### DESIGN DESIGNATION ROUTE 42

A.A.D.T. - 2022 = 867 A.A.D.T. - 2042 = 1257 T = 5% V = 55 M.P.H.

FUNCTIONAL CLASSIFICATION - MINOR ARTERIAL

NO NEW RIGHT-OF-WAY

### CONVENTIONAL SYMBOLS

(0020 111 12/1110	,	
	EXISTING	NEW
BUILDINGS AND STRUCTURES GUARD RAIL GUARD CABLE CONCRETE RIGHT-OF-WAY MARKER STEEL RIGHT-OF-WAY MARKER LOCATION SURVEY MARKER UTILITIES	0000	····
FIBER OPTICS OVERHEAD CABLE TV UNDERGROUND CABLE TV OVERHEAD TELEPHONE UNDERGROUND TELEPHONE OVERHEAD POWER UNDERGROUND POWER SANITARY SEWER STORM SEWER GAS WATER	- FO - OTV - UTV - OT - OT - UT - OE - UE - S - S - G - W - SAN	-OTV -UTV -OT -UT -OE -UE -S
MANHOLE	HYD SAN	)
FIRE HYDRANT	wv C	3
WATER VALVE	"`C	€
WATER METER		€
DROP INLET	Ü	
DITCH BLOCK	=	⊨
GROUND MOUNTED SIGN	SIGN	-
LIGHT POLE		]
H-FRAME POWER POLE		
TELEPHONE PEDESTAL FENCE CHAIN LINK	-	·—
WOVEN WIRE GATE POST	—— x	<u> </u>
BENCHMARK	ВМ	)

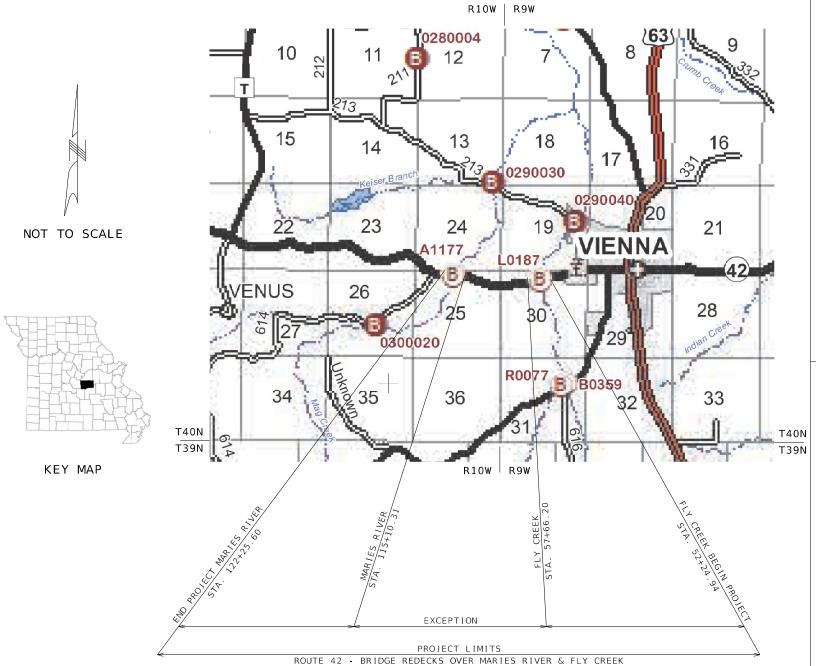
NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

## MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

# PLANS FOR PROPOSED STATE HIGHWAY

### MARIES COUNTY ROUTE 42

TOWNSHIP 40 NORTH, RANGE 9 & 10 WEST, SECTIONS 25 & 30



### INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (TS) (1 SHEET)	2
QUANTITIES (QU) (2 SHEETS)	3
PLAN-PROFILE (PP)	4 - 5
EROSION CONTROL SHEETS (EC)	6 - 7
TRAFFIC CONTROL SHEETS (TC)	8 - 12
PAVEMENT MARKING & SIGNING (PM)	13-14
BRIDGE DRAWINGS (B)	
A11772	1 - 11
L01872	1 - 9

FIF OF	MISSO MAN	DATE				
8- DIA	ELLEN LLO	AND				
	301:048 E	ELECTRONICALLY SEALED AND DATE				
SIGNED, SEAL ELECTRO	ED AND DATED NICALLY	ICALLY				
DATE PI	REPARED	2				
1/13/2025						
ROUTE	STATE					
42	STATE MO	ELECT				
42  DISTRICT  CD	MO SHEET NO.					
42  DISTRICT  CD	MO SHEET NO.	BEEN				
42 DISTRICT CD COU	MO SHEET NO. 1 NTY IES	BEEN				
42 DISTRICT CD COU	MO SHEET NO. 1	HAS BEEN				
42 DISTRICT CD COU MAR JOB J 5 P 3	MO SHEET NO. 1 NTY IES NO. 3565	IT HAS BEEN				
42 DISTRICT CD COU MAR JOB J 5 P 3	MO SHEET NO. 1 NTY IES NO.	IT HAS BEEN				
42 DISTRICT CD COU MAR JOB J 5 P 3 CONTRA	MO SHEET NO. 1 NTY IES NO. 3565	IT HAS BEEN				
42 DISTRICT CD COU MAR JOB J 5 P 3 CONTRA	MO SHEET NO. 1 NTY IES NO. 3565	HAS BEEN				

DESCRIPTION				
DATE				
NO			 102	36)

### LENGTH OF PROJECT

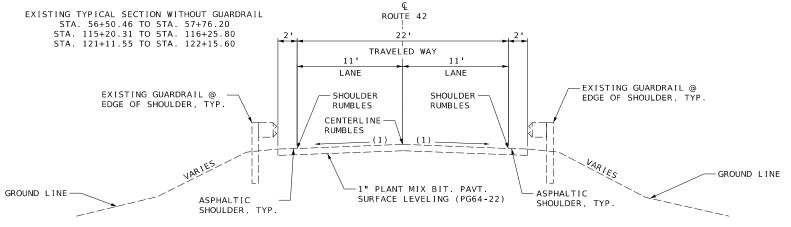
BEGINNING OF PROJEC	STA. 52+24.94
FLY CREEK	STA. 52+24.94 TO 57+66.20
MARIES RIVER	STA. 115+10.31 TO 122+25.60
END OF PROJECT	STA. 122+25.60
APPARENT LENGTH	7,000.66 FEET
EXCEPTIONS: BETWEEN BRIDGES	5,744.11 FEET
TOTAL CORRECTIONS	5,744.11 FEET
NET LENGTH OF PROJE	CT 1,256.55 FEET
STATE LENGTH	0.238 MILES
FOR INFORMATION ONL	



Kimley >> Horn

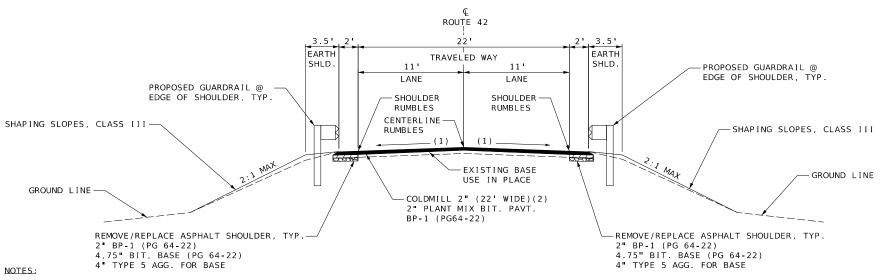
805 PENNSYLVANIA AVE SUITE 150
KANSAS CITY, MO 64105
PHONE 816-652-0350
ERTIFICATE OF AUTHORITY NO. COM
WWW.KINLEY-HORN, COM

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.



### EXISTING GUARDRAIL SECTION ON TANGENT

TYPICAL SECTION ROUTE 42 STA. 52+34.94 TO 57+56.20 (EXCLUDING BRIDGE) STA. 115+20.31 TO 122+15.60 (EXCLUDING BRIDGE)



(1) MATCH EXISTING SLOPE

(2) COLDMILL/NEW PAVEMENT STATIONING STA. 53+29.56 TO 55+72.98 (EXCLUDING BRIDGE)

(1) EXISTING SLOPE (2% ASSUMED)

STA. 116+99.11 TO STA. 120+36.83 (EXCLUDING BRIDGE)

PROPOSED GUARDRAIL SECTION ON TANGENT

TYPICAL SECTION ROUTE 42 STA. 52+49.94 TO 57+41.20 (EXCLUDING BRIDGE) STA. 115+35.31 TO 122+00.60 (EXCLUDING BRIDGE)

ROUTE 42 1.33' 1.33' Ç Exist. "i Beam (Typ)

PROPOSED BRIDGE SECTION ON TANGENT

TYPICAL SECTION ROUTE 42 STA. 53+77.82 TO STA. 55+25.28 STA. 117+51.23 TO STA. 119+84.67

ESTIMATE FACTORS:

BITUMINOUS PAVEMENT MIXTURE PG 64-22 (BP-1) = 1.948 TON/CY BITUMINOUS BASE MIXTURE FOR PG 64-22 (BASE) = 1.943 TON/CY TACK COAT = 0.08 GAL/SY

SHAPING SLOPES, CLASS III SHALL

SEE STANDARD PLANS 401.00 SHEET

3 OF 3 FOR SAFETY EDGE DETAILS

BE COMPLETED AS NEEDED

LOCATION OF CENTERLINE RUMBLES: PAVEMENT MARKING SHALL BE BASED ON THE DISTANCE WHICH CREATES TWO LANES OF THE SAME WIDTH, NOT TO BE LESS THAN 11' CONTRACTOR SHALL NOT CONSTRUCT LANES BASED ON FINISHED CROWN LOCATION.

NOT TO SCALE

TYPICAL SECTIONS SHEET 1 OF 1

1/13/2025 42 MO SHEET NO CD 2 MARIES J5P3565 CONTRACT ID. PROJECT NO BRIDGE NO

LORA ELLEN DIALLO NUMBER PE-2023011048

(1) MATCH EXISTING SLOPE

REMOVAL OF IMPROVEMENTS								
BRIDGE NO.	STATION	STATION	QUANTITY	REMARKS				
A11772	115+35.31	117+49.11	129 SY	FULL DEPTH SHOULDER REMOVAL RIGHT				
A11772	115+39.89	117+53.17	140 SY	FULL DEPTH SHOULDER REMOVAL LEFT				
A11772	119+82.37	121+96.01	117 SY	FULL DEPTH SHOULDER REMOVAL RIGHT				
A11772	119+86.82	122+00.60	104 SY	FULL DEPTH SHOULDER REMOVAL LEFT				
L01872	52+49.94	53+79.56	10 SY	FULL DEPTH SHOULDER REMOVAL RIGHT				
L01872	52+53.98	53+79.56	15 SY	FULL DEPTH SHOULDER REMOVAL LEFT				
L01872	55+22.98	57+41.20	24 SY	FULL DEPTH SHOULDER REMOVAL RIGHT				
L01872	55+22.98	57+41.20	27 SY	FULL DEPTH SHOULDER REMOVAL LEFT				
A11772	116+25.79	121+11.55	497 LF	EXISTING GUARDRAIL - ROUTE 42				
L01872	52+52.05	56+49.89	494 LF	EXISTING GUARDRAIL - ROUTE 42				
A11772	111+03.00	120+30.00	5 EA	EXISTING SIGNS - ROUTE 42				
L01872	53+39.00	55+70.00	4 EA	EXISTING SIGNS - ROUTE 42				
			TOTAL	1.0 LUMP SUM				

				RUMBLE STRIPS	
BRIDGE NO.	STATION	STATION	LOC.	BITUMINOUS CENTERLINE RUMBLE STRIP (STATION (100FT))	BITUMINOUS SHOULDER RUMBLE STRIP (STATION (100FT))
A11772	115+35.31	117+49.11	R I GHT		2.14
A11772	115+39.89	117+53.17	LEFT		2.13
A11772	116+99.11	117+51.23	CENTER	0.53	
A11772	119+82.37	121+96.01	R I GHT		2.14
A11772	119+84.69	120+36.83	CENTER	0.52	
A11772	119+86.82	122+00.60	LEFT		2.14
L01872	52+49.94	53+79.56	R I GHT		1.30
L01872	52+53.98	53+79.56	LEFT		1.26
L01872	53+29.56	53+77.82	CENTER	0.50	
L01872	55+22.98	57+41.20	R I GHT		2.18
L01872	55+22.98	57+41.20	LEFT		2.18
L01872	55+25.28	55+72.98	CENTER	0.50	
			TOTAL	2.05	15.47
			USE	2.1	15.5

	PAVEMENT										
BRIDGE NO.	STATION	STATION	TYPE	LOC.	LENGTH (FT)	WIDTH (FT)	2" BP-1 (TONS)	4.75" BIT. BASE (TONS)	4" TYPE 5 AGG. BASE (SY)	COLDMILLING BITUMINOUS PAVEMENT FOR REMOVAL OF SURFACING (3 IN. THICK OR LESS) (SY)	TACK COAT (GAL)
A11772	115+35.31	117+49.11	SHOULDER	RIGHT	214	2	5.1	12.2	47.6	0.0	4.8
A11772	115+39.89	117+53.17	SHOULDER	LEFT	213	2	5.1	12.1	47.3	0.0	4.7
A11772	116+99.11	117+51.23	M&F	-	52	22	13.8	0.0	0.0	127.4	12.7
A11772	119+82.37	121+96.01	SHOULDER	RIGHT	214	2	5.1	12.2	47.6	0.0	4.8
A11772	119+84.67	120+36.83	M&F	-	52	22	13.8	0.0	0.0	127.5	12.8
A11772	119+86.82	122+00.60	SHOULDER	LEFT	214	2	5.1	12.2	47.6	0.0	4.8
L01872	52+49.94	53+79.56	SHOULDER	RIGHT	130	2	3.1	7.4	28.9	0.0	2.9
L01872	52+53.98	53+79.56	SHOULDER	LEFT	126	2	3.0	7.2	28.0	0.0	2.8
L01872	53+29.56	53+77.82	M&F	-	48	22	12.7	0.0	0.0	118.0	11.8
L01872	55+22.98	57+41.20	SHOULDER	RIGHT	218	2	5.2	12.4	48.4	0.0	4.8
L01872	55+22.98	57+41.20	SHOULDER	LEFT	218	2	5.2	12 4	48.4	0.0	4.8
L01872	55+25.28	55+72.98	M&F	-	48	22.0	12.6	0.0	0.0	116.6	11.7
					•	TOTAL	89.8	88.1	343.8	489.5	83.4
						USE	90	88	344	490	83

	GUARDRAIL									
BRIDGE NO.	STATION	STATION	LOC.	MGS GUARDRAIL (LF)	MGS BRIDGE APPROACH TRANSITION SECTION (EA)	MGS TYPE A CRASHWORTHY END TERMINAL (MASH) (EA)				
A11772	115+86.44	117+11.44	RIGHT	125.0	1	1				
A11772	115+91.03	117+16.03	LEFT	125.0	1	1				
A11772	120+19.88	121+44.88	RIGHT	125.0	1	1				
A11772	120+24.46	121+49.46	LEFT	125.0	1	1				
L01872	53+01.07	53+38.57	R I GHT	37.5	1	1				
L01872	53+05.11	53+42.61	LEFT	37.5	1	1				
L01872	55+60.48	56+85.48	R I GHT	125.0	1	1				
L01872	55+65.07	56+90.07	LEFT	125.0	1	1				
			TOTAL	825.0	8.0	8.0				
			USE	825	8	8				

			PAVE	EMENT MARK	ING	
BRIDGE NO.	STATION	STATION	LOC.	STANDARD WATERBORNE PAVEMENT MARKING PAINT TYPE P BEADS		REMARKS
				4 INCH YELLOW (LF)	4 INCH WHITE (LF)	
A11772	115+35.31	121+96.01	RIGHT		661	SOLID WHITE EDGE LINE
A11772	115+39.89	122+00.60	LEFT		661	SOLID WHITE EDGE LINE
A11772	116+99.11	120+36.83	CENTER	85		INTERMITTENT YELLOW CENTER LINE
L01872	52+49.94	57+41.20	RIGHT		491	SOLID WHITE EDGE LINE
L01872	52+53.98	57+41.20	LEFT		487	SOLID WHITE EDGE LINE
L01872	53+29.56	55+72.98	CENTER	61		INTERMITTENT YELLOW CENTER LINE
			TOTAL	146.0	2300.0	
			USE	146	2300	

EARTHWORK								
BRIDGE NO.	STATION	STATION	LOC.	SHAPING SLOPES CLASS III (100 FT)				
A11772	115+10.31	117+49.11	RIGHT	2.4				
A11772	115+14.89	117+53.53	LEFT	2.4				
A11772	119+82.73	122+21.01	RIGHT	2.4				
A11772	119+86.83	122+25.51	LEFT	2.4				
L01872	52+24.94	53+74.97	RIGHT	1.5				
L01872	52+28.98	53+79.56	LEFT	1.5				
L01872	55+22.98	57+66.20	RIGHT	2.4				
L01872	55+27.57	57+66.20	LEFT	2.4				
			TOTAL	17.4				
			USE	18.0				

EROSION CONTROL								
BRIDGE NO.	STATION	STATION	LOC.	SILT FENCE (LF)	SEDIMENT REMOVAL (CY)			
A11772	115+10.31	117+49.11	RIGHT	240	2.4			
A11772	115+14.89	117+53.53	LEFT	240	2.4			
A11772	119+82.73	122+21.01	RIGHT	240	2.4			
A11772	119+86.83	122+25.51	LEFT	240	2.4			
L01872	52+24.94	53+74.97	RIGHT	150	1.5			
L01872	52+28.98	53+79.56	LEFT	150	1.5			
L01872	55+22.98	57+66.20	RIGHT	240	2.4			
L01872	55+27.57	57+66.20	LEFT	240	2.4			
			TOTAL	1740	17.4			
			USE	1740	18			

MULCHIN	IG	(AC.
TOTAL		1.0

SEEDING -	COOL	SEASON	GRASSES	(AC.)
TOTA	L		1.0	

MOBILIZATION

TOTAL = 1.0 LUMP SUM

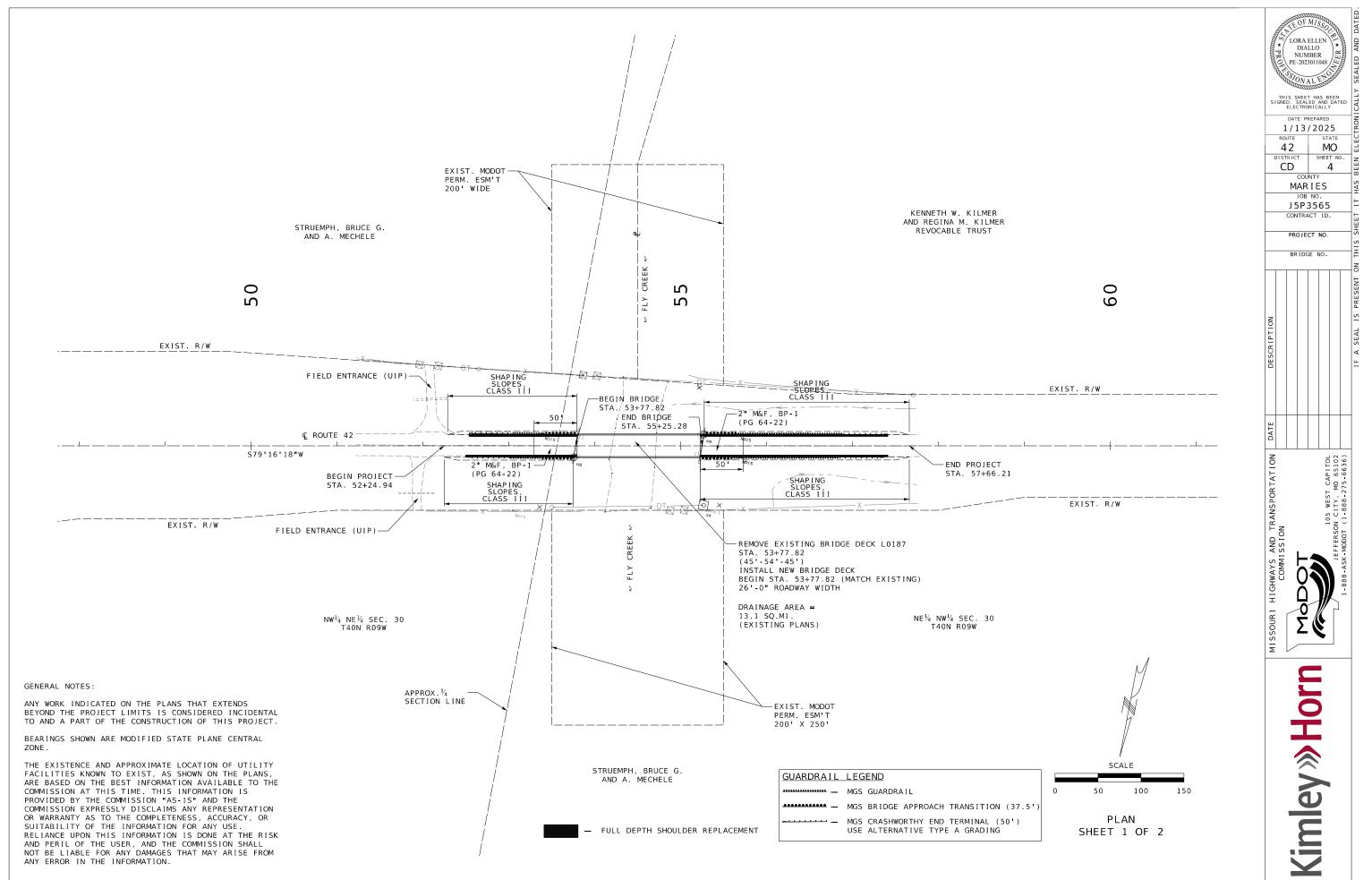
CONTRACTOR	FURNISHED	SURVEYING	AND	STAKING

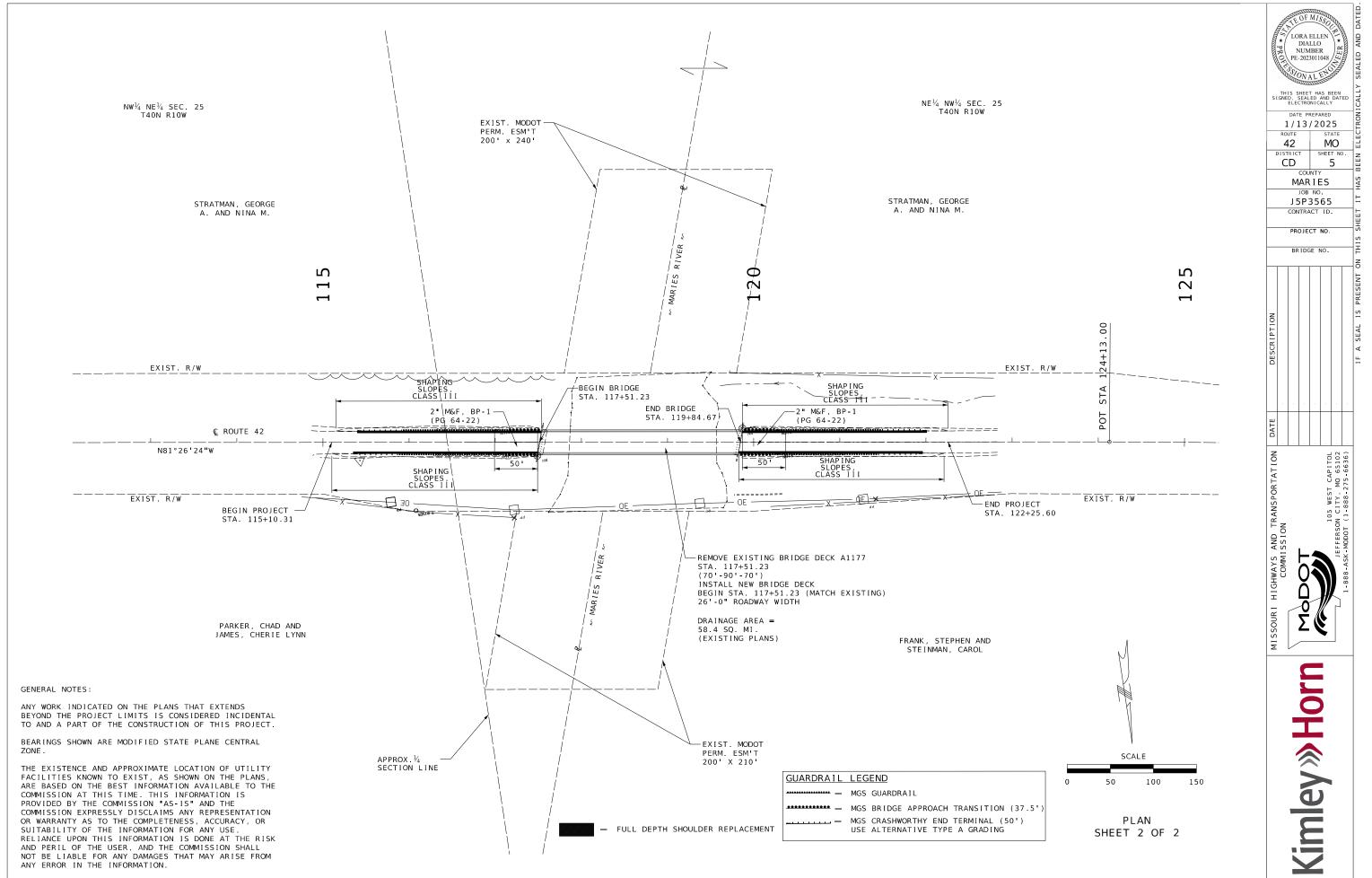
TOTAL = 1.0 LUMP SUM

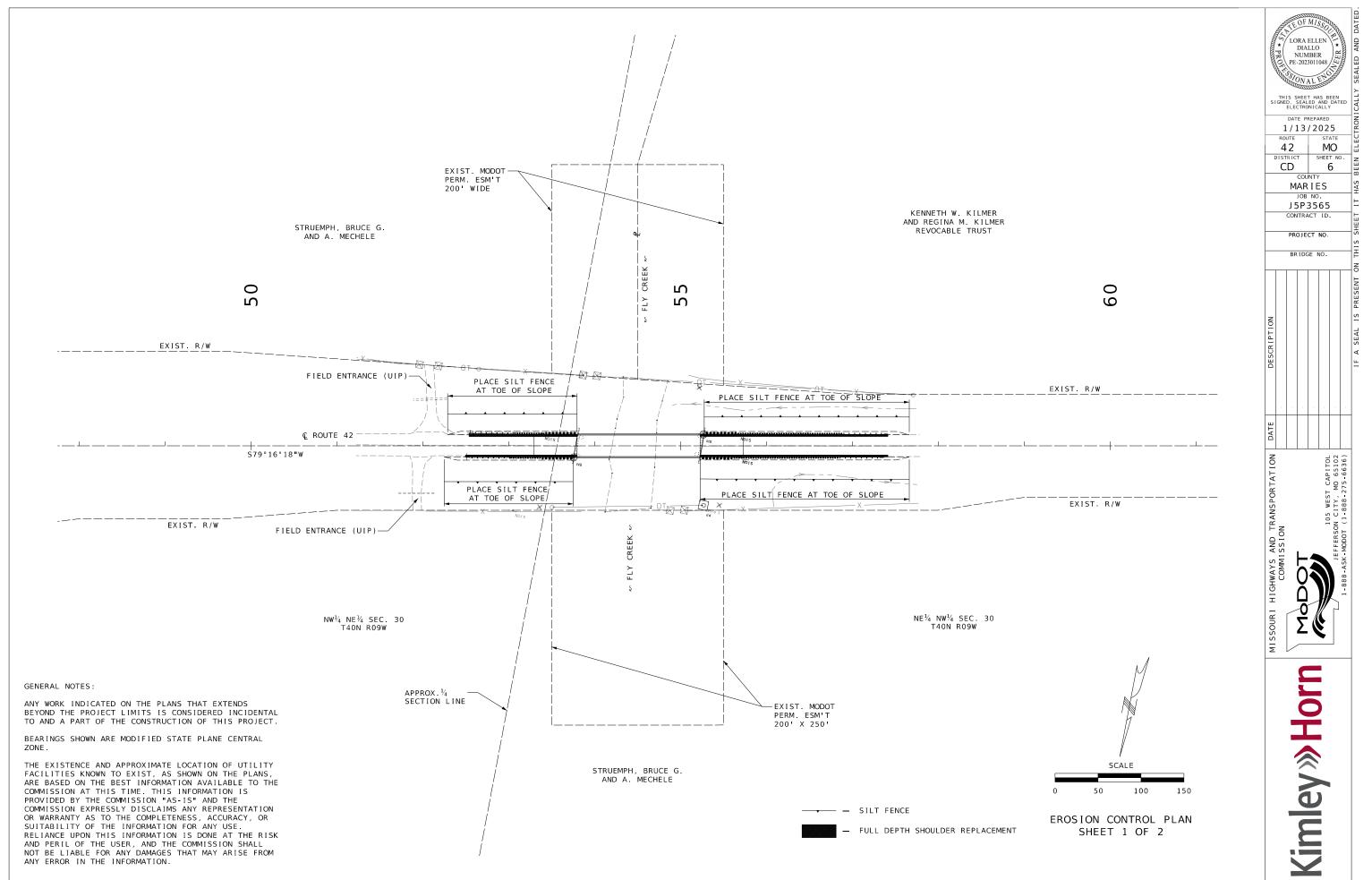
SUMMARY OF QUANTITIES SHEET 1 OF 2

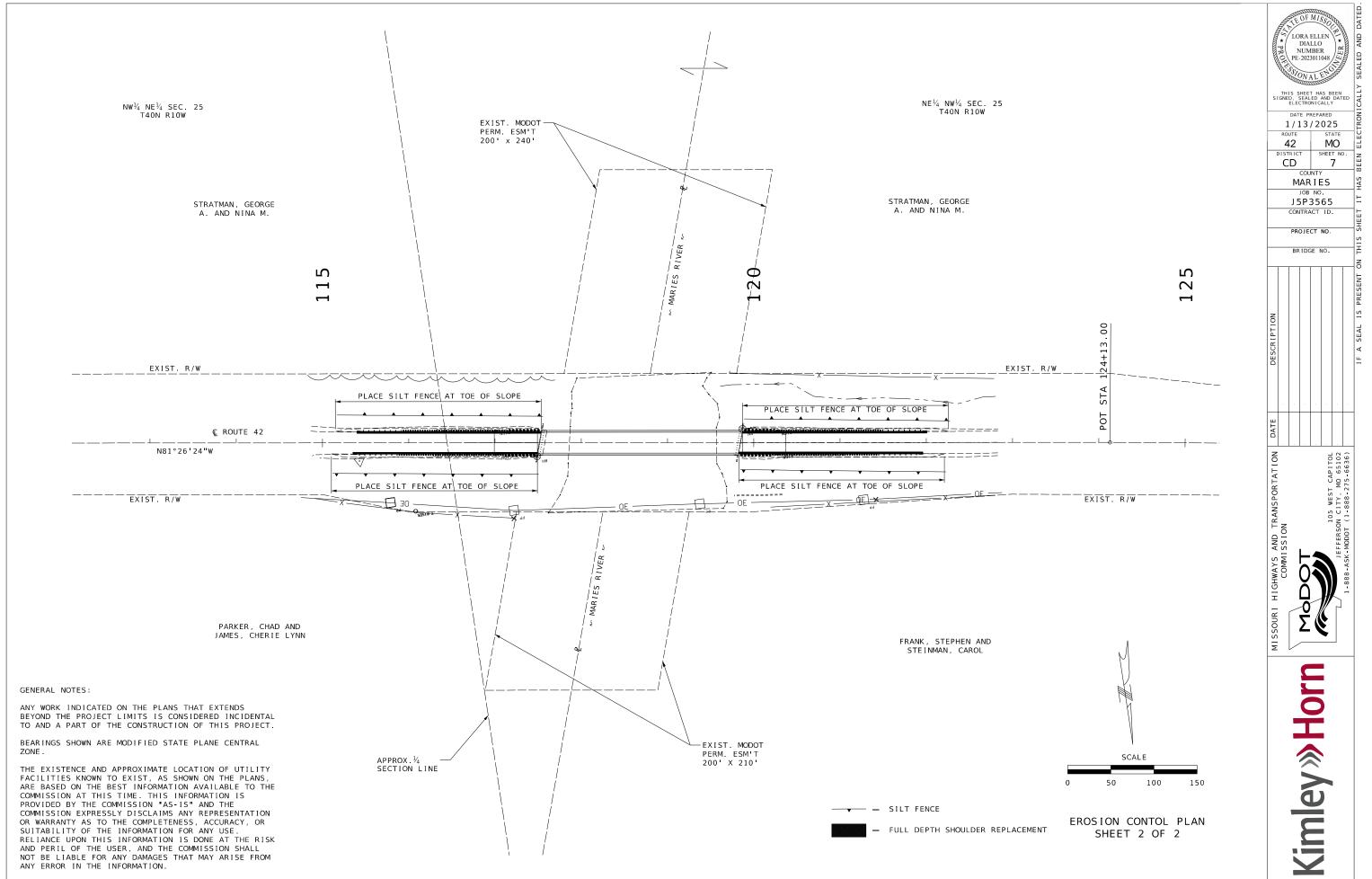
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY  DATE PREPARED  ADDITION TO SHEET NO.  CD  DISTRICT  MAR I ES  JOB NO.  J 5P 3565  CONTRACT ID.  PROJECT NO.  BRIDGE NO.			STE NE	OF	Mi	850	THO COLUMN					
SIGNED, SEALED AND DATED ELECTRONICALLY  DATE PREPARED  1/13/2025  ROUTE STATE  42 MO  DISTRICT SHEET NO.  CD 3  COUNTY  MAR I ES  JOB NO.  J 5P 35 65  CONTRACT ID.  PROJECT NO.  BRIDGE NO.	William The Control of the Control o	PR DIALLO NUMBER NUMBER										
1/13/2025 ROUTE 42 MO DISTRICT SHEET NO. CD 3  COUNTY MAR I ES JOB NO. J 5P 3565 CONTRACT ID. PROJECT NO.  BRIDGE NO.	SI	TH: GNE	IS S D, S ELEC	HEE' SEAL CTRO	T HA ED A		EEN DAT	ED				
42 MO DISTRICT SHEET NO. 3 COUNTY MARIES JOB NO. J5P3565 CONTRACT ID. PROJECT NO. BRIDGE NO.	1/13/2025											
CD 3  COUNTY MAR I ES  JOB NO.  J 5P 3 5 6 5  CONTRACT ID.  PROJECT NO.  BRIDGE NO.	ROUTE STATE 42 MO											
MARIES  JOB NO.  J5P3565  CONTRACT ID.  PROJECT NO.  BRIDGE NO.	DISTRICT SHEET NO.											
JOB NO. J5P3565 CONTRACT ID.  PROJECT NO.  BRIDGE NO.	COUNTY MAR I ES											
PROJECT NO.  BRIDGE NO.	ЈОВ NO. J <b>5 P 3 5 6</b> 5											
BRIDGE NO.	CONTRACT ID.											
NOILU	PROJECT NO											
DESCRIPTION	BRIDGE NO.											
	DESCRIPTION											
	NSPORTATION		•			WEST CAPITOL	CITY, MO 65102	-888-275-6636)				

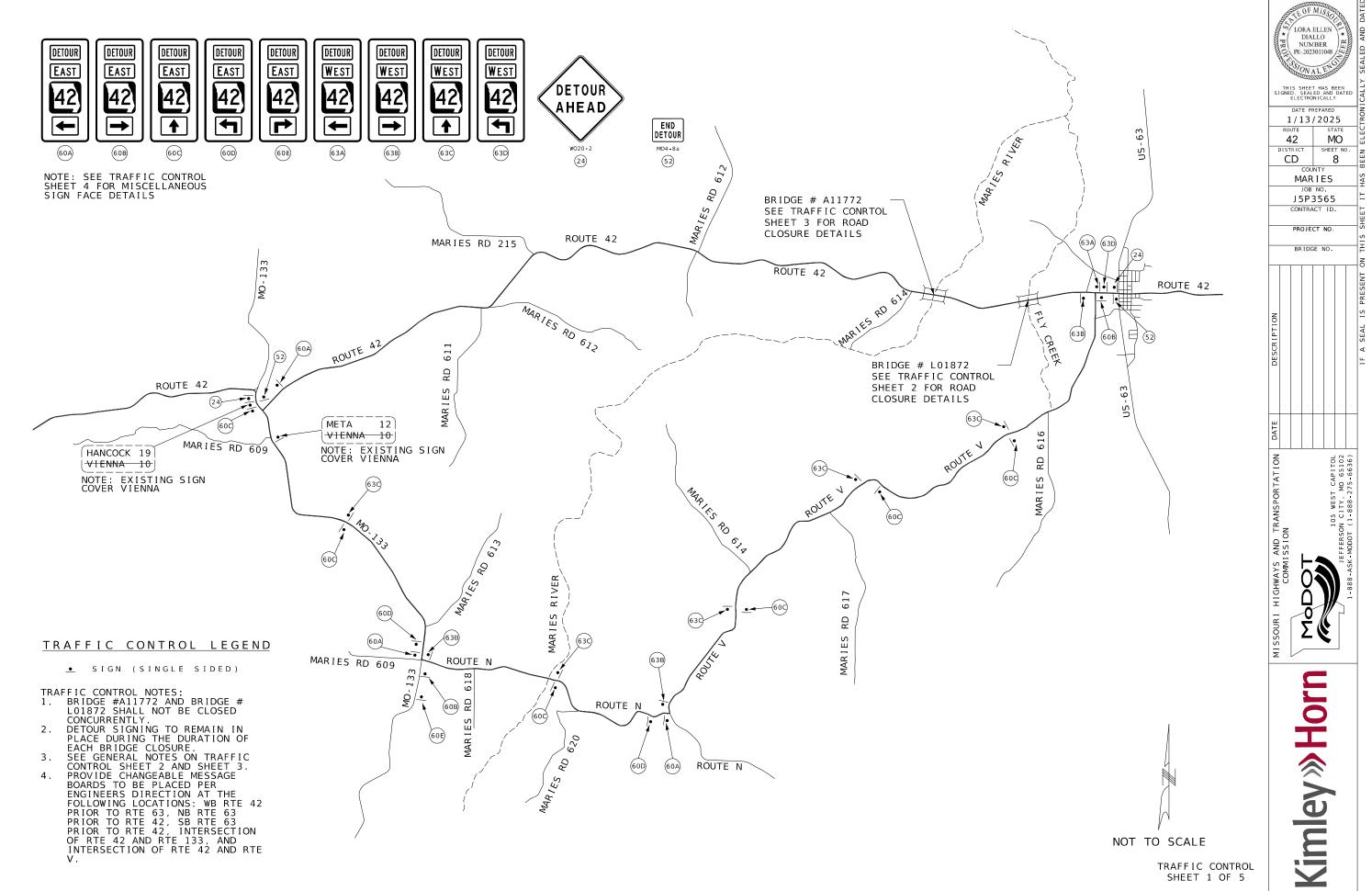
TOTAL QTY	TOTAL SIGN	1				QTY	TOTAL	SIGN				EFFECTIVE: 07-01-2024	SE OF MISSON
SIZE AREA QTY AREA RELOC	RELOC NUM			SIZE	'	Y TOTAL RELOC		NUM.		ITEM	TOTAL		LORA ELLEN
SIGN IN. SQ.FT. EACH SQ.FT. EACH		DESCRIPTION	SIGN	IN.	SQ.FT. EAC	CH SQ.FT. EACH			DESCRIPTION	NUMBER	<del> </del>	DESCRIPTION	DIALLO NUMBER
WARNING S	5 I GNS	TURN (SYMBOL LEFT)	E05-1	36X48	12.00	GUIDE SI	GNS		GORE EXIT	6122008		ATTENUATOR 40 MPH (SAND BARRELS) ATTENUATOR 45 MPH (SAND BARRELS)	PE-2023011048
WO1-1R 48X48 16.00		TURN (SYMBOL RIGHT)	E05-2		12.00				EXIT OPEN	6122010		ATTENUATOR 50 MPH (SAND BARRELS)	DONALE
WO1-2L 48X48 16.00		CURVE (SYMBOL LEFT)	E05-2a		12.00				EXIT CLOSED	6122012		ATTENUATOR 55 MPH (SAND BARRELS)	THIS SHEET HAS BEEN
WO1-2R 48X48 16.00		CURVE (SYMBOL RIGHT)	GO20-1		10.00				ROAD WORK NEXT XX MILES	6122014		ATTENUATOR 60 MPH (SAND BARRELS)	SIGNED, SEALED AND DATED ELECTRONICALLY
WO1-3L 48X48 16.00 WO1-3R 48X48 16.00		REVERSE TURN (SYMBOL LEFT) REVERSE TURN (SYMBOL RIGHT)	GO20-2 GO20-4		8.00 4.50				END ROAD WORK PILOT CAR FOLLOW ME	6122017		ATTENUATOR 65 MPH (SAND BARRELS) ATTENUATOR 70 MPH (SAND BARRELS)	DATE PREPARED
WO1-4L 48X48 16.00		REVERSE CURVE (SYMBOL LEFT)	GO20-4a						PILOT CAR IN USE WAIT & FOLLOW	6122020		MENT SAND BARREL	1/13/2025 ROUTE STATE
WO1-4R 48X48 16.00		REVERSE CURVE (SYMBOL RIGHT)	GO20-4a						PILOT CAR IN USE WAIT & FOLLOW	6122030	IMPACT A	ATTENUATOR (RELOCATION)	42 MO
WO1-4bL 48X48 16.00		DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)	GO20 - 5 a P						WORK ZONE (PLAQUE)	6123001		DUNTED ATTENUATOR (TMA)	DISTRICT SHEET NO.
WO1-4bR 48X48 16.00 WO1-4cL 48X48 16.00		DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)  TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)	MO4 - 8 a MO4 - 9 L		3.00 2	6.00			END DETOUR DETOUR (LEFT)	6161008		O WARNING RAIL SYSTEM  BOATS KEEP OUT)	CD 3
WO1-4CR 48X48 16.00		TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)	MO4 - 9R		12.00				DETOUR (RIGHT)	6161013	BUOYS (I		MARIES
WO1-6 60X30 12.50		HORIZONTAL ARROW (SYMBOL)	MO4 - 9P	48X12	4.00				STREET NAME (PLAQUE)	6161014	SPECIAL	SIGN ASSEMBLY (BOATS KEEP OUT)	ЈОВ NO. Ј5Р3565
WO1-6a 72X36 18.00		HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)	MO4 - 10L		6.00 1				DETOUR ARROW (LEFT)	6161025		ZER (TRIM LINE)	CONTRACT ID.
WO1-7 60X30 12.50 WO1-7a 72X36 18.00		DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)  DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)	MO4 - 10R	48X18	6.00 1	REGULATORY		67A	DETOUR ARROW (RIGHT)	6161030		MOVEABLE BARRICADE ON INDICATOR BARRICADE	
W01-74 72X30 18.00 W01-8 18X24 3.00		CHEVRON (SYMBOL)	R1-1	48X48	13.25	REGULATORI	31003		STOP	6161040		G ARROW PANEL	PROJECT NO.
WO1-8a 30X36 7.50		CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)	R1-2		6.93				YIELD	6161047		OBJECT MARKER	BRIDGE NO.
WO3-1 48X48 16.00		STOP AHEAD (SYMBOL)	R1-2a		9.00				TO ONCOMING TRAFFIC (PLAQUE)	6161055	<del></del>	IAL FLASHING WARNING LIGHT	
WO3-2 48X48 16.00 WO3-3 48X48 16.00		YIELD AHEAD (SYMBOL)	R1-3P R2-1		2.50				ALL WAY (PLAQUE) SPEED LIMIT XX	6161070	TUBULAR	MARKER PEED ADVISORY SYSTEM	
WO3-3 48X48 16.00 WO3-4 48X48 16.00		SIGNAL AHEAD (SYMBOL)  BE PREPARED TO STOP	R2-1		16.00				NO RIGHT TURN (SYMBOL)	0101092		BLE MESSAGE SIGN,	
WO3-5 48X48 16.00		SPEED LIMIT AHEAD	R3 - 2		16.00				NO LEFT TURN (SYMBOL)	6161096		ION FURNISHED/RETAINED	]
WO4-1L 48X48 16.00		MERGE (SYMBOL FROM LEFT)	R3-3		9.00				NO TURNS		5**	BLE MESSAGE SIGN WITHOUT COMM.	7 <sub>0</sub>
WO4-1R 48X48 16.00		MERGE (SYMBOL FROM RIGHT)	R3-4		16.00				NO U-TURN (SYMBOL)	61610984	INTERFA	CE - CONTRACTOR FURNISHED/RETAINED	[
WO4-1aL 48X48 16.00 WO4-1aR 48X48 16.00		MERGE (LEFT) MERGE (RIGHT)	R3 - 7L R3 - 7R		6.25				RIGHT LANE MUST TURN LEFT RIGHT LANE MUST TURN RIGHT	6161099		BLE MESSAGE SIGN WITH COMM. CE- CONTRACTOR FURNISHED/RETAINED	
WO5-1 48X48 16.00		ROAD/BRIDGE/RAMP NARROWS	R4 - 1		12.00				DO NOT PASS	6162000A		NE TRAFFIC SIGNAL SYSTEM	ESC
WO5-3 48X48 16.00		ONE LANE BRIDGE	R4-2	36X48	12.00				PASS WITH CARE	6162002	TEMPORA	RY LONG-TERM RUMBLE STRIPS	]^
WO5-5 48X48 16.00		NARROW LANES	R4 - 7a		12.00				KEEP RIGHT (HORIZONTAL ARROW)			RY TRAFFIC BARRIER	
W06-1 48X48 16.00 W06-2 48X48 16.00		DIVIDED HIGHWAY (SYMBOL) DIVIDED HIGHWAY END (SYMBOL)	R4-8a R5-1		6.25				KEEP LEFT (HORIZONTAL ARROW) DO NOT ENTER	61736000		FOR FURNISHED/RETAINED  RY TRAFFIC BARRIER	-
W06-3 48X48 16.00		TWO WAY TRAFFIC (SYMBOL)	R5-1a		6.00				WRONG WAY	6173602E		FOR FURNISHED/COMMISSION RETAINED	
WO7-3a 30X24 5.00		NEXT XX MILES (PLAQUE)	R6-1L		6.75				ONE WAY ARROW (LEFT)	6174000A		RAFFIC BARRIER HEIGHT TRANSITION	]#
WO8-1 48X48 16.00		BUMP	R6-1R		6.75				ONE WAY ARROW (RIGHT)	6175010A		ING TEMPORARY TRAFFIC BARRIER	
W08-2 48X48 16.00 W08-3 48X48 16.00		DIP PAVEMENT ENDS	R6-2L R6-2R		5.00				ONE WAY (LEFT) ONE WAY (RIGHT)	    6176000E		RY TRAFFIC BARRIER ION FURNISHED/RETAINED	7
WO8-4 48X48 16.00		SOFT SHOULDER	R9-9		2.00				SIDEWALK CLOSED	61760006		RAFFIC BARRIER HEIGHT TRANSITION	ANSPORTATION  OS WEST CAPITOL  OCITY, MO 65102  (1-888-275-6636)
WO8-5 48X48 16.00		SLIPPERY WHEN WET (SYMBOL)							SIDEWALK CLOSED AHEAD,	6177000E		ION FURNISHED/RETAINED	7AT
WO8-6 48X48 16.00		TRUCK CROSSING	R9-11L	24X18	3.00				(ARROW LEFT) CROSS HERE	6208064 <i>A</i>		RY RAISED PAVEMENT MARKER	ORT ORT -277-
W08-6c 48X48 16.00 W08-7 36X36 9.00		TRUCK ENTRANCE  LOOSE GRAVEL	R9-11R	24710	3.00				SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE	9029400		RY TRAFFIC SIGNALS AND LIGHTING	ISP.
WO8-7 36X36 9.00 WO8-7a 36X36 9.00		FRESH OIL / LOOSE GRAVEL	R10-6		6.00				STOP HERE ON RED (45^ ARROW)	9029401	TEMPORAL	RY TRAFFIC SIGNALS AND LIGHTING	AAN 201
WO8-9 48X48 16.00		LOW SHOULDER	R11-2			20.00 2	20.00		ROAD CLOSED				10 TR/ 10N TESON 100 ERSON (1)
WO8-11 48X48 16.00		UNEVEN LANES							ROAD CLOSED XX MILES AHEAD				AND SSI
WO8-12 48X48 16.00		NO CENTER LINE			12.50 1				LOCAL TRAFFIC ONLY ROAD CLOSED TO THRU TRAFFIC	1			IMI S I
WO8-15   48X48   16.00	+ + + - +	GROOVED PAVEMENT MOTORCYCLE (PLAQUE)	R11-4 CONST-3A		20.00	37.50			FINE SIGN	1			
WO8-17L 48X48 16.00		SHOULDER DROP-OFF (SYMBOL LEFT)	CONST - 3X						SPEEDING/PASSING (PLATE)	1			# B B B B B B B B B B B B B B B B B B B
WO8-17R 48X48 16.00		SHOULDER DROP-OFF (SYMBOL RIGHT)				MISCELLANEOU	IS SIGN						
W08-17P 30X24 5.00		SHOULDER DROP-OFF (PLAQUE)	CONST - 5						POINT OF PRESENCE	4			<del>_</del> <u>0</u> //
W10-1 42RND. 9.62 W012-1 24X24 4.00		RAILROAD CROSSING DOUBLE DOWN ARROW (SYMBOL)	CONST-5						POINT OF PRESENCE WORK ZONE NO PHONE ZONE	+			S Sour
W012-1 24X24 4:00 W012-2 48X48 16:00		LOW CLEARANCE (SYMBOL)			19.50 3	58.50			DETOUR ASSEMBLY EAST/LEFT	1 _			SS1
W012-2x 24X18 3.00		LOW CLEARANCE (PLAQUE)	SPECIAL	36X78	19.50 2	39.00			DETOUR ASSEMBLY EAST RIGHT	] [		Y TRAFFIC CONTROL	Σ
WO12-2a 84X24 14.00		OVERHEAD LOW CLEARANCE (FEET AND INCHES)			19.50 6				DETOUR ASSEMBLY EAST/STRAIGHT	] [	PAY TOTAL	1 LUMP SUM	
W012-4   120X60   50.00   W012-5   120X60   50.00		LOW CLEARANCE XX FT XX IN XX MILES AHEAD WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD	SPECIAL SPECIAL		19.50 2 19.50 1				DETOUR ASSEMBLY EAST/ADV. LEFT DETOUR ASSEMBLY EAST/ADV. RIGHT	#	NOTE: ALL TEXES	DARY TRACEIC CONTROL 1774	
W013-1 30X30 6.25		ADVISORY SPEED (PLAQUE)			19.50 1				DETOUR ASSEMBLY WEST/LEFT	1	ARE INCLUDED IN	RARY TRAFFIC CONTROL ITEMS PAY ITEM 616-99.01 LUMP	
WO16-2 30X24 5.00		XXX FEET (PLAQUE)			19.50 3				DETOUR ASSEMBLY WEST/RIGHT		SUM TEMPORARY T OTHERWISE NOTED	RAFFIC CONTROL. UNLESS , QUANTITIES SHOWN ARE	
WO16-3 30X24 5.00		X MILE (PLAQUE)			19.50 5				DETOUR ASSEMBLY WEST/STRAIGHT		ESTIMATE ONLY A ON FIELD CONDIT	ND SUBJECT TO CHANGE BASED	
W020-1 48X48 16.00 2 32.00	24	ROAD/BRIDGE/RAMP WORK AHEAD  DETOUR AHEAD	SPECIAL	36X78	19.50 1	19.50		63D	DETOUR ASSEMBLY WEST/ADV. RIGHT	4	ON LIEFD CONDIT	IONS.	
			616-10	.05		TOTAL						CLUDED IN TEMPORARY	
W020-4 48X48 16.00 2 32.00		ONE LANE ROAD AHEAD	-		N SIGNS	652					INAFFIC CONTROL	1 LUMP SUM QUANTITY	
WO20-5 48X48 16.00		RIGHT/CENTER/LEFT LANE CLOSED AHEAD	616-10				TOTAL						
WO20-5a 48X48 16.00		2 RIGHT/CENTER/LEFT LANE CLOSED AHEAD	RELOCA	TED S	I GNS		52						
WO20-6a 48X48 16.00 WO20-7a 48X48 16.00		RIGHT/CENTER/LEFT LANE CLOSED FLAGGER (SYMBOL)											
WO21-2 36X36 9.00		FRESH OIL											
WO21-5 48X48 16.00		SHOULDER WORK / SHOULDER WORK AHEAD	1										
W022-1 48X48 16.00		BLASTING ZONE AHEAD											
W022-2 42X36 10.50 W022-3 42X36 10.50		TURN OFF 2-WAY RADIO AND PHONE END BLASTING ZONE											
GO22-1 21X15 2.19 4 8.76		WET PAINT (ARROW PIVOTS)										SUMMARY OF QUANTITIES	
	<u> </u>		,									SHEET 2 OF 2	

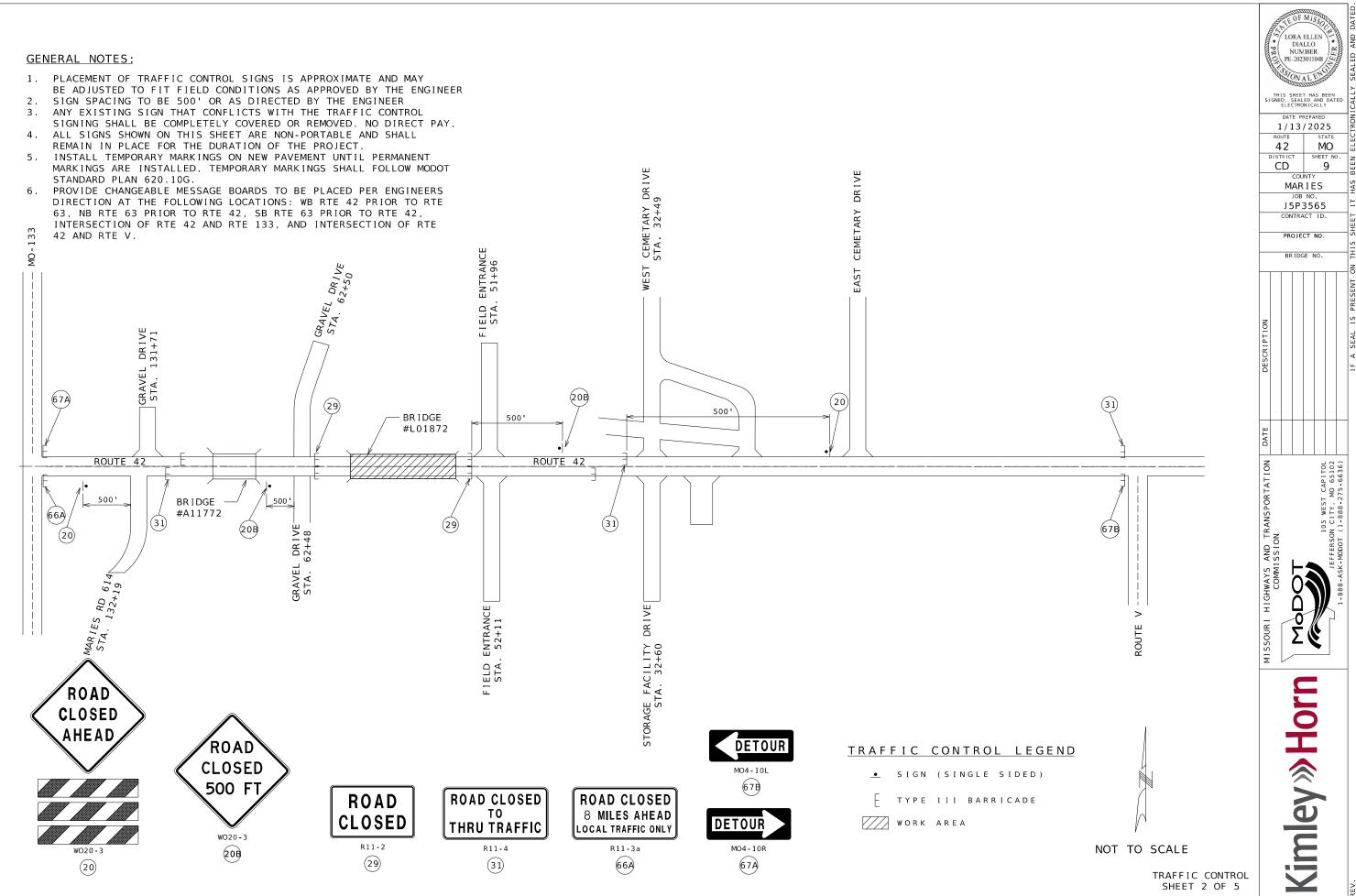


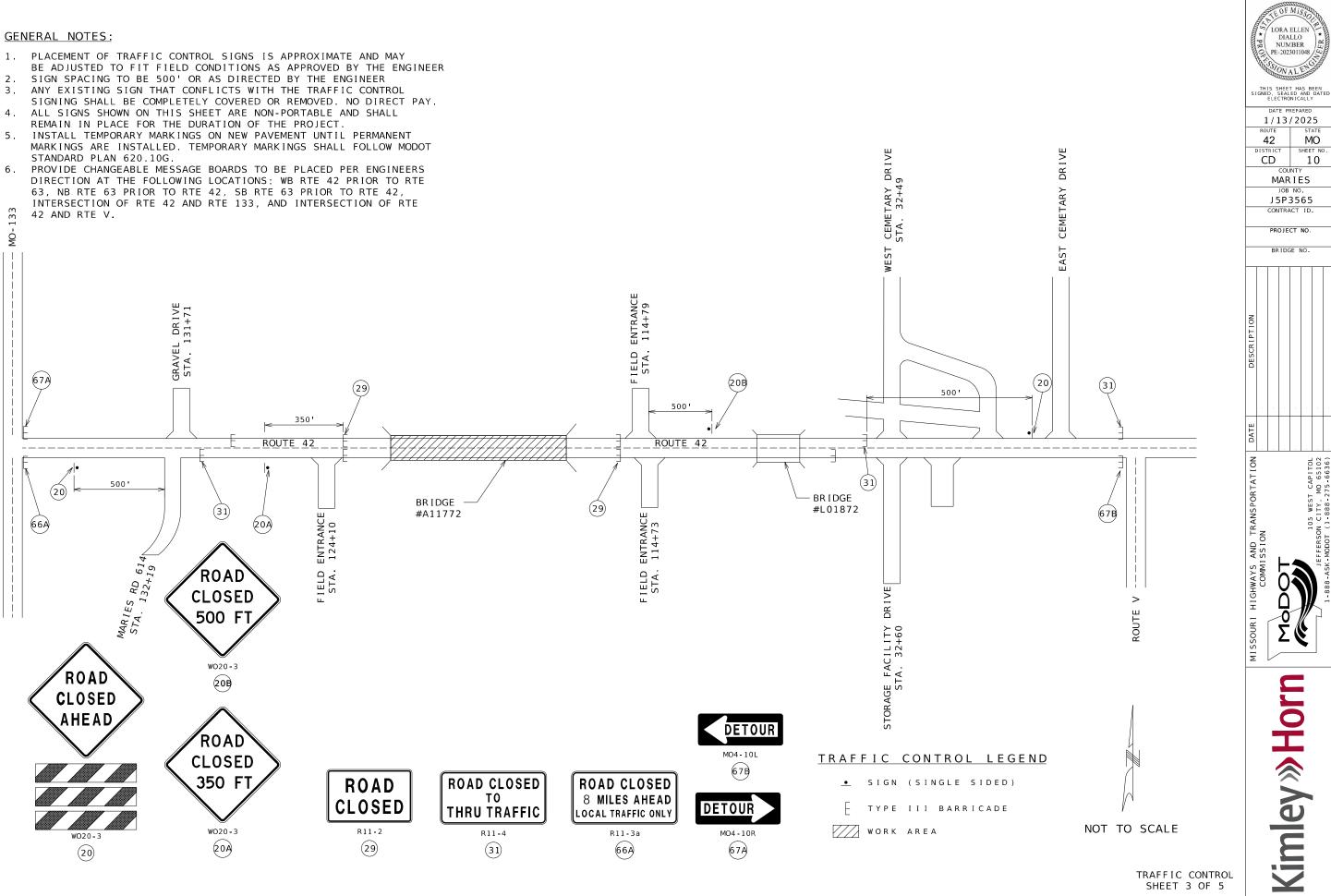










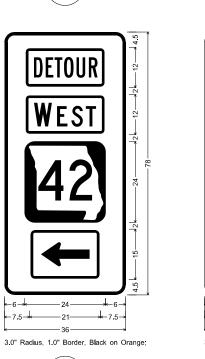






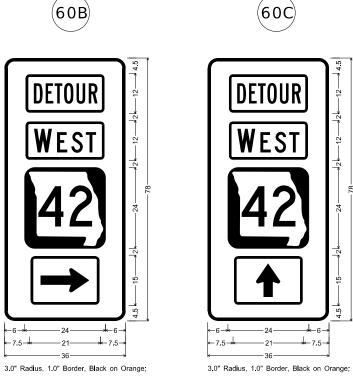
DETOUR

(63A)





(63B)





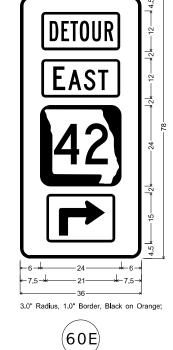
**DETOUR** 

3.0" Radius, 1.0" Border, Black on Orange;



3.0" Radius, 1.0" Border, Black on Orange;







3.0" Radius, 1.0" Border, Black on Orange;

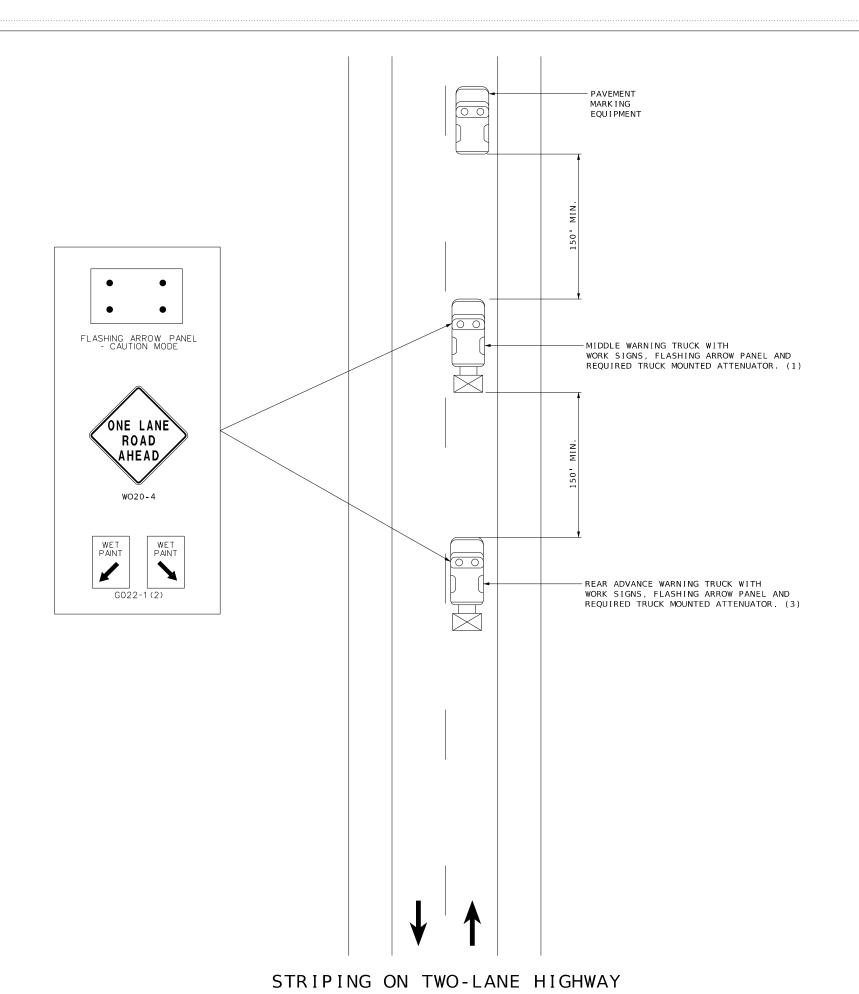
(63D)



**Kimley** » Horn

TRAFFIC CONTROL SHEET 4 OF 5

### NOT TO SCALE



### NOTES:

UPON APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY PROVIDE ADDITIONAL PROTECTIVE TRUCKS EQUIPPED WITH PROPER WARNING DEVICES.

PROTECTIVE TRUCKS AND WORK VEHICLES SHALL DISPLAY HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

VEHICLE HAZARD WARNING SIGNALS SHALL NOT BE USED INSTEAD OF THE VEHICLE'S HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.

FLASHING ARROW PANELS SHALL BE INCIDENTAL TO TRUCK MOUNTED ATTENUATORS, WHEREVER USED. NO ADDITIONAL PAYMENT WILL BE MADE.

- (1) TRUCK IS OPTIONAL ON TWO-LANE UNDIVIDED HIGHWAYS IF SIGNING AND ARROW BOARD ARE MOUNTED ON THE PAVEMENT MARKING EQUIPMENT.
- (2) WET PAINT SIGNS ARE INSTALLED TO INDICATE THE SIDE IN WHICH THE PAVEMENT MARKING MATERIAL IS BEING APPLIED. AT THE CONTRACTOR'S OPTION, A FRONT FACING WET PAINT SIGN MAY BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT MARKING EQUIPMENT.
- (3) REAR WARNING TRUCK IS POSITIONED AT THE NO TRACK POINT OF THE PAVEMENT MARKING MATERIAL, OR VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE, OR SPACING SHOWN, WHICHEVER IS GREATER.

LOF M/SSO LORA ELLEN DIALLON NUMBER PE-2023011048

THIS SHEET HAS BEEN SIGNED, SEALED AND DAT ELECTRONICALLY

1/13/2025

ROUTE STATE
42 MO
DISTRICT SHEET NO.
CD 12

COUNTY MARIES

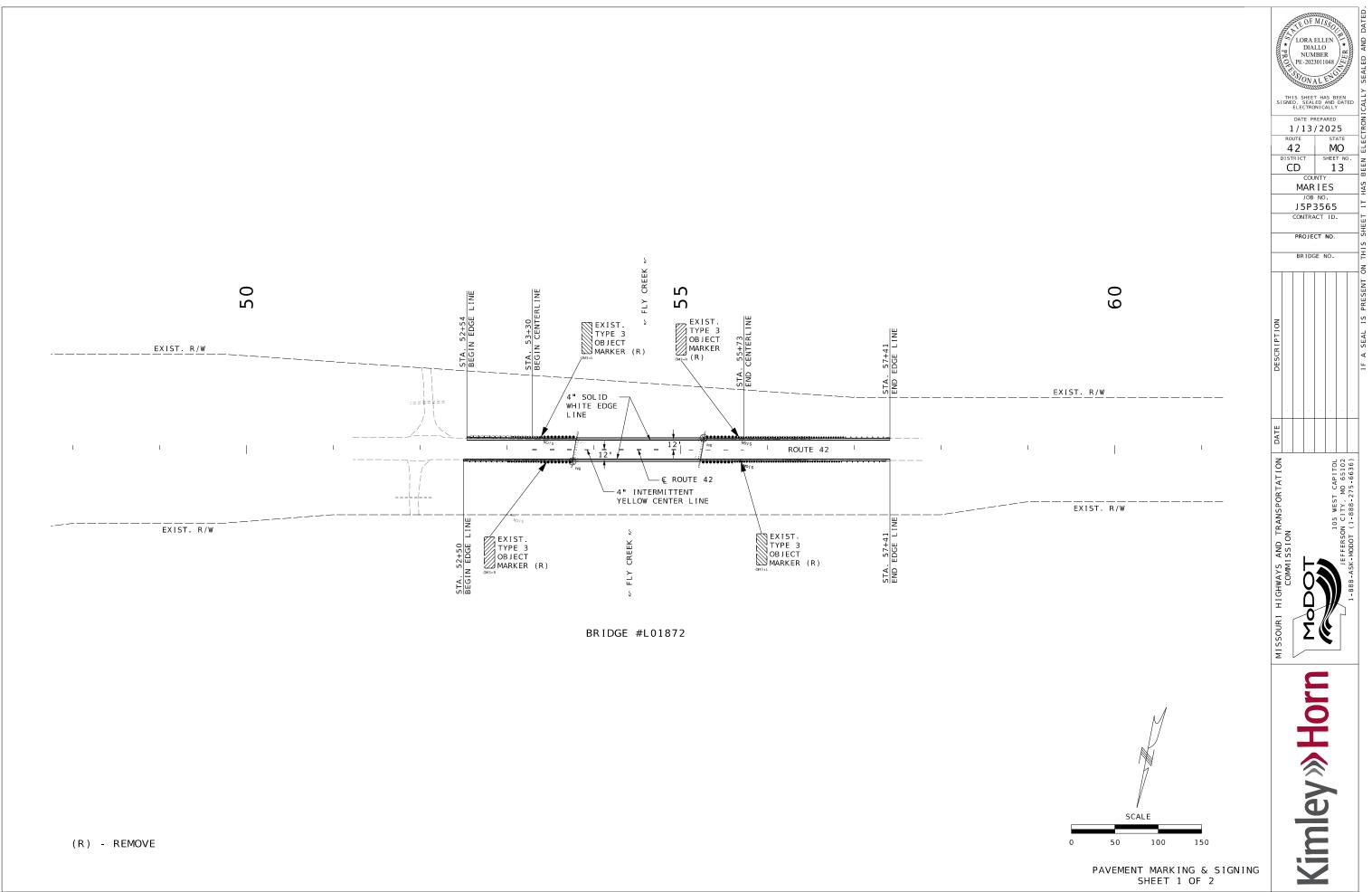
J5P3565 CONTRACT ID.

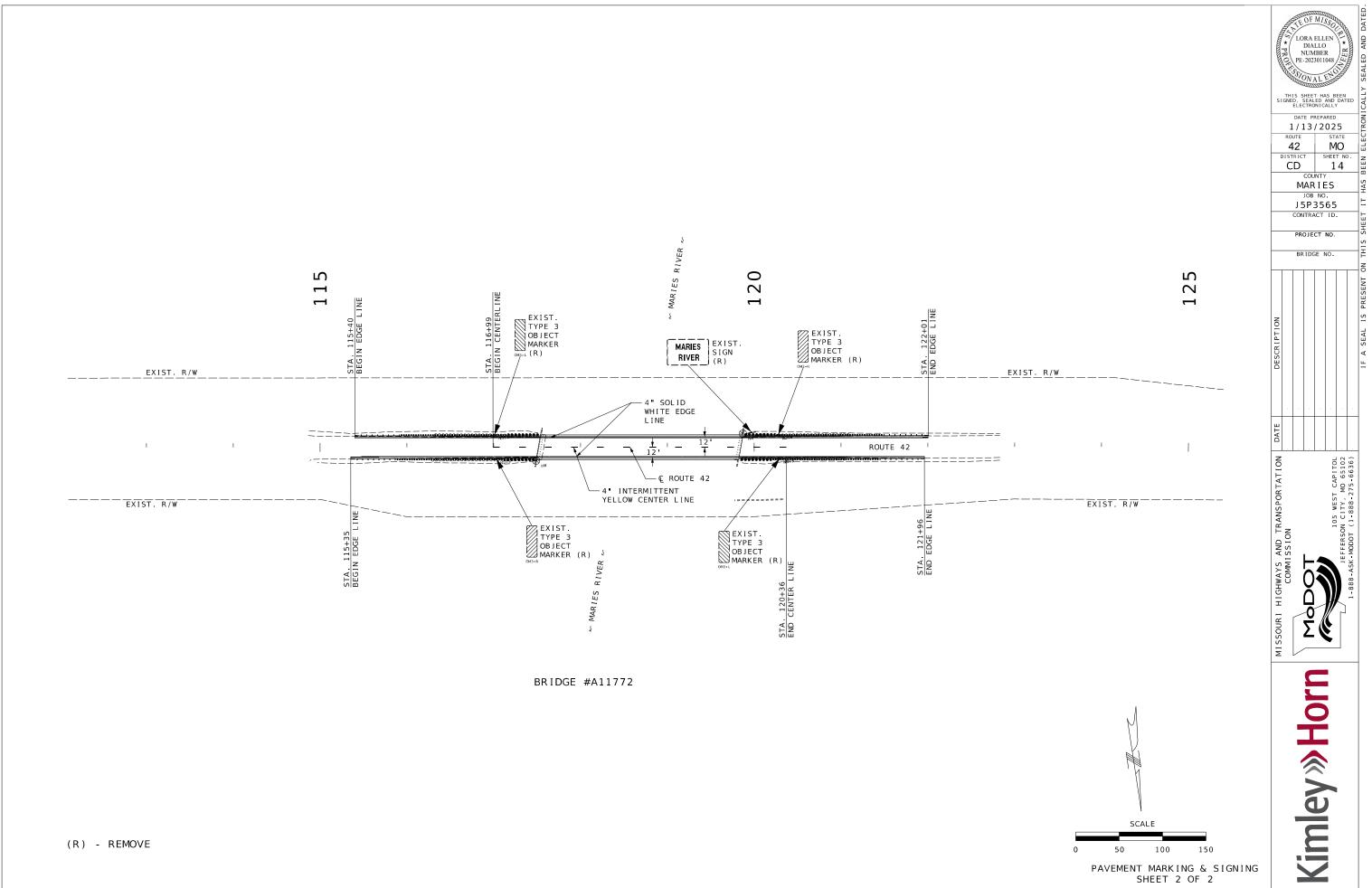


Kimley≫Horn

TRAFFIC CONTROL

SHEET 5 OF 5





		Showing Lengths		ا (					
Int. Bent No. 2 Int. Bent No. 3									
Span 1	Span 2	Span 2	Span 3						
24'-9"	25'-6"	25'-6"	24'-9"						

### SKEW 10° LA U.I.I

-#6-S5 @ 6" cts.

near end bent

13 -0"

Symm abt C Structure

Crown of Slab-

Detail

4 Spa.

@ 8"

3'-8"±

12-#5-S1 (Spaced as shown)

10 Spa. @ 15"

— #5-S6 @ 6" cts. near end bent

9 Spa. @ 8"

19-#5-S1 (Spaced as shown)

7'-4"+

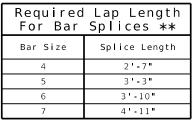
HALF SECTION NEAR MIDSPAN AND END BENT

— Ç Exist. Beam (Typ.)

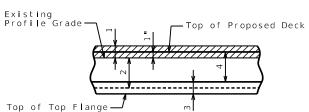
.Р.	AND	REDECK	EXISTING	(70'-	90'-	70')	CONTINUOUS	COMPOSITE	WIDE	FLANGE	BEAM	SPANS	( 5
						1	16"				26'-0"	Roadway	

@ 9"

3'-4"±



\*\* Unless otherwise shown



- Existing wearing surface (1.3"±) Original concrete deck (composite)(6 3/4"±) Proposed haunch (By Contractor) Proposed Deck Slab (6 3/4")

### PROFILE GRADE DETAIL

### General Notes:

### Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications Seismic Performance Category A

### Design Loading:

HS15-44 (1961) (Existing) HS20-44 (New Construction)
35 lb/sf Future Wearing Surface
Earth - 120 lb/cf, Equivalent Fluid Pressure 45 lb/cf

### Design Unit Stresses:

Fatigue Stress - Case III

Class B-1 Concrete (Substructure & Barrier) f'c = 4,000 psiClass B-2 Concrete (End Bents & Superstructure, except Barrier) f'c = 4,000 psiReinforcing Steel (ASTM A615 Grade 60) fv = 60,000 psi

### Joint Filler:

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

### Reinforcing Steel:

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

### Traffic Handling:

Structure to be closed during construction. See roadway plans for traffic control.

### Miscellaneous:

Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for plain bars and 30 diameters for deformed bars, unless otherwise noted.

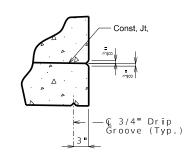
Roadway surfacing adjacent to bridge ends shall match new bridge slab surface (Roadway item).

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

Contractor shall verify all dimensions in field before ordering new material.

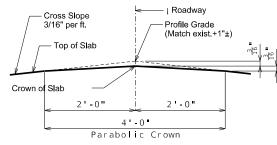
The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved qualified special mortar in accordance with Sec 704.

For adjusted beam deflection due to the weight of the new deck and barriers, see Bridge Electronic Deliverables.

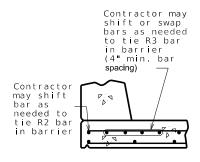


Const. Jt

DETAIL B



### DETAIL A



OPTIONAL SHIFTING TOP BARS AT BARRIER

### TYPICAL SECTION THRU SLAB

7 - 4 "+

3'-8"±

2<del>1</del> "

Estimated Quantities		
I t em		Total
Dewatering	lump sum	1
Removal of Existing Bridge Deck	sq. foot	6,439
Class B-1 Concrete (Substructure)	cu. yard	27.7
Slab on Steel	sq. yard	744
Type D Barrier	linear foot	467
Reinforcing Steel (Bridges)	pound	2,250
Slab Drain	each	24
Surface Preparation for Applying Epoxy Mastic Primer	lump sum	1
Gray Epoxy Mastic Primer	lump sum	1
Non-Destructive Testing	linear foot	60

Cost of any required excavation for bridge will be considered completely covered by the contract unit price for other items.

Estimated Quantities fo	or Slab on St	e e I
I t em		Total
Class B-2 Concrete	cu. yard	164
Reinforcing Steel (Epoxy Coated)	pound	57,990

The table of Estimated Quantities for Slab on Steel 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 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 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.

Slab shall be cast-in-place with conventional forming or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

For Optional Stay-In-Place Form Details, see Sheet No. 2.

### REPAIRS TO BRIDGE: ROUTE 42 OVER MARIES RIVER

ROUTE 42 FROM ROUTE 63 TO ROUTE T ABOUT 2.1 MILES W. OF ROUTE 63 BEGINNING STATION 117+51.90± (MATCH EXISTING)

	SI		PE SS	ON 201	PPY IBE 10017 THAN ED ONIC	R 1242	EEN DATE	ED	IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DAT
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	DATE								
	I HIGHWAYS AND TRANSPORTATION	COMMISSION		SDOT OF		105 WEST CAPITOL	JEFFERSON CITY, MO 65102	1-888-ASK-MODOT (1-888-275-6636)	

Detailed Jun. 2024 Checked Nov. 2024

Note: This drawing is not to scale. Follow dimensions

Sheet No. 1 of 11

SEC/SUR 25

13 0

22-#6-S2 @ 5" cts. (Spa. between S1)

#6-S3 @ 6" cts

−#5-S4 @ 6" cts.

7'-4"+

HALF SECTION NEAR INT. BENT

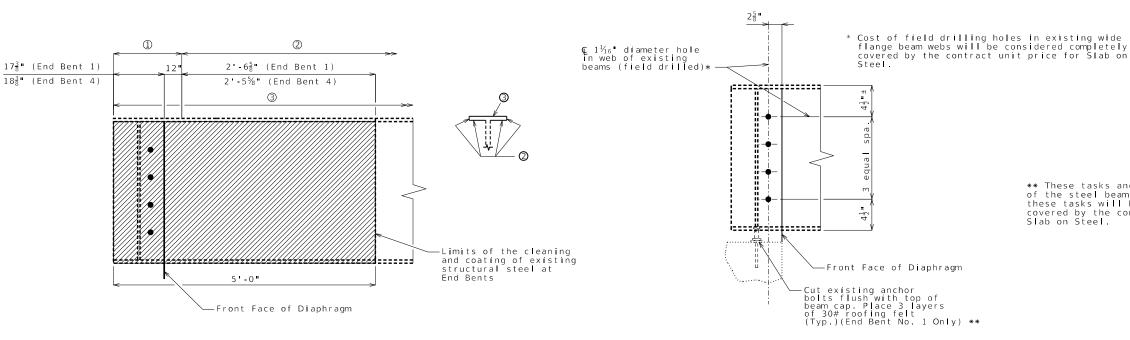
TWP 40N

16"

91 "

3'-4"±

RGE 10W



\*\* These tasks and the temporary support of the steel beam ends while completing these tasks will be considered completely covered by the contract unit price for Slab on Steel.

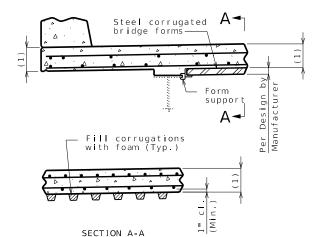
### DETAILS OF CLEANING AND COATING

(End Bents No. 1 & 4)(Shear Connectors not shown)

Structural Steel Protective Coating:

The exposed and accessible surfaces of the existing structural steel and bearings, within the limits shown above and denoted in Sec. 216.50.2.2, shall be cleaned with a minimum of SSPC-SP-3 surface preparation and coated with a minimum of one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce a dry film thickness of no less than 6 mils before concrete is poured. The surface preparation and coating shall extend a minimum of 5 feet from the end of the beam for all structural steel and bearing. Structural steel includes beams, end diaphragms, bearing stiffeners, and all plates, channels and connections and components thereof. Beam top flange cleaning and coating, as denoted in Sec 216.50.2.2, shall extend the entire length of all beams from End Bent No. 1 to End Bent No. 4.

- Within the limits shown, surface preparation and gray epoxy-mastic primer will be considered completely covered by the contract unit price for Slab on Steel, except as included in <a> (top flange)</a>.
- ② Within the limits shown, surface preparation and gray epoxy-mastic primer will be considered completely covered by the contract lump sum price for Surface Preparation for Applying Epoxy-Mastic Primer and Gray Epoxy-Mastic Primer, except as included in ③ (top flange).
- Within the limits shown, top flange surface preparation and gray epoxy-mastic primer, as defined in Sec. 216.50.2.2, will be considered completely covered by the contract unit price for Removal of Existing Bridge Deck.



OPTIONAL STAY-IN-PLACE FORM DETAILS

## DETAILS OF WEB HOLES AND BEARING MODIFICATIONS General Notes:

### Stay-In-Place Forms:

Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

Form sheets shall not rest directly on the top of beam flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Welding on or drilling holes in the beam flanges will not be permitted. All steel fabrication and construction shall be in accordance with Sec 1080 and 712. Certified field welders will not be required for welding of the form supports.

The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for beam loading.

### Pouring and Finishing Slab:

The contractor shall provide bracing necessary for lateral and torsional stability of the beams during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not weld on or drill holes in the beams. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Slab on Steel.

Slab shall be poured upgrade from end to end at a minimum rate of 25 cubic yards per hour.

Alternate pour sequences may be submitted to the engineer for approval. Keyed construction joints shall be provided between pours.

Bridge deck surface may be finished with vibratory screed.

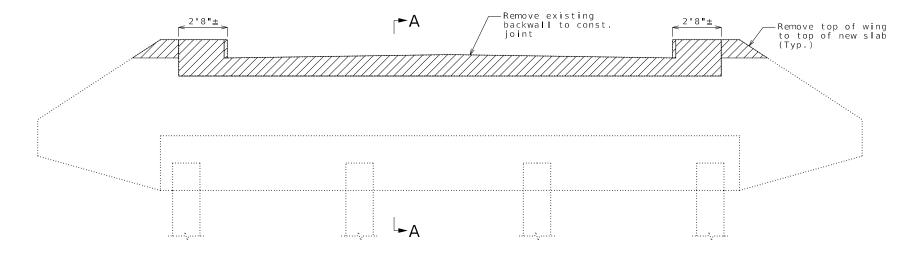
### Haunching:

(1) Slab is to be considered a uniform thickness as shown on the plans. Haunching will vary. See front sheet for thickness.

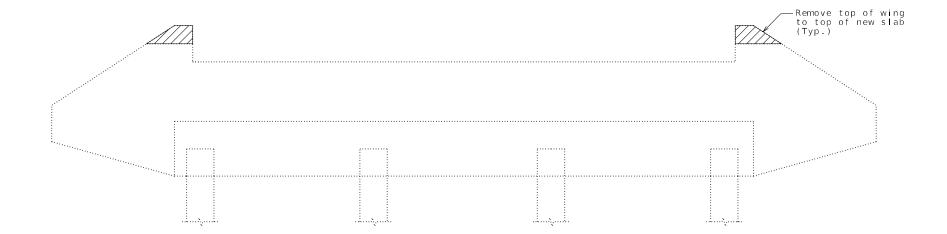


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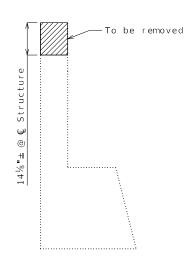
### DETAILS OF CONCRETE REMOVAL AT END BENT NO. 1



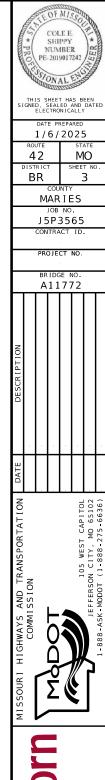
### DETAILS OF CONCRETE REMOVAL AT END BENT NO. 4

The cost of concrete removal as shown will be considered completely covered by the contract unit price for Removal of Existing Bridge Deck. Vertical backwall and wingwall reinforcement to be cut off one inch below concrete removal surface and the resulting holes shall be filled with a qualified special mortar.

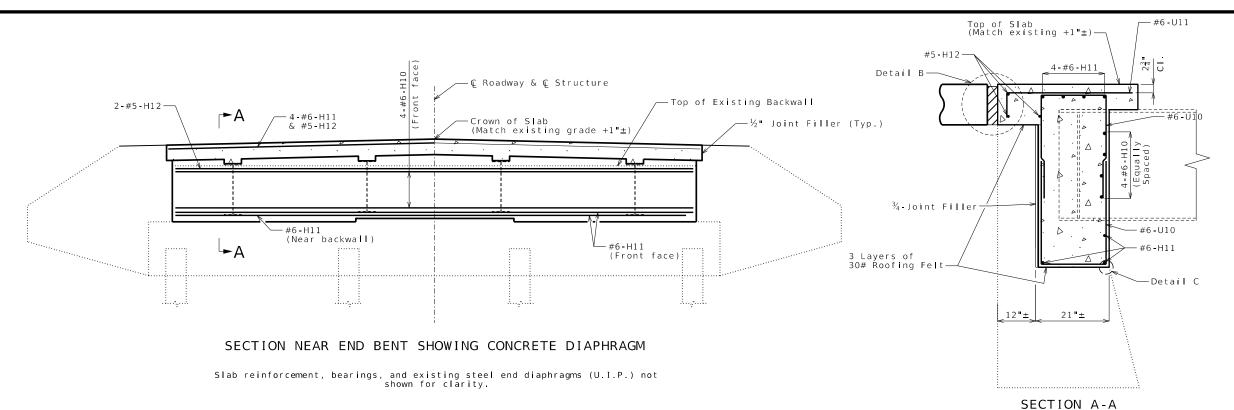
A smooth, level surface shall be provided at Bent No. 1.

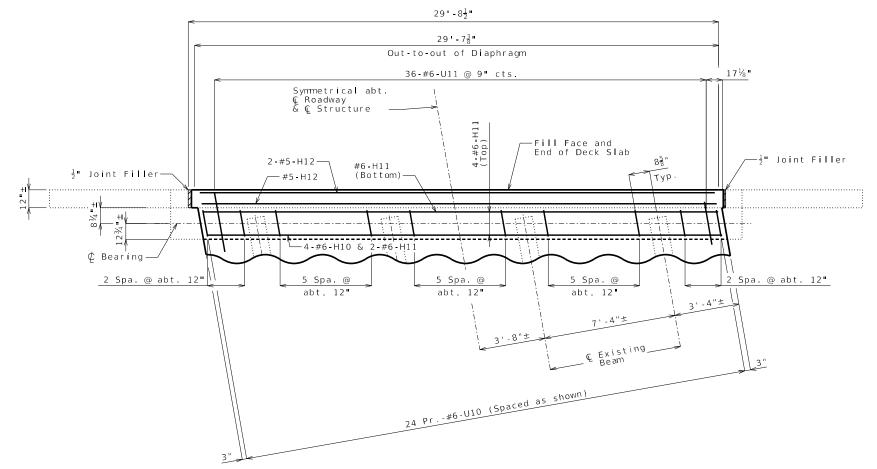


SECTION A-A



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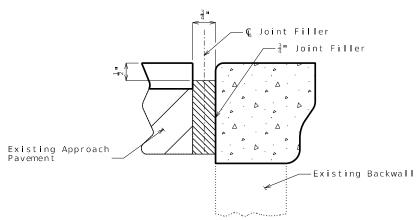




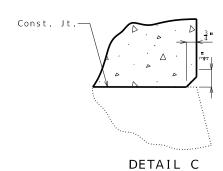
### PART PLAN SHOWING CONCRETE DIAPHRAGM

### DETAILS OF END BENT NO. 1





 $\begin{array}{c} \textbf{DETAIL} \ \ \textbf{B} \\ \\ \textbf{Extend joint filler from gutter line to gutter line.} \end{array}$ 



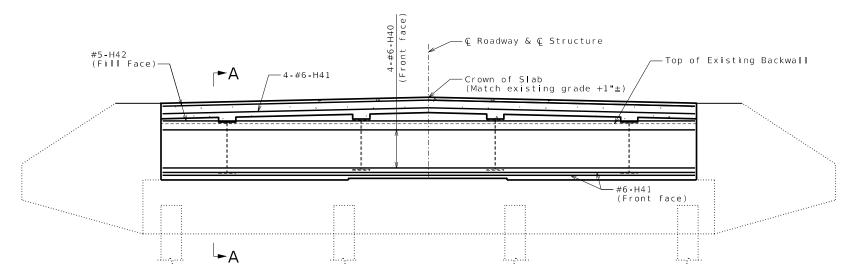
### Notes:

All concrete and reinforcement is included in the Table of Estimated Quantities for Slab on Steel and will be considered completely covered by the contract unit price for Slab on Steel.

Joint filler and anything incidental to its installation will be considered completely covered by the contract unit price for Slab on Steel.

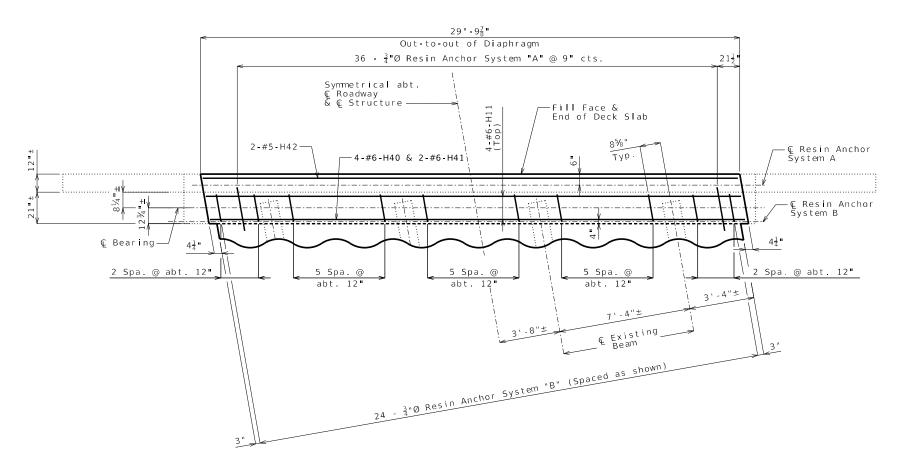


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### SECTION NEAR END BENT SHOWING CONCRETE DIAPHRAGM

Slab reinforcement, bearings, and existing steel end diaphragms (U.I.P.) not shown for clarity.



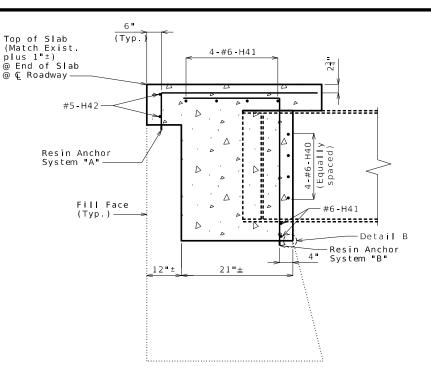
PART PLAN SHOWING CONCRETE DIAPHRAGM

### DETAILS OF END BENT NO. 4

Detailed Jul. 2024 Checked Nov. 2024

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

Sheet No. 5 of 11



### SECTION A-A

Slab reinforcement and steel diaphragm not shown for clarity.

### Notes:

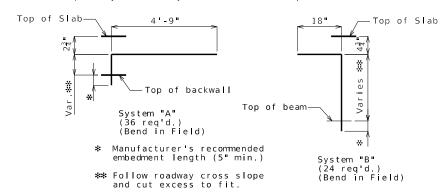
The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of funishing and installing the resin anchor system complete-in-place will be considered completely covered by the contract unit price for Slab on Steel.

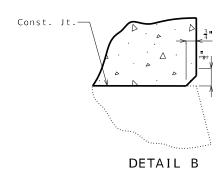
The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

An epoxy coated #6 Grade 60 reinforcing bar shall be substituted for the 3/4  $\!\!\!/\!\!\!/\!\!\!/$  threaded rod.

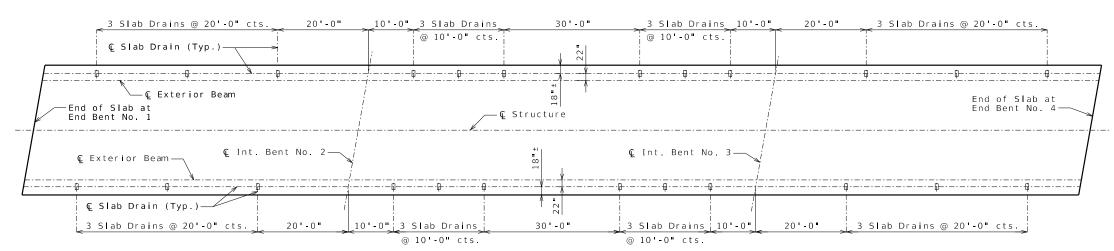
All concrete and reinforcement is included in the Table of Estimated Quantities for Slab on Steel and will be considered completely covered by the contract unit price for Slab on Steel.



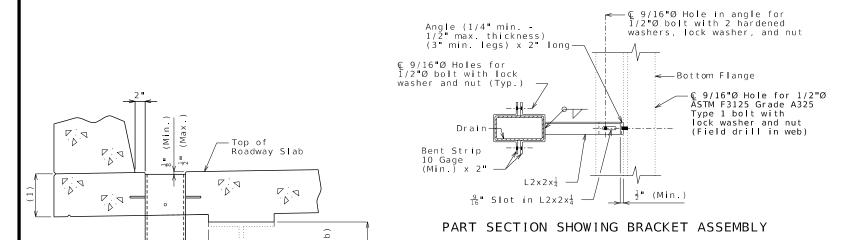
### DETAILS OF RESIN ANCHOR SYSTEMS



COLE E. SHIPPY PE-2019017242 1/6/2025 42 MO 5 BR MARIES J5P3<u>565</u> PROJECT NO A11772



PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS

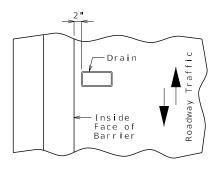


-C 9/16"Ø Hole for 1/2"Ø ASTM F3125 Grade A325 Grade A325 Type I bolt with lock washer and nut (Field drill in we

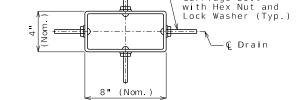
(Min.

PART SECTION NEAR DRAIN

1" (Min.)



PART PLAN OF SLAB AT DRAIN



Bottom of

Roadway Slab

-1/2"Ø x 3" Rod (ASTM A709 Grade 36) or 1/2"Ø x 3"± Shear

- © Drain

Connector (Typ.)

1/2"Ø x 3" Galv. Carriage Bolt

PLAN OF FRP DRAIN OPTION

8"

ELEVATION OF DRAIN

PLAN OF STEEL DRAIN OPTION

€ Drain—

€ Drain—

© Drain

### 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

Reinforcing steel shall be shifted to clear drains.

The 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, except as shown.

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

The bolt hole for the bracket assembly attachment shall be shifted to the minimum extent necessary to field drill in the existing web.

(1) See front sheet for slab thickness.

### 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

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 recommended by the manufacturer to ensure a smooth, chip free cut.



THIS SHEET HAS BEEN SIGNED, SEALED AND DATE ELECTRONICALLY

1/6/2025

ROUTE STATE
42 MO

DISTRICT SHEET NO

BR 6

COUNTY

MARIES

J5P3565 CONTRACT ID.

PROJECT NO

BRIDGE NO.
A11772

COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

nley >>> Horn

sylvania Ave Suite 150
ity, MO 64105
2-0350

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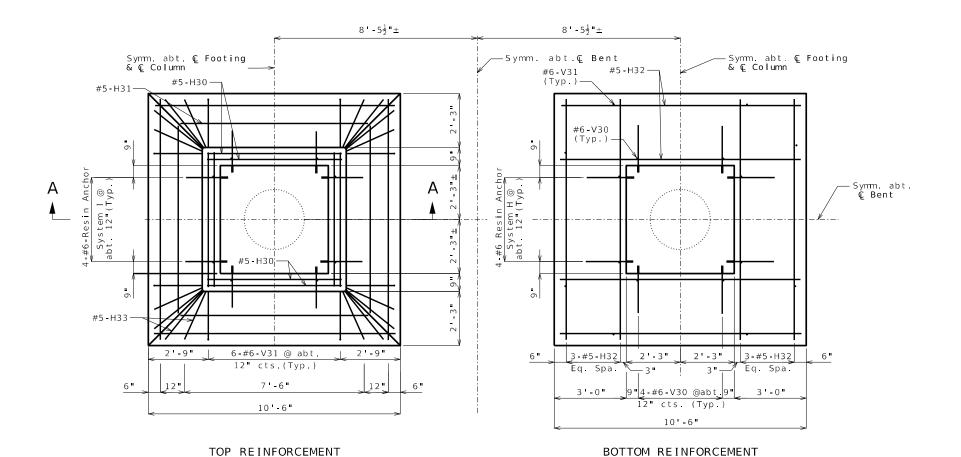
Detailed Jun. 2024 Checked Nov. 2024

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

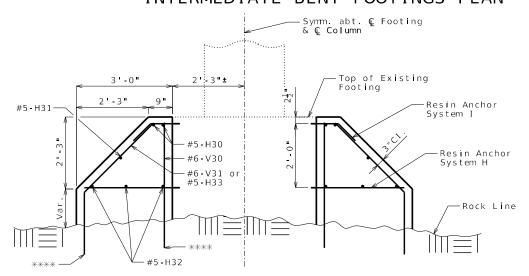
Sheet No. 6 of 11

### nns

SLAB DRAINS



### INTERMEDIATE BENT FOOTINGS PLAN



SECTION A-A

\*\*\*\* Holes shall be drilled 12" (Min.) into solid rock with #6-V30 & V31 grouted in. Trim reinforcing as needed.

# System H (32 Req'd.) System I (32 Reg'd.)

### DETAILS OF RESIN ANCHOR SYSTEM

(Quantities per Bent)

- \* Manufacturer's recommended embedment length (5" min.)
- \*\* 2'-9" plus repair depth

\*\*\* 8" plus repair depth

### Notes:

All deteriorated concrete shall be removed prior to installing new concrete. All reinforcing steel exposed shall have a minimum of 1-inch beyond the inside edge

Sandblasting shall be required on existing concrete surface that will be in contact with new concrete.

The cost of removing deteriorated concrete and installing new concrete, complete in place, will be considered complete covered by the contract unit price for Class B-1

The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

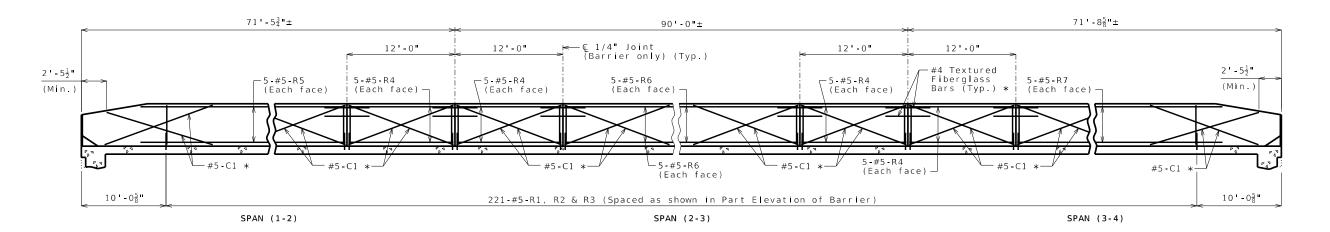
Cost of furnishing and installing the resin anchor system, complete in place, will be considered completely covered by the contract unit price for Class B-1 Concrete.

The minimum embedment depth in concrete with f'c = 4,000psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5-inches.

The cost for dewatering to construct the footing collars will be considered completely covered by the lump sum price for Dewatering. The engineer has the sole discretion to underrun the work to install footing collars and for dewatering if determined the work cannot be reasonably performed

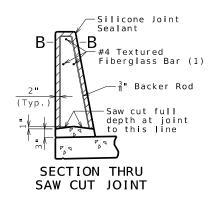
# COLEE SHIPPY PE-2019017242 1/6/2025 42 MO 7 BR MARIES J5P3565 PROJECT NO A11772

DETAILS OF FOOTING COLLARS AT INTERMEDIATE BENTS NO. 2 & 3

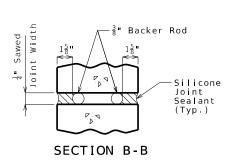


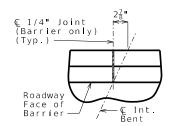
### ELEVATION OF BARRIER

(Left barrier shown, right barrier similar)
Longitudinal dimensions are horizontal.









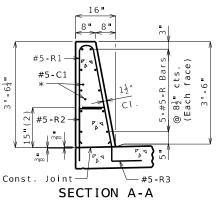
PART PLAN SHOWING JOINT LOCATION

# #4 Textured Fiberglass (Formed or Saw Cut) Supplied Fiberglass (Formed or Saw Cut) #5 R1, R2 and R3 @ abt 12 cts. #5 R1, R2 and R3 @ abt 12 cts.

### PART ELEVATION OF BARRIER

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

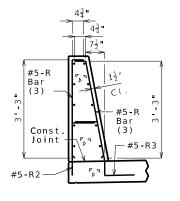
Detailed Jul. 2024 Checked Nov. 2024



Use a minimum lap of 3'-1" for #5 horizontal barrier bars

The cross-sectional area above the slab is 3.52 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.)

### 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 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 D 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 slab to end of slab.

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 D Barrier.

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

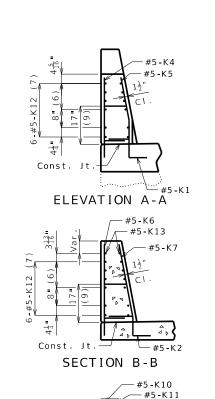
For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.



# Kimley» Horr

### TYPE D BARRIER

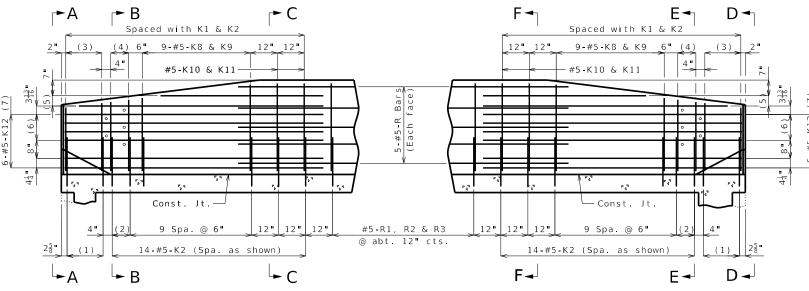
Sheet No. 8 of 11

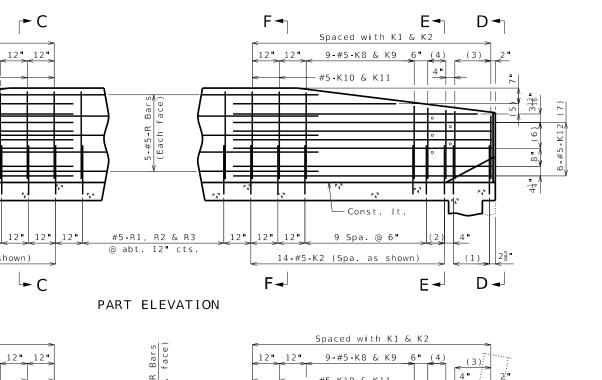


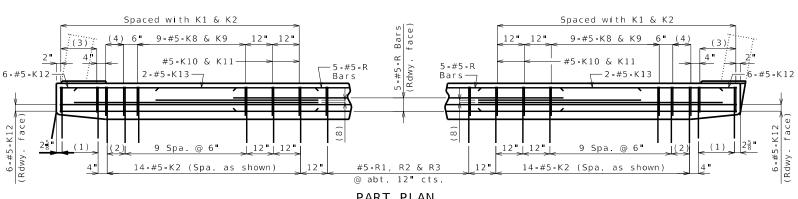
Const. Jt.

SECTION C-C

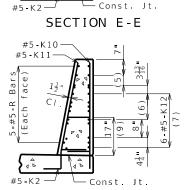
#5-K2







PART PLAN (Top of barrier not shown for clarity.)



SECTION F-F

**ELEVATION D-D** 

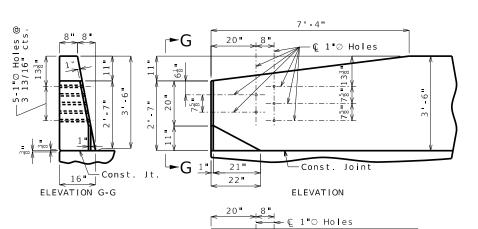
#5-K6

#5-K13

#5-K7

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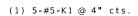
#5-K5



22"

DETAILS OF GUARD RAIL ATTACHMENT

1" Chamfer⊸



- (2) 2 spaces @ 4"
- (3) 5-#5-K4 & K5
- (4) 3-#5-K6 & K7
- (5) 2-#5-K13 @  $4\frac{1}{2}$ " cts., each face
- (6) 3 spaces @ 3<sup>13</sup><sub>16</sub>"
- (7) Spaced as shown, each face
- (8) 2-#5-K13 (Roadway face)
- (9) To top of bar

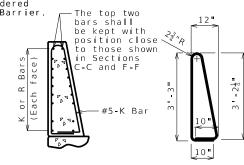
### General Notes:

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 D. Barrier completely covered by the contract unit price for Type D Barrier.

### Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2".

Use a minimum lap of 3'-1" between horizontal K bars and R bars.



### K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.

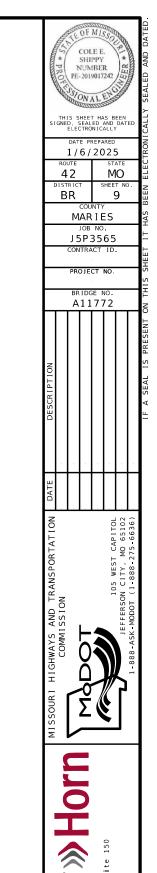
All dimensions are out to out.

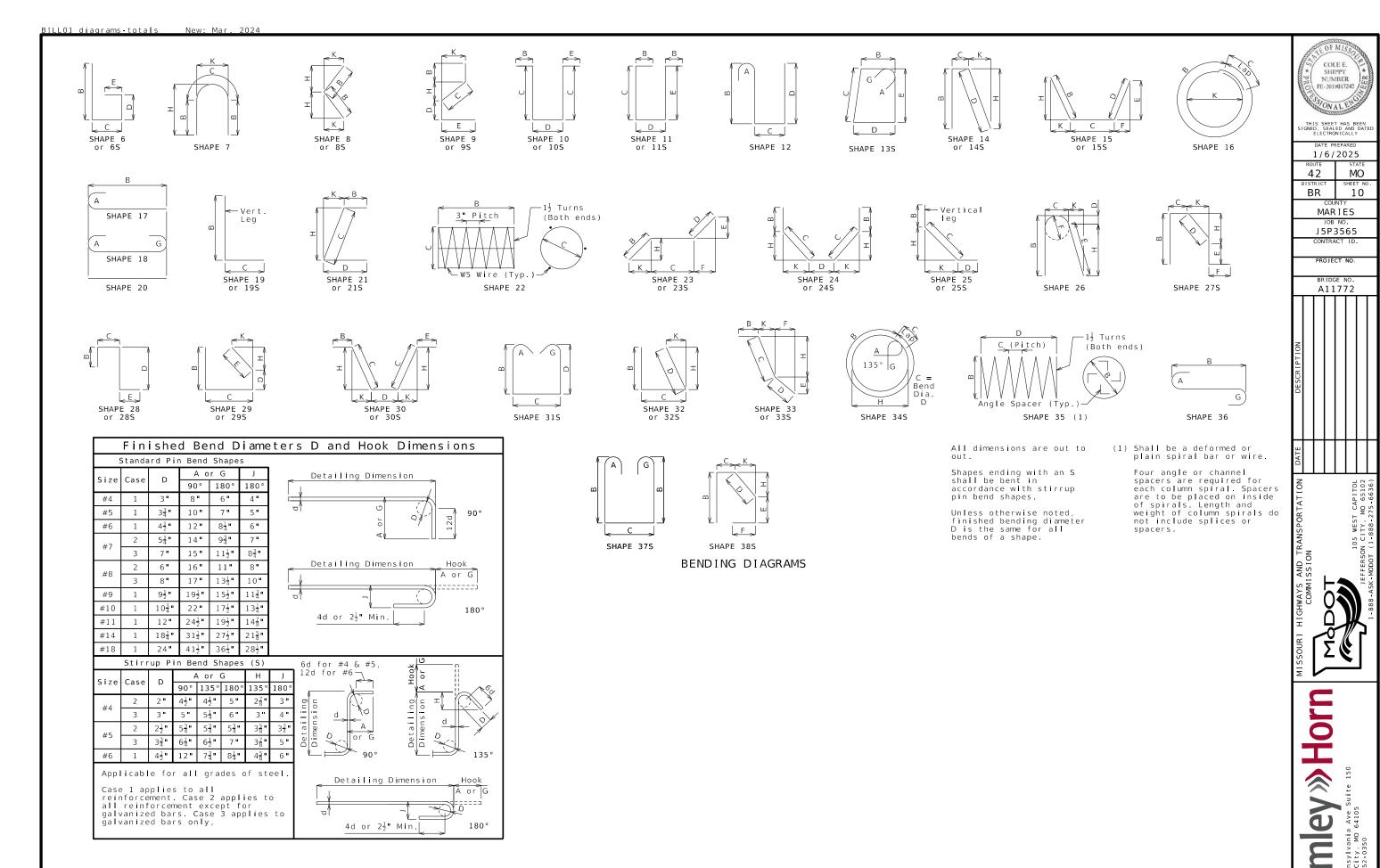
### TYPE D BARRIER AT END BENTS

(Left barrier shown, right barrier similar)

Detailed Jul. 2024 Checked Nov. 2024

— Roadway Face of Barrier





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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. 10.

All bars shall be Grade 60.

BILL OF REINFORCING STEEL

Codes: C = Required coatings, where E = Epoxy Coated and <math>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. THIS SHEET HAS BEEN GNED, SEALED AND DATED THE ELECTRONICALLY

DATE PREPARED

1 / 6 / 2025

ROUTE

42 MO

DISTRICT SHEET NO.

BR 11

COUNTY

MAR I ES

JOB NO.

JOSTRACT ID.

BRIDGE NO.

A11772

SOURT HIGHWAYS AND TRANSPORTATION
COMMISSION

1.888-ASK-MODOT (1.888-Z55-6536)

mley >>> Horn

Symm. abt. C Structure

16"

Crown of Slab

Detail A

4 Spa.

@ 8"

3'-8"±

13'-0"

10 Spa. @ 15"

#5-S6 @ 6" cts.

near end bent

9 Spa. @ 8"

19-#5-S1 (Spaced as shown)

7'-4"±

HALE SECTION NEAR MIDSPAN AND END BENT

12-#5-S1 (Spaced as shown)

#6-S5 @ 6" cts.

© Exist Beam

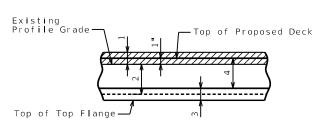
(Typ.)

near end bent

	S2 Bar	Lengths	5
Int. Bei	nt No. 2	Int. Bei	nt No. 3
Span 1	Span 2	Span 2	Span 3
15'-4"	16'-6"	16'-6"	15'-4"

Required Lap Length For Bar Splices **						
Bar Size	Splice Length					
4	2'-7" 3'-3" 3'-10"					
5						
6						
7	4'-11"					

\*\* Unless otherwise shown.



- Existing wearing surface (2°±) Original concrete deck (6 3/4°±) Proposed haunch (By Contractor)
- Proposed Deck Slab (6 3/4")

### PROFILE GRADE DETAIL

### General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications Seismic Performance Category A

Design Loading:

HS15-44 (1957) (Existing) HS20-44 (New Construction)
35 lb/sf Future Wearing Surface
Earth - 120 lb/cf, Equivalent Fluid Pressure 45 lb/cf Fatigue Stress - Case III

Design Unit Stresses:

Class B-1 Concrete (Substructure & Barrier) f'c = 4,000 psiClass B-2 Concrete (End Bents & Superstructure, except Barrier) f'c = 4,000 psiReinforcing Steel (ASTM A615 Grade 60) fy = 60,000 psi

Joint Filler:

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

Reinforcing Steel:

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

Traffic Handling:

Structure to be closed during construction. See roadway plans for traffic control.

Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for plain bars and 30 diameters for deformed bars, unless otherwise noted.

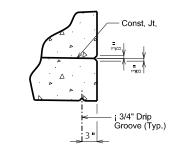
Roadway surfacing adjacent to bridge ends shall match new bridge slab surface (Roadway item).

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

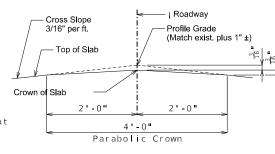
Contractor shall verify all dimensions in field before ordering new

The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved qualified special mortar in accordance with Sec 704.

For adjusted beam deflection due to the weight of the new deck and barriers, see Bridge Electronic Deliverables.



DETAIL B



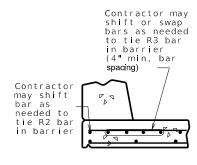
Const. Jt

3 Spa

@ 9"

3'-4"±

### DETAIL A



OPTIONAL SHIFTING TOP BARS AT BARRIER

### TYPICAL SECTION THRU SLAB

7 - 4 " +

26'-0" Roadway

 $2\frac{1}{2}$ 

		Total
Dewatering	lump sum	1
Removal of Existing Bridge Deck	sq. foot	3,920
Class B-1 Concrete (Substructure)	cu. yard	27.6
Slab on Steel	sq. yard	470
Type D Barrier	linear foot	295
Reinforcing Steel (Bridges)	pound	2,250
Shear Connectors	each	2,192
Slab Drain	each	26
Surface Preparation for Applying Epoxy Mastic Primer	lump sum	1
Gray Epoxy Mastic Primer	lump sum	1
Non-Destructive Testing	linear foot	19

3'-8"±

Cost of any required excavation for bridge will be considered completely covered by the contract unit price for other items

Estimated Quantities f	for Slab on Steel
I t em	Total
Class B-2 Concrete	cu. yard 104
Reinforcing Steel (Epoxy Coated)	pound 37,930

The table of Estimated Quantities for Slab on Steel 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 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

Method of forming the slab shall be 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

Slab shall be cast-in-place with conventional forming or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

For Optional Stay-In-Place Form Details, see Sheet No. 2.

REPAIRS TO BRIDGE: ROUTE 42 OVER OVER FLY CREEK

ROUTE 42 FROM ROUTE 63 TO ROUTE T ABOUT 1.0 MILES W OF ROUTE 63 BEGINNING STATION 53+78.0± (MATCH EXISTING)

1/6/2025 42 MO ΒR 1 MARIES J5P3565 PROJECT NO L01872

COLE E. SHIPPY

PE-2019017242

mley » Horn

SEC/SUR 30

13'-0"

22-#6-S2 @ 5" cts. (Spa. between S1)

#6-S3 @ 6" cts.

#5-S4 @ 6" cts.

7'-4"±

HALE SECTION NEAR INT. BENT

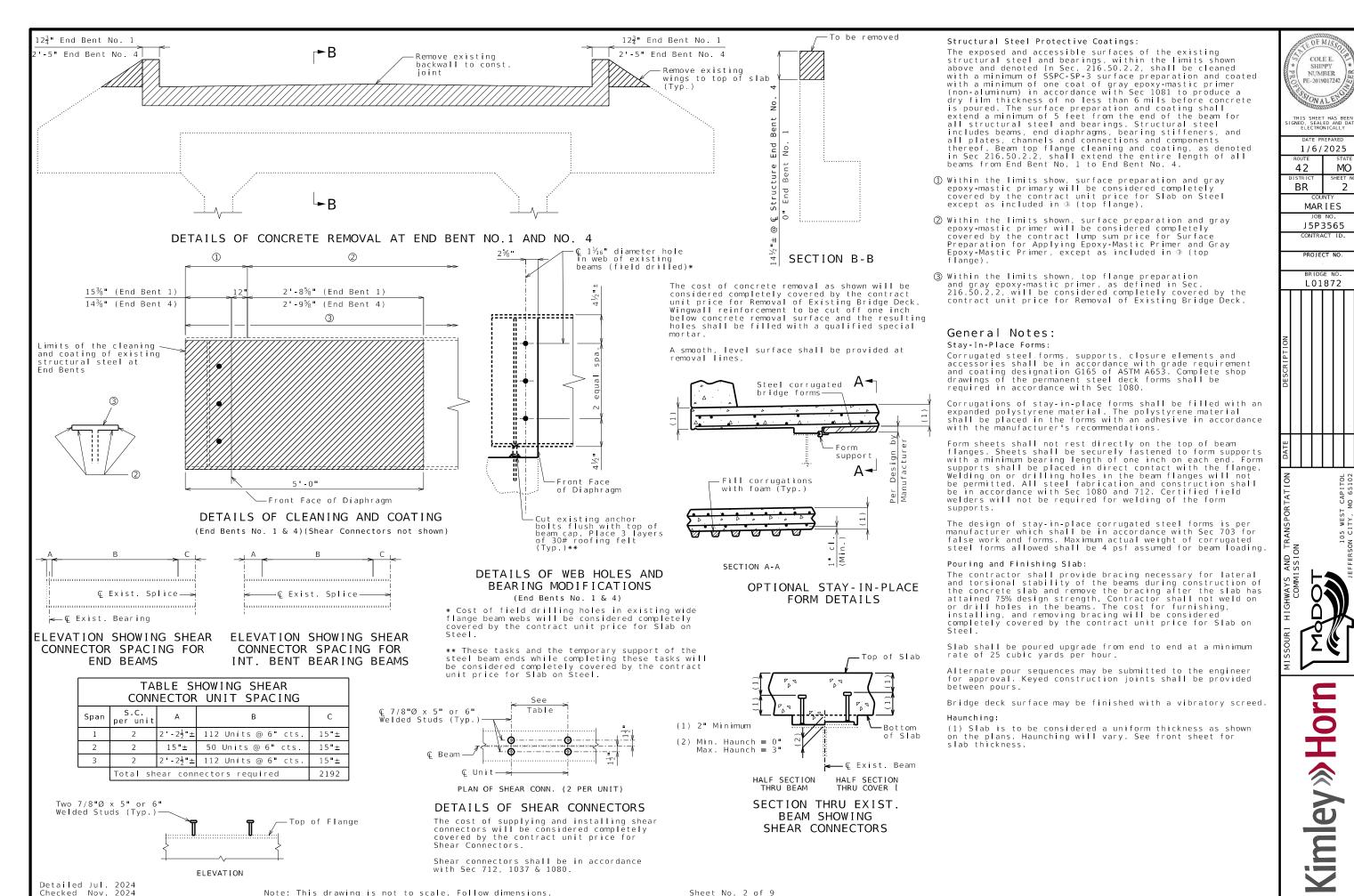
TWP 40N

3'-4"±

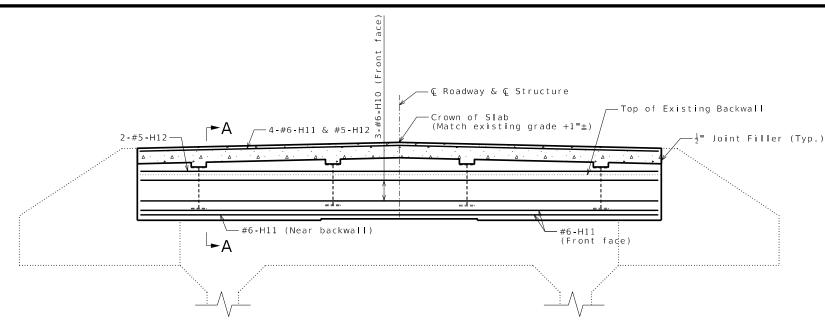
91 "

RGE 9W

-Detail B

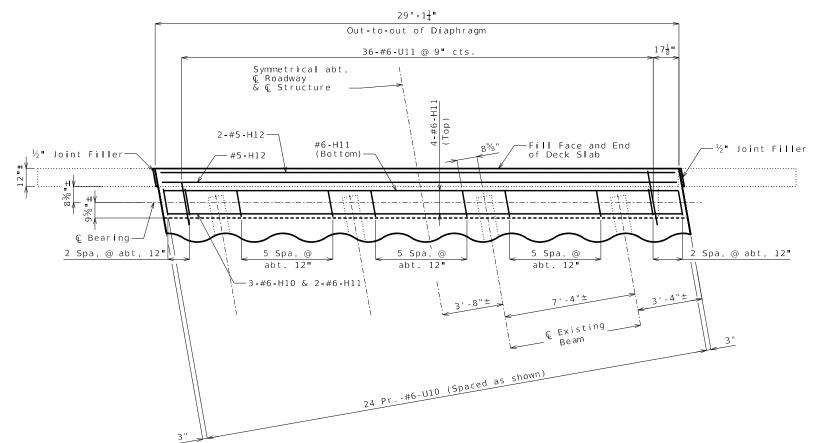


2

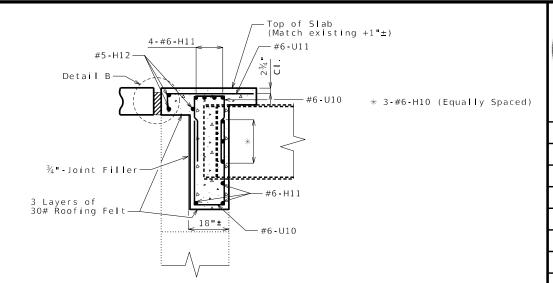


### SECTION NEAR END BENT SHOWING CONCRETE DIAPHRAGM

Slab reinforcement, bearings, and existing steel end diaphragms (U.I.P.) not shown for clarity.



PART PLAN SHOWING CONCRETE DIAPHRAGM



COLE E.

SHIPPY

PE-2019017242

1/6/2025

MARIES
JOB NO.
J5P3565

PROJECT NO

L01872

MO

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42

ΒR

### SECTION A-A

Slab reinforcement and steel diaphragm not shown for clarity.

### Notes:

All concrete and reinforcement is included in the Table of Estimated Quantities for Slab on Steel and will be considered completely covered by the contract unit price for Slab on Steel.

### DETAILS OF END BENTS NO. 1 & 4

Detailed Jul. 2024 Checked Nov. 2024

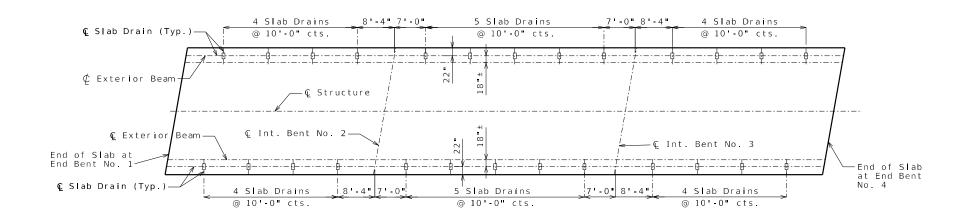
5"Ø Hole for ASTM F3125 A325

1" (Min.

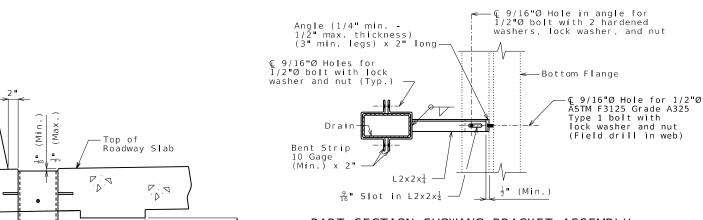
ith lock and nut drill in

(Min

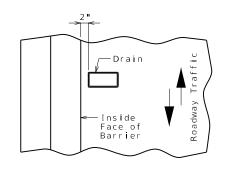
PART SECTION NEAR DRAIN



### PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



PART SECTION SHOWING BRACKET ASSEMBLY



PART PLAN OF SLAB AT DRAIN

SLAB DRAINS

### 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 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, except as shown.

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

The bolt hole for the bracket assembly attachment shall be shifted to the minimum extent necessary to field drill in the

(1) See front sheet for slab thickness.

### Notes for Steel Drain:

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

Outside dimensions of drains are  $8" \times 4"$ .

The drains shall be galvanized in accordance with ASTM A123.

Drains shall be machine filament-wound thermosetting resin tubing meeting the equirements of ASTM D2996 with the

Minimum reinforced wall thickness shall be 1/4 saach

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.

(Federal Standard 26373). The color shall be uniform throughout the resin and any

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 recommended by the manufacturer to ensure a smooth, chip free





COLE E.

SHIPPY NUMBER

PE-2019017242

1/6/2025

MARIES

J5P3565

PROJECT NO

L01872

MO SHEET N

4

42

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### Notes for FRP Drain:

Bottom of

ELEVATION OF DRAIN

PLAN OF STEEL DRAIN OPTION

8" (Nom.)

PLAN OF FRP DRAIN OPTION

C Drain→

C Drain→

≟L Roadway Slab

1/2"Ø x 3" Rod (ASTM A709 Grade 36) or 1/2"Ø x 3"± Shear

-Ç Drain

Connector (Typ.)

1/2**"**Ø x 3**"** Galv.

Lock Washer (Typ.)

- C Drain

Carriage Bolt with Hex Nut and

following exceptions:

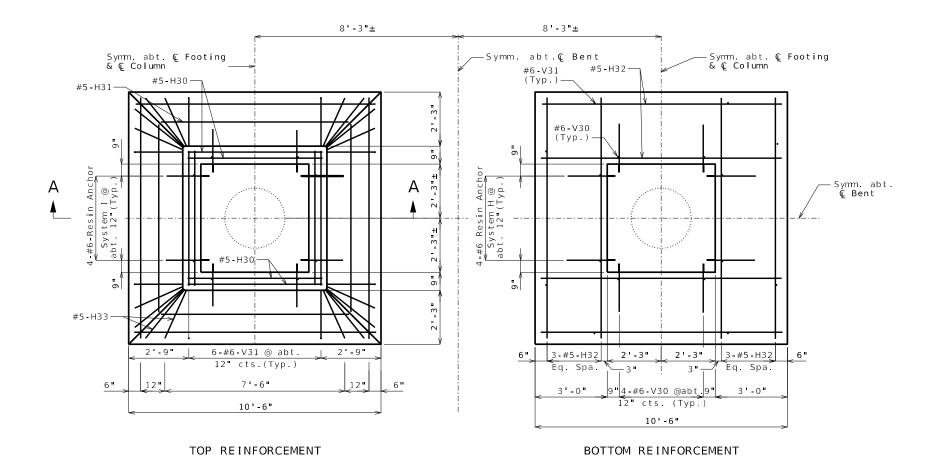
Shape of drains shall be rectangular with outside nominal dimensions of 8" x 4".

The color of the slab drain shall be gray

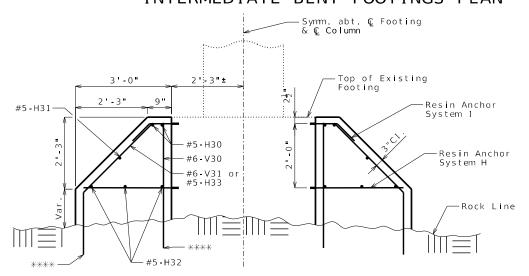
Detailed Jul. 2024

Note: This drawing is not to scale. Follow dimensions

Sheet No. 4 of 9

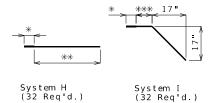


### INTERMEDIATE BENT FOOTINGS PLAN



SECTION A-A

\*\*\*\* Holes shall be drilled 12" (Min.) into solid rock with #6-V30 & V31 grouted in. Trim reinforcing as needed.



### DETAILS OF RESIN ANCHOR SYSTEM

(Quantities per Bent)

\* Manufacturer's recommended
embedment length (5" min.)
\*\*\* 2'-9" plus repair depth

\*\*\* 8" plus repair depth

### Notes

All deteriorated concrete shall be removed prior to installing new concrete. All reinforcing steel exposed shall have a minimum of 1-inch beyond the inside edge removed.

Sandblasting shall be required on existing concrete surface that will be in contact with new concrete.

The cost of removing deteriorated concrete and installing new concrete, complete in place, will be considered complete covered by the contract unit price for Class B-1 Concrete.

The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor system, complete in place, will be considered completely covered by the contract unit price for Class B-1 Concrete.

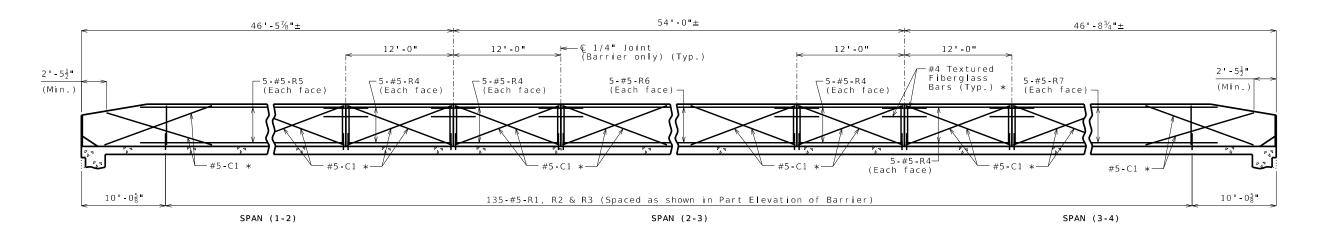
The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5-inches.

The cost for dewatering to construct the footing collars will be considered completely covered by the lump sum price for Dewatering. The engineer has the sole discretion to underrun the work to install footing collars and for dewatering if determined the work cannot be reasonably performed.

# COLE E. SHIPPY PE-2019017242 1/6/2025 42 MO 5 BR MARIES J5P3565 PROJECT NO L01872

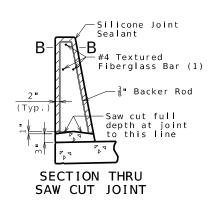


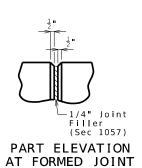
DETAILS OF FOOTING COLLARS AT INTERMEDIATE BENTS NO. 2 & 3

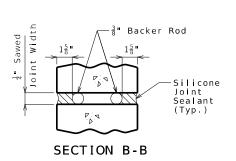


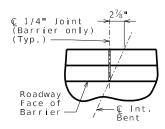
### **ELEVATION OF BARRIER**

(Left barrier shown, right barrier similar) Longitudinal dimensions are horizontal.







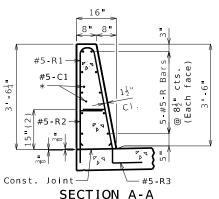


PART PLAN SHOWING JOINT LOCATION

### ← € 1/4" Joint Formed or #4 Textured Fiberglass Bars (1) Saw Cut) #5-R1, R2 and R3 └─#5-C1 (Typ.) \* @ abt. 12" cts. #5-R1, R2 and R3 @ abt. 12" cts.

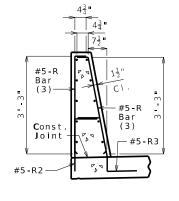
### PART ELEVATION OF BARRIER

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



Use a minimum lap of 3'-1" for #5 horizontal barrier bars. The cross-sectional area above

the slab is 3.52 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.)

### 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 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 D Barrier

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 slab to end of slab.

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 D Barrier.

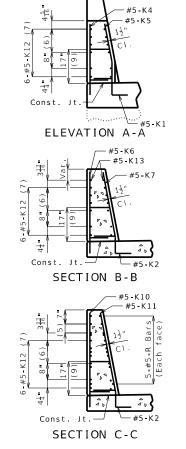
Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed

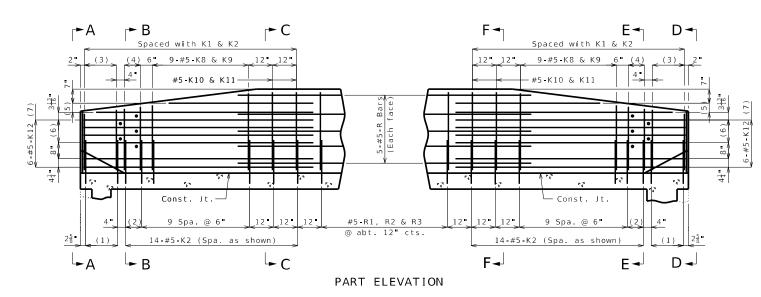
For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

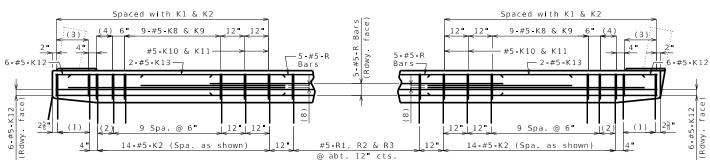
# COLE E. SHIPPY PE-2019017242 1/6/2025 42 MO BR 6 MARIES J5P3565 PROJECT NO L01872

# **Kimley** » Horn

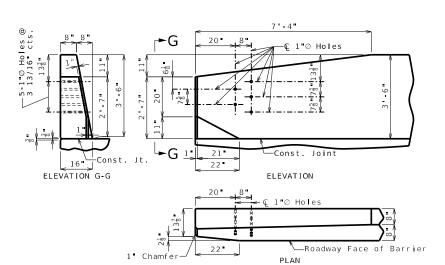
### TYPE D BARRIER







PART PLAN
(Top of barrier not shown for clarity.)



DETAILS OF GUARD RAIL ATTACHMENT

- (1) 5-#5-K1 @ 4" cts. General No
- (2) 2 spaces @ 4**"**
- (3) 5-#5-K4 & K5
- (4) 3-#5-K6 & K7
- (5) 2-#5-K13 @  $4\frac{1}{2}$ " cts., each face
- (6) 3 spaces @  $3\frac{13}{16}$
- (7) Spaced as shown, each face
- (8) 2-#5-K13 (Roadway face)
- (9) To top of bar

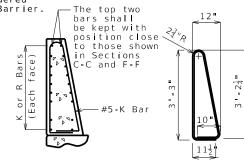
### General Notes:

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 D Barrier.

### ReInforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2".

Use a minimum lap of 3'-1" between horizontal K bars and R bars.



### K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

### TYPE D BARRIER AT END BENTS

(Left barrier shown, right barrier similar)

Note: This drawing is not to scale. Follow dimensions

Sheet No. 7 of 9



MISSOURI HIGHWAYS AND TRANSPORT
COMMISSION
COMMISSION
105 WEST OR
LIGHT WEST OR
LIGHT WEST OF THE WEST

**ELEVATION D-D** 

⊏ Const. Jt.

SECTION E-E

└─ Const. Jt.

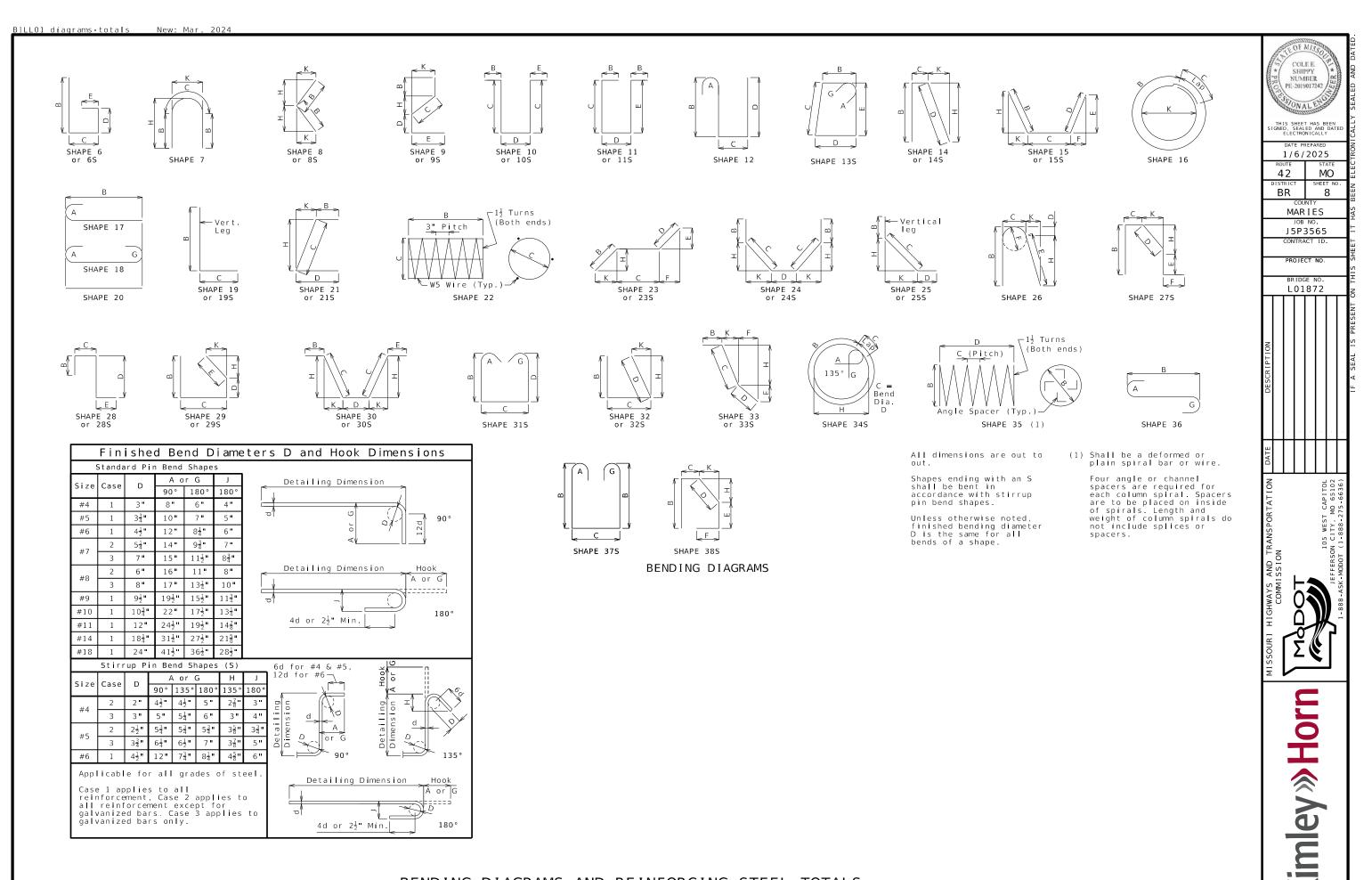
SECTION F-F

#5-K6 -

#5-K13-

#5-K7

#5-K10



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

	Bill of Reinforcing Steel									1 [	Bill of Reinforcing Steel										11.																																						
				1		Dimension	S			Nom.																																				1						Dimensio	ns	_	_	Nom.	Actual		É
No. Size Reg. Mark		Cloudes	B / ft in.	ft in.	D ft n	ft in.	ft in.	ft in	ft in.	Length ft in			No. Req.		Location	Codes	B C V ft in ft in	D ft in	f t in	f + in	ft in.	K K		Length ft in		- 1																																	
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10 5 S6		E 20 2	25 10.00	0						25 10	25 10	)														J																																	
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	BARRIER												1													ND TRANSPORTATION																																	
													<b>↓</b>											1		ĴI∑																																	
20 5 K1 56 5 K2		E 27S E 27S	20.75	0 9.250 0 9.250	5 375 17 250		12.000	5.250 17.000					┨├──						1	+			<u> </u>	+		<b>-   </b>   6																																	
20 5 K4		E 195 4	1 2 4 250		) 17.230	3.230	12.000	17.000	3.230	3 3	3 2	200	╂											+		115																																	
	INCREMENT =		2 6.250		)					3 5	3 4	68														] [ 🧸																																	
	1/2 INCH												<b>↓</b>											1		ĴĬĔ																																	
20 5 K5		E 385 4	+	+	18.500			18.000					┨├──						+	+				+	1	-119																																	
	1/2 INCH				20.300	3.300	0.230	20.000	7.300	1 -	1 -	1 03	11											+		115																																	
12 5 K6	BARRIER CURB		2 6.750							3 5			1 🗀											1		HIGHWAYS .																																	
12 5 K7		E 21S	1 2 0 500		10.000			2 6.000	6.250	3 5			<b>↓</b>			$\sqcup \sqcup$		1			1					<b>┧┃</b> ┋																																	
36 5 K8	BARRIER CURB INCREMENT =	195 4	3 2.500			-		-	-	3 7 4 1			┨├──			$H \rightarrow$	+ +			+	+		+	+	1	115																																	
	3/4 INCH			10.000						<u>ti i</u>	Ė		11								<u> </u>			$\perp$		<b>1</b>																																	
36 5 K9	BARRIER CURB	E 21S 4	1	2 8.500	+	1		2 7.750		0 3 7			] [											$\bot$		MISSOIB																																	
	INCREMENT =	+		3 2.500	10.000			3 1.750	7.750	0 4 1	3 11	138	┨┝──			$H \rightarrow$				1				+	-	<b>4</b>   5																																	
8 5 K10	3/4 INCH D BARRIER CURB	E 195	3 3.000	10.000		1		<del> </del>	<del> </del>	4 1	4 0	34	11	1		H	+ +		+	+	+		1	+	<del> </del>	115																																	
8 5 K1		E 21S		3 3.000	10.000			3 2.250	7.750	0 4 1			1 🗀								$\perp$	<u> </u>		上		בן נַ																																	
48 5 K12	2 BARRIER CURB	E 20	9 7.000			<u> </u>				9 7														oxdot		<b>] [</b>																																	
16 5 K13	BARRIER CURB INCREMENT =	E 20 8	8 10.00							5 10 8 10	5 10		┨├──	1		H	+ +		+	1	+		1	+	-	41																																	
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270 5 R1			3 3.000		2.250	3 1.375	5.500	3 0.750	6.750			1925	] 🗀											1		<b>∄</b> I																																	
270 5 R2		E 195	18.75		15 25	2 252	12.000	15 000	2 22	2 5		634	<b>↓</b>			$\Box$		1			1			<del></del>		4 <b>I</b>																																	
270 5 R3 80 5 R4		E 27S	11 8.000	9.500	15.250	3.250	12.000	15.000	3.000		3 1 11 8	869 974	┨├──	1		++	+		+	1	+	1	1	+	1	41																																	
20 5 R5			27 9 000								27 9		┧├──							1	+		1	<del>                                     </del>	1	<b>1</b>																																	
20 5 R6	BARRIER CURB	E 20	29 8.000	)						29 8	29 8	619	1 🗀													11																																	
20 5 R7	BARRIER CURB	E 20	28 2.000							28 2	28 2	588	<b>↓</b>			ЦӚ				1			1	$\bot$		41																																	
<del>                                   </del>		+		+	-	-		-	-	1	1	+	┨├──			++		+		1	+			+	-	<b>   </b>																																	
		+	1	+						1	1	1	11						1	1	+		1	<b>†</b>	<del>                                     </del>	11																																	
Name of the	naths are based on	<del></del>							•	-	-	•		-			Codos: C - Pogu								-	<b>-</b> [																																	

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. 8.

Detailed Jul. 2024 Checked Nov. 2024

All bars shall be Grade 60.

Codes: C = Required coatings, where E = Epoxy Coated and <math>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.

BILL OF REINFORCING STEEL

Sheet No. 9 of 9

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

K:\KNC\_TPTO\268242001 - MODOT Maries Redecks\CAD\L01872\Bridge\L01872\_009\_J5P3565\_BillReinf.dgn.dgn 11:53:35 AM

Kimley≫Horn

COLE E. SHIPPY NUMBER PE-2019017242

1/6/2025

MARIES JOB NO. J5P3565

PROJECT NO

L01872

MO

9

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BR

### DESIGN DESIGNATION

A.A.D.T. - 2024 = 360 A.A.D.T. - 2044 = 504 V = 55 M.P.H.

FUNCTIONAL CLASSIFICATION - MAJOR COLLECTOR

### NO NEW RIGHT OF WAY



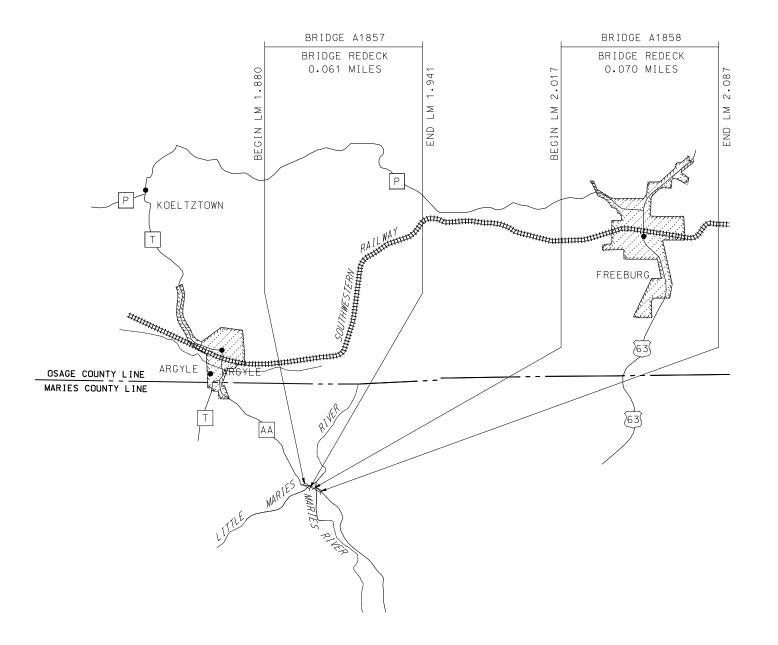
## CONVENTIONAL SYMBOLS

	EXISTING	NEW
BUILDINGS AND STRUCTURES GUARD RAIL GUARD CABLE CONCRETE RIGHT-OF-WAY MARKER STEEL RIGHT-OF-WAY MARKER LOCATION SURVEY MARKER UTILITIES	0000	••••
FIBER OPTICS OVERHEAD CABLE TV UNDERGROUND CABLE TV OVERHEAD TELEPHONE UNDERGROUND TELEPHONE OVERHEAD POWER UNDERGROUND POWER SANITARY SEWER STORM SEWER GAS WATER	- FOOTVUTV OT UT OE UE S SS G W -	-FO- -OTV- -UTV- -OE- -UE- -S- -SS- -G-
MANHOLE	SAN HYD	)
FIRE HYDRANT	wv	J
WATER VALVE	C	€
WATER METER	 D	€
DROP INLET		
DITCH BLOCK	=	<b>-</b>
GROUND MOUNTED SIGN	S I GN	-
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL FENCE CHAIN LINK WOVEN WIRE GATE POST BENCHMARK	X	/ K
DENCHMAKK	(2	3)

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

## MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

## PLANS FOR PROPOSED STATE HIGHWAY MARIES COUNTY



### NOT TO SCALE

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

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (TS) (1 SHEET)	2
QUANTITIES (QU) (2 SHEETS)	3
SPECIAL SHEETS (SS)	4-5
TRAFFIC CONTROL SHEETS (TC)	6-9
BRIDGE DRAWINGS (B)	
A18571	- 1-10
A18581	- 1-11

NUM PE-200 PE-200 NUM PE-200 NUM PE-200 NUM NUM PE-200 NUM NUM NUM NUM NUM NUM NUM NUM NUM NUM	ERS 1BER 0162118 14 L ENGLISH 12:23:30 PM
12/17	/2024
ROUTE	STATE
^ ^	N 40
AA	МО
DISTRICT	SHEET NO.
DISTRICT	SHEET NO.
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DISTRICT CD COU	SHEET NO.  1  NTY IES
DISTRICT CD COU MAR JOB	SHEET NO.  1  NTY IES NO.
DISTRICT CD COU MAR JOB J 5 5 3	SHEET NO.  1 NTY IES NO. 3543
DISTRICT CD COU MAR JOB J 5 5 3	SHEET NO.  1  NTY IES NO.
DISTRICT CD COU MAR JOB J 5 S 3	SHEET NO.  1  NTY IES NO. 3543 GCT ID.
DISTRICT CD COU MAR JOB J 5 S 3	SHEET NO.  1 NTY IES NO. 3543
DISTRICT CD COU MAR JOB J 5 S 3	SHEET NO.  1 NTY IES NO. 3543 CCT ID. CT NO.

### LENGTH OF PROJECT

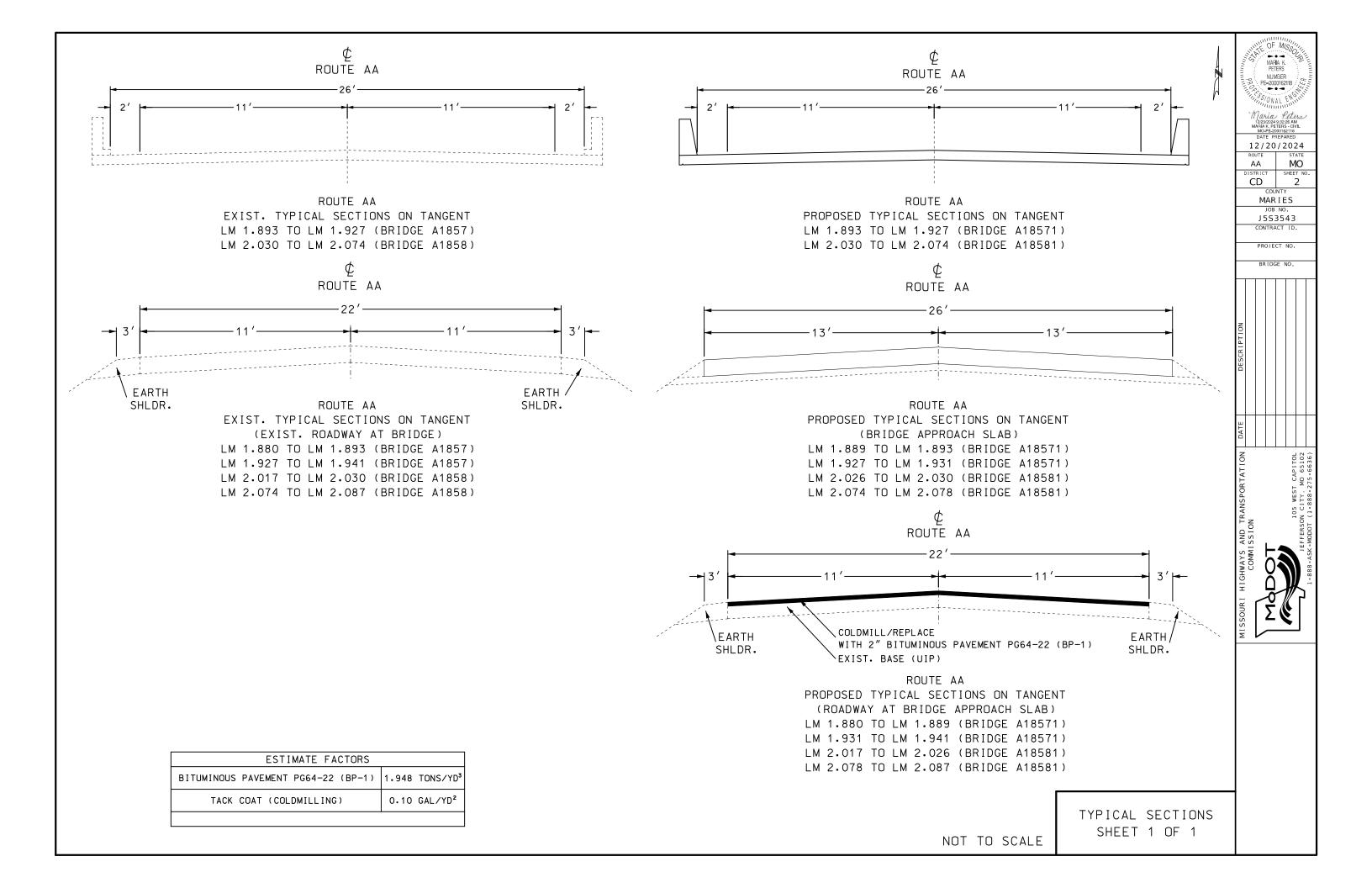
ROUTE AA - BRIDGE A1857	
BEGINNING OF PROJECT	LOG MILE 1.880
END OF PROJECT	LOG MILE 1.941
ROUTE AA - BRIDGE A1858	
BEGINNING OF PROJECT	LOG MILE 2.017
END OF PROJECT	LOG MILE 2.087
APPARENT LENGTH	0.131 MILES
EQUATIONS AND EXCEPTIONS: NONE	

GUATTONS AND EXCEPTIONS. NONE

TOTAL CORRECTIONS 0.000 FEET
NET LENGTH OF PROJECT 691.68 FEET
STATE LENGTH 0.131 MILES

FOR INFORMATION ONLY
ESTIMATED DISTURBED ACRES 0.2 ACRES





	ASPHALT (PLANT MIX BITUMINOUS PAVEMENT PG64-22)										
						ASPHALT					
LOG	LOG		LENGTH	WIDTH	AREA	(1.948 TON / CY)	TACK				
MILE	MILE	LOCATION	LF	FT	SY	TON	GAL	REMARKS			
1.880	1.889	RTE. AA	50	22	122.2	13.22	12.2	NORTH / BRIDGE A18571			
1.931	1.941	RTE. AA	50	22	122.2	13.22	12.2	SOUTH / BRIDGE A18571			
2.017	2.026	RTE. AA	50	22	122.2	13.22	12.2	NORTH / BRIDGE A18581			
2.078	2.087	RTE. AA	50	22	122.2	13.22	12.2	SOUTH / BRIDGE A18581			
					SUB-TOTAL	52.88	48.8				
					USE	53	49				

			REMOVAL OF IM	MPROVEMENTS	
LOG	LOG				
MILE	MILE	LOCATION	ITEM	QUANTITY	REMARKS
1.892		RTE. AA	OBJECT MARKER & POST	1 EA	BRIDGE A18571 / NORTH / RT
1.894		RTE. AA	OBJECT MARKER & POST	1 EA	BRIDGE A18571 / NORTH / LT
1.922		RTE. AA	OBJECT MARKER & POST	1 EA	BRIDGE A18571 / SOUTH / RT
1.924		RTE. AA	OBJECT MARKER & POST	1 EA	BRIDGE A18571 / SOUTH / LT
1.889		RTE. AA	SAW CUT	26 FT	BRIDGE A18571
	1.931	RTE. AA	SAW CUT	26 FT	BRIDGE A18571
1.889	1.893	RTE. AA	PAVEMENT REMOVAL	57.7 SY	BRIDGE A18571 APPROACH SLAB (NORTH)
1.927	1.931	RTE. AA	PAVEMENT REMOVAL	57.7 SY	BRIDGE A18571 APPROACH SLAB (SOUTH)
2.029		RTE. AA	OBJECT MARKER & POST	1 EA	BRIDGE A18581 / NORTH / LT
2.031		RTE. AA	OBJECT MARKER & POST	1 EA	BRIDGE A18581 / NORTH / RT
2.073		RTE. AA	OBJECT MARKER & POST	1 EA	BRIDGE A18581 / SOUTH / LT
2.075		RTE. AA	OBJECT MARKER & POST	1 EA	BRIDGE A18581 / SOUTH / RT
2.026		RTE. AA	SAW CUT	26 FT	BRIDGE A18581
	2.078	RTE. AA	SAW CUT	26 FT	BRIDGE A18581
2.026	2.030	RTE. AA	PAVEMENT REMOVAL	57.7 SY	BRIDGE A18581 APPROACH SLAB (NORTH)
2.074	2.078	RTE. AA	PAVEMENT REMOVAL	57.7 SY	BRIDGE A18581 APPROACH SLAB (SOUTH)
			USE	1 LUMP SUM	

			TEMPORARY E	ROSION CONT	ROL	
				SEDIMENT		
LOG	LOG		SILT FENCE	REMOVAL	TYPE C BERM	
MILE	MILE	LOCATION	LF	CY	LF	REMARKS
		RTE. AA / LT	100.00	1		BRIDGE A18571 / NORTH
		RTE. AA / RT	85.00	1		BRIDGE A18571 / NORTH
UNDER BRIDGE		RTE. AA / RT			155.00	BRIDGE A18571 / NORTH
		RTE. AA / LT	85.00	1		BRIDGE A18571 / SOUTH
		RTE. AA / RT	95.00	2		BRIDGE A18571 / SOUTH
UNDER BRIDGE		RTE. AA / RT			155.00	BRIDGE A18571 / SOUTH
		RTE. AA / LT	85.00	1		BRIDGE A18581 / NORTH
		RTE. AA / RT	65.00	1		BRIDGE A18581 / NORTH
UNDER BRIDGE		RTE. AA / RT			155.00	BRIDGE A18581 / NORTH
		RTE. AA / LT	100.00	2		BRIDGE A18581 / SOUTH
		RTE. AA / RT	85.00	1		BRIDGE A18581 / SOUTH
UNDER BRIDGE		RTE. AA / RT			155.00	BRIDGE A18581 / SOUTH
		TOTAL	700.0	10.0	620.0	
		USE	700	10	620	

			SEEDI	NG AND M	ULCH	
				SEEDING		
				COOL		
				SEASON		
	LOG	LOG		GRASSES	MULCHING	
	MILE	MILE	LOCATION	(AC)	(AC)	REMARKS
Ī	1.889	1.893	ROUTE AA / LT	0.02	0.02	BRIDGE A18571 / NORTH END
	1.889	1.893	ROUTE AA / RT	0.02	0.02	BRIDGE A18571 / NORTH END
	1.927	1.931	ROUTE AA / LT	0.02	0.02	BRIDGE A18571 / SOUTH END
	1.927	1.931	ROUTE AA / RT	0.02	0.02	BRIDGE A18571 / SOUTH END
	2.026	2.030	ROUTE AA / LT	0.02	0.02	BRIDGE A18581 / NORTH END
	2.026	2.030	ROUTE AA / RT	0.02	0.02	BRIDGE A18581 / NORTH END
	2.074	2.078	ROUTE AA / LT	0.02	0.02	BRIDGE A18581 / SOUTH END
	2.074	2.078	ROUTE AA / RT	0.02	0.02	BRIDGE A18581 / SOUTH END
	•					
			TOTAL	0.16	0.16	
			USE	1.0	1.0	

	PAVEMENT MARKING									
W	WATERBORNE PAVEMENT MARKING - TYPE P BEADS									
			4" INTER. 4" SOLID		4" SOLID					
			LENGTH	YELLOW	WHITE					
LOG MILE	LOG MILE	LOCATION	FT	LF	LF	REMARKS				
1.880	1.941	ROUTE AA	322.08	80.5	644.2	BRIDGE A1857				
1.941	2.017	ROUTE AA	401.28	100.3	802.6	BETWEEN THE BRIDGES				
2.017	2.087	ROUTE AA	369.60	92.4	739.2	BRIDGE A1858				
			TOTAL	273.2	2186.0					
			USE	273	2186					
NOTE: ALL	PAVEMENT	MARKINGS T	O MATCH EX	(ISTING. I	LOCATE BEFO	DRE MILLING OR RESURFACING.				

	TYPE 2 ROCK BLANKET									
		FURNISHING	PLACING							
		ROCK	ROCK							
SHEET		BLANKET	BLANKET	GEOTEXTILE						
NO.	LOCATION	(CY)	(CY)	(SY)	REMARKS					
5	ROUTE AA	97.9	97.9	199.0	BRIDGE A18571 / NORTH END					
5	ROUTE AA	98.0	98.0	199.0	BRIDGE A18571 / SOUTH END					
5	ROUTE AA	110.4	110.4	216.0	BRIDGE A18581 / NORTH END					
5	ROUTE AA	98.4	98.4	199.0	BRIDGE A18581 / SOUTH END					
	TOTAL	404.7	404.7	813.0						
	USE	405	405	813						

	COLDMILLING (3" OR LESS)										
LOG MILE	LOG MILE	LOCATION	LENGTH LF	WIDTH FT	AREA SY	REMARKS					
1.880	1.889	RTE. AA	50	22	122.2	NORTH / BRIDGE A18571					
1.931	1.941	RTE. AA	50	22	122.2	SOUTH / BRIDGE A18571					
2.017	2.026	RTE. AA	50	22	122.2	NORTH / BRIDGE A18581					
2.078	2.087	RTE. AA	50	22	122.2	SOUTH / BRIDGE A18581					
				SUB-TOTAL	488.8						
				USE	489						

CONTRACTOR	FURNISHED	SURVEYING	AND	STAKING	
	1 LUI	MP SUM			

MOB	MOBILIZATION					
1	LUMP	SUM				

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DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

MADOT

105 WEST CAPITOL
JEFFERSON CITY, MO 65102

	STAND	ARD SIGN	ASS	SEM	BL	IES	;	Ì
					TYP	E		_
ER BER			OM3-R	OM3-L				
NUMBER T NUMBER			SIG	N DE	SC. OF	• SI EACH	ZES	9
S I GN OR SET	APPROX. LOG MILE	LOCATION						
1	1.892	ROUTE AA / RT	1					
2	1.889	ROUTE AA / RT	1					1
3	1.886	ROUTE AA / RT	1					_
4	1.894	ROUTE AA / LT		1				1
5	1.891	ROUTE AA / LT		1				
6	1.888	ROUTE AA / LT		1				1
7	1.926	ROUTE AA / RT		1				
8	1.930	ROUTE AA / RT		1				1
9	1.934	ROUTE AA / RT		1				1
10	1.928	ROUTE AA / LT	1					1
11	1.932	ROUTE AA / LT	1					1
12	1.936	ROUTE AA / LT	1					1
13	2.025	ROUTE AA / RT	1					1
14	2.028	ROUTE AA / RT	1					
15	2.031	ROUTE AA / RT	1					
16	2.023	ROUTE AA / LT		1				
17	2.026	ROUTE AA / LT		1				
18	2.029	ROUTE AA / LT		1				
19	2.075	ROUTE AA / RT		1				
20	2.078	ROUTE AA / RT		1				ı
21	2.081	ROUTE AA / RT		1				1
22	2.073	ROUTE AA / LT	1					i
23	2.076	ROUTE AA / LT	1					i
24	2.079	ROUTE AA / LT	1					
		TOTAL	12	12				ı

NOTE:

REFER TO STANDARD PLAN 616.10 FOR SIGN AND SIGN MOUNTING REQUIREMENTS.

		IDARD OR	SIGN NUMBEF	S I DE T SHE	AIL	NO.	C 1.7.F		FLAT SHEET FLUORESCENT SHF ** ITEM NO. 9035069A				
JI L	CIAL		NOMPE			EACH	SIZE 1'X3	,	90350				
		OM3-R OM3-L		ST ST		12	1 X3						
		UM3-L		31	υ.	12	1 X X 3		30				
				_			TOTA		-				
							TOTA	L	7:				
	* ORANGE			E, YEL	LOW	& YEL	LOW/GREE	N		D-30			
										E	FFECTIVE	12-01-2017	
				SIGN	S				U CHANNEL POST, 3 LB.				
	SIGN NO. OR SET	SIGN	APPROX.	HORZ CLEAR IF NOT				POST QTY	POST SIZE 14' EACH ITEM NO. 9031250A		REMARK:	s	
	NO.	SIZE	MILE	STD		LOCA	TION	EA	LF	AND OTH		RED ITEMS.	
	1	1×3	1.892		R	OUTE #	A / RT	1	14				Ξ
	2	1×3	1.889		R	OUTE A	A / RT	1	14				Ξ
	3	1×3	1.886		R	OUTE A	A / RT	1	14	REMOVE E	XISTING:	SIGN & POST	Ξ
	4	1×3	1.894		R	OUTE A	A / LT	1	14	REMOVE E	XISTING:	SIGN & POST	Ξ
	5	1×3	1.891		R	OUTE A	A / LT	1	14				Ξ
	6	1×3	1.888		R	OUTE A	A / LT	1	14				
	7	1×3	1.926		R	OUTE A	A / RT	1	14	REMOVE E	XISTING:	SIGN & POST	
	8	1×3	1.930		R	OUTE A	A / RT	1	14				
	9	1×3	1.934		R	OUTE A	A / RT	1	14				
	10	1×3	1.928		R	OUTE A	A / LT	1	14	REMOVE E	XISTING :	SIGN & POST	
	11	1×3	1.932		R	OUTE A	A / LT	1	14				
	12	1×3	1.936		R	OUTE A	A / LT	1	14				
	13	1×3	2.025		R	OUTE A	A / RT	1	14				
	14	1×3	2.028		R	OUTE A	A / RT	1	14				
	15	1×3	2.031		R	OUTE A	A / RT	1	14	REMOVE E	XISTING	SIGN & POST	
	16	1×3	2.023		R	OUTE A	A / LT	1	14				
	17	1×3	2.026		R	OUTE A	A / LT	1	14				
	18	1×3	2.029		R	OUTE A	A / LT	1	14	REMOVE E	XISTING:	SIGN & POST	
	19	1×3	2.075		R	OUTE A	A / RT	1	14	REMOVE E	XISTING :	SIGN & POST	
	20	1×3	2.078		R	OUTE A	A / RT	1	14				Ξ
C	21	1∨3	2 081		D	OUTE /	A / PT	1	1.4				

ROUTE AA / RT ROUTE AA / LT

ROUTE AA / LT ROUTE AA / LT

SUBTOTAL

TOTAL

14

14

336

336

REMOVE EXISTING SIGN & POST

21 1×3 2.081 22 1×3 2.073

SIZE, TYPE & SQ. FT.

FLAT SHEET FLUORESCENT SHF \*\*

SIGN SUMMARY

			CONSTR	JCTION S	IGNING	(VARIES)
				TOTAL		
	SIZE	AREA	QTY	AREA	SIGN	
SIGN	IN.	SQ. FT.	EACH	SQ. FT.	NUM.	DESCRIPTION
WARNING SIGNS						
W020-3	48X48	16	2	32	20	ROAD CLOSED AHEAD
W020-3	48X48	16	2	32	20A	ROAD CLOSED 500FT
REGULATORY SIGNS						
R11-2	48X30	10	3	30	29	ROAD CLOSED
R11-3a	60×30	12.5	1	12.5	55A	ROAD CLOSED 2 MILES AHEAD
R11-3a	60×30	12.5	1	12.5	55B	ROAD CLOSED 6 MILES AHEAD
R11-4	60×30	12.5	2	25	30	ROAD CLOSED TO THRU TRAFFIC
	M	1 I SCELLANE	OUS SIGN	S		
SPECIAL	36×60	15	29	435	50A-50E	DETOUR ROUTE ASSEMBLY
	· · · · · · · · · · · · · · · · · · ·				•	
CONS	STRUCTION	SIGNS TO	TAL	579.00	•	
	US	SE			1 LUMP S	UM - TEMPORARY TRAFFIC CONTOL

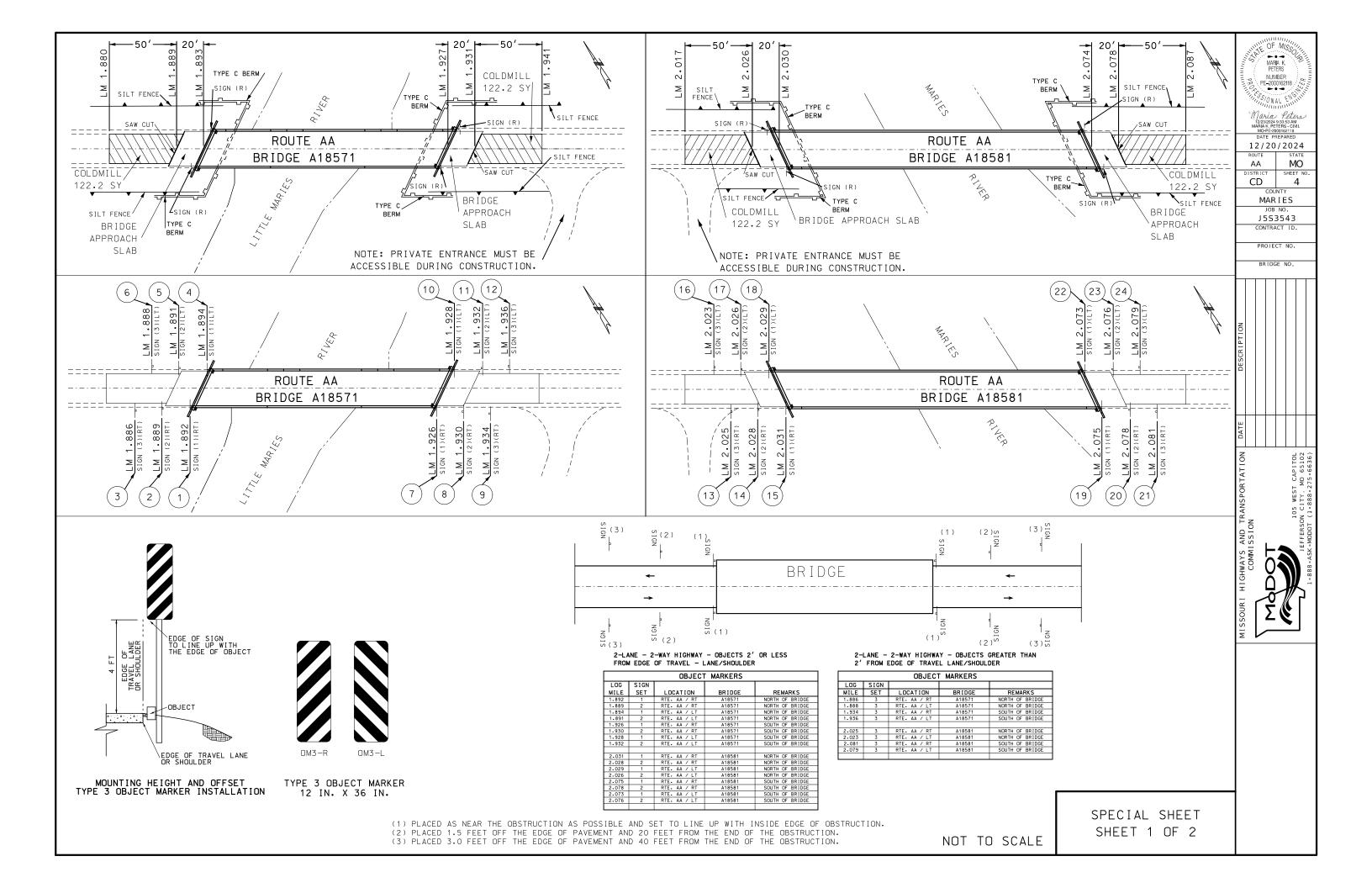
	ADD I	FIONAL CONSTRUCTION ITEMS
ITEM NO.	QTY.	DESCRIPTION
	4	ADVANCED WARNING RAIL SYSTEM
	11	TYPE III MOVEABLE BARRICADE
616-1098A	<del>**</del> 6	"CHANGEABLE MESSAGE SIGN WITHOUT COMMUNCATION
		INTERFACE, CONTRACTOR FURNISHED, CONTRACTOR RETAINED."
		CONTRACTOR FURNISHED/CONTRACTOR RETAINED

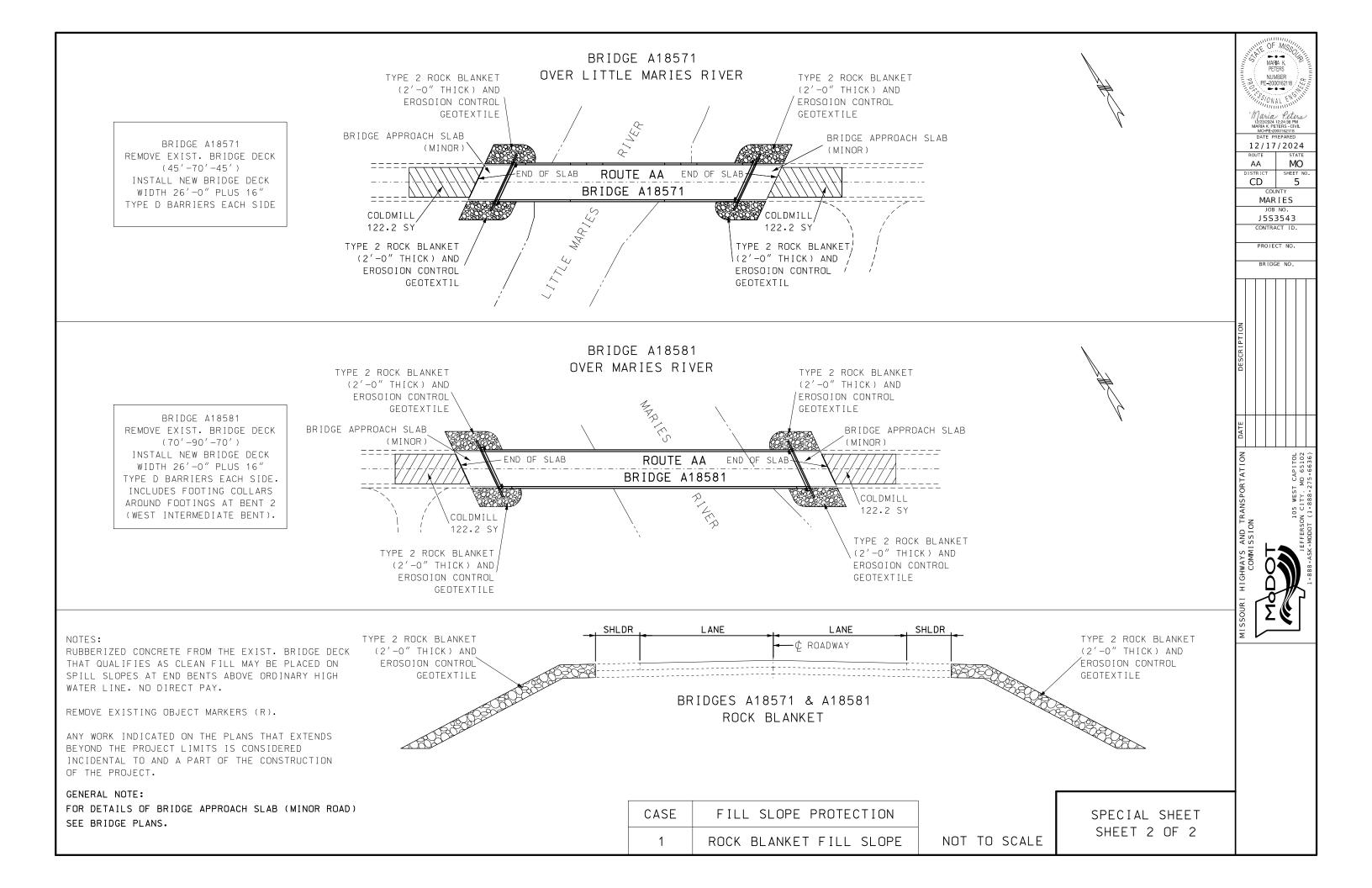
\*\* NOT INCLUDED IN LUMP SUM TEMPORARY TRAFFIC CONTROL

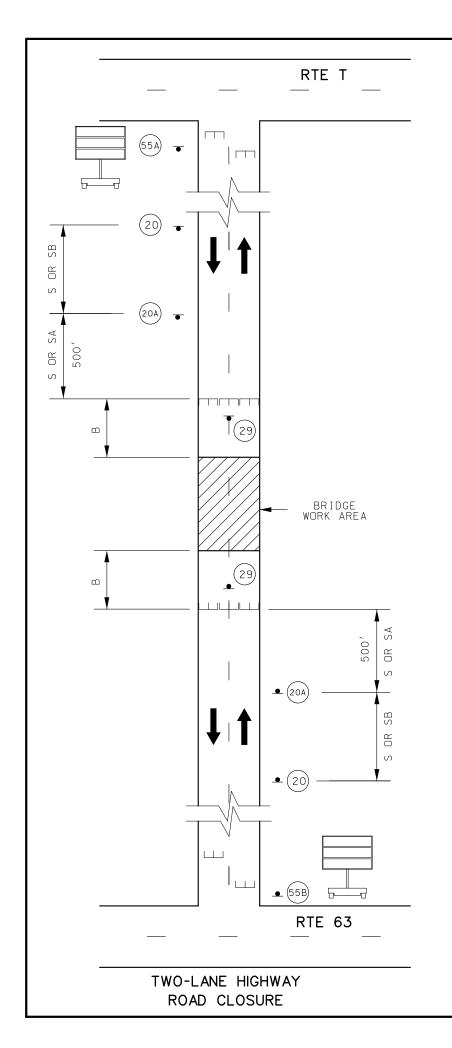
ALL TRAFFIC CONTROL ARE INCLUDED IN PAY ITEM 616-99.01, LUMP SUM TEMPORARY TRAFFIC CONTROL UNLESS NOTED OTHERWISE IN THE PLANS. THESE QUANTITIES ARE ONLY AN ESTIMATE AND ARE SUBJECT TO CHANGE BASED UPON FIELD CONDITIONS.

NO DIRECT PAY WILL BE MADE FOR RELOCATION OF CONSTRUCTION SIGNS OR DEVICES.

William NOIL	A DIST	PECON PRO	-200 0 N 1 1111 ia 2025 K PE PE-20 E PI	IA K. ERS (BERS 0162 AL 111111 F. 12:23:31 TERS 0162 P. INT )	eternos Personal Pers	ATE O T NO S	
DESCRIPTION							
DATE							
NOIT		-	-	-	PITOL	65102	(9899)









(20)

AWRS



W020 - 3

(20A)

AWRS

ROAD CLOSED
2 MILES AHEAD
LOCAL TRAFFIC ONLY

ROAD CLOSED
6 MILES AHEAD
LOCAL TRAFFIC ONLY

R11-3a

(55B)

(55A)

R11-3a

ROAD CLOSED

R11-2

(29)

SPEED	SIGN SPAC	ING (ft.)	CHANNEL I ZER	SPACING (ft.)	TAPER	LENGTH	BUFFER
NORMAL POSTED	UNDIVIDED	DIVIDED	THROUGH	BUFFER/	SHOULDER	LANE	LENGTH (ft.)
(mph)	(S)	(S)	TAPERS	WORK AREA	(T1)	(T2)	(B)
≤ 35	200	200	-	_	-	-	250
40-45	350	500	-	_	-	-	360
50-55	500	1000	ı	_	-	ı	495
60-70	1000	SA - 1000 SB - 1500 SC - 2640	-	_	-	-	730

### GENERAL NOTES:

ANY EXISTING SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL PLAN SHALL BE COMPLETELY COVERED OR REMOVED.

TEMPORARY TRAFFIC CONTROL SIGNS AND DEVICE LOCATIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY RELOCATION OF SIGNS OR DEVICES FOR TRAFFIC CONTROL SHALL BE CONSIDERED INCIDENTAL, NO DIRECT PAY.

CONTRACTOR SHALL MAINTAIN ACCESS TO ENTRANCES AT ALL TIMES, CONTRACTOR SHALL COORDINATE ACCESS TO FIELD ENTRANCES WITH PROPERTY OWNERS.

### NOTES:

ALL TRAFFIC CONTROL SIGNS SHOWN ON THIS SHEET ARE CONSIDERED PERMANENT FOR THE DURATION OF THIS PROJECT.

ONE BARRICADE SHALL BE REQUIRED TO COMPLETELY CLOSE EACH 8 FEET OF PAVEMENT. PAVED SHOULDERS SHALL BE INCLUDED IN THE AREA TO BE CLOSED.

ROAD CLOSED SIGN MAY BE PLACED 7-10 FEET BEHIND THE BARRICADES AND AT A SIGN HEIGHT APPROPRIATE TO THE TYPE OF ROADWAY.

THE ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY OR ROAD CLOSED TO THRU TRAFFIC SIGN SHOULD BE LOCATED AT THE FIRST STATE ROUTE OR, AT THE DISCRETION OF THE ENGINEER, AT ANY OTHER INTERSECTION IN ADVANCE OF THE CLOSURE, ADDITIONAL BARRICADES MAY BE USED AND OFFSET TO FACILITATE ACCESS FOR WORK VEHICLES, LOCAL TRAFFIC, ETC. NO DIRECT PAY.

- CHANGEABLE MESSAGE SIGN

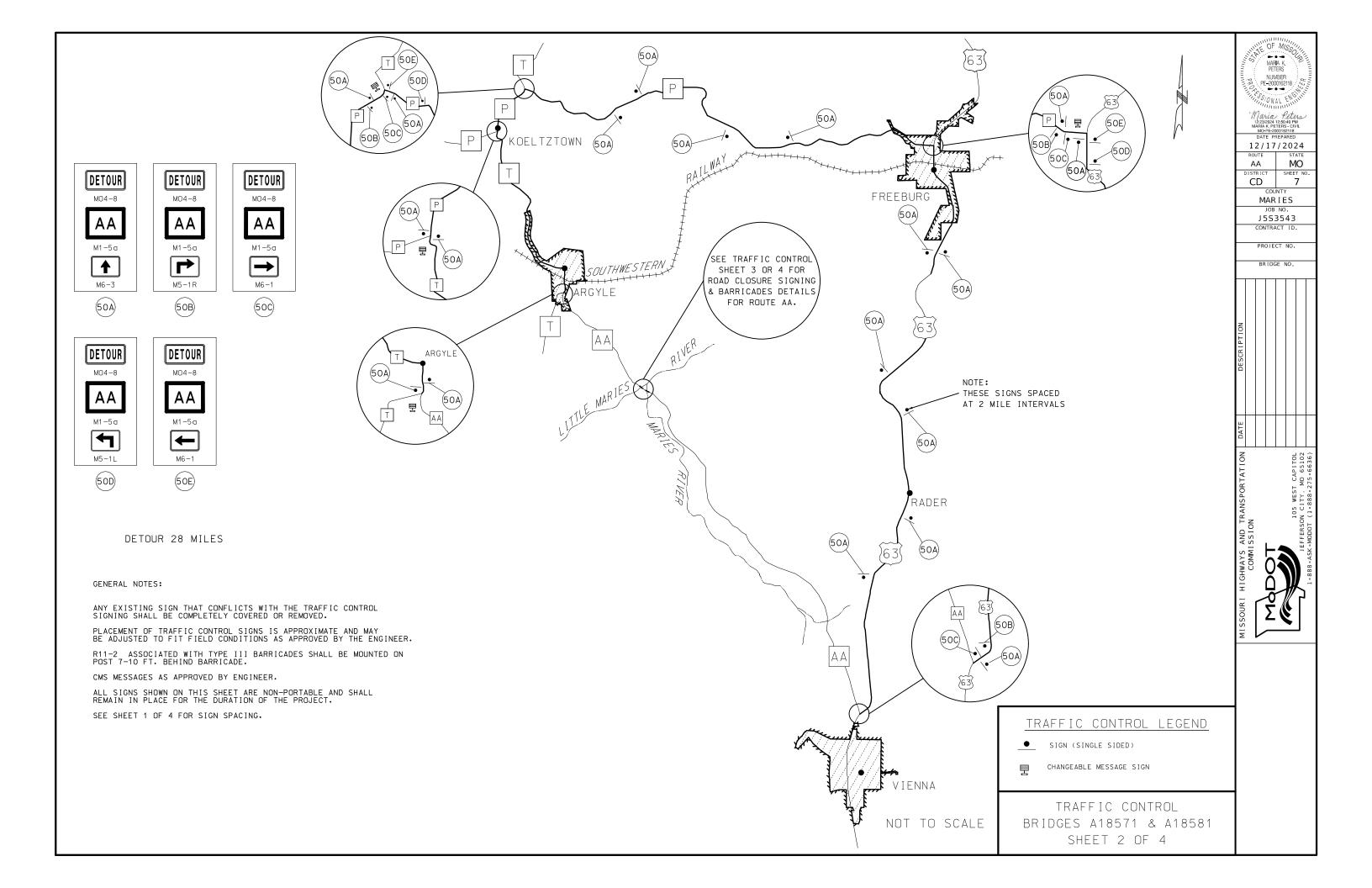


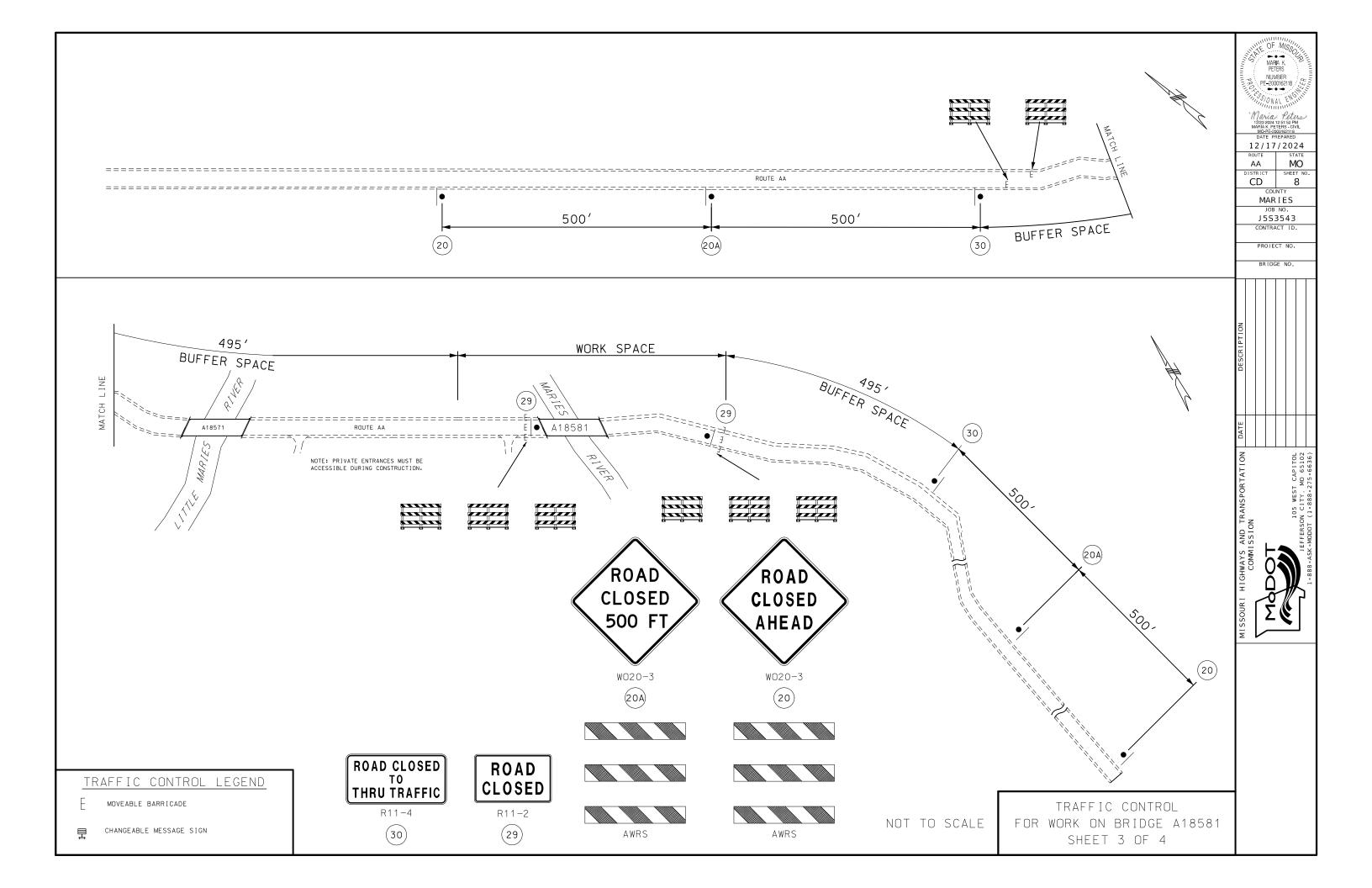


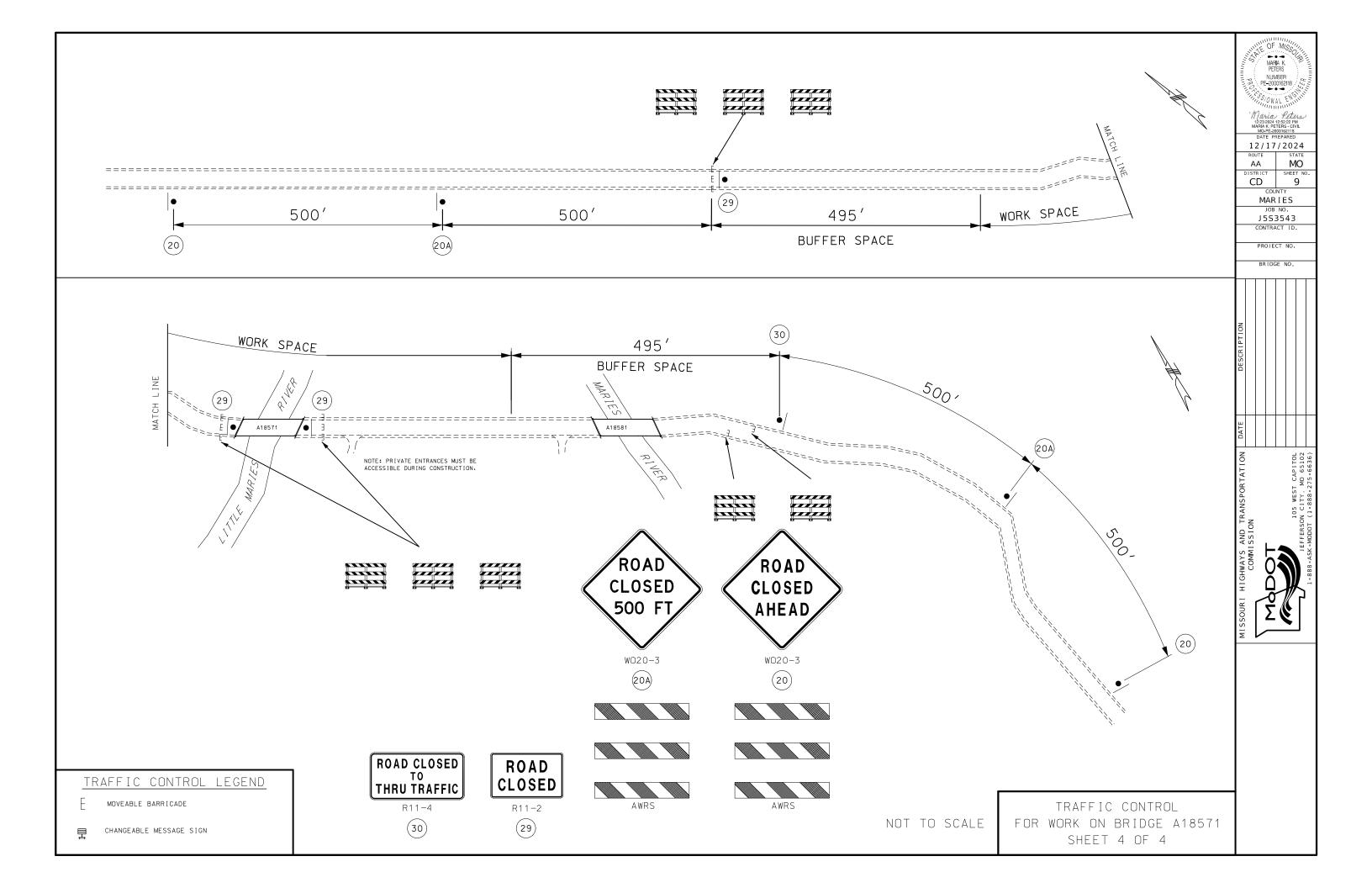
NOT TO SCALE

TRAFFIC CONTROL SHEET 1 OF 4

MARIA K. PETERS NUMBER S/ONAL E Maria Peters 12/17/2024 AΑ MO SHEET NO CD 6 MARIES J5S3543 CONTRACT ID. PROJECT NO. BRIDGE NO.







### U.I.P., REDECK AND MAKE COMPOSITE EXISTING (54'-70'-54') CONTINUOUS WIDE FLANGE BEAM SPANS (SKEW: 25°00'00" L.A.)

SEC/SUR 26 TWP 41N RGE 10W

TED S. KOESTER

NUMBER

PE-2013000591

Ced Hosaler

1/13/2025

MARIES

J5S3543 CONTRACT ID

PROJECT NO.

BRIDGE NO

A18571

AA

BR

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SHEET NO

1

SIONAL

General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications Seismic Performance Category A

Design Loading:

H15-44 (1961) (Existing) HS20-44 (New Construction) 35 lb/sf Future Wearing Surface Earth - 120 lb/cf, Equivalent Fluid Pressure 45 lb/cf Fatigue Stress - Case III

Design Unit Stresses:

Class B-1 Concrete (Barrier) f'c = 4,000 psiClass B-2 Concrete (End Bents & Superstructure, f'c = 4,000 psiexcept Barrier) Reinforcing Steel (ASTM A615 Grade 60) fy = 60,000 psi

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.

Protective coating for concrete bents and piers (Epoxy) shall be applied as shown on the bridge plans and in accordance with Sec 711.

Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for plain bars and 30 diameters for deformed bars, unless otherwise noted.

Roadway surfacing adjacent to bridge ends shall match new bridge slab surface.

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work

Contractor shall verify all dimensions in field before finalizing the shop drawings.

The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved qualified special mortar in accordance with

Rubblized concrete from the existing bridge deck that qualifies as clean fill may be placed on spill slopes at end bents above ordinary high water line (Roadway item)

For adjusted girder deflection due to the weight of the new deck and barriers, see Bridge Electronic Deliverables.

### Traffic Handling:

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

Estimated Quantities	for Slab on St	e e l
I t em		Total
Class B-2 Concrete	cu. yard	124
Reinforcing Steel (Epoxy Coated)	pound	47,160

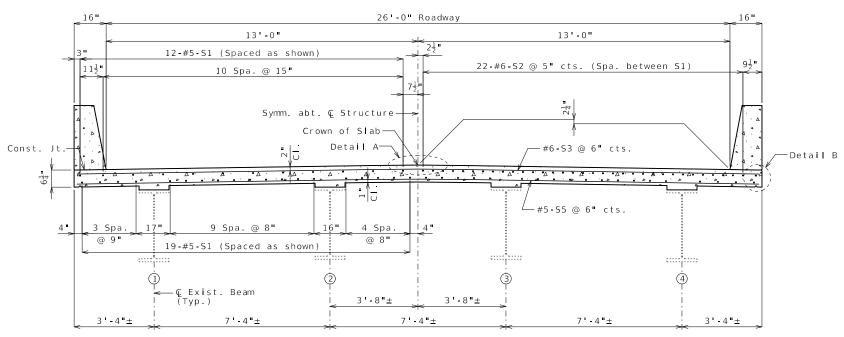
The table of Estimated Quantities for Slab on Steel represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for 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 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.

Slab shall be cast-in-place with conventional forming or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

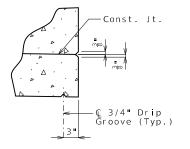
For Optional Stay-In-Place Form Details, see Sheet No. 2.

Bridge deck surface may be finished with a vibratory screed.

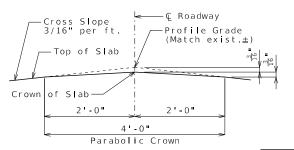


HALF SECTION NEAR MIDSPAN

HALF SECTION NEAR INT. BENT



DETAIL B



# TYPICAL SECTION THRU SLAB

Estimated Quantities		
I t em		Total
Removal of Miscellaneous ACM (Non-Friable)	sq. foot	16
Removal of Existing Bridge Deck	sq. foot	5226
Bridge Approach Slab (Minor)	sq. yard	118
Slab on Steel	sq. yard	579
Type D Barrier	linear foot	363
Protective Coating - Concrete Bents and Piers (Epoxy)	lump sum	1
Slab Drain	each	32
Surface Preparation for Applying Epoxy-Mastic Primer	lump sum	1
Gray Epoxy-Mastic Primer	lump sum	1
Non-Destructive Testing	linear foot	50

Cost of any required excavation for bridge will be considered completely covered by the contract unit price for other items

### DETAIL A

Contractor may shift or swap to tie R3 bar in barrier (4" min. bar spacing)

Contractor may shift bar as needed to tie R2 bar in barrier

OPTIONAL SHIFTING TOP BARS AT BARRIER

# Required Lap Length For Bar Splices \*\*

Bar Size	Splice Length
4	2'-7"
5	3'-3"
6	3'-10"
7	4 ' - 11 "

\*\* Unless otherwise shown

		Showing Lengths	
Int. Bei	nt No. 2	Int. Bei	nt No. 3
Span 1	Span 2	Span 2	Span 3
20'-0"	20'-6"	20'-6"	20'-0"

REPAIRS TO BRIDGE: ROUTE AA OVER LITTLE MARIES RIVER

ROUTE AA FROM ROUTE T TO ROUTE 63 ABOUT 1.9 MILES SOUTH OF ROUTE T BEGINNING STATION 100+84.50± (MATCH EXISTING)

### DETAILS OF CONCRETE REMOVAL AT END BENTS

The cost of concrete removal as shown will be considered completely covered by the contract unit price for Removal of Existing Bridge Deck. Vertical backwall and wingwall reinforcement to be cut off one inch below concrete removal surface and the resulting holes shall be filled with a qualified special mortar.

A smooth, level surface shall be provided at Bent No. 1 removal lines.

### General Notes:

### Stay-In-Place Forms:

Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

Form sheets shall not rest directly on the top of beam Form sheets shall not rest directly on the top of beam flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Welding on or drilling holes in the beam flanges will not be permitted. All steel fabrication and construction shall be in accordance with Sec 1080 and 712. Certified field welders will not be required for welding of the form

The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for beam loading.

The contractor shall provide a method of preventing the direct contact of the stay-in-place forms and connection components with uncoated weathering steel members that is approved by the engineer.

### Pouring and Finishing Slab:

rouring and Finishing Slab:

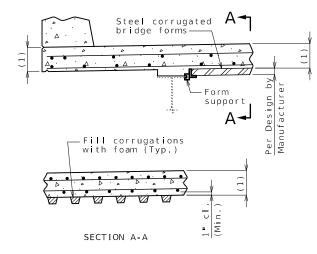
The contractor shall provide bracing necessary for lateral and torsional stability of the beams during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not weld on or drill holes in the beams. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Slab on Steel.

Slab shall be poured upgrade from end to end at a minimum rate of 25 cubic yards per hour.

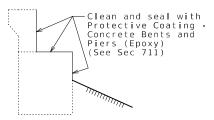
Alternate pour sequences may be submitted to the engineer for approval. Keyed construction joints shall be provided between pours.

### Haunching:

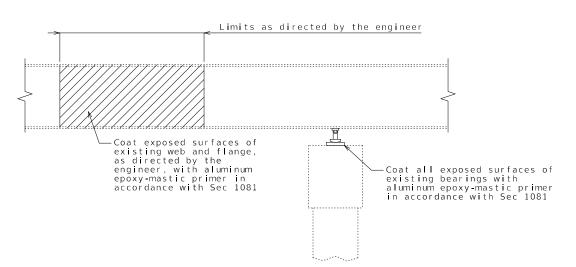
(1) Slab is to be considered a uniform thickness as shown on the plans. Haunching will vary. See front sheet for



OPTIONAL STAY-IN-PLACE FORM DETAILS



### TYPICAL SECTION THRU END BENTS NO. 1 & 4 SHOWING PROTECTIVE COATING



### PART ELEVATION OF INT. BENTS NO. 2 & 3 SHOWING RECOATING OF STRUCTURAL STEEL

Exposed surfaces of the existing structural steel, as directed by the engineer, and all intermediate bent bearings shall be recoated with one 6-mil thickness of gray epoxy-mastic primer applied over an SSPC-SP3 surface preparation in accordance with Sec 1081. The cost of surface preparation will be considered completely covered by the contract lump sum price for Surface Preparation for Applying Epoxy-Mastic Primer. The cost of the gray epoxy-mastic primer and bituminous coating will be considered completely covered by the contract lump sum price for Gray Epoxy-Mastic Primer.



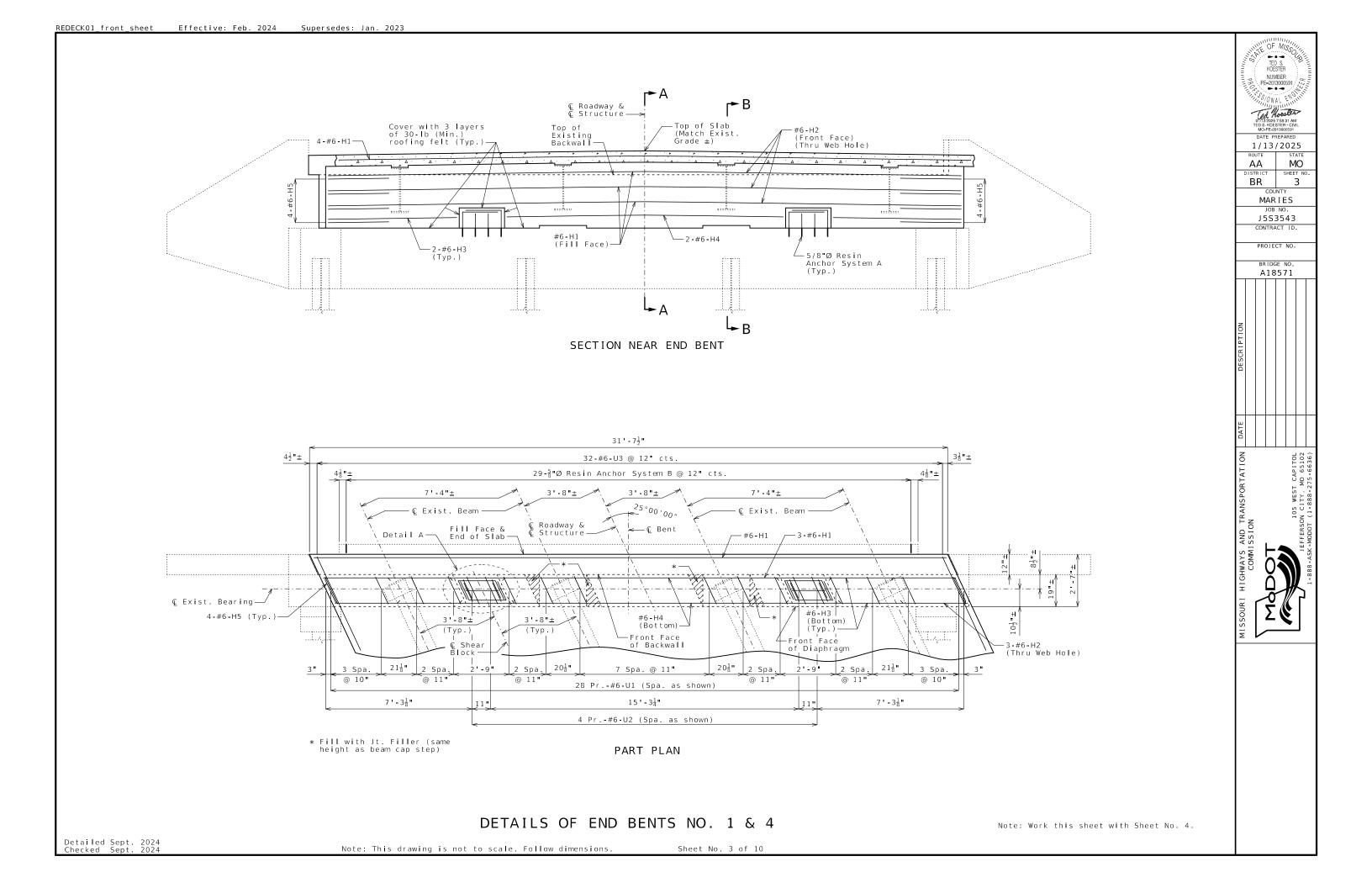
1/13/2025

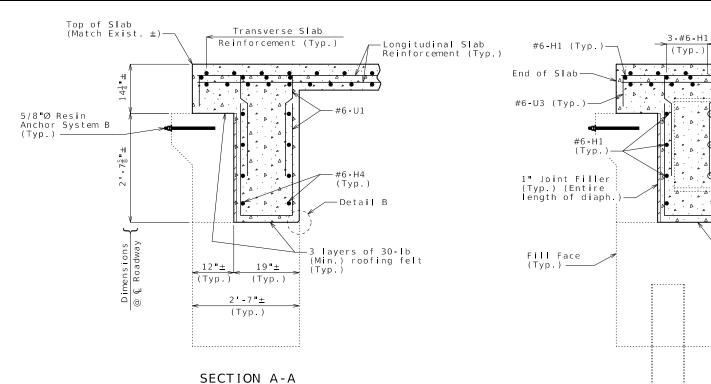
MO AΑ SHEET NO BR 2

MARIES J5S3543 CONTRACT ID

PROJECT NO.

BRIDGE NO A18571





with ASTM A153

Fill Face-

Seal around head with urethane

\*\* Manufacturer's recommended

embedment length (5" min.)

DETAILS OF RESIN ANCHOR SYSTEMS

SECTION B-B

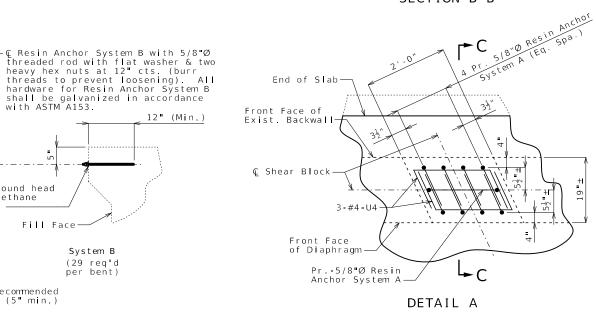
Cut exist, anchor

bolts flush with top of cap. Place 3 layers of 30-lb

(Min.) roofing felt beneath

exist bearing

plate.



DETAILS OF END BENTS NO. 1 & 4

Detailed Sept. 2024 Checked Sept. 2024

12"

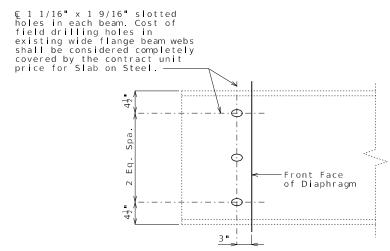
System A

(10 req'd per shear block) (20 req'd per bent)

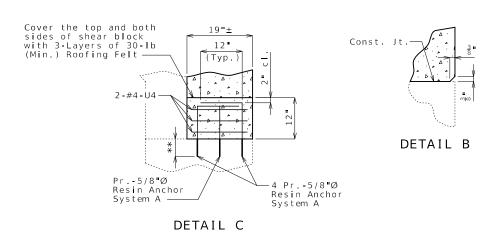
(Field Bend)

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

Sheet No. 4 of 10



DETAILS OF WEB HOLES AT END BENTS



Notes:

Work this sheet with Sheet No. 3.

The U-bars shall be placed parallel to Ç of Roadway.

All concrete and reinforcement in the end bent diaphragm, complete in place, will be considered completely covered by the contract unit price for Slab on Steel, and is included in the Table of Estimated Quantities for Slab on Steel.

Cost of cutting existing anchor bolts and placing roofing felt will be considered completely covered by the contract unit price for Slab on Steel

The exposed and accessible surfaces of the existing structural steel and bearings that will be encased in concrete shall be cleaned with a minimum of SSPC-SP-3 surface preparation and coated with a minimum of one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce a dry film thickness of not less than 3 mils before concrete is poured. The surface preparation and coating for beams shall extend a minimum of one foot outside the face of the beam encasement. Payment for cleaning and coating steel to be encased will be completely covered by the contract unit price for Slab on Steel.

The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for Slab on

The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor systems shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

An epoxy coated #5 Grade 60 reinforcing bar as shown shall be substituted for the  $5/8\,\mbox{\!"}\mbox{\!/}\mbox{\!/}\mbox{\!/}\mbox{\!/}\mbox{\!/}\mbox{\!/}\mbox{\!/}\mbox{\!/}\mbox{\!/}\mbox{\!/}\mbox{\!/}\mbox{\!/}\mbox{\!/}\mbox{\!/}\mbox{\!\!\!/}\mbox{\!\!/}\mbox{\!\!/}\mbox{\!\!/}\mbox{\!\!/}\mbox{\!\!/}\mbox{\!\!/}\mbox{\!\!/}\m$ 

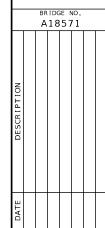
For details and reinforcement of Type H Barrier not shown, see Sheets No. 6 & 7.

TED S. KOESTER NUMBER PE-20130005 SS/ONAL Ted Hoester U1/13/2025 8:00:13 AM TED S. KOESTER - CIVIL MO-PE-2013000591

1/13/2025 AΑ MO SHEET NO

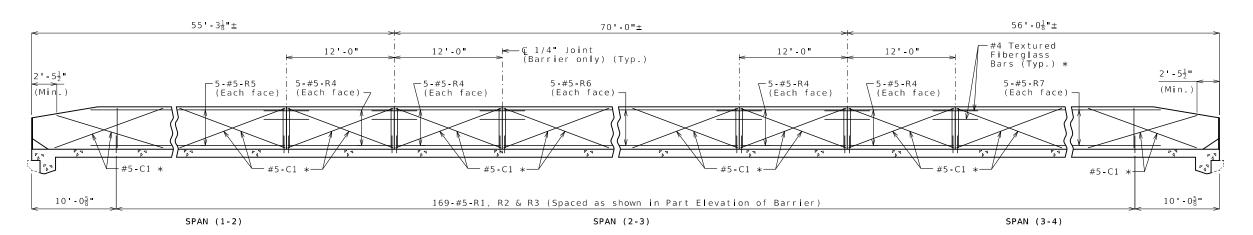
BR 4 MARIES J5S3543

CONTRACT ID PROJECT NO.



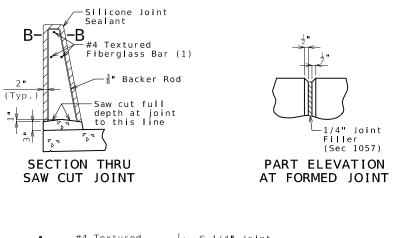
Sheet No. 5 of 10

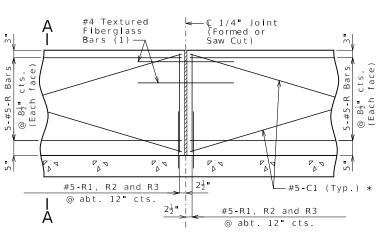
Note: This drawing is not to scale. Follow dimensions.



### ELEVATION OF BARRIER

(Left barrier shown, right barrier similar) Longitudinal dimensions are horizontal.

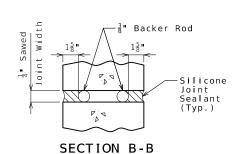


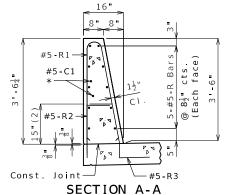


### PART ELEVATION OF BARRIER

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

Detailed Sept. 2024 Checked Sept. 2024



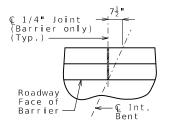


### Use a minimum lap of 3'-1" for #5 horizontal barrier bars.

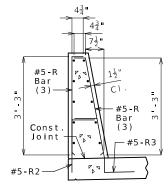
The cross-sectional area above the slab is 3.52 square feet.

(2) To top of bar

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



PART PLAN SHOWING JOINT LOCATION



### 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.)

### 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 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 D 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 slab to end of slab.

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, twoway traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

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

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

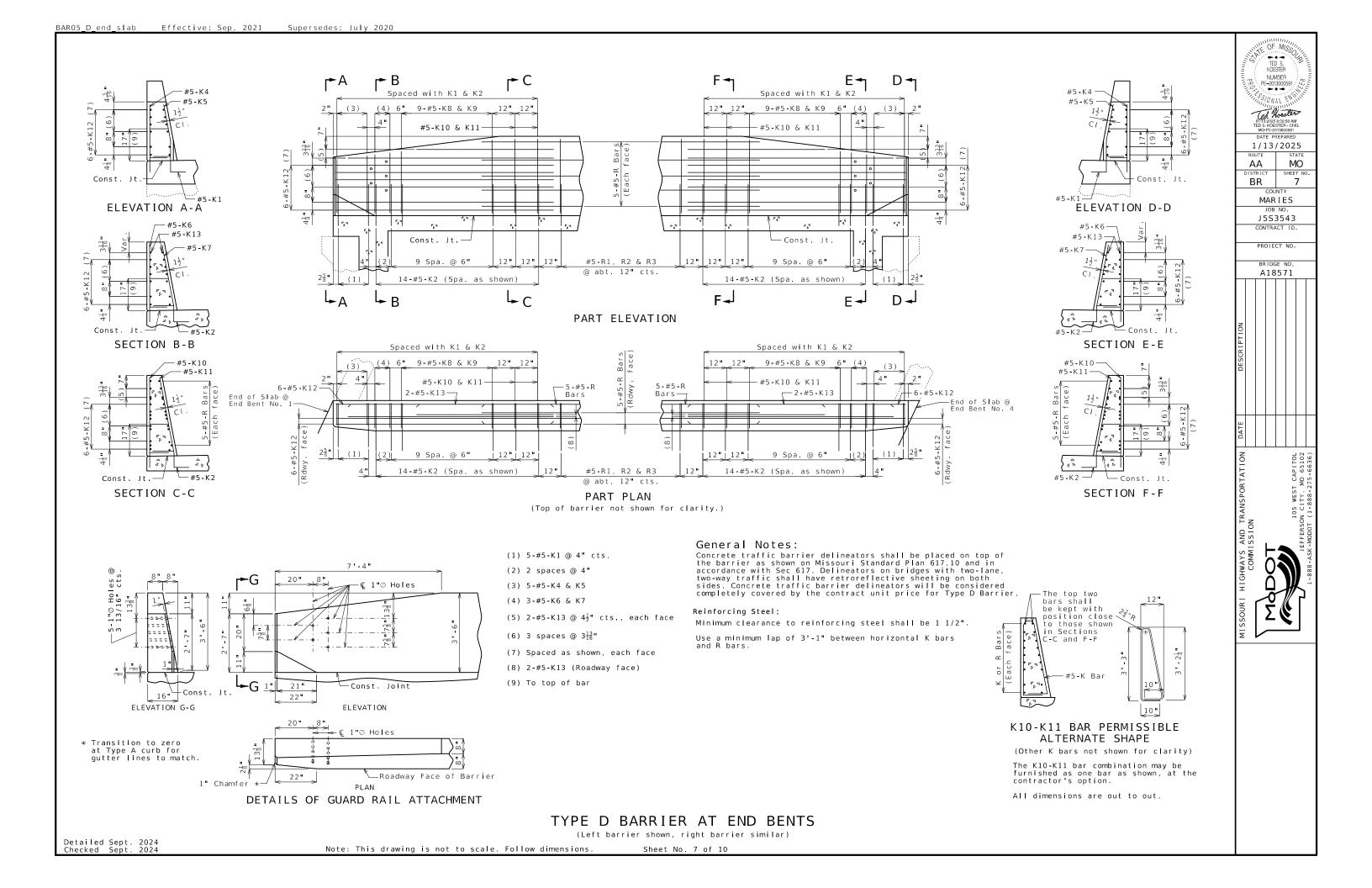
Plastic waterstop shall not be used with saw cut joints.

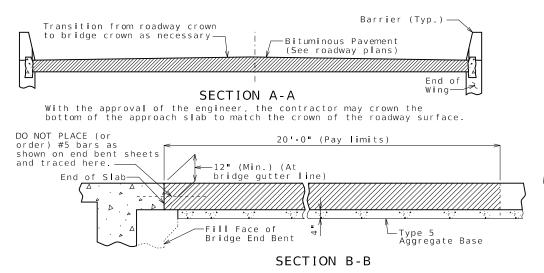
## TYPE D BARRIER Sheet No. 6 of 10

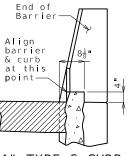
TED S KOESTER NUMBER PE-201300059 ITS SONAL ENG Ted Moester 1/13/2025 AΑ MO SHEET NO BR 6 MARIES J5S3543 CONTRACT ID.

PROJECT NO. BRIDGE NO A18571









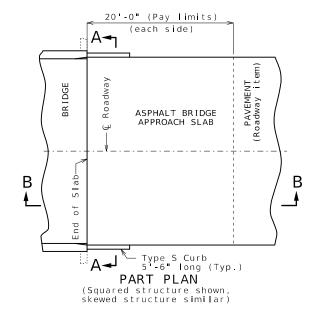
4" TYPE S CURB See Missouri Standard Plan 609.00 for details of Type S curb.

### Notes For Asphalt Slab:

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

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.

 $\mbox{\sc Application}$  of tack is required between lifts per Sec 403.



# ASPHALT SLAB

(NOT ALLOWED WITH CONCRETE PAVEMENT)

# BRIDGE APPROACH SLAB (MINOR)

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

Detailed Sept. 2024 Checked Sept. 2024

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

Sheet No. 8 of 10



DATE PREPARED 1/13/2025

ROUTE STATE

AA MO

DISTRICT SHEET NO.

BR 8

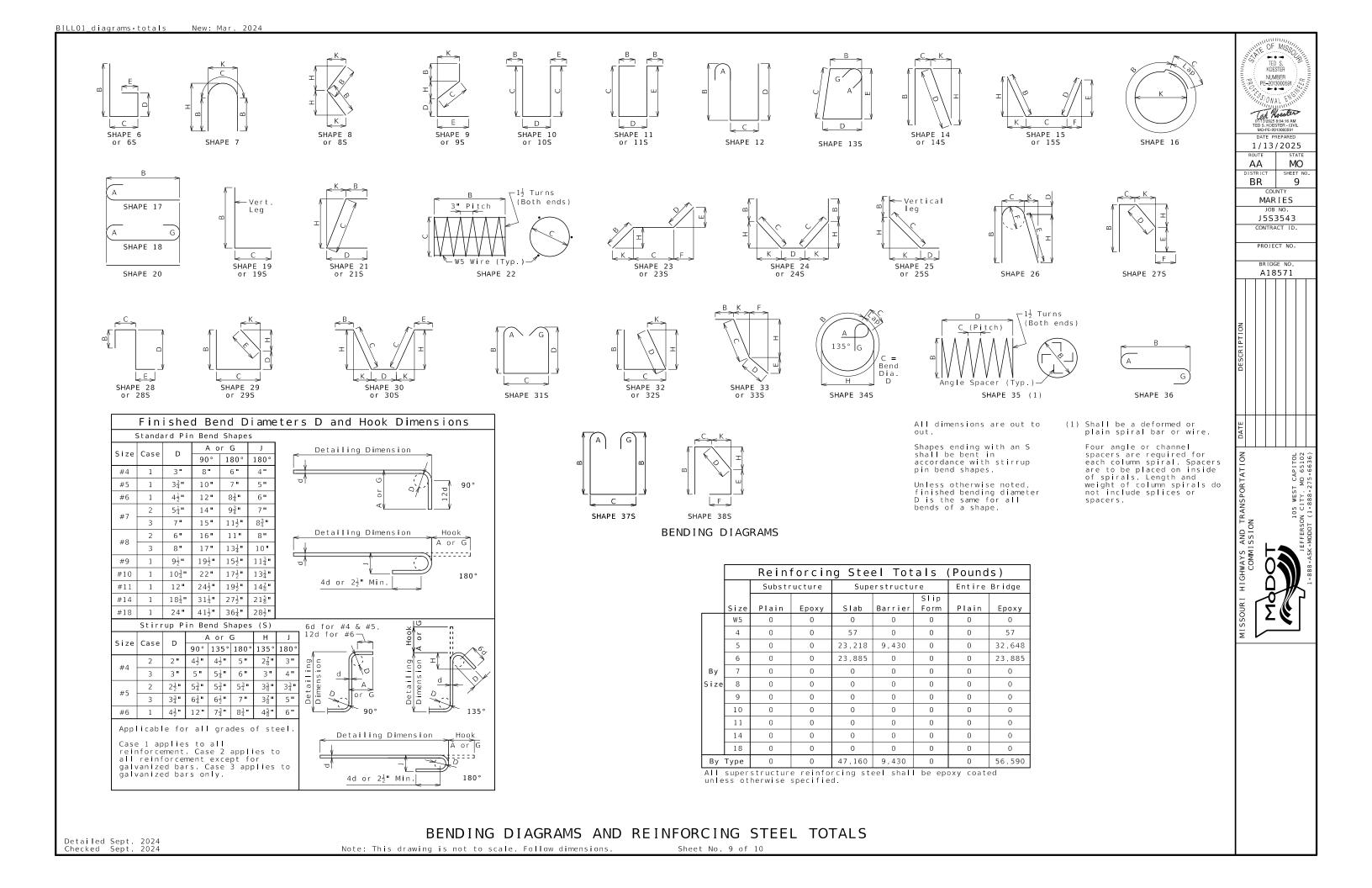
COUNTY MARIES

JOB NO.
J5S3543
CONTRACT ID.

PROJECT NO.







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Nomin	nal len	gths are based on ne nearest inch f	n out to for fabr	out dime	ensions s	shown in	bending	diagrams and are		411	hars ch	all ha	Grade 60	0		Codes: C	= Required coat	ings, wh	ere E = Epoxy Co	ated and	G = Galvanized.		

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.

All bars shall be Grade 60.

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.

For bending diagrams and steel reinforcing totals, see Sheet No.  $9.\$ 

BILL OF REINFORCING STEEL

Detailed Sept. 2024 Checked Sept. 2024

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

Sheet No. 10 of 10

# General Notes:

### U.I.P., REDECK AND MAKE COMPOSITE EXISTING (70'-90'-70') CONTINUOUS WIDE FLANGE BEAM SPANS (SKEW: 25°00'00" R.A.)

SEC/SUR 26 TWP 41N RGE 10W

TED S. KOESTER

NUMBER

PE-201300059

Ted Houster

01/13/2025 8:06:40 AM TED S. KOESTER - CIVIL MOLPE-2013000591

1/13/2025

MARIES

J5S3543 CONTRACT ID

PROJECT NO.

BRIDGE N

A18581

AA

BR

MO

SHEET NO

1

35/ONAL

2002 AASHTO LFD (17th Ed.) Standard Specifications Seismic Performance Category A

Design Loading:

H15-44 (1961) (Existing) HS20-44 (New Construction) 35 lb/sf Future Wearing Surface Earth - 120 lb/cf, Equivalent Fluid Pressure 45 lb/cf Fatigue Stress - Case III

Design Unit Stresses:

Design Specifications:

Class B-1 Concrete (Substructure & Barrier) f'c = 4,000 psiClass B-2 Concrete (End Bents & Superstructure, f'c = 4,000 psiexcept Barrier) Reinforcing Steel (ASTM A615 Grade 60) fy = 60,000 psi

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.

Protective coating for concrete bents and piers (Epoxy) shall be applied as shown on the bridge plans and in accordance with Sec 711.

Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for plain bars and 30 diameters for deformed bars, unless otherwise noted.

Roadway surfacing adjacent to bridge ends shall match new bridge slab surface.

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work

Contractor shall verify all dimensions in field before finalizing the shop drawings.

The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved qualified special mortar in accordance with

Rubblized concrete from the existing bridge deck that qualifies as clean fill may be placed on spill slopes at end bents above ordinary high water line (Roadway item)

For adjusted girder deflection due to the weight of the new deck and barriers, see Bridge Electronic Deliverables.

### Traffic Handling:

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

Estimated Quantities	for Slab on St	e e l
I t em		Total
Class B-2 Concrete	cu. yard	161
Reinforcing Steel (Epoxy Coated)	pound	56,600

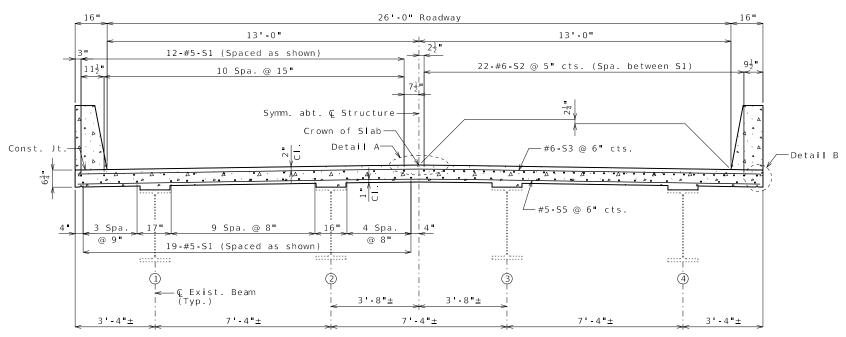
The table of Estimated Quantities for Slab on Steel represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for 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 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.

Slab shall be cast-in-place with conventional forming or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

For Optional Stay-In-Place Form Details, see Sheet No. 2.

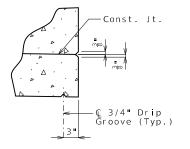
Bridge deck surface may be finished with a vibratory screed.



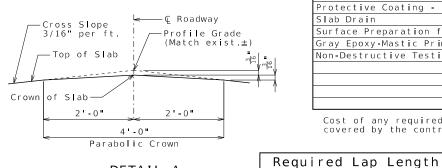
TYPICAL SECTION THRU SLAB

HALF SECTION NEAR MIDSPAN

HALF SECTION NEAR INT. BENT



DETAIL B



Removal of Miscellaneous ACM (Non-Friable) sq. foot 21  Dewatering lump sum 1  Removal of Existing Bridge Deck sq. foot 6723  Bridge Approach Slab (Minor) sq. yard 118  Class B-1 Concrete (Substructure) cu. yard 14.4  Slab on Steel sq. yard 745  Type D Barrier linear foot 467  Reinforcing Steel (Bridges) pound 1220  Protective Coating - Concrete Bents and Piers (Epoxy) lump sum 1  Slab Drain each 44  Surface Preparation for Applying Epoxy-Mastic Primer lump sum 1  Gray Epoxy-Mastic Primer lump sum 1  Non-Destructive Testing linear foot 56	I t em		Total
Removal of Existing Bridge Deck sq. foot 6723 Bridge Approach Slab (Minor) sq. yard 118 Class B-1 Concrete (Substructure) cu. yard 14.4 Slab on Steel sq. yard 745 Type D Barrier linear foot 467 Reinforcing Steel (Bridges) pound 1220 Protective Coating - Concrete Bents and Piers (Epoxy) lump sum 1 Slab Drain each 44 Surface Preparation for Applying Epoxy-Mastic Primer lump sum 1 Gray Epoxy-Mastic Primer lump sum 1	Removal of Miscellaneous ACM (Non-Friable)	sq. foot	21
Bridge Approach Slab (Minor) sq. yard 118 Class B-1 Concrete (Substructure) cu. yard 14.4 Slab on Steel sq. yard 745 Type D Barrier linear foot 467 Reinforcing Steel (Bridges) pound 1220 Protective Coating - Concrete Bents and Piers (Epoxy) lump sum 1 Slab Drain each 44 Surface Preparation for Applying Epoxy-Mastic Primer lump sum 1 Gray Epoxy-Mastic Primer lump sum 1	Dewater ing	lump sum	1
Class B-1 Concrete (Substructure)  Slab on Steel sq. yard 745 Type D Barrier linear foot 467 Reinforcing Steel (Bridges) pound 1220 Protective Coating - Concrete Bents and Piers (Epoxy) lump sum 1 Slab Drain each 44 Surface Preparation for Applying Epoxy-Mastic Primer lump sum 1 Gray Epoxy-Mastic Primer lump sum 1	Removal of Existing Bridge Deck	sq. foot	6723
Slab on Steel sq. yard 745 Type D Barrier linear foot 467 Reinforcing Steel (Bridges) pound 1220 Protective Coating - Concrete Bents and Piers (Epoxy) lump sum 1 Slab Drain each 44 Surface Preparation for Applying Epoxy-Mastic Primer lump sum 1 Gray Epoxy-Mastic Primer lump sum 1	Bridge Approach Slab (Minor)	sq. yard	118
Type D Barrier I linear foot 467 Reinforcing Steel (Bridges) pound 1220 Protective Coating - Concrete Bents and Piers (Epoxy) lump sum 1 Slab Drain each 44 Surface Preparation for Applying Epoxy-Mastic Primer lump sum 1 Gray Epoxy-Mastic Primer lump sum 1	Class B-1 Concrete (Substructure)	cu. yard	14.4
Reinforcing Steel (Bridges) pound 1220 Protective Coating - Concrete Bents and Piers (Epoxy) lump sum 1 Slab Drain each 44 Surface Preparation for Applying Epoxy-Mastic Primer lump sum 1 Gray Epoxy-Mastic Primer lump sum 1	Slab on Steel	sq. yard	745
Protective Coating - Concrete Bents and Piers (Epoxy)  Slab Drain  Surface Preparation for Applying Epoxy-Mastic Primer  Gray Epoxy-Mastic Primer  Sump sum  1  1  1  1  1  1  1  1  1  1  1  1  1	Type D Barrier	linear foot	467
Slab Drain each 44 Surface Preparation for Applying Epoxy-Mastic Primer lump sum 1 Gray Epoxy-Mastic Primer lump sum 1	Reinforcing Steel (Bridges)	pound	1220
Surface Preparation for Applying Epoxy-Mastic Primer   Iump sum   1 Gray Epoxy-Mastic Primer   Iump sum   1	Protective Coating - Concrete Bents and Piers (Epoxy)	lump sum	1
Gray Epoxy-Mastic Primer 1	Slab Drain	each	44
	Surface Preparation for Applying Epoxy-Mastic Primer	lump sum	1
Non-Destructive Testing linear foot 56	Gray Epoxy-Mastic Primer	lump sum	1
	Non-Destructive Testing	linear foot	56

Cost of any required excavation for bridge will be considered completely covered by the contract unit price for other items.

### DETAIL A

Contractor may shift or swap to tie R3 bar in barrier (4" min. bar spacing) Contractor may shift bar as needed to tie R2 bar in barrier

OPTIONAL SHIFTING

TOP BARS AT BARRIER

\*\* Unless otherwise shown

		Showing Lengths	
Int. Bei	nt No. 2	Int. Ber	nt No. 3
Span 1	Span 2	Span 2	Span 3
25'-0"	25'-6"	25'-6"	25'-0"

### REPAIRS TO BRIDGE: ROUTE AA OVER MARIES RIVER

ROUTE AA FROM ROUTE T TO ROUTE 63 ABOUT 2.0 MILES SOUTH OF ROUTE T BEGINNING STATION 107+76.50± (MATCH EXISTING)

For Bar Splices \*\*

Splice Length

21.7"

3'-3"

3 10

4 - 11

Bar Size

4

Detailed Sept. 2024 Checked Sept. 2024

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

Sheet No. 1 of 11

### DETAILS OF CONCRETE REMOVAL AT END BENTS

The cost of concrete removal as shown will be considered completely covered by the contract unit price for Removal of Existing Bridge Deck. Vertical backwall and wingwall reinforcement to be cut off one inch below concrete removal surface and the resulting holes shall be filled with a qualified special mortar.

A smooth, level surface shall be provided at Bent No. 1 removal lines.

### General Notes:

### Stay-In-Place Forms:

Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

Form sheets shall not rest directly on the top of beam Form sheets shall not rest directly on the top of beam flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Welding on or drilling holes in the beam flanges will not be permitted. All steel fabrication and construction shall be in accordance with Sec 1080 and 712. Certified field welders will not be required for welding of the form

The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for beam loading.

The contractor shall provide a method of preventing the direct contact of the stay-in-place forms and connection components with uncoated weathering steel members that is approved by the engineer.

### Pouring and Finishing Slab:

rouring and Finishing Slab:

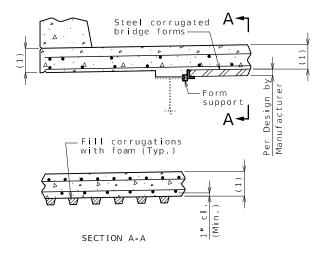
The contractor shall provide bracing necessary for lateral and torsional stability of the beams during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not weld on or drill holes in the beams. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Slab on Steel.

Slab shall be poured upgrade from end to end at a minimum rate of 25 cubic yards per hour.

Alternate pour sequences may be submitted to the engineer for approval. Keyed construction joints shall be provided between pours.

### Haunching:

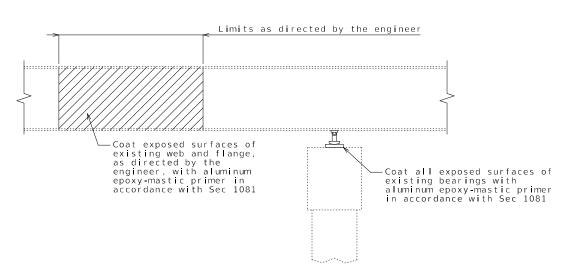
(1) Slab is to be considered a uniform thickness as shown on the plans. Haunching will vary. See front sheet for



OPTIONAL STAY-IN-PLACE FORM DETAILS



### TYPICAL SECTION THRU END BENTS NO. 1 & 4 SHOWING PROTECTIVE COATING



### PART ELEVATION OF INT. BENTS NO. 2 & 3 SHOWING RECOATING OF STRUCTURAL STEEL

Exposed surfaces of the existing structural steel, as directed by the engineer, and all intermediate bent bearings shall be recoated with one 6-mil thickness of gray epoxy-mastic primer applied over an SSPC-SP3 surface preparation in accordance with Sec 1081. The cost of surface preparation will be considered completely covered by the contract lump sum price for Surface Preparation for Applying Epoxy-Mastic Primer. The cost of the gray epoxy-mastic primer and bituminous coating will be considered completely covered by the contract lump sum price for Gray Epoxy-Mastic Primer.



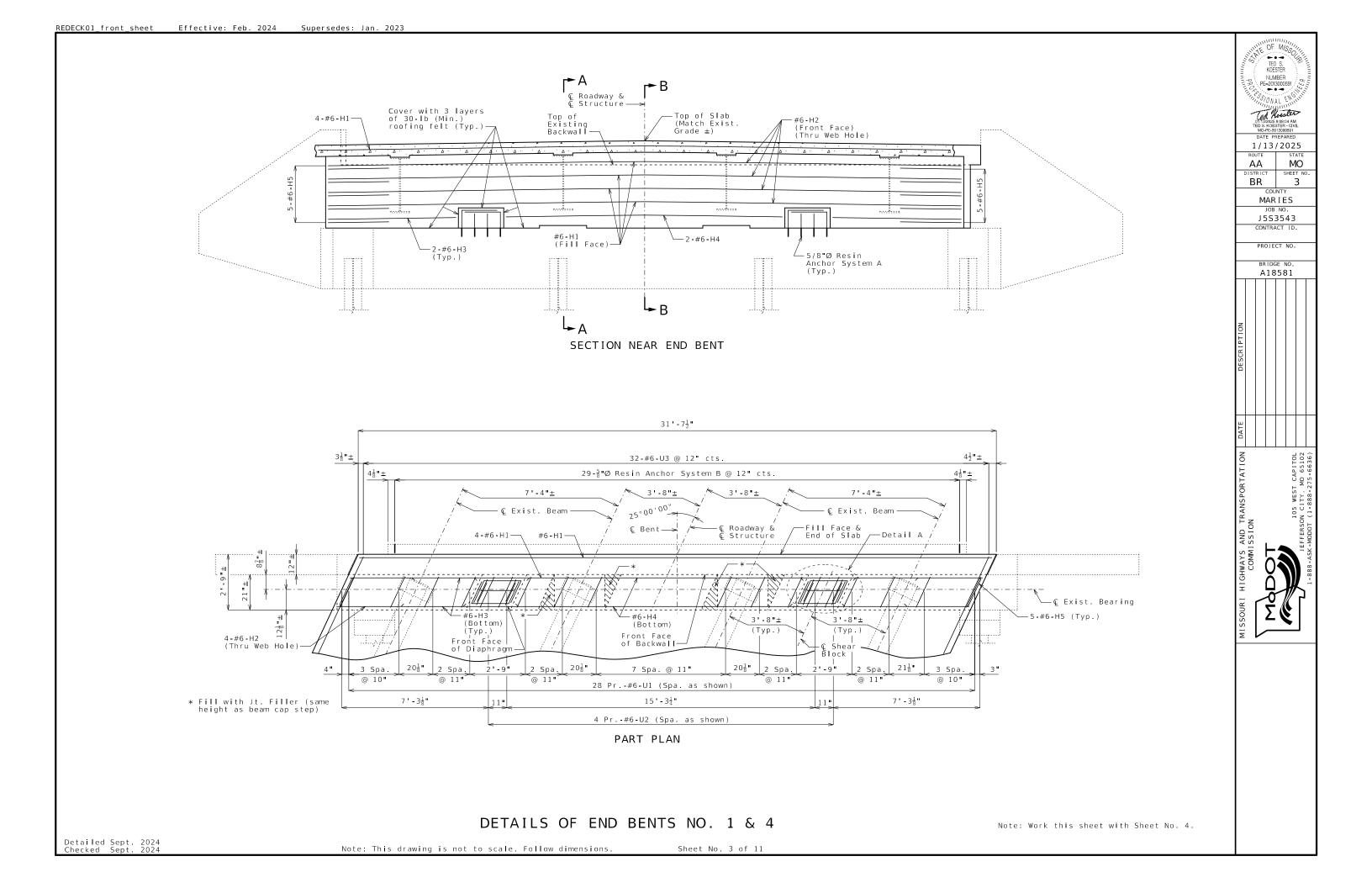
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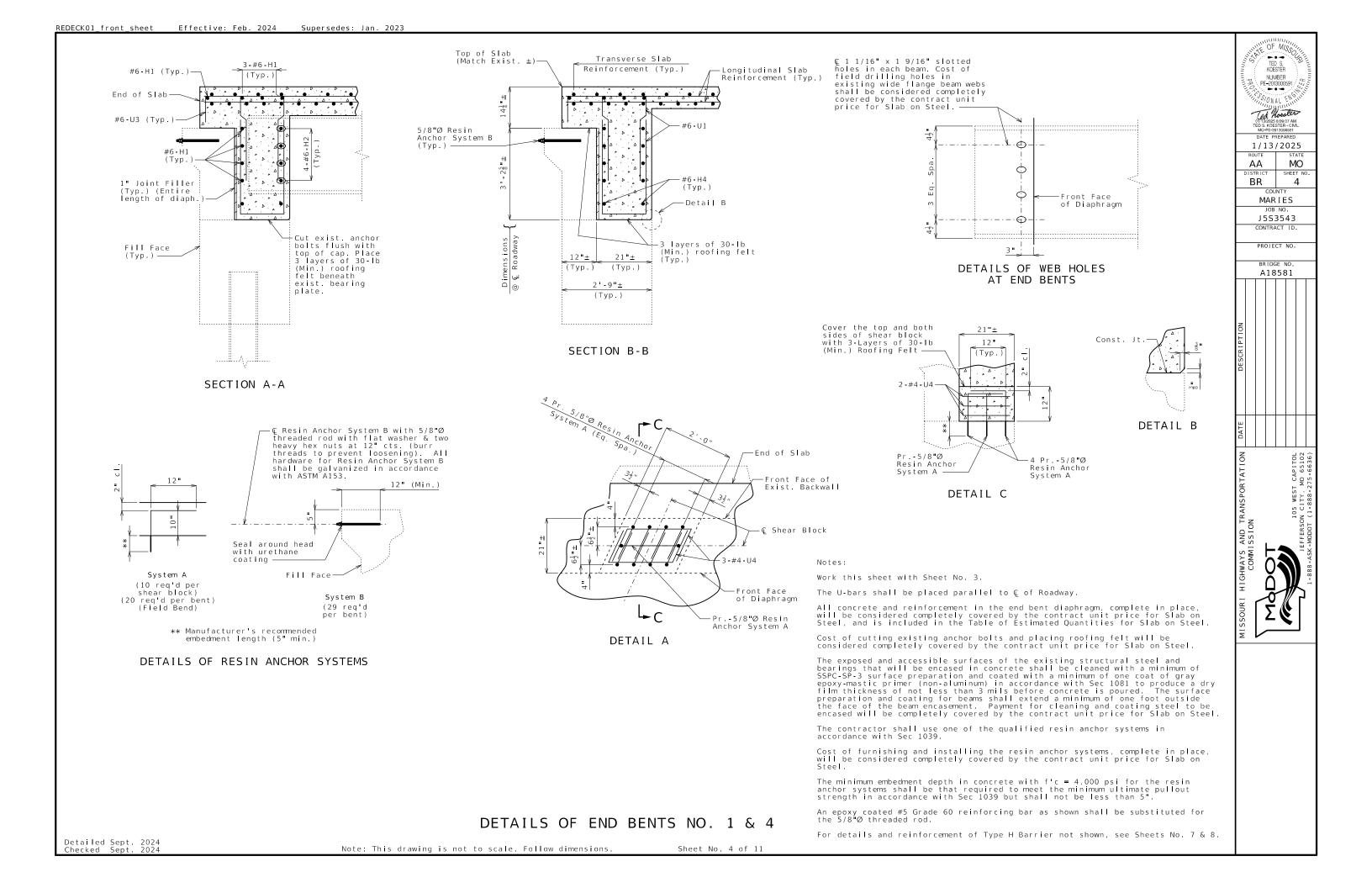
MO AΑ SHEET NO BR 2

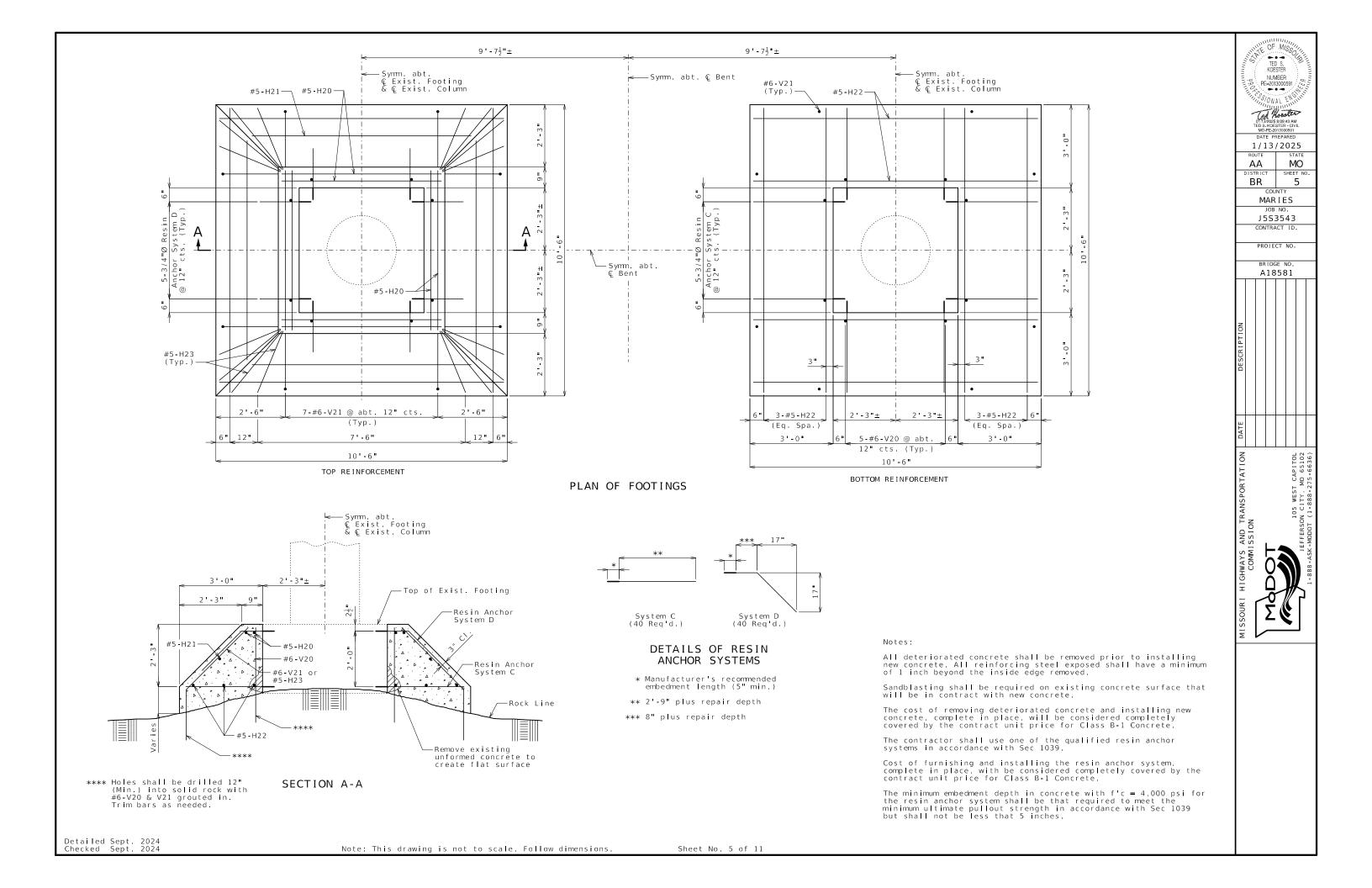
MARIES J5S3543 CONTRACT ID

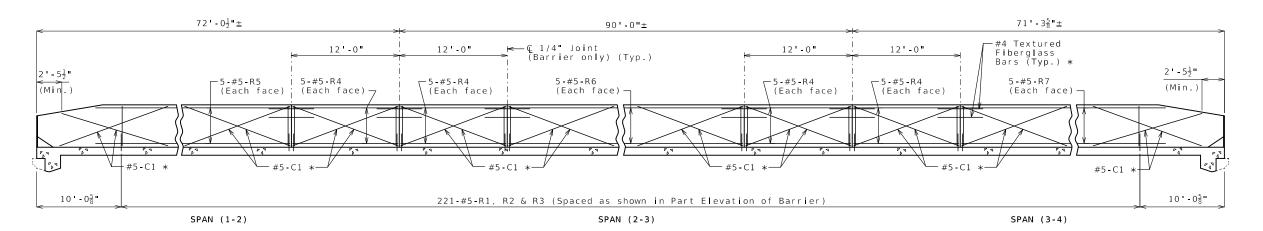
PROJECT NO.





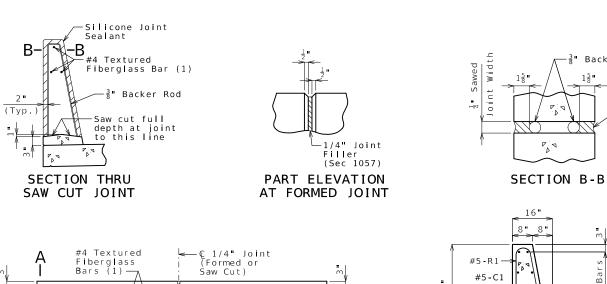


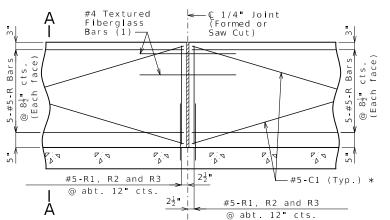




### ELEVATION OF BARRIER

(Left barrier shown, right barrier similar) Longitudinal dimensions are horizontal.

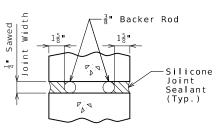


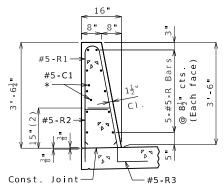


### PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only Detailed Sept. 2024

Checked Sept. 2024



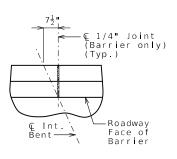


### SECTION A-A Use a minimum lap of 3'-1" for

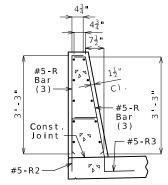
#5 horizontal barrier bars.

The cross-sectional area above the slab is 3.52 square feet.

(2) To top of bar



PART PLAN SHOWING JOINT LOCATION



### 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.)

### 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 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 D 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 slab to end of slab.

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, twoway traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

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

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

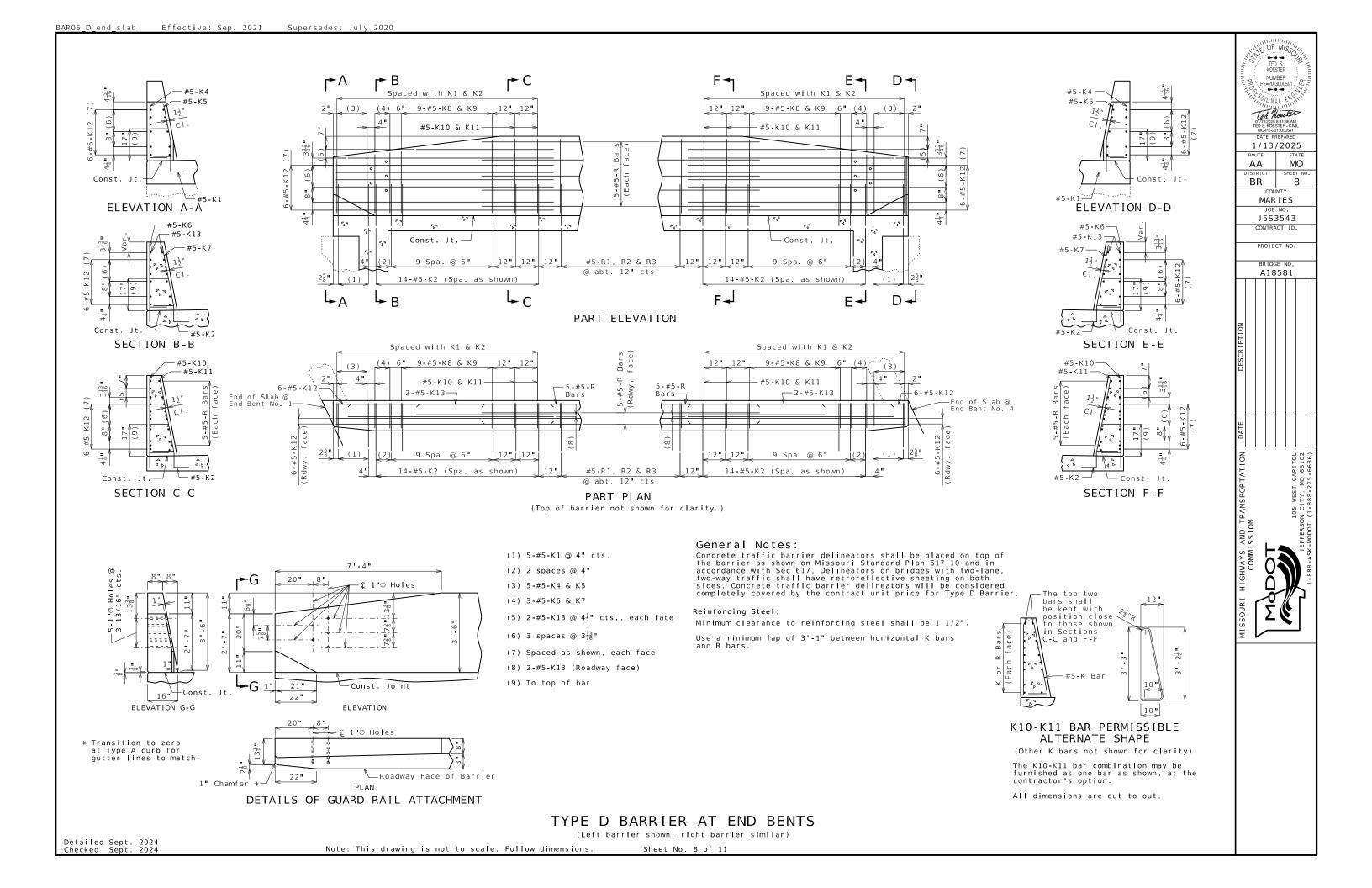
Plastic waterstop shall not be used with saw cut joints.

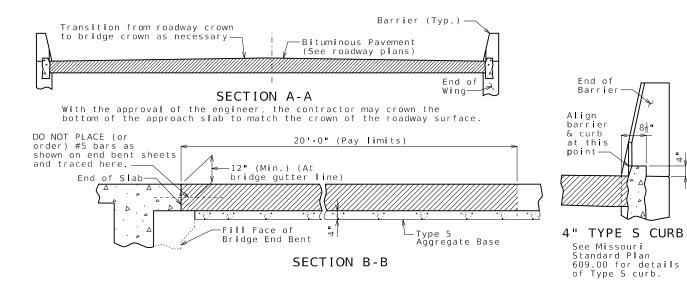
TED S. KOESTER NUMBER PE-201300059 SSIONAL E Ted Rosales 1/13/2025 MO AΑ SHEET NO 7 BR MARIES J5S3543 CONTRACT ID.

BRIDGE NO A18581

PROJECT NO.

TYPE D BARRIER



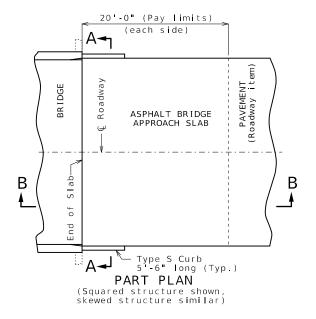


### Notes For Asphalt Slab:

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

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.



# ASPHALT SLAB

(NOT ALLOWED WITH CONCRETE PAVEMENT)

# BRIDGE APPROACH SLAB (MINOR)

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

Detailed Sept. 2024 Checked Sept. 2024 Note: This drawing is not to scale. Follow dimensions.

Sheet No. 9 of 11

TED S. KOESTER NUMBER THE SONAL EN 01/13/2025 8:12:11 AM TED S. KOESTER - CIVIL MO-PE-2013000591 MO SHEET NO

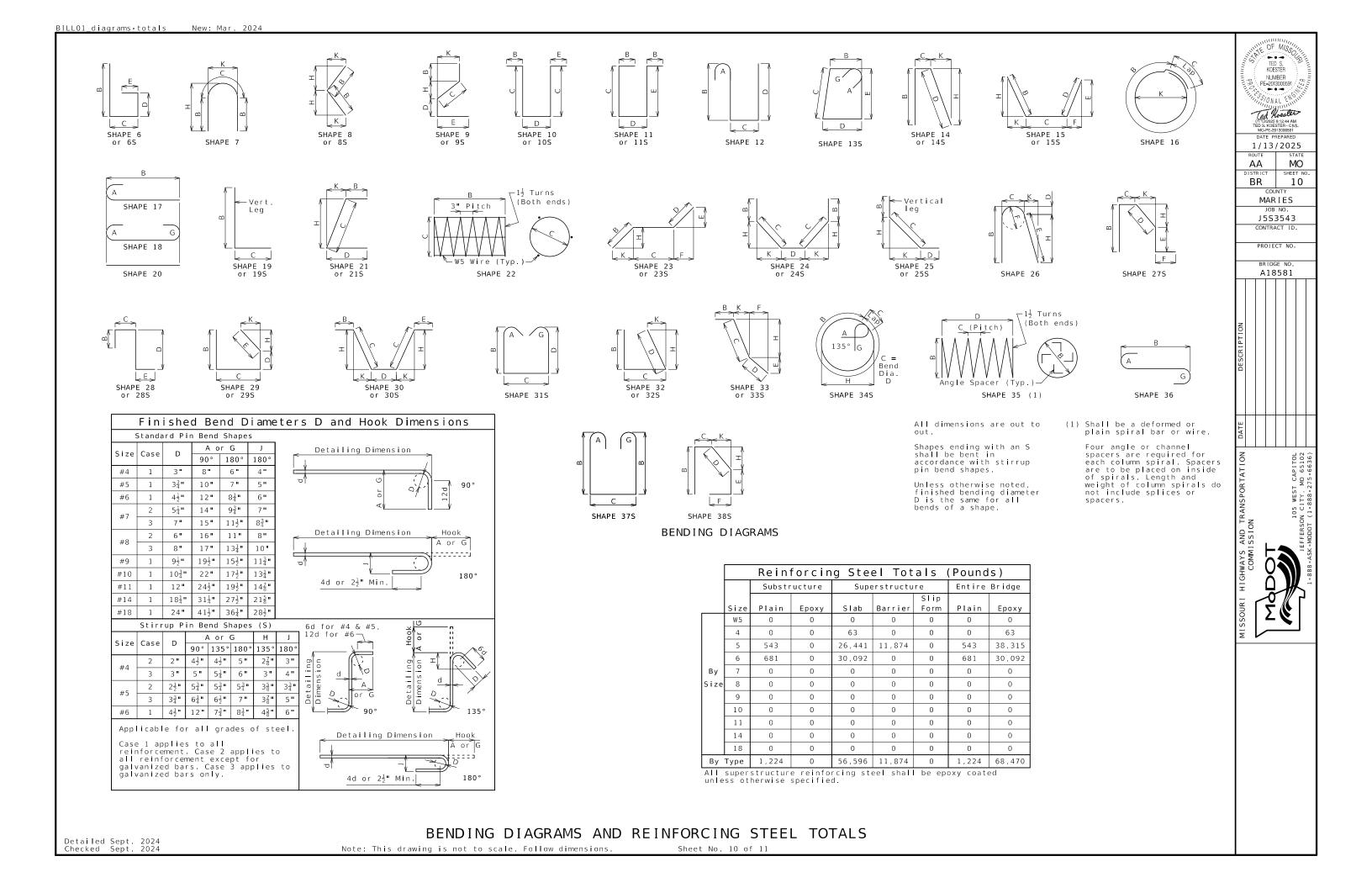
1/13/2025 AΑ BR 9 MARIES

> CONTRACT ID. PROJECT NO. BRIDGE NO

J5S3543

A18581





BILLO2 data New: Mar. 2024

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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.

All bars shall be Grade 60.

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.

For bending diagrams and steel reinforcing totals, see Sheet No. 10.

BILL OF REINFORCING STEEL

Detailed Sept. 2024 Checked Sept. 2024

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