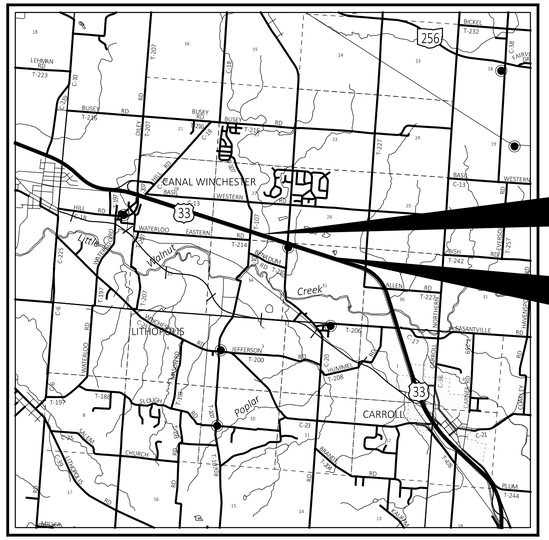
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

FAI-33-2.64

VIOLET TOWNSHIP
FAIRFIELD COUNTY
GRADE CROSSING ELIMINATION WITH THE INDIANA & OHIO RAILWAY



BEGIN PROJECT
STA. 139+50.00
S.L.M. 2.64

END PROJECT
STA. 199+49.63
S.L.M. 3.78

LOCATION MAP

LATITUDE: 39°50'05" N LONGITUDE: 82°44'40" W

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION: SEE SHEET P.3

NHS PROJECT ____ *YES*

DESIGN EXCEPTIONS:

	SHEET #	APPROVAL DATE
NORTH CONNECTOR		
SUPERELEVATION	*P.6*	*07/22/2024*
HORIZONTAL CURVE RADIUS	*P.6*	*07/22/2024*
SERVICE ROAD 1		
SUPERELEVATION	*P.6*	*07/22/2024*
HORIZONTAL CURVE RADIUS	*P.6*	*07/22/2024*
SERVICE ROAD 2		
SUPERELEVATION	*P.6*	*07/22/2024*
HORIZONTAL CURVE RADIUS	*P.6*	*07/22/2024*
BENADUM ROAD		
SUPERELEVATION	*P.6*	*07/22/2024*

ADA DESIGN WAIVERS

NONE REQUIRED

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:

CARPENTER MARTY transportation
6612 SINGLETREE DRIVE COLUMBUS, OH 43229
614.656.2424 • WWW.CMTRAN.COM

INDEX OF SHEETS:

(SEE SHEET P.2)

FEDERAL PROJECT NUMBER

E220 (031)

RAILROAD INVOLVEMENT

INDIANA & OHIO RAILWAY

PROJECT DESCRIPTION

REPLACE THE EXISTING INTERSECTION OF US 33 AND PICKERINGTON ROAD WITH AN INTERCHANGE AND REMOVE THE ALLEN ROAD INTERSECTIONS. THE PROJECT WILL ELIMINATE FOUR AT GRADE RAILROAD CROSSINGS.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	*54.7 ACRES*
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	*23.0 ACRES*
NOTICE OF INTENT EARTH DISTURBED AREA:	*77.7 ACRES*

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2023 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT FOR THE SIDE ROADS AS DESCRIBED ON SHEET P.28 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

Jason L. Sturgeon, P.E.
District 05 Deputy Director

Pamela Boratyn
Director, Department of Transportation

Tony J. Vogel, P.E.
Fairfield County Utilities Director

STANDARD CONSTRUCTION DRAWINGS

BP-2.1	*1/21/22*	*MGS-2.1*	*1/19/18*	*PSID-1-13*	*7/19/24*	*MT-95.30*	*7/19/19*	*TC-61.30*	*7/19/24*	*800*	*7/19/24*	*WATERWAY*
BP-2.2	*1/15/21*	*MGS-3.1*	*1/19/18*	*SBR-1-20*	*7/19/24*	*MT-95.45*	*7/21/23*	*TC-65.10*	*1/17/14*	*804*	*7/19/24*	*PERMIT*
BP-3.1	*1/19/24*	*MGS-3.2*	*1/18/13*	*VPF-1-24*	*7/19/24*	*MT-97.10*	*4/19/19*	*TC-65.11*	*1/19/24*	*807*	*1/21/22*	*CONDITIONS*
BP-3.2	*1/18/19*	*MGS-4.2*	*7/19/13*			*MT-97.12*	*1/20/17*	*TC-71.10*	*4/21/23*	*808*	*7/19/24*	*04/04/2025*
BP-4.1	*7/19/13*	*MGS-5.2*	*7/15/16*	*HL-10.11*	*7/21/23*	*MT-99.20*	*4/19/19*	*TC-72.20*	*7/21/23*	*809*	*7/19/24*	
BP-5.1	*7/15/22*	*MGS-5.3*	*7/15/16*	*HL-10.12*	*7/21/23*	*MT-99.60*	*7/19/24*	*TC-81.11*	*1/19/24*	*813*	*7/21/23*	*ASBESTOS*
		MGS-6.1	*1/19/18*	*HL-10.13*	*1/20/23*	*MT-101.60*	*4/21/23*	*TC-81.22*	*7/21/23*	*815*	*4/16/21*	*REPORTS*
CB-2-2A, 2B, 2C	*7/19/24*			*HL-10.31*	*7/15/22*	*MT-101.70*	*7/19/24*	*TC-83.10*	*1/17/20*	*819*	*1/17/20*	*12/17/2024*
CB-2-3, 2-4	*7/19/24*	*MH-1*	*7/15/22*	*HL-20.11*	*7/21/23*	*MT-101.75*	*7/21/23*	*TC-83.20*	*7/19/24*	*821*	*4/20/12*	
CB-3A	*7/19/24*	*MH-3*	*7/19/24*	*HL-20.21*	*1/15/21*	*MT-101.90*	*7/17/20*	*TC-84.20*	*1/19/24*	*825*	*7/19/24*	
CB-6	*7/19/24*			*HL-30.11*	*7/21/23*	*MT-102.10*	*7/21/23*	*TC-84.21*	*10/18/13*	*828*	*1/19/18*	
CB-8	*7/19/24*	*RM-1.1*	*1/20/23*	*HL-30.21*	*4/17/20*	*MT-105.10*	*1/17/20*	*TC-85.10*	*1/19/24*	*832*	*7/19/24*	
		RM-3.1	*7/20/18*	*HL-30.22*	*1/15/21*			*TC-85.20*	*4/21/23*	*836*	*1/19/24*	
DM-1.1	*7/17/20*	*RM-4.2*	*7/19/24*	*HL-30.31*	*7/19/24*	*TC-12.31*	*4/15/22*	*TC-85.21*	*1/19/24*	*840*	*7/19/24*	
DM-1.2	*7/16/21*	*RM-4.3*	*1/21/22*	*HL-40.20*	*7/19/24*	*TC-16.22*	*7/21/23*	*TC-85.22*	*4/21/23*	*844*	*1/17/25*	
DM-1.3	*7/18/14*	*RM-4.4*	*7/21/23*	*HL-50.21*	*7/15/22*	*TC-17.11*	*1/19/24*	*TC-86.10*	*7/21/23*	*902*	*7/19/19*	
DM-4.1	*7/17/20*	*RM-4.5*	*7/19/24*	*HL-60.11*	*7/21/17*	*TC-21.11*	*7/16/21*			*904*	*7/15/22*	
DM-4.3	*1/15/16*	*RM-4.6*	*7/19/24*	*HL-60.21*	*7/20/18*	*TC-21.21*	*1/20/23*			*906*	*10/15/10*	
DM-4.4	*1/15/16*	*RM-4.8*	*7/19/24*	*HL-60.31*	*7/19/24*	*TC-22.20*	*1/17/14*			*909*	*7/19/24*	
		RM-7.1	*7/18/14*			*TC-41.10*	*7/19/13*			*913*	*4/16/21*	
F-1.1	*7/19/13*			*ITS-10.10*	*7/19/24*	*TC-41.20*	*10/18/13*			*916*	*7/19/24*	
F-2.1	*7/20/18*	*AS-1-15*	*1/20/23*	*ITS-10.11*	*7/19/24*	*TC-41.30*	*4/21/23*			*919*	*1/17/20*	
F-3.1	*7/19/13*	*AS-2-15*	*7/21/23*	*ITS-12.10*	*7/15/22*	*TC-41.40*	*10/18/13*			*921*	*7/19/24*	
F-3.3	*7/19/13*	*CPA-1-08*	*1/19/24*	*ITS-14.11*	*7/19/24*	*TC-41.41*	*7/19/19*			*928*	*1/19/18*	
F-3.4	*7/19/13*	*CS-1-08*	*1/15/08*	*ITS-14.50*	*7/19/24*	*TC-42.10*	*10/18/13*					
		HW-2.1	*7/15/22*	*ITS-14.60*	*1/19/24*	*TC-42.20*	*10/18/13*					
I-3D	*7/19/24*	*HW-2.2*	*7/20/18*	*ITS-15.10*	*7/19/24*	*TC-51.11*	*1/15/16*					
		PCB-91	*7/17/20*	*ITS-18.10*	*7/16/21*	*TC-52.10*	*10/18/13*					
MGS-1.1	*7/16/21*	*PSBD-2-07*	*7/20/18*	*ITS-50.10*	*7/15/22*	*TC-52.20*	*1/15/21*					

SUPPLEMENTAL SPECIFICATIONS

800	*7/19/24*
804	*7/19/24*
807	*1/21/22*
808	*7/19/24*
809	*7/19/24*
813	*7/21/23*
815	*4/16/21*
819	*1/17/20*
821	*4/20/12*
825	*7/19/24*
828	*1/19/18*
832	*7/19/24*
836	*1/19/24*
840	*7/19/24*
844	*1/17/25*
902	*7/19/19*
904	*7/15/22*
906	*10/15/10*
909	*7/19/24*
913	*4/16/21*
916	*7/19/24*
919	*1/17/20*
921	*7/19/24*
928	*1/19/18*

SPECIAL PROVISIONS

WATERWAY
PERMIT
CONDITIONS
04/04/2025
ASBESTOS
REPORTS
12/17/2024

ENGINEER'S SEAL	*ENGINEER'S SEAL*	*ENGINEER'S SEAL*
ROADWAY, MOT, TRAFFIC CONTROL, WATER & SANITARY	*STRUCTURES*	*SIGNALS AND LIGHTING*
STATE OF OHIO · TONY W. GRIESHOP · E-70196 · REGISTERED PROFESSIONAL ENGINEER	STATE OF OHIO · GREGORY D. JOHNSON · E-66952 · REGISTERED PROFESSIONAL ENGINEER	STATE OF OHIO · NEAL A. UNDERWOOD · E-75225 · REGISTERED PROFESSIONAL ENGINEER

TITLE SHEET

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER
MGM

REVIEWER
TWG 12/09/24

PROJECT ID
77555

SHEET P.1 TOTAL 846

FAI-33-2.64

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/15/2025 TIME: 11:09:08 AM USER: cmt008
P:\ODOT\05\0004_FAI-33-3.19\77555\400-Engineering\Roadway\Sheets\77555_GT001.dgn

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	1-20-2023
AS-2-15	REVISED	7-21-2023
PSBD-2-07	REVISED	7-20-2018
SBR-1-20	REVISED	7-19-2024
VPF-1-24	DATED	7-19-2024

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

SS840	DATED	7-19-2024

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 9th EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

OPERATIONAL IMPORTANCE

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

VEHICULAR LIVE LOAD: HL-93

FUTURE WEARING SURFACE (FWS) OF 0.06 KIPS/FT^2

DESIGN DATA

CONCRETE CLASS QC2 WITH QC/QA - COMPRESSIVE STRENGTH
4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 WITH QC/QA - COMPRESSIVE STRENGTH
4.0 KSI (ABUTMENT FOOTINGS)

CONCRETE CLASS QC SCC WITH QC/QA - COMPRESSIVE STRENGTH
4.0 KSI (ABUTMENTS)

CONCRETE REINFORCEMENT:
GALVANIZED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (DECK, APPROACH SLABS, ABUTMENTS)

GFRP REINFORCEMENT (PARAPET)

STEEL CIP PILES - ASTM A252 GRADE 3 - YIELD STRENGTH 45 KSI

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 9 KSI
COMPRESSIVE STRENGTH (RELEASE) - 5 KSI

PRESTRESSING STRANDS:
AREA = 0.167 SQ.IN.
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)
INITIAL TENSION LOAD = 33.75 KIP/STRAND

CONSTRUCTION CLEARANCE

MAINTAIN A CONSTRUCTION CLEARANCE OF 14 FEET HORIZONTALLY FROM THE CENTER OF THE TRACKS AND 22 FEET VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE HIGHER RAIL, AND 6 FEET FROM THE CENTER OF THE TRACKS AT ALL TIMES.

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

BEARING PAD SHIMS

PLACE 1/8" THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 8 INCHES BY 10 INCHES, UNDER THE ELASTOMERIC BEARING PADS WHERE REQUIRED FOR PROPER BEARING. FURNISH TWO SHIMS PER BEAM. THE DEPARTMENT WILL MEASURE THIS ITEM BY THE TOTAL NUMBER SUPPLIED. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516 - 1/8" PREFORMED BEARING PAD, TYPE CDP. ANY UNUSED SHIMS WILL BECOME THE PROPERTY OF THE STATE.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE):

THE ULTIMATE BEARING VALUE IS 287 KIPS PER PILE FOR THE REAR ABUTMENT.
THE ULTIMATE BEARING VALUE IS 313 KIPS PER PILE FOR THE FORWARD ABUTMENT.

REAR ABUTMENT PILES:
16" CAST-IN-PLACE REINFORCED CONCRETE PILES 65 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEMS

FORWARD ABUTMENT PILES:
16" CAST-IN-PLACE REINFORCED CONCRETE PILES 65 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEMS

PROVIDE PLAIN CYLINDRICAL CASINGS WITH A MINIMUM PILE WALL THICKNESS OF 0.250 INCHES FOR THE CAST-IN-PLACE REINFORCED CONCRETE PILES.

ITEM 511 - CLASS QC SCC CONCRETE WITH QC/QA, ABUTMENT, AS PER PLAN

ABUTMENT FOOTING CONCRETE NOT INCLUDED.

ITEM 511 - CLASS QC SCC CONCRETE WITH QC/QA, ABUTMENT, AS PER PLAN

THIS ITEM MODIFIES THE STANDARD 511 CONCRETE FOR STRUCTURES SPECIFICATION TO INCLUDE MACRO-SYNTHETIC INTO THE BRIDGE ABUTMENT CONCRETE. THIS ITEM SHALL CONFORM TO CMS 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

PROVIDE MATERIALS CONFORMING TO 511.02 EXCEPT AS MODIFIED BELOW:

PORTLAND CEMENT CONCRETE 499.03, CLASS QC SCC MEETING A DESIGN STRENGTH OF 4,000 PSI, WITH MACRO-SYNTHETIC FIBERS WITH MODIFICATION PER 511.02 FIBERS FOR CONCRETE ASTM C1116, TYPE III.

THE CLASS QC SCC CONCRETE FOR THE ABUTMENTS SHALL MEET THE FOLLOWING CRITERIA:
- WATER/CEMENT RATIO = 0.40 MAXIMUM
- MINIMUM 4 LBS/CY MACRO-SYNTHETIC FIBERS (1.5 IN. MIN. TO 2.5 MAX.) MEETING ASTM C1116, TYPE III SHALL BE ADDED TO THE MIX.

THE MACRO-SYNTHETIC FIBERS SHALL BE INCORPORATED INTO THE MIX IN SUCH A WAY THAT NO 'BALLING' OCCURS. UPON INSPECTION OF THE MIX AT THE TIME OF PLACEMENT, IF ANY 'BALLING' OCCURS, THE ENGINEER SHALL REJECT THE REMAINDER OF THE LOAD AT ANY TIME DURING THE POUR. IT IS IMPORTANT TO FOLLOW INDUSTRY STANDARDS AND ASTM SPECIFICATIONS ON THE PREMIXING OF THE CEMENT, AGGREGATE, AND MACRO-SYNTHETIC FIBERS PRIOR TO THE ADDITION OF WATER AND ADMIXTURES. PROVIDE MACRO-SYNTHETIC FIBERS THAT ARE MONOFILAMENT FIBERS MADE FROM VIRGIN POLYPROPYLENE, POLYETHYLENE, OR CO-POLYMERS THAT ARE INERT TO ALKALI ATTACK. ENSURE THE MACRO-SYNTHETIC FIBERS HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI, A MINIMUM MODULUS OF ELASTICITY OF 800 KSI, A MINIMUM FILAMENT DIAMETER OF 0.012 INCHES, AN ASPECT RATIO BETWEEN 60 AND 100, AND ARE BETWEEN 1.5 AND 2.5 INCHES IN LENGTH. STORE THE MACRO-SYNTHETIC FIBERS ACCORDING TO THE MANUFACTURER'S RECOMMENDATION AND KEEP THE MATERIAL FREE FROM DUST, DIRT, AND MOISTURE.

USE A MINIMUM DOSAGE RATE OF MACRO-SYNTHETIC FIBERS OF 4.0 LBS/CY OF CONCRETE. DETERMINE THE FINAL PROPOSED DOSAGE RATE THROUGH MIX TESTING. ENSURE THE FIBER REINFORCED CONCRETE MEETS OR EXCEEDS A MINIMUM EQUIVALENT FLEXURAL STRENGTH RATIO OF 25% ACCORDING TO ASTM C1609. ENSURE THE FINAL PROPOSED MIX IS WORKABLE AND ABLE TO BE PRODUCED SUCH THAT BALLING OR CLUMPING OF THE FIBERS IS NOT A PROBLEM AS DETERMINED BY THE ENGINEER. UTILIZE A LABORATORY REGULARLY INSPECTED BY THE CEMENT AND CONCRETE REFERENCE LABORATORY (CCRL) OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, OR OTHER APPROVED REFERENCE LABORATORY, TO PERFORM THE TESTING. BEFORE USE, SUBMIT DOCUMENTATION TO THE PROJECT ENGINEER CERTIFYING THAT BOTH THE MACRO-SYNTHETIC FIBERS AND THE MIX MEET OF EXCEED THE REQUIRED PROPERTIES. SAMPLING WILL BE ALLOWED FOR TESTING PURPOSES. A DEMONSTRATION OF THE MIX PRODUCTION OR TRIAL MIX MAY BE REQUIRED BY THE ENGINEER PRIOR TO PLACING ANY OF THE MIX ON THE PROJECT.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED. THE TRANSIT MIXER CHARGE SHALL BE LIMITED TO 3/4 OF ITS RATED CAPACITY OR 6 CY, WHICHEVER IS SMALLER. THE FIRST THREE TRANSIT MIXER LOADS ARE REQUIRED TO BE AT THE MINIMUM YARDAGE LISTED ABOVE TO SHOW PROOF OF THE SUCCESSFUL BATCHING OPERATION. AFTER CONSISTENCY IN THE DELIVERED MATERIAL HAS BEEN ESTABLISHED, THE CONCRETE SUPPLIER MAY INCREASE THE BATCH DELIVERED QUANTITIES AS LONG AS THE QUALITY REMAINS ACCEPTABLE TO THE ENGINEER. THE ENGINEER CAN REDUCE THE BATCH LOAD SIZE AT ANY TIME AS NEEDED TO CORRECT/IMPROVE CONCRETE QUALITY.

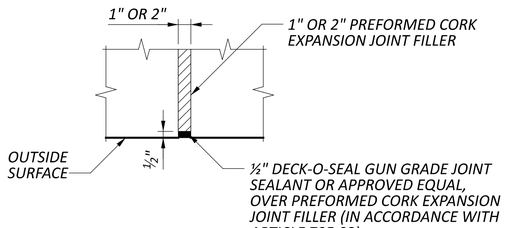
CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT ADMIXTURES MAY HAVE AN EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE CONCRETE SUPPLIER'S CHOICE OF ADMIXTURES DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS.

IF A TRIAL MIX IS REQUIRED, PAYMENT SHALL BE INCLUDED WITH ITEM 511 - CLASS QC SCC CONCRETE WITH QC/QA, ABUTMENT, AS PER PLAN.

ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN AND ITEM 516 - 2" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN

ALL 1"AND 2" P.E.J.F., AS PER PLAN CALLED FOR IN THE PLANS SHALL BE PREFORMED CORK JOINT FILLER (IN ACCORDANCE WITH ARTICLE 705.03). RECESS JOINT FILLER ½" FOR ALL JOINTS (SEE DETAIL). SEAL ALL JOINTS THAT ARE ABOVE GRADE WITH DECK-O-SEAL GUN GRADE-JOINT SEALANT OR AN APPROVED EQUAL. THE COLOR SHALL BE STONE GRAY. APPROVE MANUFACTURER'S APPLICATION METHODS SHALL BE FOLLOWED DURING SURFACE PREPARATION AND APPLICATION FOR MAXIMUM EFFECTIVENESS.

DECK-O-SEAL
P.O. BOX 397
HAMPSHIRE, IL 60140
PHONE: 800-542-7665



PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN, SF, OR ITEM 516 - 2" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN, SF AND SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK DESCRIBED.

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN:

FURNISH APPROACH SLABS ACCORDING TO C&MS 526. THE ACCEPTED QUANTITIES SHALL INCLUDE CONCRETE, STEEL REINFORCEMENT, JOINT FILLERS, JOINT SEALERS, JOINT SEALS, WATERPROOFING, AND ANY OTHER INCIDENTALS SHOWN ON THE APPROACH SLAB DETAIL SHEETS UNLESS OTHERWISE NOTED. THE DEPARTMENT WILL MEASURE APPROACH SLABS BY THE NUMBER OF SQUARE YARDS.

ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN

FABRICATE AND INSTALL THE VANDAL PROTECTION FENCE AS DETAILED IN THIS PLAN AND STANDARD DRAWING VPF-1-24. THE VANDAL PROTECTION FENCE SHALL BE 6'-0" STRAIGHT FENCE. THE COATING SYSTEM USED FOR THIS FENCE SHALL BE MODIFIED AS FOLLOWS. IF NOT ALREADY SPECIFIED IN VPF-1-24, ALL STEEL COMPONENTS SHALL RECEIVE PVC COATING IN ADDITION TO THE STANDARD SURFACE TREATMENTS. ALL THREADED ASSEMBLY COMPONENTS (I.E. THREAD LENGTH OF BOLTS, NUTS, AND WASHERS) WILL BE EXCLUDED FROM THIS ADDITIONAL COATING REQUIREMENT. PVC COATINGS SHALL CONFORM TO EITHER ASTM F668 CLASS 2A OR 2B (MESH, WIRE, ETC.), ASTM F626-14 (FENCE FITTINGS, ETC.), OR ASTM F1043-16 (FRAMEWORK, POSTS, RAILS, ETC.).

DUE TO THE ADDITIONAL THICKNESS OF THIS COATING SYSTEM, THE POTENTIAL EXISTS THAT TYPICAL FITTINGS MAY REQUIRE THEIR SIZES INCREASED ABOVE THE STANDARD SIZES SHOWN IN STD. DWG. VPF-1-24. IT IS THE RESPONSIBILITY OF THE CONTRACTOR/FABRICATOR TO TEST ALL FENCE COMPONENTS FOR FIT-UP AT THE FABRICATION STAGE AND TO INCORPORATE ANY SIZE-UP ADJUSTMENTS TO ENSURE EASE OF FIELD INSTALLATION AND ERECTION. THE FINAL COLOR FOR ALL PVC COATED FENCE COMPONENTS SHALL BE BLACK (CLOSELY APPROACHING AMS 595A-17038). HANDLE ALL PVC COATED MATERIALS WITH CARE. IF THE PVC COATING IS DAMAGED, REPLACE THE DAMAGED FENCE COMPONENT(S) AT NO COST TO THE DEPARTMENT.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LINEAR FEET BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN.

GENERAL NOTES

BRIDGE NO. FAI-C0020-04.722
PICKERINGTON ROAD OVER INDIANA & OHIO RAILWAY

SFN 2300003

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER	CHECKER
BWR	AMR

REVIEWER: WHM 11-3-23

PROJECT ID: 77555

SUBSET	TOTAL
2	29

SHEET	TOTAL
P.708	846

FAI-33-2.64

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/17/2025 TIME: 2:52:33 PM USER: share
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DESIGN: BWR DATE: 4/17/25		CHECK: STK 4/21/2025		ESTIMATED QUANTITIES				
ABUTMENTS	SUPERSTRUCTURE	GENERAL	ITEM	ITEM EXT	TOTAL 02/NHS/08	UNIT	DESCRIPTION	SEE SHEET NO.
		LS	503	21300	LS	-	UNCLASSIFIED EXCAVATION	
		LS	505	11100	LS	-	PILE DRIVING EQUIPMENT MOBILIZATION	
8280			507	00700	8280	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	
8970			507	00750	8970	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	
98569	29707		509	26000	128276	LB	GALVANIZED STEEL REINFORCEMENT	
	2422		509	30020	2422	FT	NO. 4 DEFORMED GFRP REINFORCEMENT	
	158		511	34447	158	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN	21
	26		511	34450	26	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)	
696			511	45723	696	CY	CLASS QC SCC CONCRETE WITH QC/QA, ABUTMENT, AS PER PLAN	2
519			511	46512	519	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	
795	143	52	512	10050	990	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
~~111~~			512	33000	~~111~~	SY	TYPE 2 WATERPROOFING	
	26		515	12050	26	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-48, (55'-6' LONG)	
	17		516	13601	17	SF	1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN	2
42			516	13900	42	SF	2" PREFORMED EXPANSION JOINT FILLER	
~~137~~			516	13901	137	SF	2" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN	2
255			516	14020	255	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	
		106	516	14600	106	FT	STRUCTURAL JOINT OR JOINT SEALER, MISC.: EMSEAL WITH SLEEPER SLAB	25
		106	516	31010	106	FT	2" DEEP JOINT SEALER	
52			516	41100	52	EACH	$\frac{1}{8}$" PREFORMED BEARING PAD, TYPE CDP	
104			516	43200	104	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE) (8'' X 10'' X 2.043'')	
346			518	21200	346	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
197			518	40000	197	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
64			518	40010	64	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
2			523	20000	2	EACH	DYNAMIC LOAD TESTING	
		729	526	30011	729	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN	2
		~~1985~~	SPECIAL	53000600	~~1985~~	SF	STRUCTURES: PRECAST WALL PANELS	3
		6867	SPECIAL	53000600	6867	SF	STRUCTURES: AESTHETIC TREATMENT (CONCRETE FORMLINER)	3
		100	607	39901	100	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	2, 23
		81	840	26000	81	FT	CONCRETE COPING	

ESTIMATED QUANTITIES
BRIDGE NO. FAI-C0020-04.722
PICKERINGTON ROAD OVER INDIANA & OHIO RAILWAY

SFN 2300003

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER	CHECKER
BWR	STK

REVIEWER
WHM 11-3-23

PROJECT ID
77555

SUBSET	TOTAL
4	29

SHEET	TOTAL
P.710	846

FAI-33-2.64

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/17/2025 TIME: 2:53:15 PM USER: share
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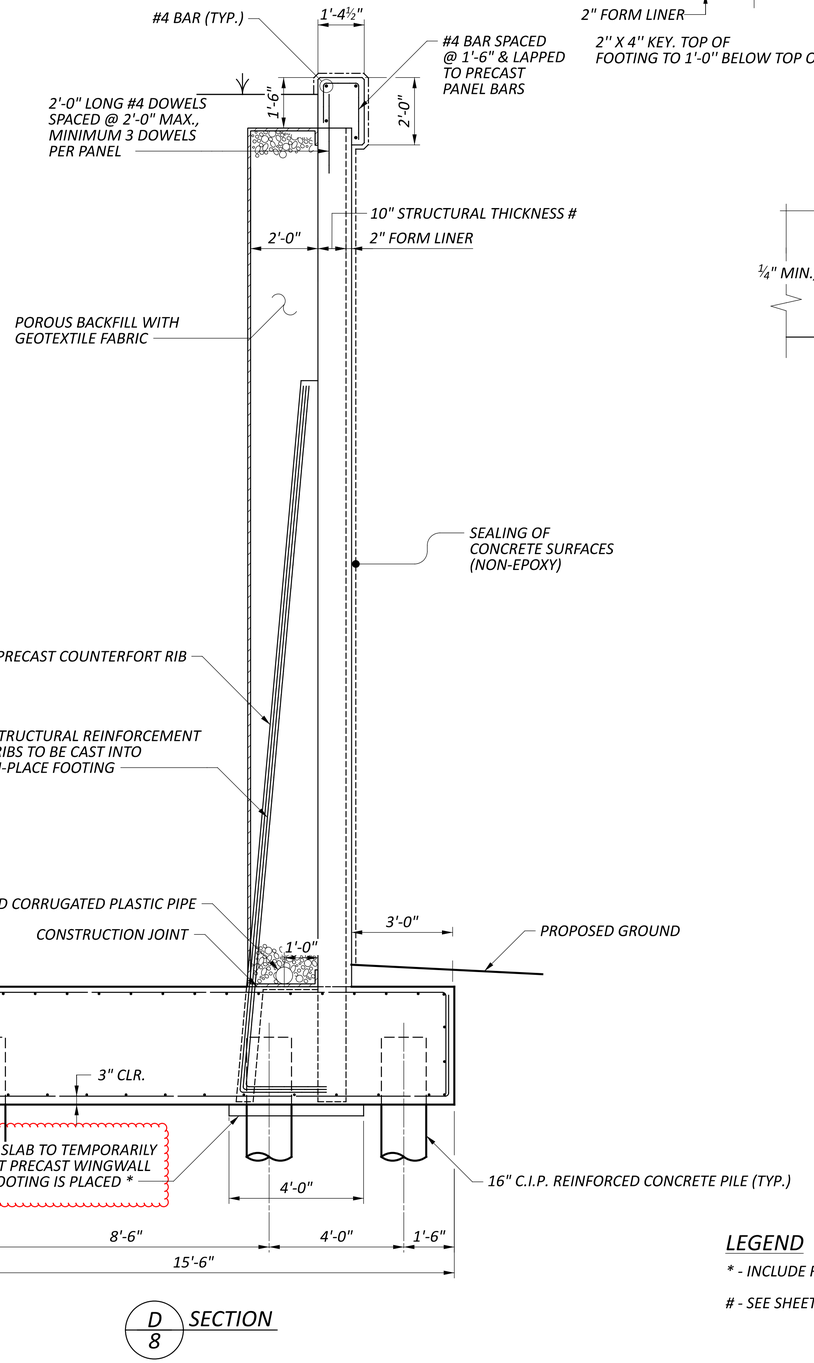
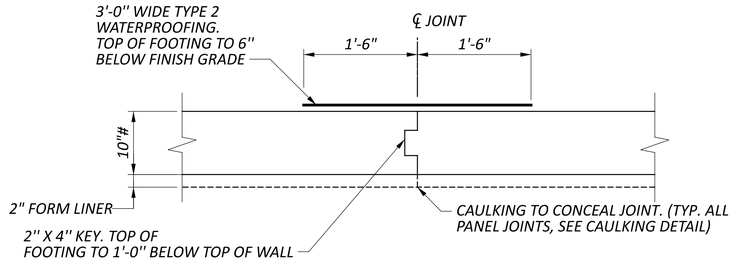
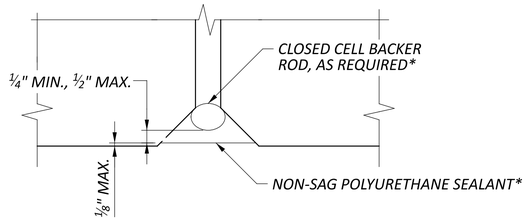


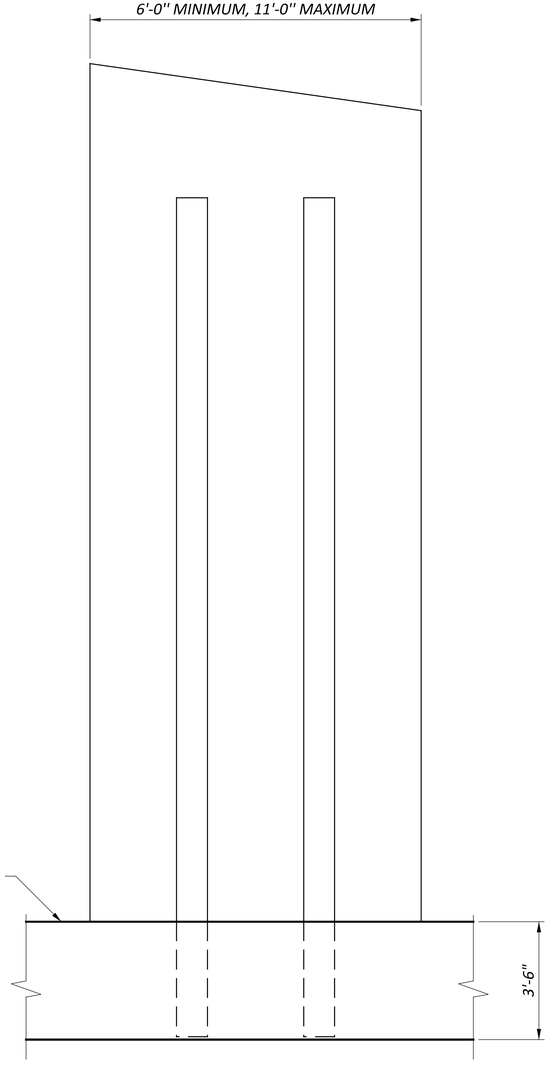
D/8 SECTION



TYPICAL PANEL JOINT DETAIL



CAULKING DETAIL



TYPICAL PRECAST COUNTERFORT WINGWALL PANEL ELEVATION

LEGEND

* - INCLUDE FOR PAYMENT WITH ITEM SPECIAL - STRUCTURES: PRECAST WALL PANELS

\# - SEE SHEET 3/29 FOR NOTE REGARDING STRUCTURAL THICKNESS.

NOTE

REINFORCING LOCATIONS BENEATH PRECAST WINGWALL PANELS MAY REQUIRE ADJUSTMENT TO AVOID CONFLICTS WITH PANEL SUPPORTS AND RIB REINFORCEMENT. COORDINATE WITH WALL MANUFACTURER PRIOR TO PLACING. SEE SHEET 6/29 FOR FOOTING REINFORCEMENT.

REAR ABUTMENT WINGWALL DETAILS
BRIDGE NO. FAI-C0020-04.722
PICKERINGTON ROAD OVER INDIANA & OHIO RAILWAY

SFN 2300003

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER	CHECKER
BWR	AMR

REVIEWER: WHM 11-3-23

PROJECT ID: 77555

SUBSET	TOTAL
9	29

SHEET	TOTAL
P.715	846

FAI-33-2.64

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/17/2025 TIME: 2:53:17 PM USER: share
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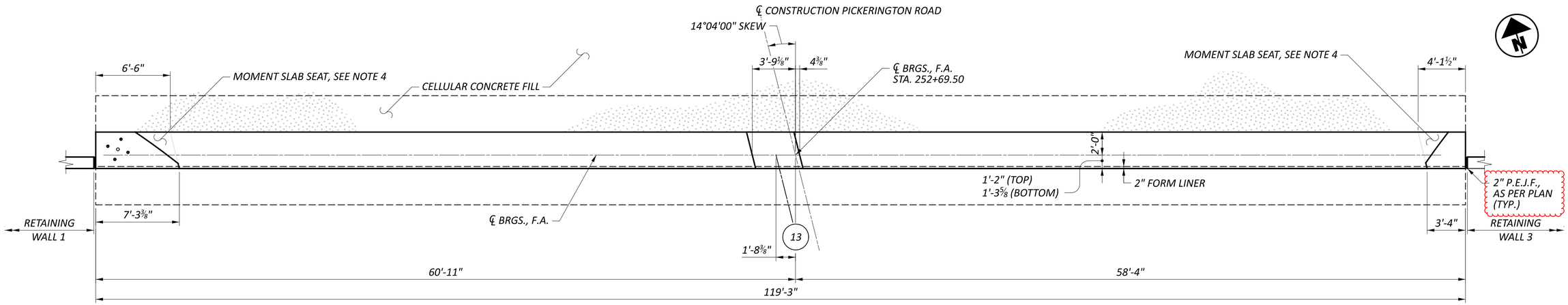
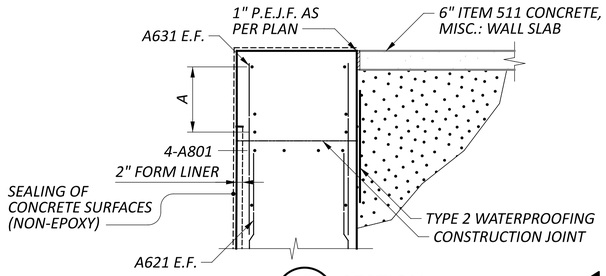


NOTES

1. MINIMUM LAP SPLICE LENGTHS:
   #6 BAR = 38 INCHES
   #8 BAR = 50 INCHES
2. ABUTMENT CONCRETE:
   DO NOT PLACE THE ABUTMENT CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT UNTIL THE PRESTRESSED CONCRETE BOX BEAMS HAVE BEEN ERECTED.
3. REFER TO STANDARD DRAWING TC-21.21 FOR ADDITIONAL NOTES AND DETAILS.
4. PLACE BOND BREAKER ON CONCRETE SURFACE PRIOR TO PLACING MOMENT SLAB. THICKEN MOMENT SLAB TO BEAR ON ABUTMENT SEAT.

PLAN

DIAPHRAGM NOT SHOWN FOR CLARITY



LEGEND

A - 3-A626 & 3-A627 TIES , 2 SPA. @ 1'-1" = 2'-2", 4-A501 TIES SPACED AT 3", THEN 2 SPA. @ 11"

B - 3-A628 & 3-A629 TIES, 2 SPA. @ 1'-1" = 2'-2"

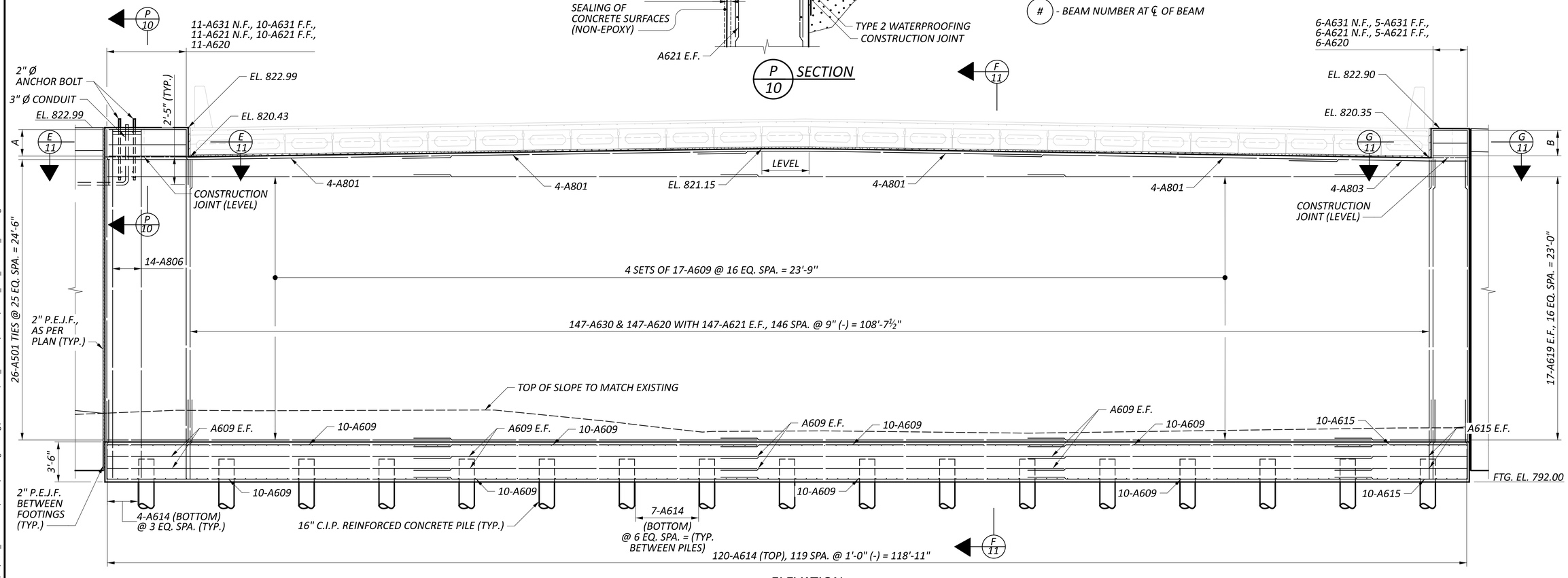
E.F. - EACH FACE

F.F. - FAR FACE

N.F. - NEAR FACE

(#) - BEAM NUMBER AT ℄ OF BEAM

P/10 SECTION



ELEVATION

FORWARD ABUTMENT DETAILS
BRIDGE NO. FAI-C0020-04.722
PICKERINGTON ROAD OVER INDIANA & OHIO RAILWAY

SFN	2300003
DESIGN AGENCY	CARPENTER MARTY Transportation
DESIGNER	BWR
CHECKER	AMR
REVIEWER	WHM 11-3-23
PROJECT ID	77555
SUBSET	10
TOTAL	29
SHEET	P.716
TOTAL	846

FAI-33-2.64

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/17/2025 TIME: 2:53:21 PM USER: share
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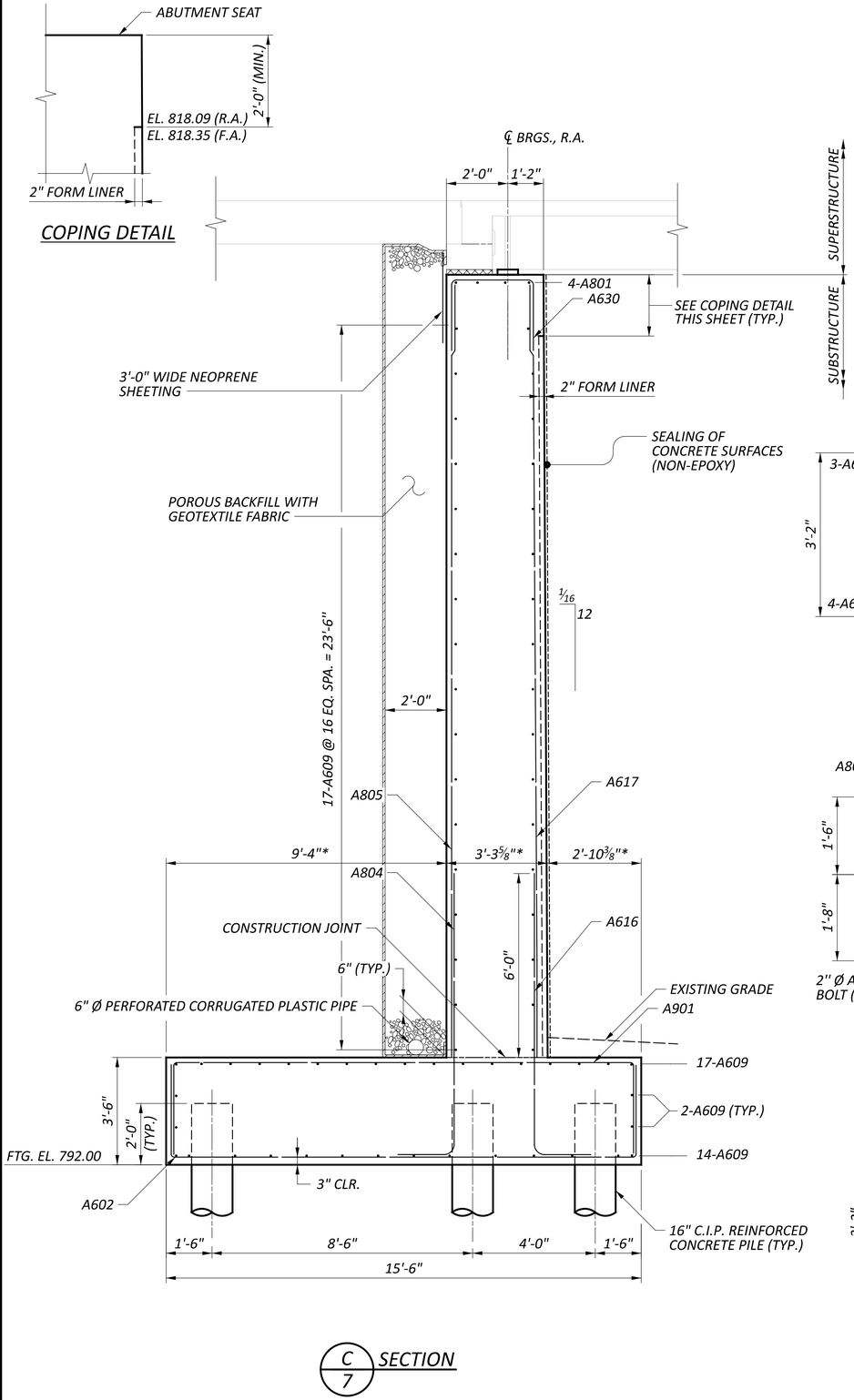


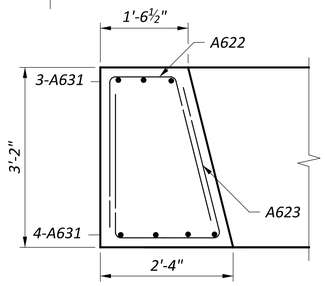
C 7 SECTION

LEGEND

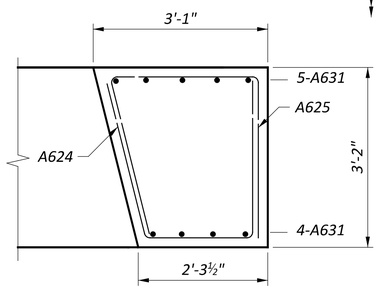
* - DIMENSIONS TAKEN AT TOP OF FOOTING

NOTES

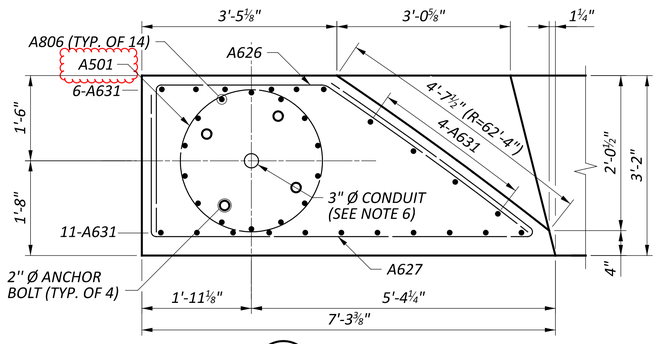
1. REFER TO WALL PLANS FOR CELLULAR CONCRETE FILL DETAILS AND PAYMENT.
2. INSTALL FIXED END ANCHOR DOWELS WITH A NON-SHRINKING GROUT (MORTAR).
3. FILL EXPANSION END ANCHOR DOWEL HOLES WITH JOINT SEALER PER C&MS 705.04.
4. REFER TO STANDARD DRAWING PSBD-2-07 FOR ADDITIONAL NOTES AND DETAILS.
5. BRIDGE SEAT REINFORCEMENT, SETTING ANCHORS: ACCURATELY PLACE CONCRETE REINFORCEMENT IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES.
6. REFER TO TRAFFIC SIGNAL PLANS FOR ADDITIONAL NOTES AND DETAILS.



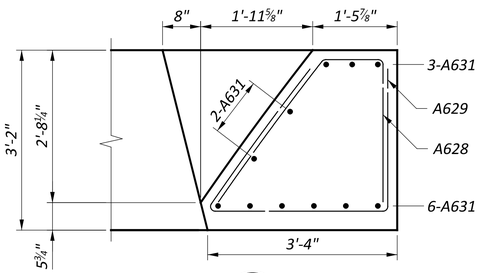
A 7 SECTION



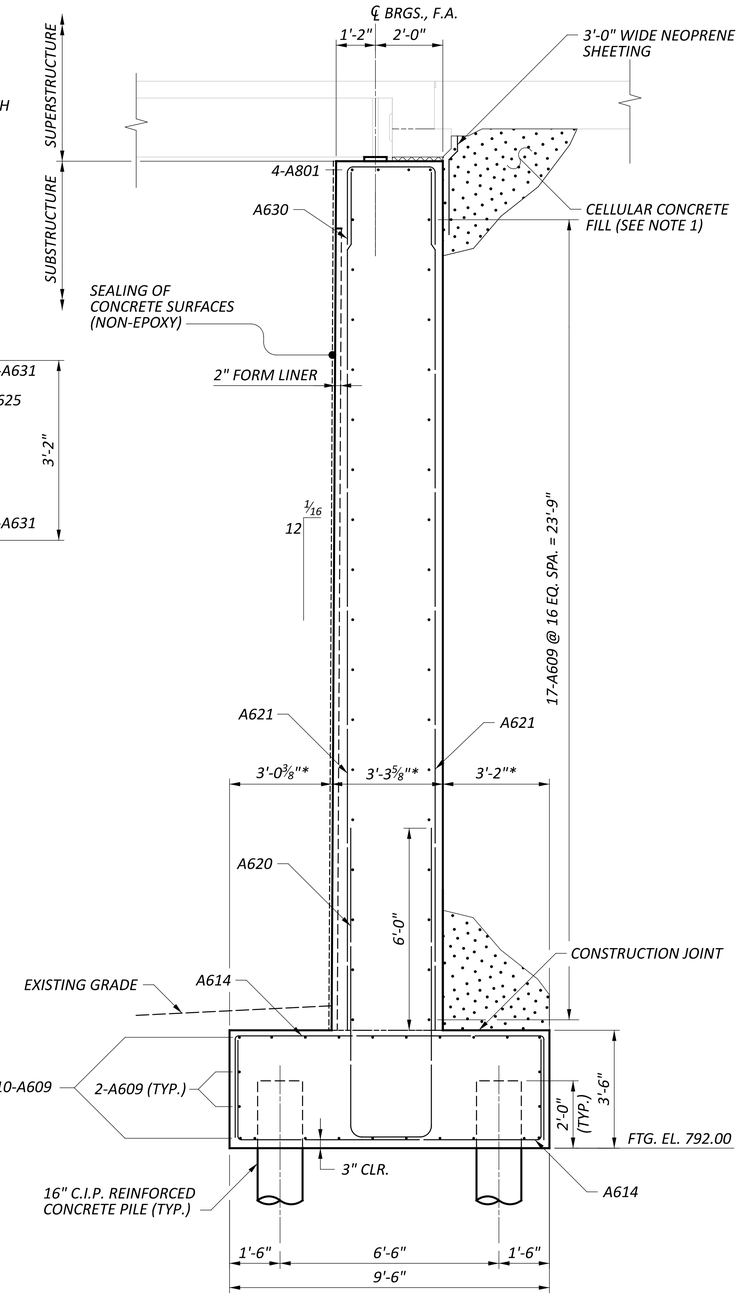
B 7 SECTION



E 10 SECTION



G 10 SECTION

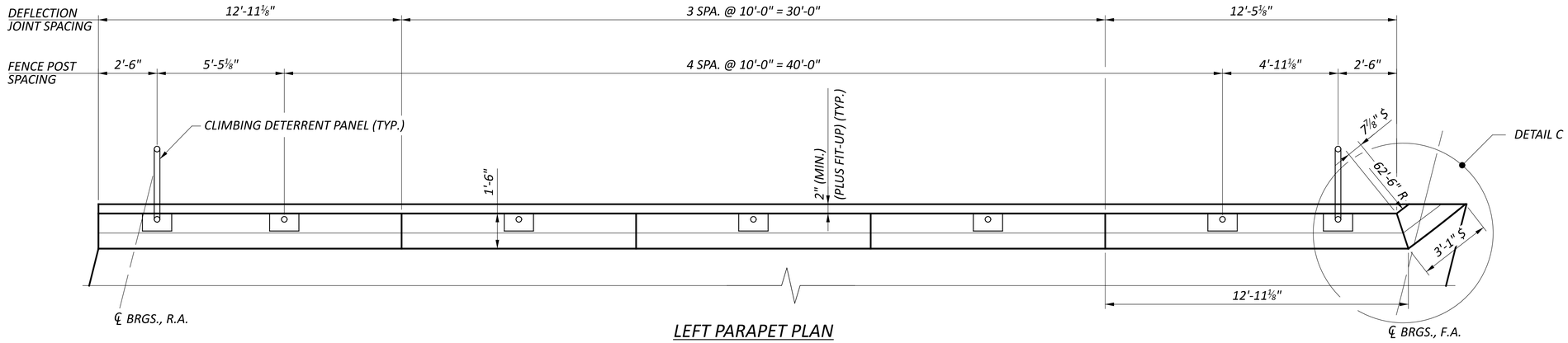


F 10 SECTION

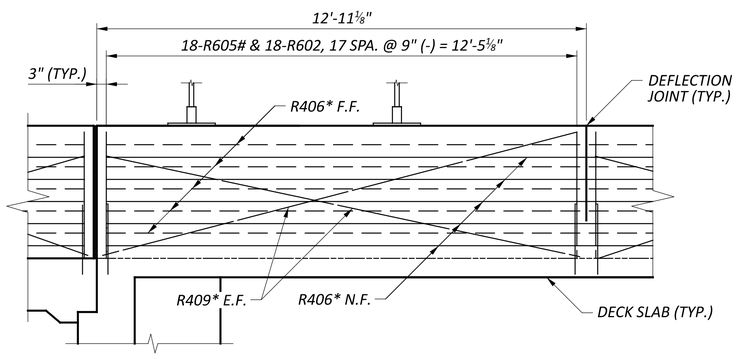
FAI-33-2.64

ABUTMENT DETAILS
BRIDGE NO. FAI-C0020-04.722
PICKERINGTON ROAD OVER INDIANA & OHIO RAILWAY

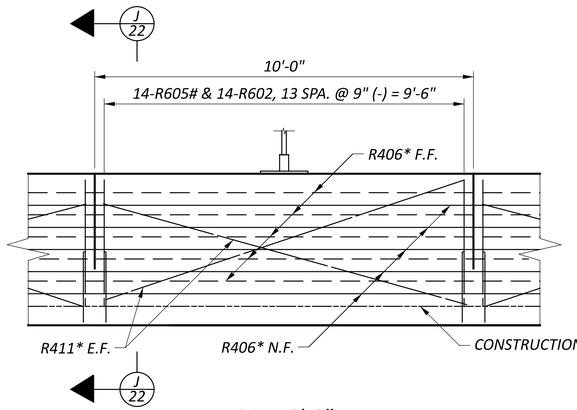
SFN	2300003
DESIGN AGENCY	CARPENTER MARKY
DESIGNER	BWR
CHECKER	AMR
REVIEWER	WHM 11-3-23
PROJECT ID	77555
SUBSET	11
TOTAL	29
SHEET	P.717
TOTAL	846



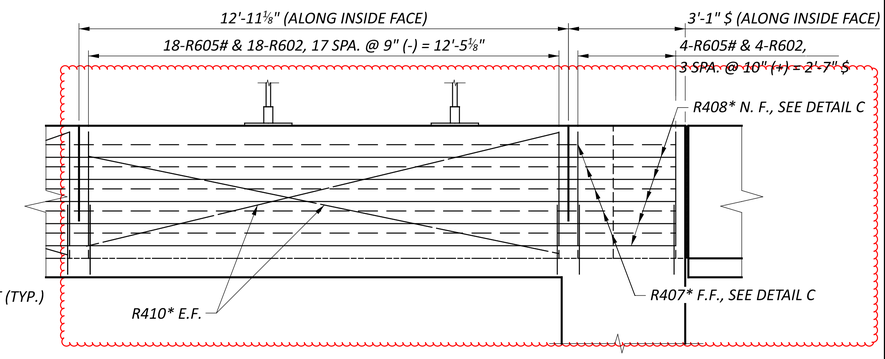
LEFT PARAPET PLAN



REAR END PANEL



TYPICAL 10'-0" PANEL



FORWARD END PANEL

NOTES

1. REFER TO STD. DWGS. SBR-1-20 AND VPF-1-24 FOR ADDITIONAL NOTES AND DETAILS.
2. USE BASE PLATE BP-1 AND POST SECTION PS-2 PER STD. DWG. VPF-1-24.
3. MINIMUM LAP LENGTH:
   #4 GFRP BAR = 13 INCHES
4. PAYMENT FOR ½" Ø GLASS FIBER REINFORCED POLYMER REINFORCEMENT SHALL BE INCLUDED WITH ITEM 509 - NO. 4 DEFORMED GFRP REINFORCEMENT.

LEGEND

E.F. - EACH FACE

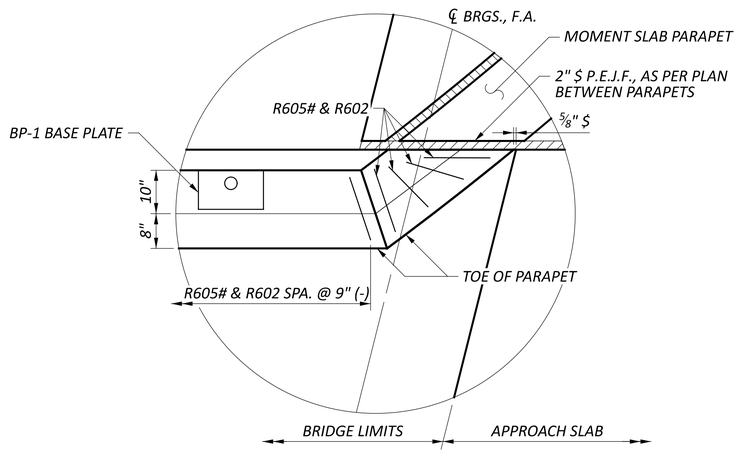
F.F. - FAR FACE

N.F. - NEAR FACE

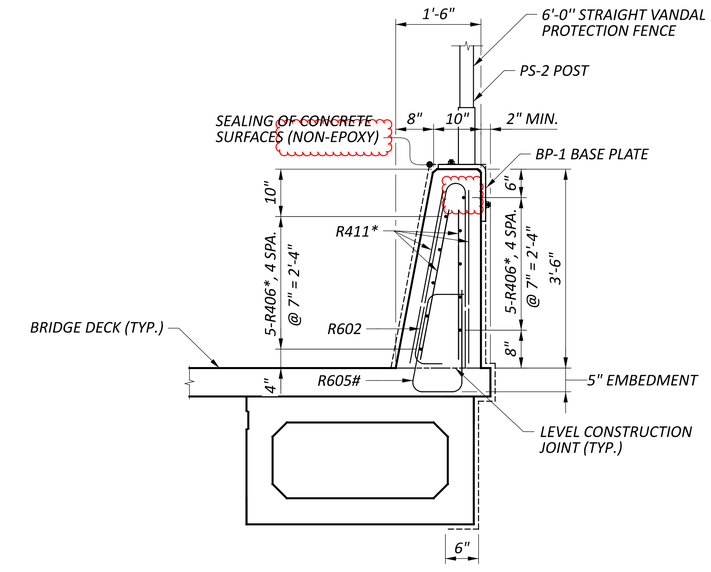
* - BAR TO BE GLASS FIBER REINFORCED POLYMER (GFRP)

- BAR TO BE PLACED PRIOR TO POURING OF BRIDGE DECK

$ - DIMENSION INCLUDES FIT-UP



DETAIL C



J 22 J 23 SECTION

FAI-33-2.64

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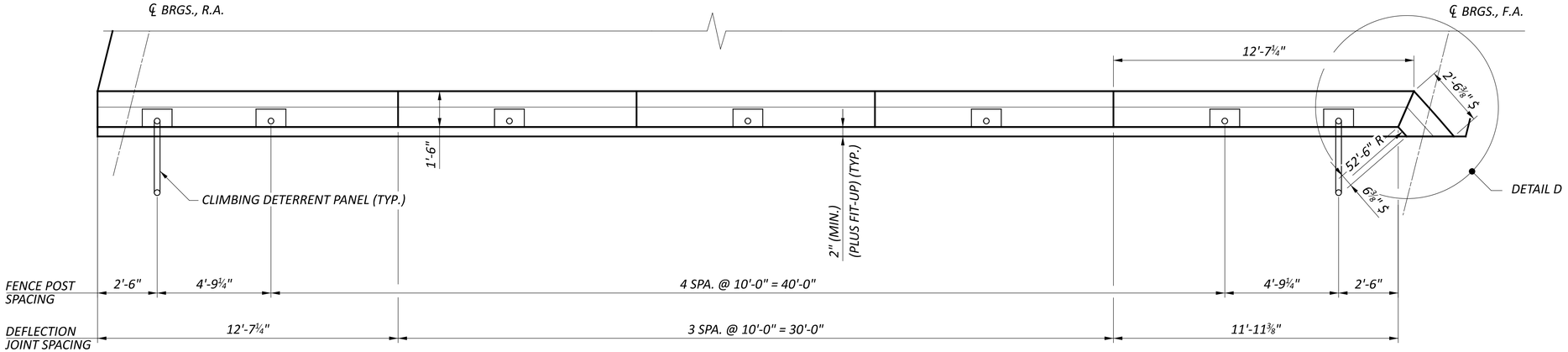
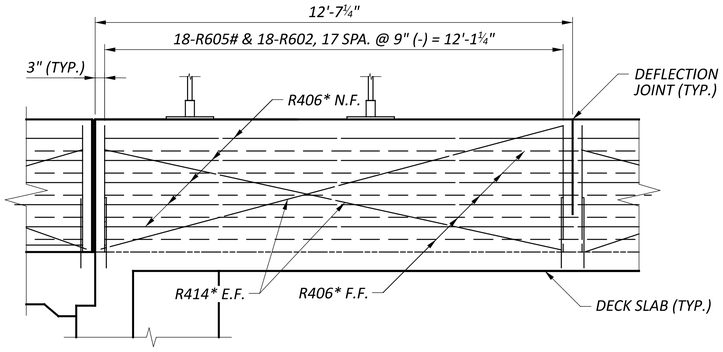
LEFT PARAPET AND VANDAL PROTECTION FENCE DETAILS
BRIDGE NO. FAI-C0020-04.722
PICKERINGTON ROAD OVER INDIANA & OHIO RAILWAY

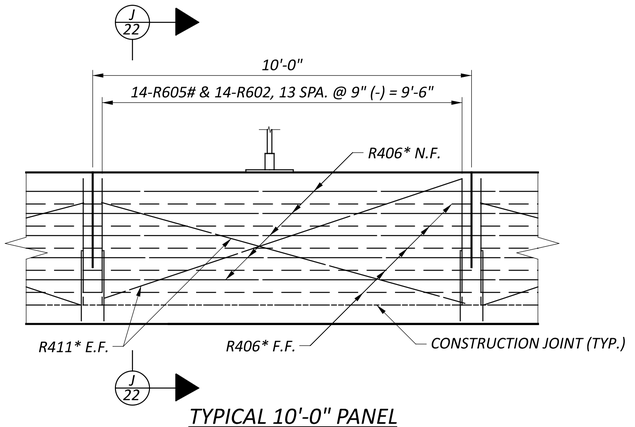
SFN	2300003
DESIGN AGENCY	CARPENTER MARTY transportation
DESIGNER	JZ
CHECKER	BWR
REVIEWER	WHM 11-3-23
PROJECT ID	77555
SUBSET	22
TOTAL	29
SHEET	P.728
TOTAL	846



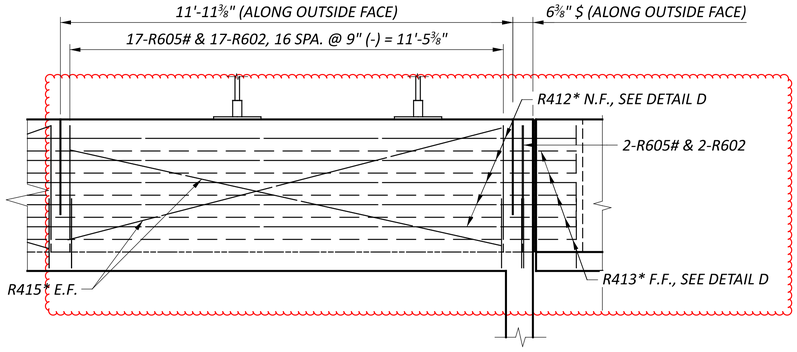
RIGHT PARAPET PLAN



REAR END PANEL



TYPICAL 10'-0" PANEL



FORWARD END PANEL

NOTES

1. REFER TO STD. DWGS. SBR-1-20 AND VPF-1-24 FOR ADDITIONAL NOTES AND DETAILS.
2. USE BASE PLATE BP-1 AND POST SECTION PS-2 PER STD. DWG. VPF-1-24.
3. MINIMUM LAP LENGTH:
   #4 GFRP BAR = 13 INCHES
4. PAYMENT FOR ½" Ø GLASS FIBER REINFORCED POLYMER REINFORCEMENT SHALL BE INCLUDED WITH ITEM 509 - NO. 4 DEFORMED GFRP REINFORCEMENT.
5. PAYMENT FOR CLIMBING DETERRENT PANEL SHALL BE INCLUDED WITH ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN

LEGEND

E.F. - EACH FACE

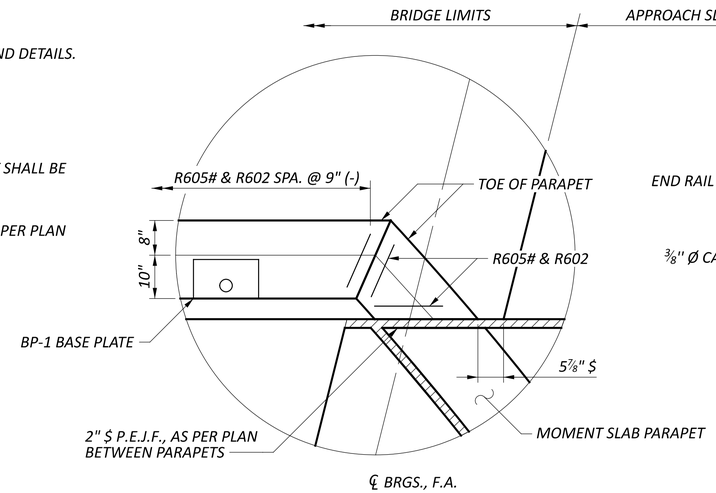
F.F. - FAR FACE

N.F. - NEAR FACE

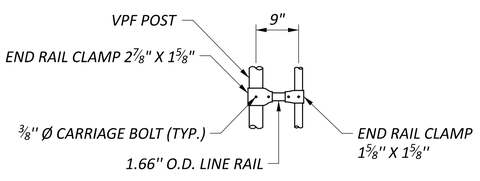
* - BAR TO BE GLASS FIBER REINFORCED POLYMER (GFRP)

- BAR TO BE PLACED PRIOR TO POURING OF BRIDGE DECK

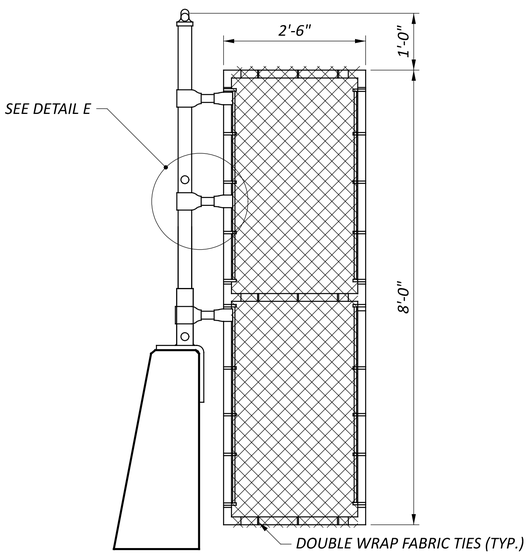
$ - DIMENSION INCLUDES FIT-UP



DETAIL D



DETAIL E



CLIMBING DETERRENT PANEL DETAIL

RIGHT PARAPET AND VANDAL PROTECTION FENCE DETAILS
BRIDGE NO. FAI-C0020-04.722
PICKERINGTON ROAD OVER INDIANA & OHIO RAILWAY

SFN	2300003
DESIGN AGENCY	CARPENTER MARTY transportation
DESIGNER	JZ
CHECKER	BWR
REVIEWER	WHM 11-3-23
PROJECT ID	77555
SUBSET	23
TOTAL	29
SHEET	P.729
TOTAL	846

FAI-33-2.64

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/17/2025 TIME: 2:53:27 PM USER: share
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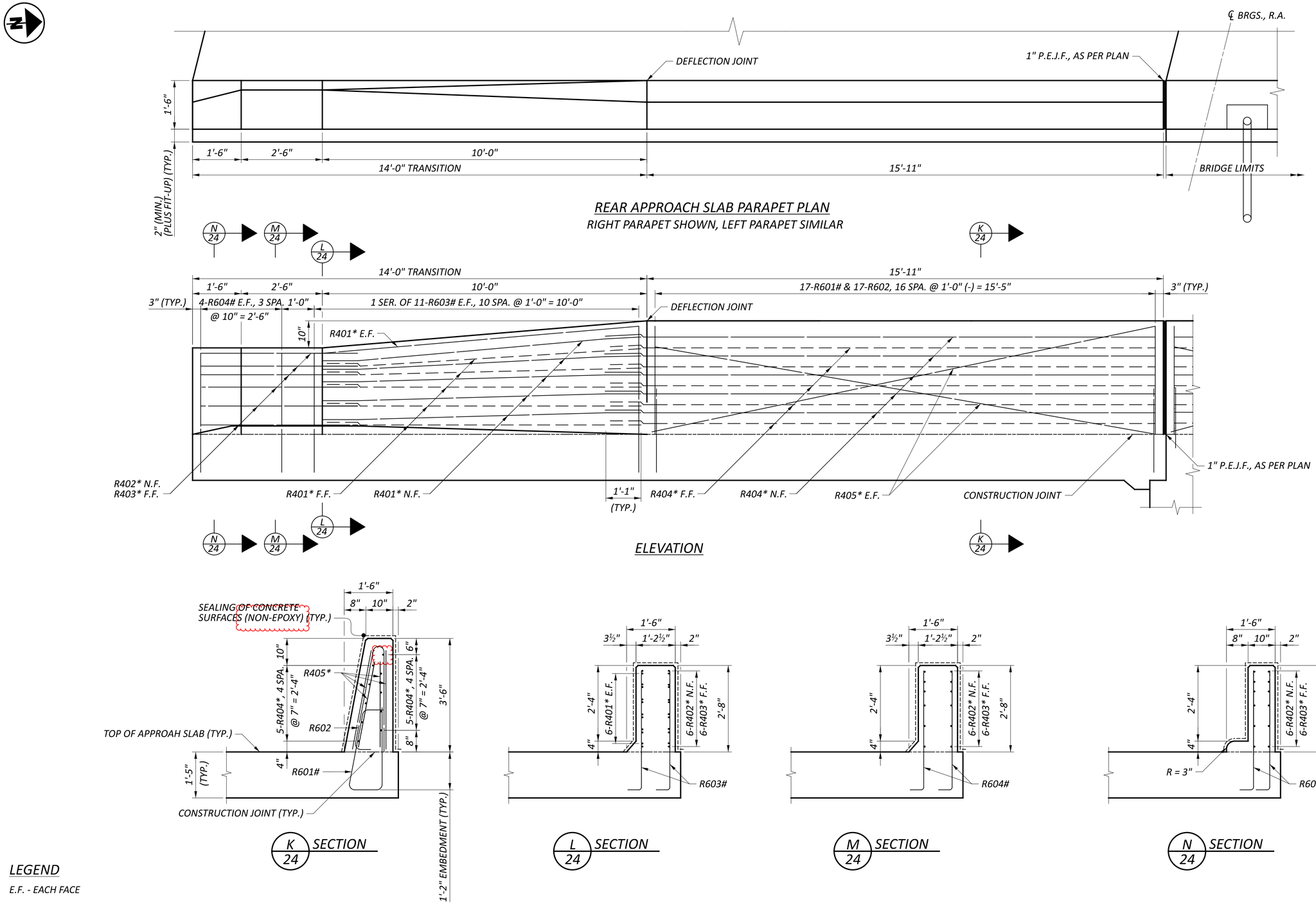

REAR APPROACH SLAB PARAPET PLAN

RIGHT PARAPET SHOWN, LEFT PARAPET SIMILAR

ELEVATION

K 24 SECTION

L 24 SECTION

M 24 SECTION

N 24 SECTION

LEGEND

E.F. - EACH FACE

F.F. - FAR FACE

N.F. - NEAR FACE

* - BAR TO BE GLASS FIBER REINFORCED POLYMER (GFRP)

\# - BAR TO BE PLACED PRIOR TO POURING OF APPROACH SLAB

NOTES

1. REFER TO STD. DWG. SBR-1-20 FOR ADDITIONAL NOTES AND DETAILS.
2. MINIMUM LAP LENGTH:
   #4 GFRP BAR = 13 INCHES
3. PAYMENT FOR ½" Ø GLASS FIBER REINFORCED POLYMER REINFORCEMENT SHALL BE INCLUDED WITH ITEM 509 - NO. 4 DEFORMED GFRP REINFORCEMENT.

APPROACH SLAB PARAPET DETAILS
BRIDGE NO. FAI-C0020-04.722
PICKERINGTON ROAD OVER INDIANA & OHIO RAILWAY

FAI-33-2.64

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/17/2025 TIME: 2:53:29 PM USER: share
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SFN 2300003

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER	CHECKER
JZ	BWR

REVIEWER: WHM 11-3-23

PROJECT ID: 77555

SUBSET	TOTAL
24	29

SHEET	TOTAL
P.730	846

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	1-20-2023
AS-2-15	REVISED	7-21-2023
PSID-1-13	REVISED	7-19-2024
SBR-1-20	REVISED	7-19-2024
SICD-2-14	REVISED	1-15-2021
VPF-1-24	DATED	7-19-2024

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

SS840	DATED	7-19-2024

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 9th EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.00 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

VEHICULAR LIVE LOAD: HL-93

FUTURE WEARING SURFACE (FWS) OF 0.06 KIPS/FT²

DESIGN DATA

CONCRETE CLASS QC2 WITH QC/QA - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE, APPROACH SLABS, APPROACH SLAB PARAPETS, DIAPHRAGMS)

CONCRETE CLASS QC1 WITH QC/QA - COMPRESSIVE STRENGTH 4.0 KSI (PIER AND ABUTMENT FOOTINGS)

CONCRETE CLASS QC SCC CONCRETE WITH QC/QA - COMPRESSIVE STRENGTH 4.0 KSI (ABUTMENTS) AND 4.5 KSI (PARAPET ON DECK)

CONCRETE REINFORCEMENT:
GALVANIZED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (DECK, APPROACH SLABS, ABUTMENTS, PIER)

GFRP REINFORCEMENT
(PARAPETS)

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

STEEL CIP PILES - ASTM A252 GRADE 3 - YIELD STRENGTH 45 KSI

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 7 KSI
COMPRESSIVE STRENGTH (RELEASE) - 5 KSI

WELDED WIRE REINFORCEMENT:
YIELD STRENGTH - 70 KSI

PRESTRESSING STRAND:
AREA = 0.217 SQ. IN. 0.6'' Ø
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)
INITIAL TENSION LOAD = 43.95 KIP/STRAND

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH MAXIMUM WHEEL LOAD OF 2.24 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103''.

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65''

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN:

FURNISH APPROACH SLABS ACCORDING TO C&MS 526. THE ACCEPTED QUANTITIES SHALL INCLUDE CONCRETE, STEEL REINFORCEMENT, JOINT FILLERS, JOINT SEALERS, JOINT SEALS, WATERPROOFING, AND ANY OTHER INCIDENTALS SHOWN ON THE APPROACH SLAB DETAIL SHEETS UNLESS OTHERWISE NOTED. THE DEPARTMENT WILL MEASURE APPROACH SLABS BY THE NUMBER OF SQUARE YARDS.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE):

THE ULTIMATE BEARING VALUE IS 391 KIPS PER PILE FOR THE REAR ABUTMENT.
THE ULTIMATE BEARING VALUE IS 408 KIPS PER PILE FOR THE PIER.
THE ULTIMATE BEARING VALUE IS 329 KIPS PER PILE FOR THE FORWARD ABUTMENT.

REAR ABUTMENT PILES:
16" CAST-IN-PLACE REINFORCED CONCRETE PILES 45 FEET LONG, ORDER LENGTH 1 DYNAMIC LOAD TESTING ITEMS

PIER PILES:
16" CAST-IN-PLACE REINFORCED CONCRETE PILES 60 FEET LONG, ORDER LENGTH 1 DYNAMIC LOAD TESTING ITEMS

FORWARD ABUTMENT PILES:
16" CAST-IN-PLACE REINFORCED CONCRETE PILES 60 FEET LONG, ORDER LENGTH 1 DYNAMIC LOAD TESTING ITEMS

PROVIDE PLAIN CYLINDRICAL CASINGS WITH A MINIMUM PILE WALL THICKNESS OF 0.250 INCHES FOR THE CAST-IN-PLACE REINFORCED CONCRETE PILES AT THE ABUTMENTS AND PIER.

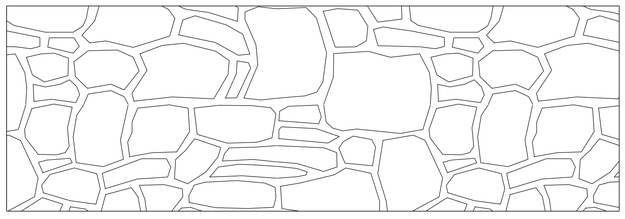
ITEM SPECIAL - 530 - STRUCTURES: AESTHETIC TREATMENT (CONCRETE FORMLINER)

THE SURFACE FINISH AESTHETICS ON THE REFERENCED PROJECTS WERE CONSTRUCTED USING ONE OF THE PATTERNS DESCRIBED BELOW IN THE ARCHITECTURAL SURFACE ELEVATION AND TABLE FROM AN APPROVED COMPANY MEETING THE DETAILS SHOWN ON THIS PAGE. FOR THIS PROJECT, THE CONTRACTOR WILL RESEARCH WHICH PATTERN/COMPANY WAS USED ND, AGAIN, MATCH IT TO CONSTRUCT THIS PROJECT AS DESCRIBED BELOW.

THE SURFACE TREATMENTS REFERENCED BELOW ARE INTENDED FOR PROCEDURE, TEXTURE, AND APPEARANCE REFERENCE.

ONE FULL SCALE PATTERNED PRECONSTRUCTION TEST PANEL SHALL BE PROVIDED FOR APPROVAL BY THE DISTRICT 5 BRIDGE SECTION. IF THE TEST PANEL DOES NOT MEET THE APPROVAL OF THE DISTRICT 5 BRIDGE SECTION, THE RESULT WILL BE GROUNDS TO REJECT THE PROPOSED PANEL SURFACE CHOSEN. THE TEST PANEL WILL BE PROVIDED REPEATEDLY, AS NECESSARY, UNTIL APPROVAL IS GRANTED. THE CONTRACTOR SHALL PROVIDE AN END SECTION OF THE PARAPET, AS SHOWN IN THE PLAN, SHOWING THAT THEY CAN ACHEIVE THE FORMLINING APPLICATION AS DETAILED. THE MOCK-UP SHALL HAVE THE SAME ARCHITECTURAL RELIEF, THICKNESS, PATTERN INTENDED TO BE USED ON THE PROJECT. THE PANEL SHALL BE OF THE SAME CEMENT AND AGGREGATE SOURCE THAT WILL BE USED TO CONSTRUCT THE PROJECT. AFTER APPROVAL THE CONCRETE TEST PANEL SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.

ALL AESTHETIC TREATMENT INCLUDING THE SURFACE FINISH, TEST PANELS, AND ALL OTHER MATERIALS REQUIRED TO COMPLETE THIS WORK SHALL BE INCLUDED WITH THE ITEMIZED PAYMENT FOR ITEM SPECIAL 530, STRUCTURES: AESTHETIC TREATMENT (CONCRETE FORMLINER).



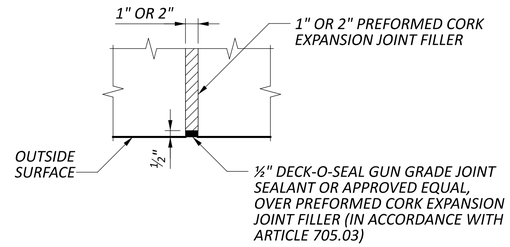
THE FOLLOWING SHALL BE USED:

COMPANY NAME:	PANEL SURFACE TREATMENT:	SPECIFICATIONS:
SPEC FORMLINERS, INC.	WASHINGTON DRYSTACK #1581	MAX RELIEF: 1½" LINER THICKNESS: 2⅝" STONE SIZE: 4" TO 24"
CUSTOM ROCK INTERNATIONAL	NEW ENGLAND DRYSTACK #12003	MAX RELIEF: 1⅜" LINER THICKNESS: 2¼" STONE SIZE: 3" TO 24"
APPROVED EQUAL	APPROVED EQUAL	APPROVED EQUAL

ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN AND ITEM 516 - 2" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN

ALL 1"AND 2" P.E.J.F., AS PER PLAN CALLED FOR IN THE PLANS SHALL BE PREFORMED CORK JOINT FILLER (IN ACCORDANCE WITH ARTICLE 705.03). RECESS JOINT FILLER ½" FOR ALL JOINTS (SEE DETAIL). SEAL ALL JOINTS THAT ARE ABOVE GRADE WITH DECK-O-SEAL GUN GRADE-JOINT SEALANT OR AN APPROVED EQUAL. THE COLOR SHALL BE STONE GRAY. APPROVE MANUFACTURER'S APPLICATION METHODS SHALL BE FOLLOWED DURING SURFACE PREPARATION AND APPLICATION FOR MAXIMUM EFFECTIVENESS.

DECK-O-SEAL
P.O. BOX 397
HAMPSHIRE, IL 60140
PHONE: 800-542-7665



PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN, SF, OR ITEM 516 - 2" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN, SF AND SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK DESCRIBED.

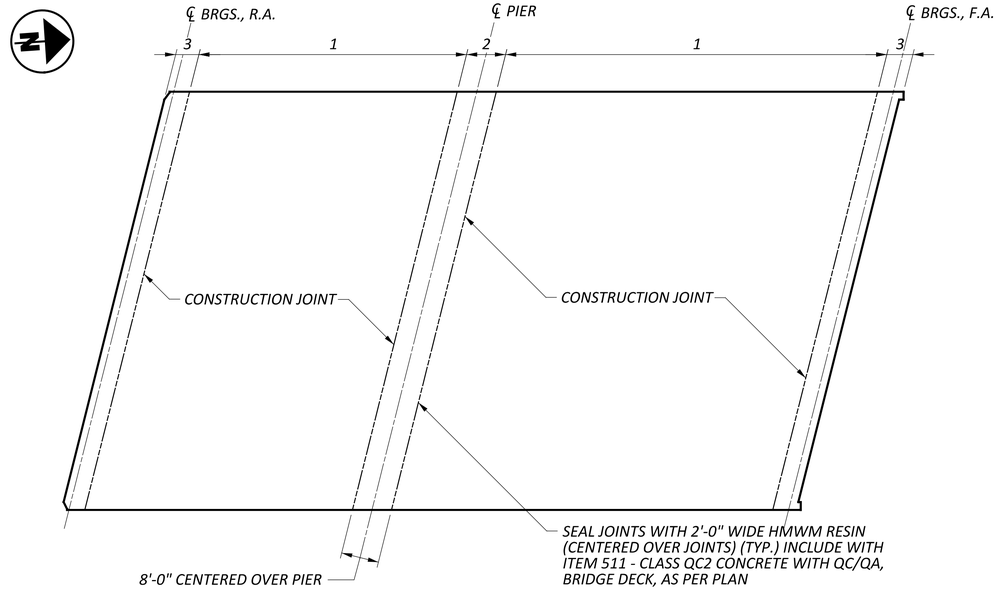
ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN

FABRICATE AND INSTALL THE VANDAL PROTECTION FENCE AS DETAILED IN THIS PLAN AND STANDARD DRAWING VPF-1-24. THE VANDAL PROTECTION FENCE SHALL BE 6'-0" STRAIGHT FENCE. THE COATING SYSTEM USED FOR THIS FENCE SHALL BE MODIFIED AS FOLLOWS. IF NOT ALREADY SPECIFIED IN VPF-1-24, ALL STEEL COMPONENTS SHALL RECEIVE PVC COATING IN ADDITION TO THE STANDARD SURFACE TREATMENTS. ALL THREADED ASSEMBLY COMPONENTS (I.E. THREAD LENGTH OF BOLTS, NUTS, AND WASHERS) WILL BE EXCEPTED FROM THIS ADDITIONAL COATING REQUIREMENT. PVC COATINGS SHALL CONFORM TO EITHER ASTM F668 CLASS 2A OR 2B (MESH, WIRE, ETC..), ASTM F626-14 (FENCE FITTINGS, ETC.), OR ASTM F1043-16 (FRAMEWORK, POSTS, RAILS, ETC.).

DUE TO THE ADDITIONAL THICKNESS OF THIS COATING SYSTEM, THE POTENTIAL EXISTS THAT TYPICAL FITTINGS MAY REQUIRE THEIR SIZES INCREASED ABOVE THE STANDARD SIZES SHOWN IN STD. DWG. VPF-1-24. IT IS THE RESPONSIBILITY OF THE CONTRACTOR/FABRICATOR TO TEST ALL FENCE COMPONENTS FOR FIT-UP AT THE FABRICATION STAGE AND TO INCORPORATE ANY SIZE-UP ADJUSTMENTS TO ENSURE EASE OF FIELD INSTALLATION AND ERECTION. THE FINAL COLOR FOR ALL PVC COATED FENCE COMPONENTS SHALL BE BLACK (CLOSELY APPROACHING AMS-595A-17038). HANDLE ALL PVC COATED MATERIALS WITH CARE. IF THE PVC COATING IS DAMAGED, REPLACE THE DAMAGED FENCE COMPONENT(S) AT NO COST TO THE DEPARTMENT.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LINEAR FEET BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN.



DECK POURING SEQUENCE PLAN

NOTES

1. SECTION 2 SHALL NOT BE POURED PRIOR TO SECTION 1 WITHOUT APPROVAL OF THE ENGINEER. SEQUENCE OF SECTION 1 POURS SHALL BE DETERMINED BY THE CONTRACTOR. CONTINUOUS DECK POUR PROCEDURES, WHICH PROCEED FROM END TO END OF THE BRIDGE AND PLACE THE PIER DIAPHRAGM CONCRETE CONCURRENTLY WITH THE DECK CONCRETE, MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN ADJACENT SPANS WILL BE PLACED BEFORE THE PIER DIAPHRAGM CONCRETE HAS REACHED ITS INITIAL SET.
2. ABUTMENT DIAPHRAGM CONCRETE: PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED ITS INITIAL SET.

GENERAL NOTES
BRIDGE NO. FAI-C0020-04.734
PICKERINGTON ROAD OVER U.S. 33

SFN 2300001
DESIGN AGENCY CARPENTER MARTY transportation
DESIGNER JMV | CHECKER AMR
REVIEWER GDJ 10-20-23
PROJECT ID 77555
SUBSET 2 | TOTAL 39
SHEET P.737 | TOTAL 846

FAI-33-2.64

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/21/2025 TIME: 9:17:22 AM USER: jzhu
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ITEM 511 - CLASS QC SCC CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN AND 511 - CLASS QC SCC CONCRETE WITH QC/QA, ABUTMENT, AS PER PLAN

THIS ITEM MODIFIES THE STANDARD 511 CONCRETE FOR STRUCTURES SPECIFICATION TO INCLUDE MACRO-SYNTHETIC INTO THE BRIDGE DECK PARAPET CONCRETE AND ABUTMENT CONCRETE. THIS ITEM SHALL CONFORM TO CMS 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

PROVIDE MATERIALS CONFORMING TO 511.02 EXCEPT AS MODIFIED BELOW:

PORTLAND CEMENT CONCRETE 499.03, CLASS QC SCC MEETING A DESIGN STRENGTH OF 4.5 KSI FOR PARAPETS AND 4.0 KSI FOR ABUTMENTS, WITH MACRO-SYNTHETIC FIBERS WITH MODIFICATION PER 511.02 FIBERS FOR CONCRETE ASTM C1116, TYPE III.

THE CLASS QC SCC CONCRETE SHALL MEET THE FOLLOWING CRITERIA:
- WATER/CEMENT RATIO = 0.40 MAXIMUM
- MINIMUM 4 LBS/CY MACRO-SYNTHETIC FIBERS (1.5 IN. MIN. TO 2.5 MAX.) MEETING ASTM C1116, TYPE III SHALL BE ADDED TO THE MIX.

THE MACRO-SYNTHETIC FIBERS SHALL BE INCORPORATED INTO THE MIX IN SUCH A WAY THAT NO 'BALLING' OCCURS. UPON INSPECTION OF THE MIX AT THE TIME OF PLACEMENT, IF ANY 'BALLING' OCCURS, THE ENGINEER SHALL REJECT THE REMAINDER OF THE LOAD AT ANY TIME DURING THE POUR. IT IS IMPORTANT TO FOLLOW INDUSTRY STANDARDS AND ASTM SPECIFICATIONS ON THE PREMIXING OF THE CEMENT, AGGREGATE, AND MACRO-SYNTHETIC FIBERS PRIOR TO THE ADDITION OF WATER AND ADMIXTURES. PROVIDE MACRO-SYNTHETIC FIBERS THAT ARE MONOFILAMENT FIBERS MADE FROM VIRGIN POLYPROPYLENE, POLYETHYLENE, OR CO-POLYMERS THAT ARE INERT TO ALKALI ATTACK. ENSURE THE MACRO-SYNTHETIC FIBERS HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI, A MINIMUM MODULUS OF ELASTICITY OF 800 KSI, A MINIMUM FILAMENT DIAMETER OF 0.012 INCHES, AN ASPECT RATIO BETWEEN 60 AND 100, AND ARE BETWEEN 1.5 AND 2.5 INCHES IN LENGTH. STORE THE MACRO-SYNTHETIC FIBERS ACCORDING TO THE MANUFACTURER'S RECOMMENDATION AND KEEP THE MATERIAL FREE FROM DUST, DIRT, AND MOISTURE.

USE A MINIMUM DOSAGE RATE OF MACRO-SYNTHETIC FIBERS OF 4.0 LBS/CY OF CONCRETE. DETERMINE THE FINAL PROPOSED DOSAGE RATE THROUGH MIX TESTING. ENSURE THE FIBER REINFORCED CONCRETE MEETS OR EXCEEDS A MINIMUM EQUIVALENT FLEXURAL STRENGTH RATIO OF 25% ACCORDING TO ASTM C1609. ENSURE THE FINAL PROPOSED MIX IS WORKABLE AND ABLE TO BE PRODUCED SUCH THAT BALLING OR CLUMPING OF THE FIBERS IS NOT A PROBLEM AS DETERMINED BY THE ENGINEER. UTILIZE A LABORATORY REGULARLY INSPECTED BY THE CEMENT AND CONCRETE REFERENCE LABORATORY (CCRL) OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, OR OTHER APPROVED REFERENCE LABORATORY, TO PERFORM THE TESTING. BEFORE USE, SUBMIT DOCUMENTATION TO THE PROJECT ENGINEER CERTIFYING THAT BOTH THE MACRO-SYNTHETIC FIBERS AND THE MIX MEET OF EXCEED THE REQUIRED PROPERTIES. SAMPLING WILL BE ALLOWED FOR TESTING PURPOSES. A DEMONSTRATION OF THE MIX PRODUCTION OR TRIAL MIX MAY BE REQUIRED BY THE ENGINEER PRIOR TO PLACING ANY OF THE MIX ON THE PROJECT.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED. THE TRANSIT MIXER CHARGE SHALL BE LIMITED TO 3/4 OF ITS RATED CAPACITY OR 6 CY, WHICHEVER IS SMALLER. THE FIRST THREE TRANSIT MIXER LOADS ARE REQUIRED TO BE AT THE MINIMUM YARDAGE LISTED ABOVE TO SHOW PROOF OF THE SUCCESSFUL BATCHING OPERATION. AFTER CONSISTENCY IN THE DELIVERED MATERIAL HAS BEEN ESTABLISHED, THE CONCRETE SUPPLIER MAY INCREASE THE BATCH DELIVERED QUANTITIES AS LONG AS THE QUALITY REMAINS ACCEPTABLE TO THE ENGINEER. THE ENGINEER CAN REDUCE THE BATCH LOAD SIZE AT ANY TIME AS NEEDED TO CORRECT/IMPROVE CONCRETE QUALITY.

CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT ADMIXTURES MAY HAVE AN EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE CONCRETE SUPPLIER'S CHOICE OF ADMIXTURES DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS.

PAYMENT FOR TRIAL MIXES SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.

ITEM 511 - CLASS QC SCC CONCRETE WITH QC/QA, ABUTMENT, AS PER PLAN

ABUTMENT FOOTING CONCRETE NOT INCLUDED.

ITEM 530 - SPECIAL - STRUCTURES: PRECAST WALL PANELS

A. DESCRIPTION

THIS BID ITEM CONSISTS OF PRECAST WALLS MANUFACTURED AND CONSTRUCTED IN ACCORDANCE WITH THIS SPECIFICATION AND DESIGNED IN ACCORDANCE WITH THE 9th EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

PRECAST WALL PANELS ARE SHOWN AND DETAILED IN THE PLANS WITH A 10 INCH STRUCTURAL THICKNESS AND A 2 INCH AESTHETIC THICKNESS. OTHER STRUCTURAL WALL THICKNESSES ARE ACCEPTABLE PROVIDING THEY MEET ALL THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. ANY ADDITIONAL MATERIAL REQUIRED TO ACCOMMODATE ALTERNATE WALL DIMENSIONS SHALL BE AT THE CONTRACTOR'S EXPENSE.

B. DESIGN DATA

CONCRETE - COMPRESSIVE STRESS 4.0 KSI

CONCRETE REINFORCEMENT:
- GALVANIZED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI

WELDED WIRE FABRIC - MINIMUM YIELD STRENGTH 70 KSI

C. MATERIALS - CONCRETE

THE CONCRETE FOR THE WALL SECTIONS SHALL BE COMPOSED OF PORTLAND CEMENT, FINE AND COARSE AGGREGATES, ADMIXTURES AND WATER. PORTLAND CEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION C150, TYPE I, II, OR III. THE AIR ENTRAINING ADMIXTURE SHALL CONTAIN 6% ± 2% ENTRAINED AIR, AND SLUMP SHALL BE MAINTAINED WITH THE RANGE OF 1" TO 4". THE SLUMP MAY BE INCREASED TO 7" PROVIDED THE INCREASE IS ACHIEVED BY THE ADDITION OF A CHEMICAL WATER-REDUCING ADMIXTURE APPROVED BY THE ENGINEER.

D. MATERIALS AND REINFORCING HARDWARE

REINFORCEMENT SHALL CONSIST OF WELDED WIRE FABRIC CONFORMING TO ASTM A185, OR DEFORMED BILLET-STEEL BARS CONFORMING TO ASTM A615, A616, OR A617, GRADE 60.

E. SHOP DRAWING REQUIREMENTS

THE MANUFACTURER SHALL SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO MANUFACTURE. THE SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING.
- ALL STRUCTURAL DESIGN AND LOADING INFORMATION
- A PLAN VIEW
- ALL ELEVATION VIEWS
- ALL DIMENSIONS

MANUFACTURING SHALL NOT BEGIN UNTIL WRITTEN APPROVAL OF THE SUBMITTED SHOP DRAWINGS HAS BEEN RECEIVED.

F. TESTING AND INSPECTION

ACCEPTABILITY OF THE CONCRETE FOR THE PRECAST PANELS WILL BE DETERMINED ON THE BASIS OF COMPRESSION TESTS, CERTIFICATIONS AND VISUAL INSPECTIONS. THE CONCRETE STRENGTH REQUIREMENTS FOR THE PRECAST PANELS SHALL BE CONSIDERED ATTAINED REGARDLESS OF CURING AGE WHEN COMPRESSION TEST RESULTS INDICATE STRENGTH WILL CONFORM TO 28-DAY SPECIFICATIONS AS STATED BELOW. THE MANUFACTURER SHALL FURNISH FACILITIES AND PERFORM ALL NECESSARY SAMPLING AND TESTING IN AN EXPEDITIOUS AND SATISFACTORY MANNER. PANELS UTILIZING TYPE I OR TYPE II CEMENT SHALL BE CONSIDERED ACCEPTABLE FOR PLACEMENT IN THE WALL WHEN 7-DAY INITIAL STRENGTHS EXCEED 85 PERCENT OF THE 28-DAY REQUIREMENTS. PANELS UTILIZING TYPE III CEMENT SHALL BE CONSIDERED ACCEPTABLE FOR PLACEMENT IN THE WALL PRIOR TO 28 DAYS ONLY WHEN COMPRESSIVE STRENGTH TEST RESULTS INDICATE THAT THE STRENGTH EXCEEDS THE 28-DAY SPECIFICATION.

G. MANUFACTURE

THE AGGREGATES, CEMENT AND WATER SHALL BE PROPORTIONED AND MIXED IN A BATCH MIXER TO PRODUCE A HOMOGENEOUS CONCRETE MEETING THE STRENGTH REQUIREMENTS OF THESE NOTES. THE PROPORTION OF PORTLAND CEMENT IN THE MIXTURE SHALL NOT BE LESS THAN 564 POUNDS PER CUBIC YARD OF CONCRETE.

THE WALL SECTIONS SHALL BE CURED FOR A SUFFICIENT LENGTH OF TIME SO THAT THE CONCRETE WILL DEVELOP THE SPECIFIED COMPRESSIVE STRENGTH IN 28 DAYS OR LESS. ANY ONE OF THE METHODS OF CURING OR COMBINATION THEREOF SHALL BE USED:

STEAM CURING - THE SECTIONS MAY BE LOW PRESSURE, STEAM CURED BY A SYSTEM THAT WILL MAINTAIN A MOIST ATMOSPHERE.

WATER CURING - THE SECTIONS MAY BE WATER CURED BY ANY METHOD THAT WILL KEEP THE SECTIONS MOIST.

THE FORMS USED IN MANUFACTURE SHALL BE SUFFICIENTLY RIGID AND ACCURATE TO MAINTAIN THE SECTIONS DIMENSIONS WITHIN THE PERMISSIBLE VARIATIONS GIVEN THESE NOTES. ALL CASTING SURFACE SHALL BE OF SMOOTH MATERIAL.

THE WALL SECTION SHALL BE STORED IN SUCH A MANNER TO PREVENT CRACKING OR DAMAGES.

THE FRONT FACE OF THE REINFORCED CONCRETE PANELS SHALL HAVE AN AESTHETIC FINISH AS SHOWN IN THE PLANS. CAULKING BETWEEN PRECAST PANELS SHALL BE IN ACCORDANCE WITH THE PLAN DETAILS. THE BACK SIDE OF THE REINFORCED CONCRETE PANELS SHALL HAVE A UNIFORM SURFACE FINISH AND SHALL BE ROUGH SCREEDED TO ELIMINATE OPEN POCKETS OF AGGREGATE AND SURFACE DISTORTIONS IN EXCESS OF 1/4".

ALL PANELS SHALL BE MANUFACTURED WITH ALL PANEL DIMENSIONS WITHIN 1/4".

H. COMPRESSIVE STRENGTH

ACCEPTANCE OF THE CONCRETE PANELS WITH RESPECT TO COMPRESSIVE STRENGTH WILL BE DETERMINED ON THE BASIS OF PRODUCTION LOTS. A PRODUCTION LOT IS DEFINED AS A GROUP OF PANELS THAT WILL BE REPRESENTED BY A SINGLE COMPRESSIVE STRENGTH SAMPLE AND WILL CONSIST OF EITHER 6 PANELS OR A SINGLE DAY'S PRODUCTION, WHICHEVER IS LESS.

DURING THE PRODUCTION OF THE CONCRETE PANELS THE MANUFACTURER WILL RANDOMLY SAMPLE THE CONCRETE IN ACCORDANCE WITH ASTM C172. A SINGLE COMPRESSIVE STRENGTH SAMPLE, CONSISTING OF A MINIMUM OF FOUR CYLINDERS, WILL BE RANDOMLY SELECTED FOR EVERY PRODUCTION LOT.

CYLINDERS FOR COMPRESSIVE STRENGTH TESTS SHALL BE 6" DIA. X 1'-0" SPECIMENS PREPARED IN ACCORDANCE WITH ASTM C31. FOR EVERY COMPRESSIBLE STRENGTH SAMPLE, A MINIMUM OF 2 CYLINDERS WILL BE CURED IN THE SAME MANNER AS THE PANELS AND TESTED AT APPROXIMATELY 7 DAYS. THE AVERAGE COMPRESSIVE STRENGTH OF THESE CYLINDERS WHEN TESTED IN ACCORDANCE WITH ASTM C39, WILL PROVIDE A TEST RESULT WHICH WILL DETERMINE THE INITIAL STRENGTH OF THE CONCRETE. IN ADDITION, 2 CYLINDERS SHALL BE CURED IN ACCORDANCE WITH ASTM C31 AND TESTED AT 28 DAYS. THE AVERAGE COMPRESSIVE STRENGTH OF THESE TWO CYLINDERS, WHEN TESTED IN ACCORDANCE WITH ASTM C39, WILL PROVIDE A COMPRESSIVE STRENGTH TEST RESULT WHICH WILL DETERMINE THE COMPRESSIVE STRENGTH OF THE PRODUCTION LOT.

IF THE INITIAL STRENGTH TESTS RESULTS INDICATE A COMPRESSIVE STRENGTH IN EXCESS OF 4 KSI, THEN THESE TESTS RESULTS WILL BE UTILIZED AS THE COMPRESSIVE STRENGTH TEST RESULT FOR THE PRODUCTION LOT AND THE REQUIREMENT FOR TESTING AT 28 DAYS WILL BE WAIVED FOR THAT PARTICULAR PRODUCTION LOT.

ACCEPTANCE OF A PRODUCTION LOT WILL BE MADE IF THE COMPRESSIVE STRENGTH TEST RESULT IS GREATER THAN OR EQUAL TO 4 KSI. IF THE RESULT IS LESS THAN 4 KSI, THE ACCEPTANCE OF THE PRODUCTION LOT WILL BE BASED ON ITS MEETING THE FOLLOWING THREE ACCEPTANCE CRITERIA:
- 90% OF THE COMPRESSIVE STRENGTH TEST RESULTS FOR THE OVERALL PRODUCTION SHALL EXCEED 4 KSI.
- THE AVERAGE OF ANY SIX CONSECUTIVE COMPRESSIVE STRENGTH TEST RESULTS SHALL EXCEED 4 KSI.
- NO INDIVIDUAL COMPRESSIVE STRENGTH TEST RESULT SHALL FALL BELOW 3.6 KSI.

IN THE EVENT THAT A PRODUCTION LOT FAILS TO MEET THE SPECIFIED COMPRESSIVE STRENGTH REQUIREMENTS, THE PRODUCTION LOT SHALL BE REJECTED. SUCH REJECTION SHALL PREVAIL UNLESS THE MANUFACTURER, AT THEIR OWN EXPENSE, OBTAINS AND SUBMITS EVIDENCE ACCEPTABLE TO THE ENGINEER THAT THE STRENGTH AND QUALITY OF THE CONCRETE PLACED WITHIN THE PANELS OF THE PRODUCTION LOT IS ACCEPTABLE. IF SUCH EVIDENCE CONSISTS OF TESTS MADE ON CORES TAKEN FROM THE PANELS WITHIN THE PRODUCTION LOT. THE CORES SHALL BE OBTAINED AND TESTED IN ACCORDANCE WITH THE SPECIFICATIONS OF ASTM C42.

I. REJECTION

PANELS SHALL BE SUBJECT TO REJECTION BECAUSE OF FAILURE TO MEET ANY OF THE REQUIREMENTS SPECIFIED ABOVE. IN ADDITION, ANY OR ALL OF THE FOLLOWING DEFECTS MAY BE SUFFICIENT CAUSE FOR REJECTION:
- DEFECTS THAT INDICATE IMPERFECT MOLDING
- DEFECTS INDICATING HONEYCOMBED OR OPEN TEXTURED CONCRETE
- DEFECTS IN THE PHYSICAL CHARACTERISTICS OF THE CONCRETE, OR DAMAGE TO THE SEALING OF CONCRETE SURFACE TREATMENT OR TO AESTHETIC SURFACE TREATMENTS
- CONCRETE CHIPS OR SPALLS THAT ARE LARGER THAN 4 INCHES WIDE OR 2 INCHES DEEP. REPAIR ALL CHIPS AND SPALLS THAT ARE SMALLER
- STAINED FORM FACES, DUE TO FORM OIL, CURING, OR OTHER CONTAMINANTS
- SIGNS OF AGGREGATE SEGREGATION
- CRACKS WIDER THAN 0.01 INCHES, PENETRATING MORE THAN 1 INCH OR LONGER THAN 20 PERCENT OF THE LENGTH OF THE FACE CONTAINING THE CRACK. REPAIR ALL CRACKS THAT ARE SMALLER
- PANELS THAT DO NOT MEET THE SPECIFIED DIMENSIONAL TOLERANCES
- UNUSABLE LIFTING INSERTS
- EXPOSED REINFORCING STEEL
- INSUFFICIENT CONCRETE COMPRESSIVE STRENGTH

EITHER REPLACE DAMAGED PRECAST WALL PANELS OR DOCUMENT THE DAMAGE AND PROPOSE TO THE ENGINEER A REPAIR METHOD FOR THE DAMAGED PANEL; PERFORM REPAIRS WITH THE ACCEPTANCE OF THE ENGINEER. PROVIDE ACCEPTABLE REPLACEMENT PANELS FOR ANY THAT ARE REJECTED.

J. MARKING

THE DATE OF MANUFACTURE, THE PRODUCTION LOT NUMBER AND THE PIECE MARK SHALL BE CLEARLY SCRIBED ON THE BACK SURFACE OF EACH PANEL.

K. CONCRETE LEVELING PAD

THE CONCRETE LEVELING PAD (MUD SLAB) SHALL BE CONSTRUCTED WITH CONCRETE HAVING A STRENGTH THAT IS NOT LESS THAN 3.5 KSI AND SHALL HAVE SUFFICIENT STRENGTH TO ADEQUATELY SUPPORT THE PANELS AT THE BOTTOM OF THE WALL IN A LEVEL POSITION DURING INSTALLATION.

A 4" THICK UNREINFORCED CONCRETE LEVELING PAD SHALL BE PROVIDED AS SHOWN ON THE PLANS. THE PAD SHALL BE CURED A MINIMUM OF 24 HOURS BEFORE PLACING WALL PANELS ON THE LEVELING PAD.

L. WALL ERECTION

PANELS ARE HANDLED BY MEANS OF A LIFTING DEVICE CONNECTED TO THE LIFTING INSERT WHICH IS CAST INTO THE UPPER EDGE OR BACK SIDE OF THE PANELS. ALL PANELS SHALL BE BRACED TO RESIST THE TEMPORARY CONSTRUCTION LOADS INCLUDING WIND LOADS, PRIOR TO FOOTING CONSTRUCTION.

M. BASIS OF PAYMENT

PAYMENT FOR ITEM 530 - SPECIAL - STRUCTURES: PRECAST WALL PANELS COVERS ALL WORK DESCRIBED ABOVE.

VOLUME OF THE EMBEDDED PORTION OF PRECAST WALL HAS NOT BEEN SUBTRACTED FROM FOOTING CONCRETE VOLUME AND TO ADJUST QUANTITY BASED ON SELECTED WALL FABRICATOR.

GENERAL NOTES (CONTINUED)
BRIDGE NO. FAI-C0020-04.734
PICKERINGTON ROAD OVER U.S. 33

SFN 2300001
DESIGN AGENCY CARPENTER MARTY Transportation
DESIGNER AMR | CHECKER BWR
REVIEWER GDJ 10-20-23
PROJECT ID 77555
SUBSET 3 | TOTAL 39
SHEET P.738 | TOTAL 846

FAI-33-2.64

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/21/2025 TIME: 9:17:46 AM USER: jzhu
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DESIGN: AMR
DATE: 12-2-24

CHECK: SMH
DATE: 12-2-24

ESTIMATED QUANTITIES

ABUTMENTS	PIER	SUPERSTRUCTURE	GENERAL	ITEM	ITEM EXT	TOTAL 02/NHS/08	UNIT	DESCRIPTION	SEE SHEET NO.
			LS	503	21300	LS	-	UNCLASSIFIED EXCAVATION	
			LS	505	11100	LS	-	PILE DRIVING EQUIPMENT MOBILIZATION	
6370	1320			507	00700	7690	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	
6990	1440			507	00750	8430	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	
104202	28685	135703		509	26000	268590	LB	GALVANIZED STEEL REINFORCEMENT	
		5424		509	30020	5424	FT	NO. 4 DEFORMED GFRP REINFORCEMENT	
2				511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	
		573		511	34447	573	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN	2, 23
			9	511	34450	9	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)	
		51		511	34463	51	CY	CLASS QC SCC CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN	3
	103			511	41012	103	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS	
831				511	45723	831	CY	CLASS QC SCC CONCRETE WITH QC/QA, ABUTMENT, AS PER PLAN	3
475	63			511	46512	538	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	
623	234	738	57	512	10050	1652	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
102				512	33000	102	SY	TYPE 2 WATERPROOFING	
		10		515	15020	10	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE 4 (64'-7" LONG)	
		10		515	15020	10	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE 4 (88'-7" LONG)	
		36		515	20000	36	EACH	INTERMEDIATE DIAPHRAGMS	
		17		516	13601	17	SF	1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN	2
51				516	13900	51	SF	2" PREFORMED EXPANSION JOINT FILLER	
238				516	13901	238	SF	2" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN	2
220				516	14020	220	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	
			92	516	14600	92	FT	STRUCTURAL JOINT OR JOINT SEALER MISC.: EMSEAL WITH SLEEPER SLAB (REAR)	36
			88	516	14600	88	FT	STRUCTURAL JOINT OR JOINT SEALER MISC.: EMSEAL WITH SLEEPER SLAB (FORWARD)	36
			88	516	31010	88	FT	2" DEEP JOINT SEALER	
		10		516	44100	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (13'' X 18'' X 2.648'' PAD WITH 14'' X 19'' X 2'' LOAD PLATE)	
		10		516	44100	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (13'' X 18'' X 2.648'' PAD WITH 14'' X 39'' X 2'' LOAD PLATE)	
		20		516	44100	20	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (13'' X 18'' X 2.648'' PAD WITH 14'' X 26'' X 2'' LOAD PLATE)	
348				518	21200	348	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
184				518	40000	184	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
55				518	40010	55	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
			3	523	20000	3	EACH	DYNAMIC LOAD TESTING	
			556	526	30011	556	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN	2
1994				SPECIAL	53000600	1994	SF	STRUCTURES: PRECAST WALL PANELS	3
4335		708		SPECIAL	53000600	5043	SF	STRUCTURES: AESTHETIC TREATMENT (CONCRETE FORMLINER)	2
		301		607	39901	301	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	2
89				840	26000	89	FT	CONCRETE COPING	

ESTIMATED QUANTITIES
BRIDGE NO. FAI-C0020-04.734
PICKERINGTON ROAD OVER U.S. 33

SFN 2300001

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER	CHECKER
AMR	SMH

REVIEWER: GDJ 10-20-23

PROJECT ID: 77555

SUBSET	TOTAL
4	39

SHEET	TOTAL
P.739	846

FAI-33-2.64

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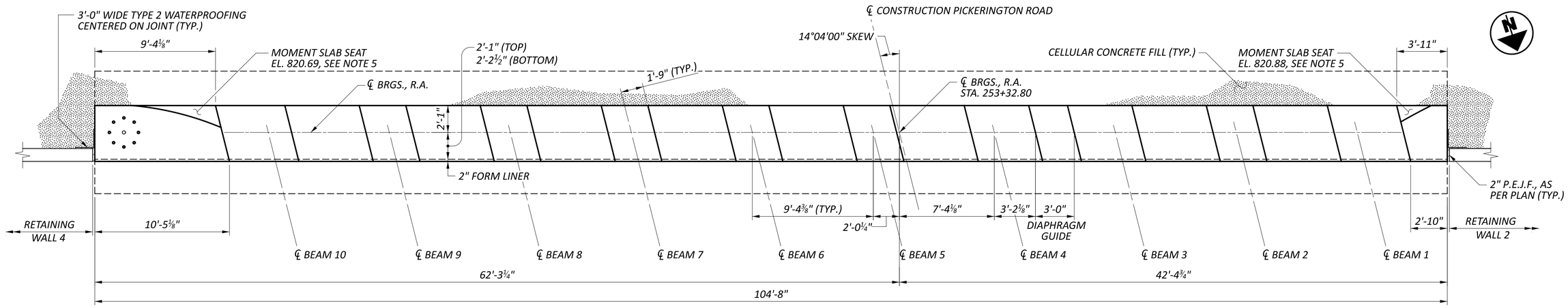


PLAN

DIAPHRAGM NOT SHOWN FOR CLARITY

NOTES

1. MINIMUM LAP SPLICE LENGTH:
   #6 BAR = 38 INCHES
   #8 BAR = 50 INCHES
2. REFER TO SHEET 5/39 FOR FOOTING DETAILS.
3. REFER TO STD. DWG. SICD-2-14 FOR ADDITIONAL NOTES AND DETAILS FOR DIAPHRAGM GUIDE. REFER TO SHEET 8/39 FOR DIAPHRAGM GUIDE REINFORCEMENT DETAILS.
4. CAREFULLY PLACE REINFORCEMENT TO AVOID INTERFERENCE WITH BEARING ANCHORS. REFER TO SHEET 8/39 FOR BEARING ANCHOR PLAN.
5. PLACE BOND BREAKER ON CONCRETE SURFACE PRIOR TO PLACING MOMENT SLAB.

LEGEND

E.F. - EACH FACE

F.F. - FAR FACE

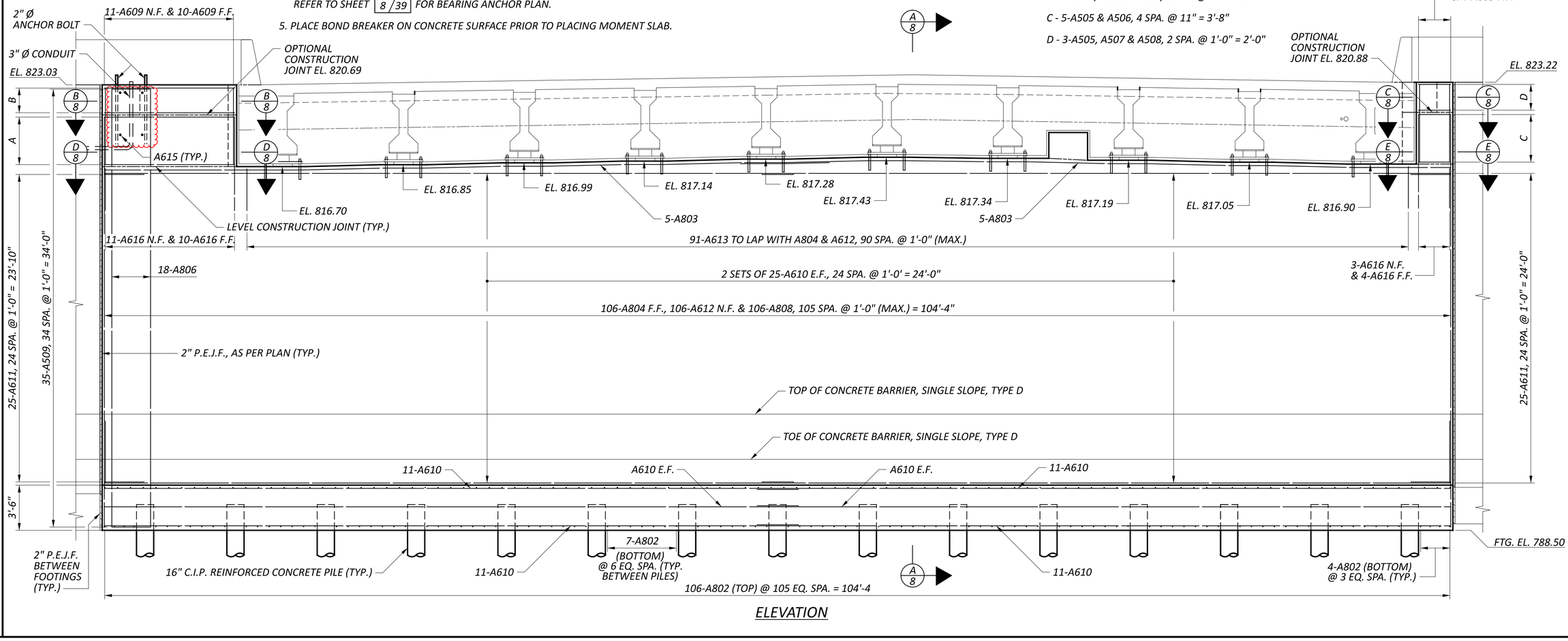
N.F. - NEAR FACE

A - 5-A501 & A502, 4 SPA. @ 11" = 3'-8"

B - 3-A501, A503 & A504, 2 SPA. @ 1'-0" = 2'-0"

C - 5-A505 & A506, 4 SPA. @ 11" = 3'-8"

D - 3-A505, A507 & A508, 2 SPA. @ 1'-0" = 2'-0"



ELEVATION

REAR ABUTMENT DETAILS
BRIDGE NO. FAI-C0020-04.734
PICKERINGTON ROAD OVER U.S. 33

SFN 2300001
DESIGN AGENCY CARPENTER MARTY transportation
DESIGNER LYH | CHECKER AMR
REVIEWER GDJ 10-20-23
PROJECT ID 77555
SUBSET 7 | TOTAL 39
SHEET P.742 | TOTAL 846

FAI-33-2.64

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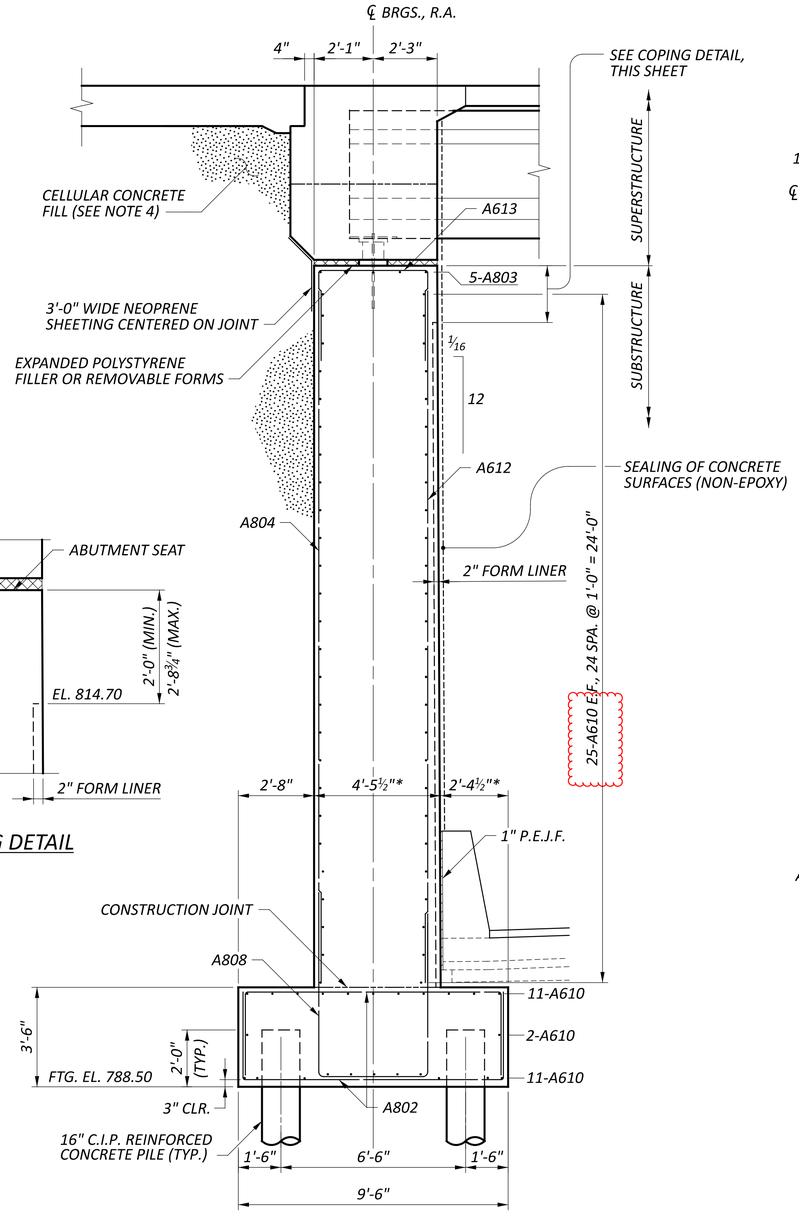
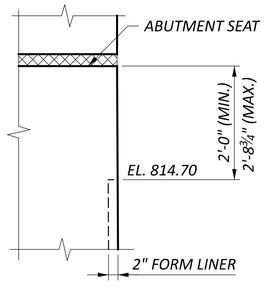
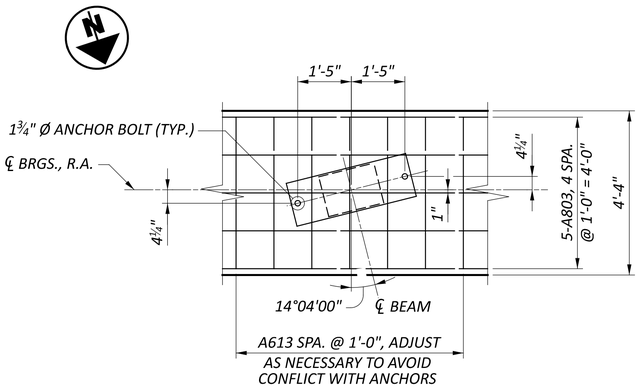


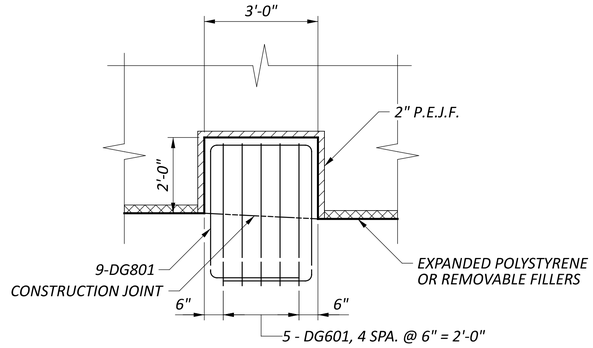
A 7 SECTION



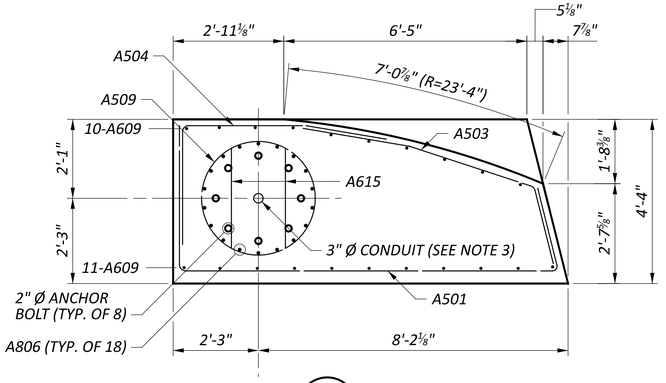
COPING DETAIL



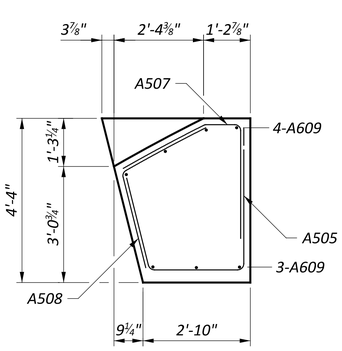
BEARING ORIENTATION & ANCHOR PLAN



DIAPHRAGM GUIDE DETAIL



B 7 SECTION



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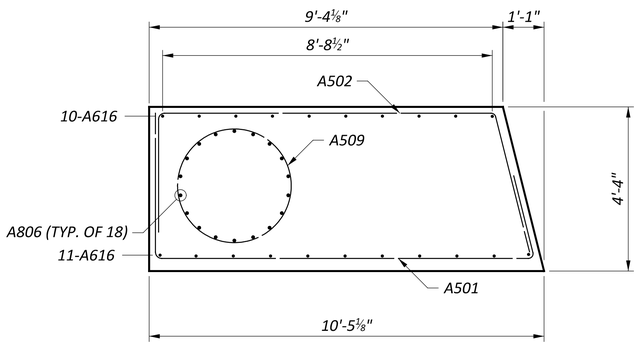

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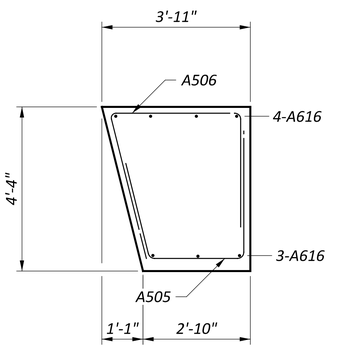

E 7 SECTION

NOTES

1. REFER TO SHEETS 18/39 & 19/39 FOR DIAPHRAGM DETAILS.
2. REFER TO STD. DWG. SICD-2-14 FOR ADDITIONAL DIAPHRAGM GUIDE NOTES AND DETAILS.
3. REFER TO TRAFFIC SIGNAL PLANS FOR ADDITIONAL NOTES AND DETAILS
4. REFER TO WALL PLANS FOR CELLULAR CONCRETE FILL DETAILS AND PAYMENT.
5. MINIMUM LAP SPLICE LENGTH:
   #6 BAR = 38 INCHES
   #8 BAR = 50 INCHES

LEGEND

E.F. - EACH FACE

* - DIMENSION TAKEN AT TOP OF FOOTING

REAR ABUTMENT DETAILS
BRIDGE NO. FAI-C0020-04.734
PICKERINGTON ROAD OVER U.S. 33

SFN 2300001
DESIGN AGENCY
CARPENTER MARTY Transportation

DESIGNER	CHECKER
LYH	AMR

REVIEWER: GDJ 10-20-23
PROJECT ID: 77555
SUBSET 8 | TOTAL 39
SHEET P.743 | TOTAL 846

FAI-33-2.64

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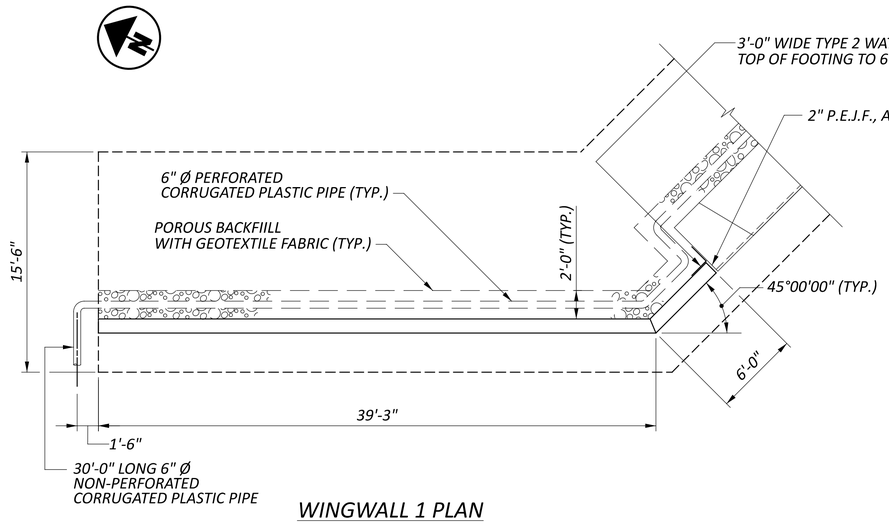
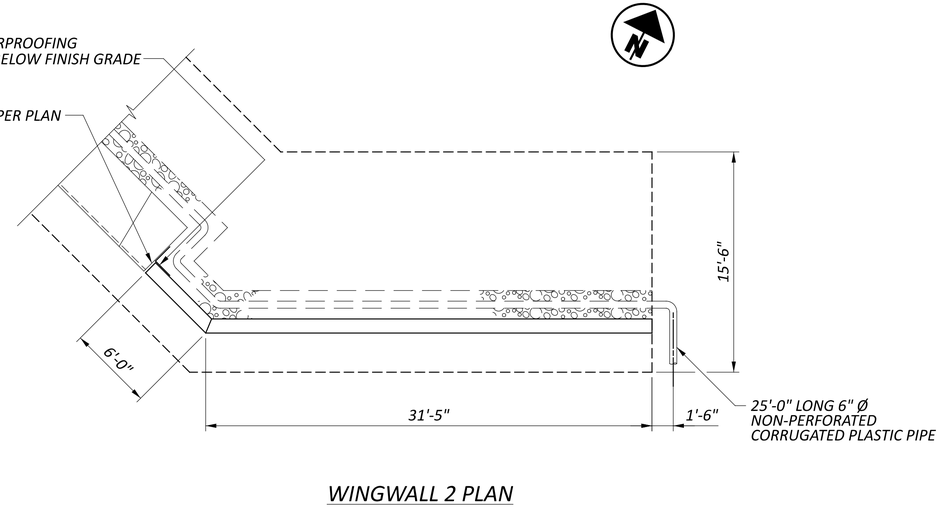
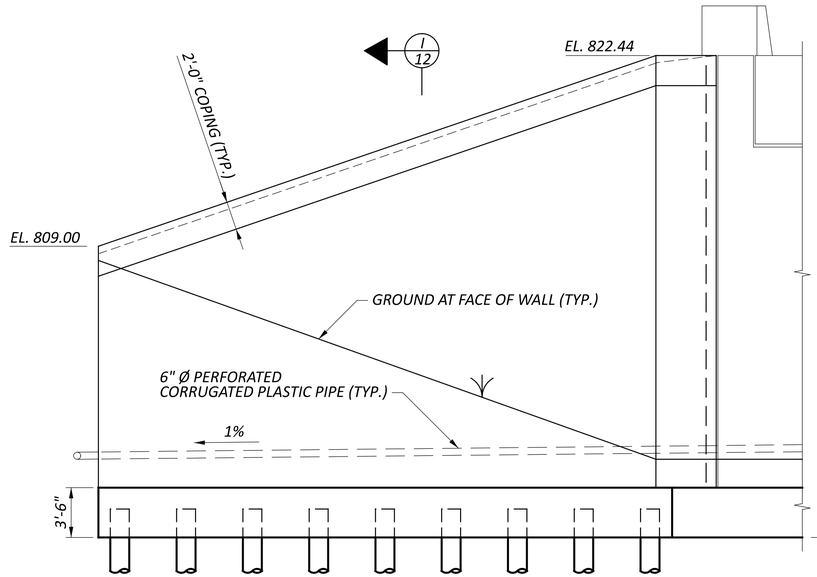


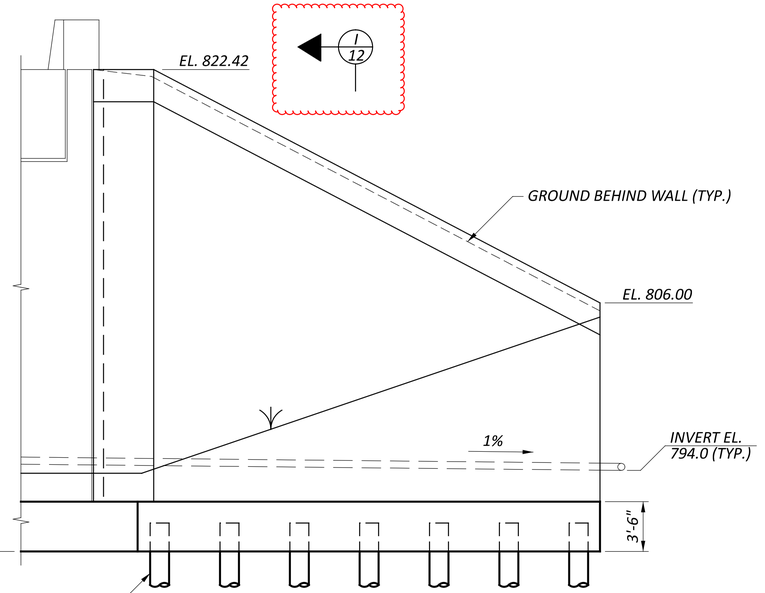
WINGWALL 1 PLAN



WINGWALL 2 PLAN



WINGWALL 1 ELEVATION



WINGWALL 2 ELEVATION

NOTE

WINGWALLS ARE PRECAST WALL PANELS.

FAI-33-2.64

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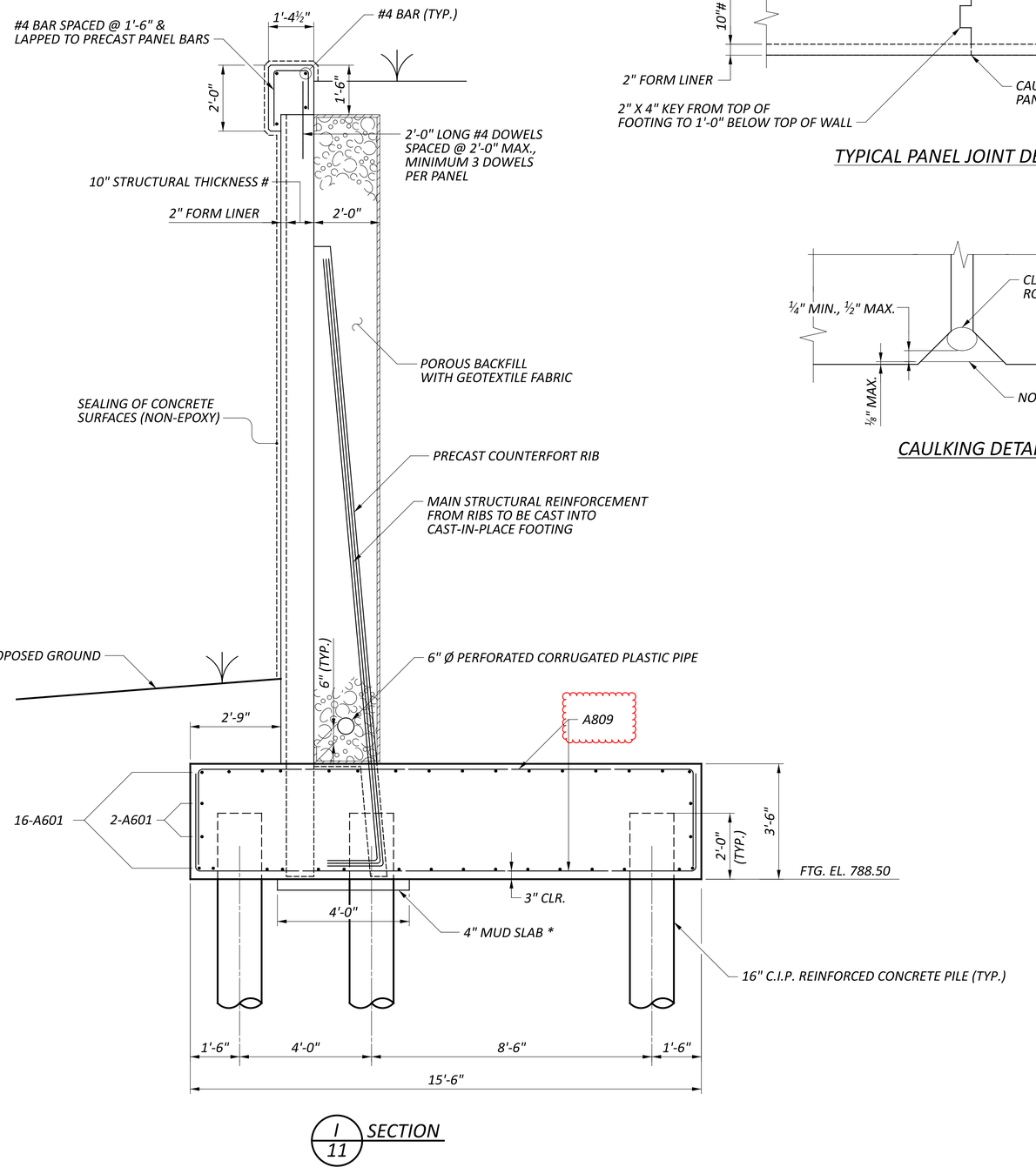
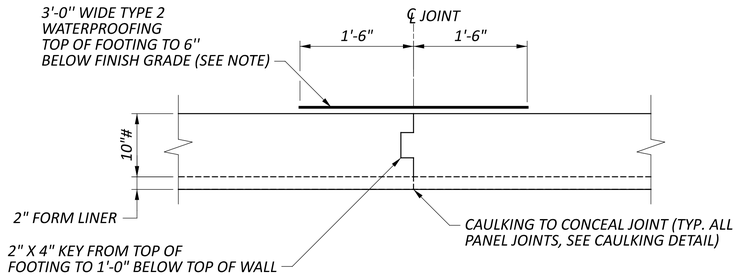
FORWARD ABUTMENT WINGWALL DETAILS
BRIDGE NO. FAI-C0020-04.734
PICKERINGTON ROAD OVER U.S. 33

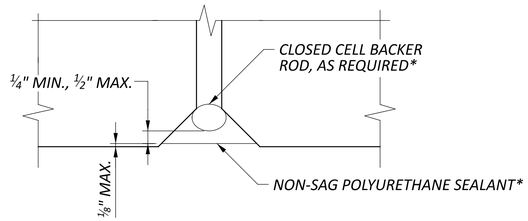
SFN 2300001
DESIGN AGENCY CARPENTER MARTY transportation
DESIGNER JZ | CHECKER AMR
REVIEWER GDJ 10-23-23
PROJECT ID 77555
SUBSET 11 | TOTAL 39
SHEET P.746 | TOTAL 846



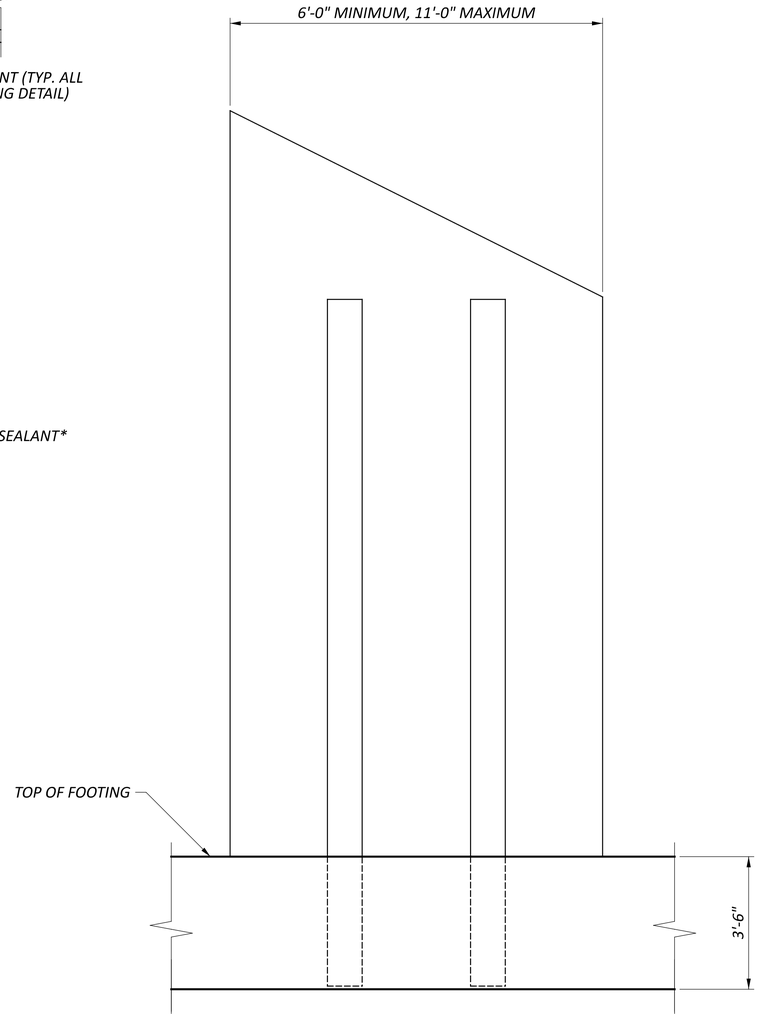
I/11 SECTION



TYPICAL PANEL JOINT DETAIL



CAULKING DETAIL



TYPICAL PRECAST COUNTERFORT WINGWALL PANEL ELEVATION

NOTE

THE ESTIMATED QUANTITY FOR THE TYPE 2 WATERPROOFING CONSERVATIVELY ASSUMES 6'-0" PANEL LENGTHS. ADJUST THE QUANTITY ACCORDINGLY BASED ON ACTUAL ORDER LENGTHS.

LEGEND

** - INCLUDE FOR PAYMENT WITH ITEM SPECIAL - STRUCTURES: PRECAST WALL PANELS*

 # - REFER TO SHEET 3/39 FOR NOTE REGARDING STRUCTURAL THICKNESS.

FORWARD ABUTMENT WINGWALL DETAILS
BRIDGE NO. FAI-C0020-04.734
PICKERINGTON ROAD OVER U.S. 33

SFN 2300001
DESIGN AGENCY CARPENTER MARTY transportation
DESIGNER AMR | CHECKER BWR
REVIEWER GDJ 10-25-23
PROJECT ID 77555
SUBSET 12 | TOTAL 39
SHEET P.747 | TOTAL 846

FAI-33-2.64

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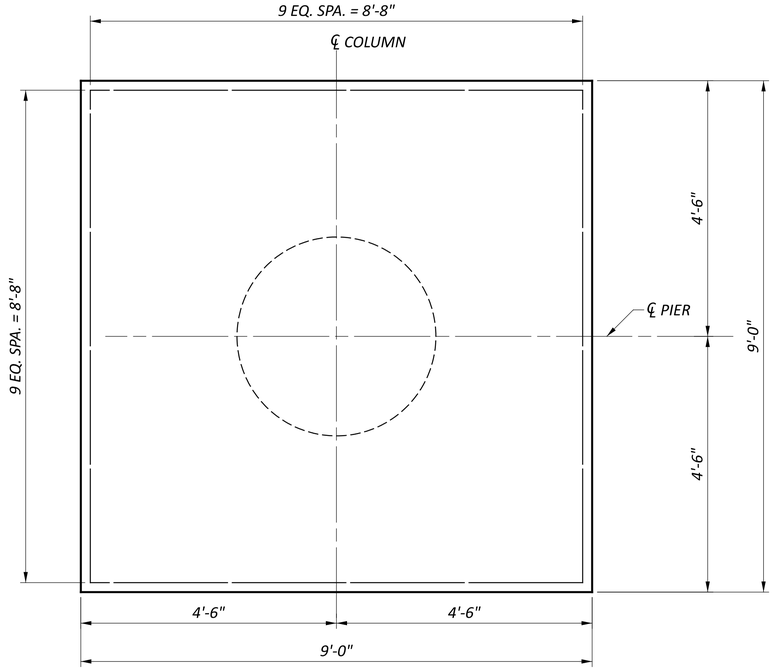
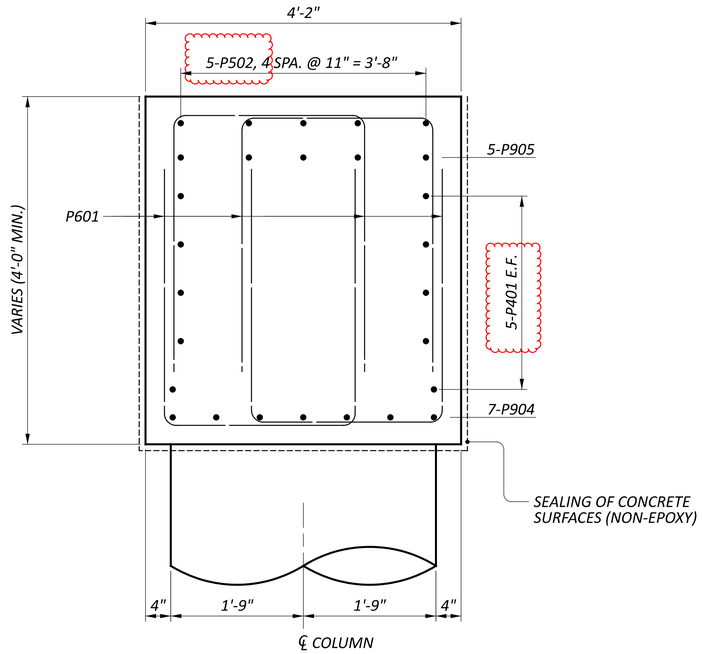
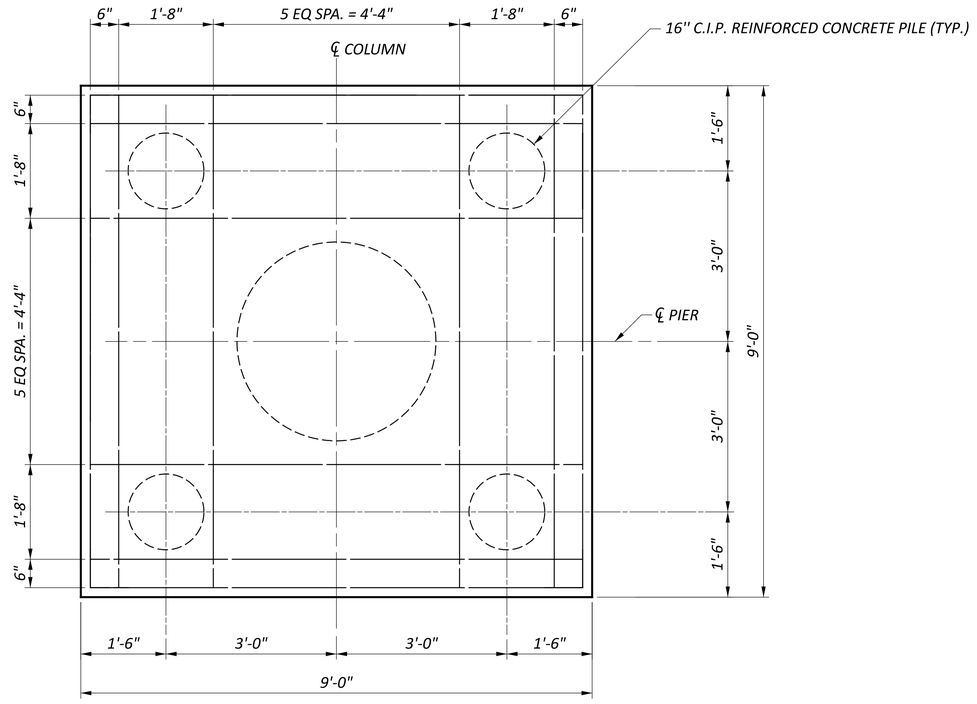


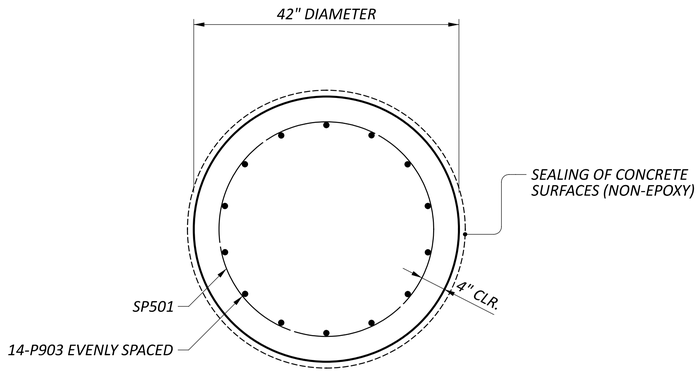
FOOTING PLAN - TOP MAT
ALL BARS ARE P602



J/13 SECTION



FOOTING PLAN - BOTTOM MAT
ALL BARS ARE P901



K/13 SECTION

PIER DETAILS
BRIDGE NO. FAI-C0020-04.734
PICKERINGTON ROAD OVER U.S. 33

SFN 2300001
DESIGN AGENCY CARPENTER MARTY transportation
DESIGNER LYH | CHECKER AMR
REVIEWER GDJ 10-23-23
PROJECT ID 77555
SUBSET 14 | TOTAL 39
SHEET P.749 | TOTAL 846

FAI-33-2.64

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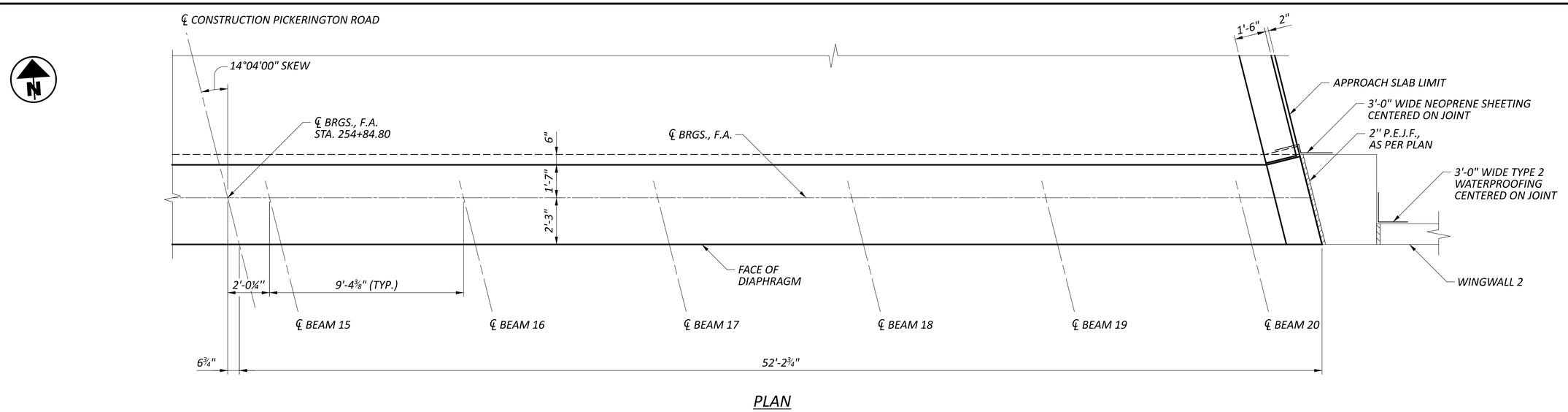
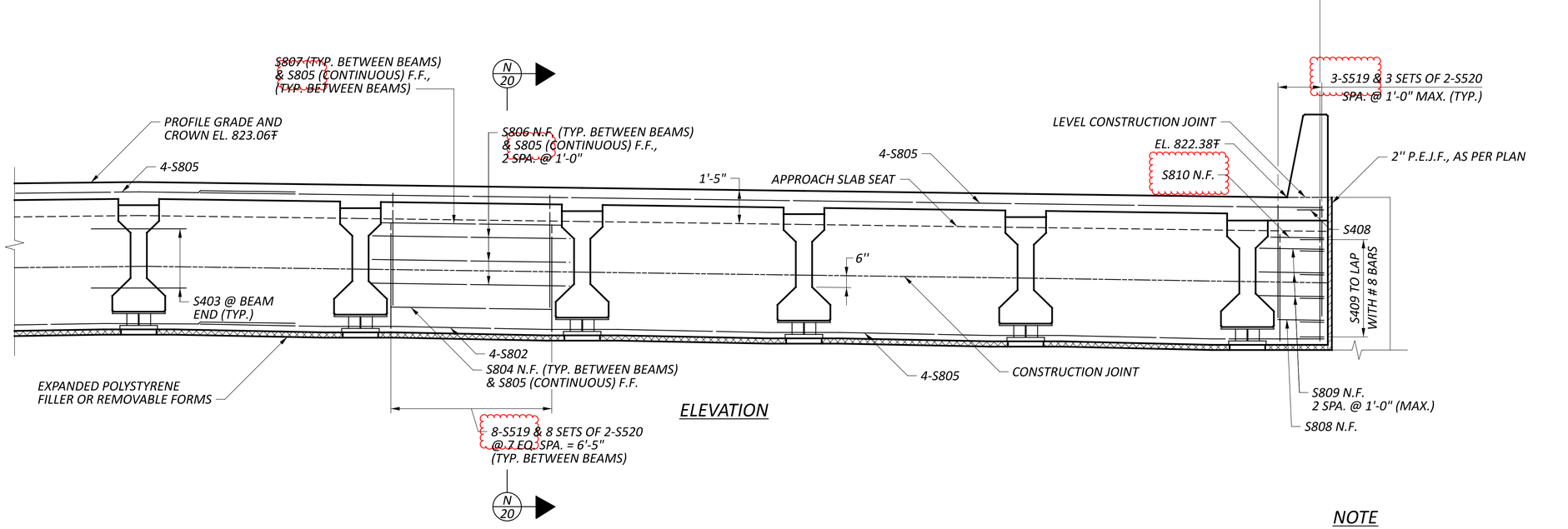


PLAN



ELEVATION

NOTE

REFER TO SHEET 20/39 FOR NOTES.

LEGEND

F.F. - FAR FACE

N.F. - NEAR FACE

Ŧ - ELEVATION TAKEN AT BRIDGE LIMITS

FORWARD ABUTMENT DIAPHRAGM DETAILS

BRIDGE NO. FAI-C0020-04.734

PICKERINGTON ROAD OVER U.S. 33

SFN	2300001
DESIGN AGENCY	CARPENTER MARTY Transportation
DESIGNER	LYH
CHECKER	AMR
REVIEWER	GDJ 10-24-23
PROJECT ID	77555
SUBSET	21
TOTAL	39
SHEET	P.756
TOTAL	846

FAI-33-2.64

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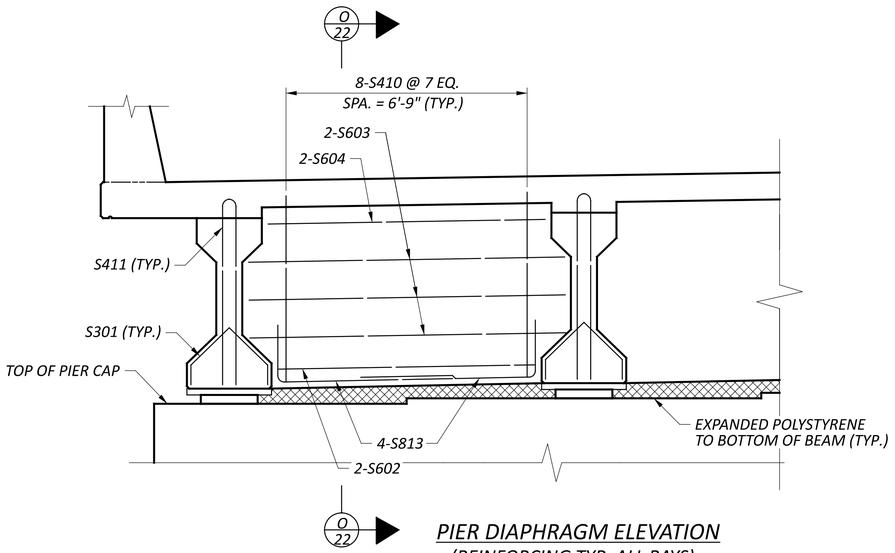
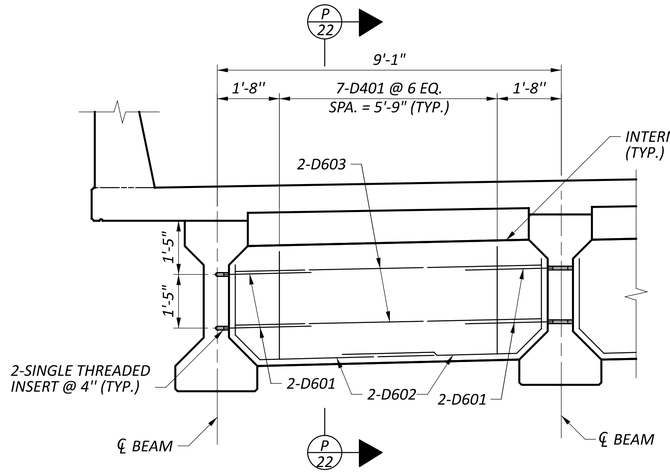
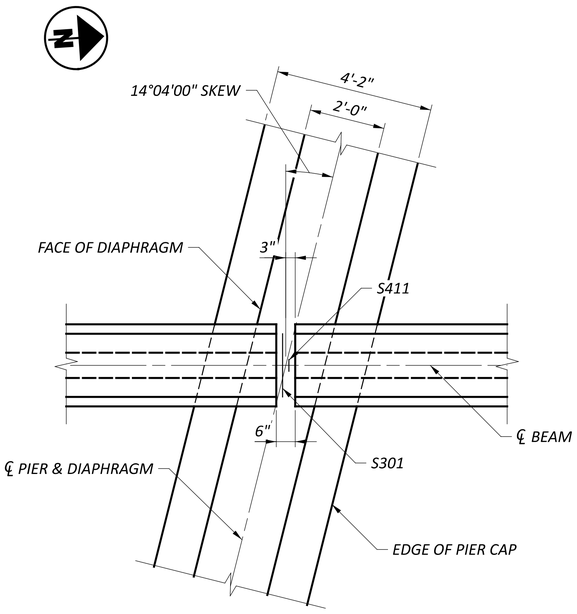


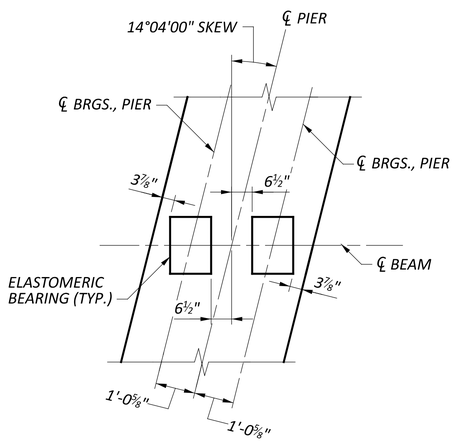
PIER DIAPHRAGM ELEVATION
(REINFORCING TYP. ALL BAYS)



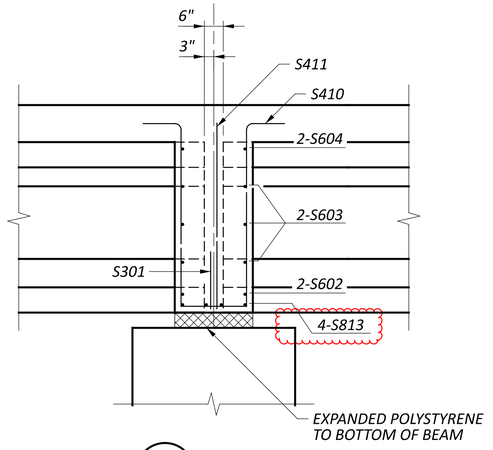
INTERMEDIATE DIAPHRAGM ELEVATION
(REINFORCING TYP. ALL BAYS)



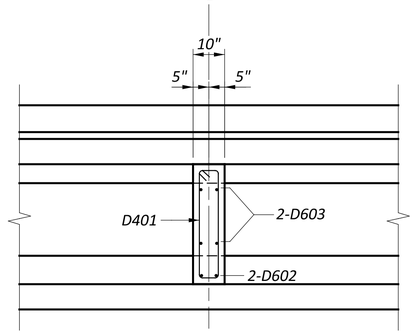
PIER PARTIAL PLAN



BEARING ORIENTATION AT PIER

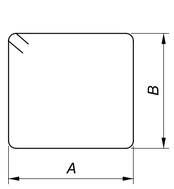


O
22 SECTION

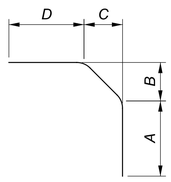


P
22 SECTION

BENDING DIAGRAM



TYPE-3



TYPE-13

BAR MARK	MATERIAL TYPE	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS			
						A	B	C	D
INTERMEDIATE DIAPHRAGMS*									
D401	GSR	63	7'-1"	299	3	6"	2'-10"		
D601	GSR	36	2'-4"	127	STR	4'-7"	8"	8"	1'-10"
D602	GSR	36	7'-4"	397	13	4'-7"	8"	8"	1'-10"
D603	GSR	36	8'-1"	438	STR				
INTERMEDIATE DIAPHRAGM GSR SUBTOTAL				1261					

* - FOR INFORMATION ONLY

NOTES

1. CONCRETE AND REINFORCING FOR PIER DIAPHRAGM SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511, CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN.
2. REFER TO STD. DWG. PSID-1-13 FOR ADDITIONAL NOTES AND DETAILS.
3. PAYMENT FOR INTERMEDIATE DIAPHRAGM REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 515, INTERMEDIATE DIAPHRAGMS.

PIER DIAPHRAGM DETAILS
BRIDGE NO. FAI-C0020-04.734
PICKERINGTON ROAD OVER U.S. 33

SFN 2300001
DESIGN AGENCY CARPENTER MARTY transportation
DESIGNER LYH | CHECKER AMR
REVIEWER GDJ 10-23-24
PROJECT ID 77555
SUBSET 22 | TOTAL 39
SHEET P.757 | TOTAL 846

FAI-33-2.64

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/21/2025 TIME: 9:18:12 AM USER: jzhu
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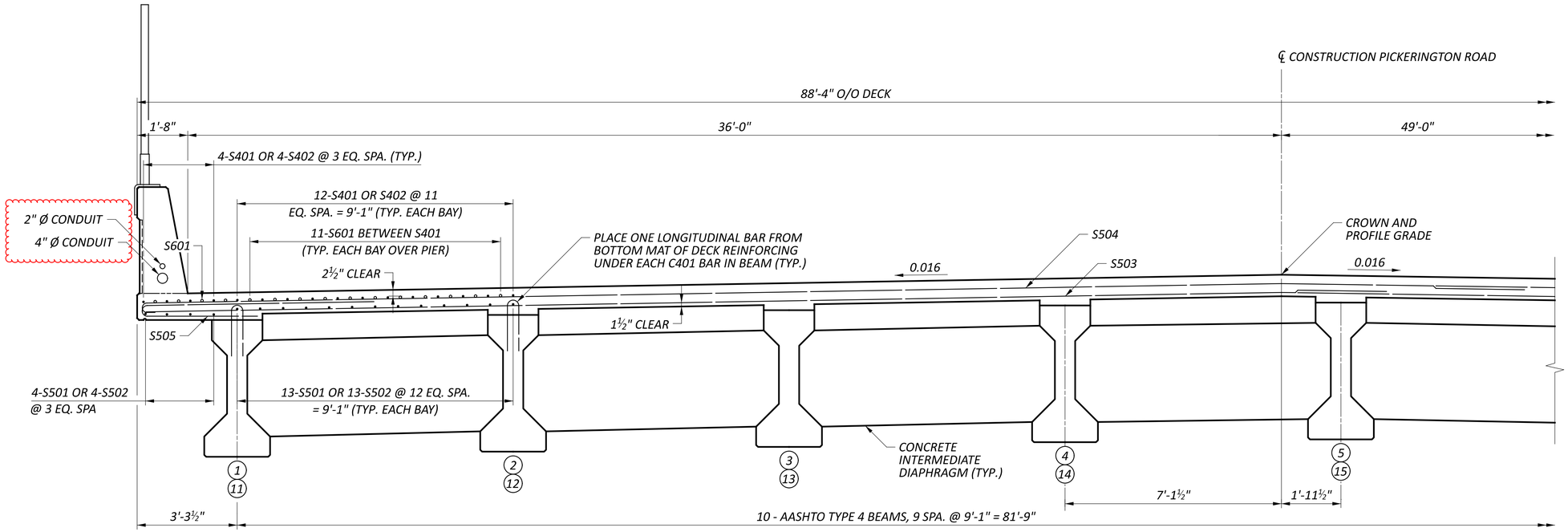

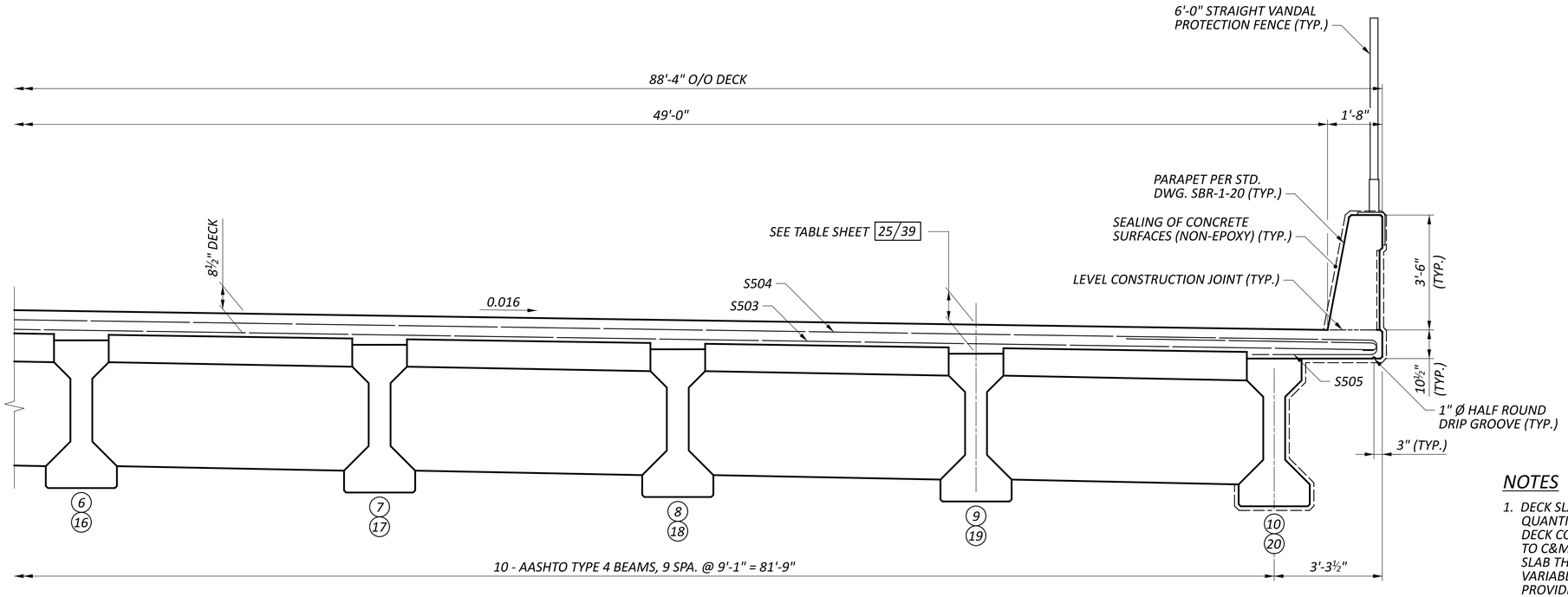

TRANSVERSE SECTION

NOTES

1. DECK SLAB THICKNESS FOR CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK CONCRETE IS MEASURED ACCORDING TO C&MS 511. IN addition TO THE DESIGN SLAB THICKNESS THE QUANTITY INCLUDES A VARIABLE HAUNCH THICKNESS THAT PROVIDES AN ALLOWANCE FOR: VERTICAL GRADE ADJUSTMENT, BEAM CAMBER, AND ADDITIONAL SACRIFICIAL HAUNCH THICKNESS.
2. REFER TO STD. DWG. PSID-1-13 FOR ADDITIONAL NOTES AND DETAILS.

TRANSVERSE SECTION
BRIDGE NO. FAI-C0020-04.734
PICKERINGTON ROAD OVER U.S. 33

SFN 2300001

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER	CHECKER
LYH	AMR

REVIEWER: GDJ 10-24-23

PROJECT ID: 77555

SUBSET	TOTAL
24	39

SHEET	TOTAL
P.759	846

FAI-33-2.64

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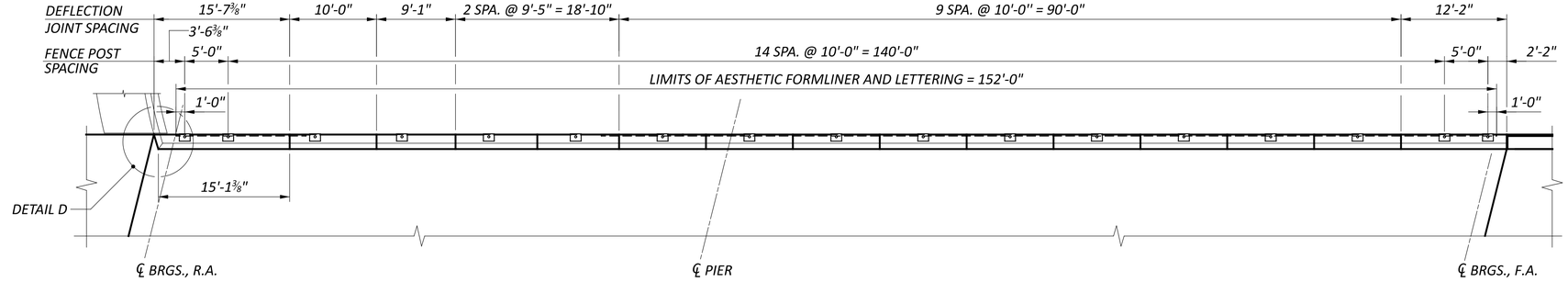
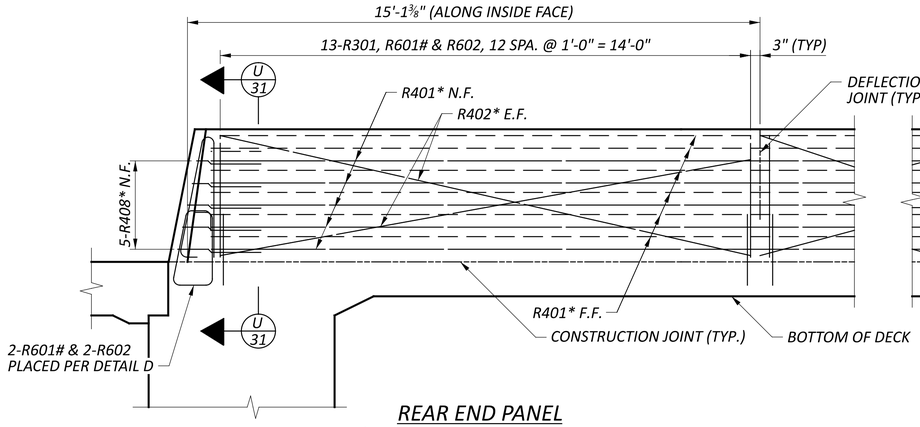
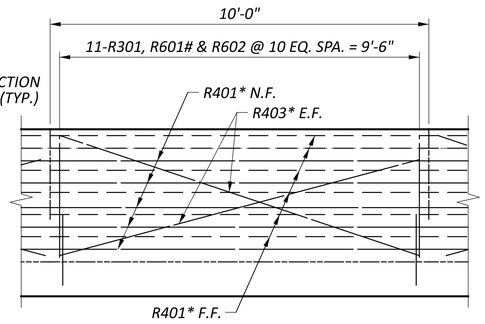


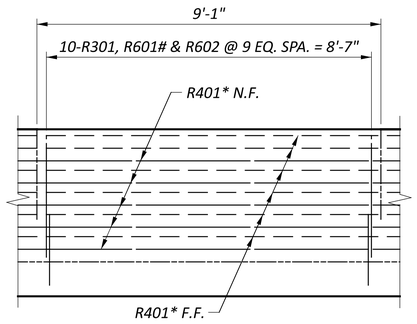
LEFT PARAPET PLAN



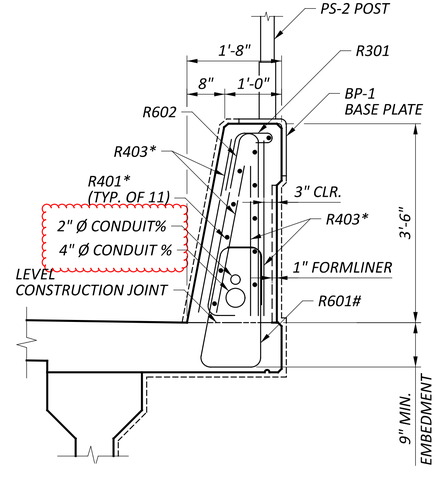
REAR END PANEL
(VIEWED ALONG INSIDE FACE
FENCE NOT SHOWN FOR CLARITY)



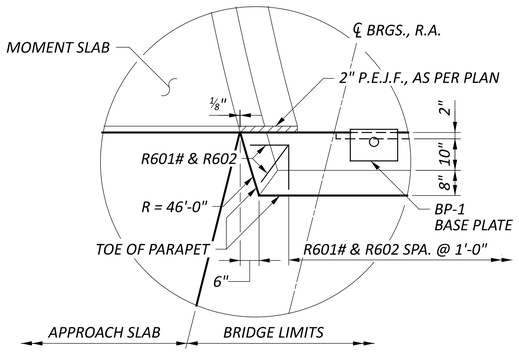
TYPICAL 10'-0" PANEL
(VIEWED ALONG INSIDE FACE
FENCE NOT SHOWN FOR CLARITY)



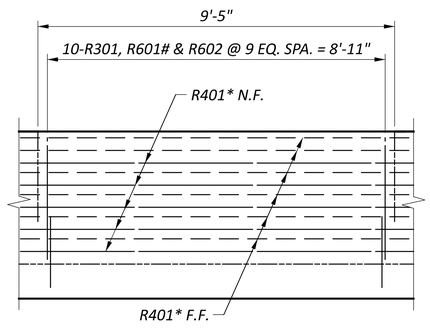
9'-1" PANEL
(VIEWED ALONG INSIDE FACE
FENCE NOT SHOWN FOR CLARITY)



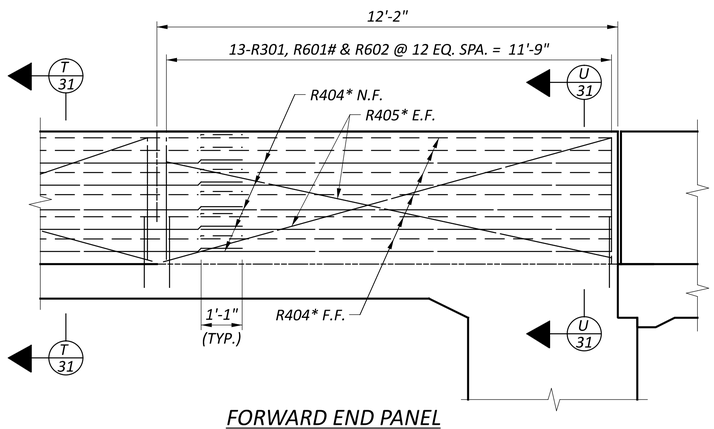
T 32 T 31 SECTION



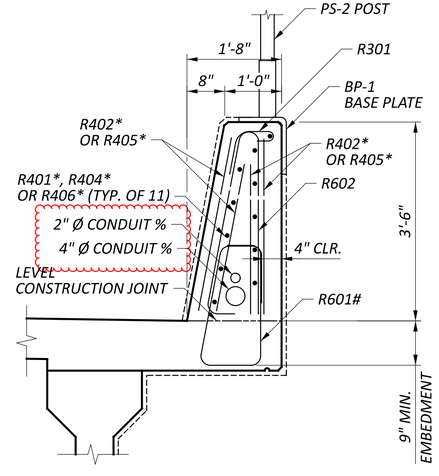
DETAIL D



TYPICAL 9'-5" PANEL
(VIEWED ALONG INSIDE FACE
FENCE NOT SHOWN FOR CLARITY)



FORWARD END PANEL
(VIEWED ALONG INSIDE FACE
FENCE NOT SHOWN FOR CLARITY)



U 32 U 31 SECTION

LEGEND

E.F. - EACH FACE

F.F. - FAR FACE

N.F. - NEAR FACE

** - BAR TO BE GLASS FIBER REINFORCED POLYMER (GFRP)*

 # - BAR TO BE PLACED PRIOR TO POURING OF BRIDGE DECK

% - LEFT PARAPET ONLY

NOTES

1. *REFER TO STD. DWGS. SBR-1-20 AND VPF-1-24 FOR ADDITIONAL NOTES AND DETAILS.*
2. *REFER TO SHEETS 33/39 AND 34/39 FOR AESTHETIC FORMLINER AND LETTERING DETAILS.*
3. *MINIMUM LAP LENGTH: #4 GFRP BAR = 13 INCHES*
4. *PAYMENT FOR ½" Ø GLASS FIBER REINFORCED POLYMER REINFORCEMENT SHALL BE INCLUDED WITH ITEM 509 - NO. 4 DEFORMED GFRP REINFORCEMENT.*

LEFT PARAPET AND VANDAL PROTECTION FENCE DETAILS
BRIDGE NO. FAI-C0020-04.734
PICKERINGTON ROAD OVER U.S. 33

SFN 2300001

DESIGN AGENCY
CARPENTER MARTY Transportation

DESIGNER	CHECKER
LYH	AMR

REVIEWER: GDJ 10-25-23

PROJECT ID: 77555

SUBSET	TOTAL
31	39

SHEET	TOTAL
P.766	846

FAI-33-2.64

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/21/2025 TIME: 9:23:23 AM USER: jzhu
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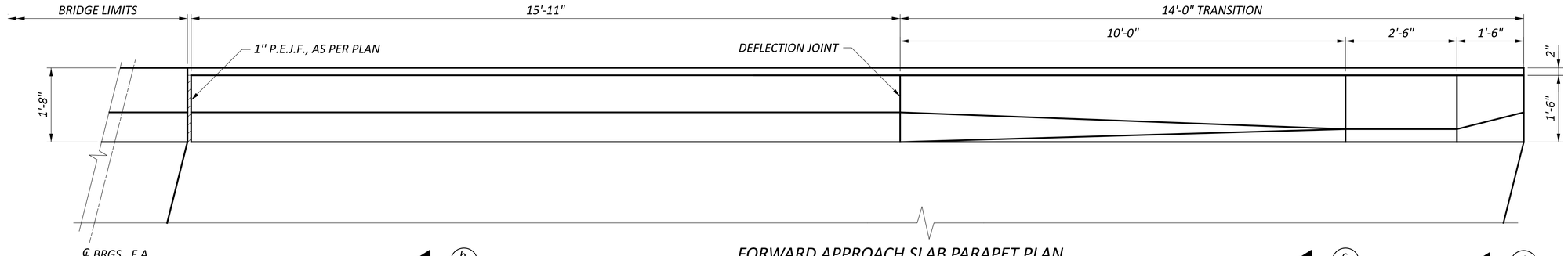
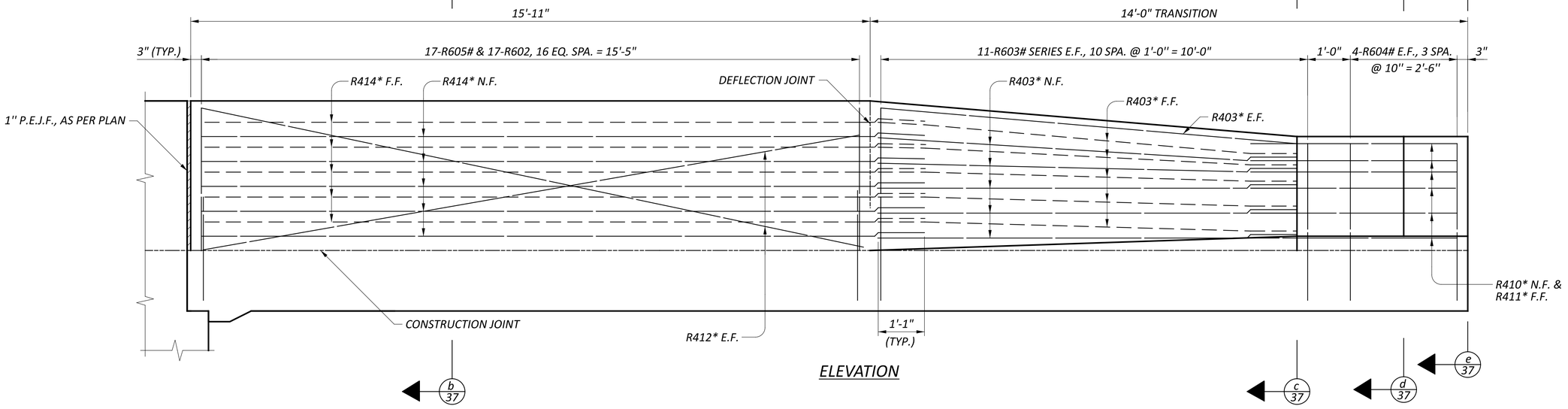
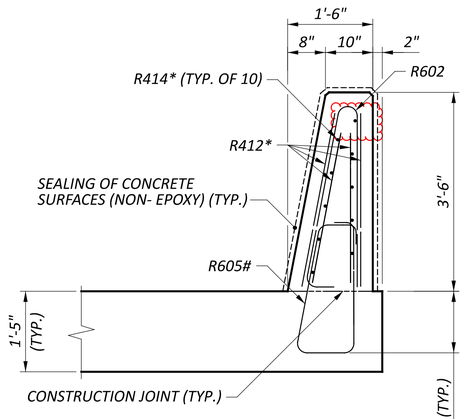


FORWARD APPROACH SLAB PARAPET PLAN

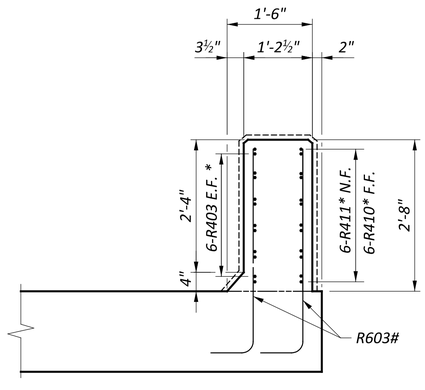
LEFT PARAPET SHOWN, RIGHT PARAPET SIMILAR



ELEVATION



b 37 SECTION



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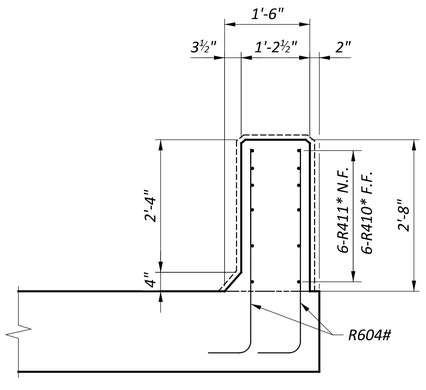
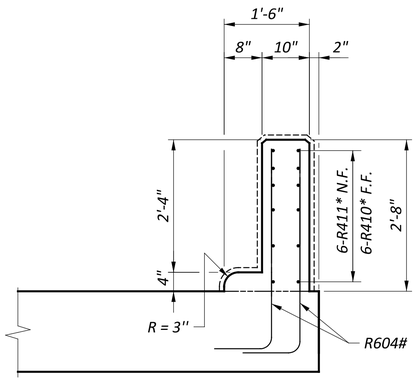


d 37 SECTION



e 37 SECTION

LEGEND

E.F. - EACH FACE

F.F. - FAR FACE

N.F. - NEAR FACE

** - BAR TO BE GLASS FIBER REINFORCED POLYMER (GFRP)*

 # - BAR TO BE PLACED PRIOR TO POURING APPROACH SLAB

NOTE

REFER TO STD. DWG. SBR-1-20 FOR ADDITIONAL NOTES AND DETAILS.

APPROACH SLAB PARAPET DETAILS
BRIDGE NO. FAI-C0020-04.734
PICKERINGTON ROAD OVER U.S. 33

SFN 2300001
DESIGN AGENCY CARPENTER MARTY Transportation
DESIGNER JZ | CHECKER AMR
REVIEWER GDJ 10-25-23
PROJECT ID 77555
SUBSET 37 | TOTAL 39
SHEET P.772 | TOTAL 846

FAI-33-2.64

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BAR MARK	MATERIAL TYPE	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS		
						A	B	C
PIER (GALVANIZED STEEL REINFORCEMENT - GSR)								
P401	GSR	20	44'-10"	599	STR			
SP501	GSR	6	512'-8"	3209	27	4 ½"	2'-10"	20'-10"
P501	GSR	5	10'-9"	57	2	1'-0"	9'-0"	1'-0"
P502	GSR	30	12'-8"	397	1	1'-0"	11'-10"	
P601	GSR	384	8'-8"	4999	2	3'-3"	2'-6"	3'-3"
P602	GSR	120	8'-8"	1562	STR			
P901	GSR	120	11'-7"	4726	2	1'-9"	8'-8"	1'-9"
P902	GSR	84	8'-6"	2428	1	1'-9"	7'-0"	
P903	GSR	84	23'-10"	6807	16	22'-7"		
P904	GSR	14	47'-2"	2246	STR			
P905	GSR	10	48'-8"	1655	1	1'-9"	47'-2"	
	PIER GSR SUBTOTAL			28685				

NOTES

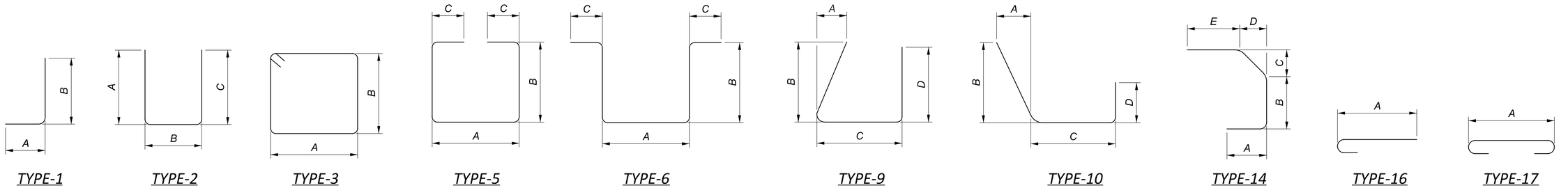
1. THE BAR NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A NO. 5 BAR. BAR DIMENSIONS ARE OUT-TO-OUT, UNLESS OTHERWISE NOTED.
2. DIAPHRAGM GUIDE REINFORCEMENT SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511, SEMI-INTEGRAL DIAPHRAGM GUIDE.

BAR MARK	MATERIAL TYPE	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS		
		REAR	FWD	TOTAL				A	B	C
DIAPHRAGM GUIDES (GALVANIZED STEEL REINFORCEMENT - GSR)										
DG601	GSR	5	5	10	16'-5"	247	3	4'-1"	3'-8 ½"	
DG801	GSR	9	9	18	13'-10"	665	5	2'-8"	3'-7"	2'-4"
DIAPHRAGM GUIDE GSR SUBTOTAL						986				

BAR MARK	MATERIAL TYPE	TOTAL	LENGTH	TOTAL LENGTH	TYPE	DIMENSIONS				
						A	B	C	D	E
RAILING (GLASS FIBER REINFORCED POLYMER REINFORCEMENT - GFRP)										
R401	GFRP	110	30'-0"	3300'-0"	STR					
R402	GFRP	4	14'-4"	57'-4"	STR					
R403	GFRP	104	10'-0"	1040'-0"	STR					
R404	GFRP	11	10'-10"	119'-2"	STR					
R405	GFRP	4	12'-2"	48'-8"	STR					
R406	GFRP	11	11'-6"	126'-6"	STR					
R407	GFRP	4	11'-10"	47'-4"	STR					
R408	GFRP	5	3'-0"	15'-0"	19	1'-7"	5"	1'-4"		
R409	GFRP	4	12'-10"	51'-4"	STR					
R410	GFRP	12	6'-4"	76'-0"	25	2'-6"	2'-5"	1'-4"	1 ½"	5"
R411	GFRP	12	5'-1"	61'-0"	STR					
R412	GFRP	8	15'-9"	126'-0"	STR					
R413	GFRP	5	3'-0"	15'-0"	19	1'-4"	1'-0"	1'-4"		
R414	GFRP	20	17'-0"	340'-0"	STR					
RAILING GFRP SUBTOTAL				5423'-4"						

BAR MARK	MATERIAL TYPE	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC
RAILING (GALVANIZED STEEL REINFORCEMENT - GSR)												
R301	GSR	336	2'-0"	253	18	8"	2"	1'-0"				
R601	GSR	340	7'-1"	3618	37	9"	9 ½"	1'-5"	1'-0"	7"		
R602	GSR	374	7'-0"	3933	23	6"	3'-3"	3'-3"			2"	
R603	GSR	4 SERIES OF 11	4'-5" TO 5'-3"	320	1	1'-0"	3'-7" TO 4'-5"					1"
R604	GSR	16	4'-5"	107	1	1'-0"	3'-7"					
R605	GSR	34	7'-10"	402	37	1'-1"	9 ½"	1'-5"	1'-0"	7"		
RAILING GSR SUBTOTAL				8633								

BENDING DIAGRAM



CONCRETE REINFORCEMENT BAR LIST
BRIDGE NO. FAI-C0020-04.734
PICKERINGTON ROAD OVER U.S. 33

SFN 2300001
DESIGN AGENCY CARPENTER MARTY engineering
DESIGNER AMR | CHECKER JZ
REVIEWER GDJ 10-25-23
PROJECT ID 77555
SUBSET 38 | TOTAL 39
SHEET P.773 | TOTAL 846

FAI-33-2.64

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/21/2025 TIME: 9:18:17 AM USER: jzhu
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