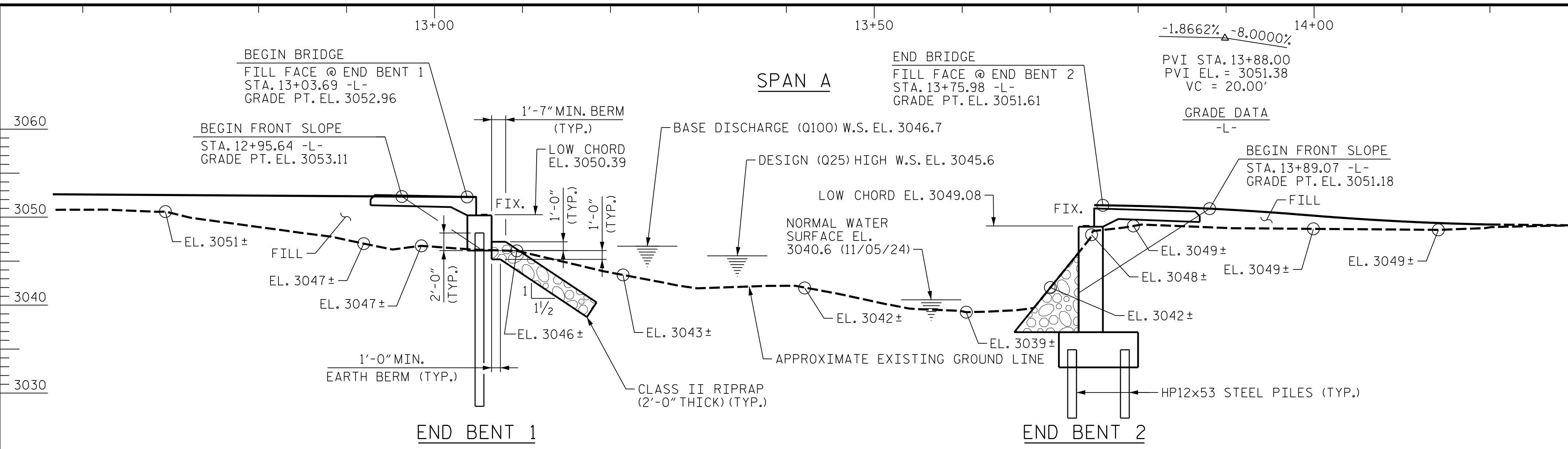


**This electronic collection of documents is provided
for the convenience of the user
and is Not a Certified Document –**

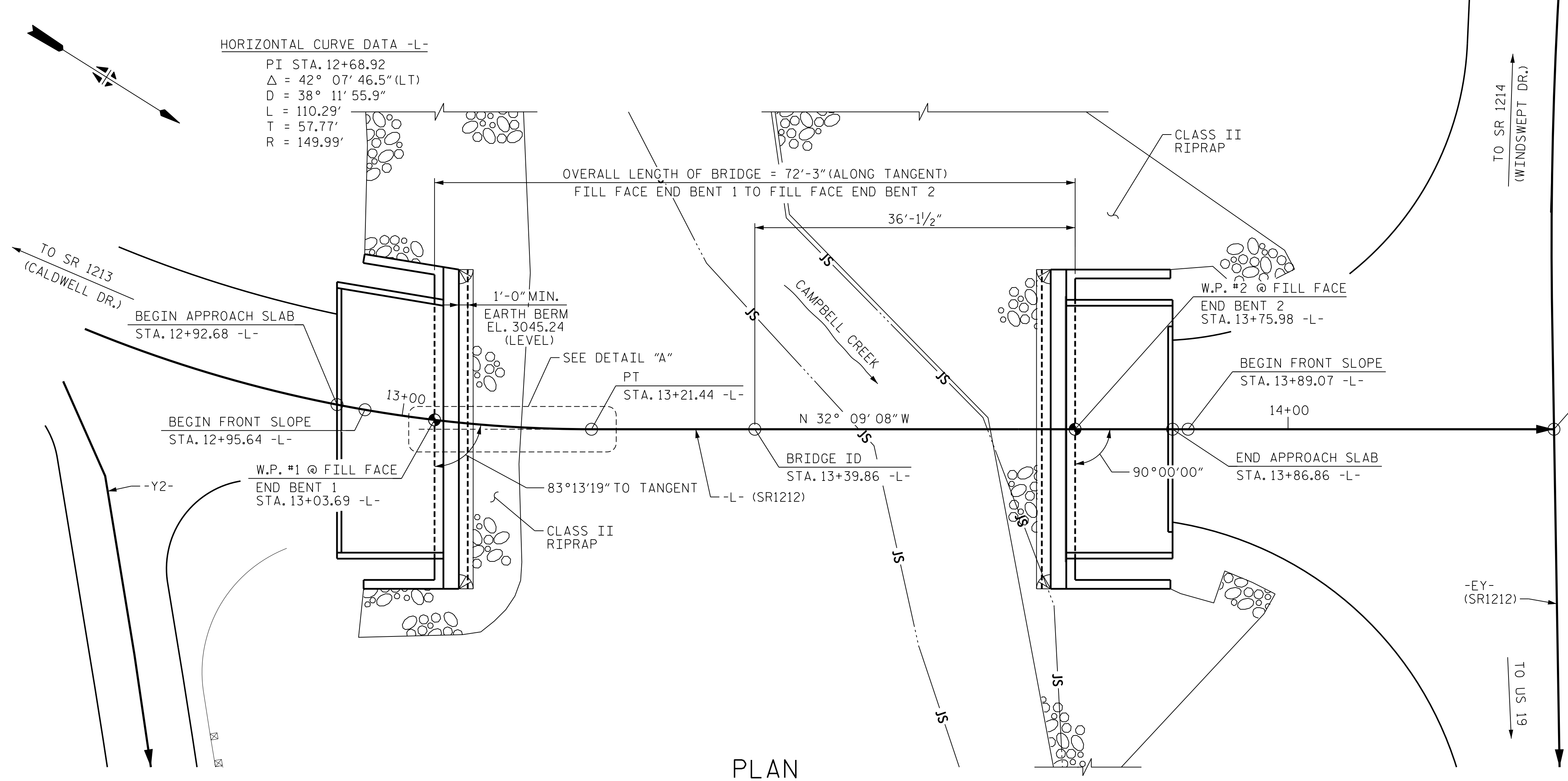
**The documents contained herein were originally issued
and sealed by the individuals whose names and license
numbers appear on each page, on the dates appearing
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**This file or an individual page
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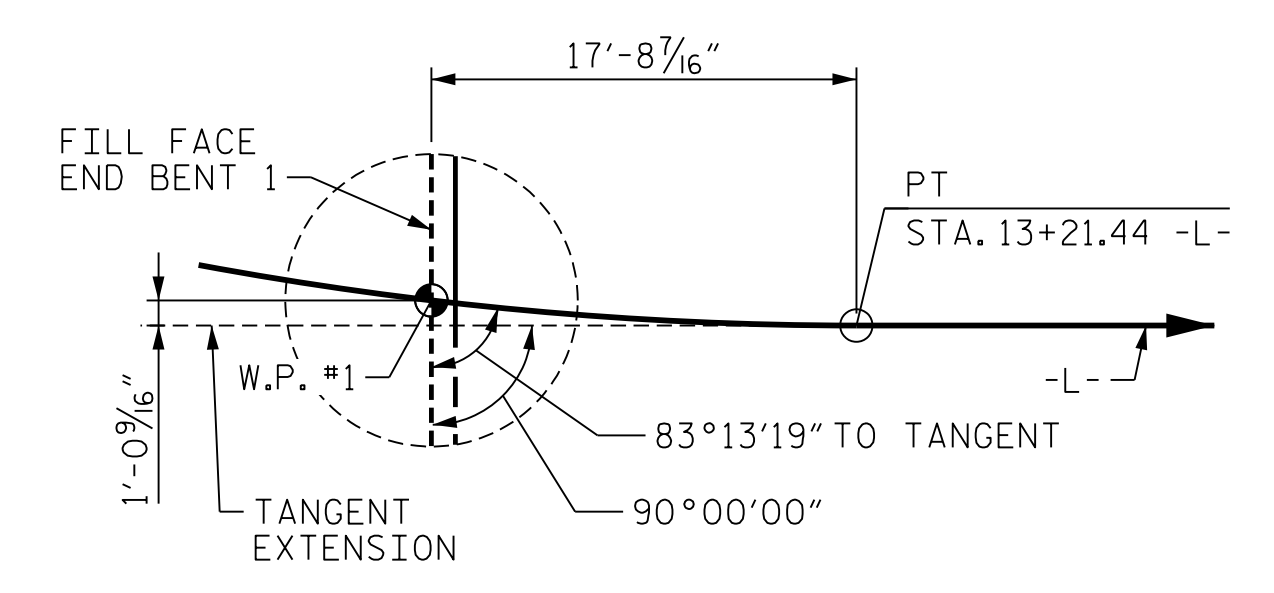
SECTION ALONG Q SURVEY -L-
(END BENTS SHOWN ON SECTION AT RIGHT ANGLES TO END BENTS)

HORIZONTAL CURVE DATA -L-
 PI STA. 12+68.92
 Δ = 42° 07' 46.5" (LT)
 D = 38° 11' 55.9"
 L = 110.29'
 T = 57.77'
 R = 149.99'



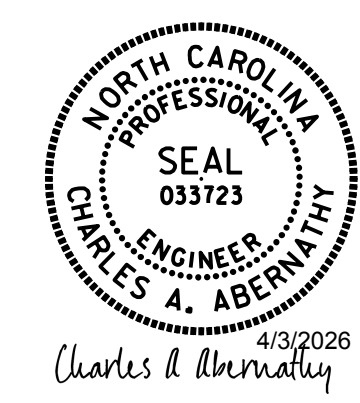
PLAN
(PILES NOT SHOWN FOR CLARITY)
(END BENT 2 FOOTING NOT SHOWN FOR CLARITY)

I HEREBY CERTIFY THAT THESE PLANS ARE THE AS-BUILT PLANS



PROJECT NO. DF18314.2044195
HAYWOOD COUNTY
STATION: 13+39.86 -L-

SHEET 1 OF 4 REPLACE BRIDGE NO. 266



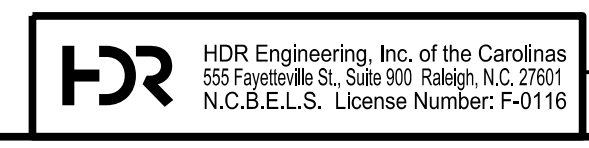
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON SR 1212 (JOHNSON BRANCH RD.) OVER CAMPBELL CREEK EAST OF SR 1212 (CAMPBELL CREEK RD)

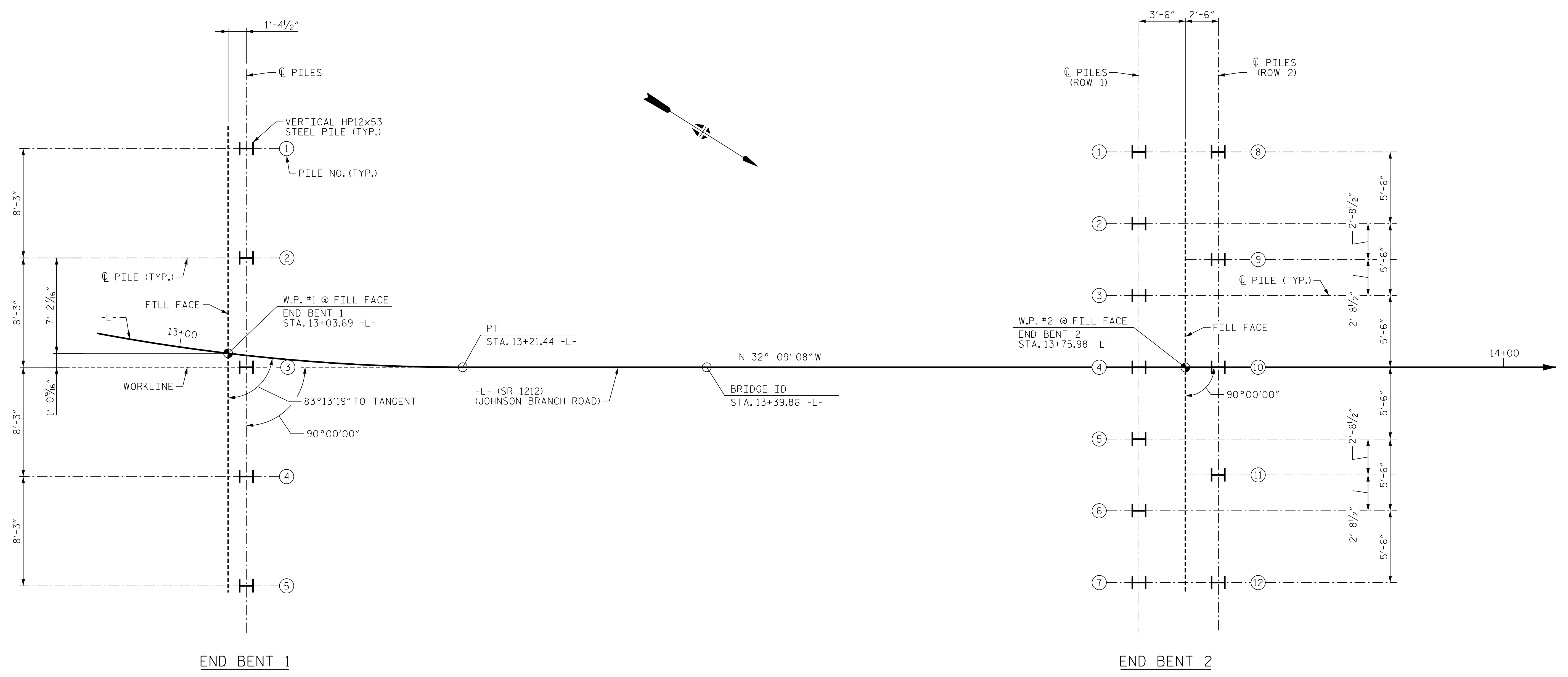
REVISIONS						SHEET NO. S-01
NO.	BY:	DATE:	NO.	BY:	DATE:	
1	--	--	3	--	--	TOTAL SHEETS 18
2	--	--	4	--	--	

PLOT DRIVER: U2719-U4437-PLT-pH
 USER: CHABERNA
 DATE: 4/3/2026
 TIME: 9:36:47 AM
 FILE: ...N0300

DES BY: D. MAST	DATE: 03/25	DWG BY: D. CHAPMAN	DATE: 03/25
DES CHK: A. ABERNATHY	DATE: 03/25	CHK BY: D. MAST	DATE: 03/25



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



FOUNDATION LAYOUT

NOTES

DIMENSIONS TO PILES ARE MEASURED TO THE C PILE.

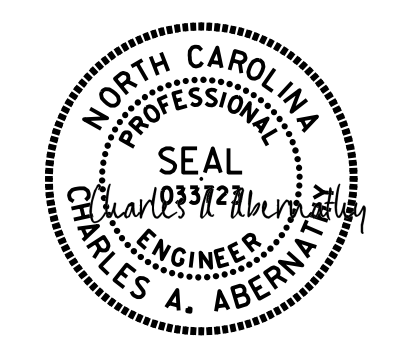
FOR PILES, SEE SECTION 450 OF THE NCDOT STANDARD SPECIFICATIONS.

PROJECT NO. DF18314.2044195

HAYWOOD COUNTY

STATION: 13+39.86 -L-

SHEET 2 OF 4



12/15/2025

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON SR 1212 (JOHNSON BRANCH RD.) OVER CAMPBELL CREEK EAST OF SR 1212 (CAMPBELL CREEK RD)

REVISIONS						SHEET NO. S-02
NO.	BY:	DATE:	NO.	BY:	DATE:	
1	--	--	3	--	--	TOTAL SHEETS 18
2	--	--	4	--	--	

HDR HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLOT DRIVER: NCDOT_pdf_mono_eng_50.plt
 USER: CHABERNA DATE: 12/14/2025
 PENTABLE: NCDOT_Structures.tbl
 TIME: 2:36:03 PM
 FILE: ... \0310

DES BY: <u>D. MAST</u>	DATE: <u>03/25</u>	DWG BY: <u>D. CHAPMAN</u>	DATE: <u>03/25</u>
DES CHK: <u>A. ABERNATHY</u>	DATE: <u>03/25</u>	CHK BY: <u>D. MAST</u>	DATE: <u>03/25</u>

SUMMARY OF PILE INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Number of Piles per Line	Factored Resistance per Pile KIPS	Pile Cut-Off (Top of Pile) Elevation FT	Estimated Pile Length per Pile FT	Scour Critical Elevation FT	Driven Piles			Predrilling for Piles **			Drilled-In Piles		
						Minimum Pile Tip (Tip No Higher Than) Elevation FT	Required Driving Resistance (RDR)* per pile KIPS	Pile Redrives Quantity EACH	Predrilling Length per Pile LIN FT	Predrilling Elevation (Elevation Not To Predrill Below) FT	Maximum Predrilling Diameter INCHES	Pile Excavation (Bottom of Hole) Elevation FT	Pile Excavation Not In Soil per Pile LIN FT	Pile Excavation In Soil per Pile LIN FT
End Bent 1, Pile 1-5	5	205	3048.24	55			342							
End Bent 2, Pile 1-3, & 8-9	5	223	3033.08	35			372							
End Bent 2, Pile 4-7, & 10-12	7	223	3033.08	40			372							
TOTAL QUANTITY:														

* RDR = $\frac{\text{Factored Resistance} + \text{Factored Drag Load} + \text{Factored Dead Load}}{\text{Dynamic Resistance Factor}} + \text{Nominal Drag Load Resistance} + \text{Nominal Resistance from Scourable Material}$

** Predrilling for Piles is required for end bents/bents with a predrilling length and at the Contractor's option for end bents/bents with predrilling information but no predrilling length.

PILE DESIGN INFORMATION

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Factored Axial Load per Pile KIPS	Factored Drag Load per Pile KIPS	Factored Dead Load * per Pile KIPS	Dynamic Resistance Factor	Nominal Drag Resistance per Pile KIPS	Nominal Scour Resistance per Pile KIPS
End Bent 1, Pile 1-5	205			0.60		
End Bent 2, Pile 1-12	223			0.60		
TOTAL QUANTITY:						

* Factored Dead Load is factored weight of pile above the ground line.

SUMMARY OF PILE ACCESSORIES

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Pipe Pile Plates EACH	Steel Pile Points		
		Pipe Pile Cutting Shoes EACH	Pipe Pile Conical Points EACH	H-Pile Points EACH
End Bent 1, Pile 1-5				5
End Bent 2, Pile 1-12				12
TOTAL QUANTITY:				17

SUMMARY OF DPT/PILE ORDER LENGTHS

(Blank entries indicate item is not applicable to structure)

Dynamic Pile Testing (DPT)			Pile Order Lengths for Concrete Piles	
End Bent / Bent No (e.g., "Bent 1 - Bent 3")	DPT Test Pile Length FT	DPT Testing Quantity EACH	End Bent / Bent No (e.g., "Bent 1 - Bent 3")	Pile Order Length Basis* EST or DPT
TOTAL QUANTITY:				

* EST = Pile order lengths from estimated pile lengths; DPT = Pile order lengths based on Dynamic Pile Testing. For groups of end bents/bents with pile order lengths based on DPT testing, the first end bent/bent no. listed for each group is the representative end bent/bent with the DPT.

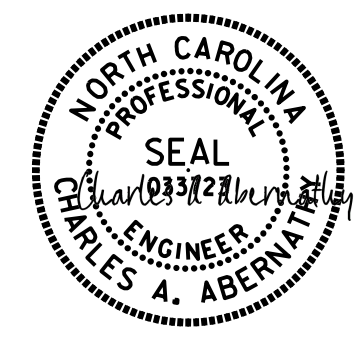
PROJECT NO. BP14.R024

HAYWOOD COUNTY

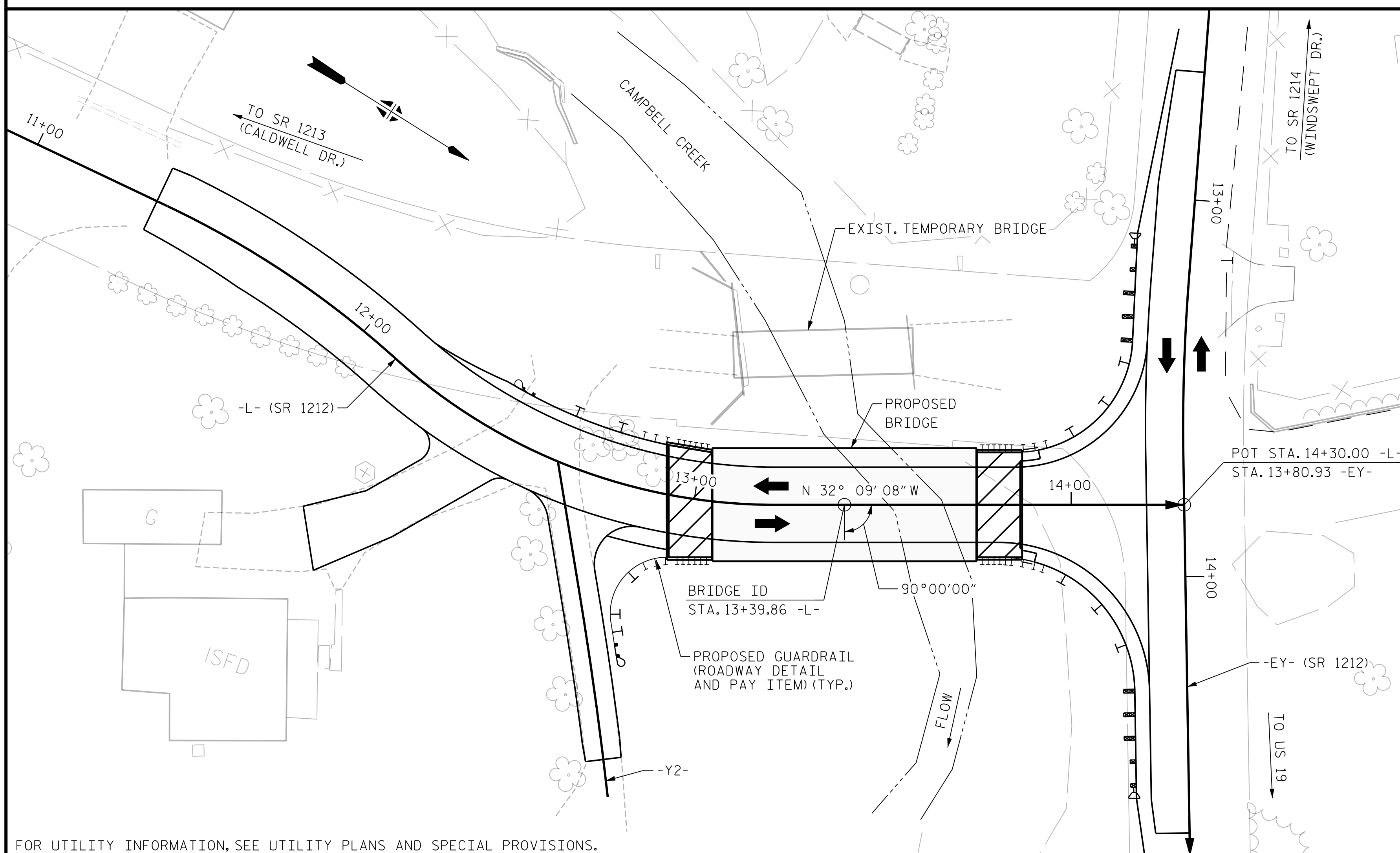
STATION: 13+39.86 -L-

NOTES:

- The Pile Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (Saket Kabra, #053059) on 08-15-2025.
- Total Pile Driving Equipment Setup quantity (not shown in Pile Foundation Tables) equals the number of driven piles, i.e., the number of piles with a Required Driving Resistance.
- The Engineer may adjust the quantity for DPT Testing and Pipe Pile Plates when necessary.

	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						
	PILE FOUNDATION TABLES						
12/15/2025 DATE							
SIGNATURE							
REVISIONS		SHEET NO.					
DOCUMENT NOT CONSIDERED	NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
FINAL UNLESS ALL	1			3			
SIGNATURES COMPLETED	2			4			

BM #3: -EY- STA 15+50.77 13' RT. ELEV.= 3046.30'



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE AT STA. 13+39.86 -L-	ASBESTOS ASSESSMENT	CLASS A CONCRETE	BRIDGE APPROACH SLABS STA. 13+39.86 -L-	REINFORCING STEEL	PILE DRIVING EQUIPMENT SETUP FOR HP12x53 STEEL PILES	HP12x53 STEEL PILES	
	LUMP SUM	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	EA.	NO.	LIN. FT.
SUPERSTRUCTURE	--	--	--	LUMP SUM	--	--	--	--
END BENT 1	--	--	20.5	--	2641	5	5	275
END BENT 2	--	--	110.6	--	14240	12	12	455
TOTAL	LUMP SUM	LUMP SUM	131.1	LUMP SUM	16881	17	17	730
	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLABS			
	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	NO.	LIN. FT.		
SUPERSTRUCTURE	140.3	--	--	LUMP SUM	10	700		
END BENT 1	--	145	161	--	--	--		
END BENT 2	--	185	205	--	--	--		
TOTAL	140.3	330	366	LUMP SUM	10	700		

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.
- INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STATION 13+39.86 -L-."
- FOR ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES, SEE SPECIAL PROVISIONS.
- THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.
- REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED IN A MANNER THAT PREVENTS DEBRIS FROM FALLING INTO THE WATER. THE CONTRACTOR SHALL SUBMIT DEMOLITION PLANS FOR REVIEW AND REMOVE THE BRIDGE IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.
- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18-EVALUATING SCOUR AT BRIDGES."
- THE SCOUR CRITICAL ELEVATION FOR END BENT 2 IS ELEVATION 3035.3. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
- FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.
- ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.

HYDRAULIC DATA

DESIGN DISCHARGE	1400 CFS
FREQUENCY OF DESIGN FLOOD	25 YR
DESIGN HIGH WATER ELEVATION	3045.6 FT
DRAINAGE AREA	7.7 SQ MI
BASE DISCHARGE (Q100)	2100 CFS
BASE HIGH WATER ELEVATION	3046.7 FT

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	3800 CFS
FREQUENCY OF OVERTOPPING FLOOD	500 YR
OVERTOPPING FLOOD ELEVATION	3051.2 FT Δ

Δ OVERTOPPING OCCURS AT STA. 14+00± -L-

PROJECT NO. DF18314.2044195
HAYWOOD COUNTY
 STATION: 13+39.86 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING

FOR BRIDGE ON SR 1212 (JOHNSON BRANCH RD.) OVER CAMPBELL CREEK EAST OF SR 1212 (CAMPBELL CREEK RD)

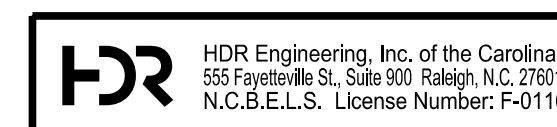


Charles A. Abernathy 4/2/2026

REVISIONS

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

SHEET NO. S-04
 TOTAL SHEETS 18



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DES BY: D. MAST DATE: 03/25 DWG BY: D. CHAPMAN DATE: 03/25
 DES CHK: A. ABERNATHY DATE: 03/25 CHK BY: D. MAST DATE: 03/25

PLOT DRIVER: U2719-U4437-PLT.pH
 USER: CHABERNA DATE: 4/2/2026
 PENTABLE: U2719-U4437-PEN
 TIME: 4:48:56 PM
 FILE: ... \0320

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

LOAD TYPE	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	HL-93 (INVENTORY)	N/A	①	1.006	--	1.75	0.273	1.03	70'	EL	34.5	0.507	1.32	70'	EL	6.9	0.80	0.273	1.01	70'	EL	34.5		
	HL-93 (OPERATING)	N/A		1.341	--	1.35	0.273	1.34	70'	EL	34.5	0.507	1.72	70'	EL	6.9	N/A	--	--	--	--	--		
	HS-20 (INVENTORY)	36.000	②	1.306	47.02	1.75	0.273	1.34	70'	EL	34.5	0.507	1.65	70'	EL	6.9	0.80	0.273	1.31	70'	EL	34.5		
	HS-20 (OPERATING)	36.000		1.740	62.64	1.35	0.273	1.74	70'	EL	34.5	0.507	2.14	70'	EL	6.9	N/A	--	--	--	--	--		
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH	13.500		2.917	39.379	1.4	0.273	3.75	70'	EL	34.5	0.507	4.87	70'	EL	6.9	0.80	0.273	2.92	70'	EL	34.5	
		SNGARBS2	20.000		2.187	43.741	1.4	0.273	2.81	70'	EL	34.5	0.507	3.47	70'	EL	6.9	0.80	0.273	2.19	70'	EL	34.5	
		SNAGRIS2	22.000		2.077	45.690	1.4	0.273	2.67	70'	EL	34.5	0.507	3.23	70'	EL	6.9	0.80	0.273	2.08	70'	EL	34.5	
		SNCOTTS3	27.250		1.452	39.565	1.4	0.273	1.87	70'	EL	34.5	0.507	2.43	70'	EL	6.9	0.80	0.273	1.45	70'	EL	34.5	
		SNAGGRS4	34.925		1.218	42.554	1.4	0.273	1.57	70'	EL	34.5	0.507	2.03	70'	EL	6.9	0.80	0.273	1.22	70'	EL	34.5	
		SNS5A	35.550		1.191	42.346	1.4	0.273	1.53	70'	EL	34.5	0.507	2.06	70'	EL	6.9	0.80	0.273	1.19	70'	EL	34.5	
		SNS6A	39.950		1.095	43.747	1.4	0.273	1.41	70'	EL	34.5	0.507	1.88	70'	EL	6.9	0.80	0.273	1.10	70'	EL	34.5	
	SNS7B	42.000		1.043	43.801	1.4	0.273	1.34	70'	EL	34.5	0.507	1.85	70'	EL	6.9	0.80	0.273	1.04	70'	EL	34.5		
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.336	44.087	1.4	0.273	1.72	70'	EL	34.5	0.507	2.23	70'	EL	6.9	0.80	0.273	1.34	70'	EL	34.5	
		TNT4A	33.075		1.342	44.401	1.4	0.273	1.72	70'	EL	34.5	0.507	2.17	70'	EL	6.9	0.80	0.273	1.34	70'	EL	34.5	
		TNT6A	41.600		1.100	45.746	1.4	0.273	1.41	70'	EL	34.5	0.507	1.98	70'	EL	6.9	0.80	0.273	1.10	70'	EL	34.5	
		TNT7A	42.000		1.106	46.462	1.4	0.273	1.42	70'	EL	34.5	0.507	1.94	70'	EL	6.9	0.80	0.273	1.11	70'	EL	34.5	
		TNT7B	42.000		1.147	48.180	1.4	0.273	1.47	70'	EL	34.5	0.507	1.80	70'	EL	6.9	0.80	0.273	1.15	70'	EL	34.5	
		TNAGRIT4	43.000		1.089	46.838	1.4	0.273	1.40	70'	EL	34.5	0.507	1.74	70'	EL	6.9	0.80	0.273	1.09	70'	EL	34.5	
TNAGT5A		45.000		1.026	46.175	1.4	0.273	1.32	70'	EL	34.5	0.507	1.74	70'	EL	6.9	0.80	0.273	1.03	70'	EL	34.5		
TNAGT5B	45.000	③	1.013	45.579	1.4	0.273	1.30	70'	EL	34.5	0.507	1.66	70'	EL	6.9	0.80	0.273	1.01	70'	EL	34.5			
EMERGENCY VEHICLE (EV)	EV2	28.750		1.816	52.212	1.3	0.273	2.11	70'	EL	34.5	0.507	2.59	70'	EL	6.9	0.80	0.273	1.82	70'	EL	34.5		
	EV3	43.000	④	1.188	51.068	1.3	0.273	1.38	70'	EL	34.5	0.507	1.75	70'	EL	6.9	0.80	0.273	1.19	70'	EL	34.5		

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ DC	γ DW
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

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.

CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93)

② DESIGN LOAD RATING (HS-20)

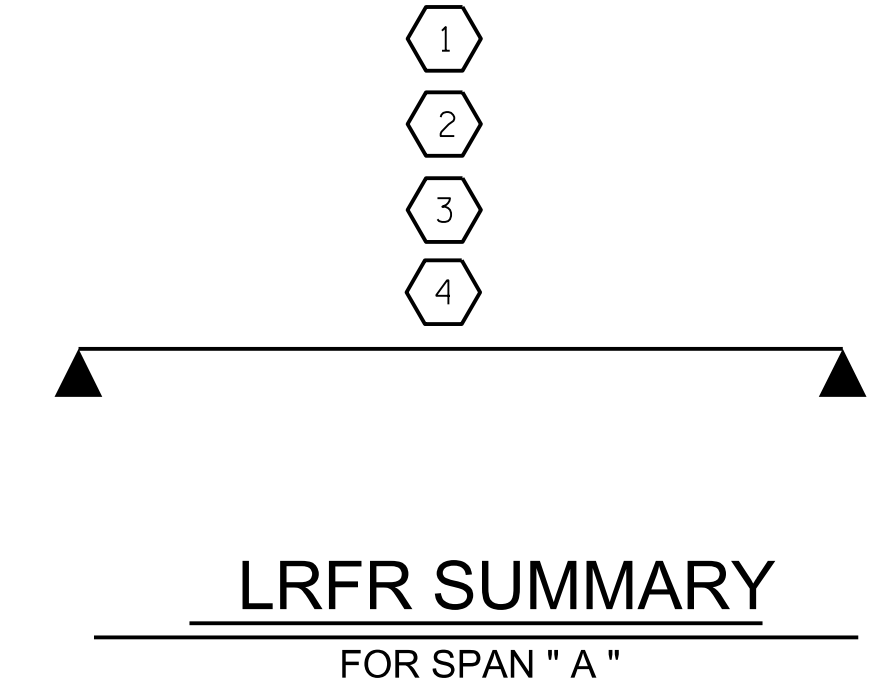
③ LEGAL LOAD RATING **

④ EMERGENCY VEHICLE LOAD RATING **

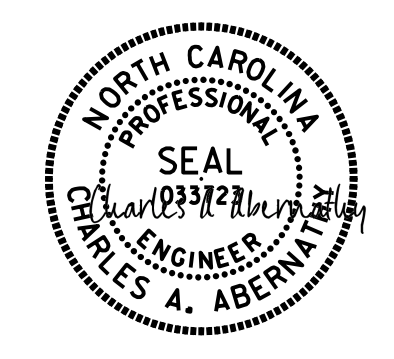
** SEE CHART FOR VEHICLE TYPE

GIRDER LOCATION

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



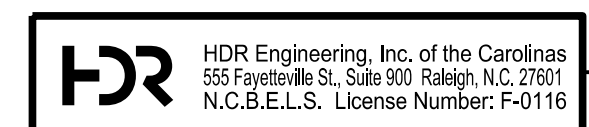
PROJECT NO. DF18314.2044195
HAYWOOD COUNTY
STATION: 13+39.86 -L-



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

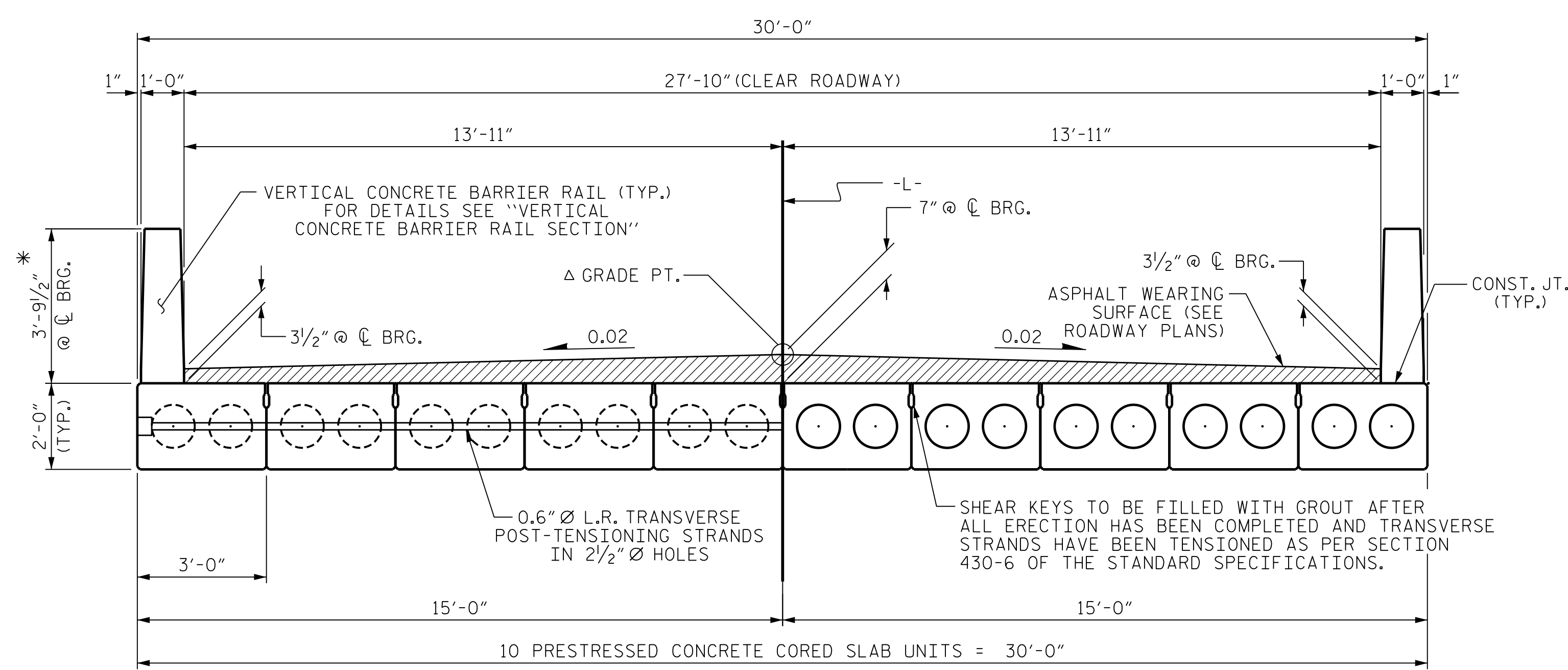
LRFR SUMMARY FOR
70' CORED SLAB UNIT
90° SKEW
(NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO. S-05 TOTAL SHEETS 18
NO.	BY:	DATE:	NO.	BY:	DATE:	
1	--	--	3	--	--	
2	--	--	4	--	--	



12/15/2025
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

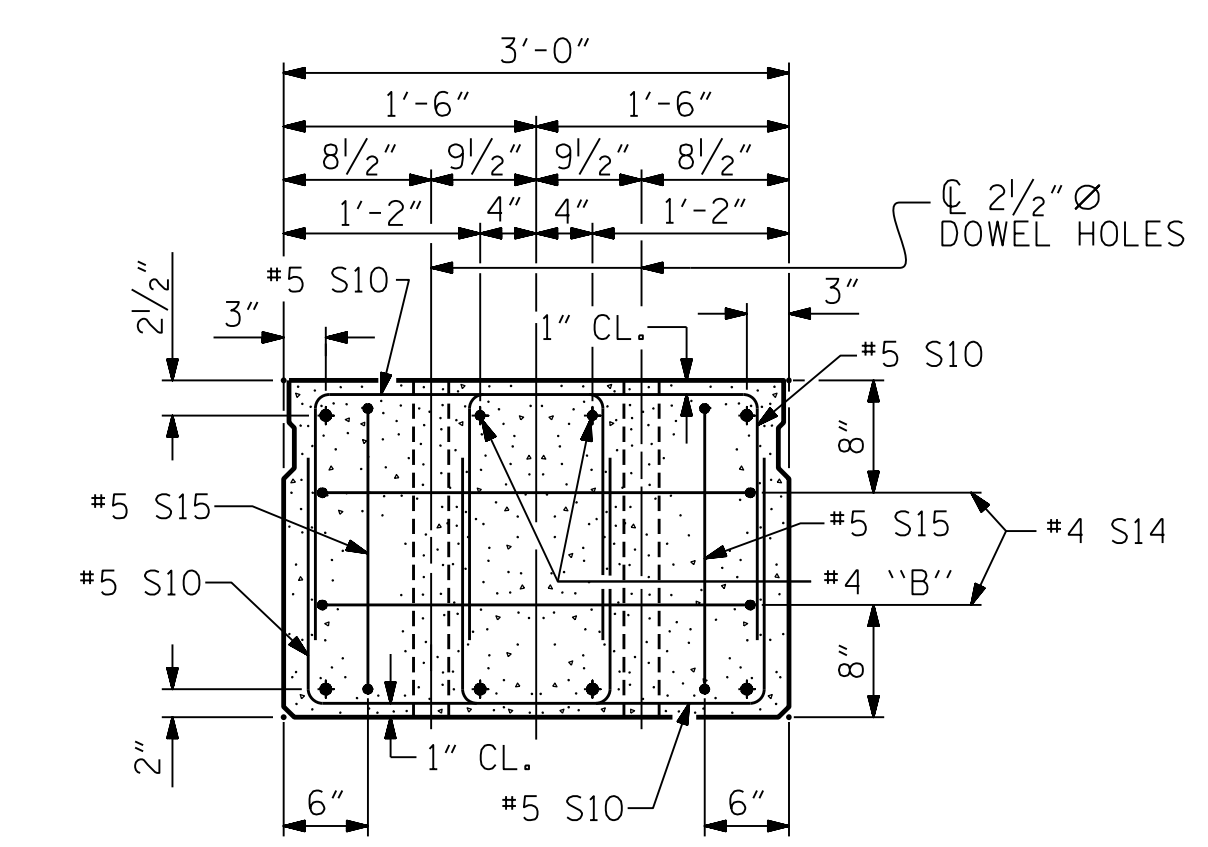
DES BY: <u>D. MAST</u>	DATE: <u>03/25</u>	DWG BY: <u>B. PETERSON</u>	DATE: <u>03/25</u>
DES CHK: <u>A. ABERNATHY</u>	DATE: <u>03/25</u>	CHK BY: <u>D. MAST</u>	DATE: <u>03/25</u>



HALF SECTION AT INTERMEDIATE DIAPHRAGMS **TYPICAL SECTION** HALF SECTION THROUGH VOIDS

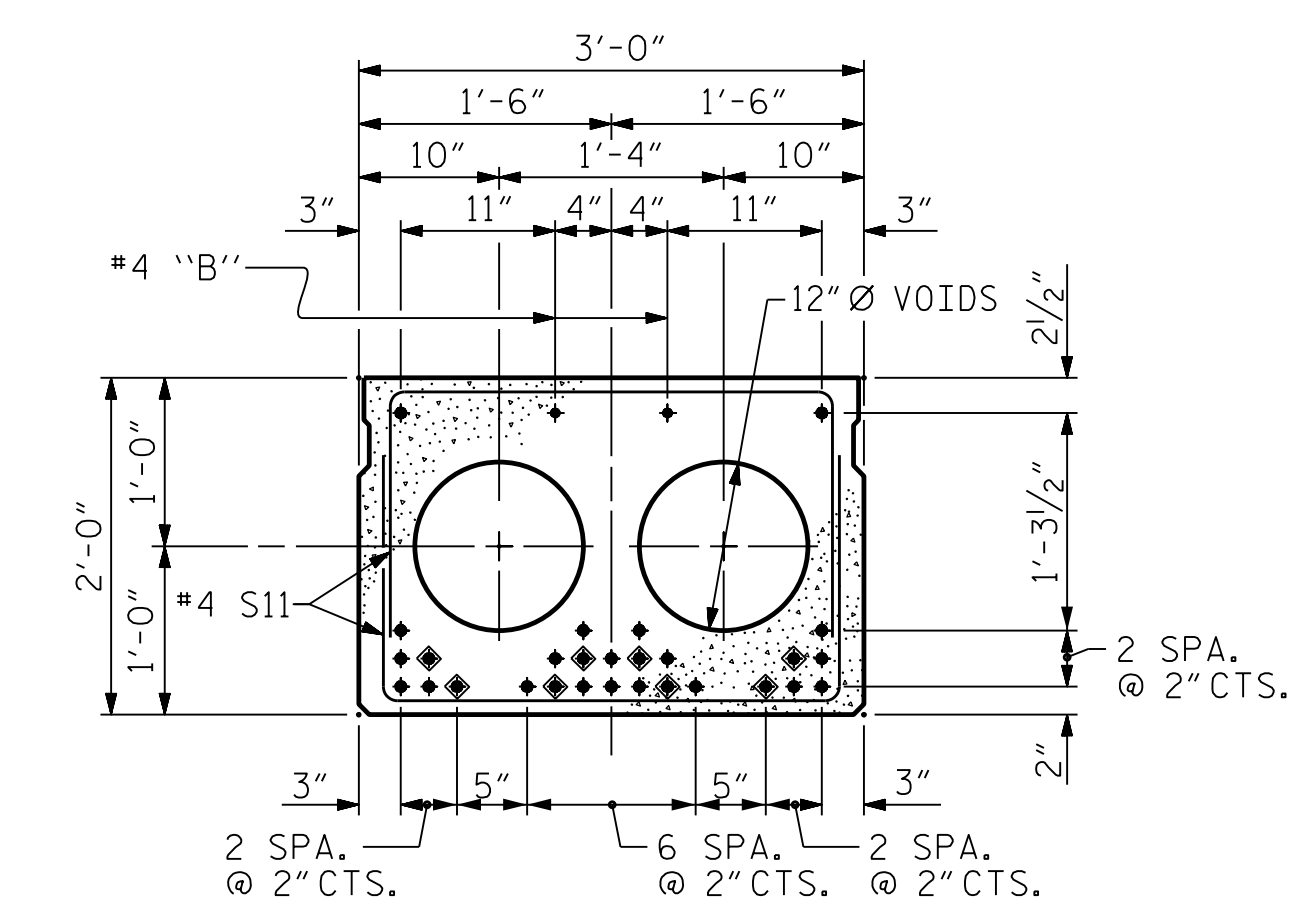
* - THE MAXIMUM BARRIER RAIL HEIGHT AND ASPHALT THICKNESS IS SHOWN. THE HEIGHT OF THE BARRIER RAIL AND ASPHALT THICKNESS VARIES WHILE THE TOP OF THE BARRIER RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE. FOR RAIL HEIGHT DETAILS AND ASPHALT THICKNESS, SEE THE "VERTICAL CONCRETE BARRIER RAIL SECTION" DETAIL.

Δ SEE DETAIL "A" ON SHEET S-01



END ELEVATION

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



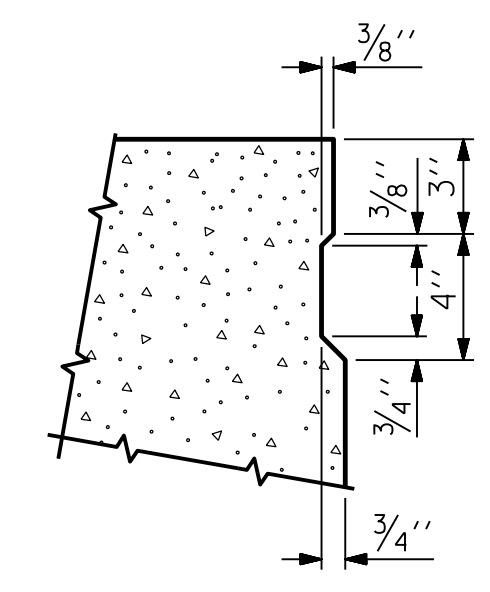
INTERIOR SLAB SECTION (70' UNIT)
(28 STRANDS REQUIRED)

0.6" Ø LOW RELAXATION STRAND LAYOUT

◆ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 12'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

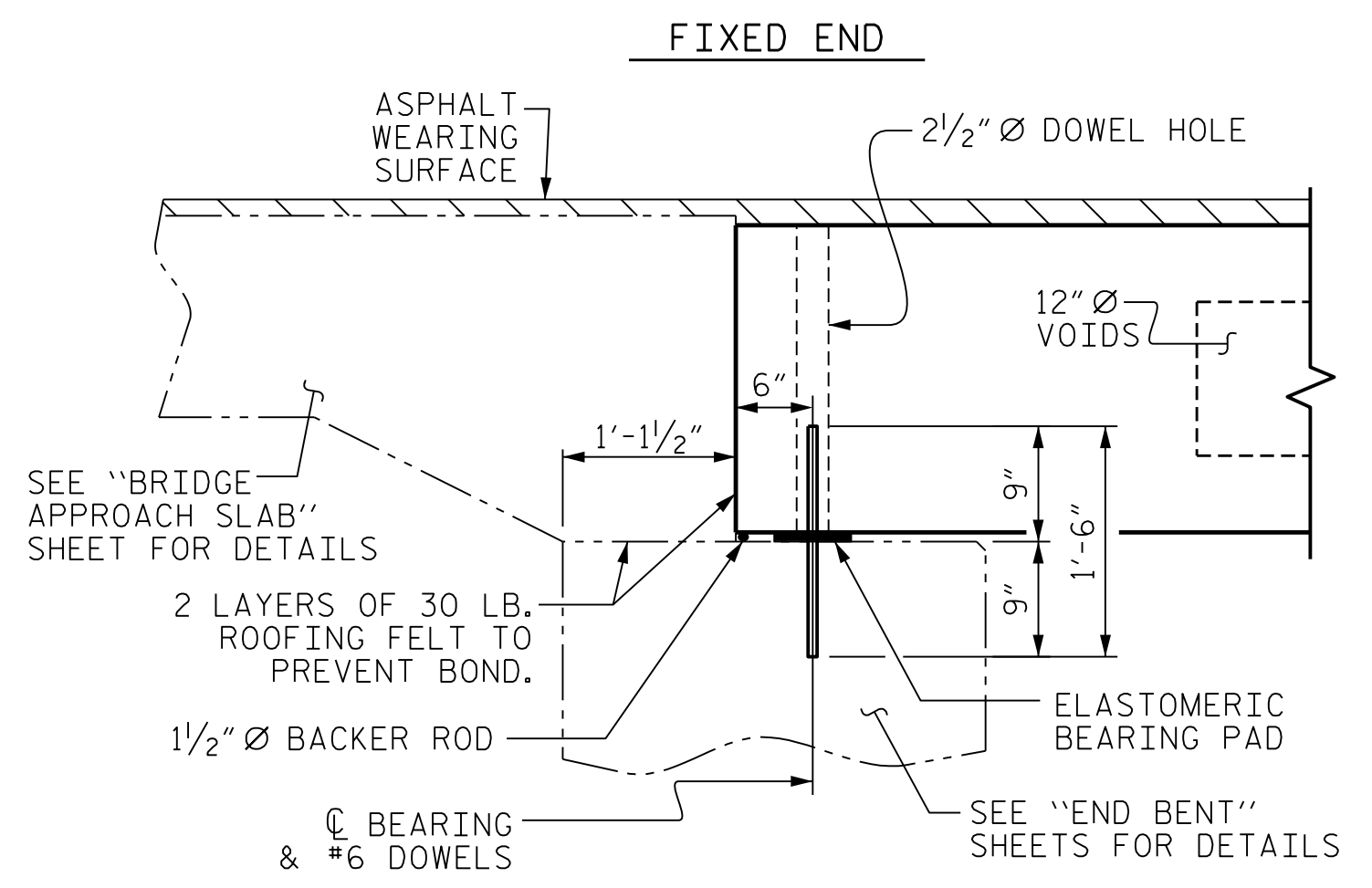
● OPTIONAL FULL LENGTH DEBONDED STRANDS. THESE STRANDS ARE NOT REQUIRED. IF THE FABRICATOR CHOOSES TO INCLUDE THESE STRANDS IN THE CORED SLAB UNIT, THE STRANDS SHALL BE DEBONDED FOR THE FULL LENGTH OF THE UNIT AT NO ADDITIONAL COST. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

DEBONDING LEGEND



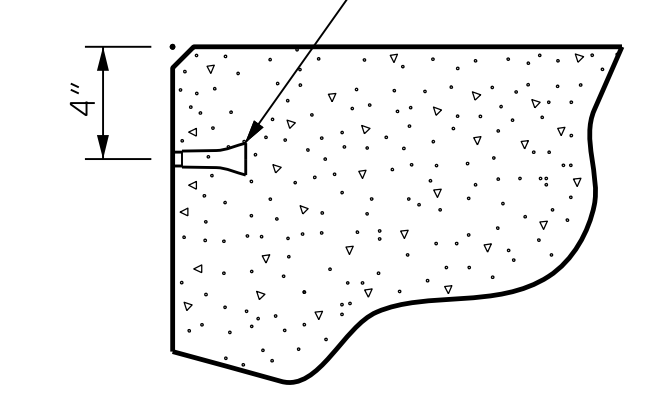
SHEAR KEY DETAIL

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

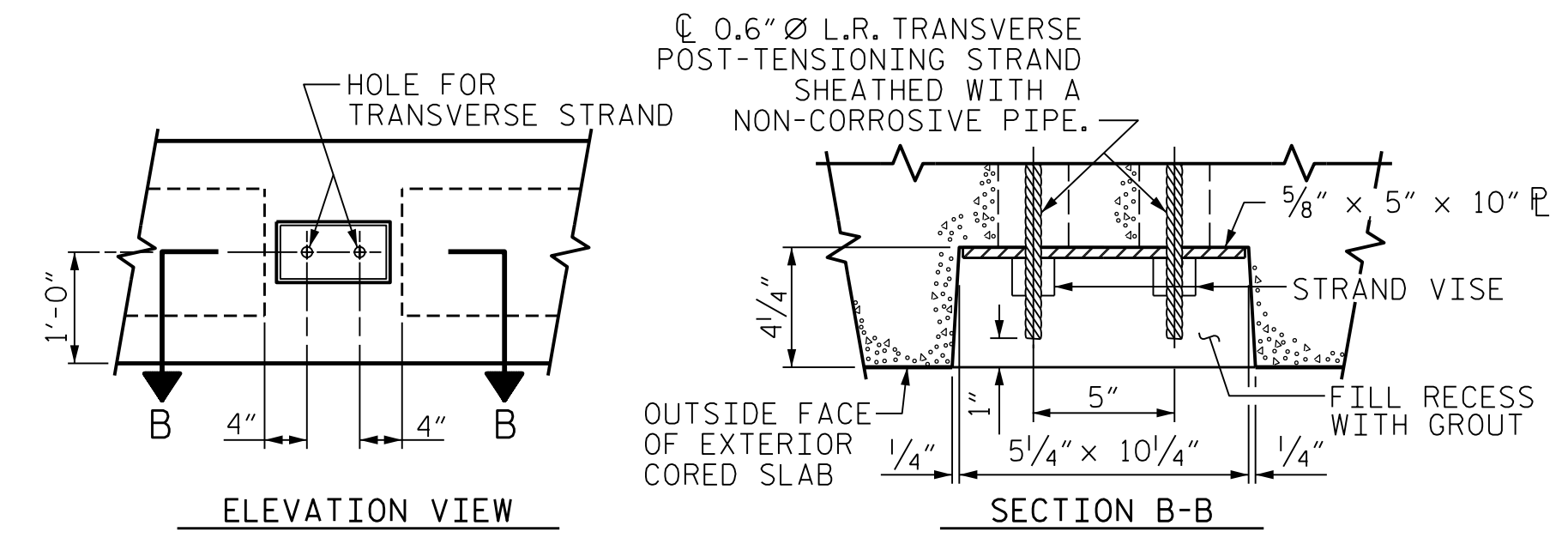


SECTION AT END BENT

PERMITTED THREADED INSERT CAST IN OUTSIDE FACE OF EXTERIOR UNIT AND RECESSED 3/8" SIZE TO BE DETERMINED BY CONTRACTOR.



THREADED INSERT DETAIL



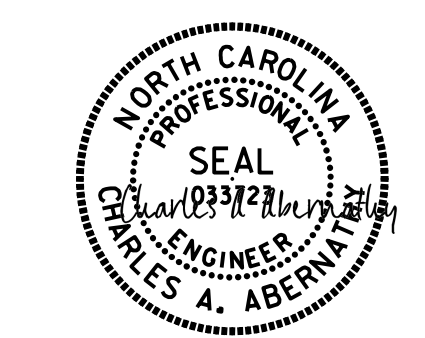
GRAUDED RECESS AT END OF POST-TENSIONED STRAND-CORED SLABS

PROJECT NO. DF18314.2044195
HAYWOOD COUNTY
 STATION: 13+39.86 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

3'-0" x 2'-0" PRESTR. CONC. CORED SLAB UNIT
 90° SKEW TYP. SECTION

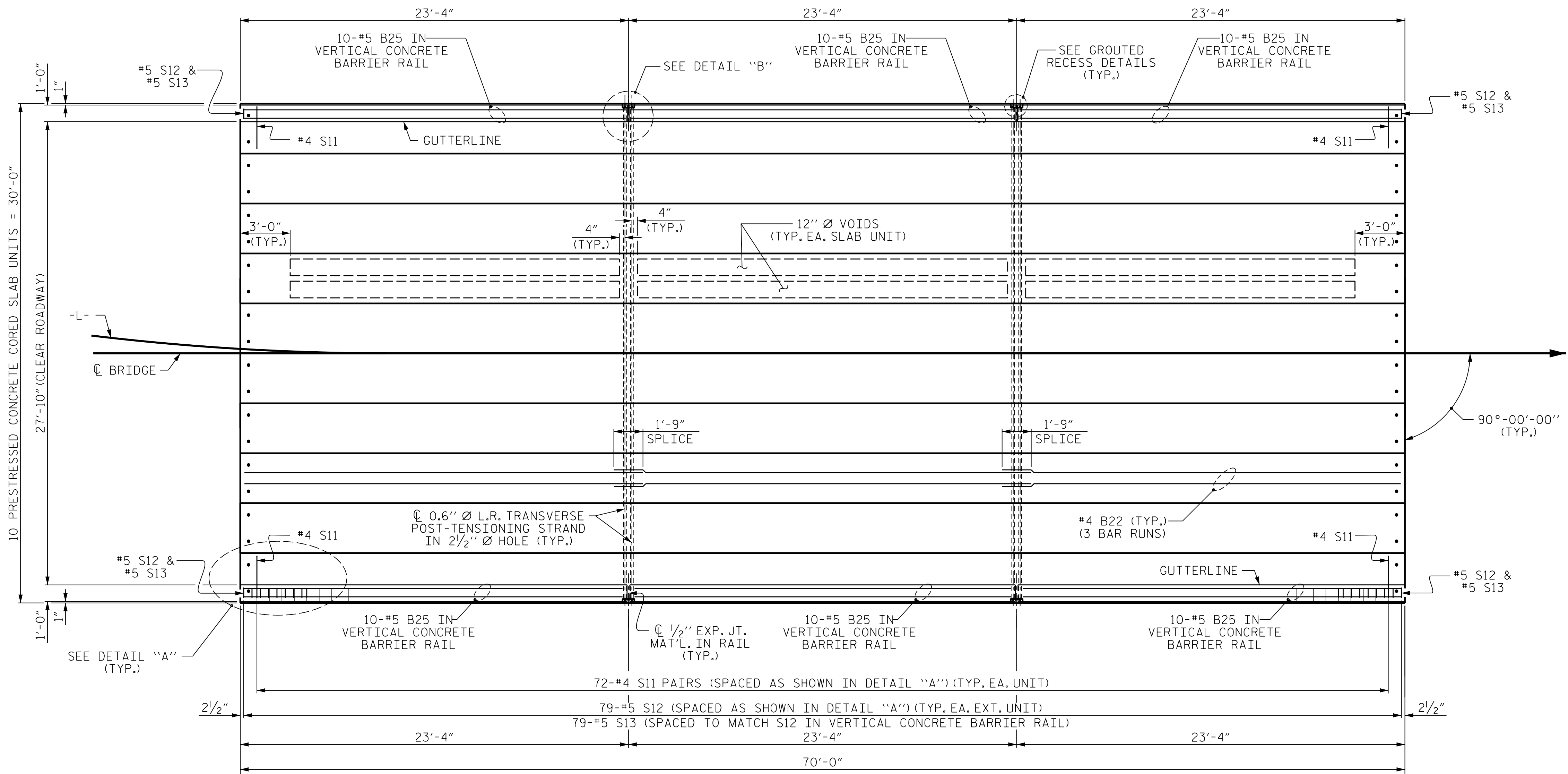


12/15/2025

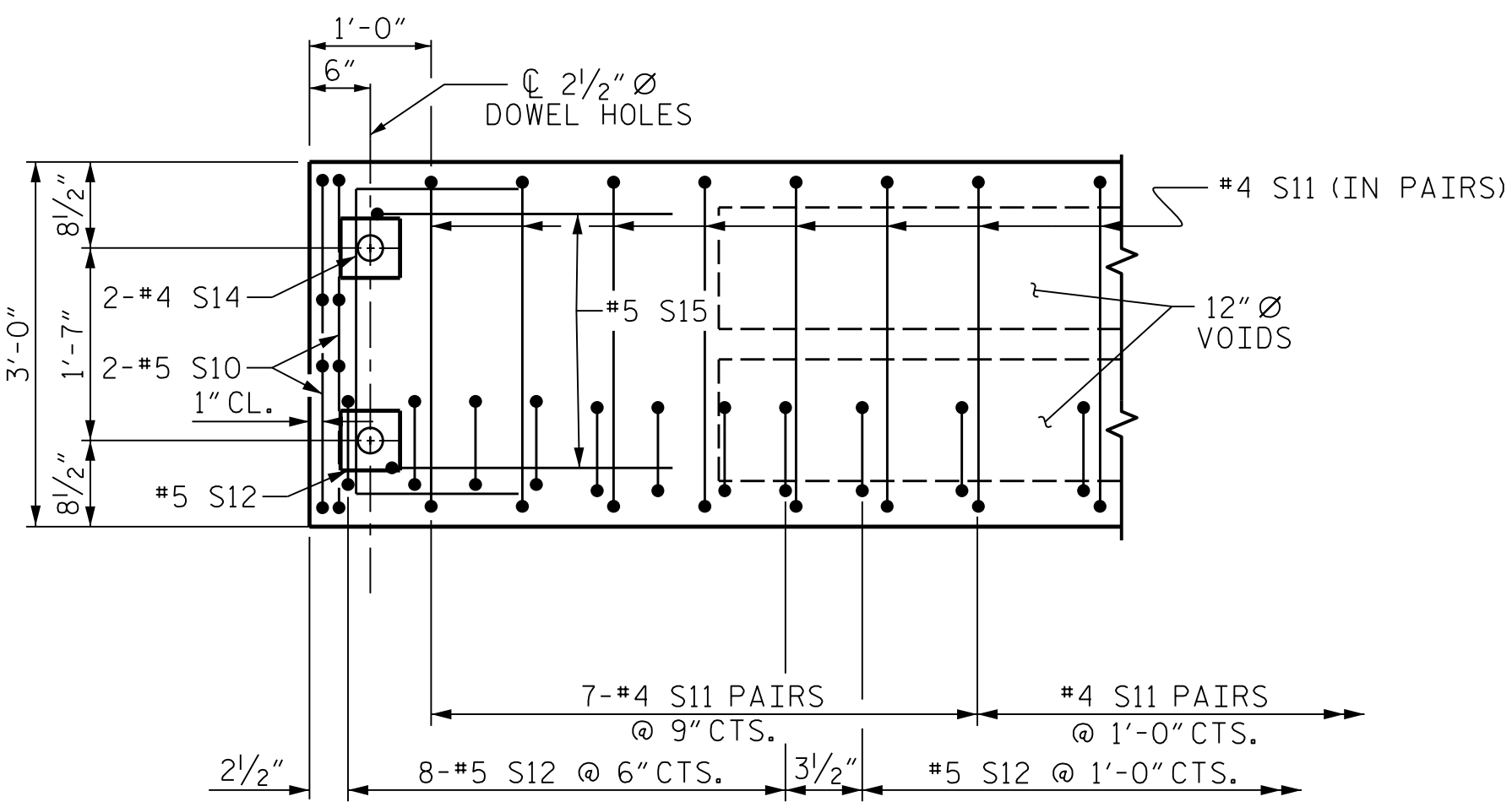
REVISIONS						SHEET NO. S-06 TOTAL SHEETS 18
NO.	BY:	DATE:	NO.	BY:	DATE:	
1	--	--	3	--	--	
2	--	--	4	--	--	

HDR HDR Engineering, Inc. of the Carolinas
 555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
 N.C.B.E.L.S. License Number: P-0116

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

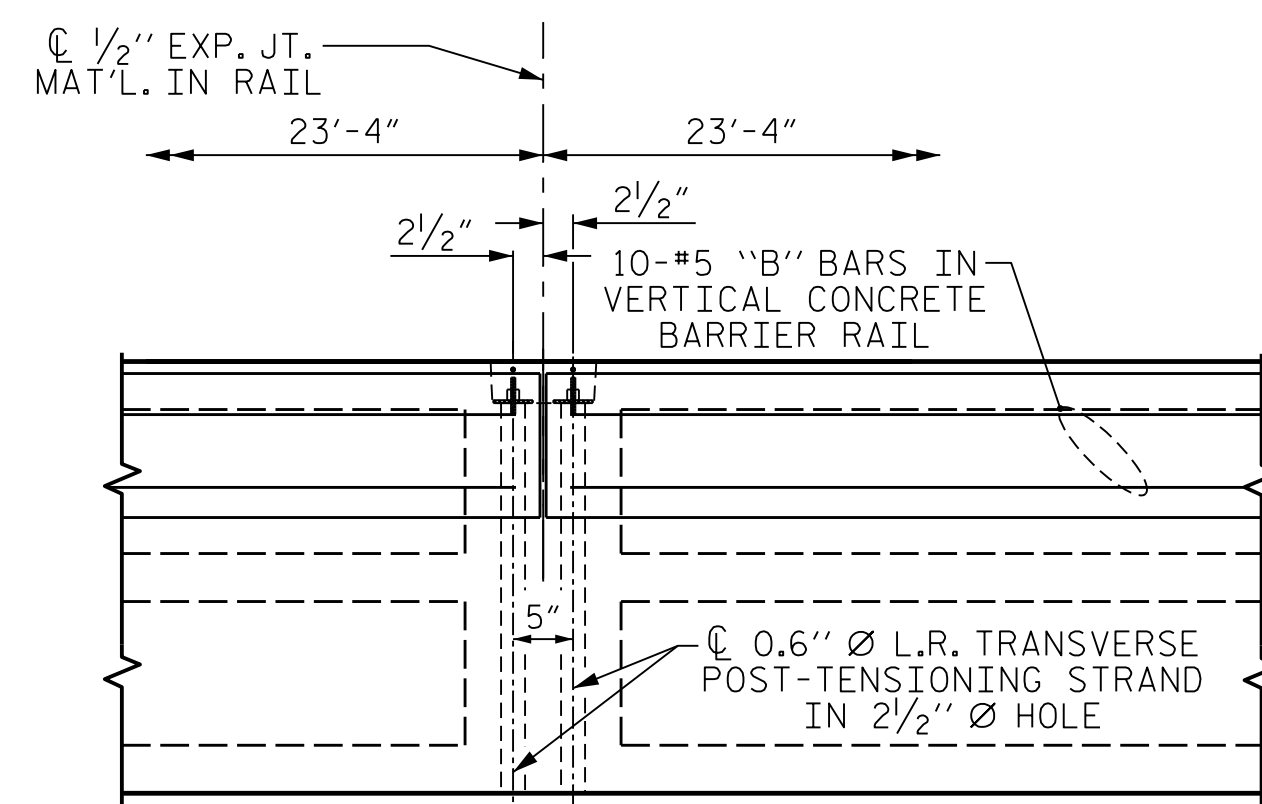


PLAN OF UNIT



DETAIL "A"

(TYPICAL EACH END OF UNIT)
 NOTE: EXTERIOR UNIT SHOWN - INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S12 BARS, AND 6" X 6" X 4 1/2" BLOCKOUT.



DETAIL "B"

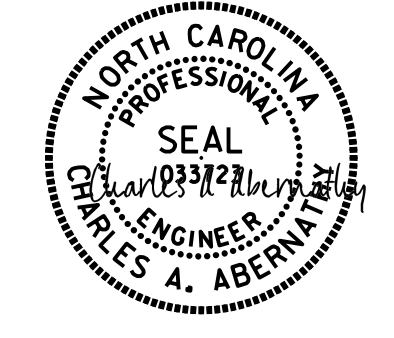
#4 S11 BARS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO GROUDED RECESS AND 2 1/2" Ø TRANSVERSE POST-TENSIONING STRAND HOLES

PROJECT NO. DF18314.2044195
HAYWOOD COUNTY
 STATION: 13+39.86 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF 70' UNIT
 27'-10" CLEAR ROADWAY
 90° SKEW**



12/15/2025

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

SHEET NO. S-07
 TOTAL SHEETS 18

HDR HDR Engineering, Inc. of the Carolinas
 555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
 N.C.B.E.L.S. License Number: F-0116

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

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DES BY: <u>D. MAST</u>	DATE: <u>03/25</u>	DWG BY: <u>B. PETERSON</u>	DATE: <u>03/25</u>
DES CHK: <u>A. ABERNATHY</u>	DATE: <u>03/25</u>	CHK BY: <u>D. MAST</u>	DATE: <u>03/25</u>

NOTES

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

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

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

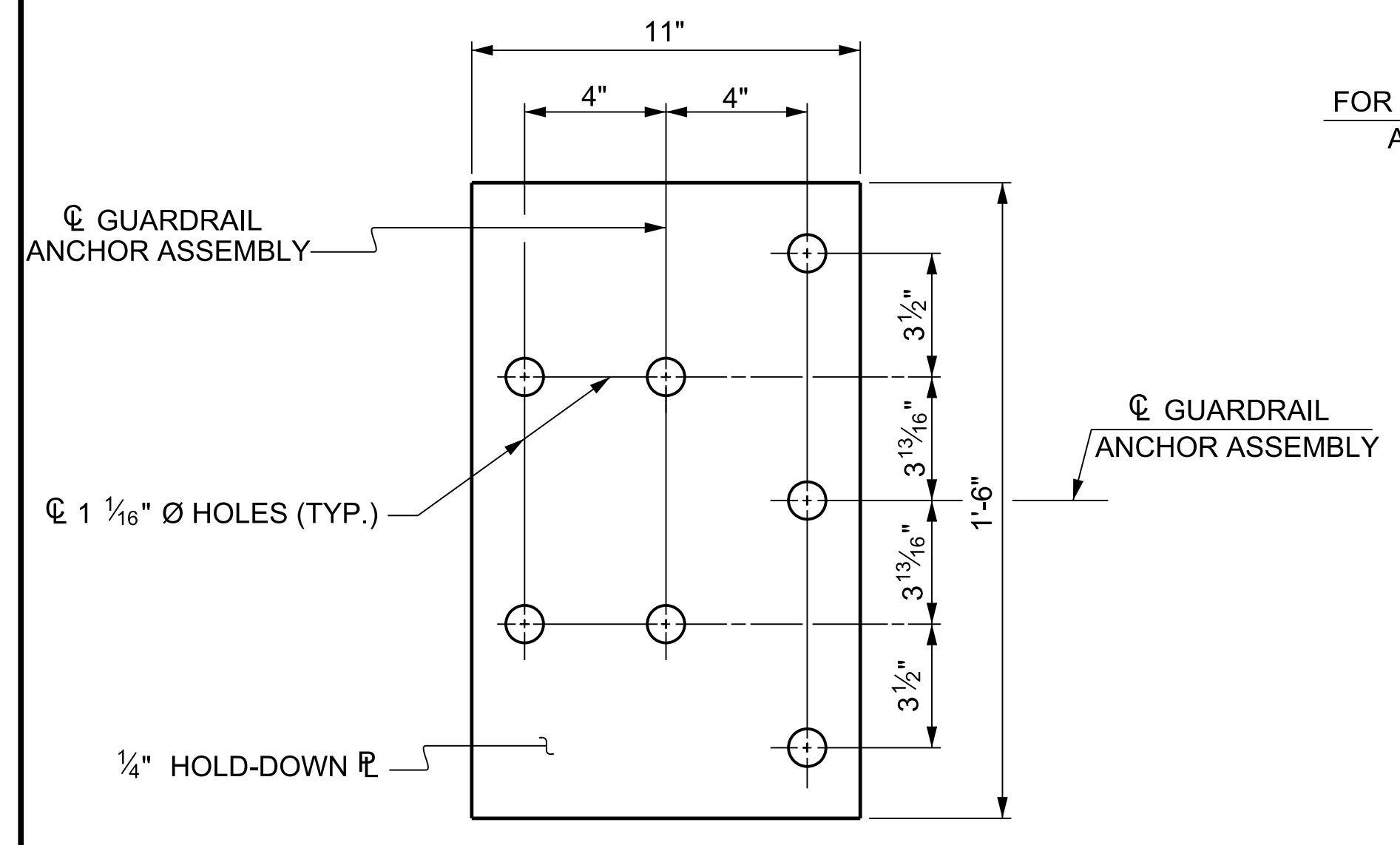
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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

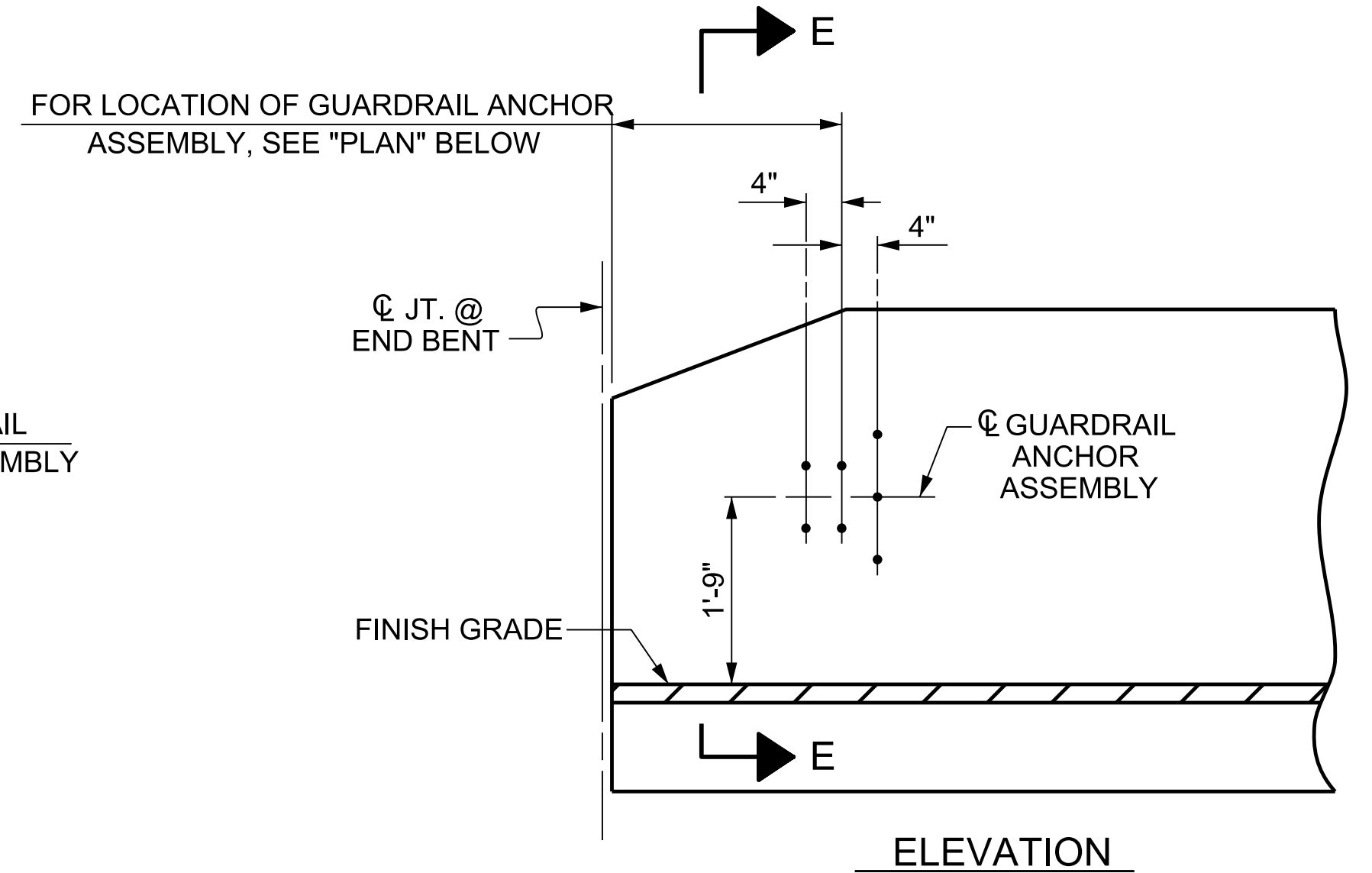
THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR VERTICAL CONCRETE BARRIER RAIL.

THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE VERTICAL CONCRETE BARRIER RAIL TO CLEAR ASSEMBLY BOLTS.

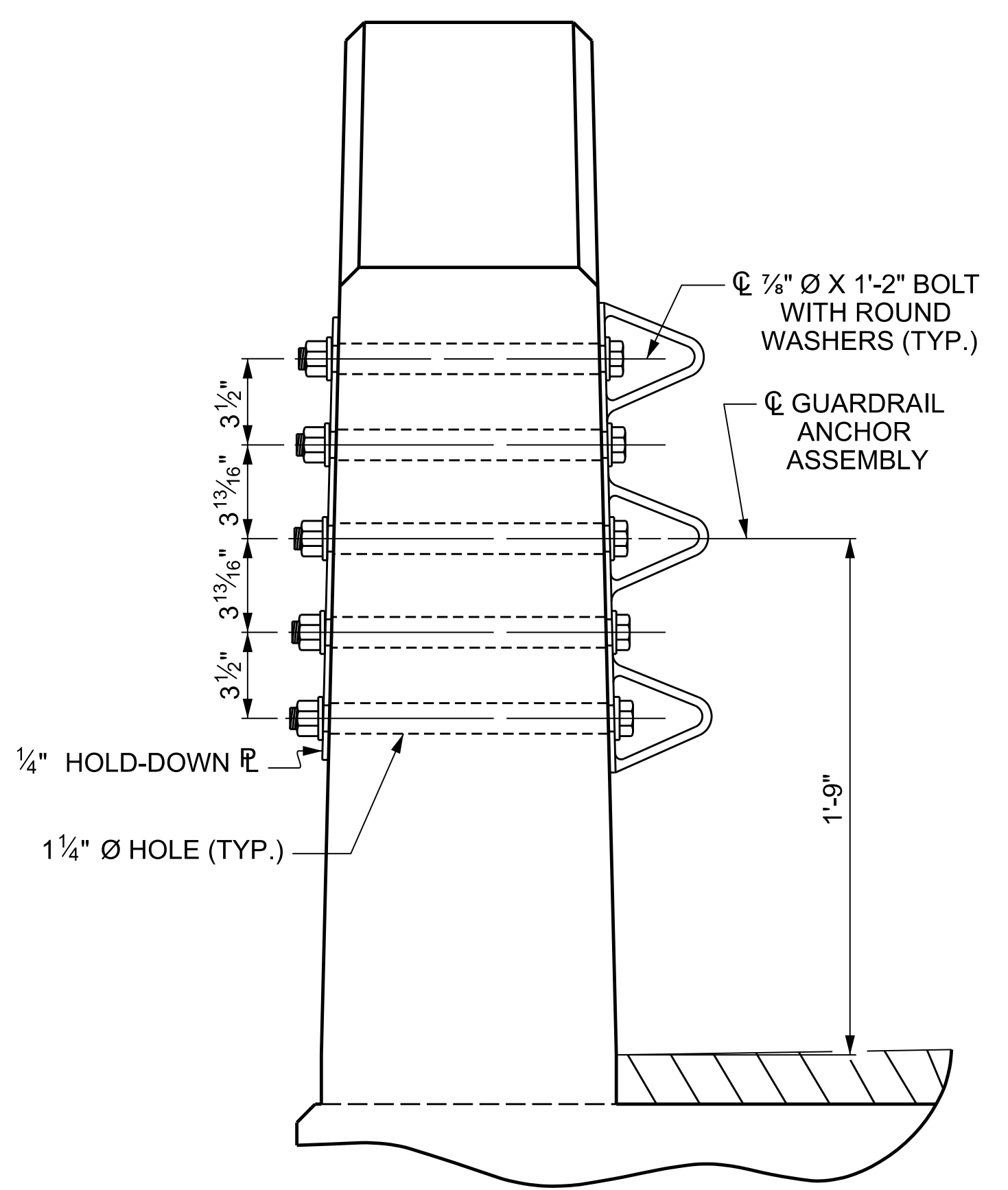
THE 1 1/4" Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.



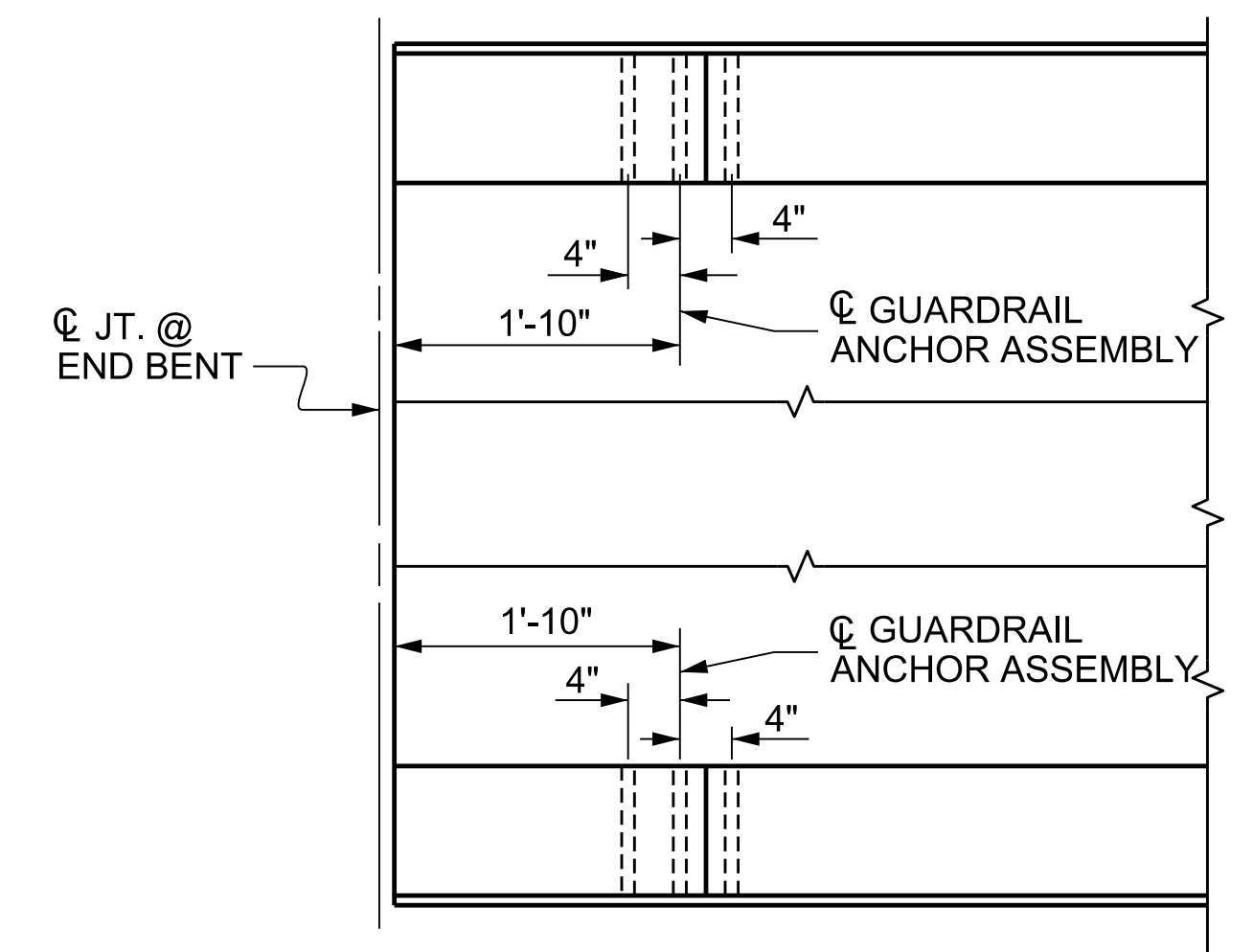
PLAN



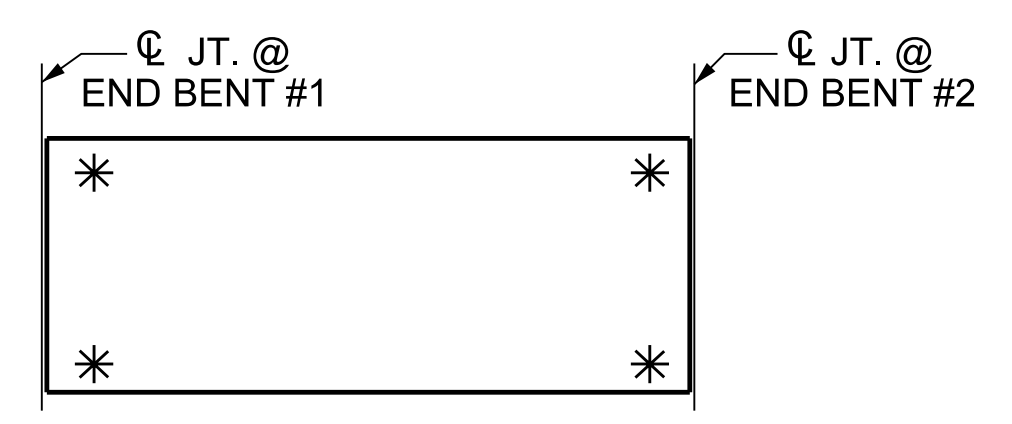
ELEVATION



**SECTION E-E
GUARDRAIL ANCHOR ASSEMBLY DETAILS**



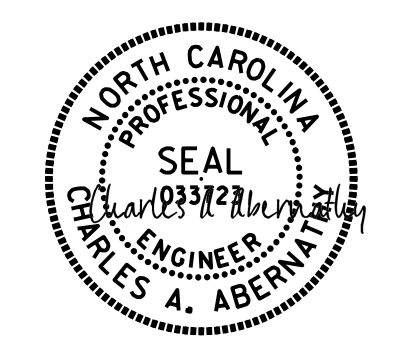
**PLAN
LOCATION OF ANCHORS FOR GUARDRAIL**



SKETCH SHOWING POINTS OF ATTACHMENT

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. DF18314.2044195
HAYWOOD COUNTY
 STATION: 13+39.86 -L-



12/15/2025

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**GUARDRAIL ANCHORAGE
 DETAILS FOR VERTICAL
 CONCRETE BARRIER RAIL**

REVISIONS						SHEET NO. S-09
NO.	BY:	DATE:	NO.	BY:	DATE:	
1	--	--	3	--	--	TOTAL SHEETS 18
2	--	--	4	--	--	



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

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DES BY: <u>D. MAST</u>	DATE: <u>03/25</u>	DWG BY: <u>B. PETERSON</u>	DATE: <u>03/25</u>
DES CHK: <u>A. ABERNATHY</u>	DATE: <u>03/25</u>	CHK BY: <u>D. MAST</u>	DATE: <u>03/25</u>

NOTES

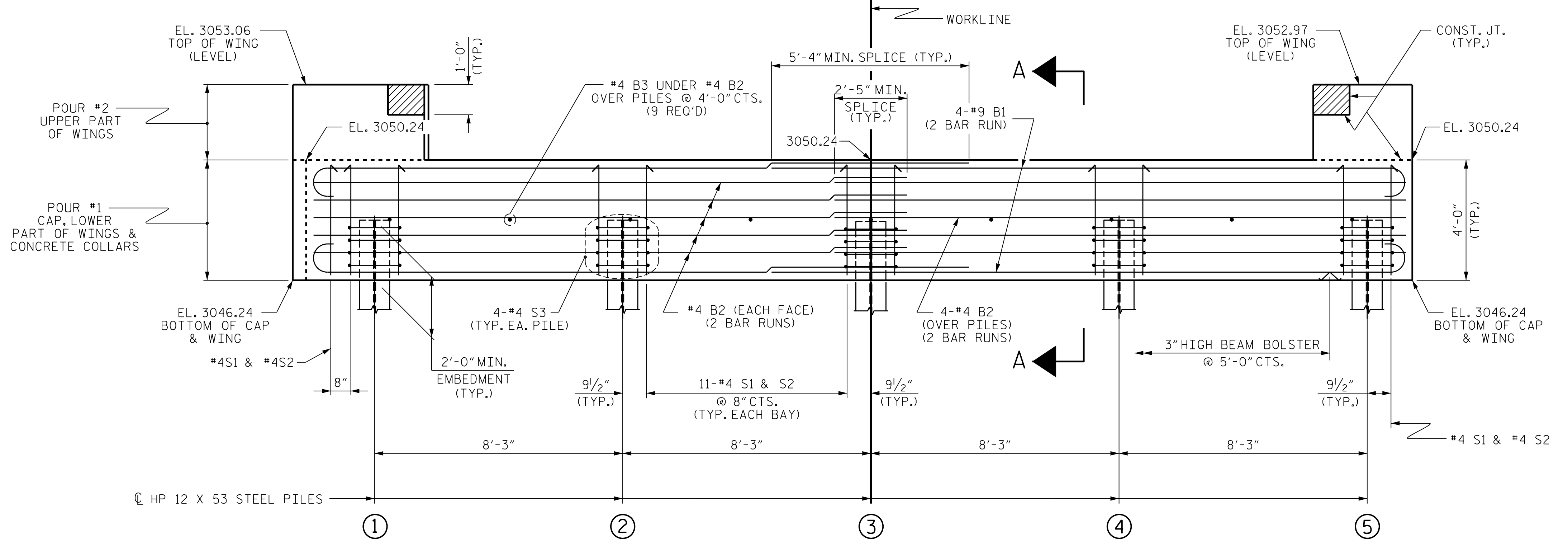
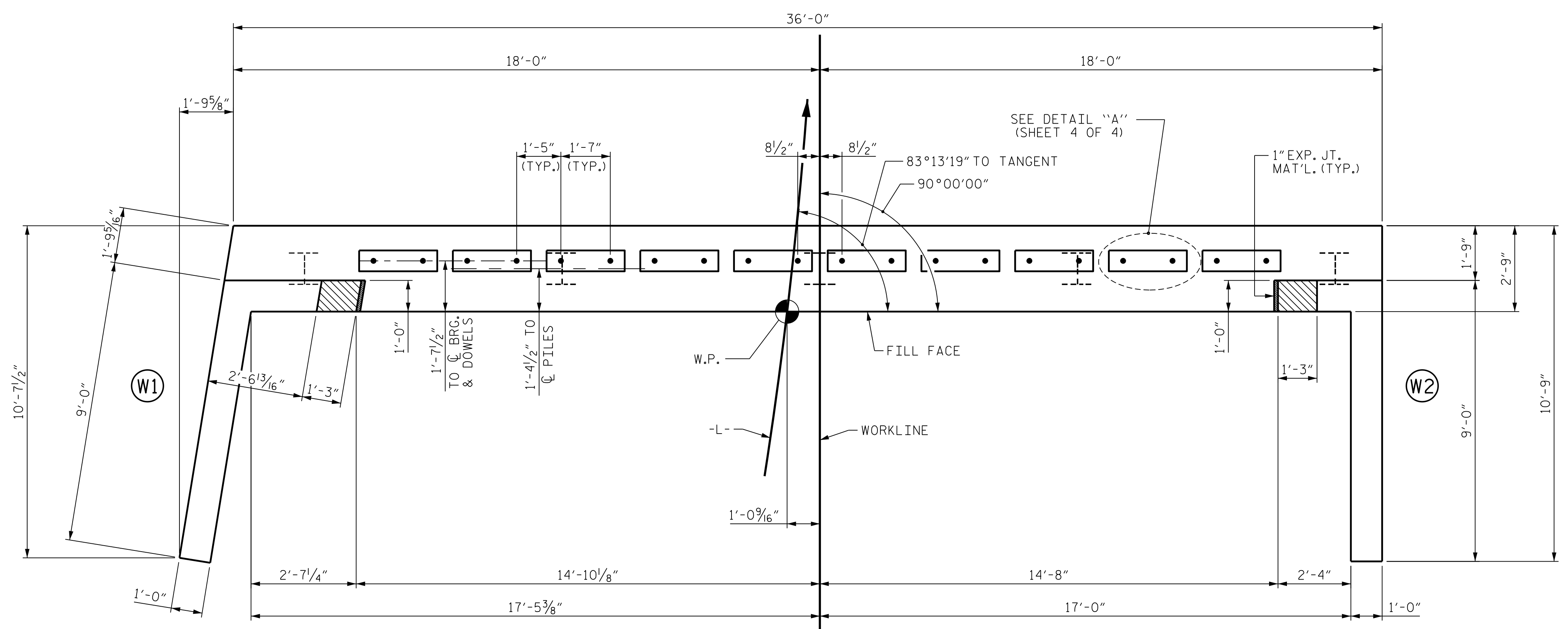
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.

THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

FOR PILE SPLICE DETAILS, SEE SHEET 3 OF 3.

FOR WING DETAILS, SEE SHEET 2 OF 3.

THE COST OF THE 7/8" Ø ANCHOR BOLTS, NUTS, WASHERS, AND PLATES CAST WITH THE END BENT CAP FOR EXTERIOR CORED SLAB UNITS SHALL BE INCLUDED IN THE CORED SLAB PAY ITEM.



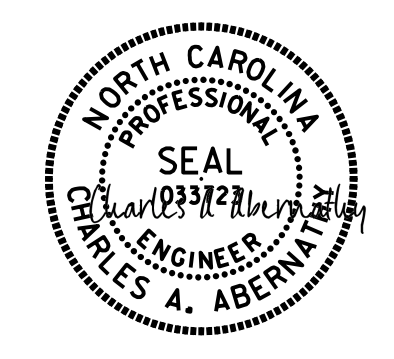
WINGS NOT SHOWN FOR CLARITY.
 FOR SECTION A-A, SEE SHEET 3 OF 3.
 CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY.
 SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 3 OF 3.

PROJECT NO. DF18314.2044195
HAYWOOD COUNTY
 STATION: 13+39.86 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

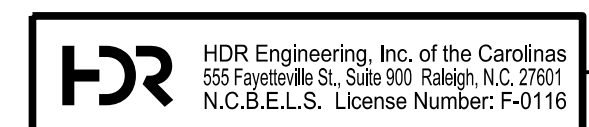
**SUBSTRUCTURE
 END BENT 1**



12/15/2025

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
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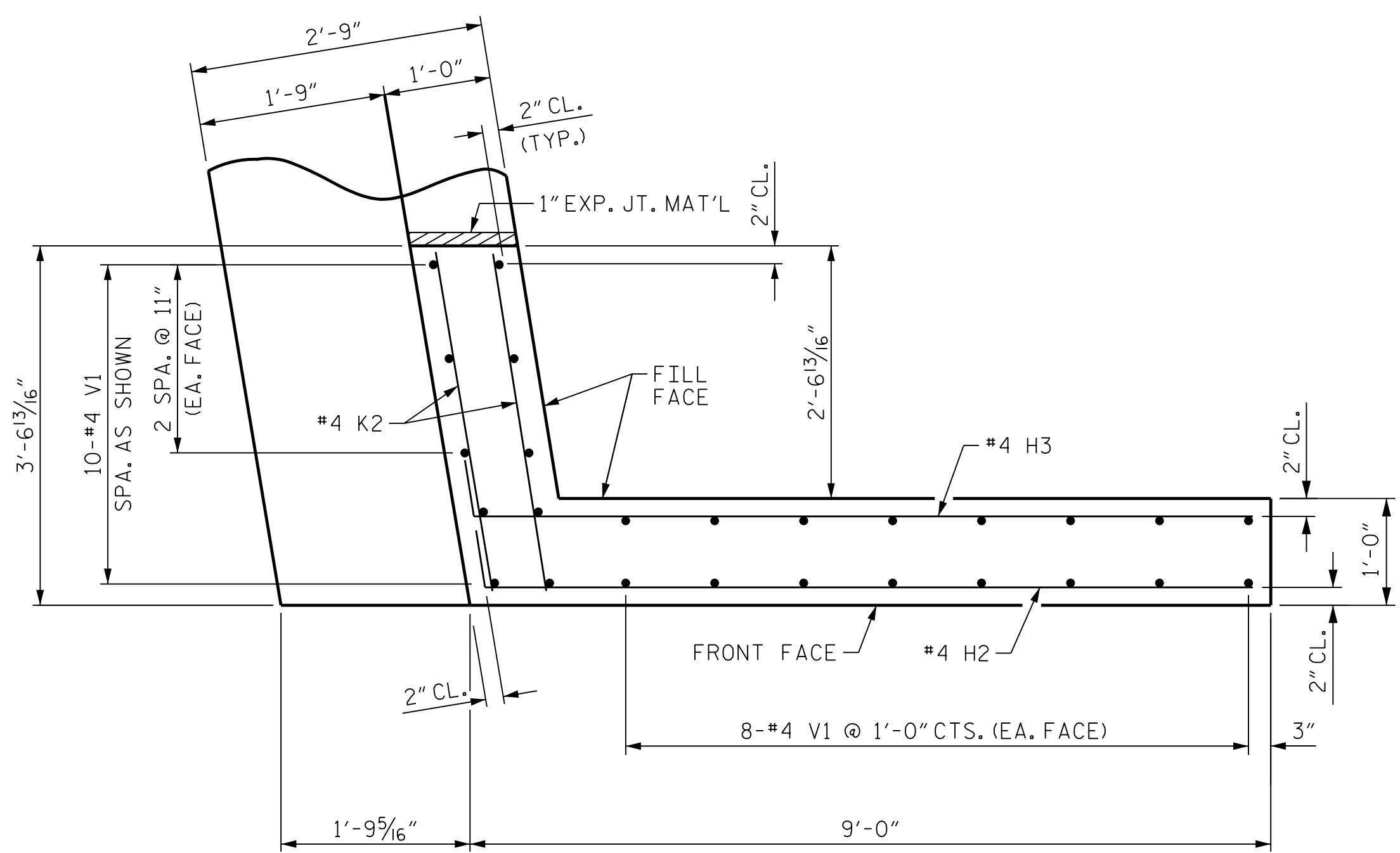
SHEET NO. S-10
 TOTAL SHEETS 18



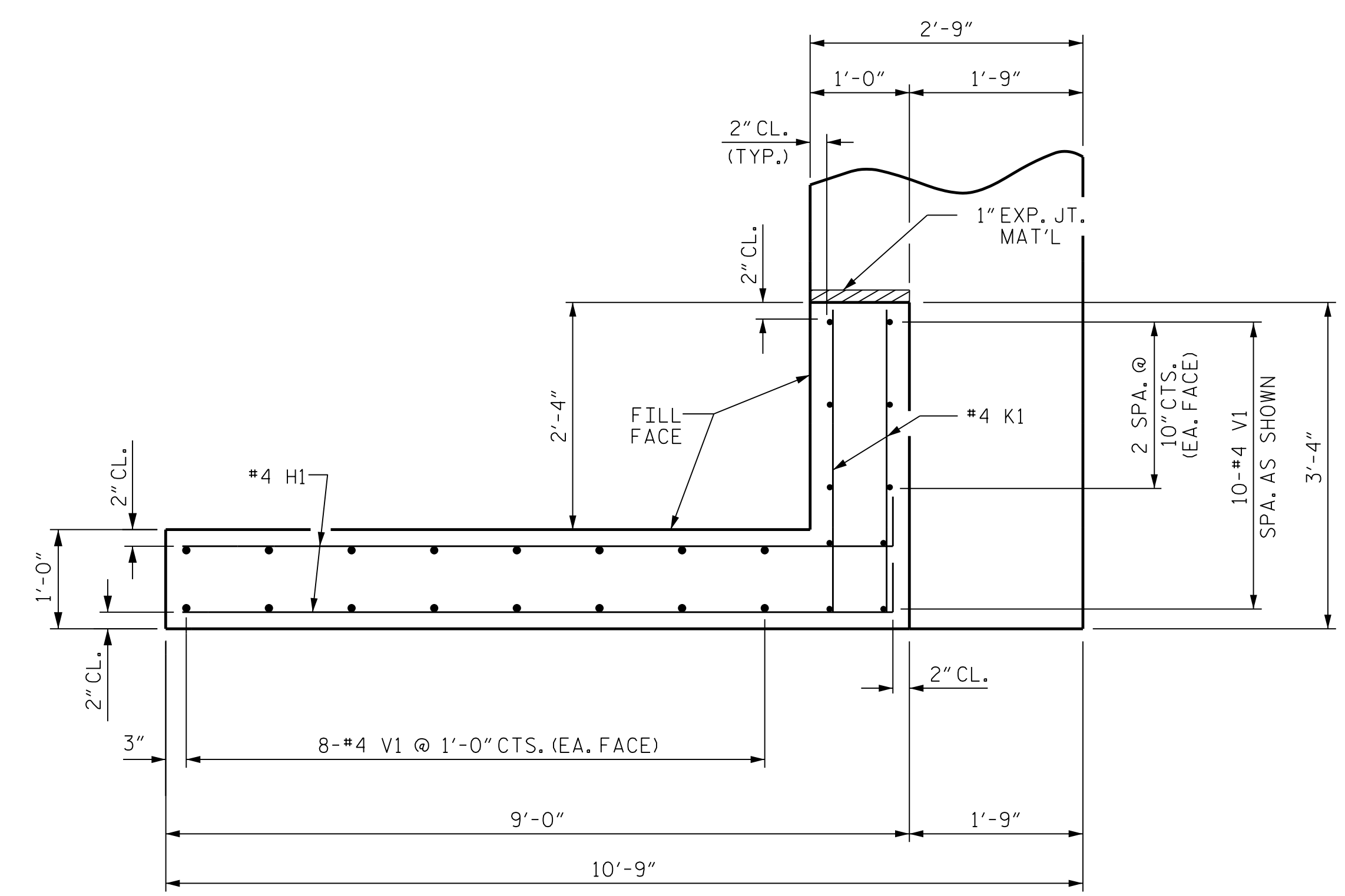
DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

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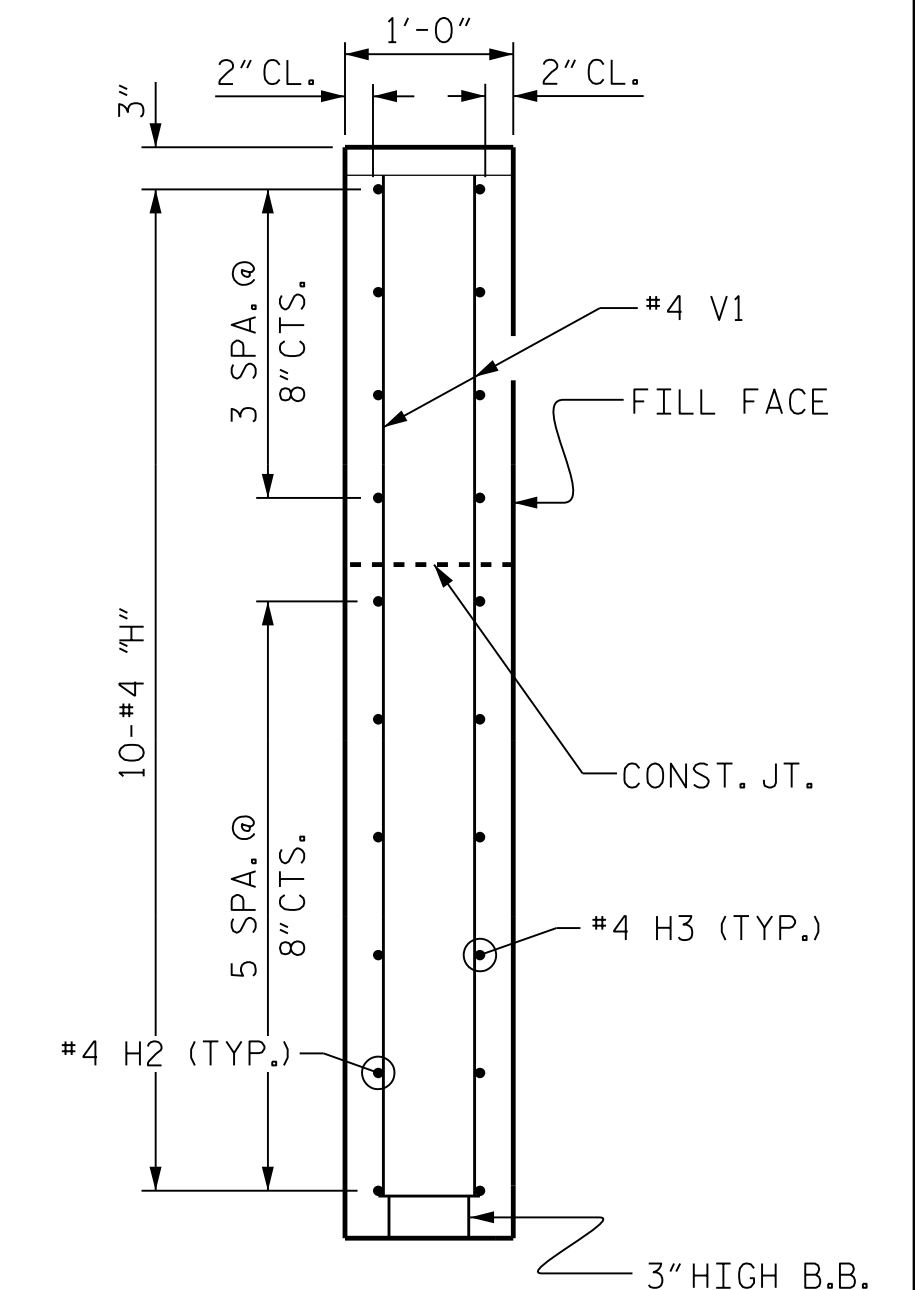
DES BY: <u>D. MAST</u>	DATE: <u>03/25</u>	DWG BY: <u>B. PETERSON</u>	DATE: <u>03/25</u>
DES CHK: <u>A. ABERNATHY</u>	DATE: <u>03/25</u>	CHK BY: <u>D. MAST</u>	DATE: <u>03/25</u>



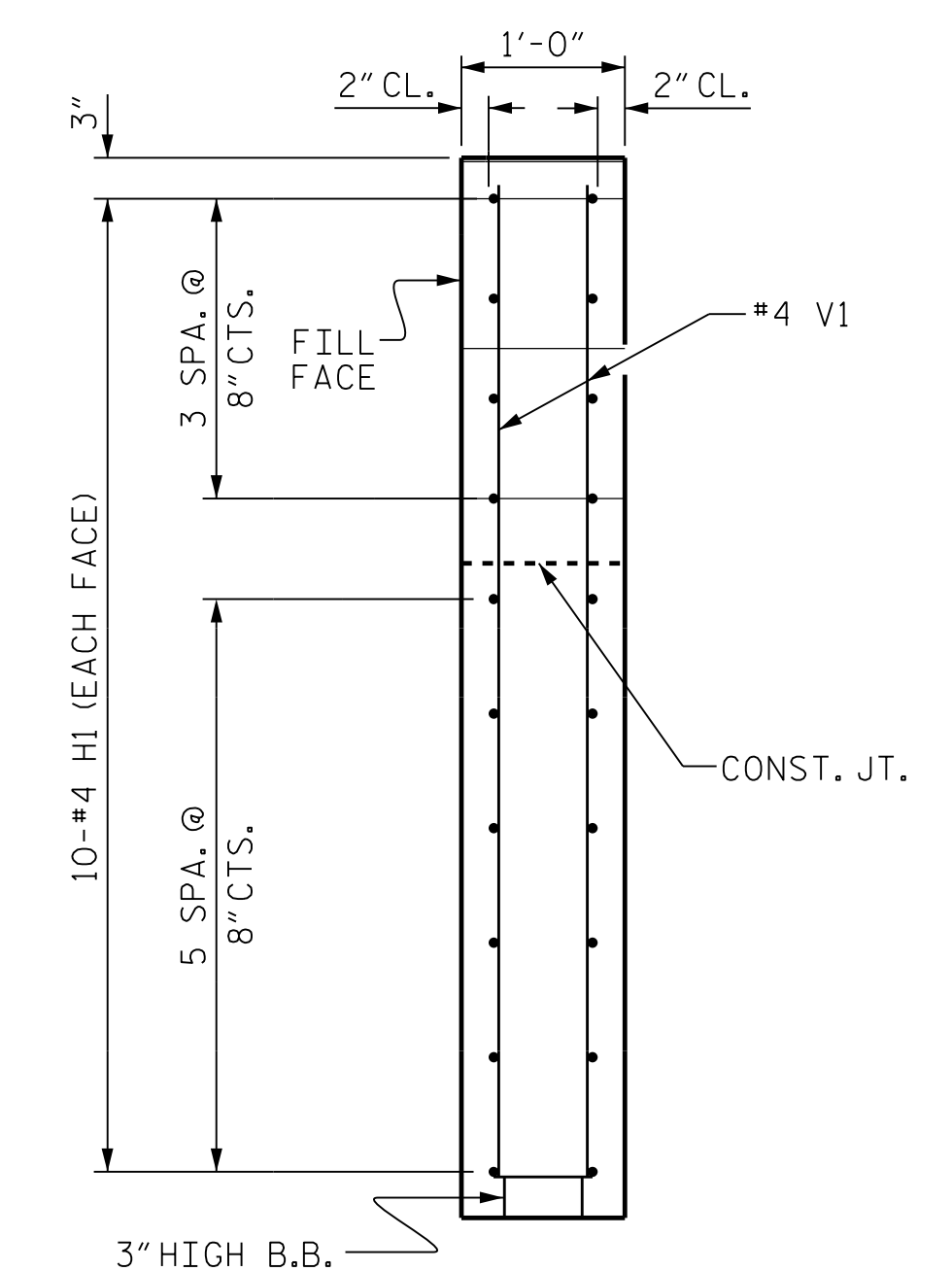
PLAN OF WING (W1)



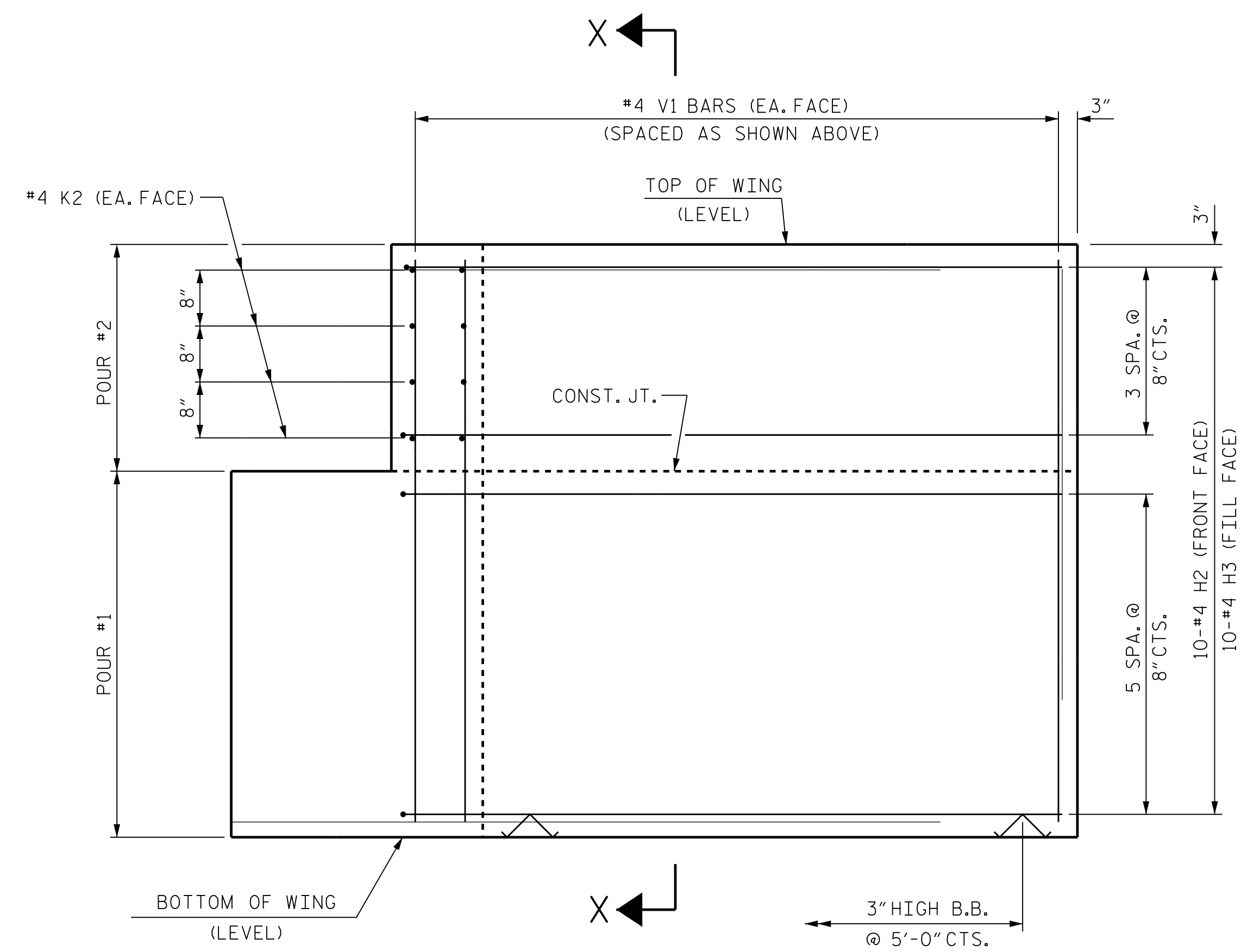
PLAN OF WING (W2)



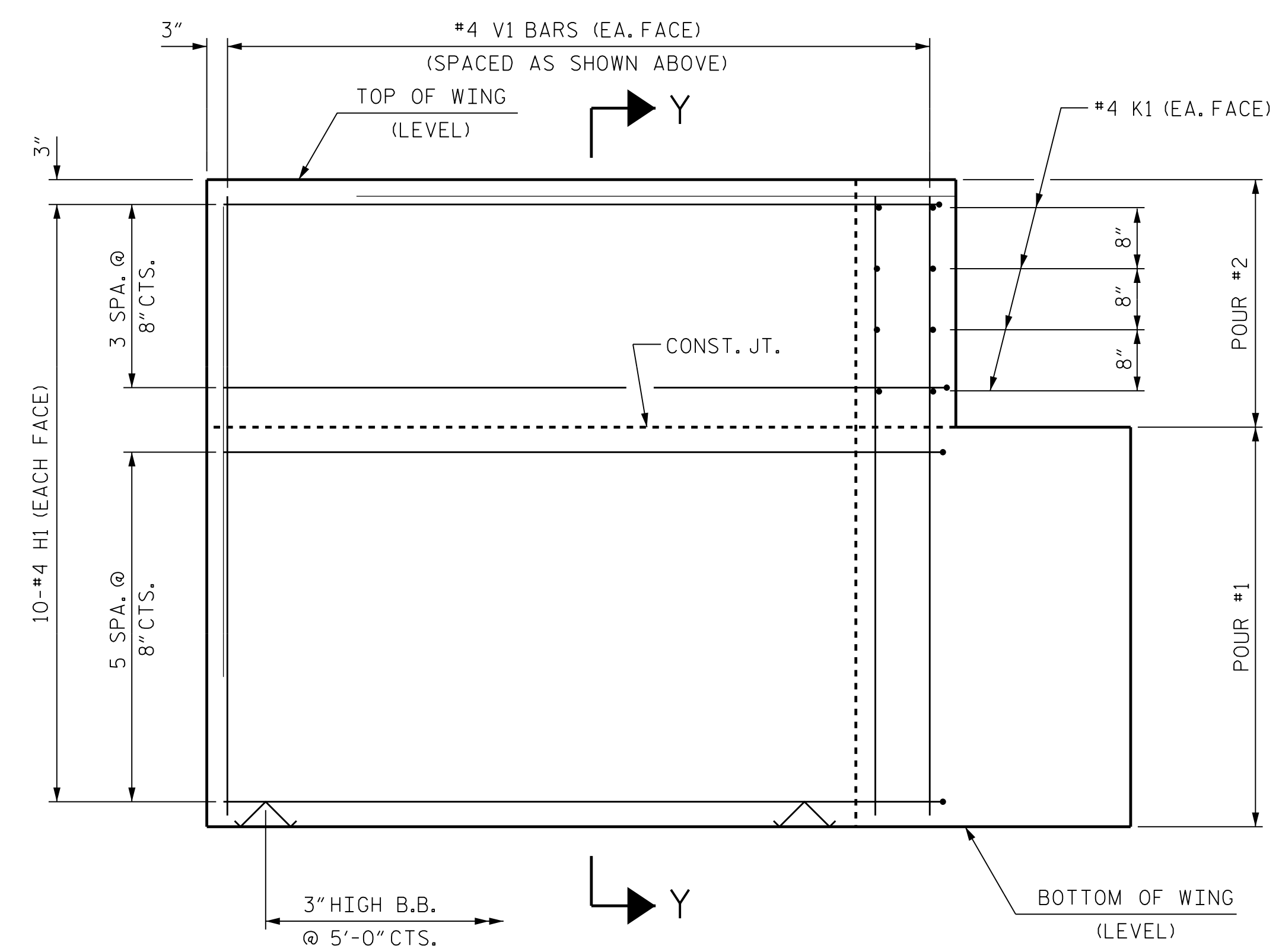
SECTION X-X



SECTION Y-Y



ELEVATION OF WING (W1)

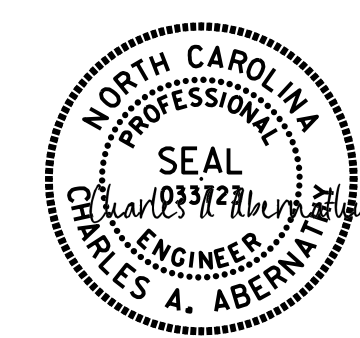


ELEVATION OF WING (W2)

WING DETAILS

PROJECT NO. DF18314.2044195
HAYWOOD COUNTY
 STATION: 13+39.86 -L-

SHEET 2 OF 3



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

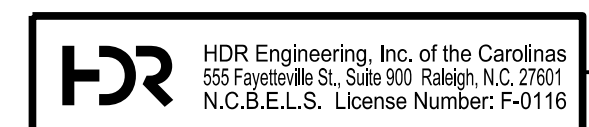
**SUBSTRUCTURE
 END BENT 1
 WING DETAILS**

REVISIONS					
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2	--	--	4	--	--

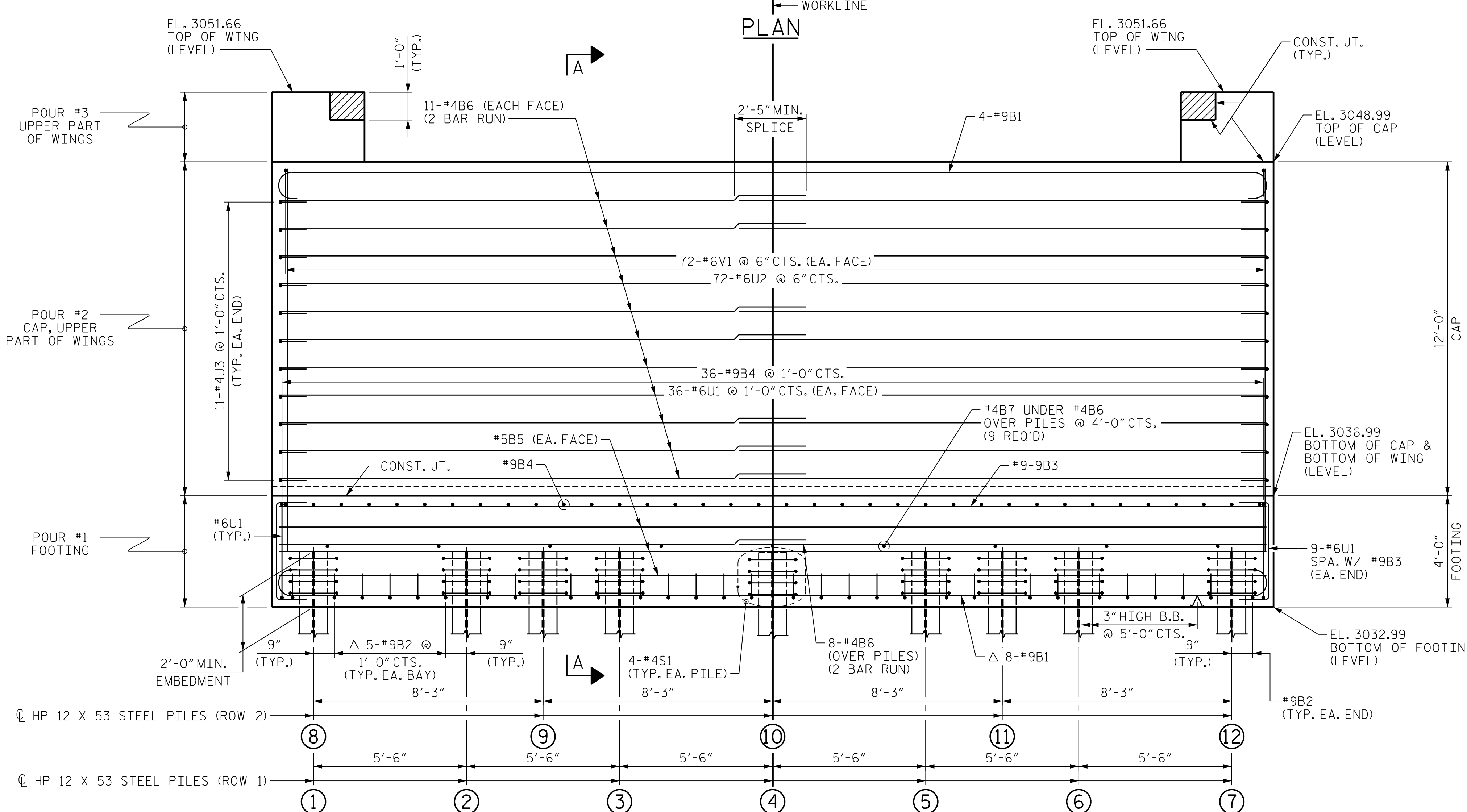
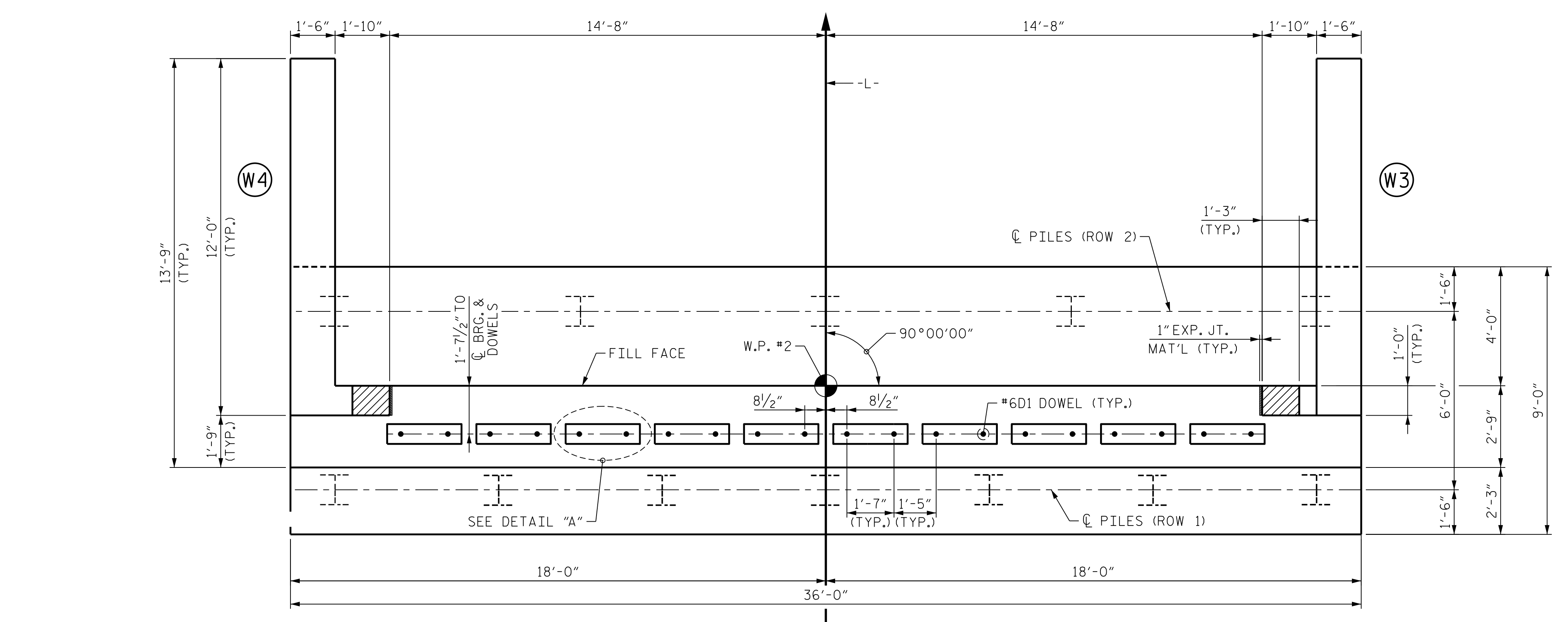
SHEET NO. S-11
 TOTAL SHEETS 18

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DES BY: D. MAST	DATE: 03/25	DWG BY: B. PETERSON	DATE: 03/25
DES CHK: A. ABERNATHY	DATE: 03/25	CHK BY: D. MAST	DATE: 03/25



12/15/2025
 DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



NOTES

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

THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

FOR DETAIL "A", SEE "SUBSTRUCTURE END BENT 1 DETAILS (SHEET 3 OF 3)".

FOR PILE SPLICE DETAILS, SEE "SUBSTRUCTURE END BENT 1 DETAILS (SHEET 3 OF 3)".

FOR WING DETAILS, SEE SHEET 2 OF 3.

INSTALL THE 6" Ø DRAIN PIPE THROUGH THE WINGWALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS, SEE ROADWAY PLANS. REINFORCING IN THE WINGWALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN.

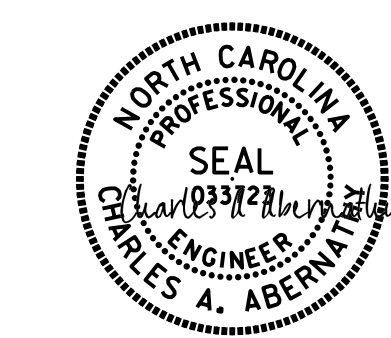
△ #9 "B" BARS MAY BE SHIFTED TO AVOID PILE CONFLICTS

PROJECT NO. DF18314.2044195
HAYWOOD COUNTY
 STATION: 13+39.86 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 END BENT 2**



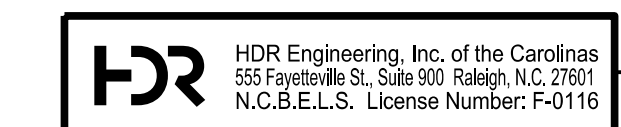
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2	--	--	4	--	--

SHEET NO. S-13
TOTAL SHEETS 18

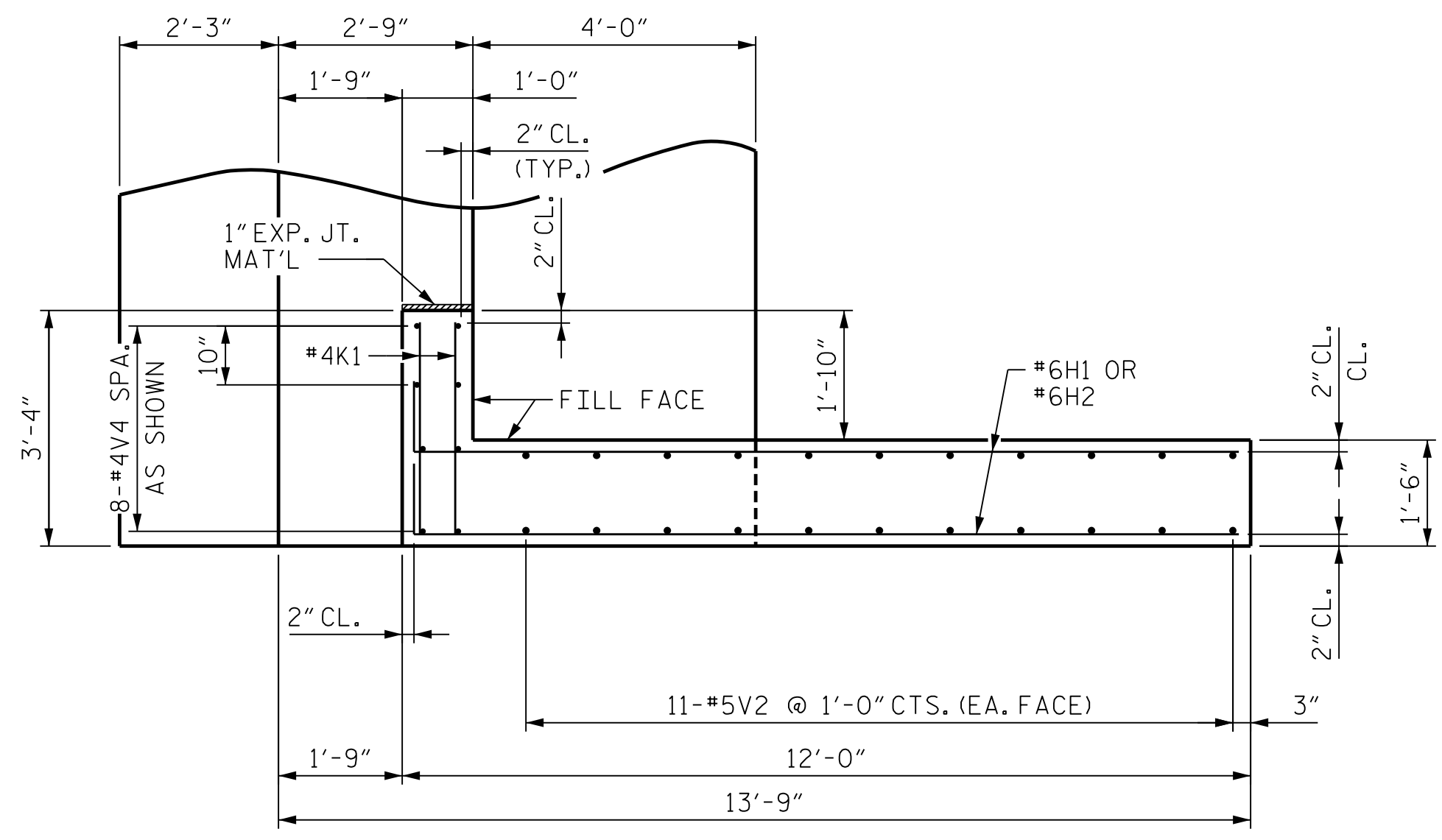
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 DES CHK: A. ABERNATHY DATE: 03/25 CHK BY: D. MAST DATE: 03/25

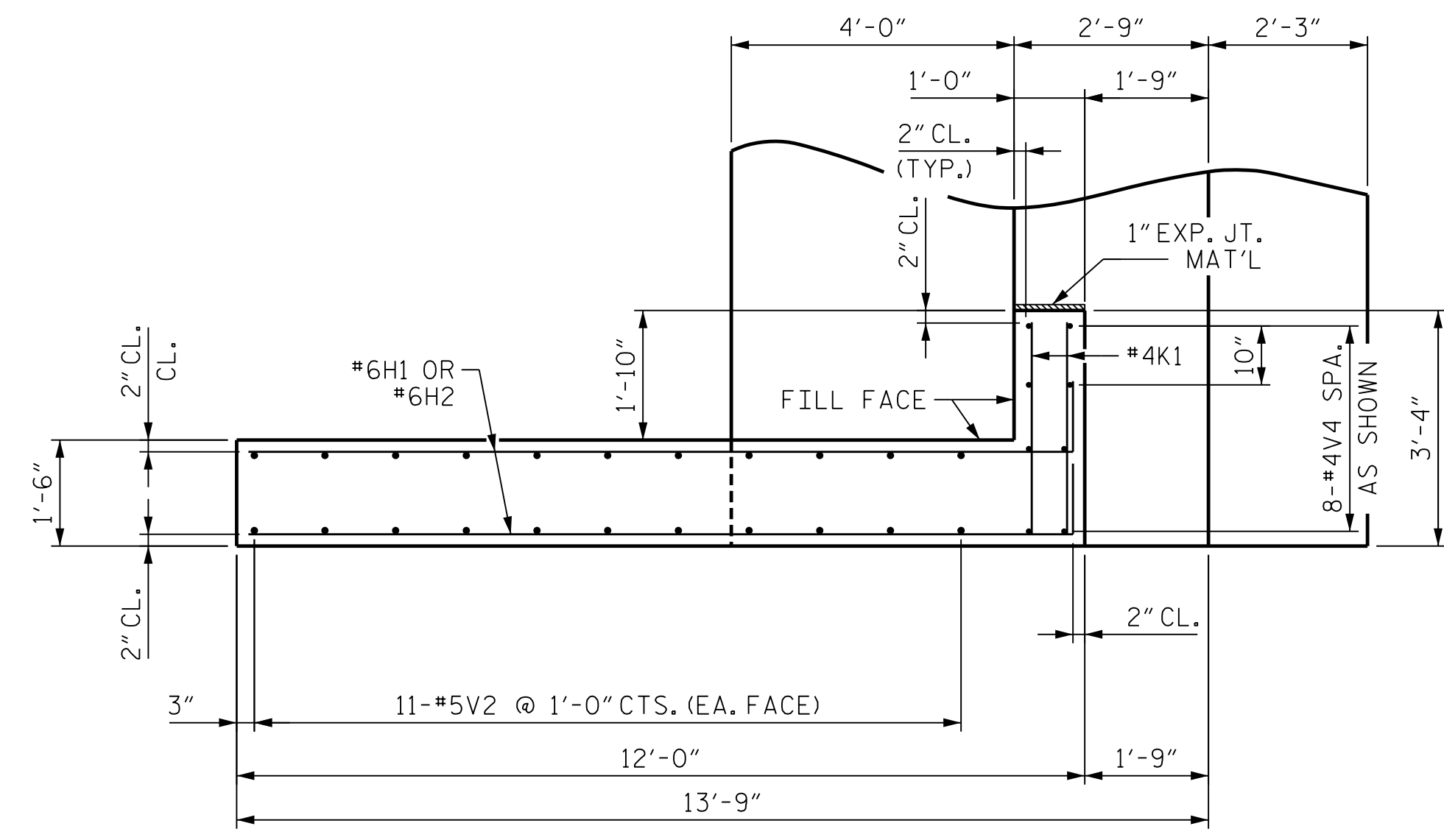
ELEVATION
 WINGS NOT SHOWN FOR CLARITY



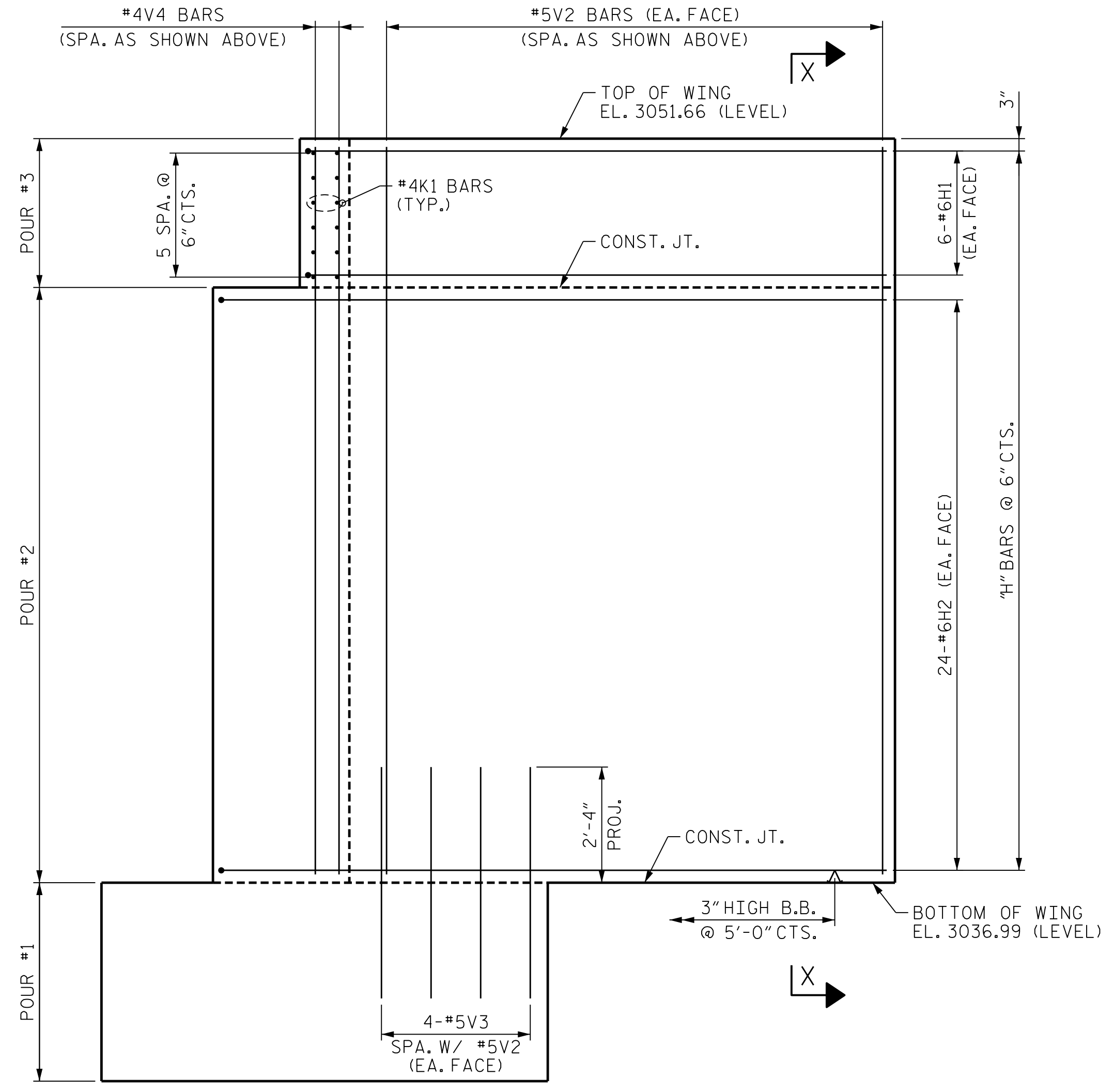
DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



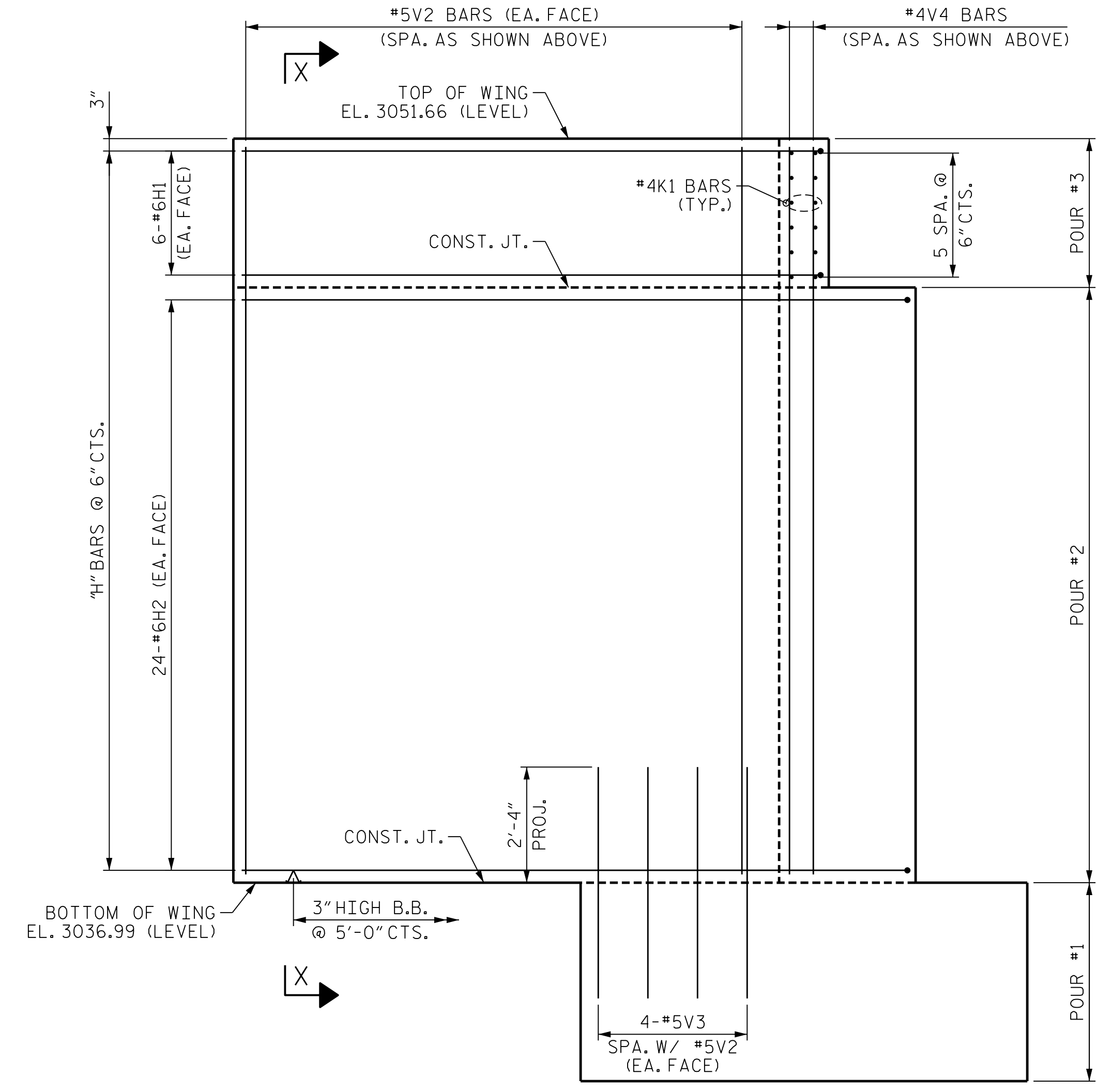
PLAN OF WING (W3)



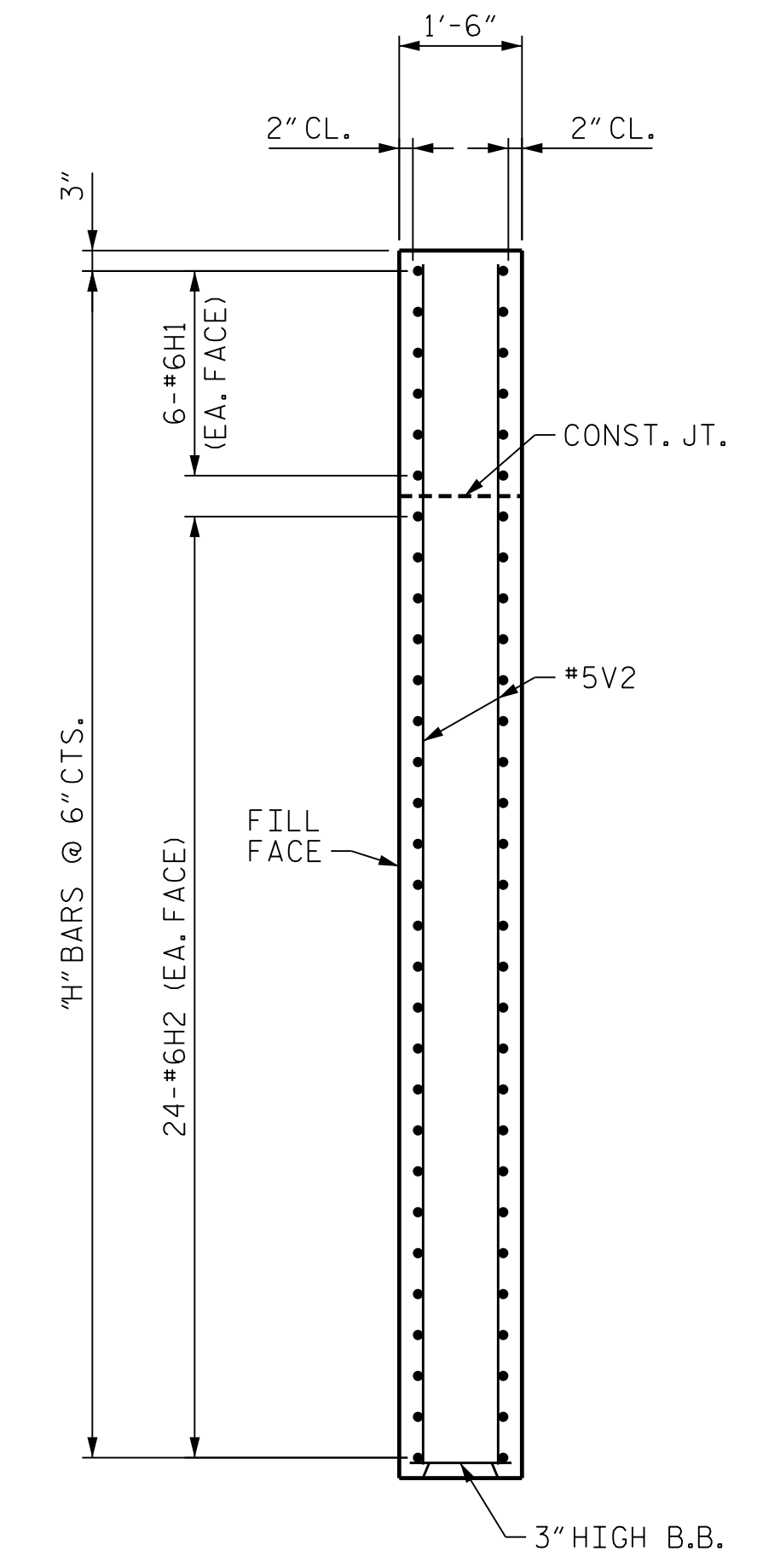
PLAN OF WING (W4)



ELEVATION OF WING (W3)



ELEVATION OF WING (W4)



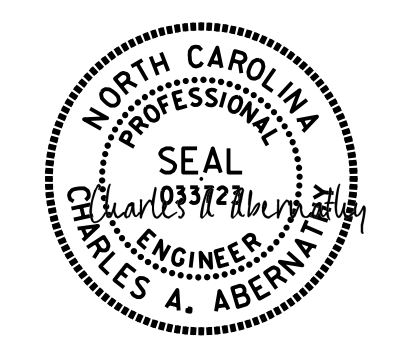
SECTION X-X

PROJECT NO. DF18314.2044195
HAYWOOD COUNTY
 STATION: 13+39.86 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 END BENT 2
 WING DETAILS**



12/15/2025

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	--	--	3	--	--
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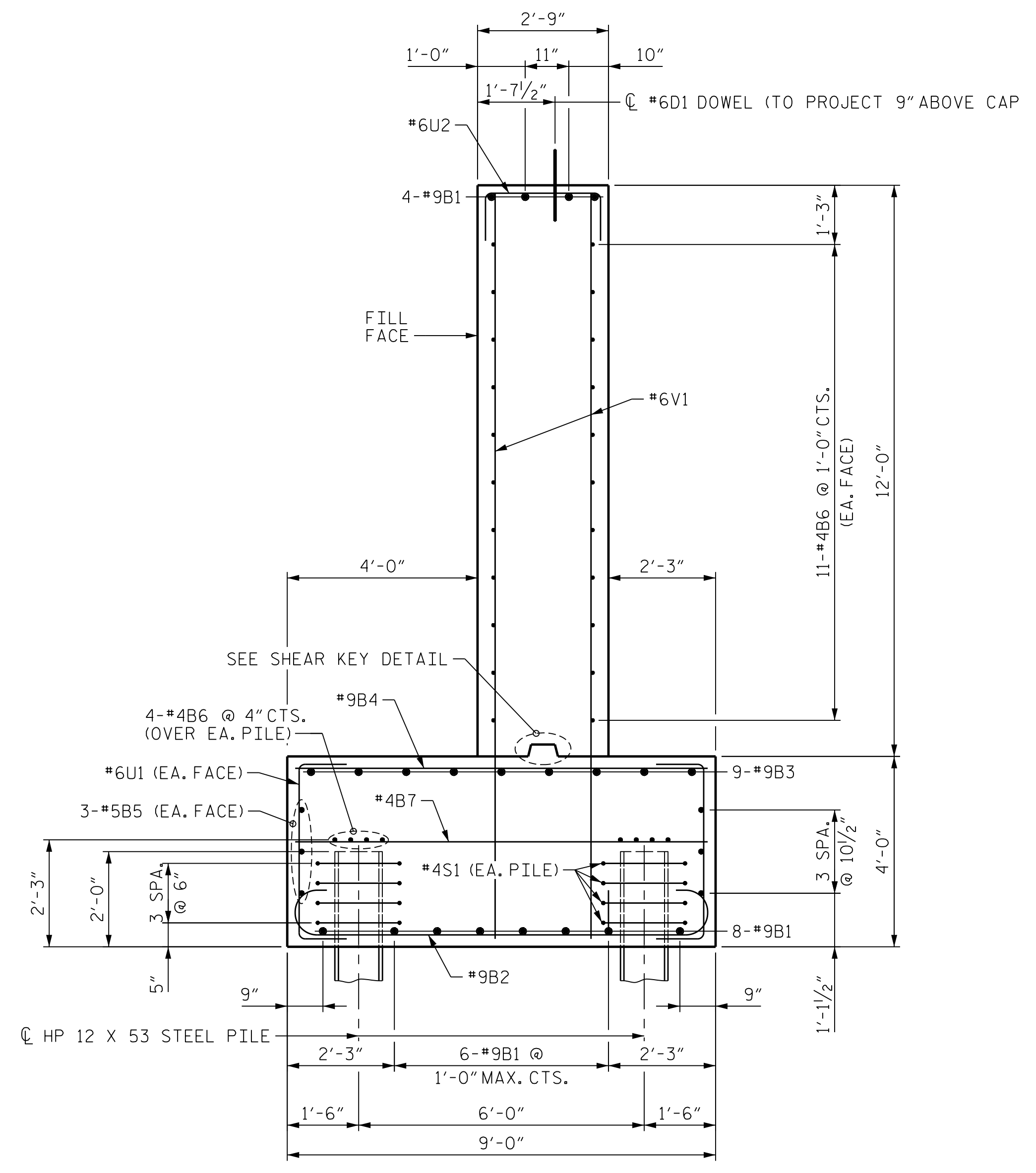
SHEET NO. S-14
 TOTAL SHEETS 18



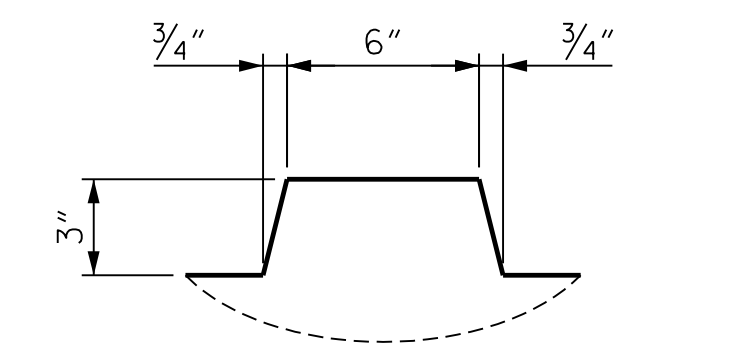
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 DWG BY: B. PETERSON DATE: 03/25
 CHK BY: D. MAST DATE: 03/25



SECTION A-A



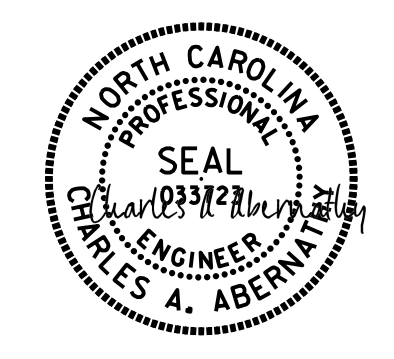
SHEAR KEY DETAIL

BAR TYPES						BILL OF MATERIAL FOR END BENT 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	12	#9	1	38'-0"	1551	D1	20	#6	STR.	1'-6"	46
B2	32	#9	1	11'-0"	1197	H1	24	#6	6	12'-8"	457
B3	9	#9	STR.	35'-8"	1092	H2	96	#6	6	14'-5"	2079
B4	36	#9	STR.	8'-8"	1061	K1	24	#4	STR.	3'-0"	49
B5	12	#5	STR.	35'-8"	447	S1	48	#4	5	6'-6"	209
B6	60	#4	STR.	19'-1"	765	U1	54	#6	3	5'-7"	453
B7	9	#4	STR.	8'-8"	53	U2	72	#6	3	4'-5"	478
						U3	22	#4	3	3'-9"	56
						V1	144	#6	STR.	15'-7"	3371
						V2	44	#5	STR.	14'-3"	654
						V3	16	#5	STR.	4'-8"	78
						V4	16	#4	STR.	14'-3"	153
REINFORCING STEEL											14240 LBS.
CLASS A CONCRETE BREAKDOWN											
POUR #1 FOOTING											48.0 C.Y.
POUR #2 CAP & LOWER PART OF WINGS											58.7 C.Y.
POUR #3 UPPER PART OF WINGS											3.9 C.Y.
TOTAL CLASS A CONCRETE											110.6 C.Y.

NOTE
FOR COMMON END BENT DETAILS, SEE "SUBSTRUCTURE END BENT 1 DETAILS (SHEET 3 OF 3)."

PROJECT NO. DF18314.2044195
HAYWOOD COUNTY
 STATION: 13+39.86 -L-

SHEET 3 OF 3

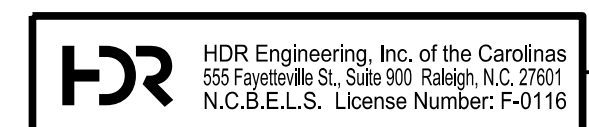


12/15/2025

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT 2
 DETAILS

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	NO.	DATE:
1	--	--	3	--	--	5-15	
2	--	--	4	--	--	TOTAL SHEETS	18

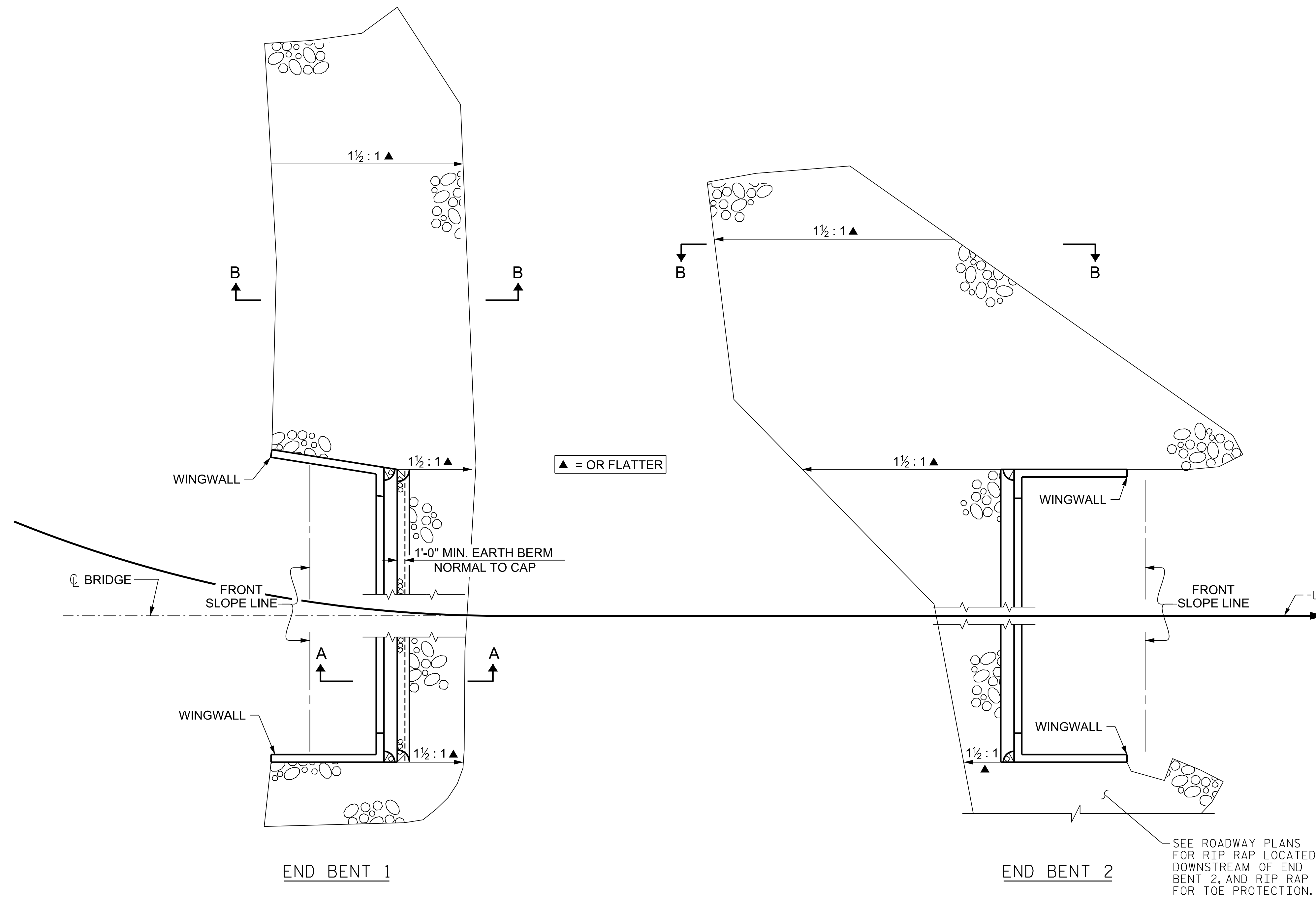


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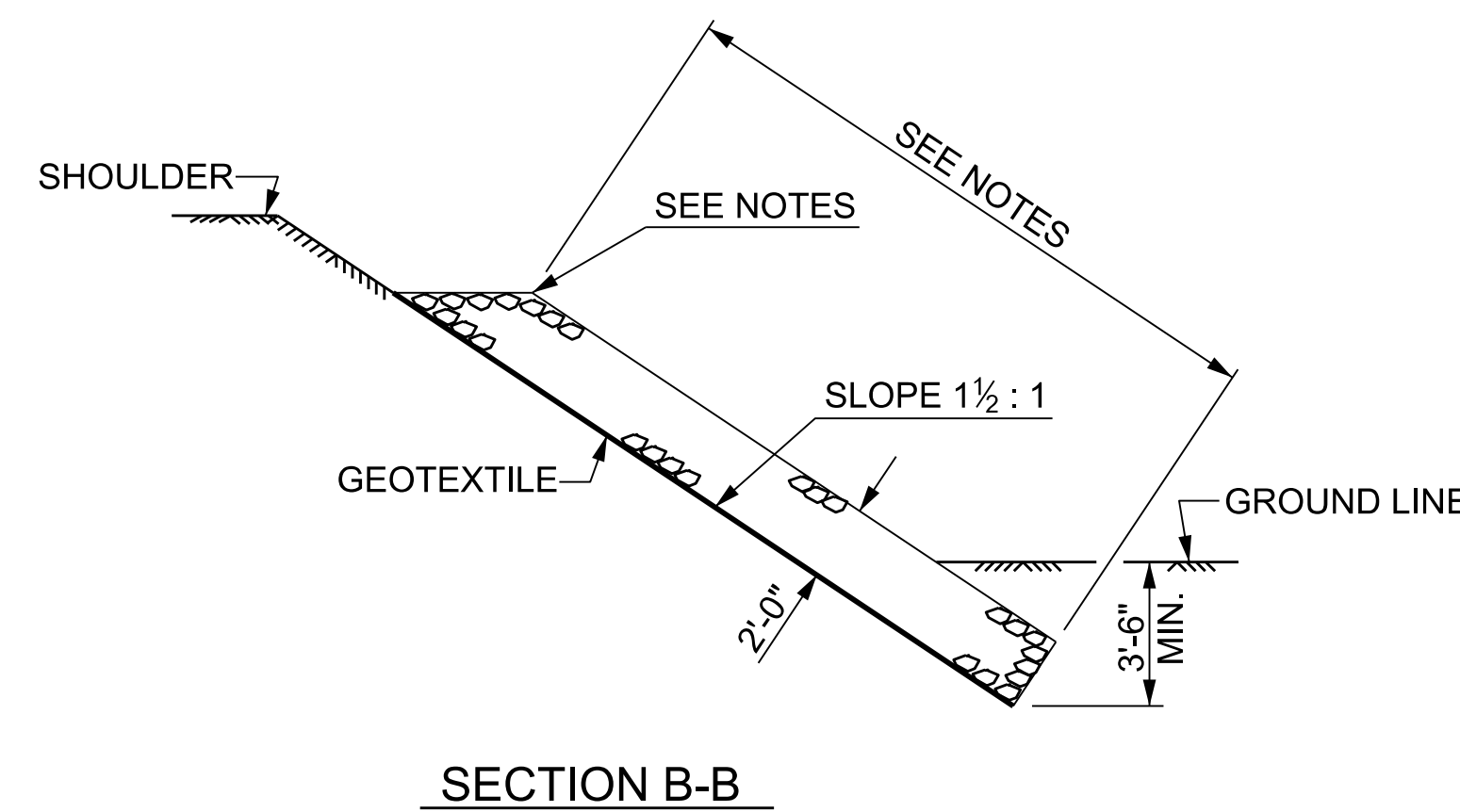
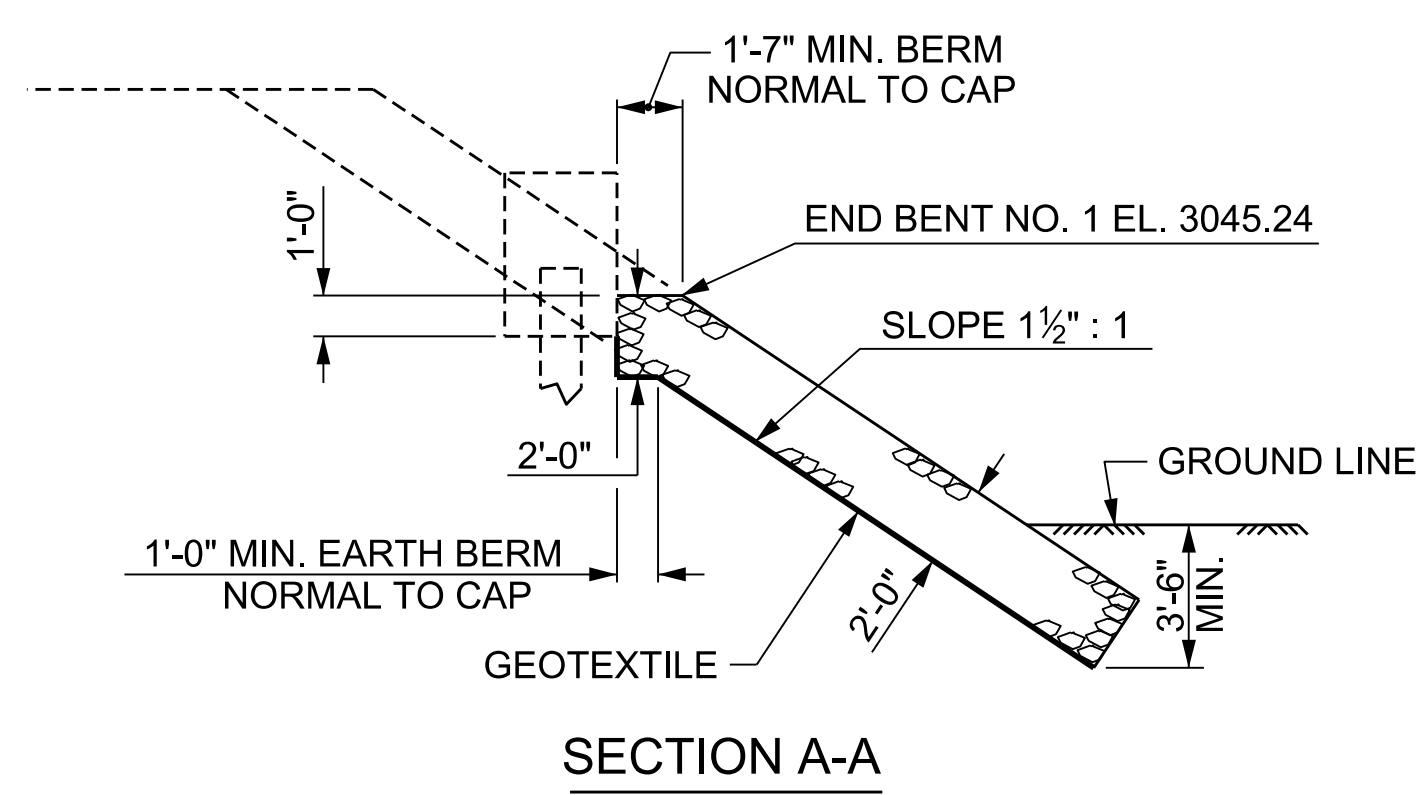
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 USER: CHABERNA
 DATE: 12/14/2025
 TIME: 3:03:50 PM
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DES BY: <u>D. MAST</u>	DATE: <u>03/25</u>	DWG BY: <u>B. PETERSON</u>	DATE: <u>03/25</u>
DES CHK: <u>A. ABERNATHY</u>	DATE: <u>03/25</u>	CHK BY: <u>D. MAST</u>	DATE: <u>03/25</u>

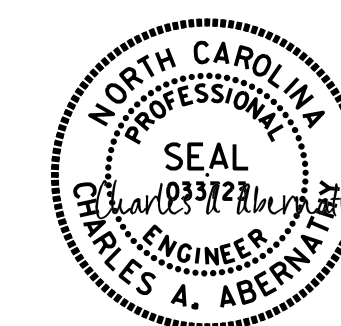
NOTES :
 FOR BERM WIDTH DIMENSIONS, SEE GENERAL DRAWING.
 FOR COMPLETE RIP RAP LIMITS, SLOPES AND ADDITIONAL
 DETAIL, SEE BRIDGE SURVEY REPORT.



ESTIMATED QUANTITIES		
BRIDGE @ STA. 13+39.86 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	145	161
END BENT 2	185	205



PROJECT NO. DF18314.2044195
HAYWOOD COUNTY
 STATION: 13+39.86 -L-



12/15/2025

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
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RIP RAP DETAILS

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
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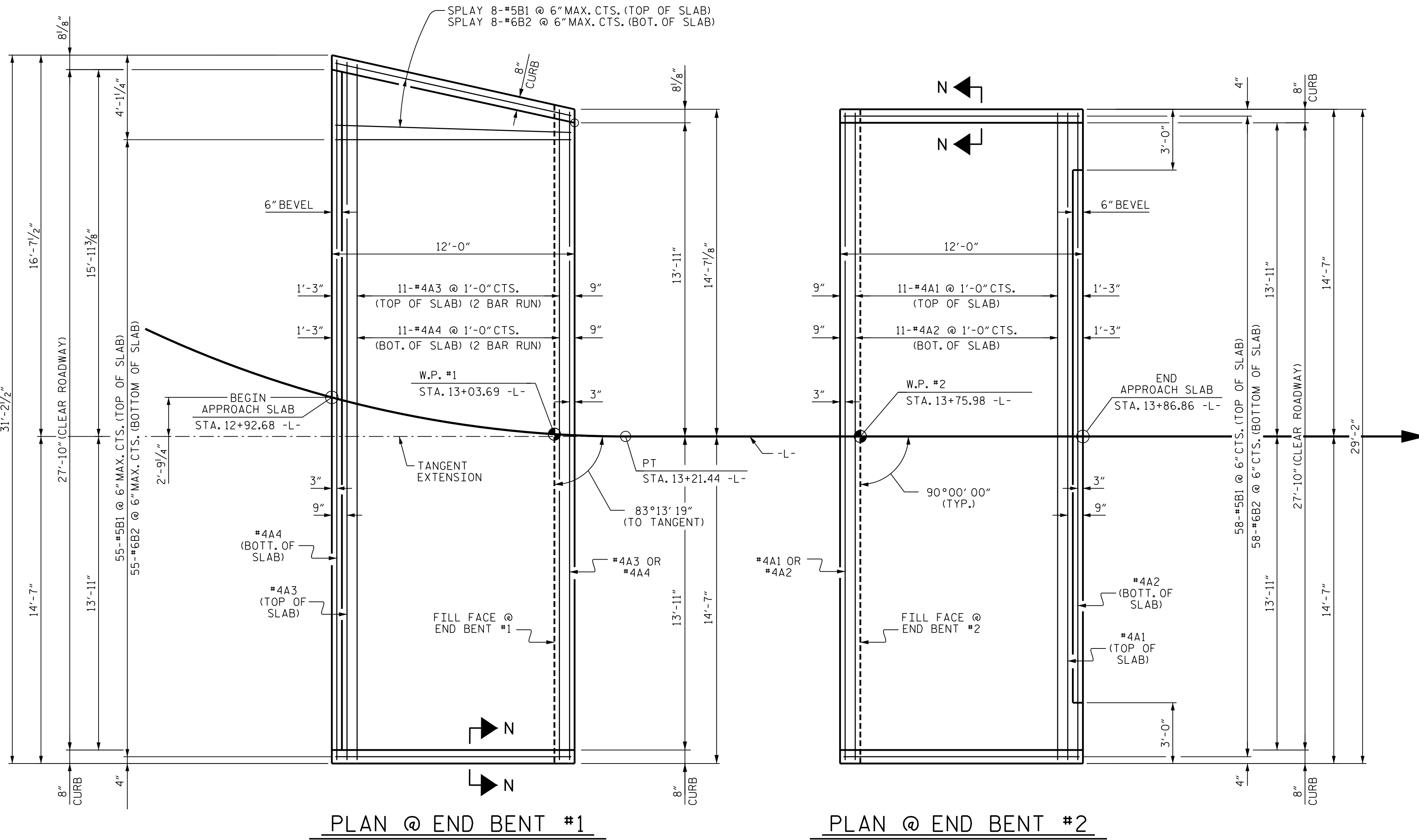
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TOTAL SHEETS 18

DES BY: D. MAST	DATE: 03/25	DWG BY: B. PETERSON	DATE: 03/25
DES CHK: A. ABERNATHY	DATE: 03/25	CHK BY: D. MAST	DATE: 03/25

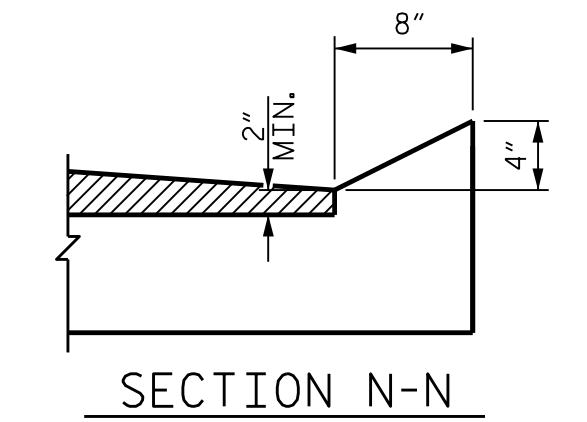
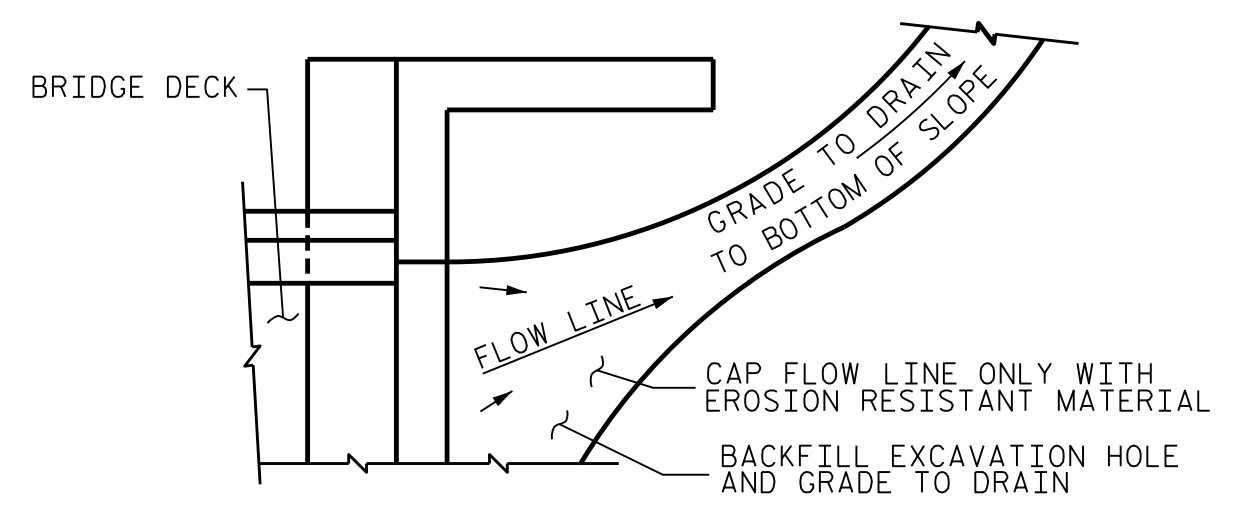


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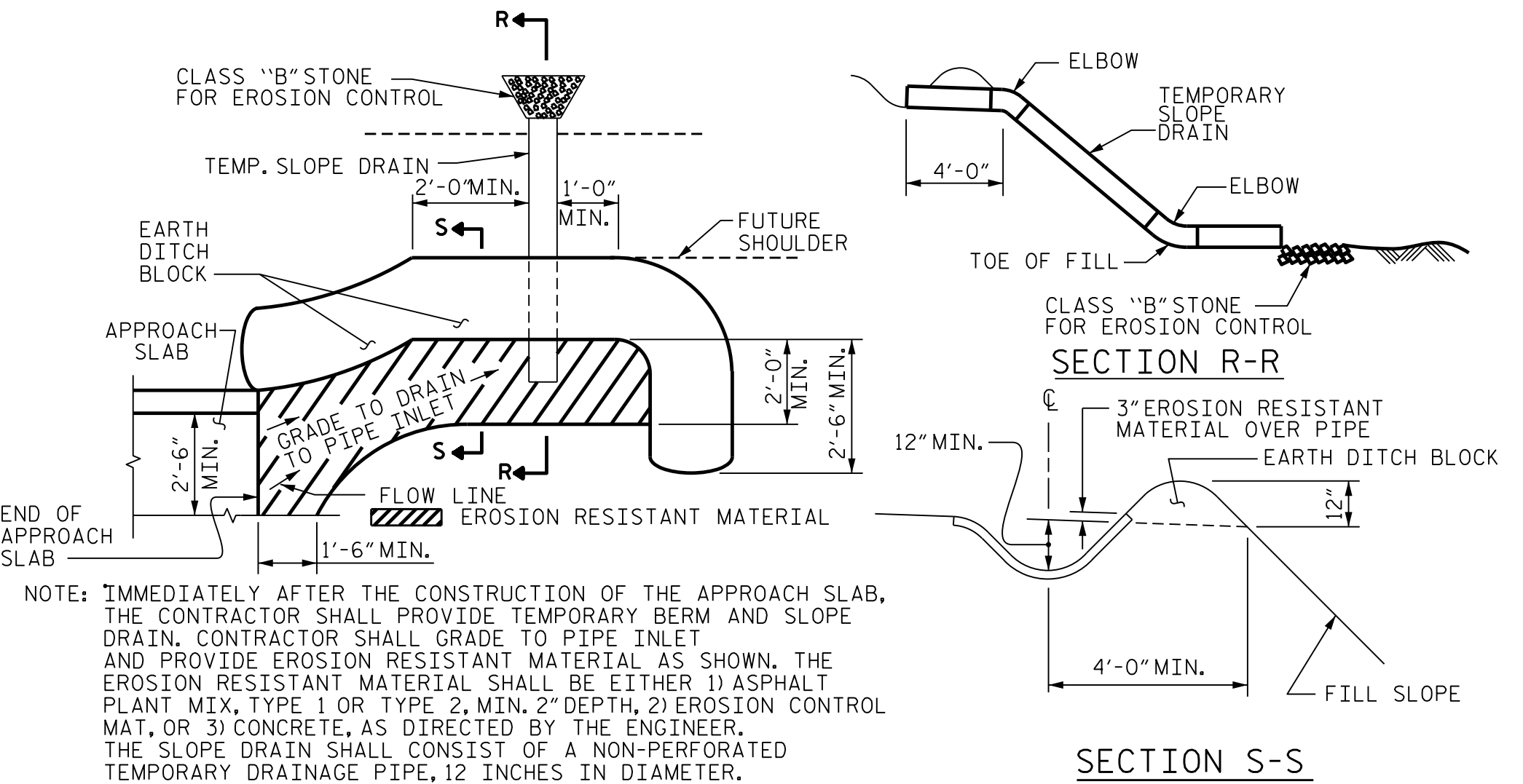
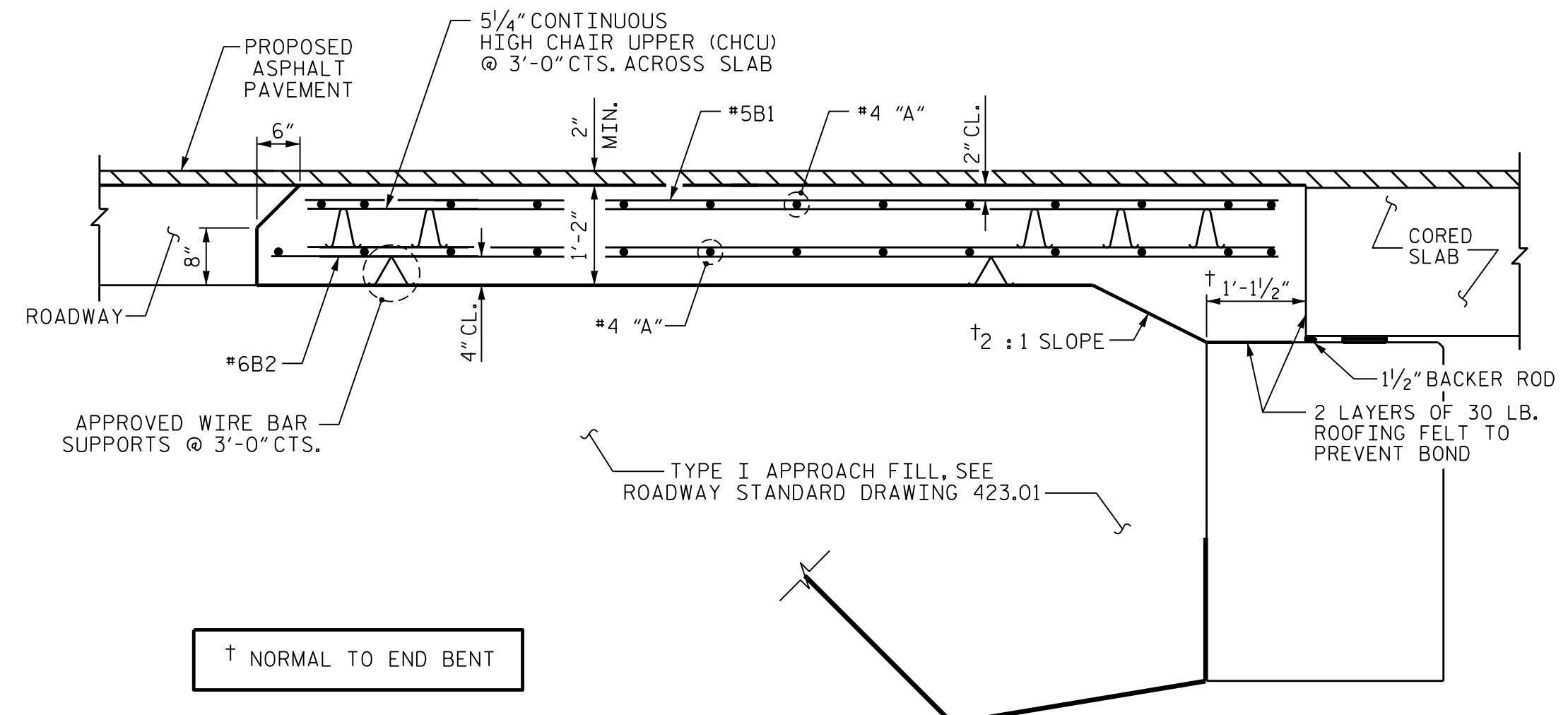


NOTES
 FOR BRIDGE APPROACH, SEE ROADWAY PLANS.
 AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.
 APPROACH SLAB GROOVING IS NOT REQUIRED.



BILL OF MATERIAL					
APPROACH SLAB AT EB #1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A3	26	#4	STR	16'-5"	285
A4	26	#4	STR	16'-5"	285
*B1	63	#5	STR	11'-2"	734
B2	63	#6	STR	11'-8"	1104
REINFORCING STEEL				LBS.	1389
*EPOXY COATED REINFORCING STEEL				LBS.	1019
CLASS AA CONCRETE				C. Y.	17.9
APPROACH SLAB AT EB #2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	13	#4	STR	28'-10"	251
A2	13	#4	STR	28'-10"	251
*B1	58	#5	STR	11'-2"	676
B2	58	#6	STR	11'-8"	1017
REINFORCING STEEL				LBS.	1268
*EPOXY COATED REINFORCING STEEL				LBS.	927
CLASS AA CONCRETE				C. Y.	17.7

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



PROJECT NO. DF18314.2044195
 HAYWOOD COUNTY
 STATION: 13+39.86 -L-



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 BRIDGE APPROACH SLAB
 FOR PRESTR. CONC.
 CORED SLAB UNIT

REVISIONS					
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PLOT DRIVER: U2719-U4437-PLT-pH
 USER: CHABERNA
 DATE: 3/31/2026
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DES BY: D. MAST DATE: 03/25
 DES CHK: A. ABERNATHY DATE: 03/25
 DWG BY: B. PETERSON DATE: 03/25
 CHK BY: D. MAST DATE: 03/25



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

DOWELS:

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

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

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

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

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

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

REINFORCING STEEL:

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

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

STRUCTURAL STEEL:

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

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

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

HANDRAILS AND POSTS:

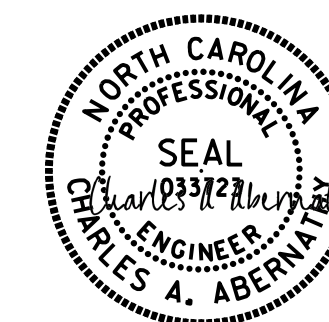
METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

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.

PROJECT NO. DF18314.2044195
HAYWOOD COUNTY
STATION: 13+39.86 -L-

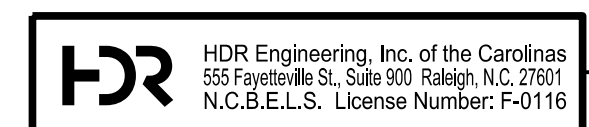


12/15/2025

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD NOTES

REVISIONS						SHEET NO. SN
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2	--	--	4	--	--	18



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DES CHK: A. ABERNATHY	DATE: 03/25	CHK BY: D. MAST	DATE: 03/25