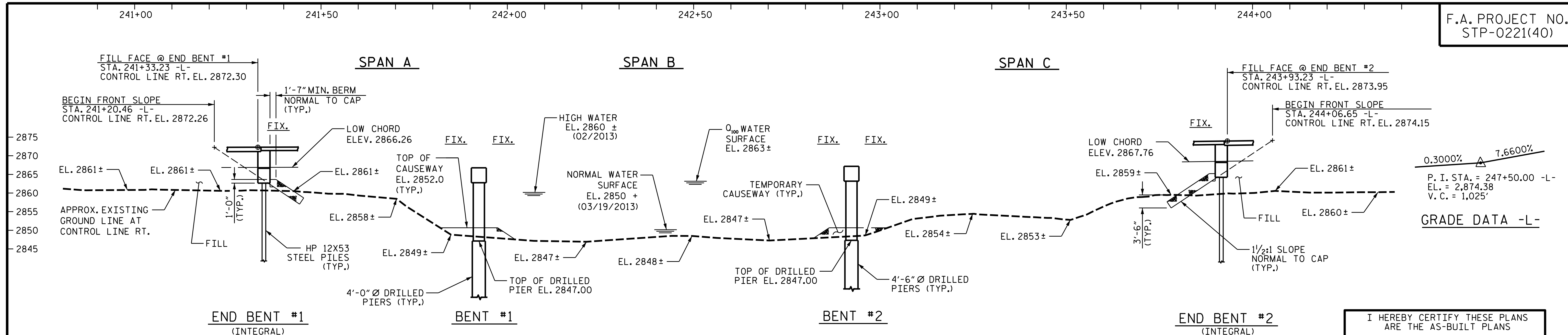


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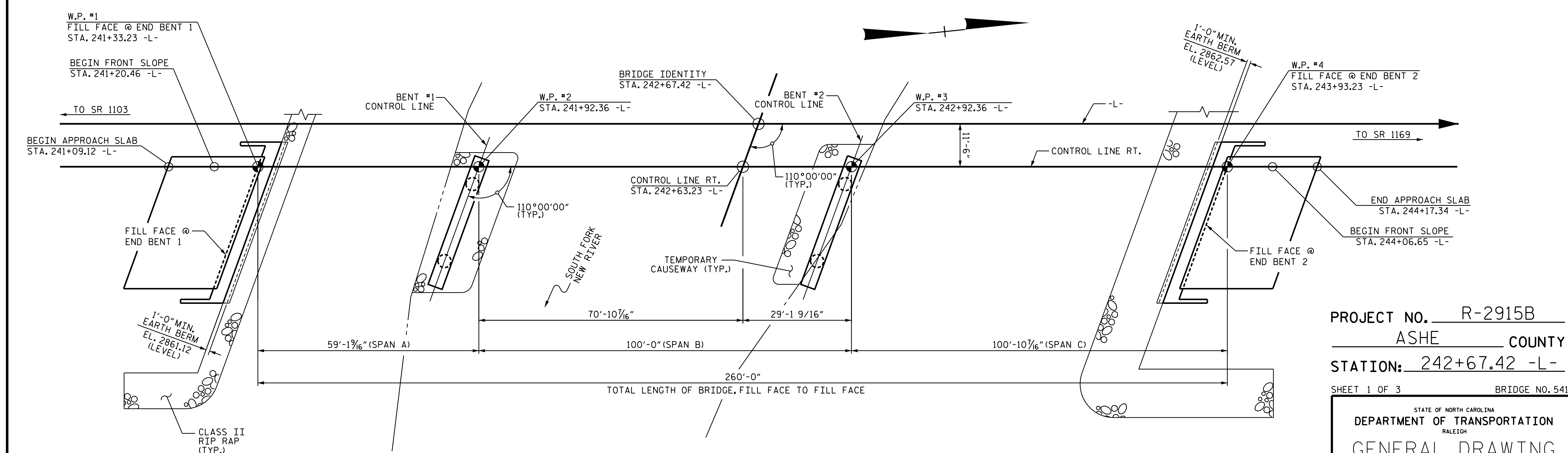
**This file or an individual page
shall not be considered a certified document.**



0.3000% 7.6600%
 P. I. STA. = 247+50.00 -L-
 EL. = 2,874.38
 V. C. = 1,025'
GRADE DATA -L-

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

SECTION ALONG CONTROL LINE RT.
 (SECTION AT BENTS & END BENTS ARE AT RIGHT ANGLES)

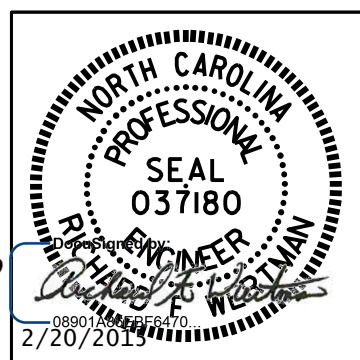


PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-
 SHEET 1 OF 3 BRIDGE NO. 541

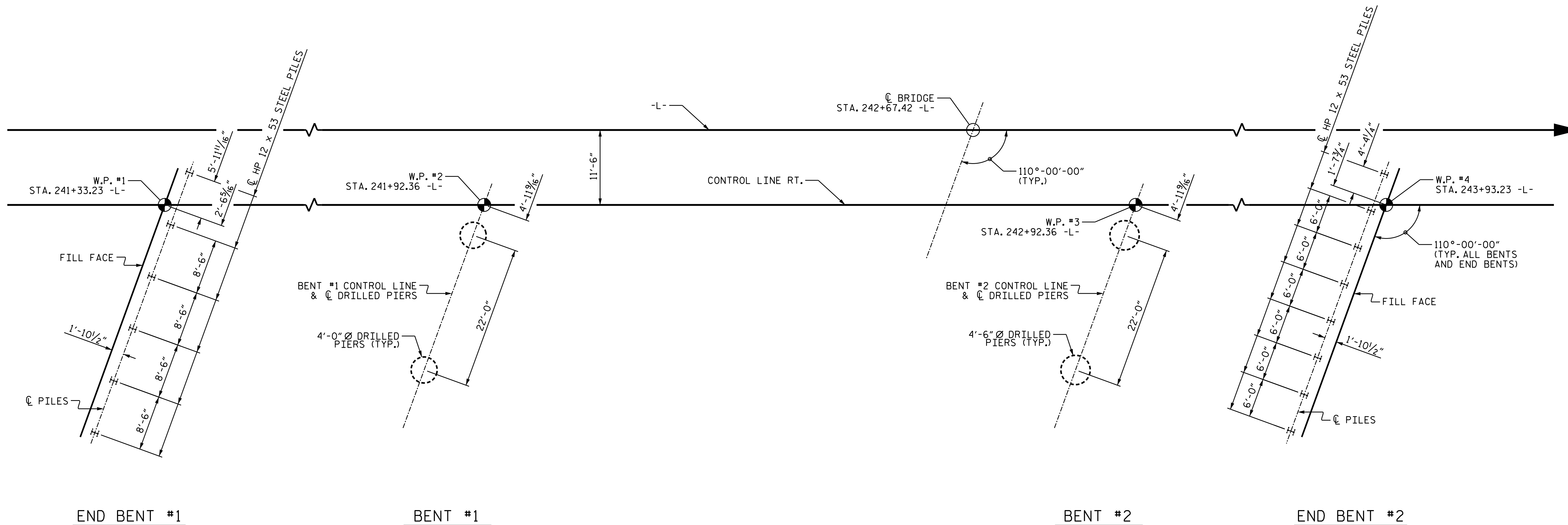
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 BRIDGE OVER SOUTH FORK NEW RIVER ON US 221 BETWEEN SR 1103 AND SR 1169 NBL

DRAWN BY : T.J. KIRSCHBAUM DATE : 5/5/14
 CHECKED BY : R.F. WERTMAN DATE : 8/19/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 10/3/14

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-1
1			3			TOTAL SHEETS
2			4			35



FOUNDATION LAYOUT

DIMENSIONS LOCATING PILES ARE SHOWN TO PILE CENTERLINE.
 DIMENSIONS LOCATING DRILLED PIERS ARE SHOWN TO DRILLED PIER CENTERLINE.

NOTES:

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
 PILES AT END BENT NO.1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 120 TONS PER PILE.
 DRIVE PILES AT END BENT NO.1 TO A REQUIRED DRIVING RESISTANCE OF 200 TONS PER PILE.
 FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
 INSTALL DRILLED PIERS AT BENT NO.1 TO A TIP ELEVATION NO HIGHER THAN 2821.0 FT AND WITH THE REQUIRED TIP RESISTANCE.
 DRILLED PIERS AT BENT NO.1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 590 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 30.0 TSF.
 PERMANENT STEEL CASING WILL BE REQUIRED FOR DRILLED PIERS AT BENT NO.1. DO NOT EXTEND PERMANENT CASINGS BELOW ELEVATION 2842.0 FT. WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
 THE SCOUR CRITICAL ELEVATION FOR BENT NO.1 IS ELEVATION 2836.0 FT. THE SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

INSTALL DRILLED PIERS AT BENT NO.2 TO A TIP ELEVATION NO HIGHER THAN 2811.2 FT (LT) AND 2819.0 FT (RT) AND WITH THE REQUIRED TIP RESISTANCE.
 DRILLED PIERS AT BENT NO.2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 680 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 30.0 TSF.
 PERMANENT STEEL CASING WILL BE REQUIRED FOR DRILLED PIERS AT BENT NO.2. DO NOT EXTEND PERMANENT CASING BELOW ELEVATION 2840.0 FT. WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
 THE SCOUR CRITICAL ELEVATION FOR BENT NO.2 IS ELEVATION 2836.0 FT. THE SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
 CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR THE DRILLED PIERS AT BENT NO.1 AND BENT NO.2. THE ENGINEER WILL DETERMINE THE NEED FOR CSL TESTING. FOR CSL TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
 PILES AT END BENT NO.2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 120 TONS PER PILE.
 DRIVE PILES AT END BENT NO.2 TO A REQUIRED DRIVING RESISTANCE OF 200 TONS PER PILE.

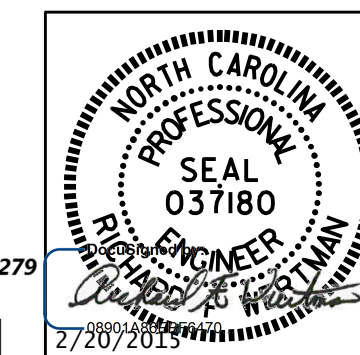
PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 BRIDGE OVER SOUTH
 FORK NEW RIVER ON
 US 221 BETWEEN
 SR 1103 AND SR 1169
 NBL

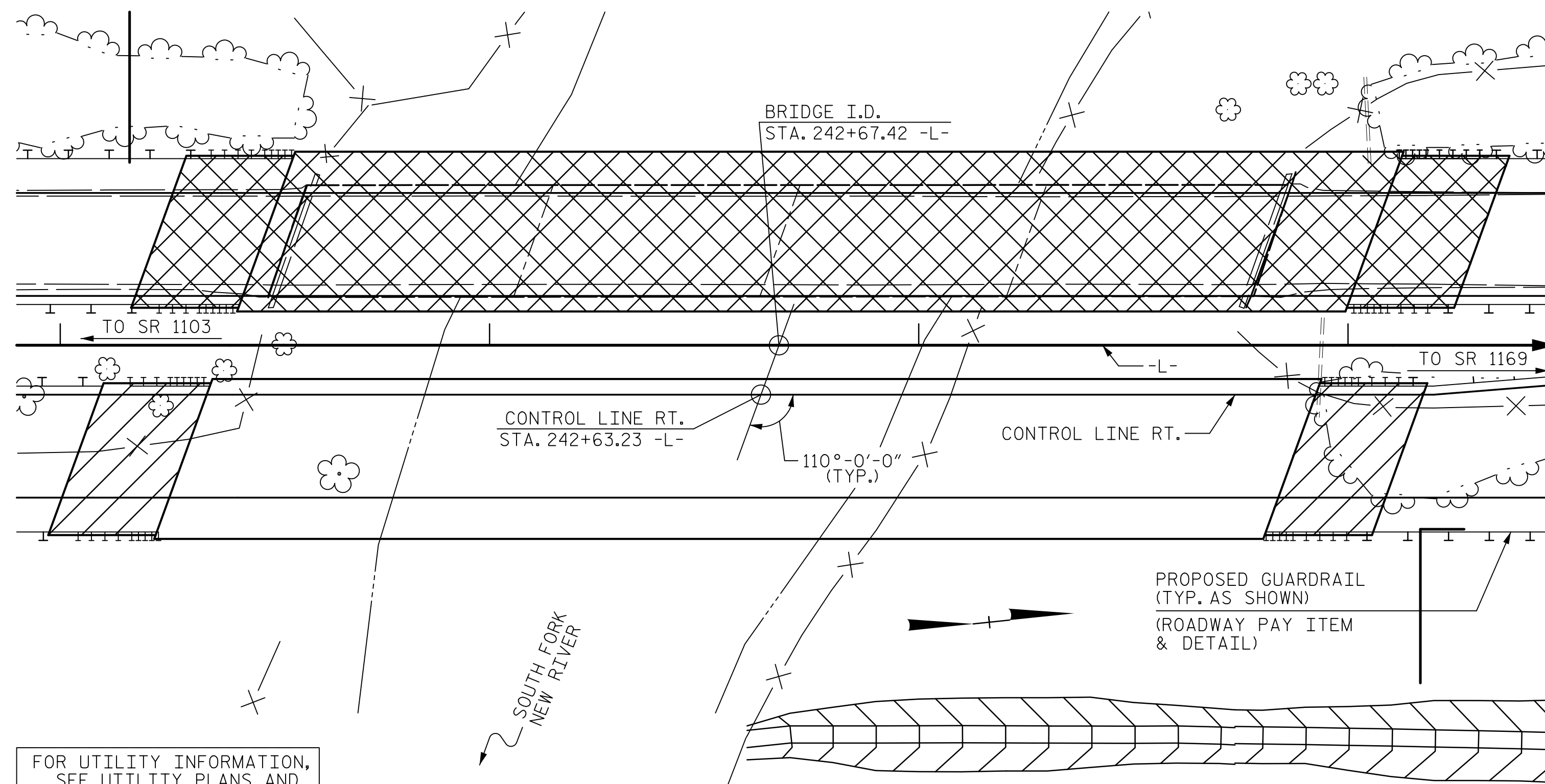
DRAWN BY : T.J. KIRSCHBAUM DATE : 10/29/14
 CHECKED BY : R.F. WERTMAN DATE : 11/12/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 11/12/14

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised
 1121 Situs Court
 Suite 170
 Raleigh NC 27606-4279
 (919) 859-4880
 N.C. Lic. No. F-0270



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-2
1			3			TOTAL SHEETS
2			4			35

BM #9 : RR SPIKE IN ROOT OF 24" FORKED CHERRY TREE, N 932968, E 1262584, 130' LEFT, -L- STA. 215+49.00, EL. 2871.28



LOCATION SKETCH

HYDRAULIC DATA

DESIGN DISCHARGE	= 16,000 C.F.S.
FREQUENCY OF DESIGN FLOOD	= 50 YRS.
DESIGN HIGH WATER ELEVATION	= 2862.2
DRAINAGE AREA	= 130 SQ. MI.
BASE DISCHARGE (Q100)	= 19,000 C.F.S.
BASE HIGH WATER ELEVATION	= 2863.0

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 24,000+ C.F.S.
FREQUENCY OF OVERTOPPING FLOOD	= 500+ YRS.
OVERTOPPING FLOOD ELEVATION	= 2869.2

NOTES:

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.
 THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
 THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.
 FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.
 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.
 THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

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

AT THE CONTRACTOR'S OPTION, AND UPON REMOVAL OF THE CAUSEWAY, THE CLASS II RIP RAP MAY BE PLACED AS RIP RAP SLOPE PROTECTION. SEE SPECIAL PROVISIONS FOR CONSTRUCTION MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS AT STATION 242+67.42 -L-.

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

THE CLASS AA CONCRETE IN THE BRIDGE DECK SHALL CONTAIN FLY ASH OR GROUND GRANULATED BLAST FURNACE SLAG AT THE SUBSTITUTION RATE SPECIFIED IN ARTICLE 1024-1 AND IN ACCORDANCE WITH ARTICLES 1024-5 AND 1024-5 OF THE STANDARD SPECIFICATIONS. NO PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE COST OF THE REINFORCED CONCRETE DECK SLAB.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18 - EVALUATING SCOUR AT BRIDGES".

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

TOTAL BILL OF MATERIAL

	CONSTRUCTION, MAINTENANCE & REMOVAL OF TEMPORARY ACCESS	4'-0" Ø DRILLED PIERS IN SOIL	4'-0" Ø DRILLED PIERS NOT IN SOIL	PERMANENT STEEL CASING FOR 4'-0" Ø DRILLED PIERS	4'-6" Ø DRILLED PIERS IN SOIL	4'-6" Ø DRILLED PIERS NOT IN SOIL	PERMANENT STEEL CASING FOR 4'-6" Ø DRILLED PIERS	CSL TESTING	REINFORCED CONCRETE DECK SLAB
	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	SQ. FT.
SUPERSTRUCTURE									9619
END BENT NO. 1									
BENT NO. 1		20.0	32.0	10.0					
BENT NO. 2					24.8	39.0	14.0		
END BENT NO. 2									
TOTAL	LUMP SUM	20.0	32.0	10.0	24.8	39.0	14.0	1	9619

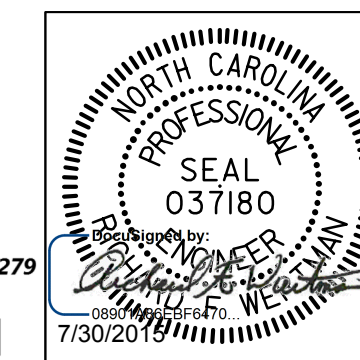
TOTAL BILL OF MATERIAL

	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	54" PRESTRESSED CONCRETE GIRDERS	HP 12 X 53 STEEL PILES	CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS
	SQ. FT.	CU. YDS.	LUMP SUM	LBS.	LBS.	NO. LIN. FT.	NO. LIN. FT.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM
SUPERSTRUCTURE	9555		LUMP SUM			12 1023		516.5			LUMP SUM
END BENT NO. 1		31.6		4346			6 165		77	85	
BENT NO. 1		35.1		9530	2127						
BENT NO. 2		42.6		10203	2811						
END BENT NO. 2		32.5		4522			8 280		195	215	
TOTAL	9555	141.8	LUMP SUM	28601	4938	12 1023	14 445	516.5	272	300	LUMP SUM

PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 BRIDGE OVER SOUTH FORK NEW RIVER ON US 221 BETWEEN SR 1103 AND SR 1169 NBL



PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised
 1121 Situs Court
 Suite 170
 Raleigh, NC 27606-4279
 (919) 859-4880
 NC Lic. No. F-0270

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-3
1			3			TOTAL SHEETS
2			4			35

DRAWN BY : T.J. KIRSCHBAUM DATE : 5/4/14
 CHECKED BY : R.F. WERTMAN DATE : 8/19/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 10/30/14

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ_{DC}	γ_{DW}
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS

LEVEL	VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING #	MINIMUM RATING FACTORS (RF)	TONS = W x RF	STRENGTH I LIMIT STATE								SERVICE III LIMIT STATE								COMMENT NUMBER		
						MOMENT				SHEAR				MOMENT										
						LIVE-LOAD FACTORS (γ_{LL})	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FT)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (FT)	LIVE-LOAD FACTORS (γ_{LL})	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION		DISTANCE FROM LEFT END OF SPAN (FT)	
DESIGN LOAD RATING	HL-93 (INVENTORY)	N/A	①	1.08	--	1.75	0.899	1.08	A	I	28.0	1.014	1.37	A	I	45.2	0.80	0.775	1.41	B	I	48.9	1;2	
	HL-93 (OPERATING)	N/A	+	1.40	--	1.35	0.899	1.40	A	I	28.0	1.022	2.24	C	I	78.6	N/A	--	--	--	--	--	--	1;2
	HS-20 (INVENTORY)	36.000	②	1.37	49:32	1.75	0.899	1.37	A	I	28.0	10:14	2.09	A	I	33.8	0.80	0.775	1.56	B	I	48.9	1;2	
	HS-20 (OPERATING)	36.000	+	1.77	63:72	1.35	0.899	1.77	A	I	28.0	1.022	2.99	C	I	78.6	N/A	--	--	--	--	--	--	1;2
LEGAL LOAD RATING	SINGLE VEHICLE (SV)	SNSH	13.500	+	3.67	49:55	1.40	0.899	3.67	A	I	28.0	1.022	7.65	C	I	78.6	0.80	0.775	3.70	B	I	48.9	1;2
		SNGRBS2	20.000	+	2.67	53:40	1.40	0.899	2.81	A	I	28.0	1.022	5.35	C	I	78.6	0.80	0.775	2.67	B	I	48.9	1;2
		SNAGRIS2	22.000	+	2.50	55:00	1.40	0.899	2.70	A	I	28.0	1.022	4.94	B	I	78.6	0.80	0.775	2.50	B	I	48.9	1;2
		SNCOTTS3	27.250	+	1.83	49:87	1.40	0.899	1.83	A	I	28.0	1.022	3.67	C	I	78.6	0.80	0.775	1.84	B	I	48.9	1;2
		SNAGGRS4	34.925	+	1.50	52:39	1.40	0.899	1.56	A	I	28.0	1.014	2.75	A	I	33.8	0.80	0.775	1.50	B	I	48.9	1;2
		SNS5A	35.550	+	1.47	52:26	1.40	0.899	1.52	A	I	28.0	1.022	2.88	B	I	19.1	0.80	0.775	1.47	B	I	48.9	1;2
		SNS6A	39.950	+	1.34	53:53	1.40	0.899	1.41	A	I	28.0	1.022	2.60	B	I	19.1	0.80	0.775	1.34	B	I	48.9	1;2
		SNS7B	42.000	+	1.27	53:34	1.40	0.899	1.34	A	I	28.0	1.022	2.49	C	I	78.6	0.80	0.775	1.27	B	I	48.9	1;2
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000	+	1.63	53:79	1.40	0.899	1.72	A	I	28.0	1.022	3.09	B	I	19.1	0.80	0.775	1.63	B	I	48.9	1;2
		TNT4A	33.075	+	1.63	53:91	1.40	0.899	1.73	A	I	28.0	1.022	3.26	B	I	78.6	0.80	0.775	1.63	B	I	48.9	1;2
		TNT6A	41.600	+	1.32	54:91	1.40	0.899	1.43	A	I	28.0	1.022	2.68	B	I	19.1	0.80	0.775	1.32	B	I	48.9	1;2
		TNT7A	42.000	+	1.32	55:44	1.40	0.899	1.44	A	I	28.0	1.022	2.63	B	I	19.1	0.80	0.775	1.32	B	I	48.9	1;2
		TNT7B	42.000	+	1.35	56:70	1.40	0.899	1.51	A	I	28.0	1.022	2.48	B	I	19.1	0.80	0.775	1.35	B	I	48.9	1;2
		TNAGRIT4	43.000	+	1.30	55:90	1.40	0.899	1.42	A	I	28.0	1.022	2.44	B	I	19.1	0.80	0.775	1.30	B	I	48.9	1;2
		TNAGT5A	45.000	+	1.23	55:35	1.40	0.899	1.34	A	I	28.0	1.022	2.33	B	I	19.1	0.80	0.775	1.23	B	I	48.9	1;2
TNAGT5B	45.000	③	1.22	54:90	1.40	0.899	1.32	A	I	28.0	1.014	2.03	A	I	33.8	0.80	0.775	1.22	B	I	48.9	1;2		

NOTES:
 MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.
 ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:
 1. SPANS B AND C LENGTHS AND RATING FACTORS ARE EQUAL.
 2. THE REDUCTION OF LOAD DISTRIBUTION FACTOR FOR MOMENT IN LONGITUDINAL BEAMS ON SKEWED SUPPORTS (AASHTO TABLE 4.6.2.2.2E-1) WAS NOT APPLIED.

CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93)

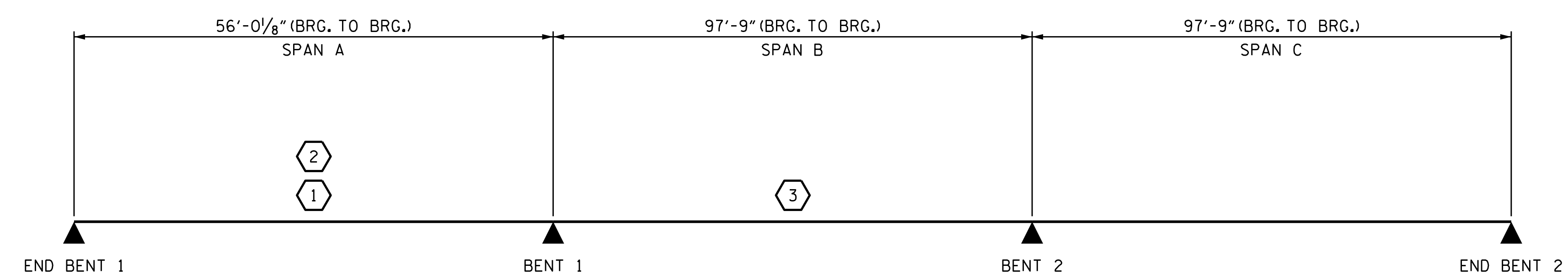
② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

I - INTERIOR GIRDER
 EL - EXTERIOR LEFT GIRDER
 ER - EXTERIOR RIGHT GIRDER



PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-

LRFR SUMMARY

ASSEMBLED BY : T.J. KIRSCHBAUM DATE : 5/8/14
 CHECKED BY : R.F. WERTMAN DATE : 7/31/14
 DRAWN BY : MAA 1/08 REV. 11/2/08RR MAA/GM
 CHECKED BY : GM/DI 2/08 REV. 10/1/11 MAA/GM

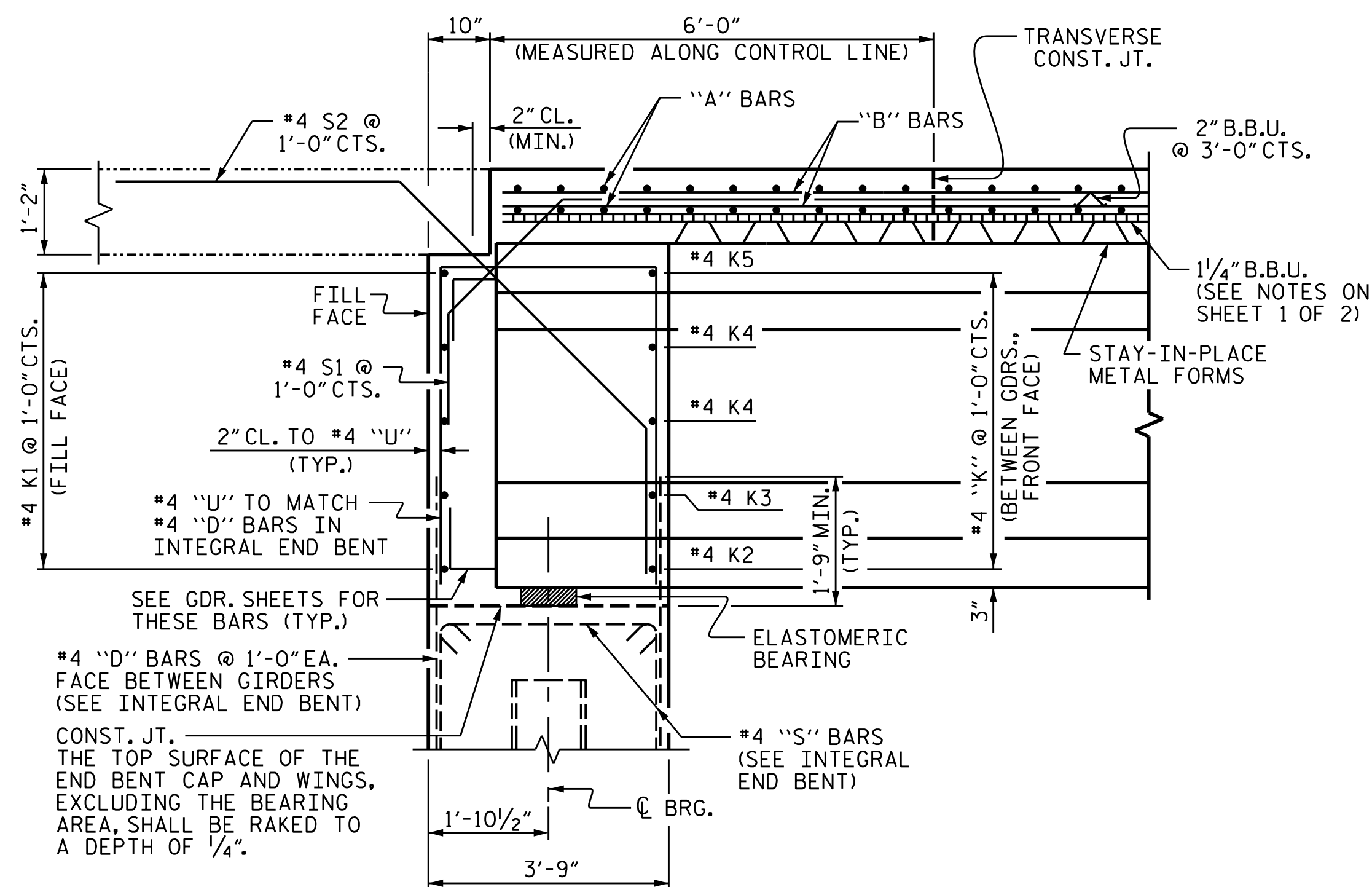
PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised
 1121 Sitis Court
 Suite 170
 Raleigh NC 27606-4279
 (919) 859-4880
 NC Lic. No. F-0270

THESE PLANS HAVE BEEN PROPERLY EXAMINED BY THE UNDERSIGNED. I HAVE DETERMINED THAT THEY COMPLY WITH EXISTING NORTH CAROLINA CODES, AND HAVE BEEN PROPERLY ADAPTED FOR USE IN THIS AREA.

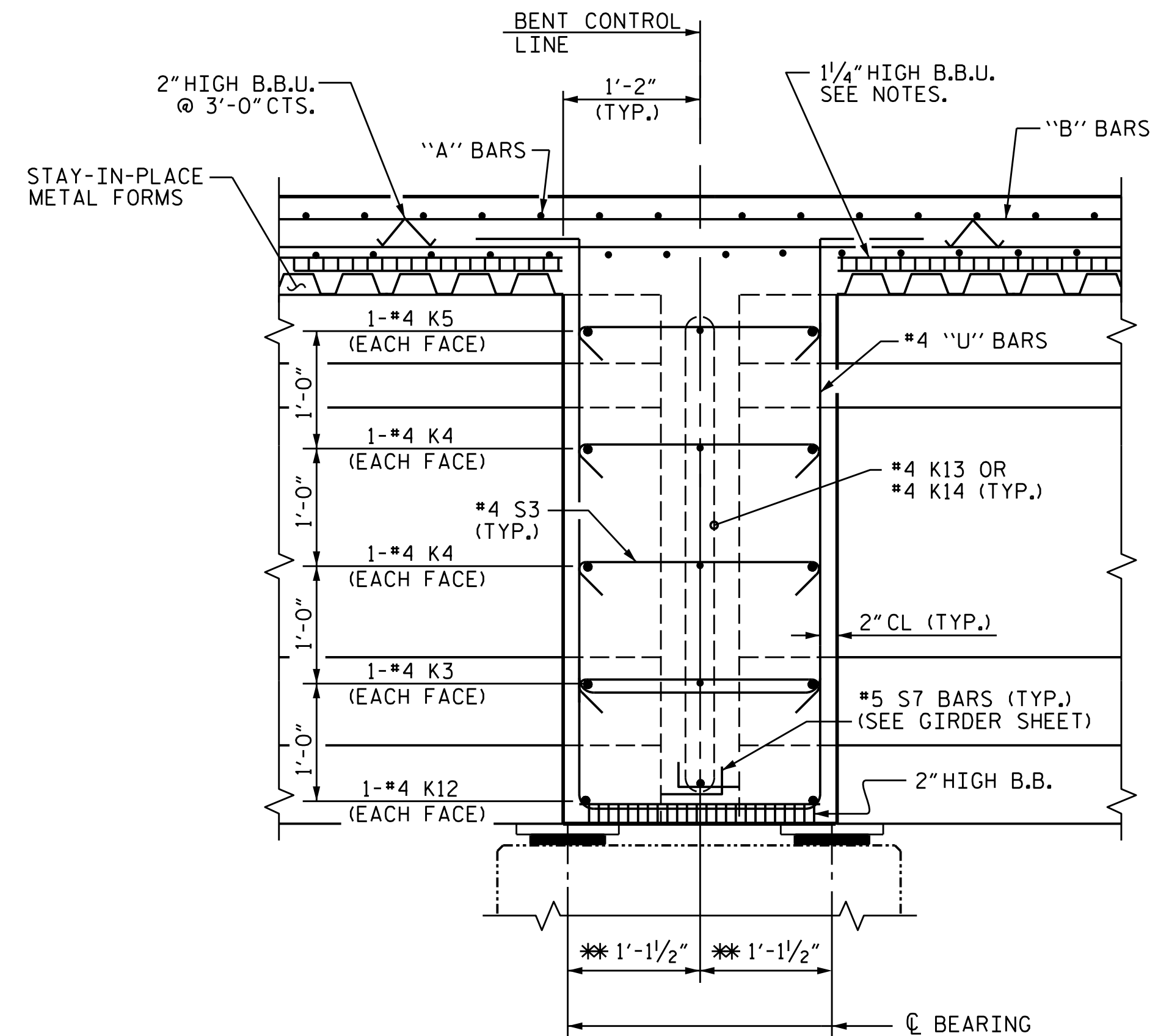


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 LRFR SUMMARY FOR
 PRESTRESSED
 CONCRETE GIRDERS
 (NON-INTERSTATE TRAFFIC)
 NBL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-4
1			3			TOTAL SHEETS
2			4			35

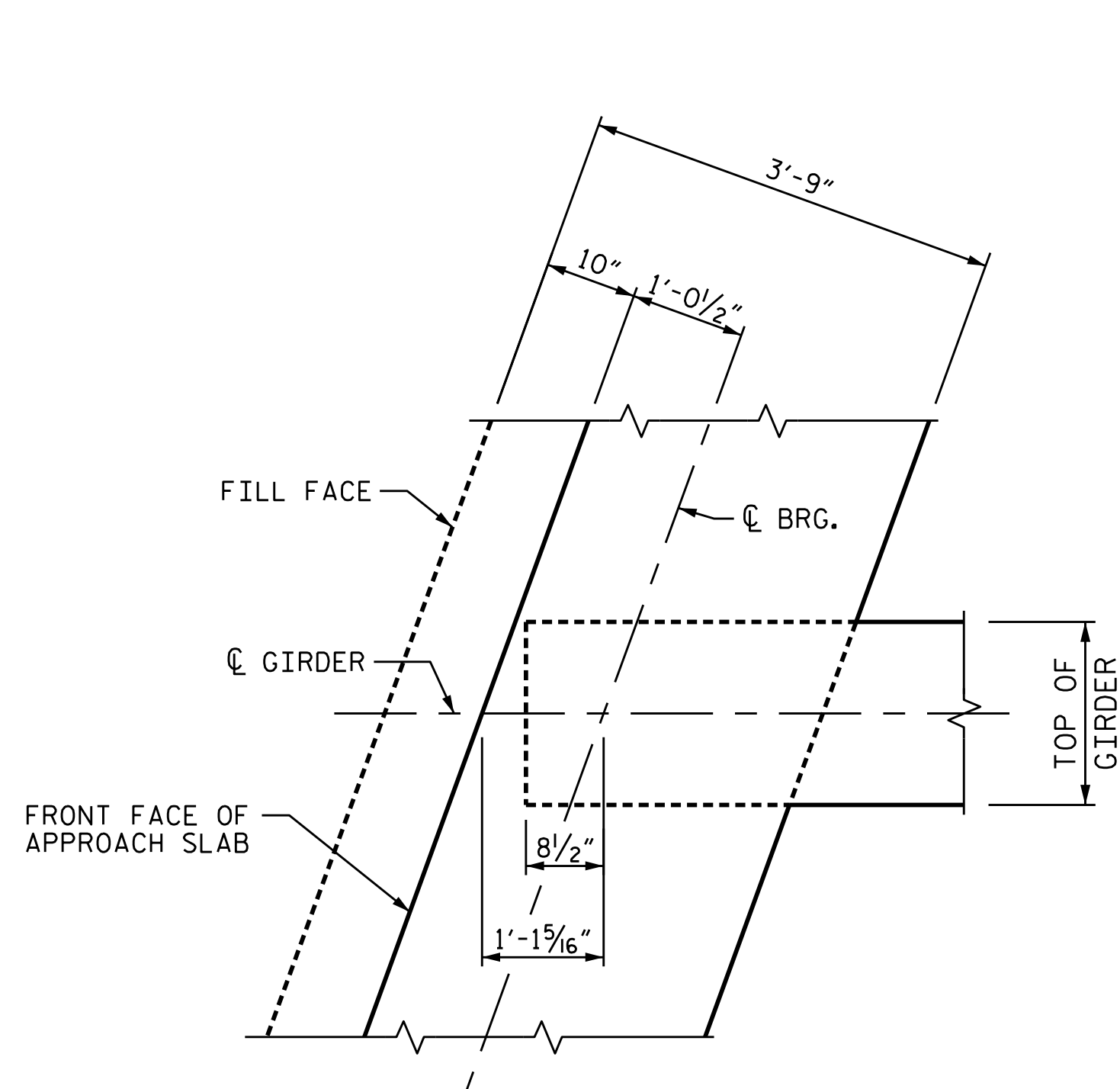


SECTION AT INTEGRAL END BENT

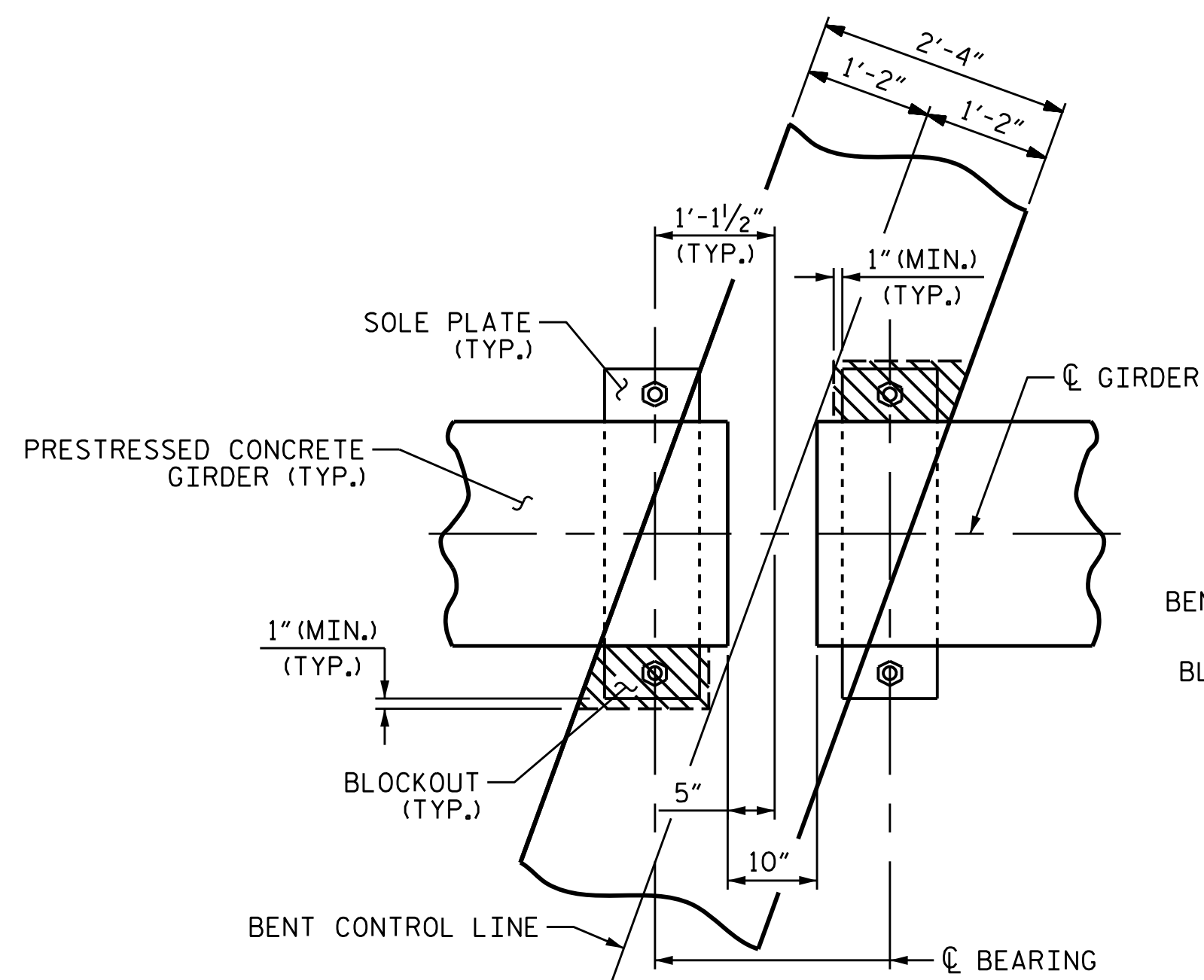


SECTION AT BENT DIAPHRAGM

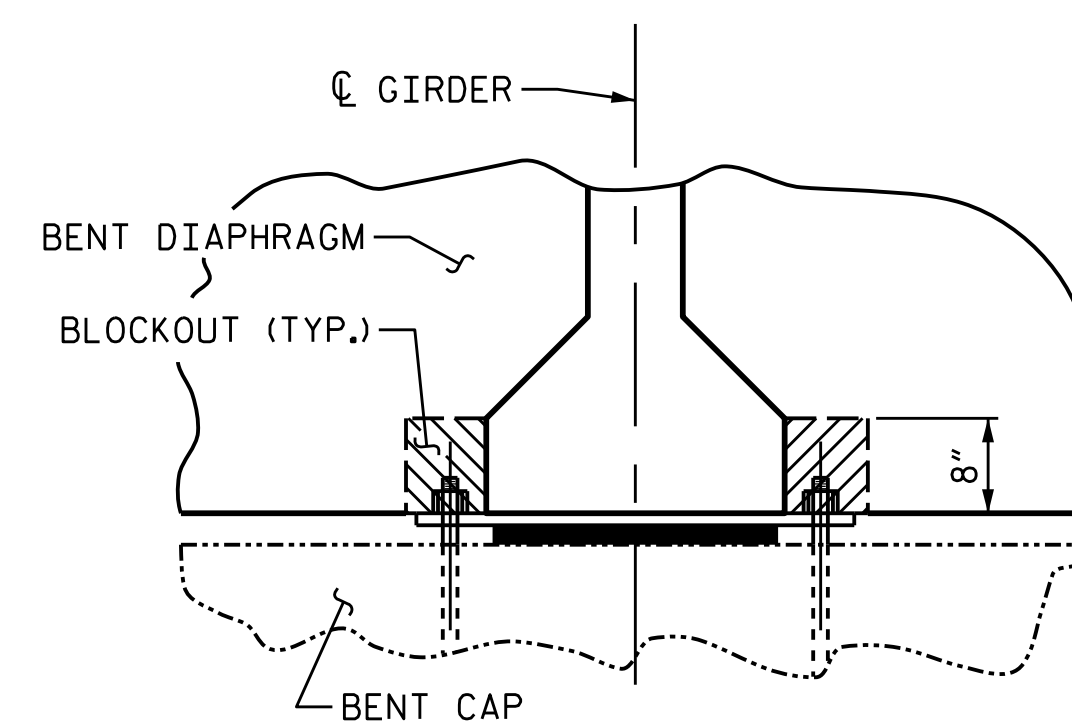
** MEASURED ALONG \bar{C} GIRDER



END BENT DIAPHRAGM



PLAN



SECTION

BENT DIAPHRAGM BLOCK-OUT DETAIL

PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-

SHEET 2 OF 2

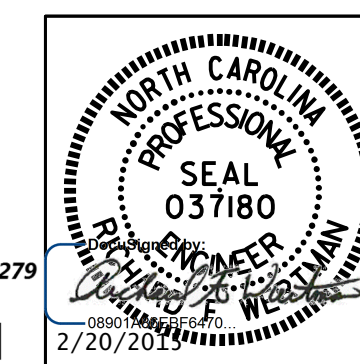
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 TYPICAL SECTION
 DETAILS
 NBL

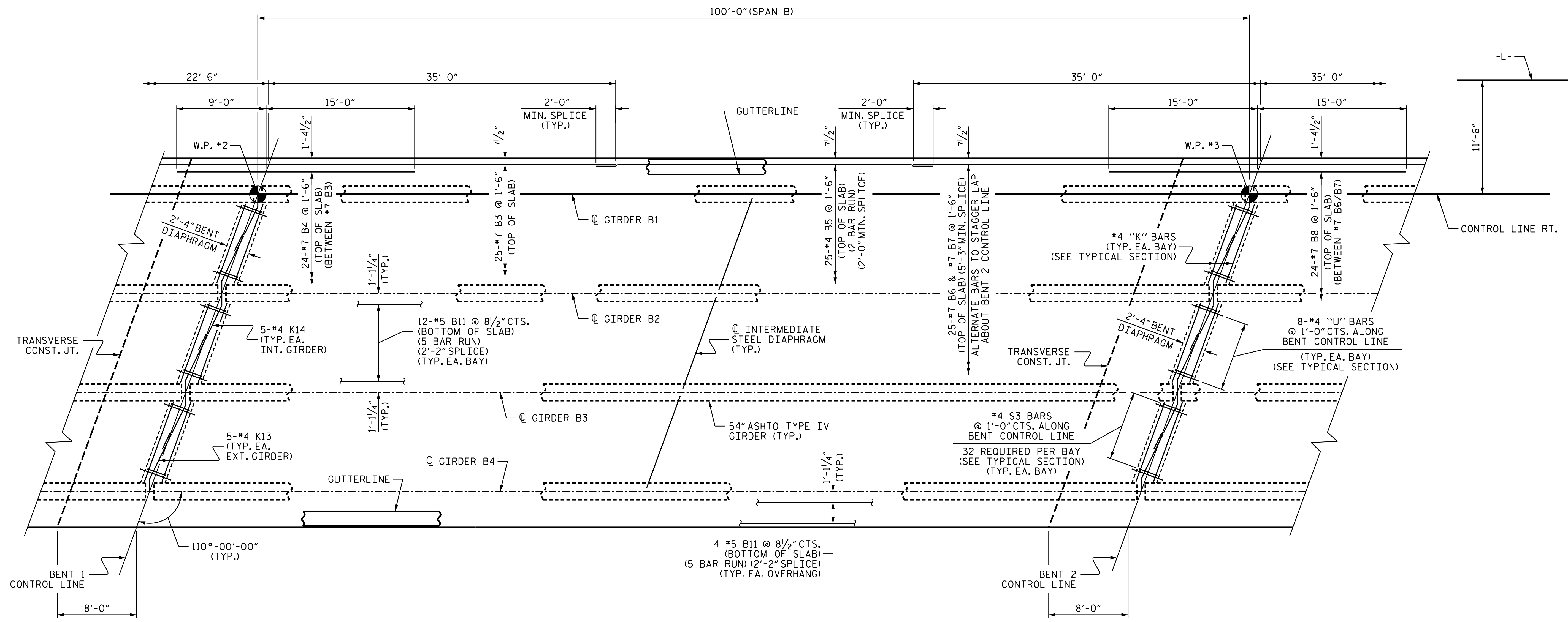
REVISIONS		SHEET NO.				
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			35
2			4			

DRAWN BY : T.J. KIRSCHBAUM DATE : 4/14/14
 CHECKED BY : R.F. WERTMAN DATE : 8/12/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 10/3/14

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised

1121 Sitas Court
 Suite 170
 Raleigh, NC 27606-4279
 (919) 859-4880
 N.C. Lic. No. F-0270





PLAN OF SPAN B

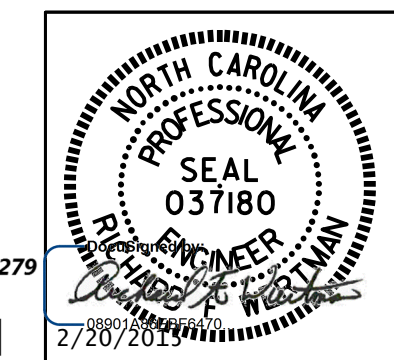
PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-

SHEET 2 OF 5

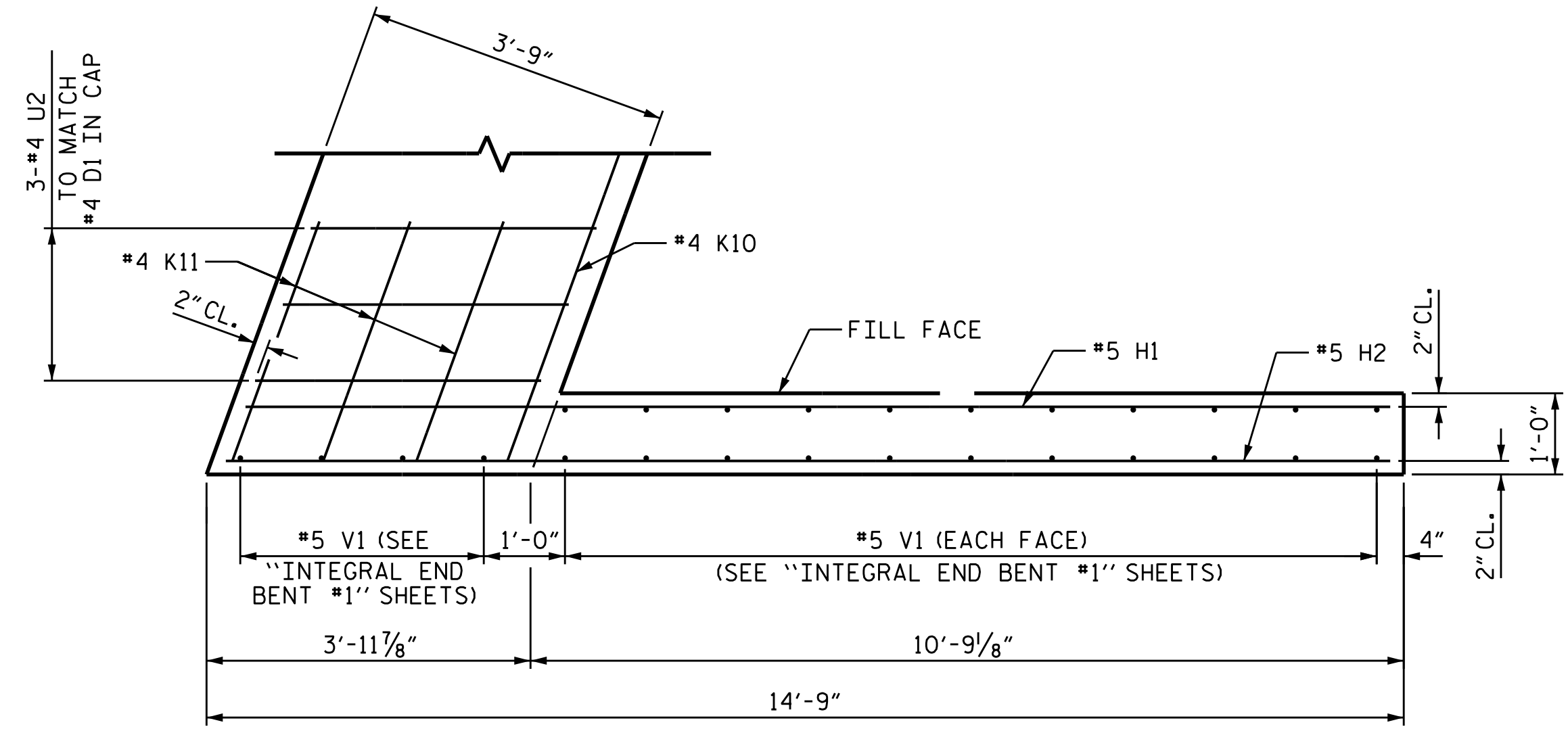
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 PLAN OF SPAN B
 NBL

DRAWN BY : T.J. KIRSCHBAUM DATE : 4/25/14
 CHECKED BY : R.F. WERTMAN DATE : 8/19/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 10/3/14

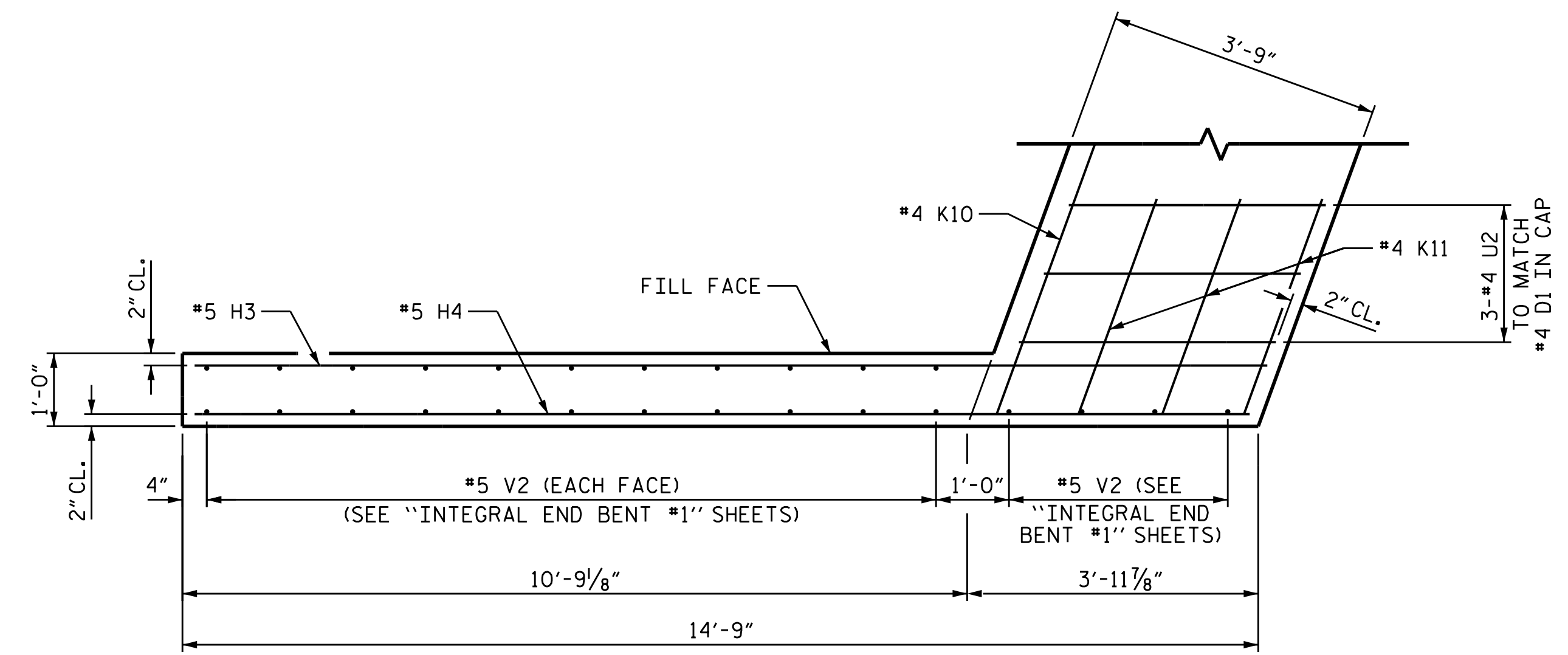
PLANS PREPARED BY:
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 Suite 170
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 (919) 859-4880
 N.C. Lic. No. F-0270



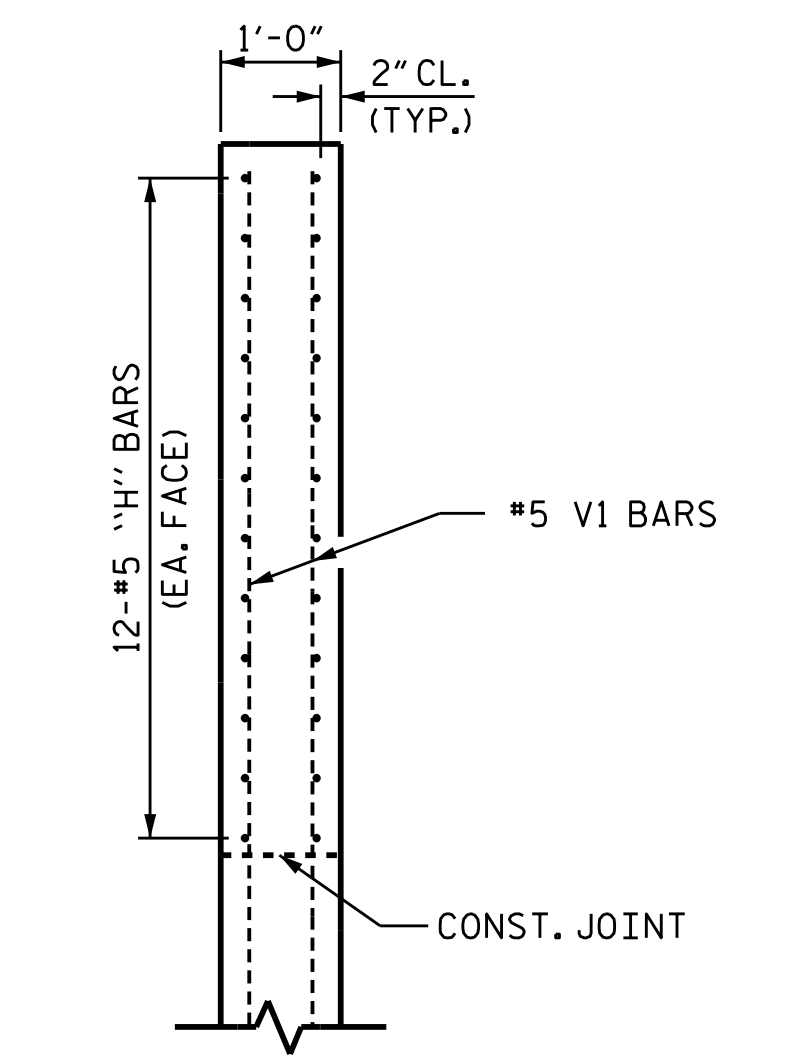
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-8
1			3			TOTAL SHEETS
2			4			35



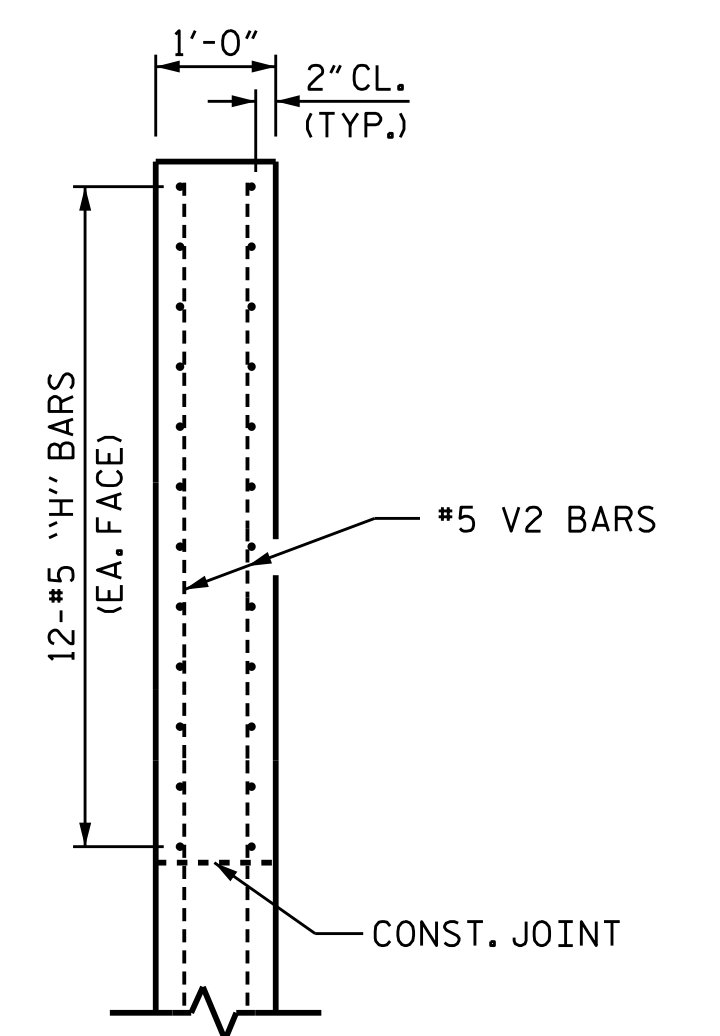
PLAN OF WING (W1)



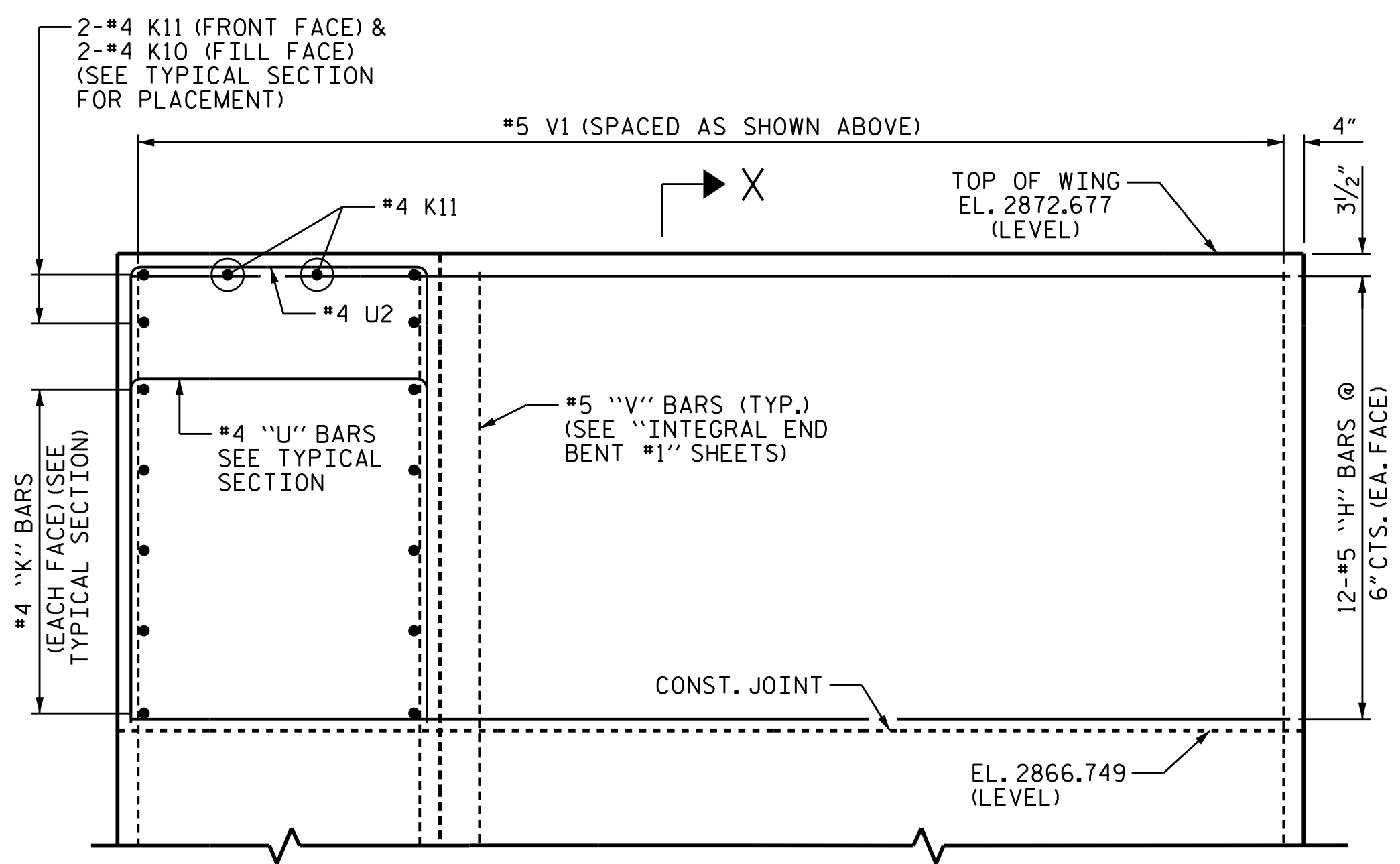
PLAN OF WING (W2)



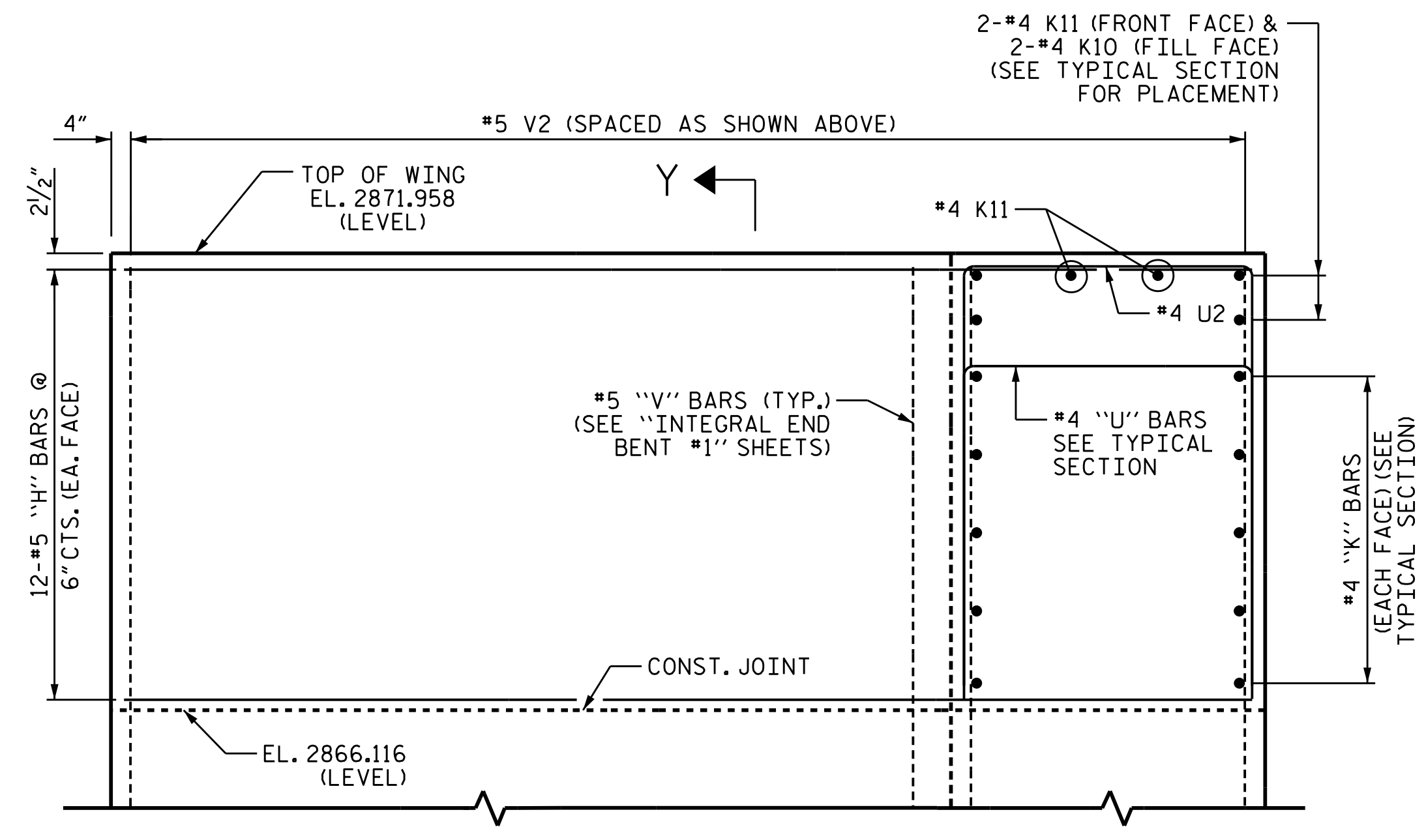
SECTION X-X



SECTION Y-Y



ELEVATION OF WING (W1)



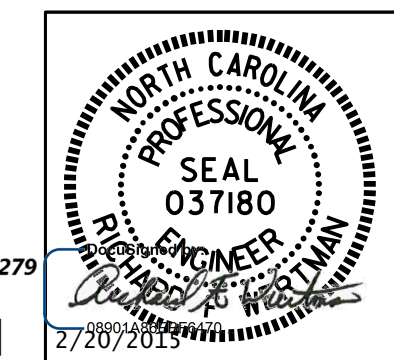
ELEVATION OF WING (W2)

PROJECT NO. R-2915B
 ASHE COUNTY
 STATION: 242+67.42 -L-

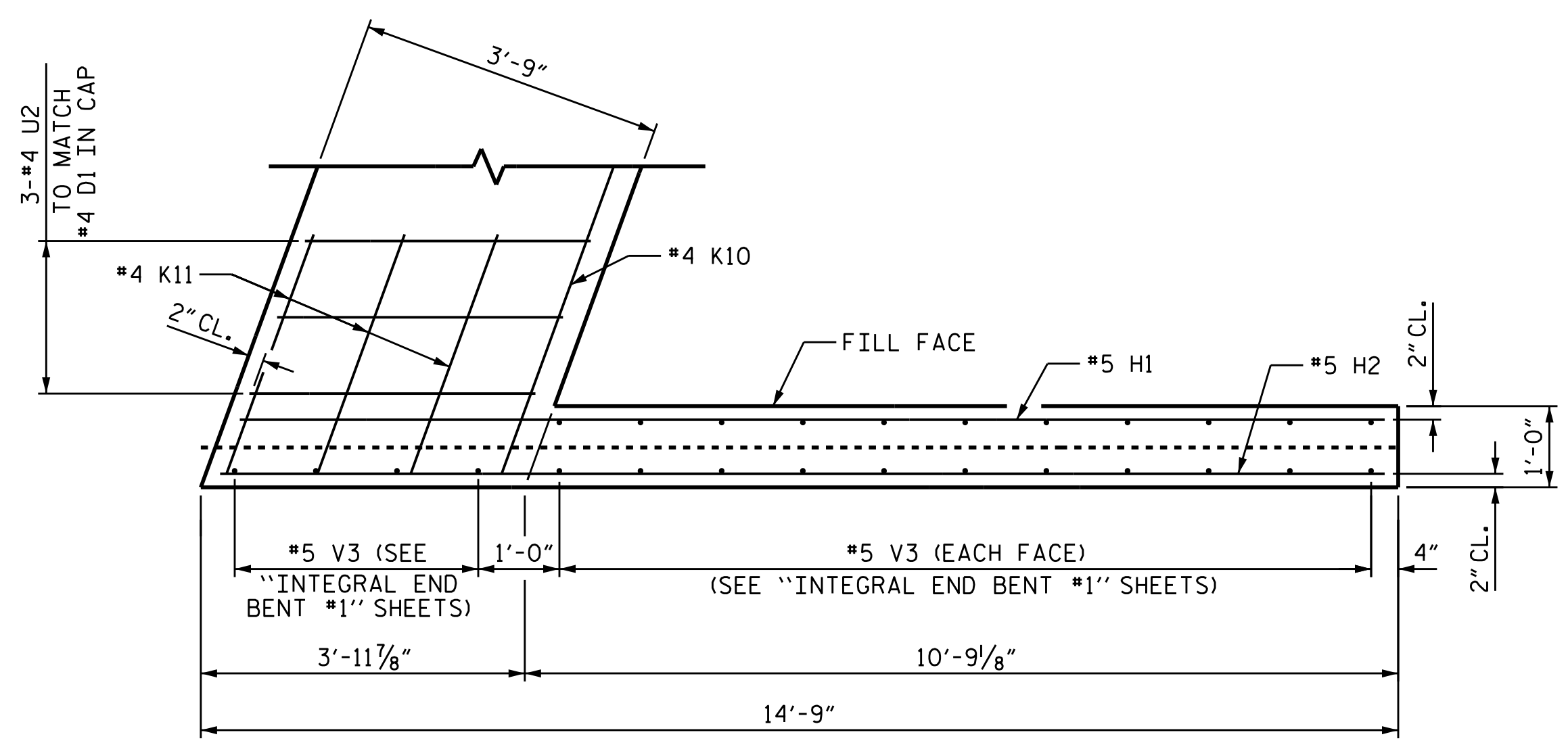
SHEET 4 OF 5
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 TOP OF WINGS
 @ END BENT #1
 NBL

DRAWN BY : T.J. KIRSCHBAUM DATE : 10/08/14
 CHECKED BY : E.E. DEETSREEK DATE : 11/10/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 11/13/14

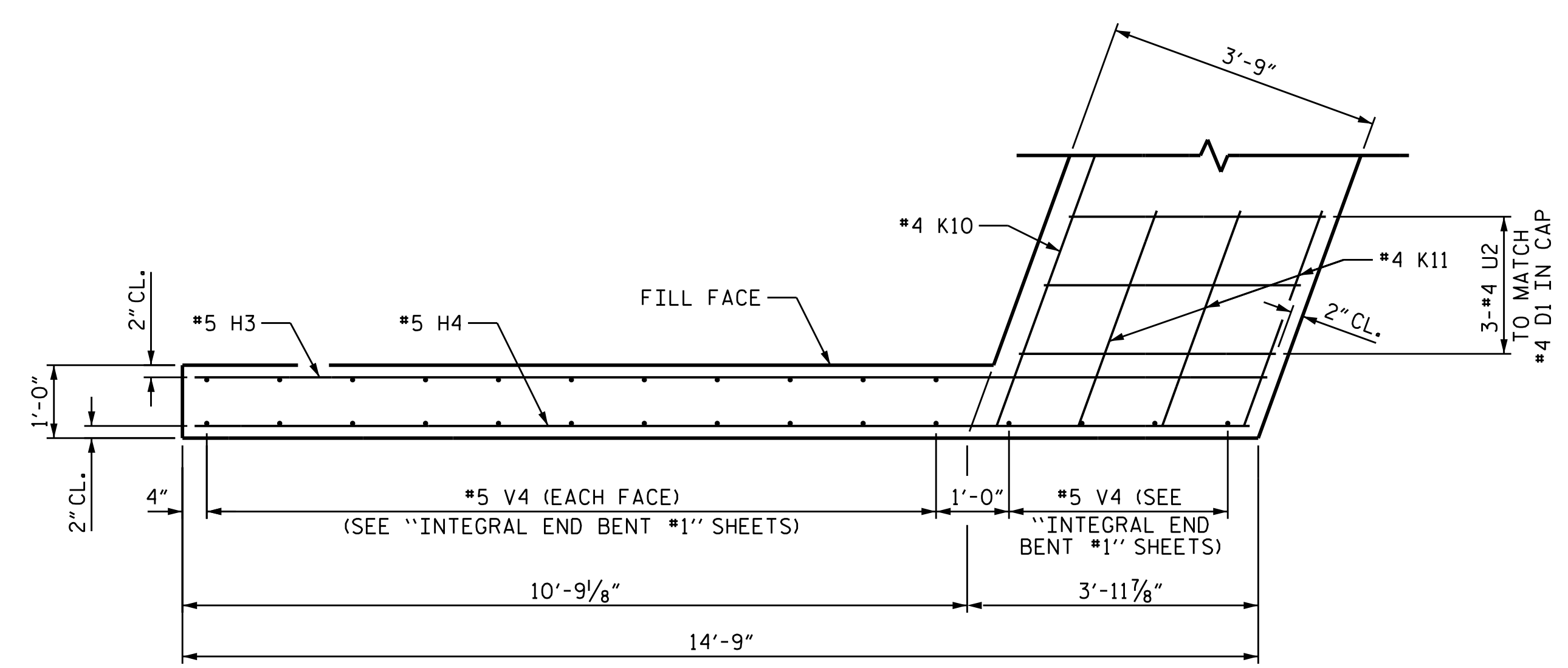
PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised
 1121 Situs Court
 Suite 170
 Raleigh, NC 27606-4279
 (919) 859-4880
 N.C. Lic. No. F-0270



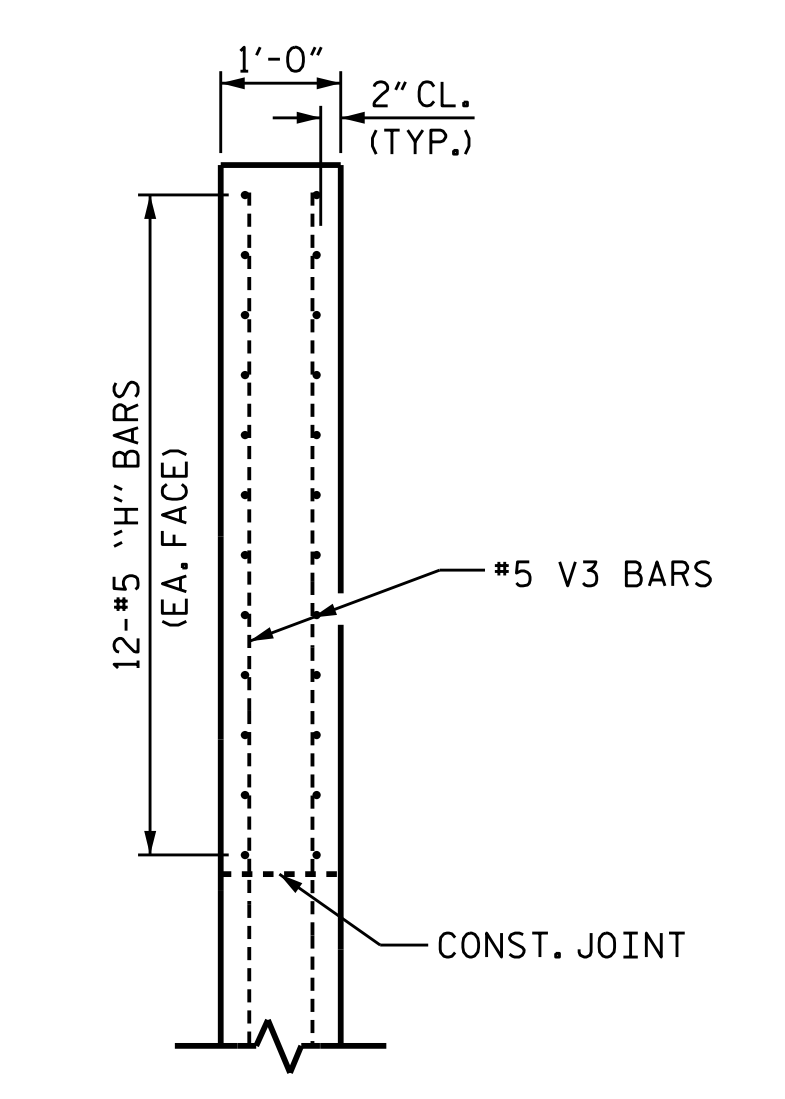
REVISIONS						SHEET NO. S05-10
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 35
2			4			



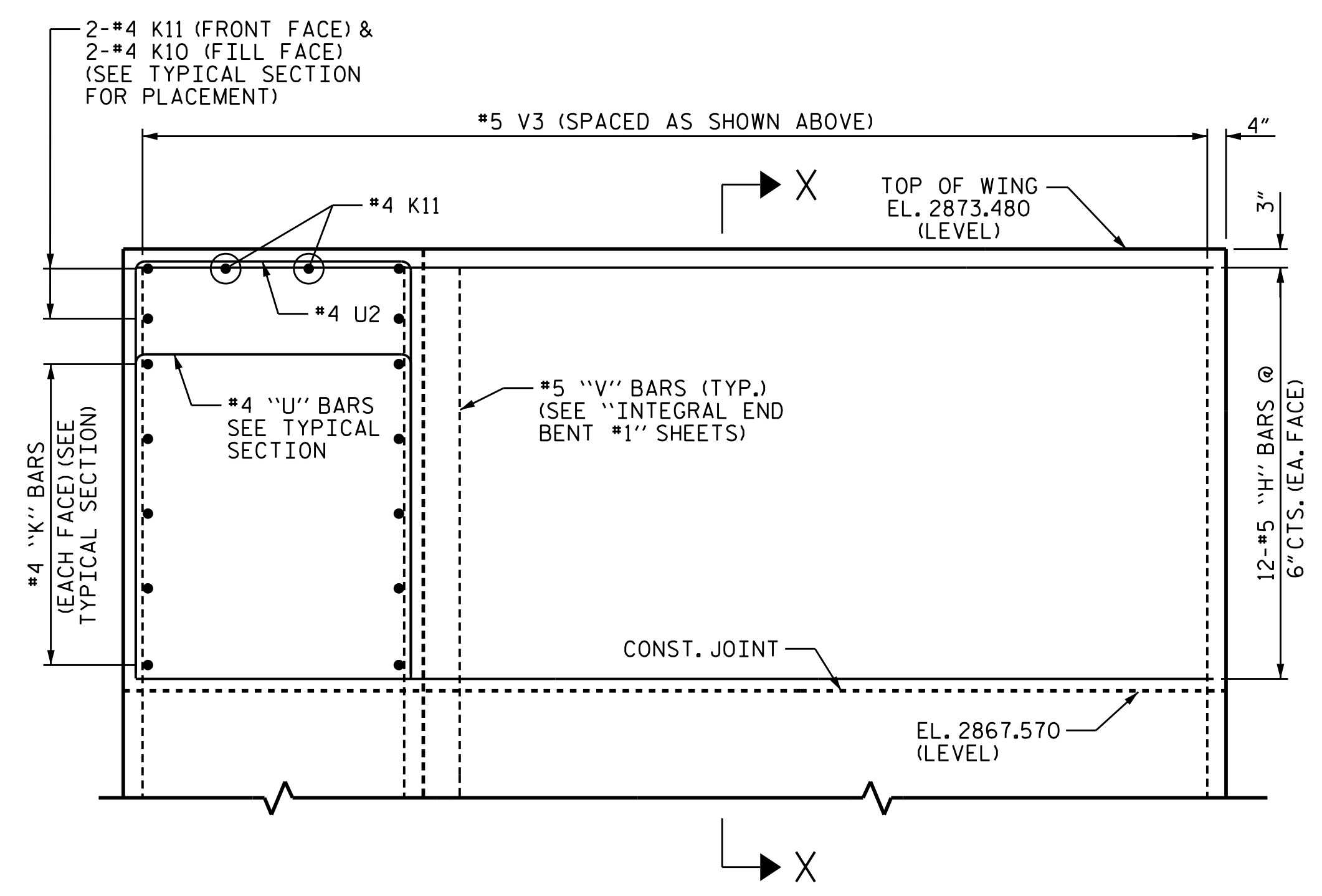
PLAN OF WING (W3)



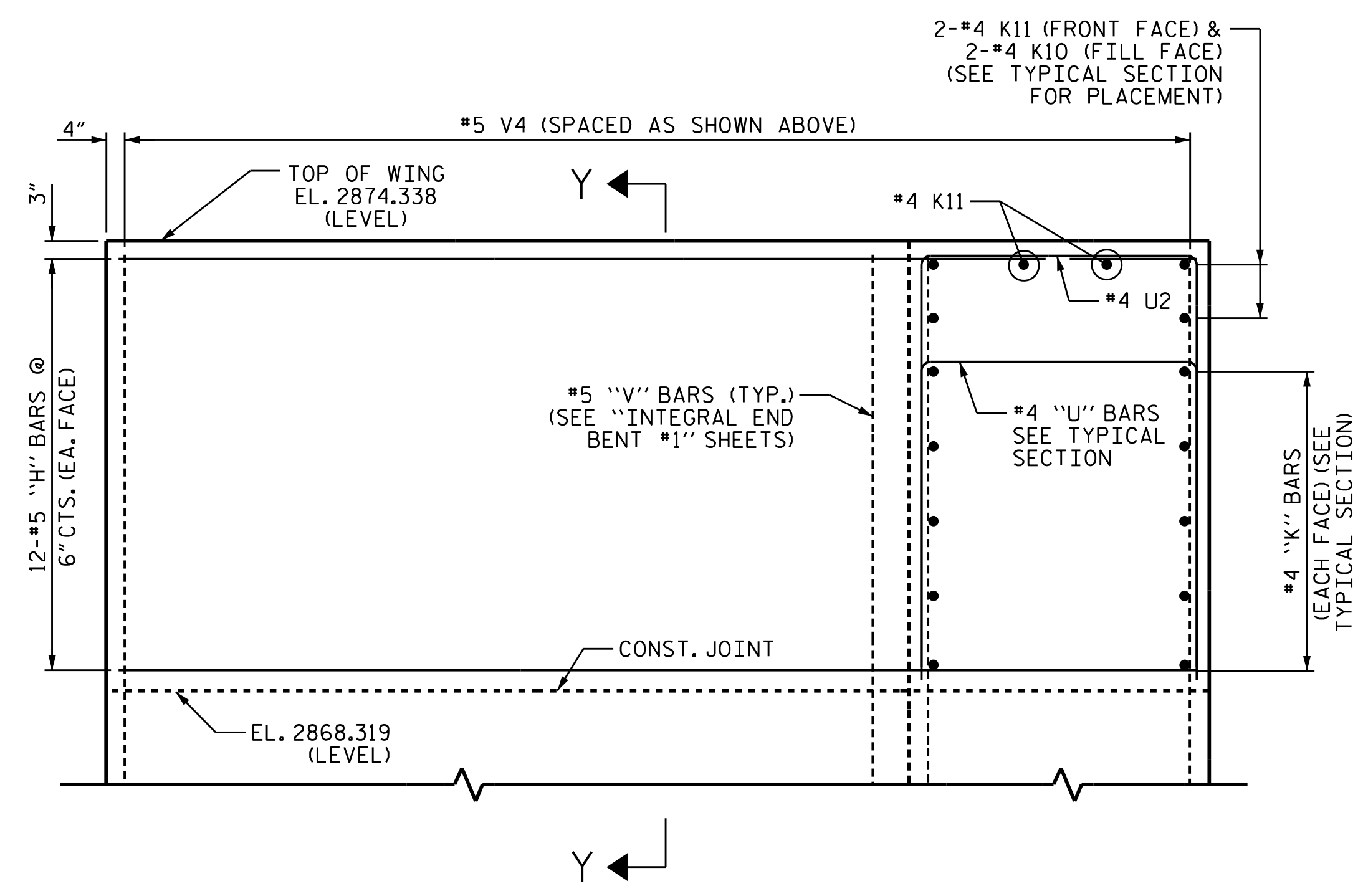
PLAN OF WING (W4)



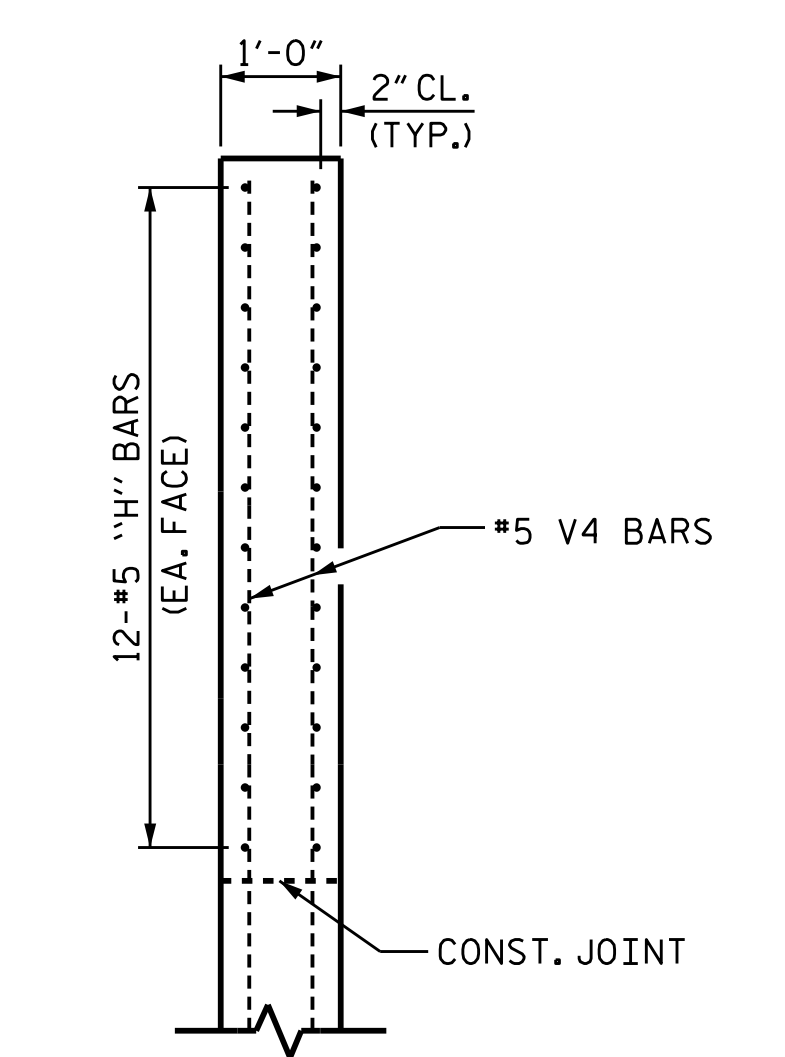
SECTION X-X



ELEVATION OF WING (W3)



ELEVATION OF WING (W4)



SECTION Y-Y

PROJECT NO. R-2915B
 ASHE COUNTY
 STATION: 242+67.42 -L-

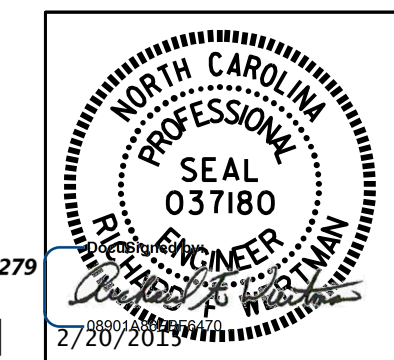
SHEET 5 OF 5

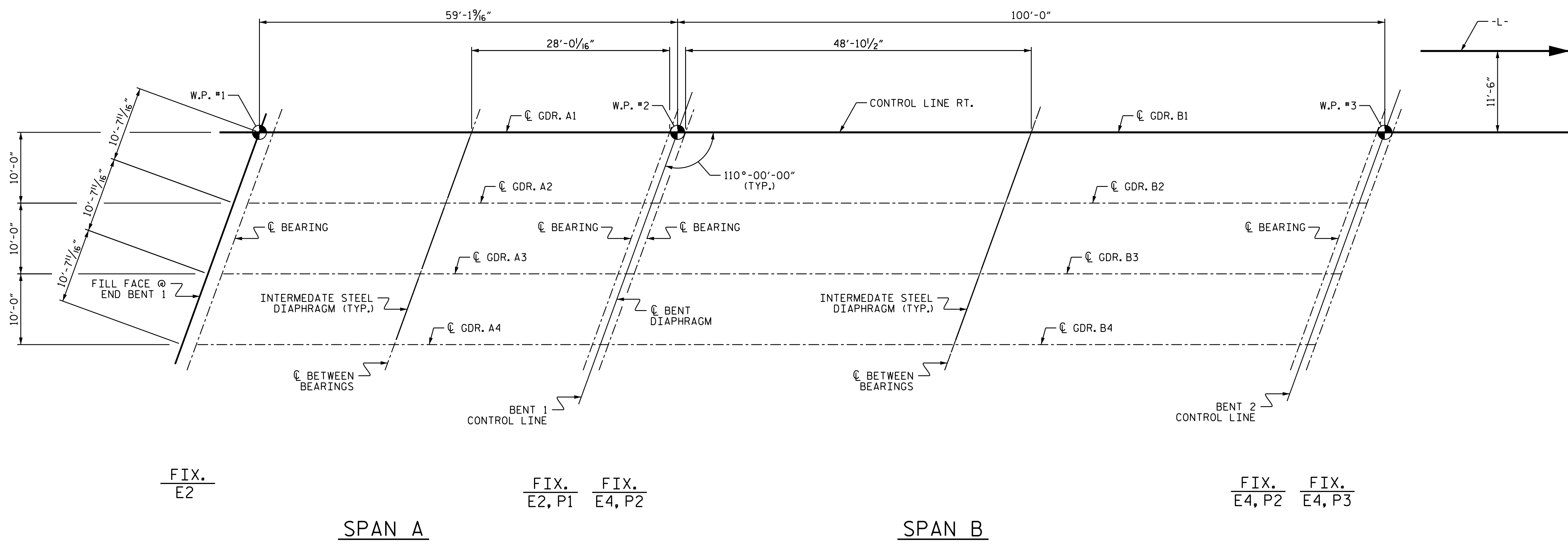
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 TOP OF WINGS
 @ END BENT #2
 NBL

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-11	
1			3			TOTAL SHEETS	
2			4			35	

DRAWN BY : T.J. KIRSCHBAUM DATE : 10/13/14
 CHECKED BY : E.E. DEETSCHRECK DATE : 11/10/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 11/13/14

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised
 1121 Situs Court
 Suite 170
 Raleigh, NC 27606-4279
 (919) 859-4880
 N.C. Lic. No. F-0270





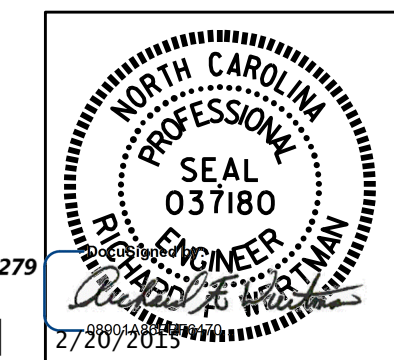
FRAMING PLAN

PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-

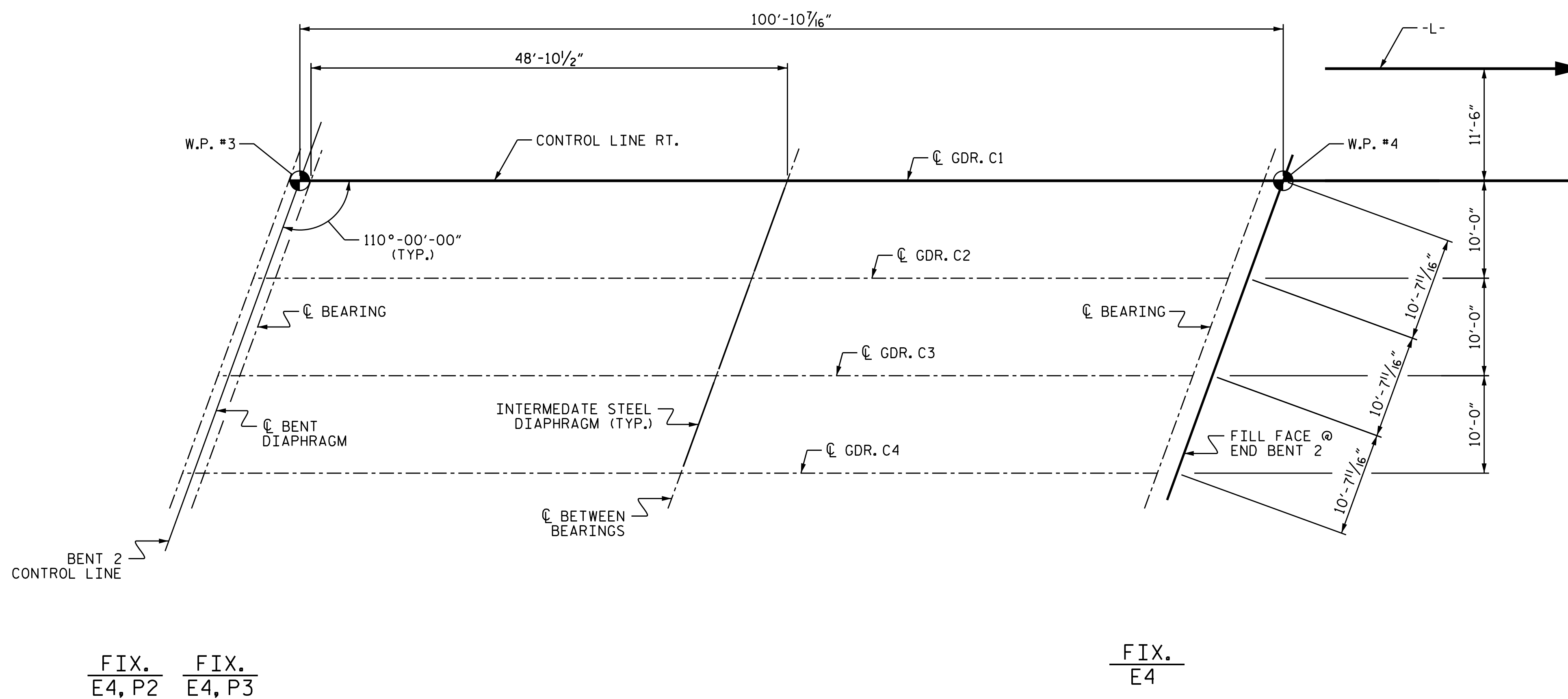
SHEET 1 OF 2
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 FRAMING PLAN
 NBL

DRAWN BY : T.J. KIRSCHBAUM DATE : 4/28/14
 CHECKED BY : R.F. WERTMAN DATE : 8/19/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 10/3/14

PLANS PREPARED BY:
Gannett Fleming
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 (919) 859-4880
 N.C. Lic. No. F-0270



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-12
1			3			TOTAL SHEETS
2			4			35



SPAN C
FRAMING PLAN

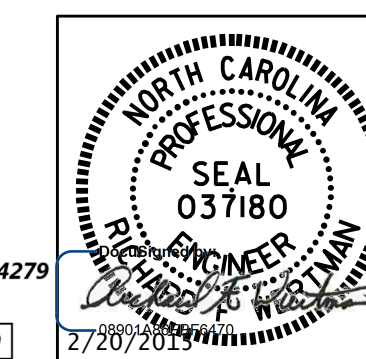
PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-

SHEET 2 OF 2

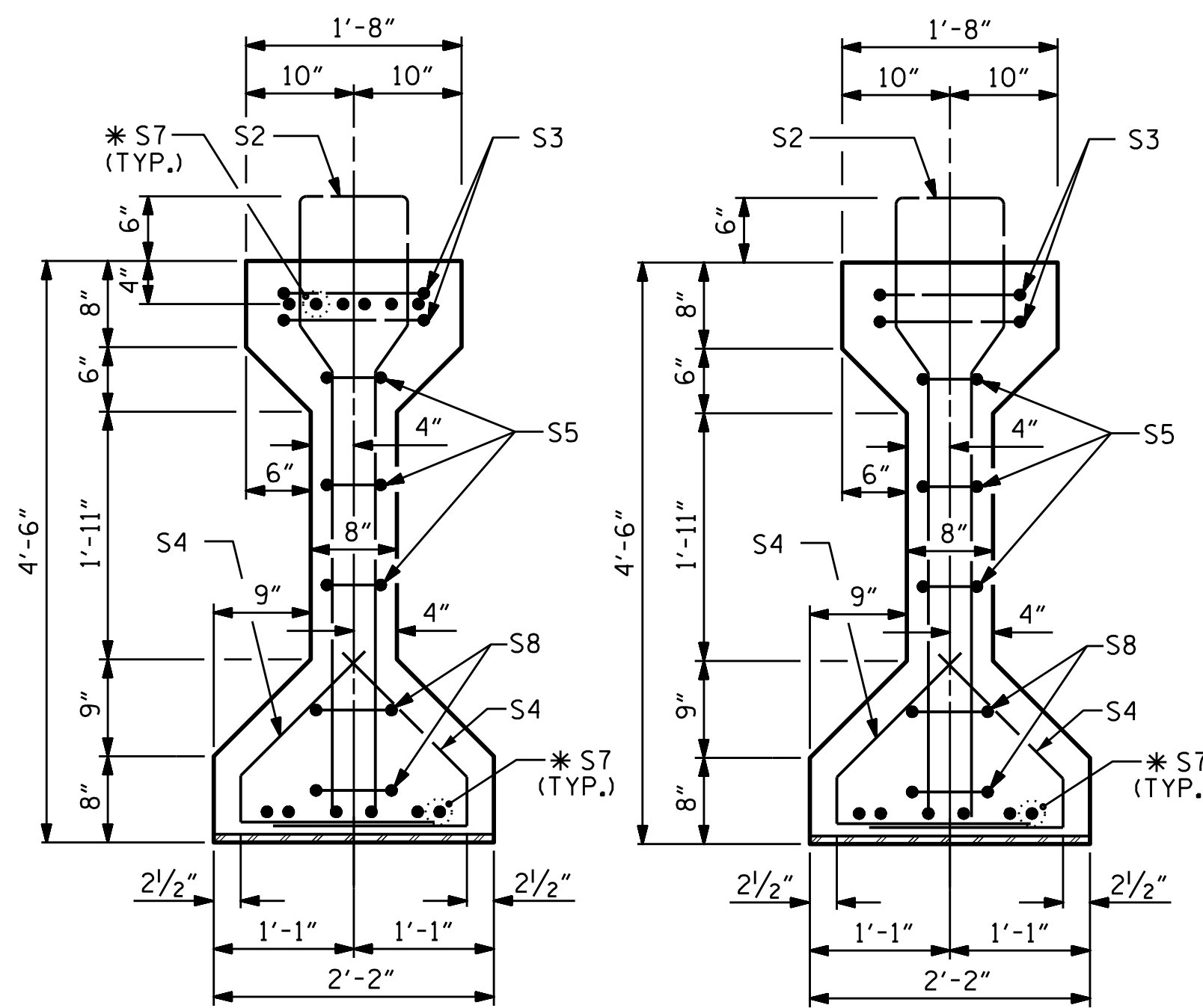
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 FRAMING PLAN
 NBL

DRAWN BY : T.J. KIRSCHBAUM DATE : 4/28/14
 CHECKED BY : R.F. WERTMAN DATE : 8/19/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 10/3/14

PLANS PREPARED BY:
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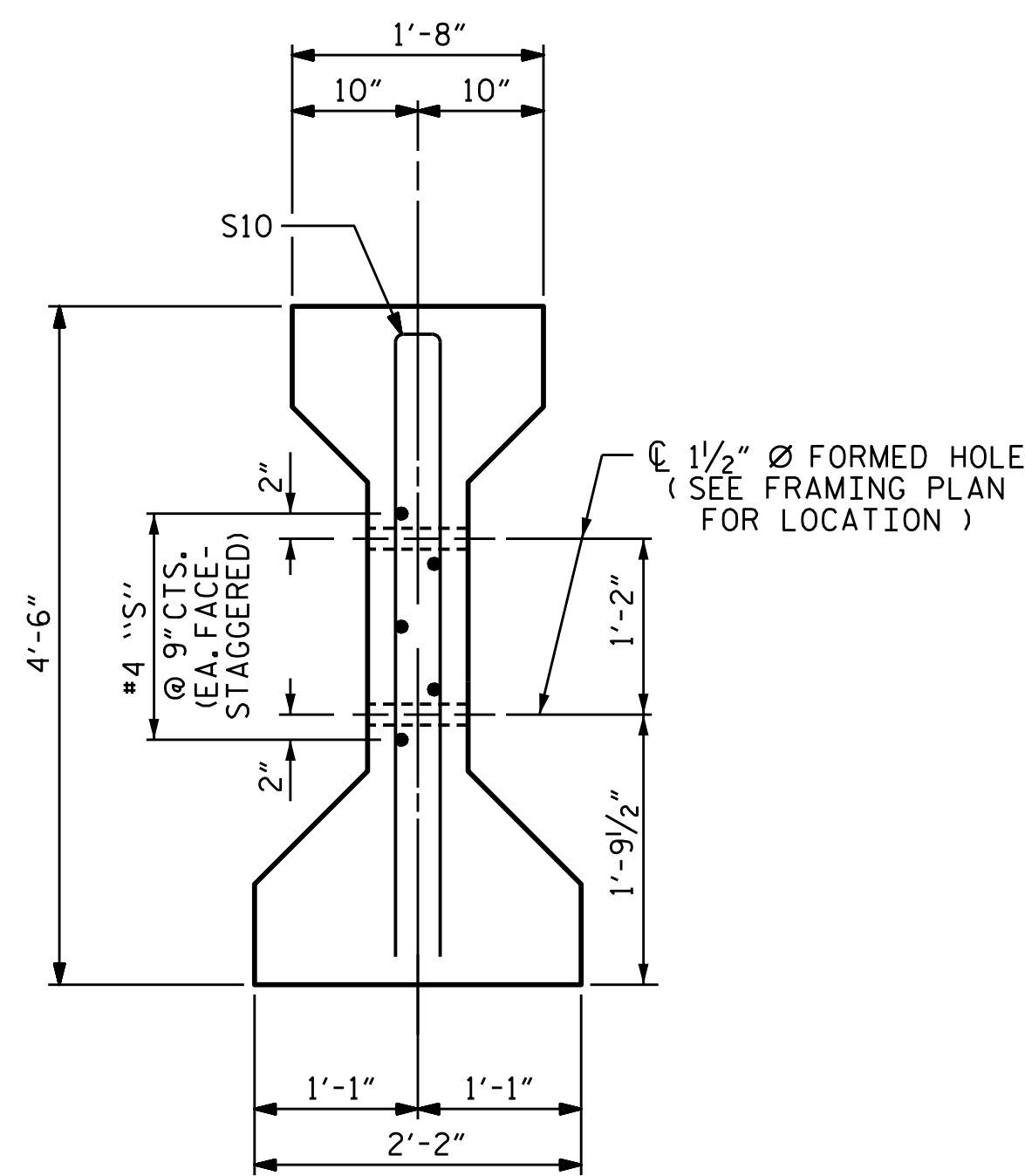


REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-13
1			3			TOTAL SHEETS
2			4			35

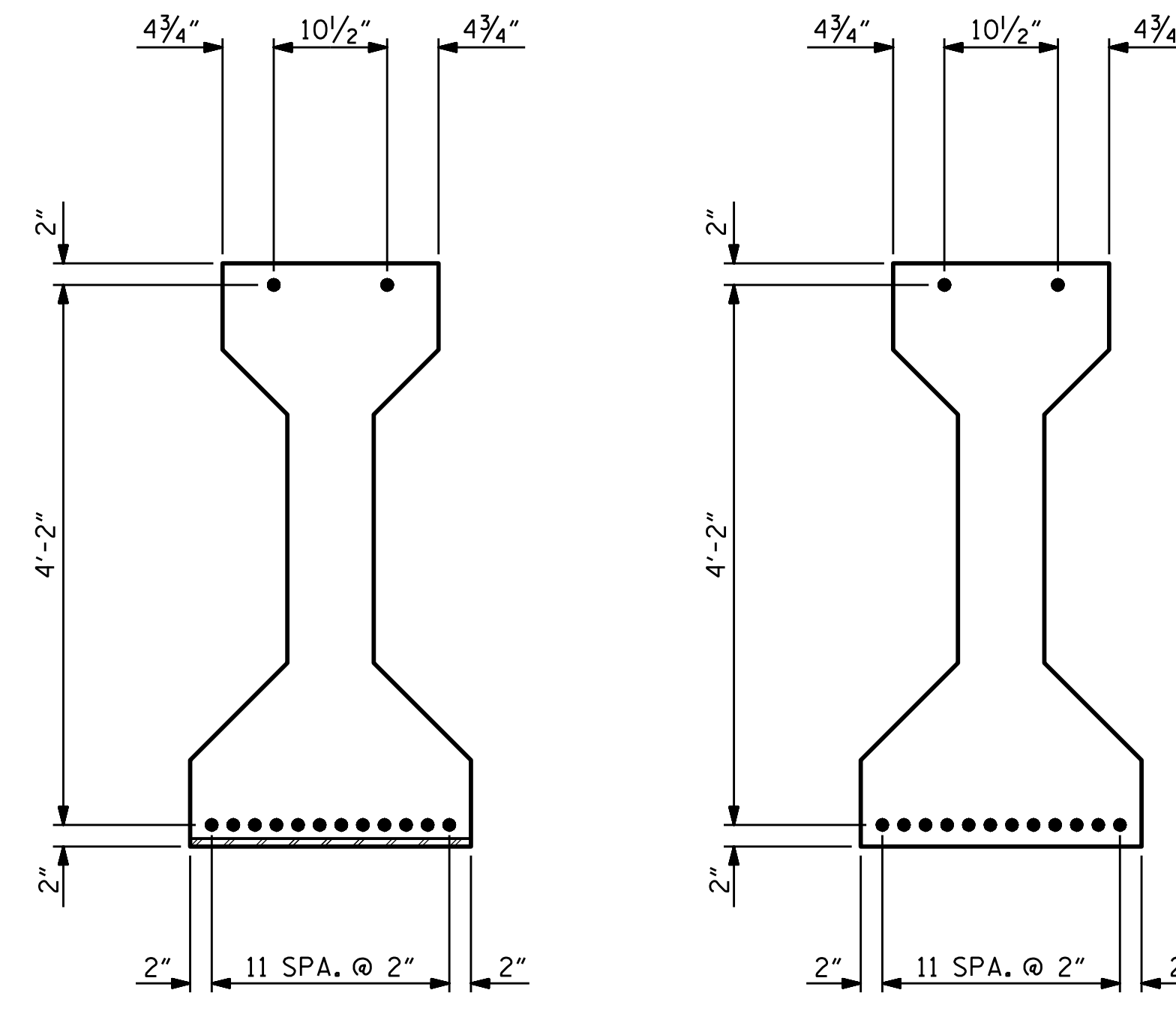


SECTION A-A

SECTION B-B



SECTION C-C
(S1 BARS NOT SHOWN)

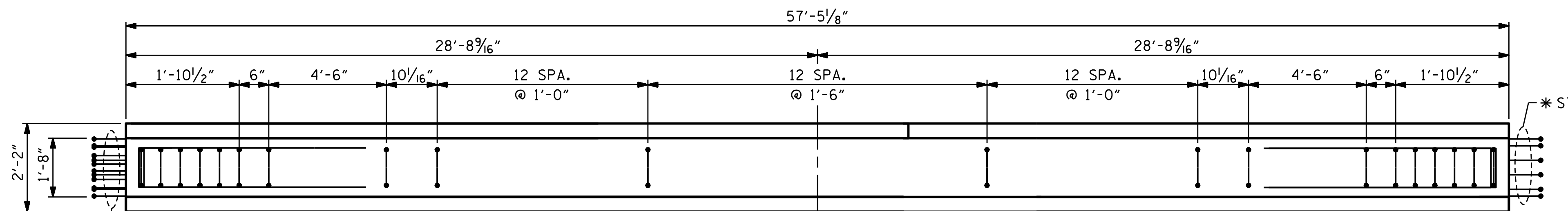


AT END OF GIRDER

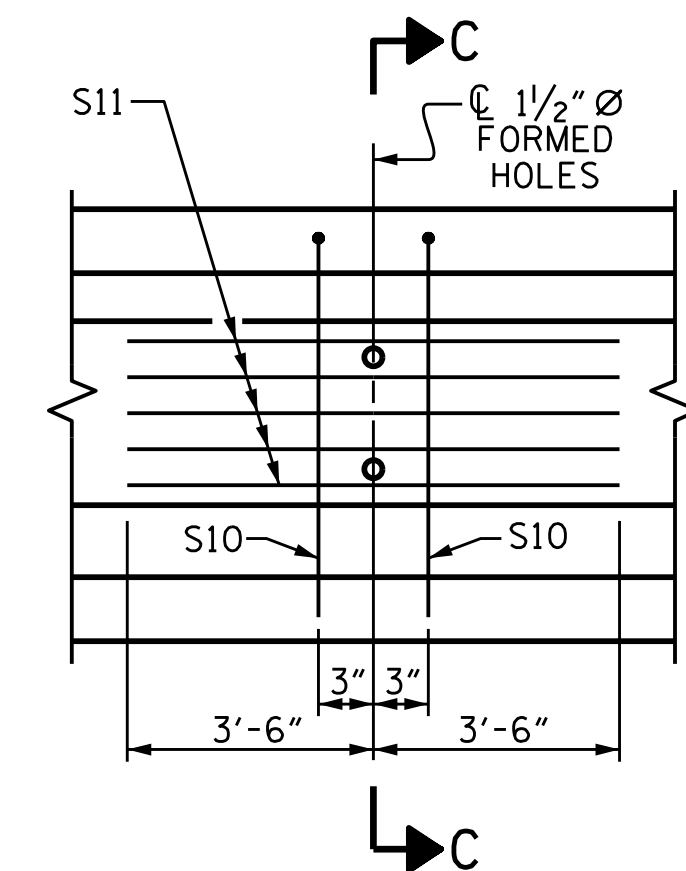
AT C OF GIRDER

0.6" Ø LOW RELAXATION STRAND LAYOUT

* FOR S7 BARS, SEE
DETAIL "A" OF
PRESTRESSED
CONCRETE GIRDER
CONTINUOUS FOR LIVE
LOAD DETAILS SHEET

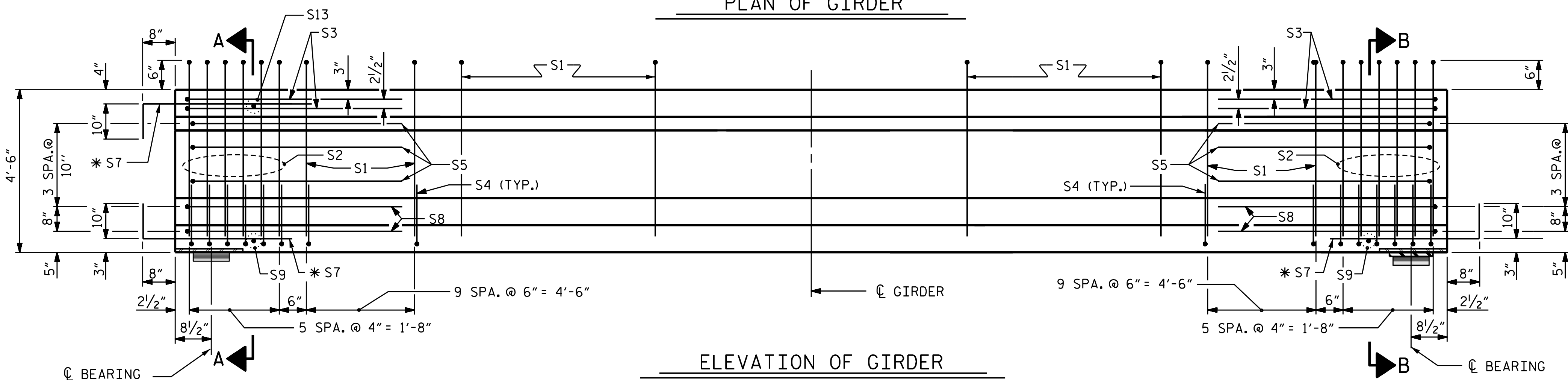


PLAN OF GIRDER



PARTIAL ELEVATION

SHOWING INTERMEDIATE DIAPHRAGM
REINFORCING STEEL FOR ALL GIRDERS



ELEVATION OF GIRDER

(SEE PARTIAL ELEVATION FOR ADDITIONAL "S" BARS)

0.6" Ø L. R. GRADE 270 STRANDS

AREA (SQUARE INCHES)	ULTIMATE STRENGTH (LBS. PER STRAND)	APPLIED PRESTRESS (LBS. PER STRAND)
0.217	58,600	43,950

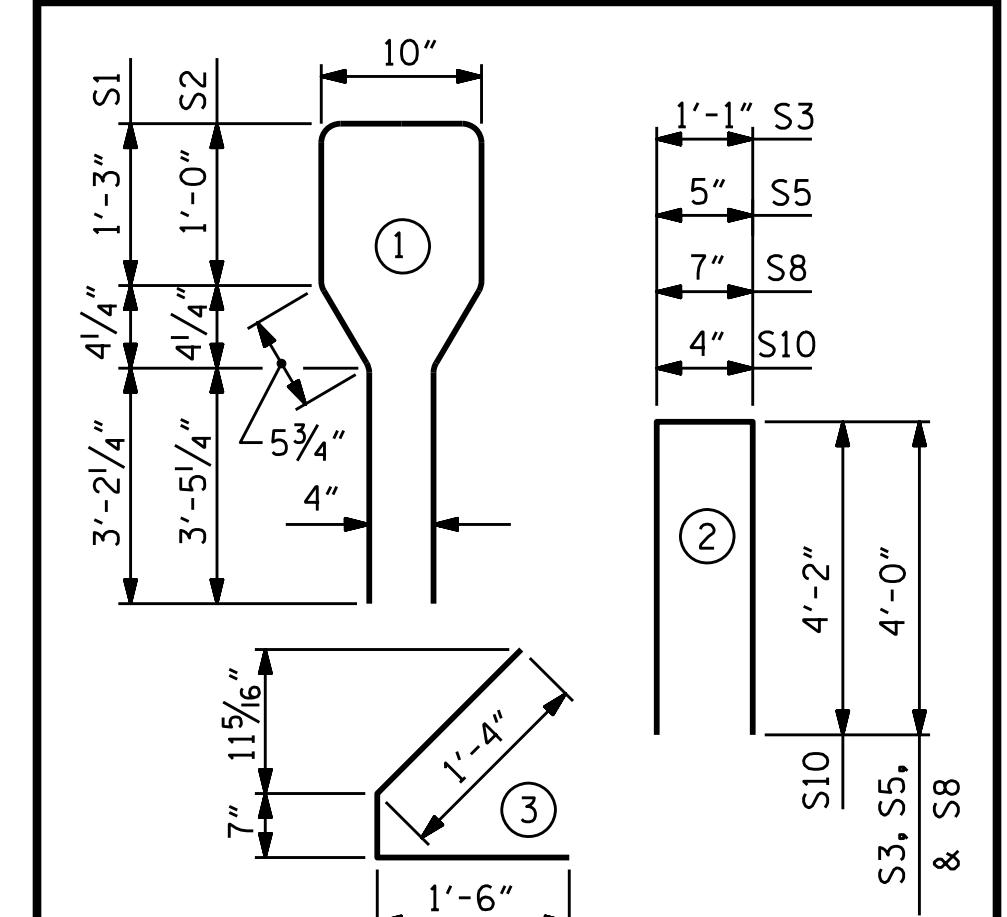
REINFORCING STEEL FOR ONE GIRDER

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
S1	57	#4	1	10'-8"	406
S2	12	#6	1	10'-8"	192
S3	4	#4	2	9'-1"	24
S4	64	#4	3	3'-5"	146
S5	6	#4	2	8'-5"	34
* S7	18	#5	STR	3'-8"	69
S8	4	#4	2	8'-7"	23
S9	2	#3	STR	1'-10"	1
S10	2	#5	2	8'-8"	18
S11	5	#4	STR	7'-0"	23
S13	1	#3	STR	1'-4"	1

* NOTE: S7 BARS SHALL BE BENT BEFORE SHIPMENT. HEAT BENDING SHALL NOT BE ALLOWED.

BAR TYPES

ALL BAR DIMENSIONS ARE OUT-TO-OUT



QUANTITIES FOR ONE GIRDER

	REINFORCING STEEL	8000 PSI CONCRETE	0.6" Ø L. R. STRANDS
	LB.	C.Y.	No.
EXTERIOR GIRDER	937	11.7	14
INTERIOR GIRDER	937	11.7	14

GIRDERS REQUIRED

NUMBER	LENGTH	TOTAL LENGTH
4	57'-5 1/8"	229'-8 1/2"

PROJECT NO. R-2915B
ASHE COUNTY
STATION: 242+67.42 -L-

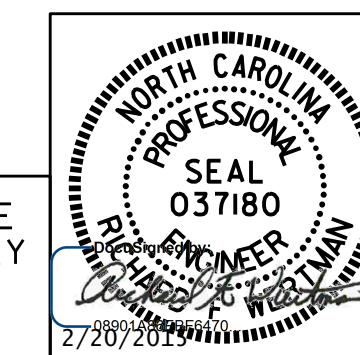
SHEET 1 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
AASHTO TYPE IV
PRESTRESSED CONCRETE GIRDER
CONTINUOUS FOR LIVE LOAD
SPANS A
NBL

ASSEMBLED BY : T.J. KIRSCHBAUM	DATE : 4/26/14
CHECKED BY : R.F. WERTMAN	DATE : 8/22/14
DRAWN BY : ELR 8/91	REV. 10/17/00R RWW/LES
CHECKED BY : GRP 8/91	REV. 5/1/06R TLA/GM
	REV. 10/1/11 MAA/GM

PLANS PREPARED BY:
Gannett Fleming
Excellence Delivered As Promised
1121 Situs Court
Suite 170
Raleigh NC 27606-4279
(919) 859-4880
NC Lic. No. F-0270

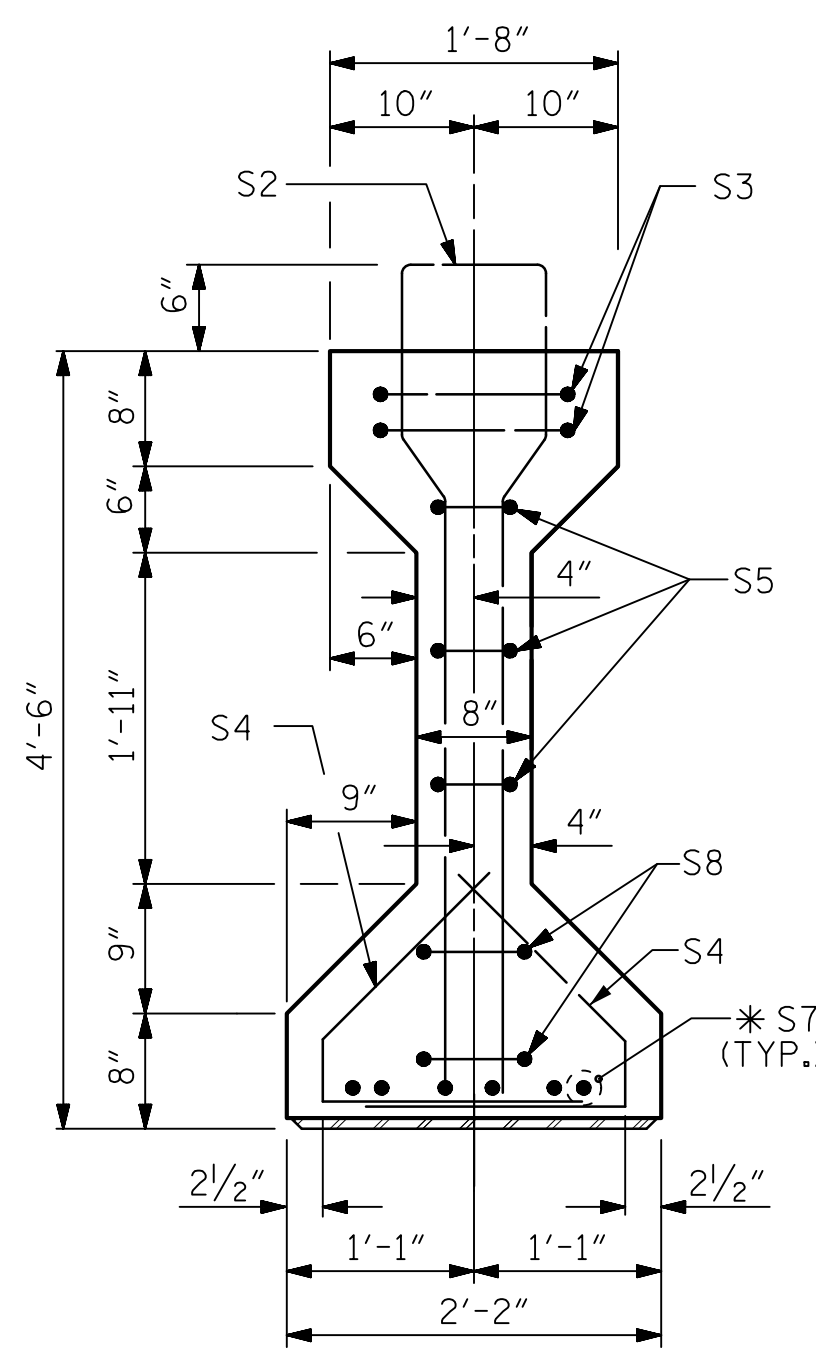
THESE PLANS HAVE BEEN PROPERLY EXAMINED BY THE UNDERSIGNED. I HAVE DETERMINED THAT THEY COMPLY WITH EXISTING NORTH CAROLINA CODES, AND HAVE BEEN PROPERLY ADAPTED FOR USE IN THIS AREA.



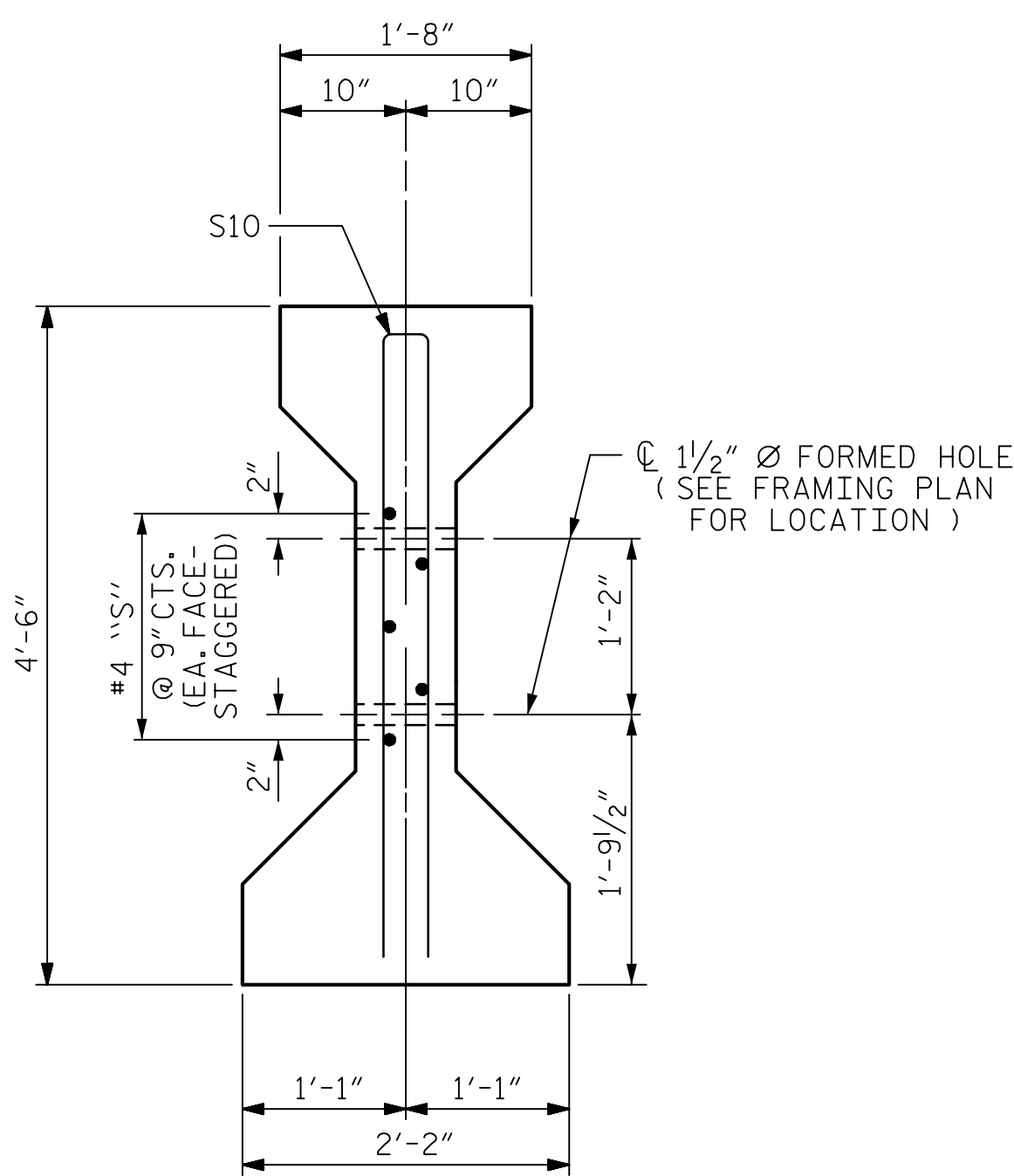
REVISIONS						SHEET NO. S05-14
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 35
2			4			

STR. NO. 5

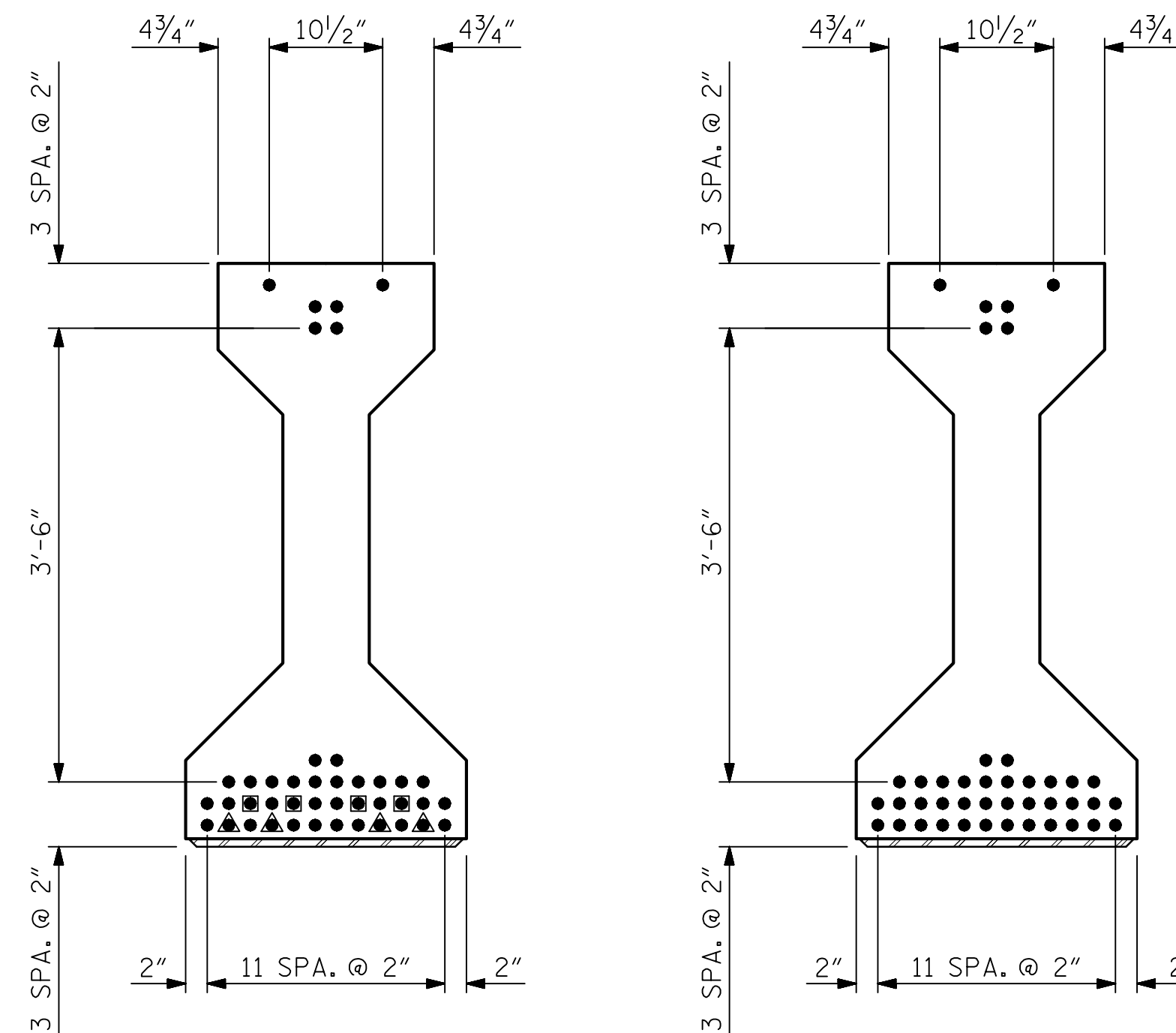
STD. NO. PCG6



SECTION B-B



SECTION C-C
(S1 BARS NOT SHOWN)



AT END OF GIRDER

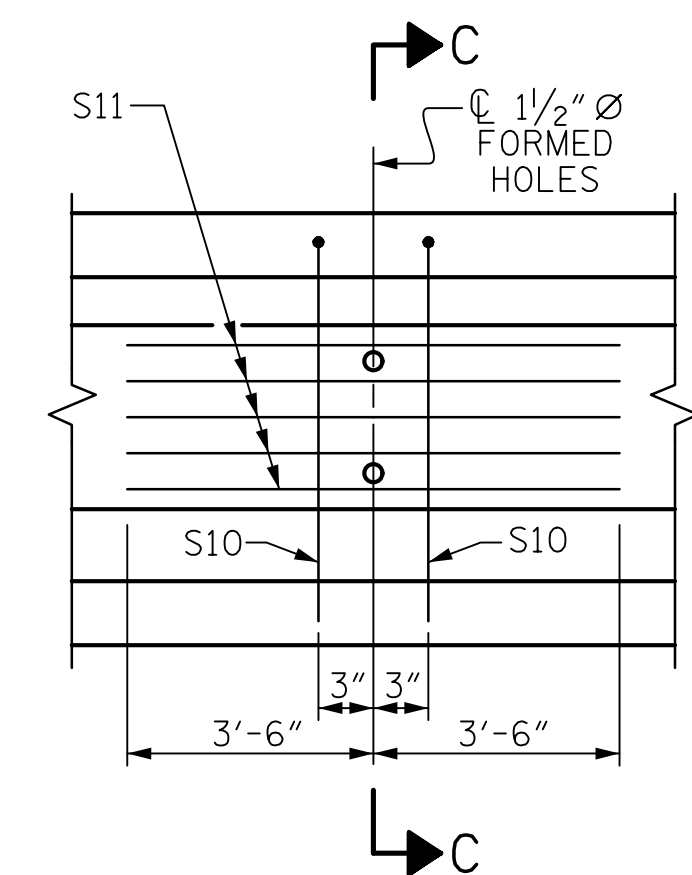
AT C OF GIRDER

0.6" Ø LOW RELAXATION STRAND LAYOUT

DEBONDING LEGEND

- FULLY BONDED STRANDS
- STRANDS DEBONDED FOR 6'-0" FROM ENDS OF GIRDER
- ▲ STRANDS DEBONDED FOR 12'-0" FROM ENDS OF GIRDER

* FOR S7 BARS, SEE DETAIL "A" OF PRESTRESSED CONCRETE GIRDER CONTINUOUS FOR LIVE LOAD DETAILS SHEET



PARTIAL ELEVATION

SHOWING INTERMEDIATE DIAPHRAGM REINFORCING STEEL FOR ALL GIRDERS

0.6" Ø L. R. GRADE 270 STRANDS

AREA (SQUARE INCHES)	ULTIMATE STRENGTH (LBS. PER STRAND)	APPLIED PRESTRESS (LBS. PER STRAND)
0.217	58,600	43,950

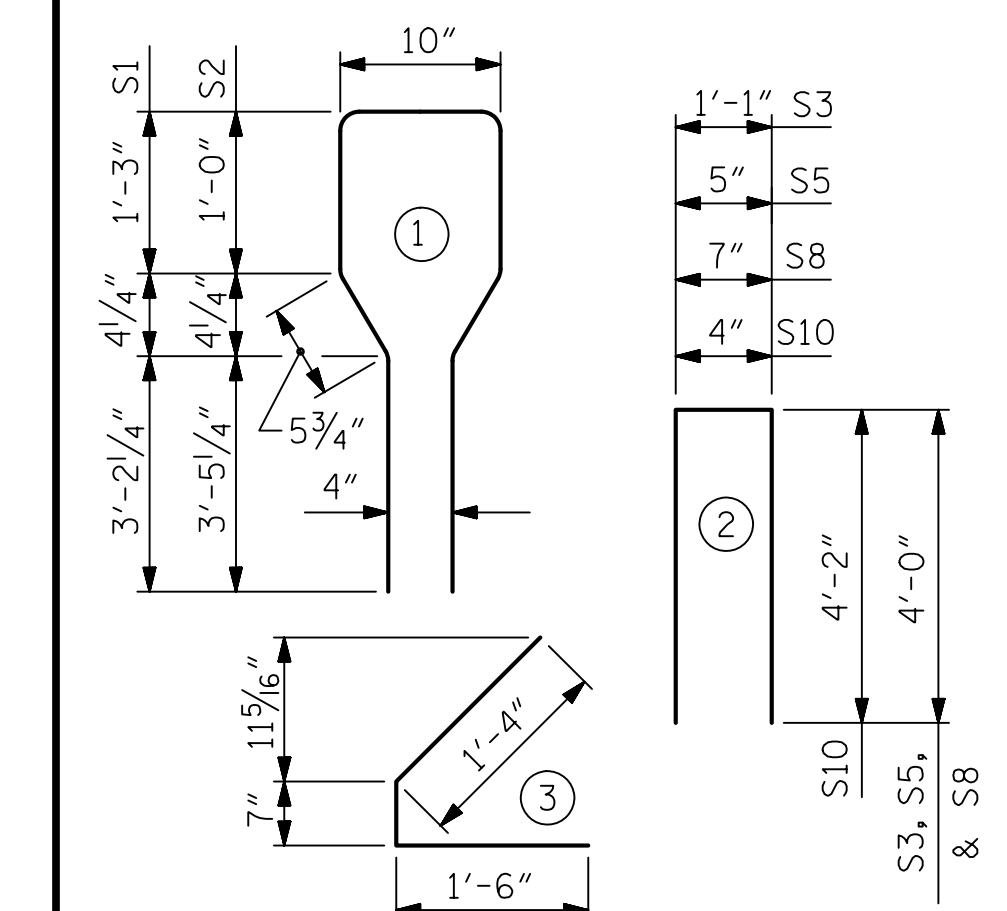
REINFORCING STEEL FOR ONE GIRDER

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
S1	89	#4	1	10'-8"	634
S2	20	#6	1	10'-8"	320
S3	4	#4	2	9'-1"	24
S4	64	#4	3	3'-5"	146
S5	6	#4	2	8'-5"	34
*S7	12	#5	STR	3'-8"	46
S8	4	#4	2	8'-7"	23
S9	2	#3	STR	1'-10"	1
S10	2	#5	2	8'-8"	18
S11	5	#4	STR	7'-0"	23

* NOTE: S7 BARS SHALL BE BENT BEFORE SHIPMENT. HEAT BENDING SHALL NOT BE ALLOWED.

BAR TYPES

ALL BAR DIMENSIONS ARE OUT-TO-OUT

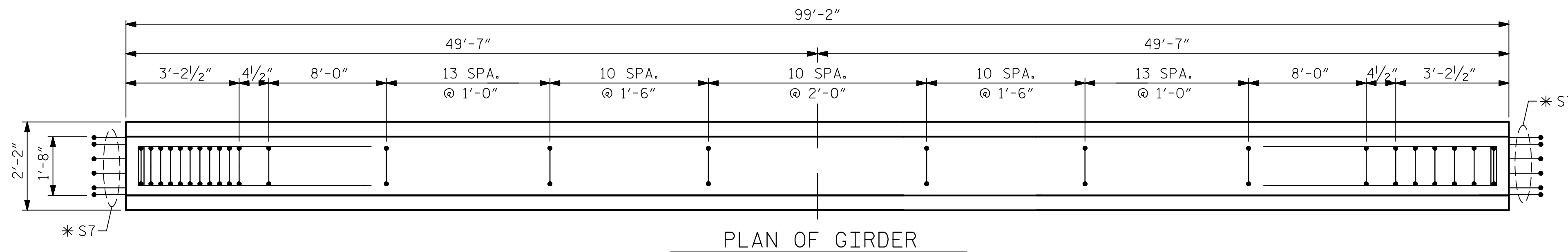


QUANTITIES FOR ONE GIRDER

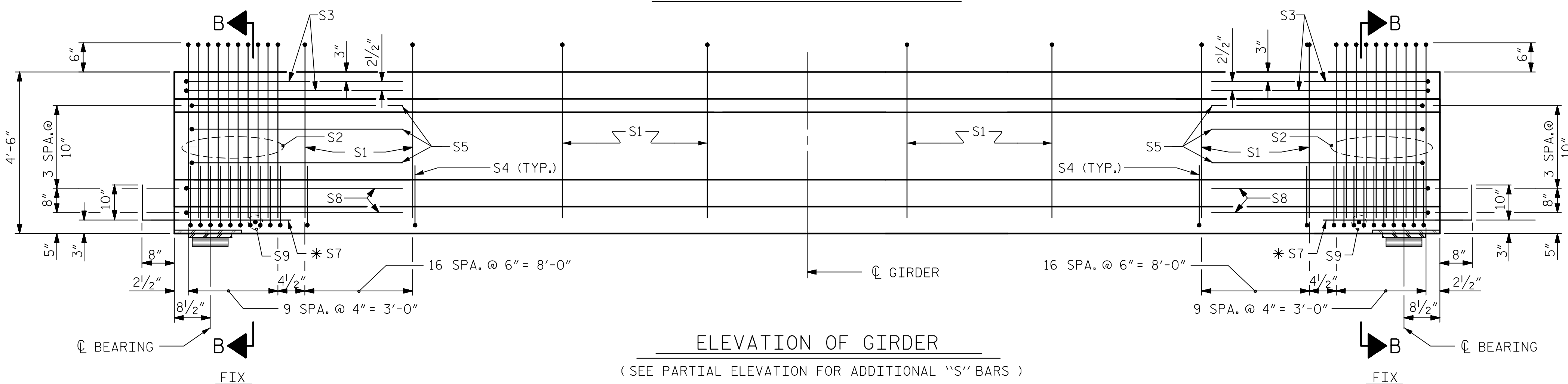
	REINFORCING STEEL LB.	8000 PSI CONCRETE C.Y.	0.6" Ø L. R. STRANDS No.
EXTERIOR GIRDER	1269	20.1	42
INTERIOR GIRDER	1269	20.1	42

GIRDERS REQUIRED

NUMBER	LENGTH	TOTAL LENGTH
4	99'-2"	396'-8"



PLAN OF GIRDER



ELEVATION OF GIRDER

(SEE PARTIAL ELEVATION FOR ADDITIONAL "S" BARS)

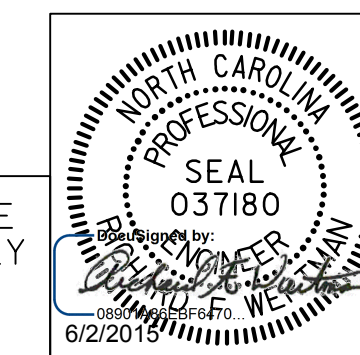
ASSEMBLED BY : T.J. KIRSCHBAUM	DATE : 4/26/14
CHECKED BY : R.F. WERTMAN	DATE : 8/22/14
DRAWN BY : ELR 8/91	REV. 10/17/00R RWW/LES
CHECKED BY : GRP 8/91	REV. 5/1/06R TLA/GM
	REV. 10/1/11 MAA/GM

PLANS PREPARED BY:

Gannett Fleming
Excellence Delivered As Promised

1121 Sitis Court
Suite 170
Raleigh, NC 27606-4279
(919) 859-4880
NC Lic. No. F-0270

THESE PLANS HAVE BEEN PROPERLY EXAMINED BY THE UNDERSIGNED. I HAVE DETERMINED THAT THEY COMPLY WITH EXISTING NORTH CAROLINA CODES, AND HAVE BEEN PROPERLY ADAPTED FOR USE IN THIS AREA.



PROJECT NO. R-2915B
ASHE COUNTY
STATION: 242+67.42 -L-

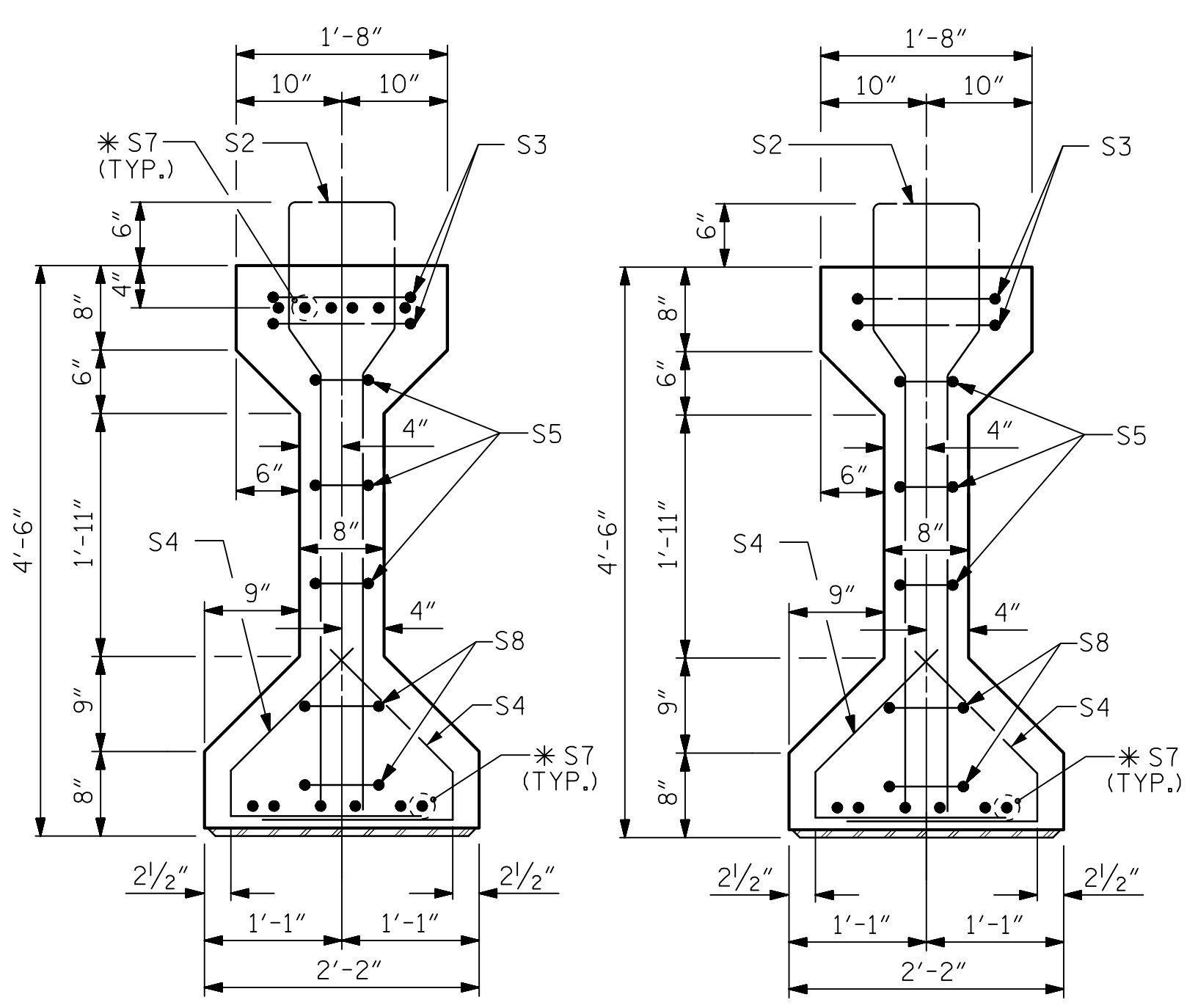
SHEET 2 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
AASHTO TYPE IV
PRESTRESSED CONCRETE GIRDER
CONTINUOUS FOR LIVE LOAD
SPAN B
NBL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-15
1			3			TOTAL SHEETS 35
2			4			

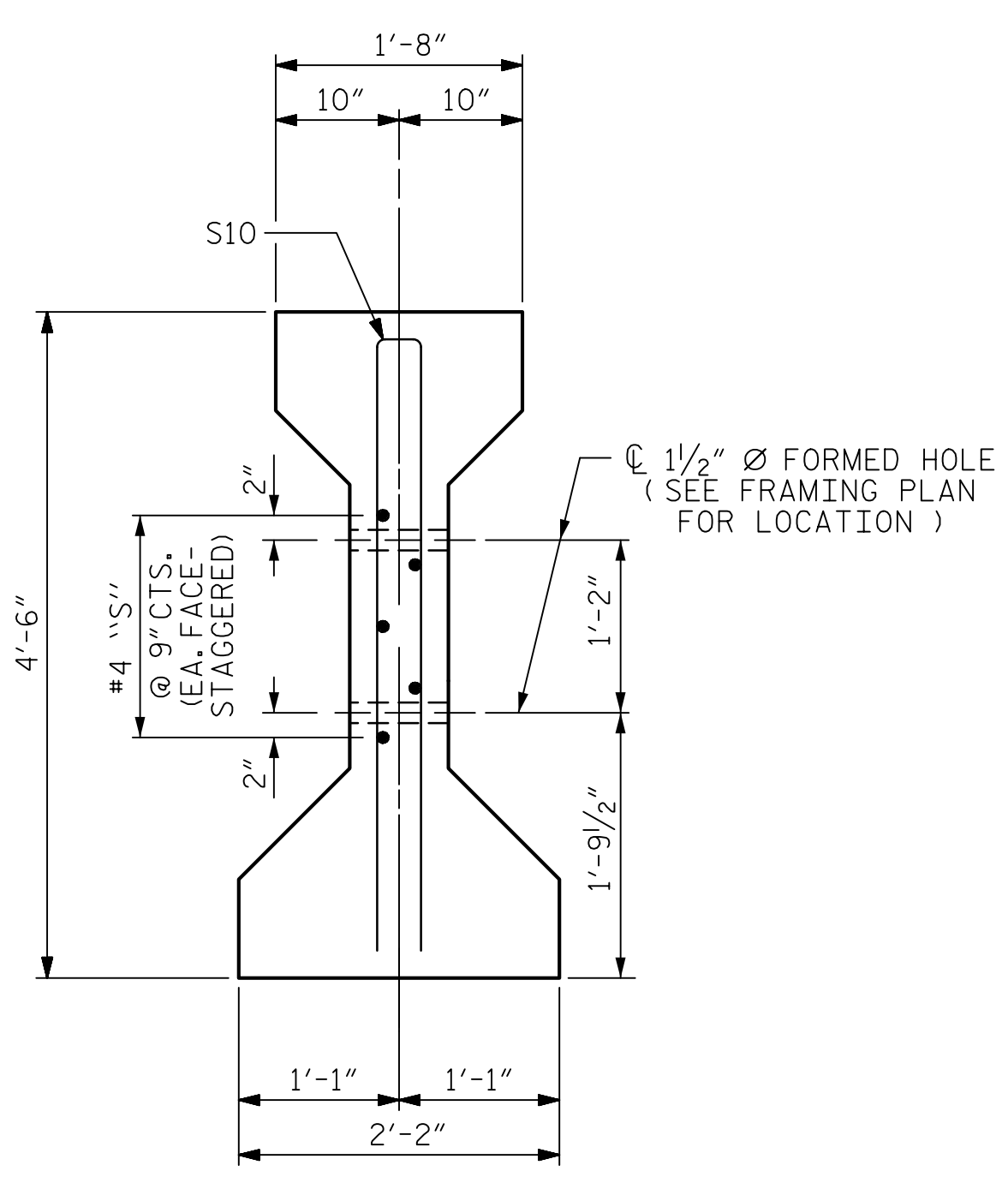
STR. NO. 5

STD. NO. PCG6



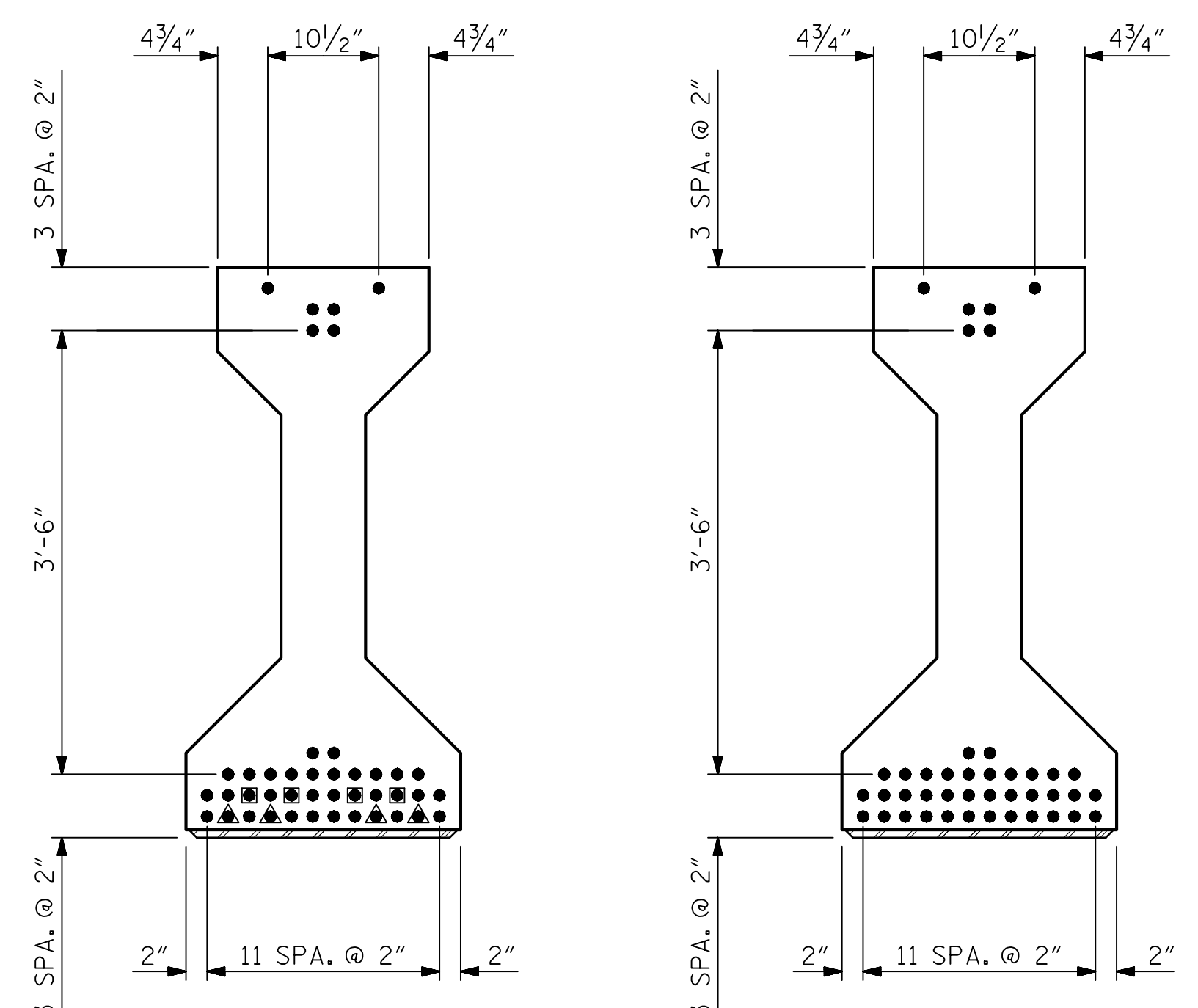
SECTION A-A

SECTION B-B



SECTION C-C

(S1 BARS NOT SHOWN)



AT END OF GIRDER

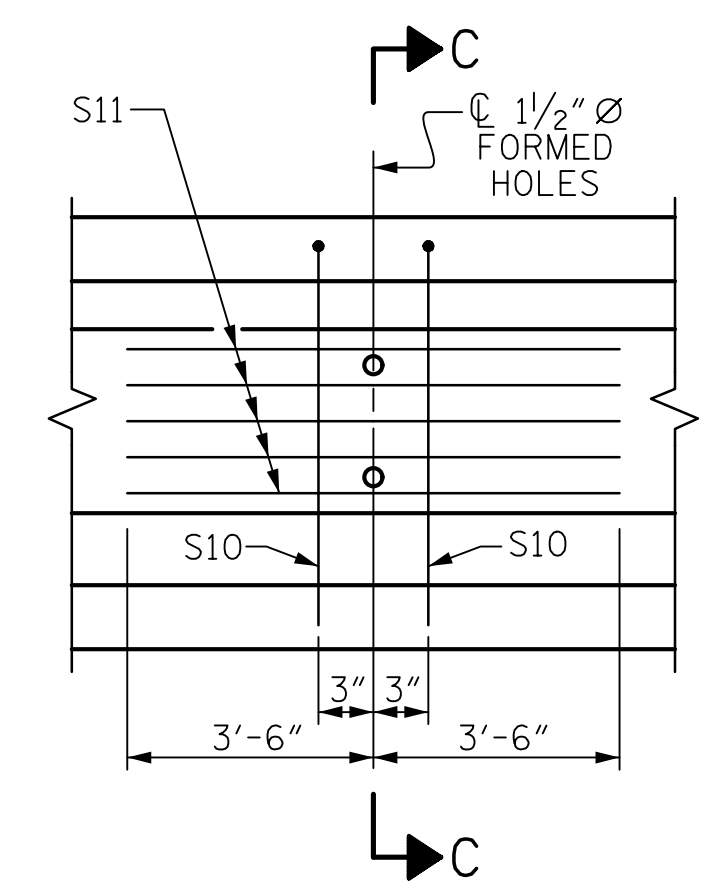
AT C OF GIRDER

0.6" Ø LOW RELAXATION STRAND LAYOUT

DEBONDING LEGEND

- FULLY BONDED STRANDS
- STRANDS DEBONDED FOR 6'-0" FROM ENDS OF GIRDER
- ▲ STRANDS DEBONDED FOR 12'-0" FROM ENDS OF GIRDER

* FOR S7 BARS, SEE DETAIL "A" OF PRESTRESSED CONCRETE GIRDER CONTINUOUS FOR LIVE LOAD DETAILS SHEET



PARTIAL ELEVATION

SHOWING INTERMEDIATE DIAPHRAGM REINFORCING STEEL FOR ALL GIRDERS

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

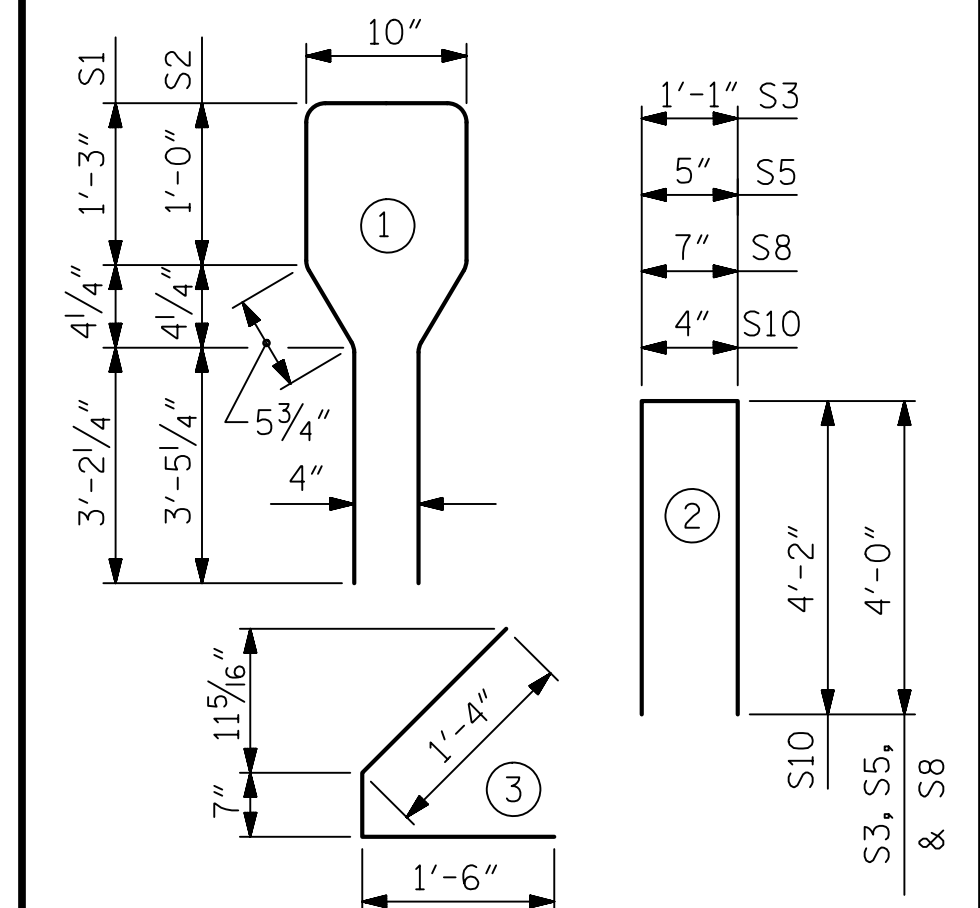
REINFORCING STEEL FOR ONE GIRDER

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
S1	89	#4	1	10'-8"	634
S2	20	#6	1	10'-8"	320
S3	4	#4	2	9'-1"	24
S4	64	#4	3	3'-5"	146
S5	6	#4	2	8'-5"	34
* S7	18	#5	STR	3'-8"	69
S8	4	#4	2	8'-7"	23
S9	2	#3	STR	1'-10"	1
S10	2	#5	2	8'-8"	18
S11	5	#4	STR	7'-0"	23
S13	1	#3	STR	1'-4"	1

* NOTE: S7 BARS SHALL BE BENT BEFORE SHIPMENT. HEAT BENDING SHALL NOT BE ALLOWED.

BAR TYPES

ALL BAR DIMENSIONS ARE OUT-TO-OUT



QUANTITIES FOR ONE GIRDER

	REINFORCING STEEL	8000 PSI CONCRETE	0.6" Ø L. R. STRANDS
	LB.	C.Y.	No.
EXTERIOR GIRDER	1293	20.1	42
INTERIOR GIRDER	1293	20.1	42

GIRDERS REQUIRED

NUMBER	LENGTH	TOTAL LENGTH
4	99'-2"	396'-8"

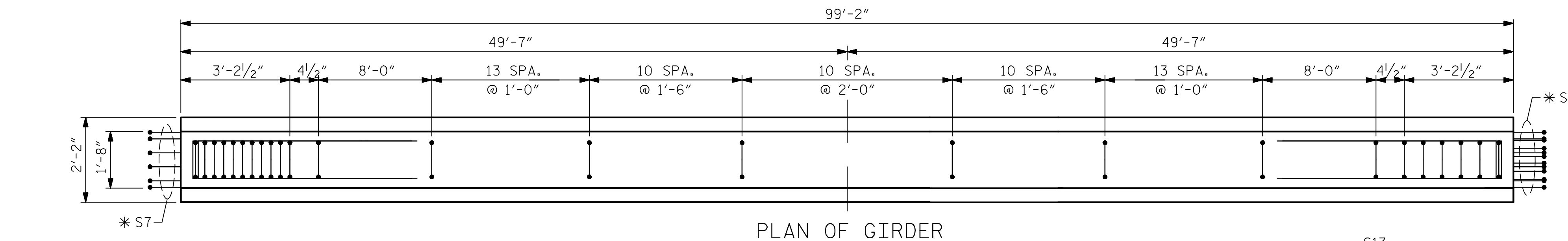
PROJECT NO. R-2915B
 ASHE COUNTY
 STATION: 242+67.42 -L-

SHEET 3 OF 4

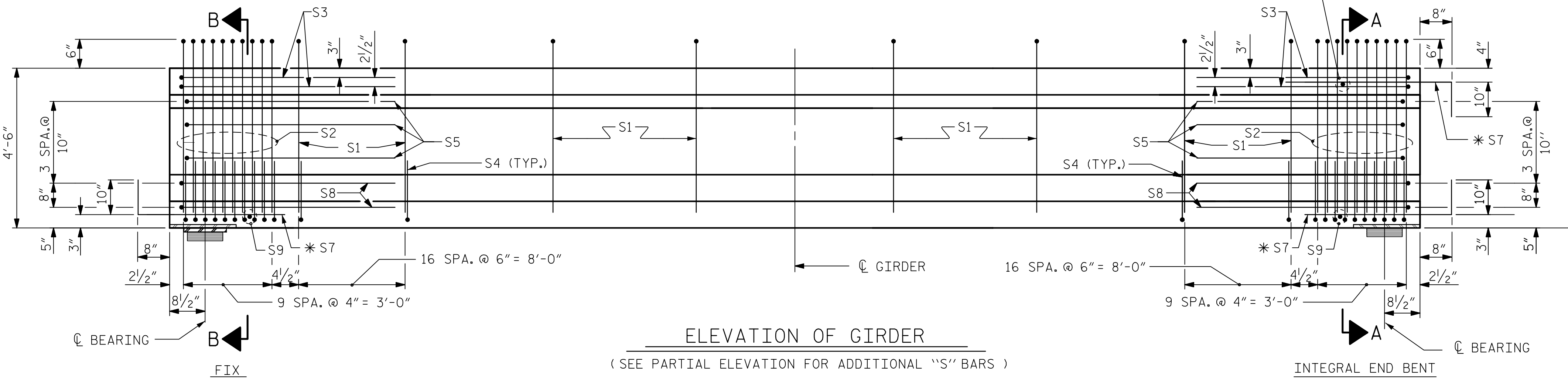
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 AASHTO TYPE IV
 PRESTRESSED CONCRETE GIRDER
 CONTINUOUS FOR LIVE LOAD
 SPAN C
 NBL

REVISIONS						SHEET NO. S05-16
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 35
2			4			

STR. NO. 5
 STD. NO. PCG6



PLAN OF GIRDER



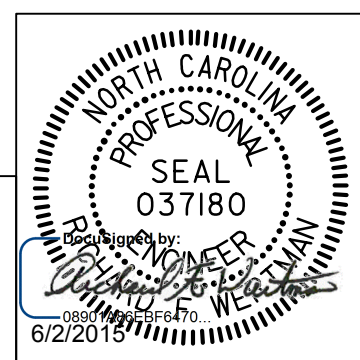
ELEVATION OF GIRDER

(SEE PARTIAL ELEVATION FOR ADDITIONAL "S" BARS)

ASSEMBLED BY : T.J. KIRSCHBAUM	DATE : 4/26/14
CHECKED BY : R.F. WERTMAN	DATE : 8/22/14
DRAWN BY : ELR 8/91	REV. 10/17/00R RWW/LES
CHECKED BY : GRP 8/91	REV. 5/1/06R TLA/GM
	REV. 10/1/11 MAA/GM

PLANS PREPARED BY:
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 1121 Sittus Court
 Suite 170
 Raleigh NC 27606-4279
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 NC Lic. No. F-0270

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NOTES

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

ALL REINFORCING STEEL SHALL BE GRADE 60.

EMBEDDED PLATE "B-1" SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

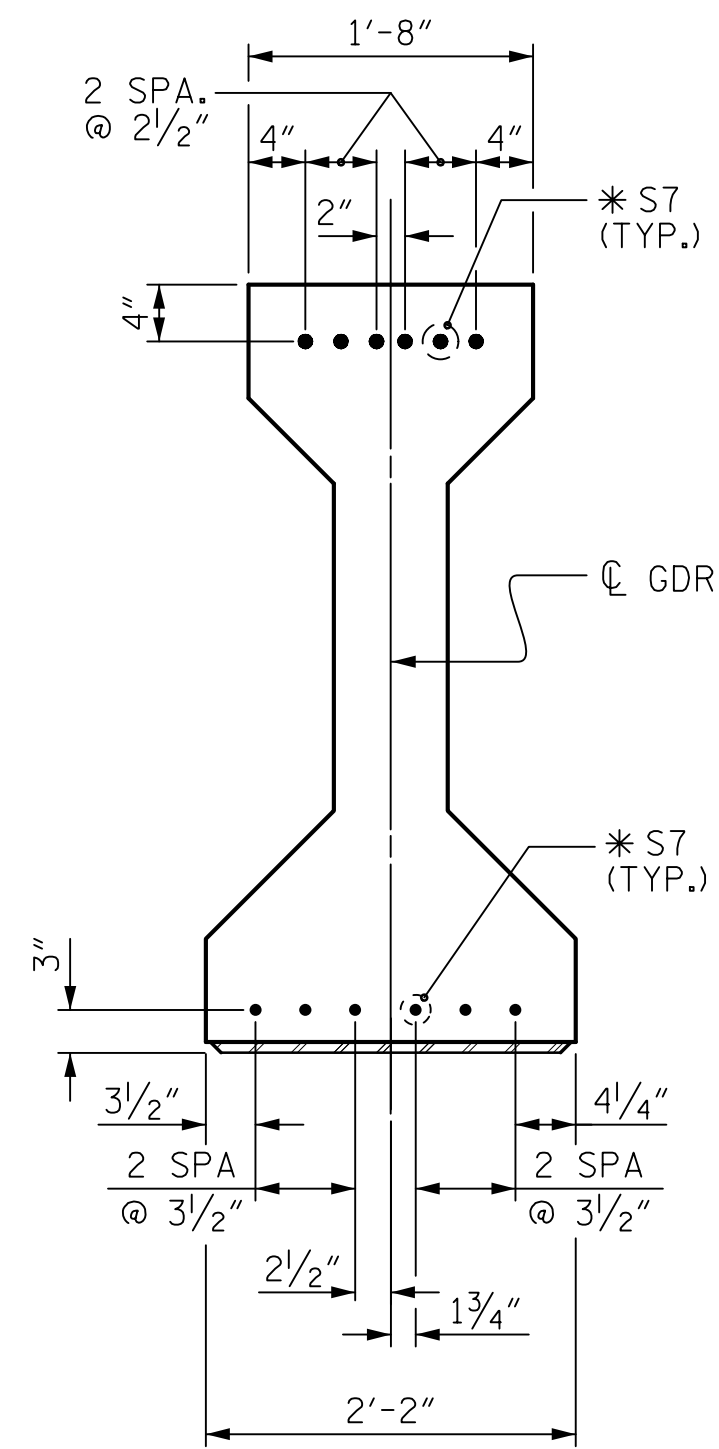
ANCHOR STUDS SHALL CONFORM TO AASHTO M169 GRADES 1010 THROUGH 1020 OR APPROVED EQUAL, AND SHALL MEET THE TYPE "B" REQUIREMENTS OF SUBSECTION 7.3 OF THE ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE.

AT ENDS OF GIRDERS TO BE EMBEDDED IN CONCRETE DIAPHRAGMS OR END WALLS, PRESTRESSING STRANDS MAY EXTEND A MAXIMUM OF 2" BEYOND THE GIRDER ENDS. OTHERWISE, PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE GIRDER ENDS.

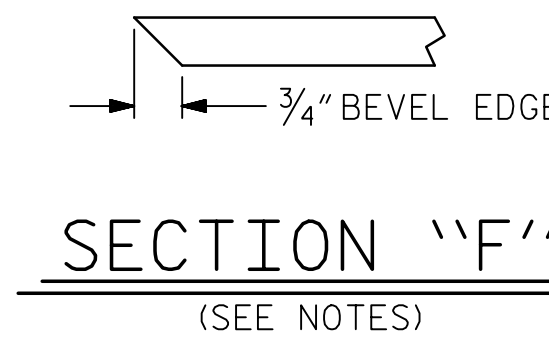
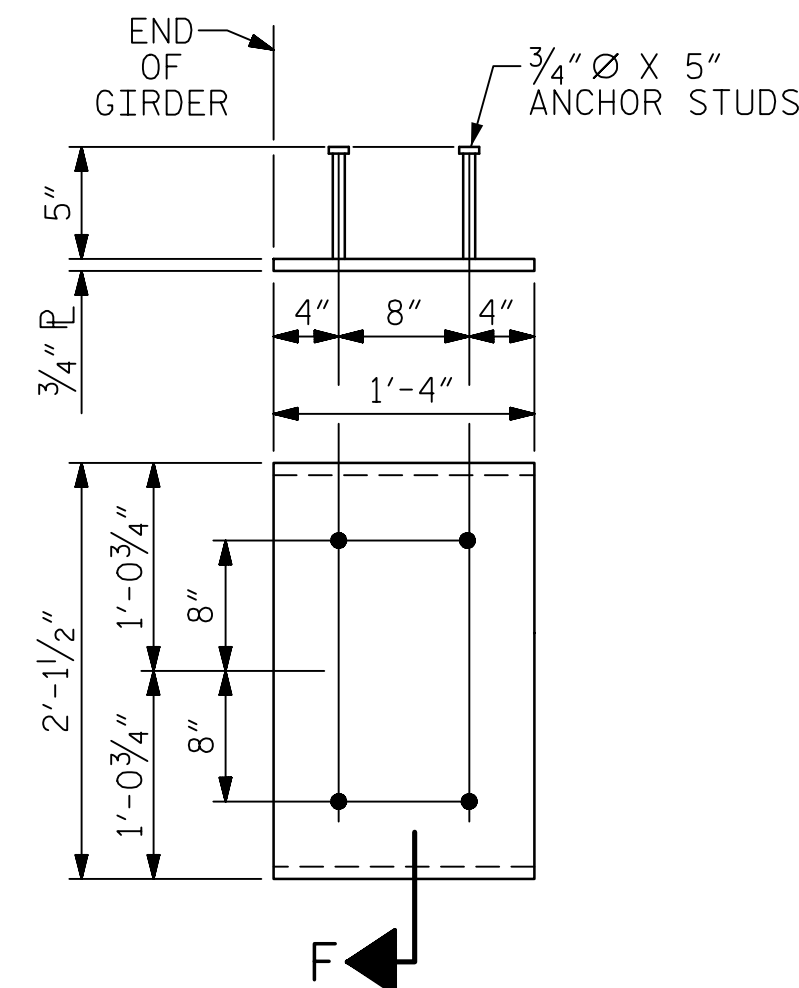
THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE GIRDER SHALL BE DONE WHEN CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 6400 PSI.

DEPENDING ON THE TYPE OF SYSTEM USED TO SUPPORT THE DECK SLAB FORMS, PRESET ANCHORS MAY BE NECESSARY IN THE PRESTRESSED CONCRETE GIRDER.

THE TOP SURFACE OF THE GIRDER, EXCLUDING THE OUTSIDE 4", SHALL BE RAKED TO A DEPTH OF 1/4".



DETAIL "A"
(FOR AASHTO TYPE IV GIRDERS)



EMBEDDED PLATE "B-1" DETAILS
FOR AASHTO TYPE IV GIRDER
(2 REQ'D PER GIRDER)

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																							
0.6" Ø LOW RELAXATION	SPAN A																						
	GIRDERS 1 & 4											GIRDERS 2 & 3											
TENTH POINTS	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	
CAMBER (GIRDER ALONE IN PLACE)	↑	0	0.010	0.019	0.027	0.031	0.033	0.031	0.027	0.019	0.010	0	0	0.010	0.019	0.027	0.031	0.033	0.031	0.027	0.019	0.010	0
* DEFLECTION DUE TO SUPERIMPOSED D.L.	↓	0	0.005	0.011	0.015	0.017	0.018	0.017	0.015	0.011	0.005	0	0	0.006	0.012	0.016	0.019	0.020	0.019	0.016	0.012	0.006	0
FINAL CAMBER	↑	0	1/16"	1/8"	1/8"	3/16"	3/16"	3/16"	1/8"	1/8"	1/16"	0	0	1/16"	1/16"	1/8"	1/8"	1/8"	1/8"	1/8"	1/16"	1/16"	0

* INCLUDES FUTURE WEARING SURFACE.
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

DEAD LOAD DEFLECTION TABLE FOR GIRDERS																							
0.6" Ø LOW RELAXATION	SPANS B & C																						
	GIRDERS 1 & 4											GIRDERS 2 & 3											
TENTH POINTS	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	
CAMBER (GIRDER ALONE IN PLACE)	↑	0	0.062	0.118	0.162	0.189	0.199	0.189	0.162	0.118	0.062	0	0	0.062	0.118	0.162	0.189	0.199	0.189	0.162	0.118	0.062	0
* DEFLECTION DUE TO SUPERIMPOSED D.L.	↓	0	0.050	0.098	0.135	0.159	0.167	0.159	0.135	0.098	0.050	0	0	0.055	0.108	0.149	0.175	0.184	0.175	0.149	0.108	0.055	0
FINAL CAMBER	↑	0	1/8"	1/4"	5/16"	3/8"	3/8"	3/8"	5/16"	1/4"	1/8"	0	0	1/16"	1/8"	3/16"	3/16"	3/16"	3/16"	3/16"	1/8"	1/16"	0

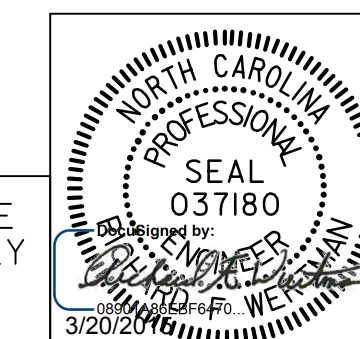
* INCLUDES FUTURE WEARING SURFACE.
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

PROJECT NO. R-2915B
ASHE COUNTY
STATION: 242+67.42 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
PRESTRESSED CONCRETE GIRDER
CONTINUOUS FOR LIVE LOAD
DETAILS
NBL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-17
1			3			TOTAL SHEETS
2			4			35



ASSEMBLED BY : T.J. KIRSCHBAUM	DATE : 4/26/14
CHECKED BY : R.F. WERTMAN	DATE : 8/22/14
DRAWN BY : ELR 11/91	REV. 5/1/06 TLA/GM
CHECKED BY : GRP 11/91	REV. 10/1/11 MAA/GM
	REV. 1/15 MAA/TMG

PLANS PREPARED BY:
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1121 Sitis Court
Suite 170
Raleigh NC 27606-4279
(919) 859-4880
NC Lic. No. F-0270

THESE PLANS HAVE BEEN PROPERLY EXAMINED BY THE UNDERSIGNED. I HAVE DETERMINED THAT THEY COMPLY WITH EXISTING NORTH CAROLINA CODES, AND HAVE BEEN PROPERLY ADAPTED FOR USE IN THIS AREA.

STR. NO. 5

STD. NO. PCG9

STRUCTURAL STEEL NOTES

ALL INTERMEDIATE DIAPHRAGM STEEL AND CONNECTOR PLATES SHALL BE AASHTO M270 GRADE 50 OR APPROVED EQUAL.

TENSION ON THE ASTM A325 BOLTS THROUGH THE CHANNEL MEMBER SHALL BE CALIBRATED USING DIRECT TENSION INDICATOR WASHERS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

TENSION ON THE ASTM A449 BOLTS THROUGH THE GIRDER WEB SHALL BE SNUG TIGHTENED FOLLOWED BY AN ADDITIONAL 1/4 TURN.

THE PLATES, BENT PLATES, CHANNELS, AND ANGLES SHALL BE GALVANIZED OR METALLIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. FOR THERMAL SPRAYED COATINGS (METALLIZATION), SEE SPECIAL PROVISIONS.

FOR METALLIZATION, APPLY AN 8 MIL THICK 99.99 PERCENT ZINC (W-Zn-1) THERMAL SPRAYED COATING WITH A 0.5 MIL THICK SEAL COAT TO ALL STEEL DIAPHRAGM SURFACES IN ACCORDANCE WITH THE THERMAL SPRAYED COATINGS SPECIAL PROVISION AND SECTION 442 OF THE STANDARD SPECIFICATIONS.

GALVANIZE THE HIGH STRENGTH BOLTS, NUTS, WASHERS AND DIRECT TENSION INDICATORS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

USE AN ASTM F436 HARDENED WASHER WITH STANDARD AND SLOTTED HOLES UNDER EACH BOLT HEAD AND NUT.

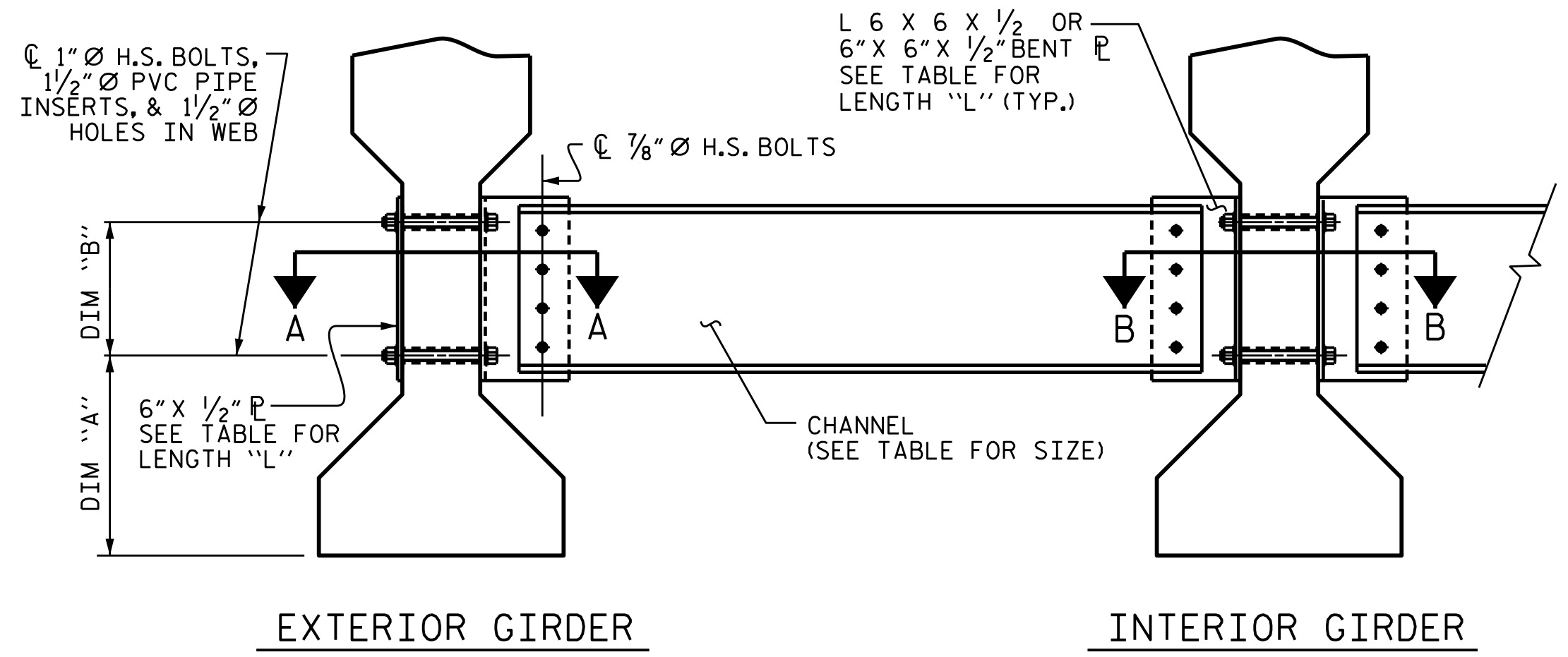
FOR BOLTS THROUGH THE GIRDER WEB, PROVIDE SUFFICIENT LENGTH OF THREADS ON ALL BOLTS TO ACCOMMODATE WASHERS AND THE THICKNESS OF CONNECTING MEMBER PLUS AT LEAST 1/4" PROJECTION BEYOND THE NUT.

INTERMEDIATE DIAPHRAGM ASSEMBLY SHALL COMPLY WITH SECTION 1072 OF THE STANDARD SPECIFICATIONS.

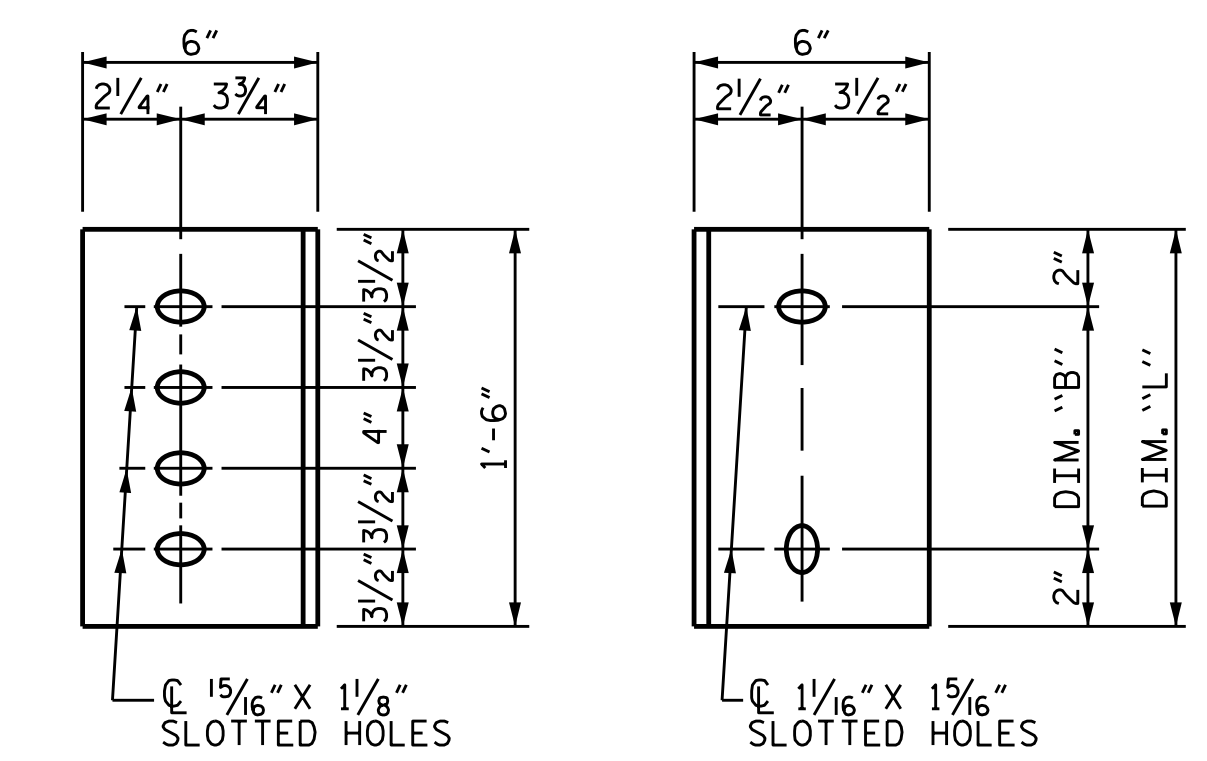
SUBMIT TWO SETS OF WORKING DRAWINGS FOR THE INTERMEDIATE DIAPHRAGM ASSEMBLY FOR REVIEW, COMMENTS AND ACCEPTANCE. AFTER REVIEW, COMMENTS, AND ACCEPTANCE, SUBMIT SEVEN SETS FOR DISTRIBUTION.

IN THE EXTERIOR BAYS, PLACE TEMPORARY STRUTS BETWEEN PRESTRESSED GIRDERS ADJACENT TO THE STEEL DIAPHRAGMS. STRUTS SHALL REMAIN IN PLACE 3 DAYS AFTER CONCRETE IS PLACED.

THE COST OF THE STEEL DIAPHRAGMS AND ASSEMBLIES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE GIRDERS.



PART SECTION AT INTERMEDIATE DIAPHRAGM



CONNECTOR PLATE DETAILS

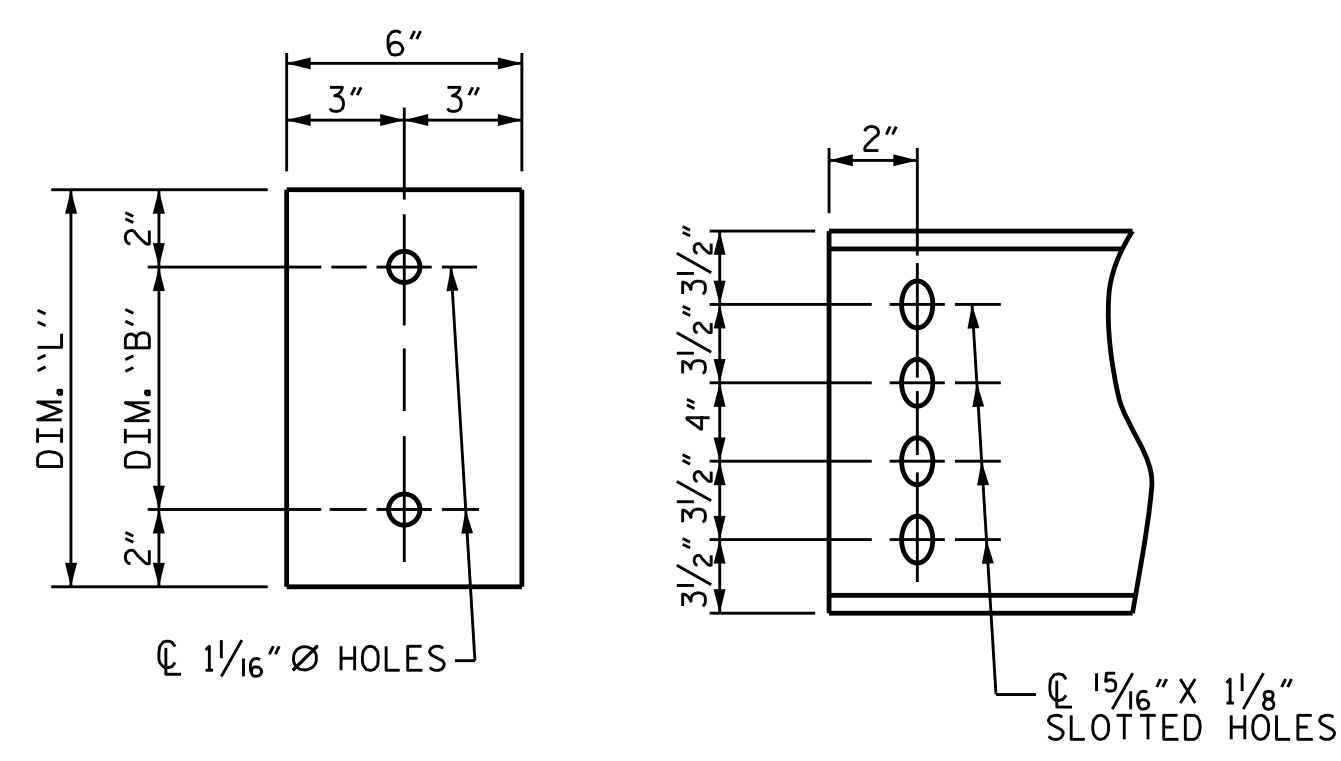
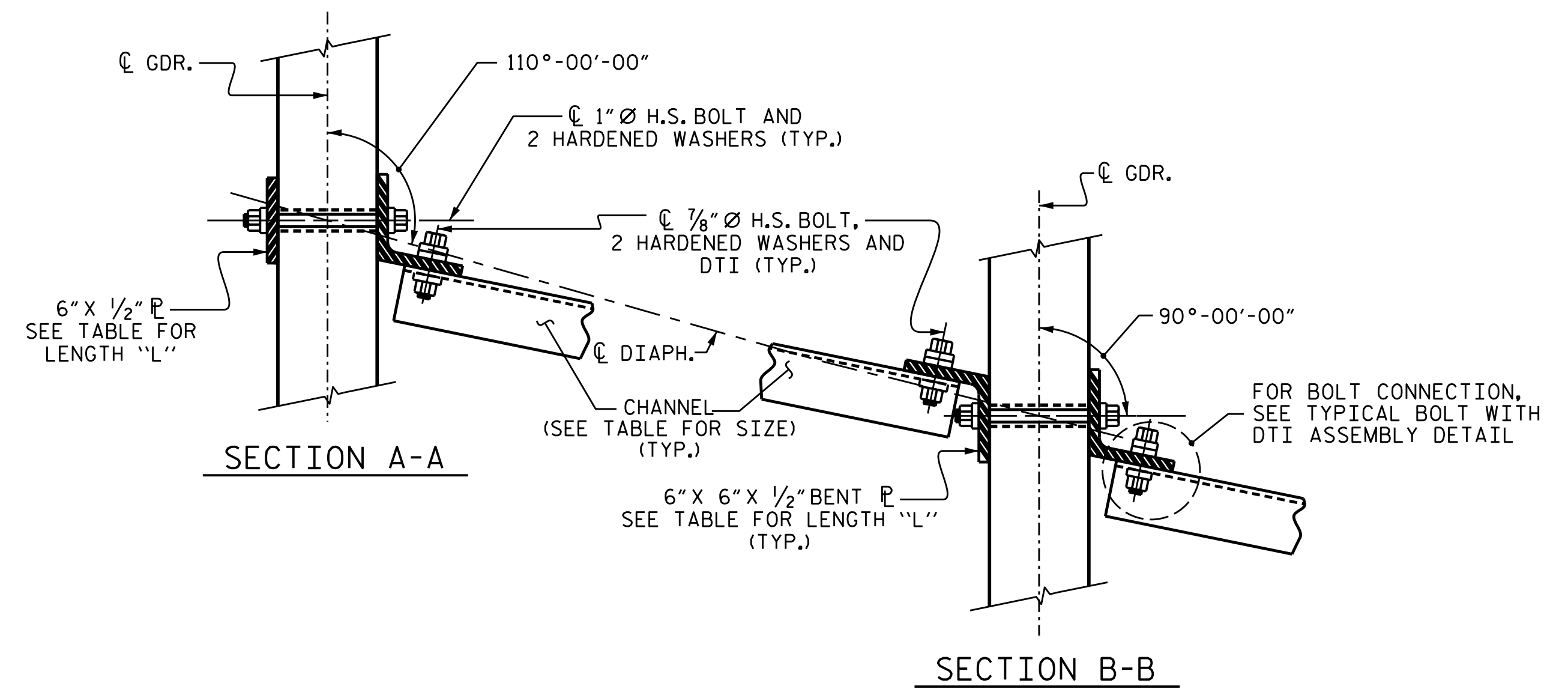
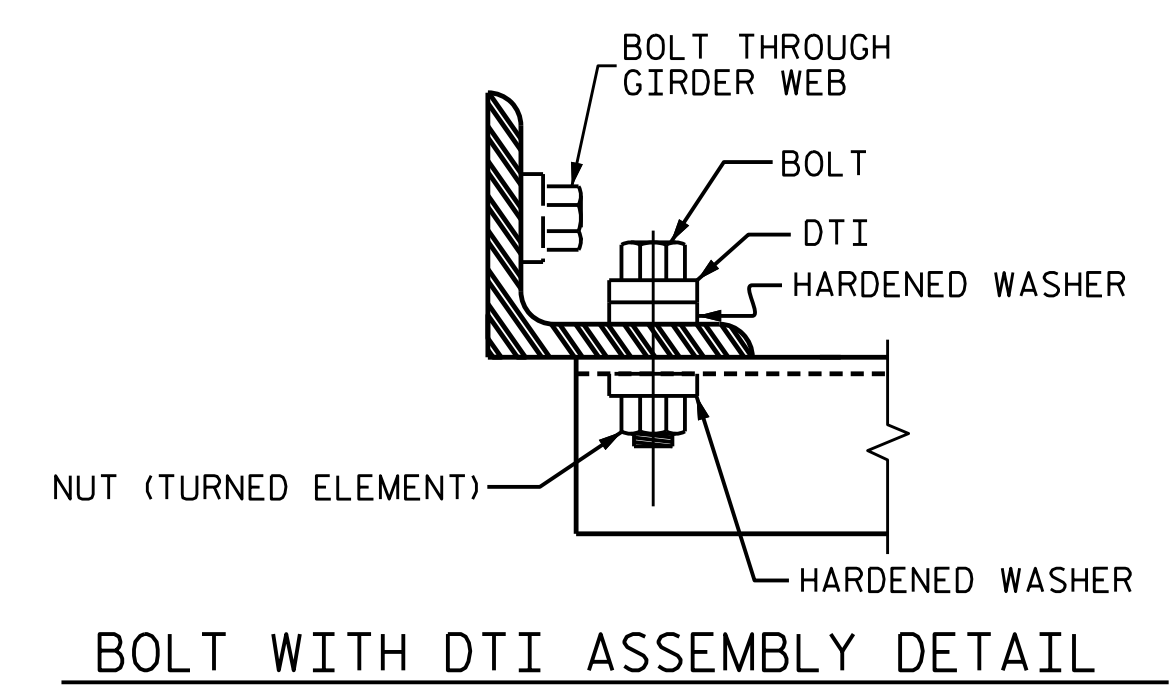


PLATE DETAILS CHANNEL END



CONNECTION DETAILS



TABLE

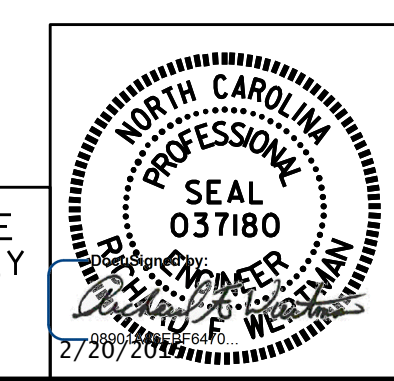
GIRDER TYPE	CHANNEL SIZE	DIM "A"	DIM "B"	DIM "L"
IV	MC 18 x 42.7	1'-9 1/2"	1'-2"	1'-6"

PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-

ASSEMBLED BY : T.J. KIRSCHBAUM	DATE : 4/26/14
CHECKED BY : R.F. WERTMAN	DATE : 8/22/14
DRAWN BY : TLA 6/05	ADDED 10/21/05
CHECKED BY : VC 6/05	REV. 5/1/06RRR KMM/GM
	REV. 10/1/11 MAA/GM

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THESE PLANS HAVE BEEN PROPERLY EXAMINED BY THE UNDERSIGNED. I HAVE DETERMINED THAT THEY COMPLY WITH EXISTING NORTH CAROLINA CODES, AND HAVE BEEN PROPERLY ADAPTED FOR USE IN THIS AREA.



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 INTERMEDIATE
 STEEL DIAPHRAGMS
 FOR TYPE IV PRESTRESSED
 CONCRETE GIRDERS
 NBL

REVISIONS						SHEET NO. S05-18
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 35
2			4			

NOTES

AT ALL FIXED POINTS OF SUPPORT, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1/2 TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

THE 2" Ø PIPE SLEEVE SHALL BE CUT FROM SCHEDULE 40 PVC PLASTIC PIPE. THE PVC PLASTIC PIPE SHALL MEET THE REQUIREMENTS OF ASTM D1785.

STEEL SOLE PLATES, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

PRIOR TO WELDING, GRIND THE GALVANIZED SURFACE OF THE PORTION OF THE EMBEDDED PLATE AND SOLE PLATE THAT ARE TO BE WELDED. AFTER WELDING, DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

WHEN WELDING THE SOLE PLATE TO THE EMBEDDED PLATE IN THE GIRDER, USE TEMPERATURE INDICATING WAX PENS, OR OTHER SUITABLE MEANS, TO ENSURE THAT THE TEMPERATURE OF THE SOLE PLATE DOES NOT EXCEED 300°F. TEMPERATURES ABOVE THIS MAY DAMAGE THE ELASTOMER.

SOLE PLATE "P", BOLTS, NUTS, WASHERS, AND PIPE SLEEVE SHALL BE INCLUDED IN THE PAY ITEM FOR PRESTRESSED CONCRETE GIRDERS.

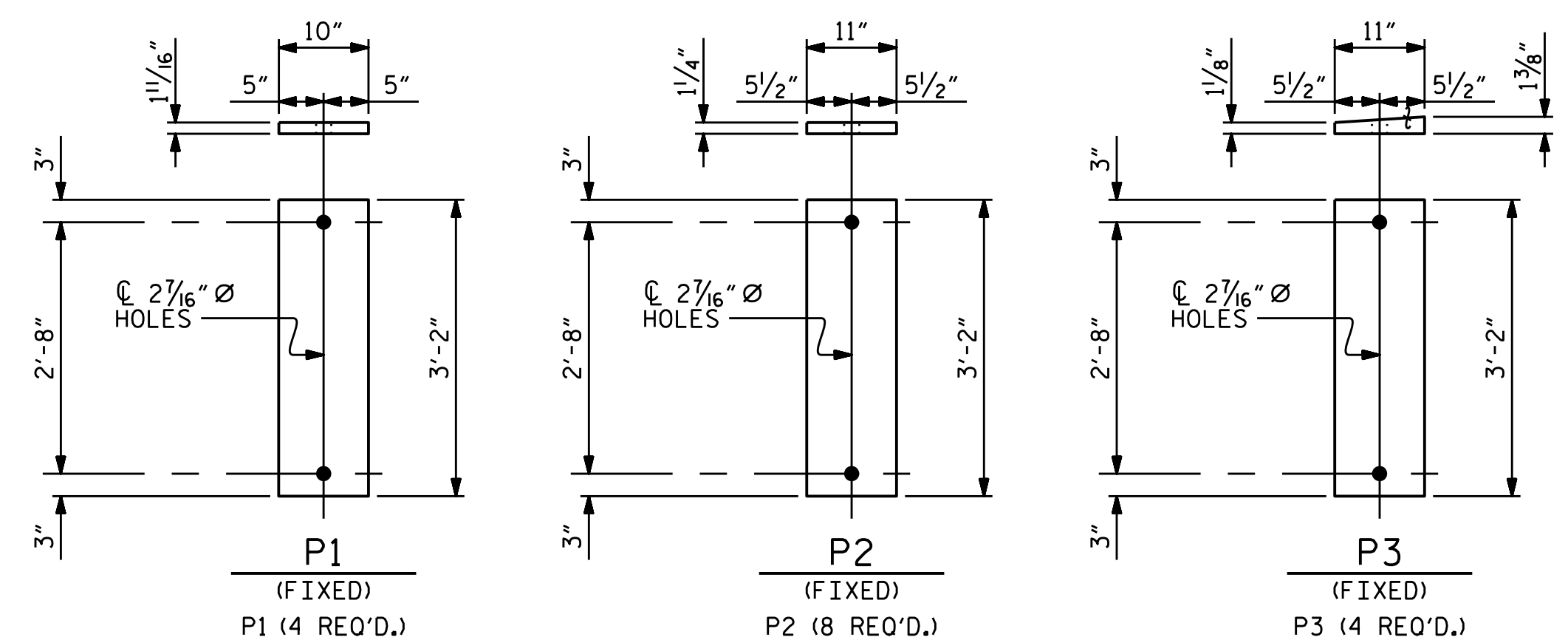
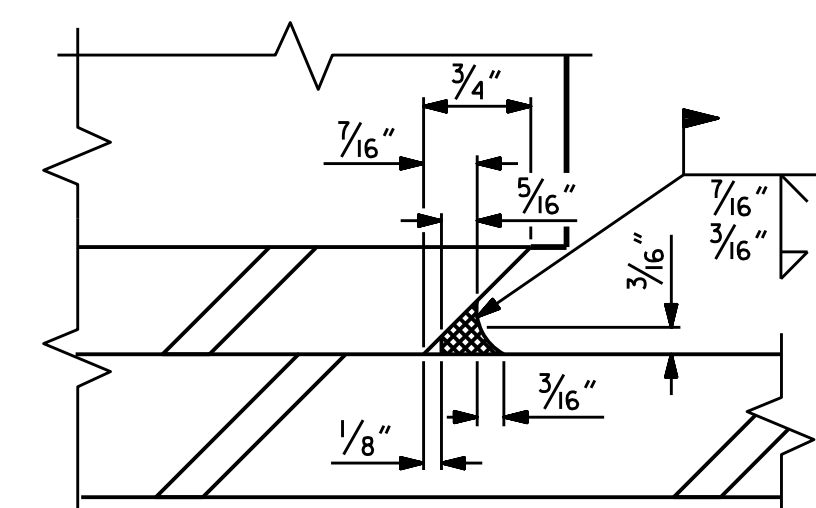
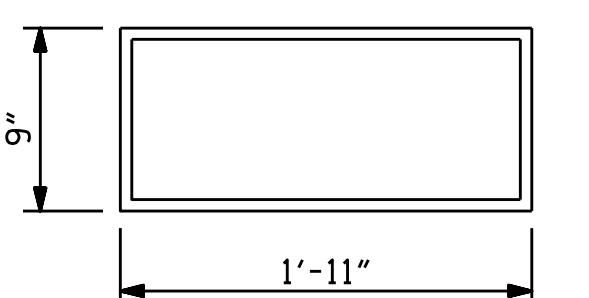
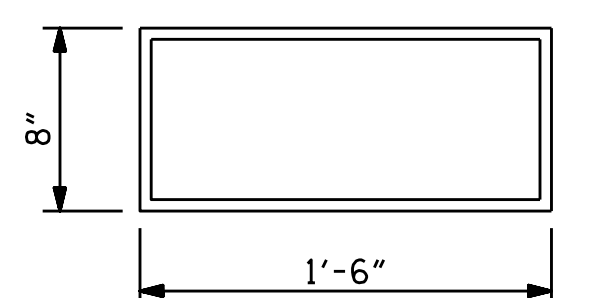
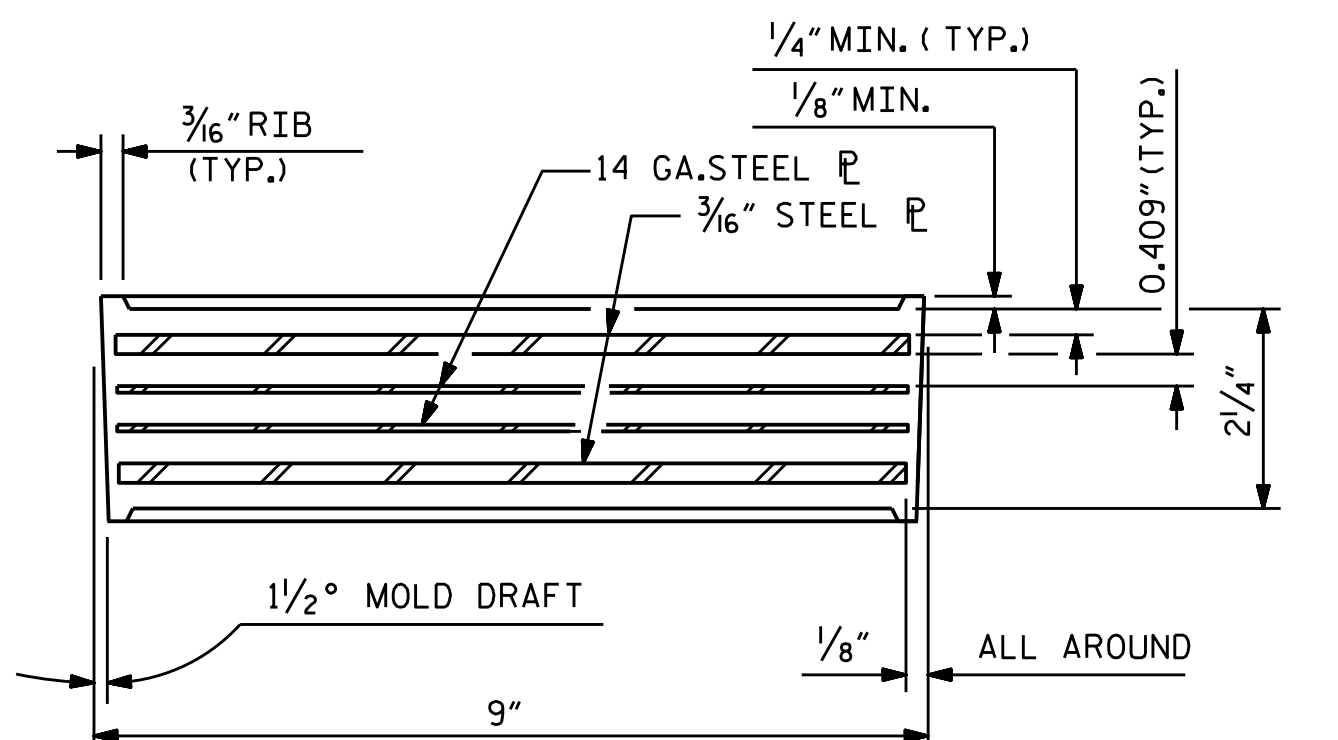
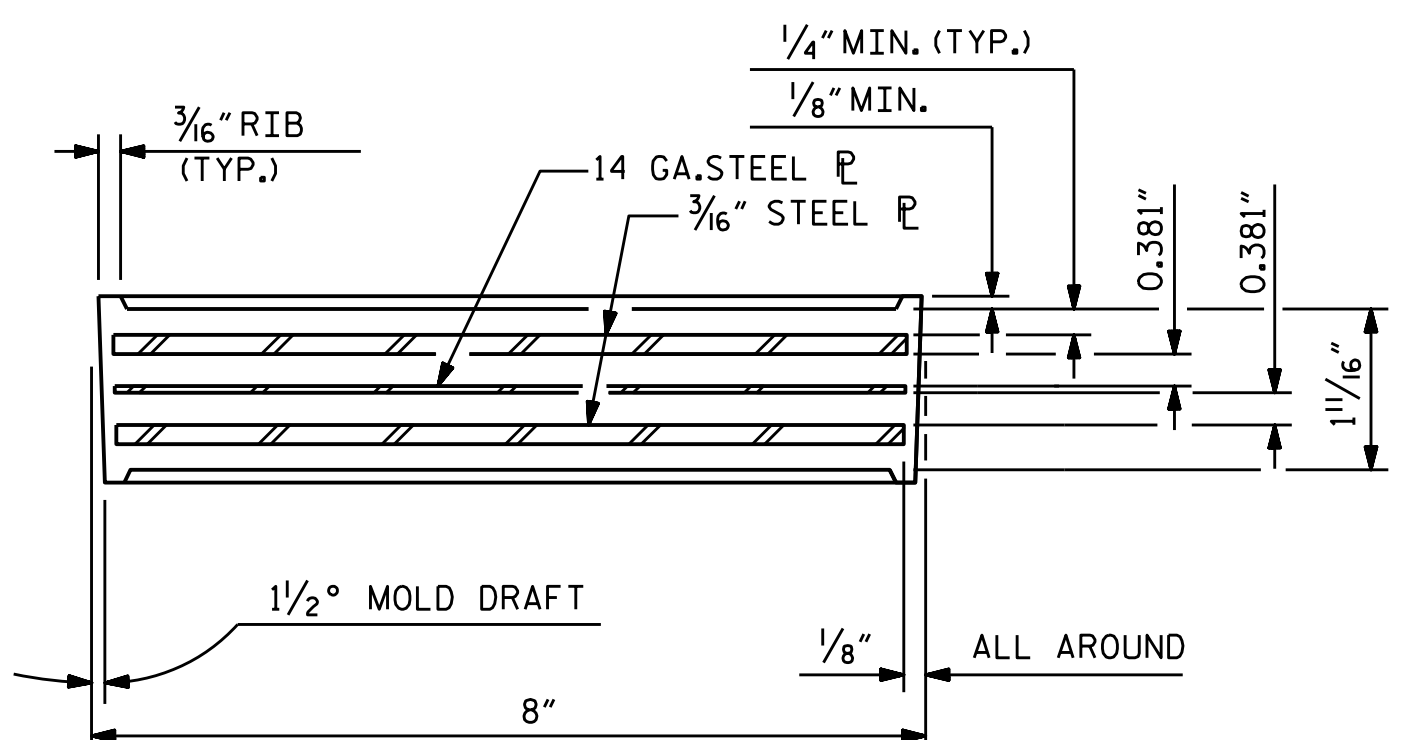
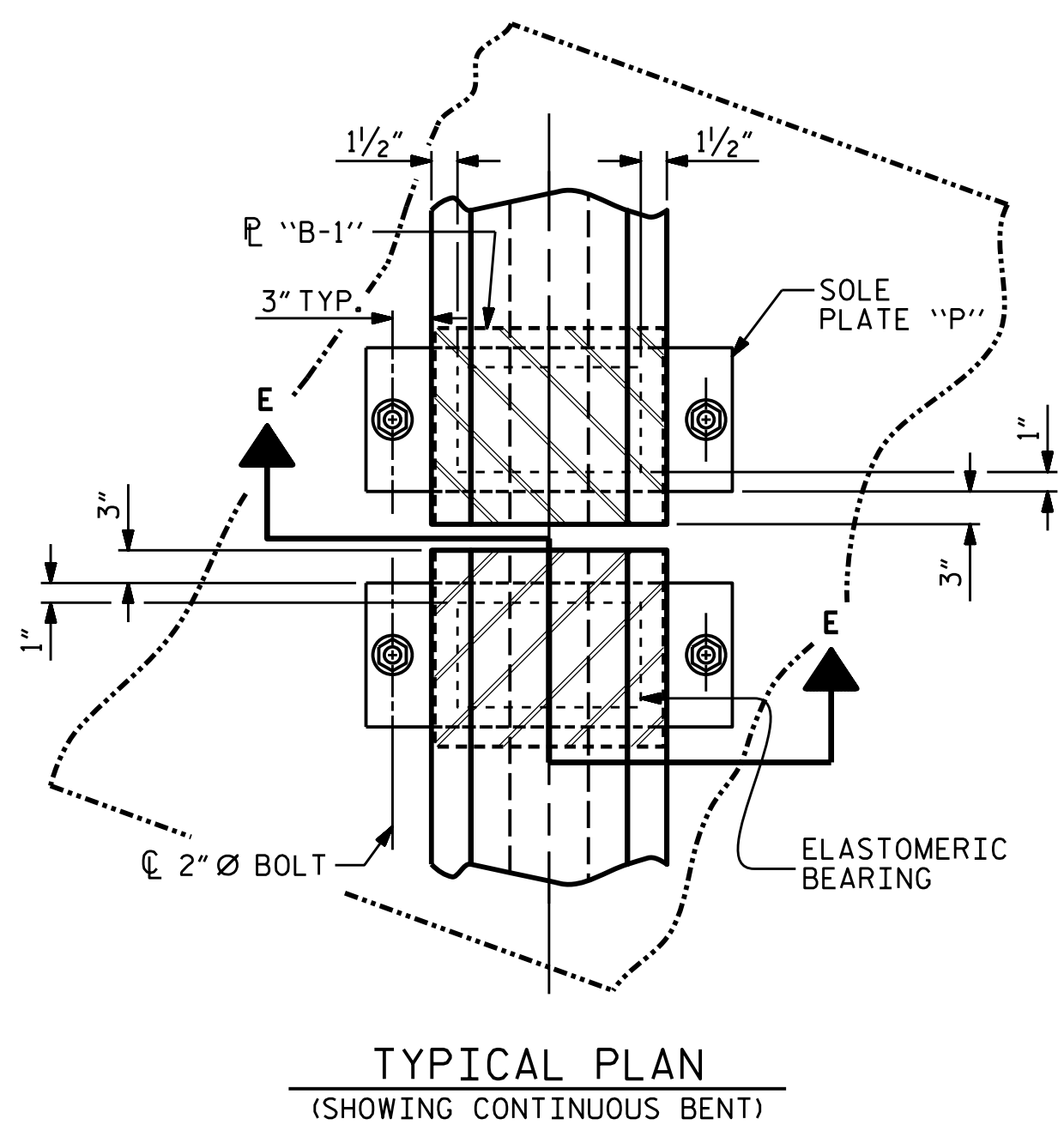
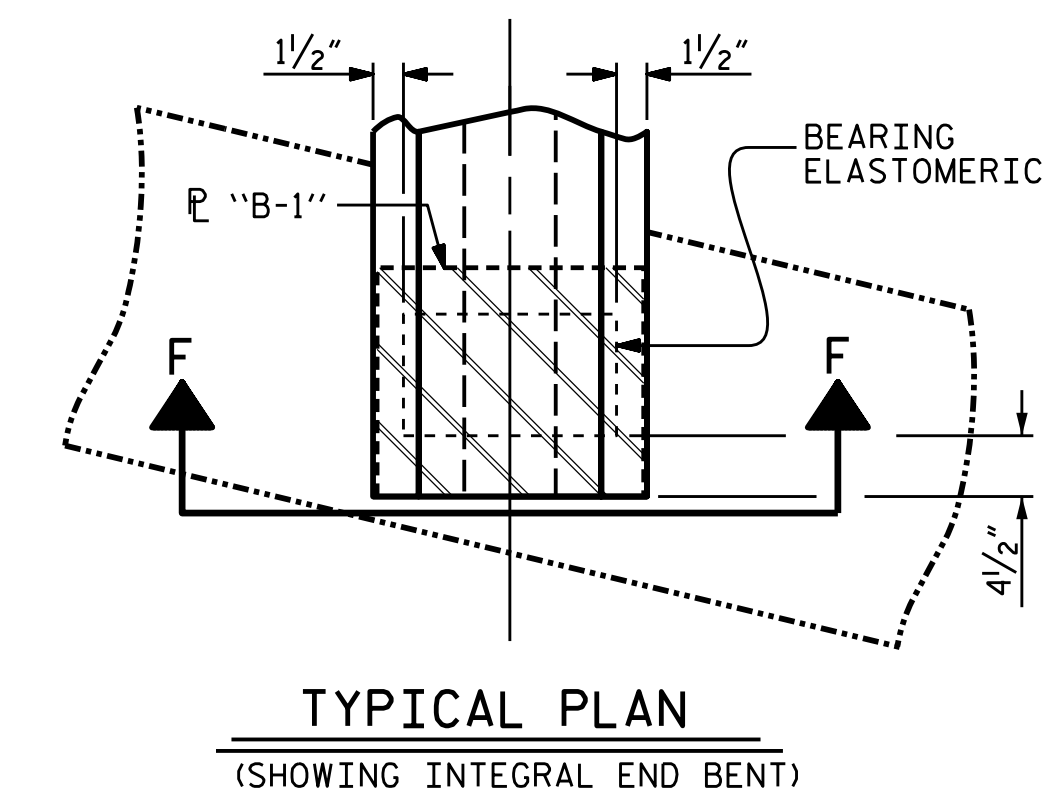
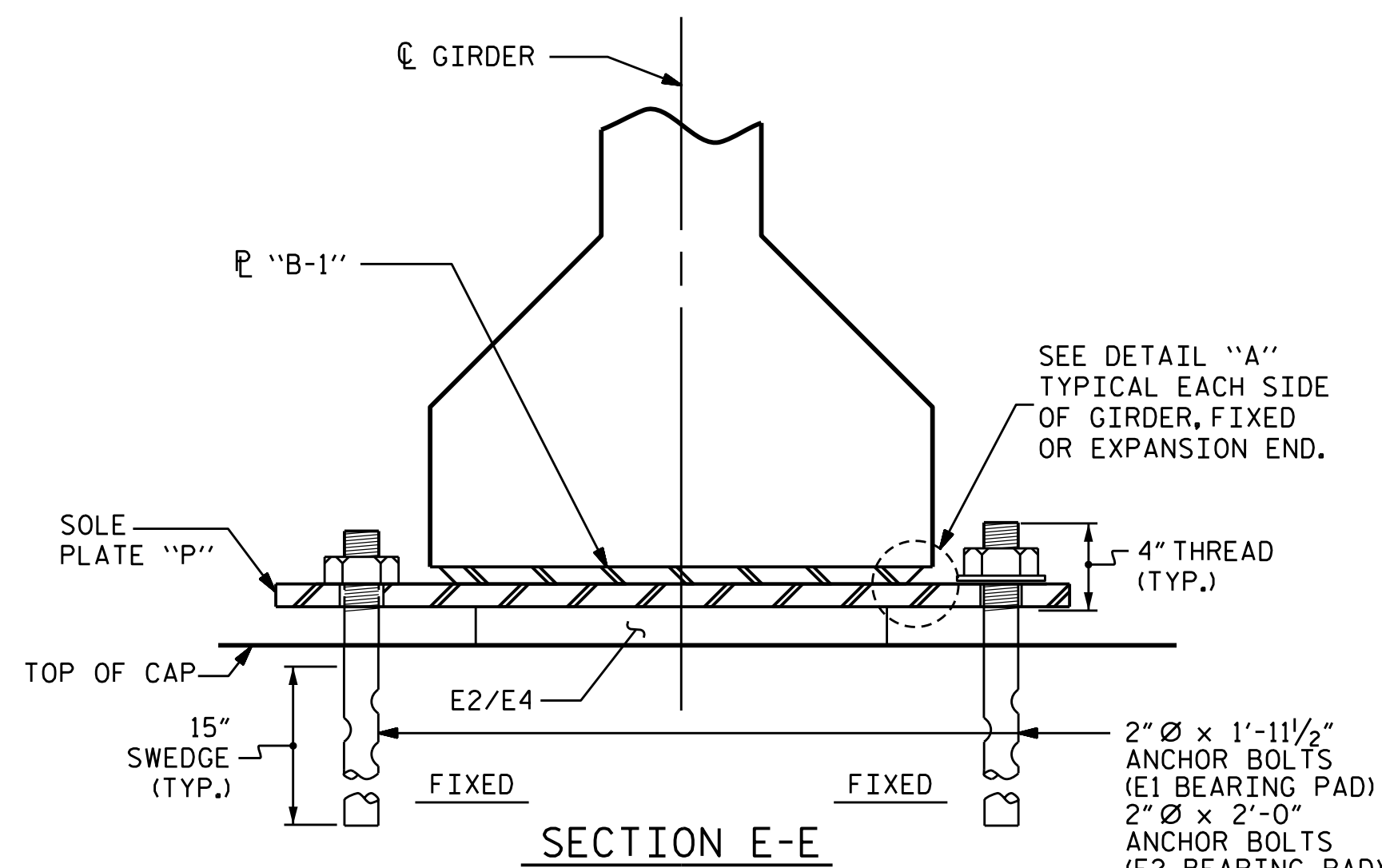
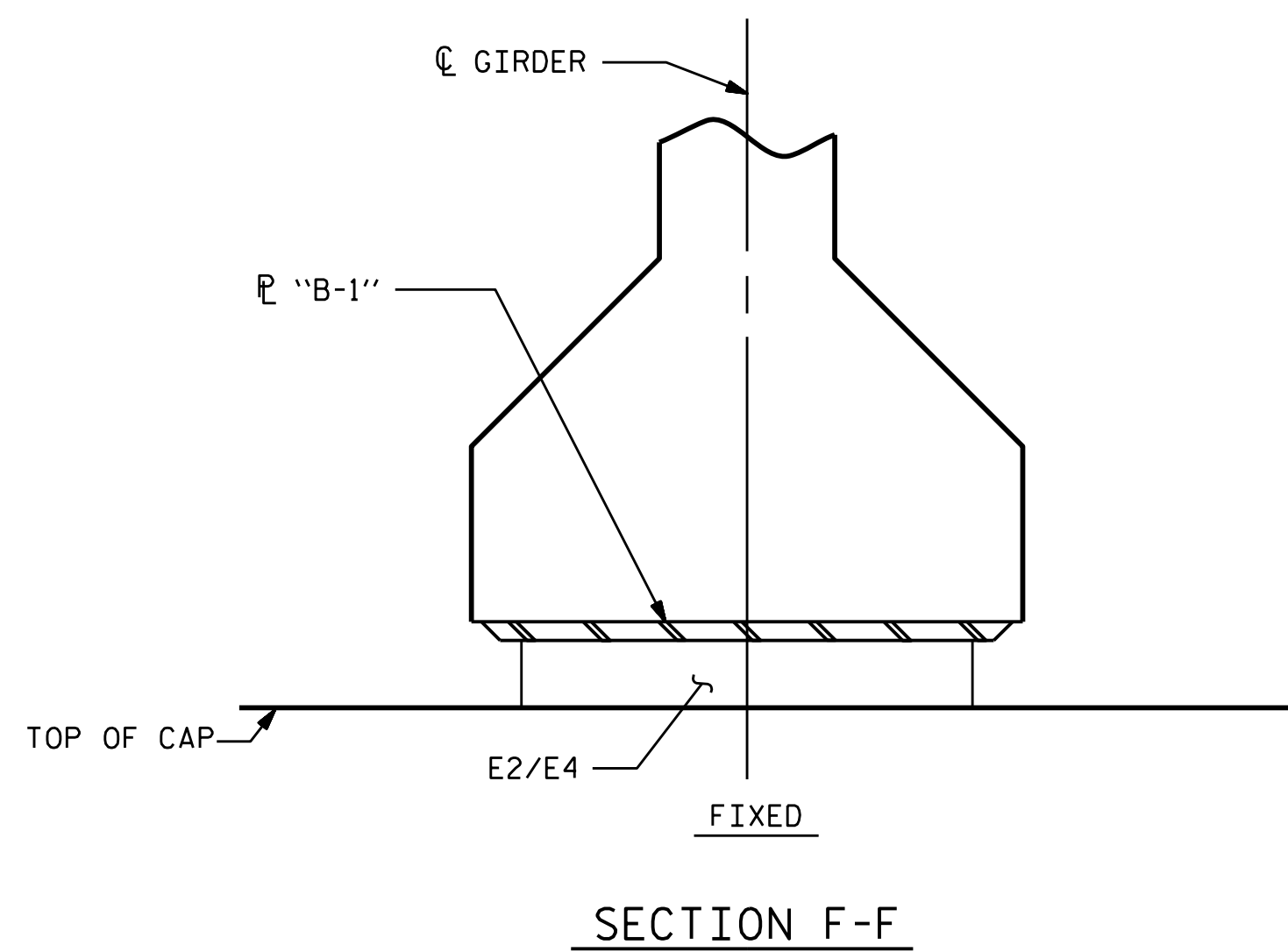
ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO M292-2H. WASHERS SHALL MEET THE REQUIREMENTS OF AASHTO M293. SHOP DRAWINGS ARE NOT REQUIRED FOR ANCHOR BOLT, NUTS AND WASHERS. SHOP INSPECTION IS REQUIRED.

ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

THE ELASTOMER IN THE STEEL REINFORCED BEARINGS SHALL HAVE A SHEAR MODULUS OF 0.160 KSI, IN ACCORDANCE WITH AASHTO M251.

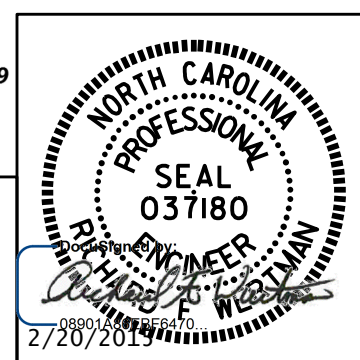
FOR STEEL REINFORCED ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.

— LOAD RATINGS —	
	MAX. D.L. + L.L.
TYPE III	170 K
TYPE V	320 K



SOLE PLATE DETAILS ("P")

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 Raleigh NC 27606-4279
 (919) 859-4880
 INC Lic. No. F-0270



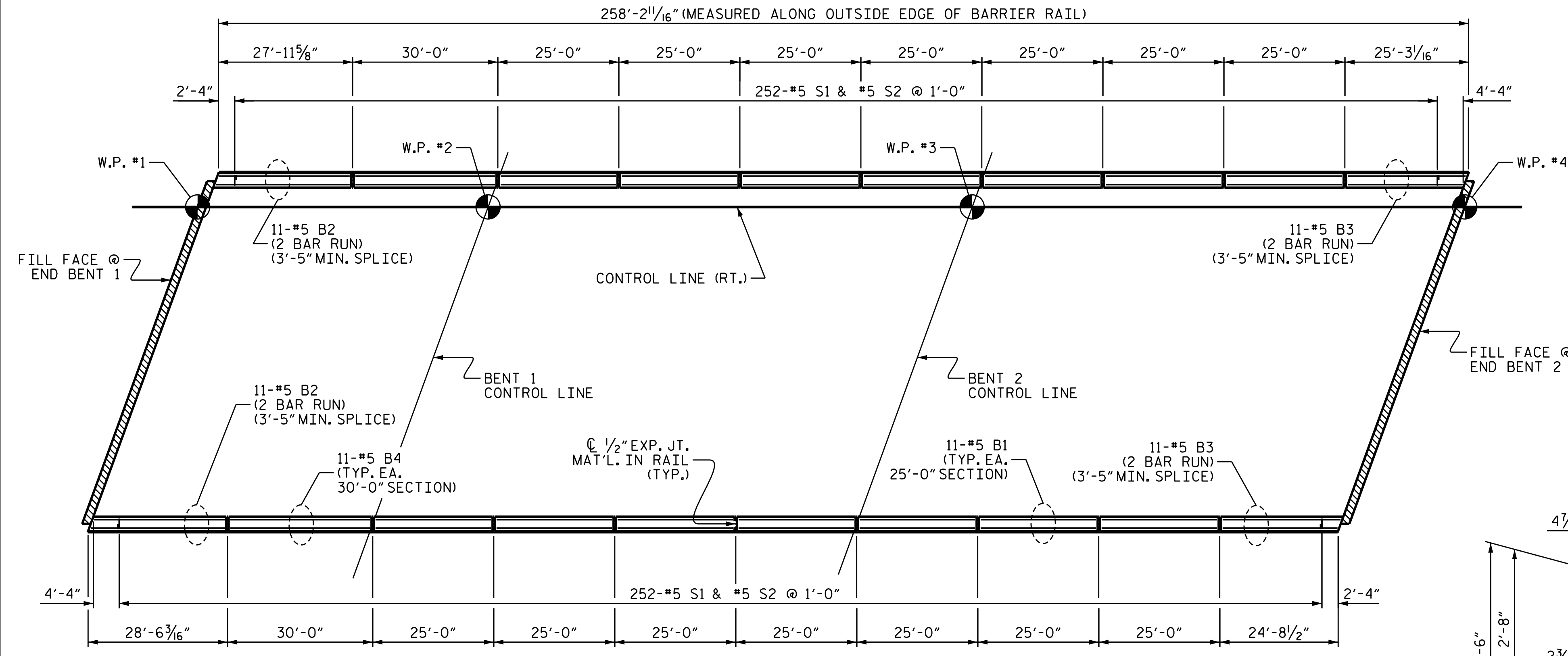
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PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-

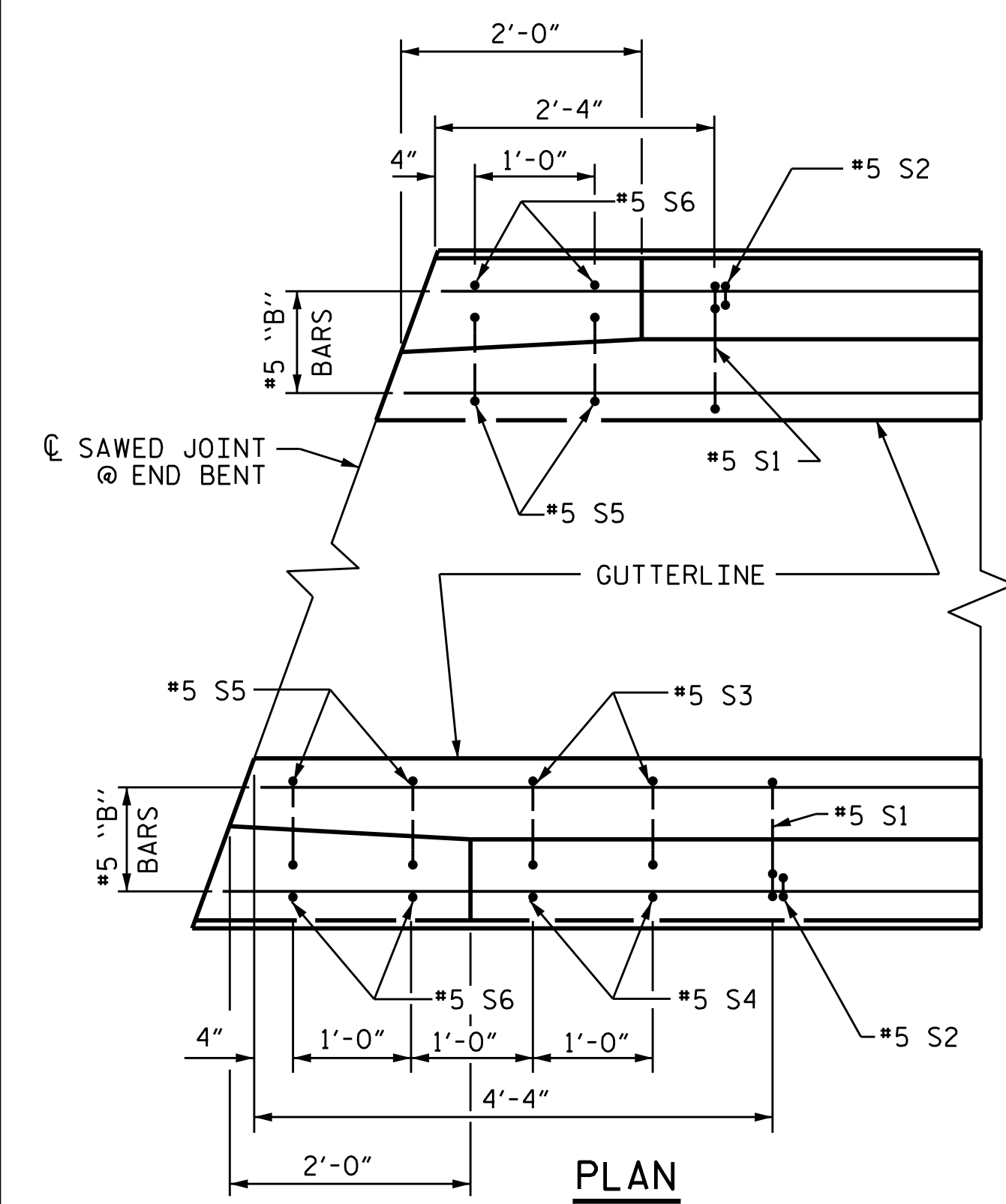
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
ELASTOMERIC BEARING
DETAILS
 PRESTRESSED CONCRETE GIRDER
 SUPERSTRUCTURE
 NBL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-19
1			3			TOTAL SHEETS
2			4			35

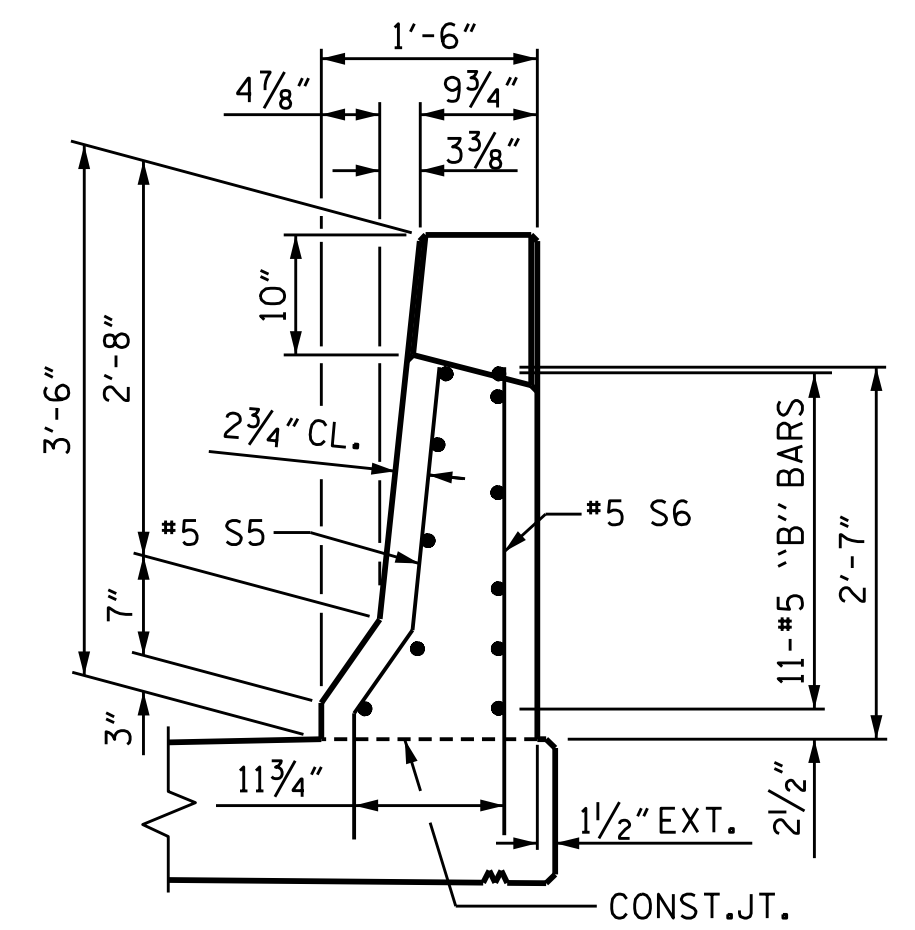
ASSEMBLED BY : T.J. KIRSCHBAUM	DATE : 4/28/14
CHECKED BY : R.F. WERTMAN	DATE : 8/22/14
DRAWN BY : EEM 2/97	REV. 10/1/11 MAA/GM
CHECKED BY : VAP 2/97	REV. 6/13 AAC/MAA
	REV. 1/15 MAA/TMG



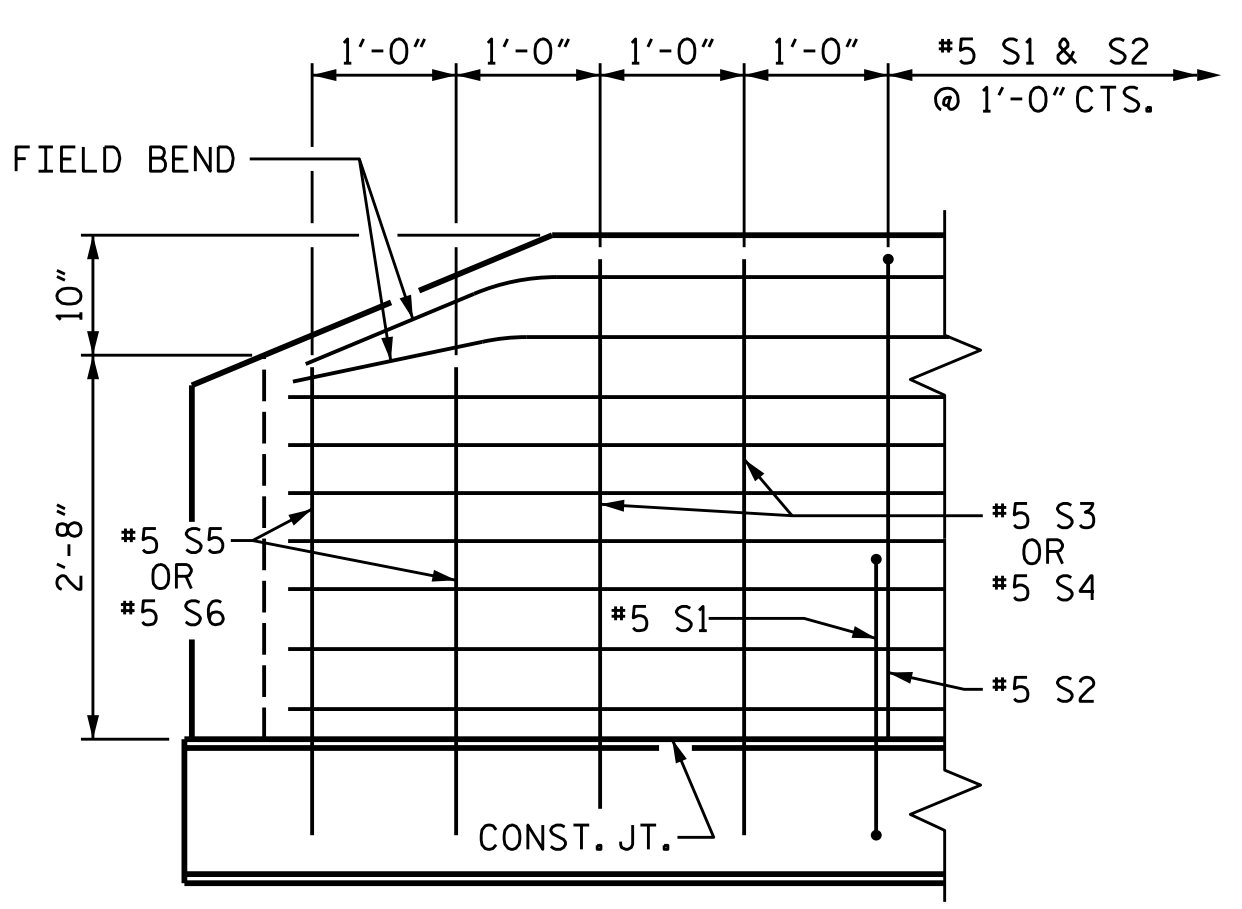
PLAN



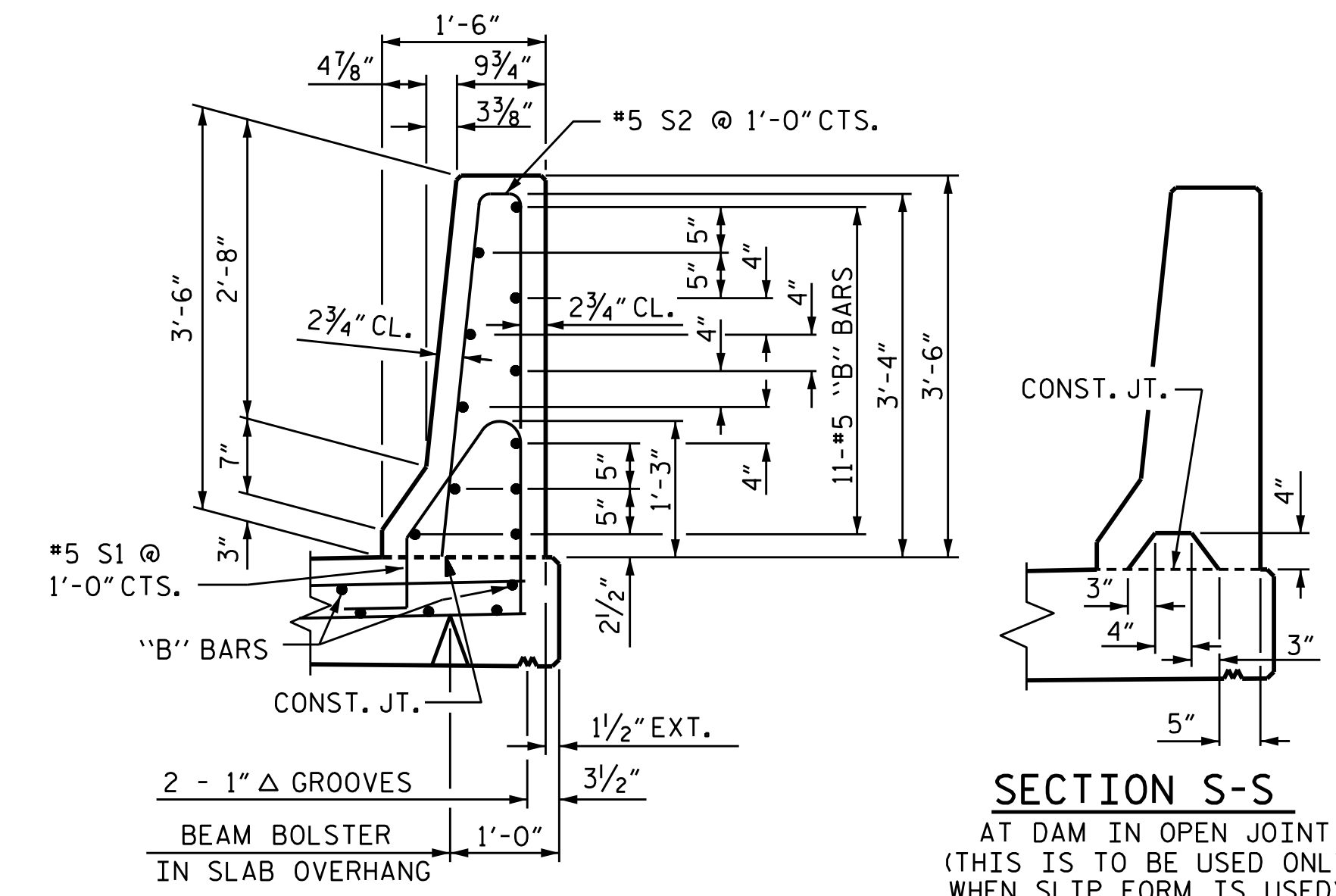
PLAN



END VIEW
END OF RAIL DETAILS
FOR ADHESIVE ANCHORING AT SAWED JOINTS

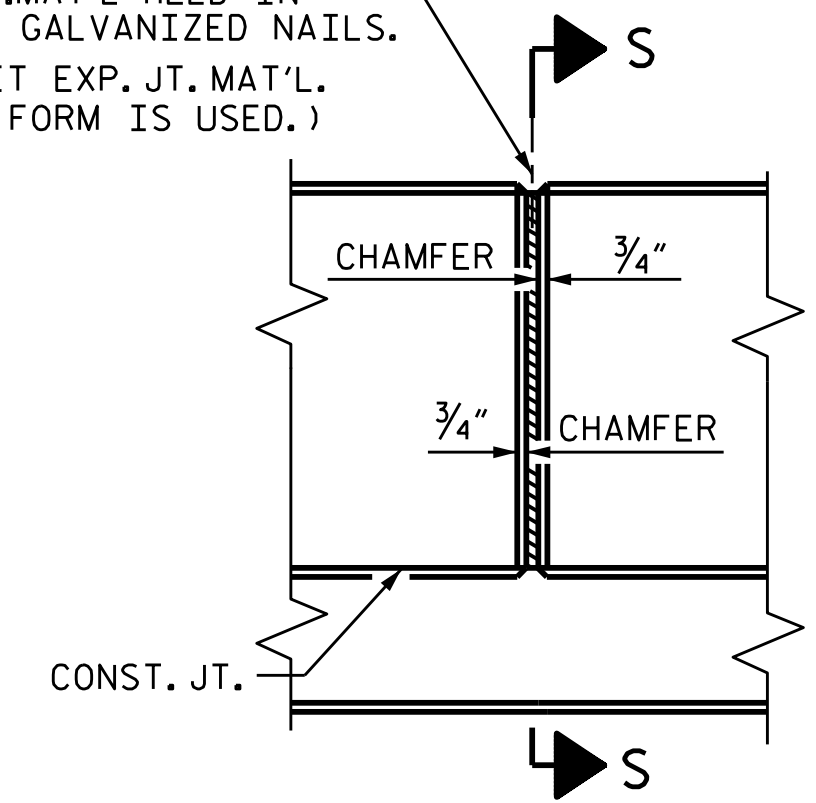


SIDE VIEW



SECTION THRU RAIL

1/2" EXP. JT. MAT'L HELD IN PLACE WITH GALVANIZED NAILS.
(NOTE: OMIT EXP. JT. MAT'L WHEN SLIP FORM IS USED.)



ELEVATION AT EXPANSION JOINTS
BARRIER RAIL DETAILS

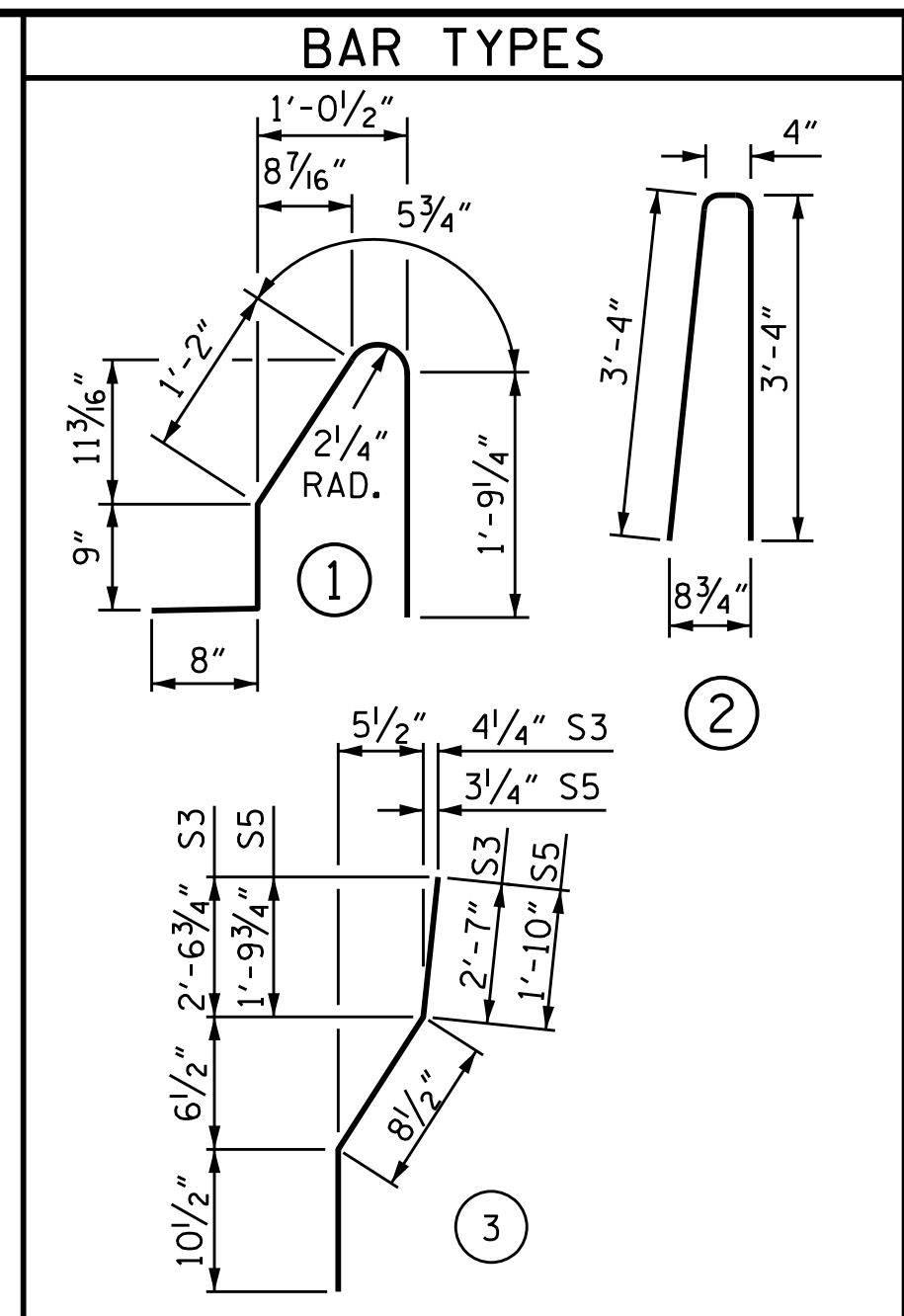
NOTES

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

ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

THE #5 S3, S4, S5 AND S6 BARS SHALL BE INSTALLED, USING AN ADHESIVE ANCHORING SYSTEM, AFTER SAWING THE JOINT. THE YIELD LOAD FOR THE #5 S3, S4, S5 AND S6 BARS IS 18.6 KIPS. FIELD TESTING FOR THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.

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

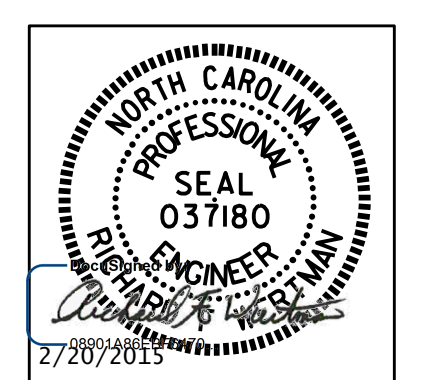


ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL
FOR CONCRETE BARRIER RAIL ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B1	154	#5	STR	24'-7"	3949
* B2	44	#5	STR	15'-10"	727
* B3	44	#5	STR	14'-2"	650
* B4	22	#5	STR	29'-6"	677
* S1	504	#5	1	4'-10"	2541
* S2	504	#5	2	7'-0"	3680
* S3	4	#5	3	4'-2"	17
* S4	4	#5	STR	4'-0"	17
* S5	8	#5	3	3'-5"	29
* S6	8	#5	STR	3'-3"	27

*EPOXY COATED REINFORCING STEEL 12,314 LBS.
CLASS AA CONCRETE 70.2 CU. YDS.
CONCRETE BARRIER RAIL 516.5 LIN. FT.



PROJECT NO. R-2915B
ASHE COUNTY
STATION: 242+67.42 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
CONCRETE
BARRIER RAIL
NBL

REVISIONS						SHEET NO. S05-20
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 35
2			4			

ASSEMBLED BY : T.J. KIRSCHBAUM DATE : 4/25/14
CHECKED BY : R.F. WERTMAN DATE : 8/22/14
DRAWN BY : ARB 5/87 REV. 10/1/11 MAA/GM
CHECKED BY : SJD 9/87 REV. 7/12 MAA/GM
REV. 6/13 MAA/GM

PLANS PREPARED BY:
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Raleigh NC 27606-4279
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NOTES

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

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

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

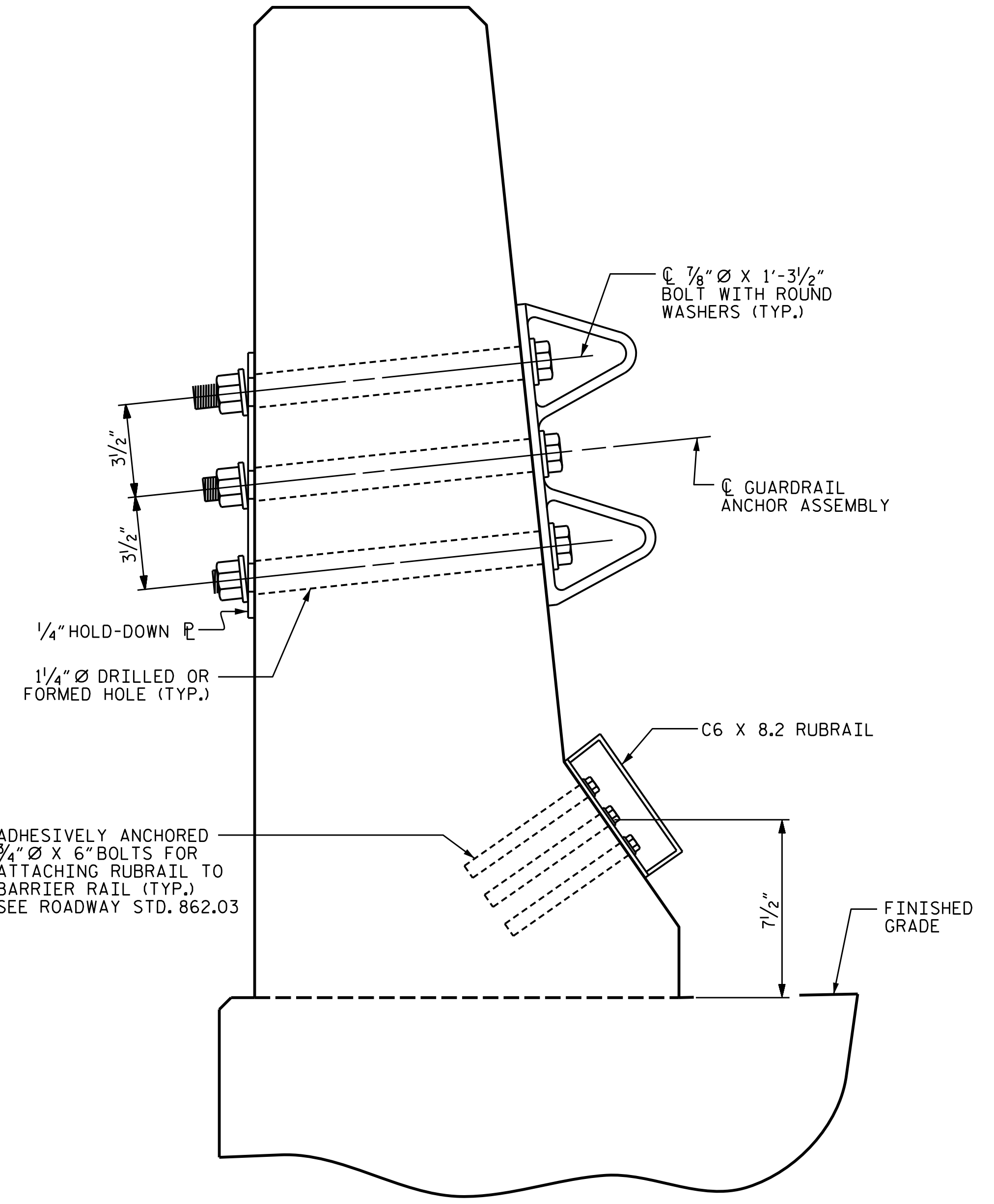
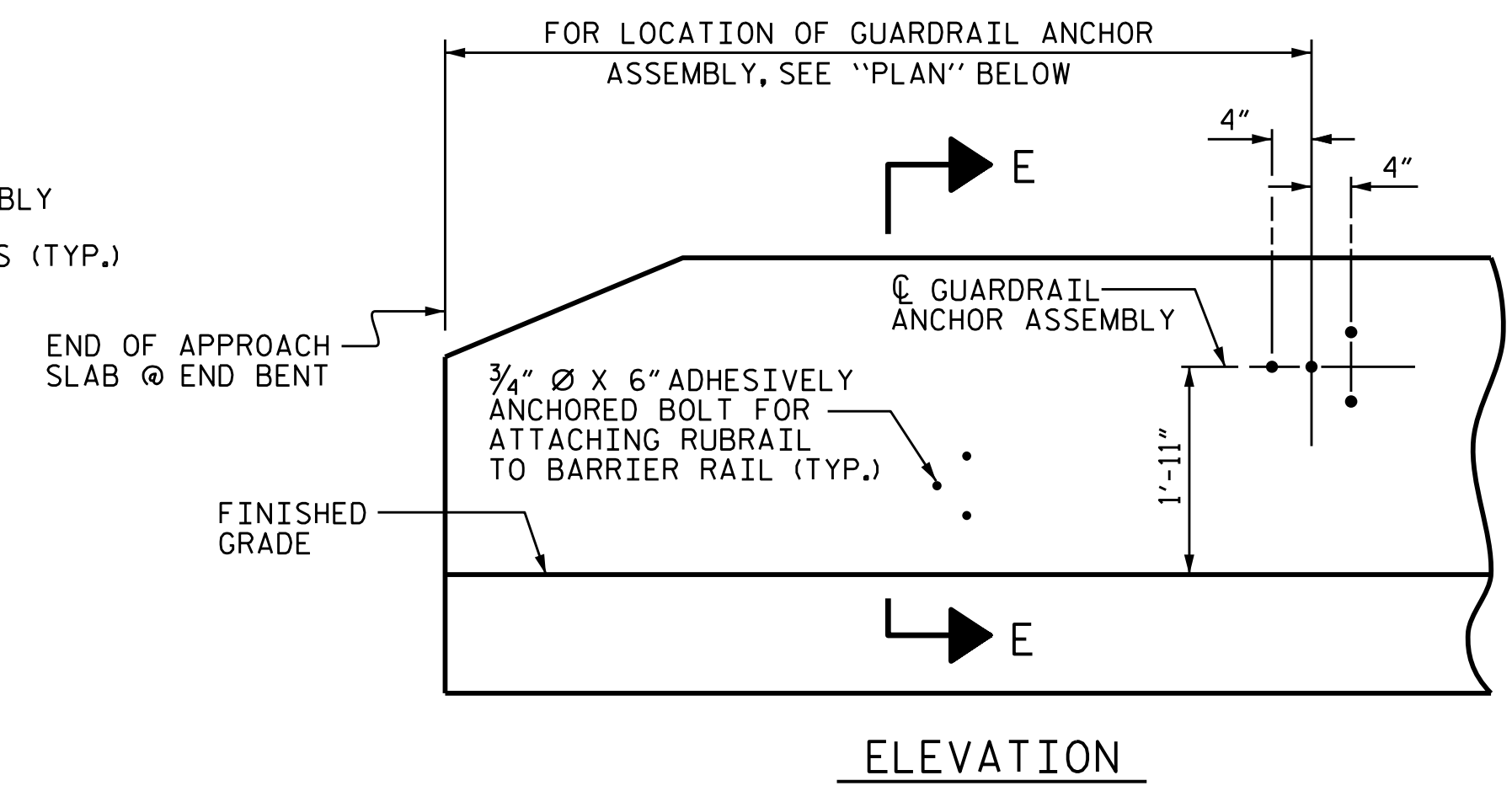
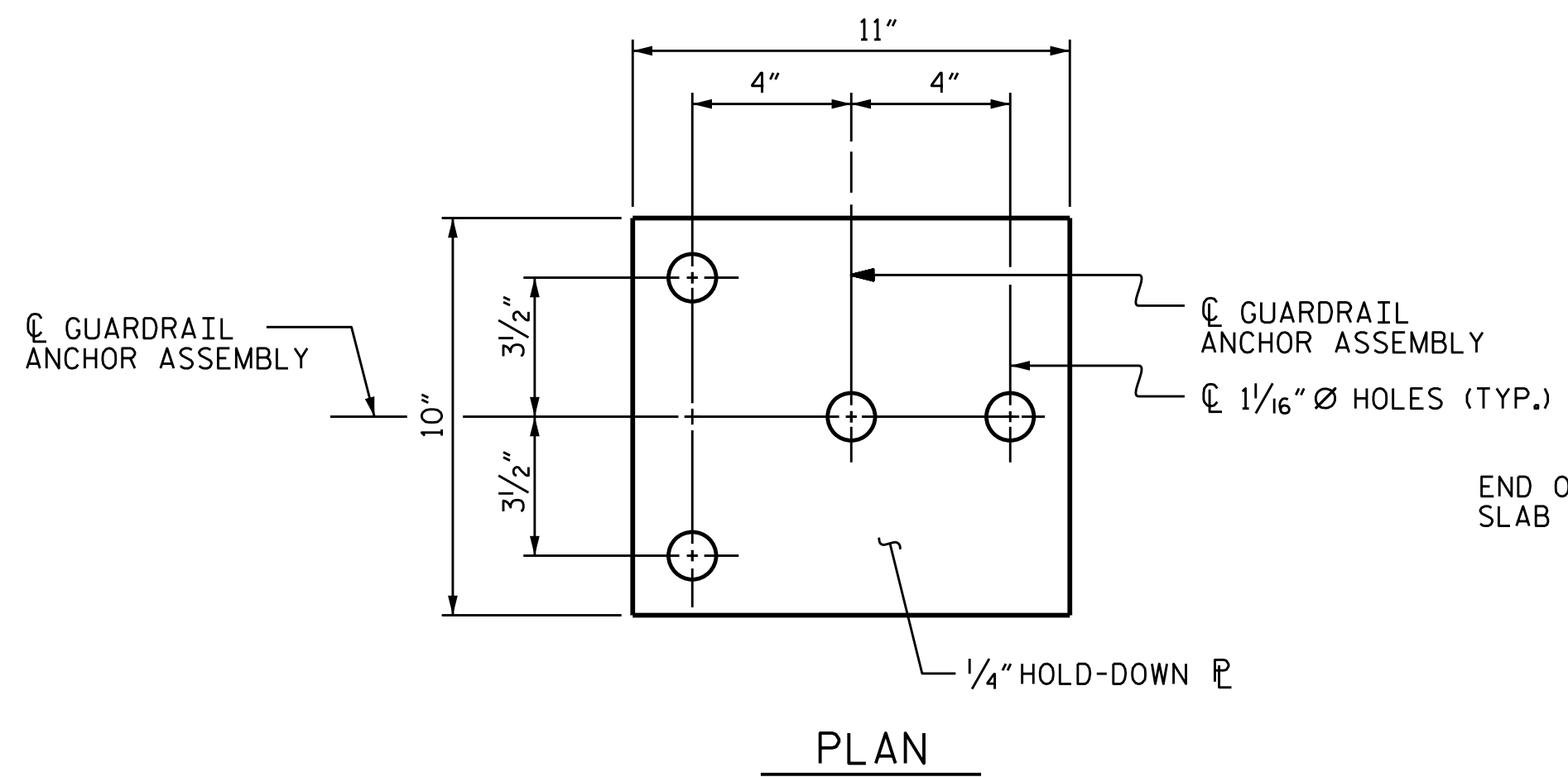
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

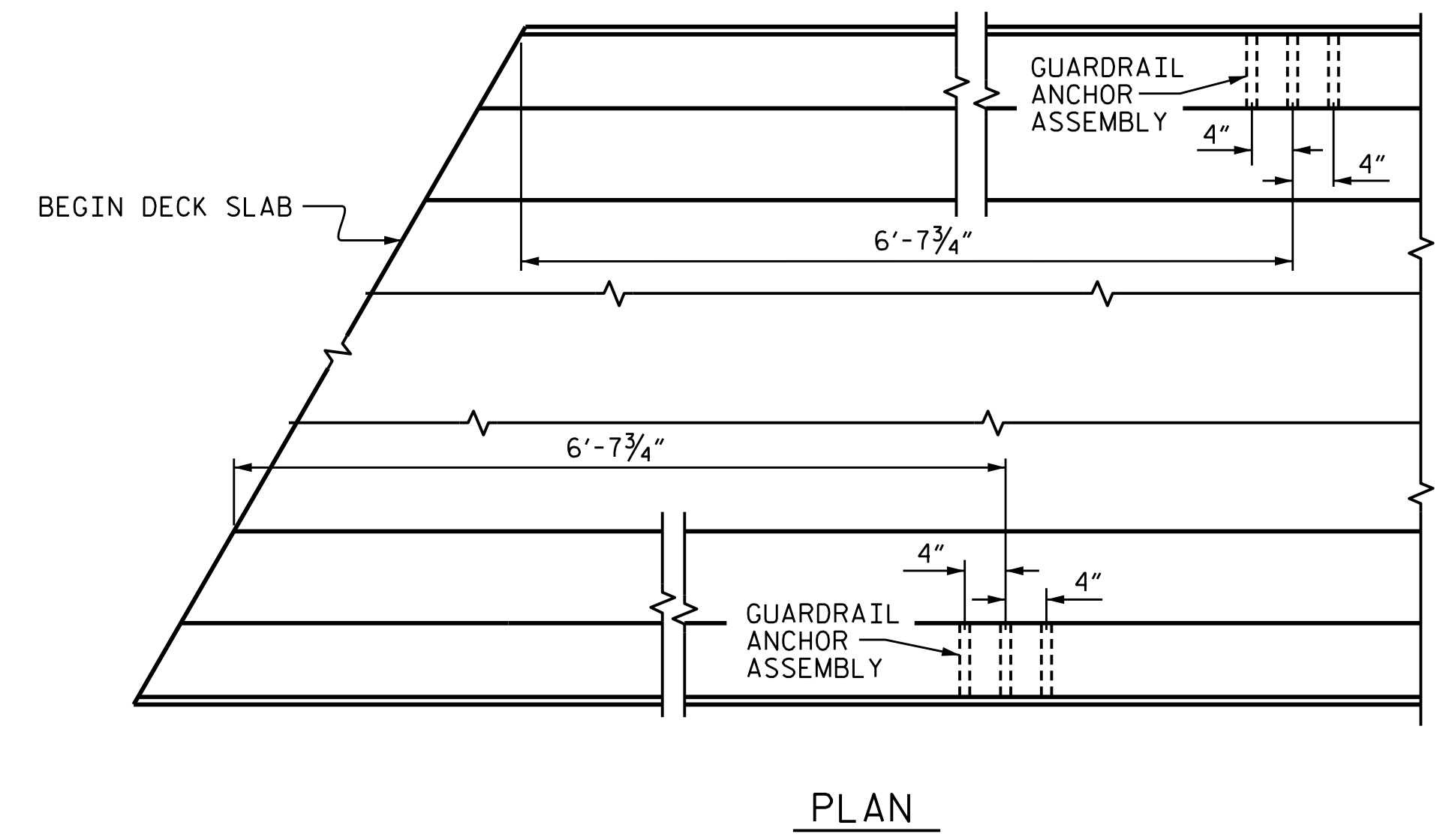
THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR CONCRETE BARRIER RAIL.

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

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



SECTION E-E
GUARDRAIL ANCHOR ASSEMBLY DETAILS



LOCATION OF ANCHORS FOR GUARDRAIL

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



SKETCH SHOWING POINTS OF ATTACHMENTS
* DENOTES GUARDRAIL ANCHOR ASSEMBLY

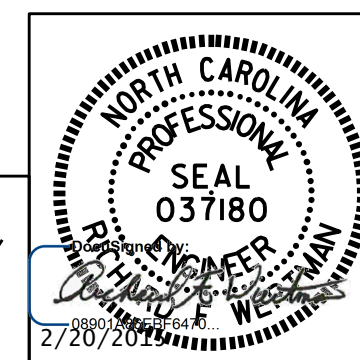
ASSEMBLED BY : T.J. KIRSCHBAUM	DATE : 4/24/14
CHECKED BY : R.F. WERTMAN	DATE : 8/16/14
DRAWN BY : TLA 5/06	REV. 10/1/11 MAA/GM
CHECKED BY : GM 5/06	REV. 7/12 MAA/GM
	REV. 6/13 MAA/GM

PLANS PREPARED BY:

Gannett Fleming
Excellence Delivered As Promised

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Suite 170
Raleigh NC 27606-4279
(919) 859-4880
INC Lic. No. F-0270

THESE PLANS HAVE BEEN PROPERLY EXAMINED BY THE UNDERSIGNED. I HAVE DETERMINED THAT THEY COMPLY WITH EXISTING NORTH CAROLINA CODES, AND HAVE BEEN PROPERLY ADAPTED FOR USE IN THIS AREA.



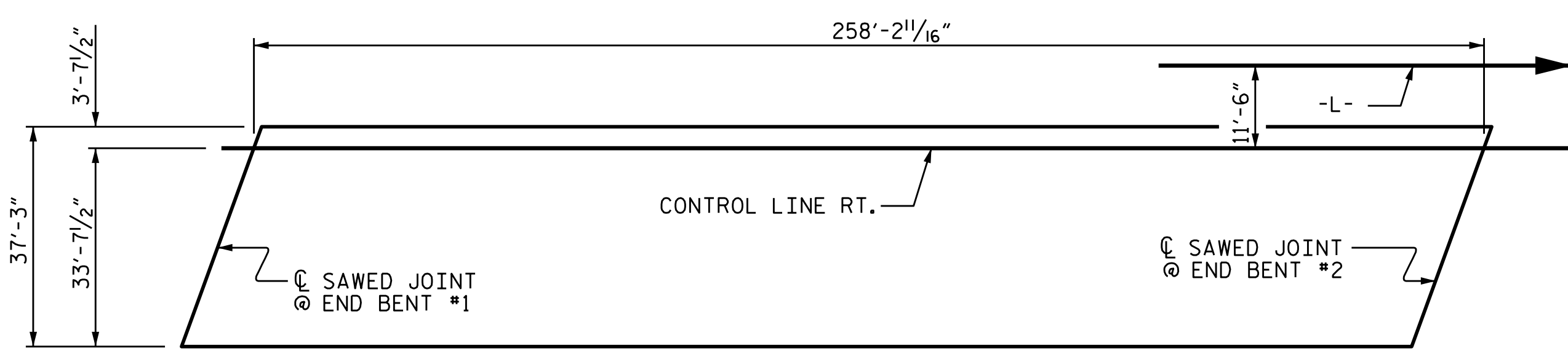
PROJECT NO. R-2915B
ASHE COUNTY
STATION: 242+67.42 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

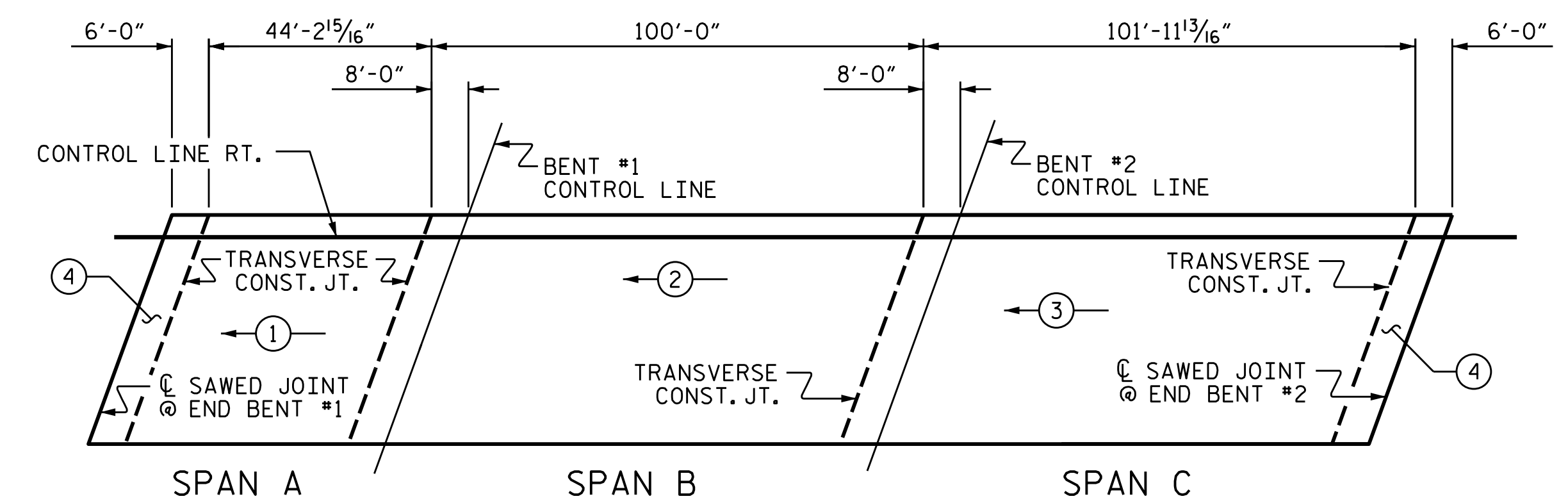
STANDARD
GUARDRAIL ANCHORAGE
FOR BARRIER RAIL

NBL

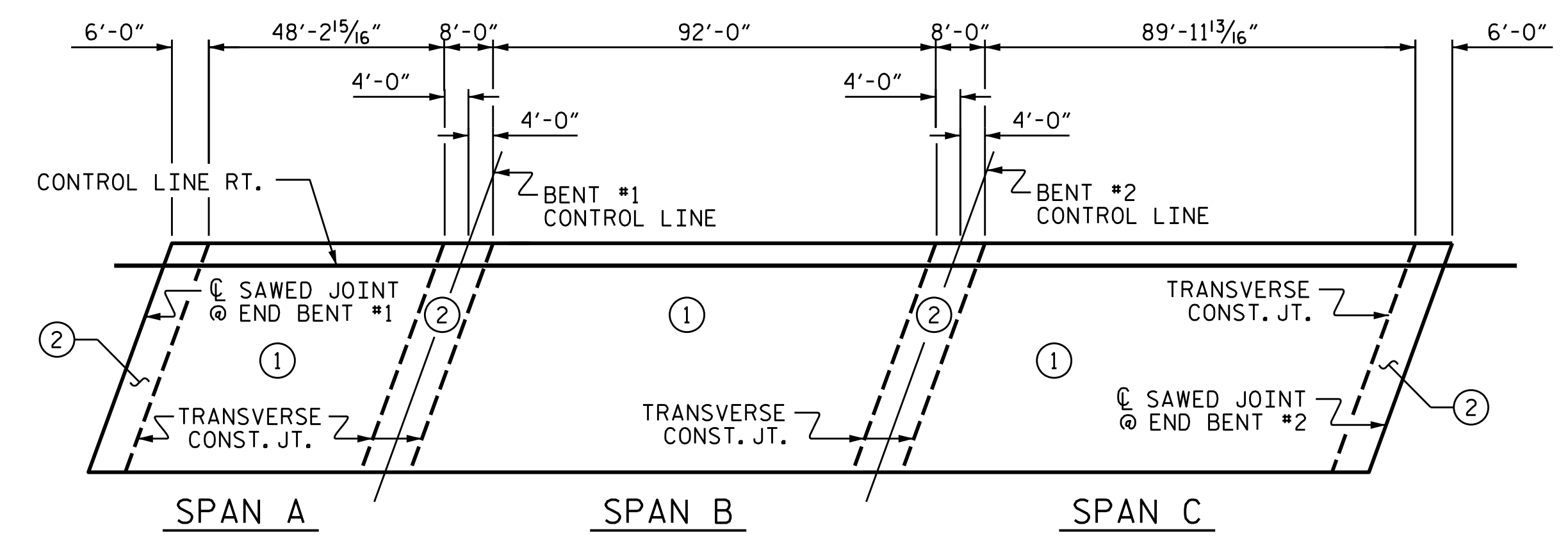
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-21	
1			3			TOTAL SHEETS	
2			4			35	



LAYOUT FOR COMPUTING AREA
REINFORCED CONCRETE DECK SLAB
(SQ. FT. = 9619)

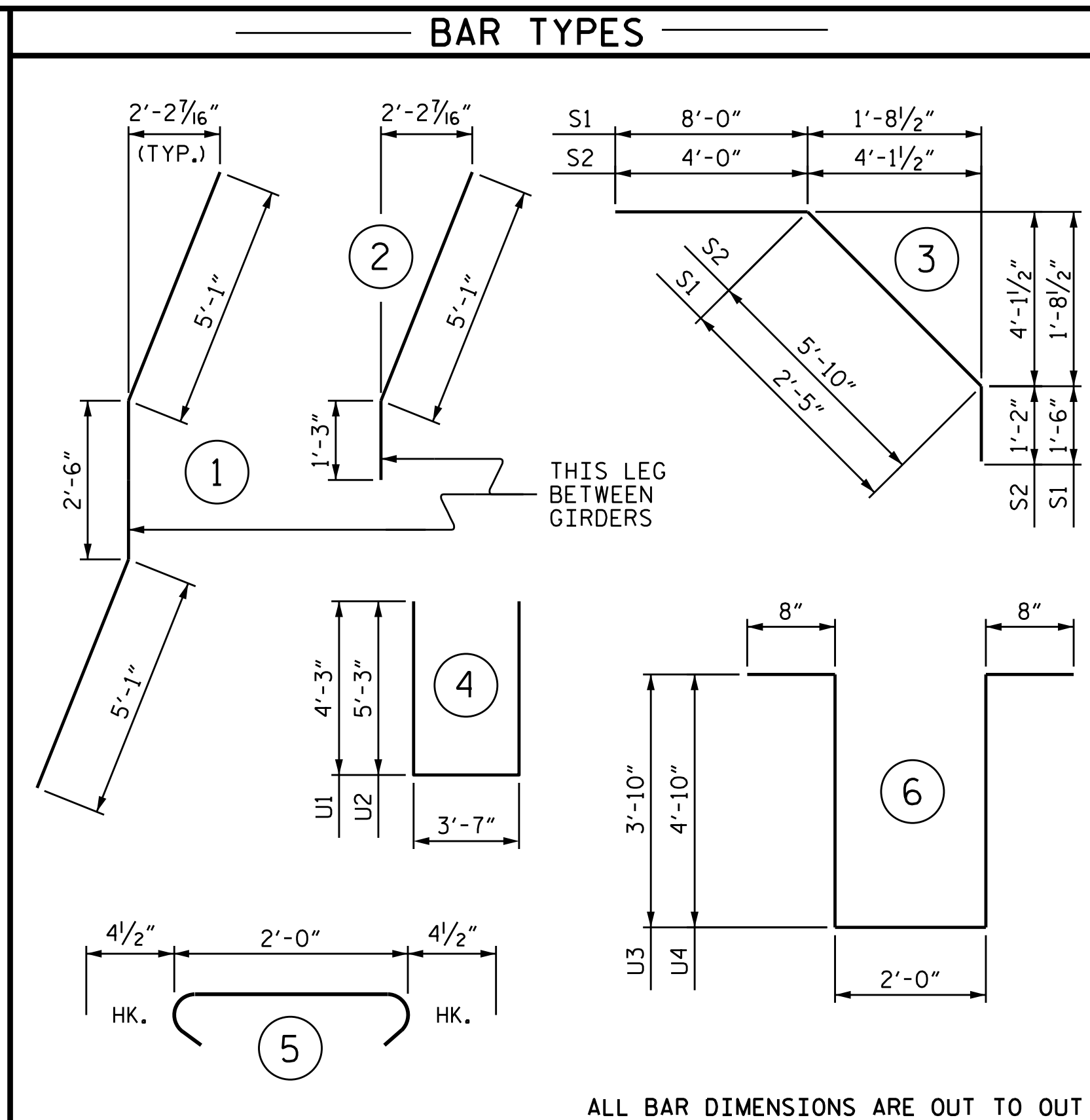


POURING SEQUENCE



OPTIONAL POURING SEQUENCE

POUR ② CAN NOT BE STARTED UNTIL BOTH ADJACENT ① POURS REACH A MINIMUM OF 3000 PSI



BAR TYPES						BILL OF MATERIAL					
BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR NO.	SIZE	TYPE	LENGTH	WEIGHT		
* A1	489	#5	STR	36'-11"	18829	H1	8	#5	STR	9'-7"	80
A2	489	#5	STR	36'-11"	18829	H2	8	#5	STR	9'-4"	78
						H3	8	#5	STR	9'-11"	83
						H4	8	#5	STR	9'-8"	81
* A101	6	#5	STR	33'-4"	209						
* A102	6	#5	STR	29'-3"	183						
* A103	6	#5	STR	25'-1"	157	K1	20	#4	STR	23'-9"	317
* A104	6	#5	STR	21'-0"	131	K2	6	#4	STR	7'-11"	32
* A105	6	#5	STR	16'-10"	105	K3	18	#4	STR	9'-2"	110
* A106	6	#5	STR	12'-9"	80	K4	36	#4	STR	9'-7"	230
* A107	6	#5	STR	8'-7"	54	K5	18	#4	STR	8'-6"	102
* A108	6	#5	STR	4'-6"	28	K6	4	#4	STR	5'-5"	14
						K7	4	#4	STR	6'-1"	16
A201	6	#5	STR	33'-4"	209	K8	8	#4	STR	6'-4"	34
A202	6	#5	STR	29'-3"	183	K9	4	#4	STR	5'-9"	15
A203	6	#5	STR	25'-1"	157	K10	8	#4	STR	3'-10"	20
A204	6	#5	STR	21'-0"	131	K11	24	#4	STR	2'-10"	45
A205	6	#5	STR	16'-10"	105	K12	12	#4	STR	7'-4"	59
A206	6	#5	STR	12'-9"	80	K13	20	#4	2	6'-4"	85
A207	6	#5	STR	8'-7"	54	K14	20	#4	1	12'-8"	169
A208	6	#5	STR	4'-6"	28						
						* S1	60	#4	3	11'-11"	478
* B1	49	#7	STR	12'-0"	1202	* S2	60	#4	3	11'-0"	441
* B2	25	#4	STR	27'-9"	463	S3	192	#4	5	2'-9"	353
* B3	25	#7	STR	57'-6"	2938						
* B4	24	#7	STR	24'-0"	1177	U1	60	#4	4	12'-1"	484
* B5	50	#4	STR	18'-0"	601	U2	12	#4	4	14'-1"	113
* B6	25	#7	STR	25'-0"	1278	U3	12	#4	6	11'-0"	88
* B7	25	#7	STR	50'-3"	2568	U4	36	#4	6	13'-0"	313
* B8	24	#7	STR	30'-0"	1472						
* B9	50	#4	STR	25'-6"	852						
* B10	49	#7	STR	20'-0"	2003						
B11	220	#5	STR	53'-3"	12219						

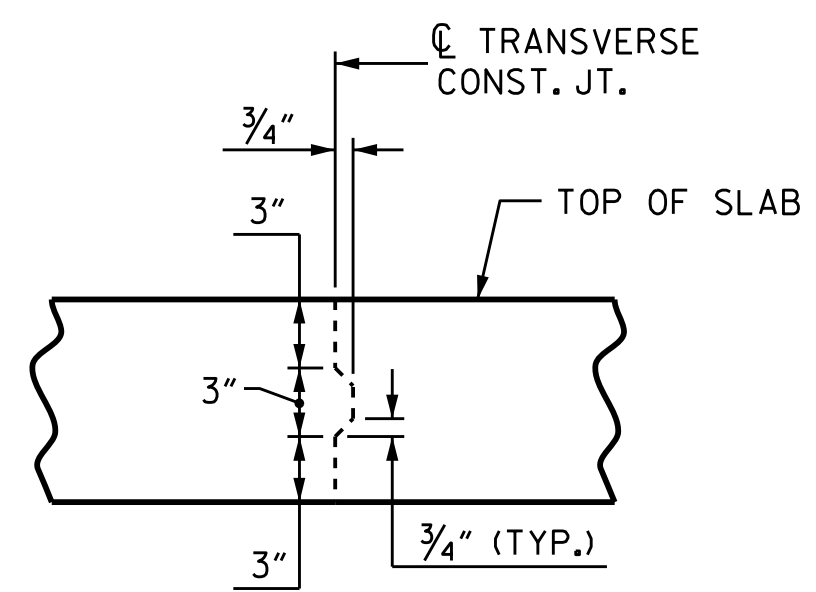
REINFORCING STEEL = 34,916
* EPOXY COATED REINFORCING STEEL = 35,249

SUPERSTRUCTURE BILL OF MATERIAL			
	CLASS AA CONCRETE (CU. YDS.)	REINFORCING STEEL (LBS.)	EPOXY COATED REINFORCING STEEL (LBS.)
POUR #1	49.1		
POUR #2	122.9		
POUR #3	125.1		
POUR #4	80.2		
TOTALS **	377.3	34,916	35,249

** QUANTITIES FOR BARRIER RAIL ARE NOT INCLUDED

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"			

GROOVING BRIDGE FLOORS	
APPROACH SLABS	1550 SQ.FT.
BRIDGE DECK	8005 SQ.FT.
TOTAL	9555 SQ.FT.



TRANSVERSE CONSTRUCTION JOINT DETAIL

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

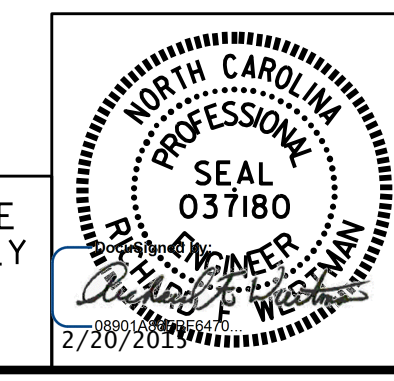
ASSEMBLED BY : T.J. KIRSCHBUAM	DATE : 5/1/14
CHECKED BY : R.F. WERTMAN	DATE : 8/22/14
DRAWN BY : JMB 5/87	REV. 8/16/99 RWW/LES
CHECKED BY : SJD 9/87	REV. 5/1/06 TLA/GM
	REV. 10/1/11 MAA/GM

PLANS PREPARED BY:

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NC Lic. No. F-0270

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
BILL OF MATERIAL
NBL

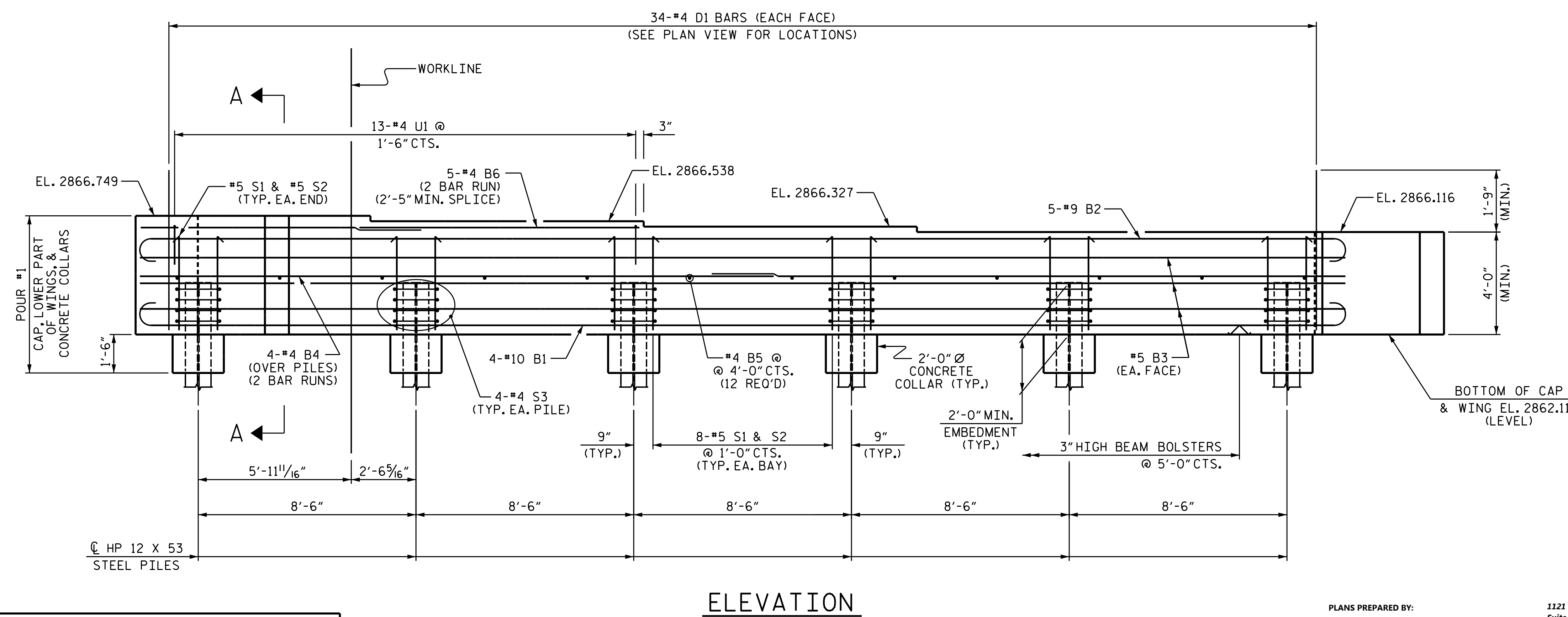
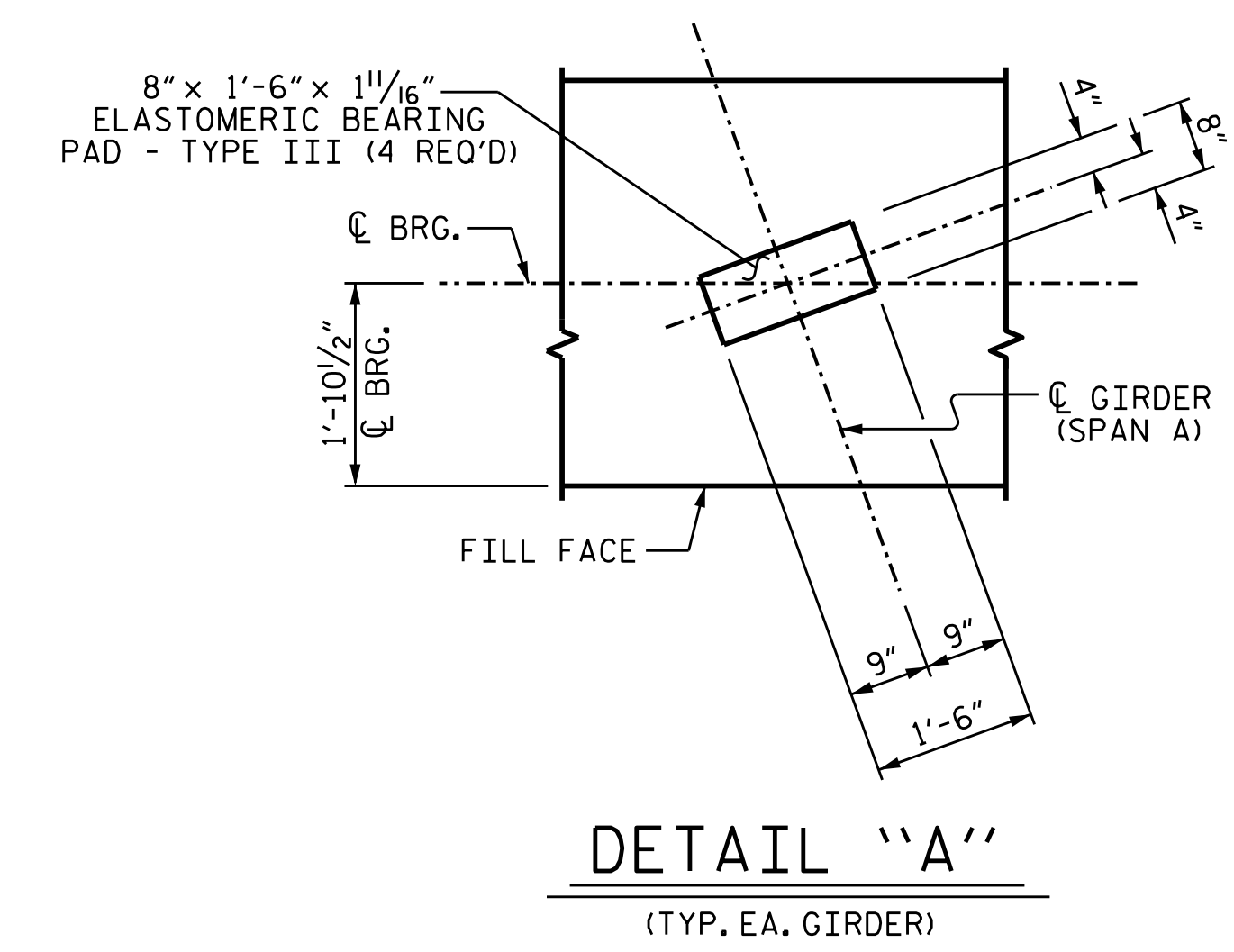
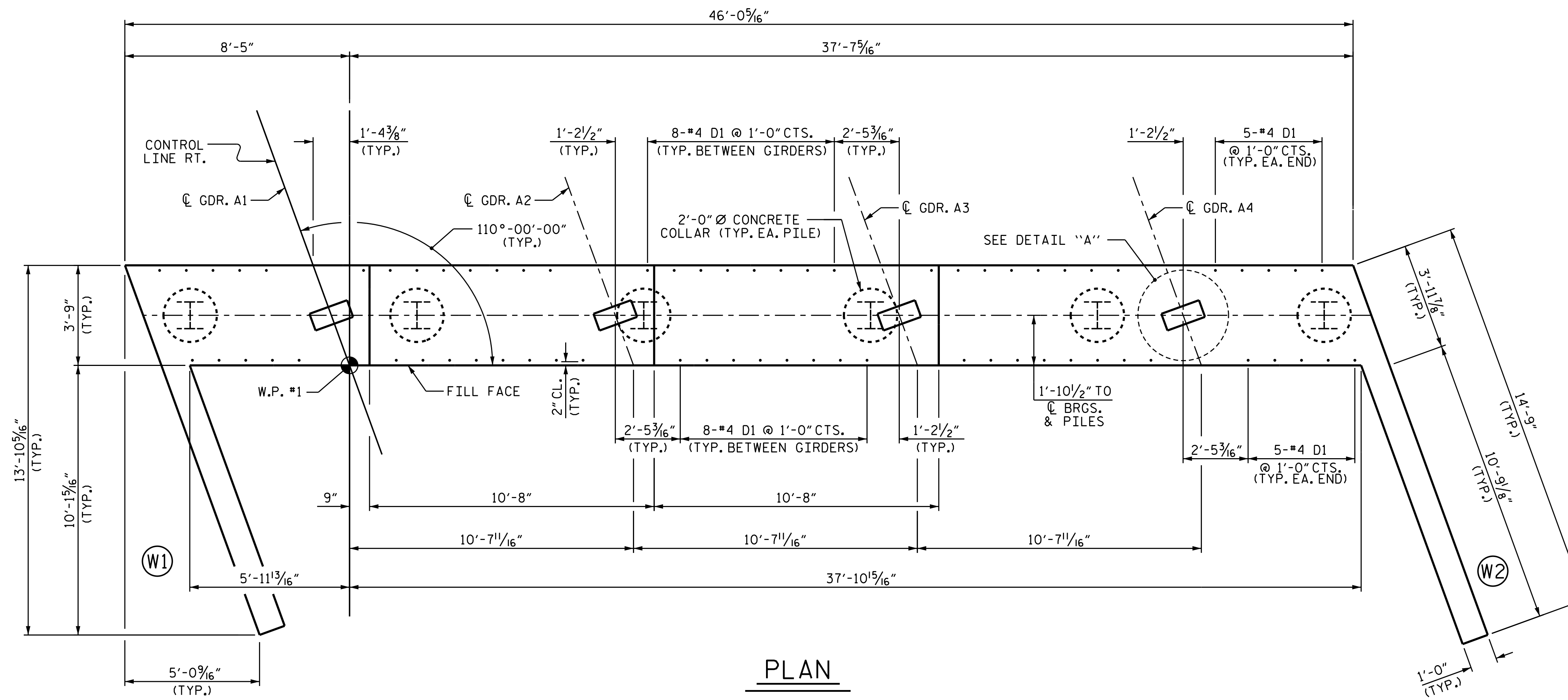
REVISIONS						SHEET NO. S05-22
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 35
2			4			

NOTES:

INSTALL THE 4" DIA. 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.

#4 D1 BARS MAY BE SHIFTED SLIGHTLY TO AVOID STIRRUPS IN CAP.

SEE SUPERSTRUCTURE SHEETS FOR UPPER PART OF INTEGRAL END BENT DETAILS.



PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 INTEGRAL
 END BENT #1
 NBL

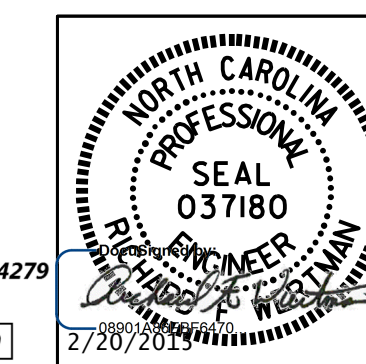
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

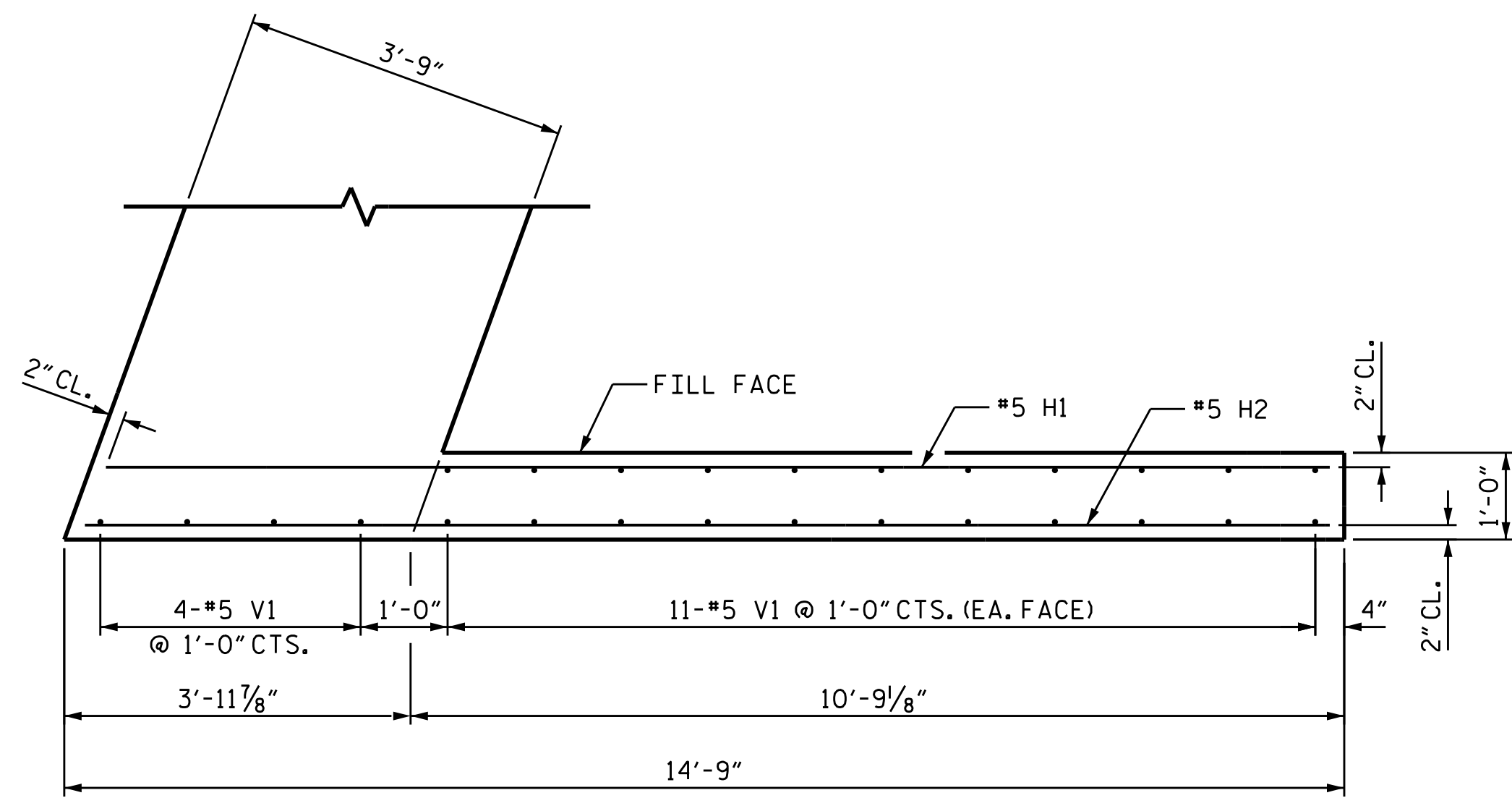
SHEET NO. S05-23
 TOTAL SHEETS 35

DRAWN BY : T.J. KIRSCHBAUM DATE : 10/08/14
 CHECKED BY : E.E. DEETSCHRECK DATE : 11/10/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 11/13/14

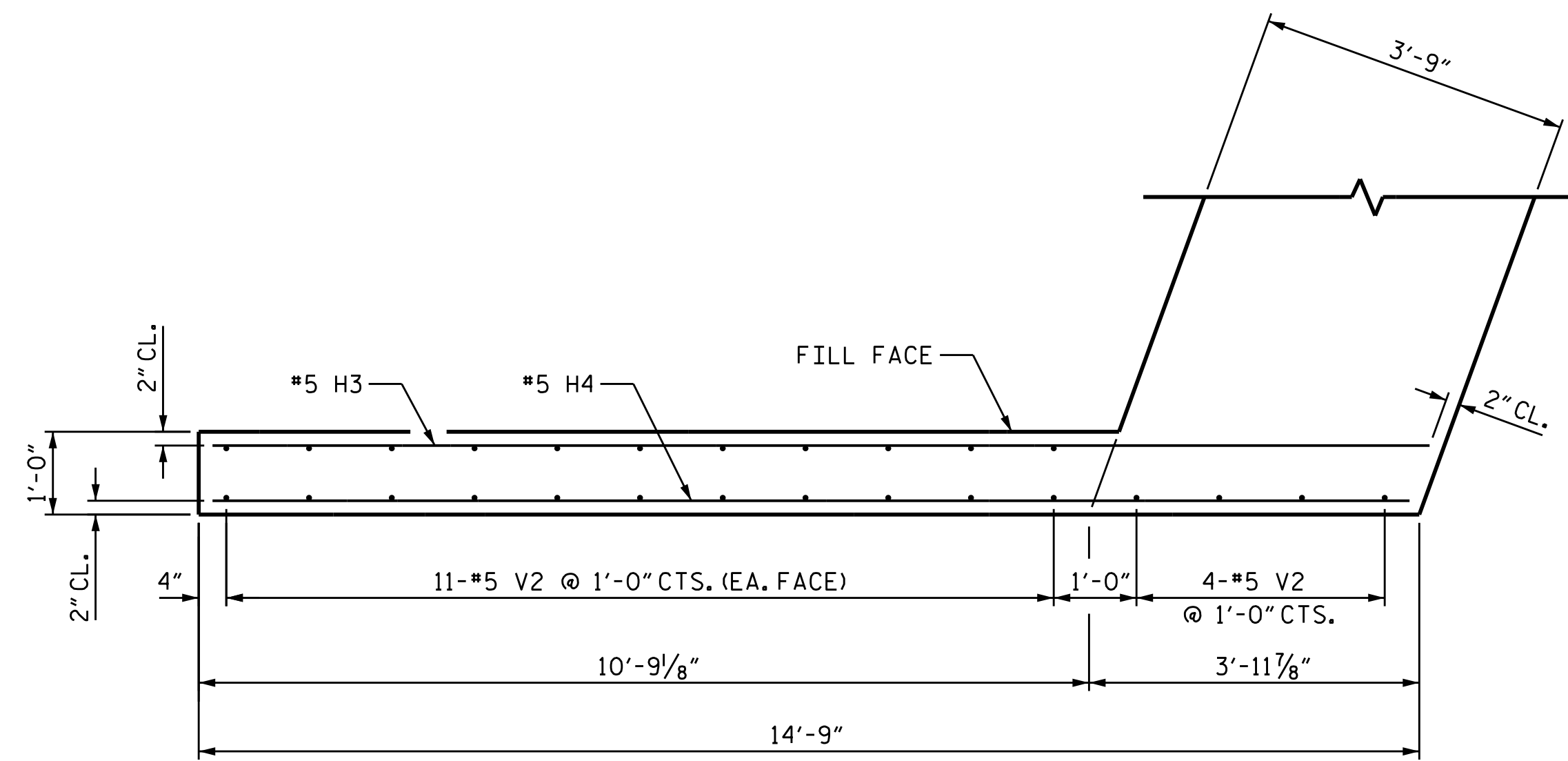
PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised

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 NCLic. No. F-0270





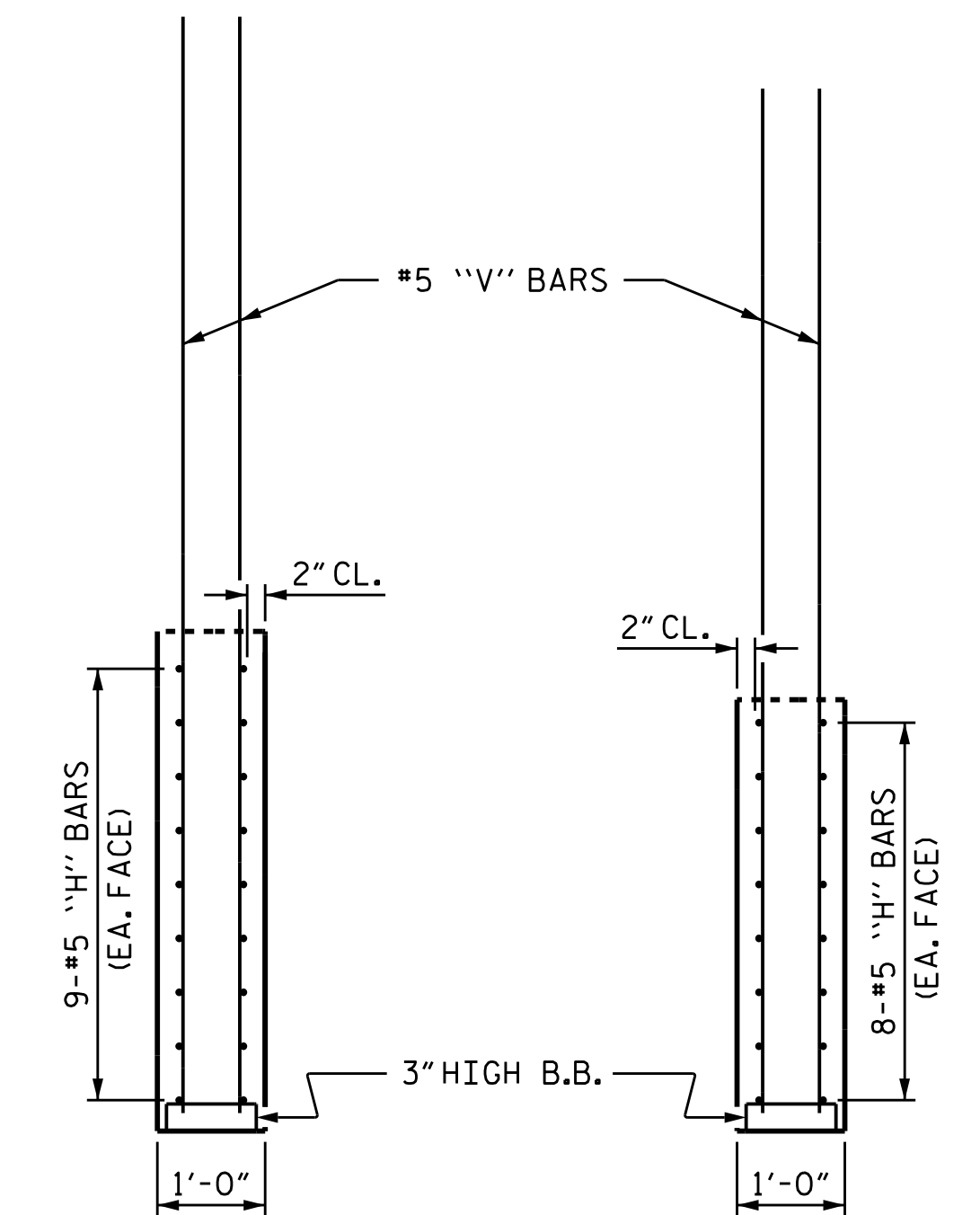
PLAN OF WING (W1)



PLAN OF WING (W2)

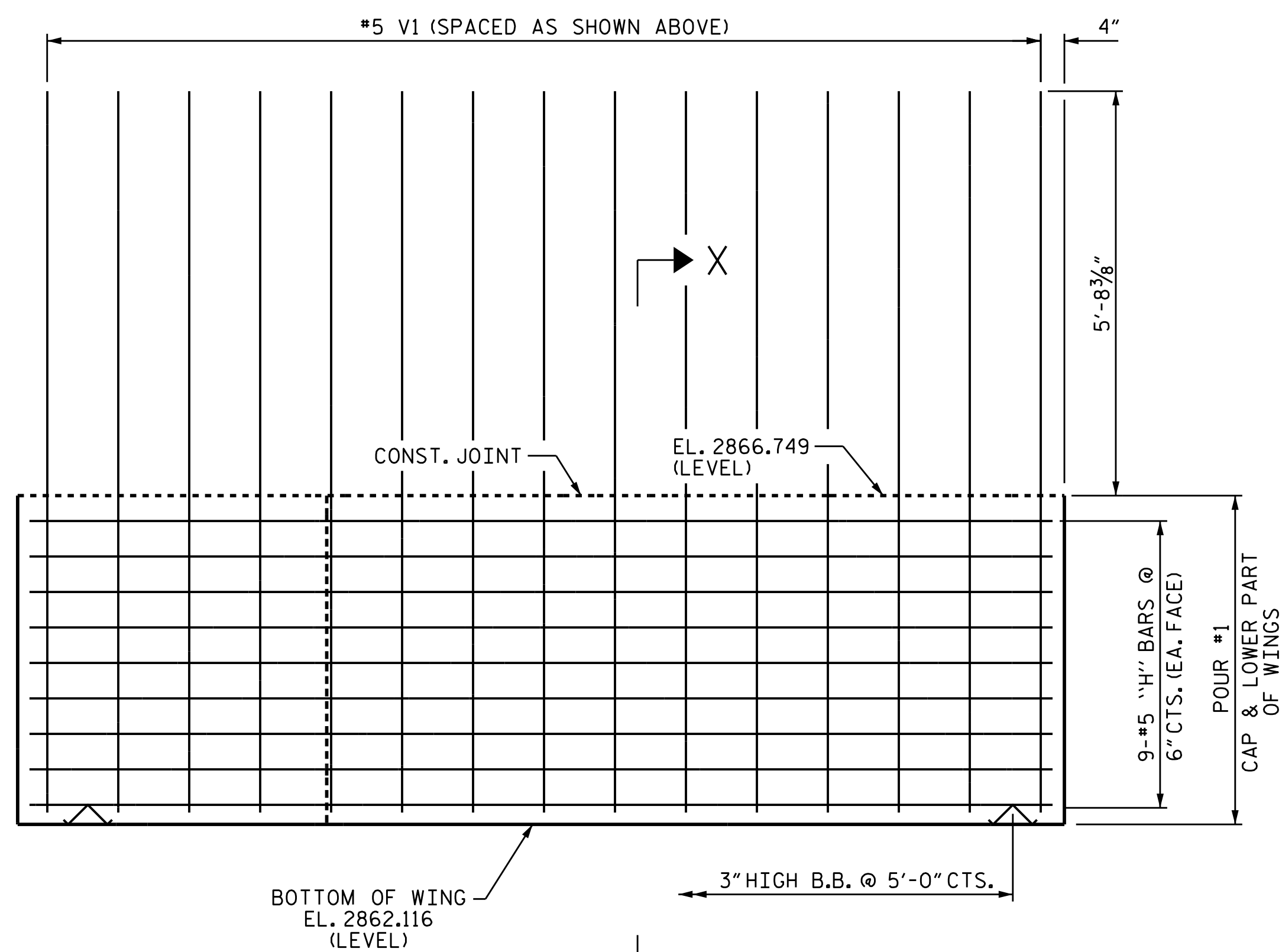
NOTES:

THE UPPER PORTION OF THE WINGS SHALL BE POURED WITH THE SUPERSTRUCTURE. FOR DETAILS AND REINFORCING STEEL, SEE SUPERSTRUCTURE DETAILS.

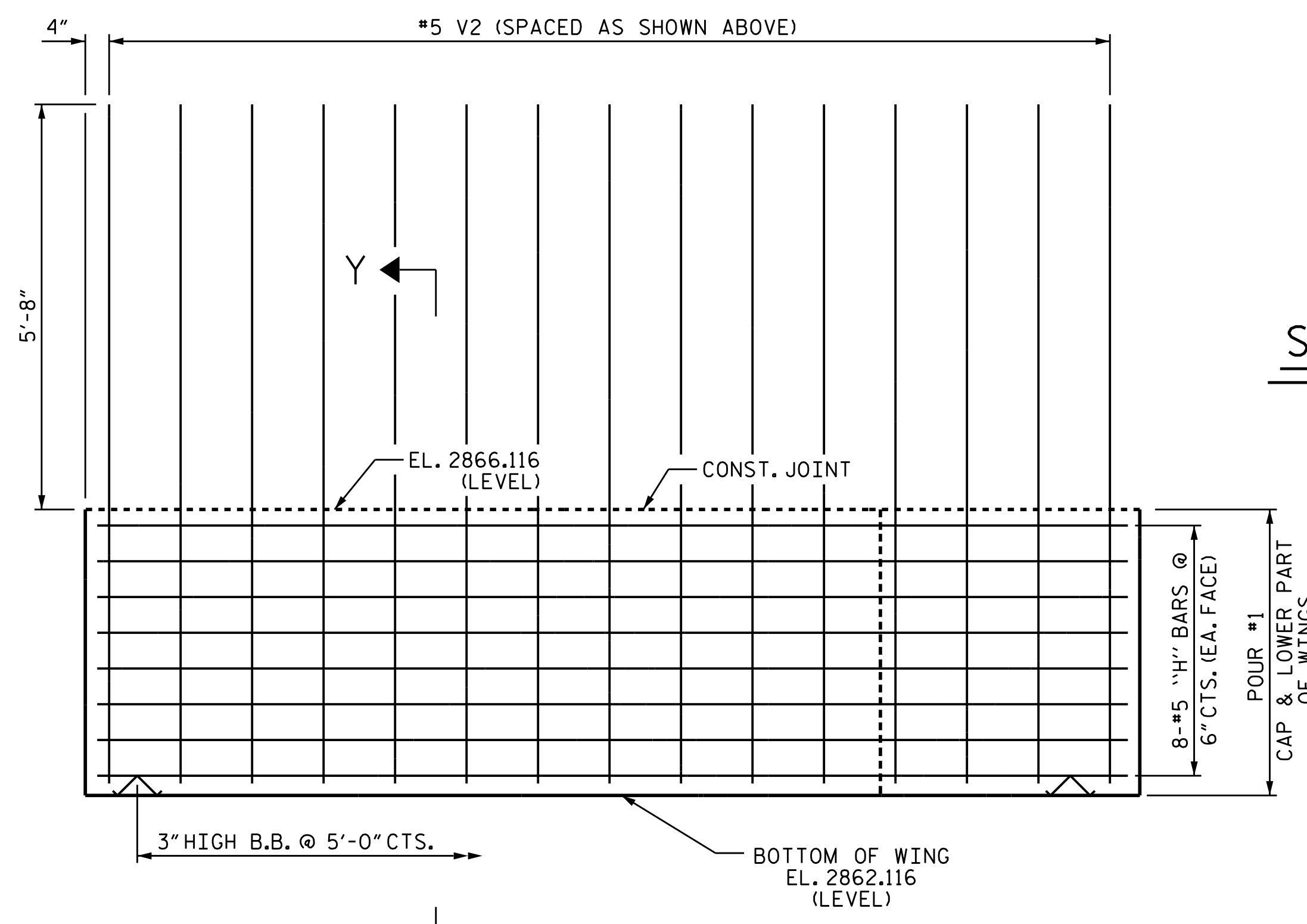


SECTION X-X

SECTION Y-Y



ELEVATION OF WING (W1)



ELEVATION OF WING (W2)

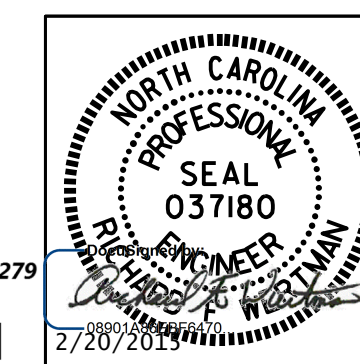
PROJECT NO. R-2915B
 ASHE COUNTY
 STATION: 242+67.42 -L-

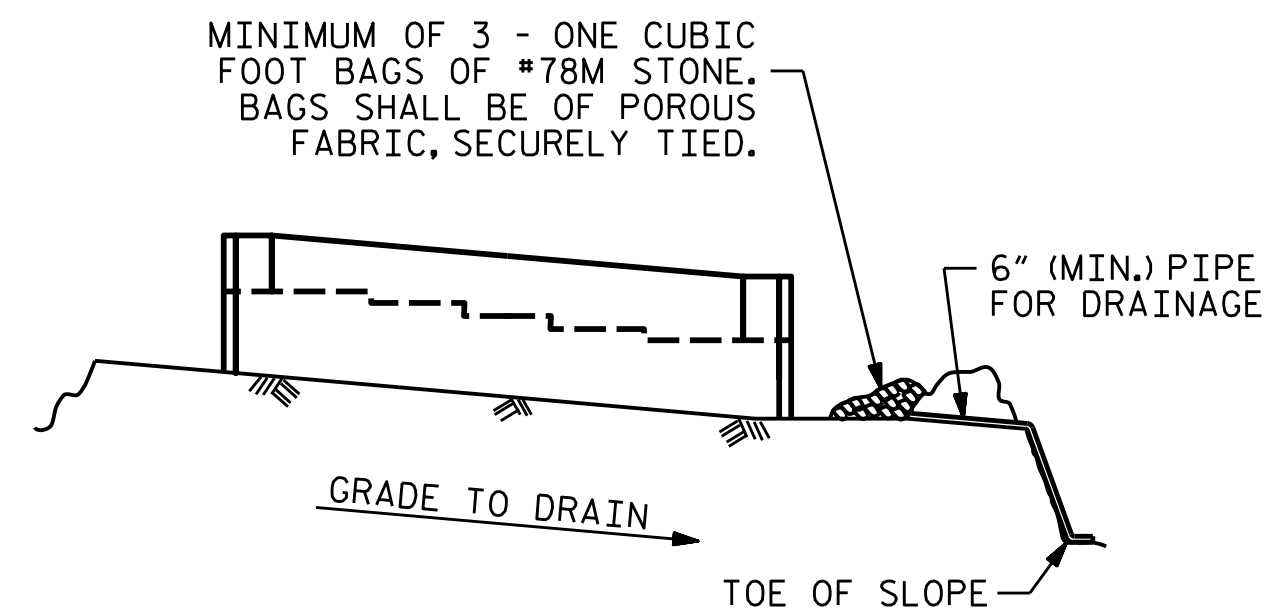
SHEET 2 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE					
INTEGRAL END BENT #1					
NBL					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S05-24					TOTAL SHEETS 35

DRAWN BY: T.J. KIRSCHBAUM DATE: 10/08/14
 CHECKED BY: E.E. DEETSCHRECK DATE: 11/10/14
 DESIGN ENGINEER OF RECORD: R.F. WERTMAN DATE: 11/13/14

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised
 1121 Situs Court
 Suite 170
 Raleigh, NC 27606-4279
 (919) 859-4880
 NCLic. No. F-0270



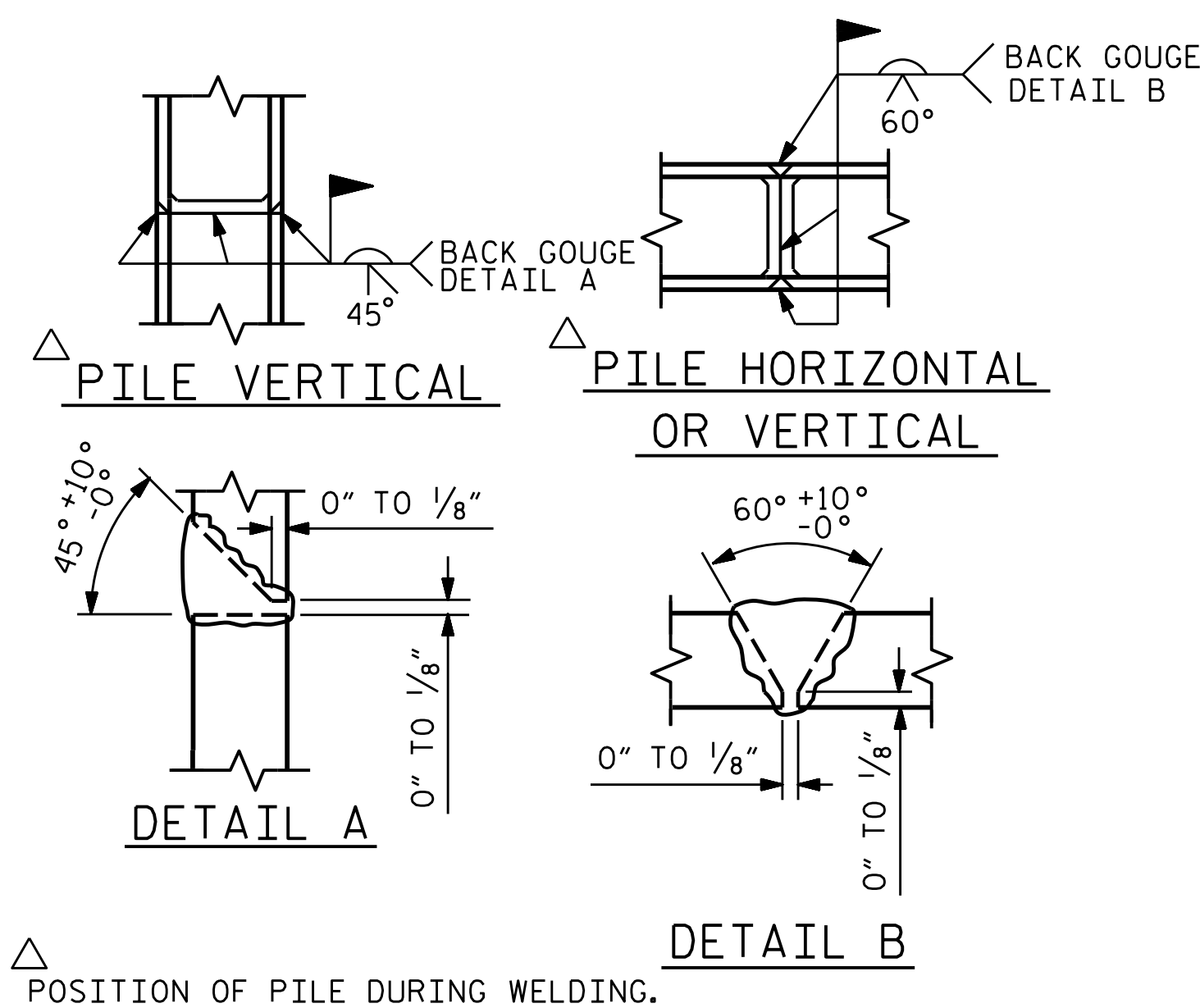


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

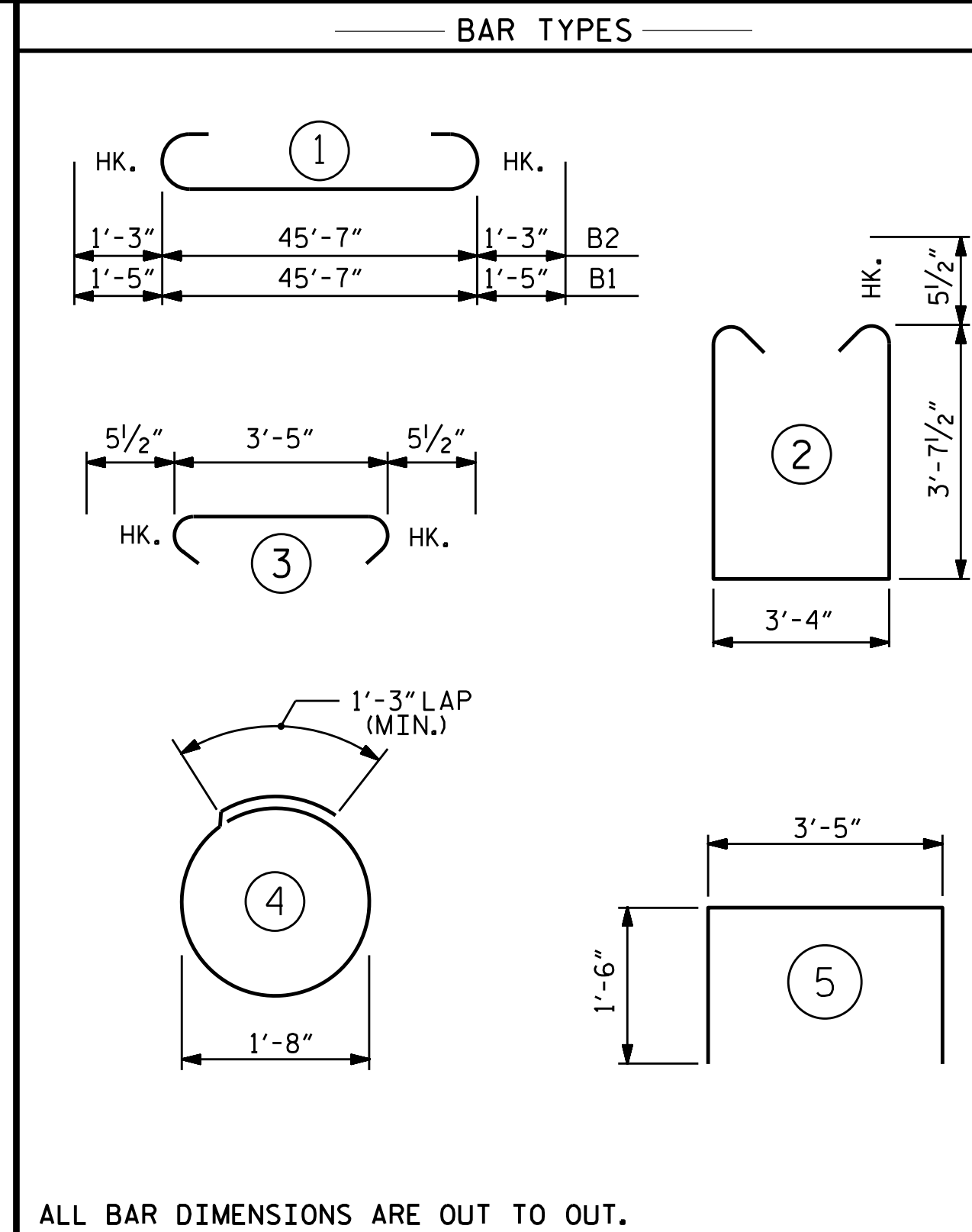
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

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

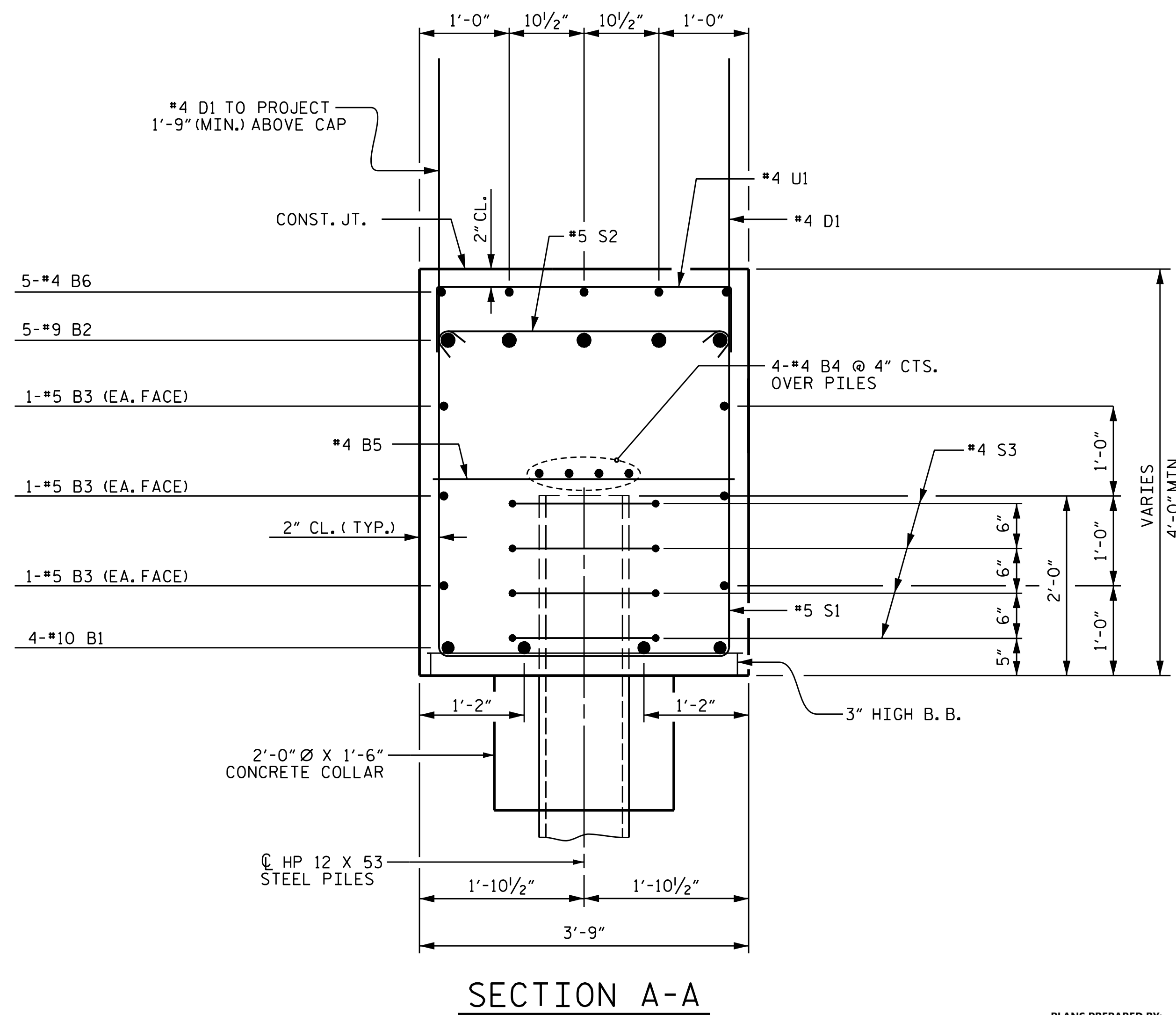
TEMPORARY DRAINAGE AT END BENT



PILE SPLICE DETAILS



BILL OF MATERIAL					
END BENT #1					
BAR	No.	SIZE	TYPE	LENGTH	WEIGHT
B1	4	#10	1	48'-5"	833
B2	5	#9	1	48'-1"	817
B3	6	#5	STR	45'-8"	286
B4	8	#4	STR	24'-1"	129
B5	12	#4	STR	3'-5"	27
B6	10	#4	STR	11'-0"	73
D1	68	#4	STR	6'-3"	284
H1	9	#5	STR	14'-1"	132
H2	9	#5	STR	14'-4"	135
H3	8	#5	STR	14'-8"	122
H4	8	#5	STR	14'-5"	120
S1	42	#5	2	11'-6"	504
S2	42	#5	3	4'-4"	190
S3	24	#4	4	6'-6"	104
U1	13	#4	5	6'-5"	56
V1	26	#5	STR	10'-2"	276
V2	26	#5	STR	9'-6"	258
REINFORCING STEEL					4346 LBS.
CLASS A CONCRETE					
POUR #1 (CAP, LOWER WINGS & COLLARS)					31.6 C.Y.
TOTAL					31.6 C.Y.
HP 12 X 53 STEEL PILES					
No. = 6					165 LIN. FT.



SECTION A-A

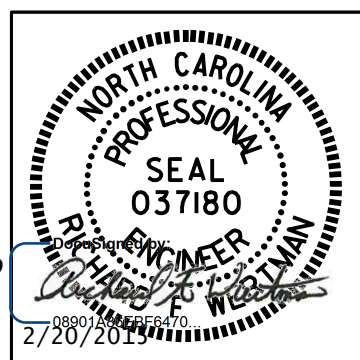
PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-
 SHEET 3 OF 3

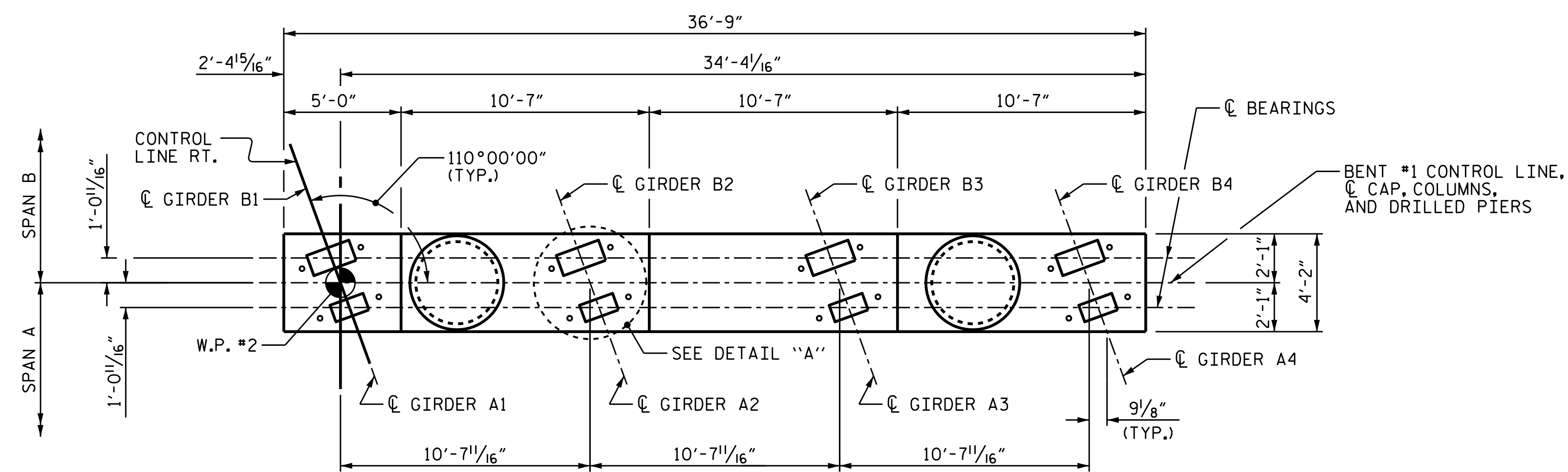
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 INTEGRAL
 END BENT #1
 NBL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-25
1			3			TOTAL SHEETS
2			4			35

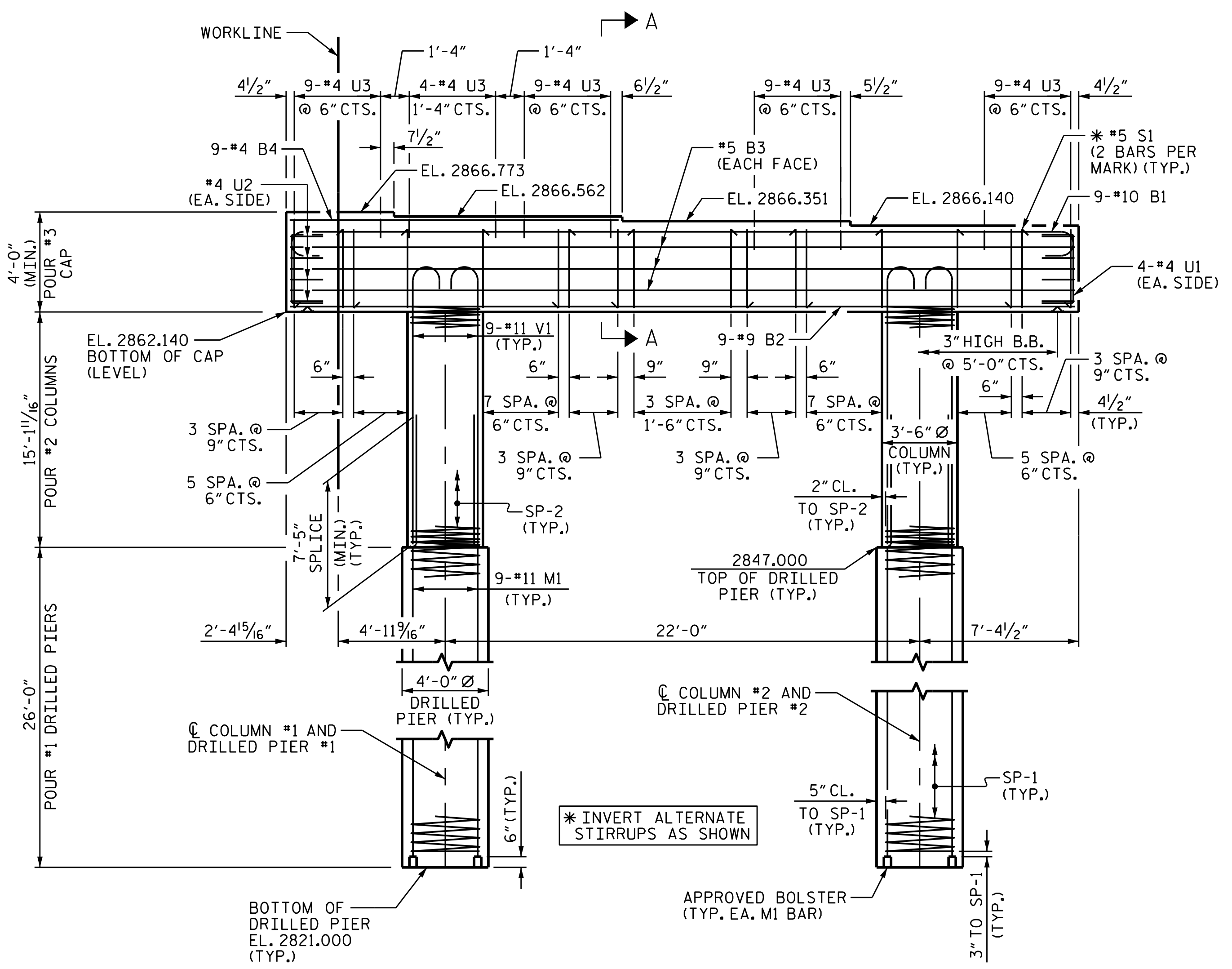
DRAWN BY : T.J. KIRSCHBAUM DATE : 10/08/14
 CHECKED BY : E.E. DEETSCREEK DATE : 11/10/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 11/13/14

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised

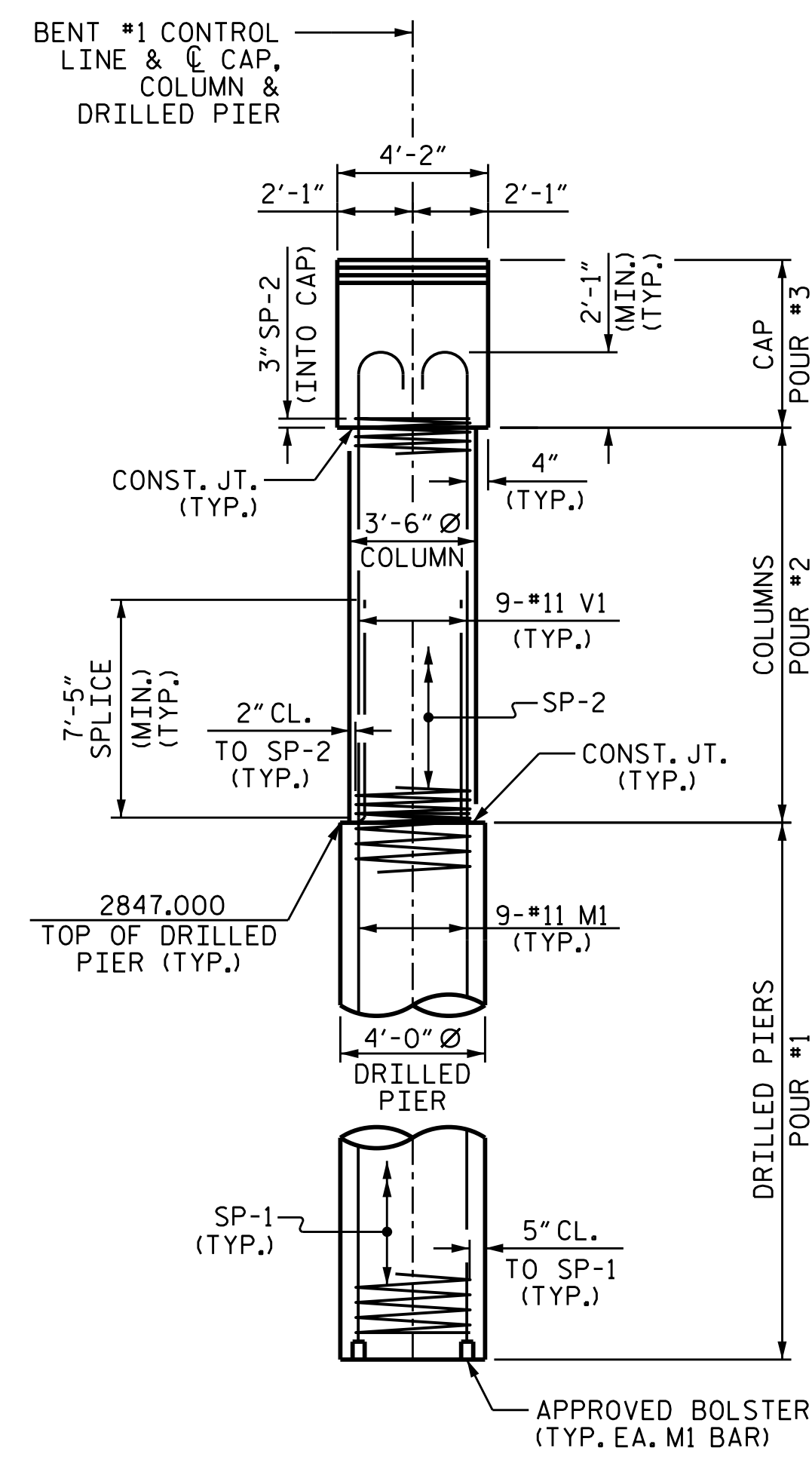




PLAN



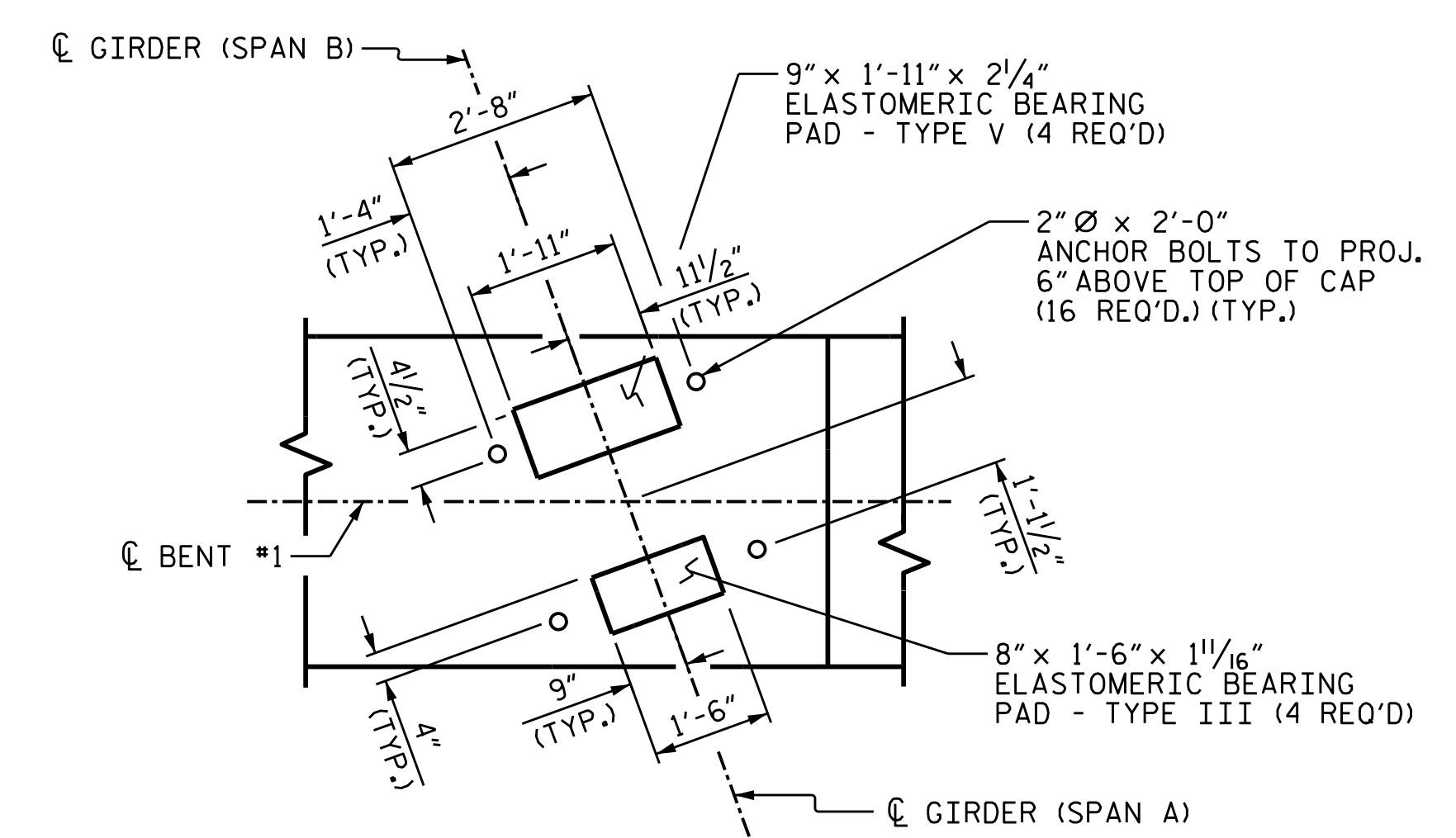
ELEVATION



END ELEVATION

NOTES

- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
- HOOKS ON V1 BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.
- FOR DRILLED PIERS, SEE SECTION 411 OF STANDARD SPECIFICATIONS.
- ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR "REINFORCING STEEL" AND "SPIRAL COLUMN REINFORCING STEEL".
- THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE LONGITUDINAL REINFORCEMENT FOR THE DRILLED PIERS IS DETAILED WITH 3 FEET OF EXTRA LENGTH.
- THE LOCATION OF THE CONSTRUCTION JOINT IN THE DRILLED PIERS IS BASED ON AN APPROXIMATE GROUND LINE ELEVATION. IF THE CONSTRUCTION JOINT IS ABOVE THE ACTUAL GROUND LINE ELEVATION, THE CONTRACTOR SHALL PLACE THE CONSTRUCTION JOINT 1 FT. BELOW THE GROUND LINE.
- SPLICING OF THE LONGITUDINAL BARS IN THE DRILLED PIER WILL NOT BE PERMITTED.
- FOR PERMANENT STEEL CASING, SEE SECTION 411 OF STANDARD SPECIFICATIONS.



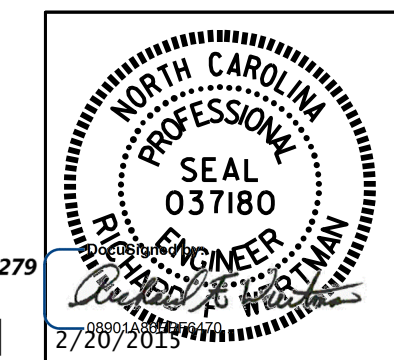
DETAIL "A"
(TYP. EA. GIRDER)

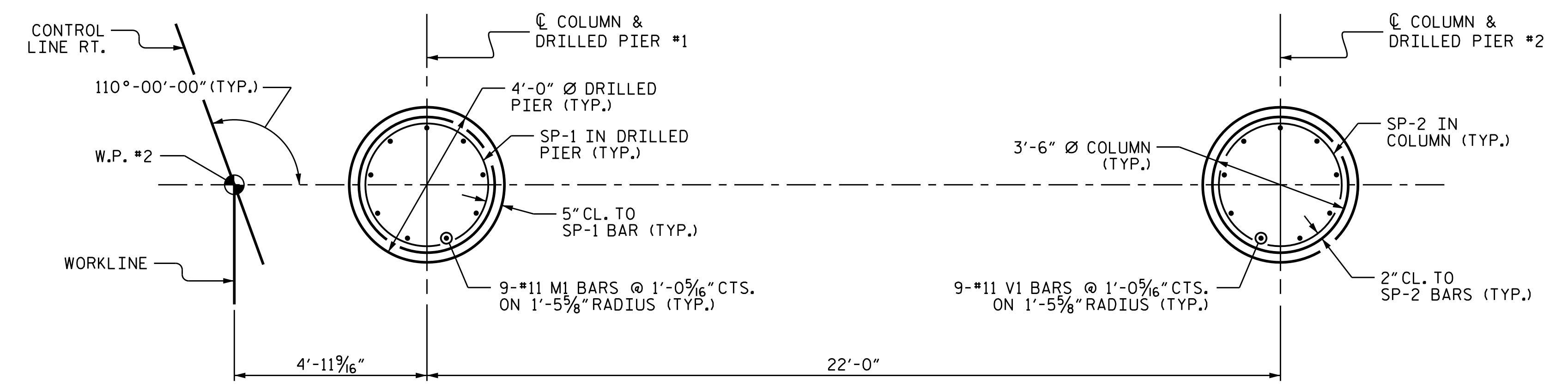
PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-
 SHEET 1 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE BENT #1 NBL					
REVISIONS				SHEET NO. S05-26	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					35

DRAWN BY : T.J. KIRSCHBAUM DATE : 10/21/14
 CHECKED BY : R.F. WERTMAN DATE : 11/7/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 11/7/14

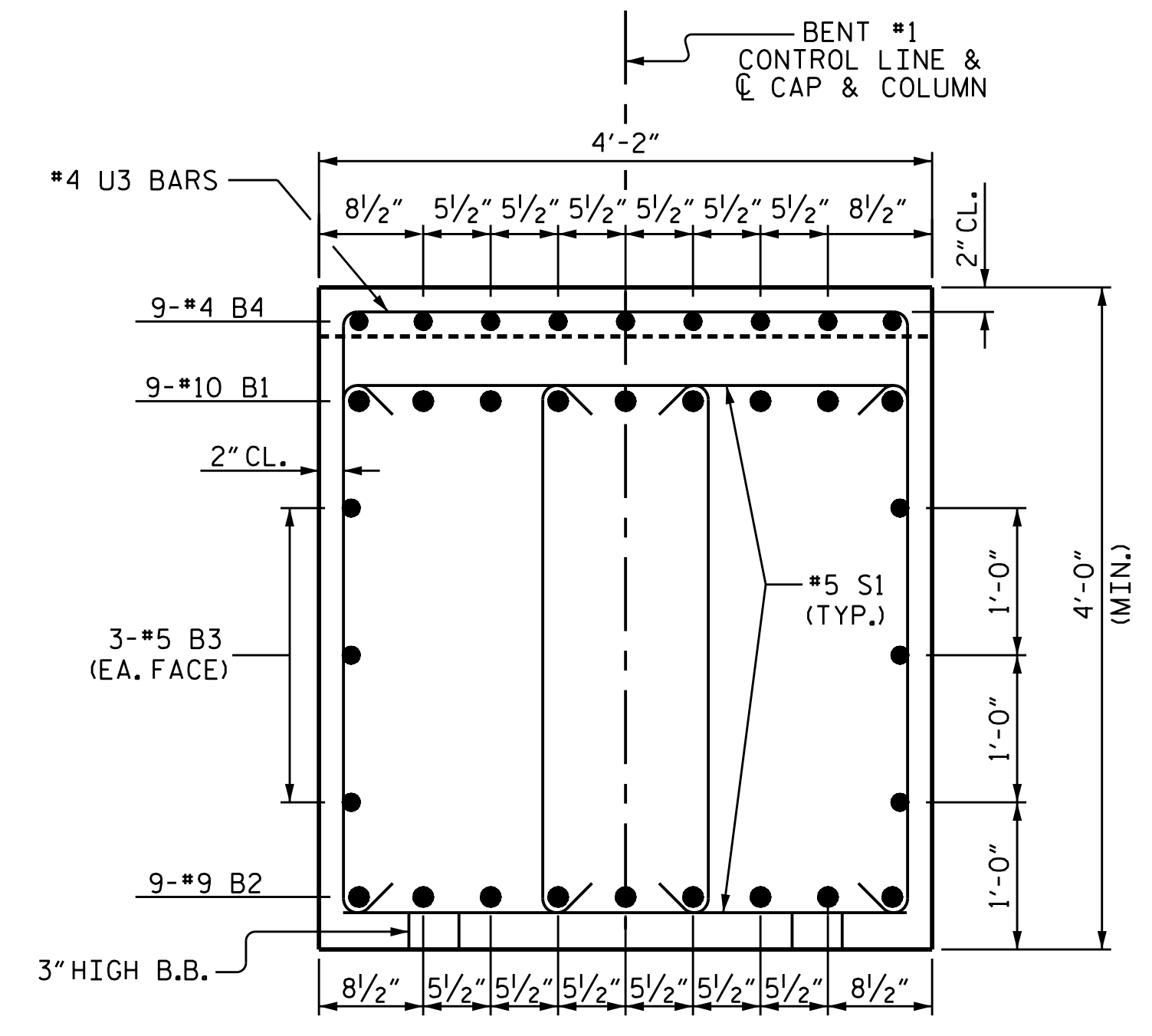
PLANS PREPARED BY:
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 Excellence Delivered As Promised
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 Suite 170
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 (919) 859-4880
 NCLic. No. F-0270



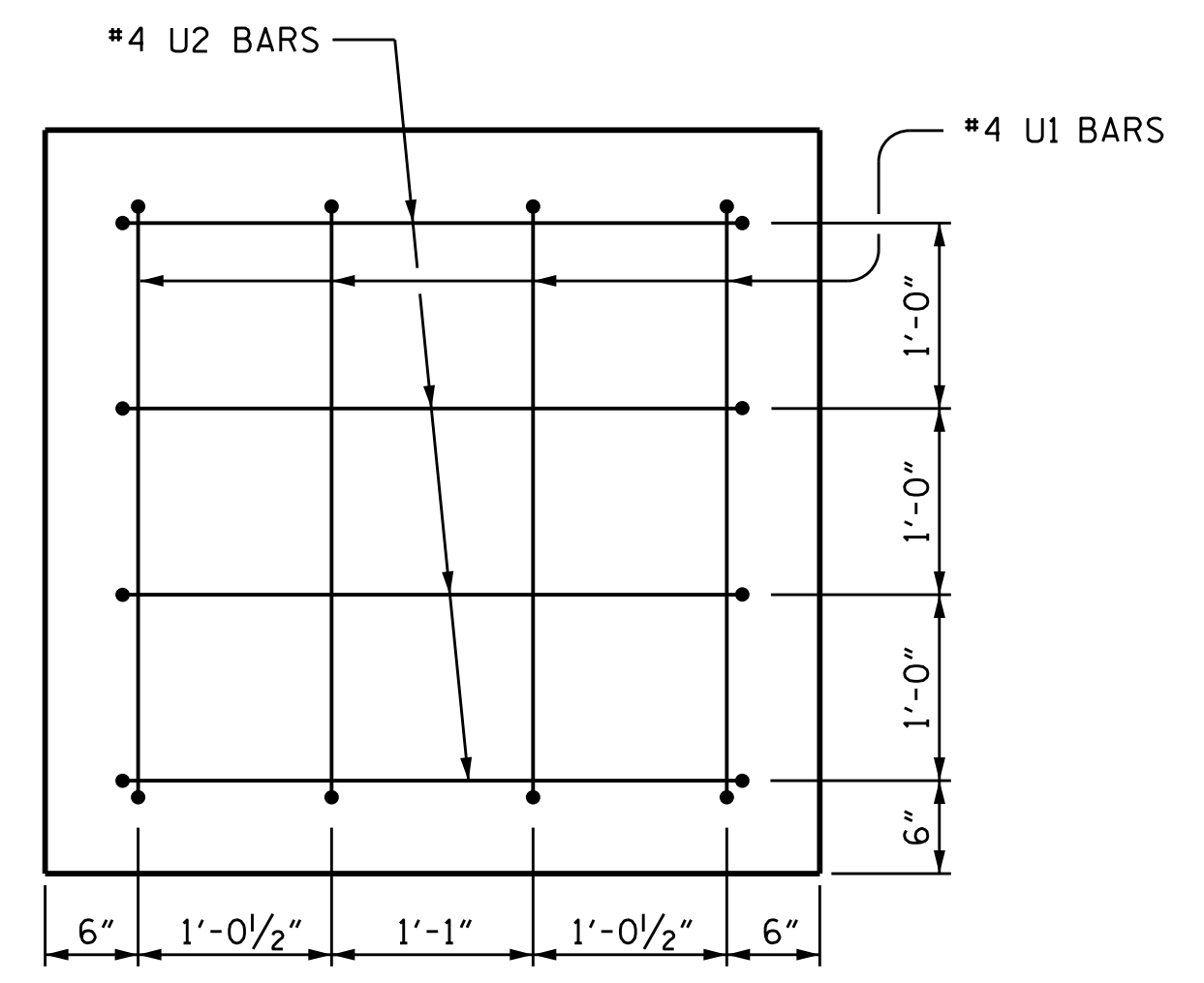


PLAN OF COLUMNS AND DRILLED PIERS

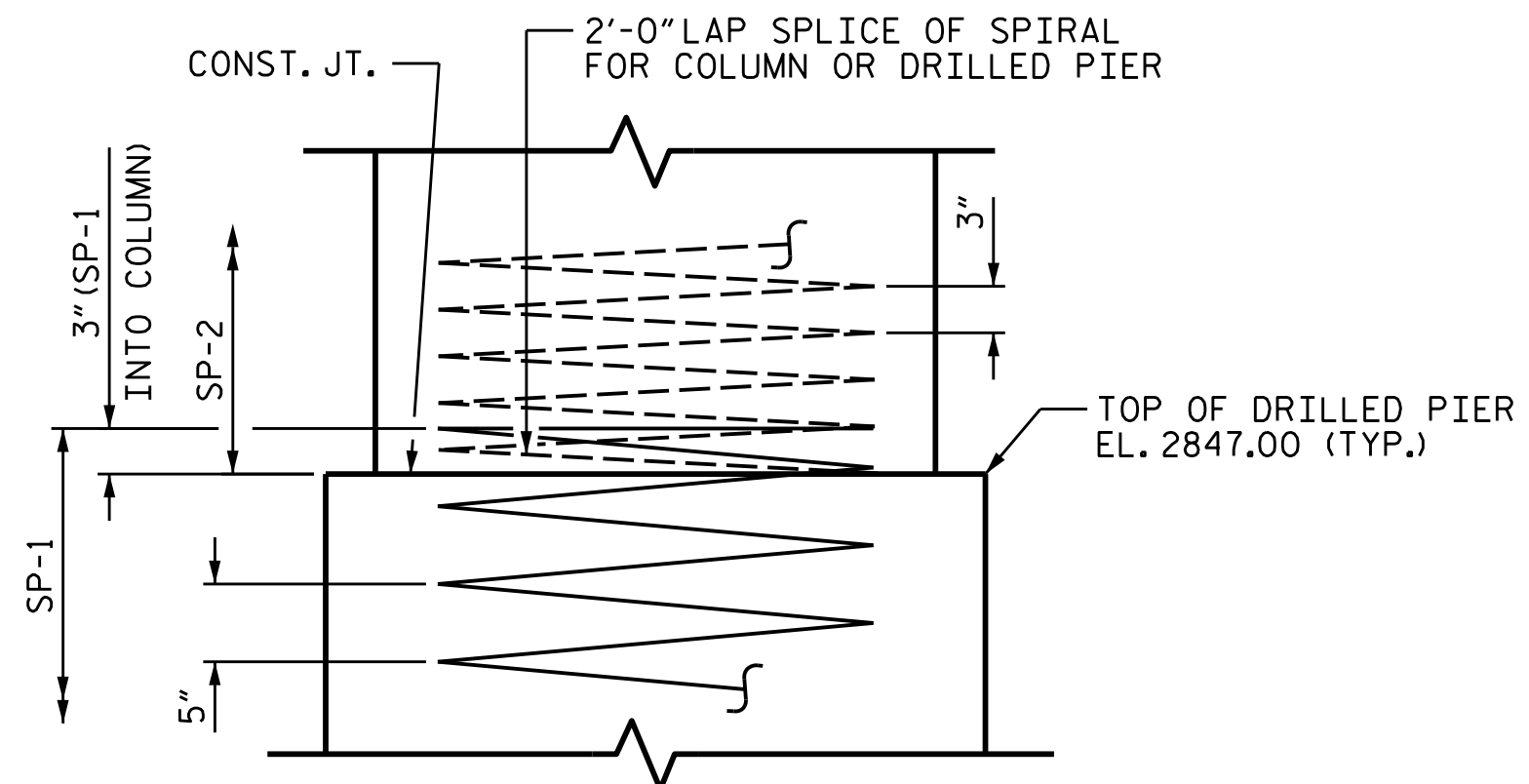
REINFORCING STEEL AND DIMENSIONS ARE TYPICAL FOR ALL COLUMNS AND DRILLED PIERS



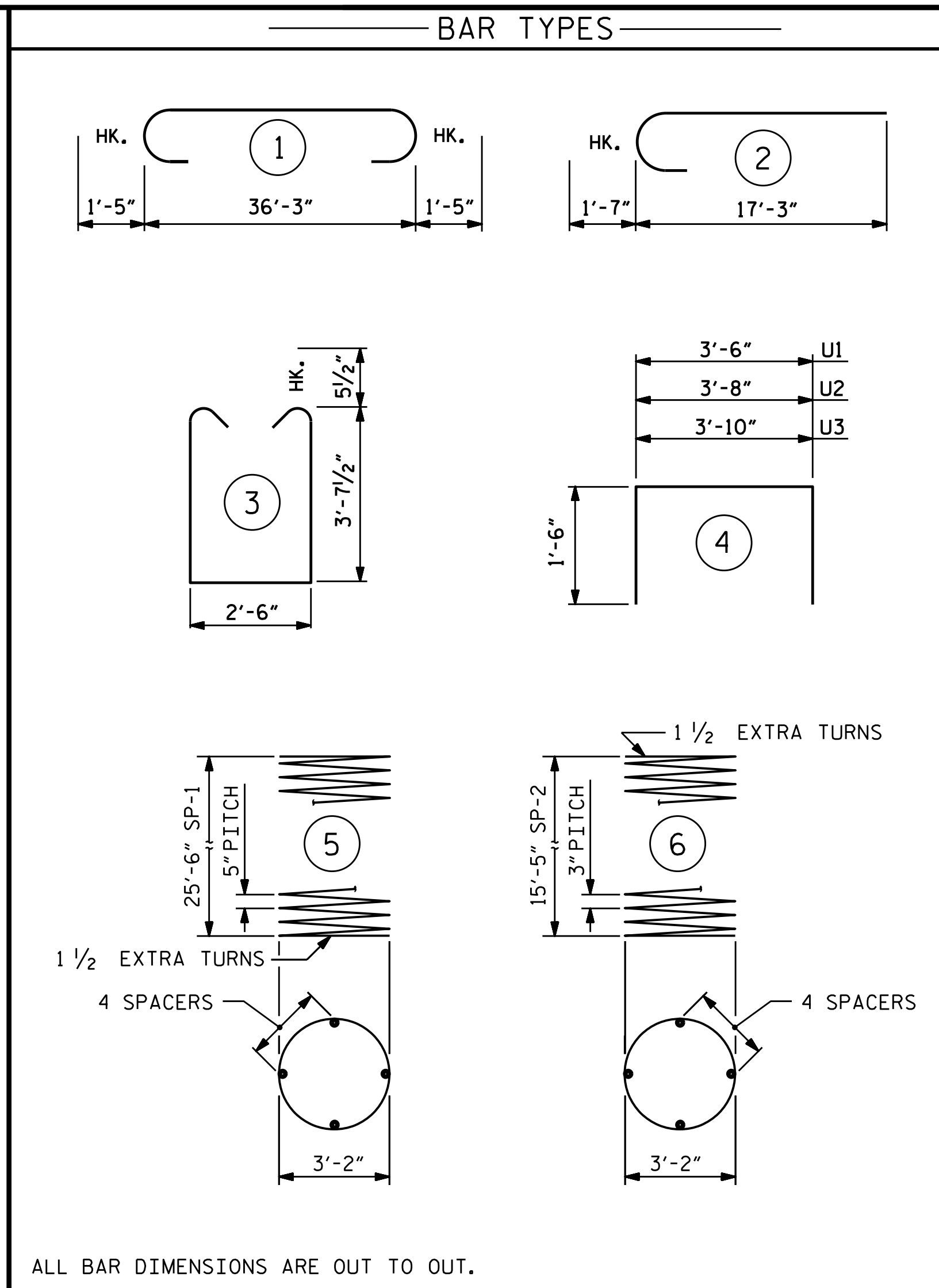
SECTION A-A



END VIEW
(TYP. EA. END)



CONSTRUCTION JOINT DETAIL



ALL BAR DIMENSIONS ARE OUT TO OUT.
 ** THE SP-1 SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR.
 *** THE SP-2 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	#10	1	39'-1"	1514
B2	9	#9	STR	36'-5"	1114
B3	6	#5	STR	36'-5"	228
B4	9	#4	STR	15'-3"	92
M1	18	#11	STR	36'-2"	3459
S1	96	#5	3	10'-8"	1068
U1	8	#4	4	6'-6"	35
U2	8	#4	4	6'-8"	36
U3	40	#4	4	6'-10"	183
V1	18	#11	2	18'-10"	1801
REINFORCING STEEL					9530 LBS.
SP-1	2	**	5	617'-0"	1287
SP-2	2	***	6	628'-7"	840
SPIRAL COLUMN REINFORCING STEEL					2127 LBS.
CLASS A CONCRETE BREAKDOWN					
POUR 2 (COLUMNS)					10.8 C.Y.
POUR 3 (CAPS)					24.3 C.Y.
TOTAL CLASS A CONCRETE					35.1 C.Y.
DRILLED PIER CONCRETE BREAKDOWN					
POUR 1 (DRILLED PIERS)					24.2 C.Y.
4'-0" Ø DRILLED PIER IN SOIL : LINEAR FEET					20.0 FT.
4'-0" Ø DRILLED PIER NOT IN SOIL : LINEAR FEET					32.0 FT.
PERMANENT STEEL CASING FOR 4'-0" Ø DRILLED PIERS:					10.0 FT.
CSL TUBES:					220.0 FT.

PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-
 SHEET 2 OF 2

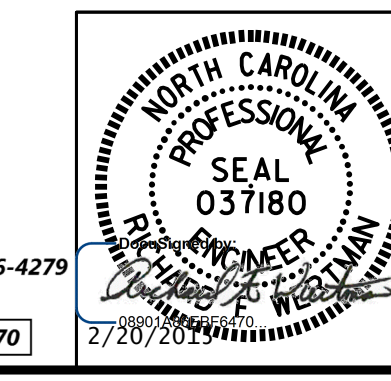
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

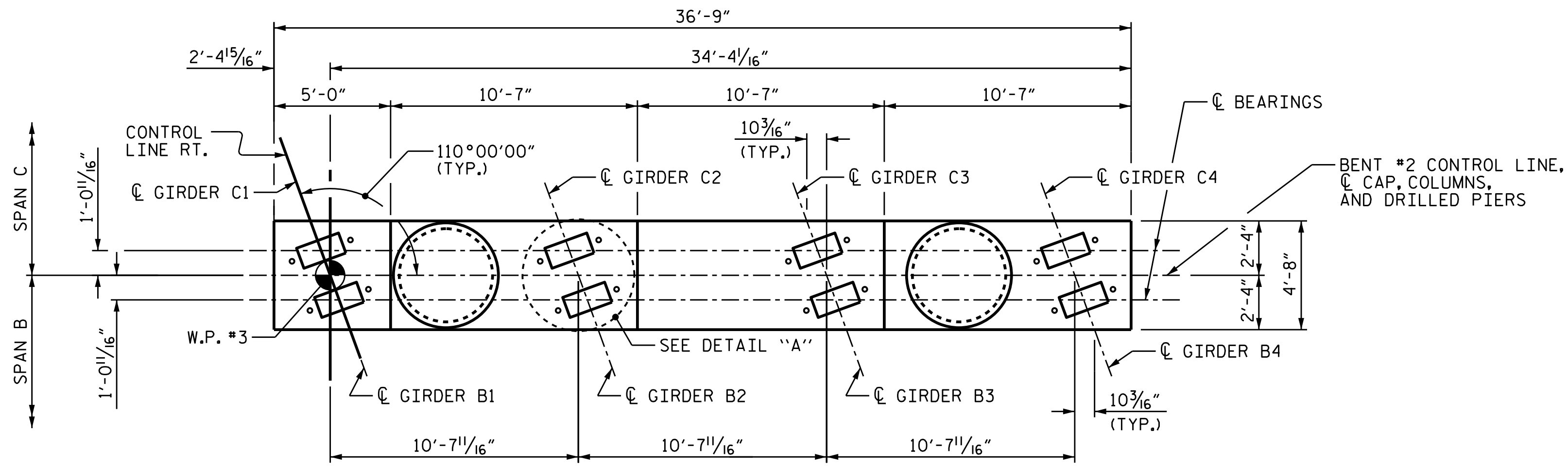
SUBSTRUCTURE
BENT #1
 NBL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-27
1			3			TOTAL SHEETS
2			4			35

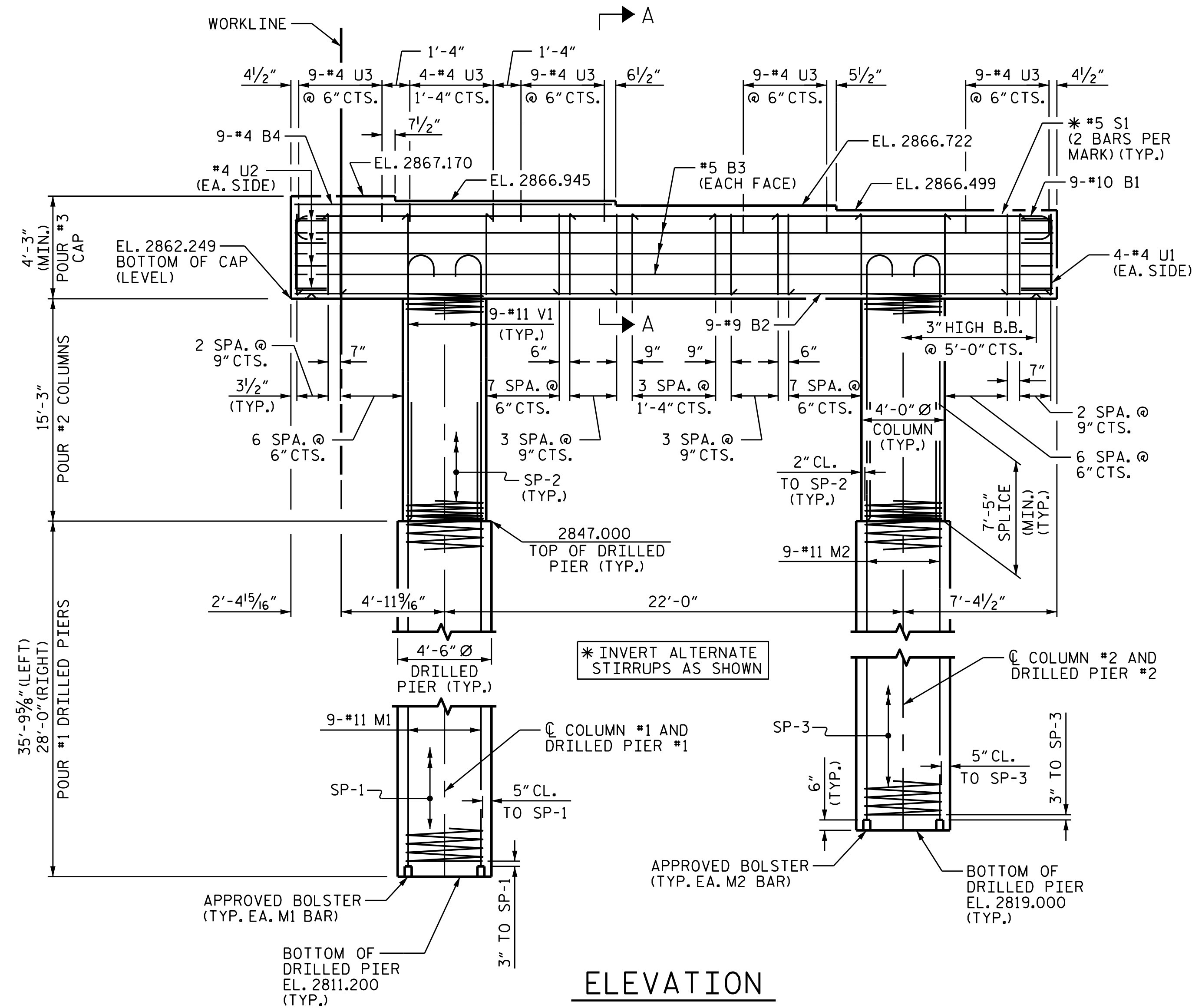
DRAWN BY : T.J. KIRSCHBAUM DATE : 10/21/14
 CHECKED BY : R.F. WERTMAN DATE : 11/7/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 11/7/14

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised
 1121 Sitas Court
 Suite 170
 Raleigh NC 27606-4279
 (919) 859-4880
 N.C. Lic. No. F-0270

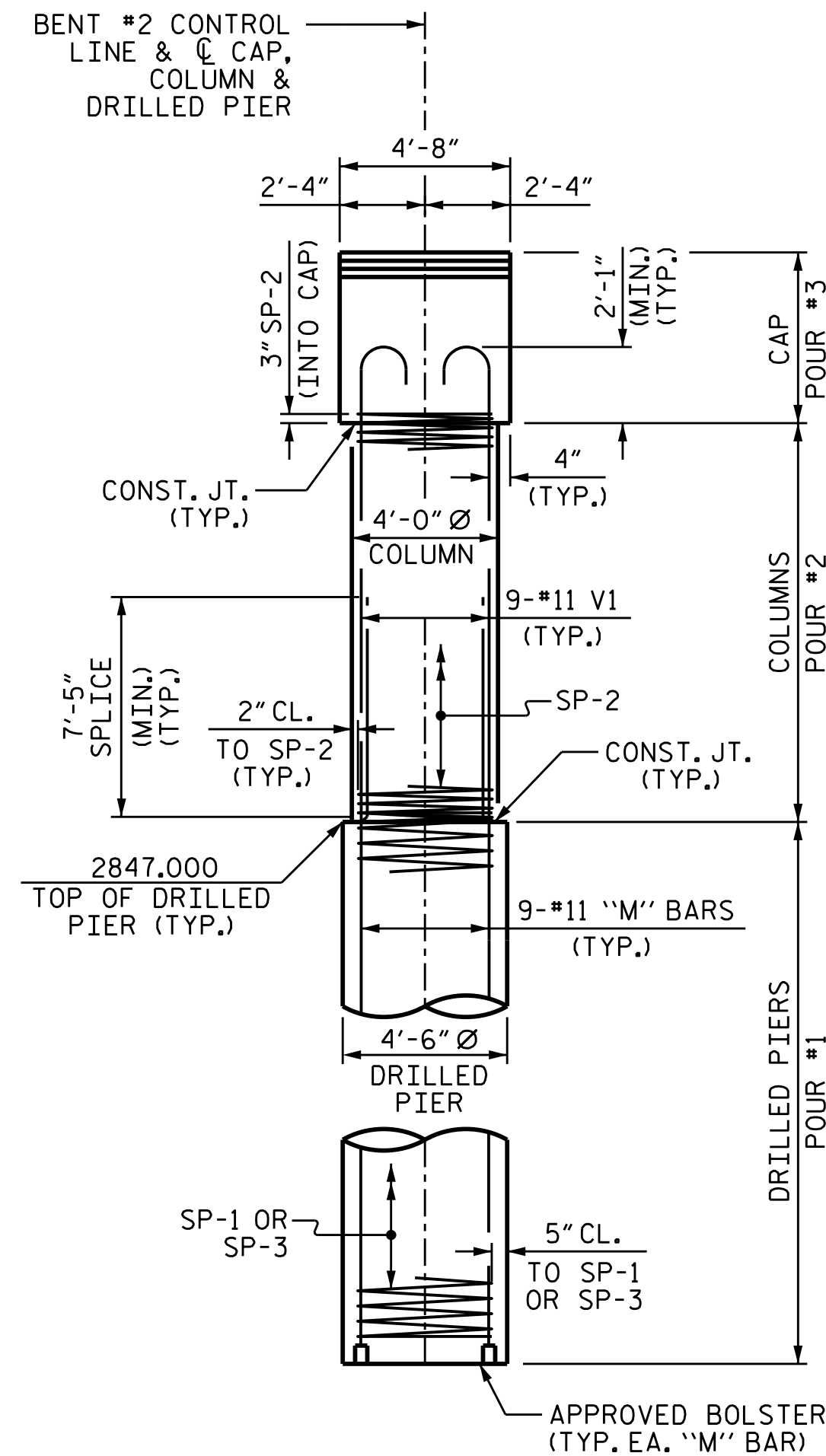




PLAN



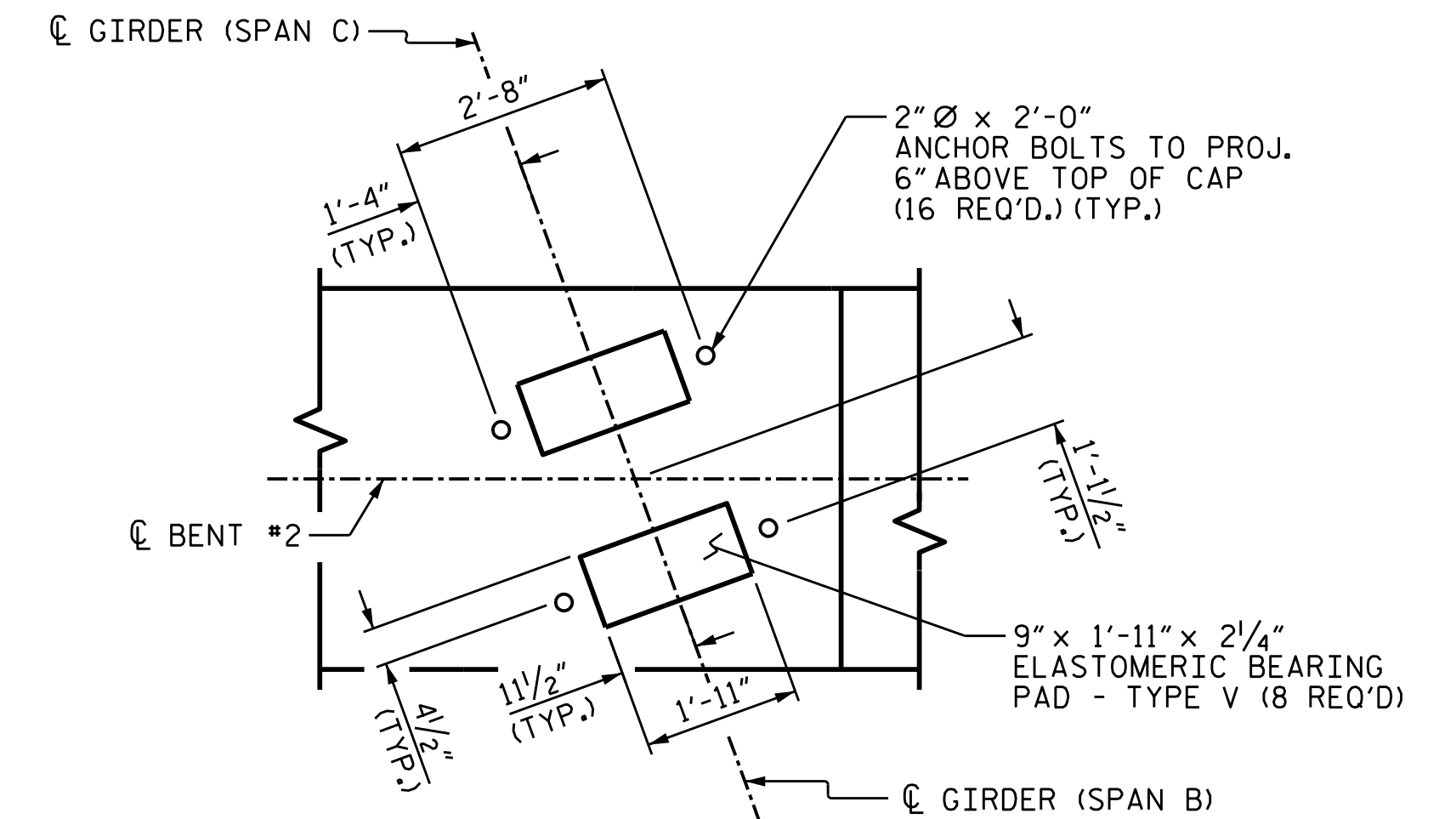
ELEVATION



END ELEVATION

NOTES

- STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
- HOOKS ON V1 BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.
- FOR DRILLED PIERS, SEE SECTION 411 OF STANDARD SPECIFICATIONS.
- ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR "REINFORCING STEEL" AND "SPIRAL COLUMN REINFORCING STEEL".
- THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE LONGITUDINAL REINFORCEMENT FOR THE DRILLED PIERS IS DETAILED WITH 3 FEET OF EXTRA LENGTH.
- THE LOCATION OF THE CONSTRUCTION JOINT IN THE DRILLED PIERS IS BASED ON AN APPROXIMATE GROUND LINE ELEVATION. IF THE CONSTRUCTION JOINT IS ABOVE THE ACTUAL GROUND LINE ELEVATION, THE CONTRACTOR SHALL PLACE THE CONSTRUCTION JOINT 1 FT. BELOW THE GROUND LINE.
- SPLICING OF THE LONGITUDINAL BARS IN THE DRILLED PIER WILL NOT BE PERMITTED.
- FOR PERMANENT STEEL CASING, SEE SECTION 411 OF STANDARD SPECIFICATIONS.



DETAIL "A"
(TYP. EA. GIRDER)

PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

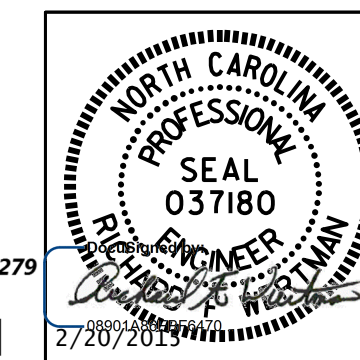
SUBSTRUCTURE
 BENT #2
 NBL

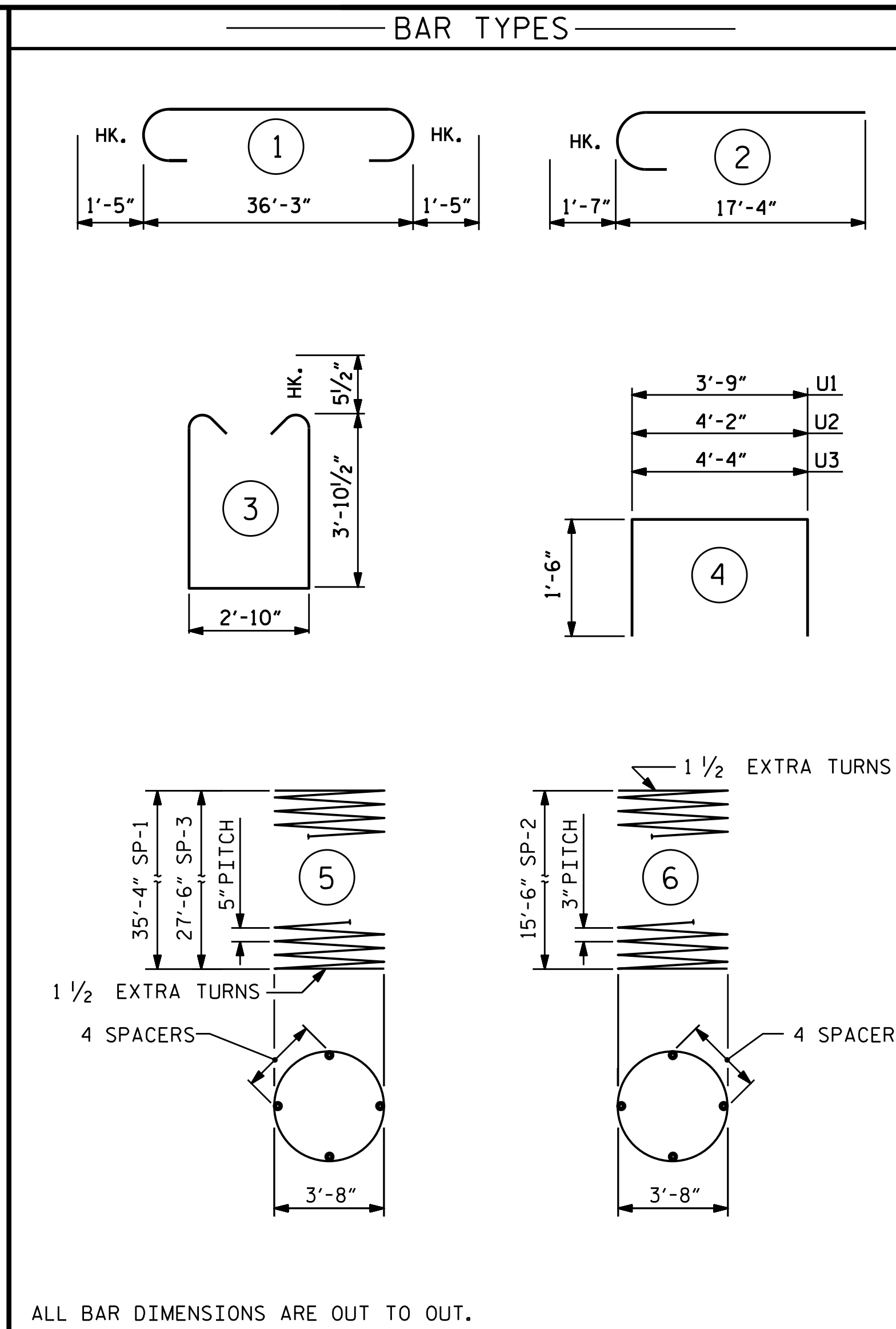
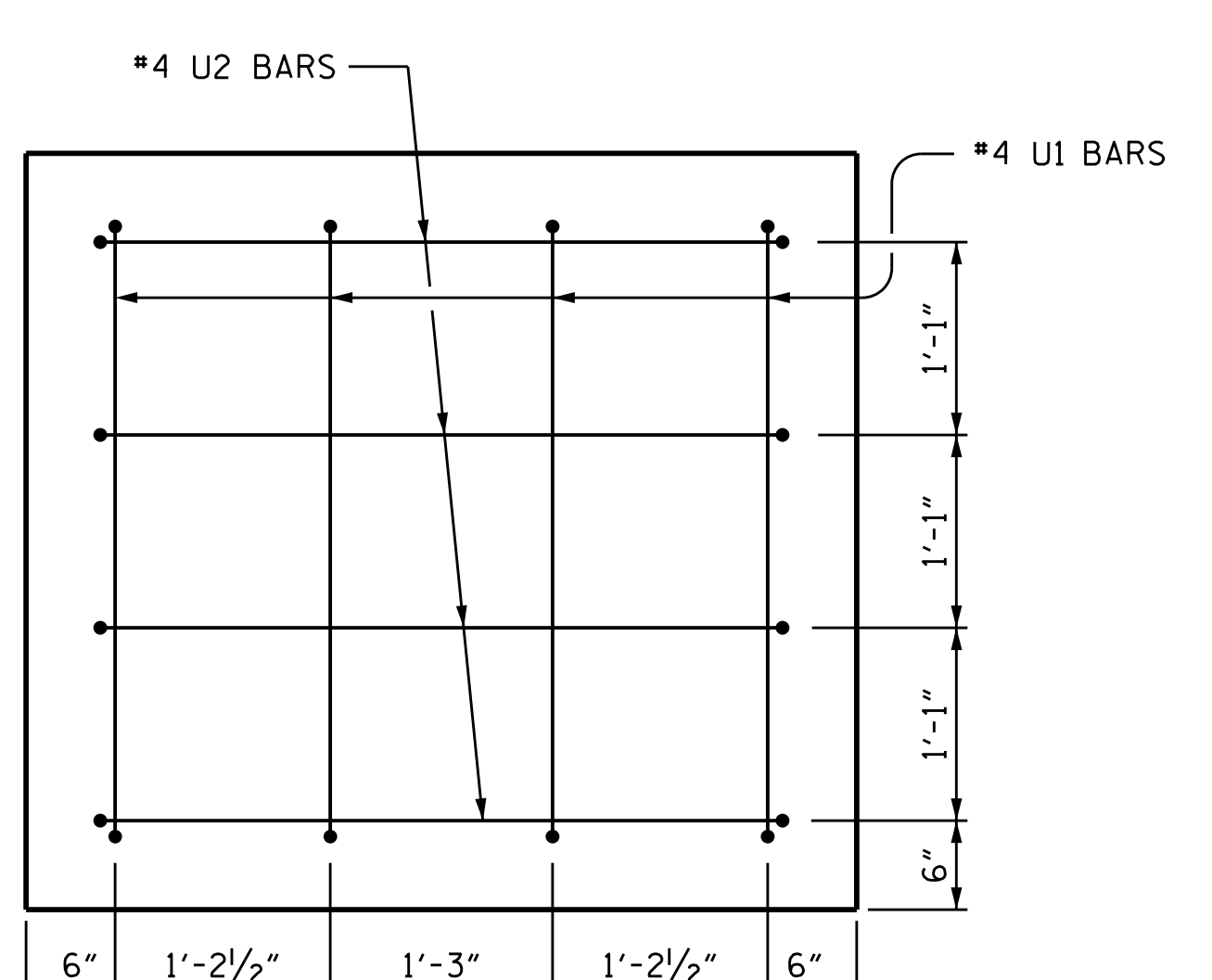
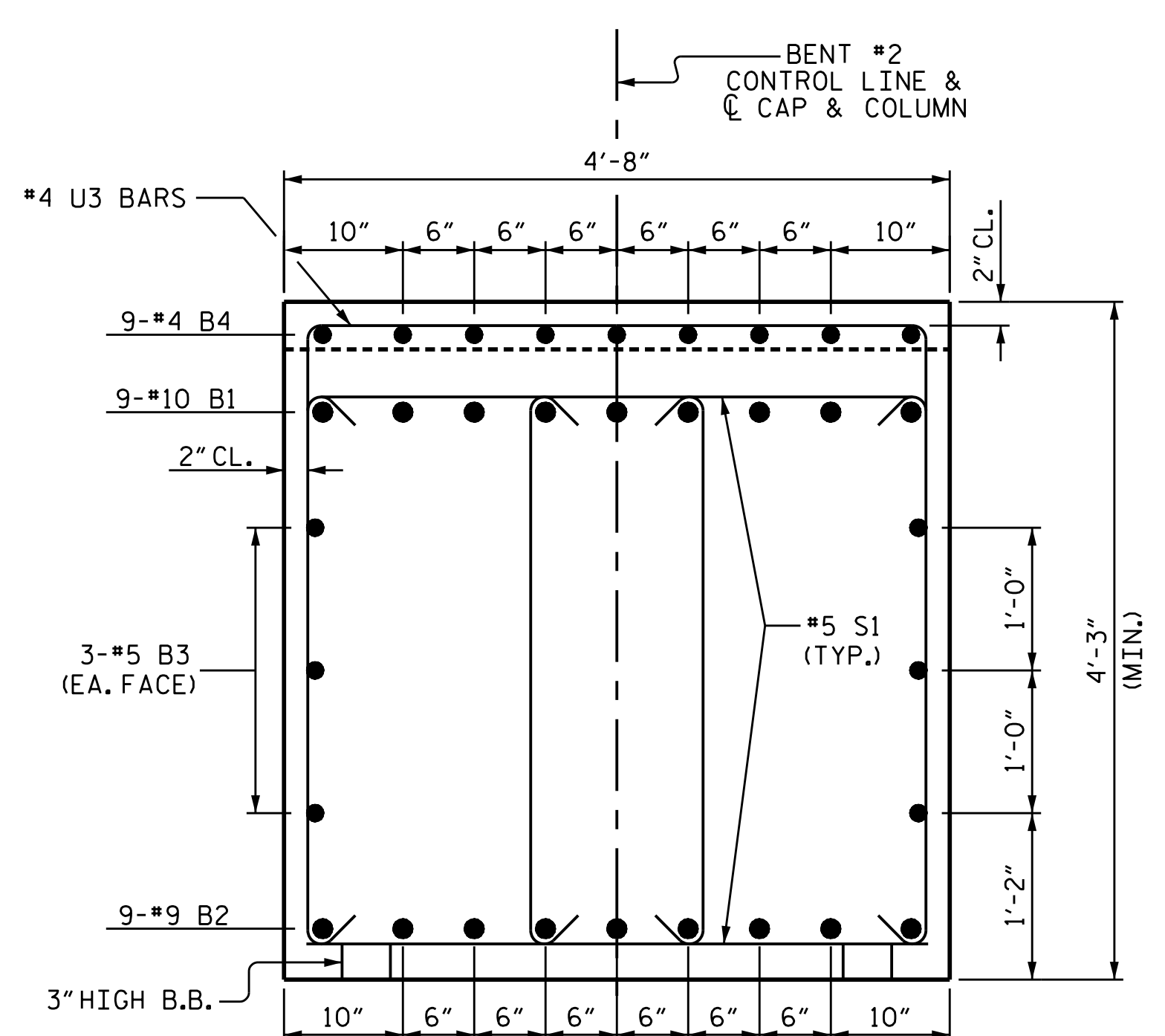
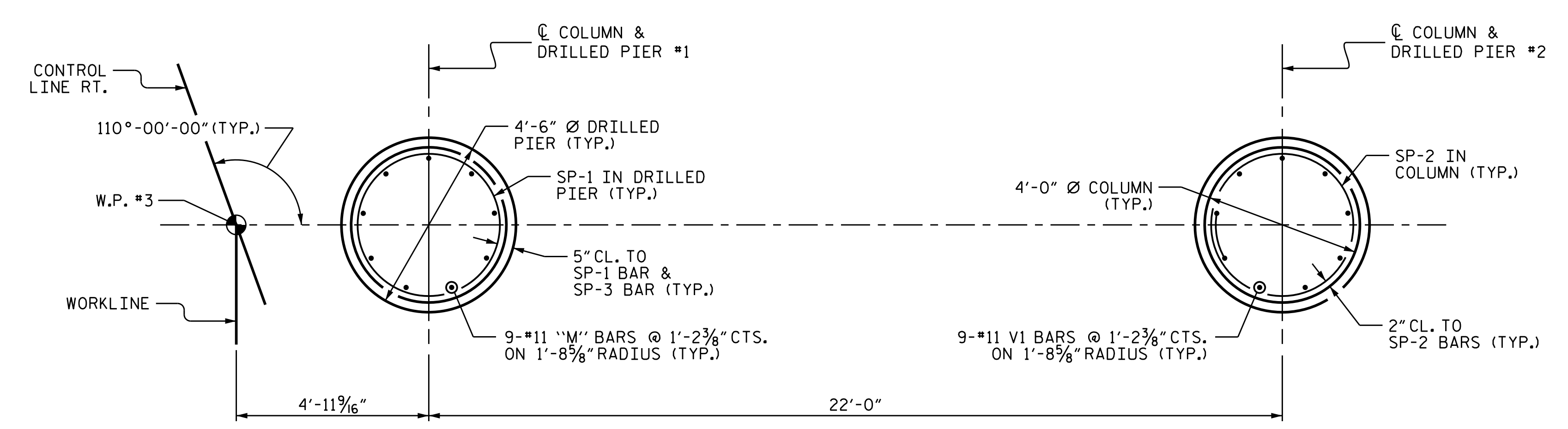
REVISIONS		SHEET NO.	
NO.	DATE	NO.	DATE
1		3	
2		4	

SHEET NO. S05-28
TOTAL SHEETS 35

DRAWN BY : T.J. KIRSCHBAUM DATE : 10/22/14
 CHECKED BY : R.F. WERTMAN DATE : 11/7/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 11/7/14

PLANS PREPARED BY:
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 (919) 859-4880
 NCLic. No. F-0270





BILL OF MATERIAL

BENT #2

BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	
B1	9	#10	1	39'-1"	1514
B2	9	#9	STR	36'-5"	1114
B3	6	#5	STR	36'-5"	228
B4	9	#4	STR	15'-3"	92
M1	9	#11	STR	46'-0"	2200
M2	9	#11	STR	38'-2"	1825
S1	96	#5	3	11'-6"	1151
U1	8	#4	4	6'-9"	36
U2	8	#4	4	7'-2"	38
U3	40	#4	4	7'-4"	196
V1	18	#11	2	18'-11"	1809

REINFORCING STEEL 10203 LBS.

SP	NO.	SIZE	TYPE	LENGTH	WEIGHT
SP-1	1	**	5	988'-8"	1031
SP-2	2	***	6	729'-1"	974
SP-3	1	**	5	772'-9"	806

SPIRAL COLUMN REINFORCING STEEL 2811 LBS.

CLASS A CONCRETE BREAKDOWN

POUR	DESCRIPTION	VOLUME (C.Y.)
POUR 2	(COLUMNS)	14.2
POUR 3	(CAPS)	28.4
TOTAL	CLASS A CONCRETE	42.6

DRILLED PIER CONCRETE BREAKDOWN

POUR	DESCRIPTION	VOLUME (C.Y.)
POUR 1	(DRILLED PIERS)	37.6
4'-6" Ø DRILLED PIER IN SOIL :	LINEAR FEET	24.8
4'-6" Ø DRILLED PIER NOT IN SOIL :	LINEAR FEET	39.0
PERMANENT STEEL CASING FOR 4'-6" Ø DRILLED PIERS:		14.0
CSL TUBES:		267.2

** THE SP-1/SP-3 SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR.

*** THE SP-2 SPIRAL REINFORCING STEEL SHALL BE W20 OR D-20 COLD DRAWN WIRE OR #4 PLAIN OR DEFORMED BAR.

PROJECT NO. R-2915B
 ASHE COUNTY
 STATION: 242+67.42 -L-

SHEET 2 OF 2

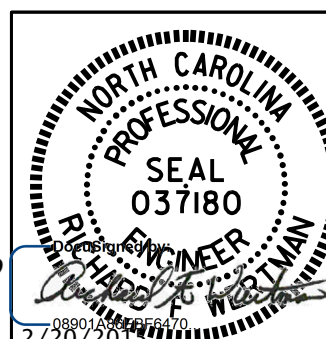
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 BENT #2
 NBL

DRAWN BY : T.J. KIRSCHBAUM DATE : 10/22/14
 CHECKED BY : R.F. WERTMAN DATE : 11/7/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 11/7/14

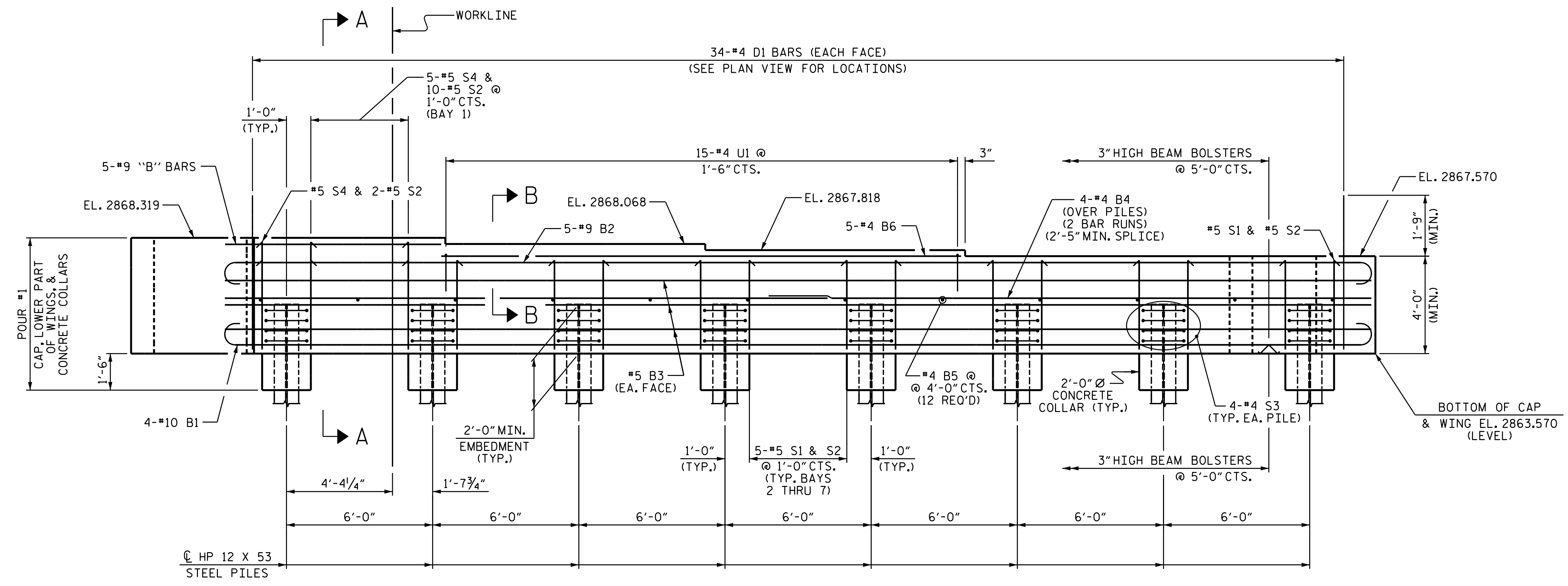
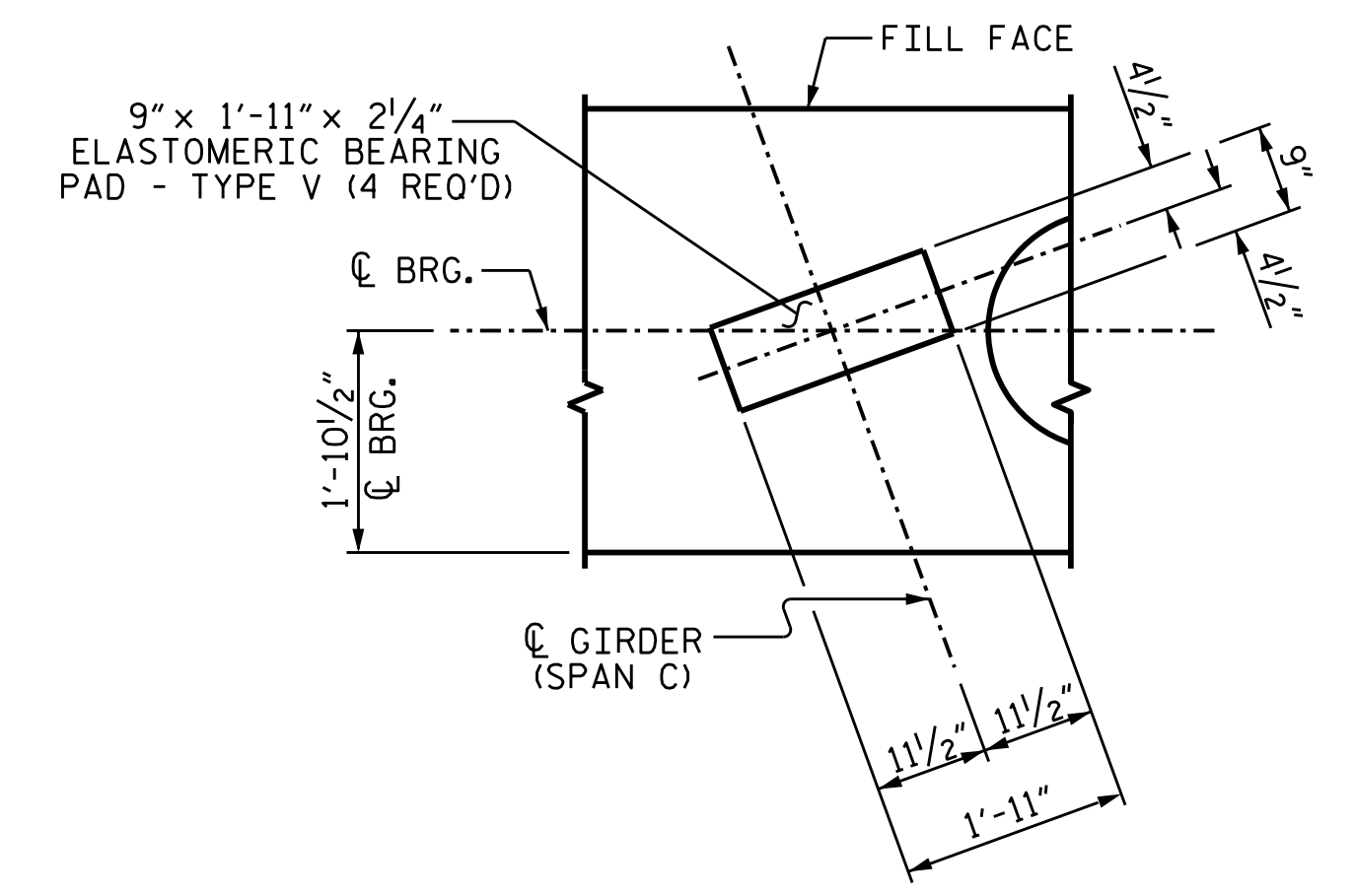
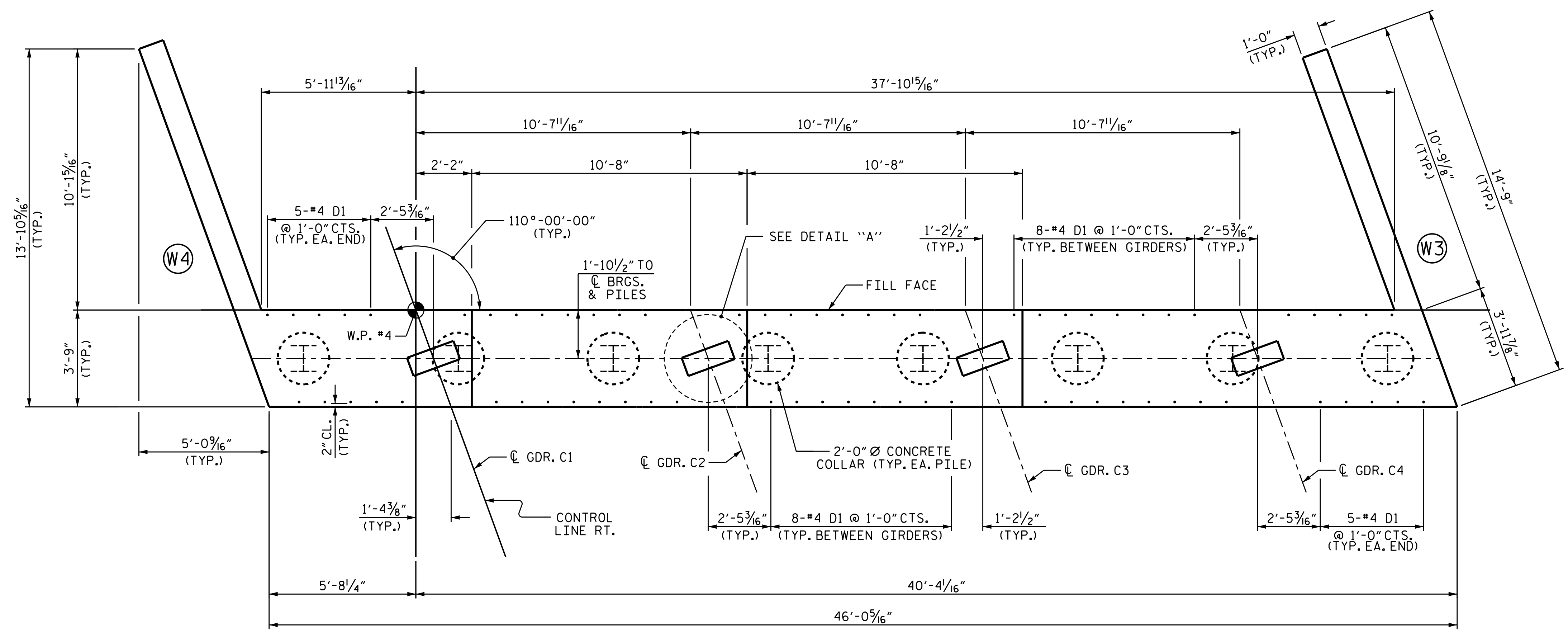
PLANS PREPARED BY:
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REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-29	
1			3			TOTAL SHEETS	
2			4			35	

NOTES:
 INSTALL THE 4" DIA. 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.
 #4 D1 BARS MAY BE SHIFTED SLIGHTLY TO AVOID STIRRUPS IN CAP.
 SEE SUPERSTRUCTURE SHEETS FOR UPPER PART OF INTEGRAL END BENT DETAILS.

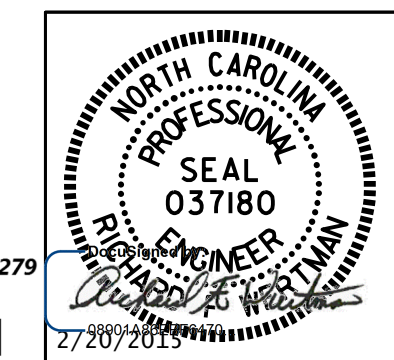


PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-
 SHEET 1 OF 3

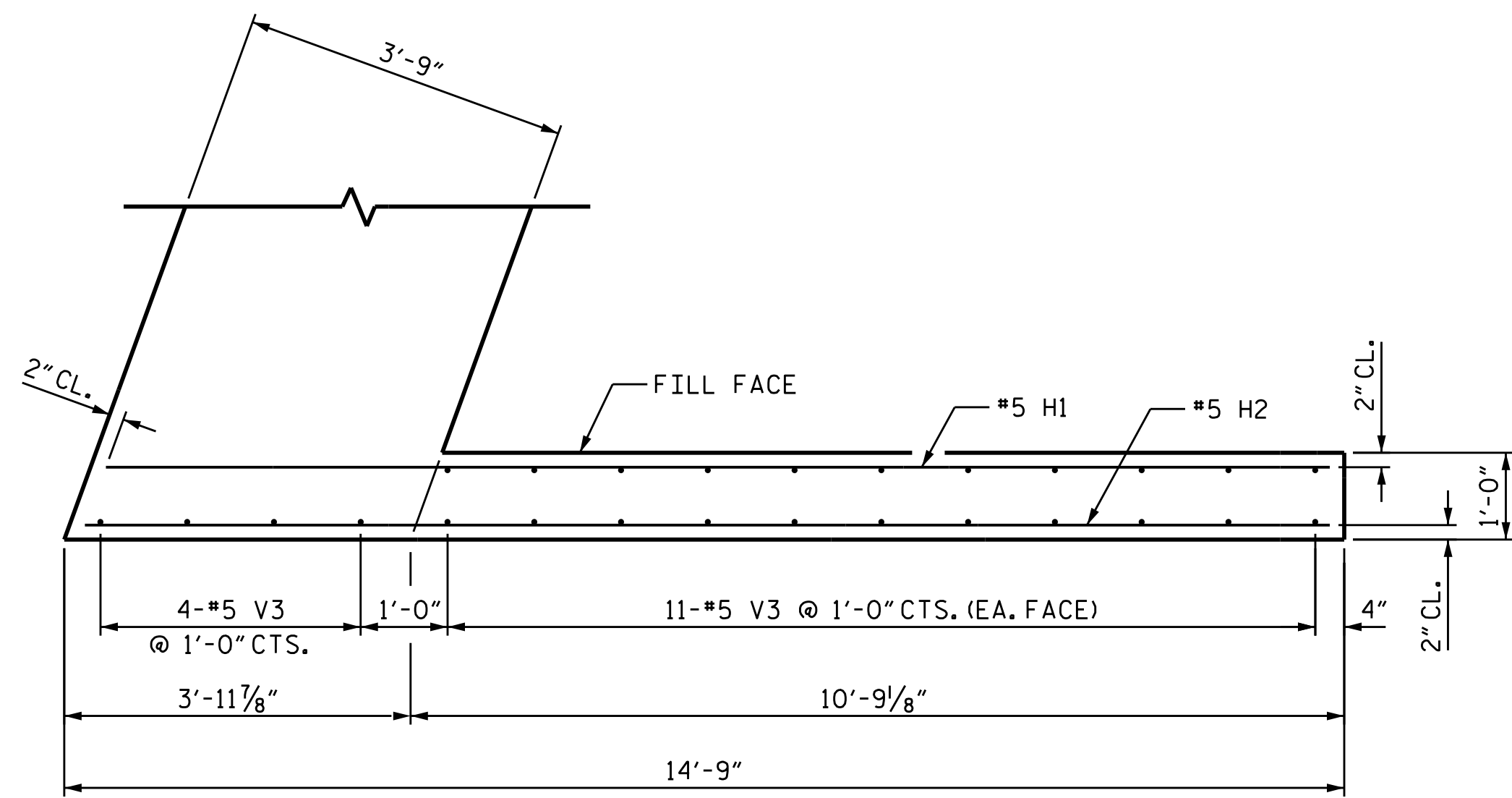
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 INTEGRAL
 END BENT #2
 NBL

DRAWN BY : T.J. KIRSCHBAUM DATE : 10/13/14
 CHECKED BY : E.E. DEETSCHRECK DATE : 11/10/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 11/13/14

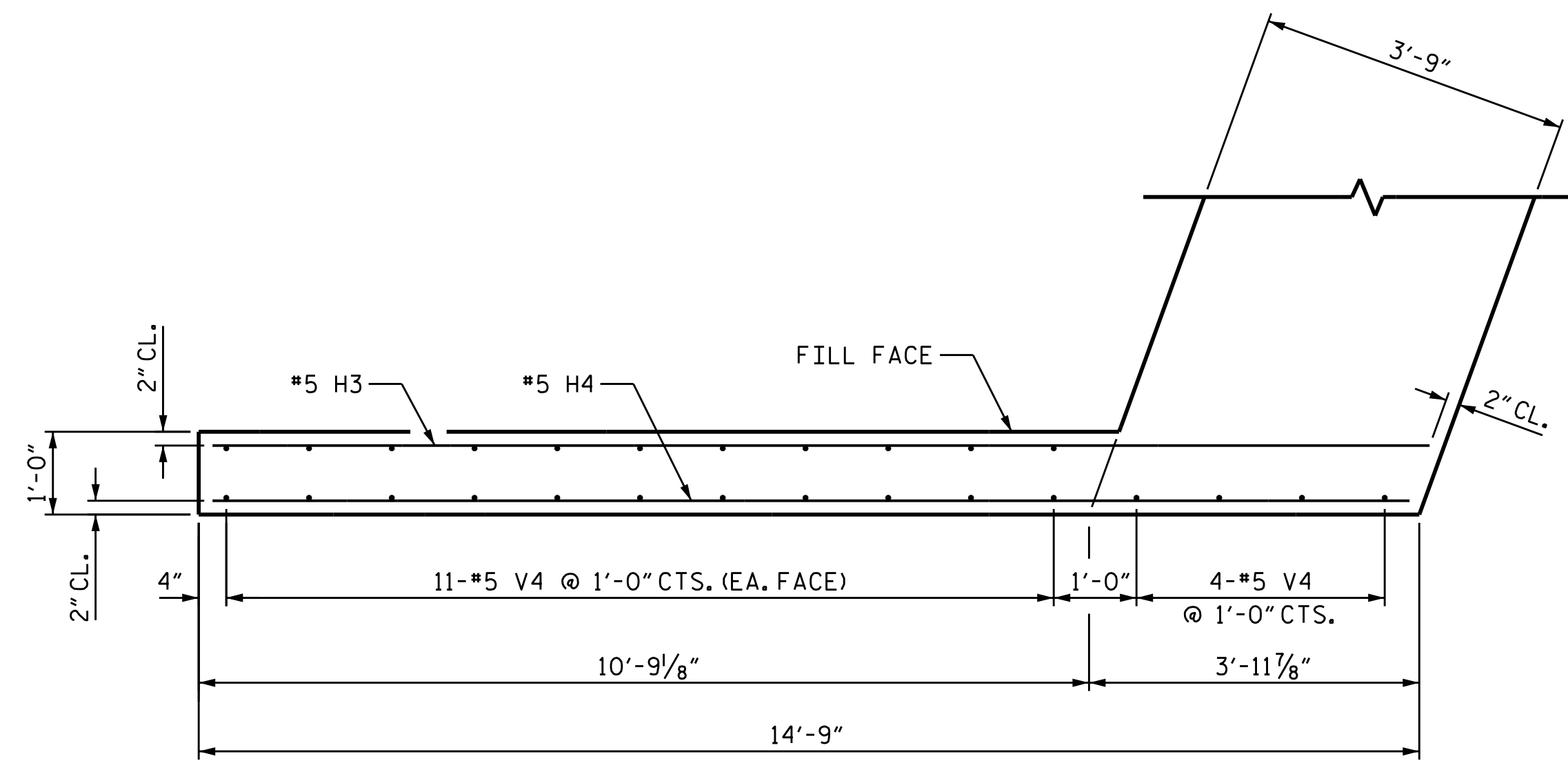
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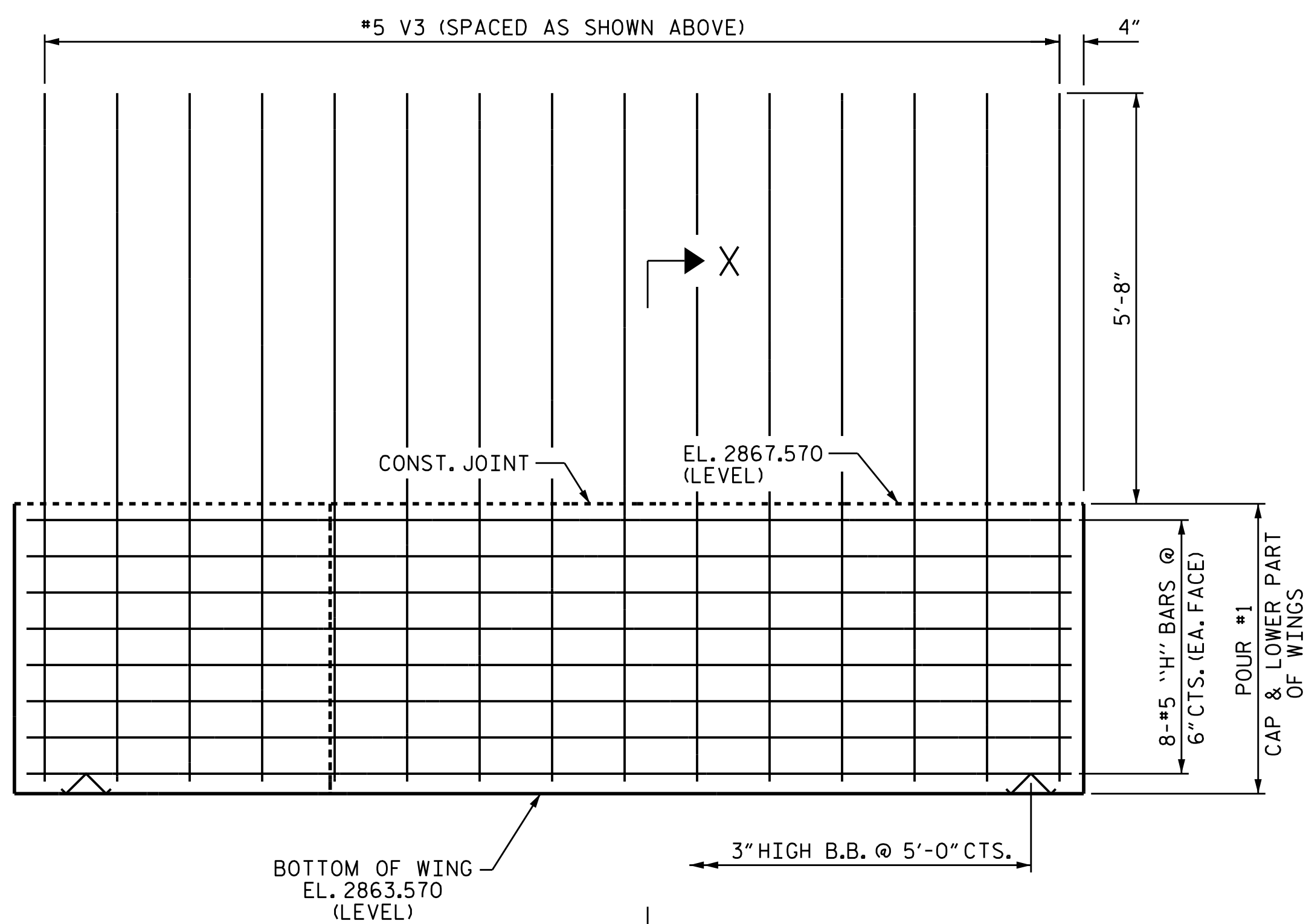
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-30	
1			3			TOTAL SHEETS	
2			4			35	



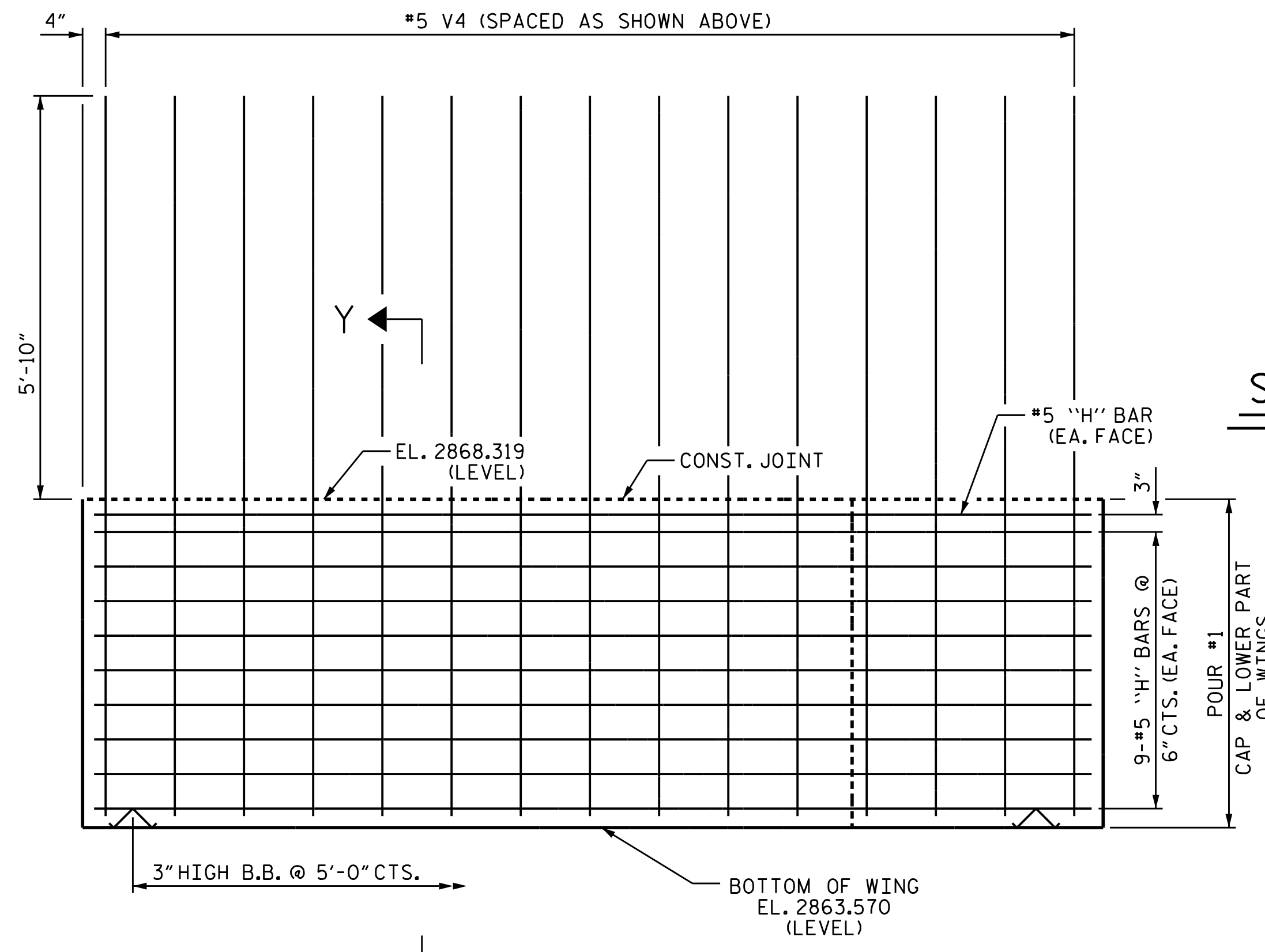
PLAN OF WING (W3)



PLAN OF WING (W4)



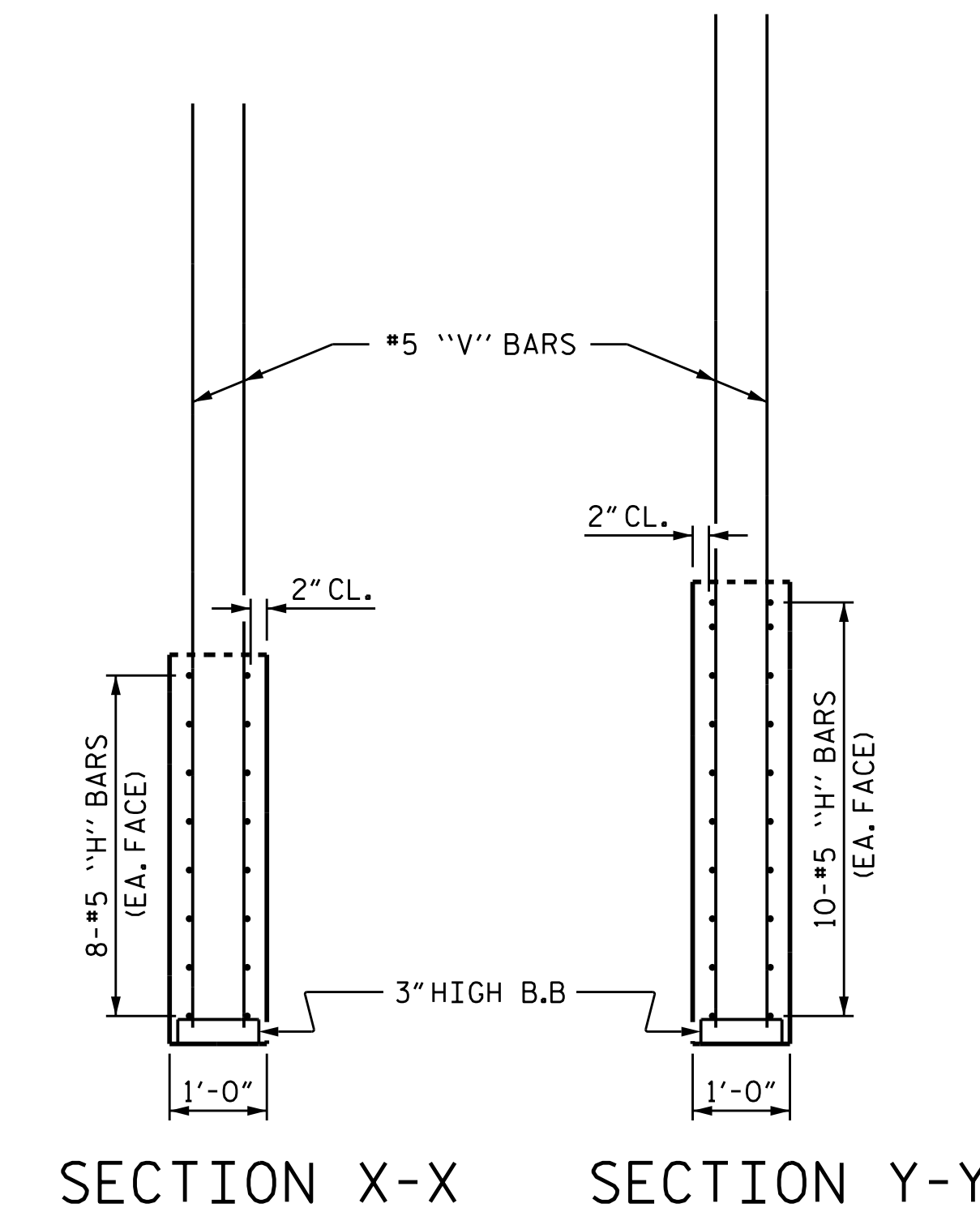
ELEVATION OF WING (W3)



ELEVATION OF WING (W4)

NOTES:

THE UPPER PORTION OF THE WINGS SHALL BE POURED WITH THE SUPERSTRUCTURE. FOR DETAILS AND REINFORCING STEEL, SEE SUPERSTRUCTURE DETAILS.



SECTION X-X

SECTION Y-Y

PROJECT NO. R-2915B
 ASHE COUNTY
 STATION: 242+67.42 -L-

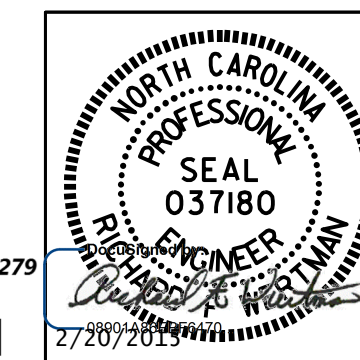
SHEET 2 OF 3

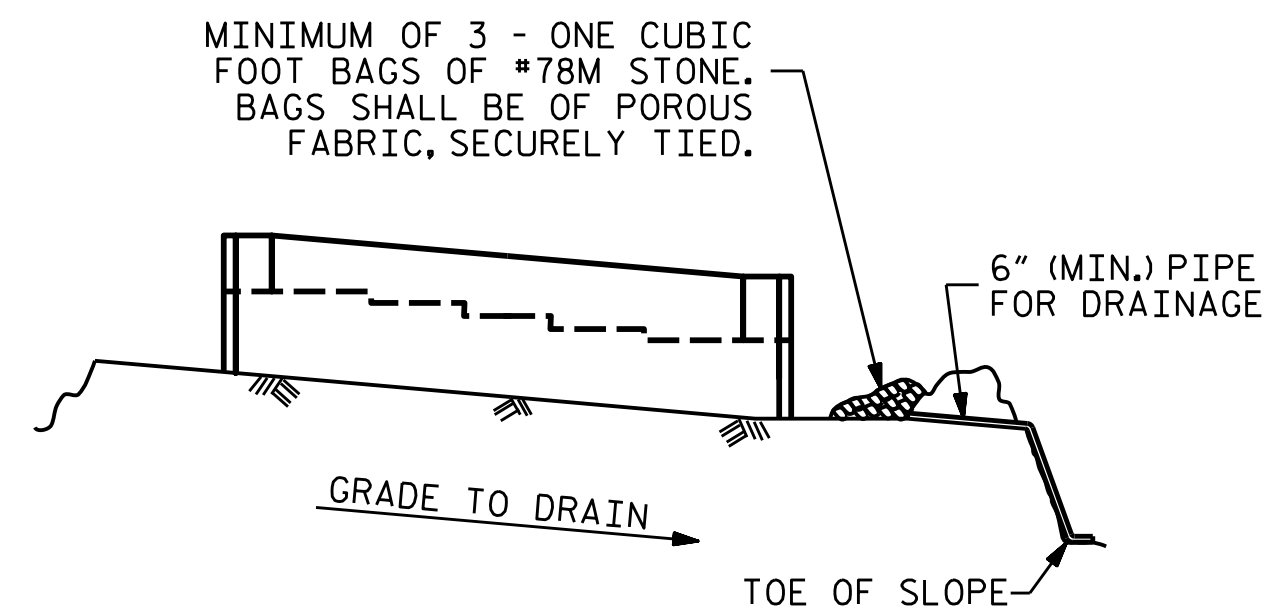
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 INTEGRAL
 END BENT #2
 NBL

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S05-31	
1			3			TOTAL SHEETS	
2			4			35	

DRAWN BY : T.J. KIRSCHBAUM DATE : 10/13/14
 CHECKED BY : E.E. DEETSCHRECK DATE : 11/10/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 11/13/14

PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised
 1121 Situs Court
 Suite 170
 Raleigh, NC 27606-4279
 (919) 859-4880
 NCLic. No. F-0270



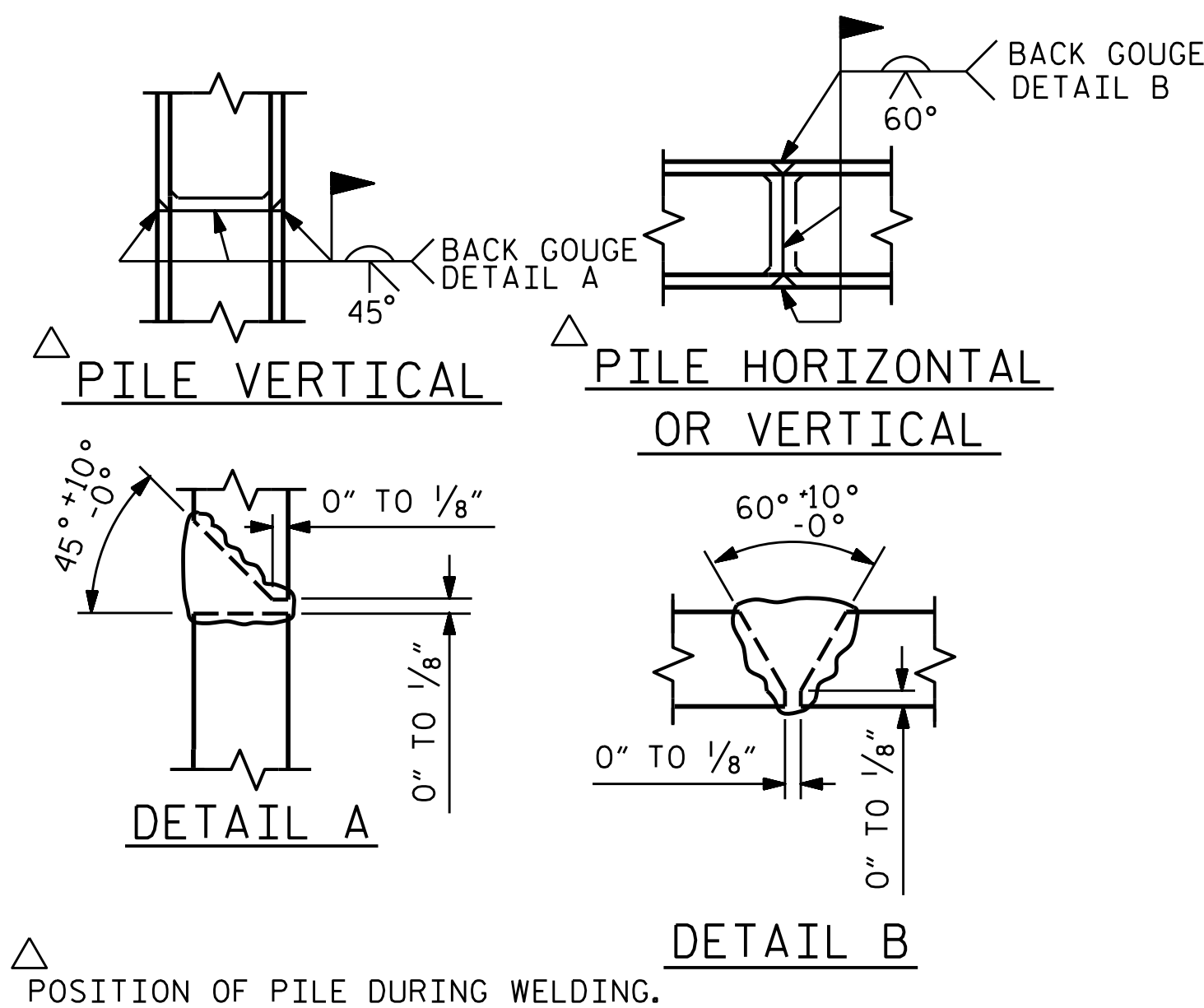


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

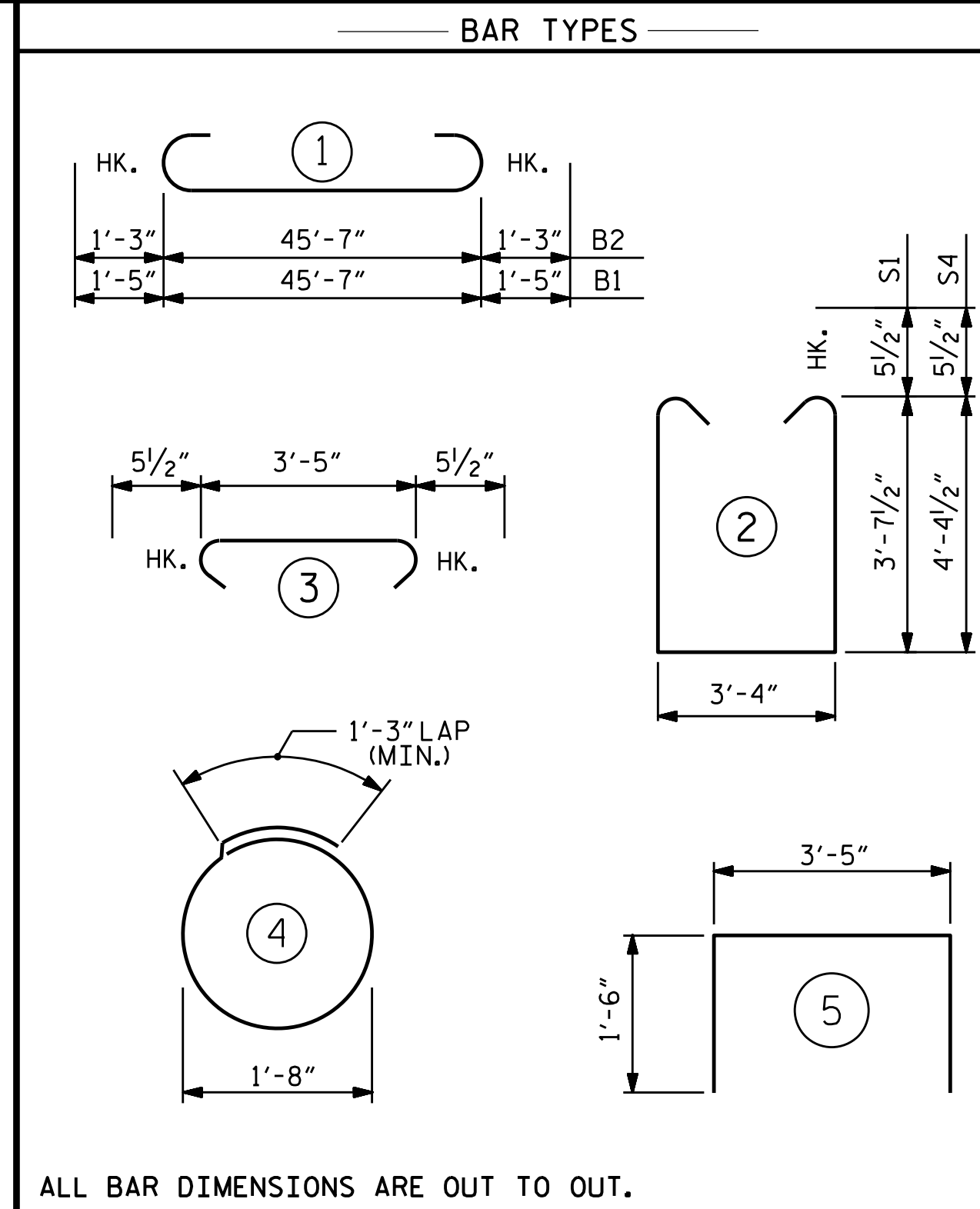
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

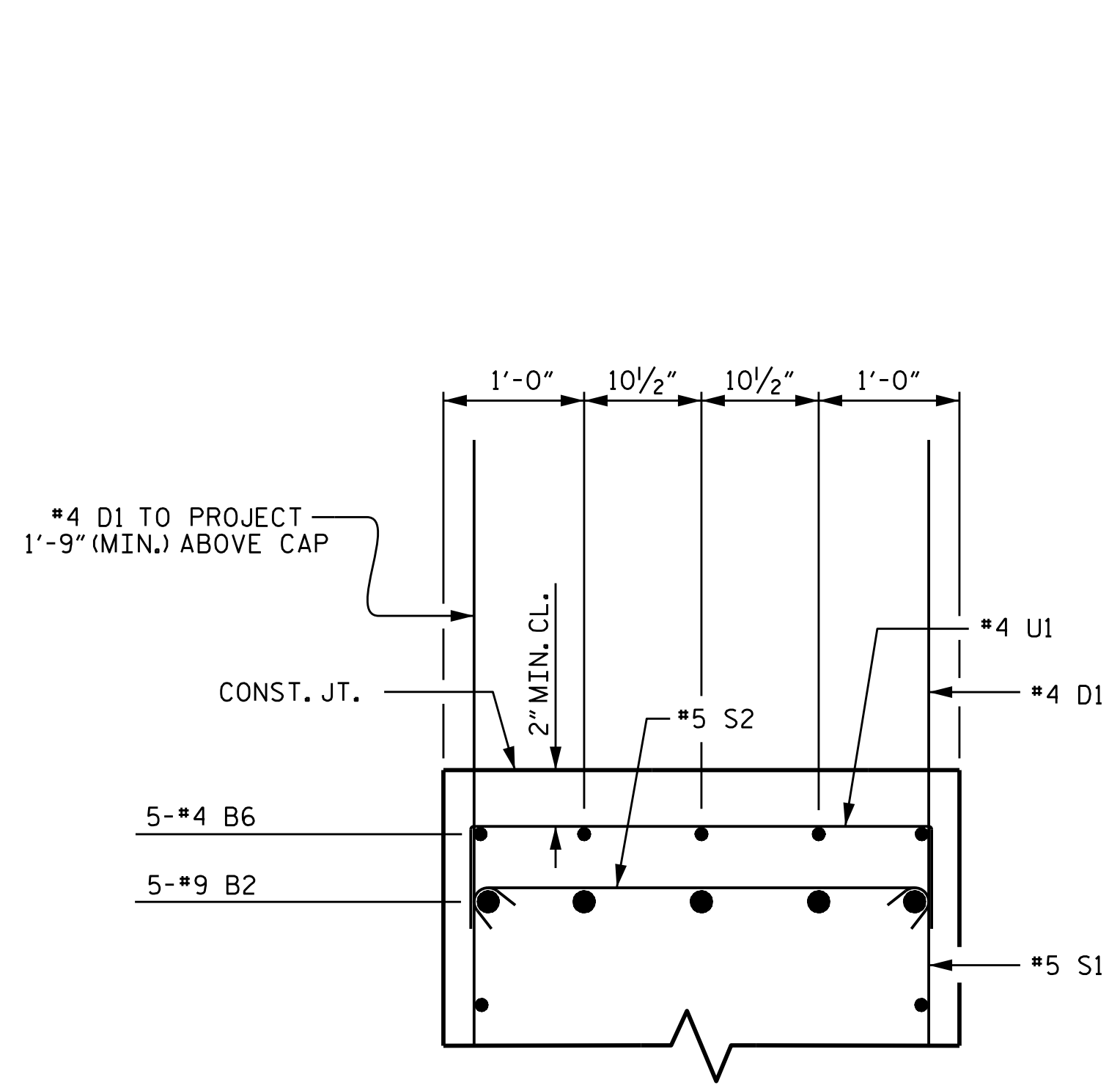


PILE SPLICE DETAILS

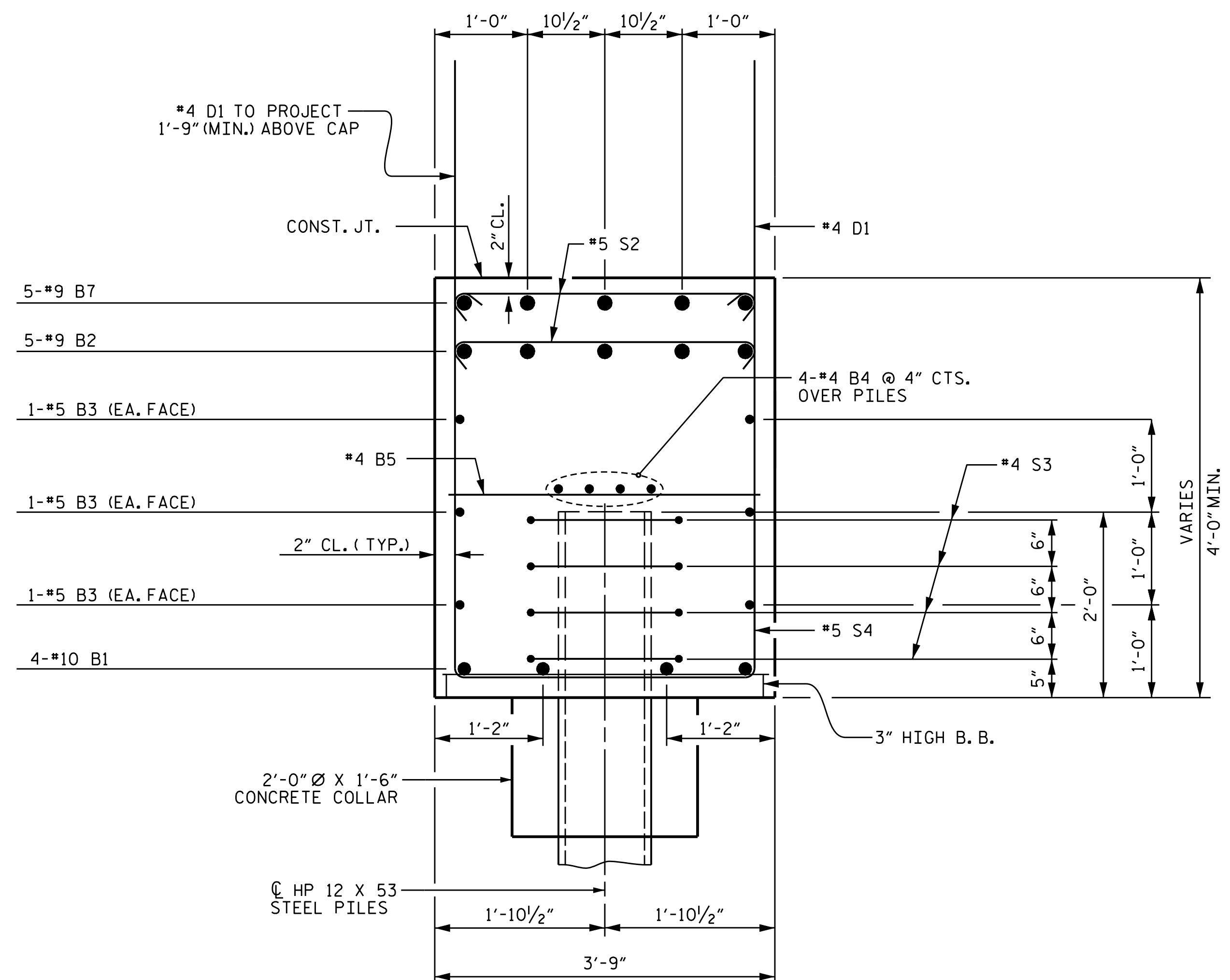


ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL					
END BENT #2					
BAR	No.	SIZE	TYPE	LENGTH	WEIGHT
B1	4	#10	1	48'-5"	833
B2	5	#9	1	48'-1"	817
B3	6	#5	STR	45'-8"	286
B4	8	#4	STR	24'-1"	129
B5	12	#4	STR	3'-5"	27
B6	5	#4	STR	21'-4"	71
B7	1	#9	STR	8'-9"	30
B8	1	#9	STR	8'-6"	29
B9	1	#9	STR	8'-2"	28
B10	1	#9	STR	7'-10"	27
B11	1	#9	STR	7'-7"	26
D1	68	#4	STR	6'-4"	288
H1	8	#5	STR	14'-1"	118
H2	8	#5	STR	14'-4"	120
H3	10	#5	STR	14'-8"	153
H4	10	#5	STR	14'-5"	150
S1	31	#5	2	11'-6"	372
S2	43	#5	3	4'-4"	194
S3	32	#4	4	6'-6"	139
S4	6	#5	2	13'-0"	81
U1	15	#4	5	6'-5"	64
V3	26	#5	STR	9'-6"	258
V4	26	#5	STR	10'-5"	282
REINFORCING STEEL					4522 LBS.
CLASS A CONCRETE					
POUR #1 (CAP, LOWER WINGS & COLLARS)					32.5 C.Y.
TOTAL					32.5 C.Y.
HP 12 X 53 STEEL PILES					
No. = 8					280 LIN. FT.



SECTION B-B



SECTION A-A

PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-
 SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 INTEGRAL
 END BENT #2
 NBL

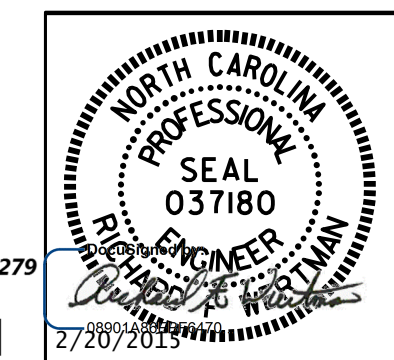
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

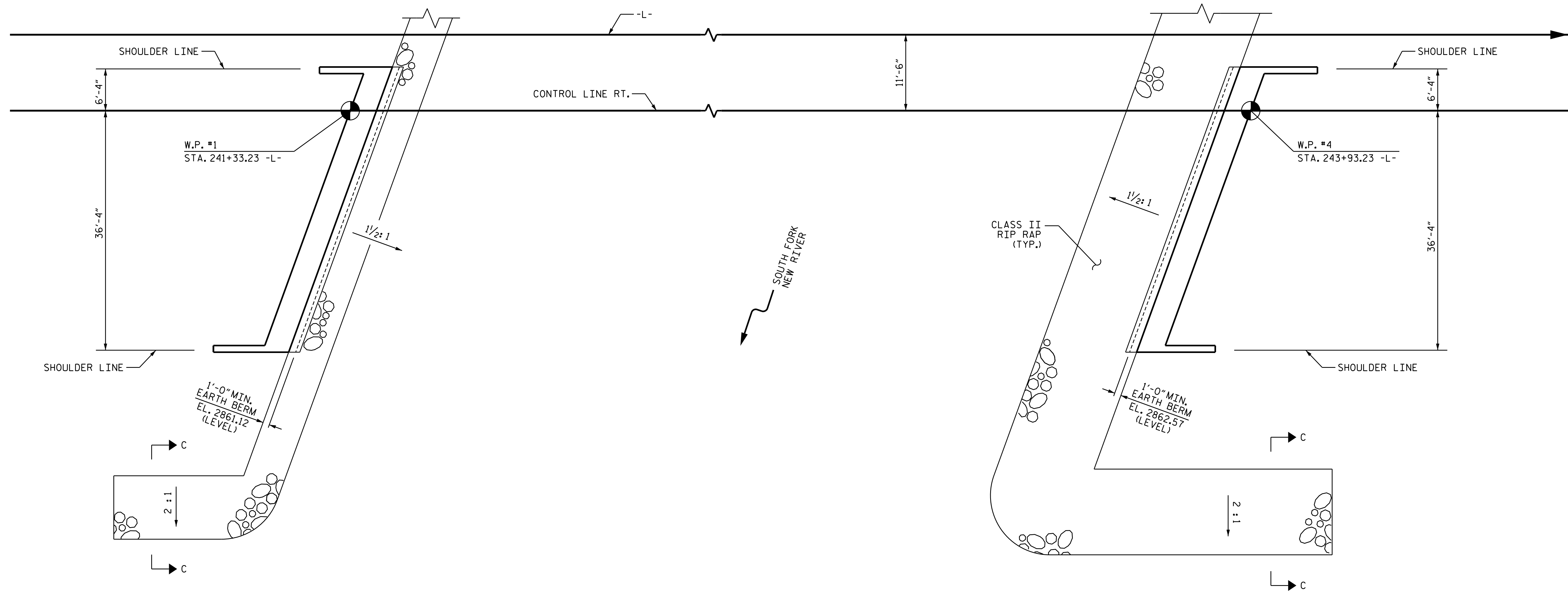
SHEET NO. S05-32
 TOTAL SHEETS 35

DRAWN BY : T.J. KIRSCHBAUM DATE : 10/13/14
 CHECKED BY : E.E. DEETSCHRECK DATE : 11/10/14
 DESIGN ENGINEER OF RECORD : R.F. WERTMAN DATE : 11/13/14

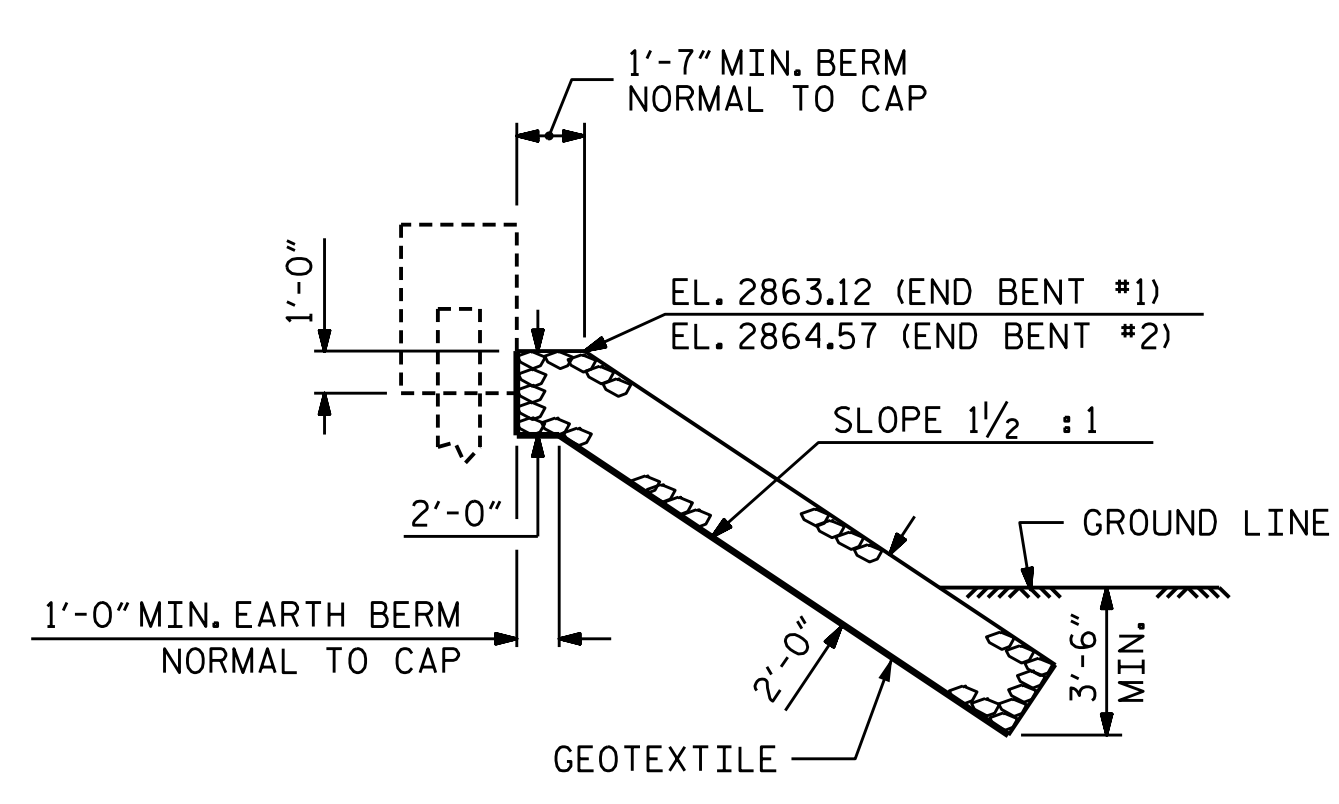
PLANS PREPARED BY:
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1121 Situs Court
 Suite 170
 Raleigh NC 27606-4279
 (919) 859-4880
 NCLic. No. F-0270

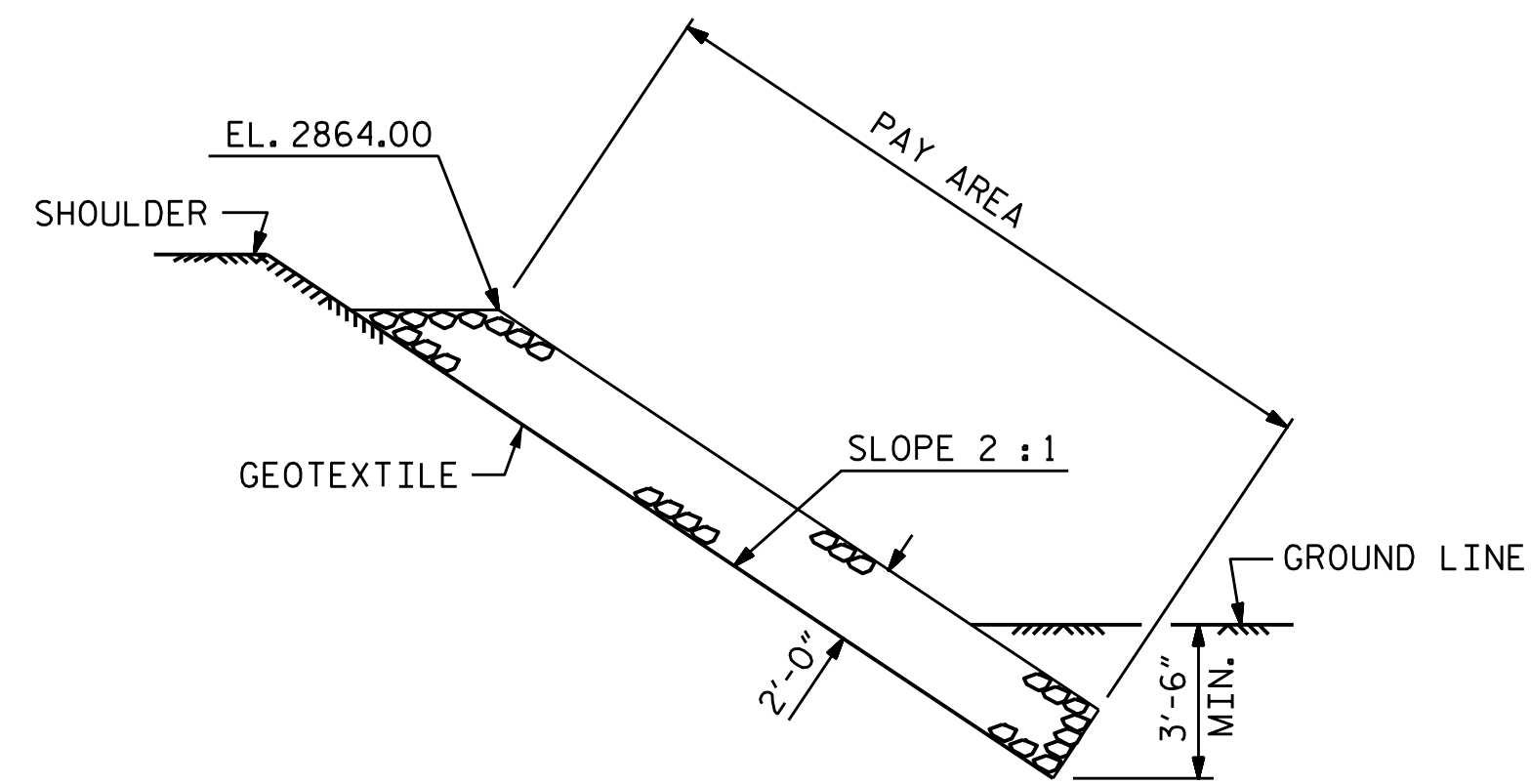




SOUTH FORK NEW RIVER



SECTION BERM RIP RAPPED



SECTION C-C

ESTIMATED QUANTITIES		
BRIDGE @ STA. 242+67.42 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	77	85
END BENT 2	195	215

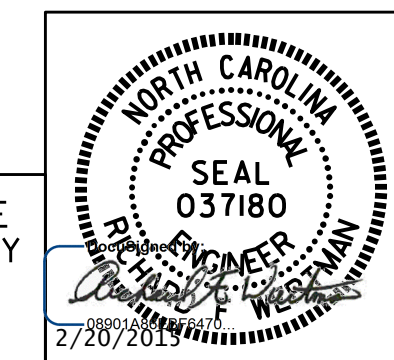
PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-

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

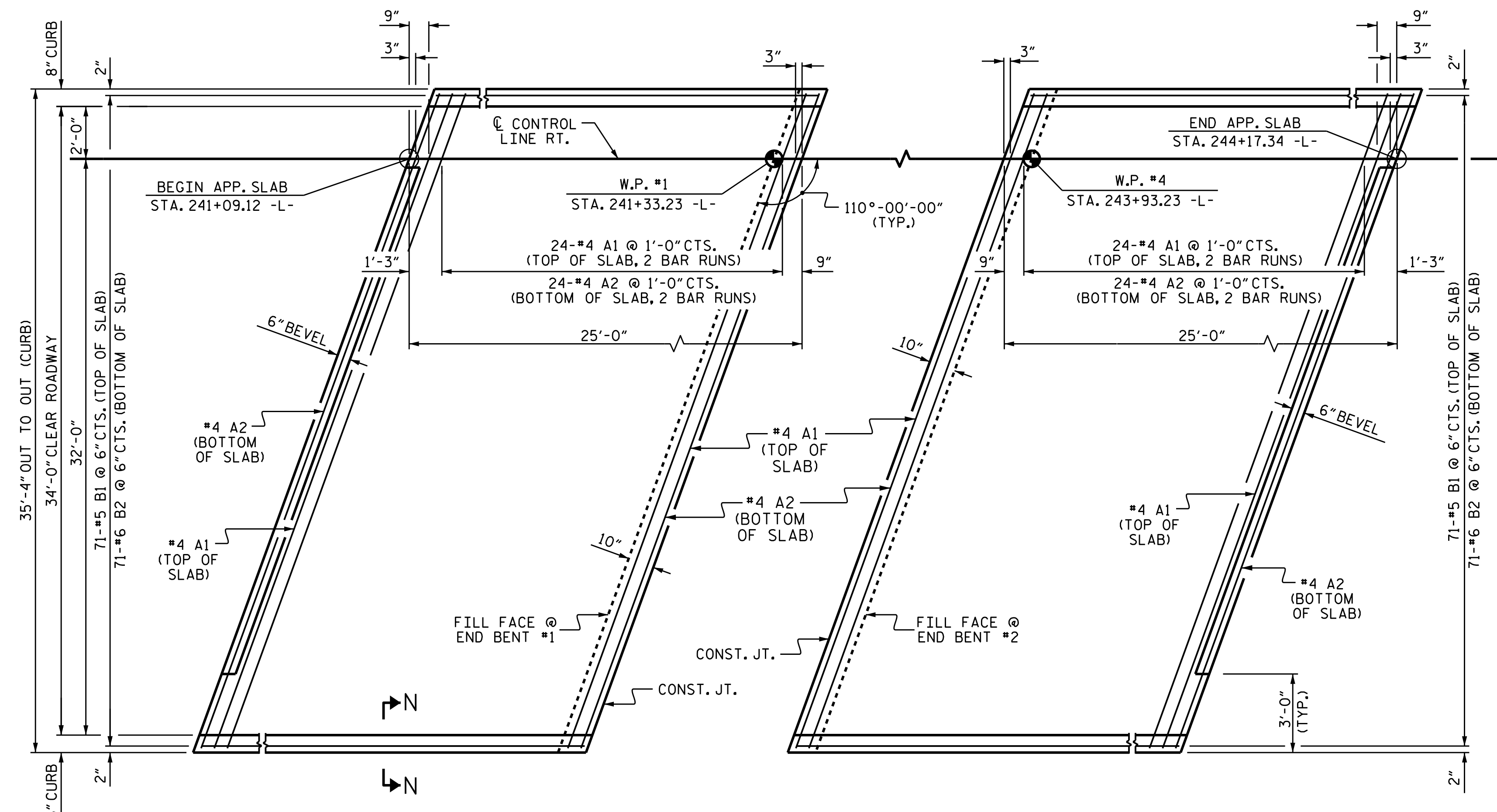
ASSEMBLED BY : T.J. KIRSCHBAUM	DATE : 10/23/14
CHECKED BY : R.F. WERTMAN	DATE : 11/13/14
DRAWN BY : REK 1/84	REV. 5/1/06R TLA/GM
CHECKED BY : RDU 1/84	REV. 10/1/11 MAA/GM
	REV. 12/21/11 MAA/GM

PLANS PREPARED BY:
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 1121 Sittus Court
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 Raleigh NC 27606-4279
 (919) 859-4880
 NC Lic. No. F-0270

THESE PLANS HAVE BEEN PROPERLY EXAMINED BY THE UNDERSIGNED. I HAVE DETERMINED THAT THEY COMPLY WITH EXISTING NORTH CAROLINA CODES, AND HAVE BEEN PROPERLY ADAPTED FOR USE IN THIS AREA.



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			35
2			4			



PLAN @ END BENT #1

PLAN @ END BENT #2

DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS

NOTES:

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

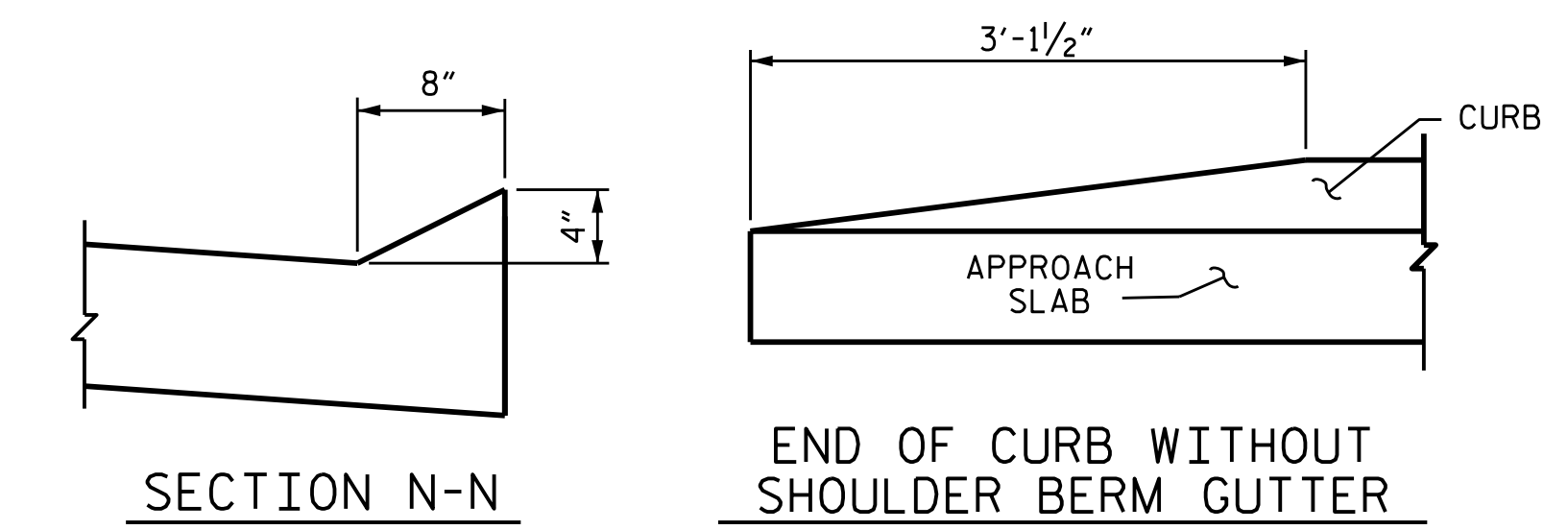
FOR REINFORCED BRIDGE APPROACH FILL INCLUDING GEOTEXTILE, IMPERMEABLE GEOMEMBRANE, 4" Ø DRAINAGE PIPE, #78M STONE, AND SELECT MATERIAL, SEE ROADWAY PLANS.

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

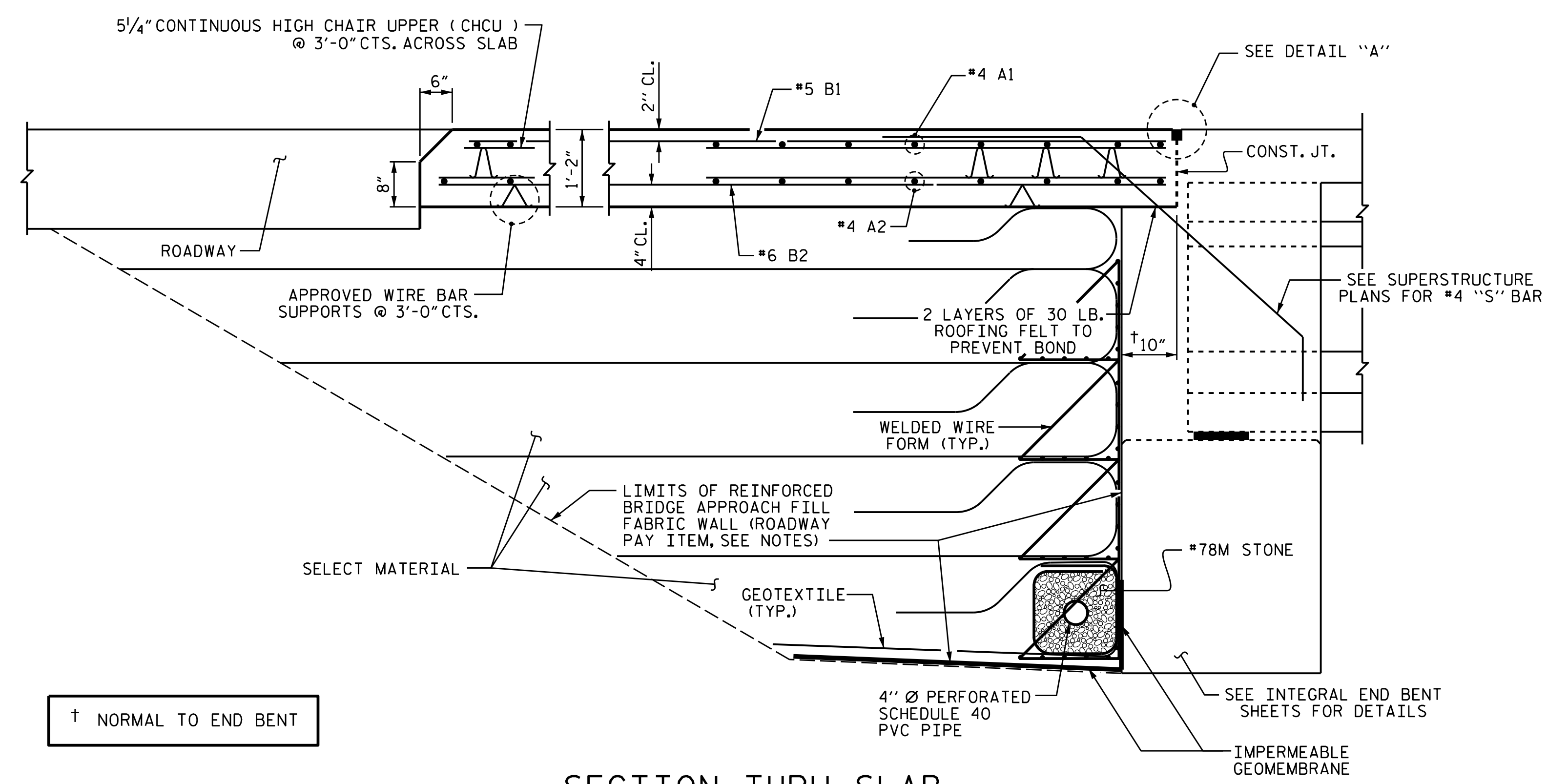
THE JOINT OPENING AT THE APPROACH SLAB/DECK INTERFACE SHALL BE SAWED NO MORE THAN 12 HOURS AFTER THE APPROACH SLAB IS CAST. THE JOINT SHALL BE CLEANED OF ALL DEBRIS BEFORE THE SEALANT IS APPLIED. THE JOINT SEALER MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF SECTION 1028-3 OF THE STANDARD SPECIFICATIONS.

BILL OF MATERIAL					
FOR ONE APPROACH SLAB (2 REQUIRED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	52	#4	STR	19'-8"	683
A2	52	#4	STR	19'-6"	677
*B1	71	#5	STR	24'-2"	179Q
B2	71	#6	STR	24'-8"	2631
REINFORCING STEEL				LBS.	3308
*EPOXY COATED REINFORCING STEEL				LBS.	2473
CLASS AA CONCRETE				C. Y.	40.7

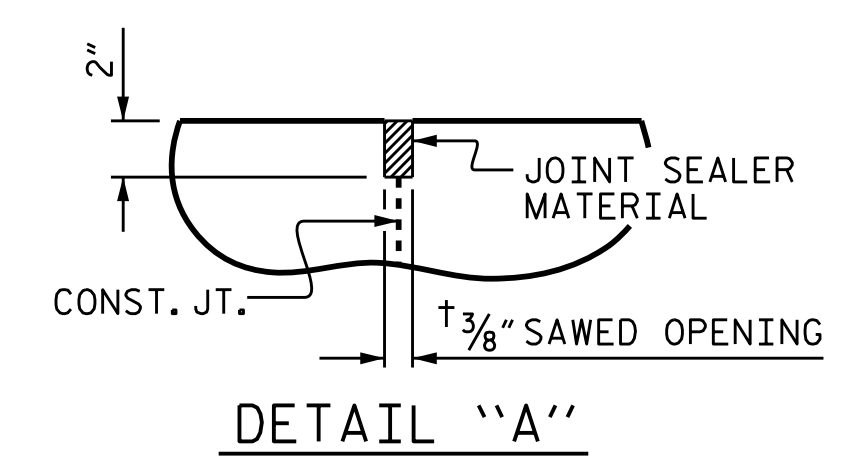
SPLICE LENGTHS CHART		
BAR SIZE	EPOXY COATED	UNCOATED
#4	2'-0"	1'-9"
#5	2'-6"	2'-2"
#6	3'-10"	2'-7"



CURB DETAILS



SECTION THRU SLAB



DETAIL 'A'

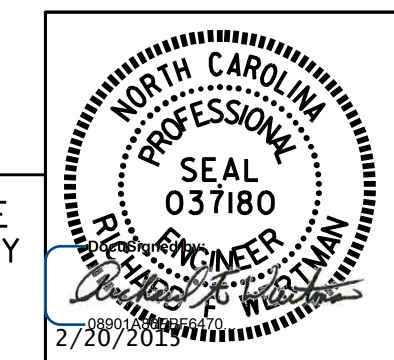
PROJECT NO. R-2915B
 ASHE COUNTY
 STATION: 242+67.42 -L-
 SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 BRIDGE APPROACH SLAB
 FOR INTEGRAL ABUTMENT
 NBL

ASSEMBLED BY : T.J. KIRSCHBAUM	DATE : 10/27/14
CHECKED BY : R.F. WERTMAN	DATE : 11/13/14
DRAWN BY : TLA 10/05	REV. 10/11/II MAA/GM
CHECKED BY : GM 5/06	REV. 12/21/II MAA/GM
	REV. 6/13 MAA/GM

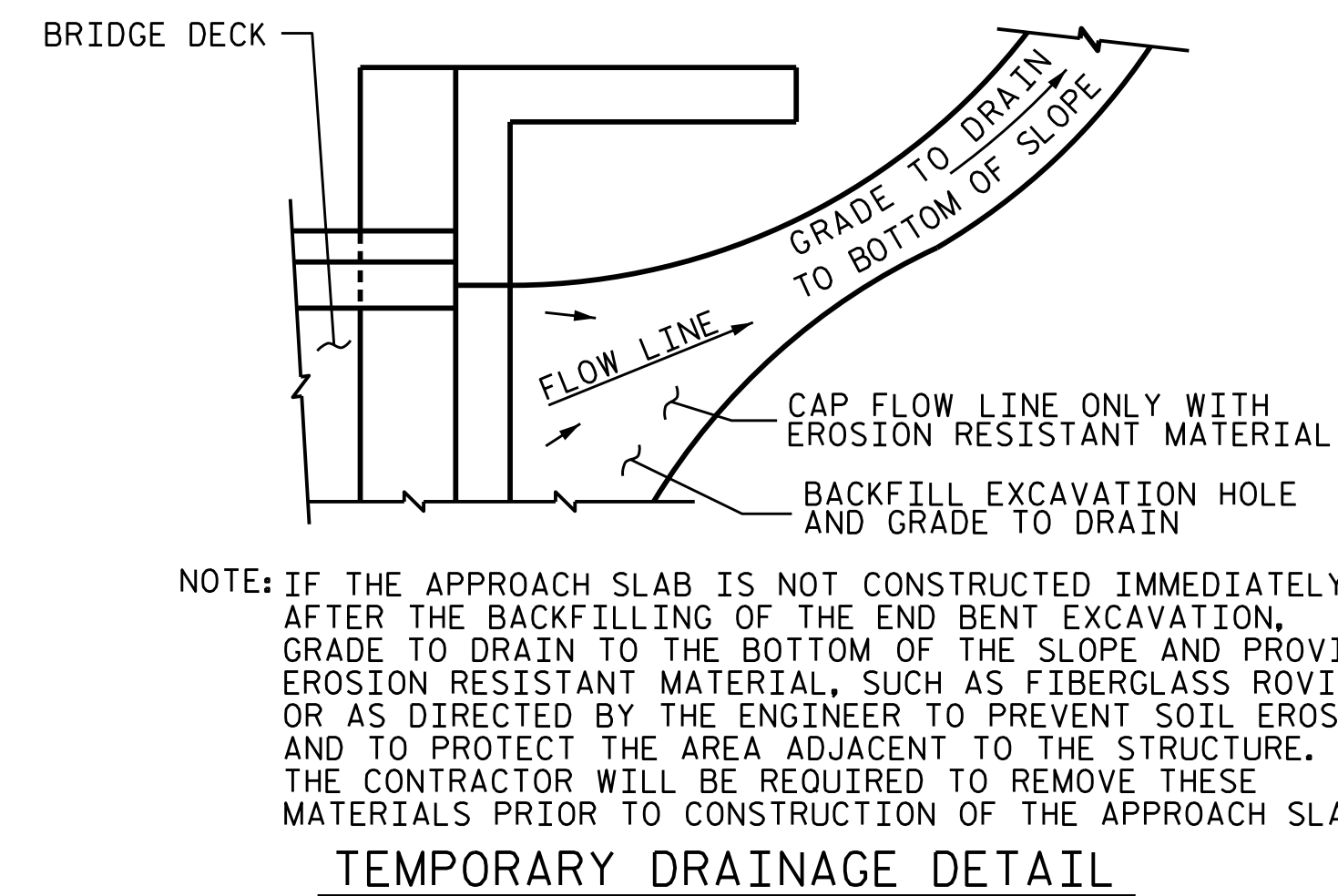
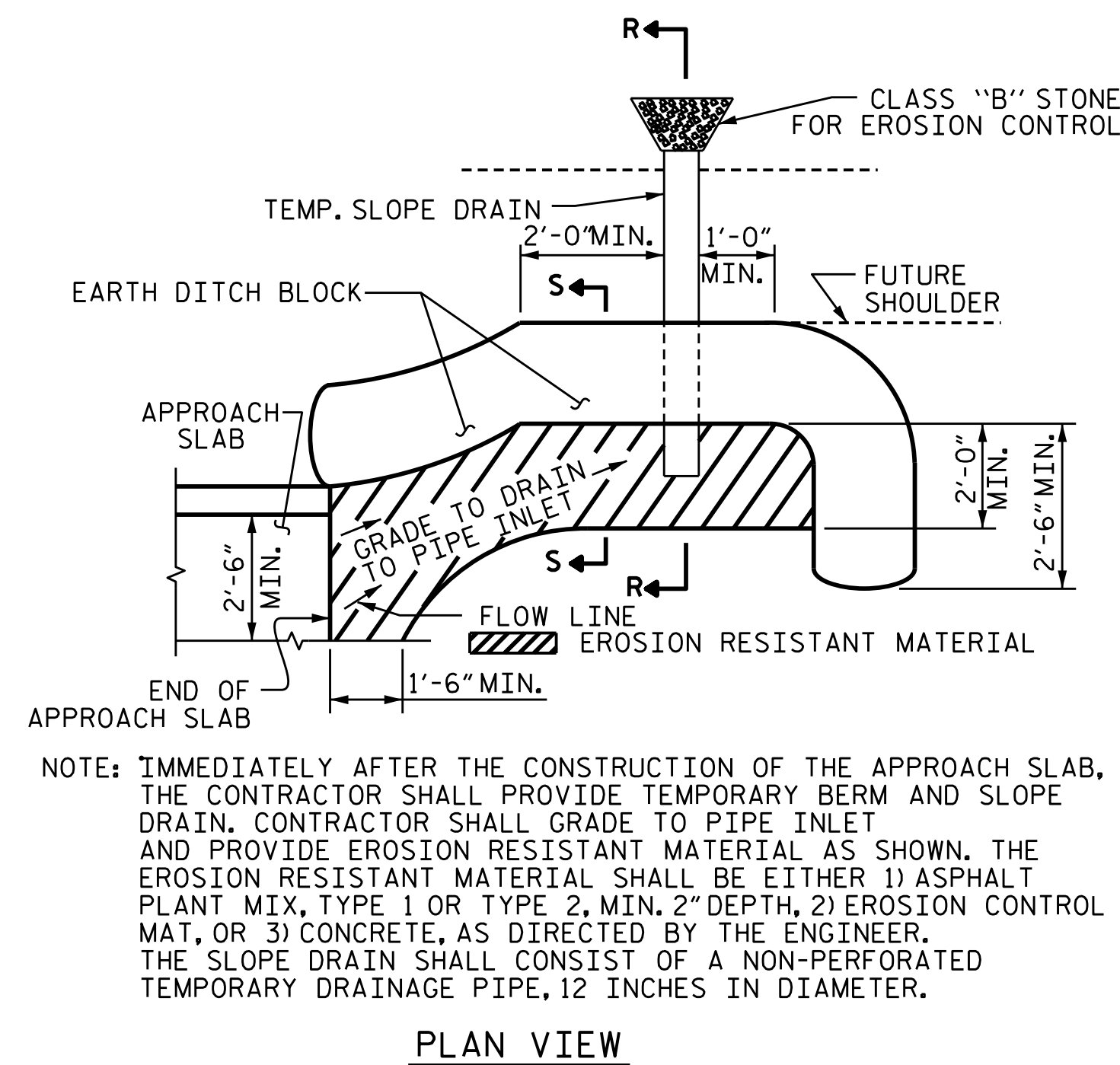
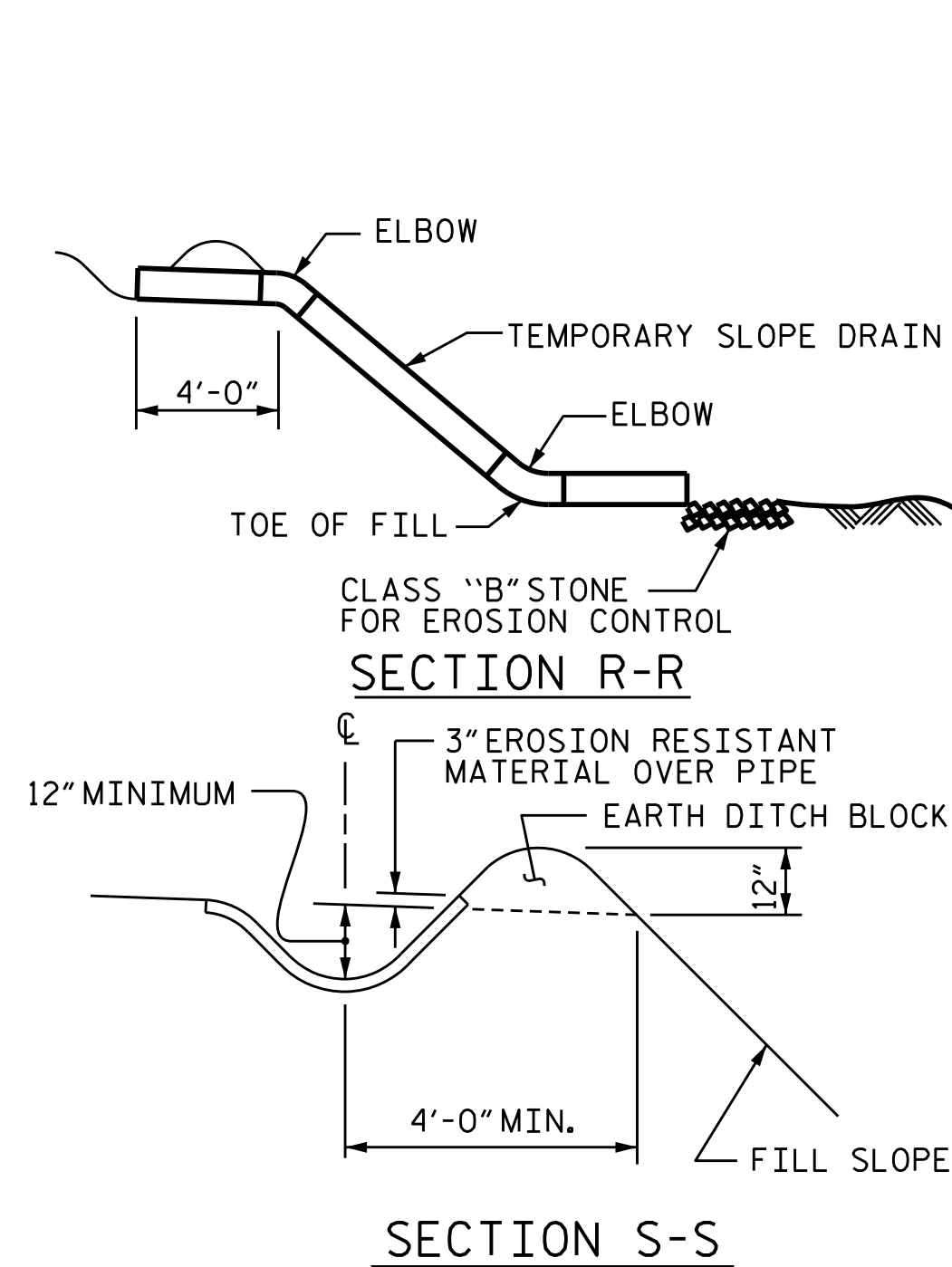
PLANS PREPARED BY:
Gannett Fleming
 Excellence Delivered As Promised
 1121 Sittus Court
 Suite 170
 Raleigh NC 27606-4279
 (919) 859-4880
 N.C. Lic. No. F-0270

THESE PLANS HAVE BEEN PROPERLY EXAMINED BY THE UNDERSIGNED. I HAVE DETERMINED THAT THEY COMPLY WITH EXISTING NORTH CAROLINA CODES, AND HAVE BEEN PROPERLY ADAPTED FOR USE IN THIS AREA.



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

SHEET NO. S05-34
 TOTAL SHEETS 35



TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)

PROJECT NO. R-2915B
ASHE COUNTY
 STATION: 242+67.42 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD
 BRIDGE APPROACH
 SLAB DETAILS

NBL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			35
2			4			

ASSEMBLED BY : T.J. KIRSCHBAUM	DATE : 10/27/14	
CHECKED BY : R.F. WERTMAN	DATE : 11/13/14	
DRAWN BY : FCJ 11/88	REV. 10/1/11	MAA/GM
CHECKED BY : ARB 11/88	REV. 7/12	MAA/GM
	REV. 6/13	MAA/GM

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