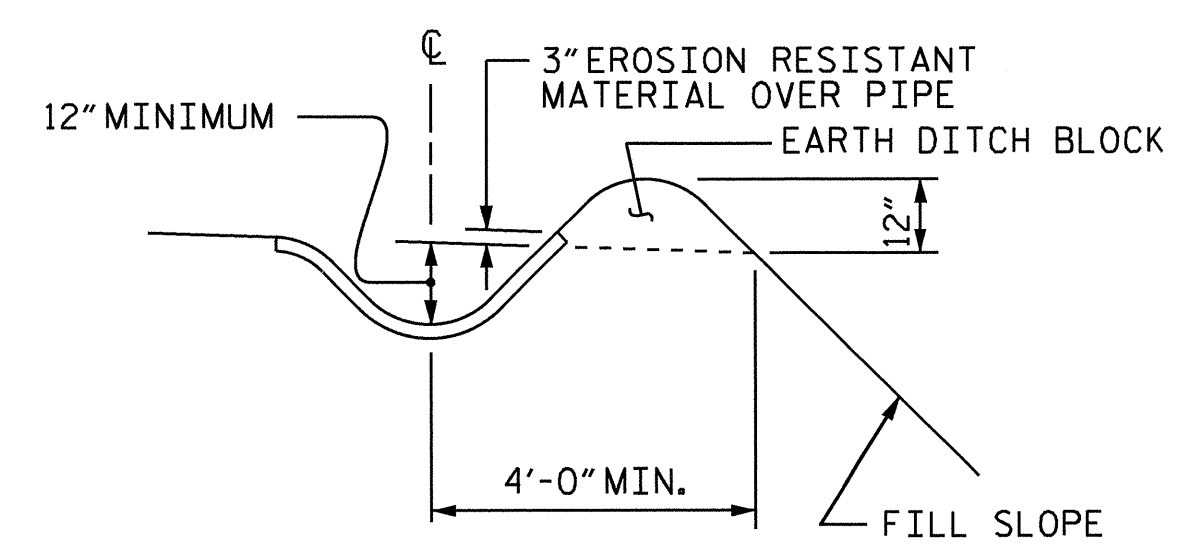


NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN. 2" DEPTH, 2) EROSION CONTROL MAT, OR 3) CONCRETE, AS DIRECTED BY THE ENGINEER. THE SLOPE DRAIN SHALL CONSIST OF A NON-PERFORATED TEMPORARY DRAINAGE PIPE, 12 INCHES IN DIAMETER.

PLAN VIEW



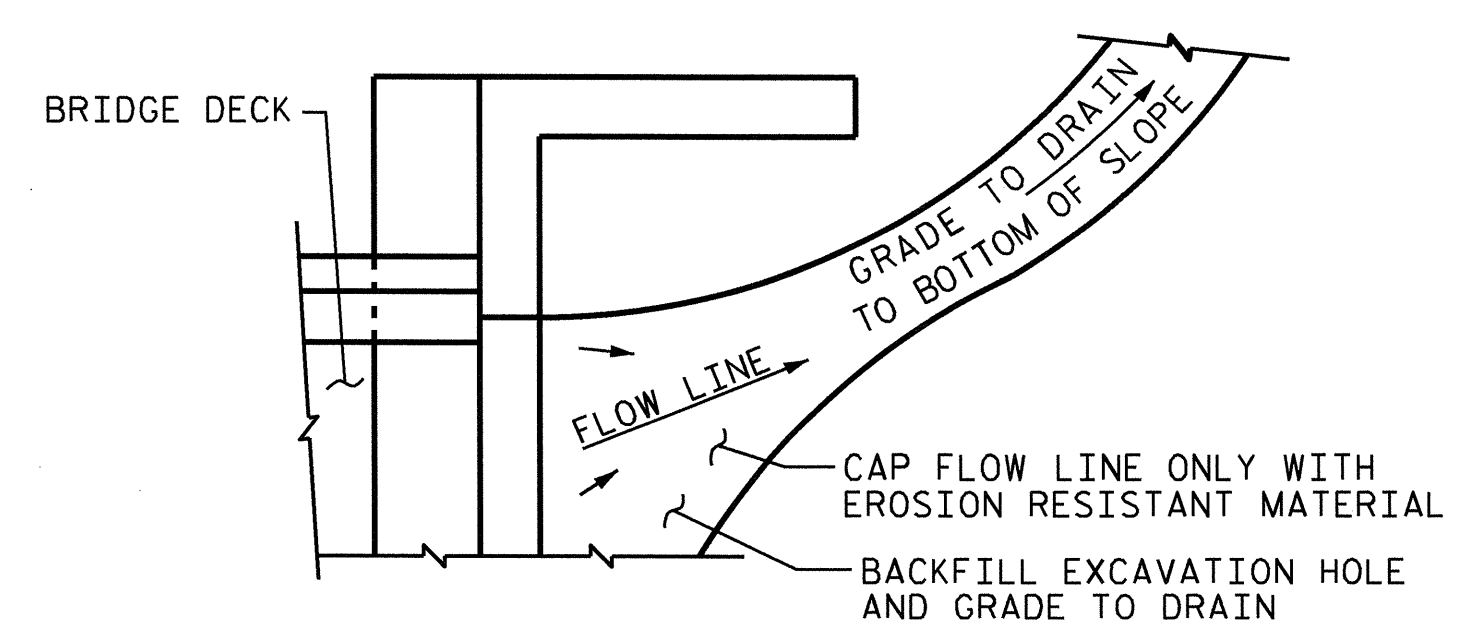
SECTION R-R



SECTION S-S

TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



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

PROJECT NO. B-4567
LENOIR COUNTY
 STATION: 18+29.00 -L-

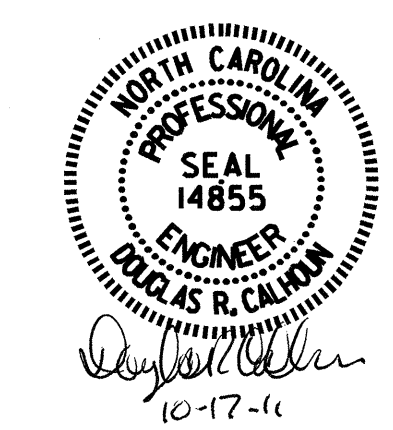
SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD
 BRIDGE APPROACH
 SLAB DETAILS

1988

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-18
1			3			TOTAL SHEETS
2			4			18



ASSEMBLED BY : J. L. WALTON	DATE : 3-25-10
CHECKED BY : J. MYA	DATE : 4-23-10
DRAWN BY : FCJ 11/88	REV. 10/17/00 RWW/LES
CHECKED BY : ARB 11/88	REV. 5/7/03 RWW/JTE
	REV. 5/1/06 TLA/GM

