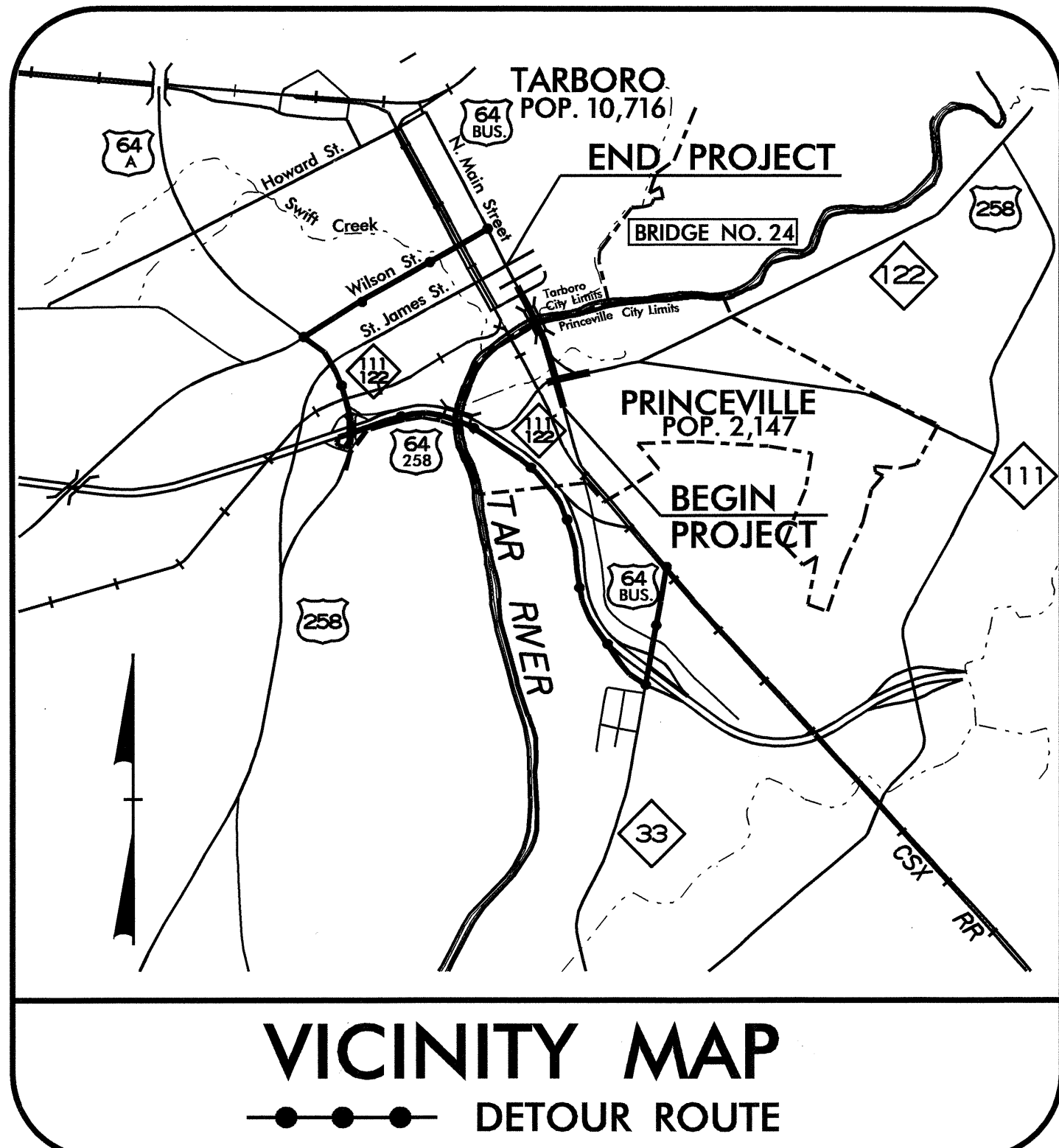
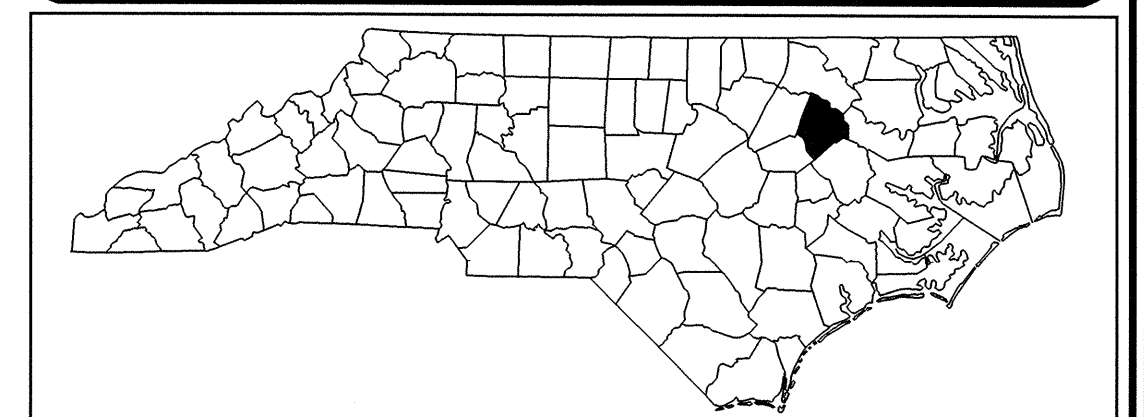


CONTRACT: C202039 TIP PROJECT: B-2965

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-2965		
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33782.1.1	BRSTP-064B(2)	PE	
33782.2.1	BRSTP-064B(2)	RAW & UTIL.	
33782.3.1	BRSTP-064B(2)	CONST.	



VICINITY MAP
●-●-●-● DETOUR ROUTE

NEAREST SHIPPING POINT: TARBORO ON CSX RR APPROX. 1.2 MILES FROM PROJECT

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

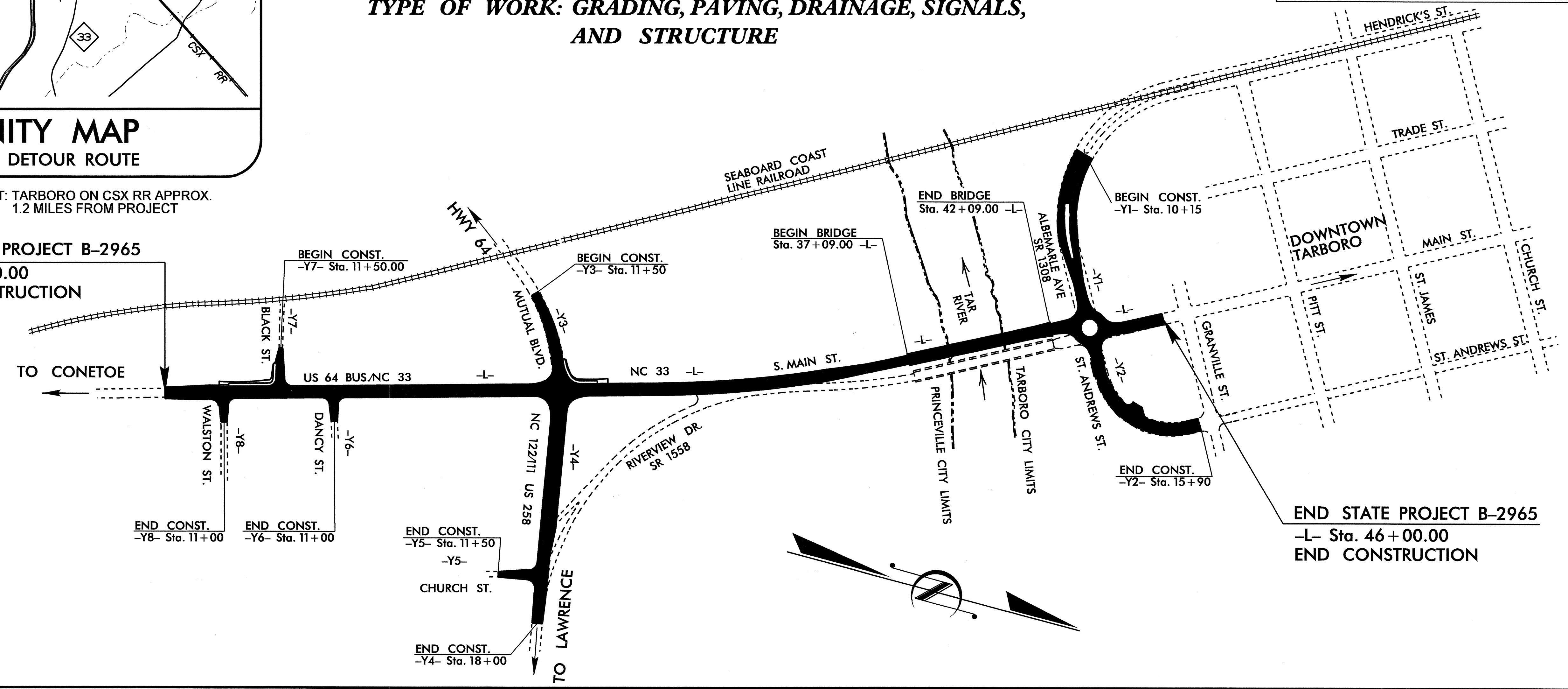
EDGECOMBE COUNTY

LOCATION: BRIDGE NO. 24 OVER THE TAR RIVER ON US 64 BUSINESS / NC 33 (MAIN ST.) FROM US 258/NC III-122 (MUTUAL BLVD) TO SR 1308 (ALBEMARLE AVE)

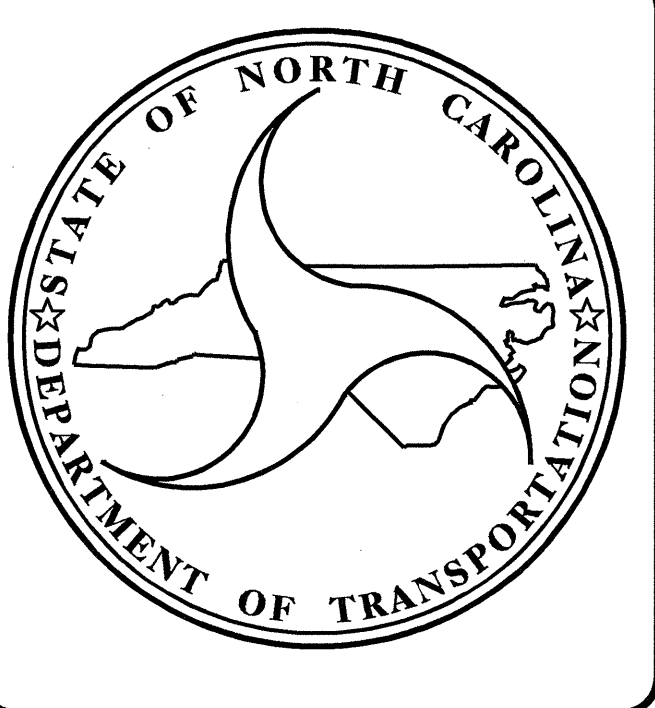
TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNALS, AND STRUCTURE

STRUCTURE

BEGIN STATE PROJECT B-2965
-L- Sta. 11+50.00
BEGIN CONSTRUCTION



END STATE PROJECT B-2965
-L- Sta. 46+00.00
END CONSTRUCTION



DESIGN DATA

ADT 2008 = 13,350
ADT 2028 = 17,950
DHV = 10 %
D = 60 %
T = 5 % *
V = 40 MPH & 25 MPH ON BRIDGE & NORTH INCLUDING ROUNDABOUT
* TTST 3 % DUAL 2 %
FUNC CLASS: COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-2965 = 0.559 MILES
LENGTH STRUCTURE TIP PROJECT B-2965 = 0.095 MILES
TOTAL LENGTH OF PROJECT B-2965 = 0.654 MILES

Prepared In the Office of:

DIVISION OF HIGHWAYS

2006 STANDARD SPECIFICATIONS

LETTING DATE :
April 21, 2009

N.N. BULLOCK, P.E.
PROJECT ENGINEER

D.R. CALHOUN, P.E.
PROJECT DESIGN ENGINEER

STRUCTURE DESIGN UNIT
1000 BIRCH RIDGE DR.
RALEIGH, N.C. 27610

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.

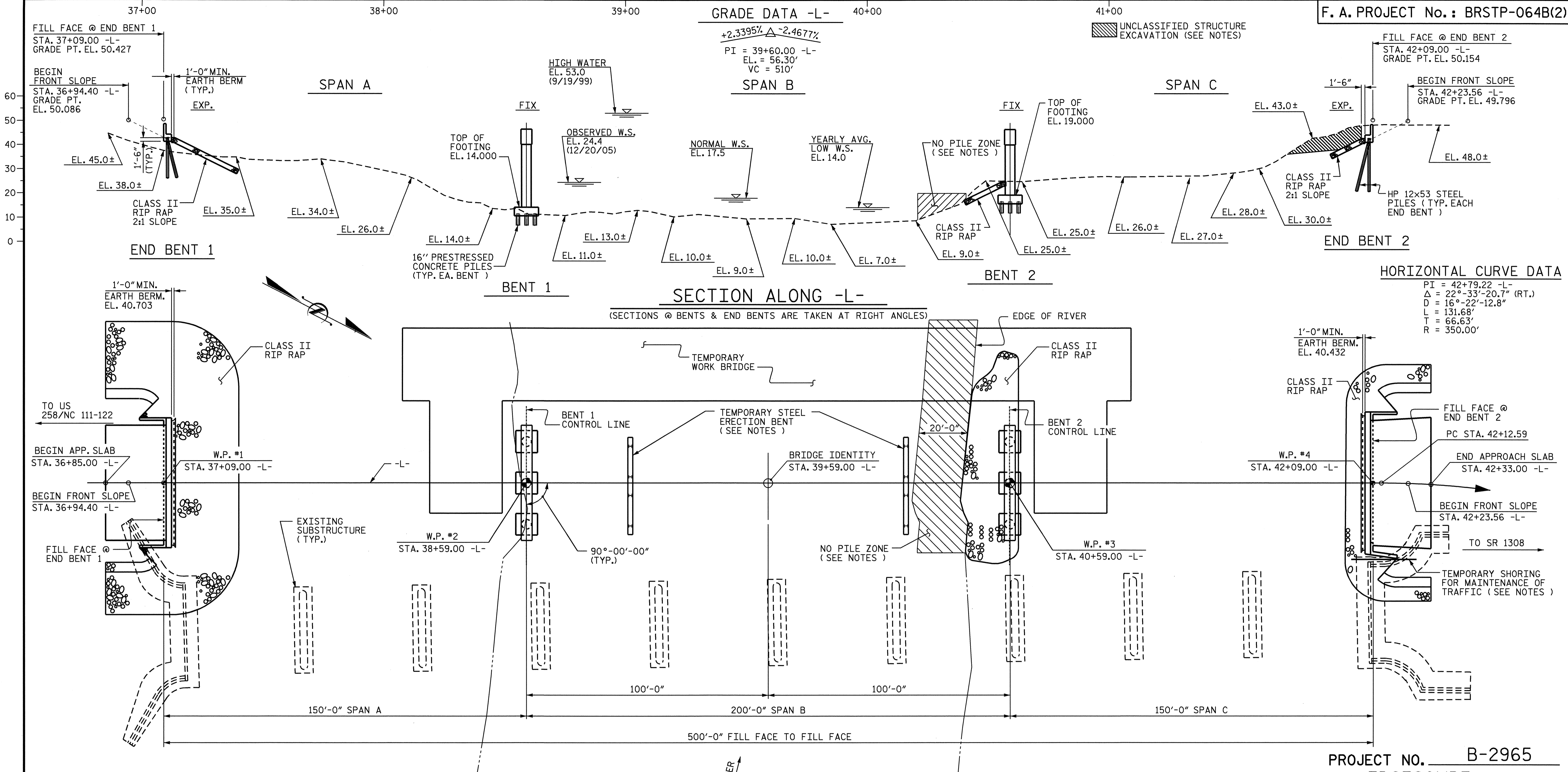
STATE DESIGN ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____
DIVISION ADMINISTRATOR

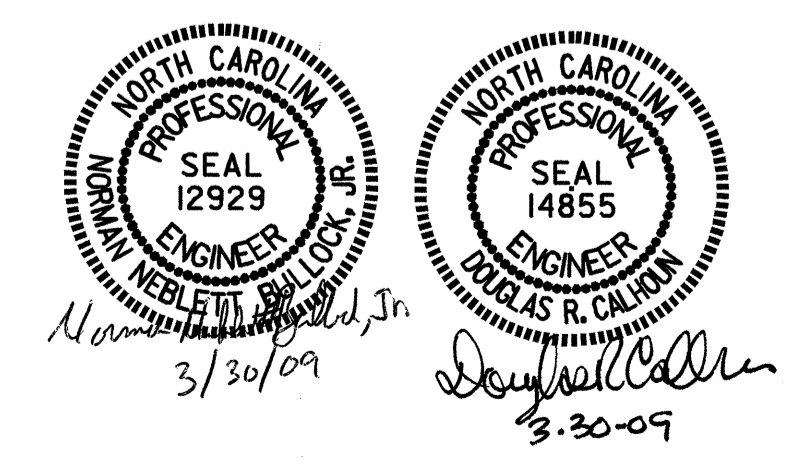
DATE _____

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DRAWN BY : J. MYA DATE : 3-14-08
 CHECKED BY : D. R. CALHOUN DATE : 9-19-08

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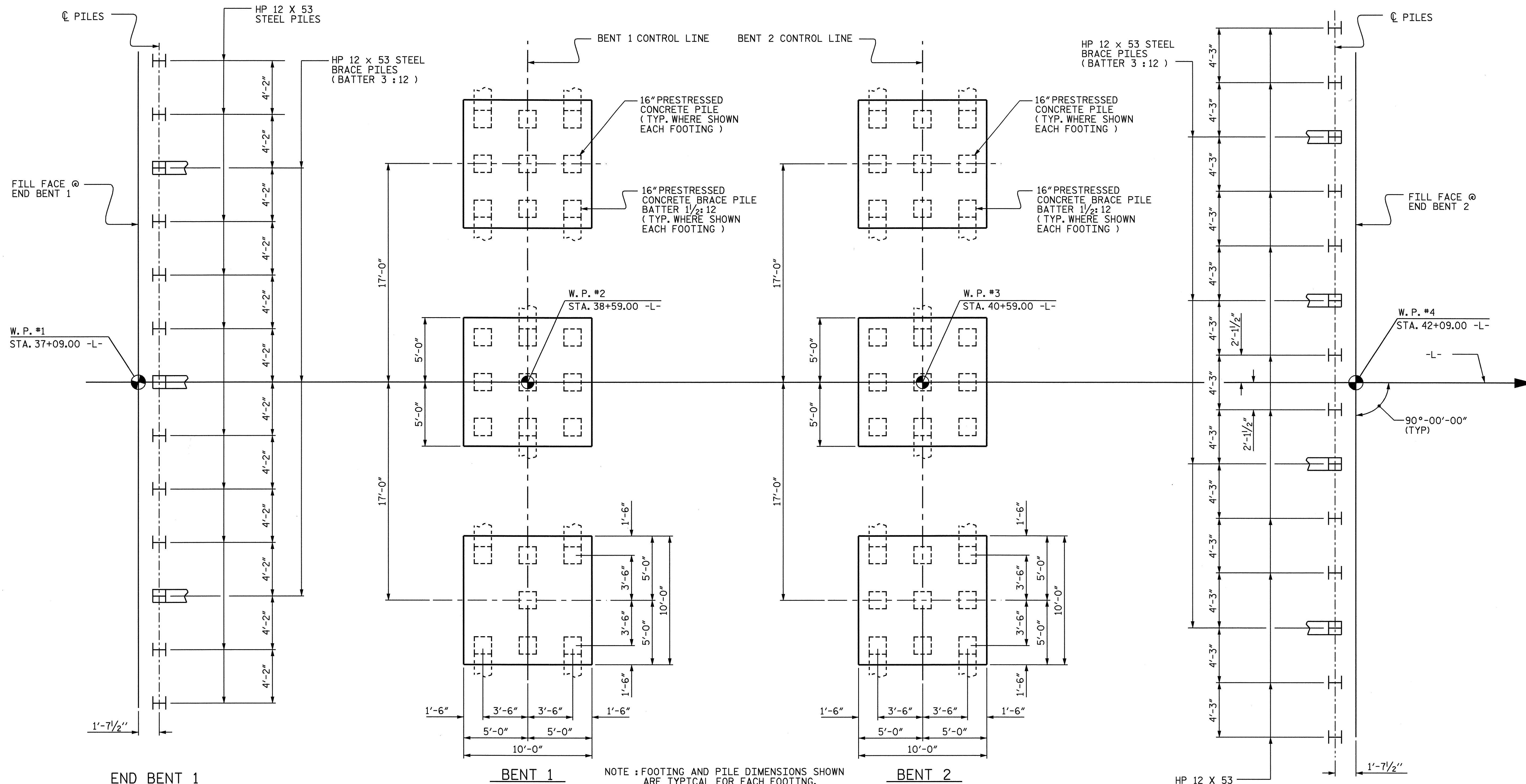


PROJECT NO. B-2965
 EDGEcombe COUNTY
 STATION: 39+59.00 -L-
 SHEET 1 OF 4 REPLACES BRIDGE #24

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE OVER TAR RIVER
 ON US 64 BUSINESS BETWEEN
 US 258/NC 111-122 AND SR 1308

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			48



FOUNDATION LAYOUT

(DIMENSIONS LOCATING END BENT AND BENT PILES ARE SHOWN TO CENTERLINE OF PILES)

FOUNDATION NOTES:

THE ALLOWABLE BEARING CAPACITY FOR PILES AT END BENT 1 AND 2 IS 50 TONS PER PILE.

DRIVE PILES AT END BENT 1 AND 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 BENT 1 AND 2 IS 75 TONS PER PILE.

DRIVE PILES AT BENT 1 TO A REQUIRED BEARING CAPACITY OF 180 TONS PER PILE AND 150 TONS FOR BENT 2. 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.

THE SCOUR CRITICAL ELEVATION FOR BENT 1 IS -5 FT. AND BENT 2 IS 10 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

TESTING PILES WITH THE PILE DRIVING ANALYZER (PDA) DURING DRIVING, RESTRIKING OR REDRIVING MAY BE REQUIRED. THE ENGINEER WILL DETERMINE THE NEED FOR PDA TESTING. SEE PILE DRIVING ANALYZER SPECIAL PROVISION.

IT HAS BEEN ESTIMATED THAT A HAMMER WITH AN EQUIVALENT RATED ENERGY IN THE RANGE OF 40,000 FT-LBS TO 60,000 FT-LBS PER BLOW WILL BE REQUIRED TO DRIVE PILES AT BENT 1 AND BENT 2. THIS ESTIMATED ENERGY RANGE DOES NOT RELEASE THE CONTRACTOR FROM ARTICLE 450-5 OF THE STANDARD SPECIFICATIONS.

DRAWN BY : J. MYA DATE : 3-14-08
 CHECKED BY : D. R. CALHOUN DATE : 9-19-08

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PROJECT NO. B-2965
EDGEcombe COUNTY
 STATION: 39+59.00 -L-

SHEET 2 OF 4

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO. S-2
GENERAL DRAWING FOR BRIDGE OVER TAR RIVER ON US 64 BUSINESS BETWEEN US 258/NC 111/122 AND SR 1308						
REVISIONS						TOTAL SHEETS 48
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

NOTES:

ASSUMED LIVE LOAD = HS20 OR ALTERNATE LOADING, EXCEPT THAT THE GIRDERS HAVE BEEN DESIGNED FOR HS 25.

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

FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.

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

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.

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50W AND PAINTED IN ACCORDANCE WITH SYSTEM 4 OF ARTICLE 442-7 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.

NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.

THE EXISTING STRUCTURE CONSISTING OF TEN (1 @ 48'-0", 8 @ 49'-0" & 1 @ 48'-0") REINFORCED CONCRETE SPANS ON REINFORCED CONCRETE DECK GIRDERS WITH A CLEAR ROADWAY WIDTH OF 28'-0" ON REINFORCED CONCRETE ABUTMENTS ON TIMBER PILES AND ROUND NOSE PIER & WEB BENTS ON TIMBER PILES LOCATED ADJACENT 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.

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 MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 40 FT. EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

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.

FOR LIMITS OF TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS. FOR PAY ITEM FOR TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE ROADWAY PLANS.

A TEMPORARY WORK BRIDGE SHALL BE PERMITTED FOR CONSTRUCTION OF BRIDGE. SEE SPECIAL PROVISIONS FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS AT STATION 39+59.00 -L-.

TEMPORARY STEEL ERECTION BENTS MAY BE USED SHOULD THE CONTRACTOR DETERMINE THAT THEY ARE NEEDED FOR PLACEMENT OF THE STEEL GIRDERS. THE TEMPORARY STEEL ERECTION BENTS SHALL COMPLY WITH THE STANDARD SPECIFICATIONS. ANY COST ASSOCIATED WITH THE TEMPORARY STEEL ERECTION BENTS SHALL BE INCLUDED IN THE VARIOUS STRUCTURE PAY ITEMS.

FOR SHIPPING STEEL STRUCTURAL MEMBERS, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

FOR CLASSIC CONCRETE BRIDGE RAIL, SEE SPECIAL PROVISIONS.

FOR INSTALLATION OF 10" WATER MAIN, SEE SPECIAL PROVISIONS.

FOR INSTALLATION OF TELEPHONE CONDUIT, SEE SPECIAL PROVISIONS.

FOR INSTALLATION OF 6" FORCE MAIN, SEE SPECIAL PROVISIONS.

FOR MESSENGER CABLE SYSTEM AND EXISTING LIGHTING, SEE SPECIAL PROVISIONS.

PILES FOR WORK BRIDGE TO BE USED DURING CONSTRUCTION WILL NOT BE DRIVEN WITHIN 20 FEET OF THE TAR RIVER BANK AS SHOWN ON PLANS IN ORDER TO SPAN THE AREA OF MARGINAL HABITAT FOR THE TAR SPINY MUSSEL.

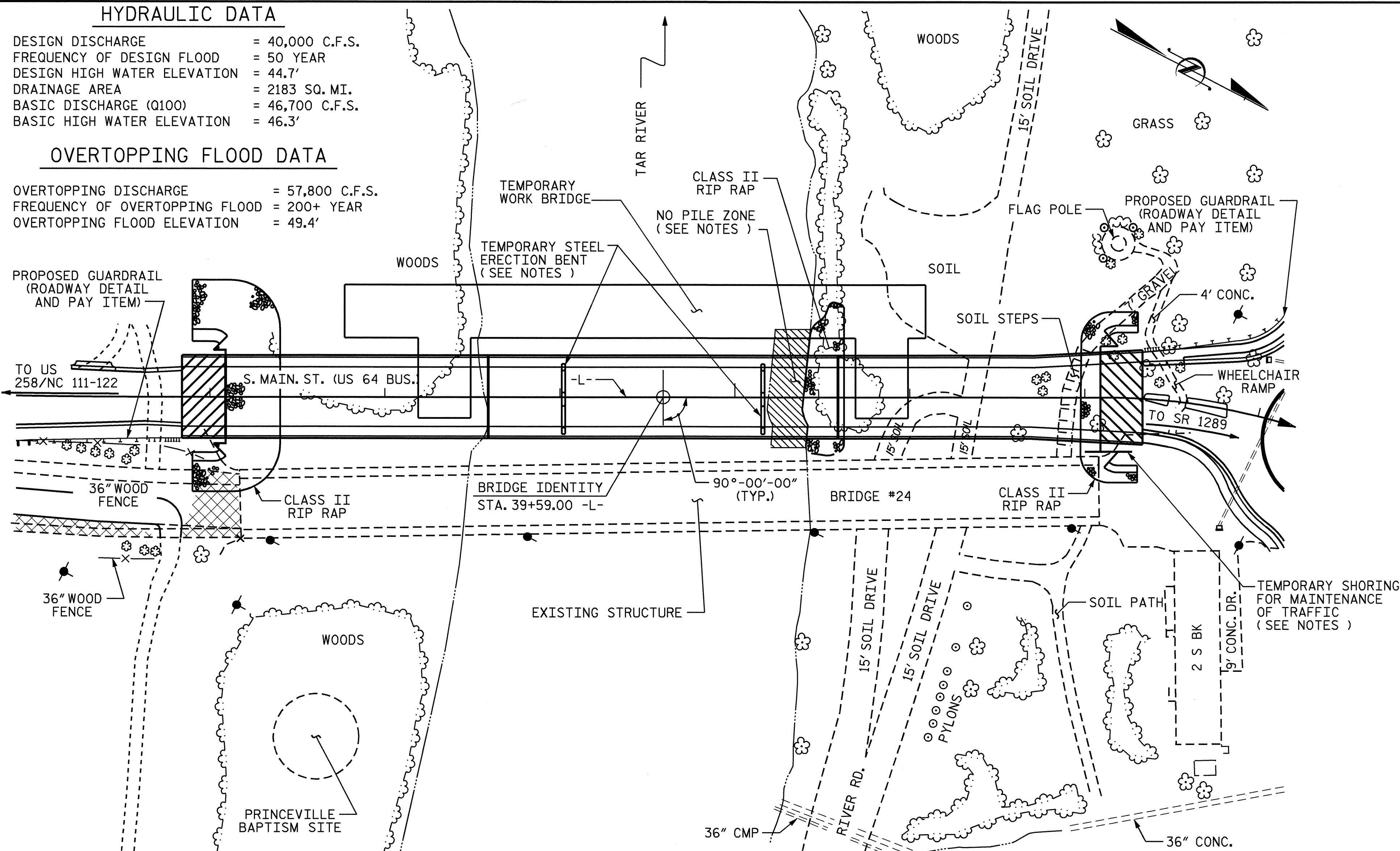
BM #3 : R/R SPIKE IN BASE OF 18" PINE TREE 5.81' LT. OF 42+76.56 -L- ELEV. 49.57'

HYDRAULIC DATA

DESIGN DISCHARGE = 40,000 C.F.S.
 FREQUENCY OF DESIGN FLOOD = 50 YEAR
 DESIGN HIGH WATER ELEVATION = 44.7'
 DRAINAGE AREA = 2183 SQ. MI.
 BASIC DISCHARGE (Q100) = 46,700 C.F.S.
 BASIC HIGH WATER ELEVATION = 46.3'

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 57,800 C.F.S.
 FREQUENCY OF OVERTOPPING FLOOD = 200+ YEAR
 OVERTOPPING FLOOD ELEVATION = 49.4'



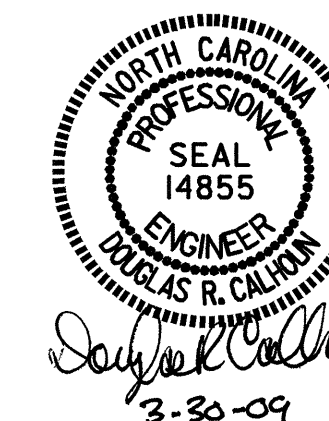
LOCATION SKETCH

PROJECT NO. B-2965
EDGECOMBE COUNTY
 STATION: 39+59.00 -L-

SHEET 3 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE OVER TAR RIVER
 ON US 64 BUSINESS BETWEEN
 US 258/NC 111-122 AND SR 1308



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL
2			4			48

DRAWN BY : J. MYA DATE : 3-14-08
 CHECKED BY : D. R. CALHOUN DATE : 9-19-08

TOTAL BILL OF MATERIAL																		
	CONSTRUCTION, MAINTENANCE, & REMOVAL OF TEMPORARY ACCESS	REMOVAL OF EXISTING STRUCTURE	FOUNDATION EXCAVATION FOR BENT	PDA TESTING	PDA ASSISTANCE	UNCLASSIFIED STRUCTURE EXCAVATION	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	STRUCTURAL STEEL	16" PRESTRESSED CONCRETE PILES	HP 12 X 53 STEEL PILES	PILE REDRIVES		
	LUMP SUM	LUMP SUM	LUMP SUM	EA.	EA.	LUMP SUM	SQ. FEET	SQ. FEET	CU. YDS.	LUMP SUM	LBS.	LBS.	APPROX. LBS.	NO.	LIN. FT.	NO.	LIN. FT.	EA.
SUPERSTRUCTURE							23,674	17,100		LUMP SUM			1,640,500					
END BENT 1									34.4		5,451				13	585		5
BENT 1			LUMP SUM						123.7		17,952	2465		27	1215			15
BENT 2			LUMP SUM						116.6		16,980	1997		27	945			15
END BENT 2						LUMP SUM			36.6		6,294				14	490		5
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	2	2	LUMP SUM	23,674	17,100	311.3	LUMP SUM	46,677	4462	1,640,500	54	2160	27	1075	40

TOTAL BILL OF MATERIAL											
	RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE	POT BEARINGS	EXPANSION JOINT SEALS	10" WATER MAIN	6" SEWER FORCE MAIN	LIGHT STANDARD LUMINAIRES TYPE RDW, 250W, HPS	MESSENGER CABLE SYSTEM	RELOCATE LIGHT STANDARD	TELEPHONE CONDUITS	CLASSIC CONCRETE BRIDGE RAIL
	TONS	SQ. YDS.	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	EA.	LIN. FT.	EA.	LUMP SUM	LIN. FT.
SUPERSTRUCTURE											1006.42
END BENT 1	519	576									
BENT 1											
BENT 2	192	212									
END BENT 2	159	176									
TOTAL	870	964	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	4	500	4	LUMP SUM	1006.42

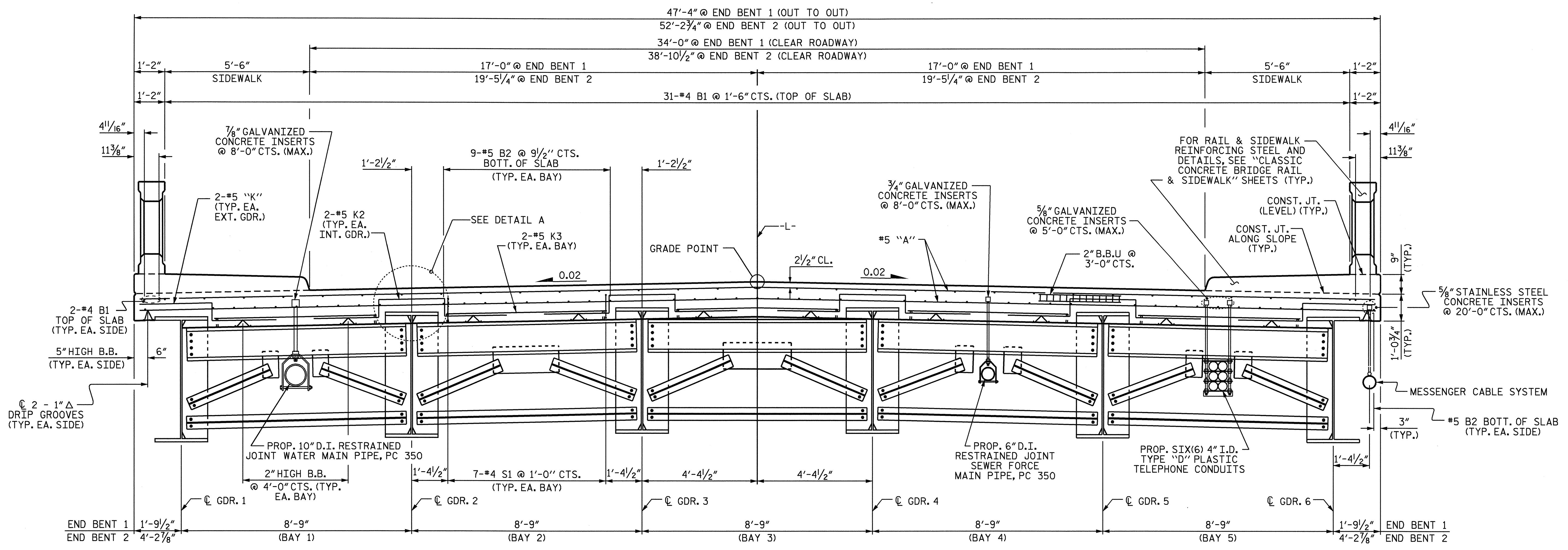
PROJECT NO. B-2965
EDGEcombe COUNTY
STATION: 39+59.00 -L-

SHEET 4 OF 4



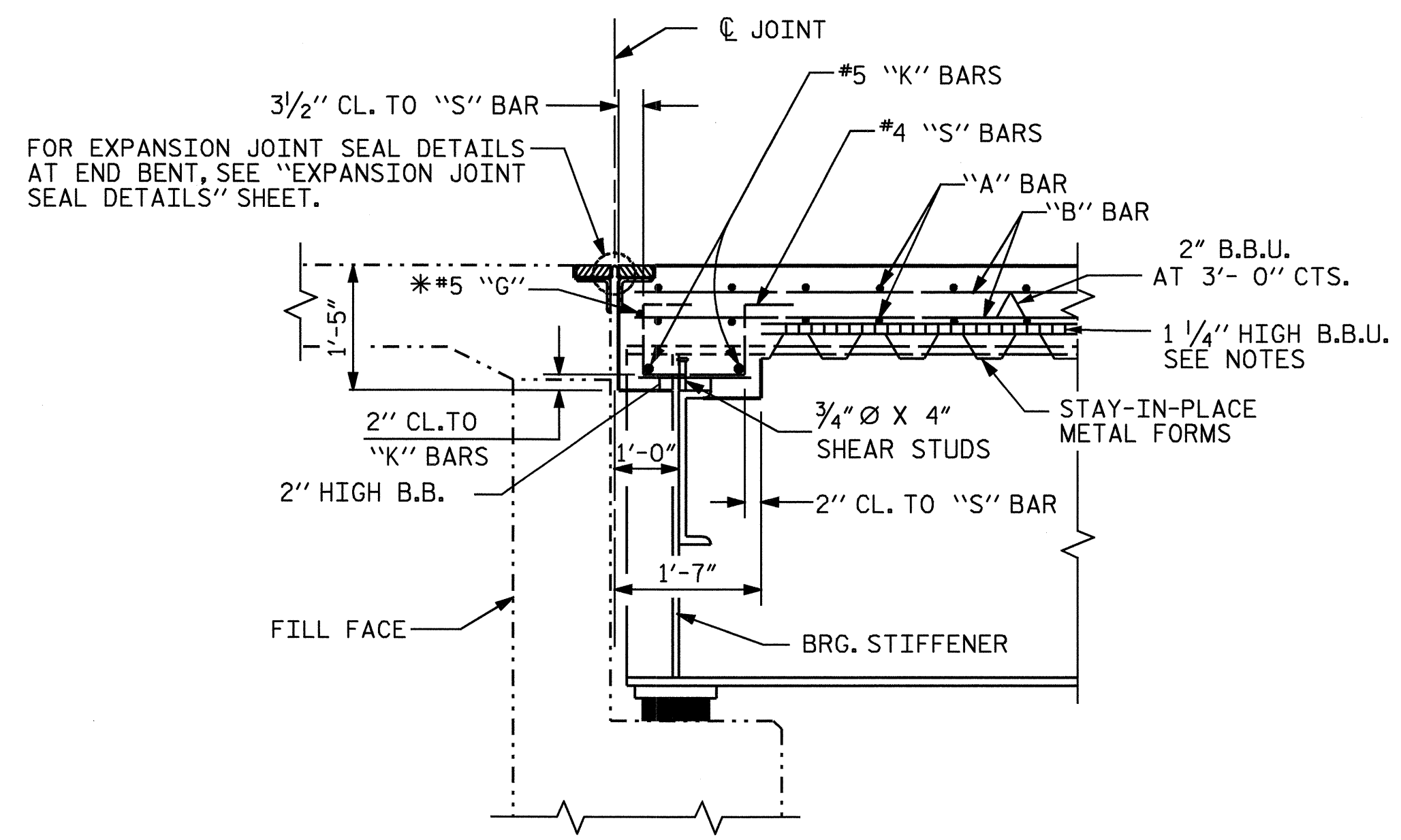
STATE OF NORTH CAROLINA					
DEPARTMENT OF TRANSPORTATION					
RALEIGH					
GENERAL DRAWING					
FOR BRIDGE OVER TAR RIVER					
ON US 64 BUSINESS BETWEEN					
US 258/NC 111/122 AND SR 1308					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					48
					S-4

DRAWN BY : J. MYA DATE : 3-14-08
CHECKED BY : D. R. CALHOUN DATE : 9-19-08



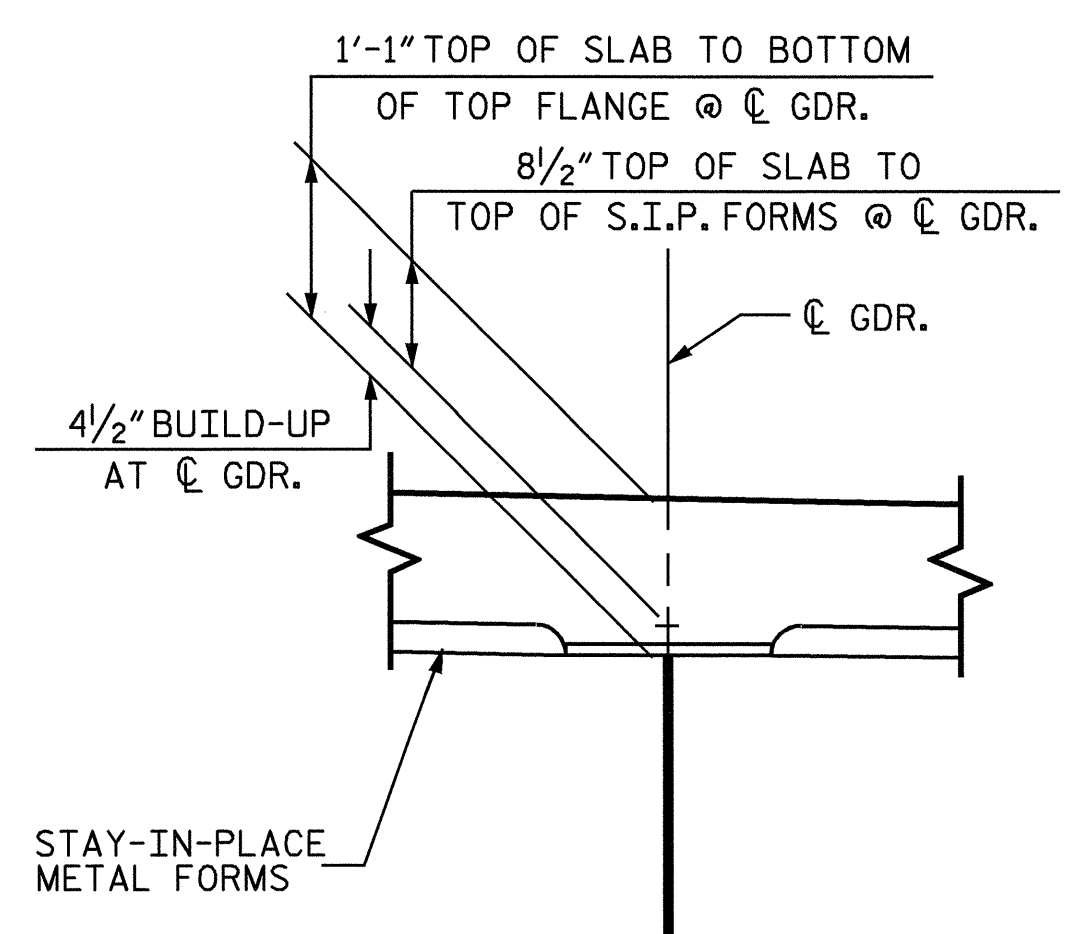
TYPICAL SECTION AT END BENT DIAPHRAGMS

FOR ADDITIONAL STEEL IN SLAB, SEE "PLAN OF SPAN C".
SEE PLAN OF SPANS FOR LOCATION OF CONCRETE INSERTS.



SECTION A-A

* #5 "G" BAR MAY BE SHIFTED SLIGHTLY, AS NECESSARY, TO CLEAR REINFORCING STEEL AND STIRRUPS.



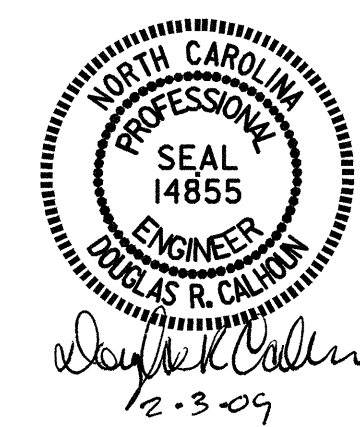
DETAIL A

PROJECT NO. B-2965
EDGEcombe COUNTY
STATION: 39+59.00 -L-

SHEET 1 OF 2

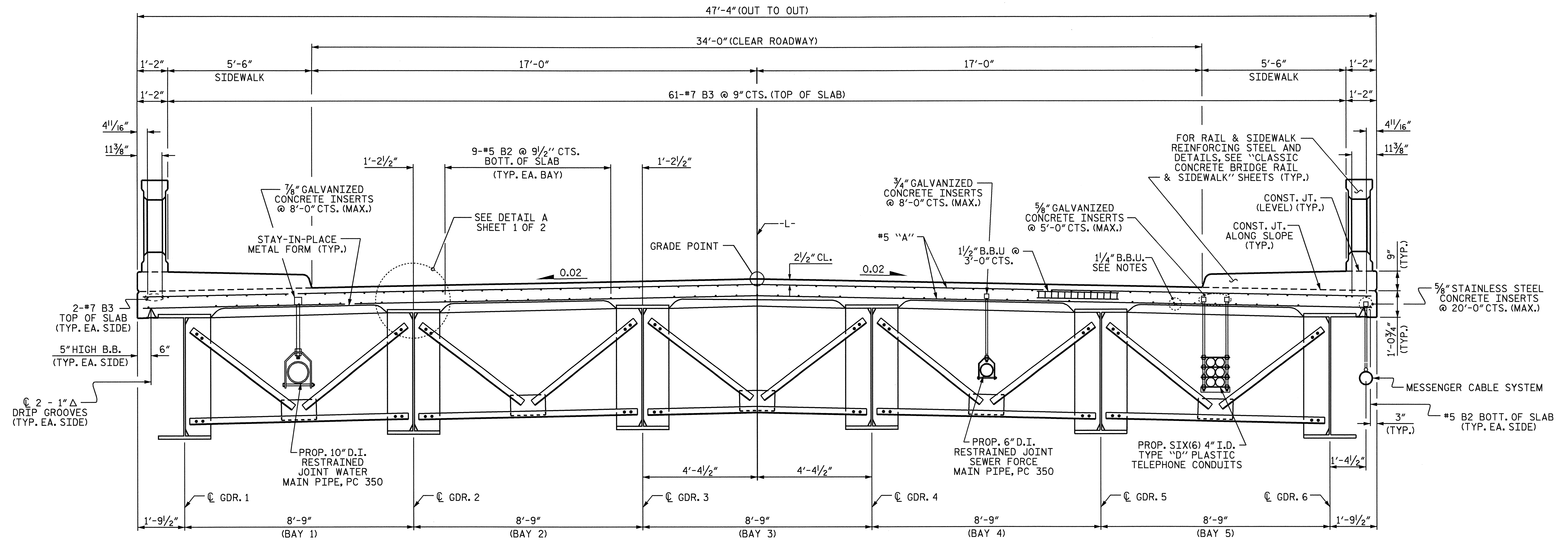
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUPERSTRUCTURE
TYPICAL SECTION**



DRAWN BY : J. MYA DATE : 8/15/08
CHECKED BY : B.N. GRADY DATE : 9/5/08

REVISIONS						SHEET NO. S-5
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			



TYPICAL SECTION AT BENT DIAPHRAGMS

FOR ADDITIONAL STEEL IN SLAB, SEE "PLAN OF SPAN C".
SEE PLAN OF SPANS FOR LOCATION OF CONCRETE INSERTS.

NOTES

PROVIDE 1/4" HIGH BEAM BOLSTERS UPPER AT 4'-0" CTS. ATOP THE METAL STAY-IN-PLACE FORMS TO SUPPORT THE BOTTOM MAT OF "A" BARS. WHEN USING REMOVABLE FORMS, PROVIDE CONTINUOUS HIGH CHAIRS FOR METAL DECK (C.H.C.M.) @ 4'-0" CTS. WITH A HEIGHT TO SUPPORT THE BOTTOM MAT OF "A" BARS A CLEAR DISTANCE OF 2 1/2" ABOVE THE TOP OF THE REMOVABLE FORM.

THE CONTRACTOR MAY, WHEN NECESSARY, PROPOSE A SCHEME FOR AVOIDING INTERFERENCE BETWEEN METAL STAY-IN-PLACE FORM SUPPORTS OR FORMS AND GIRDER STIFFENERS OR CONNECTOR PLATES. THE PROPOSAL SHALL BE INDICATED, AS APPROPRIATE, ON EITHER THE STEEL WORKING DRAWINGS OR THE METAL STAY-IN-PLACE FORM WORKING DRAWINGS.

PREVIOUSLY CAST CONCRETE IN A CONTINUOUS UNIT SHALL HAVE ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI BEFORE ADDITIONAL CONCRETE IS CAST IN THE UNIT.

FOR INTERMEDIATE DIAPHRAGMS, SEE "STRUCTURAL STEEL DETAILS", SHEET 4 OF 5.

METAL STAY-IN-PLACE FORMS SHALL NOT BE WELDED TO BEAM OR GIRDER FLANGES IN THE ZONES REQUIRING CHARPY V-NOTCH TEST. SEE STRUCTURAL STEEL DETAIL SHEETS.

STRUCTURAL STEEL ERECTION IN A CONTINUOUS UNIT SHALL BE COMPLETE BEFORE FALSEWORK OR FORMS ARE PLACED ON THE UNIT.

THE CONTRACTOR SHALL ADJUST THE GIRDER BUILDUPS AS NECESSARY TO INCORPORATE A MAXIMUM PERMISSIBLE VARIATION IN POT BEARING DEPTH OF 1/2"; SEE SPECIAL PROVISION FOR POT BEARINGS.

PROJECT NO. B-2965
EDGECOMBE COUNTY
STATION: 39+59.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
TYPICAL SECTION

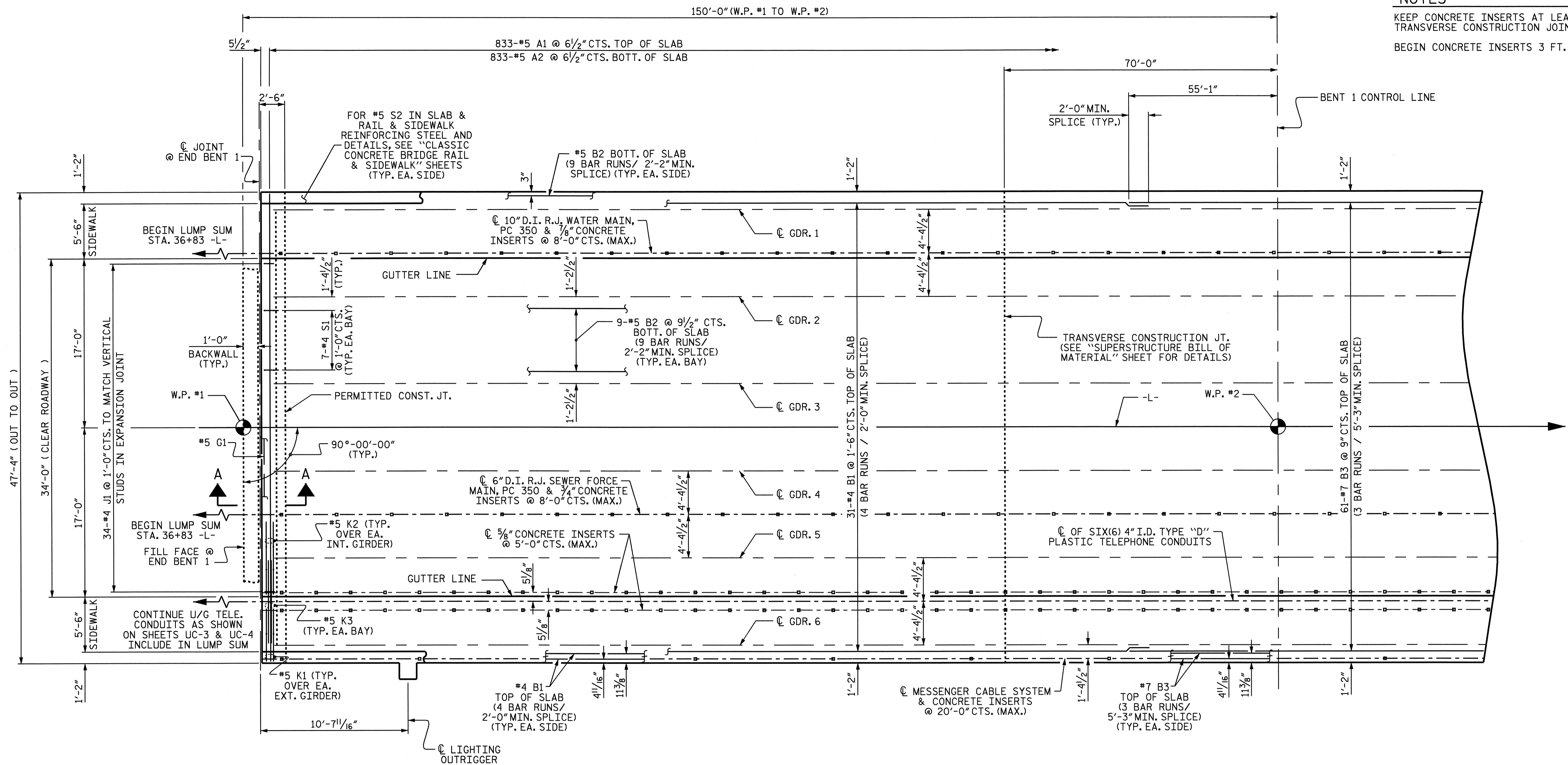


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CHECKED BY: B.N. GRADY DATE: 9/5/08

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6	
1			3			TOTAL SHEETS	
2			4			48	

NOTES

KEEP CONCRETE INSERTS AT LEAST 18" FROM TRANSVERSE CONSTRUCTION JOINTS.
 BEGIN CONCRETE INSERTS 3 FT. FROM FILL FACE.



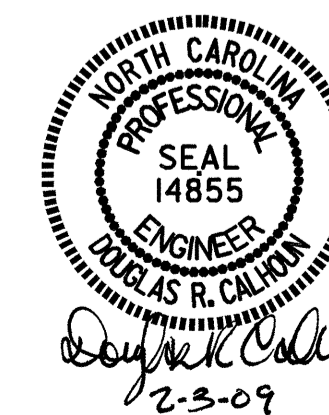
PLAN OF SPAN A

PROJECT NO. B-2965
EDGEcombe COUNTY
 STATION: 39+59.00 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 PLAN OF SPAN A



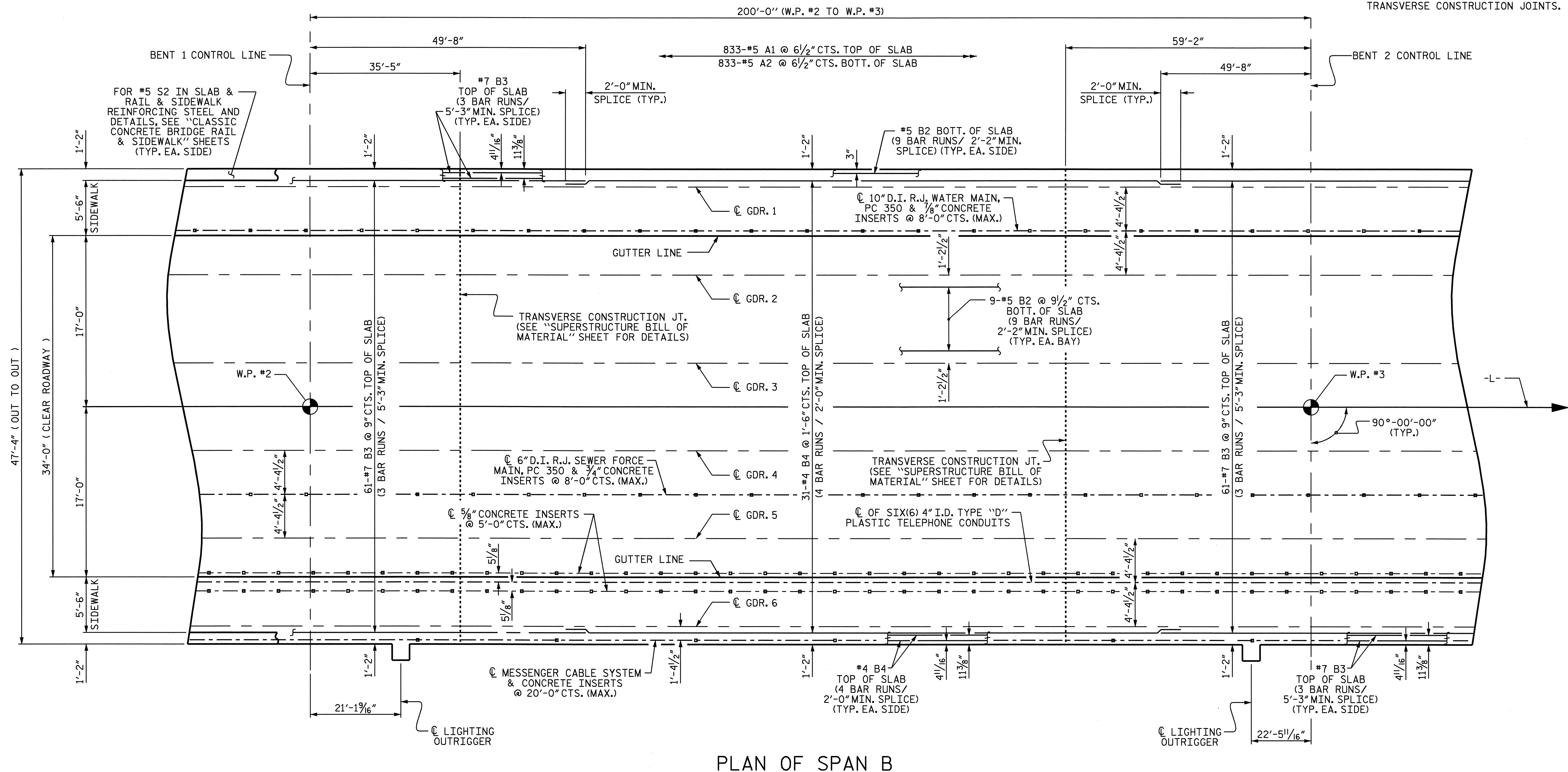
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 CHECKED BY: B.N. GRADY DATE: 9/5/08

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-7
1			3			TOTAL SHEETS
2			4			48

NOTES

KEEP CONCRETE INSERTS AT LEAST 18" FROM TRANSVERSE CONSTRUCTION JOINTS.



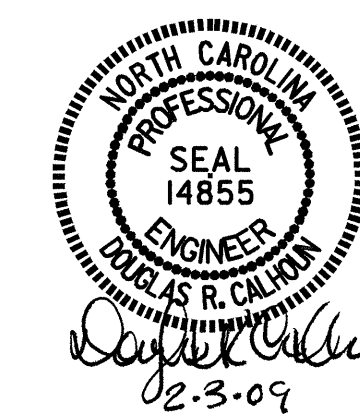
PLAN OF SPAN B

PROJECT NO. B-2965
EDGEcombe COUNTY
 STATION: 39+59.00 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 PLAN OF SPAN B

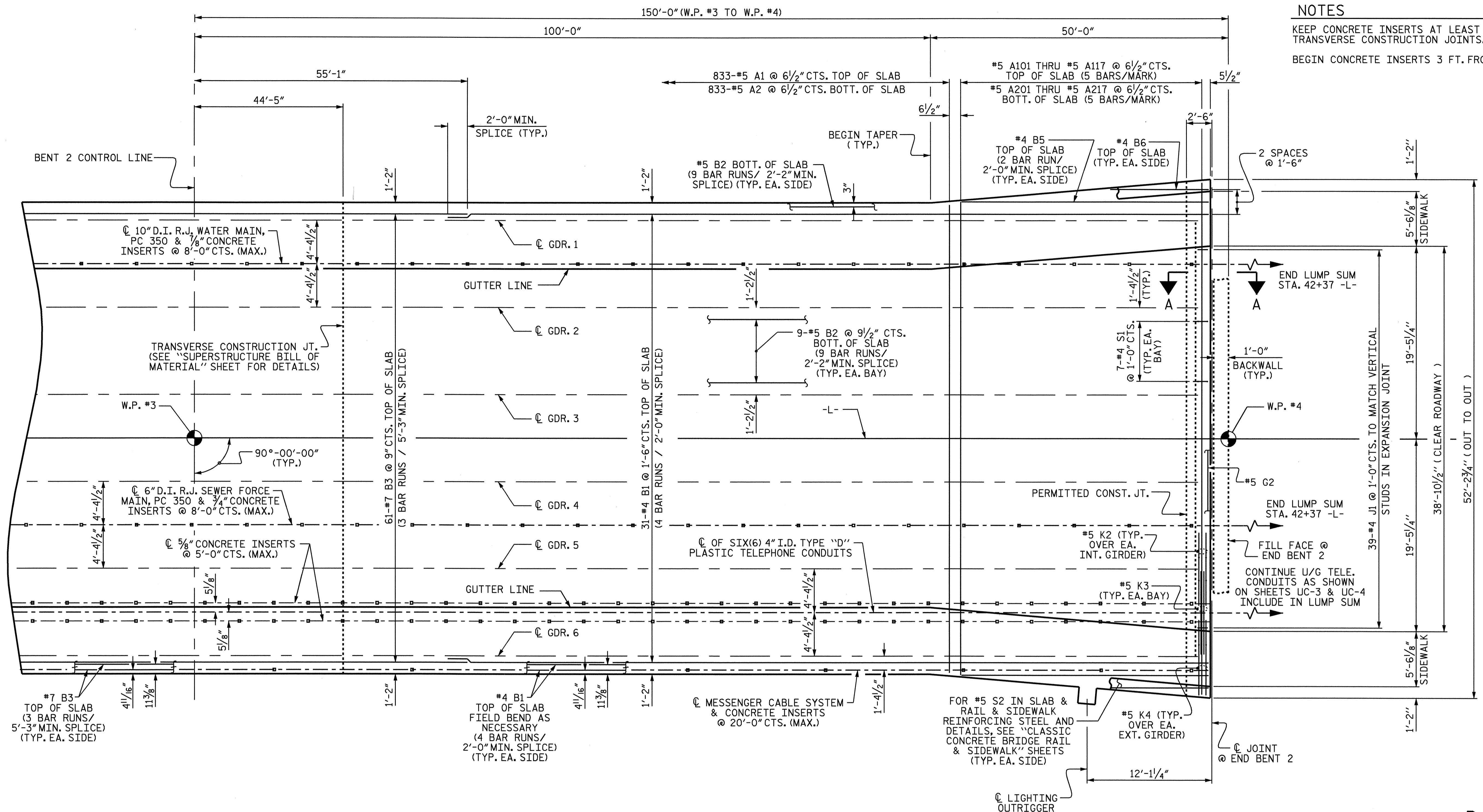


REVISIONS						SHEET NO. S-8
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

DRAWN BY: J. MYA DATE: 8/15/08
 CHECKED BY: B.N. GRADY DATE: 9/5/08

NOTES

KEEP CONCRETE INSERTS AT LEAST 18" FROM TRANSVERSE CONSTRUCTION JOINTS.
 BEGIN CONCRETE INSERTS 3 FT. FROM FILL FACE.

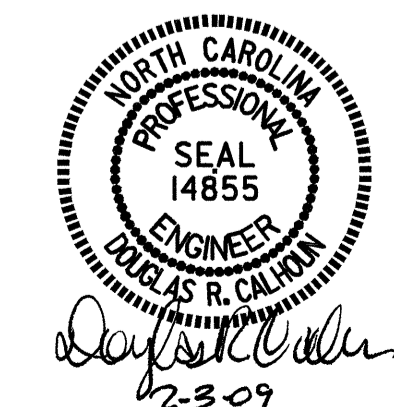


PLAN OF SPAN C

PROJECT NO. B-2965
 EDGEcombe COUNTY
 STATION: 39+59.00 -L-

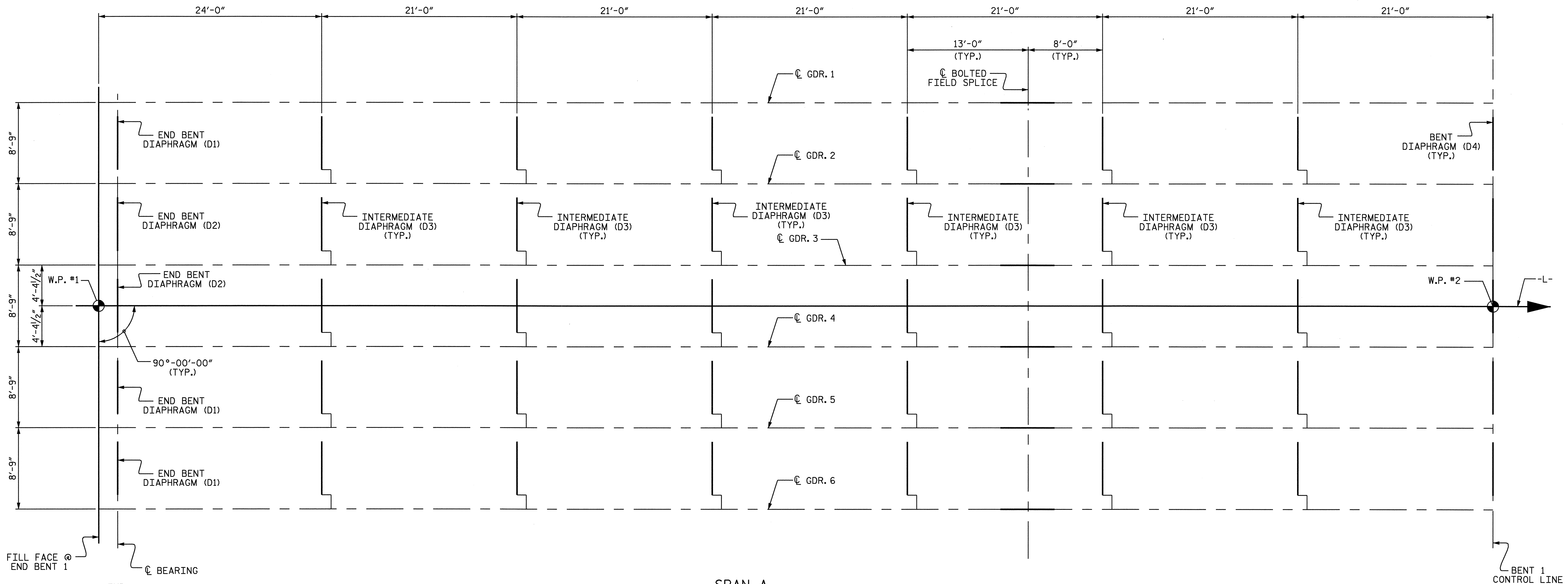
SHEET 3 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE PLAN OF SPAN C					
REVISIONS					SHEET NO. S-9
NO.	BY:	DATE:	NO.	BY:	
1			3		
2			4		
TOTAL SHEETS					48



DRAWN BY: J. MYA DATE: 8/15/08
 CHECKED BY: B.N. GRADY DATE: 9/5/08

03-FEB-2009 12:10
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 galen



FRAMING PLAN

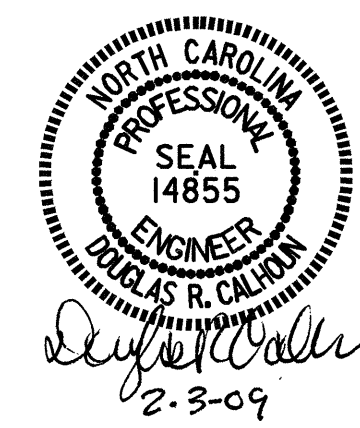
PROJECT NO. B-2965
EDGEcombe COUNTY
 STATION: 39+59.00 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

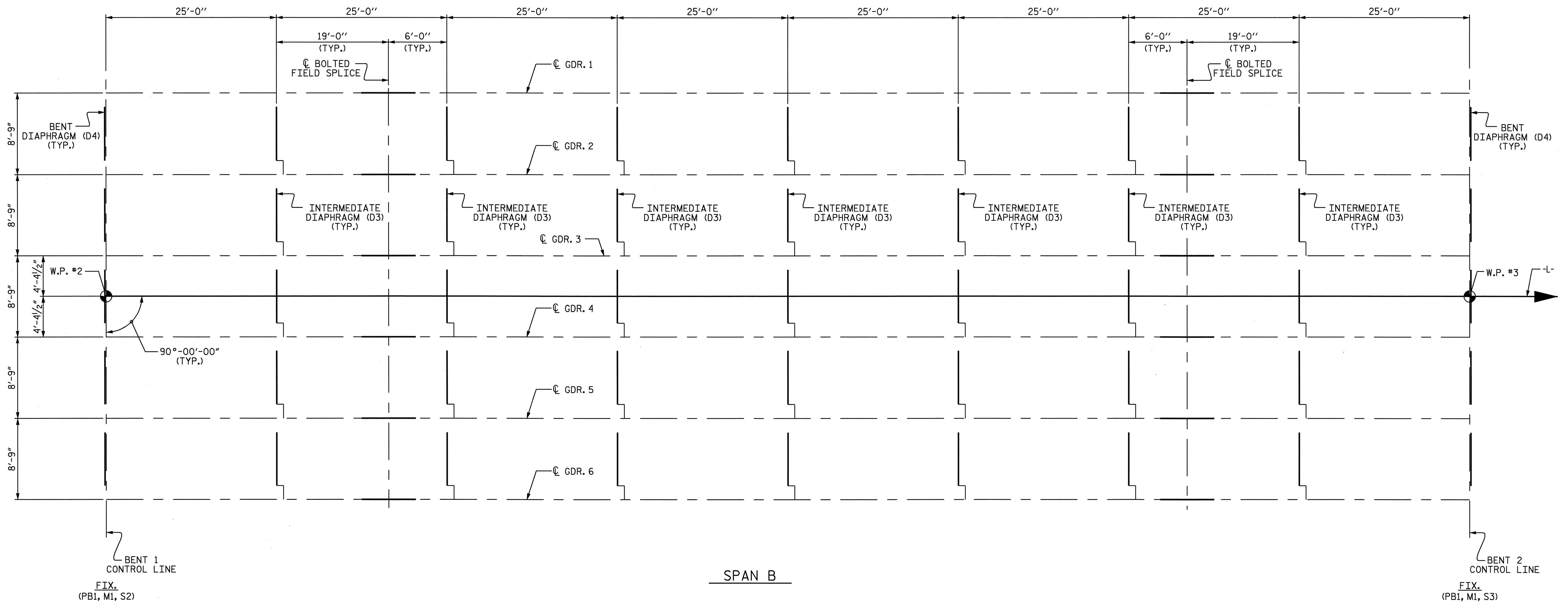
SUPERSTRUCTURE
 FRAMING PLAN
 SPAN A

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			TOTAL SHEETS
2			4			48



DRAWN BY: J.MYA DATE: 8/15/08
 CHECKED BY: B.N. GRADY DATE: 9/5/08

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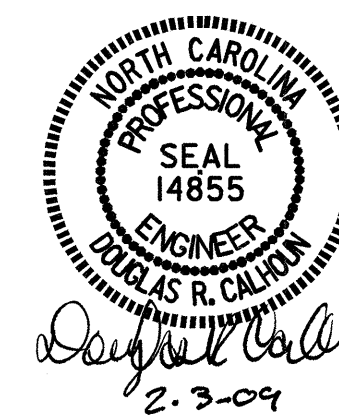
FRAMING PLAN

PROJECT NO. B-2965
EDGECOMBE COUNTY
 STATION: 39+59.00 -L-

SHEET 2 OF 3

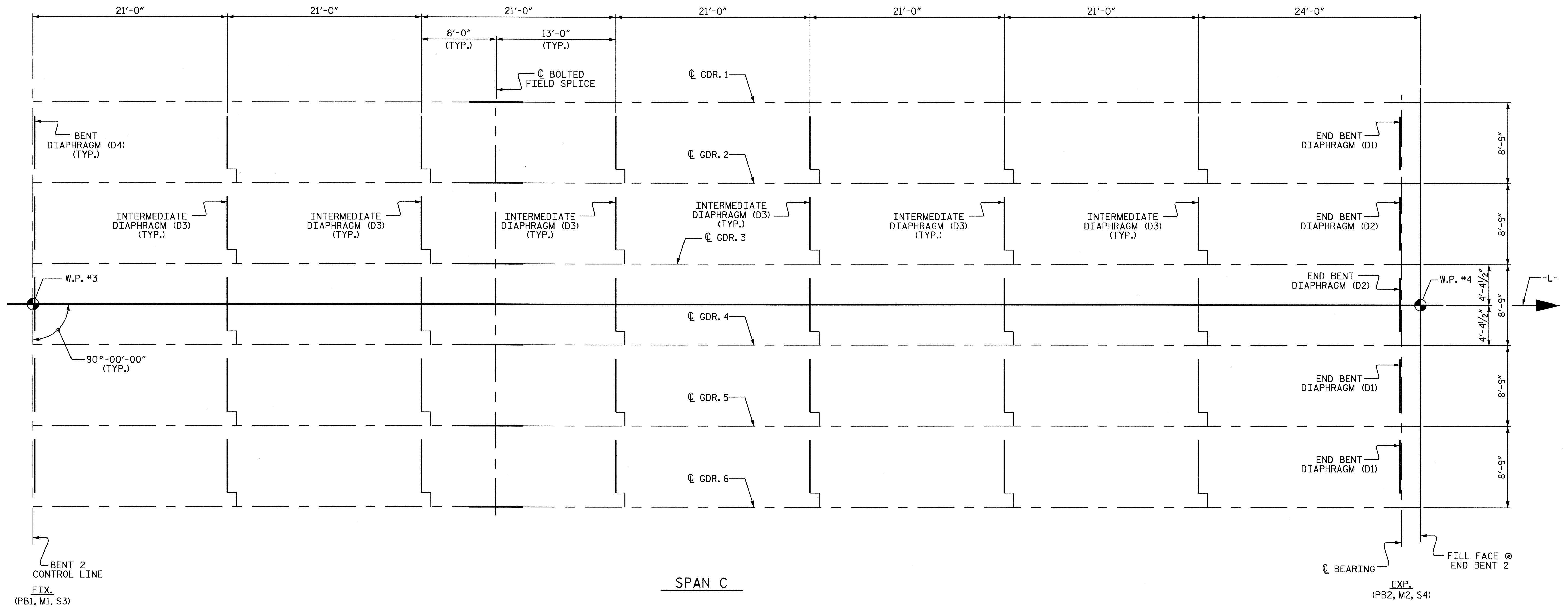
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 FRAMING PLAN
 SPAN B



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			48

DRAWN BY : J.MYA DATE : 8/15/08
 CHECKED BY : B.N. GRADY DATE : 9/5/08



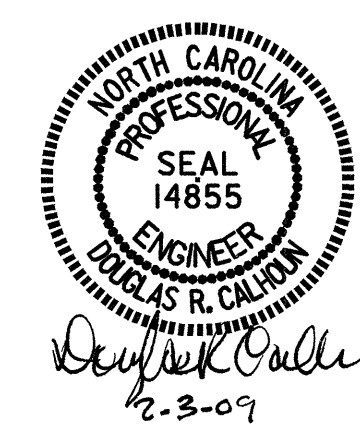
FRAMING PLAN

PROJECT NO. B-2965
EDGECOMBE COUNTY
 STATION: 39+59.00 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUPERSTRUCTURE
 FRAMING PLAN
 SPAN C**



DRAWN BY : J.MYA DATE : 8/15/08
 CHECKED BY : B.N. GRADY DATE : 9/5/08

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-12
1			3			TOTAL SHEETS
2			4			48

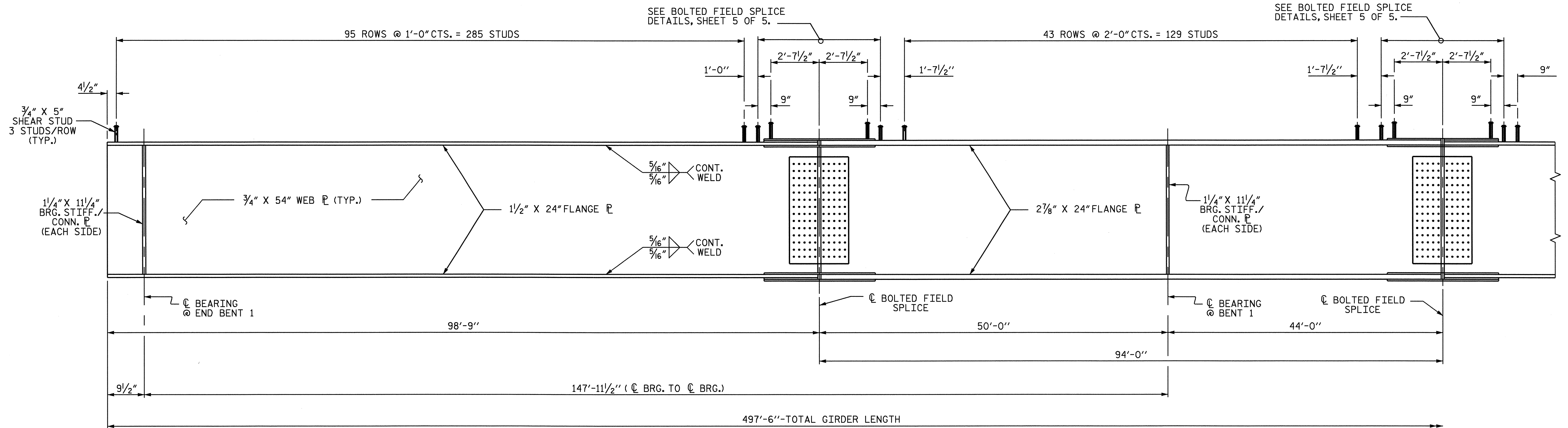
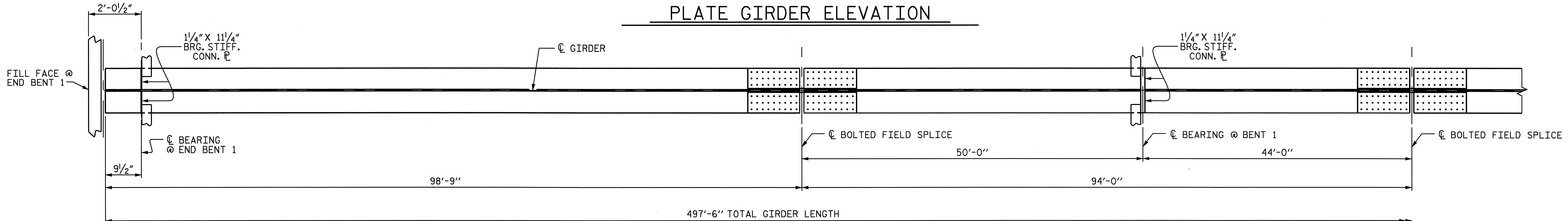
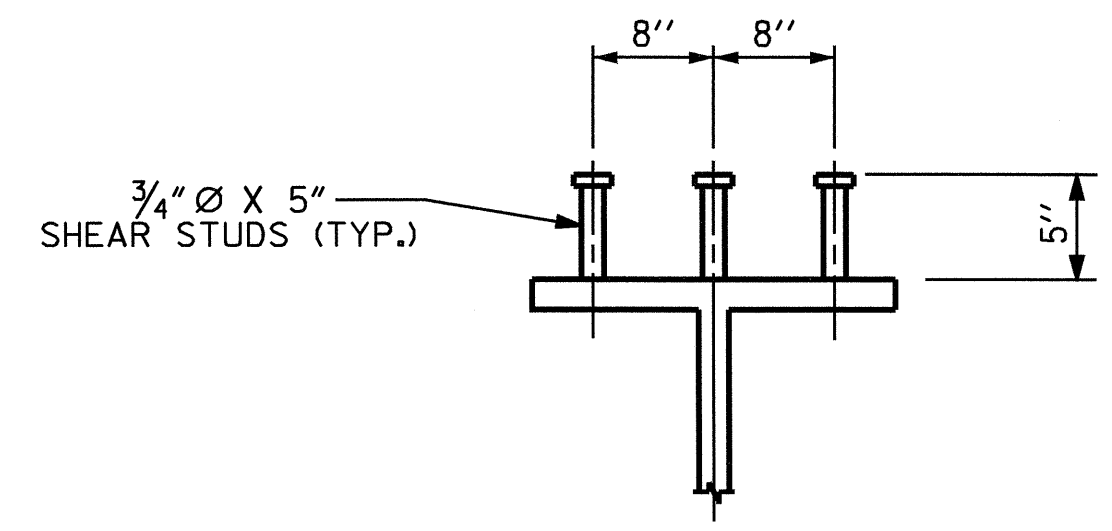


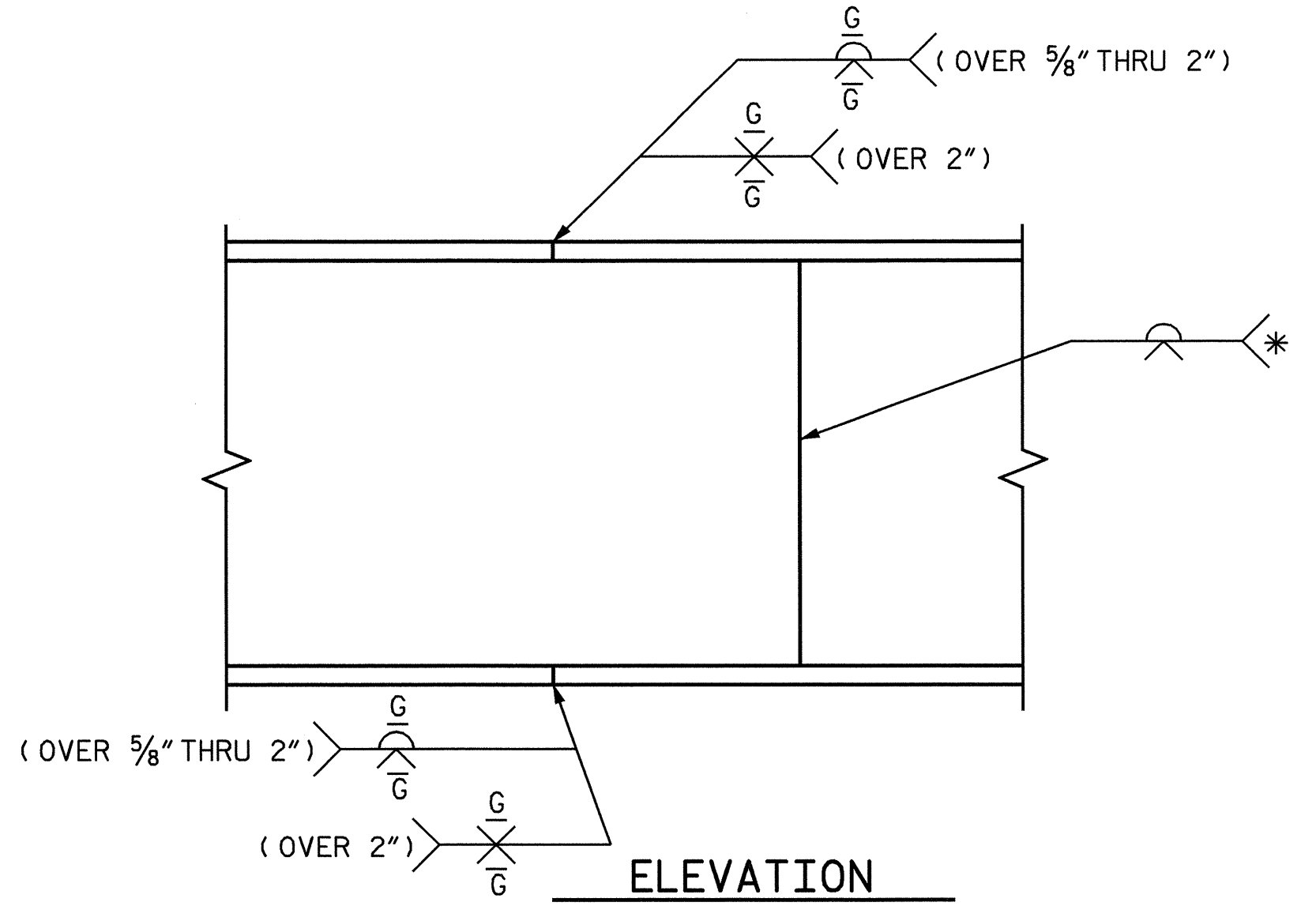
PLATE GIRDER ELEVATION



BOTTOM FLANGE DETAIL



SHEAR STUD DETAILS



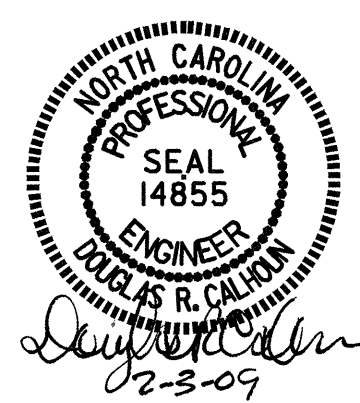
TYPICAL FLANGE AND BUTT JOINT

* GRIND SMOOTH AND FLUSH ON OUTER FACE OF EXTERIOR GIRDERS

PROJECT NO. B-2965
EDGEcombe COUNTY
 STATION: 39+59.00 -L-

SHEET 1 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 STRUCTURAL STEEL
 DETAILS
 SPAN A



REVISIONS						SHEET NO. S-13
NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			

DRAWN BY : J. MYA DATE : 8/15/08
 CHECKED BY : B.N. GRADY DATE : 9/5/08

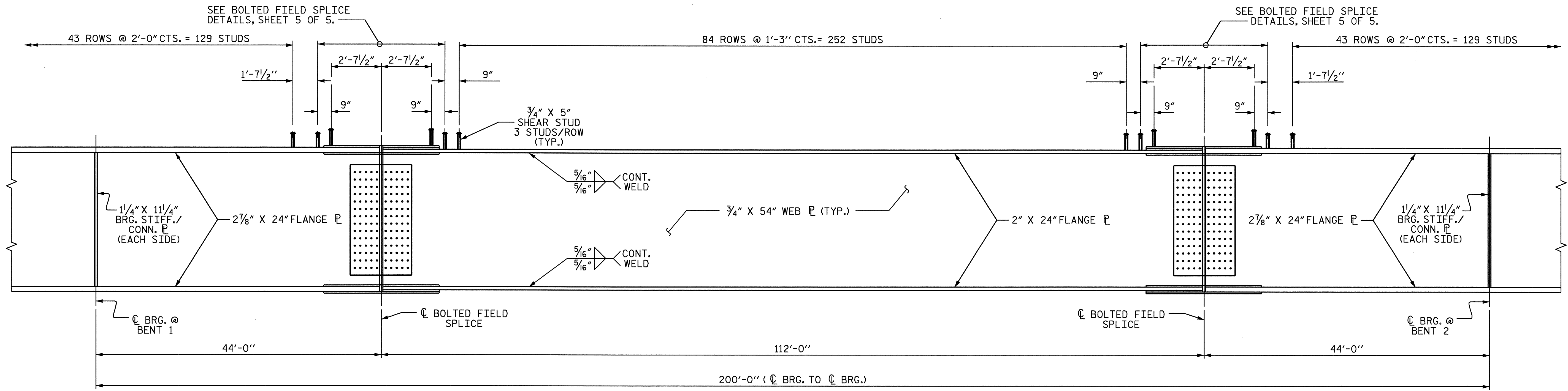
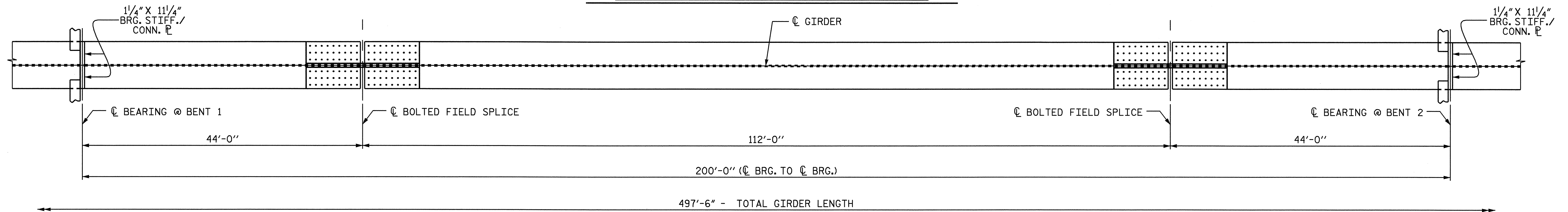
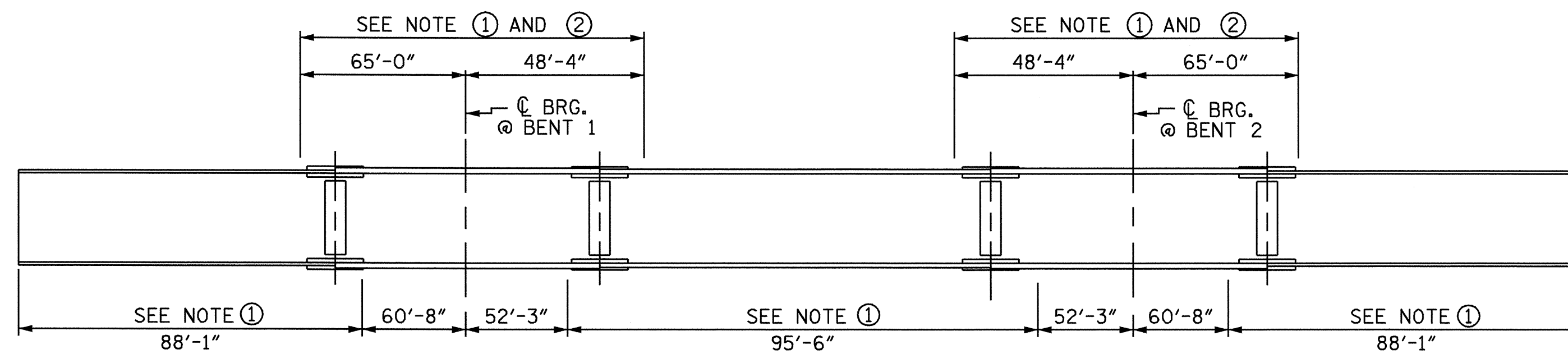


PLATE GIRDER ELEVATION



BOTTOM FLANGE DETAIL



GIRDER MAKEUP

NOTE ① : CHARPY V-NOTCH TESTS ARE REQUIRED FOR ALL TOP OR BOTTOM FLANGE PLATES WHICH FALL WITHIN THESE LIMITS. ALL WEB PLATES, AND ALL SPLICE PLATES. IF A PERMITTED SHOP FLANGE SPLICE IS NOT USED, CHARPY V-NOTCH TESTS WILL BE REQUIRED FOR THE ENTIRE FLANGE PLATE. FOR CHARPY V-NOTCH TESTS, SEE ARTICLE 1072-9 OF THE STANDARD SPECIFICATIONS.

NOTE ② : NO WELDING OF FORMS OR FALSEWORK TO THE TOP FLANGE WILL BE PERMITTED IN THIS REGION.

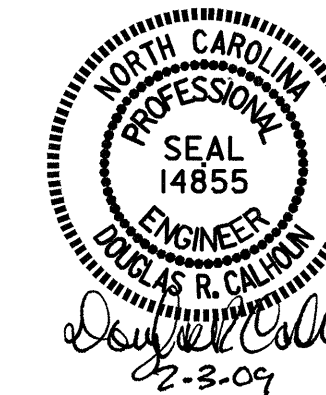
CHARPY V-NOTCH TESTS FOR CONTINUOUS PLATE GIRDERS

PROJECT NO. B-2965
EDGEcombe COUNTY
 STATION: 39+59.00 -L-

SHEET 2 OF 5

STATE OF NORTH CAROLINA
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 RALEIGH

SUPERSTRUCTURE
 STRUCTURAL STEEL
 DETAILS
 SPAN B



REVISIONS						SHEET NO. S-14
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

DRAWN BY : J. MYA DATE : 8/15/08
 CHECKED BY : B.N. GRADY DATE : 9/5/08

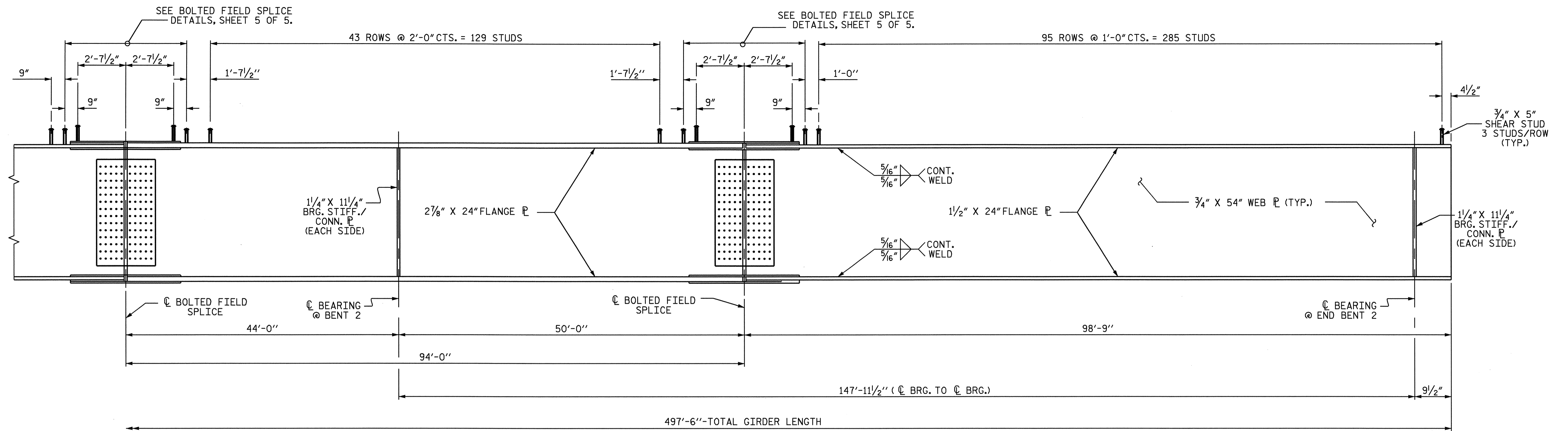
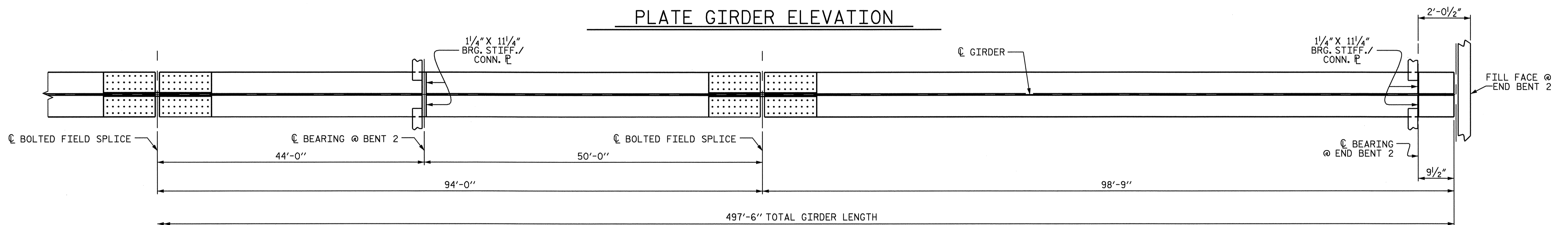


PLATE GIRDER ELEVATION



BOTTOM FLANGE DETAIL

PROJECT NO. B-2965
EDGEcombe COUNTY
 STATION: 39+59.00 -L-

SHEET 3 OF 5

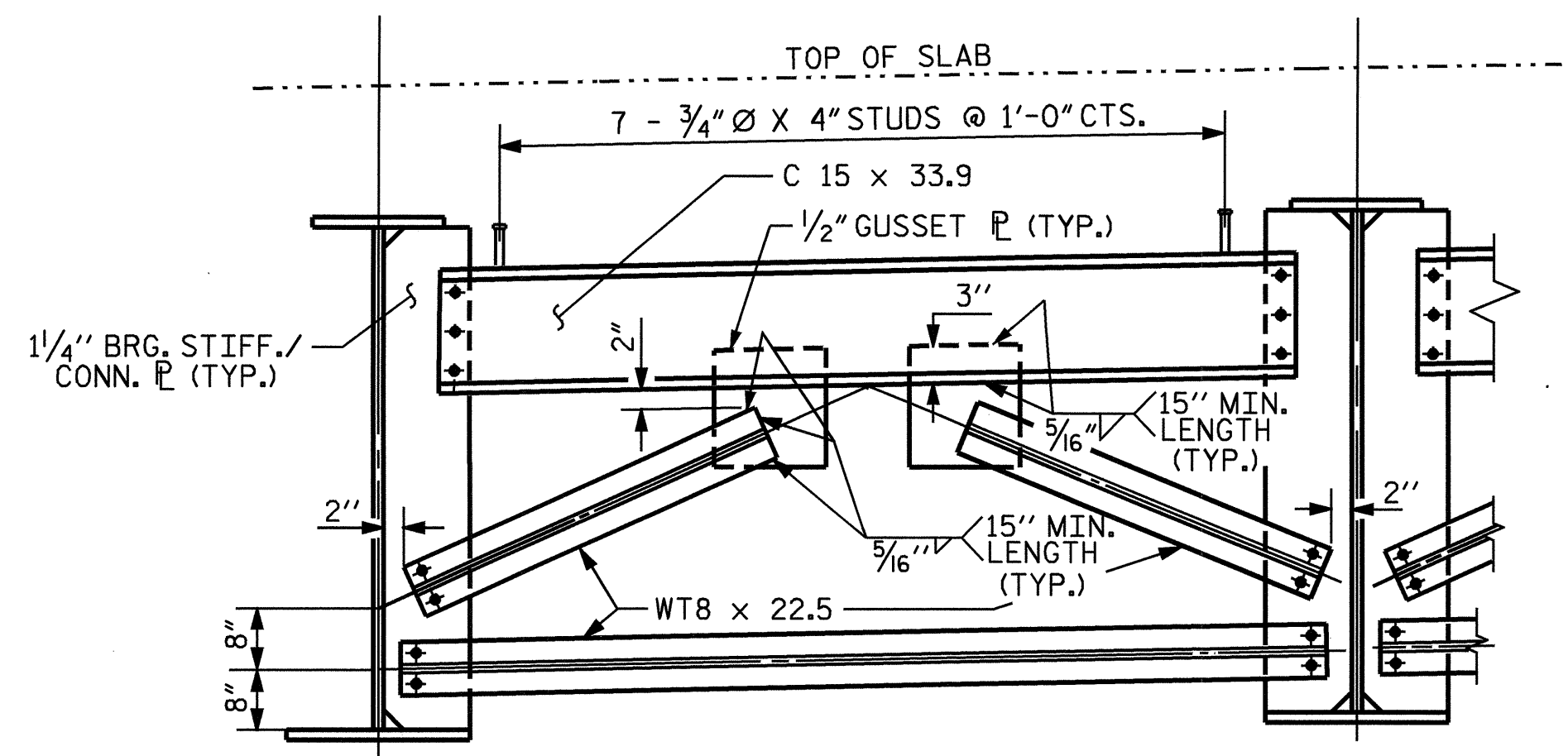
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 STRUCTURAL STEEL
 DETAILS
 SPAN C

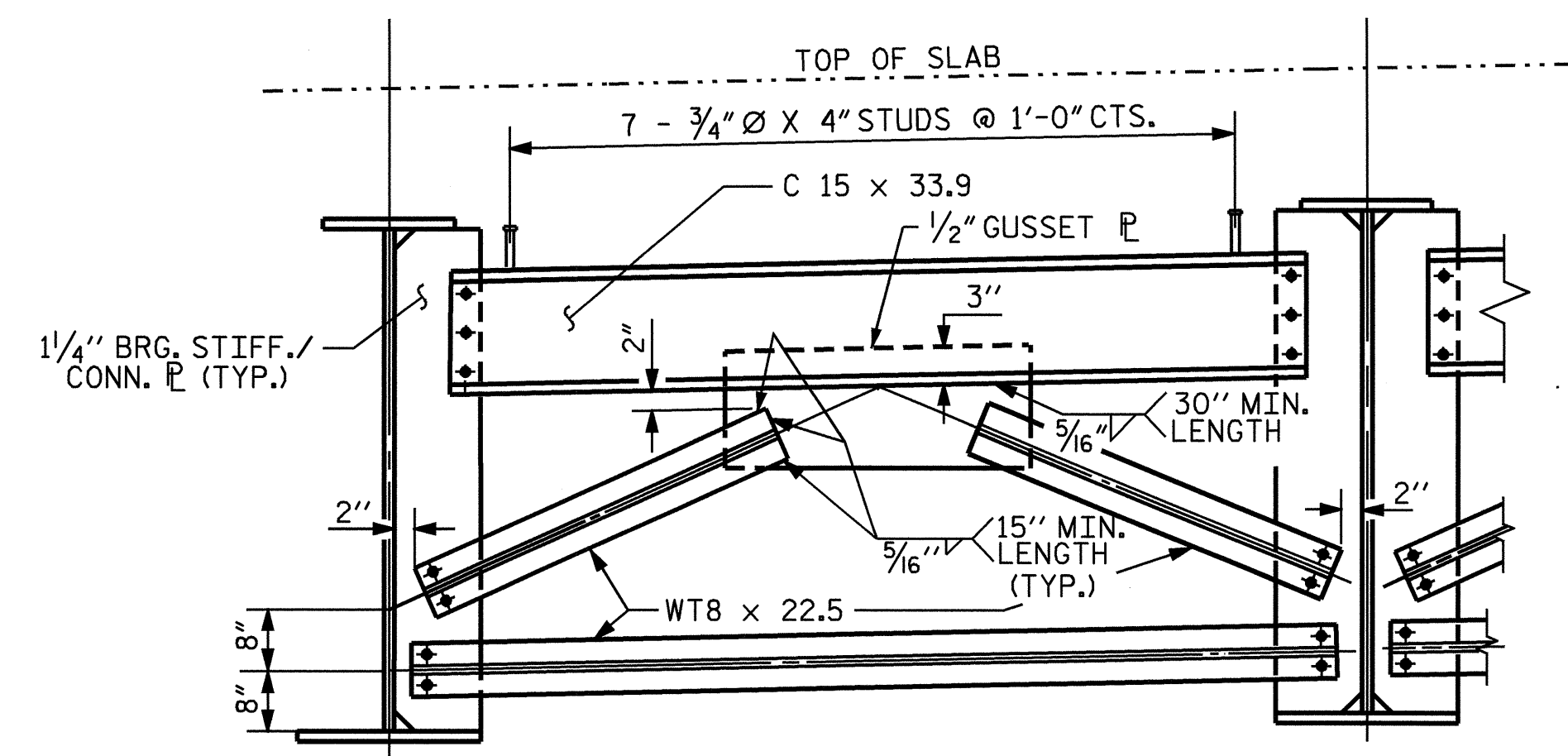


DRAWN BY: J. MYA DATE: 8/15/08
 CHECKED BY: B.N. GRADY DATE: 9/5/08

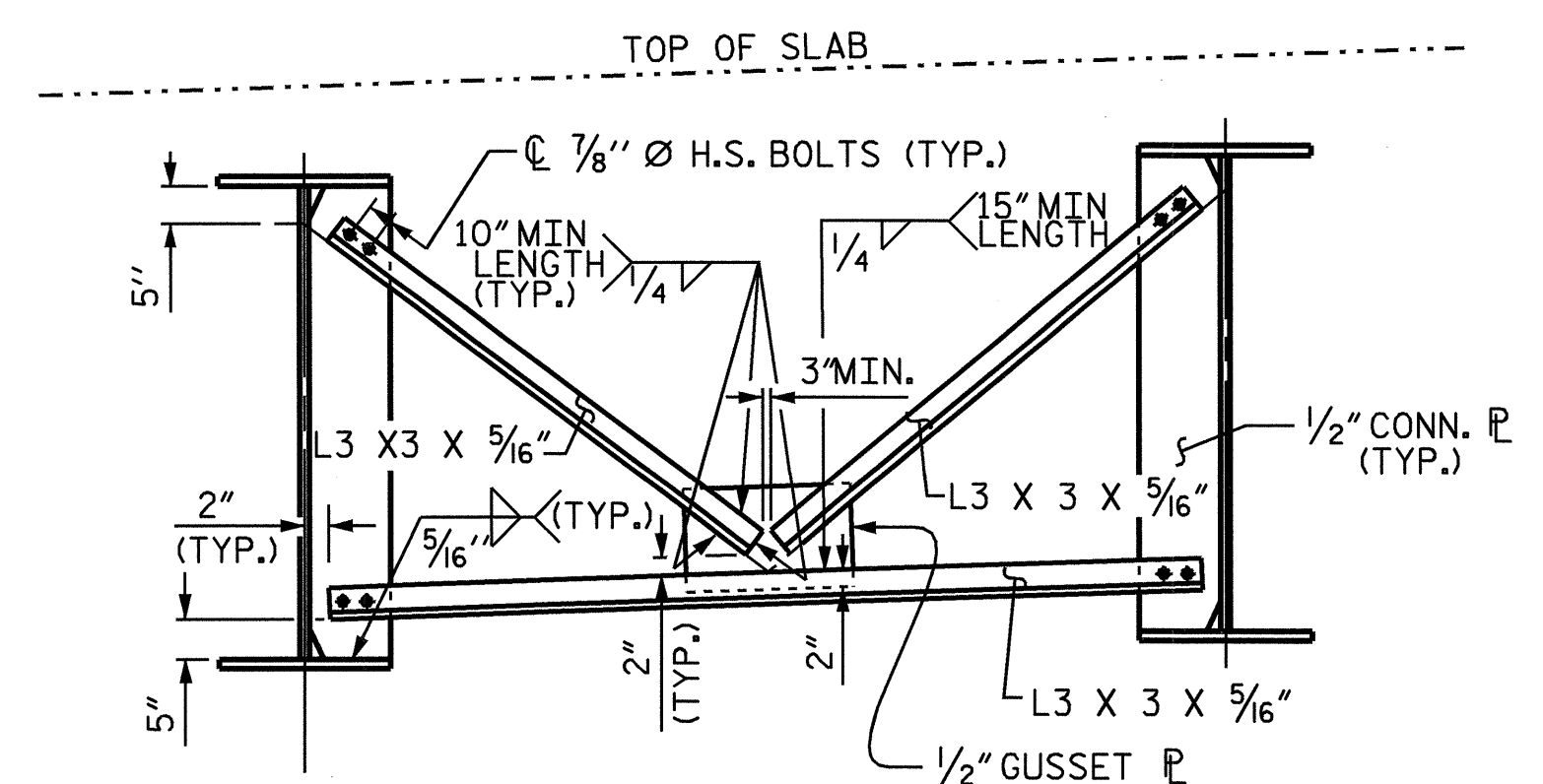
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-15
1			3			TOTAL SHEETS
2			4			48



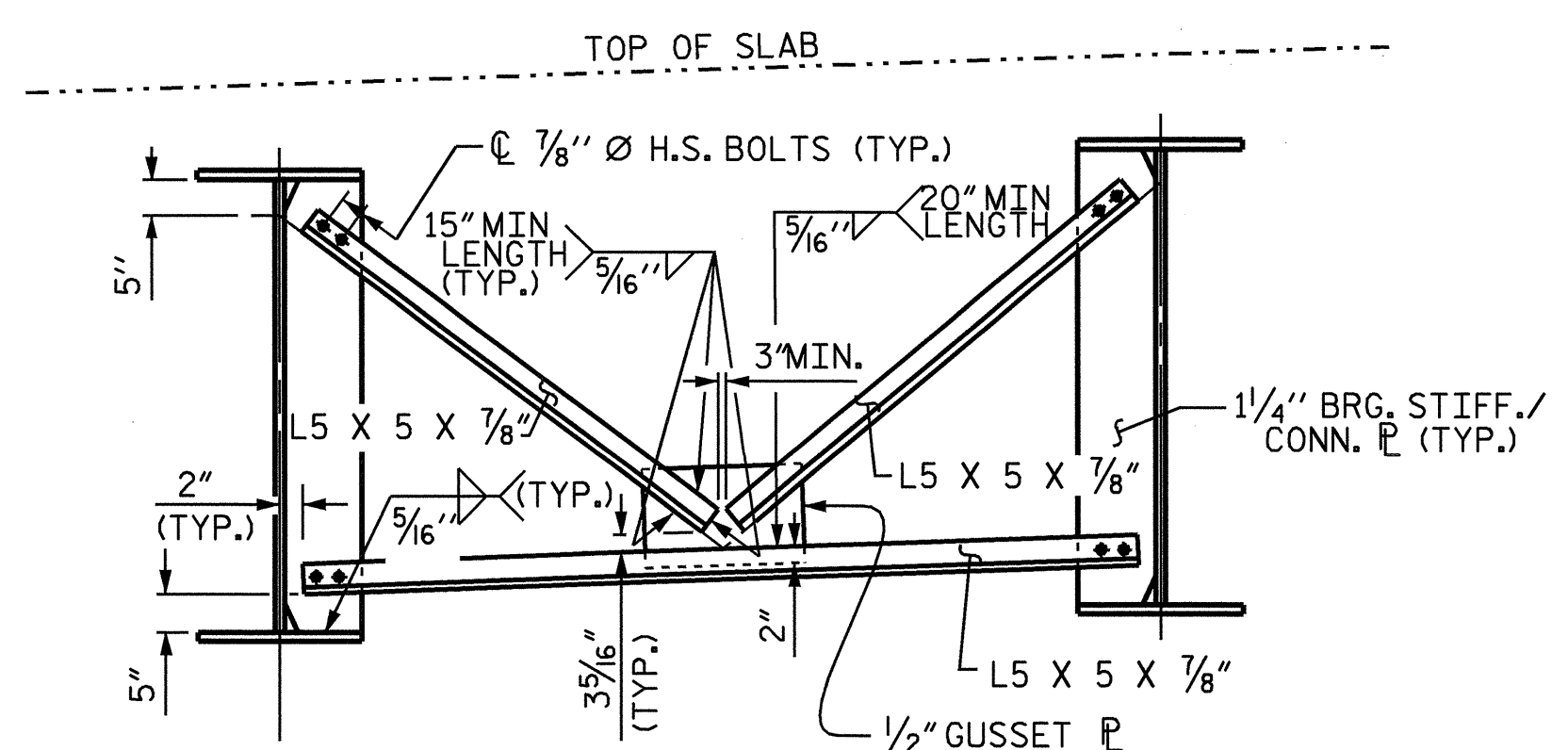
TYPICAL END BENT DIAPHRAGM (D1)



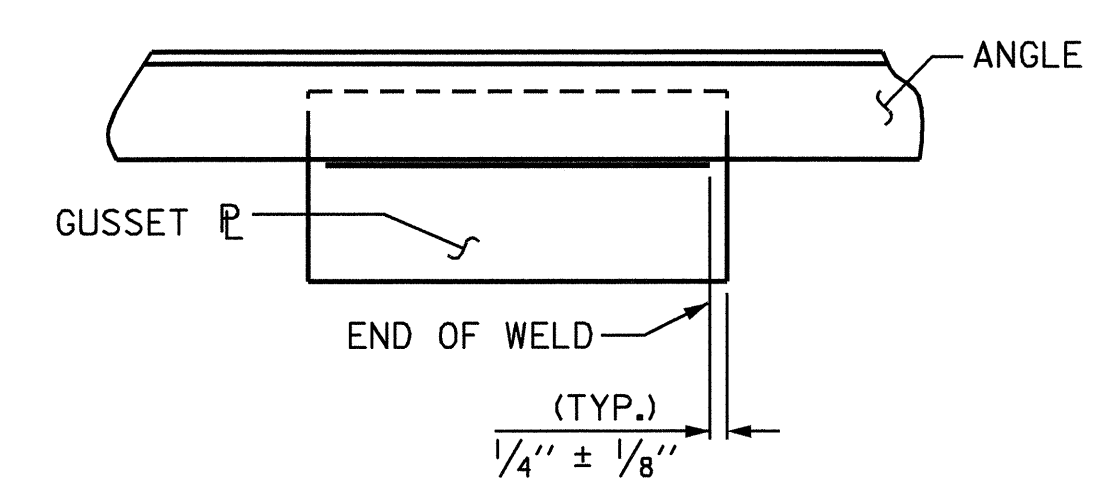
TYPICAL END BENT DIAPHRAGM (D2)



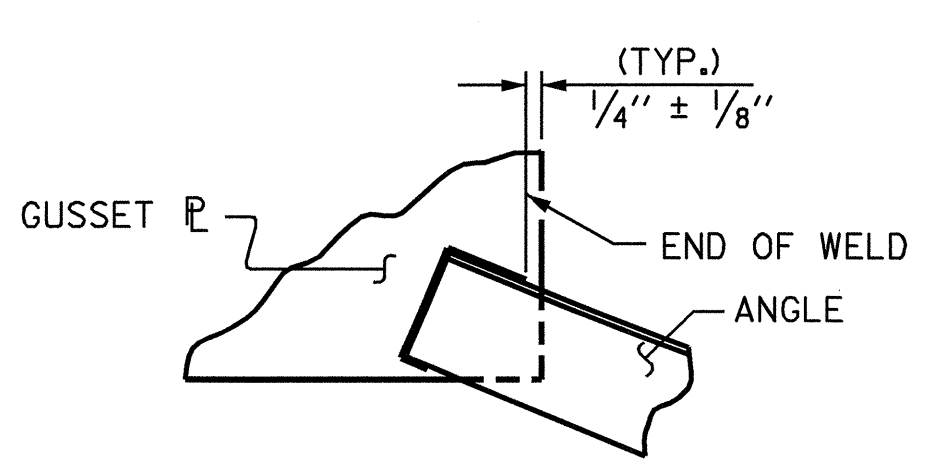
TYPICAL INTERMEDIATE DIAPHRAGM (D3)



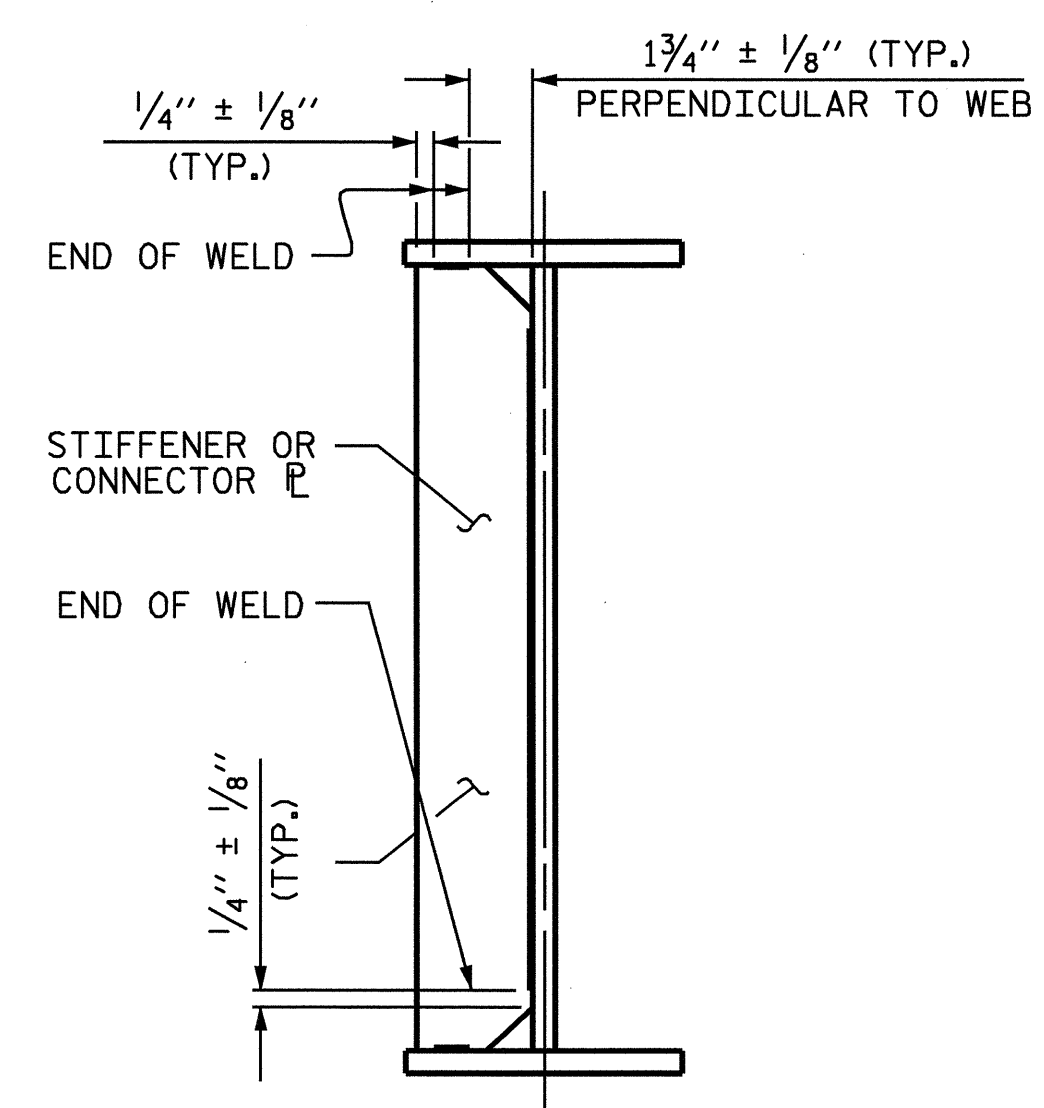
TYPICAL BENT DIAPHRAGM (D4)



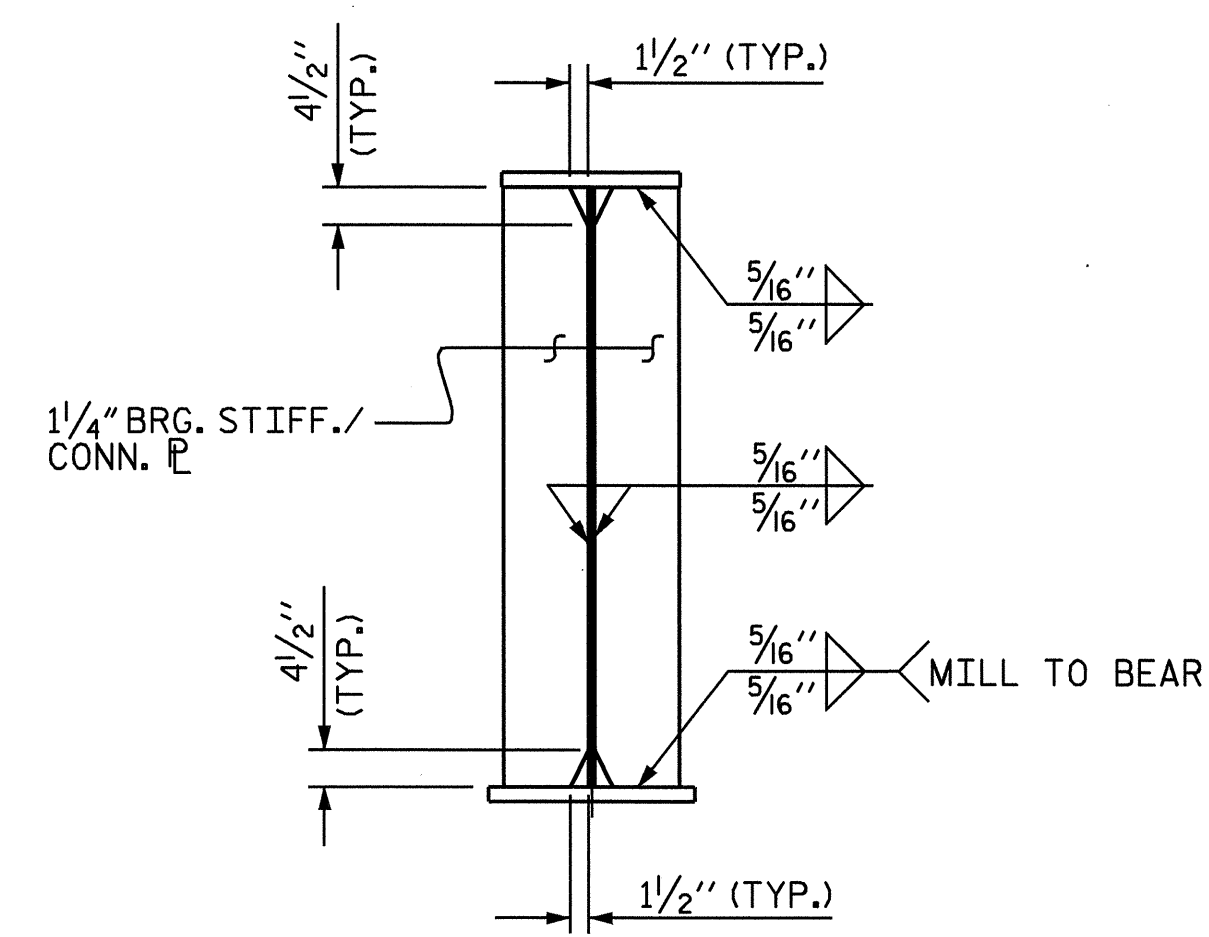
TYPICAL GUSSET PLATE CONNECTION



TYPICAL ANGLE TO GUSSET PLATE CONNECTION



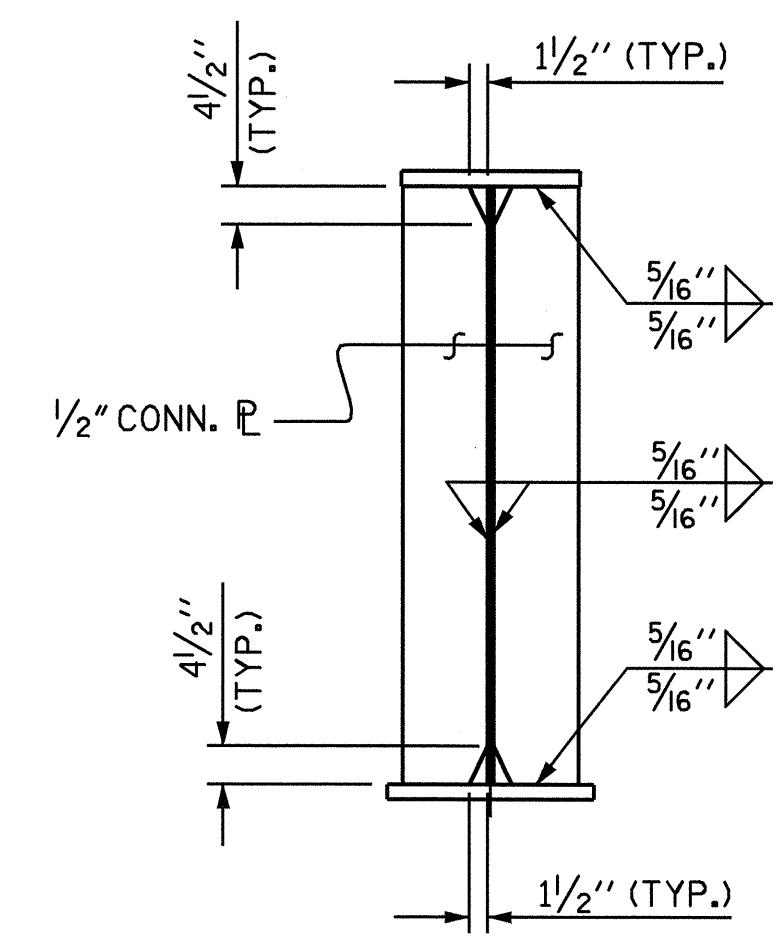
TYPICAL STIFFENER OR CONNECTOR PLATE CONNECTIONS



BEARING STIFFENER/CONNECTOR

NOTES

- ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50W AND PAINTED IN ACCORDANCE WITH SYSTEM 4 OF ARTICLE 442-7 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL DIMENSIONS SHOWN ARE HORIZONTAL OR VERTICAL, UNLESS OTHERWISE NOTED.
- ALL FIELD CONNECTIONS TO BE 7/8" DIA. HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED.
- SHOP SPLICES ARE PERMITTED TO LIMIT THE MAXIMUM REQUIRED FLANGE PIECE LENGTHS TO 60 FEET AND WEB PIECE LENGTHS TO 45 FEET. PERMITTED FLANGE AND WEB SHOP SPLICES SHALL NOT BE LOCATED WITHIN 15 FEET OF MAXIMUM DEAD LOAD DEFLECTION (NOR WITHIN 15 FEET OF INTERMEDIATE BEARINGS OF CONTINUOUS UNITS). KEEP 2 FEET MINIMUM BETWEEN WEB AND FLANGE SHOP SPLICES. KEEP 6" MINIMUM BETWEEN CONNECTOR PLATE OR TRANSVERSE STIFFENER WELDS AND WEB OR FLANGE SHOP SPLICES.
- STUDS ON GIRDERS MAY BE SHIFTED UP TO 1" IF NECESSARY TO CLEAR FLANGE SPLICE WELD.
- TENSION ON THE AASHTO M164 BOLTS SHALL BE CALIBRATED USING DIRECT TENSION INDICATOR WASHERS IN ACCORDANCE WITH ARTICLE 440-8 OF THE STANDARD SPECIFICATIONS.
- END OF GIRDERS SHALL BE PLUMB
- BEARING STIFFENERS ARE TO BE PLACED NORMAL TO THE WEB OF THE GIRDER AND SHALL BE PLUMB.
- FOR HIGH STRENGTH BOLTS, SEE SPECIAL PROVISIONS.



CONNECTOR

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EDGECOMBE COUNTY
 STATION: 39+59.00 -L-

SHEET 4 OF 5

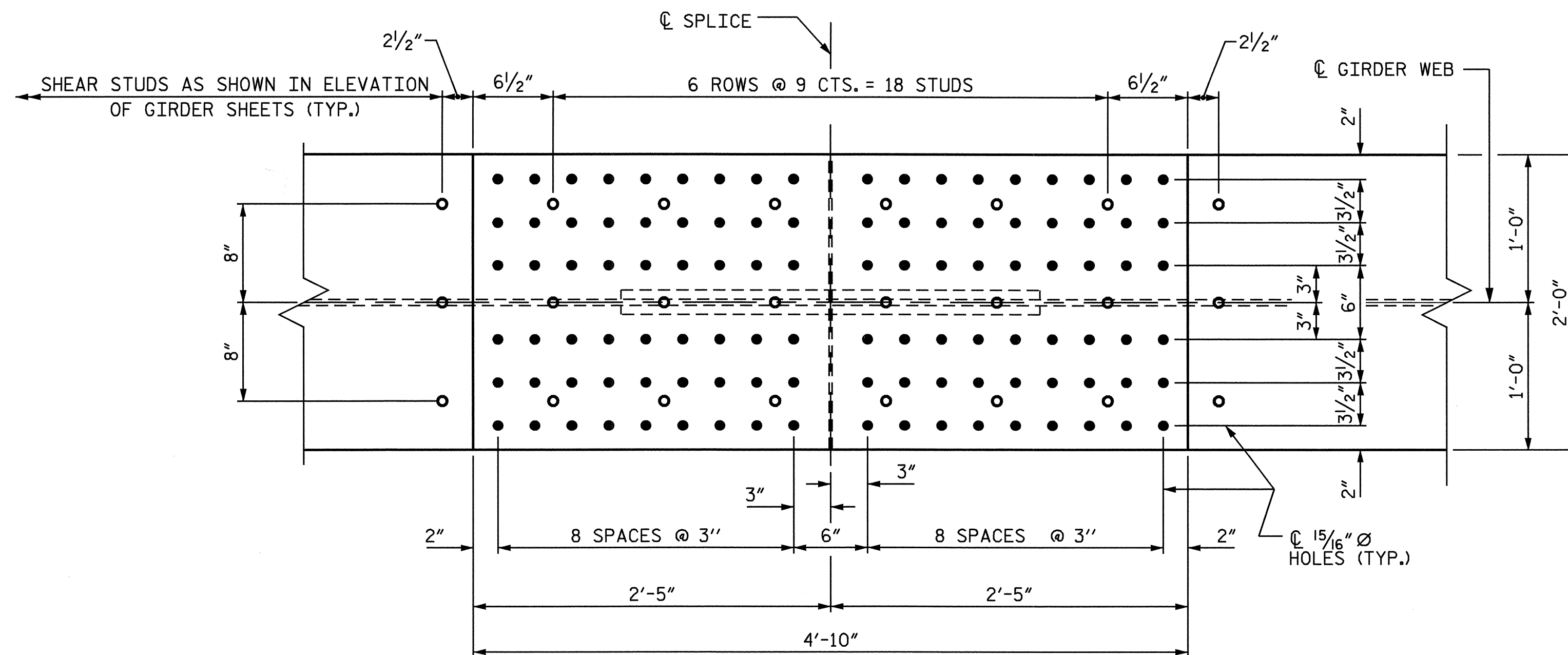
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 STRUCTURAL STEEL
 DETAILS

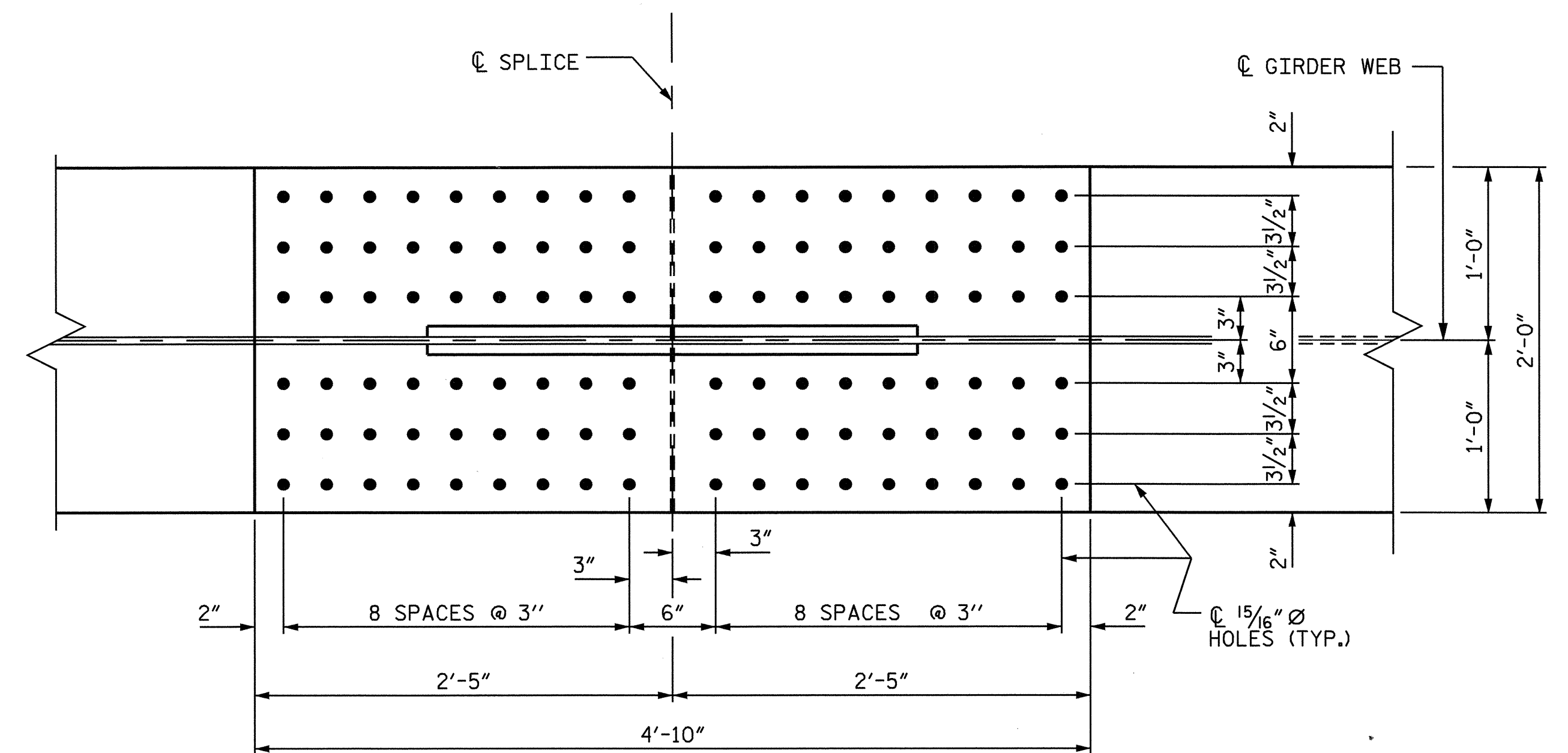


REVISIONS						SHEET NO. S-16
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

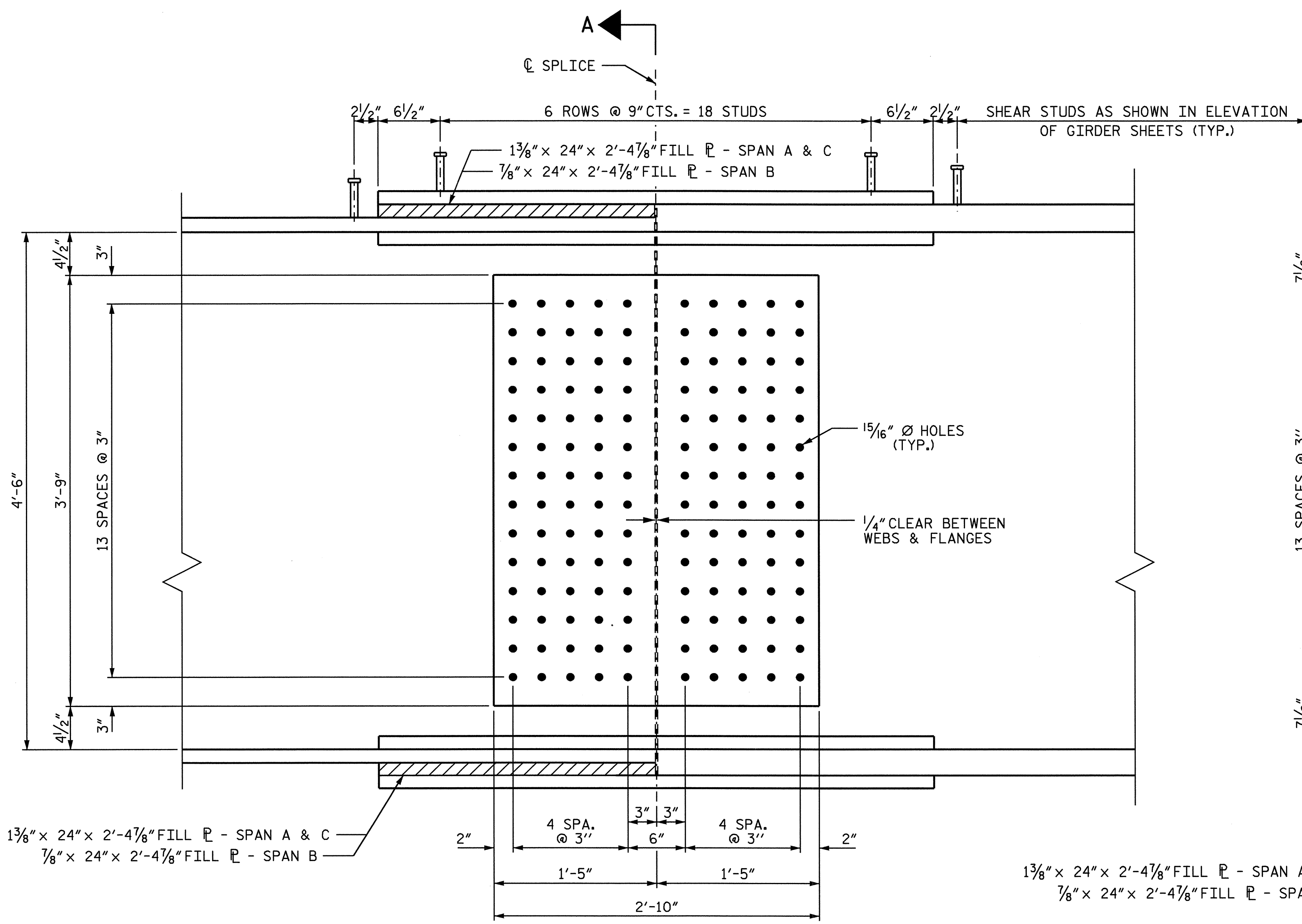
DRAWN BY: J. MYA DATE: 8/15/08
 CHECKED BY: B.N. GRADY DATE: 9/5/08



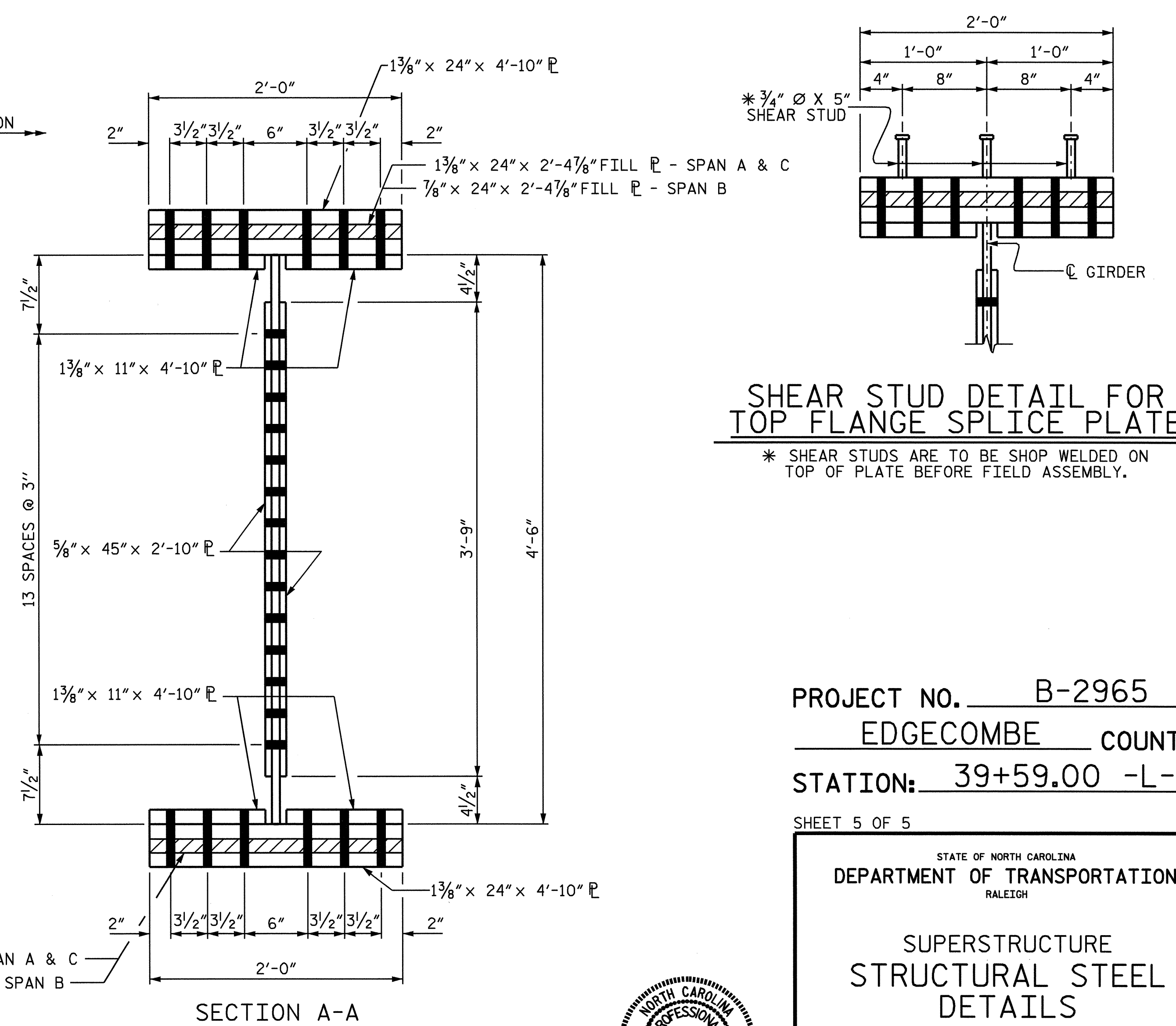
PLAN (TOP OF TOP FLANGE)



PLAN (TOP OF BOTTOM FLANGE)



ELEVATION



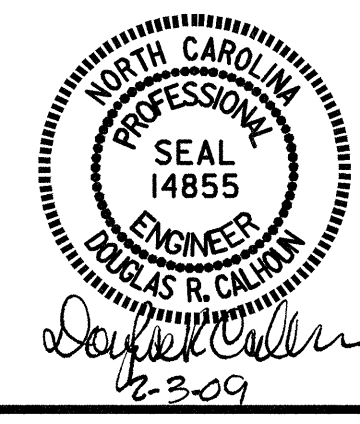
SHEAR STUD DETAIL FOR TOP FLANGE SPLICE PLATE

* SHEAR STUDS ARE TO BE SHOP WELDED ON TOP OF PLATE BEFORE FIELD ASSEMBLY.

PROJECT NO. B-2965
EDGEcombe COUNTY
 STATION: 39+59.00 -L-

SHEET 5 OF 5

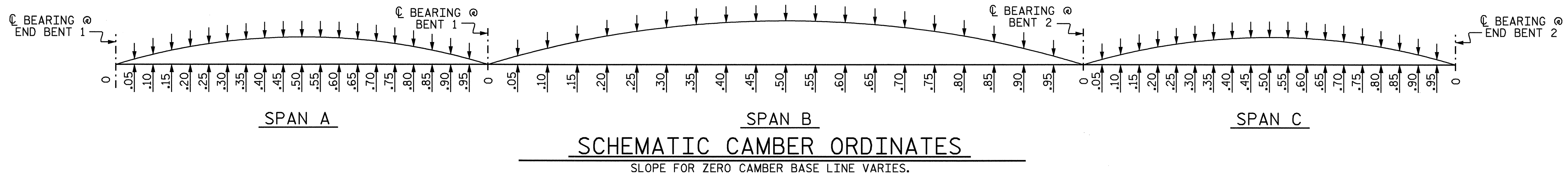
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 STRUCTURAL STEEL
 DETAILS



DRAWN BY : J. MYA DATE : 8/15/08
 CHECKED BY : B.N. GRADY DATE : 9/5/08

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-17
1			3			TOTAL SHEETS
2			4			48

BOLTED FIELD SPLICE DETAILS



DEAD LOAD DEFLECTION TABLE FOR GIRDERS																					
SPAN A																					
GIRDERS A1, A6																					
TWENTIETH POINTS	0	.05	.10	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	.75	.80	.85	.90	.95	0
DEFLECTION DUE TO WEIGHT OF GIRDER	0.000	0.013	0.026	0.037	0.047	0.054	0.059	0.061	0.061	0.058	0.054	0.047	0.039	0.031	0.022	0.014	0.007	0.001	-0.003	-0.003	0.000
DEFLECTION DUE TO WEIGHT OF SLAB *	0.000	0.025	0.049	0.070	0.089	0.104	0.114	0.121	0.123	0.120	0.113	0.103	0.091	0.076	0.060	0.044	0.030	0.017	0.007	0.001	0.000
DEFLECTION DUE TO WEIGHT OF CLASSIC RAIL, SIDEWALK, UTILITY, AND LIGHT OUTRIGGERS	0.000	0.009	0.018	0.025	0.032	0.037	0.041	0.044	0.044	0.043	0.040	0.037	0.033	0.026	0.021	0.015	0.009	0.005	0.002	0.000	0.000
TOTAL DEAD LOAD DEFLECTION	0.000	0.047	0.093	0.132	0.168	0.195	0.214	0.226	0.228	0.222	0.207	0.187	0.163	0.133	0.103	0.073	0.046	0.023	0.006	-0.002	0.000
VERTICAL CURVE ORDINATE	0.000	0.049	0.093	0.132	0.165	0.194	0.217	0.235	0.248	0.255	0.258	0.255	0.248	0.235	0.217	0.194	0.165	0.132	0.093	0.049	0.000
REQUIRED CAMBER	0	1/8"	2/4"	3/16"	4"	4 1/16"	5 3/16"	5 1/2"	5 11/16"	5 3/4"	5 9/16"	5 9/16"	4 5/16"	4 7/16"	3 13/16"	3 3/16"	2 9/16"	1 7/8"	1 3/16"	9/16"	0

* INCLUDES SLAB, BUILDUPS & STAY-IN-PLACE FORMS.
 ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).
 NEGATIVE DEFLECTIONS ARE UPWARD, NEGATIVE CAMBERS ARE DOWNWARD.

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																					
SPAN A																					
GIRDERS A2, A3, A4, A5																					
TWENTIETH POINTS	0	.05	.10	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	.75	.80	.85	.90	.95	0
DEFLECTION DUE TO WEIGHT OF GIRDER	0.000	0.013	0.026	0.037	0.047	0.054	0.059	0.061	0.061	0.058	0.054	0.047	0.039	0.031	0.022	0.014	0.007	0.001	-0.003	-0.003	0.000
DEFLECTION DUE TO WEIGHT OF SLAB *	0.000	0.025	0.049	0.070	0.089	0.104	0.114	0.121	0.123	0.120	0.113	0.103	0.091	0.076	0.060	0.044	0.030	0.017	0.007	0.001	0.000
DEFLECTION DUE TO WEIGHT OF CLASSIC RAIL, SIDEWALK, UTILITY, AND LIGHT OUTRIGGERS	0.000	0.009	0.012	0.018	0.022	0.026	0.029	0.031	0.031	0.031	0.029	0.026	0.023	0.019	0.015	0.011	0.007	0.004	0.001	0.000	0.000
TOTAL DEAD LOAD DEFLECTION	0.000	0.047	0.087	0.125	0.158	0.184	0.202	0.213	0.215	0.209	0.196	0.176	0.153	0.126	0.097	0.069	0.044	0.022	0.006	-0.002	0.000
VERTICAL CURVE ORDINATE	0.000	0.049	0.093	0.132	0.165	0.194	0.217	0.235	0.248	0.255	0.258	0.255	0.248	0.235	0.217	0.194	0.165	0.132	0.093	0.049	0.000
REQUIRED CAMBER	0	1/8"	2 3/16"	3/16"	3 7/8"	4 9/16"	5"	5 3/8"	5 9/16"	5 9/16"	5 7/16"	5 3/16"	4 13/16"	4 5/16"	3 3/4"	3 1/8"	2 1/2"	1 13/16"	1 3/16"	9/16"	0

* INCLUDES SLAB, BUILDUPS & STAY-IN-PLACE FORMS.
 ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).
 NEGATIVE DEFLECTIONS ARE UPWARD, NEGATIVE CAMBERS ARE DOWNWARD.

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EDGEcombe COUNTY
 STATION: 39+59.00 -L-

SHEET 1 OF 2



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO. S-18	
SUPERSTRUCTURE DEAD LOAD DEFLECTION TABLES SPAN A						TOTAL SHEETS 48	
REVISIONS							
NO.	BY:	DATE:	NO.	BY:	DATE:		
1			3				
2			4				

DRAWN BY: J. MYA DATE: 9-15-08
 CHECKED BY: W. S. ARAFAT DATE: 10-8-08

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																					
	SPAN B																				
	GIRDERS B1, B6																				
TWENTIETH POINTS	0	.05	.10	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	.75	.80	.85	.90	.95	0
DEFLECTION DUE TO WEIGHT OF GIRDER	0.000	0.011	0.027	0.048	0.070	0.093	0.114	0.132	0.146	0.155	0.158	0.155	0.146	0.132	0.114	0.093	0.070	0.048	0.027	0.011	0.000
DEFLECTION DUE TO WEIGHT OF SLAB *	0.000	0.008	0.025	0.047	0.072	0.098	0.123	0.145	0.161	0.171	0.175	0.171	0.160	0.143	0.121	0.096	0.070	0.045	0.023	0.007	0.000
DEFLECTION DUE TO WEIGHT OF CLASSIC RAIL, SIDEWALK, UTILITY, AND LIGHT OUTRIGGERS	0.000	0.004	0.013	0.023	0.035	0.046	0.054	0.067	0.074	0.078	0.080	0.078	0.074	0.067	0.058	0.046	0.035	0.023	0.013	0.005	0.000
TOTAL DEAD LOAD DEFLECTION	0.000	0.023	0.065	0.118	0.177	0.237	0.294	0.344	0.381	0.404	0.413	0.404	0.380	0.342	0.293	0.235	0.175	0.116	0.063	0.022	0.000
VERTICAL CURVE ORDINATE	0.000	0.090	0.170	0.240	0.302	0.354	0.396	0.429	0.452	0.467	0.471	0.467	0.452	0.429	0.396	0.354	0.302	0.240	0.170	0.090	0.000
REQUIRED CAMBER	0	1 3/8"	2 3/16"	4 5/16"	5 3/4"	7 1/16"	8 5/16"	9 1/4"	10"	10 7/16"	10 5/8"	10 7/16"	10"	9 1/4"	8 1/4"	7 1/16"	5 11/16"	4 1/4"	2 13/16"	1 5/16"	0

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																					
	SPAN B																				
	GIRDERS B2, B3, B4, B5																				
TWENTIETH POINTS	0	.05	.10	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	.75	.80	.85	.90	.95	0
DEFLECTION DUE TO WEIGHT OF GIRDER	0.000	0.011	0.027	0.048	0.070	0.093	0.114	0.132	0.146	0.155	0.158	0.155	0.146	0.132	0.114	0.093	0.070	0.048	0.027	0.011	0.000
DEFLECTION DUE TO WEIGHT OF SLAB *	0.000	0.008	0.025	0.047	0.072	0.098	0.123	0.145	0.161	0.171	0.175	0.171	0.160	0.143	0.121	0.096	0.070	0.045	0.023	0.007	0.000
DEFLECTION DUE TO WEIGHT OF CLASSIC RAIL, SIDEWALK, UTILITY, AND LIGHT OUTRIGGERS	0.000	0.003	0.009	0.015	0.024	0.032	0.040	0.046	0.051	0.054	0.055	0.054	0.051	0.046	0.040	0.032	0.024	0.015	0.009	0.003	0.000
TOTAL DEAD LOAD DEFLECTION	0.000	0.022	0.061	0.110	0.166	0.223	0.277	0.323	0.358	0.380	0.388	0.380	0.357	0.321	0.275	0.221	0.164	0.108	0.059	0.021	0.000
VERTICAL CURVE ORDINATE	0.000	0.090	0.170	0.240	0.302	0.354	0.396	0.429	0.452	0.467	0.471	0.467	0.452	0.429	0.396	0.354	0.302	0.240	0.170	0.090	0.000
REQUIRED CAMBER	0	1 5/16"	2 3/4"	4 3/16"	5 5/8"	6 5/16"	8 1/16"	9"	9 3/4"	10 3/16"	10 5/16"	10 3/16"	9 1/16"	9"	8 1/16"	6 7/8"	5 9/16"	4 3/16"	2 3/4"	1 5/16"	0

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																					
	SPAN C																				
	GIRDERS C1, C6																				
TWENTIETH POINTS	0	.05	.10	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	.75	.80	.85	.90	.95	0
DEFLECTION DUE TO WEIGHT OF GIRDER	0.000	-0.003	-0.003	0.001	0.007	0.014	0.022	0.031	0.039	0.047	0.054	0.058	0.061	0.061	0.059	0.054	0.047	0.037	0.026	0.013	0.000
DEFLECTION DUE TO WEIGHT OF SLAB *	0.000	0.002	0.009	0.019	0.033	0.049	0.065	0.082	0.098	0.112	0.123	0.130	0.133	0.131	0.124	0.113	0.097	0.077	0.054	0.028	0.000
DEFLECTION DUE TO WEIGHT OF CLASSIC RAIL, SIDEWALK, UTILITY, AND LIGHT OUTRIGGERS	0.000	0.000	0.002	0.005	0.009	0.015	0.021	0.026	0.033	0.037	0.040	0.044	0.044	0.041	0.037	0.032	0.025	0.018	0.009	0.000	0.000
TOTAL DEAD LOAD DEFLECTION	0.000	-0.001	0.008	0.025	0.049	0.078	0.108	0.139	0.170	0.196	0.217	0.232	0.238	0.236	0.224	0.204	0.176	0.139	0.098	0.050	0.000
VERTICAL CURVE ORDINATE	0.000	0.049	0.093	0.132	0.165	0.194	0.217	0.235	0.248	0.255	0.258	0.255	0.248	0.235	0.217	0.194	0.165	0.132	0.093	0.049	0.000
REQUIRED CAMBER	0	5/16"	1 3/16"	1 7/8"	2 9/16"	3 1/4"	3 7/8"	4 1/2"	5"	5 7/16"	5 1/16"	5 3/16"	5 3/16"	5 5/8"	5 5/16"	4 3/4"	4 1/16"	3 1/4"	2 5/16"	1 3/16"	0

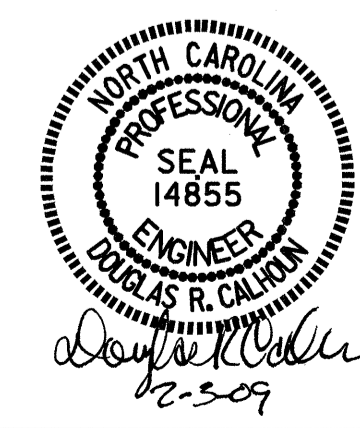
DEAD LOAD DEFLECTION TABLE FOR GIRDERS																					
	SPAN C																				
	GIRDERS C2, C3, C4, C5																				
TWENTIETH POINTS	0	.05	.10	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	.75	.80	.85	.90	.95	0
DEFLECTION DUE TO WEIGHT OF GIRDER	0.000	-0.003	-0.003	0.001	0.007	0.014	0.022	0.031	0.039	0.047	0.054	0.058	0.061	0.061	0.059	0.054	0.047	0.037	0.026	0.013	0.000
DEFLECTION DUE TO WEIGHT OF SLAB *	0.000	0.002	0.009	0.019	0.033	0.049	0.065	0.082	0.098	0.112	0.123	0.130	0.133	0.131	0.124	0.113	0.097	0.077	0.054	0.028	0.000
DEFLECTION DUE TO WEIGHT OF CLASSIC RAIL, SIDEWALK, UTILITY, AND LIGHT OUTRIGGERS	0.000	0.000	0.002	0.004	0.007	0.011	0.015	0.019	0.023	0.026	0.029	0.031	0.031	0.031	0.029	0.026	0.022	0.018	0.012	0.007	0.000
TOTAL DEAD LOAD DEFLECTION	0.000	-0.001	0.008	0.024	0.047	0.074	0.102	0.132	0.160	0.185	0.206	0.219	0.225	0.223	0.212	0.193	0.166	0.132	0.092	0.048	0.000
VERTICAL CURVE ORDINATE	0.000	0.049	0.093	0.132	0.165	0.194	0.217	0.235	0.248	0.255	0.258	0.255	0.248	0.235	0.217	0.194	0.165	0.132	0.093	0.049	0.000
REQUIRED CAMBER	0	5/16"	1 3/16"	1 7/8"	2 9/16"	3 3/16"	3 3/16"	4 3/8"	4 7/8"	5 5/16"	5 9/16"	5 1/16"	5 1/16"	5 1/2"	5 1/8"	4 5/8"	4"	3 3/16"	2 1/4"	1 3/16"	0

* INCLUDES SLAB, BUILDUPS & STAY-IN-PLACE FORMS.
 ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).
 NEGATIVE DEFLECTIONS ARE UPWARD, NEGATIVE CAMBERS ARE DOWNWARD.

PROJECT NO. B-2965
EDGEcombe COUNTY
 STATION: 39+59.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO.
SUPERSTRUCTURE DEAD LOAD DEFLECTION TABLES SPAN B & C						S-19
REVISIONS						TOTAL SHEETS
NO.	BY:	DATE:	NO.	BY:	DATE:	48
1			3			
2			4			



DRAWN BY: J. MYA DATE: 9-15-08
 CHECKED BY: W. S. ARAFAT DATE: 10-8-08

NOTES

FOR POT BEARINGS, SEE SPECIAL PROVISIONS.

AT ALL POINTS OF SUPPORT IN SPANS, NUTS FOR ANCHOR BOLTS SHALL BE TIGHTENED FINGER TIGHT AND GIVEN AN ADDITIONAL 1/4 TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

WHEN WELDING THE SOLE PLATE TO THE GIRDER, USE TEMPERATURE INDICATING WAX PENS, OR OTHER SUITABLE MEANS, TO ENSURE THAT THE TEMPERATURE OF THE BEARING DOES NOT EXCEED 250°F. TEMPERATURES ABOVE THIS MAY DAMAGE THE TFE OR ELASTOMER.

AFTER BEARING ASSEMBLY IS IN PLACE AND ANCHOR BOLTS HAVE BEEN FINALLY POSITIONED, THEY SHALL BE GROUTED IN PLACE AS SHOWN.

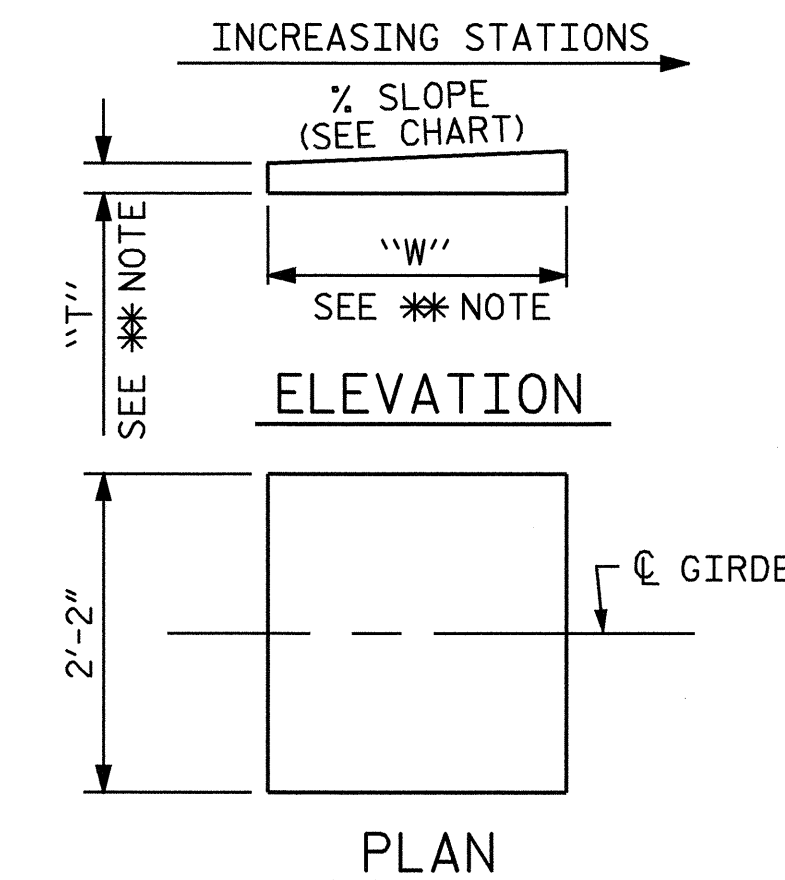
THE CLOSURE PLATE, GROUT PIPE AND STANDARD PIPE FOR THIS ASSEMBLY NEED NOT BE GALVANIZED.

SOLE PLATES SHOULD BE WELDED TO BEAM FLANGES AND ANCHOR BOLTS SHOULD BE GROUTED BEFORE FALSEWORK IS PLACED.

ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

FOR THERMAL SPRAYED COATINGS (METALLIZATION), SEE SPECIAL PROVISIONS.

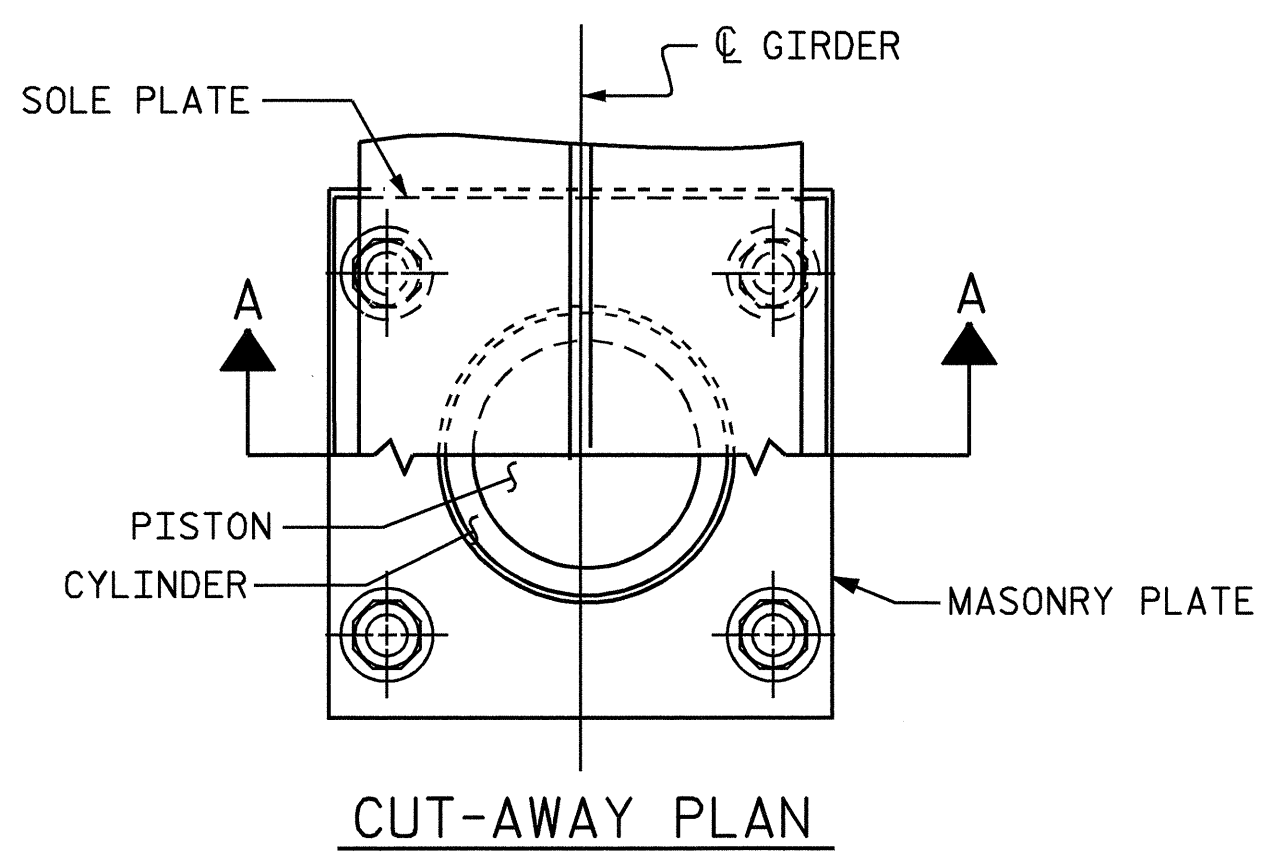
THE CONTRACTOR MAY SUBSTITUTE DISC BEARINGS FOR THE POT BEARINGS SHOWN. FOR OPTIONAL DISC BEARINGS, SEE SPECIAL PROVISIONS.



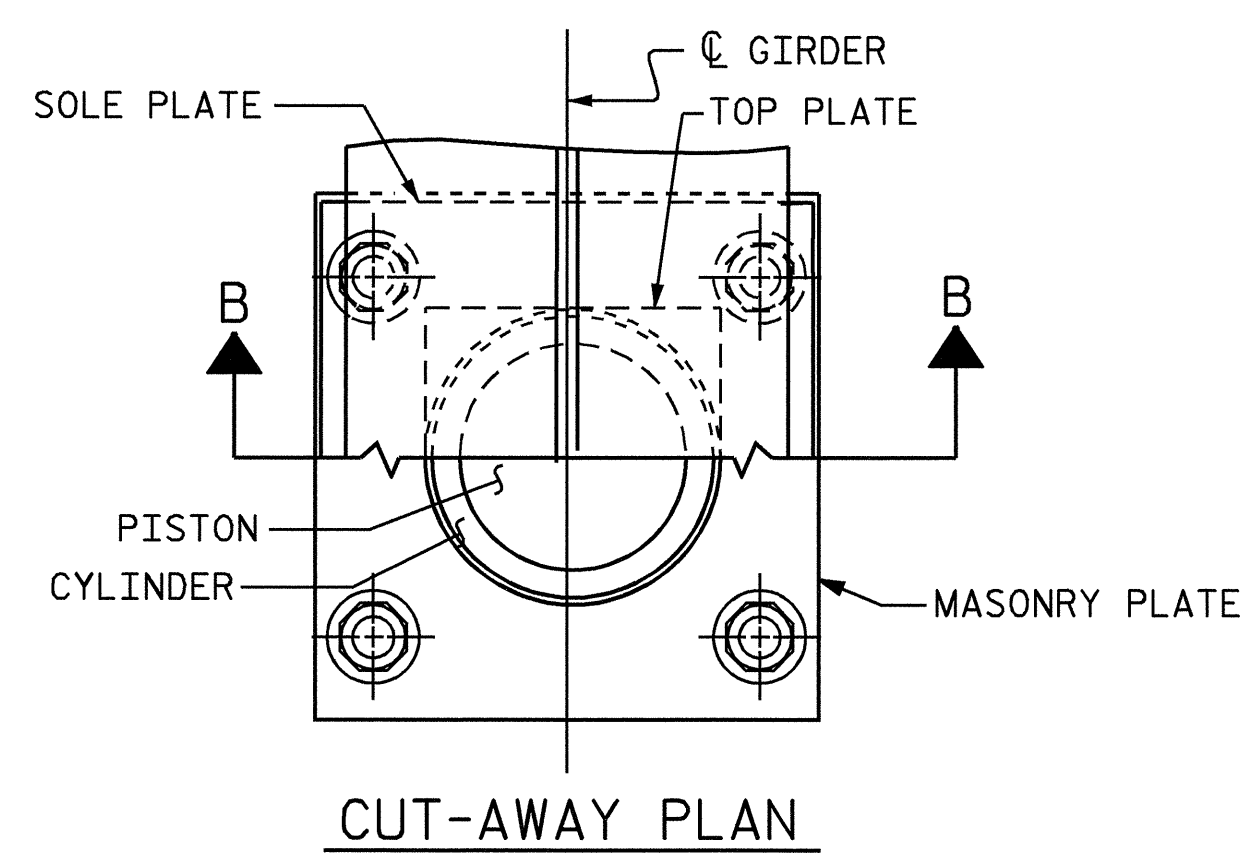
** NOTE: DIMENSIONS "W" AND "T" ARE TO BE DETERMINED BY THE MANUFACTURER.

SOLE PLATE DETAILS ("S")

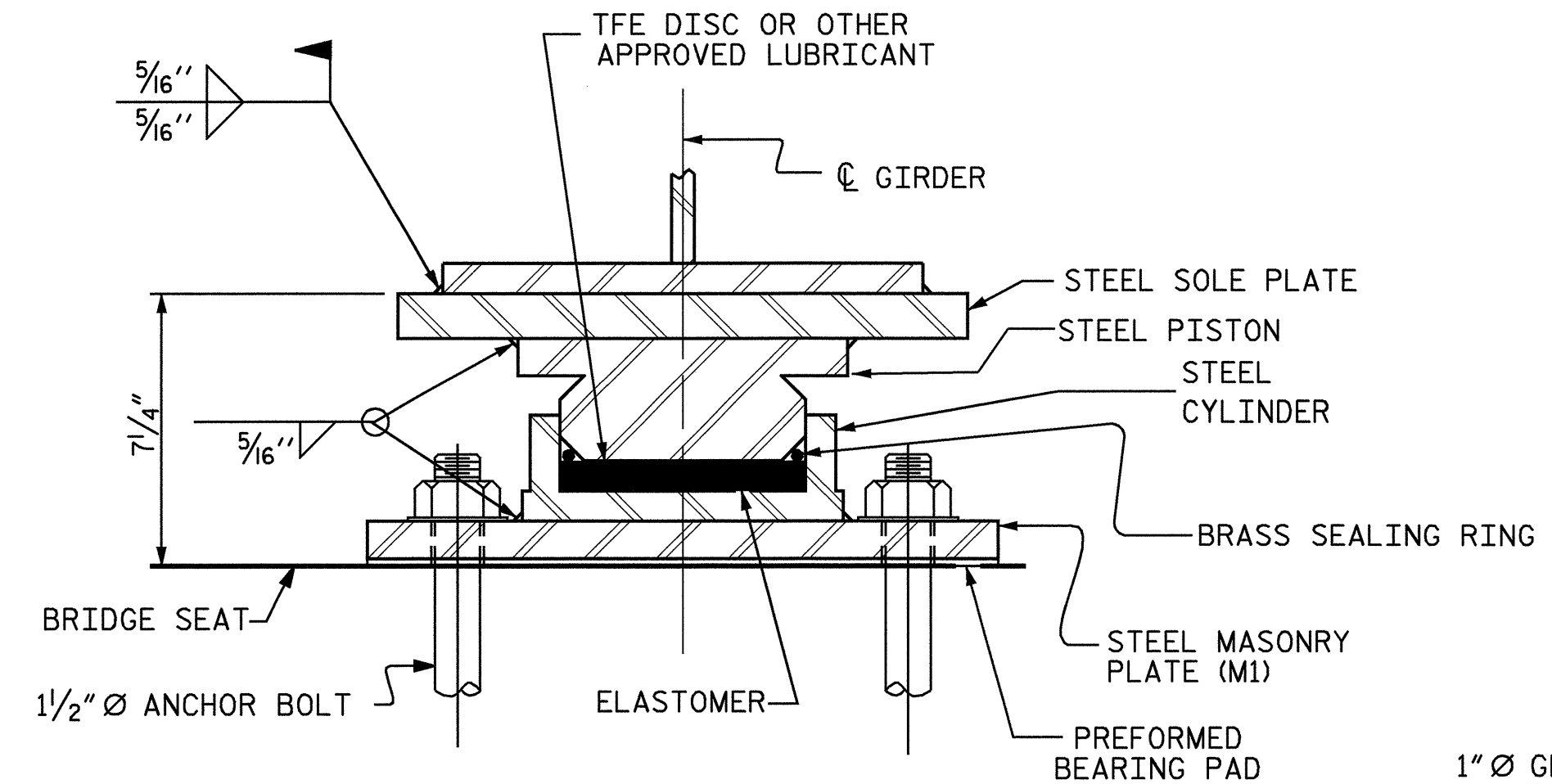
SOLE PLATES			
	MARK	NO.	% SLOPE
EB 1	S1	6	2.29
BT 1	S2	6	0.89
BT 2	S3	6	-1.00
EB 2	S4	6	-2.39



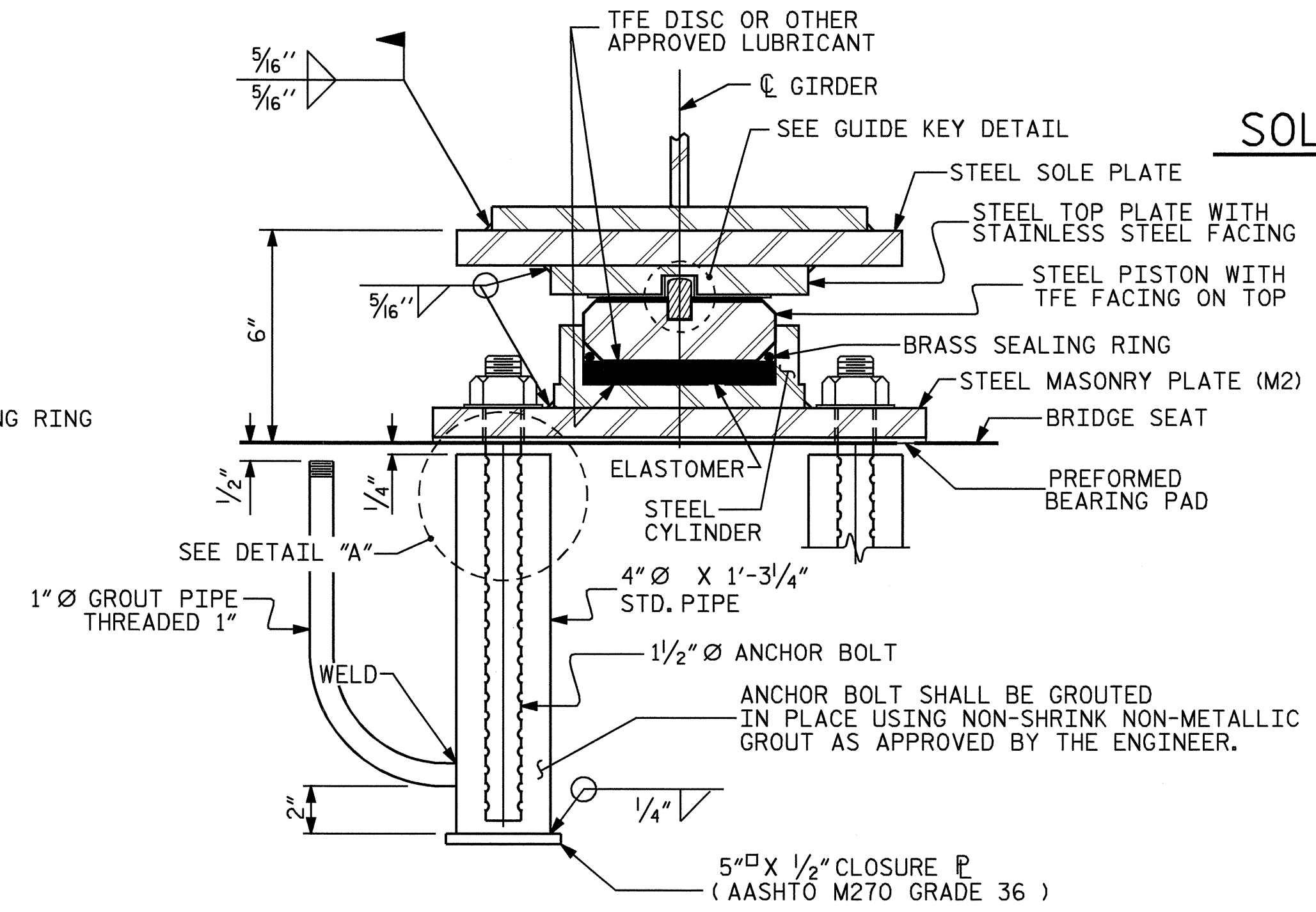
CUT-AWAY PLAN



CUT-AWAY PLAN

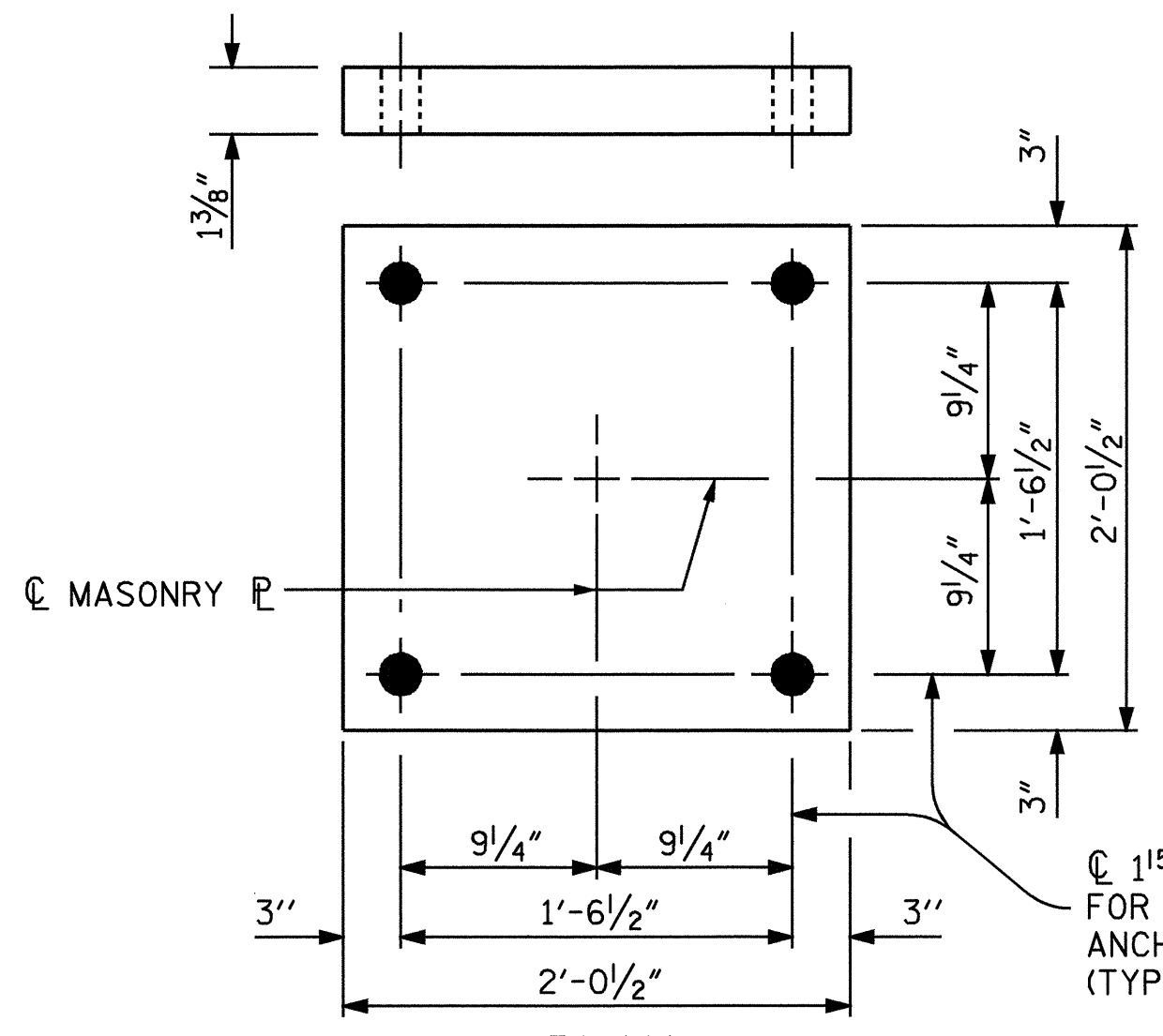


SECTION A-A
PB1, FIXED
(12 REQ'D.)

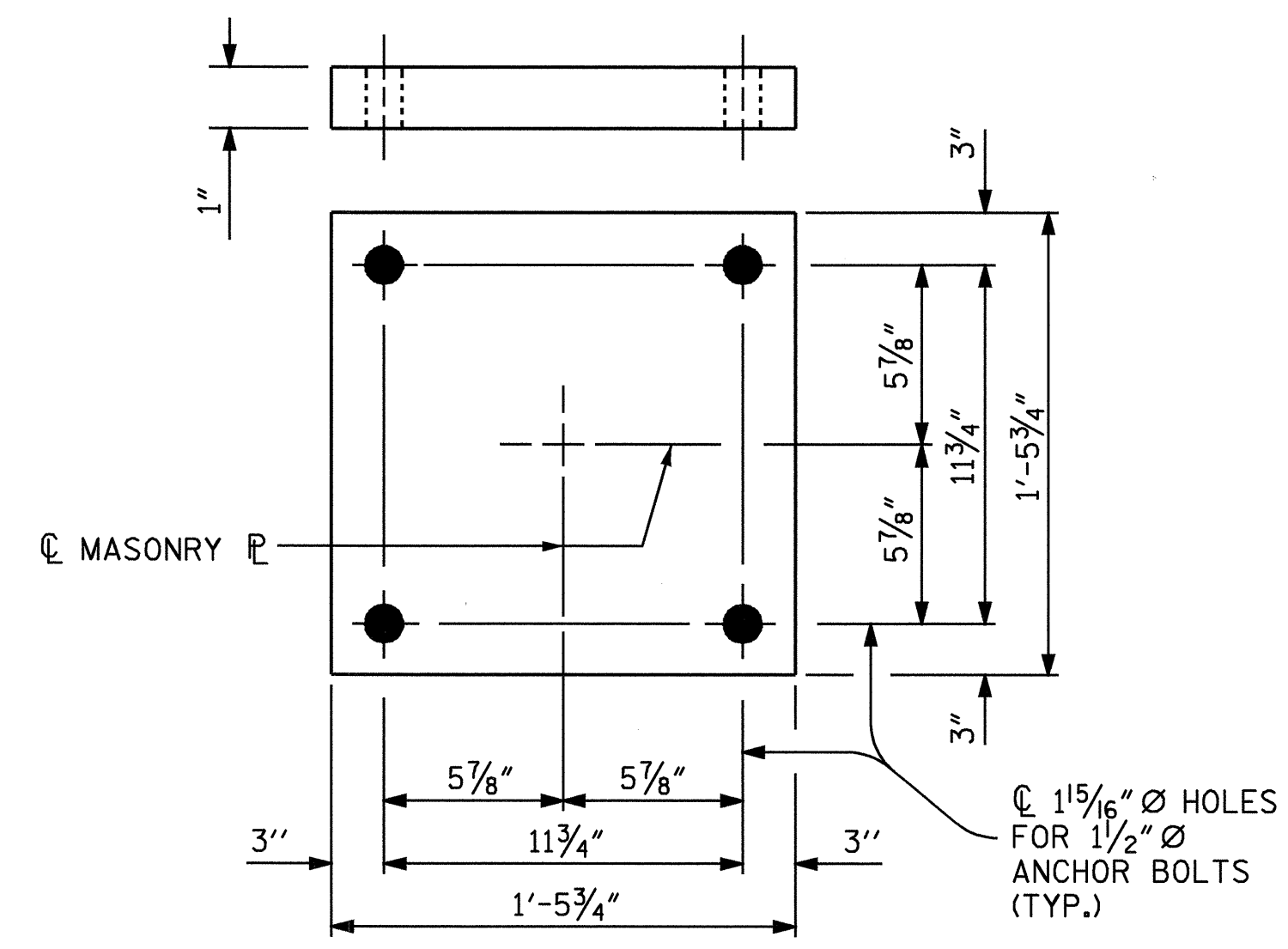


SECTION B-B
PB2, EXP.
(12 REQ'D.)

POT BEARING DETAILS



PLAN
M1 (12 REQ'D.)



PLAN
M2 (12 REQ'D.)

MASONRY PLATE DETAILS

TABLE FOR PLATE SETTING DATA
(EXPANSION POT BEARINGS)

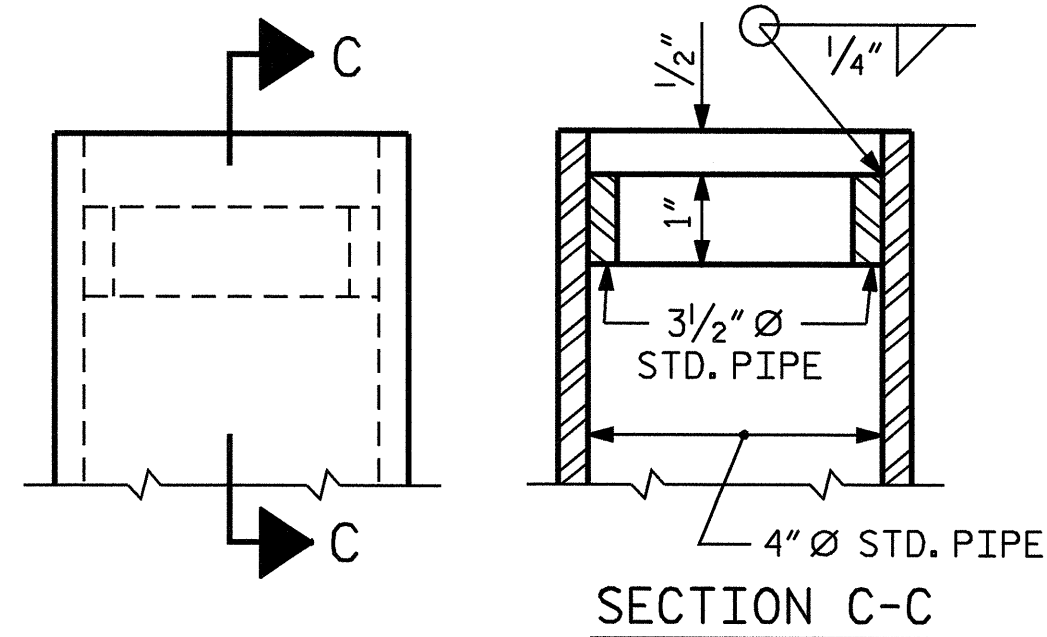
TEMPERATURE AT TIME OF SETTING	45° F	60° F	90° F	*
END BENT 1	-3/8"	0	3/4"	-3/16"
END BENT 2	-3/8"	0	3/4"	-3/16"

* CORRECTION FOR END ROTATION DUE TO WEIGHT OF SLAB AND COMPOSITE DEAD LOAD.

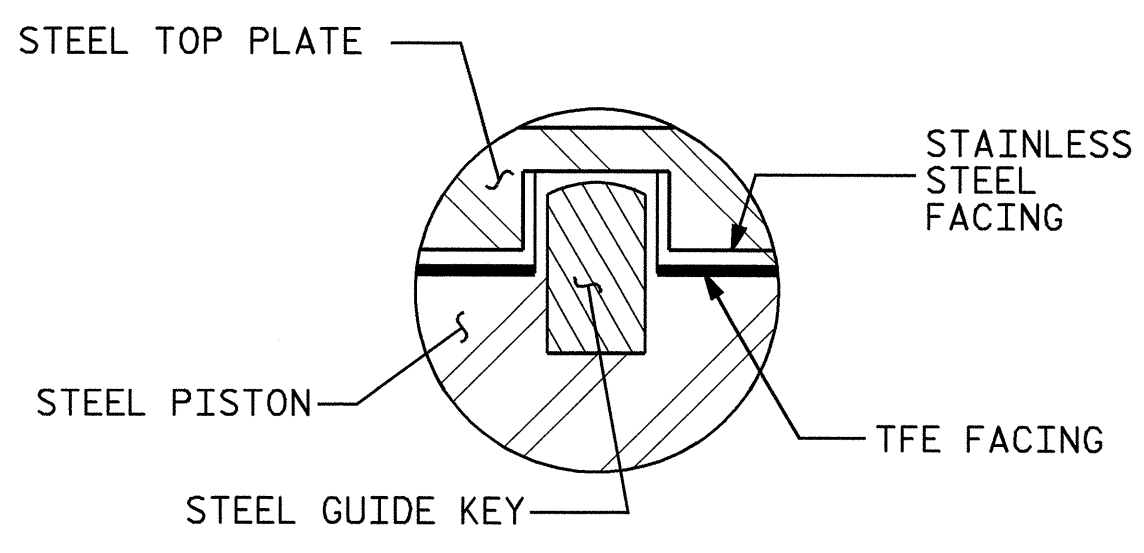
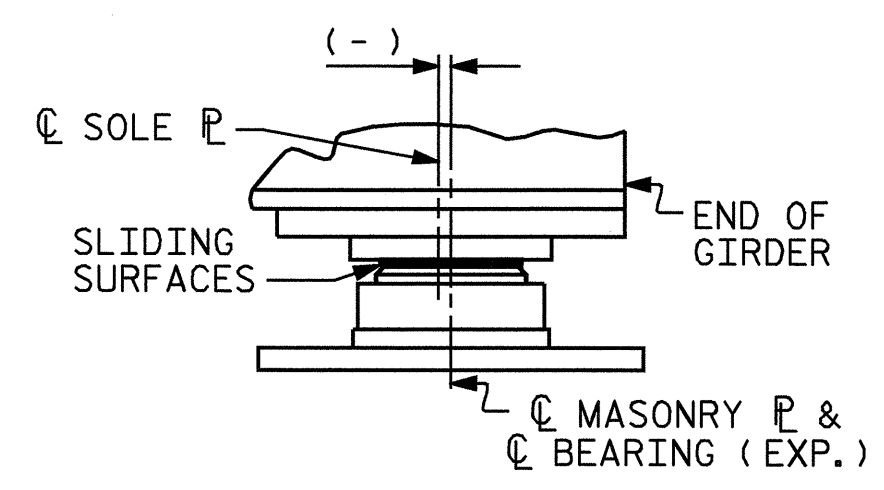
TEMPERATURE SETTING DETAIL

TABLE FOR LOADS AND MOVEMENTS

BEARING	LOCATION	VERTICAL LOAD (KIPS)			LATERAL LOAD (KIPS)	TOTAL MOVEMENT (INCHES)
		DEAD	LIVE	TOTAL		
PB1 (EXP.)	E.B. 1 & 2	111	67	178	23	2 1/2"
PB2 (FIXED)	BENT 1 & 2	430	156	586	86	0



DETAIL "A"

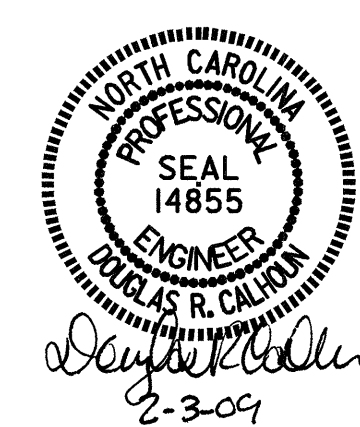


GUIDE KEY DETAIL

PROJECT NO. B-2965
EDGECOMBE COUNTY
STATION: 39+59.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

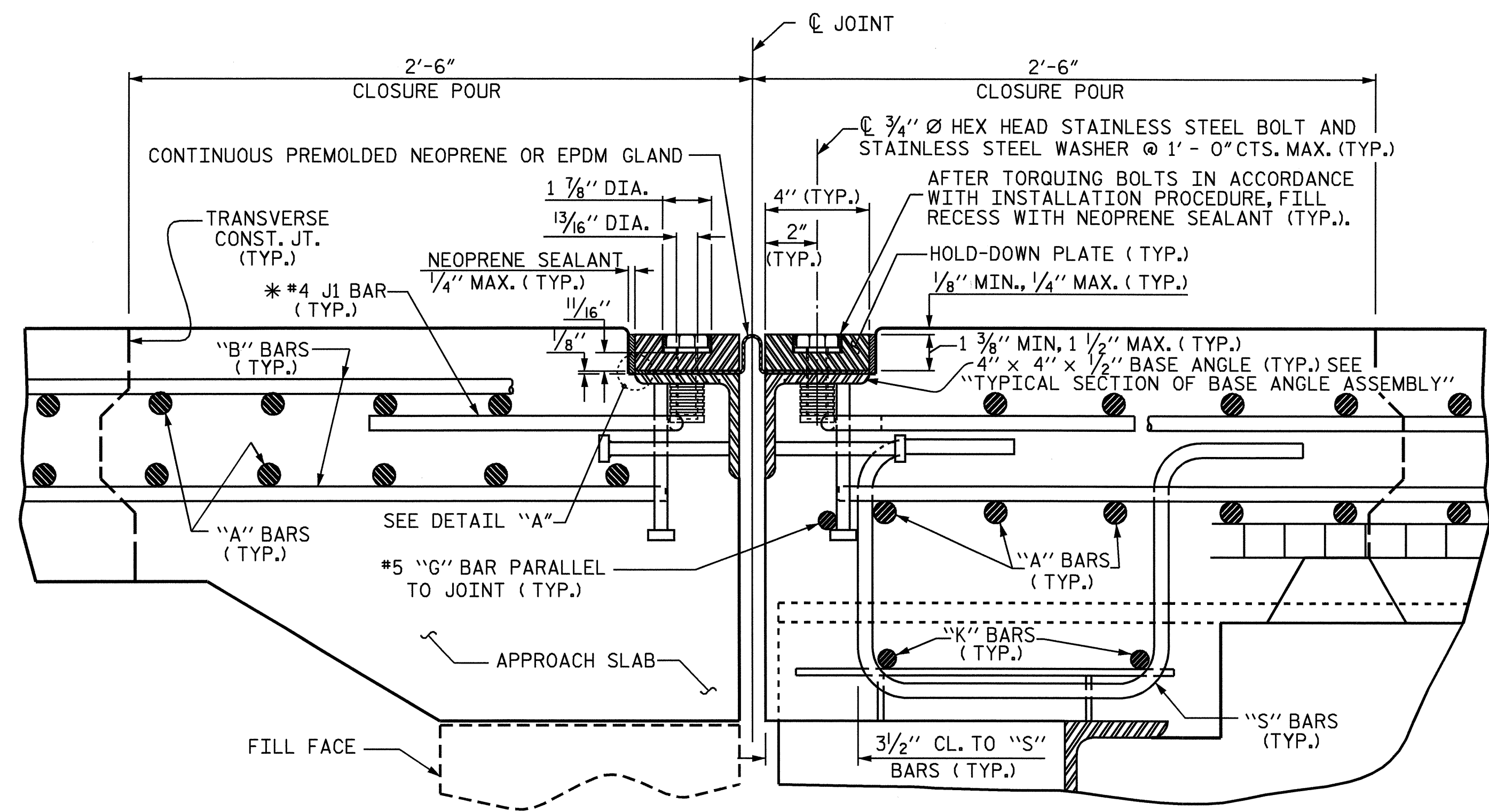
STANDARD POT BEARING DETAILS



REVISIONS						SHEET NO. S-20
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

STD. NO. PB1

ASSEMBLED BY : J. MYA DATE : 8/15/08
CHECKED BY : B.N. GRADY DATE : 9/5/08
DRAWN BY : RWW 8/99
CHECKED BY : LES 8/99
REV. 7/10/01 LES/RDR
REV. 5/7/03 RWW/JTE
REV. 5/1/06 TLA/GM



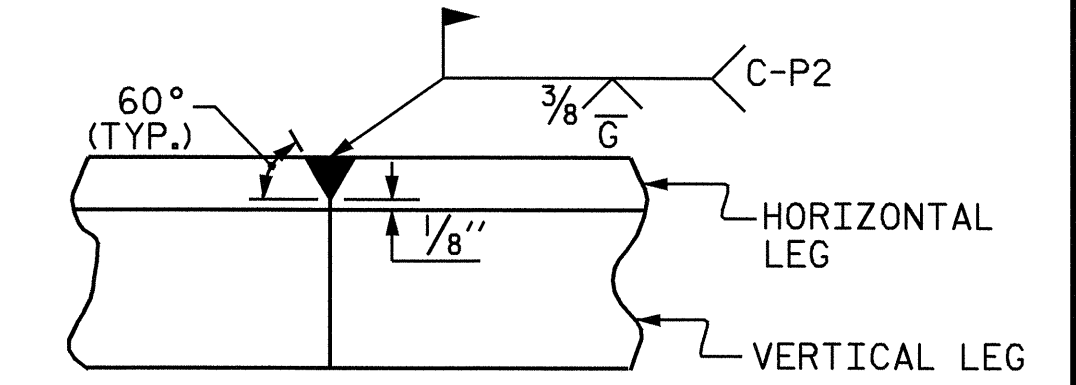
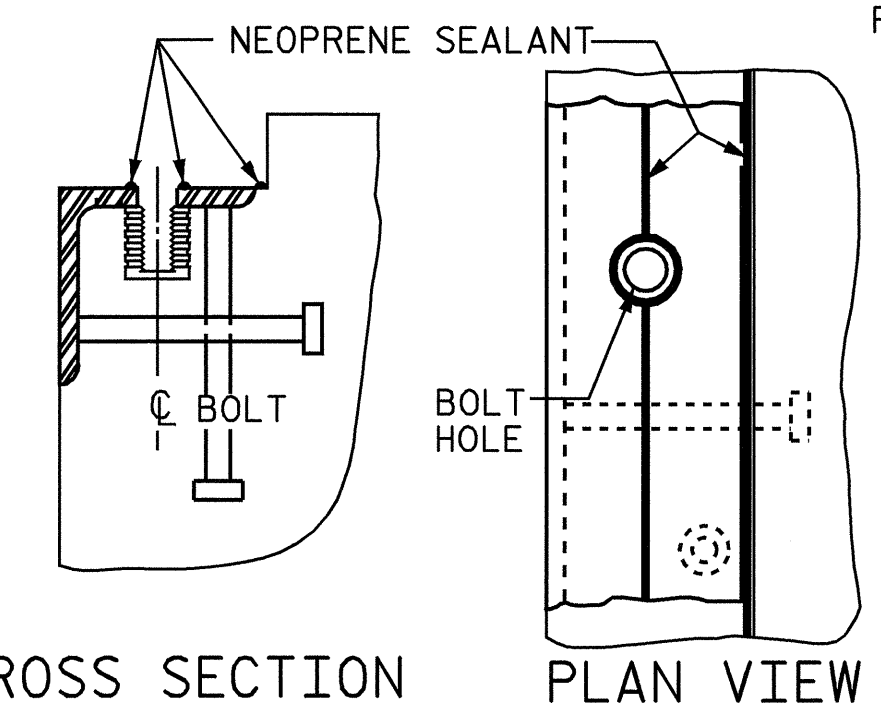
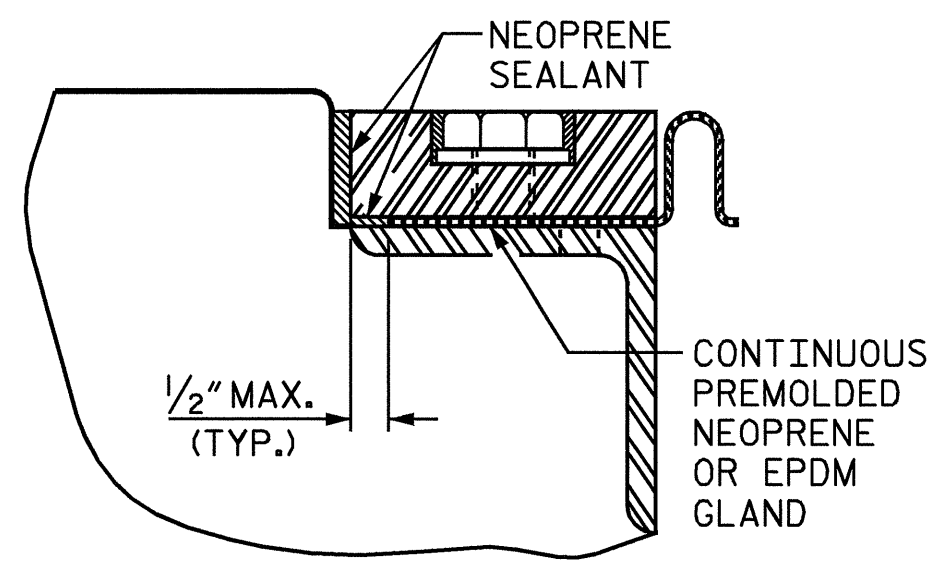
EXPANSION JOINT DETAILS

END BENT 1 SHOWN END BENT 2 SIMILAR BY ROTATION

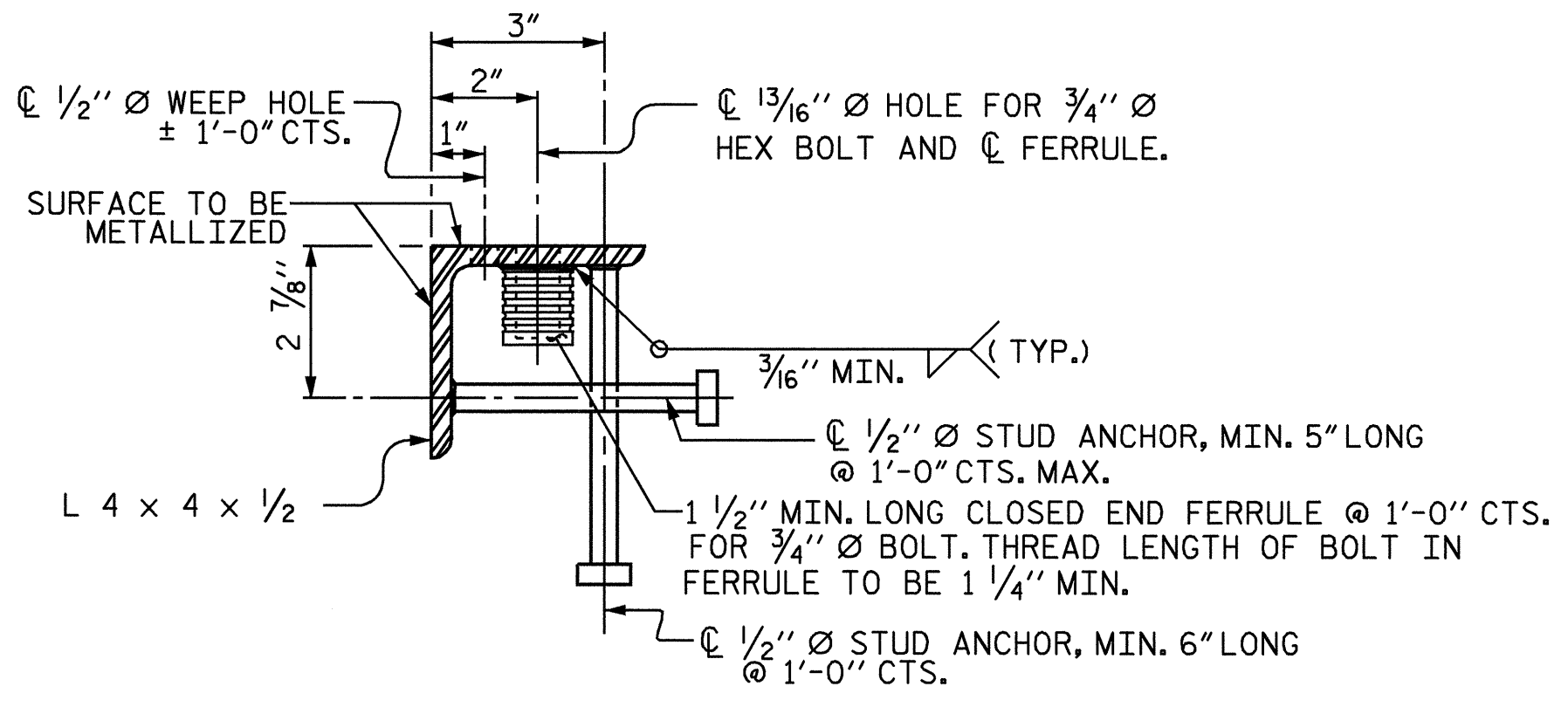
* THE QUANTITY OF #4 J1 BARS ON THE BILL OF MATERIAL IS BASED ON 1'-0" CENTERS. J1 BARS SHALL BE PLACED AT EACH VERTICAL STUD ANCHOR BOLT. IN THE EVENT THAT THE NUMBER OF VERTICAL STUD ANCHORS EXCEEDS THE NUMBER OF J1 BARS SPECIFIED, ADDITIONAL J1 BARS WILL NOT BE REQUIRED.

- INSTALLATION PROCEDURE**
1. A TEMPLATE OR OTHER SUITABLE DEVICE SHALL BE USED TO FORM THE TOP OF THE EXPANSION JOINT SEAL BLOCKOUT TO THE PROPER DEPTH AND WIDTH. THE TEMPLATE SHALL BE 4 1/8" TO 4 1/4" WIDE AND OF SUCH THICKNESS AS TO PROVIDE FOR CORRECT FINAL ELEVATION OF TOP OF HOLD-DOWN PLATES. THE TEMPLATE SHALL BE ATTACHED TO THE BASE ANGLE ASSEMBLY WITH THE 3/4" Ø HEX HEAD BOLTS PROVIDED FOR THE HOLD-DOWN PLATES. A 1" Ø HOLE SHALL BE PROVIDED IN THE TEMPLATE CENTERED OVER EACH WEEP HOLE IN THE 4" X 4" X 1/2" BASE ANGLE. OTHER METHODS OF INSURING DRAINAGE THROUGH WEEP HOLES MAY BE EMPLOYED SUBJECT TO ENGINEER'S APPROVAL.
 2. AFTER THE CONCRETE HAS BEEN CAST ON BOTH SIDES OF THE JOINT, REMOVE THE TEMPLATE. THOROUGHLY CLEAN THE BOLT HOLES AND THE ANGLE PLATE. REMOVE ANY EXCESS CONCRETE THAT COMES OUT OF THE WEEP HOLES. ANY DAMAGED STEEL SHALL BE COATED WITH A MINIMUM THICKNESS OF 4 DRY MILS OF ZINC-RICH PAINT IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
 3. LAY THE GLAND ON THE BASE ANGLE AND FIELD MARK THE GLAND FOR THE BOLT HOLES. HOLES IN THE GLAND SHALL BE PUNCHED 7/8" IN DIAMETER WITH A HAND PUNCH.
 4. IN ORDER TO CHECK FOR PROPER ALIGNMENT, PLACE THE GLAND AND HOLD-DOWN PLATES ON THE BASE ANGLE. DO NOT APPLY NEOPRENE SEALANT. BOLT THE HOLD-DOWN PLATES TO THE BASE ANGLE BUT DO NOT TIGHTEN. THE ENGINEER SHALL INSPECT THE JOINT SEAL DEVICE FOR PROPER ALIGNMENT.
 5. AFTER INSPECTION, REMOVE THE HOLD-DOWN PLATES AND GLAND. APPLY NEOPRENE SEALANT TO THE BASE ANGLE IN ACCORDANCE WITH THE "INSTALLATION SKETCH". PLACE GLAND AND HOLD-DOWN PLATES ON THE BASE ANGLE. BOLT THE HOLD-DOWN PLATES TO THE BASE ANGLE ASSEMBLY AND TORQUE THE BOLTS TO 88 FT-LBS WITH A TORQUE WRENCH. THE TORQUE WRENCH SHALL BE CALIBRATED IN ACCORDANCE WITH SECTION 440-10 (D) OF THE STANDARD SPECIFICATIONS. CHECK THE TORQUE AFTER THREE (3) HOURS AND, IF NECESSARY, RETIGHTEN TO 88 FT-LBS. A FINAL CHECK SHALL BE MADE AT SEVEN (7) DAYS. TORQUE SHALL NOT BE LESS THAN 80 FT-LBS AFTER SEVEN (7) DAYS.
 6. AFTER PROPER TORQUING, CLEAN THE BOLT HOLE RECESSES AND THE RECESS BETWEEN THE JOINT SEAL DEVICE AND CONCRETE, COMPLETELY FILL THESE RECESSES WITH NEOPRENE SEALANT.

- GENERAL NOTES**
1. FOR EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.
 2. ALL PLATES AND ANGLES SHALL CONFORM TO AASHTO M270 GRADE 36 STEEL OR APPROVED EQUAL. ALL HOLD-DOWN BOLTS SHALL CONFORM TO ASTM F593 ALLOY 304 STAINLESS STEEL AND WASHERS SHALL CONFORM TO ASTM F844 EXCEPT THEY SHALL BE MADE FROM ALLOY 304 STAINLESS STEEL. ALL STUD ANCHORS SHALL CONFORM TO AASHTO M169, GRADES 1010 THRU 1020 OR APPROVED EQUAL. ALL CONCRETE INSERTS SHALL BE CLOSED END AND SHALL CONFORM TO AASHTO M169, GRADE 12L14. TENSILE CAPACITY SHALL BE 3000 LBS. MIN.
 3. A PREMOLDED CORRUGATED OR NON-CORRUGATED GLAND SHALL BE USED FOR JOINTS SKEWED BETWEEN 50° THRU 130°. FOR JOINTS SKEWED LESS THAN 50° OR MORE THAN 130°, ONLY A CORRUGATED GLAND SHALL BE USED.
 4. CLOSED END FERRULES AND STUD ANCHORS SHALL BE SHOP WELDED AND ALL HOLES SHALL BE SHOP DRILLED AS SHOWN ON PLANS. STUD ANCHORS SHALL BE ELECTRIC ARC END WELDED WITH COMPLETE FUSION.
 5. SURFACES COMING IN CONTACT WITH NEOPRENE SHALL BE GROUND SMOOTH PRIOR TO METALLIZING.
 6. UPON COMPLETION OF SHOP FABRICATION, THE HOLD DOWN PLATE AND BASE ANGLE ASSEMBLY, AS SHOWN IN THE "TYPICAL SECTION OF BASE ANGLE ASSEMBLY", SHALL BE METALLIZED. SEE SPECIAL PROVISION FOR THERMAL SPRAYED COATINGS (METALLIZATION).
 7. BASE ANGLE ASSEMBLY SHALL BE CONTINUOUS FOR THE LENGTH OF THE JOINT. AT CROWN BREAKS, THE ENDS OF THE BASE ANGLE ASSEMBLY SHALL BE CUT PARALLEL TO THE BRIDGE CENTERLINE FOR SKEWS LESS THAN 80° AND GREATER THAN 100°. FINISHED WELD SHALL BE GROUND SMOOTH AND COATED WITH A MINIMUM THICKNESS OF 4 DRY MILS OF ZINC-RICH PAINT IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
 8. FIELD SPLICES OF HOLD-DOWN PLATES SHALL BE KEPT TO A MINIMUM. CONTRACTOR SHALL FURNISH DETAILED PLANS SHOWING PROPOSED SPLICE LOCATIONS FOR APPROVAL. HOLD-DOWN PLATES SHALL NOT EXCEED 20' LENGTHS UNLESS APPROVED BY THE ENGINEER.
 9. NO ALTERNATE JOINT DETAILS SHALL BE PERMITTED IN LIEU OF THOSE SHOWN ON THESE PLANS.
 10. THE CONTRACTOR MAY, AT HIS OPTION, USE ADHESIVELY ANCHORED ANCHOR BOLTS IN PLACE OF CONCRETE INSERTS FOR COVER PLATES. THE YIELD LOAD OF THE 3/4" Ø BOLT IS 10 KIPS. FIELD TESTING OF THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.



MOVEMENT AND SETTING AT JOINT					
BENT NO.	SKEW ANGLE	TOTAL MOVEMENT (ALONG Q RDWY)	PERPENDICULAR JOINT OPENING AT 30° F	PERPENDICULAR JOINT OPENING AT 60° F	PERPENDICULAR JOINT OPENING AT 90° F
EB1	90°	2 1/2"	3"	2 1/4"	1 1/2"
EB2	90°	2 1/2"	3"	2 1/4"	1 1/2"



PROJECT NO. B-2965
EDGEcombe COUNTY
 STATION: 39+59.00 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

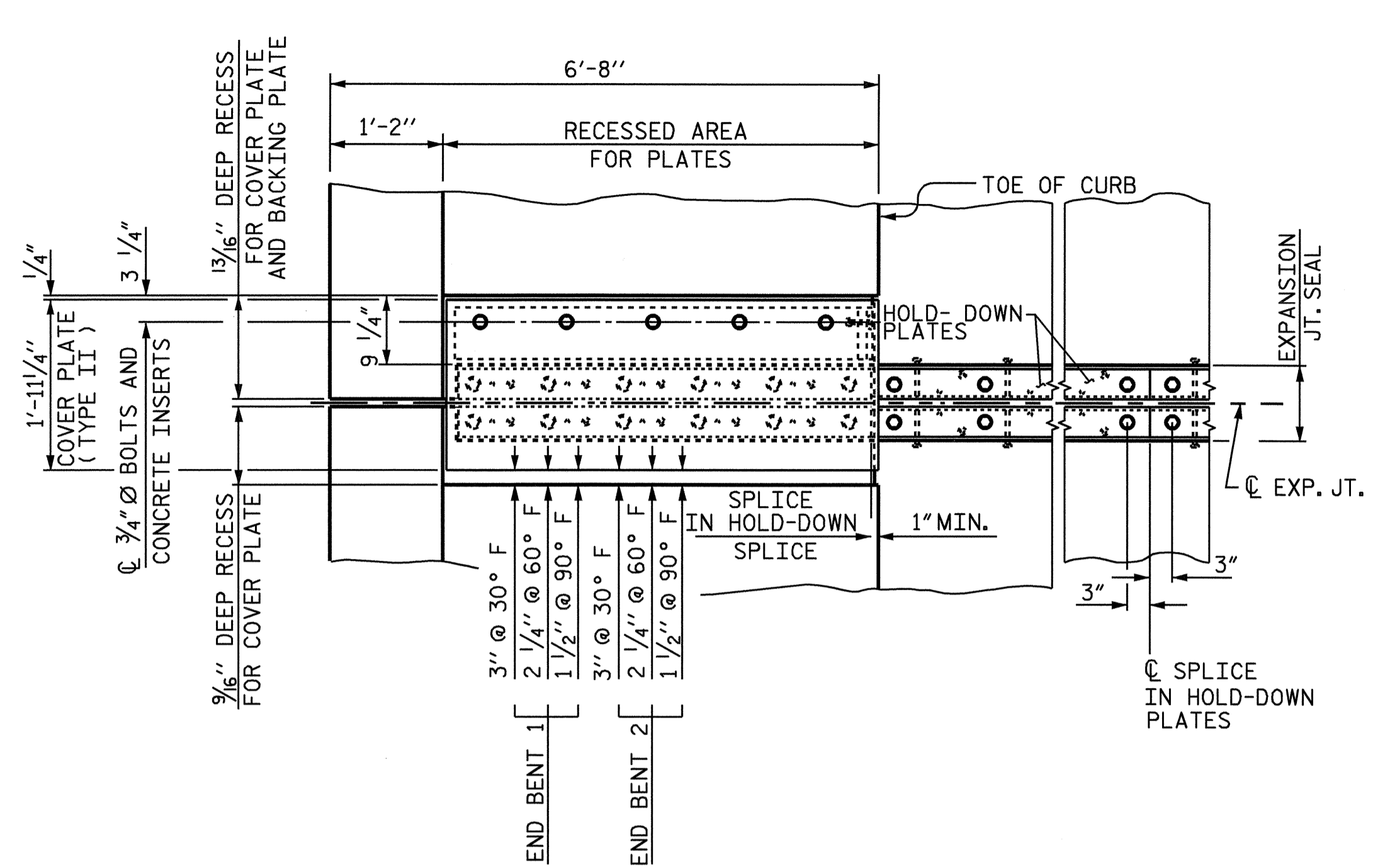
STANDARD
 EXPANSION JOINT
 SEAL DETAILS

REVISIONS						SHEET NO. S-21
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

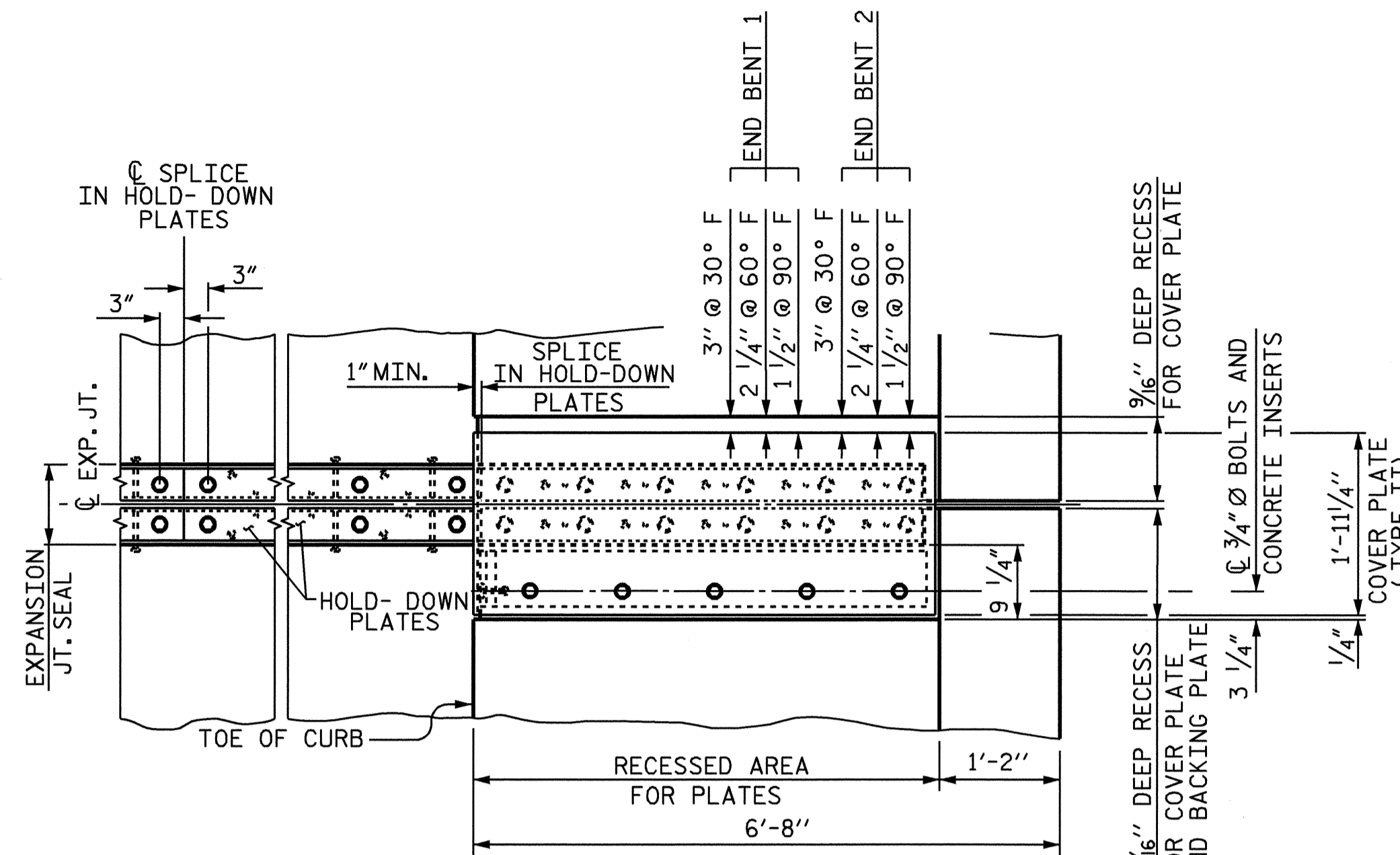
2-3-09

ASSEMBLED BY: J. MYA DATE: 9-15-08
 CHECKED BY: D. R. CALHOUN DATE: 10-8-08
 DRAWN BY: REK 9/87
 CHECKED BY: CRK 10/87

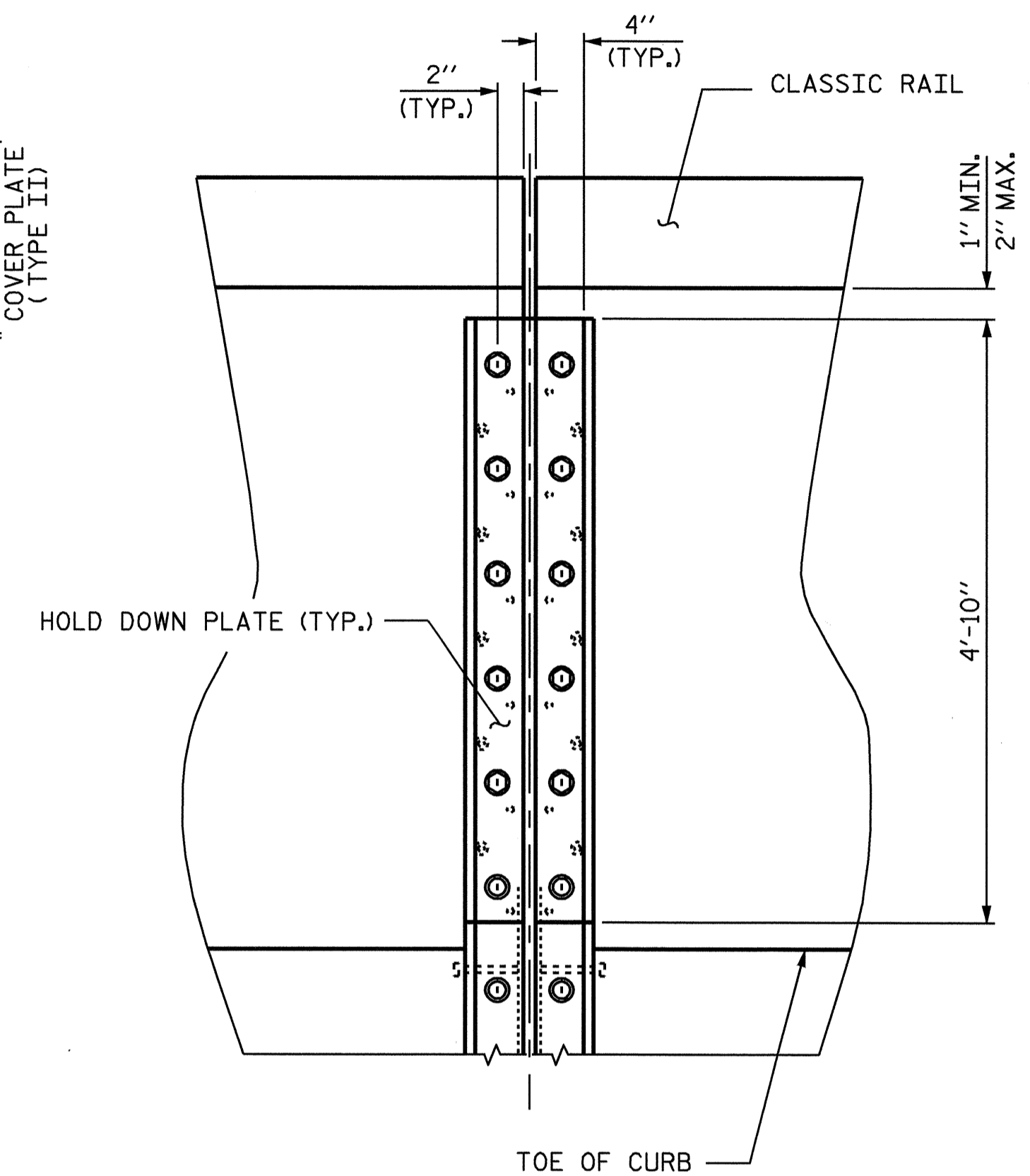
REV. 10/17/00 RWW/LES
 REV. 5/7/03R RWW/JTE
 REV. 5/1/06 TLA/GM



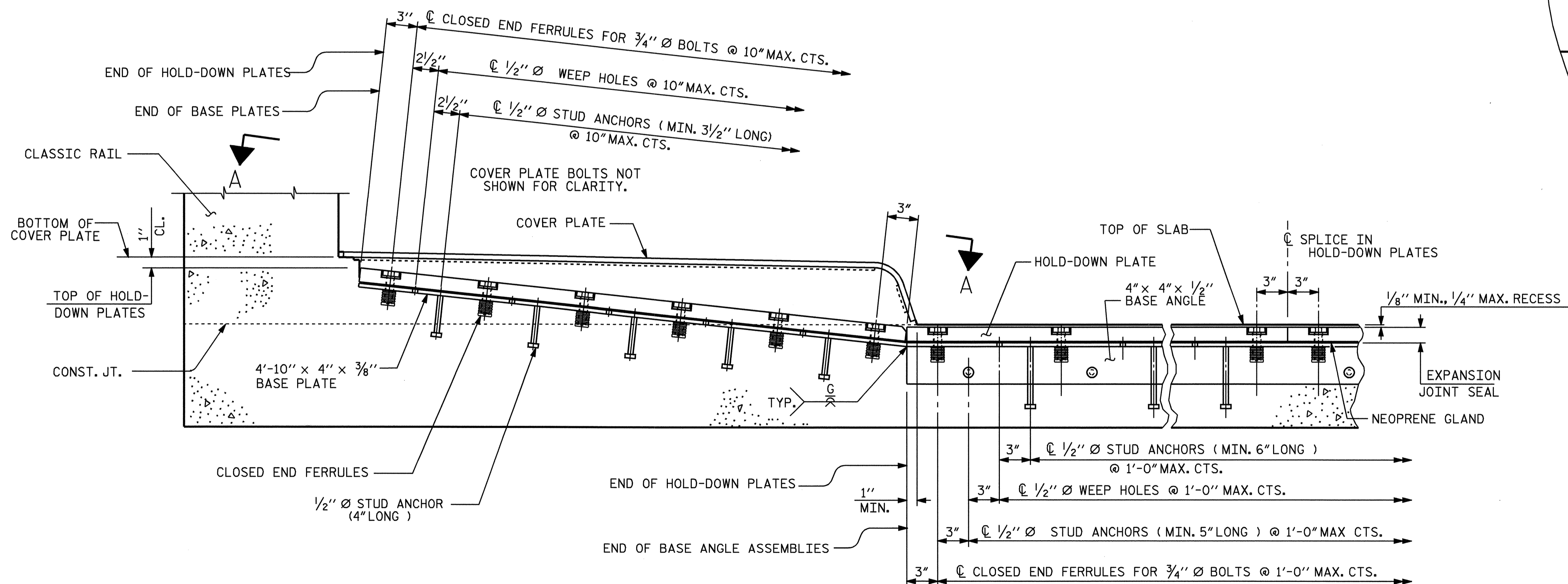
PLAN OF EXPANSION JOINT SEAL - LEFT SIDE



PLAN OF EXPANSION JOINT SEAL - RIGHT SIDE



SECTION A - A



SECTION THRU SIDEWALK NORMAL TO JOINT

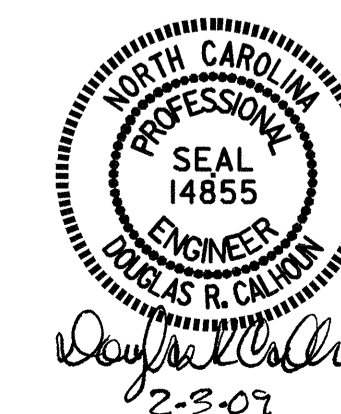
PROJECT NO. B-2965
EDGEcombe COUNTY
 STATION: 39+59.00 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD
 EXPANSION JOINT
 SEAL DETAILS
 FOR SIDEWALK

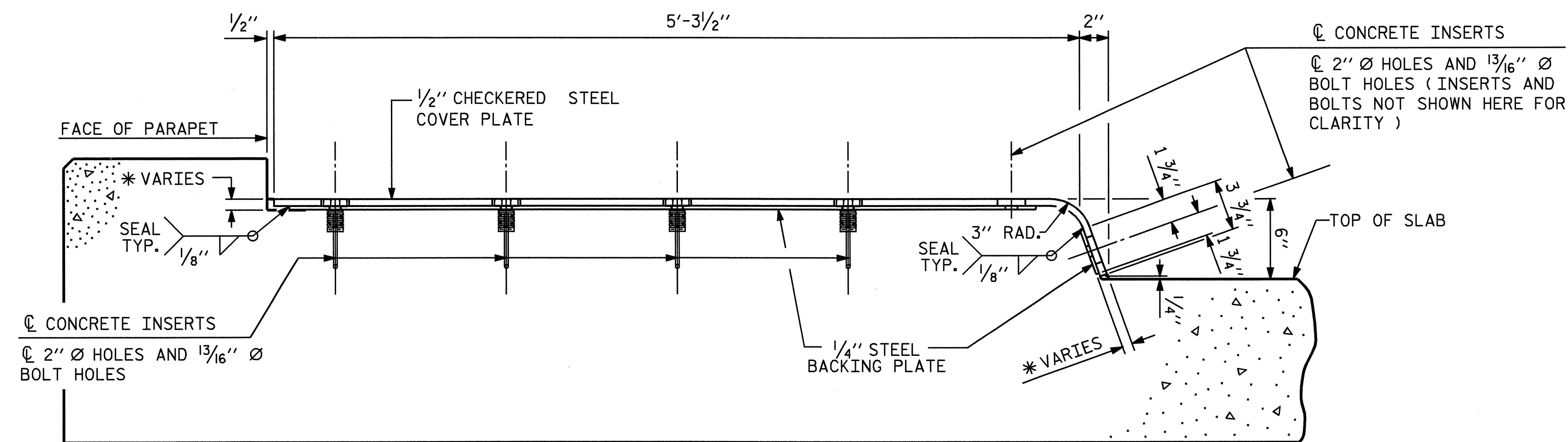
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-22
1			3			TOTAL SHEETS
2			4			48



DRAWN BY: J. MYA DATE: 9-15-08
 CHECKED BY: D. R. CALHOUN DATE: 10-8-08

20-NOV-2008 12:09
 RAS\Structures\B2965\Final Plans\B2965_sd.JS.dgn
 bng:ady

STD. NO. EJS3

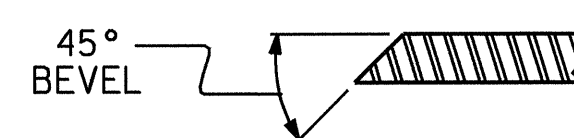


END VIEW
(NORMAL TO SIDEWALK)

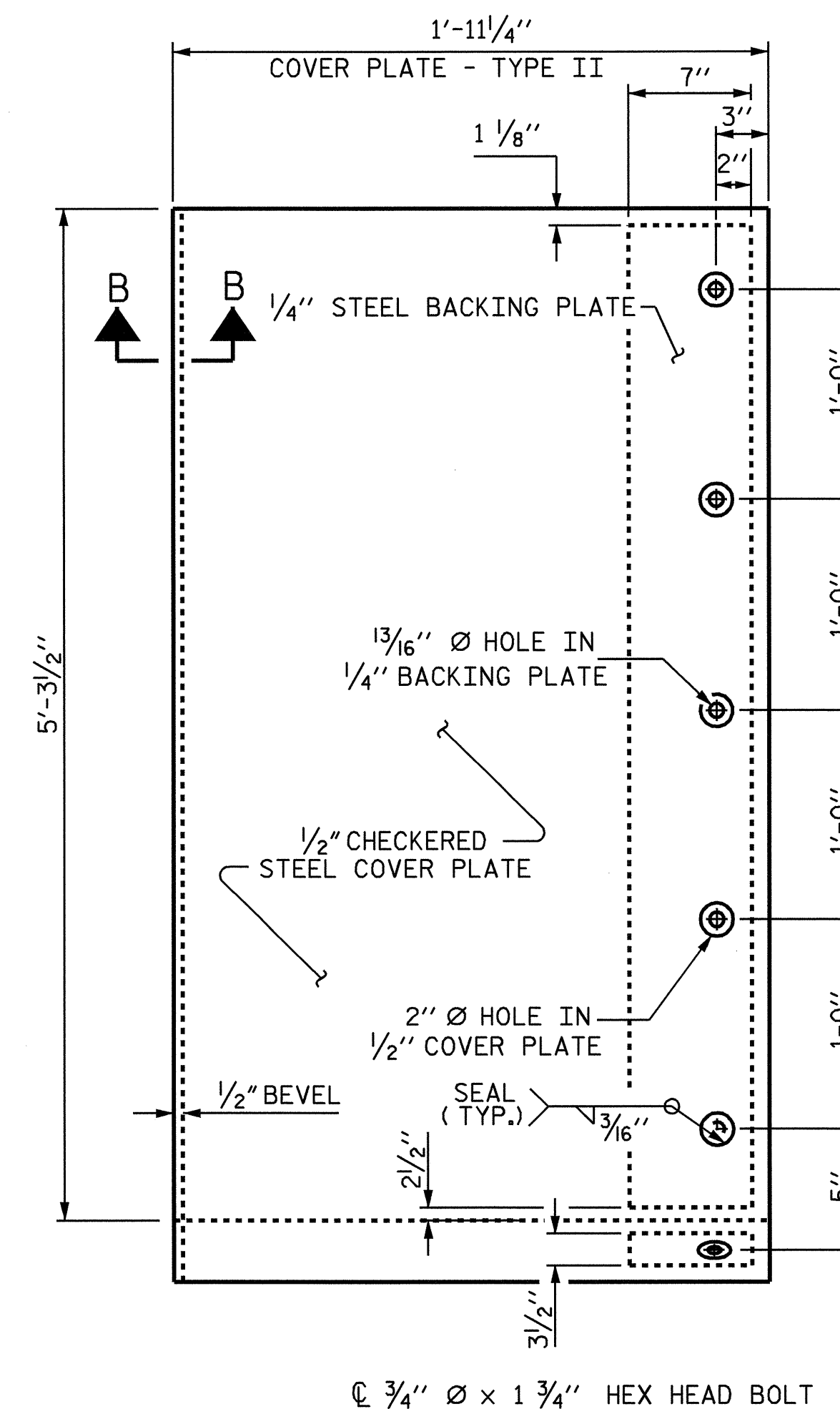
* CONCRETE RECESS DIMENSIONS:

1 3/16" FOR THE SIDE OF THE JOINT HAVING THE 1/2" COVER PLATE WITH A 1/4" BACKING PLATE.

9/16" FOR THE SIDE OF THE JOINT HAVING ONLY THE 1/2" COVER PLATE.

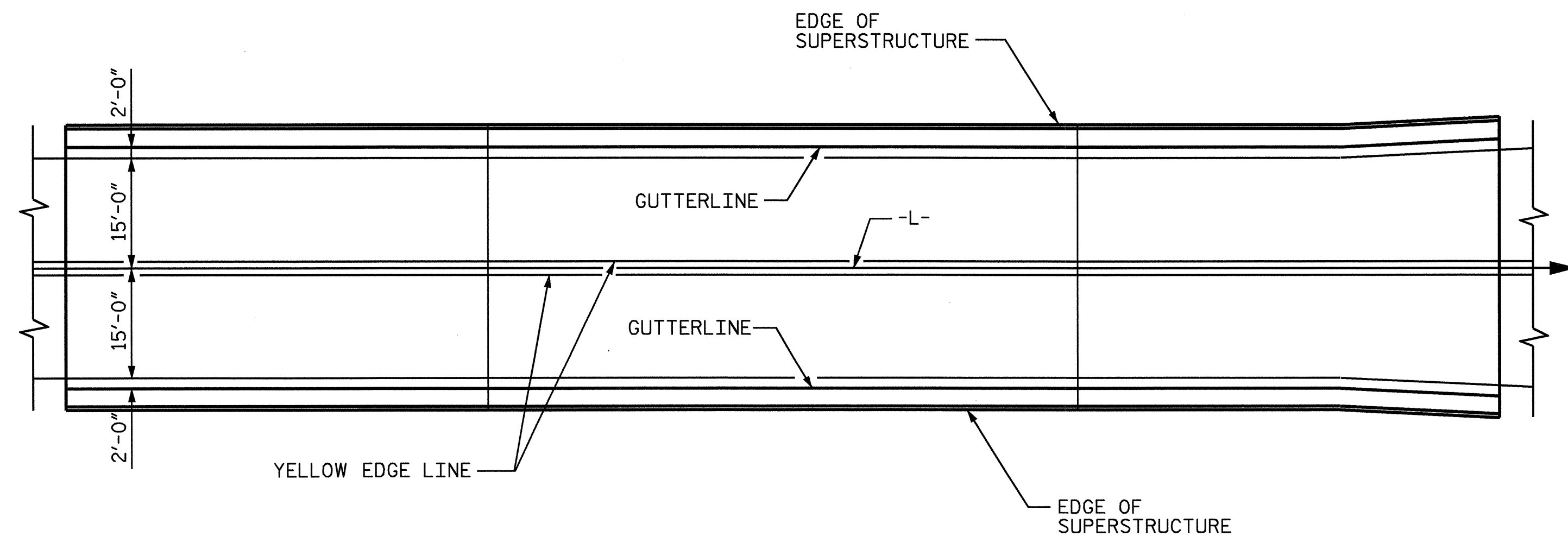


SECTION B - B

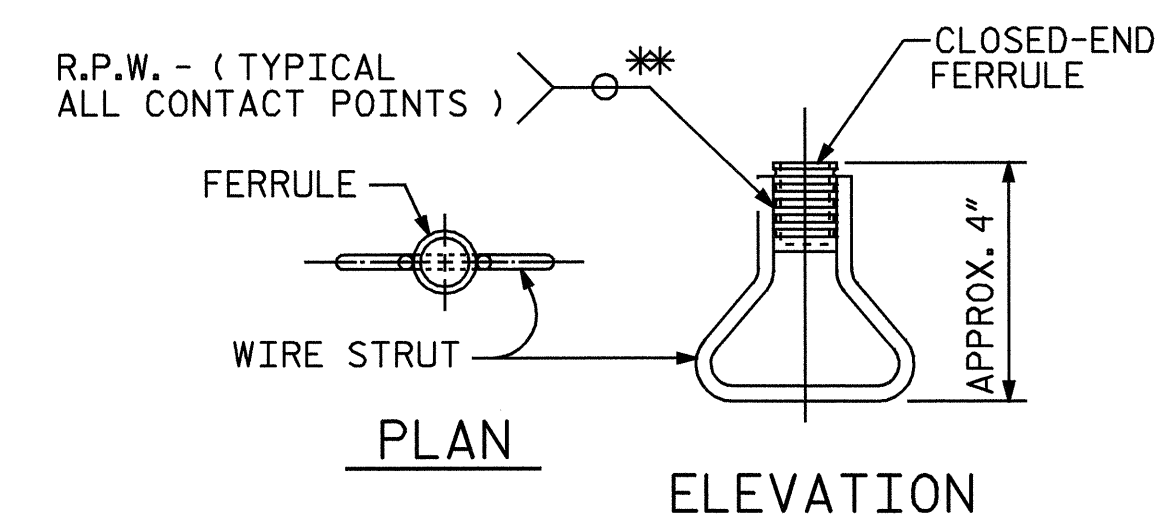


SIDEWALK COVERPLATE DETAIL-TYPE II
TYPE II - PLAN VIEW

COVER PLATE DETAILS



PAVEMENT MARKING ALIGNMENT



CONCRETE INSERT

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

PROJECT NO. B-2965
EDGECOMBE COUNTY
STATION: 39+59.00 -L-

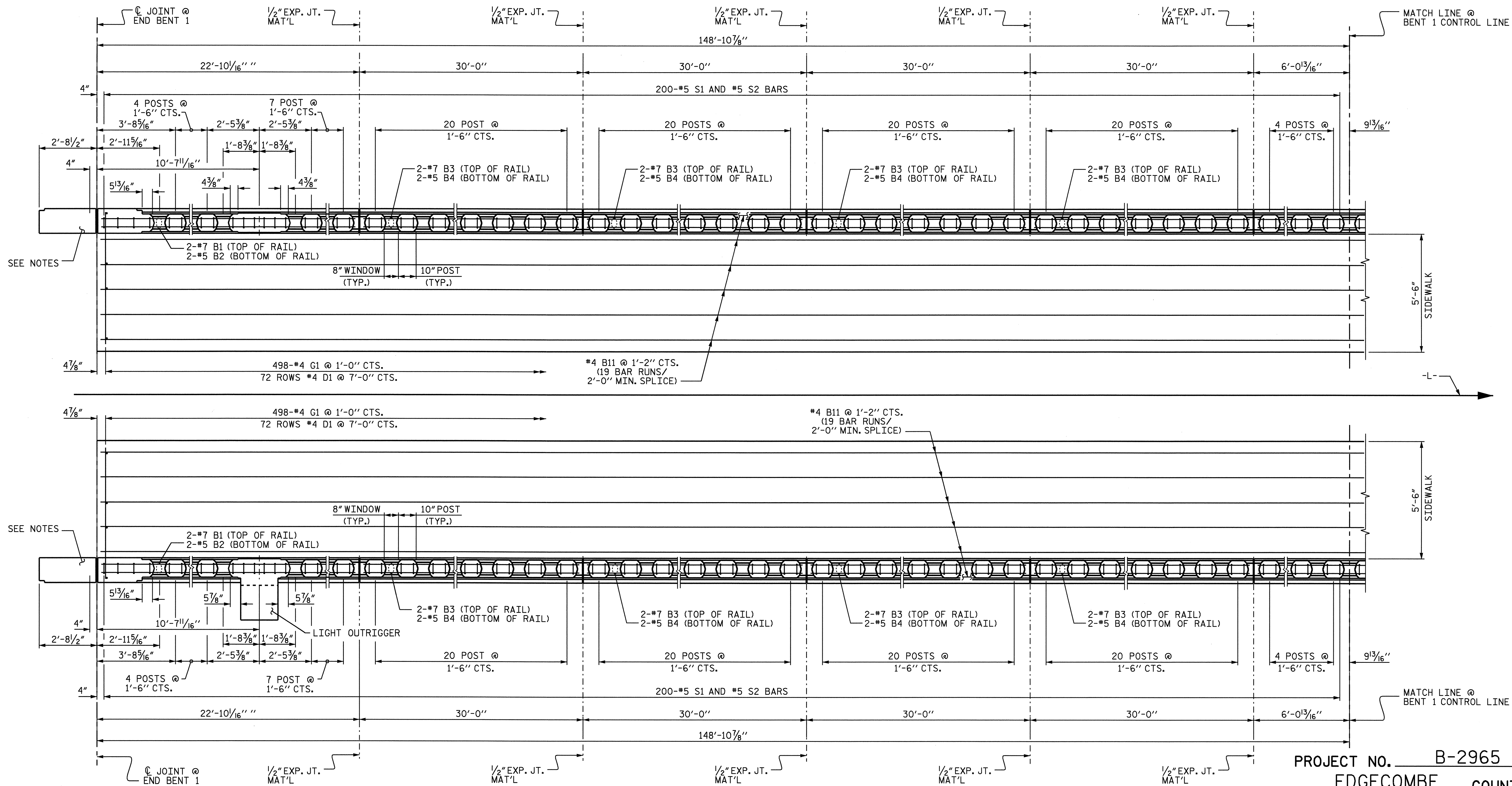
SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
EXPANSION JOINT
SEAL DETAILS
FOR SIDEWALK



ASSEMBLED BY : J. MYA	DATE : 9-15-08
CHECKED BY : D. R. CALHOUN	DATE : 10-8-08
DRAWN BY : REK 10/87	REV. 7/17/98 RWW/LES
CHECKED BY : CRK 1/88	REV. 10/17/00 RWW/LES
	REV. 5/1/06 TLA/GM

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-23
1			3			TOTAL SHEETS
2			4			48



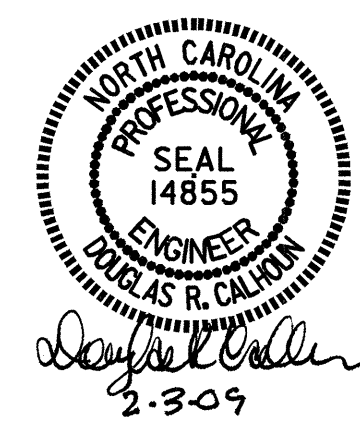
SPAN A

RAIL POST SPACING, LIGHT OUTRIGGER & REINFORCING STEEL PLACEMENT

PROJECT NO. B-2965
EDGEcombe COUNTY
STATION: 39+59.00 -L-
SHEET 1 OF 6

DRAWN BY: J. MYA DATE: 9-15-08
CHECKED BY: W. ARAFAT DATE: 10-8-08

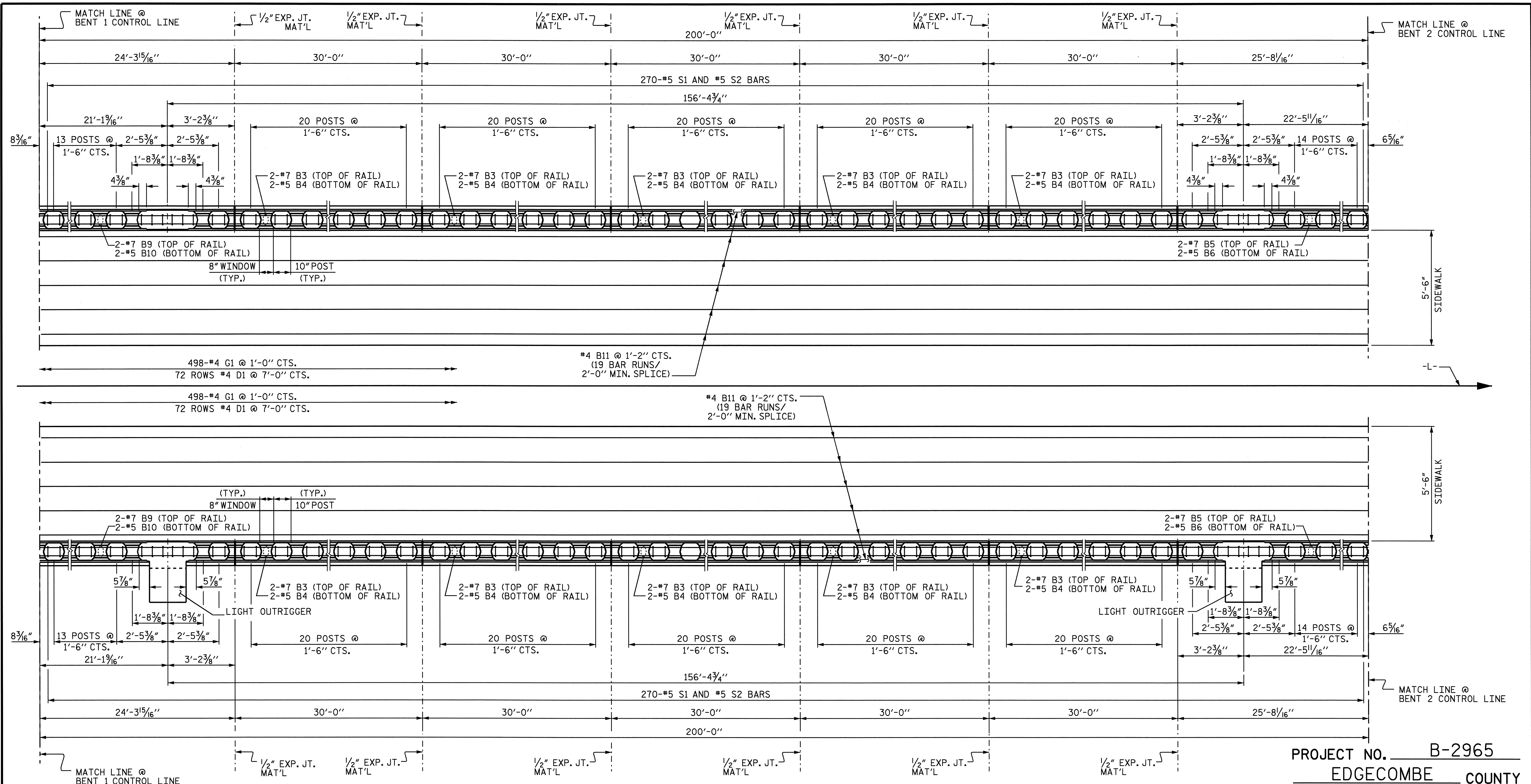
NOTES:
FOR PILASTER DETAILS, SEE SHEETS 4 & 5 OF 6.
FOR LIGHT OUTRIGGER REINFORCING STEEL AND DETAILS, SEE SHEETS 4 & 5 OF 6.
SEE BRIDGE APPROACH SLAB PLANS FOR CLASSIC CONCRETE BRIDGE RAIL DETAILS.



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
CLASSIC CONCRETE
BRIDGE RAIL &
SIDEWALK
SPAN A

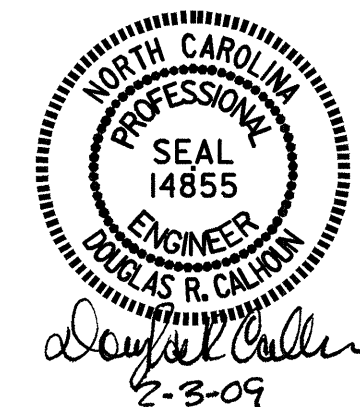
REVISIONS						SHEET NO. S-24
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			



SPAN B

RAIL POST SPACING, LIGHT OUTRIGGER & REINFORCING STEEL PLACEMENT

NOTES:
 FOR PILASTER DETAILS, SEE SHEETS 4 & 5 OF 6.
 FOR LIGHT OUTRIGGER REINFORCING STEEL AND DETAILS, SEE SHEETS 4 & 5 OF 6.
 SEE BRIDGE APPROACH SLAB PLANS FOR CLASSIC CONCRETE BRIDGE RAIL DETAILS.

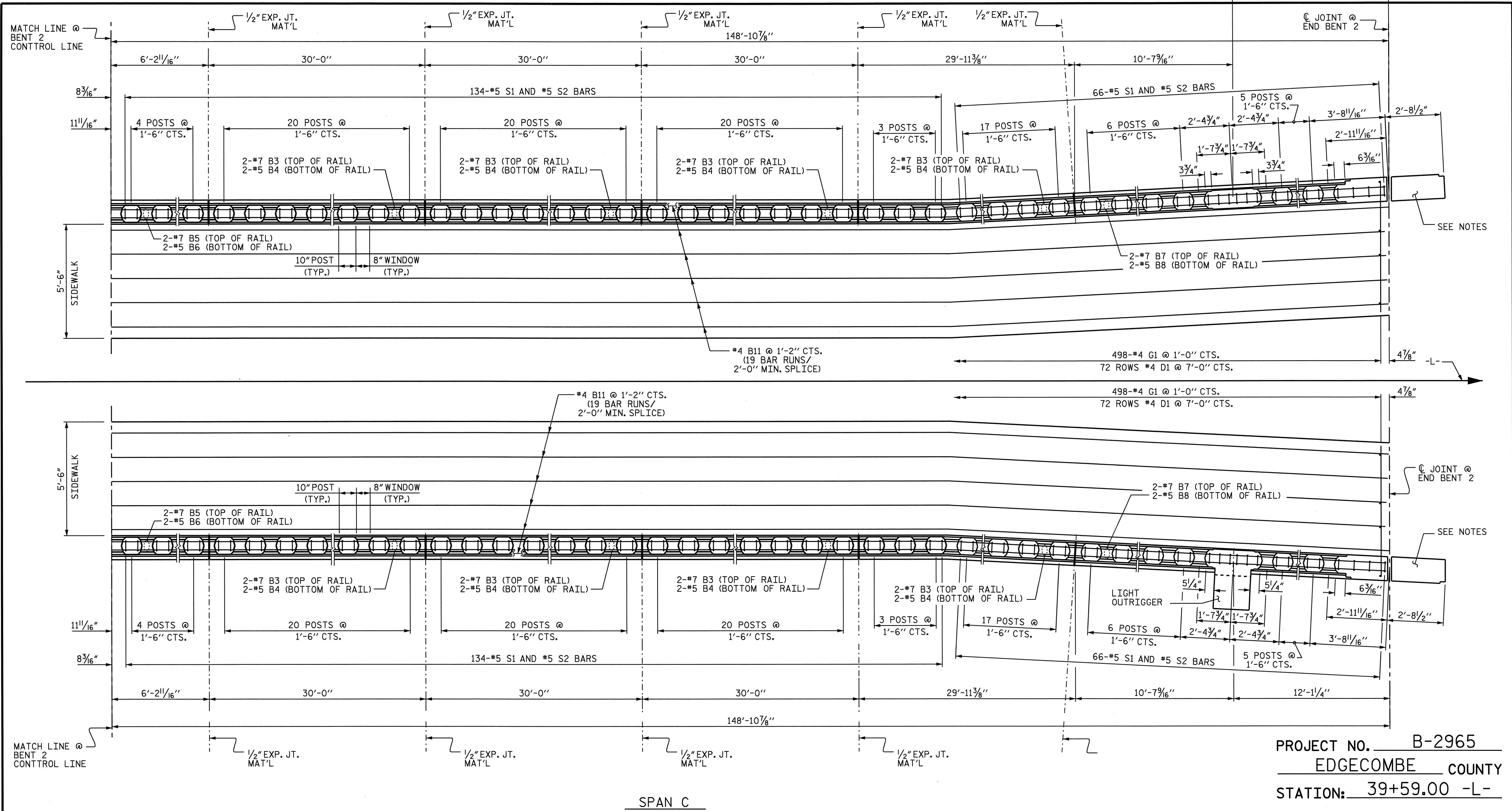


PROJECT NO. B-2965
EDGECOMBE COUNTY
 STATION: 39+59.00 -L-

SHEET 2 OF 6

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO. S-25
SUPERSTRUCTURE CLASSIC CONCRETE BRIDGE RAIL & SIDEWALK SPAN B						
REVISIONS						TOTAL SHEETS 48
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

DRAWN BY: J. MYA DATE: 9-15-08
 CHECKED BY: W. ARAFAT DATE: 10-8-08



SPAN C

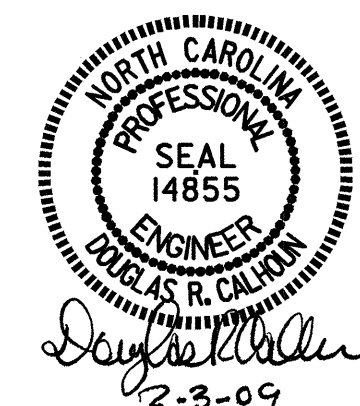
RAIL POST SPACING, LIGHT OUTRIGGER & REINFORCING STEEL PLACEMENT

NOTES:

FOR PILASTER DETAILS, SEE SHEETS 4 & 5 OF 6.

FOR LIGHTING OUTRIGGER REINFORCING STEEL AND DETAILS, SEE SHEETS 4 & 5 OF 6.

SEE BRIDGE APPROACH SLAB PLANS FOR CLASSIC CONCRETE BRIDGE RAIL DETAILS.

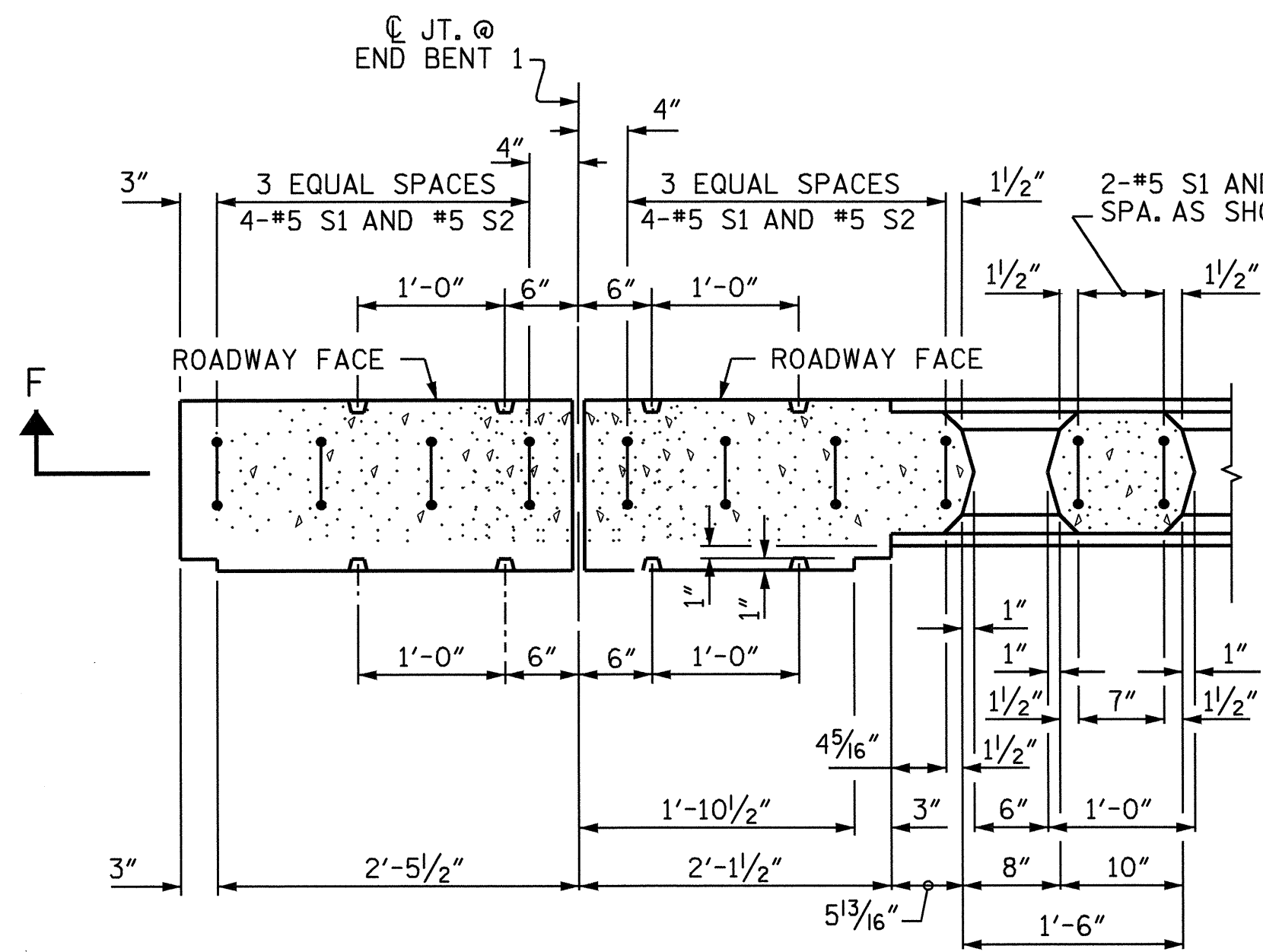


PROJECT NO. **B-2965**
EDGEcombe COUNTY
 STATION: **39+59.00 -L-**

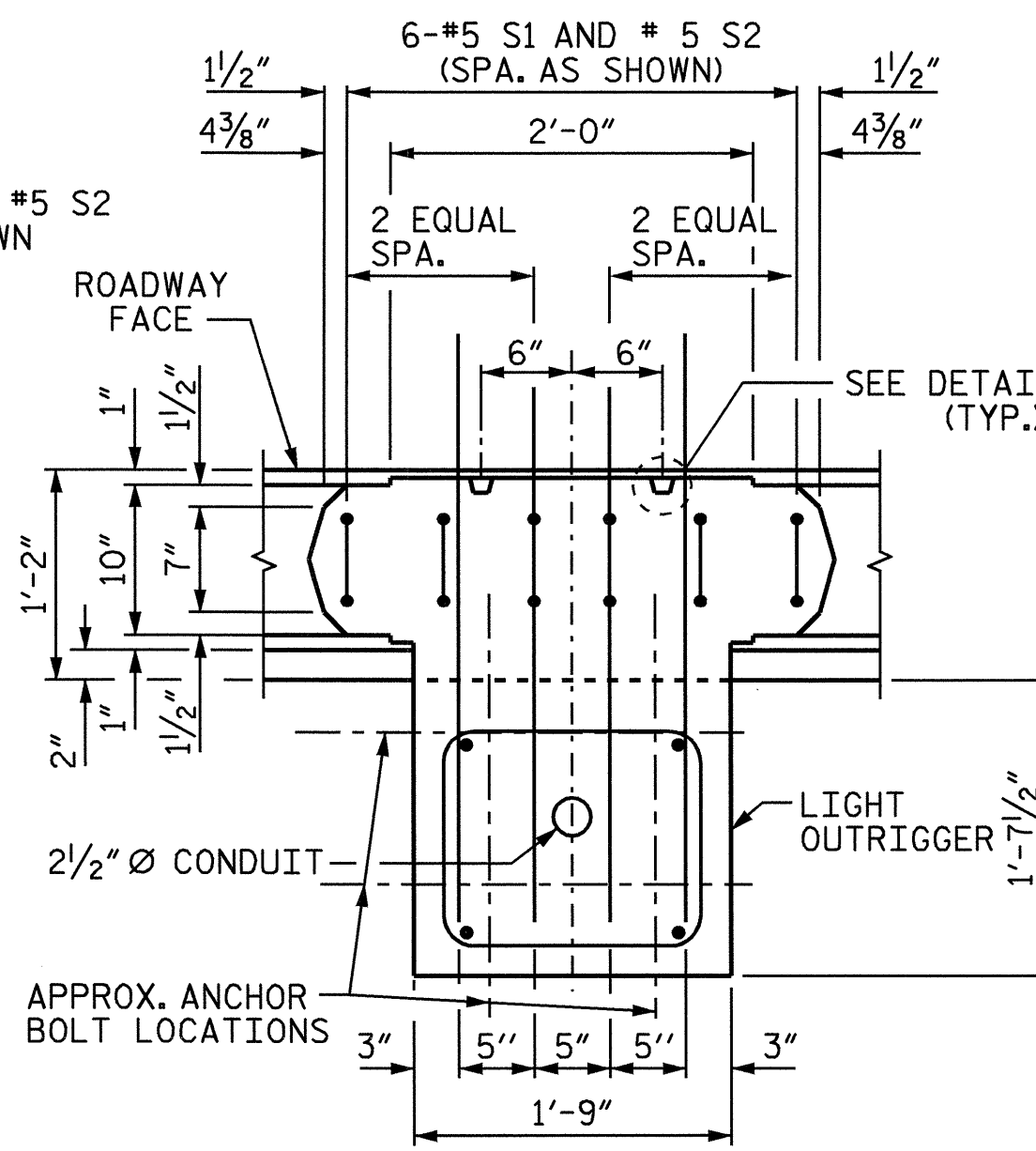
SHEET 3 OF 6

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE CLASSIC CONCRETE BRIDGE RAIL & SIDEWALK SPAN C					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S-26 TOTAL SHEETS 48

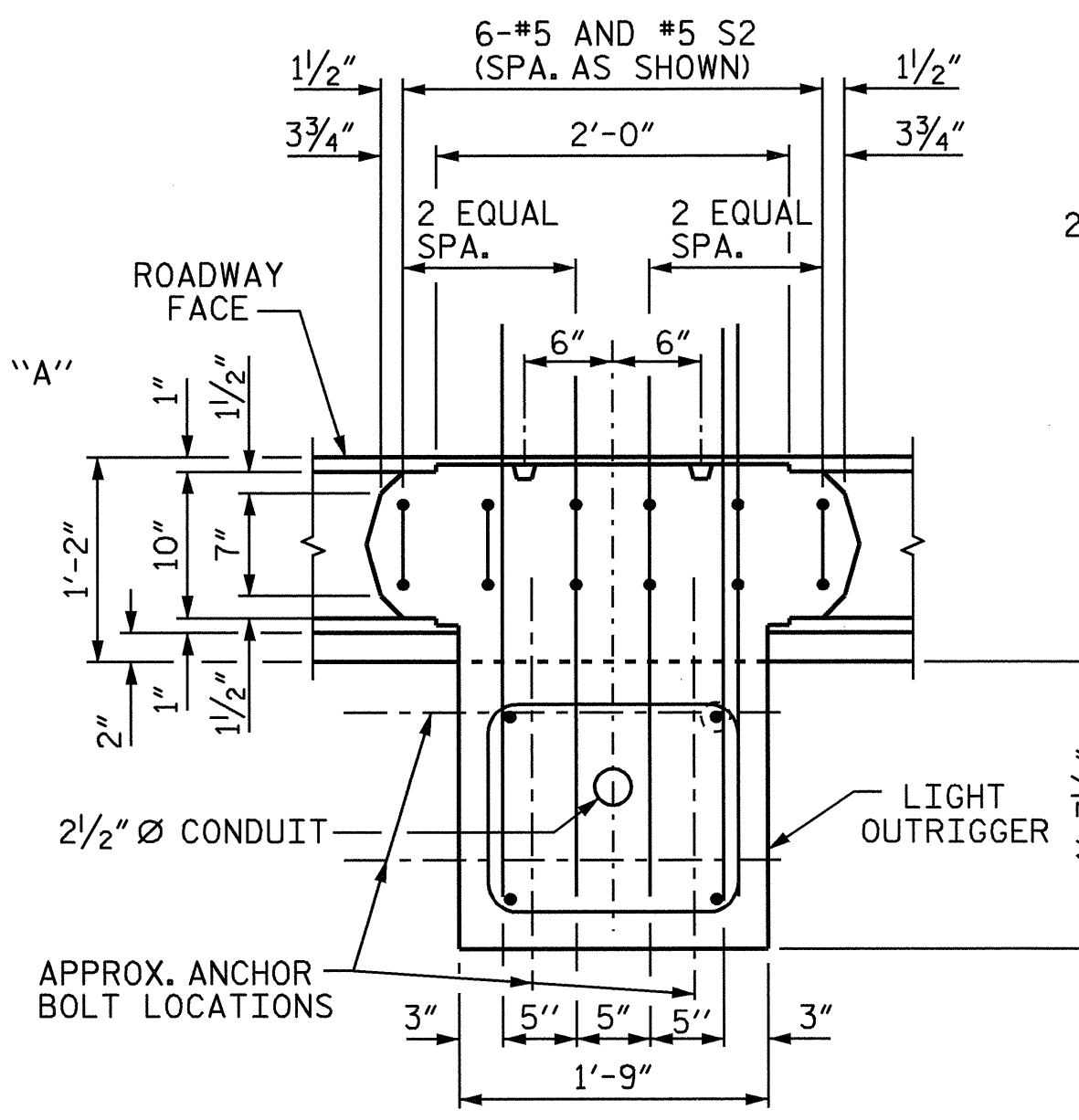
DRAWN BY: **J. MYA** DATE: **9-15-08**
 CHECKED BY: **W. ARAFAT** DATE: **10-8-08**



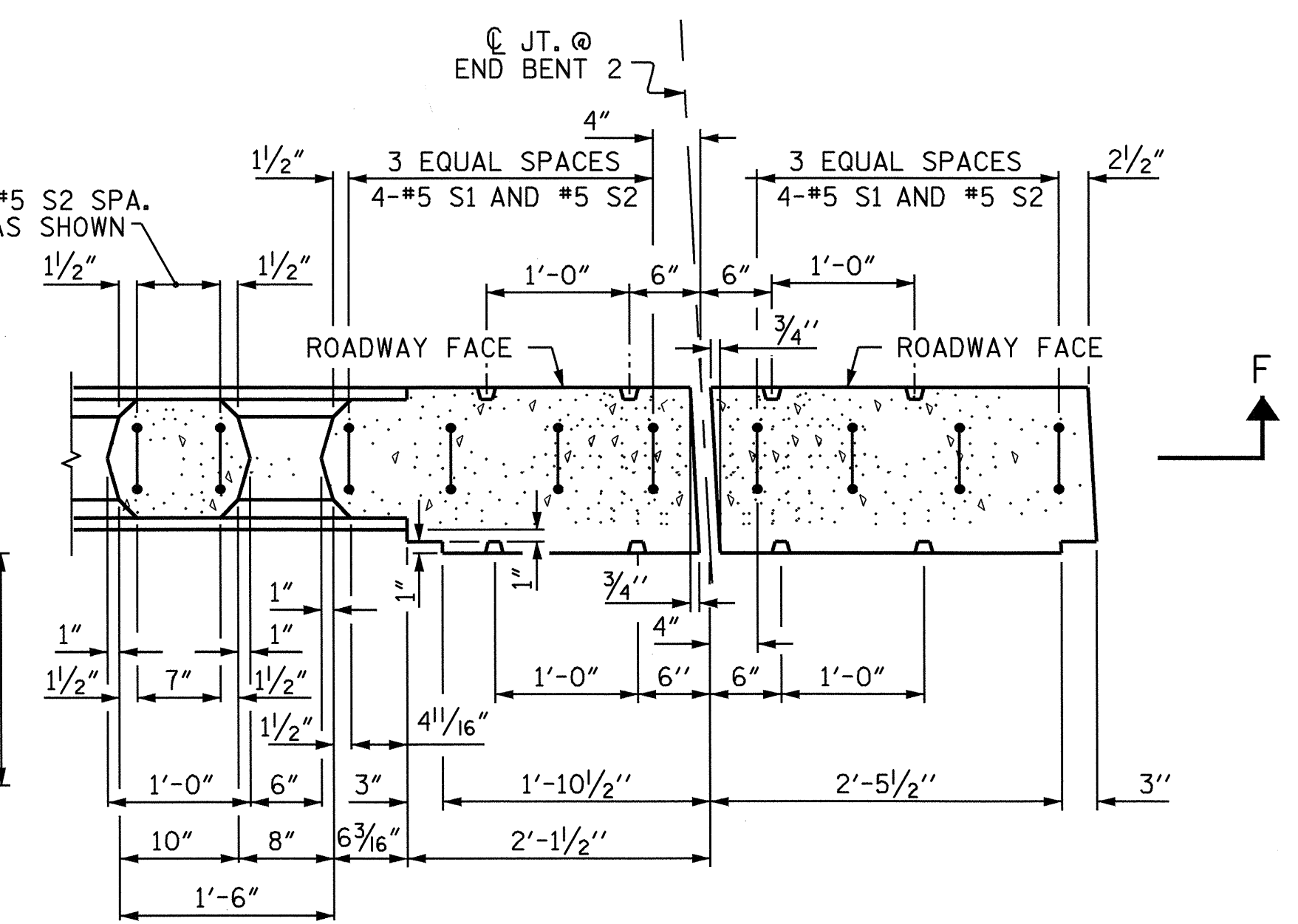
SECTION B-B
SHOWING END BENT 1 PILASTER



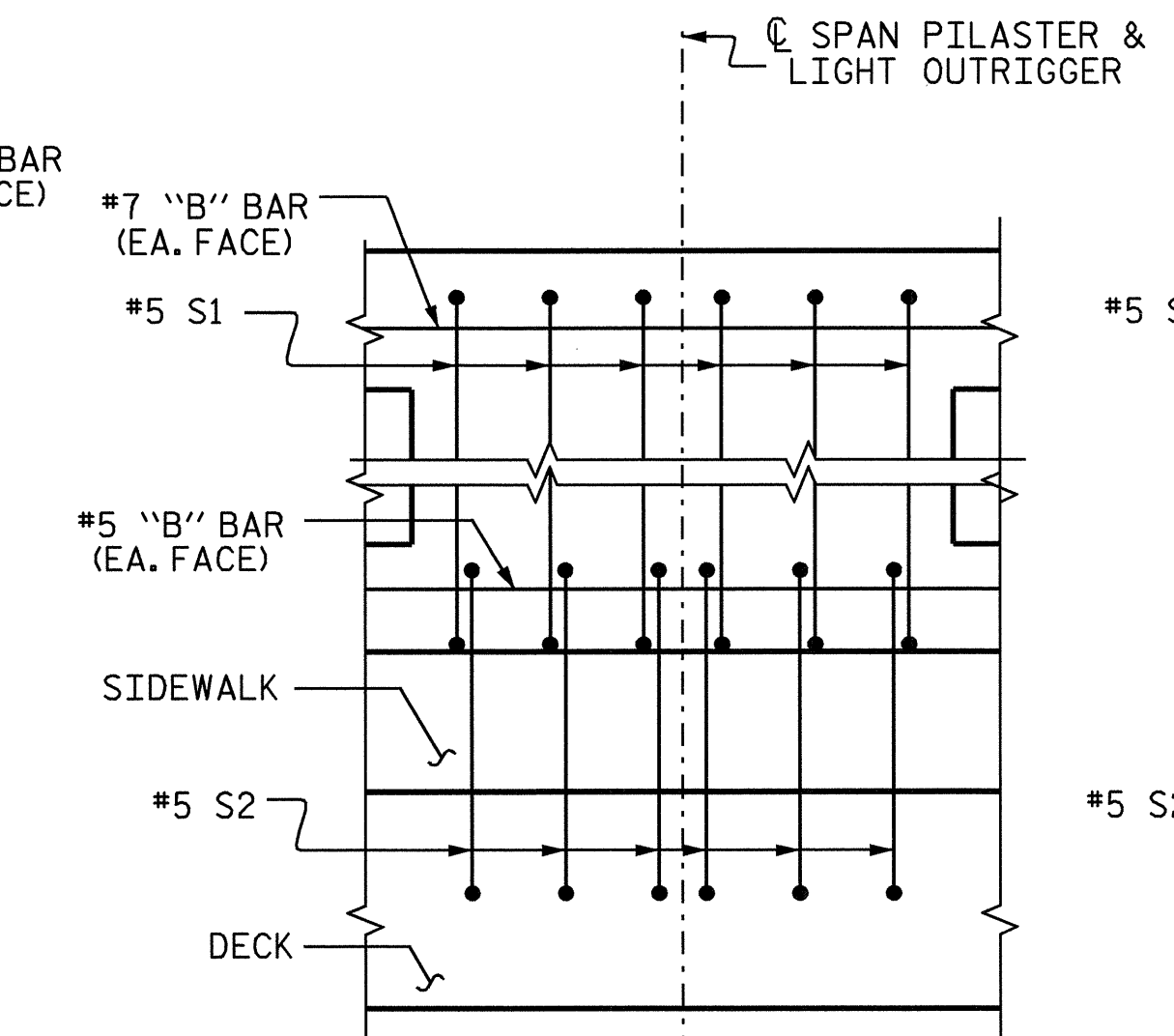
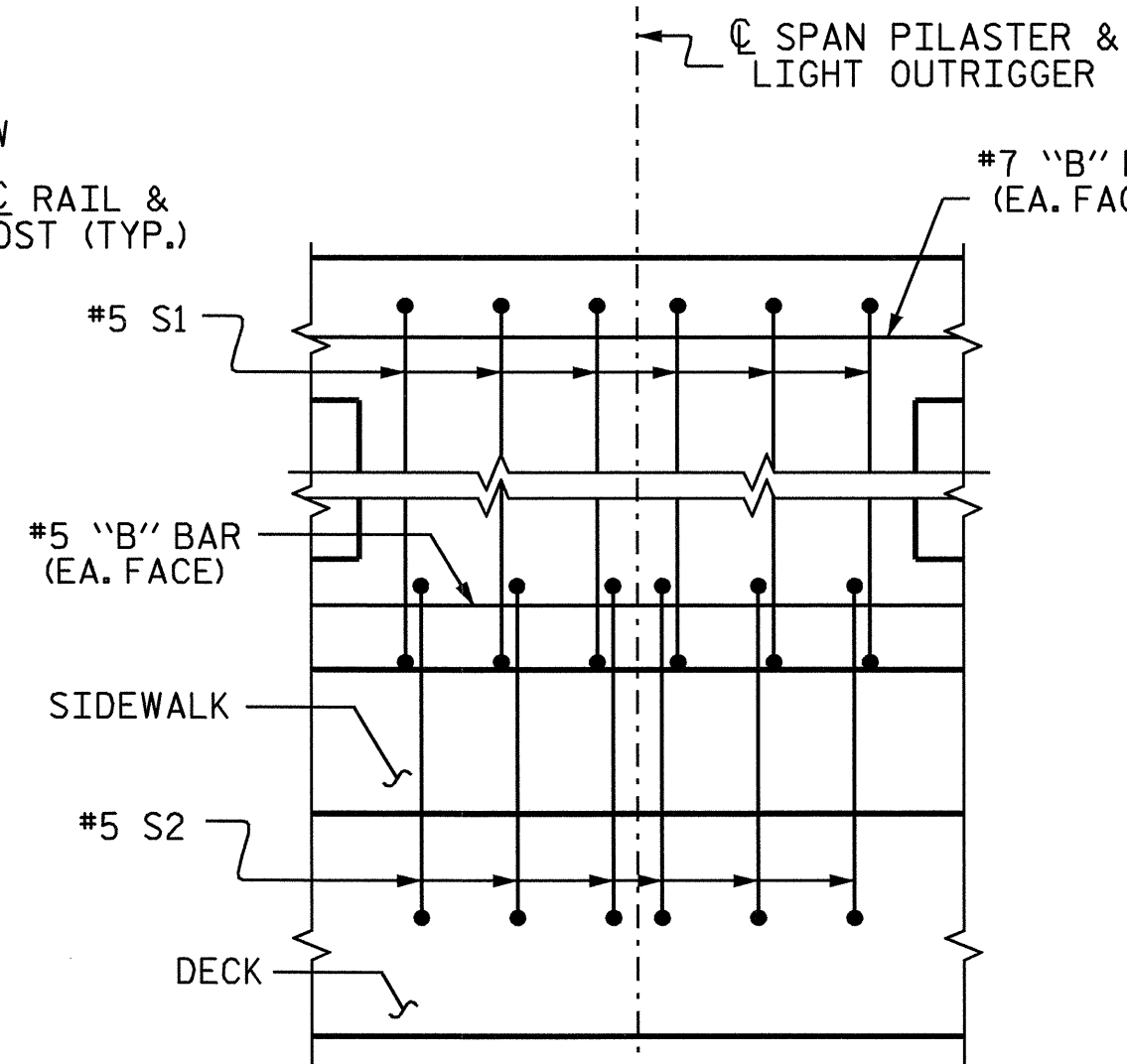
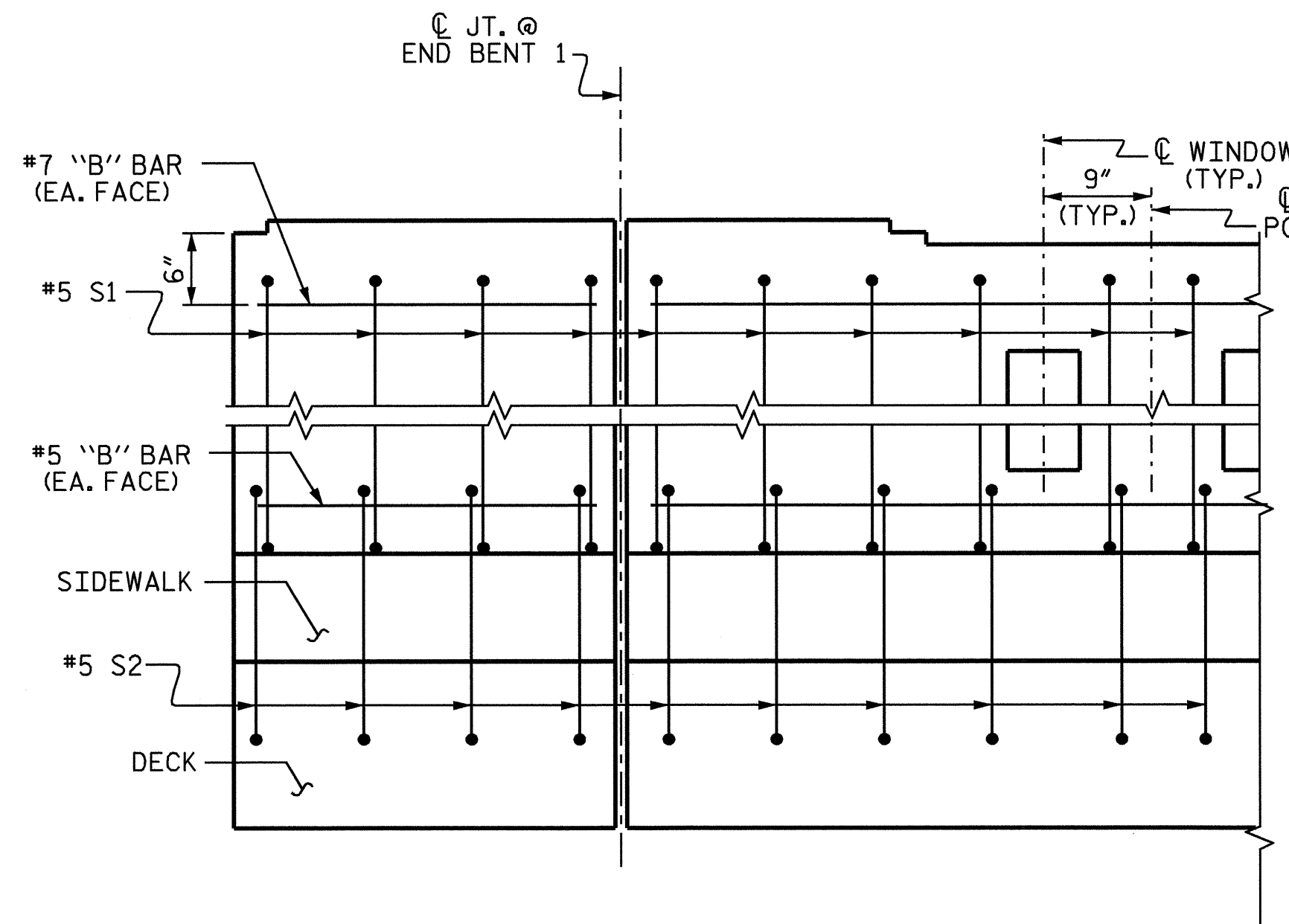
SECTION C-C
SHOWING PILASTER AND LIGHT OUTRIGGER
(POST 1, 2, AND 3)
(FOR LIGHT OUTRIGGER REINFORCING STEEL
DETAIL SEE SHEET 5 OF 6).



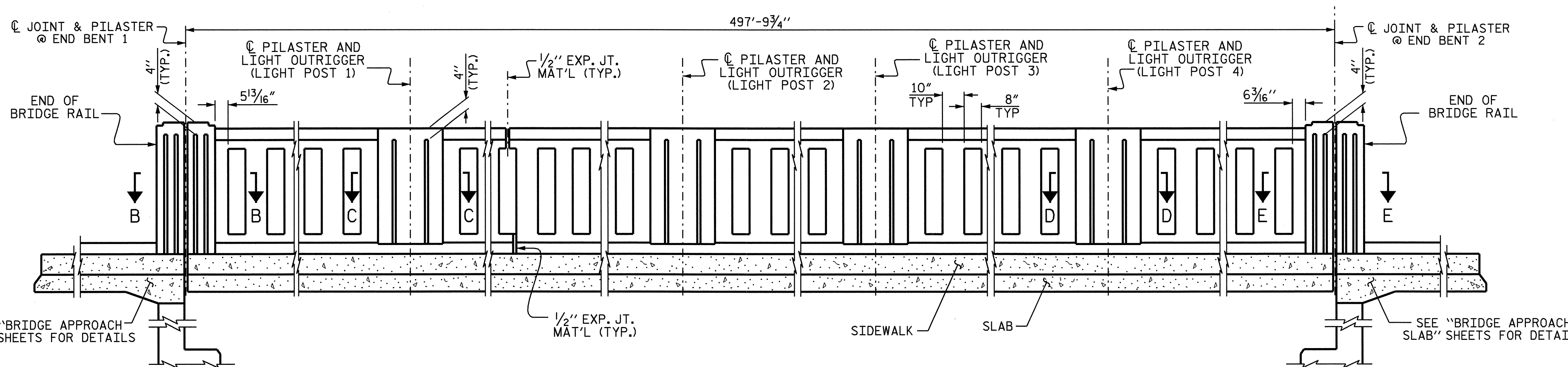
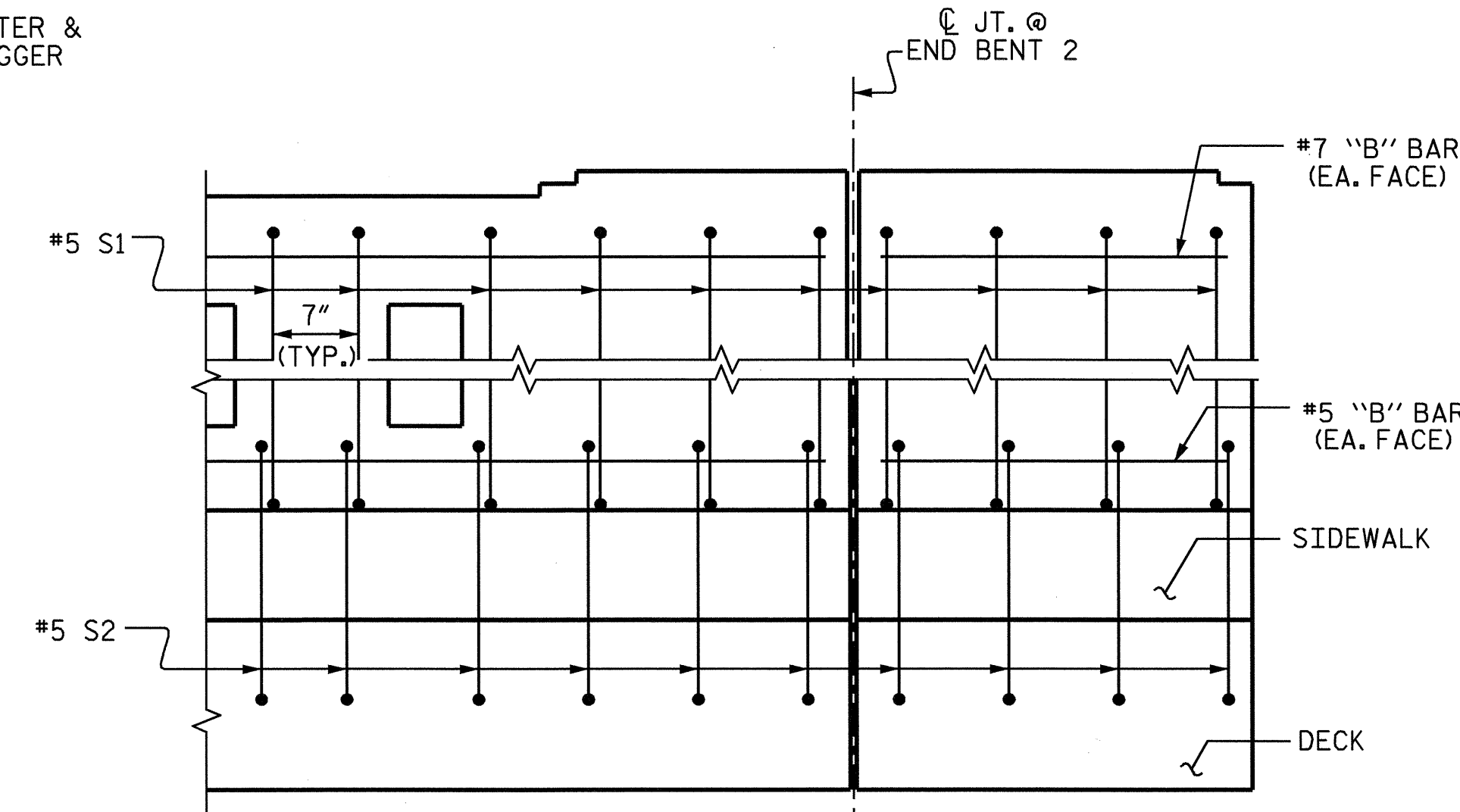
SECTION D-D
SHOWING PILASTER AND LIGHT OUTRIGGER (POST 4)
(FOR LIGHT OUTRIGGER REINFORCING STEEL
DETAIL SEE SHEET 5 OF 6).



SECTION E-E
SHOWING END BENT 2 PILASTER

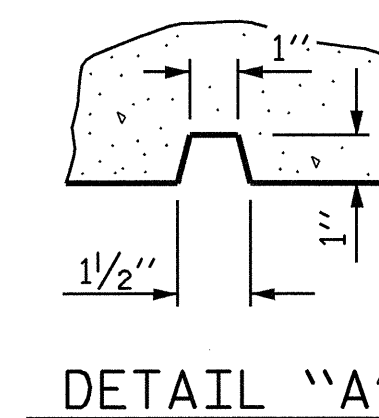


SECTION F-F
FOR REINFORCING STEEL IN OUTRIGGER SEE SHEET 5 OF 6
(RIGHT SIDE SHOWN, LEFT SIDE SIMILAR EXCEPT OMIT LIGHT OUTRIGGER)

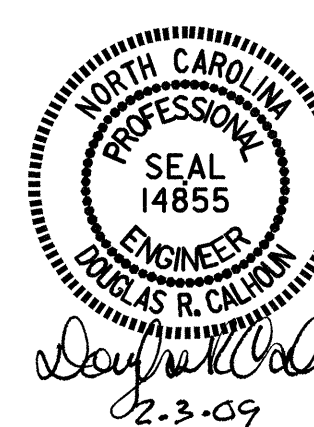


PARTIAL ROADWAY ELEVATION OF RAIL (RIGHT SIDE)

CHAMFERS NOT SHOWN FOR CLARITY.
(RIGHT SIDE SHOWN, LEFT SIDE SIMILAR EXCEPT OMIT LIGHT OUTRIGGER)



DETAIL "A"



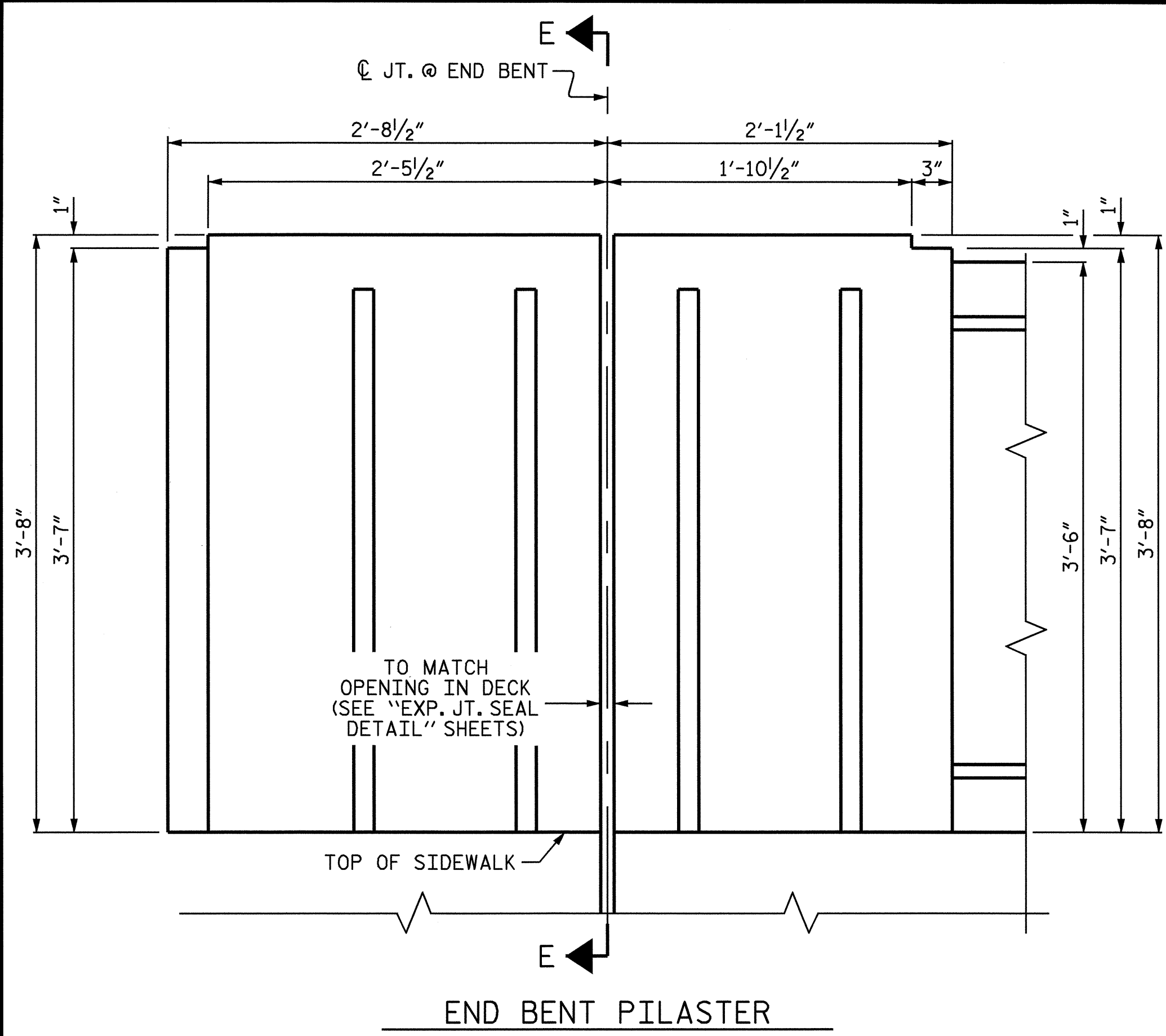
PROJECT NO. B-2965
EDGEcombe COUNTY
STATION: 39+59.00 -L-

SHEET 4 OF 6

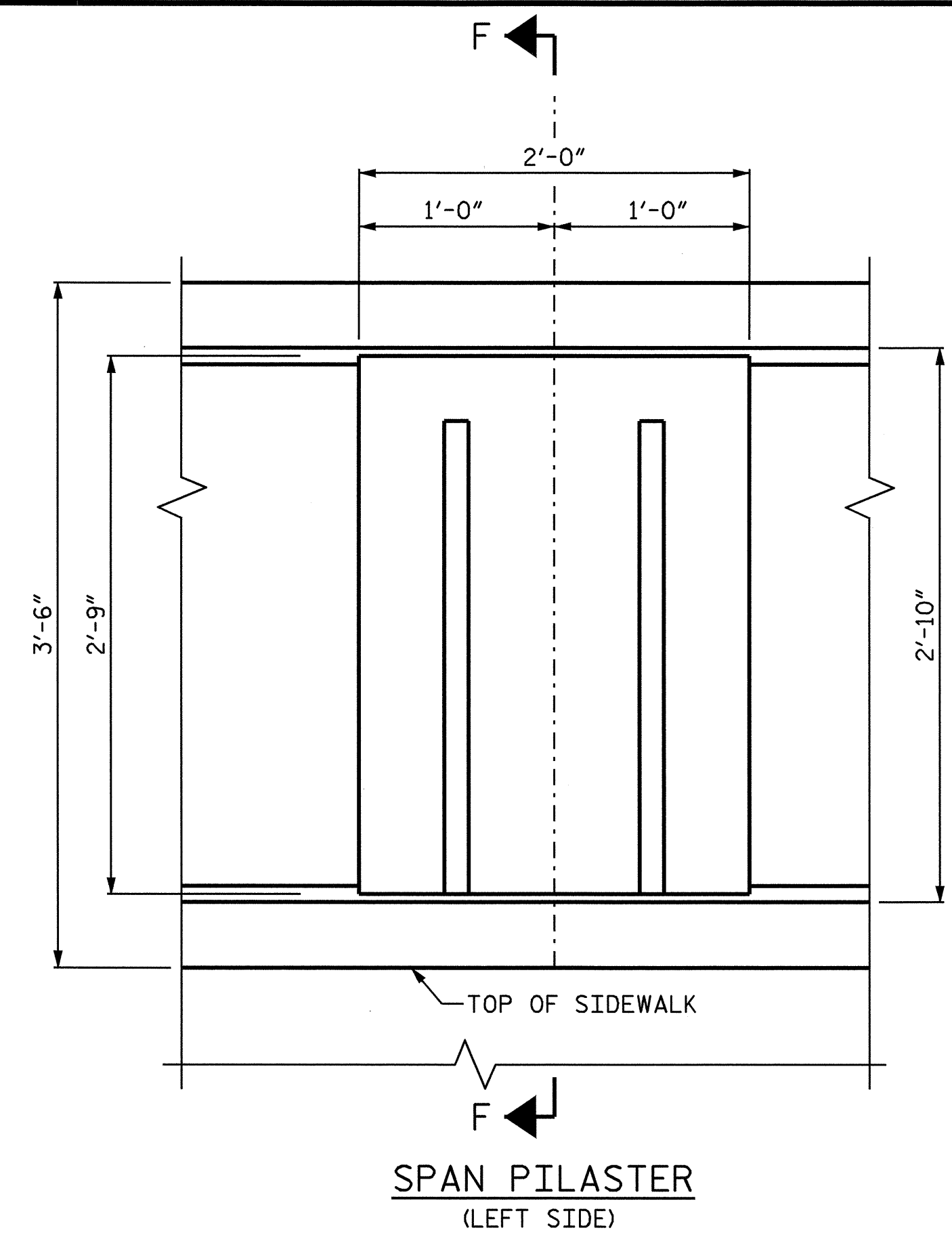
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
CLASSIC CONCRETE
BRIDGE RAIL AND
SIDEWALK DETAILS

ASSEMBLED BY : J. MYA	DATE : 9-15-08
CHECKED BY : W. ARAFAT	DATE : 10-8-08
DRAWN BY : RWW 8/99	REV. 7/10/01 LES/RDR
CHECKED BY : LES 8/99	REV. 5/7/03 RWW/JTE
	REV. 5/1/06 TLA/GM

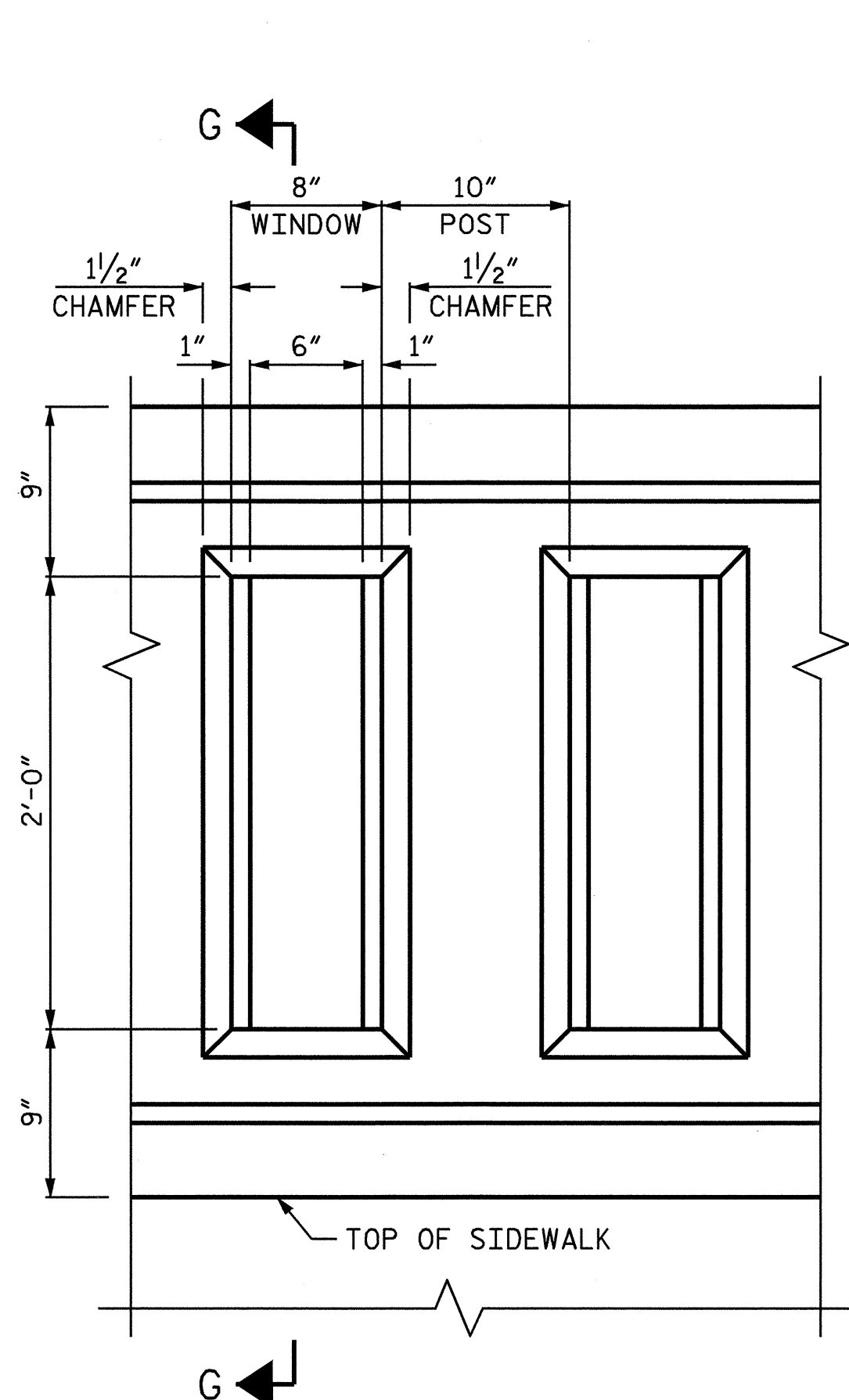
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-27	
1			3			TOTAL SHEETS	48
2			4				



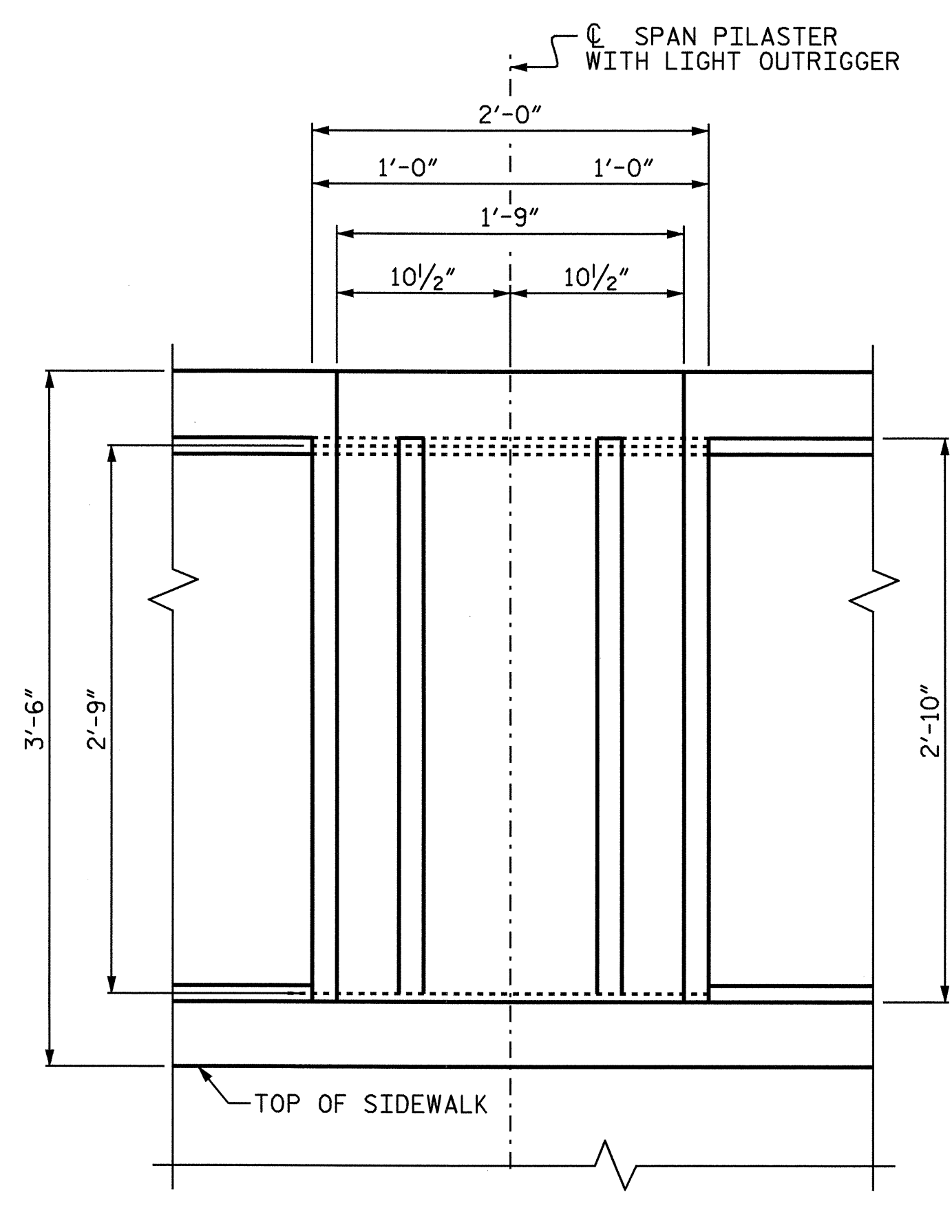
END BENT PILASTER



SPAN PILASTER (LEFT SIDE)



WINDOW DETAIL

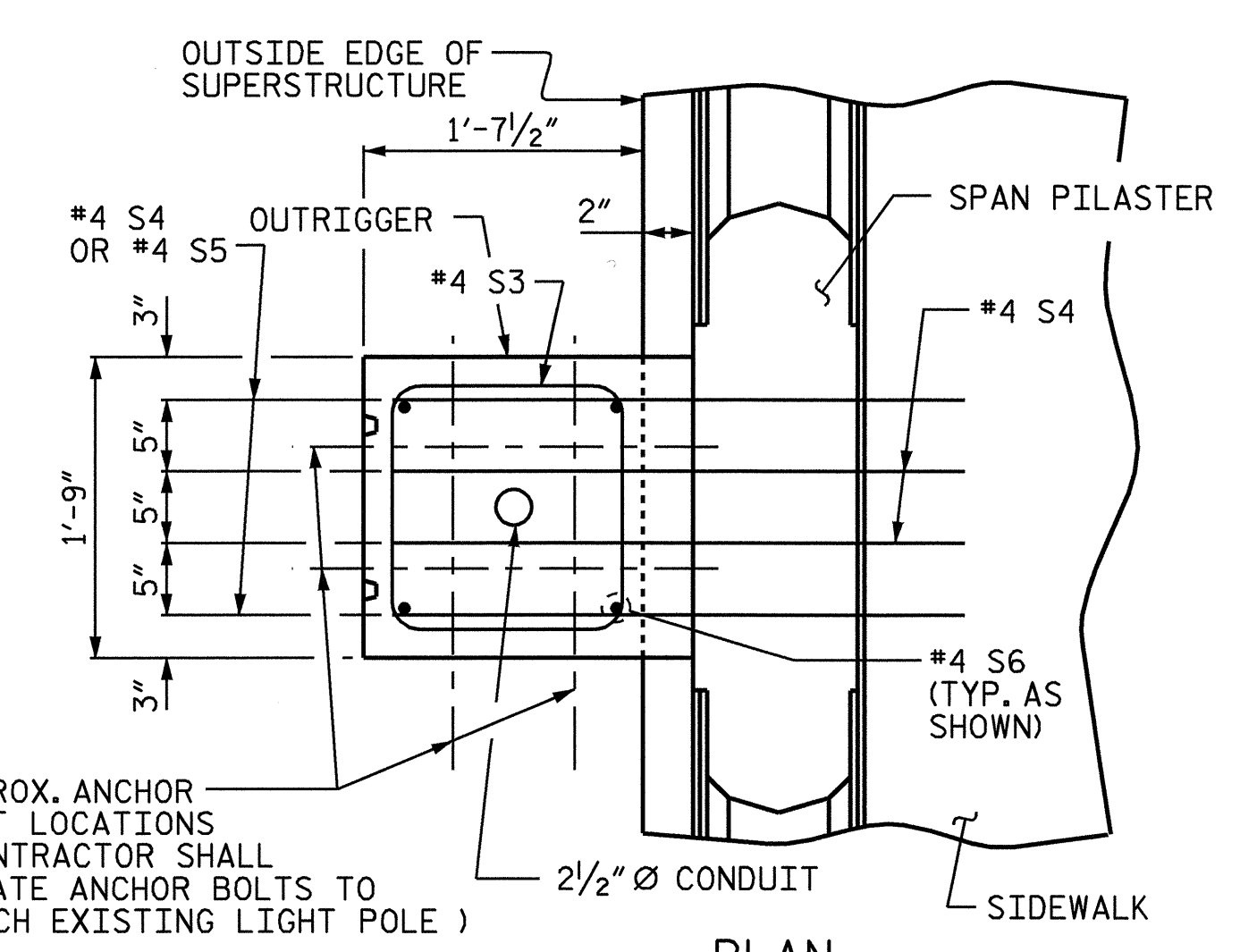


SPAN PILASTER WITH LIGHT OUTRIGGER (RIGHT SIDE)

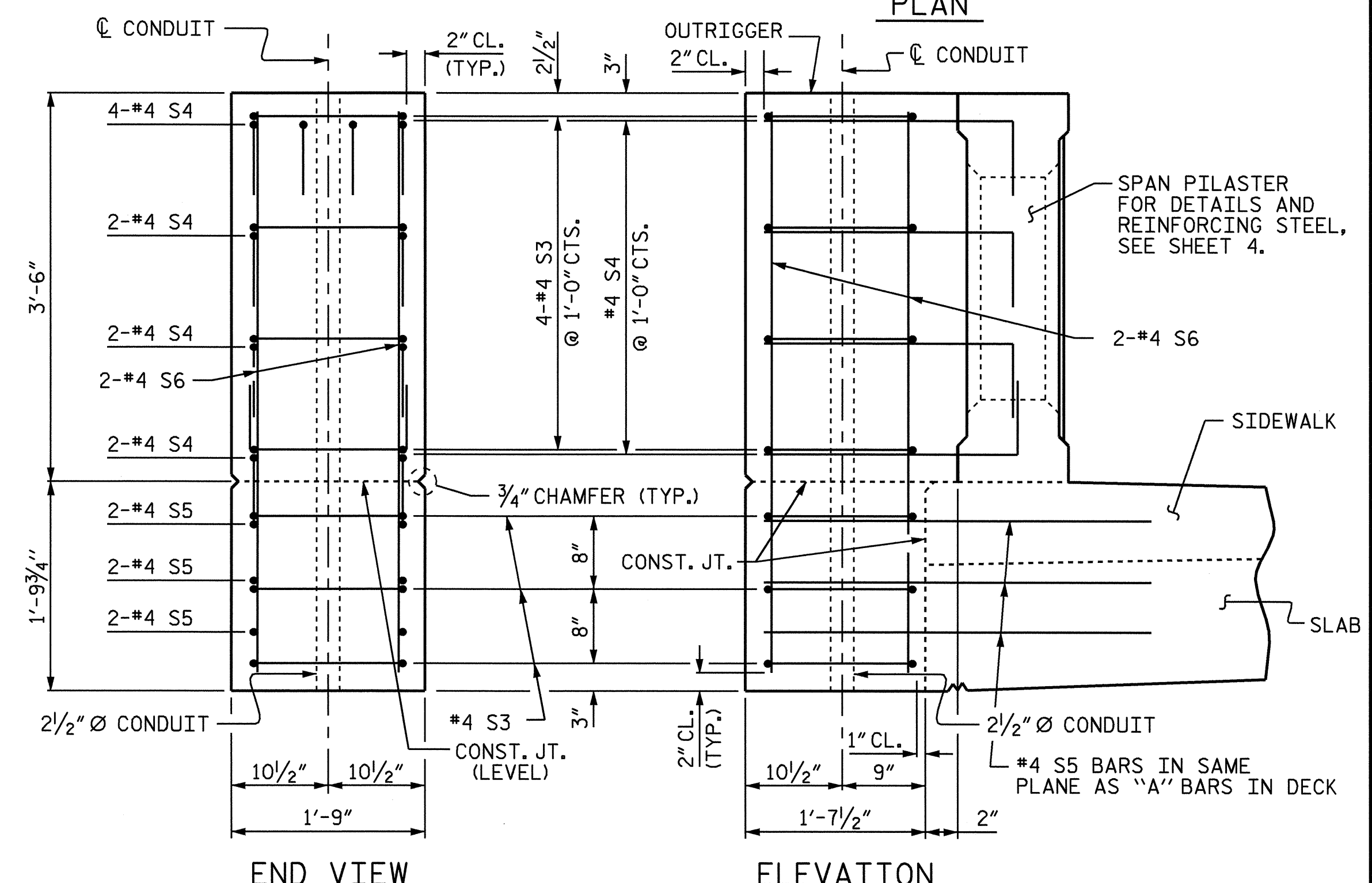
PILASTER ELEVATIONS

FOR LOCATION OF LIGHT OUTRIGGERS, SEE SHEET 1, 2 AND 3.

APPROX. ANCHOR BOLT LOCATIONS (CONTRACTOR SHALL LOCATE ANCHOR BOLTS TO MATCH EXISTING LIGHT POLE)



PLAN



END VIEW ELEVATION

LIGHT OUTRIGGER DETAILS

NOTES:

CLASSIC CONCRETE BRIDGE RAIL IN A CONTINUOUS UNIT SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE IN THE UNIT HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

ALL REINFORCING STEEL IN THE CLASSIC CONCRETE BRIDGE RAIL AND SIDEWALK SHALL BE EPOXY COATED.

FOR CLASSIC CONCRETE BRIDGE RAIL, SEE SPECIAL PROVISIONS .

ALL PARTS OF THE CLASSIC BRIDGE RAIL INCLUDING, BUT NOT LIMITED TO THE REINFORCING STEEL, CLASS AA CONCRETE, AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT OF "CLASSIC CONCRETE BRIDGE RAIL".

FOR PILASTER REINFORCING STEEL AND DETAILS, SEE SHEET 4 OF 6.

THE #5 G1 BARS MAY BE SHIFTED SLIGHTLY IN ORDER TO MAINTAIN 2" CLEARANCE TO THE 1/2" EXPANSION JOINT MATERIAL IN SIDEWALK.

SIDEWALK REINFORCING STEEL AND CONCRETE ON APPROACH SLAB SHALL BE INCLUDED IN THE LUMP SUM PAY ITEM FOR "BRIDGE APPROACH SLAB".

SIDEWALK REINFORCING STEEL AND CONCRETE ON BRIDGE SHALL BE INCLUDED IN THE LUMP SUM PAY ITEM FOR "REINFORCED CONCRETE DECK SLAB".

GROOVED CONTRACTION JOINTS 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF SIDEWALK IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINTS SHALL BE LOCATED AT A SPACING OF 8 FEET TO 10 FEET BETWEEN EXPANSION JOINTS. NO CONTRACTION JOINTS WILL BE REQUIRED FOR SEGMENTS LESS THAN 10 FEET IN LENGTH.

PROJECT NO. B-2965
 EDGEcombe COUNTY
 STATION: 39+59.00 -L-

SHEET 5 OF 6



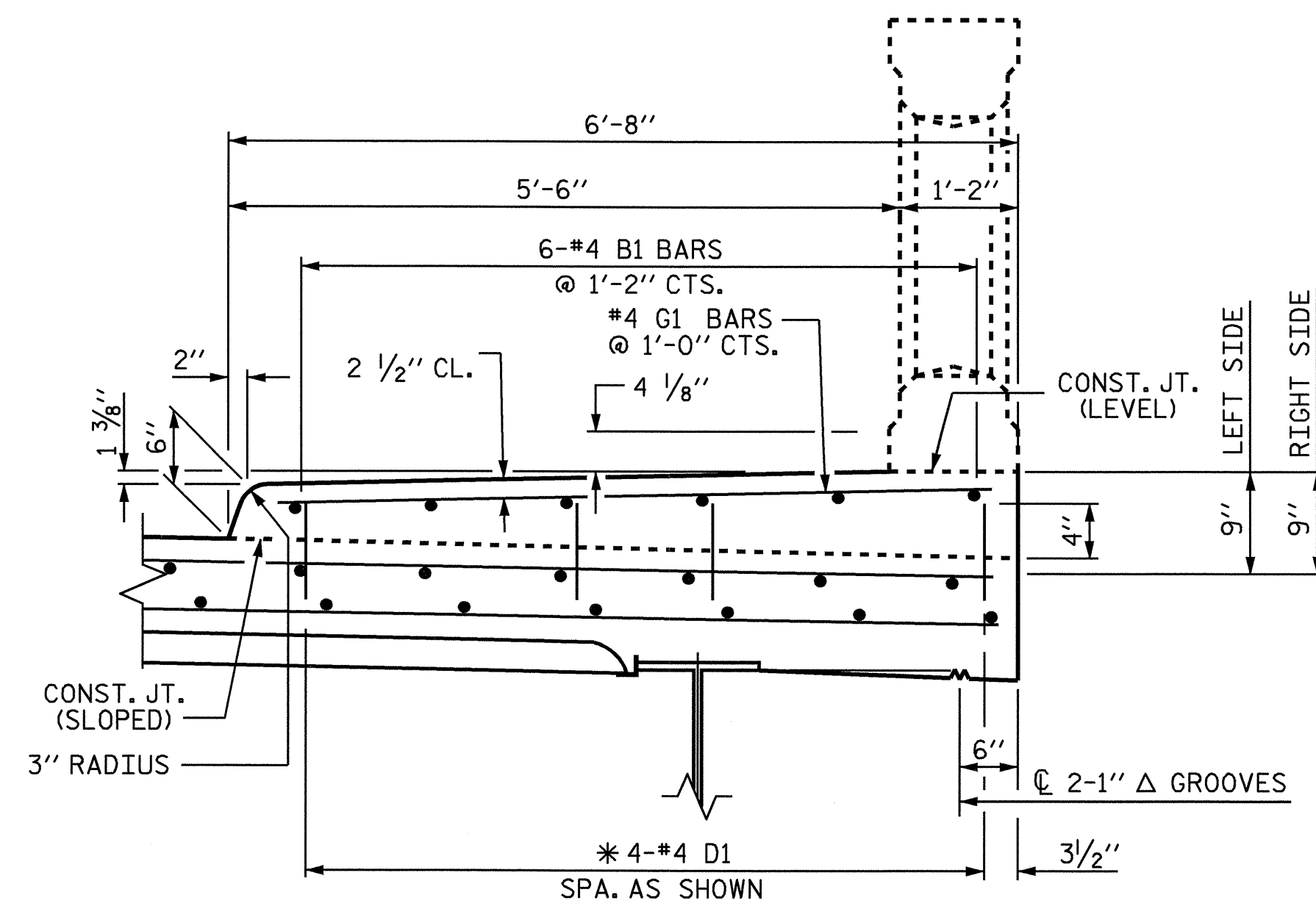
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 CLASSIC CONCRETE
 BRIDGE RAIL &
 SIDEWALK DETAILS

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

SHEET NO. S-28
 TOTAL SHEETS 48

DRAWN BY: J. MYA DATE: 9-15-08
 CHECKED BY: W. ARAFAT DATE: 10-8-08

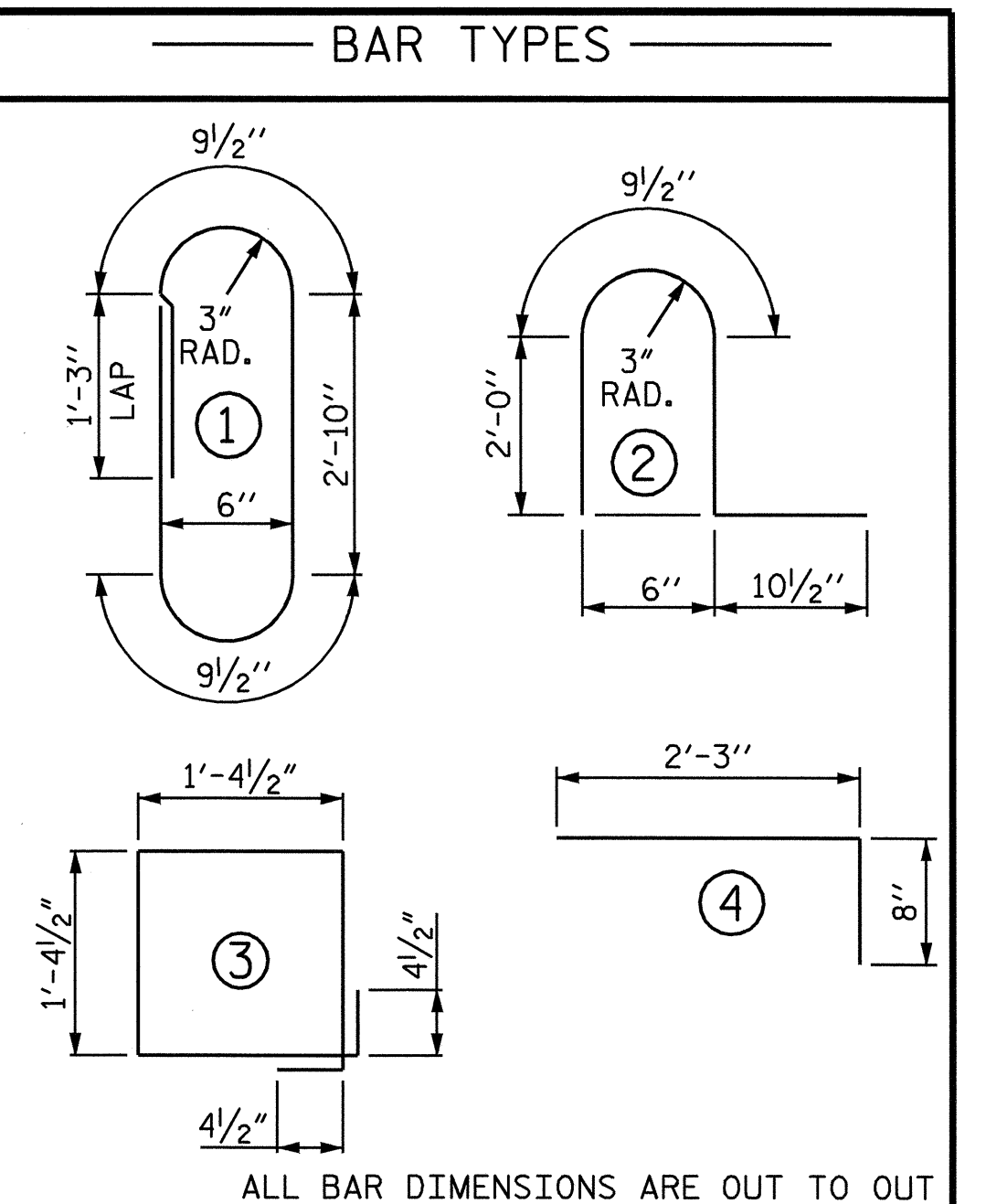


SECTION THRU SIDEWALK

* DOWELS MAY BE PUSHED INTO GREEN CONCRETE AFTER SPAN HAS BEEN SCREEDED OFF.

BILL OF MATERIAL FOR SIDEWALK

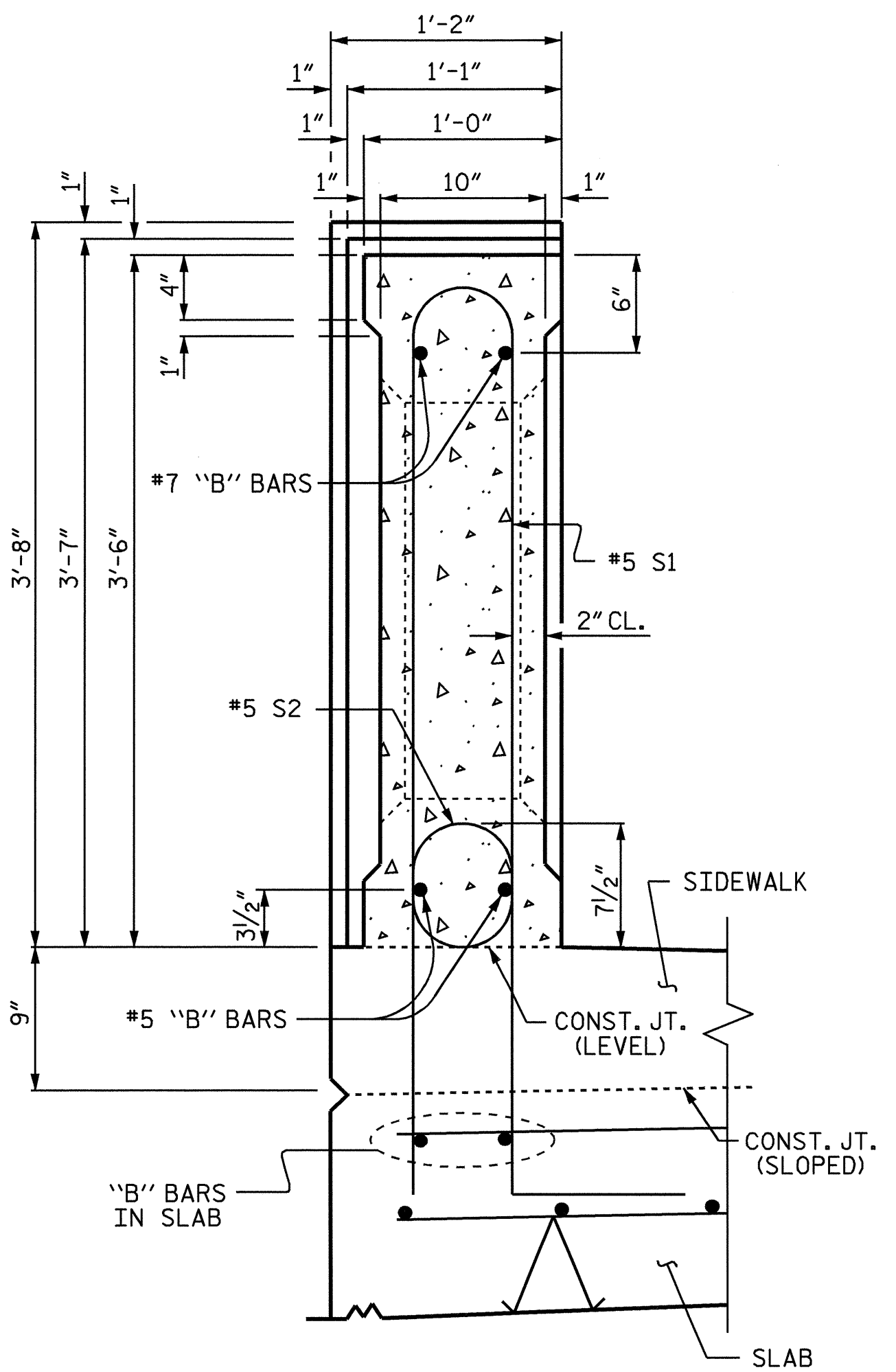
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B11	228	#4	STR	28'-2"	4290
* D1	576	#4	STR	10"	321
* G1	996	#4	STR	6'-3"	4158
* EPOXY COATED REINFORCING STEEL				8769	LBS.
CLASS AA CONCRETE				155	CU. YDS.



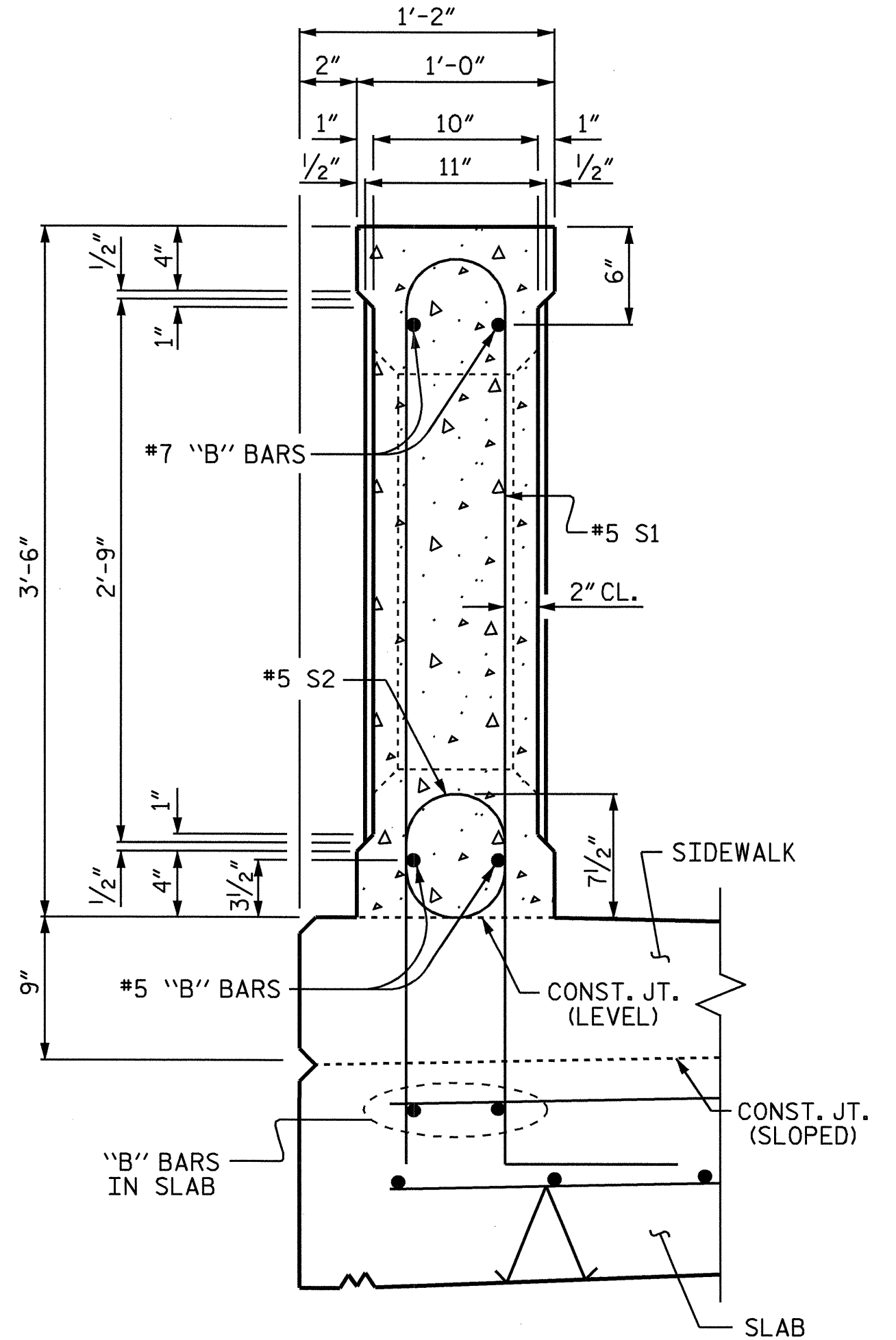
BILL OF MATERIAL FOR CLASSIC CONCRETE BRIDGE RAIL & LIGHT OUTRIGGER

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B1	4	#7	STR	22'-6"	184
* B2	4	#5	STR	22'-6"	94
* B3	52	#7	STR	29'-8"	3153
* B4	52	#5	STR	29'-8"	1609
* B5	4	#7	STR	31'-6"	258
* B6	4	#5	STR	31'-6"	131
* B7	4	#7	STR	22'-4"	183
* B8	4	#5	STR	22'-4"	93
* B9	4	#7	STR	30'-0"	245
* B10	4	#5	STR	30'-0"	125
* S1	1340	#5	1	8'-6"	11880
* S2	1340	#5	2	5'-8"	7920
* S3	28	#4	3	6'-3"	117
* S4	40	#4	4	2'-11"	78
* S5	24	#4	STR	3'-7"	57
* S6	16	#4	STR	4'-11"	53
* EPOXY COATED REINFORCING STEEL				26,180	LBS.
CLASS AA CONCRETE				91.7	CU. YDS.
CONCRETE BRIDGE RAIL				▲ 1006.42	LIN. FT.

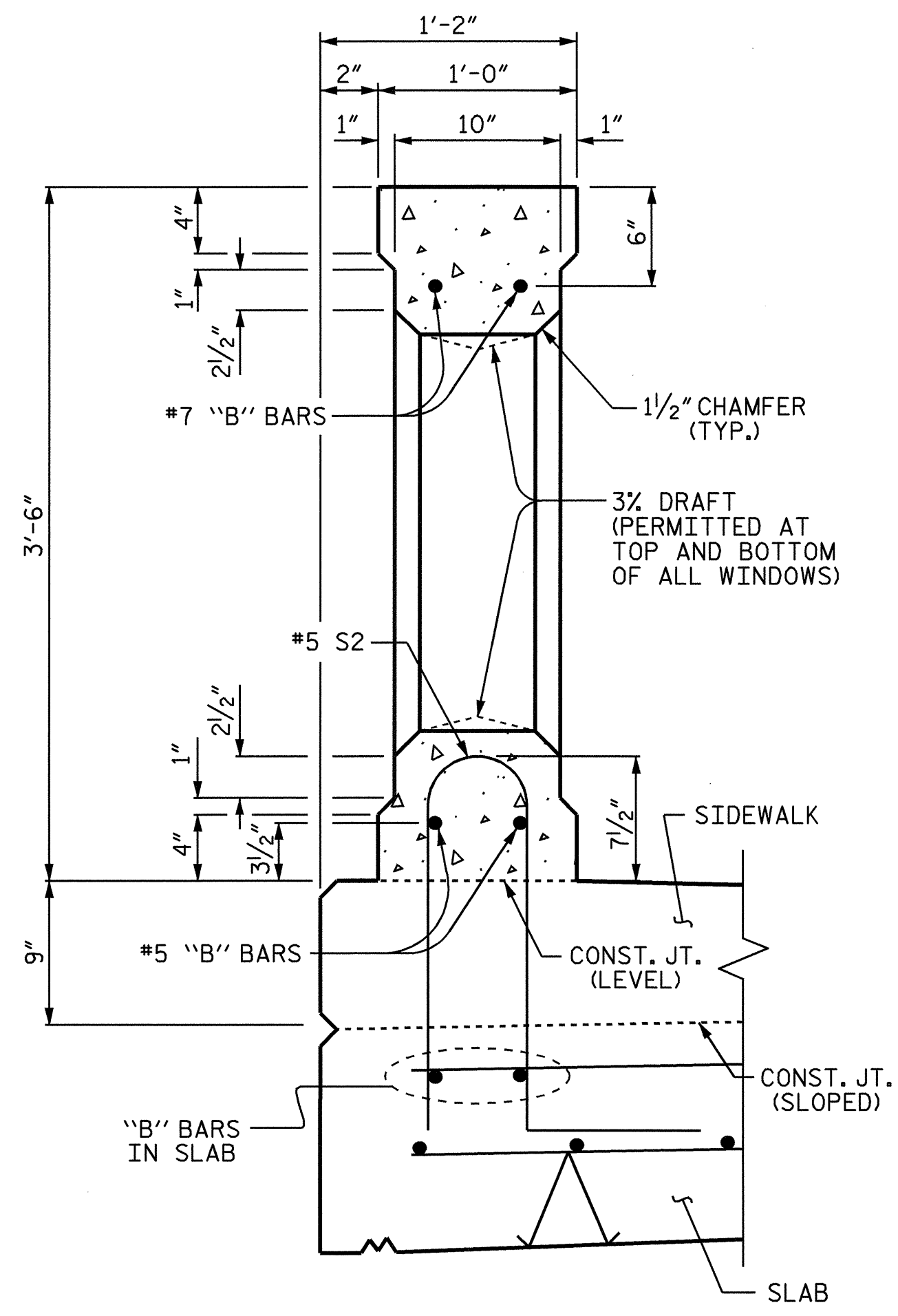
▲ CONCRETE BRIDGE RAIL ON APPROACH SLABS IS INCLUDED IN LENGTH.



SECTION E-E
(SHOWING END BENT PILASTER)



SECTION F-F
(SHOWING SPAN PILASTER)



SECTION G-G
(SHOWING WINDOW OF RAIL)

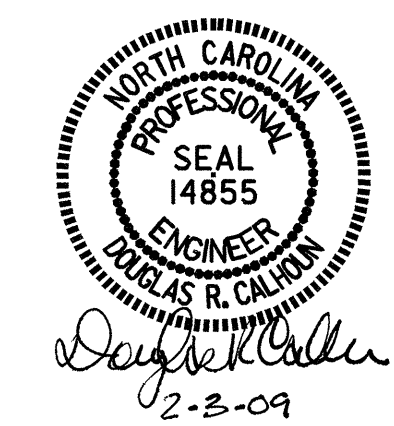
SECTIONS THROUGH CLASSIC CONCRETE RAIL

FOR LOCATION OF SECTIONS, SEE SHEET 5 OF 6.

PROJECT NO. B-2965
EDGECOMBE COUNTY
 STATION: 39+59.00 -L-

SHEET 6 OF 6

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 CLASSIC CONCRETE
 BRIDGE RAIL &
 SIDEWALK DETAILS

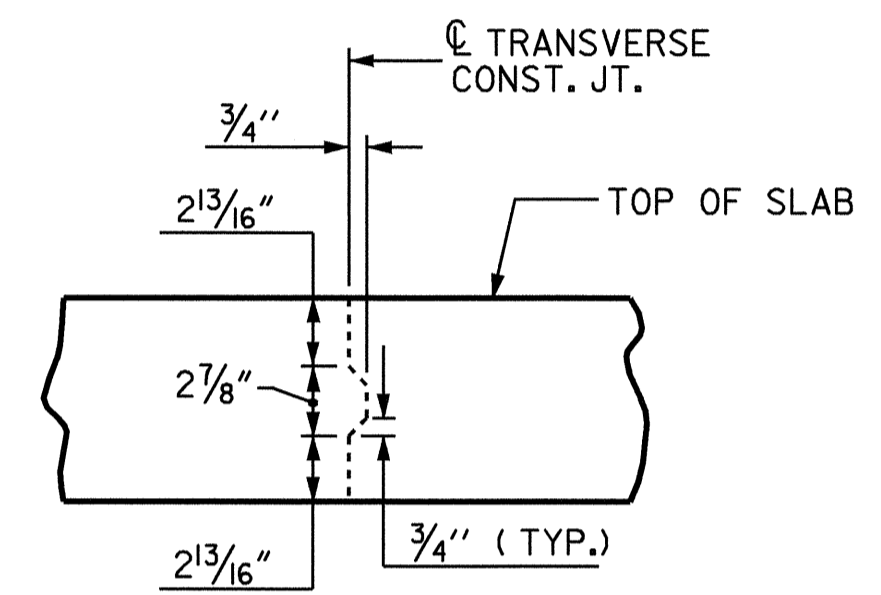


REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-29	
1			3			TOTAL SHEETS	48
2			4				

DRAWN BY : J. MYA DATE : 9-15-08
 CHECKED BY : W. ARAFAT DATE : 10-8-08

SUPERSTRUCTURE REINFORCING STEEL LENGTHS ARE BASED ON THE FOLLOWING MINIMUM SPLICE LENGTHS

BAR SIZE	SUPERSTRUCTURE EXCEPT APPROACH SLABS, PARAPET, AND BARRIER RAIL		APPROACH SLABS		PARAPET AND BARRIER RAIL
	EPOXY COATED	UNCOATED	EPOXY COATED	UNCOATED	
#4	2'-0"	1'-9"	2'-0"	1'-9"	2'-9"
#5	2'-6"	2'-2"	2'-6"	2'-2"	3'-5"
#6	3'-0"	2'-7"	3'-10"	2'-7"	4'-4"
#7	5'-3"	3'-6"			
#8	6'-10"	4'-7"			



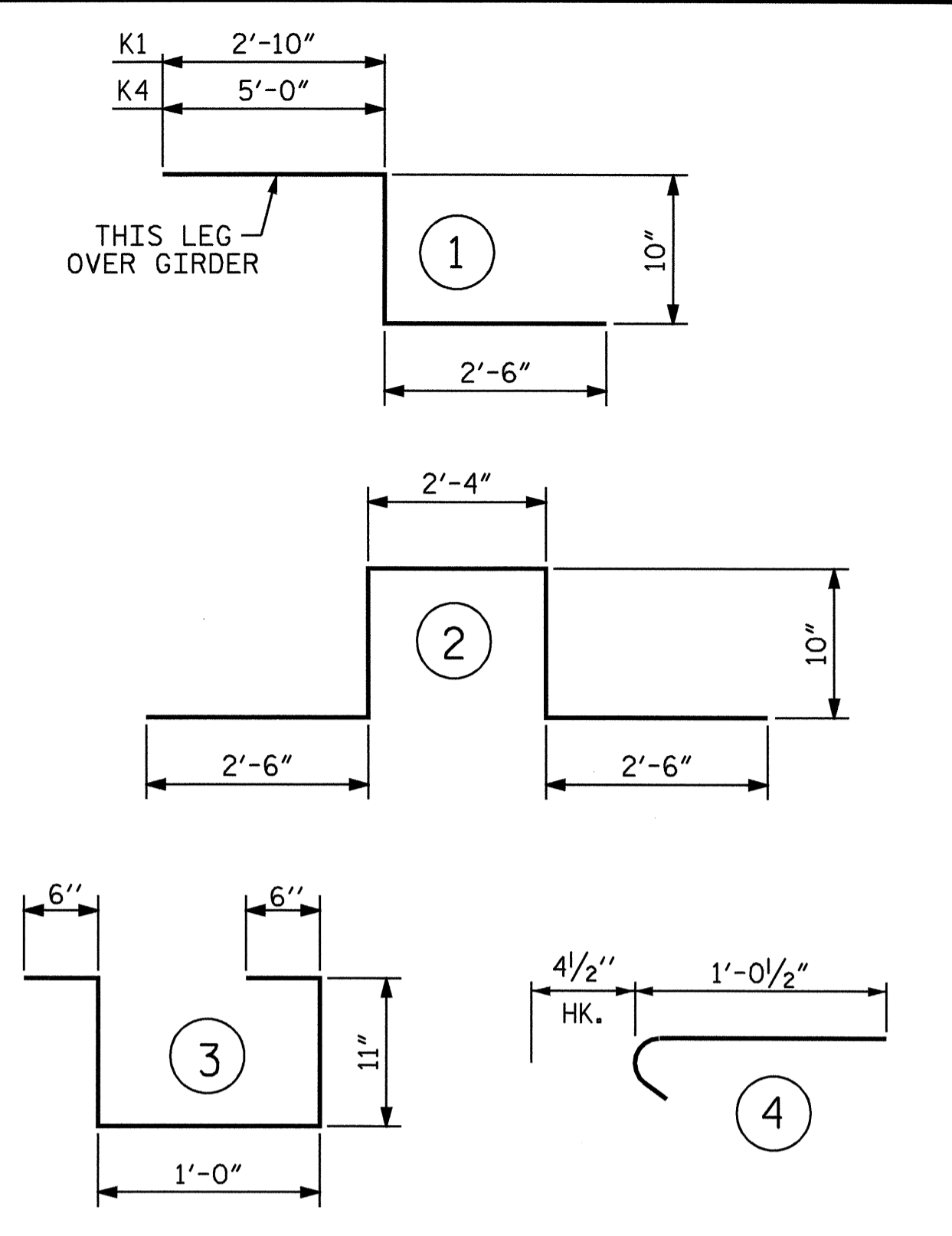
TRANSVERSE CONSTRUCTION JOINT DETAIL

NOTE: REINFORCING STEEL IN SLAB NOT SHOWN. LONGITUDINAL REINFORCING STEEL SHALL BE CONTINUOUS THRU JOINT

REINFORCING BAR SCHEDULE

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	833	#5	STR	47'-0"	40834
A2	833	#5	STR	47'-0"	40834
* A101	5	#5	STR	47'-3"	246
* A102	5	#5	STR	47'-6"	248
* A103	5	#5	STR	47'-9"	249
* A104	5	#5	STR	48'-1"	251
* A105	5	#5	STR	48'-4"	252
* A106	5	#5	STR	48'-7"	253
* A107	5	#5	STR	48'-10"	255
* A108	5	#5	STR	49'-2"	256
* A109	5	#5	STR	49'-5"	258
* A110	5	#5	STR	49'-8"	259
* A111	5	#5	STR	49'-11"	260
* A112	5	#5	STR	50'-3"	262
* A113	5	#5	STR	50'-6"	263
* A114	5	#5	STR	50'-9"	265
* A115	5	#5	STR	51'-0"	266
* A116	5	#5	STR	51'-4"	268
* A117	5	#5	STR	51'-7"	269
A201	5	#5	STR	47'-3"	246
A202	5	#5	STR	47'-6"	248
A203	5	#5	STR	47'-9"	249
A204	5	#5	STR	48'-1"	251
A205	5	#5	STR	48'-4"	252
A206	5	#5	STR	48'-7"	253
A207	5	#5	STR	48'-10"	255
A208	5	#5	STR	49'-2"	256
A209	5	#5	STR	49'-5"	258
A210	5	#5	STR	49'-8"	259
A211	5	#5	STR	49'-11"	260
A212	5	#5	STR	50'-3"	262
A213	5	#5	STR	50'-6"	263
A214	5	#5	STR	50'-9"	265
A215	5	#5	STR	51'-0"	266
A216	5	#5	STR	51'-4"	268
A217	5	#5	STR	51'-7"	269
* B1	280	#4	STR	25'-5"	4754
B2	423	#5	STR	57'-3"	25258
* B3	390	#7	STR	38'-5"	30624
* B4	140	#4	STR	27'-8"	2587
* B5	4	#4	STR	20'-4"	54
* B6	2	#4	STR	8'-7"	11
* G1	1	#5	STR	47'-0"	49
* G2	1	#5	STR	51'-10"	54
* J1	73	#4	4	1'-5"	69
* K1	4	#5	1	6'-2"	26
* K2	16	#5	2	9'-0"	150
* K3	20	#5	STR	8'-4"	174
* K4	4	#5	1	8'-4"	35
* S1	70	#4	3	3'-10"	179
REINFORCING STEEL				=	70472 LBS
* EPOXY COATED REINF. STEEL				=	83980 LBS

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

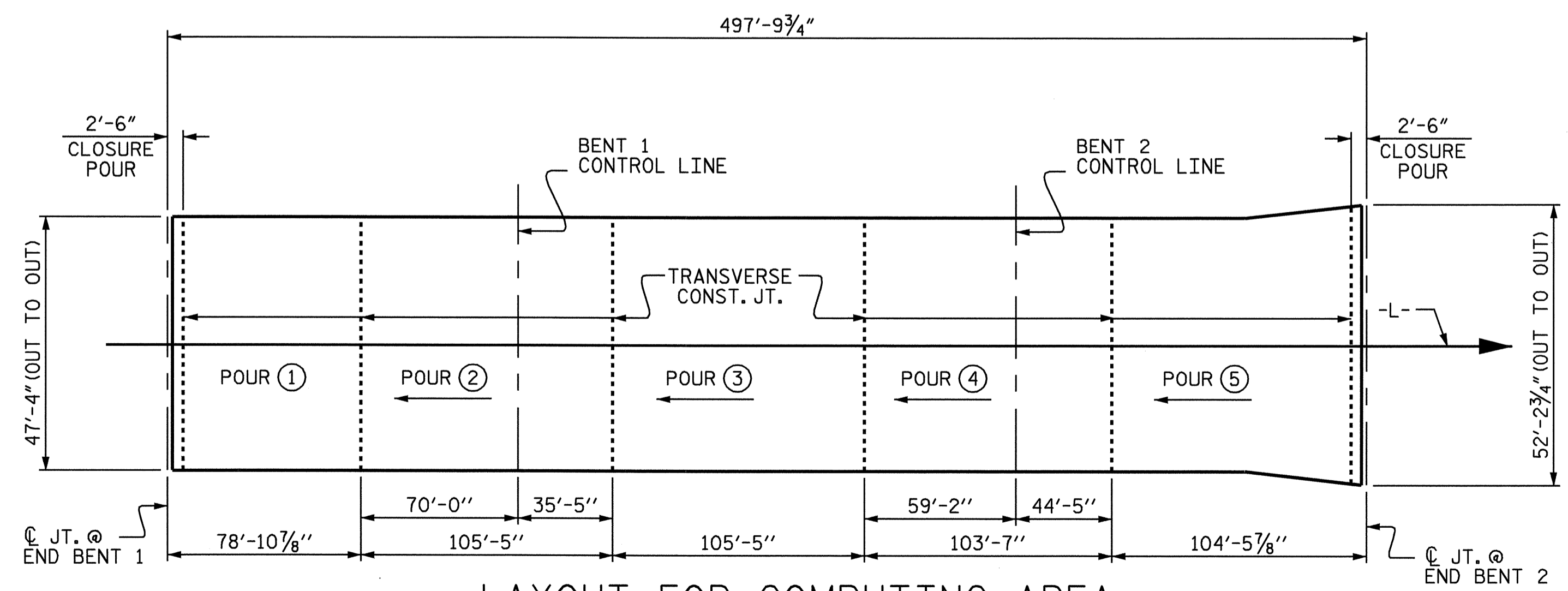
— SUPERSTRUCTURE BILL OF MATERIAL —

	CLASS AA CONCRETE (CU.YDS.)	REINFORCING STEEL (LBS.)	EPOXY COATED REINFORCING STEEL (LBS.)
POUR 1	▲ 118.8		
POUR 2	152.7		
POUR 3	155.0		
POUR 4	149.5		
POUR 5	▲ 161.3		
TOTALS**	737.3	70,472	83,980

**QUANTITIES FOR CLASSIC RAIL ARE NOT INCLUDED
▲ CLOSURE POURS (4.3 C.Y. - POUR 1 & 4.7 C.Y. - POUR 5) ARE INCLUDED IN THESE QUANTITIES.

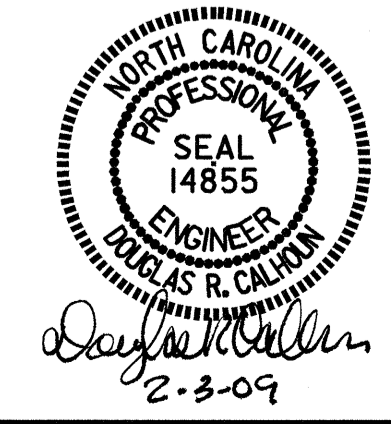
GROOVING BRIDGE FLOORS

APPROACH SLABS	1,589	SQ.FT.
BRIDGE DECK	15,511	SQ.FT.
TOTAL	17,100	SQ.FT.



LAYOUT FOR COMPUTING AREA OF REINFORCED CONCRETE DECK SLAB & CONCRETE POUR DETAIL (SQ. FT. = 23,674)

PROJECT NO. B-2965
EDGECOMBE COUNTY
STATION: 39+59.00 -L-



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
SUPERSTRUCTURE
BILL OF MATERIAL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-30
1			3			TOTAL SHEETS
2			4			48

ASSEMBLED BY : B.N. GRADY	DATE : 9/5/08
CHECKED BY : E.G. ALLEN	DATE : 10/20/08
DRAWN BY : JMB 5/87	REV. 6/1/94 EEM/GRP
CHECKED BY : SJD 9/87	REV. 8/16/99 RWW/LES
	REV. 5/1/06 TLA/GM

NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
 BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.
 THE TOP SURFACE AREAS OF THE END BENT CAPS SHALL BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.
 THE TOP SURFACE OF THE CAP EXCEPT THE BRIDGE SEAT BUILDUPS SHALL BE SLOPED TRANSVERSELY FROM THE FILL FACE TO THE BACK FACE AT THE RATE OF 2%.

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.

FOR PIPE INSERT DETAILS FOR ANCHOR BOLTS, SEE BEARINGS SHEET.

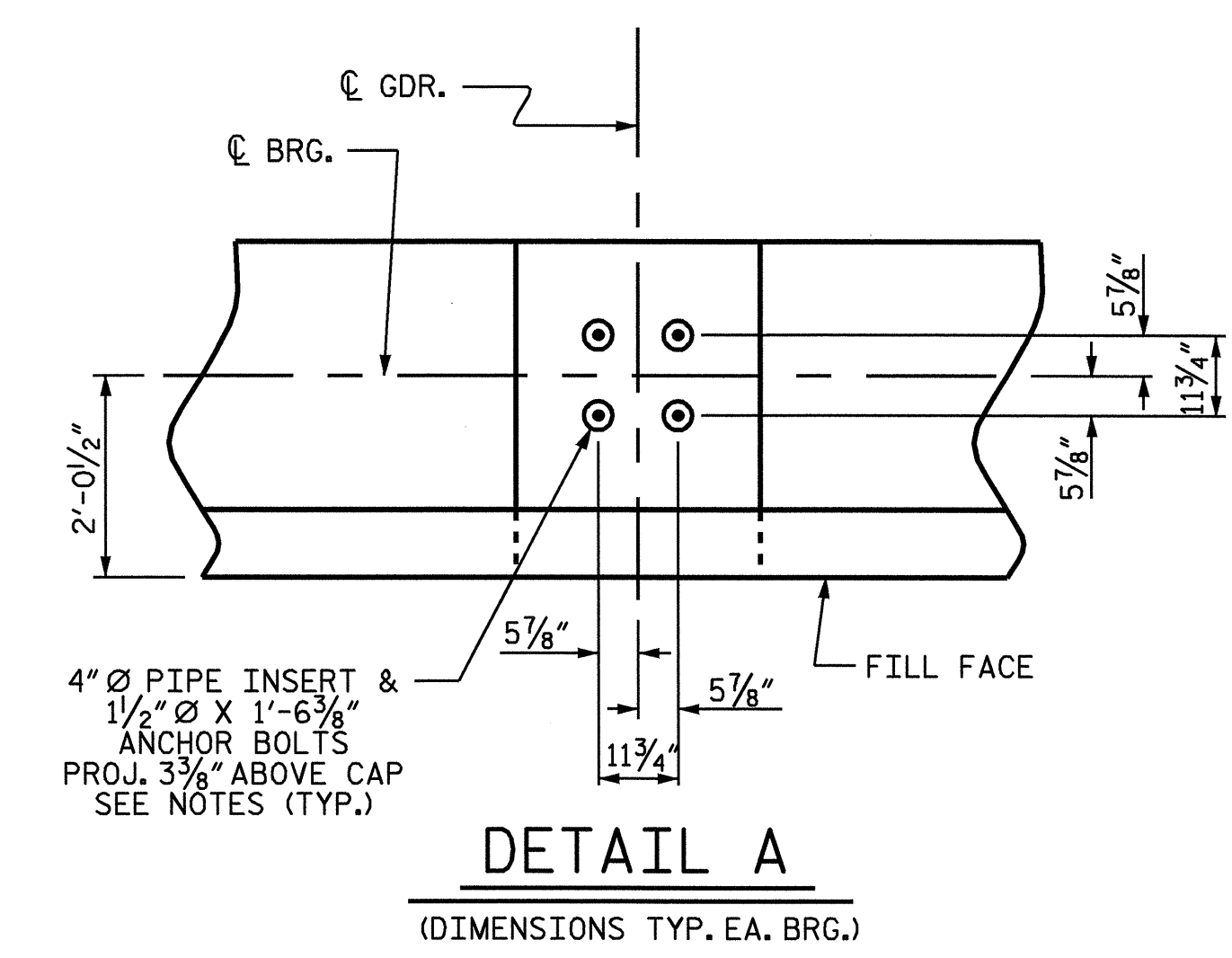
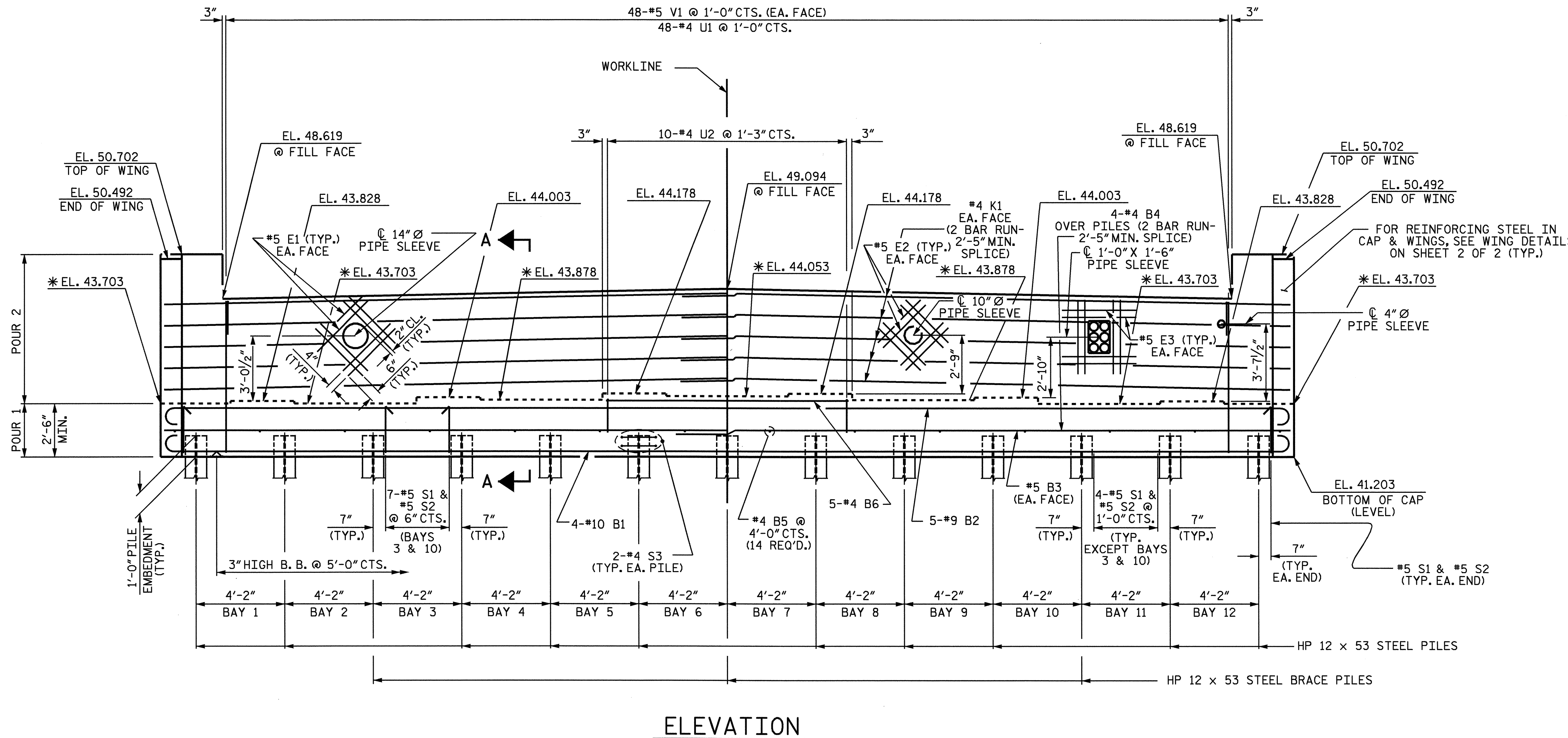
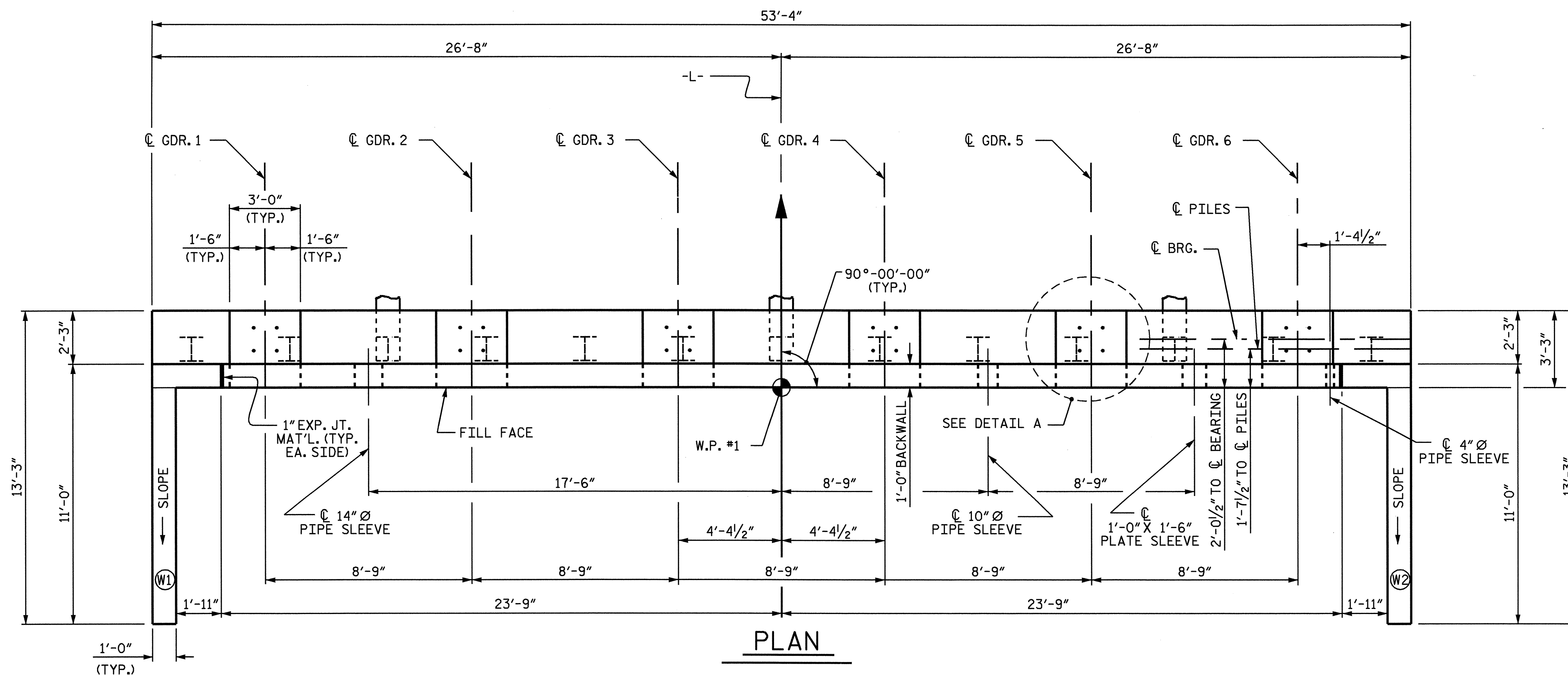
CENTER UTILITY IN BLOCKOUT AND FILL ANNUAL SPACE AROUND UTILITY PIPE WITH JOINT FILLER IN ACCORDANCE WITH STANDARD SPECIFICATION ARTICLE 1028-1.

THE DIMENSIONS AND DETAILS SHOWN FOR THE STEEL PLATE SLEEVE AND PIPE SLEEVES ARE FOR THE CONTRACTOR'S BENEFIT IN PLACING THE SLEEVES AND SHOULD NOT BE CONSTRUED TO BE AN APPROVAL FOR THE ATTACHMENT OF THE UTILITY TO THE STRUCTURE.

FOR RESPONSIBILITIES FOR FURNISHING AND PLACING STEEL PLATE SLEEVE AND PIPE SLEEVE, SEE UTILITY SPECIAL PROVISIONS.

THE STEEL PLATE SLEEVE AND PIPE SLEEVES ARE TO BE FLUSH WITH BOTH SIDES OF BACKWALL. SLEEVES ARE TO BE PLACED SO THAT OPENING IS PARALLEL TO GIRDERS.

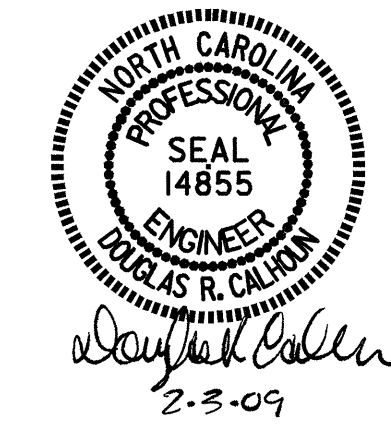
THE CONTRACTOR SHALL PROVIDE FOR INSTALLATION OF THE UTILITY BLOCKOUTS IN THE BACKWALL. REINFORCING STEEL IN THE BACKWALL MAY BE SHIFTED OR CUT AS NECESSARY TO PROVIDE FOR THE UTILITY BLOCKOUTS. SEE UTILITY SHEETS FOR DETAILS.



PROJECT NO. B-2965
EDGECOMBE COUNTY
 STATION: 39+59.00 -L-

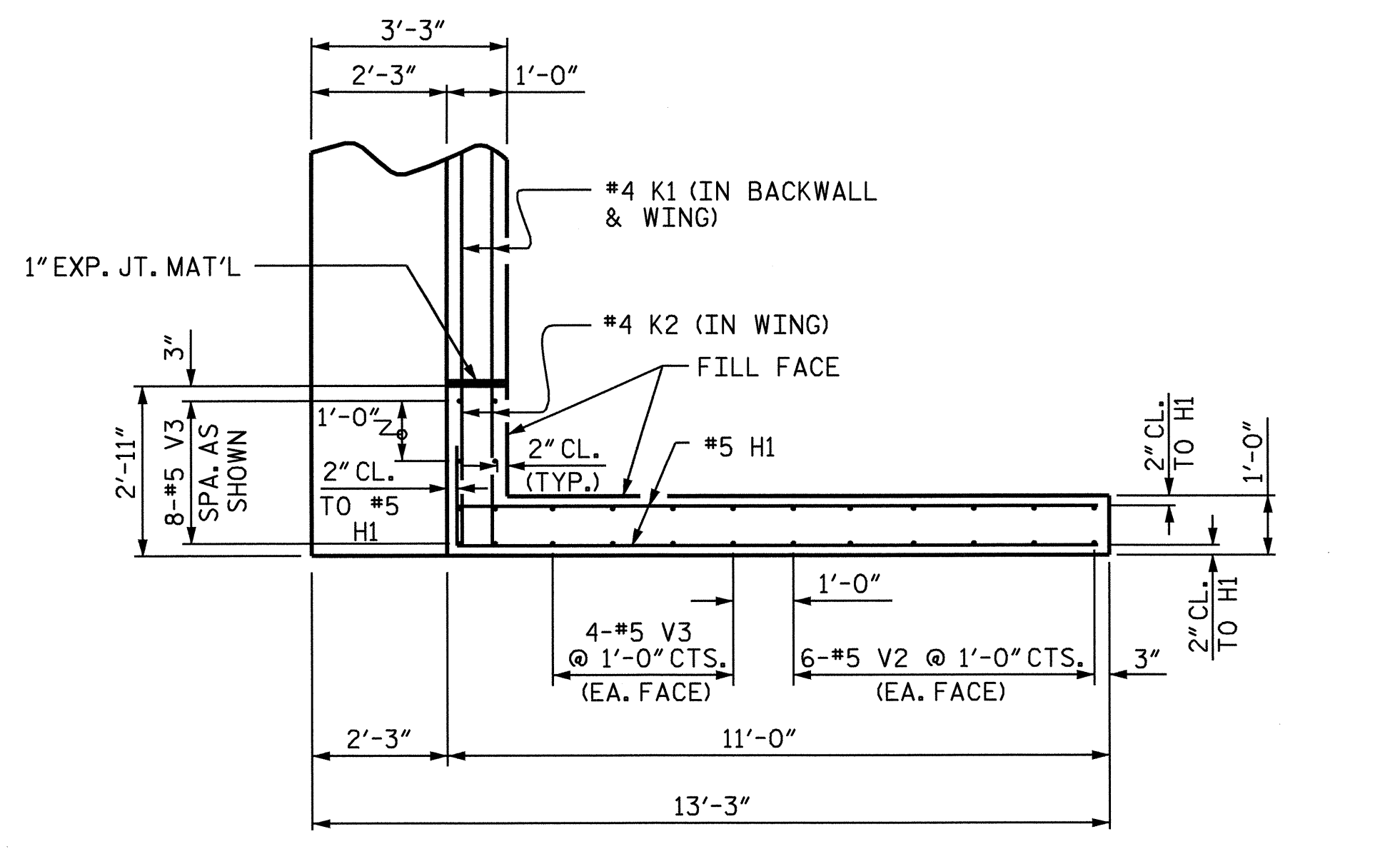
SHEET 1 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE END BENT 1					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S-31 TOTAL SHEETS 48

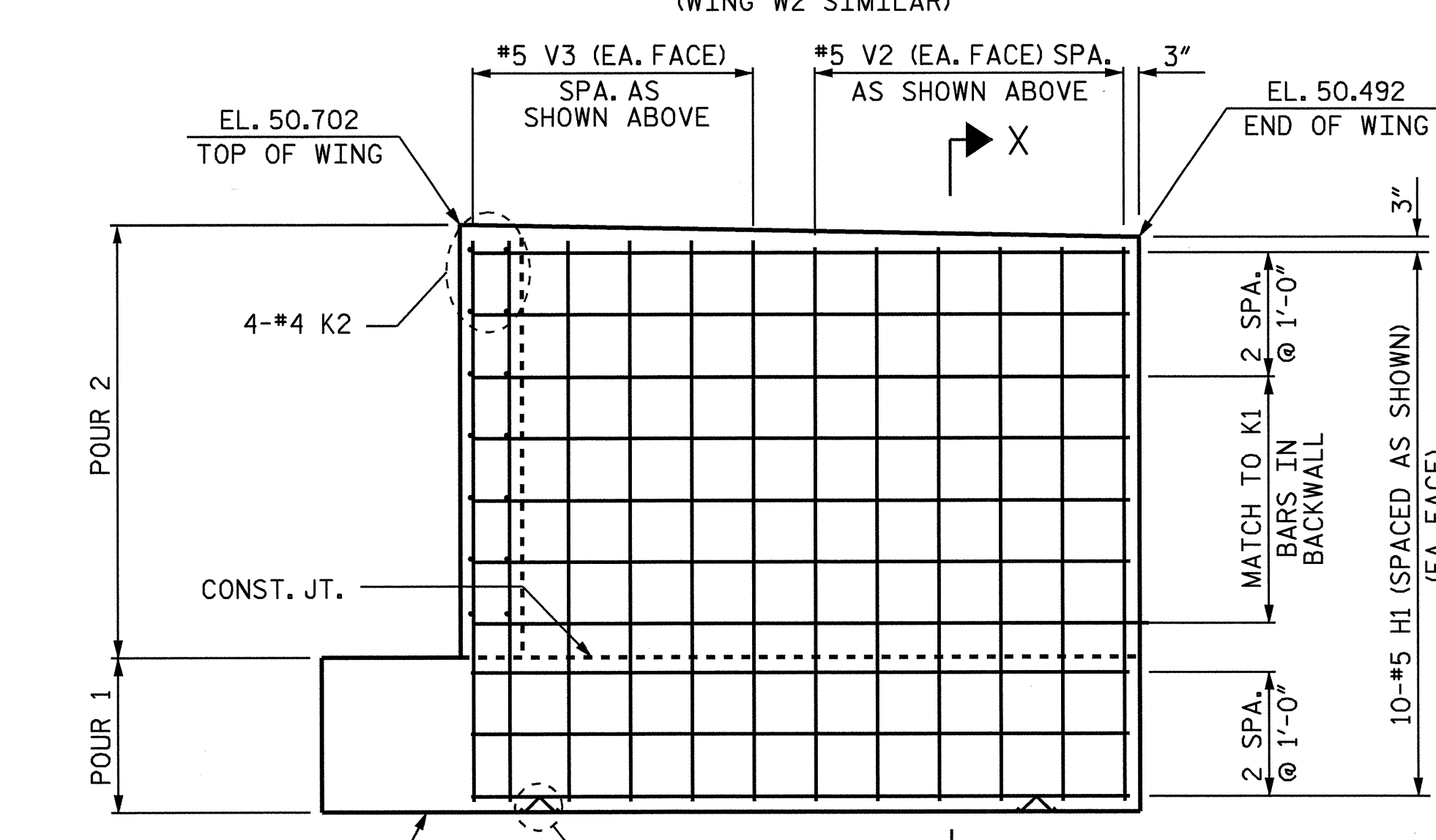


DRAWN BY: J.L. WALTON DATE: 4/16/08
 CHECKED BY: J. MYA DATE: 4/24/08

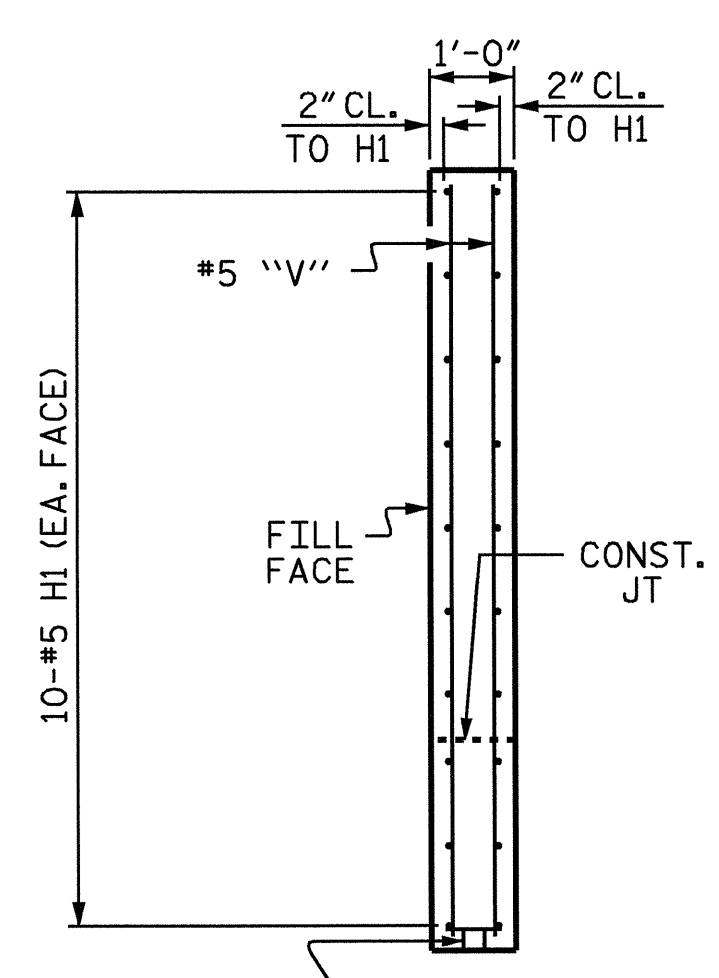
* FOR LOCATION OF ELEVATIONS BETWEEN BRIDGE SEAT BUILDUPS
 SEE "SECTION A-A" SHEET 2 OF 2.



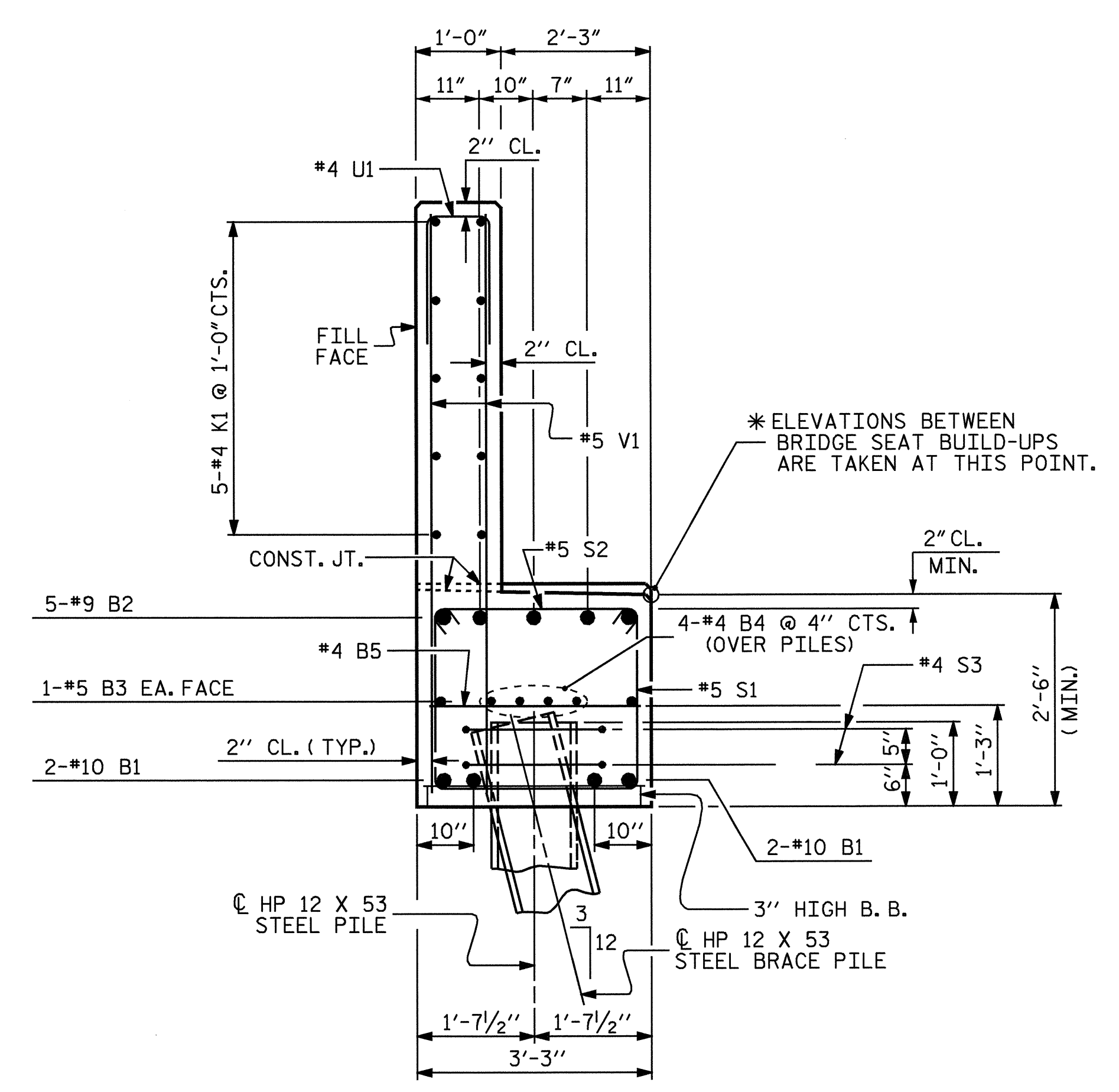
PLAN OF WING - W1
(WING W2 SIMILAR)



ELEVATION OF WING - W1
(WING W2 SIMILAR)



SECTION X-X
(WING W2 SIMILAR)

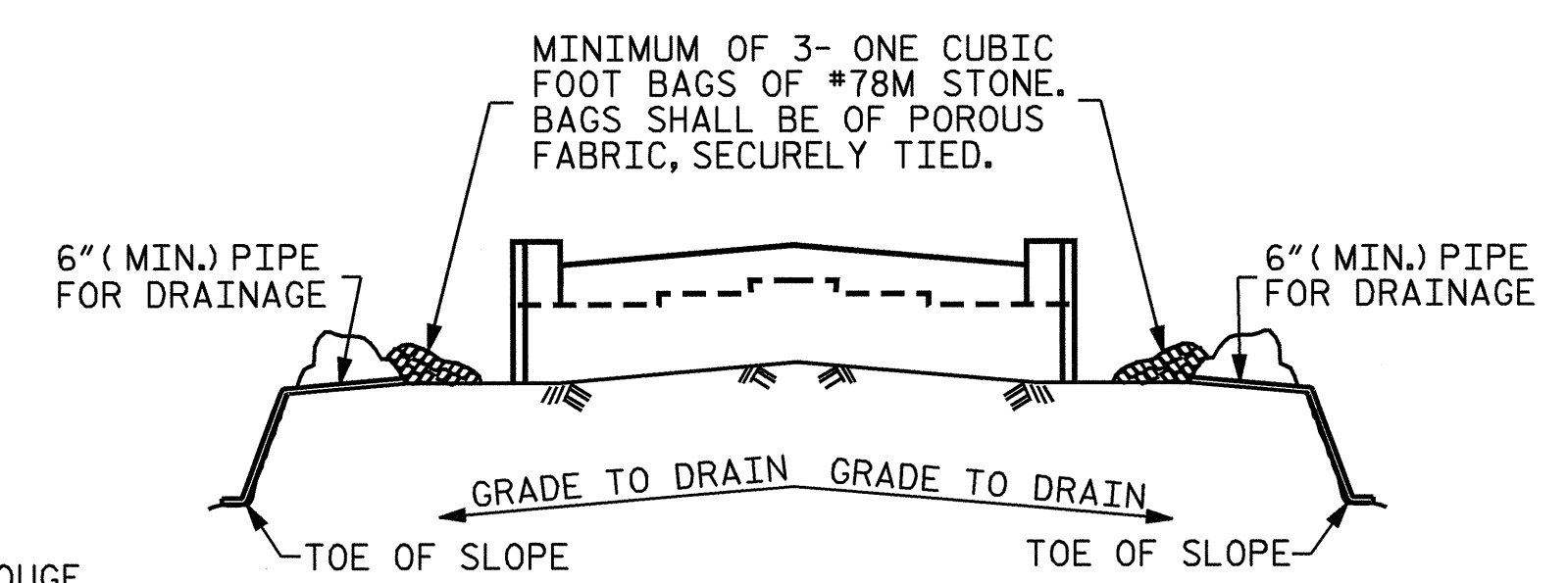


SECTION A-A

BAR TYPES

ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
END BENT 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	4	#10	1	55'-9"	960
B2	5	#9	1	55'-5"	942
B3	2	#5	STR	53'-0"	111
B4	8	#4	STR	27'-9"	148
B5	14	#4	STR	2'-11"	27
B6	5	#4	STR	11'-5"	38
E1	16	#5	STR	3'-2"	53
E2	16	#5	STR	2'-10"	47
E3	16	#5	STR	3'-6"	58
H1	40	#5	3	11'-6"	480
K1	20	#4	STR	27'-9"	371
K2	8	#4	STR	2'-7"	14
S1	56	#5	4	8'-1"	472
S2	56	#5	2	3'-10"	224
S3	26	#4	6	6'-6"	113
U1	48	#4	5	3'-8"	118
U2	10	#4	5	5'-11"	40
V1	96	#5	STR	7'-1"	709
V2	24	#5	STR	8'-11"	223
V3	32	#5	STR	9'-1"	303
REINFORCING STEEL					5451 LBS.
CLASS A CONCRETE (CU. YDS.)					
POUR 1					
CAP & LOWER PART OF WING					19.0
POUR 2					
BACKWALL & UPPER PART OF WING					15.4
TOTAL					34.4
HP 12 x 53 STEEL PILES					
No. 13					585 LIN. FT.

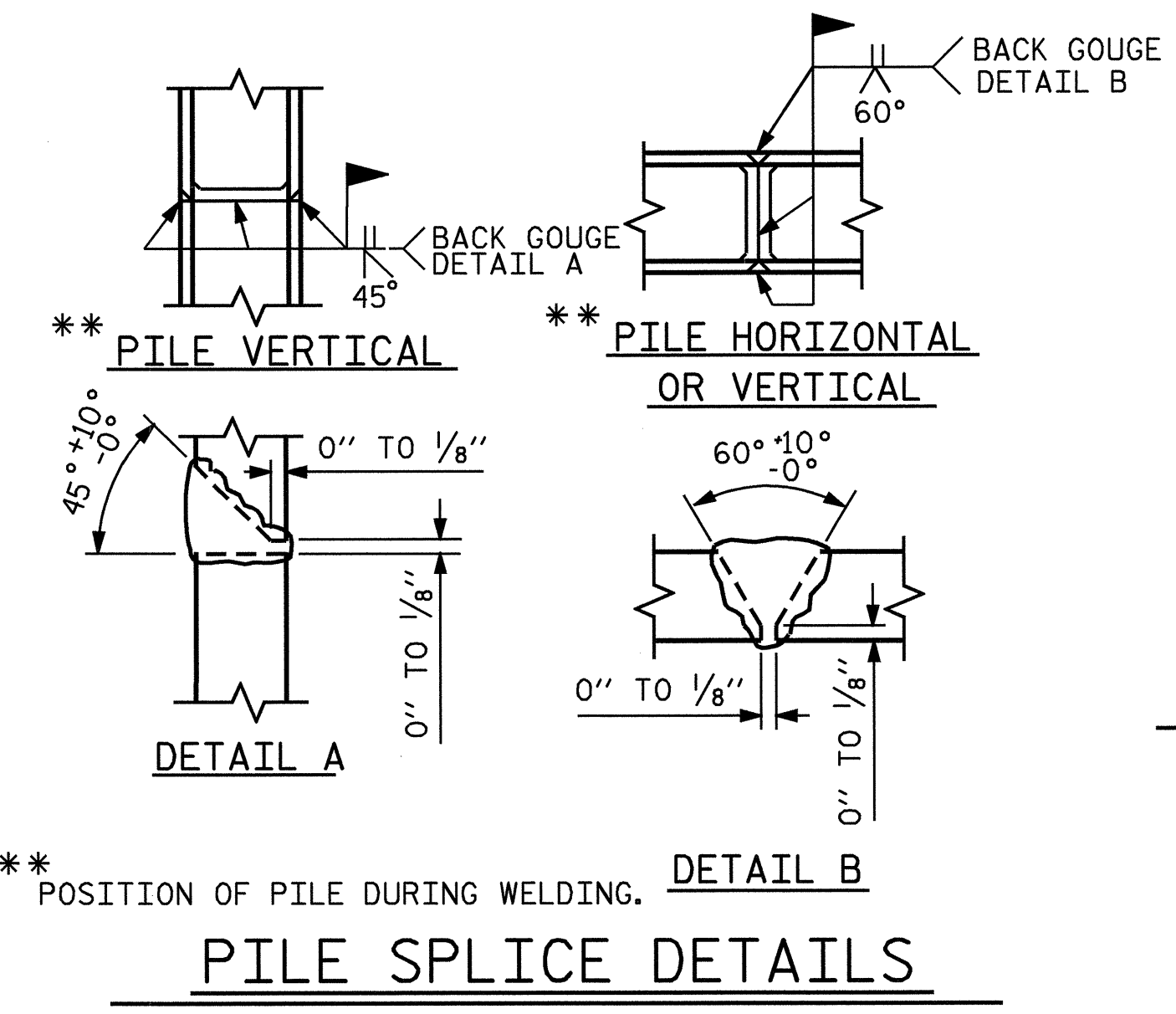


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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.

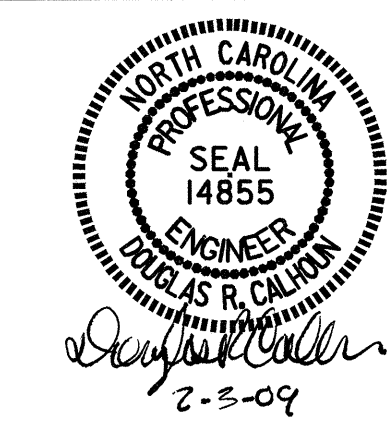
TEMPORARY DRAINAGE AT END BENT



PILE SPLICE DETAILS

DRAWN BY: J.L. WALTON DATE: 4/16/08
CHECKED BY: J. MYA DATE: 4/24/08

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PROJECT NO. B-2965
EDGEcombe COUNTY
STATION: 39+59.00 -L-

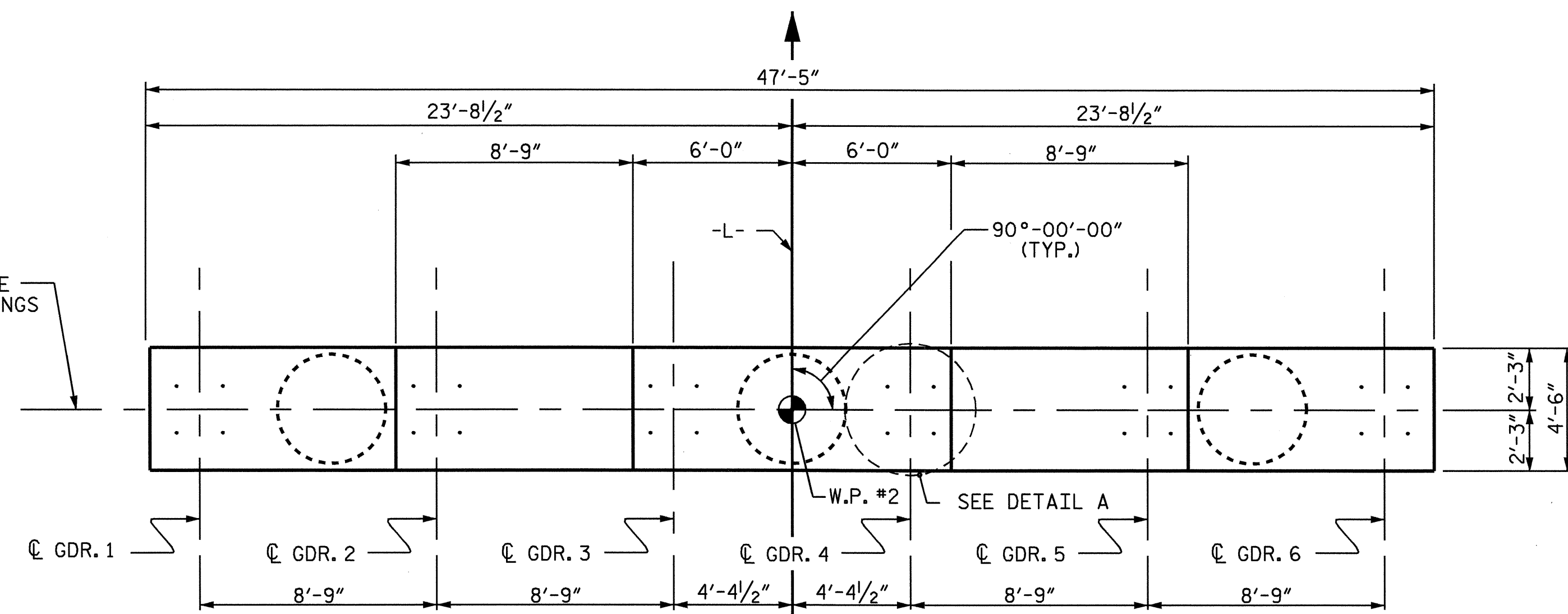
SHEET 2 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE END BENT 1					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS 48

NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
 HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.
 FOR CONCRETE PILE DETAILS, SEE 16" PRESTRESSED CONCRETE PILE STANDARD.

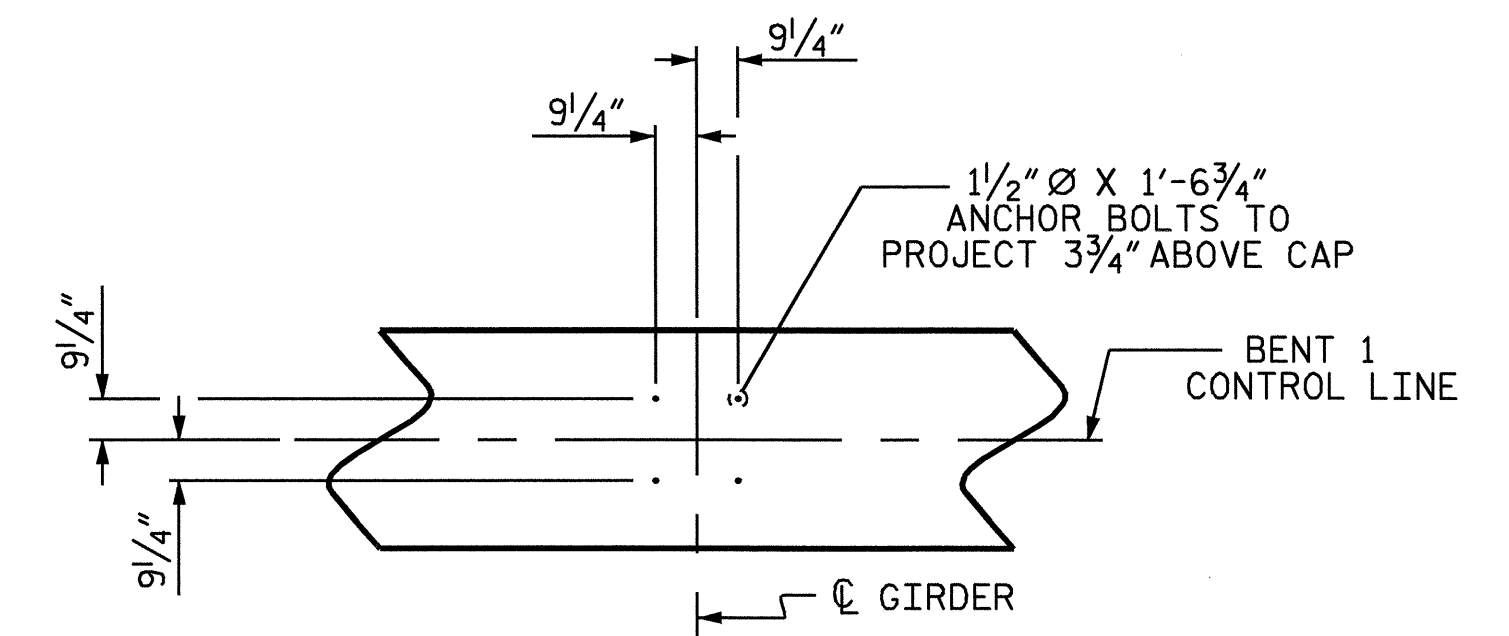
BENT 1 CONTROL LINE
 (C CAP, COLUMNS, BEARINGS & FOOTINGS)



SPAN B

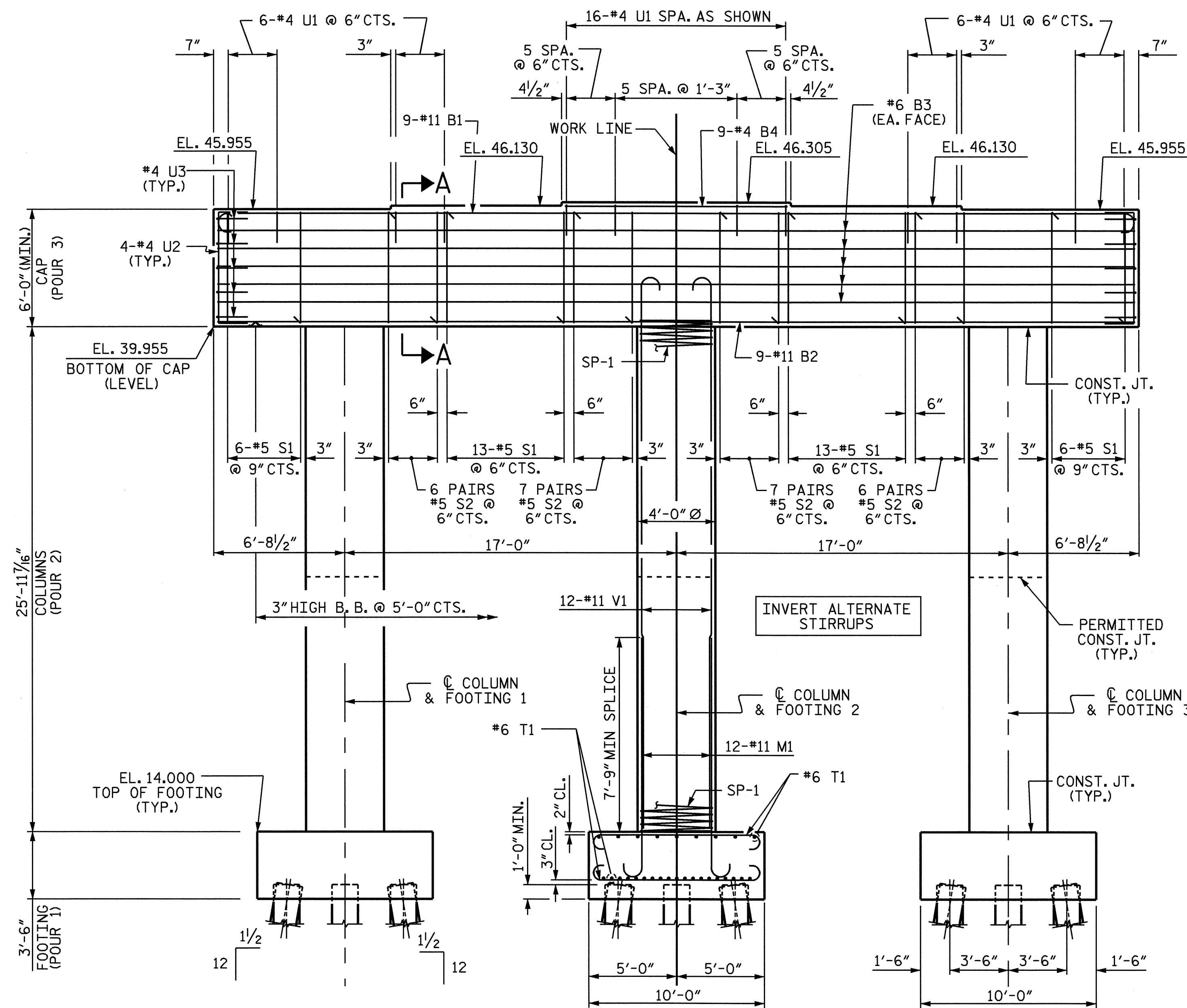
SPAN A

PLAN



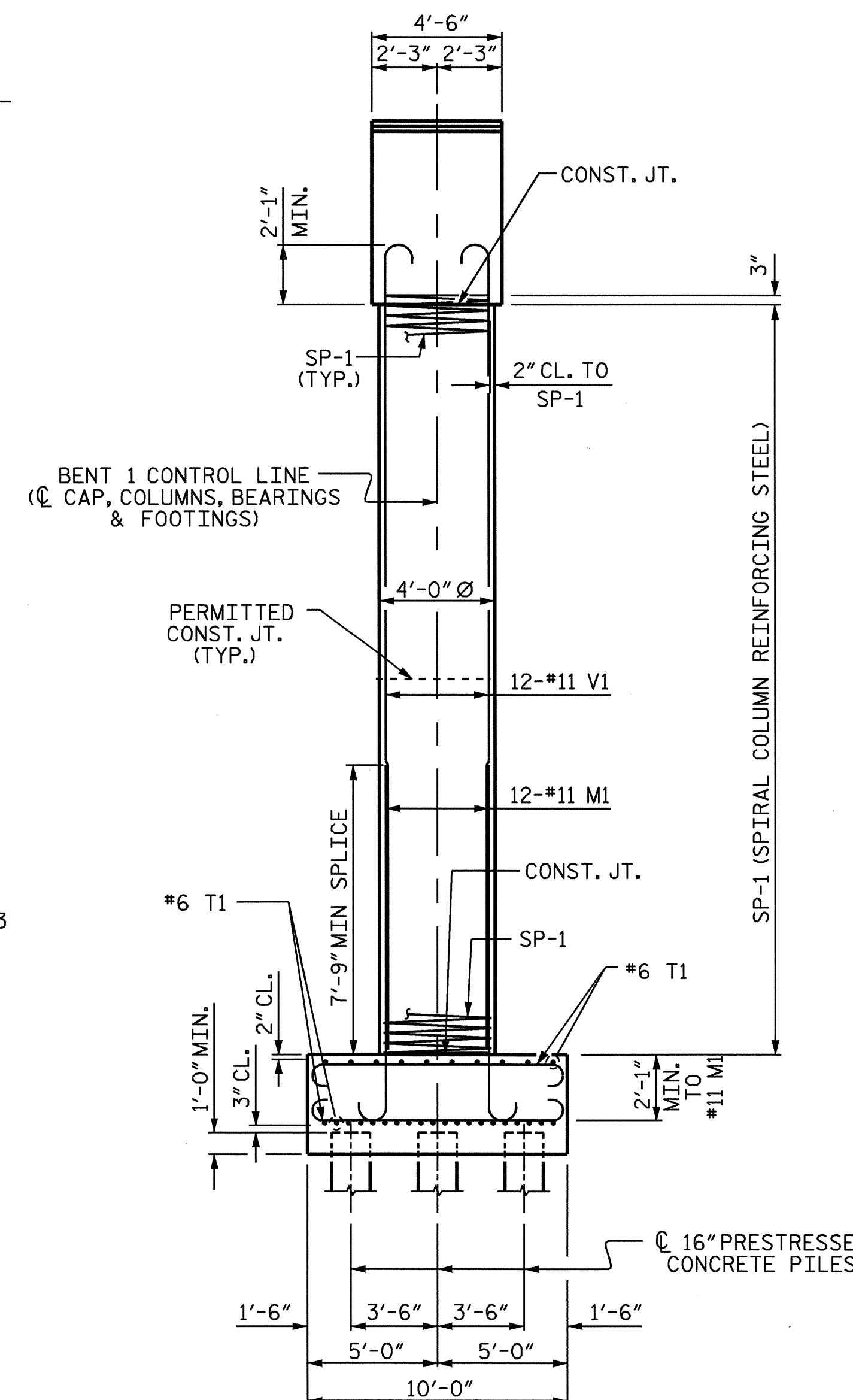
DETAIL A

(TYP. EA. BEARING)



ELEVATION

(REINFORCING STEEL & DIMENSIONS TYPICAL FOR ALL COLUMNS & FOOTINGS)



END ELEVATION

REINFORCING STEEL & DIMENSIONS TYPICAL FOR ALL COLUMNS & FOOTINGS

PROJECT NO. B-2965
EDGEcombe COUNTY
 STATION: 39+59.00 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

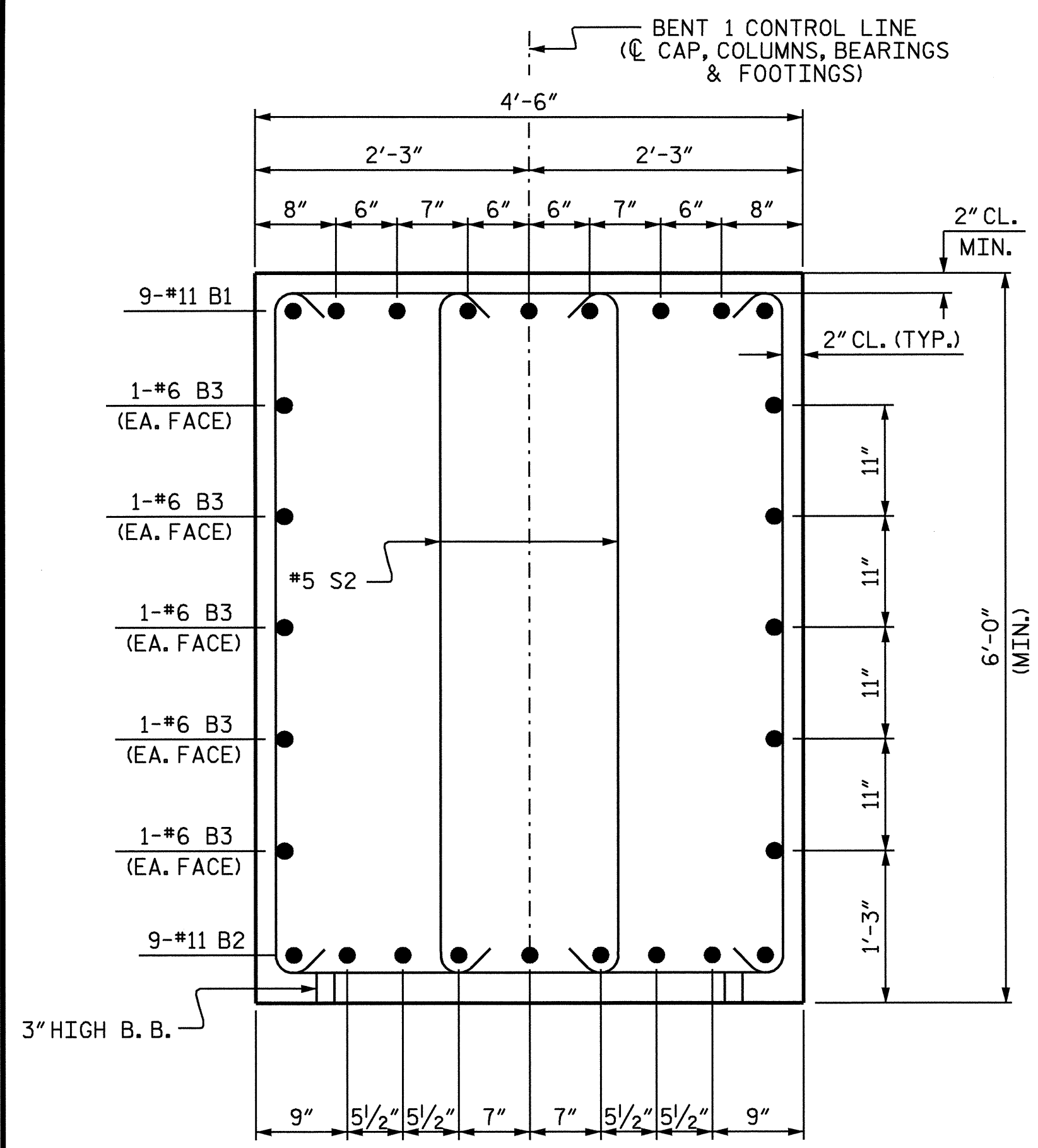
SUBSTRUCTURE
 BENT 1



Douglas R. Calhoun
 2-3-09

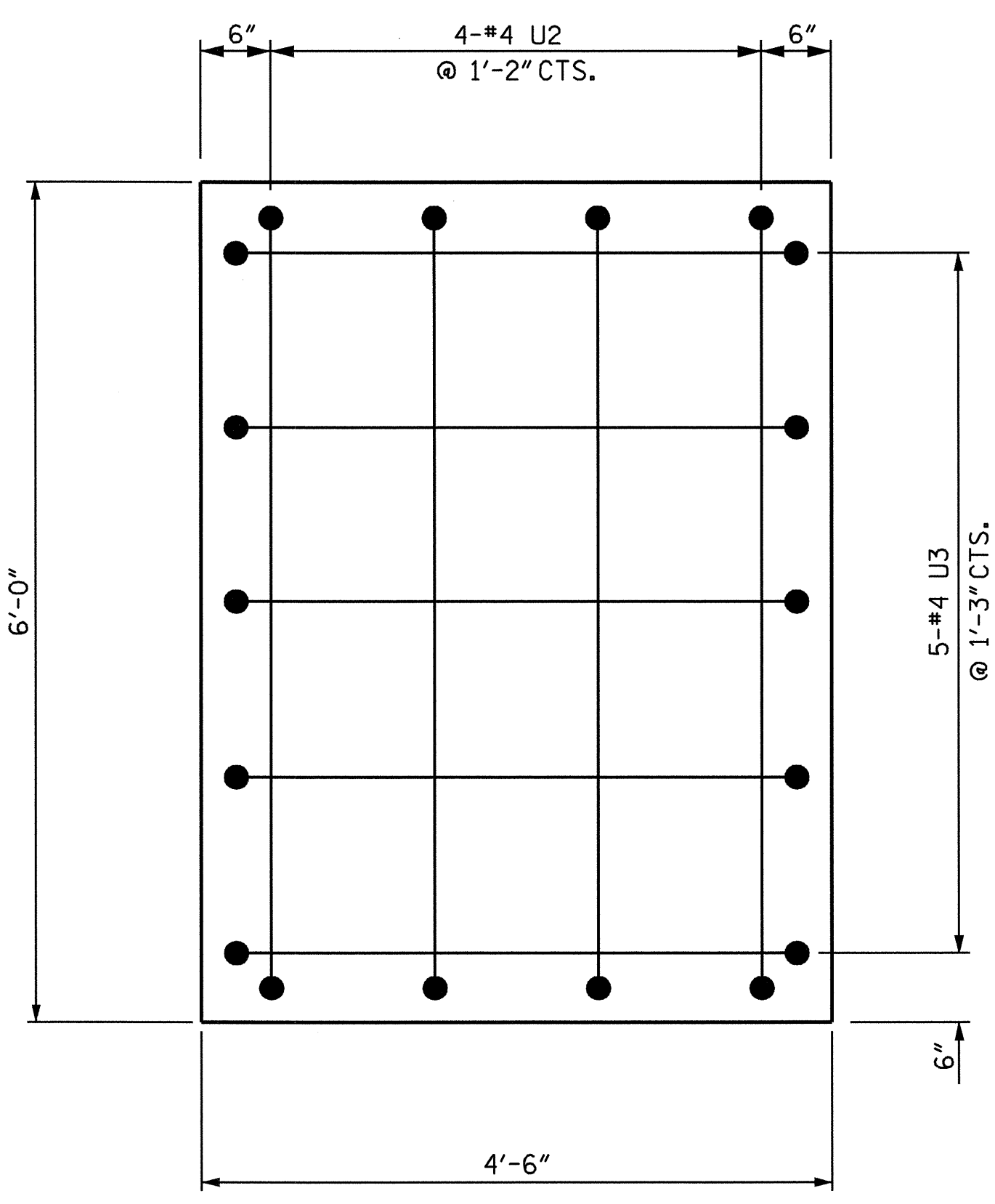
REVISIONS						SHEET NO. S-33
NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			

DRAWN BY: J.L. WALTON DATE: 9/10/08
 CHECKED BY: B.N. GRADY DATE: 9/19/08



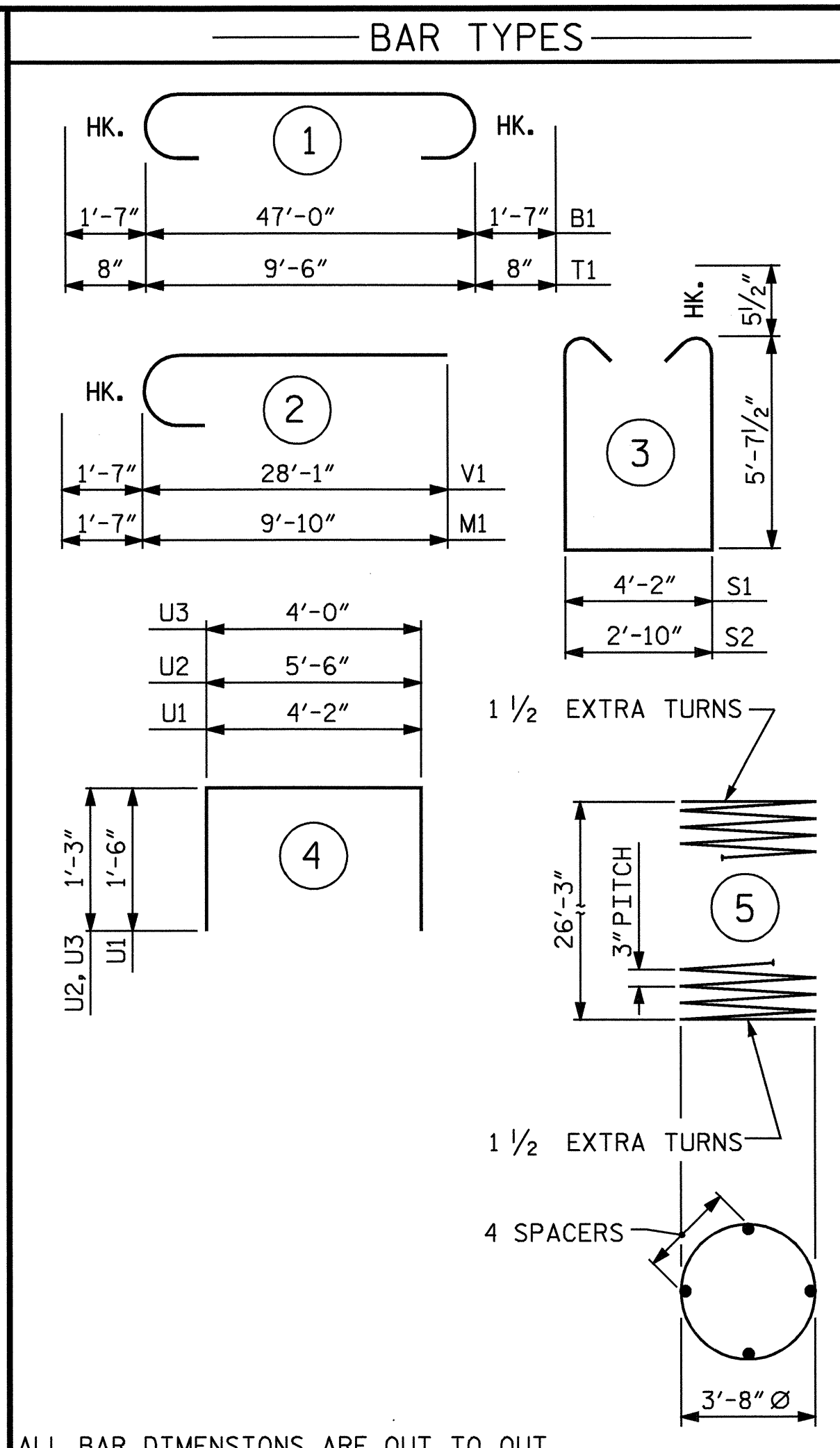
SECTION A-A

SHOWING DOUBLE STIRRUPS (S2)
SEE ELEVATION FOR LOCATION
OF S1 & S2.



END OF CAP VIEW

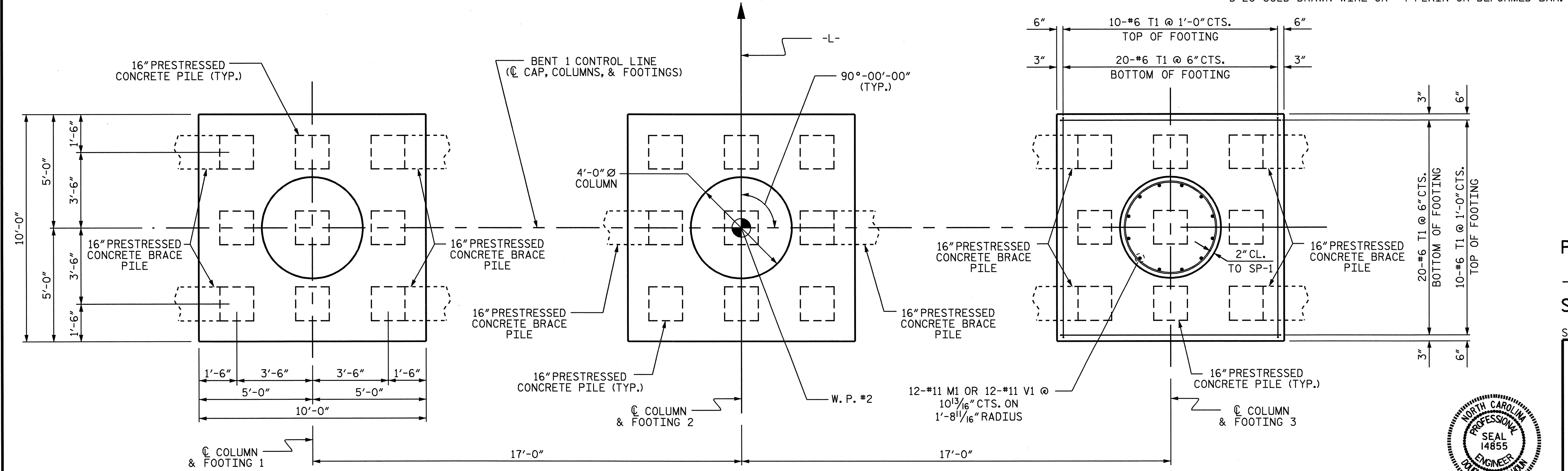
(BOTH ENDS ARE TYPICAL)



ALL BAR DIMENSIONS ARE OUT TO OUT.

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

BILL OF MATERIAL					
BENT 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	9	#11	1	50'-2	2399
B2	9	#11	STR	47'-1"	2251
B3	10	#6	STR	47'-1"	707
B4	9	#4	STR	11'-8"	70
M1	36	#11	2	11'-5"	2184
S1	38	#5	3	16'-4"	647
S2	52	#5	3	15'-0"	814
T1	180	#6	1	10'-10"	2929
U1	40	#4	4	7'-2"	191
U2	8	#4	4	8'-0"	43
U3	10	#4	4	6'-6"	43
V1	36	#11	2	29'-8"	5674
REINFORCING STEEL				LBS.	17952
SP-1	3	*	5	1230'-3"	2465
SPIRAL COLUMN REINFORCING STEEL				LBS.	2465
CLASS A CONCRETE BREAKDOWN					
POUR 1 (FOOTINGS)				CU.YD.	38.9
POUR 2 (COLUMNS)				CU.YD.	36.2
POUR 3 (CAP)				CU.YD.	48.6
TOTAL				CU.YD.	123.7
16" PRESTRESSED CONCRETE PILES				LBS.	1215
NO. 27				LIN.FT.	1215
FOUNDATION EXCAVATION				LUMP SUM	

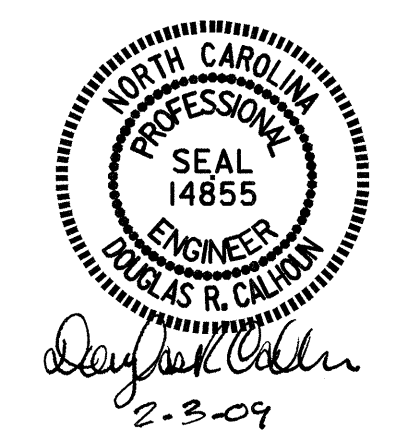


PLAN OF COLUMNS & FOOTINGS

(REINFORCING STEEL & DIMENSIONS TYPICAL FOR ALL COLUMNS & FOOTINGS)
(ALL BRACE PILES TO BE BATTERED 1/2:12)

DRAWN BY: J.L. WALTON DATE: 9/10/08
CHECKED BY: B.N. GRADY DATE: 9/19/08

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PROJECT NO. B-2965
EDGEcombe COUNTY
STATION: 39+59.00 -L-

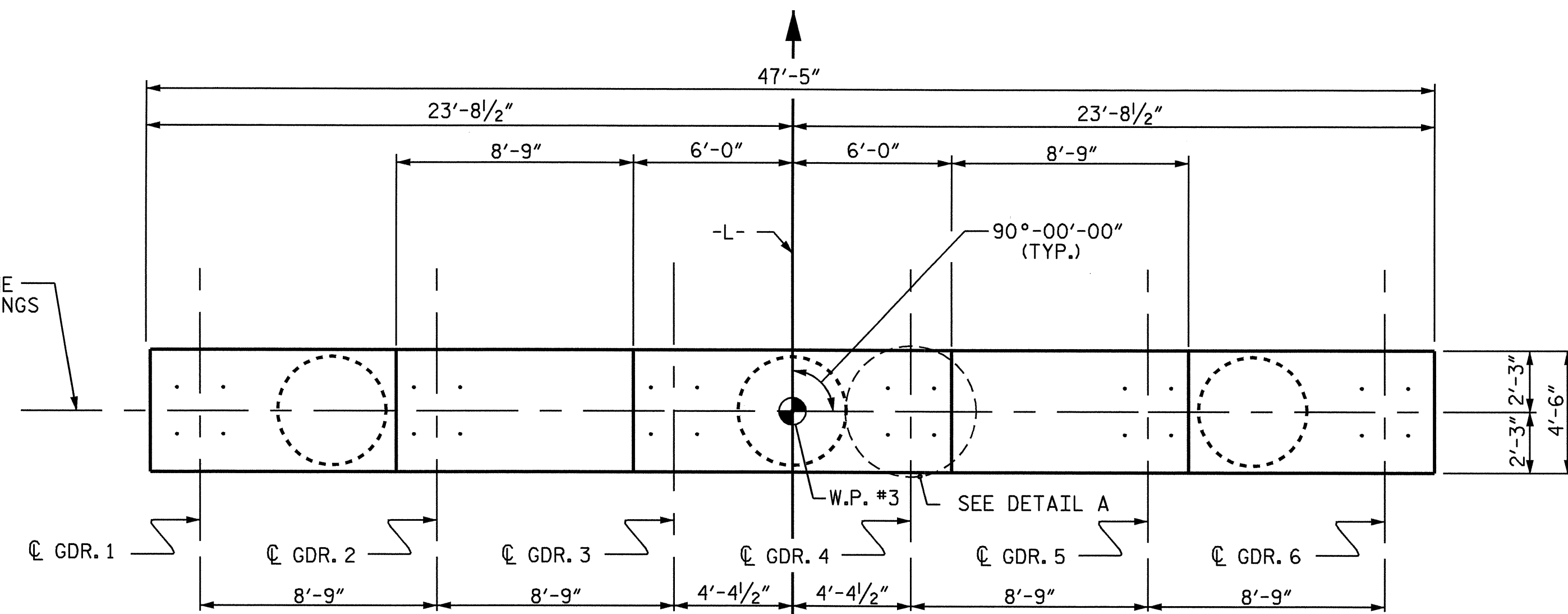
SHEET 2 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE BENT 1					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					S-34
					TOTAL SHEETS 48

NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
 HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.
 FOR CONCRETE PILE DETAILS, SEE 16" PRESTRESSED CONCRETE PILE STANDARD.

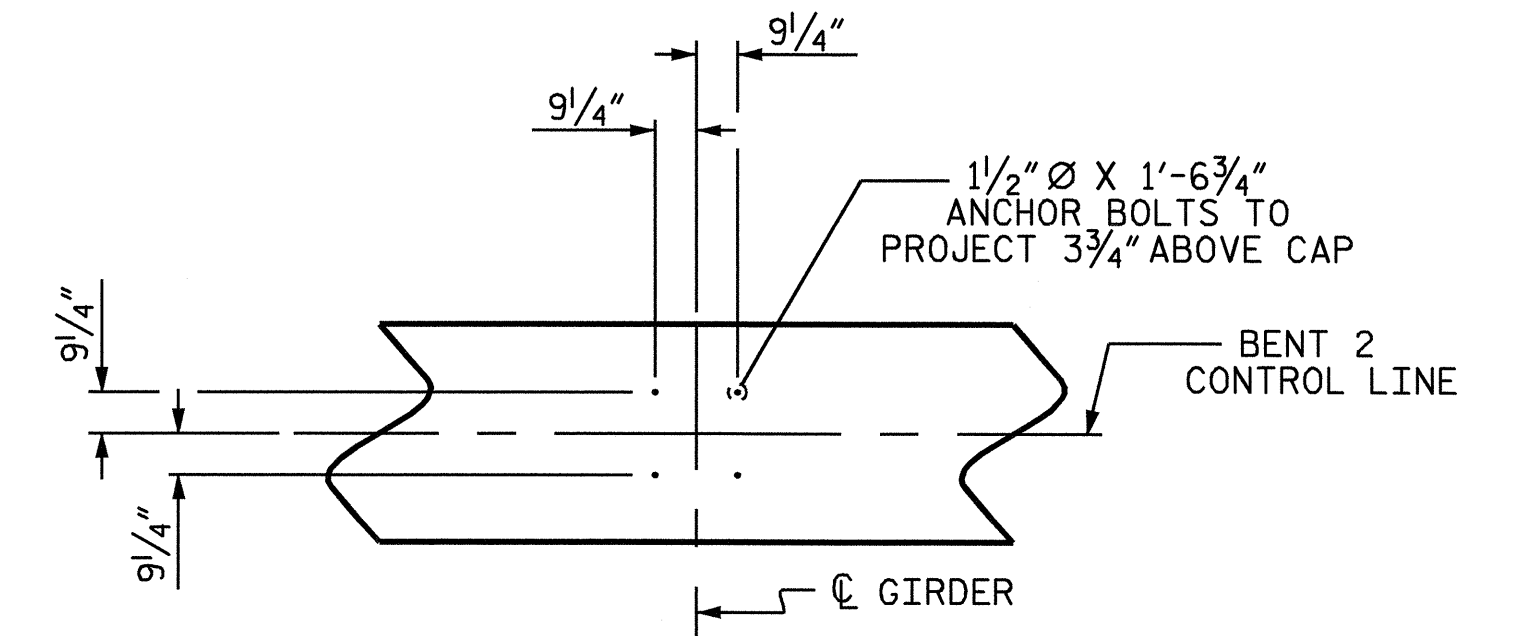
BENT 2 CONTROL LINE
 (C CAP, COLUMNS, BEARINGS & FOOTINGS)



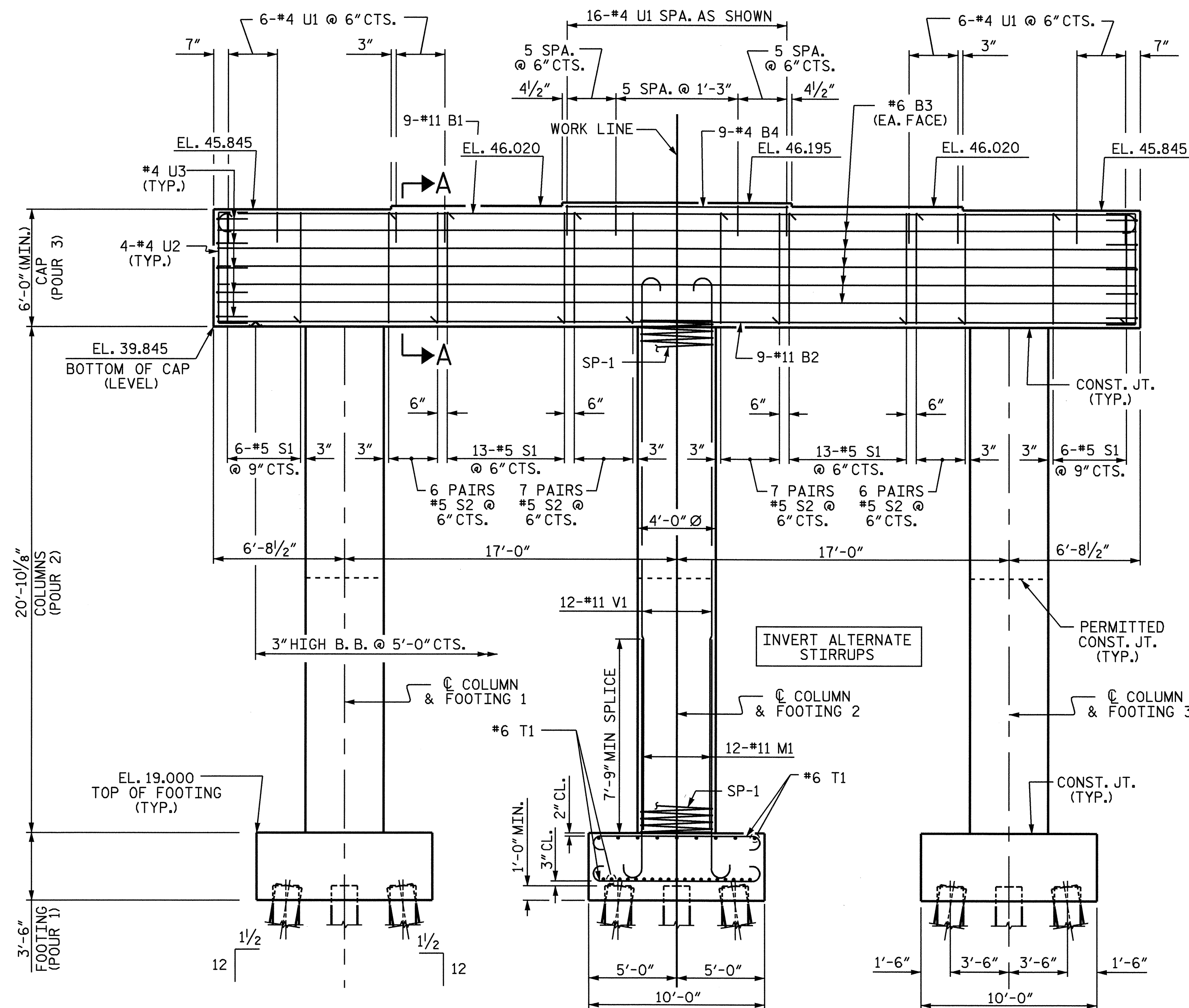
SPAN C

SPAN B

PLAN



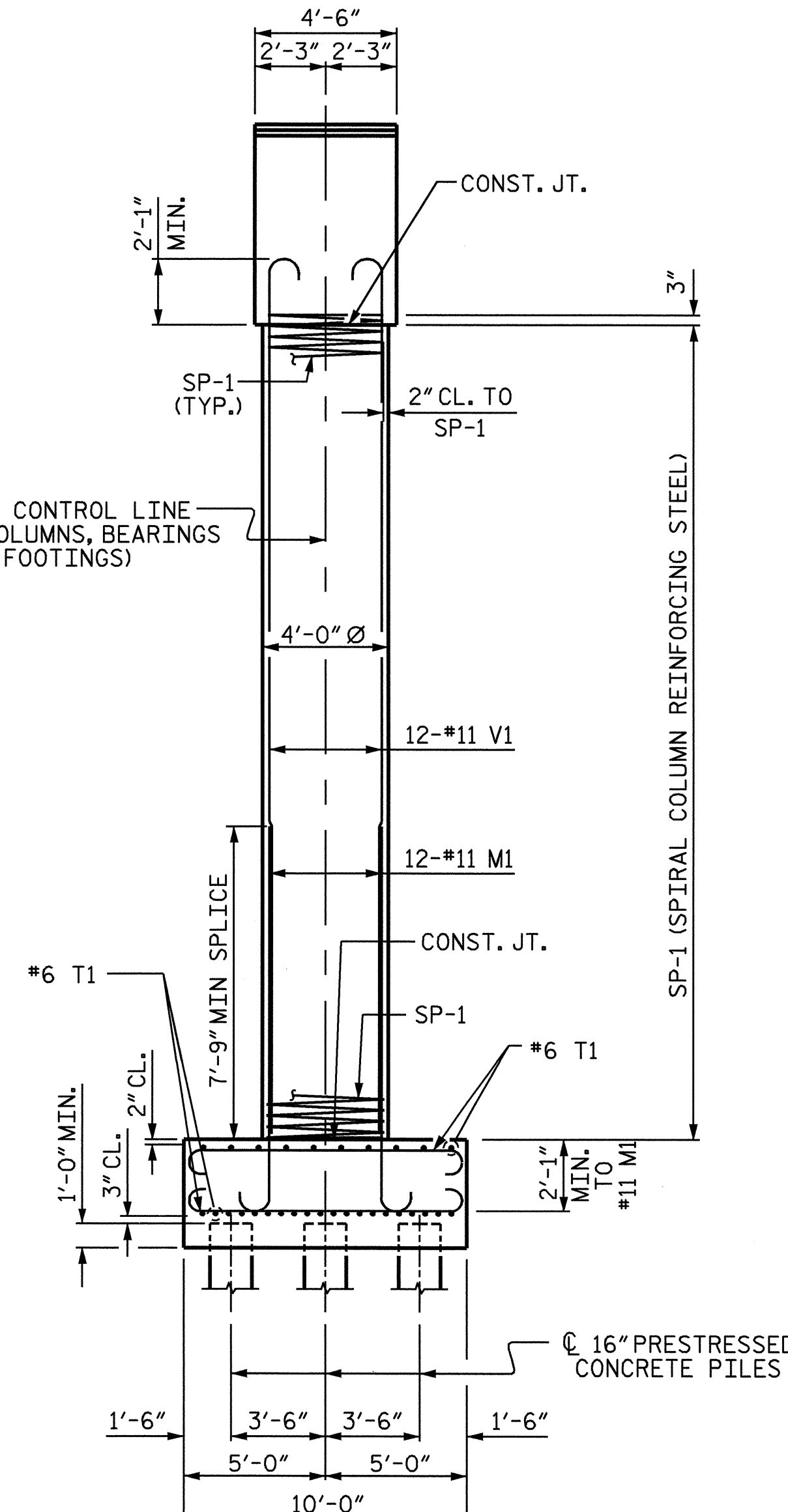
DETAIL A
 (TYP. EA. BEARING)



ELEVATION

(REINFORCING STEEL & DIMENSIONS TYPICAL FOR ALL COLUMNS & FOOTINGS)

BENT 2 CONTROL LINE
 (C CAP, COLUMNS, BEARINGS & FOOTINGS)



END ELEVATION

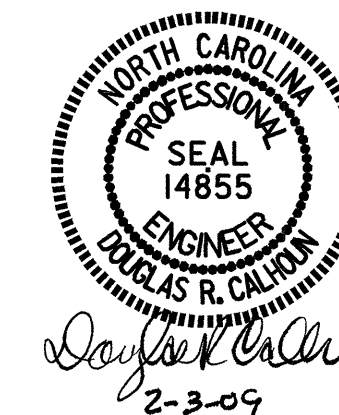
REINFORCING STEEL & DIMENSIONS TYPICAL FOR ALL COLUMNS & FOOTINGS

PROJECT NO. B-2965
EDGEcombe COUNTY
 STATION: 39+59.00 -L-

SHEET 1 OF 2

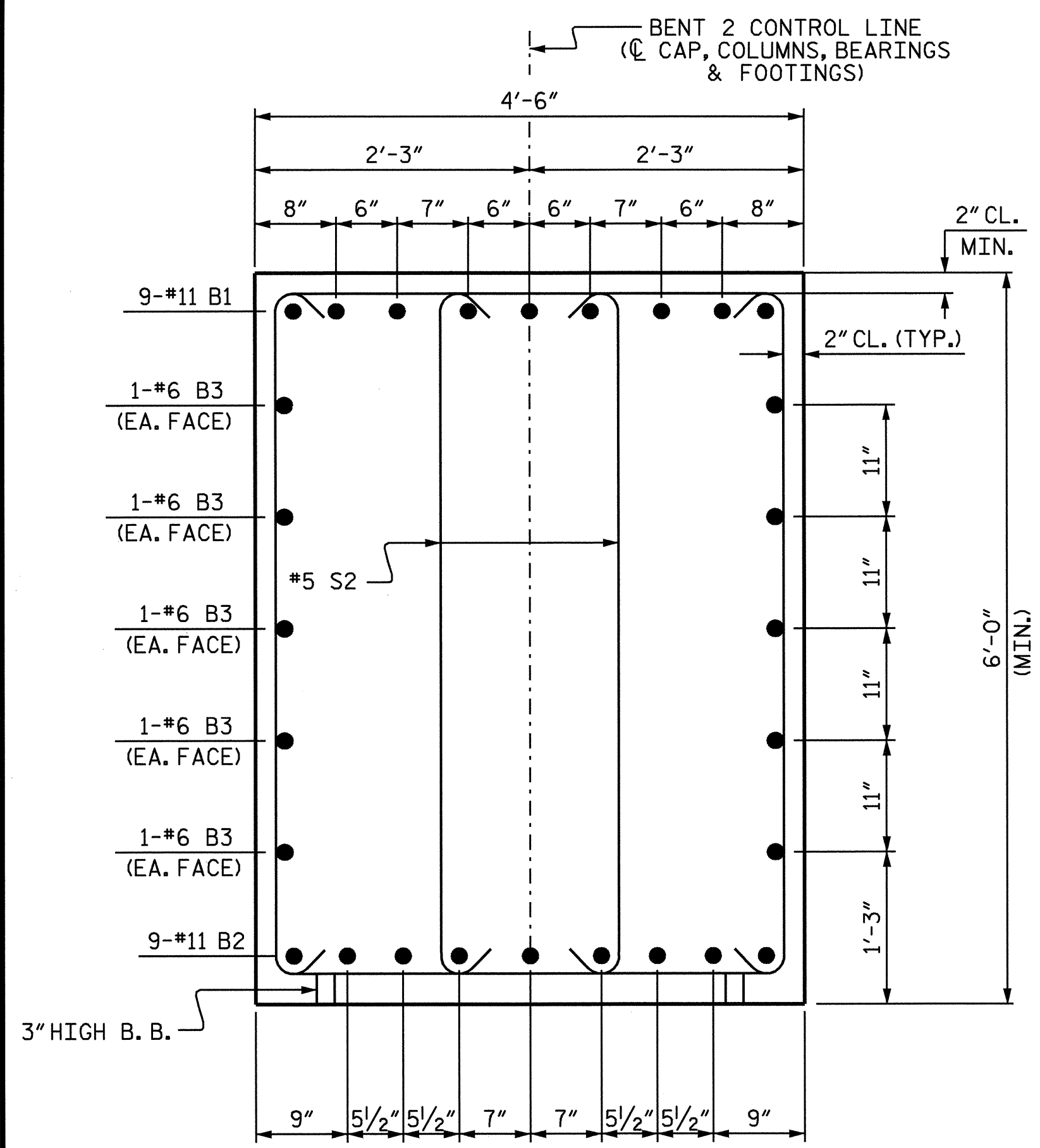
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 BENT 2



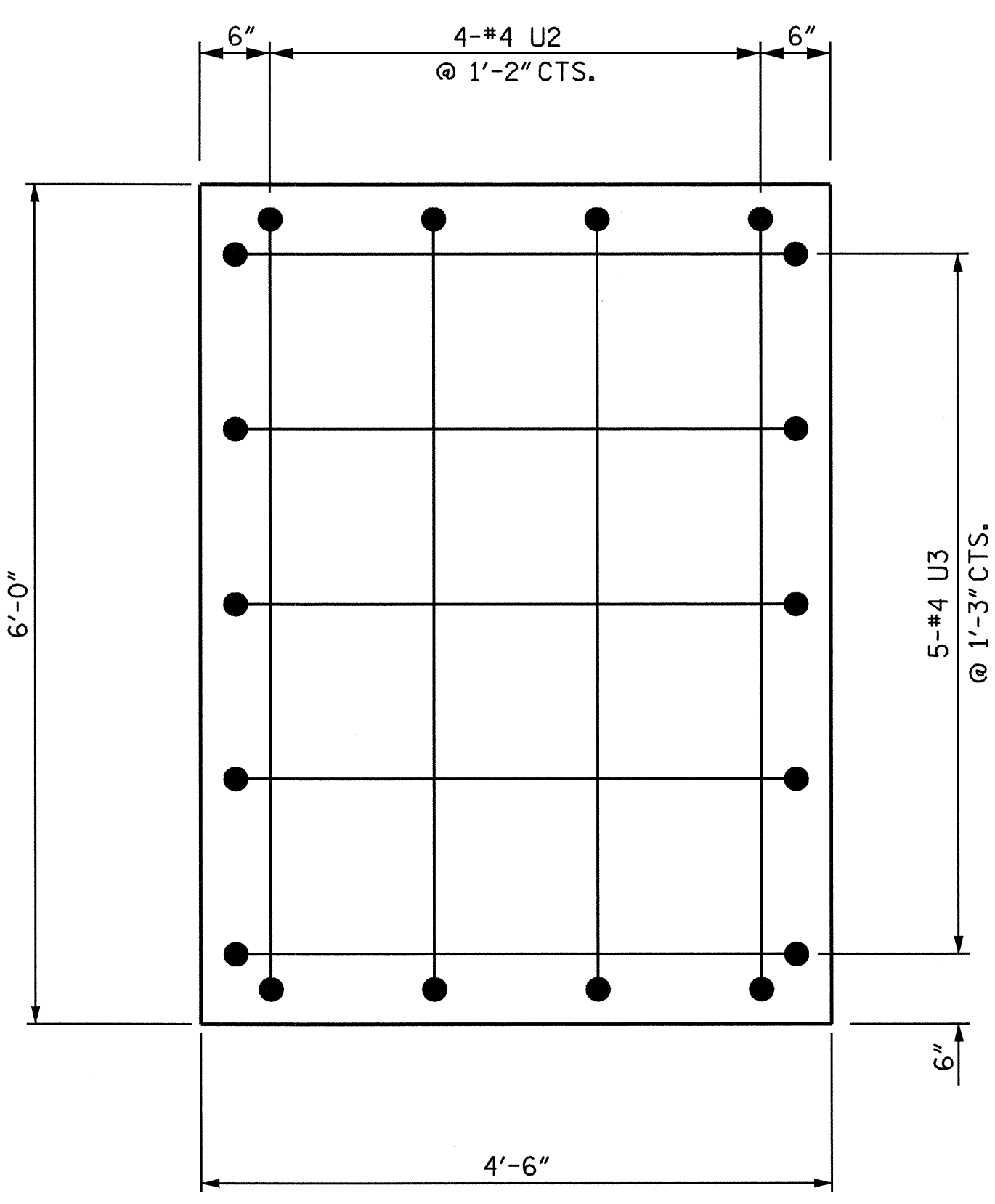
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1			3			TOTAL SHEETS	
2			4			48	

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 CHECKED BY: B.N. GRADY DATE: 9/19/08



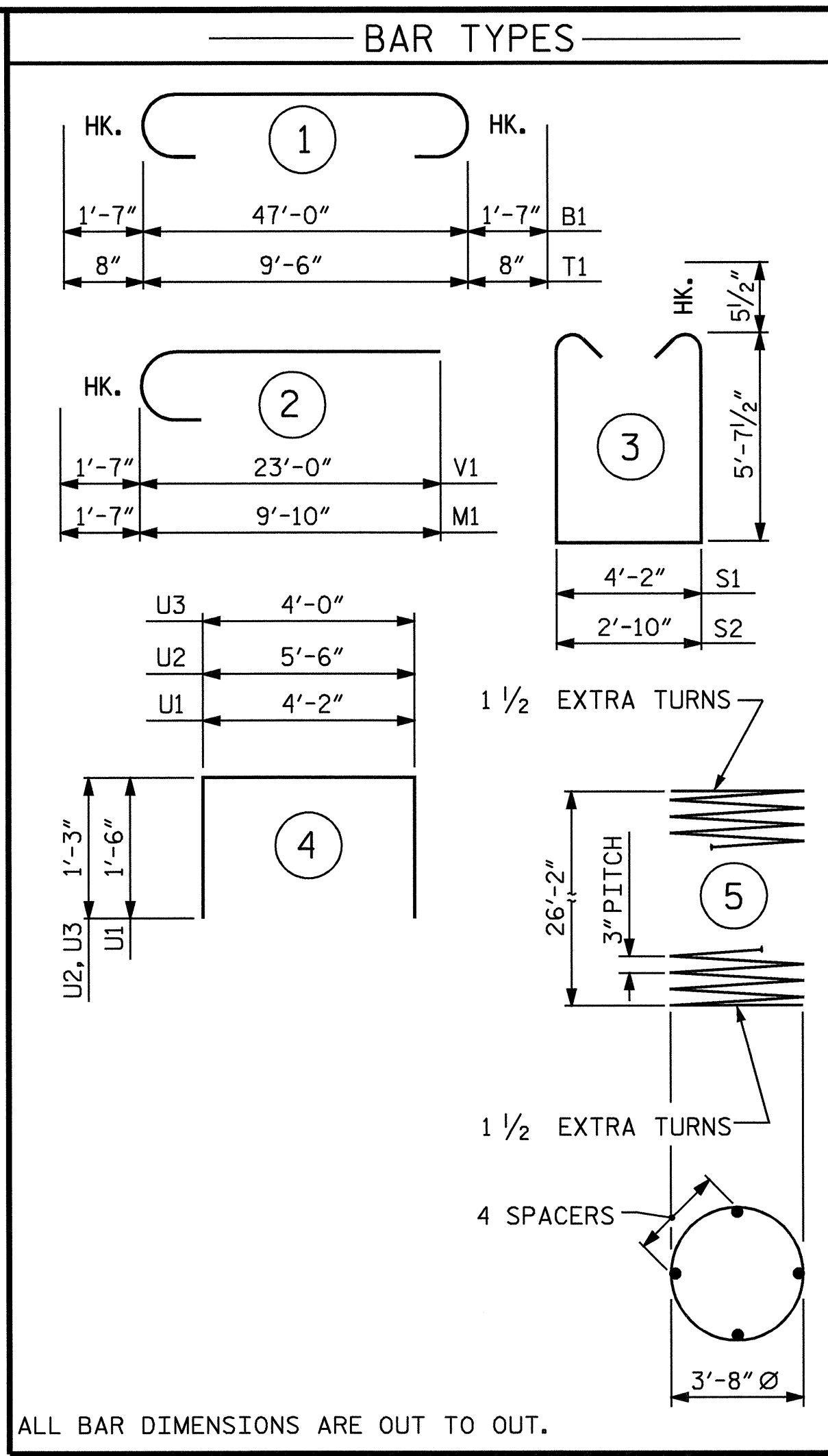
SECTION A-A

SHOWING DOUBLE STIRRUPS (S2)
SEE ELEVATION FOR LOCATION
OF S1 & S2.



END OF CAP VIEW

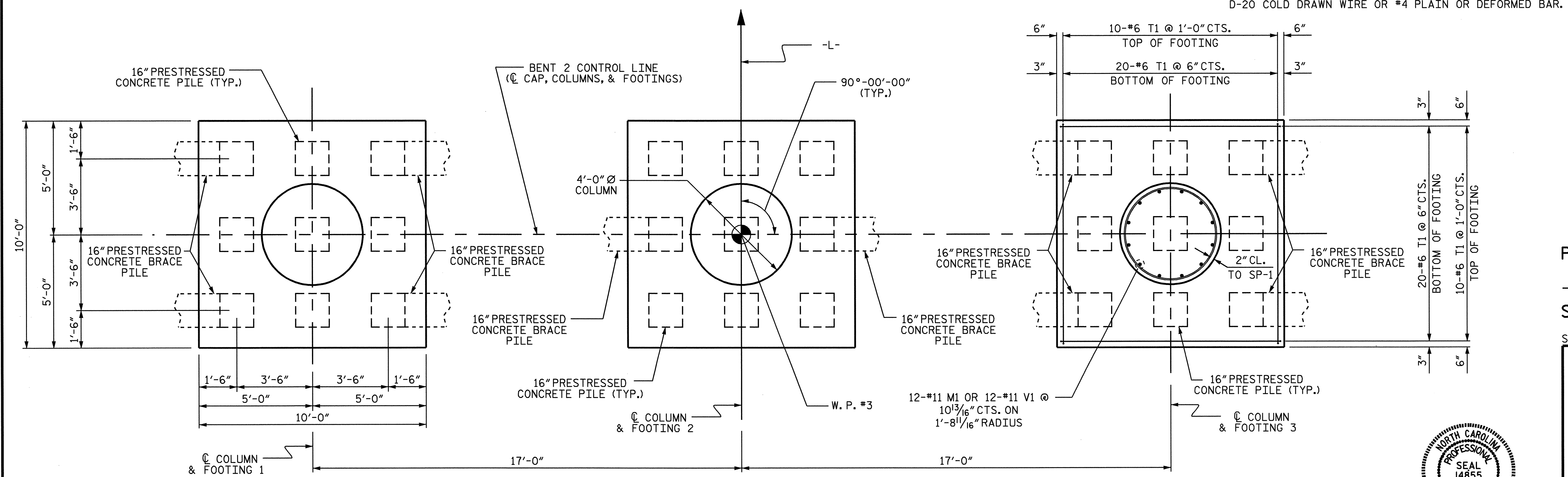
(BOTH ENDS ARE TYPICAL)



ALL BAR DIMENSIONS ARE OUT TO OUT.

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

BILL OF MATERIAL					
BENT 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	9	#11	1	50'-2	2399
B2	9	#11	STR	47'-1"	2251
B3	10	#6	STR	47'-1"	707
B4	9	#4	STR	11'-8"	70
M1	36	#11	2	11'-5"	2184
S1	38	#5	3	16'-4"	647
S2	52	#5	3	15'-0"	814
T1	180	#6	1	10'-10"	2929
U1	40	#4	4	7'-2"	191
U2	8	#4	4	8'-0"	43
U3	10	#4	4	6'-6"	43
V1	36	#11	2	24'-7"	4702
REINFORCING STEEL				LBS.	16980
SP-1	3	*	5	996'-9"	1997
SPIRAL COLUMN REINFORCING STEEL				LBS.	1997
CLASS A CONCRETE BREAKDOWN					
POUR 1 (FOOTINGS)				CU.YD.	38.9
POUR 2 (COLUMNS)				CU.YD.	29.1
POUR 3 (CAP)				CU.YD.	48.6
TOTAL				CU.YD.	116.6
16" PRESTRESSED CONCRETE PILES				LIN.FT.	945
NO. 27				LIN.FT.	945
FOUNDATION EXCAVATION				LUMP SUM	

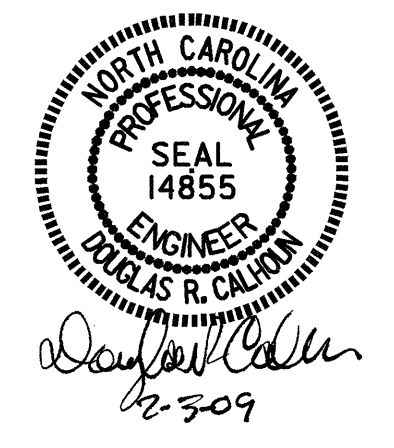


PLAN OF COLUMNS & FOOTINGS

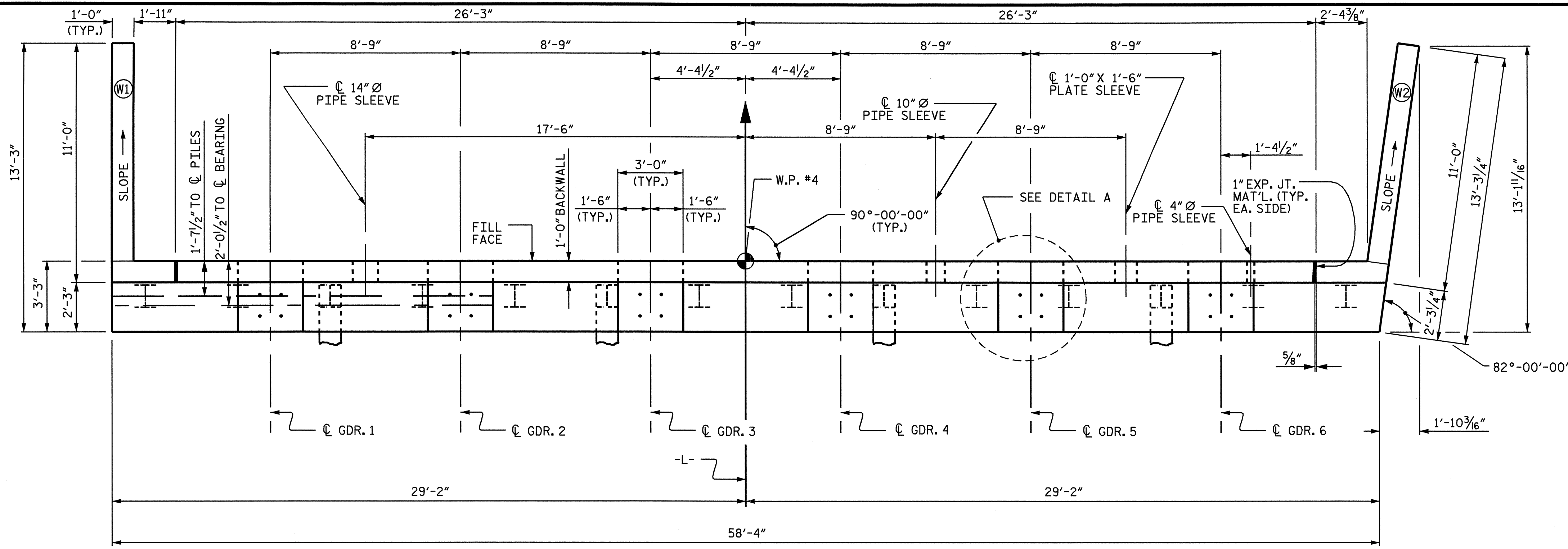
(REINFORCING STEEL & DIMENSIONS TYPICAL FOR ALL COLUMNS & FOOTINGS)
(ALL BRACE PILES TO BE BATTERED 1/2:12)

PROJECT NO. B-2965
EDGEcombe COUNTY
STATION: 39+59.00 -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:
1			3		
2			4		
					TOTAL SHEETS 48



DRAWN BY: J.L. WALTON DATE: 9/10/08
CHECKED BY: B.N. GRADY DATE: 9/19/08



NOTES

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

BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.

THE TOP SURFACE AREAS OF THE END BENT CAPS SHALL BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.

THE TOP SURFACE OF THE CAP EXCEPT THE BRIDGE SEAT BUILDUPS SHALL BE SLOPED TRANSVERSELY FROM THE FILL FACE TO THE BACK FACE AT THE RATE OF 2%.

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.

FOR PIPE INSERT DETAILS FOR ANCHOR BOLTS, SEE BEARINGS SHEET.

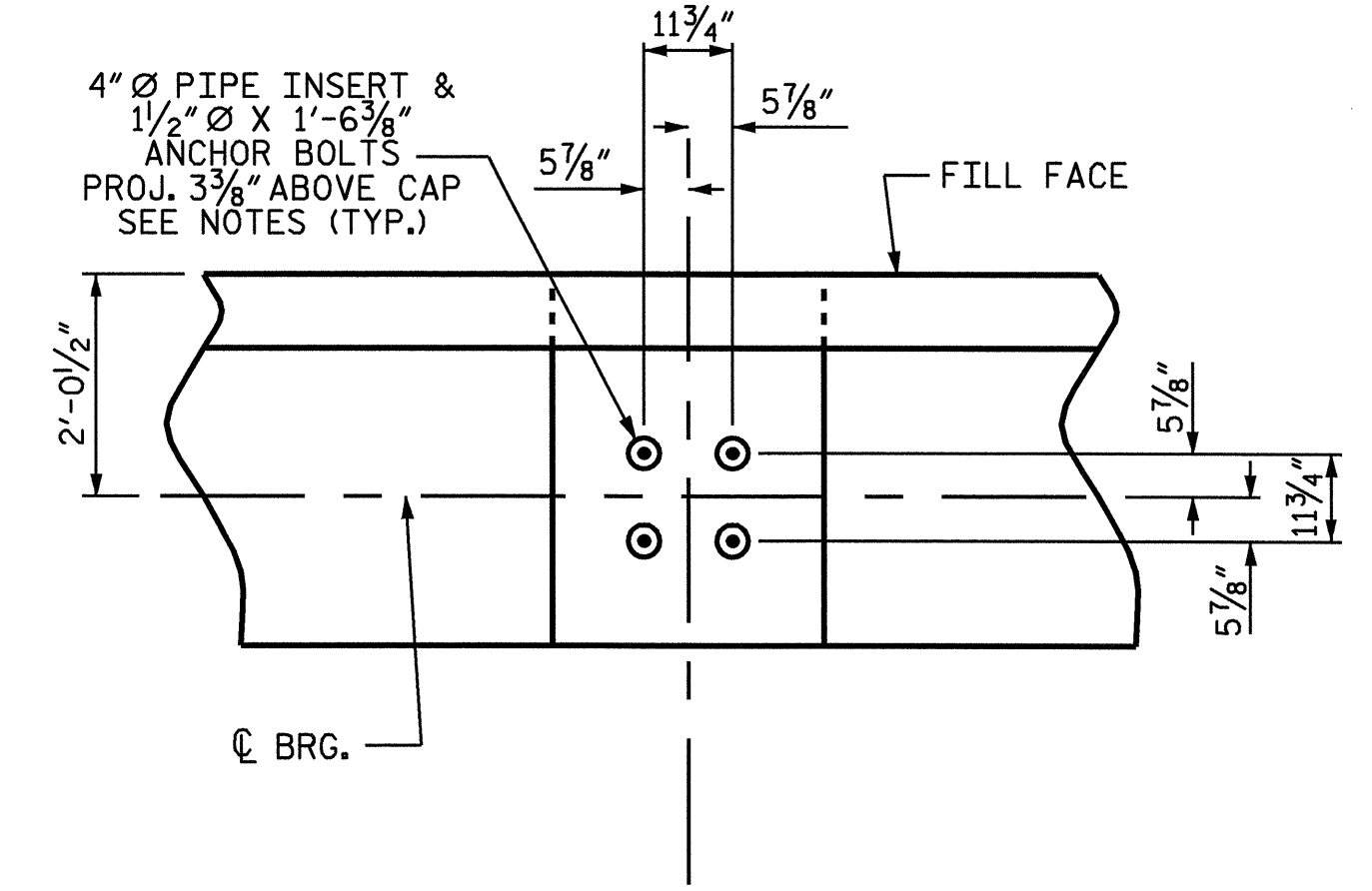
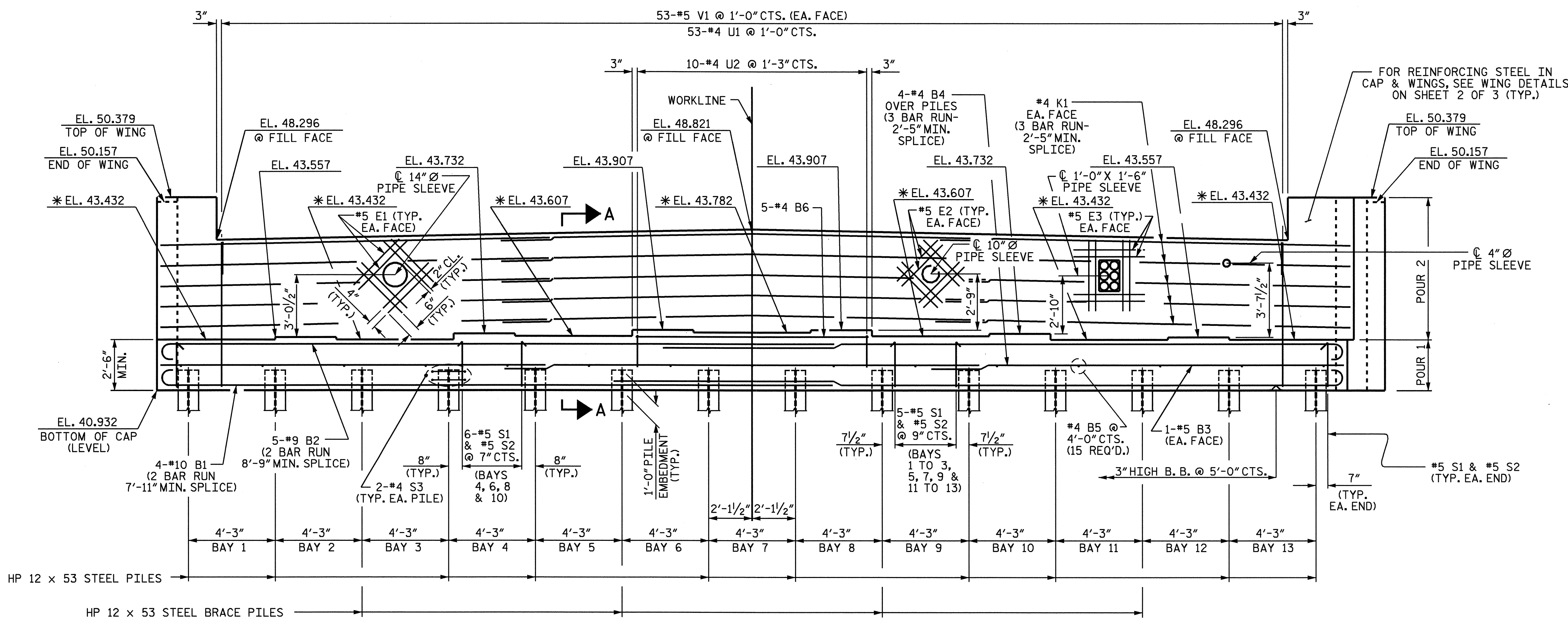
CENTER UTILITY IN BLOCKOUT AND FILL ANNULAR SPACE AROUND UTILITY PIPE WITH JOINT FILLER IN ACCORDANCE WITH STANDARD SPECIFICATION ARTICLE 1028-1.

THE DIMENSIONS AND DETAILS SHOWN FOR THE STEEL PLATE SLEEVE AND PIPE SLEEVES ARE FOR THE CONTRACTOR'S BENEFIT IN PLACING THE SLEEVES AND SHOULD NOT BE CONSTRUED TO BE AN APPROVAL FOR THE ATTACHMENT OF THE UTILITY TO THE STRUCTURE.

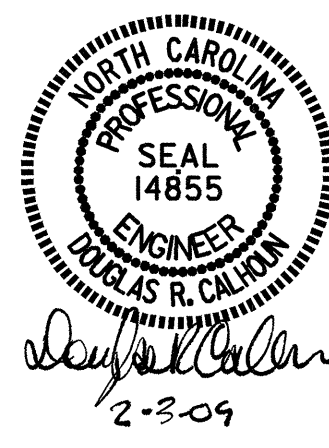
FOR RESPONSIBILITIES FOR FURNISHING AND PLACING STEEL PLATE SLEEVE AND PIPE SLEEVE, SEE UTILITY SPECIAL PROVISIONS.

THE STEEL PLATE SLEEVE AND PIPE SLEEVES ARE TO BE FLUSH WITH BOTH SIDES OF BACKWALL. SLEEVES ARE TO BE PLACED SO THAT OPENING IS PARALLEL TO GIRDERS.

THE CONTRACTOR SHALL PROVIDE FOR INSTALLATION OF THE UTILITY BLOCKOUTS IN THE BACKWALL. REINFORCING STEEL IN THE BACKWALL MAY BE SHIFTED OR CUT AS NECESSARY TO PROVIDE FOR THE UTILITY BLOCKOUTS. SEE UTILITY SHEETS FOR DETAILS.



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SHEET 1 OF 3

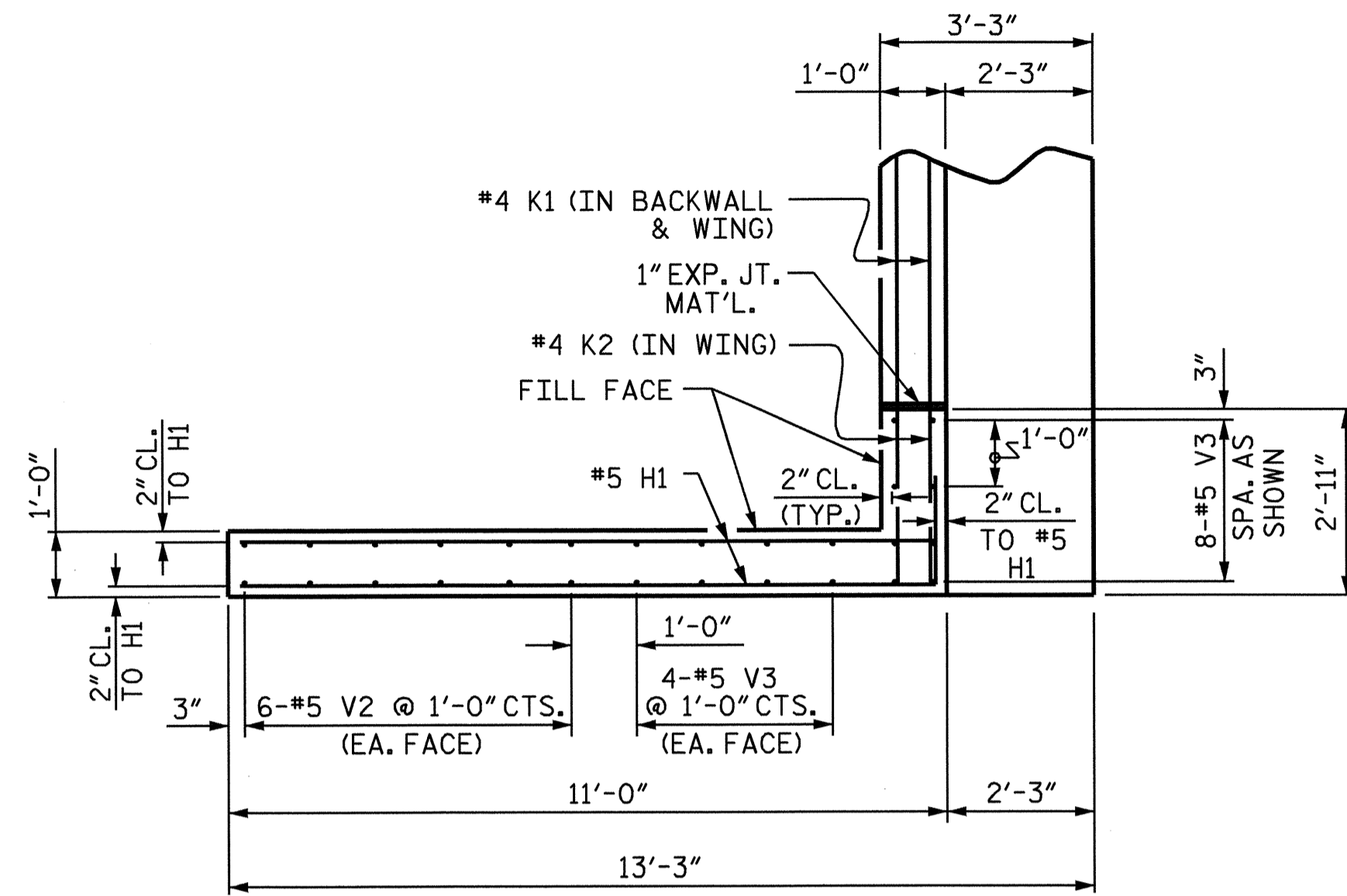
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT 2

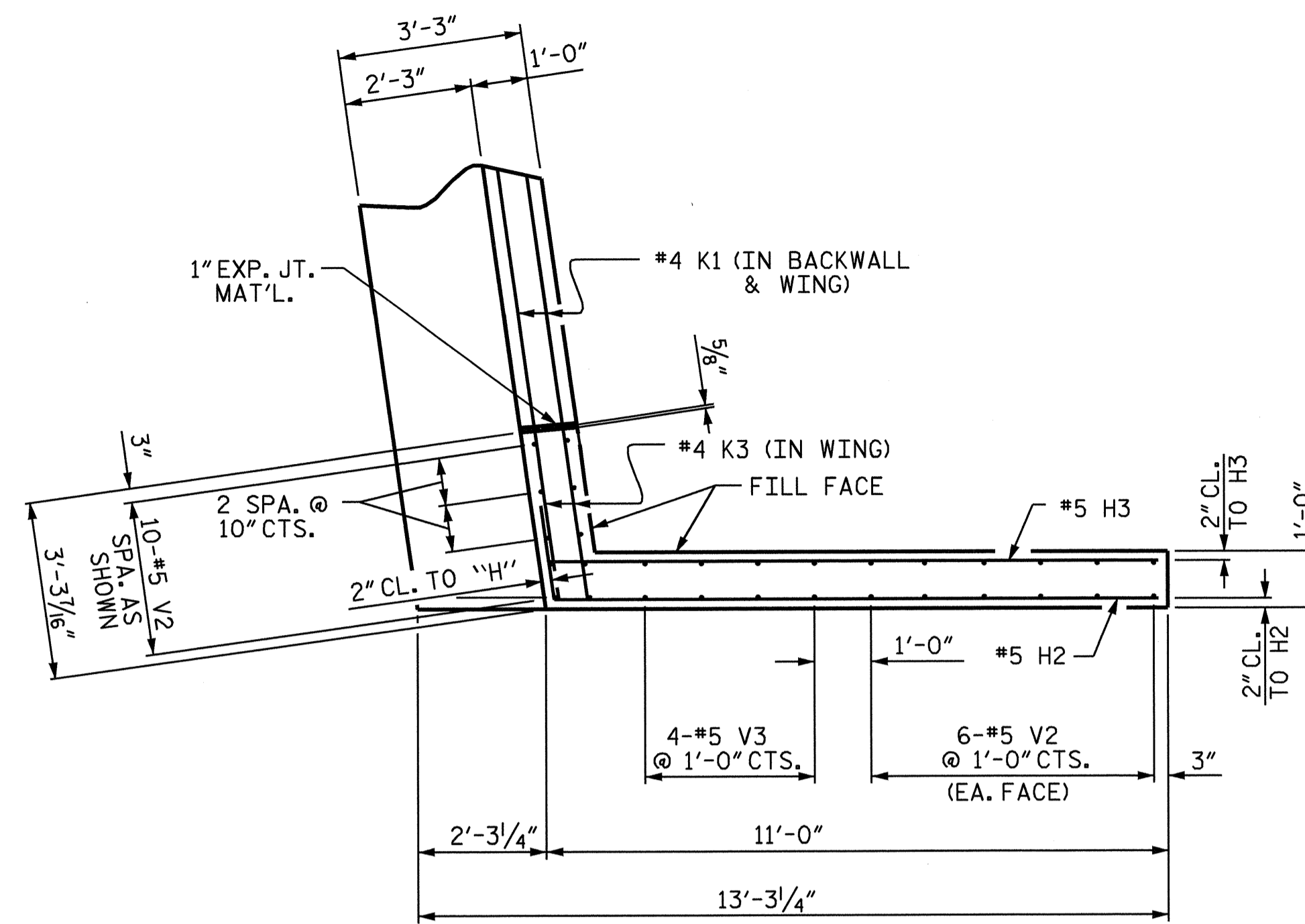
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2			4			48	

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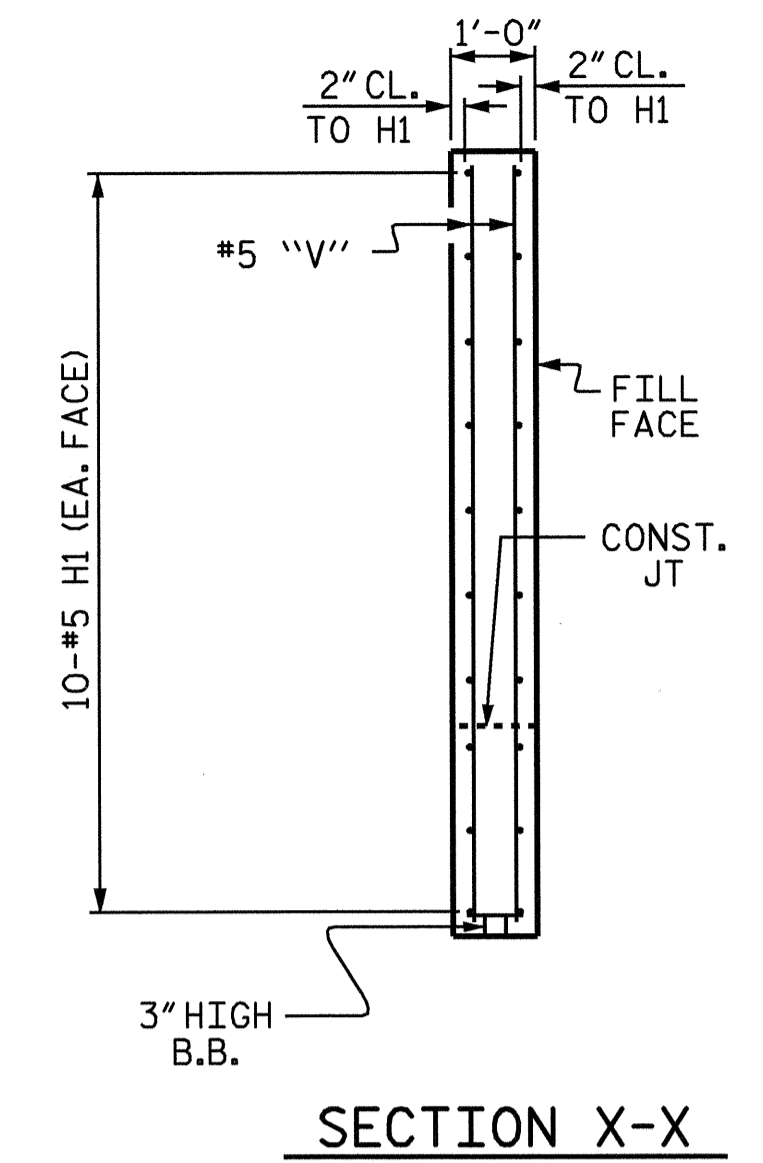
* FOR LOCATION OF ELEVATIONS BETWEEN BRIDGE SEAT BUILDUPS SEE "SECTION A-A" SHEET 3 OF 3.



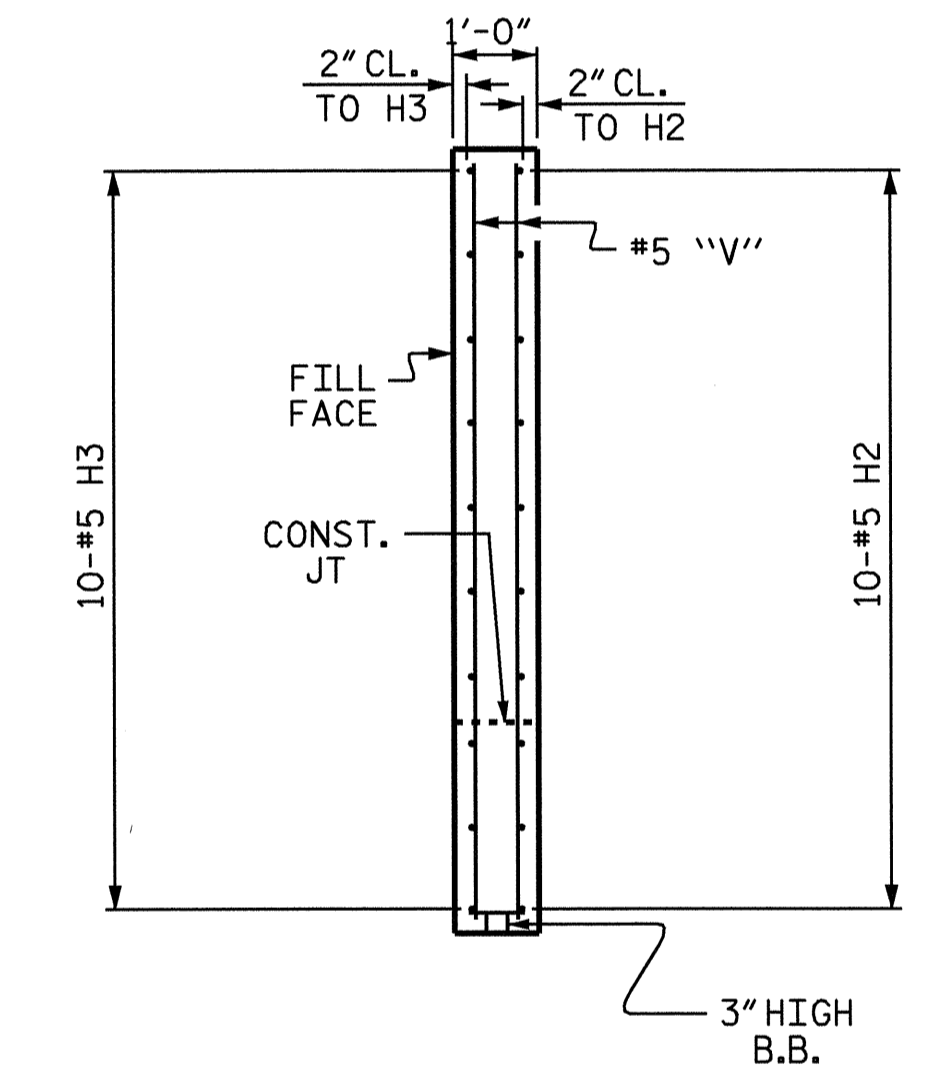
PLAN OF WING - W1



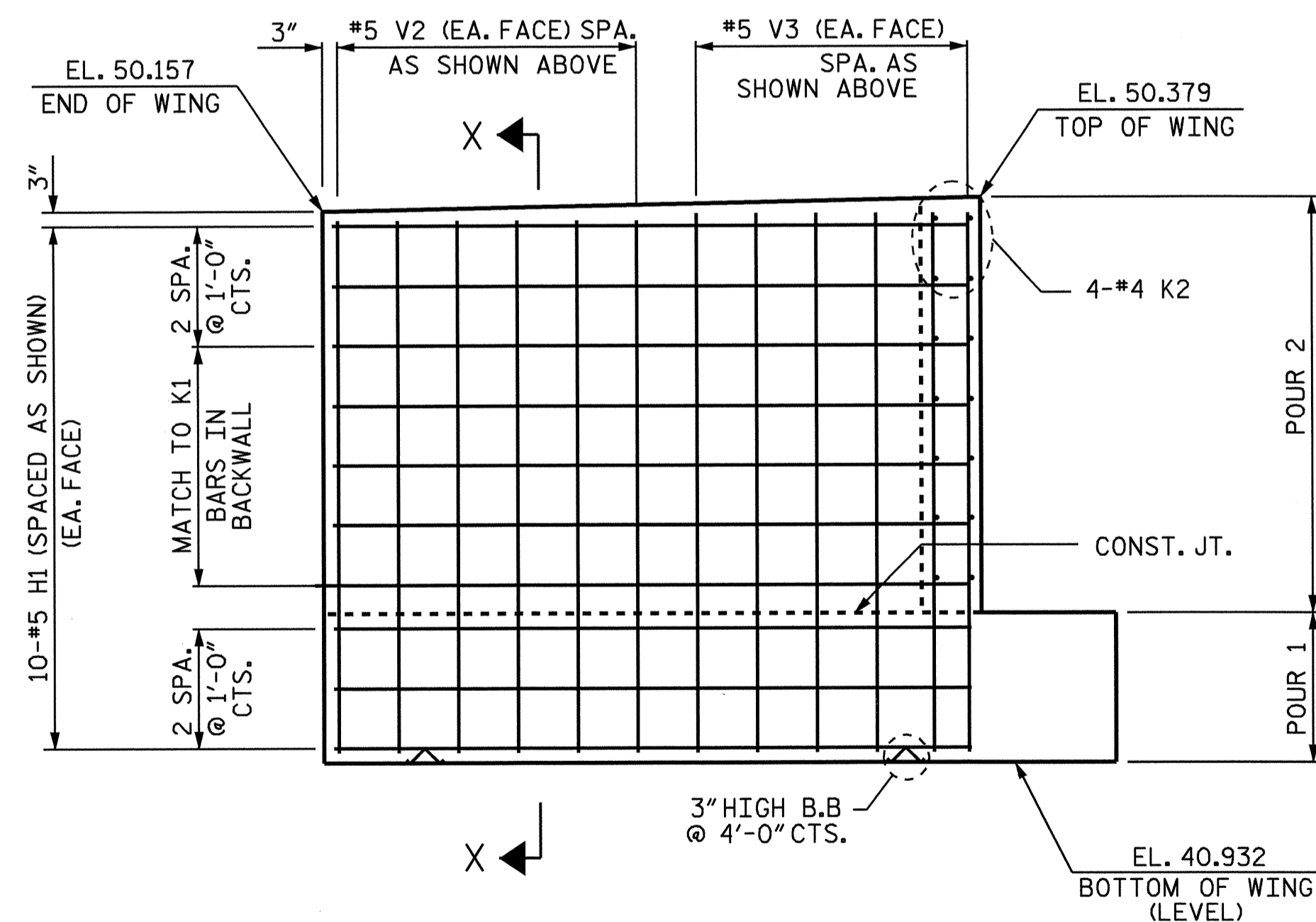
PLAN OF WING - W2



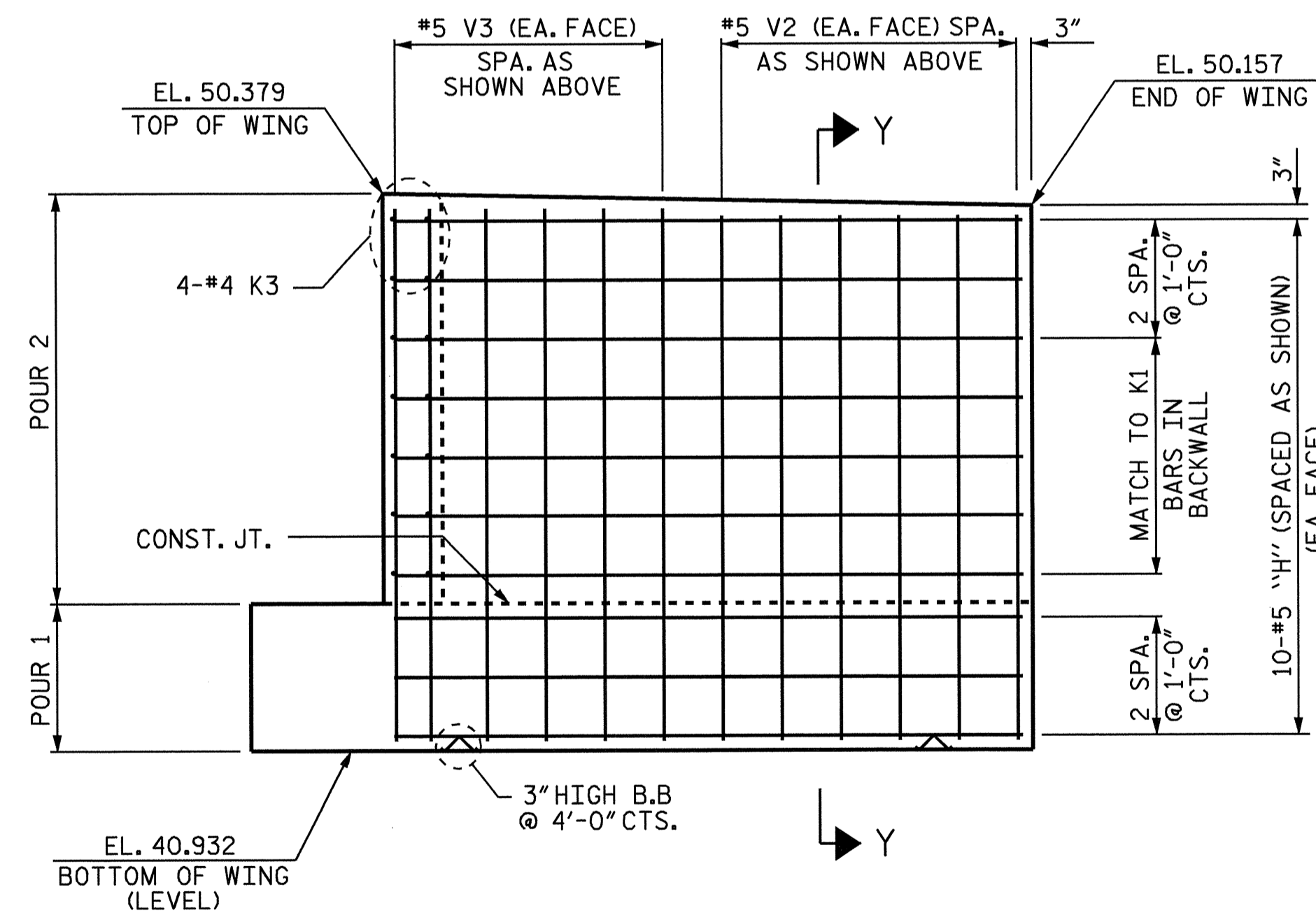
SECTION X-X



SECTION Y-Y



ELEVATION OF WING - W1



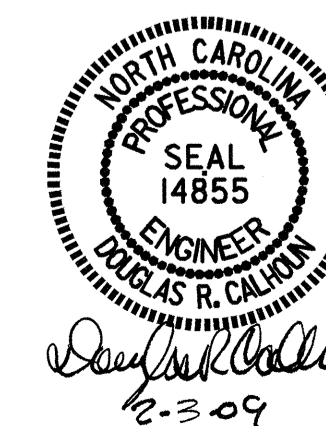
ELEVATION OF WING - W2

PROJECT NO. B-2965
EDGECOMBE COUNTY
 STATION: 39+59.00 -L-

SHEET 2 OF 3

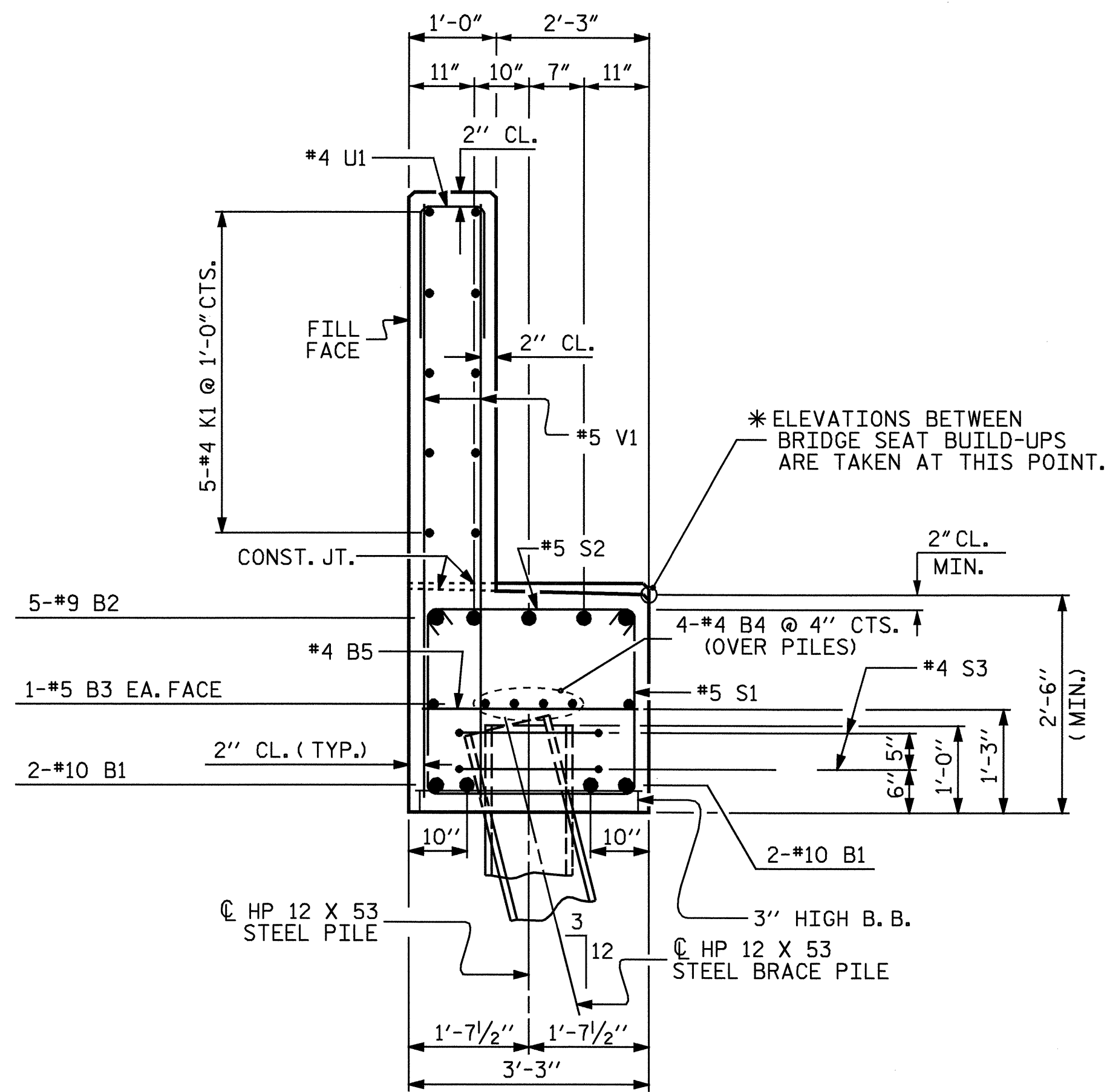
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT 2

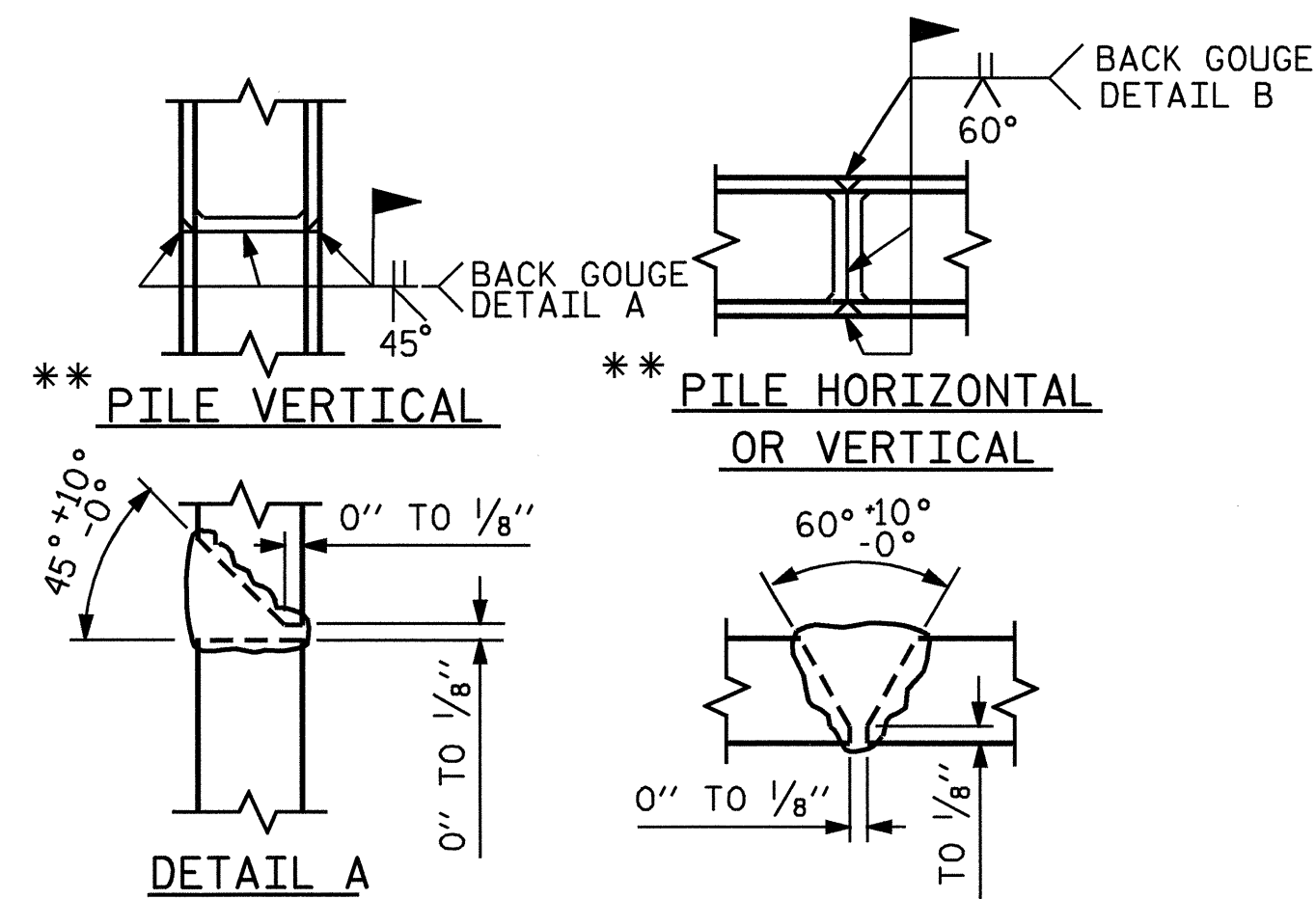


REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-38	
1			3			TOTAL SHEETS	48
2			4				

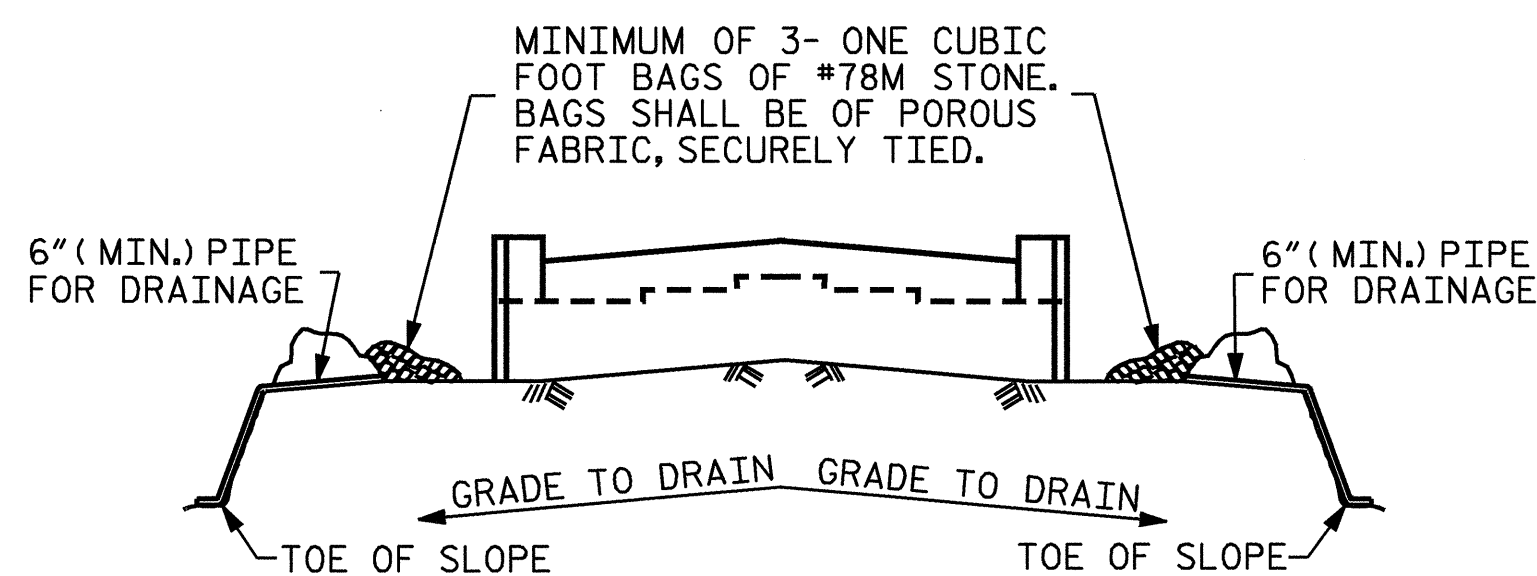
DRAWN BY: J.L. WALTON DATE: 4/16/08
 CHECKED BY: J. MYA DATE: 4/24/08



SECTION A-A



PILE SPLICE DETAILS

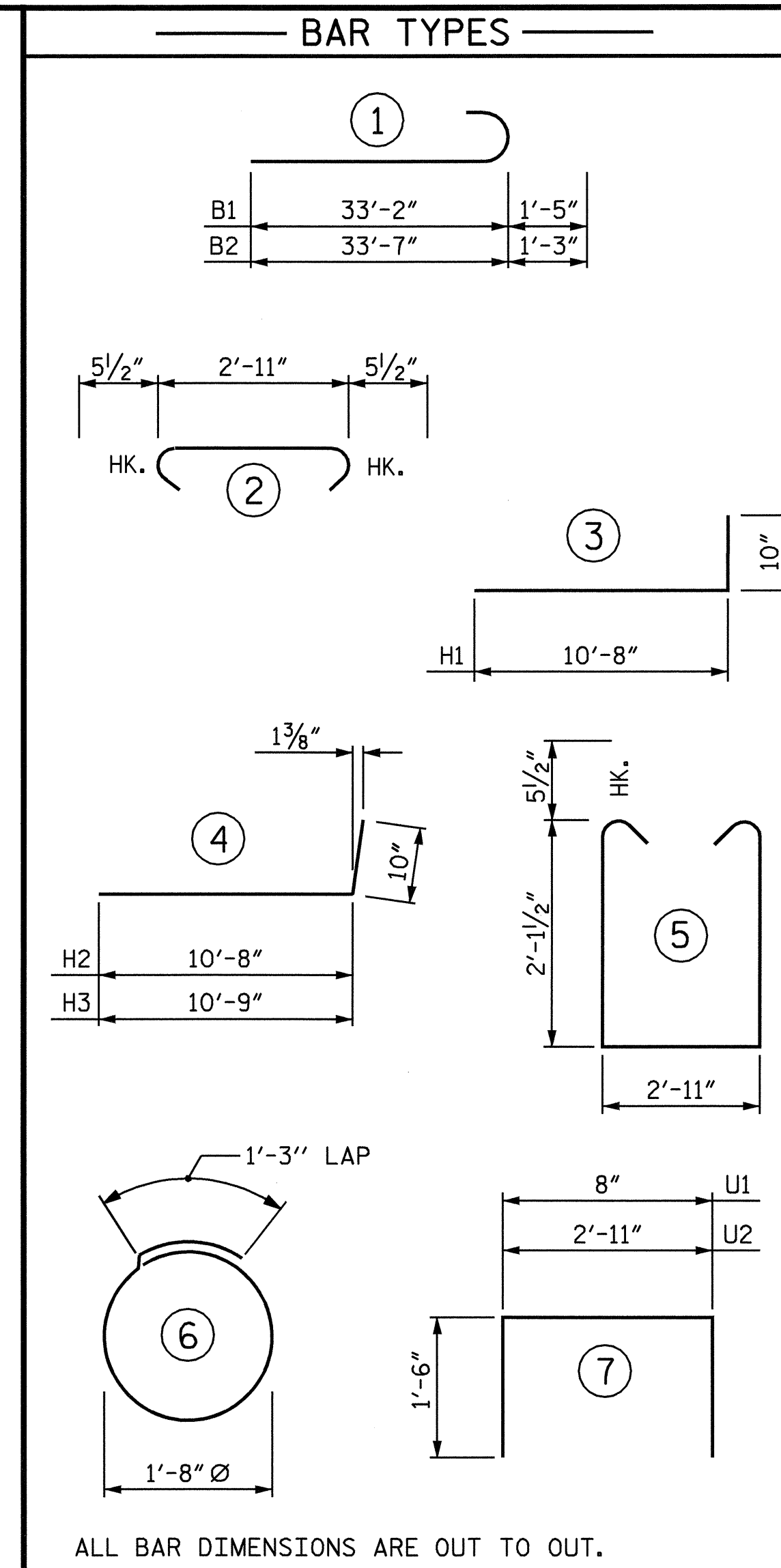


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

END BENT 2

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#10	1	34'-7"	1190
B2	10	#9	1	34'-10"	1184
B3	2	#5	STR	58'-0"	121
B4	12	#4	STR	21'-0"	168
B5	15	#4	STR	2'-11"	29
B6	5	#4	STR	11'-5"	38
E1	16	#5	STR	3'-2"	53
E2	16	#5	STR	2'-10"	47
E3	16	#5	STR	3'-6"	58
H1	20	#5	3	11'-6"	240
H2	10	#5	4	11'-6"	120
H3	10	#5	4	11'-7"	121
K1	30	#4	STR	21'-0"	421
K2	4	#4	STR	2'-7"	7
K3	4	#4	STR	3'-0"	8
S1	71	#5	5	8'-1"	599
S2	71	#5	2	3'-10"	284
S3	28	#4	6	6'-6"	122
U1	53	#4	7	3'-8"	130
U2	10	#4	7	5'-11"	40
V1	106	#5	STR	7'-0"	774
V2	24	#5	STR	8'-10"	221
V3	34	#5	STR	9'-0"	319

REINFORCING STEEL 6294 LBS.

CLASS A CONCRETE (CU. YDS.)

POUR 1
CAP & LOWER PART OF WING 20.7

POUR 2
BACKWALL & UPPER PART OF WING 15.9

TOTAL 36.6

HP 12 x 53 STEEL PILES
No. 14 490 LIN. FT.

PROJECT NO. B-2965
EDGEcombe COUNTY
STATION: 39+59.00 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT 2



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-39
1			3			TOTAL SHEETS 48
2			4			

DRAWN BY: J.L. WALTON DATE: 4/16/08
CHECKED BY: J. MYA DATE: 4/24/08

NOTES

CONCRETE DESIGN DATA : $f'c = 5,000$ PSI ; $fc = 2,000$ PSI

IMPACT IN HANDLING = 50%

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE PILE SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 3,500 PSI.

IN DRIVING PILES, A METHOD APPROVED BY THE ENGINEER SHALL BE USED, WHEREBY THE HEAD OF THE PILE IS NOT DAMAGED.

PROPOSED DEVICES FOR LIFTING PILES, RECESS DETAILS, AND PATCHING MATERIAL SHALL BE DETAILED IN SHOP DRAWINGS. AFTER ATTACHMENTS HAVE BEEN REMOVED, OPENINGS SHALL BE REPAIRED SUCH THAT THE APPEARANCE OF THE PILE IS UNIFORM.

WHERE CAST - IN - PLACE LIFTING DEVICES ARE NOT USED, PICK-UP POINTS TO BE INDICATED WITH A BLACK MARK 2" WIDE.

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 STANDARD SPECIFICATIONS.

THE CONTRACTOR SHALL USE THE FOLLOWING STRAND TYPE:

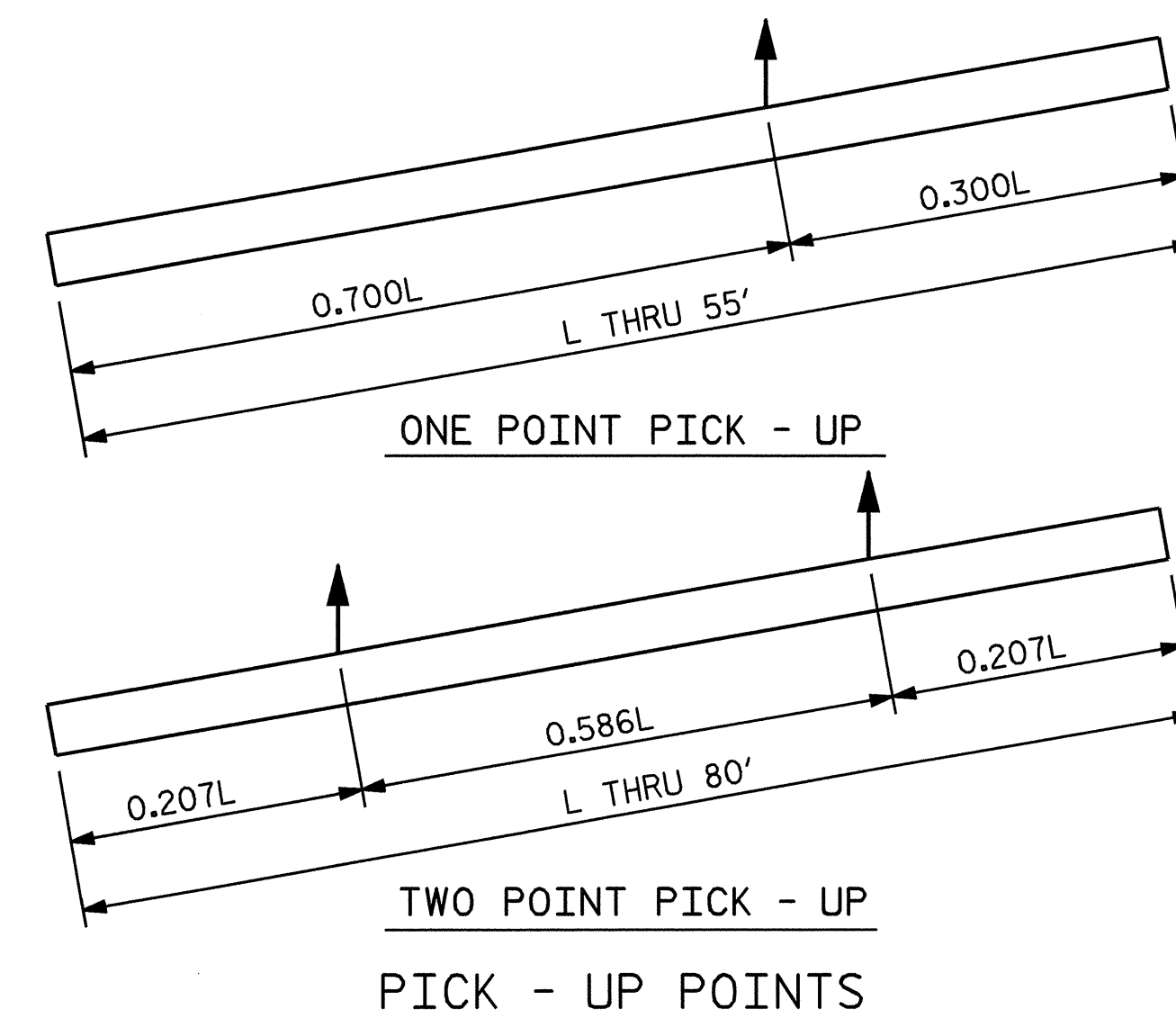
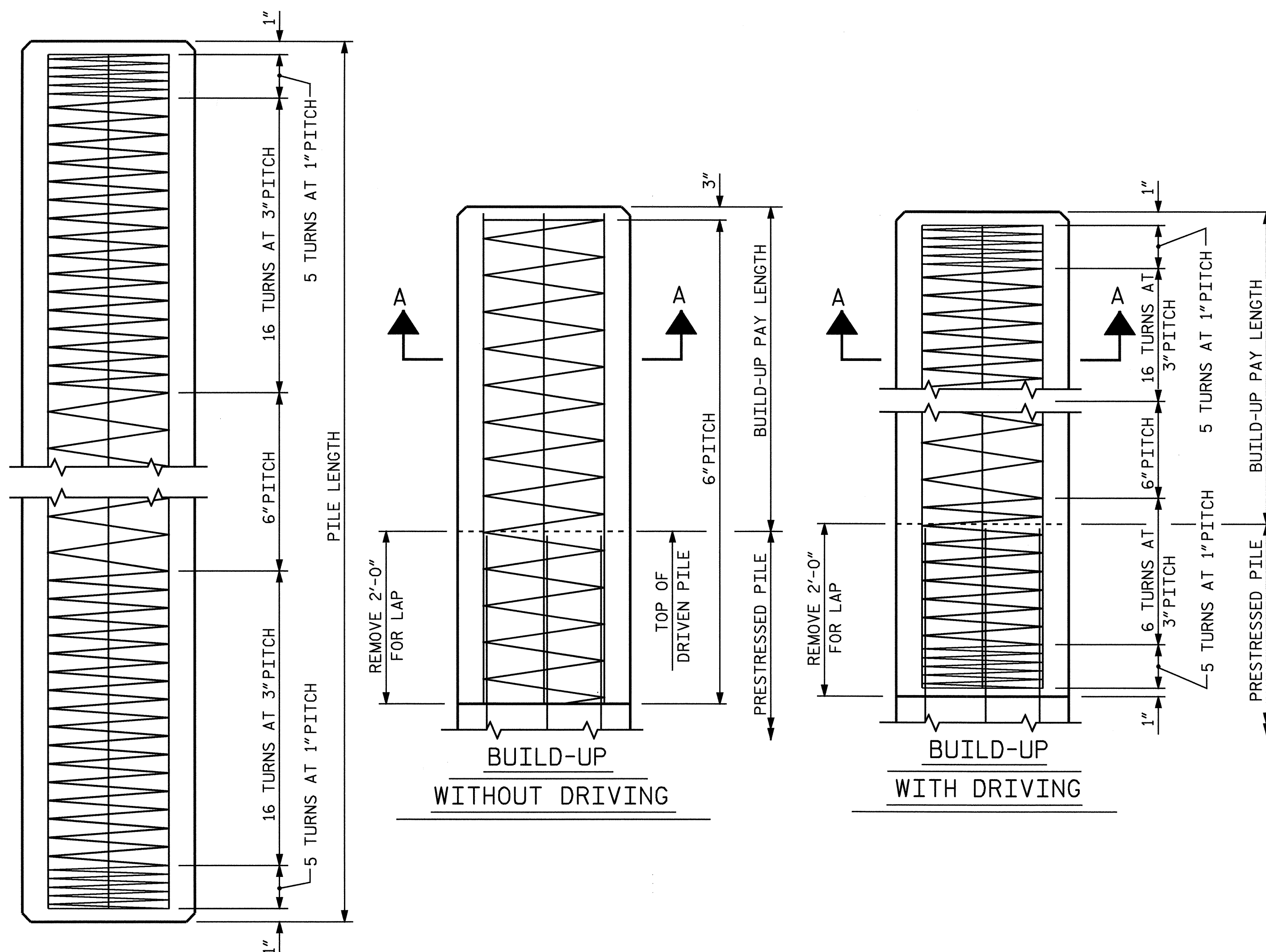
SIZE	GRADE	NUMBER OF STRANDS	AREA SQ. IN.	ULTIMATE STRENGTH LBS.	APPLIED PRESTRESS FORCE LBS.
1/2"	270 L.R.	8	0.153	41,300 PER STRAND	30,980 PER STRAND

THE SLIP-FORM METHOD OF CASTING PILES WILL NOT BE PERMITTED.

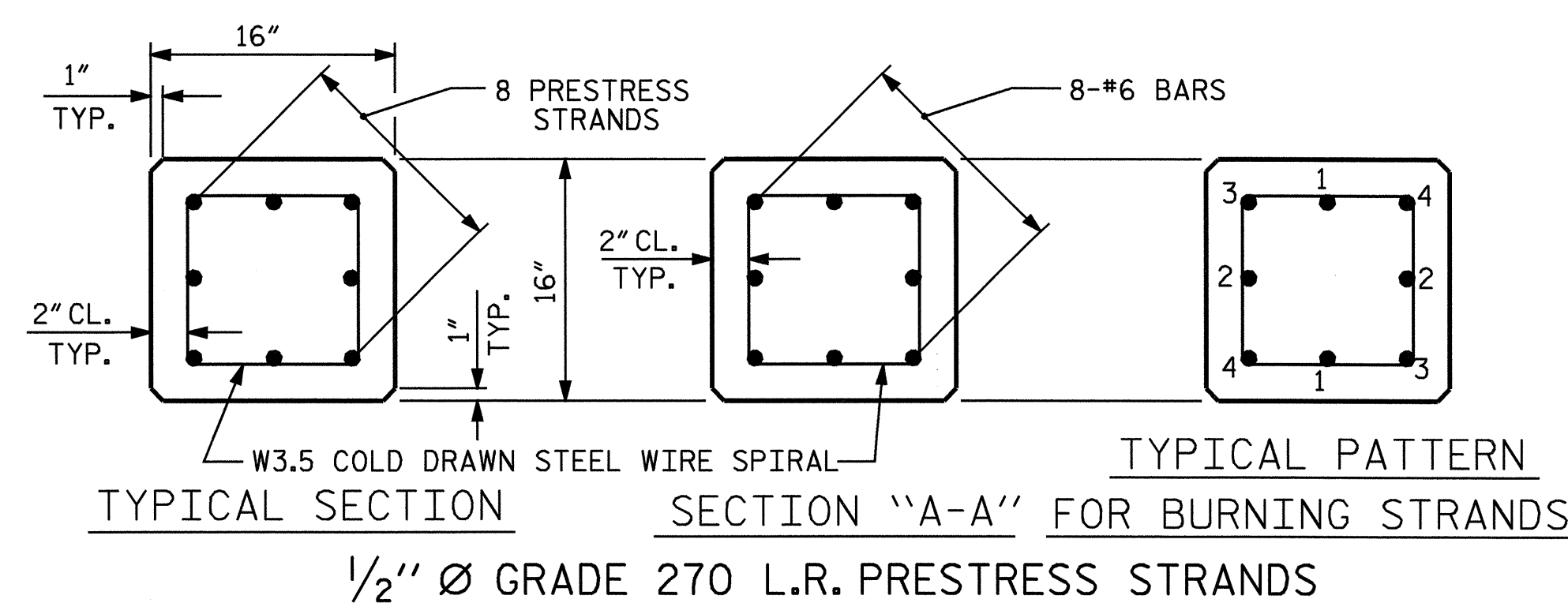
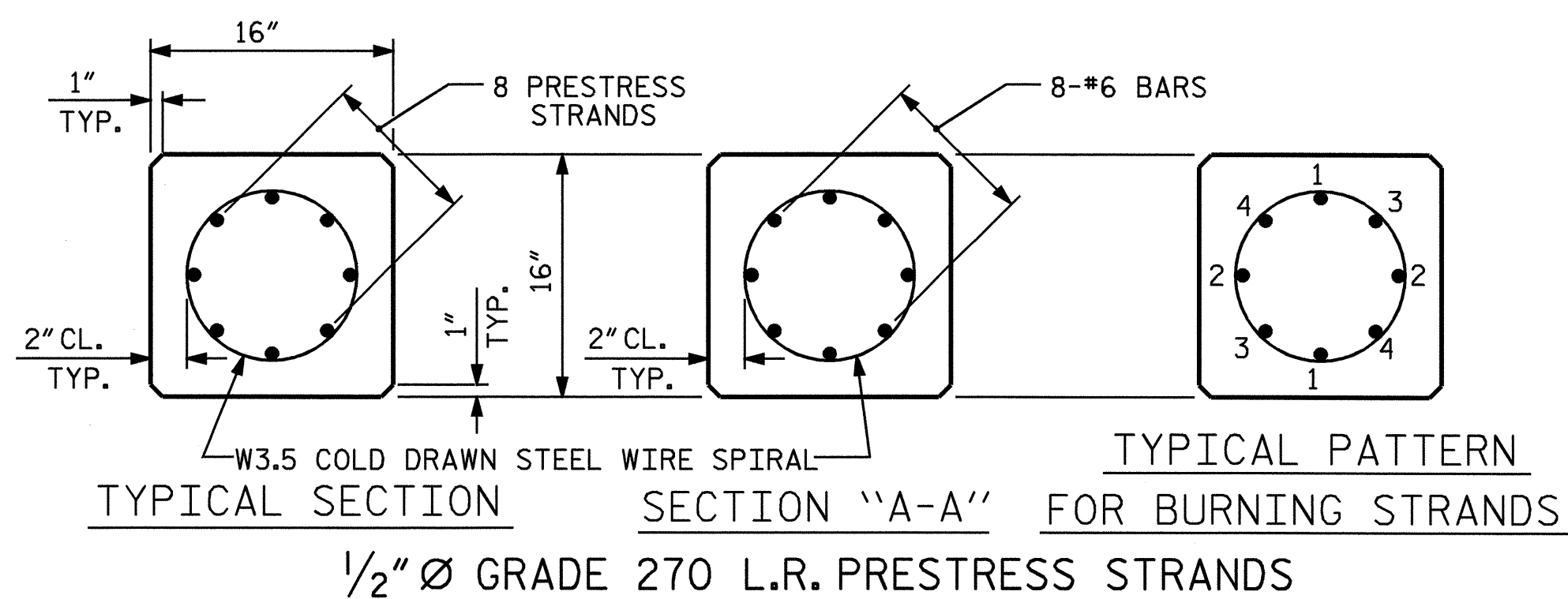
IF STRAND STRESS IS RELIEVED BY BURNING, THE STRANDS SHALL BE BURNED IN OPPOSITE PAIRS AS INDICATED IN THE TYPICAL PATTERN SHOWN. FOR ANY NUMBER OF STRANDS BURN IN OPPOSITE PAIRS AND SYMMETRICAL ABOUT BOTH VERTICAL AND HORIZONTAL AXES. STRANDS 1-1 SHALL BE BURNED BEFORE 2-2, ETC. NOT MORE THAN 4 STRANDS, SAY 3-3 AND 4-4, MAY BE BURNED AT ANY ONE SECTION BEFORE THESE SAME PAIRS OF STRANDS ARE BURNED AT BOTH ENDS OF THE BED AND BETWEEN EACH PAIR OF PILES IN THE BED.

BUILD-UPS SHALL BE 'CLASS A' CONCRETE WITH 20% ADDITIONAL CEMENT. NO DRIVING OF THE BUILT-UP PILE WILL BE PERMITTED UNTIL THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF 3,000 PSI AND UNTIL A PERIOD OF SEVEN DAYS HAS ELAPSED SINCE CASTING OF THE BUILD-UP.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.



ELEVATION



LENGTH	CONCRETE CU. YDS.	PILE WT. TONS	ONE POINT PICK-UP		TWO POINT PICK-UP	
			0.300L	0.700L	0.207L	0.586L
25'-0"	1.63	3.31	7'-6"	17'-6"	5'-2"	14'-8"
30'-0"	1.96	3.97	9'-0"	21'-0"	6'-2 1/2"	17'-7"
35'-0"	2.29	4.63	10'-6"	24'-6"	7'-3"	20'-6"
40'-0"	2.61	5.29	12'-0"	28'-0"	8'-3 1/2"	23'-5"
45'-0"	2.94	5.95	13'-6"	31'-6"	9'-4"	26'-4"
50'-0"	3.27	6.61	15'-0"	35'-0"	10'-4"	29'-4"
55'-0"	3.59	7.28	16'-6"	38'-6"	11'-4 1/2"	32'-3"
60'-0"	3.92	7.94			12'-5"	35'-2"
65'-0"	4.25	8.60			13'-5 1/2"	38'-1"
70'-0"	4.57	9.26			14'-6"	41'-0"
75'-0"	4.90	9.92			15'-6 1/2"	43'-11"
80'-0"	5.23	10.58			16'-7"	46'-10"

PROJECT NO. B-2965
EDGEcombe COUNTY
 STATION: 39+59.00 -L-

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD

16" PRESTRESSED
 CONCRETE PILE



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-40
1			3			TOTAL SHEETS 48
2			4			

ASSEMBLED BY : J.L. WALTON DATE : 9/10/08
 CHECKED BY : B.N. GRADY DATE : 9/19/08
 DRAWN BY : RH 9/98
 CHECKED BY : LES 10/98
 ADDED 12/2/98
 REV. 8/16/99RR RWW/LES
 REV. 5/1/06 TLA/GM

NOTE:
LATERAL BRACING IS
REQUIRED 12" +/- BACK
OF ALL FORCE MAIN
JOINTS.

BRACE SHALL BE PLACED
SNUG AGAINST BEAM WEB. DO
NOT FORCE OR JACK.

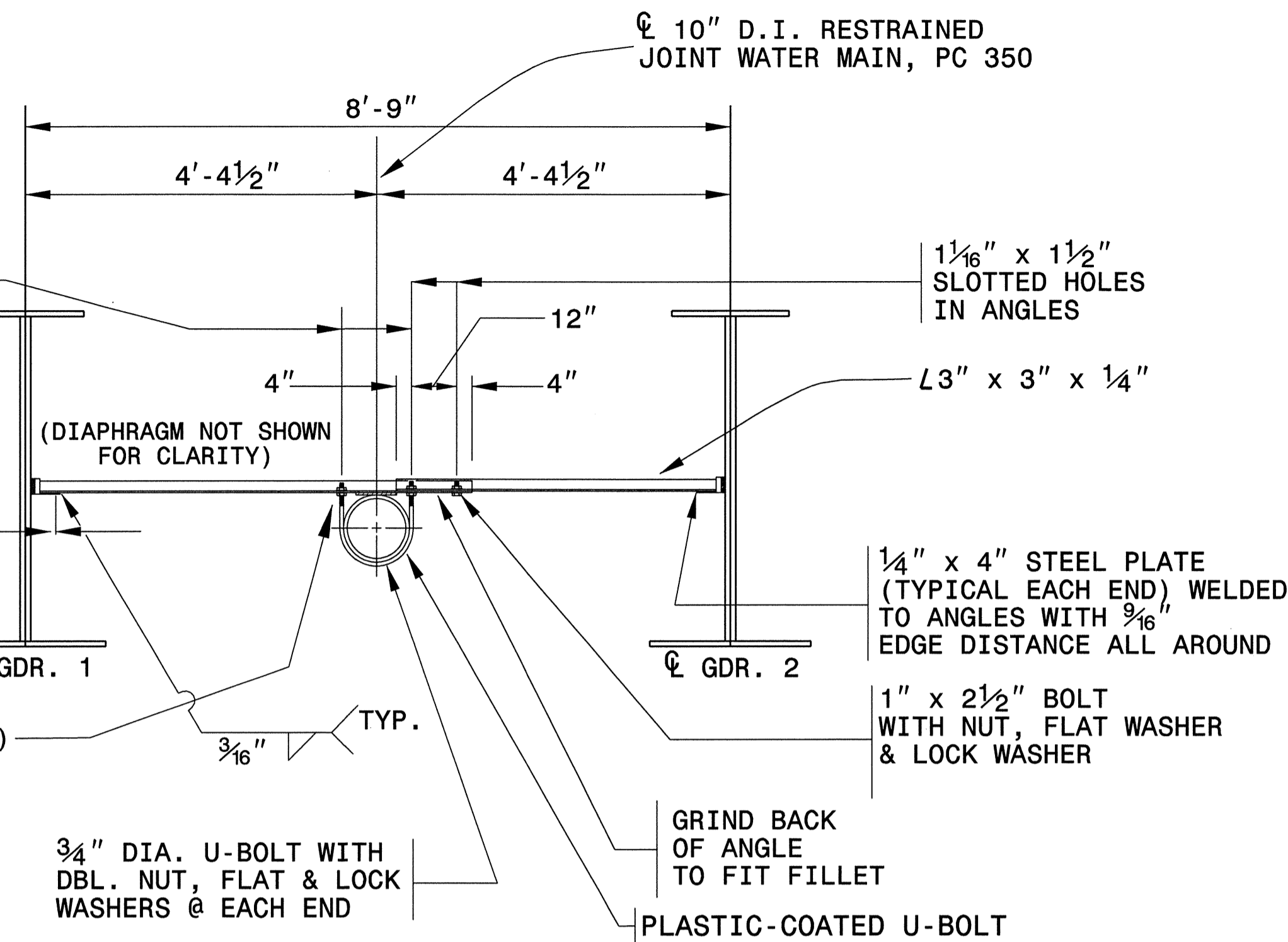
HOLES IN ANGLE
IRON TO BE DRILLED
1/16" LARGER THAN
U-BOLTS

1/8" PVC OR NEOPRENE
(TYPICAL EACH END)

1/4" PVC OR NEOPRENE PAD
3"x4" BETWEEN THE TOP OF
THE PIPE AND THE ANGLE IRON
(EPOXY-CEMENTED TO ANGLE IRON)

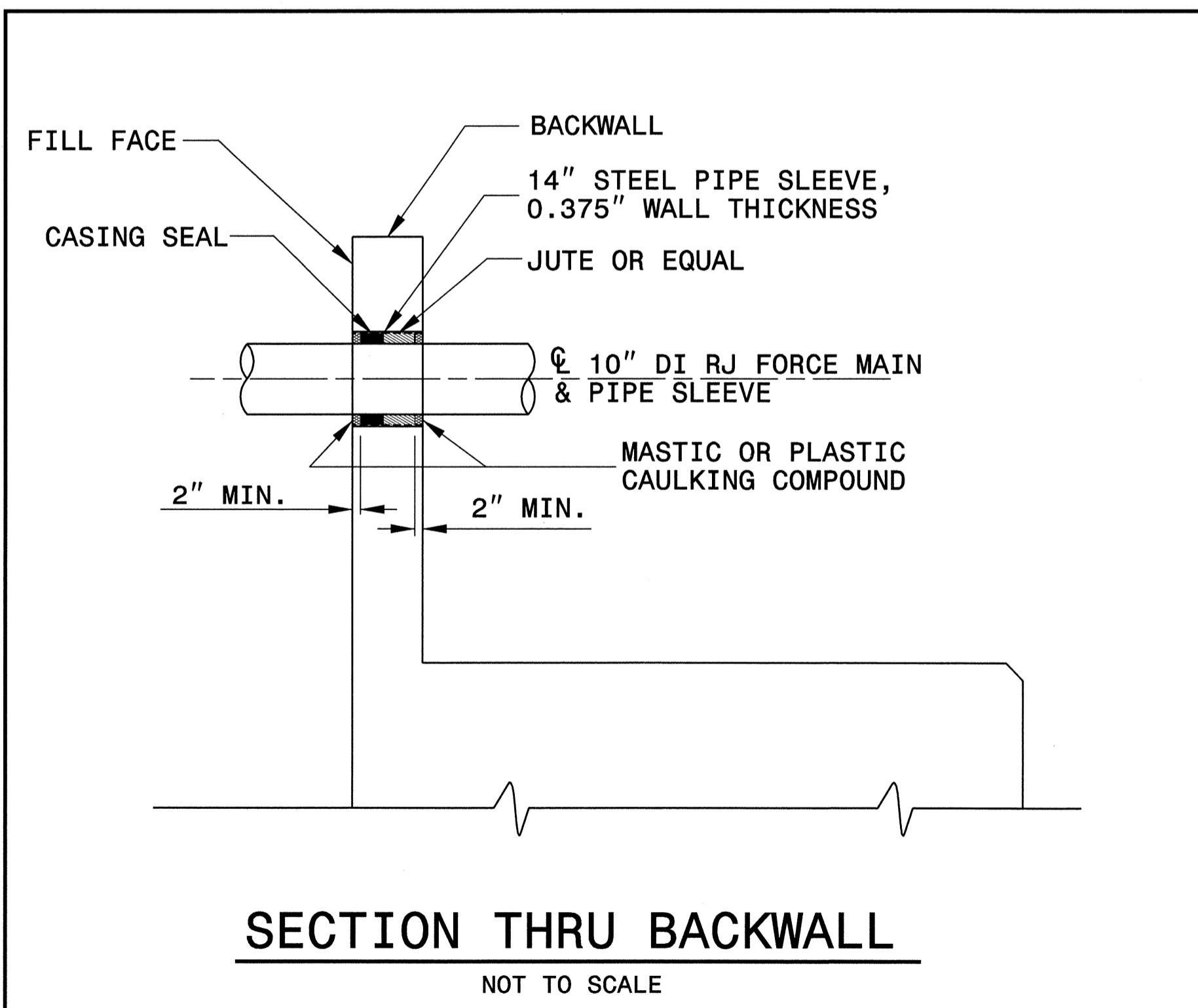
ALL LATERAL BRACING
AND U-BOLT SHALL BE
GALVANIZED

ALL BOLTS, NUTS AND WASHERS
SHALL BE GALVANIZED



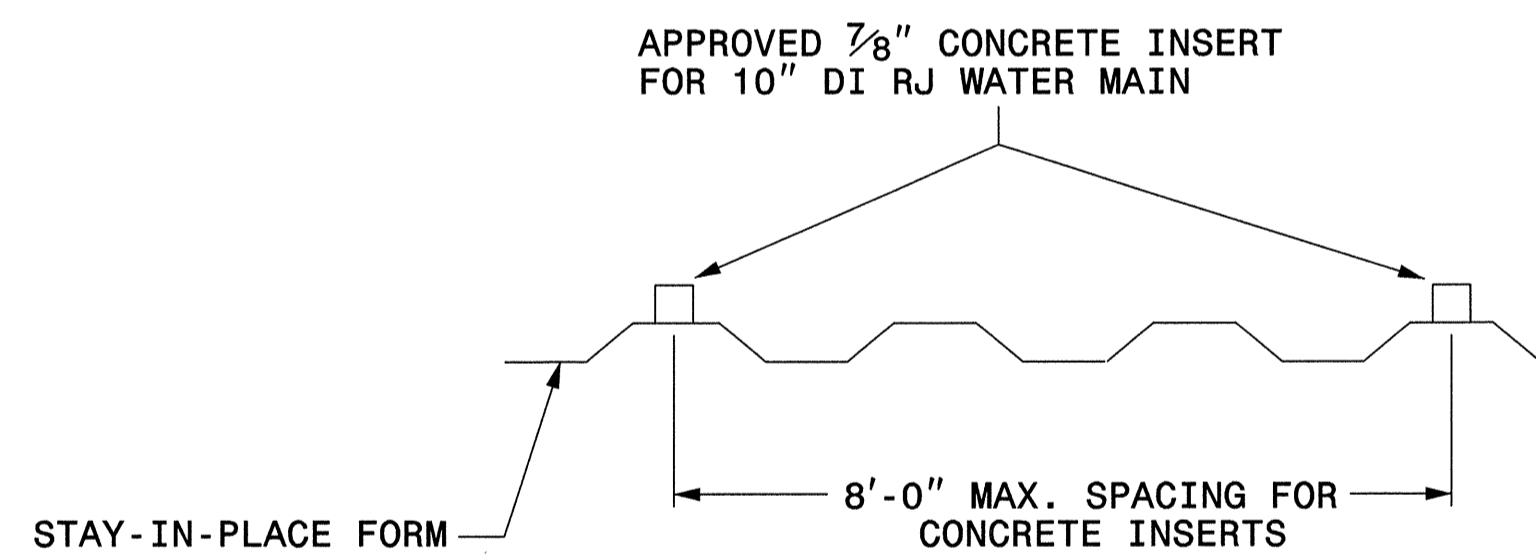
LATERAL BRACE ASSEMBLY FOR 10-INCH WATER MAIN

NOT TO SCALE



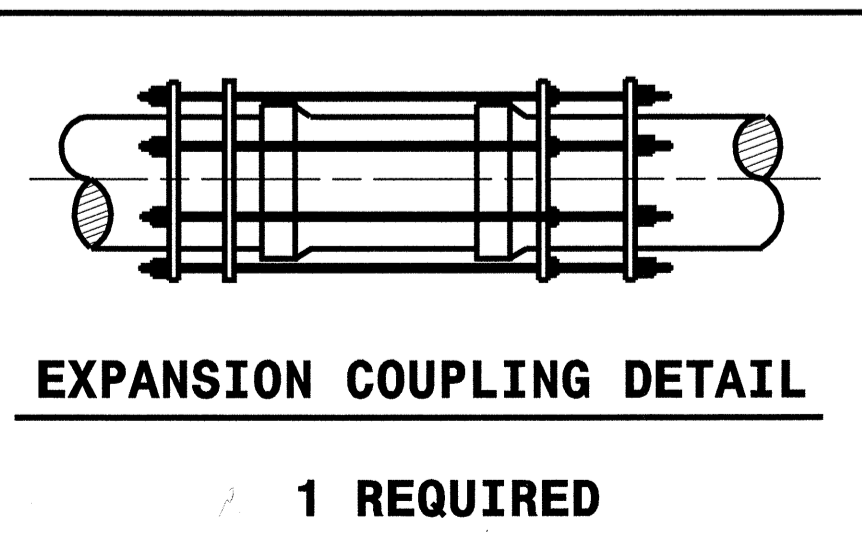
SECTION THRU BACKWALL

NOT TO SCALE



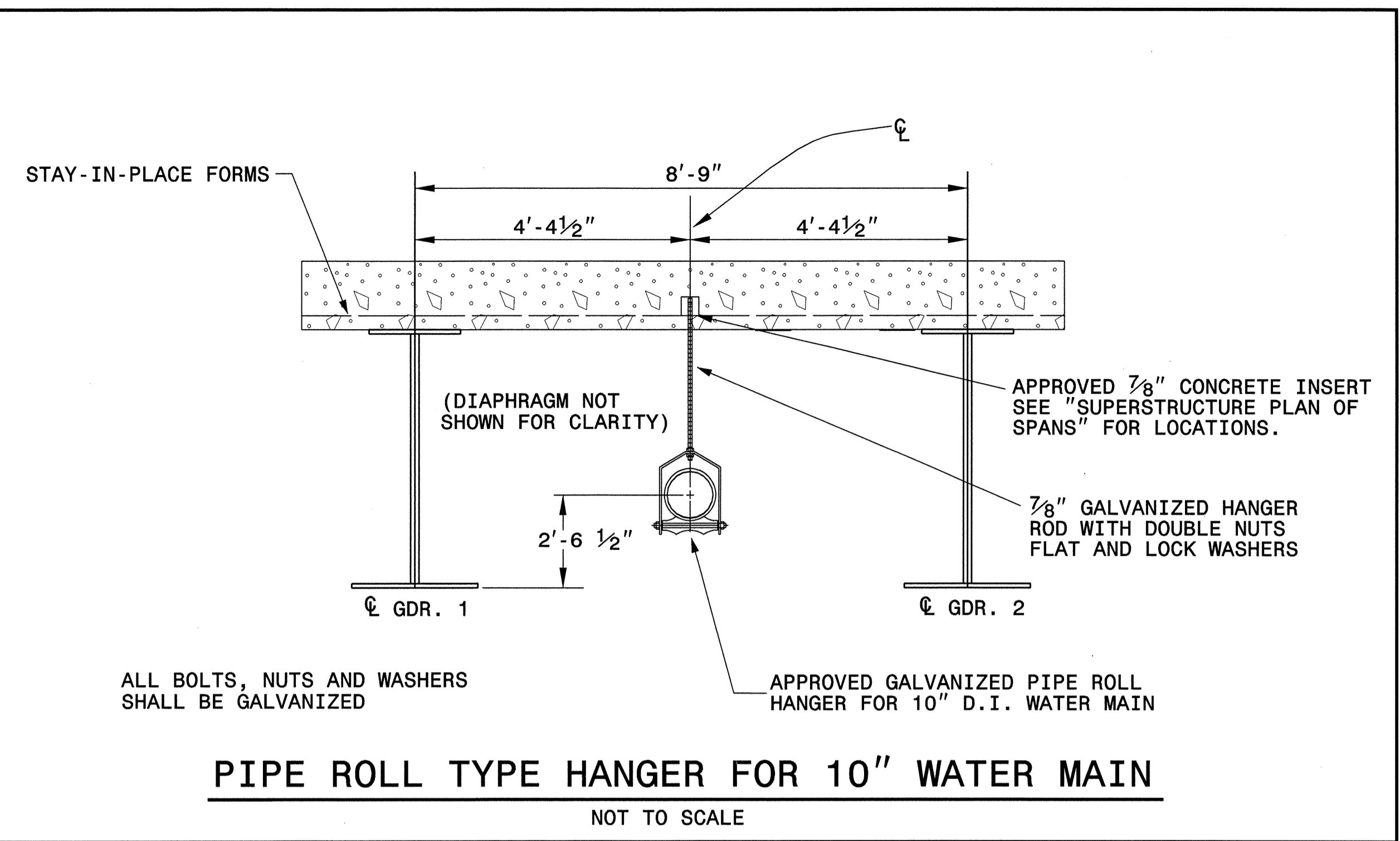
**DETAIL OF INSERT LOCATIONS
WITH STAY-IN-PLACE FORMS**

NOT TO SCALE



EXPANSION COUPLING DETAIL

1 REQUIRED



PIPE ROLL TYPE HANGER FOR 10" WATER MAIN

NOT TO SCALE

BILL OF MATERIALS FOR 10" WATER MAIN

NO.	UNITS	ITEMS
1	2 EA	14" STEEL PIPE SLEEVE, 0.375" WALL THICKNESS, 1'-0" LENGTH (END BENTS)
2	63 EA	7/8" APPROVED GALV. CONCRETE INSERTS (HANGER RODS)
3	63 EA	APPROVED ADJ. GALV. STEEL YOKE PIPE ROLL HANGER FOR 10" D.I. RJ WATER MAIN WITH 7/8" HANGER RODS
4	554'	10" DI RESTRAINED JOINT WATER MAIN PIPE, PC 350
5	2 EA	APPROVED MODULAR TYPE CASING SEAL
6	50 lbs	JUTE
7	40 lbs	MASTIC OR PLASTIC CAULKING COMPOUND
8	2 EA	END PLUGS (OR CAPS) FOR 10" DI PIPE
9	25 EA	GALV. LATERAL BRACE ASSEMBLIES
10	1 EA	EXPANSION COUPLING
11	1 LOT	PAINT (AS REQUIRED)

THESE ARE ESTIMATED QUANTITIES ONLY.

PROJECT NO. B-2965

EDGEcombe COUNTY

STATION: 39+59.00 -L-

SHEET 1 OF 1

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

UTILITY ATTACHMENT
DETAIL SHEET
(10" WATER MAIN)

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			5-41
2			4			TOTAL SHEETS 48

PROFESSIONAL ENGINEER
NORTH CAROLINA
ANDREW P. LARRICK
10-2-08

PREPARED IN THE OFFICE OF:
**DAVIS-MARTIN-POWELL
AND ASSOCIATES, INC.**
6415 OLD PLANK ROAD
HIGH POINT, NC 27265
PHONE (336) 886-4821
FAX (336) 886-4458

dmp

DRAWN BY: APL 9/08
CHECKED BY: JSM 9/08

NOTE:
LATERAL BRACING IS
REQUIRED 12" +/- BACK
OF ALL FORCE MAIN
JOINTS.

BRACE SHALL BE PLACED
SNUG AGAINST BEAM WEB. DO
NOT FORCE OR JACK.

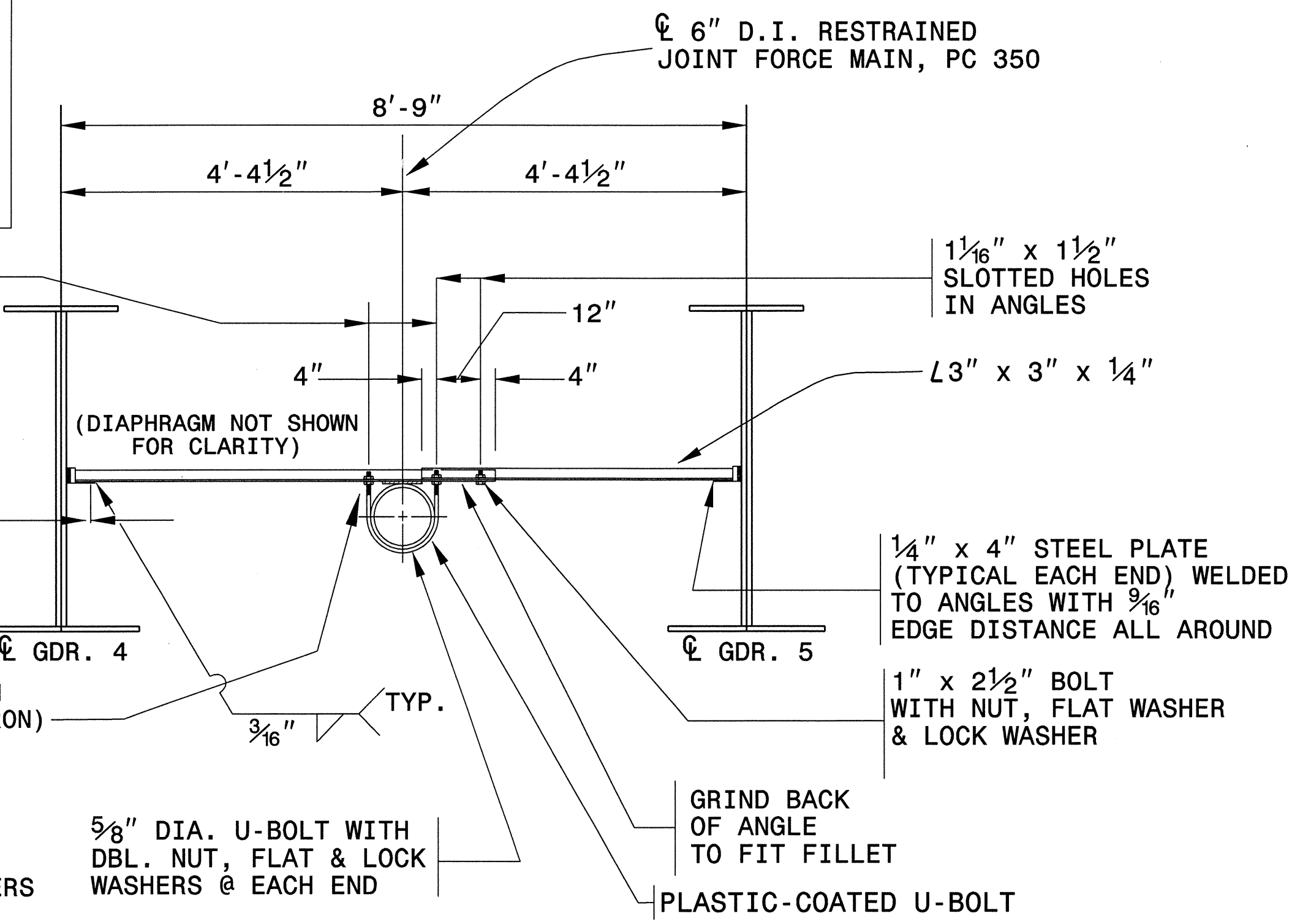
HOLES IN ANGLE
IRON TO BE DRILLED
1/16" LARGER THAN
U-BOLTS

1/8" PVC OR NEOPRENE
(TYPICAL EACH END)

1/4" PVC OR NEOPRENE PAD
3"x4" BETWEEN THE TOP OF
THE PIPE AND THE ANGLE IRON
(EPOXY-CEMENTED TO ANGLE IRON)

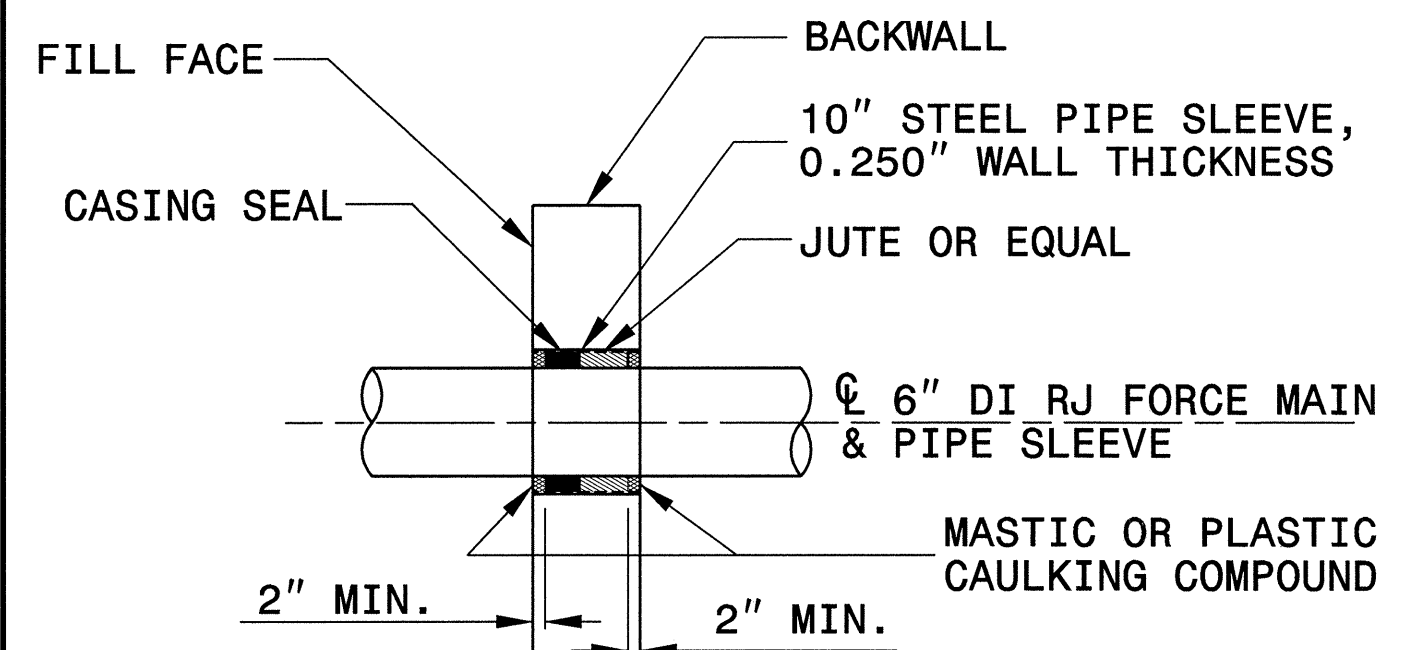
ALL LATERAL BRACING
AND U-BOLT SHALL BE
GALVANIZED

ALL BOLTS, NUTS AND WASHERS
SHALL BE GALVANIZED



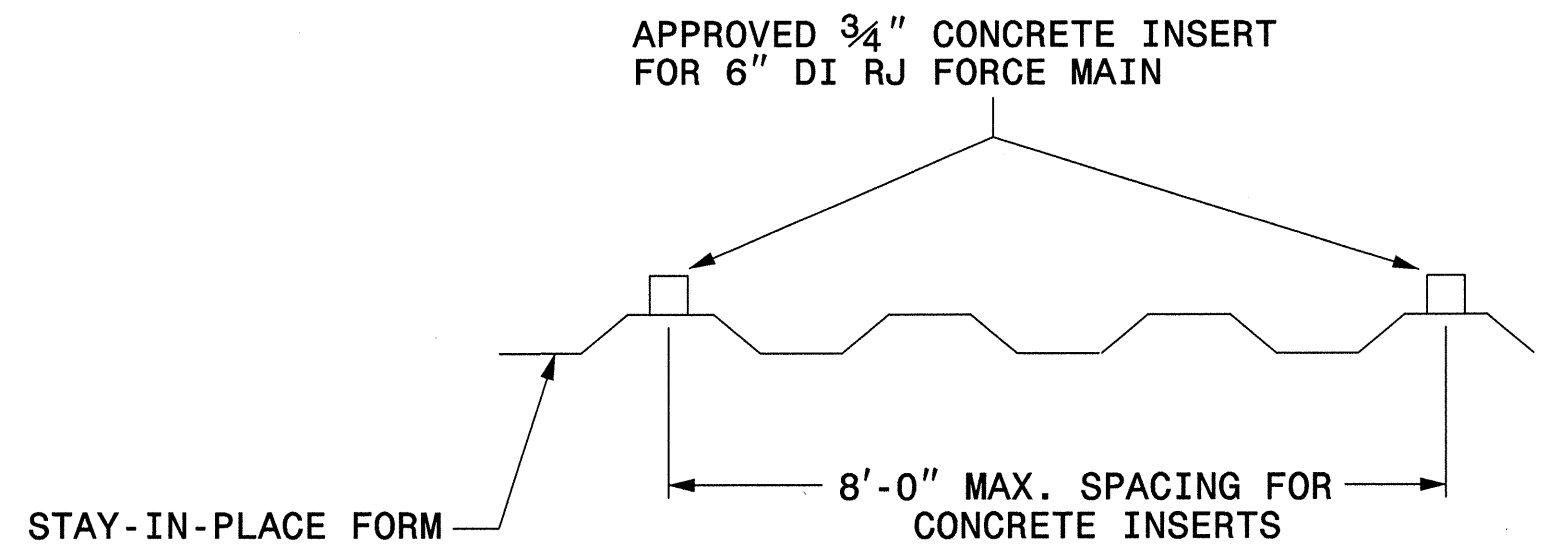
LATERAL BRACE ASSEMBLY FOR 6-INCH FORCE MAIN

NOT TO SCALE



SECTION THRU BACKWALL

NOT TO SCALE

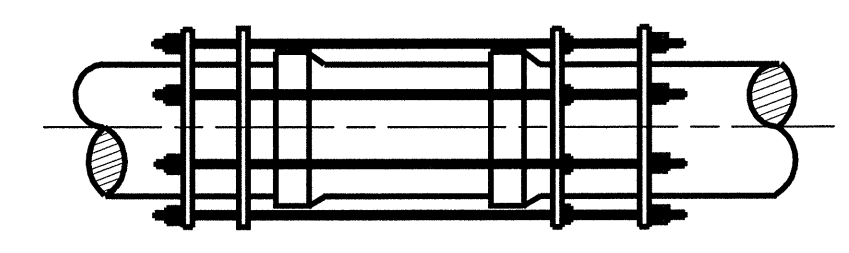


NOTE:
INSERTS MUST BE LOCATED IN THE HIGH PART
OF THE STAY-IN-PLACE FORMS.

EXACT SPACING MAY VARY IN ORDER
TO AVOID LOCATING INSERTS ON SLOPING
OR LOW SURFACE OF FORM.

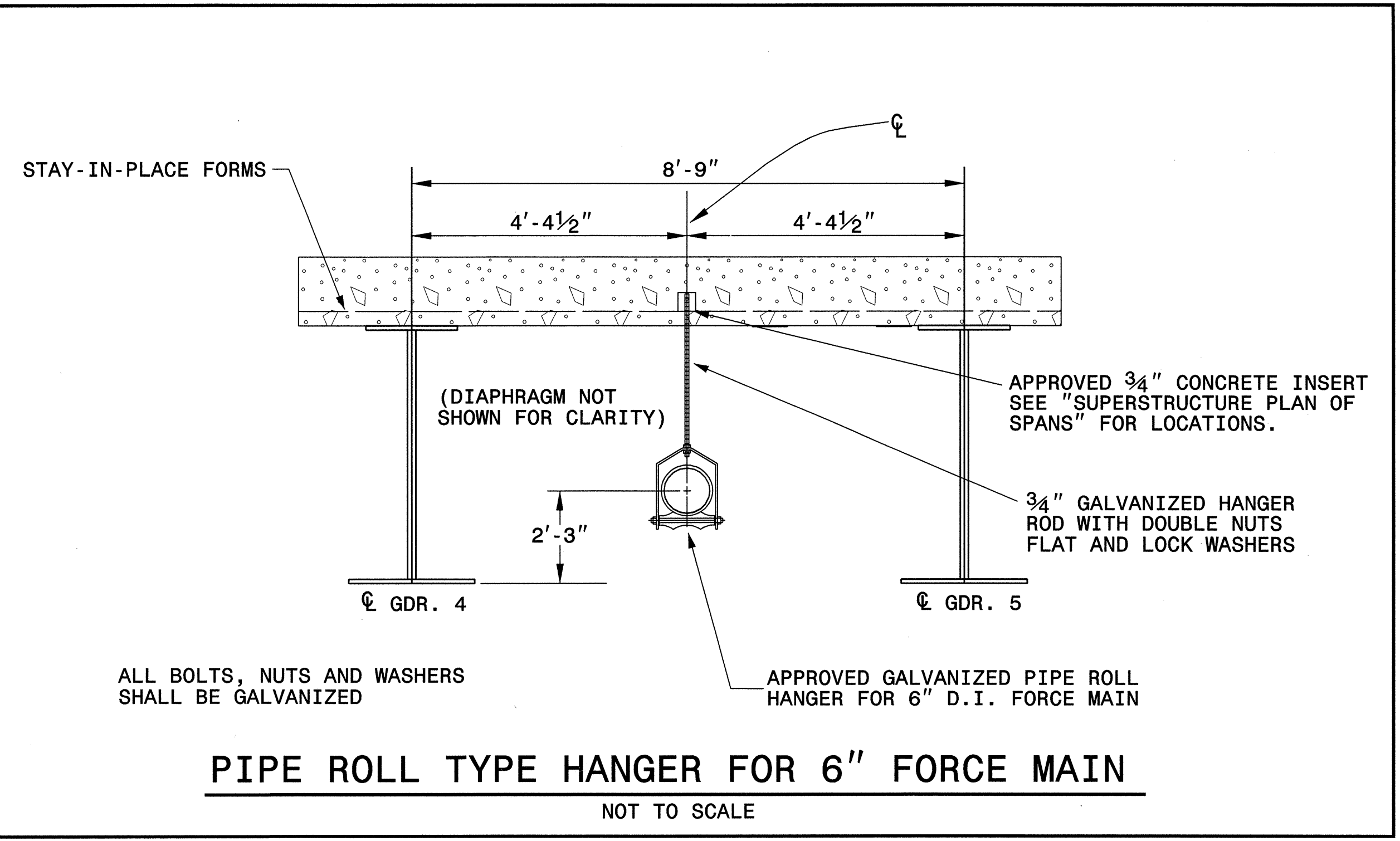
**DETAIL OF INSERT LOCATIONS
WITH STAY-IN-PLACE FORMS**

NOT TO SCALE



EXPANSION COUPLING DETAIL

1 REQUIRED



PIPE ROLL TYPE HANGER FOR 6" FORCE MAIN

NOT TO SCALE

BILL OF MATERIALS FOR 6" FORCE MAIN

NO.	UNITS	ITEMS
1	2 EA	10" STEEL PIPE SLEEVE, 0.250" WALL THICKNESS, 1'-0" LENGTH (END BENTS)
2	63 EA	3/4" APPROVED GALV. CONCRETE INSERTS (HANGER RODS)
3	63 EA	APPROVED ADJ. GALV. STEEL YOKE PIPE ROLL HANGER FOR 6" D.I. RJ FORCE MAIN WITH 3/4" HANGER RODS
4	554'	6" DI RESTRAINED JOINT FORCE MAIN PIPE, PC 350
5	2 EA	APPROVED MODULAR TYPE CASING SEAL
6	50 lbs	JUTE
7	40 lbs	MASTIC OR PLASTIC CAULKING COMPOUND
8	2 EA	END PLUGS (OR CAPS) FOR 6" DI PIPE
9	25 EA	GALV. LATERAL BRACE ASSEMBLIES
10	1 EA	EXPANSION COUPLING
11	1 LOT	PAINT (AS REQUIRED)

THESE ARE ESTIMATED QUANTITIES ONLY.

PROJECT NO. B-2965
EDGEcombe COUNTY
STATION: 39+59.00 -L-

SHEET 1 OF 1

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**UTILITY ATTACHMENT
DETAIL SHEET
(6" FORCE MAIN)**

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

TOTAL SHEETS: 48

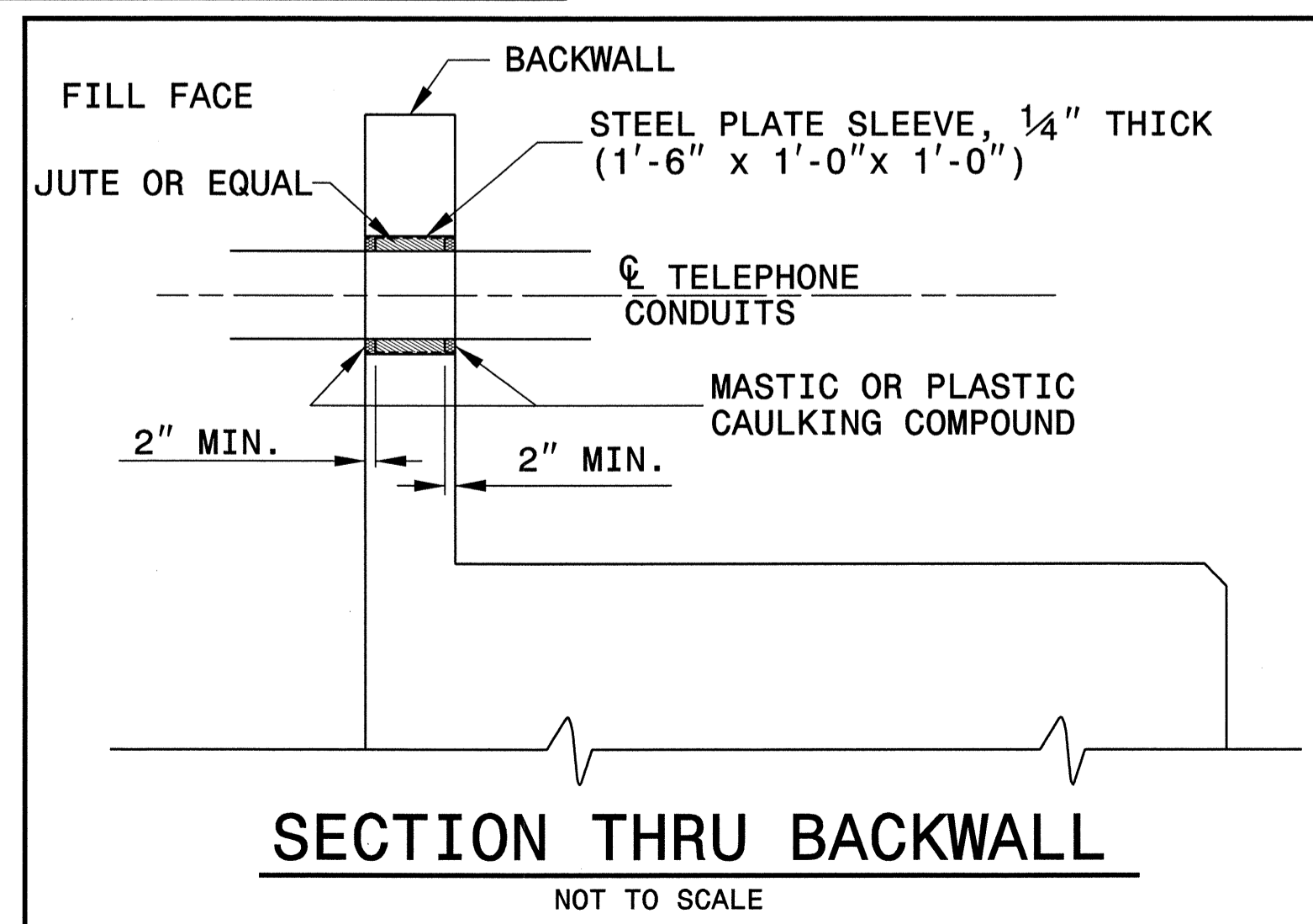
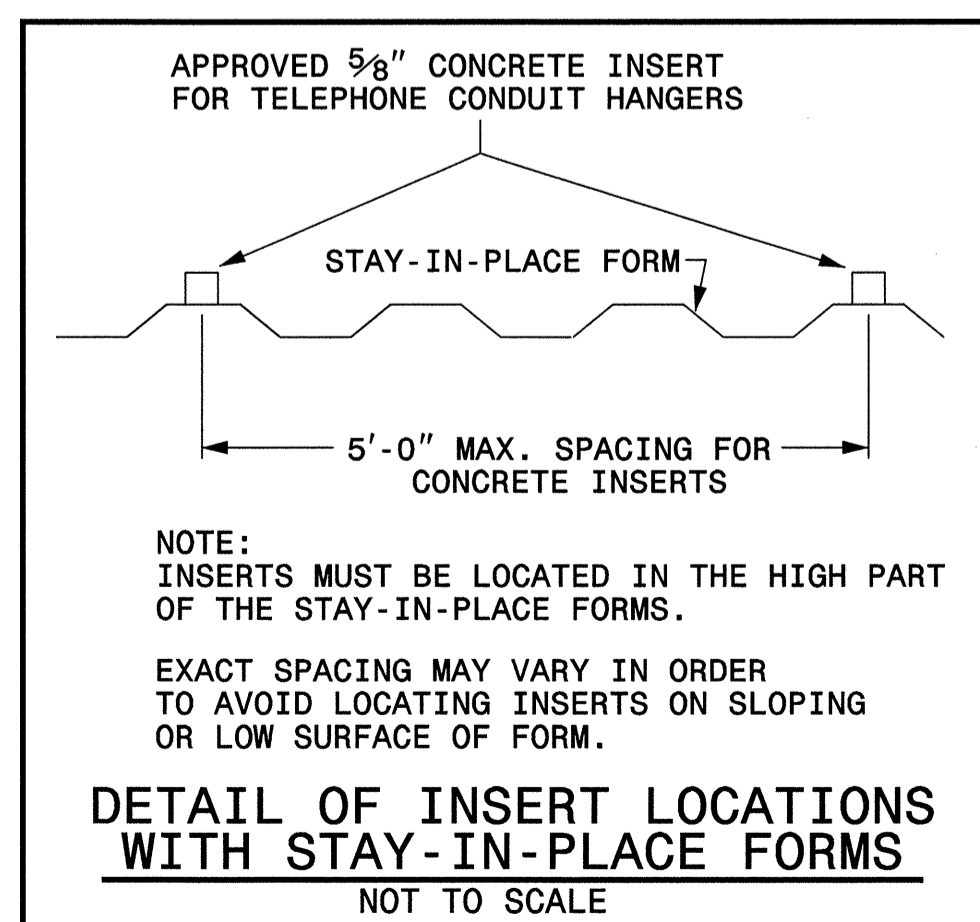
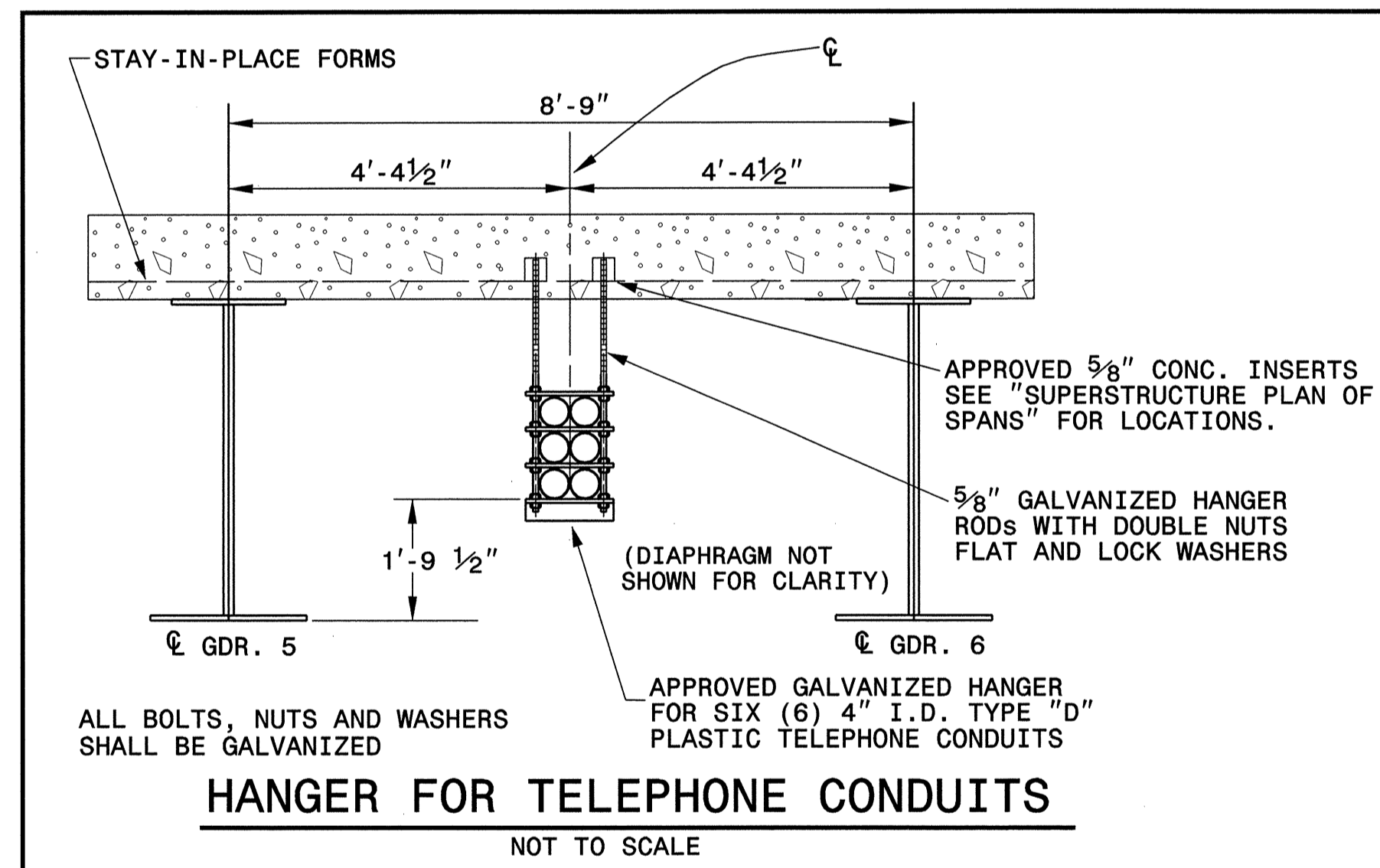
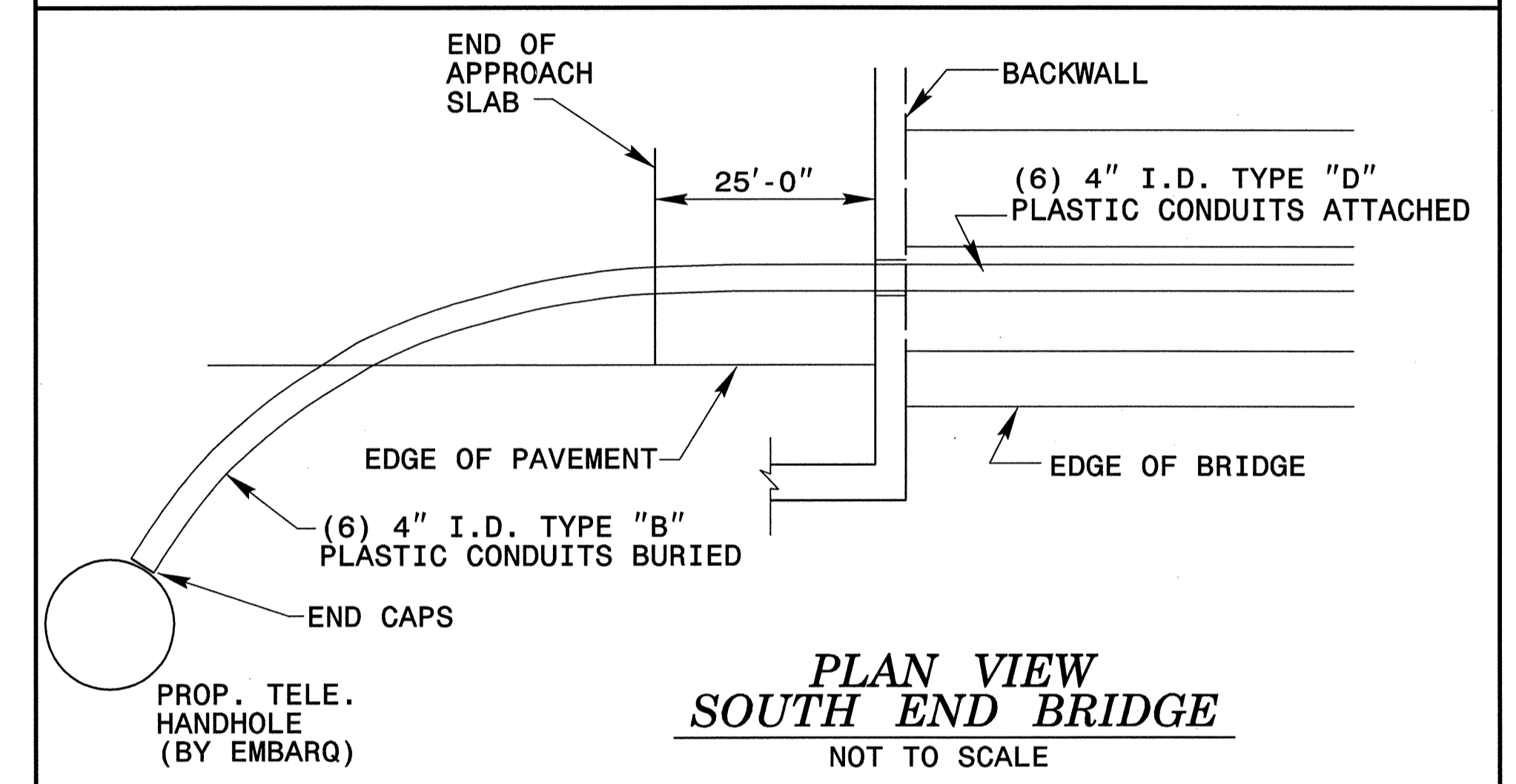
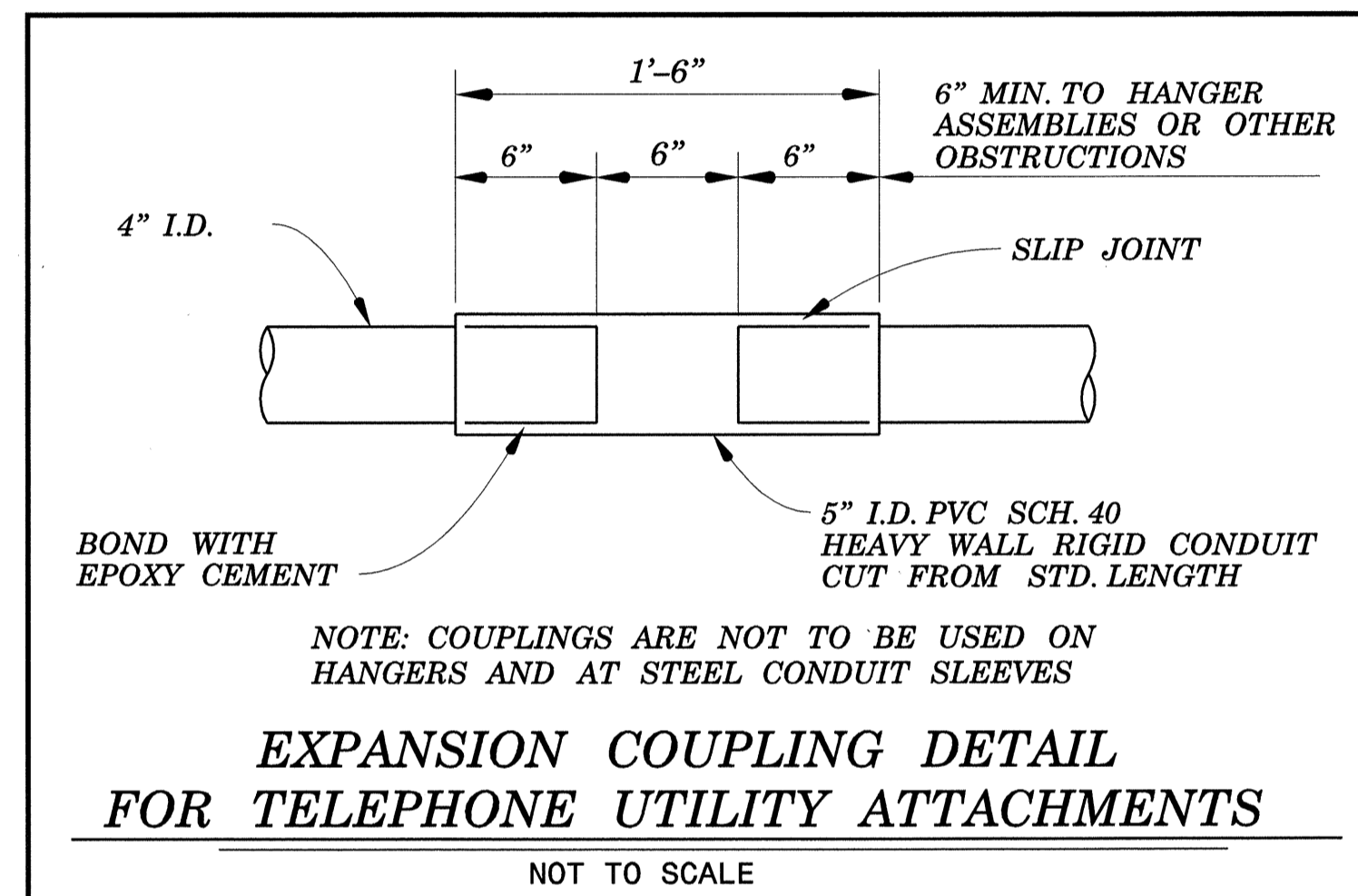
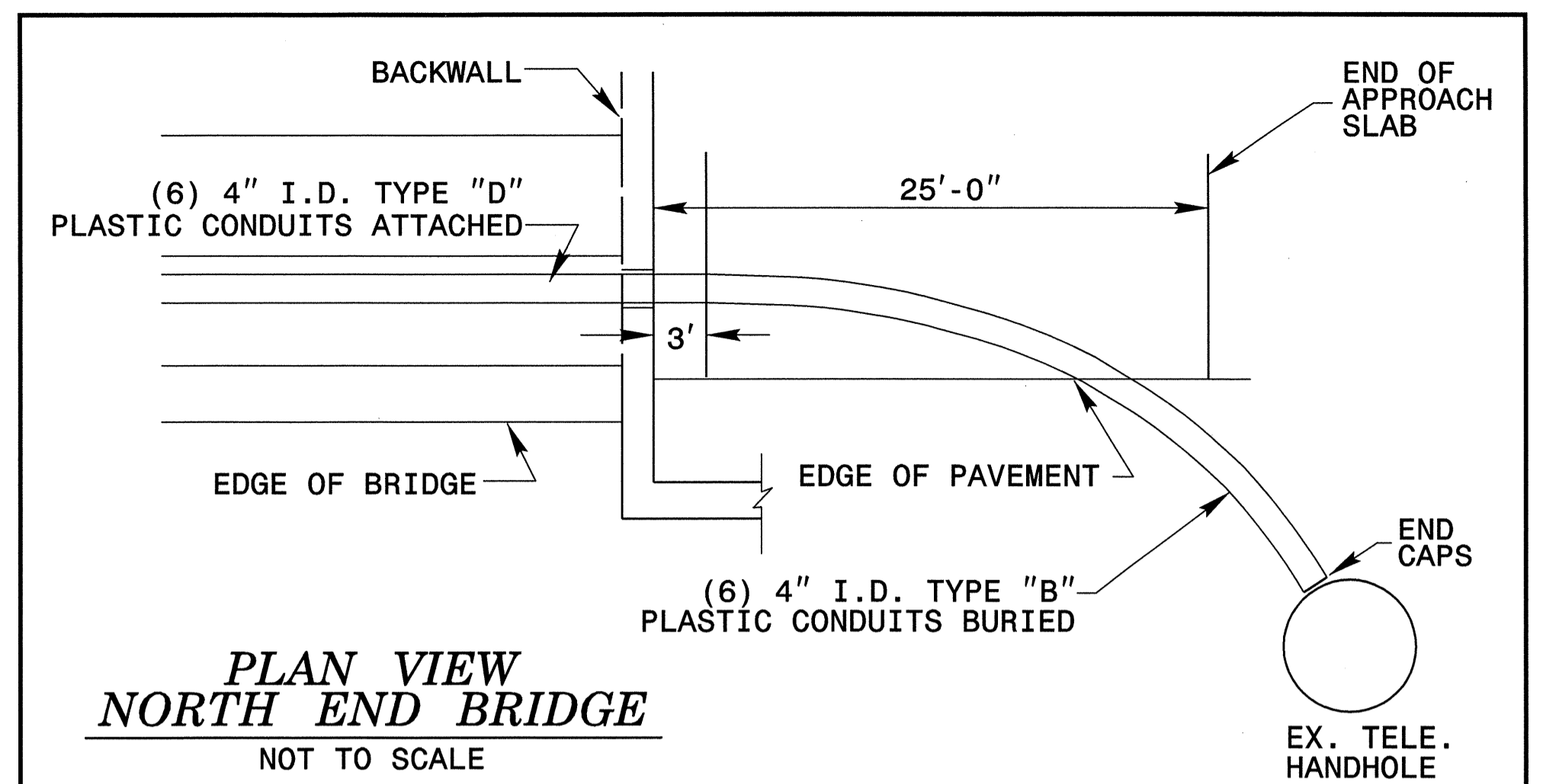
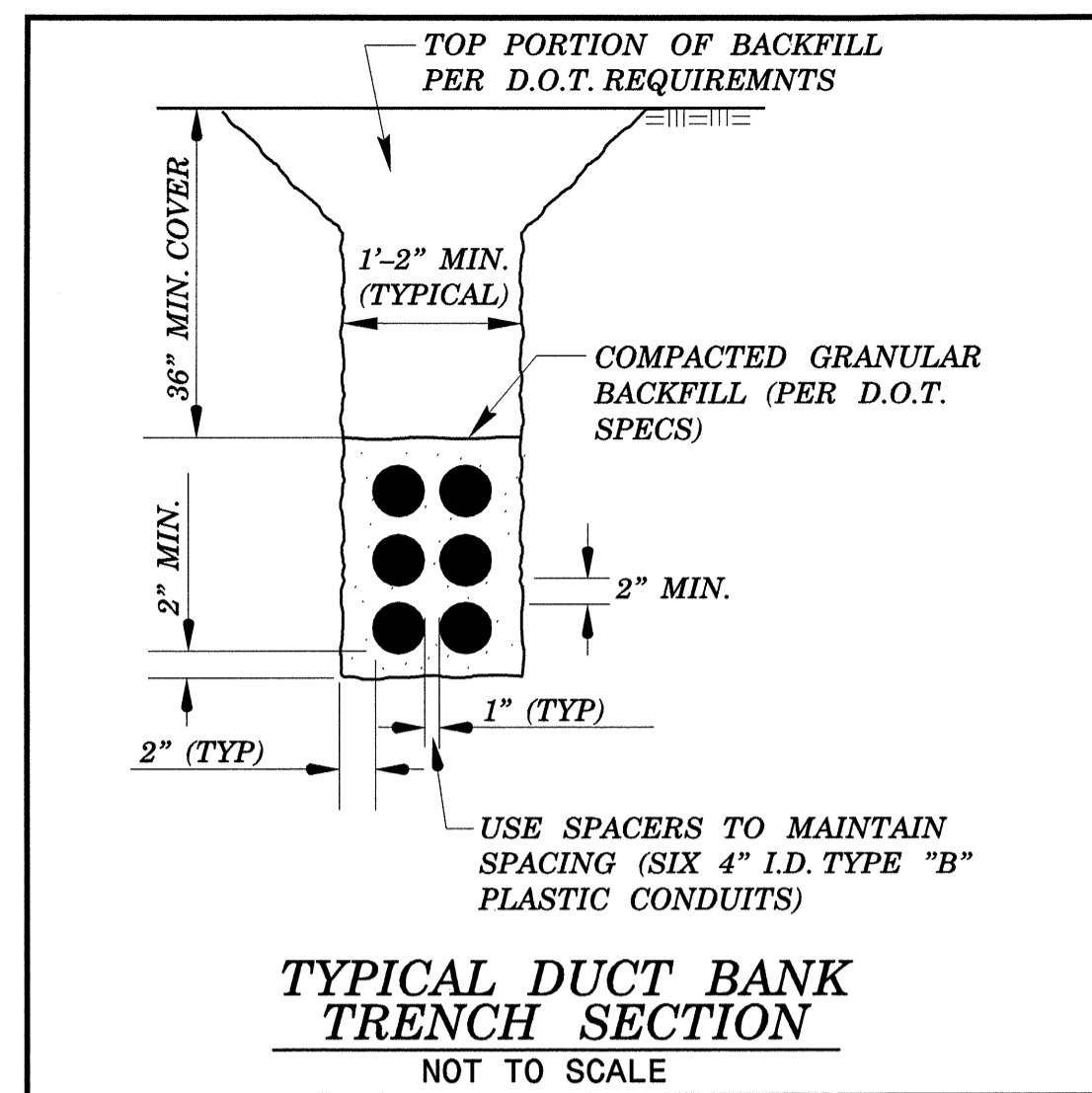
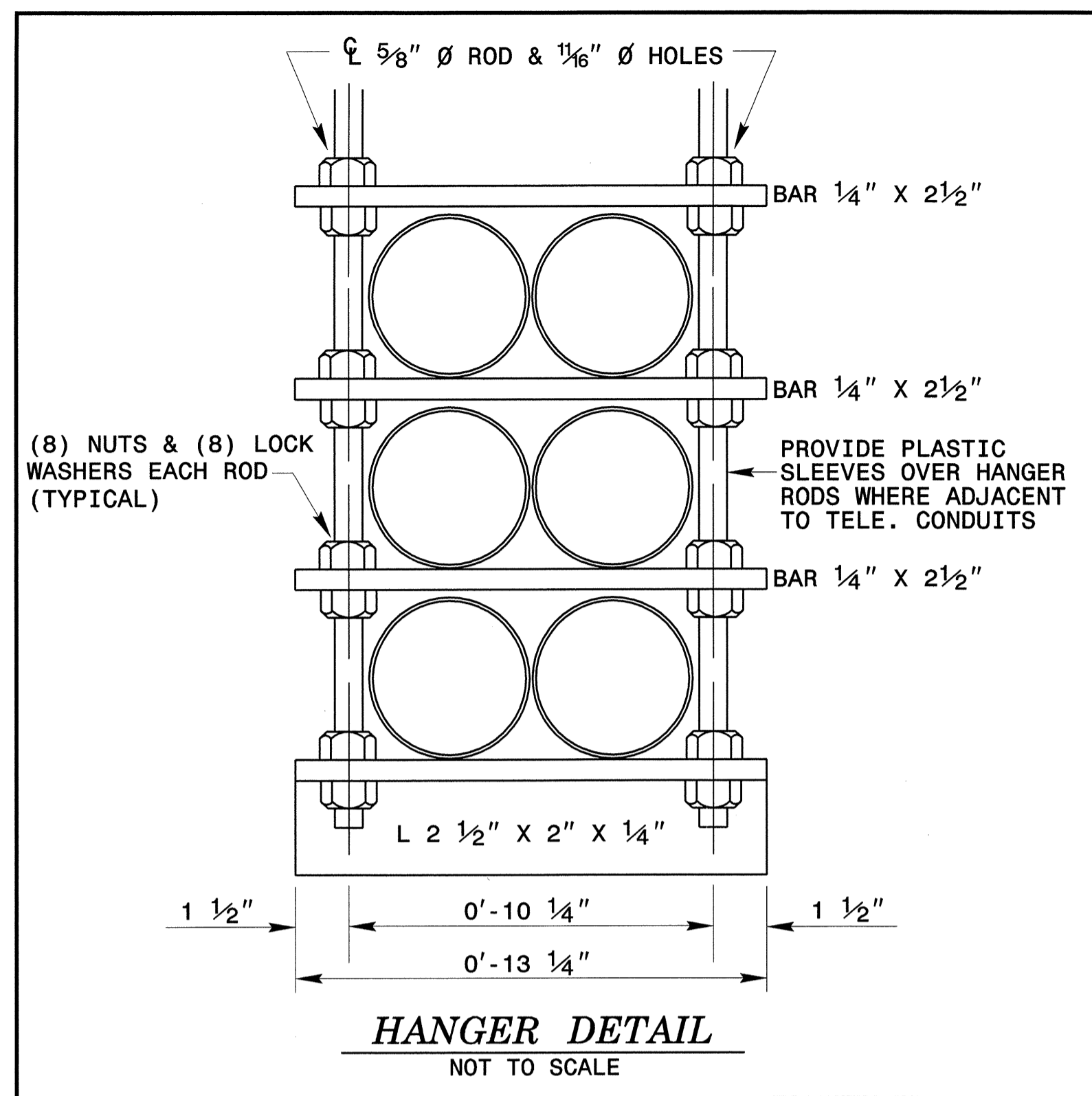
PREPARED IN THE OFFICE OF:
**DAVIS-MARTIN-POWELL
AND ASSOCIATES, INC.**

dmp

6415 OLD PLANK ROAD
HIGH POINT, NC 27265
PHONE (336) 886-4821
FAX (336) 886-4458

PROFESSIONAL ENGINEER
ANDREW P. LARRICK
26457
10-2-08

DRAWN BY: APL 9/08
CHECKED BY: JSM 9/08



BILL OF MATERIALS FOR TELEPHONE CONDUITS		
NO.	UNITS	ITEMS
1	2 EA	STEEL PLATE SLEEVE, 1/4" THICK (1'-6" x 1'-0" x 1'-0" DIMENSIONS) (END BENTS)
2	200 EA	5/8" APPROVED GALV. CONCRETE INSERTS (HANGER RODS)
3	100 EA	APPROVED TELE. CONDUIT GALV. HANGER ASSEMBLIES
4	3,000'	4" I.D. TYPE "D" PLASTIC CONDUIT
5	2,100'	4" I.D. TYPE "B" PLASTIC CONDUIT
6	50 lbs	JUTE
7	40 lbs	MASTIC OR PLASTIC CAULKING COMPOUND
8	12 EA	END PLUGS (OR CAPS) FOR 4" I.D. PLASTIC CONDUIT
9	12 EA	EXPANSION COUPLINGS
10	1 LOT	EPOXY CEMENT
11	1 LOT	PAINT (AS REQUIRED)

THESE ARE ESTIMATED QUANTITIES ONLY.

PROJECT NO. B-2965
EDGECOMBE COUNTY
 STATION: 39+59.00 -L-

SHEET 1 OF 1

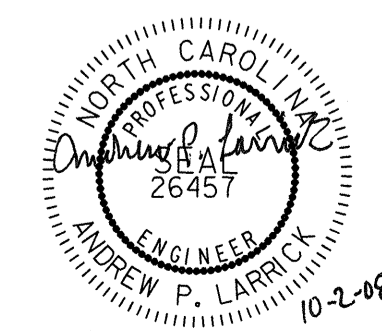
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

UTILITY ATTACHMENT
 DETAIL SHEET
 (TELEPHONE CONDUITS)

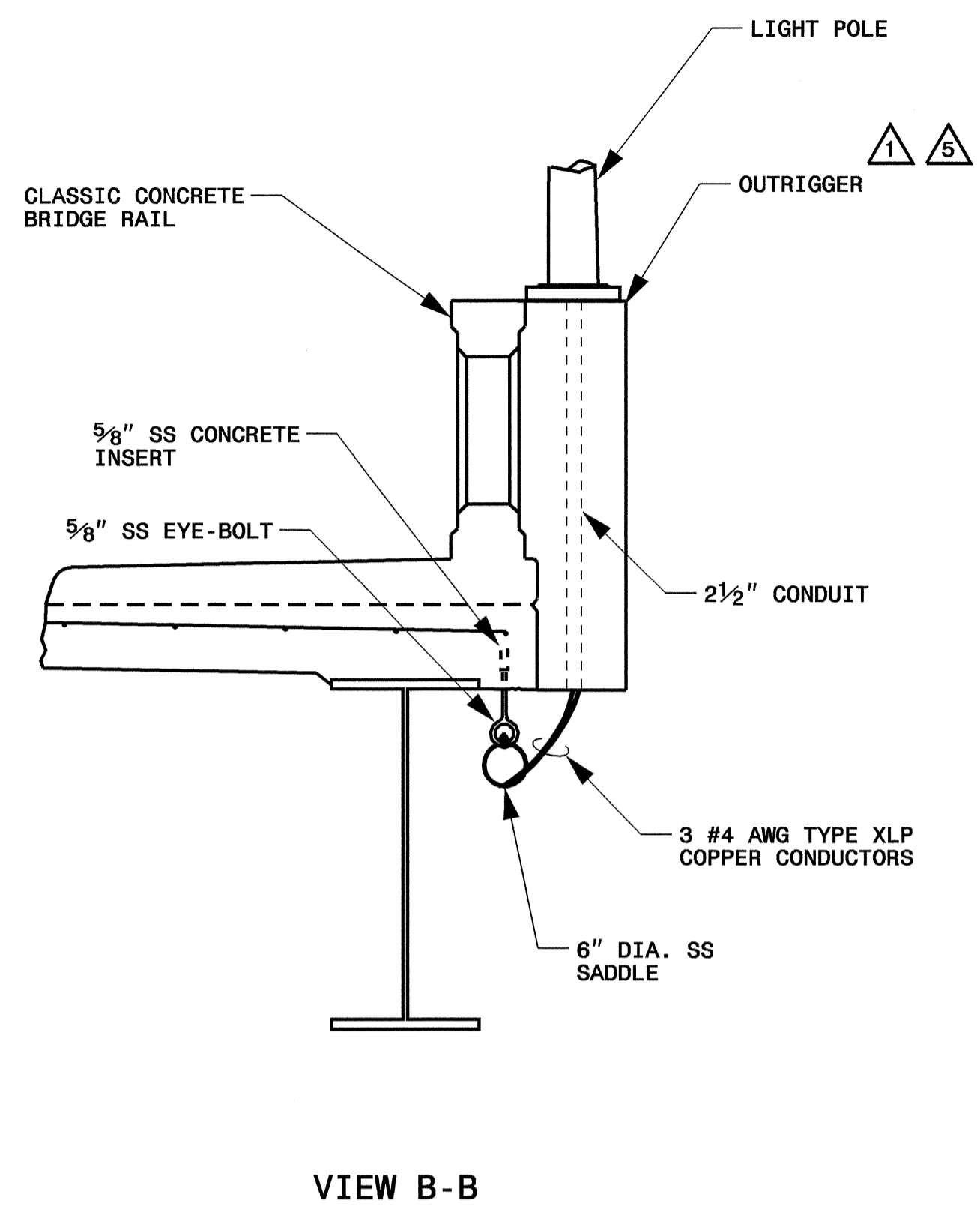
REVISIONS				SHEET NO.
NO.	BY:	DATE:	NO.	DATE:
1			3	
2			4	

TOTAL SHEETS: 48

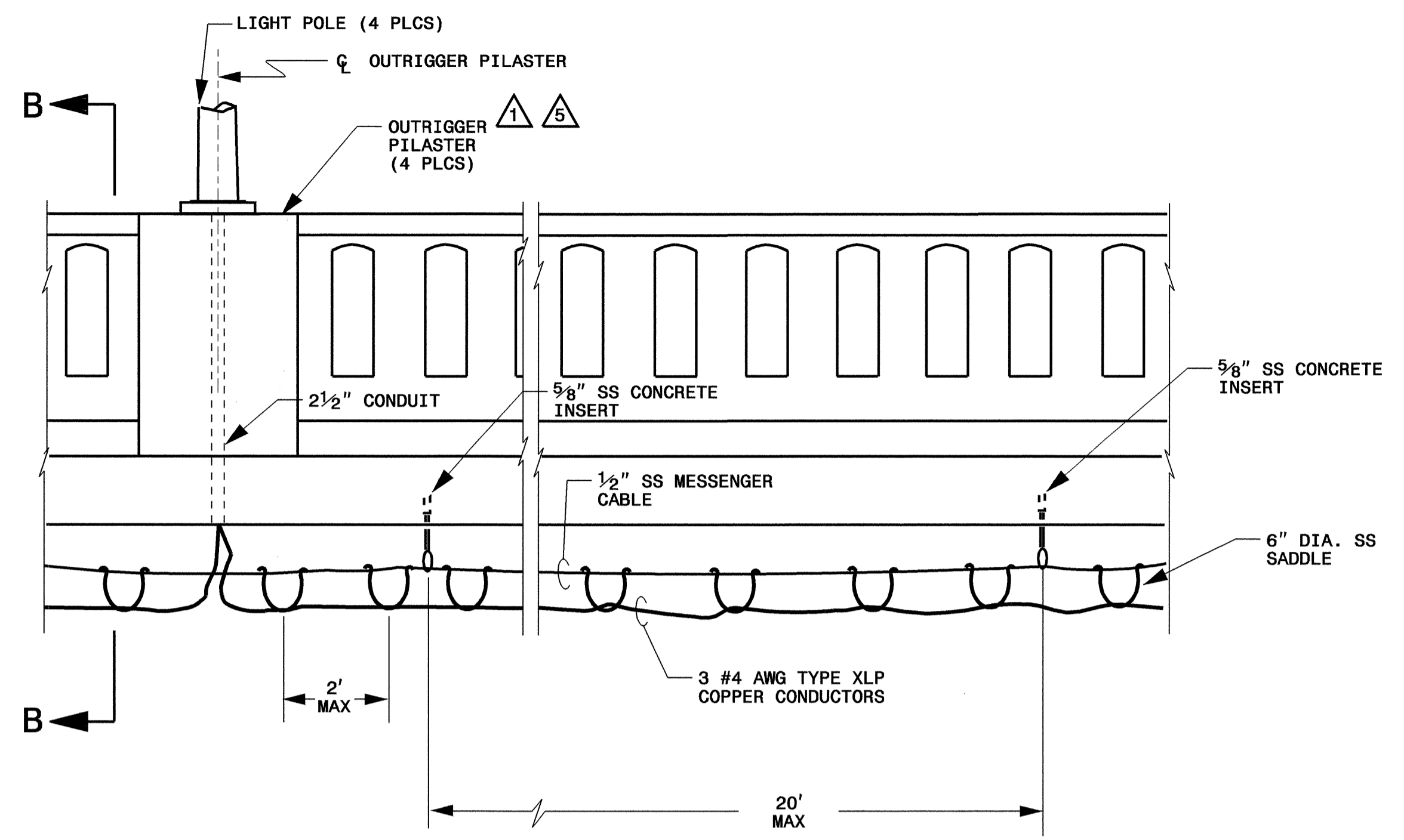
DRAWN BY: APL 9/08
 CHECKED BY: JSM 9/08



PREPARED IN THE OFFICE OF:
dmp
 DAVIS-MARTIN-POWELL
 AND ASSOCIATES, INC.
 6415 OLD PLANK ROAD
 HIGH POINT, NC 27265
 PHONE (336) 896-4821
 FAX (336) 896-4458



VIEW B-B

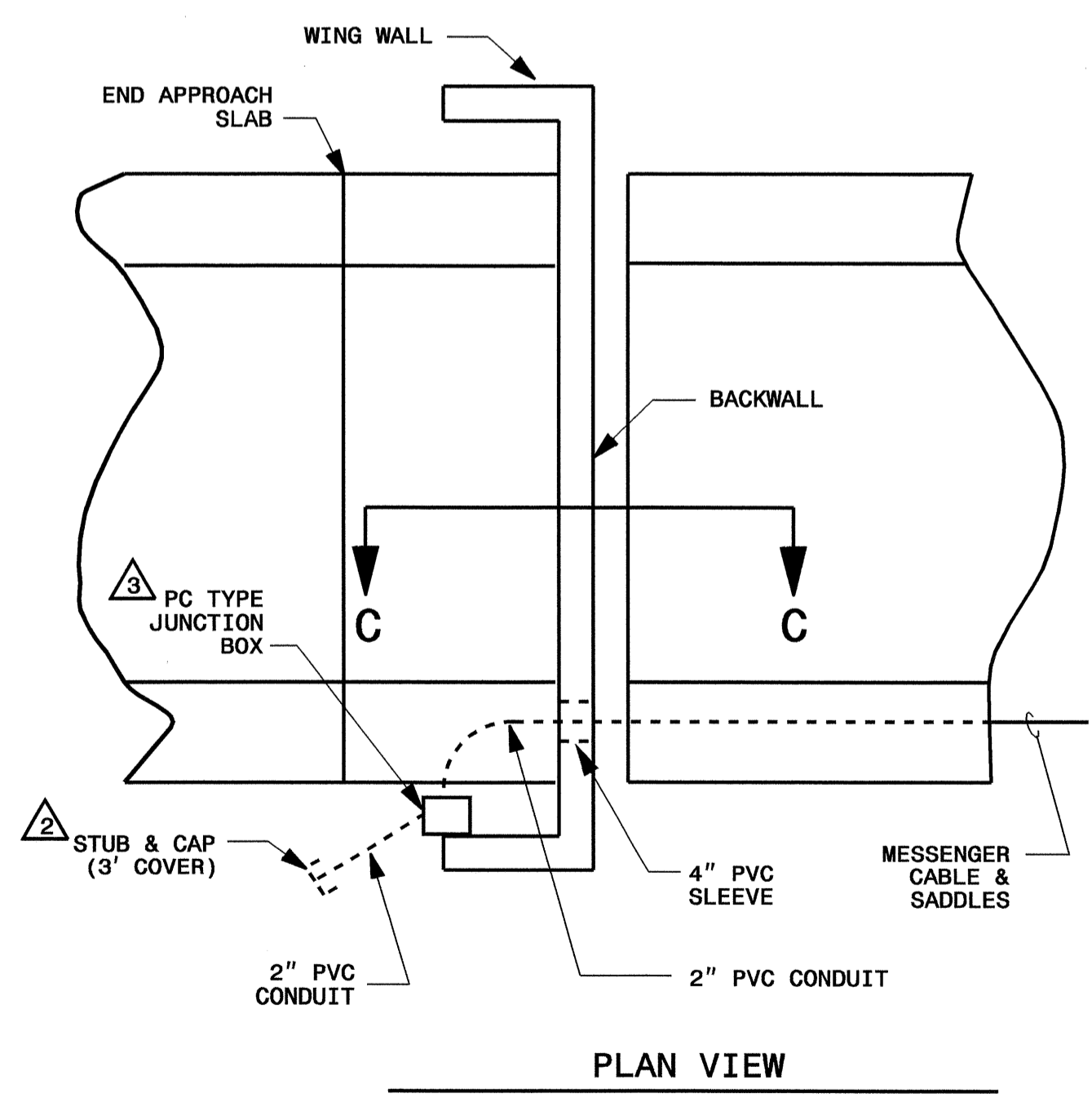


VIEW A-A

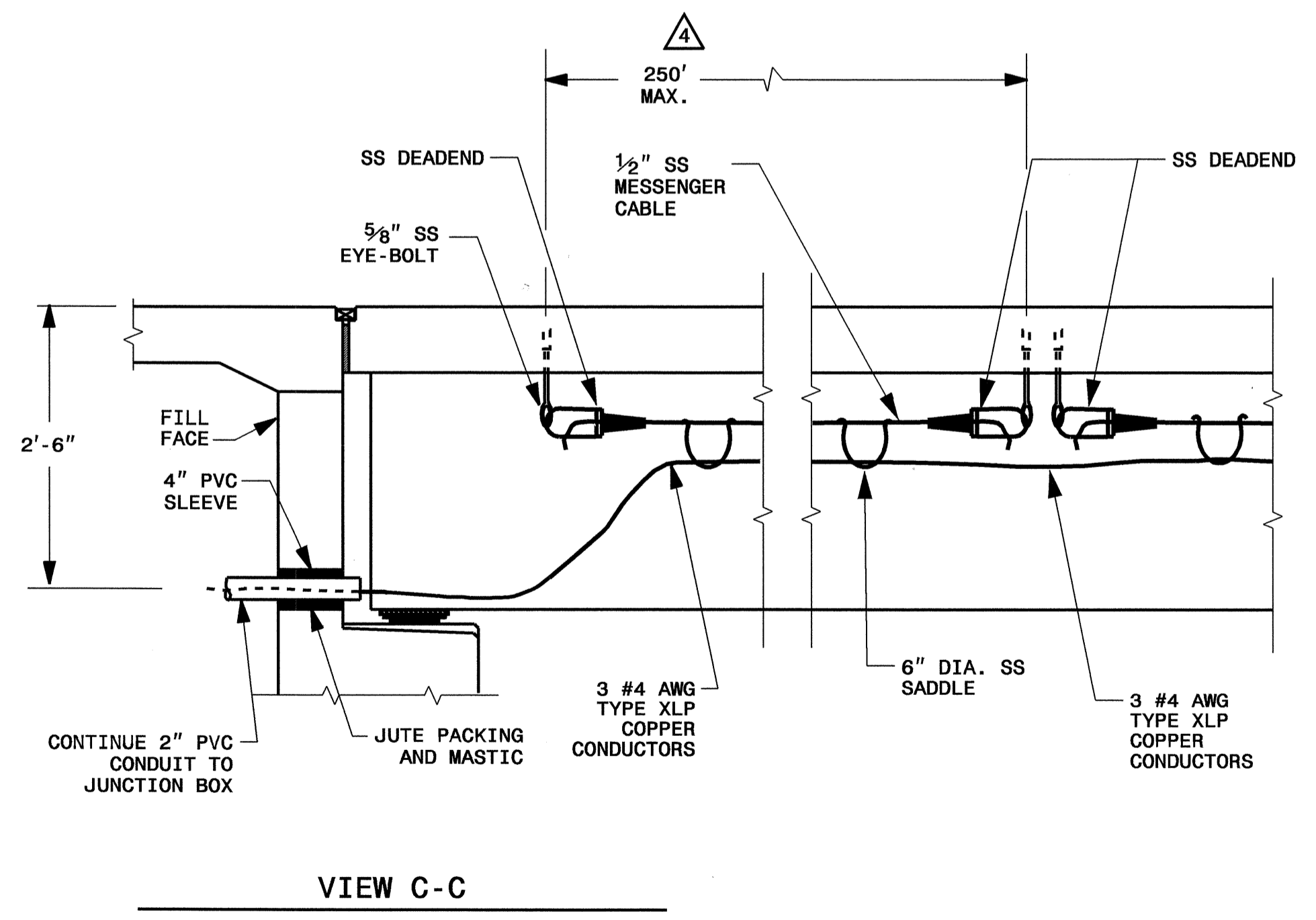
MESSENGER SYSTEM INSTALLATION DETAILS

NOTES

- 1 SEE RAIL POST SPACING PLANS FOR LOCATIONS AND DETAILS FOR LIGHTING OUTRIGGERS AND ANCHOR BOLTS.
 - 2 MARK LOCATION OF STUB-OUT WITH POLYETHYLENE WARNING TAPE BURIED WITH CONDUIT AND EXPOSED ON TOP OF GROUND.
 - 3 POLYMER CONCRETE JUNCTION BOX 11" (W) X 17" (L) X 18" (H).
 - 4 INSTALL MESSENGER IN MAXIMUM LENGTHS OF 250 FT. PER SECTION TERMINATE EACH END WITH A STAINLESS STEEL DEADEND.
 - 5 COORDINATE WITH TOWN OF TARBORO TO INSTALL ANCHOR BOLTS ACCORDING TO POLE MANUFACTURER SPECIFICATIONS.
- SS = STAINLESS STEEL



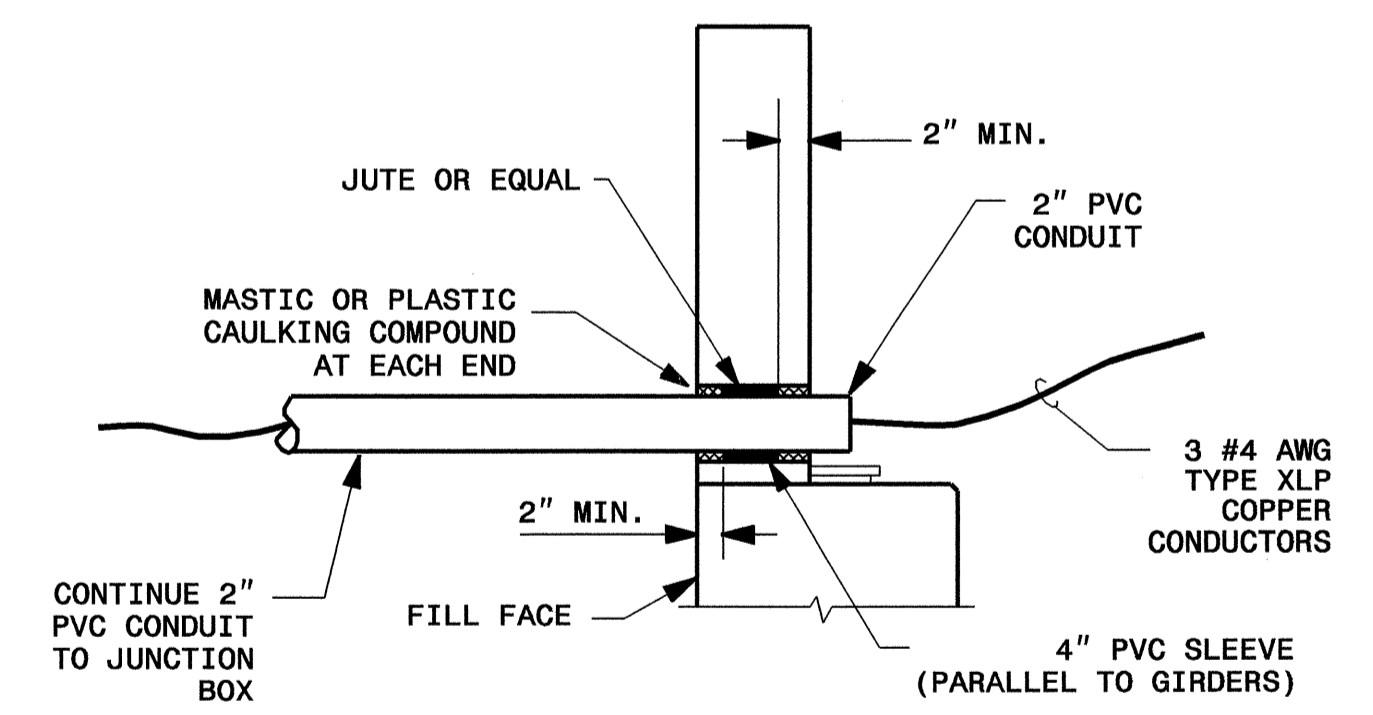
PLAN VIEW



VIEW C-C

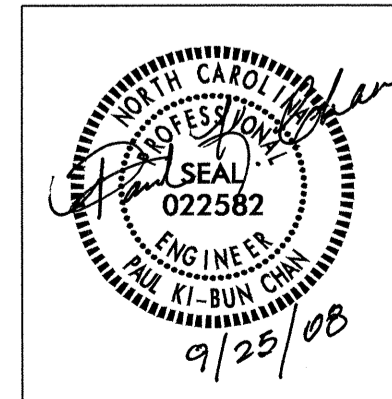
TERMINATION OF MESSENGER AT END OF BRIDGE

TYPICAL @ EACH END BENT



INSTALLATION AT PVC SLEEVE

PROJECT NO. B-2965
EDGEcombe COUNTY
 STATION: 39+59.00 -L-
 SHEET 1 OF 1



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 DESIGN SERVICES LIGHTING & ELECTRICAL

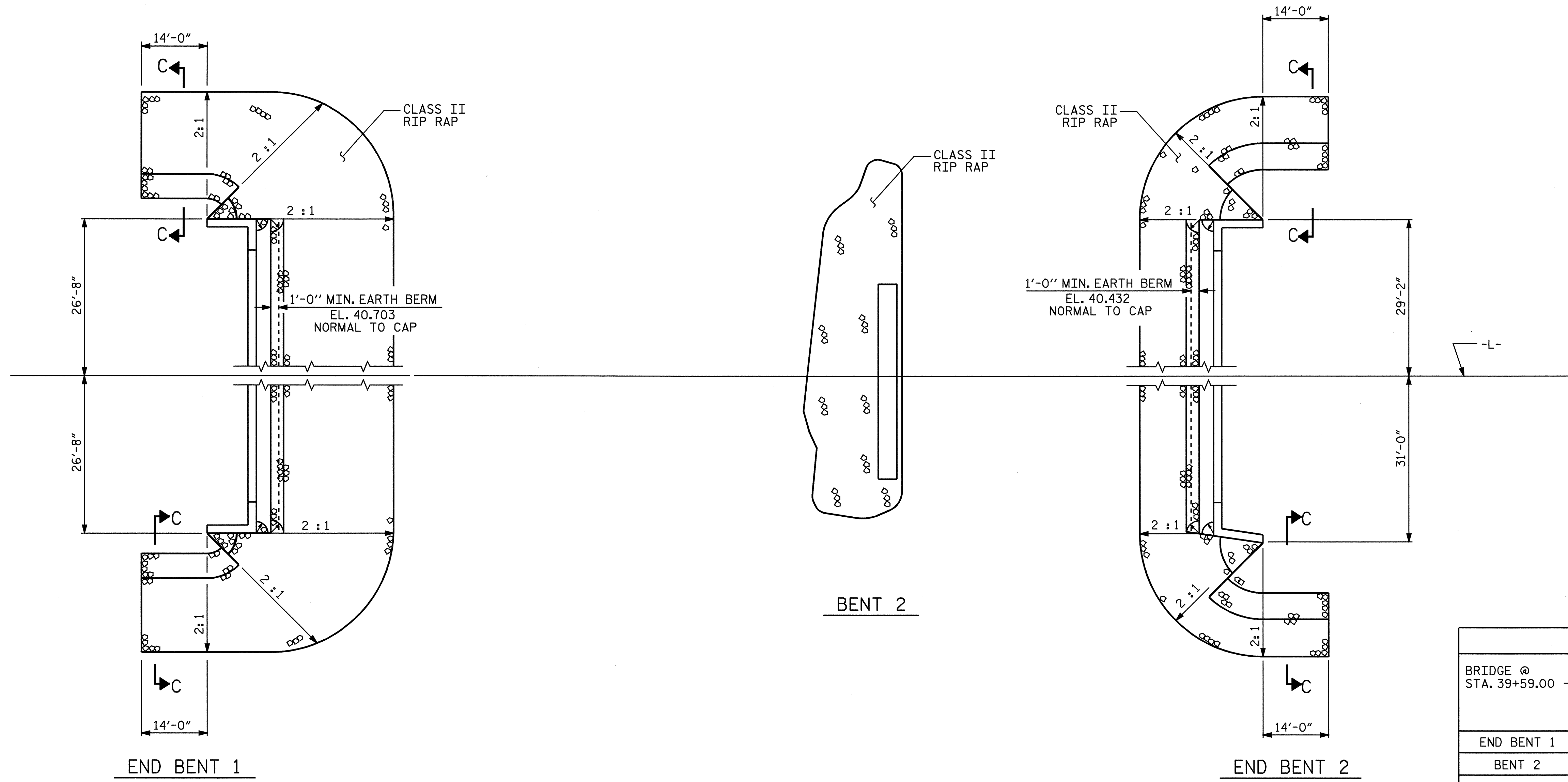
**MESSENGER SYSTEM FOR
 BRIDGE ON HWY 64 OVER
 TAR RIVER BETWEEN
 US 258 AND SR 1289**

SEE PROJECT SPECIAL PROVISIONS TITLED "MESSENGER CABLE SYSTEM" FOR MATERIALS, CONSTRUCTION METHODS AND PAYMENT.

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	TOTAL SHEETS
1			3			5-4A
2			4			4-8

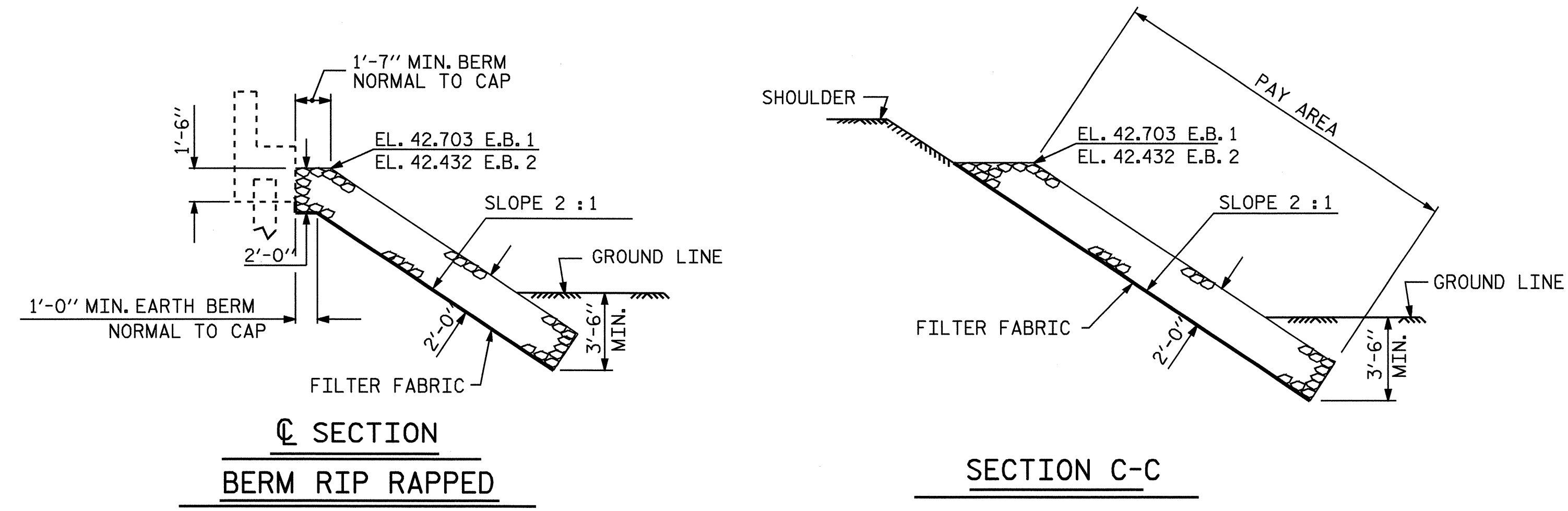
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 USER: P.K.CHAN

DRAWN BY: P.K.CHAN DATE: 9/23/08
 CHECKED BY: [Signature] DATE: 7/23/08



ESTIMATED QUANTITIES		
BRIDGE @ STA. 39+59.00 -L-	RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	519	576
BENT 2	192	212
END BENT 2	159	176

PLAN

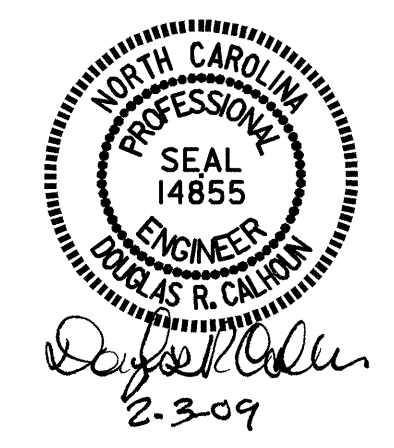


PROJECT NO. B-2965
EDGECOMBE COUNTY
 STATION: 39+59.00 -L-

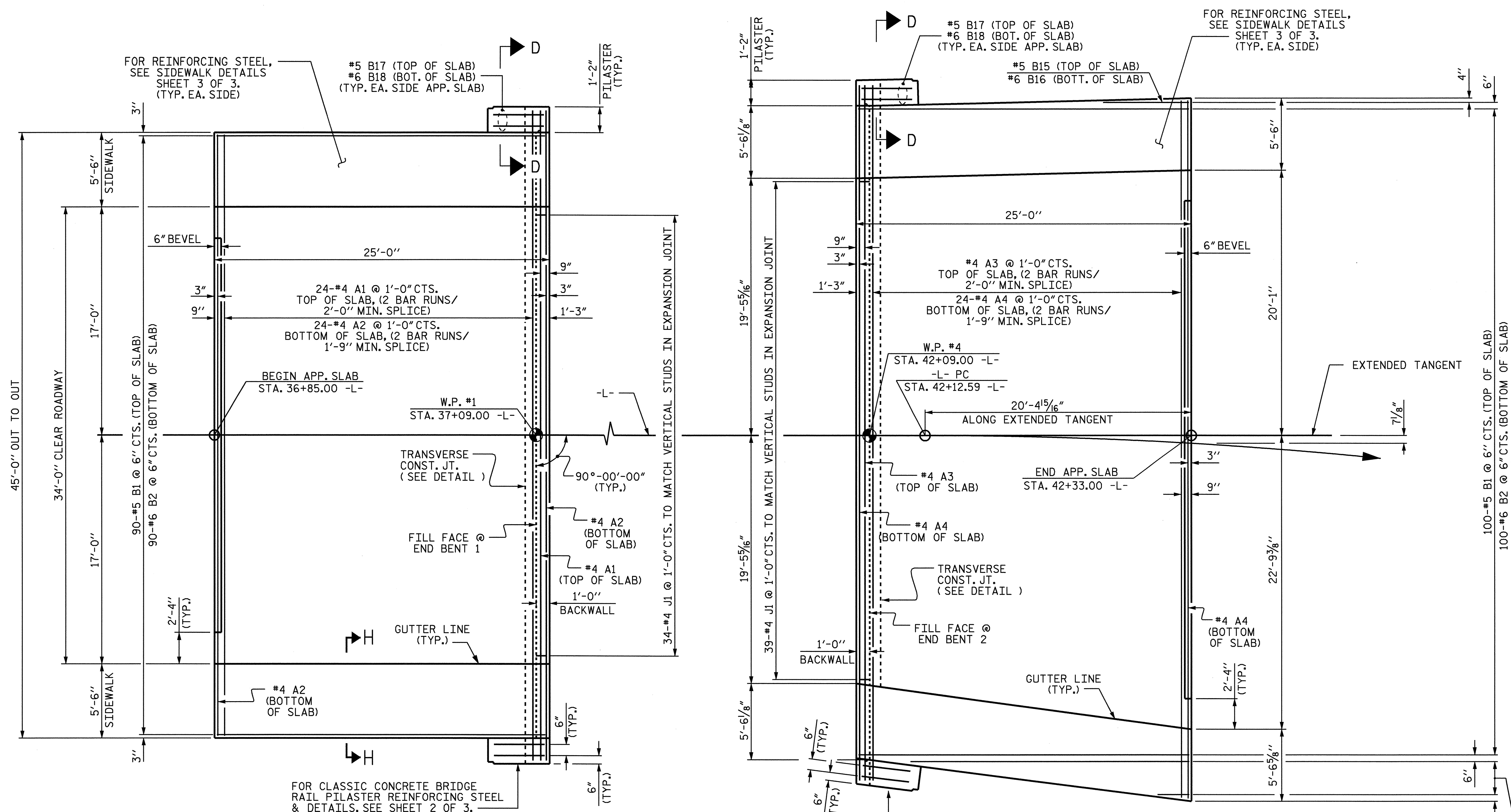
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD
 = RIP RAP DETAILS =

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-45
1			3			TOTAL SHEETS
2			4			48

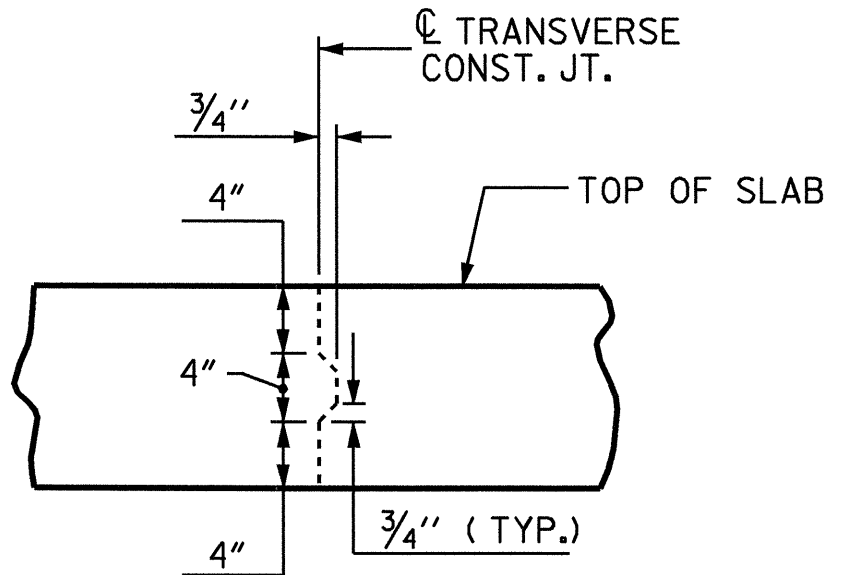


ASSEMBLED BY : J.L. WALTON DATE : 9/8/08
 CHECKED BY : W.S. ARAFAT DATE : 10/9/08
 DRAWN BY : FCJ 2/88
 CHECKED BY : ARB 8/88
 REV. 8/16/99 RWW/LES
 REV. 10/17/00 RWW/LES
 REV. 5/1/06 TLA/GM



PLAN @ END BENT 1

PLAN @ END BENT 2



TRANSVERSE CONSTRUCTION JOINT DETAIL

NOTE: REINFORCING STEEL IN SLAB NOT SHOWN. LONGITUDINAL REINFORCING STEEL SHALL BE CONTINUOUS THRU JOINT

#5 B3 THRU #5 B8 @ 6" (TOP OF SLAB)
#6 B9 THRU #5 B14 @ 6" (BOT. OF SLAB)

PROJECT NO. B-2965
EDGEcombe COUNTY
STATION: 39+59.00 -L-

SHEET 1 OF 3



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
BRIDGE APPROACH
SLAB FOR
FLEXIBLE PAVEMENT

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-46	
1			3			TOTAL SHEETS 48	
2			4				

DRAWN BY: J.L. WALTON DATE: 9/4/08
CHECKED BY: W.S. ARAFAT DATE: 10/6/08

NOTES (GUARDRAIL ANCHOR ASSEMBLY)

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

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

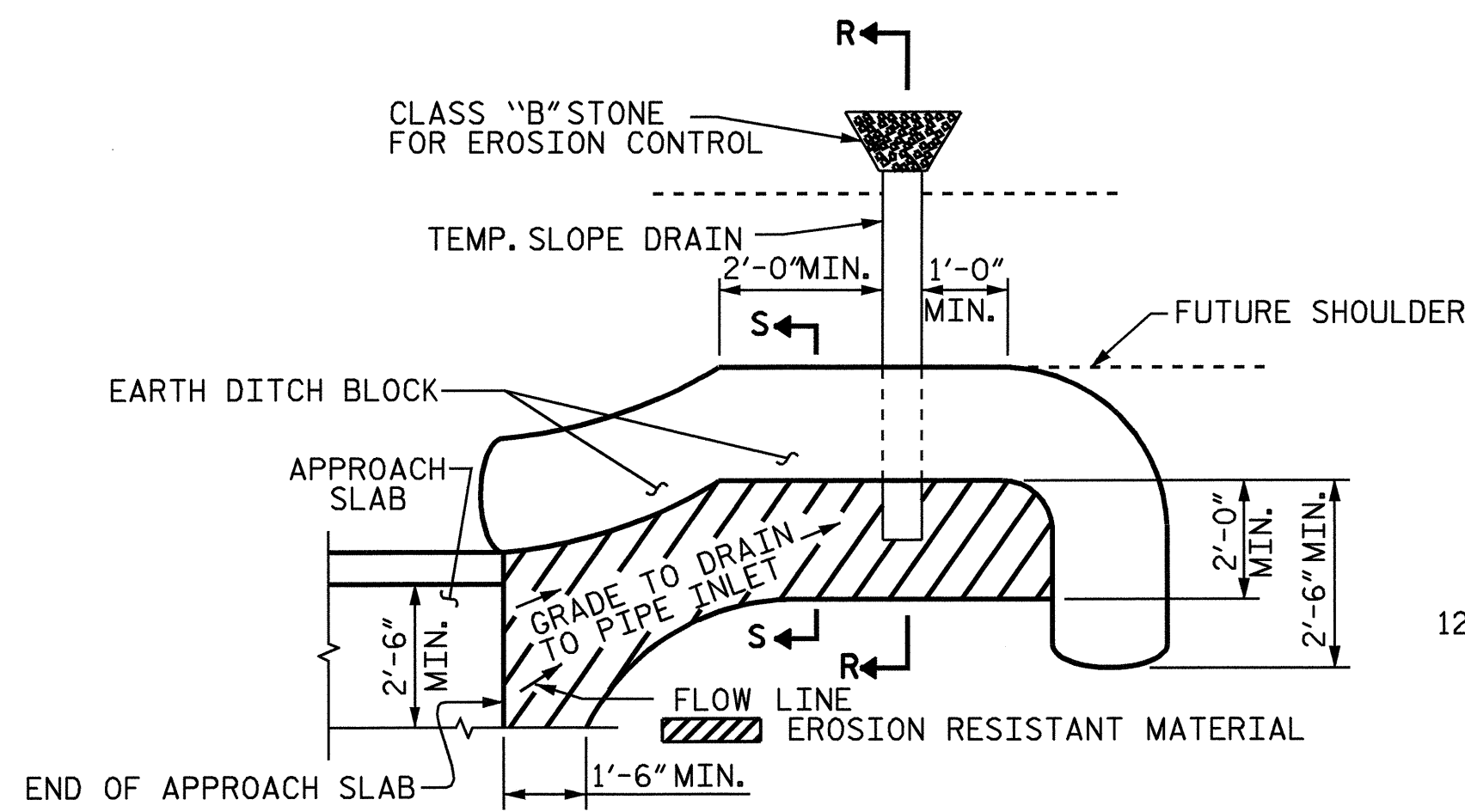
BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.

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

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

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

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

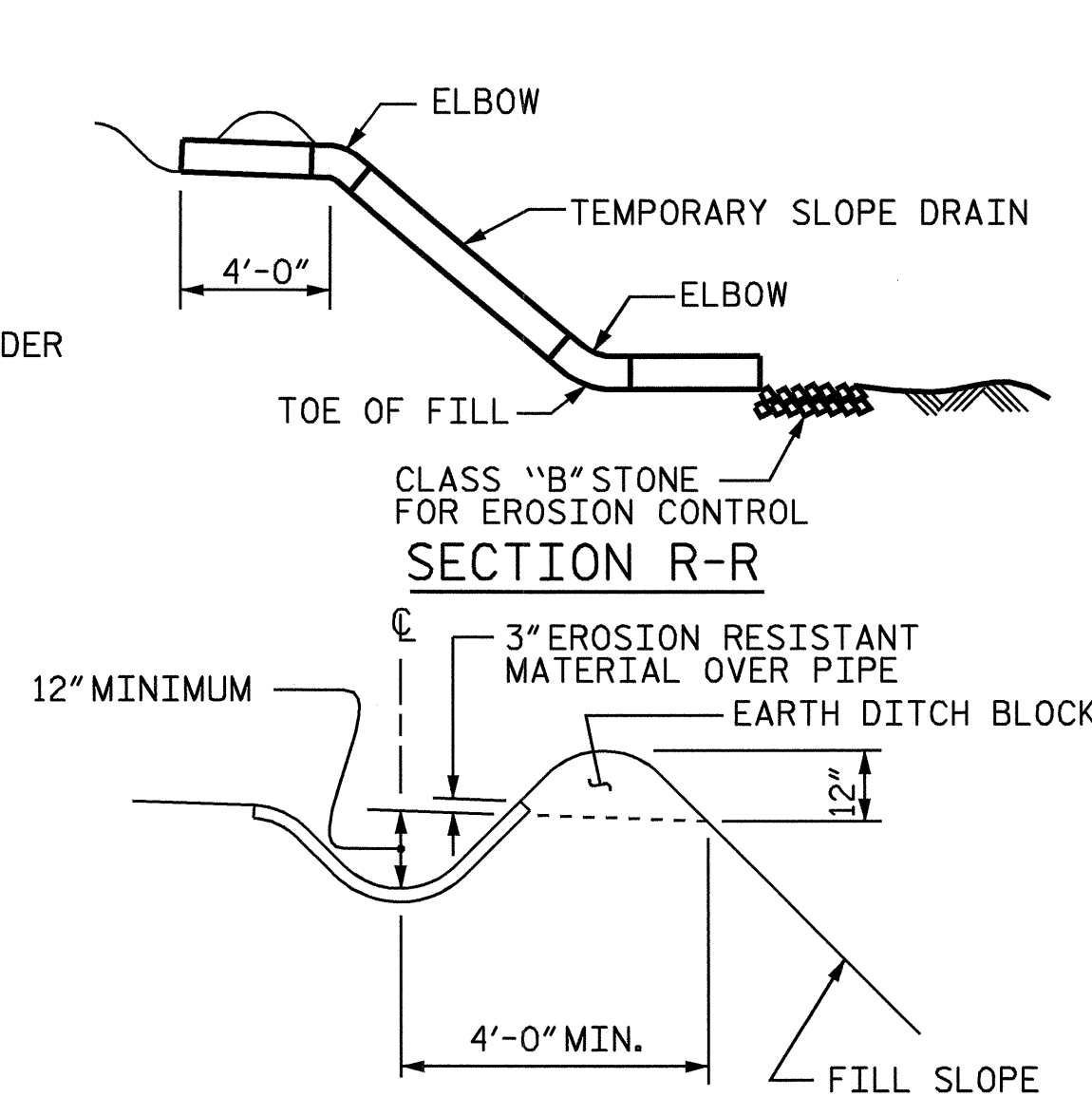


NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN.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

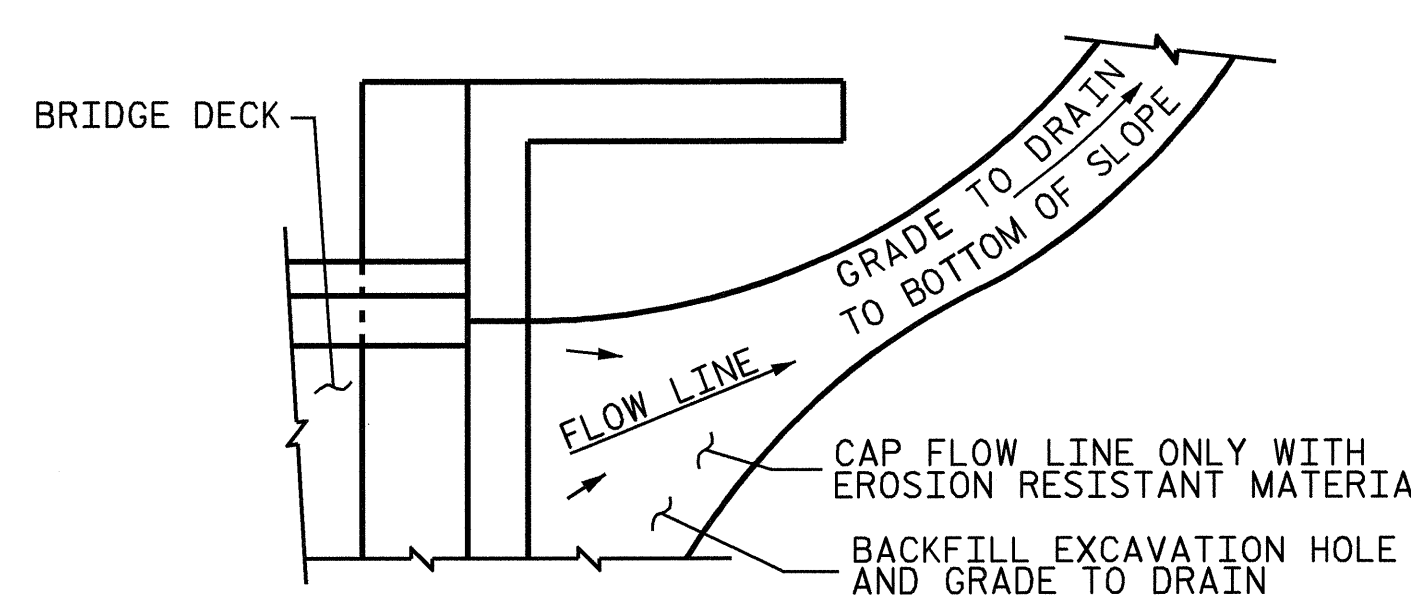
PLAN VIEW

TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)

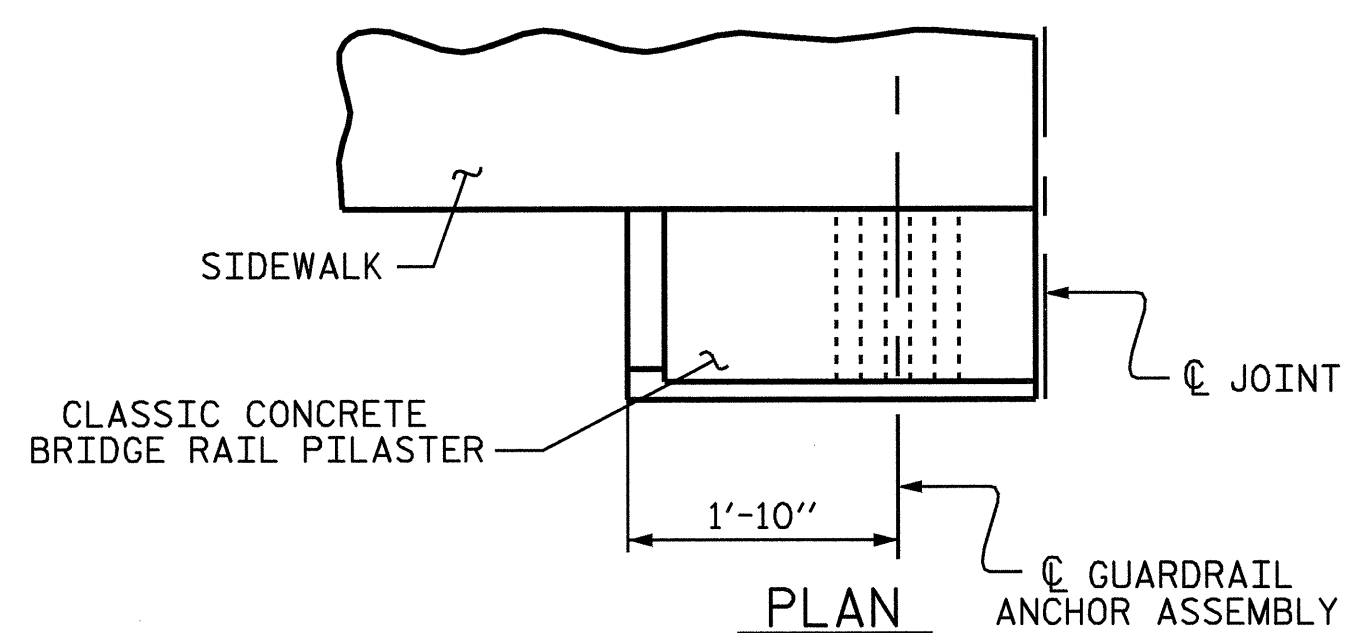


SECTION S-S

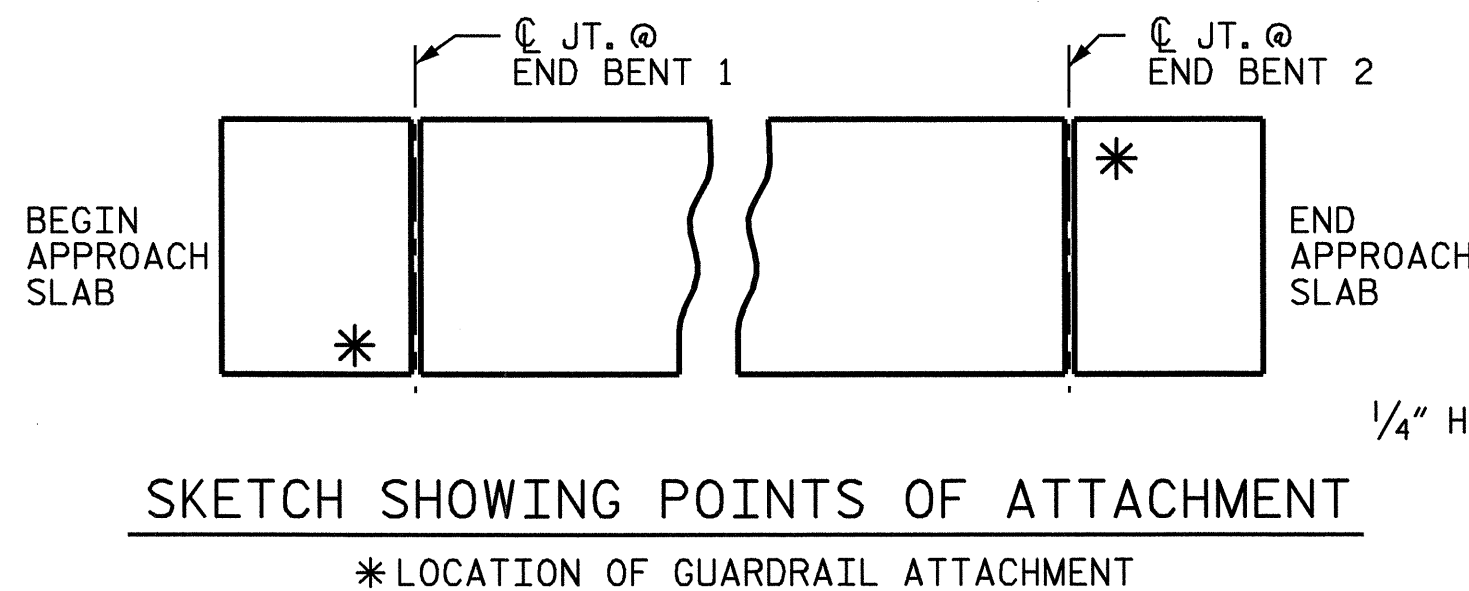


NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT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

TEMPORARY DRAINAGE DETAIL

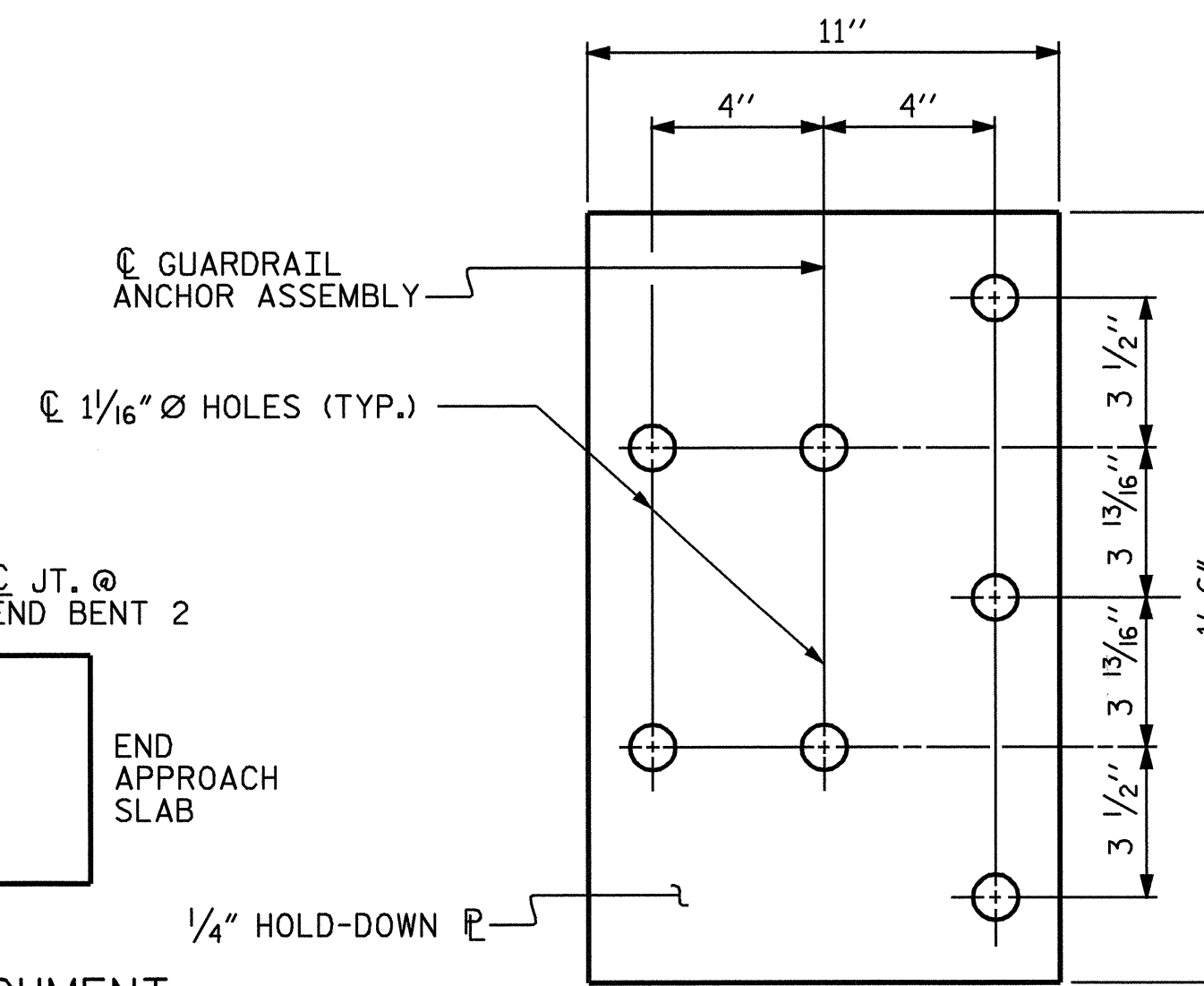


PLAN

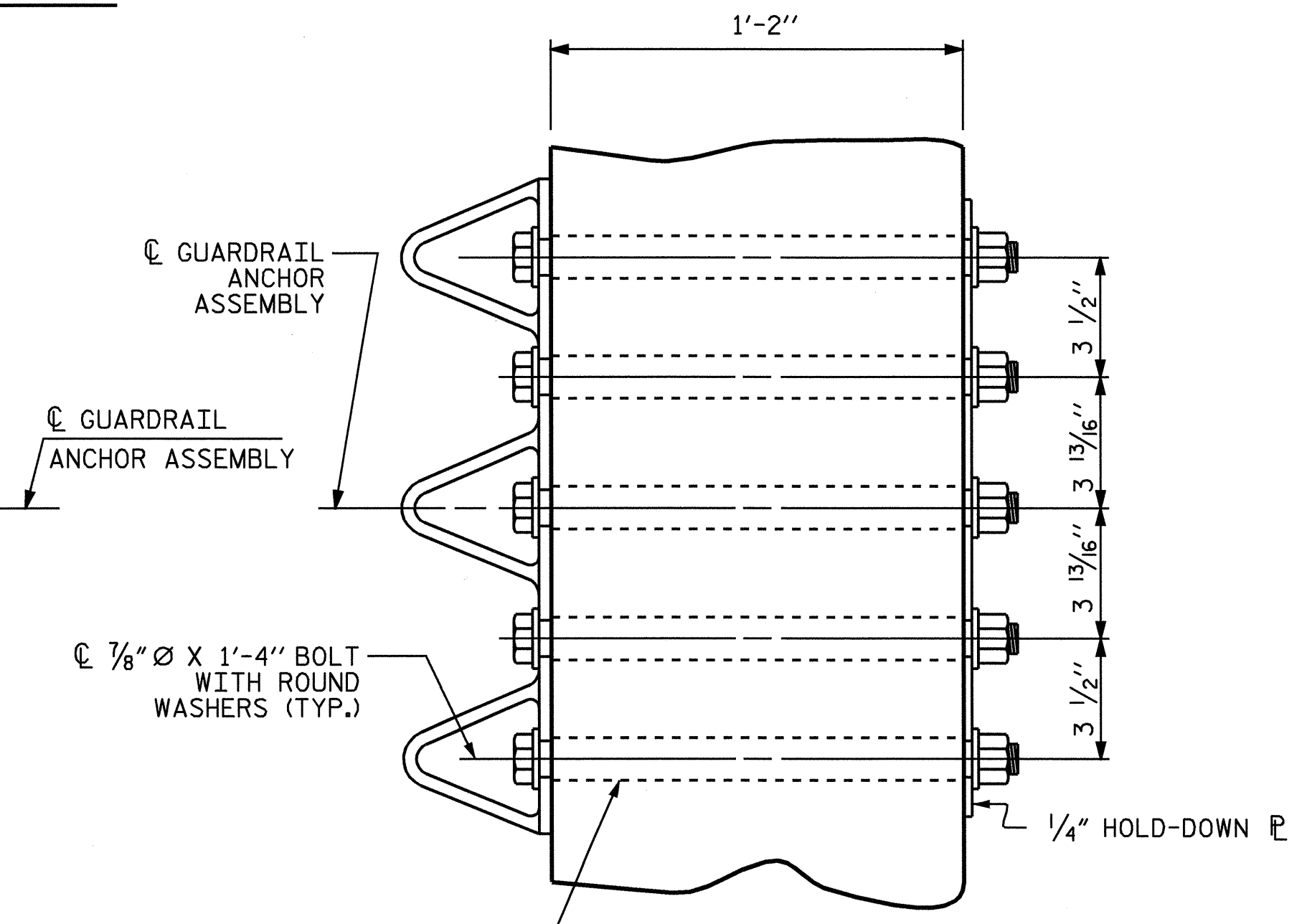


SKETCH SHOWING POINTS OF ATTACHMENT

* LOCATION OF GUARDRAIL ATTACHMENT

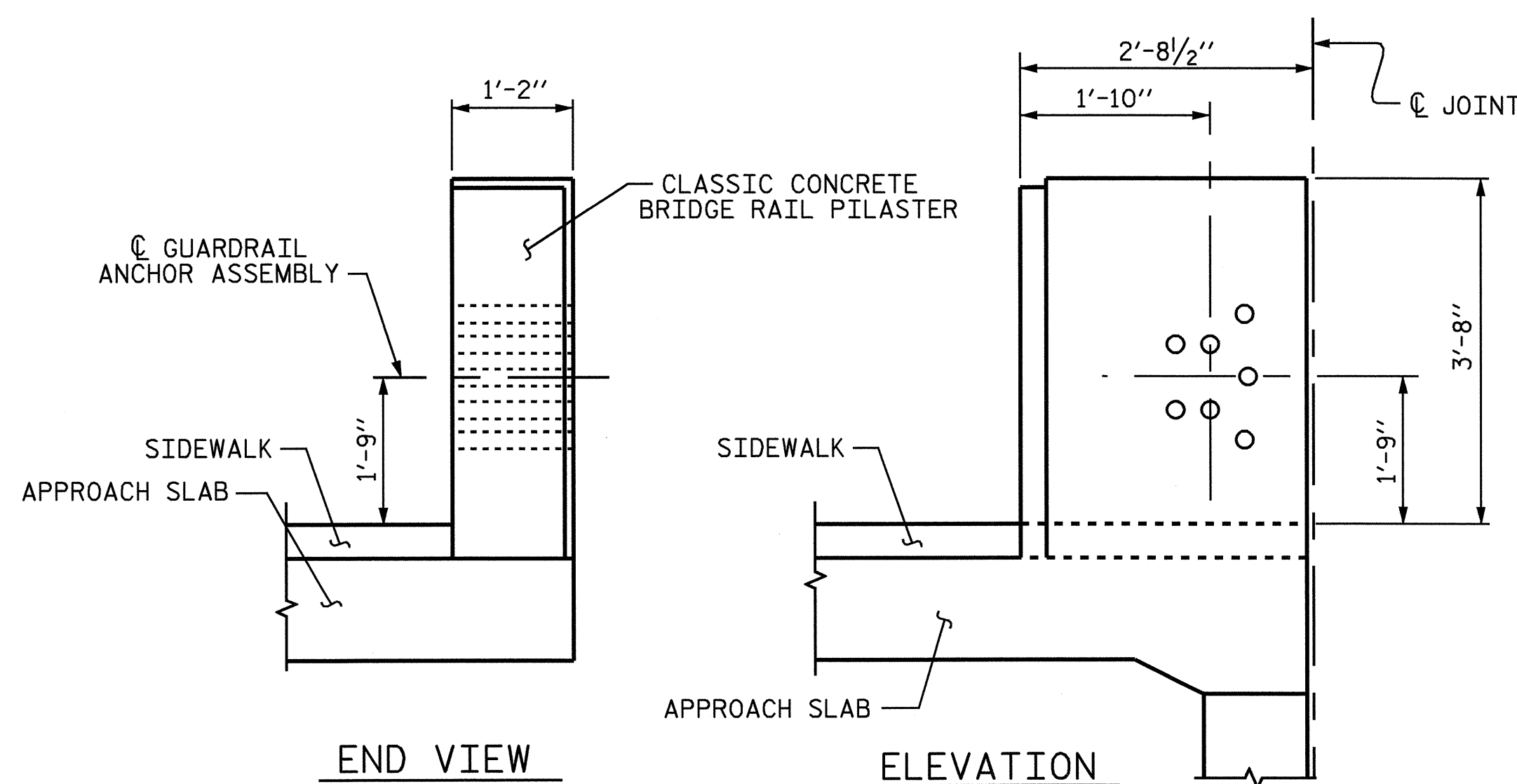


PLAN



END VIEW

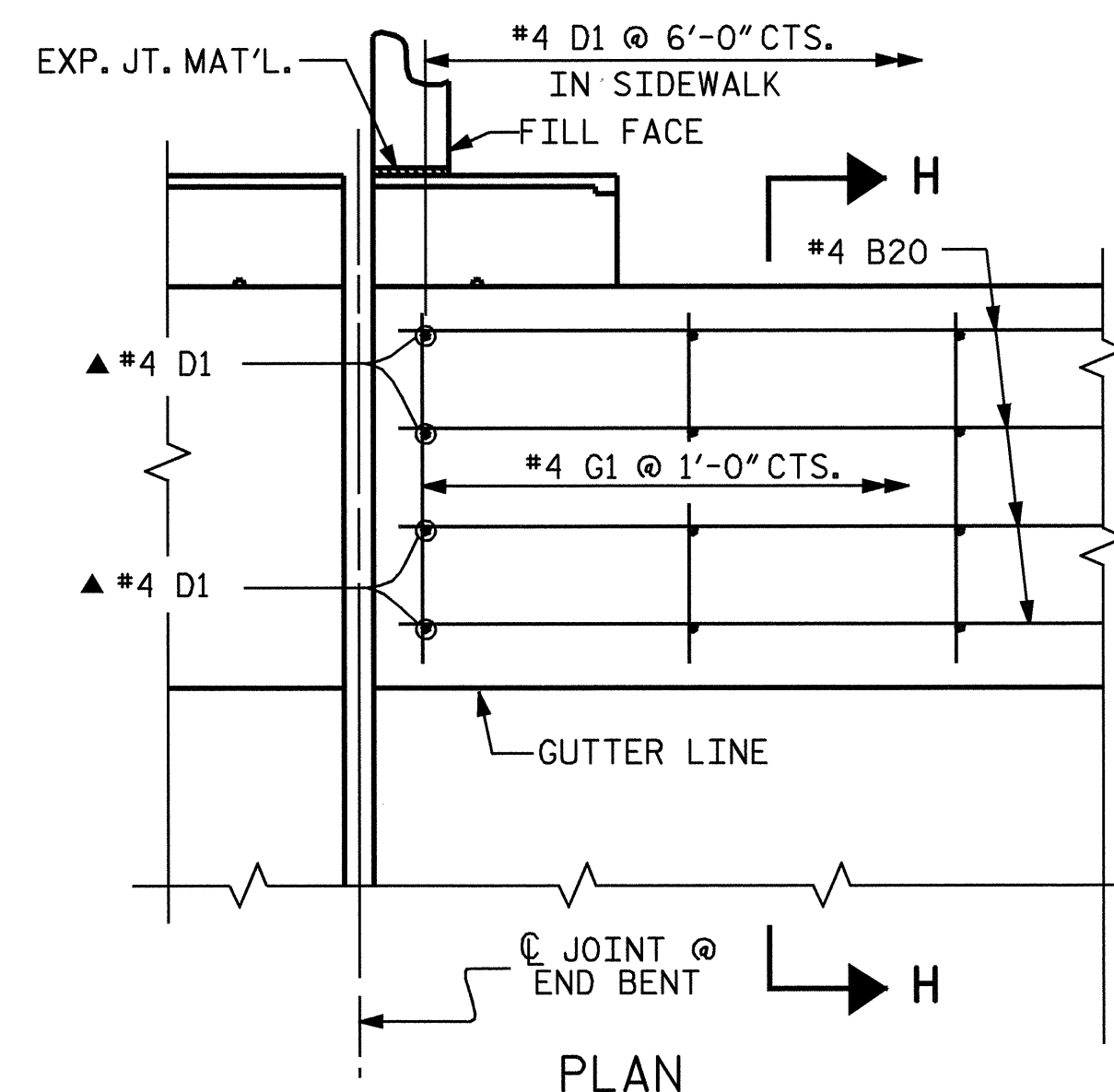
GUARDRAIL ANCHOR ASSEMBLY DETAILS



END VIEW

ELEVATION

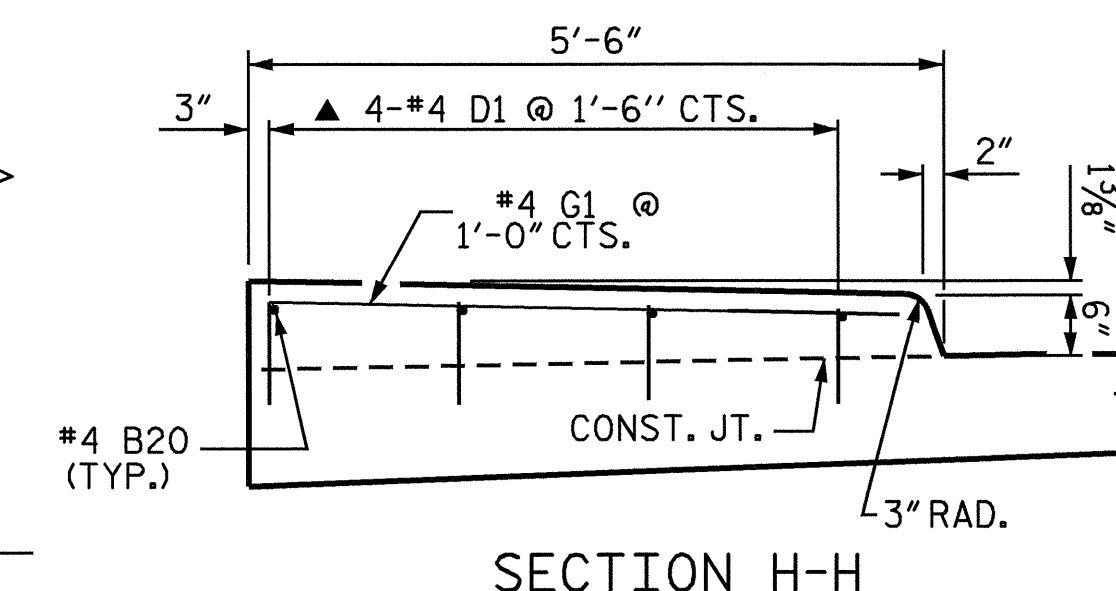
LOCATION OF GUARDRAIL ANCHOR



PLAN

SIDEWALK DETAILS

▲ DOWELS MAY BE PUSHED INTO GREEN CONCRETE AFTER APPROACH SLAB HAS BEEN SCREEDED OFF.



SECTION H-H

PROJECT NO. B-2965
EDGECOMBE COUNTY
STATION: 39+59.00 -L-

SHEET 3 OF 3

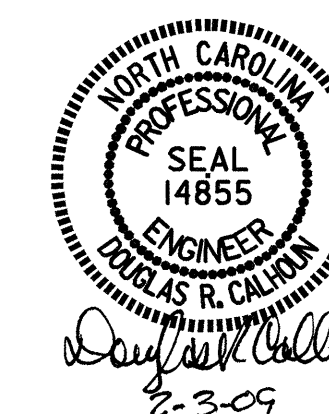
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

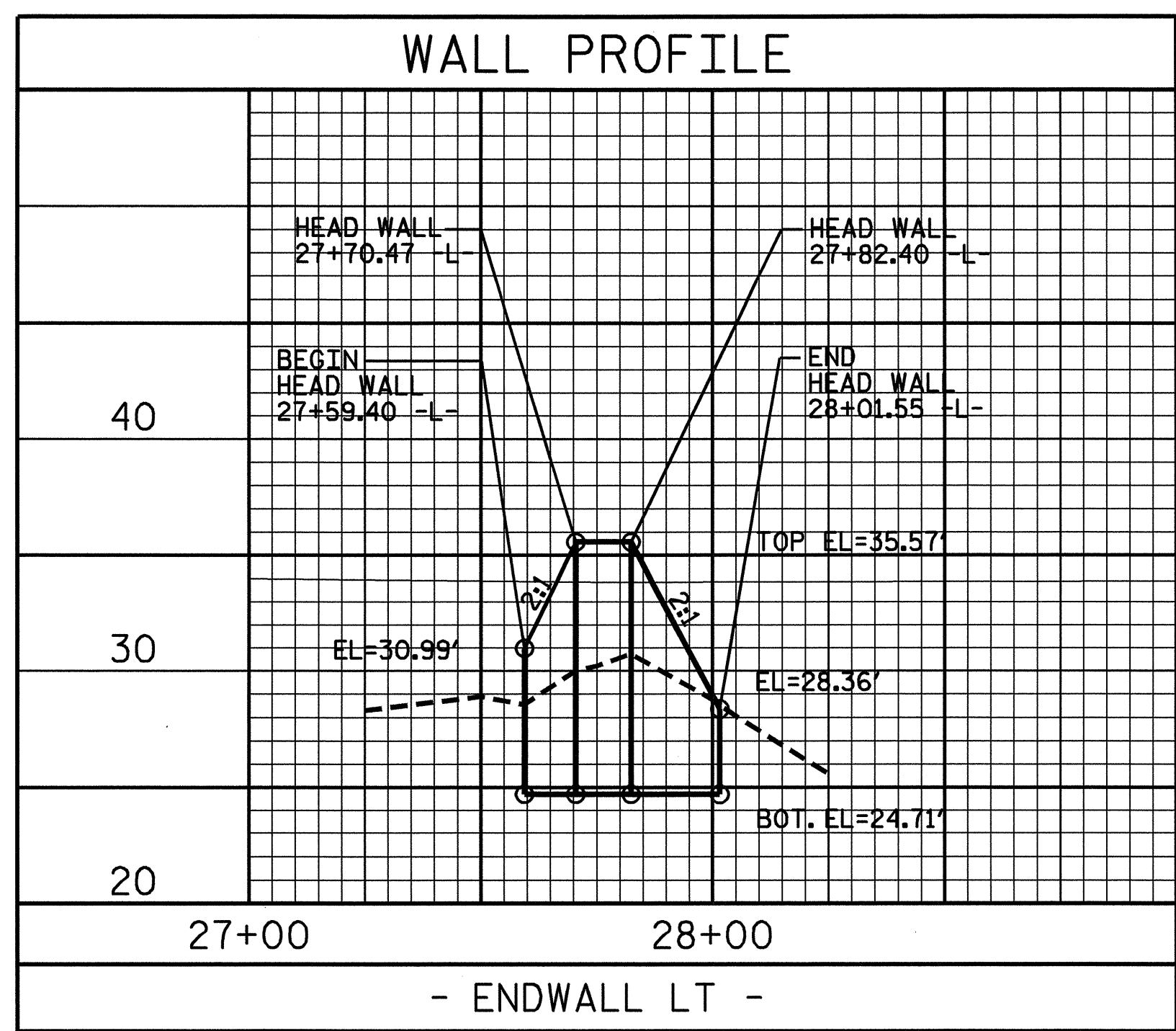
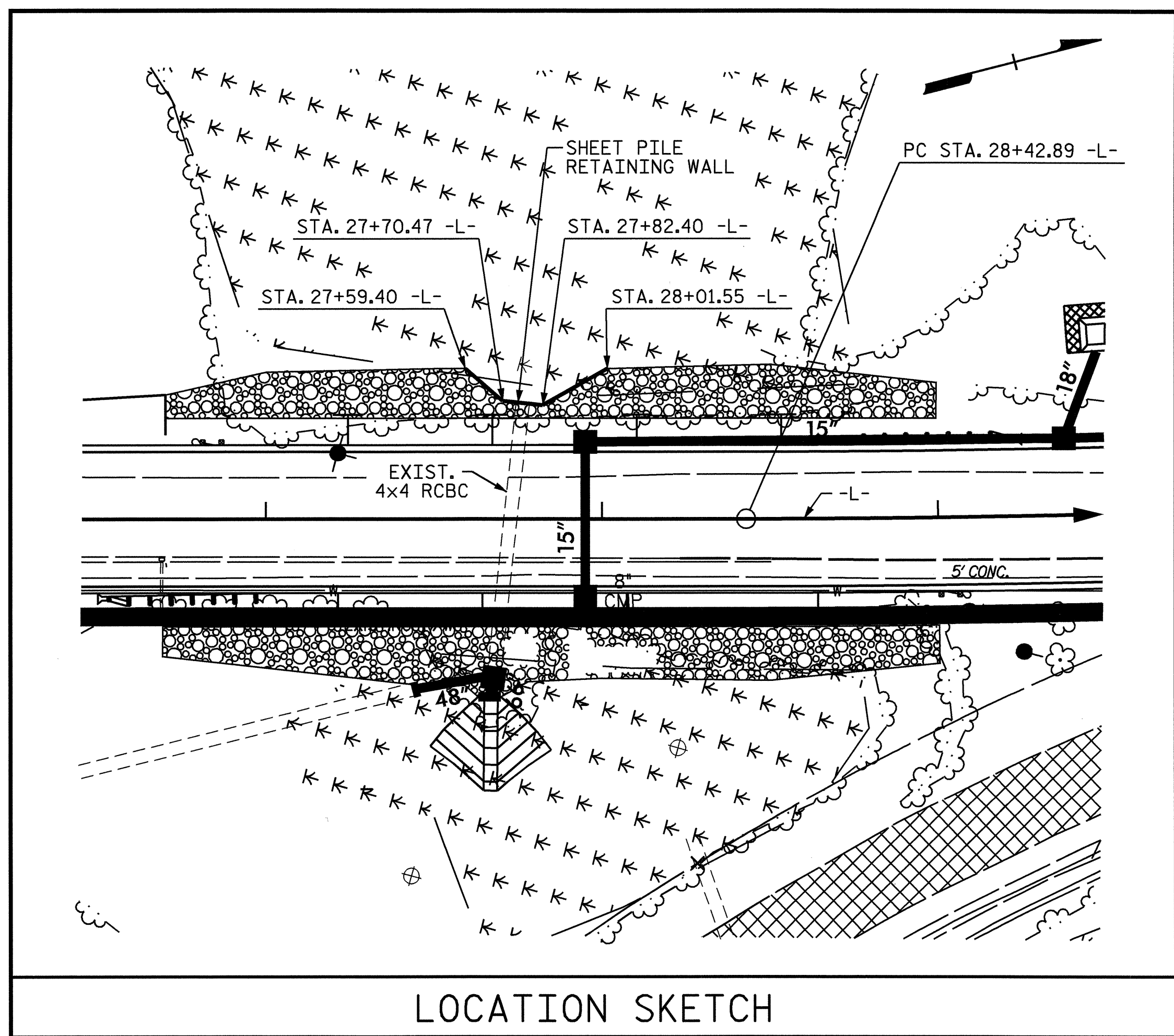
BRIDGE APPROACH
SLAB DETAILS

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-48	
1			3			TOTAL SHEETS	
2			4			48	

DRAWN BY : J.L. WALTON DATE : 9/4/08
CHECKED BY : W.S. ARAFAT DATE : 10/6/08

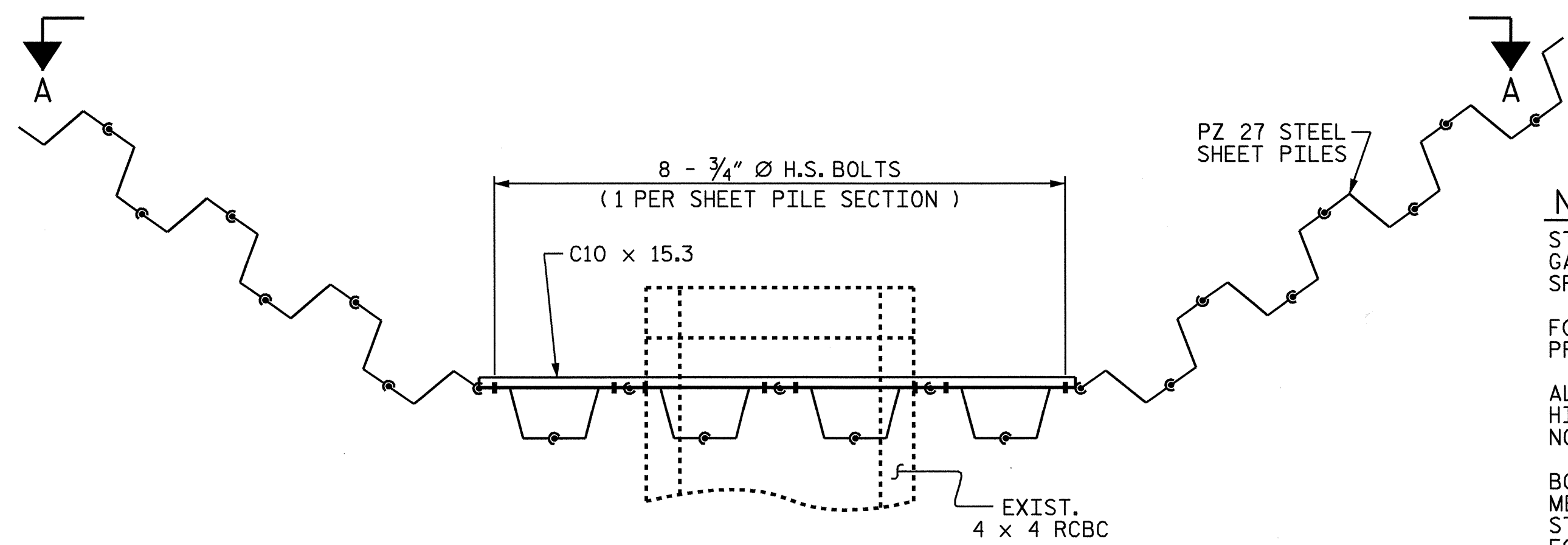
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TOTAL BILL OF MATERIAL	
18" STEEL SHEET PILES	1367 SQ. FT.

RETAINING WALL TYPICAL SECTION				
-L- STA.	OFFSET FROM ϕ	ELEV. @ TOP OF WALL	ELEV. @ BOTTOM OF WALL	DESIGN WALL HEIGHT
27+59.40	44.71' LT	30.99'	24.71'	6.28'
27+70.47	35.05' LT	35.57'	24.71'	10.86'
27+82.40	33.78' LT	35.57'	24.71'	10.86'
28+01.55	44.76' LT	28.36'	24.71'	3.65'



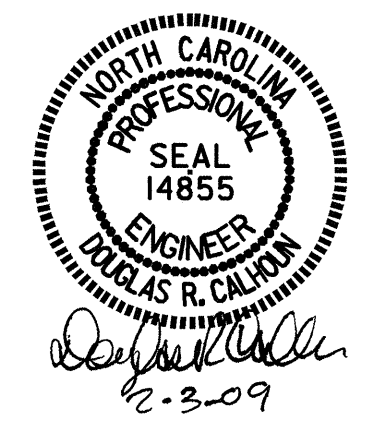
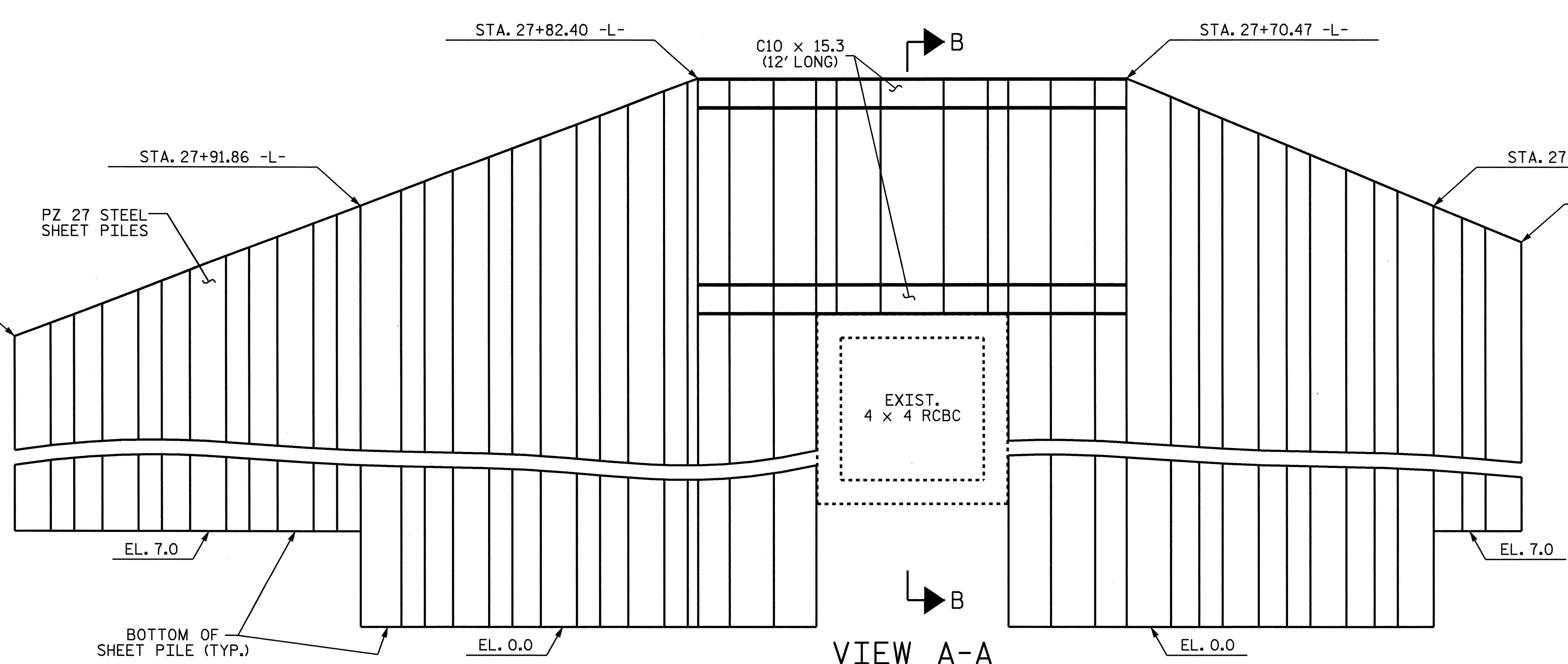
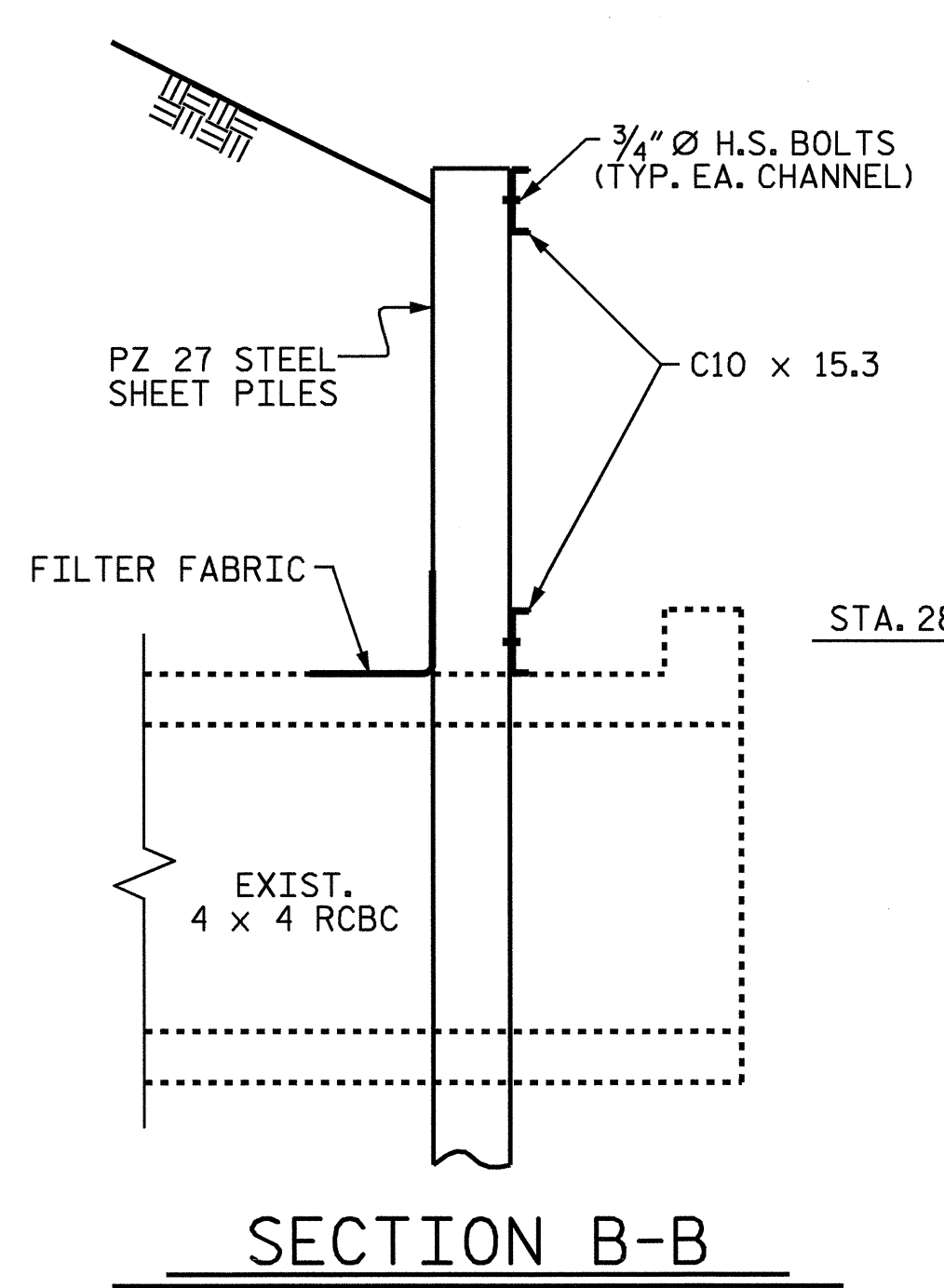
NOTES

STRUCTURAL STEEL CHANNELS SHALL BE GALVANIZED PER THE STANDARD SPECIFICATIONS.

FOR 18" STEEL SHEET PILES, SEE SPECIAL PROVISIONS.

ALL CONNECTIONS TO BE 3/4" DIAMETER HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED.

BOLTS, NUTS, AND WASHERS SHALL BE MECHANICALLY GALVANIZED PER THE STANDARD SPECIFICATIONS AND THE COST FOR THESE ITEMS SHALL BE INCLUDED IN THE PAY ITEM FOR 18" STEEL SHEET PILES.



PROJECT NO. B-2965
EDGEcombe COUNTY
 STATION: 27+59.40 -L-

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SHEET PILE RETAINING WALL					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. W-1
					TOTAL SHEETS 1

DRAWN BY : B.N. GRADY DATE : 10/21/08
 CHECKED BY : D.R. CALHOUN DATE : 10/21/08

STANDARD NOTES

DESIGN DATA:

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

MATERIAL AND WORKMANSHIP:

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

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

CONCRETE:

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

CONCRETE CHAMFERS:

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

DOWELS:

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

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

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE. ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS 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. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

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

STRUCTURAL STEEL:

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

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

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

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB. METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINISHES 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