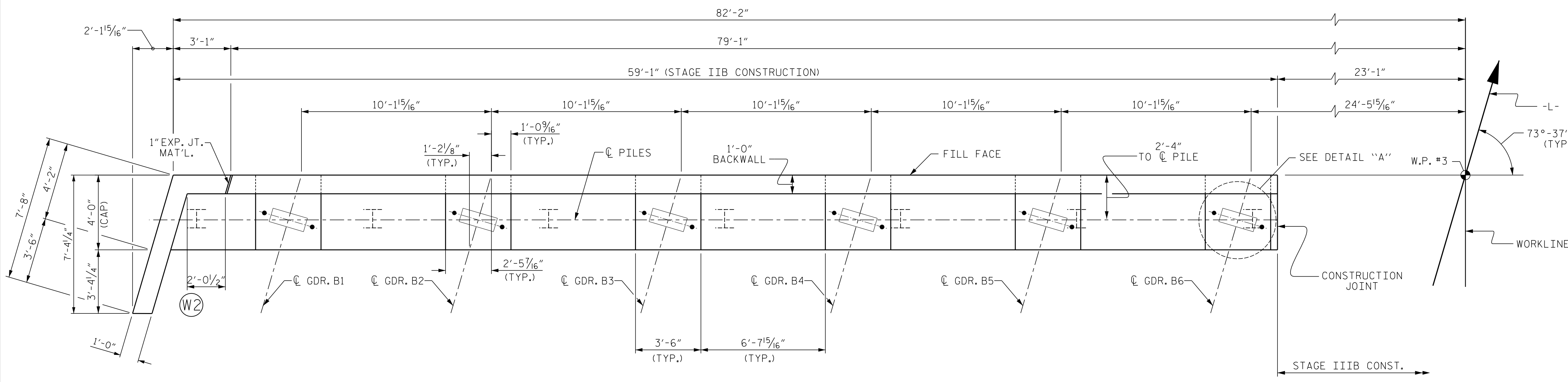
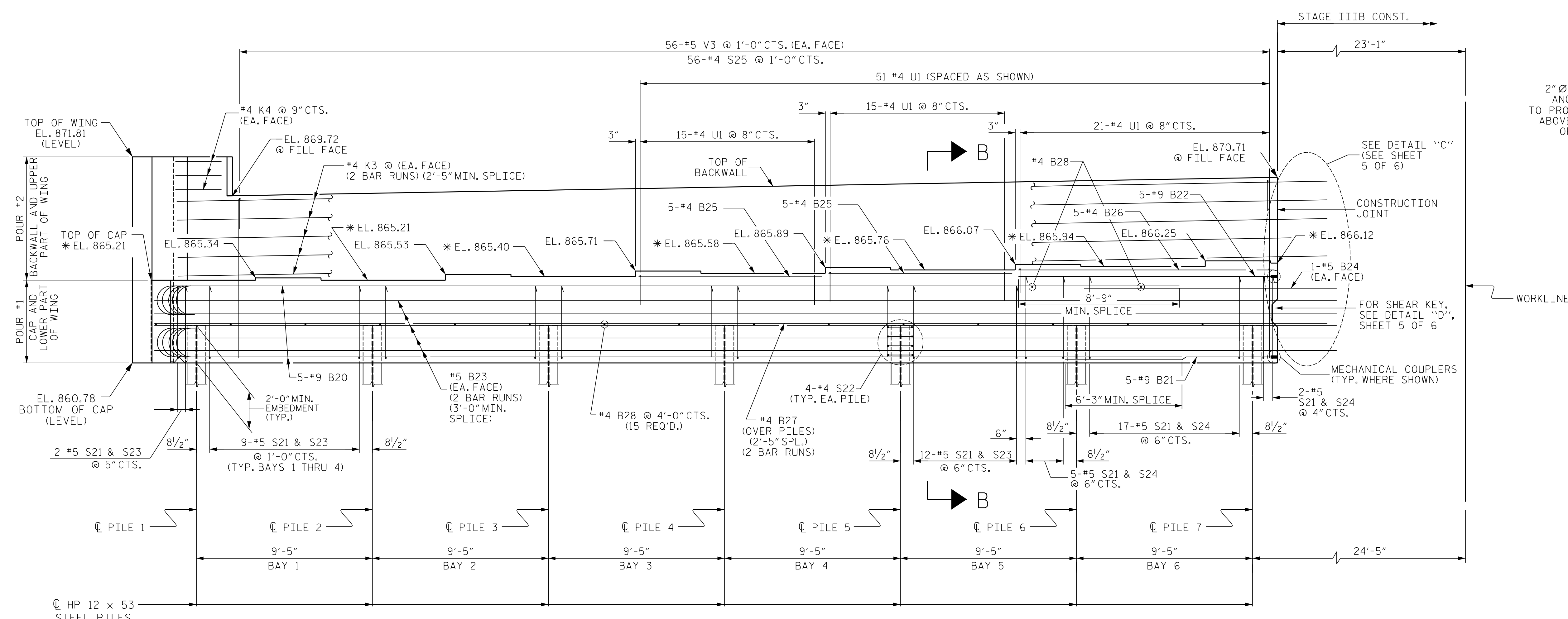


**NOTES**

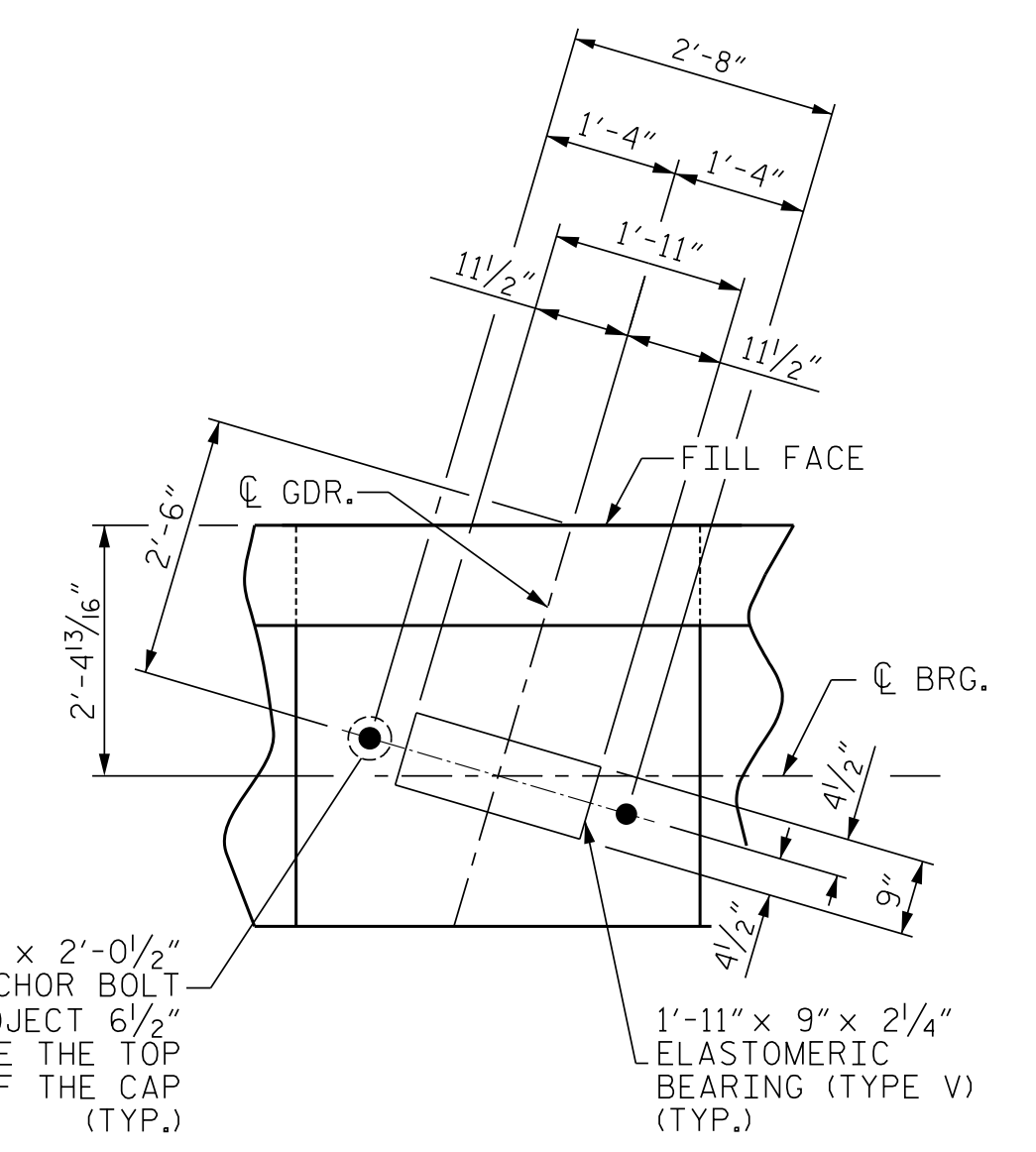
- STIRRUPS AND "U" BARS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
- THE TOP SURFACE AREAS OF THE END BENT CAP SHALL BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.
- BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.
- THE TOP SURFACE OF THE END BENT CAP, EXCEPT THE BRIDGE SEAT BUILDUPS, SHALL BE SLOPED TRANSVERSELY FROM THE FILL FACE TO THE BACK FACE AT THE RATE OF 2%.
- \* FOR LOCATION OF ELEVATIONS BETWEEN BUILDUPS, SEE SECTIONS A-A, B-B AND C-C ON SHEETS 5 OF 6.



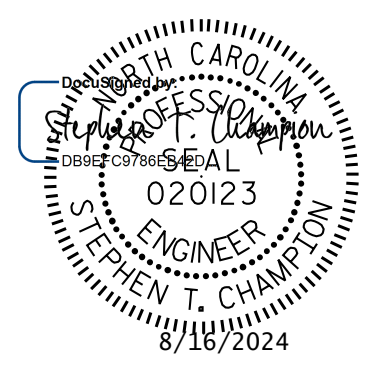
**PLAN**



**ELEVATION**



**DETAIL "A"**  
**STAGE IIB**  
(TYP. EACH GIRDER)



PROJECT NO. I-5717  
IREDELL COUNTY  
 STATION: 733+32.53 -L-  
 SHEET 2 OF 6

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**SUBSTRUCTURE  
 END BENT 2  
 STAGE IIB**

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REVISIONS						SHEET NO. S2-62
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 72
2			4			

WDC/CFW  
 DATE: 01/24  
 TIME: 4:30/2024  
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DWN. BY: WDC DATE: 01/24  
 CHKD. BY: CFW DATE: 01/24  
 DES. EGR. OF RECORD: STC DATE: 01/24

# NOTES

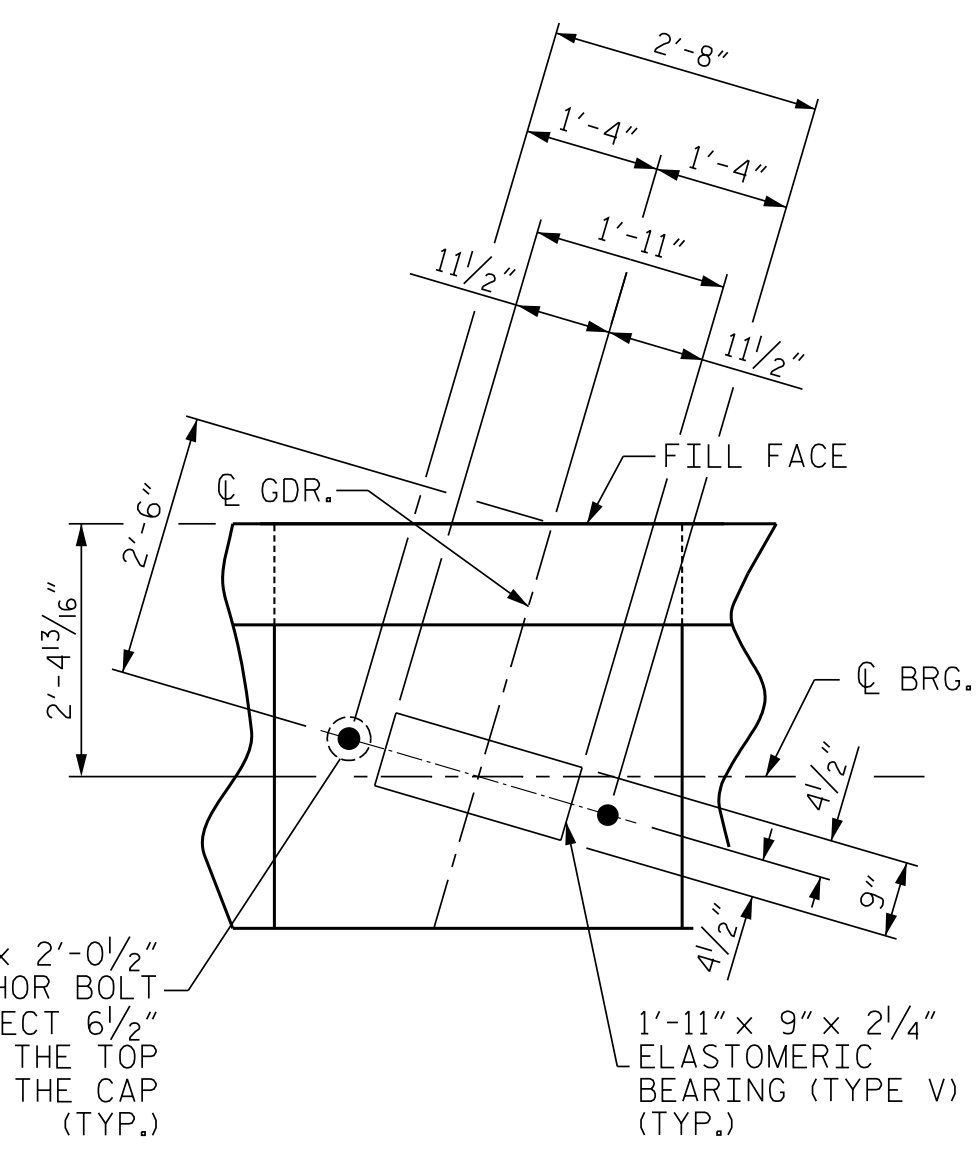
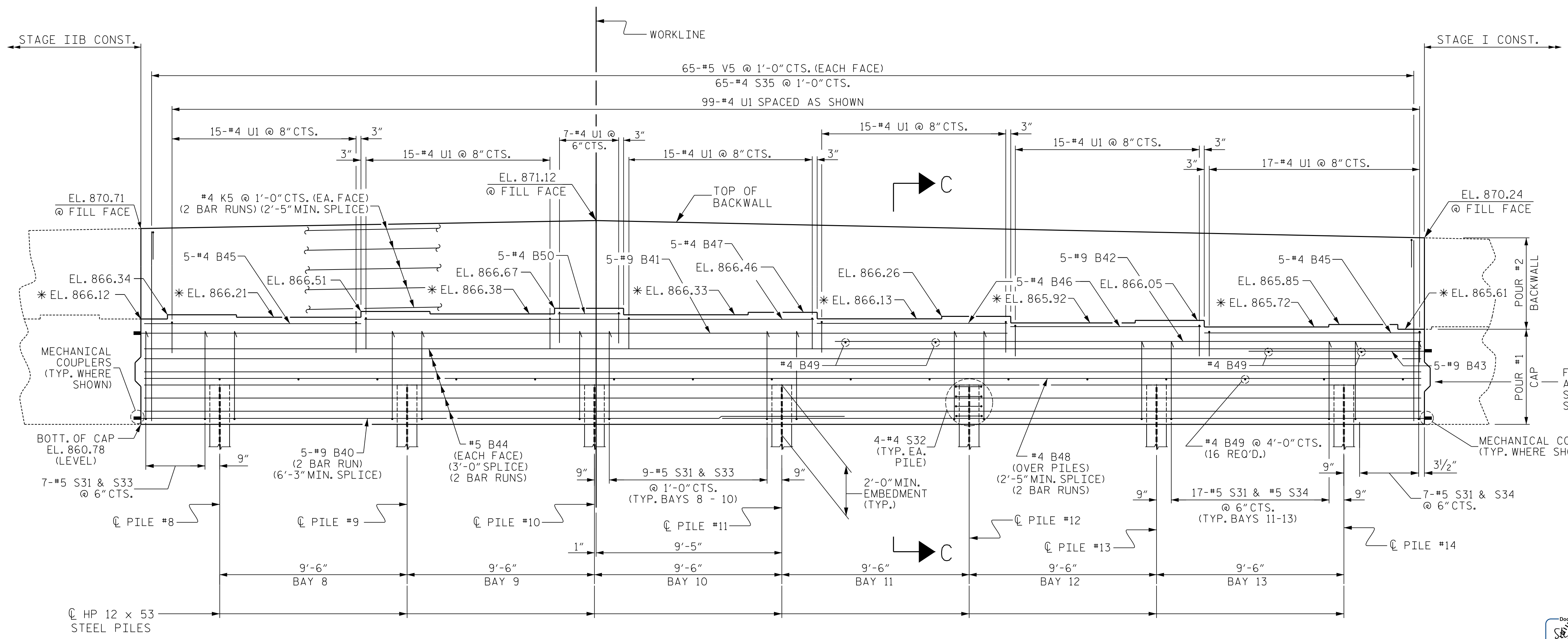
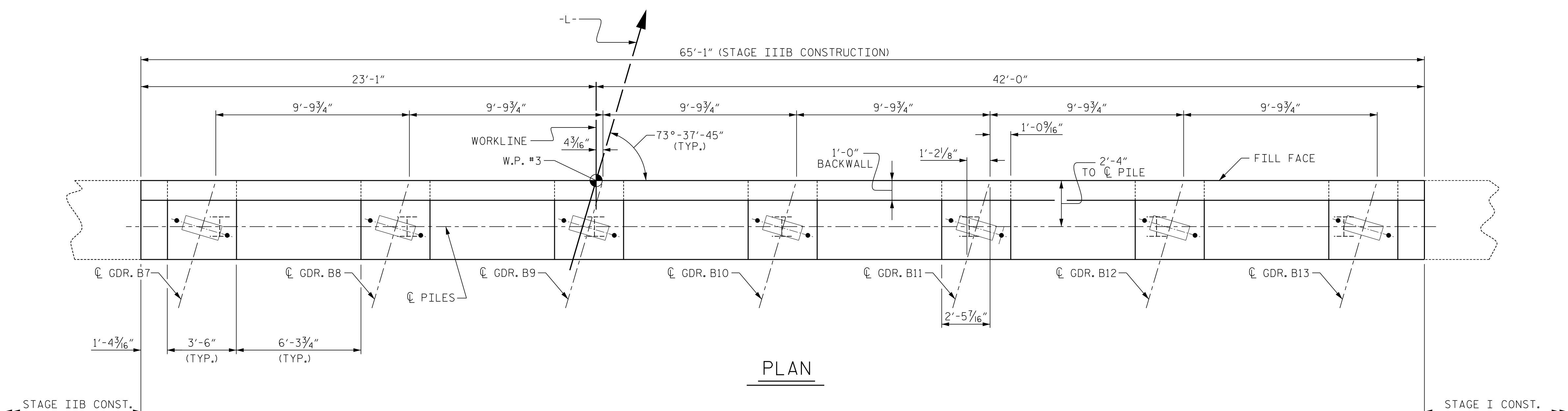
STIRRUPS AND "U" BARS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.

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

BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.

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

\* FOR LOCATION OF ELEVATIONS BETWEEN BUILDUPS, SEE SECTIONS A-A, B-B AND C-C ON SHEETS 5 OF 6.

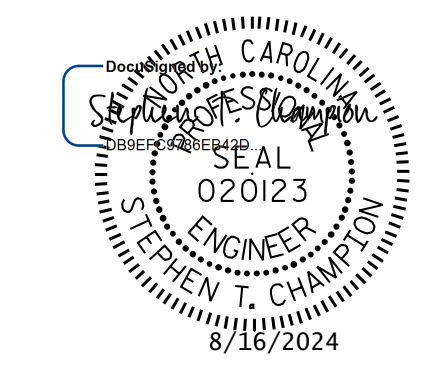


PROJECT NO. I-5717

IREDELL COUNTY

STATION: 733+32.53 -L-

SHEET 3 OF 6



**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

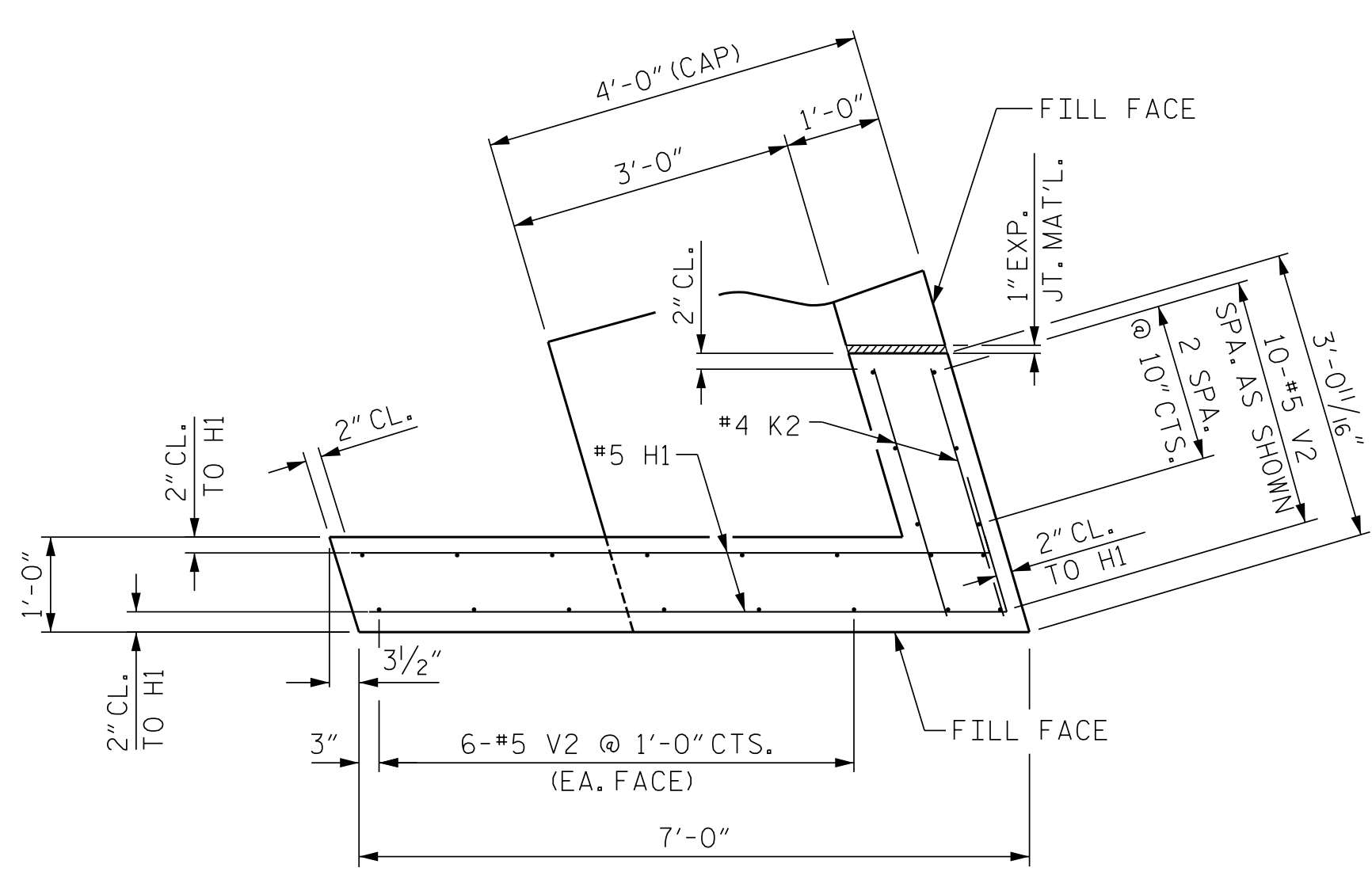
Johnson, Mirmiran, & Thompson Inc.  
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Raleigh, NC, 27609  
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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE END BENT 2 STAGE IIB					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

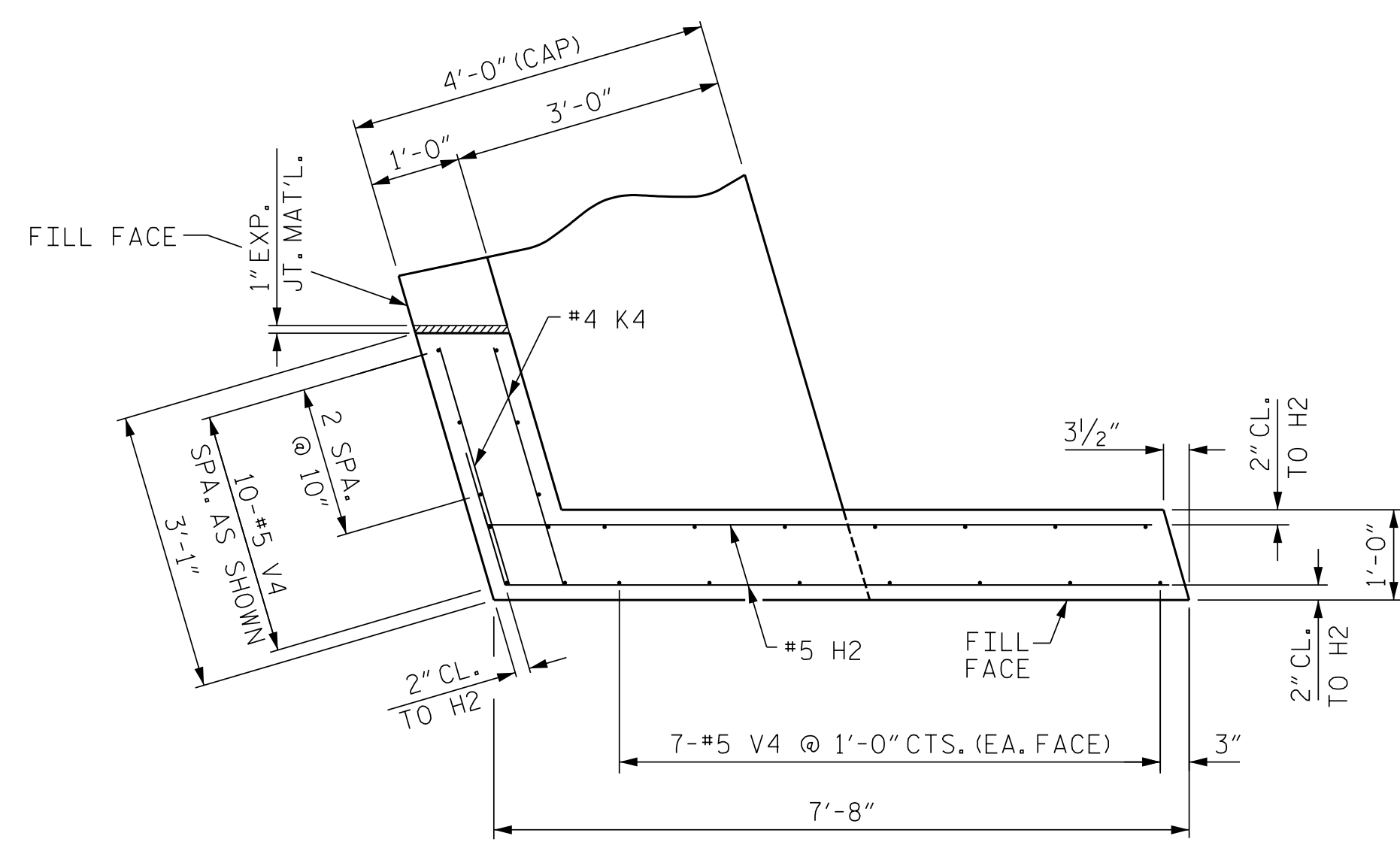
SHEET NO. S2-63
TOTAL SHEETS 72

16/01/2024 10:20:17 AM 5\_003\_L1-5717 - ReplacementNCADD Structures.CADD 3-31-23 401123\_L1-5717\_SML\_E203\_563.dgn  
 TIME: 4:30:2024

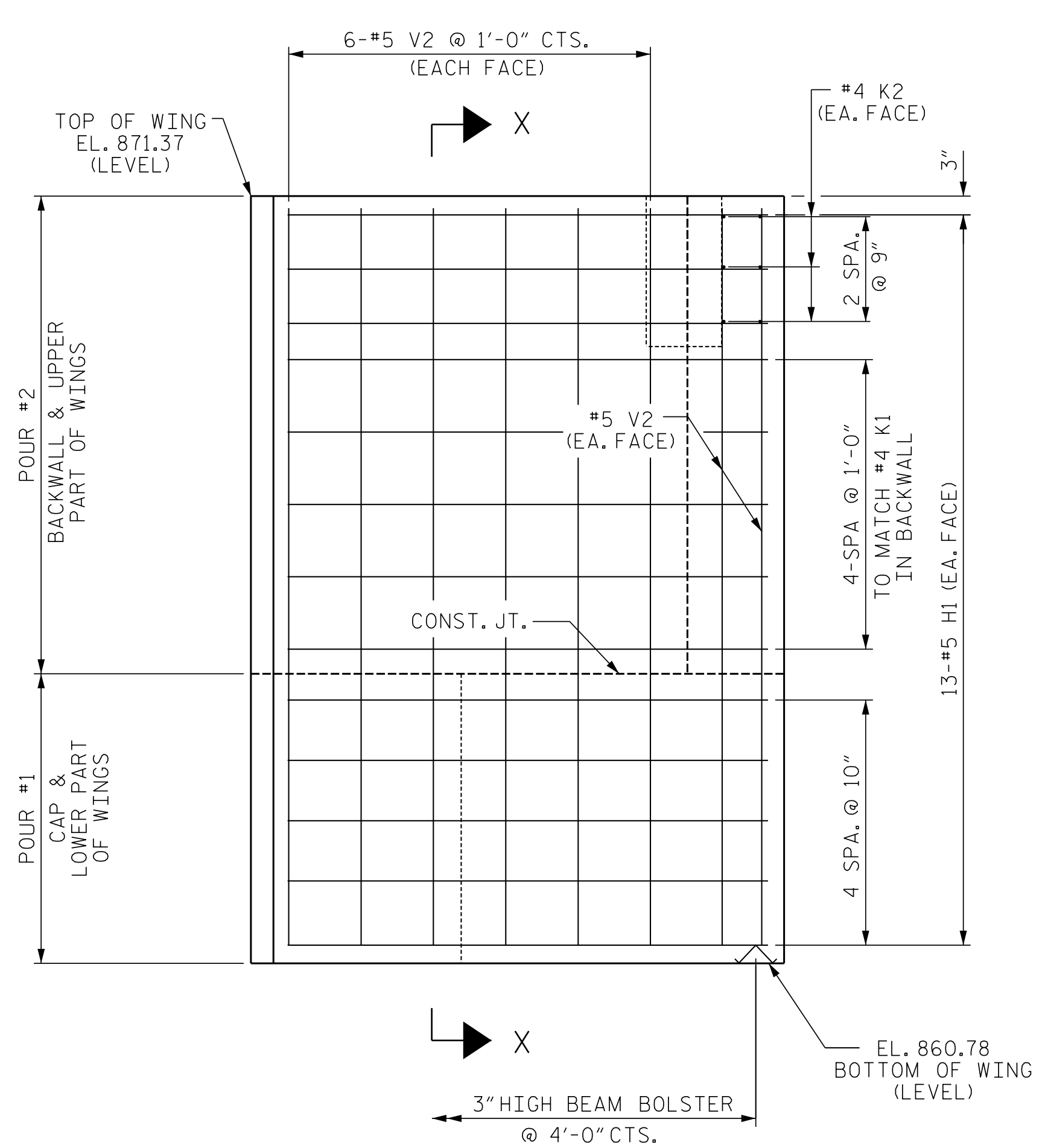
DWN. BY: WDC DATE: 01/24  
 CHKD. BY: GFW DATE: 01/24  
 DES. EGR. OF RECORD: STC DATE: 01/24



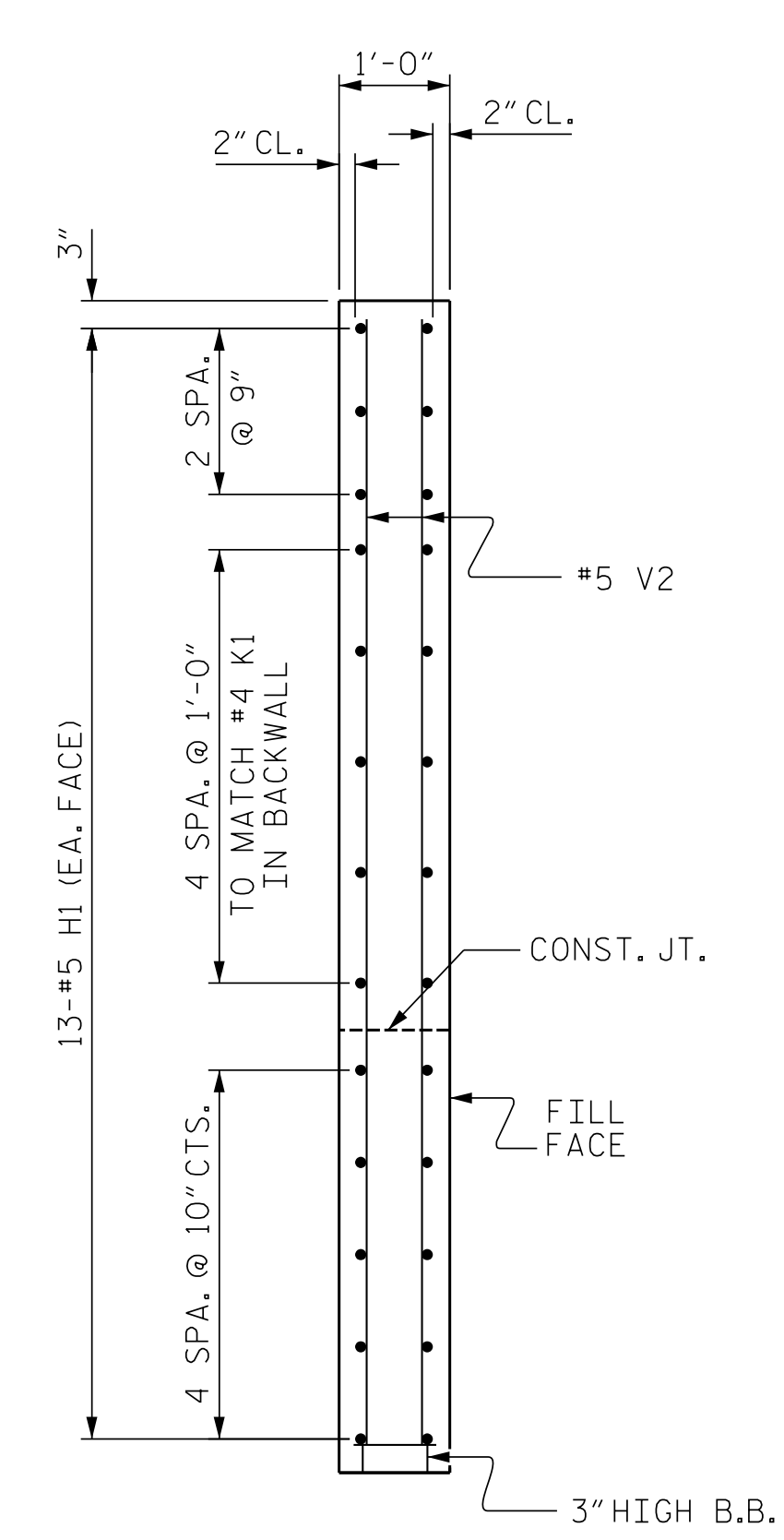
PLAN OF WING (W1)



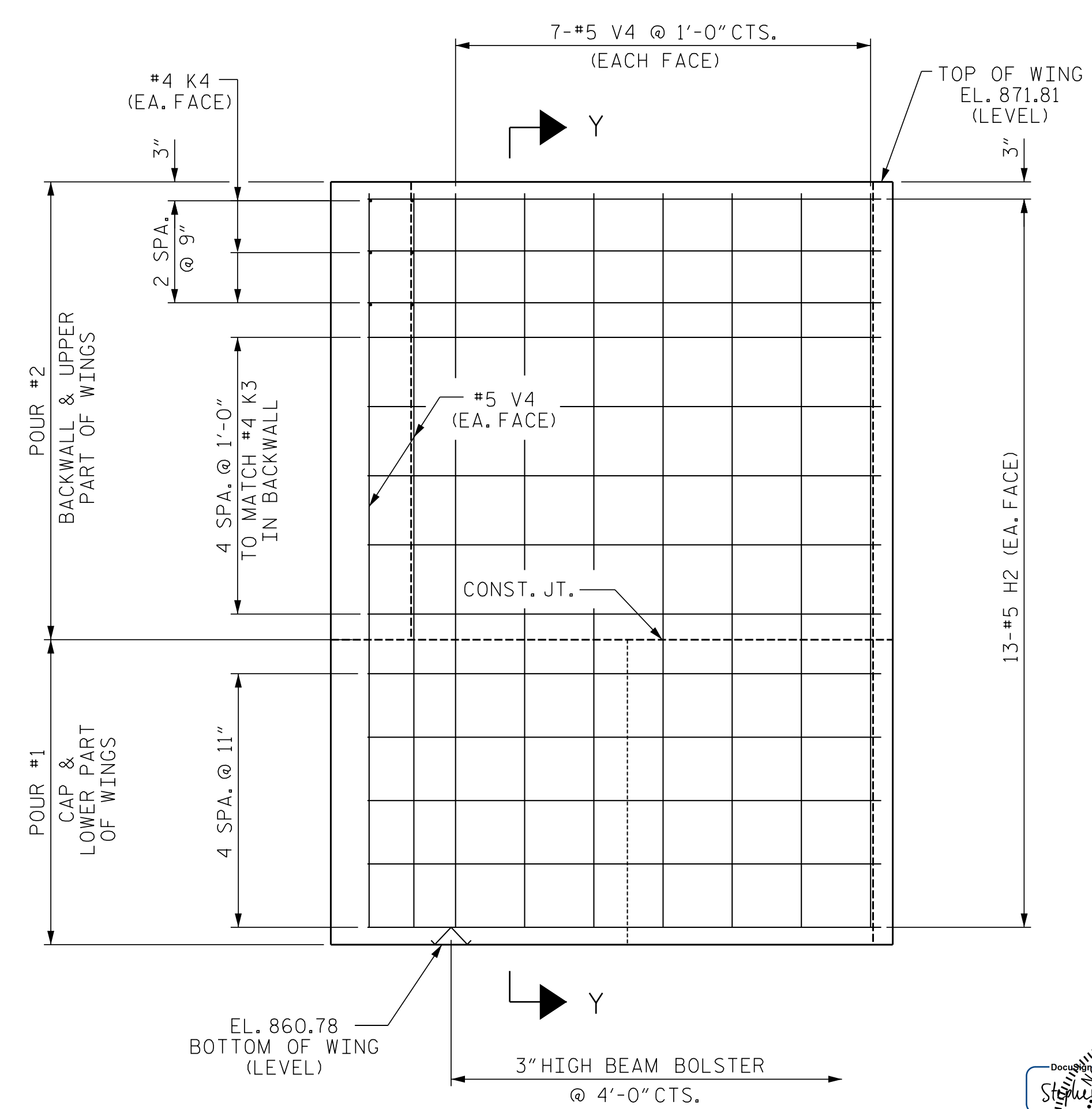
PLAN OF WING (W2)



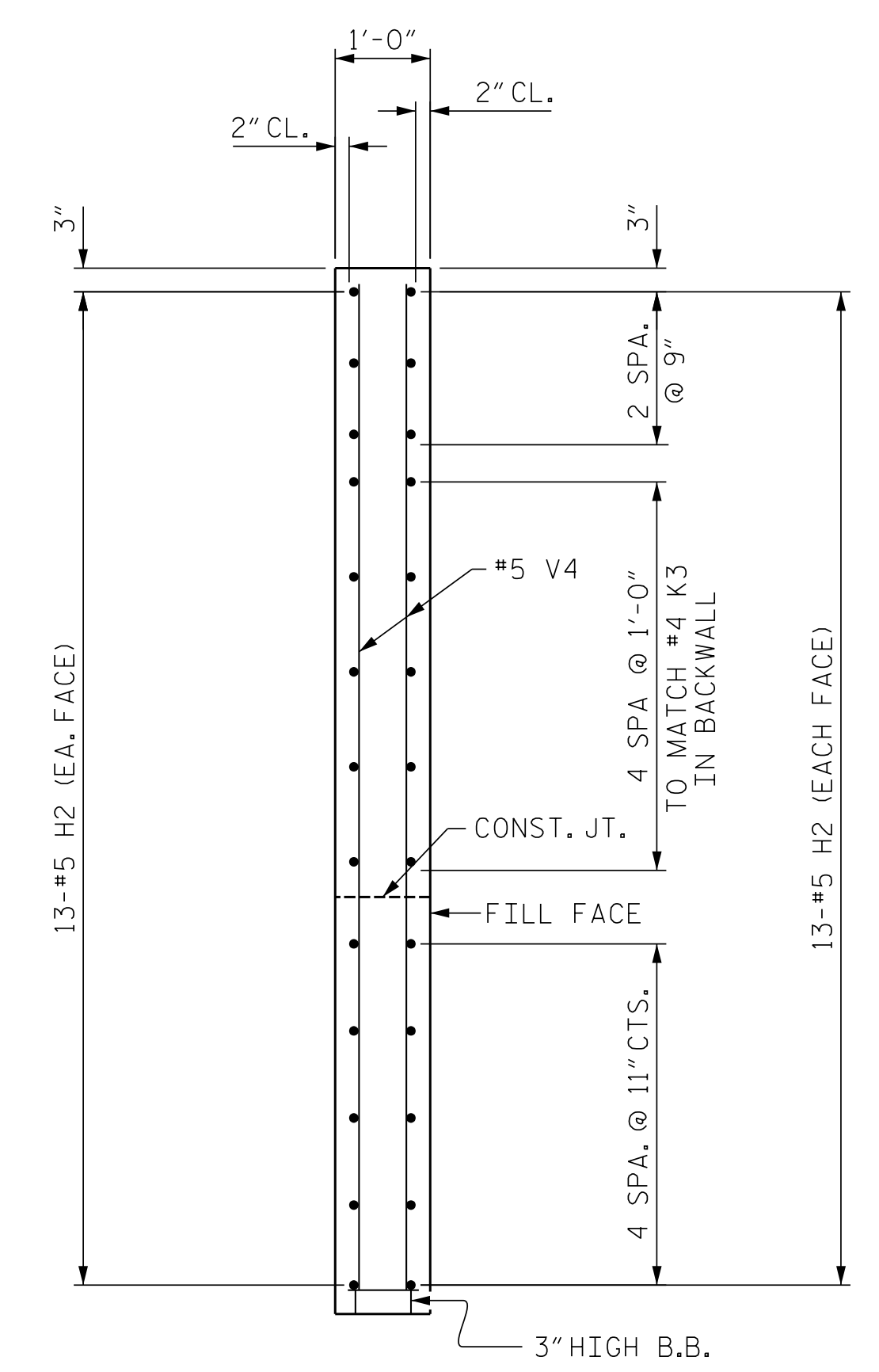
ELEVATION OF WING (W1)



SECTION X-X

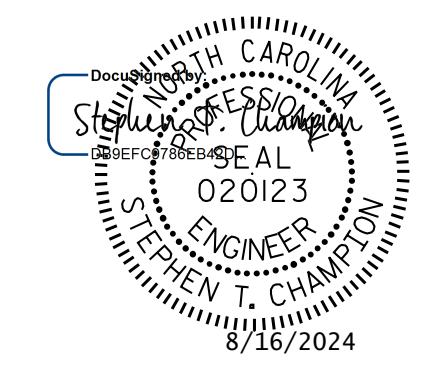


ELEVATION OF WING (W2)



SECTION Y-Y

PROJECT NO. I-5717  
 IREDELL COUNTY  
 STATION: 733+32.53 -L-  
 SHEET 4 OF 6



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

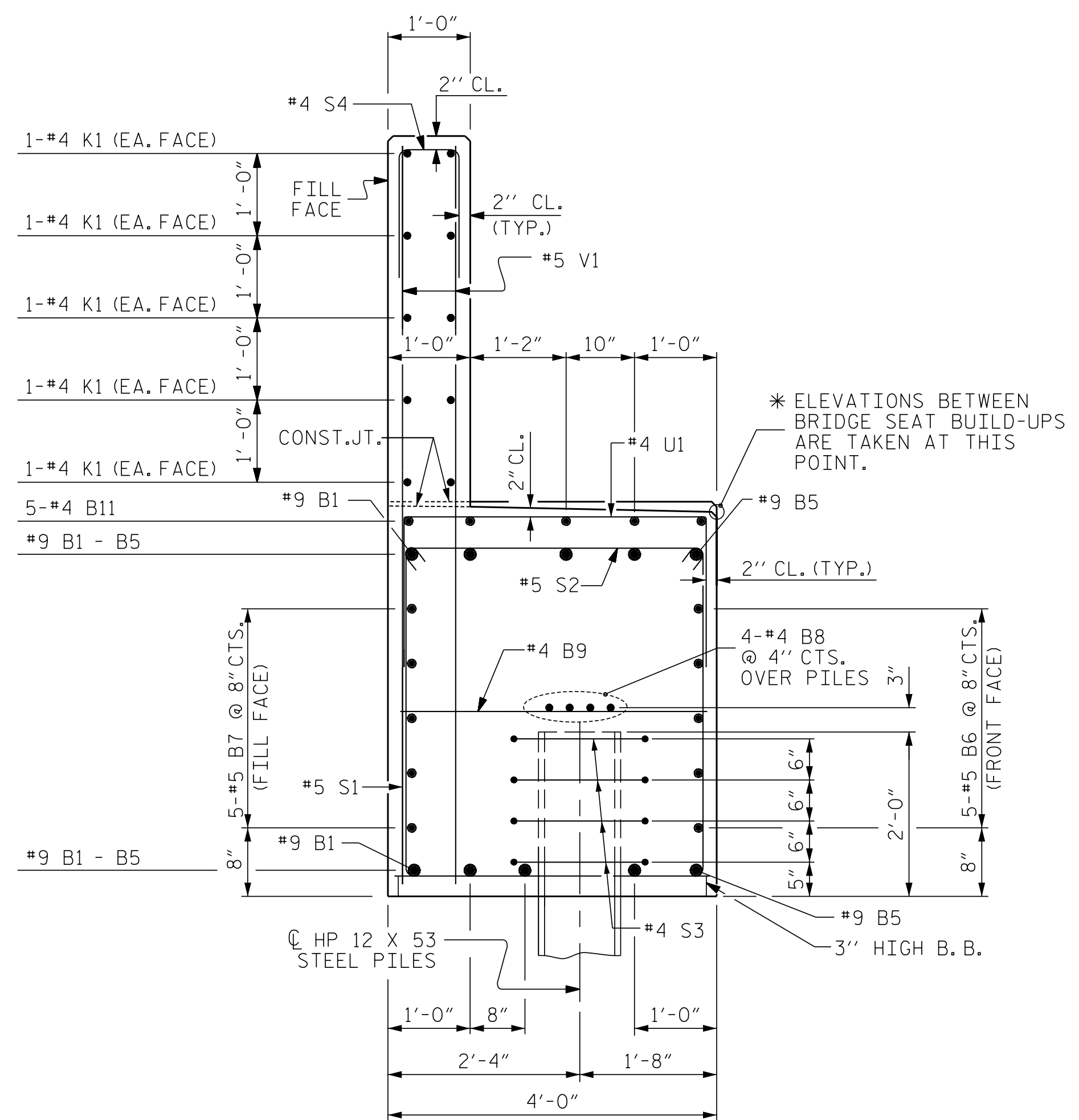
SUBSTRUCTURE  
 END BENT 2  
 WING DETAILS

**DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED**

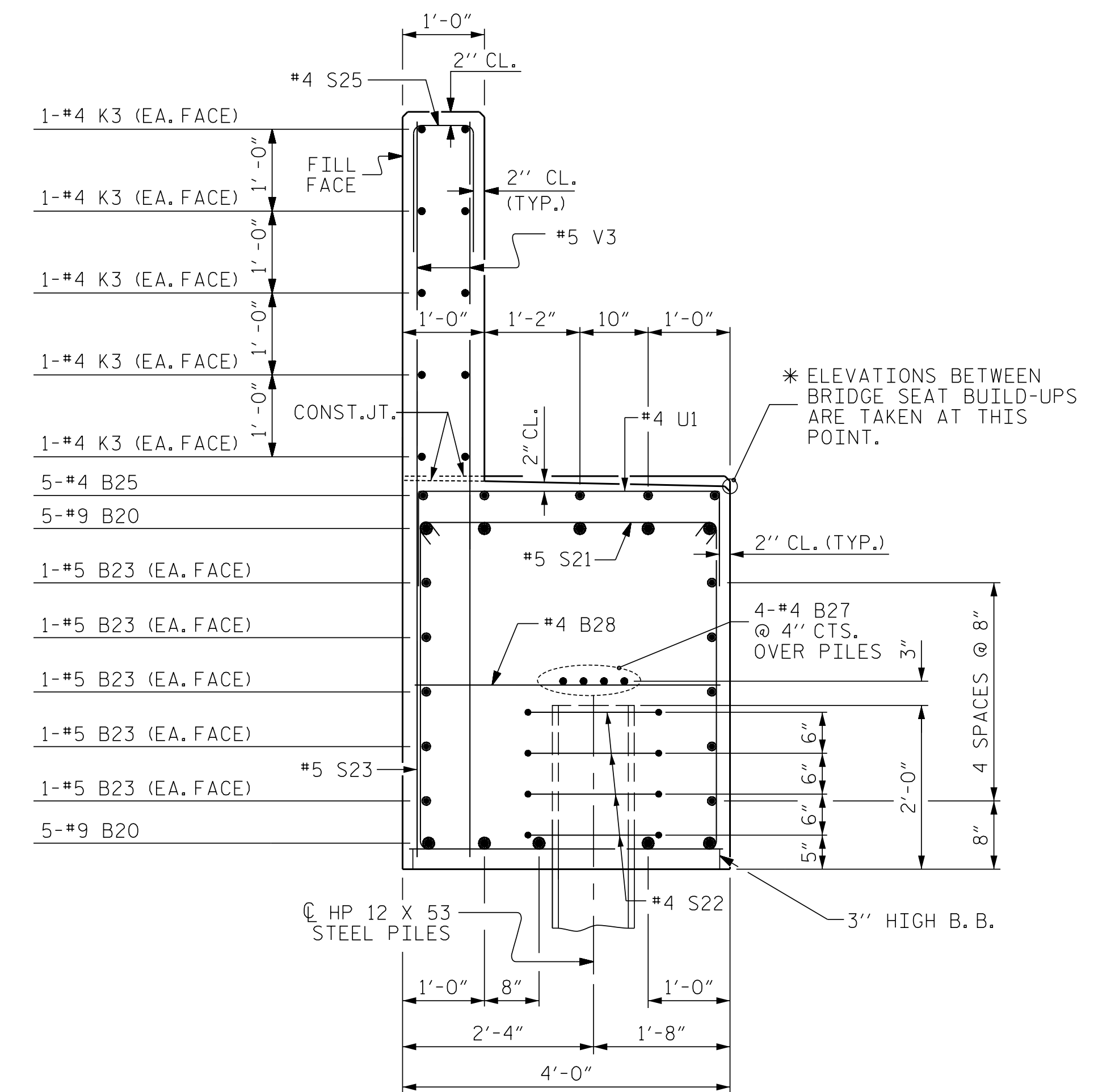
**JWT** Johnson, Mirmiran, & Thompson Inc.  
 4700 Falls of Neuse Rd, Suite 100,  
 Raleigh, NC, 27609  
 License No: C-3097

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-64	
1			3			TOTAL SHEETS	
2			4			72	

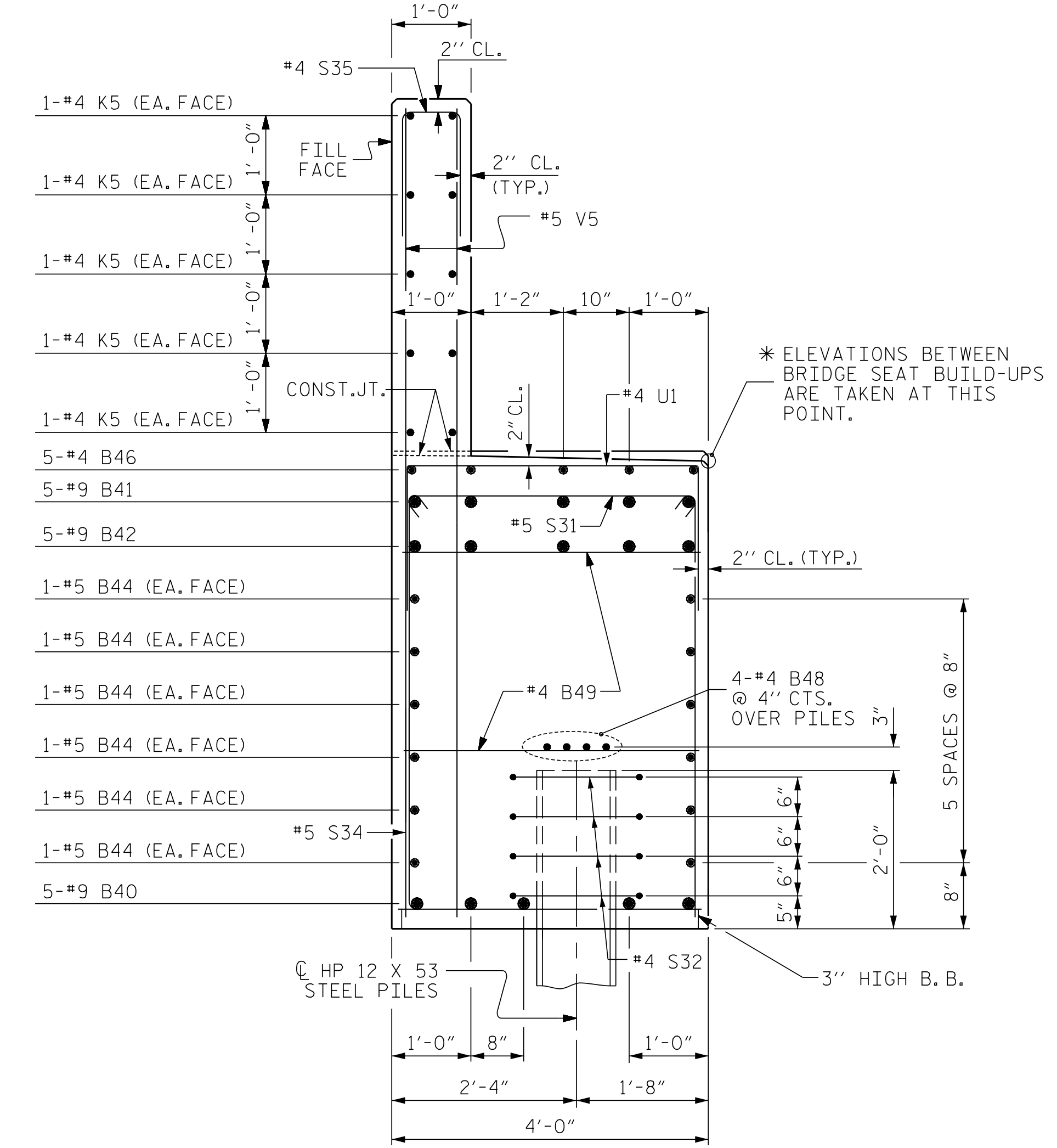
WDC/CFW  
 DATE: 01/24  
 CHKD. BY: GFW  
 DATE: 01/24  
 DES. EGR. OF RECORD: STC  
 DATE: 01/24



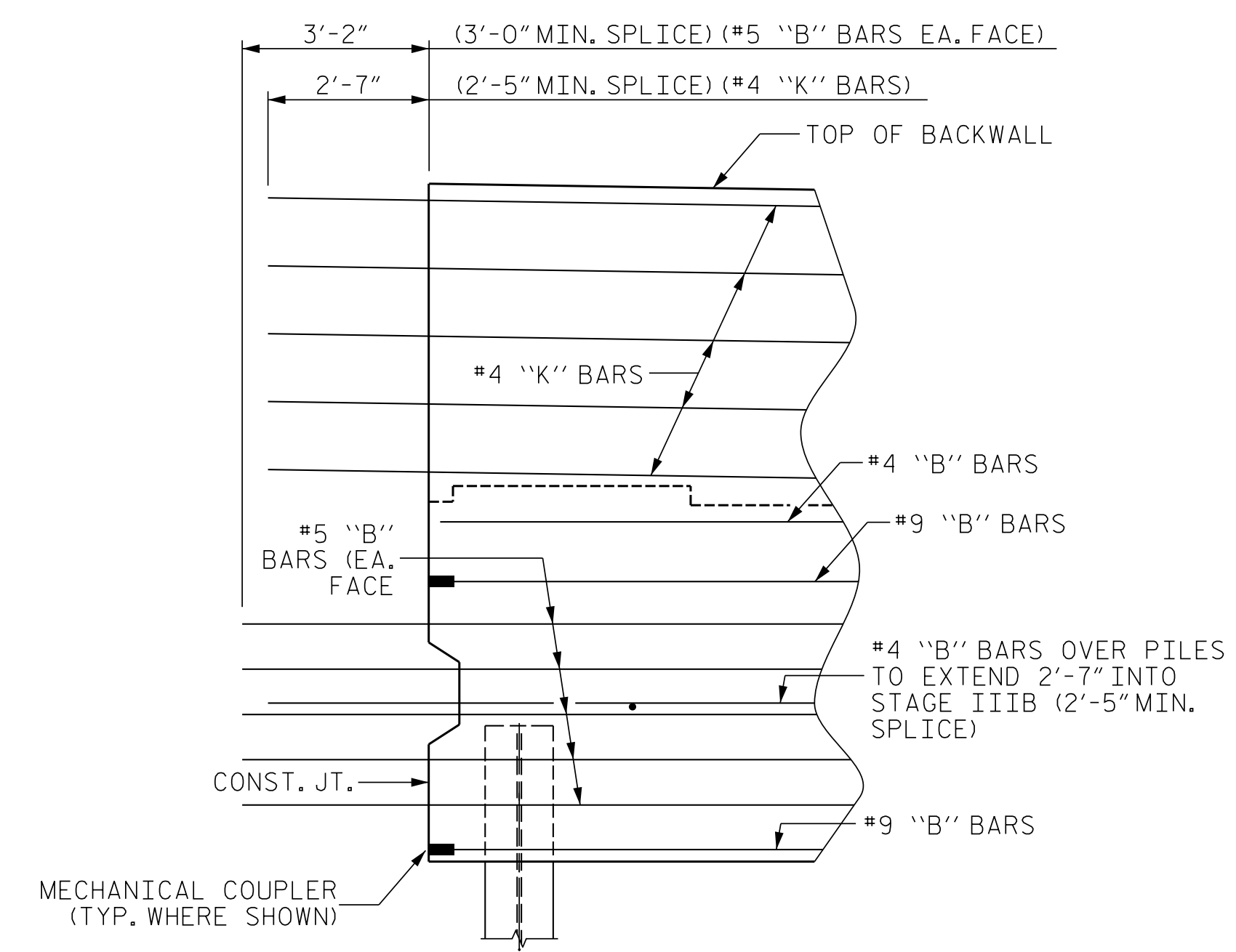
SECTION A-A



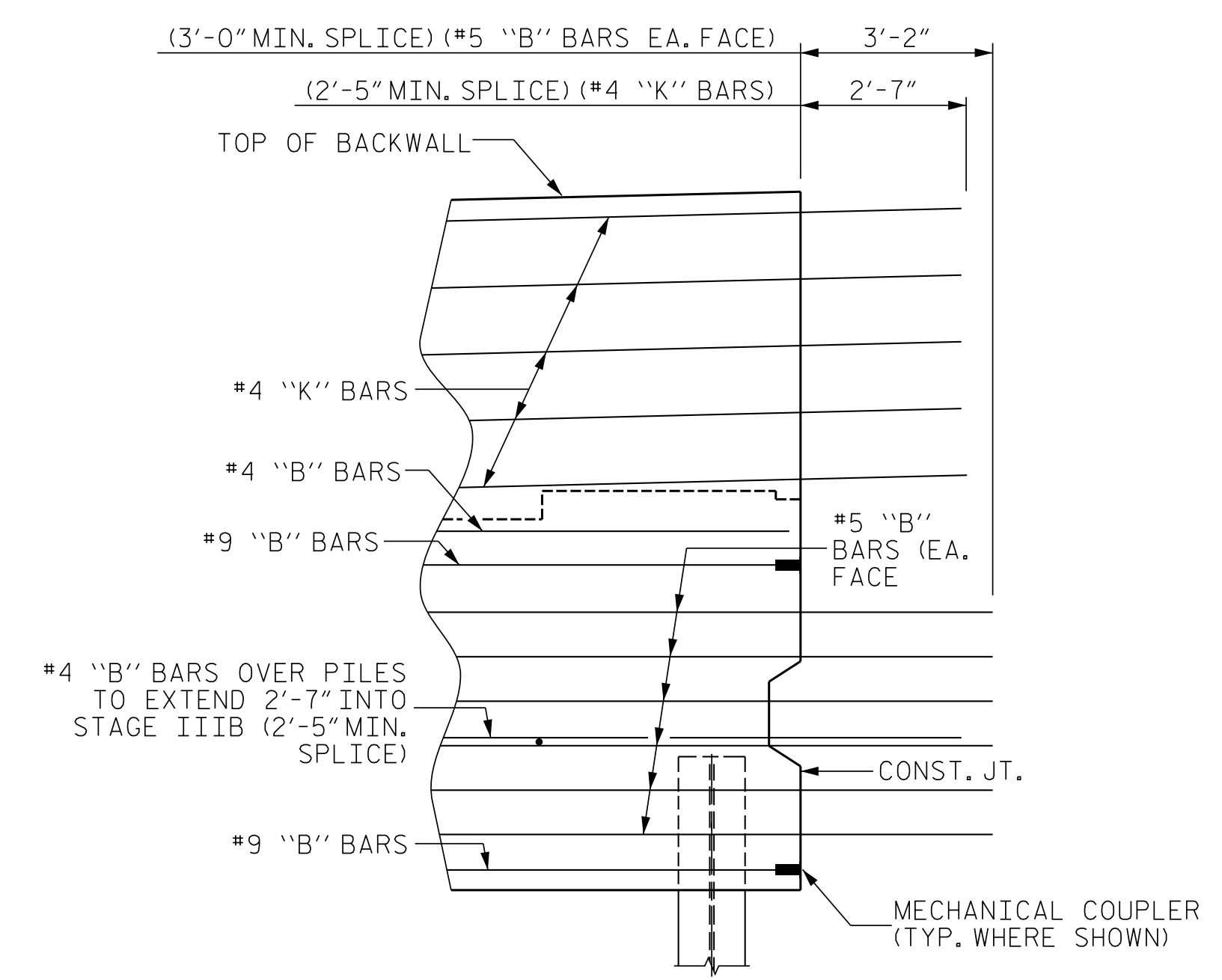
SECTION B-B



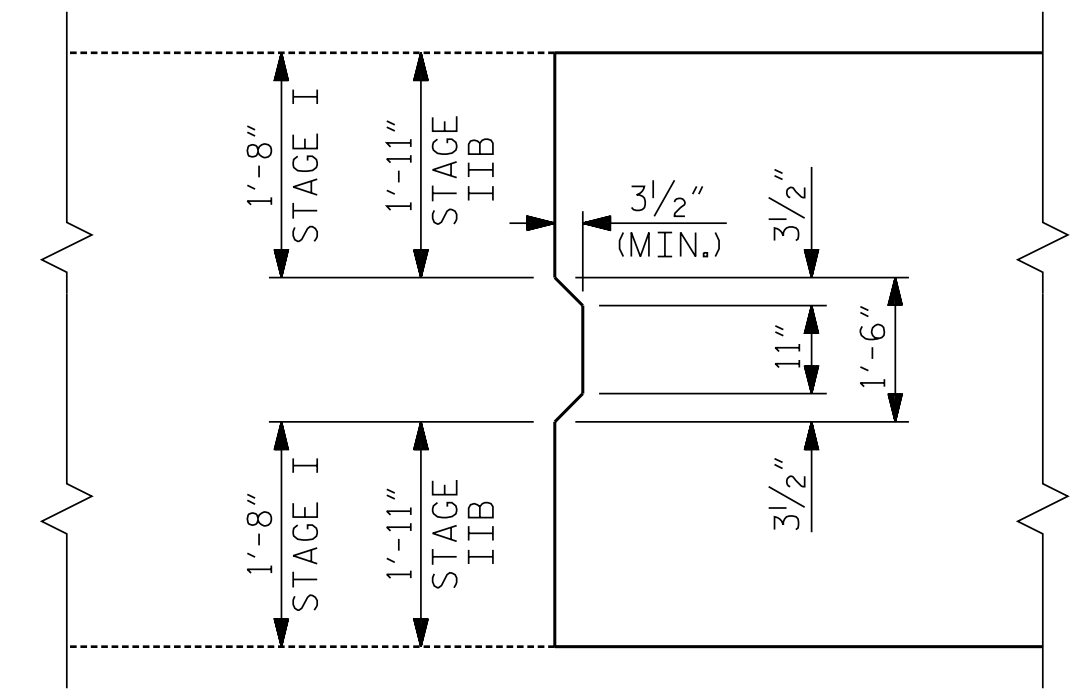
SECTION C-C



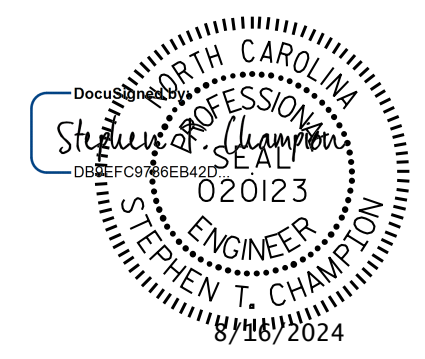
DETAIL "B"



DETAIL "C"



DETAIL "D"  
SHEAR KEY DETAIL



PROJECT NO. I-5717  
IREDELL COUNTY  
 STATION: 733+32.53 -L-  
 SHEET 5 OF 6

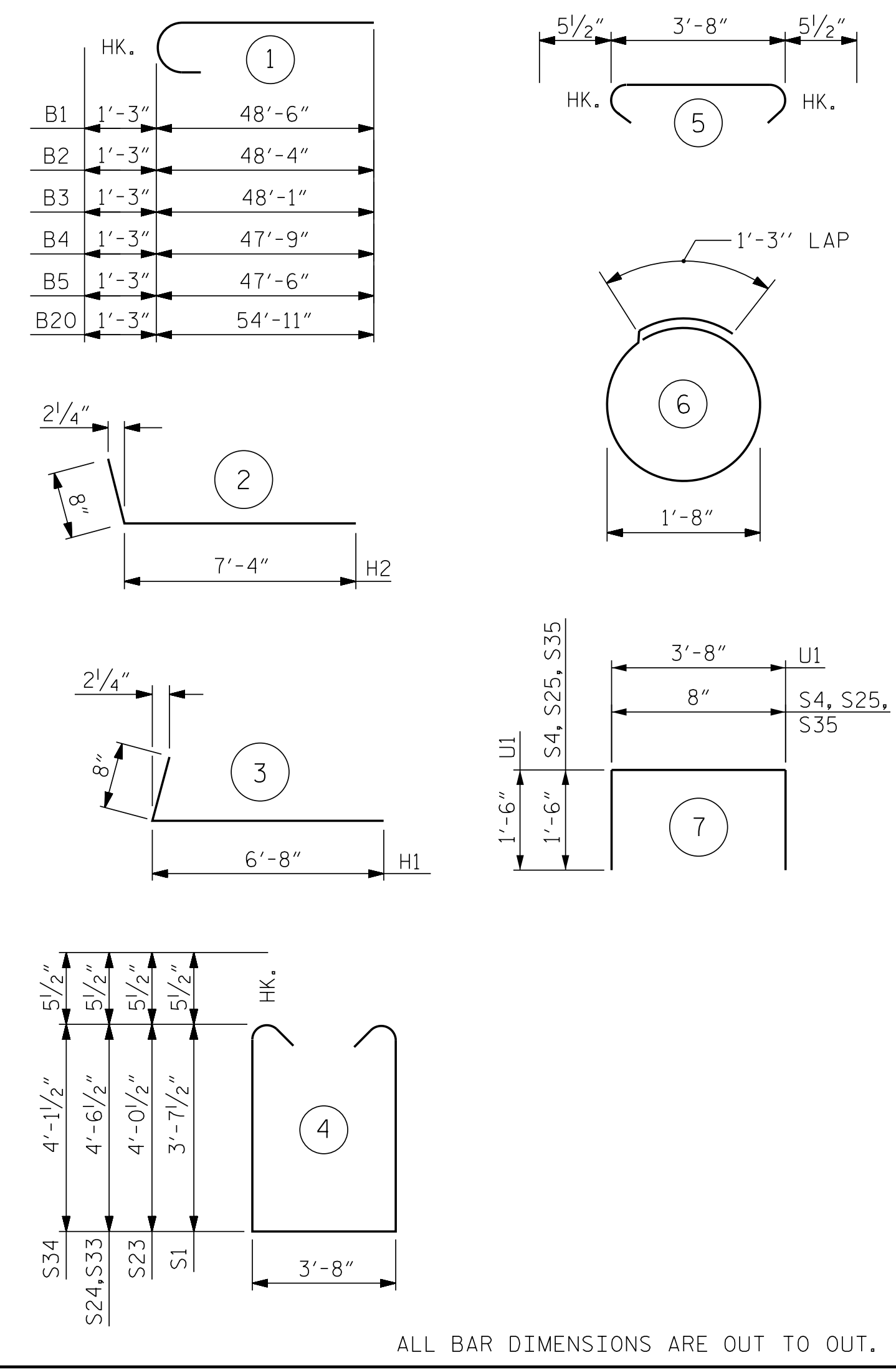
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE END BENT 2 DETAILS					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S2-65					TOTAL SHEETS 72

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WDC/CFW  
 DATE: 01/24  
 CHKD. BY: GFW  
 DATE: 01/24  
 DES. EGR. OF RECORD: STC  
 DATE: 01/24  
 2024

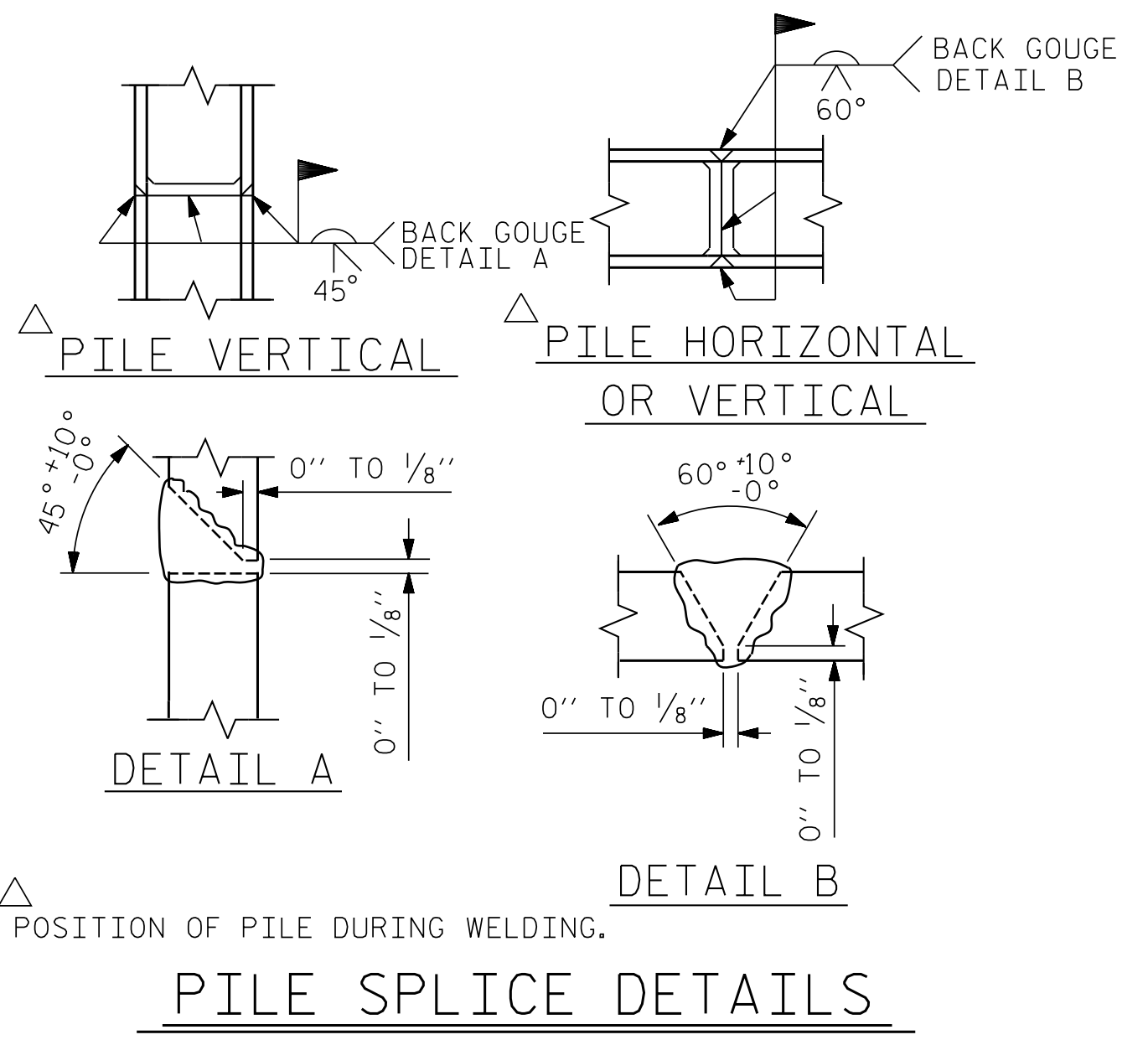
BAR TYPES



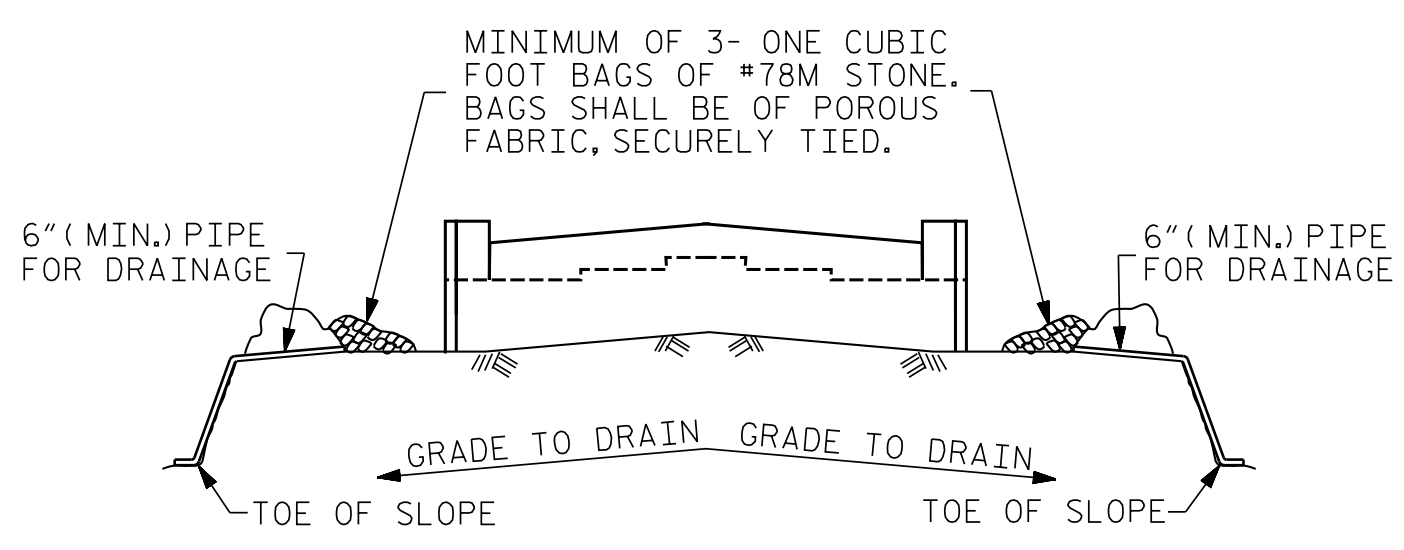
ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

STAGE I						STAGE IIB						STAGE IIIB					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	2	#9	1	49'-9"	338	B20	10	#9	1	56'-2"	1910	B40	10	#9	STR	35'-10"	1218
B2	2	#9	1	49'-7"	337	B21	5	#9	STR	11'-2"	190	B41	5	#9	STR	44'-2"	751
B3	2	#9	1	49'-4"	335	B22	5	#9	STR	13'-8"	232	B42	5	#9	STR	29'-9"	506
B4	2	#9	1	49'-0"	333	B23	20	#5	STR	33'-1"	691	B43	5	#9	STR	9'-2"	156
B5	2	#9	1	48'-9"	332	B24	2	#5	STR	13'-7"	28	B44	24	#5	STR	33'-11"	850
B6	5	#5	STR	50'-10"	265	B25	10	#4	STR	10'-0"	67	B45	10	#4	STR	11'-0"	73
B7	5	#5	STR	52'-0"	271	B26	5	#4	STR	13'-8"	46	B46	10	#4	STR	9'-8"	65
B8	8	#4	STR	26'-9"	143	B27	8	#4	STR	32'-5"	173	B47	5	#4	STR	22'-9"	76
B9	12	#4	STR	3'-8"	29	B28	17	#4	STR	3'-8"	42	B48	8	#4	STR	33'-7"	179
B10	5	#4	STR	13'-5"	45							B49	20	#4	STR	3'-8"	49
B11	10	#4	STR	9'-6"	63	H2	26	#5	2	8'-0"	217	B50	5	#4	STR	3'-2"	11
H1	26	#5	3	7'-4"	199	K3	20	#4	STR	32'-0"	428	K5	20	#4	STR	33'-8"	450
						K4	6	#4	STR	2'-8"	11						
K1	20	#4	STR	27'-0"	361							S31	92	#5	5	4'-7"	440
K2	6	#4	STR	2'-8"	11	S21	74	#5	5	4'-7"	354	S32	28	#4	6	6'-6"	122
						S22	28	#4	6	6'-6"	122	S33	34	#5	4	13'-8"	485
S1	84	#5	4	11'-10"	1037	S23	50	#5	4	12'-8"	661	S34	58	#5	4	12'-10"	776
S2	84	#5	5	4'-7"	402	S24	24	#5	4	13'-8"	342	S35	65	#4	7	3'-8"	159
S3	24	#4	6	6'-6"	104	S25	56	#4	7	3'-8"	137						
S4	46	#4	7	3'-8"	113							U1	99	#4	7	6'-8"	441
						U1	51	#4	7	6'-8"	227						
U1	50	#4	7	6'-8"	223							V5	130	#5	STR	9'-0"	1220
						V3	112	#5	STR	8'-6"	993	TOTAL REINFORCING STEEL = 8027 LBS.					
V1	92	#5	STR	8'-1"	776	V4	24	#5	STR	10'-7"	265	CLASS A CONCRETE BREAKDOWN POUR #1 (CAP) = 52.4 C.Y.					
V2	22	#5	STR	10'-2"	233	TOTAL REINFORCING STEEL = 7136 LBS.						POUR #2 (BACKWALL) = 10.9 C.Y.					
TOTAL REINFORCING STEEL = 5950 LBS.						CLASS A CONCRETE BREAKDOWN POUR #1 (CAP, & LOWER PART OF WING) = 43.7 C.Y.						TOTAL CLASS A CONCRETE = 63.3 C.Y.					
CLASS A CONCRETE BREAKDOWN POUR #1 (CAP, & LOWER PART OF WING) = 32.0 C.Y.						POUR #2 (BACKWALL & UPPER PART OF WING) = 11.7 C.Y.						TOTAL CLASS A CONCRETE = 55.4 C.Y.					
TOTAL CLASS A CONCRETE = 41.8 C.Y.																	



POSITION OF PILE DURING WELDING.  
PILE SPLICE DETAILS



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

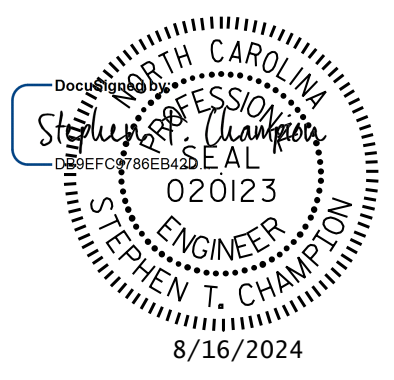
BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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

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

TEMPORARY DRAINAGE AT END BENT

PROJECT NO. I-5717  
IREDELL COUNTY  
STATION: 733+32.53 -L-  
SHEET 6 OF 6



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
SUBSTRUCTURE  
END BENT 2  
BILL OF MATERIAL

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REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-66	
1			3			TOTAL SHEETS 72	
2			4				

WDC/CFW  
 DATE: 01/24  
 CHKD. BY: GFW  
 DATE: 01/24  
 DES. EGR. OF RECORD: STC  
 DATE: 01/24

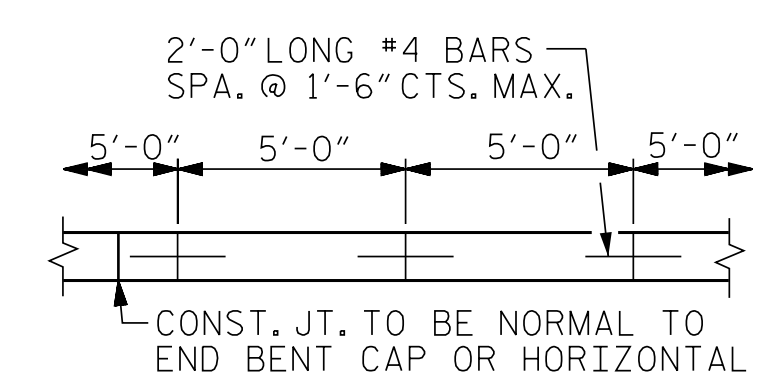
NOTES

SLOPE PROTECTION SHALL BE PLACED UNDER THE ENDS OF THE BRIDGE AS SHOWN IN THE DETAILS. MEASUREMENT AND PAYMENT SHALL BE AS PRESCRIBED IN SECTION 462 OF THE STANDARD SPECIFICATIONS.

SLOPE PROTECTION SHALL CONSIST OF 4" POURED-IN-PLACE CONCRETE PAVING AS SHOWN IN THE DETAILS ON THIS SHEET. CONCRETE SHALL BE CLASS "B". THE CONCRETE SURFACE SHALL BE FLOATED WITH A WOODEN FLOAT AND FINISHED. WELDED WIRE FABRIC REINFORCING SHALL BE 6 X 6 - W1.4 X W1.4, 60" WIDE. SLOPE PROTECTION SHALL BE POURED IN 5' STRIPS AS SHOWN IN THE "POURING DETAIL" WITH 2'-0" LONG #4 BARS PLACED ALONG THE SLOPE BETWEEN STRIPS AT 1'-6" MAXIMUM SPACING. SLOPE PROTECTION MAY BE POURED IN ALTERNATE 4' AND 5' STRIPS AS SHOWN IN THE "OPTIONAL POURING DETAIL" WITH ADJACENT RUNS OF WELDED WIRE FABRIC LAPPING AT LEAST 6". THE COST OF THE WELDED WIRE FABRIC AND #4 BARS, IF USED, SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID PER SQUARE YARD FOR SLOPE PROTECTION.

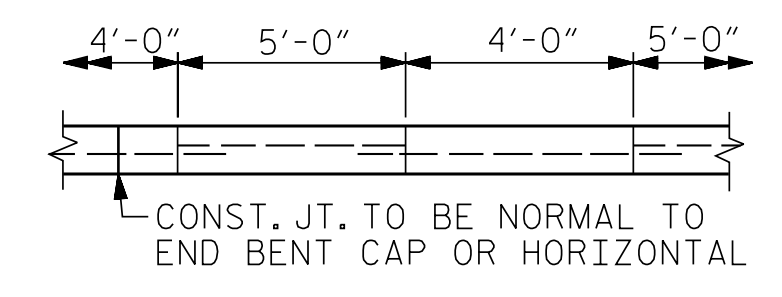
BRIDGE @ STA. 733+32.53 -L-	4" INCH SLOPE PROTECTION			* WELDED WIRE FABRIC 60 INCHES WIDE		
	SQUARE YARDS			APPROX. L.F.		
	STAGE I	STAGE II	STAGE III	STAGE I	STAGE II	STAGE III
END BENT 1	20.6	26.3	27.1	42	54	57
END BENT 2	16.3	24.2	26.1	35	51	55

\* QUANTITY SHOWN IS BASED ON 5' POURS.



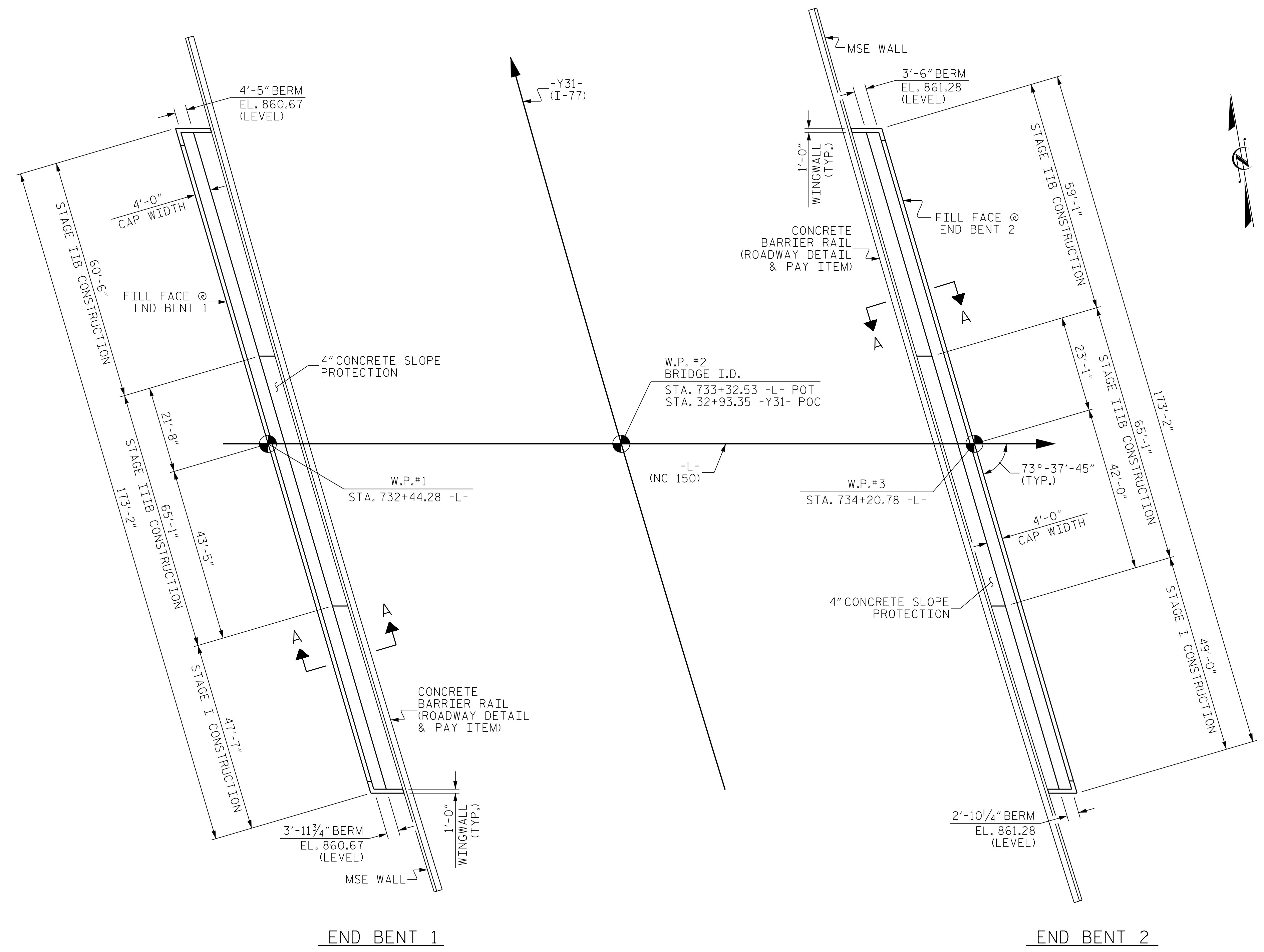
STRIP WIDTHS MAY VARY IN CURVED PORTION.

POURING DETAIL



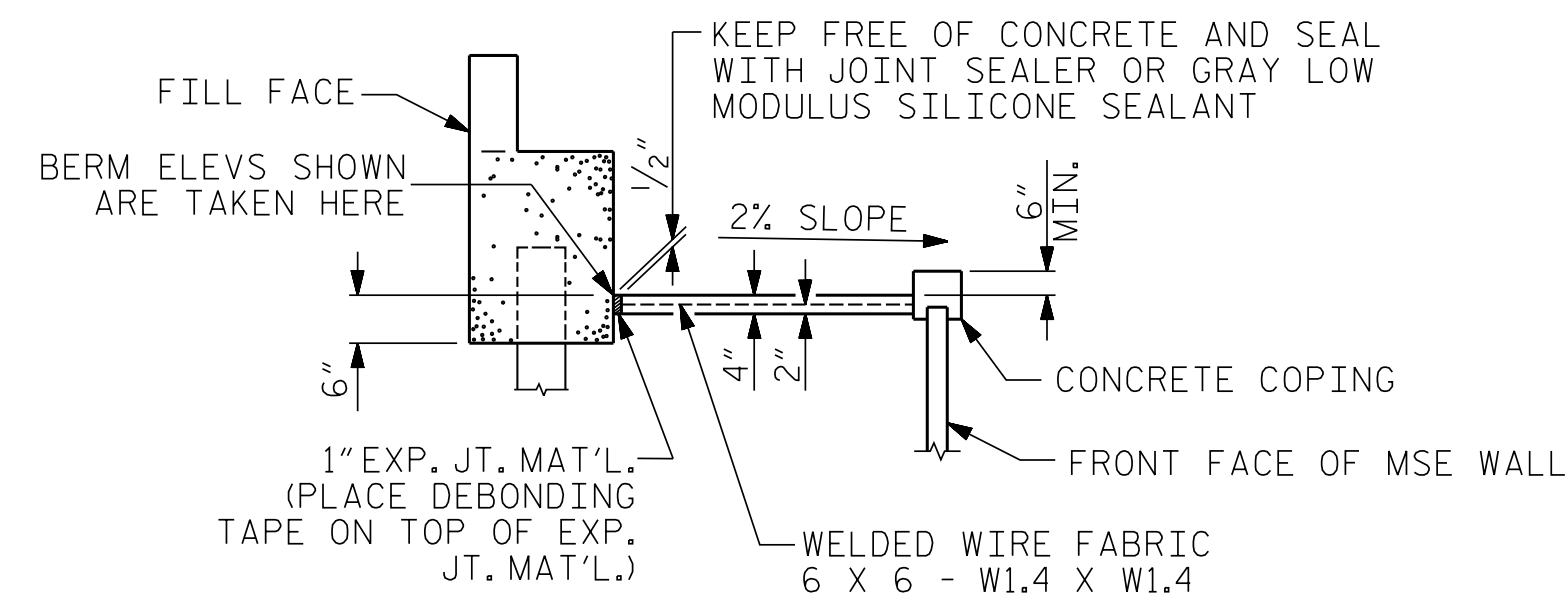
POUR A 4'-0" STRIP FIRST. STRIP WIDTHS MAY VARY IN CURVED PORTION.

OPTIONAL POURING DETAIL



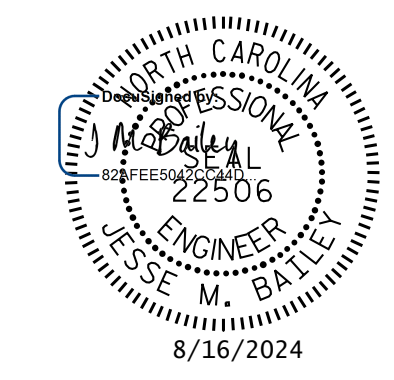
PLAN

PILES NOT SHOWN IN PLAN VIEW FOR CLARITY



SECTION A-A

PROJECT NO. I-5717  
IREDELL COUNTY  
 STATION: 733+32.53 -L-



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SLOPE PROTECTION  
 DETAILS

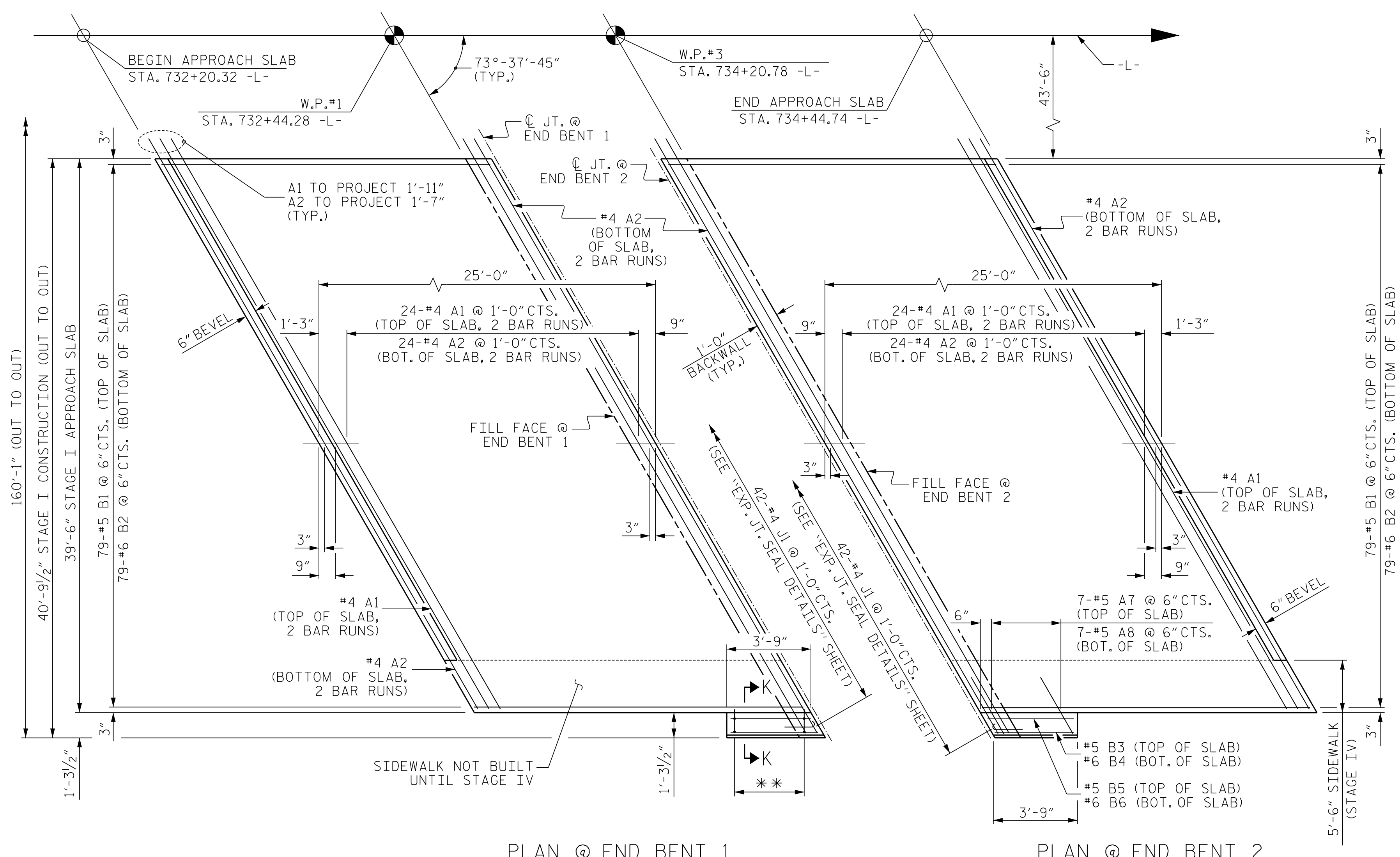
**DOCUMENT NOT CONSIDERED FINAL  
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			72
2			4			

15/02/2024 09:20:17 AM I-5717 - Replacement of Structures CAD 3-31-23 WDJ LJI - 5717\_SMO\_SFD.dgn  
 DSN: 4/30/2024  
 TIME: 4:30:2024

DWN. BY: WDC DATE: 01/24  
 CHKD. BY: GFW DATE: 01/24  
 DES. EGR. OF RECORD: JMB DATE: 01/24



**NOTES**

FOR BRIDGE APPROACH FILL, SEE ROADWAY PLANS.

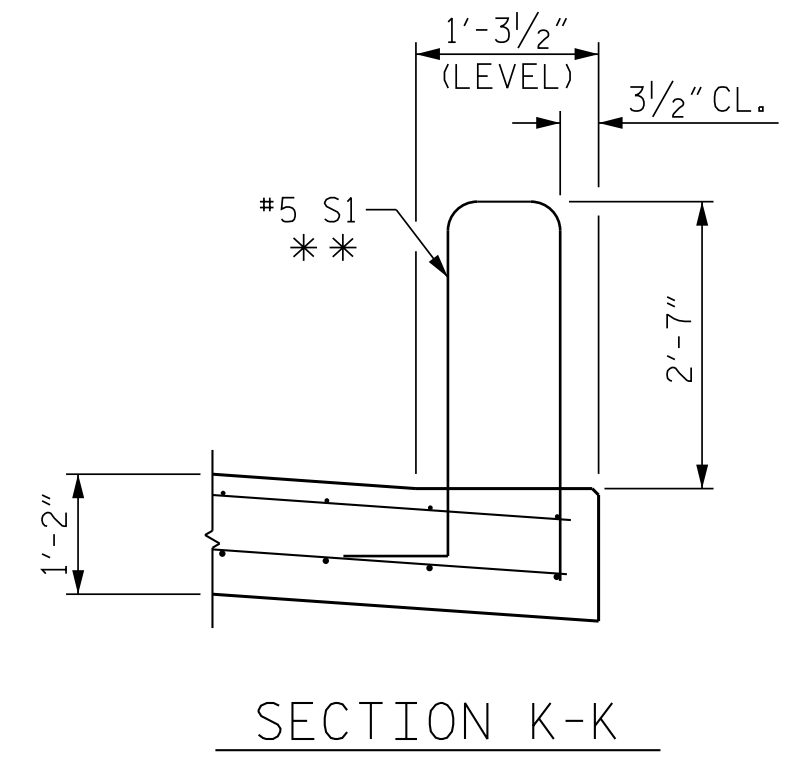
APPROACH SLAB SHALL NOT BE CONSTRUCTED PRIOR TO COMPLETION OF THE BRIDGE DECK.

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.

FOR EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR END POST DETAILS, SEE SHEET 5 OF 5.

FOR TEMPORARY BERM AND SLOPE DRAIN DETAILS, SEE SHEET 5 OF 5.

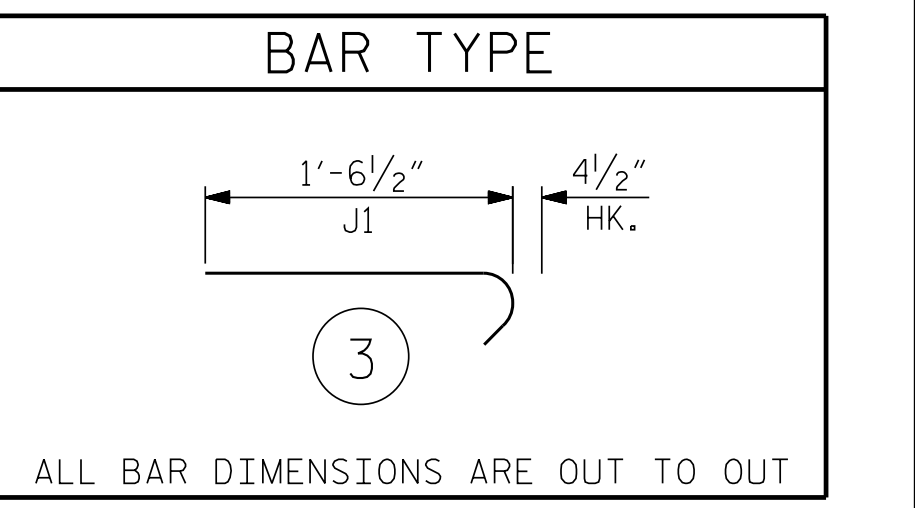


**BILL OF MATERIAL**  
**STAGE I**

FOR ONE APPROACH SLAB  
(2 REQ'D.)

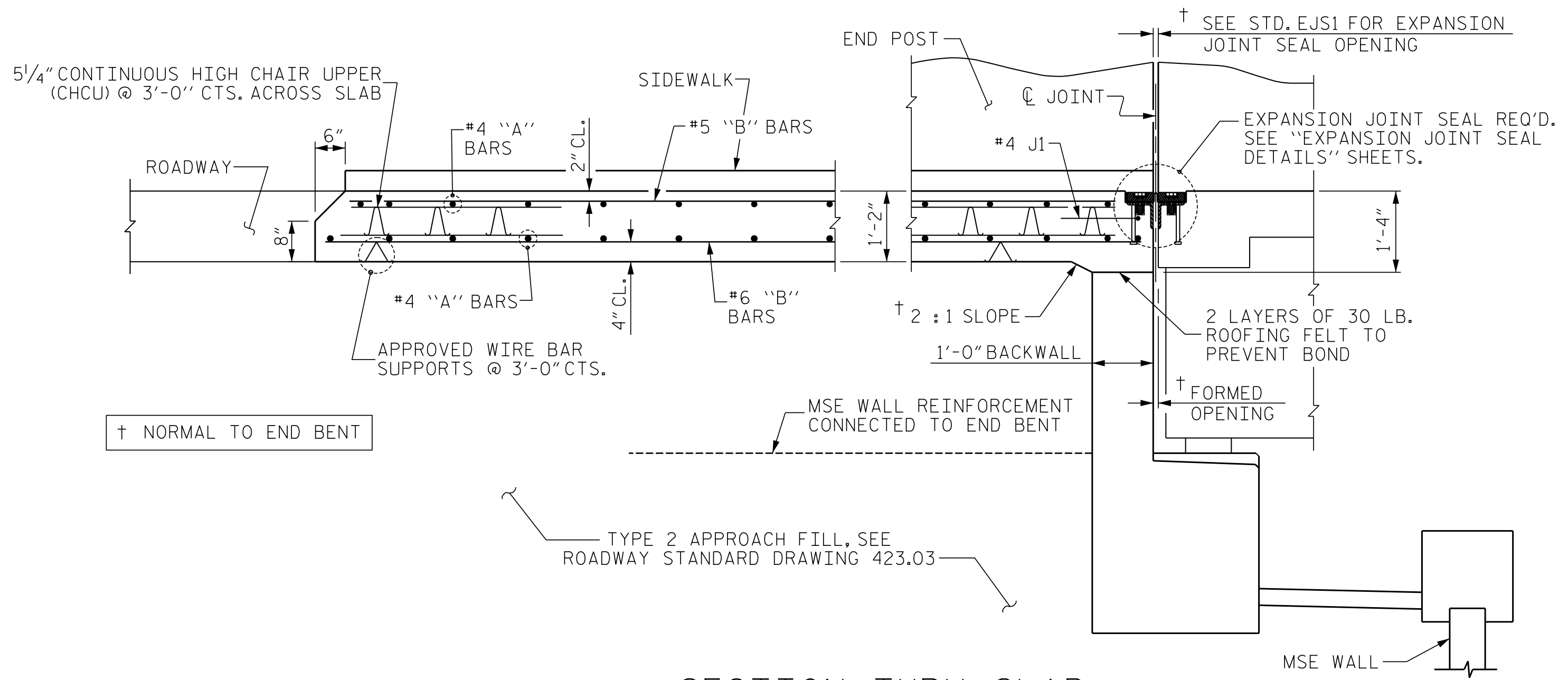
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	50	#4	STR	22'-6"	752
A2	52	#4	STR	22'-2"	770
*A7	7	#5	STR	5'-0"	37
A8	7	#5	STR	5'-0"	37
*B1	79	#5	STR	24'-0"	1978
B2	79	#6	STR	24'-8"	2927
*B3	1	#5	STR	3'-5"	4
B4	1	#6	STR	3'-5"	5
*B5	1	#5	STR	3'-8"	4
B6	1	#6	STR	3'-8"	6
*J1	42	#4	3	1'-11"	54
REINFORCING STEEL				LBS. 3745	
* EPOXY COATED REINFORCING STEEL				LBS. 2829	
CLASS AA CONCRETE				C.Y. 42.8	

QUANTITIES FOR END POST ARE NOT INCLUDED. SEE SHEET 5 OF 5.



**SPLICE LENGTHS**

BAR SIZE	EPOXY COATED	UNCOATED
#4	1'-11"	1'-7"
#5	2'-5"	2'-0"
#6	3'-7"	2'-5"

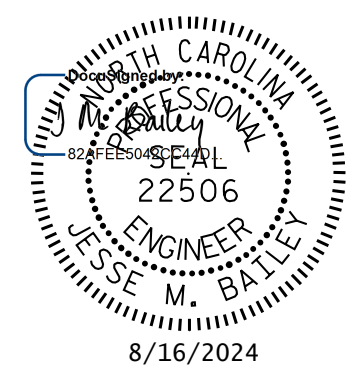


PROJECT NO. I-5717

IREDELL COUNTY

STATION: 733+32.53 -L-

SHEET 1 OF 5



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

STANDARD

BRIDGE APPROACH SLAB  
FOR FLEXIBLE PAVEMENT

STAGE I

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UNLESS ALL SIGNATURES COMPLETED**

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4700 Falls of Neuse Rd, Suite 100,  
Raleigh, NC, 27609  
License No: C-3097

REVISIONS

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

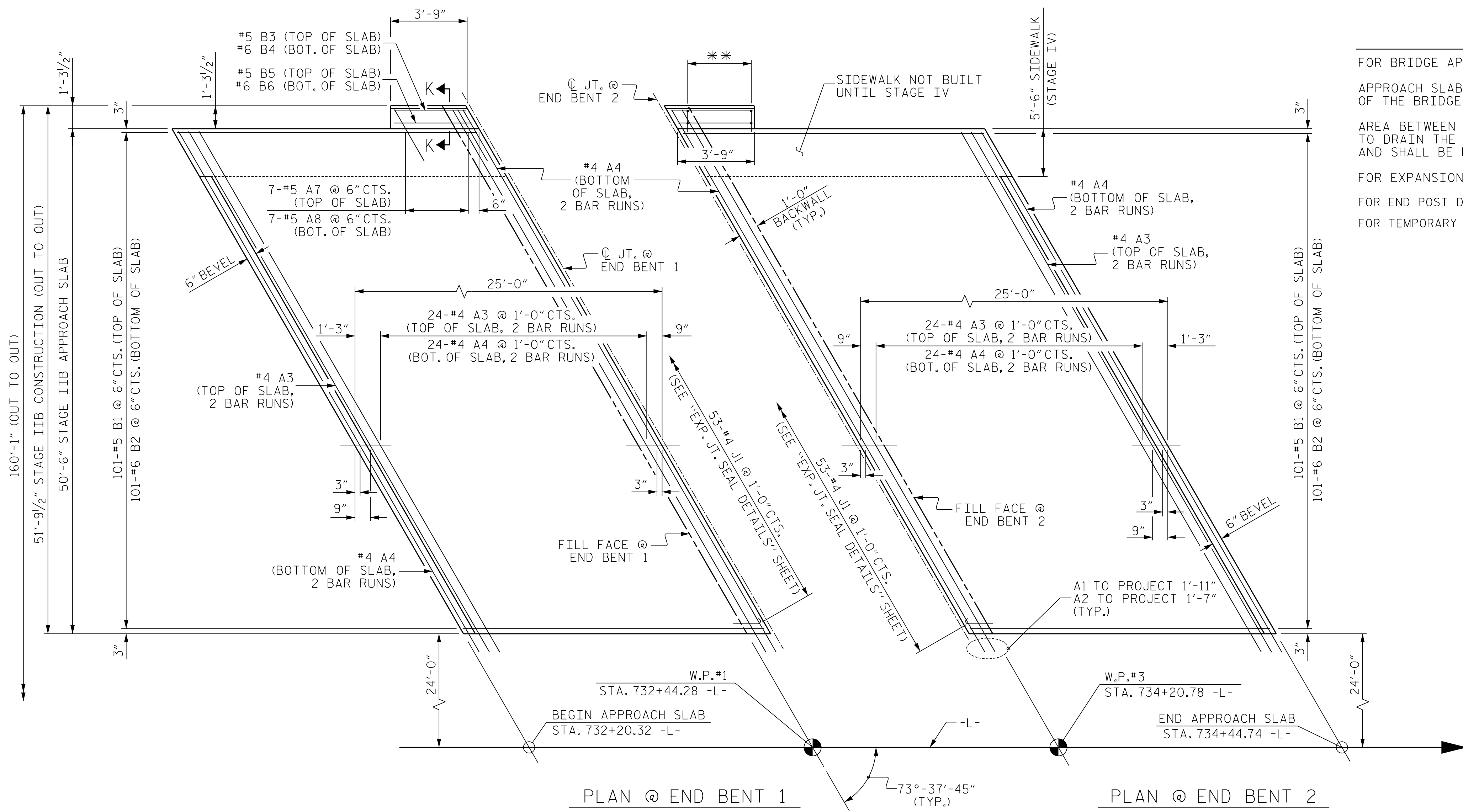
SHEET NO. S2-68  
TOTAL SHEETS 72

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 DATE: 01/24/2024 11:30:20 AM

DWN. BY: WDC DATE: 01/24  
 CHKD. BY: GFW DATE: 01/24  
 DES. EGR. OF RECORD: JMB DATE: 01/24

DRAWN BY: EEM 3/95  
 CHECKED BY: VAP 3/95

REV. 12/17 MAA/THC  
 REV. 06/19 BNB/THC  
 REV. 07/23 BNB/SNM



**NOTES**

FOR BRIDGE APPROACH FILL, SEE ROADWAY PLANS.

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

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.

FOR EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR END POST DETAILS, SEE SHEET 5 OF 5.

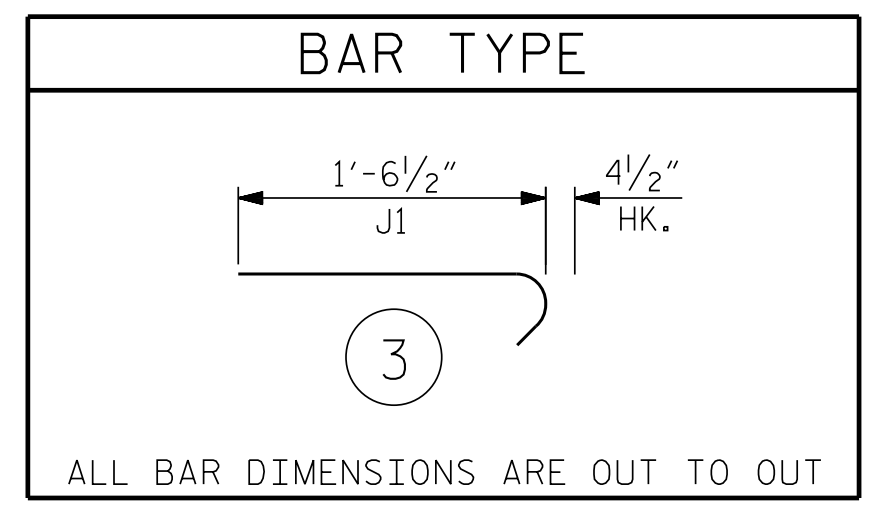
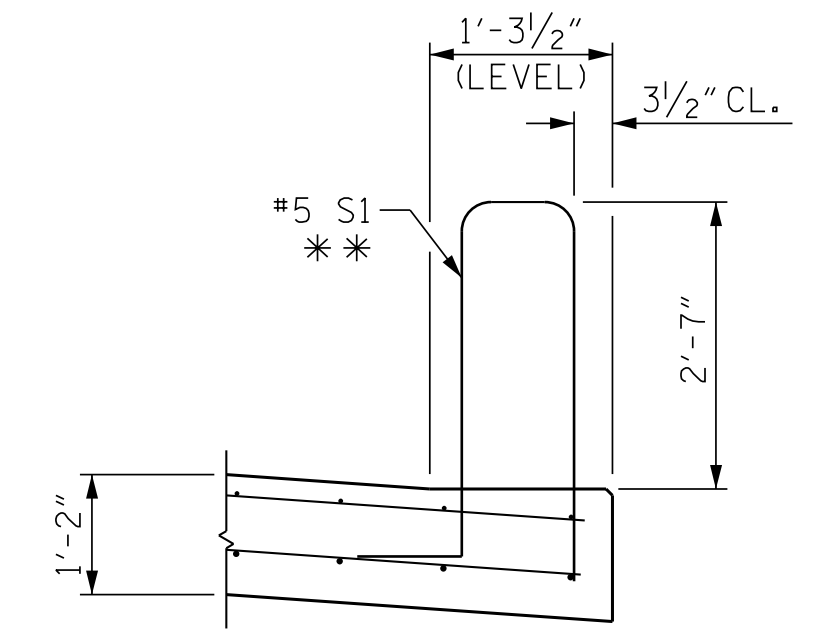
FOR TEMPORARY BERM AND SLOPE DRAIN DETAILS, SEE SHEET 5 OF 5.

**BILL OF MATERIAL**  
FOR ONE APPROACH SLAB (2 REQ'D.)

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A3	50	#4	STR	28'-2"	941
A4	52	#4	STR	27'-10"	967
*A7	7	#5	STR	5'-0"	37
A8	7	#5	STR	5'-0"	37
*B1	101	#5	STR	24'-0"	2528
B2	101	#6	STR	24'-8"	3742
*B3	1	#5	STR	3'-5"	4
B4	1	#6	STR	3'-5"	5
*B5	1	#5	STR	3'-8"	4
B6	1	#6	STR	3'-8"	6
*J1	53	#4	3	1'-11"	68

REINFORCING STEEL LBS. 4757  
 \* EPOXY COATED REINFORCING STEEL LBS. 3582  
 CLASS AA CONCRETE C.Y. 54.8

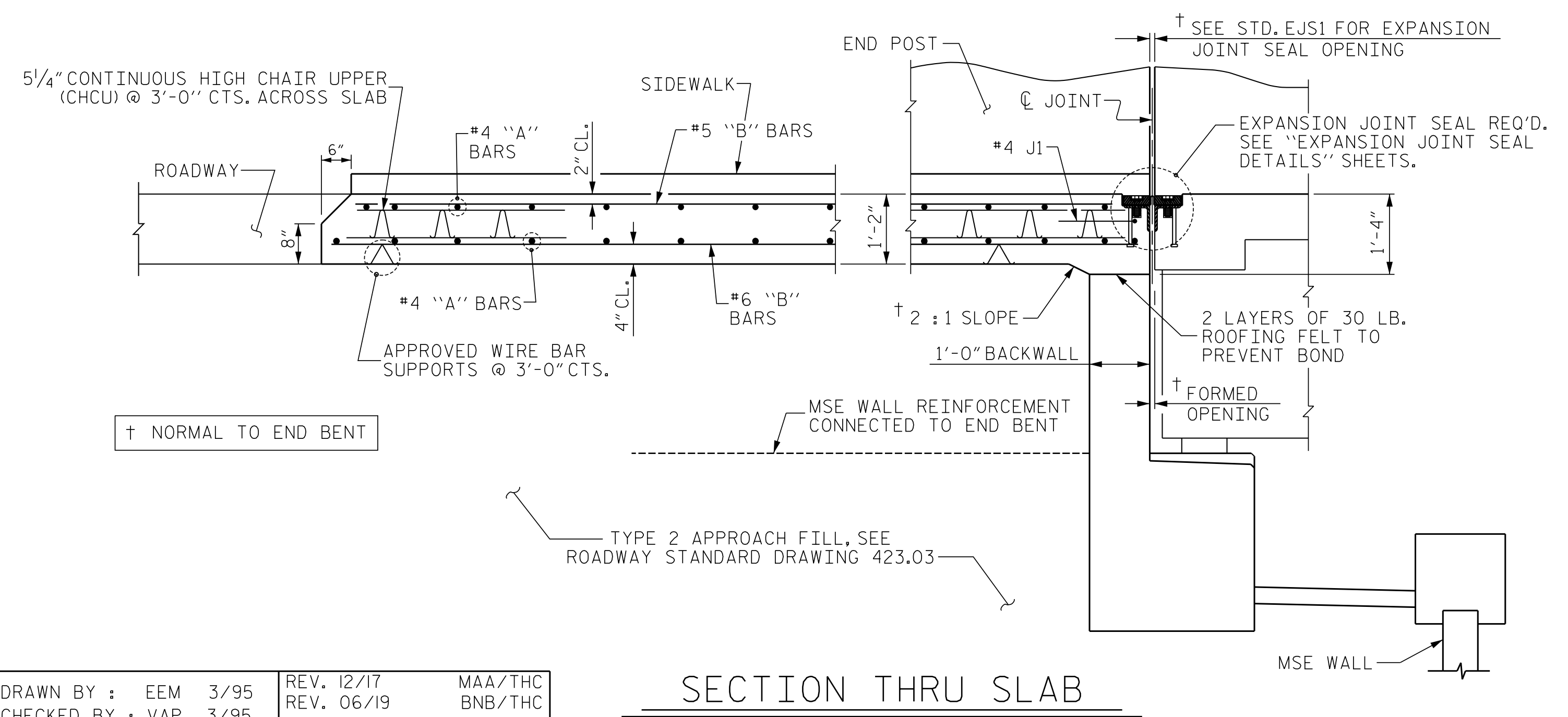
QUANTITIES FOR END POST ARE NOT INCLUDED. SEE SHEET 5 OF 5.



**SPLICE LENGTHS**

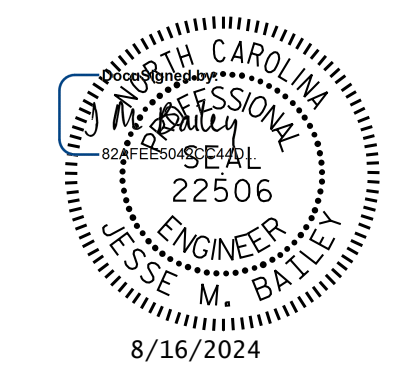
BAR SIZE	EPOXY COATED	UNCOATED
#4	1'-11"	1'-7"
#5	2'-5"	2'-0"
#6	3'-7"	2'-5"

\*\* SEE SHEET 5 OF 5 FOR S1 BAR DETAILS



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PROJECT NO. I-5717  
IREDELL COUNTY  
 STATION: 733+32.53 -L-  
 SHEET 2 OF 5

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

REVISIONS

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

SHEET NO. S2-69  
 TOTAL SHEETS 72

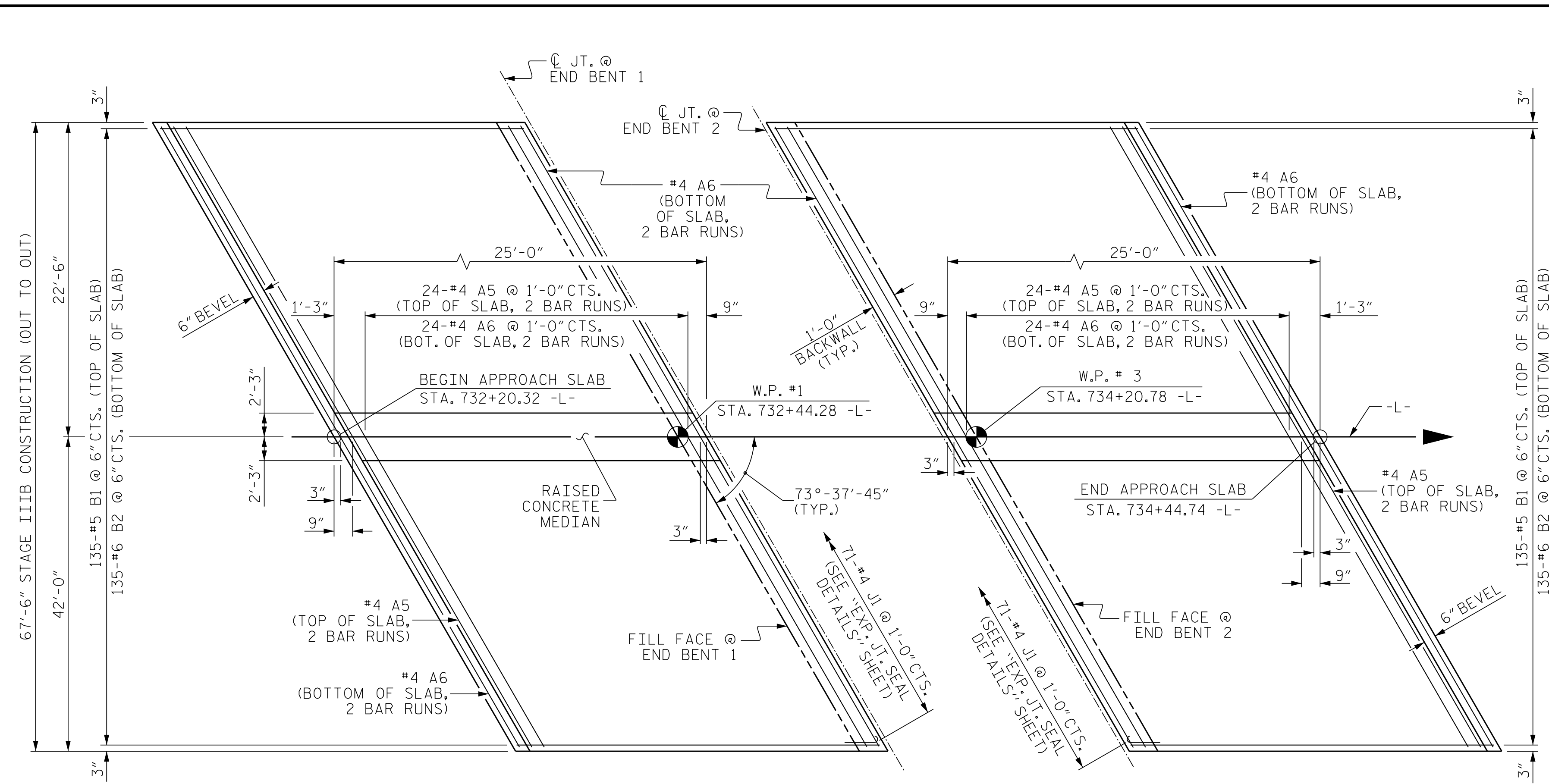
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 DATE: 7/30/2024

DWN. BY: WDC DATE: 01/24  
 CHKD. BY: GFW DATE: 01/24  
 DES. EGR. OF RECORD: JMB DATE: 01/24

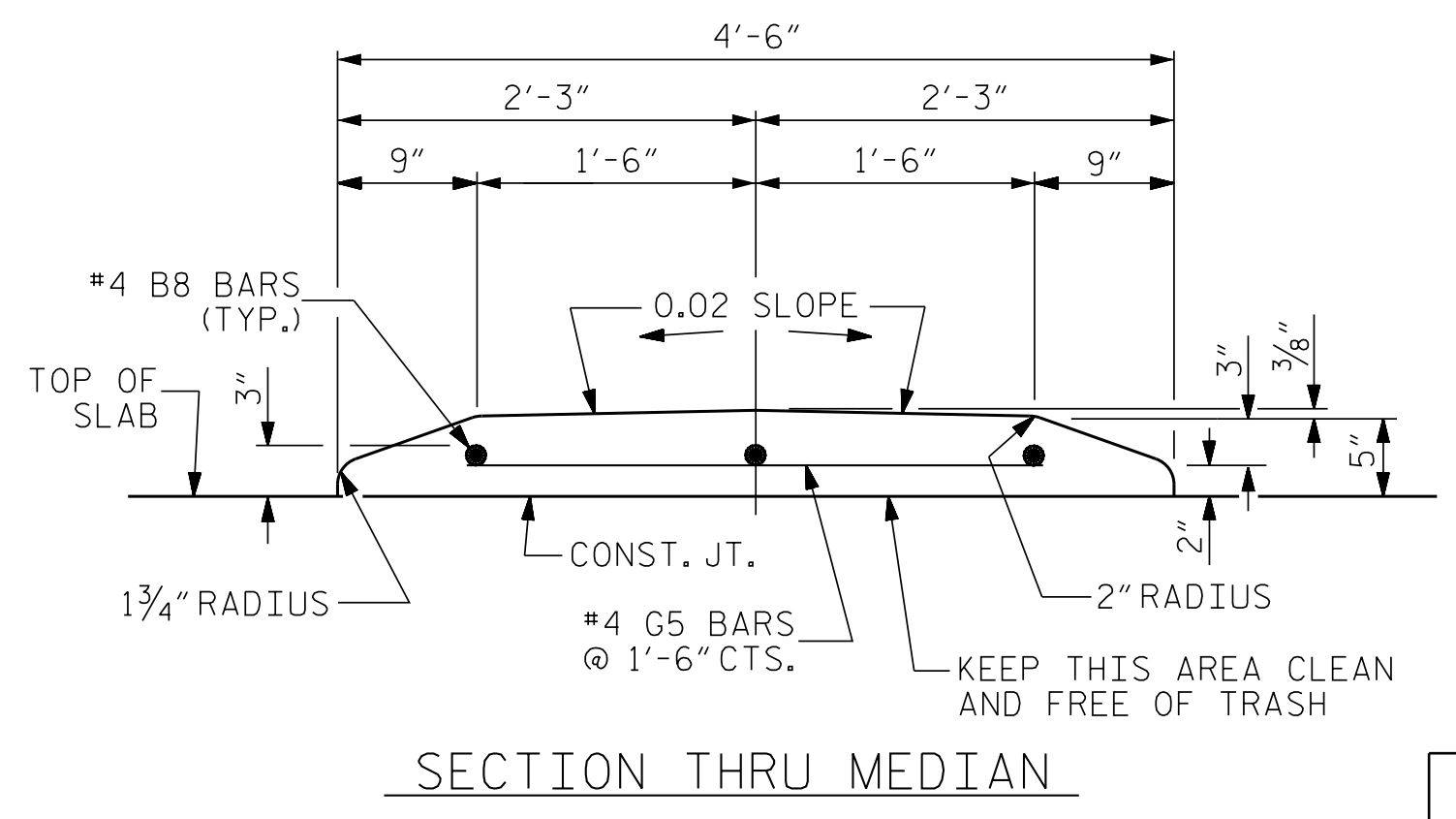
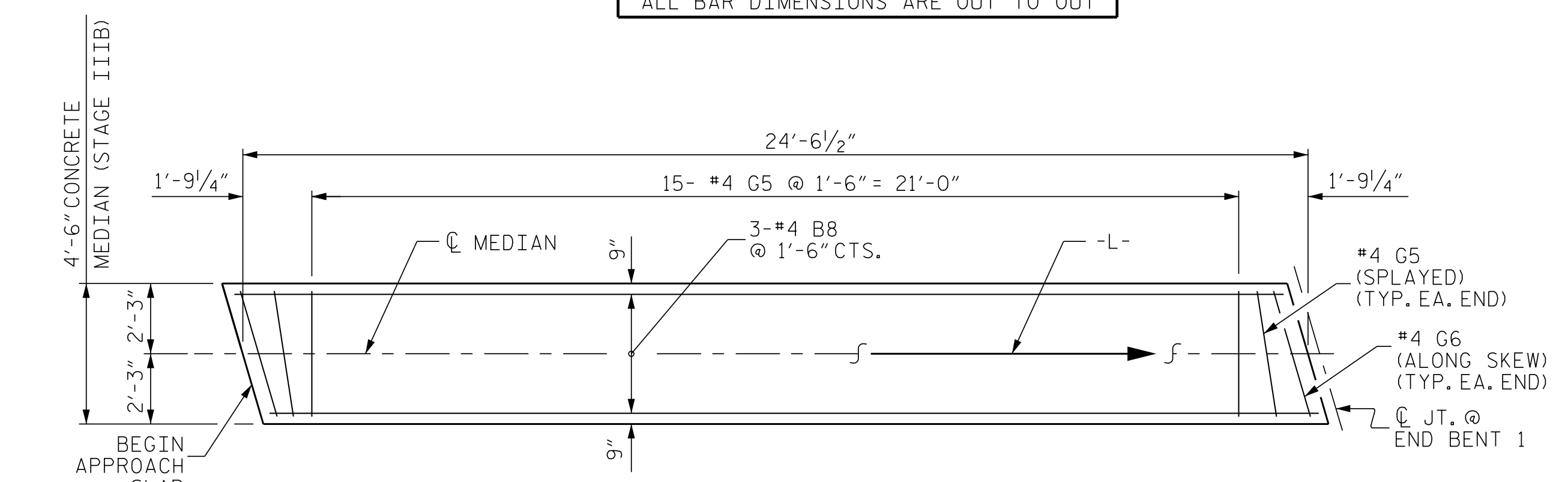
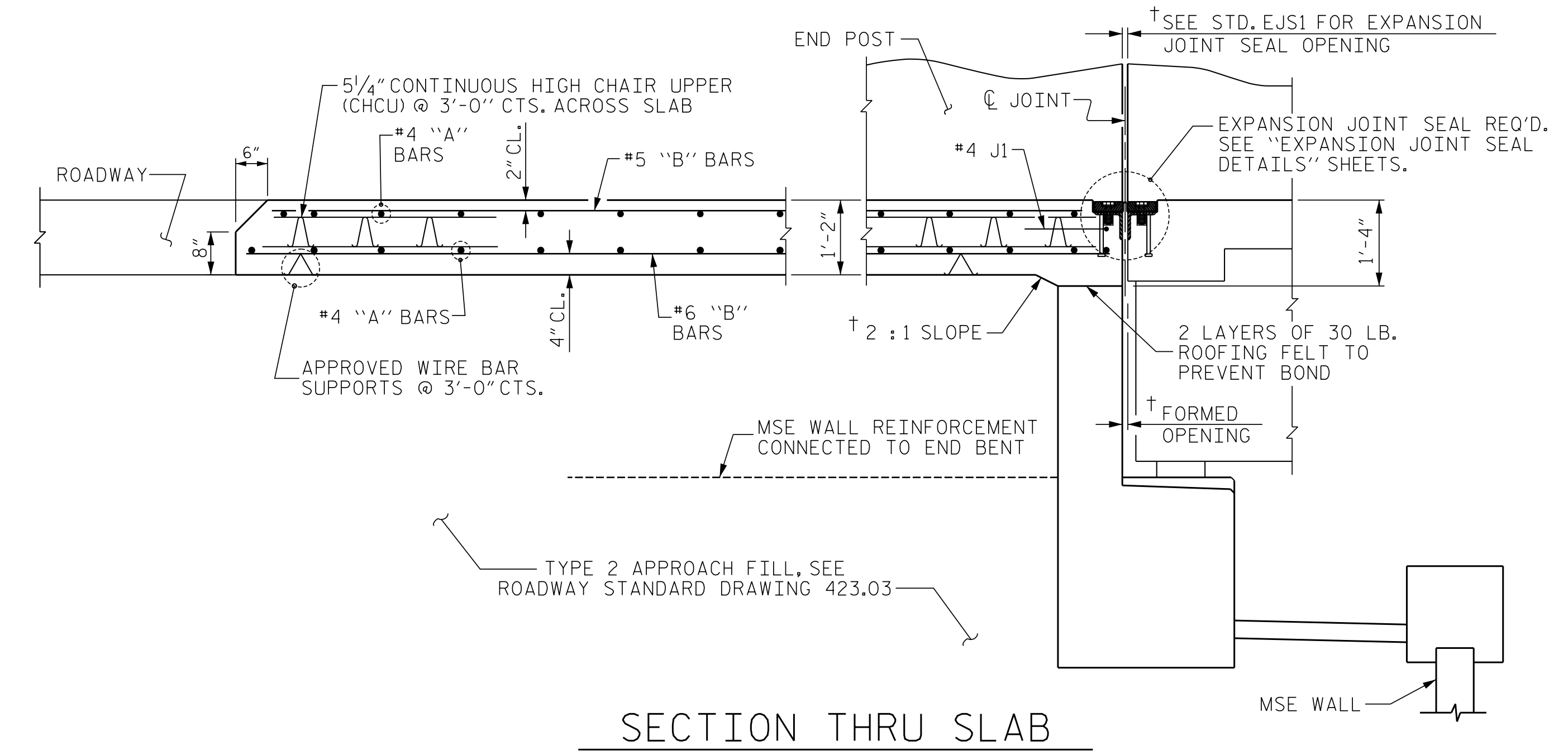
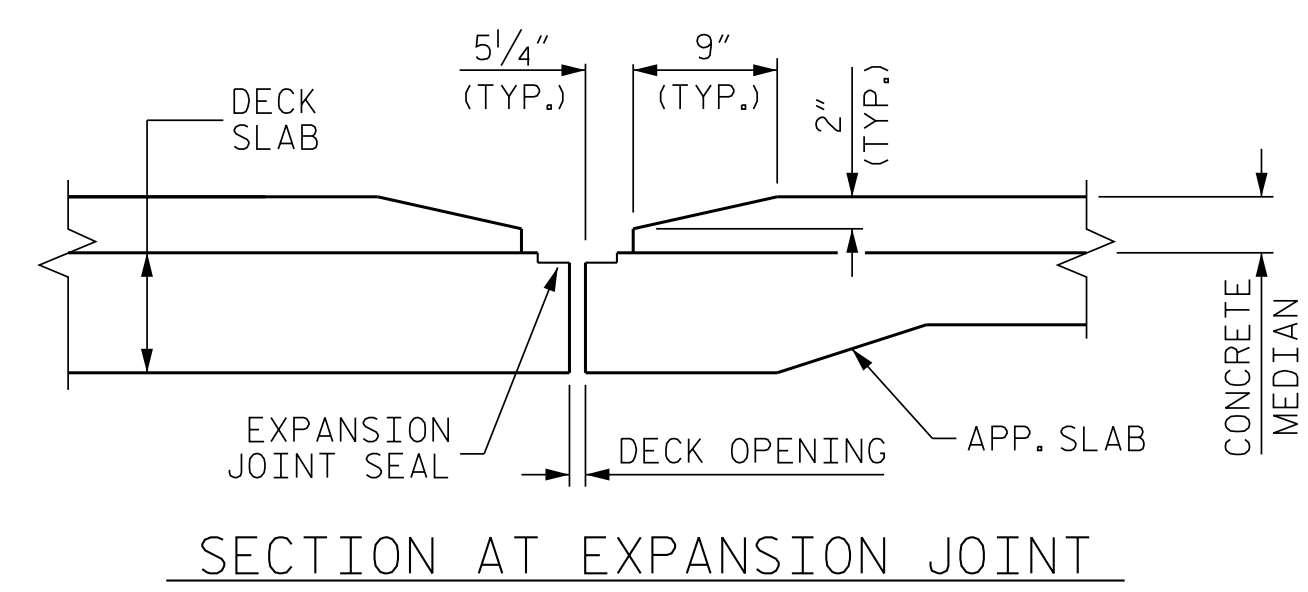
DRAWN BY: EEM 3/95  
 CHECKED BY: VAP 3/95

REV. 12/17 MAA/THC  
 REV. 06/19 BNB/THC  
 REV. 07/23 BNB/SNM





PLAN @ END BENT 1      PLAN @ END BENT 2  
**PLAN - STAGE III B**  
 DIMENSIONS, AND INFORMATION SHOWN, IS TYPICAL FOR BOTH APPROACH SLABS



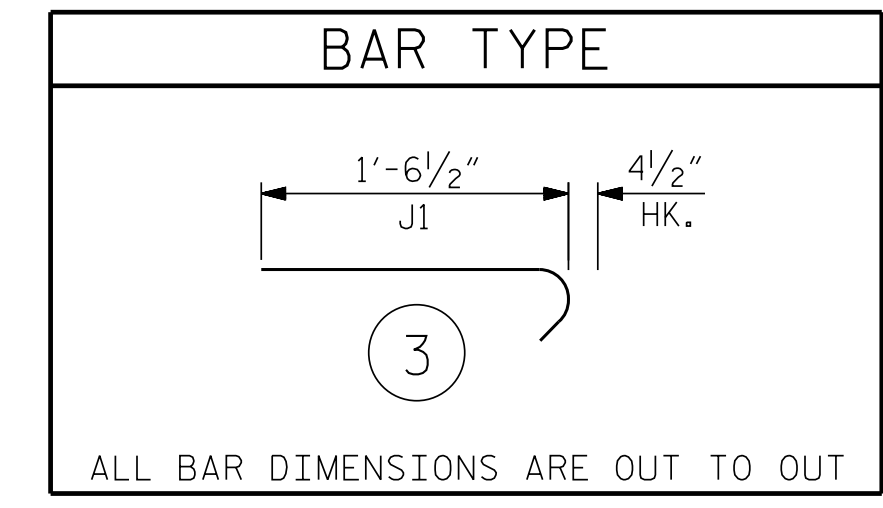
**CONCRETE MEDIAN DETAILS**

**NOTES**

FOR BRIDGE APPROACH FILL, SEE ROADWAY PLANS.  
 APPROACH SLAB SHALL NOT BE CONSTRUCTED PRIOR TO COMPLETION OF THE BRIDGE DECK.  
 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.  
 FOR EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.

**MEDIAN NOTES**

THE CONCRETE AND REINFORCING STEEL REQUIRED FOR THE CONCRETE MEDIAN ON THE APPROACH SLABS IS INCLUDED IN THE LUMP SUM PRICE BID FOR "BRIDGE APPROACH SLABS".  
 GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE MEDIAN IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINTS SHALL BE LOCATED AT A SPACING OF 8 FT. TO 10 FT.  
 ALL REINFORCING STEEL IN THE CONCRETE MEDIAN SHALL BE EPOXY COATED.  
 MEDIAN ON THE APPROACH SPAN SHALL NOT BE CAST UNTIL ALL APPROACH SLAB CONCRETE HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.



**BILL OF MATERIAL**  
 STAGE IIIB

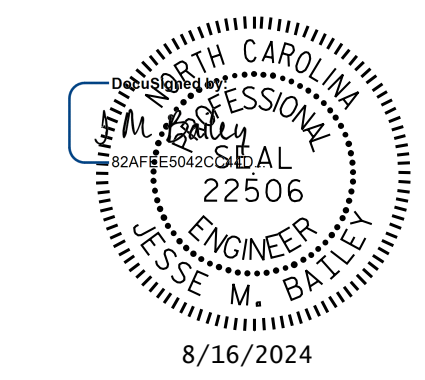
FOR ONE APPROACH SLAB (2 REQ'D.)

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A5	50	#4	STR	36'-0"	1202
A6	52	#4	STR	35'-10"	1245
*B1	135	#5	STR	24'-0"	3379
B2	135	#6	STR	24'-8"	5002
*B8	3	#4	STR	23'-8"	47
*G5	17	#4	STR	3'-2"	36
*G6	2	#4	STR	3'-3"	4
*J1	71	#4	3	1'-11"	91
REINFORCING STEEL				LBS.	6247
* EPOXY COATED REINFORCING STEEL				LBS.	4759
CLASS AA CONCRETE				C.Y.	74.6

**SPLICE LENGTHS**

BAR SIZE	EPOXY COATED	UNCOATED
#4	1'-11"	1'-7"
#5	2'-5"	2'-0"
#6	3'-7"	2'-5"

PROJECT NO. I-5717  
IREDELL COUNTY  
 STATION: 733+32.53 -L-  
 SHEET 3 OF 5



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

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-70
1			3			TOTAL SHEETS
2			4			72

WDC/CFW  
 DATE: 01/24  
 CHKD. BY: GFW  
 DATE: 01/24  
 DES. EGR. OF RECORD: JMB  
 DATE: 01/24  
 DRAWN BY: EEM 3/95  
 CHECKED BY: VAP 3/95  
 REV. 12/17  
 REV. 06/19  
 REV. 07/23  
 MAA/THC  
 BNB/THC  
 BNB/SNM

### NOTES

THE CONCRETE AND REINFORCING STEEL REQUIRED FOR THE SIDEWALKS ON THE APPROACH SLABS IS INCLUDED IN THE LUMP SUM PRICE BID FOR "BRIDGE APPROACH SLABS".

SIDEWALKS ON THE APPROACH SLABS SHALL BE CONSTRUCTED IN STAGE IV.

ALL REINFORCING STEEL IN SIDEWALKS SHALL BE EPOXY COATED.

GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE SIDEWALK IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINTS SHALL BE LOCATED AT A SPACING OF 8 FEET TO 10 FEET.

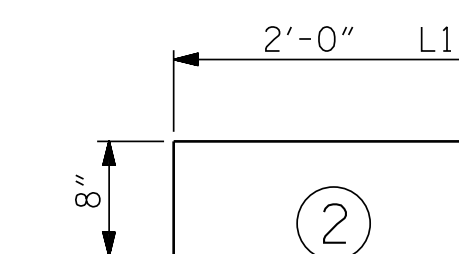
### BILL OF MATERIAL STAGE IV

FOR ONE SIDEWALK  
(4 REQ'D.)

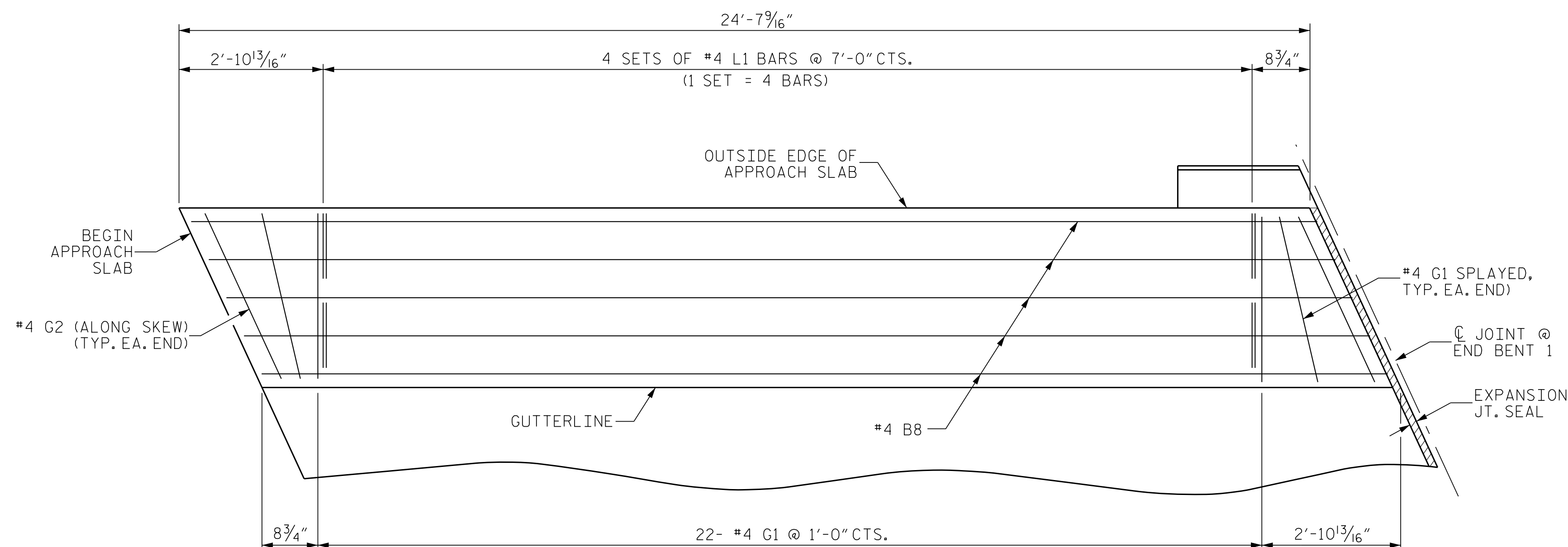
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*B8	5	#4	STR	24'-4"	81
*G1	24	#4	STR	5'-0"	80
*G2	2	#4	STR	5'-2"	7
*L1	16	#4	2	2'-8"	29

*EPOXY COATED REINFORCING STEEL	LBS.	197
CLASS AA CONCRETE	CU.YDS.	3.1

### BAR TYPE

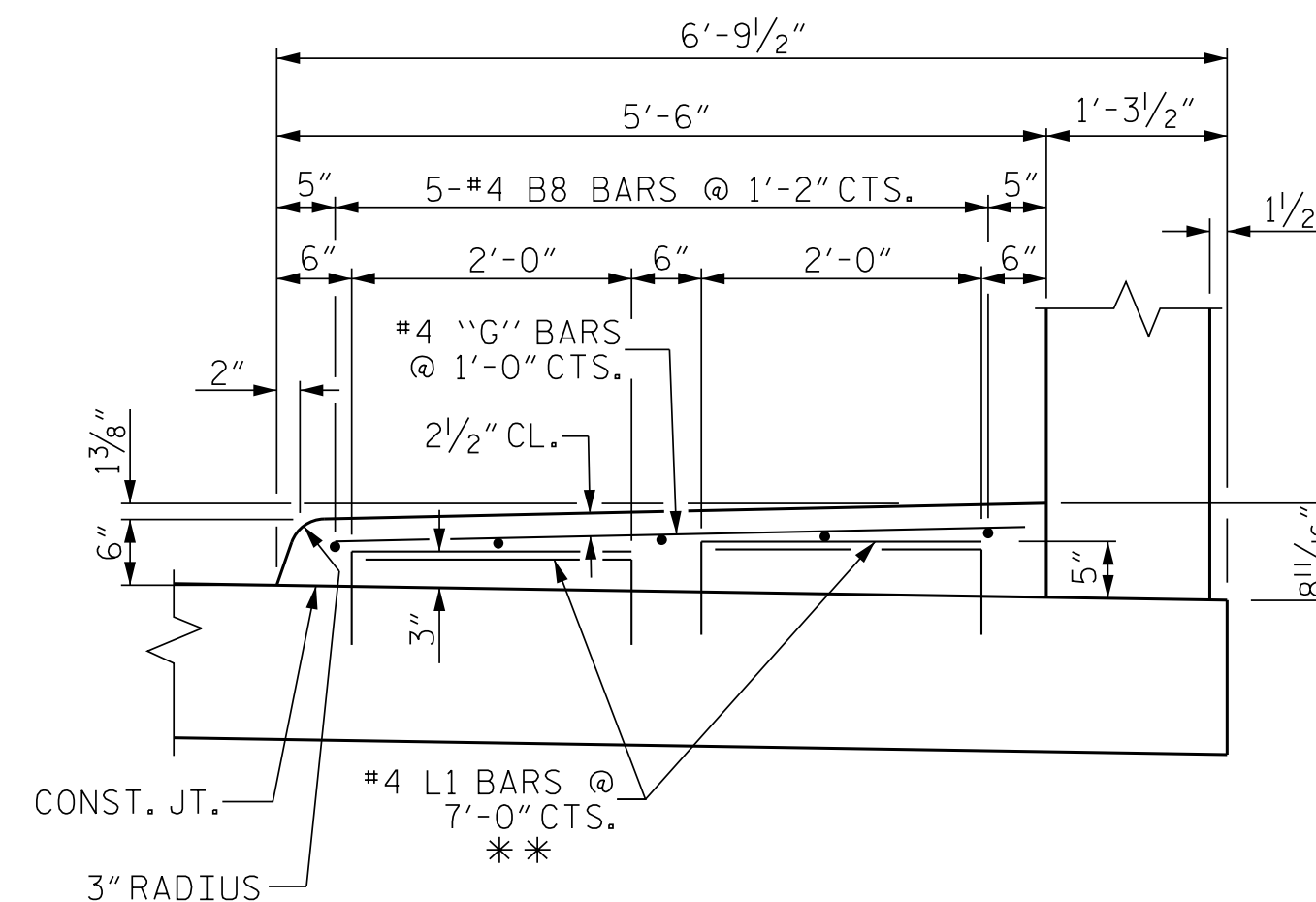


ALL BAR DIMENSIONS ARE OUT TO OUT



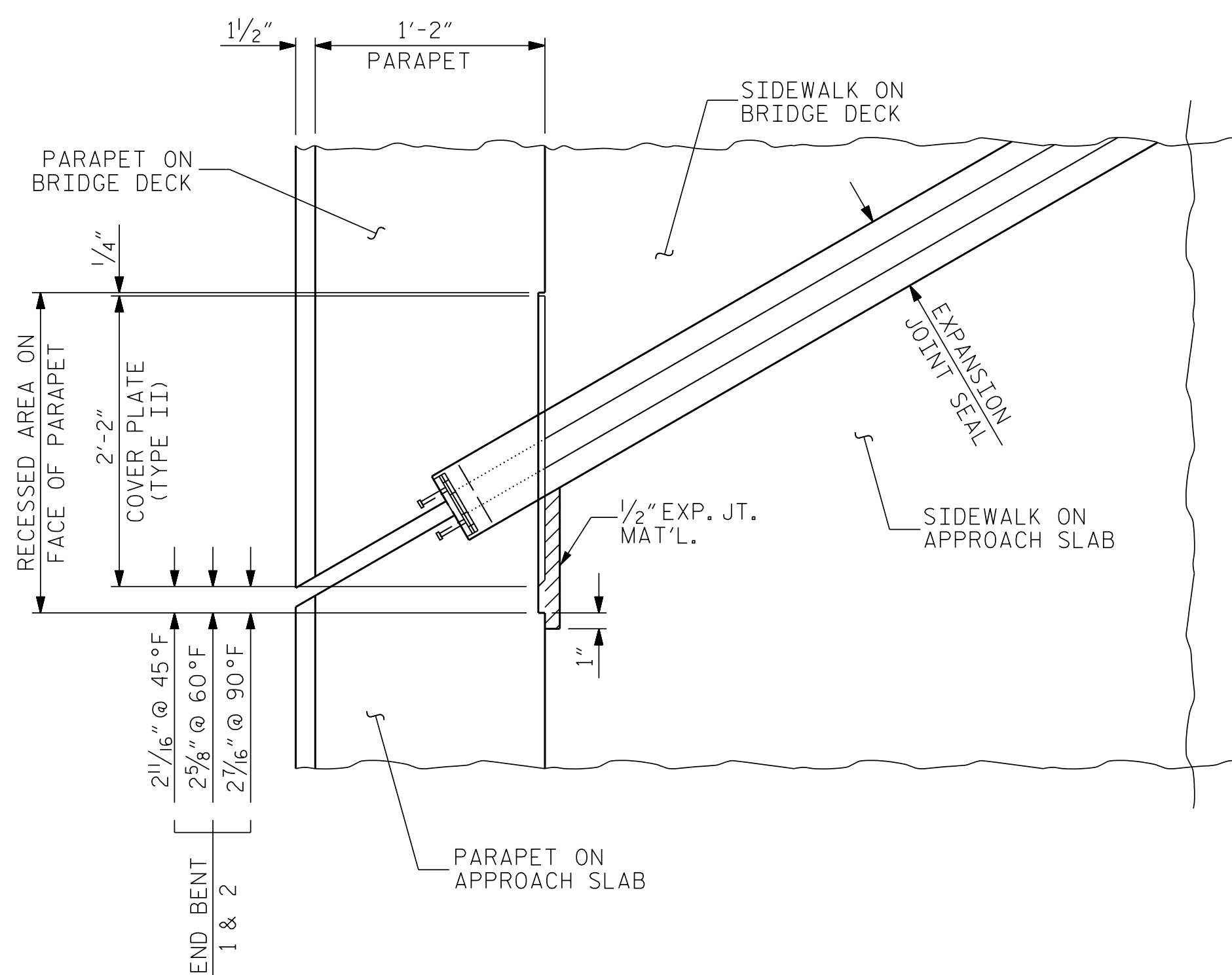
### DETAILS OF SIDEWALK ON APPROACH SLAB

SIDEWALK NOT BUILT UNTIL STAGE IV  
(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)



### SECTION THRU SIDEWALK

\*\*L1 BARS SHALL BE DRILLED AND GROUTED IN STAGE IV.



### SIDEWALK/COVER PLATE DETAIL

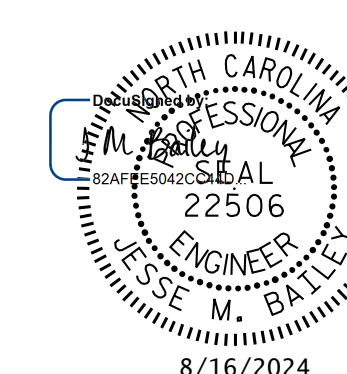
THE 1/2" EXPANSION MATERIAL SHALL BE PLACED AS SHOWN PRIOR TO POURING THE SIDEWALK (STAGE IV) TO PROVIDE FREEDOM OF MOVEMENT DUE TO EXPANSION AND CONTRACTION CAUSED BY THE CHANGES IN TEMPERATURE.

PROJECT NO. I-5717  
IREDELL COUNTY  
STATION: 733+32.53 -L-

SHEET 4 OF 5

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

BRIDGE APPROACH SLAB  
SIDEWALK DETAILS



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UNLESS ALL SIGNATURES COMPLETED

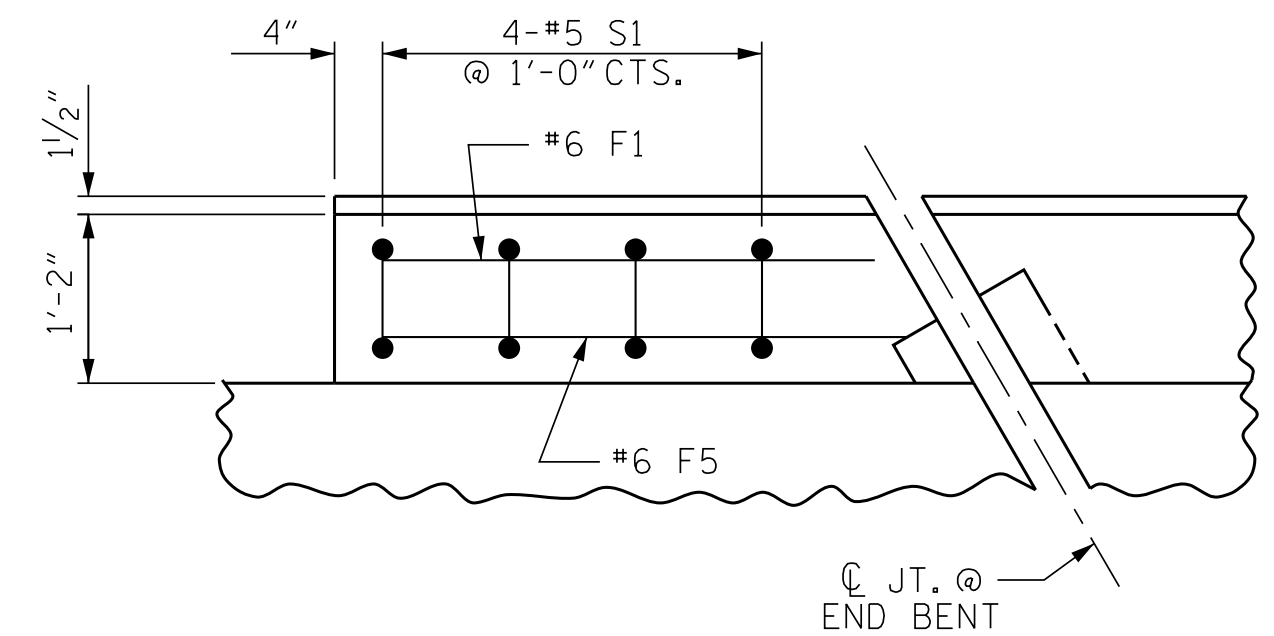


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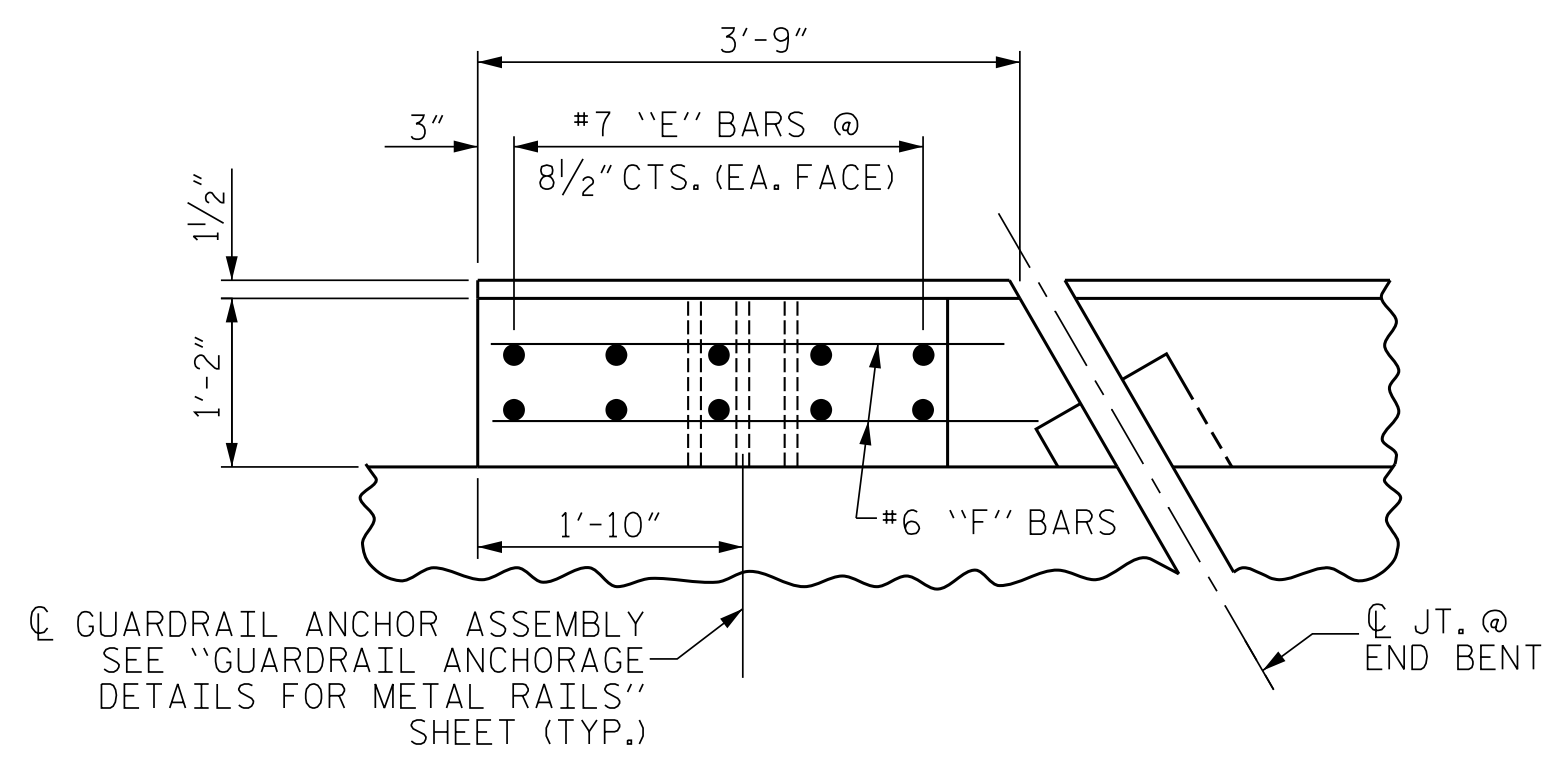
### REVISIONS

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1			3		
2			4		

SHEET NO.
S2-71
TOTAL SHEETS
72



PLAN OF PARAPET



PLAN OF END POST

NOTES

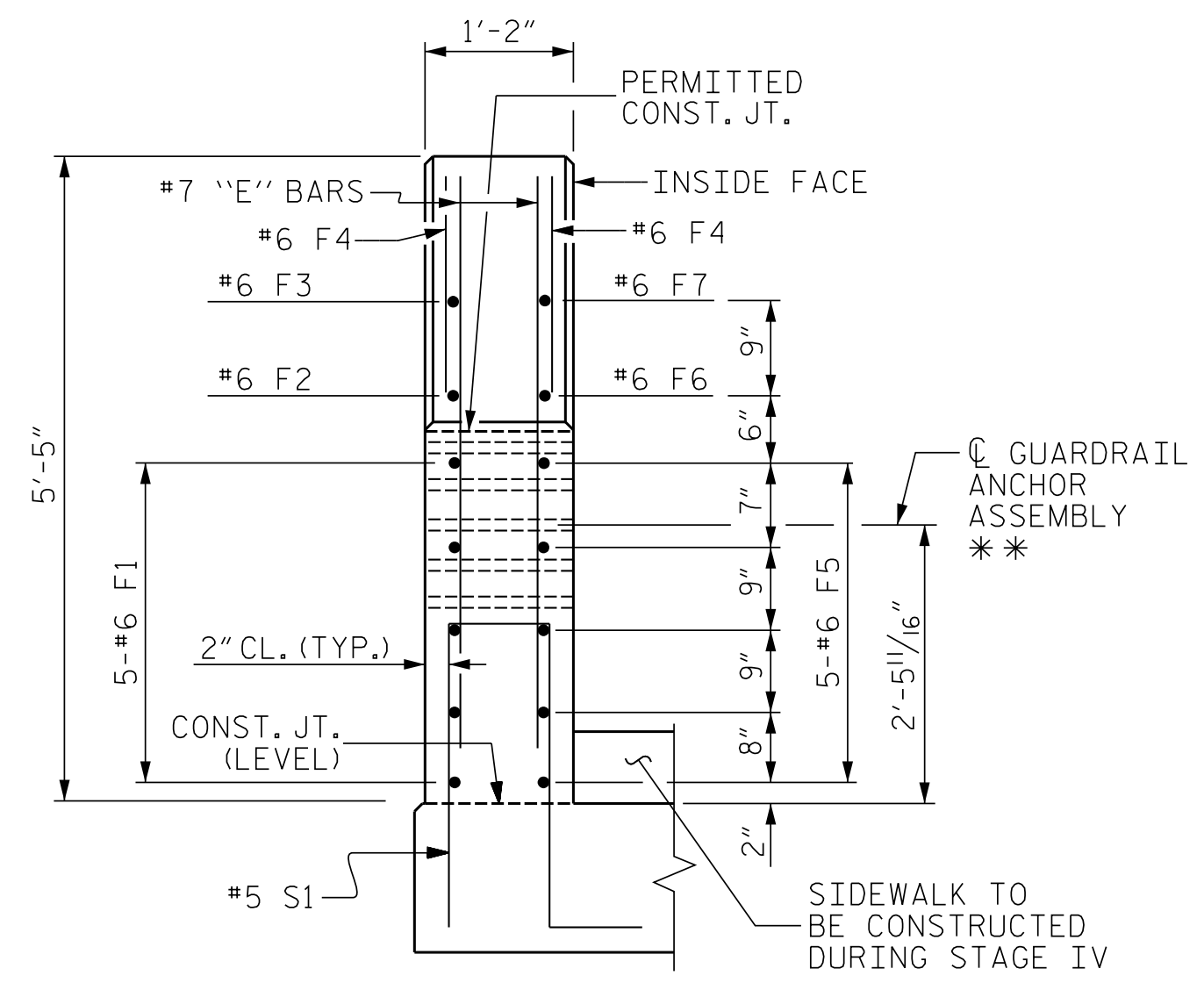
THE COST OF THE END POSTS ON THE APPROACH SLAB SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR "BRIDGE APPROACH SLABS".

THE END POSTS ON EACH APPROACH SLAB SHALL NOT BE CAST UNTIL ALL APPROACH SLAB CONCRETE HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

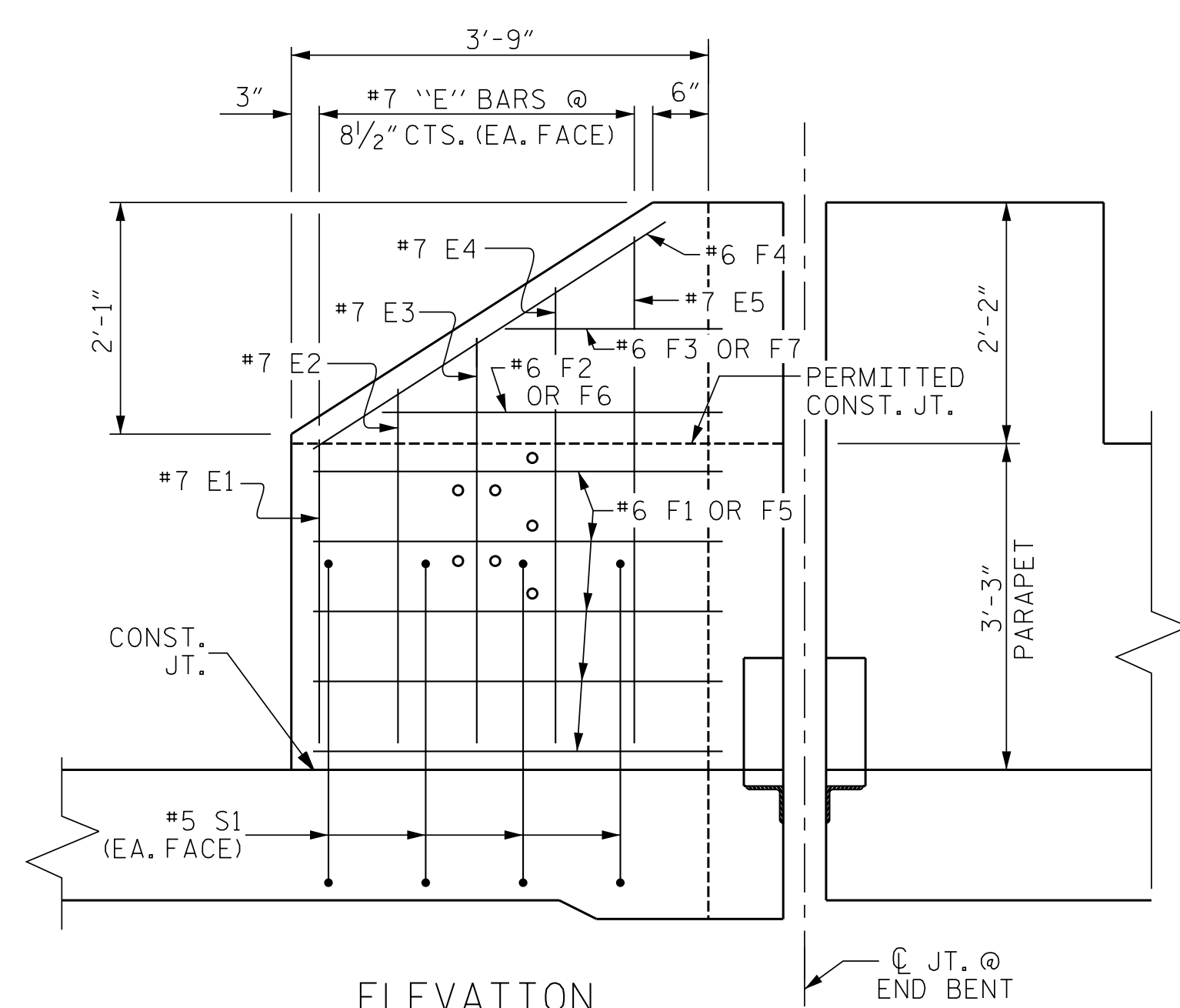
ALL REINFORCING STEEL IN END POSTS SHALL BE EPOXY COATED.

BILL OF MATERIAL FOR 4 END POSTS

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*E1	8	#7	STR	3'-3"	53
*E2	8	#7	STR	3'-8"	60
*E3	8	#7	STR	4'-2"	68
*E4	8	#7	STR	4'-7"	75
*E5	8	#7	STR	5'-1"	83
*F1	20	#6	STR	3'-5"	103
*F2	4	#6	STR	2'-5"	15
*F3	4	#6	STR	1'-4"	8
*F4	8	#6	STR	3'-8"	44
*F5	20	#6	STR	3'-7"	108
*F6	4	#6	STR	2'-7"	16
*F7	4	#6	STR	1'-6"	9
*S1	16	#5	1	8'-6"	142
* EPOXY COATED REINFORCING STEEL					LBS. 784
CLASS AA CONCRETE					CU.YDS. 3.1



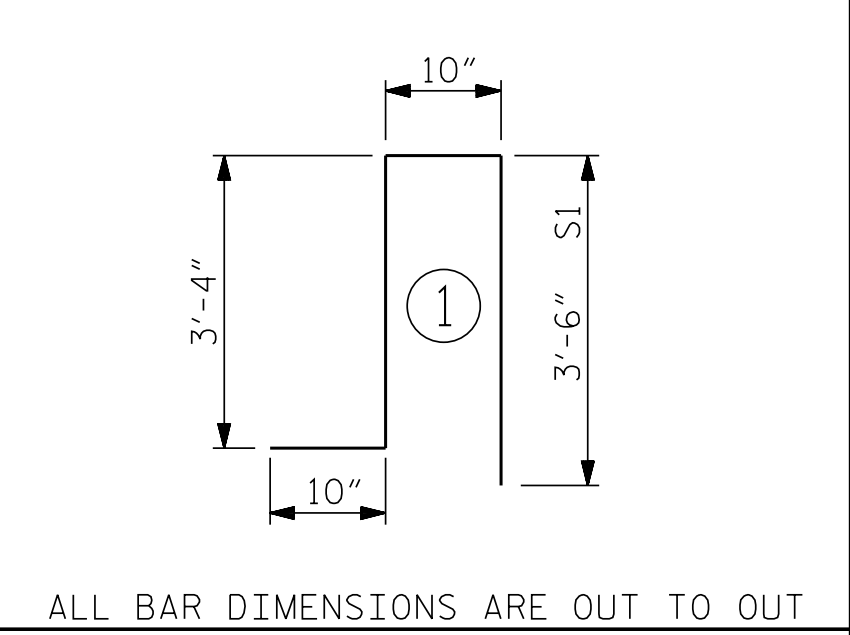
END VIEW



ELEVATION

\*\* GUARDRAIL ANCHOR ASSEMBLY SHALL BE INSTALLED DURING STAGE I (RT. SIDE) AND STAGE IIB (LEFT SIDE). THE 2'-5 1/16" DIMENSION PLACES THE GUARDRAIL ANCHOR ASSEMBLY 1'-9" ABOVE TOP OF SIDEWALK, WHICH WILL BE CONSTRUCTED DURING STAGE IV.

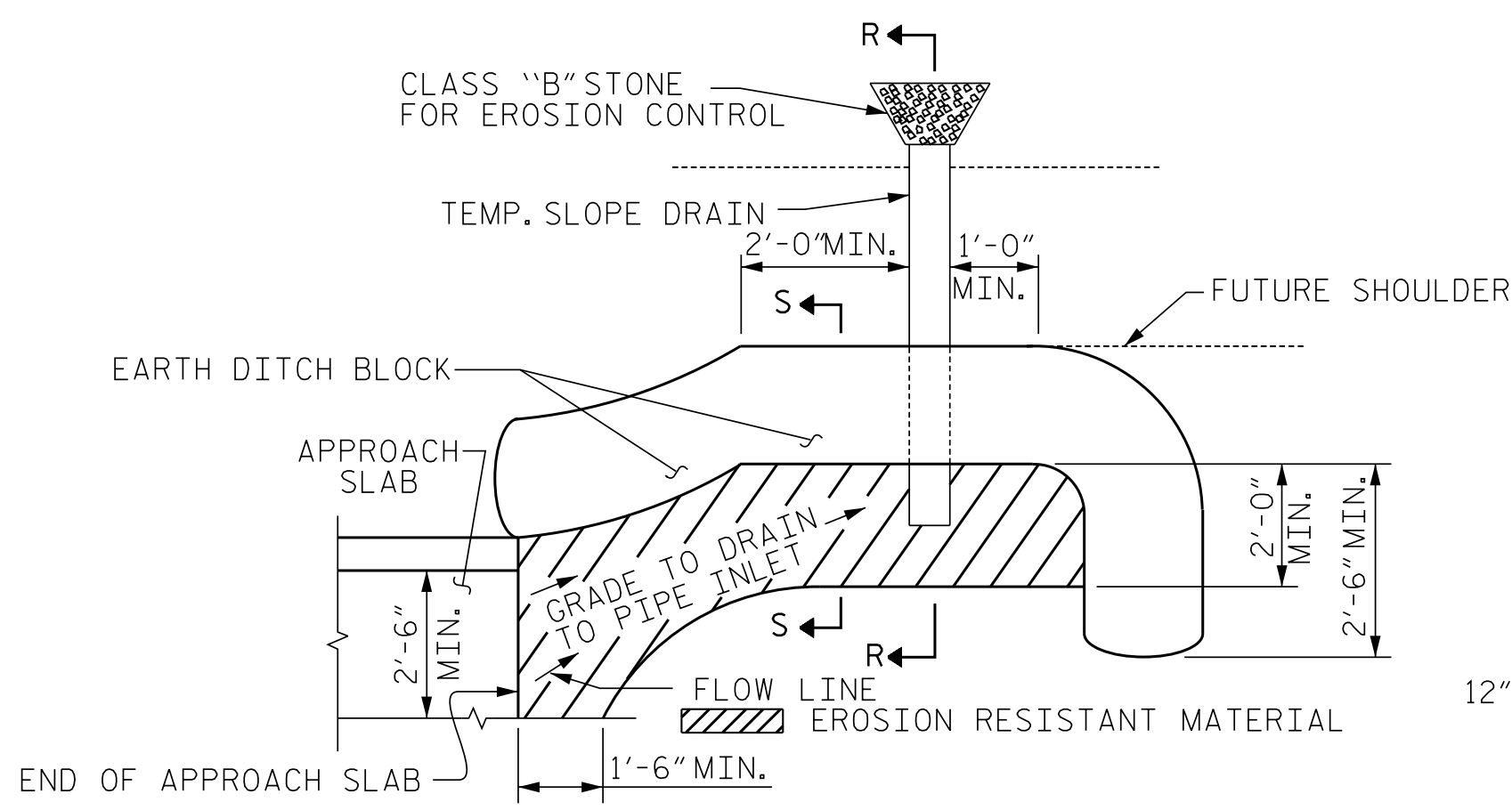
BAR TYPE



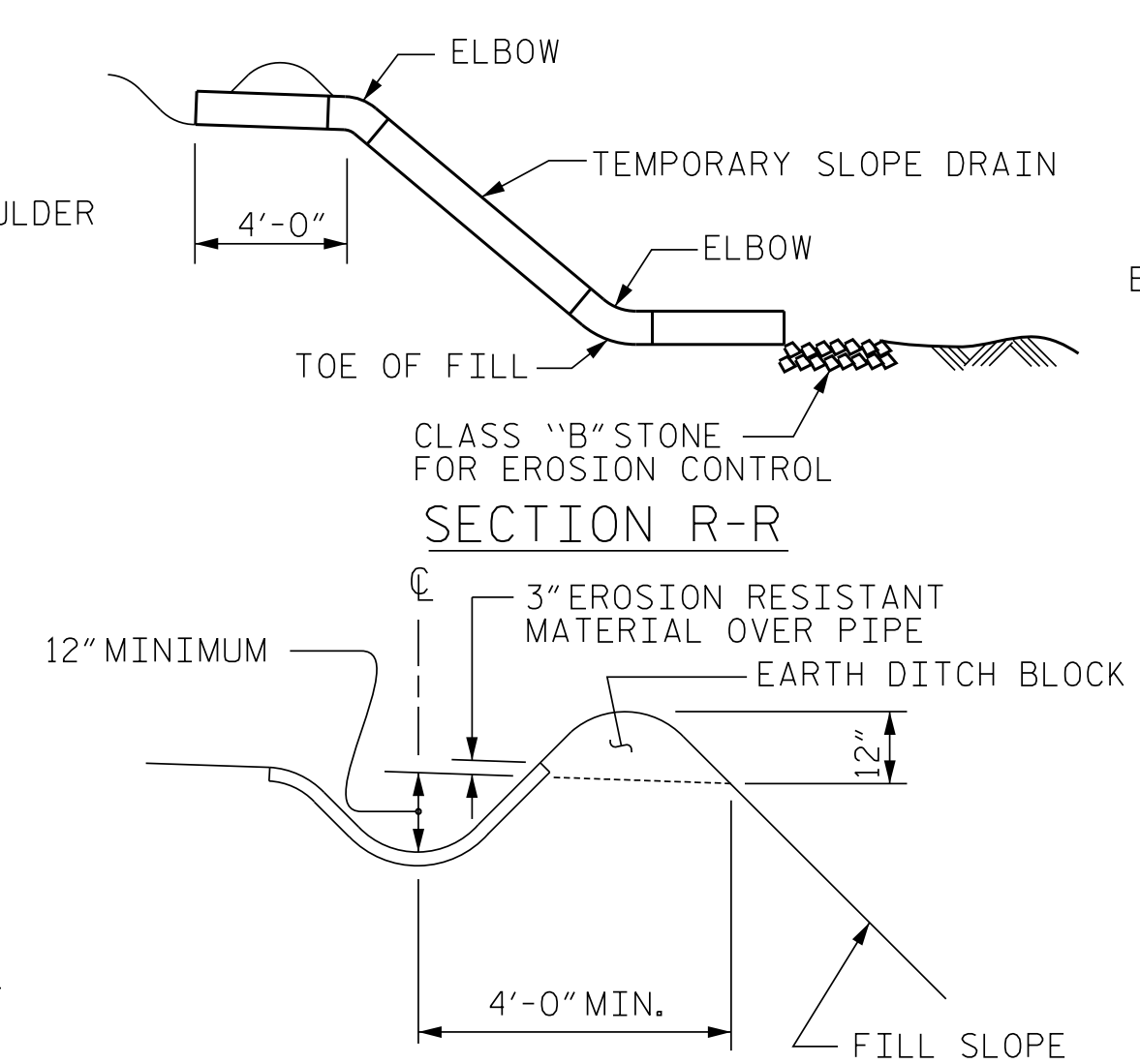
ALL BAR DIMENSIONS ARE OUT TO OUT

END POST FOR TWO BAR RAIL

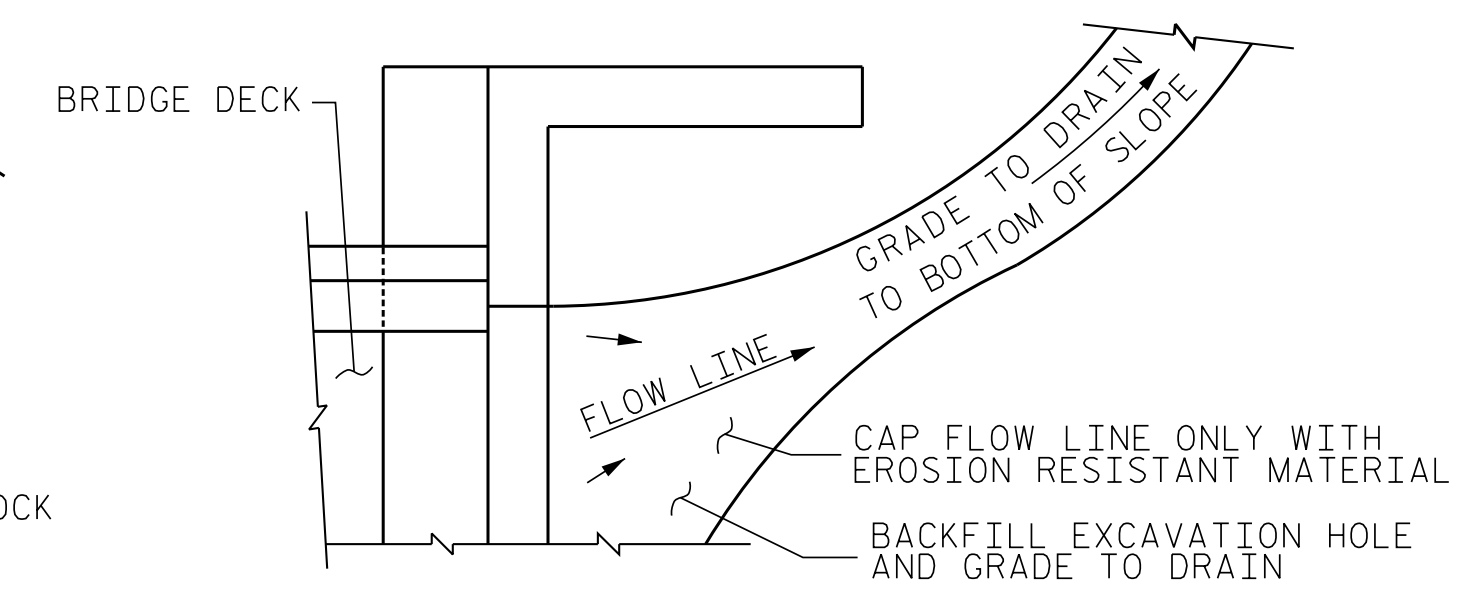
(END BENT 1 SHOWN, END BENT 2 SIMILAR)



PLAN VIEW



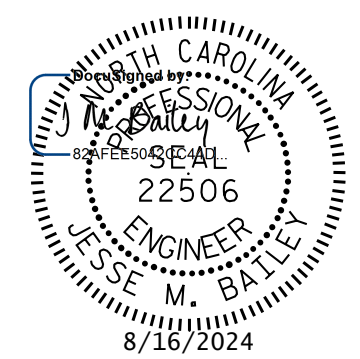
SECTION S-S



TEMPORARY DRAINAGE DETAIL

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

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



PROJECT NO. I-5717  
 IREDELL COUNTY  
 STATION: 733+32.53 -L-  
 SHEET 5 OF 5

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BRIDGE APPROACH SLAB  
 END POST DETAILS

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1			3			TOTAL SHEETS 72
2			4			

WDC:GUY 06/20/2024 14:55:00Z L:\5\_003\L1-5717 - Replacement CAD Structures\CAD 3-31-23\401\_HAJ-5717\_SML\_A505\_S12.dgn  
 TIME: 4:30:2024

DWN. BY: WDC DATE: 01/24  
 CHKD. BY: GFW DATE: 01/24  
 DES. EGR. OF RECORD: JMB DATE: 01/24

TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)

## STANDARD NOTES

DESIGN DATA:

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

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2024 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

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

CONCRETE:

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

CONCRETE CHAMFERS:

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

DOWELS:

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

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

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

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

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

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

REINFORCING STEEL:

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

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

STRUCTURAL STEEL:

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

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

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

HANDRAILS AND POSTS:

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

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

SPECIAL NOTES:

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