MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED STATE HIGHWAY

PEMISCOT COUNTY

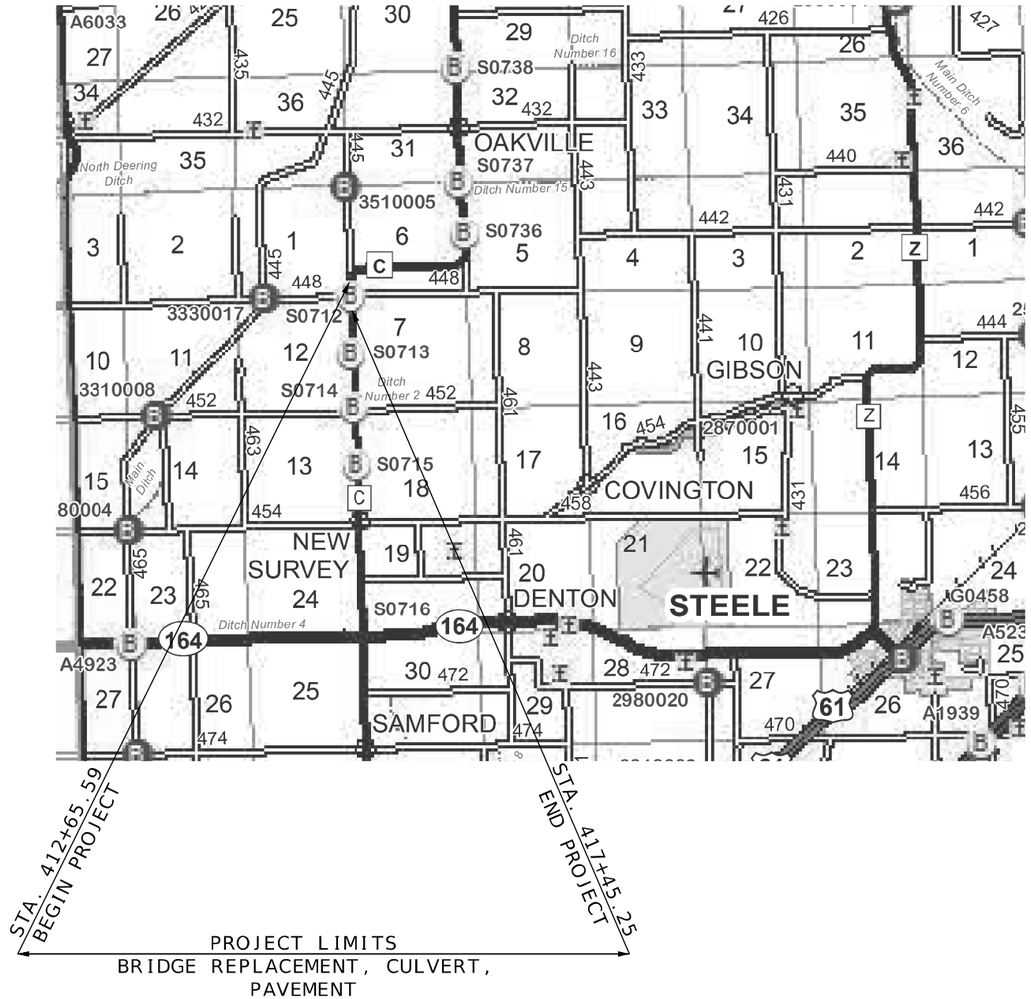
DESIGN DESIGNATION

A.A.D.T. - 2026 = 283
A.A.D.T. - 2046 = 313
D.H.V. = 23.30%
T = 11.83%
V = 45 M.P.H.
D = 48.4%/51.6%

FUNCTIONAL CLASSIFICATION- MAJOR COLLECTOR

NO NEW RIGHT OF WAY OR EASEMENTS REQUIRED

KEY MAP
LOCATION OF PEMISCOT COUNTY



PROJECT LIMITS
BRIDGE REPLACEMENT, CULVERT, PAVEMENT

DISCLAIMER

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CONVENTIONAL SYMBOLS

(USED IN PLANS)

	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
GUARD CABLE		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
UTILITIES		
FIBER OPTICS	-FO-	FO
OVERHEAD CABLE TV	-OTV-	OTV
UNDERGROUND CABLE TV	-UTV-	UTV
OVERHEAD TELEPHONE	-OT-	OT
UNDERGROUND TELEPHONE	-UT-	UT
OVERHEAD POWER	-OE-	OE
UNDERGROUND POWER	-UE-	UE
SANITARY SEWER	-S-	S
STORM SEWER	-SS-	SS
GAS	-G-	G
WATER	-W-	W
MANHOLE	SAN	
FIRE HYDRANT	HYD	
WATER VALVE	WV	
WATER METER	WM	
DROP INLET	D	
DITCH BLOCK		
GROUND MOUNTED SIGN	SIGN	
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL	PED	
FENCE		
CHAIN LINK	-V-	
WOVEN WIRE	-X-	
GATE POST		
BENCHMARK	BM	

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

INDEX OF SHEETS

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA.	412+65.59
END OF PROJECT	STA.	417+45.25
APPARENT LENGTH		479.66 FEET
EQUATIONS AND EXCEPTIONS:		
TOTAL CORRECTIONS		0 FEET
NET LENGTH OF PROJECT		479.66 FEET
STATE LENGTH		0.091 MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES		1 ACRES

STATE OF MISSOURI
ALISON N. GRAVES
NUMBER PE-2011015778
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

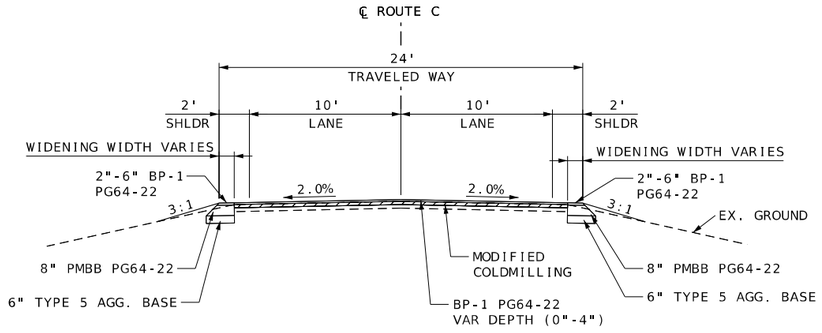
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED: 8/29/2025
ROUTE: C | STATE: MO
DISTRICT: SE | SHEET NO.: 1
COUNTY: PEMISCOT
JOB NO.: J9S3770
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

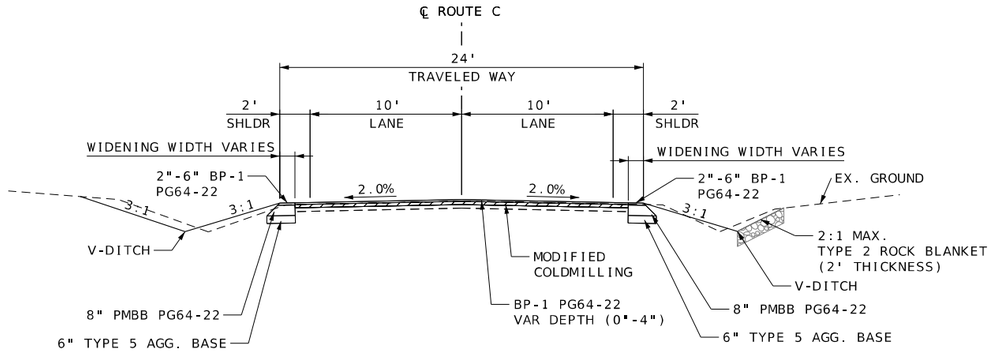
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

5220 Oakland Ave.
St. Louis, MO 63110
(314) 863-5570
CDI ENGINEERS
CIVIL DESIGN INC.
Missouri State Certificate of Authority #2002006804



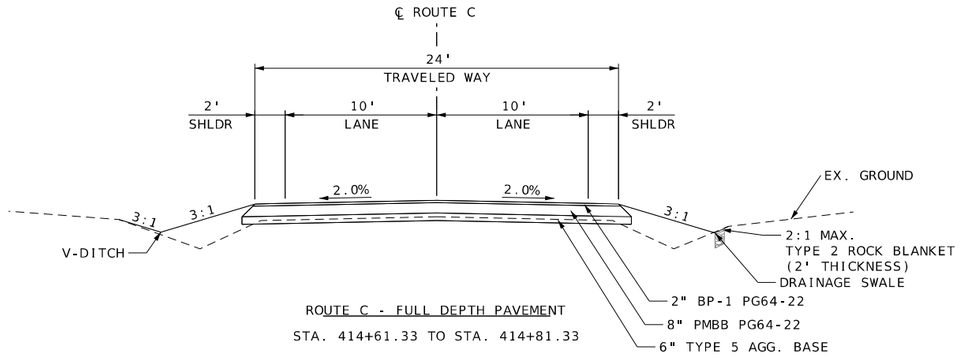
ROUTE C - MILL & OVERLAY

STA. 412+65.59 TO STA. 413+50.00
STA. 415+88.88 TO STA. 417+45.25



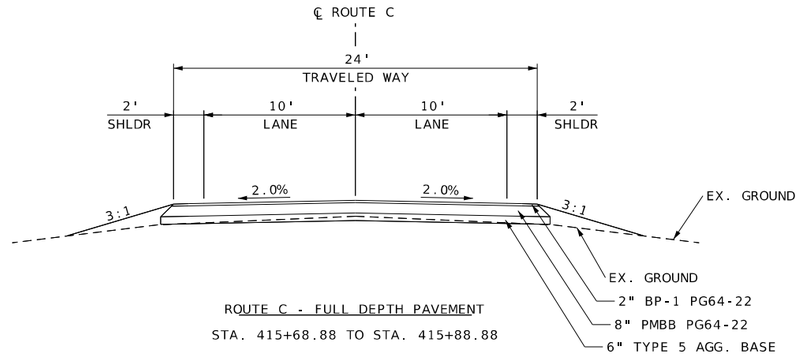
ROUTE C - MILL & OVERLAY

STA. 413+50.00 TO STA. 414+61.33



ROUTE C - FULL DEPTH PAVEMENT

STA. 414+61.33 TO STA. 414+81.33



ROUTE C - FULL DEPTH PAVEMENT

STA. 415+68.88 TO STA. 415+88.88

APPLICATION RATES:

BP-1 (PG64-22) 1.948 TON/CUYD
COMPACTED MIXTURE
BP-1 (PG64-22) 1.943 TON/SY
BASE COURSE
TACK COAT 0.10 GAL/SQYD

NOTE:

MODIFIED COLDMILLING MUST BE APPLIED AS DIRECTED BY THE ENGINEER TO ENSURE A SMOOTH TRANSITION FROM EXISTING PAVEMENT TO THE PROPOSED FULL DEPTH PAVEMENT.

BRIDGE APPROACH SLAB (MINOR)
STA. 414+81.33 TO STA. 415+00.83
STA. 415+49.38 TO STA. 415+68.88

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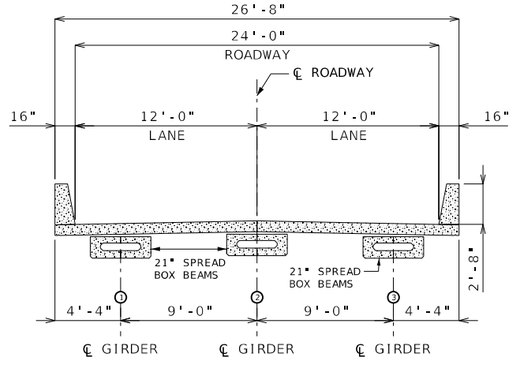

ROUTE C - BRIDGE

STA 415+00.83 TO STA. 415+49.38

TYPICAL SECTIONS
SHEET 1 OF 1

STATE OF MISSOURI
ALISON N. GRAVES
NUMBER PE-2011015778
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED
8/29/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
SE	2

COUNTY
PEMISCOT

JOB NO.
J9S3770

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

5220 Oakland Ave.
St. Louis, MO 63110
(314) 863-5570

CDI ENGINEERS, INC.
Missouri State Certificate of Authority #2002006804

REMOVAL OF IMPROVEMENTS

ROUTE	PLAN SHEET	BEGIN STATION	END STATION	OFFSET	DESCRIPTION	QUANTITY
RTE C	10	N/A		RT	ONE LANE BRIDGE SIGN (36X36)	1 EA
RTE C	10	N/A		RT	WEIGHT LIMIT SIGN (36X48)	1 EA
RTE C	10	412+74		RT	YIELD SIGN (48X48) TO ONCOMING TRAFFIC SIGN (36X30)	1 EA
RTE C	4	414+61	414+96	LT/RT	BITUMINOUS PAVEMENT	82 SY
RTE C	4	414+18	414+67	RT	24" PIPE	50 LF
RTE C	4	414+19	414+59	LT	24" PIPE	40 LF
RTE C	10	414+26		LT	STOP SIGN (36X36)	1 EA
RTE C	10	414+96		RT	OBJECT MARKER SIGN (12X36)	3 EA
RTE C	10	414+94		LT	OBJECT MARKER SIGN (12X36)	3 EA
RTE C	4	415+46	415+89	LT/RT	BITUMINOUS PAVEMENT	93 SY
RTE C	10	415+47		RT	OBJECT MARKER SIGN (12X36)	3 EA
RTE C	10	415+46		LT	OBJECT MARKER SIGN (12X36)	2 EA
RTE C	10	417+68		LT	YIELD SIGN (48X48) TO ONCOMING TRAFFIC SIGN (36X30)	1 EA
RTE C	10	N/A		LT	WEIGHT LIMIT SIGN (36X48)	1 EA
RTE C	10	N/A		LT	ONE LANE BRIDGE SIGN (36X36)	1 EA
					TOTAL	1 LUMP SUM

EARTHWORK

LOCATION	CUT	FILL	MODIFIED LINEAR GRADING CLASS II
	CY	CY	STA
NORTH	36	242	4.8
ABUTMENTS	19	18	
SOUTH	64	52	
SUBTOTAL	119	312	4.8
TOTAL	FOR INFORMATION ONLY		4.8
SHRINKAGE FACTOR = 1.00			

POROUS BACKFILL

ROUTE	PLAN SHEET	BEGIN STATION	END STATION	POROUS BACKFILL
				CY
RTE C	4	414+95.83	415+00.83	27
RTE C	4	415+49.38	415+54.38	27
			TOTAL	54

CONTRACTOR FURNISHED SURVEYING AND STAKING

TOTAL = 1 LUMP SUM

MOBILIZATION

TOTAL = 1 LUMP SUM

SEEDING

SEEDING AND MULCHING - COOL SEASON GRASSES

TOTAL = 1 LUMP SUM

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PAVEMENT

ROUTE	PLAN SHEET	BEGIN STATION	END STATION	OFFSET	BITUMINOUS PAVEMENT MIXTURE PG64-22 (BP-1)	BITUMINOUS BASE COURSE PG64-22	MODIFIED COLDMILLING (DEPTH TRANSITIONS)	TYPE 5 AGGREGATE FOR BASE (6 IN. THICK)	TACK COAT	GRAVEL (A) OR CRUSHED STONE (B)
					SY	SY	SY	SY	GALLON	SY
RTE C	4	412+65.59	414+61.33	LT/RT	562.0		562.0		56.2	
RTE C	4	412+65.59	414+17.74	LT	31.3	31.3		31.3	3.1	
RTE C	4	414+38.75		RT						3.9
RTE C	4	414+38.75		LT						4.3
RTE C	4	414+61.33	414+81.33	LT/RT	53.3	53.3		53.3	5.3	
RTE C	4	415+68.88	415+88.88	LT/RT	53.3	53.3		53.3	5.3	
RTE C	4	415+88.88	417+45.25	LT/RT	372.4		372.4		37.2	
RTE C	4	415+88.88	417+32.83	LT	21.4	21.4		21.4	2.1	
RTE C	4	415+88.88	416+23.42	RT	6.4	6.4		6.4	0.6	
RTE C	4	416+50.86		RT						7.2
RTE C	4	416+58.93	414+45.25	RT	22.4	22.4		22.4	2.2	
				SUBTOTAL	1122.5	188.1	934.4	188.1	112.0	15.4
					2" DEPTH	8" DEPTH				
					X 1.948 TONS/CY	X 1.943 TONS/SY				X 1.4 TONS/CY
					TONS	TONS	SY	SY	GALLON	TONS
				TOTAL	121.5	81.2	934	188	112	22

SIGNING & PAVEMENT MARKING

ROUTE	PLAN SHEET	PLAN STATION	END STATION	OFFSET	CLASS 1 PAVEMENT MARKING (18-MIL, TYPE P BEADS) 4 IN. WHITE	CLASS 1 PAVEMENT MARKING (18-MIL, TYPE P BEADS) 4 IN. YELLOW
					LF	LF
RTE C	10	412+65.59	417+45.25	LT/RT	960	2694
				TOTAL	960	2694

PERMANENT EROSION CONTROL

ROUTE	PLAN SHEET	BEGIN STATION	END STATION	OFFSET	FURNISHING TYPE 2 ROCK BLANKET	PLACING TYPE 2 ROCK BLANKET	PERMANENT EROSION CONTROL GEOTEXTILE
					CY	CY	SY
RTE C	4	413+35.59	414+17.54	RT	17	17	26
RTE C	4	414+90.70	415+20.18	LT/RT	100	100	150
RTE C	4	415+29.81	415+59.22	LT/RT	86	86	129
				TOTAL	186	186	279

TEMPORARY EROSION CONTROL

ROUTE	PLAN SHEET	BEGIN STATION	END STATION	OFFSET	SILT FENCE	SEDIMENT REMOVAL	ALTERNATE DITCH CHECK
					LF	CY	LF
RTE C	9	412+65.59	413+00.00	RT	31	1	
RTE C	9	413+00.00	414+17.46	RT			20
RTE C	9	412+65.59	414+19.09	LT			30
RTE C	9	415+82.90	416+50.86	LT			10
RTE C	9	416+50.86	417+45.25	LT	95	1	
RTE C	9	415+86.84	416+96.40	RT			30
RTE C	9	416+96.40	417+45.25	RT	51	1	
				TOTAL	177	3	90

PIPE CULVERTS

ROUTE	PLAN SHEET	BEGIN STATION	END STATION	OFFSET	PIPE 36" GROUP C	FLARED END SECTION 36" GROUP C	FLAP GATE 36"	CLASS 3 EXCAVATION
					LF	EA	EA	CY
RTE C	4	414+17.54	415+17.80	RT	92	1	1	63
RTE C	4	414+19.12	415+13.36	LT	86	1	1	77
				TOTAL	178	2	2	140

SUMMARY OF QUANTITIES
SHEET 1 OF 2

STATE OF MISSOURI
ALISON N. GRAVES
NUMBER PE-2011015778
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED: 8/29/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
SE	3

COUNTY: PEMISCOT
JOB NO.: J9S3770
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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St. Louis, MO 63110
(314) 863-5570
CPL DESIGN INC.
Missouri State Certificate of Authority #2002006804

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NO.	DESCRIPTION
WARNING SIGNS								
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT)
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT)
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT)
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT)
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT)
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
WO1-8	18X24	3.00						CHEVRON (SYMBOL)
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
WO3-4	48X48	16.00						BE PREPARED TO STOP
WO3-5	48X48	16.00						SPEED LIMIT AHEAD
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)
WO4-1aL	48X48	16.00						MERGE (LEFT)
WO4-1aR	48X48	16.00						MERGE (RIGHT)
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS
WO5-3	48X48	16.00						ONE LANE BRIDGE
WO5-5	48X48	16.00						NARROW LANES
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)
WO6-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)
WO7-3a	30X24	5.00						NEXT XX MILES (PLAQUE)
WO8-1	48X48	16.00						BUMP
WO8-2	48X48	16.00						DIP
WO8-3	48X48	16.00						PAVEMENT ENDS
WO8-4	48X48	16.00						SOFT SHOULDER
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)
WO8-6	48X48	16.00						TRUCK CROSSING
WO8-6c	48X48	16.00						TRUCK ENTRANCE
WO8-7	36X36	9.00						LOOSE GRAVEL
WO8-7a	36X36	9.00						FRESH OIL / LOOSE GRAVEL
WO8-9	48X48	16.00						LOW SHOULDER
WO8-11	48X48	16.00						UNEVEN LANES
WO8-12	48X48	16.00						NO CENTER LINE
WO8-15	48X48	16.00						GROOVED PAVEMENT
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)
WO8-17L	48X48	16.00						SHOULDER DROP-OFF (SYMBOL LEFT)
WO8-17R	48X48	16.00						SHOULDER DROP-OFF (SYMBOL RIGHT)
WO8-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)
W10-1	42RND.	9.62						RAILROAD CROSSING
WO12-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)
WO12-2x	24X18	3.00						LOW CLEARANCE (PLAQUE)
WO12-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)
WO12-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD
WO12-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD
WO13-1	30X30	6.25						ADVISORY SPEED (PLAQUE)
WO16-2	30X24	5.00						XXX FEET (PLAQUE)
WO16-3	30X24	5.00						X MILE (PLAQUE)
WO20-1	48X48	16.00						ROAD/BRIDGE/RAMP WORK AHEAD
WO20-2	48X48	16.00	6	192.00			18	DETOUR AHEAD
WO20-3	48X48	16.00	2	32.00			20A	ROAD CLOSED 500 FT
WO20-3	48X48	16.00	2	32.00			20B	ROAD CLOSED AHEAD
WO20-4	48X48	16.00						ONE LANE ROAD AHEAD
WO20-5	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED AHEAD
WO20-5a	48X48	16.00						2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
WO20-6a	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED
WO20-7a	48X48	16.00						FLAGGER (SYMBOL)
WO21-2	36X36	9.00						FRESH OIL
WO21-5	48X48	16.00						SHOULDER WORK / SHOULDER WORK AHEAD
WO22-1	48X48	16.00						BLASTING ZONE AHEAD
WO22-2	42X36	10.50						TURN OFF 2-WAY RADIO AND PHONE
WO22-3	42X36	10.50						END BLASTING ZONE
GO22-1	21X15	2.19						WET PAINT (ARROW PIVOTS)

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NO.	DESCRIPTION
GUIDE SIGNS								
E05-1	36X48	12.00						GORE EXIT
E05-2	48X36	12.00						EXIT OPEN
E05-2a	48X36	12.00						EXIT CLOSED
GO20-1	60X24	10.00						ROAD WORK NEXT XX MILES
GO20-2	48X24	8.00						END ROAD WORK
GO20-4	36X18	4.50						PILOT CAR FOLLOW ME
GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW
GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW
GO20-5aP	36X24	6.00						WORK ZONE (PLAQUE)
MO4-8a	24X18	3.00	2	6.00			52	END DETOUR
MO4-9L	48X36	12.00						DETOUR (LEFT)
MO4-9R	48X36	12.00						DETOUR (RIGHT)
MO4-9P	48X12	4.00						STREET NAME (PLAQUE)
MO4-10L	48X18	6.00						DETOUR ARROW (LEFT)
MO4-10R	48X18	6.00						DETOUR ARROW (RIGHT)
REGULATORY SIGNS								
R1-1	48X48	13.25						STOP
R1-2	48TRI.	6.93						YIELD
R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)
R1-3P	30X12	2.50						ALL WAY (PLAQUE)
R2-1	36X48	12.00						SPEED LIMIT XX
R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00						NO TURNS
R3-4	48X48	16.00						NO U-TURN (SYMBOL)
R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00						DO NOT PASS
R4-2	36X48	12.00						PASS WITH CARE
R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)
R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)
R5-1	30X30	6.25						DO NOT ENTER
R5-1a	36X24	6.00						WRONG WAY
R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)
R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)
R6-2L	24X30	5.00						ONE WAY (LEFT)
R6-2R	24X30	5.00						ONE WAY (RIGHT)
R9-9	24X12	2.00						SIDEWALK CLOSED
R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE
R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE
R10-6	24X36	6.00						STOP HERE ON RED (45^ ARROW)
R11-2	48X30	10.00	2	20.00			29	ROAD CLOSED
R11-3a	60X30	12.50	2	25.00			55A/B	ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60X30	12.50	4	50.00			55C	ROAD CLOSED TO THRU TRAFFIC
CONST-3A	60X48	20.00						FINE SIGN
CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)
MISCELLANEOUS SIGNS								
CONST-5	48X36	12.00						POINT OF PRESENCE
CONST-5	96X48	32.00						POINT OF PRESENCE
CONST-8	48X36	12.00						WORK ZONE NO PHONE ZONE

616-10.05 CONSTRUCTION SIGNS	TOTAL
	357

616-10.10 RELOCATED SIGNS	TOTAL
	0

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)
6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)
6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)
6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
6122020		REPLACEMENT SAND BARREL
6122030		IMPACT ATTENUATOR (RELOCATION)
6122040		WORK ZONE CRASH CUSHION (NARROW)
6122041		WORK ZONE CRASH CUSHION (RELOCATION)
6123001		TRUCK MOUNTED ATTENUATOR (TMA)
6161012		BUOYS (BOATS KEEP OUT)
6161013		BUOYS (NO WAKE)
6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
6161020		CHANNELIZER (DRUM-LIKE)
6161022		CHANNELIZER (CONE)
6161025		CHANNELIZER (TRIM-LINE)
6161026		CHANNELIZER (VERTICAL PANEL)
6161030	20	TYPE 3 MOVEABLE BARRICADE
6161033		DIRECTION INDICATOR BARRICADE
6161040		FLASHING ARROW PANEL
6161047		TYPE 3 OBJECT MARKER
6161055		SEQUENTIAL FLASHING WARNING LIGHT
6161070		TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A	4	CHANGEABLE MESSAGE SIGN WITHOUT COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
6161099		CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
6162002		TEMPORARY LONG-TERM RUMBLE STRIPS
6173600D		TEMPORARY TRAFFIC BARRIER, CONTRACTOR FURNISHED/RETAINED
6173700B		TEMP. TRAFFIC BARRIER ANCHORED, CONTRACTOR FURNISHED/RETAINED
6173706		TEMP. TRAFFIC BARRIER STIFFNESS TRANSITION CONTRACTOR FURNISHED/RETAINED
6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION, CONTRACTOR FURNISHED/RETAINED
6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER
6175011B		RELOCATING TEMP. TRAFFIC BARRIER ANCHORED
6175013		RELOCATING TEMP. TRAFFIC BARRIER STIFFNESS
6175020A		RELOCATING TEMP. TRAFFIC BARRIER HEIGHT
6208064A		TEMPORARY RAISED PAVEMENT MARKER
9029400		TEMPORARY TRAFFIC SIGNALS
9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING

EFFECTIVE: 07-01-2025

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SUMMARY OF QUANTITIES
SHEET 2 OF 2

STATE OF MISSOURI
ALISON N. GRAVES
NUMBER PE-2011015778
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED: 8/29/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
SE	3

COUNTY: PEMISCOT

JOB NO.: J9S3770

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

5220 Oakland Ave.
St. Louis, MO 63110
(314) 863-5570

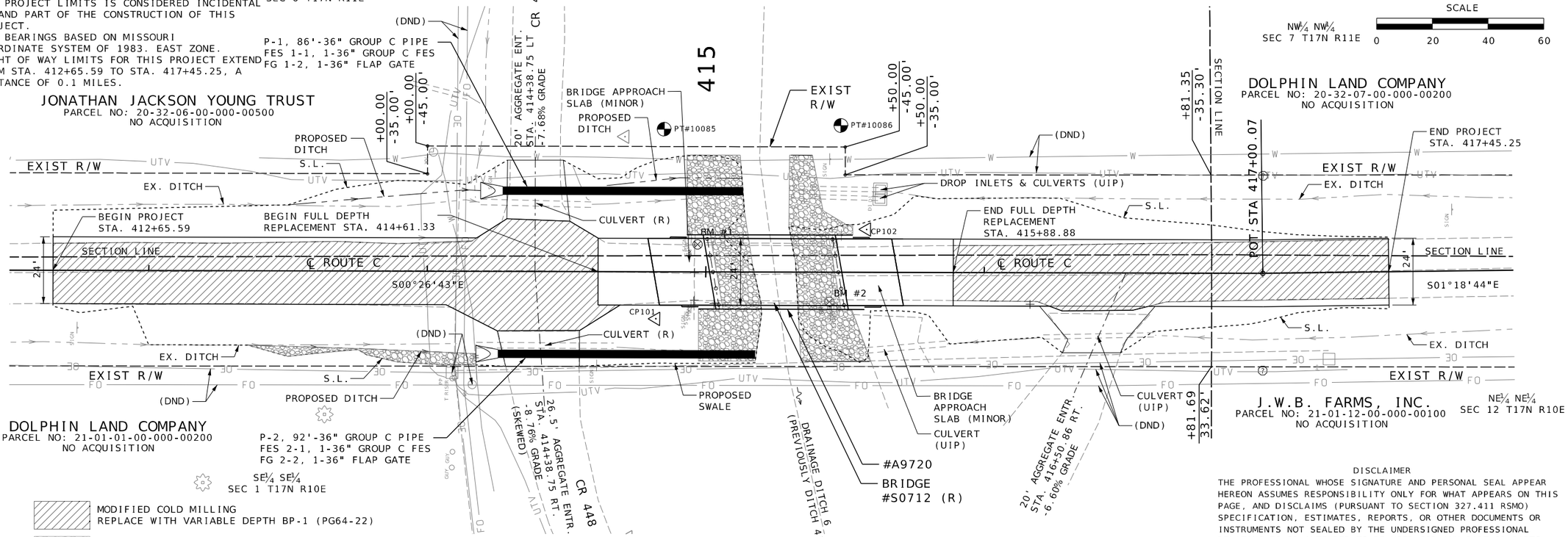
CDI ENGINEERS, INC.
Missouri State Certificate of Authority #2002004804

NOTE:
1. ANY WORK ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND PART OF THE CONSTRUCTION OF THIS PROJECT.
2. ALL BEARINGS BASED ON MISSOURI COORDINATE SYSTEM OF 1983. EAST ZONE.
3. RIGHT OF WAY LIMITS FOR THIS PROJECT EXTEND FROM STA. 412+65.59 TO STA. 417+45.25, A DISTANCE OF 0.1 MILES.

SW¼ SW¼ SEC 6 T17N R11E

NW¼ NW¼ SEC 7 T17N R11E

SCALE 0 20 40 60



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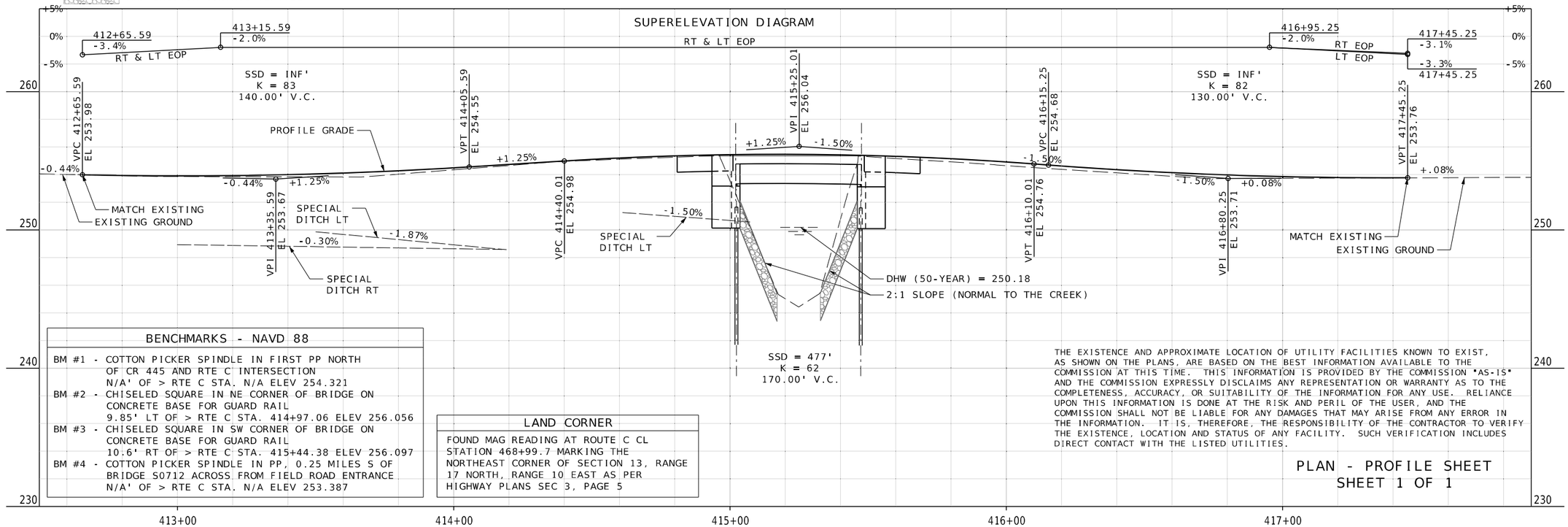

BENCHMARKS - NAVD 88
BM #1 - COTTON PICKER SPINDLE IN FIRST PP NORTH OF CR 445 AND RTE C INTERSECTION N/A' OF > RTE C STA. N/A ELEV 254.321
BM #2 - CHISELED SQUARE IN NE CORNER OF BRIDGE ON CONCRETE BASE FOR GUARD RAIL 9.85' LT OF > RTE C STA. 414+97.06 ELEV 256.056
BM #3 - CHISELED SQUARE IN SW CORNER OF BRIDGE ON CONCRETE BASE FOR GUARD RAIL 10.6' RT OF > RTE C STA. 415+44.38 ELEV 256.097
BM #4 - COTTON PICKER SPINDLE IN PP, 0.25 MILES S OF BRIDGE S0712 ACROSS FROM FIELD ROAD ENTRANCE N/A' OF > RTE C STA. N/A ELEV 253.387

LAND CORNER
FOUND MAG READING AT ROUTE C CL STATION 468+99.7 MARKING THE NORTHEAST CORNER OF SECTION 13, RANGE 17 NORTH, RANGE 10 EAST AS PER HIGHWAY PLANS SEC 3, PAGE 5

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

PLAN - PROFILE SHEET
SHEET 1 OF 1

STATE OF MISSOURI
ALISON N. GRAVES
NUMBER PE-2011015778
PROFESSIONAL ENGINEER
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DATE PREPARED 8/29/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
SE	4

COUNTY PEMISCOT
JOB NO. J9S3770
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

5220 Oakland Ave.
St. Louis, MO 63110
(314) 863-5570
CDI ENGINEERING, INC.
Missouri State Certificate of Authority #2002006804

ALL PROJECT COORDINATES HAVE BEEN PROJECTED FROM THE MISSOURI STATE PLANE COORDINATE (SPC) SYSTEM OF 1983 USING AN AVERAGE PROJECT PROJECTION (GRID TO GROUND) FACTOR. TO GET BACK TO STATE PLANE COORDINATES MULTIPY THE PROJECT COORDINATES BY THE AVERAGE GRID FACTOR AS SHOWN IN THE "REFERENCE CONTROL INFORMATION" PORTION OF THIS TABLE.

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	MO SPC
HORIZONTAL DATUM	NAD83 2011
VERTICAL DATUM	NAVD88
GEOID MODEL	2018
ELEVATIONS DETERMINED BY	DIFFERENTIAL LEVELING
PROJECT PROJECTION FACTOR	1.00000000

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MO SPC
CONTROL STATION	MOKE
DESIGNATION	MODOT KENNETT CORS ARP
CORS_ID	MOKE
PID	DL6892
LATITUDE	361317.10465
LONGITUDE	900424.46779
NORTHING (M)	43143.1560
EASTING (M)	288347.8830
ZONE	EAST
PROJECT AVERAGE GRID FACTOR	1.00000000

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

PROJECT NORTHING X AVERAGE GRID FACTOR
= STATE PLANE NORTHING
PROJECT EASTING X AVERAGE GRID FACTOR
= STATE PLANE EASTING

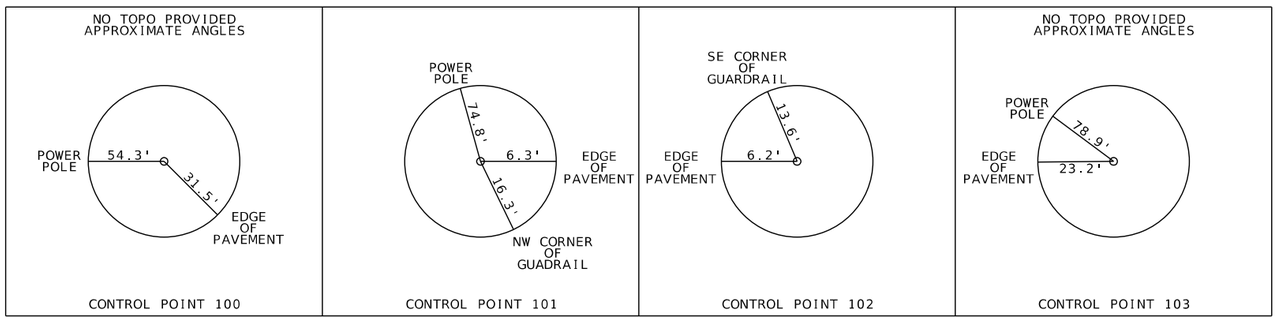
EXAMPLE: CONTROL POINT #___
N _____.____ X _._______ = N _____.___
E _____.____ X _._______ = E _____.___

LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND) NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)	DESCRIPTION	GPK POINT ID
PROJECT CONTROL POINTS								
N/A	N/A	N/A	N/A	110340.863	993097.506	252.653	5/8" Rebar w/ Pink MoDOT Cap Located 0.16 Miles North of Bridge S0712 on West Side of Rte. C and East Side of CR 445	CP100
4	414+82.12	RT	16.8931	109473.347	993060.567	253.710	5/8" Rebar w/ Pink MoDOT Cap Located on Shoulder on NW Corner of Bridge S0712	CP101
4	415+57.74	LT	15.3773	109397.984	993093.424	253.814	5/8" Rebar w/ Pink MoDOT Cap Located on Shoulder on SE Corner of Bridge S0712	CP102
N/A	N/A	N/A	N/A	108061.246	993136.450	253.295	5/8" Rebar w/ Pink MoDOT Cap Located 0.26 Miles South of Bridge S0712 on East side of Rte. C and South Side of Field Road Entrance	CP103
ALIGNMENTS								
ROUTE C - EXISTING CENTERLINE								
	409+23.20			110032.3848	993073.1159		POB	
	417+00.07			109255.5363	993079.1533		PI	
	425+00.52			108455.3002	993097.4840		PI	
	441+79.23			106776.5963	993103.8728		POE	
ROUTE C - CONSTRUCTION CENTERLINE								
	411+00.00			109855.5901	993074.4899		POB	
	417+00.07			109255.5363	993079.1533		PI	
	418+00.00			109155.6345	993081.4417		POE	



5/8" Rebar w/ Pink MoDOT Cap Located .16 Miles North of Bridge S0712 on West Side of Rte. C and East side of CR 445

5/8" Rebar w/ Pink MoDOT Cap Located on Shoulder on NW Corner of Bridge S0712

5/8" Rebar w/ Pink MoDOT Cap Located on Shoulder on SE Corner of Bridge S0712

5/8" Rebar w/ Pink MoDOT Cap Located 0.26 Miles South of Bridge S0712 on East side of Rte. C and South Side of Field Road Entrance

COORDINATE POINT AND REFERENCE POINT SHEET
SHEET 1 OF 1

STATE OF MISSOURI
ALISON N. GRAVES
NUMBER PE-2011015778
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 8/29/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
SE	5

COUNTY: PEMISCOT
JOB NO.: J9S3770
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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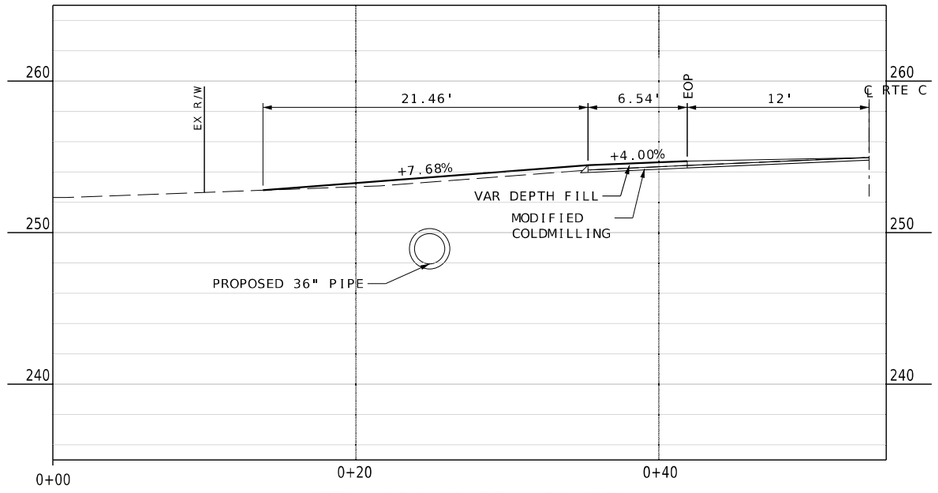
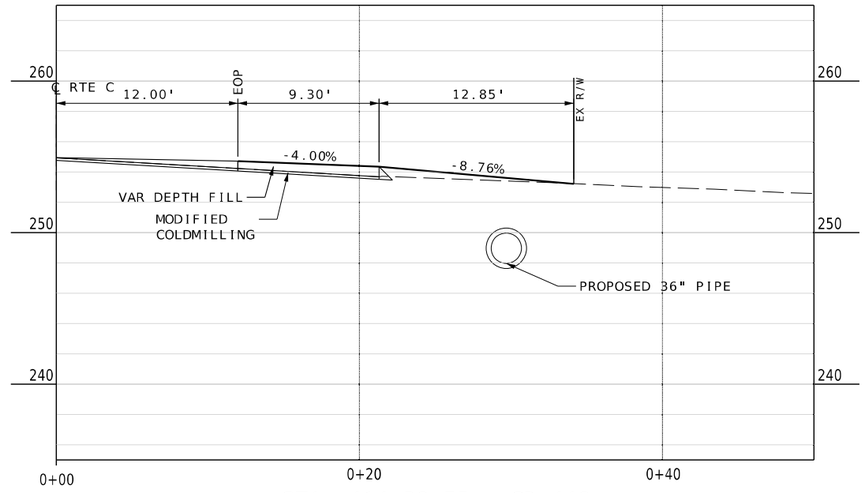
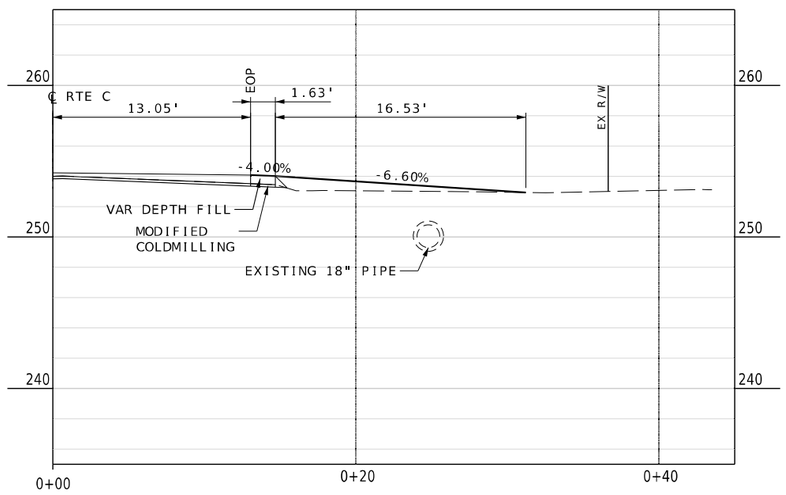


STA. 414+38.75 - CR 448
20' AGGREGATE ENTRANCE LT



STA. 414+38.75 - CR 448
25' AGGREGATE ENTRANCE RT



STA. 416+50.86
20' AGGREGATE ENTRANCE RT

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SPECIAL SHEET
DRIVEWAY PROFILES
SHEET 1 OF 2

STATE OF MISSOURI
ALISON N. GRAVES
NUMBER PE-2011015778
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED: 8/29/2025
ROUTE: C | STATE: MO
DISTRICT: SE | SHEET NO.: 6
COUNTY: PEMISCOT
JOB NO.: J9S3770
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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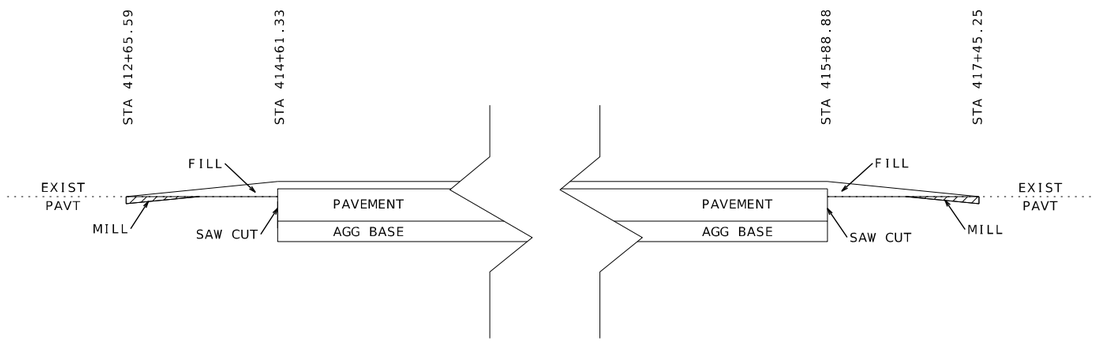
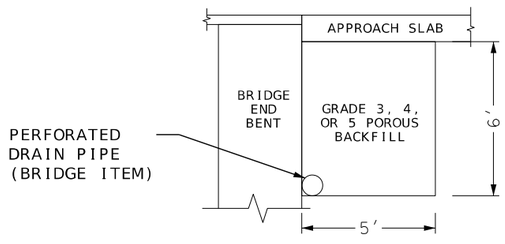


SAW CUT



POROUS BACKFILL

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SPECIAL SHEETS
POROUS BACKFILL DETAIL
SHEET 2 OF 2

STATE OF MISSOURI
ALISON N. GRAVES
NUMBER PE-2011015778
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED: 8/29/2025
ROUTE: C
STATE: MO
DISTRICT: SE
SHEET NO.: 7
COUNTY: PEMISCOT
JOB NO.: J9S3770
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

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W020-3

20A

W020-3

20B

R11-2

29

R11-3a

55A

R11-3a

55B

R11-4

55C

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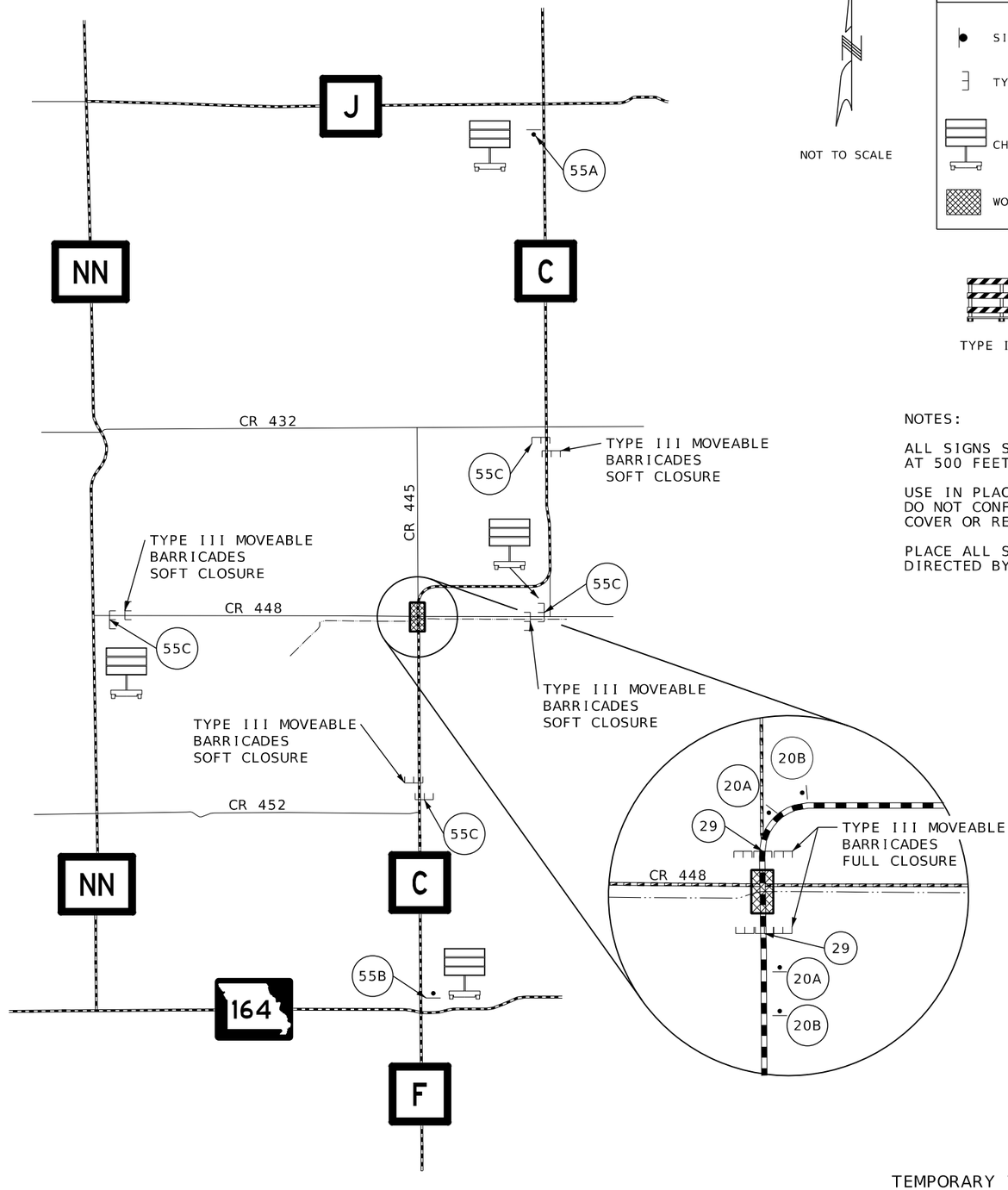
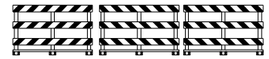


NOT TO SCALE

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- TYPE III MOVEABLE BARRICADE
- CHANGEABLE MESSAGE SIGN
- WORK SPACE



TYPE III MOVEABLE BARRICADES
FULL CLOSURE

NOTES:

ALL SIGNS SHALL BE SPACED AT 500 FEET UNLESS OTHERWISE NOTED.

USE IN PLACE ALL SIGNS WHICH DO NOT CONFLICT WITH THIS PLAN. COVER OR REMOVE CONFLICTING SIGNS.

PLACE ALL SIGNS AS SHOWN OR AS DIRECTED BY THE ENGINEER.

TEMPORARY TRAFFIC CONTROL
SHEET 1 OF 1

STATE OF MISSOURI
ALISON N. GRAVES
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PROFESSIONAL ENGINEER

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DATE PREPARED: 8/29/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
SE	8

COUNTY: PEMISCOT

JOB NO.: J9S3770

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

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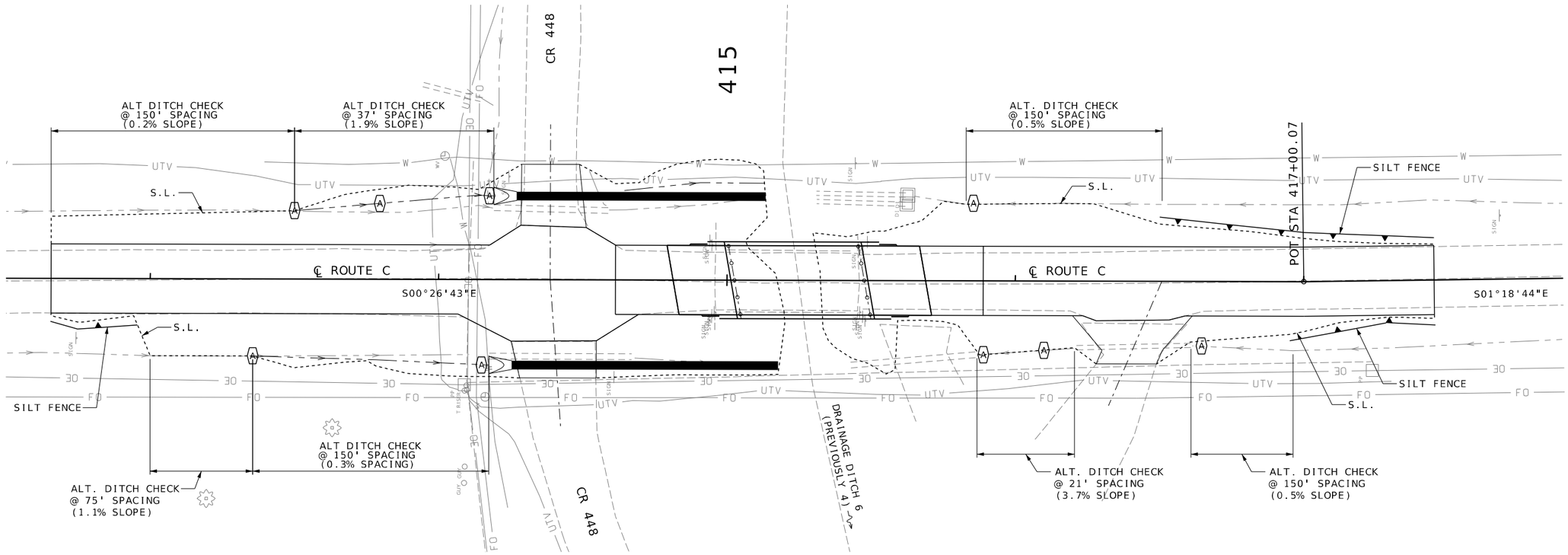
SCALE

0 20 40 60



TEMPORARY EROSION CONTROL LEGEND

A	ALTERNATE DITCH CHECK		TEMPORARY BERM TYPE B
C	CURB INLET CHECK		TEMPORARY BERM TYPE C
R	ROCK DITCH CHECK		SILT FENCE
S	SEDIMENT TRAP		TEMPORARY SEDIMENT BASIN
	ENERGY DISSIPATOR		PERMANENT SEDIMENT BASIN
	ROCK BLANKET		

EROSION CONTROL SHEET
SHEET 1 OF 1

STATE OF MISSOURI
ALISON N. GRAVES
NUMBER PE-2011015778
PROFESSIONAL ENGINEER

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DATE PREPARED 8/29/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
SE	9

COUNTY: PEMISCOT

JOB NO.: J9S3770

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

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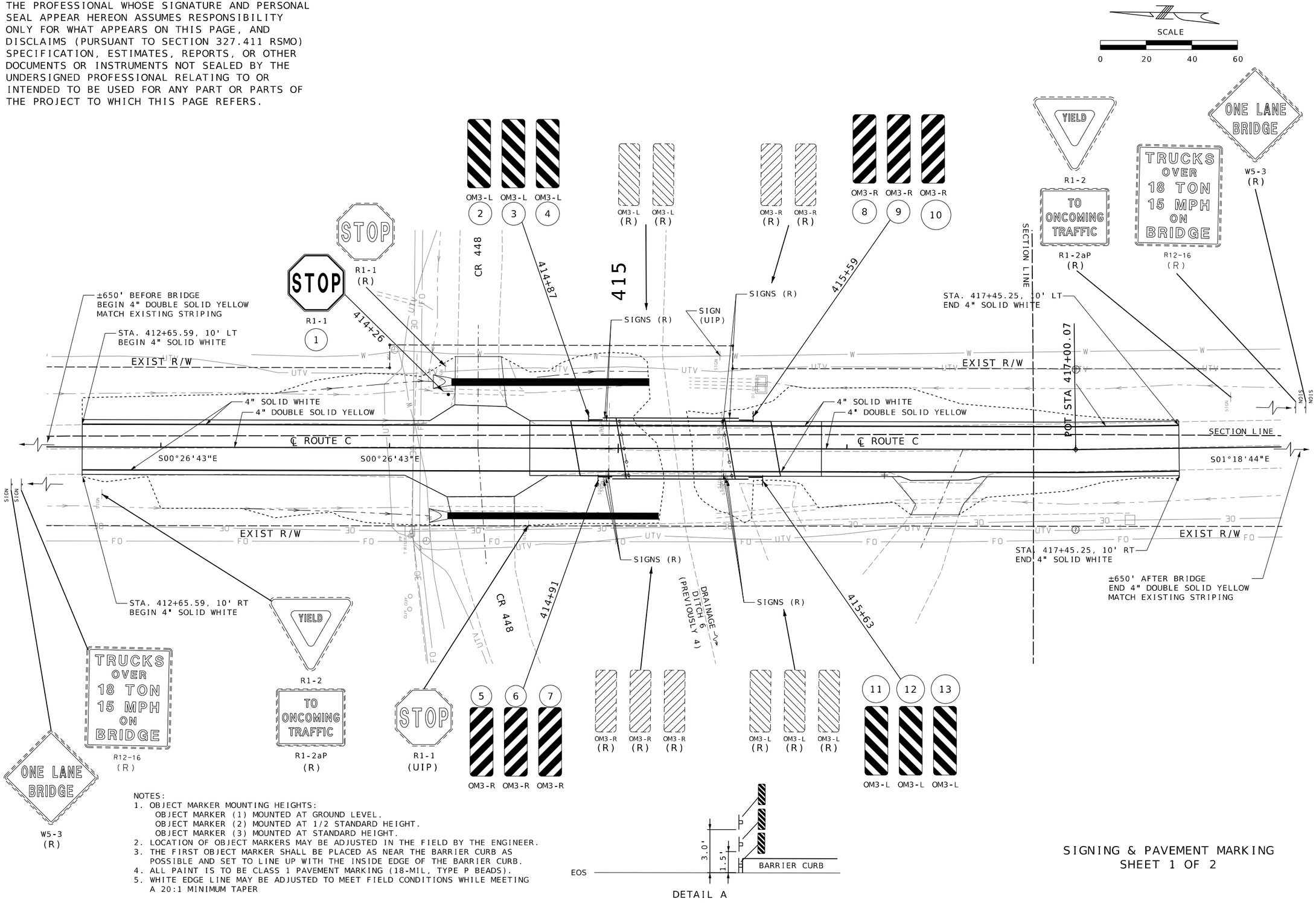

NOTES:
1. OBJECT MARKER MOUNTING HEIGHTS:
   OBJECT MARKER (1) MOUNTED AT GROUND LEVEL.
   OBJECT MARKER (2) MOUNTED AT 1/2 STANDARD HEIGHT.
   OBJECT MARKER (3) MOUNTED AT STANDARD HEIGHT.
2. LOCATION OF OBJECT MARKERS MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
3. THE FIRST OBJECT MARKER SHALL BE PLACED AS NEAR THE BARRIER CURB AS POSSIBLE AND SET TO LINE UP WITH THE INSIDE EDGE OF THE BARRIER CURB.
4. ALL PAINT IS TO BE CLASS 1 PAVEMENT MARKING (18-MIL, TYPE P BEADS).
5. WHITE EDGE LINE MAY BE ADJUSTED TO MEET FIELD CONDITIONS WHILE MEETING A 20:1 MINIMUM TAPER

DETAIL A

SIGNING & PAVEMENT MARKING
SHEET 1 OF 2

STATE OF MISSOURI
ALISON N. GRAVES
NUMBER PE-2011015778
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 8/29/2025
ROUTE C | STATE MO
DISTRICT SE | SHEET NO. 10
COUNTY PEMISCOT
JOB NO. J9S3770
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

5220 Oakland Ave.
St. Louis, MO 63110
(314) 863-5570
CDI DESIGN INC.
Missouri State Certificate of Authority #2002006804

SIGNS

902 SIGNAL SIGNS TABULATED ON D-37A SHEET

SIGN NO.	SIGN SIZE	STATION OR LOG MILE	HORIZ CLEAR IF NOT STD	LOCATION	SIGN DTL SHT NO.
1	36X36	414+26		LT	
2	12X36	414+87		LT	
3	12X36	414+87		LT	
4	12X36	414+87		LT	
5	12X36	414+91		RT	
6	12X36	414+91		RT	
7	12X36	414+91		RT	
8	12X36	415+59		LT	
9	12X36	415+59		LT	
10	12X36	415+59		LT	
11	12X36	415+63		RT	
12	12X36	415+63		RT	
13	12X36	415+63		RT	
				SUBTOTAL	
				TOTAL	

CONCRETE FOOTINGS EMBEDDED

ITEM NO. 9031010 — CY

STRUCTURAL STEEL POSTS*

POST DES NO.	POST NO.1	POST NO.2	POST NO.3	LBS PER FT	TOTAL ITEM NO. 9031210 LBS
	LF	LF	LF		

PIPE POSTS*

PIPE SIZE	POST NO.1	POST NO.2	LBS PER FT	TOTAL ITEM NO. 9031220 LBS
IN	LF	LF		

BACKING BARS**

2" X 3/8" BARS AT 2.55 LBS/FT

NO. EACH	LGTH IN.	TOTAL LF	TOTAL LBS
			**

U-CHANNEL POST

ITEM NO. 9031250A — LF

PERFORATED SQUARE STEEL TUBE

2-INCH POST

POST NO.1	POST NO.2	TOTAL ITEM NO. 9031270A LF	ANCHORS DRIVEN 12 GA. ITEM NO. 9031271A EACH	DRIVEN 7 GA. ITEM NO. 9031273A EACH	CONCRETE 7 GA. ITEM NO. 9031274 EACH
11.0		11.0	1		
10.6		10.6	1		
10.9		10.9	1		
11.2		11.2	1		
10.5		10.5	1		
10.9		10.9	1		
11.3		11.3	1		
10.8		10.8	1		
10.5		10.5	1		
10.5		10.5	1		
9.8		9.8	1		
9.5		9.5	1		
9.5		9.5	1		
		137.0	13		
		137	13		

2.5-INCH POST

POST NO.1	POST NO.2	TOTAL ITEM NO. 9031280 LF	2.25" INSERT (6 FT) ITEM NO. 9031272A EACH	ANCHORS DRIVEN 7 GA. ITEM NO. 9031281A EACH	CONCRETE 7 GA. ITEM NO. 9031285 EACH

BREAK-AWAY ASSEMBLY ITEM NO. 9031241 EACH

REMARKS AND OTHER REQUIRED ITEMS

*BREAKAWAY ASSEMBLY IS INCIDENTAL FOR STRUCTURAL STEEL AND PIPE POSTS.
**BACKING BARS ARE TOTALED WITH STRUCTURAL STEEL OR PIPE POSTS.

ROUND PIPE POST AND FOOTING DATA TABLE

NOM.SIZE (IN.)	WEIGHT LBS/FT	WEIGHT LBS/IN	STUB LENGTH	FOOTING DIA.	FOOTING DEPTH	CONCRETE C.Y.
2½	5.79	0.48	4'- 3½"	12"	4~6"	0.13
4	10.79	0.90	5'- 3½"	18"	5~6"	0.36

STRUCTURAL STEEL POST AND FOOTING DATA TABLE

POST DES. NO.	NOM. SIZE	POST WEIGHT LBS/FT	POST WEIGHT LBS/IN	POST STUB LENGTH	FOOTING DIA.	LEVEL GROUND DEPTH	LEVEL GROUND C.Y.	6:1 GRADE DEPTH	6:1 GRADE C.Y.	4:1 GRADE DEPTH	4:1 GRADE C.Y.	3:1 OR 2:1 GRADE DEPTH	3:1 OR 2:1 GRADE C.Y.
1	W6	9.0	0.75	3'-0"	15"	3'-0"	0.14	3'-2"	0.15	3'-3"	0.16	3'-6"	0.17
2	W6	15.0	1.25	4'-0"	24"	4'-0"	0.47	4'-2"	0.50	4'-3"	0.51	4'-6"	0.54
3	W8	18.0	1.50	4'-6"	28"	4'-6"	0.71	4'-8"	0.73	4'-9"	0.74	5'-0"	0.78
4	W10	22.0	1.83	5'-0"	36"	5'-0"	1.31	5'-2"	1.36	5'-3"	1.39	5'-6"	1.45
5	W10	26.0	2.17	5'-0"	36"	5'-0"	1.31	5'-3"	1.37	5'-5"	1.43	5'-9"	1.52
6	W12	35.0	2.92	5'-6"	36"	5'-6"	1.44	5'-9"	1.52	5'-11"	1.56	6'-3"	1.65

D-29

STANDARD SIGN ASSEMBLIES

SIGN NO.	STATION OR LOG MILE	LOCATION	SIGN, TYPE, DESIGNATION, SIZE & NUMBER OF EACH: R1-1	OM3-R	OM3-L
			STOP		
1	415+63	RT	1		
2	414+87	LT			1
3	414+87	LT			1
4	414+87	LT			1
5	414+91	RT		1	
6	414+91	RT		1	
7	414+91	RT		1	
8	415+59	LT			1
9	415+59	LT			1
10	415+59	LT			1
11	415+63	RT		1	
12	415+63	RT		1	
13	415+63	RT		1	
		TOTALS	1	6	6

SIGN SUMMARY

EFFECTIVE: 10-01-2016

STANDARD OR SPECIAL SIGN DESIGNATION	SIGN DTL. SHT. NO.	NO. EACH	SIGN SIZE	TYPE & SQUARE FEET: FLAT SHEET SH ITEM NO. 9035004A	FLAT SHEET FLUORESCENT SHF* ITEM NO. 9035069A	STRUCTURAL ST ITEM NO. 9035011A	STRUCTURAL FLUORESCENT STF* ITEM NO. 9035071A
R1-1		1	36X36		9.0		
OM3-R		6	12X36		18.0		
OM3-L		6	12X36		18.0		
			TOTALS		45.0		

*ORANGE, YELLOW AND YELLOW-GREEN

EFFECTIVE: 07-01-2024

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SIGNING & PAVEMENT MARKING
SHEET 2 OF 2

D-30

STATE OF MISSOURI
ALISON N. GRAVES
NUMBER PE-2011015778
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED: 8/29/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
SE	11

COUNTY: PEMISCOT
JOB NO.: J9S3770
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

5220 Oakland Ave.
St. Louis, MO 63110
(314) 863-5570
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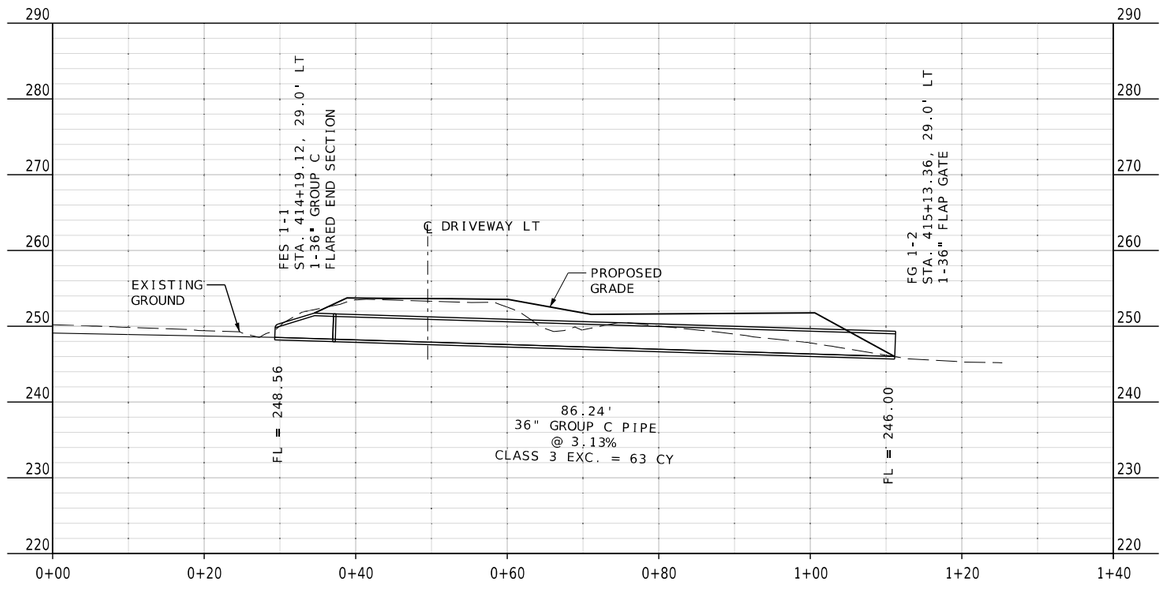
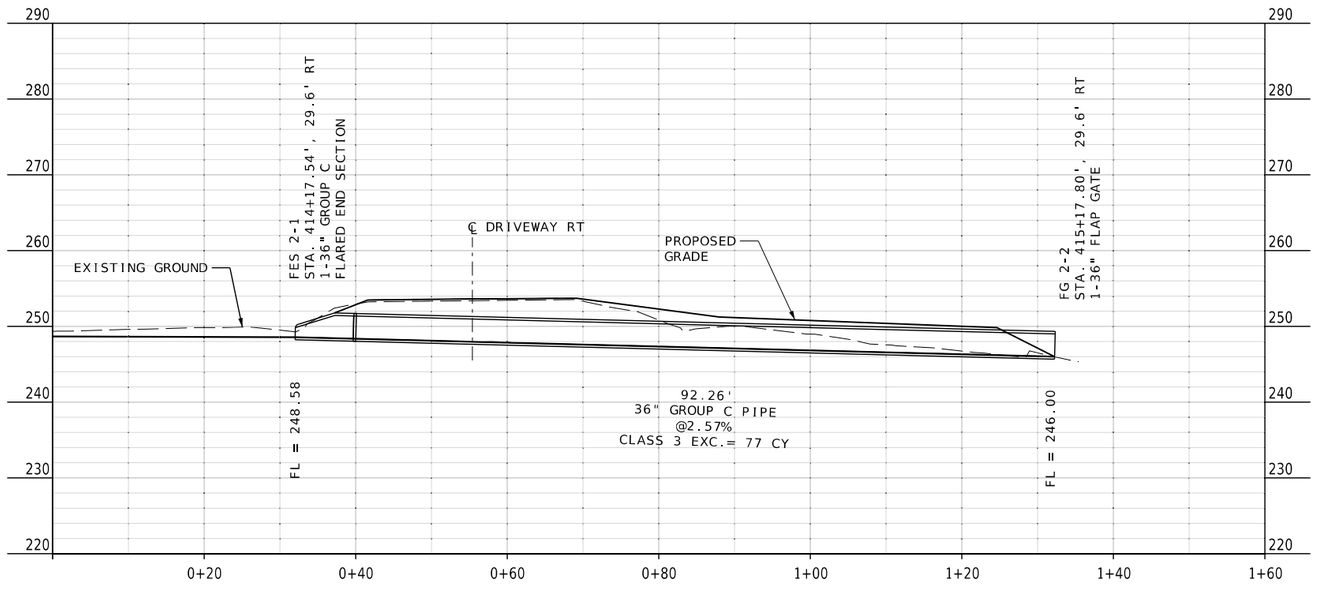
Missouri State Certificate of Authority #2002006804





CULVERT SECTIONS
SHEET 1 OF 1

STATE OF MISSOURI
ALISON N. GRAVES
NUMBER PE-2011015778
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
8/29/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
SE	12

COUNTY
PEMISCOT

JOB NO.
J9S3770

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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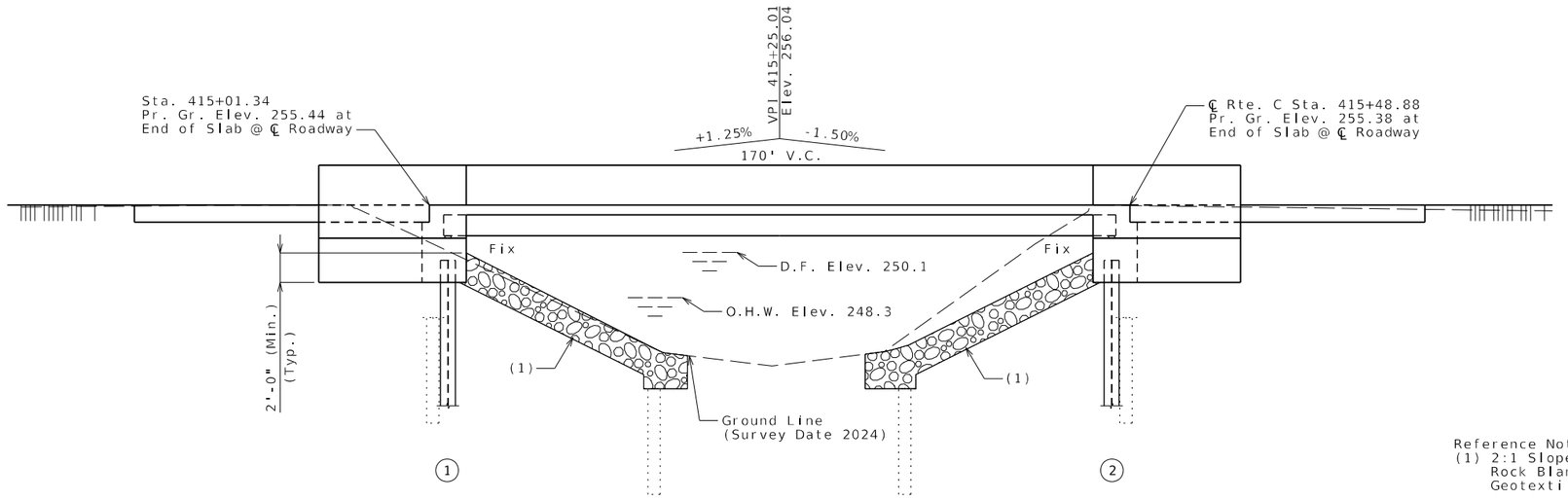
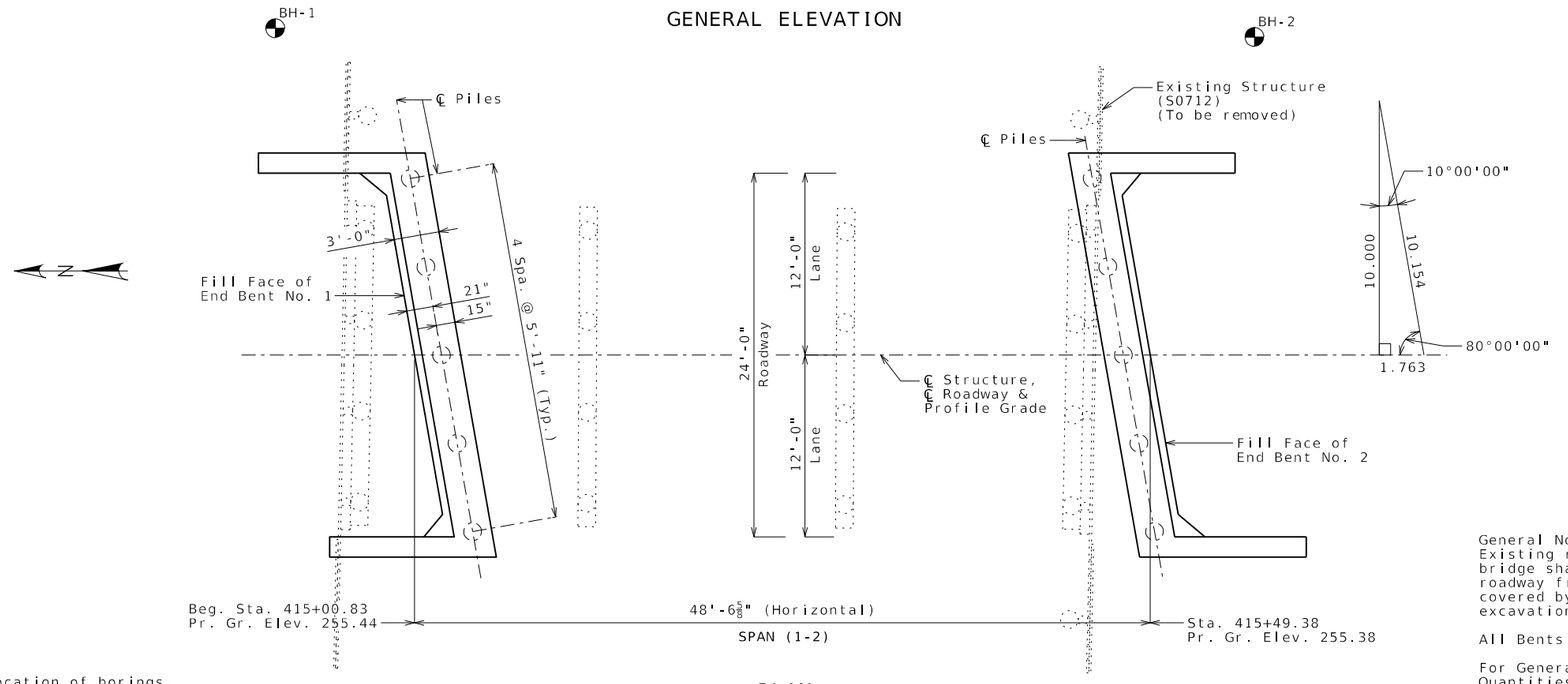
SEC/SUR 1 TWP 17N RGE 10E

(45') PRESTRESSED CONCRETE SPREAD BOX BEAM SPAN



GENERAL ELEVATION

Reference Notes:
(1) 2:1 Slope (Normal) with 2'-0" thick Type 2 Rock Blanket with Permanent Erosion Control Geotextile (Roadway Item)



PLAN

Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheet(s) No. 22 & 23 and may be included in the Electronic Bridge Deliverables. They will also be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

The Commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the Commission.

General Notes:
Existing roadway fill under the ends of the bridge shall be removed. Removal of existing roadway fill will be considered completely covered by the contract unit price for roadway excavation.

All Bents are parallel.

For General Notes, Estimated Quantities, Estimated Quantities for Slab on Concrete Beam, Foundation Data, and Location Sketch, see Sheet No. 2.

B.M. #2 - CHISELED SQUARE IN NE CORNER OF BRIDGE ON CONCRETE BASE FOR GUARD RAIL 9.85' LT OF ℄ RTE. C STA. 414+97.06 ELEV. 256.056

BRIDGE: ROUTE C OVER DRAINAGE DITCH 6

ROUTE C FROM ROUTE J TO ROUTE 164
ABOUT 3.0 MILES NORTH OF ROUTE 164
BEGINNING STATION 415+00.83

Designed JULY 2025
Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
KIMBERLY ANNE STREICHER
NUMBER PE-2003001105
PROFESSIONAL ENGINEER

09/08/2025 13:16:19
Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED
9/8/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	1

COUNTY
PEMISCOT

JOB NO.
J9S3770

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9720

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CIVIL DESIGN, INC.
5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2002006804

Estimated Quantities

Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	60		60
Removal of Bridges (S0712)	lump sum			1
Bridge Approach Slab (Minor)	sq. yard		108	108
Galvanized Cast-In-Place Concrete Piles (14 in.)	linear foot	500		500
Dynamic Pile Testing	each	2		2
Class B Concrete (Substructure)	cu. yard	22.2		22.2
Type H Barrier	linear foot		121	121
Slab on Concrete Beam	sq. yard		141	141
21 in., Prestressed Concrete Spread Box Beam	linear foot		137	137
Slab Drain	each		8	8
Vertical Drain at End Bents	each			2
Plain Neoprene Bearing Pad	each		6	6

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete Beam.

All reinforcement in the end bents and cast-in-place pile is included in the Estimated Quantities for Slab on Concrete Beam.

Estimated Quantities for Slab on Concrete Beam

Item		Total
Class B-2 Concrete	cu. yard	44.4
Reinforcing Steel (Epoxy Coated)	pound	13,150

The table of Estimated Quantities for Slab on Concrete Beam represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for prestressed panels, stay-in-place corrugated steel forms, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

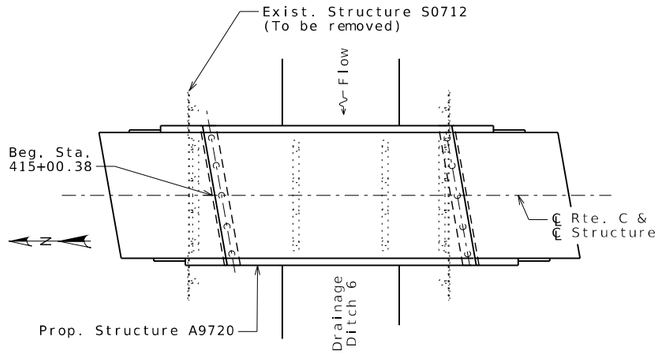
Class B-2 Concrete quantity is based on minimum top flange thickness and minimum joint material thickness.

The Estimated Quantities for Slab on Concrete Beam are based on skewed precast prestressed panels.

The prestressed panel quantities are not included in the table of Estimated Quantities for Slab on Concrete Beam.

Hydrologic Data

Drainage Area = 2.0 sq mi
Design Flood Frequency = 50 years
Design Flood Discharge = 222 cfs
Design Flood (D.F.) Elevation = 250.1
Base Flood (100-year)
Base Flood Elevation = 250.3
Base Flood Discharge = 235 cfs
Estimated Backwater = 0.00 ft
Average Velocity thru Opening = 1.8 ft/s
Freeboard (50-year)
Freeboard = 2.7 ft
Roadway Overtopping
Overtopping Flood Discharge = NA cfs
Overtopping Flood Frequency = >500 years
500 yr Flood Elevation = 250.6



LOCATION SKETCH

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specification (9th Ed.)
2023 AASHTO Guide Specifications for LRFD Seismic Bridge Design (3rd Ed.)
Seismic Design Category D (Seismic Details)
Design earthquake response spectral acceleration coefficient at 1.0 second period, S_{D1} = 1.062
Acceleration Coefficient (effective peak ground acceleration coefficient), A_s = 0.948

Design Loading:

Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf (Min.)
Superstructure: Simply-Supported, Non-Composite for dead load.
Composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure)	f'c = 3,000 psi
Class B-2 Concrete (Superstructure, except Prestressed Beams and Barrier)	f'c = 4,000 psi
Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Reinforcing Steel (ASTM A706 Grade 60)	fy = 60,000 psi
Welded or Seamless steel shell (pipe) for CIP pile (ASTM A252 Modified Grade 3)	fy = 50,000 psi

For prestressed box beam stresses, see Sheet No. 11.

Neoprene Pads:

Neoprene bearing pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

Traffic Handling:

Structure to be closed during construction. Traffic to be maintained on other routes during construction. See roadway plans for traffic control.

MoDOT Construction personnel will indicate the type of joint filler option used under the precast panels for this structure:

☐ Constant Joint Filler
☐ Variable Joint Filler

Foundation Data

Type	Design Data		Bent Number 1	Bent Number 2
Load Bearing Pile	Pile Type and Size		CECIP 14"	CECIP 14"
	Number	ea	5	5
	Approximate Length Per Each	ft	50	50
	Pile Point Reinforcement	ea	-	-
	Min. Galvanized Penetration (Elev.)	ft	Full Length	Full Length
	Est. Max. Scour Depth 100 (Elev.)	ft	-	-
	Minimum Tip Penetration (Elev.)	ft	202	202
	Criteria for Min. Tip Penetration		Liquefaction	Liquefaction
	Pile Driving Verification Method		DT	DT
	Resistance Factor		0.65	0.65
	Minimum Nominal Axial Compressive Resistance	kip	208	208

DT = Dynamic Testing

CECIP = Closed Ended Cast-in-Place Concrete Pile

Load Bearing Pile:
Minimum Nominal Axial Compressive Resistance = $\frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$

Estimated Maximum Scour Depth (Elevation) shown is for verifying Minimum Nominal Axial Compressive Resistance using dynamic testing only where pile resistance contribution above this elevation shall not be considered.

All piles shall be galvanized down to the minimum galvanized penetration (elevation).

The Contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of the minimum will be considered acceptable provided the Contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

GENERAL NOTES & QUANTITIES

STATE OF MISSOURI
KIMBERLY ANNE STREICHER
NUMBER PE-2003001105
PROFESSIONAL ENGINEER
09/08/2025 13:17:32
Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED 9/8/2025
ROUTE C | STATE MO
DISTRICT BR | SHEET NO. 2
COUNTY PEMISCOT
JOB NO. J9S3770
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9720

DESCRIPTION | DATE | REV.

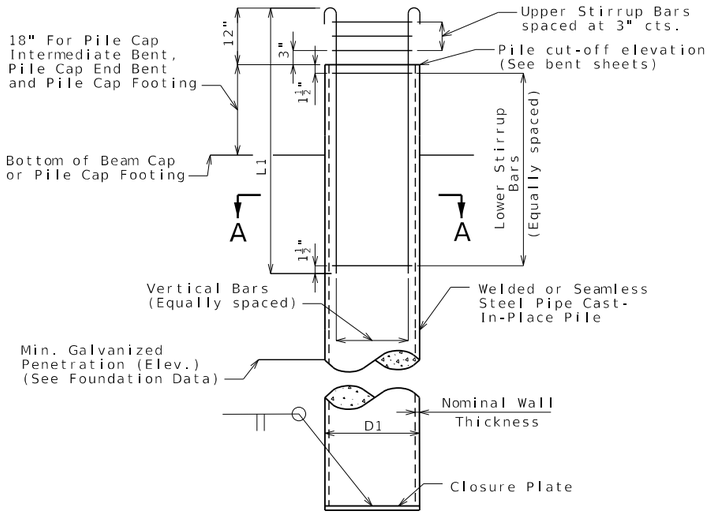
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CDI
CIVIL DESIGN, INC.
5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2002006804

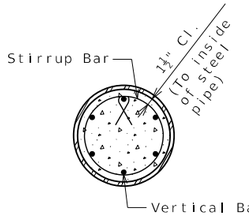
Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.

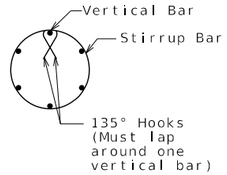
P:\6XXX\68XX-69XX\6870 - Pemiscot Dunklin Bridges - MoDOT\24-Structures\J9S3770-Rte C\CAD-ORD\B_A9720_002_J9S3770-GNQ.dgn 1:07:46 PM 9/8/2025



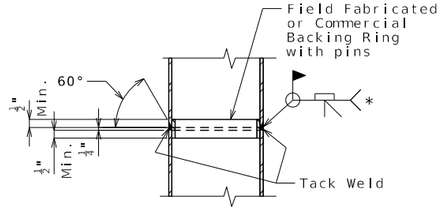
GALVANIZED CLOSED ENDED CAST-IN-PLACE (CECIP)
CONCRETE PILE
WITHOUT PILE POINT REINFORCEMENT



SECTION A-A



DETAIL OF SEISMIC STIRRUP BAR



STEEL PIPE PILE SPLICE

* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

Galvanized Closed Ended Cast-In-Place (CECIP) Concrete Pile Data		
Bent Number	1	2
D1, CECIP Pile (O.D.)	14"	14"
Min. Nominal Wall Thickness	1/2"	1/2"
Closure Plate Thickness	3/4"	3/4"
Pile Point Reinforcement	none	none
Vertical Bars	6-#5-V103	6-#5-V203
L1, Length of Vertical Bars	5'-3"	5'-3"
Upper Stirrup Bars	3-#4-P100	3-#4-P200
Lower Stirrup Bars	5-#4-P100	5-#4-P200

Notes:

Welded or seamless steel shell (pipe) shall be ASTM A252 Modified Grade 3 (fy = 50,000 psi) with physical and chemical requirements that meet ASTM A572 Grade 50. Pipe certification and source material certification shall be required.

Concrete for cast-in-place pile shall be Class B-1.

Steel for closure plate shall be ASTM A709 Grade 50.

Steel for cruciform pile point reinforcement shall be ASTM A709 Grade 50.

Steel casting for conical pile point reinforcement shall be ASTM A148 Grade 90-60.

The minimum wall thickness of any spot or local area of any type shall not be more than 12.5% under the specified nominal wall thickness.

The contractor shall determine the pile wall thickness required to avoid damage from all driving activities, but wall thickness shall not be less than the minimum specified. No additional payment will be made for furnishing a thicker pile wall than specified on the plans.

Closure plate shall not project beyond the outside diameter of the pipe pile. Satisfactory weldments may be made by beveling tip end of pipe or by use of inside backing rings. In either case, proper gaps shall be used to obtain weld penetration full thickness of pipe. Payment for furnishing and installing closure plate will be considered completely covered by the contract unit price for Galvanized Cast-In-Place Concrete Piles.

Splices of pipe for cast-in-place concrete pile shall be made watertight and to the full strength of the pipe above and below the splice to permit hard driving without damage. Pipe damaged during driving shall be replaced without cost to the state. Pipe sections used for splicing shall be at least 5 feet in length.

The hooks of vertical bars embedded in the beam cap should not be turned outward, away from the pile core.

The hook of vertical bars embedded in the pile cap footing should be oriented outward for all seismic categories.

Closure plate need not be galvanized.

Reinforcing steel for cast-in-place piles is included in the Bill of Reinforcing Steel.

All reinforcement for cast-in-place pile at end bents is included in the Estimated Quantities for Slab on Concrete Beam.

For Foundation Data table, see Sheet No. 2.

STATE OF MISSOURI
KIMBERLY ANNE STREICHER
NUMBER PE-2003001105
PROFESSIONAL ENGINEER
09/08/2025 13:18:03
Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED
9/8/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	3

COUNTY
PEMISCOT

JOB NO.
J9S3770

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9720

DESCRIPTION	DATE

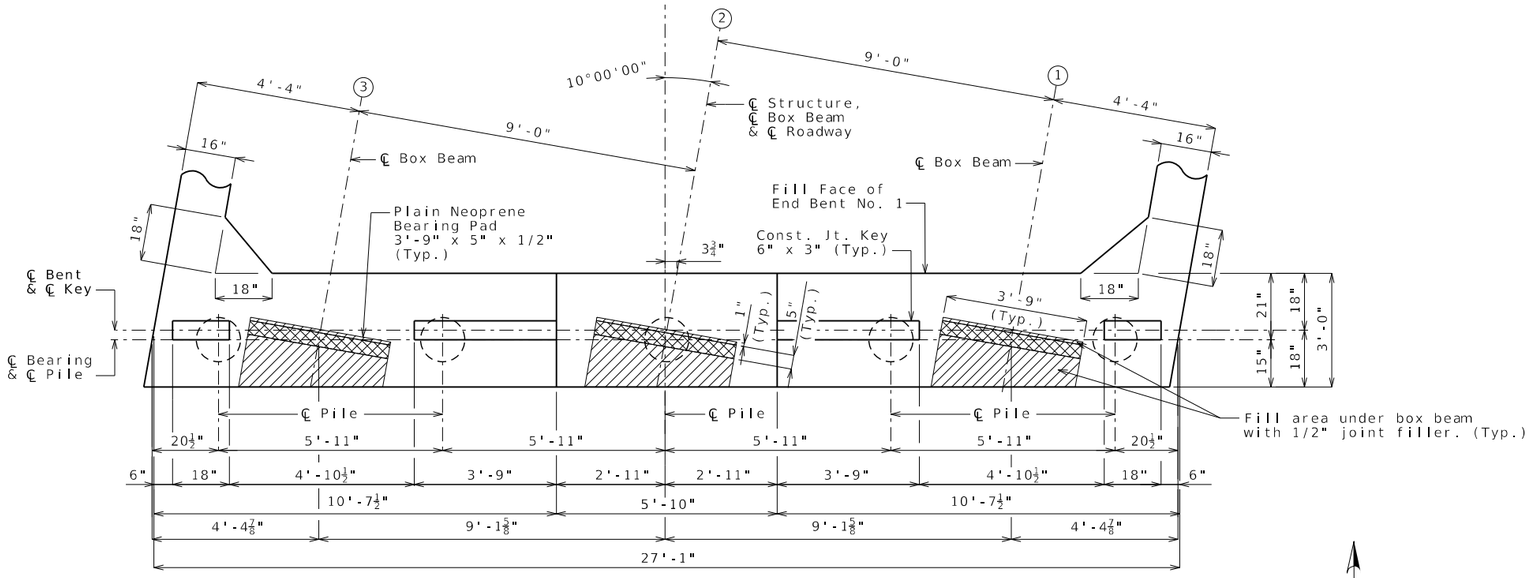
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CIVIL DESIGN, INC.
5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2002006804

GALVANIZED CLOSED ENDED CAST-IN-PLACE (CECIP) CONCRETE PILE

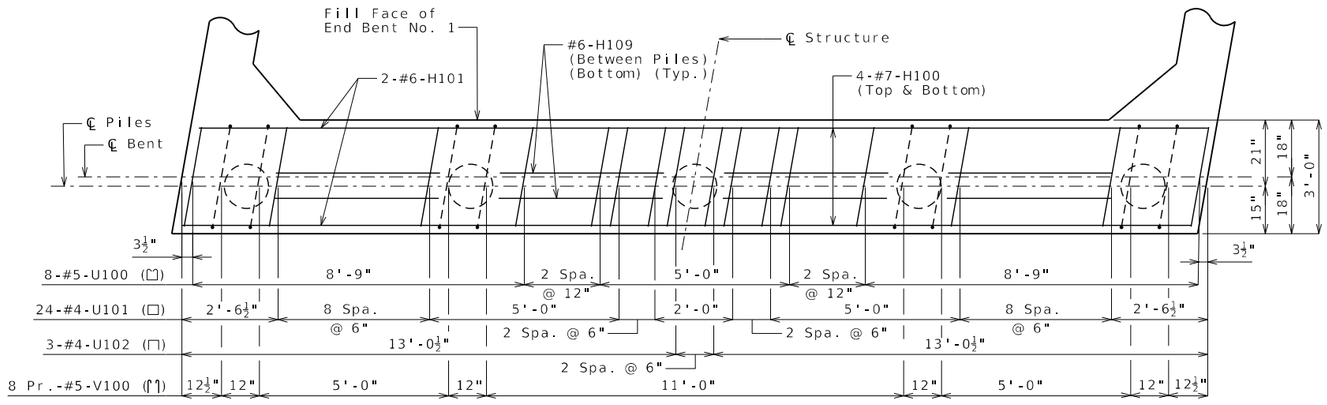
Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.



PLAN OF BEAM SHOWING DIMENSIONS

N

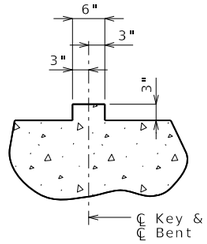


PLAN OF BEAM SHOWING REINFORCEMENT

(Keys not shown for clarity)

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	30
Galvanized Cast-in-Place Concrete Pile (14 in.)	linear foot	250
Class B Concrete (Substructure)	cu. yard	11.1

These quantities are included in the Estimated Quantities table on Sheet No. 2.



SECTION THRU KEY

Notes:

Work this sheet with Sheets No. 5 & 6.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inches.

All U bars and pairs of V bars shall be placed parallel to centerline of roadway.

DETAILS OF END BENT NO. 1

STATE OF MISSOURI
KIMBERLY ANNE STREICHER
NUMBER PE-2003001105
PROFESSIONAL ENGINEER
09/08/2025 13:18:33
Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED 9/8/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	4

COUNTY PEMISCOT

JOB NO. J9S3770

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9720

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CDI
CIVIL DESIGN, INC.
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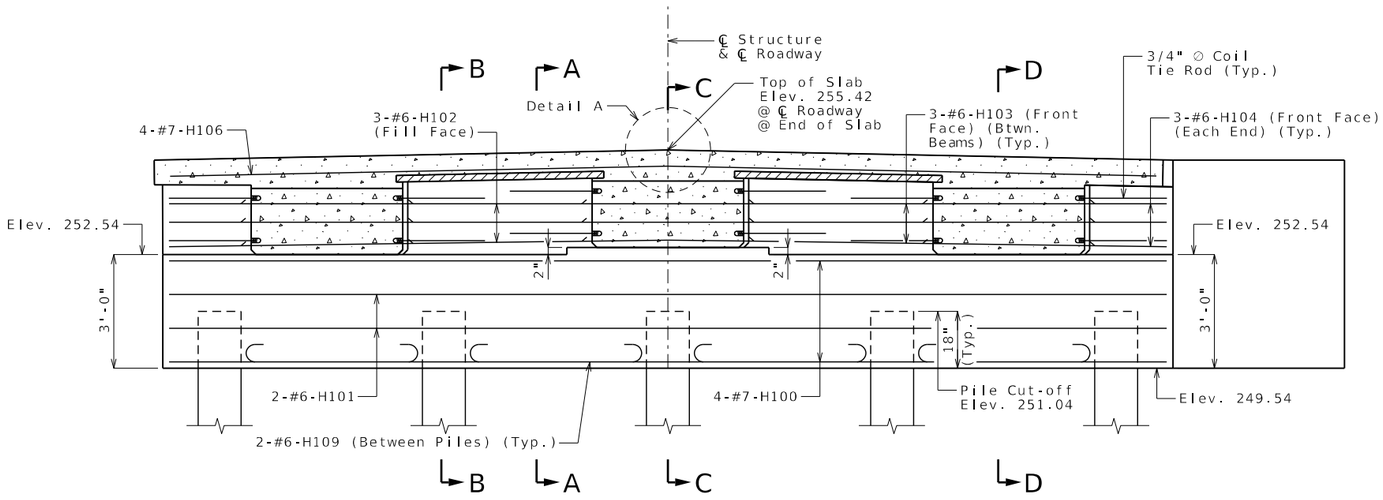
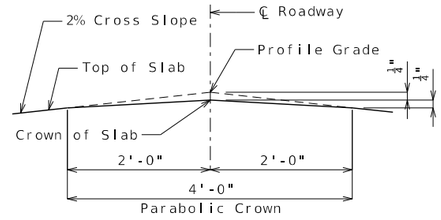
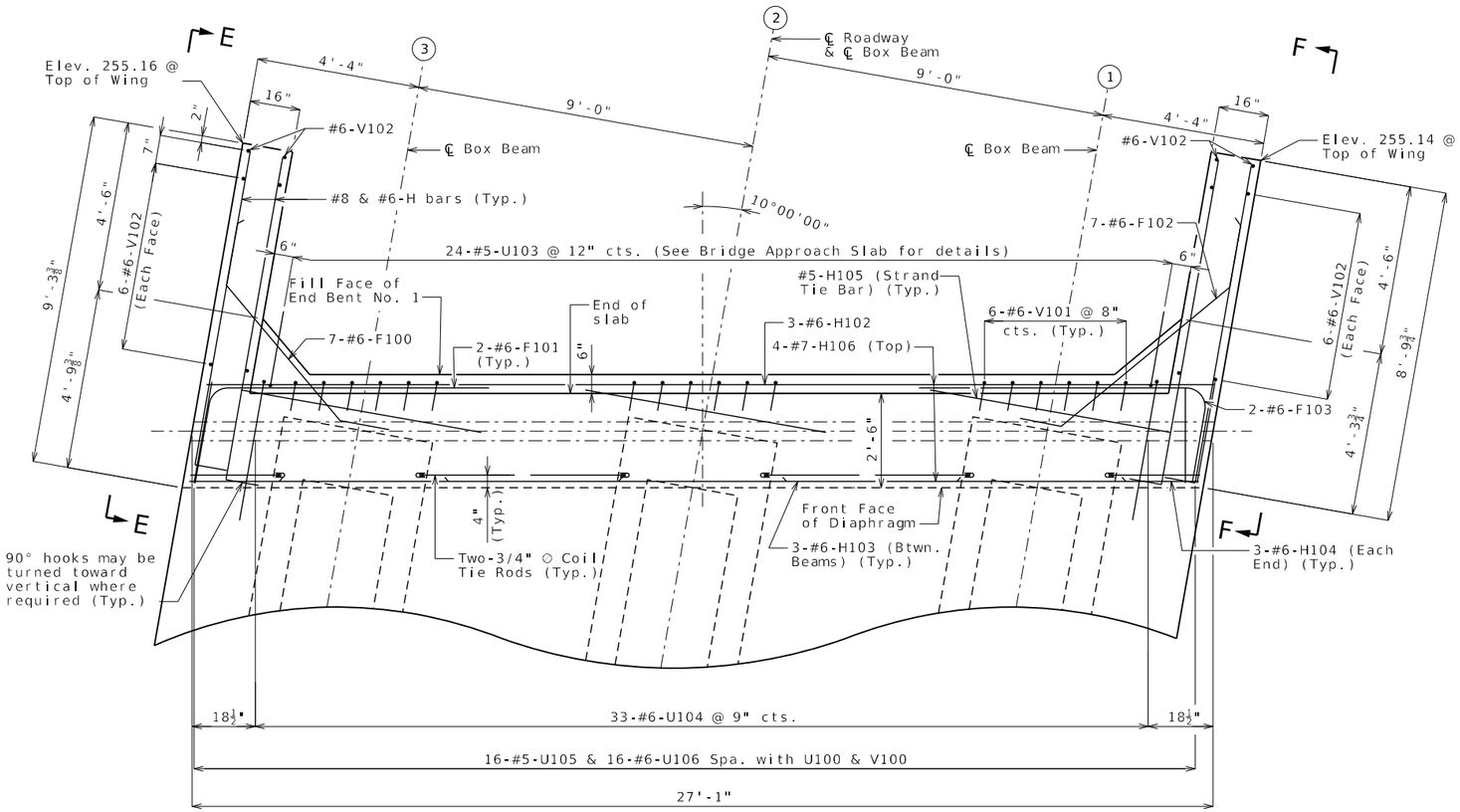
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2002006804



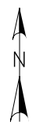
SECTION NEAR END BENT



DETAIL A



PART PLAN



Notes:

Work this sheet with Sheets No. 4 & 6.

Strands at end of the beams shall be field bent or, if necessary cut in the field to maintain 1 1/2-inch minimum clearance to fill face of end bent.

The #6-F100 & #6-F102 bars shall be bent in the field to clear box beams.

For locations of Coil Tie Rods and #5-H105 (Strand Tie Bars) see Sheet No. 11.

For details of Vertical Drain at End Bents, see Sheet No. 7.

For details of Bridge Approach Slab, see Sheet No. 18.

All concrete in the end bent above the top of beam and below top of slab shall be Class B-2.

For Sections A-A, B-B, C-C, & D-D and Elevations E-E & F-F, see Sheet No. 6.

DETAILS OF END BENT NO. 1

STATE OF MISSOURI
KIMBERLY ANNE STREICHER
NUMBER PE-2003001105
PROFESSIONAL ENGINEER
09/08/2025 13:20:35
Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED 9/8/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	5

COUNTY: PEMISCOT
JOB NO.: J9S3770
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9720

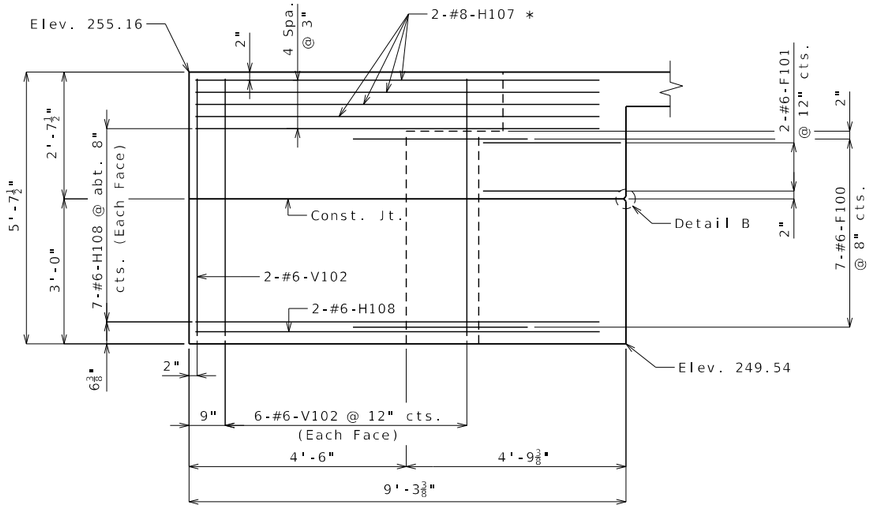
DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CDI CIVIL DESIGN, INC.
5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2002006804

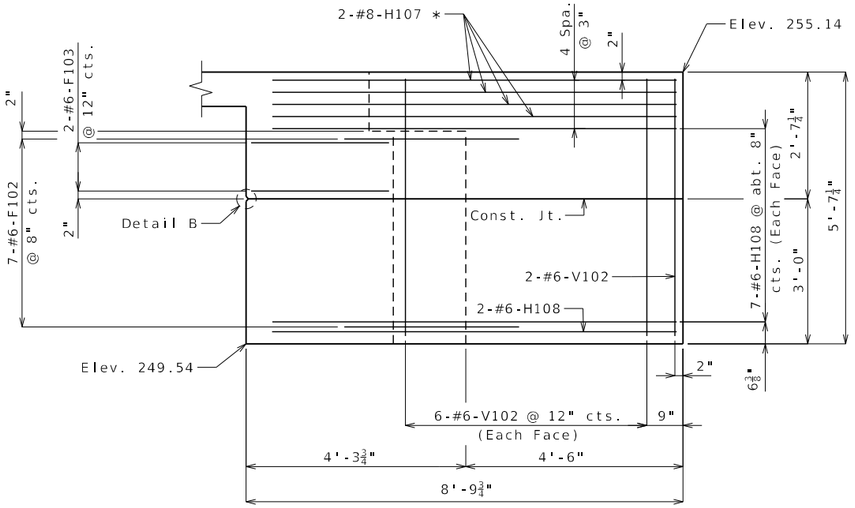
Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.

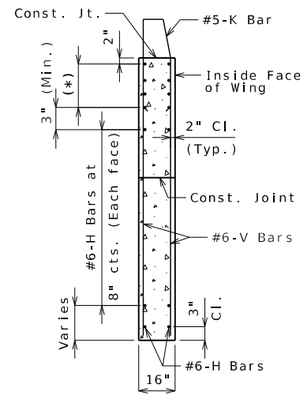
P:\6XXX\68XX-69XX\6870 - Pemiscot Dunklin Bridges - MoDOT\24-Structures\J9S3770-Rte C\CAD-ORD\B_A9720_005_J9S3770-Details of EB 2 of 3.dgn 1:07:50 PM 9/8/2025



ELEVATION E-E

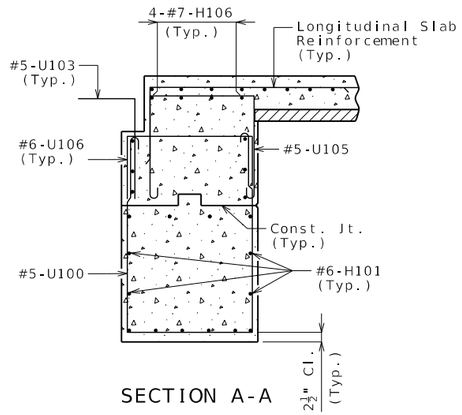


ELEVATION F-F

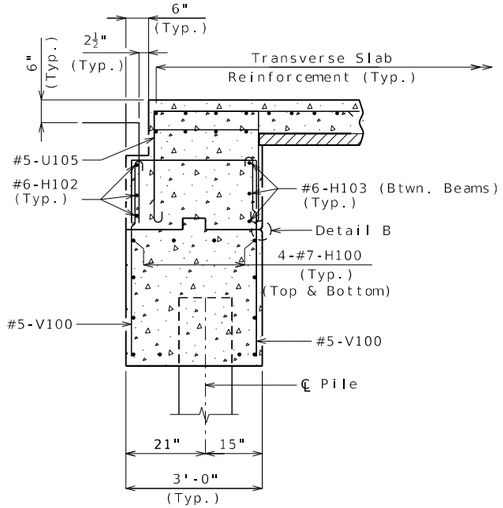


TYPICAL SECTION THRU WING

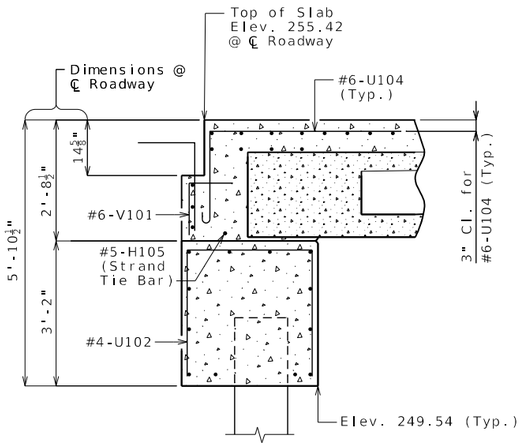
* #8-H-bars at 3" cts. (Each Face)(Place with grade)



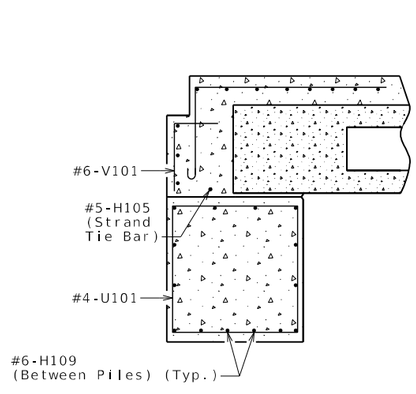
SECTION A-A



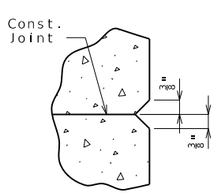
SECTION B-B



SECTION C-C



SECTION D-D



CHAMFER DETAIL B

Notes:

Work this sheet with Sheets No. 4 & 5.

For locations of Sections A-A, B-B, C-C, D-D, and Elevations E-E and F-F see Sheet No. 5.

For details and reinforcement of Type H Barrier, see Sheet No. 16.

DETAILS OF END BENT NO. 1

Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.

P:\6XXX\68XX-69XX\6870 - Pemiscot Dunklin Bridges - MoDOT\24-Structures\J9S3770-Rte C\CAD-ORD\B_A9720_006_J9S3770-Details of EB 3 of 3.dgn 1:07:51 PM 9/8/2025

STATE OF MISSOURI
KIMBERLY ANNE STREICHER
NUMBER PE-2003001105
PROFESSIONAL ENGINEER
09/08/2025 13:21:07
Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED 9/8/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	6

COUNTY PEMISCOT

JOB NO. J9S3770

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9720

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CDI
CIVIL DESIGN, INC.
5220 Oakland Avenue
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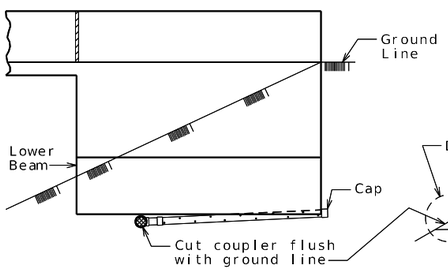
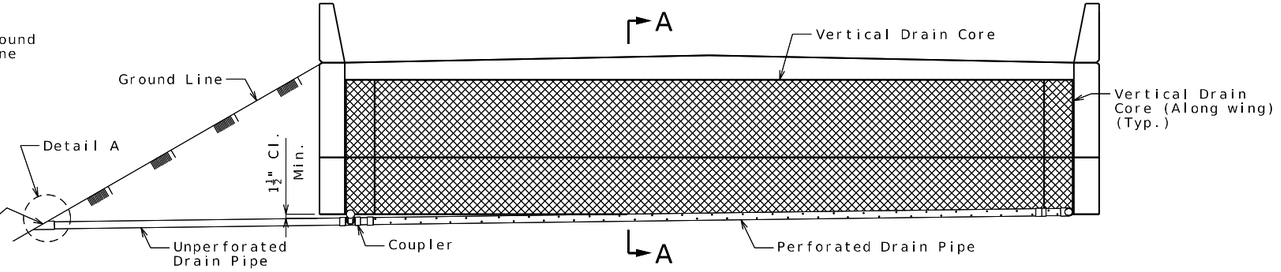
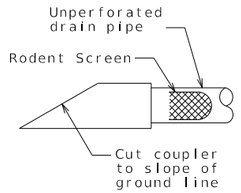
Missouri State Certificate of Authority #2002006804



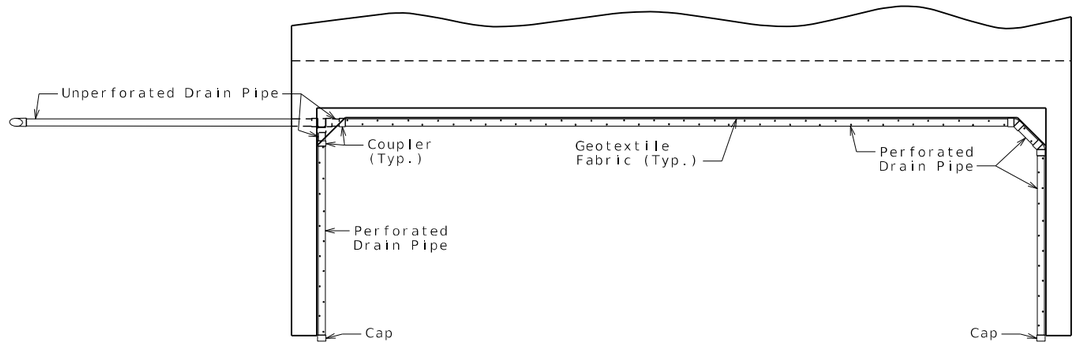
ELEVATION OF WING



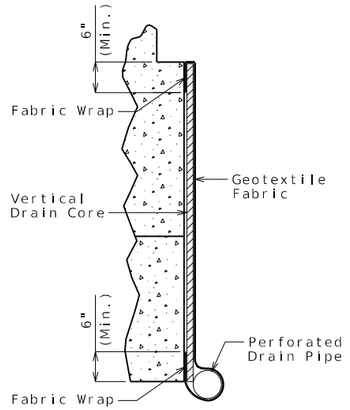
ELEVATION OF END BENT



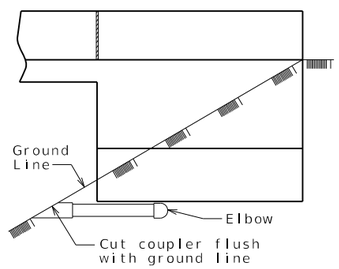
DETAIL A



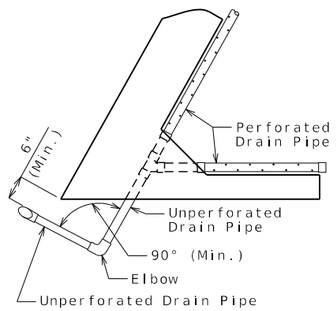
PLAN OF END BENT
(Squared end bent shown, skewed end bent similar)



PART SECTION A-A
(Section thru wing similar)



ELEVATION OF WING



PART PLAN

OPTIONAL TURNED DRAIN
(Use only when straight drain is not practical.)

General Notes:

All drain pipe shall be sloped 1 to 2 percent.

Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.

Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.

VERTICAL DRAIN AT END BENTS

STATE OF MISSOURI
KIMBERLY ANNE STREICHER
NUMBER PE-2003001105
PROFESSIONAL ENGINEER
09/08/2025 13:21:34
Kimberly Streicher - Civil
MO PE-2003001105

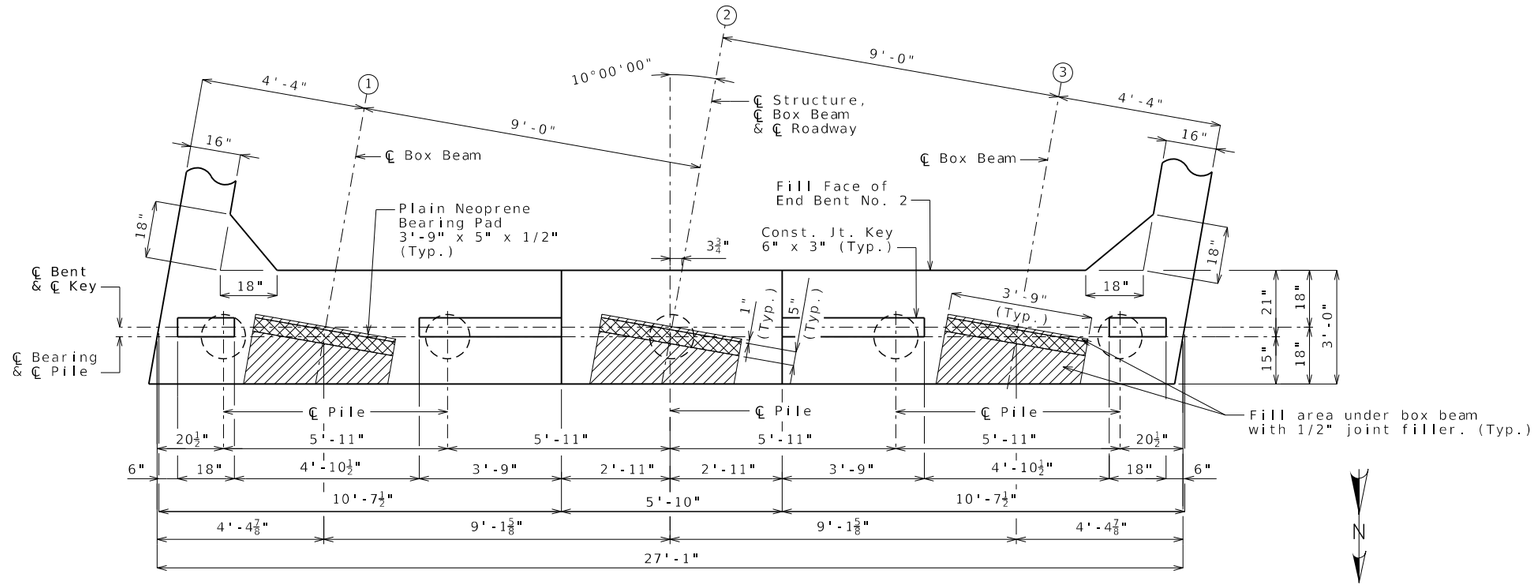
DATE PREPARED 9/8/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	7

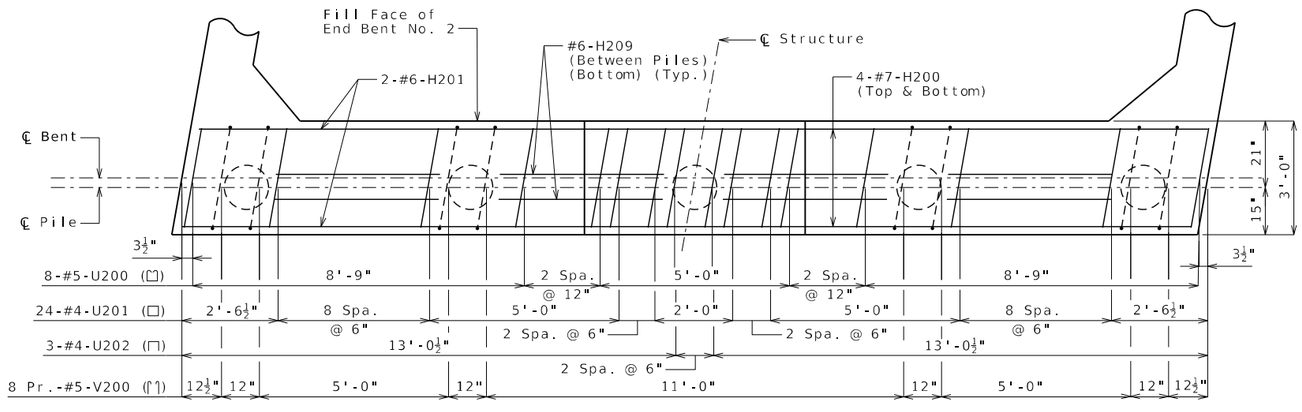
COUNTY: PEMISCOT
JOB NO.: J9S3770
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9720

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CIVIL DESIGN, INC.
5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2002006804



PLAN OF BEAM SHOWING DIMENSIONS

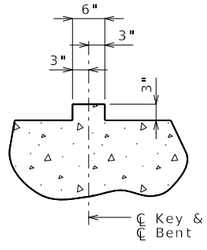


PLAN OF BEAM SHOWING REINFORCEMENT

(Keys not shown for clarity)

Substructure Quantity Table for Bent No. 2		
Item		Quantity
Class 1 Excavation	cu. yard	30
Galvanized Cast-in-Place Concrete Pile (14 in.)	linear foot	250
Class B Concrete (Substructure)	cu. yard	11.1

These quantities are included in the Estimated Quantities table on Sheet No. 2.



SECTION THRU KEY

Notes:

Work this sheet with Sheets No. 9 & 10.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inches.

All U bars and pairs of V bars shall be placed parallel to centerline of roadway.

DETAILS OF END BENT NO. 2

Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
KIMBERLY ANNE STREICHER
NUMBER PE-2003001105
PROFESSIONAL ENGINEER
09/08/2025 13:21:54
Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED 9/8/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	8

COUNTY PEMISCOT

JOB NO. J9S3770

CONTRACT ID.

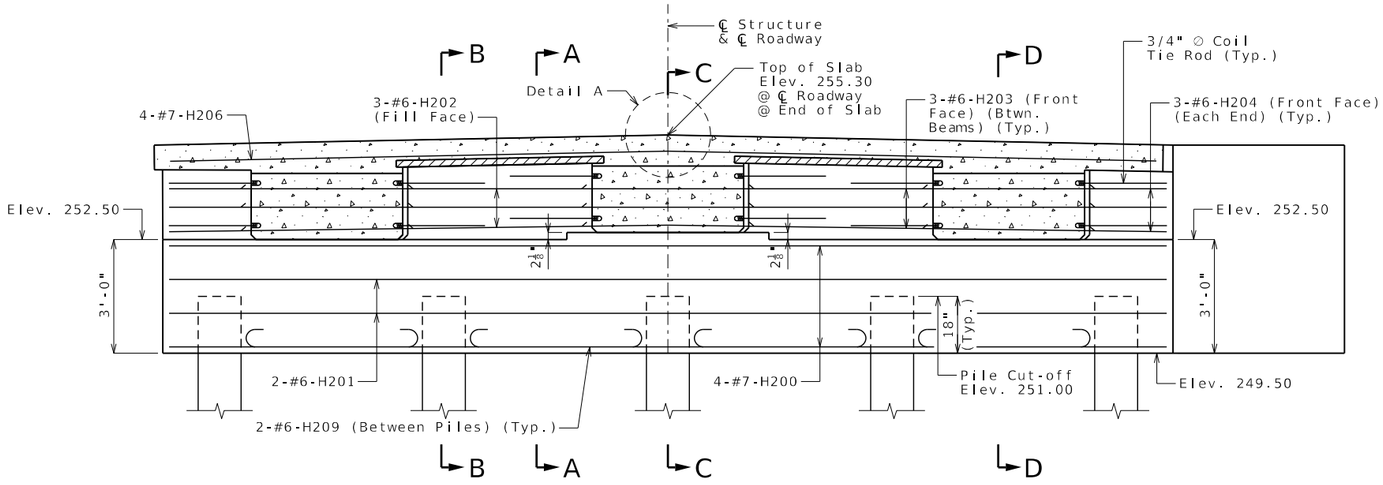
PROJECT NO.

BRIDGE NO. A9720

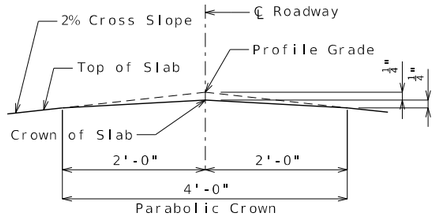
DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

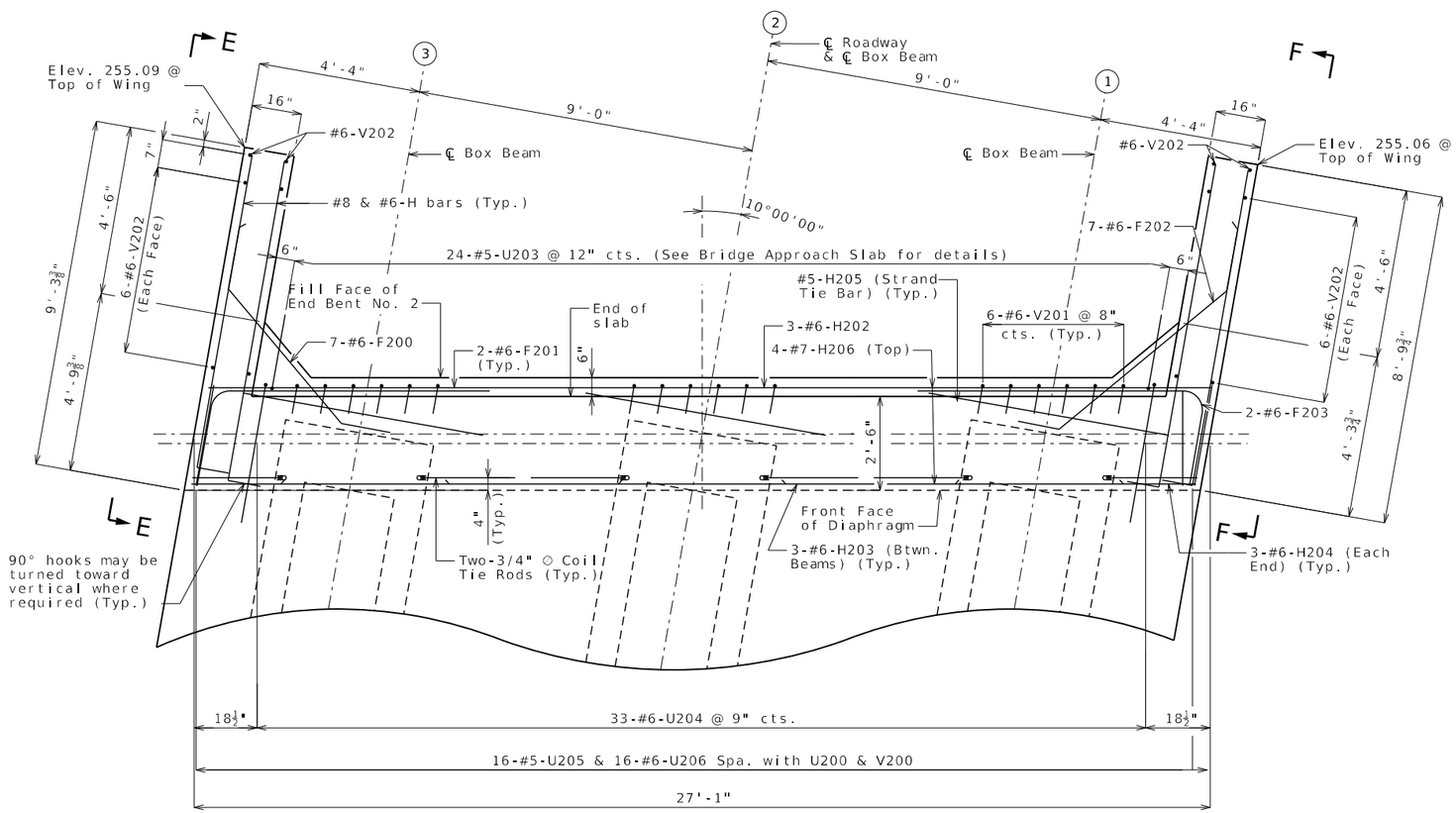
CDI CIVIL DESIGN,INC. ENGINEERING
5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2002006804



SECTION NEAR END BENT



DETAIL A



PART PLAN

N

Notes:

Work this sheet with Sheets No. 8 & 10.

Strands at end of the beams shall be field bent or, if necessary cut in the field to maintain 1 1/2-inch minimum clearance to fill face of end bent.

The #6-F200 & #6-F202 bars shall be bent in the field to clear box beams.

For locations of Coil Tie Rods and #5-H205 (Strand Tie Bars) see Sheet No. 11.

For details of Vertical Drain at End Bents, see Sheet No. 7.

For details of Bridge Approach Slab, see Sheet No. 18.

All concrete in the end bent above the top of beam and below top of slab shall be Class B-2.

For Sections A-A, B-B, C-C, & D-D and Elevations E-E & F-F, see Sheet No. 8.

DETAILS OF END BENT NO. 2

STATE OF MISSOURI
KIMBERLY ANNE STREICHER
NUMBER PE-2003001105
PROFESSIONAL ENGINEER
09/08/2025 13:22:13
Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED 9/8/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	9

COUNTY: PEMISCOT

JOB NO.: J9S3770

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.: A9720

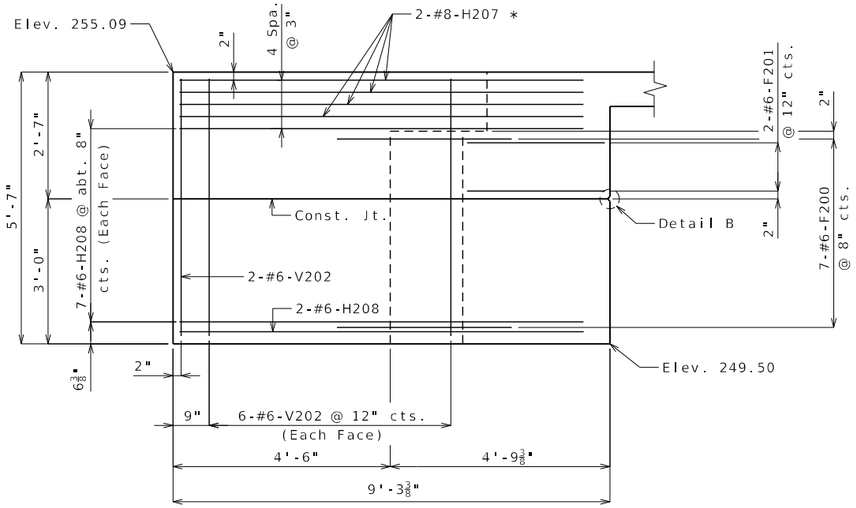
DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CDI CIVIL DESIGN, INC.
5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2002006804

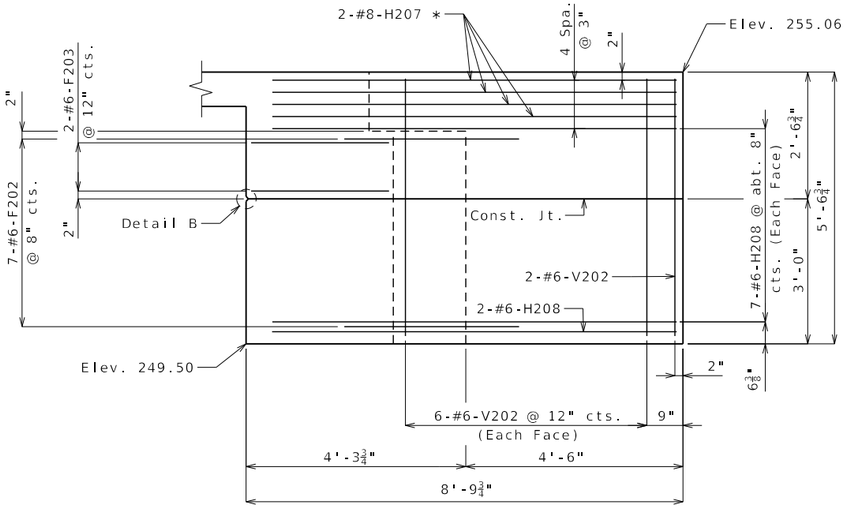
Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.

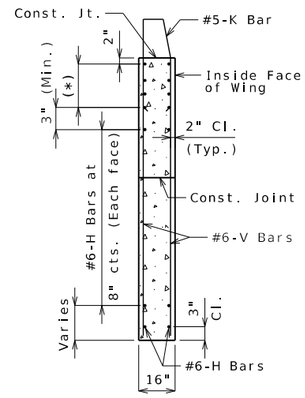
P:\6XXX\68XX-69XX\6870 - Pemiscot Dunklin Bridges - MoDOT\24-Structures\J9S3770-Rte C\CAD-ORD\B_A9720_009_J9S3770-Details of EB2 2 of 3.dgn 1:07:56 PM 9/8/2025



ELEVATION E-E

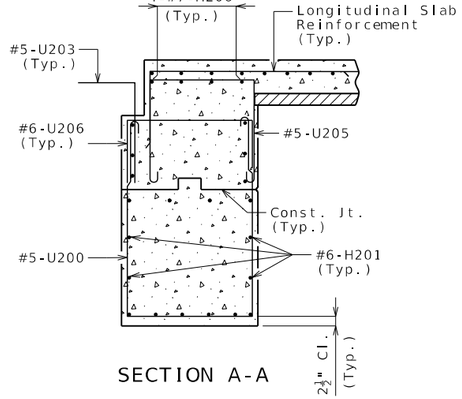


ELEVATION F-F

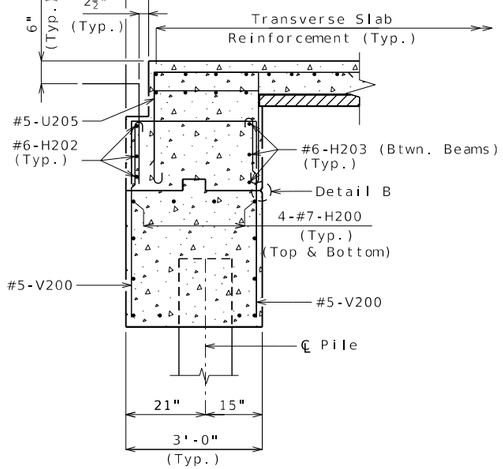


TYPICAL SECTION THRU WING

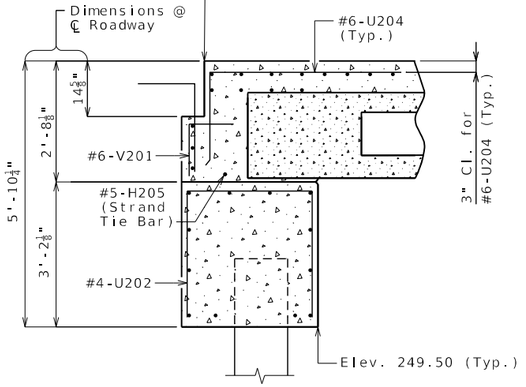
* #8-H-bars at 3" cts. (Each Face)(Place with grade)



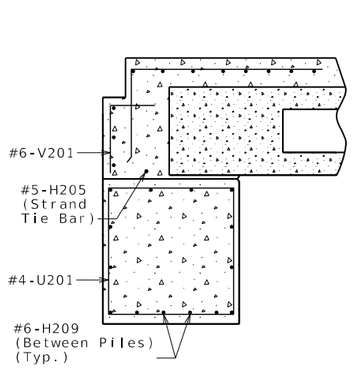
SECTION A-A



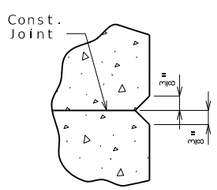
SECTION B-B



SECTION C-C



SECTION D-D



CHAMFER DETAIL B

Notes:

Work this sheet with Sheets No. 8 & 9.

For locations of Sections A-A, B-B, C-C, D-D, and Elevations E-E and F-F see Sheet No. 9.

For details and reinforcement of Type H Barrier, see Sheet No. 16.

DETAILS OF END BENT NO. 2

Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.

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STATE OF MISSOURI
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ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	10

COUNTY PEMISCOT

JOB NO. J9S3770

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9720

DESCRIPTION | DATE

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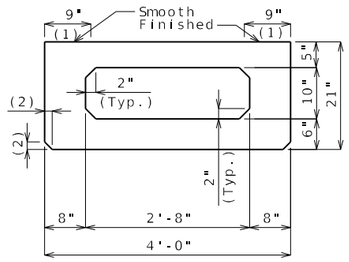

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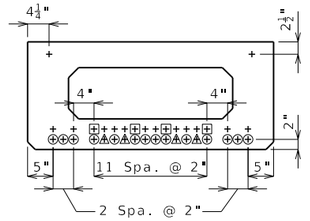


STRAND ARRANGEMENT

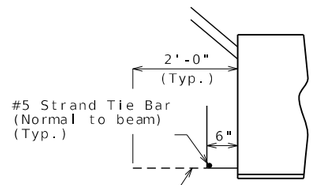
All strands are fully bonded unless otherwise noted.

\+ Indicates prestressing strand.

○ Indicates cut and shop bend with 2'-0" projection.

□ Indicates debonded for 8'-0" from end of beam.

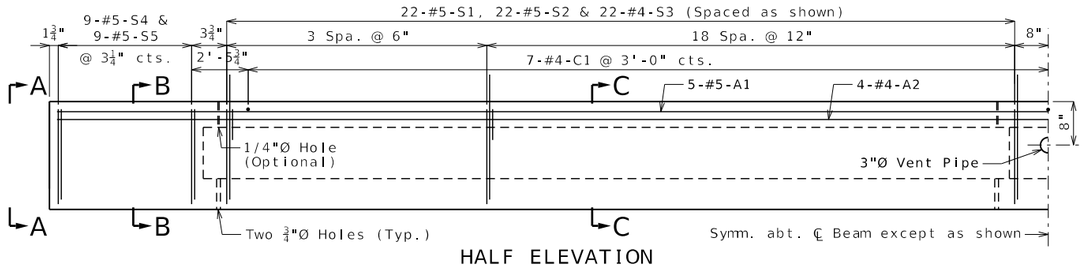
△ Indicates debonded for 4'-0" from end of beam.



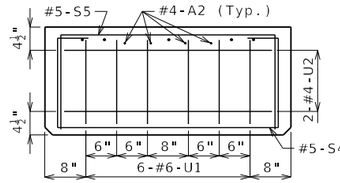
STRANDS AT BEAM ENDS

(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.

(2) 1½" (Typ.) (¾" Optional)

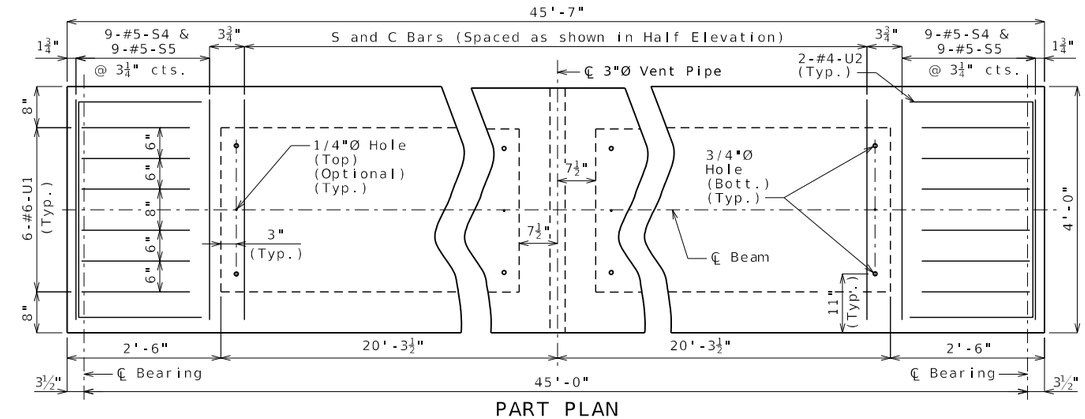


HALF ELEVATION

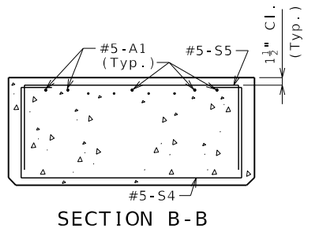


ELEVATION A-A

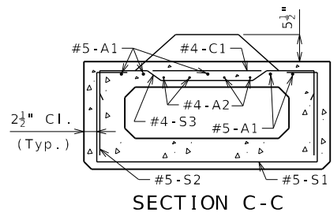
Strands not shown for clarity.



PART PLAN

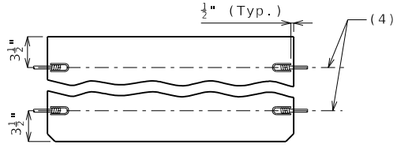


SECTION B-B

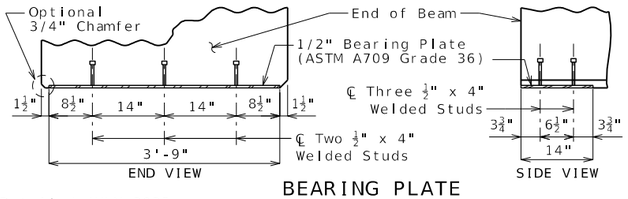


SECTION C-C

(4) ℄ 3/4"Ø (Min.) Coil Tie Rods 2'-6" long (2'-1" at exterior face of exterior beams at end bents)

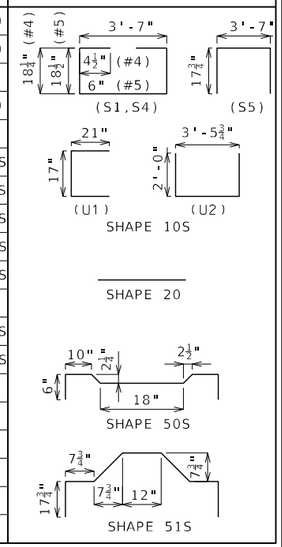


COIL TIES



BEARING PLATE

BILL OF REINFORCING STEEL - EACH BEAM				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
10	5 A1	45'-4"	20	
8	4 A2	45'-4"	20	
14	4 C1	3'-7"	20	
44	5 S1	7'-3"	10S	
44	5 S2	6'-9"	51S	
44	4 S3	4'-6"	50S	
18	5 S4	7'-3"	10S	
18	5 S5	6'-4"	10S	
12	6 U1	4'-7"	10S	
4	4 U2	7'-4"	10S	



All dimensions are out to out. Use symmetry for dimensions not shown.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be one inch, unless otherwise shown.

All reinforcement shall be Grade 60.

All S2 bars shall be epoxy coated.

General Notes:

Concrete for prestressed beams shall be Class A-1 with f'c = 6,000 psi and f'ci = 4,500 psi.

Use 36 strands, 0.5"Ø Grade 270, with an initial prestress force of 1115 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior beams are the same except: coil ties, application of bond breaker, coil inserts for slab drains.

For Beam Camber Diagram, see Sheet No. 15.

For location of coil inserts at slab drains, see Sheet No. 13.

For location of coil ties at concrete bent diaphragms, see Sheets No. 5 and 9.

SPREAD BOX BEAMS - SPAN (1-2)

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ROUTE C | STATE MO

DISTRICT BR | SHEET NO. 11

COUNTY PEMISCOT

JOB NO. J9S3770

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9720

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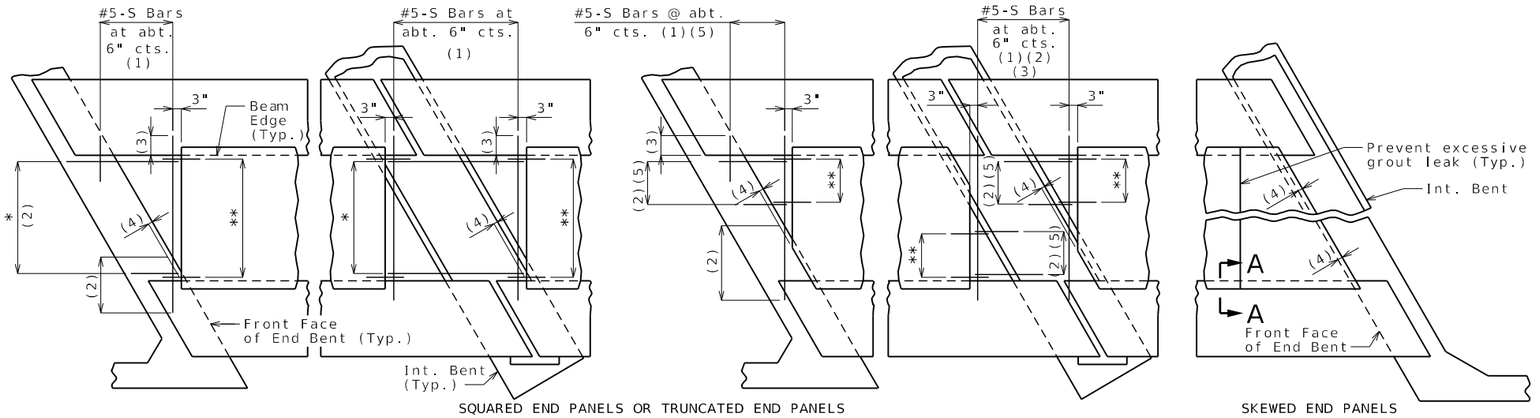
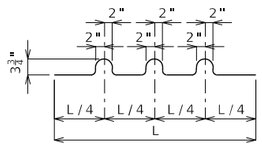
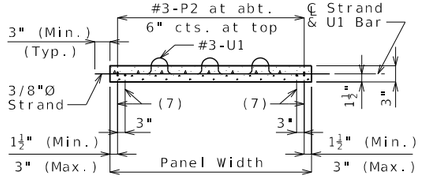


SQUARED END PANELS OR TRUNCATED END PANELS

SKEWED END PANELS

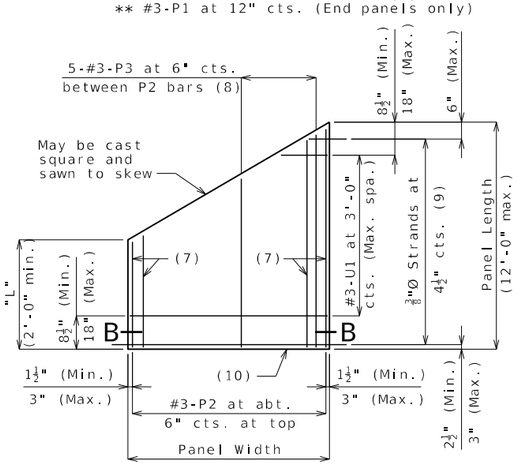


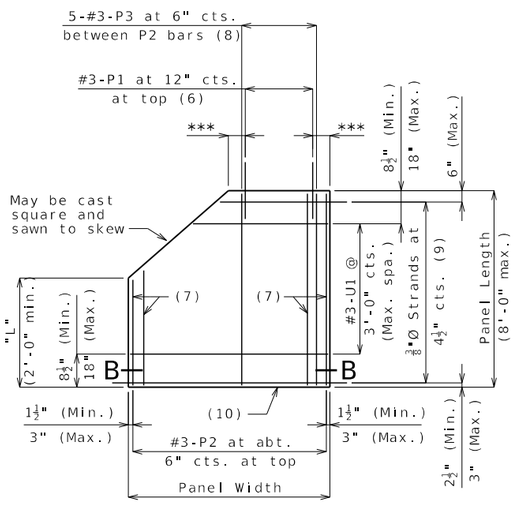
U1 Bars may be oriented at right angles to location and spacing shown. U1 Bars shall be placed between P1 bars.



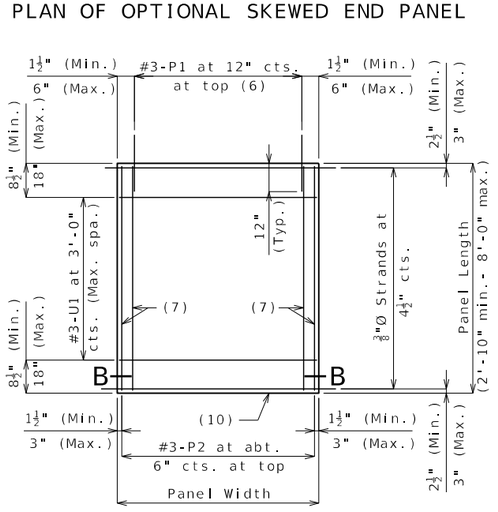
PLAN SHOWING PANEL PLACEMENT

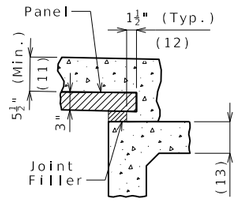
* #5-S Bars at abt. 9" cts. (1)
** #3-P1 at 12" cts. (End panels only)





*** 3" (Min.), 6" (Max.)





Joint Filler Dimensions		
Width	Height	
	Min.	Max.
3"	1"	4"

Reference Notes:

Plan of Panel Placement:
(1) S-bars shown are bottom steel in slab between panels and used with squared and truncated end panels only.

(2) Extend S-bars 18 inches beyond the front face of end bents and int. bents for squared and truncated end panels only.

(3) Extend S-bars 9 inches beyond edge of beam (Typ.).

(4) End panels shall be dimensioned 1/2" min. to 1 1/2" max. from the inside face of diaphragm.

(5) For truncated end panels, use a min. of #5-S bars at 6" crossings in openings, or min. 4x4-W7xW7.

Plans of Panels:
(6) For end panels only, P1 bars shall be 2'-0" in length and embedded 12". P1 bars will not be required for panels at squared integral end bents.

(7) #3-P2 bars near edge of panel at bottom (under strands).

(8) Use #3-P3 bars if panel is skewed 45° or greater.

(9) Any strand 2'-0" or shorter shall have a #4 reinforcing bar on each side of it, centered between strands. Strands 2'-0" or shorter may then be debonded at the fabricator's option.

(10) Optional 1/2" x 45° Chamfer one or both sides at bottom.

Section A-A:
(11) Slab thickness over prestressed panels varies due to beam camber. In order to maintain minimum slab thickness, it may be necessary to raise the grade uniformly throughout the structure. No payment will be made for additional labor or materials required for necessary grade adjustment.

(12) Contractor shall ensure proper consolidation under and between panels.

(13) At the contractor's option, the variation in slab thickness over prestressed panels may be eliminated or reduced by increasing and varying the beam top flange thickness. Dimensions shall be shown on the shop drawings.

General Notes:

Prestressed Panels:
Concrete for prestressed panels shall be Class A-1 with f'c = 6,000 psi, f'ci = 4,000 psi.

The top surface of all panels shall receive a scored finish with a depth of scoring of 1/8" perpendicular to the prestressing strands in the panels.

Prestressing tendons shall be high-tensile strength, uncoated, seven-wire, low-relaxation strands for prestressed concrete in accordance with AASHTO M 203 Grade 270, with nominal diameter of strand = 3/8" and nominal area = 0.085 sq.in. and minimum ultimate strength = 22.95 kips (270 ksi). Larger strands may be used with the same spacing and initial tension.

Initial prestressing force = 17.2 kips/strand.

The method and sequence of releasing the strands shall be shown on the shop drawings.

Suitable anchorage devices for lifting panels may be cast in panels, provided the devices are shown on the shop drawings and approved by the engineer. Panel lengths shall be determined by the contractor and shown on the shop drawings.

When squared end panels are used at skewed bents, the skewed portion shall be cast full depth. No separate payment will be made for additional concrete and reinforcing required.

Support from diaphragm forms is required under the optional skewed end until cast-in-place concrete has reached 3,000 psi compressive strength.

Prestressed panels shall be brought to saturated surface-dry (SSD) condition just prior to the deck pour. There shall be no free standing water on the panels or in the area to be cast.

The prestressed panel quantities are not included in the table of estimated quantities for the slab.

Reinforcing Steel:
All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.

Deformed welded wire reinforcement (WWR) providing a minimum area of reinforcing perpendicular to strands of 0.22 sq in./ft, with spacing parallel to strands sufficient to ensure proper handling, may be used in lieu of the #3-P2 bars shown. Wire diameter shall not be larger than 0.375 inch. The above alternative reinforcement criteria may be used in lieu of the #3-P3 bars, when required, and placed over a width not less than 2 feet.

The following reinforcing steel shall be tied securely to the strands with the following maximum spacing in each direction:
#3-P2 bars at 16 inches.
WWR at 24 inches.

The #3-U1 bars shall be tied securely to #3-P2 bars, to WWR or to strands (when placed between P1 bars) at about 3-foot centers.

Minimum reinforcement steel length shall be 2'-0".

All reinforcement other than prestressing strands shall be epoxy coated.

Precast panels may be in contact with stirrup reinforcing in diaphragms.

S-bars are not listed in the bill of reinforcing.

Cost of S-bars will be considered completely covered by the contract unit price for the slab.

Joint Filler:
Joint filler shall be preformed fiber expansion joint material in accordance with Sec 1057 or expanded or extruded polystyrene bedding material in accordance with Sec 1073.

Use Slab Haunching Diagram on Sheet No. 15 for determining thickness of joint filler within the limits noted in the table of Joint Filler Dimensions.

Thicker material may be used on one or both sides of the beam to reduce cast-in-place concrete thickness to within tolerances.

The same thickness of preformed fiber expansion joint material shall be used under any one edge of any panel except at locations where top flange thickness may be stepped. The maximum change in thickness between adjacent panels shall be 1/2 inch. The polystyrene bedding material may be cut with a transition to match haunch height above top of flange.

Joint filler shall be glued to the beam. When thickness exceeds 1 1/2 inches, the joint filler shall be glued top and bottom. The glue used shall be the type recommended by the joint filler manufacturer.

Edges of panels shall be uniformly seated on the joint filler before slab reinforcement is placed.

PRESTRESSED PANELS

Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.

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ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	12

COUNTY PEMISCOT
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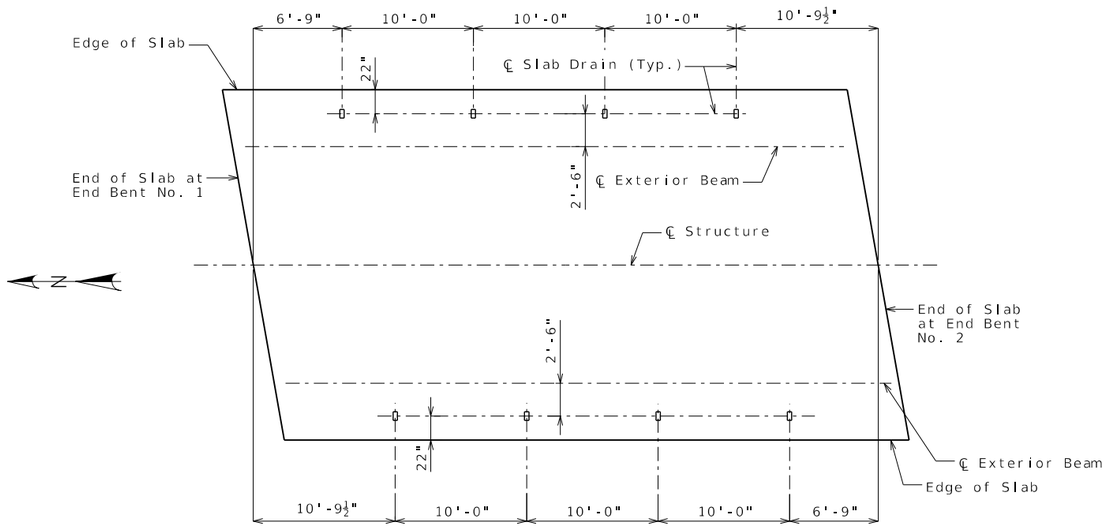
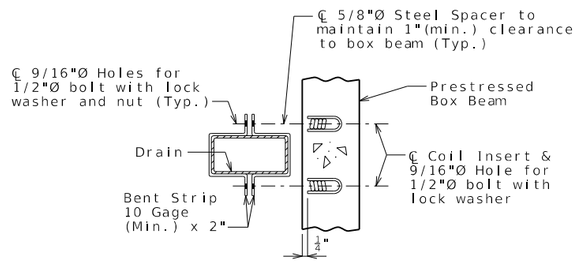
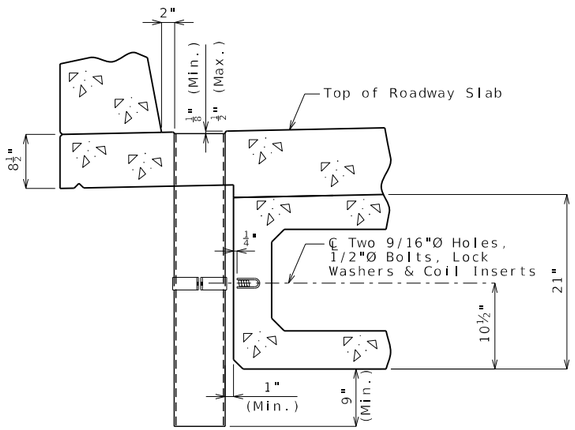


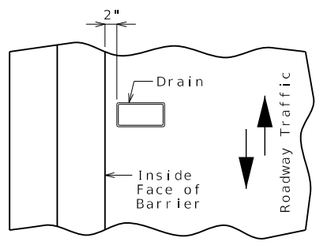
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



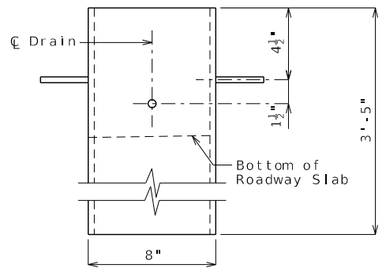
PART SECTION SHOWING BRACKET ASSEMBLY



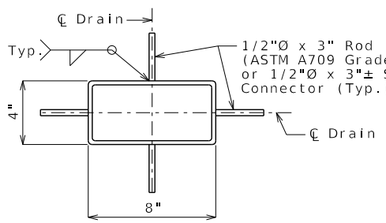
PART SECTION NEAR DRAIN



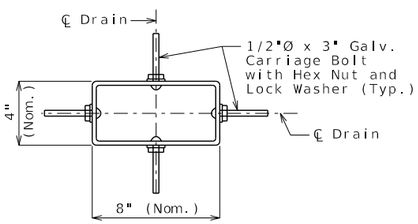
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

General Notes:

Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of same type.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Reinforcing steel shall be shifted to clear drains.

The coil inserts and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.

All 1/2"Ø bolts shall be ASTM A307.

Shop drawings will not be required for the slab drains and the bracket assembly.

The coil inserts required for the bracket assembly attachment shall be located on the prestressed beam shop drawings.

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The bolts required to attach the slab drain bracket assembly to the prestressed beam shall be supplied by the prestressed beam fabricator.

Notes for Steel Drain:

Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:

Shape of drains shall be rectangular with outside nominal dimensions of 8" x 4".

Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

The color of the slab drain shall be gray (Federal Standard #26373). The color shall be uniform throughout the resin and any coating used.

The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall furnish the results of the required ultraviolet testing prior to acceptance of the slab drains.

At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be as recommended by the manufacturer to ensure a smooth, chip free cut.

SLAB DRAINS

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DISTRICT BR | SHEET NO. 13
COUNTY PEMISCOT
JOB NO. J9S3770
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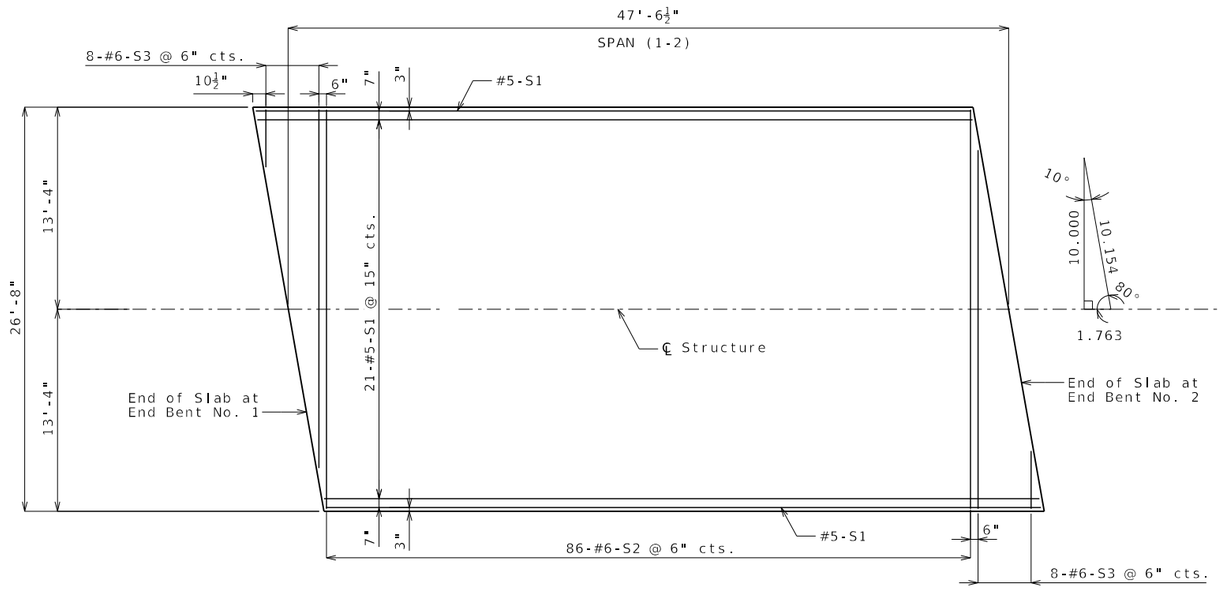
Missouri State Certificate of Authority #2002006804

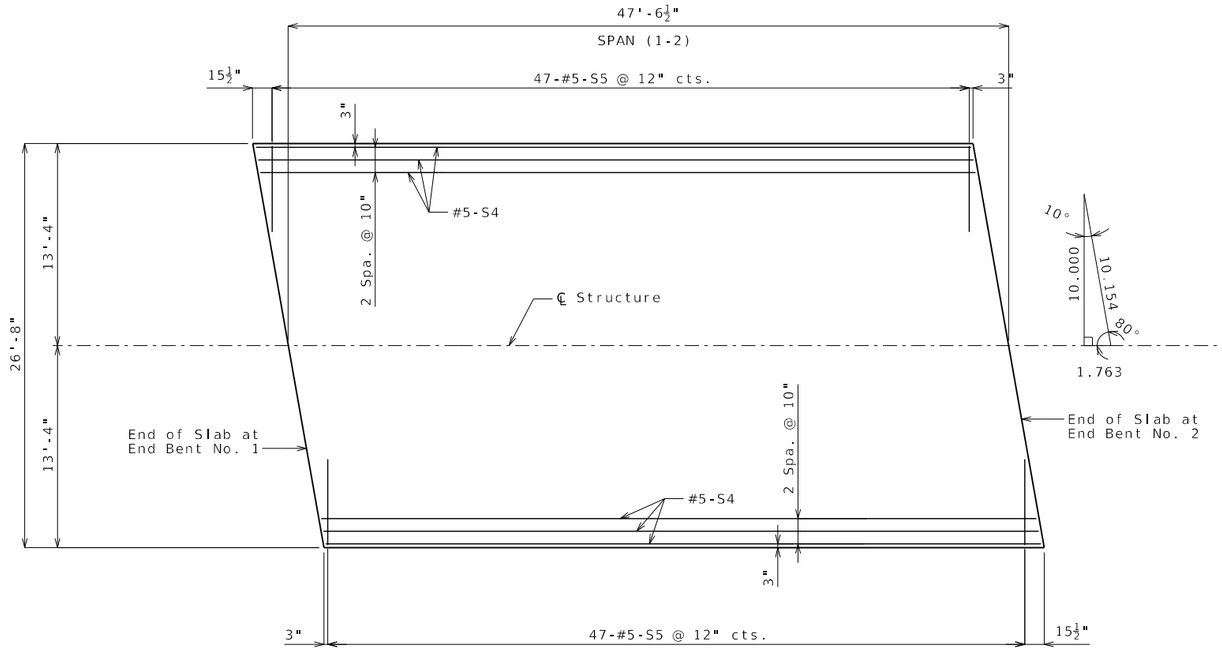
Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.



N

PLAN OF SLAB SHOWING TOP REINFORCEMENT



PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT

Notes:

Longitudinal slab dimensions are measured horizontally.

For Section Thru Slab, Theoretical Slab Haunching Diagram, Theoretical Bottom of Slab Elevations and Box Beam Camber Diagram, See Sheet No. 15.

For details and reinforcement of Type H Barrier, see Sheets No. 16 & 17.

For details and locations of Slab Drains, see Sheet No. 13.

For details of Precast Prestressed Panels, see Sheet No. 12.

SLAB DETAILS

STATE OF MISSOURI
KIMBERLY ANNE STREICHER
NUMBER PE-2003001105
PROFESSIONAL ENGINEER

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Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED
9/8/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	14

COUNTY
PEMISCOT

JOB NO.
J9S3770

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9720

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CIVIL DESIGN, INC.
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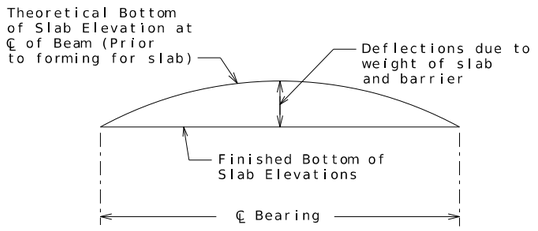
Missouri State Certificate of Authority #2002006804

Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.

P:\6XXX\68XX-69XX\6870 - Pemiscot Dunklin Bridges - MoDOT\24-Structures\J9S3770-Rte C\CAD-ORD\B_A9720_014_J9S3770-Plan of Slab.dgn 1:08:03 PM 9/8/2025

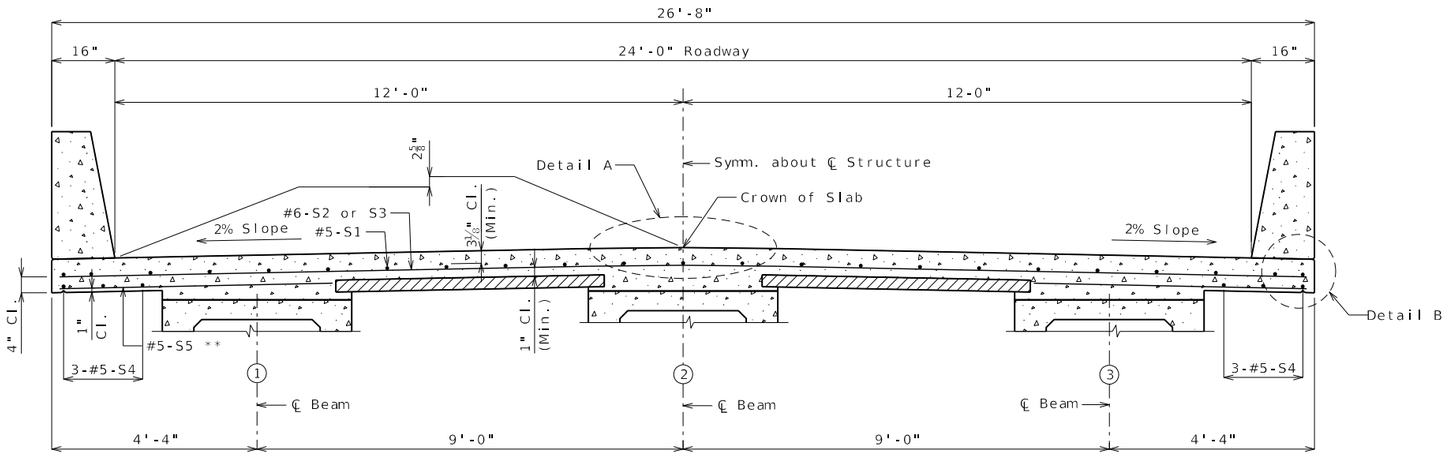


TYPICAL SLAB ELEVATIONS DIAGRAM

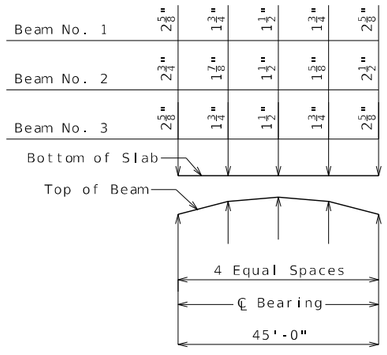
Theoretical Bottom of Slab Elevations at Centerline of Beam (Prior to forming for slab) (Estimated at 90 days)

Beam Number	Span (1-2) (45'-0" ℄ Brg. - ℄ Brg.)				
	℄ Brg.	.25	.50	.75	℄ Brg.
1	254.55	254.61	254.63	254.59	254.51
2	254.73	254.79	254.80	254.76	254.68
3	254.55	254.61	254.63	254.59	254.51

Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab (including precast panel) and barrier.



** Alternate bar shape available, see Sheet No. 16.

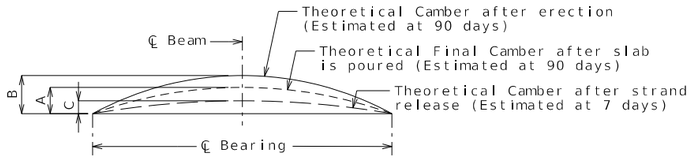


SPAN (1-2)

THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

If beam camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness, an adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment.

Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete Beam.



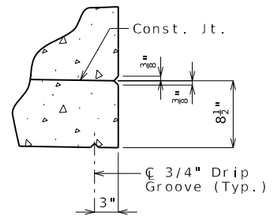
Beam	Span (1-2)		
	A	B	C
Exterior	1 5/8"	2 1/4"	1 1/4"
Interior	1 5/8"		

BEAM CAMBER DIAGRAM

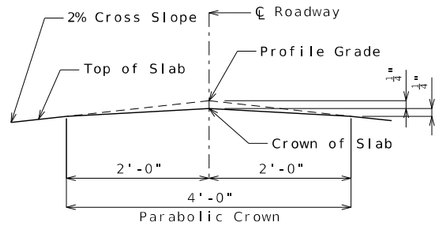
Conversion Factors for Beam Camber (Estimated at 90 days):

0.25 pt. = 0.7125 x 0.5 pt.

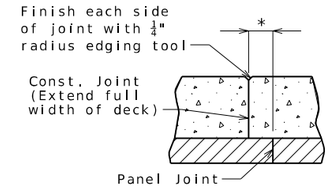
SECTION THRU SLAB



DETAIL B

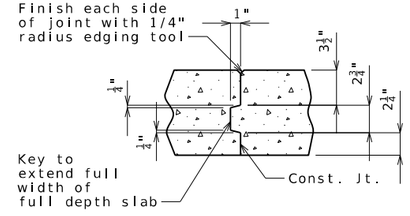


DETAIL A



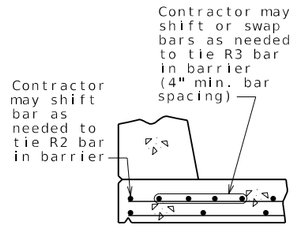
* Adjust the construction joint to a clearance of 6 inches minimum from the panel joint.

SLAB ON PANELS



FULL DEPTH SLAB

SLAB CONSTRUCTION JOINT



OPTIONAL SHIFTING TOP BARS AT BARRIER

Notes:

For details and reinforcement of Type H Barrier, see Sheets No. 16 & 17.

For Plan of Slab Showing Reinforcement, see Sheet No. 14.

For details of Precast Prestressed Panels, see Sheet No. 12.

SLAB DETAILS

KIMBERLY ANNE STREICHER
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PROFESSIONAL ENGINEER
STATE OF MISSOURI
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Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED 9/8/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	15

COUNTY: PEMISCOT
JOB NO.: J9S3770
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9720

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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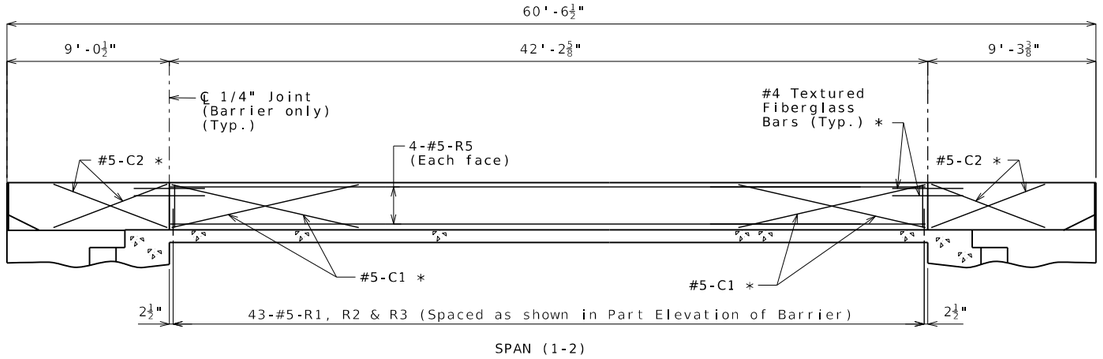
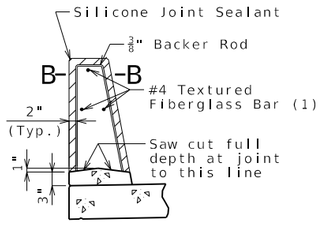


ELEVATION OF BARRIER

(Left barrier shown, right barrier similar)

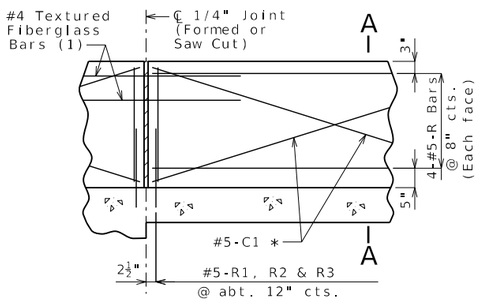
Longitudinal dimensions are horizontal.



SECTION THRU SAW CUT JOINT

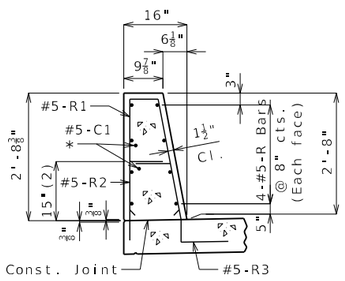
PART ELEVATION AT FORMED JOINT

SECTION B-B



PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

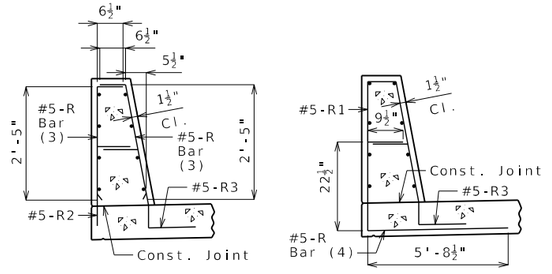


SECTION A-A

Use a minimum lap of 2'-6" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 2.89 square feet.

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

(4) The R2 bar and #5 bottom transverse slab bar in cantilever (prestressed panels only) combination may be furnished as one bar as shown, at the contractor's option.

General Notes:

* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type H Barrier per linear foot.

Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type H Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

TYPE H BARRIER

STATE OF MISSOURI
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DATE PREPARED 9/8/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	16

COUNTY PEMISCOT

JOB NO. J9S3770

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9720

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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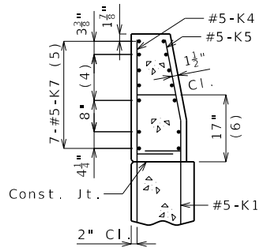
Missouri State Certificate of Authority #2002006804

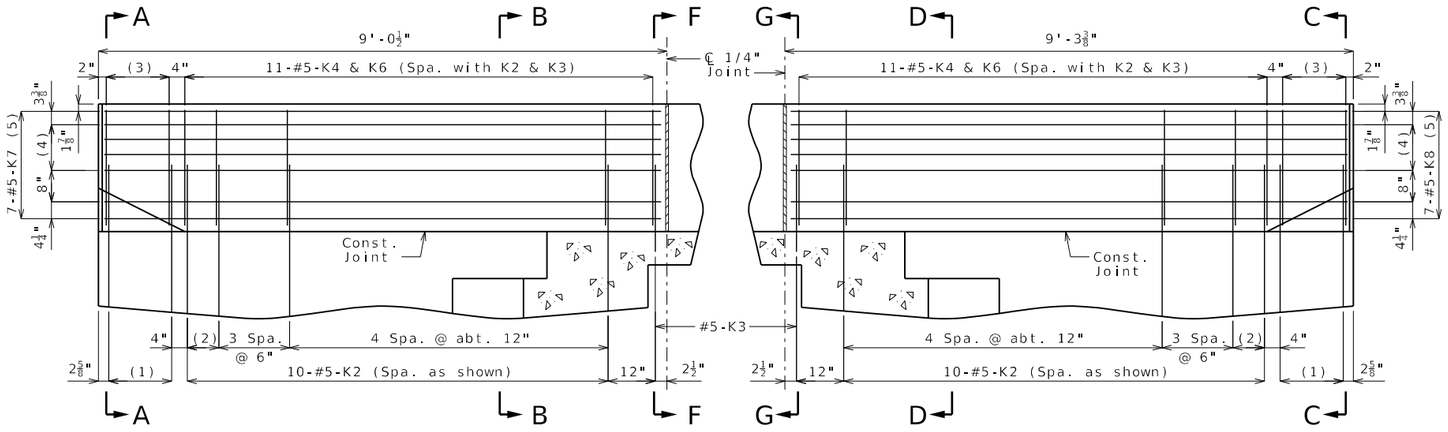
Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.

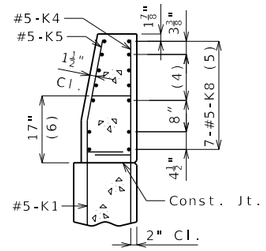
P:\6XXX\68XX-69XX\6870 - Pemiscot Dunklin Bridges - MoDOT\24-Structures\J9S3770-Rte C\CAD-ORD\B_A9720_016_J9S3770-Type H Barrier.dgn 1:08:06 PM 9/8/2025



SECTION A-A



PART ELEVATION



SECTION C-C

(1) 5-#5-K1 @ 4" cts.

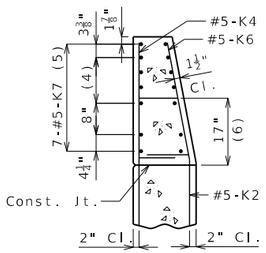
(2) 2 Spaces @ 4"

(3) 5-#5-K4 and 5-#5-K5, spaced with K1

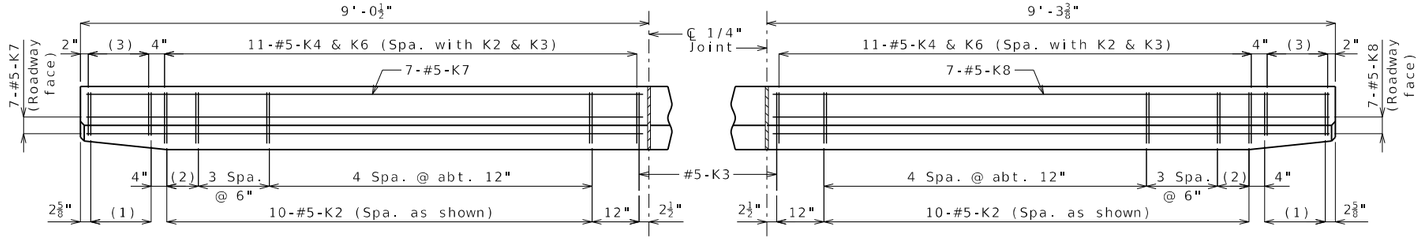
(4) 3 Spaces @ $3\frac{13}{16}$"

(5) Spaced as shown, each face

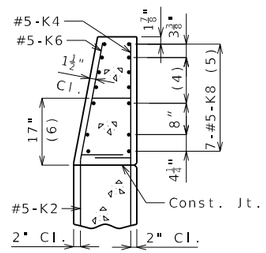
(6) To top of bar



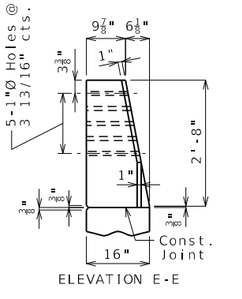
SECTION B-B



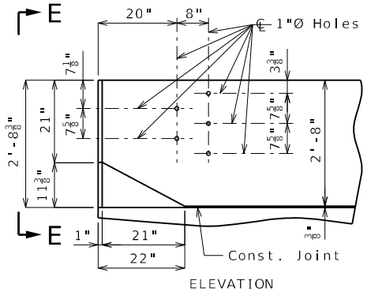
PART PLAN



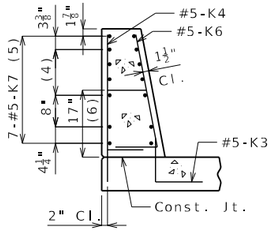
SECTION D-D



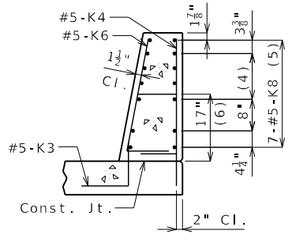
ELEVATION E-E



ELEVATION

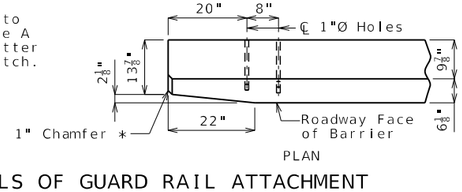


SECTION F-F



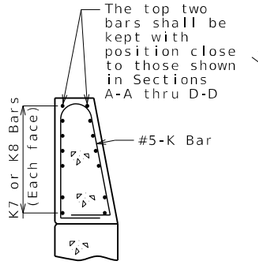
SECTION G-G

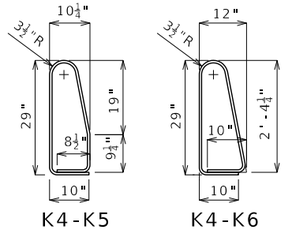
* Transition to zero at Type A curb for gutter lines to match.



PLAN

DETAILS OF GUARD RAIL ATTACHMENT





K4-K5 K4-K6

PERMISSIBLE ALTERNATE SHAPES

(Other K bars not shown for clarity)

The K4-K5 and K4-K6 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

General Notes:

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type H Barrier.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

TYPE H BARRIER AT END BENTS

(Left barrier shown, right barrier similar)

Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
KIMBERLY ANNE STREICHER
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PROFESSIONAL ENGINEER
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Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED 9/8/2025

ROUTE C | STATE MO

DISTRICT BR | SHEET NO. 17

COUNTY PEMISCOT

JOB NO. J9S3770

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9720

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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CIVIL DESIGN,INC.
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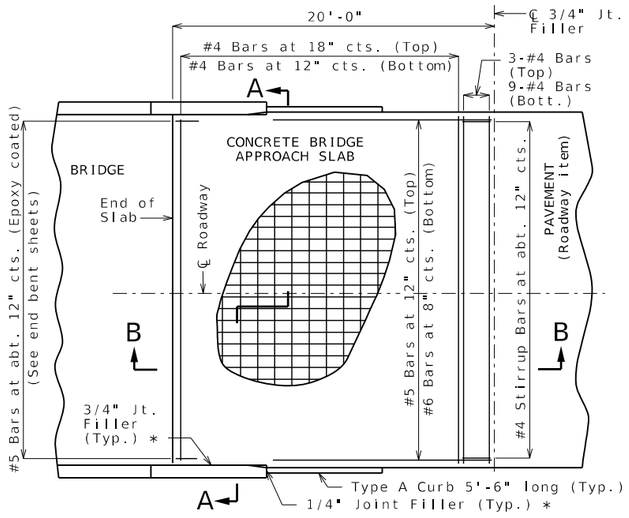
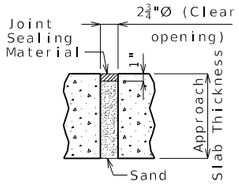
Missouri State Certificate of Authority #2002006804



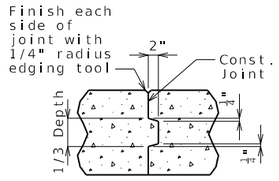
PART PLAN OF SQUARED STRUCTURE

(Skewed structure similar)

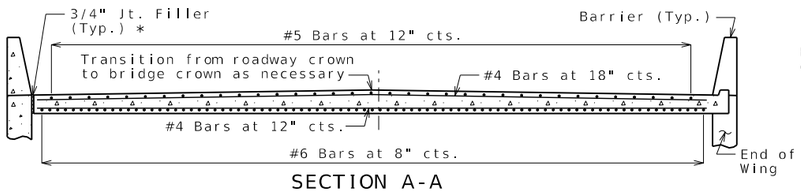


UNDERSEAL ACCESS HOLE DETAIL

(If required)

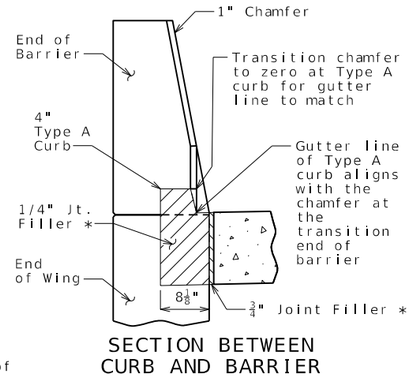


CONSTRUCTION JOINT DETAIL



SECTION A-A

With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION BETWEEN CURB AND BARRIER

Notes For Concrete Slab Only:

All concrete for the bridge approach slab shall be in accordance with Sec 503 (f'c = 4,000 psi).

The reinforcing steel in the bridge approach slab shall be epoxy coated Grade 60 with fy = 60,000 psi.

Longitudinal construction joints in bridge approach slab shall be aligned with longitudinal construction joints in bridge slab.

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 26 inches for #4 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710.

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

Payment for furnishing all materials, labor and excavation necessary to construct the concrete bridge approach slab, including the timber header, underdrain, Type 5 aggregate base, joint filler, and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor) per square yard.

See Missouri Standard Plan 609.00 for details of Type A curb.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

General Notes:

Contractor shall have the option to construct either slab except as noted.

The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

MoDOT Construction personnel will indicate the bridge approach slab used for this structure:

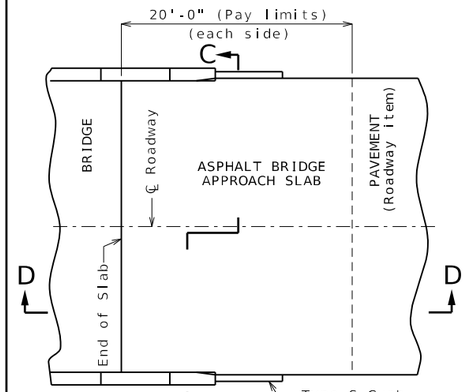
☐ Concrete Bridge Approach Slab

☐ Asphalt Bridge Approach Slab

Notes For Asphalt Slab Only:

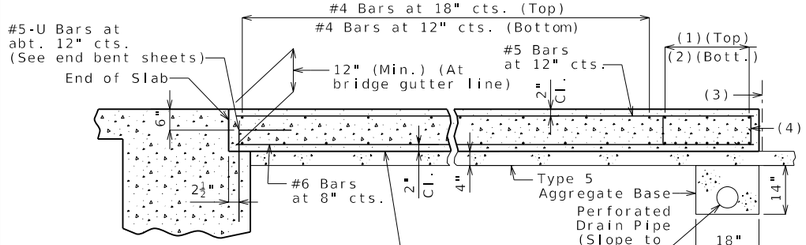
Payment for furnishing all materials, labor and excavation necessary to construct the asphalt bridge approach slab, including tack, curb, and Type 5 aggregate base within the pay limits shown, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor) per square yard.

Application of tack is required between lifts per Sec 403.



PART PLAN

(Squared structure shown, skewed structure similar)



(1) 3-#4 Bars

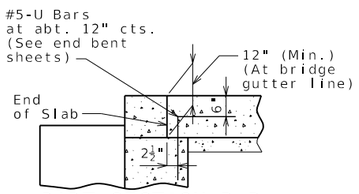
(2) 9-#4 Bars

(3) ℄ 3/4" Jt. Filler

(4) #4 Stirrup Bars at abt. 12" cts.; 2'-0"x 8" (Min.) out to out; Actual length = 5'-10" (Min.); 90° stirrup hook at bottom; Stirrup height (8") and actual length vary due to crown.

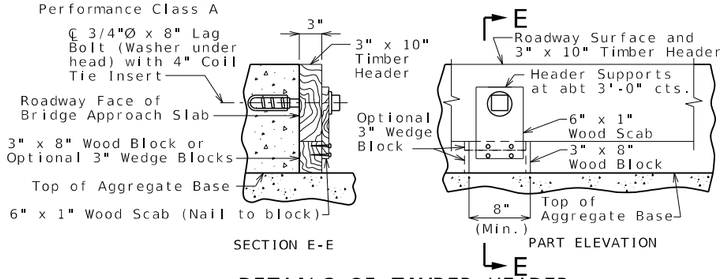
SECTION B-B

(Integral end bent)



PART SECTION B-B

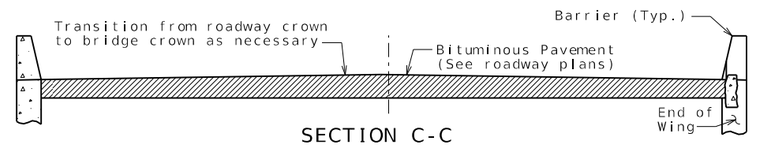
(Non-integral end bent)



DETAILS OF TIMBER HEADER

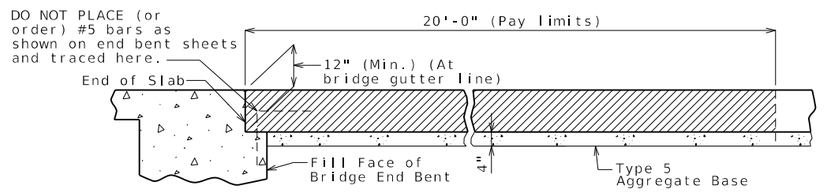
Remove timber header when concrete pavement is placed.

OPTIONAL CONCRETE SLAB

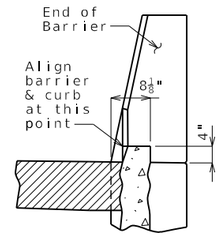


SECTION C-C

With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION D-D



4" TYPE S CURB

See Missouri Standard Plan 609.00 for details of Type S curb.

OPTIONAL ASPHALT SLAB (NOT ALLOWED WITH CONCRETE PAVEMENT)

BRIDGE APPROACH SLAB (MINOR)

Integral end bents shown, non-integral end bent similar.

Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
KIMBERLY ANNE STREICHER
NUMBER PE-2003001105
PROFESSIONAL ENGINEER
09/08/2025 13:25:48
Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED 9/8/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	18

COUNTY: PEMISCOT

JOB NO.: J9S3770

CONTRACT ID.:

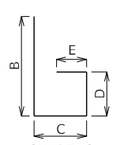
PROJECT NO.:

BRIDGE NO.: A9720

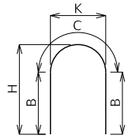
DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

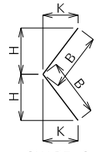
CDI
CIVIL DESIGN, INC.
5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2002006804



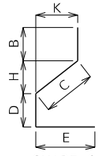
SHAPE 6
or 6S



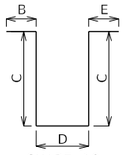
SHAPE 7



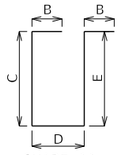
SHAPE 8
or 8S



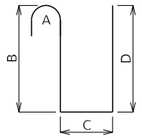
SHAPE 9
or 9S



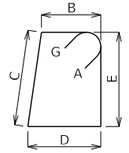
SHAPE 10
or 10S



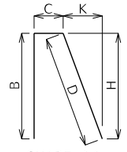
SHAPE 11
or 11S



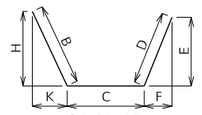
SHAPE 12



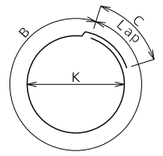
SHAPE 13S



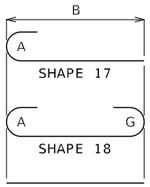
SHAPE 14
or 14S



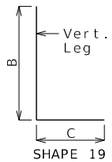
SHAPE 15
or 15S



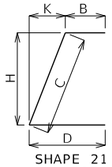
SHAPE 16



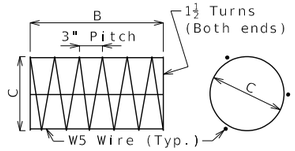
SHAPE 17
SHAPE 18
SHAPE 20



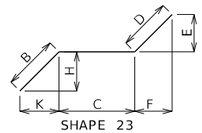
SHAPE 19
or 19S



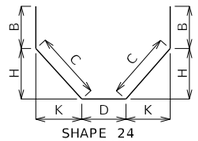
SHAPE 21
or 21S



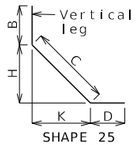
SHAPE 22



SHAPE 23
or 23S



SHAPE 24
or 24S



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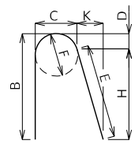
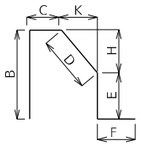
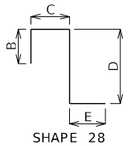
or 25S



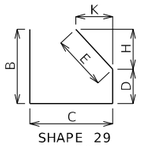
SHAPE 26



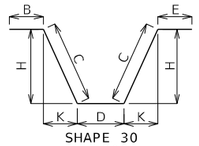
SHAPE 27S



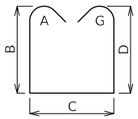
SHAPE 28
or 28S



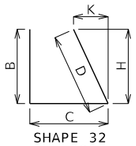
SHAPE 29
or 29S



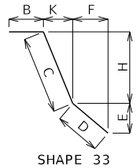
SHAPE 30
or 30S



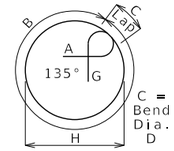
SHAPE 31S



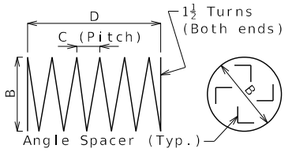
SHAPE 32
or 32S



SHAPE 33
or 33S



SHAPE 34S



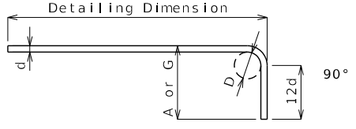
SHAPE 35 (1)

SHAPE 36

Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes

Size	Case	D	A or G		J
			90°	180°	180°
#4	1	3"	8"	6"	4"
#5	1	3¾"	10"	7"	5"
#6	1	4½"	12"	8¼"	6"
#7	2	5¼"	14"	9⅜"	7"
	3	7"	15"	11½"	8¾"
#8	2	6"	16"	11"	8"
	3	8"	17"	13¼"	10"
#9	1	9½"	19½"	15½"	11¾"
#10	1	10¾"	22"	17½"	13¼"
#11	1	12"	24½"	19½"	14⅞"
#14	1	18¼"	31¼"	27½"	21⅝"
#18	1	24"	41½"	36¾"	28½"

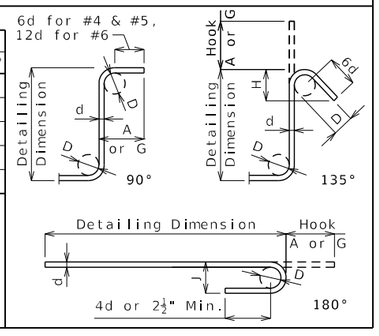


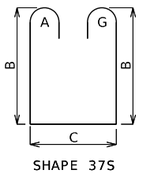
Stirrup Pin Bend Shapes (S)

Size	Case	D	A or G			H	J
			90°	135°	180°	135°	180°
#4	2	2"	4½"	4½"	5"	2⅝"	3"
	3	3"	5"	5¼"	6"	3"	4"
#5	2	2½"	5¾"	5¾"	5¾"	3⅝"	3¾"
	3	3¾"	6¼"	6½"	7"	3⅝"	5"
#6	1	4½"	12"	7¾"	8¼"	4⅝"	6"

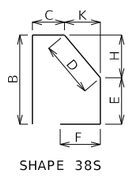
Applicable for all grades of steel.

Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.





SHAPE 37S



SHAPE 38S

BENDING DIAGRAMS

All dimensions are out to out.

Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.

Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.

(1) Shall be a deformed or plain spiral bar or wire.

Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spirals. Length and weight of column spirals do not include splices or spacers.

Reinforcing Steel Totals (Pounds)

	Size	Substructure		Superstructure				Entire Bridge	
				Slab			Slip		
		Plain	Epoxy	Plain	Epoxy	Barrier	Form	Plain	Epoxy
By Size	W5	0	0	0	0	0	0	0	0
	4	0	0	0	564	0	0	0	564
	5	0	0	0	3184	3095	156	0	6435
	6	0	0	0	7222	0	0	0	7222
	7	0	0	0	1314	0	0	0	1314
	8	0	0	0	820	0	0	0	820
	9	0	0	0	0	0	0	0	0
	10	0	0	0	0	0	0	0	0
	11	0	0	0	0	0	0	0	0
	14	0	0	0	0	0	0	0	0
	18	0	0	0	0	0	0	0	0
By Type		0	0	0	13104	3095	156	0	16355

All superstructure reinforcing steel shall be epoxy coated unless otherwise specified.

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
KIMBERLY ANNE STREICHER
NUMBER PE-2003001105
PROFESSIONAL ENGINEER
09/08/2025 13:26:10
Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED 9/8/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	19

COUNTY: PEMISCOT
JOB NO.: J9S3770
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9720

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CDI
CIVIL DESIGN, INC.
5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2002006804

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
		SUPERSTRUCTURE													
		END BENT 1													
7	6 F100	WING BRACE	E	25		20.000	4 8.000	20.000			2 11.000	3 7.000	8 0	7 11	83
2	6 F101	DIAPHRAGM	E	21		2 7.500	7 7.000				7 5.500	15.750	10 2	10 0	30
7	6 F102	WING BRACE	E	25		20.000	5 8.000	20.000			4 5.250	3 8.375	9 0	8 11	93
2	6 F103	DIAPHRAGM	E	21			7 7.000	2 7.500			7 5.500	15.750	10 3	10 2	30
8	7 H100	BEAM	E	20		26 9.000							26 9	26 9	438
4	6 H101	BEAM	E	20		26 9.000							26 9	26 9	161
3	6 H102	DIAPHRAGM	E	20		26 9.000							26 9	26 9	121
6	6 H103	DIAPHRAGM	E	20		4 10.000							4 10	4 10	44
6	6 H104	DIAPHRAGM	E	20		2 1.000							2 1	2 1	19
3	5 H105	STRAND TIE	E	20		6 6.000							6 6	6 6	20
4	7 H106	DIAPHRAGM	E	20		26 9.000							26 9	26 9	219
16	8 H107	WINGWALL	E	19		8 5.500	16.000						9 9	9 7	410
32	6 H108	WINGWALL	E	19		7 0.000	12.000						8 0	7 10	377
8	6 H109	BEAM	E	18		4 3.000							5 7	5 7	67
40	4 P100	PILE	E	34S							10.000		3 5	3 3	89
8	5 U100	BEAM	E	37S		4 3.000	2 8.500						12 5	12 3	102
24	4 U101	BEAM	E	13S		2 8.500	2 7.000	2 8.500	2 7.000				11 4	11 1	178
3	4 U102	BEAM	E	10S			2 7.000	2 8.500					7 11	7 8	15
24	5 U103	APPR SLAB	E	19S		2 0.000	15.000						3 3	3 1	77
33	6 U104	DIAPHRAGM	E	19S		2 4.500	4 3.000						6 8	6 6	322
16	5 U105	BEAM	E	37S		2 4.500	2 2.375						8 1	8 0	134
16	6 U106	BEAM	E	10S			15.000	2 8.500					5 3	5 1	122
16	5 V100	BEAM	E	17		4 3.000							4 10	4 10	79
18	6 V101	DIAPHRAGM	E	19S		15.000	9.000						2 0	1 10	50
28	6 V102	WINGWALL	E	20		5 2.500							5 3	5 3	221
30	5 V103	PILE	E	17		5 3.000							5 10	5 10	183
		END BENT 2													
7	6 F200	WING BRACE	E	25		20.000	4 8.000	20.000			2 11.000	3 7.000	8 0	7 11	83
2	6 F201	DIAPHRAGM	E	21		2 7.500	7 7.000				7 5.500	15.750	10 2	10 0	30
7	6 F202	WING BRACE	E	25		20.000	5 8.000	20.000			4 5.250	3 8.375	9 0	8 11	93
2	6 F203	DIAPHRAGM	E	21			7 7.000	2 7.500			7 5.500	15.750	10 3	10 2	30
8	7 H200	BEAM	E	20		26 9.000							26 9	26 9	438
4	6 H201	BEAM	E	20		26 9.000							26 9	26 9	161
3	6 H202	DIAPHRAGM	E	20		26 9.000							26 9	26 9	121
6	6 H203	DIAPHRAGM	E	20		4 10.000							4 10	4 10	44
6	6 H204	DIAPHRAGM	E	20		2 1.000							2 1	2 1	19
3	5 H205	STRAND TIE	E	20		6 6.000							6 6	6 6	20
4	7 H206	DIAPHRAGM	E	20		26 9.000							26 9	26 9	219
16	8 H207	WINGWALL	E	19		8 5.500	16.000						9 9	9 7	410
32	6 H208	WINGWALL	E	19		7 0.000	12.000						8 0	7 10	377
8	6 H209	BEAM	E	18		4 3.000							5 7	5 7	67
40	4 P200	PILE	E	34S							10.000		3 5	3 3	89
8	5 U200	BEAM	E	37S		4 3.000	2 8.500						12 5	12 3	102
24	4 U201	BEAM	E	13S		2 8.500	2 7.000	2 8.500	2 7.000				11 4	11 1	178
3	4 U202	BEAM	E	10S			2 7.000	2 8.500					7 11	7 8	15
24	5 U203	APPR SLAB	E	19S		2 0.000	15.000						3 3	3 1	77
33	6 U204	DIAPHRAGM	E	19S		2 4.500	4 3.000						6 8	6 6	322
16	5 U205	BEAM	E	37S		2 4.500	2 2.375						8 1	8 0	134
16	6 U206	BEAM	E	10S			15.000	2 8.500					5 3	5 1	122
16	5 V200	BEAM	E	17		4 3.000							4 10	4 10	79
18	6 V201	DIAPHRAGM	E	19S		15.000	9.000						2 0	1 10	50
28	6 V202	WINGWALL	E	20		5 2.500							5 3	5 3	221
30	5 V203	PILE	E	17		5 3.000							5 10	5 10	183

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
		SLAB													
23	5 S1	SLAB	E	20		47 3.000							47 3	47 3	1134
86	6 S2	SLAB	E	20		26 5.000							26 5	26 5	3412
16	6 S3	SLAB	E	20	2	3 10.000							3 10	3 10	330
		INCR=2'-10"				23 8.000							23 8	23 8	
6	5 S4	SLAB	E	20		47 3.000							47 3	47 3	296
94	5 S5	SLAB	E	20		5 9.000							5 9	5 9	564
		BARRIER													
20	5 K1	BARRIER CURB	E	27S		3 5.000	9.250		2 11.750		5.250	1.000	7 7	7 4	153
40	5 K2	BARRIER CURB	E	27S		3 5.000	9.250		2 2.750		14.250	2.750	7 8	7 5	309
4	5 K3	BARRIER CURB	E	27S		22.500	9.250		2 2.750	12.000	14.250	2.750	5 6	5 3	22
64	5 K4	BARRIER CURB	E	19S		2 5.000	10.000						3 3	3 2	211
20	5 K5	BARRIER CURB	E	38S					9.500	8.250	18.750	4.250	3 1	3 0	63
44	5 K6	BARRIER CURB	E	21S				10.000			2 4.250	6.000	3 3	3 2	145
28	5 K7	BARRIER CURB	E	20		8 8.500							8 9	8 9	256
28	5 K7	BARRIER CURB	E	20		8 8.000							8 11	8 11	261
86	5 R1	BARRIER CURB	E	14S		2 5.000	6.500				2 5.000	5.500	5 5	5 3	471
86	5 R2	BARRIER CURB	E	19S		20.500	9.500						2 6	2 4	209
86	5 R3	BARRIER CURB	E	27S			9.500		5.000	12.000	15.000	3.000	3 6	3 3	292
16	5 R4	BARRIER CURB	E	20		42 1.000							42 1	42 1	703
		SLIP FORM													
8	5 C1	SLIP FORM	E	20		12 0.000							12 0	12 0	100
8	5 C2	SLIP FORM	E	20		6 9.000							6 9	6 9	56

Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

For bending diagrams and steel reinforcing totals, see Sheet No. 19.

All bars shall be Grade 60.

Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.

SH = Required shape, see bending diagrams.

V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

Detailed JULY 2025
Checked JULY 2025

BILL OF REINFORCING STEEL

Note: This drawing is not to scale. Follow dimensions.

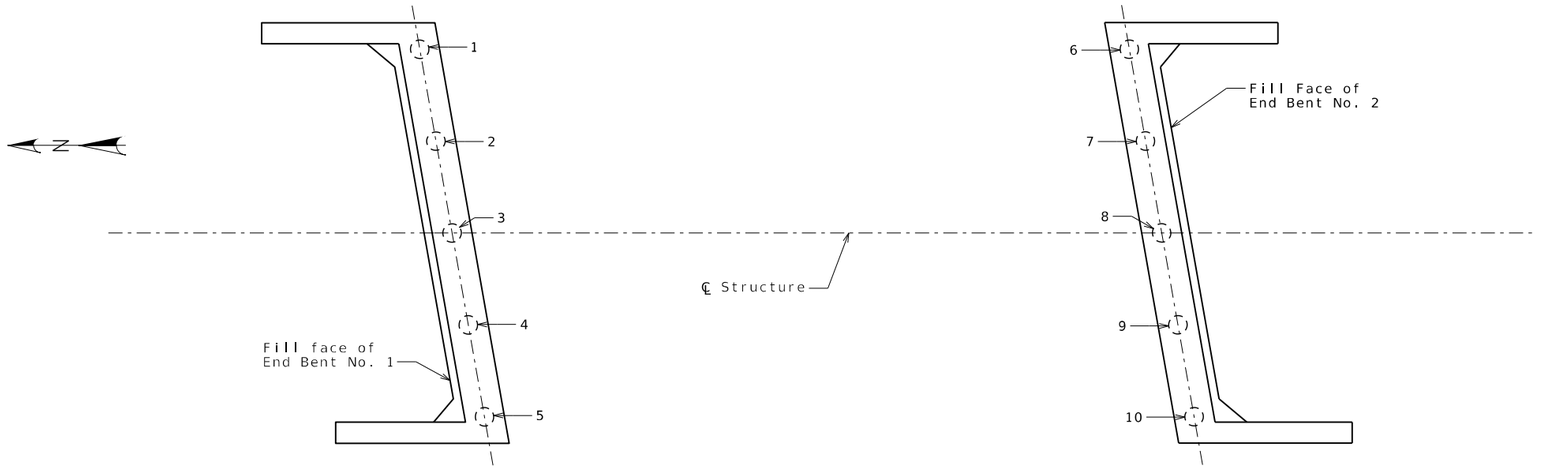
STATE OF MISSOURI
KIMBERLY ANNE STREICHER
NUMBER PE-2003001105
PROFESSIONAL ENGINEER
09/08/2025 13:26:29
Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED 9/8/2025
ROUTE C
STATE MO
DISTRICT BR
SHEET NO. 20
COUNTY PEMISCOT
JOB NO. J9S3770
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9720

DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CIVIL DESIGN,INC.
5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2002006804



PART PLAN SHOWING PILE NUMBERING FOR RECORDING AS-BUILT PILE DATA

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
					End Bent No. 1
1					
2					
3					
4					
5					
					End Bent No. 2
6					
7					
8					
9					
10					

Note:
Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal
D. PDA test pile
E. Minimum tip elevation controlled
(Use when actual blow count is less than PDA blow count due to minimum tip elevation requirement. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating actual value is higher than PDA value.)

This sheet to be completed by MoDOT construction personnel.

STATE OF MISSOURI
KIMBERLY ANNE STREICHER
NUMBER PE-2003001105
PROFESSIONAL ENGINEER

09/08/2025 13:26:53
Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED
9/8/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	21

COUNTY
PEMISCOT

JOB NO.
J9S3770

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9720

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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5220 Oakland Avenue
St. Louis, MO 63110
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Missouri State Certificate of Authority #2002006804

Missouri Department of Transportation
Construction and Materials

BORING NO. BH1
Page 1 of 2

Job No.: S0712 **County:** Pemiscot **Route:** C
Design: J9S3770 **Skew:** **Location:** Pemiscot County
Bent: **Logged By:** Smith&Co. - MBF **Operator:** Smith&Co. - JAM
Station: **Northing:** 108471.035 **Date of Work:** 12/13/24-12/13/24
Offset: NE Corner **Easting:** 993128.715 **Depth to Water:** 21.0
Elevation: 253.0 **Requested Northing:** **Depth Hole Open:** 56
Requested Station: **Requested Easting:** **Time Change:** 0 hours
Requested Offset: **Equipment:** CME 750,Split-Spoon Sampler
Requested Elevation: **Location Note:** 42'E & 11'N of the NE corner of existing structure
Drill No.: **Hammer Efficiency:** **Drilling Method:** HSA/Mud Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Field Tests	Specimen Info
0		0.0-15.0' (CH) SANDY FAT CLAY	250					
				X	94	4-4-5 (0)	PP = 1.50 tsf	5.0 - 5.0:**0-5.0** 5.0 - 6.0:**4.5-6.0**
10				X	106	1-2-2 (0)	PP = 1.50 tsf	
			240					
		15.0-20.0' (SP-SC) POORLY GRADED SAND WITH CLAY		X	89	5-7-8 (0)		15.0 - 16.0:**14.5-16.0**
20		19.5' added drilling fluid 20.0-56.0' (SP) POORLY GRADED SAND	230					
				X	72	1-1-1 (0)		
30			220					
				X	61	8-11-12 (0)		
40			210					
				X	67	4-9-7 (0)		
50			200					
				X	78	12-13-12		

N_{60} = (Em/60)Nm N_{60} - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value
(1) = Assumed, (2) = Actual

Coordinate System: Modified U.S. State Plane 1983 **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:**
Coordinate Datum: NAD 83 (CONUS) **Coordinate Units:** U.S. Survey Feet

* Persons using this information are cautioned that the materials shown are determined by the equipment noted and accuracy of the "log of materials" is limited thereby and by judgement of the operator. THIS INFORMATION IS FOR DESIGN PURPOSES ONLY.

LETTER BOREHOLE - FIELD LOG - MODOT 20150728.GDT - 6/5/25 15:19 - P:\P2402\13 CIVIL DESIGN-MODOT ROUTE C & Z GEOTECH\ENGINEERING\REPORTS\GEOTECH LOGS\ROUTE C\S0712.GPJ

Missouri Department of Transportation
Construction and Materials

BORING NO. BH1
Page 2 of 2

Job No.: S0712 **County:** Pemiscot **Route:** C
Design: J9S3770 **Skew:** **Location:** Pemiscot County
Bent: **Logged By:** Smith&Co. - MBF **Operator:** Smith&Co. - JAM
Station: **Northing:** 108471.035 **Date of Work:** 12/13/24-12/13/24
Offset: NE Corner **Easting:** 993128.715 **Depth to Water:** 21.0
Elevation: 253.0 **Requested Northing:** **Depth Hole Open:** 56
Requested Station: **Requested Easting:** **Time Change:** 0 hours
Requested Offset: **Equipment:** CME 750,Split-Spoon Sampler
Requested Elevation: **Location Note:** 42'E & 11'N of the NE corner of existing structure
Drill No.: **Hammer Efficiency:** 93.7% **Drilling Method:** HSA/Mud Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Field Tests	Specimen Info
						(0)		
60		56.0-80.0' (SP) Poorly Graded Sand		X	67	7-11-16 (0)		
			190					
				X	72	9-10-15 (0)		
70				X	72	10-16-24 (0)		
			180					
				X	100	14-19-17 (0)		
80		Bottom of borehole at 80.0 feet.		X	83	22-33-39 (0)		

N_{60} = (Em/60)Nm N_{60} - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value
(1) = Assumed, (2) = Actual

Coordinate System: Modified U.S. State Plane 1983 **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:**
Coordinate Datum: NAD 83 (CONUS) **Coordinate Units:** U.S. Survey Feet

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STATE OF MISSOURI
KIMBERLY ANNE STREICHER
NUMBER PE-2003001105
PROFESSIONAL ENGINEER

09/08/2025 13:27:16
Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED 9/8/2025
ROUTE C | STATE MO
DISTRICT BR | SHEET NO. 22
COUNTY PEMISCOT
JOB NO. J9S3770
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9720

DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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CIVIL DESIGN,INC.
5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2002006804

BORING DATA

Note: For locations of borings, see Sheet No. 1.

Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.

P:\6XXX\68XX-69XX\6870 - Pemiscot Dunklin Bridges - MoDOT\24-Structures\J9S3770-Rte C\CAD-ORD\B_A9720_022_JS93770-Boring Log Data.dgn 1:08:17 PM 9/8/2025

Missouri Department of Transportation
Construction and Materials

BORING NO. BH2
Page 1 of 2

Job No.: S0712 **County:** Pemiscot **Route:** C
Design: J9S3770 **Skew:** **Location:** Pemiscot County
Bent: **Logged By:** Smith&Co. - MBF **Operator:** Smith&Co. - JAM
Station: **Northing:** 109407.607 **Date of Work:** 12/12/24-12/12/24
Offset: SE Corner **Easting:** 993130.671 **Depth to Water:** 20.0
Elevation: 253.0 **Requested Northing:** **Depth Hole Open:** 51
Requested Station: **Requested Easting:** **Time Change:** 0 hours
Requested Offset: **Equipment:** CME 750,Split-Spoon Sampler
Requested Elevation: **Location Note:** 52' E & 3' S of the SE corner of existing structure
Drill No.: **Hammer Efficiency:** 93.7% **Drilling Method:** HSA/Mud Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Field Tests	Specimen Info
0		0.0-15.0' (CH) SANDY FAT CLAY	250					
					100	1-3-4 (0)		
10					100	1-2-2 (0)		
			240					
		15.0-20.0' (SP-SC) POORLY GRADED SAND WITH CLAY			89	2-2-7 (0)		15.0 - 16.0:**14.5-16.0**
20		▽ 20.0-56.0' (SP) POORLY GRADED SAND			83	3-2-2 (0)		
			230					
30					61	4-5-6 (0)		
			220					
40					78	7-10-9 (0)		
			210					
50					72	14-18-21		

N_{60} = (Em/60)Nm N_{60} - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value
(1) = Assumed, (2) = Actual

Coordinate System: Modified U.S. State Plane 1983 **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:**
Coordinate Datum: NAD 83 (CONUS) **Coordinate Units:** U.S. Survey Feet

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Missouri Department of Transportation
Construction and Materials

BORING NO. BH2
Page 2 of 2

Job No.: S0712 **County:** Pemiscot **Route:** C
Design: J9S3770 **Skew:** **Location:** Pemiscot County
Bent: **Logged By:** Smith&Co. - MBF **Operator:** Smith&Co. - JAM
Station: **Northing:** 109407.607 **Date of Work:** 12/12/24-12/12/24
Offset: SE Corner **Easting:** 993130.671 **Depth to Water:** 20.0
Elevation: 253.0 **Requested Northing:** **Depth Hole Open:** 51
Requested Station: **Requested Easting:** **Time Change:** 0 hours
Requested Offset: **Equipment:** CME 750,Split-Spoon Sampler
Requested Elevation: **Location Note:** 52' E & 3' S of the SE corner of existing structure
Drill No.: **Hammer Efficiency:** 93.7% **Drilling Method:** HSA/Mud Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Field Tests	Specimen Info
		20.0-56.0' (SP) POORLY GRADED SAND *(continued)*				(0)		
		Bottom of borehole at 51.0 feet.						

N_{60} = (Em/60)Nm N_{60} - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value
(1) = Assumed, (2) = Actual

Coordinate System: Modified U.S. State Plane 1983 **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:**
Coordinate Datum: NAD 83 (CONUS) **Coordinate Units:** U.S. Survey Feet

* Persons using this information are cautioned that the materials shown are determined by the equipment noted and accuracy of the "log of materials" is limited thereby and by judgement of the operator. THIS INFORMATION IS FOR DESIGN PURPOSES ONLY.

LETTER BOREHOLE - FIELD LOG - MODOT 20150728.GDT - 6/5/25 15:19 - P:\P240213 CIVIL DESIGN-MODOT ROUTE C & Z GEOTECH\ENGINEERING\REPORTS\GEOTECH LOGS\ROUTE C\S0712.GPJ

STATE OF MISSOURI
KIMBERLY ANNE STREICHER
NUMBER PE-2003001105
PROFESSIONAL ENGINEER

09/08/2025 13:27:50
Kimberly Streicher - Civil
MO PE-2003001105

DATE PREPARED
9/8/2025

ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	23

COUNTY
PEMISCOT

JOB NO.
J9S3770

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9720

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CDI
CIVIL DESIGN,INC.
5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2002006804

BORING DATA

Note: For locations of borings, see Sheet No. 1.

Detailed JULY 2025
Checked JULY 2025

Note: This drawing is not to scale. Follow dimensions.