

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3404		
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33035.1.1	BRZ-1127(6)	PE	
33035.2.1	BRZ-1127(6)	R/W, UTIL	
33035.3.1	BRZ-1127(6)	CONSTR.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

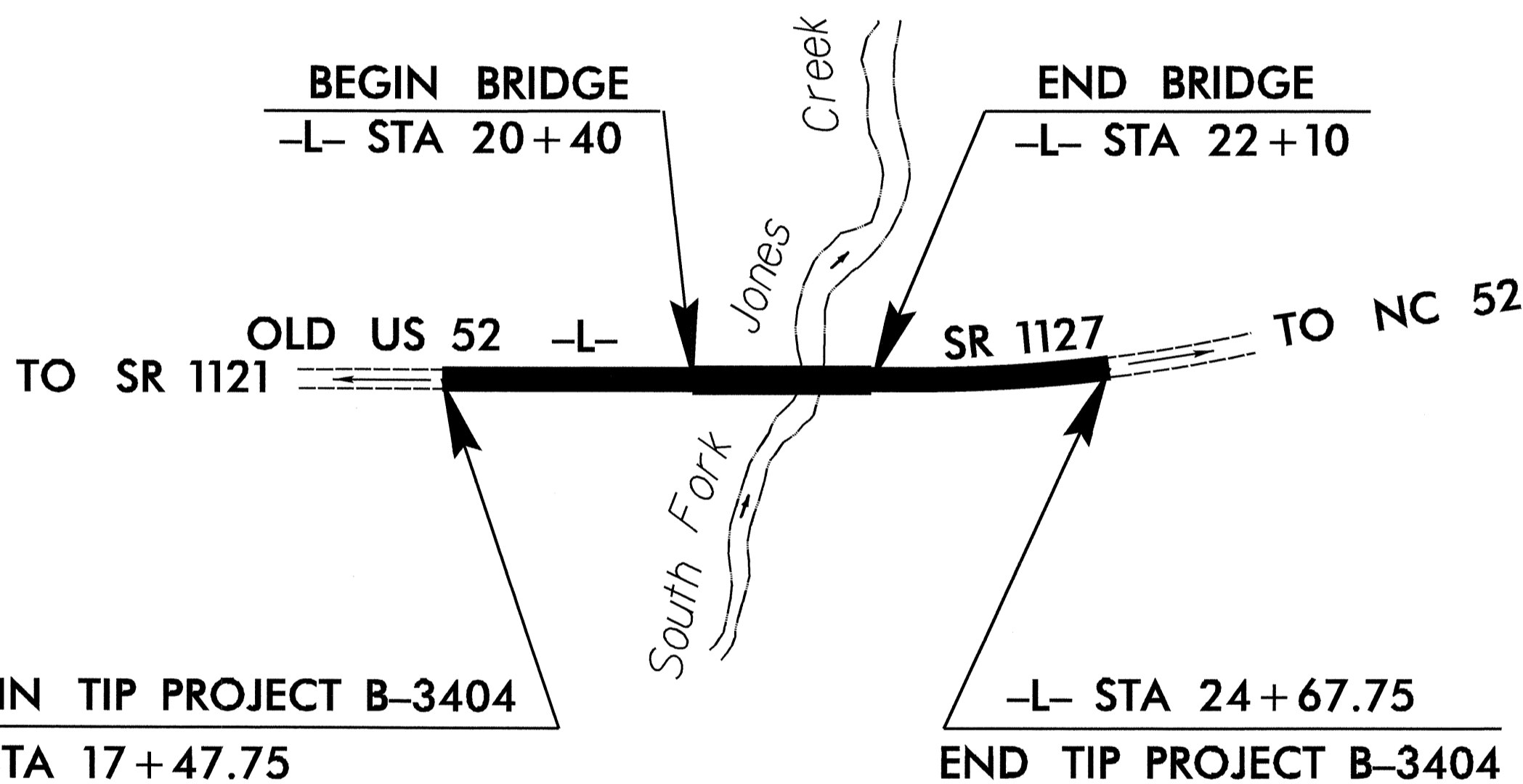
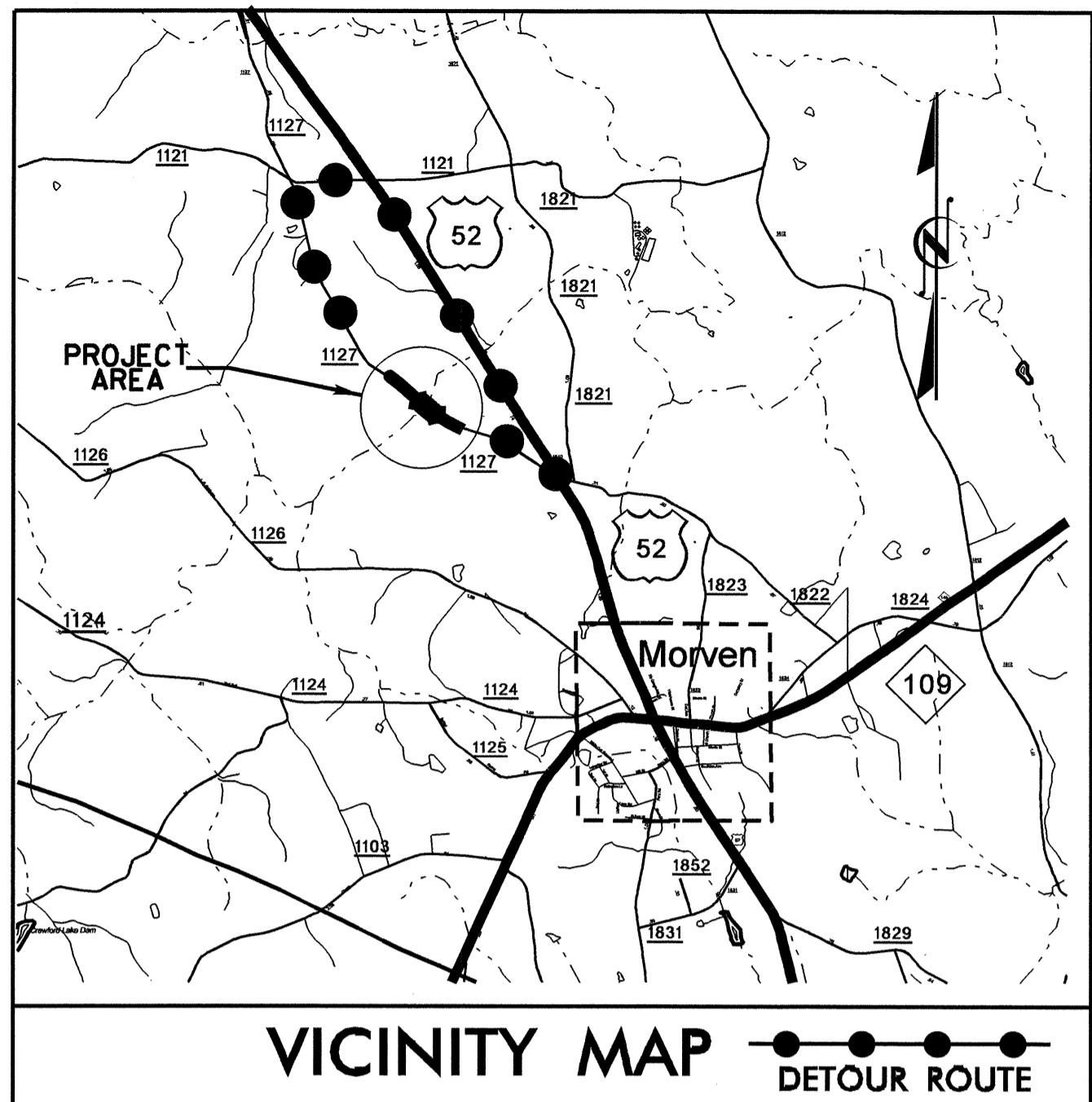
ANSON COUNTY

LOCATION: BRIDGE No. 314 OVER SOUTH FORK JONES CREEK ON SR 1127

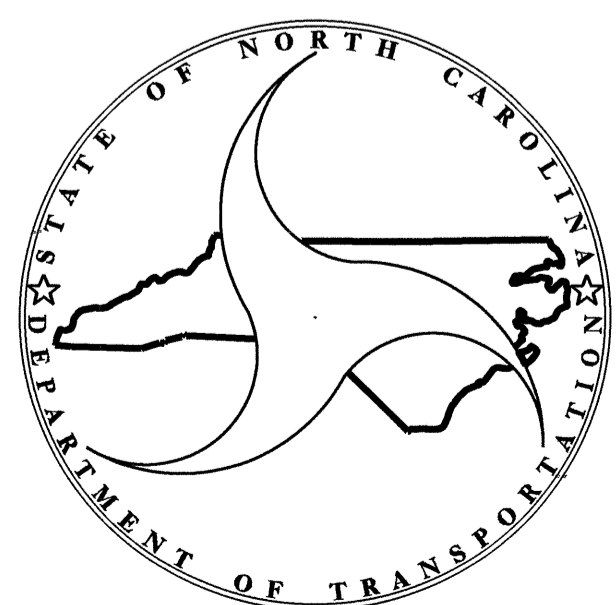
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

TIP PROJECT: B-3404

CONTRACT: C202333



STRUCTURE



DESIGN DATA

ADT 2010 = 569
 ADT 2030 = 877
 DHV = 10 %
 D = 60 %
 T = 3 % *
 V_d = 60 MPH
 Classification = Rural Collector
 *TTST = 1 DUAL = 2

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-3404 = 0.104 MILES
 LENGTH OF STRUCTURE TIP PROJECT B-3404 = 0.032 MILES
 TOTAL LENGTH OF TIP PROJECT B-3404 = 0.136 MILES

Prepared In the Office of:

DIVISION OF HIGHWAYS

1000 BIRCH RIDGE DR., RALEIGH, NC 27610

2006 STANDARD SPECIFICATIONS

LETTING DATE:
MARCH 16, 2010

B. C. Hunt, PE
PROJECT ENGINEER

V. A. Patel, PE
PROJECT DESIGN ENGINEER

STRUCTURE DESIGN UNIT

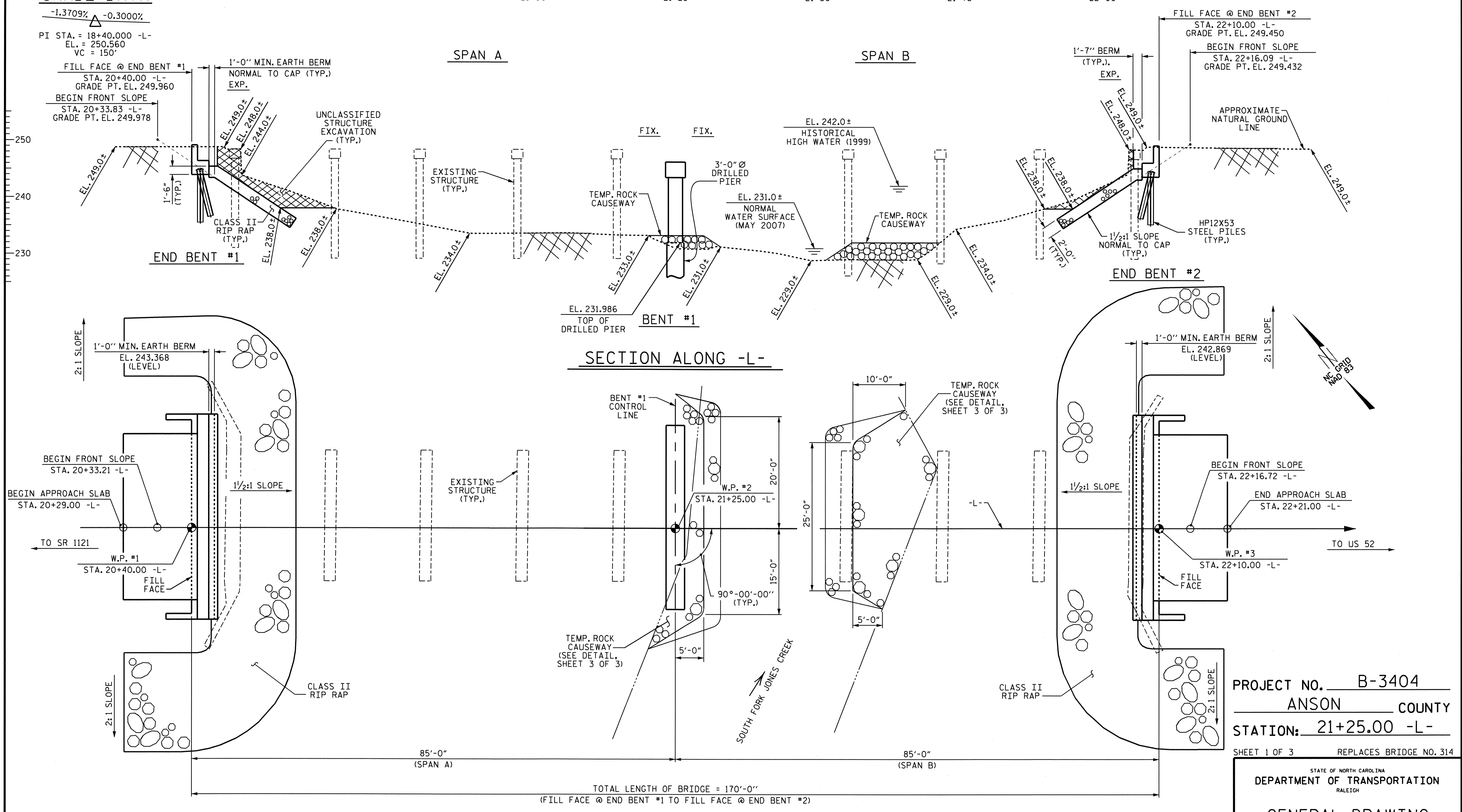
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

27-JAN-2010 11:38
\$\$\$\$\$DGN\$\$\$\$\$
jpadams

GRADE DATA

-1.3709% -0.3000%
PI STA. = 18+40.00 -L-
EL. = 250.560
VC = 150'



SECTION ALONG -L-

PLAN
PILES NOT SHOWN FOR CLARITY

PROJECT NO. B-3404
ANSON COUNTY
STATION: 21+25.00 -L-

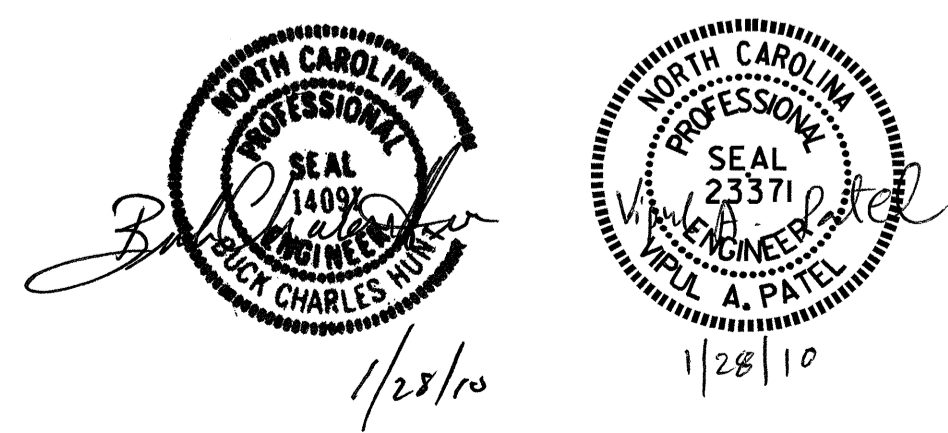
SHEET 1 OF 3 REPLACES BRIDGE NO. 314

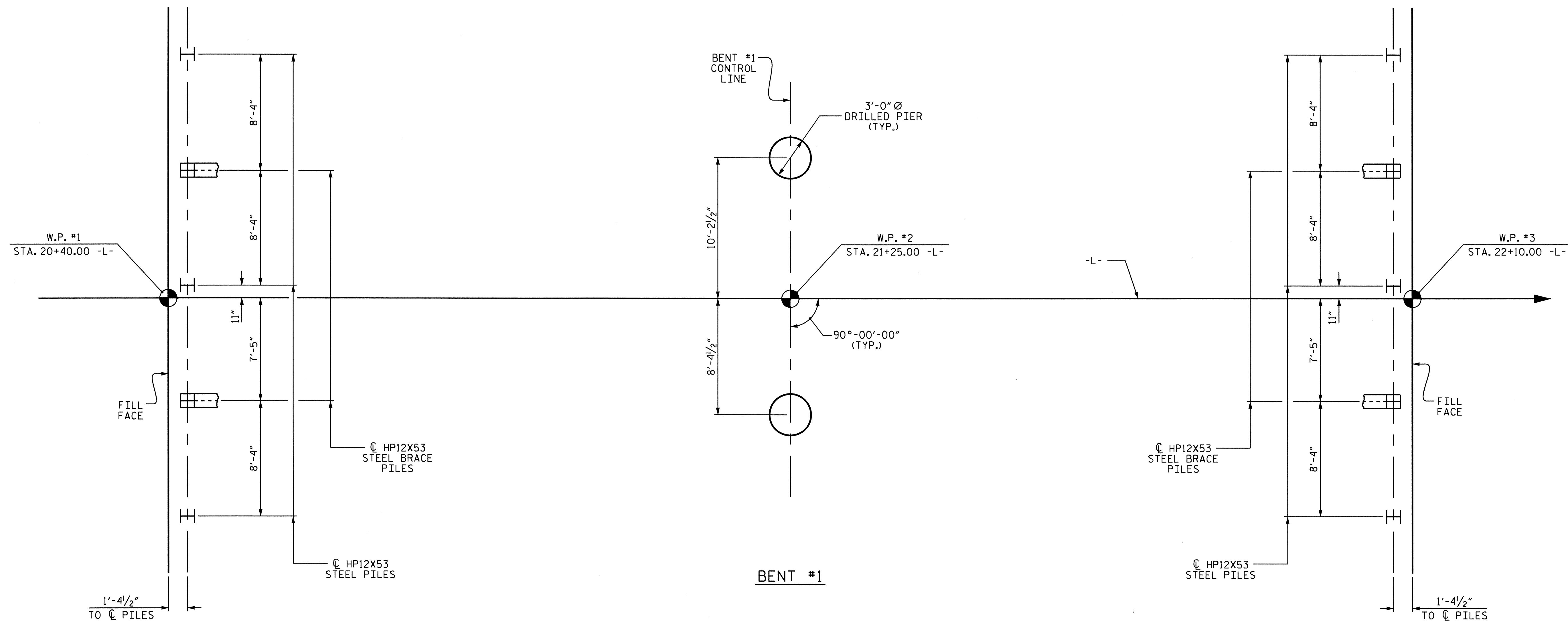
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
FOR BRIDGE ON SR 1127
(OLD US 52) BETWEEN US 52
AND SR 1121 OVER SOUTH
FORK JONES CREEK

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

DRAWN BY : J.P. ADAMS DATE : 9/3/09
CHECKED BY : K.D. LAYNE DATE : 9/22/09

27-JAN-2010 10:53
R:\Structures\B-3404\Revised Plans 33\B-3404.sd.gdn
jpodans





FOUNDATION LAYOUT

DIMENSIONS LOCATING DRILLED PIERS ARE TO DRILLED PIER CENTER.
 ALL PILES ARE HP12X53.
 END BENT BRACE PILES ARE BATTERED 3:12.
 DIMENSIONS LOCATING PILES ARE TO THE CENTERLINE OF PILE.

NOTES

FOR PILES, SEE SPECIAL PROVISIONS.

PILES AT END BENT #1 AND END BENT #2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 110 TONS PER PILE. DRIVE PILES TO A REQUIRED DRIVING RESISTANCE OF 183 TONS PER PILE.

FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.

DRILLED PIERS AT BENT #1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 475 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 80 TSF.

PERMANENT STEEL CASING MAY BE REQUIRED FOR DRILLED PIERS AT BENT #1. IF REQUIRED, DO NOT EXTEND CASING BELOW ELEVATION 224.000 WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE ENGINEER WILL DETERMINE THE NEED FOR PERMANENT STEEL CASING.

INSTALL DRILLED PIERS AT BENT #1 THAT EXTEND TO AN ELEVATION NO HIGHER THAN 208.986 (LEFT), 212.986 (RIGHT) AND SATISFY THE REQUIRED END RESISTANCE.

THE SCOUR CRITICAL ELEVATION FOR BENT #1 IS ELEVATION 214.500 (LEFT) AND 217.500 (RIGHT). SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

SID INSPECTIONS MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR SID INSPECTIONS.

CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR THE DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR CSL TESTING. SEE CROSSHOLE SONIC LOGGING SPECIAL PROVISION.

PROJECT NO. B-3404
ANSON COUNTY
 STATION: 21+25.00 -L-

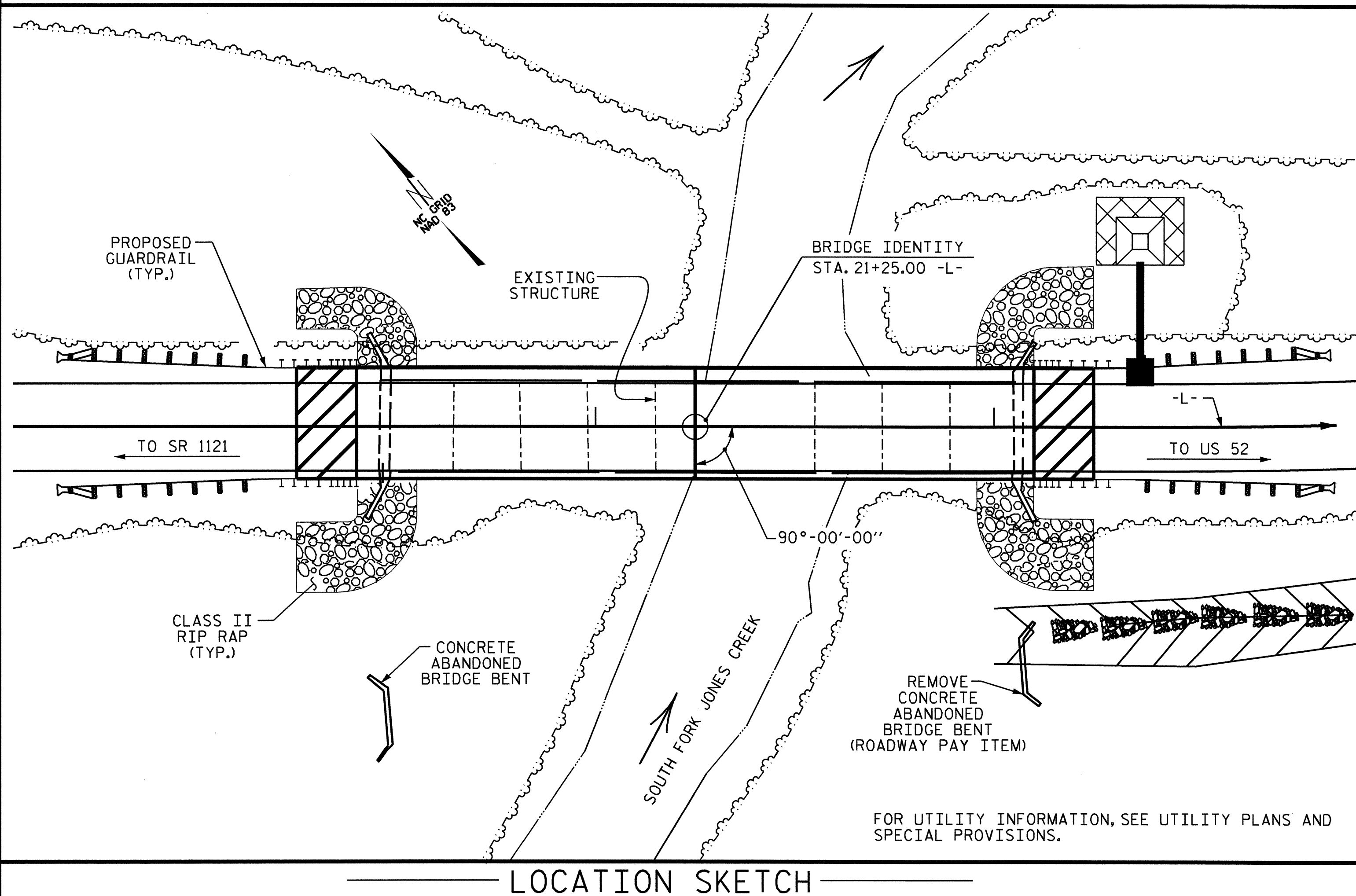
SHEET 2 OF 3



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE ON SR 1127
 (OLD US 52) BETWEEN US 52
 AND SR 1121 OVER SOUTH
 FORK JONES CREEK

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

DRAWN BY : J.P. ADAMS DATE : 9/3/09
 CHECKED BY : K.D. LAYNE DATE : 9/22/09



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.

THE EXISTING STRUCTURE CONSISTING OF 8 SPANS (1 @ 18'-6", 2 @ 17'-0", 1 @ 40'-0", 2 @ 17'-0", 1 @ 16'-10", & 1 @ 18'-4") WITH A REINFORCED CONCRETE DECK ON 16 LINES OF TIMBER JOISTS @ APPROACH SPANS AND 5 LINES OF STEEL I-BEAMS @ MAIN SPANS WITH A CLEAR ROADWAY WIDTH OF 20.3' ON A SUBSTRUCTURE CONSISTING OF REINFORCED CONCRETE ABUTMENTS, REINFORCED CONCRETE POST AND BEAM & TIMBER CRUTCH BENTS 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.

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 MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON SHEET 1 OF 3 SHALL BE EXCAVATED FOR A DISTANCE OF 25 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.

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.

ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.

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.

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 21+25.00 -L-."

AT THE CONTRACTOR'S OPTION, AND UPON REMOVAL OF THE CAUSEWAYS, THE CLASS II RIP RAP USED IN THE CAUSEWAYS MAY BE PLACED AS RIP RAP SLOPE PROTECTION. SEE SPECIAL PROVISIONS FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS AT STATION 21+25.00 -L-.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CURING CONCRETE, SEE SPECIAL PROVISIONS.

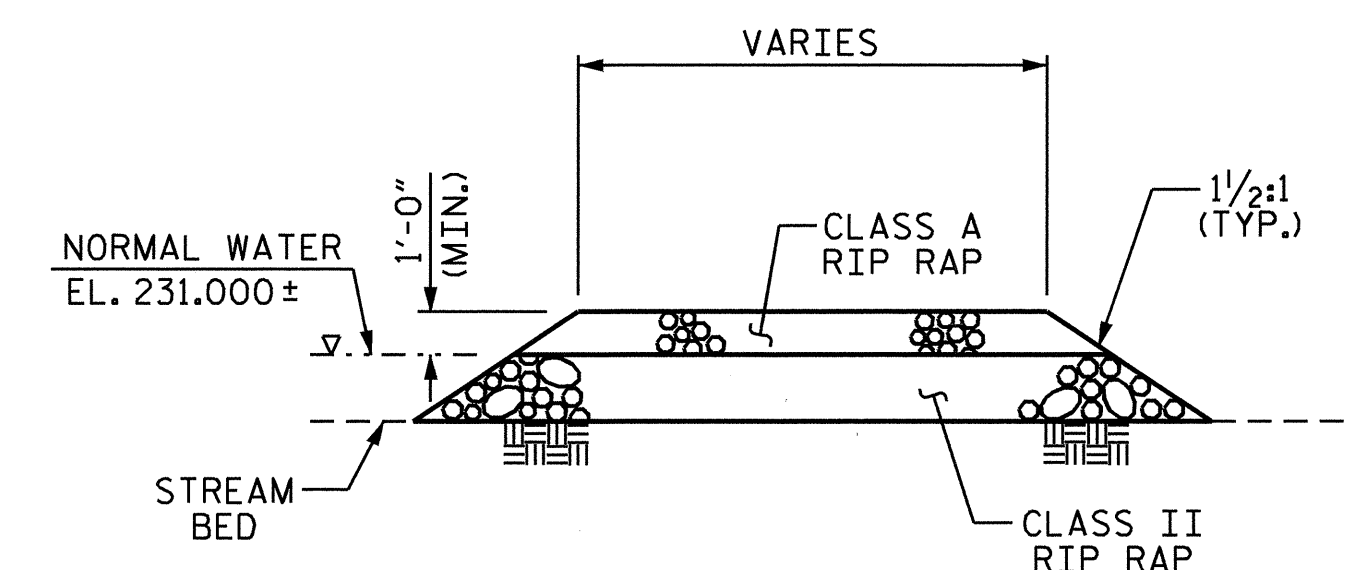
LOCATION SKETCH

TOTAL BILL OF MATERIAL

	CONSTRUCTION, MAINTENANCE & REMOVAL OF TEMP. ACCESS	REMOVAL OF EXISTING STRUCTURE	3'-0" DIA. DRILLED PIERS IN SOIL	3'-0" DIA. DRILLED PIERS NOT IN SOIL	PERMANENT STEEL CASING FOR 3'-0" DIA. DRILLED PIER	SID INSPECTION	CROSSHOLE SONIC LOGGING	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS
	LUMP SUM	LUMP SUM	LIN.FT.	LIN.FT.	LIN.FT.	EACH	EACH	LUMP SUM	CU.YDS.	LUMP SUM
SUPERSTRUCTURE								LUMP SUM		LUMP SUM
END BENT #1									17.6	
BENT #1			24.0	18.0	16.0	1	1		18.6	
END BENT #2									17.6	
TOTAL	LUMP SUM	LUMP SUM	24.0	18.0	16.0	1	1	LUMP SUM	53.8	LUMP SUM

TOTAL BILL OF MATERIAL

	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	HP12X53 STEEL PILES	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 2'-9" PRESTRESSED CONCRETE BOX BEAMS
	LBS.	LBS.	NO.	LIN.FT.	LIN.FT.	TONS	SQ.YDS.	LUMP SUM
SUPERSTRUCTURE					335.50			LUMP SUM
END BENT #1	2597		5	125		170	190	
BENT #1	6192	1108						
END BENT #2	2597		5	125		180	200	
TOTAL	11386	1108	10	250	335.50	350	390	LUMP SUM



TEMPORARY ROCK CAUSEWAY

PROJECT NO. B-3404
 ANSON COUNTY
 STATION: 21+25.00 -L-

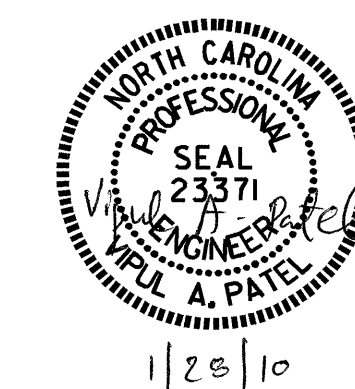
SHEET 3 OF 3

HYDRAULIC DATA

DESIGN DISCHARGE = 4600 CFS
 FREQUENCY OF DESIGN FLOOD = 25 YRS.
 DESIGN HIGH WATER ELEVATION = 240.900
 DRAINAGE AREA = 33.7 SQ. MI.
 BASIC DISCHARGE (Q100) = 6775 CFS
 BASIC HIGH WATER ELEVATION = 242.900

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 12000 CFS
 FREQUENCY OF OVERTOPPING FLOOD = 500 YRS. +
 OVERTOPPING FLOOD ELEVATION = 248.600



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE ON SR 1127
 (OLD US 52) BETWEEN US 52
 AND SR 1121 OVER SOUTH
 FORK JONES CREEK

DRAWN BY: J.P. ADAMS DATE: 9/3/09
 CHECKED BY: K.D. LAYNE DATE: 9/22/09

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

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	1.046	--	1.75	0.273	1.43	A	EL	41.156	0.498	1.32	A	EL	8.231	0.80	0.273	1.05	A	EL	41.156	1	
	HL-93(Opr)	N/A	--	1.71	--	1.35	0.273	1.86	A	EL	41.156	0.498	1.71	A	EL	8.231	N/A	--	--	--	--	--	1	
	HS-20(Inv)	36.000	2	1.401	50.45	1.75	0.273	1.92	A	EL	41.156	0.498	1.7	A	EL	8.231	0.80	0.273	1.40	A	EL	41.156	1	
	HS-20(Opr)	36.000	--	2.198	79.116	1.35	0.273	2.49	A	EL	41.156	0.498	2.2	A	EL	8.231	N/A	--	--	--	--	--	1	
LEGAL LOAD RATING	SV	SNSH	13.500	--	3.235	43.667	1.4	0.273	5.54	A	EL	41.156	0.498	5.12	A	EL	8.231	0.80	0.273	3.23	A	EL	41.156	1
		SNGARBS2	20.000	--	2.38	47.594	1.4	0.273	4.08	A	EL	41.156	0.498	3.62	A	EL	8.231	0.80	0.273	2.38	A	EL	41.156	1
		SNAGRIS2	22.000	--	2.241	49.301	1.4	0.273	3.84	A	EL	41.156	0.498	3.35	A	EL	8.231	0.80	0.273	2.24	A	EL	41.156	1
		SNCOTTS3	27.250	--	1.609	43.838	1.4	0.273	2.76	A	EL	41.156	0.498	2.55	A	EL	8.231	0.80	0.273	1.61	A	EL	41.156	1
		SNAGGRS4	34.925	--	1.333	46.54	1.4	0.273	2.28	A	EL	41.156	0.498	2.1	A	EL	8.231	0.80	0.273	1.33	A	EL	41.156	1
		SNS5A	35.550	--	1.304	46.354	1.4	0.273	2.23	A	EL	41.156	0.498	2.12	A	EL	8.231	0.80	0.273	1.30	A	EL	41.156	1
		SNS6A	39.950	--	1.191	47.599	1.4	0.273	2.04	A	EL	41.156	0.498	1.93	A	EL	8.231	0.80	0.273	1.19	A	EL	41.156	1
	SNS7B	42.000	--	1.134	47.647	1.4	0.273	1.94	A	EL	41.156	0.498	1.89	A	EL	8.231	0.80	0.273	1.13	A	EL	41.156	1	
	TTST	TNAGRIT3	33.000	--	1.451	47.899	1.4	0.273	2.49	A	EL	41.156	0.498	2.3	A	EL	8.231	0.80	0.273	1.45	A	EL	41.156	1
		TNT4A	33.075	--	1.457	48.175	1.4	0.273	2.5	A	EL	41.156	0.498	2.25	A	EL	8.231	0.80	0.273	1.46	A	EL	41.156	1
		TNT6A	41.600	--	1.186	49.35	1.4	0.273	2.03	A	EL	41.156	0.498	1.99	A	EL	8.231	0.80	0.273	1.19	A	EL	41.156	1
		TNT7A	42.000	--	1.19	49.97	1.4	0.273	2.04	A	EL	41.156	0.498	1.96	A	EL	8.231	0.80	0.273	1.19	A	EL	41.156	1
		TNT7B	42.000	--	1.225	51.442	1.4	0.273	2.1	A	EL	41.156	0.498	1.85	A	EL	8.231	0.80	0.273	1.22	A	EL	41.156	1
		TNAGRIT4	43.000	--	1.17	50.294	1.4	0.273	2	A	EL	41.156	0.498	1.79	A	EL	8.231	0.80	0.273	1.17	A	EL	41.156	1
TNAGT5A		45.000	--	1.105	49.722	1.4	0.273	1.89	A	EL	41.156	0.498	1.77	A	EL	8.231	0.80	0.273	1.10	A	EL	41.156	1	
TNAGT5B	45.000	3	1.093	49.205	1.4	0.273	1.87	A	EL	41.156	0.498	1.7	A	EL	8.231	0.80	0.273	1.09	A	EL	41.156	1		

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ _{DC}	γ _{OW}
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

	YEAR	ADTT
CURRENT	2010	10
FUTURE	2030	16

NOTES:

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

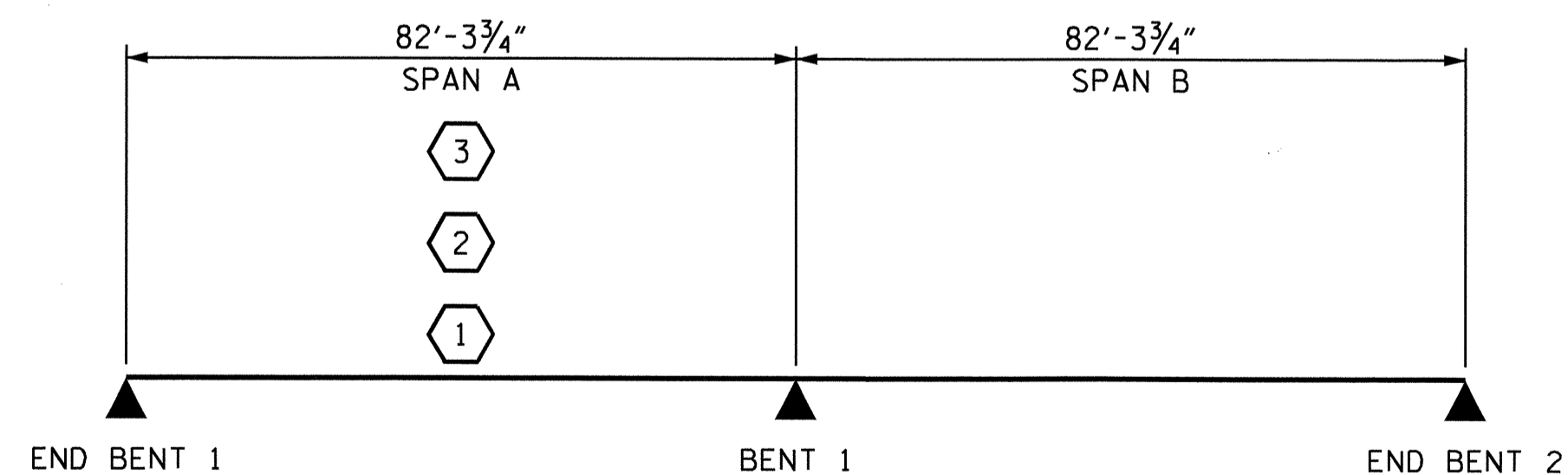
ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

1. SPAN B LENGTH AND RATING FACTORS ARE EQUAL TO SPAN A LENGTH AND RATING FACTORS.

- 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-3404
ANSON COUNTY
 STATION: 21+25.00 -L-



Robert L. Gibson
1/28/2010

STATE OF NORTH CAROLINA					
DEPARTMENT OF TRANSPORTATION					
RALEIGH					
STANDARD					
LRFR SUMMARY FOR					
PRESTRESSED					
CONCRETE GIRDERS					
(NON-INTERSTATE TRAFFIC)					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					S-4
TOTAL SHEETS					21

ASSEMBLED BY : GMG	DATE : 1/10
CHECKED BY : RLC	DATE : 1/10
DRAWN BY : MAA 1/08	REV. 11/12/08R MAA/GM
CHECKED BY : GM/DI 2/08	

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 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. THE 2" Ø BACKER ROD SHALL CONFORM TO THE REQUIREMENTS OF TYPE M BOND BREAKER. 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 5100 PSI.

ALL REINFORCING STEEL IN VERTICAL CONCRETE BARRIER RAILS 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.

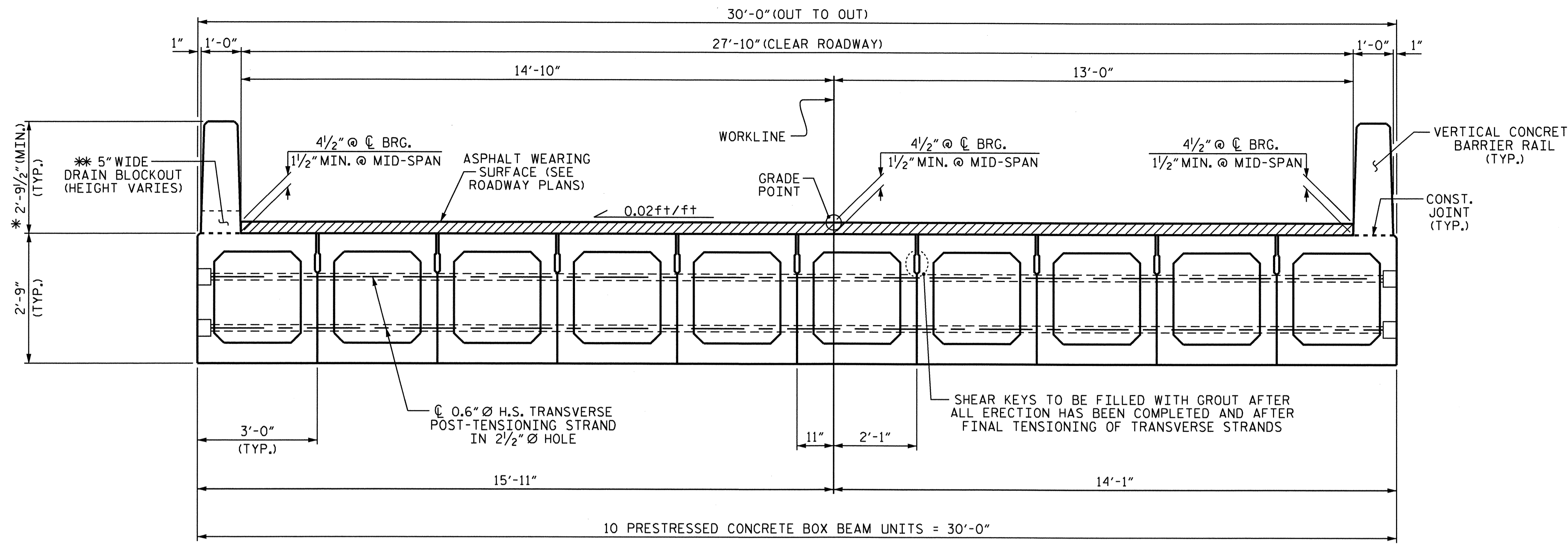
VERTICAL GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE VERTICAL CONCRETE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A VERTICAL CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN VERTICAL CONCRETE BARRIER RAIL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

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

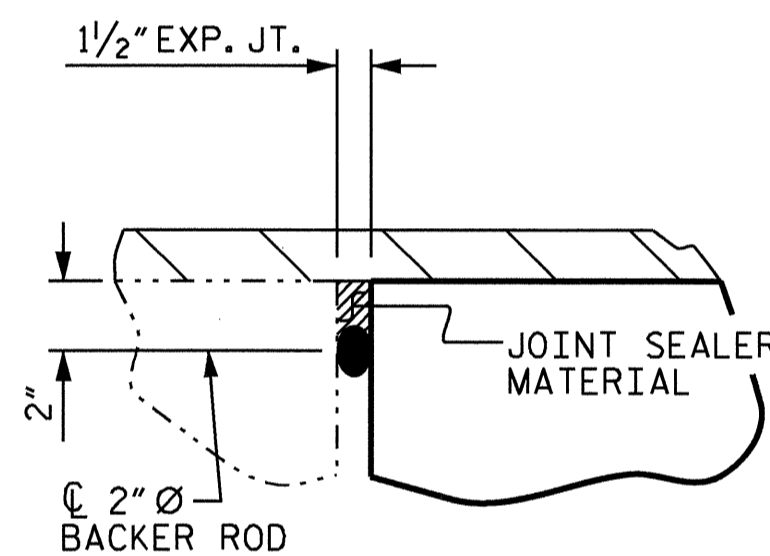
* THE MINIMUM HEIGHT OF THE VERTICAL CONCRETE BARRIER RAIL IS SHOWN. THE HEIGHT OF THE VERTICAL CONCRETE BARRIER RAIL VARIES WHILE THE TOP OF THE RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE.

APPLY EPOXY PROTECTIVE COATING TO OUTSIDE FACE AND EXPOSED TOP SURFACES OF EXTERIOR BOX BEAM UNITS, LEFT SIDE ONLY.

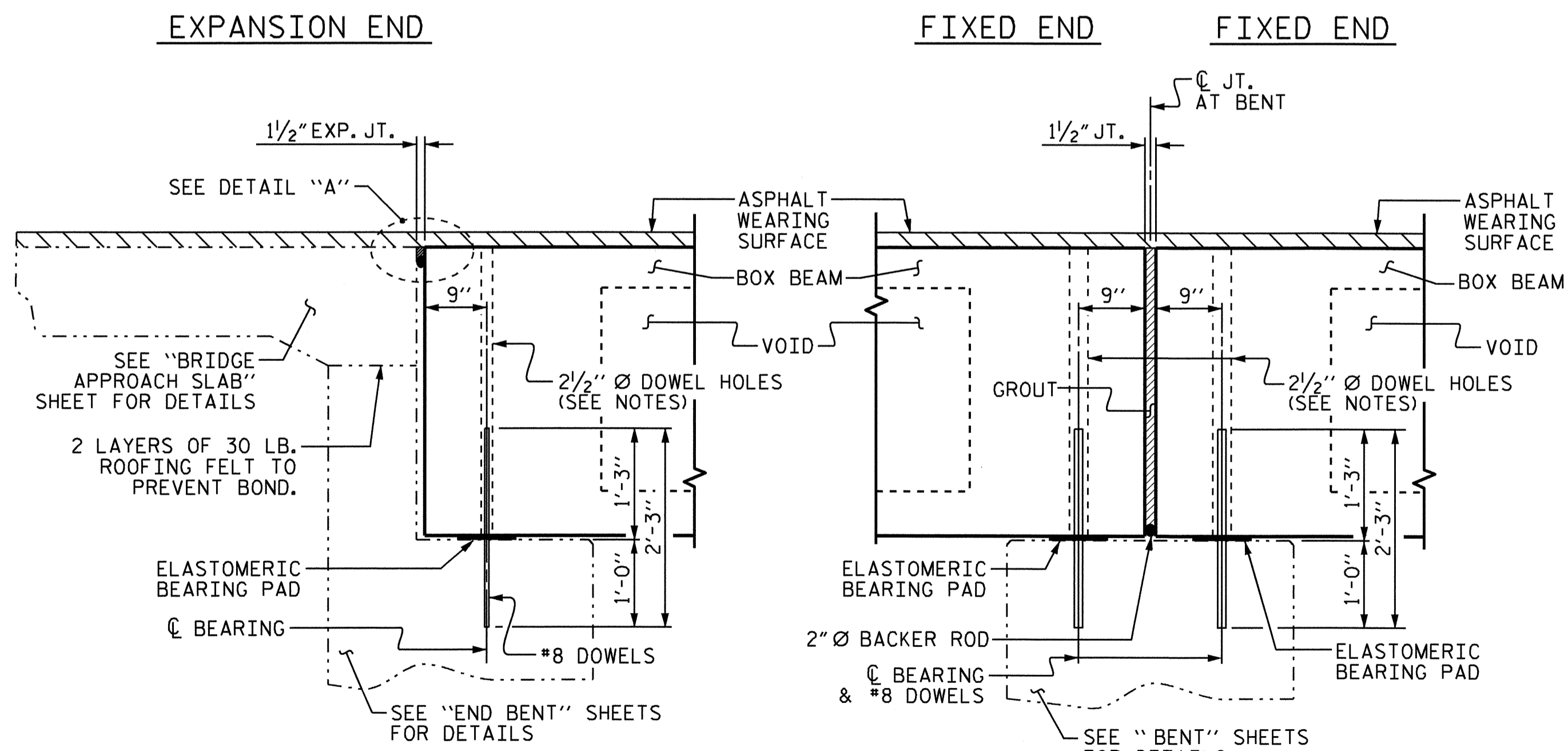
FOR VERTICAL CONCRETE BARRIER RAIL, SEE SPECIAL PROVISIONS.



TYPICAL SECTION

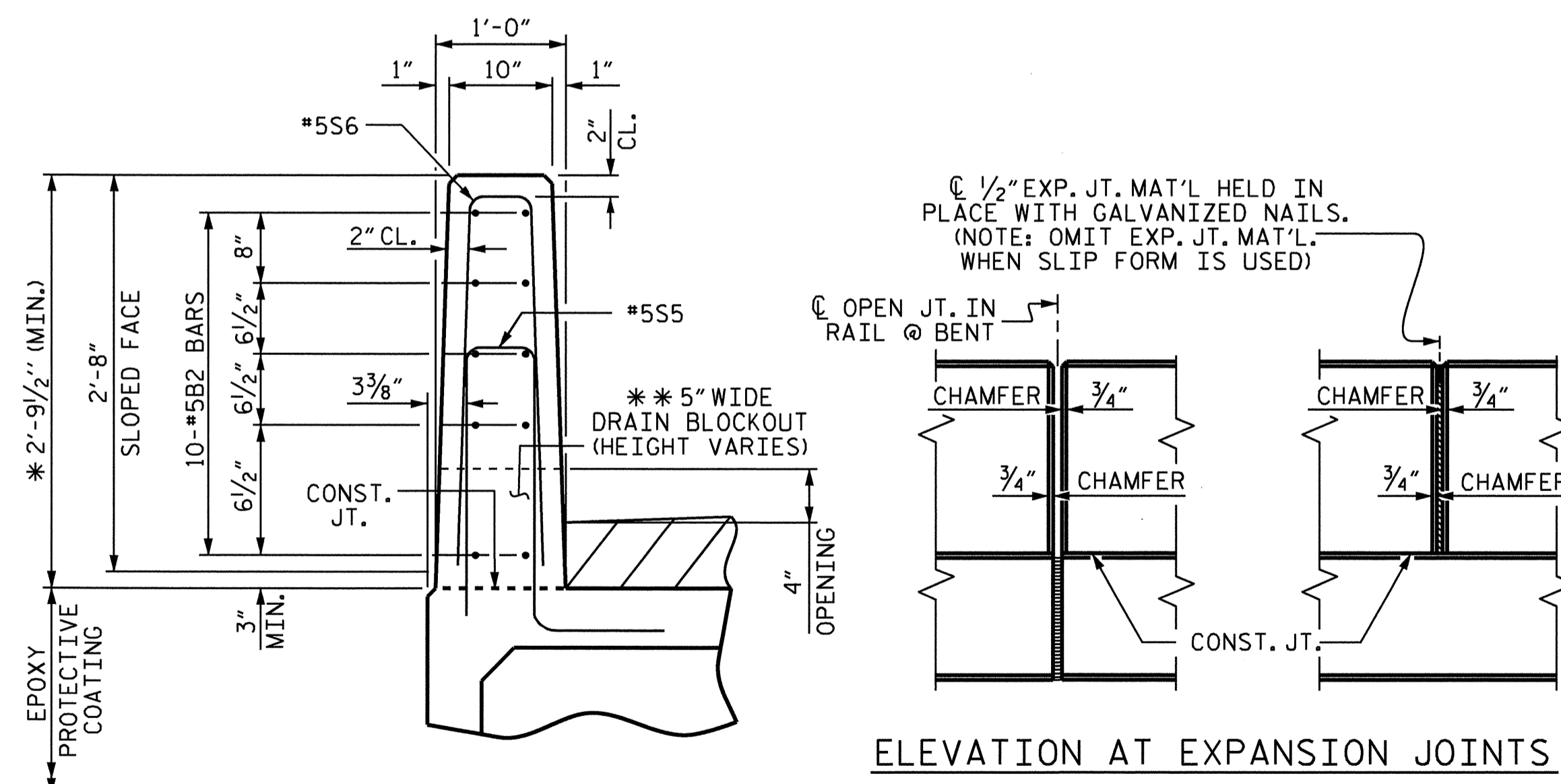


DETAIL "A"



SECTION AT END BENT

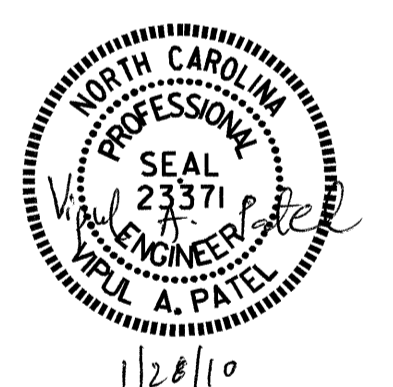
SECTION AT BENT



SECTION THRU RAIL

ELEVATION AT EXPANSION JOINTS

* * FIELD CUT BOTTOM "B" BARS TO CLEAR DRAINAGE SLOTS. DRAINAGE SLOTS MAY BE SHIFTED AS NECESSARY TO CLEAR S5 BARS IN BOX BEAM UNITS.



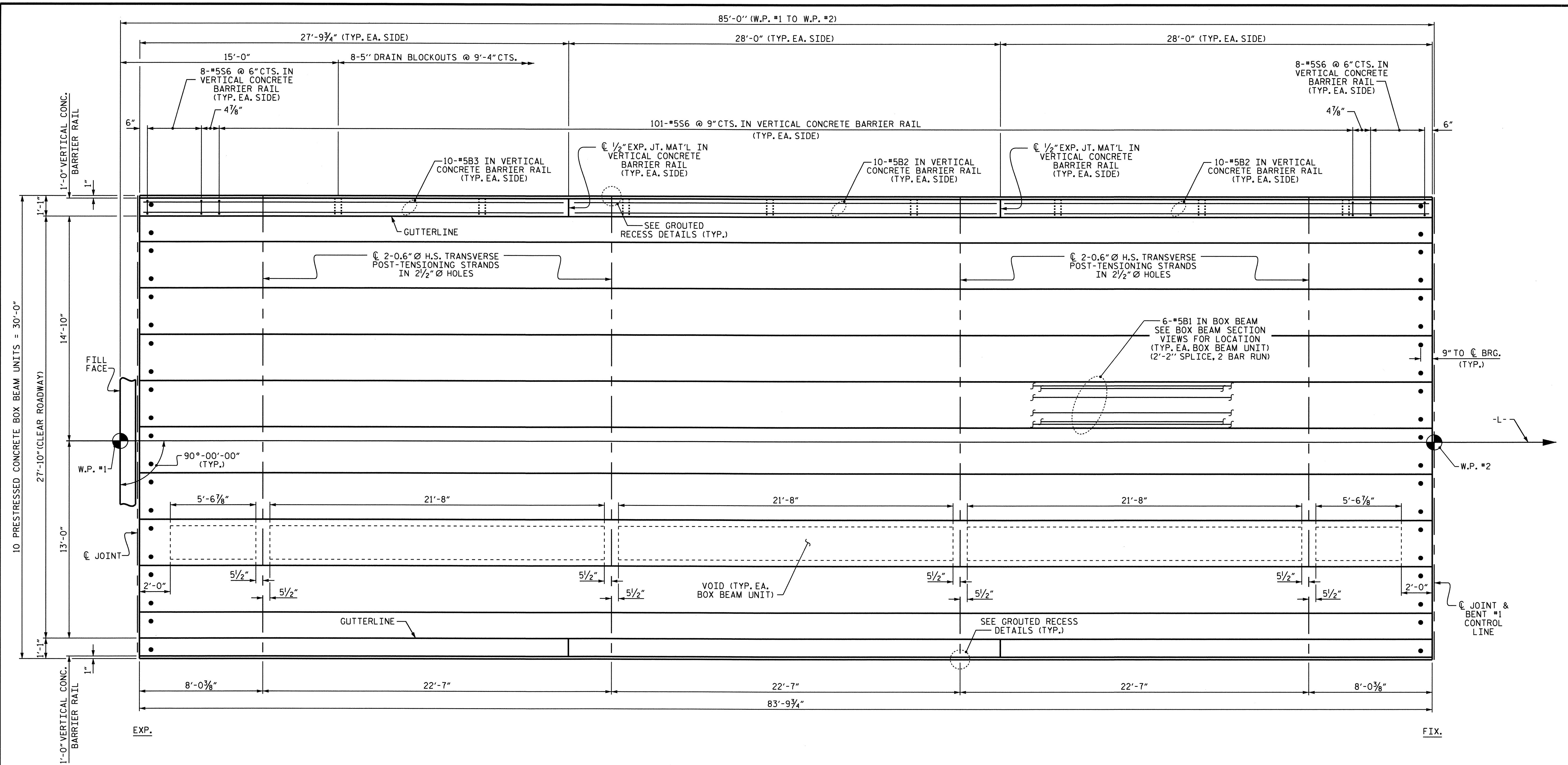
PROJECT NO. B-3404
ANSON COUNTY
 STATION: 21+25.00 -L-

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

ASSEMBLED BY : J.P. ADAMS	DATE : 1/14/09
CHECKED BY : M.K. BEARD	DATE : 2/25/09
DRAWN BY : TLA 5/05	ADDED 7/11/05R
CHECKED BY : GM 6/05	REV. 5/1/06R KMM/GM

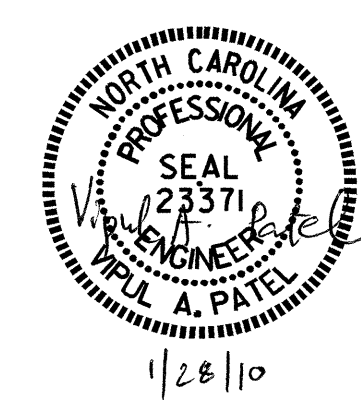
27-JAN-2010 11:38
 R:\Structures\B-3404\Revised Plans 33\B-3404.sd.BX.dgn
 jpodams

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



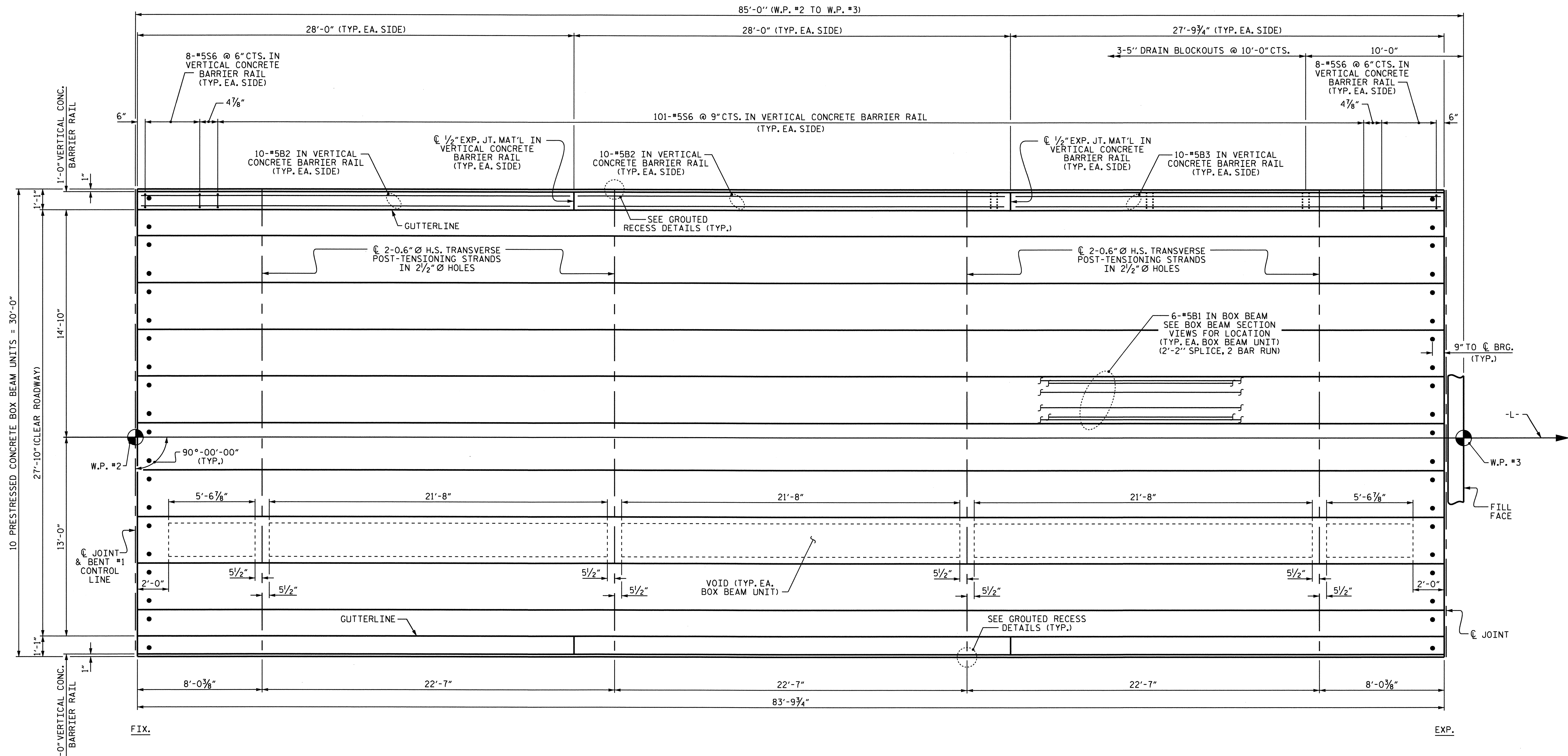
PLAN OF SPAN A

PROJECT NO. B-3404
ANSON COUNTY
 STATION: 21+25.00 -L-



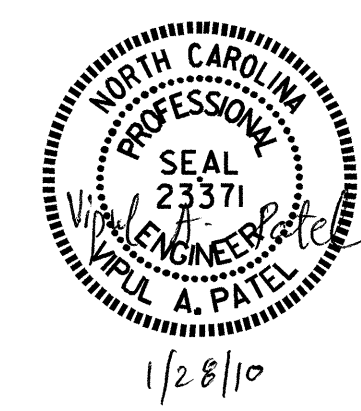
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE PLAN OF SPAN SPAN A					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-6					TOTAL SHEETS 21

DRAWN BY : J.P. ADAMS DATE : 1/15/09
 CHECKED BY : M.K. BEARD DATE : 2/25/09



PLAN OF SPAN B

PROJECT NO. B-3404
ANSON COUNTY
 STATION: 21+25.00 -L-

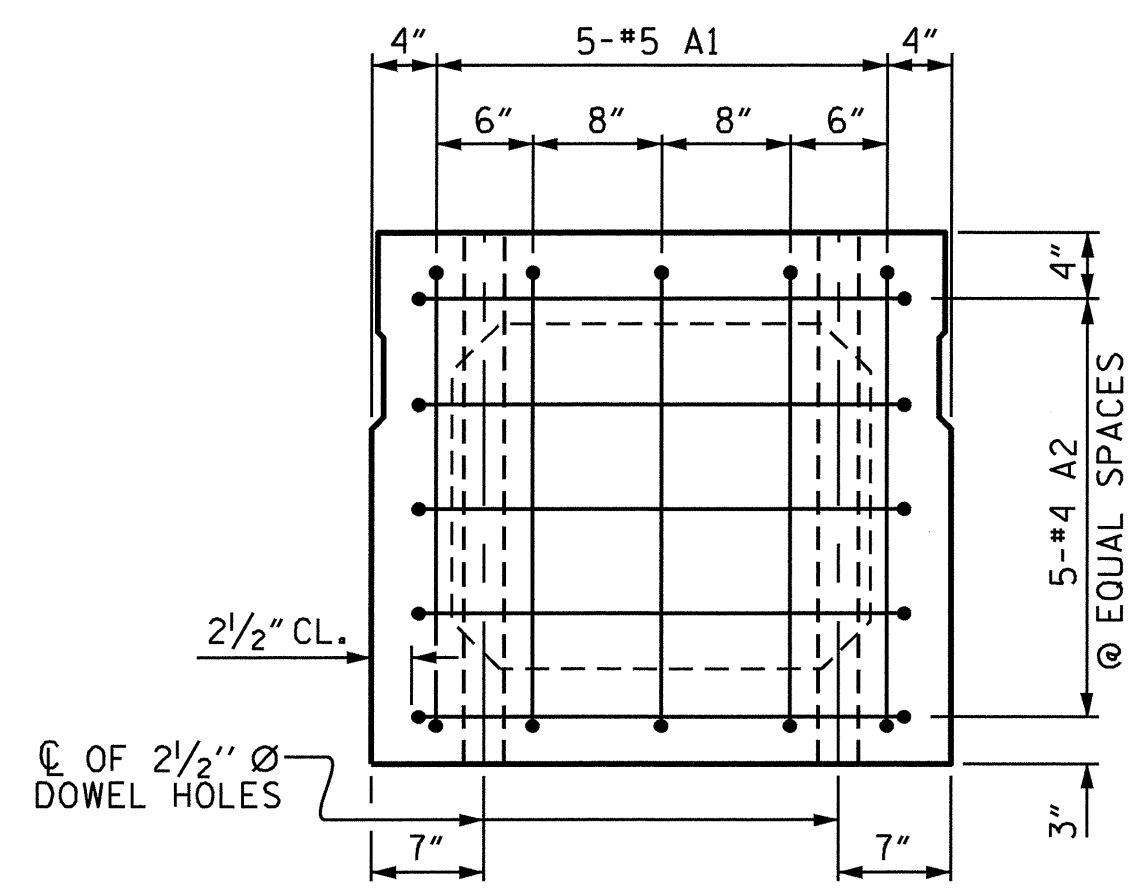


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 PLAN OF SPAN
 SPAN B

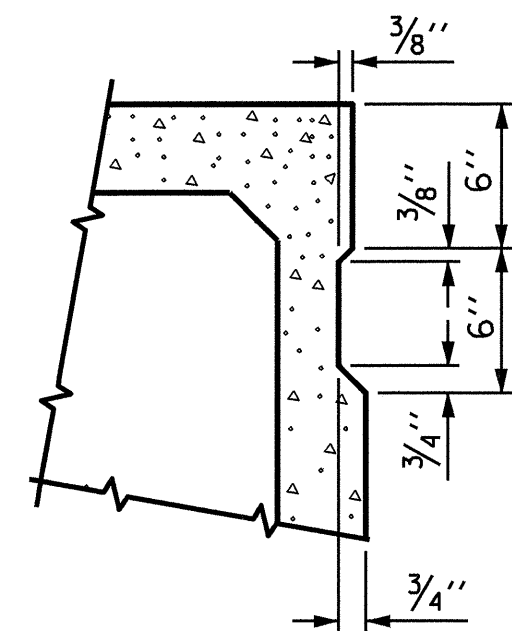
DRAWN BY : J.P. ADAMS DATE : 1/15/09
 CHECKED BY : M.K. BEARD DATE : 2/25/09

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-7
1			3			TOTAL SHEETS
2			4			21



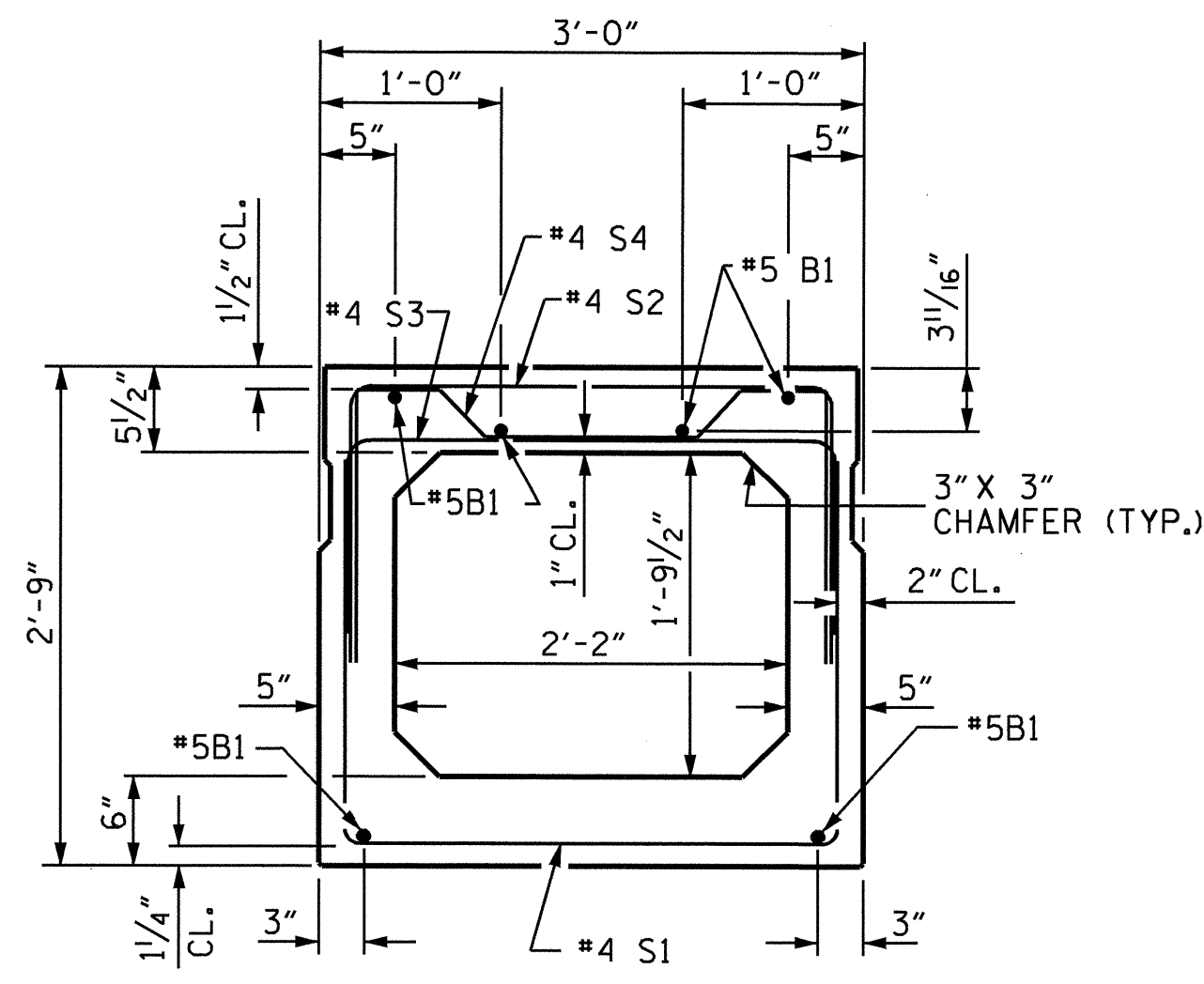
END ELEVATION

SHOWING PLACEMENT OF #5 & #4 "A" BARS AND LOCATION OF DOWEL HOLES. (INTERIOR BOX BEAM SECTION SHOWN-EXTERIOR SECTION SIMILAR EXCEPT SHEAR KEY LOCATION. STRAND LAYOUT NOT SHOWN.)



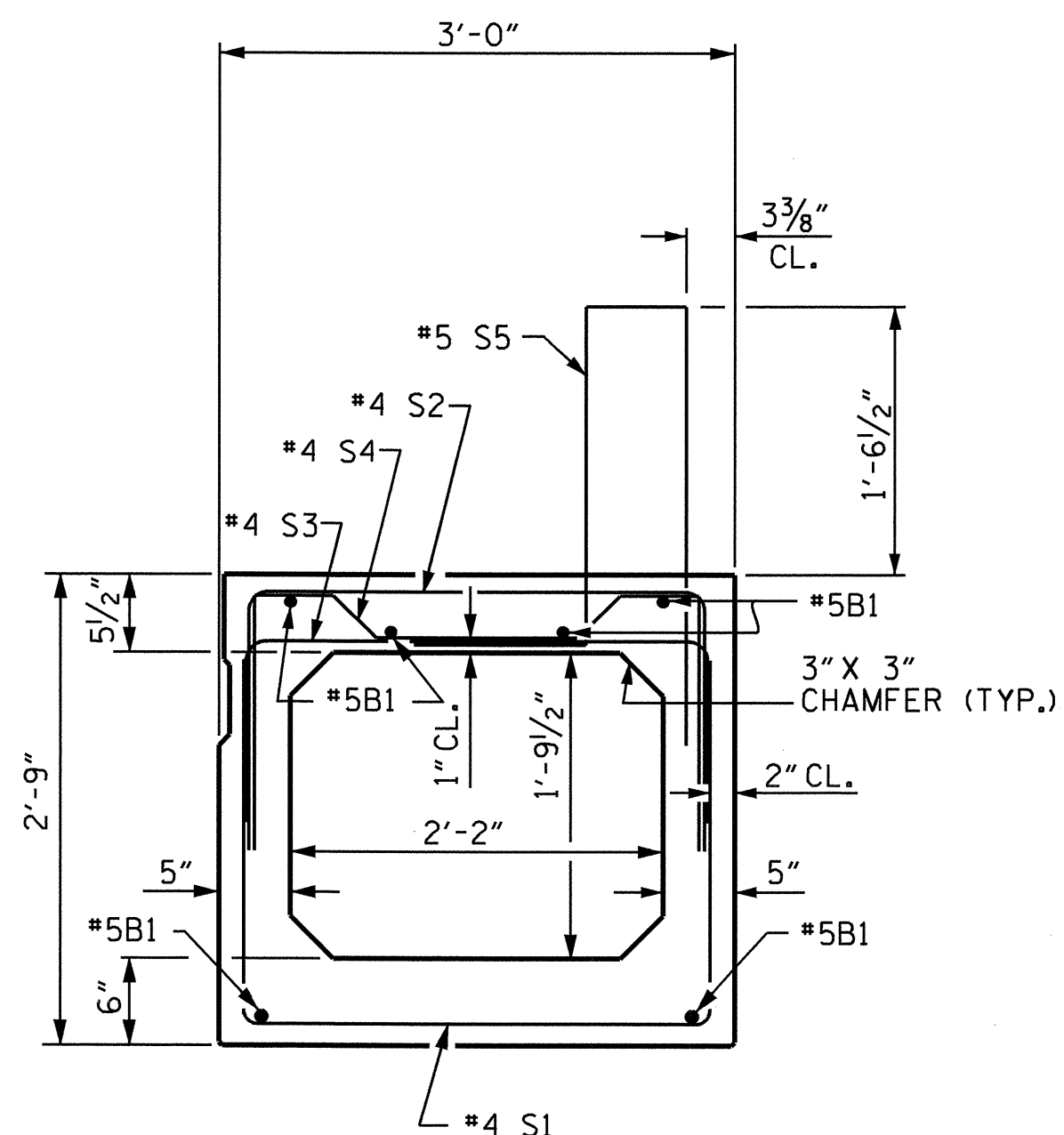
SHEAR KEY DETAIL

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



INTERIOR BOX BEAM SECTION

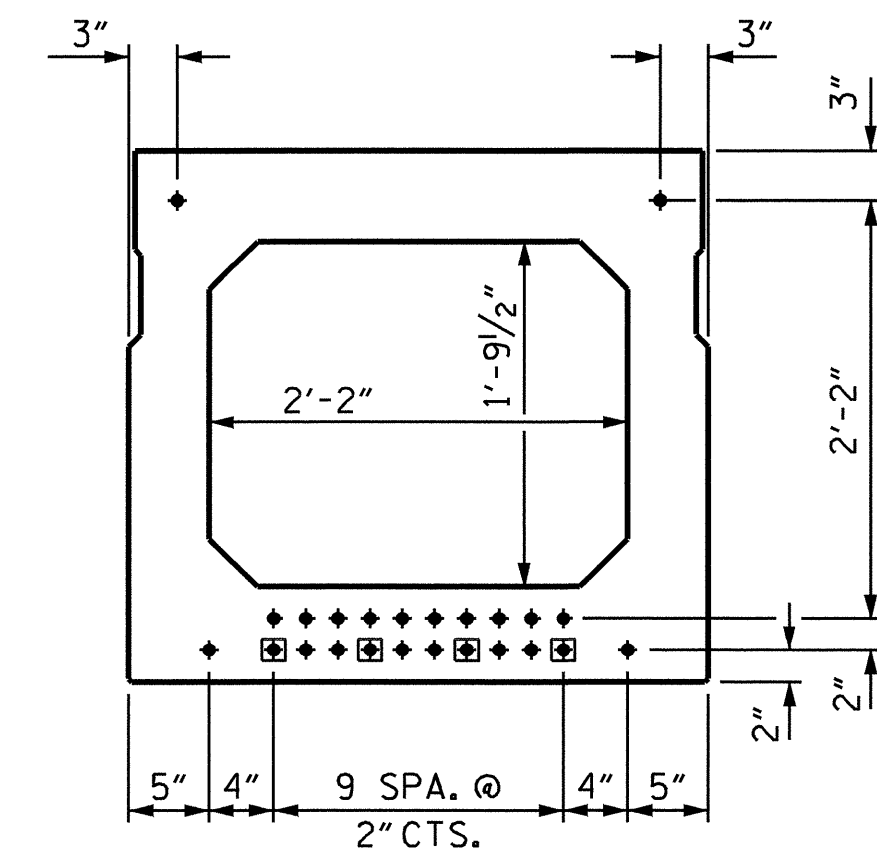
(STRAND LAYOUT NOT SHOWN)



EXTERIOR BOX BEAM SECTION

(STRAND LAYOUT NOT SHOWN)

0.6" Ø LOW RELAXATION STRAND LAYOUT



TYPICAL STRAND LOCATION

(24 STRANDS REQUIRED)
(INTERIOR BOX BEAM SECTION SHOWN-EXTERIOR SECTION SIMILAR EXCEPT SHEAR KEY LOCATION)

DEBONDING LEGEND

- FULLY BONDED STRANDS
- STRANDS DEBONDED FOR 6'-0" FROM END OF GIRDER

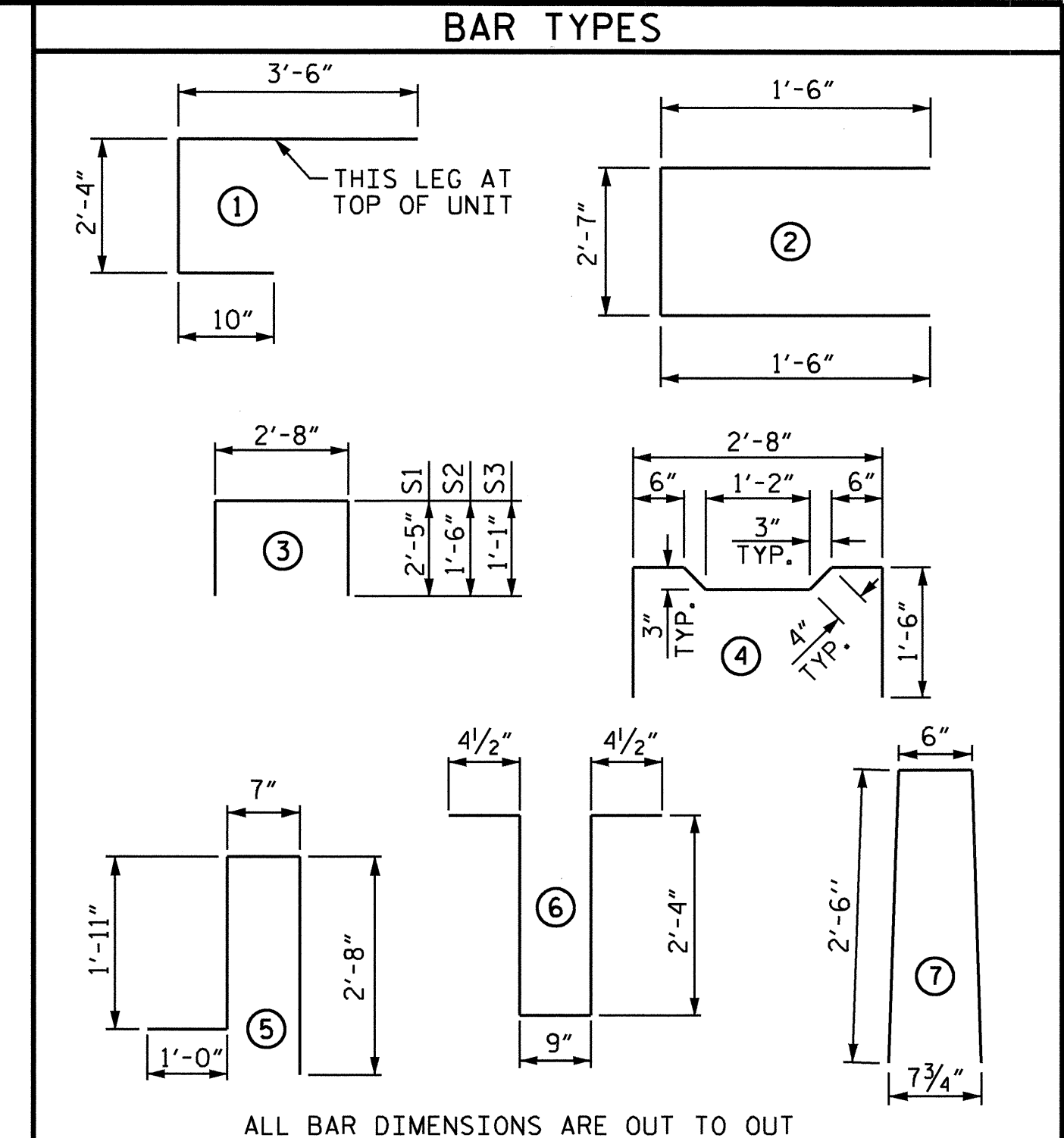
BOND SHALL BE BROKEN ON STRANDS AS SHOWN FOR THE SPECIFIED LENGTH FROM EACH END OF THE BOX BEAM. SEE STANDARD SPECIFICATIONS ARTICLE 1078-7.

GRADE 270 STRANDS

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

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL

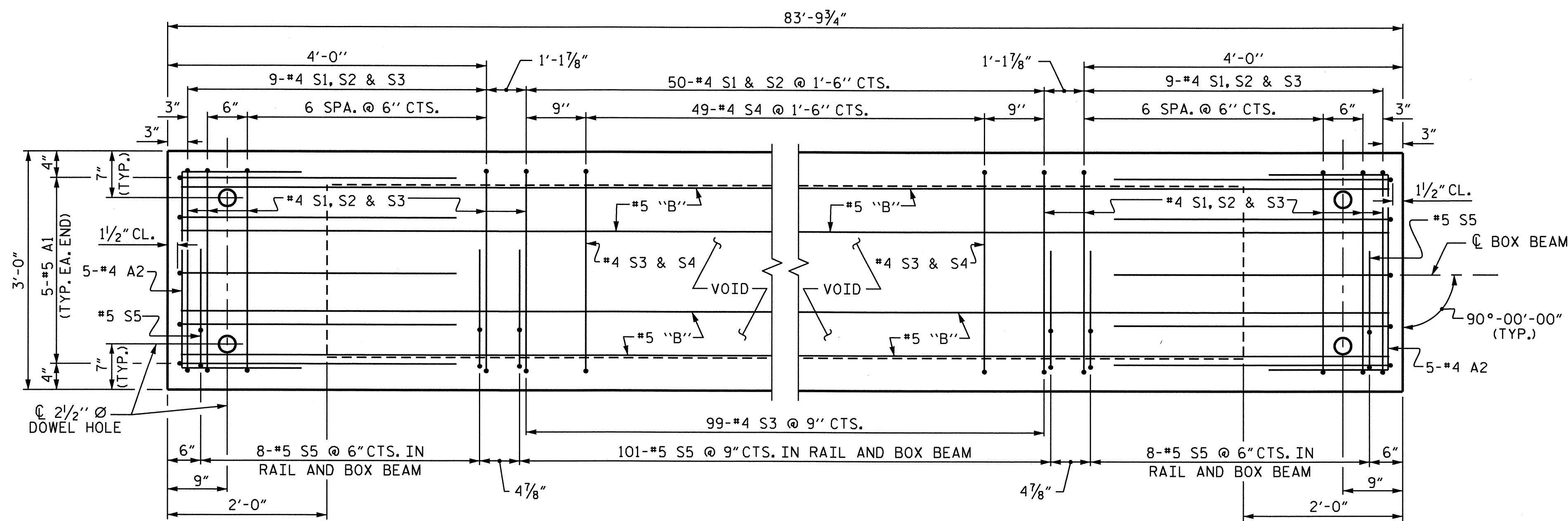
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
* B2	80	#5	STR	27'-7"	2302
* B3	40	#5	STR	27'-5"	1144
* S6	468	#5	7	5'-6"	2685
* EPOXY COATED REINFORCING STEEL				6131 LBS.	
CLASS AA CONCRETE				33.3 CU. YDS.	
VERTICAL CONCRETE BARRIER RAIL 335.50 LIN.FT.					



ALL BAR DIMENSIONS ARE OUT TO OUT

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	34	#4	2	5'-7"	127	5'-7"	127
B1	12	#5	STR	42'-10"	536	42'-10"	536
K1	12	#4	6	6'-2"	49	6'-2"	49
K2	8	#4	STR	2'-7"	14	2'-7"	14
S1	68	#4	3	7'-6"	341	7'-6"	341
S2	68	#4	3	5'-8"	257	5'-8"	257
S3	117	#4	3	4'-10"	378	4'-10"	378
S4	49	#4	4	5'-10"	191	5'-10"	191
* S5	117	#5	5	6'-2"	753	--	--
REINFORCING STEEL				1963 LBS.		1963 LBS.	
* EPOXY COATED REINF. STEEL				753 LBS.			
6500 P.S.I. CONCRETE				13.7 CU. YDS.		13.7 CU. YDS.	
0.6" Ø L.R. STRANDS				No. 24		No. 24	

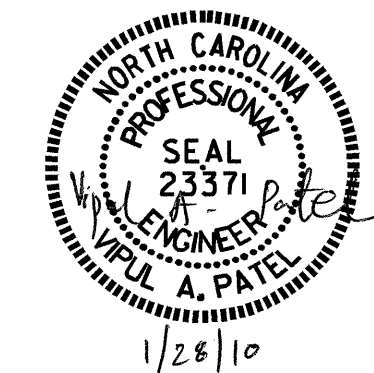


PLAN OF BOX BEAM

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

ASSEMBLED BY : J.P. ADAMS	DATE : 1/14/09
CHECKED BY : M.K. BEARD	DATE : 2/25/09
DRAWN BY : TLA 5/05	ADDED 7/11/05
CHECKED BY : GM 6/05	REV. 5/1/06 TLA/GM

27-JAN-2010 11:38
R:\Structures\B-3404\Revised Plans 33\B-3404.sd.BX.dgn
jpodams

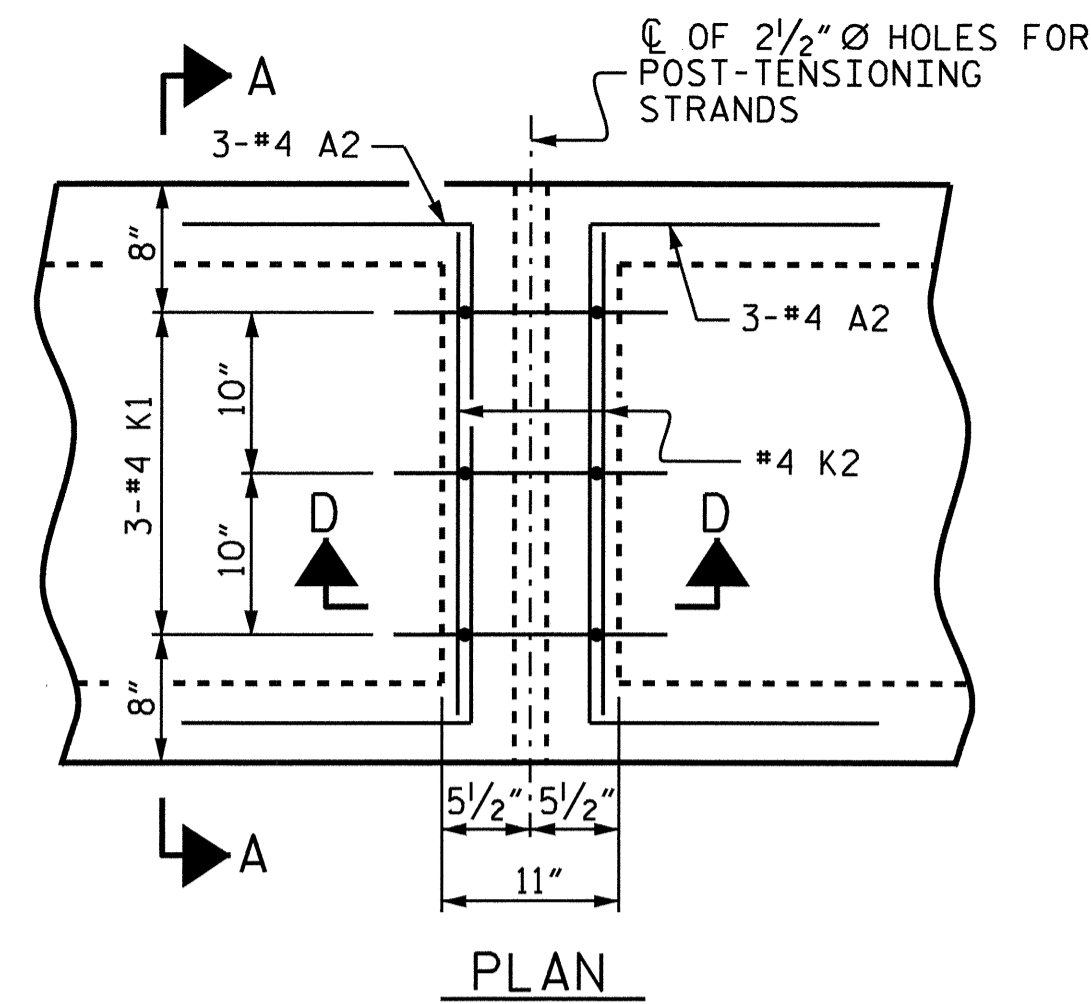


PROJECT NO. B-3404
ANSON COUNTY
STATION: 21+25.00 -L-

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

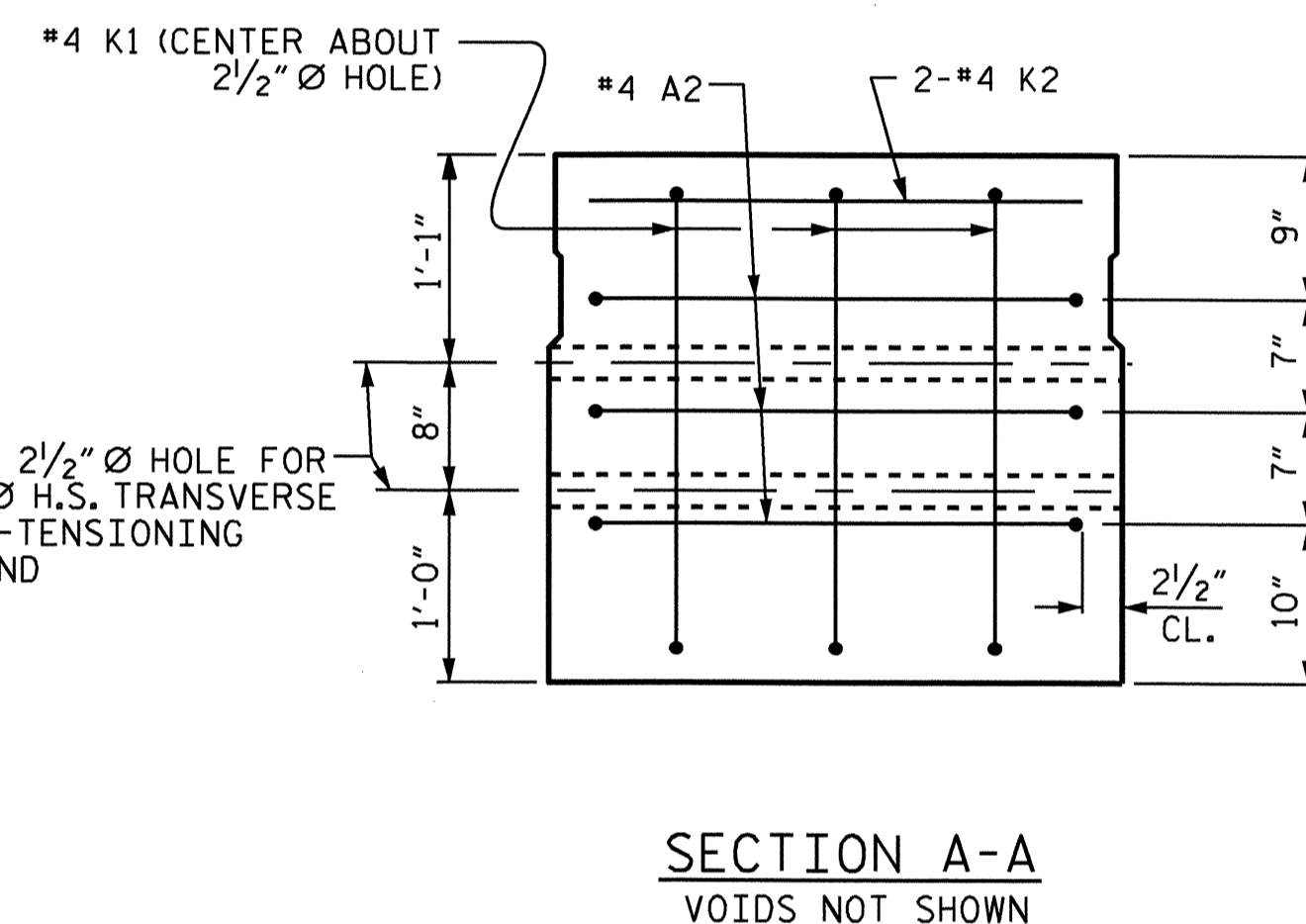
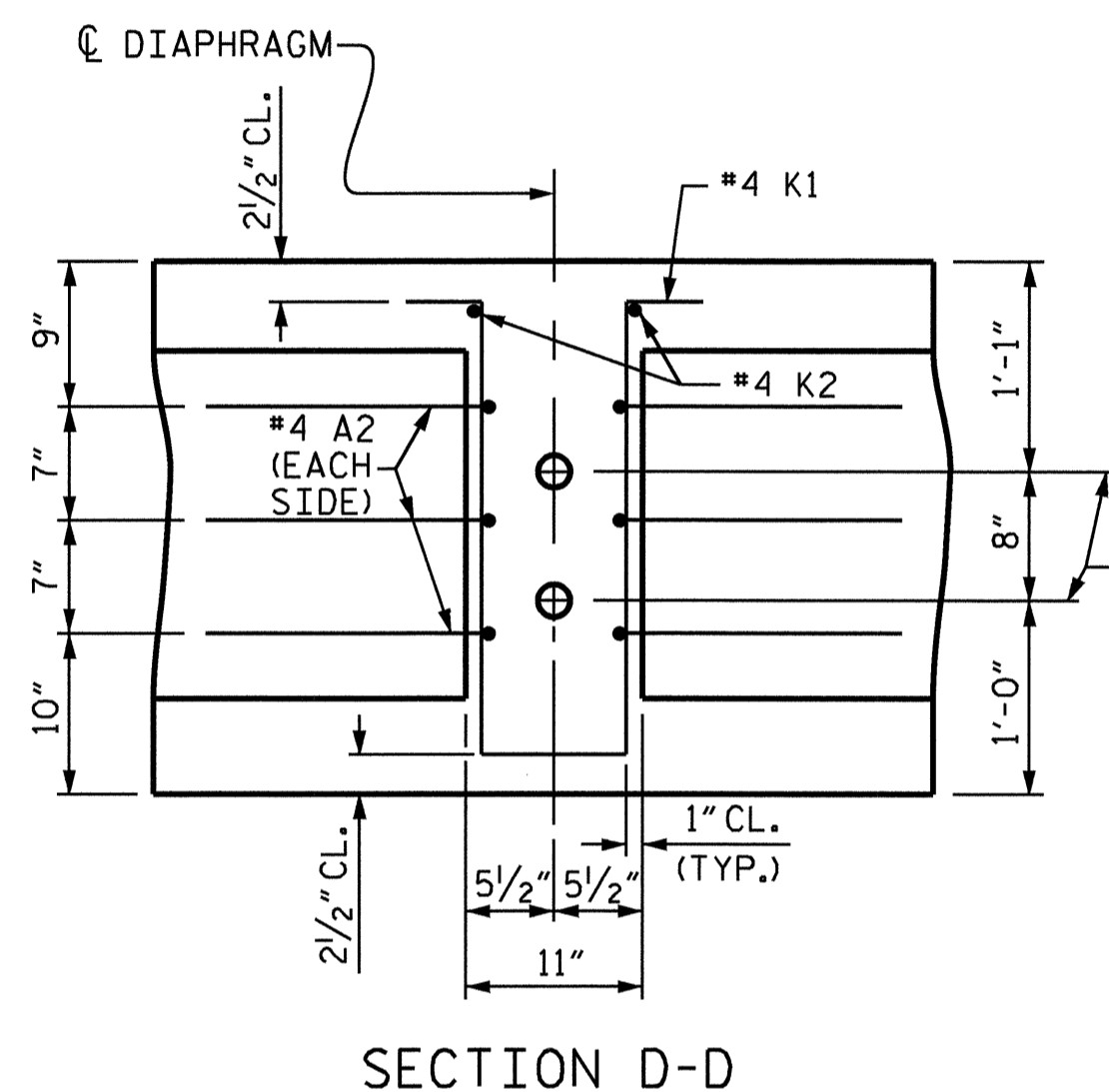
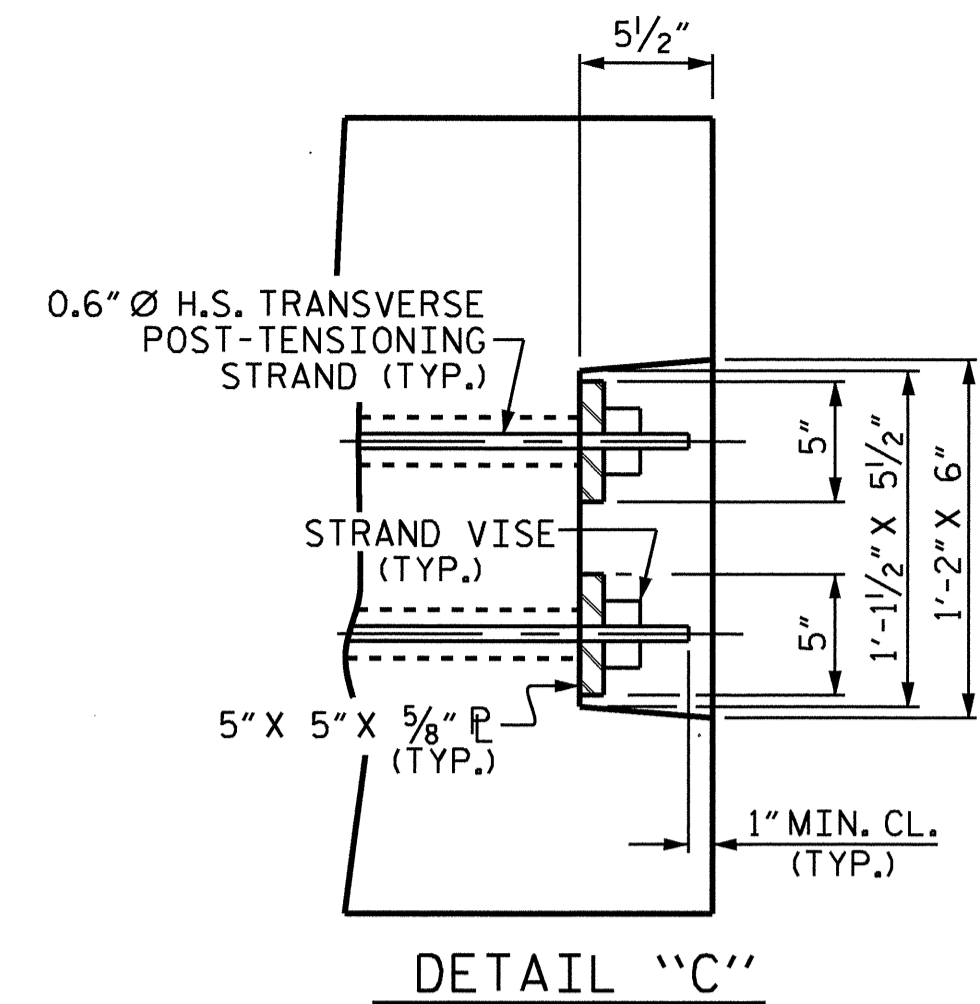
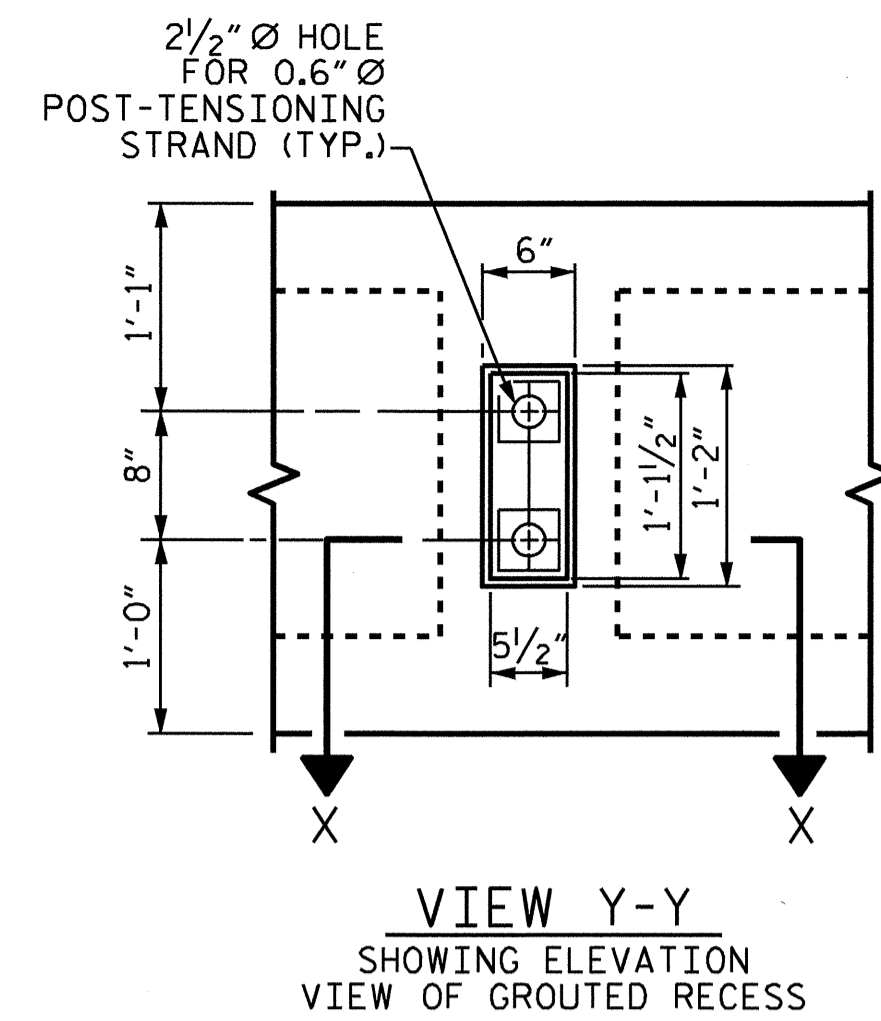
REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

(SHT 1C) STD. NO. PCBB4

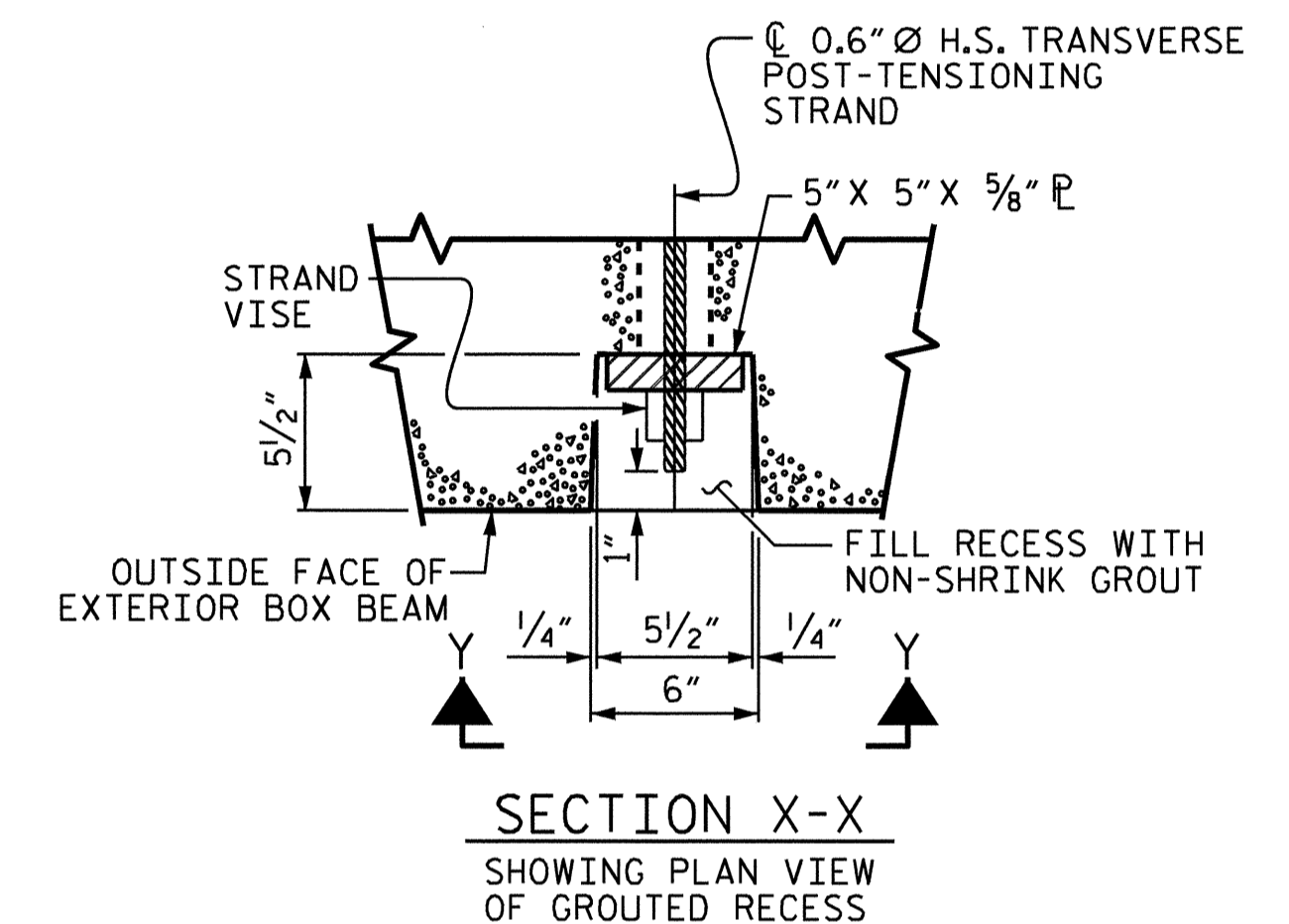
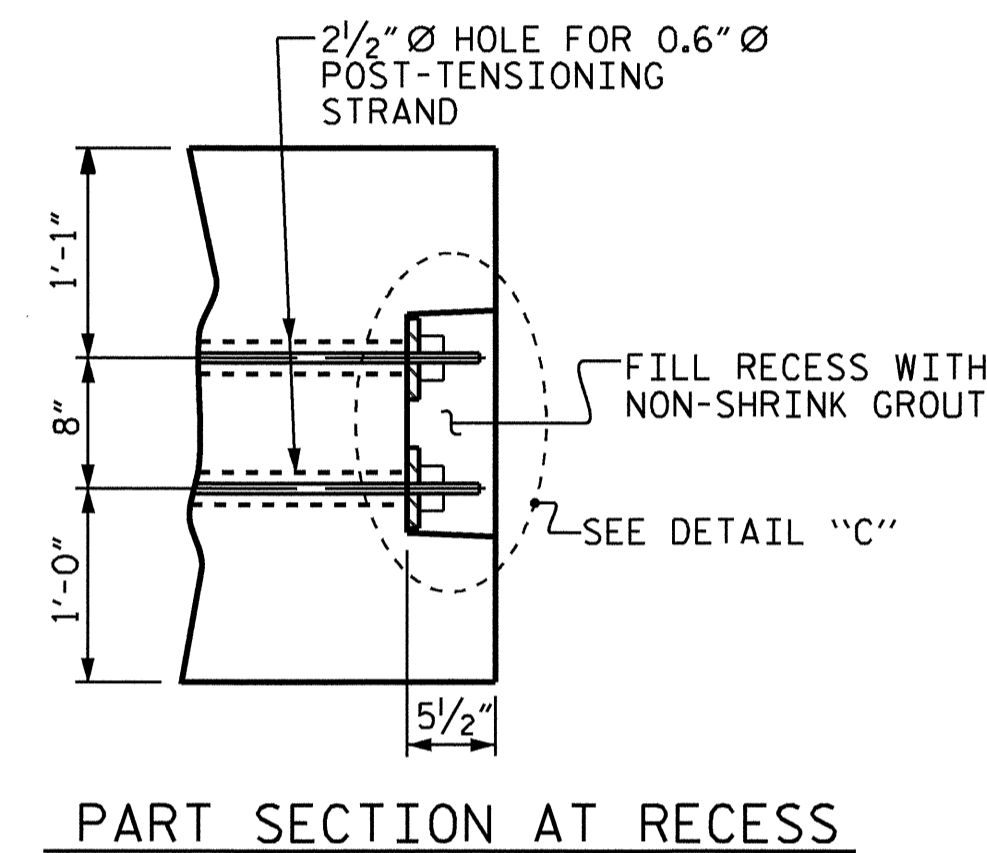


DEAD LOAD DEFLECTION AND CAMBER		
	3'-0" x 2'-9"	
	0.6" Ø L.R. STRAND	
	SPAN "A"	SPAN "B"
CAMBER (BEAM ALONE IN PLACE) ↑	3 5/16"	3 5/16"
DEFLECTION DUE TO SUPERIMPOSED DEADLOAD * ↓	1 3/16"	1 3/16"
FINAL CAMBER ↑	2 1/2"	2 1/2"

* INCLUDES FUTURE WEARING SURFACE.



SECTION A-A
VOIDS NOT SHOWN

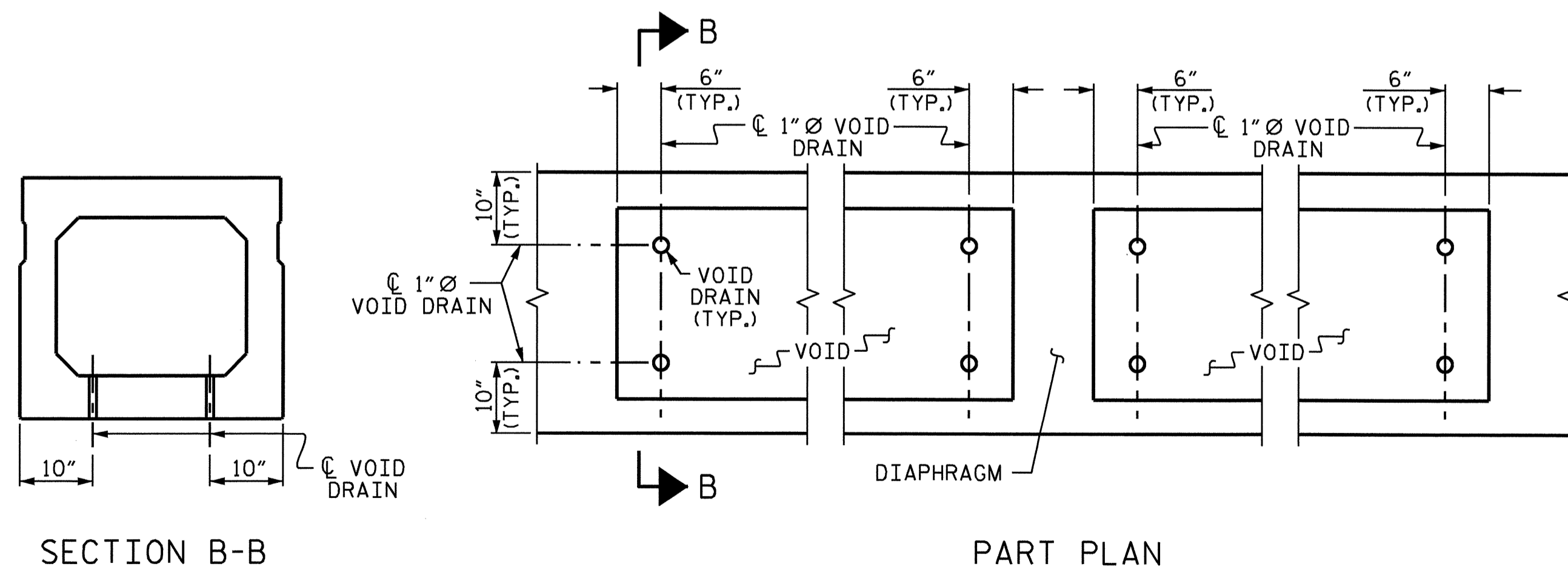


GROUTED RECESS DETAIL AT
END OF POST-TENSIONED STRANDS
OF EXTERIOR BOX BEAM

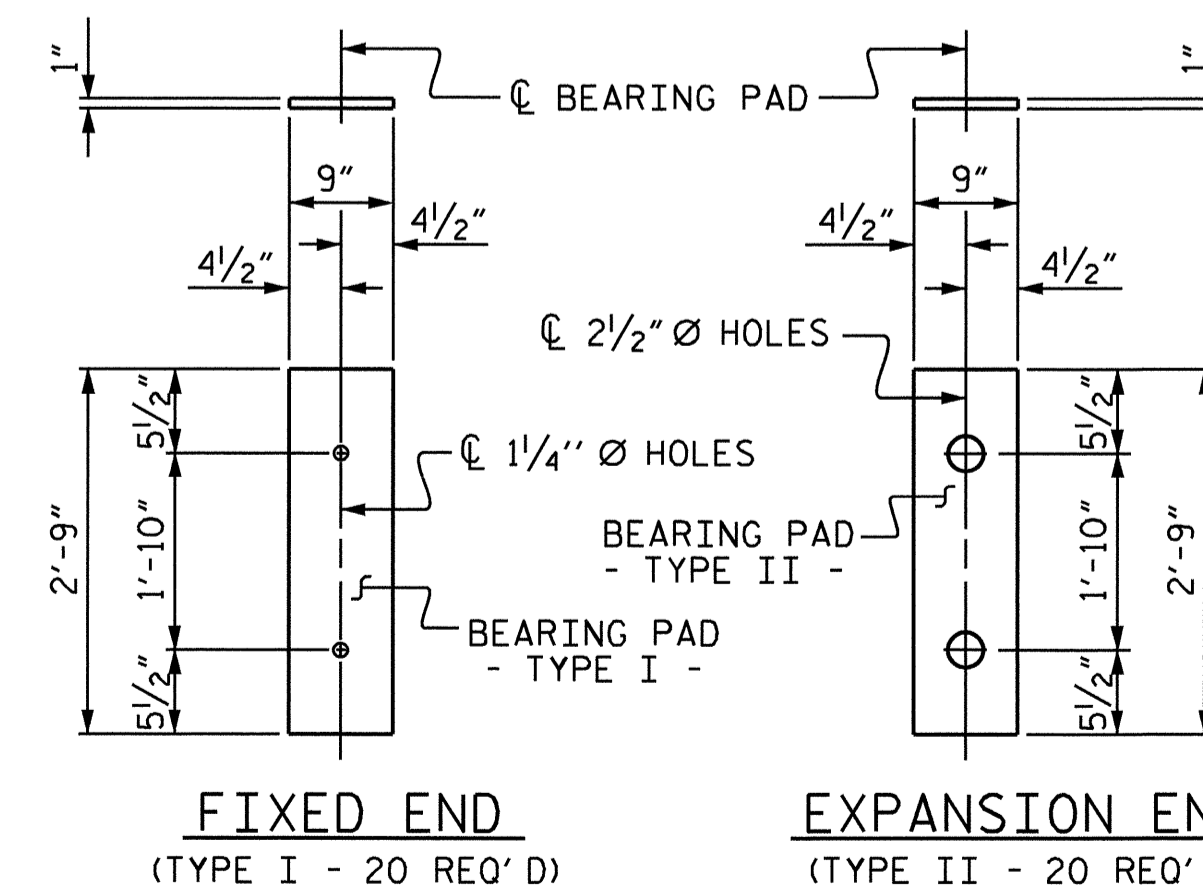
DOUBLE DIAPHRAGM DETAILS

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

BOX BEAM UNITS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
SPAN A (EXTERIOR)	2	83'-9 3/4"	167.63
SPAN A (INTERIOR)	8	83'-9 3/4"	670.50
SPAN B (EXTERIOR)	2	83'-9 3/4"	167.63
SPAN B (INTERIOR)	8	83'-9 3/4"	670.50
TOTAL	20		1676.26

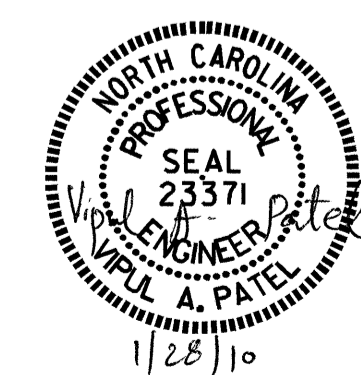


VOID DRAIN DETAILS
(DIMENSIONS SHOWN ARE TYPICAL FOR EACH VOID)



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

PROJECT NO. B-3404
ANSON COUNTY
STATION: 21+25.00 -L-



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

ASSEMBLED BY : J.P. ADAMS	DATE : 1/14/09
CHECKED BY : M.K. BEARD	DATE : 2/25/09
DRAWN BY : TLA 5/05	ADDED 7/11/05
CHECKED BY : GM 6/05	REV. 5/1/06 TLA/GM

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

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.

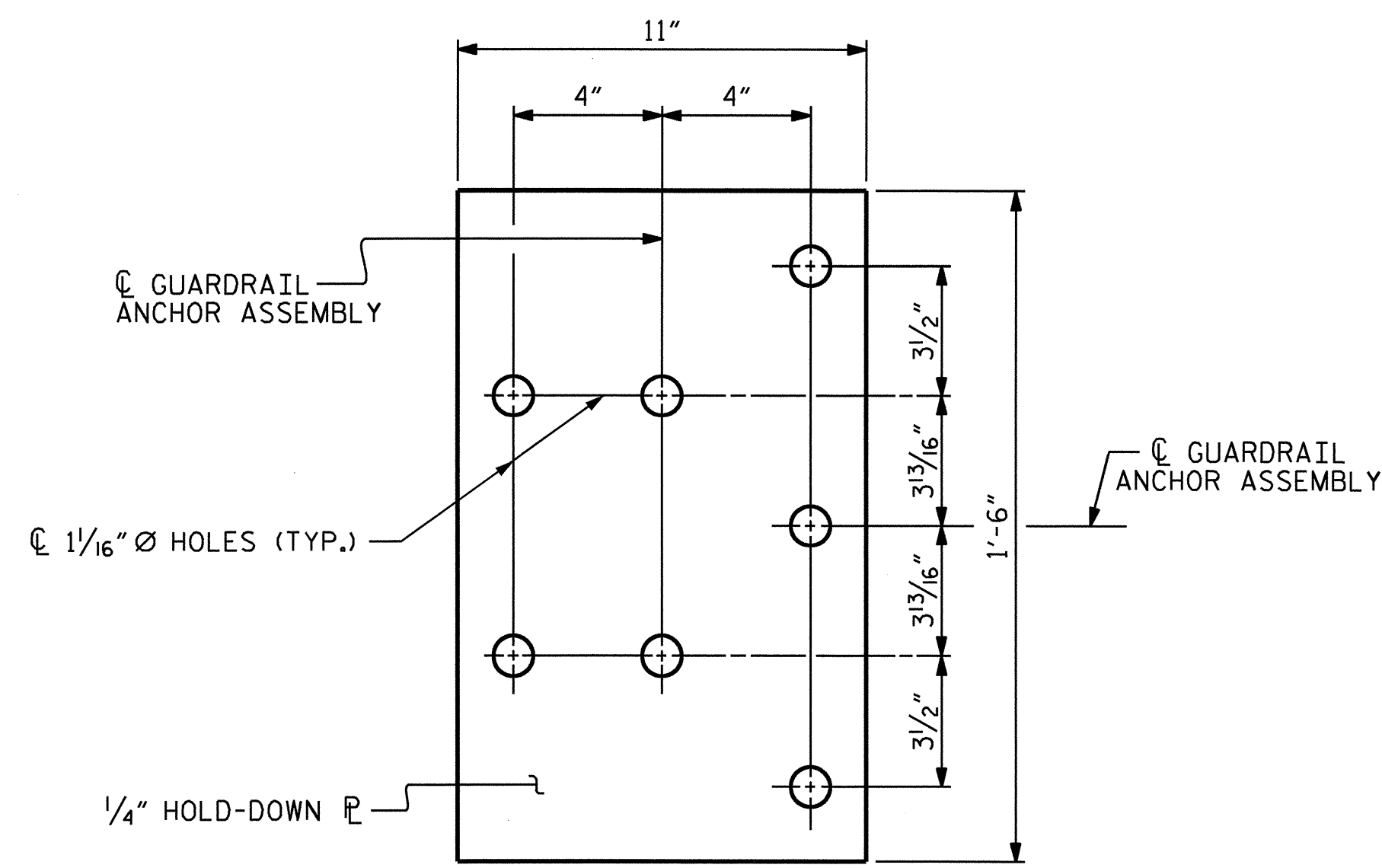
BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 1/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS.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

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.

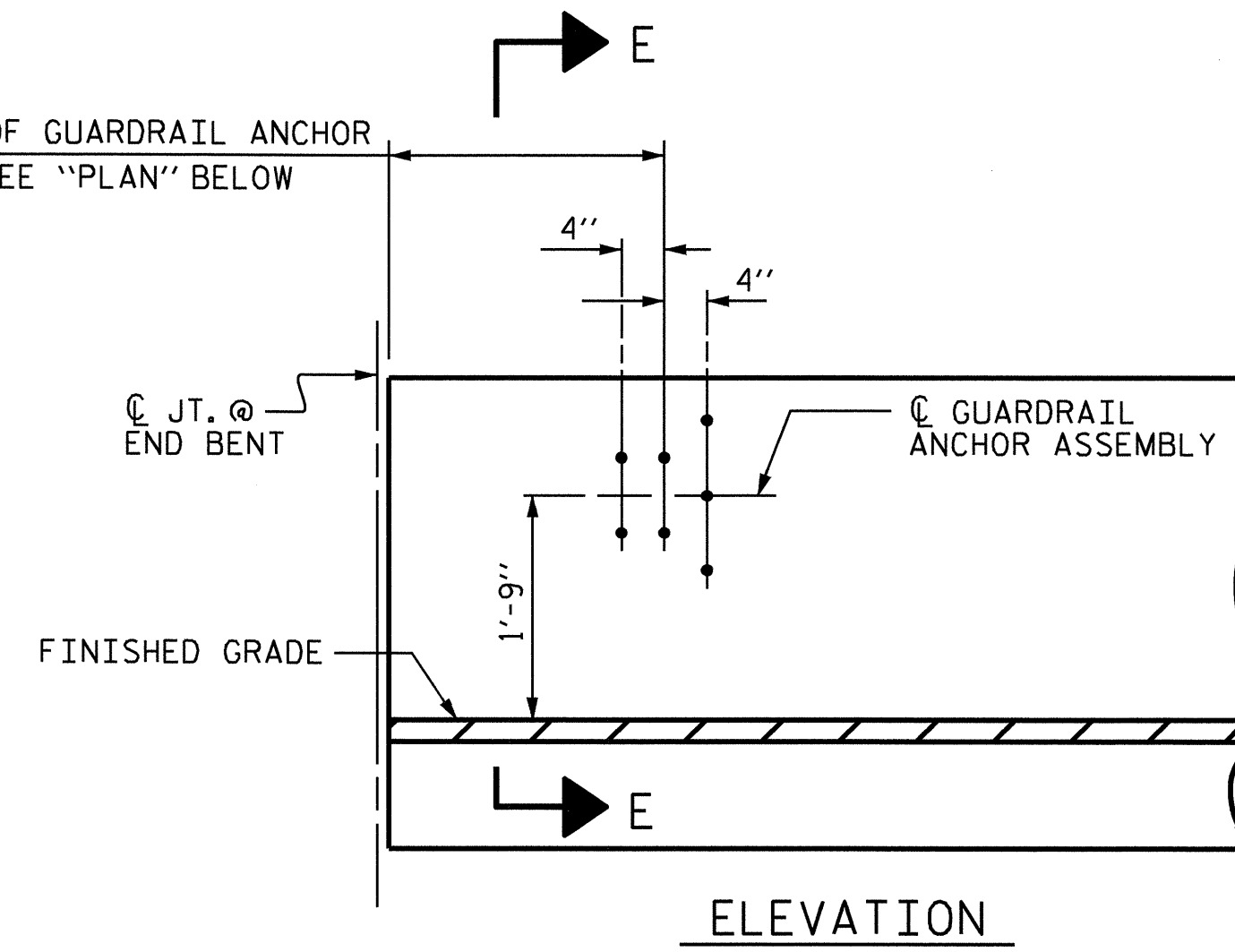
THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE VERTICAL CONCRETE BARRIER RAIL TO CLEAR ASSEMBLY BOLTS.

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.

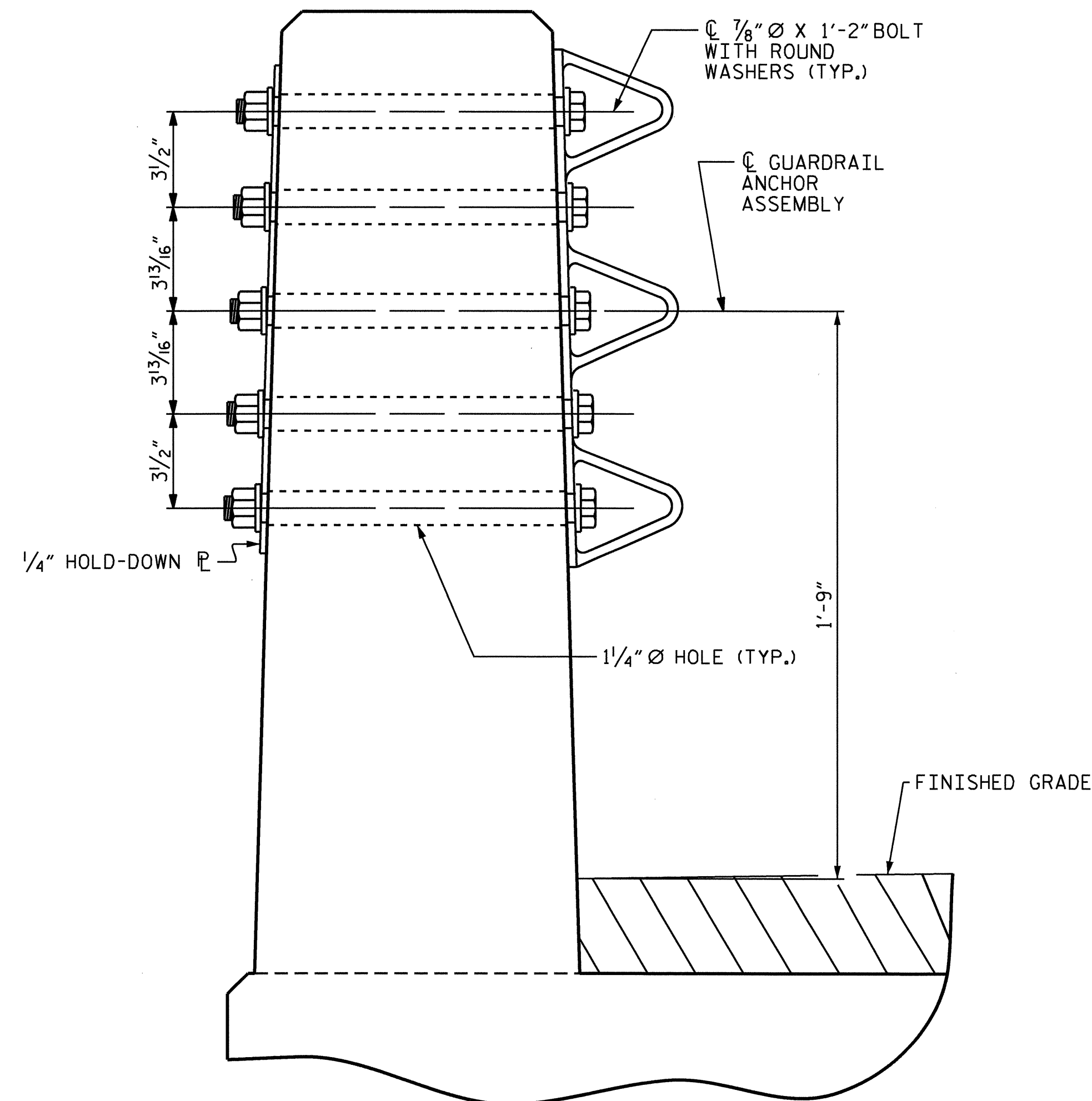


PLAN

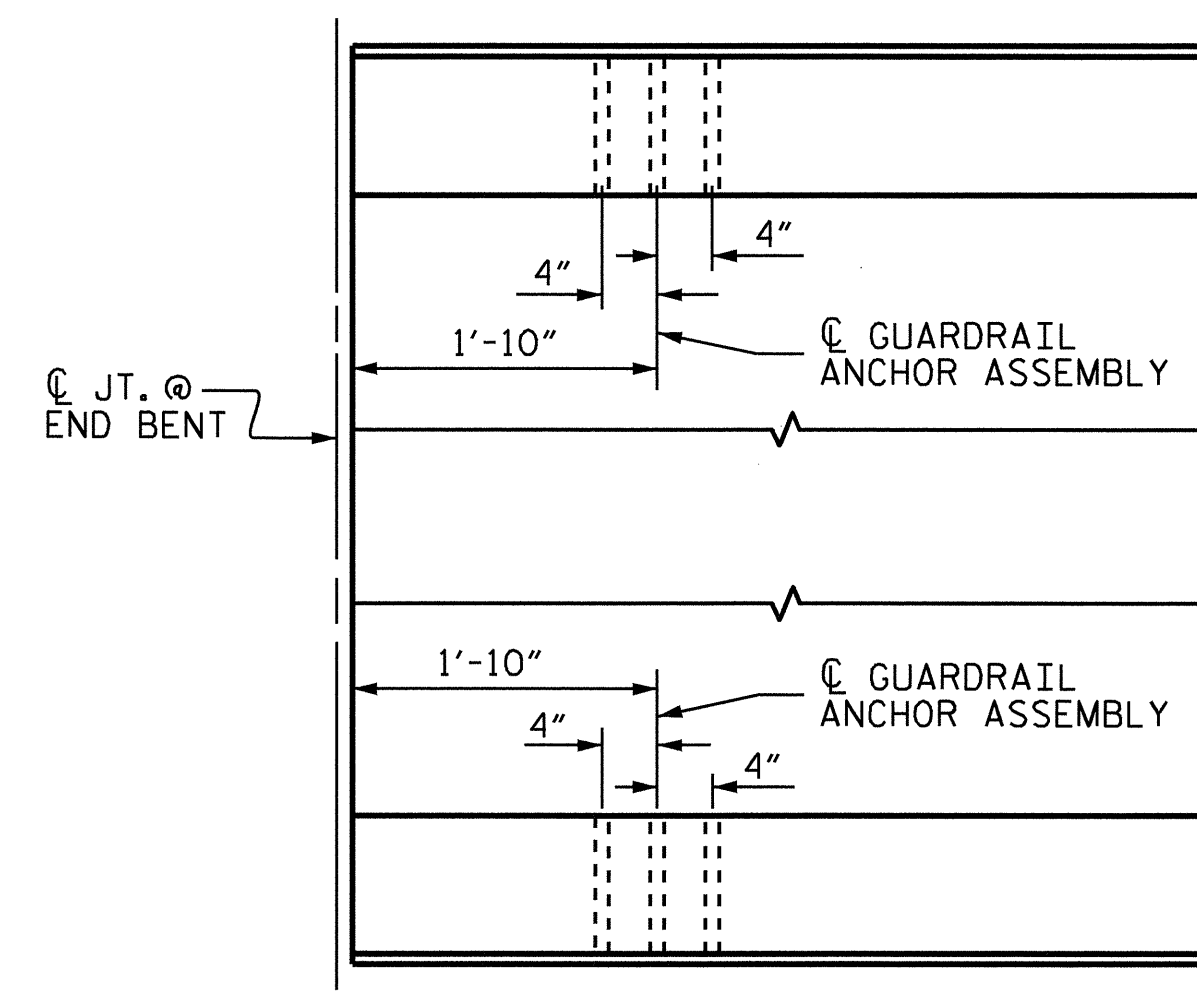
FOR LOCATION OF GUARDRAIL ANCHOR ASSEMBLY, SEE "PLAN" BELOW



ELEVATION



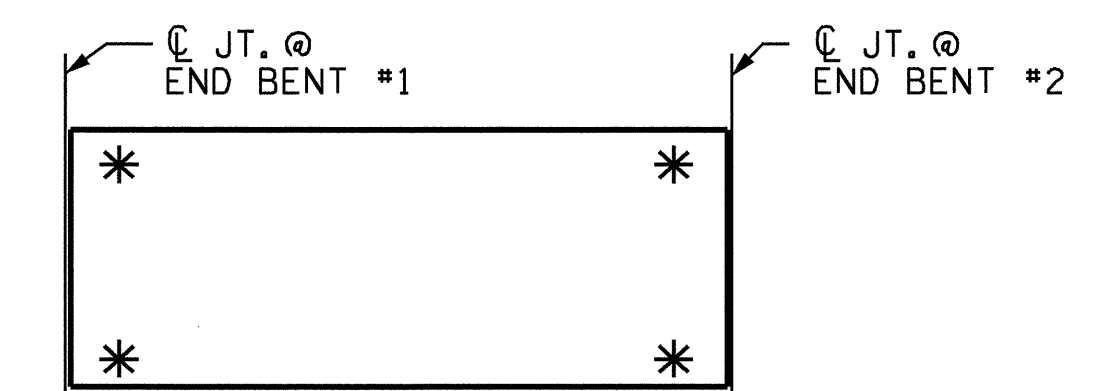
SECTION E-E
GUARDRAIL ANCHOR ASSEMBLY DETAILS



PLAN

LOCATION OF ANCHORS FOR GUARDRAIL

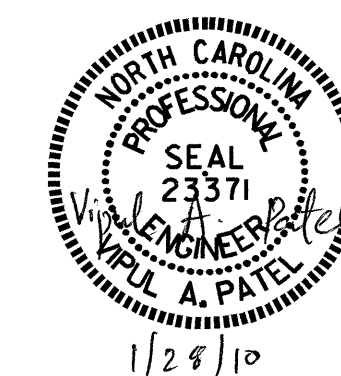
END BENT #1 SHOWN, END BENT #2 SIMILAR.



SKETCH SHOWING POINTS OF ATTACHMENTS

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. B-3404
ANSON COUNTY
 STATION: 21+25.00 -L-



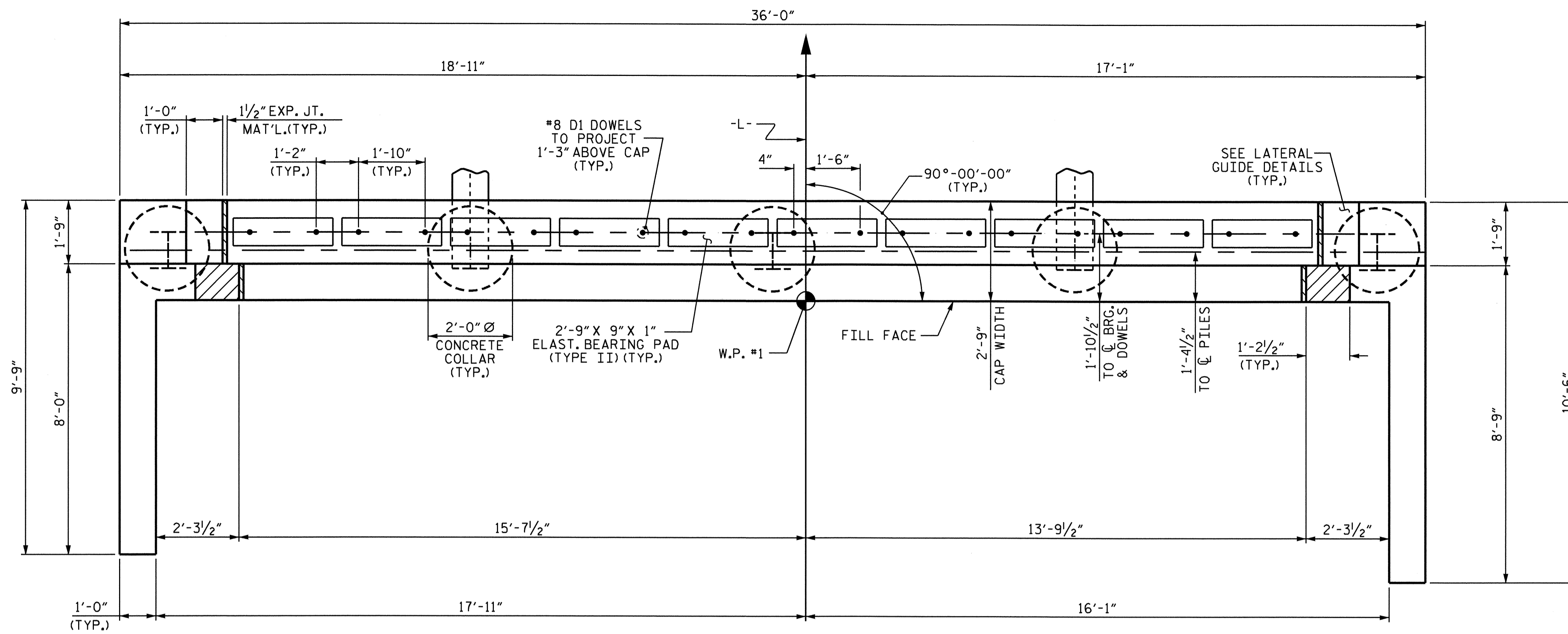
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 GUARDRAIL ANCHORAGE
 FOR VERTICAL CONCRETE
 BARRIER RAIL

ASSEMBLED BY : J.P. ADAMS	DATE : 1/14/09
CHECKED BY : M.K. BEARD	DATE : 2/25/09
DRAWN BY : MAA 12/06	ADDED 12/15/06
CHECKED BY : GM 12/06	

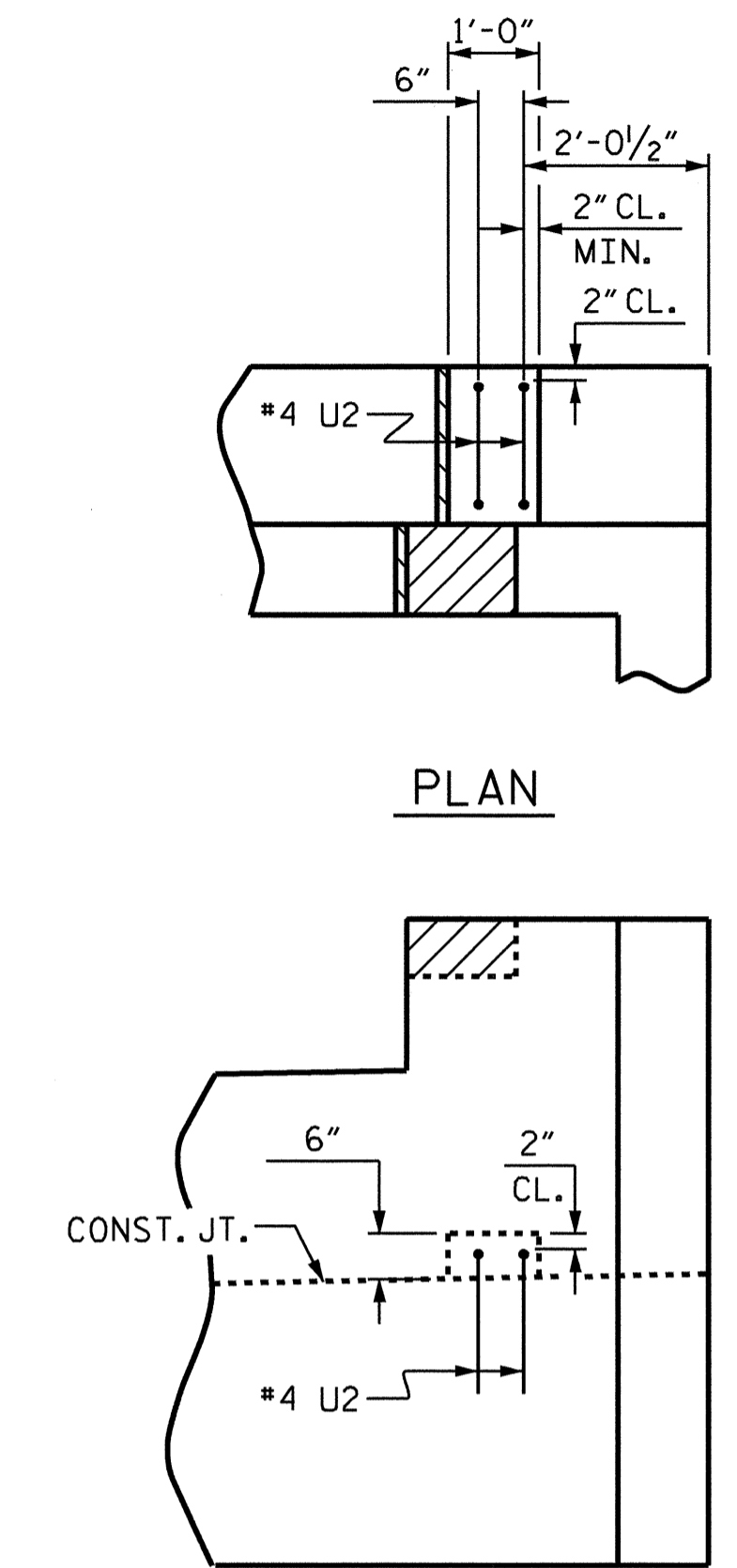
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			TOTAL SHEETS
2			4			21

NOTES

STIRRUP 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 BOX BEAM UNITS ARE IN PLACE.
 THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAILS ARE CAST IF SLIP FORMING IS USED.



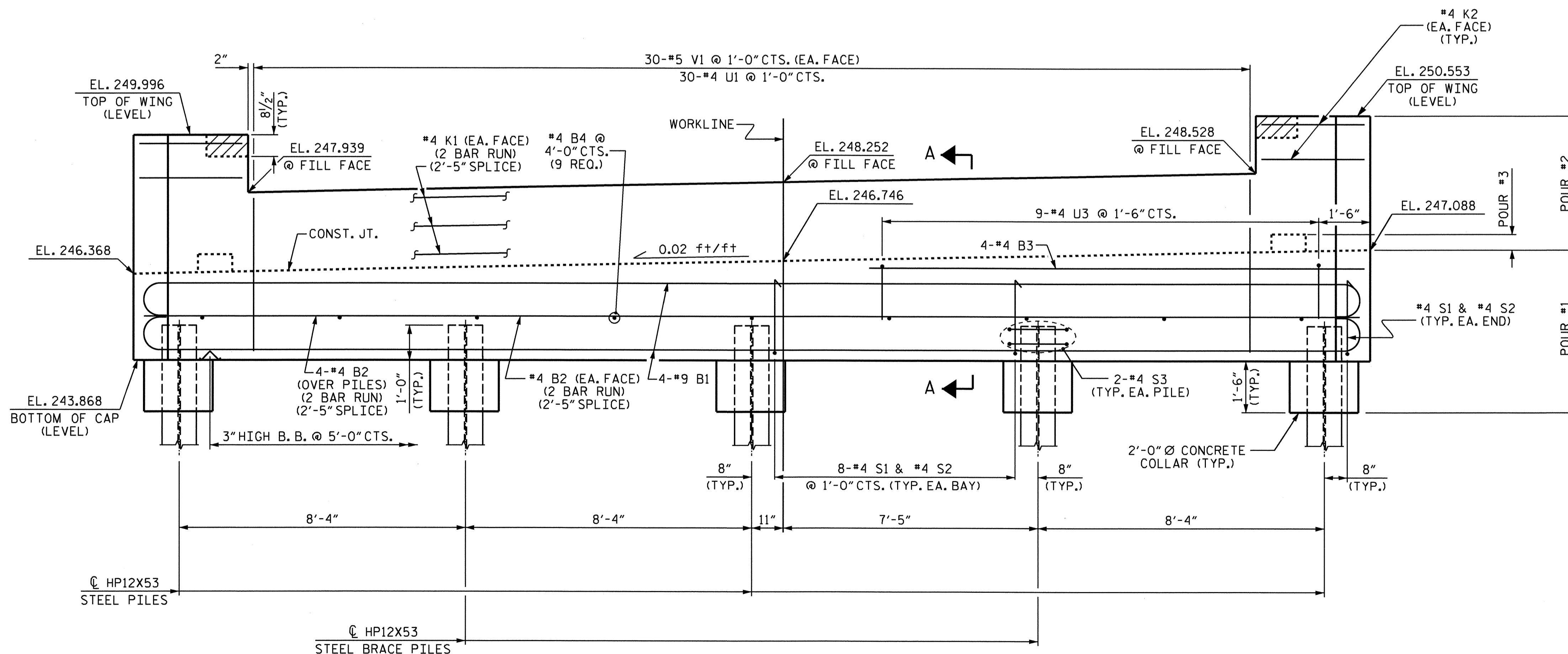
PLAN



PLAN

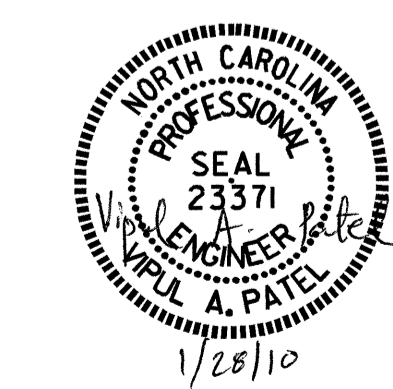
ELEVATION

LATERAL GUIDE DETAILS
(EACH END SIMILAR)



ELEVATION

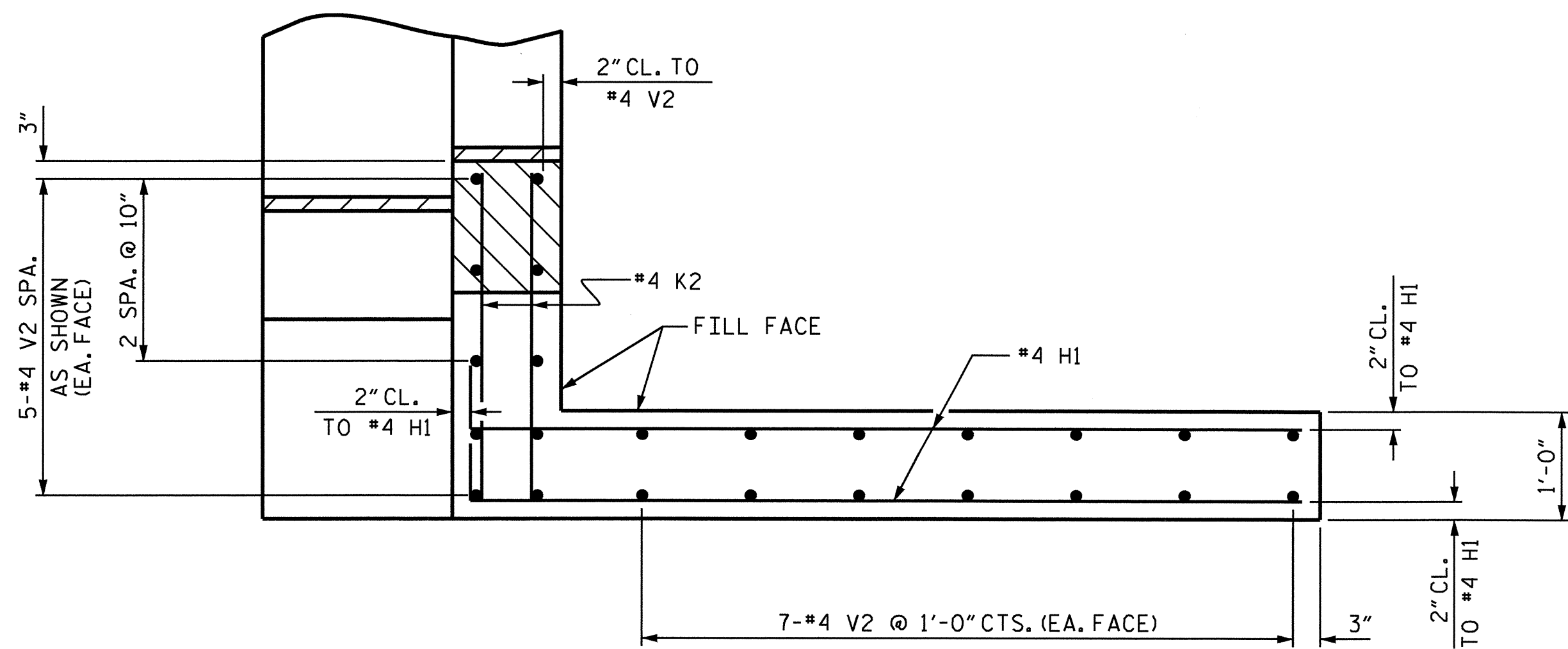
PROJECT NO. B-3404
ANSON COUNTY
 STATION: 21+25.00 -L-
 SHEET 1 OF 3



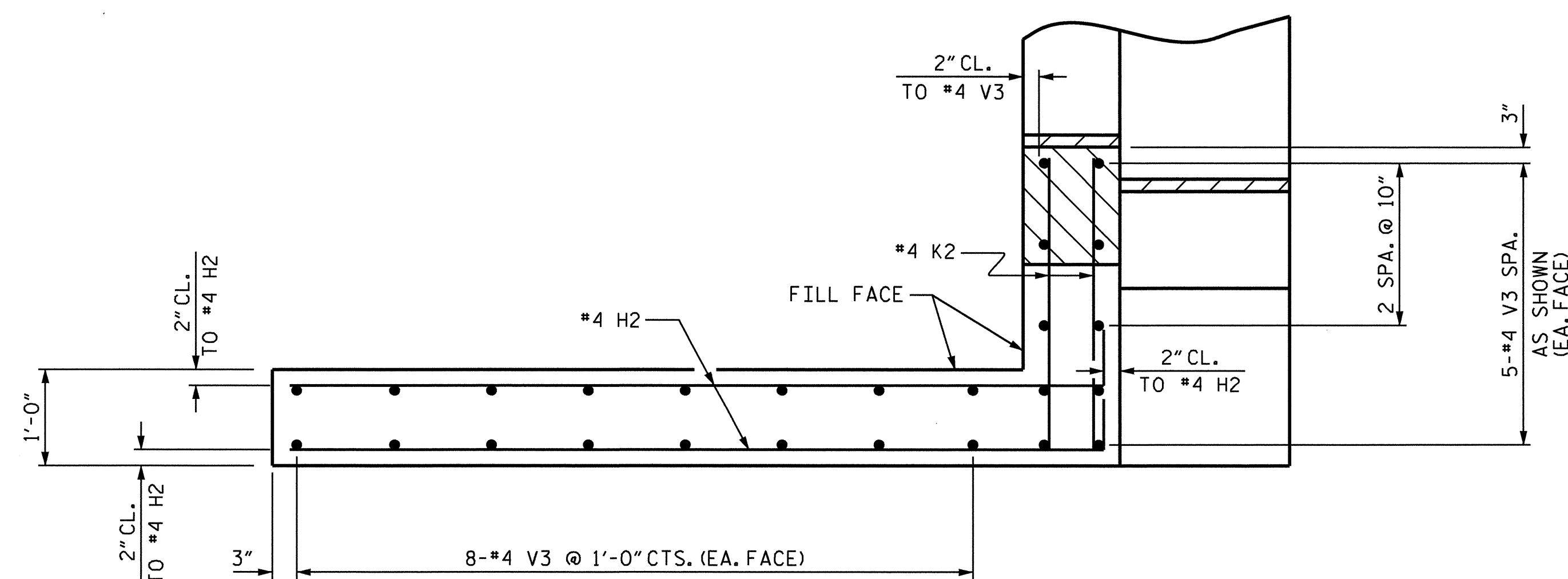
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT #1

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			21

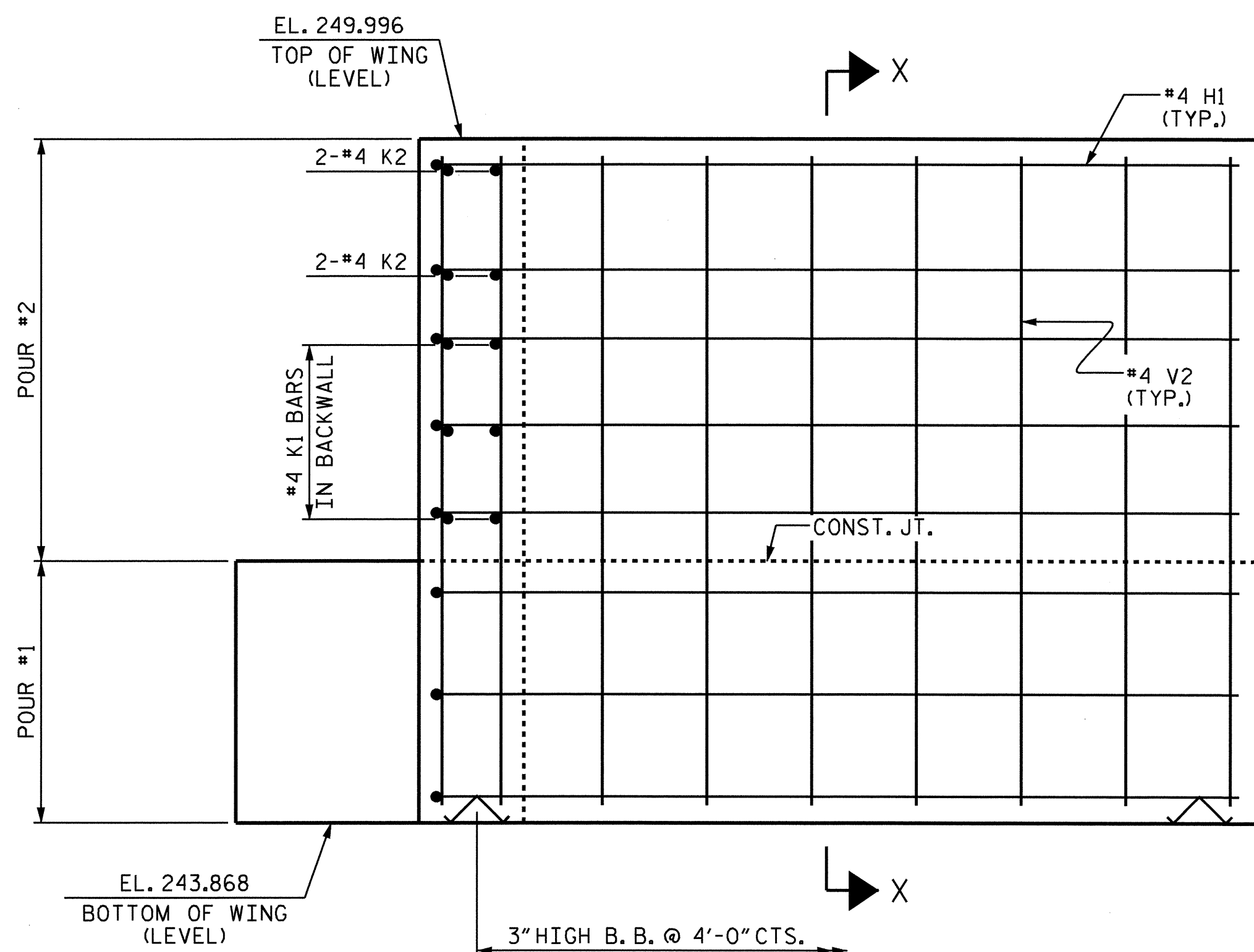
DRAWN BY : R. G. EMERSON DATE : 08/09
 CHECKED BY : J. P. ADAMS DATE : 09/09



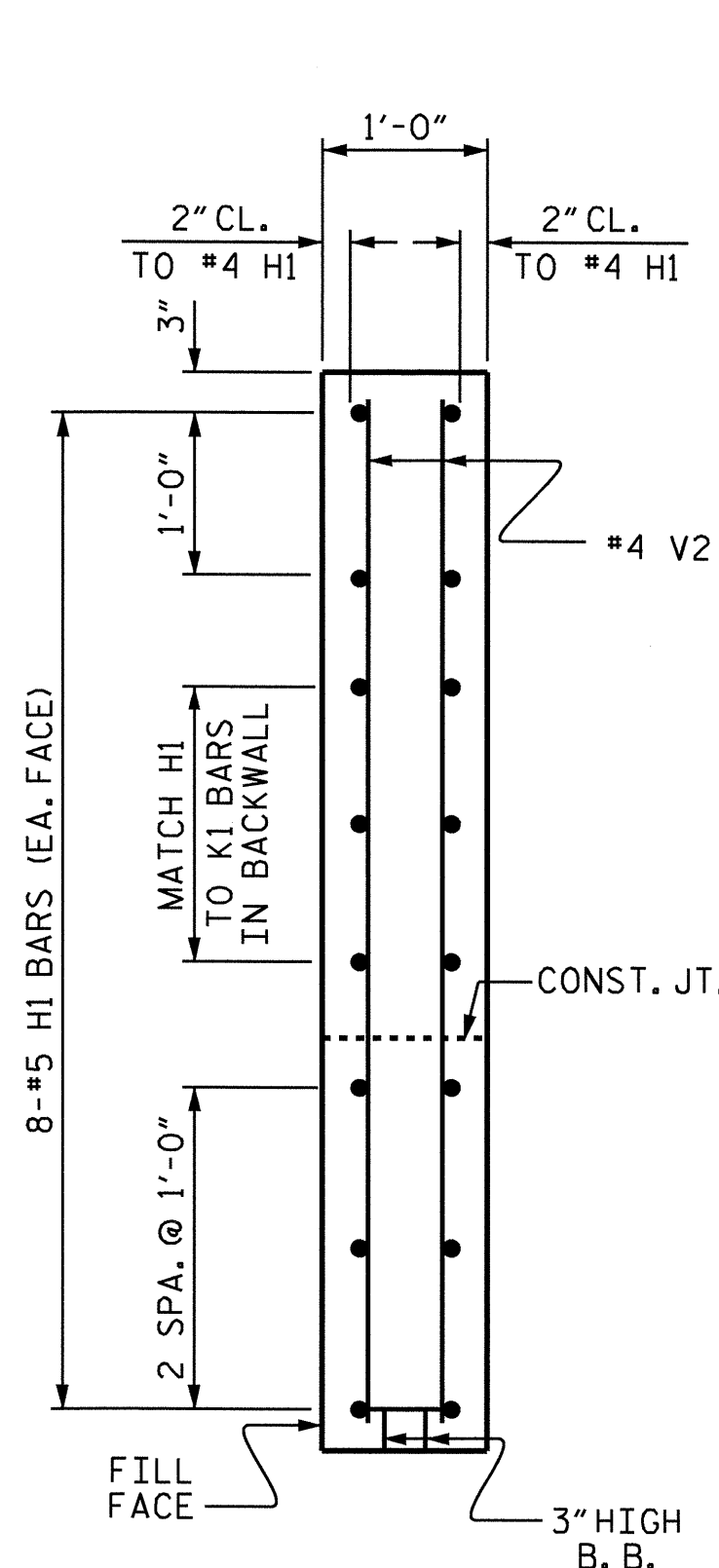
PLAN OF LEFT WING



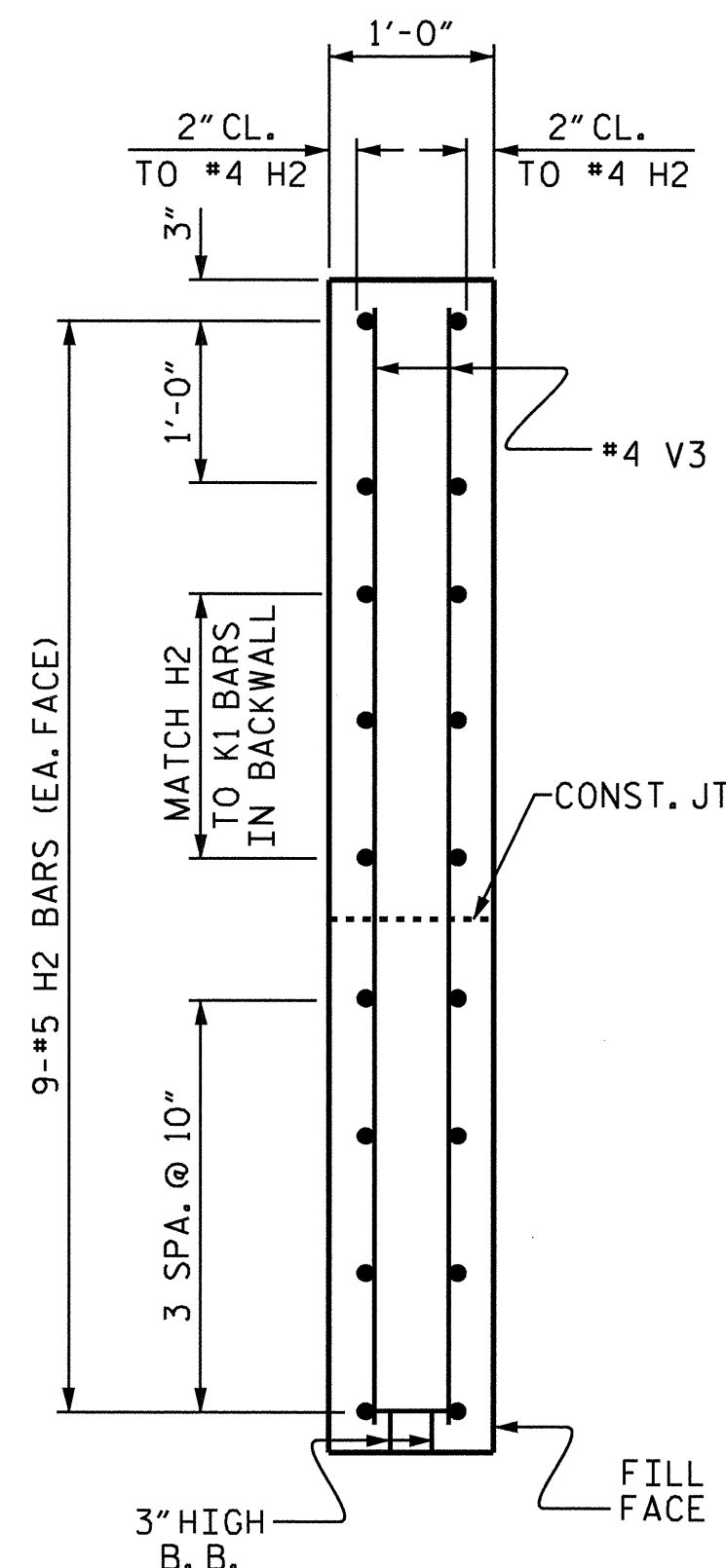
PLAN OF RIGHT WING



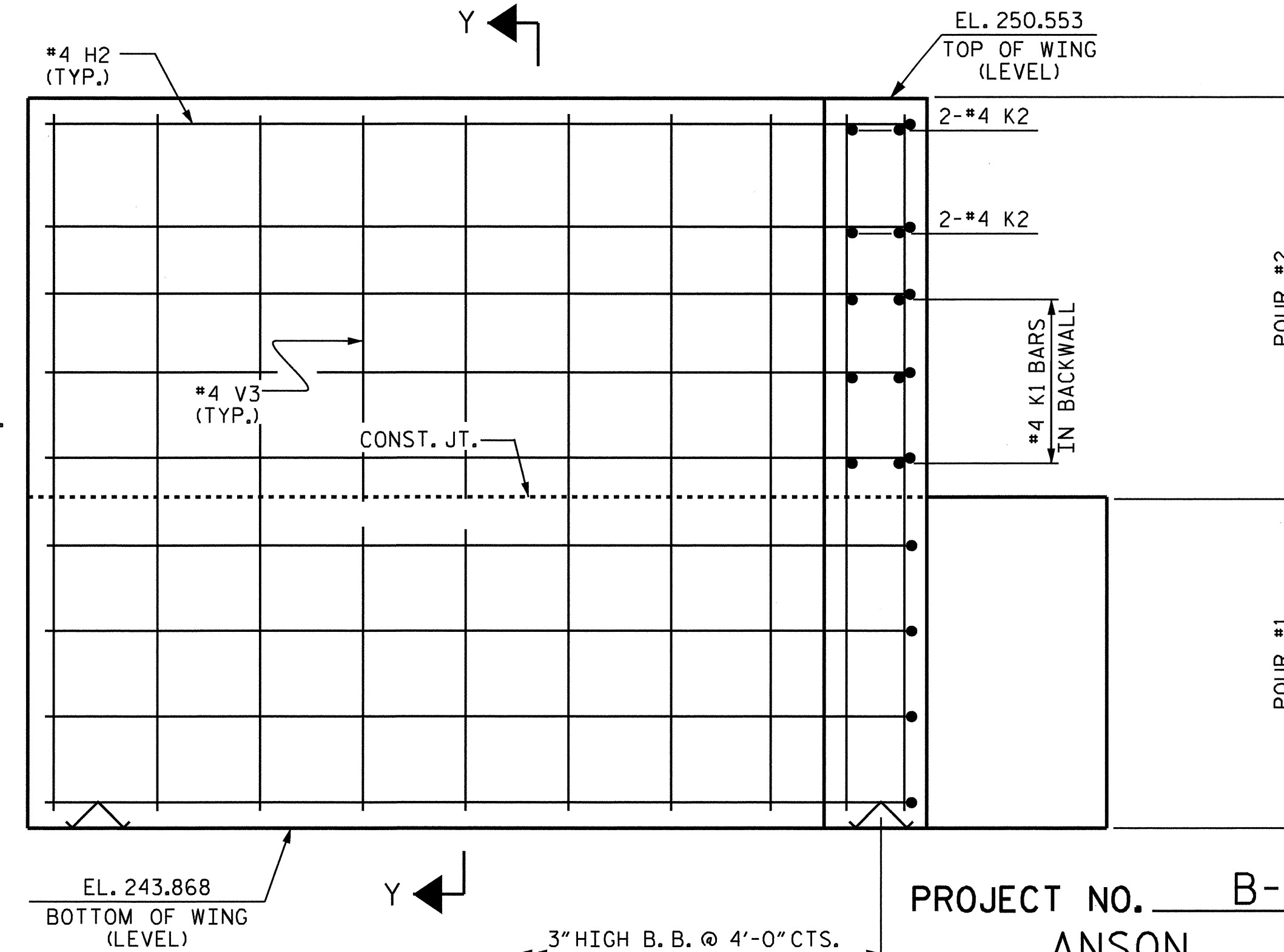
ELEVATION OF LEFT WING



SECTION X-X



SECTION Y-Y



ELEVATION OF RIGHT WING

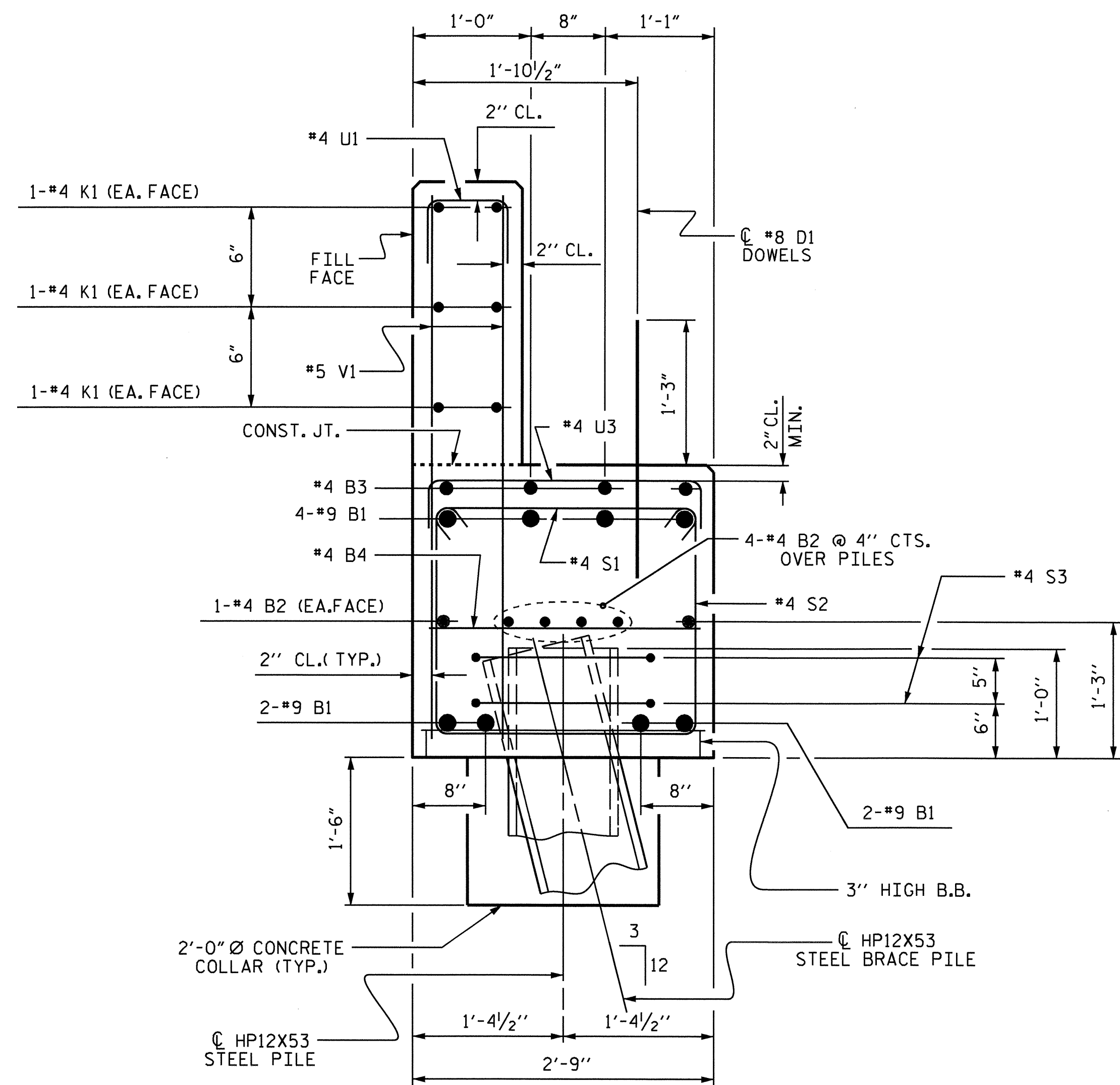
PROJECT NO. B-3404
ANSON COUNTY
 STATION: 21+25.00 -L-

SHEET 2 OF 3

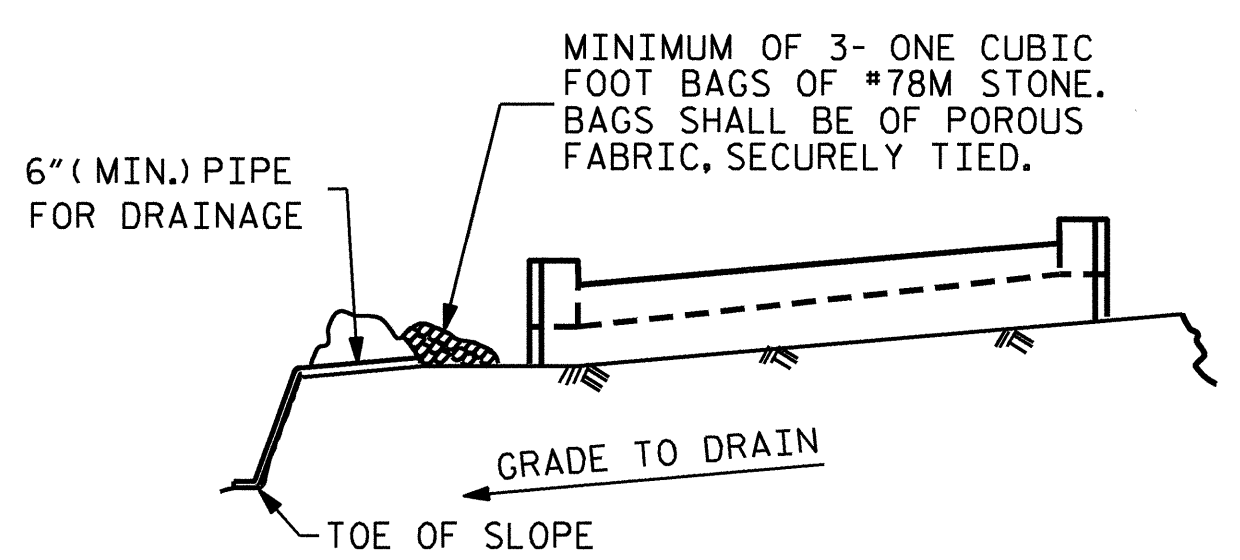


STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE					
END BENT #1					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					S-12
TOTAL SHEETS					21

DRAWN BY : R. G. EMERSON DATE : 08/09
 CHECKED BY : J. P. ADAMS DATE : 09/09



SECTION A-A



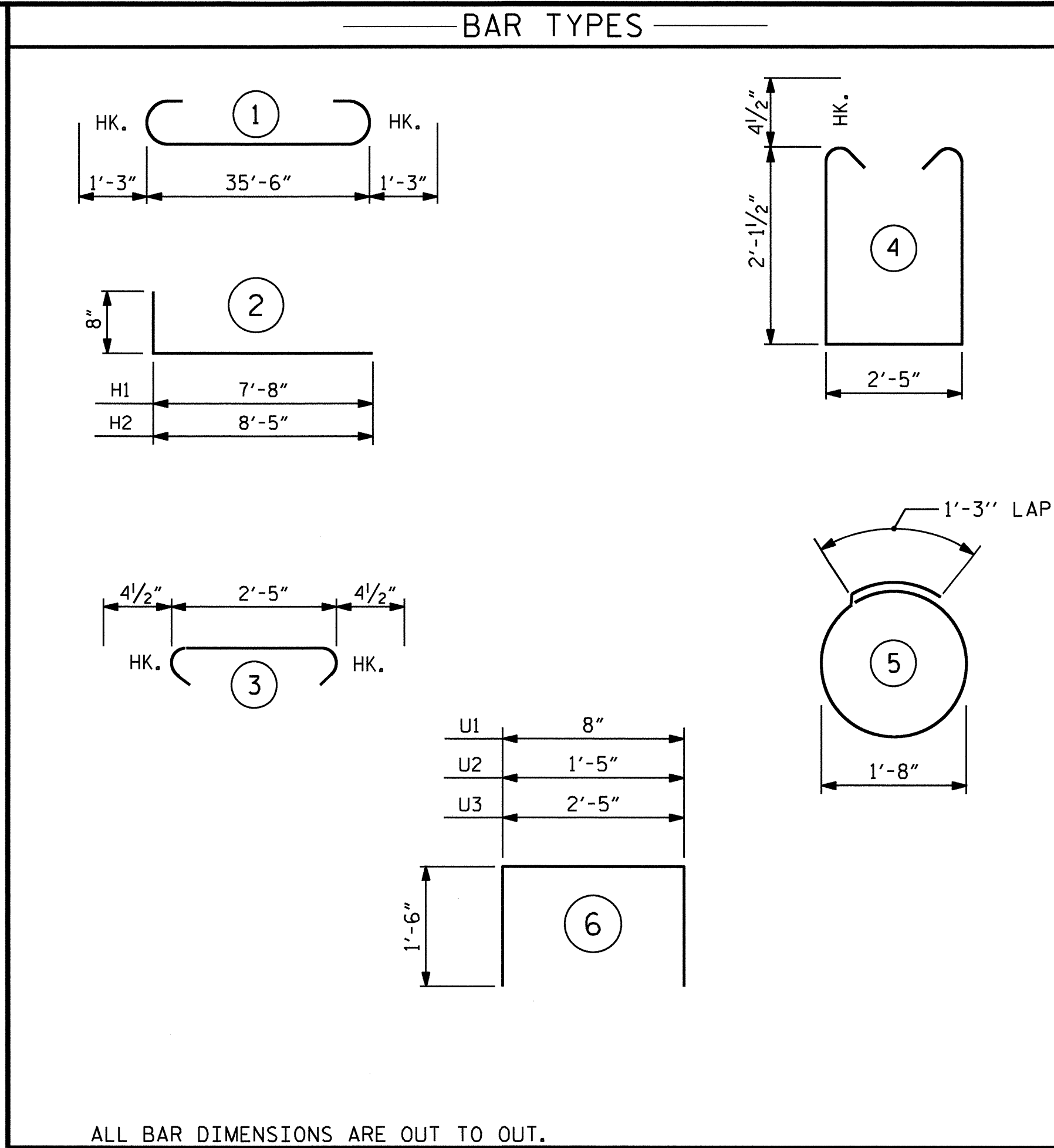
MINIMUM OF 3- ONE CUBIC FOOT BAGS OF #78M STONE. BAGS SHALL BE OF POROUS FABRIC, SECURELY TIED.

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.

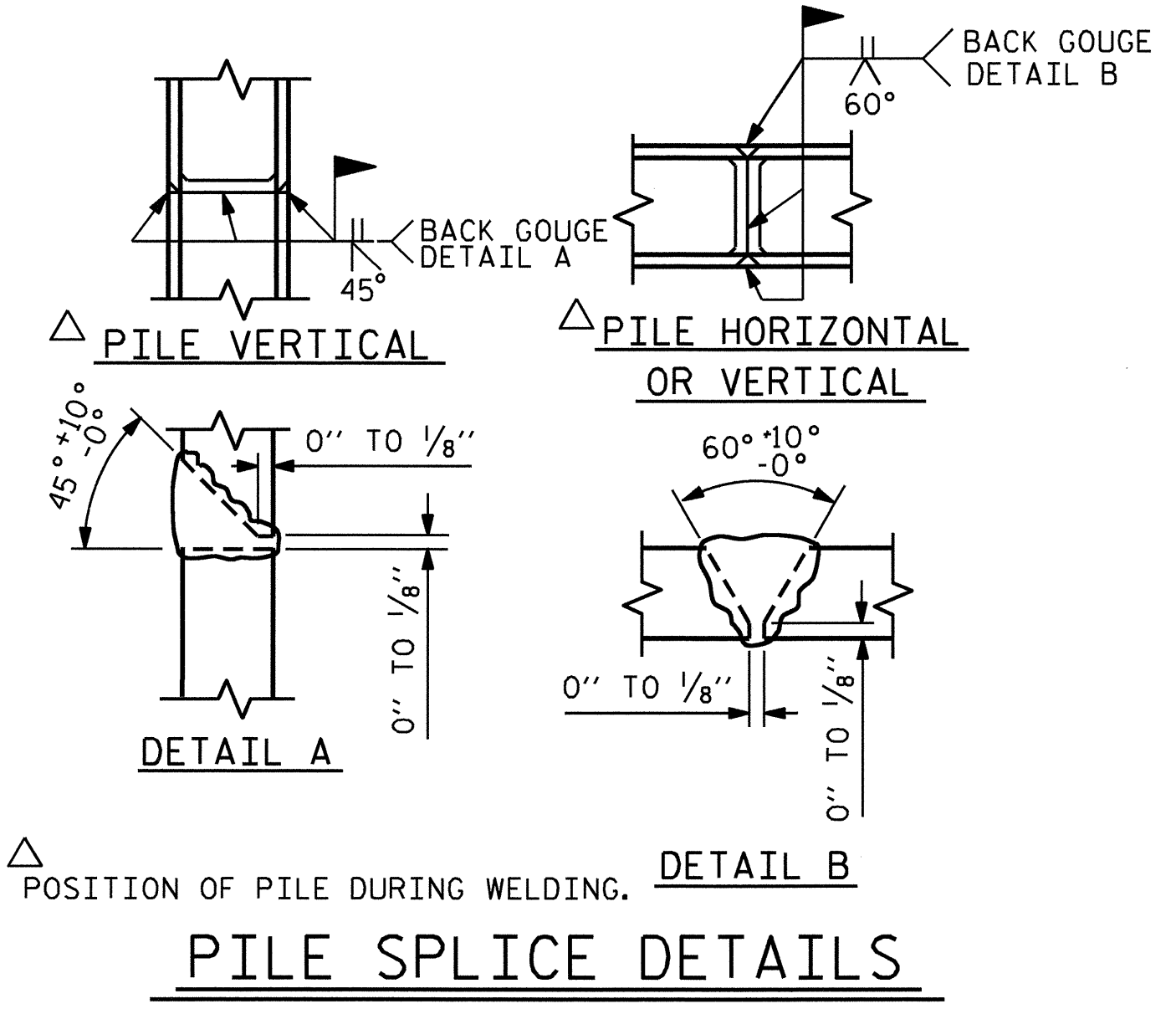
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT



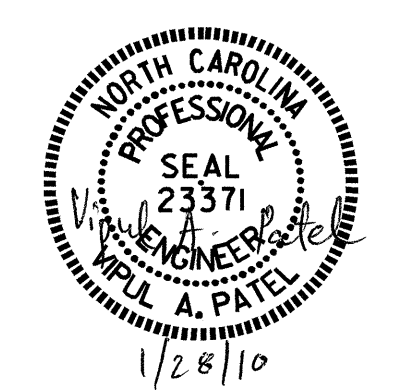
ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
END BENT #1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	38'-0"	1034
B2	12	#4	STR	19'-1"	153
B3	4	#4	STR	14'-5"	39
B4	9	#4	STR	2'-5"	15
D1	20	#8	STR	2'-3"	120
H1	16	#4	2	8'-4"	89
H2	18	#4	2	9'-1"	109
K1	12	#4	STR	19'-1"	153
K2	8	#4	STR	2'-11"	16
S1	34	#4	3	3'-2"	72
S2	34	#4	4	7'-5"	168
S3	10	#4	5	6'-6"	43
U1	30	#4	6	3'-8"	73
U2	4	#4	6	4'-5"	12
U3	9	#4	6	5'-5"	33
V1	60	#5	STR	4'-3"	266
V2	24	#4	STR	5'-9"	92
V3	26	#4	STR	6'-4"	110
REINFORCING STEEL				LBS.	2597
CLASS "A" CONCRETE					
POUR #1 CAP, 2'-0" Ø CONC. COLLAR & LOWER WINGS				CU. YDS.	12.9
POUR #2 UPPER WINGS & BACKWALL				CU. YDS.	4.6
POUR #3 LATERAL GUIDES				CU. YDS.	0.1
TOTAL				CU. YDS.	17.6
HP12X53 STEEL PILES					
No. 5				LIN. FT.	125



POSITION OF PILE DURING WELDING. PILE SPLICE DETAILS

PROJECT NO. B-3404
 ANSON COUNTY
 STATION: 21+25.00 -L-
 SHEET 3 OF 3



STATE OF NORTH CAROLINA					
DEPARTMENT OF TRANSPORTATION					
RALEIGH					
SUBSTRUCTURE					
END BENT #1					

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

DRAWN BY: R. G. EMERSON DATE: 08/09
 CHECKED BY: J. P. ADAMS DATE: 09/09

SHEET NO. S-13
 TOTAL SHEETS 21

NOTES

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

HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.

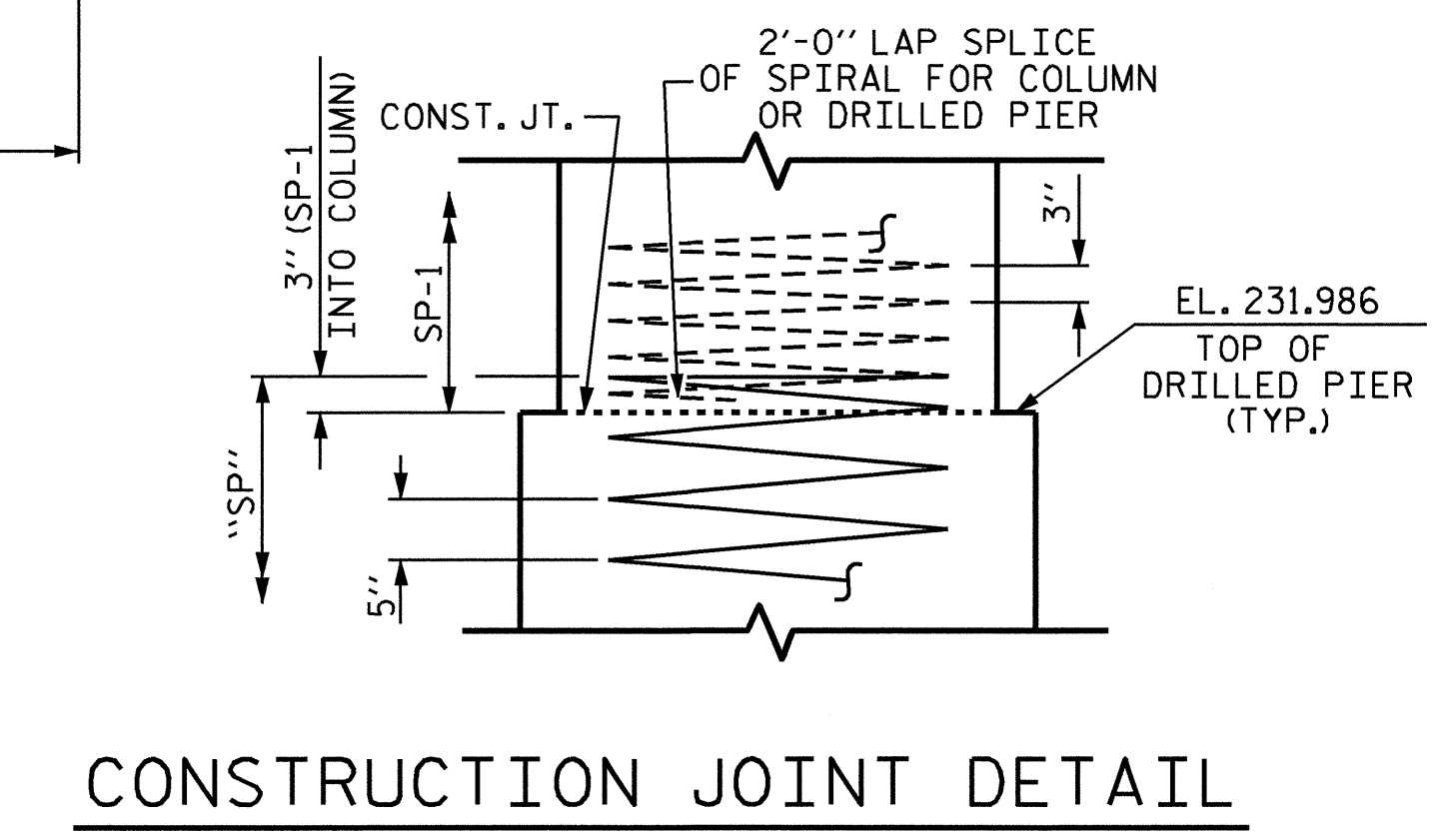
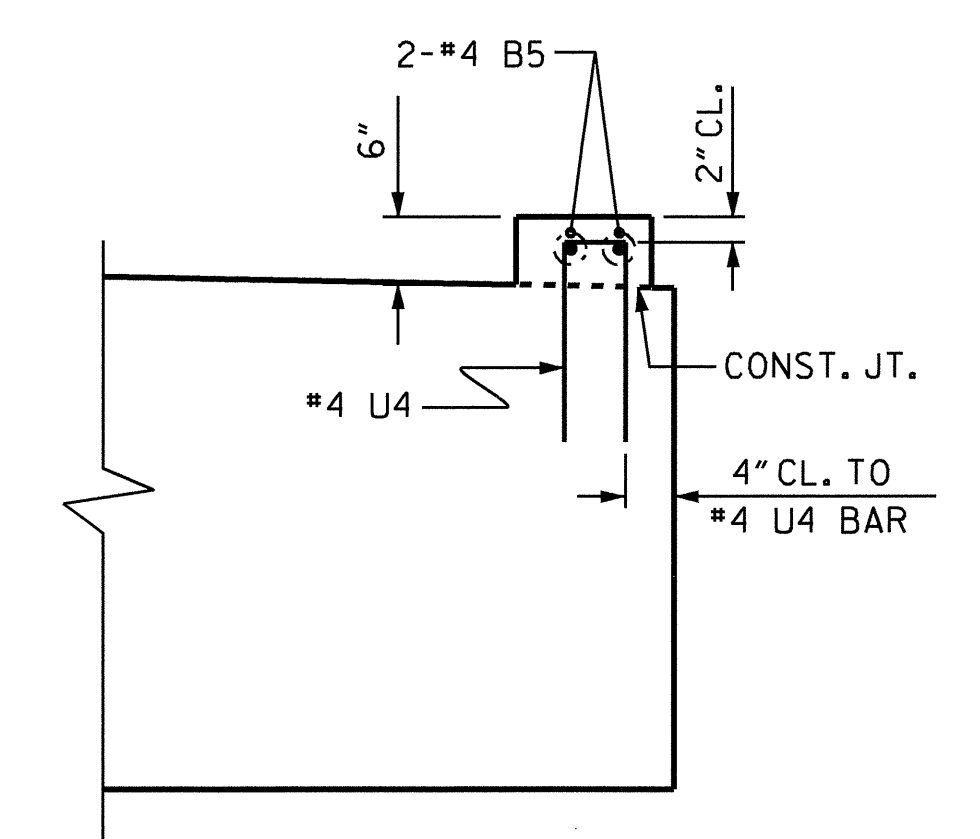
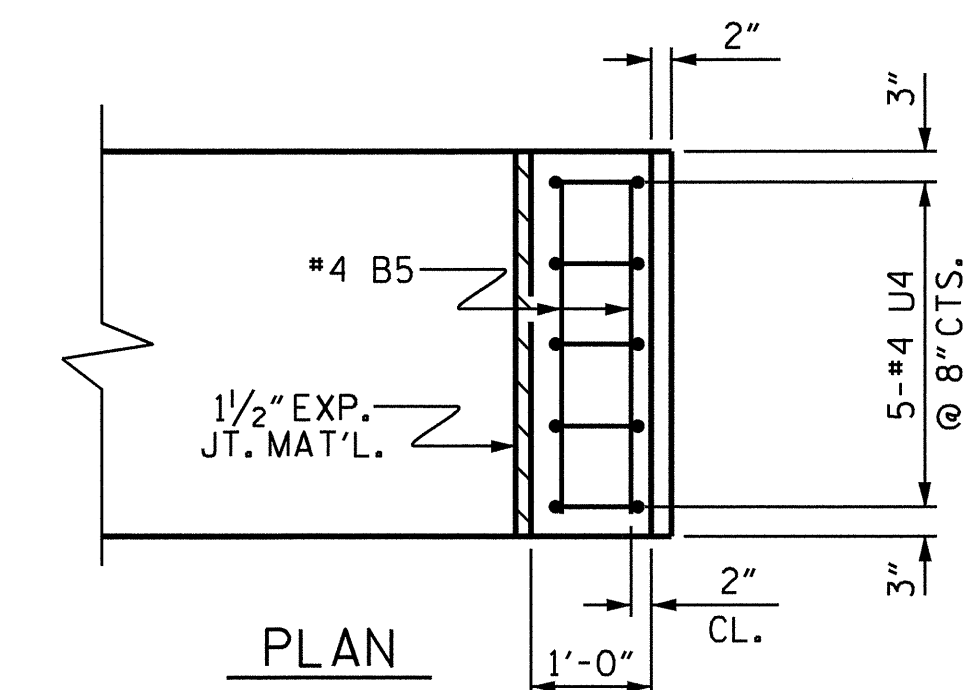
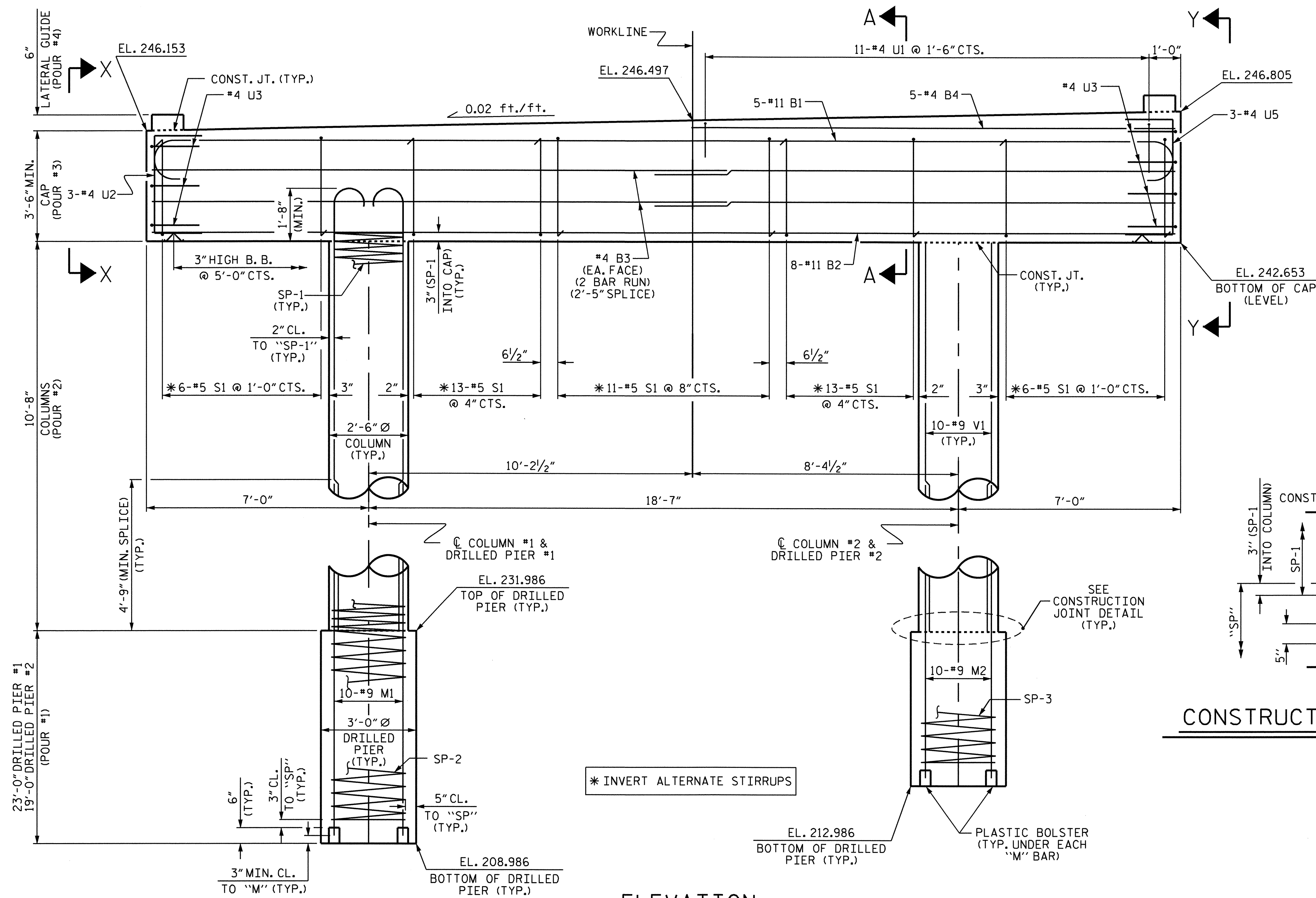
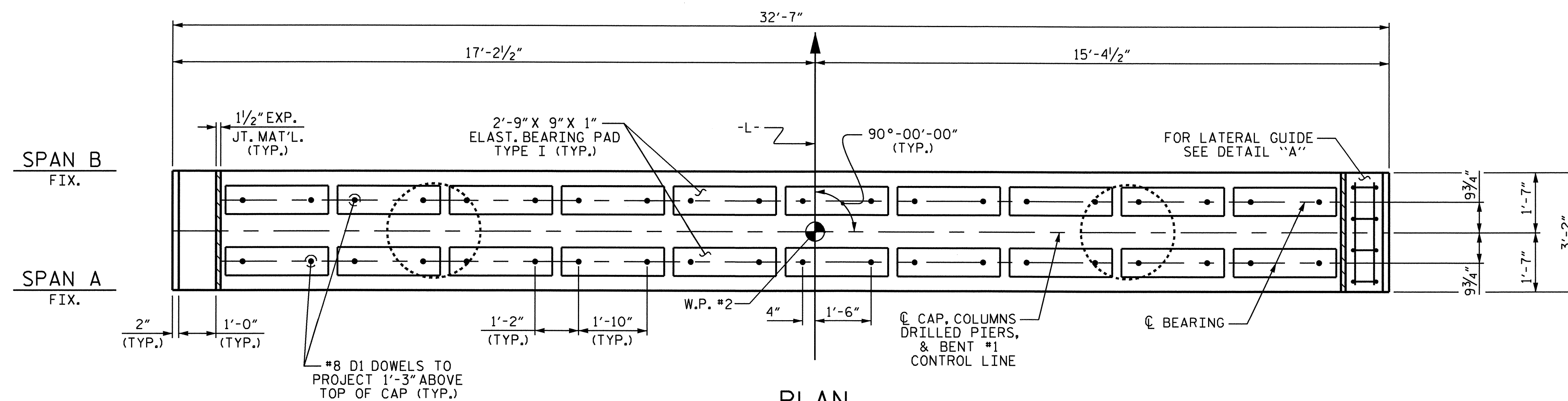
ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR "REINFORCING STEEL" AND "SPIRAL COLUMN REINFORCING STEEL".

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE LONGITUDINAL REINFORCEMENT FOR THE DRILLED PIERS IS DETAILED WITH 3 FEET OF EXTRA LENGTH.

FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.

FOR PERMANENT STEEL CASING, SEE SPECIAL PROVISIONS FOR DRILLED PIERS.

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



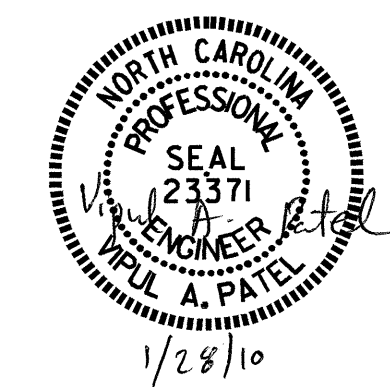
DETAIL "A"
 (EACH END SIMILAR)

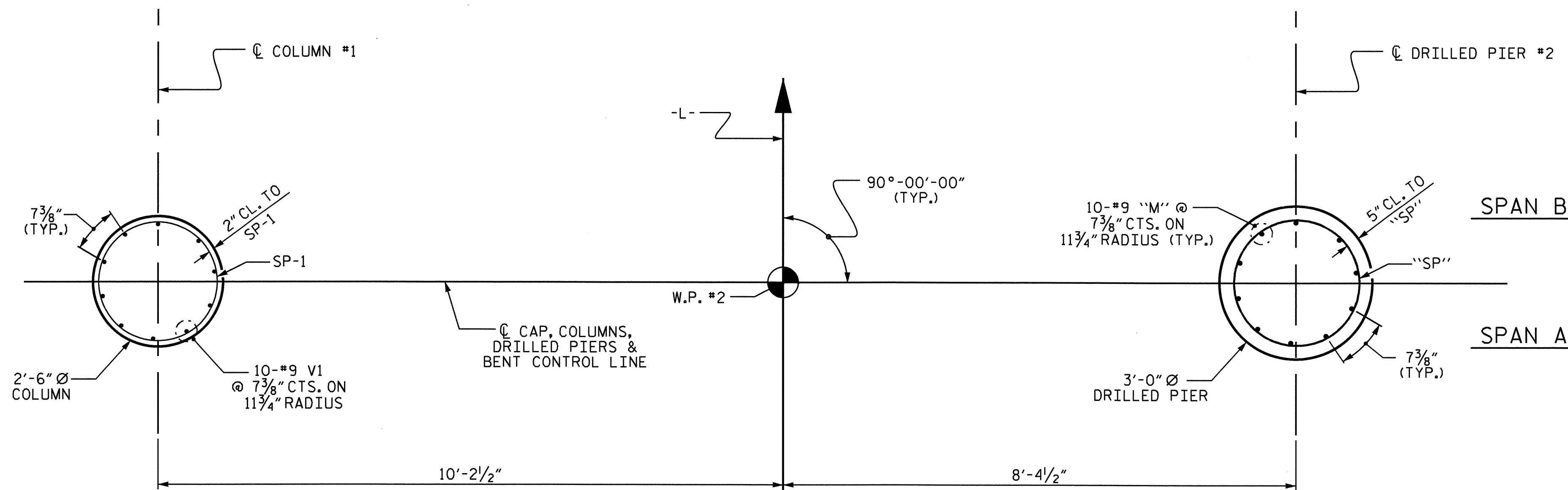
PROJECT NO. B-3404
 ANSON COUNTY
 STATION: 21+25.00 -L-

SHEET 1 OF 2

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

DRAWN BY: R. G. EMERSON DATE: 08/09
 CHECKED BY: J. P. ADAMS DATE: 09/09



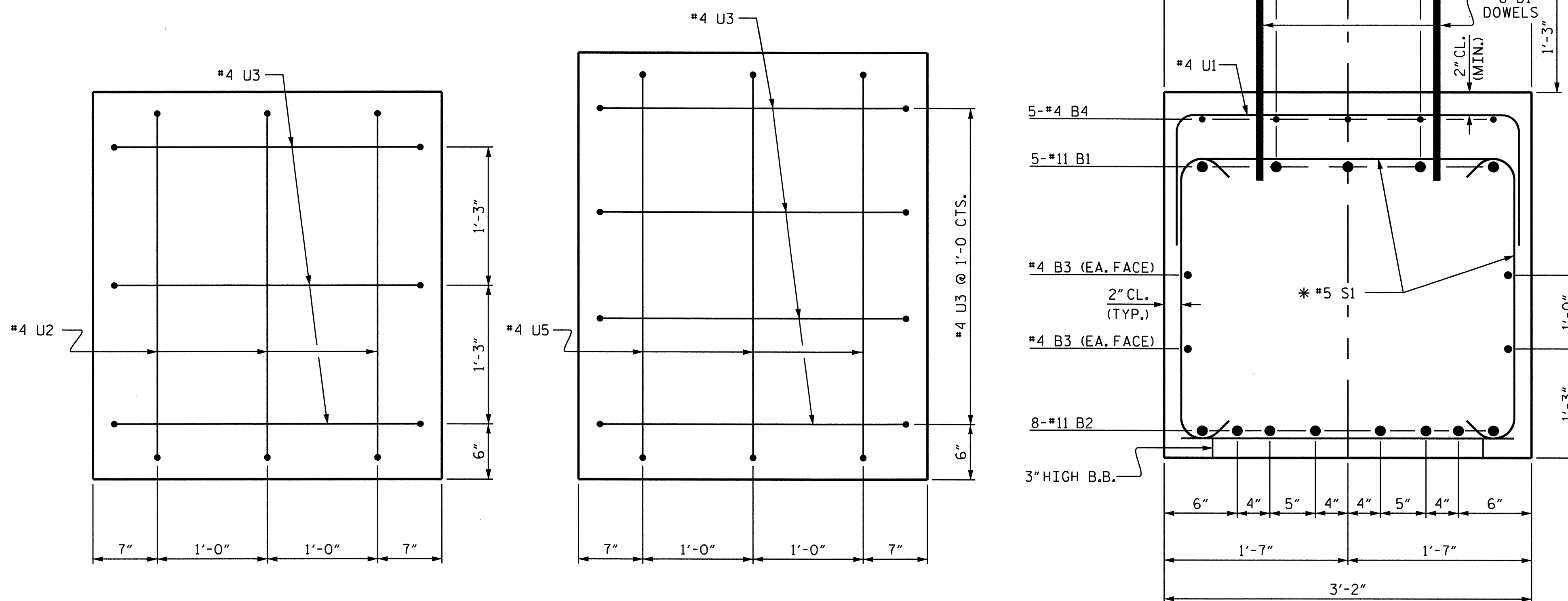


PARTIAL PLAN OF COLUMNS

PARTIAL PLAN OF DRILLED PIERS

PLAN OF COLUMNS & DRILLED PIERS

REINFORCING STEEL, DIMENSIONS, AND DETAILS ARE TYPICAL FOR EACH COLUMN AND DRILLED PIER



VIEW X-X

VIEW Y-Y

SECTION A-A

* INVERT ALTERNATE STIRRUPS

BAR TYPES

BILL OF MATERIAL

BENT #1

BAR NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	#11		35'-3"	936
B2	#11	STR.	32'-3"	1371
B3	#4	STR.	17'-4"	93
B4	#4	STR.	16'-1"	54
B5	#4	STR.	2'-10"	8
D1	#8	STR.	2'-3"	240
M1	#9	STR.	30'-6"	1037
M2	#9	STR.	26'-6"	901
S1	#5		10'-0"	511
U1	#4		5'-10"	43
U2	#4		6'-0"	12
U3	#4		5'-8"	26
U4	#4		3'-6"	23
U5	#4		6'-7"	13
V1	#9		13'-7"	924
TOTAL REINFORCING STEEL				LBS. 6192
SP-1	*		302'-4"	404
SP-2	**		369'-6"	385
SP-3	**		306'-3"	319
TOTAL SPIRAL COLUMN				REINFORCING STEEL LBS. 1108
CLASS A CONCRETE BREAKDOWN				
POUR #2 (CAP)				14.6 C.Y.
POUR #3 (COLUMNS)				3.9 C.Y.
POUR #4 (LATERAL GUIDES)				0.1 C.Y.
TOTAL				18.6 C.Y.
DRILLED PIER QUANTITIES				
DRILLED PIER CONCRETE				
POUR #1 (DRILLED PIERS)				11.0 C.Y.
3'-0" DIA. DRILLED PIERS IN SOIL				24.0 LIN. FT.
3'-0" DIA. DRILLED PIERS NOT IN SOIL				18.0 LIN. FT.
PERMANENT STEEL CASING FOR 3'-0" DIA. DRILLED PIER				16.0 LIN. FT.
CROSSHOLE SONIC LOGGING:				1 EACH
SID INSPECTION:				1 EACH
CSL TUBES:				188 LIN. FT.

ALL BAR DIMENSIONS ARE OUT TO OUT.

* THE SP-1 SPIRAL REINFORCING STEEL SHALL BE W20 OR D-20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR.

** THE SP-2 & SP-3 SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR.

PROJECT NO. B-3404
 ANSON COUNTY
 STATION: 21+25.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

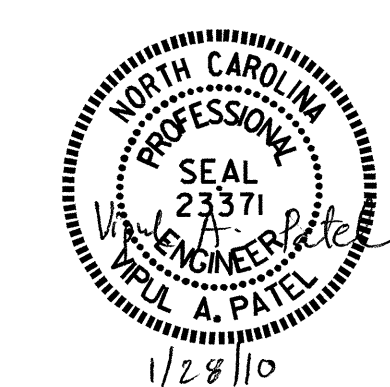
SUBSTRUCTURE
 BENT #1

REVISIONS

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

SHEET NO.
 S-15
 TOTAL SHEETS
 21

DRAWN BY: R. G. EMERSON DATE: 08/09
 CHECKED BY: J. P. ADAMS DATE: 09/09

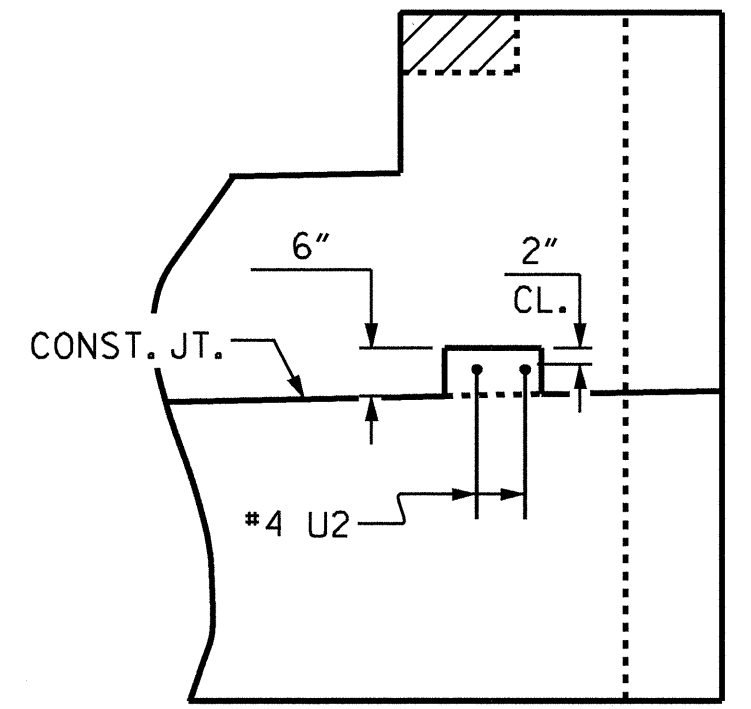
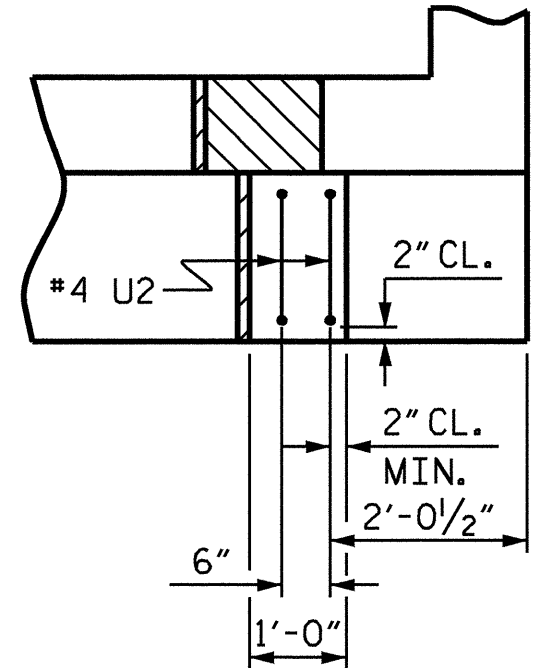
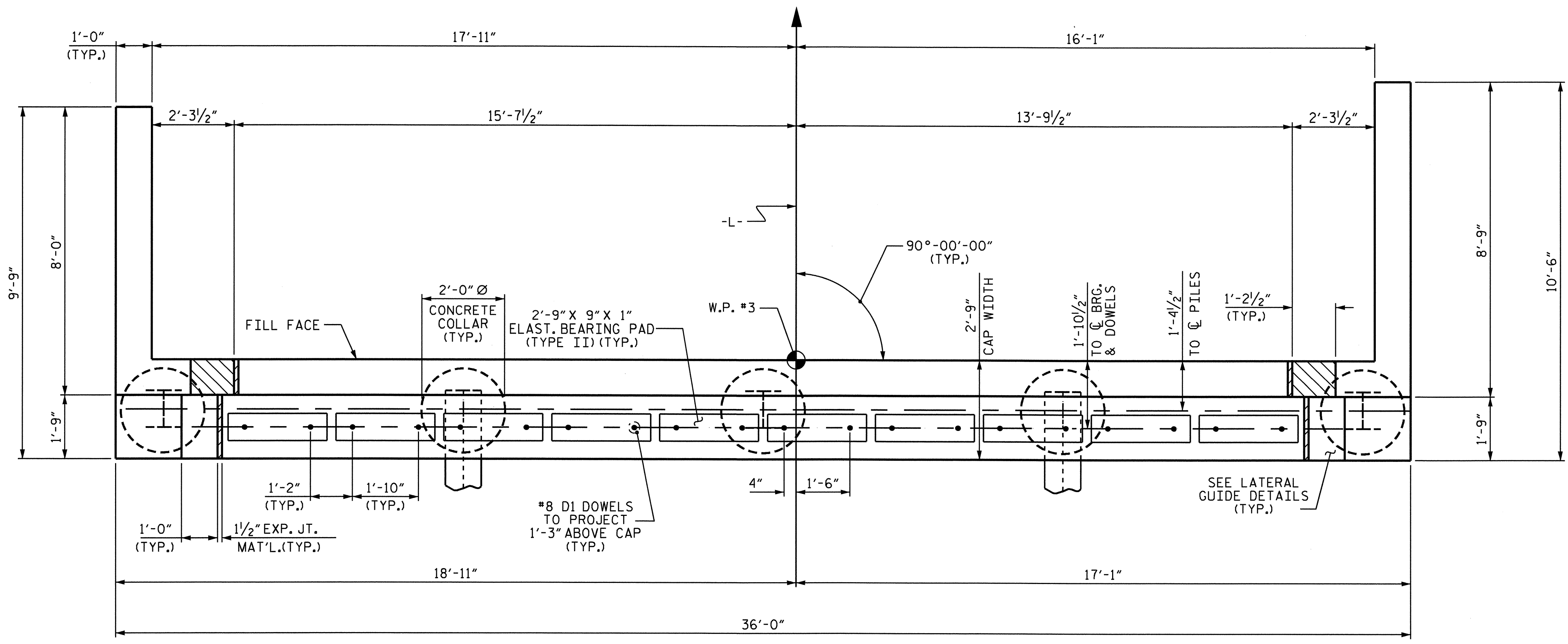


NOTES

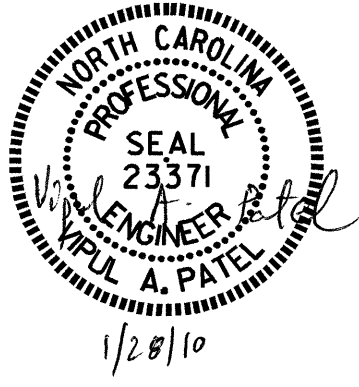
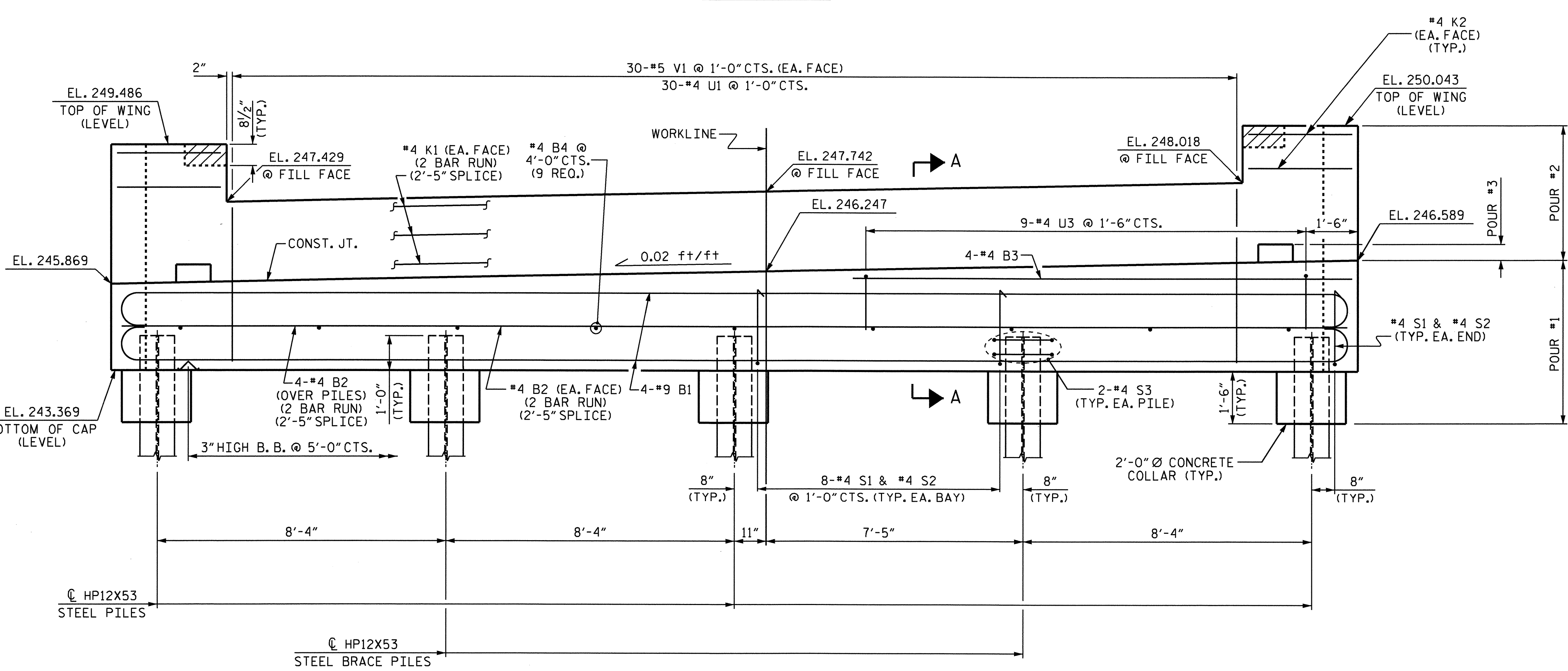
STIRRUP IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.

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

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



LATERAL GUIDE DETAILS
(EACH END SIMILAR)



PROJECT NO. B-3404
ANSON COUNTY
STATION: 21+25.00 -L-

SHEET 1 OF 3

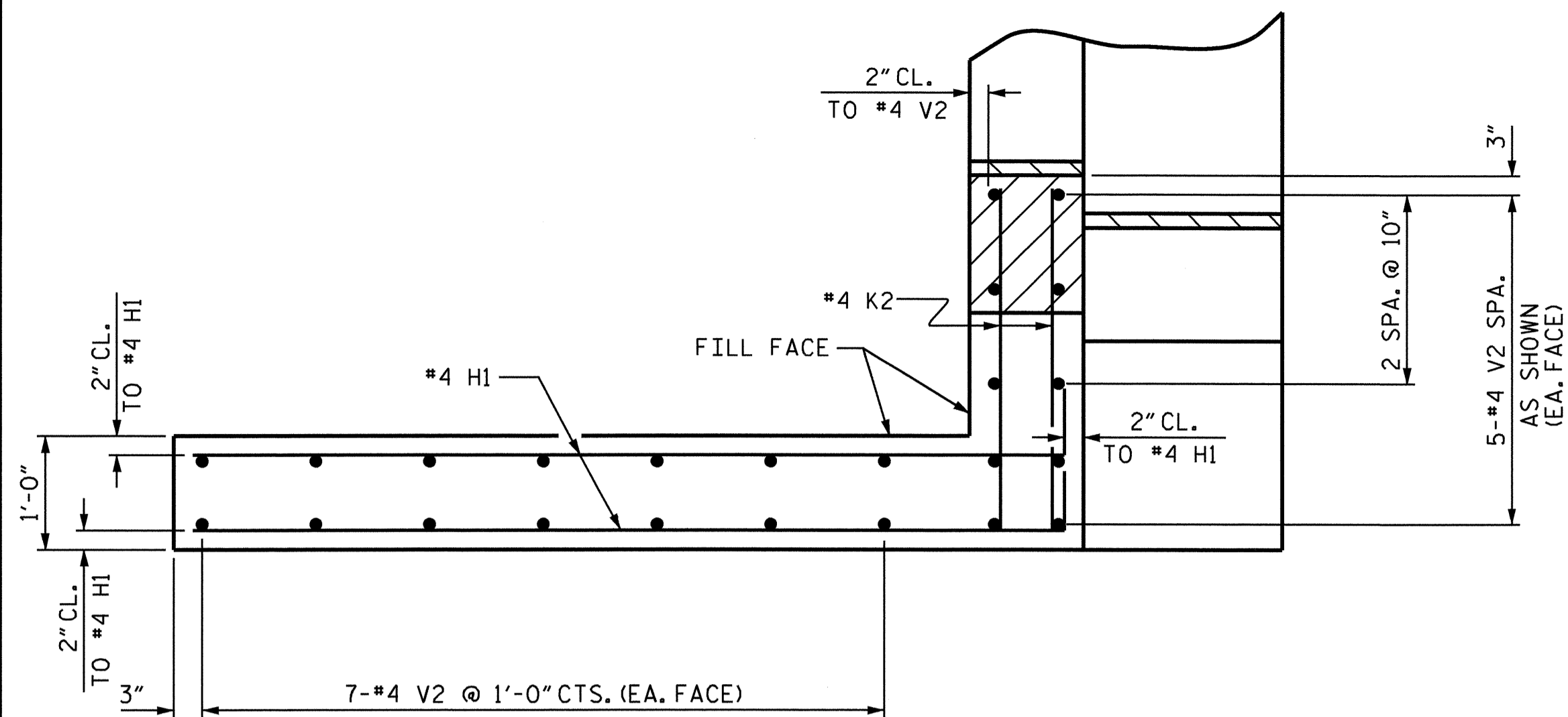
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUBSTRUCTURE
END BENT #2**

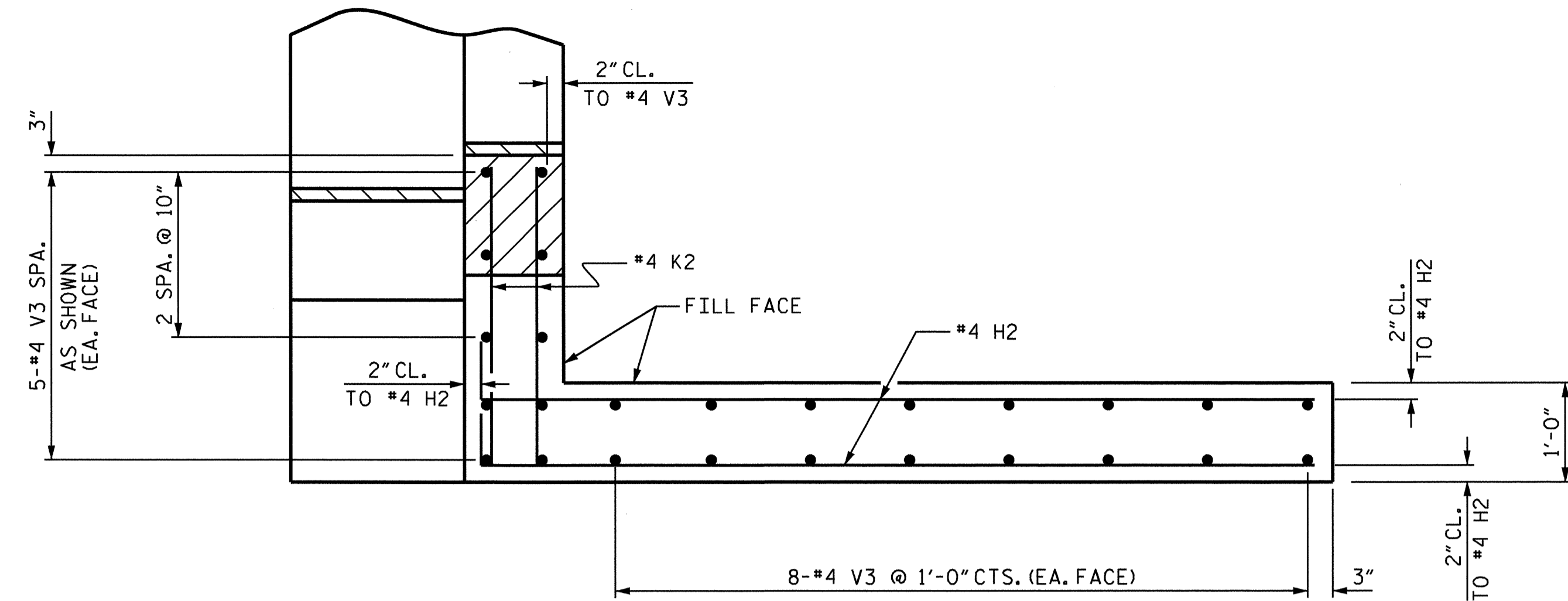
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-16
1			3			TOTAL SHEETS
2			4			21

DRAWN BY : R. G. EMERSON DATE : 08/09
CHECKED BY : J. P. ADAMS DATE : 09/09

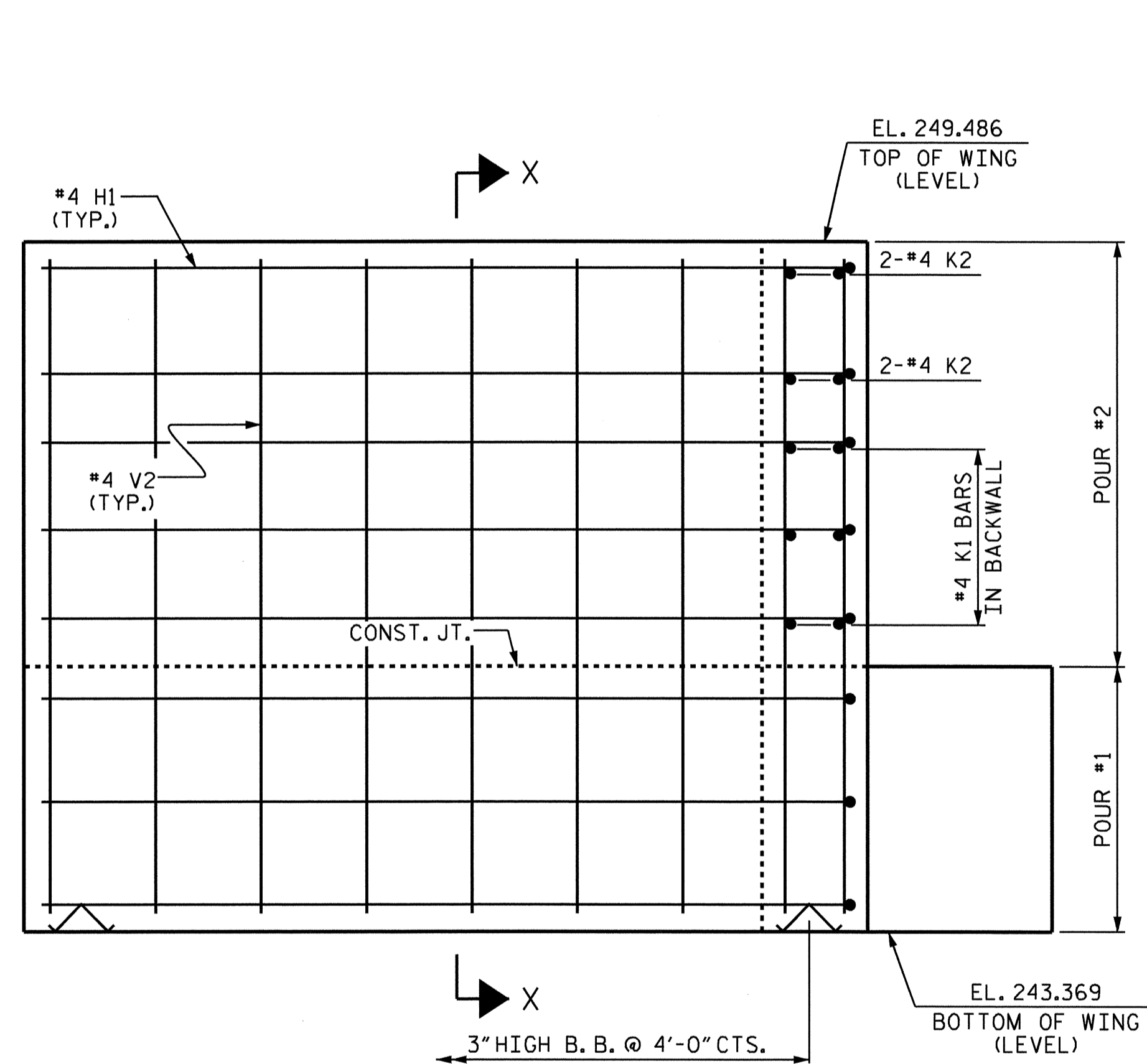
27-JAN-2010 10:53
R:\Structures\B-3404\Revised Plans 33\B-3404.sd.Ebts.dgn
jpodams



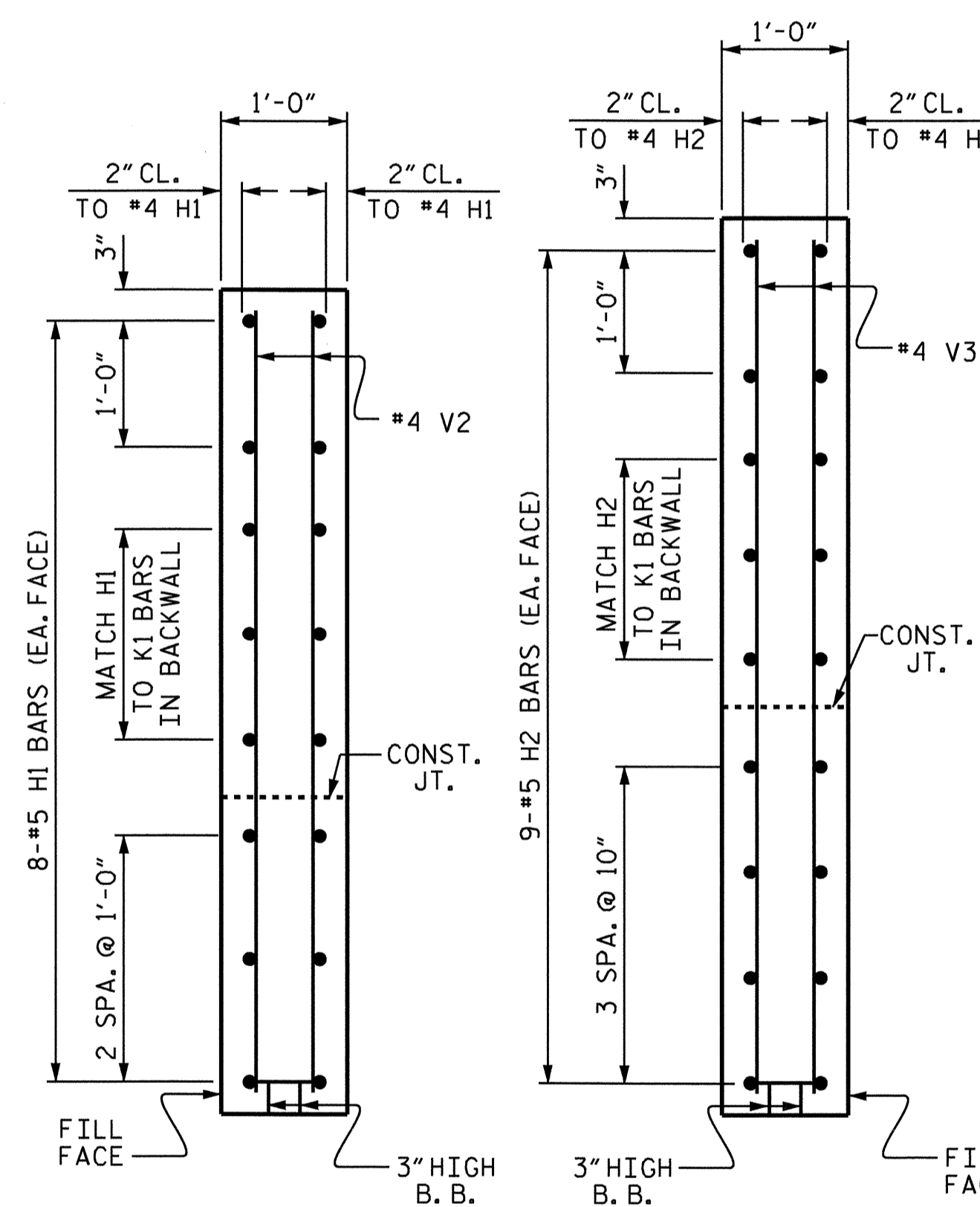
PLAN OF LEFT WING



PLAN OF RIGHT WING

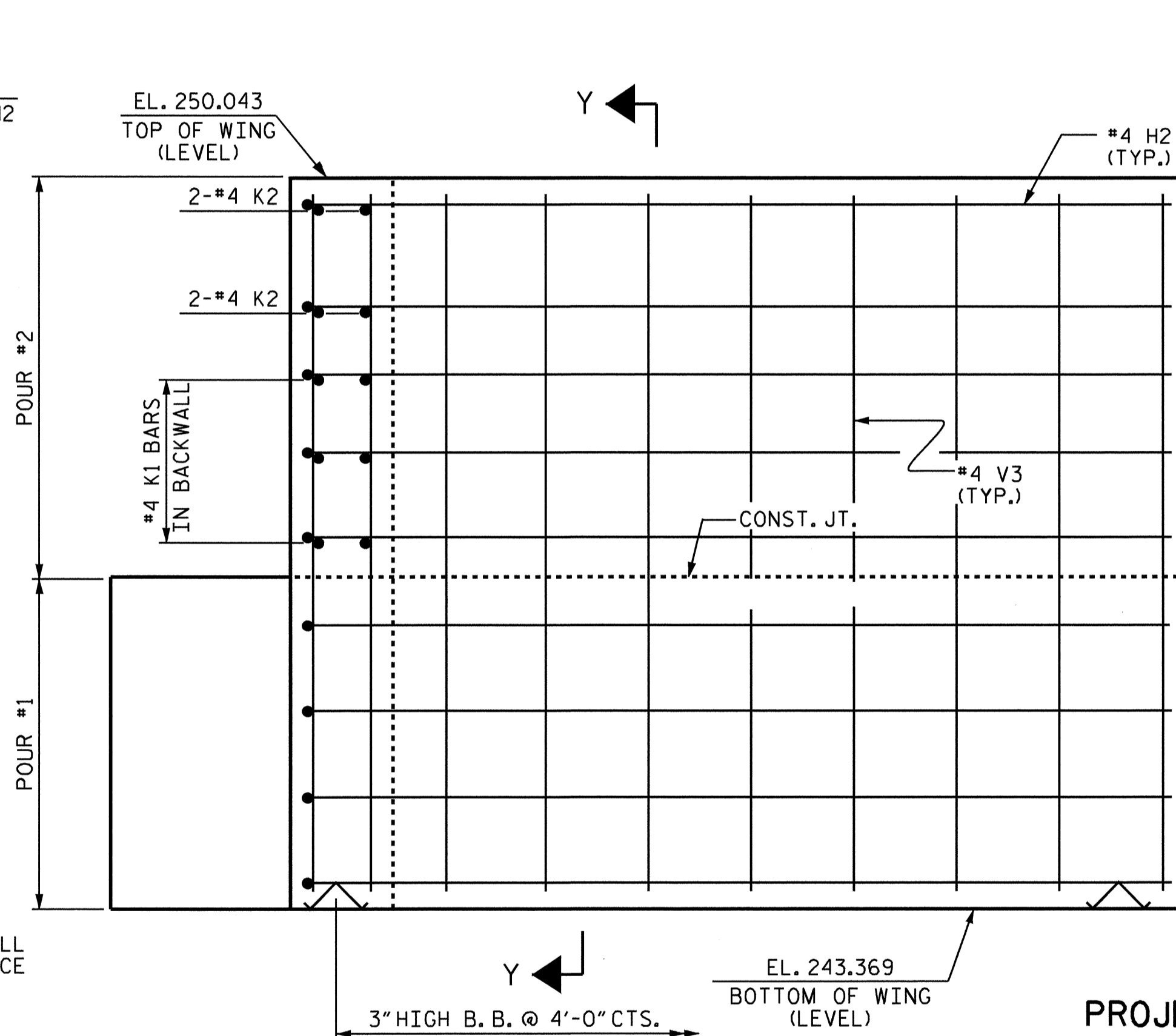


ELEVATION OF LEFT WING



SECTION X-X

SECTION Y-Y



ELEVATION OF RIGHT WING

PROJECT NO. B-3404
ANSON COUNTY
 STATION: 21+25.00 -L-

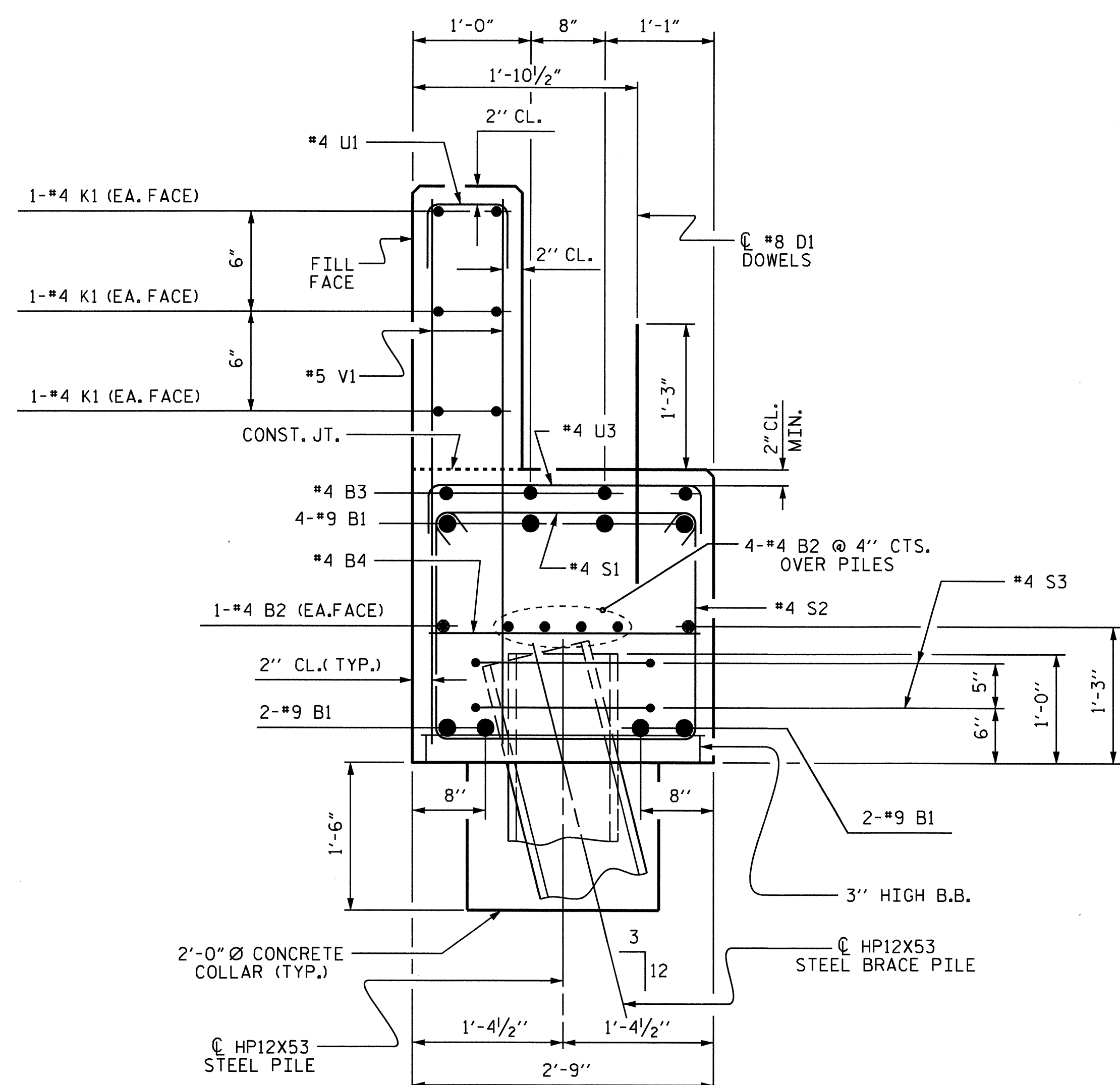
SHEET 2 OF 3



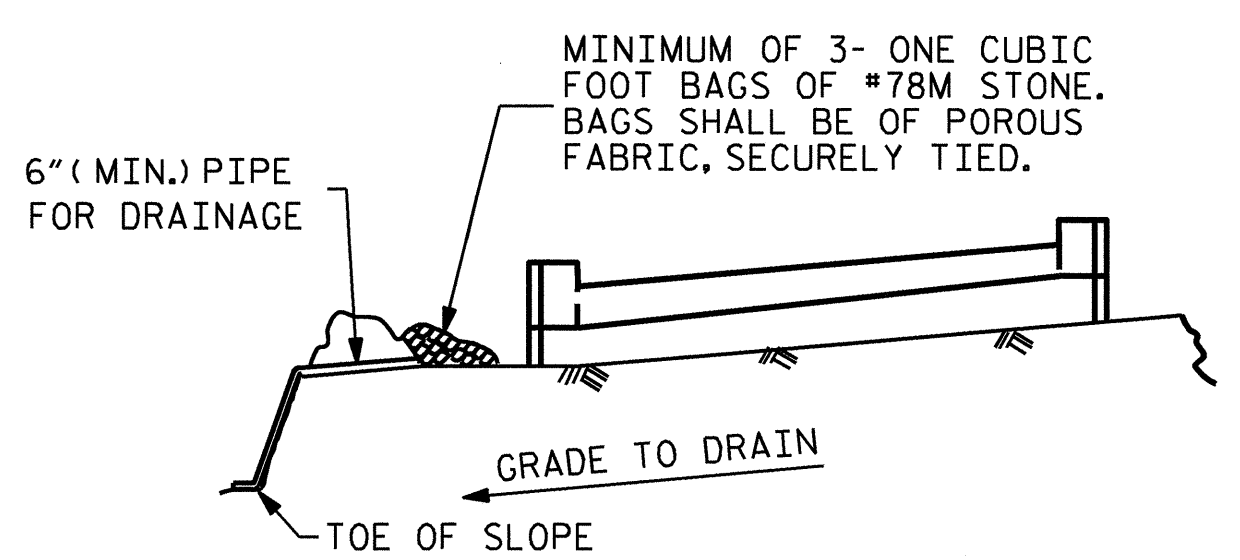
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT #2

DRAWN BY : R. G. EMERSON DATE : 08/09
 CHECKED BY : J. P. ADAMS DATE : 09/09

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-17
1			3			TOTAL SHEETS
2			4			21



SECTION A-A

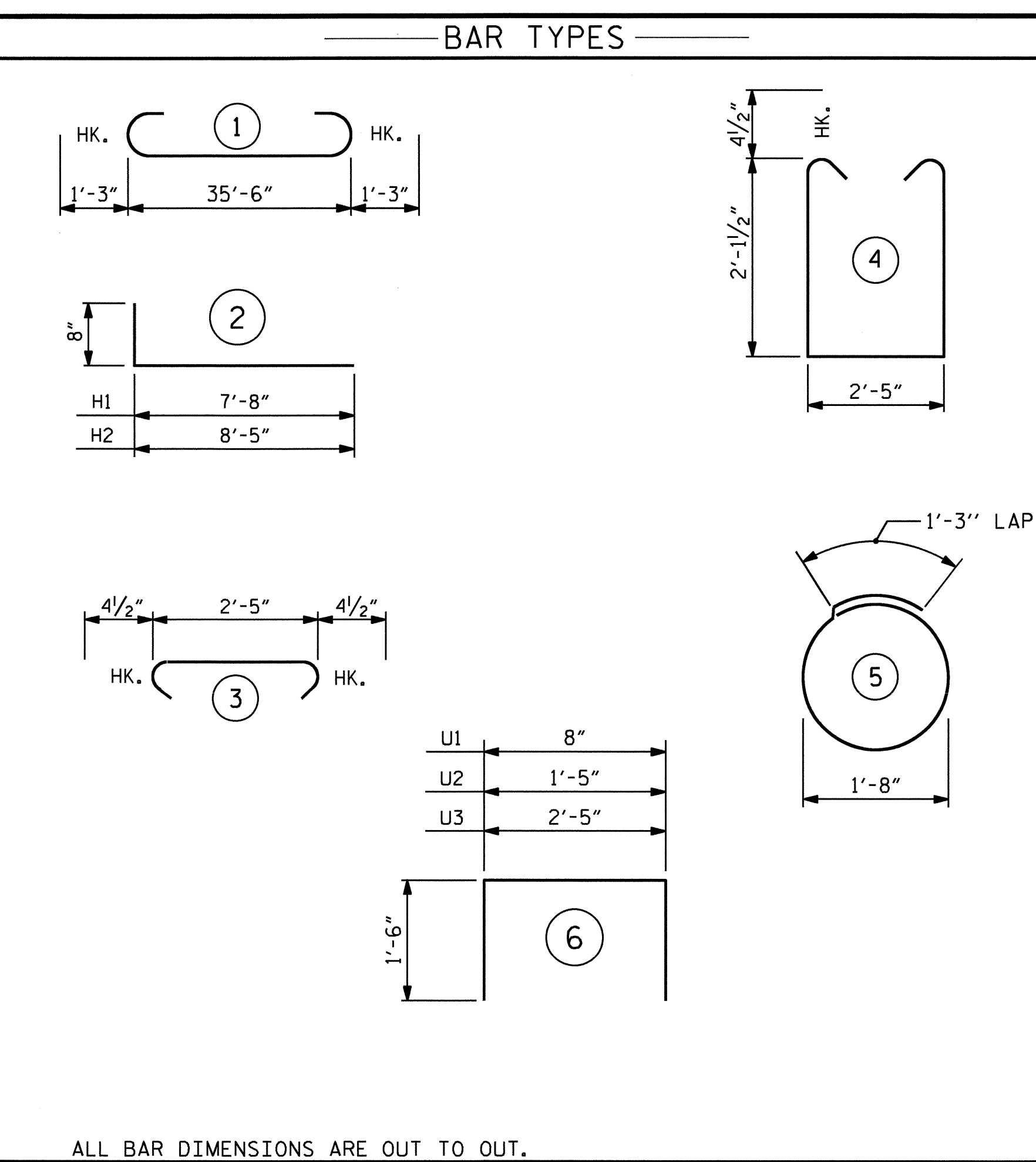


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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.

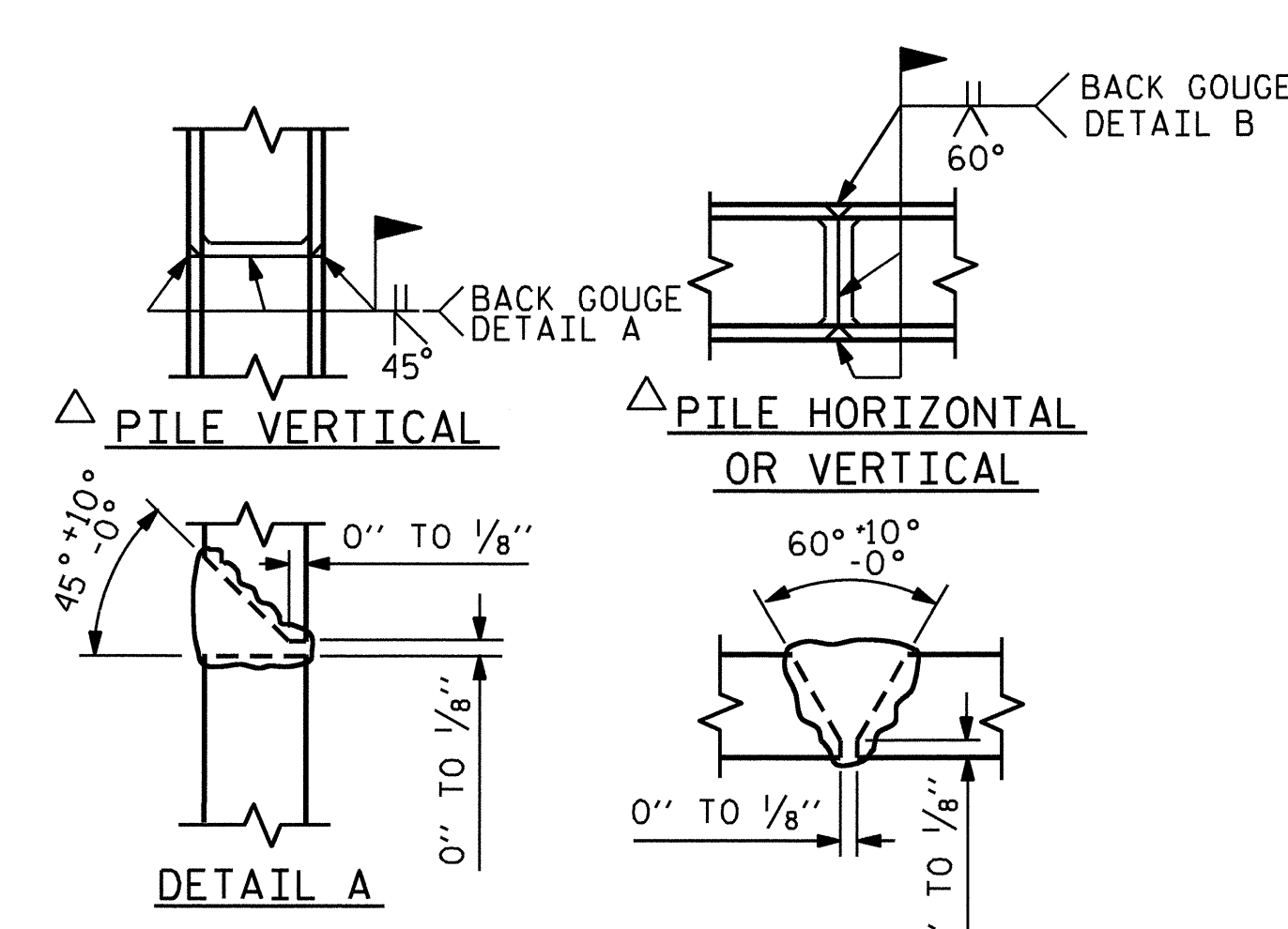
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT



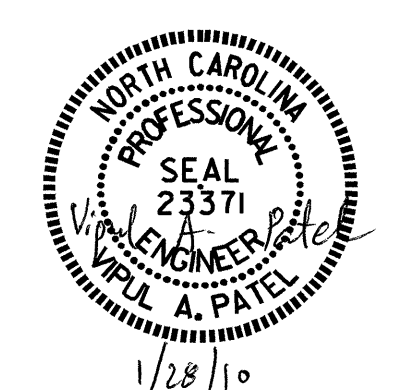
ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
END BENT #2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	38'-0"	1034
B2	12	#4	STR	19'-1"	153
B3	4	#4	STR	14'-5"	39
B4	9	#4	STR	2'-5"	15
D1	20	#8	STR	2'-3"	120
H1	16	#4	2	8'-4"	89
H2	18	#4	2	9'-1"	109
K1	12	#4	STR	19'-1"	153
K2	8	#4	STR	2'-11"	16
S1	34	#4	3	3'-2"	72
S2	34	#4	4	7'-5"	168
S3	10	#4	5	6'-6"	43
U1	30	#4	6	3'-8"	73
U2	4	#4	6	4'-5"	12
U3	9	#4	6	5'-5"	33
V1	60	#5	STR	4'-3"	266
V2	24	#4	STR	5'-9"	92
V3	26	#4	STR	6'-4"	110
REINFORCING STEEL				LBS.	2597
CLASS "A" CONCRETE					
POUR #1 CAP, 2'-0" Ø CONC. COLLAR & LOWER WINGS				CU. YDS.	12.9
POUR #2 UPPER WINGS & BACKWALL				CU. YDS.	4.6
POUR #3 LATERAL GUIDES				CU. YDS.	0.1
TOTAL				CU. YDS.	17.6
HP12X53 STEEL PILES				NO. 5	LIN. FT. 125



PILE SPLICE DETAILS

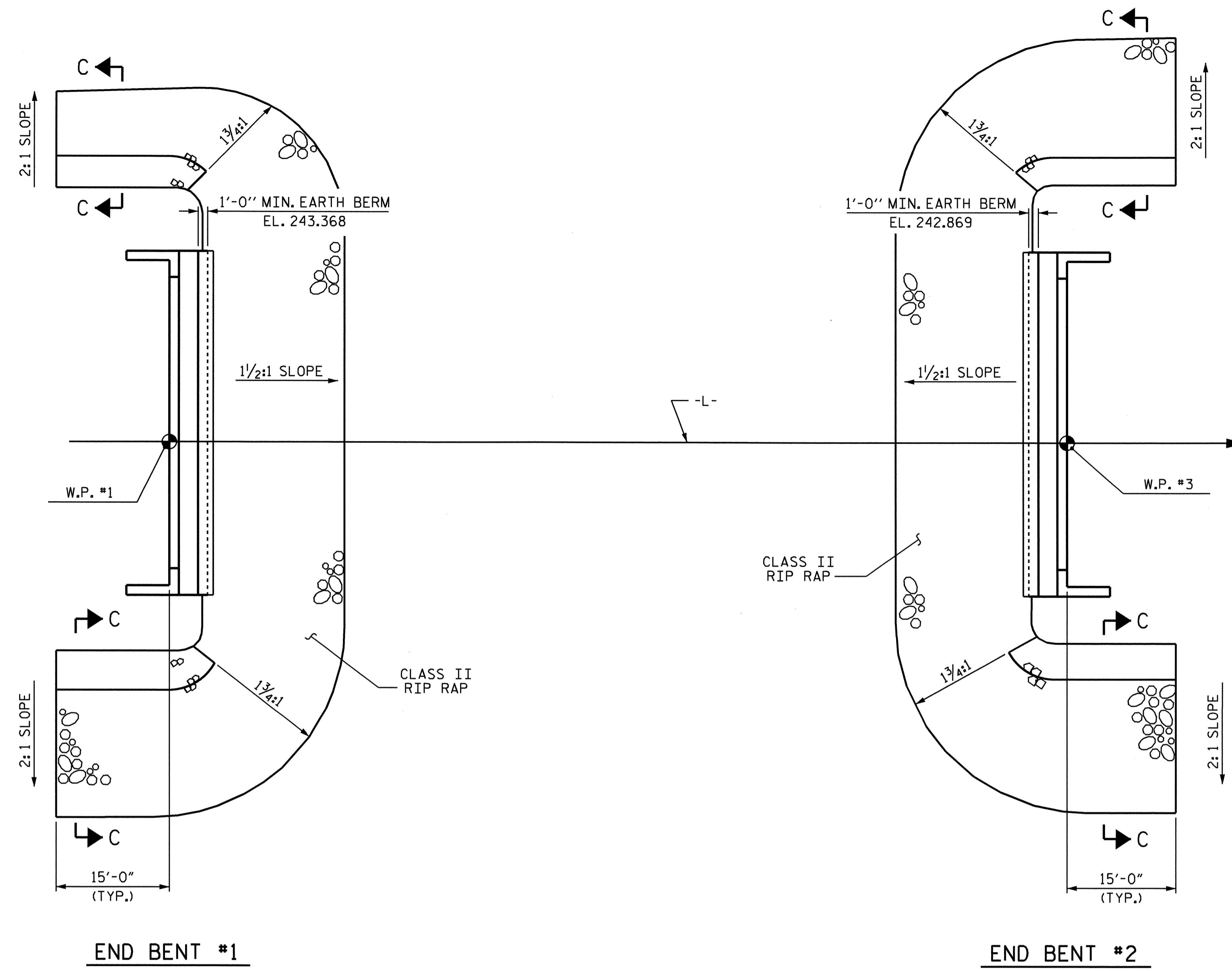
PROJECT NO. B-3404
 ANSON COUNTY
 STATION: 21+25.00 -L-
 SHEET 3 OF 3



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT #2

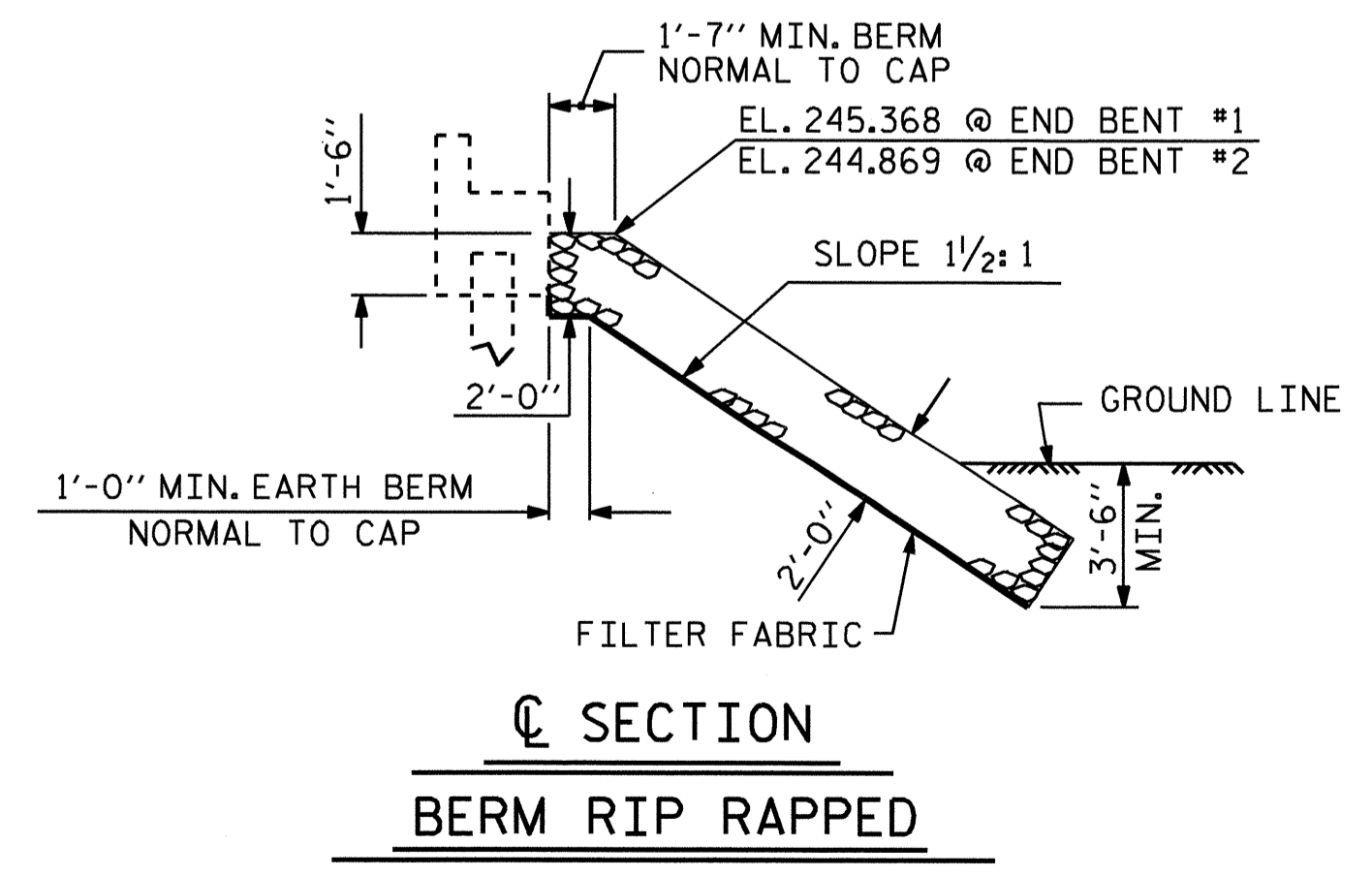
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-18
1			3			TOTAL SHEETS
2			4			22

DRAWN BY : R. G. EMERSON DATE : 08/09
 CHECKED BY : J. P. ADAMS DATE : 09/09

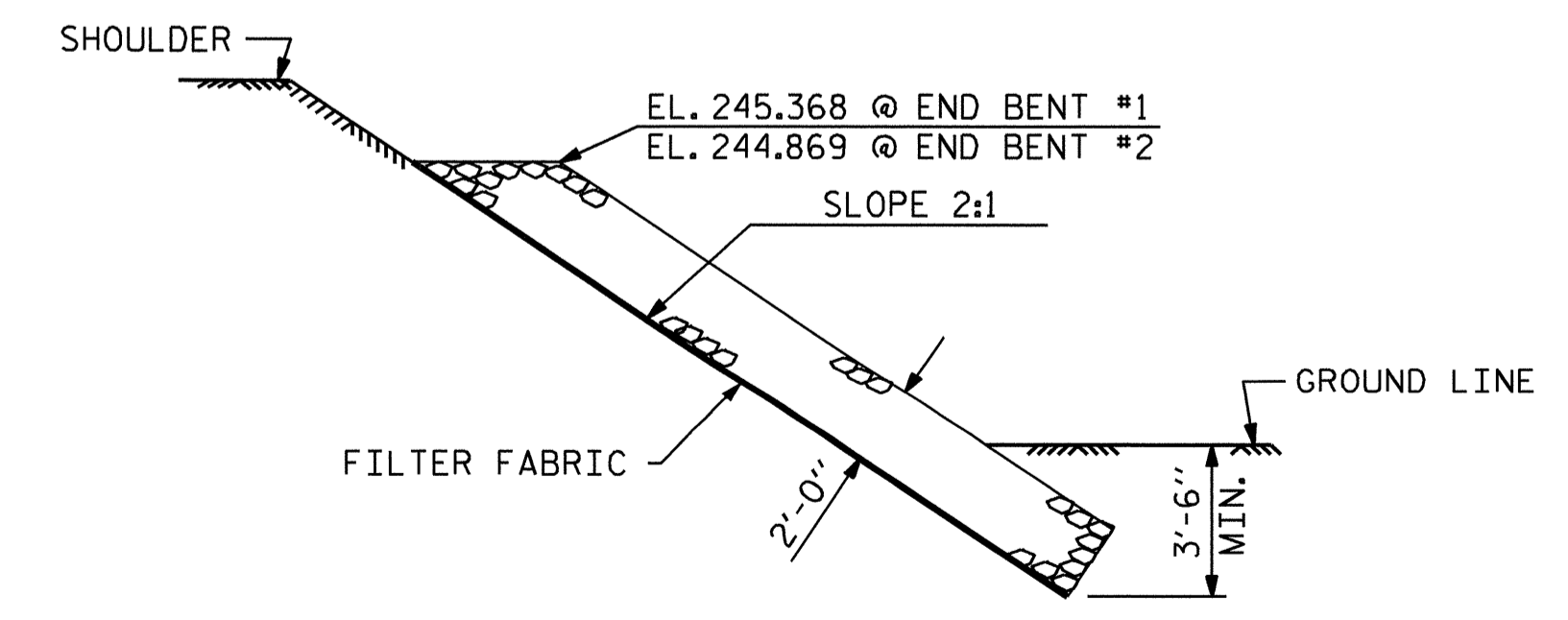


ESTIMATED QUANTITIES		
BRIDGE @ STA. 21+25.00 -L-	RIP RAP (CLASS II) (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT #1	170	190
END BENT #2	180	200

PLAN OF RIP RAP

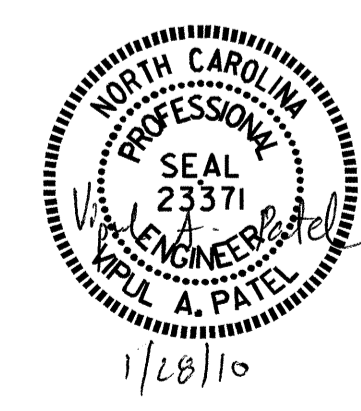


SECTION
BERM RIP RAPPED



SECTION C-C

PROJECT NO. B-3404
ANSON COUNTY
 STATION: 21+25.00 -L-



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

ASSEMBLED BY : R. G. EMERSON	DATE : 02/09
CHECKED BY : M. K. BEARD	DATE : 03/09
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

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

NOTES

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

APPROACH SLAB SHALL NOT BE CONSTRUCTED PRIOR TO COMPLETION OF THE BRIDGE DECK.

FABRIC SHALL BE TYPE 1 ENGINEERING FABRIC 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.

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.

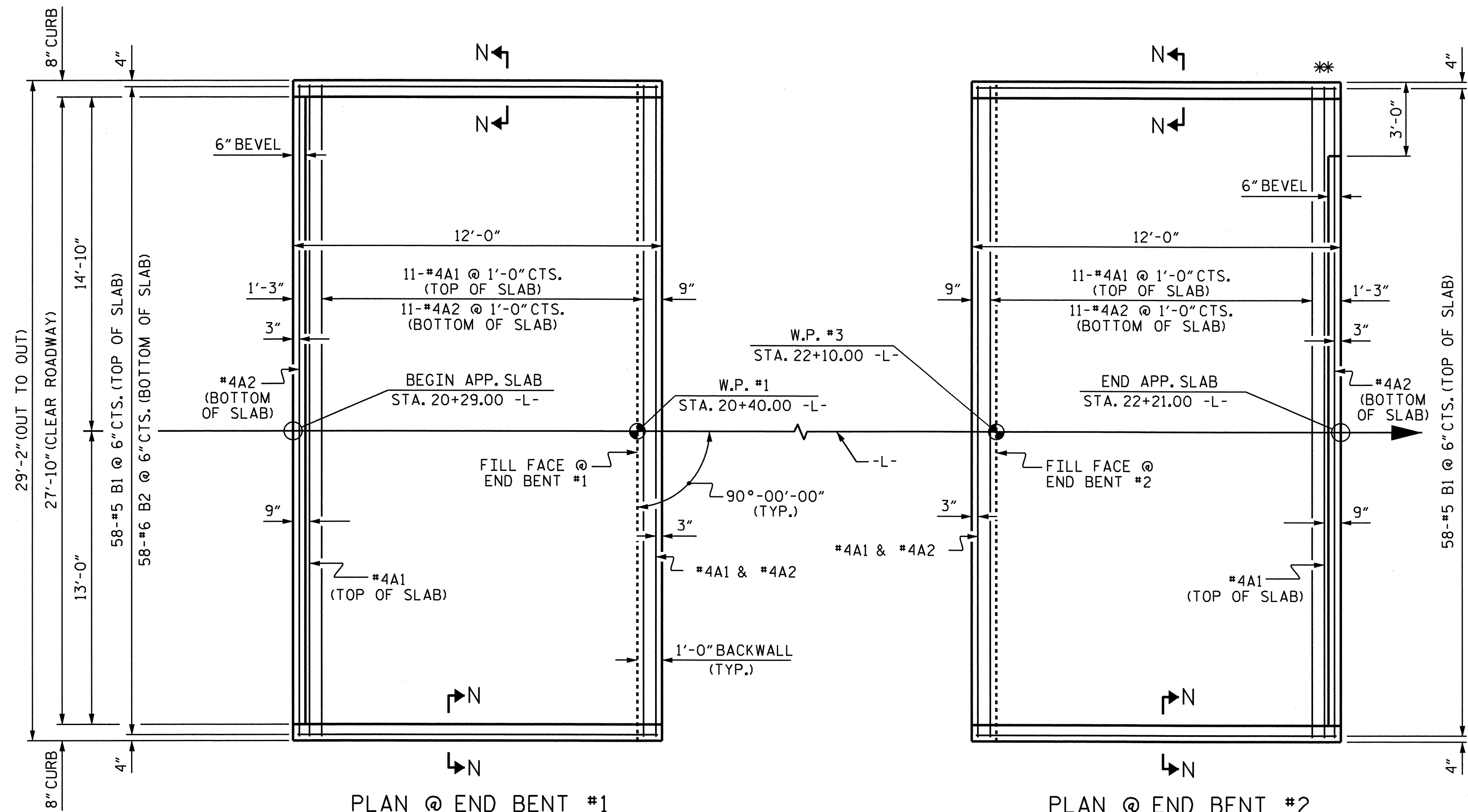
THE CONTRACTOR MAY USE 5" CLASS "A" CONCRETE BASE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE CONCRETE BASE SHALL BE FLUSH WITH THE ROADWAY END OF THE APPROACH SLAB, AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB. THE CONCRETE SHALL BE FINISHED TO A SMOOTH SURFACE AND A LAYER 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 BOX BEAM UNIT" SHEETS.

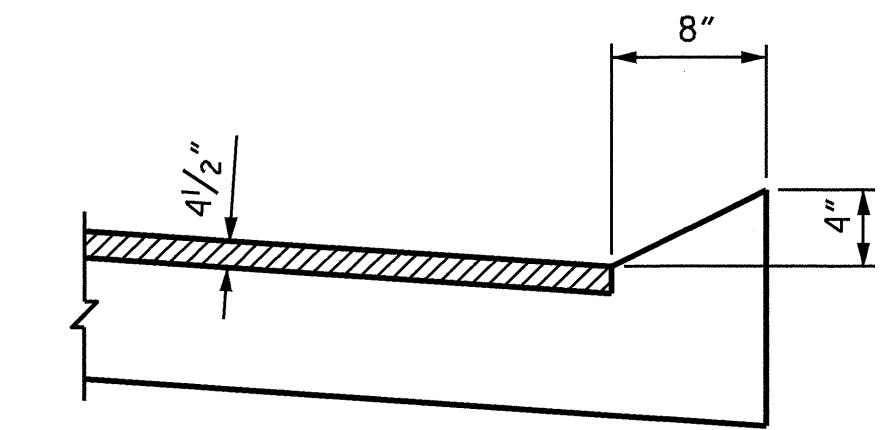
APPROACH SLAB GROOVING IS NOT REQUIRED.

BILL OF MATERIAL

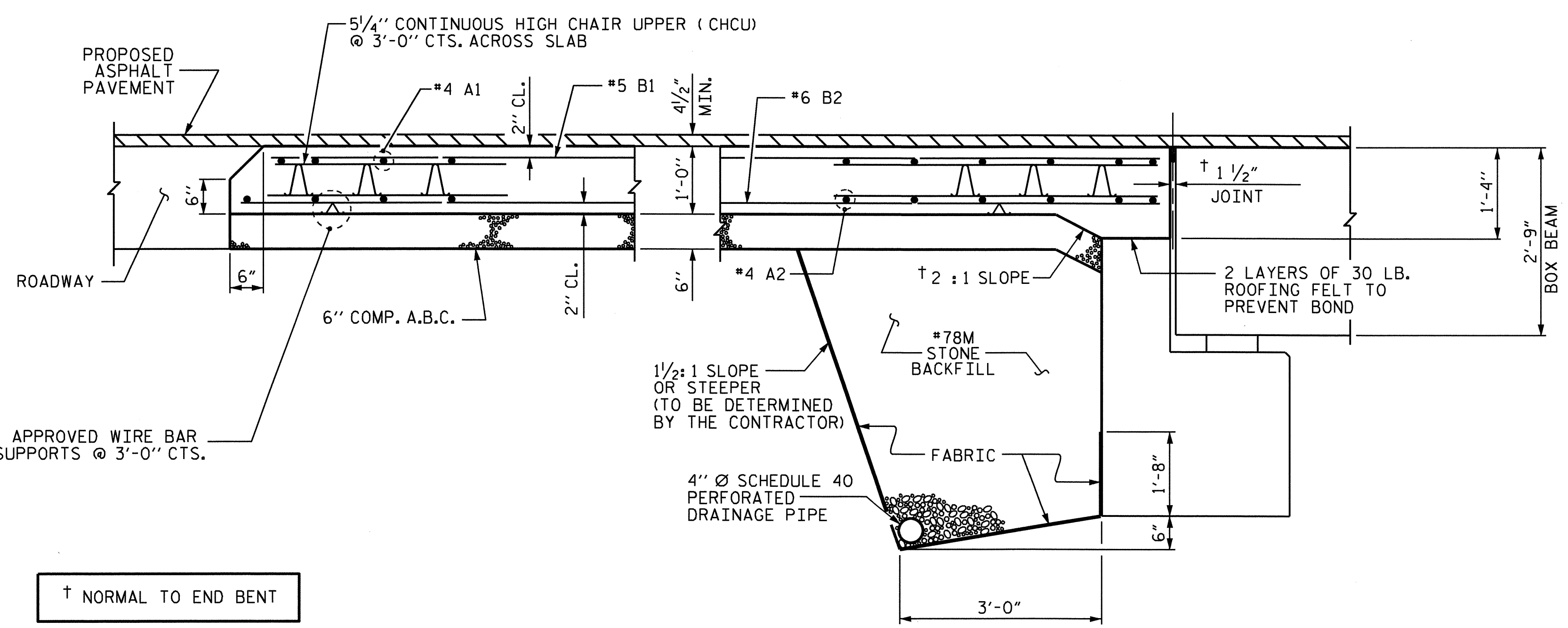
APPROACH SLAB AT EB #1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	13	#4	STR	28'-10"	250
A2	13	#4	STR	28'-10"	250
*B1	58	#5	STR	11'-2"	676
B2	58	#6	STR	11'-8"	1016
REINFORCING STEEL				LBS.	1266
* EPOXY COATED REINFORCING STEEL				LBS.	926
CLASS AA CONCRETE				C. Y.	13.6
APPROACH SLAB AT EB #2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	13	#4	STR	28'-10"	250
A2	13	#4	STR	28'-10"	250
*B1	58	#5	STR	11'-2"	676
B2	58	#6	STR	11'-8"	1016
REINFORCING STEEL				LBS.	1266
* EPOXY COATED REINFORCING STEEL				LBS.	926
CLASS AA CONCRETE				C. Y.	13.6



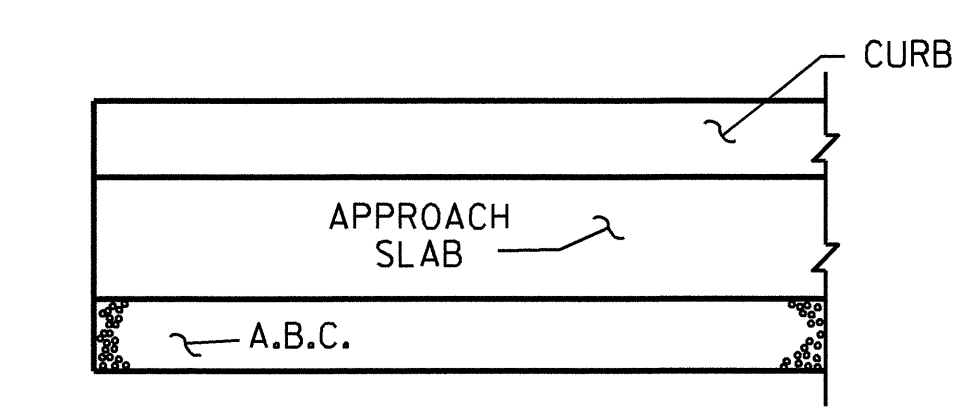
PLAN @ END BENT #1
PLAN @ END BENT #2
DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS



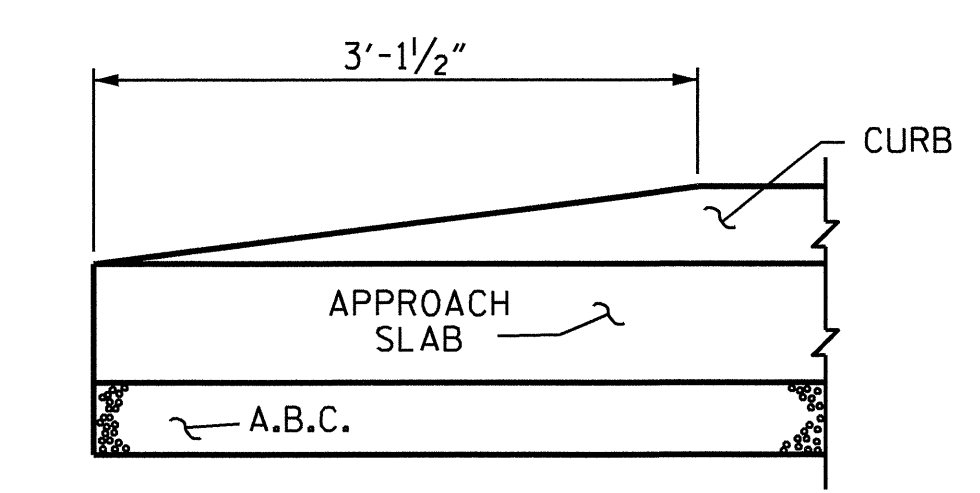
SECTION N-N



SECTION THRU SLAB

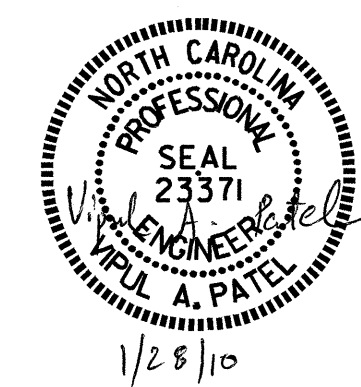


* END OF CURB WITH SHOULDER BERM GUTTER



END OF CURB WITHOUT SHOULDER BERM GUTTER

CURB DETAILS

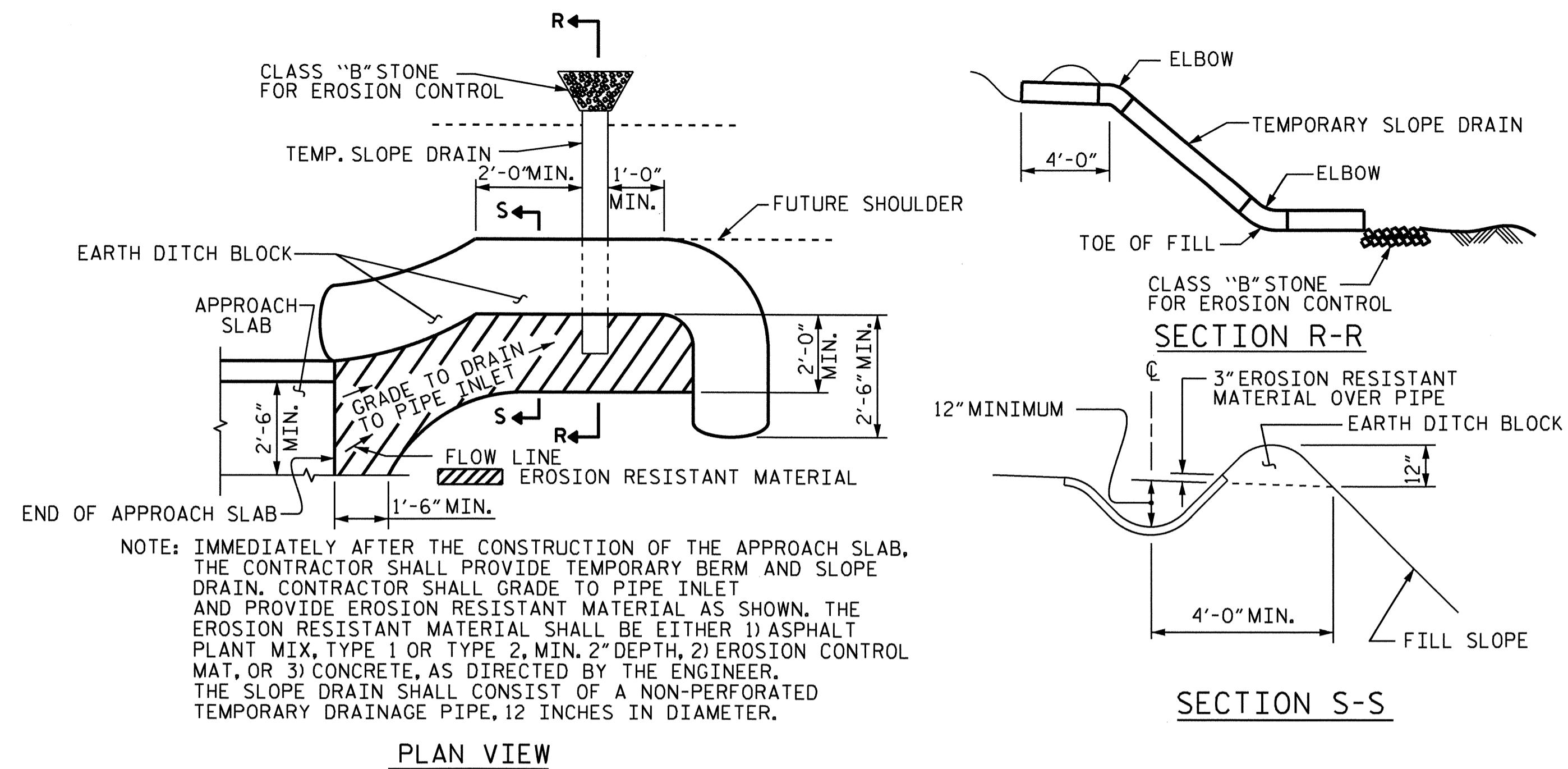


PROJECT NO. B-3404
ANSON COUNTY
 STATION: 21+25.00 -L-
 SHEET 1 OF 2

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

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-20	
1			3			TOTAL SHEETS 21	
2			4				

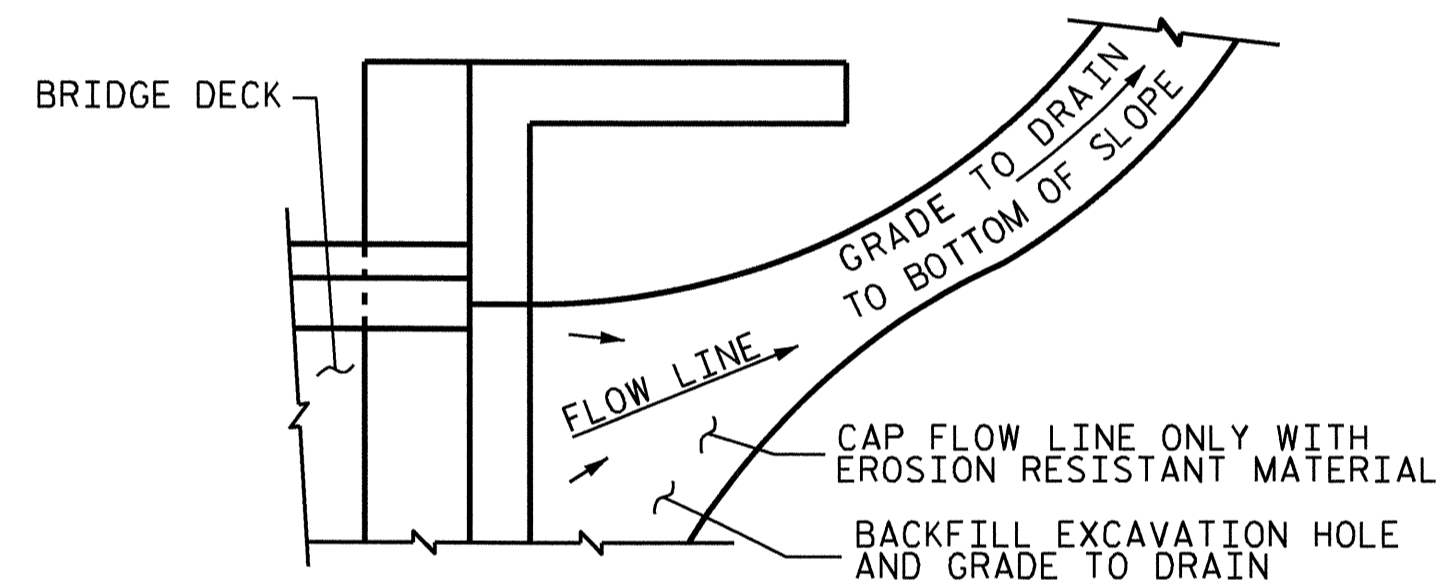
ASSEMBLED BY : G.M. GILLAND DATE : 01/09
 CHECKED BY : J.P. ADAMS DATE : 02/09
 DRAWN BY : KMM 3-08
 CHECKED BY : GM 3-08



PLAN VIEW

TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)

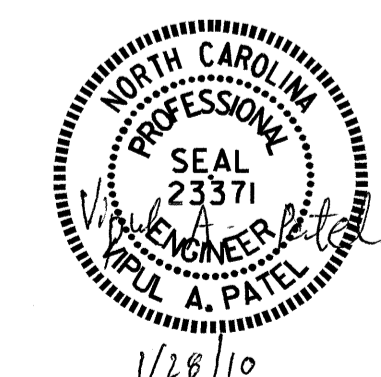


NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT 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-3404
ANSON COUNTY
 STATION: 21+25.00 -L-

SHEET 2 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 BRIDGE APPROACH
 SLAB DETAILS

ASSEMBLED BY : G. M. GILLAND	DATE : 02/09
CHECKED BY : J. P. ADAMS	DATE : 02/09
DRAWN BY : FCJ 11/88	REV. 10/17/00 RWW/LES
CHECKED BY : ARB 11/88	REV. 5/7/03 RWW/JTE
	REV. 5/1/06R MAA/KMM

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

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	-----	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	-----	SEE PLANS
IMPACT ALLOWANCE	-----	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF		
STRUCTURAL STEEL - AASHTO M270 GRADE 36	-	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	-	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	-	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION		
GRADE 60	--	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	-----	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	-----	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR		
UNTREATED - EXTREME FIBER STRESS	-----	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	-----	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	-----	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2006 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE. ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS UP TO THE SLAB. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16" INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH

JANUARY, 1990

STD. NO. SN