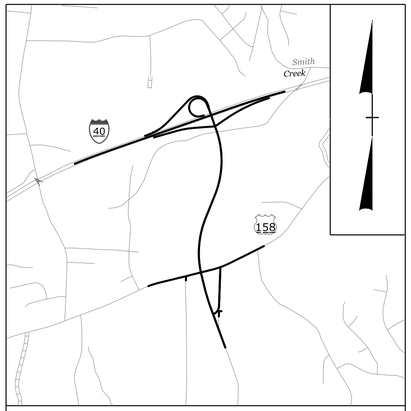
09/08/99

TIP PROJECT: U-6187

CONTRACT: C205093

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Plan Sheet Symbols



VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

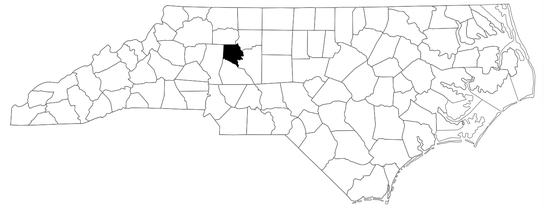
DAVIE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6187	1	

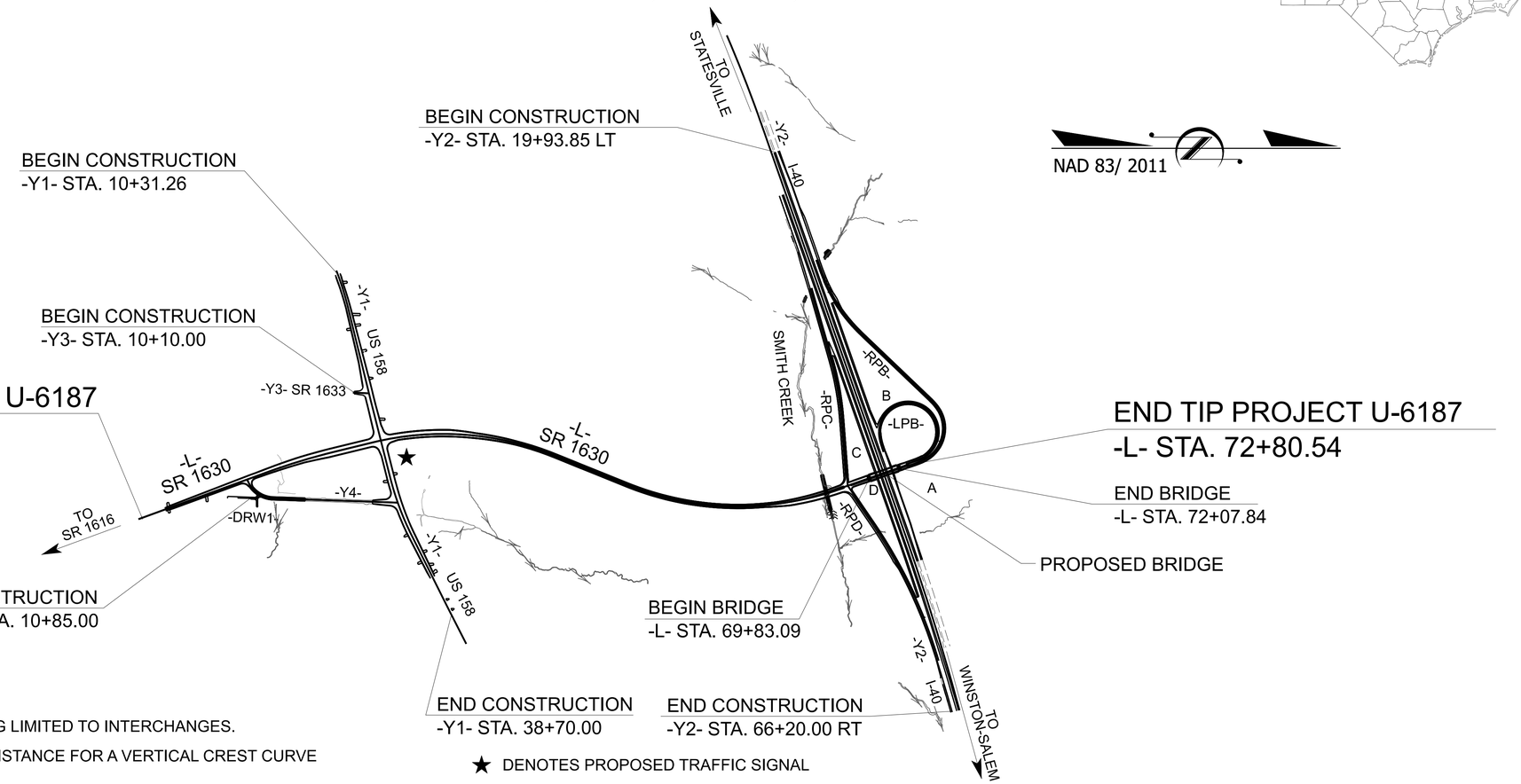
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
48647.1.1		PE
48647.2.2	4864701	UTIL.
48647.2.3	4864701	R/W
48647.3.1		CONST.

LOCATION: *REALIGNMENT AND EXTENSION OF SR 1630 (BALTIMORE ROAD) FROM SOUTH OF US 158 TO A NEW INTERCHANGE AT I-40*

TYPE OF WORK: *GRADING, PAVING, DRAINAGE, AND STRUCTURES*



NAD 83/ 2011



★ DENOTES PROPOSED TRAFFIC SIGNAL

THIS IS A CONTROL OF ACCESS PROJECT WITH ACCESS TO I-40 BEING LIMITED TO INTERCHANGES.

A DESIGN EXCEPTION HAS BEEN APPROVED FOR STOPPING SIGHT DISTANCE FOR A VERTICAL CREST CURVE ALONG -Y1- (US 158).

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2025 = 8,100
ADT 2045 = 21,200
K = 10 %
D = 55 %
T = 8 % *
V = 60 MPH
* TTST =6% DUAL 2%
FUNC CLASS =
MAJOR COLLECTOR
STATE WIDE TIER

PROJECT LENGTH

PROJECT LENGTHS FOR TIP PROJECT U-6187:

LENGTH ROADWAY TIP PROJECT U-6187 = 1.141 MILES

LENGTH STRUCTURES TIP PROJECT U-6187 = 0.043 MILES

TOTAL LENGTH TIP PROJECT U-6187 = 1.184 MILES

NCDOT Contact: RYAN C. NEWCOMB, PE
Prepared in the Office of: VHB Engineering NC, P.C. (C-3705) 940 Main Campus Drive, Suite 500 Raleigh, NC 27606

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: MAY 31, 2024

LETTING DATE: OCTOBER 21, 2025

ELIZABETH C. PHELPS, P.E.
PROJECT ENGINEER

STRUCTURES ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS

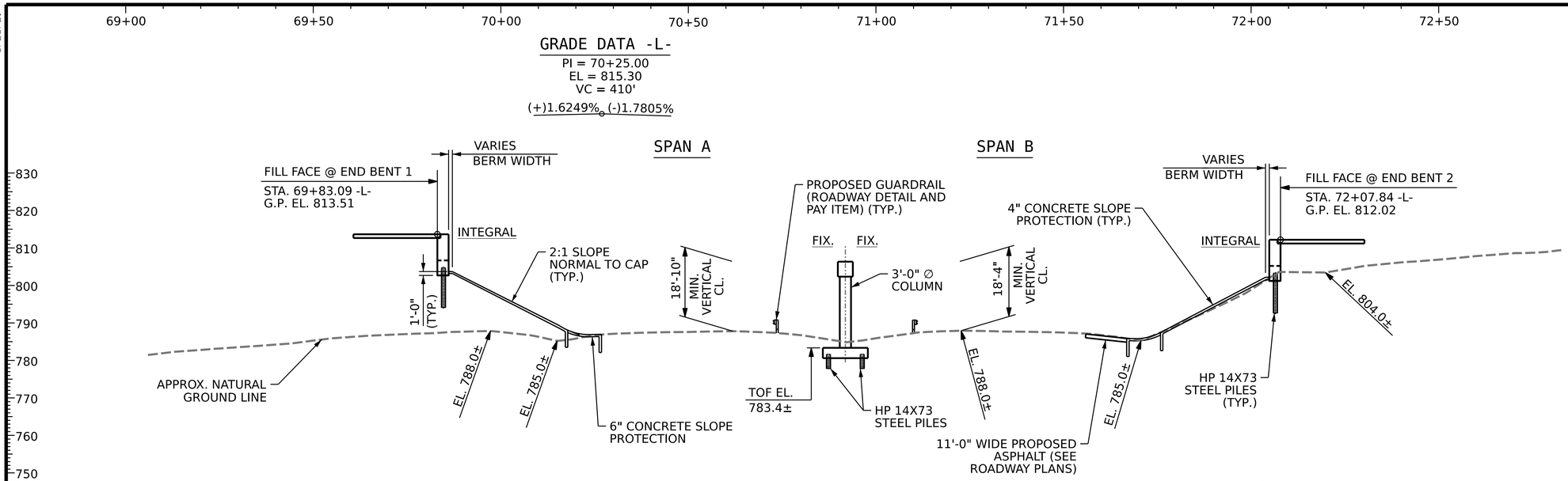
DocuSigned by: Elizabeth Phelps A304598AD627455...
7/15/2025

P.E.

SIGNATURE

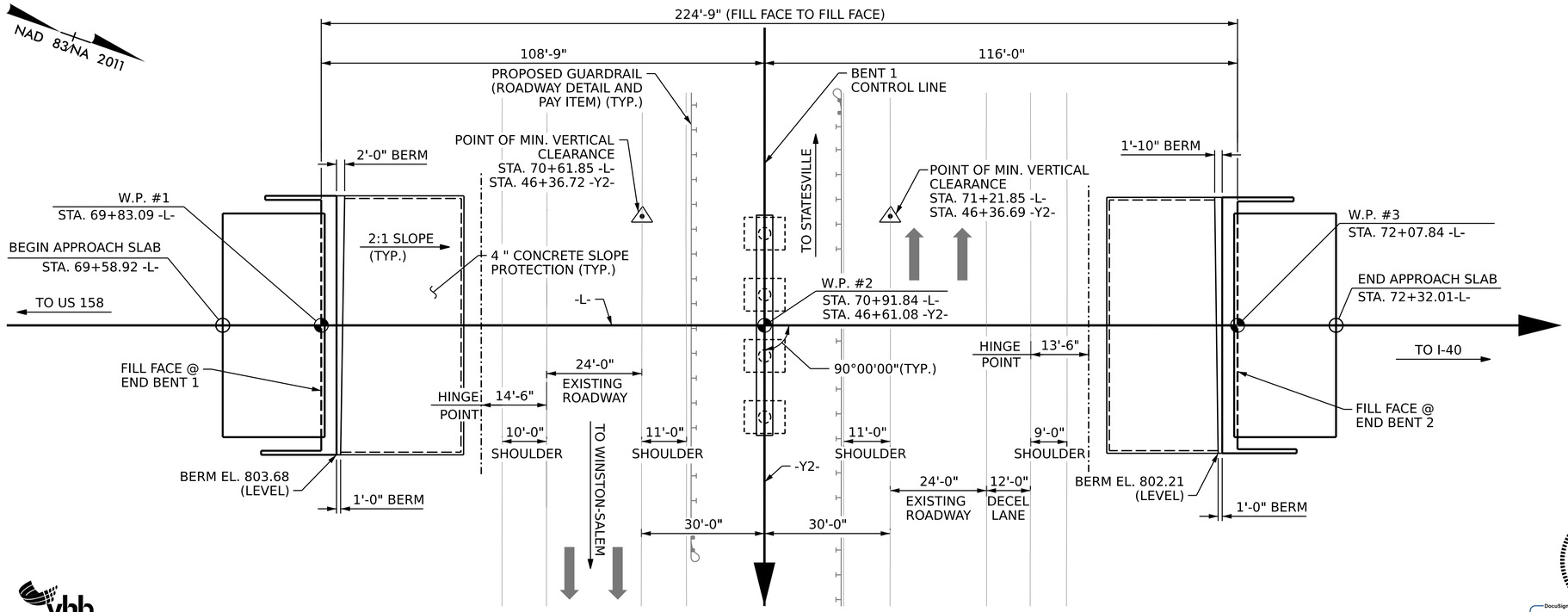
STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

8/26/21



SECTION ALONG -L-

END BENTS AND BENTS SHOWN AT RIGHT ANGLES



PLAN

(PILES NOT SHOWN FOR CLARITY)

I HEREBY CERTIFY THESE PLANS
ARE THE AS-BUILT PLANS

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-
46+61.08 -Y2-

SHEET 1 OF 4 BRIDGE NO. 290136

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON SR1630
(BALTIMORE RD) OVER
I-40 BETWEEN US-158
AND I-40 RAMP

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C PHELPS

DocuSigned by: Elizabeth Phelps 7/15/2025
A304598A0627455...

vhb
VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

DRAWN BY : J.C. LASSITER DATE : 12/2024
CHECKED BY : K. PUROHIT DATE : 06/2025
DESIGN ENGINEER OF RECORD: E.C. PHELPS DATE : 07/2025

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

7/11/2025
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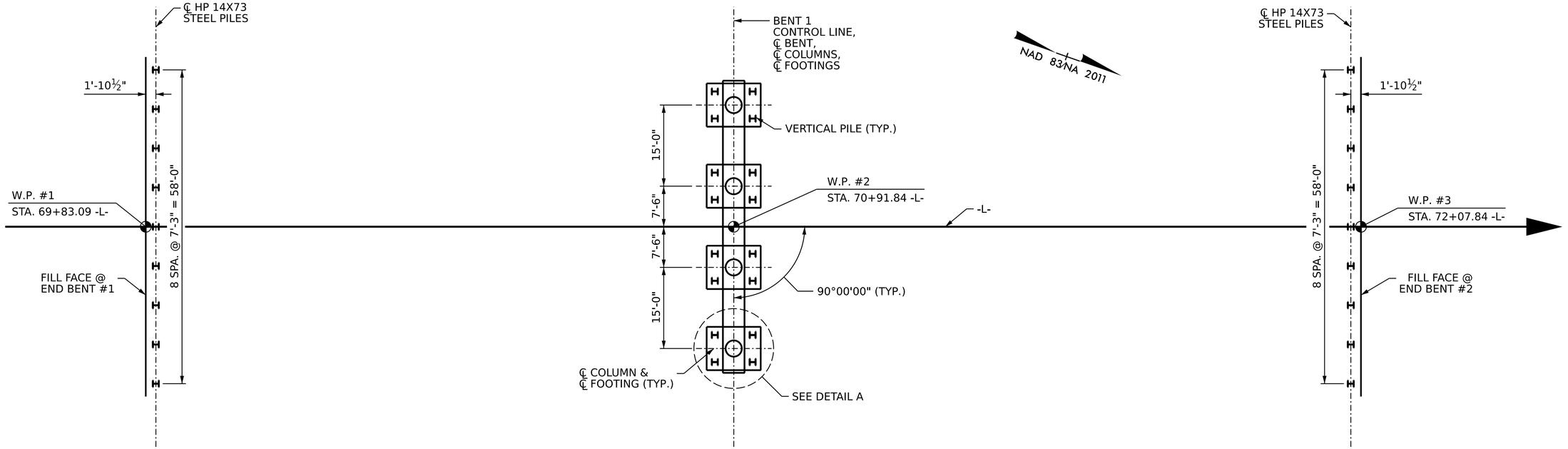
8/26/21



FOUNDATION LAYOUT

DIMENSIONS LOCATING PILES ARE SHOWN TO THE CENTERLINE OF PILES

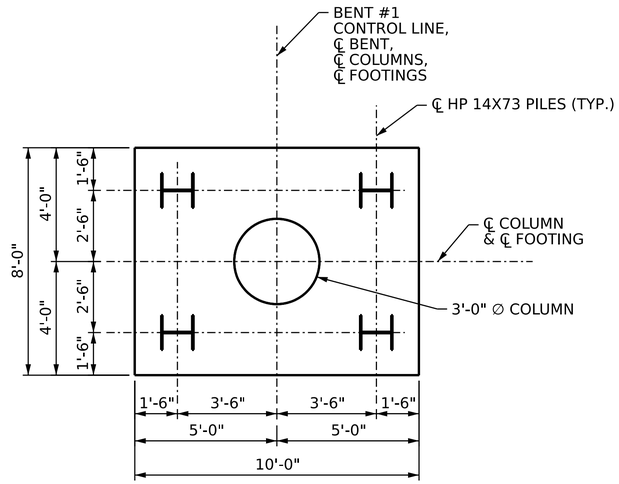
FOUNDATION NOTES

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

OBSERVE A 1 MONTH WAITING PERIOD AFTER CONSTRUCTING THE EMBANKMENT TO GRADE BEFORE BEGINNING END BENT CONSTRUCTION AT END BENT NO. 1. FOR BRIDGE WAITING PERIODS, SEE ROADWAY PLANS AND SECTION 235 OF THE STANDARD SPECIFICATIONS.

OBSERVE A 2 MONTH WAITING PERIOD AFTER CONSTRUCTING THE EMBANKMENT, END BENT AND REINFORCED BRIDGE APPROACH FILL, IF APPLICABLE, BEFORE BEGINNING APPROACH SLAB CONSTRUCTION AT END BENT NO. 1. FOR BRIDGE WAITING PERIODS, SEE ROADWAY PLANS AND SECTION 235 OF THE STANDARD SPECIFICATIONS.

IT HAS BEEN ESTIMATED THAT A HAMMER WITH AN EQUIVALENT RATED ENERGY IN THE RANGE OF 40,000 FT-LBS TO 70,000 FT-LBS PER BLOW WILL BE REQUIRED TO DRIVE PILES AT END BENT NO.1 AND 2 AND BENT NO.1. THIS ESTIMATED ENERGY RANGE DOES NOT RELEASE THE CONTRACTOR FROM PROVIDING DRIVING EQUIPMENT IN ACCORDANCE WITH SUBARTICLE 450-3(D)(2) OF THE STANDARD SPECIFICATIONS.



DETAIL A

ALL FOOTINGS SIMILAR

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

SHEET 2 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

FOUNDATION LAYOUT

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C PHELPS

DocuSigned by: Elizabeth Phelps 7/15/2025
A304598A0627455...

VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

DRAWN BY : C.E. HONIGMAN DATE : 12/2024
CHECKED BY : K. PUROHIT DATE : 06/2025
DESIGN ENGINEER OF RECORD: E.C. PHELPS DATE : 07/2025

7/17/2025
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			35

8/26/21

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 No. 1, Piles 1-2	2	280		60			470							
End Bent No. 1, Piles 3-9	7	280		90			470							
Bent No. 1, Piles 1-16	16	345		60			575							
End Bent No. 2, Piles 1-7	7	290		70			485							
End Bent No. 2, Piles 8-9	2	290		60			485							
TOTAL QUANTITY:														

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

** 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 No. 1, Piles 1-9	280			0.60		
Bent No. 1, Piles 1-16	345			0.60		
End Bent No. 2, Piles 1-9	290			0.60		

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

NOTES:

1. The Pile Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (Michael H. Stephens, PE, #028893) on 03-6-2025.
2. 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.
3. The Engineer may adjust the quantity for DPT Testing and Pipe Pile Plates when necessary.

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DRAWN BY : C.E. HONIGMAN DATE : 01/2025
CHECKED BY : K. PUROHIT DATE : 06/2025
DESIGN ENGINEER OF RECORD: E.C. PHELPS DATE : 07/2025

7/17/2025
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NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS

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PROJECT NO. U-6187
DAVIE COUNTY
STATION: 70+91.84 -L-

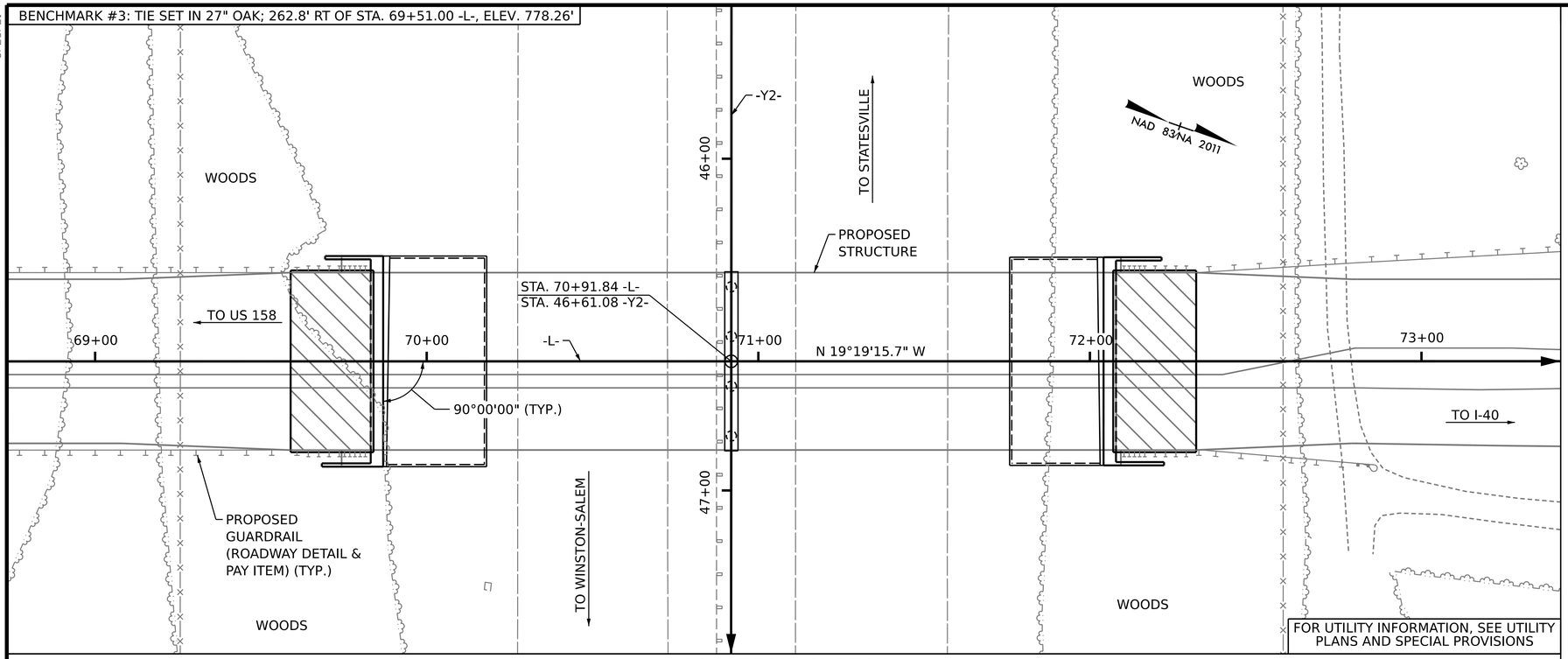
SHEET 3 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PILE FOUNDATION TABLES

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

8/26/21



-LOCATION SKETCH-

NOTES:

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF 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 CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THE ELEVATIONS AND CLEARANCES SHOWN ON THE PLANS AT THE POINTS OF MINIMUM VERTICAL CLEARANCE ARE FROM THE BEST INFORMATION AVAILABLE. PRIOR TO BEGINNING BRIDGE CONSTRUCTION, VERIFY THE ELEVATIONS ON THE EXISTING PAVEMENT AND CHECK THE CLEARANCE. REPORT ANY VARIATIONS TO THE ENGINEER. ANY PLAN REVISIONS NECESSARY TO ACHIEVE THE REQUIRED MINIMUM VERTICAL CLEARANCE WILL BE PROVIDED BY THE DEPARTMENT.

FOR MAINTENANCE AND PROTECTION OF TRAFFIC BENEATH PROPOSED STRUCTURE, SEE SPECIAL PROVISIONS.

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

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

THE CLASS AA CONCRETE IN THE BRIDGE DECK SHALL CONTAIN FLY ASH OR GROUND GRANULATED BLAST FURNACE SLAG AT THE SUBSTITUTION RATE SPECIFIED IN ARTICLE 1024-1 AND IN ACCORDANCE WITH ARTICLES 1024-5 AND 1024-6 OF THE STANDARD SPECIFICATIONS. NO PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE COST OF THE REINFORCED CONCRETE DECK SLAB.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

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

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL

	FOUNDATION EXCAVATION FOR BENT AT STA. 70+91.84	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	FIB 63" PRESTRESSED CONCRETE GIRDERS		PILE DRIVING EQUIPMENT SETUP FOR HP 14X73 STEEL PILES	HP 14X73 STEEL PILES		DYNAMIC PILE TESTING	CONCRETE BARRIER RAIL	4" SLOPE PROTECTION	ELASTOMERIC BEARINGS
	LUMP SUM	SQ. FT.	SQ. FT.	CU. YDS.	LUMP SUM	LBS.	LBS.	NO.	LIN. FT.	EA.	NO.	LIN. FT.	EA.	LIN. FT.	SQ. YDS.	LUMP SUM
SUPERSTRUCTURE		12,660	13,740					12	1,332.5					446.2		LUMP SUM
END BENT NO.1				42.6		7,202				9	9	750			301	
BENT NO.1				96.7		17,832	1,724			16	16	960				
END BENT NO.2				42.5		7,186				9	9	610			279	
TOTAL	LUMP SUM	12,660	13,740	181.8	LUMP SUM	32,220	1,724	12	1,332.5	34	16	2,320	1	446.2	580	LUMP SUM

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

SHEET 4 OF 4

VHB Engineering NC, P.C. (C-3705)
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NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS

DocuSigned by: Elizabeth Phelps A304598A0627455... 7/15/2025

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON SR1630 (BALTIMORE RD) OVER I-40 BETWEEN US-158 AND I-40 RAMP

DRAWN BY : J. C. LASSITER DATE : 12/2024
CHECKED BY : K. PUROHIT DATE : 06/2025
DESIGN ENGINEER OF RECORD: E.C. PHELPS DATE : 07/2025

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

7/15/2025
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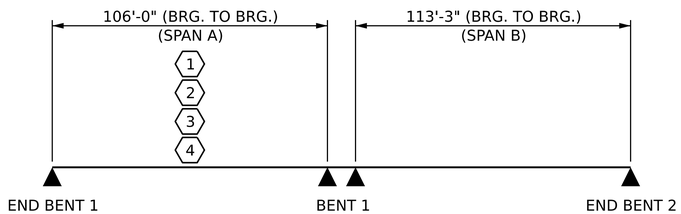
chonigman

8/26/21

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 γ FACTORS (LL)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD		HL-93 (INVENTORY)	N/A	⟨1⟩	1.06	--	1.75	0.88	1.16	A	ER	53.0	0.88	1.44	B	ER	10.8	0.80	0.88	1.06	A	ER	53.0	
		HL-93 (OPERATING)	N/A		1.50	--	1.35	0.88	1.50	A	ER	53.0	0.88	1.90	B	ER	10.8	N/A	--	--	--	--	--	
		HS-20 (INVENTORY)	36.000	⟨2⟩	1.50	54.00	1.75	0.88	1.64	A	ER	53.0	0.88	2.02	B	ER	10.8	0.80	0.88	1.50	A	ER	53.0	
		HS-20 (OPERATING)	36.000		2.13	76.68	1.35	0.88	2.13	A	ER	53.0	0.88	2.65	B	ER	10.8	N/A	--	--	--	--	--	
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH	13.500		3.59	48.47	1.40	0.88	4.91	A	ER	53.0	0.88	6.54	B	ER	10.8	0.80	0.88	3.59	A	ER	53.0	
		SNGARBS2	20.000		2.26	45.20	1.40	0.88	3.09	A	ER	53.0	0.88	3.88	B	ER	10.8	0.80	0.88	2.26	A	ER	53.0	
		SNAGRIS2	22.000		2.42	53.24	1.40	0.88	3.30	A	ER	53.0	0.88	4.15	B	ER	10.8	0.80	0.88	2.42	A	ER	53.0	
		SNCOTTS3	27.250		1.79	48.78	1.40	0.88	2.44	A	ER	53.0	0.88	3.19	B	ER	10.8	0.80	0.88	1.79	A	ER	53.0	
		SNAGGRS4	34.925		1.46	50.99	1.40	0.88	1.99	A	ER	53.0	0.88	2.56	B	ER	10.8	0.80	0.88	1.46	A	ER	53.0	
		SNS5A	35.550		1.43	50.84	1.40	0.88	1.95	A	ER	53.0	0.88	2.57	B	ER	10.8	0.80	0.88	1.43	A	ER	53.0	
		SNS6A	39.950		1.30	51.94	1.40	0.88	1.77	A	ER	53.0	0.88	2.31	B	ER	10.8	0.80	0.88	1.30	A	ER	53.0	
		SNS7B	42.000		1.23	51.66	1.40	0.88	1.68	A	ER	53.0	0.88	2.23	B	ER	10.8	0.80	0.88	1.23	A	ER	53.0	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.58	52.14	1.40	0.88	2.15	A	ER	53.0	0.88	2.79	B	ER	10.8	0.80	0.88	1.58	A	ER	53.0	
		TNT4A	33.075		1.58	52.26	1.40	0.88	2.16	A	ER	53.0	0.88	2.74	B	ER	10.8	0.80	0.88	1.58	A	ER	53.0	
		TNT6A	41.600		1.28	53.25	1.40	0.88	1.75	A	ER	53.0	0.88	2.33	B	ER	10.8	0.80	0.88	1.28	A	ER	53.0	
		TNT7A	42.000		1.28	53.76	1.40	0.88	1.75	A	ER	53.0	0.88	2.29	B	ER	10.8	0.80	0.88	1.28	A	ER	53.0	
		TNT7B	42.000		1.31	55.02	1.40	0.88	1.78	A	ER	53.0	0.88	2.20	B	ER	10.8	0.80	0.88	1.31	A	ER	53.0	
		TNAGRIT4	43.000		1.25	53.75	1.40	0.88	1.71	A	ER	53.0	0.88	2.13	B	ER	10.8	0.80	0.88	1.25	A	ER	53.0	
		TNAGT5A	45.000		1.19	53.55	1.40	0.88	1.62	A	ER	53.0	0.88	2.08	B	ER	10.8	0.80	0.88	1.19	A	ER	53.0	
		TNAGT5B	45.000	⟨3⟩	1.18	53.10	1.40	0.88	1.61	A	ER	53.0	0.88	2.03	B	ER	10.8	0.80	0.88	1.18	A	ER	53.0	
EMERGENCY VEHICLE (EV)		EV2	28.750		1.82	52.33	1.30	0.88	2.48	A	ER	53.0	0.88	3.12	B	ER	10.8	0.80	0.88	1.82	A	ER	53.0	
		EV3	43.000	⟨4⟩	1.20	51.60	1.30	0.88	1.64	A	ER	53.0	0.88	2.06	B	ER	10.8	0.80	0.88	1.20	A	ER	53.0	



LRFR SUMMARY

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γDC	γDW
	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

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7/17/2025
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chonigman

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS
DocuSigned by: Elizabeth Phelps A304598A0627455... 7/15/2025

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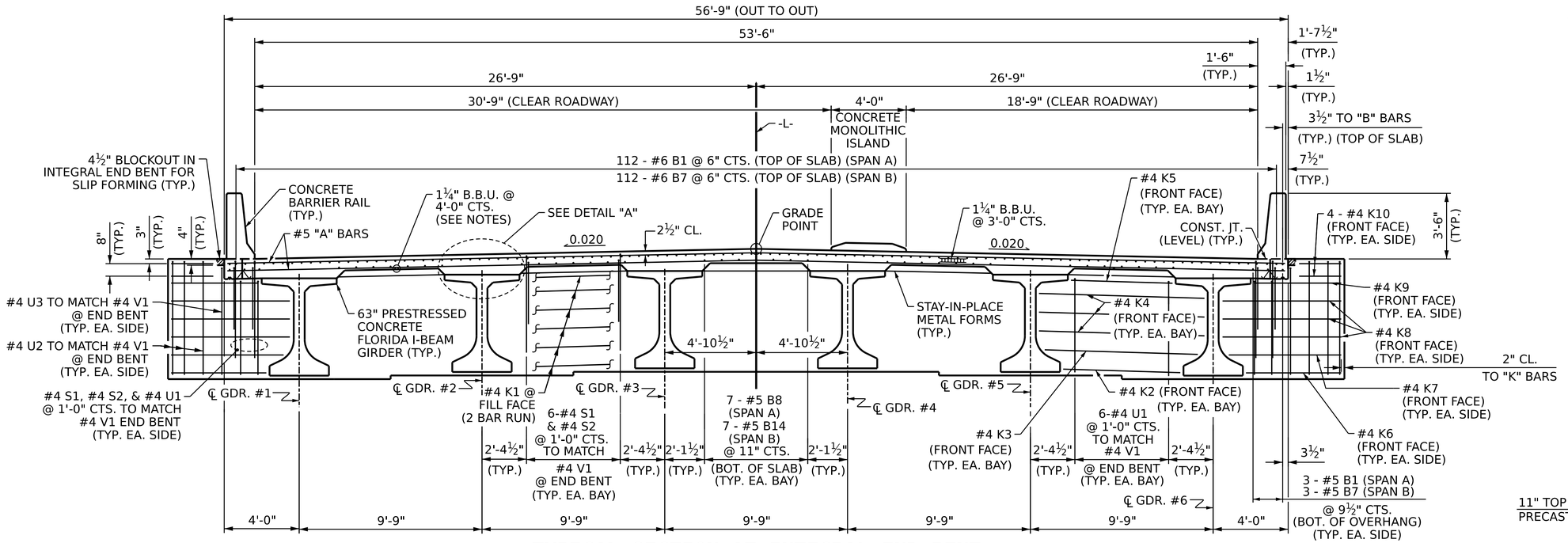
PROJECT NO. U-6187
DAVIE COUNTY
STATION: 70+91.84 -L-

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

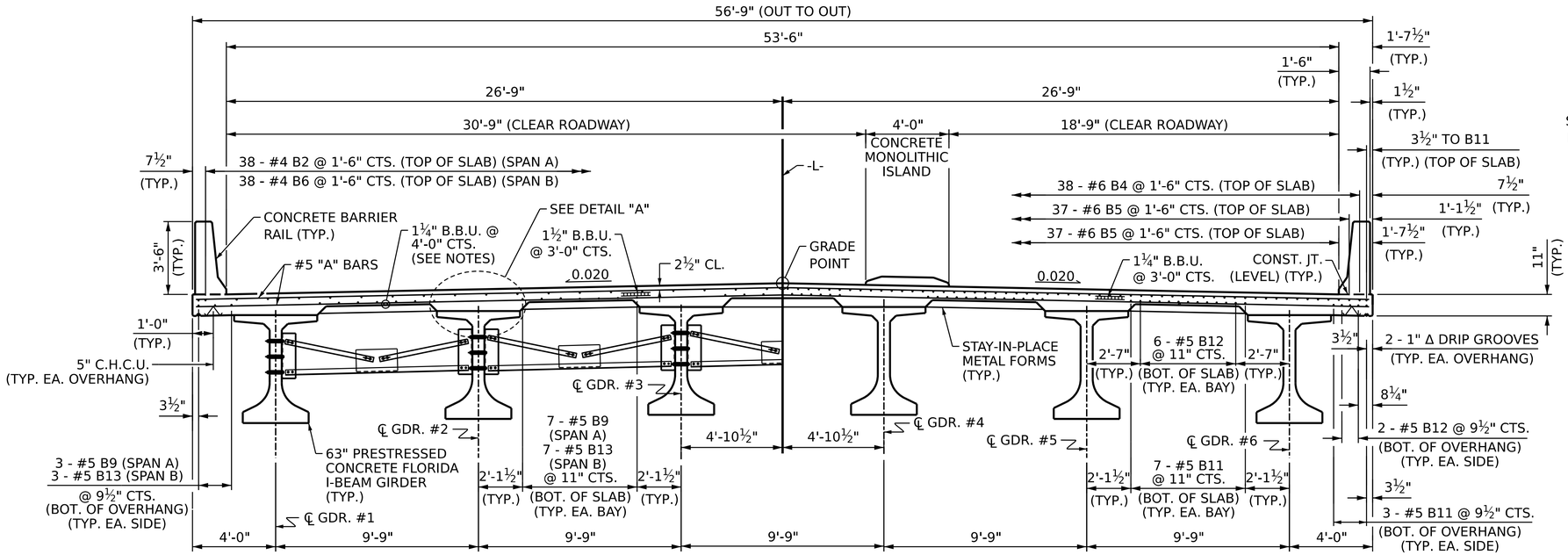
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			35

STD. NO. LRFR1

8/26/21

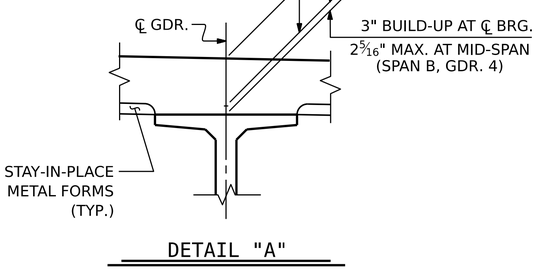


TYPICAL SECTION AT INTEGRAL END BENT



PARTIAL TYPICAL SECTION AT INTERMEDIATE DIAPHRAGM

PARTIAL TYPICAL SECTION AT LINK SLAB AT BENTS



DETAIL "A"

NOTES:

PROVIDE 1¼" HIGH BEAM BOLSTERS UPPER AT 4'-0" CTS. ATOP THE METAL STAY-IN-PLACE FORMS TO SUPPORT THE BOTTOM MAT OF "A" BARS. WHEN USING REMOVABLE FORMS. PROVIDE CONTINUOUS HIGH CHAIRS FOR METAL DECK (C.H.C.M) @ 4'-0" CTS. WITH A HEIGHT TO SUPPORT THE BOTTOM MAT OF "A" BARS A CLEAR DISTANCE OF 2½" ABOVE THE TOP OF THE REMOVABLE FORM.

LONGITUDINAL STEEL MAY BE SHIFTED SLIGHTLY, AS NECESSARY, TO AVOID INTERFERENCE WITH STIRRUPS IN PRESTRESSED CONCRETE GIRDERS.

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

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

FOR CONCRETE BARRIER RAIL REINFORCEMENT AND DETAILS, SEE "CONCRETE BARRIER RAIL" SHEET.

FOR INTERMEDIATE STEEL DIAPHRAGMS DETAILS, SEE "INTERMEDIATE STEEL DIAPHRAGMS FOR 63" FIB" SHEET.

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PROJECT NO. U-6187
DAVIE COUNTY
STATION: 70+91.84 -L-
SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

TYPICAL SECTION

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS
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A304598A0627458...

REVISIONS						SHEET NO.
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1			3			TOTAL SHEETS
2			4			35

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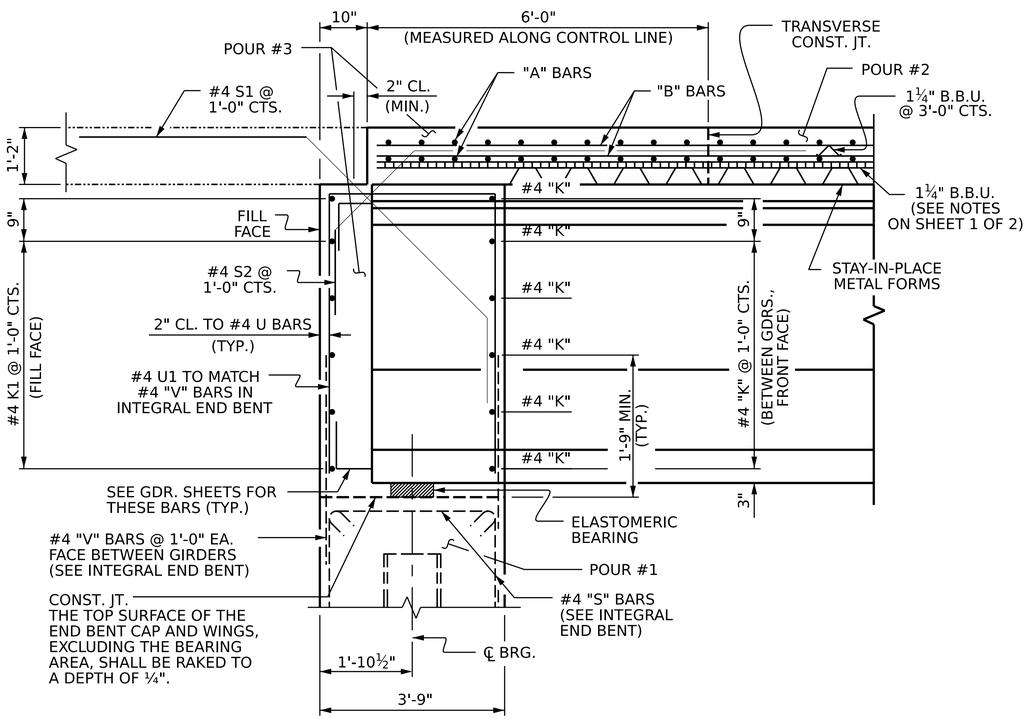
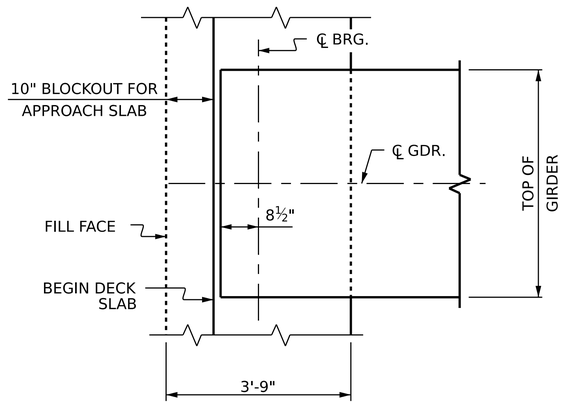
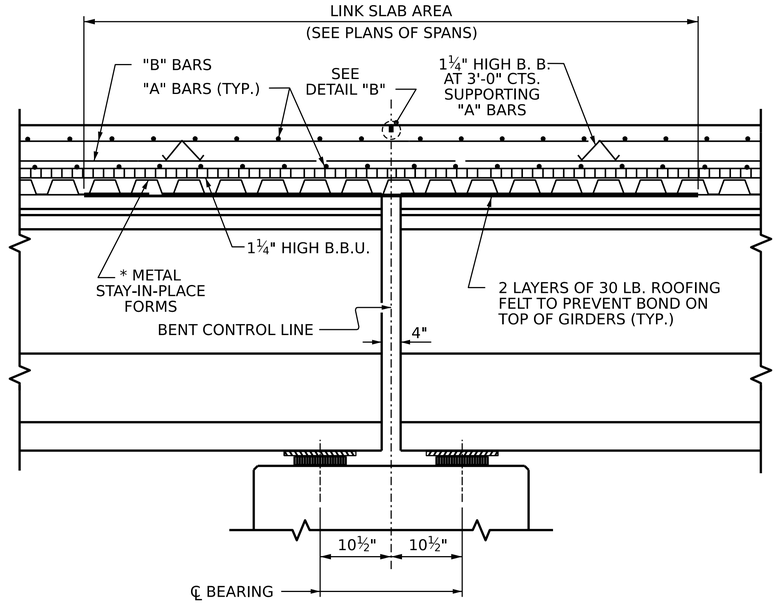
8/26/21



SECTION AT INTEGRAL END BENT

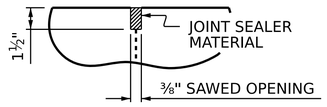


PLAN OF GIRDER AT INTEGRAL END BENT



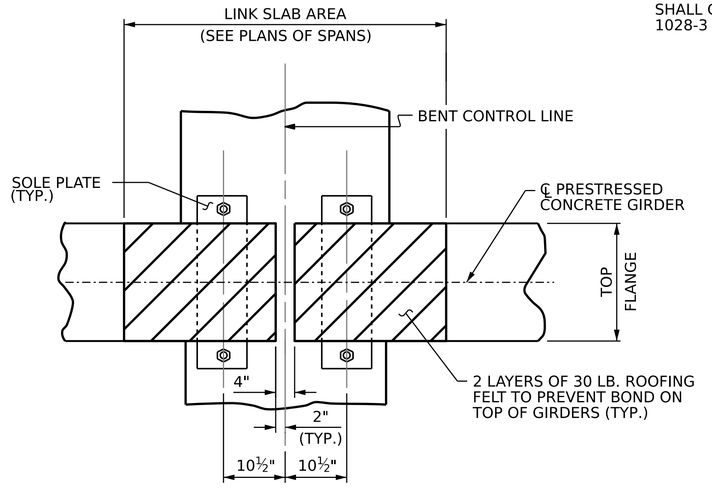
SECTION AT LINK SLAB

* METAL STAY-IN-PLACE FORMS SHALL NOT BE WELDED TO THE GIRDER FLANGES IN THE REGION OF THE LINK SLAB.



DETAIL "B"

A 1½" DEEP, ⅜" WIDE CONTRACTION JOINT AT BENT CONTROL LINE SHALL BE SAWED WITHIN 24 HOURS OF POURING THE DECK. THE JOINT SHALL BE FILLED WITH JOINT SEALER MATERIAL. THE JOINT SEALER MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF SECTION 1028-3 OF THE STANDARD SPECIFICATIONS.



PLAN AT INTERIOR BENTS

** THE TOP OF THE GIRDER IN THE REGION OF THE LINK SLAB SHALL BE SMOOTH (NOT RAKED) AND FREE OF STIRRUPS. ANCHOR STUDS, DECK FORMWORK ATTACHMENT, AND OVERHANG FALSEWORK/FORMWORK ATTACHMENTS.

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

SHEET 2 OF 2

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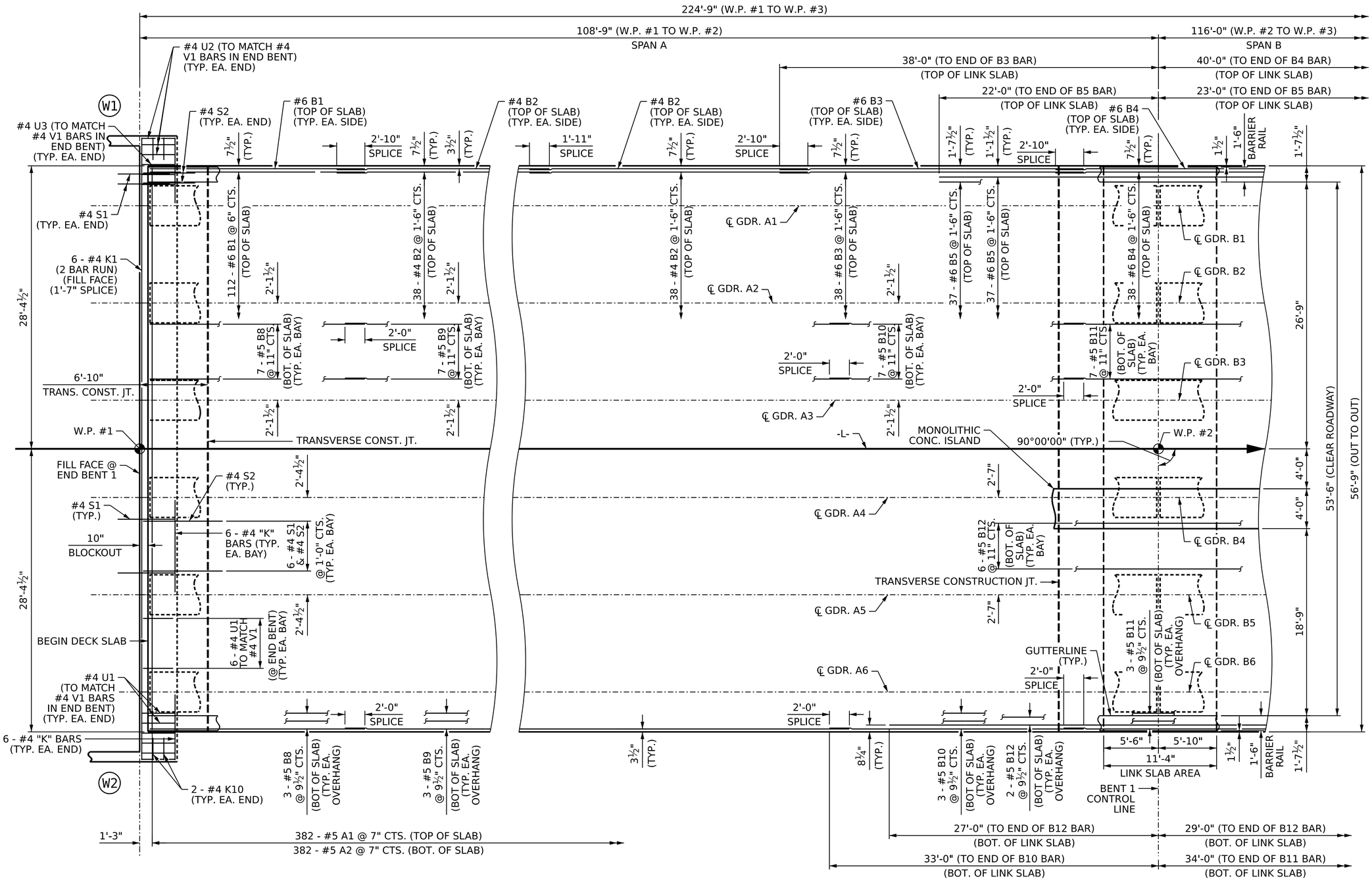
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

TYPICAL SECTION DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-7
1			3			TOTAL SHEETS
2			4			35

8/26/21



PLAN OF SPAN A

NOTES:

FOR CONCRETE BARRIER RAIL DETAILS, SEE "CONCRETE BARRIER RAIL" SHEET.

FOR INTEGRAL END BENT AND WING DETAILS, SEE "INTEGRAL END BENT" SHEETS.

FOR SECTION VIEWS, SEE SUPERSTRUCTURE "TYPICAL SECTIONS AND DETAILS" SHEET.

FOR MONOLITHIC CONCRETE ISLAND DETAILS, SEE "MONOLITHIC CONCRETE ISLAND DETAILS" SHEET.

INTERMEDIATE DIAPHRAGMS NOT SHOWN FOR CLARITY, SEE "FRAMING PLAN" SHEET.

FOR POUR SEQUENCE AND LOCATION OF CONSTRUCTION JOINTS, SEE SUPERSTRUCTURE "BILL OF MATERIAL" SHEET.

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

SHEET 1 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

PLAN OF SPAN A

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NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C PHELPS

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1			3			TOTAL SHEETS
2			4			35

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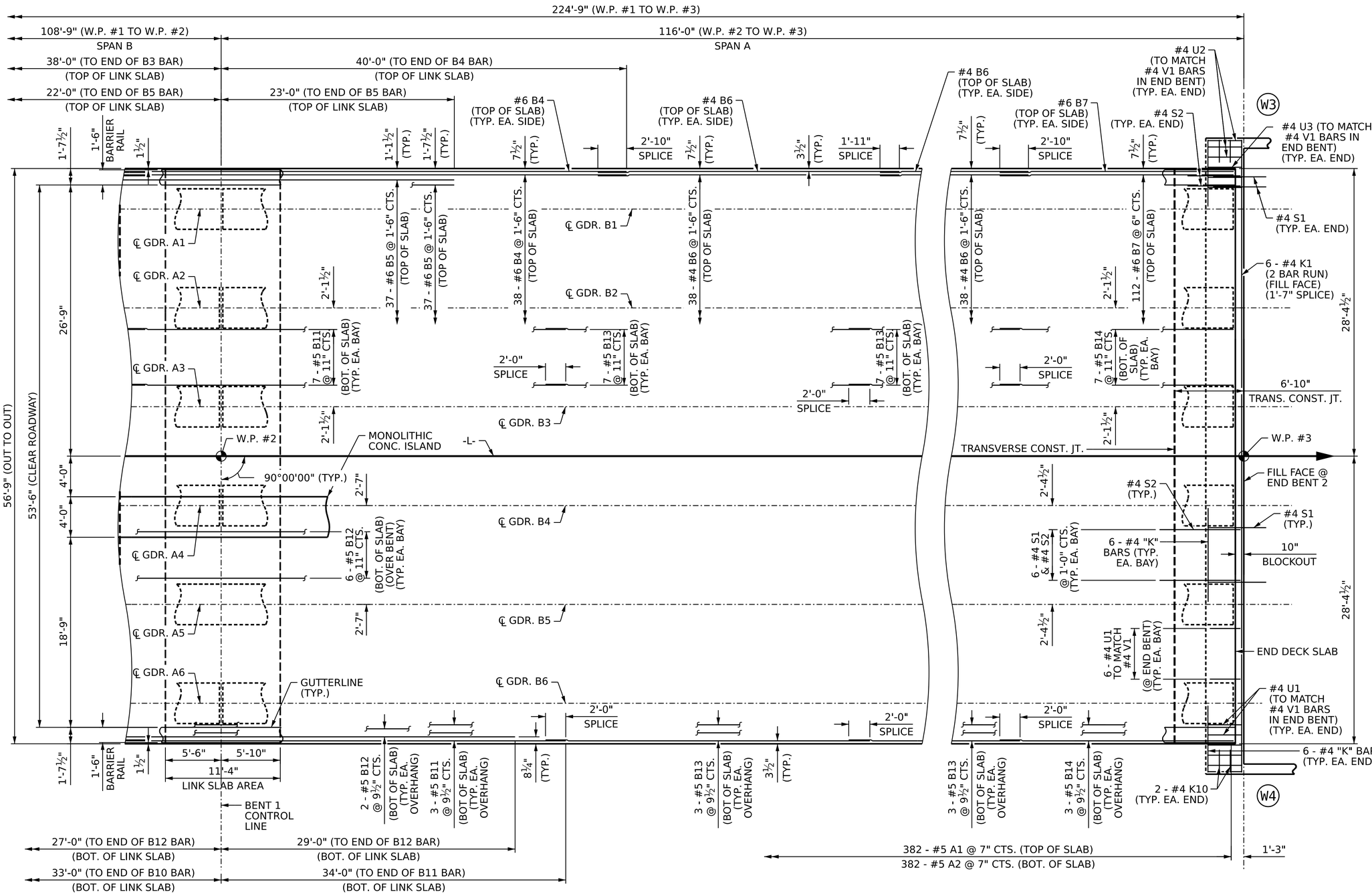

NOTES:

FOR NOTES, SEE "PLAN OF SPAN A" SHEET 1 OF 4.

PLAN OF SPAN B

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

SHEET 2 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

PLAN OF SPAN B

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NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS
2			4			35

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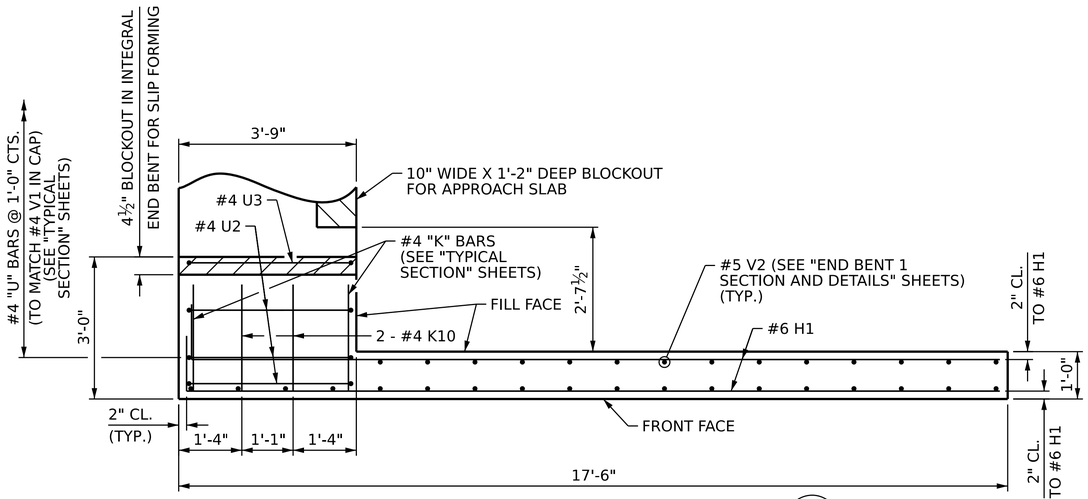
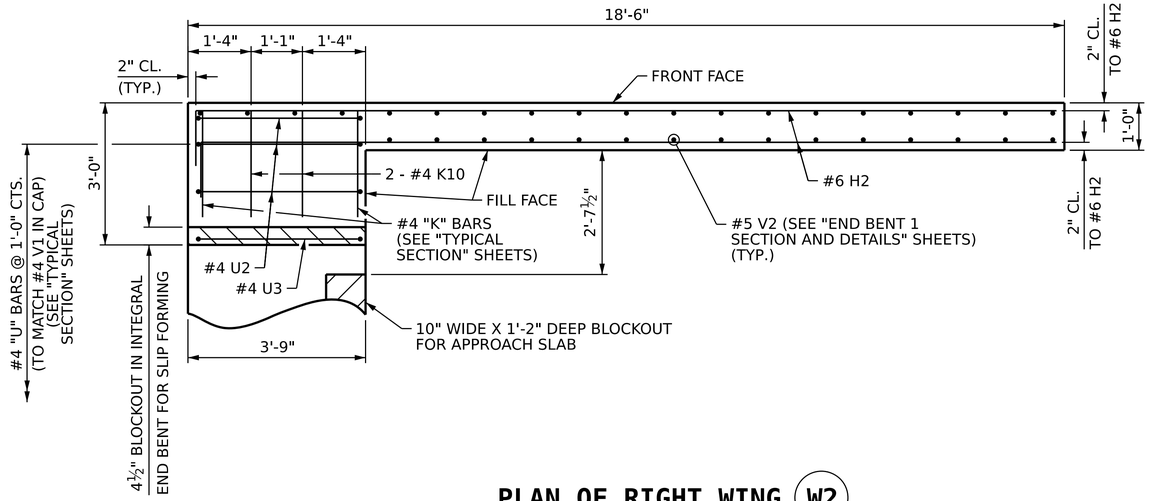


PLAN OF LEFT WING W1

#4 U1 NOT SHOWN FOR CLARITY



PLAN OF RIGHT WING W2

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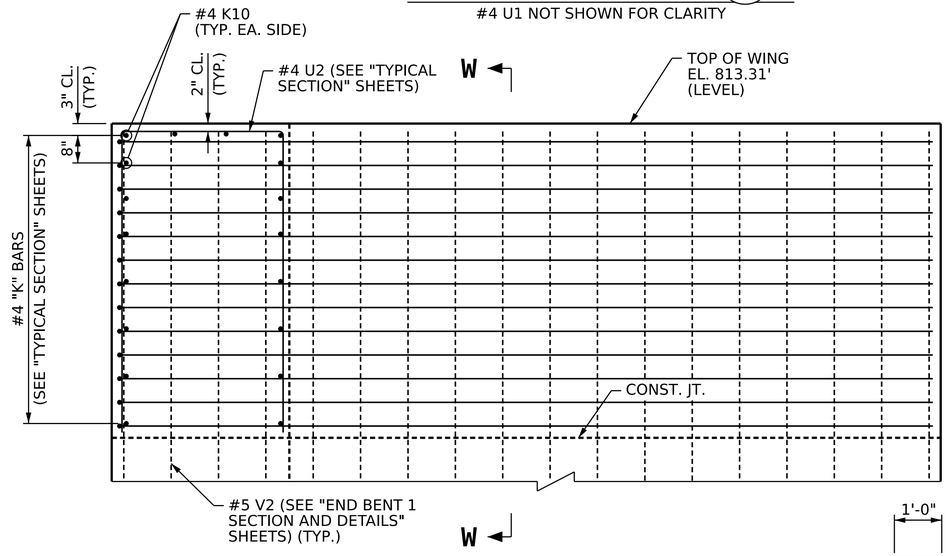
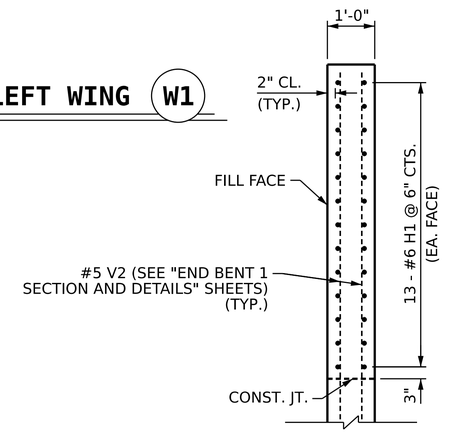
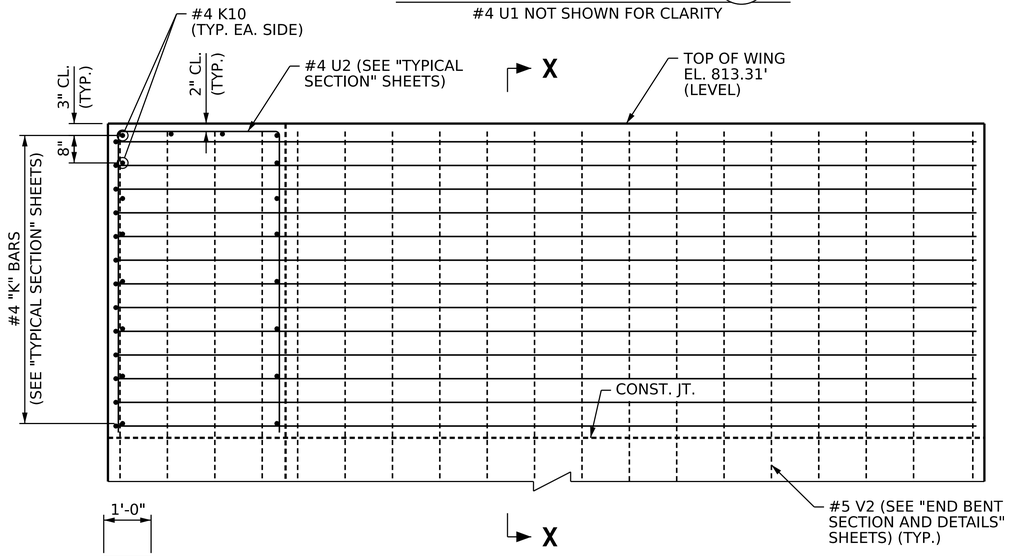


ELEVATION OF LEFT WING W1



SECTION W-W



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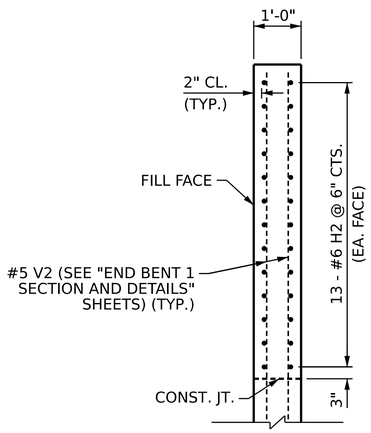

SECTION X-X

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

SHEET 3 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

PLAN OF SPAN DETAILS @ END BENT 1

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS

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940 Main Campus Drive, Suite 500
Raleigh, NC 27606

DRAWN BY : C.E. HONIGMAN	DATE : 12/2024		
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1			3			TOTAL SHEETS
2			4			35

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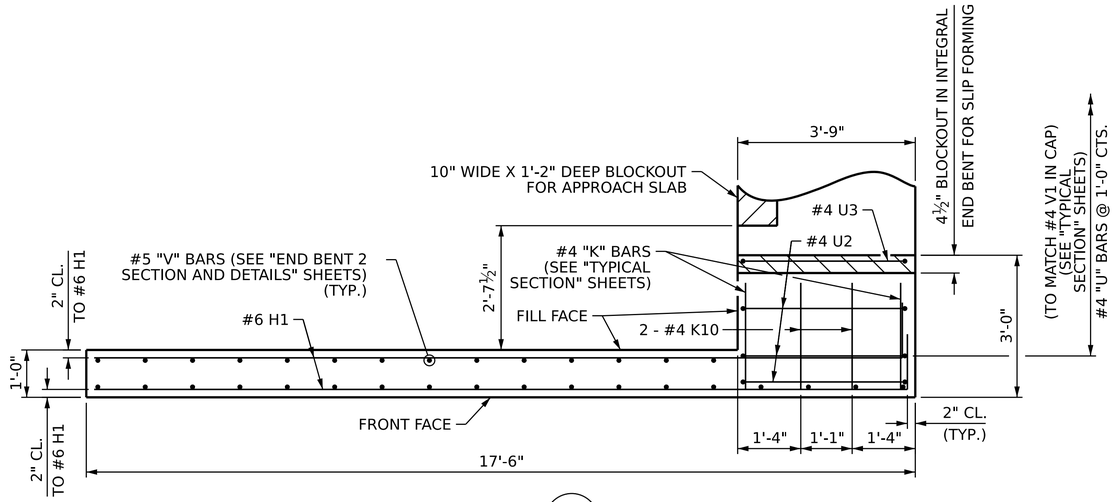

PLAN OF LEFT WING W3

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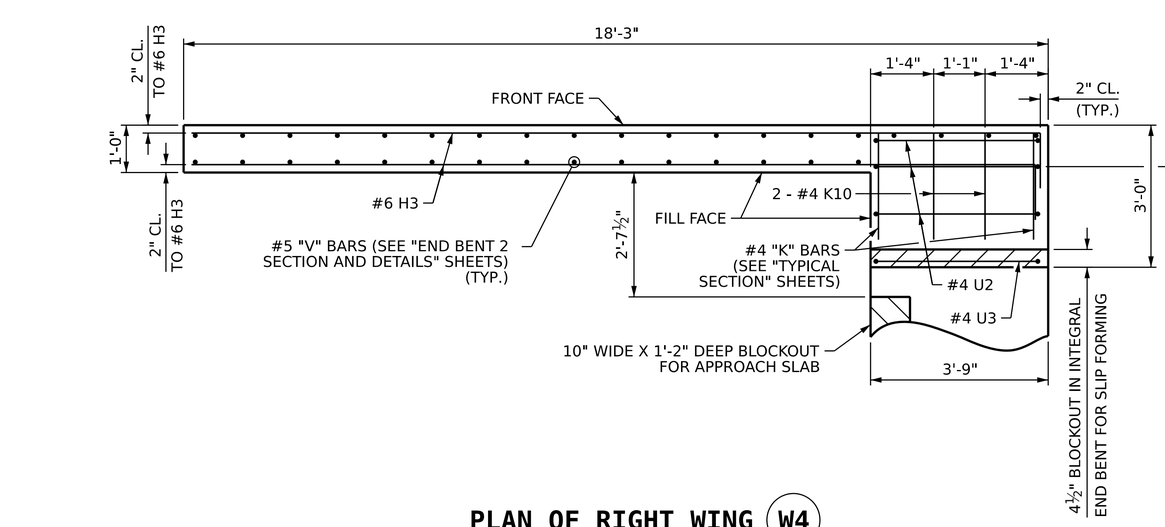

PLAN OF RIGHT WING W4

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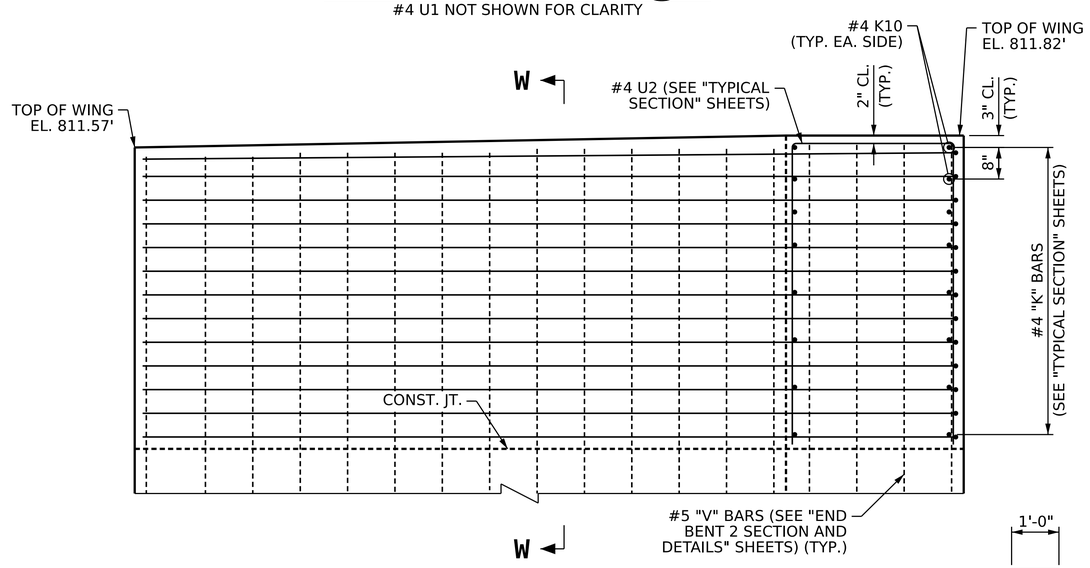
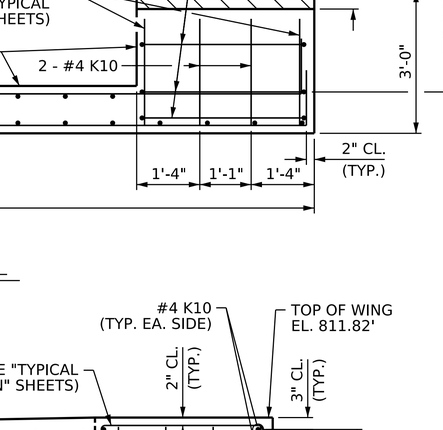
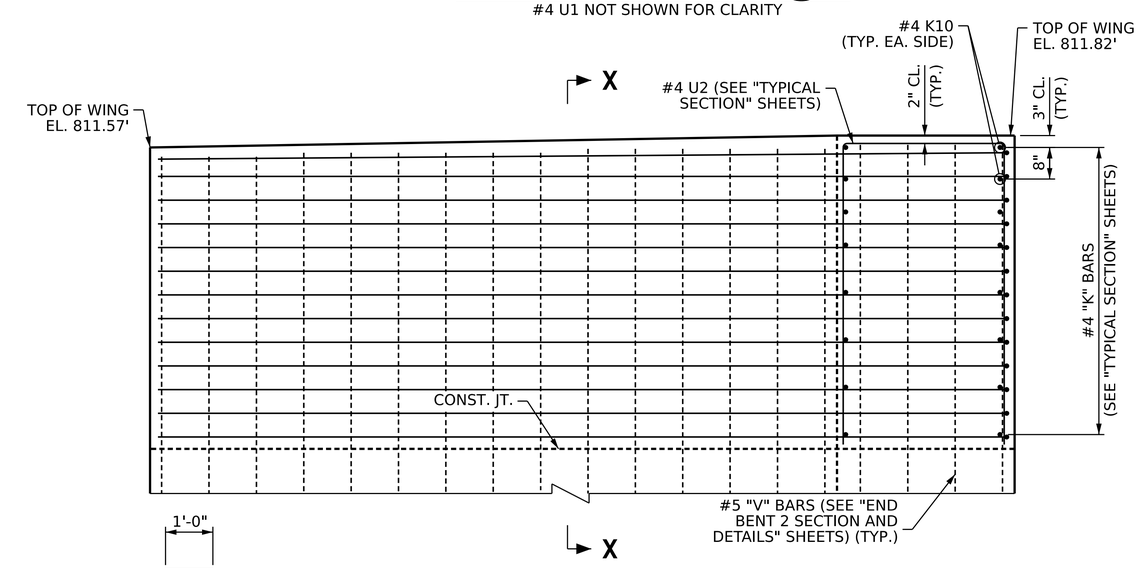


ELEVATION OF LEFT WING W3



SECTION W-W



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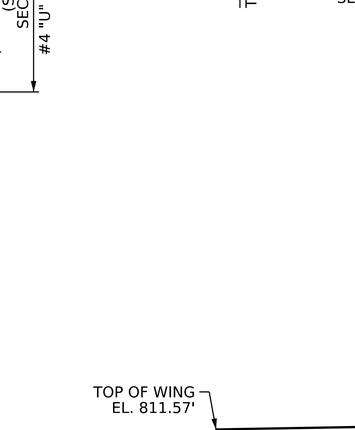

SECTION X-X

VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

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NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C PHELPS

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PROJECT NO. U-6187
DAVIE COUNTY
STATION: 70+91.84 -L-

SHEET 4 OF 4

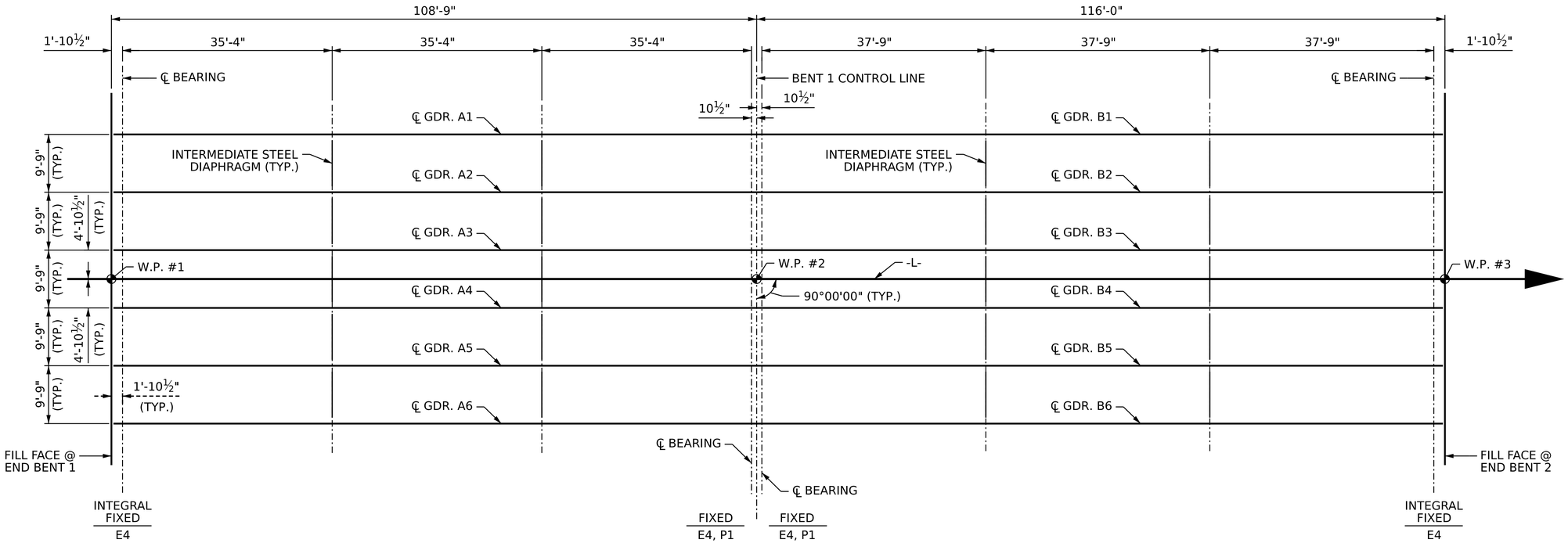
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

PLAN OF SPAN DETAILS @ END BENT 2

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

8/26/21



FRAMING PLAN

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

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NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

FRAMING PLAN

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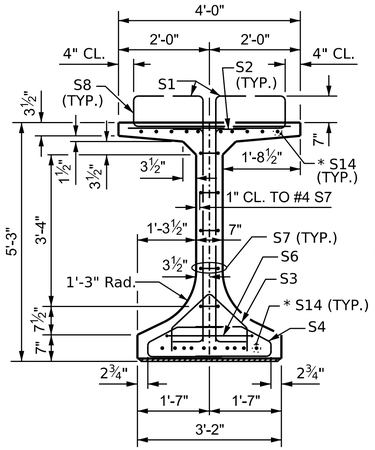
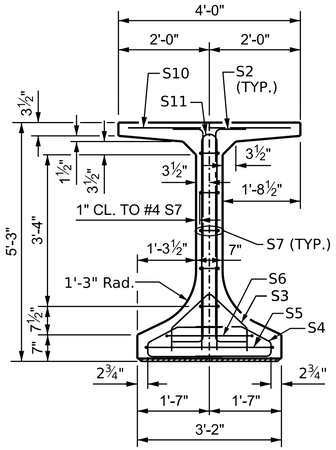
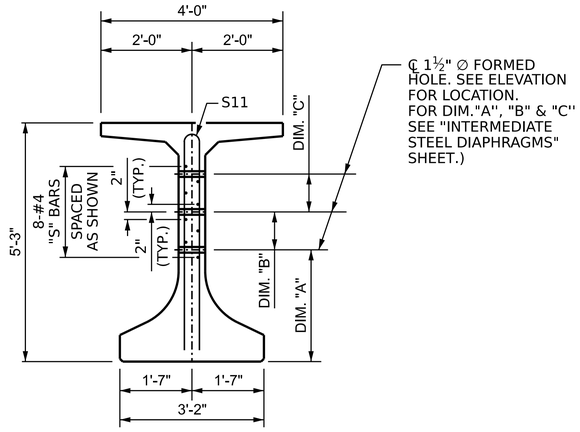


SECTION A-A

* FOR S14 BARS, SEE DETAIL "C" "FLORIDA I BEAM INTEGRAL END BENT DETAILS" SHEET

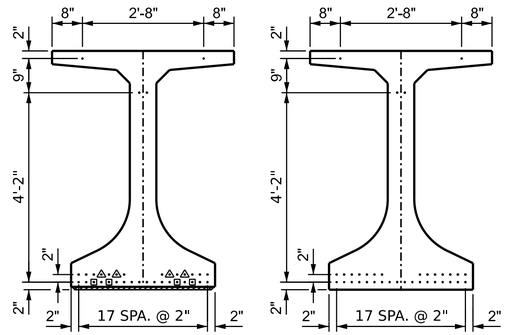


SECTION B-B



SECTION C-C

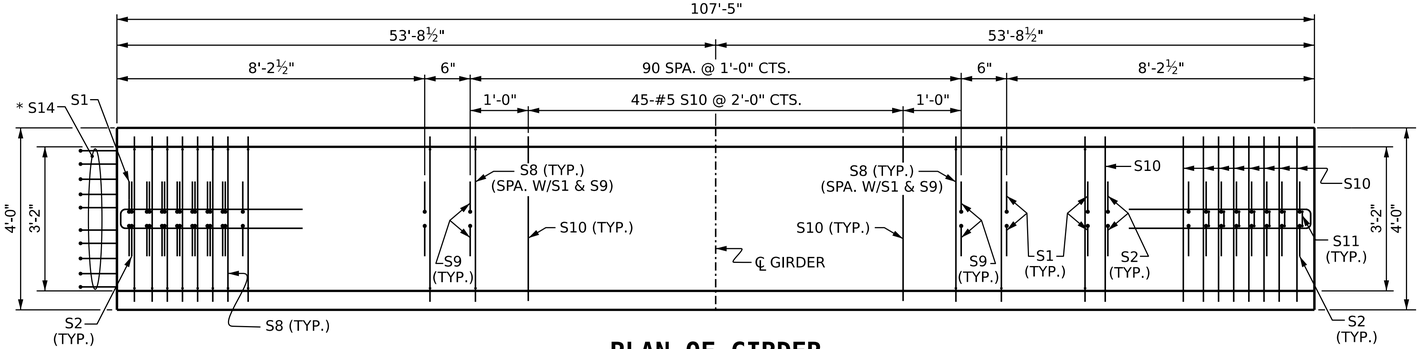
(S8, S9 AND S10 BARS NOT SHOWN)



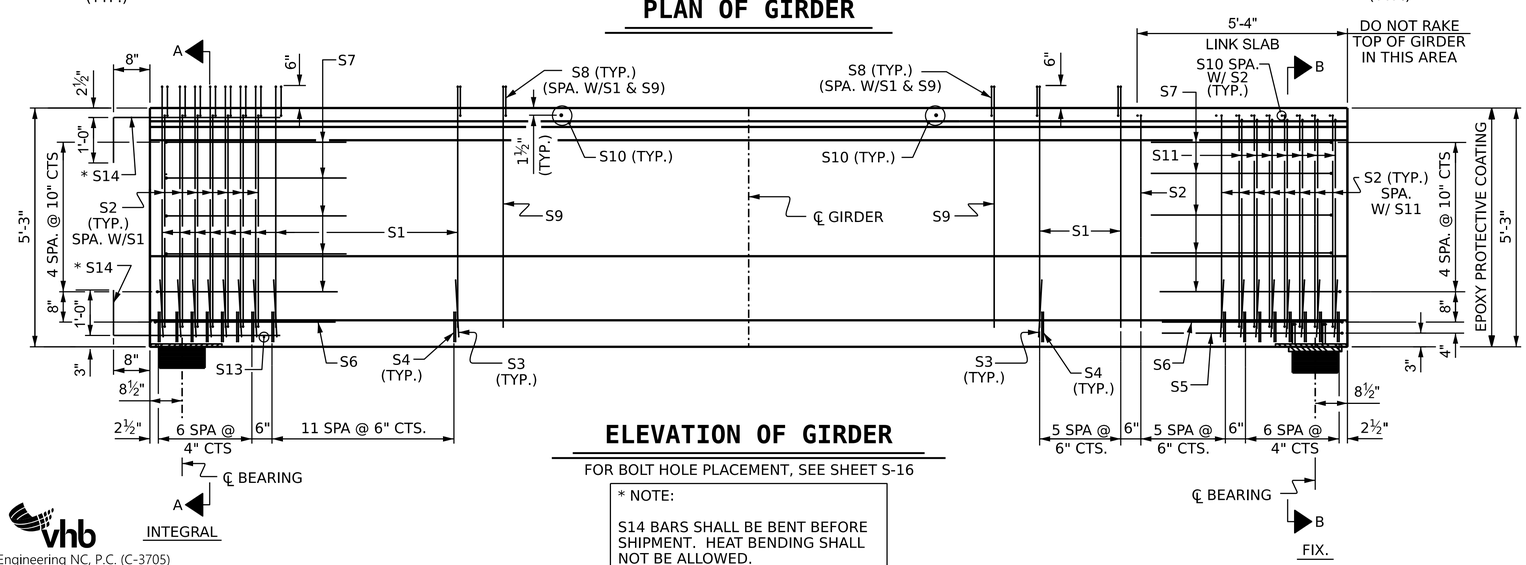
0.6" ⌀ LOW RELAXATION STRAND LAYOUT

DEBONDING LEGEND

- FULLY BONDED STRANDS
- STRANDS DEBONDED FOR 12'-0" FROM END OF GIRDER
- STRANDS DEBONDED FOR 8'-0" FROM END OF GIRDE



PLAN OF GIRDER

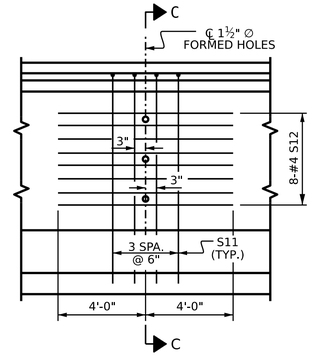


ELEVATION OF GIRDER

FOR BOLT HOLE PLACEMENT, SEE SHEET S-16

* NOTE:

S14 BARS SHALL BE BENT BEFORE SHIPMENT. HEAT BENDING SHALL NOT BE ALLOWED.



PARTIAL ELEVATION

SHOWING INTERMEDIATE STEEL DIAPHRAGM REINFORCING STEEL FOR ALL GIRDERS

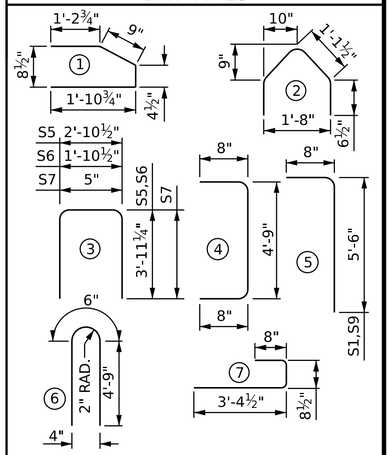
0.6"⌀ L. R. GRADE 270 STRANDS

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

REINFORCING STEEL FOR ONE GDR

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
S1	50	#5	5	6'-2"	322
S2	40	#5	4	6'-1"	254
S3	38	#3	2	3'-4"	48
S4	76	#3	1	4'-3"	121
S5	1	#5	3	10'-9"	11
S6	2	#5	3	9'-9"	20
S7	10	#4	3	8'-5"	56
S8	232	#5	7	4'-9"	1,149
S9	182	#4	5	6'-2"	750
S10	58	#5	STR	3'-8"	222
S11	15	#5	6	10'-0"	156
S12	16	#4	STR	8'-0"	86
S13	1	#3	STR	2'-10"	1
* S14	20	#6	STR	8'-0"	240

BAR TYPES



ALL BAR DIMENSIONS ARE OUT-TO-OUT

QUANTITIES FOR ONE GIRDER

REINFORCING STEEL	8,000 PSI CONCRETE	0.6" ∅ L.R. STRANDS
LB.	C.Y.	No.
3,436	27.5	36

GIRDERS REQUIRED

NUMBER	LENGTH	TOTAL LENGTH
6	107'-5"	644'-6"

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

SHEET 1 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

63" FIB PRESTRESSED CONCRETE GIRDER CONTINUOUS FOR LIVE LOAD SPAN A

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS

DocuSigned by: Elizabeth Phelps 7/15/2025 A304598A0627455...

VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

DRAWN BY : E.C. PHELPS DATE : 01/2025
CHECKED BY : K. PUROHIT DATE : 06/2025
DESIGN ENGINEER OF RECORD: E.C. PHELPS DATE : 07/2025

7/11/2025
c:\bms\vhb-pw-01\d0150489\400_013_U-6187_GRD01.dgn
chonigman

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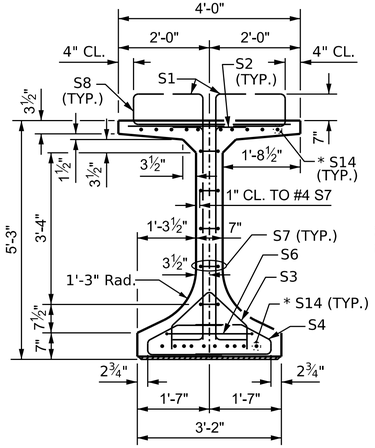
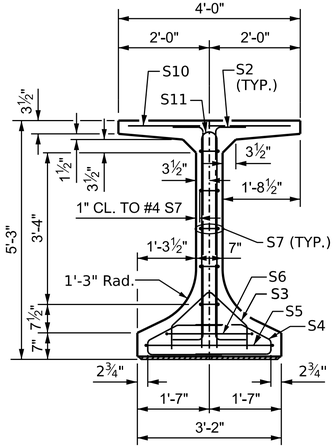
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-13
1			3			TOTAL SHEETS
2			4			35

STD. NO. FIB63 (Sht. 3)

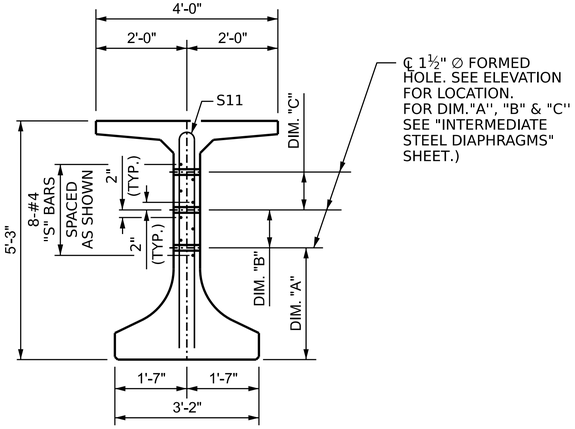
8/26/21



SECTION A-A



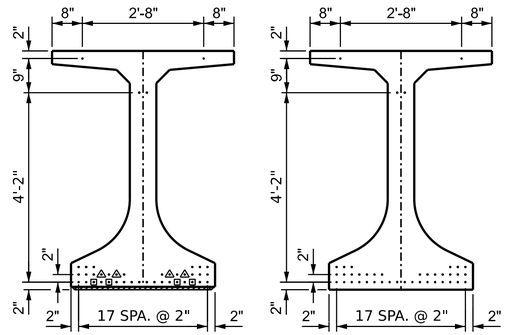
SECTION B-B



SECTION C-C

(S8, S9 AND S10 BARS NOT SHOWN)

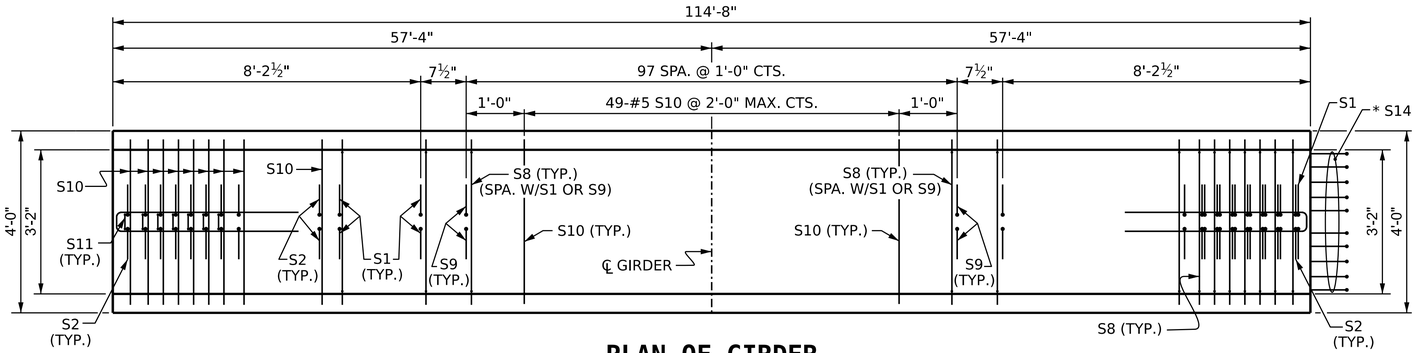
* FOR S14 BARS, SEE DETAIL "C" "FLORIDA I BEAM INTEGRAL END BENT DETAILS" SHEET



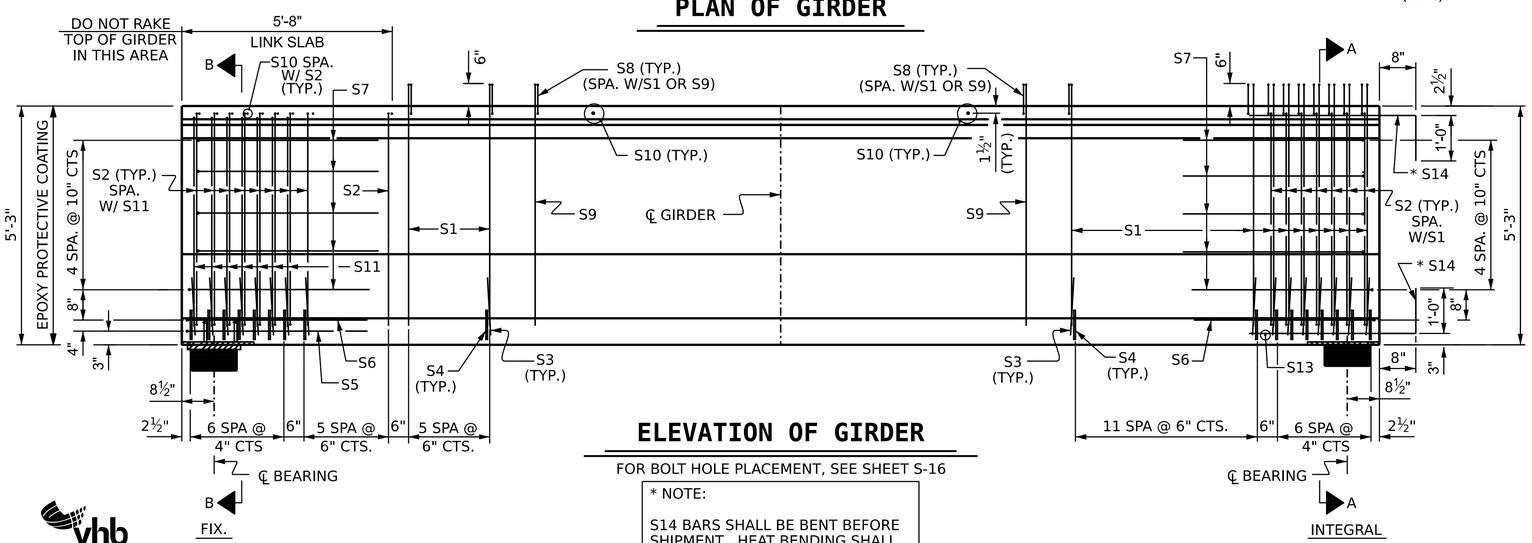
0.6" ⌀ LOW RELAXATION STRAND LAYOUT

DEBONDING LEGEND

- FULLY BONDED STRANDS
- STRANDS DEBONDED FOR 12'-0" FROM END OF GIRDER
- STRANDS DEBONDED FOR 8'-0" FROM END OF GIRDE



PLAN OF GIRDER

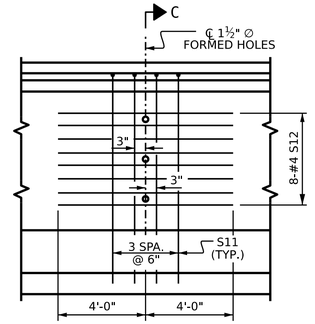


ELEVATION OF GIRDER

FOR BOLT HOLE PLACEMENT, SEE SHEET S-16

* NOTE:

S14 BARS SHALL BE BENT BEFORE SHIPMENT. HEAT BENDING SHALL NOT BE ALLOWED.



PARTIAL ELEVATION

SHOWING INTERMEDIATE STEEL DIAPHRAGM REINFORCING STEEL FOR ALL GIRDERS

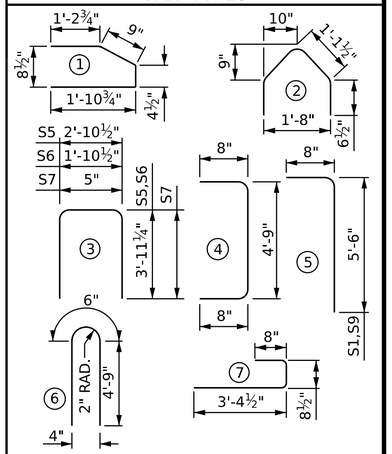
0.6"⌀ L. R. GRADE 270 STRANDS

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

REINFORCING STEEL FOR ONE GDR

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
S1	50	#5	5	6'-2"	322
S2	40	#5	4	6'-1"	254
S3	38	#3	2	3'-4"	48
S4	76	#3	1	4'-3"	121
S5	1	#5	3	10'-9"	11
S6	2	#5	3	9'-9"	20
S7	10	#4	3	8'-5"	56
S8	246	#5	7	4'-9"	1,219
S9	196	#4	5	6'-2"	807
S10	62	#5	STR	3'-8"	237
S11	15	#5	6	10'-0"	156
S12	16	#4	STR	8'-0"	86
S13	1	#3	STR	2'-10"	1
* S14	20	#6	STR	8'-0"	240

BAR TYPES



ALL BAR DIMENSIONS ARE OUT-TO-OUT

QUANTITIES FOR ONE GIRDER

REINFORCING STEEL	8,000 PSI CONCRETE	0.6" ∅ L.R. STRANDS
LB.	C.Y.	No.
3,578	29.3	42

GIRDERS REQUIRED

NUMBER	LENGTH	TOTAL LENGTH
6	114'-8"	688'-0"

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

SHEET 2 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

63" FIB PRESTRESSED CONCRETE GIRDER CONTINUOUS FOR LIVE LOAD SPAN B

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS

DocuSigned by: Elizabeth Phelps 7/15/2025

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

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DRAWN BY : C.E. HONIGMAN DATE : 01/2025
CHECKED BY : K. PUROHIT DATE : 06/2025
DESIGN ENGINEER OF RECORD: E.C. PHELPS DATE : 07/2025

7/11/2025
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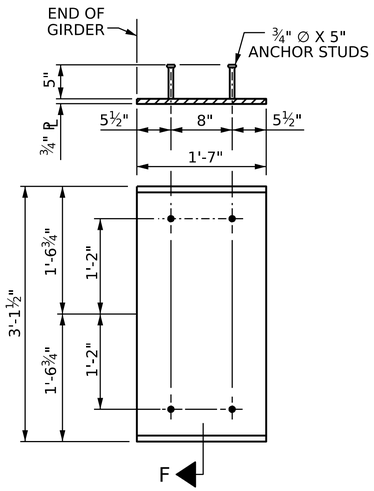
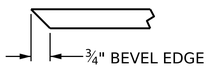
STD. NO. FIB63 (Sht. 3)

8/26/21



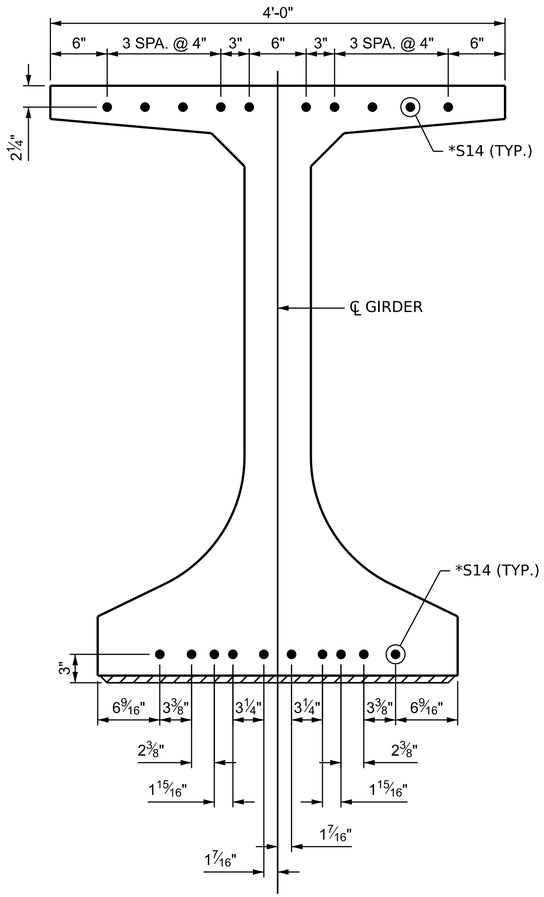


SECTION "F"

(SEE NOTES)

EMBEDDED PLATE "B-1" DETAILS FOR FIB GIRDER

(2 REQ'D PER GIRDER)



DETAIL "C"

(FLORIDA I BEAM)

NOTES

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

ALL REINFORCING STEEL SHALL BE GRADE 60.

APPLY EPOXY PROTECTIVE COATING TO END OF GIRDER SURFACES INDICATED IN ELEVATION VIEW.

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

ANCHOR STUDS SHALL CONFORM TO AASHTO M169 GRADES 1010 THROUGH 1020 0R APPROVED EQUAL, AND SHALL MEET THE TYPE "B" REQUIREMENTS OF SUBSECTION 7.3 OF THE ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE.

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

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE GIRDER SHALL BE DONE WHEN CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 7000 PSI.

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

THE TOP SURFACE OF THE GIRDER, EXCLUDING THE OUTSIDE 4", SHALL BE RAKED TO A DEPTH OF ¼".

THE CONTRACTOR HAS THE OPTION TO PROVIDE, AT NO ADDITIONAL COST TO THE DEPARTMENT, 2 ADDITIONAL STRANDS AT THE TOP OF THE GIRDER TO FACILITATE TYING OF THE REINFORCING STEEL. THESE STRANDS SHALL BE PULLED TO A LOAD OF 4500 lbs.

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

SHEET 3 OF 6

VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
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NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C PHELPS

DocuSigned by: Elizabeth Phelps A304598A0827455... 7/15/2025

DRAWN BY : C.E. HONIGMAN DATE : 01/2025
CHECKED BY : K. PUROHIT DATE : 06/2025
DESIGN ENGINEER OF RECORD: E.C. PHELPS DATE : 07/2025

7/17/2025
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

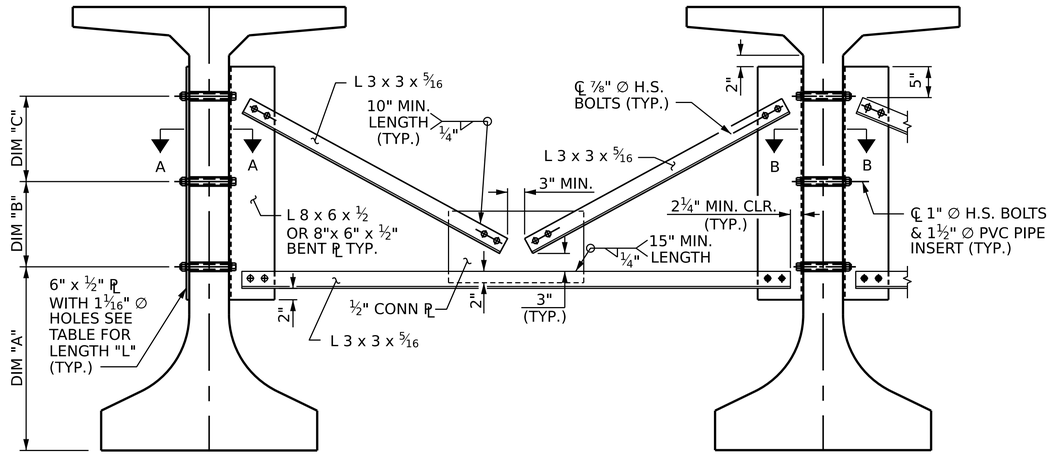
STANDARD

FLORIDA I BEAMS INTEGRAL END BENT DETAILS

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

STD. NO. FIB SHT. 1A

8/26/21

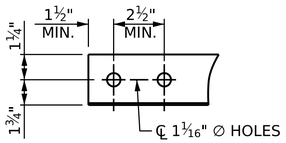


EXTERIOR GIRDER

INTERIOR GIRDER

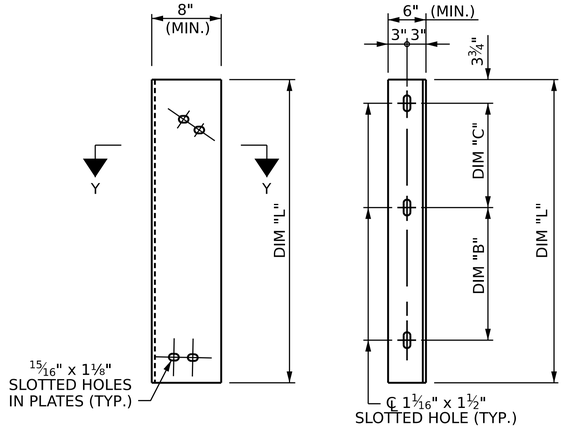
PART SECTION AT INTERMEDIATE DIAPHRAGM

(63" FIB SHOWN)



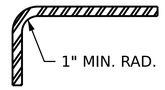
ANGLE END

(L 3 x 3 x 5/16)



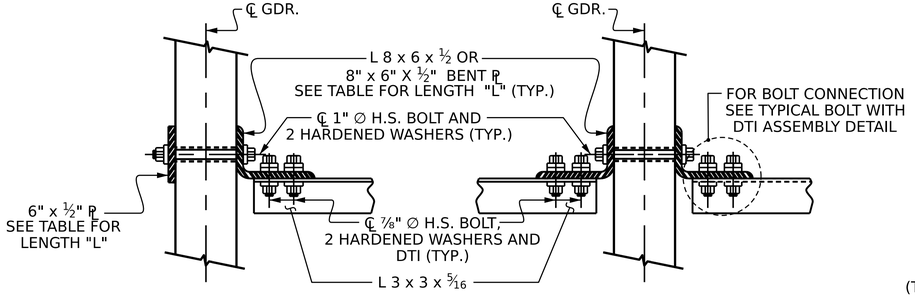
DIAPHRAGM FACE

WEB FACE



SECTION Y-Y

CONNECTOR PLATE DETAIL

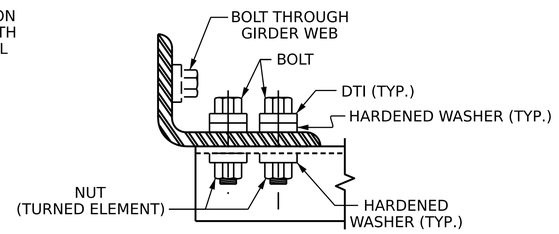


SECTION A-A

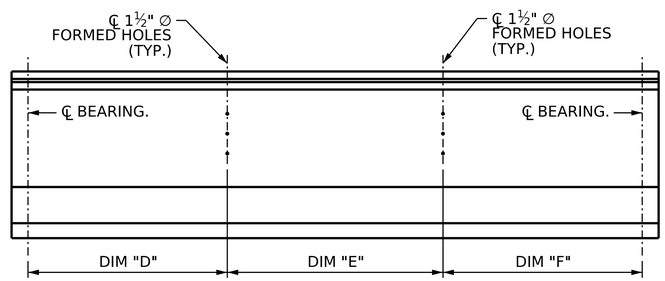
SECTION B-B

CONNECTION DETAILS

(FOR SKEW = 90°)



BOLT WITH DTI ASSEMBLY DETAIL



ELEVATION

GIRDER ELEVATION & BOLT HOLE PLACEMENT

STRUCTURAL STEEL NOTES

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

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

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

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

FOR METALLIZATION, APPLY A THERMAL SPRAYED COATING WITH A SEAL COAT TO ALL STEEL DIAPHRAGM SURFACES IN ACCORDANCE WITH THE DEPARTMENTS THERMAL SPRAYED COATINGS (METALLIZATION) PROGRAM, THERMAL SPRAYED COATINGS SPECIAL PROVISION AND SECTION 442 OF THE STANDARD SPECIFICATIONS.

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

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

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

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

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

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

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

TABLE

SPAN	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	DIM "F"	DIM "L"
SPAN A	2'-8 1/2"	7 1/2"	7 1/2"	35'-4"	35'-4"	35'-4"	2'-2"
SPAN B	2'-8 1/2"	7 1/2"	7 1/2"	37'-9"	37'-9"	37'-9"	2'-2"

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

SHEET 4 OF 6

VHB Engineering NC, P.C. (C-3705)
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NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS

DocuSigned by: Elizabeth Phelps A304588A0627455... 7/15/2025

DRAWN BY : C.E. HONIGMAN DATE : 12/2024
CHECKED BY : K. PUROHIT DATE : 06/2025
DESIGN ENGINEER OF RECORD: E.C. PHELPS DATE : 07/2025

7/11/2025
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD INTERMEDIATE STEEL DIAPHRAGMS FOR 63" FIB

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

STD. NO. FIB DIAPH

8/26/21

DEAD LOAD DEFLECTION TABLE FOR GIRDERS

SPAN A — GIRDER 1 & 5

0.6" Ø LOW RELAXATION	0	.025	.05	.075	.1	.125	.15	.175	.2	.225	.25	.275	.3	.325	.35	.375	.4	.425	.45	.475	.5	.525	.55	.575	.6	.625	.65	.675	.7	.725	.75	.775	.8	.825	.85	.875	.9	.925	.95	.975	0
FORTIETH POINTS																																									
CAMBER (GIRDER ALONE IN PLACE) ↑	0	0.015	0.029	0.044	0.059	0.069	0.080	0.090	0.101	0.108	0.114	0.121	0.128	0.132	0.135	0.139	0.143	0.144	0.145	0.146	0.147	0.146	0.145	0.144	0.143	0.139	0.135	0.132	0.128	0.121	0.114	0.108	0.101	0.090	0.080	0.069	0.059	0.044	0.029	0.015	0
✳ DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0	0.009	0.019	0.028	0.037	0.046	0.055	0.064	0.073	0.080	0.087	0.094	0.101	0.105	0.110	0.114	0.119	0.120	0.122	0.123	0.125	0.123	0.122	0.120	0.119	0.114	0.110	0.105	0.101	0.094	0.087	0.080	0.073	0.064	0.055	0.046	0.037	0.028	0.019	0.009	0
FINAL CAMBER ↑	0	1/16"	1/8"	3/16"	1/4"	1/4"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	1/4"	1/4"	1/4"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	1/4"	1/4"	3/16"	1/8"	1/16"	0

DEAD LOAD DEFLECTION TABLE FOR GIRDERS

SPAN A — GIRDER 2

0.6" Ø LOW RELAXATION	0	.025	.05	.075	.1	.125	.15	.175	.2	.225	.25	.275	.3	.325	.35	.375	.4	.425	.45	.475	.5	.525	.55	.575	.6	.625	.65	.675	.7	.725	.75	.775	.8	.825	.85	.875	.9	.925	.95	.975	0
FORTIETH POINTS																																									
CAMBER (GIRDER ALONE IN PLACE) ↑	0	0.015	0.029	0.044	0.059	0.069	0.080	0.090	0.101	0.108	0.114	0.121	0.128	0.132	0.135	0.139	0.143	0.144	0.145	0.146	0.147	0.146	0.145	0.144	0.143	0.139	0.135	0.132	0.128	0.121	0.114	0.108	0.101	0.090	0.080	0.069	0.059	0.044	0.029	0.015	0
✳ DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0	0.009	0.018	0.028	0.037	0.046	0.055	0.063	0.072	0.079	0.086	0.093	0.100	0.104	0.109	0.113	0.118	0.119	0.121	0.122	0.124	0.122	0.121	0.119	0.118	0.113	0.109	0.104	0.100	0.093	0.086	0.079	0.072	0.063	0.055	0.046	0.037	0.028	0.018	0.009	0
FINAL CAMBER ↑	0	1/16"	1/8"	3/16"	1/4"	1/4"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	1/4"	1/4"	3/16"	1/8"	1/16"	0

DEAD LOAD DEFLECTION TABLE FOR GIRDERS

SPAN A — GIRDER 3

0.6" Ø LOW RELAXATION	0	.025	.05	.075	.1	.125	.15	.175	.2	.225	.25	.275	.3	.325	.35	.375	.4	.425	.45	.475	.5	.525	.55	.575	.6	.625	.65	.675	.7	.725	.75	.775	.8	.825	.85	.875	.9	.925	.95	.975	0
FORTIETH POINTS																																									
CAMBER (GIRDER ALONE IN PLACE) ↑	0	0.015	0.029	0.044	0.059	0.069	0.080	0.090	0.101	0.108	0.114	0.121	0.128	0.132	0.135	0.139	0.143	0.144	0.145	0.146	0.147	0.146	0.145	0.144	0.143	0.139	0.135	0.132	0.128	0.121	0.114	0.108	0.101	0.090	0.080	0.069	0.059	0.044	0.029	0.015	0
✳ DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0	0.009	0.018	0.027	0.036	0.045	0.053	0.062	0.070	0.077	0.084	0.091	0.097	0.102	0.106	0.110	0.114	0.116	0.117	0.119	0.120	0.119	0.117	0.116	0.114	0.110	0.106	0.102	0.097	0.091	0.084	0.077	0.070	0.062	0.053	0.045	0.036	0.027	0.018	0.009	0
FINAL CAMBER ↑	0	1/16"	1/8"	3/16"	1/4"	5/16"	5/16"	5/16"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	5/16"	5/16"	5/16"	1/4"	3/16"	1/8"	1/16"	0

DEAD LOAD DEFLECTION TABLE FOR GIRDERS

SPAN A — GIRDER 4

0.6" Ø LOW RELAXATION	0	.025	.05	.075	.1	.125	.15	.175	.2	.225	.25	.275	.3	.325	.35	.375	.4	.425	.45	.475	.5	.525	.55	.575	.6	.625	.65	.675	.7	.725	.75	.775	.8	.825	.85	.875	.9	.925	.95	.975	0
FORTIETH POINTS																																									
CAMBER (GIRDER ALONE IN PLACE) ↑	0	0.015	0.029	0.044	0.059	0.069	0.080	0.090	0.101	0.108	0.114	0.121	0.128	0.132	0.135	0.139	0.143	0.144	0.145	0.146	0.147	0.146	0.145	0.144	0.143	0.139	0.135	0.132	0.128	0.121	0.114	0.108	0.101	0.090	0.080	0.069	0.059	0.044	0.029	0.015	0
✳ DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0	0.010	0.019	0.029	0.038	0.047	0.056	0.065	0.074	0.081	0.089	0.096	0.103	0.107	0.112	0.116	0.121	0.122	0.124	0.125	0.127	0.125	0.124	0.122	0.121	0.116	0.112	0.107	0.103	0.096	0.089	0.081	0.074	0.065	0.056	0.047	0.038	0.029	0.019	0.010	0
FINAL CAMBER ↑	0	1/16"	1/8"	3/16"	1/4"	1/4"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	1/4"	1/4"	3/16"	1/8"	1/16"	0

DEAD LOAD DEFLECTION TABLE FOR GIRDERS

SPAN A — GIRDER 6

0.6" Ø LOW RELAXATION	0	.025	.05	.075	.1	.125	.15	.175	.2	.225	.25	.275	.3	.325	.35	.375	.4	.425	.45	.475	.5	.525	.55	.575	.6	.625	.65	.675	.7	.725	.75	.775	.8	.825	.85	.875	.9	.925	.95	.975	0
FORTIETH POINTS																																									
CAMBER (GIRDER ALONE IN PLACE) ↑	0	0.015	0.029	0.044	0.059	0.069	0.080	0.090	0.101	0.108	0.114	0.121	0.128	0.132	0.135	0.139	0.143	0.144	0.145	0.146	0.147	0.146	0.145	0.144	0.143	0.139	0.135	0.132	0.128	0.121	0.114	0.108	0.101	0.090	0.080	0.069	0.059	0.044	0.029	0.015	0
✳ DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0	0.010	0.019	0.029	0.038	0.047	0.056	0.065	0.075	0.082	0.089	0.096	0.103	0.108	0.112	0.117	0.121	0.123	0.124	0.126	0.128	0.126	0.124	0.123	0.121	0.117	0.112	0.108	0.103	0.096	0.089	0.082	0.075	0.065	0.056	0.047	0.038	0.029	0.019	0.010	0
FINAL CAMBER ↑	0	1/16"	1/8"	3/16"	1/4"	1/4"	1/4"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"	1/4"	1/4"	1/4"	3/16"	1/8"	1/16"	0

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

PROJECT NO. U-6187
DAVIE COUNTY
STATION: 70+91.84 -L-

SHEET 5 OF 6

vhb
VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS
DocuSigned by: Elizabeth Phelps 7/15/2025
A304598A0627455...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

SPAN A DEFLECTION TABLE

DRAWN BY :	C.E. HONIGMAN	DATE :	01/2025
CHECKED BY :	K. PUROHIT	DATE :	06/2025
DESIGN ENGINEER OF RECORD:	E.C. PHELPS	DATE :	07/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

7/11/2025
c:\bms\vhb-pw-01\d0150489\400_017_U-6187_GRD05.dgn
chonigman

8/26/21

DEAD LOAD DEFLECTION TABLE FOR GIRDERS

0.6" Ø LOW RELAXATION	SPAN B GIRDER 1 & 5																																									
FORTIETH POINTS	0	.025	.05	.075	.1	.125	.15	.175	.2	.225	.25	.275	.3	.325	.35	.375	.4	.425	.45	.475	.5	.525	.55	.575	.6	.625	.65	.675	.7	.725	.75	.775	.8	.825	.85	.875	.9	.925	.95	.975	0
CAMBER (GIRDER ALONE IN PLACE) ↑	0	0.021	0.041	0.062	0.082	0.097	0.112	0.127	0.142	0.151	0.161	0.170	0.180	0.185	0.191	0.196	0.201	0.203	0.205	0.206	0.208	0.206	0.205	0.203	0.201	0.196	0.191	0.185	0.180	0.170	0.161	0.151	0.142	0.127	0.112	0.097	0.082	0.062	0.041	0.021	0
✳ DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0	0.012	0.024	0.037	0.049	0.060	0.072	0.084	0.095	0.104	0.113	0.122	0.132	0.137	0.143	0.149	0.155	0.156	0.158	0.160	0.162	0.160	0.158	0.156	0.155	0.149	0.143	0.137	0.132	0.122	0.113	0.104	0.095	0.084	0.072	0.060	0.049	0.037	0.024	0.012	0
FINAL CAMBER ↑	0	1/8"	3/16"	5/16"	3/8"	7/16"	1/2"	1/2"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	1/2"	1/2"	7/16"	3/8"	5/16"	3/16"	1/8"	0

DEAD LOAD DEFLECTION TABLE FOR GIRDERS

0.6" Ø LOW RELAXATION	SPAN B GIRDER 2																																									
FORTIETH POINTS	0	.025	.05	.075	.1	.125	.15	.175	.2	.225	.25	.275	.3	.325	.35	.375	.4	.425	.45	.475	.5	.525	.55	.575	.6	.625	.65	.675	.7	.725	.75	.775	.8	.825	.85	.875	.9	.925	.95	.975	0
CAMBER (GIRDER ALONE IN PLACE) ↑	0	0.021	0.041	0.062	0.082	0.097	0.112	0.127	0.142	0.151	0.161	0.170	0.180	0.185	0.191	0.196	0.201	0.203	0.205	0.206	0.208	0.206	0.205	0.203	0.201	0.196	0.191	0.185	0.180	0.170	0.161	0.151	0.142	0.127	0.112	0.097	0.082	0.062	0.041	0.021	0
✳ DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0	0.012	0.024	0.036	0.048	0.060	0.071	0.083	0.094	0.103	0.112	0.121	0.130	0.136	0.142	0.147	0.153	0.155	0.157	0.159	0.161	0.159	0.157	0.155	0.153	0.147	0.142	0.136	0.130	0.121	0.112	0.103	0.094	0.083	0.071	0.060	0.048	0.036	0.024	0.012	0
FINAL CAMBER ↑	0	1/8"	3/16"	5/16"	7/16"	7/16"	1/2"	1/2"	9/16"	9/16"	9/16"	9/16"	5/8"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	5/8"	9/16"	9/16"	9/16"	9/16"	1/2"	1/2"	7/16"	7/16"	5/16"	3/16"	1/8"	0

DEAD LOAD DEFLECTION TABLE FOR GIRDERS

0.6" Ø LOW RELAXATION	SPAN B GIRDER 3																																									
FORTIETH POINTS	0	.025	.05	.075	.1	.125	.15	.175	.2	.225	.25	.275	.3	.325	.35	.375	.4	.425	.45	.475	.5	.525	.55	.575	.6	.625	.65	.675	.7	.725	.75	.775	.8	.825	.85	.875	.9	.925	.95	.975	0
CAMBER (GIRDER ALONE IN PLACE) ↑	0	0.021	0.041	0.062	0.082	0.097	0.112	0.127	0.142	0.151	0.161	0.170	0.180	0.185	0.191	0.196	0.201	0.203	0.205	0.206	0.208	0.206	0.205	0.203	0.201	0.196	0.191	0.185	0.180	0.170	0.161	0.151	0.142	0.127	0.112	0.097	0.082	0.062	0.041	0.021	0
✳ DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0	0.012	0.024	0.035	0.047	0.058	0.069	0.080	0.092	0.100	0.109	0.118	0.127	0.132	0.138	0.143	0.149	0.151	0.153	0.155	0.157	0.155	0.153	0.151	0.149	0.143	0.138	0.132	0.127	0.118	0.109	0.100	0.092	0.080	0.069	0.058	0.047	0.035	0.024	0.012	0
FINAL CAMBER ↑	0	1/8"	3/16"	5/16"	7/16"	1/2"	1/2"	9/16"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	9/16"	1/2"	1/2"	7/16"	5/16"	3/16"	1/8"	0

DEAD LOAD DEFLECTION TABLE FOR GIRDERS

0.6" Ø LOW RELAXATION	SPAN B GIRDER 4																																									
FORTIETH POINTS	0	.025	.05	.075	.1	.125	.15	.175	.2	.225	.25	.275	.3	.325	.35	.375	.4	.425	.45	.475	.5	.525	.55	.575	.6	.625	.65	.675	.7	.725	.75	.775	.8	.825	.85	.875	.9	.925	.95	.975	0
CAMBER (GIRDER ALONE IN PLACE) ↑	0	0.021	0.041	0.062	0.082	0.097	0.112	0.127	0.142	0.151	0.161	0.170	0.180	0.185	0.191	0.196	0.201	0.203	0.205	0.206	0.208	0.206	0.205	0.203	0.201	0.196	0.191	0.185	0.180	0.170	0.161	0.151	0.142	0.127	0.112	0.097	0.082	0.062	0.041	0.021	0
✳ DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0	0.012	0.025	0.037	0.050	0.061	0.073	0.085	0.097	0.106	0.115	0.125	0.134	0.140	0.146	0.152	0.158	0.160	0.162	0.164	0.166	0.164	0.162	0.160	0.158	0.152	0.146	0.140	0.134	0.125	0.115	0.106	0.097	0.085	0.073	0.061	0.050	0.037	0.025	0.012	0
FINAL CAMBER ↑	0	1/8"	3/16"	5/16"	3/8"	7/16"	7/16"	1/2"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	1/2"	7/16"	7/16"	3/8"	5/16"	3/16"	1/8"	0

DEAD LOAD DEFLECTION TABLE FOR GIRDERS

0.6" Ø LOW RELAXATION	SPAN B GIRDER 6																																									
FORTIETH POINTS	0	.025	.05	.075	.1	.125	.15	.175	.2	.225	.25	.275	.3	.325	.35	.375	.4	.425	.45	.475	.5	.525	.55	.575	.6	.625	.65	.675	.7	.725	.75	.775	.8	.825	.85	.875	.9	.925	.95	.975	0
CAMBER (GIRDER ALONE IN PLACE) ↑	0	0.021	0.041	0.062	0.082	0.097	0.112	0.127	0.142	0.151	0.161	0.170	0.180	0.185	0.191	0.196	0.201	0.203	0.205	0.206	0.208	0.206	0.205	0.203	0.201	0.196	0.191	0.185	0.180	0.170	0.161	0.151	0.142	0.127	0.112	0.097	0.082	0.062	0.041	0.021	0
✳ DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0	0.012	0.025	0.037	0.050	0.062	0.074	0.085	0.097	0.107	0.116	0.125	0.135	0.140	0.146	0.152	0.158	0.160	0.162	0.164	0.166	0.164	0.162	0.160	0.158	0.152	0.146	0.140	0.135	0.125	0.116	0.107	0.097	0.085	0.074	0.062	0.050	0.037	0.025	0.012	0
FINAL CAMBER ↑	0	1/8"	3/16"	5/16"	3/8"	7/16"	7/16"	1/2"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	9/16"	9/16"	9/16"	9/16"	9/16"	9/16"	1/2"	7/16"	7/16"	3/8"	5/16"	3/16"	1/8"	0

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

PROJECT NO. U-6187
DAVIE COUNTY
STATION: 70+91.84 -L-

SHEET 6 OF 6

VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS
DocuSigned by: Elizabeth Phelps 7/15/2025
A304598A0627455...

DRAWN BY : C.E. HONIGMAN DATE : 01/2025
CHECKED BY : K. PUROHIT DATE : 06/2025
DESIGN ENGINEER OF RECORD: E.C. PHELPS DATE : 07/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

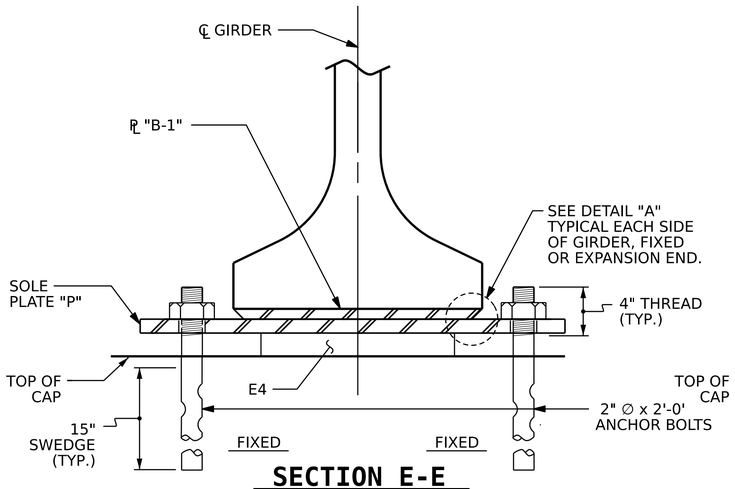
SUPERSTRUCTURE

SPAN B DEFLECTION TABLE

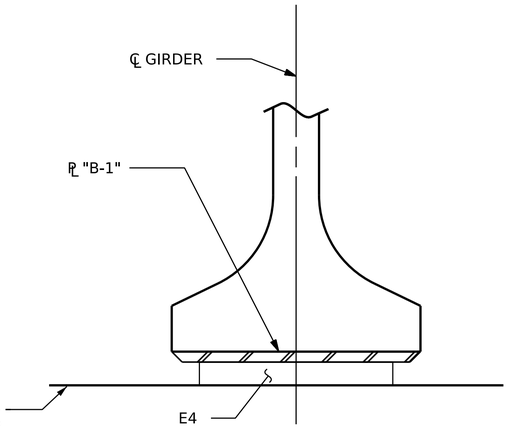
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-18
1			3			TOTAL SHEETS
2			4			35

7/11/2025
c:\bms\vhb-pw-01\d0150489\400_018_U-6187_GRD06.dgn
chonigman

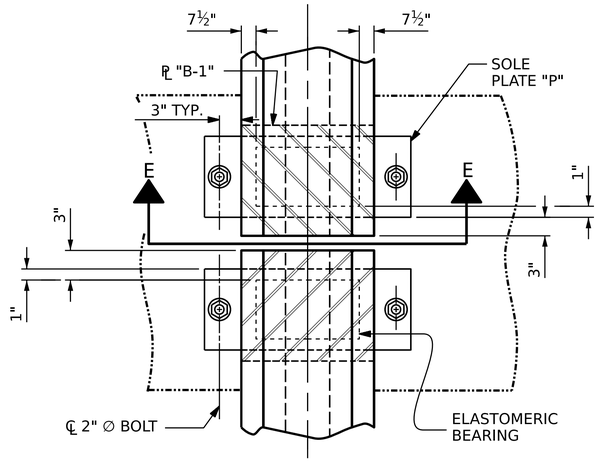
8/26/21



SECTION E-E

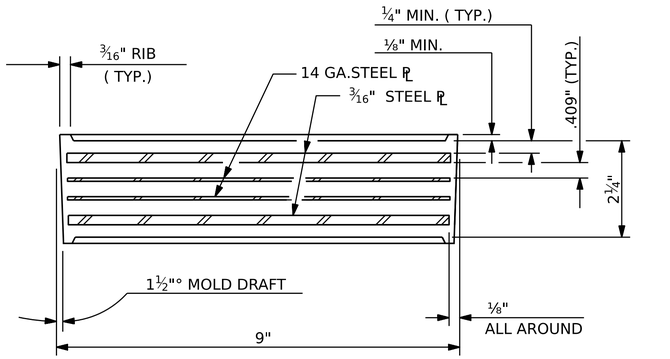


SECTION D-D

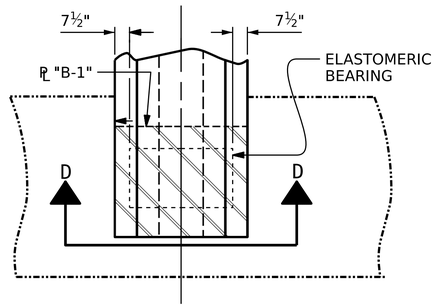


TYPICAL PLAN

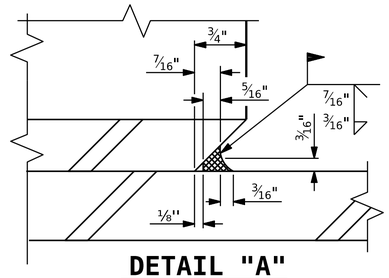
(AT BENTS)



TYPICAL SECTION OF ELASTOMERIC BEARINGS

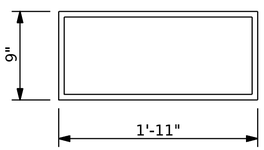


TYPICAL PLAN AT INTEGRAL END BENTS



DETAIL "A"

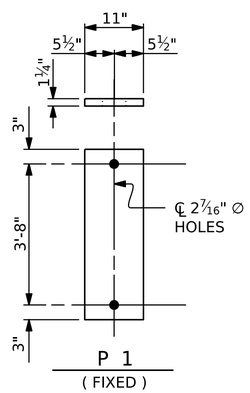
MAXIMUM ALLOWABLE SERVICE LOADS	
MAX.D.L.+ L.L.	
TYPE V	365 K



E4 (24 REQ'D)

PLAN VIEW OF ELASTOMERIC BEARING

TYPE V



P1 (12 REQ'D)

SOLE PLATE DETAILS ("P")

NOTES

AT ALL FIXED POINTS OF SUPPORT, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF ½ TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

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

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

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

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

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

ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

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

FOR STEEL REINFORCED ELASTOMERIC BEARINGS, SEE STANDARD SPECIFICATIONS.

ALL SOLE PLATES SHALL BE AASHTO M270 GRADE 36.

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

ELASTOMERIC BEARING DETAILS

PRESTRESSED CONCRETE GIRDER SUPERSTRUCTURE

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS

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STD. NO. EB4 (SHT. 1)

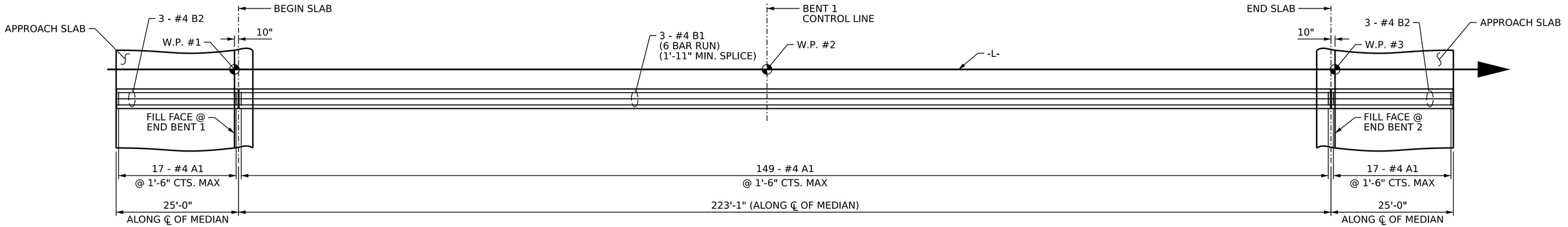
8/26/21

BILL OF MATERIAL

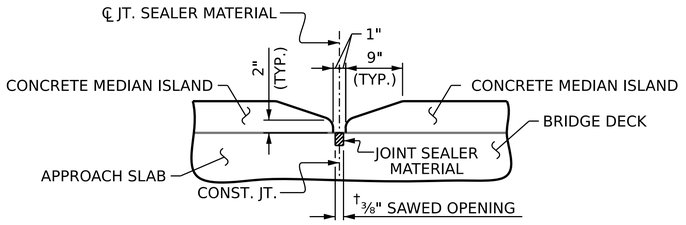
FOR MEDIAN ISLAND ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	149	#4	STR.	2'-8"	265
* B1	18	#4	STR.	38'-9"	466
* B2	6	#4	STR.	24'-4"	98

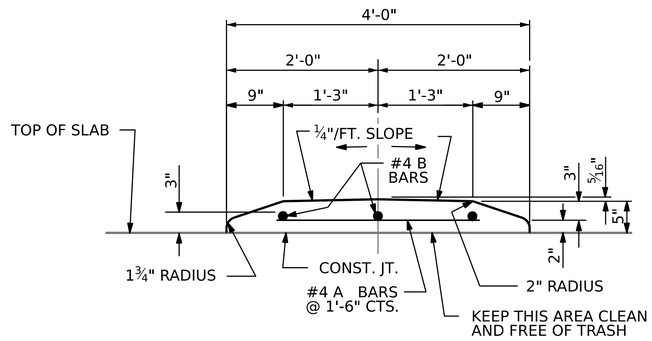
* EPOXY COATED REINFORCING STEEL	829	LBS
CLASS AA CONCRETE	15.1	CU.YDS.
CONCRETE MEDIAN ISLAND	272.6	LIN. FT.



MEDIAN CONCRETE ISLAND PLAN



DETAILS AT DEFLECTION JOINT



SECTION THRU CONCRETE ISLAND

NOTES

NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR MATERIALS OR LABOR TO CONSTRUCT THE CONCRETE MEDIAN. THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR THE REINFORCED CONCRETE DECK SLAB.

GROOVED CONTRACTION JOINTS, ½" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE MEDIAN STRIP 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. BETWEEN EXPANSION JOINTS. NO CONTRACTION JOINTS WILL BE REQUIRED FOR SEGMENTS LESS THAN 10 FT. IN LENGTH.

FOR LOCATION OF CONCRETE MEDIAN, SEE ROADWAY PLANS.

ALL REINFORCED STEEL IN CONCRETE MEDIAN SHALL BE EPOXY COATED.

THE MEDIAN IN EACH SPAN SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE IN THAT SPAN HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

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RALEIGH

MEDIAN CONCRETE ISLAND

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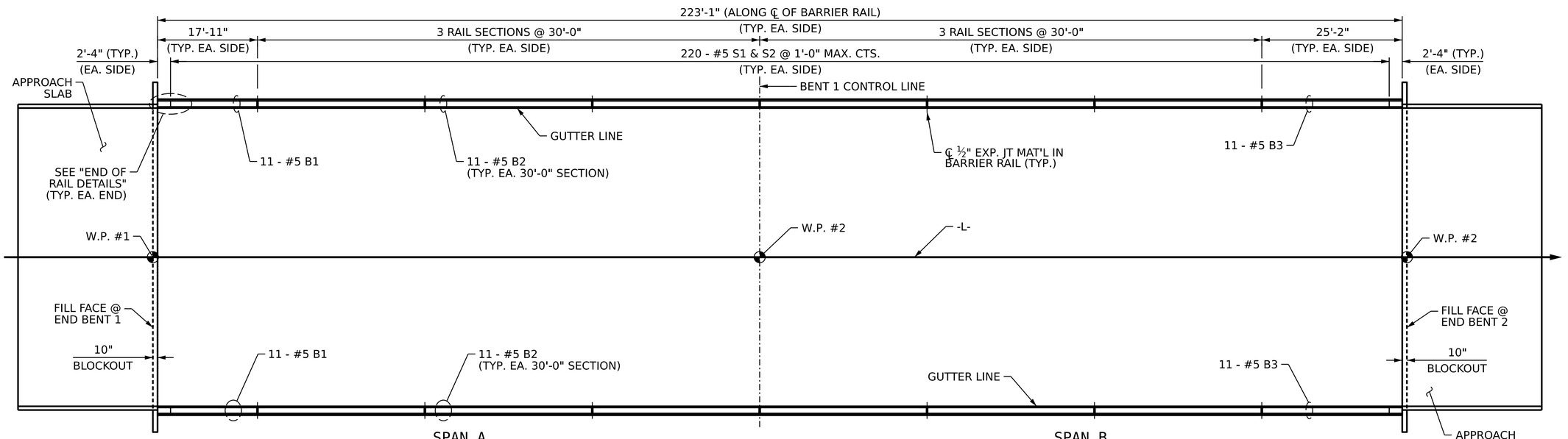
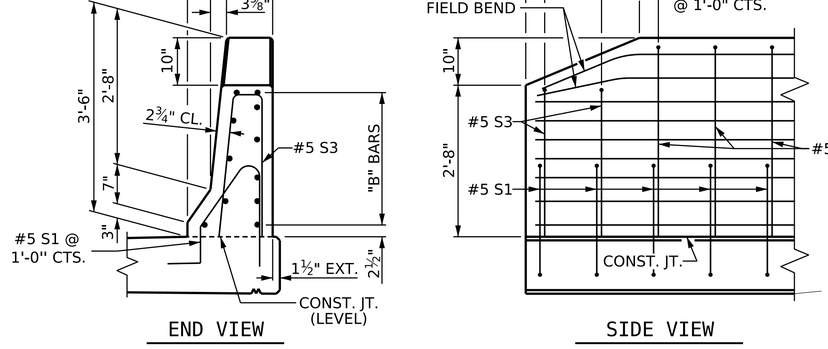
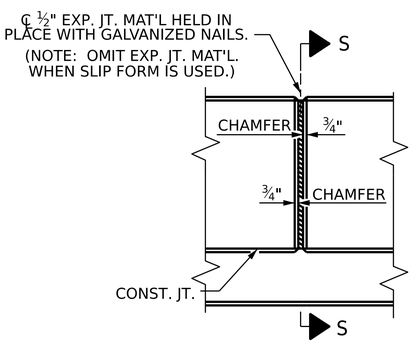


PLAN OF CONCRETE BARRIER RAIL



END OF RAIL DETAILS



ELEVATION AT EXPANSION JOINTS

BARRIER RAIL DETAILS

NOTES

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

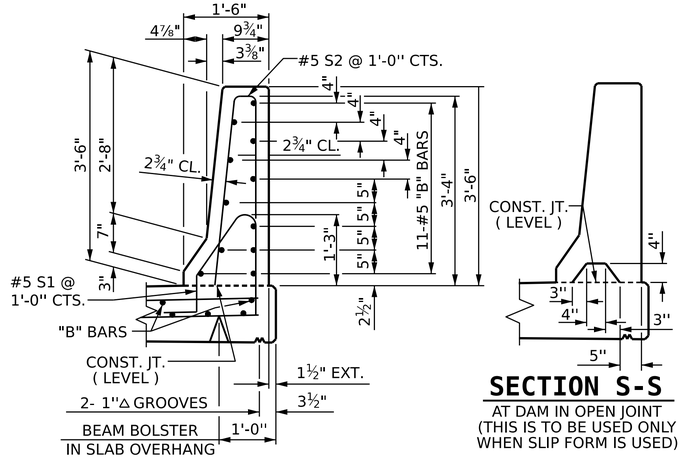
WHEN FOAM JOINT SEAL IS REQUIRED, THE JOINT IN THE DECK SHALL BE SAWED PRIOR TO THE CASTING OF BARRIER RAIL.

ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

GROOVED CONTRACTION JOINTS, ½" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF BARRIER RAIL SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

SEE "GUARDRAIL ANCHORAGE FOR BARRIER RAIL" SHEET FOR ANCHORAGE ASSEMBLY PLACEMENT.

#5 "S" BARS MAY BE SHIFTED AS NECESSARY TO CLEAR EXPANSION JOINTS IN RAIL.

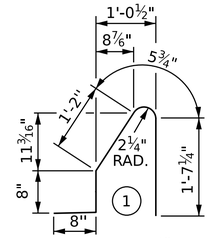


SECTION THRU RAIL

SECTION S-S

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

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL

FOR CONCRETE BARRIER RAIL ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B1	22	#5	STR	17'-6"	402
* B2	132	#5	STR	29'-7"	4,073
* B3	22	#5	STR	24'-9"	568
* S1	448	#5	1	4'-7"	2,142
* S2	440	#5	2	7'-0"	3,212
* S3	8	#5	2	5'-6"	46

* EPOXY COATED REINFORCING STEEL	10,443	LBS.
CLASS AA CONCRETE	60.9	CU. YDS.
CONCRETE BARRIER RAIL	446.2	LIN. FT.

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

STATE OF NORTH CAROLINA
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RALEIGH
STANDARD

CONCRETE BARRIER RAIL

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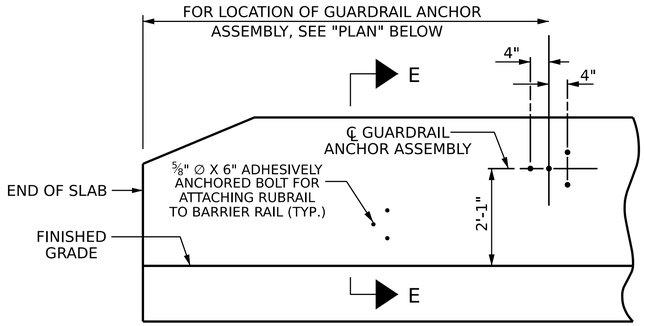
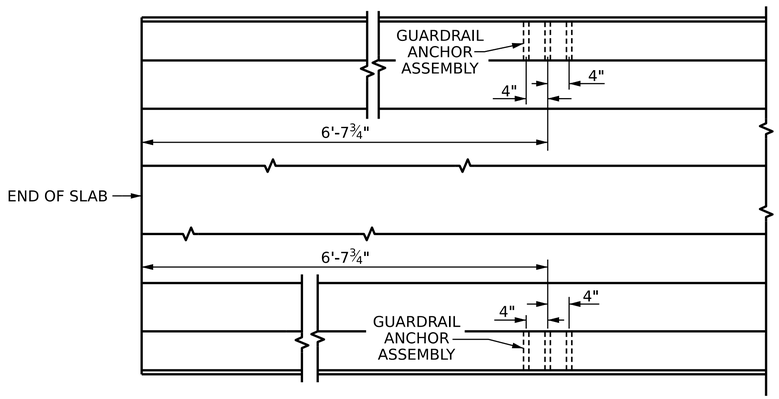


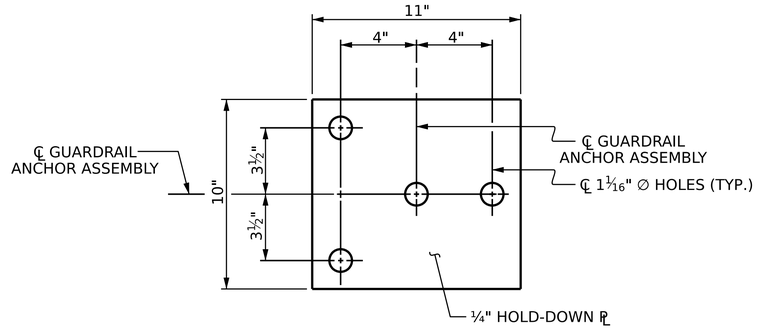
ELEVATION



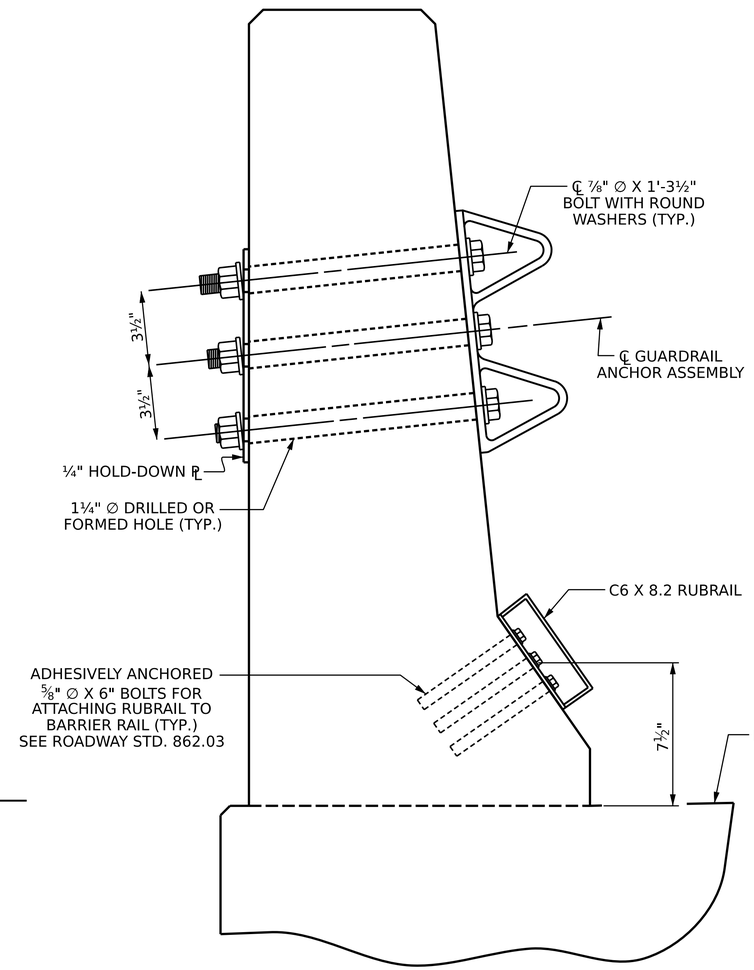
PLAN

LOCATION OF ANCHORS FOR GUARDRAIL

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



PLAN



SECTION E-E

GUARDRAIL ANCHOR ASSEMBLY DETAILS

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A ¼" HOLD-DOWN PLATE AND 4 -⅞"∅ BOLTS WITH NUTS AND WASHERS, RUBRAIL, AND ADHESIVELY ANCHORED BOLTS.

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

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE ⅞" ∅ GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

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

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

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

THE 1¼'' ∅ HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

THE C6 X 8.2 RUBRAIL IS TO BE ADHESIVELY ANCHORED TO THE RAIL USING THREE ⅝" ∅ X 6" BOLTS WITH WASHERS. LEVEL ONE FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE ⅝" ∅ BOLT IS 12 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS. SEE ROADWAY STANDARD 862.03 FOR DETAILS AND LOCATION OF THE RUBRAIL.

SKETCH SHOWING POINTS OF ATTACHMENTS

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. U-6187

DAVIE COUNTY

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GUARDRAIL ANCHORAGE FOR BARRIER RAIL

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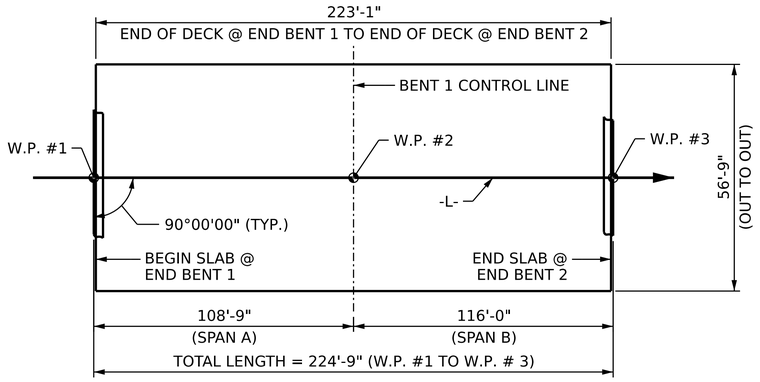


LAYOUT FOR COMPUTING AREA OF REINFORCED CONCRETE DECK SLAB (SQ. FT. = 12,660)

BILL OF MATERIAL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
✳ A1	382	#5	STR	56'-4"	22,445
A2	382	#5	STR	56'-4"	22,445
✳ B1	114	#6	STR	21'-7"	3,696
✳ B2	80	#4	STR	27'-11"	1,492
✳ B3	40	#6	STR	30'-6"	1,832
✳ B4	40	#6	STR	50'-4"	3,024
✳ B5	74	#6	STR	45'-0"	5,002
✳ B6	80	#4	STR	29'-9"	1,590
✳ B7	114	#6	STR	23'-1"	3,953
B8	41	#5	STR	21'-7"	923
B9	41	#5	STR	57'-2"	2,445
B10	41	#5	STR	25'-6"	1,090
B11	41	#5	STR	43'-6"	1,860
B12	34	#5	STR	56'-0"	1,986
B13	82	#5	STR	32'-0"	2,737
B14	41	#5	STR	23'-1"	987

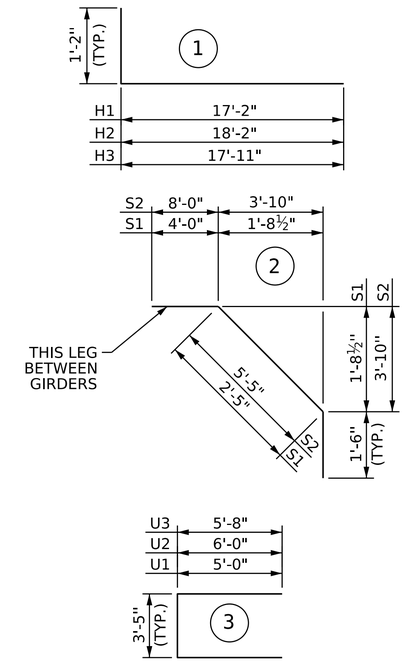
BILL OF MATERIAL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H1	52	#6	1	18'-4"	1,432
H2	26	#6	1	19'-4"	755
H3	26	#6	1	19'-1"	745
K1	24	#4	STR	32'-0"	513
K2	10	#4	STR	6'-3"	42
K3	10	#4	STR	8'-2"	55
K4	30	#4	STR	8'-10"	177
K5	10	#4	STR	5'-5"	36
K6	4	#4	STR	5'-1"	14
K7	4	#4	STR	6'-0"	16
K8	12	#4	STR	6'-4"	51
K9	4	#4	STR	4'-8"	12
K10	16	#4	STR	2'-3"	24
✳ S1	68	#4	2	7'-11"	360
✳ S2	68	#4	2	14'-11"	678
U1	68	#4	3	13'-5"	609
U2	12	#4	3	15'-5"	124
U3	4	#4	3	14'-9"	39

GROOVING BRIDGE FLOORS

APPROACH SLABS	2,475	SQ.FT.
BRIDGE DECK	11,266	SQ.FT.
TOTAL	13,740	SQ.FT.

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

SUPERSTRUCTURE BILL OF MATERIAL

	CLASS AA CONCRETE	REINFORCING STEEL	✳ EPOXY COATED REINFORCING STEEL
	(CU.YDS.)	(LBS.)	(LBS.)
SPANS A, B		39,117	44,072
POUR #1	129.5		
POUR #2	166.3		
POUR #3	125.0		
TOTALS**	420.8	39,117	44,072

** QUANTITIES FOR BARRIER RAIL AND MEDIAN ARE NOT INCLUDED

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

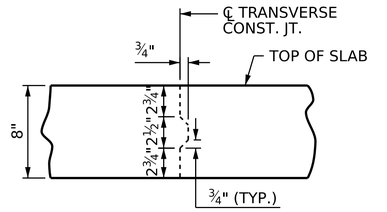
BAR SIZE	SUPERSTRUCTURE EXCEPT APPROACH SLABS, PARAPET, AND BARRIER RAIL		APPROACH SLABS		PARAPET AND BARRIER RAIL
	EPOXY COATED	UNCOATED	EPOXY COATED	UNCOATED	
#4	1'-11"	1'-7"	1'-11"	1'-7"	2'-6"
#5	2'-5"	2'-0"	2'-5"	2'-0"	3'-1"
#6	2'-10"	2'-5"	3'-7"	2'-5"	3'-8"
#7	4'-2"	2'-9"			
#8	4'-9"	3'-2"			

POURING SEQUENCE

= INDICATES POUR NUMBER AND DIRECTION OF POUR

OPTIONAL POURING SEQUENCE

= INDICATES POUR NUMBER AND DIRECTION OF POUR



TRANSVERSE CONSTRUCTION JOINT DETAIL

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

PROJECT NO. U-6187
DAVIE COUNTY
STATION: 70+91.84 -L-

STATE OF NORTH CAROLINA
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RALEIGH

SUPERSTRUCTURE BILL OF MATERIALS

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS
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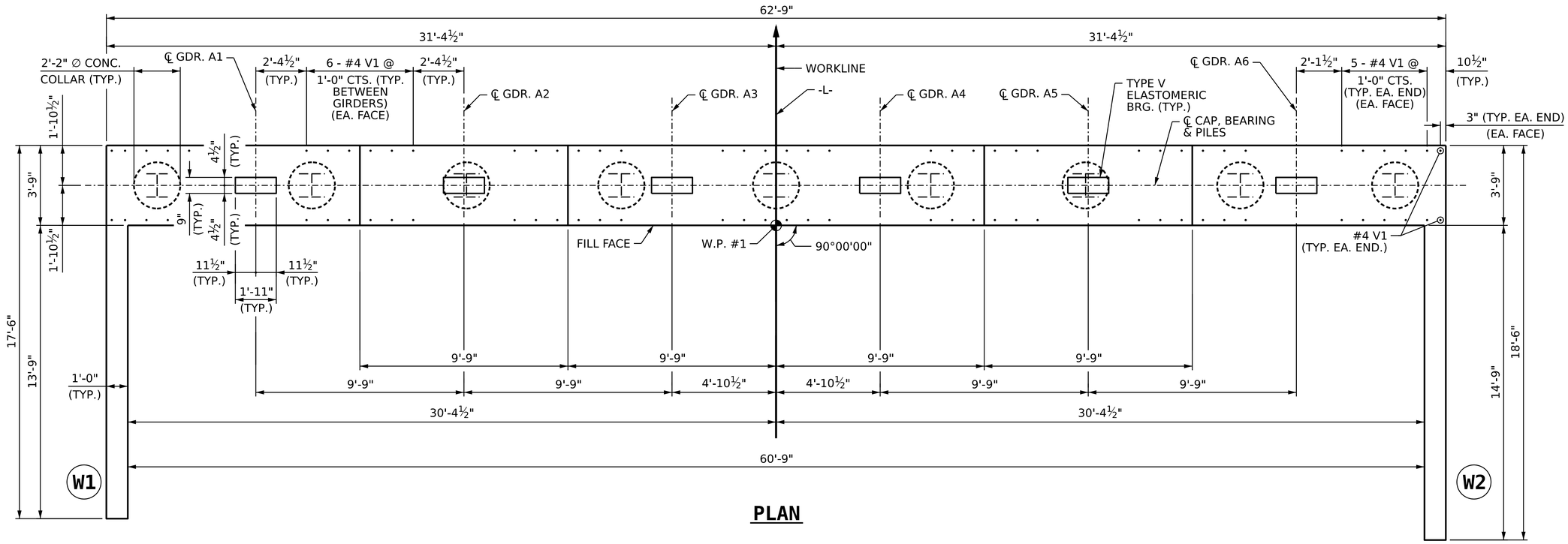
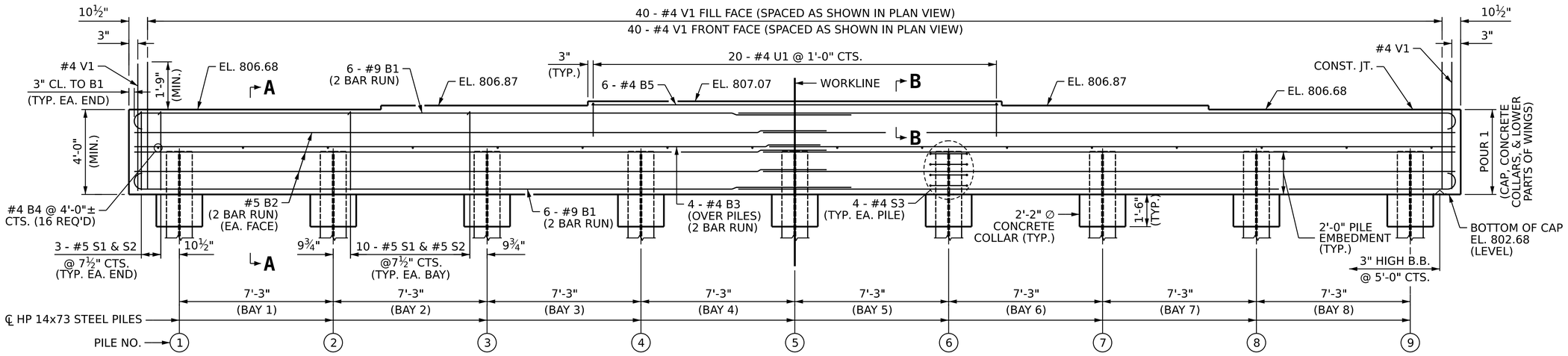


PLAN



ELEVATION

NOTES

FOR PILE SPLICE DETAILS, AND TEMPORARY DRAINAGE DETAILS, SEE SHEET 3 OF 3.

FOR SECTION A-A AND PARTIAL SECTION B-B, SEE SHEET 3 OF 3.

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR #4 V1 BARS.

THE TOP SURFACE OF POUR 1 OF THE END BENT CAP AND WINGS, EXCLUDING THE BEARING AREA, SHALL BE RAKED TO A DEPTH OF ¼".

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

THE UPPER PART OF INTEGRAL PORTION AND WINGS SHALL BE POURED WITH SUPERSTRUCTURE, SEE SUPERSTRUCTURE PLANS.

MINIMUM SPLICE LENGTHS	
#9 B1	5'-4"
#5 B2	3'-0"
#4 B3	2'-5"

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PROJECT NO. U-6187
DAVIE COUNTY
STATION: 70+91.84 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT 1 PLAN AND ELEVATION

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-24
1			3			TOTAL SHEETS
2			4			35

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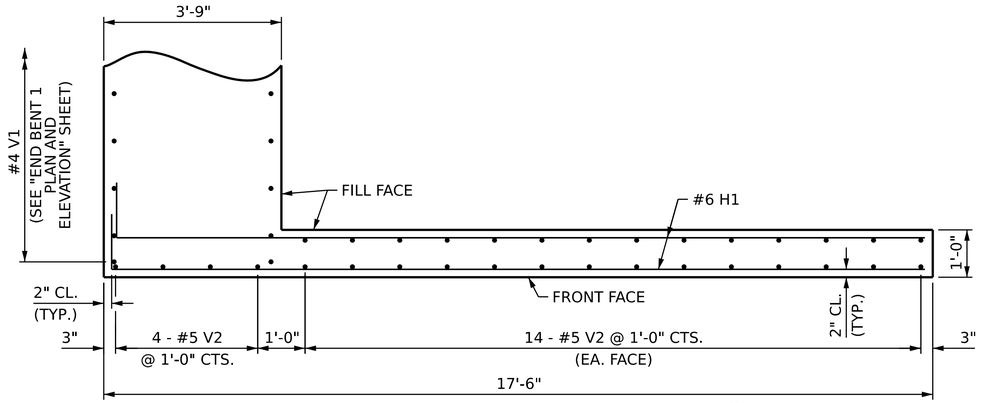
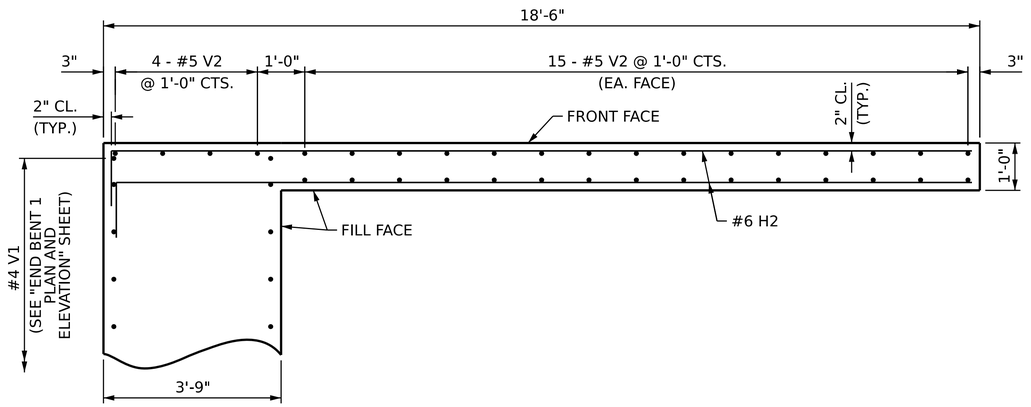


PLAN OF LEFT WING W1

#4 U1 NOT SHOWN FOR CLARITY



PLAN OF RIGHT WING W2

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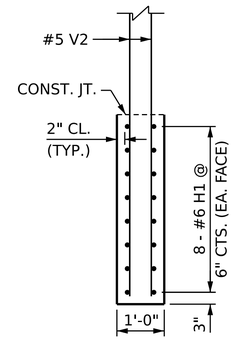
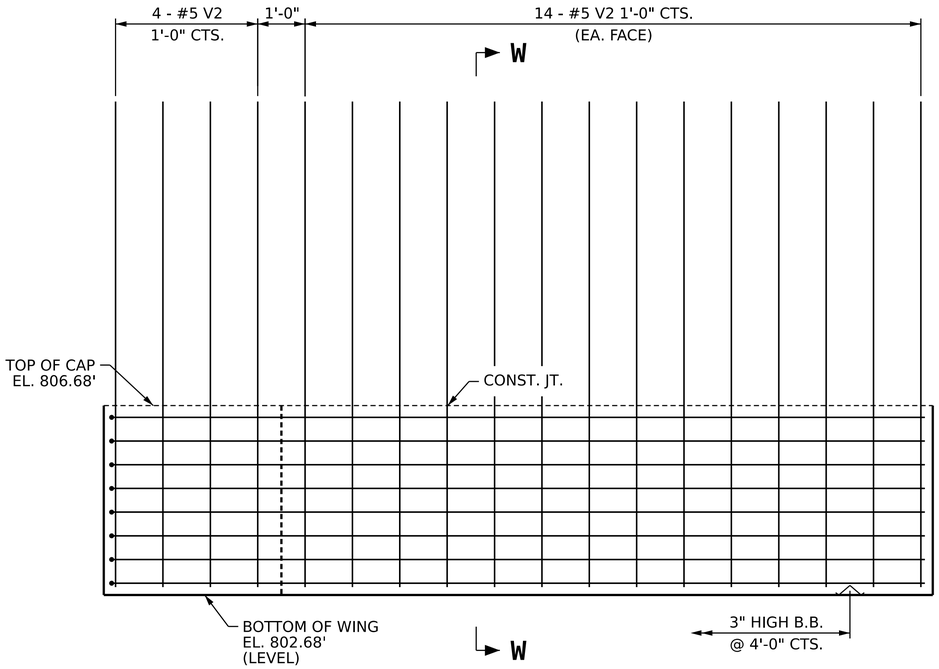
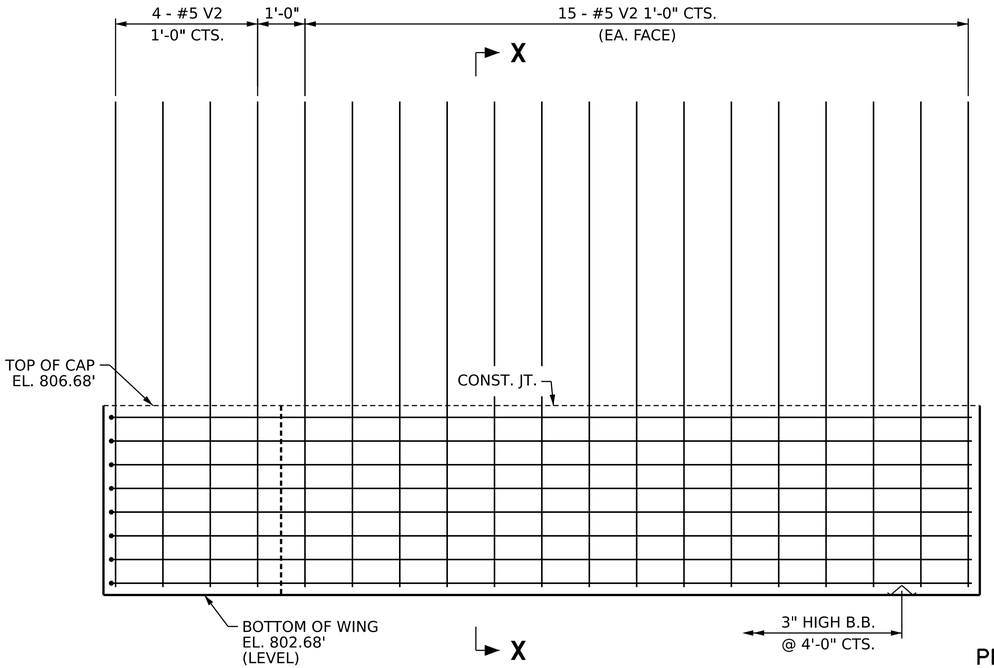


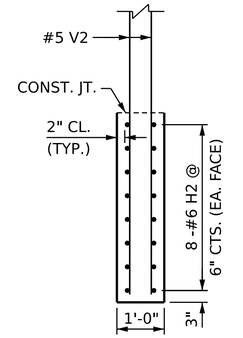
SECTION W-W



ELEVATION OF LEFT WING W1



ELEVATION OF LEFT WING W2



SECTION X-X

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VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

PROJECT NO. U-6187
DAVIE COUNTY
STATION: 70+91.84 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT 1
WING WALL DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS
DocuSigned by: Elizabeth Phelps A3045984A0627455...
7/15/2025

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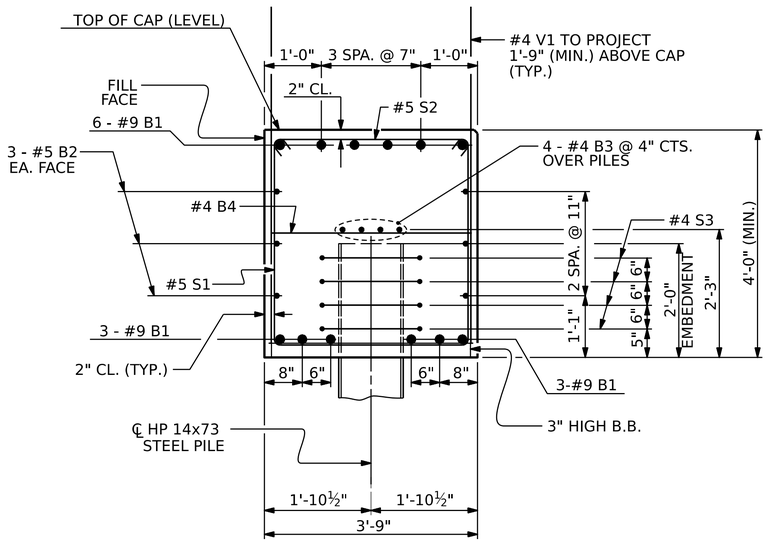
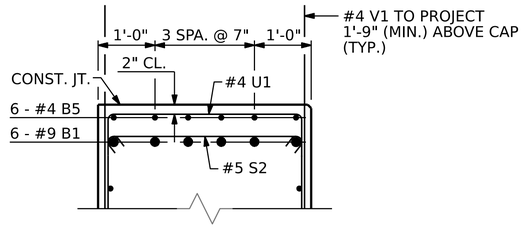
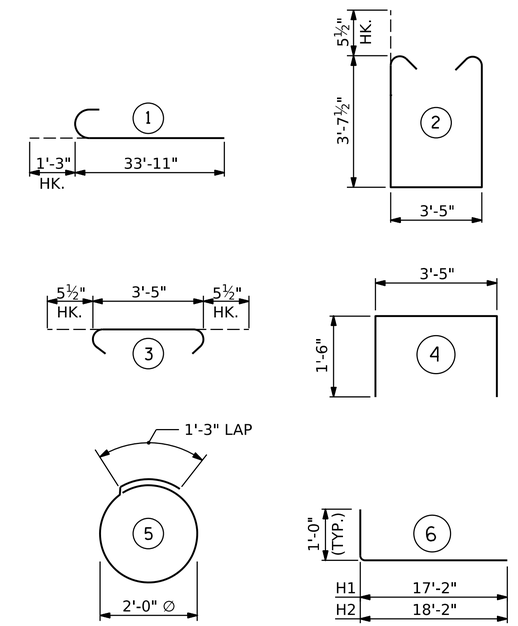


SECTION A-A



PARTIAL SECTION B-B

BAR TYPES



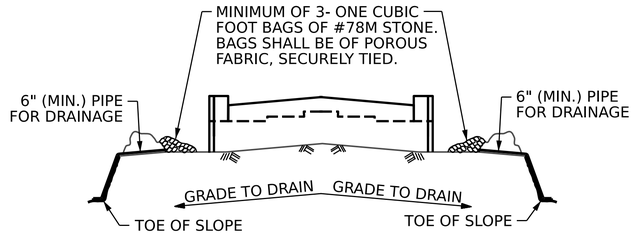
ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

END BENT 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	24	#9	1	35'-2"	2,870
B2	12	#5	STR	32'-9"	410
B3	8	#4	STR	32'-5"	173
B4	16	#4	STR	3'-5"	37
B5	6	#4	STR	19'-2"	77
H1	16	#6	6	18'-2"	437
H2	16	#6	6	19'-2"	461
S1	86	#5	2	11'-7"	1,039
S2	86	#5	3	4'-4"	389
S3	36	#4	5	7'-6"	180
U1	20	#4	4	6'-5"	86
V1	84	#4	STR	6'-0"	337
V2	66	#5	STR	10'-3"	706

REINFORCING STEEL	7,202 LBS.
CLASS A CONCRETE	
POUR #1 (CAP, CONCRETE COLLARS & LOWER PART OF WINGS)	42.6 C.Y.

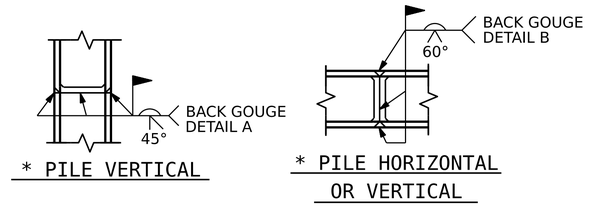


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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

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

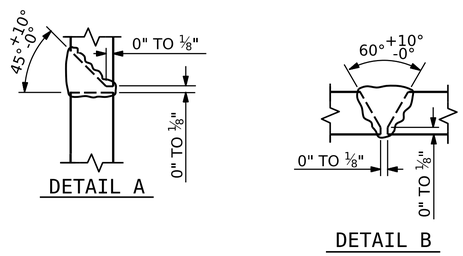
TEMPORARY DRAINAGE AT END BENT



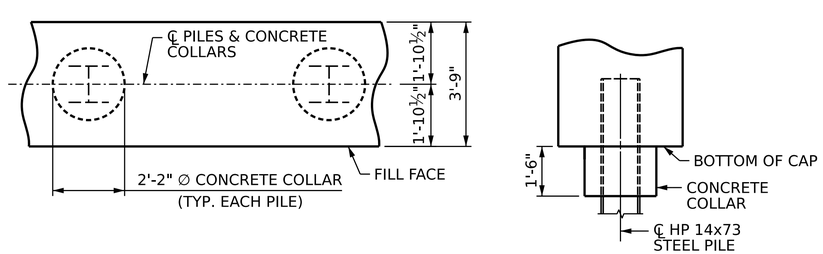
* PILE VERTICAL

* PILE HORIZONTAL OR VERTICAL

* POSITION OF PILE DURING WELDING.



PILE SPLICE DETAILS



PLAN

ELEVATION

CORROSION PROTECTION FOR STEEL PILES DETAIL

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DocuSigned by: Elizabeth Phelps A304598A0627455...
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DAVIE COUNTY
STATION: 70+91.84 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT 1 SECTION AND DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-26
1			3			TOTAL SHEETS
2			4			35

8/26/21

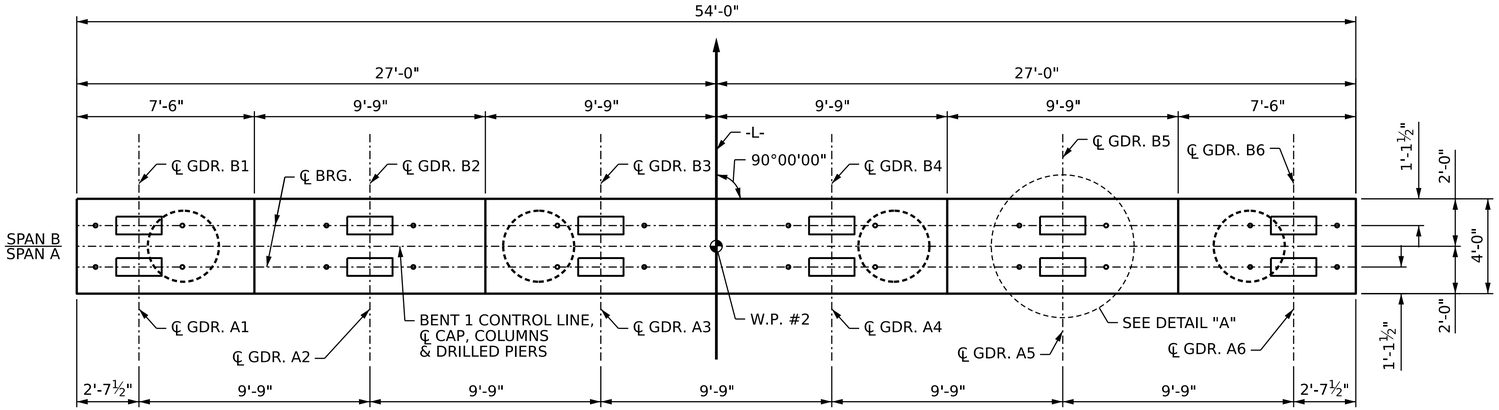
NOTES

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

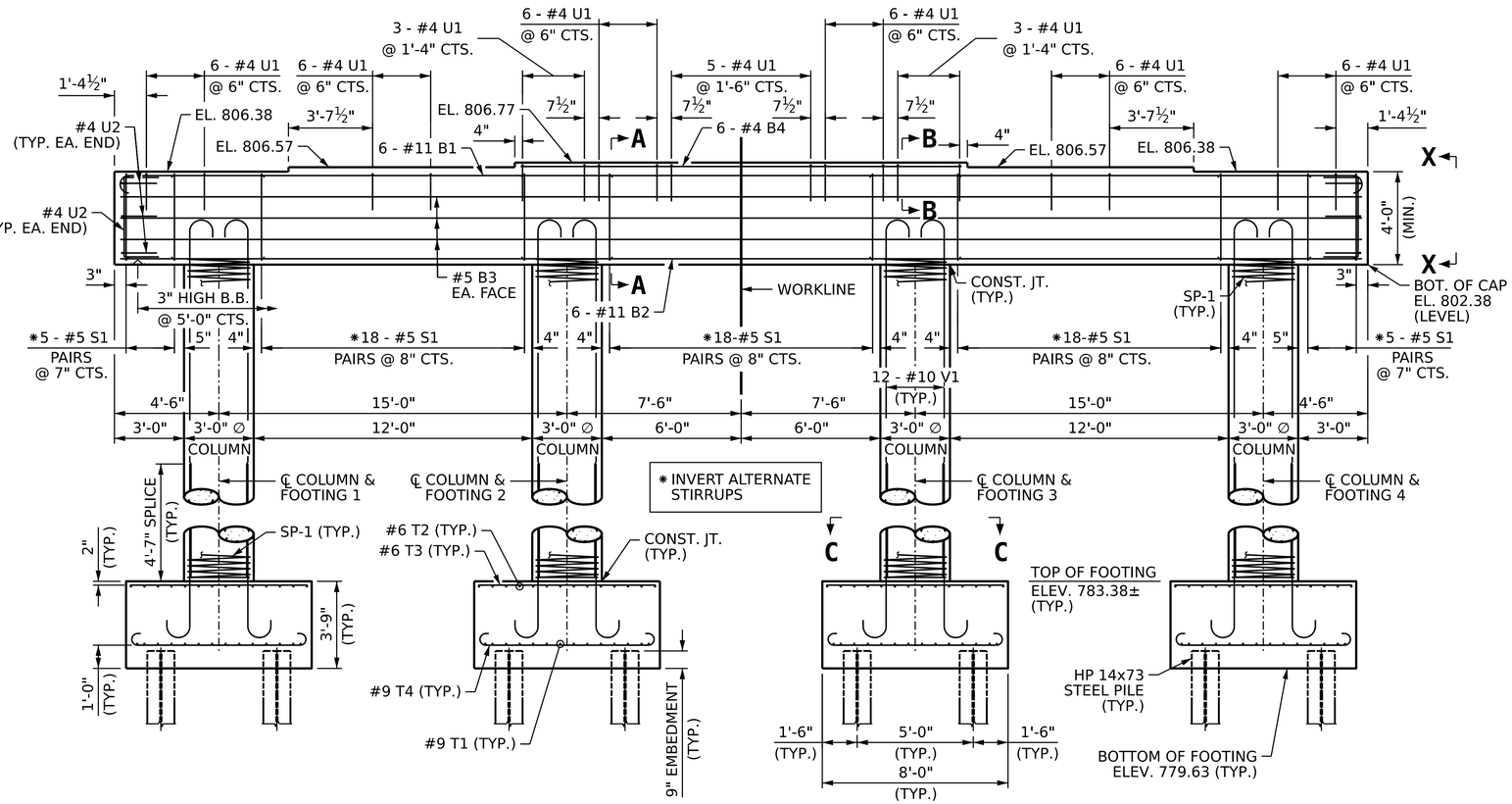
HOOKS ON "V" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.

FOR PILE SPLICE DETAILS, SEE END BENT 1, SHEET 3 OF 3.

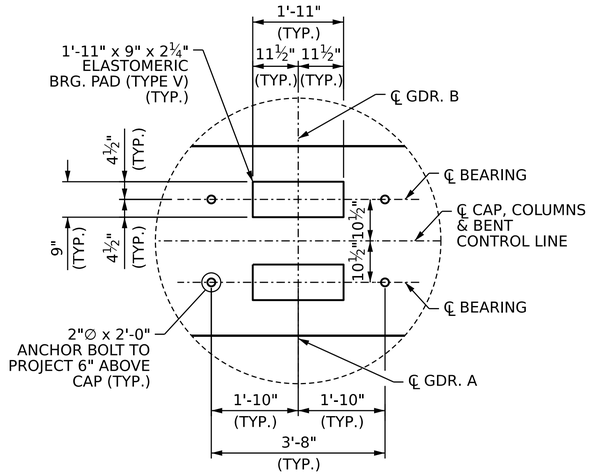
FOR "SECTION A-A", "SECTION B-B", "SECTION C-C", AND "END VIEW X-X", SEE SHEET 2 OF 2.



PLAN

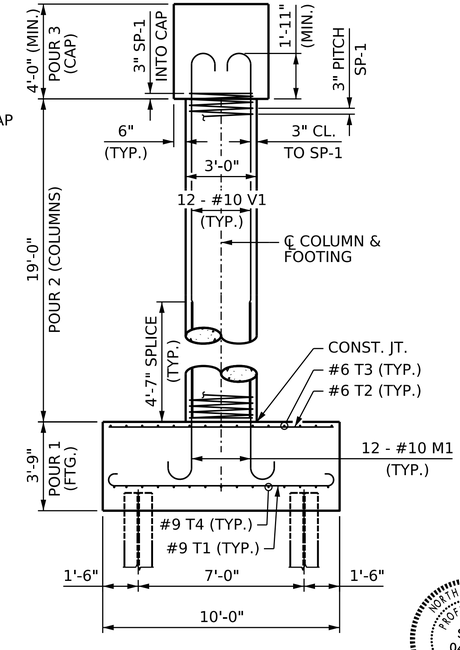


ELEVATION



DETAIL A

(TYP. EACH GIRDER)



END VIEW

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

BENT 1
PLAN AND ELEVATION

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS

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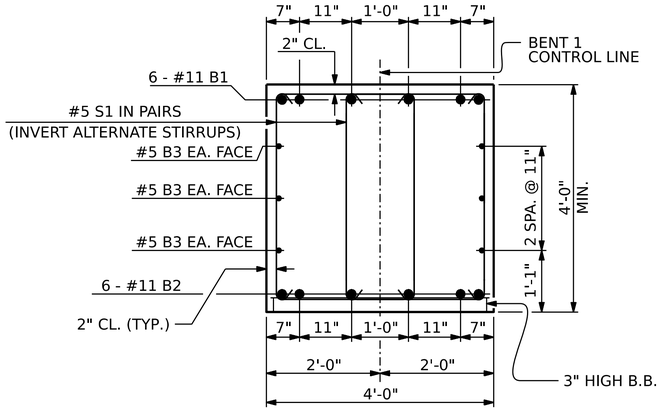
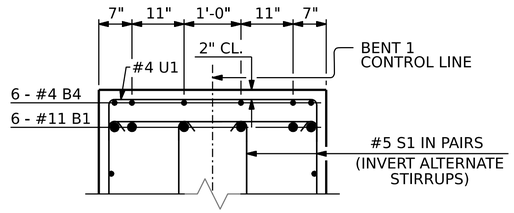
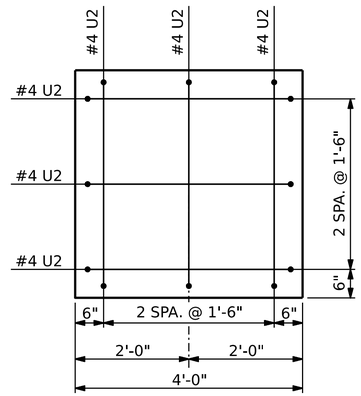


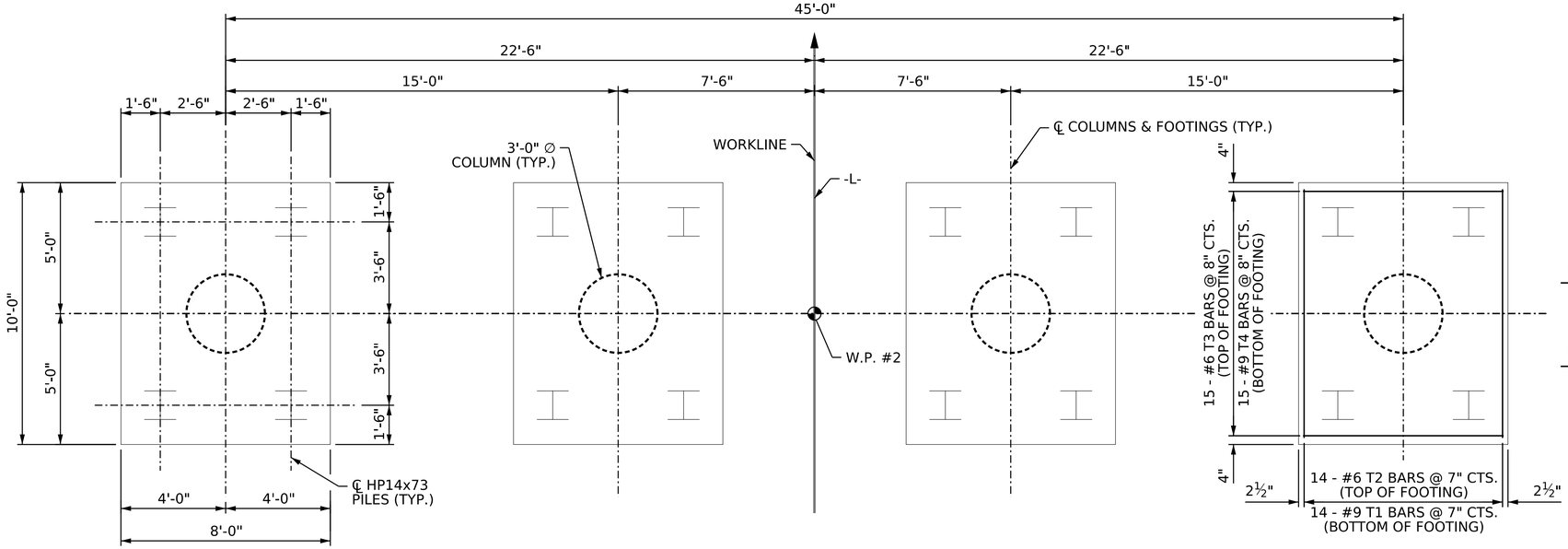
SECTION A-A



PARTIAL SECTION B-B



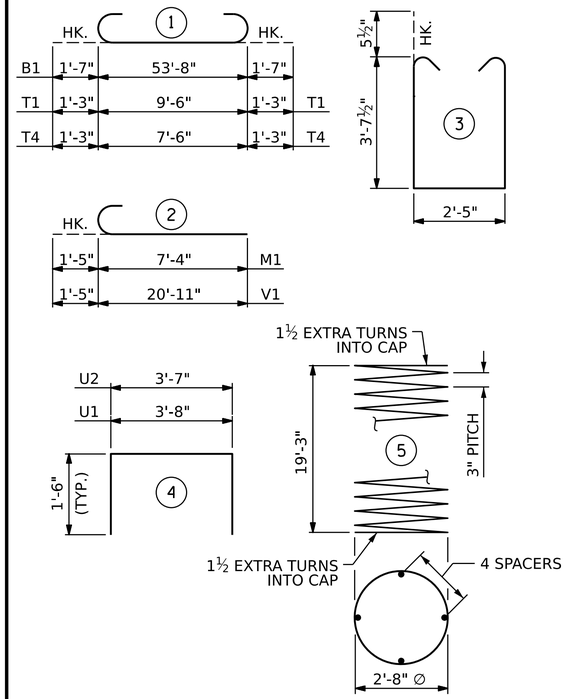
SECTION X-X



PLAN OF COLUMNS & FOOTINGS

NOTE: ALL DIMENSIONS ARE TYPICAL UNLESS OTHERWISE NOTED

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

BENT 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	6	#11	1	56'-8"	1,806
B2	6	#11	STR	53'-6"	1,705
B3	6	#5	STR	53'-6"	335
B4	6	#4	STR	19'-0"	76
M1	48	#10	2	8'-9"	1,807
S1	128	#5	3	10'-7"	1,413
T1	56	#9	1	12'-0"	2,285
T2	56	#6	STR	9'-6"	799
T3	60	#6	STR	7'-8"	691
T4	60	#9	1	10'-0"	2,040
U1	47	#4	4	6'-8"	209
U2	12	#4	4	6'-7"	53
V1	48	#10	2	22'-4"	4,613

REINFORCING STEEL 17,832 LBS.

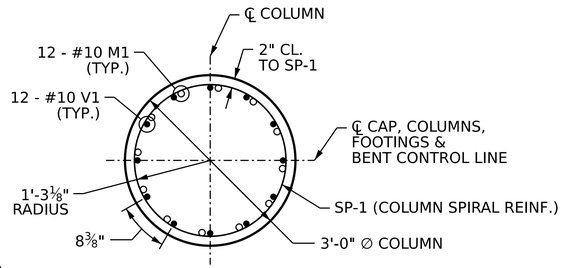
SP-1	4	*	5	645'-1"	1,724

SPIRAL COLUMN REINFORCING STEEL 1,724 LBS.

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

CLASS A CONCRETE BREAKDOWN

POUR #1 (FOOTINGS)	44.4 C.Y.
POUR #2 (COLUMNS)	19.9 C.Y.
POUR #3 (CAP)	32.4 C.Y.
TOTAL CLASS A CONCRETE	96.7 C.Y.
FOUNDATION EXCAVATION	LUMP SUM



SECTION C-C

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

BENT 1 DETAILS

VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
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NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS

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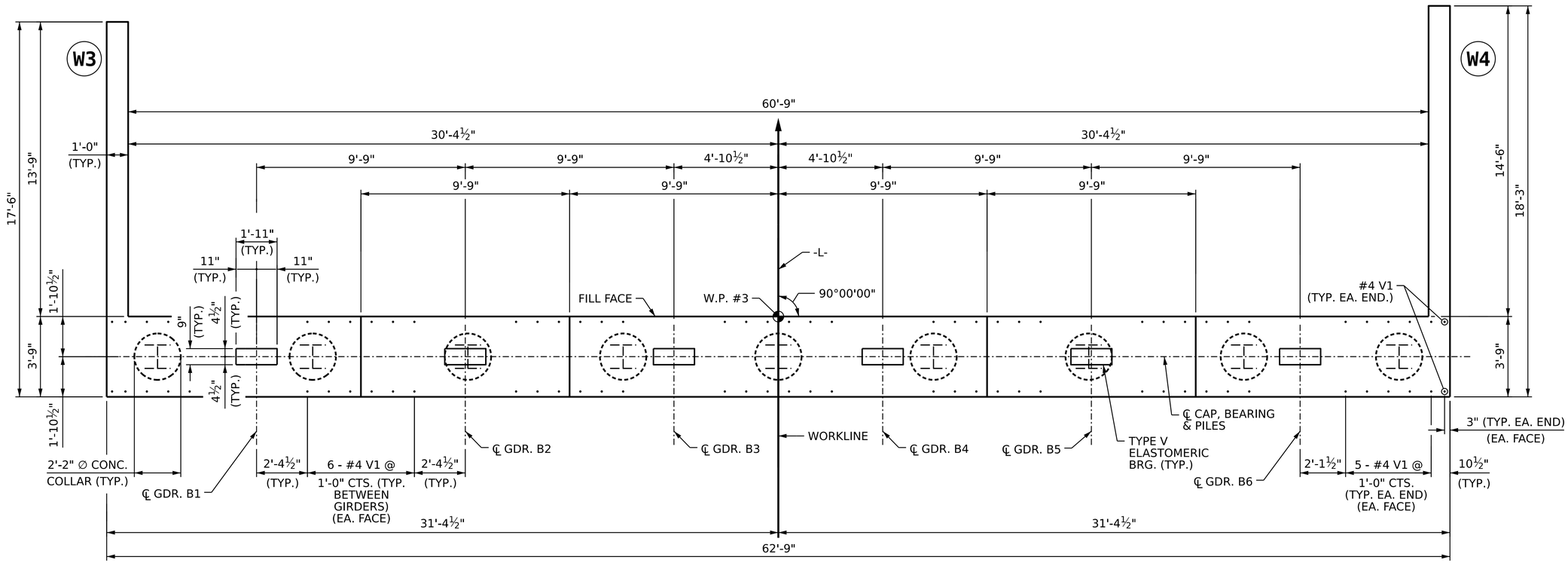
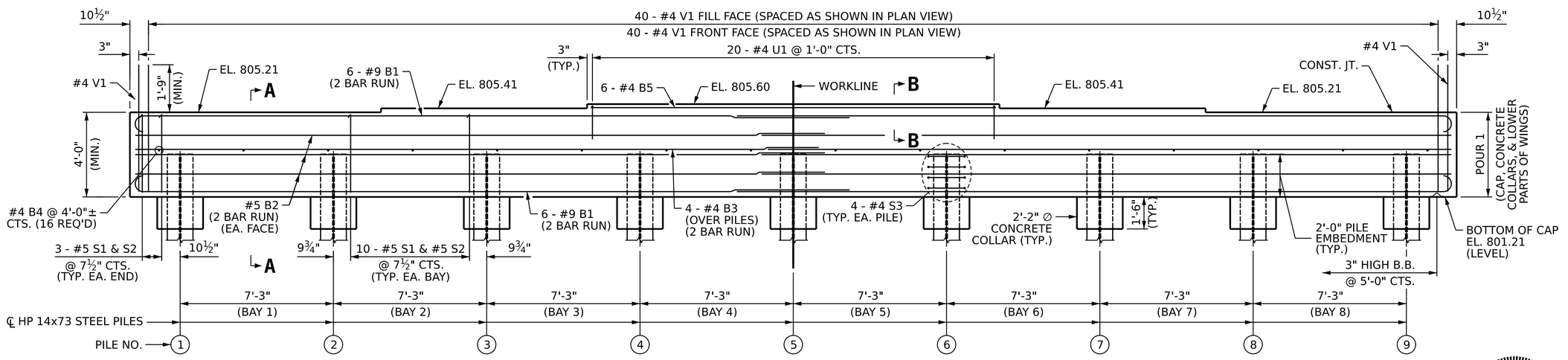
2			4			35

8/26/21



PLAN



ELEVATION

NOTES

FOR PILE SPLICE DETAILS, AND TEMPORARY DRAINAGE DETAILS, SEE SHEET 3 OF 3.

FOR SECTION A-A AND PARTIAL SECTION B-B, SEE SHEET 3 OF 3.

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR #4 V1 BARS.

THE TOP SURFACE OF POUR 1 OF THE END BENT CAP AND WINGS, EXCLUDING THE BEARING AREA, SHALL BE RAKED TO A DEPTH OF ¼".

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

THE UPPER PART OF INTEGRAL PORTION AND WINGS SHALL BE POURED WITH SUPERSTRUCTURE, SEE SUPERSTRUCTURE PLANS.

MINIMUM SPLICE LENGTHS	
#9 B1	5'-4"
#5 B2	3'-0"
#4 B3	2'-5"

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PROJECT NO. U-6187
DAVIE COUNTY
STATION: 70+91.84 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT 2 PLAN AND ELEVATION

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

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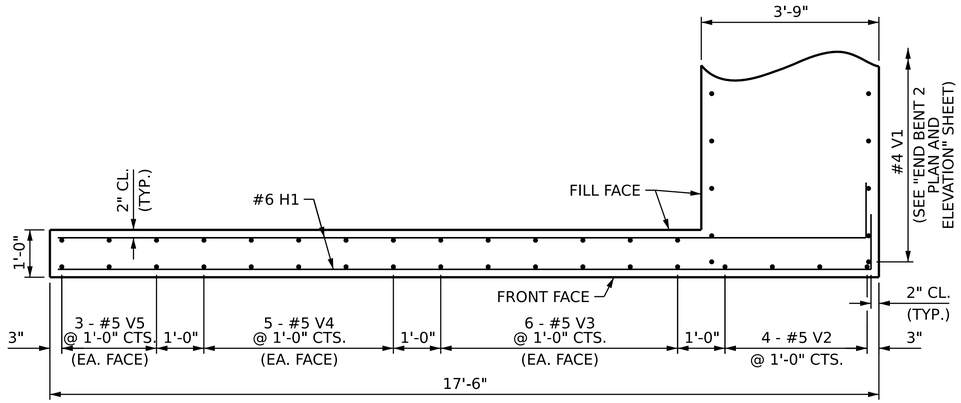
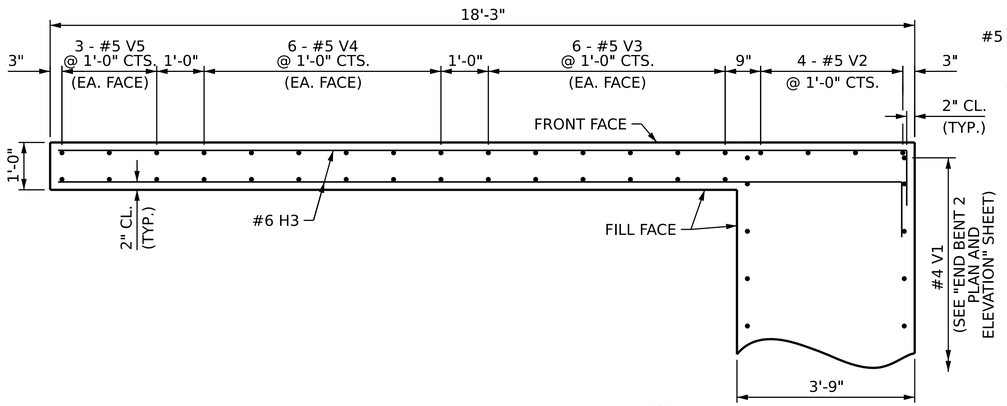


PLAN OF LEFT WING (W3)

#4 U1 NOT SHOWN FOR CLARITY



PLAN OF RIGHT WING (W4)

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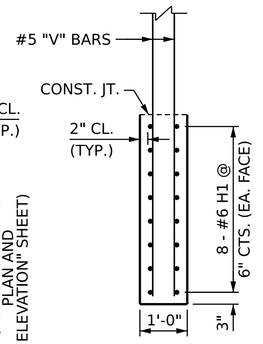
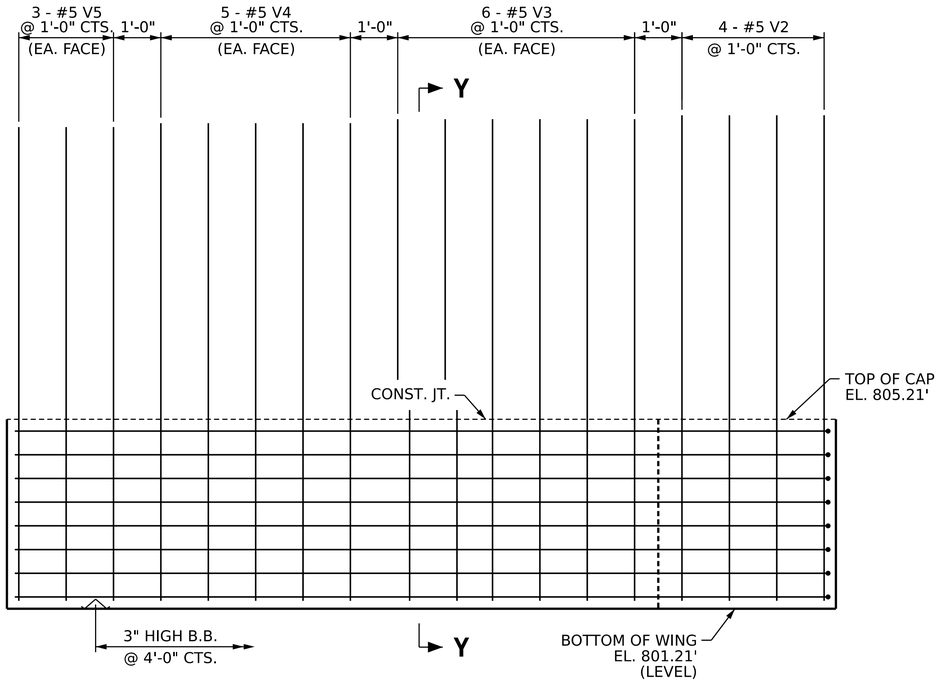
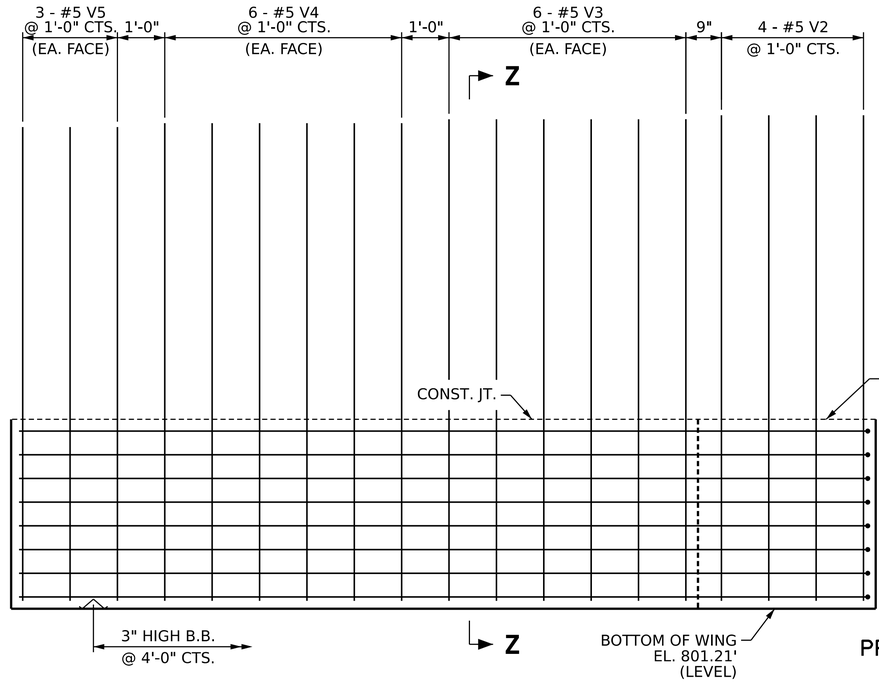


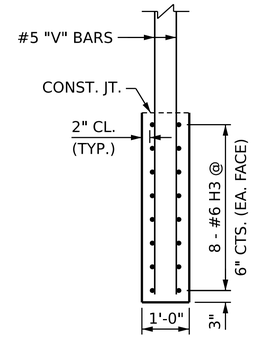
SECTION Y-Y



ELEVATION OF LEFT WING (W3)



ELEVATION OF RIGHT WING (W4)



SECTION Z-Z

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT 2 WINGWALL DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS

DocuSigned by: Elizabeth Phelps 7/15/2025

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Raleigh, NC 27606

DRAWN BY : C.E. HONIGMAN DATE : 01/2025
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-30
1			3			TOTAL SHEETS
2			4			35

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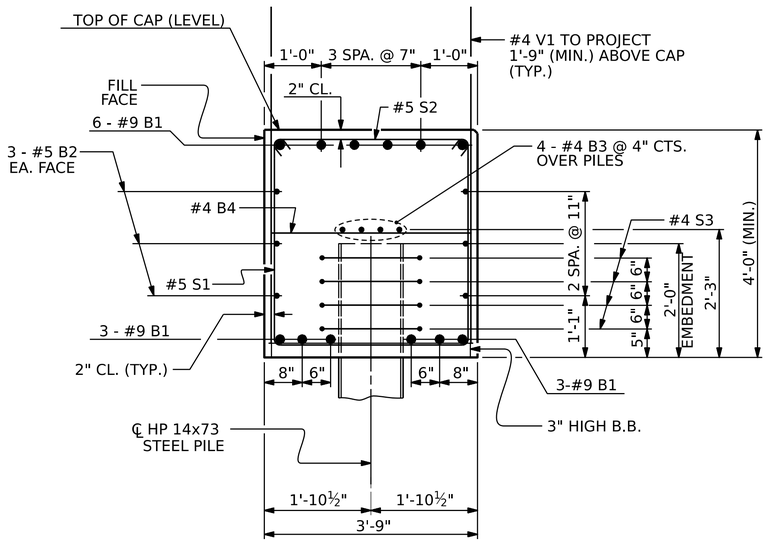
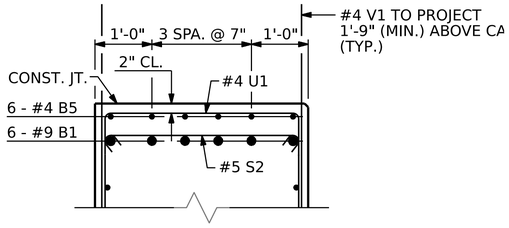
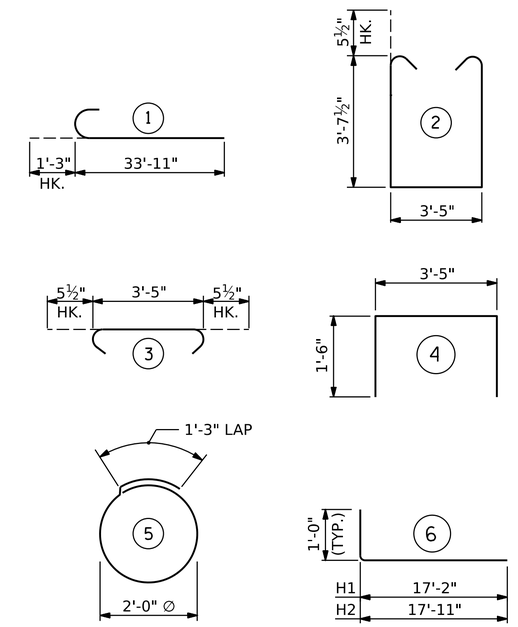


SECTION A-A



PARTIAL SECTION B-B

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

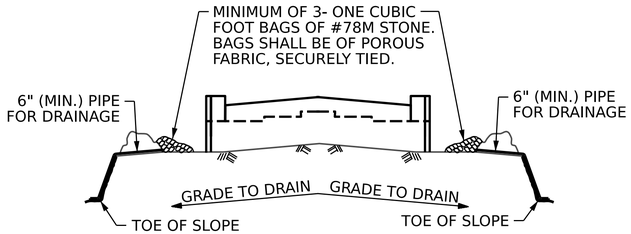
END BENT 2

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	24	#9	1	35'-2"	2,870
B2	12	#5	STR	32'-9"	410
B3	8	#4	STR	32'-5"	173
B4	16	#4	STR	3'-5"	37
B5	6	#4	STR	19'-2"	77
H1	16	#6	6	18'-2"	437
H3	16	#6	6	18'-11"	455
S1	86	#5	2	11'-7"	1,039
S2	86	#5	3	4'-4"	389
S3	36	#4	5	7'-6"	180
U1	20	#4	4	6'-5"	86
V1	84	#4	STR	6'-0"	337
V2	8	#5	STR	10'-3"	86
V3	24	#5	STR	10'-2"	254
V4	22	#5	STR	10'-1"	231
V5	12	#5	STR	10'-0"	125

REINFORCING STEEL 7,186 LBS.

CLASS A CONCRETE

POUR #1 42.5 C.Y.
(CAP, CONCRETE COLLARS & LOWER PART OF WINGS)

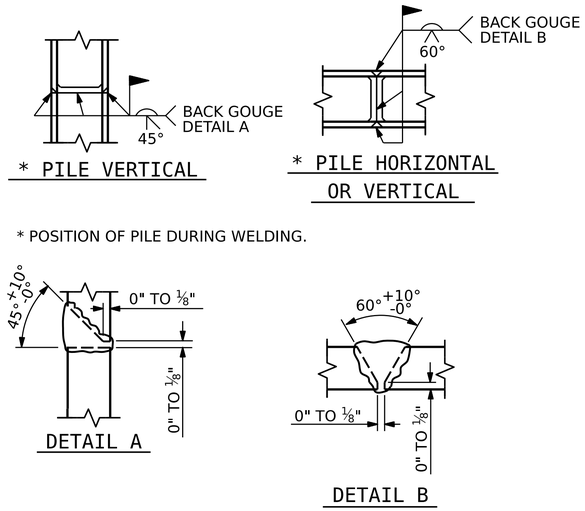


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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

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

TEMPORARY DRAINAGE AT END BENT



* PILE VERTICAL

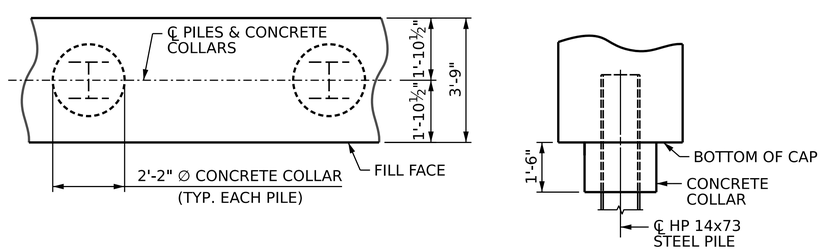
* PILE HORIZONTAL OR VERTICAL

* POSITION OF PILE DURING WELDING.

DETAIL A

DETAIL B

PILE SPLICE DETAILS



PLAN

ELEVATION

CORROSION PROTECTION FOR STEEL PILES DETAIL

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT 2 SECTION AND DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS

DocuSigned by: Elizabeth Phelps A304598A0627455... 7/15/2025

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CHECKED BY : K. PUROHIT DATE : 06/2025
DESIGN ENGINEER OF RECORD: E.C. PHELPS DATE : 07/2025

7/11/2025
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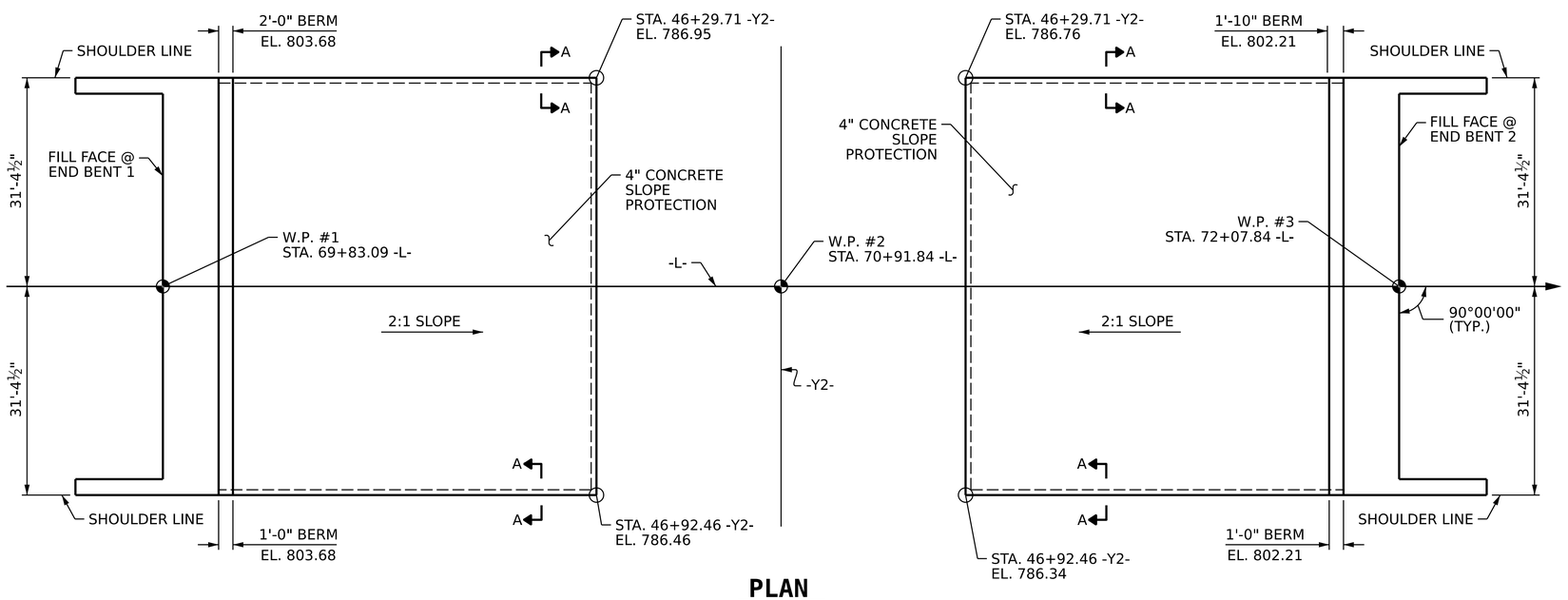
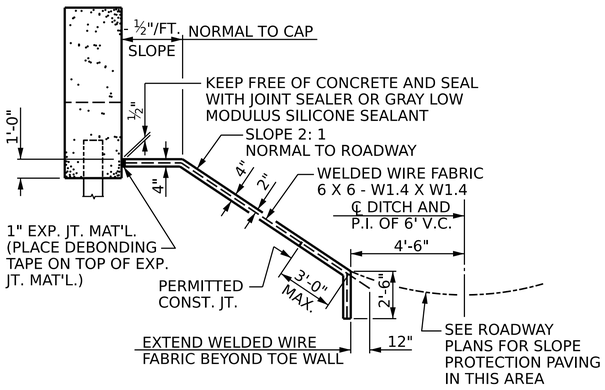
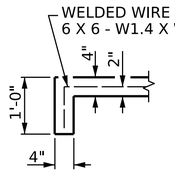
8/26/21



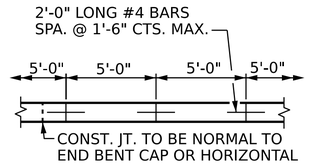
PLAN



SECTION ALONG ℄ SURVEY WHEN FILL CATCHES IN DITCH

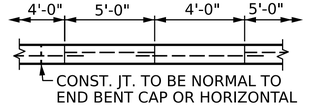


SECTION A-A



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

GENERAL NOTES

SLOPE PROTECTION SHALL BE PLACED UNDER THE ENDS OF THE BRIDGE AS SHOWN IN THE DETAILS. STRAIGHT EDGING WILL NOT BE REQUIRED UNLESS, IN THE OPINION OF THE ENGINEER, VISUAL INSPECTION INDICATES A NEED FOR IT.

MEASUREMENT AND PAYMENT SHALL BE AS PRESCRIBED IN SECTION 462 OF THE STANDARD SPECIFICATIONS. FOR BERM WIDTH, SEE GENERAL DRAWING.

SLOPE PROTECTION SHALL CONSIST OF 4" POURED-IN-PLACE CONCRETE SLOPE PROTECTION 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. 70+91.84 -L-	4" INCH SLOPE PROTECTION	* WELDED WIRE FABRIC 60 INCHES WIDE
	SQUARE YARDS	APPROX. L.F.
END BENT 1	301	543
END BENT 2	279	503

* QUANTITY SHOWN IS BASED ON 5' POURS.

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

SLOPE PROTECTION DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS

DocuSigned by: Elizabeth Phelps 7/15/2025
A3045B8A0627455...

VHB Engineering NC, P.C. (C-3705)
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DRAWN BY : C.E. HONIGMAN DATE : 12/2024
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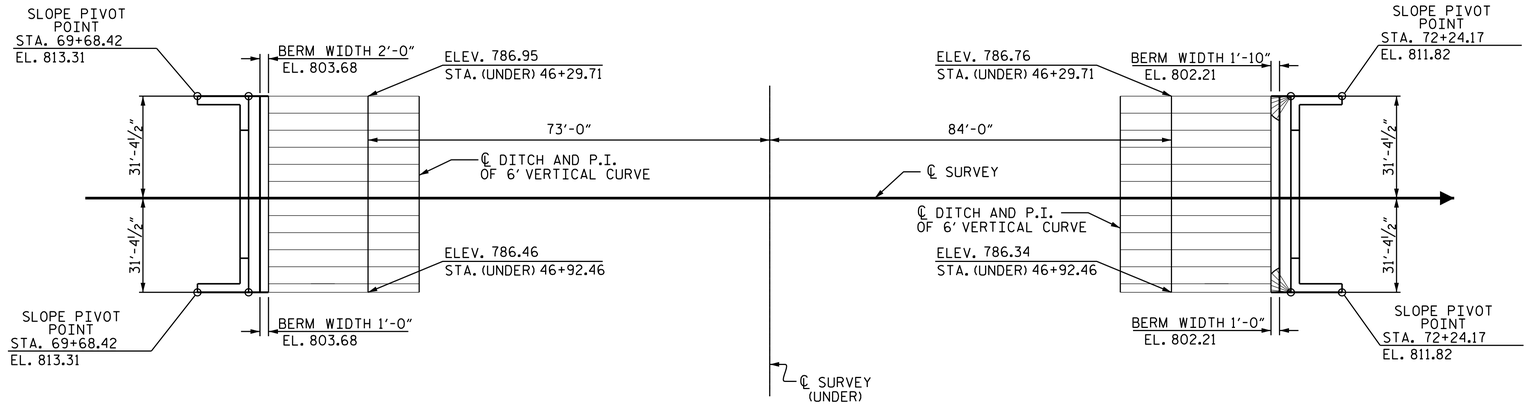
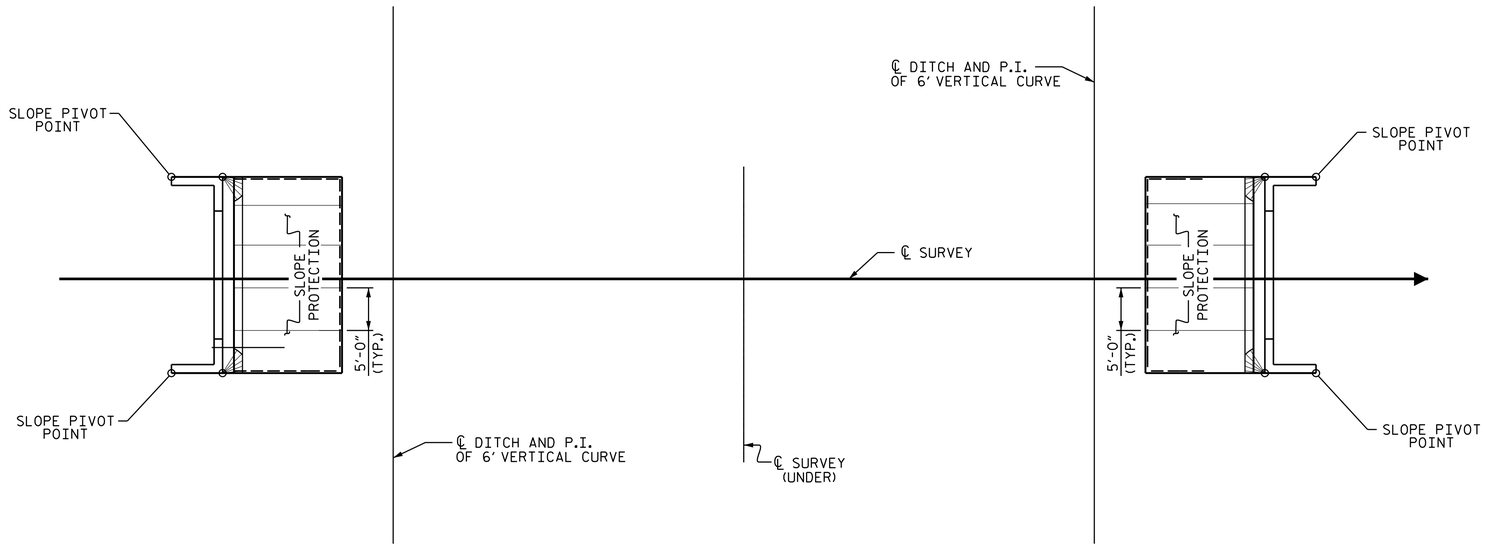
STD. NO. SP1 Sht. 1

8/26/21



END BENT 1 — END BENT 2

PLAN - GRADING



END BENT 1 — END BENT 2

PLAN - CONCRETE PLACEMENT

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NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C PHELPS
DocuSigned by: Elizabeth Phelps 7/15/2025
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PROJECT NO. U-6187
DAVIE COUNTY
STATION: 70+91.84 -L-
SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

SLOPE PROTECTION DETAILS

REVISIONS						SHEET NO.
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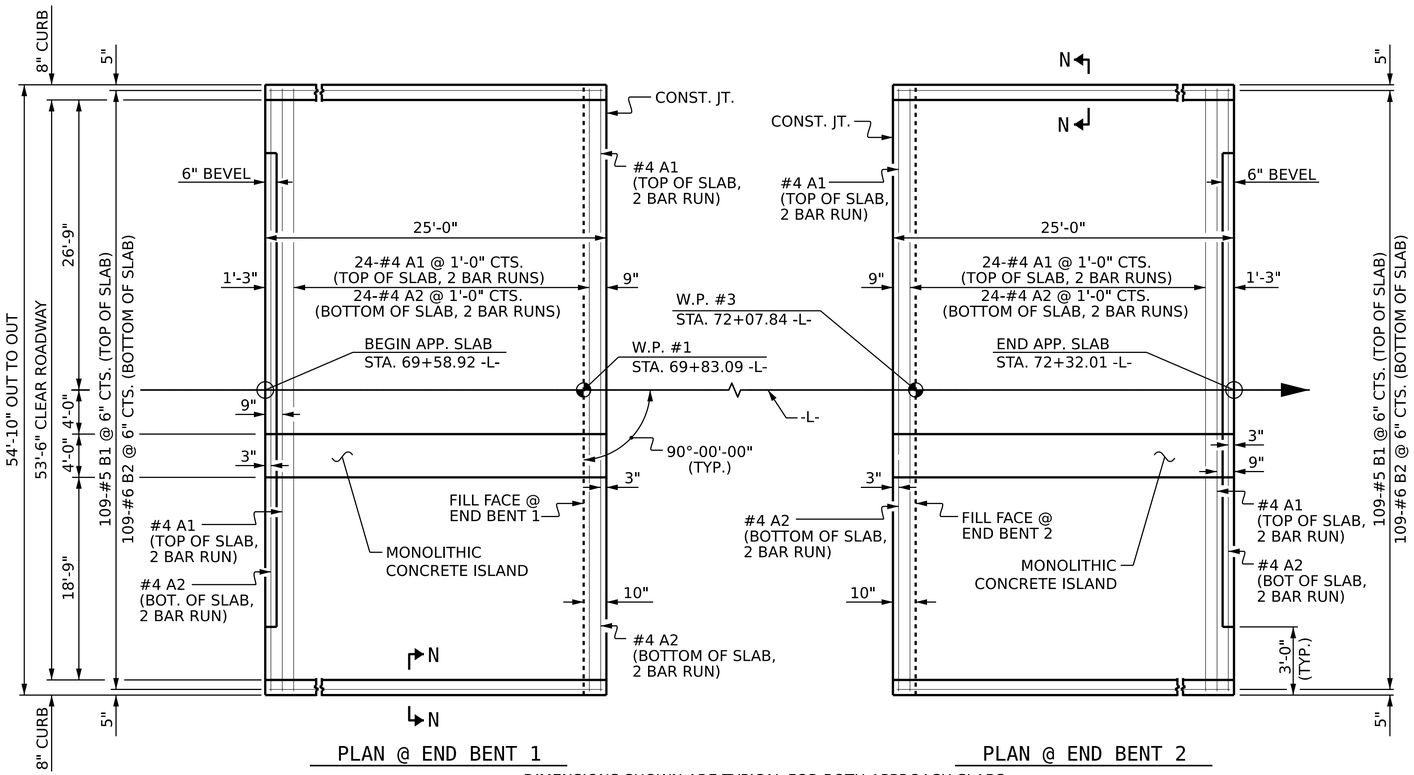
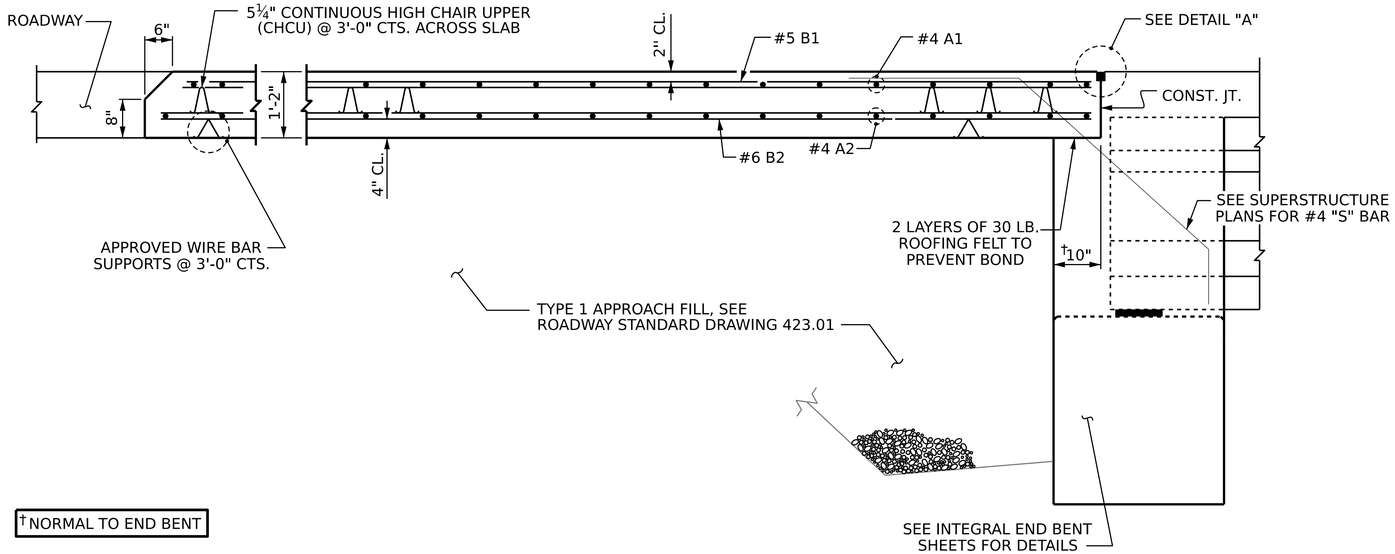


PLAN @ END BENT 1

PLAN @ END BENT 2

DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS



†NORMAL TO END BENT

SECTION THRU SLAB

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.

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

AT THE CONTRACTORS OPTION "TYPE 1A - ALTERNATE APPROACH FILL" (ROADWAY STD. 423.02) MAY BE CONSTRUCTED AT NO ADDITIONAL COST TO THE DEPARTMENT IN LIEU OF "TYPE 1 - APPROACH FILL".

BILL OF MATERIAL

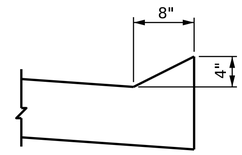
FOR ONE APPROACH SLAB (2 REQ'D)

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	52	#4	STR	28'-2"	978
A2	52	#4	STR	28'-0"	973
*B1	109	#5	STR	24'-2"	2,747
B2	109	#6	STR	24'-8"	4,038

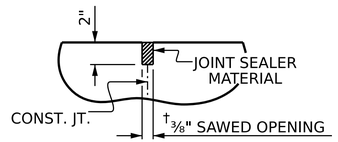
REINFORCING STEEL	LBS. 5,011
* EPOXY COATED REINFORCING STEEL	LBS. 3,725
CLASS AA CONCRETE	C. Y. 58.6

SPLICE LENGTHS

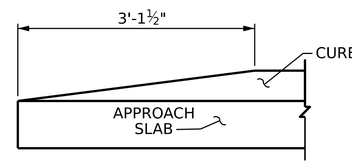
BAR SIZE	EPOXY COATED	UNCOATED
#4	1'-11"	1'-7"
#5	2'-5"	2'-0"
#6	3'-7"	2'-5"



SECTION N-N



DETAIL "A"



END OF CURB WITHOUT SHOULDER BERM GUTTER

PROJECT NO. U-6187

DAVIE COUNTY

STATION: 70+91.84 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

BRIDGE APPROACH SLAB FOR INTEGRAL ABUTMENT WITH FLEXIBLE PAVEMENT

NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C. PHELPS

DocuSigned by: Elizabeth Phelps A3D4598BA0627455... 7/15/2025

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STD. NO. BAS5

vhb
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DRAWN BY : C.E. HONIGMAN DATE : 12/2024
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DESIGN ENGINEER OF RECORD: E.C. PHELPS DATE : 07/2025

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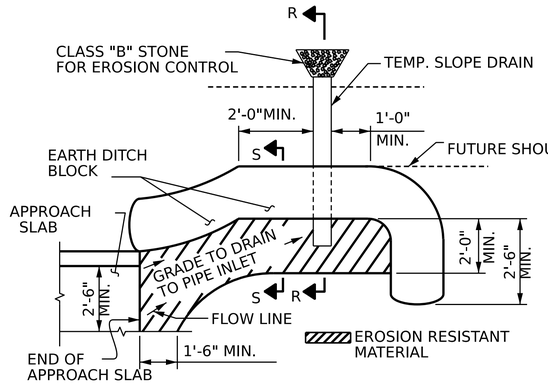
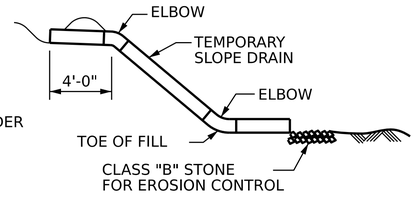
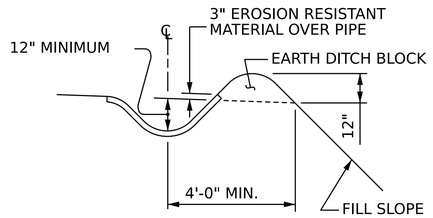
8/26/21



PLAN VIEW



SECTION R-R



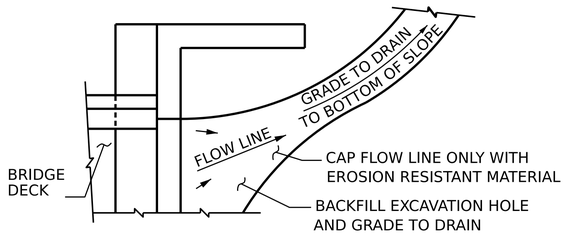
SECTION S-S

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.

TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



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

TEMPORARY DRAINAGE DETAIL

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NORTH CAROLINA PROFESSIONAL SEAL 048992 ENGINEER ELIZABETH C PHELPS
DocuSigned by: Elizabeth Phelps 7/15/2025
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PROJECT NO. U-6187
DAVIE COUNTY
STATION: 70+91.84 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
BRIDGE APPROACH SLAB DETAILS

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STD. NO. BAS5

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 ¾" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1½" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A ¼" 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 ¼" 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 ⅞" ∅ SHEAR STUDS FOR THE ¾" ∅ STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - ⅞" ∅ STUDS FOR 4 - ¾" ∅ STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF ⅞" ∅ STUDS ALONG THE BEAM AS SHOWN FOR ¾" ∅ STUDS BASED ON THE RATIO OF 3 - ⅞"∅ STUDS FOR 4 - ¾" ∅ 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. FINS 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.