

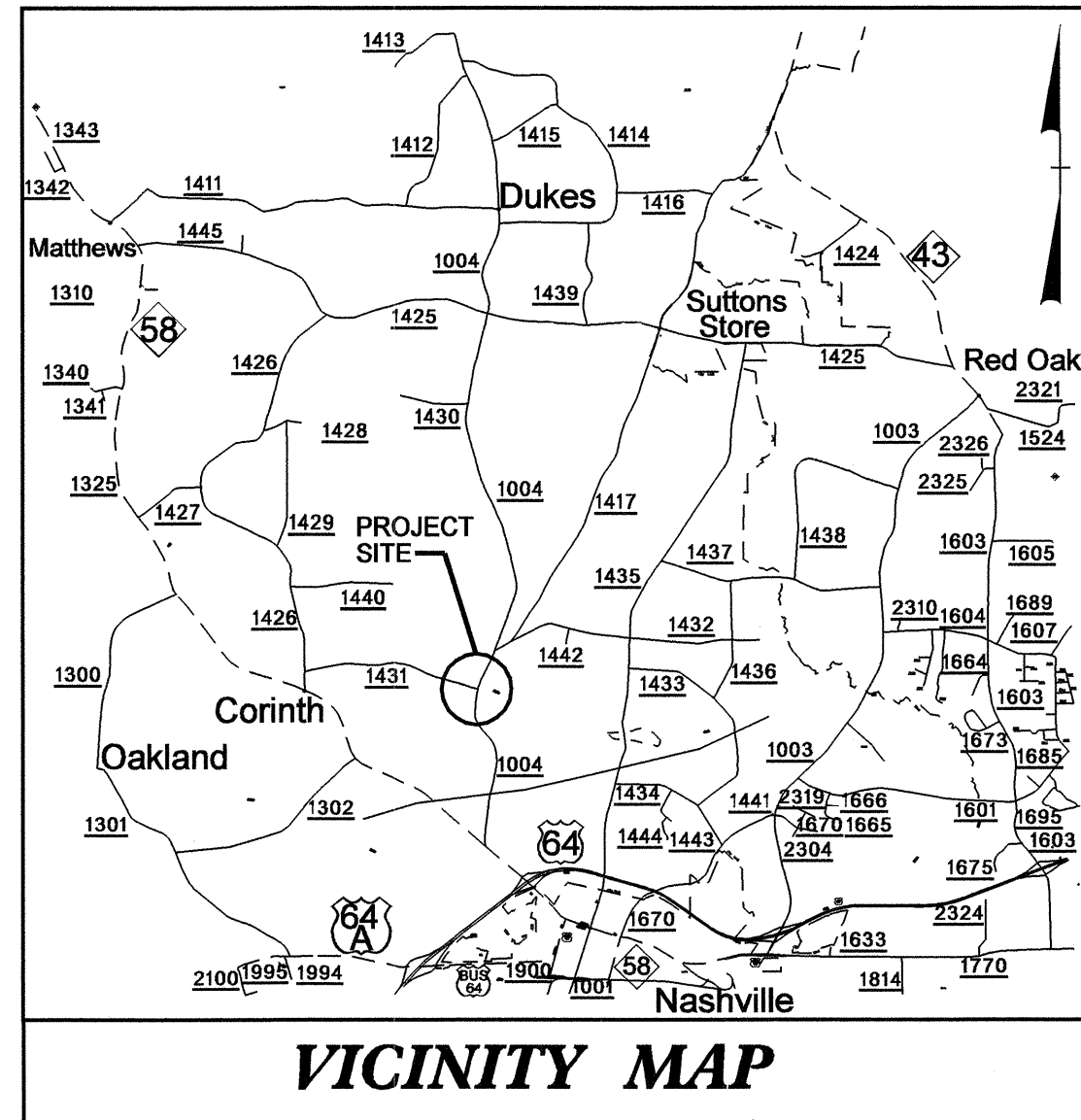
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3876		
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33320.1.1	BRZ-1004(9)	PE	
33320.2.2	BRZ-1004(19)	R/W & UTL.	
33320.3.1	BRZ-1004(20)	CONST.	

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

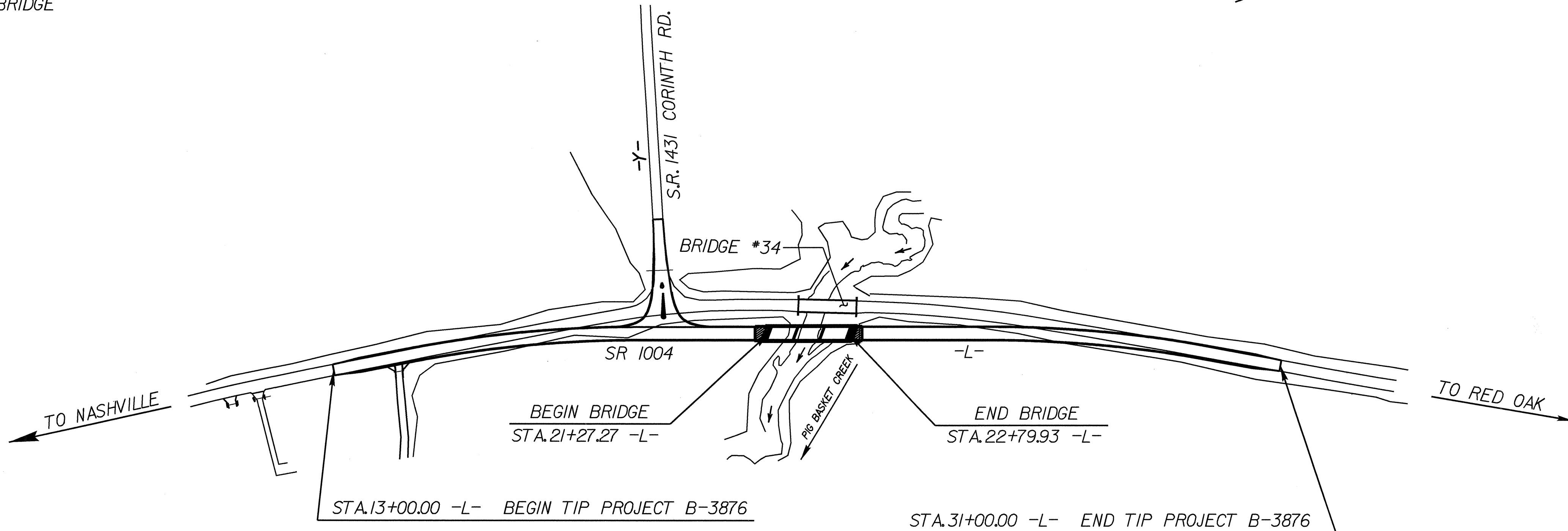
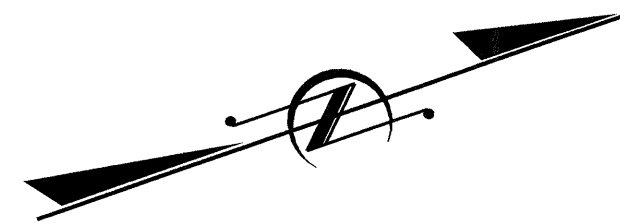
**NASH COUNTY**

LOCATION: BRIDGE NO. 34 ON SR 1004 OVER PIG BASKET CREEK

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

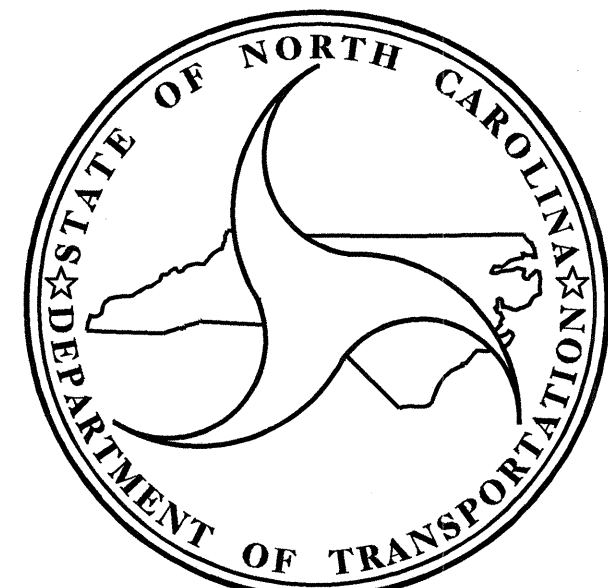


VICINITY MAP  
NEAREST SHIPPING POINT: NASHVILLE ON CSX RAILROAD 2.4 MILES FROM BRIDGE



CONTRACT: C201491 TIP PROJECT: B-3876

**STRUCTURE**



DESIGN DATA	
ADT 2006 =	3,800
ADT 2025 =	6,300
DHV =	10 %
D =	60 %
*T =	3 %
V =	60 MPH
*TTST 1 %	DUAL 2 %
FUNCTIONAL CLASSIFICATION RURAL MINOR COLLECTOR	

PROJECT LENGTH	
LENGTH ROADWAY TIP PROJECT B-3876 =	0.312 Miles
LENGTH STRUCTURE TIP PROJECT B-3876 =	0.029 Miles
TOTAL LENGTH OF TIP PROJECT B-3876 =	0.341 Miles

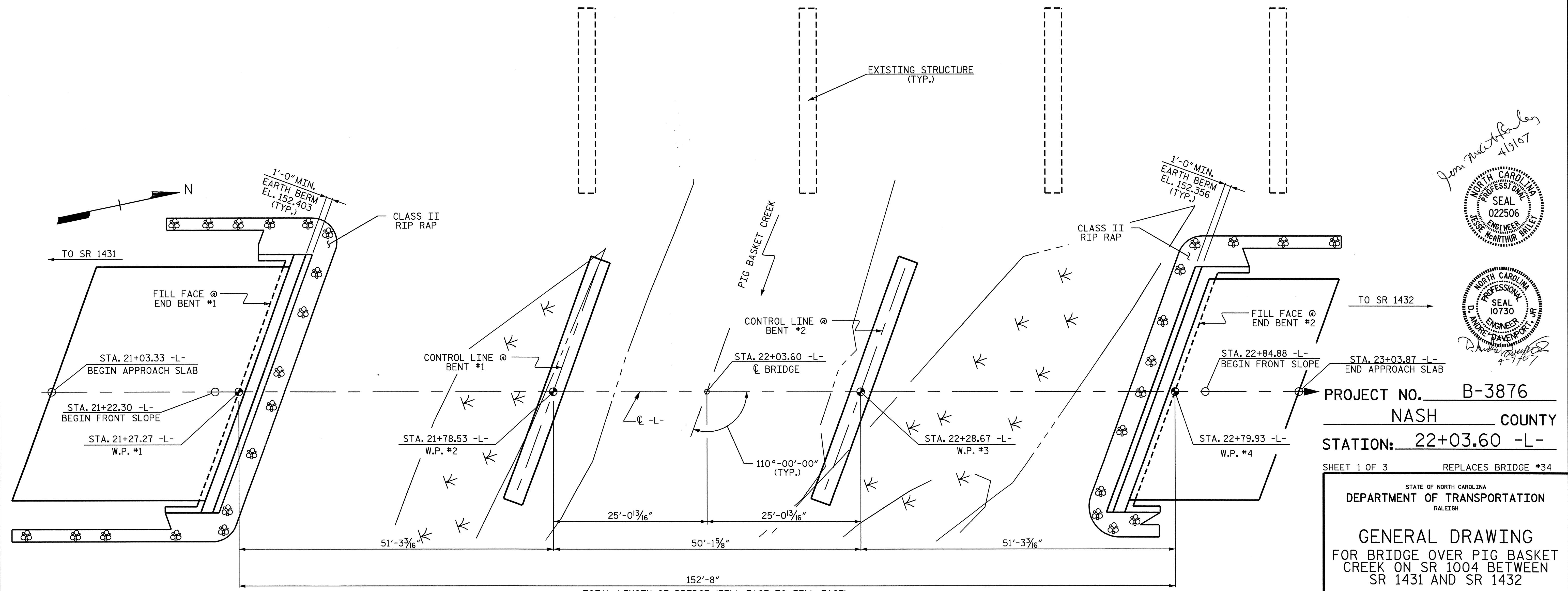
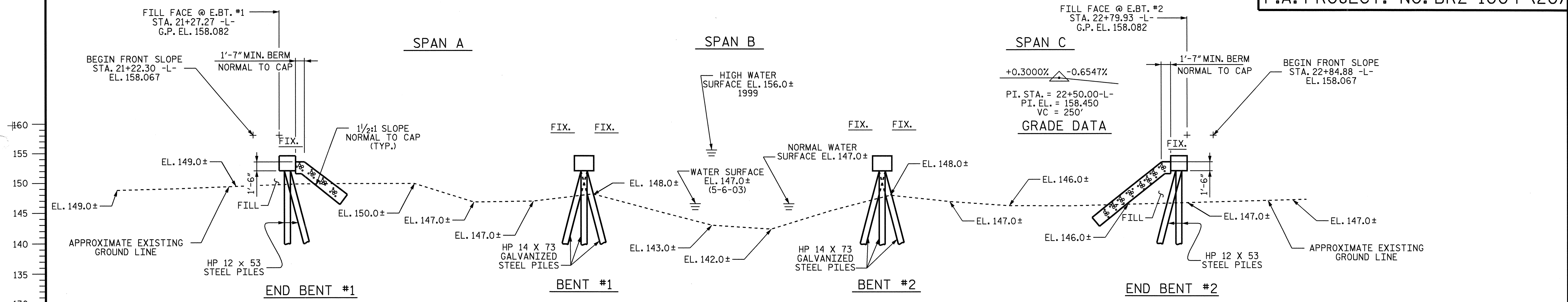
Prepared in the Office of: <b>DIVISION OF HIGHWAYS</b> 1000 Birch Ridge Dr., Raleigh, NC 27610	
2006 STANDARD SPECIFICATIONS	
LETTING DATE: MAY 15, 2007	J. M. BAILEY, P.E. PROJECT ENGINEER
	D. A. DAVENPORT, JR., P.E. PROJECT DESIGN ENGINEER

STRUCTURE DESIGN UNIT  
1000 Birch Ridge Dr.,  
Raleigh, NC 27610

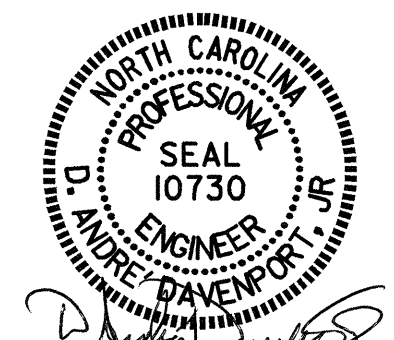
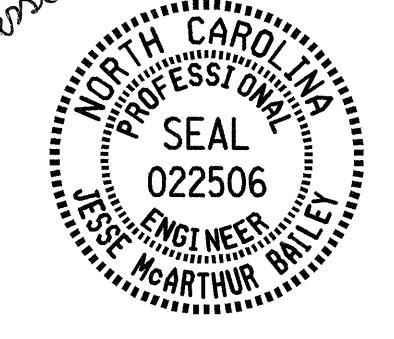
*Gregory R. Perrelli*  
4.10.07

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA	
STATE DESIGN ENGINEER P.E.	
DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	
APPROVED DIVISION ADMINISTRATOR	DATE

9/09/99 07-FEB-2007 15:06 \$\$\$\$\$\$DGN\$\$\$\$\$\$\$\$\$



*John McArthur*  
4/19/07



PROJECT NO. B-3876  
 NASH COUNTY  
 STATION: 22+03.60 -L-

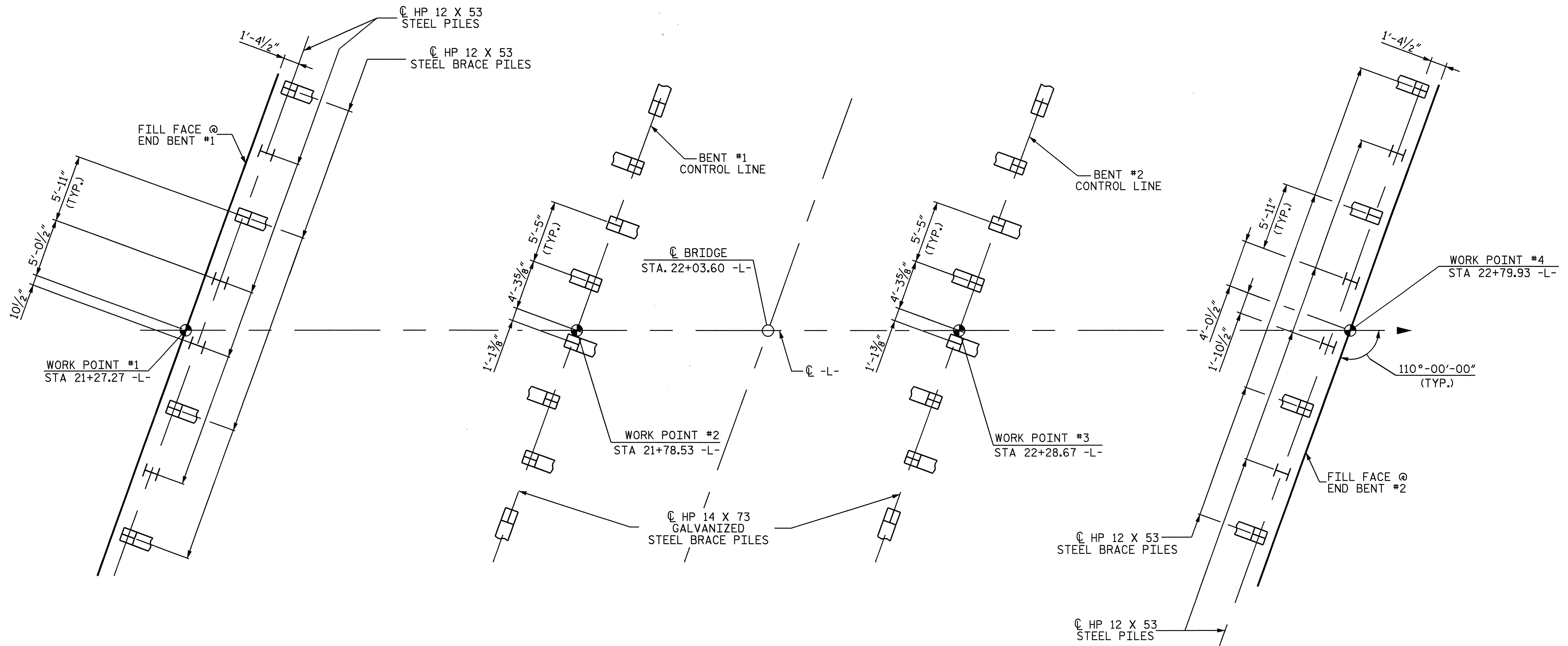
SHEET 1 OF 3 REPLACES BRIDGE #34

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**GENERAL DRAWING**  
 FOR BRIDGE OVER PIG BASKET  
 CREEK ON SR 1004 BETWEEN  
 SR 1431 AND SR 1432

DRAWN BY: T. BARBOUR DATE: 5/05  
 CHECKED BY: S.P.LAM DATE: 5/05

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



END BENT #1

BENT #1

BENT #2

END BENT #2

FOUNDATION LAYOUT

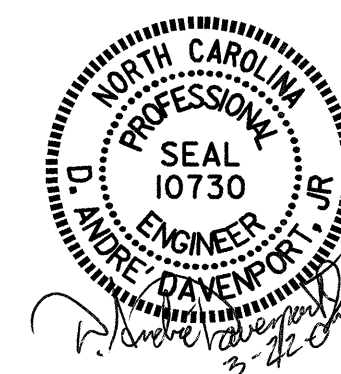
DIMENSIONS LOCATING PILES ARE SHOWN TO THE PILE CENTERLINE  
 BRACE PILES IN END BENTS ARE BATTERED 3:12  
 BRACE PILES IN BENTS ARE BATTERED 1/2:12

PROJECT NO. B-3876  
NASH COUNTY  
 STATION: 22+03.60 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

GENERAL DRAWING  
 FOR BRIDGE OVER PIG BASKET  
 CREEK ON SR 1004 BETWEEN  
 SR 1431 AND SR 1432



DRAWN BY : A. A. COLE/T. BARBOUR DATE : 5/05  
 CHECKED BY : T. BARBOUR/S.P. LAM DATE : 5/05

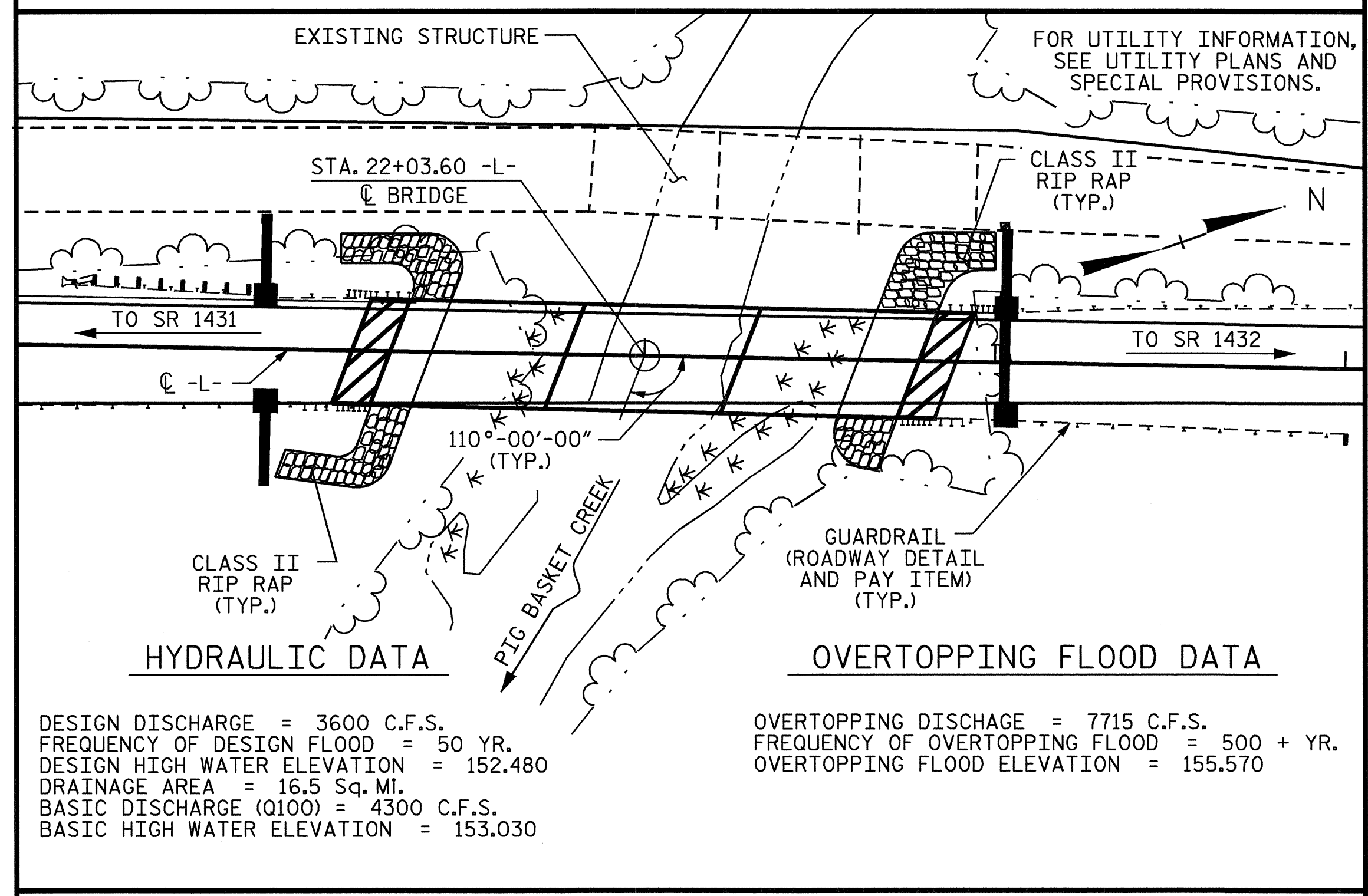
22-MAR-2007 08:15  
 R:\STRUCT\Tbarbour\MICROS\B3876\W02.DGN  
 adavenport

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

NC006

BENCHMARK: #206 RAILROAD SPIKE IN BASE OF 20" Ø TWIN SWEET GUM TREE, STA. 23+38.80 -L-, 102.65' LEFT; EL. 150.890

---NOTES---



DESIGN DISCHARGE = 3600 C.F.S.  
FREQUENCY OF DESIGN FLOOD = 50 YR.  
DESIGN HIGH WATER ELEVATION = 152.480  
DRAINAGE AREA = 16.5 Sq. Mi.  
BASIC DISCHARGE (Q100) = 4300 C.F.S.  
BASIC HIGH WATER ELEVATION = 153.030

OVERTOPPING DISCHARGE = 7715 C.F.S.  
FREQUENCY OF OVERTOPPING FLOOD = 500 + YR.  
OVERTOPPING FLOOD ELEVATION = 155.570

LOCATION SKETCH

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	BRIDGE APPROACH SLABS	HP 12 X 53 STEEL PILES		HP 14 X 73 GALVANIZED STEEL PILES		STEEL PILE POINTS	RIP RAP CLASS II (2'-0" THICK)	CONSTRUCTION OF SUBSTRUCTURE	CONSTRUCTION OF SUPERSTRUCTURE
			NO.	LIN.FT.	NO.	LIN.FT.				
SUPERSTRUCTURE										
END BENT NO. 1			8	160				214		
BENT NO. 1					8	120	8			
BENT NO. 2					8	160	8			
END BENT NO. 2			8	120				272		
TOTAL	LUMP SUM	LUMP SUM	16	280	16	280	16	486	LUMP SUM	LUMP SUM

ASSUMED LIVE LOAD = HS 20 OR ALTERNATE LOADING, EXCEPT THAT CORED SLAB UNITS HAVE BEEN DESIGNED FOR HS25.

THE ALLOWABLE BEARING CAPACITY FOR PILES AT END BENT NO.1 AND END BENT NO.2 IS 50 TONS PER PILE.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

THE ALLOWABLE BEARING CAPACITY FOR PILES AT BENT NO.1 AND BENT NO.2 IS 60 TONS PER PILE.

THIS BRIDGE HAS BEEN DESIGNED BY THE STRENGTH DESIGN METHOD AS SPECIFIED IN AASHTO STANDARD SPECIFICATIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO STANDARD SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES FOR SEISMIC PERFORMANCE CATEGORY A.

AFTER SERVING AS A TEMPORARY STRUCTURE, THE EXISTING STRUCTURE CONSISTING OF 3 SPANS, 1 @ 35'-3", 1 @ 40'-3" AND 1 @ 35'-3" OF REINFORCED CONCRETE DECK ON I BEAMS, WITH A 2 1/2" ASPHALT WEARING SURFACE ON REINFORCED CONCRETE CAPS AND TIMBER PILES WITH A CLEAR ROADWAY WIDTH OF 24.0 FEET AND LOCATED 50'± UPSTREAM FROM THE PROPOSED STRUCTURE, SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMITATION MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

THE 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.

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.

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 SCOUR CRITICAL ELEVATION FOR BENT #1 AND BENT #2 IS ELEVATION 142.000. BRIDGE MAINTENANCE FORCES USE THE SCOUR CRITICAL ELEVATION TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

DRIVE PILES AT END BENT #1 & END BENT #2 TO A REQUIRED BEARING CAPACITY OF 100 TONS PER PILE. THE REQUIRED BEARING CAPACITY IS EQUAL TO THE ALLOWABLE BEARING CAPACITY WITH A MINIMUM FACTOR OF SAFETY OF TWO.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

DRIVE PILES AT BENT #1 & BENT #2 TO A REQUIRED BEARING CAPACITY OF 125 TONS PER PILE. THE REQUIRED BEARING CAPACITY IS EQUAL TO THE ALLOWABLE BEARING CAPACITY WITH A MINIMUM FACTOR OF SAFETY OF TWO PLUS ANY ADDITIONAL CAPACITY TO ACCOUNT FOR DOWN DRAG OR NEGATIVE SKIN AND SCOUR.

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 22+03.60 -L-."

STEEL PILE POINTS ARE REQUIRED FOR STEEL PILES AT BENT #1 & BENT #2. SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

THIS BRIDGE SHALL BE CONSTRUCTED USING TOP-DOWN CONSTRUCTION METHODS. THE USE OF A TEMPORARY CAUSEWAY OR WORK BRIDGE IS NOT PERMITTED.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR CONSTRUCTION OF SUPERSTRUCTURE, SEE SPECIAL PROVISIONS.

FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.

FOR CONSTRUCTION OF SUBSTRUCTURE, SEE SPECIAL PROVISIONS.

FOR CONCRETE WEARING SURFACE, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

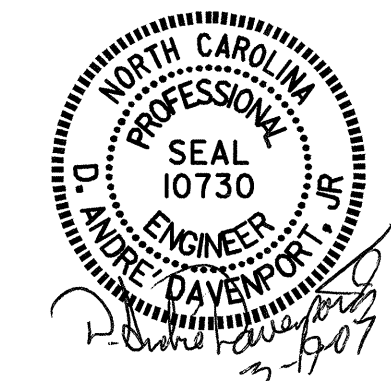
PROVIDE GALVANIZED STEEL PILES AT BENT #1 AND #2 IN ACCORDANCE WITH SECTION 450 AND 1076 OF THE STANDARD SPECIFICATIONS.

DRIVE PILES AT BENT NO.1 AND BENT NO.2 TO A TIP ELEVATION NO HIGHER THAN EL. 138.000.

PROJECT NO. B-3876  
NASH COUNTY  
STATION: 22+03.60 -L-

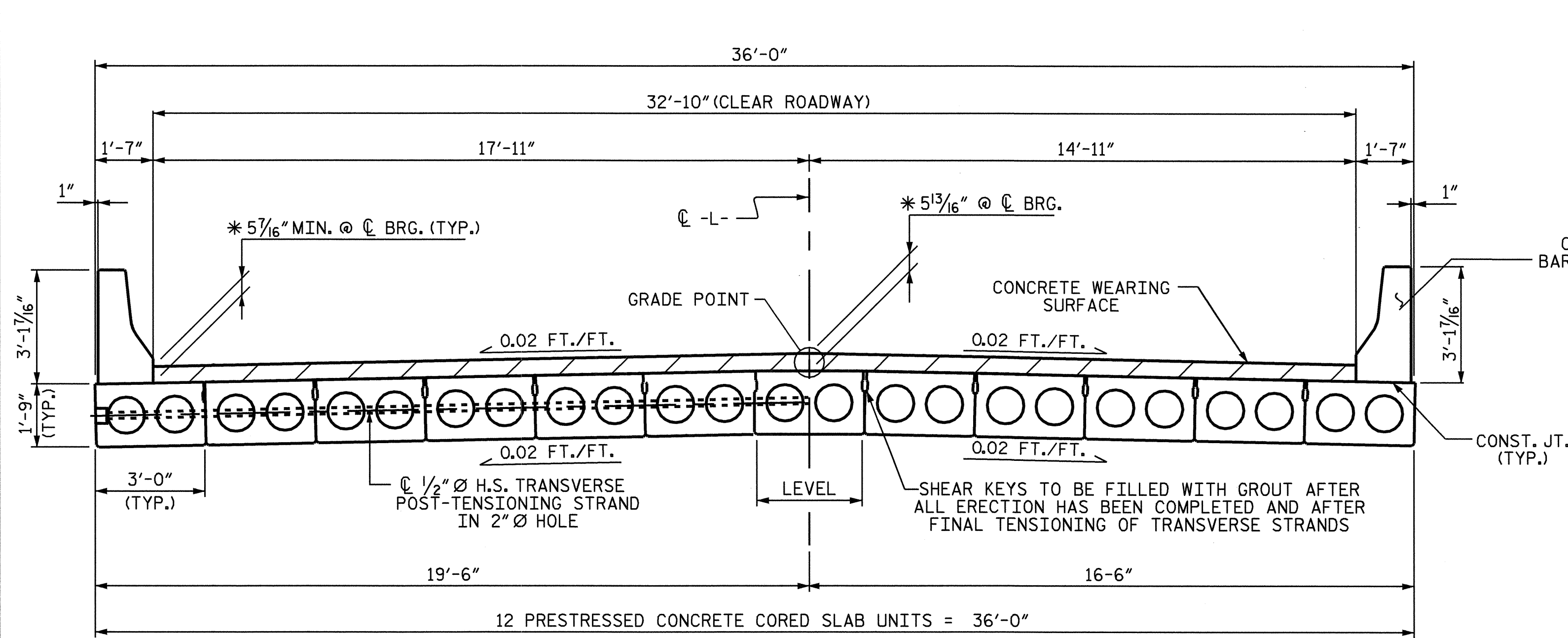
SHEET 3 OF 3

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
GENERAL DRAWING  
FOR BRIDGE OVER  
PIG BASKET CREEK  
ON SR 1004 BETWEEN  
SR 1431 AND SR 1432

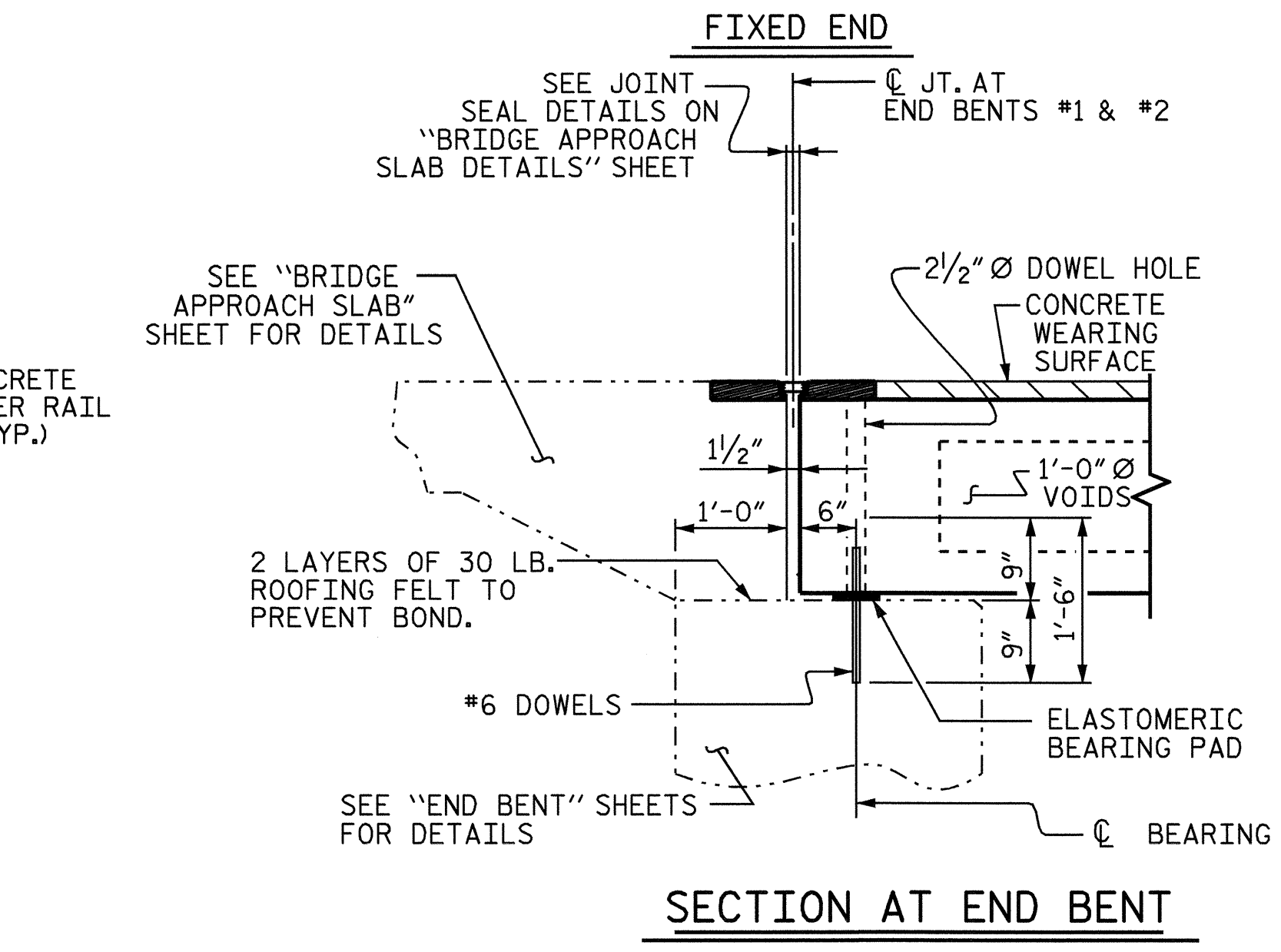


REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	DATE:	S-3
1			3		TOTAL SHEETS
2			4		22

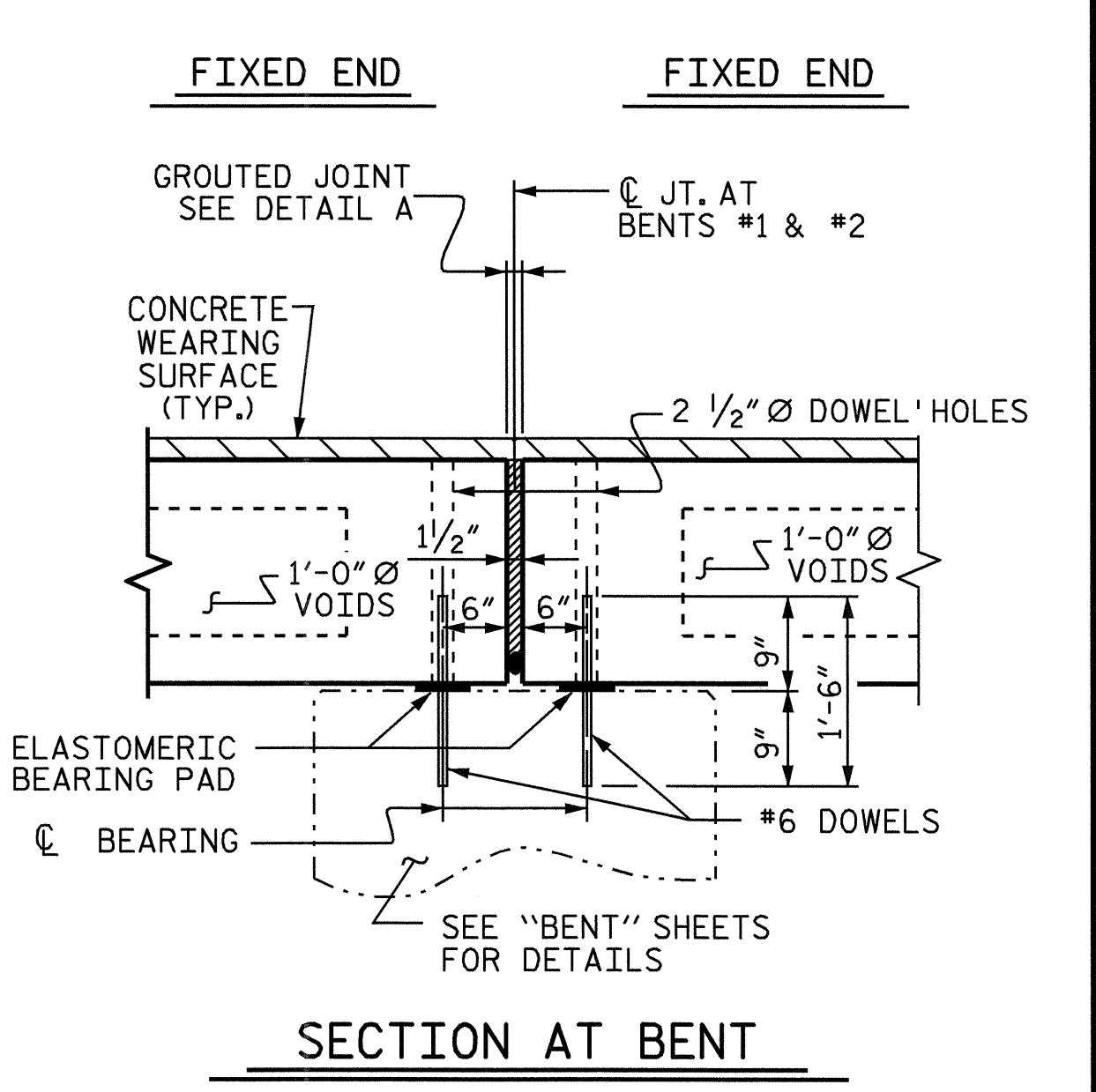
DRAWN BY : T. BARBOUR DATE : 5/05  
CHECKED BY : S.P. LAM DATE : 5/05



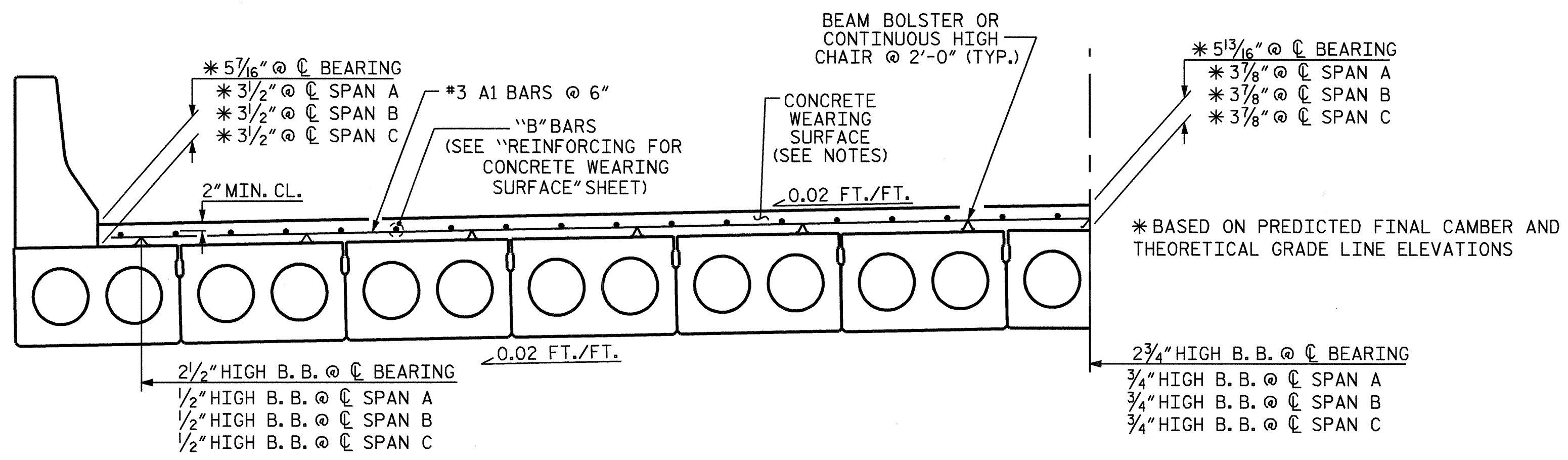
**TYPICAL SECTION**



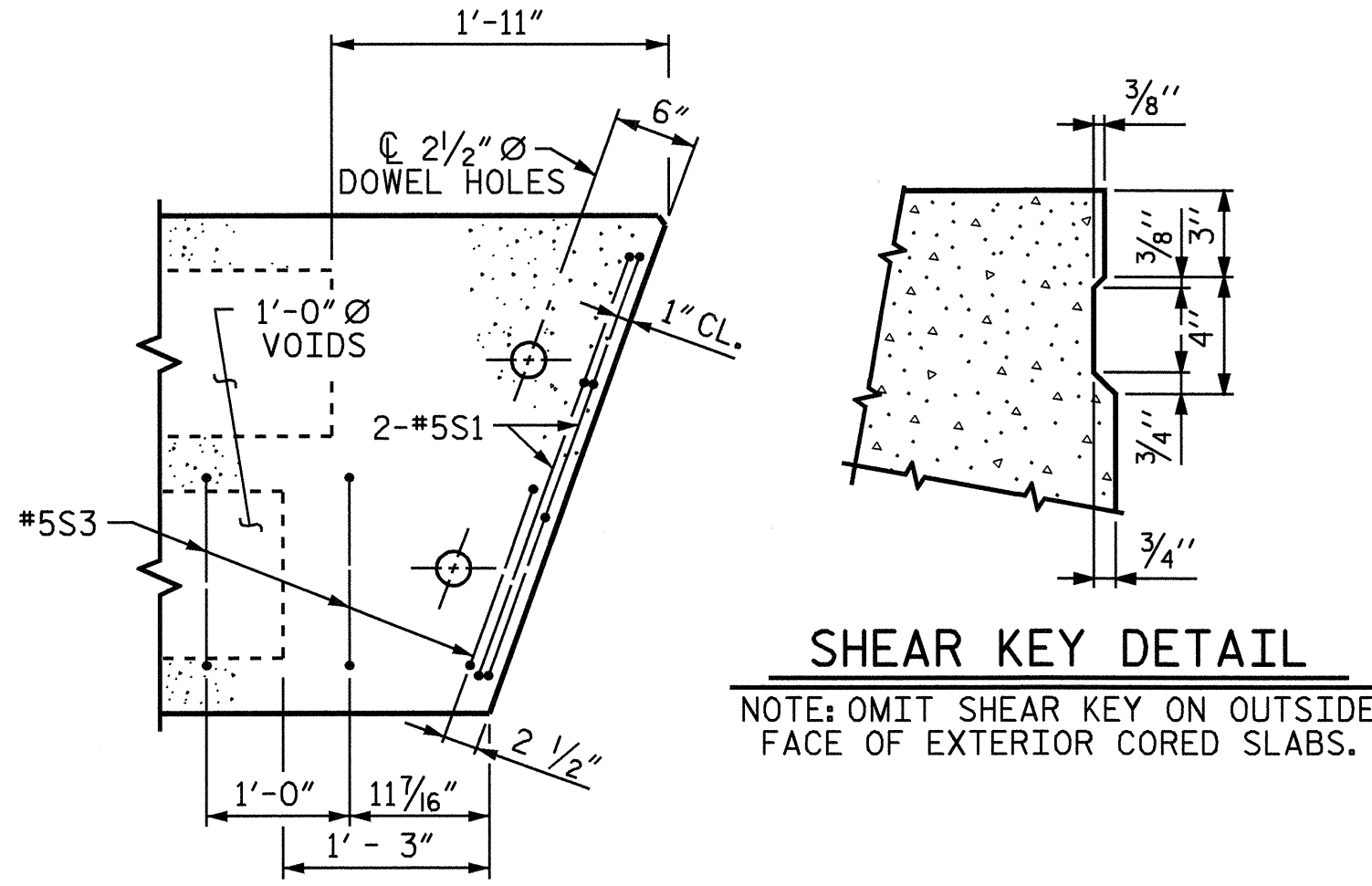
**SECTION AT END BENT**



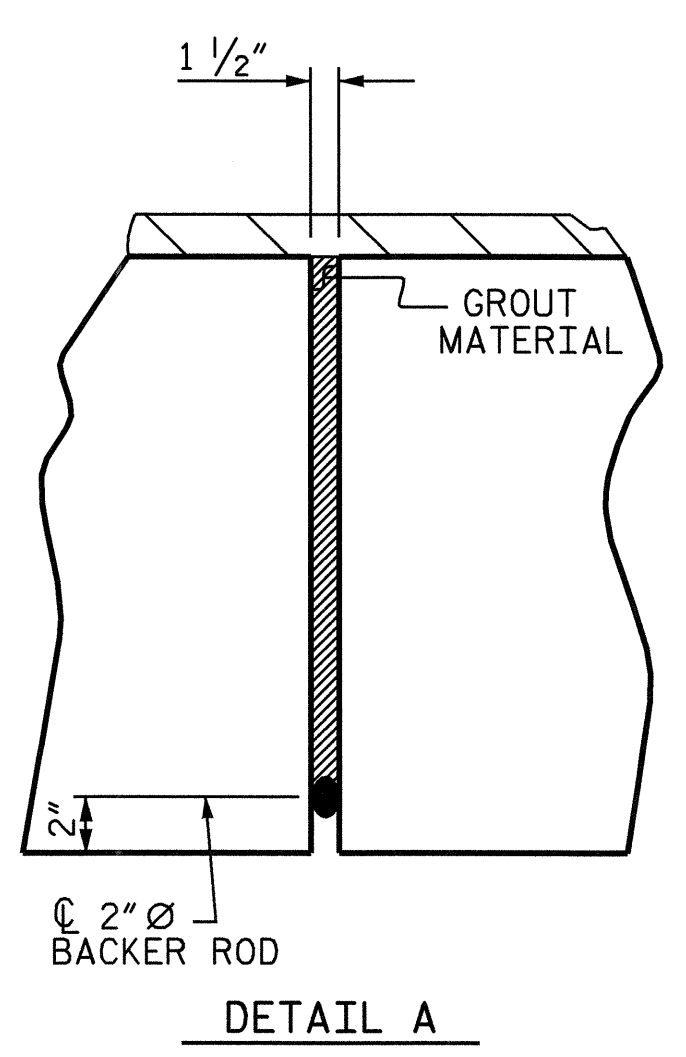
**SECTION AT BENT**



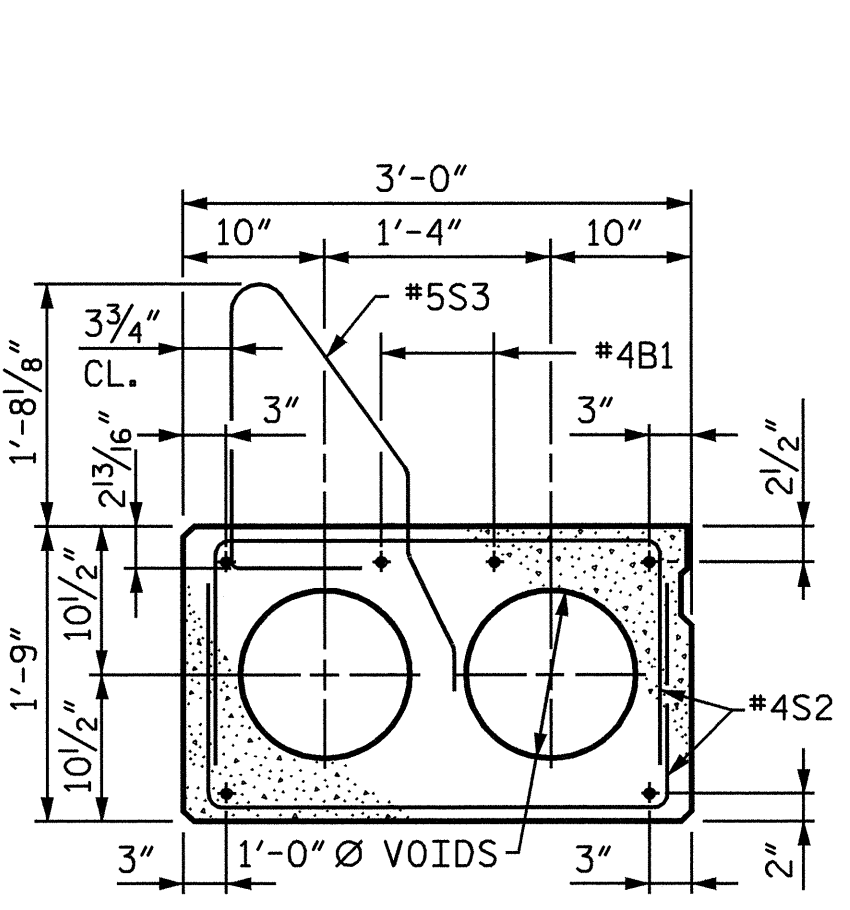
**REINFORCING FOR CONCRETE WEARING SURFACE**  
(SEE "REINFORCING FOR CONCRETE WEARING SURFACE" SHEET)  
**(HALF TYPICAL SECTION)**



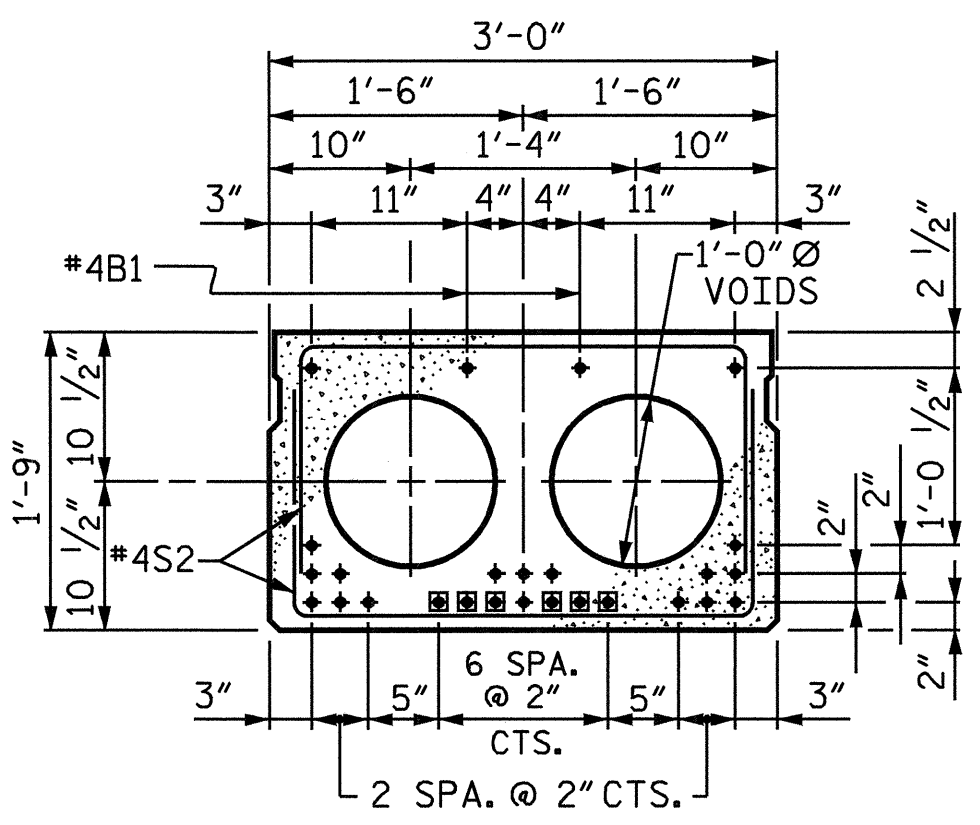
**PART PLAN-EXTERIOR SECTION**  
NOTE: EXTERIOR SECTION SHOWN-INTERIOR SECTION SIMILAR EXCEPT OMIT S3 BARS.



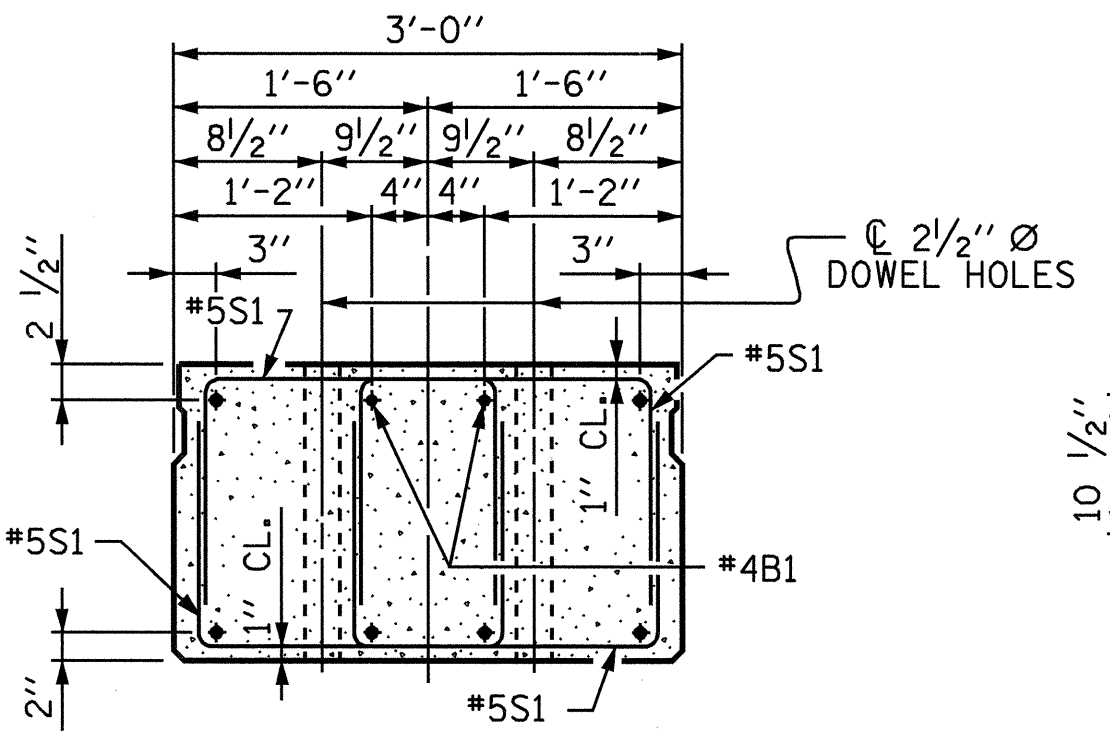
**DETAIL A**



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

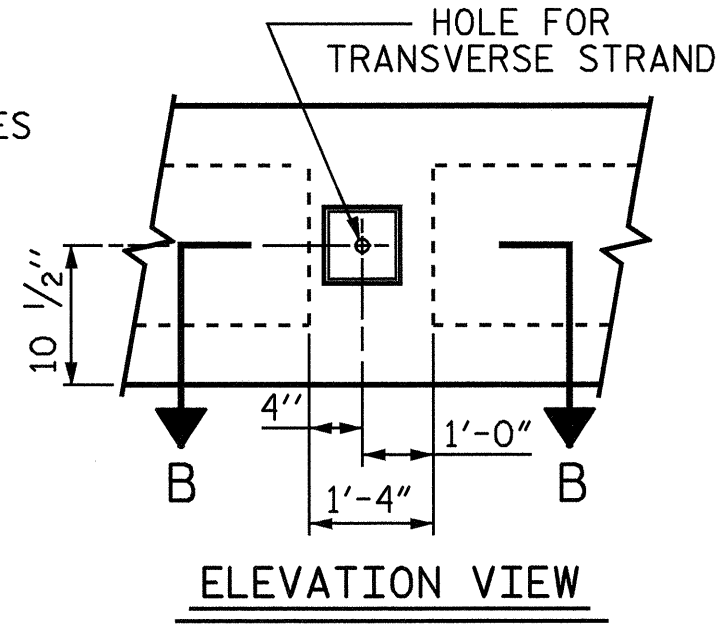


**INTERIOR SLAB SECTION**  
**1/2" Ø LOW RELAXATION STRAND LAYOUT**

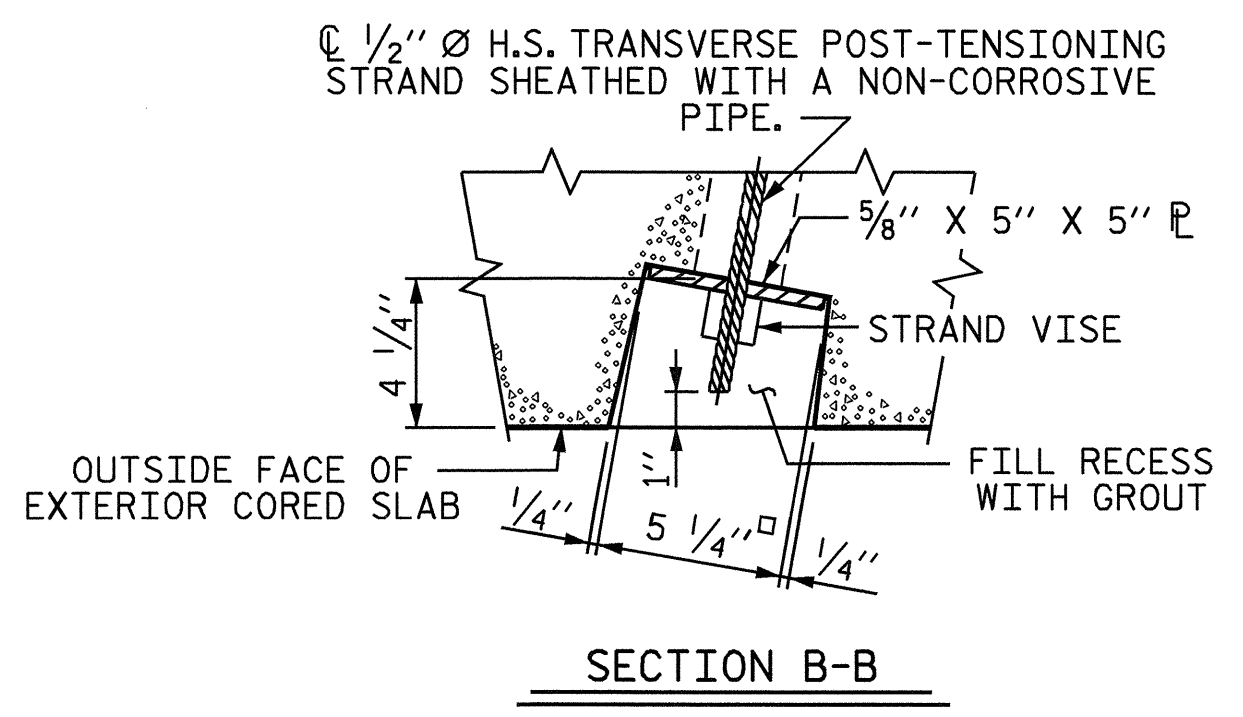


**END ELEVATION**

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.



**ELEVATION VIEW**



**GRouted RECESS AT END OF POST-TENSIONED STRAND OF CORED SLABS**

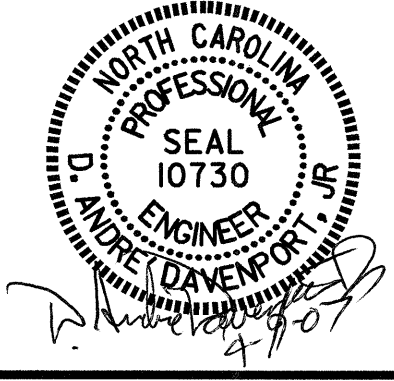
■ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 4'-9" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7

PROJECT NO. B-3876  
NASH COUNTY  
STATION: 22+03.60 -L-

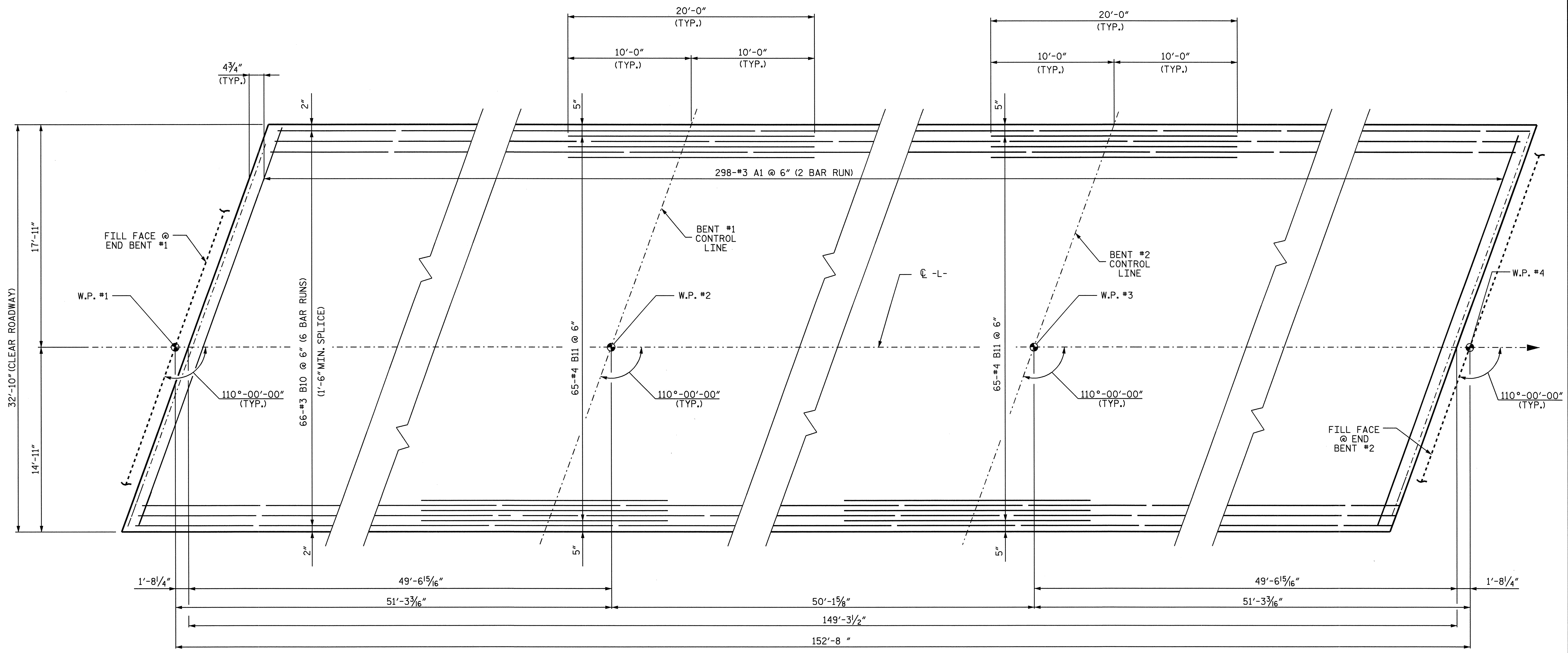
SHEET 1 OF 6

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

ASSEMBLED BY : D.G.E./H. T. BARBOUR	DATE : 4-29-05
CHECKED BY : S.P. LAM	DATE : 5-05
DRAWN BY : WJH 4/89	REV. 8/16/99 RWW/LES
CHECKED BY : FCJ 5/89	REV. 10/17/00 RWW/LES
	REV. 7/10/01 RWW/LES



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



PLAN OF REINFORCING FOR CONCRETE WEARING SURFACE

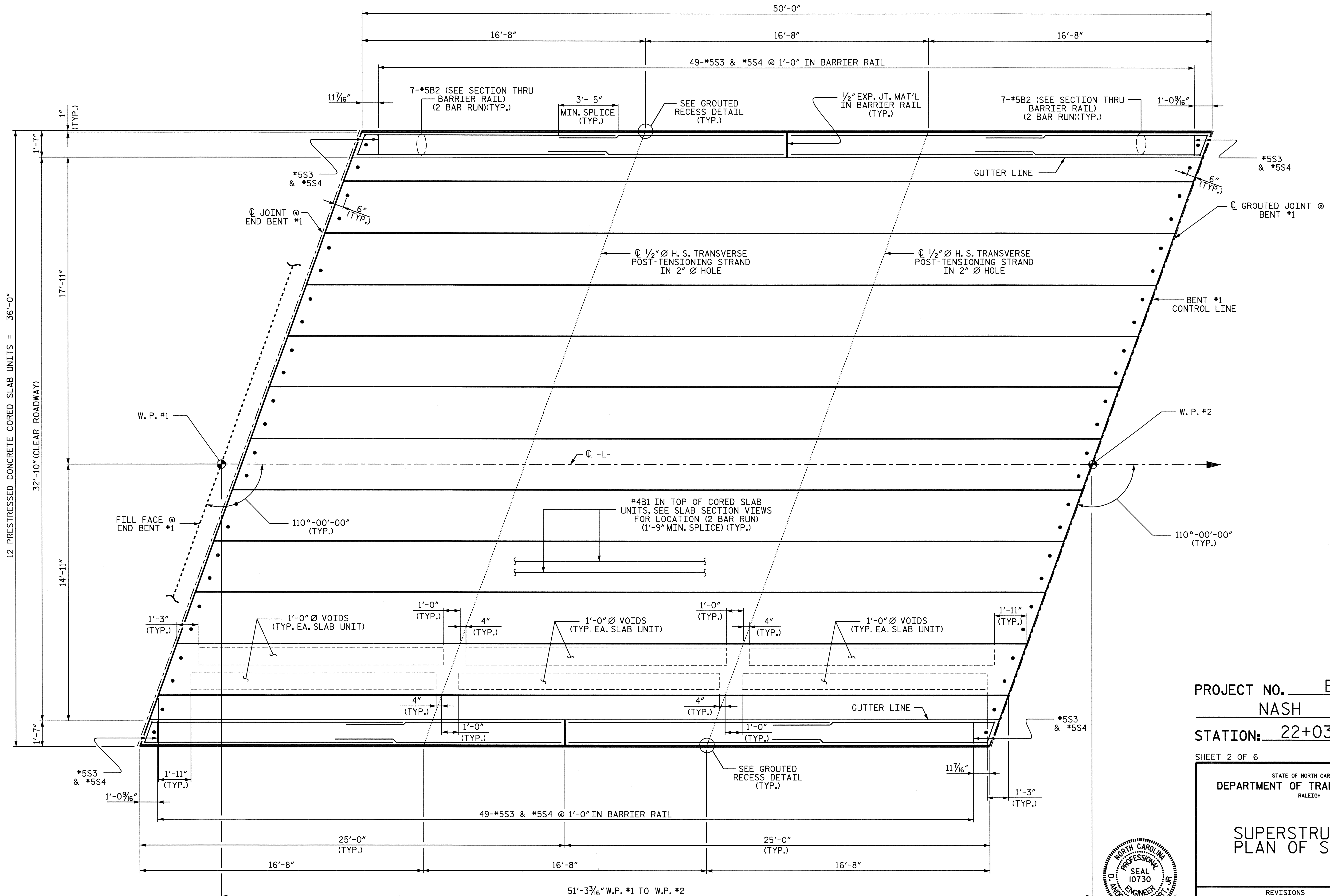
PROJECT NO. B-3876  
NASH COUNTY  
 STATION: 22+03.60-L-

DRAWN BY: D.A. DAVENPORT DATE: 2/06  
 CHECKED BY: B.L. GREEN DATE: 3/06

02-APR-2007 16:14  
 R:\Structures\tbarbour\Microrstation\B3876.sd.CS.dgn  
 tbarbour



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
REINFORCING FOR CONCRETE WEARING SURFACE					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					S-5
TOTAL SHEETS					22

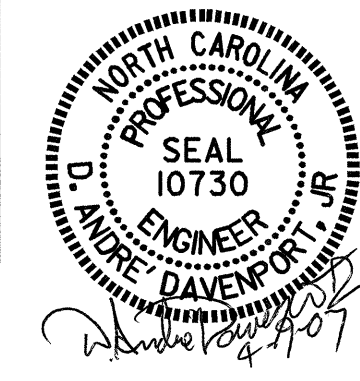


PLAN OF SPAN A

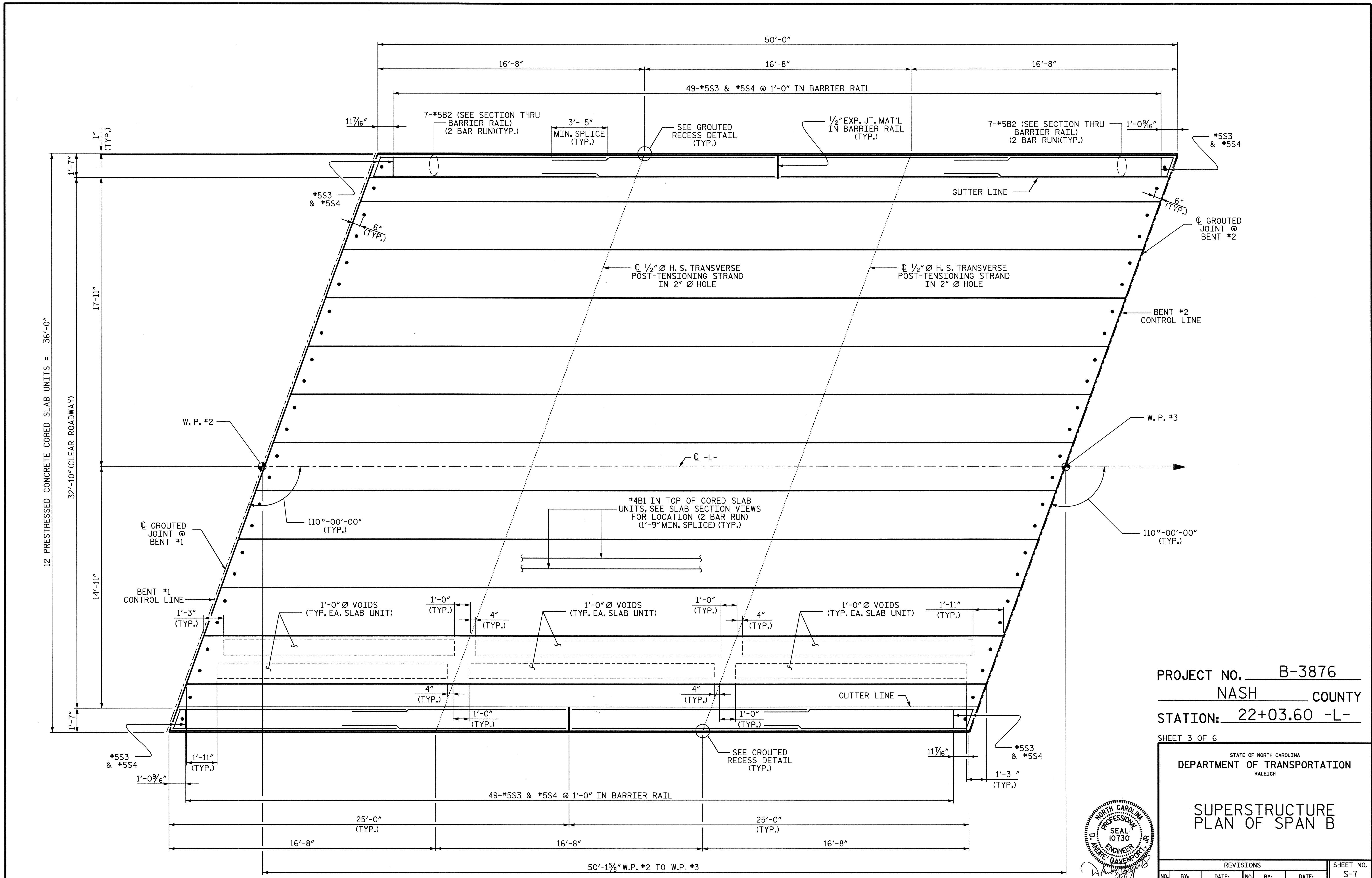
DRAWN BY : D. G. ELY DATE : 6-03  
 CHECKED BY : H.T. BARBOUR DATE : 6-03

PROJECT NO. B-3876  
 NASH COUNTY  
 STATION: 22+03.60 -L-  
 SHEET 2 OF 6

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SUPERSTRUCTURE  
 PLAN OF SPAN A



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS 22
2			4			



PLAN OF SPAN B

DRAWN BY : D. G. ELY DATE : 6-03  
 CHECKED BY : H. I. BARBOUR DATE : 6-03

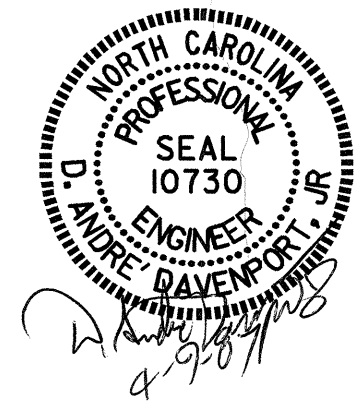
PROJECT NO. B-3876  
 NASH COUNTY  
 STATION: 22+03.60 -L-  
 SHEET 3 OF 6

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

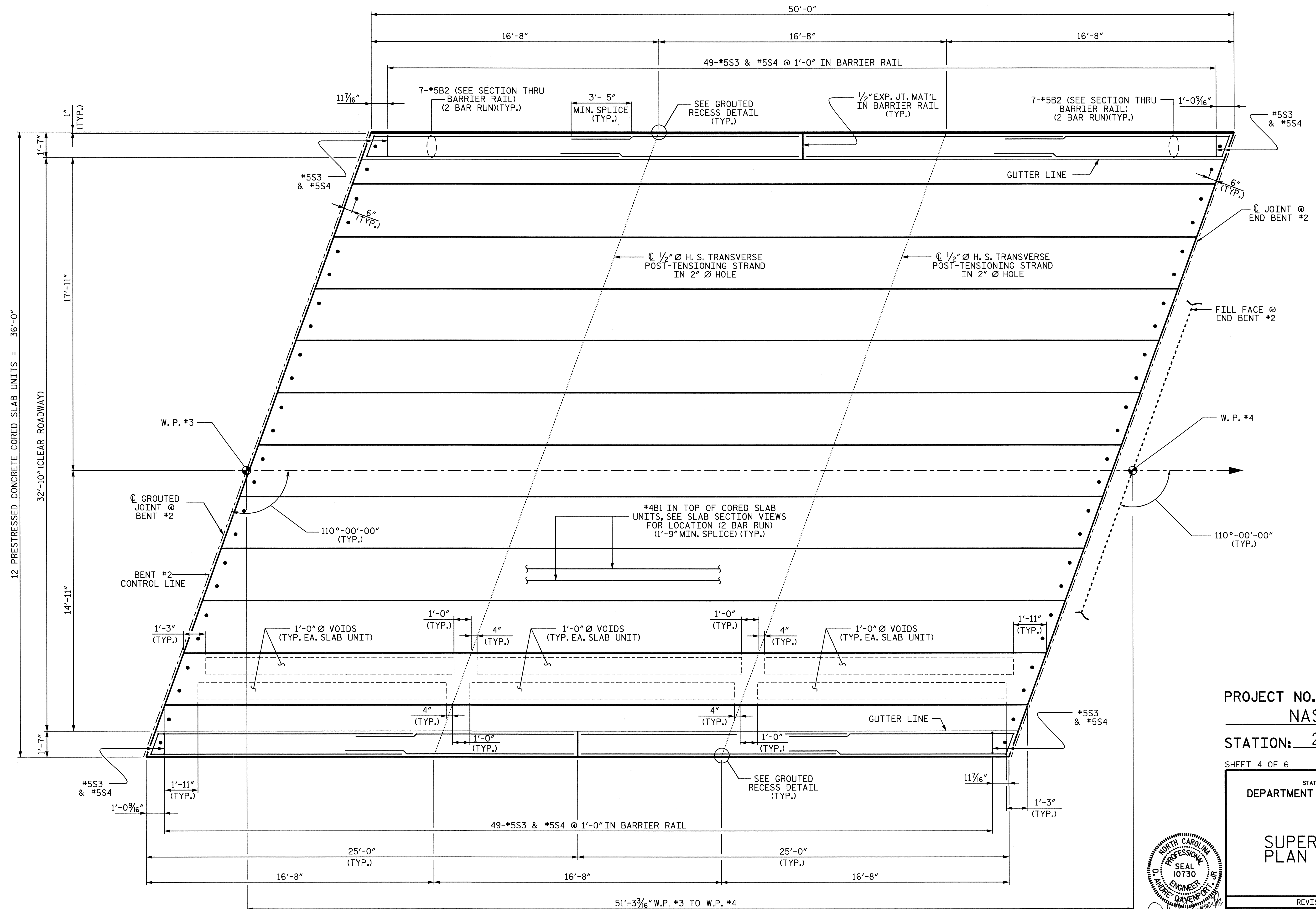
**SUPERSTRUCTURE  
 PLAN OF SPAN B**

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

SHEET NO. S-7  
 TOTAL SHEETS 22



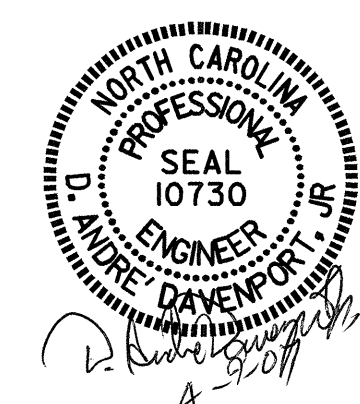




PROJECT NO. B-3876  
NASH COUNTY  
 STATION: 22+03.60 -L-  
 SHEET 4 OF 6

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

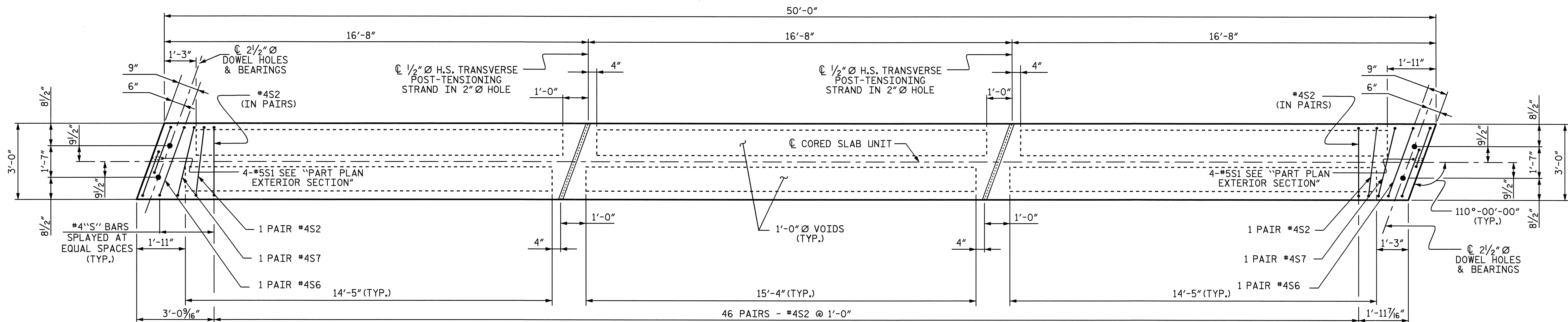
**SUPERSTRUCTURE  
 PLAN OF SPAN C**



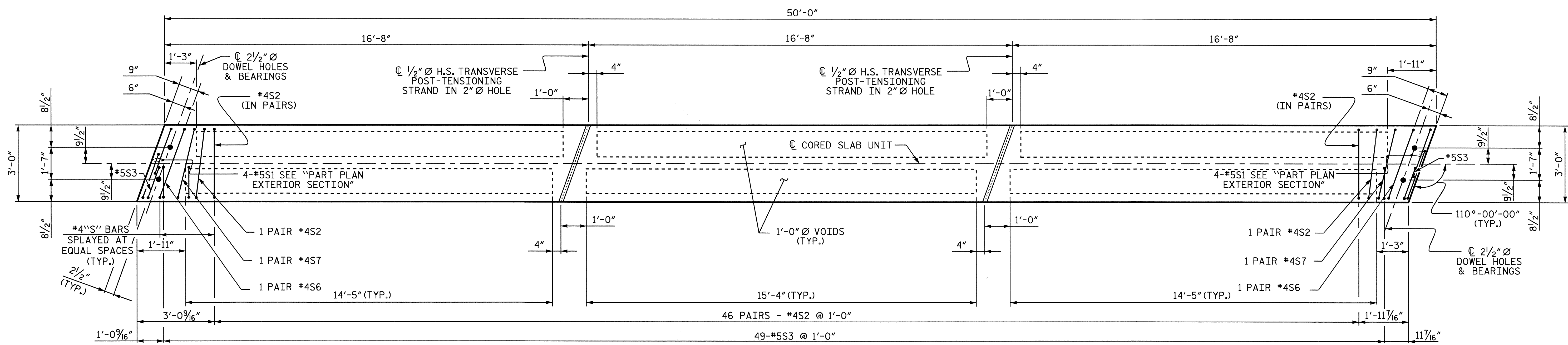
DRAWN BY : D. G. ELY DATE : 6-03  
 CHECKED BY : H.T. BARBOUR DATE : 1/10/04

**PLAN OF SPAN C**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS
2			4			22



PLAN OF INTERIOR SLAB - SPANS A, B & C



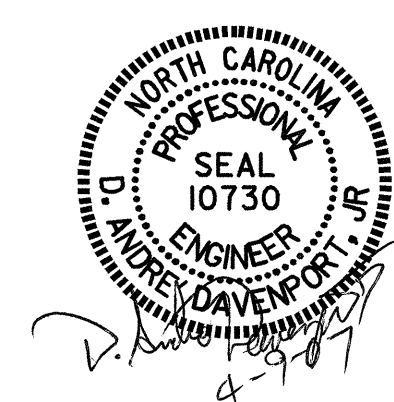
PLAN OF EXTERIOR SLAB - SPAN A, B & C

PROJECT NO. B-3876  
NASH COUNTY  
 STATION: 22+03.60 -L-

SHEET 5 OF 6

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

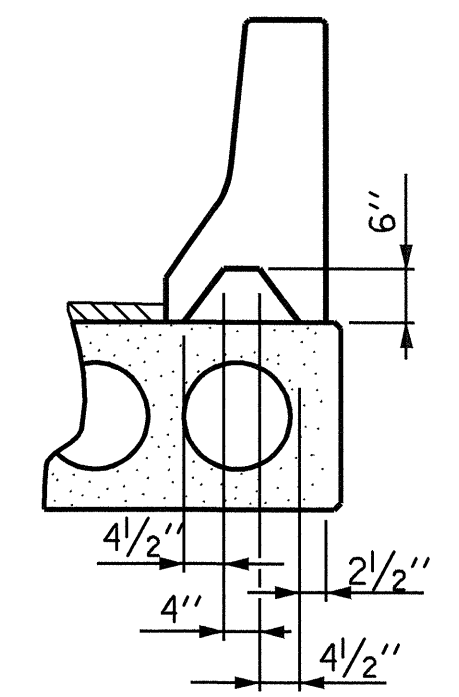
**SUPERSTRUCTURE  
 PLAN OF SPANS A, B &  
 C CORED SLAB DETAILS**



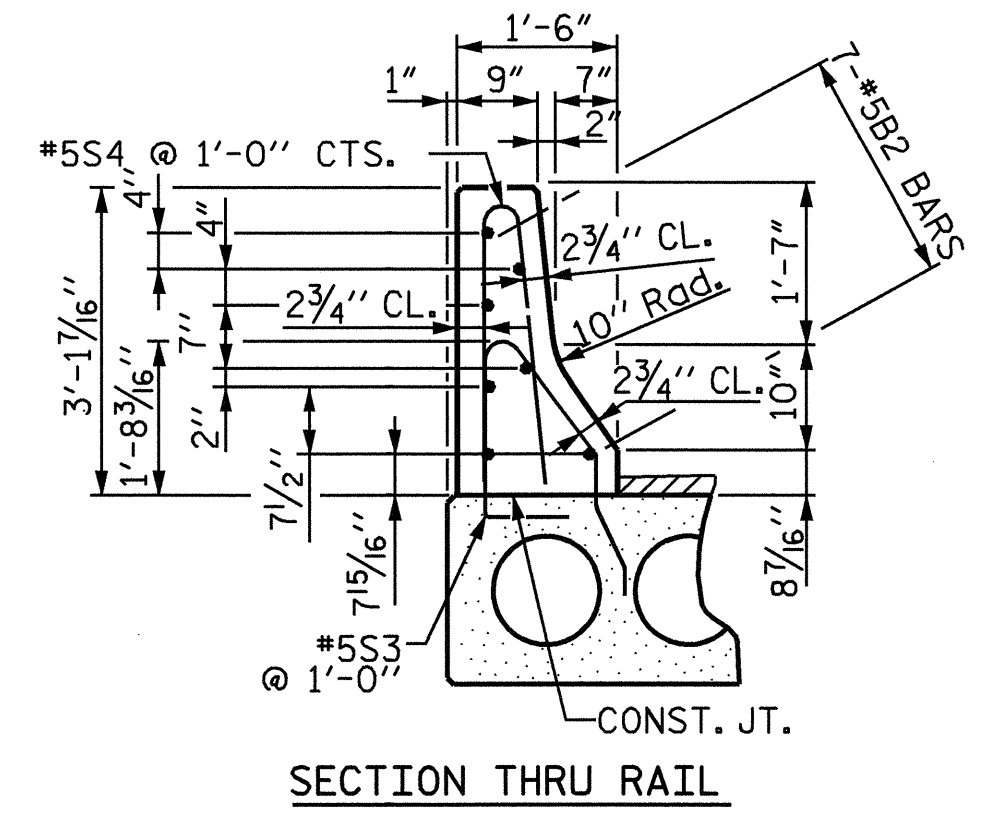
DRAWN BY : D. G. ELY DATE : 6-03  
 CHECKED BY : H.T. BARBOUR DATE : 1/10/04

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

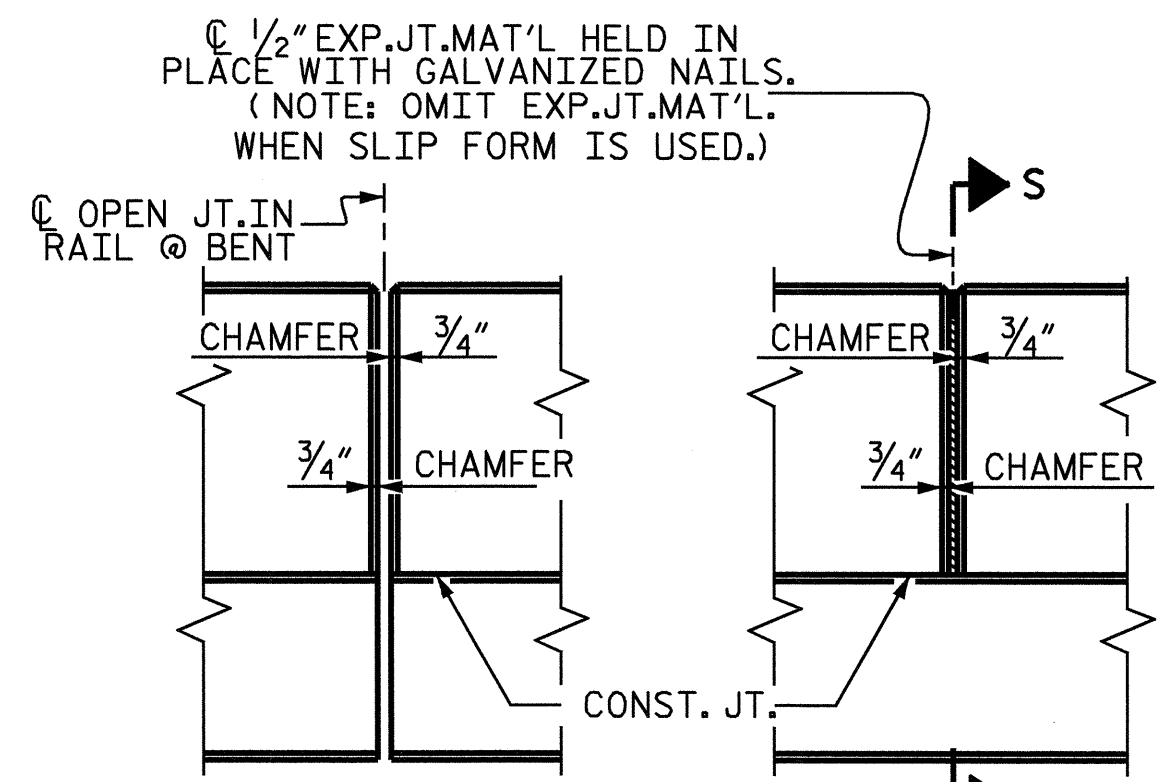
TOTAL SHEETS: 22



**SECTION S-S**  
AT DAM IN OPEN JOINT  
(THIS IS TO BE USED ONLY  
WHEN SLIP FORM IS USED)

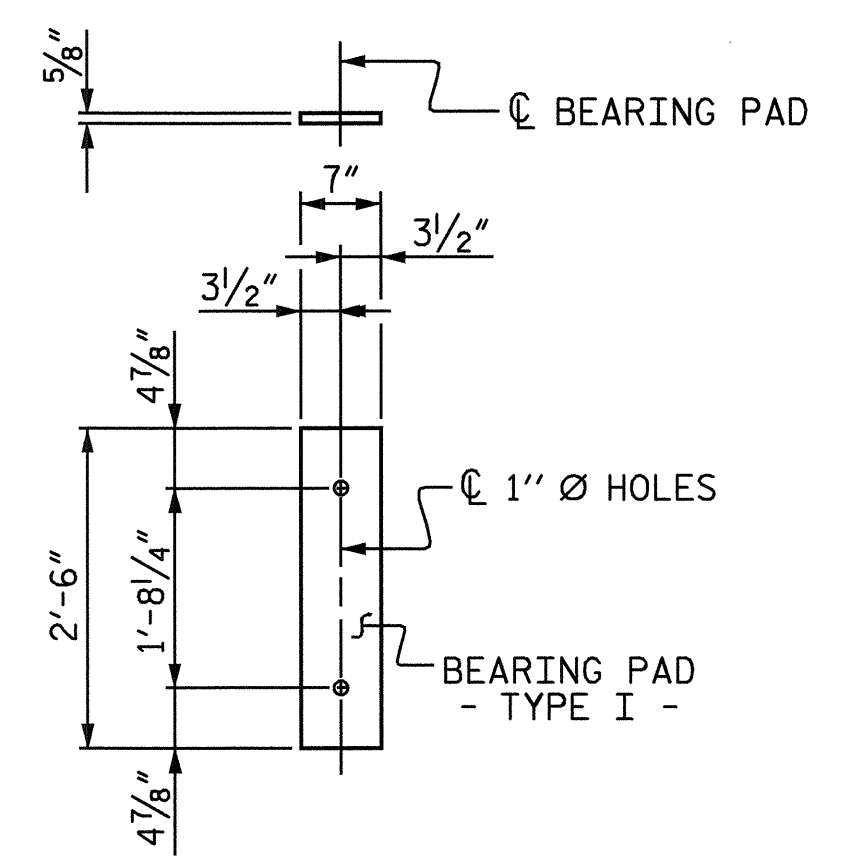


**SECTION THRU RAIL**



**ELEVATION AT EXPANSION JOINTS**

**BARRIER RAIL DETAILS**

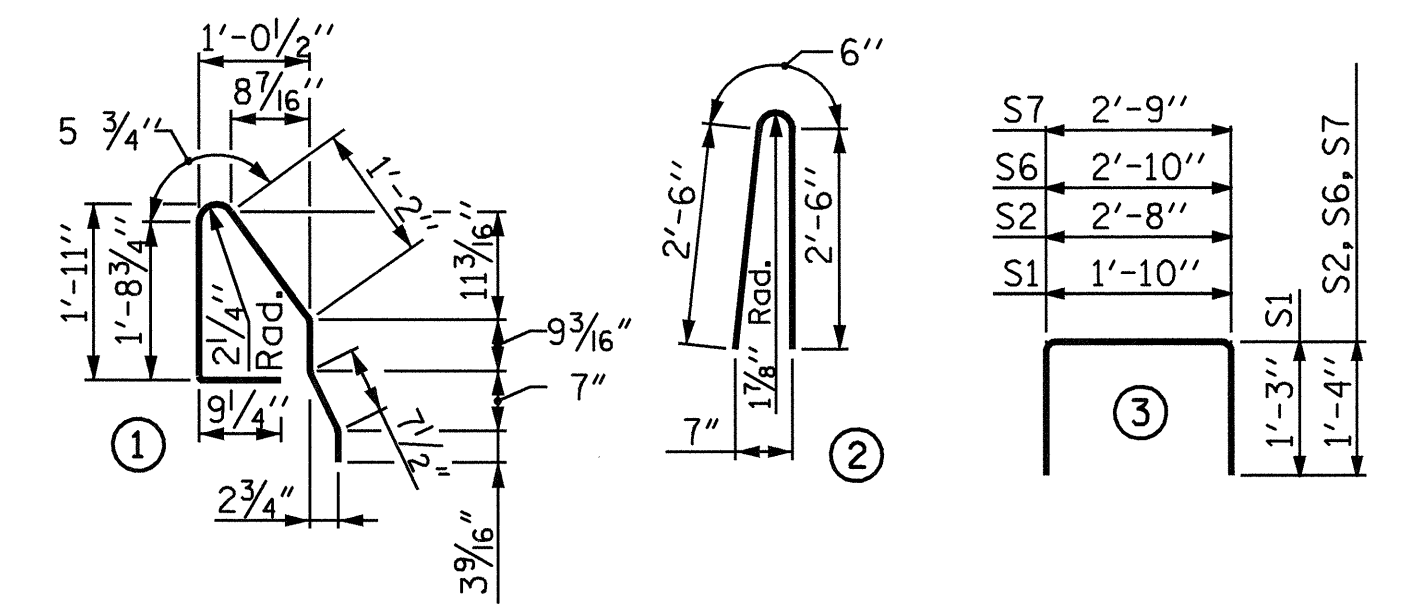


**FIXED END**  
(TYPE I - 72 REQ'D)

**ELASTOMERIC BEARING DETAILS**

60 DUROMETER HARDNESS

**BAR TYPES**



ALL BAR DIMENSIONS ARE OUT TO OUT

**BILL OF MATERIAL FOR ONE CORED SLAB SECTION**

BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B1	4	#4	STR	25'-9"	69	25'-9"	69
S1	8	#5	3	4'-4"	36	4'-4"	36
S2	96	#4	3	5'-4"	342	5'-4"	342
*S3	51	#5	1	5'-10"	310		
S6	4	#4	3	5'-6"	15	5'-6"	15
S7	4	#4	3	5'-5"	14	5'-5"	14
REINFORCING STEEL				LBS.	476		476
*EPOXY COATED REINFORCING STEEL				LBS.	310		
5,000 P.S.I. CONCRETE				CU. YDS.	7.2		7.2
1/2" Ø L.R. STRANDS				No.	24		24

**DEAD LOAD DEFLECTION AND CAMBER**

SPANS A, B & C	INTERIOR UNIT		EXTERIOR UNIT	
	3'-0" x 1'-9"	3'-0" x 1'-9"	3'-0" x 1'-9"	3'-0" x 1'-9"
	1/2" Ø L.R. STRAND		1/2" Ø L.R. STRAND	
CAMBER (SLAB ALONE IN PLACE)	2 3/8"		2 3/8"	
DEFLECTION DUE TO CONCRETE OVERLAY	1/4"		1/4"	
FINAL CAMBER	2 1/8"		2 1/8"	

**BILL OF MATERIAL FOR CONCRETE BARRIER RAIL**

BAR	BARS PER SPAN			TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	SPAN A	SPAN B	SPAN C					
*B2	56	56	56	168	#5	STR	14'-4"	2512
*S4	102	102	102	306	#5	2	5'-6"	1755
*EPOXY COATED REINFORCING STEEL				LBS.				4267
CLASS AA CONCRETE				CU. YDS.				38.2
TOTAL LIN. FT. OF CONCRETE BARRIER RAIL								300.54

**CONCRETE WEARING SURFACE**

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
*A1	596	#3	STR	17'-1"	3828
*B10	396	#3	STR	26'-2"	3896
*B11	130	#4	STR	20'-0"	1737
*EPOXY COATED REINFORCING STEEL				LBS.	9461
CONCRETE WEARING SURFACE				SQ. FT.	4902
CONCRETE WEARING SURFACE				APPROX. CU. YDS.	70.8

**GRADE 270 STRANDS**

	1/2" Ø L.R.
AREA (SQUARE INCHES)	0.153
ULTIMATE STRENGTH (LBS. PER STRAND)	41,300
APPLIED PRESTRESS (LBS. PER STRAND)	30,980

**GROOVING BRIDGE FLOORS**

BRIDGE	4443
APPROACH SLABS	1420
<b>TOTAL</b>	<b>5863</b>

**CORED SLABS REQUIRED**

SPANS A, B & C	NUMBER			LENGTH	TOTAL LENGTH
	EXTERIOR C.S.	INTERIOR C.S.	TOTAL		
EXTERIOR C.S.	6	30	36	50'-0"	300'-0"
INTERIOR C.S.				50'-0"	1500'-0"
<b>TOTAL</b>					<b>1800'-0"</b>

**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 LUMP SUM PRICE BID FOR CONSTRUCTION OF SUPERSTRUCTURE.

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.

WHEN CORED SLABS ARE CAST, A POSITIVE HOLD-DOWN SYSTEM SHALL BE EMPLOYED TO PREVENT VOIDS FROM RISING OR MOVING SIDEWAYS. THIS SYSTEM SHALL BE DESIGNED TO BE LEFT IN PLACE UNTIL THE CONCRETE HAS REACHED RELEASE STRENGTH. AT LEAST THREE 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 4000 PSI.

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.

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

ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.

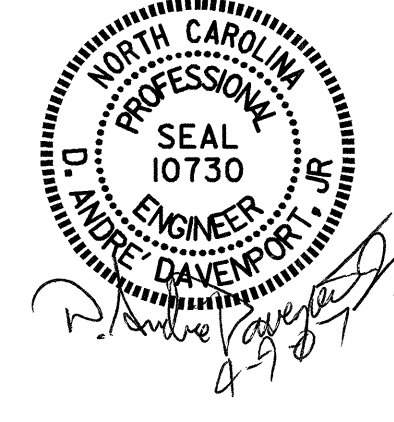
PLACEMENT OF THE CONCRETE OVERLAY SHALL OCCUR AFTER THE CASTING OF THE CONCRETE RAIL. THE COST OF THE REINFORCING STEEL CAST WITH THE CONCRETE WEARING SURFACE SHALL BE INCLUDED IN THE COST OF CONSTRUCTION OF SUPERSTRUCTURE. FOR CONCRETE WEARING SURFACE, SEE SPECIAL PROVISION.

WHEN A CONCRETE WEARING SURFACE IS DETAILED ON A CORED SLAB TYPICAL SECTION, THE TOP SURFACE OF THE CORED SLAB UNITS SHALL HAVE A 3/8" RAKED FINISH."

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NASH COUNTY  
STATION: 22+03.60 -L-

SHEET 6 OF 6

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



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			TOTAL SHEETS 22
2			4			

ASSEMBLED BY : D.G.E./H.T. BARBOUR DATE : 4-28-05  
CHECKED BY : S.P. LAM DATE : 5-05  
DRAWN BY : WJH 4/89 REV. 10/17/00 RWW/LES  
CHECKED BY : FCJ 5/89 REV. 7/10/01 RWW/LES  
REV. 5/7/03 RWW/JTE

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 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 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.

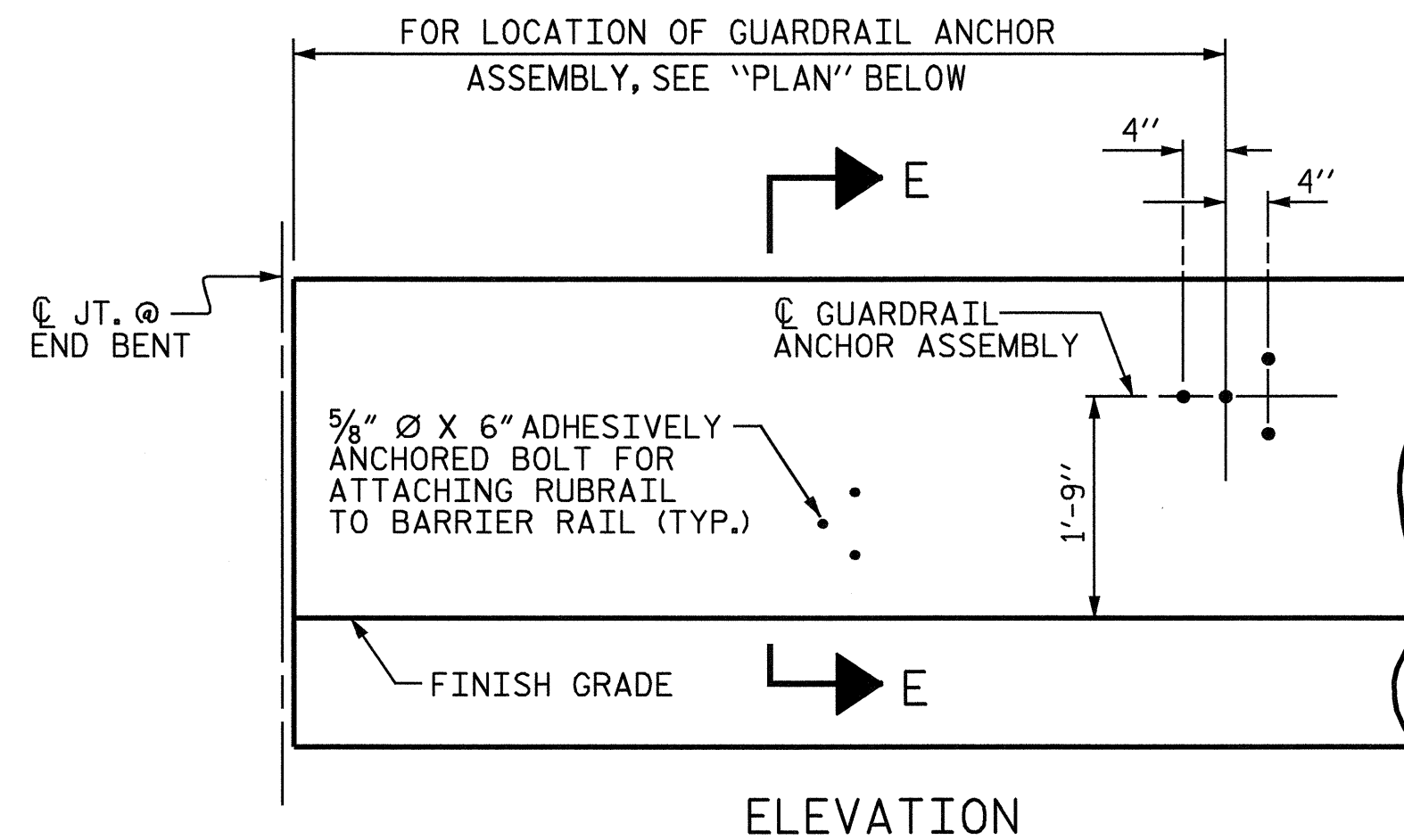
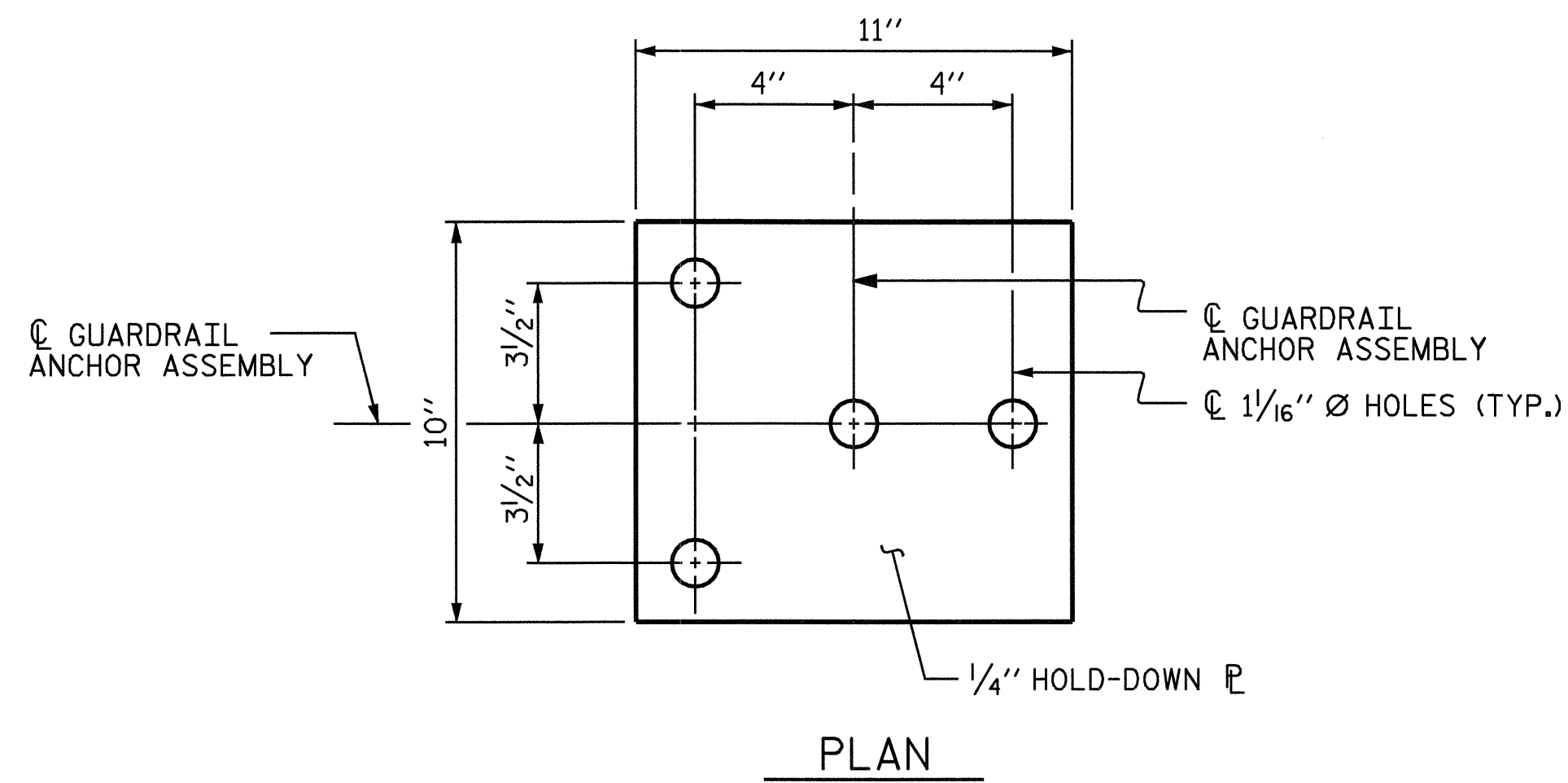
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

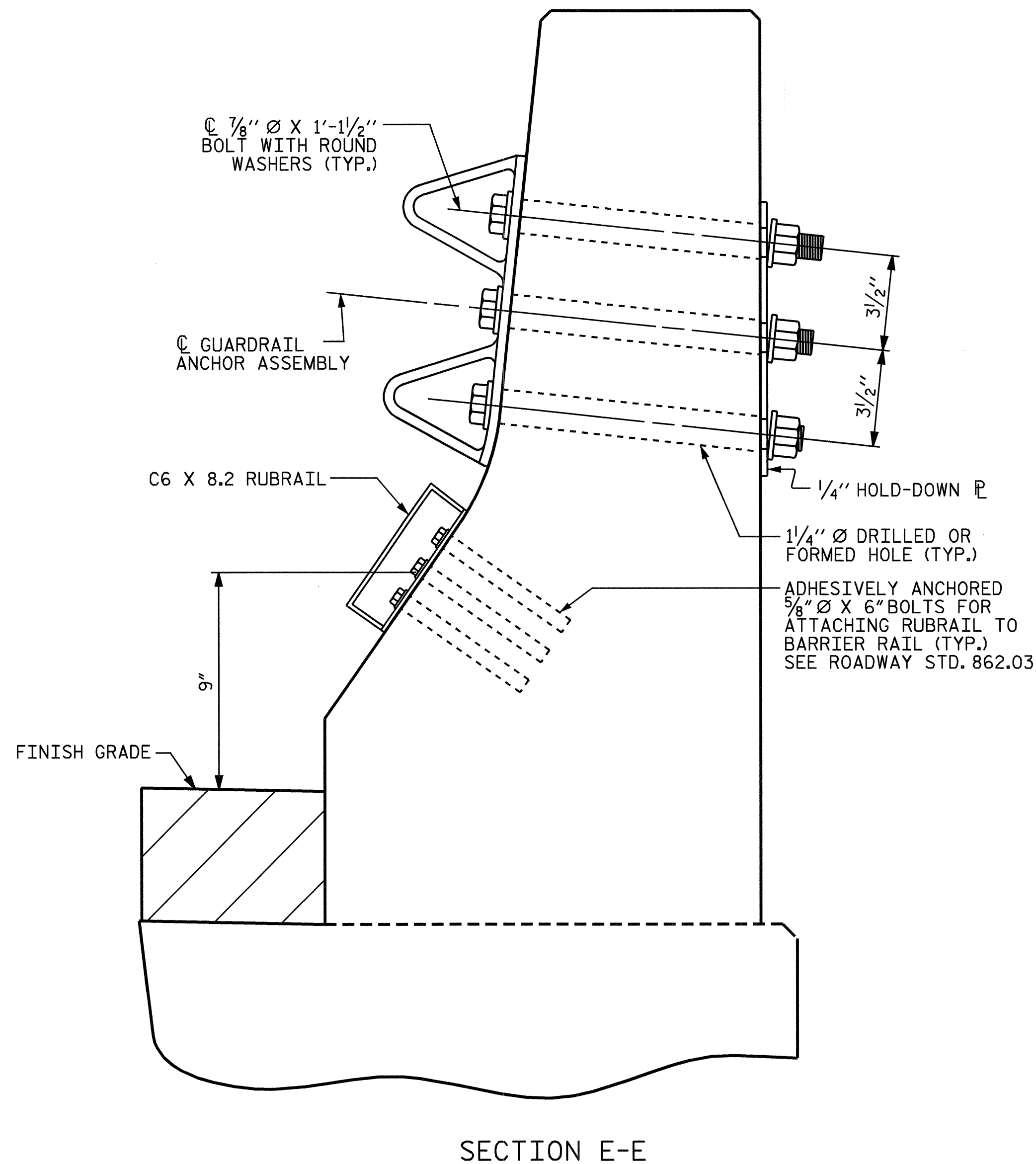
THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE BID FOR CONSTRUCTION OF SUPERSTRUCTURE.

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.

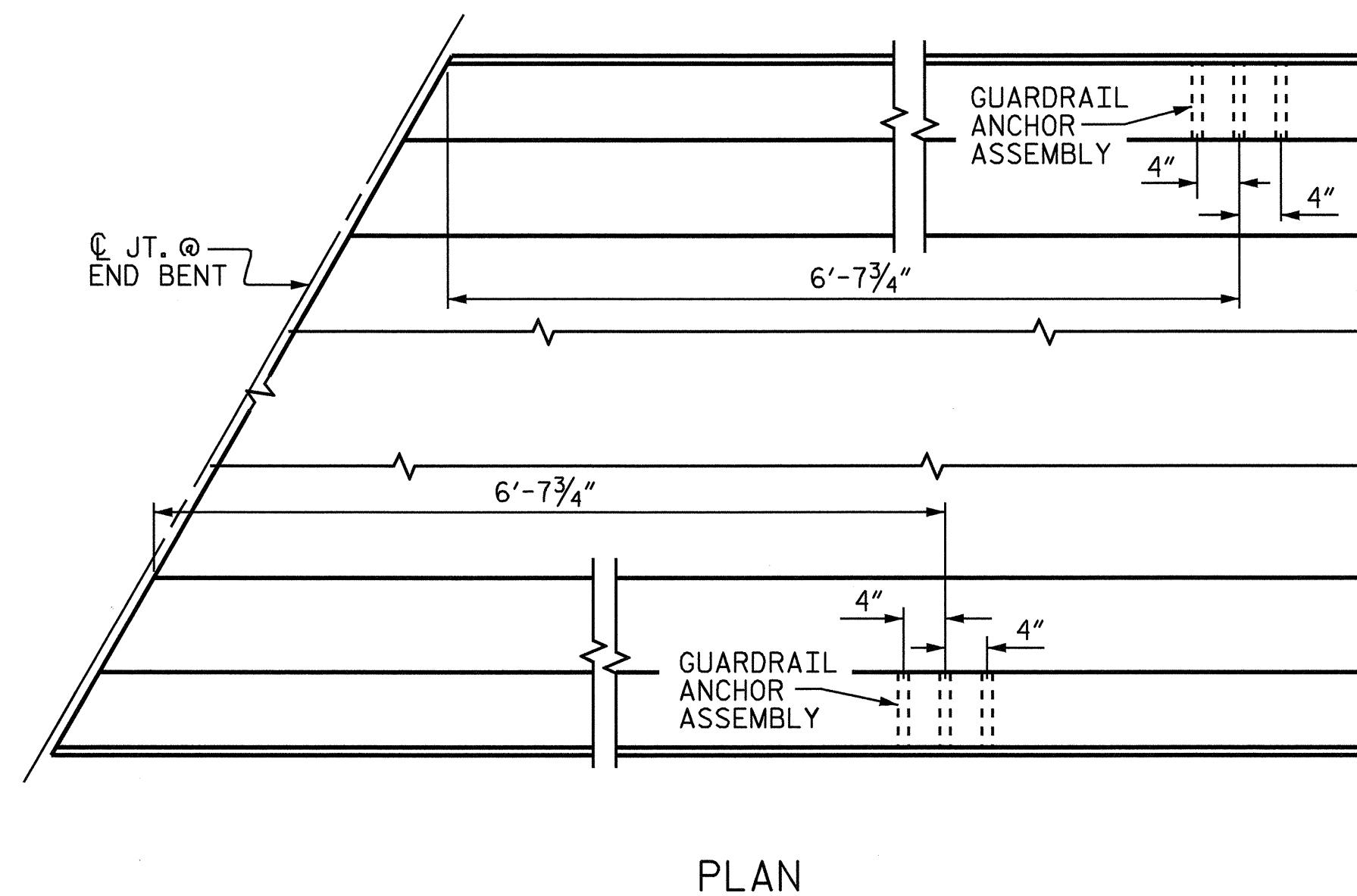
THE C6 X 8.2 RUBRAIL IS TO BE ADHESIVELY ANCHORED TO THE RAIL USING THREE 5/8" Ø X 6" BOLTS WITH WASHERS. SEE ROADWAY STANDARD 862.03 FOR DETAILS AND LOCATION OF THE RUBRAIL.



FOR LOCATION OF RUBRAIL, SEE ROADWAY STD. 862.03

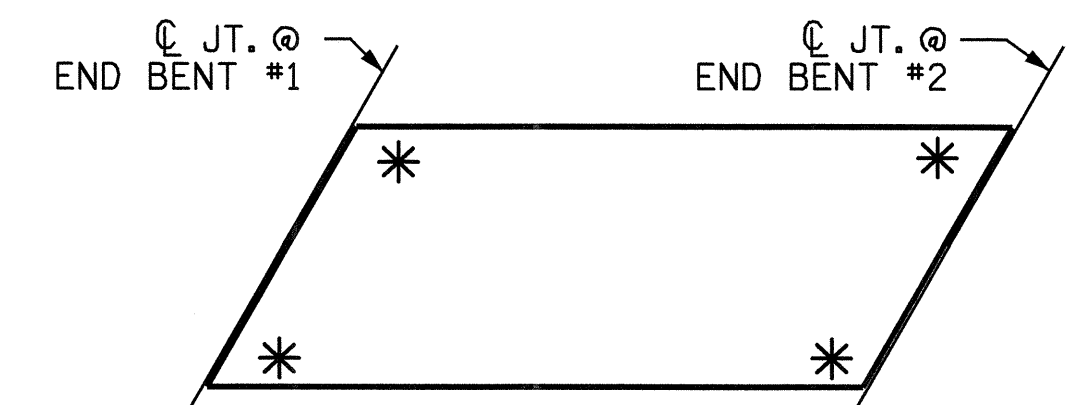


SECTION E-E  
GUARDRAIL ANCHOR ASSEMBLY DETAILS



LOCATION OF ANCHORS FOR GUARDRAIL

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

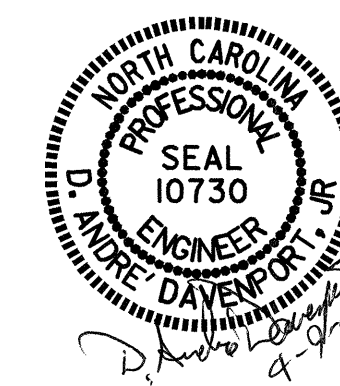


SKETCH SHOWING POINTS OF ATTACHMENTS

\* DENOTES GUARDRAIL ANCHOR ASSEMBLY

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NASH COUNTY  
 STATION: 22+03.60-L-

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



ASSEMBLED BY : H. T. BARBOUR DATE : 7-24-06  
 CHECKED BY : D.A. DAVENPORT DATE : 7-06  
 DRAWN BY : TLA 5/06  
 CHECKED BY : GM 5/06

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			22

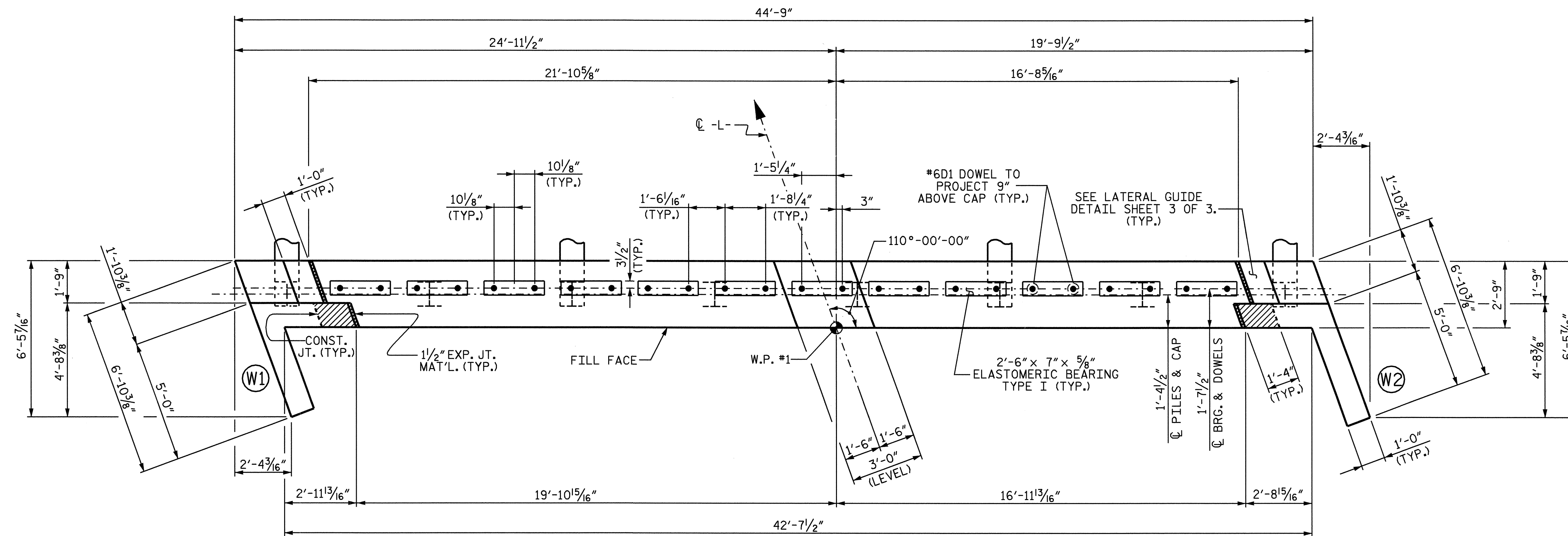
# NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR #6D1 DOWELS.

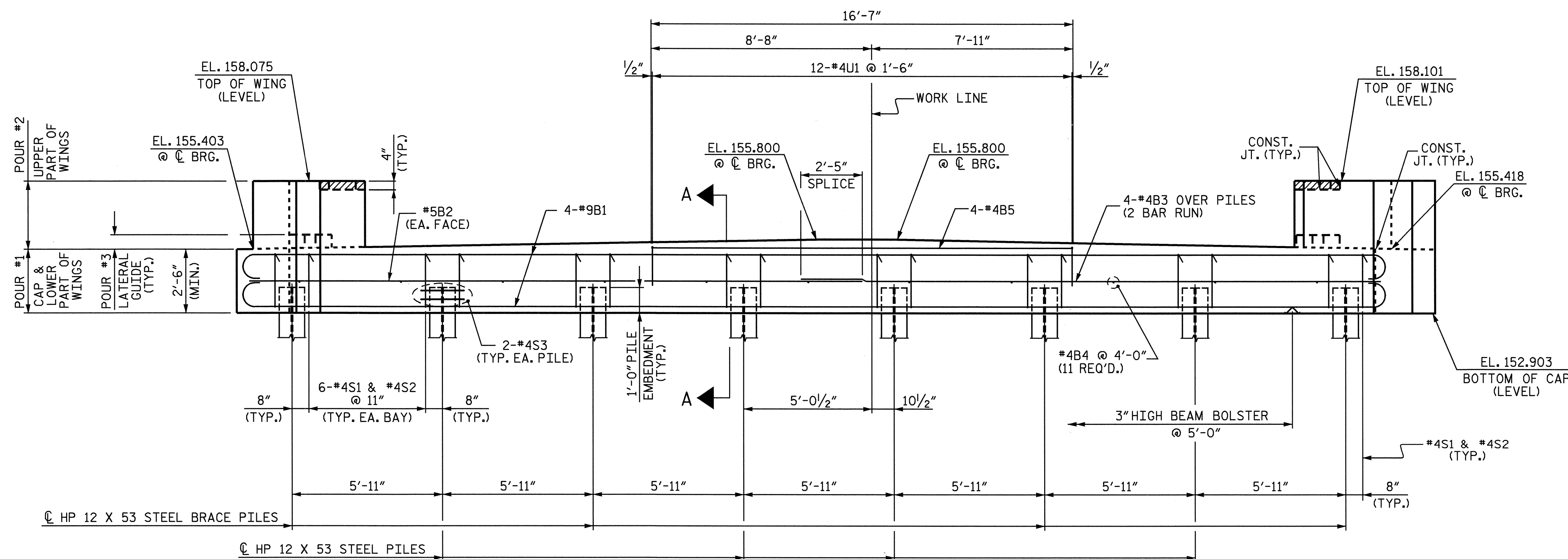
THE CONTRACTOR SHALL PROVIDE FOR INSTALLATION OF THE 4" DIAMETER DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS. SEE THE ROADWAY PLANS. REINFORCING STEEL IN THE WING WALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.

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

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



PLAN



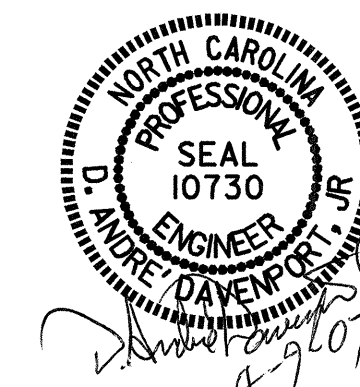
ELEVATION

PROJECT NO. B-3876  
NASH COUNTY  
 STATION: 22+03.60 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

## SUBSTRUCTURE END BENT #1

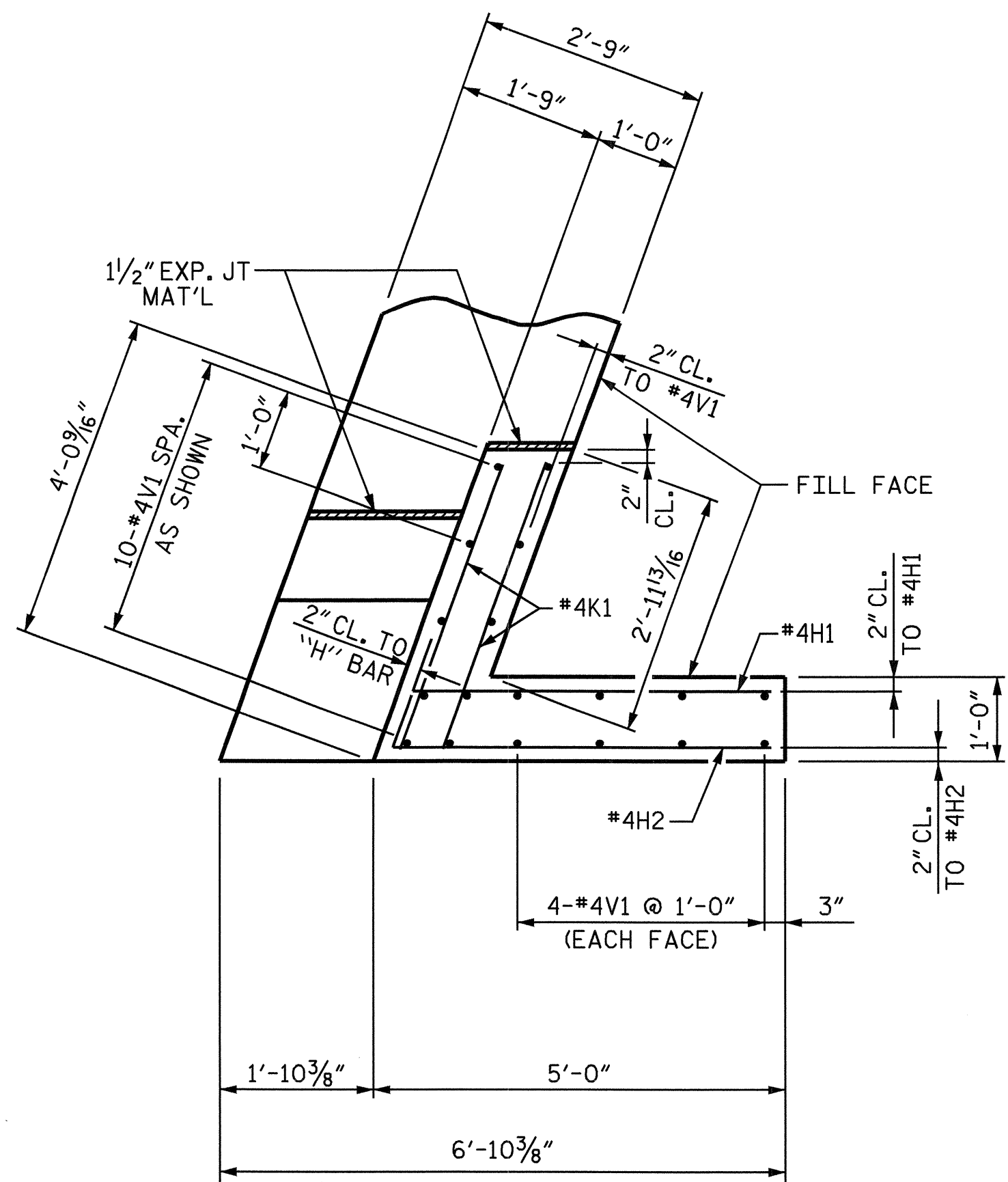


REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-12	
1			3			TOTAL SHEETS 22	
2			4				

DRAWN BY : S.P.L./H. T. BARBOUR DATE : 5-02-05  
 CHECKED BY : D. A. DAVENPORT DATE : 10-05

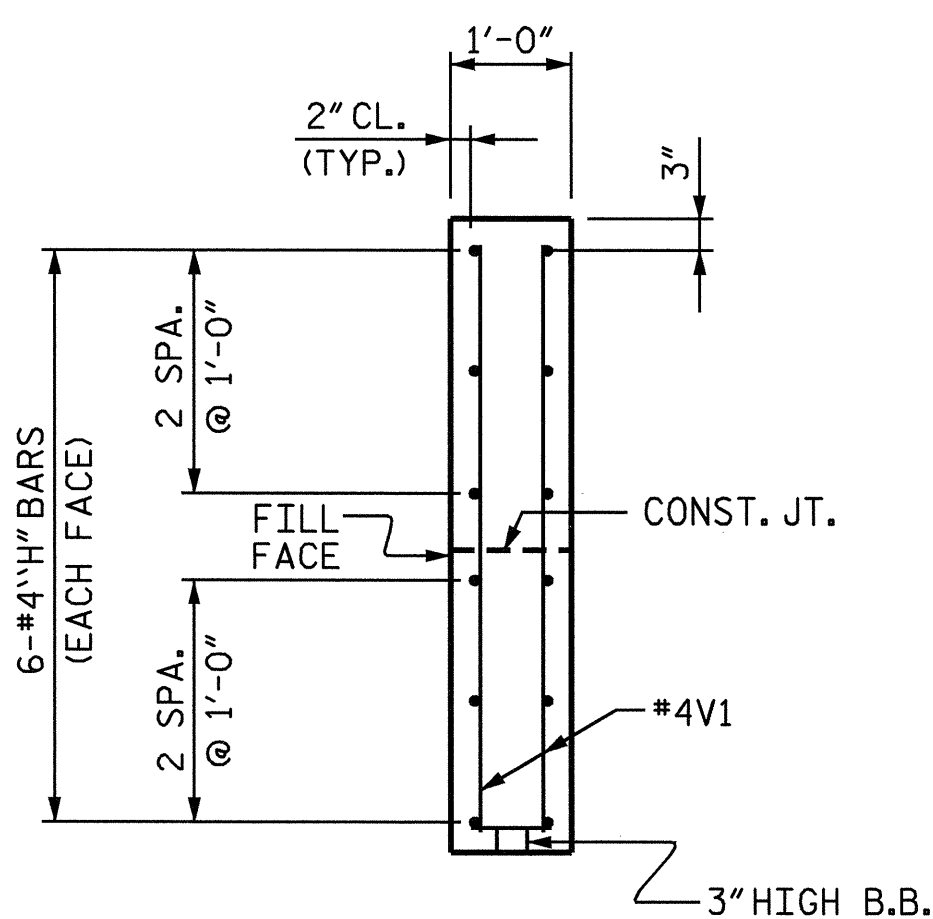
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 TBARBOUR

NCDD

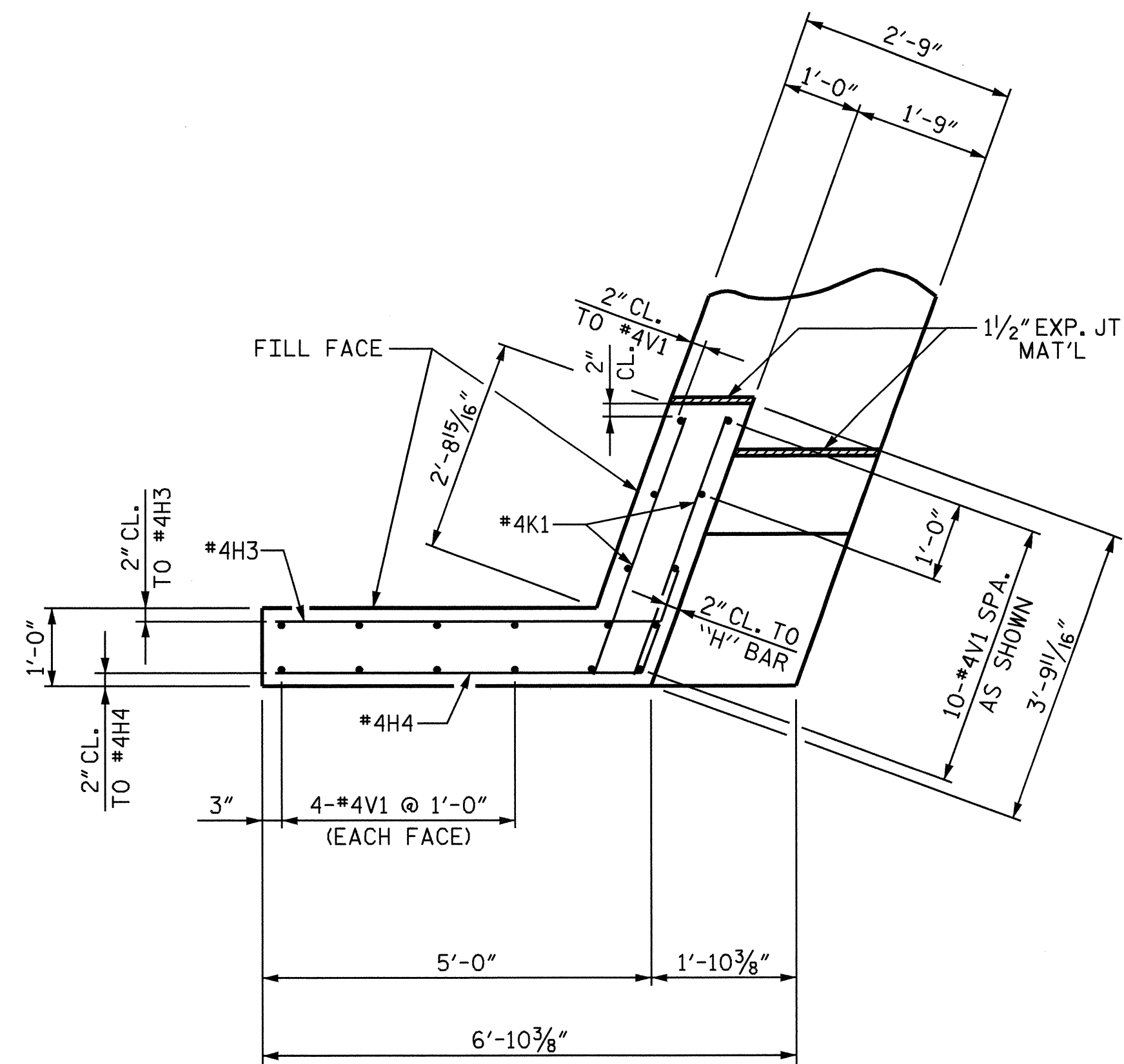


PLAN OF LEFT WING

W1

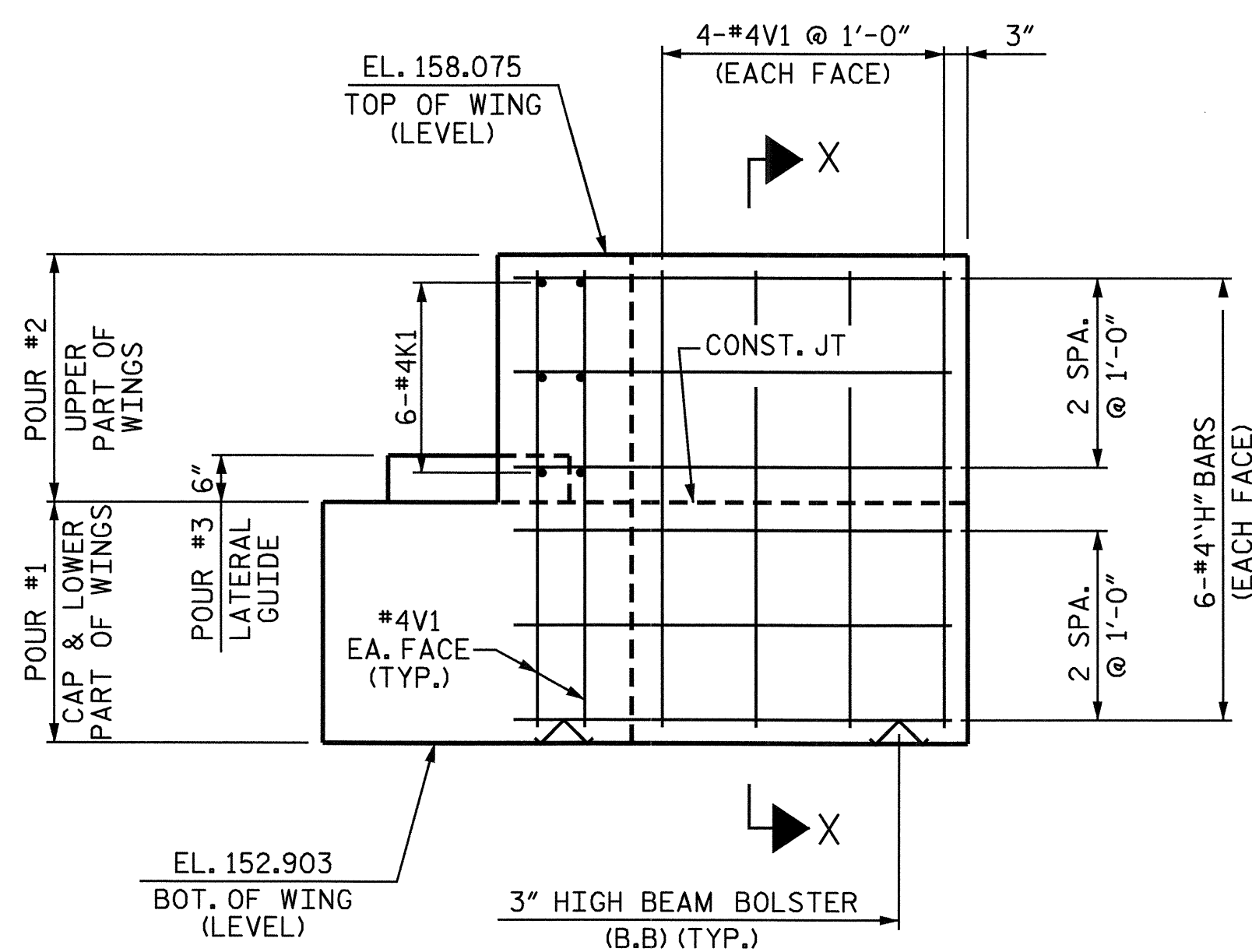


SECTION Y-Y



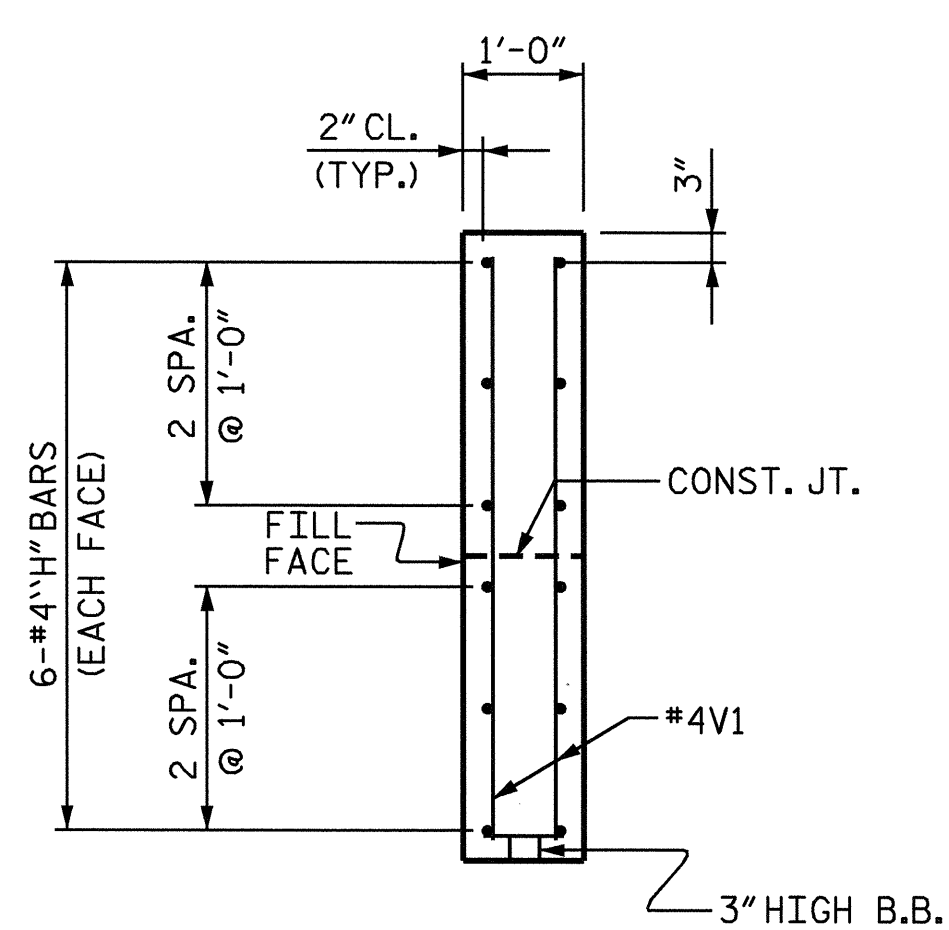
PLAN OF RIGHT WING

W2

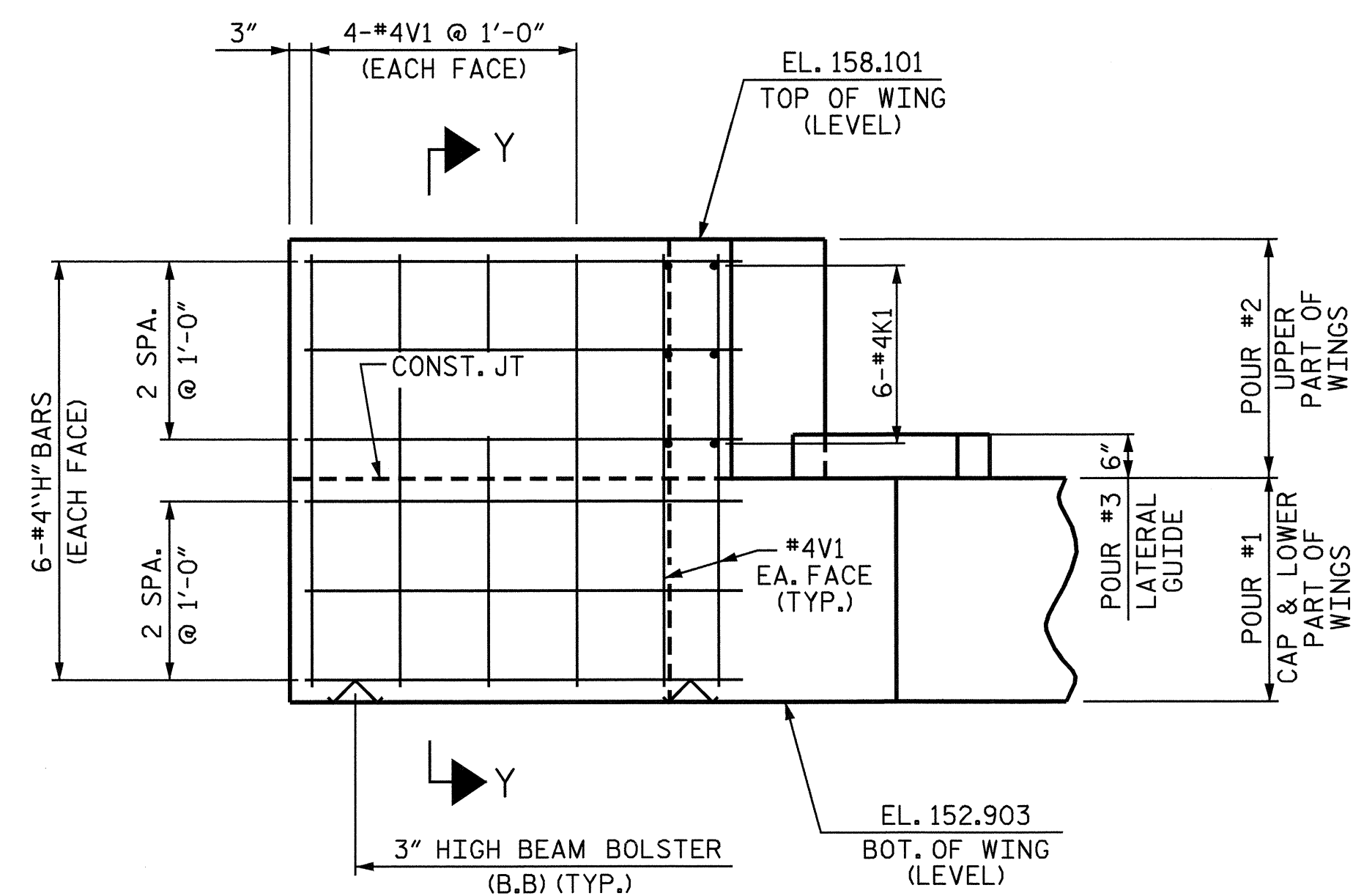


ELEVATION OF LEFT WING

W1



SECTION X-X

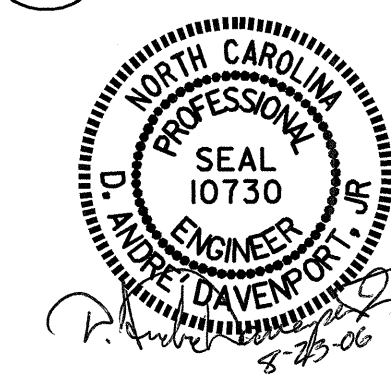


ELEVATION OF RIGHT WING

W2

DRAWN BY : S. P. L./H. T. BARBOUR DATE : 4-02-05  
 CHECKED BY : D. A. DAVENPORT DATE : 10-05

23-AUG-2006 10:58  
 R:\STRUCTURE\barbour\MICROS\B3876\W2.DGN  
 davenport



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 NASH COUNTY  
 STATION: 22+03.60 -L-

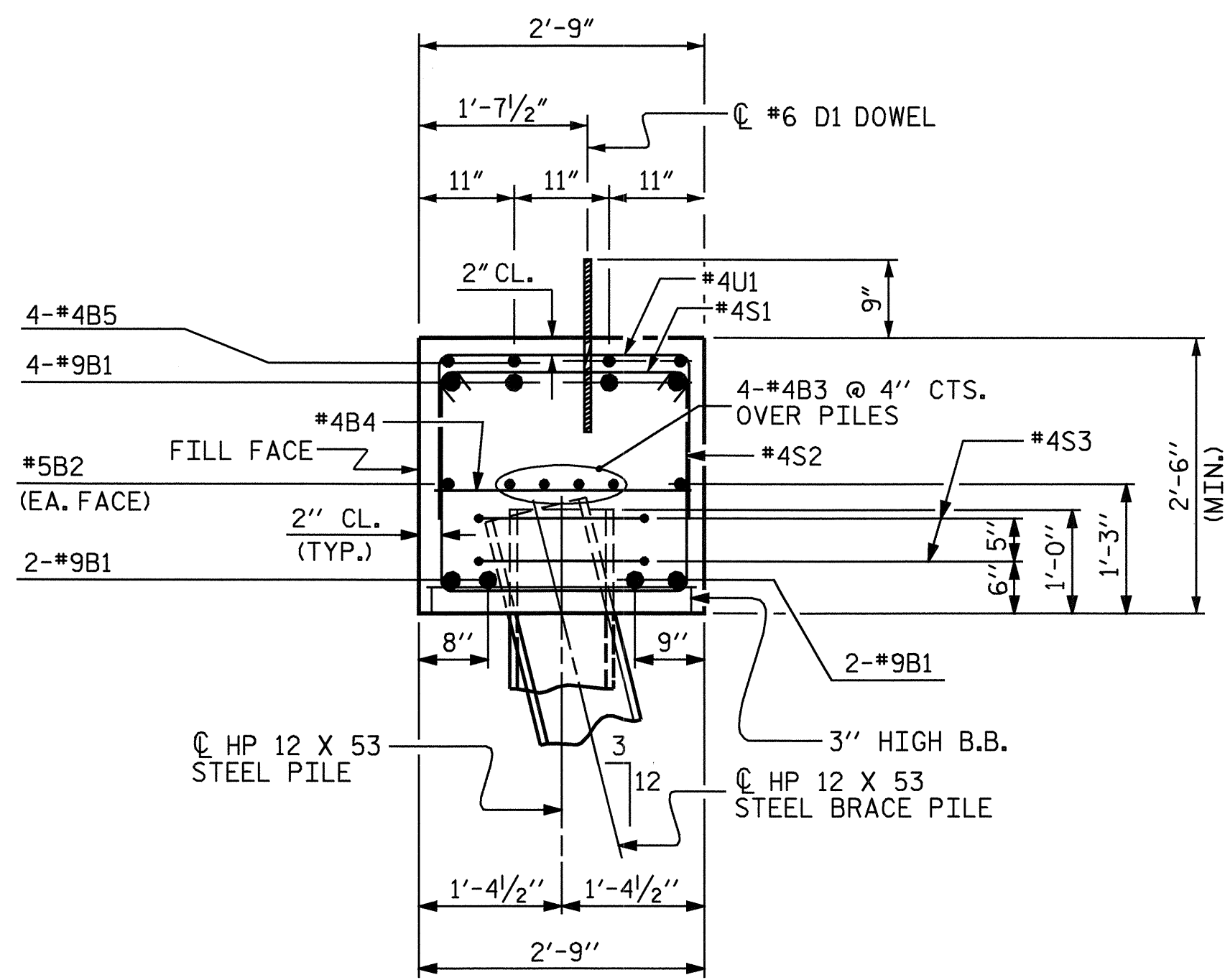
SHEET 2 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

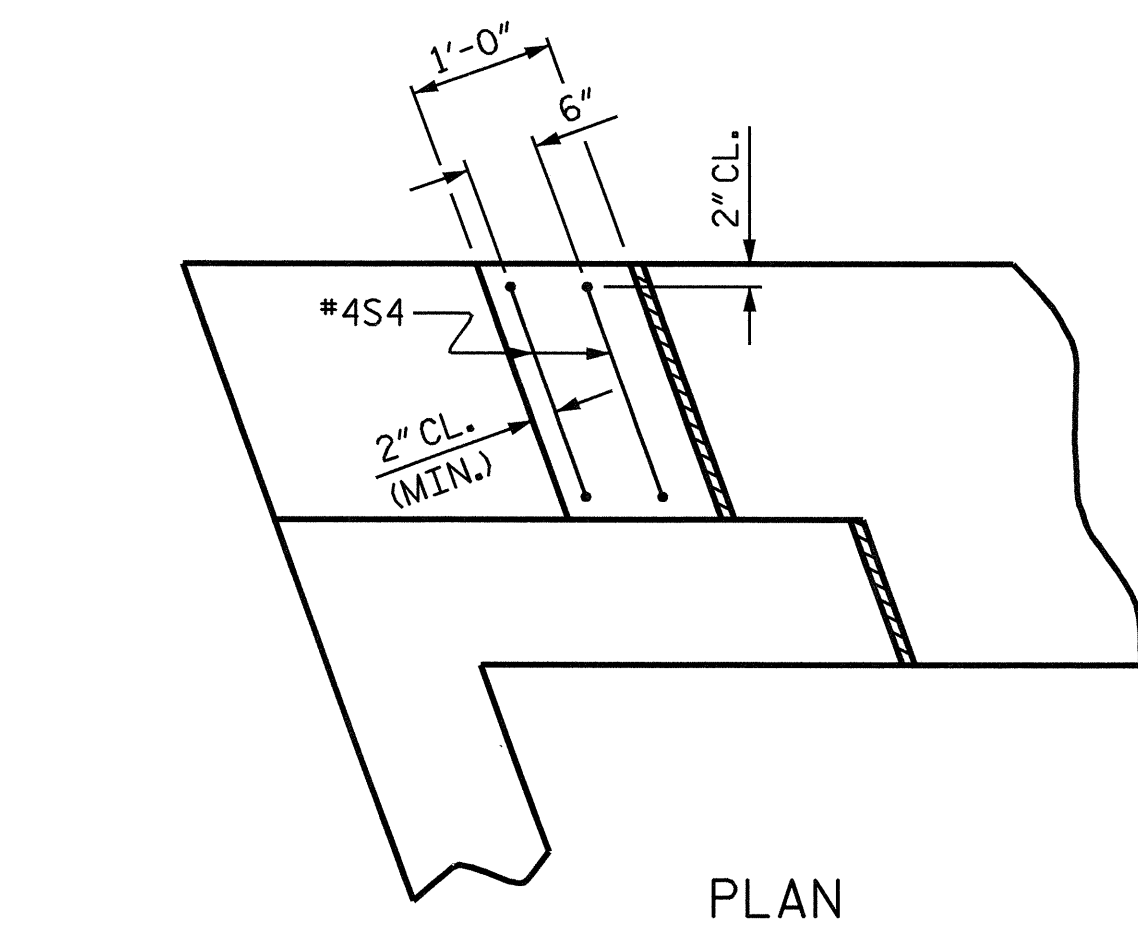
SUBSTRUCTURE  
 END BENT #1  
 WING DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	5-13
1			3			TOTAL SHEETS
2			4			22

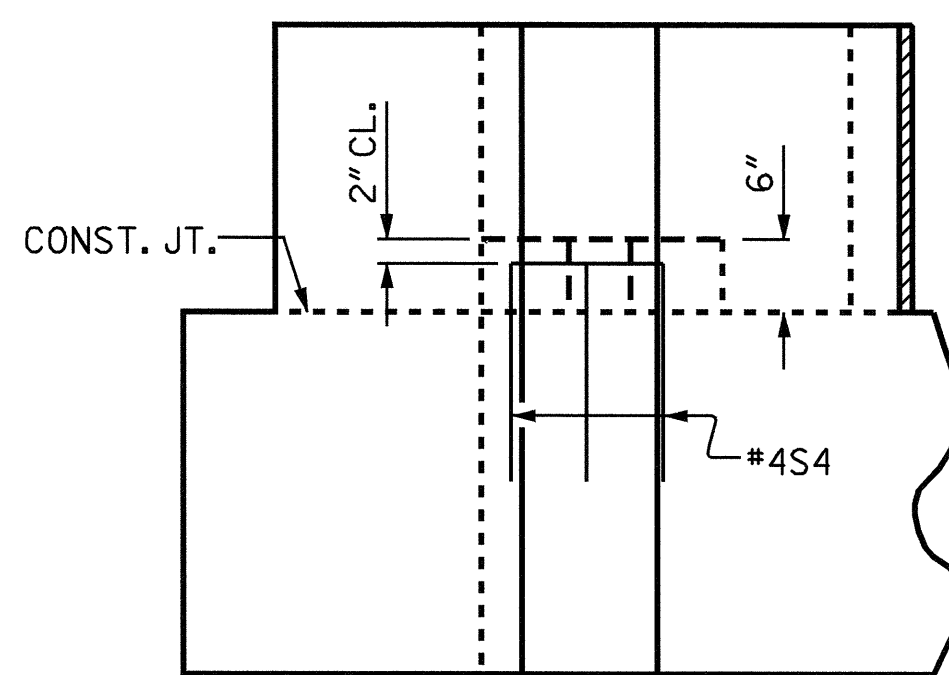
NC006



SECTION A-A



PLAN

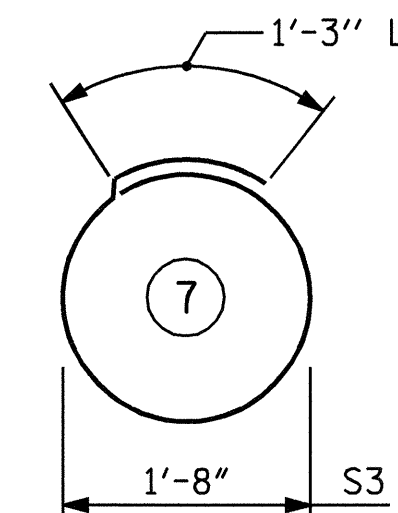
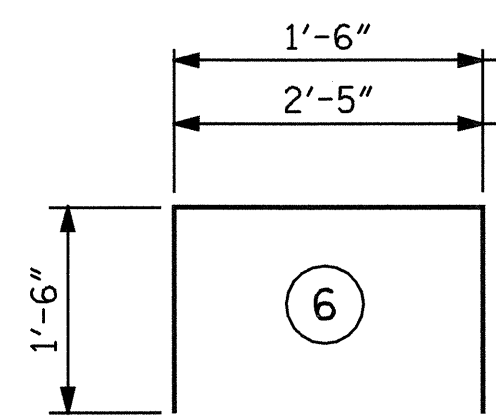
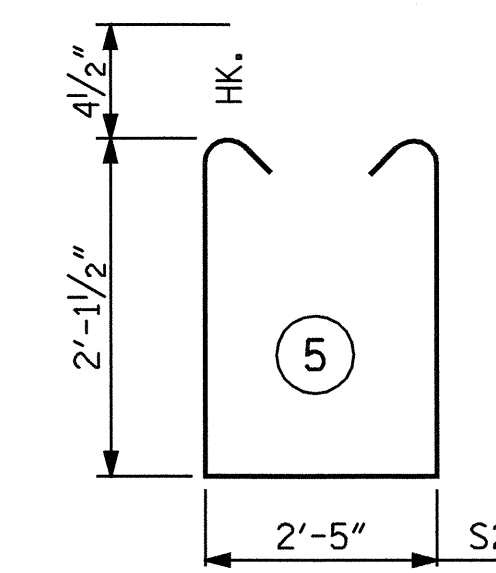
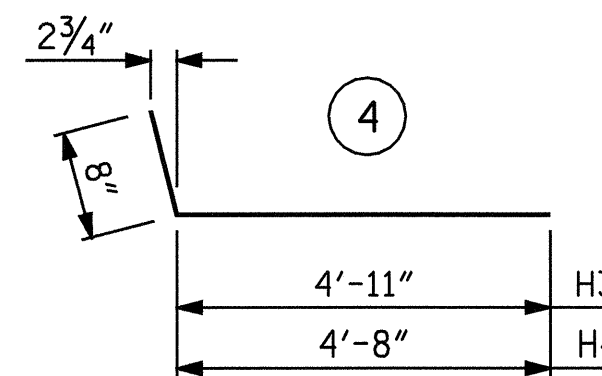
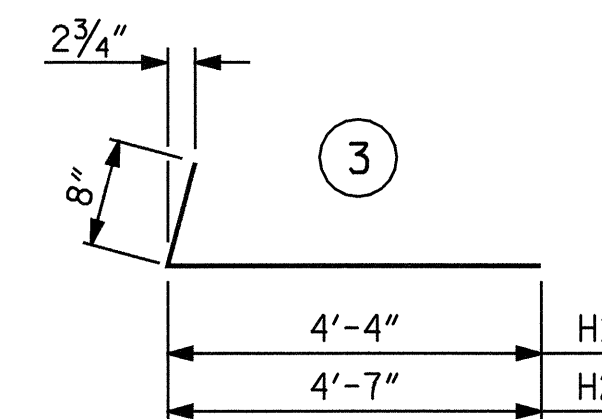
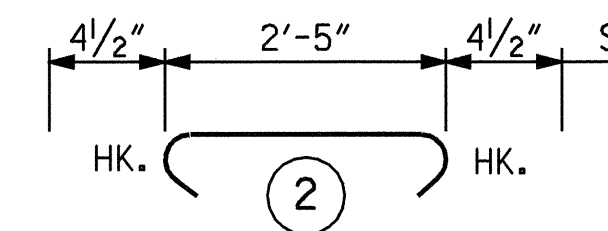
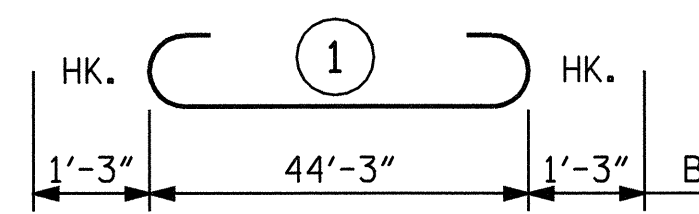


ELEVATION

LATERAL GUIDE

(TYPICAL EACH SIDE)

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

END BENT #1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	46'-9"	1272
B2	2	#5	STR	44'-5"	93
B3	8	#4	STR	23'-5"	125
B4	11	#4	STR	2'-5"	18
B5	4	#4	STR	16'-7"	44
D1	24	#6	STR	1'-6"	54
H1	6	#4	3	5'-0"	20
H2	6	#4	3	5'-3"	21
H3	6	#4	4	5'-7"	22
H4	6	#4	4	5'-4"	21
K1	12	#4	STR	2'-8"	21
S1	44	#4	2	3'-2"	93
S2	44	#4	5	7'-5"	218
S3	16	#4	7	6'-6"	69
S4	4	#4	6	4'-6"	12
U1	12	#4	6	5'-5"	43
V1	36	#4	STR	4'-10"	116

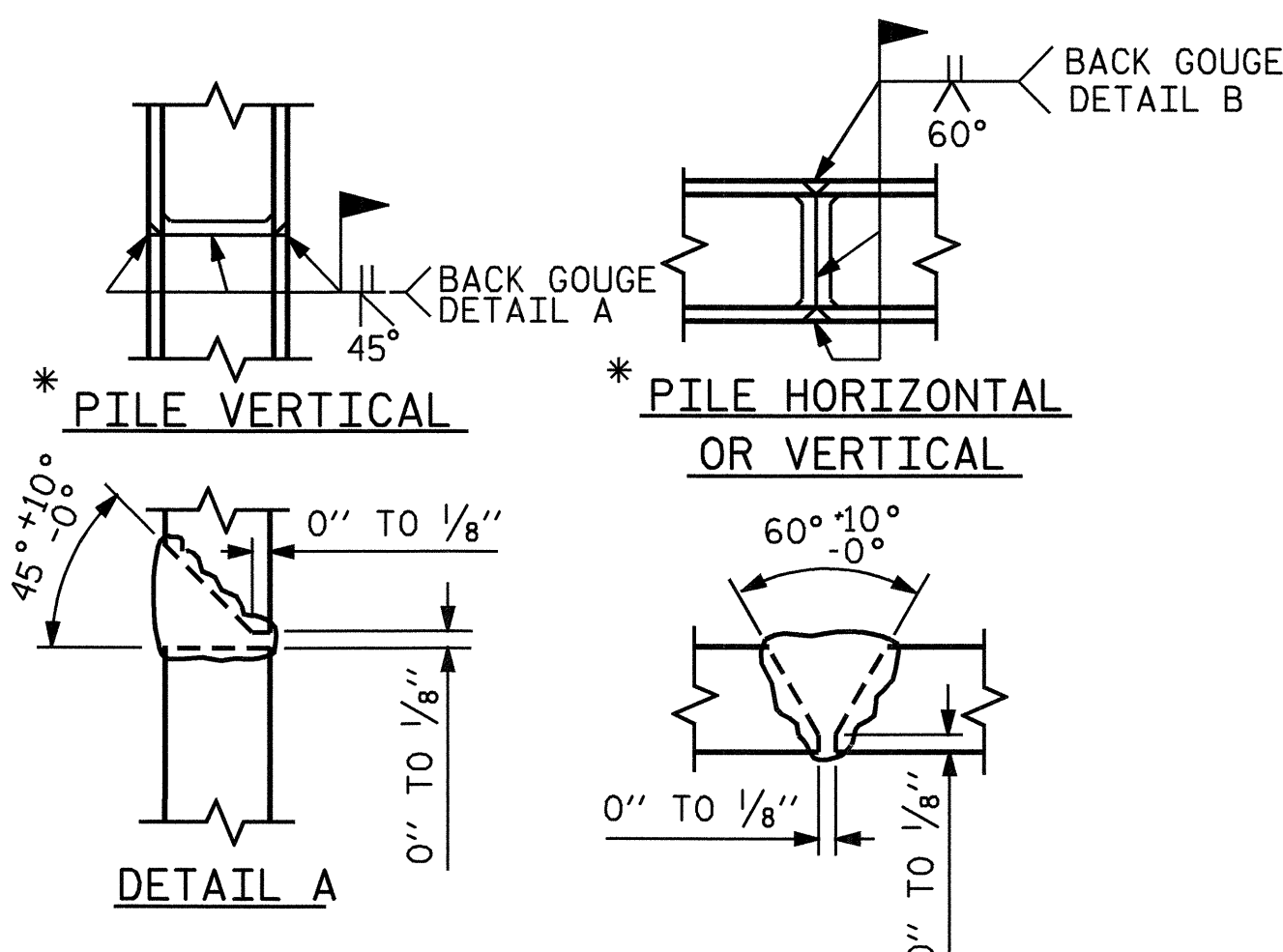
REINFORCING STEEL = 2262 LBS.

CLASS A CONCRETE BREAKDOWN

POUR #1 CAP & LOWER PART OF WINGS	13.1	C.Y.
POUR #2 UPPER PART OF WINGS	1.6	C.Y.
POUR #3 LATERAL GUIDES	0.1	C.Y.
TOTAL CLASS A CONCRETE	14.8	C.Y.

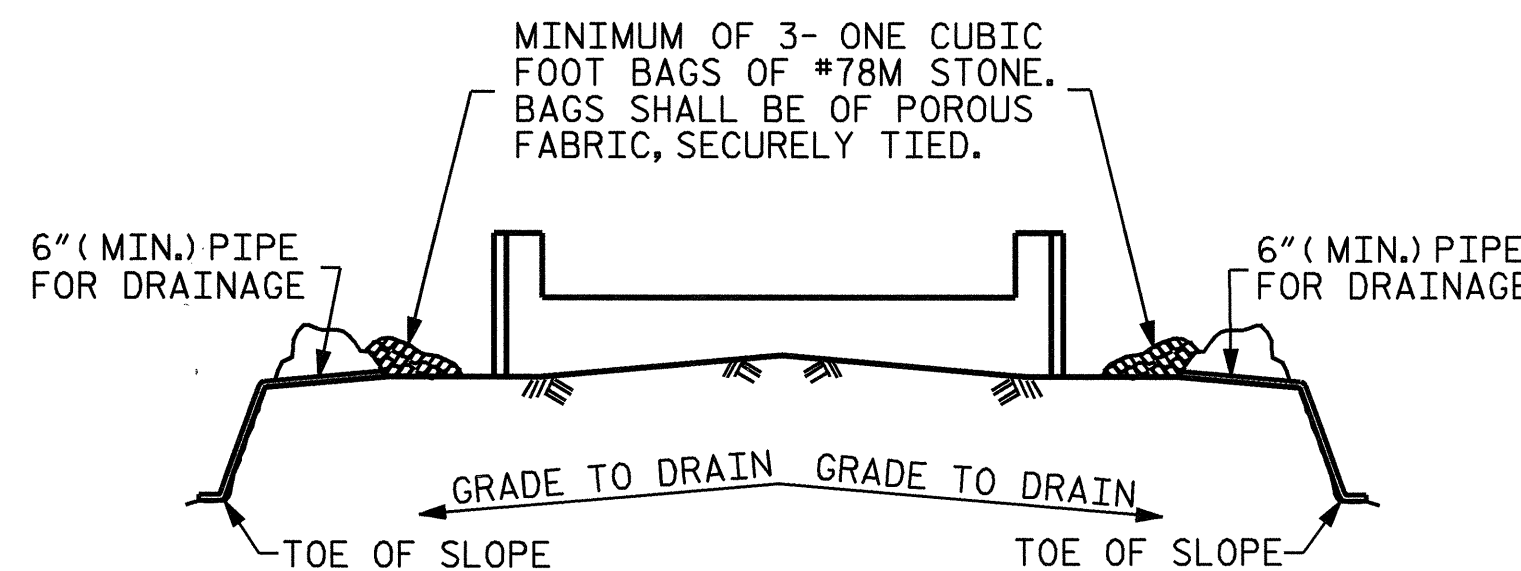
HP 12 X 53 STEEL PILES

No. 8 160 LIN. FT.



PILE SPLICE DETAILS

\* POSITION OF PILE DURING WELDING. DETAIL 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.

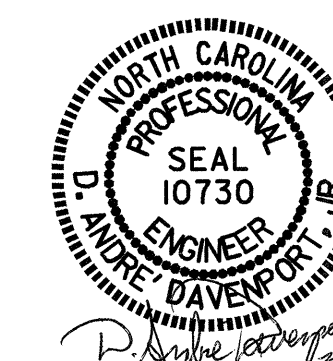
TEMPORARY DRAINAGE AT END BENT

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 NASH COUNTY  
 STATION: 22+03.60 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SUBSTRUCTURE  
 END BENT #1



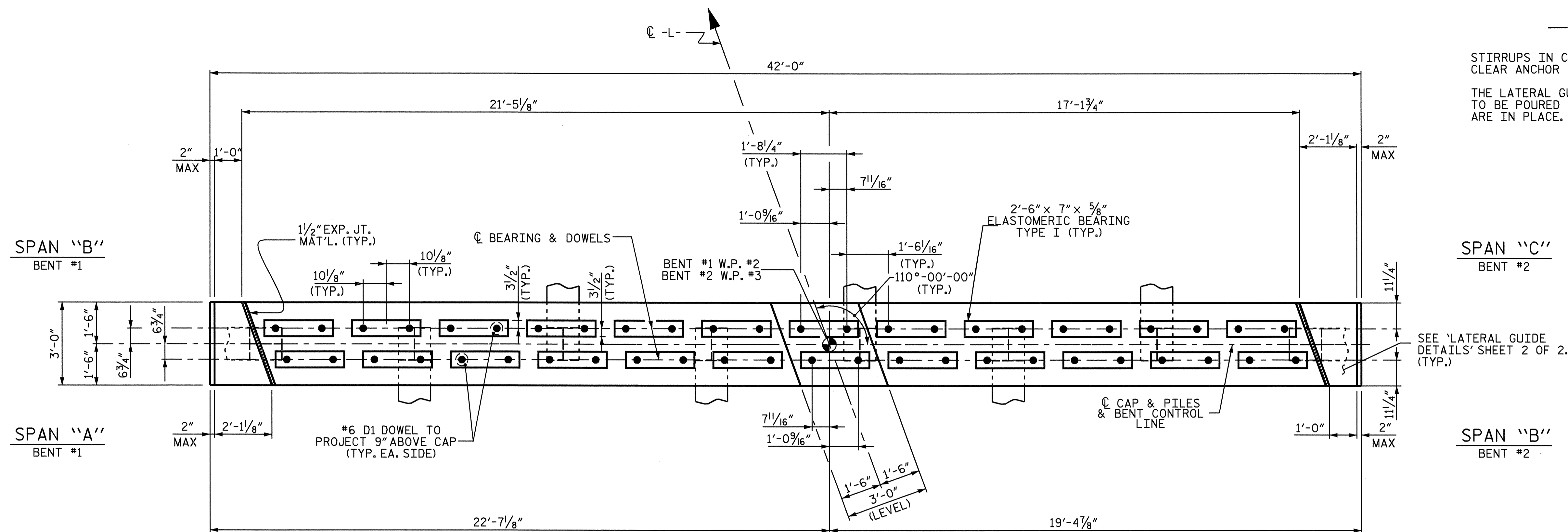
DRAWN BY : S.P.L./H. T. BARBOUR DATE : 5-02-05  
 CHECKED BY : D. A. DAVENPORT DATE : 10-05

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	5-14
1			3			TOTAL SHEETS
2			4			22

**NOTES**

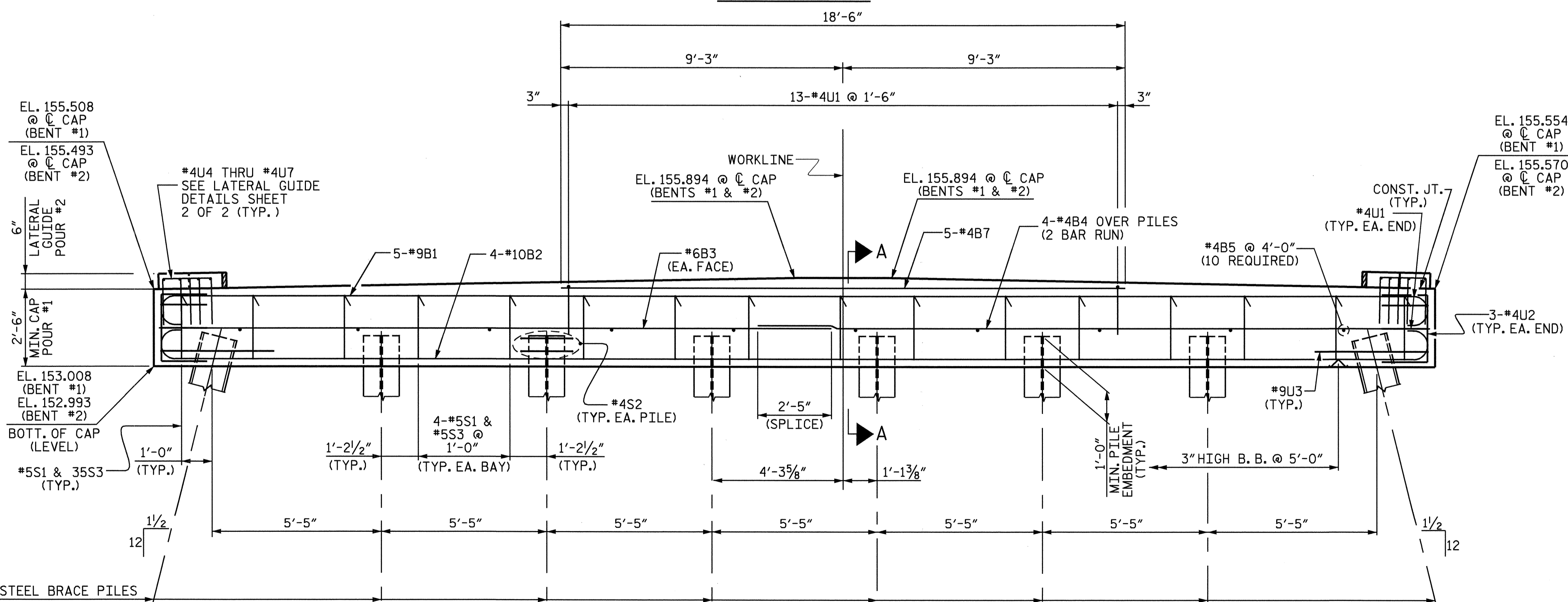
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.

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



SEE 'LATERAL GUIDE DETAILS' SHEET 2 OF 2. (TYP.)

**PLAN**

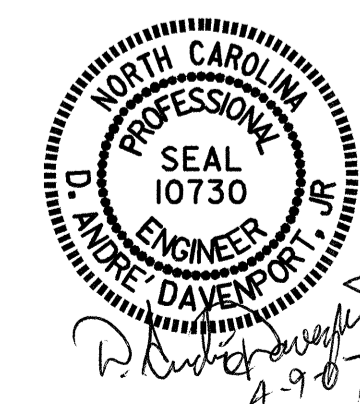


PROJECT NO. B-3876  
 NASH COUNTY  
 STATION: 22+03.60 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SUBSTRUCTURE  
 BENT #1 & BENT #2

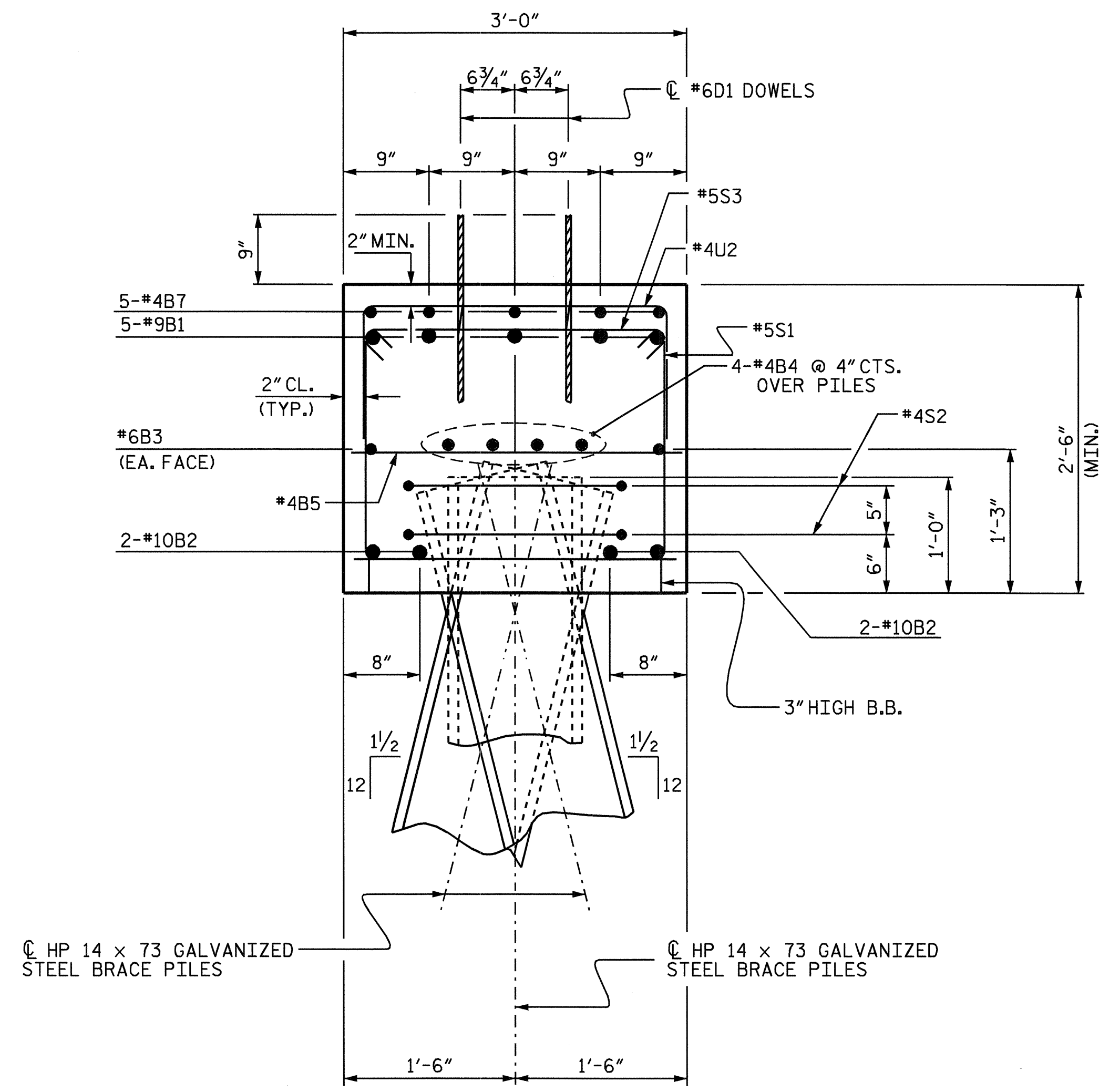


DRAWN BY : S. P. L./H. T. BARBOUR DATE : 4-29-05  
 CHECKED BY : A.A. COLE DATE : 6-8-05

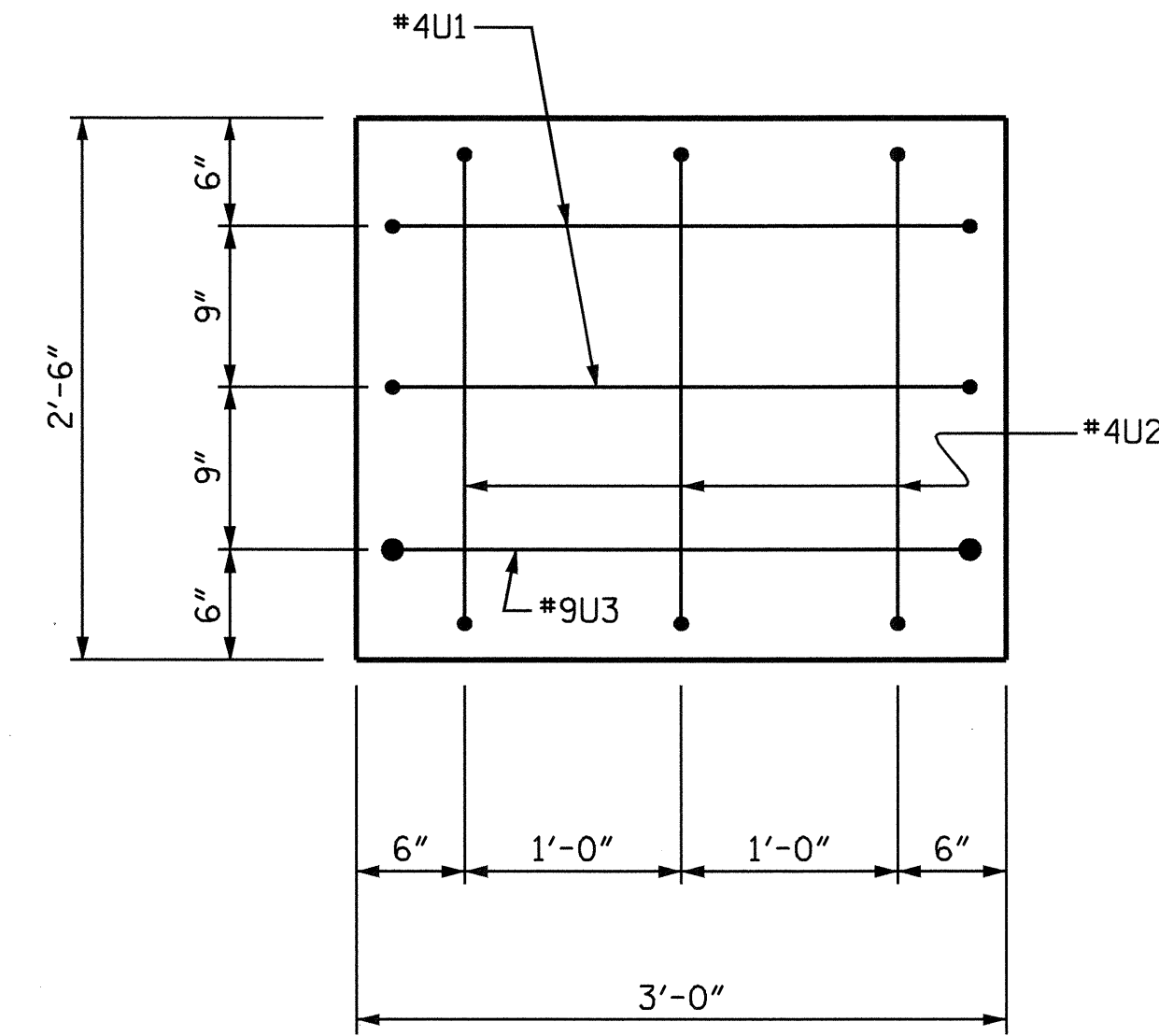
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 TBARBOUR

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-15
1			3			TOTAL SHEETS
2			4			22



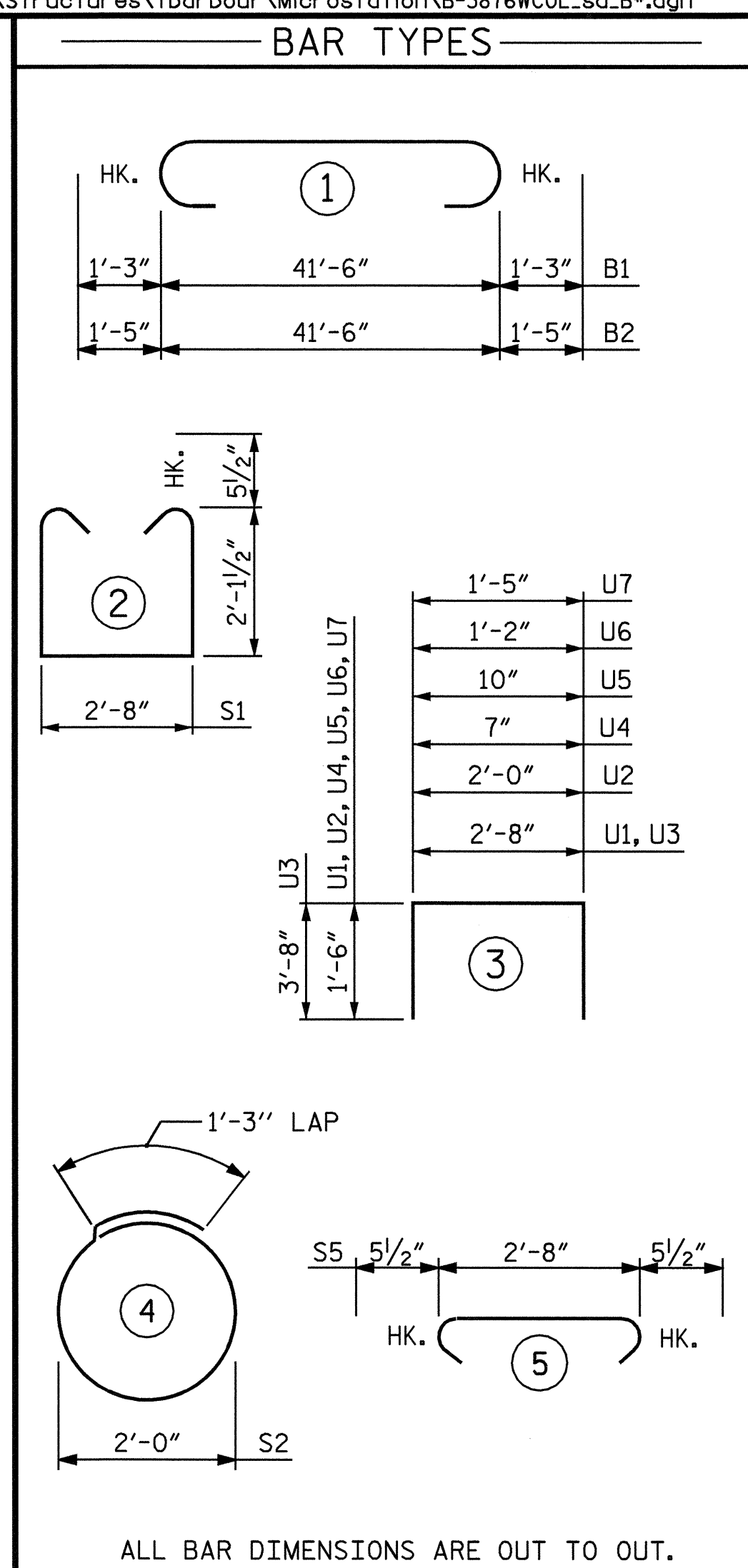


SECTION A-A

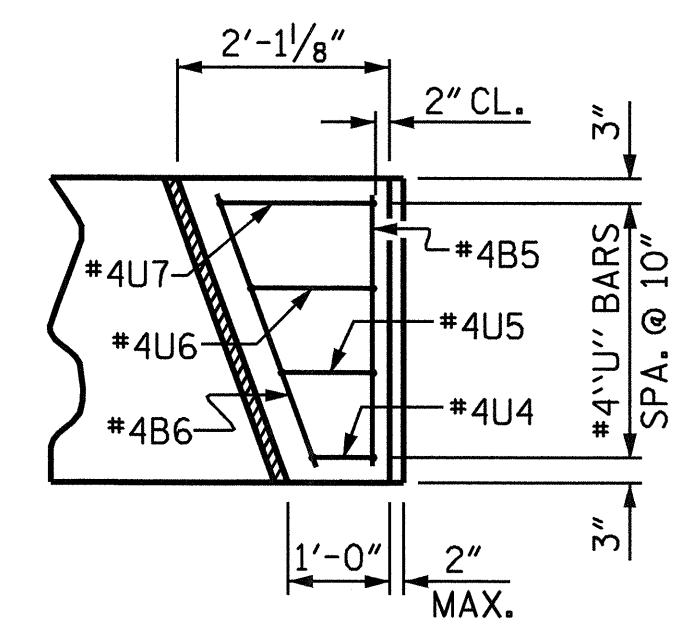


END VIEW

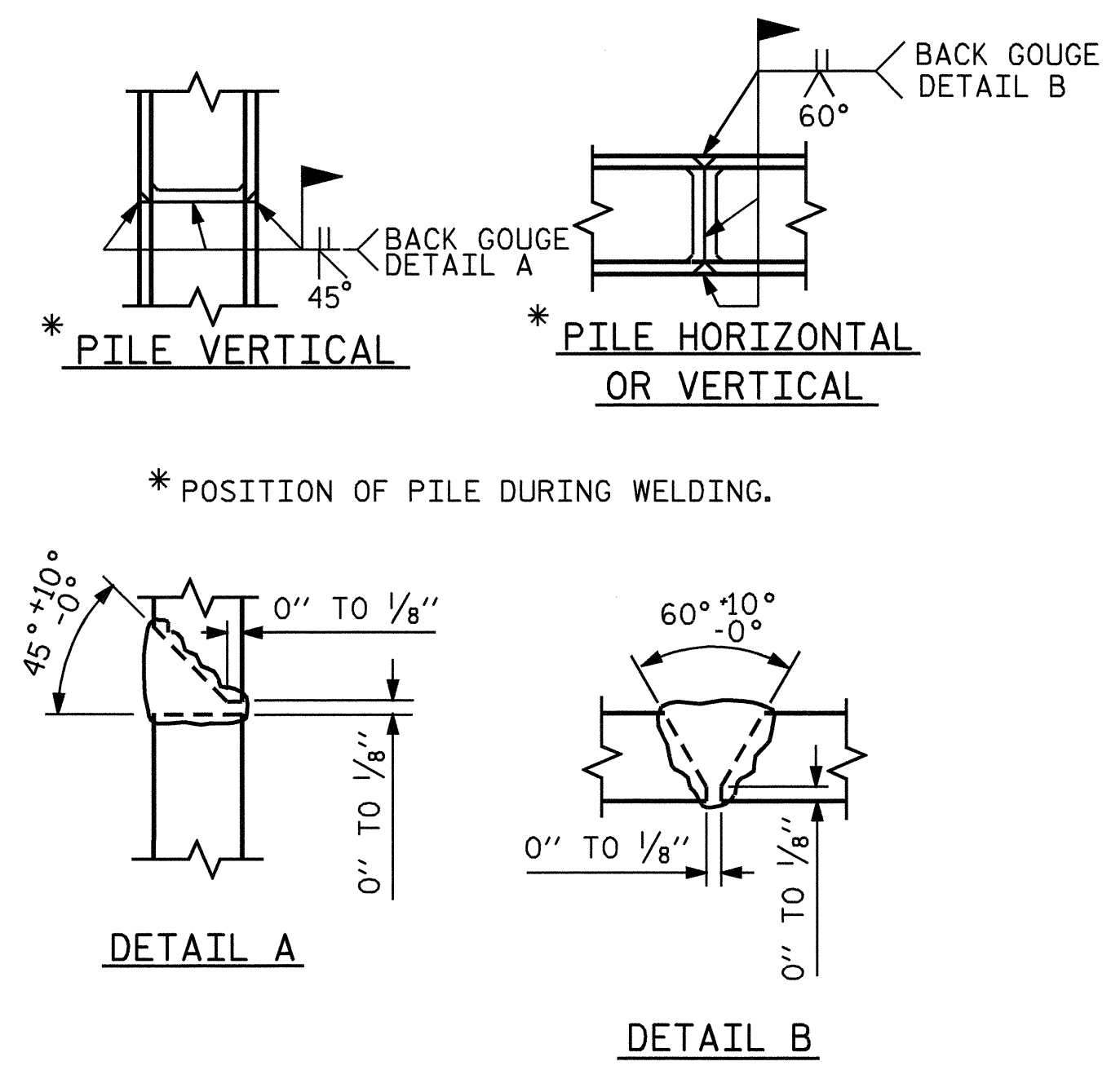
(TYP. EA. END)  
2" MIN. CONCRETE COVER FROM  
END OF CAP REQUIRED FOR ALL #4U1,  
#4U2 AND #9U3 BARS. #4U1,  
#4U2 AND #9U3 BARS MAY BE SHIFTED  
UP TO 2" TO CLEAR "B" BARS.



BILL OF MATERIAL					
FOR ONE INTERIOR BENT					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	5	#9	1	44'-0"	748
B2	4	#10	1	44'-4"	763
B3	2	#6	STR	41'-8"	125
B4	8	#4	STR	22'-1"	118
B5	12	#4	STR	2'-8"	21
B6	2	#4	STR	2'-10"	4
B7	5	#4	STR	18'-6"	62
D1	48	#6	STR	1'-6"	108
S1	30	#5	2	7'-10"	245
S2	16	#4	4	7'-6"	80
S3	30	#5	5	3'-7"	112
U1	17	#4	3	5'-8"	64
U2	6	#4	3	5'-0"	20
U3	2	#9	3	9'-10"	67
U4	2	#4	3	3'-7"	5
U5	2	#4	3	3'-10"	5
U6	2	#4	3	4'-2"	6
U7	2	#4	3	4'-5"	6
REINFORCING STEEL =					2559 LBS.
CLASS A CONCRETE BREAKDOWN					
POUR #1 CAP					12.5 C.Y.
POUR #2 LATERAL GUIDES					0.2 C.Y.
TOTAL CLASS A CONCRETE					12.7 C.Y.
HP 14 X 73 GALVANIZED STEEL PILES (BENT #1) No. 8					120 LIN. FT.
HP 14 X 73 GALVANIZED STEEL PILES (BENT #2) No. 8					160 LIN. FT.
STEEL PILE POINTS					BENT #1, 8 EA. BENT #2, 8 EA.



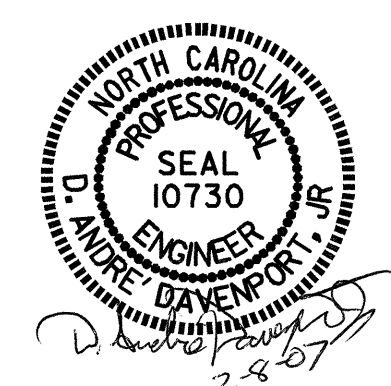
LATERAL GUIDE DETAILS



PILE SPLICE DETAILS

PROJECT NO. B-3876  
NASH COUNTY  
 STATION: 22+03.60 -L-

SHEET 2 OF 2  
 STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SUBSTRUCTURE  
 BENT #1 & BENT #2



DRAWN BY : S.P.L./H.T. BARBOUR DATE : 4-29-05  
 CHECKED BY : A.A. COLE DATE : 6-8-05

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-16
1			3			TOTAL SHEETS 22
2			4			

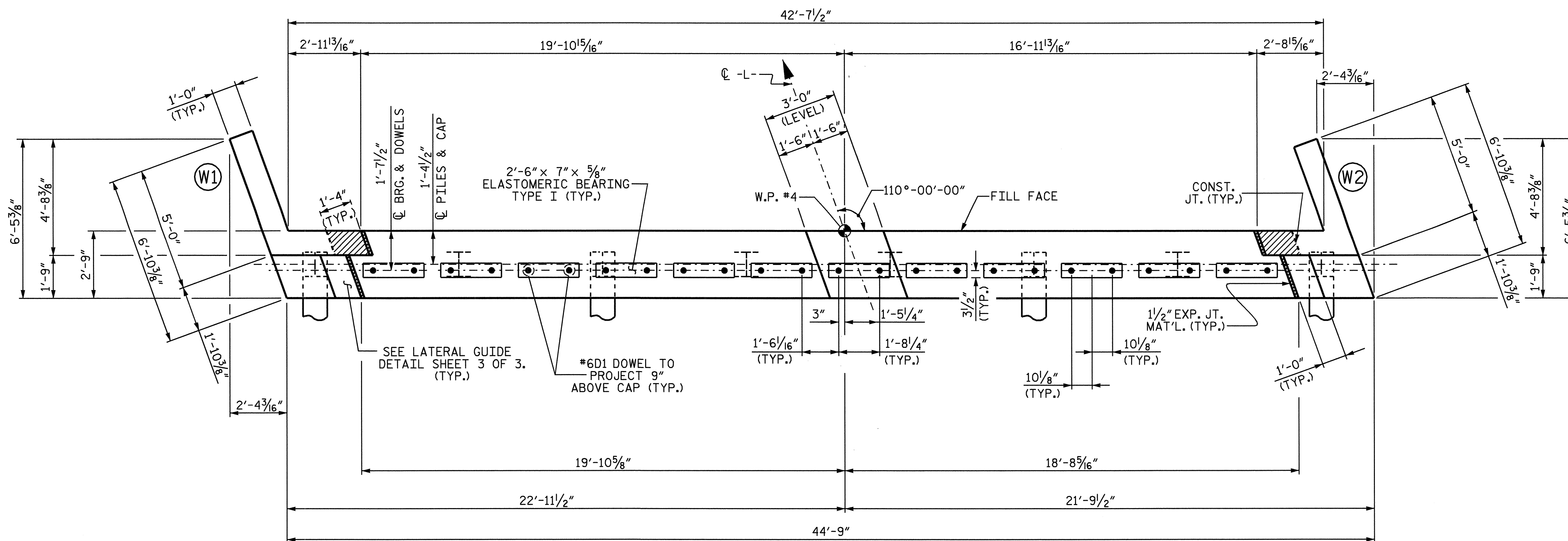
NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR #6DI DOWELS.

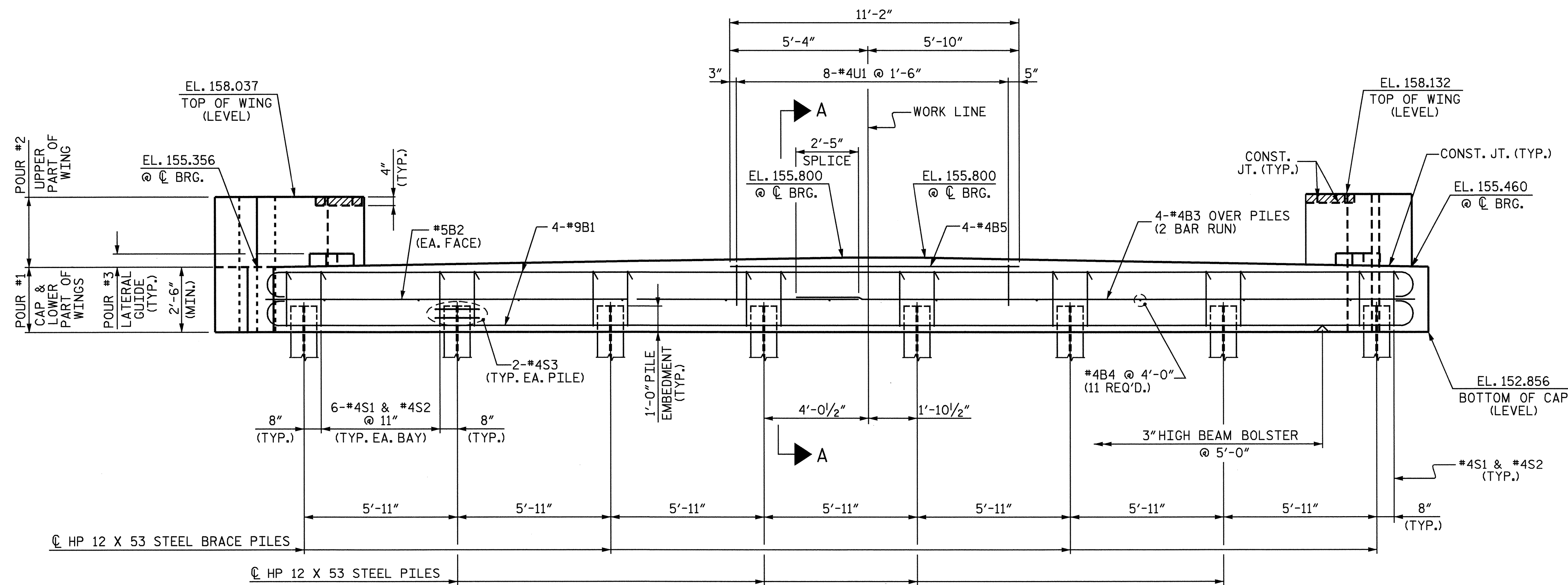
THE CONTRACTOR SHALL PROVIDE FOR INSTALLATION OF THE 4" DIAMETER DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS. SEE THE ROADWAY PLANS. REINFORCING STEEL IN THE WING WALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.

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

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



PLAN



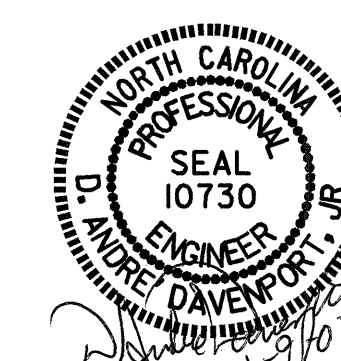
ELEVATION

PROJECT NO. B-3876  
NASH COUNTY  
 STATION: 22+03.60 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SUBSTRUCTURE  
 END BENT #2

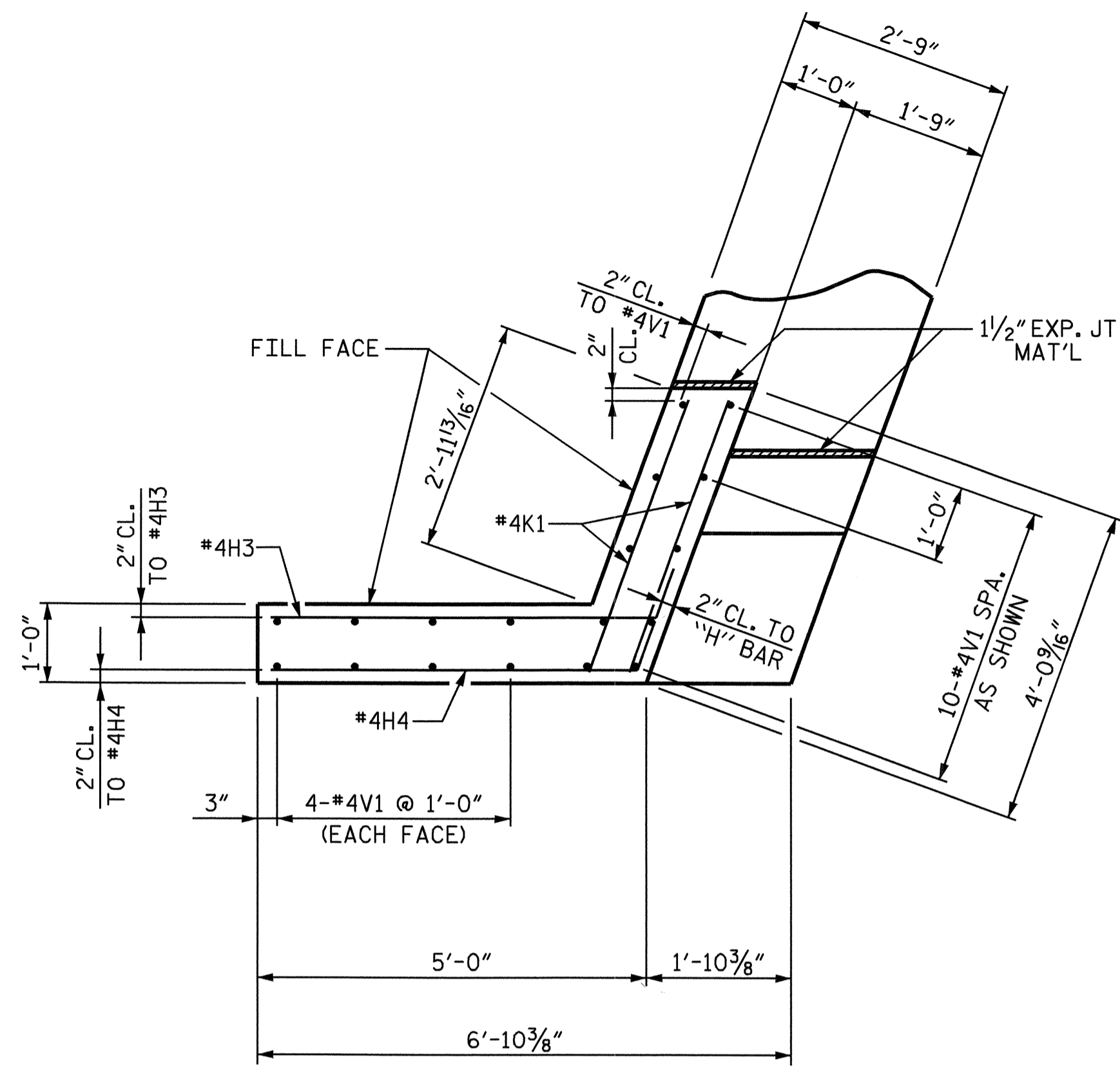


DRAWN BY : S.P.L./H.T. BARBOUR DATE : 5-03-05  
 CHECKED BY : D.A. DAVENPORT DATE : 10-05

03-APR-2007 14:07  
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 TBARBOUR

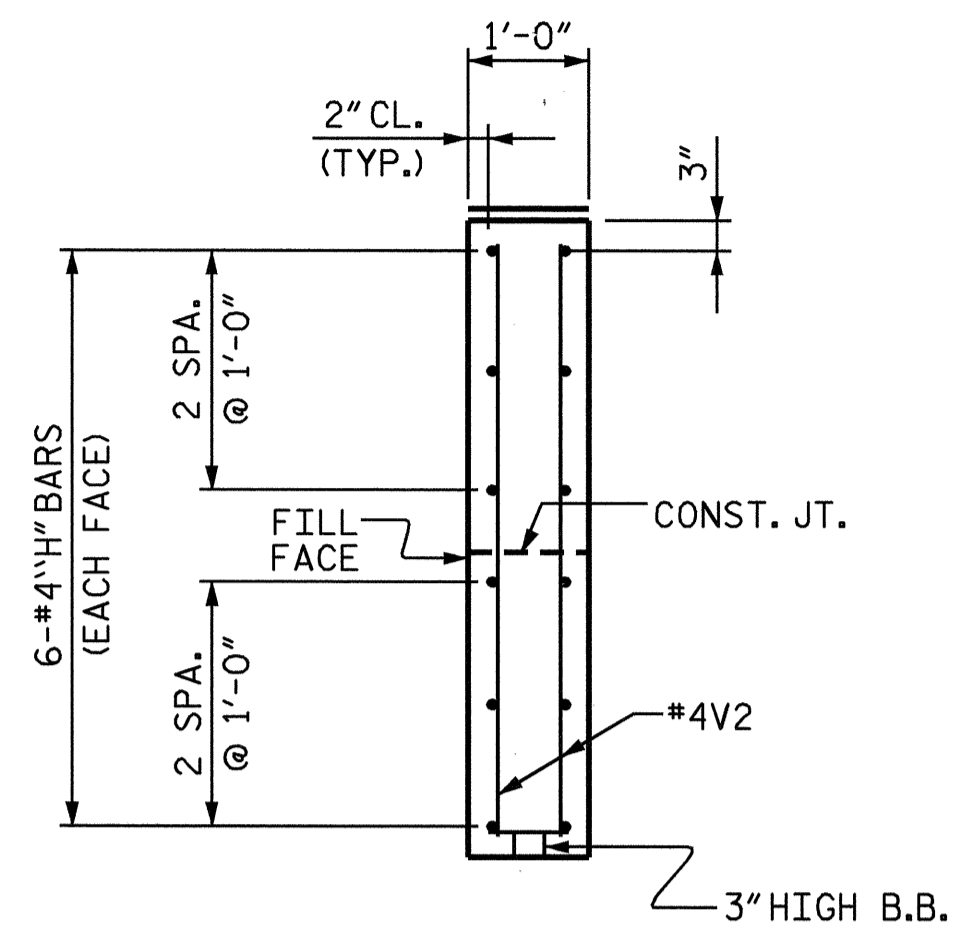
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	5-17
1			3			TOTAL SHEETS
2			4			22

NC006

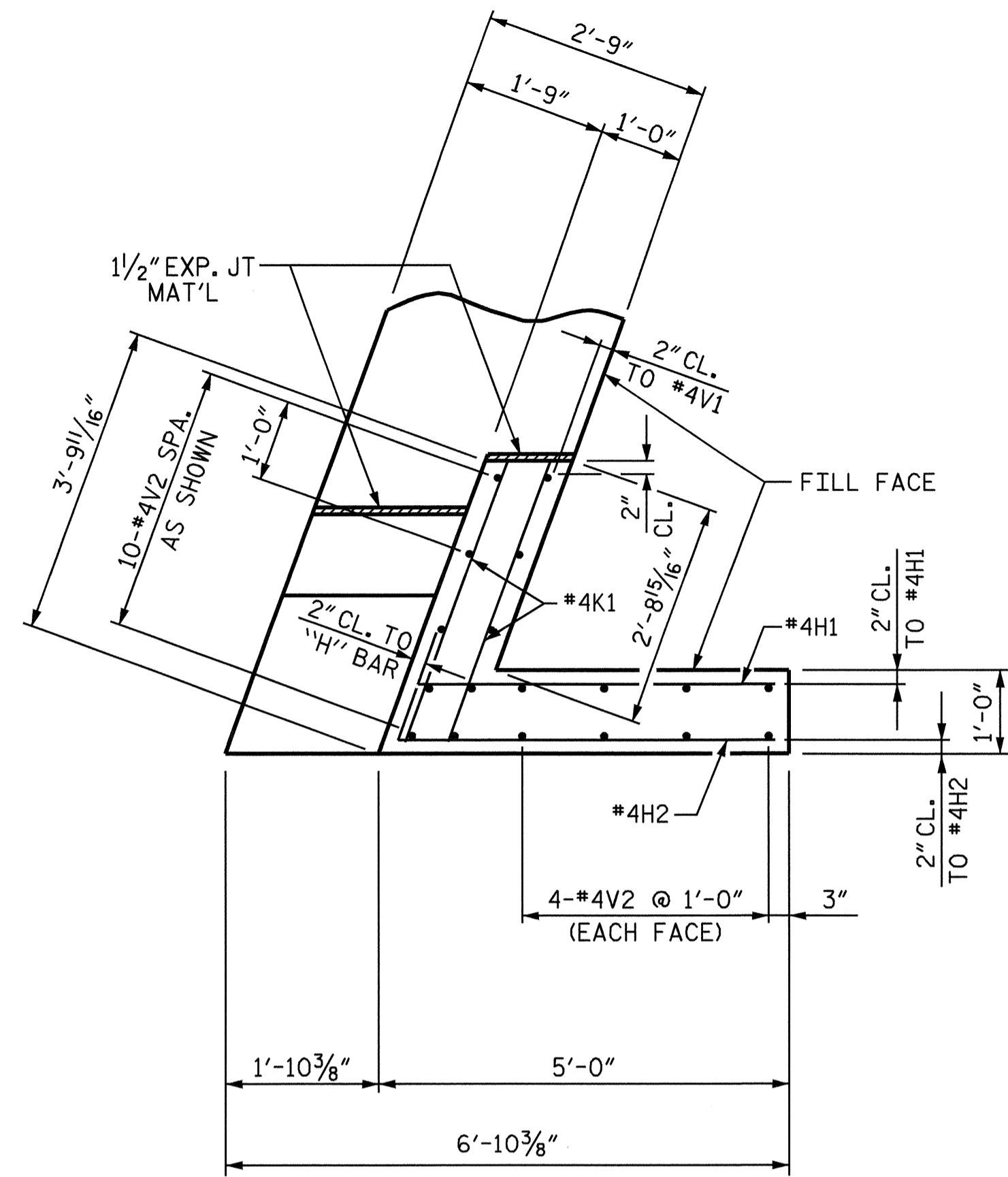


PLAN OF LEFT WING

W1

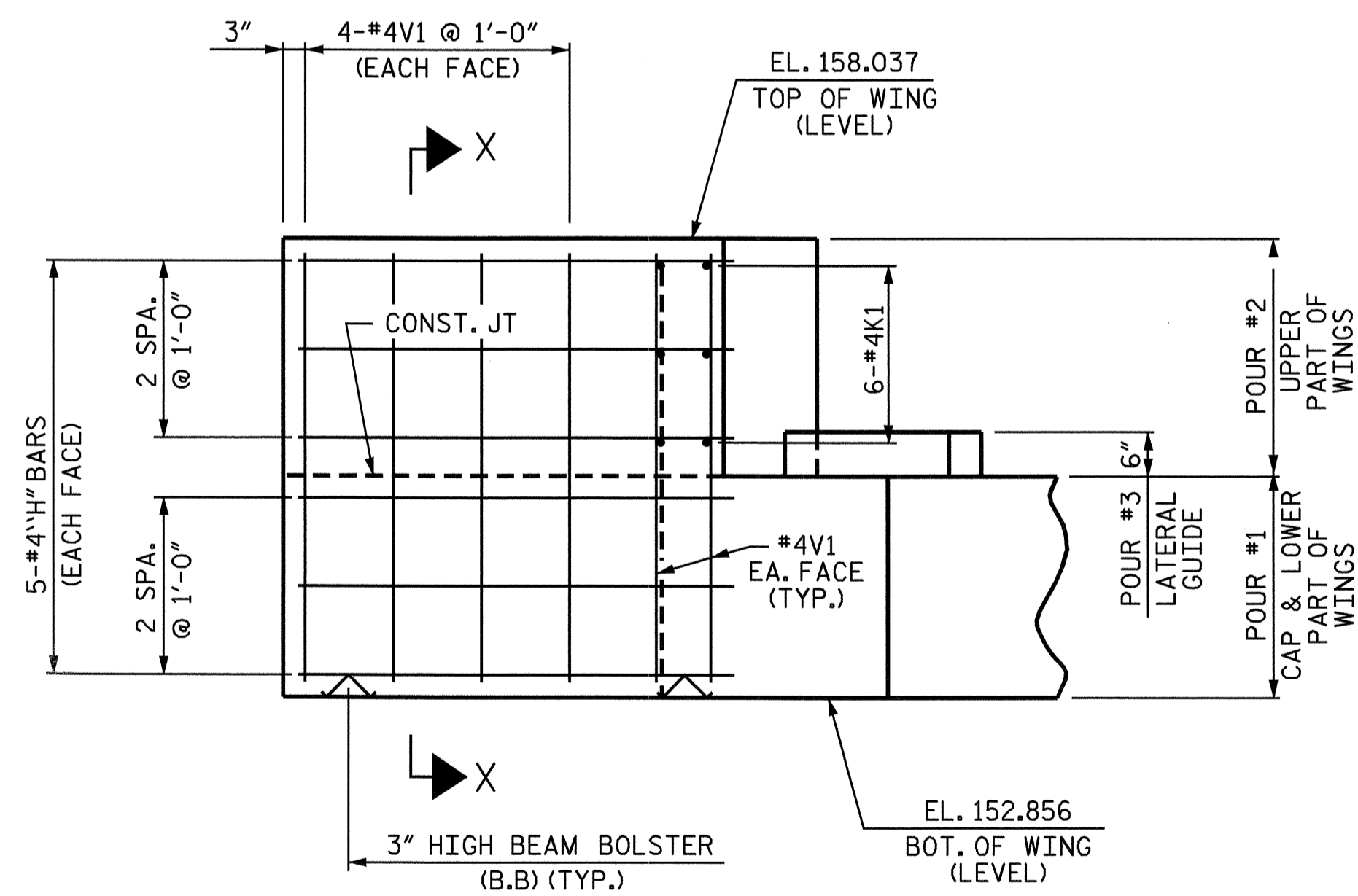


SECTION Y-Y



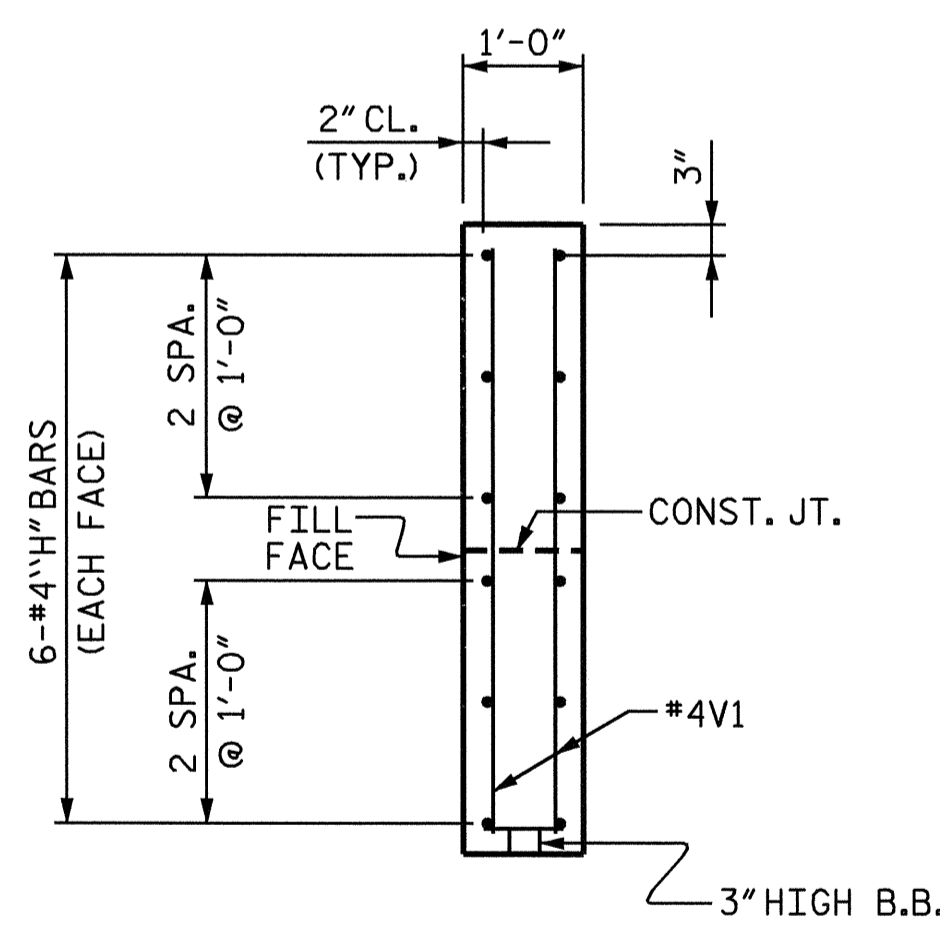
PLAN OF RIGHT WING

W2

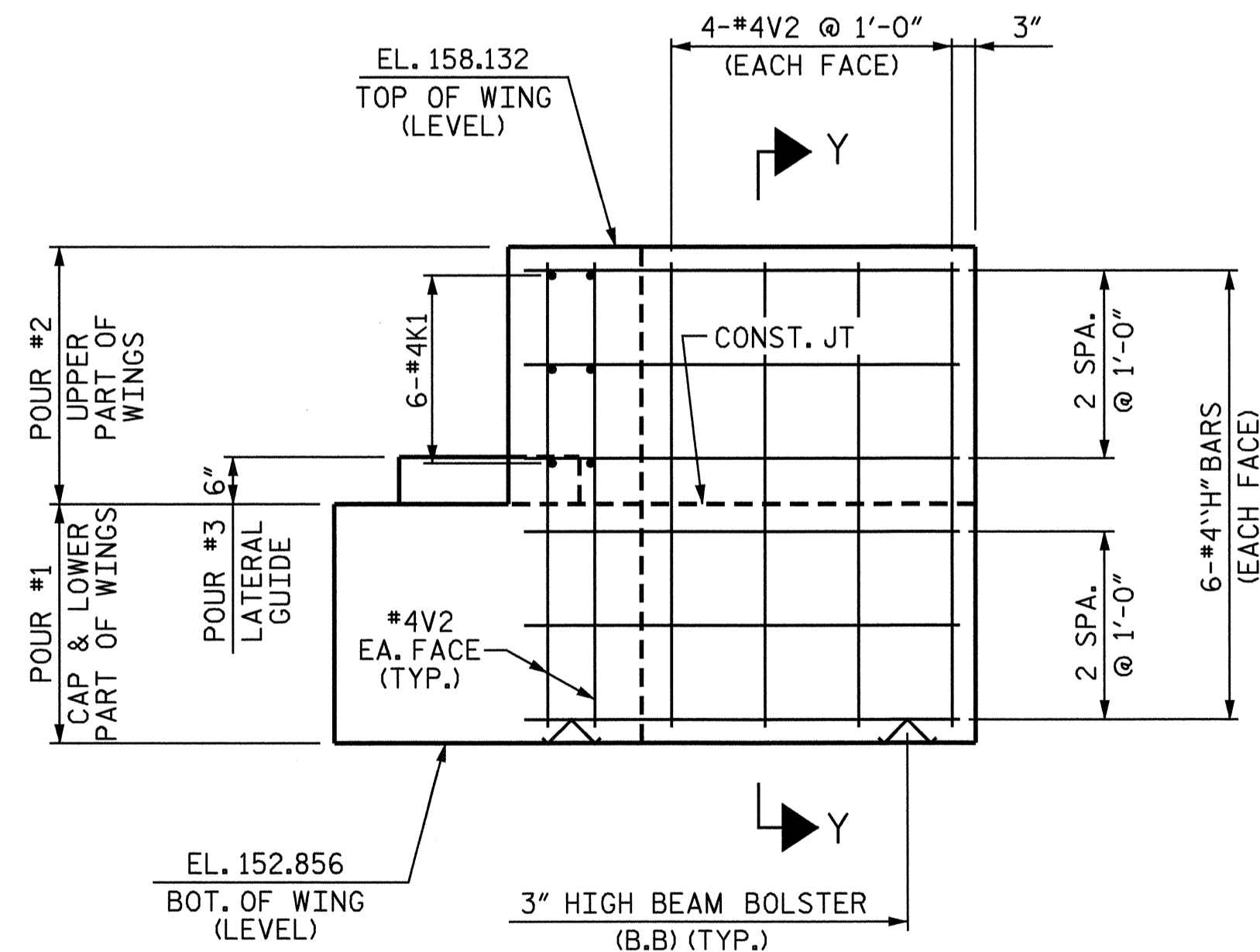


ELEVATION OF LEFT WING

W1



SECTION X-X



ELEVATION OF RIGHT WING

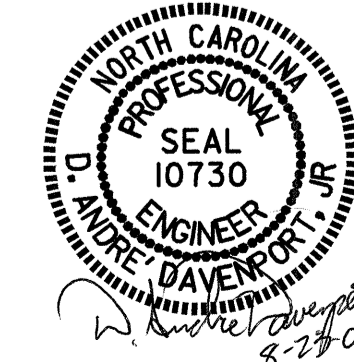
W2

PROJECT NO. B-3876  
 NASH COUNTY  
 STATION: 22+03.60 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SUBSTRUCTURE  
 END BENT #2  
 WING DETAILS

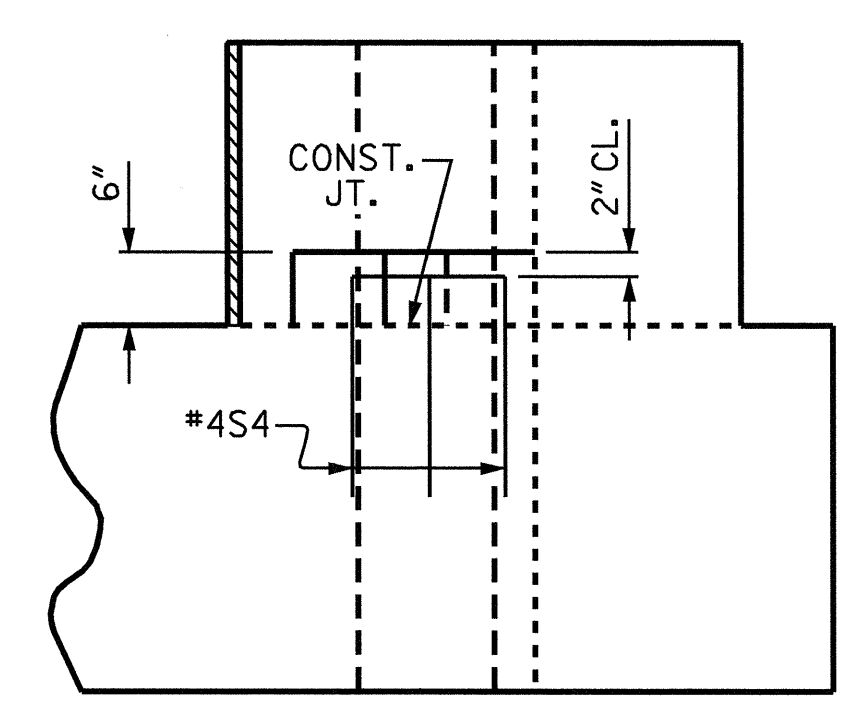
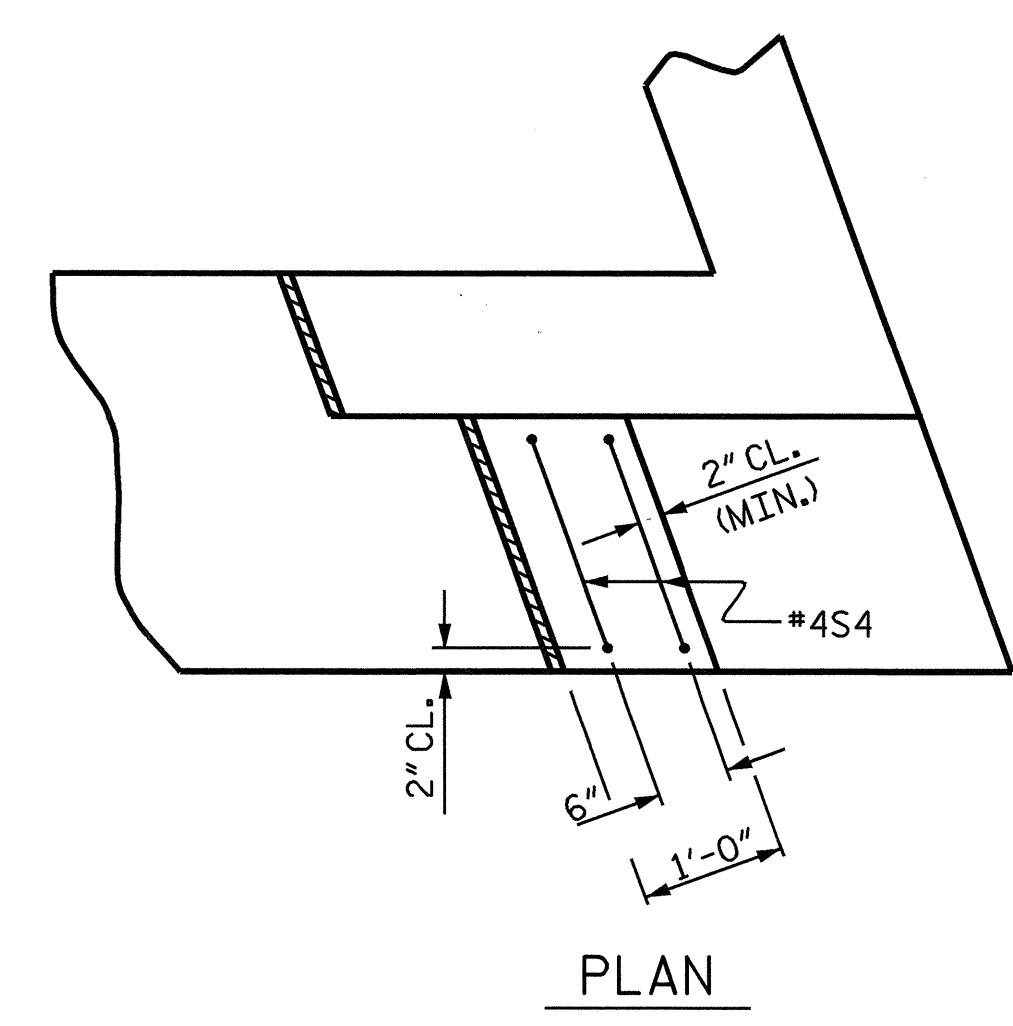
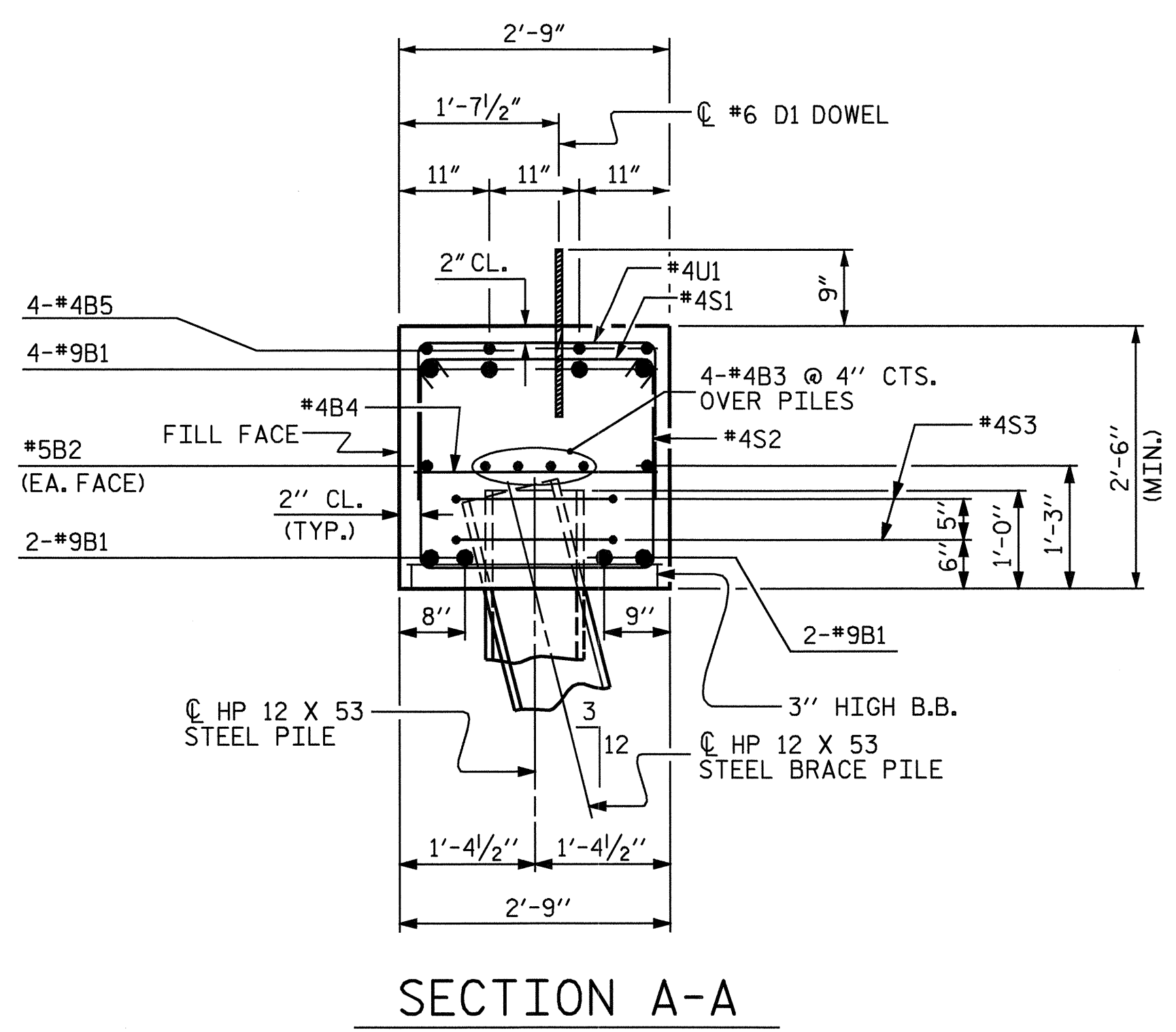


DRAWN BY : S.P.L./H.T. BARBOUR DATE : 5-04-05  
 CHECKED BY : D. A. DAVENPORT DATE : 10-05

23-AUG-2006 10:58  
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 ddavenport

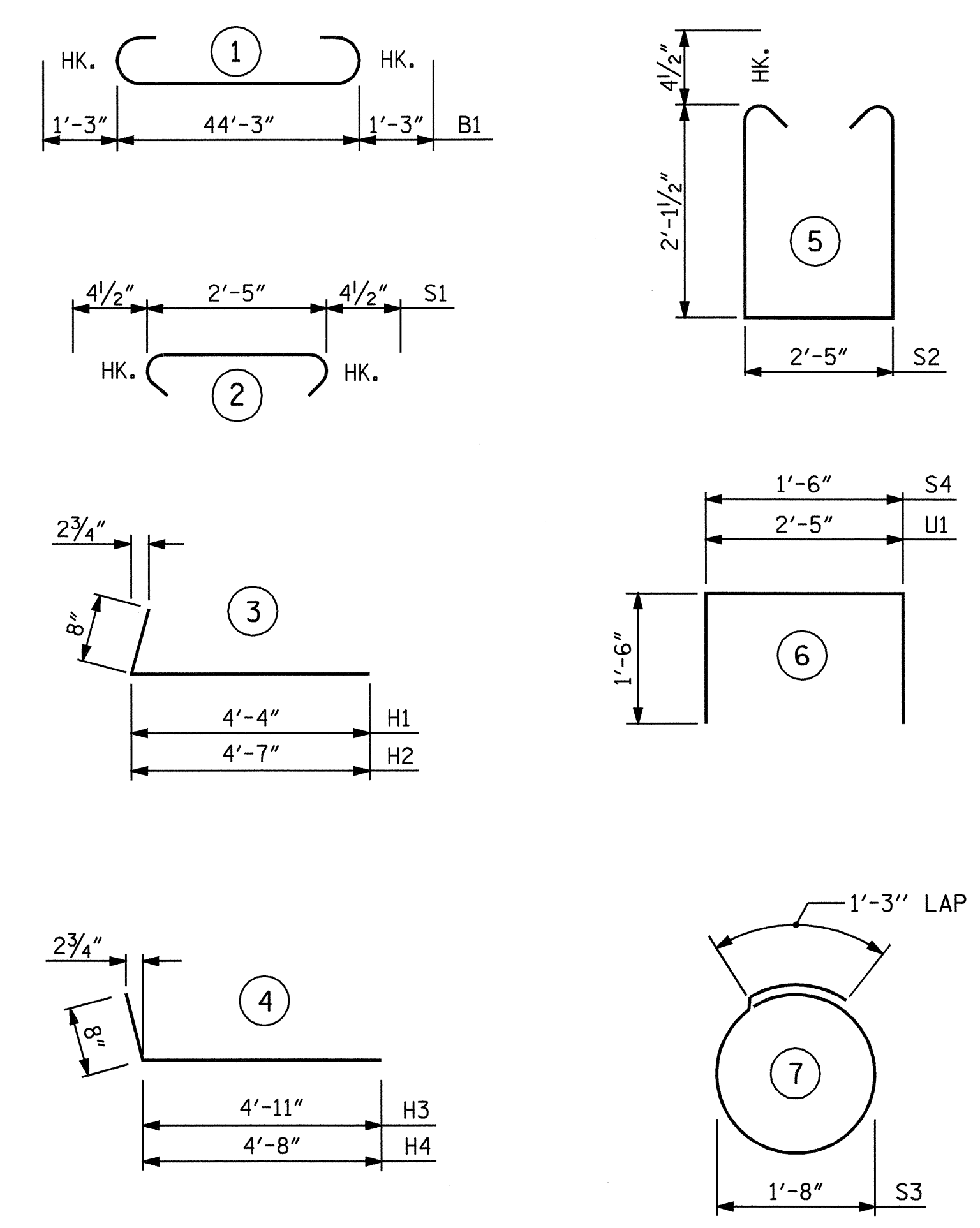
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	5-18	22
1			3				
2			4				

NC005



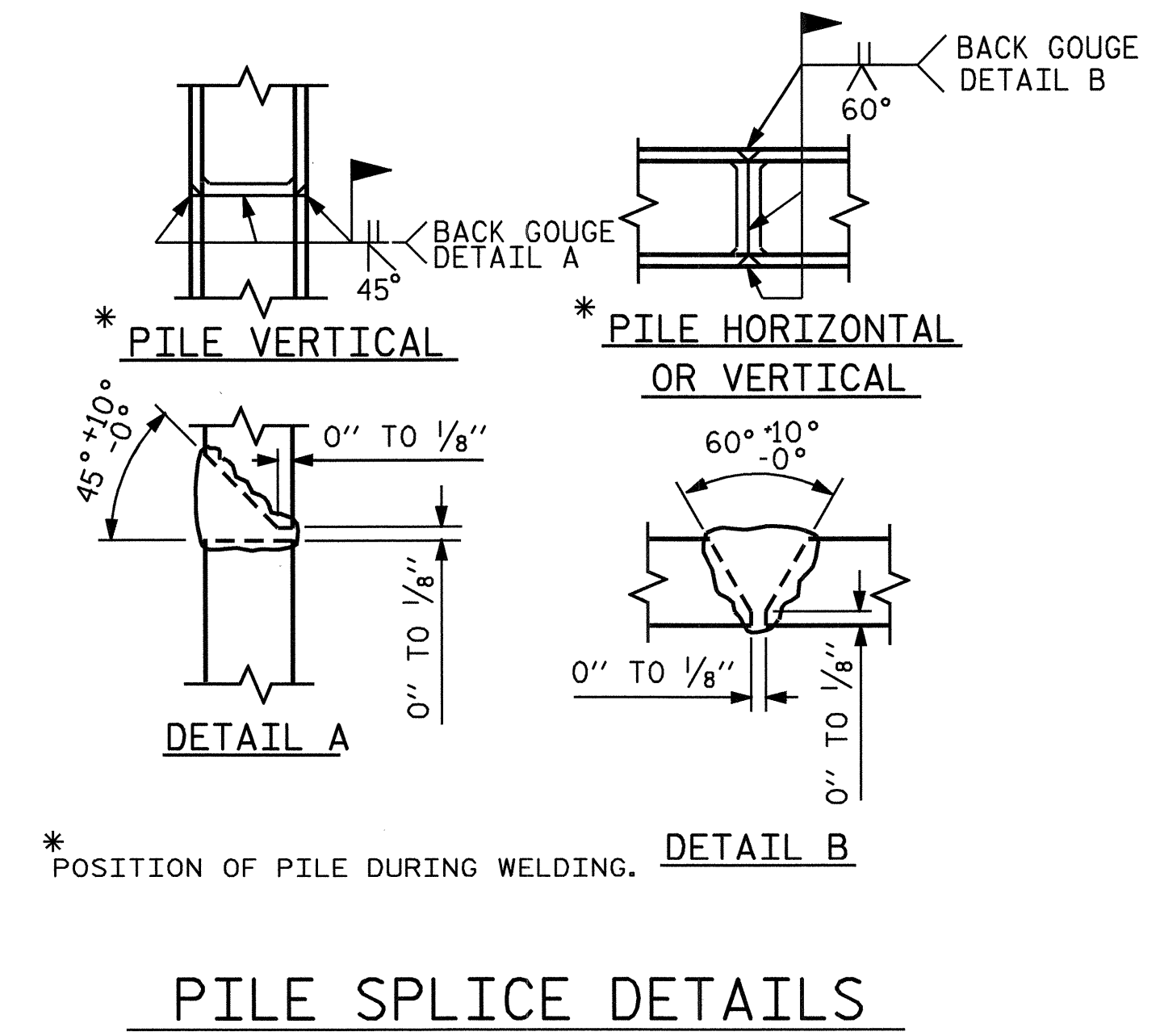
LATERAL GUIDE  
(TYPICAL EACH SIDE)

BAR TYPES

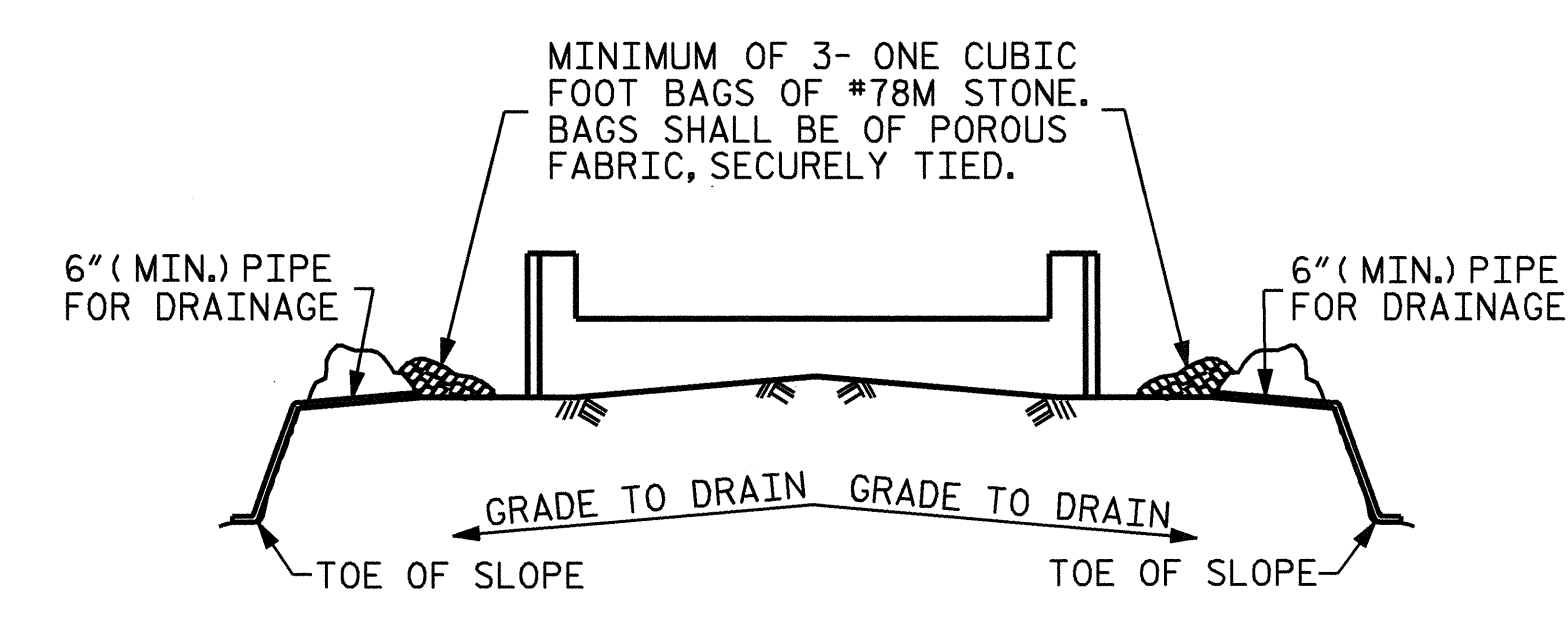


ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
END BENT #2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	46'-9"	1272
B2	2	#5	STR	44'-5"	93
B3	8	#4	STR	23'-5"	125
B4	11	#4	STR	2'-5"	18
B5	4	#4	STR	11'-2"	30
D1	24	#6	STR	1'-6"	54
H1	6	#4	3	5'-0"	20
H2	6	#4	3	5'-3"	21
H3	6	#4	4	5'-7"	22
H4	6	#4	4	5'-4"	21
K1	12	#4	STR	2'-8"	21
S1	44	#4	2	3'-2"	93
S2	44	#4	5	7'-5"	218
S3	16	#4	7	6'-6"	69
S4	4	#4	6	4'-6"	12
U1	10	#4	6	5'-5"	36
V1	18	#4	STR	4'-10"	58
V2	18	#4	STR	4'-11"	59
REINFORCING STEEL =					2242 LBS.
CLASS A CONCRETE BREAKDOWN					
POUR #1 CAP & LOWER PART OF WINGS					13.1 C.Y.
POUR #2 UPPER PART OF WINGS					1.5 C.Y.
POUR #3 LATERAL GUIDES					0.1 C.Y.
TOTAL CLASS A CONCRETE					14.2 C.Y.
HP 12 X 53 STEEL PILES					120 LIN. FT.
No. 8					



PILE SPLICE DETAILS



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.

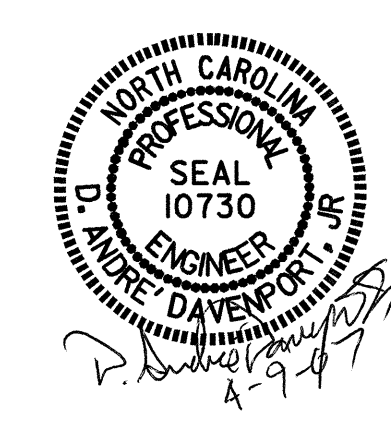
TEMPORARY DRAINAGE AT END BENT

PROJECT NO. B-3876  
NASH COUNTY  
 STATION: 22+03.60 -L-

SHEET 3 OF 3

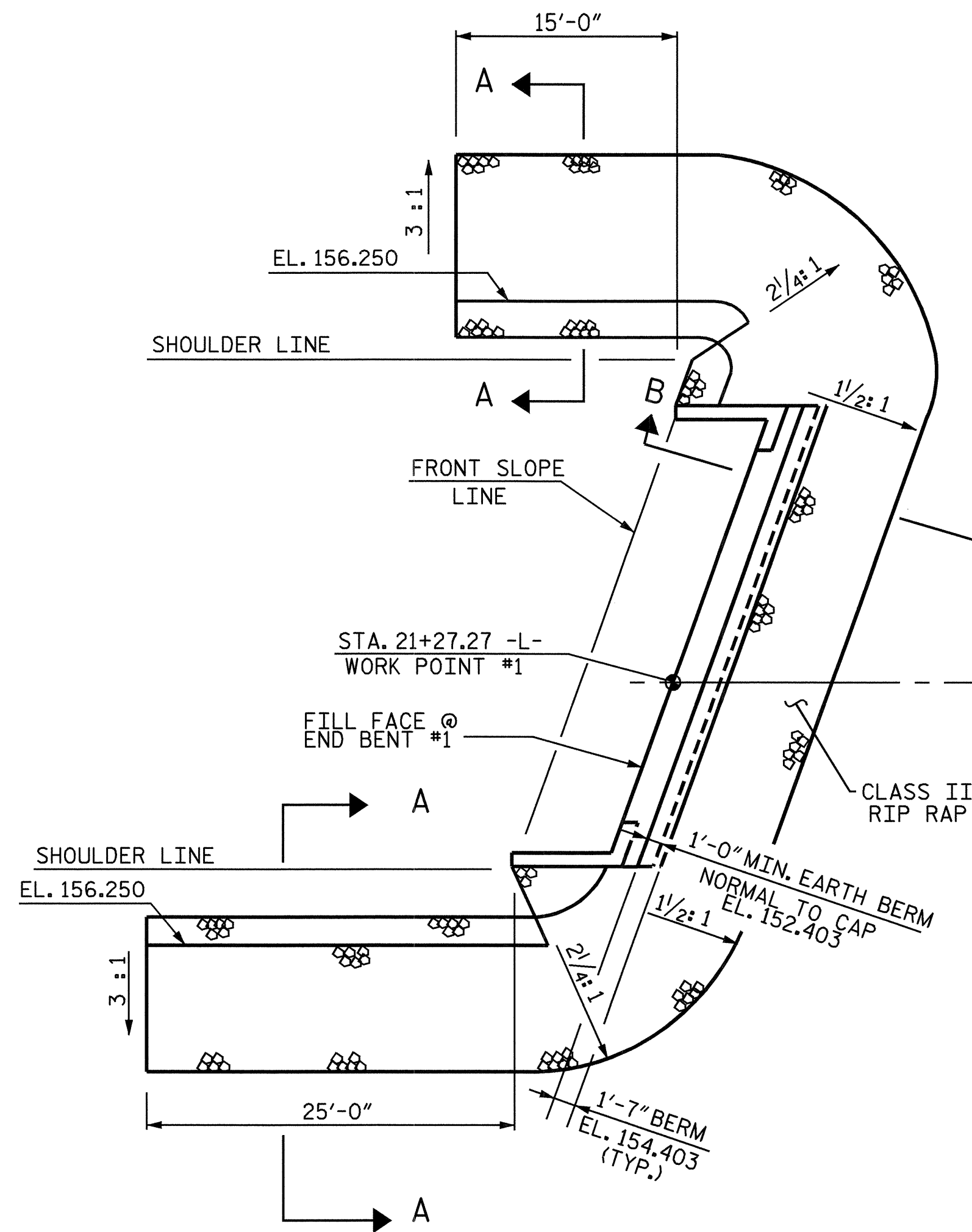
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**SUBSTRUCTURE  
 END BENT #2**

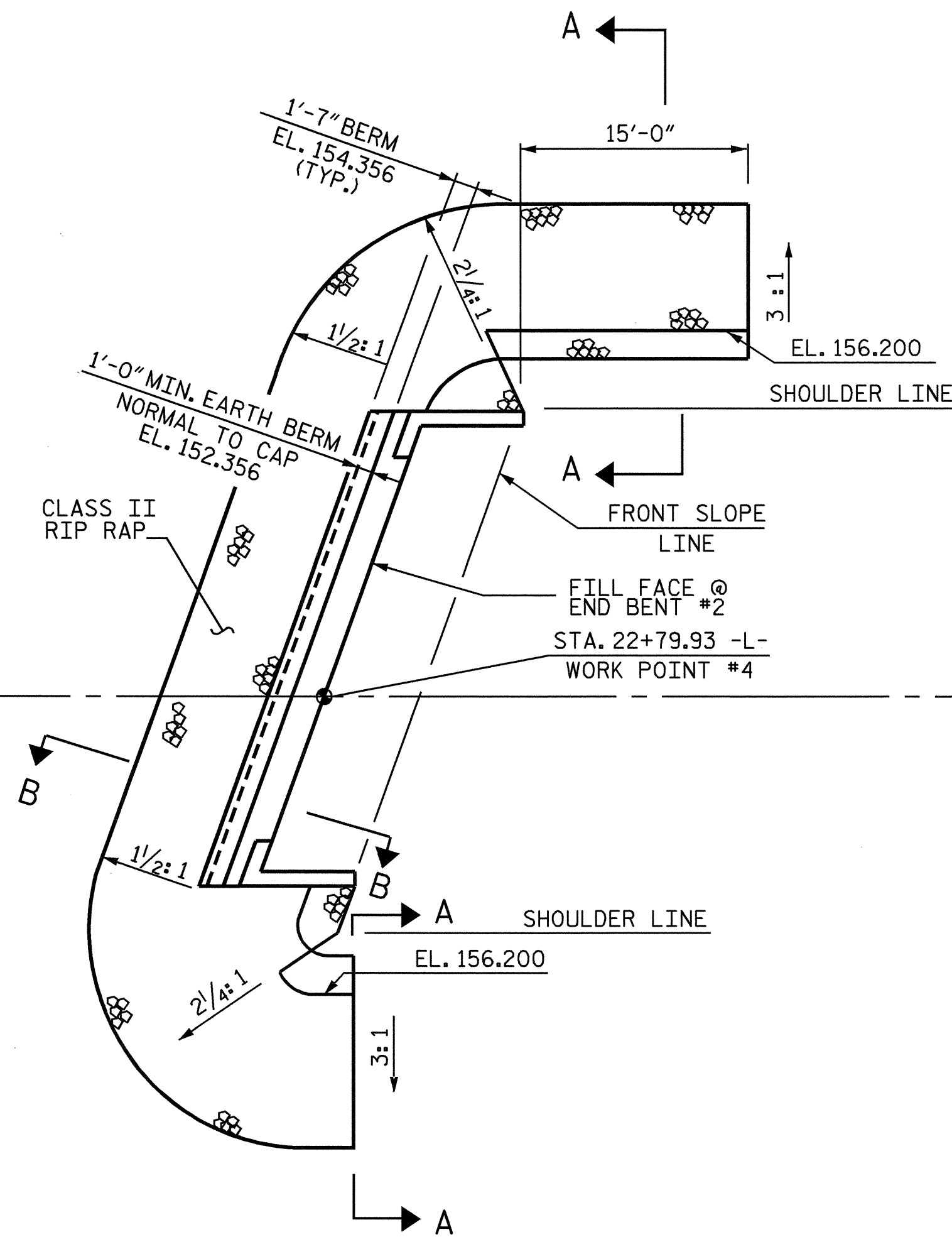


REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	5-19	
1			3			TOTAL SHEETS	
2			4			22	

DRAWN BY : S.P.L./H. T. BARBOUR DATE : 5-04-05  
 CHECKED BY : D. A. DAVENPORT DATE : 10-05



END BENT #1

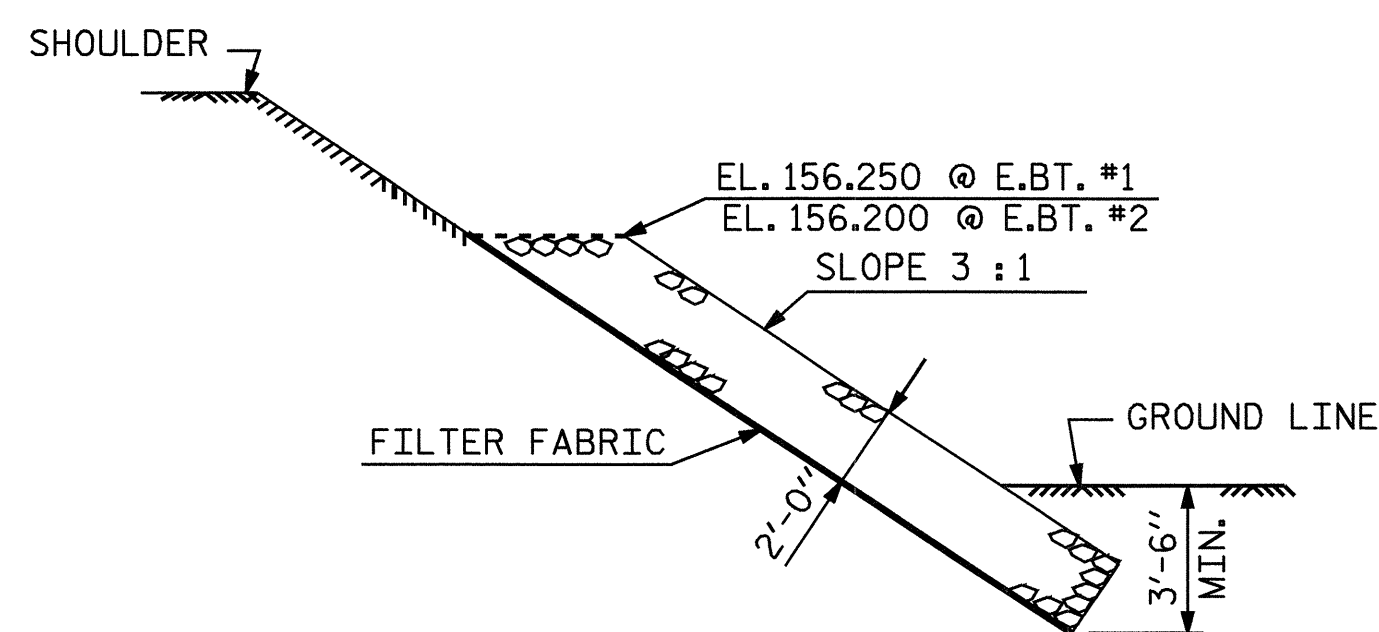


END BENT #2

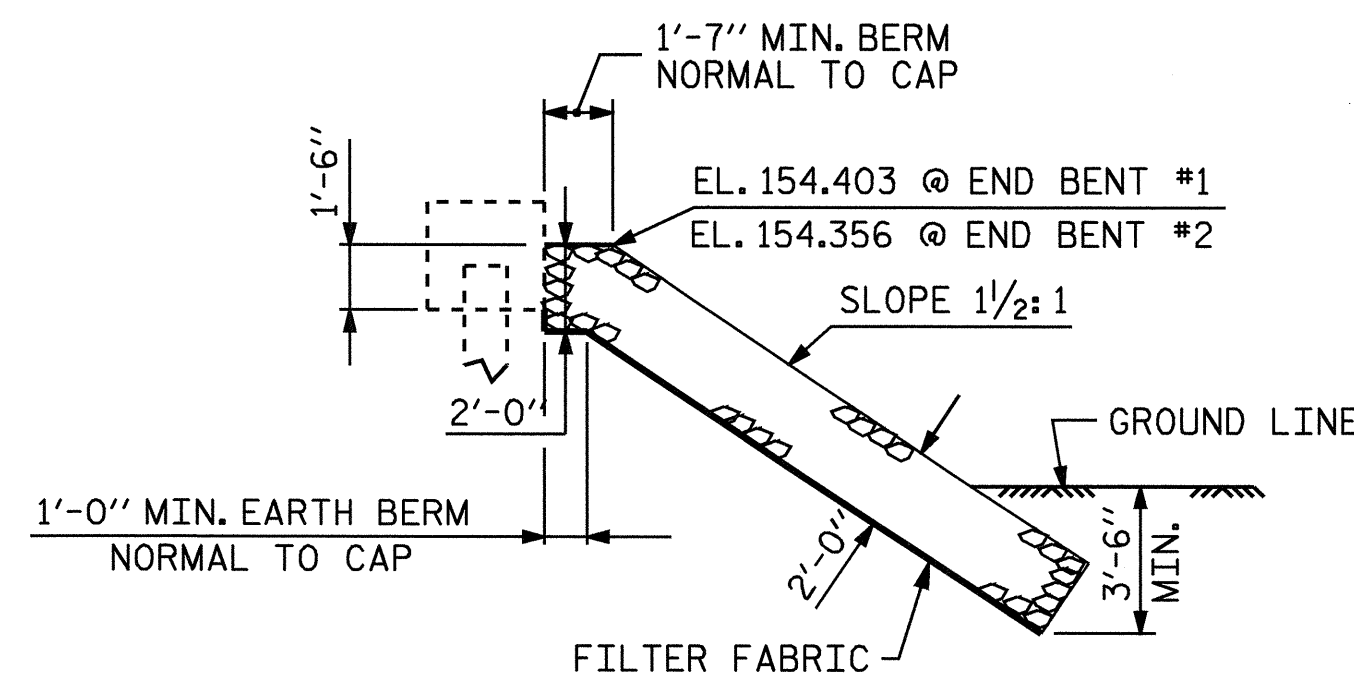
PLAN

ESTIMATED QUANTITIES		
BRIDGE @ STA. 22+03.60 -L-	RIP RAP CLASS II	FILTER FABRIC FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	214	238
END BENT 2	272	302
TOTAL	486	540

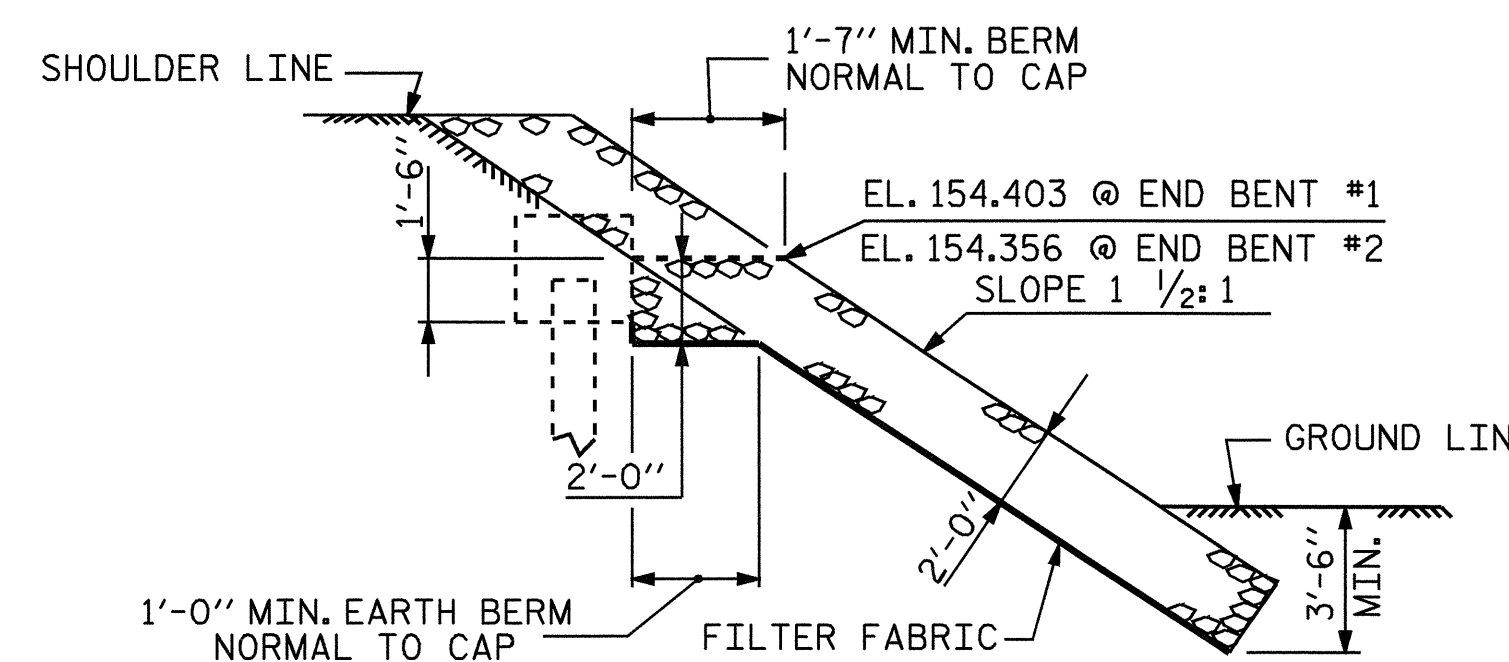
THE COST OF THE FILTER FABRIC SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR RIP RAP CLASS II.



SECTION A-A



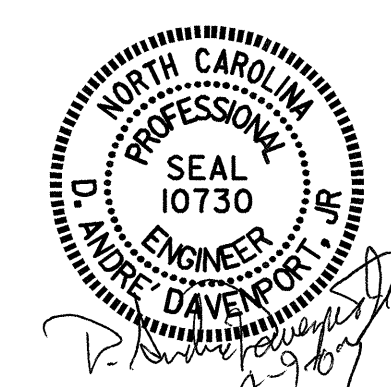
SECTION C-C



SECTION B-B

PROJECT NO. B-3876  
 NASH COUNTY  
 STATION: 22+03.60 -L-

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 — RIP RAP DETAILS —



ASSEMBLED BY : A.S./H. T. BARBOUR DATE : 5-04-05  
 CHECKED BY : S.P. LAM DATE : 6-05  
 DRAWN BY : REK 1/84  
 CHECKED BY : RDU 1/84

REV. 7/17/98 REK/RWW  
 REV. 8/16/99 RWW/LES  
 REV. 10/17/00 RWW/LES

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-20
1			3			TOTAL SHEETS
2			4			22

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 EXTEND 10'-0" BEYOND THE END OF THE APPROACH SLAB AND 1'-0" OUTSIDE OF EACH EDGE OF 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 EXTEND 1'-0" BEYOND THE 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 EXTEND 1'-0" BEYOND THE 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.

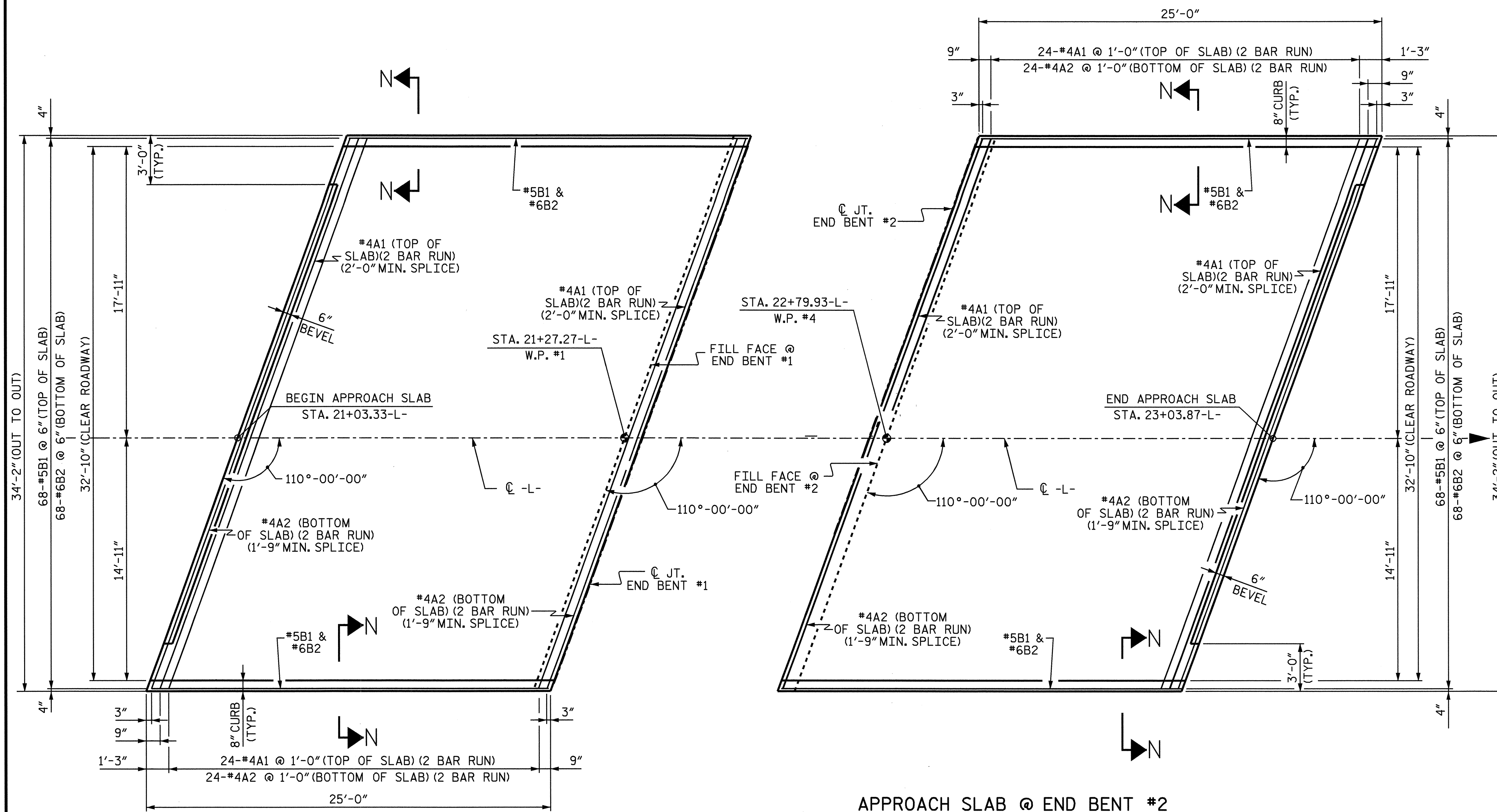
THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE EVAZOTE JOINT SEAL SHALL BE 2 1/2" AT END BENTS No. 1 AND 2.

FOR EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

APPROACH SLAB SHALL BE POURED AFTER CONCRETE OVERLAY IS POURED.

THE JOINTS SHALL BE SAWED AFTER THE CASTING OF THE BARRIER RAIL.

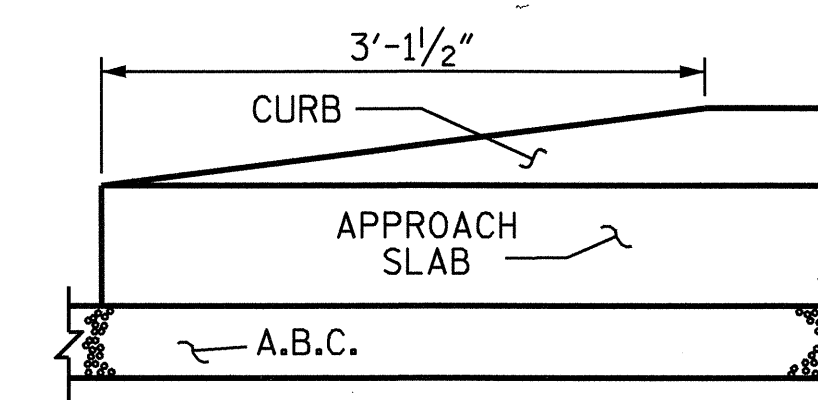


APPROACH SLAB @ END BENT #1

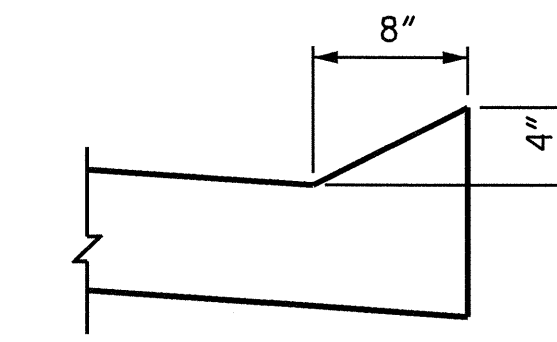
APPROACH SLAB @ END BENT #2

PLAN

BILL OF MATERIAL					
FOR ONE APPROACH SLAB (2 REQ'D)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	52	#4	STR	19'-0"	660
A2	52	#4	STR	18'-11"	657
*B1	68	#5	STR	24'-2"	1714
B2	68	#6	STR	24'-7"	2511
REINFORCING STEEL				LBS.	3168
*EPOXY COATED REINFORCING STEEL				LBS.	2374
CLASS AA CONCRETE				C. Y.	35.6

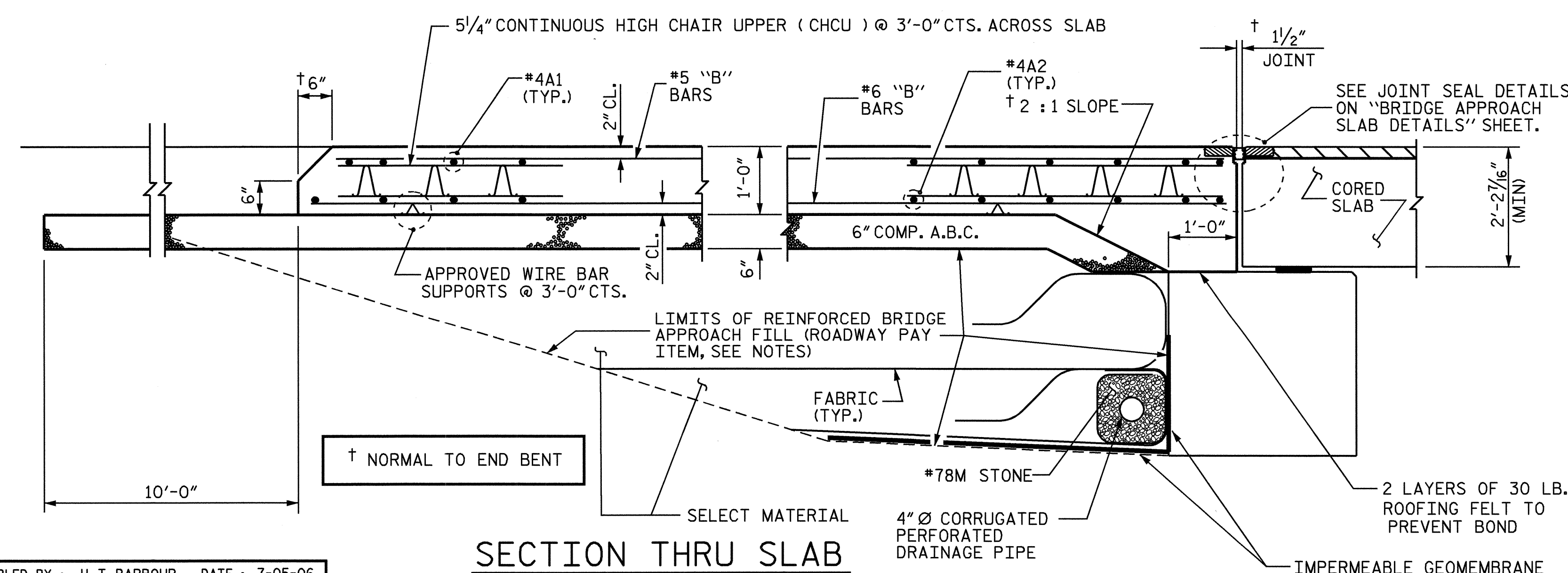


END OF CURB WITHOUT SHOULDER BERM GUTTER



SECTION N-N

CURB DETAILS



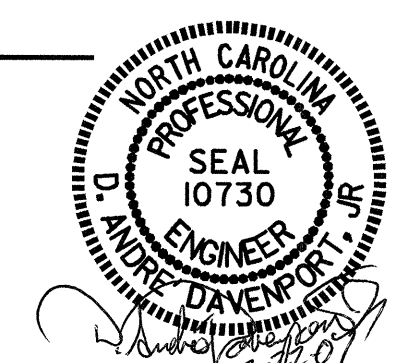
SECTION THRU SLAB

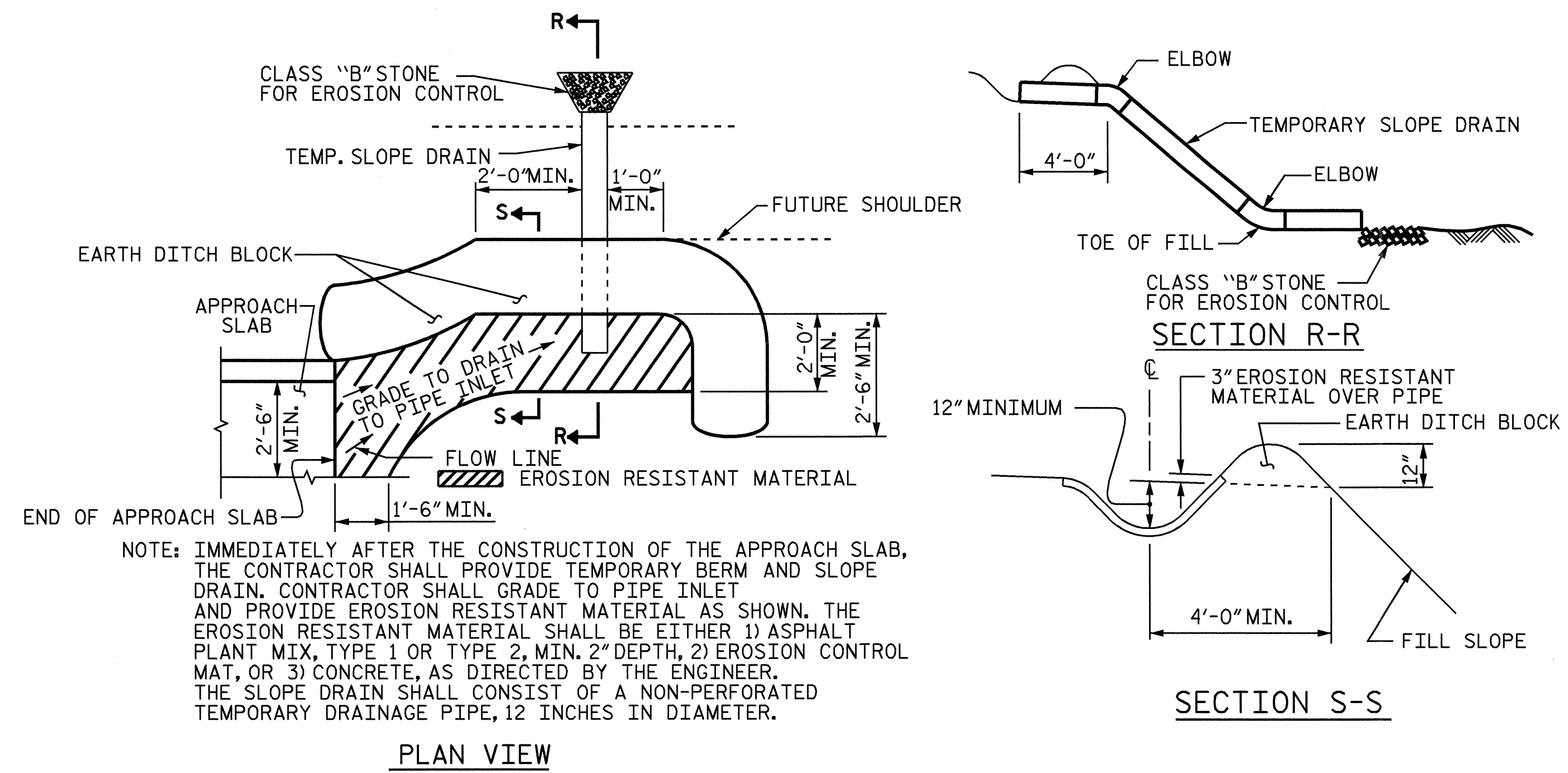
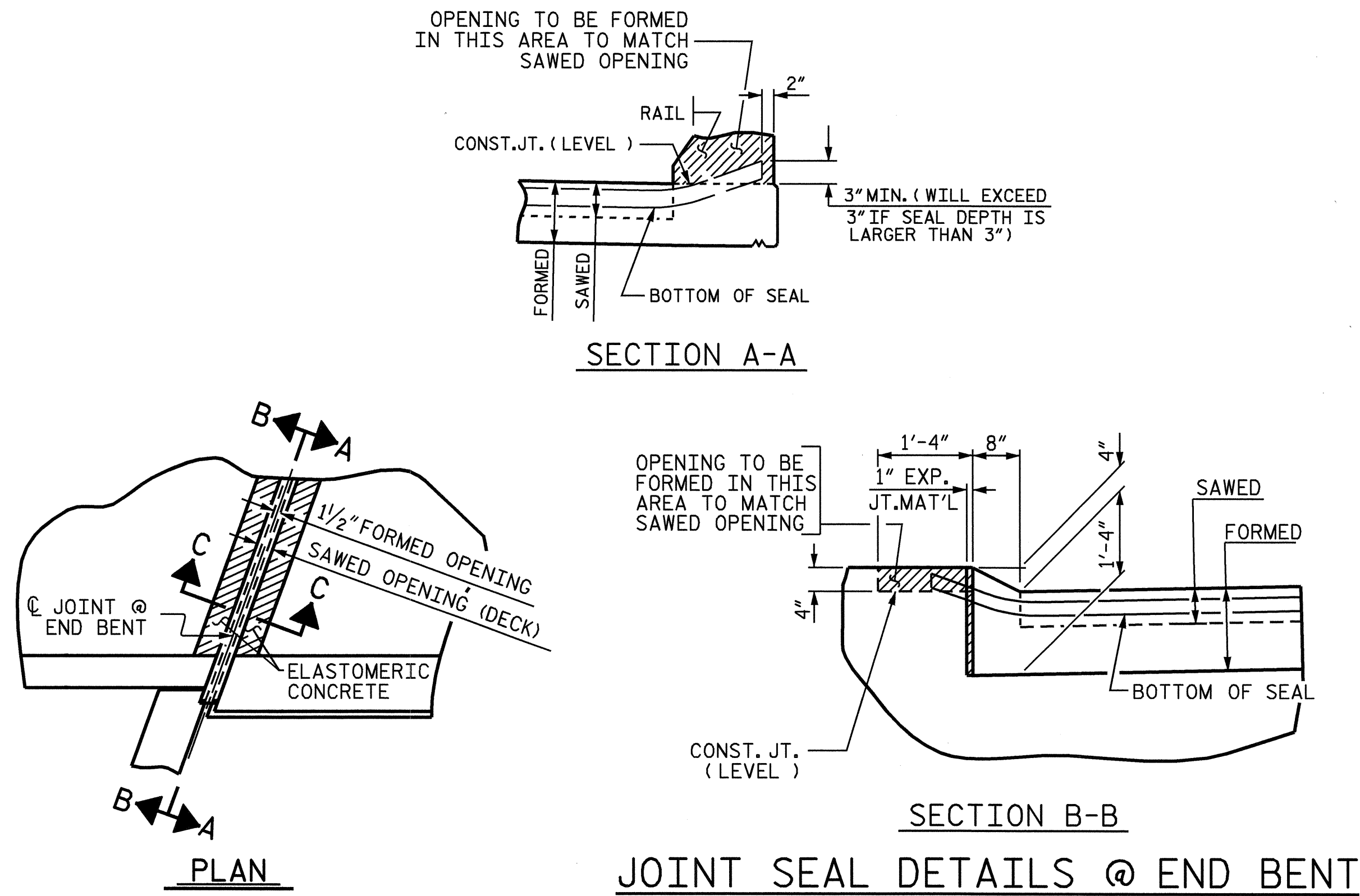
ASSEMBLED BY :	H. T. BARBOUR	DATE :	7-05-06
CHECKED BY :	D. A. DAVENPORT	DATE :	7-06
DRAWN BY :	LES 8/01	REV. 10/17/00	RWW/LES
CHECKED BY :	RDR 8/01	REV. 7/10/01	LES/RDR
		REV. 5/7/03R	RWW/JTE

PROJECT NO. B-3876  
NASH COUNTY  
 STATION: 22+03.60-L-

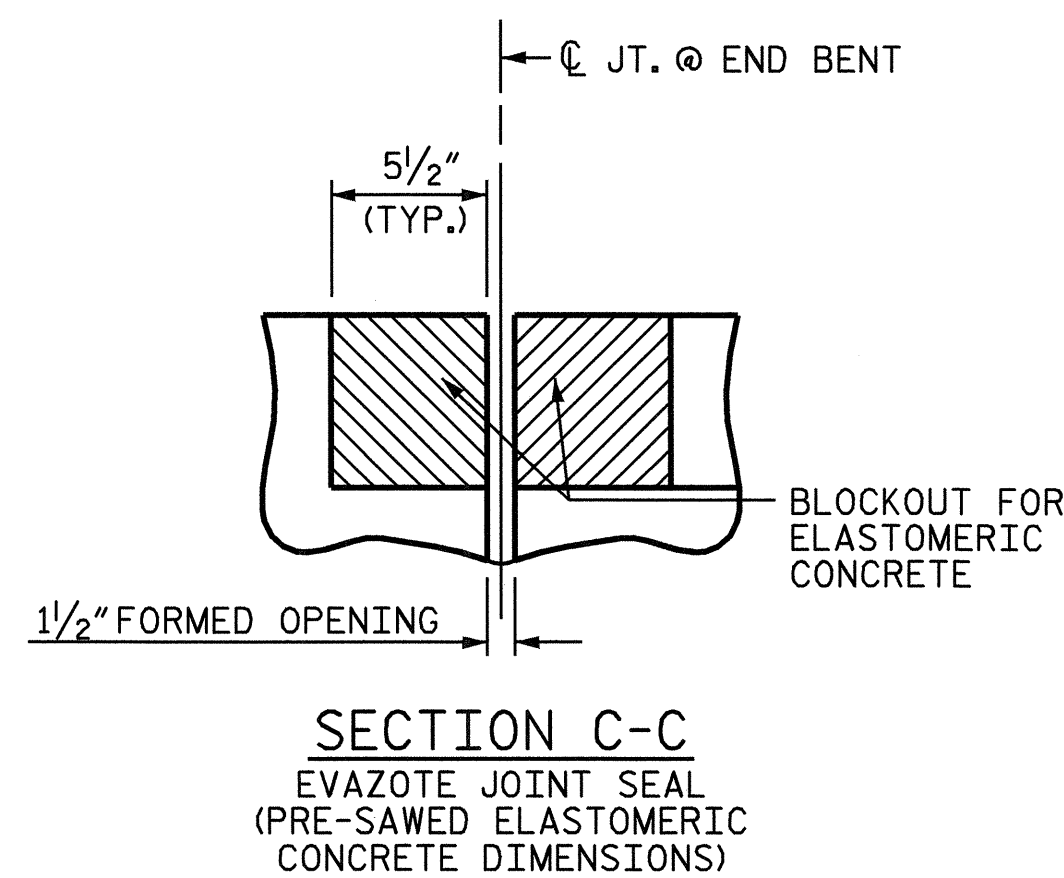
SHEET 1 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BRIDGE APPROACH SLAB FOR PRESTRESSED CONCRETE CORED SLAB					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS 22



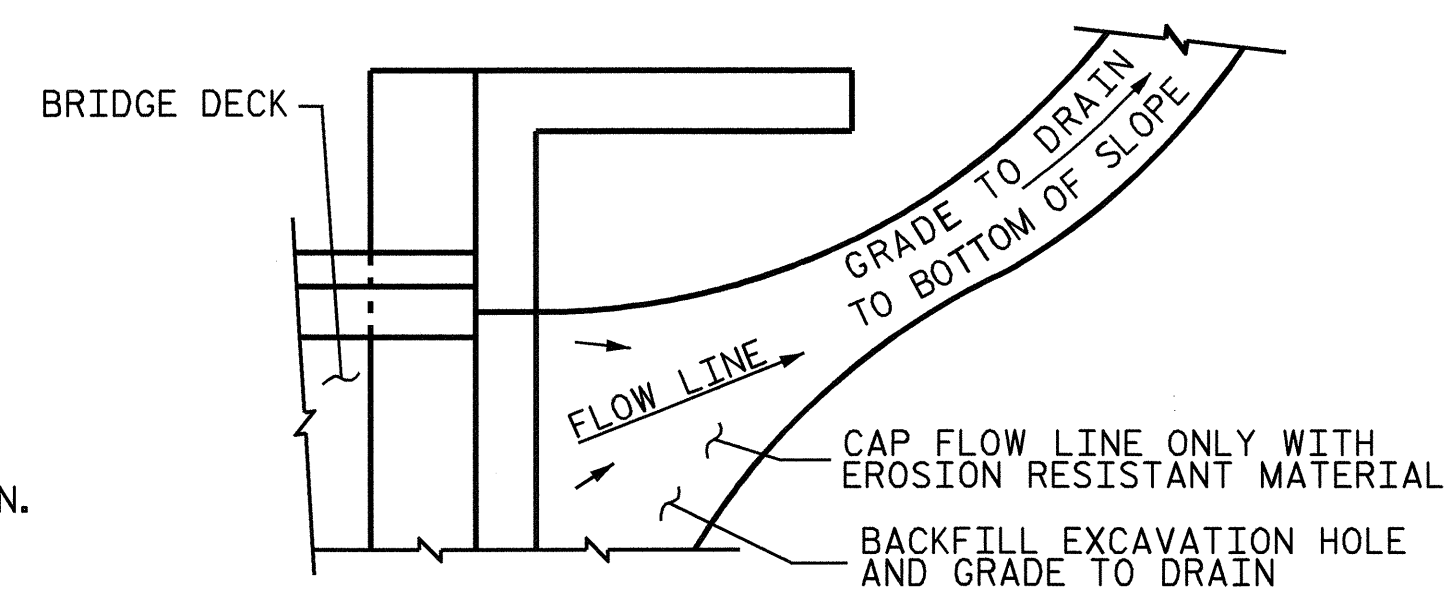


**TEMPORARY BERM AND SLOPE DRAIN DETAILS**  
(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



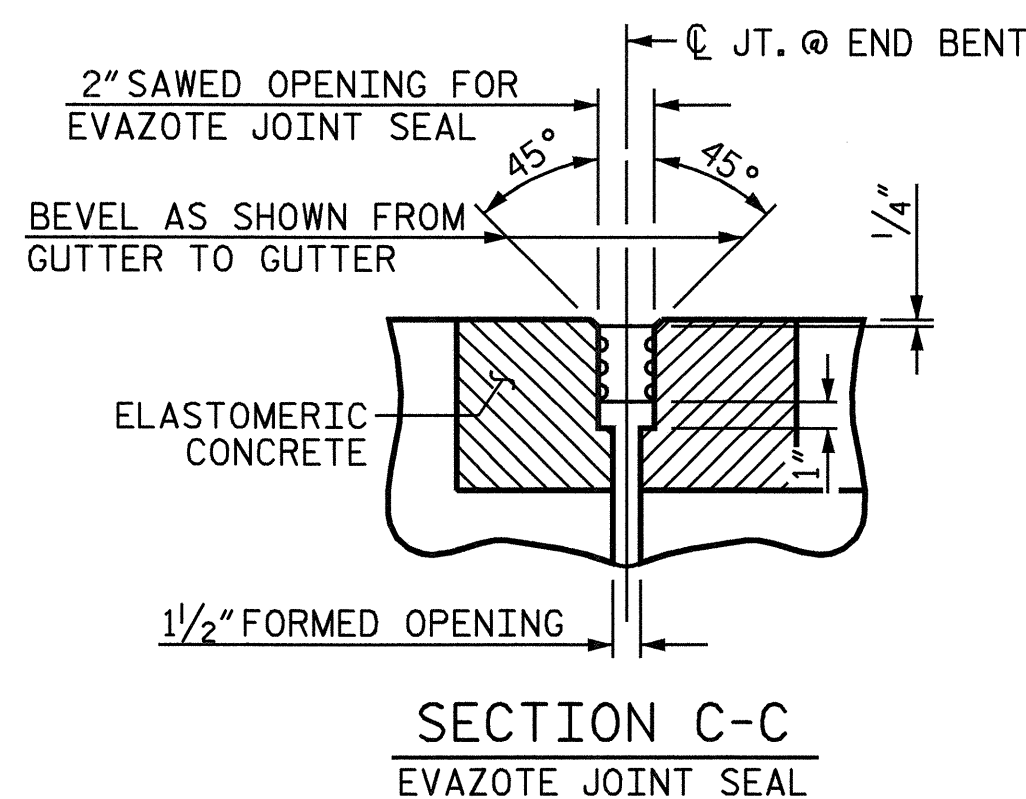
ELASTOMERIC CONCRETE	
END BENT NO.	ELASTOMERIC CONCRETE * (CU. FT.)
1	15.0
2	15.0
TOTAL	30.0

\* BASED ON THE MINIMUM BLOCKOUT SHOWN.



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

**TEMPORARY DRAINAGE DETAIL**

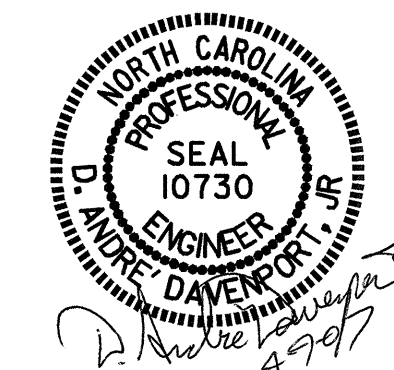


PROJECT NO. B-3876  
NASH COUNTY  
STATION: 22+03.60-L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**BRIDGE APPROACH SLAB DETAILS**



ASSEMBLED BY : H. T. BARBOUR DATE : 7-05-06  
CHECKED BY : D. A. DAVENPORT DATE : 7-06  
DRAWN BY : FCJ 11/88 REV. 8/16/99 MAB/LES  
CHECKED BY : ARB 11/88 REV. 10/17/00 RWW/LES  
REV. 5/17/03 RWW/JTE

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

## 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 2002 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; CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP; AND CLASS S SHALL BE USED FOR UNDERWATER FOOTING SEALS.

### 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 FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED 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 WITH THE EXCEPTION OF #2 BARS WHICH MAY BE FABRICATED FROM COLD DRAWN STEEL WIRE. 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.

PLACEMENT OF BEAM OR GIRDER MEMBERS ON TRUCKS FOR HAULING SHALL BE DONE IN COMPLIANCE WITH LIMITS SHOWN ON SKETCHES PROVIDED TO THE MATERIALS AND TEST UNIT APPROVED BY THE STRUCTURE DESIGN UNIT DATED MAY 8, 1991. THESE SKETCHES PRIMARILY LIMIT THE UNSUPPORTED CANTILEVER LENGTH OF MEMBERS. WHEN THE CONTRACTOR WISHES TO PLACE MEMBERS ON TRUCKS NOT IN ACCORDANCE WITH THESE LIMITS, TO SHIP BY RAIL, TO ATTACH SHIPPING RESTRAINTS TO THE MEMBERS OR TO INVERT MEMBERS, HE SHALL SUBMIT A SKETCH FOR APPROVAL PRIOR TO SHIPPING. SEE ALSO ARTICLE 1072-11.

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