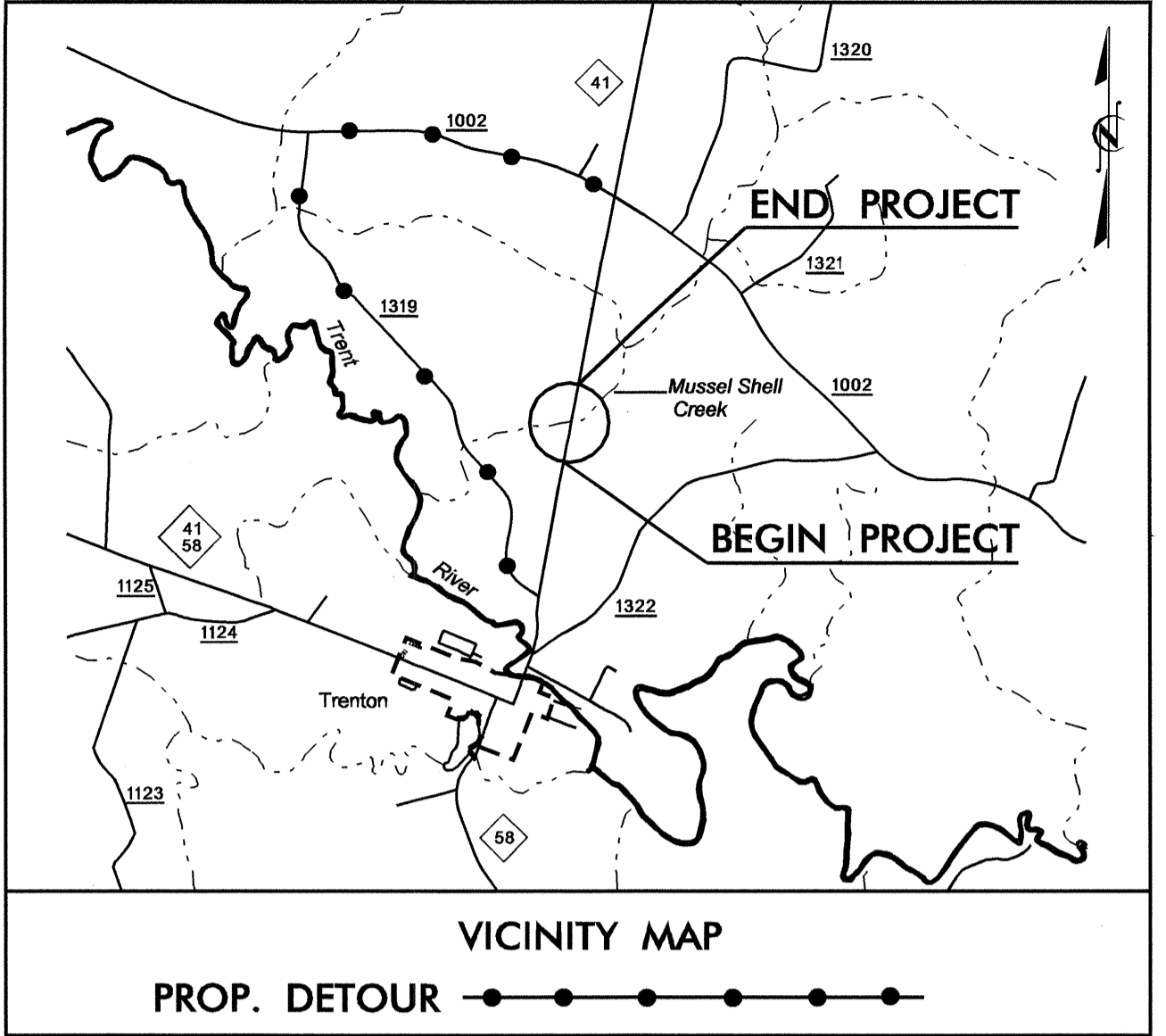


TIP PROJECT: B-4168

CONTRACT: C201771



NEAREST SHIPPING POINT: COVE CITY ON ATLANTIC AND EAST CAROLINA RAILROAD 4.7± MILES FROM BRIDGE

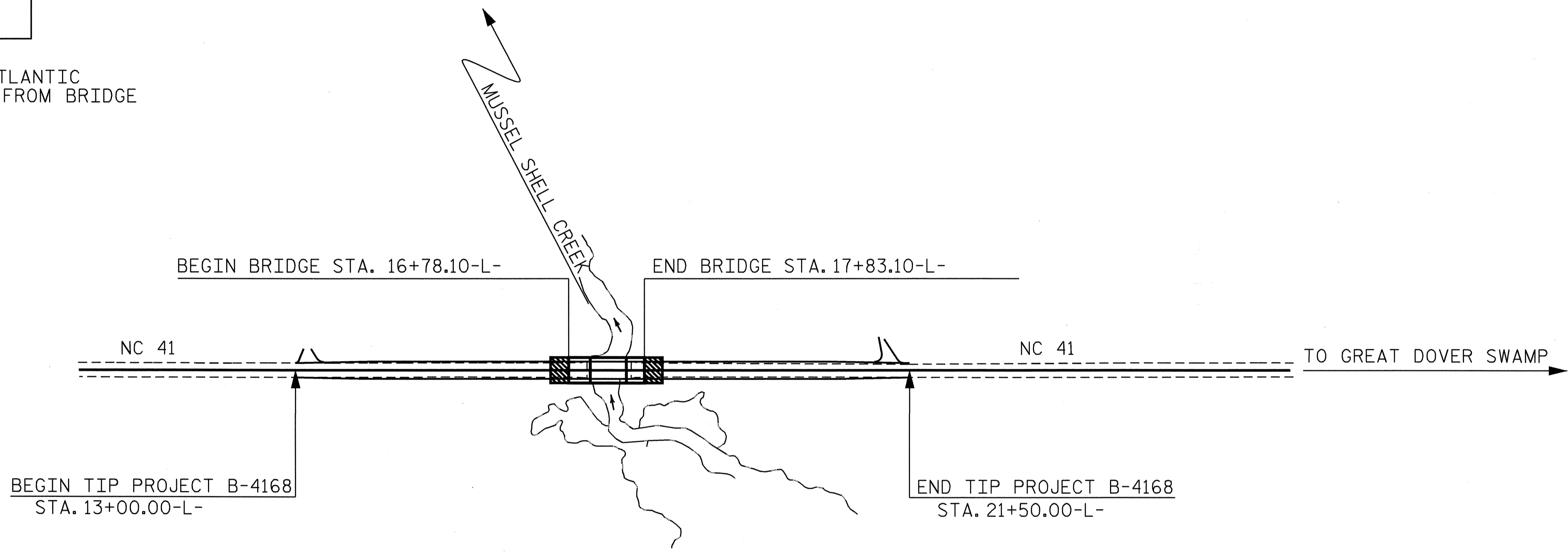
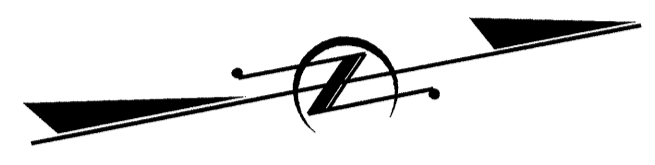
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JONES COUNTY

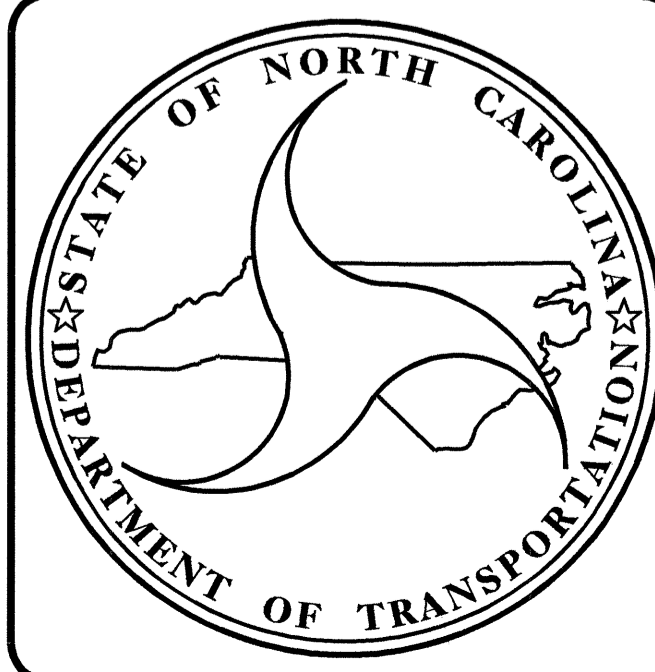
LOCATION: BRIDGE NO. 13 OVER MUSSEL SHELL CREEK ON NC 41

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4168		
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33516.1.1	BRSTP-41(23)	PE	
33516.2.1	BRSTP-41(23)	RW & UTIL	
33516.3.1	BRSTP-41(23)	CONST	



STRUCTURE



DESIGN DATA

ADT 2006 = 2400
ADT 2026 = 3800
DHV = 11 %
D = 55 %
T = 8 % *
V = 60 MPH
FUNC CLASS = COLLECTOR
* TTST 3% + DUAL 5%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4168 = 0.141 MILES
LENGTH STRUCTURE TIP PROJECT B-4168 = 0.020 MILES
TOTAL LENGTH TIP PROJECT B-4168 = 0.161 MILES

PREPARED IN THE OFFICE OF
DIVISION OF HIGHWAYS
1000 BIRCH RIDGE DRIVE RALEIGH, N.C. 27610

2006 STANDARD SPECIFICATIONS

LETTING DATE:
FEBRUARY 19, 2008

J. M. BAILEY, P.E.
PROJECT ENGINEER

D. A. DAVENPORT, JR. P.E.
PROJECT DESIGN ENGINEER

STATE BRIDGE DESIGN ENGINEER
STRUCTURE DESIGN UNIT
1000 BIRCH RIDGE DRIVE
RALEIGH, N.C. 27610

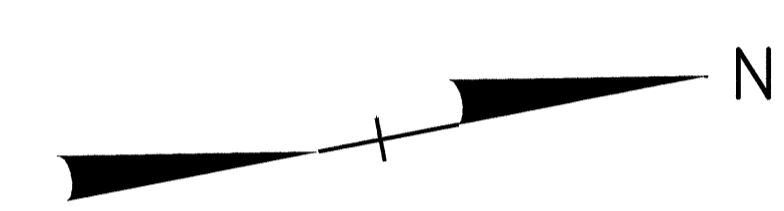
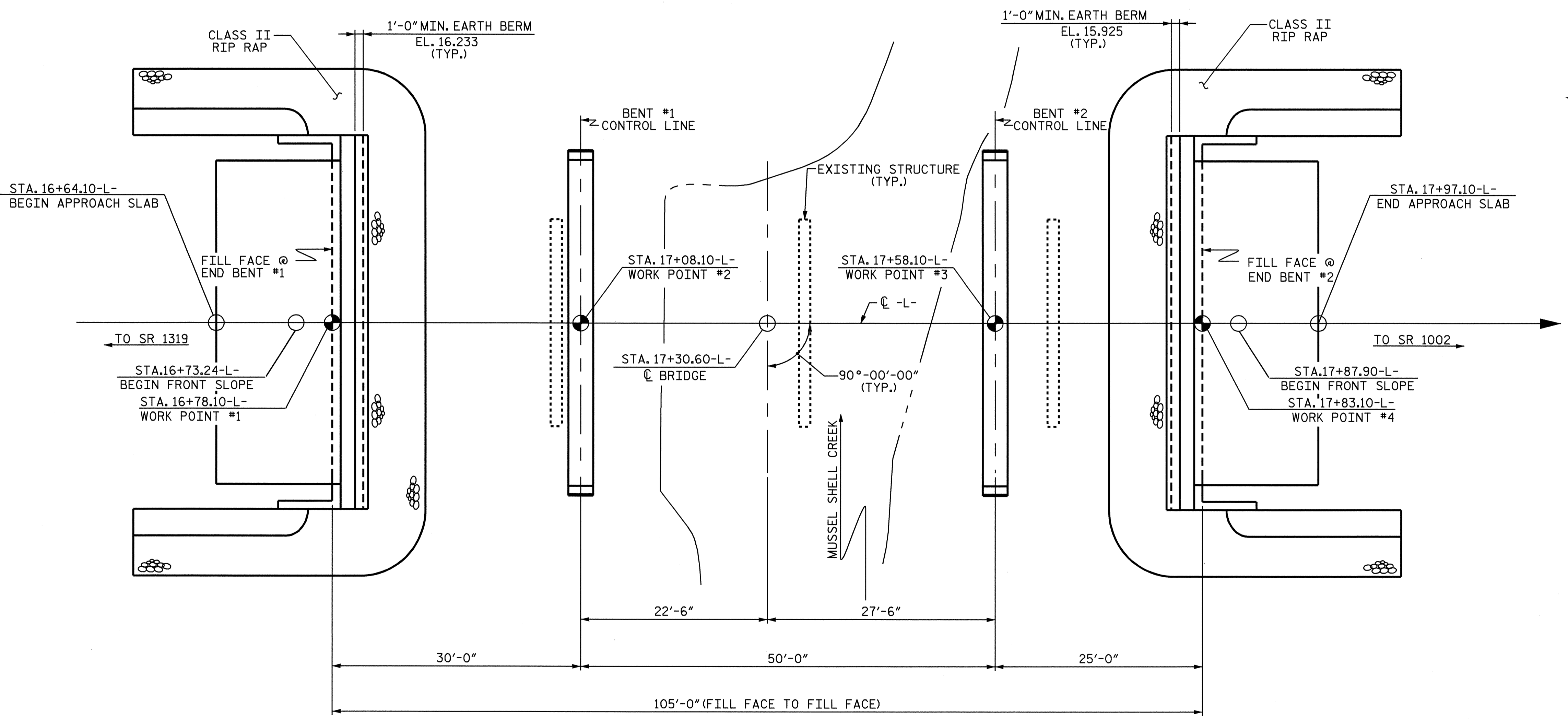
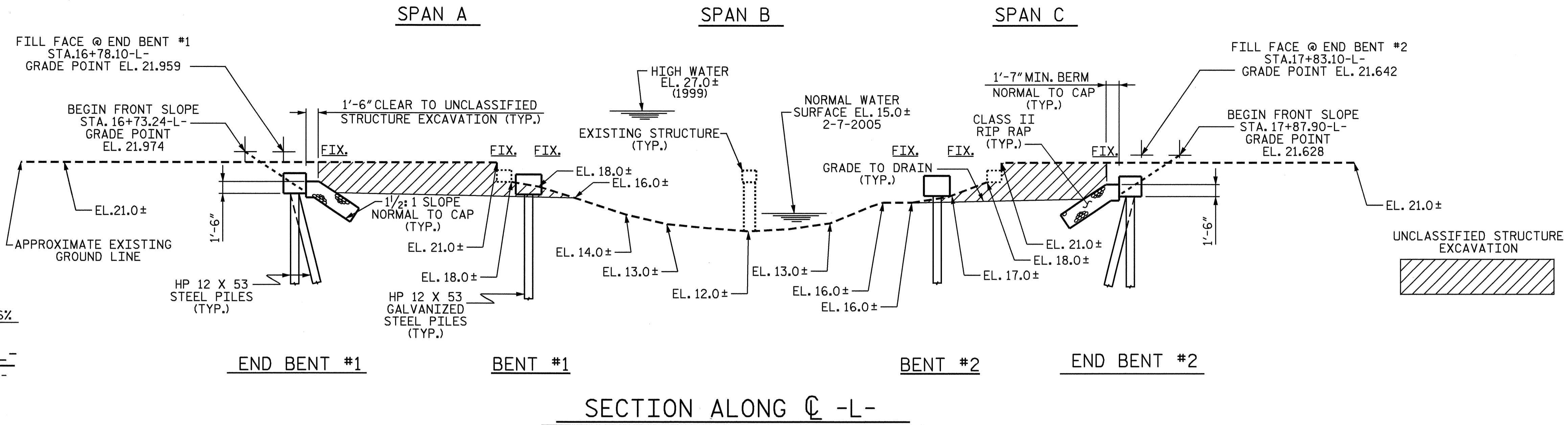
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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

APPROVED
DIVISION ADMINISTRATOR

DATE

D:\ENR\108155\108155.DWG



PROJECT NO. B-4168
JONES COUNTY
 STATION: 17+30.60-L-
 SHEET 1 OF 3 REPLACES BRIDGE #13

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**GENERAL DRAWING
 FOR BRIDGE OVER
 MUSSEL SHELL CREEK
 ON NC 41 BETWEEN
 SR 1002 AND SR 1319**

Jose M. Barbour
 11/2/08

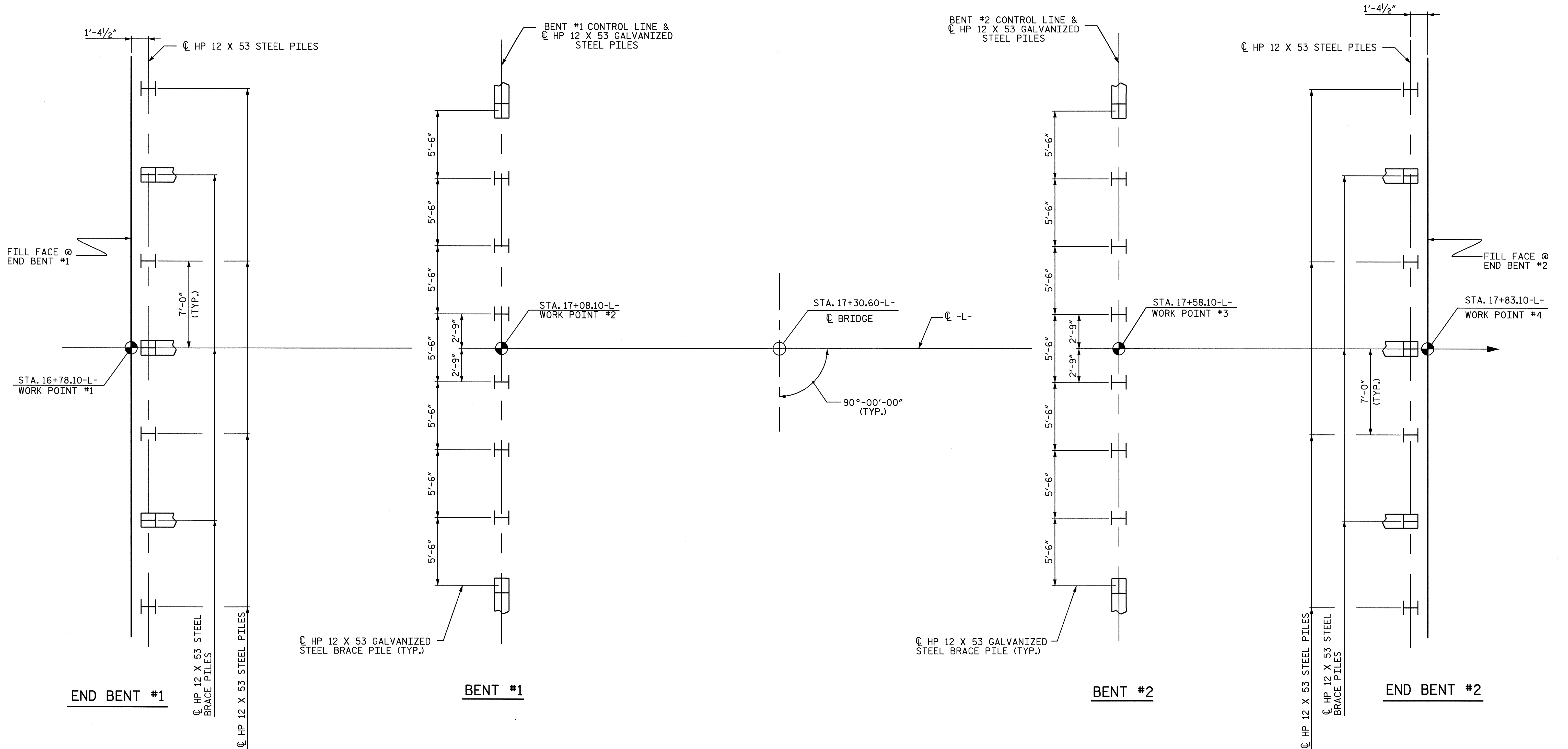
Professional Engineer Seal: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022506 ENGINEER J. BARTHUR BAILEY

Professional Engineer Seal: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 10730 ENGINEER D. DAVENTOR

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			23

DRAWN BY: H. T. BARBOUR DATE: 1-18-06
 CHECKED BY: S. P. LAM DATE: 2-06

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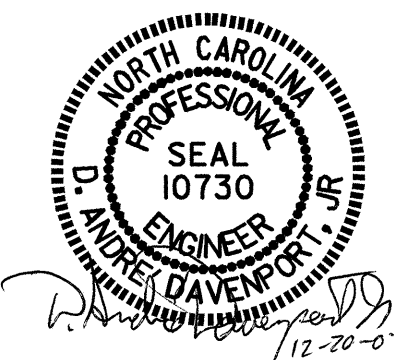


FOUNDATION LAYOUT

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

PROJECT NO. B-4168
JONES COUNTY
 STATION: 17+30.60-L-

SHEET 2 OF 3
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE OVER
 MUSSEL SHELL CREEK
 ON NC 41 BETWEEN
 SR 1002 AND SR 1319

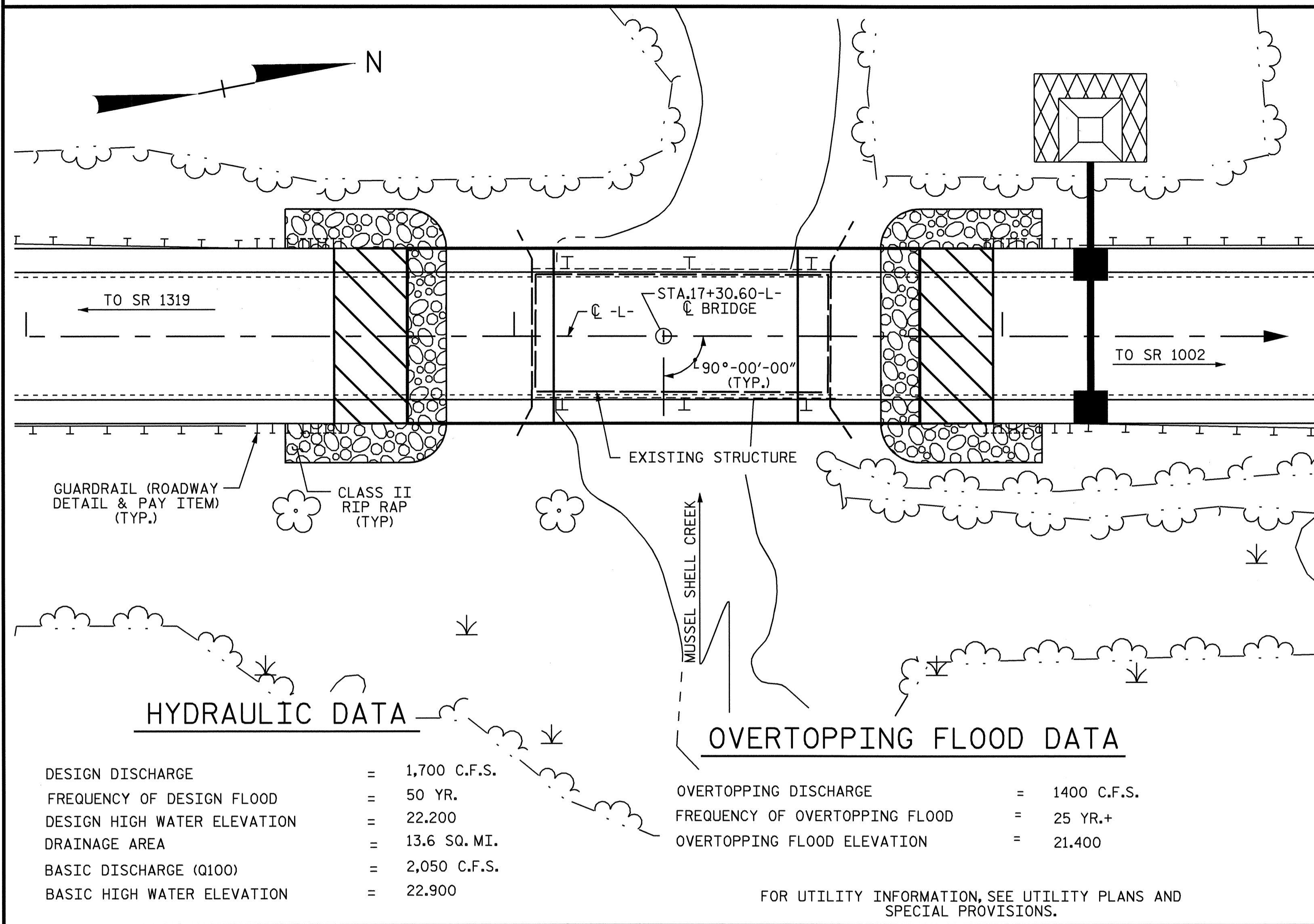


DRAWN BY : H. T. BARBOUR DATE : 1-18-06
 CHECKED BY : S.P. LAM DATE : 2-06

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			23

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 adavenport

BENCH MARK #1: RAILROAD SPIKE SET IN 24" Ø MAPLE, 101.433 FEET RIGHT OF
STA. 16+99.10-L- EL. 20.110



LOCATION SKETCH

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	PDA TESTING	PDA ASSISTANCE	UNCLASSIFIED STRUCTURE EXCAVATION	CONCRETE WEARING SURFACE	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12 X 53 STEEL PILES		HP 12 X 53 GALVANIZED STEEL PILES		PILE REDRIVES	CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE	ELASTOMERIC BEARINGS	EVAZOTE JOINT SEALS	3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLABS	
	LUMP SUM	EACH	EACH	LUMP SUM	SQ. FEET	SQ. FEET	CU. YDS.	LUMP SUM	LBS.	NO.	LIN. FT.	NO.	LIN. FT.	EACH	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	LUMP SUM	LIN. FT.	
SUPERSTRUCTURE					3649	4244									205.50						
END BENT NO. 1									2269	7	210					247	275				
BENT NO. 1									2222			8	240								
BENT NO. 2									2222			8	280								
END BENT NO. 2									2275	7	210					215	238				
TOTAL	LUMP SUM	1	1	LUMP SUM	3649	4244	52.8	LUMP SUM	8988	14	420	16	520	15	205.50	462	513	LUMP SUM	LUMP SUM	1332.50	

DRAWN BY : H. T. BARBOUR DATE : 1-18-06
CHECKED BY : S. P. LAM DATE : 2-06

03-JAN-2008 11:02
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Adavenport

NOTES

ASSUMED LIVE LOAD = HS20 OR ALTERNATE LOADING, EXCEPT THAT CORED SLAB UNITS HAVE BEEN DESIGNED FOR HS25.

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

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.

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

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

FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

THE EXISTING STRUCTURE CONSISTING OF 2 SIMPLE SPANS @ 30'-2" EACH, OF PRESTRESSED CONCRETE CHANNELS WITH A 5" ASPHALT WEARING SURFACE ON TIMBER PILES WITH A CONCRETE CAP, AND TWO MIDSPAN SUPPORTS CONSISTING OF STEEL PILES WITH A STEEL PILE CAP, WITH A CLEAR ROADWAY WIDTH OF 24'-2" AND LOCATED AT THE PROPOSED SITE, 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. SEE SPECIAL PROVISIONS FOR "REMOVAL OF EXISTING STRUCTURE AT STATION 17+30.60-L-."

PILE RESTRIKES FOR LRFD ARE REQUIRED FOR THE FIRST PRODUCTION PILE TESTED WITH THE PILE DRIVING ANALYZER (PDA). SEE PILE RESTRIKES FOR LRFD SPECIAL PROVISION.

INASMUCH AS THE PAINT SYSTEM ON PORTIONS OF THE STRUCTURE 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 17+30.60-L-."

DRIVE PILES AT BENT NO. 1 AND BENT NO. 2 TO A TIP ELEVATION NO HIGHER THAN EL. -9.000 AND A REQUIRED BEARING CAPACITY OF 110 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 FRICTION AND SCOUR.

DRIVE PILES AT END BENT NO. 1 AND END BENT NO. 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.

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

THE SCOUR CRITICAL ELEVATION FOR BENT NO.1 AND BENT NO. 2 IS EL. 2.000. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

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.

TESTING THE FIRST PRODUCTION PILE WITH THE PILE DRIVING ANALYZER (PDA) DURING DRIVING, RESTRIKING OR REDRIVING IS REQUIRED AT END BENT NO. 1, OR BENT NO. 1, OR BENT NO. 2, OR END BENT NO. 2. SEE PILE DRIVING ANALYZER SPECIAL PROVISION.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

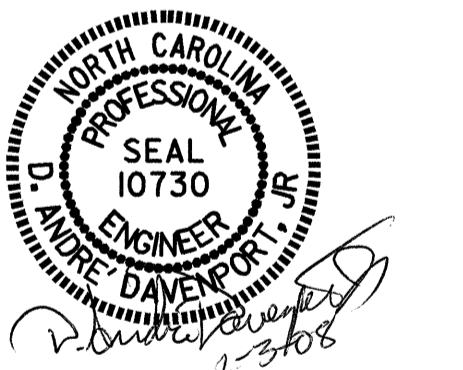
FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR CONCRETE WEARING SURFACE, SEE SPECIAL PROVISIONS.

THE CONCRETE WEARING SURFACE SHALL NOT BE POURED UNTIL THE CONCRETE PARAPET HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON S-1 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.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.



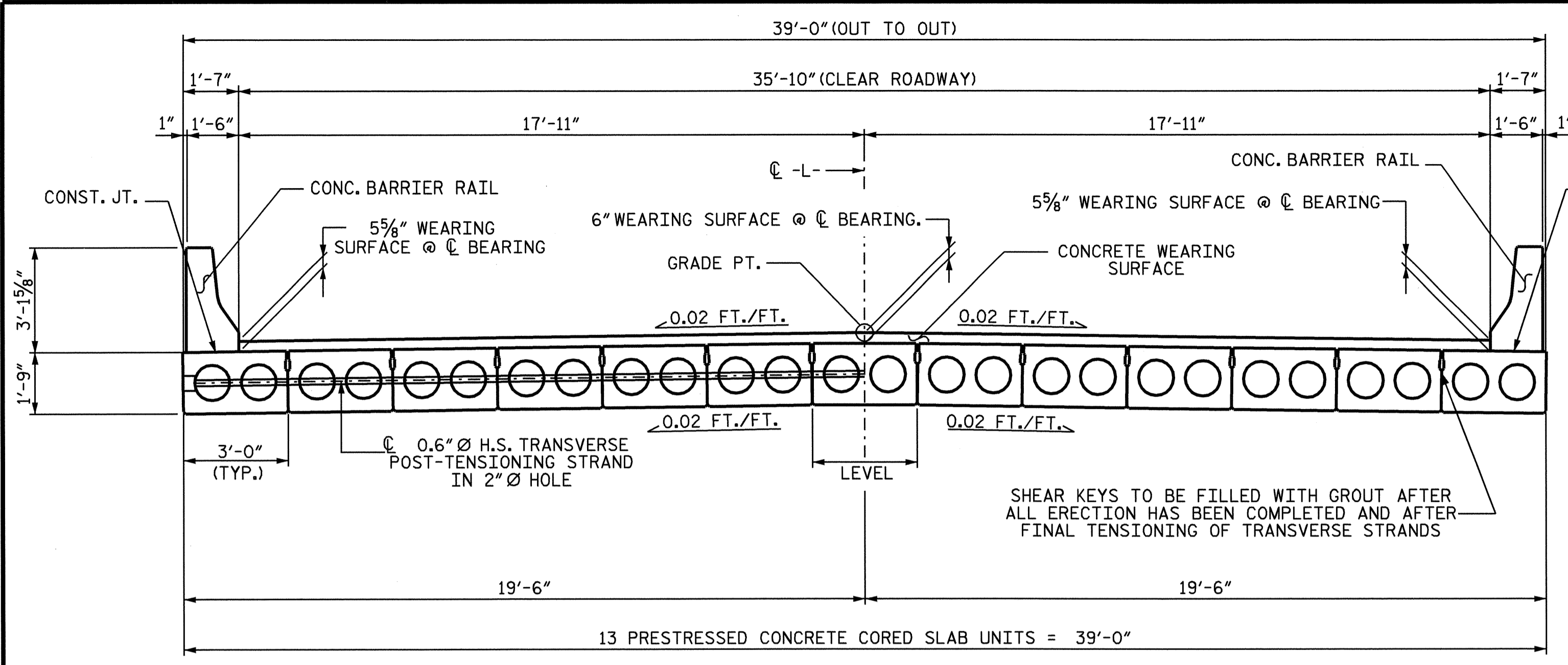
PROJECT NO. B-4168
JONES COUNTY
STATION: 17+30.60-L-

SHEET 3 OF 3

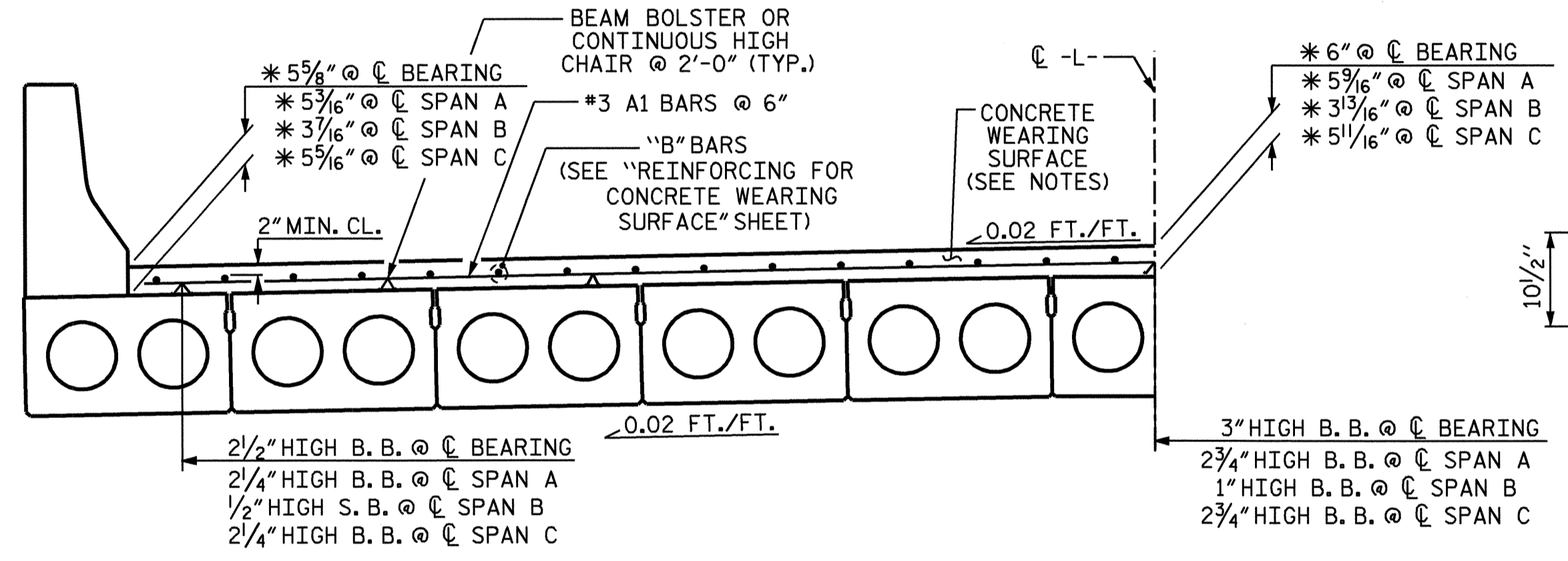
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
FOR BRIDGE OVER
MUSSEL SHELL CREEK
ON NC 41 BETWEEN
SR 1002 AND SR 1319

REVISIONS						SHEET NO. S-3
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 23
2			4			

NC005



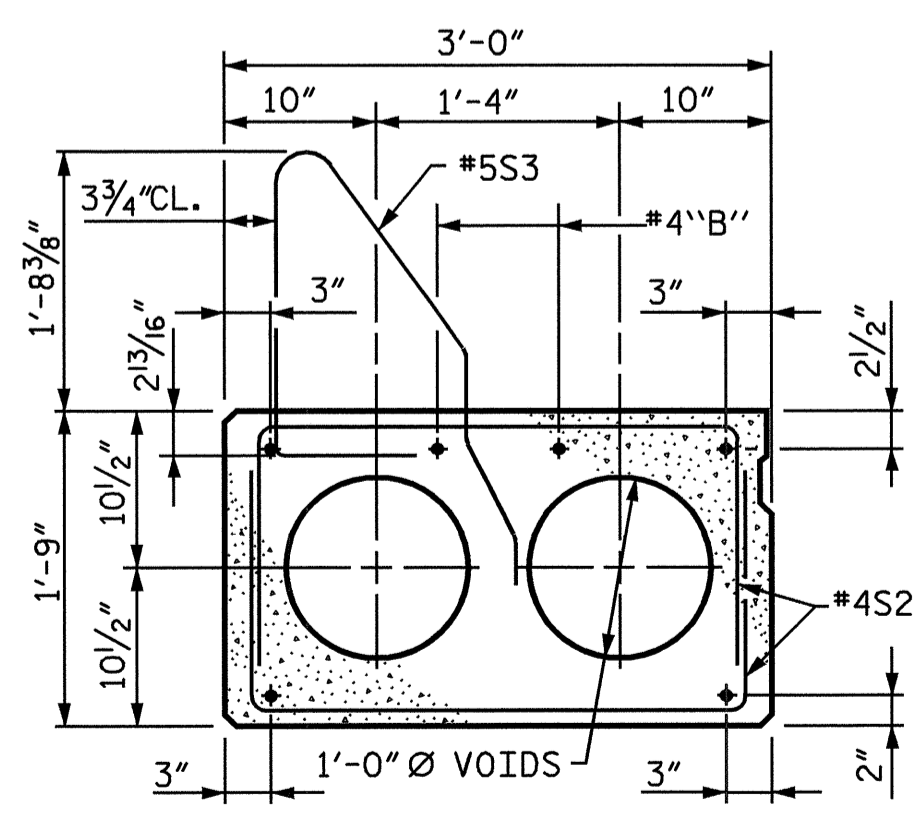
TYPICAL SECTION



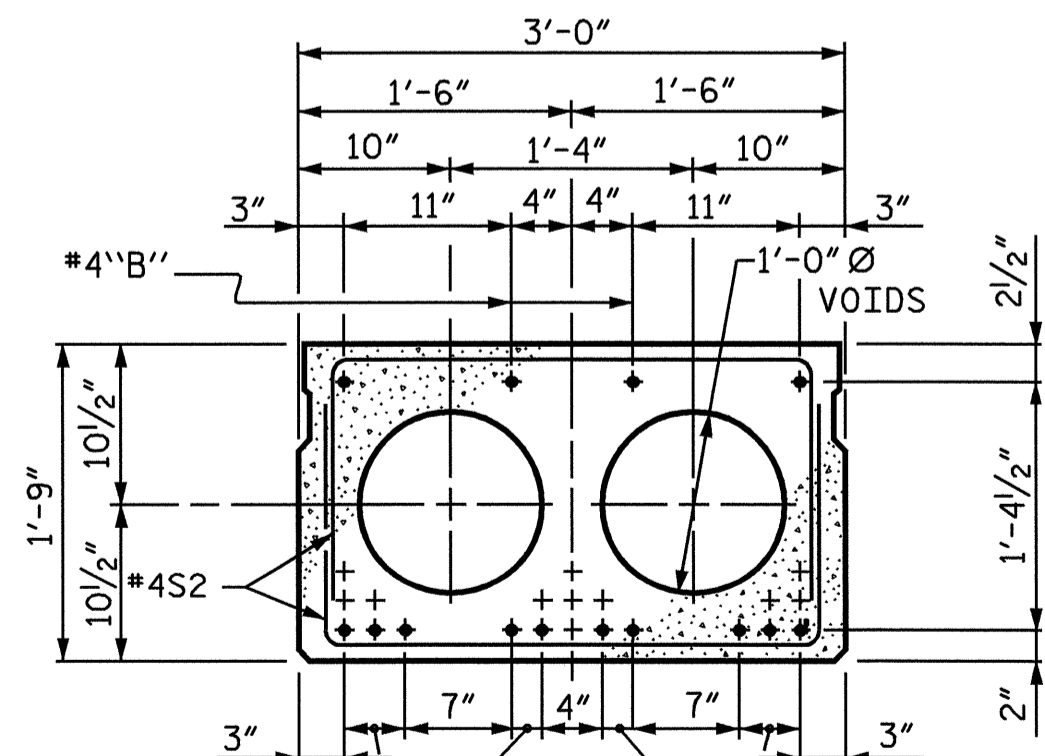
REINFORCING FOR CONCRETE WEARING SURFACE
(SEE "REINFORCING FOR CONCRETE WEARING SURFACE" SHEET)

(HALF TYPICAL SECTION)

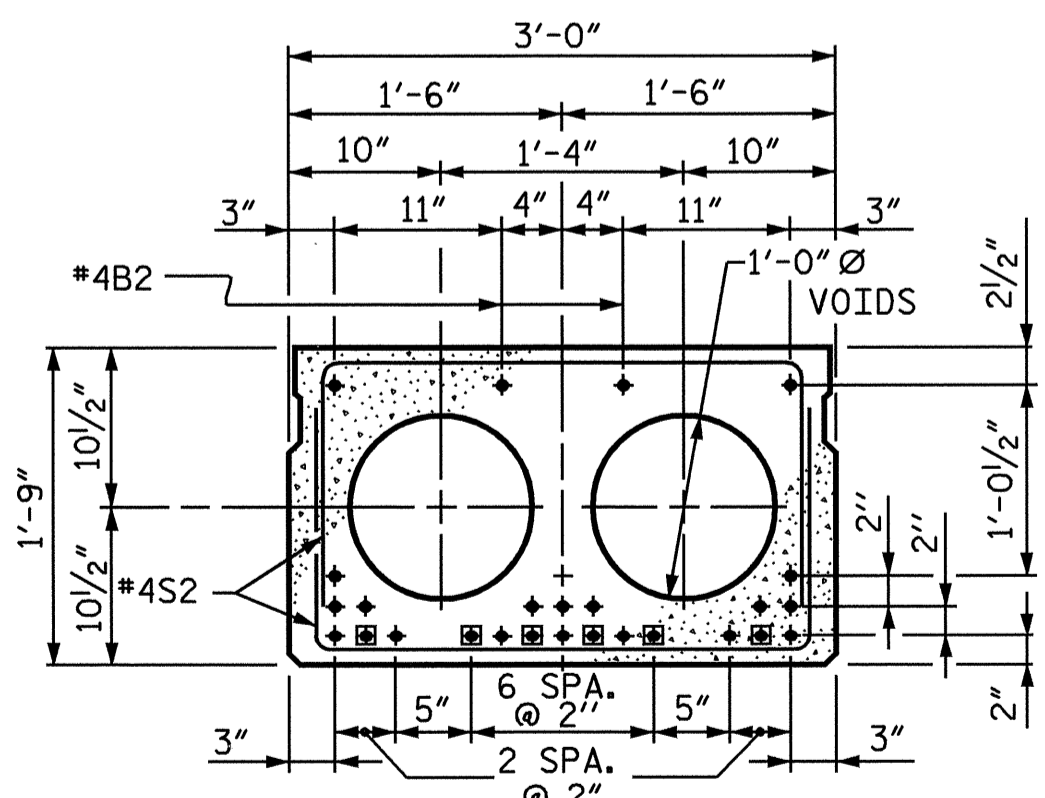
*BASED ON PREDICTED FINAL CAMBER AND THEORETICAL GRADE LINE ELEVATIONS



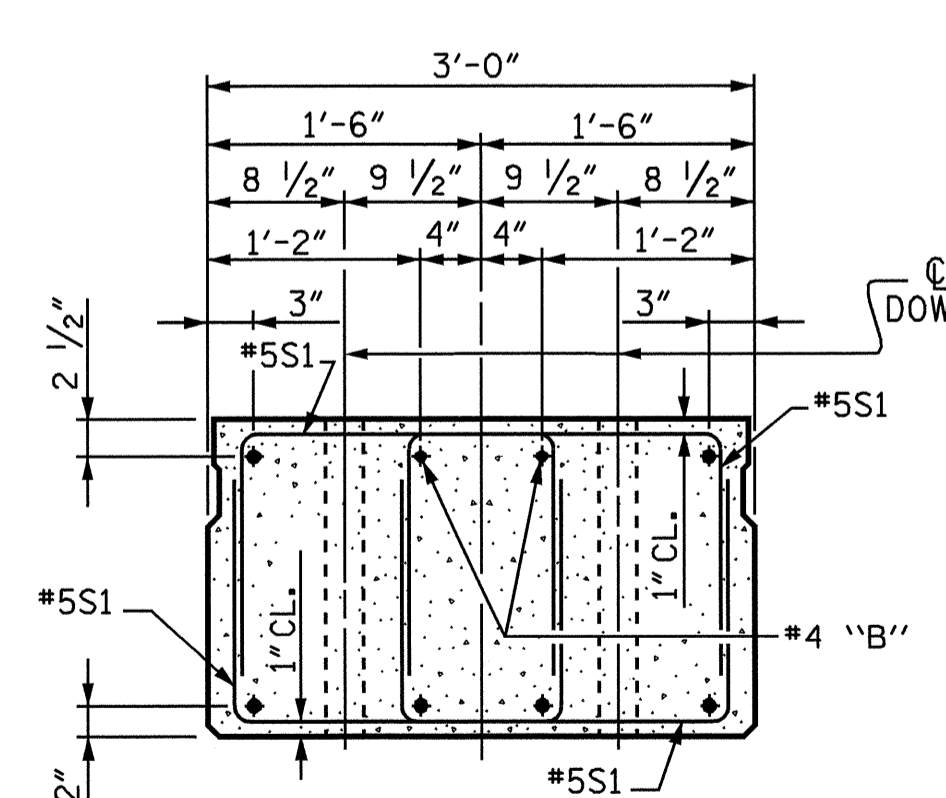
EXTERIOR SLAB SECTION
(FOR PRESTRESSED STRAND LAYOUT, SEE INTERIOR SLAB SECTION.)



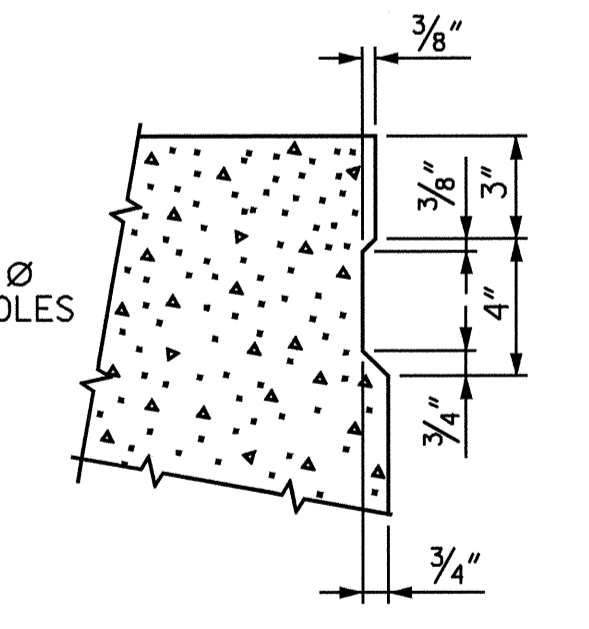
INTERIOR SLAB SECTION
1/2" Ø LOW RELAXATION STRAND LAYOUT
SPAN A & C



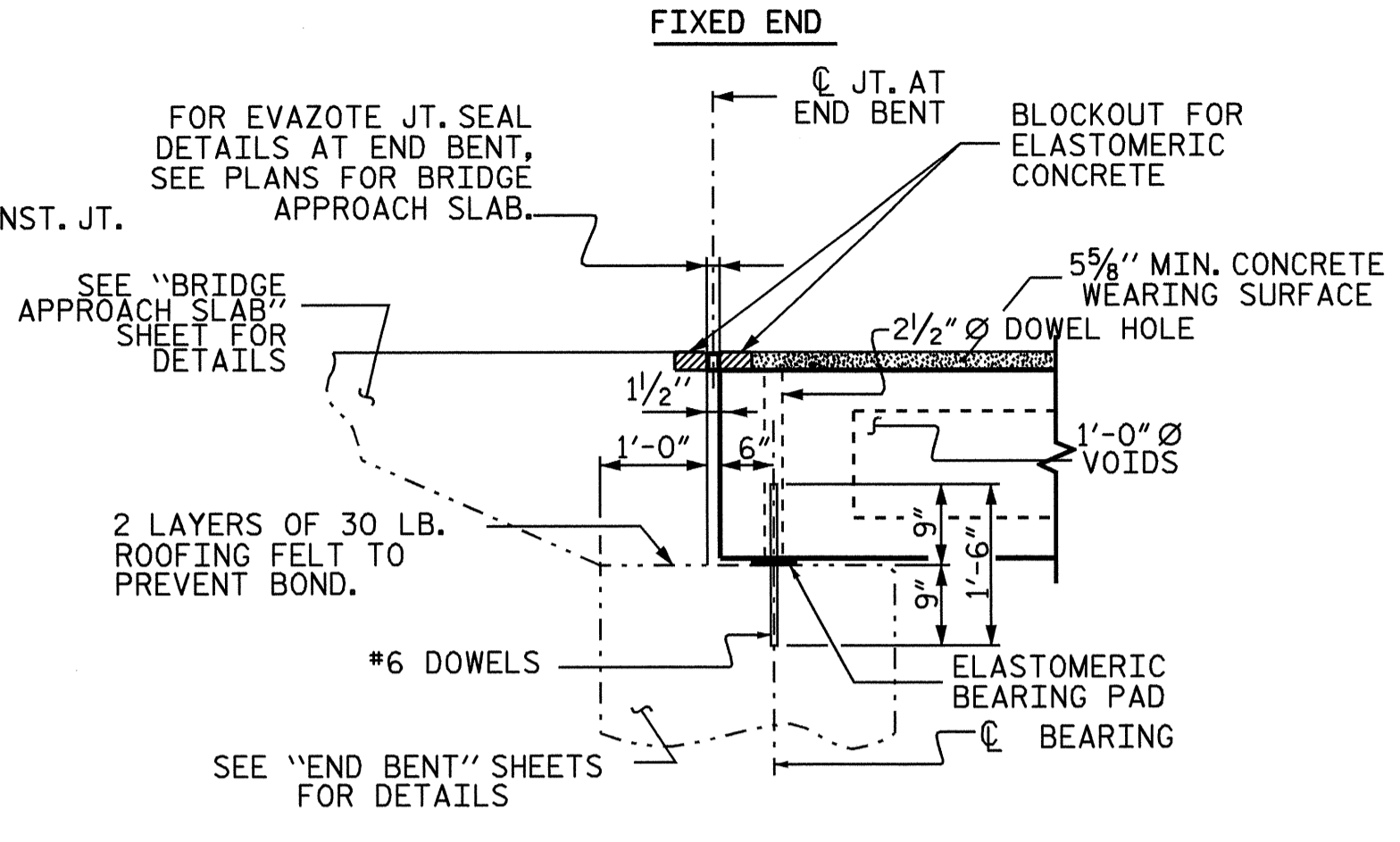
INTERIOR SLAB SECTION
1/2" Ø LOW RELAXATION STRAND LAYOUT
SPAN B



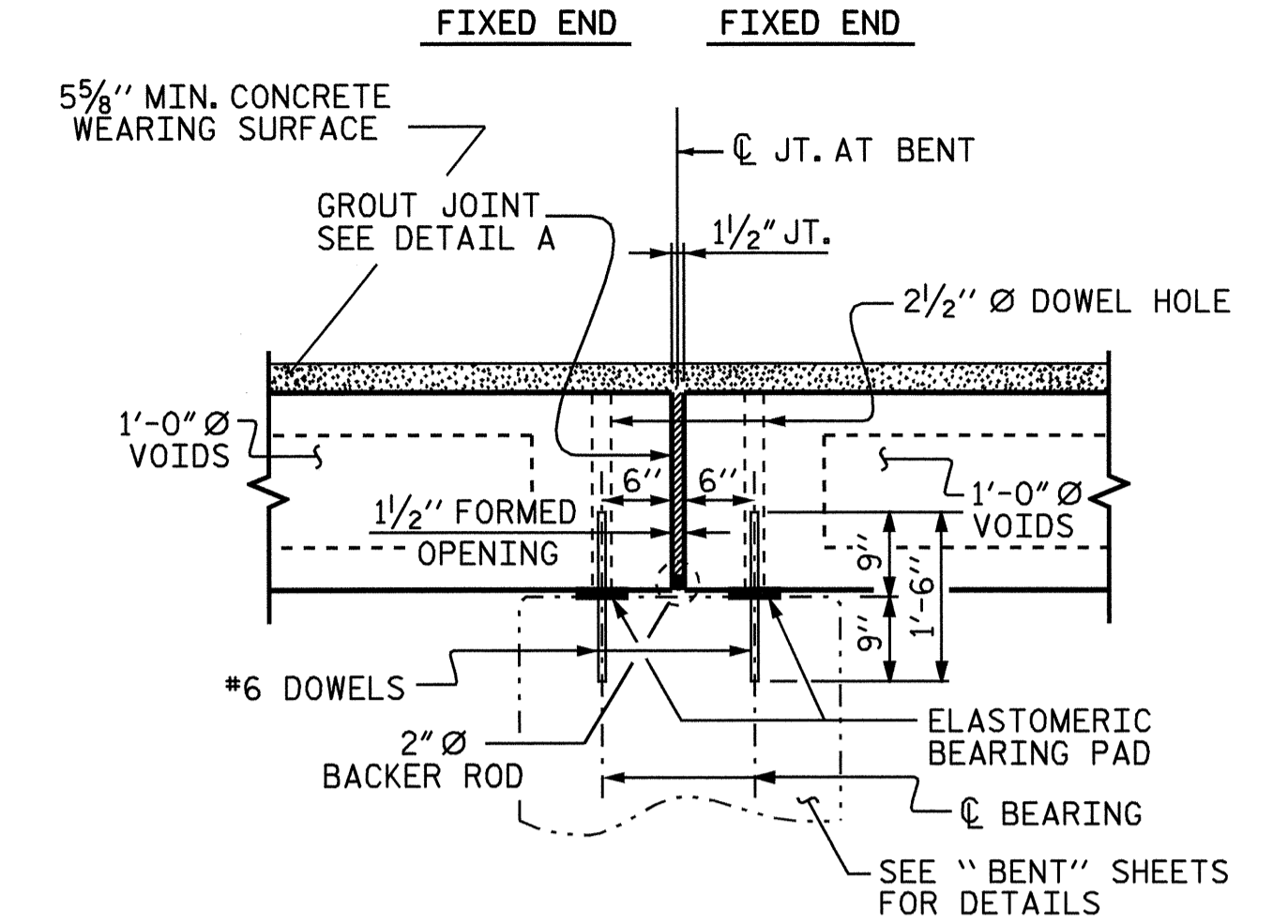
END ELEVATION
SHOWING PLACEMENT OF DOUBLE STIRRUPS AND LOCATION OF DOWEL HOLES. (STRAND LAYOUT NOT SHOWN) INTERIOR SLAB SECTION SHOWN-EXTERIOR SLAB SECTION SIMILAR EXCEPT SHEAR KEY LOCATION.



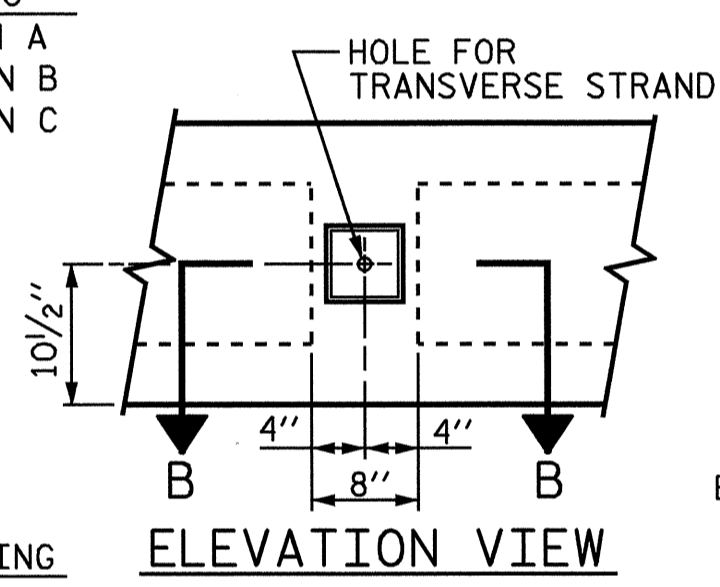
SHEAR KEY DETAIL
NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF EXTERIOR CORED SLABS.



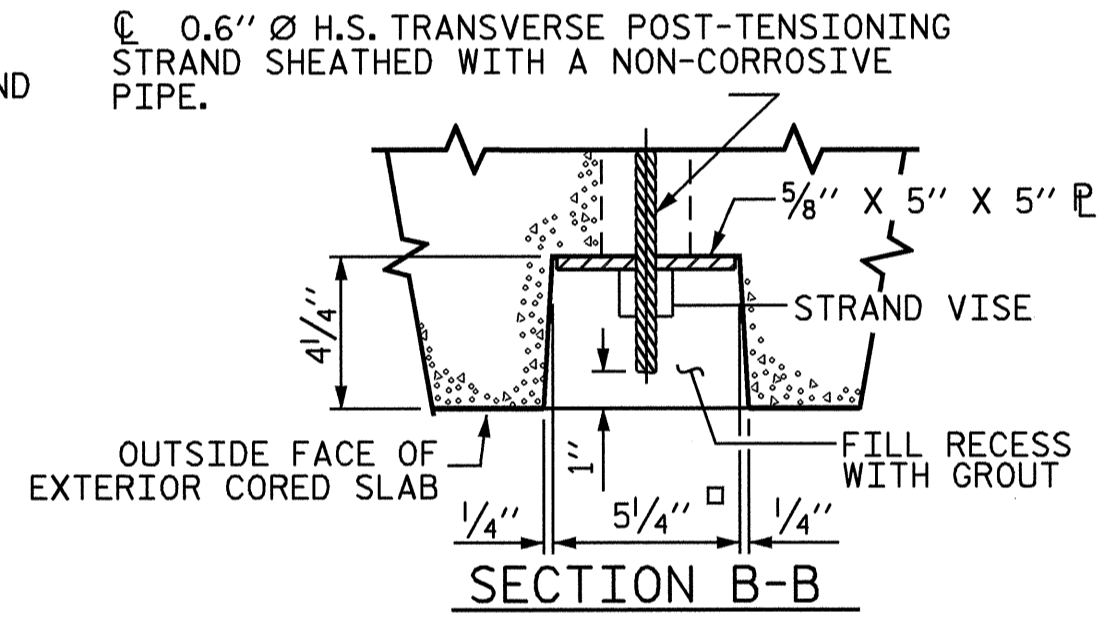
SECTION AT END BENT



SECTION AT BENT

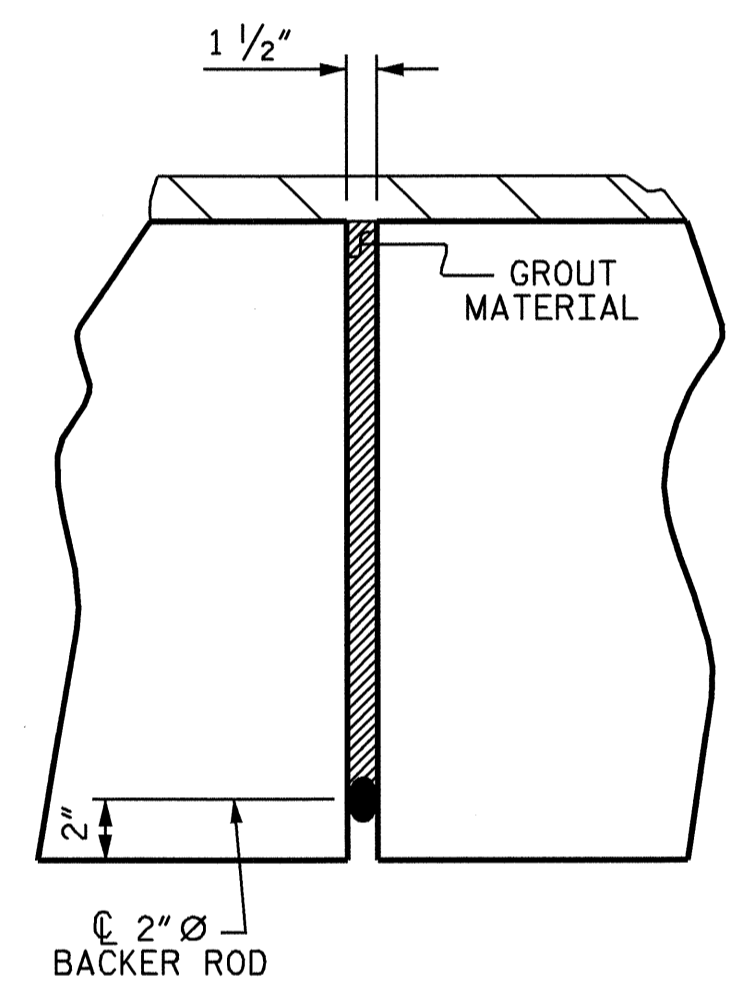


ELEVATION VIEW

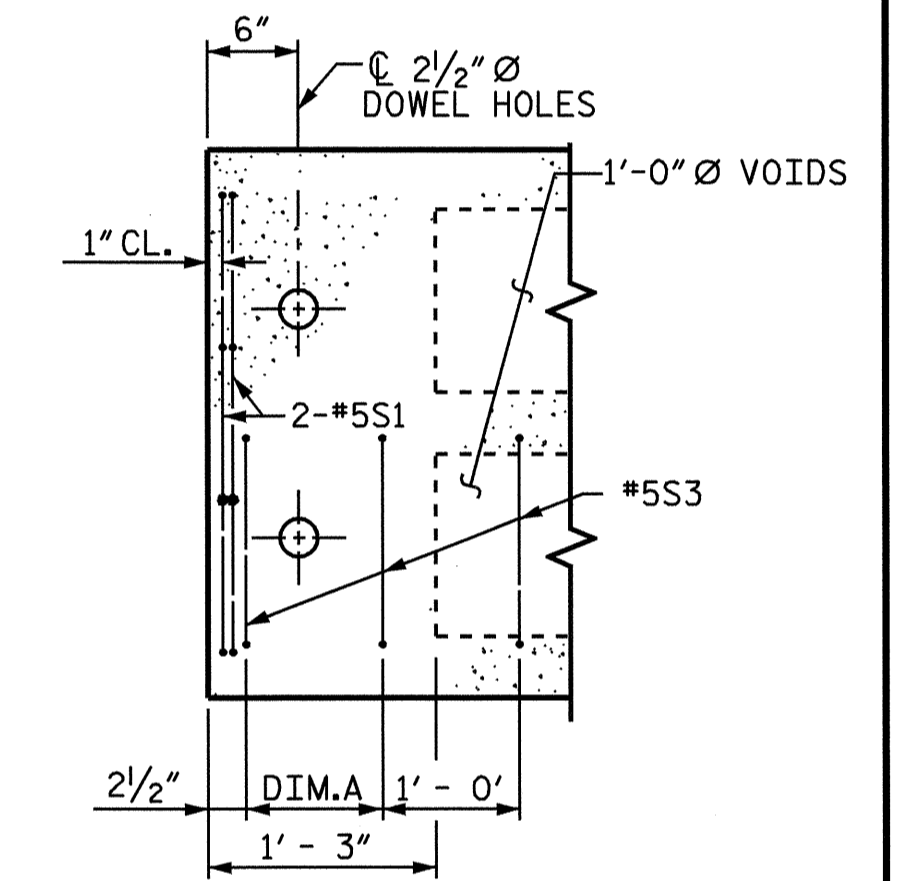


SECTION B-B

GROUTED RECESS AT END OF POST-TENSIONED STRAND CORED SLABS



DETAIL A

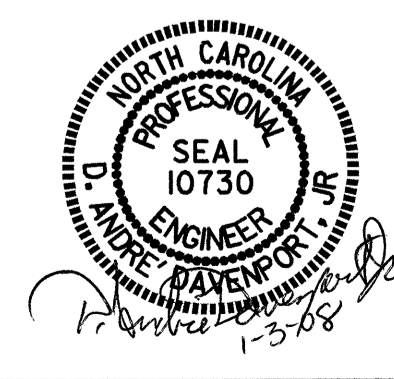


PART PLAN-EXTERIOR SECTION

NOTE: EXTERIOR SECTION SHOWN-INTERIOR SECTION SIMILAR EXCEPT OMIT S3 BARS. SEE PLAN OF SPAN FOR DIM. A

DRAWN BY: A. SORSENGINH DATE: 4-4-05
CHECKED BY: S. P. LAM DATE: 4-19-05

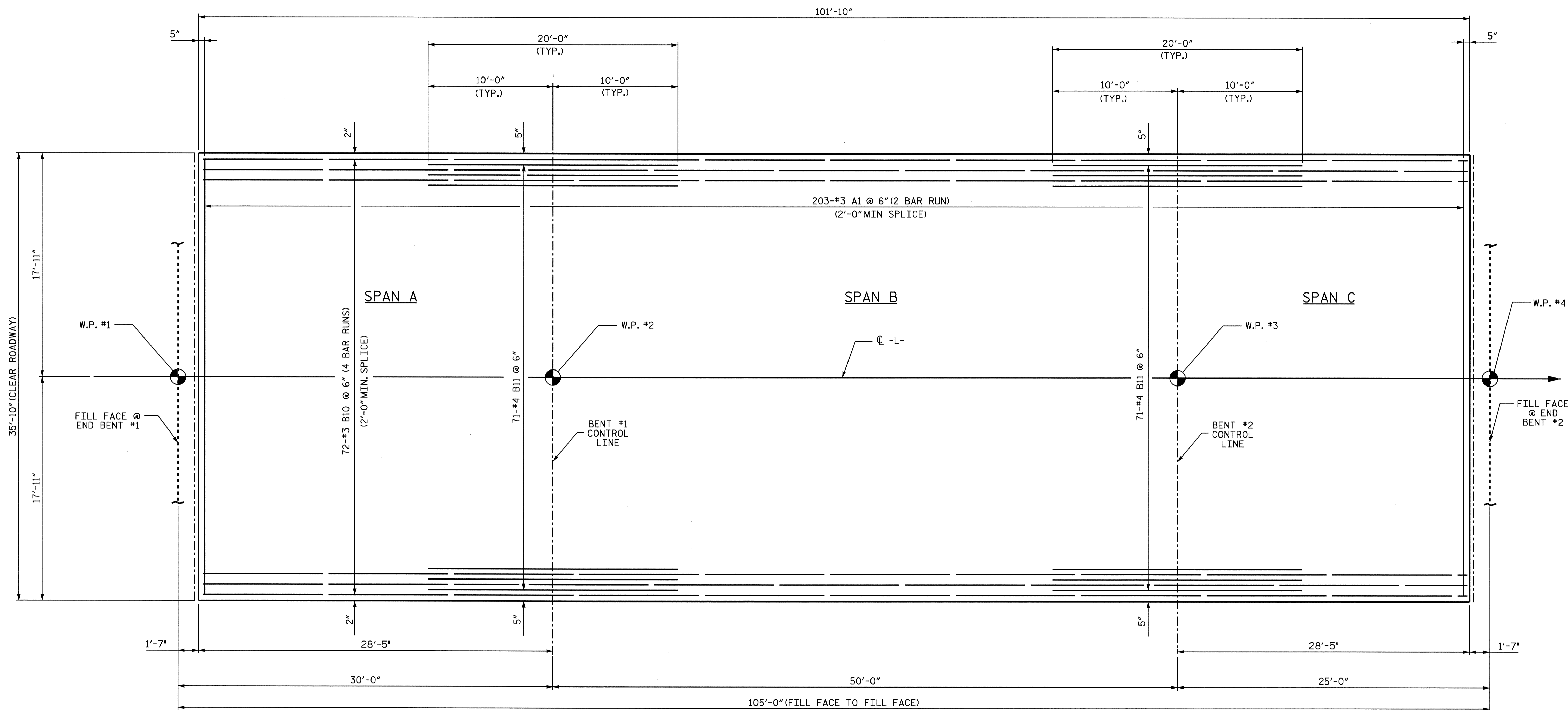
■ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 4'-9" FROM END OF CORED SLAB UNIT, SEE STANDARD SPECIFICATIONS ARTICLE 1078-7.



PROJECT NO. B-4168
JONES COUNTY
STATION: 17+30.60-L-

SHEET 1 OF 5

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4	
1			3			TOTAL SHEETS 23	
2			4				



PLAN OF REINFORCING FOR CONCRETE WEARING SURFACE

PLACEMENT OF THE CONCRETE WEARING SURFACE SHALL OCCUR AFTER CASTING THE CONCRETE RAIL. THE COST OF THE #3 AND #4 BARS CAST WITH THE CONCRETE WEARING SURFACE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE WEARING SURFACE. FOR CONCRETE WEARING SURFACE, SEE SPECIAL PROVISIONS.

PROJECT NO. B-4168
JONES COUNTY
 STATION: 17+30.60 -L-

SHEET 2 OF 5



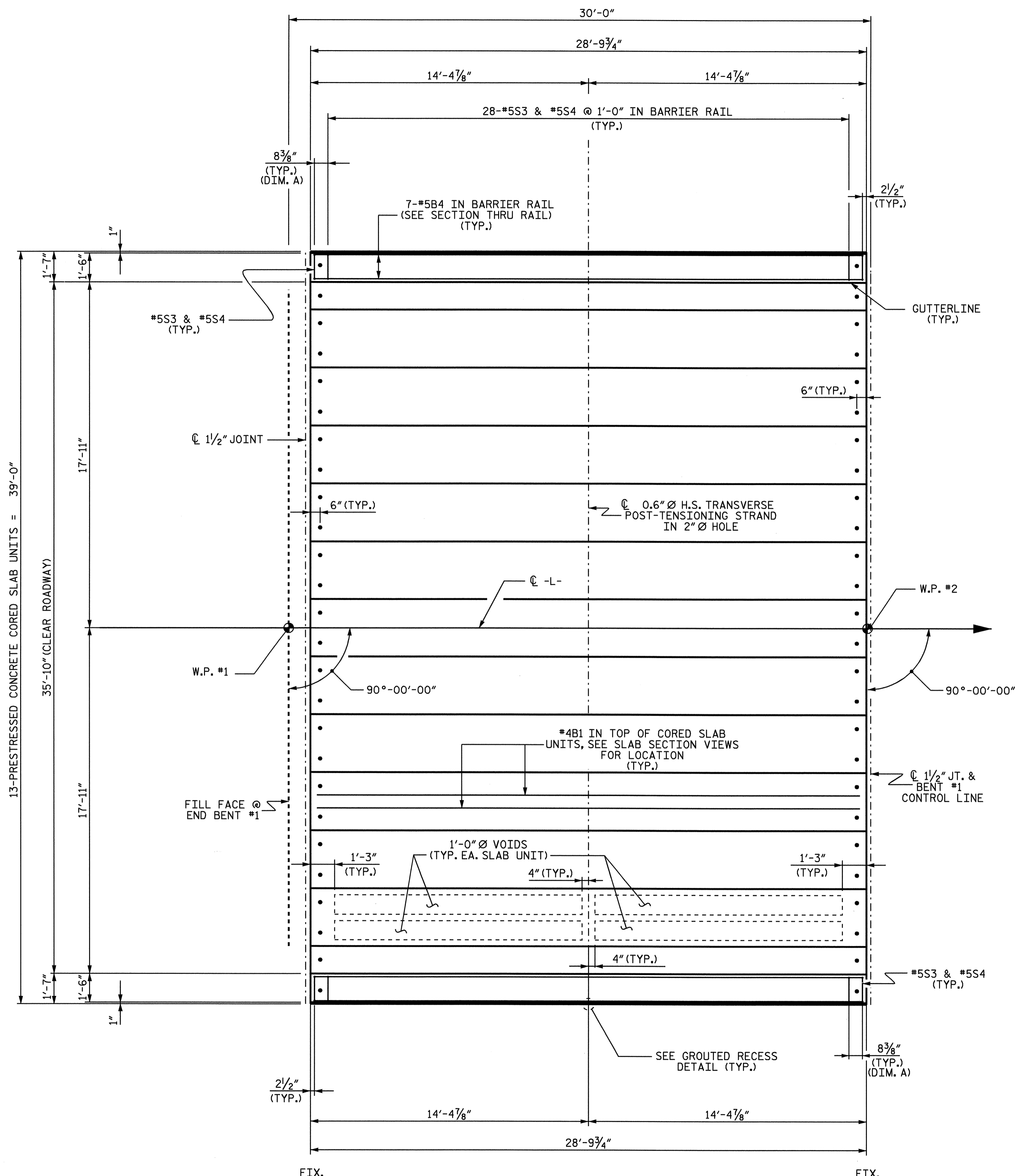
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

REINFORCING FOR
 CONCRETE
 WEARING SURFACE

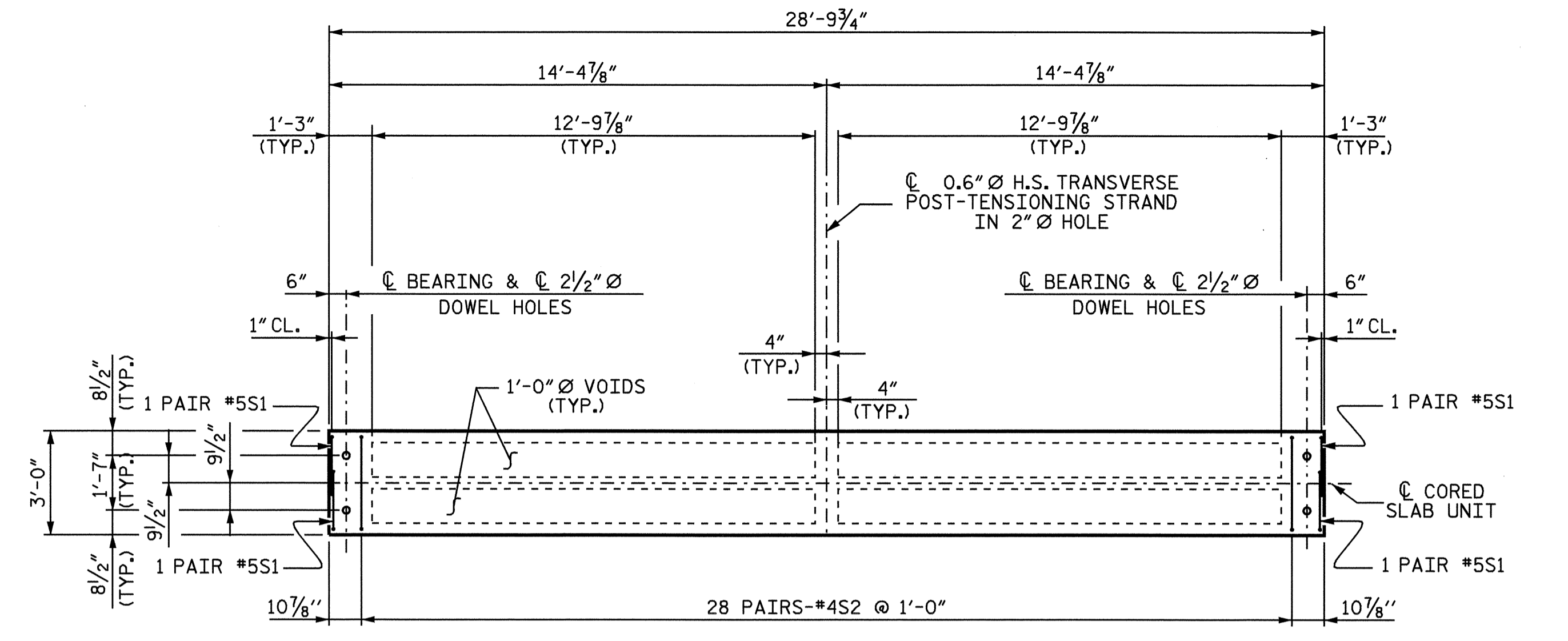
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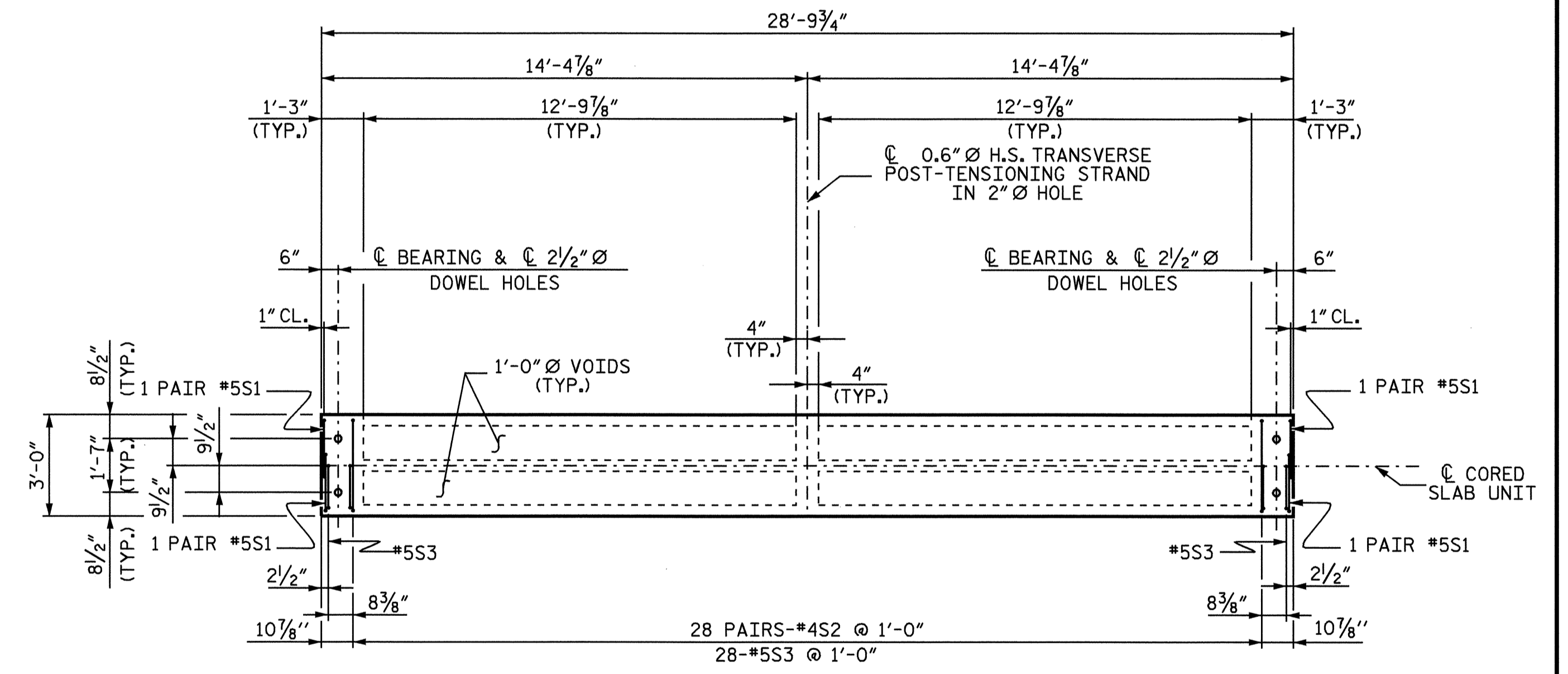
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS 23
2			4			



PLAN OF SPAN A



PLAN OF INTERIOR CORED SLAB UNIT



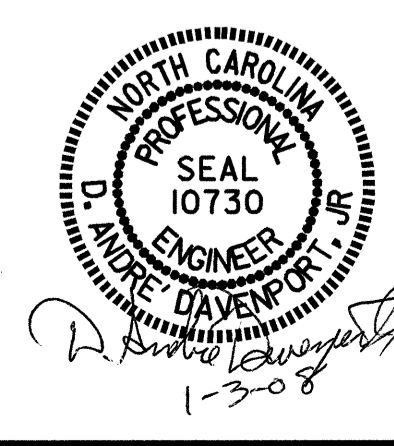
PLAN OF EXTERIOR CORED SLAB UNIT

PROJECT NO. B-4168
JONES COUNTY
 STATION: 17+30.60-L-

SHEET 3 OF 5

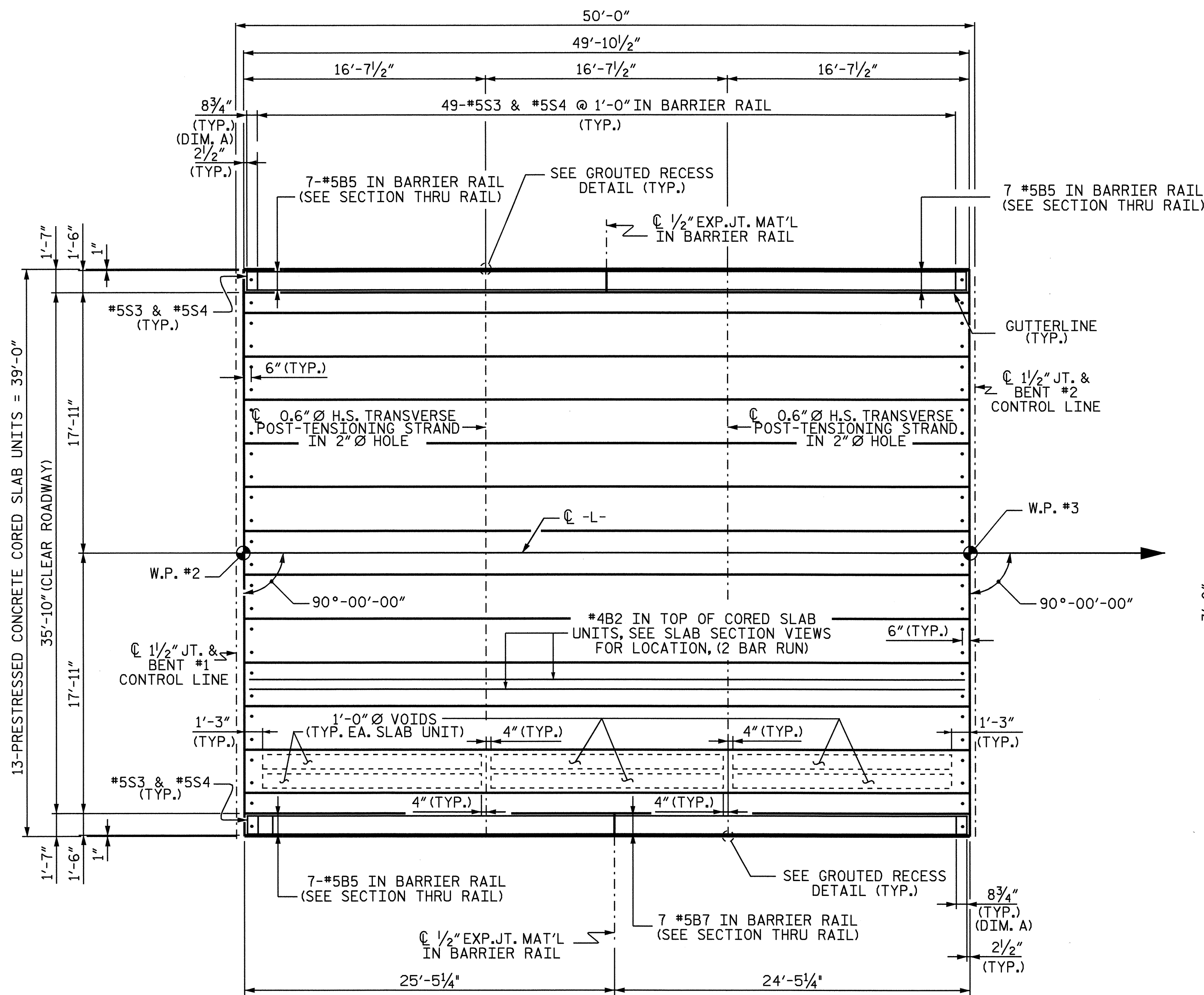
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 PLAN OF SPAN A

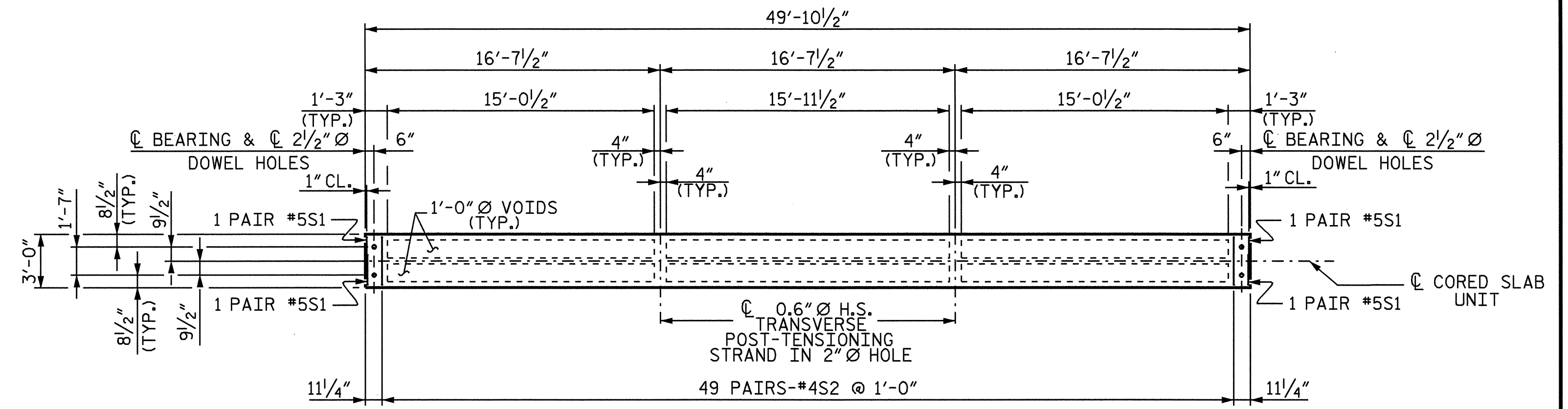


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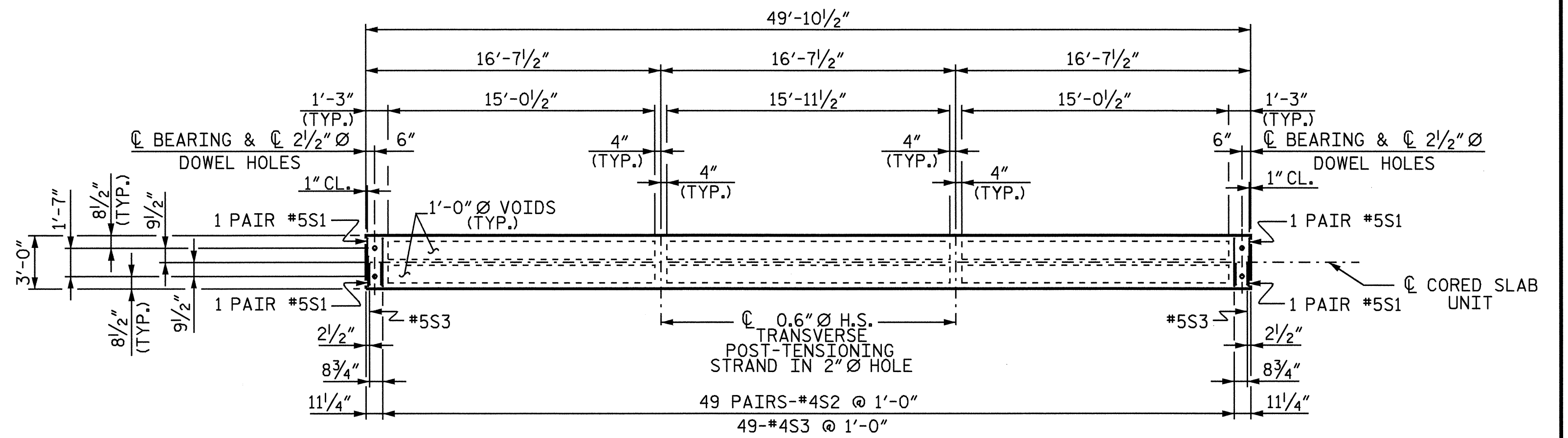
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6	
1			3			TOTAL SHEETS 23	
2			4				



PLAN OF SPAN B



PLAN OF INTERIOR CORED SLAB UNIT



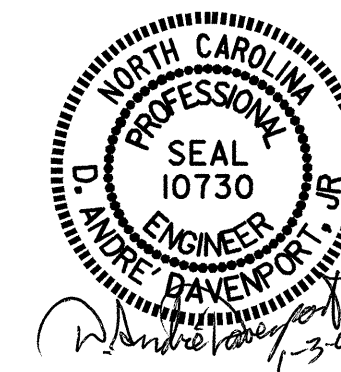
PLAN OF EXTERIOR CORED SLAB UNIT

PROJECT NO. B-4168
JONES COUNTY
 STATION: 17+30.60-L-

SHEET 4 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

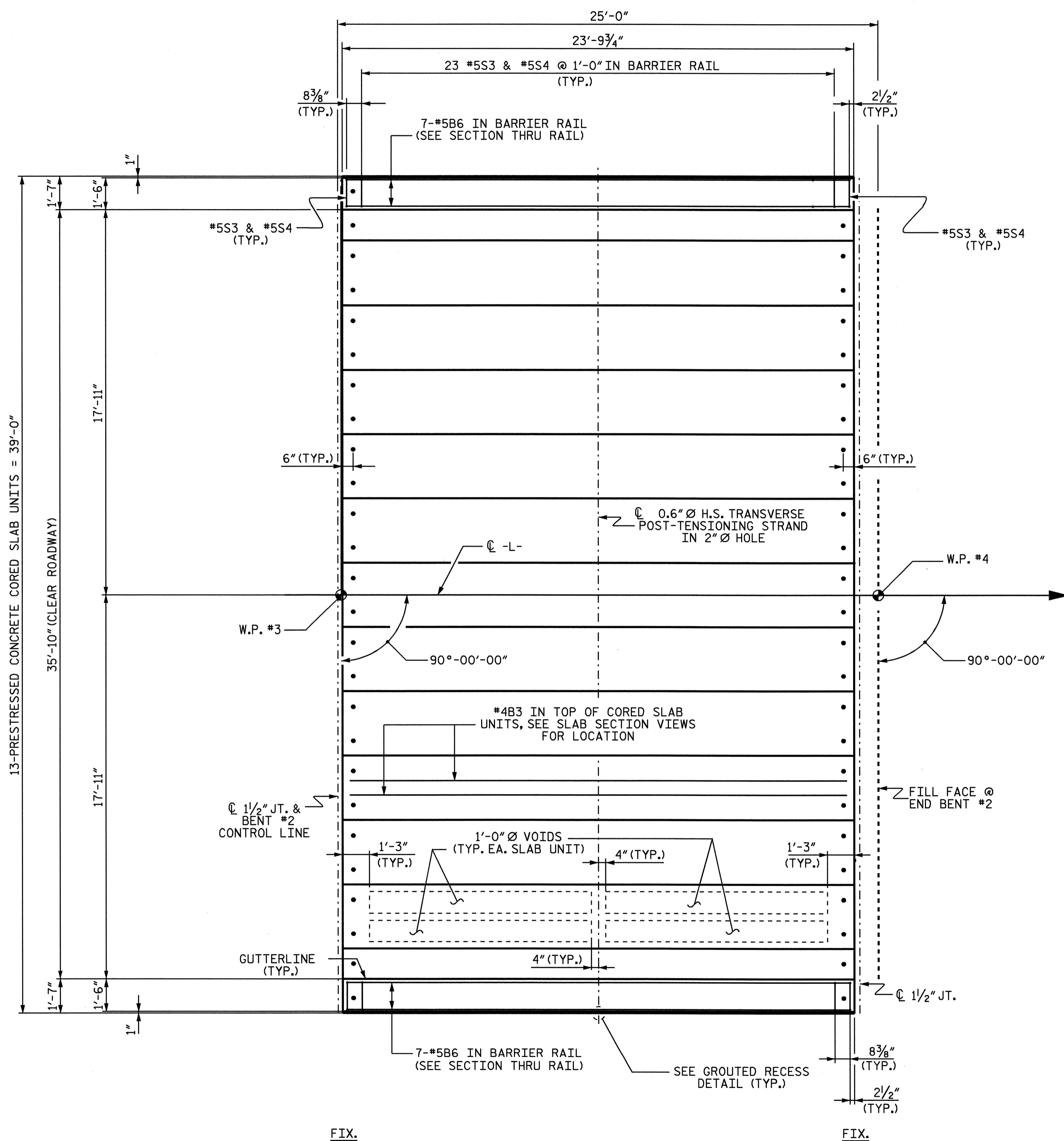
SUPERSTRUCTURE
 PLAN OF SPAN B



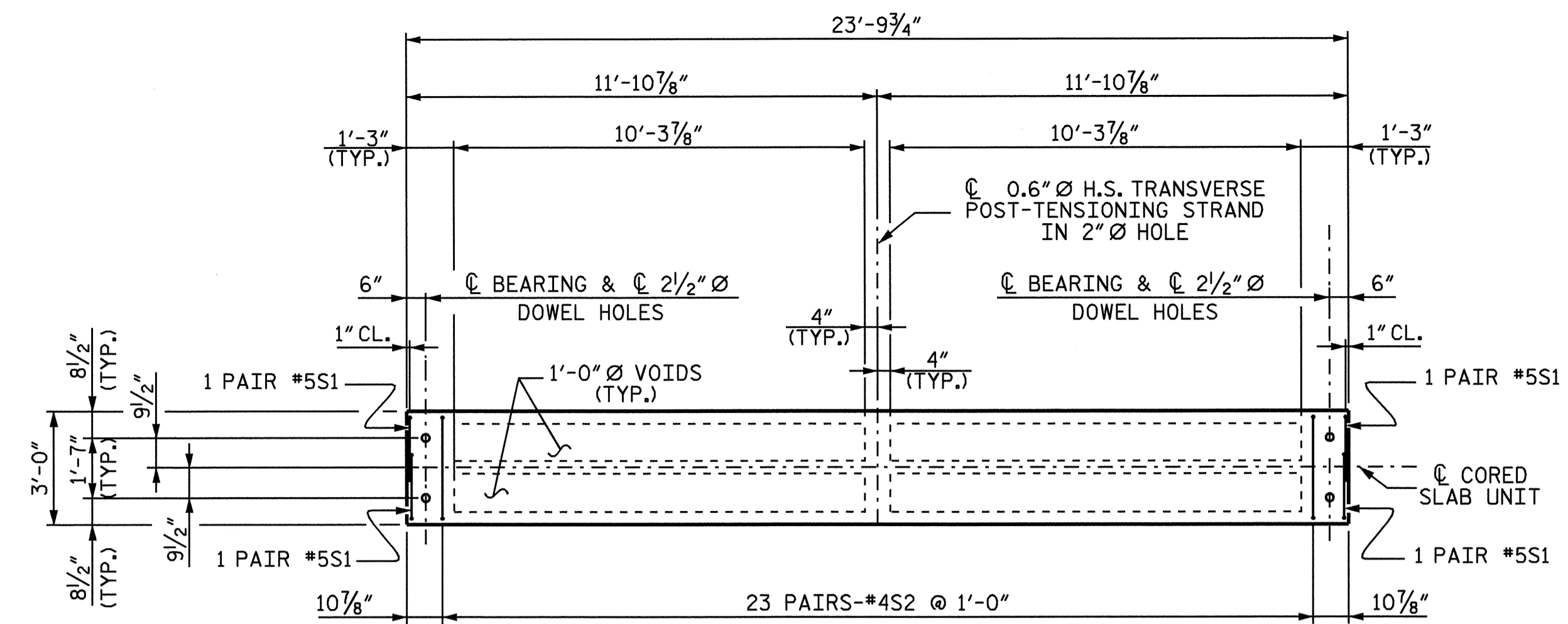
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03-JAN-2008 09:28
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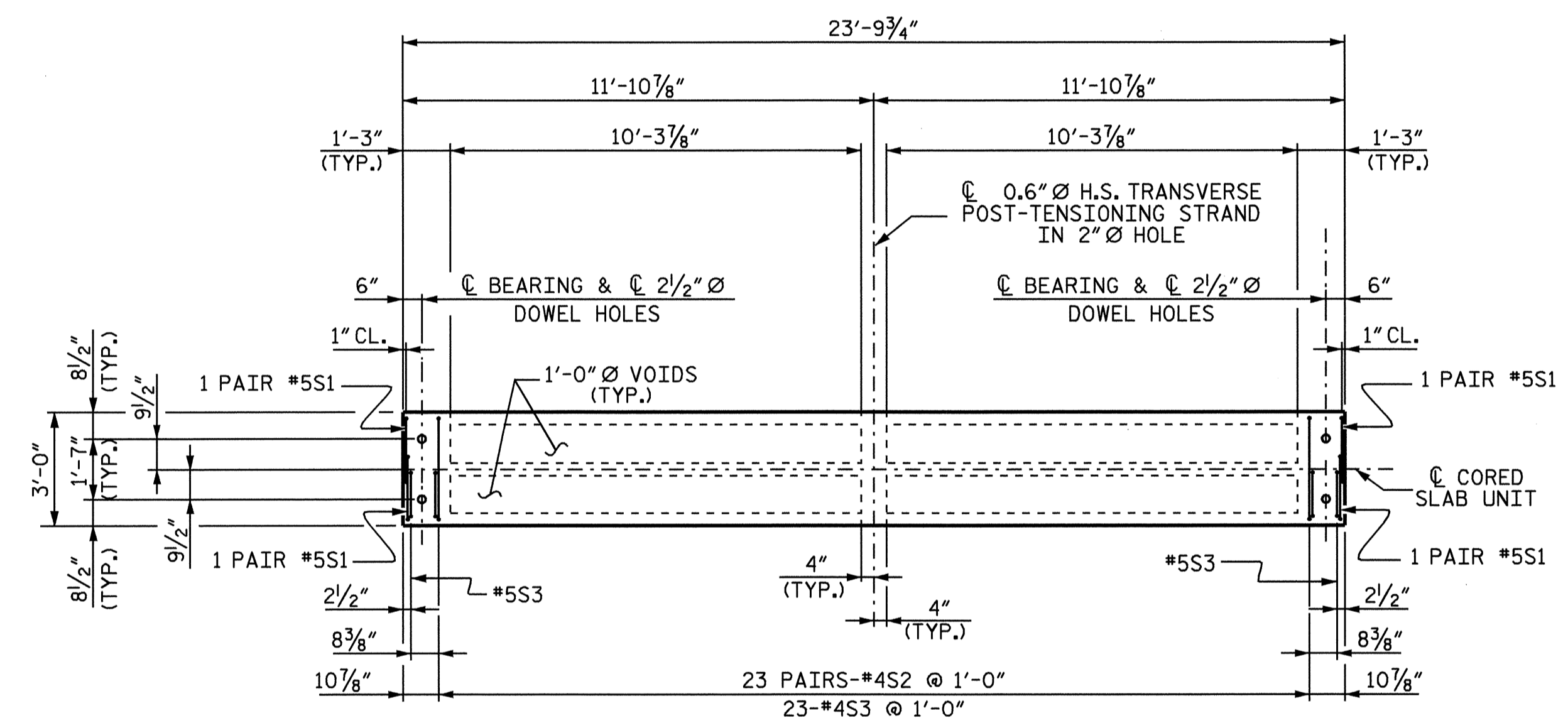
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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 23
2			4			



PLAN OF SPAN C



PLAN OF INTERIOR CORED SLAB UNIT



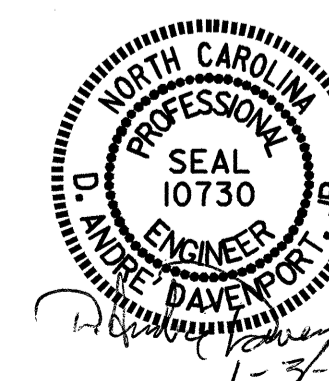
PLAN OF EXTERIOR CORED SLAB UNIT

PROJECT NO. B-4168
 JONES COUNTY
 STATION: 17+30.60-L-

SHEET 5 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 PLAN OF SPAN C



DRAWN BY: A. SORSENGINH DATE: 4-5-05
 CHECKED BY: S. P. LAM DATE: 4-22-05

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1			3			TOTAL SHEETS 23
2			4			

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 4 - 1/8" 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 1/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

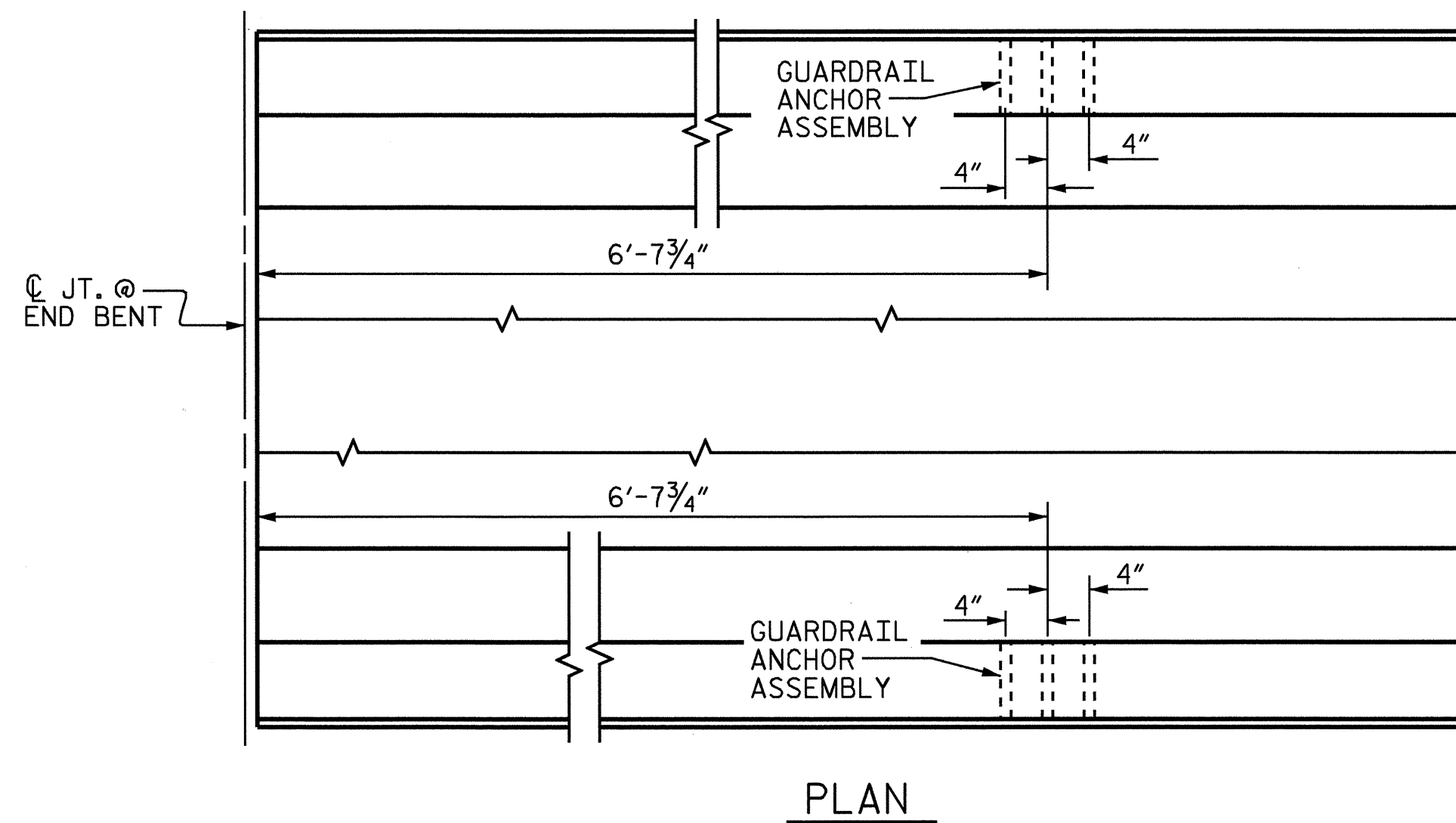
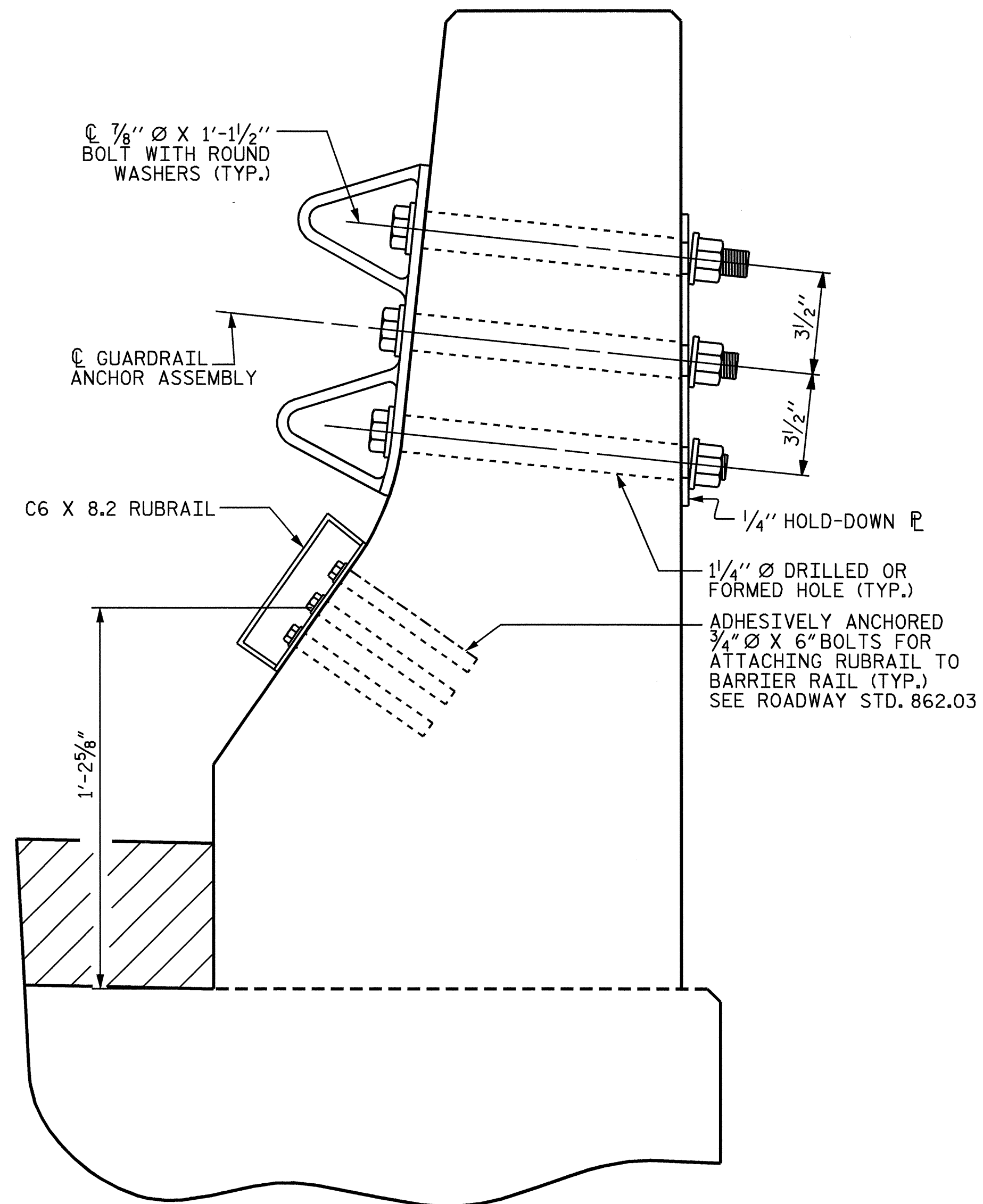
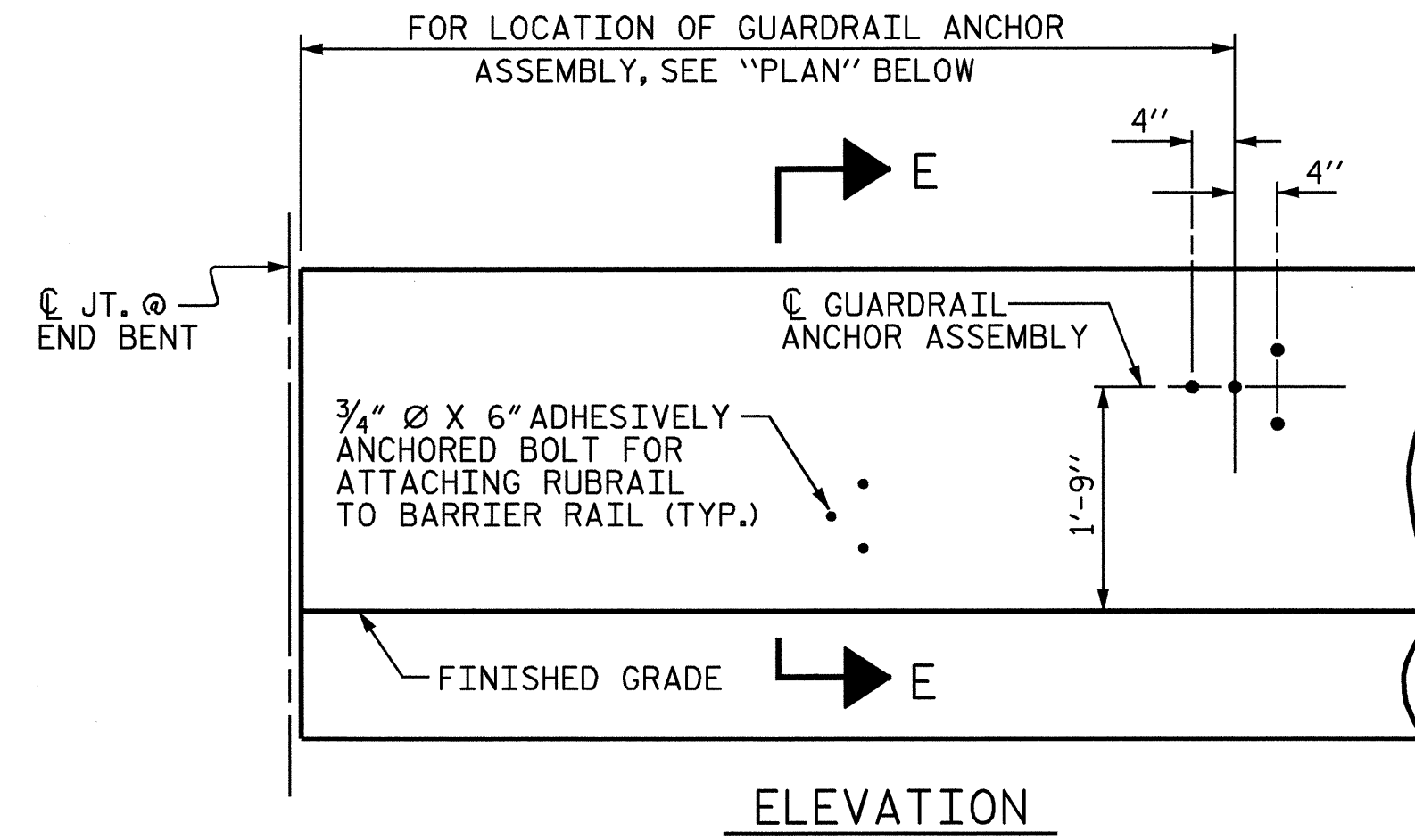
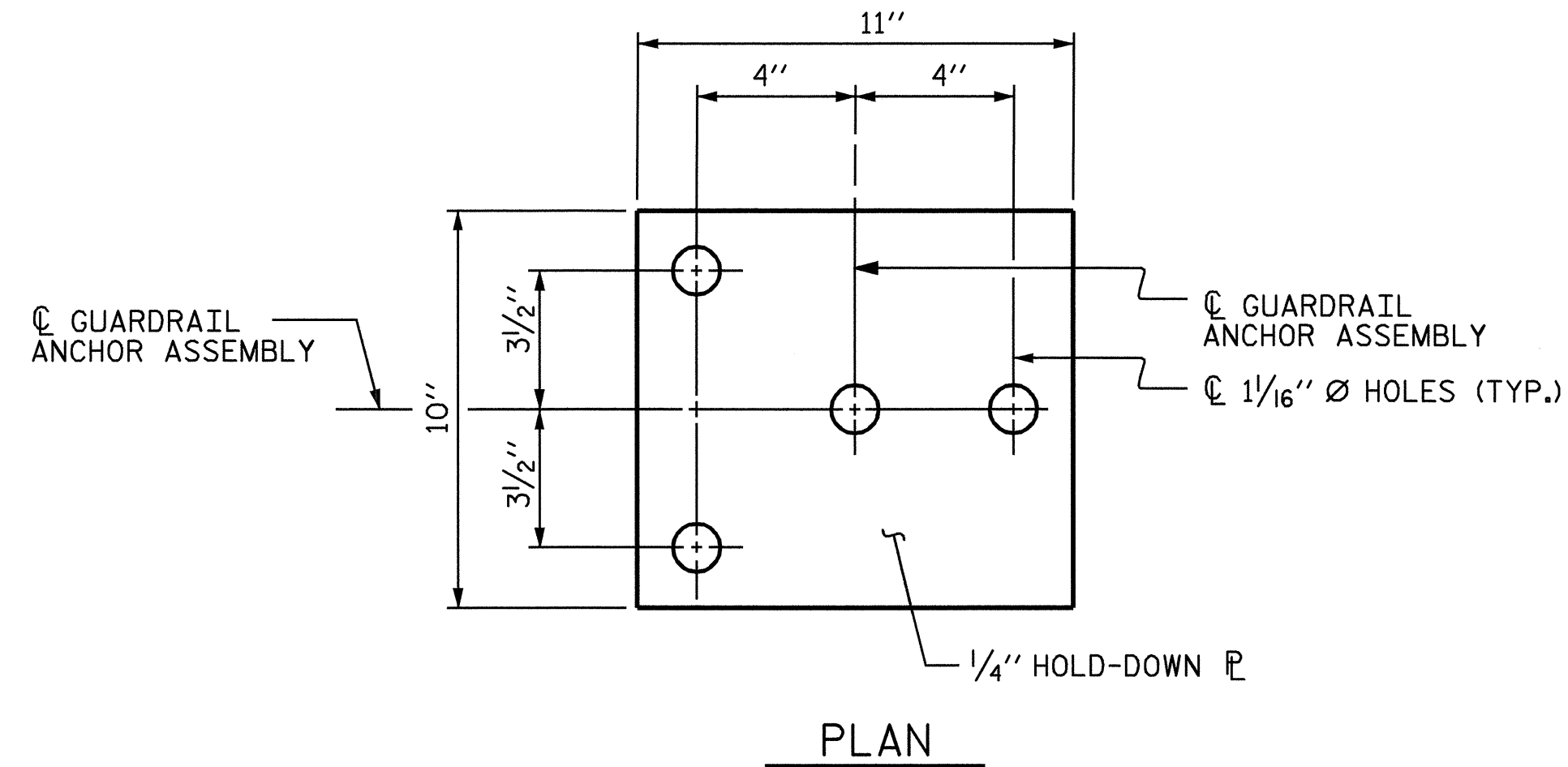
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

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

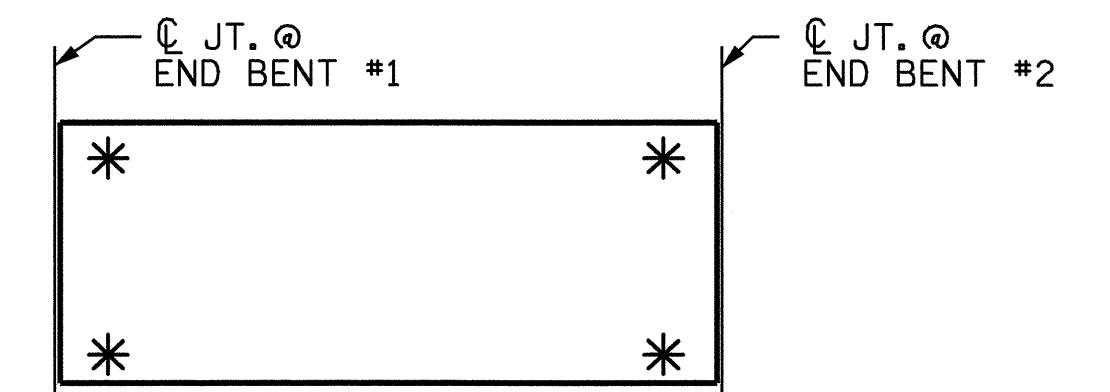
THE 1 1/4" Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

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



LOCATION OF ANCHORS FOR GUARDRAIL

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

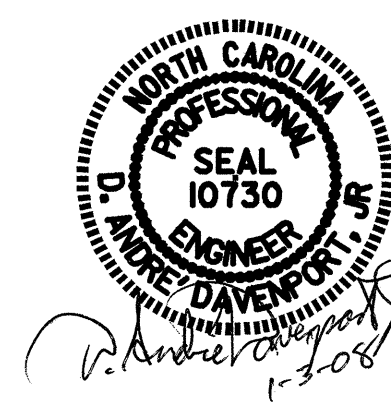


* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. B-4168
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STATE OF NORTH CAROLINA
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 RALEIGH

STANDARD
 GUARDRAIL ANCHORAGE
 FOR BARRIER RAIL

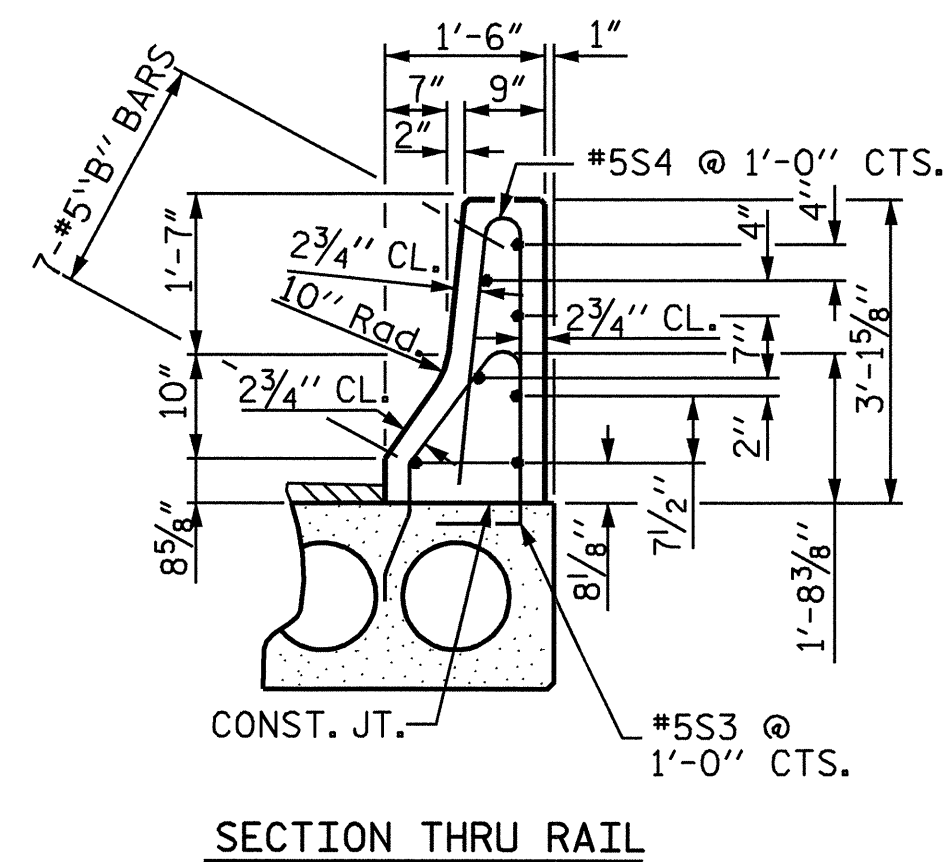


ASSEMBLED BY :	D.A. DAVENPORT	DATE :	5/07
CHECKED BY :	A. SORSENGINH	DATE :	9/07
DRAWN BY :	TLA 5/06	ADDED	5/1/06
CHECKED BY :	GM 5/06		

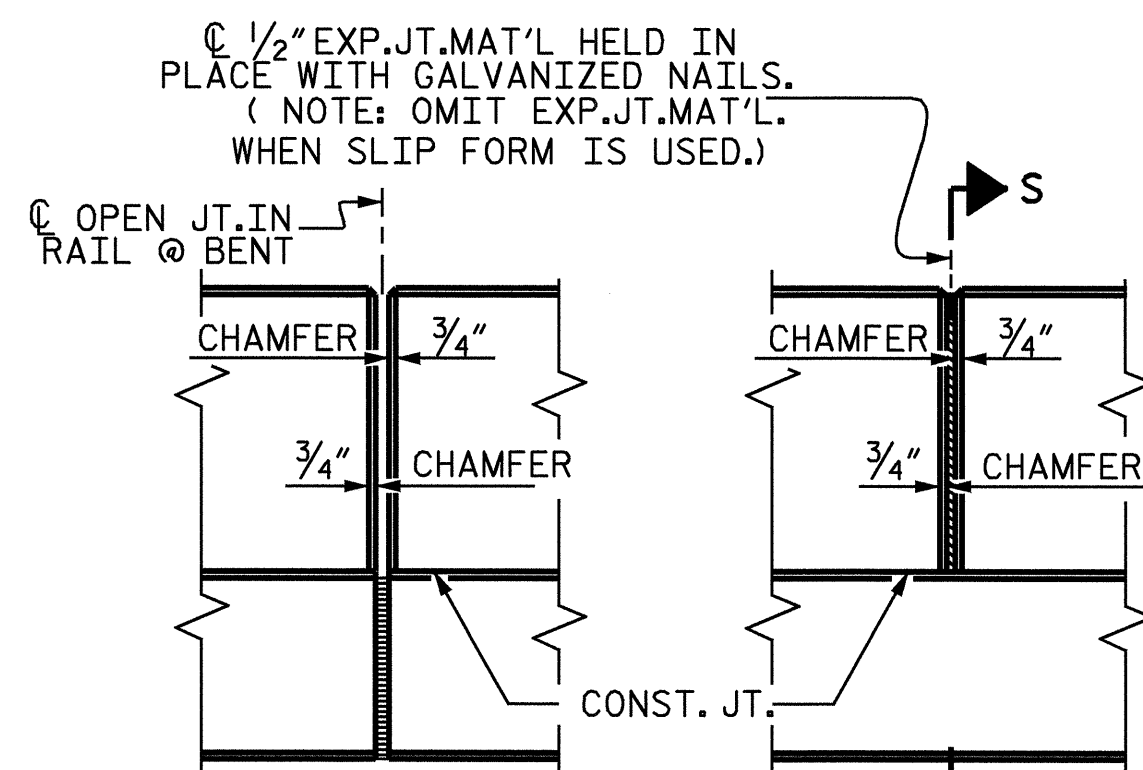
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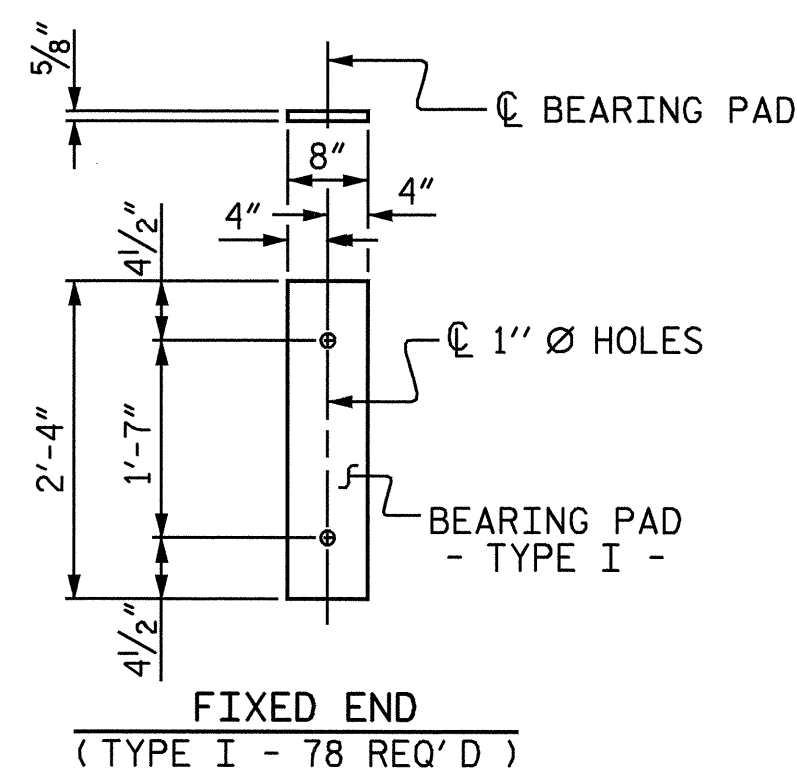
	CORED SLABS REQUIRED								
	SPAN "A"		SPAN "B"		SPAN "C"				
	NUMBER	LENGTH	TOTAL LENGTH	NUMBER	LENGTH	TOTAL LENGTH	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR C.S.	2	28.813	57.625	2	49.875	99.750	2	23.813	47.625
INTERIOR C.S.	11	28.813	316.938	11	49.875	548.625	11	23.813	261.938
SUB TOTAL	13		374.563	13		648.375	13		309.563
TOTAL	1332.501								



SECTION THRU RAIL

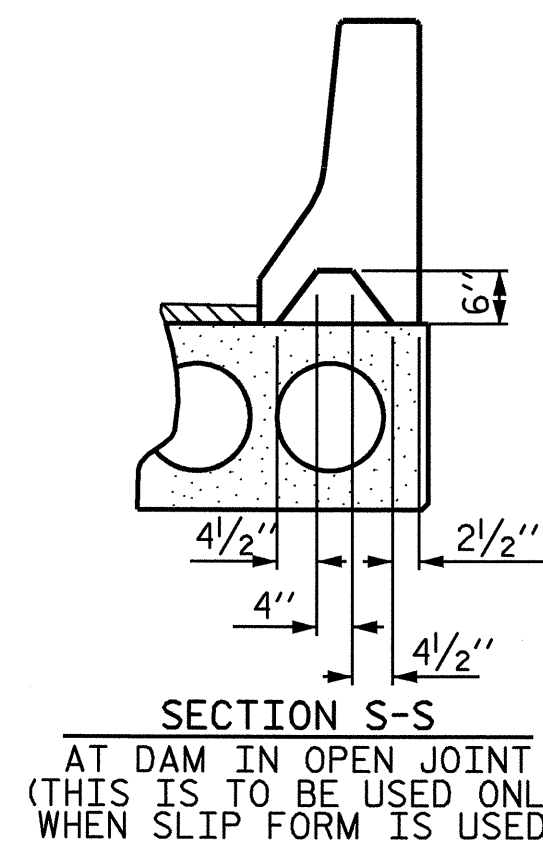


ELEVATION AT EXPANSION JOINTS
BARRIER RAIL DETAILS



ELASTOMERIC BEARING DETAILS

GRADE 270 STRANDS	
AREA (SQUARE INCHES)	1/2" Ø L.R.
ULTIMATE STRENGTH (LBS. PER STRAND)	41,300
APPLIED PRESTRESS (LBS. PER STRAND)	30,980



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

REINFORCING BAR SCHEDULE
FOR CONCRETE WEARING SURFACE

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
* A1	406	#3	STR	18'-9"	2862
* B10	288	#3	STR	27'-8"	2996
* B11	142	#4	STR	20'-0"	1897
* EPOXY COATED REINFORCING STEEL					7755 LBS.

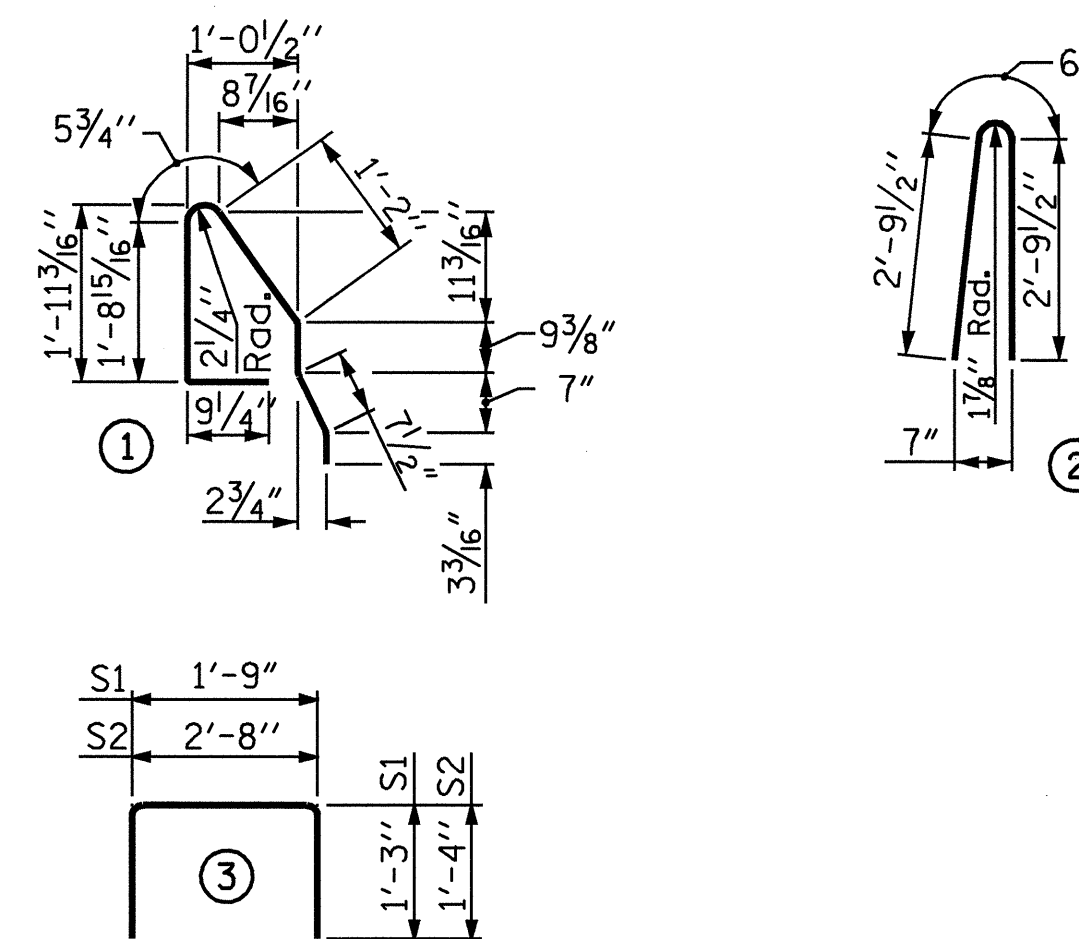
CONCRETE WEARING SURFACE

SQ. FT.	3649
---------	------

GROOVING BRIDGE FLOORS

BRIDGE DECK	3333 SQ. FT.
APPROACH SLABS	911 SQ. FT.
TOTAL	4244 SQ. FT.

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR ONE CORED SLAB SECTION

SPAN A	BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
					LENGTH	WEIGHT	LENGTH	WEIGHT
	B1	2	#4	STR	28'-5"	38	28'-5"	38
	S1	8	#5	3	4'-3"	35	4'-3"	35
	S2	56	#4	3	5'-4"	200	5'-4"	200
	* S3	30	#5	1	5'-10"	183		
	REINFORCING STEEL				273 LBS.		273 LBS.	
	* EPOXY COATED REINFORCING STEEL				183 LBS.			
	5,000 P.S.I. CONCRETE				4.1 CU. YDS.		4.1 CU. YDS.	
	1/2" Ø L.R. STRANDS				No.	12		12

BILL OF MATERIAL FOR ONE CORED SLAB SECTION

SPAN B	BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
					LENGTH	WEIGHT	LENGTH	WEIGHT
	B2	4	#4	STR	25'-8"	69	25'-8"	69
	S1	8	#5	3	4'-3"	35	4'-3"	35
	S2	98	#4	3	5'-4"	349	5'-4"	349
	* S3	51	#5	1	5'-10"	310		
	REINFORCING STEEL				453 LBS.		453 LBS.	
	* EPOXY COATED REINFORCING STEEL				310 LBS.			
	5,000 P.S.I. CONCRETE				7.1 CU. YDS.		7.0 CU. YDS.	
	1/2" Ø L.R. STRANDS				No.	24		24

BILL OF MATERIAL FOR ONE CORED SLAB SECTION

SPAN C	BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
					LENGTH	WEIGHT	LENGTH	WEIGHT
	B3	2	#4	STR	23'-6"	31	23'-6"	31
	S1	8	#5	3	4'-3"	35	4'-3"	35
	S2	46	#4	3	5'-4"	164	5'-4"	164
	* S3	25	#5	1	5'-10"	152		
	REINFORCING STEEL				230 LBS.		230 LBS.	
	* EPOXY COATED REINFORCING STEEL				152 LBS.			
	5,000 P.S.I. CONCRETE				3.5 CU. YDS.		3.4 CU. YDS.	
	1/2" Ø L.R. STRANDS				No.	12		12

BILL OF MATERIAL FOR CONCRETE BARRIER RAIL

BAR	BARS PER SPAN			TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	SPAN A	SPAN B	SPAN C					
* B4	14			14	#5	STR	28'-5"	415
* B5		14		14	#5	STR	25'-1"	366
* B6			14	14	#5	STR	23'-5"	342
* B7				14	#5	STR	24'-1"	352
* S4	60	102	50	212	#5	2	6'-1"	1345
* EPOXY COATED REINFORCING STEEL								2820 LBS.
CLASS AA CONCRETE								25.9 CU. YDS.
TOTAL LIN. FT. OF CONCRETE BARRIER RAIL								205.50

NOTES

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

ALL REINFORCING STEEL CAST WITH THE CORED SLAB SECTIONS SHALL BE GRADE 60 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE CORED SLABS.

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

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

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.

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

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.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THE 2" Ø BACKER ROD SHALL CONFORM TO THE REQUIREMENTS OF TYPE M BOND BREAKER, SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.

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

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

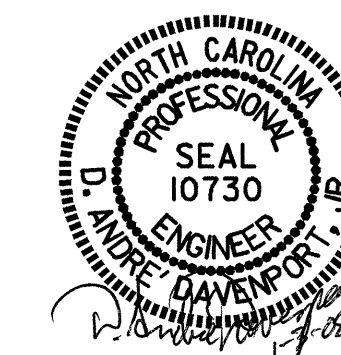
DEAD LOAD DEFLECTION AND CAMBER

	SPAN A	SPAN B	SPAN C
	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	1/2" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	7/16" ↑	2" ↑	3/8" ↑
DEFLECTION DUE TO CONCRETE OVERLAY	0" ↓	1/4" ↓	1/16" ↓
FINAL CAMBER	7/16" ↑	1 3/4" ↑	5/16" ↑

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 STATION: 17+30.60-L-

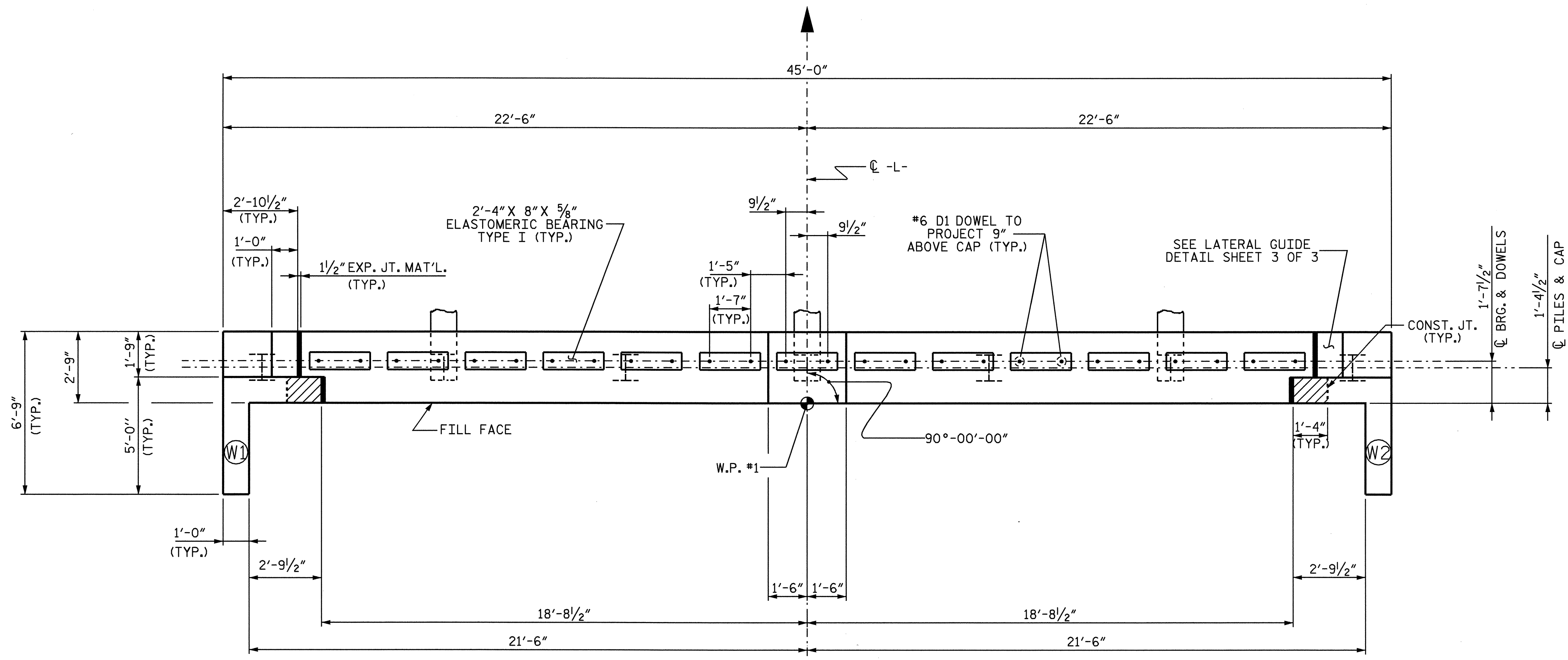
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

3'-0" X 1'-9"
 PRESTRESSED
 CONCRETE CORED
 SLAB UNIT

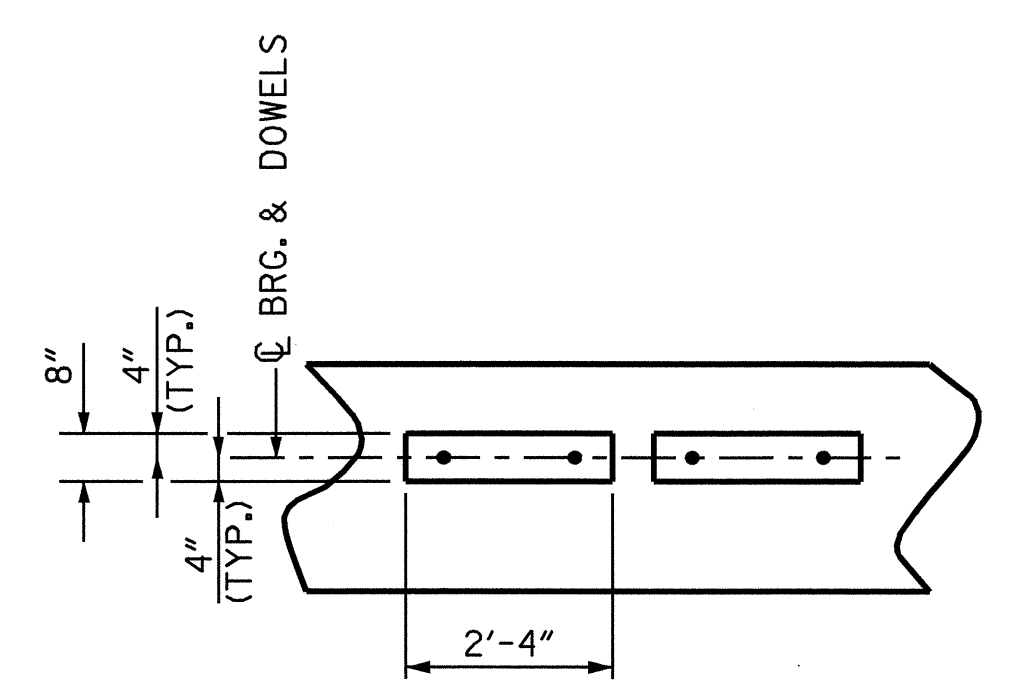


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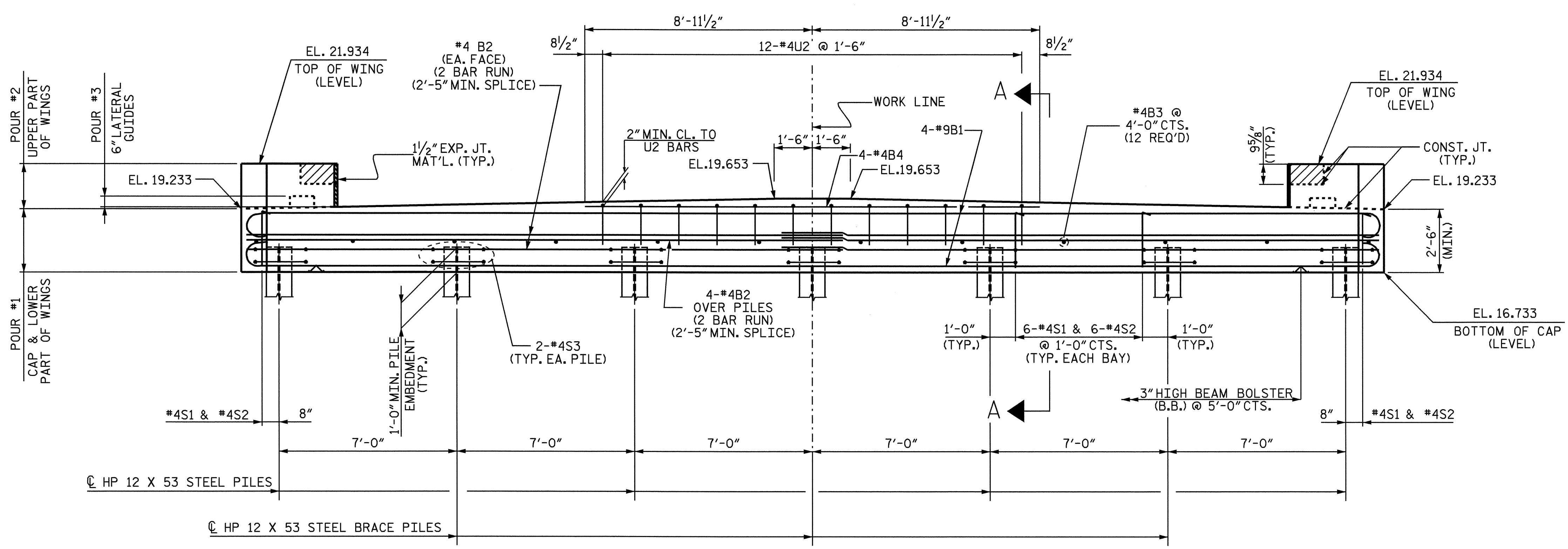
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 CHECKED BY: FCJ 5/89 REV. 7/10/01 RWW/LES
 REV. 5/1/03RR RWW/JTE



PLAN



BEARING DETAIL



ELEVATION

NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR 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.

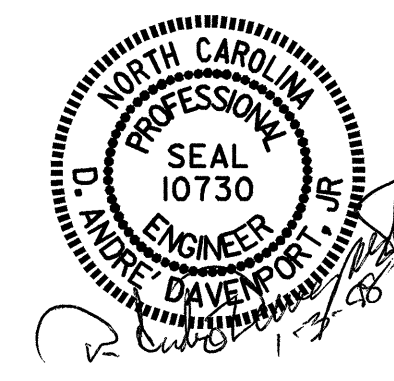
THE LATERAL GUIDE AT EACH END OF THE CAP IS NOT TO BE POURED UNTIL AFTER CORED SLAB UNITS ARE IN PLACE.

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SHEET 1 OF 3

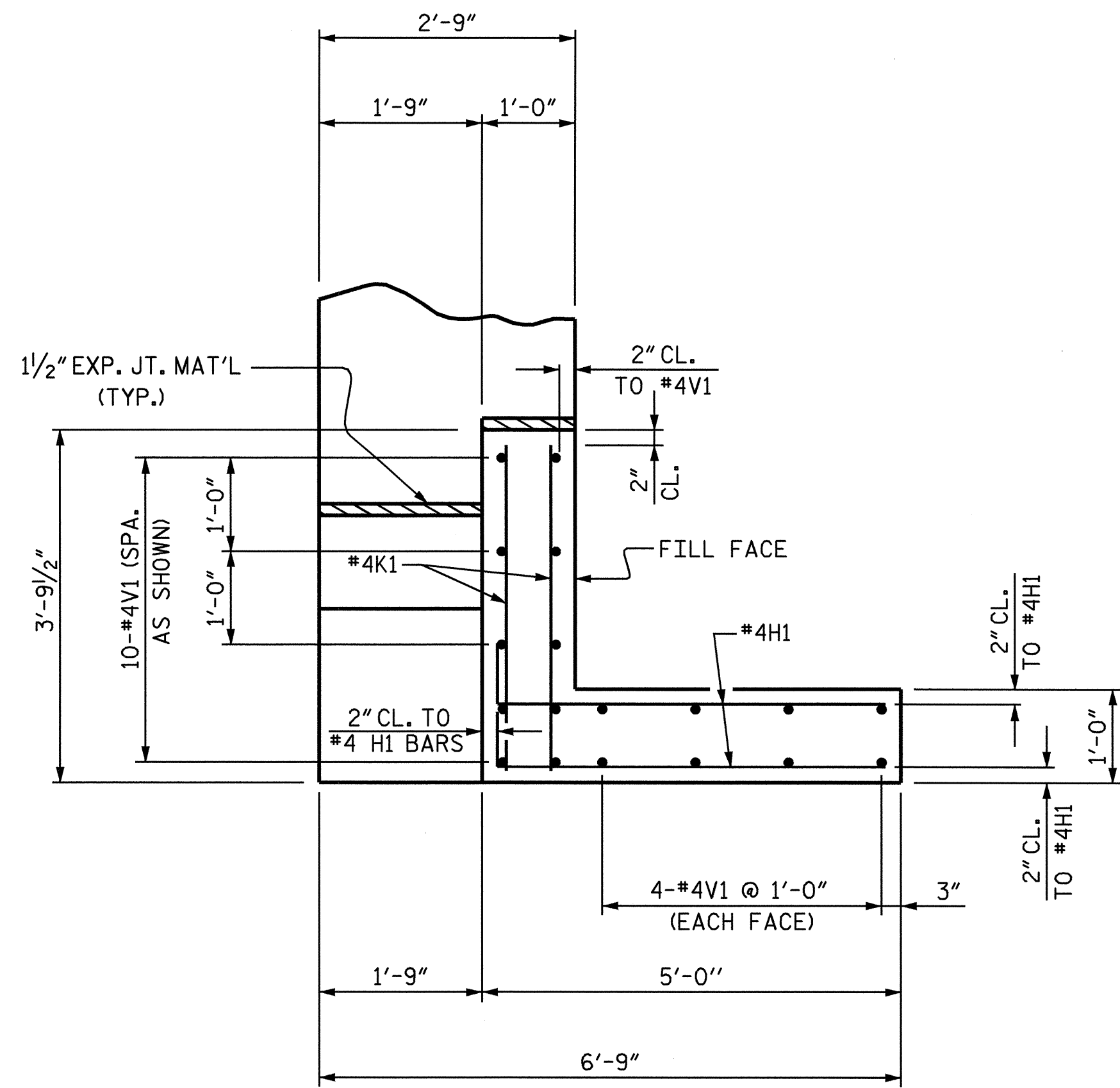
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT #1



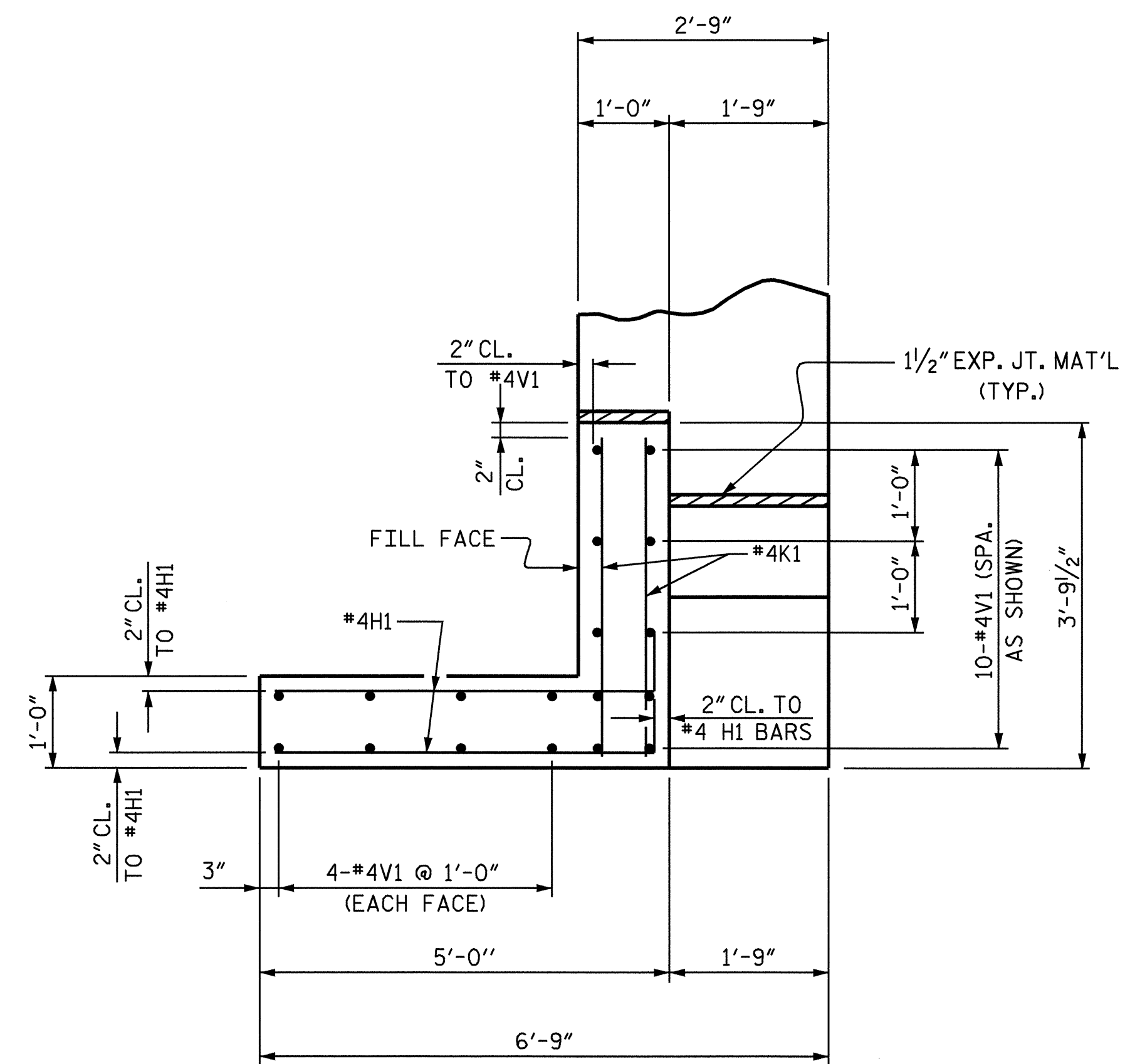
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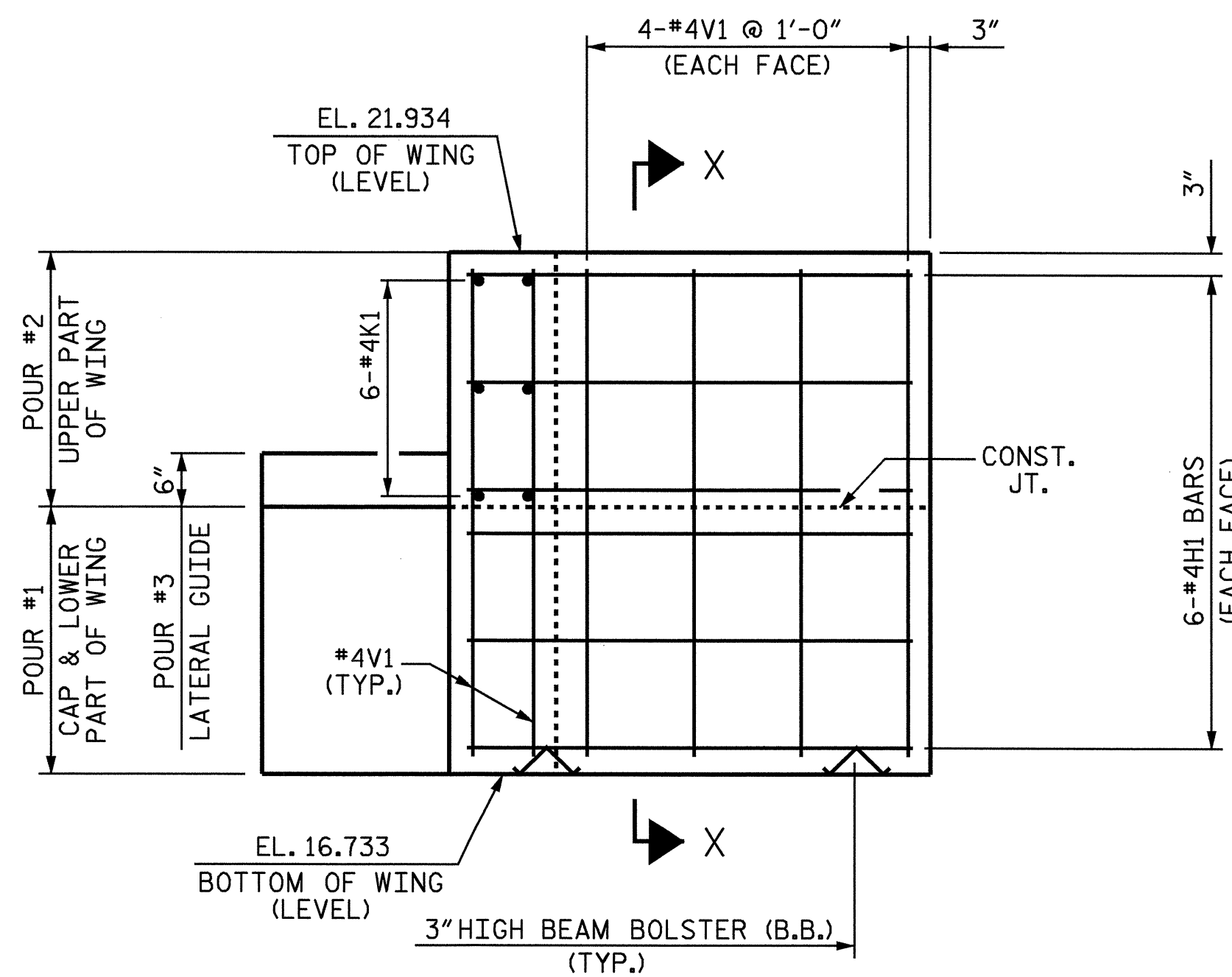
PLAN OF LEFT WING

W1



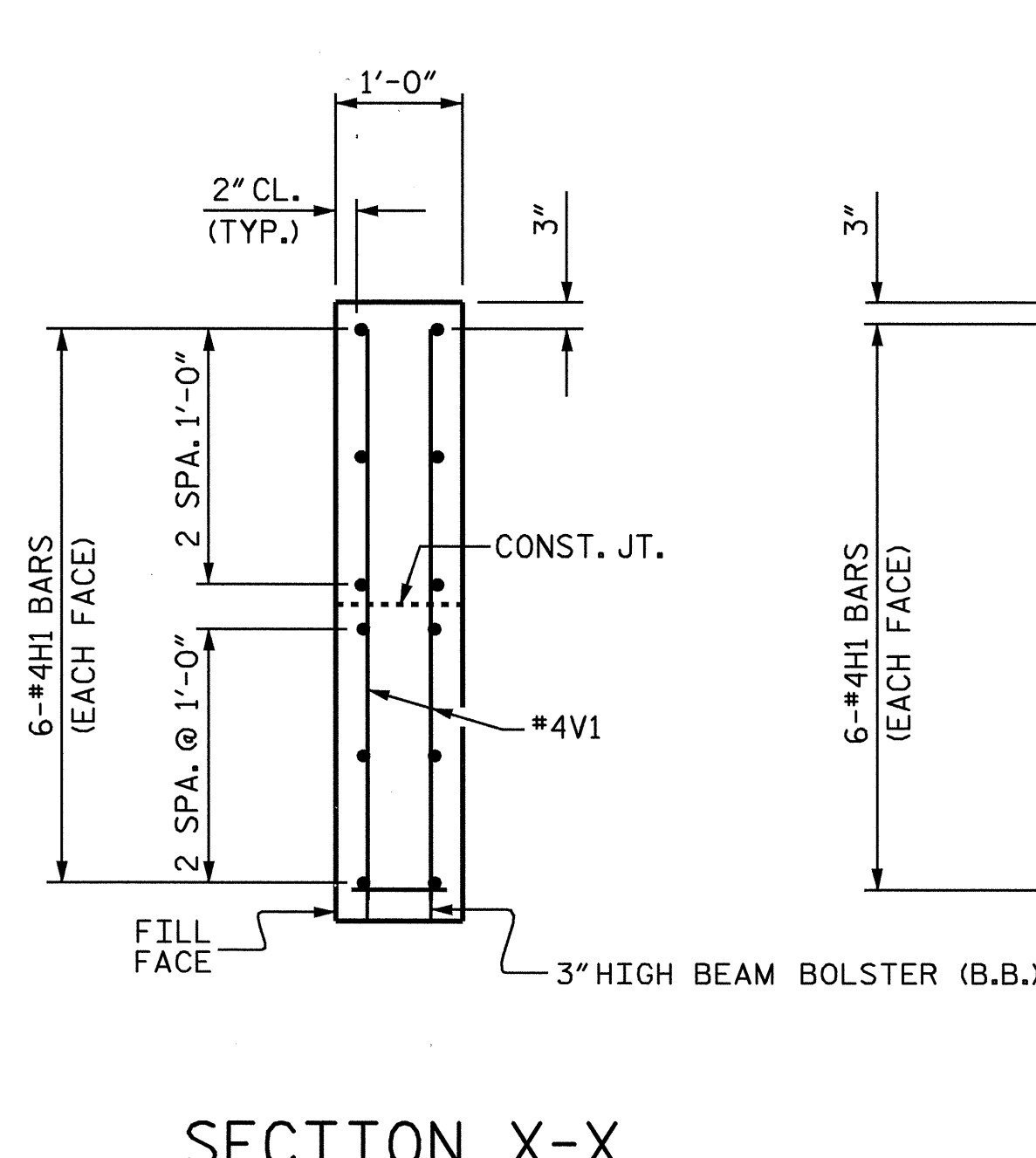
PLAN OF RIGHT WING

W2

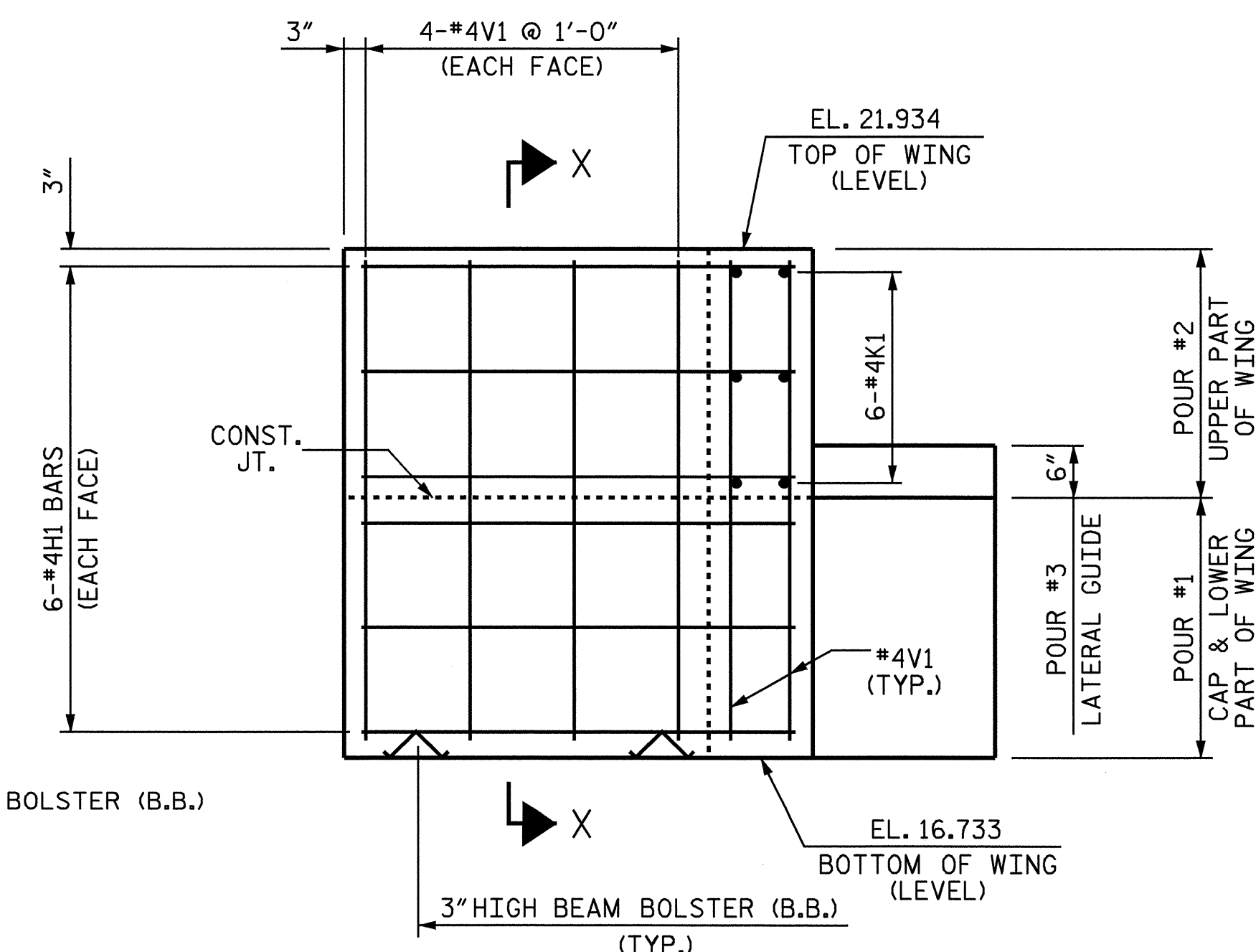


ELEVATION OF LEFT WING

W1



SECTION X-X



ELEVATION OF RIGHT WING

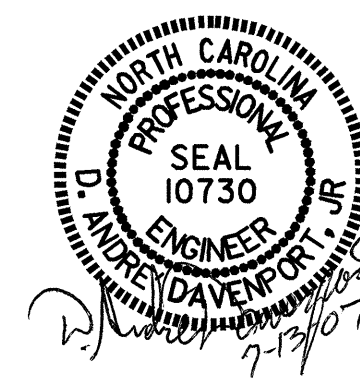
W2

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 JONES COUNTY
 STATION: 17+30.60 -L-

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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

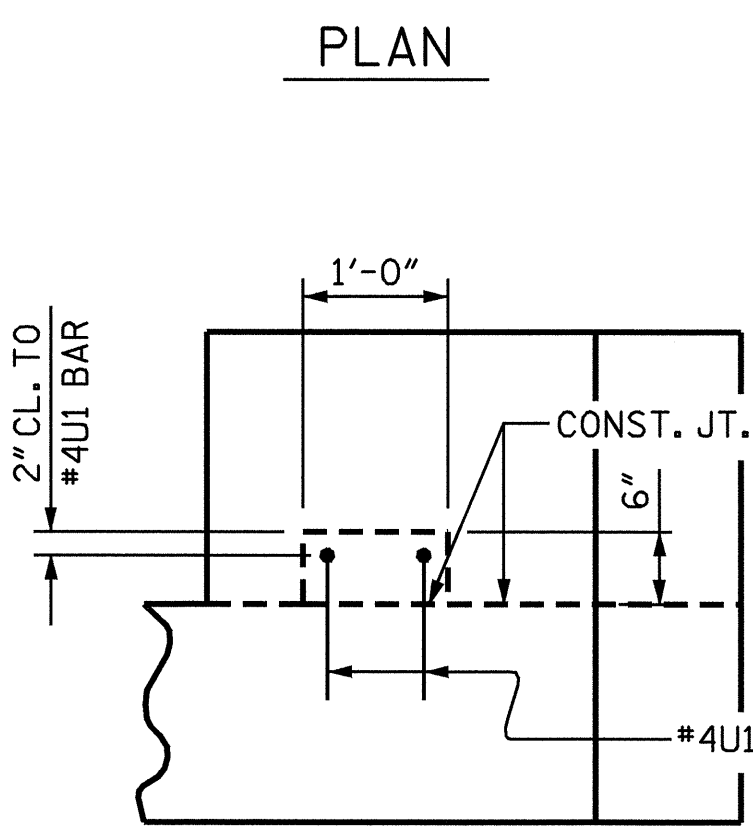
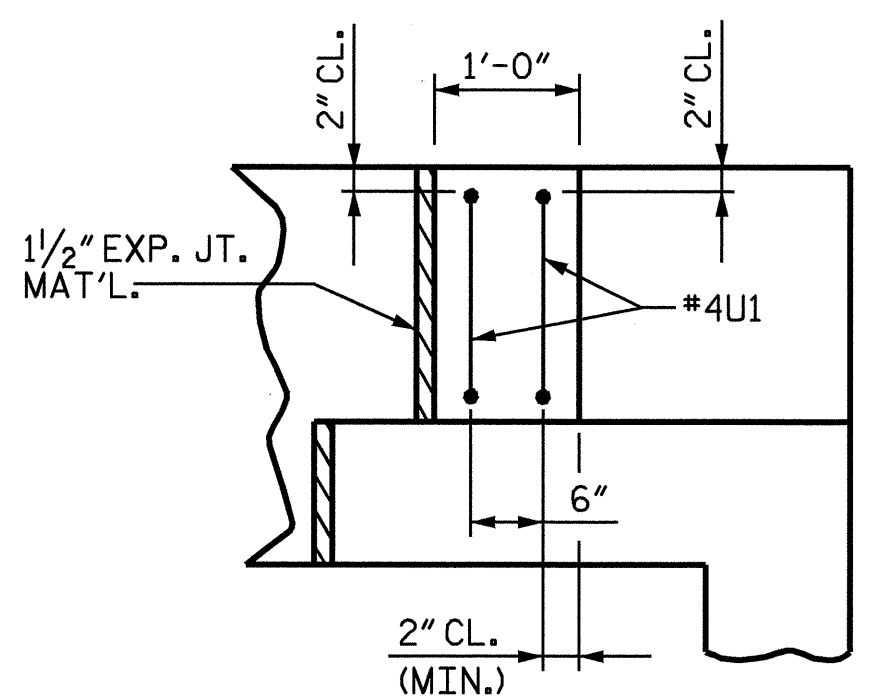
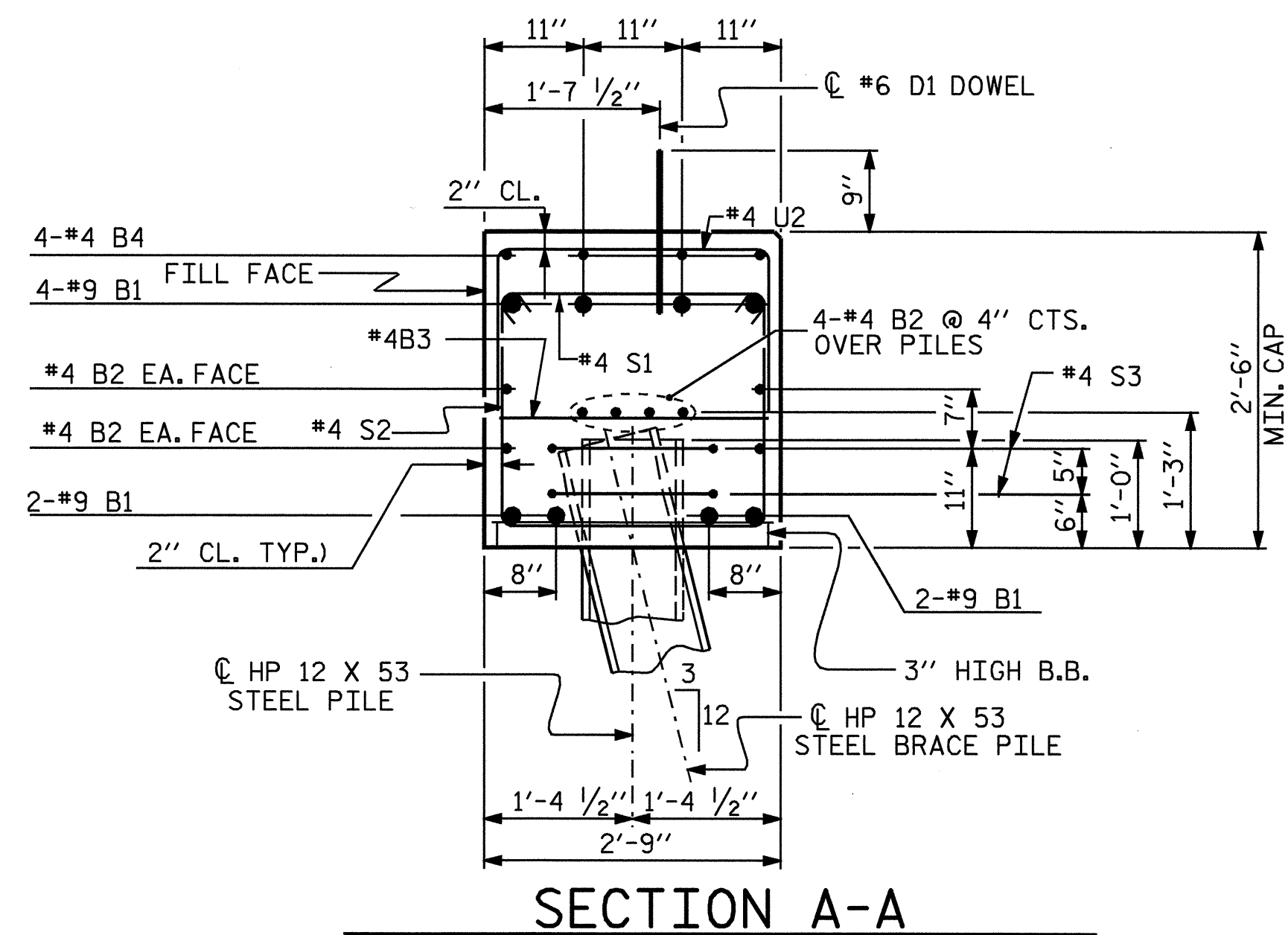
SUBSTRUCTURE
 END BENT #1



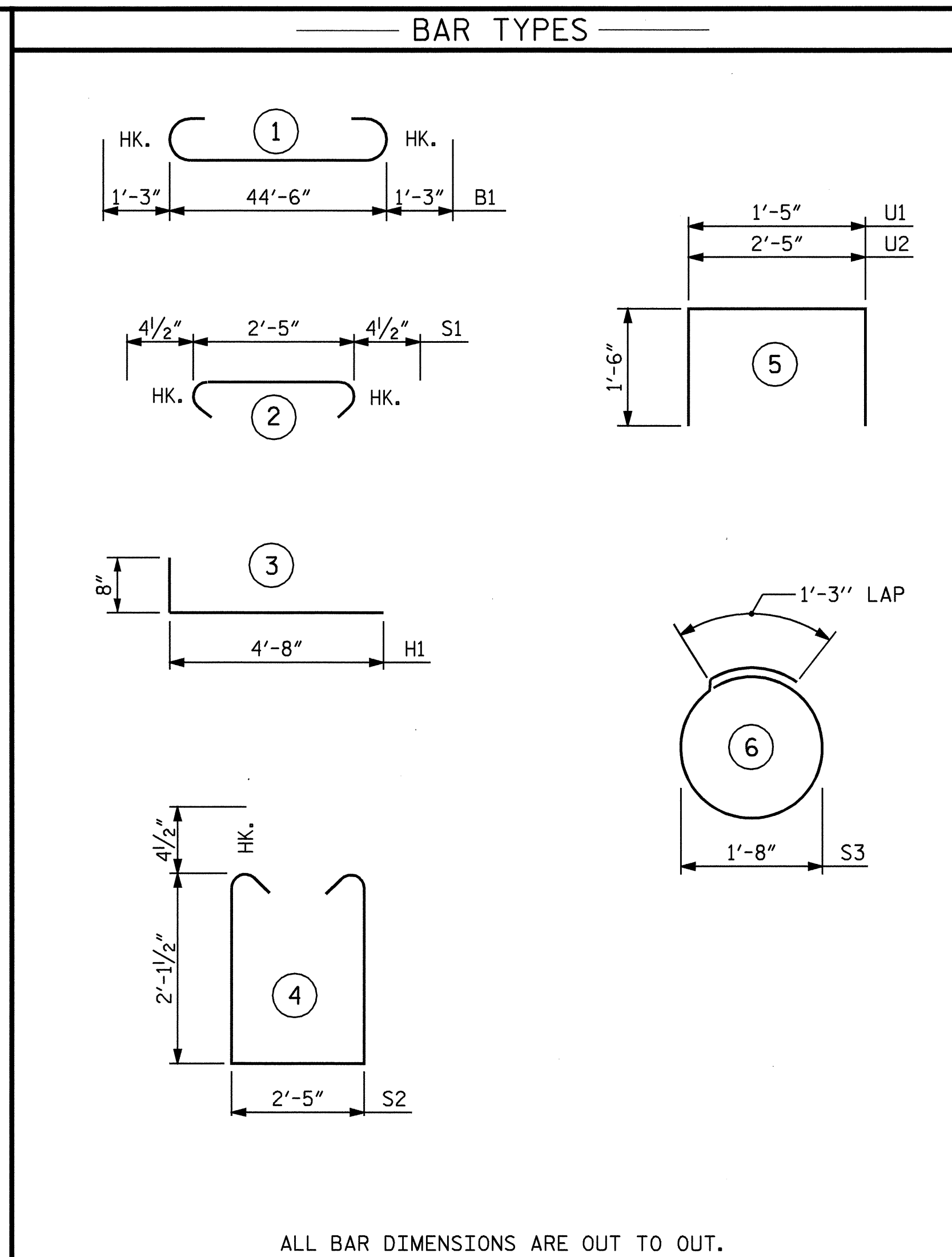
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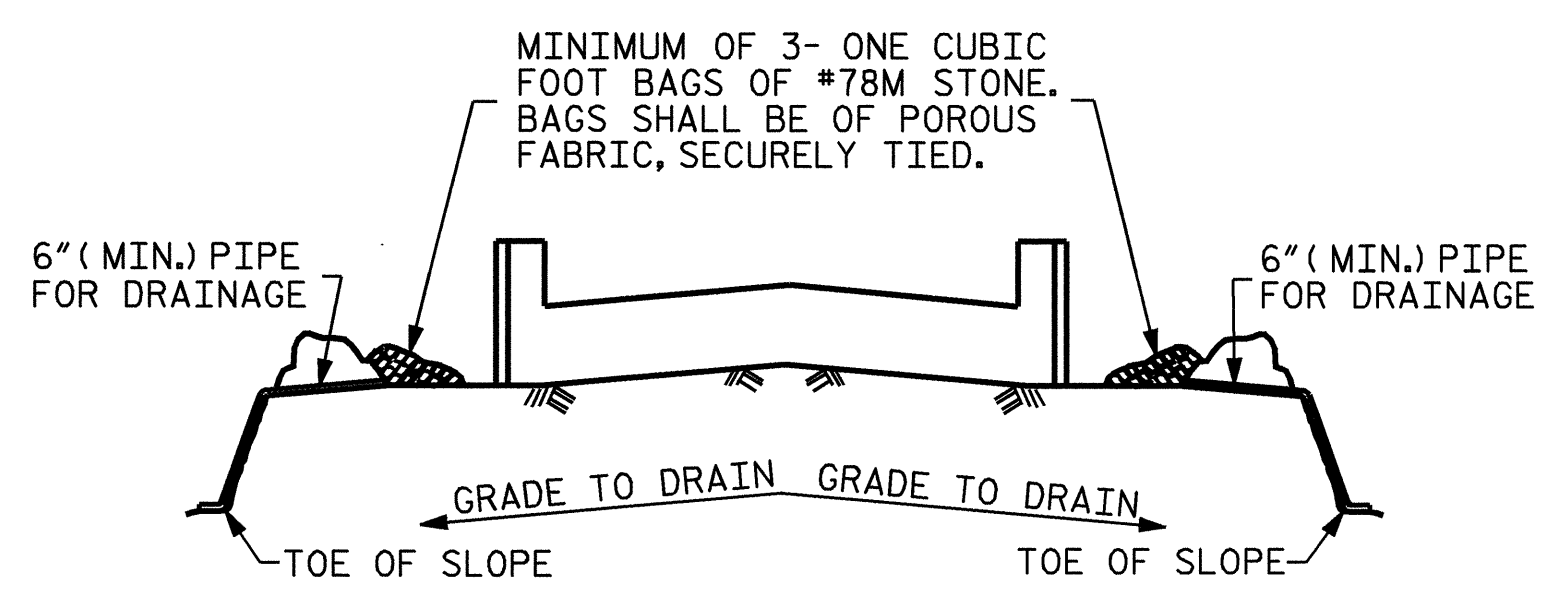
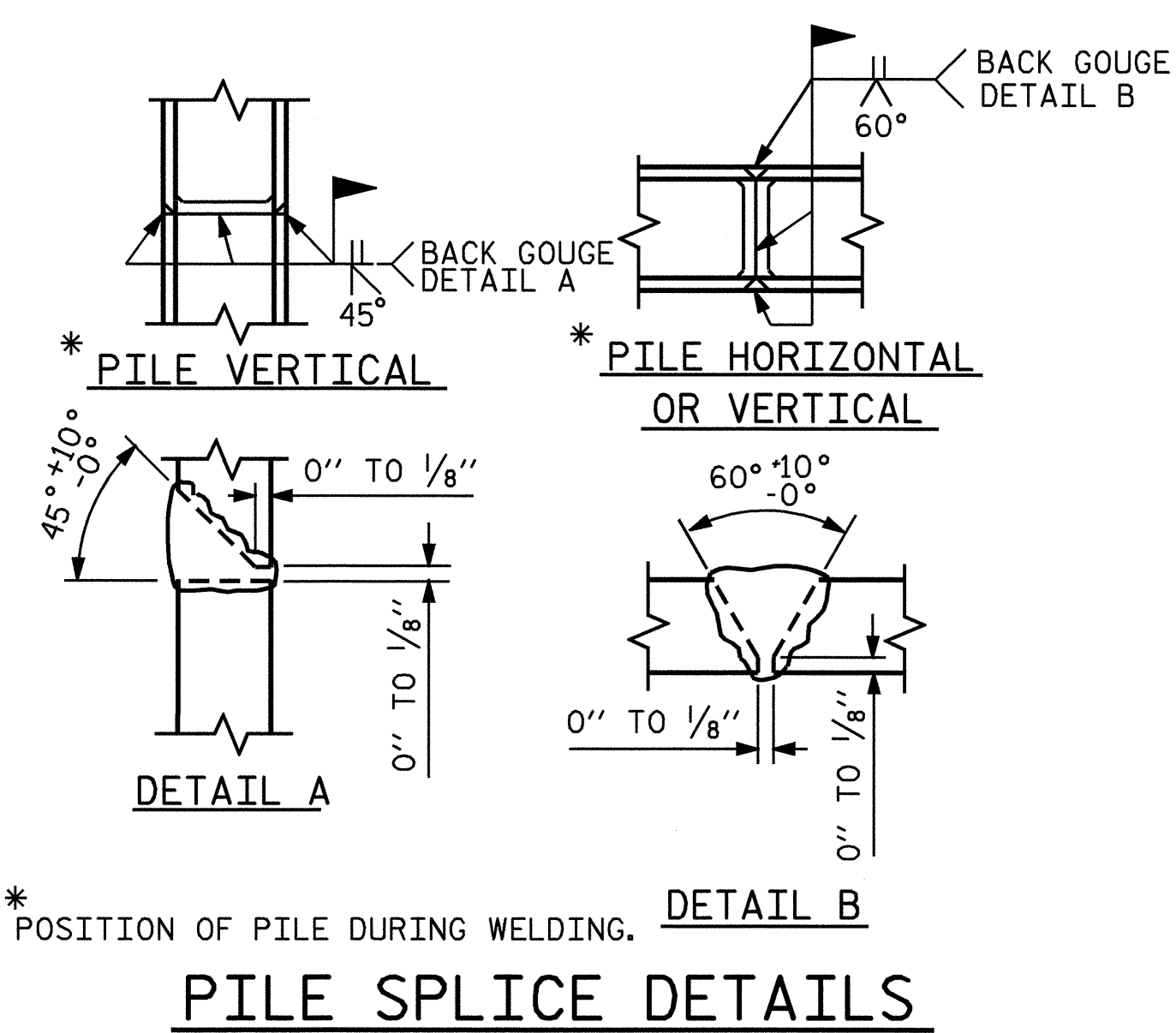
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LATERAL GUIDE
(TYPICAL EACH SIDE)



BILL OF MATERIAL					
END BENT #1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	47'-0"	1278
B2	16	#4	STR	23'-7"	252
B3	12	#4	STR	2'-5"	19
B4	4	#4	STR	17'-11"	48
D1	26	#6	STR	1'-6"	59
H1	24	#4	3	5'-4"	86
K1	12	#4	STR	3'-5"	27
S1	38	#4	2	3'-2"	80
S2	38	#4	4	7'-5"	188
S3	14	#4	6	6'-6"	61
U1	4	#4	5	4'-5"	12
U2	12	#4	5	5'-5"	43
V1	36	#4	STR	4'-10"	116
REINFORCING STEEL =				2269 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. 7 210 LIN. FT.	



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.

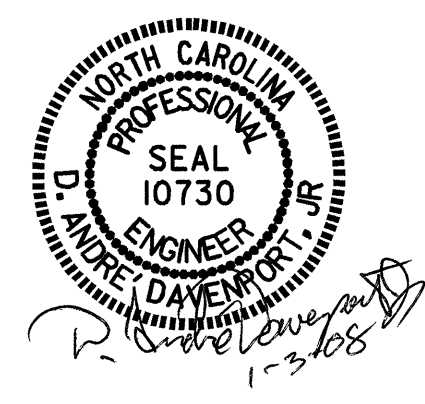
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR 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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 SHEET 3 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE END BENT #1					
REVISIONS					SHEET NO.
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2			4		
					TOTAL SHEETS 23

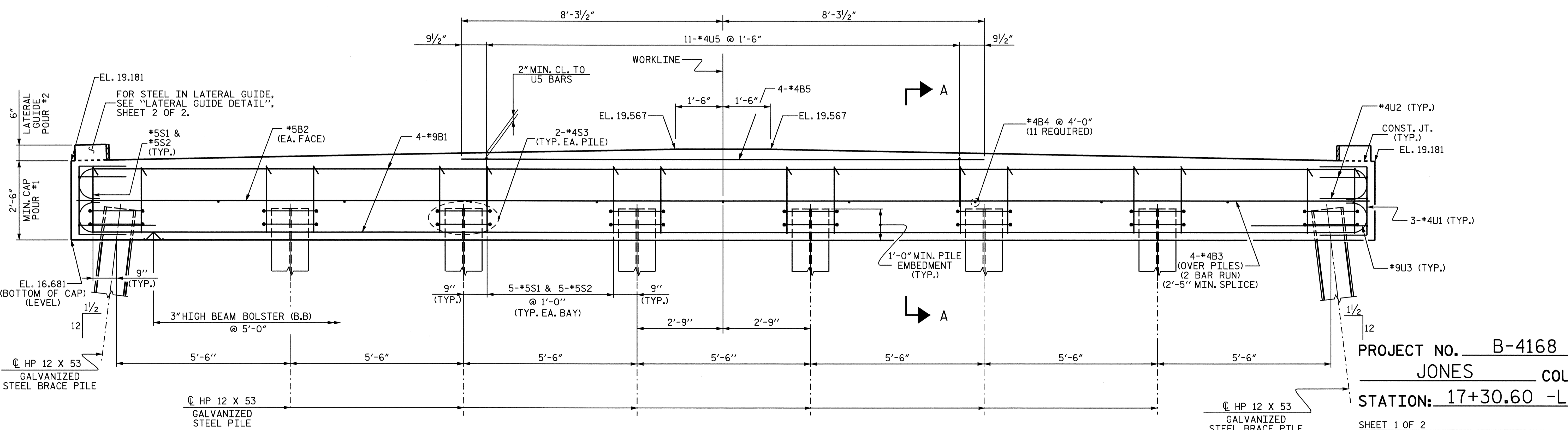
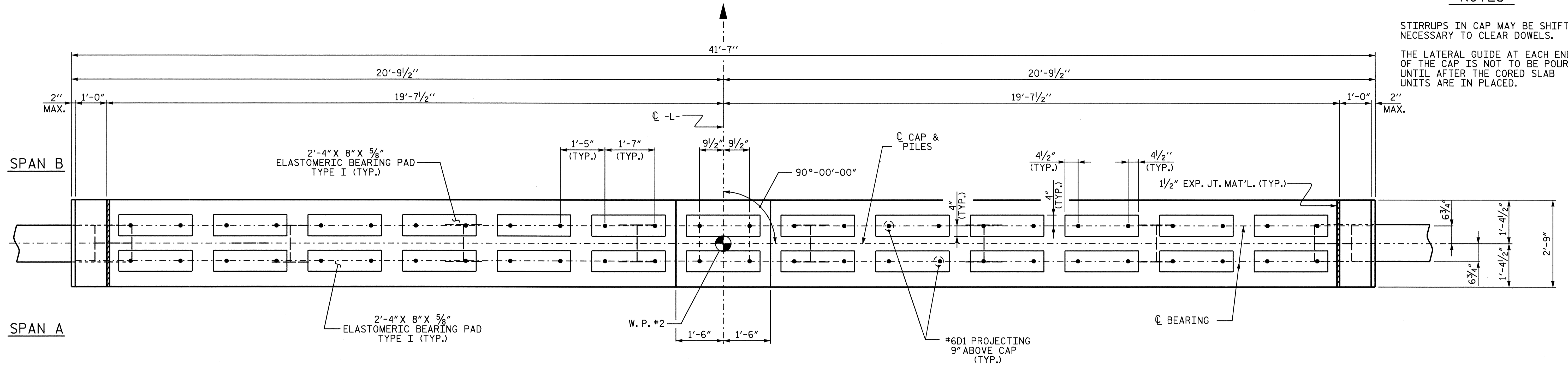


DRAWN BY : A. A. COLE DATE : 6-1-05
 CHECKED BY : B. GREEN DATE : 7-1-05

NOTES

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

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

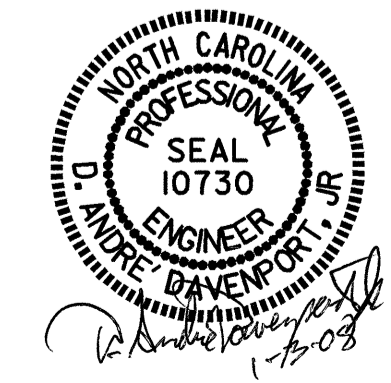


PROJECT NO. B-4168
JONES COUNTY
 STATION: 17+30.60 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

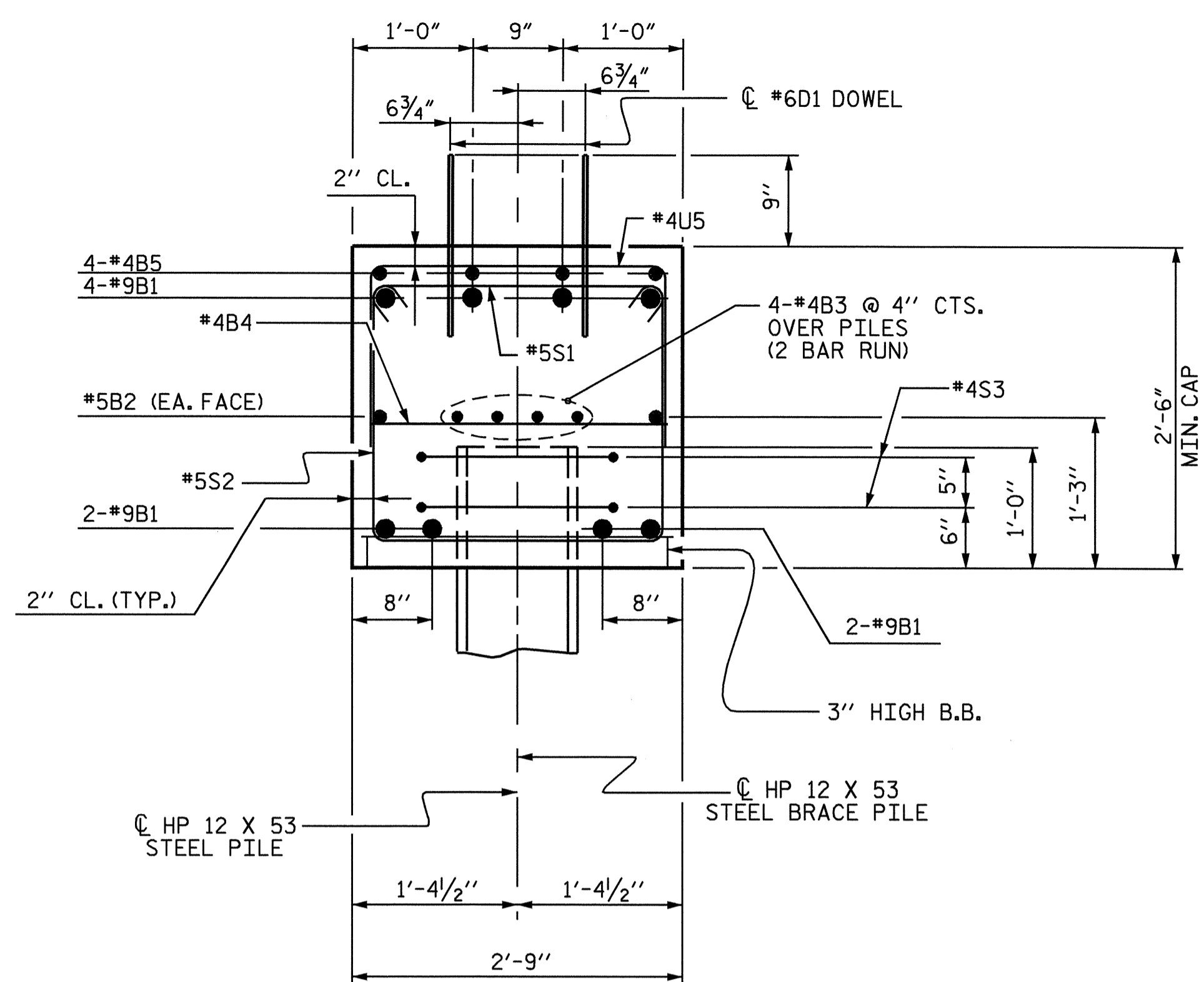
SUBSTRUCTURE BENT #1



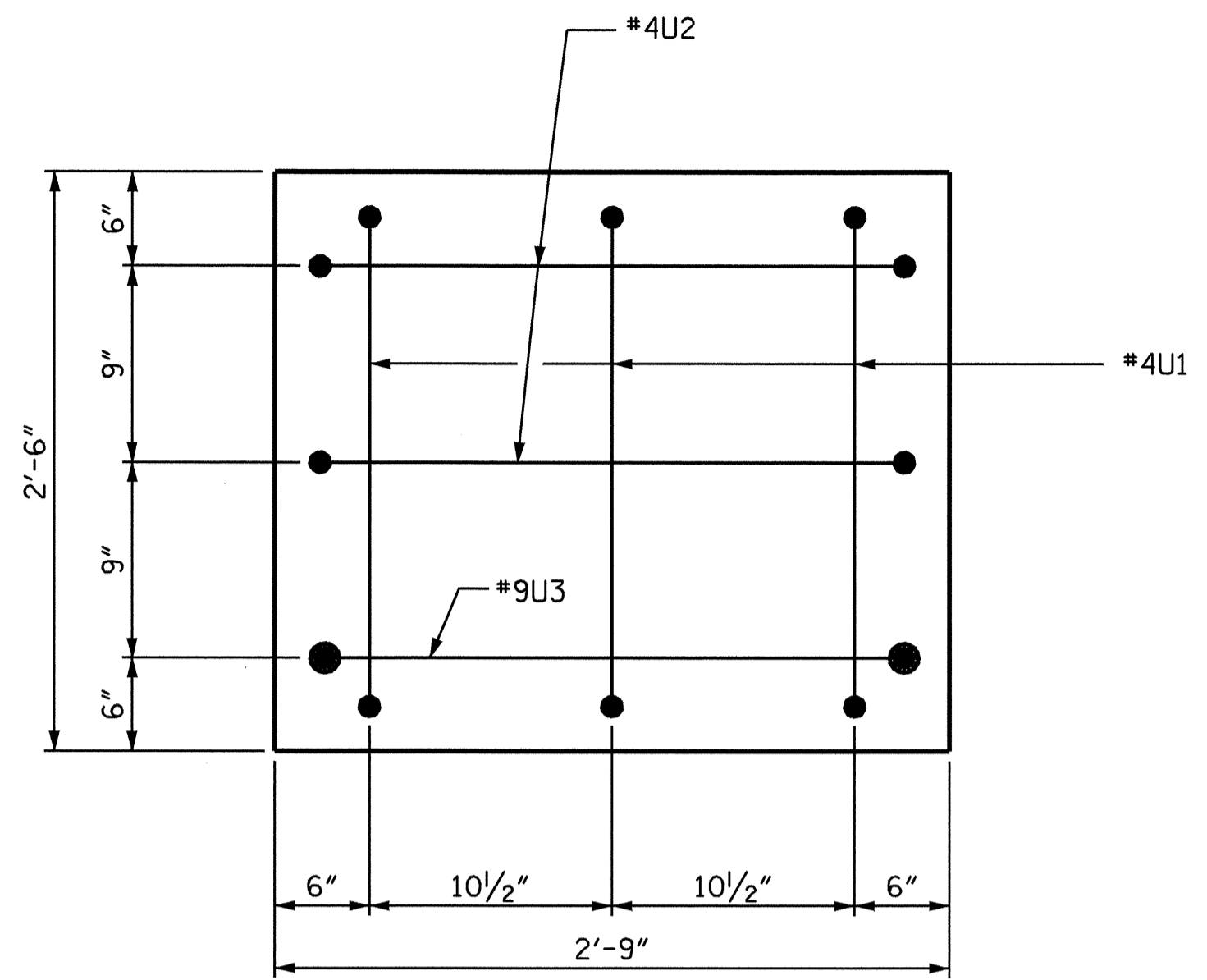
DRAWN BY: B. L. GREEN DATE: 11/05
 CHECKED BY: H. T. BARBOUR DATE: 1/06

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-14	
1			3			TOTAL SHEETS	
2			4			23	

03-JAN-2008 08:53
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 Adavenport

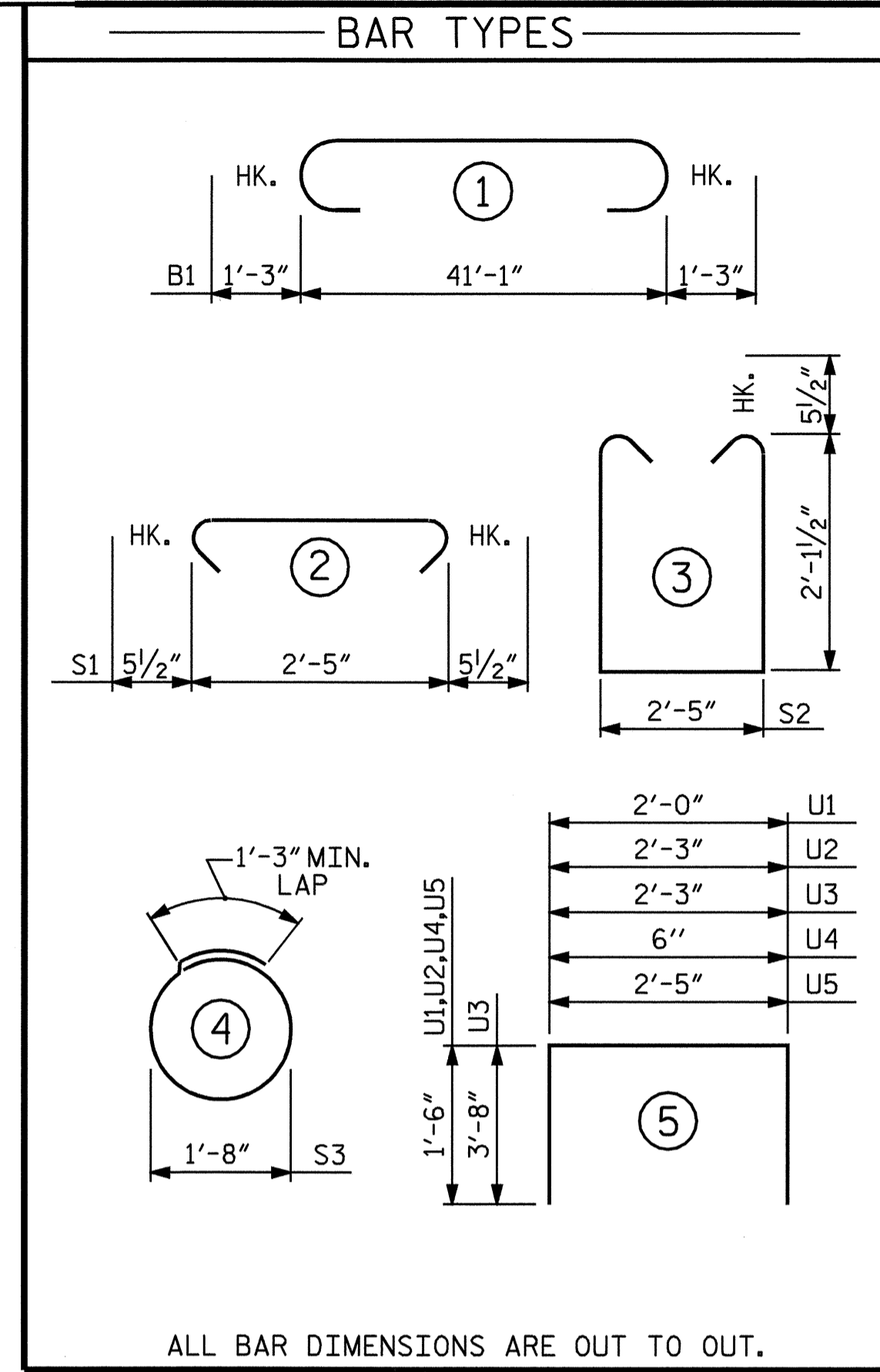


SECTION A-A



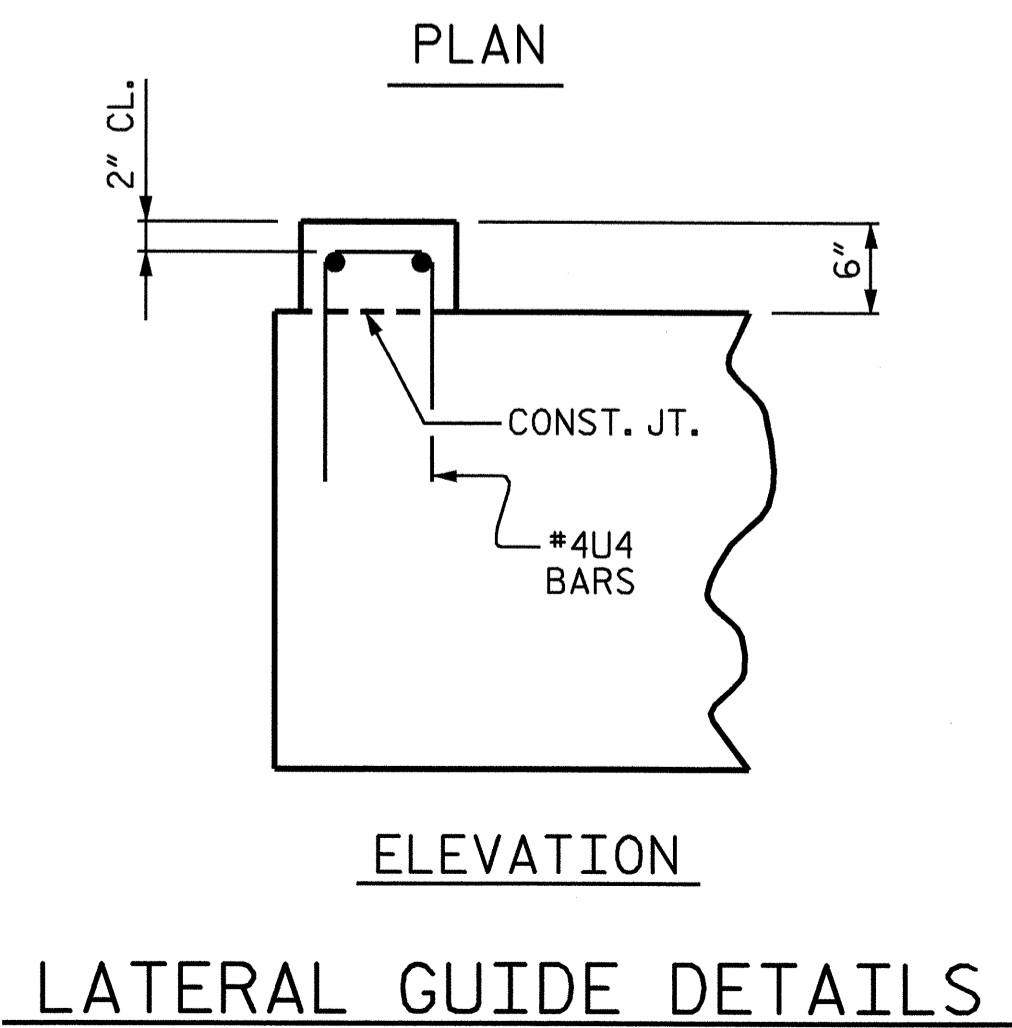
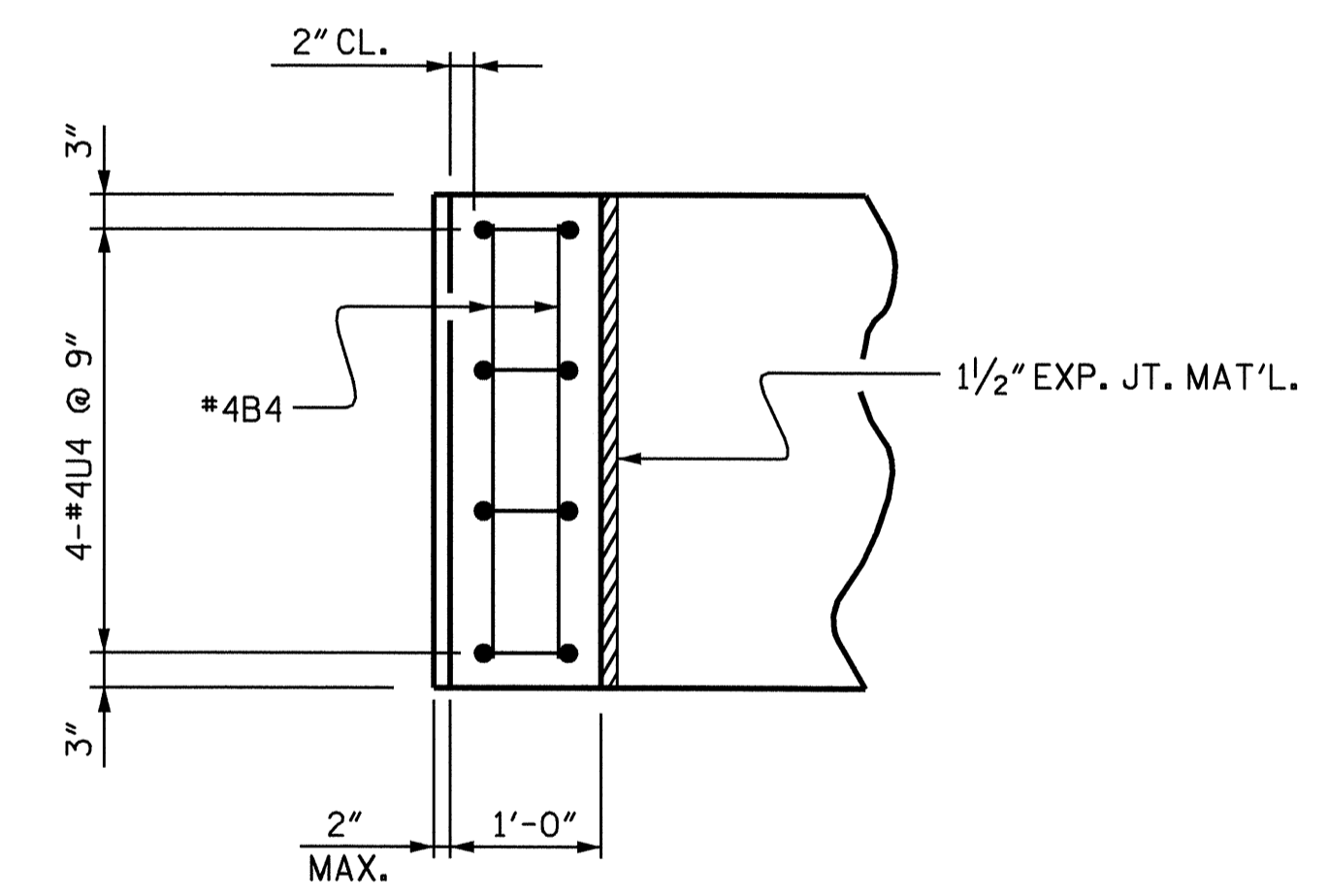
END VIEW

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.

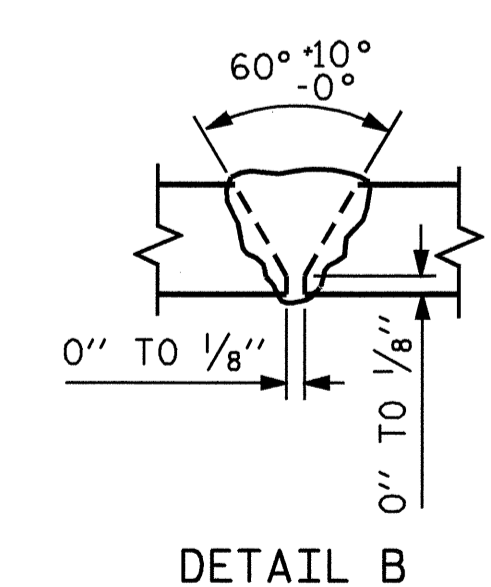
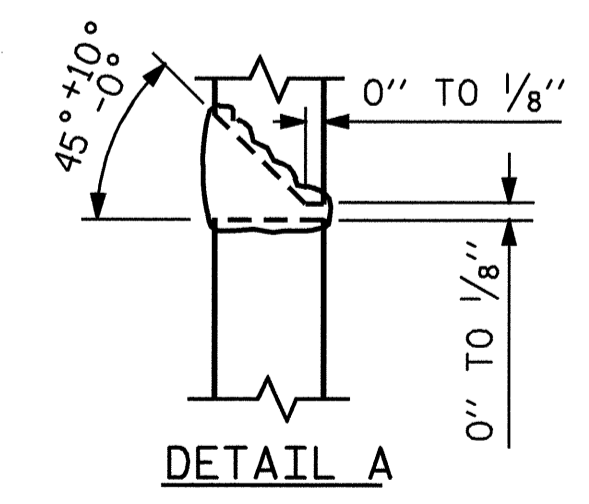
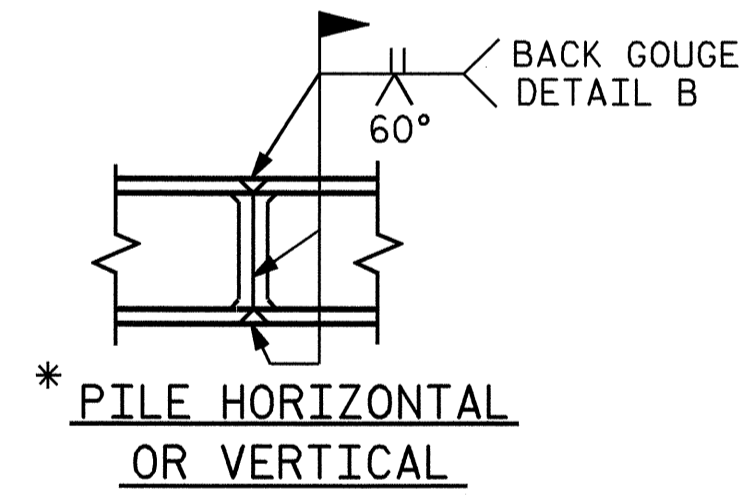
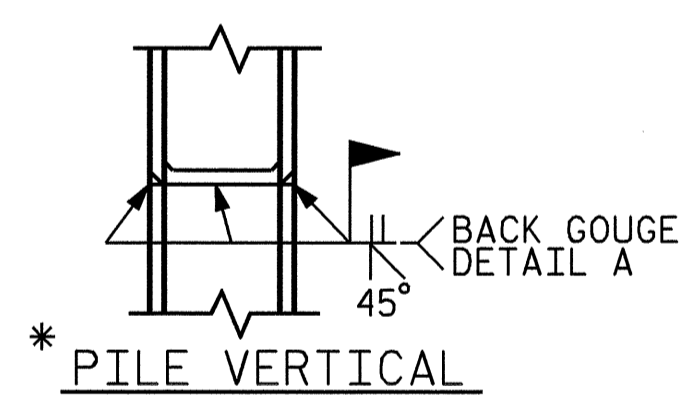


ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9		43'-7"	1185
B2	2	#5	STR	41'-3"	86
B3	8	#4	STR	21'-10"	117
B4	15	#4	STR	2'-5"	24
B5	4	#4	STR	16'-7"	44
D1	52	#6	STR	1'-6"	117
S1	37	#5	2	3'-4"	129
S2	37	#5	3	7'-7"	293
S3	16	#4	4	6'-6"	69
U1	6	#4	5	5'-0"	20
U2	4	#4	5	5'-3"	14
U3	2	#9	5	9'-7"	65
U4	8	#4	5	3'-6"	19
U5	11	#4	5	5'-5"	40
REINFORCING STEEL				=	2222 LBS
CLASS A CONCRETE					
POUR #1 CAP				CU. YDS.	11.5
POUR #2 LATERAL GUIDE				CU. YDS.	0.1
TOTAL				CU. YDS.	11.6
HP 12 X 53 GALVANIZED STEEL PILES				LN. FT.	240



LATERAL GUIDE DETAILS



PILE SPlice DETAILS

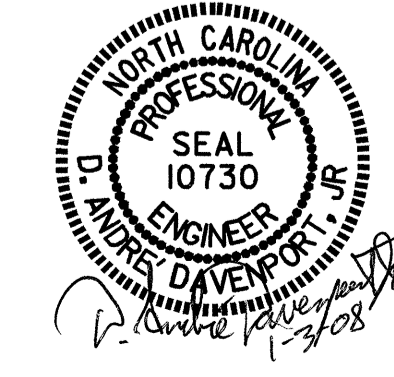
* POSITION OF PILE DURING WELDING.

PROJECT NO. B-4168
JONES COUNTY
STATION: 17+30.60 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT #1



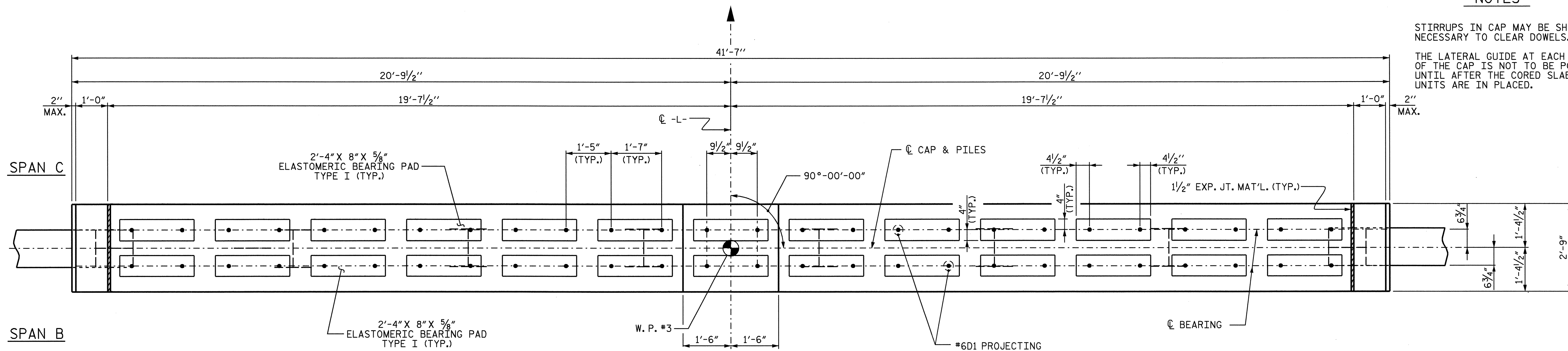
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-15	
1			3			TOTAL	23
2			4			SHEET	

DRAWN BY : B.L. GREEN DATE : 11/05
CHECKED BY : H.T. BARBOUR DATE : 1/06

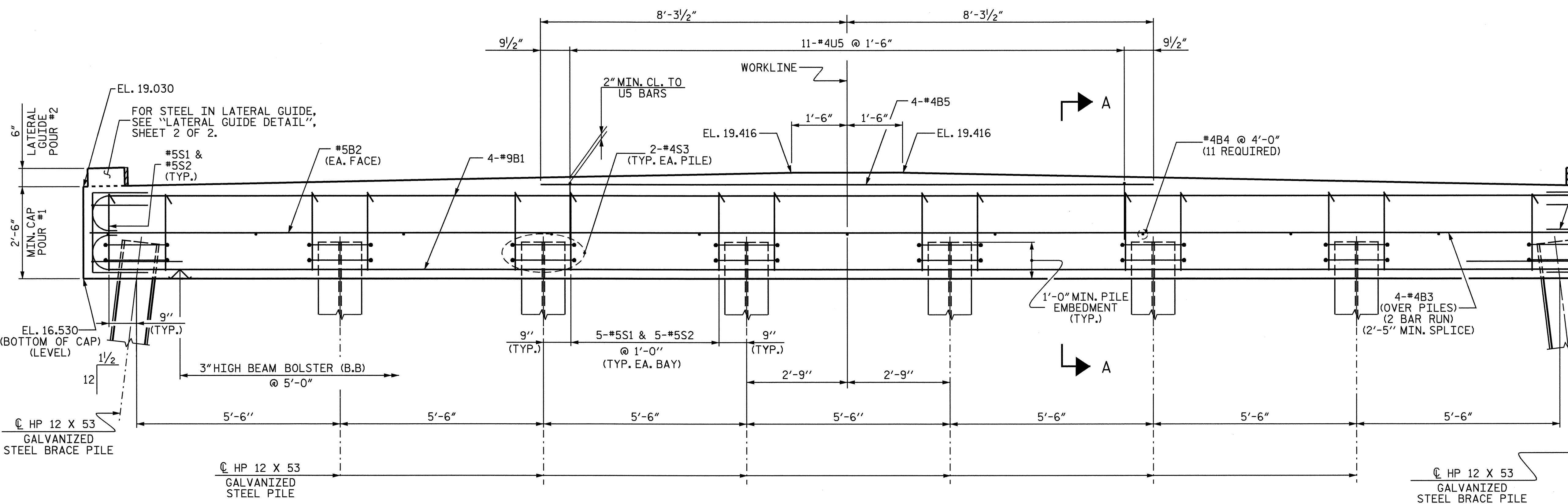
NOTES

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

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



PLAN



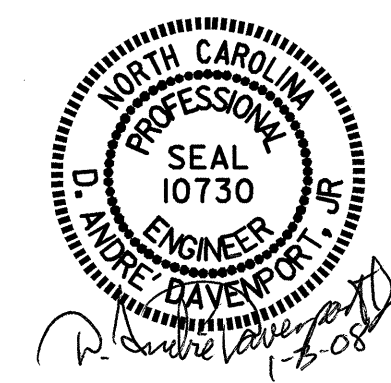
ELEVATION

PROJECT NO. B-4168
 JONES COUNTY
 STATION: 17+30.60 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

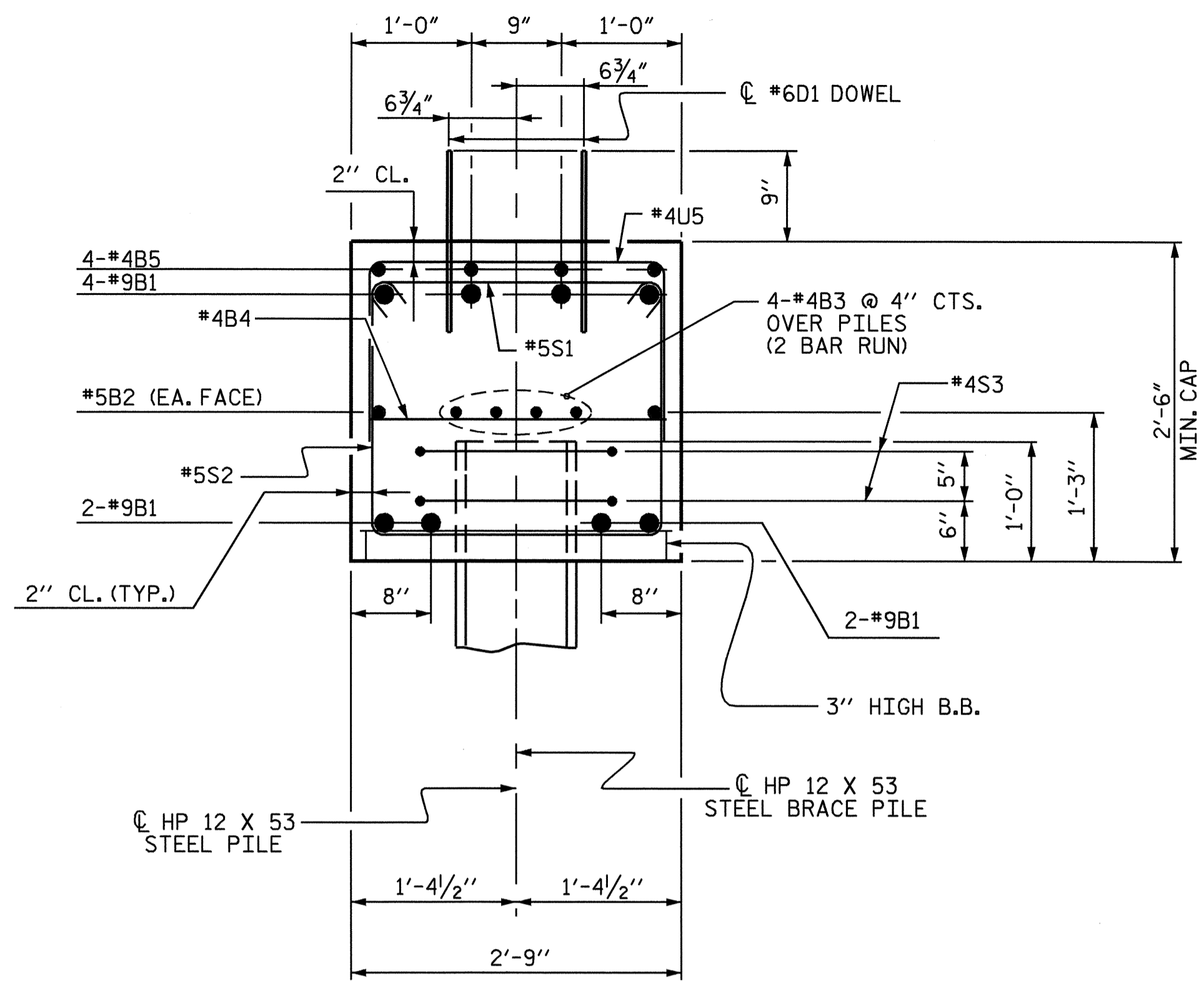
SUBSTRUCTURE BENT #2



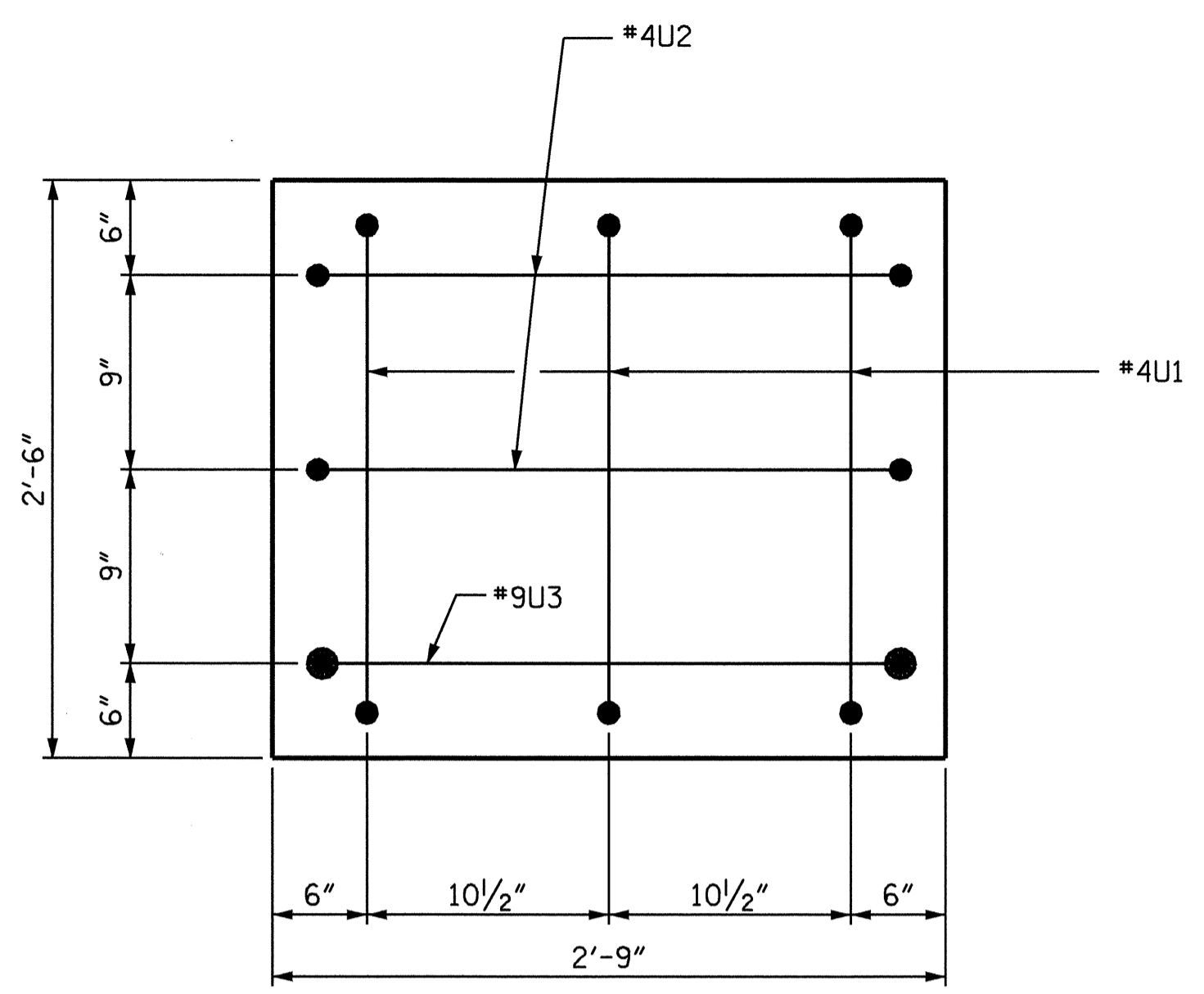
DRAWN BY: B. L. GREEN DATE: 11/05
 CHECKED BY: H. T. BARBOUR DATE: 1/06

03-JAN-2008 08:53
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 Adavenport

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-16
1			3			TOTAL SHEETS
2			4			23

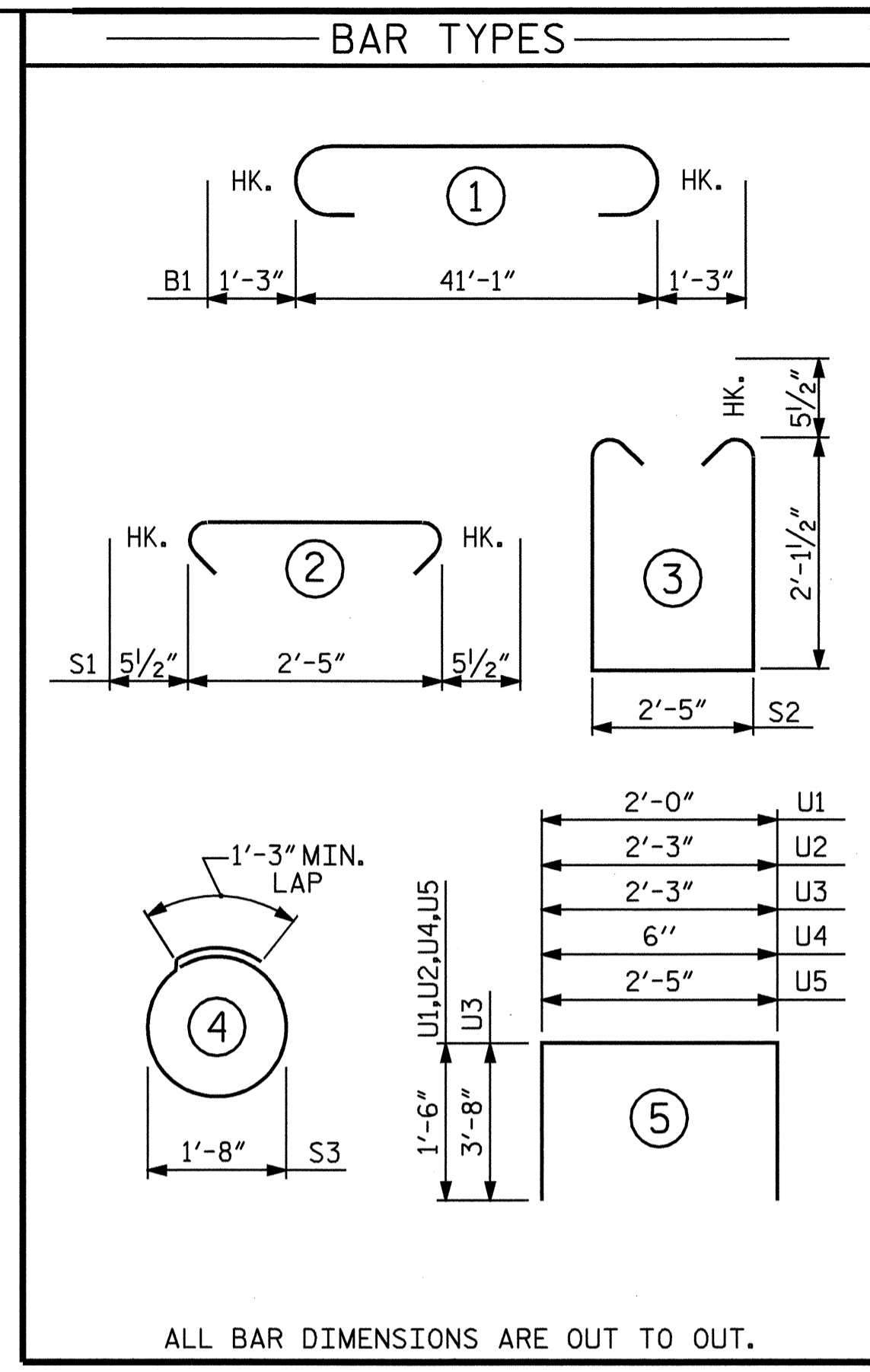


SECTION A-A

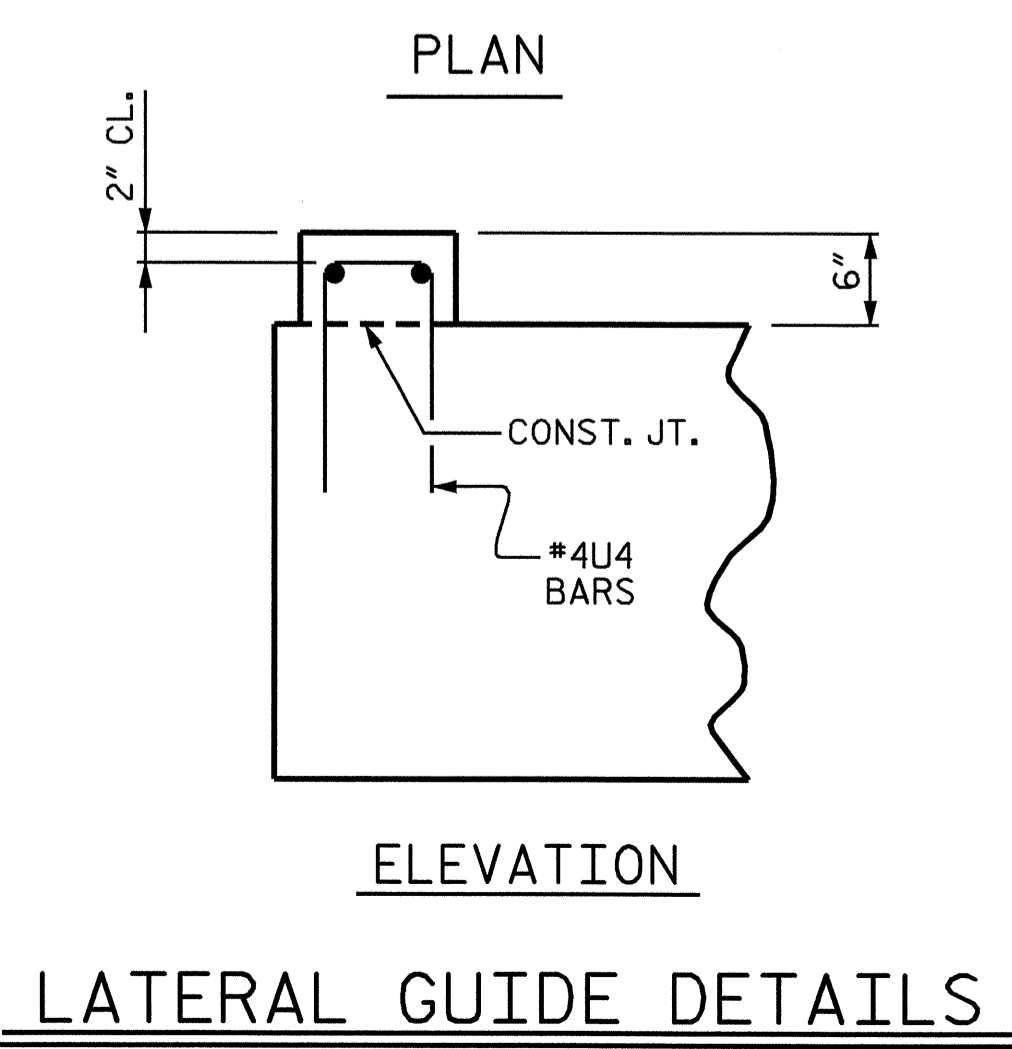
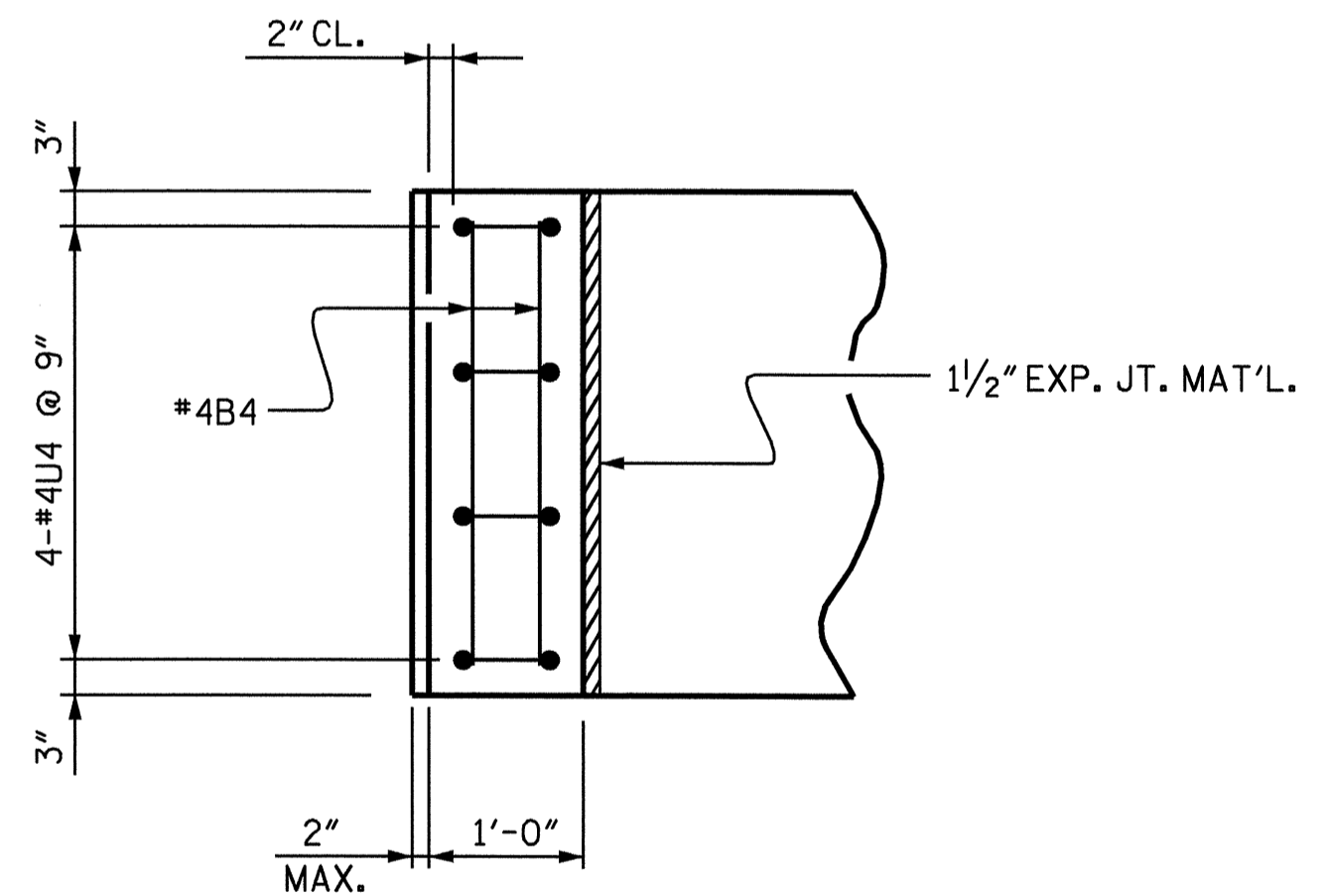


END VIEW

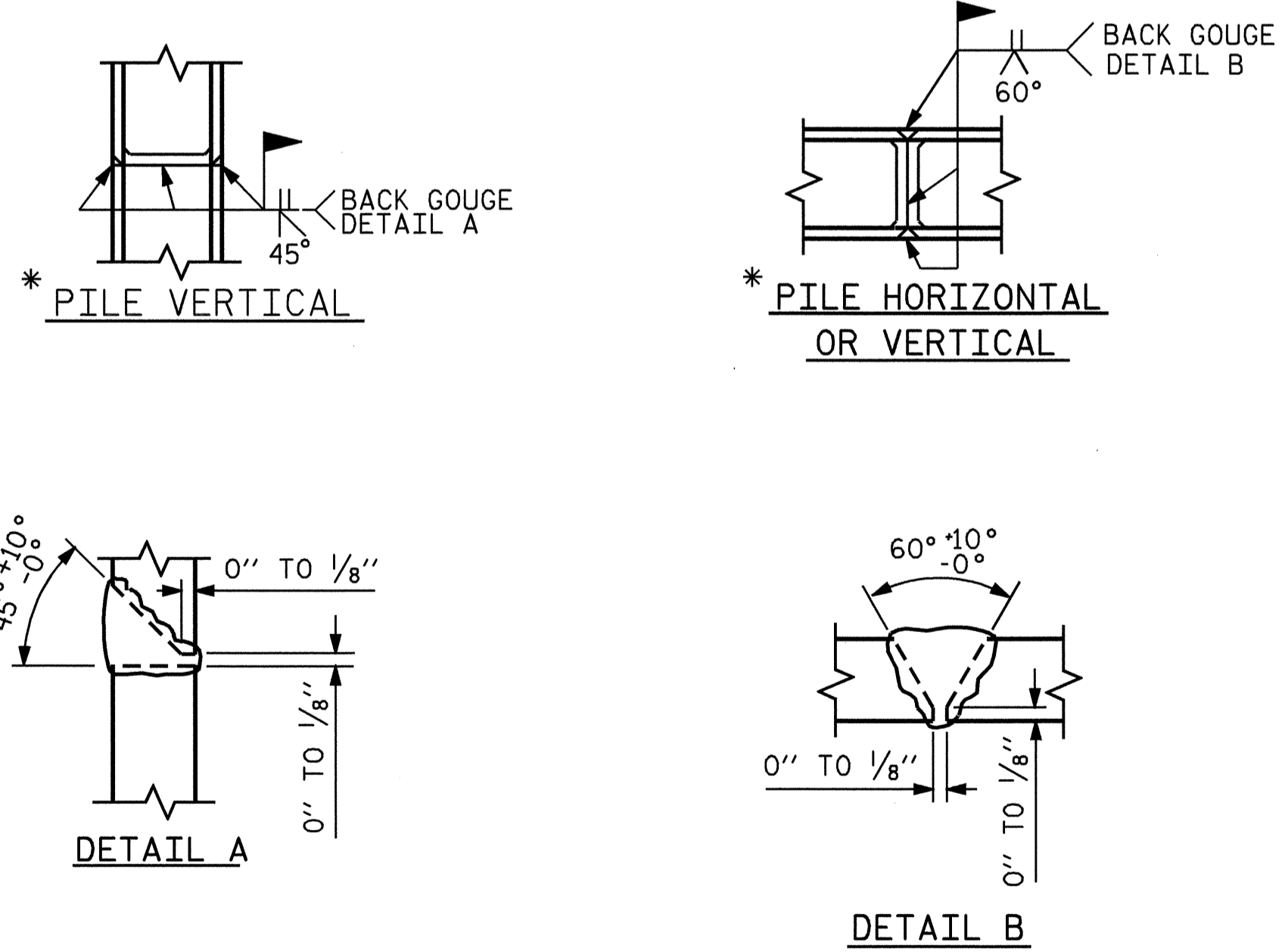
2" MIN. CONCRETE COVER FROM END OF CAP
 REQUIRED FOR ALL #4U1, #4U2 AND #9U3 BARS.
 #4U1, #4U2 AND #9U3 BARS MAY BE
 SHIFTED UP TO 2" TO CLEAR "B" BARS.



BILL OF MATERIAL					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	43'-7"	1185
B2	2	#5	STR	41'-3"	86
B3	8	#4	STR	21'-10"	117
B4	15	#4	STR	2'-5"	24
B5	4	#4	STR	16'-7"	44
D1	52	#6	STR	1'-6"	117
S1	37	#5	2	3'-4"	129
S2	37	#5	3	7'-7"	293
S3	16	#4	4	6'-6"	69
U1	6	#4	5	5'-0"	20
U2	4	#4	5	5'-3"	14
U3	2	#9	5	9'-7"	65
U4	8	#4	5	3'-6"	19
U5	11	#4	5	5'-5"	40
REINFORCING STEEL					= 2222 LBS
CLASS A CONCRETE				CU. YDS.	11.5
POUR #1 CAP				CU. YDS.	0.1
POUR #2 LATERAL GUIDE				CU. YDS.	0.1
TOTAL				CU. YDS.	11.6
HP 12 X 53 GALVANIZED STEEL PILES				LIN. FT.	280
NO. 8				LIN. FT.	280



LATERAL GUIDE DETAILS



PILE SPLICE DETAILS

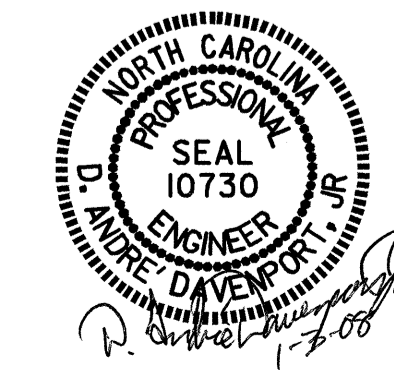
* POSITION OF PILE DURING WELDING.

DRAWN BY : B. L. GREEN DATE : 11/05
 CHECKED BY : H. T. BARBOUR DATE : 1/06

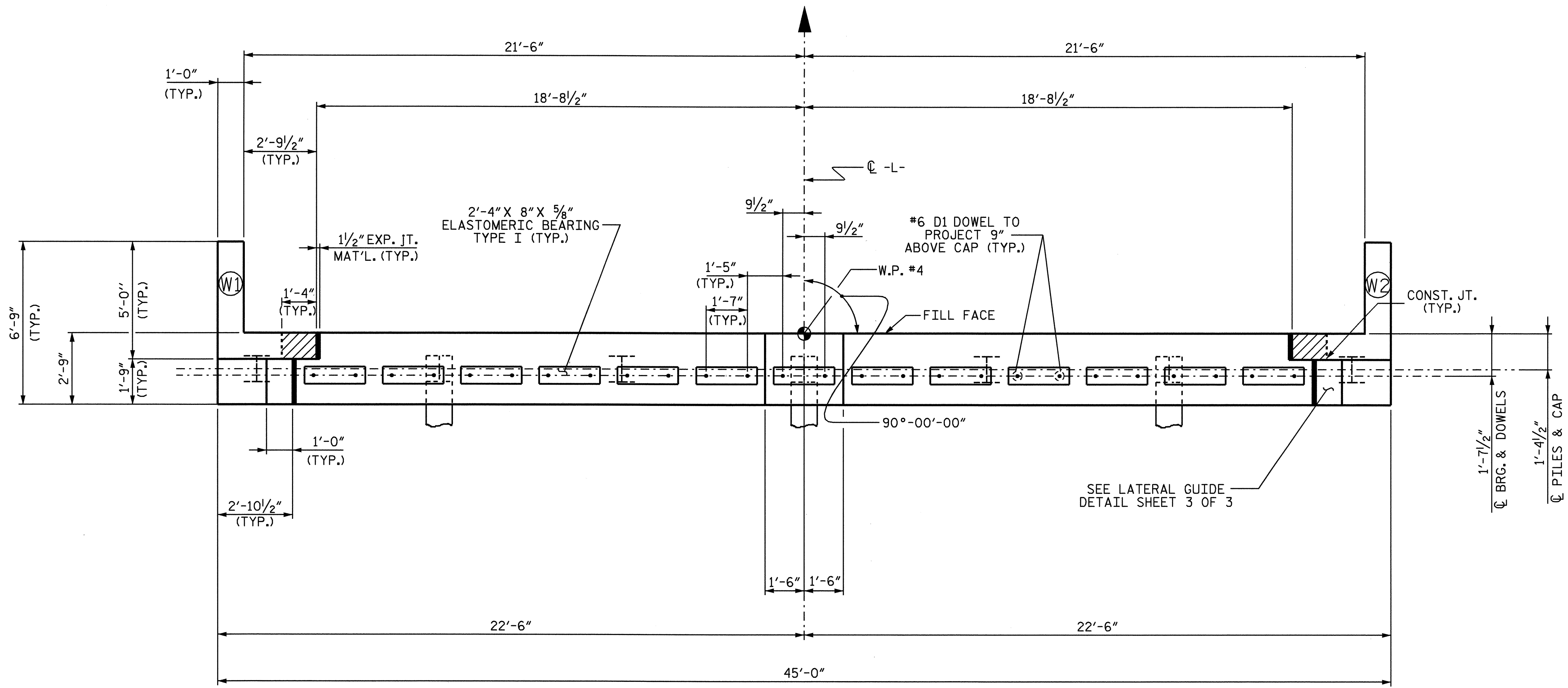
PROJECT NO. B-4168
JONES COUNTY
 STATION: 17+30.60 -L-
 SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

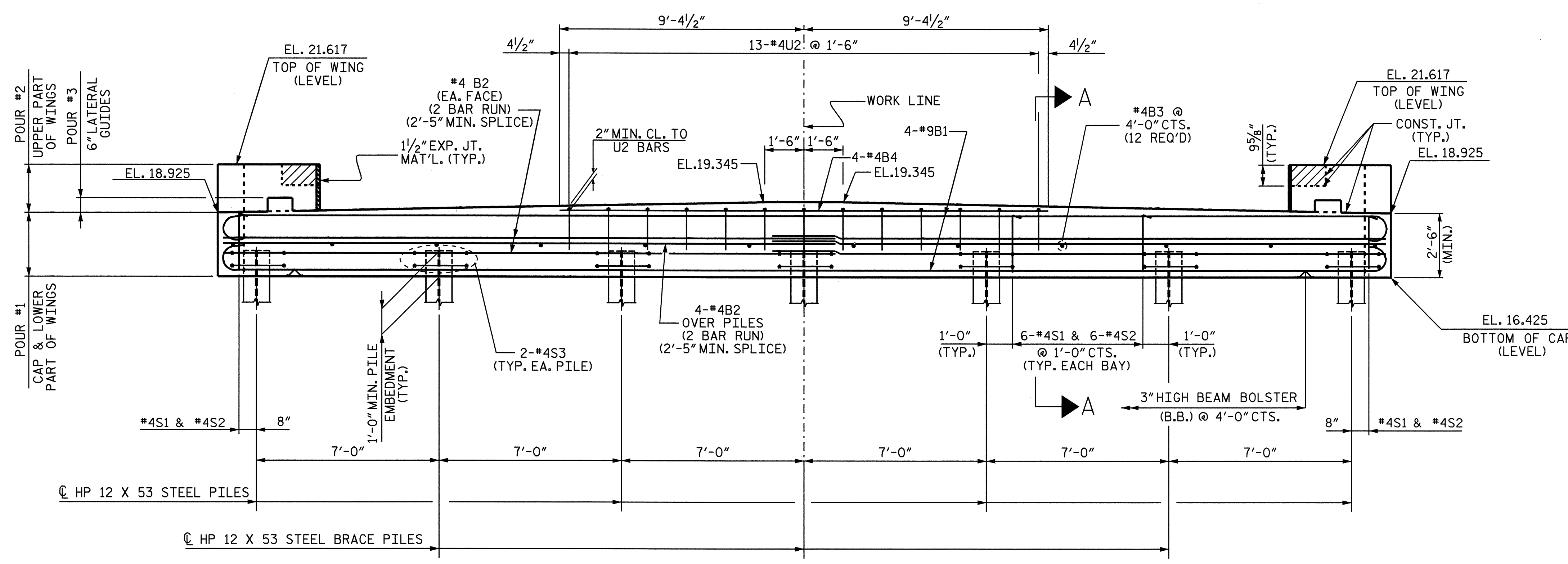
SUBSTRUCTURE
 BENT #2



REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-17	
1			3			TOTAL SHEETS	23
2			4				



PLAN



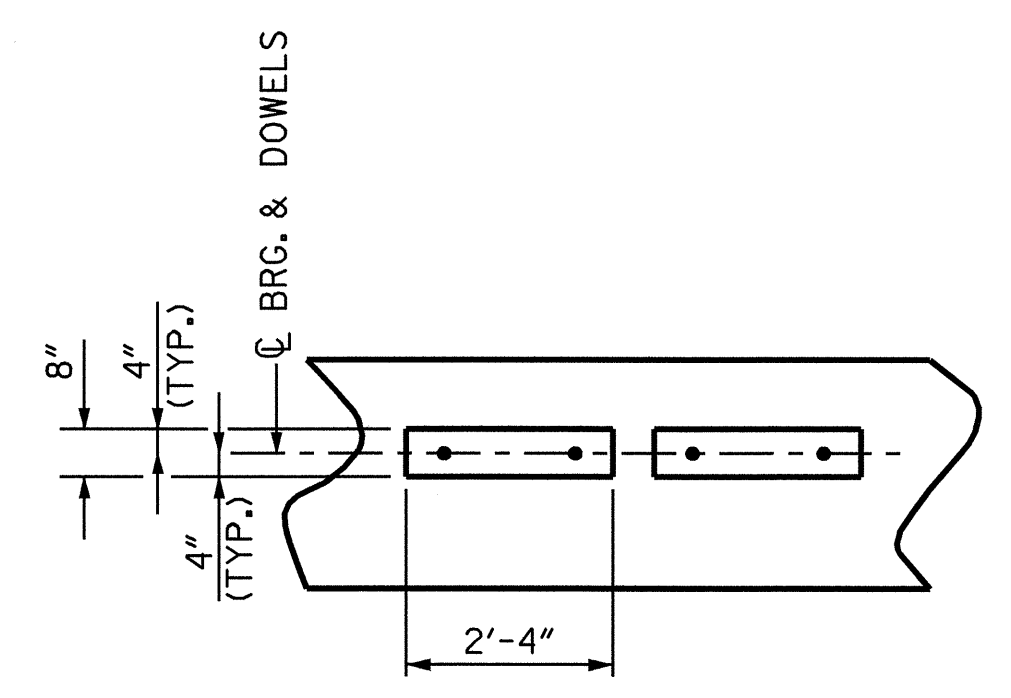
ELEVATION

NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR 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.



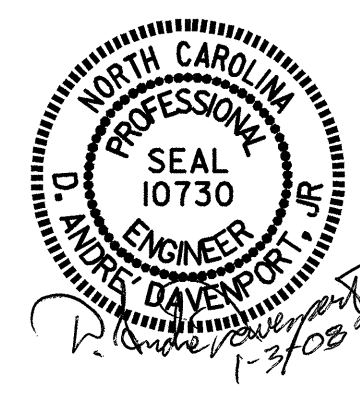
BEARING DETAIL

PROJECT NO. B-4168
JONES COUNTY
 STATION: 17+30.60-L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

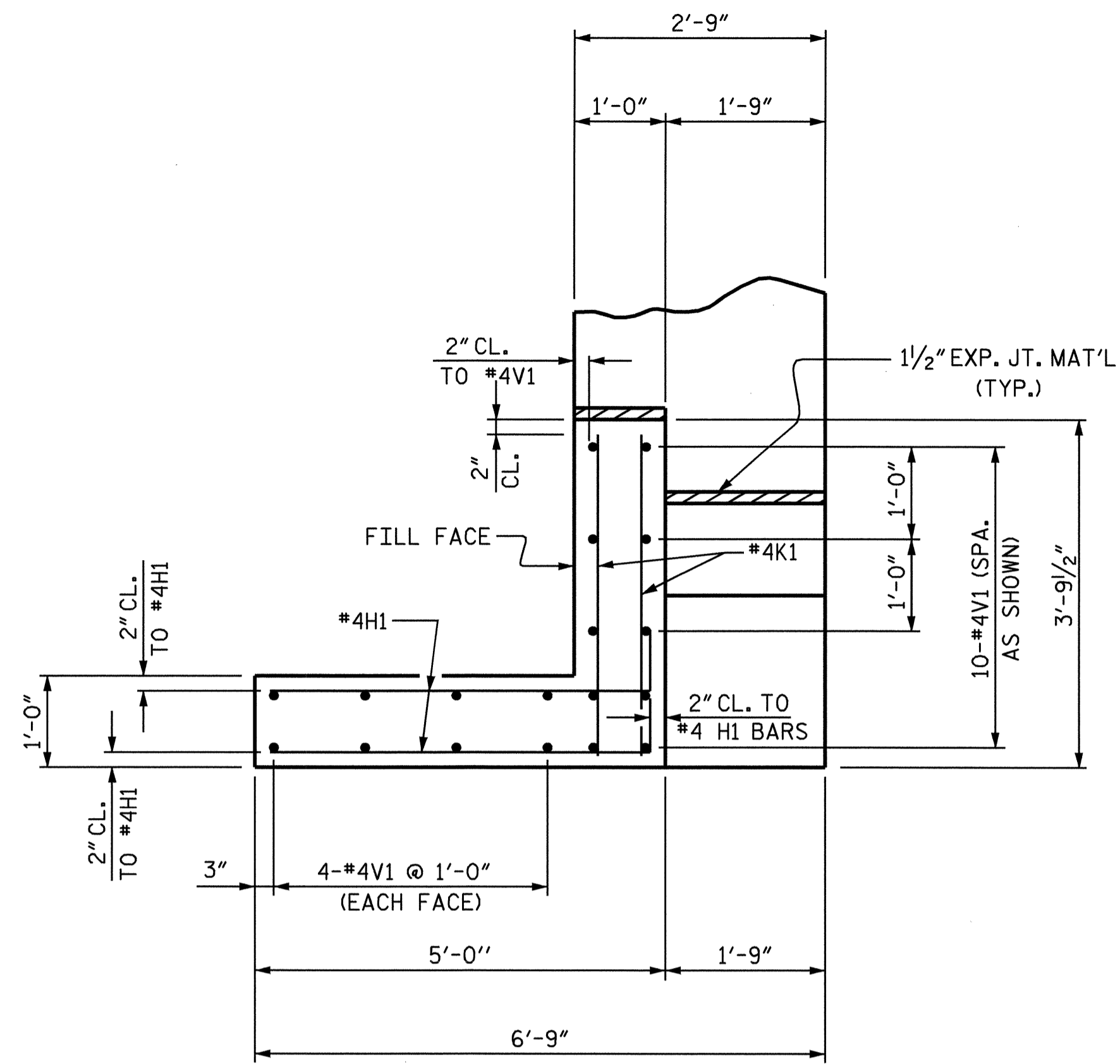
SUBSTRUCTURE
 END BENT #2



DRAWN BY: A. A. COLE DATE: 6-1-05
 CHECKED BY: B. GREEN DATE: 7-1-05

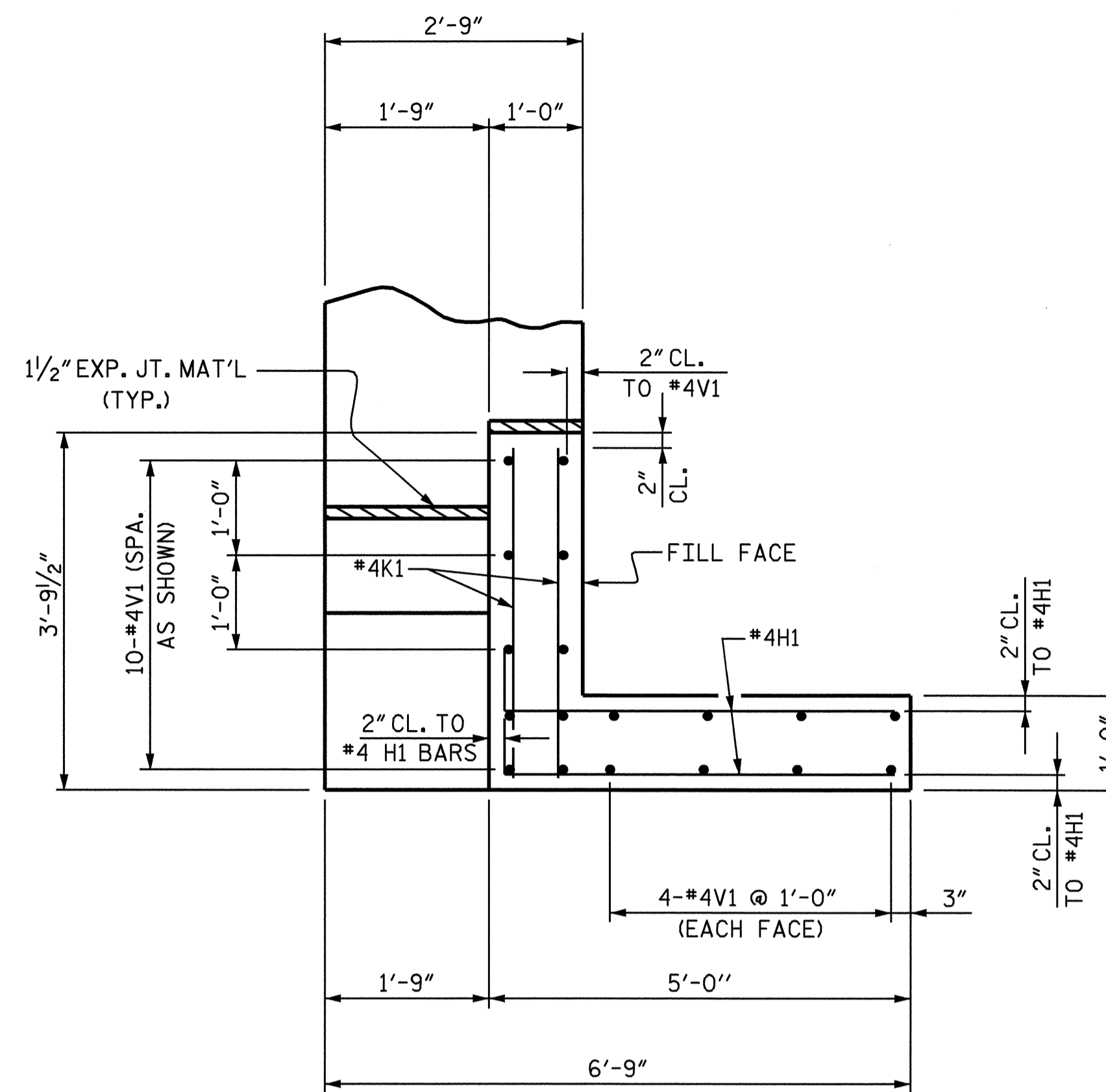
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-18
1			3			TOTAL SHEETS
2			4			23



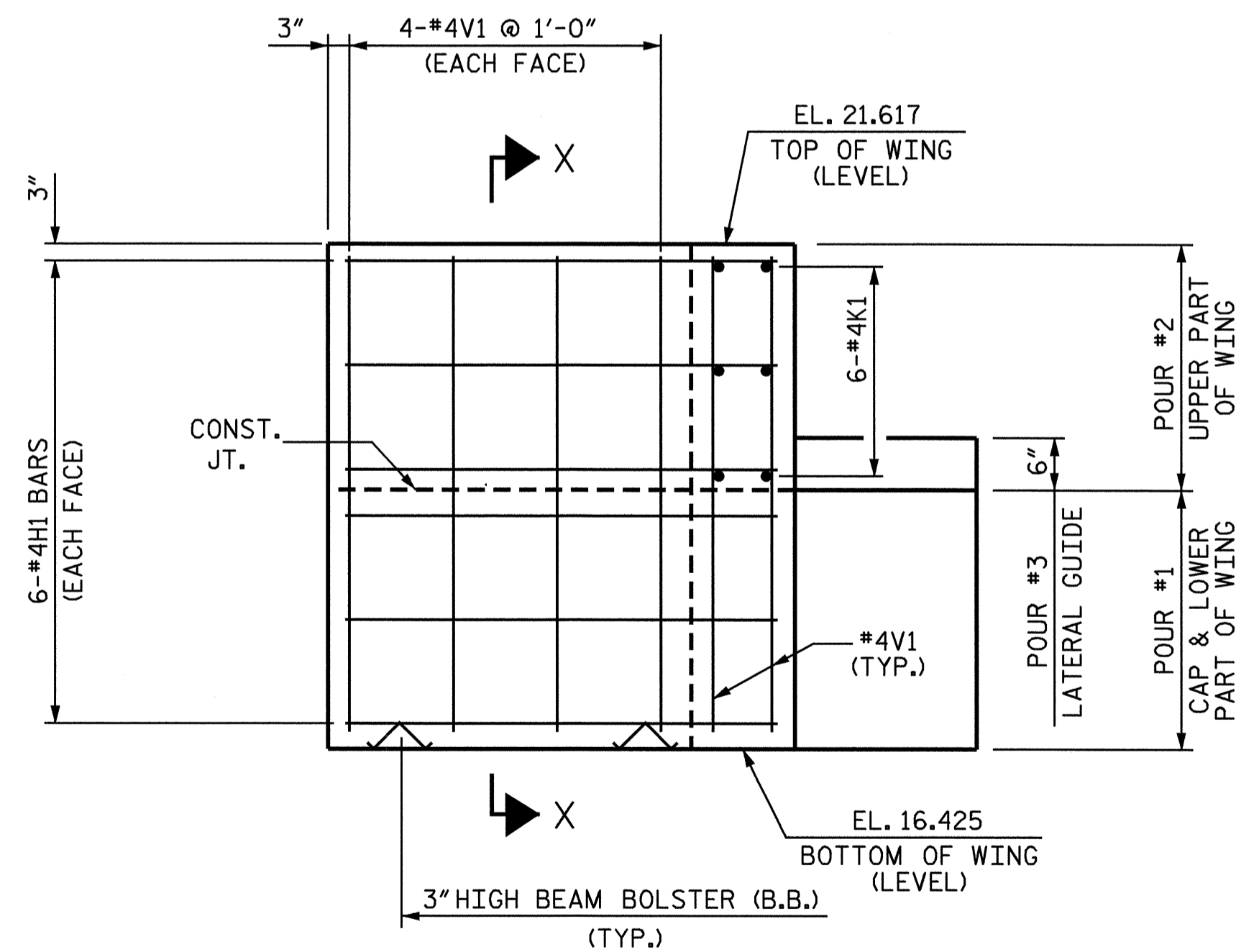
PLAN OF LEFT WING

W1



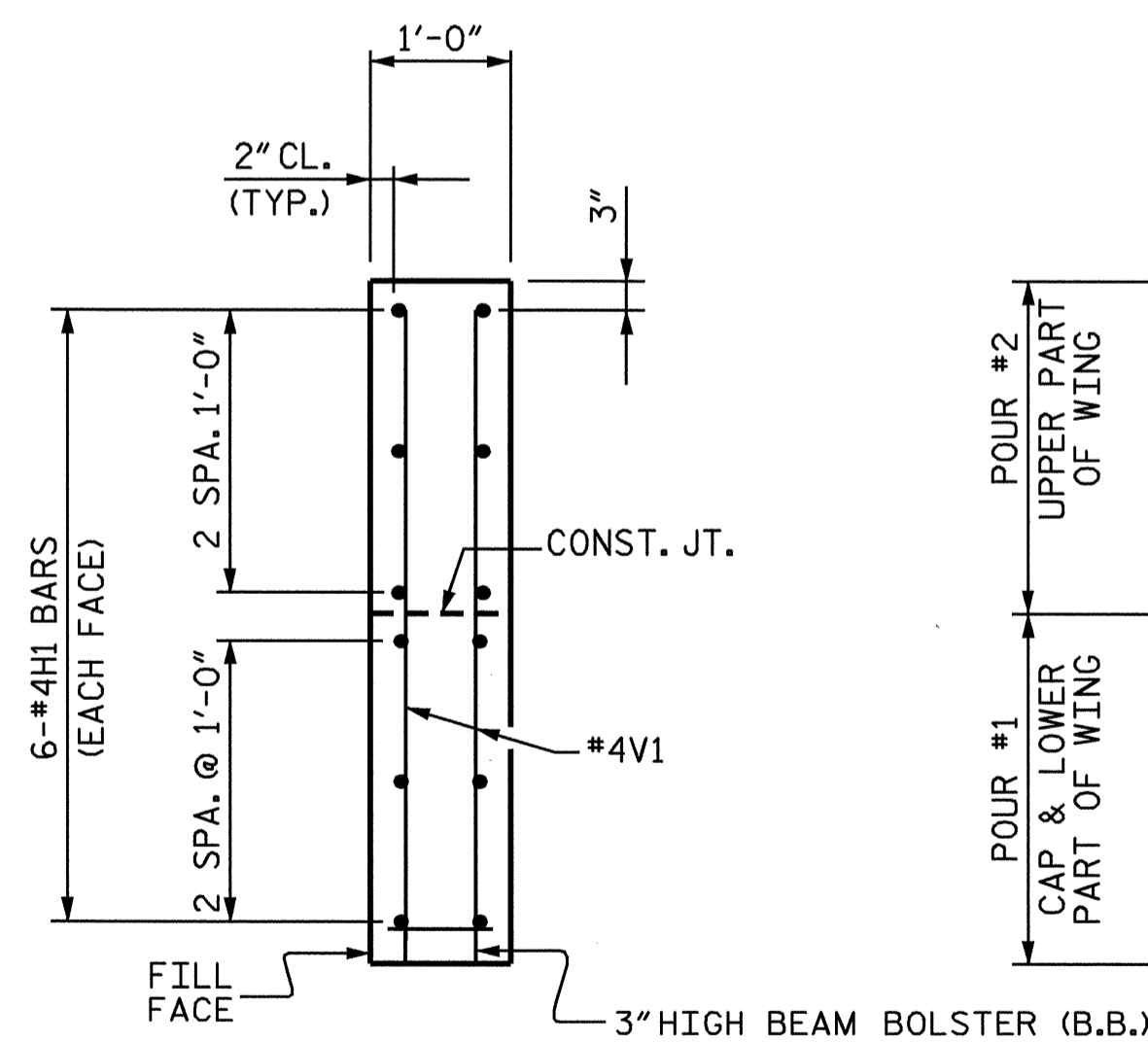
PLAN OF RIGHT WING

W2

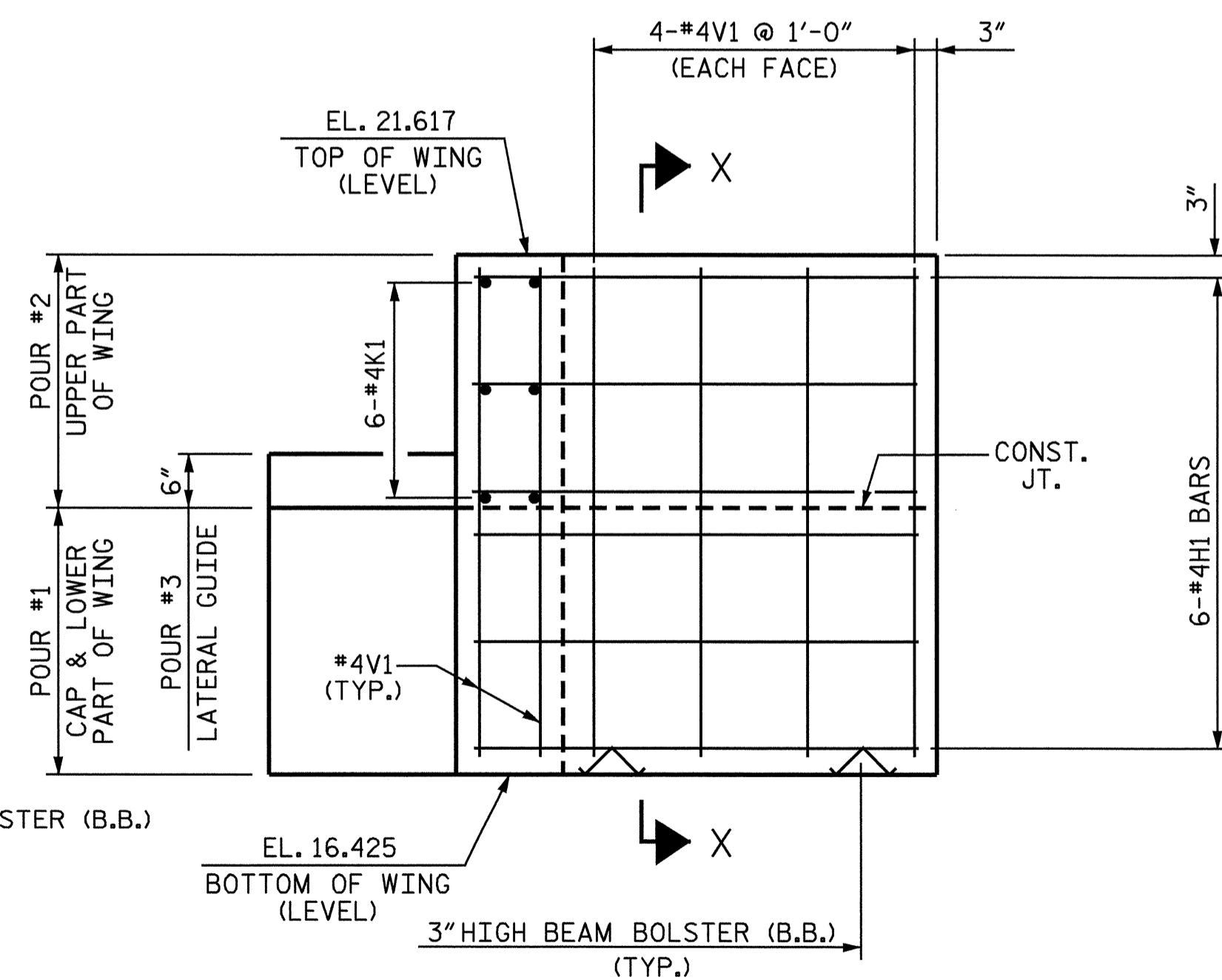


ELEVATION OF LEFT WING

W1



SECTION X-X



ELEVATION OF RIGHT WING

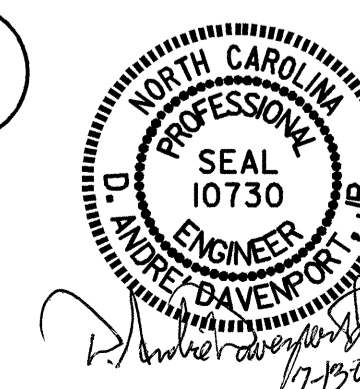
W2

PROJECT NO. B-4168
 JONES COUNTY
 STATION: 17+30.60 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

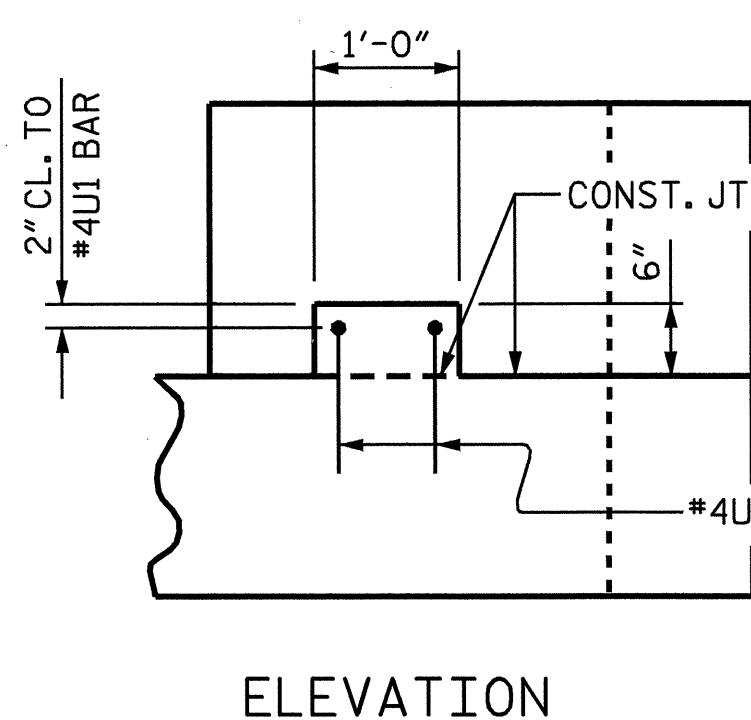
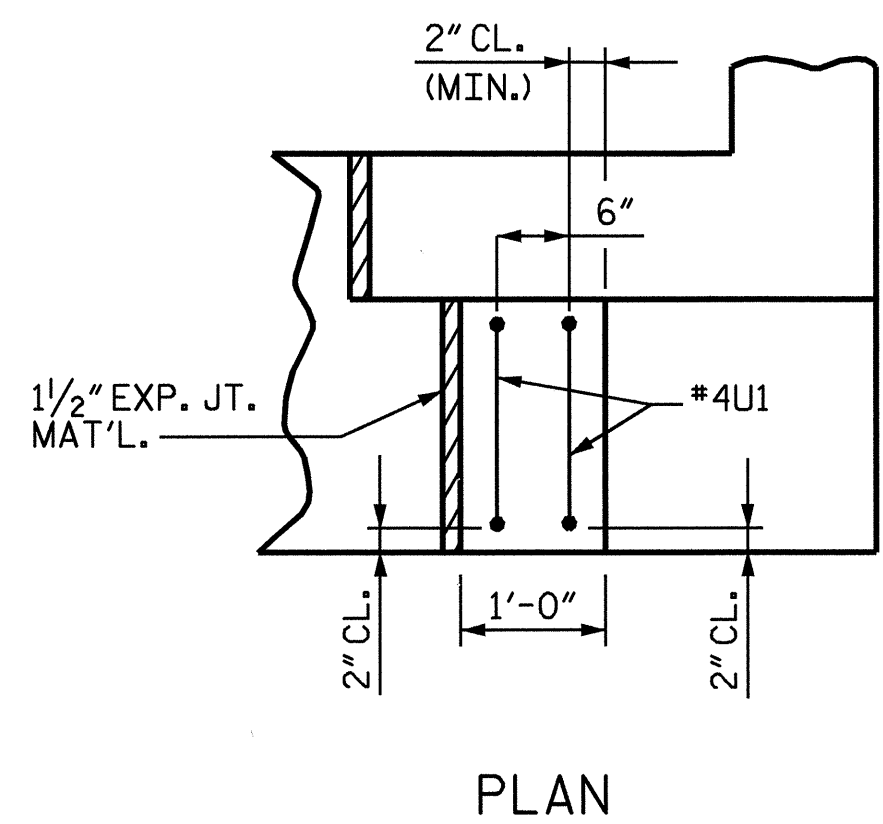
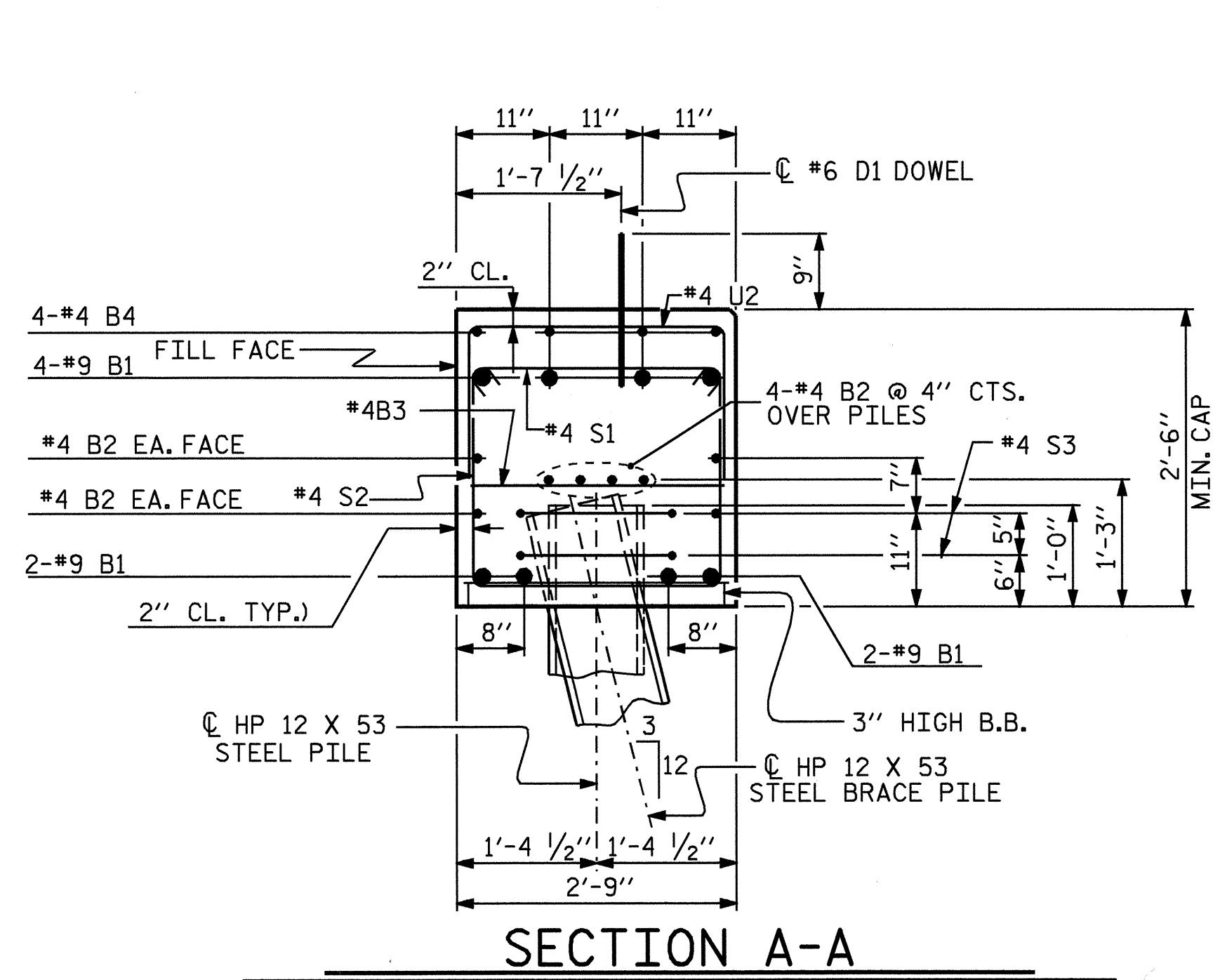
SUBSTRUCTURE
 END BENT #2



DRAWN BY: A. A. COLE DATE: 6-2-05
 CHECKED BY: B. GREEN DATE: 7-2-05

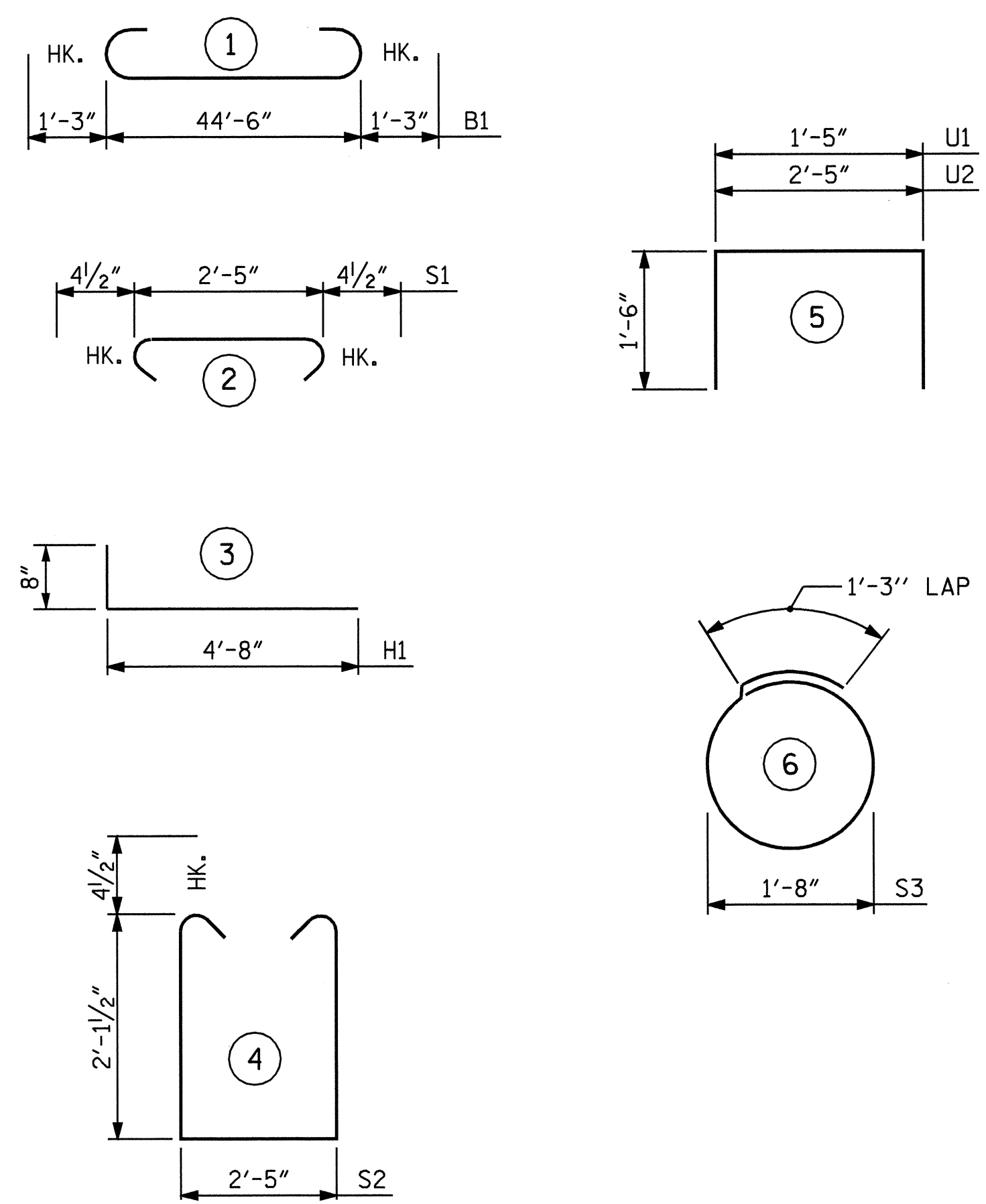
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 adavenport

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-19
1			3			TOTAL SHEETS 23
2			4			



LATERAL GUIDE
(TYPICAL EACH SIDE)

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

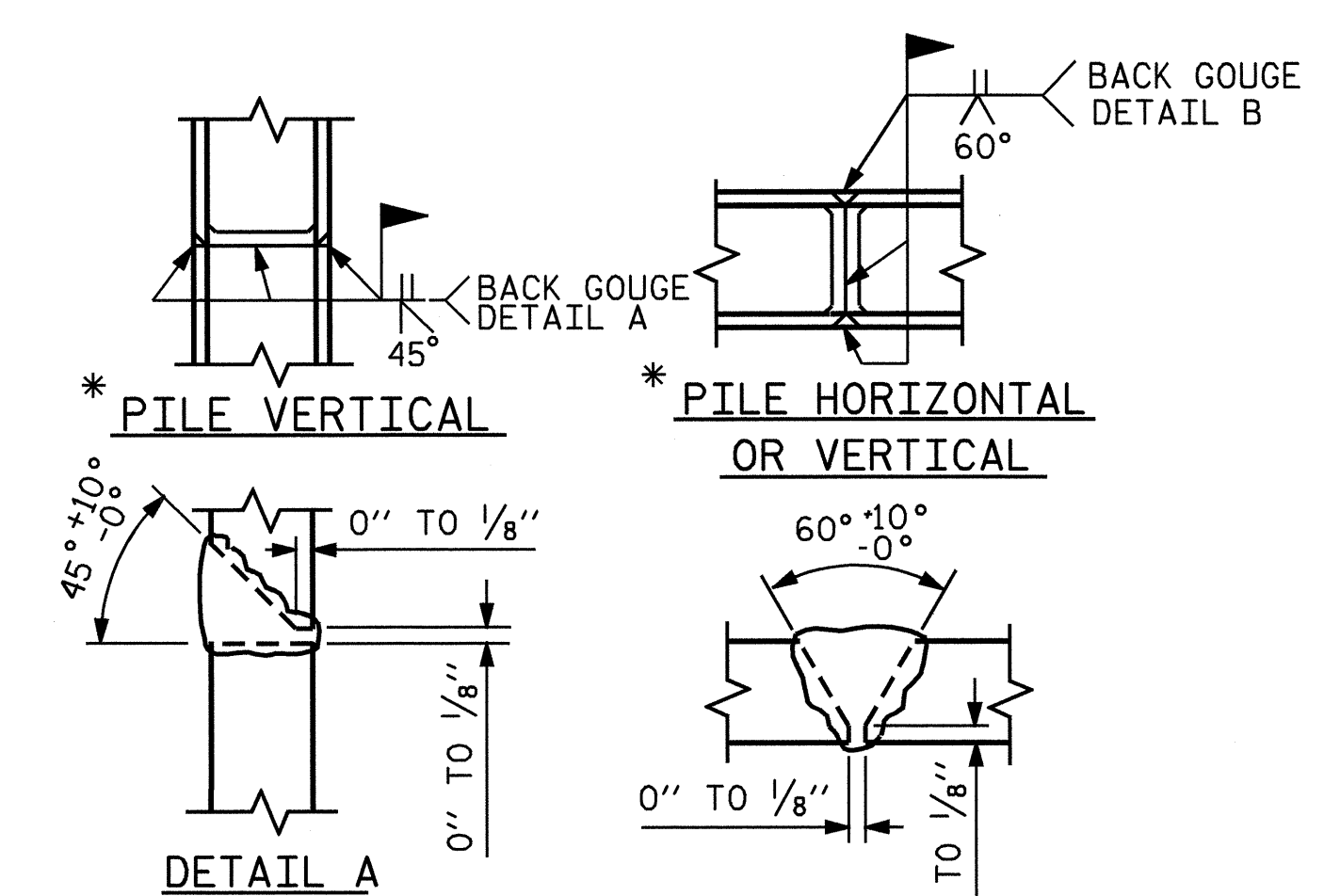
BILL OF MATERIAL

END BENT #2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	47'-0"	1278
B2	16	#4	STR	23'-7"	252
B3	12	#4	STR	2'-5"	19
B4	4	#4	STR	18'-9"	50
D1	26	#6	STR	1'-6"	59
H1	24	#4	3	5'-4"	86
K1	12	#4	STR	3'-5"	27
S1	38	#4	2	3'-2"	80
S2	38	#4	4	7'-5"	188
S3	14	#4	6	6'-6"	61
U1	4	#4	5	4'-5"	12
U2	13	#4	5	5'-5"	47
V1	36	#4	STR	4'-10"	116

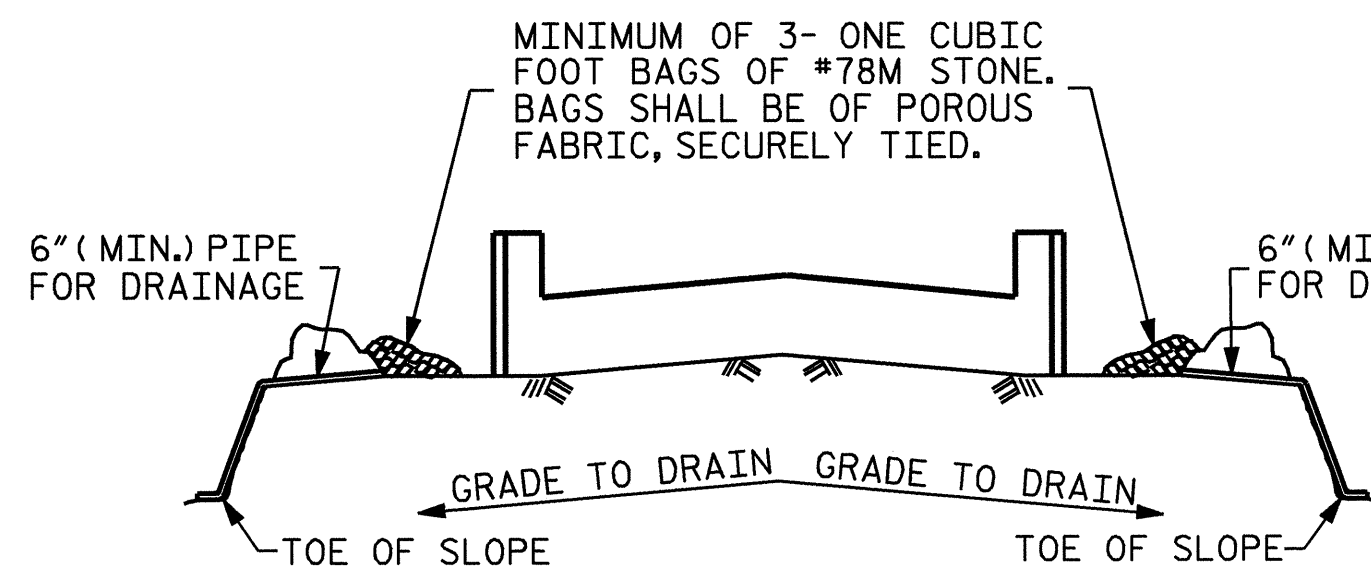
REINFORCING STEEL = 2275 LBS.

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. 7 210 LIN. FT.



PILE SPLICE DETAILS
 * POSITION OF PILE DURING WELDING.



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.

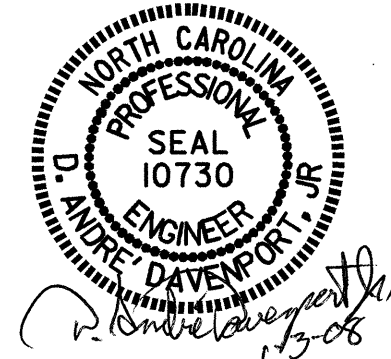
TEMPORARY DRAINAGE AT END BENT

PROJECT NO. B-4168
JONES COUNTY
 STATION: 17+30.60 -L-

SHEET 3 OF 3

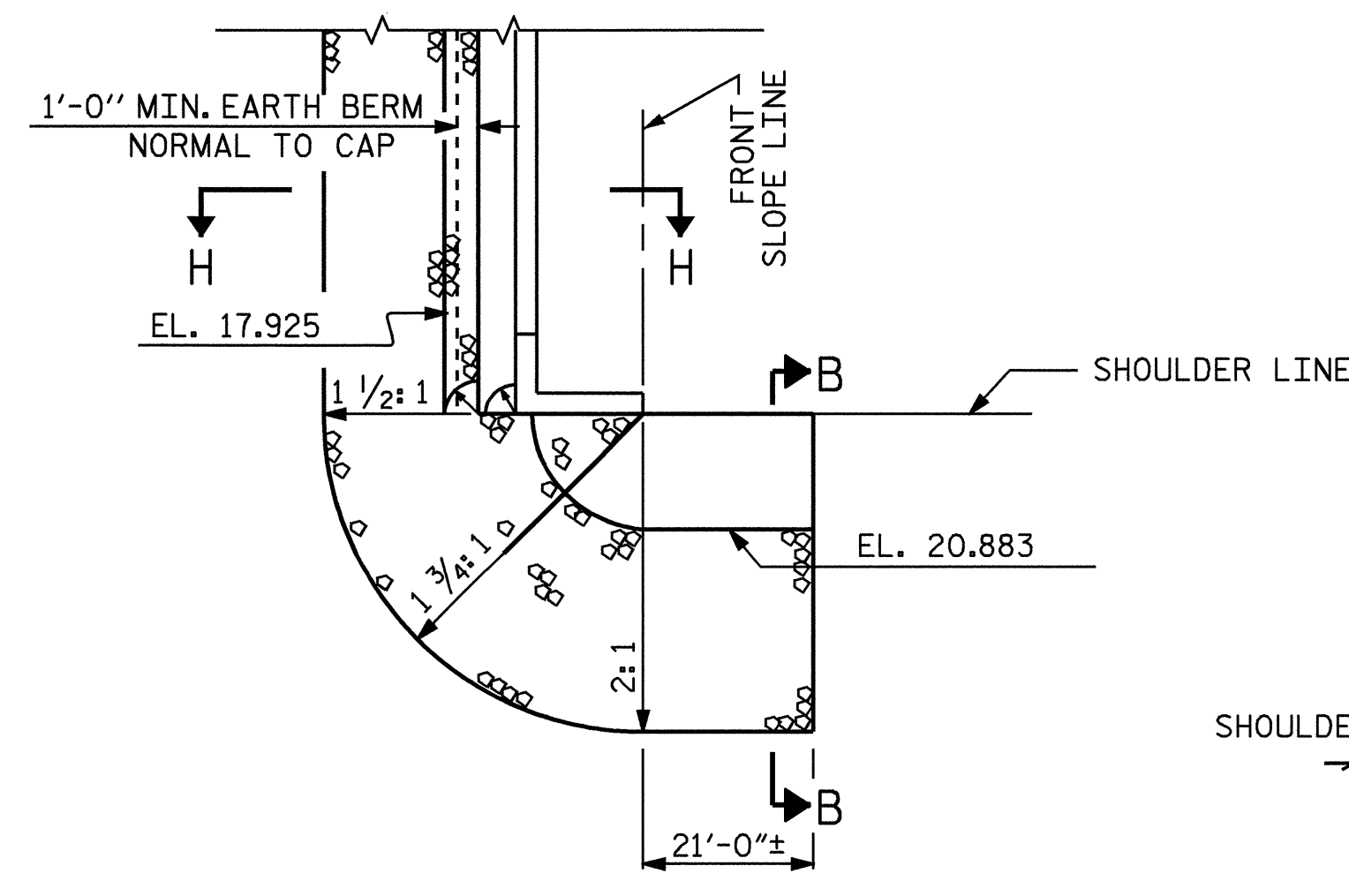
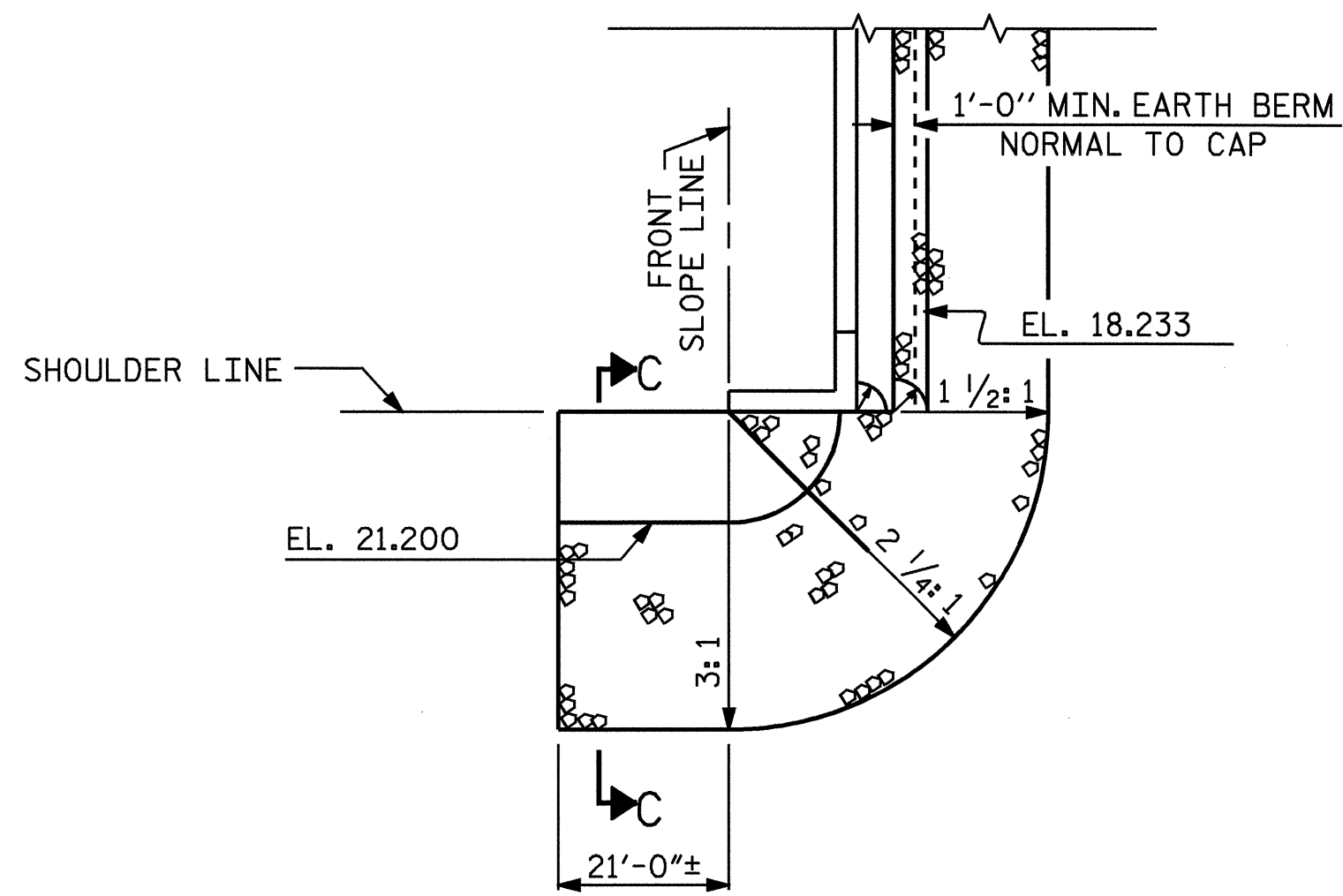
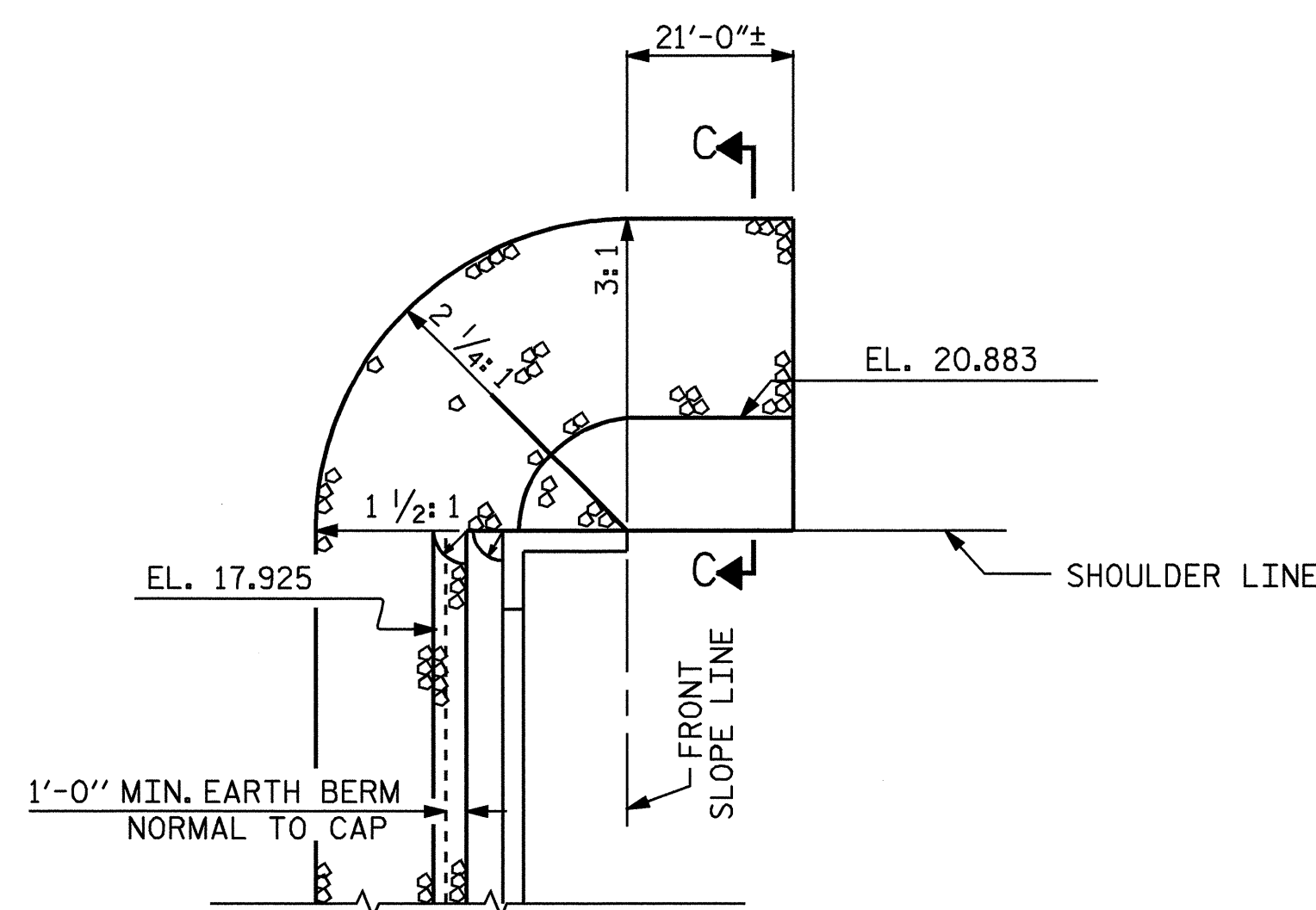
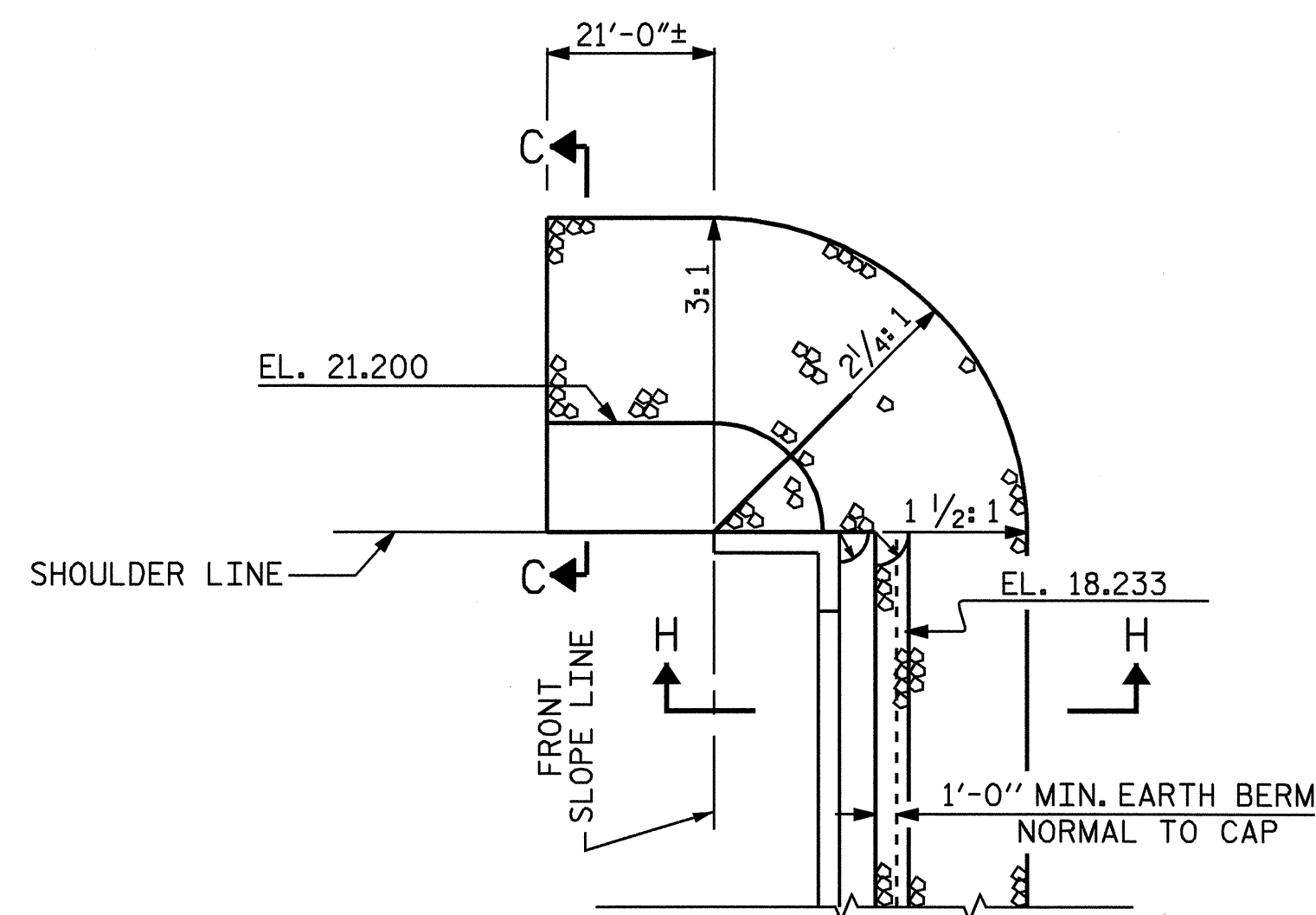
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT #2

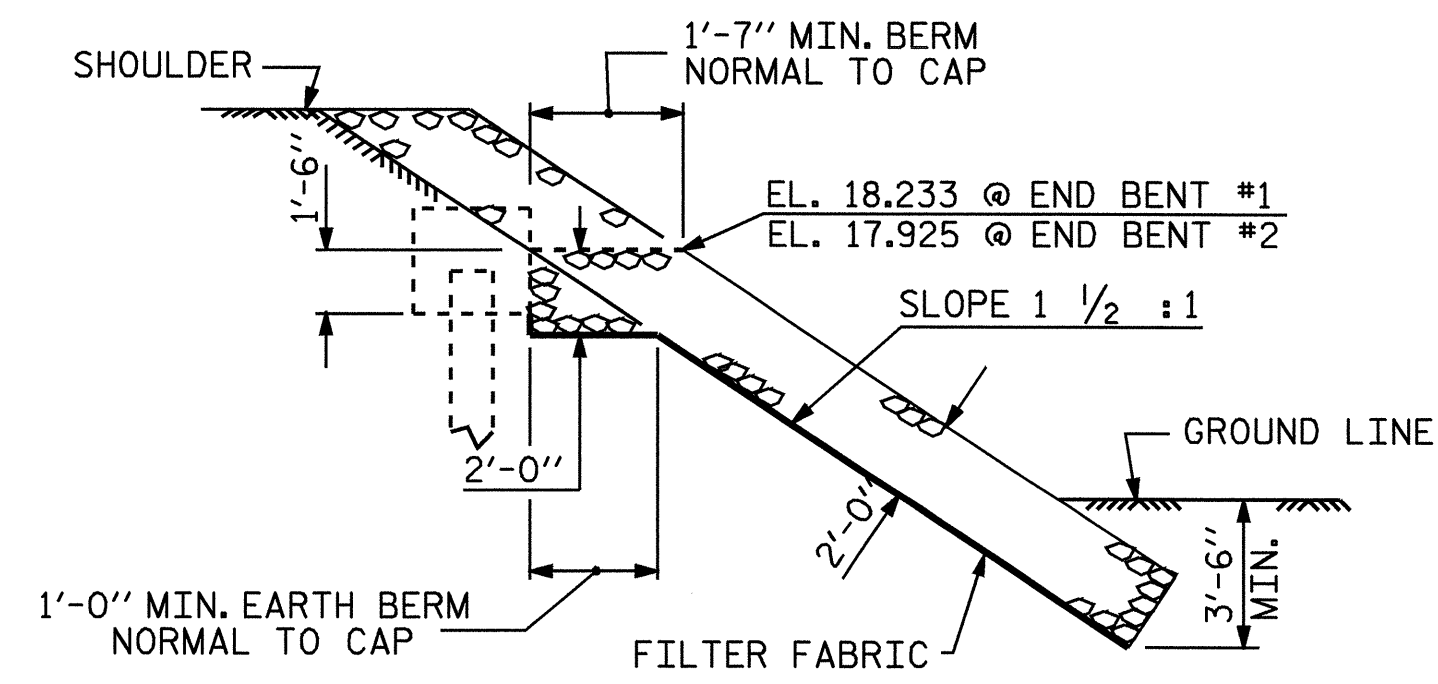


REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

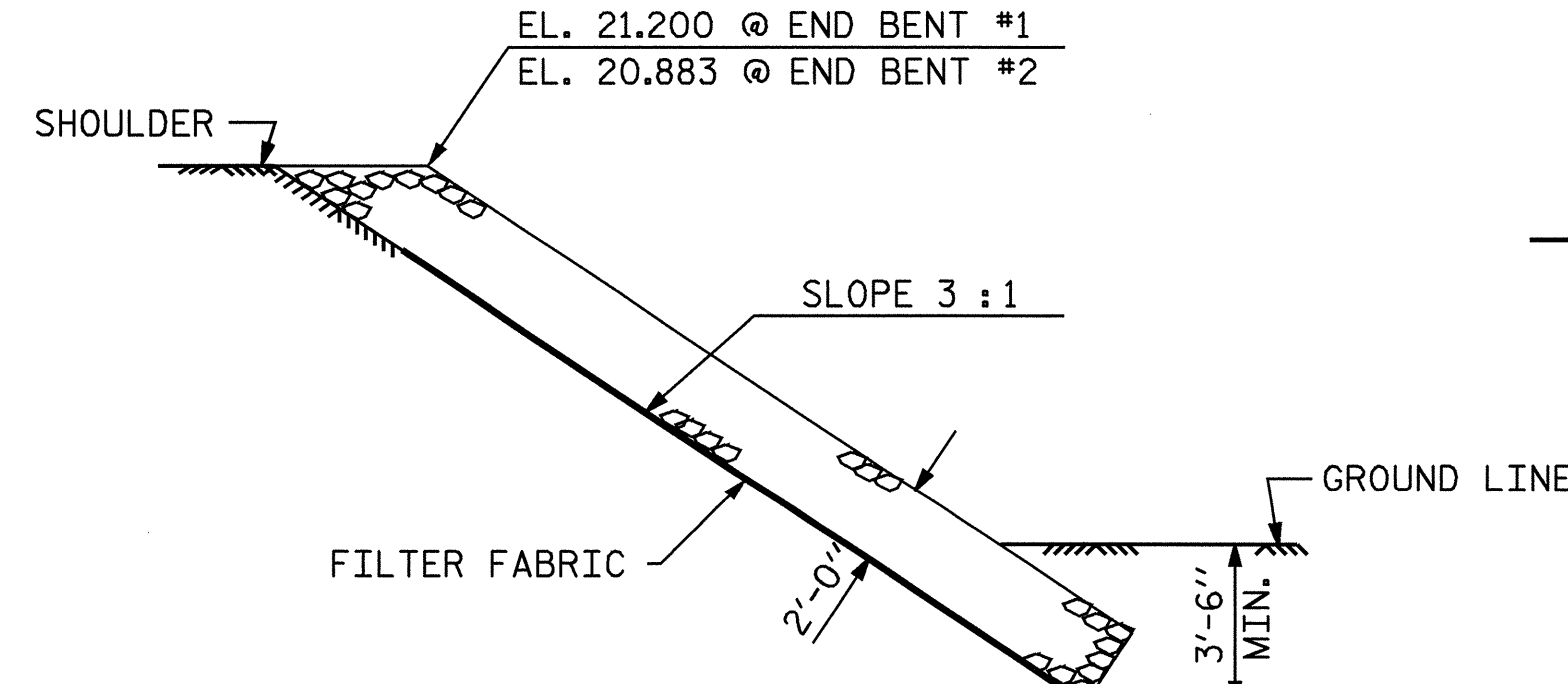
DRAWN BY: A. A. COLE DATE: 06-2-05
 CHECKED BY: B. GREEN DATE: 7-2-05



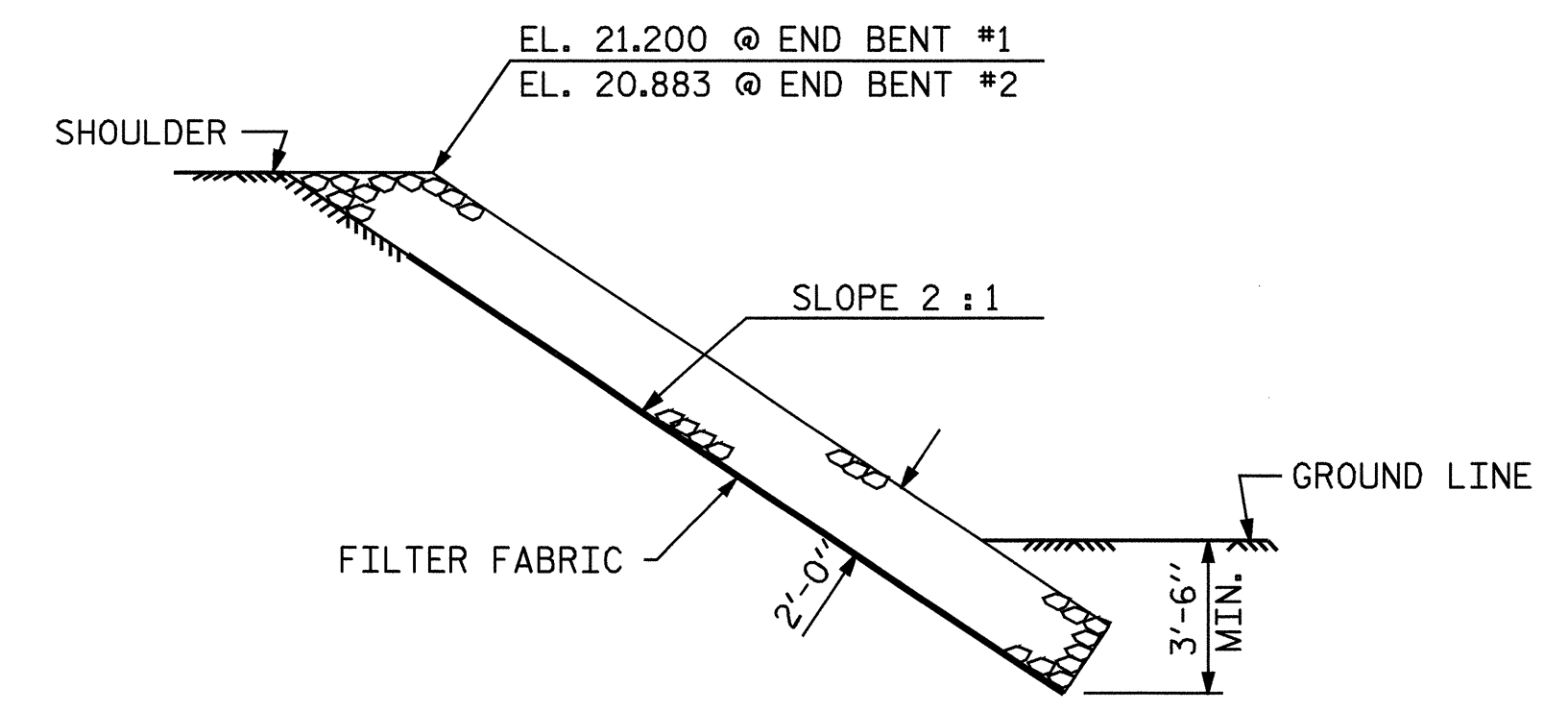
ESTIMATED QUANTITIES		
BRIDGE @ STA. 17+30.60 -L-	RIP RAP CLASS II	FILTER FABRIC FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	247	275
END BENT 2	215	238
TOTAL	462	513



SECTION H-H



SECTION C-C

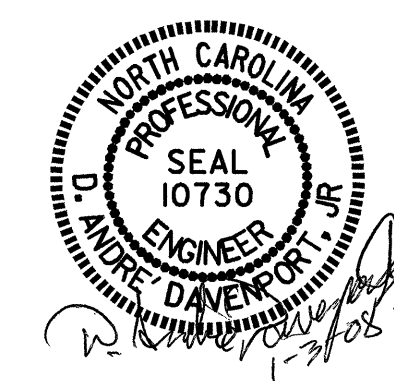


SECTION B-B

PROJECT NO. B-4168
JONES COUNTY
 STATION: 17+30.60 -L-

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

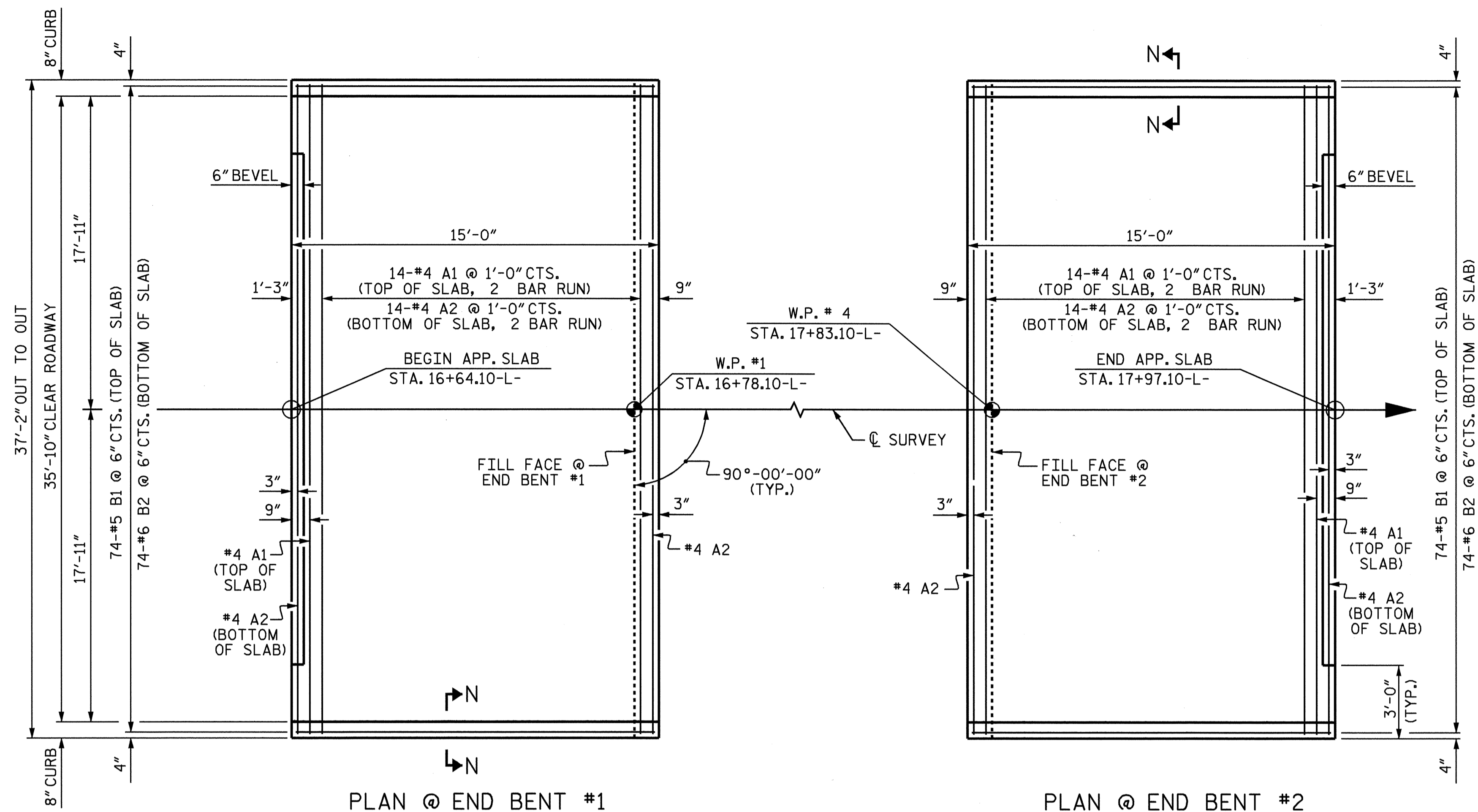
— RIP RAP DETAILS —



ASSEMBLED BY : A. A. COLE	DATE : 4-05
CHECKED BY : B. GREEN	DATE : 6-05
DRAWN BY : FCJ 2/88	REV. 7/17/98 REK/RWW
CHECKED BY : ARB 8/88	REV. 8/16/99 RWW/LES
	REV. 10/17/00 RWW/LES

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS
					23

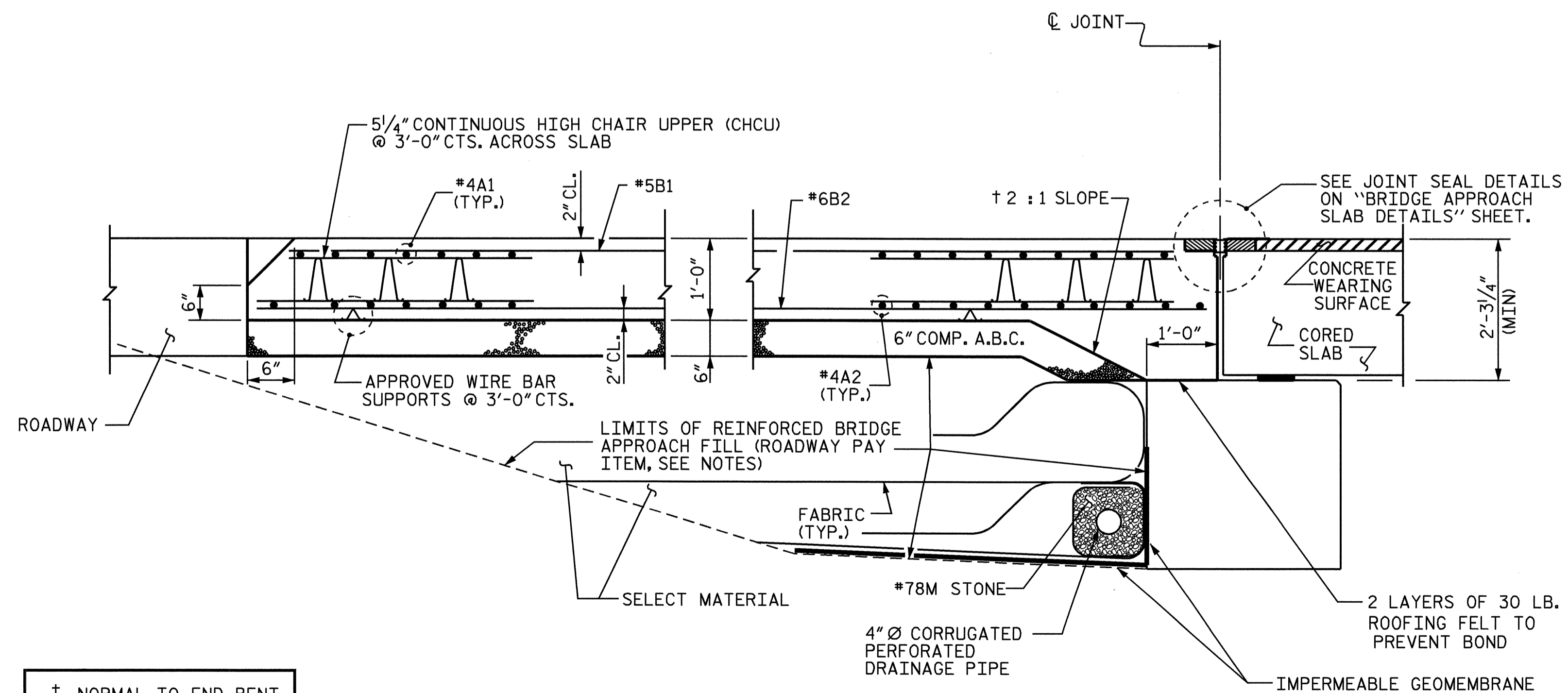
03-JAN-2008 08:17
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 Adavenport



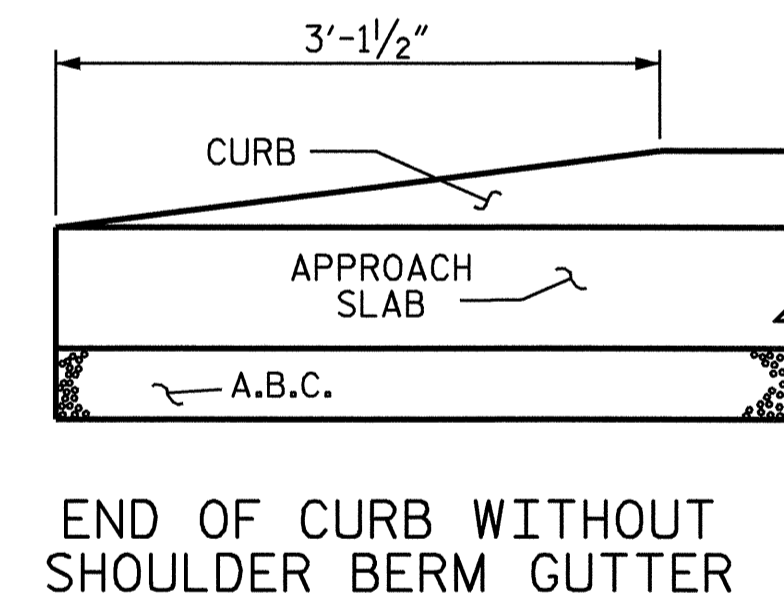
PLAN @ END BENT #1

PLAN @ END BENT #2

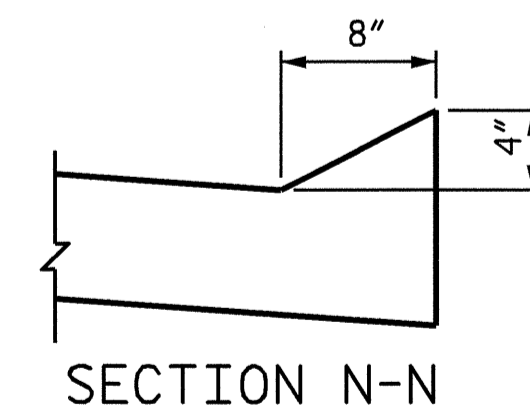
DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS



SECTION THRU SLAB



END OF CURB WITHOUT SHOULDER BERM GUTTER



SECTION N-N

CURB DETAILS

NOTES

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

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

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

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

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

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.

APPROACH SLAB SHALL BE POURED AFTER CONCRETE OVERLAY IS POURED.

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

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

BILL OF MATERIAL

FOR ONE APPROACH SLAB (2 REQ'D)

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	30	#4	STR	19'-5"	389
A2	32	#4	STR	19'-4"	413
* B1	74	#5	STR	13'-7"	1048
B2	74	#6	STR	14'-8"	1630

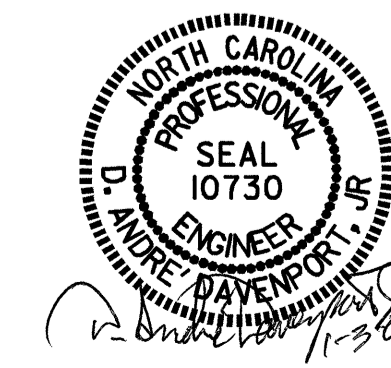
REINFORCING STEEL	LBS.	2043
* EPOXY COATED REINFORCING STEEL	LBS.	1437
CLASS AA CONCRETE	C. Y.	24.7

PROJECT NO. B-4168
JONES COUNTY
 STATION: 17+30.60 -L-

SHEET 1 OF 2

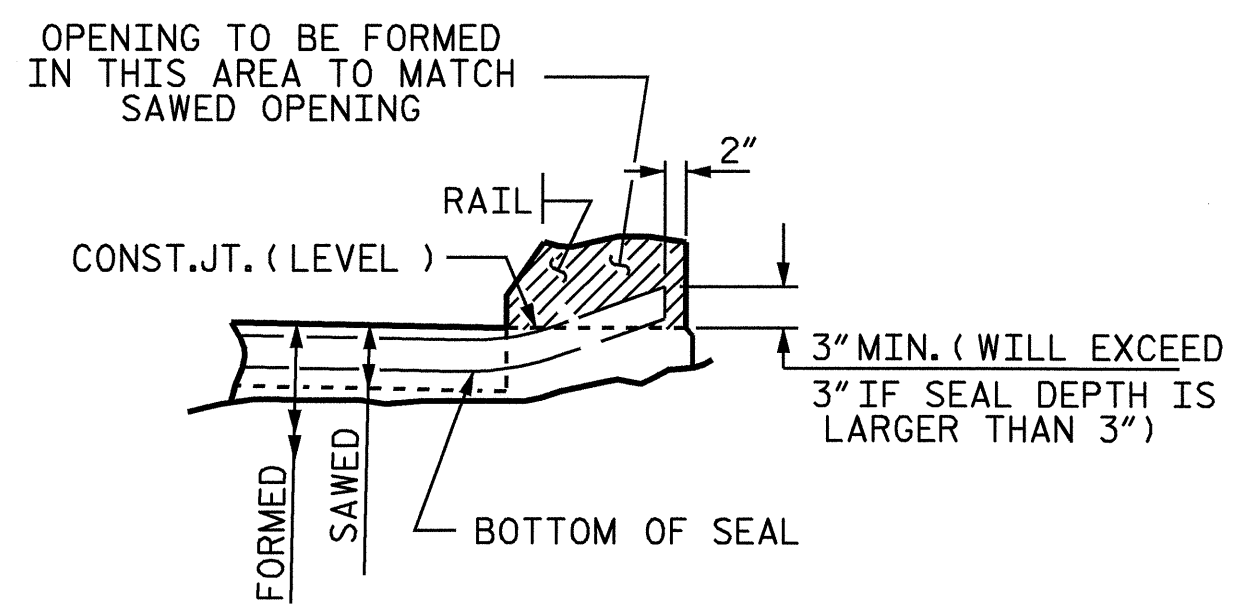
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BRIDGE APPROACH SLAB
 FOR PRESTRESSED
 CONCRETE CORED SLAB

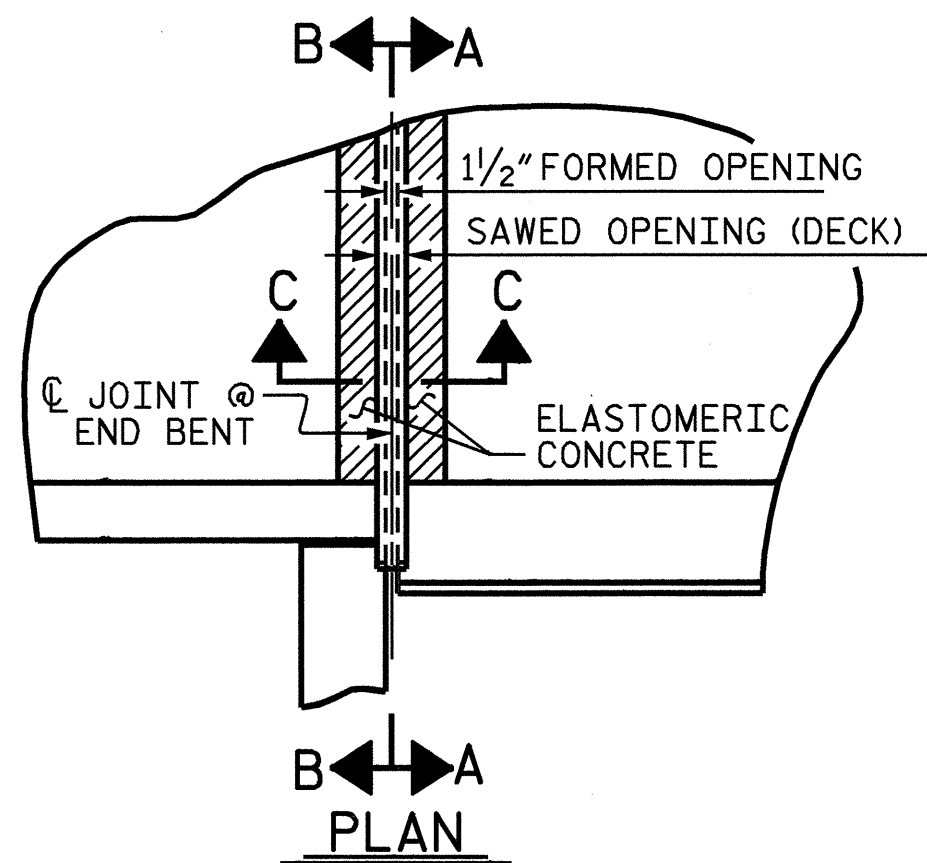


REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-22
1			3			TOTAL SHEETS 23
2			4			

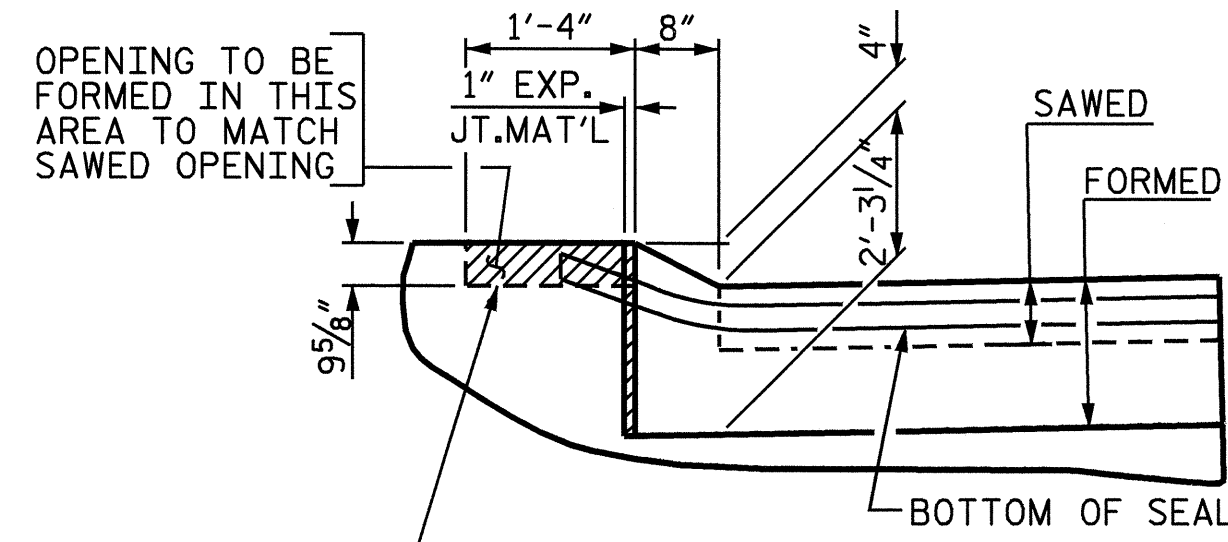
ASSEMBLED BY :	A. A. COLE	DATE :	4/2005
CHECKED BY :	H. T. BARBOUR	DATE :	6/2005
DRAWN BY :	LES 8/01	REV. 10/17/00	RWW/LES
CHECKED BY :	RDR 8/01	REV. 7/10/01	LES/RDR
		REV. 5/7/03R	RWW/JTE



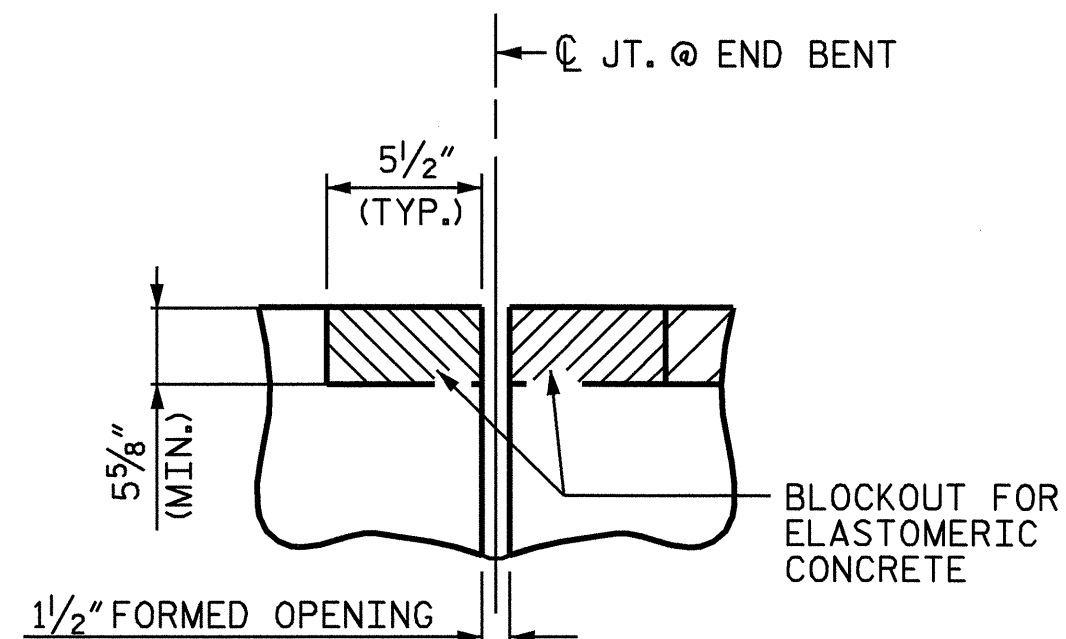
SECTION A-A



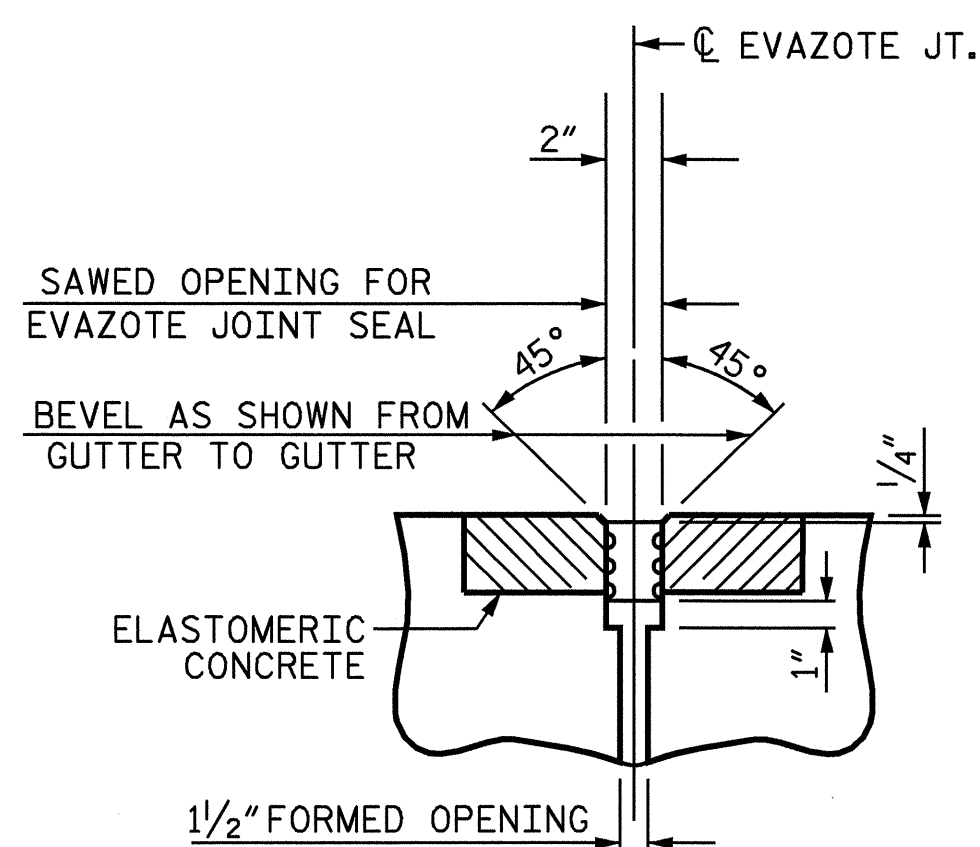
PLAN



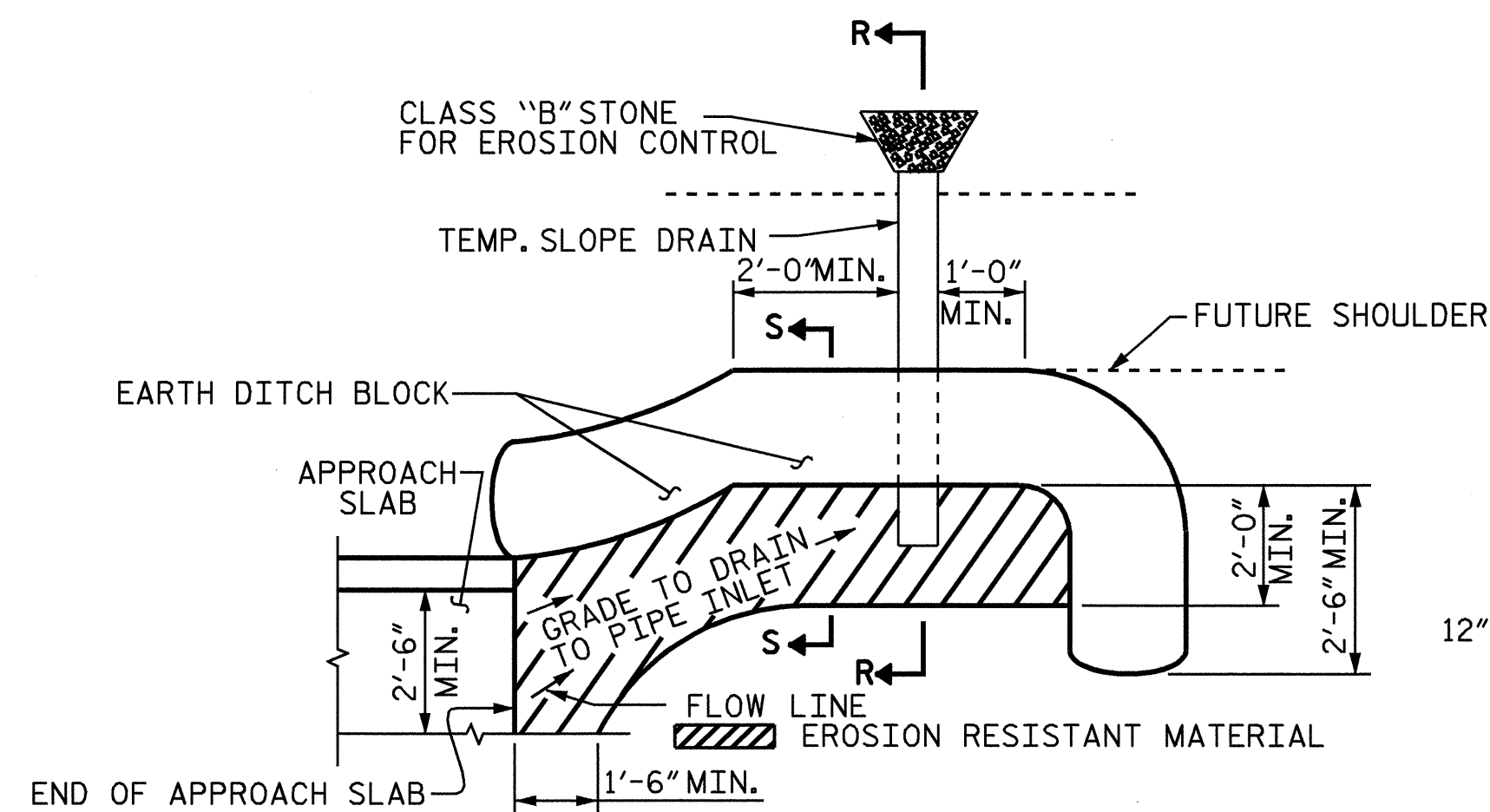
SECTION B-B



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

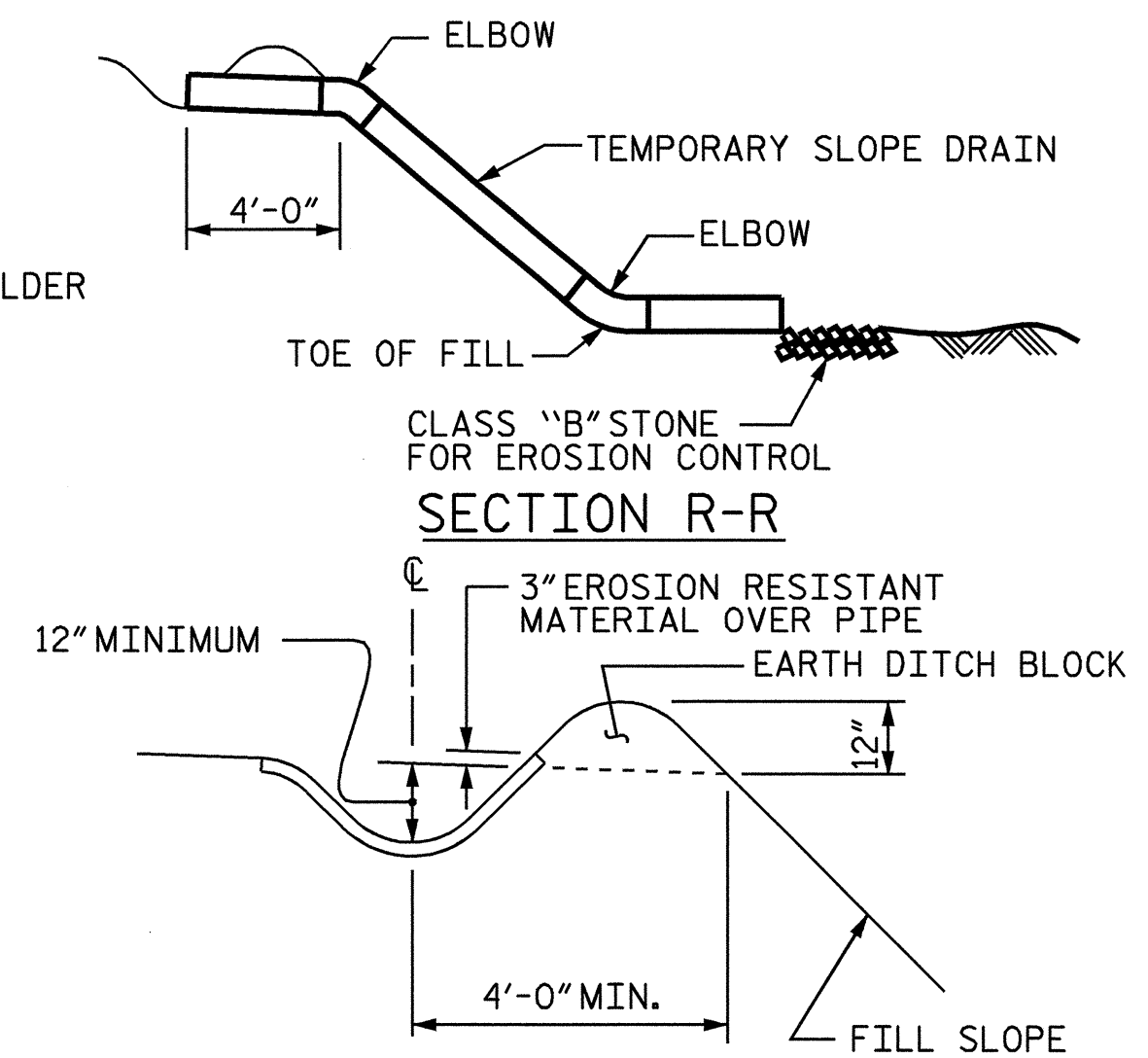


SECTION C-C
EVAZOTE JOINT SEAL

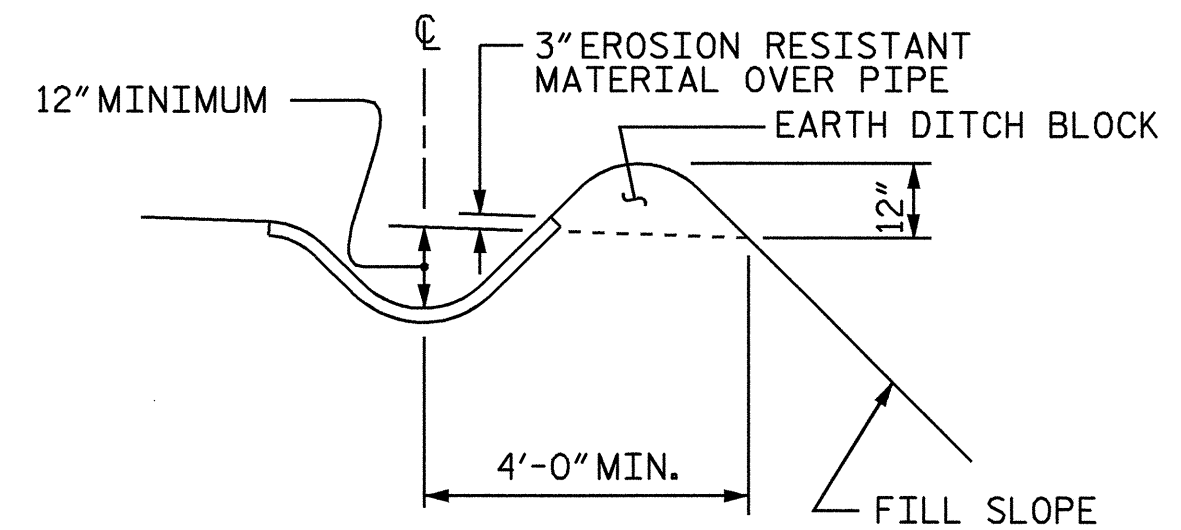


PLAN VIEW

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



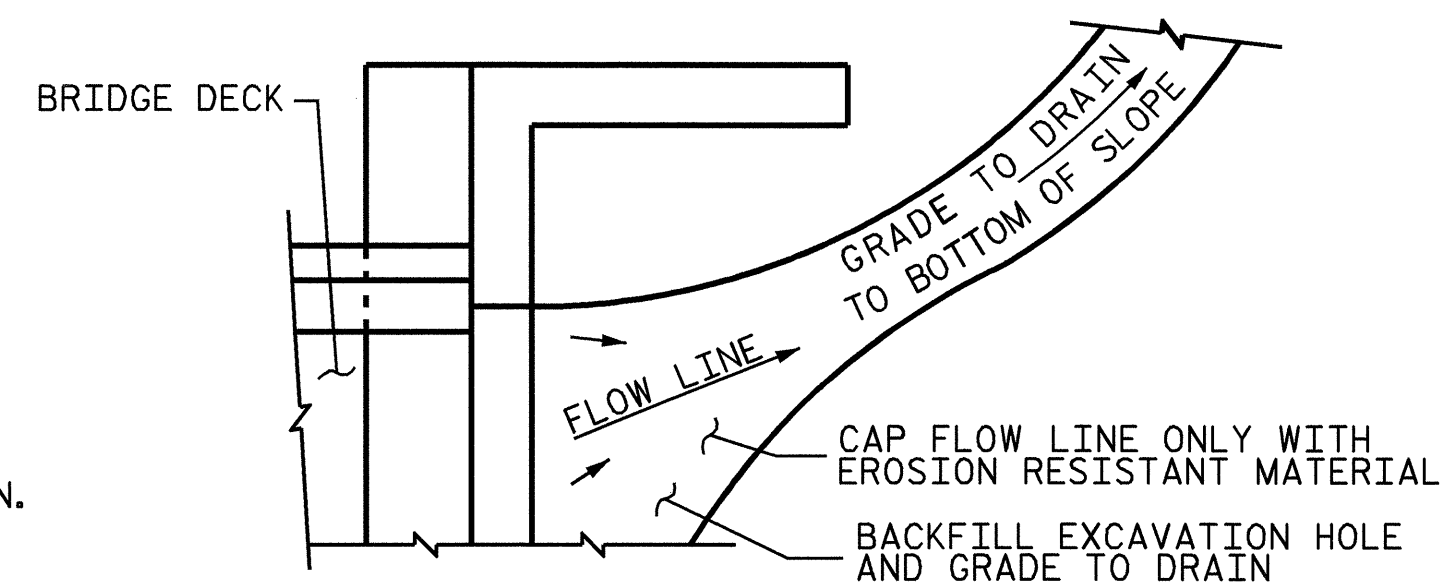
SECTION R-R



TEMPORARY BERM AND SLOPE DRAIN DETAILS

ELASTOMERIC CONCRETE	
END BENT NO.	ELASTOMERIC CONCRETE * (CU. FT.)
1	15.4
2	15.4
TOTAL	30.8

* BASED ON THE MINIMUM BLOCKOUT SHOWN.



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

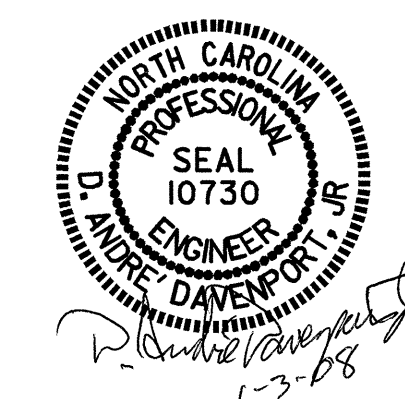
TEMPORARY DRAINAGE DETAIL

PROJECT NO. B-4168
JONES COUNTY
 STATION: 17+30.60 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BRIDGE APPROACH
 SLAB DETAILS



ASSEMBLED BY :	A. A. COLE	DATE :	4/2005
CHECKED BY :	H. T. BARBOUR	DATE :	6/2005
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-23
1			3			TOTAL SHEETS
2			4			23

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

STD. NO. SN