

A.A.D.T. - 2025 = 3162  
A.A.D.T. - 2045 = 3829  
D.H.V. = 10.62%  
T = 8.42%  
V = 65 M.P.H.  
D = 51.0%/49% (N/S)

FUNCTIONAL CLASSIFICATION - MAJOR COLLECTOR

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

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

**KEY MAP**  
LOCATION OF JASPER COUNTY

**BRIDGE #A2690**  
REHABILITATE BR. #A2690  
NORTH FORK SPRING RIVER  
HYDRO DEMOLITION EXIST. DECK,  
SUBSTRUCTURE REPAIRS &  
REPLACE GUARDRAIL

**BRIDGE #A2862**  
REHABILITATE BR. #A2862  
ROUTE 43 - SPRING RIVER  
HYDRO DEMOLITION EXIST. DECK,  
SUBSTRUCTURE REPAIRS &  
REPLACE GUARDRAIL

**PROJECT LIMITS**

**STATIONING:**  
BEGIN STA. 269+84.69  
END STA. 279+33.53  
BEGIN STA. 334+50.46  
END STA. 342+15.46

**LOCATIONS:**  
ASBURY  
WACO  
NECK CITY  
PURCELL  
ALBA  
CARYTOWN  
CRONOGO

**ROADS:**  
171  
43  
99

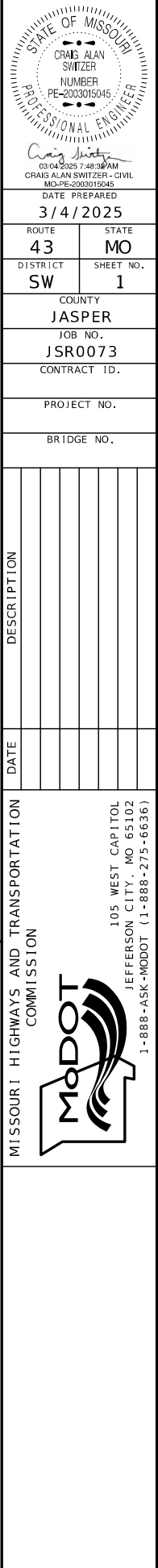
**WATER BODIES:**  
SPRING RIVER  
NORTH FORK SPRING RIVER  
DUVAL CREEK

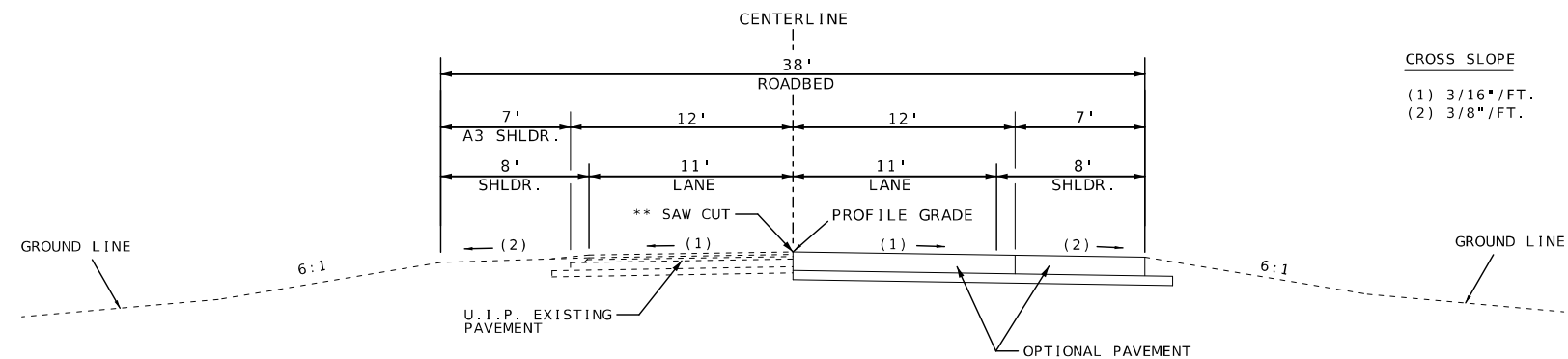
**SCALE:** 1" = 1 MILE

**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.**

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	1
TYPICAL SECTIONS (TS) ( 1 SHEET )--	2
QUANTITIES (QU) ( 3 SHEETS)-----	3
PLAN-PROFILE (PP)-----	4-5
RIGHT OF WAY (RW)-----	XX-XX
REFERENCE POINTS (RP)-----	XX-XX
COORDINATE POINTS (CP)-----	XX-XX
SPECIAL SHEETS (SS)-----	XX-XX
TRAFFIC CONTROL SHEETS (TC)-----	6-7
EROSION CONTROL SHEETS (EC)-----	XX-XX
LIGHTING (LT)-----	XX-XX
SIGNALS (SG)-----	XX-XX
SIGNING (SN)-----	XX-XX
PAVEMENT MARKING (PM)-----	XX-XX
CULVERT SECTIONS (CS)-----	XX-XX
BRIDGE DRAWINGS (B)	
A26902-----	1-17
A26912-----	1-16
A####-----	XX-XX
A####-----	XX-XX
CROSS SECTIONS (XS)-----	XX-XX

BRIDGE A2690 - NORTH FORK SPRING RIVER		
BEGINNING OF PROJECT	STA.	269 + 84.69
END OF PROJECT	STA.	279 + 33.53
APPARENT LENGTH		948.84 FEET
BRIDGE A2691 - SPRING RIVER		
BEGINNING OF PROJECT	STA.	334 + 50.46
END OF PROJECT	STA.	342 + 15.46
APPARENT LENGTH		765.00 FEET
EQUATIONS AND EXCEPTIONS:		NONE
TOTAL CORRECTIONS		0.00 FEET
NET LENGTH OF PROJECT		1713.84 FEET
STATE LENGTH		0.325 MILES
FOR INFORMATION ONLY		
ESTIMATED DISTURBED ACRES		0 ACRES



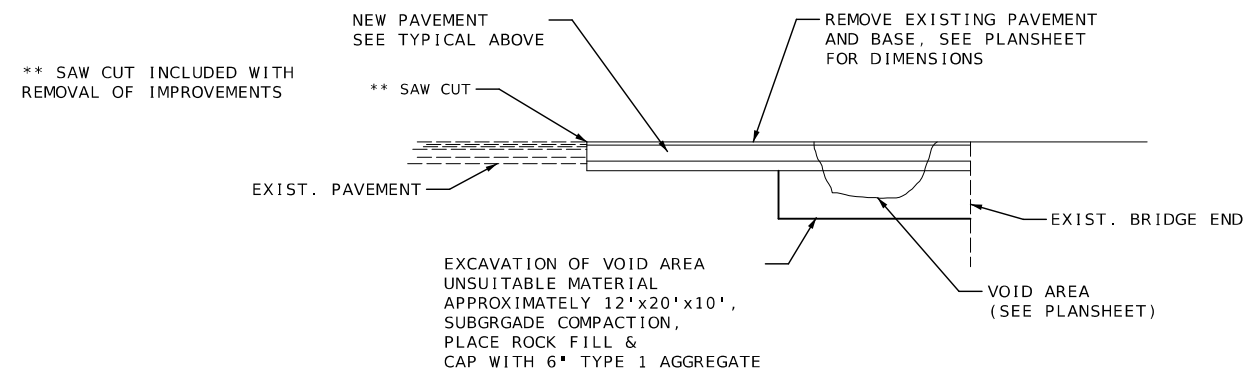


\*\* SAW CUT INCLUDED WITH  
REMOVAL OF IMPROVEMENTS

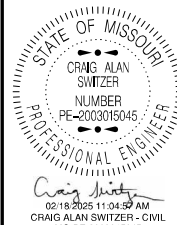
**SECTION ON TANGENT**  
TYPICAL SECTION RTE. 43  
(VOID AREA LOCATION ONLY)  
STA. 277+55.11 TO STA. 277+82.03

MATCH EXISTING TYPICAL SECTION  
STA. 269+84.69 - STA. 277+55.11  
STA. 277+82.03 - STA. 279+33.53  
STA. 334+50.46 - STA. 342+15.46

OPTIONAL PAVEMENT		
12" HMA 2" BP-1 w/PG64-22 10" BIT. BASE w/PG64-22 6" TYPE 1 AGGR. BASE	12" PCCP 12" REINF. PCCP 15' JOINTS w/1.25" DOWELS 6" TYPE 1 AGGR. BASE	SHOULDER FULL DEPTH



**VOID AREA REPAIR**  
LOOKING WEST  
N.T.S.



DATE PREPARED  
2/13/2025

ROUTE 43 STATE MO

DISTRICT SW SHEET NO. 2

COUNTY JASPER

JOB NO. JSR0073

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)

MODOT

REMOVAL OF IMPROVEMENTS							
STATION	TO	STATION	LOCATION	DESCRIPTION	UNITS	TOTAL	REMARKS
270+24.09	-	271+47.19	ROUTE 43 - RT.	EX. GUARDRAIL	L.F.	125	
270+42.90	-	271+61.03	ROUTE 43 - LT.	EX. GUARDRAIL	L.F.	112.5	
277+55.11	-	277+82.03	ROUTE 43 - LT.	EX. PAVEMENT	S.Y.	57	S.E. CORNER BR. A2690
277+57.19	-	278+83.73	ROUTE 43 - RT.	EX. GUARDRAIL	L.F.	125	
277+71.03	-	279+03.39	ROUTE 43 - LT.	EX. GUARDRAIL	L.F.	137.5	
334+87.96	-	336+12.96	ROUTE 43 - RT.	EX. GUARDRAIL	L.F.	125	
334+87.96	-	336+12.96	ROUTE 43 - LT.	EX. GUARDRAIL	L.F.	125	
340+52.96	-	341+77.96	ROUTE 43 - RT.	EX. GUARDRAIL	L.F.	125	
340+52.96	-	341+77.96	ROUTE 43 - LT.	EX. GUARDRAIL	L.F.	125	
LUMP SUM						1	

CONTRACTOR FURNISHED  
SURVEYING AND STAKING

LUMP SUM = 1

MOBILIZATION

LUMP SUM = 1

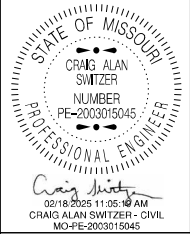
EARTHWORK SUMMARY					
STATION	TO	STATION	LOCATION	UNCLASSIFIED EXCAVATION (C.Y.)	REMARKS
277+57.66	-	277+77.22	ROUTE 43 - S.E. CORNER BR. #A2690	89	VOID AREA - SEE PLANSHEET
TOTAL				89	
USE				89	

SUBGRADE COMPACTION					
STATION	TO	STATION	LOCATION	(100FT.)	REMARKS
277+57.66	-	277+77.22	ROUTE 43 - S.E. CORNER BR. #A2690	1.0	VOID AREA - SEE PLANSHEET
TOTAL				1.0	
USE				1.0	

ROCK FILL							
STATION	TO	STATION	LOCATION	AREA	FURNISHING (C.Y.)	PLACING (C.Y.)	REMARKS
277+57.66	-	277+77.22	ROUTE 43 - S.E. CORNER BR. #A2690	12'x20'x10'	89	89	VOID AREA - SEE PLANSHEET
TOTAL					89	89	
USE					89	89	

FLOWABLE BACKFILL						
STATION	TO	STATION	LOCATION	AREA	(C.Y.)	REMARKS
336+21.00			ROUTE 43 - Br. #A2691	1'x1'x40'	2	VOID AREA UNDER BENT 1
TOTAL					2	
USE					2	

6" TYPE 1 AGGREGATE						
STATION	TO	STATION	LOCATION	AREA	BASE (S.Y.)	REMARKS
277+57.66	-	277+77.22	ROUTE 43 - S.E. CORNER BR. #A2690	12'x20'x10'	27	CAP FOR ROCK FILL IN VOID AREA - SEE TYPICALS
TOTAL					27	
USE					27	



DATE PREPARED  
2/13/2025

ROUTE  
43

STATE  
MO

DISTRICT  
SW

SHEET NO.  
3

COUNTY  
JASPER

JOB NO.  
JSR0073

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION									
DATE									

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

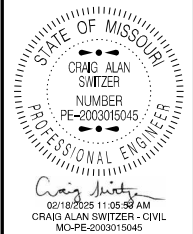
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

MODIFIED COLDMILLING - DEPTH TRANSITIONS							
STATION	TO	STATION	LOCATION	LENGTH (FT.)	WIDTH (FT.)	AREA (S.Y.)	REMARKS
270+81.19	-	271+63.11	ROUTE 43 - BR. #A2690, NORTH END	81.92	38	345.88	TIE EXISTING PAVEMENT TO NEW BRIDGE DECK
277+55.11	-	278+37.03	ROUTE 43 - BR. #A2690, SOUTH END	81.92	38	345.88	TIE EXISTING PAVEMENT TO NEW BRIDGE DECK
335+45.96	-	336+20.96	ROUTE 43 - BR. #A2691, NORTH END	75.00	38	316.67	TIE EXISTING PAVEMENT TO NEW BRIDGE DECK
340+44.96	-	341+19.96	ROUTE 43 - BR. #A2691, SOUTH END	75.00	38	316.67	TIE EXISTING PAVEMENT TO NEW BRIDGE DECK
				TOTAL		1325.1	
				USE		1325	

OPTIONAL PAVEMENT								
STATION	TO	STATION	LOCATION	LENGTH (FT.)	WIDTH (FT.)	PAVEMENT (S.Y.)	6" TYPE 1 AGGR. BASE (S.Y.)	REMARKS
277+55.11	-	277+82.03	ROUTE 43 - SOUTH END BR. #A2690	26.92	19	56.83		VOID AREA - SEE PLANSHEET
277+55.11	-	277+82.03	ROUTE 43 - SOUTH END BR. #A2690	26.92	19		56.83	VOID AREA - SEE PLANSHEET
TOTAL						56.83	56.83	
USE						56.8	57	

GUARDRAIL								
STATION	TO	STATION	LOCATION	MGS GUARDRAIL (L.F.)	MGS BRIDGE APPROACH TRANSITION, REGULAR (EA.)	MASH TYPE A CRASHWORTHY END TERMINAL (EA.)	SHAPING SLOPES CLASS III (100FT.)	REMARKS
269+84.69	-	271+47.19	ROUTE 43, RT. SIDE - BR. #A2690	75.0	1	1	1	
270+48.53	-	271+61.03	ROUTE 43, LT. SIDE - BR. #A2690	25.0	1	1	1	
277+57.19	-	278+69.69	ROUTE 43, RT. SIDE - BR. #A2690	25.0	1	1	1	
277+71.03	-	279+33.53	ROUTE 43, LT. SIDE - BR. #A2690	75.0	1	1	1	
334+50.46	-	336+12.96	ROUTE 43, RT. SIDE - BR. #A2691	75.0	1	1	1	
335+00.46	-	336+12.96	ROUTE 43, LT. SIDE - BR. #A2691	25.0	1	1	1	
340+52.96	-	341+65.46	ROUTE 43, RT. SIDE - BR. #A2691	25.0	1	1	1	
340+52.96	-	342+15.46	ROUTE 43, LT. SIDE - BR. #A2691	75.0	1	1	1	
TOTAL				400.0	8	8	8	
USE				400	8	8	8	

PAVEMENT MARKING						
STATION	TO	STATION	LOCATION	STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS		REMARKS
				4" WHITE (L.F.)	4" YELLOW (L.F.)	
270+81.19	-	278+37.03	ROUTE 43, LT. EDGE - BR. #A2690	755.84		
270+81.19	-	278+37.03	ROUTE 43, RT. EDGE - BR. #A2690	755.84		
270+81.19	-	278+37.03	ROUTE 43, C/L - BR. #A2690		188.96	INTERMITTENT C/L
335+45.96	-	341+19.96	ROUTE 43, LT. EDGE - BR. #A2691	574.00		
335+45.96	-	341+19.96	ROUTE 43, RT. EDGE - BR. #A2691	574.00		
335+45.96	-	341+19.96	ROUTE 43, C/L - BR. #A2691		143.50	INTERMITTENT C/L
TOTAL				2659.68	332.46	
USE				2660	332	



DATE PREPARED	
2/13/2025	
ROUTE	STATE
43	MO
DISTRICT	SHEET NO.
SW	3
COUNTY	
JASPER	
JOB NO.	
JSR0073	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE								

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

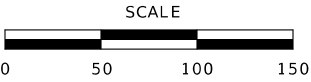
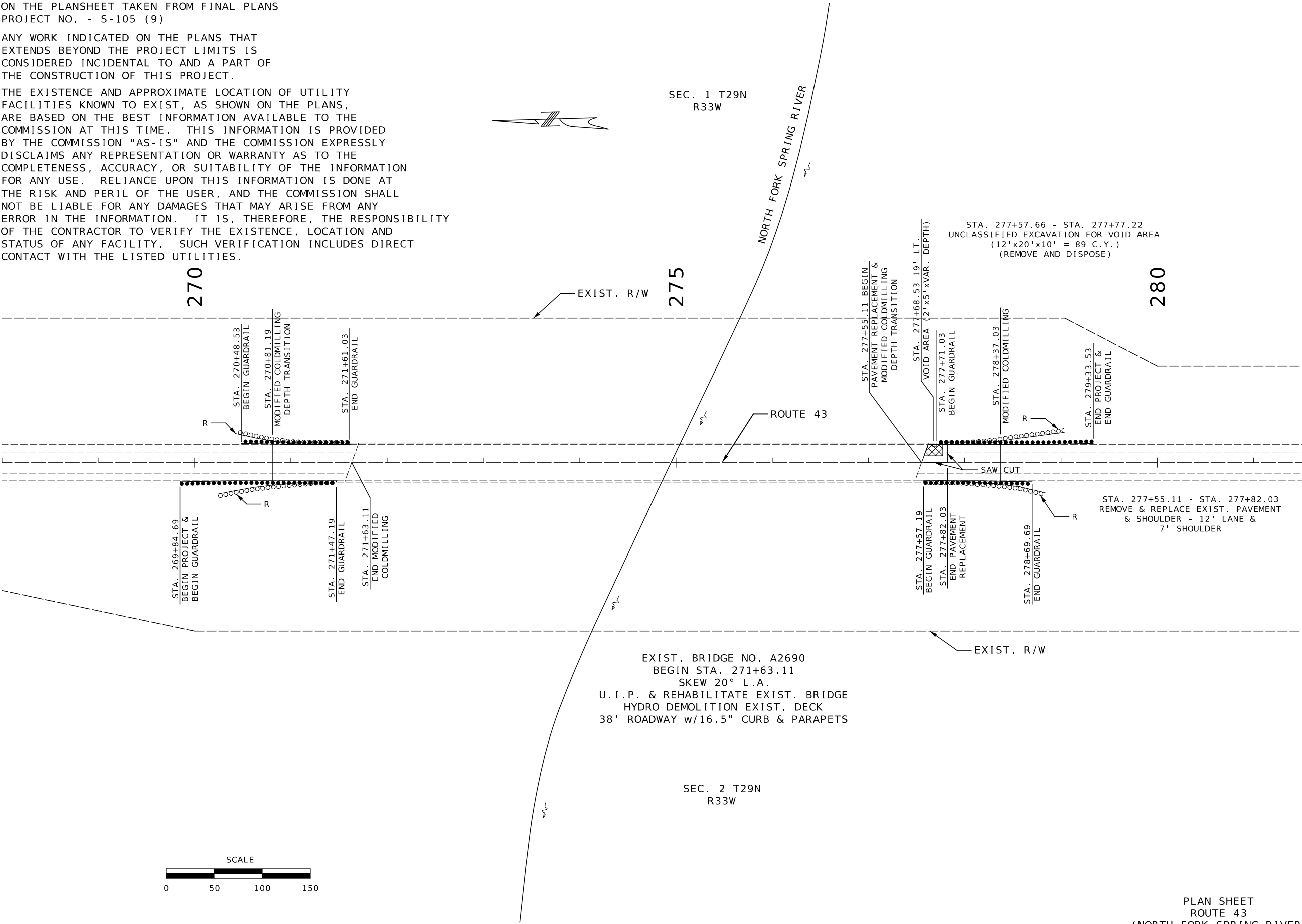
EFFECTIVE: 07-01-2024																							
SIGN	SIZE	AREA	QTY	TOTAL AREA	QTY RELOC	TOTAL RELOC	SIGN NUM.	DESCRIPTION	SIGN	SIZE	AREA	QTY	TOTAL	RELOC	TOTAL RELOC	SIGN NUM.	DESCRIPTION	ITEM	TOTAL	DESCRIPTION			
IN.	sq. ft.	each	sq. ft.	each	sq. ft.		IN.		sq. ft.	each	sq. ft.	each	sq. ft.		NUMBER	QTY							
WARNING SIGNS									GUIDE SIGNS									REGULATORY SIGNS					
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT)	E05-1	36X48	12.00						GORE EXIT	6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)			
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT)	E05-2	48X36	12.00						EXIT OPEN	6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)			
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT)	E05-2a	48X36	12.00						EXIT CLOSED	6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)			
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT)	GO20-1	60X24	10.00						ROAD WORK NEXT XX MILES	6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)			
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT)	GO20-2	48X24	8.00						END ROAD WORK	6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)			
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT)	GO20-4	36X18	4.50						PILOT CAR FOLLOW ME	6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)			
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT)	GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW	6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)			
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT)	GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW	6122020		REPLACEMENT SAND BARREL			
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)	GO20-5aP	36X24	6.00						WORK ZONE (PLAQUE)	6122030		IMPACT ATTENUATOR (RELOCATION)			
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)	MO4-8a	24X18	3.00	2	6				END DETOUR	6123001		TRUCK MOUNTED ATTENUATOR (TMA)			
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)	MO4-9L	48X36	12.00						DETOUR (LEFT)	6161008		ADVANCED WARNING RAIL SYSTEM			
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)	MO4-9R	48X36	12.00						DETOUR (RIGHT)	6161012		BUOYS (BOATS KEEP OUT)			
WO1-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)	MO4-9P	48X12	4.00						STREET NAME (PLAQUE)	6161013		BUOYS (NO WAKE)			
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)	MO4-10L	48X18	6.00						DETOUR ARROW (LEFT)	6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)			
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)	MO4-10R	48X18	6.00						DETOUR ARROW (RIGHT)	6161025		CHANNELIZER (TRIM LINE)			
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)	REGULATORY SIGNS								6161030	14	TYPE III MOVEABLE BARRICADE				
WO1-8	18X24	3.00						CHEVRON (SYMBOL)	R1-1	48X48	13.25						STOP	6161033		DIRECTION INDICATOR BARRICADE			
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)	R1-2	48TRI	6.93						YIELD	6161040		FLASHING ARROW PANEL			
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)	R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)	6161047		TYPE III OBJECT MARKER			
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)	R1-3P	30X12	2.50						ALL WAY (PLAQUE)	6161055		SEQUENTIAL FLASHING WARNING LIGHT			
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)	R2-1	36X48	12.00						SPEED LIMIT XX	6161070		TUBULAR MARKER			
WO3-4	48X48	16.00						BE PREPARED TO STOP	R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)	6161095		RADAR SPEED ADVISORY SYSTEM			
WO3-5	48X48	16.00						SPEED LIMIT AHEAD	R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)			CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED			
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)	R3-3	36X36	9.00						NO TURNS	6161096		CHANGEABLE MESSAGE SIGN W/O COMM. INTERFACE - CONTRACTOR FURNISHED/RETAINED			
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)	R3-4	48X48	16.00						NO U-TURN (SYMBOL)	6161098A		CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE - CONTRACTOR FURNISHED/RETAINED			
WO4-1aL	48X48	16.00						MERGE (LEFT)	R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT			CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE - CONTRACTOR FURNISHED/RETAINED			
WO4-1aR	48X48	16.00						MERGE (RIGHT)	R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT	6161099	2	WORK ZONE TRAFFIC SIGNAL SYSTEM			
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS	R4-1	36X48	12.00						DO NOT PASS	6162002		TEMPORARY LONG-TERM RUMBLE STRIPS			
WO5-3	48X48	16.00						ONE LANE BRIDGE	R4-2	36X48	12.00						PASS WITH CARE	6173600D		TEMPORARY TRAFFIC BARRIER			
WO5-5	48X48	16.00						NARROW LANES	R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)	6173600D		CONTRACTOR FURNISHED/RETAINED			
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)	R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)			TEMPORARY TRAFFIC BARRIER			
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)	R5-1	30X30	6.25						DO NOT ENTER			CONTRACTOR FURNISHED/RETAINED			
WO6-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)	R5-1a	36X24	6.00						WRONG WAY			TEMPORARY TRAFFIC BARRIER			
WO7-3a	30X24	5.00						NEXT XX MILES (PLAQUE)	R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)	6173602B		CONTRACTOR FURNISHED/COMMISSION RETAINED			
WO8-1	48X48	16.00						BUMP	R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)	6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION			
WO8-2	48X48	16.00						DIP	R6-2L	24X30	5.00						ONE WAY (LEFT)	6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER			
WO8-3	48X48	16.00						PAVEMENT ENDS	R6-2R	24X30	5.00						ONE WAY (RIGHT)			TEMPORARY TRAFFIC BARRIER			
WO8-4	48X48	16.00						SOFT SHOULDER	R9-9	24X12	2.00						SIDEWALK CLOSED	6176000B		COMMISSION FURNISHED/RETAINED			
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)									SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE	6177000B		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION			
WO8-6	48X48	16.00						TRUCK CROSSING	R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE	6208064A		COMMISSION FURNISHED/RETAINED			
WO8-6c	48X48	16.00						TRUCK ENTRANCE	R9-11R	24X18	3.00						STOP HERE ON RED (45^ ARROW)	9029400		TEMPORARY RAISED PAVEMENT MARKER			
WO8-7	36X36	9.00						LOOSE GRAVEL	R10-6	24X36	6.00						ROAD CLOSED	9029401		TEMPORARY TRAFFIC SIGNALS			
WO8-7a	36X36	9.00						FRESH OIL / LOOSE GRAVEL	R11-2	48X30	10.00	2	20				ROAD CLOSED XX MILES AHEAD			TEMPORARY TRAFFIC SIGNALS AND LIGHTING			
WO8-9	48X48	16.00						LOW SHOULDER									LOCAL TRAFFIC ONLY						
WO8-11	48X48	16.00						UNEVEN LANES	R11-3a	60X30	12.50	2	25				ROAD CLOSED TO THRU TRAFFIC						
WO8-12	48X48	16.00						NO CENTER LINE	R11-4	60X30	12.50						FINE SIGN						
WO8-15	48X48	16.00						GROOVED PAVEMENT	CONST-3A	60X48	20.00						SPEEDING/PASSING (PLATE)						
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)	CONST-3X	56X12	4.67												
WO8-17L	48X48	16.00						SHOULDER DROP-OFF (SYMBOL LEFT)	MISCELLANEOUS SIGNS														
WO8-17R	48X48	16.00						SHOULDER DROP-OFF (SYMBOL RIGHT)	CONST-5	48X36	12.00						POINT OF PRESENCE						
WO8-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)	CONST-5	96X48	32.00						POINT OF PRESENCE						
W10-1	42RND.	9.62						RAILROAD CROSSING	CONST-8	48X36	12.00						WORK ZONE NO PHONE ZONE						
WO12-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)	SPECIAL	36X78	19.50	32	624				DETOUR ROUTE ASSEMBLY						
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)	SPECIAL	48X96	32.00	2	64				ROAD CLOSED XX MILES AHEAD						
WO12-2x	24X18	3.00						LOW CLEARANCE (PLAQUE)															
WO12-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)															
WO12-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD															
WO12-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD															
WO13-1	30X30	6.25						ADVISORY SPEED (PLAQUE)															
WO16-2	30X24	5.00						XXX FEET (PLAQUE)															
WO16-3	30X24	5.00						X MILE (PLAQUE)															
WO20-1	48X48	16.00						ROAD/BRIDGE/RAMP WORK AHEAD															
WO20-2	48X48	16.00	2	32				DETOUR AHEAD															
WO20-3	48X48	16.00	4	64				ROAD CLOSED AHEAD	616-10.05 CONSTRUCTION SIGNS			TOTAL		835									
WO20-4	48X48	16.00						ONE LANE ROAD AHEAD	616-10.10 RELOCATED SIGNS			TOTAL		0									
WO20-5	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED AHEAD															
WO20-5a	48X48	16.00						2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD															
WO20-6a	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED															
WO20-7a	48X48	16.00						FLAGGER (SYMBOL)															
WO21-2	36X36	9.00						FRESH OIL															
WO21-5	48X48	16.00						SHOULDER WORK / SHOULDER WORK AHEAD															
WO22-1	48X48	16.00						BLASTING ZONE AHEAD															
WO22-2	42X36	10.50						TURN OFF 2-WAY RADIO AND PHONE															
WO22-3	42X36	10.50						END BLASTING ZONE															
GO22-1	21X15	2.19						WET PAINT (ARROW PIVOTS)															

SUMMARY OF QUANTITIES  
SHEET 3 OF 3

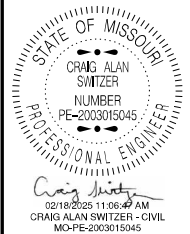
EXISTING INFORMATION AND STATIONING SHOWN  
ON THE PLANSHEET TAKEN FROM FINAL PLANS  
PROJECT NO. - S-105 (9)

ANY WORK INDICATED ON THE PLANS THAT  
EXTENDS BEYOND THE PROJECT LIMITS IS  
CONSIDERED INCIDENTAL TO AND A PART OF  
THE CONSTRUCTION OF THIS PROJECT.

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



PLAN SHEET  
ROUTE 43  
(NORTH FORK SPRING RIVER)  
SHEET 1 OF 2

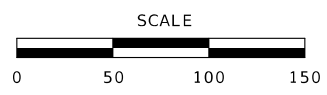
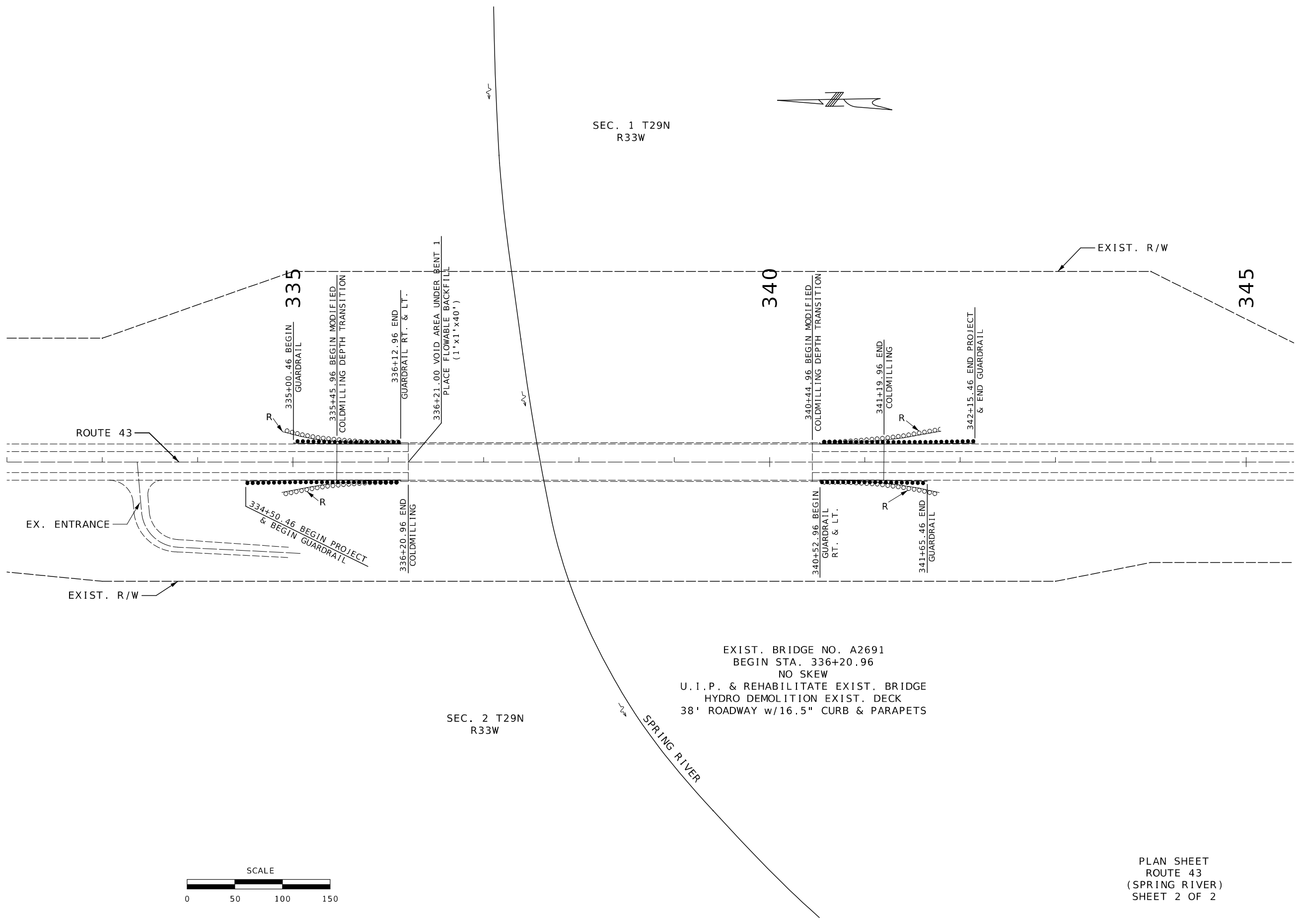


DATE PREPARED 2/13/2025	
ROUTE 43	STATE MO
DISTRICT SW	SHEET NO. 4
COUNTY JASPER	
JOB NO. JSR0073	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

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

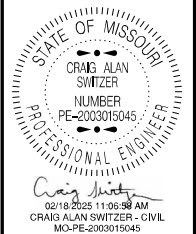


SEC. 1 T29N  
R33W

SEC. 2 T29N  
R33W

EXIST. BRIDGE NO. A2691  
BEGIN STA. 336+20.96  
NO SKEW  
U.I.P. & REHABILITATE EXIST. BRIDGE  
HYDRO DEMOLITION EXIST. DECK  
38' ROADWAY w/16.5" CURB & PARAPETS

PLAN SHEET  
ROUTE 43  
(SPRING RIVER)  
SHEET 2 OF 2



DATE PREPARED 2/13/2025	
ROUTE 43	STATE MO
DISTRICT SW	SHEET NO. 5
COUNTY JASPER	
JOB NO. JSR0073	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION



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







Concrete Protective Coating:

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

Structural Steel Protective Coating:

Protective Coating: System G in accordance with Sec 1081.

Surface Preparation: Surface preparation of the existing steel shall be in accordance with Sec 1081 for Recoating of Structural Steel (System G) with organic zinc primer. The cost of surface preparation will be considered completely covered by the contract unit price per sq. foot for Surface Preparation for Recoating Structural Steel.

Prime Coat: The cost of the prime coat will be considered completely covered by the contract unit price per sq. foot for Field Application of Organic Zinc Primer.

Field Coat(s): The color of the field coat(s) shall be Gray (Federal Standard #26373). The cost of the intermediate field coat will be considered completely covered by the contract unit price per sq. foot for Intermediate Field Coat (System G). The cost of the finish field coat will be considered completely covered by the contract unit price per sq. foot for Finish Field Coat (System G).

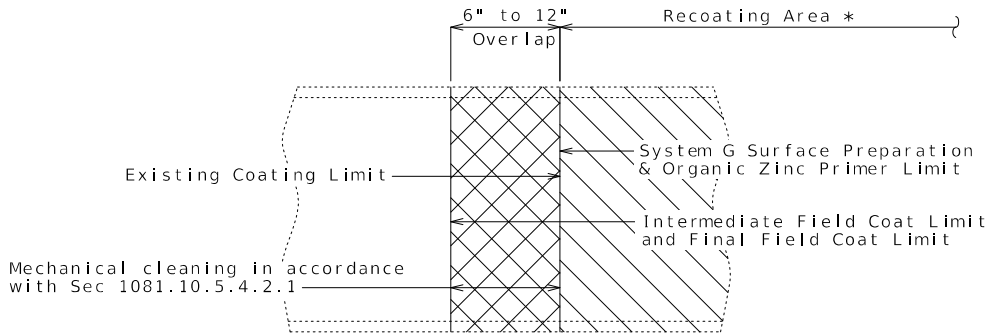
\* The recoating area shall be as indicated below:

All structural steel 5 feet from end of girder at expansion joints near Int. Bents No. 5 & 8.

Structural Steel Pile Protective Coating:

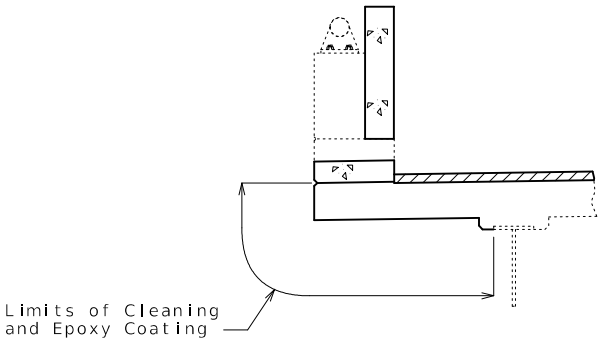
All exposed surfaces of the existing structural steel piles and sway bracing at Int. Bent No. 9 shall be recoated with one 6-mil thickness of gray epoxy-mastic primer applied over an SSPC-SP3 surface preparation in accordance with Sec 1081. The cost of surface preparation will be considered completely covered by the contract lump sum price for Surface Preparation for Applying Epoxy-Mastic Primer. The cost of the gray epoxy-mastic primer will be considered completely covered by the contract lump sum price for Gray Epoxy-Mastic Primer.

For additional coating requirements for the pile encasements at Int. Bent No. 9, see Sheets No. 4 thru 6.

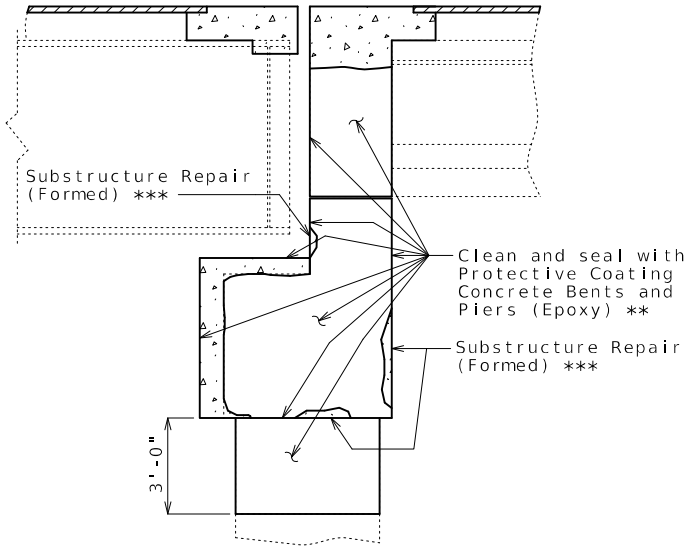


PART ELEVATION SHOWING LIMITS OF PAINT OVERLAP  
(Vertical or horizontal paint limit. Horizontal limit shown)

Limits of Paint Overlap: System G shall overlap the existing coating between 6 inches and 12 inches in order to achieve maximum coverage at the paint limit of each complete system near the expansion and contraction areas. The final field coating shall be masked to provide crisp, straight lines and to prevent overspray beyond the overlap required.



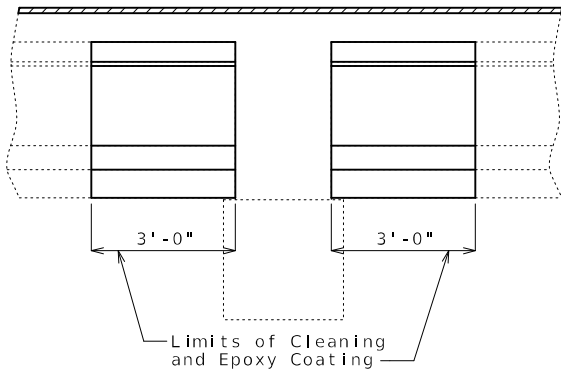
PART SECTION SHOWING LIMITS  
OF CLEANING AND EPOXY COATING  
SLAB EDGE & CANTILEVER



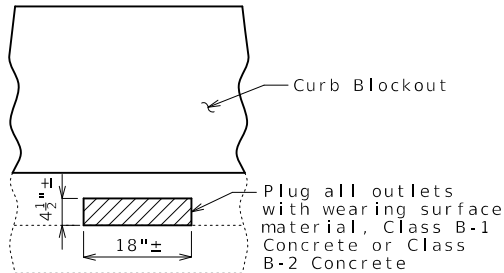
PART ELEVATION SHOWING PROTECTIVE  
COATING AND SUBSTRUCTURE REPAIR  
AT INT. BENTS NO. 5 & 8

\*\* Protective coating shall be applied after all substructure repairs are completed and fully cured. See Sheet No. 7 for additional details of substructure repairs.

\*\*\* Repairs shall be completed to provide 1 1/2" minimum clearance to existing reinforcing steel.



PART ELEVATION SHOWING LIMITS OF  
CLEANING AND EPOXY COATING GIRDER ENDS  
AT INT. BENTS NO. 2, 3, 4 & 9



PART ELEVATION SHOWING  
PLUGGING OF CURB OUTLETS

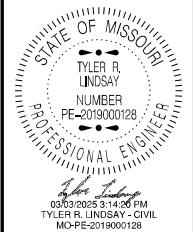
Notes:

New concrete wearing surface not shown for clarity.

Cost of labor and materials required to plug existing curb outlets will be considered completely covered by the contract unit price for Plugging Existing Curb Outlets.

Estimated material required to fill all curb outlets is 4.9 cubic yards (for information only).

REHAB DETAILS

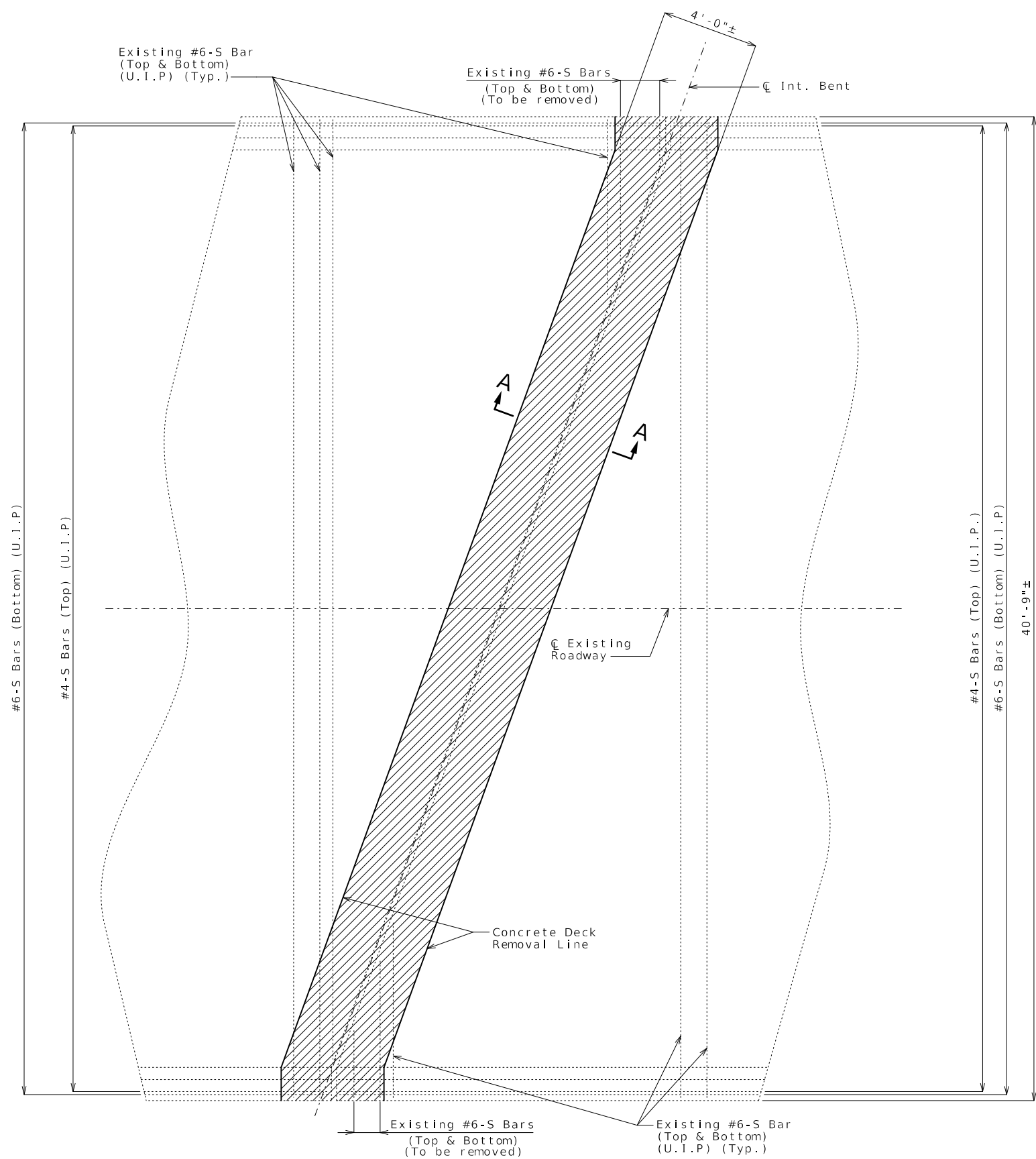


DATE PREPARED 3/3/2025	
ROUTE 43	STATE MO
DISTRICT BR	SHEET NO. 2
COUNTY JASPER	
JOB NO. JSR0073	
CONTRACT ID.	

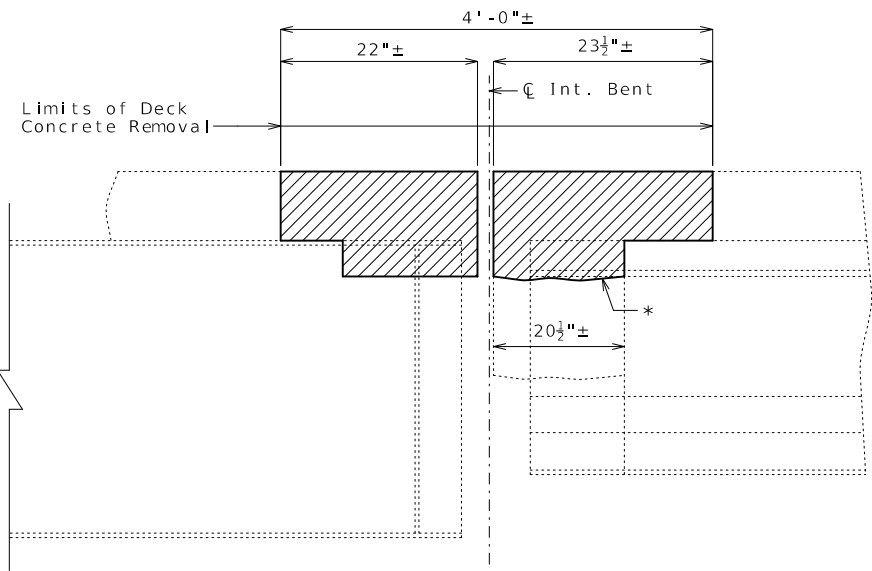
PROJECT NO.
BRIDGE NO. A26902

DATE	DESCRIPTION





PART PLAN OF SLAB AT INT. BENTS NO. 5 & 8  
SHOWING LIMITS OF CONCRETE REMOVAL



SECTION A-A

(Bent No. 8 shown. Bent No. 5 similar)

\* Remove concrete diaphragm minimum extent necessary to install new expansion device (4" min. below top of girder).

Notes:

The cost of concrete removal as shown, including existing expansion device, will be considered completely covered by the contract unit price for Removal of Existing Expansion Joint & Adjacent Concrete.

For details of strip seal expansion joint system at Int. Bents No. 5 & 8, see Sheet No. 11

For details of slab replacement at Int. Bents No. 5 & 8, see Sheet No. 12.

For details of removal and replacement of curb & parapet not shown, see Sheet No. 13.

STATE OF MISSOURI

TYLER R. LINDSAY

NUMBER

PE-2019000128

PROFESSIONAL ENGINEER

DATE PREPARED

3/3/2025

ROUTE

43

DISTRICT

BR

STATE

MO

SHEET NO.

3

COUNTY

JASPER

JOB NO.

JSR0073

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A26902

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

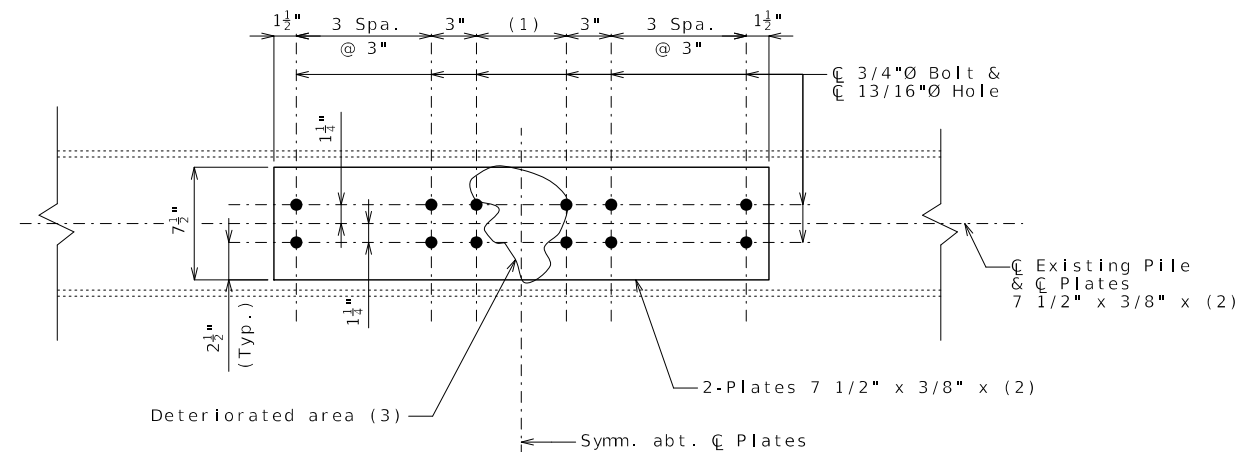
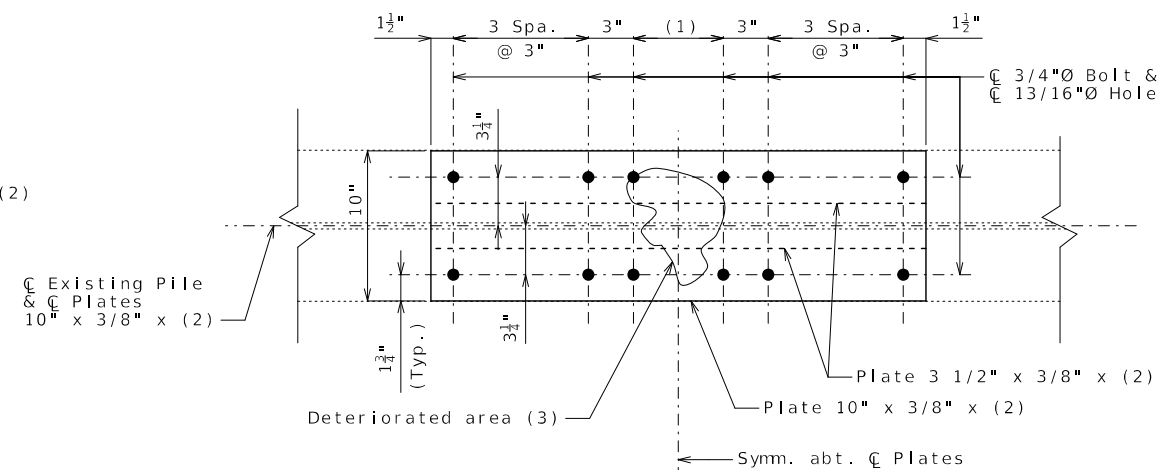
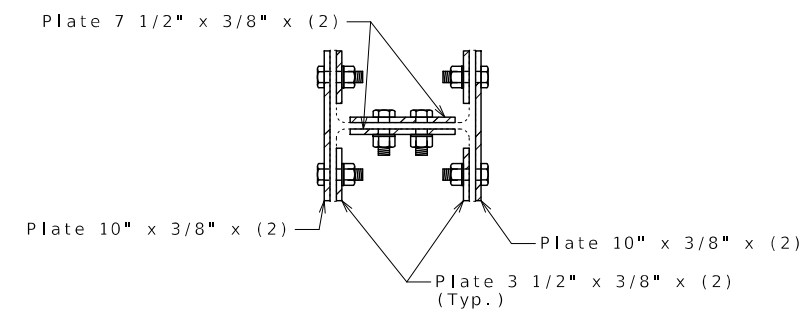
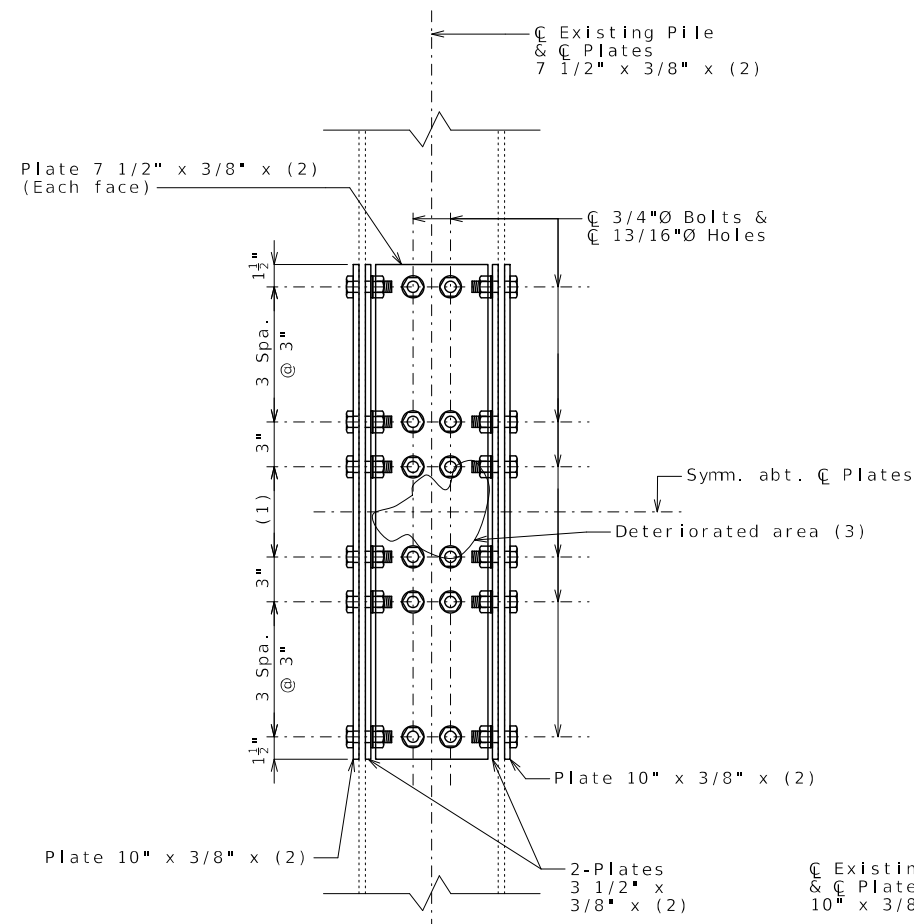
JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)

Detailed Jan. 2025  
Checked Jan. 2025

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

Sheet No. 3 of 17



General Notes:

Fabricated structural steel shall be ASTM A709 Grade 36 or 50.

Field connections shall be made with 3/4-inch diameter ASTM F3125 Grade A325 Type 1 bolts and 13/16-inch diameter holes.

Only one pile shall be repaired at a time.

Instructions for Pile Plating:

- (1) Number of 3" spaces shall be determined in the field to extend past the extents of the deteriorated area.
- (2) Plate length shall be determined in the field.
- (3) Extents of deteriorated area will be determined by the engineer.
- (4) Use plates as templates for field drilling holes in existing pile. Place bolts snug tight as drilled per each. High-strength tightening shall begin after all bolts are installed per flange or web.

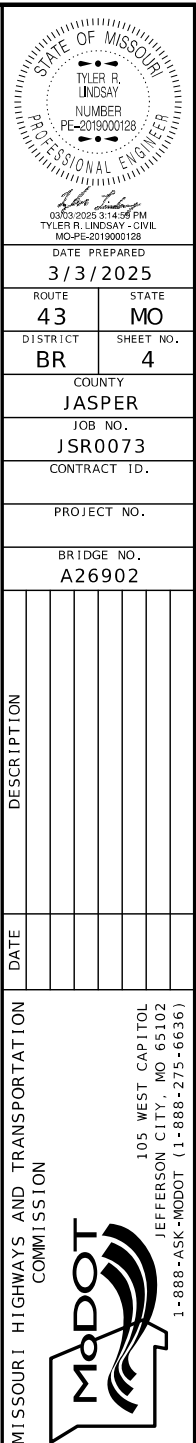
All new structural steel shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum).

Cost of furnishing and installing structural steel, all steel coatings and any other incidental material or labor to complete pile repair, complete in place, will be considered completely covered by the contract unit price for Steel Pile Repair. Variations may be encountered in the estimated quantities but the variations can not be used for an adjustment in the contract unit price.

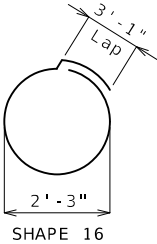
Cost of all excavation will be considered completely covered by the contract lump sum price for Class 2 Excavation.

Cost of dewatering will be considered completely covered by the contract lump sum price for Dewatering. See special provisions.

For details of pile encasement, see Sheet No. 5.





BILL OF REINFORCING STEEL - EACH PILE				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
Varies	4 P1	10'-0"	16	 SHAPE 16
8	5 V1	Varies	20	
				SHAPE 20

Notes:

All dimensions are out to out.

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

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

All bars shall be epoxy coated.

General Notes:

All concrete for pile encasement shall be Class B (f'c = 3000 psi).

The reinforcing steel shall be epoxy coated Grade 60 with fy = 60,000 psi

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

The exposed and accessible surfaces of the existing structural steel 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 piles shall extend a minimum of one foot outside the face of the pile encasement.

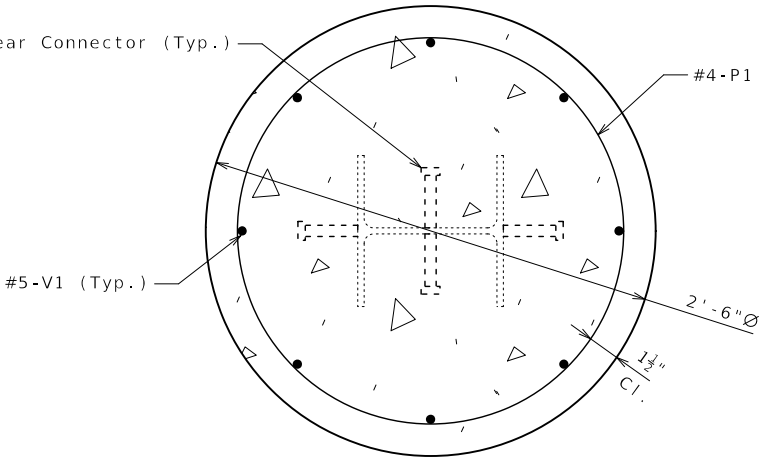
Cost of all concrete, reinforcement, shear connectors, surface preparation, coatings, and any other incidental material or labor to complete pile encasement, complete in place, will be considered completely covered by the contract unit price for Pile Encasement.

Cost of all excavation will be considered completely covered by the contract lump sum price for Class 2 Excavation.

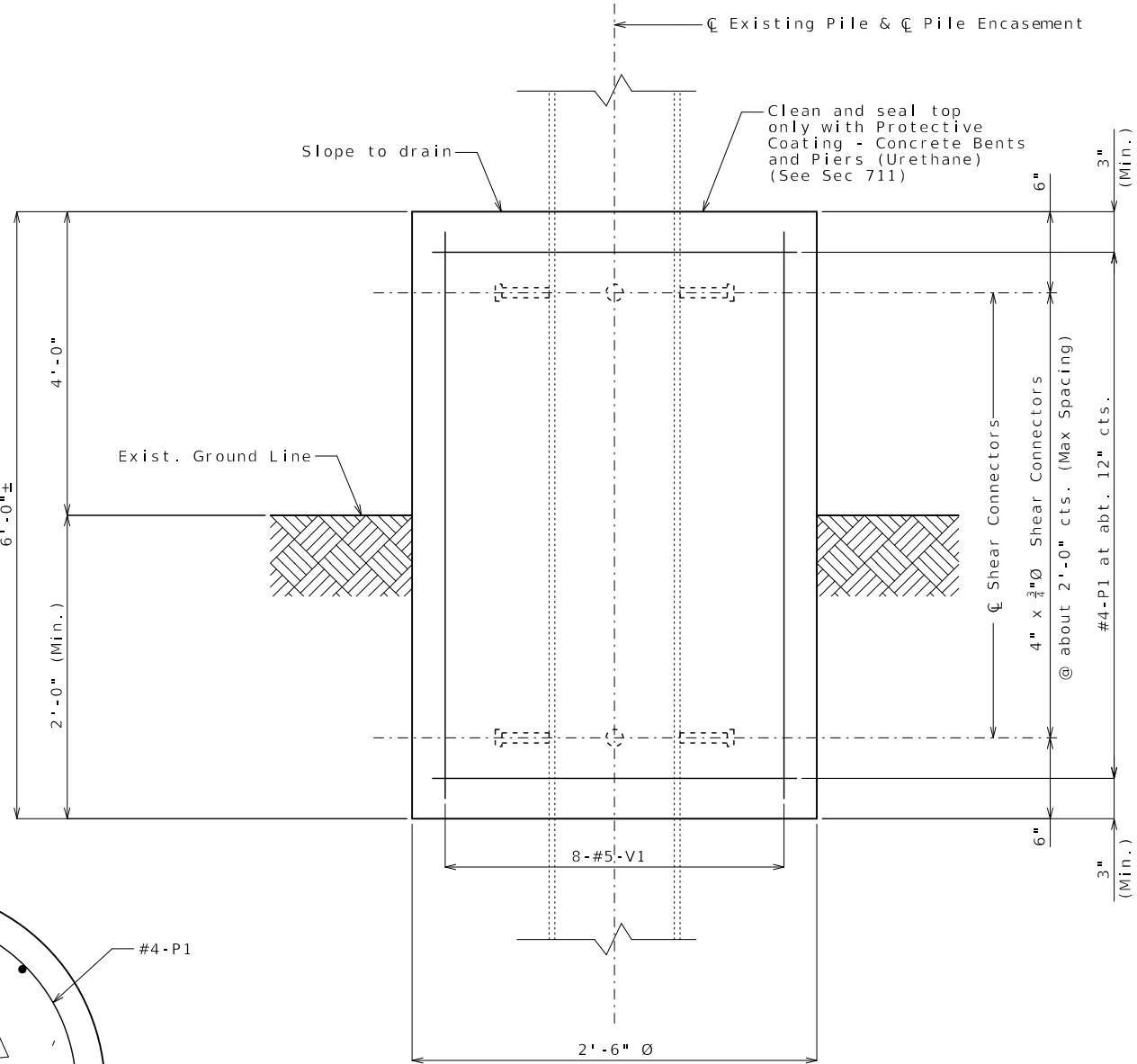
Cost of dewatering will be considered completely covered by the contract lump sum price for Dewatering. See special provisions.

A FRP pile jacketing system may be used in lieu of pile encasement at the contractor's option. No additional payment will be made for this substitution. See special provisions.

Shear connectors shall be in accordance with Sec 712, 1037 and 1080.



SECTION SHOWING PILE ENCASEMENT



PART ELEVATION SHOWING PILE ENCASEMENT

Notes:

Existing sway bracing not shown for clarity. Shift reinforcing steel in the field to clear existing sway bracing.

Existing sway bracing may need to be removed, moved and reattached. Any new connections shall be made with new high strength bolts.

PILE ENCASEMENT AT INTERMEDIATE BENT NO.9 FOR PILES NO. 1 & 6

Detailed Jan. 2025  
Checked Jan. 2025

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

Sheet No. 6 of 17

STATE OF MISSOURI

TYLER R. LINDSAY

NUMBER

PE-2019000128

PROFESSIONAL ENGINEER

DATE PREPARED

3/3/2025

ROUTE

43

STATE

MO

DISTRICT

BR

SHEET NO.

6

COUNTY

JASPER

JOB NO.

JSR0073

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A26902

DATE

DESCRIPTION

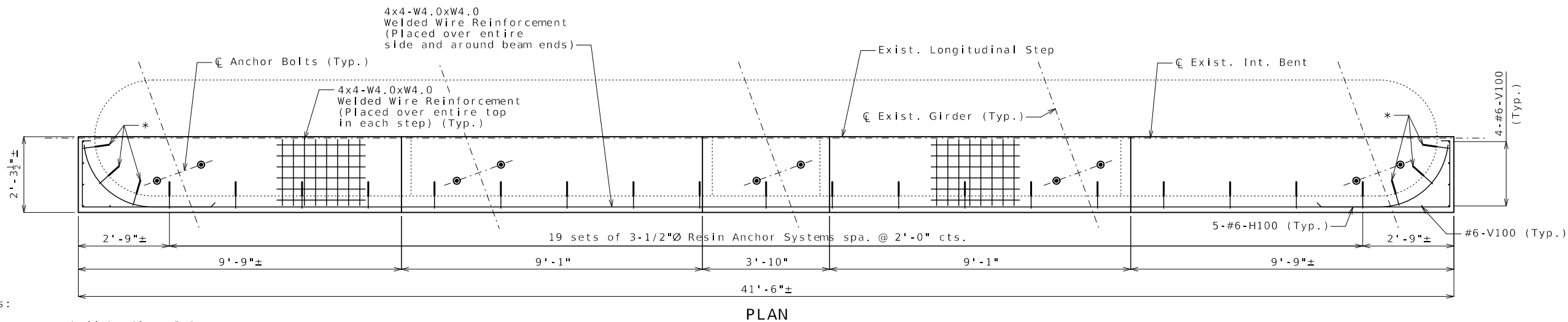
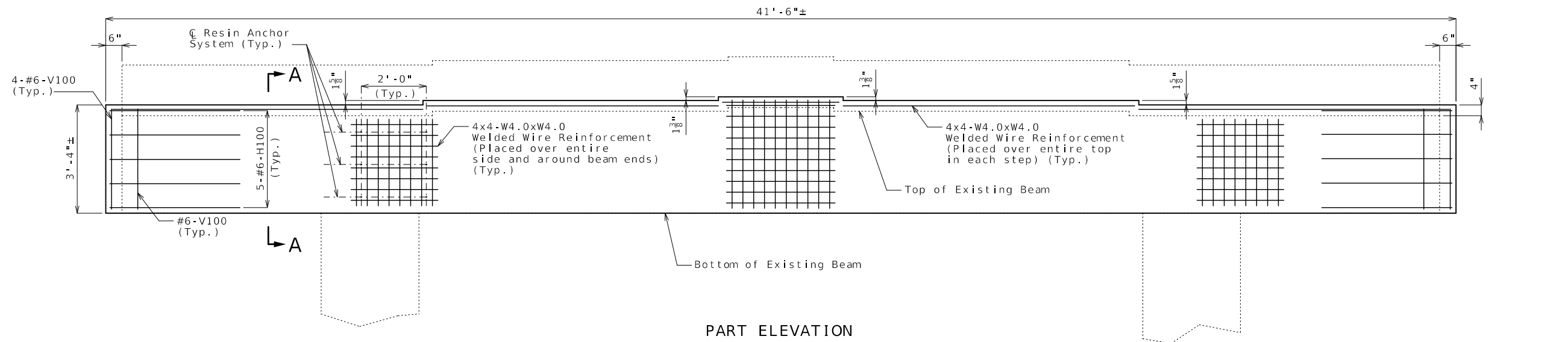
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)

MoDOT



Notes:

All concrete shall be Class B-2.

All bar reinforcement shall be epoxy coated. WWR shall not be epoxy coated.

All deteriorated concrete shall be removed prior to installing new concrete. All reinforcing steel exposed shall have a minimum of one 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 completely covered by the contract unit price for Class B-2 Concrete.

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

An epoxy coated #4 Grade 60 reinforcing bar shall be substituted for the 1/2" Ø threaded rod.

The cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for Class B-2 Concrete.

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

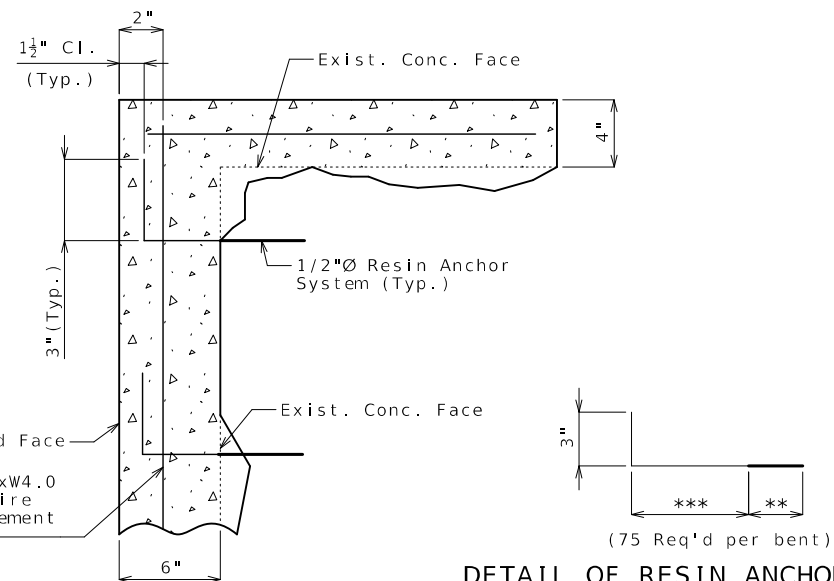
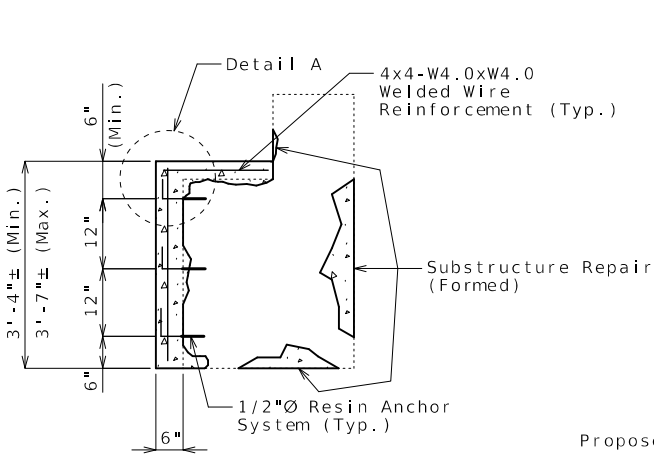
The cost of furnishing and installing all bar reinforcing steel as shown, complete in place, will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).

The cost of furnishing and installing approximately 210 pounds of Welded Wire Reinforcement as shown, complete in place, will be considered completely covered by the contract unit price for Class B-2 Concrete.

Concrete encasement shall meet the requirements of Sec 704 for Substructure Repair (Formed). All other applicable sections from Sec 704 shall be required.

For details of new bearing assembly, location of new anchor bolts, and temporary support loads, see Sheet No. 8.

\* 3 sets of 3-1/2"Ø Resin Anchor Systems equally spaced around beam ends.



DETAIL OF RESIN ANCHOR SYSTEM

\*\* Manufacturer's recommended embedment length (5" min. into sound concrete)

\*\*\* 4 1/2" plus repair depth (Field bend)

INTERMEDIATE BENTS NO. 5 & 8 REPAIR  
(Bent No. 8 shown, Bent 5 No. similar)

Detailed Dec. 2024  
Checked Jan. 2025

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

Sheet No. 7 of 17

DATE PREPARED  
**3/3/2025**

ROUTE <b>43</b>	STATE <b>MO</b>
DISTRICT <b>BR</b>	SHEET NO. <b>7</b>

COUNTY  
**JASPER**

JOB NO.  
**JSR0073**

CONTRACT ID.

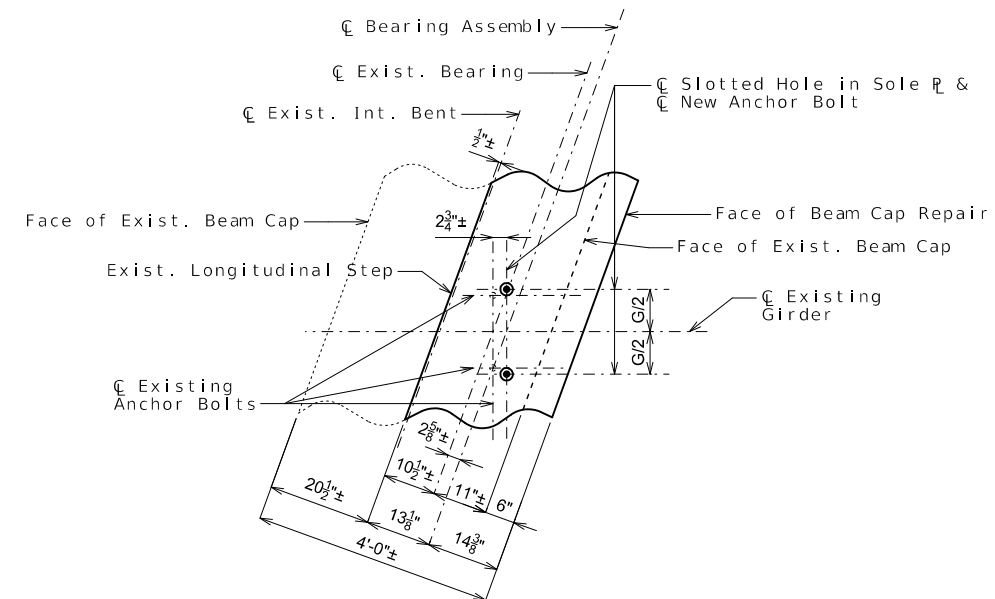
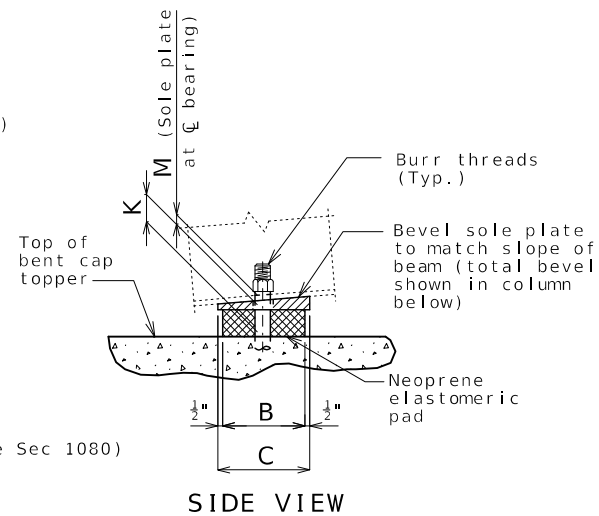
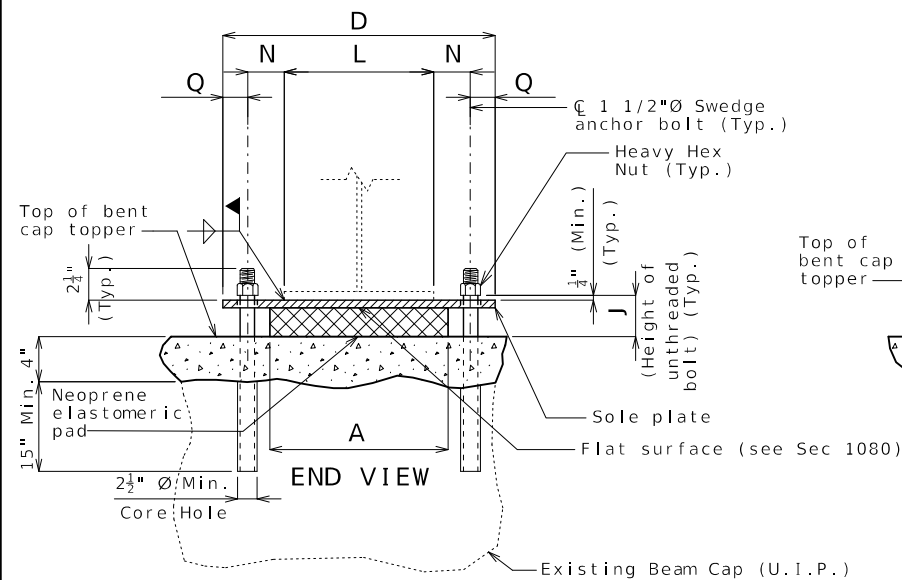
PROJECT NO.

BRIDGE NO.  
**A26902**

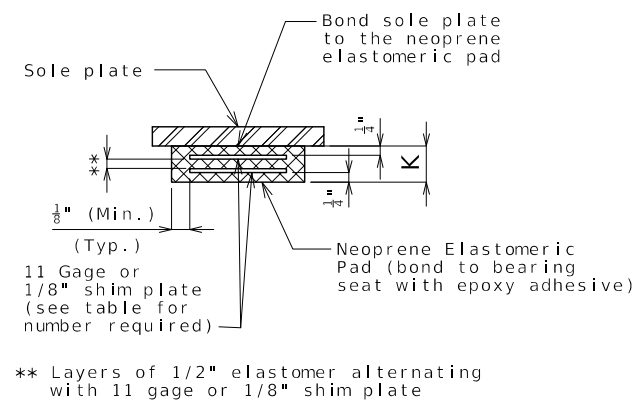
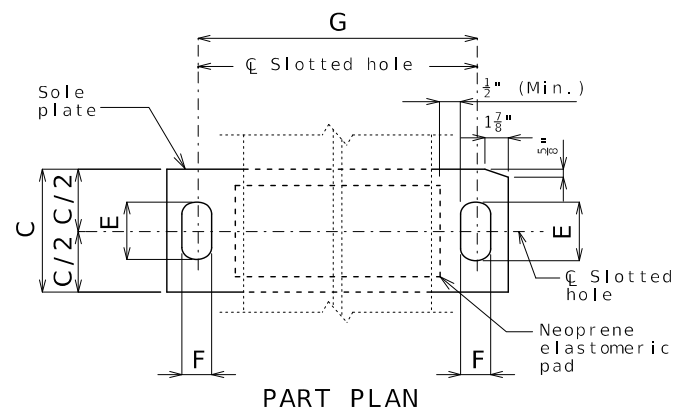
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

DESCRIPTION



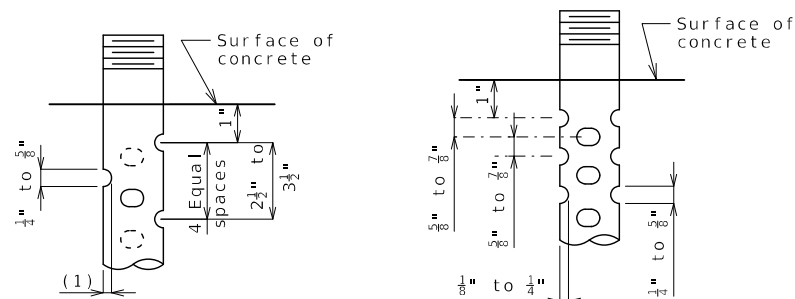
PART PLAN OF EXISTING INT. BENTS NO. 5 & 8  
SHOWING ANCHOR BOLT LOCATION  
(Bent No. 5 shown, Bent No. 8 similar)



NEOPRENE ELASTOMERIC PAD

EXPANSION BEARINGS																	
BENT NO.	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	R	NUMBER OF SHIM PLATES *	NUMBER REQUIRED
5 RT	14"	14"	15"	21½"	7¾"	1⅝"	17"	6⅝"	4⅝"	10"	1½"	3½"	0"	2¼"	1⅙"	7	5
8 LT	14"	14"	15"	21½"	7¾"	1⅝"	17"	6⅝"	4⅝"	10"	1½"	3½"	0"	2¼"	1⅙"	7	5
* The required shim plate shall be placed between layers of elastomer and molded together to form																TOTAL BEARINGS	10

\* The required shim plate shall be placed between layers of elastomer and molded together to form an integral unit.



DETAIL OF 3/4"Ø THRU  
2 1/2"Ø ANCHOR BOLTS

OPTIONAL DETAIL OF 1 3/8"Ø  
THRU 2 1/2"Ø ANCHOR BOLTS

## SWEDGE ANCHOR BOLT DETAILS

(1)  $\frac{1}{4}$ " for  $\frac{3}{4}$ " $\varnothing$  thru  $1\frac{1}{4}$ " $\varnothing$  anchor bolts

$\frac{1}{8}$ " to  $\frac{1}{4}$ " for 1 $\frac{3}{8}$ "Ø thru 2 $\frac{1}{2}$ "Ø anchor bolts

## LAMINATED NEOPRENE BEARING PAD ASSEMBLY

GENERAL NOTES:

Anchor bolts shall be 1 1/2"Ø ASTM F1554 Grade 55 swedged bolts and shall extend at total of 19" (4" into new concrete and 15" into existing concrete beam cap) with ASTM A563 Grade A Heavy Hex nuts. Actual manufacturer's certified mill test reports (chemical and mechanical) shall be provided. Swedging shall be 1" less than extension into the concrete.

Anchor bolt shall be at the centerline of slotted hole at 60°F. Bearing position shall be adjusted **R** for each 10° fall or rise in temperature at installation.

Anchor bolts and heavy hex nuts shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.

Neoprene Elastomeric Pads shall be 60 Durometer.

Structural steel for sole plate shall be with a minimum of two coats of inorganic film thickness of 4 mils minimum, 6 mils maximum. ASTM A709 Grade 50 and shall be coated zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum.

Laminated Neoprene Bearing Pad Assembly shall be in accordance with Sec 716.

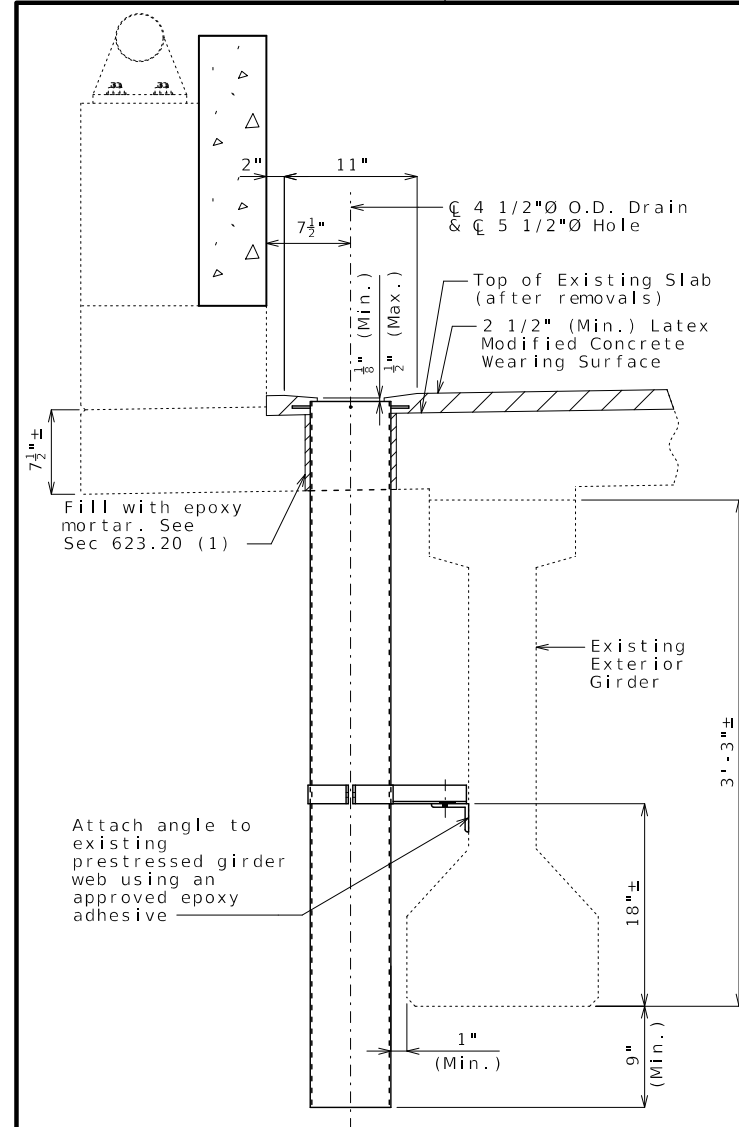
Payment for removing existing steel rocker bearings and anchor bolts will be considered completely covered by the contract unit price for Removal of Existing Bearings.

Payment for drilling and grouting new anchor bolts, complete in place, will be considered completely covered by the contract unit price for Laminated Neoprene Bearing Pad Assembly.

Existing anchor bolts shall be removed to 1" below the existing concrete surface or removed completely if required.

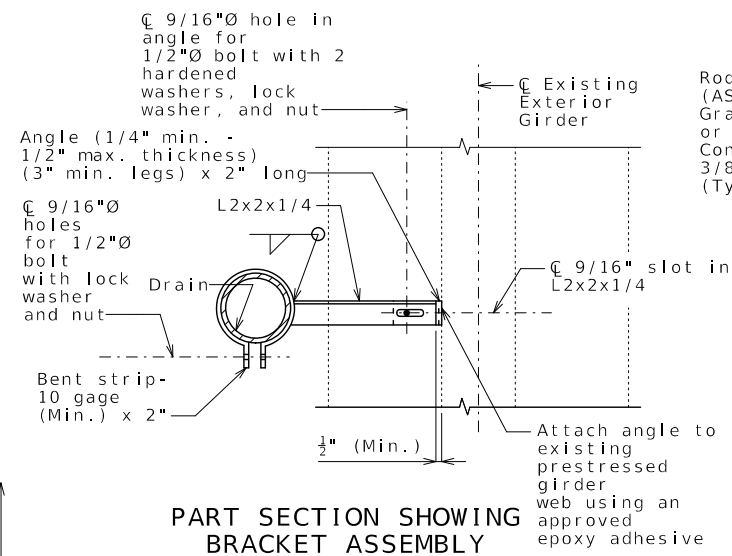
Required temporary support load of 45 kips at each bearing is a service load without a factor of safety. It includes the dead load of the superstructure and a construction load of 50 psf constant load applied to the deck area. Live load is not included in the support load (See Special Provisions).

For details of concrete beam cap repairs required before setting new bearings, see Sheet No. 7.

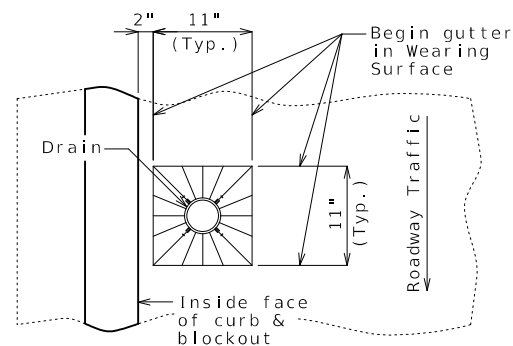


(1) Use backer rod around drain @ bottom of slab and epoxy inject from the top.

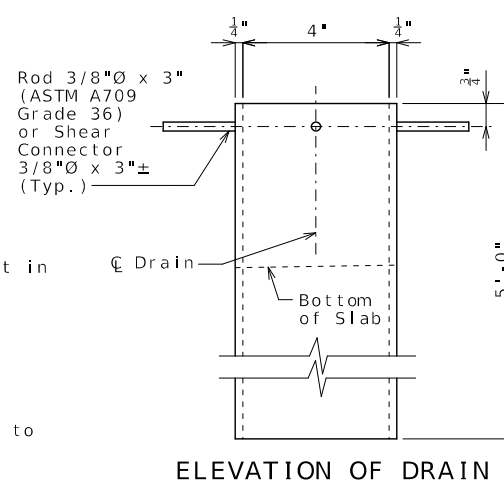
PART SECTION NEAR DRAIN



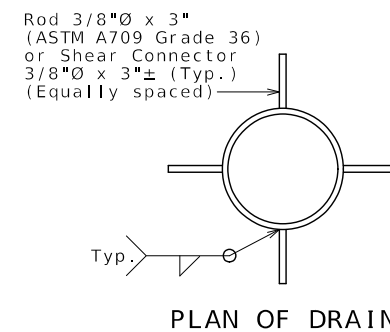
PART SECTION SHOWING  
BRACKET ASSEMBLY



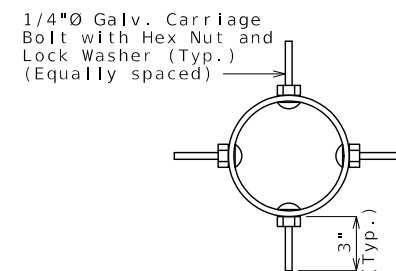
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



## PLAN OF DRAIN



PLAN OF OPTIONAL FRP 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.

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 M232 (ASTM A153), Class C.

All 1/2-inch diameter bolts shall be ASTM A307, except as noted.

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

Cost of cored slab drains, complete in place, will be considered completely covered by the contract unit price for Cored Slab Drains per each.

Holes for slab drains shall be cored. Percussion drilling will not be permitted.

Slab drain locations may be shifted the minimum extent necessary to avoid slab reinforcement.

Cored slab drains shall be placed vertically.

For details of plugging existing curb outlets, see Sheet No. 2.

Notes for Steel Drain:

Slab drains shall be fabricated from 1/4-inch structural steel tubing ASTM A500 or A501.

The drains shall be galvanized in accordance with ASTM A123.

Drains shall be inserted through slab such that damage to galvanized coating is minimized.

Notes for FRP Drain:

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

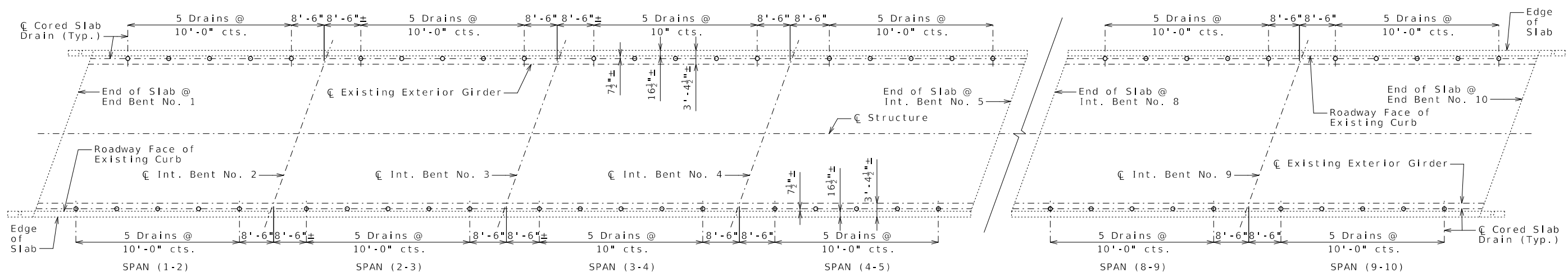
Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance. Care shall be taken to avoid damage to exterior coating during installation.

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

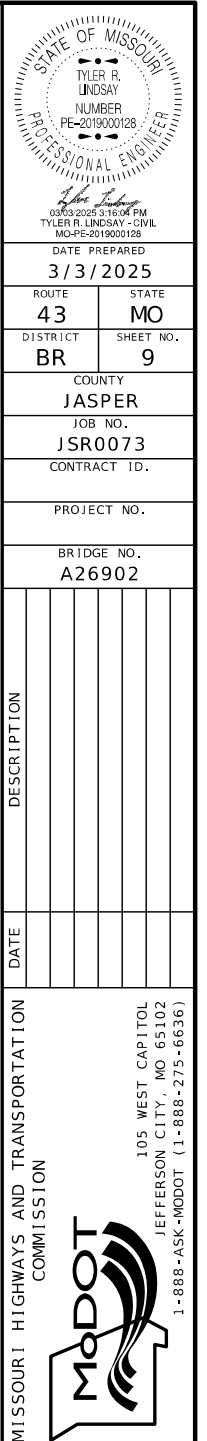
The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall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

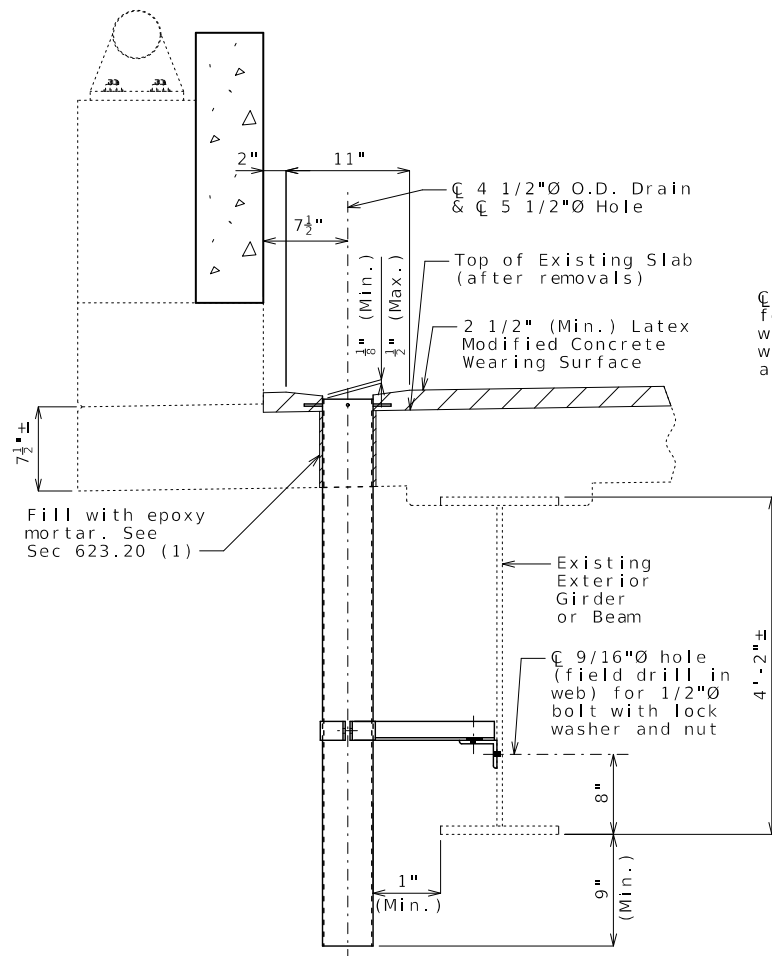
At the contractor's option, drains may be field cut. The method of cutting FRP slab drains shall be as recommended by the manufacturer to ensure a smooth, chip-free cut.



PART PLAN SHOWING CORED SLAB DRAIN LOCATIONS

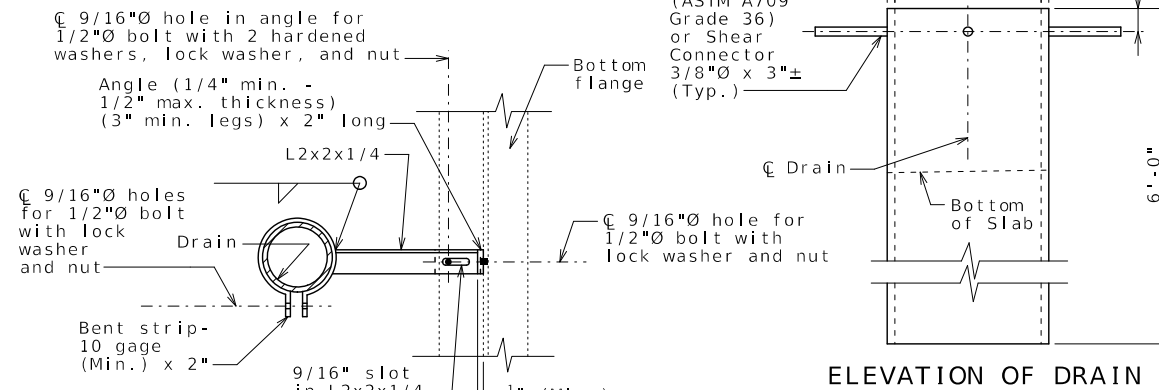
CORED SLAB DRAINS FOR SPANS NO. 1, 2, 3, 4, 8 & 9



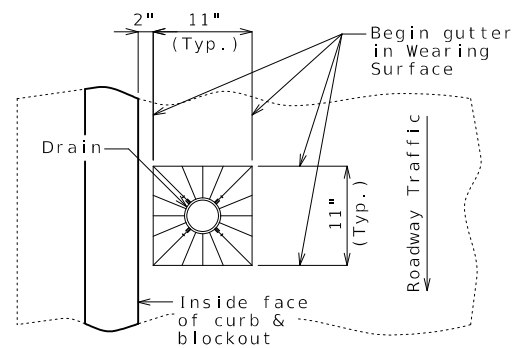


(1) Use backer rod around drain @ bottom of slab and epoxy inject from the top.

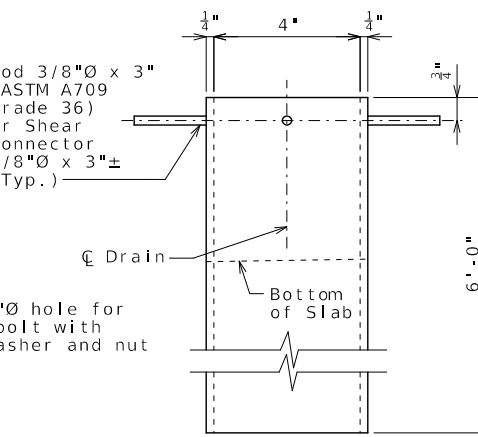
PART SECTION NEAR DRAIN



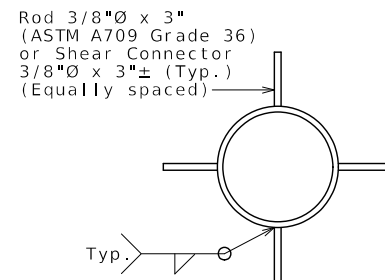
PART SECTION SHOWING  
BRACKET ASSEMBLY



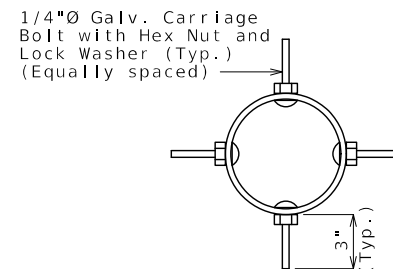
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



### PLAN OF DRAIN



PLAN OF OPTIONAL FRP 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.

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 M232 (ASTM A153), Class C.

All 1/2-inch diameter bolts shall be ASTM A307, except as noted.

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

Cost of cored slab drains, complete in place, will be considered completely covered by the contract unit price for Cored Slab Drains per each.

Holes for slab drains shall be cored. Percussion drilling will not be permitted.

Slab drain locations may be shifted the minimum extent necessary to avoid slab reinforcement and to allow for field drilling bolt hole in web of existing girder for bracket assembly attachment.

Cored slab drains shall be placed vertically.

For details of plugging existing curb outlets, see Sheet No. 2.

Notes for Steel Drain:

Slab drains shall be fabricated from 1/4-inch structural steel tubing  
ASTM A500 or A501.

The drains shall be galvanized in accordance with ASTM A123.

Drains shall be inserted through slab such that damage to galvanized coating is minimized.

Notes for FRP Drain:

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

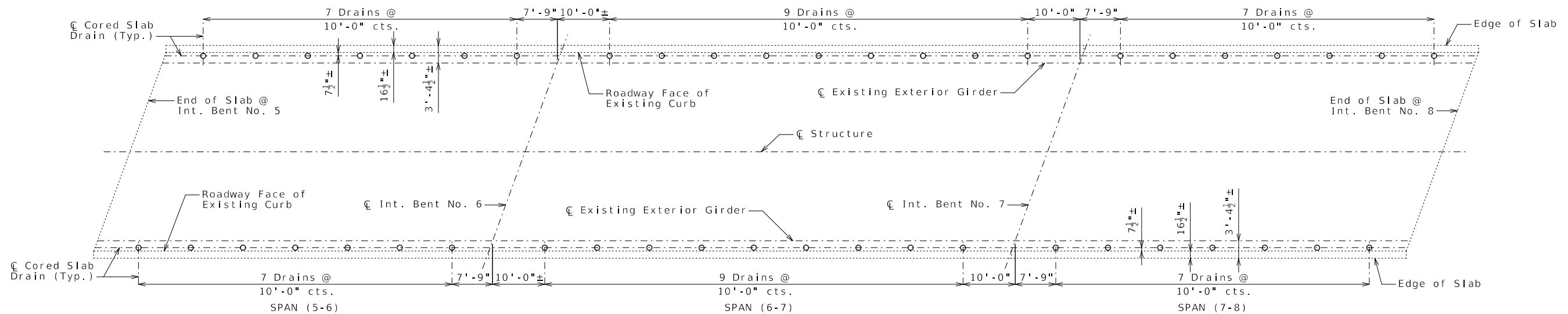
Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance. Care shall be taken to avoid damage to exterior coating during installation.

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

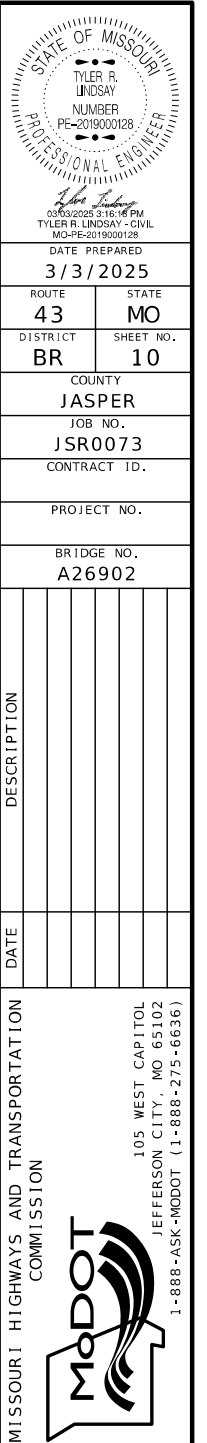
The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall 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 drains shall be as recommended by the manufacturer to ensure a smooth, chip-free cut.

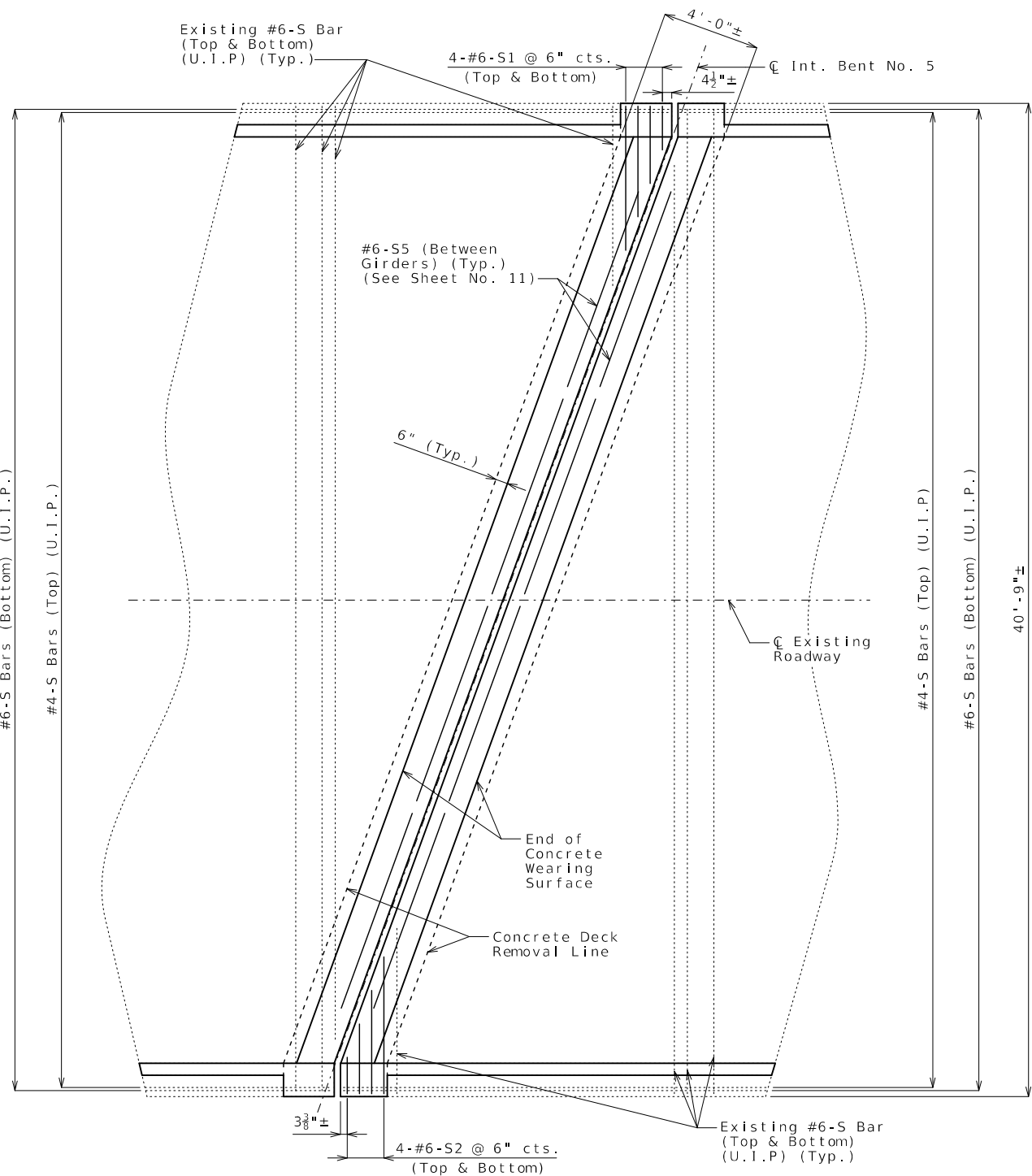


PART PLAN SHOWING CORED SLAB DRAIN LOCATIONS

CORED SLAB DRAINS FOR SPANS NO. 5, 6 & 7

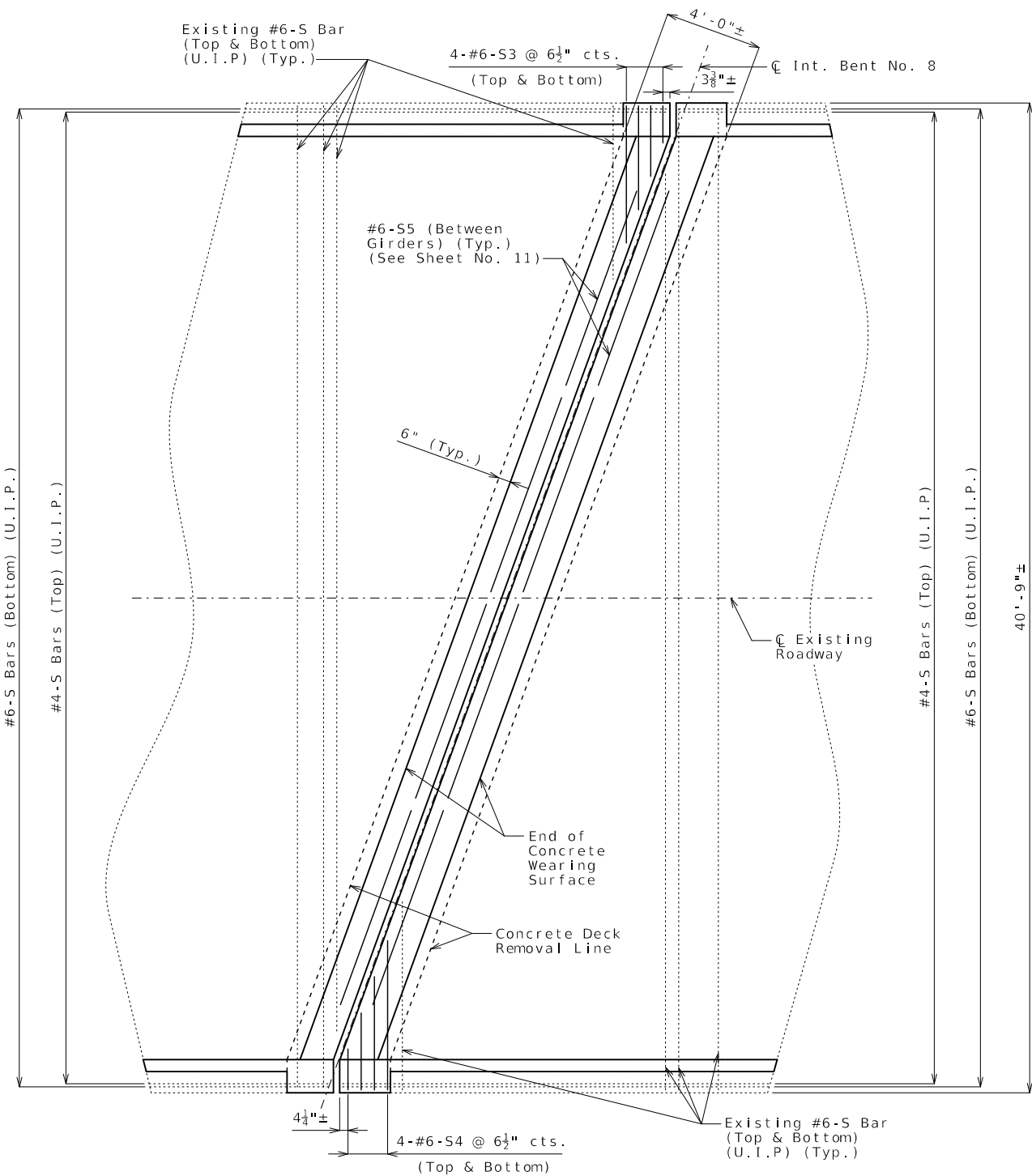






PART PLAN OF SLAB AT  
INTERMEDIATE BENT NO. 5

- Notes:
- Concrete wearing surface not shown for clarity.
  - Strip seal gland and expansion device not shown for clarity. See Sheet No. 11 for details.
  - Payment for slab concrete, complete in place, for expansion joint replacement will be considered completely covered by the contract unit price for Class B-2 Concrete.
  - Payment for furnishing and installing reinforcing steel for expansion joint replacement will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).
  - Existing reinforcing steel used in place shall be field bent or cut to clear new expansion joint armor by 1" min.



PART PLAN OF SLAB AT  
INTERMEDIATE BENT NO. 8

# DETAILS OF CONCRETE & EXPANSION JOINT REPLACEMENT AT INTERMEDIATE BENTS NO. 5 & 8

Detailed Jan. 2025  
Checked Jan. 2025

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

Sheet No. 12 of 17

STATE OF MISSOURI

TYLER R. LINDSAY

NUMBER

PE-2019000128

PROFESSIONAL ENGINEER

03/03/2025 3:16:46 PM

TYLER R. LINDSAY - CIVIL

MO-PE-2019000128

DATE PREPARED

3/3/2025

ROUTE

43

DISTRICT

BR

STATE

MO

SHEET NO.

12

COUNTY

JASPER

JOB NO.

JSR0073

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A26902

DESCRIPTION

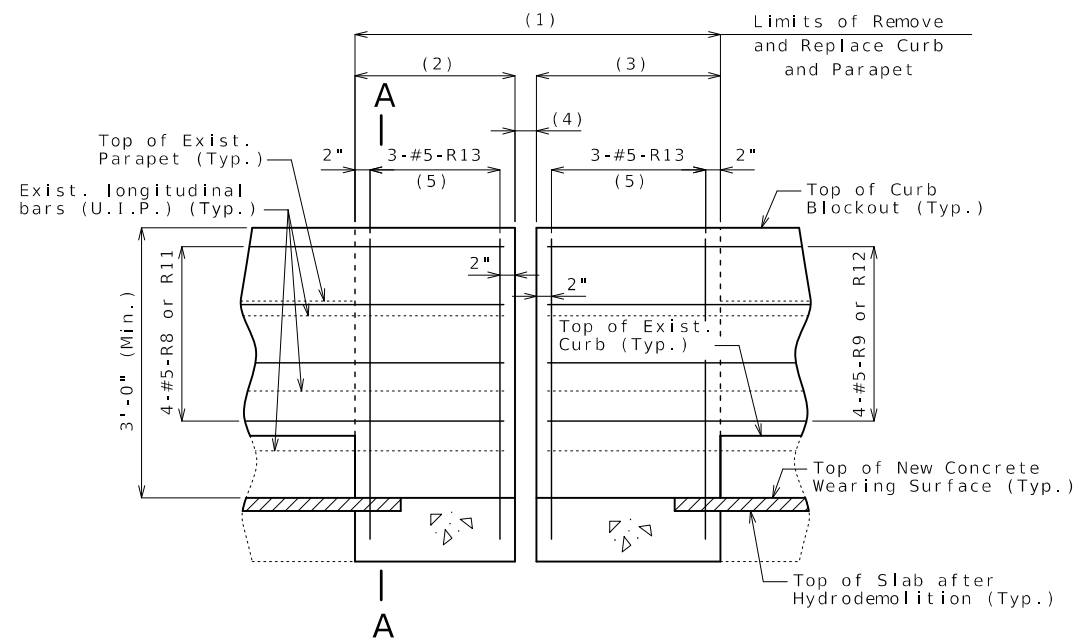
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

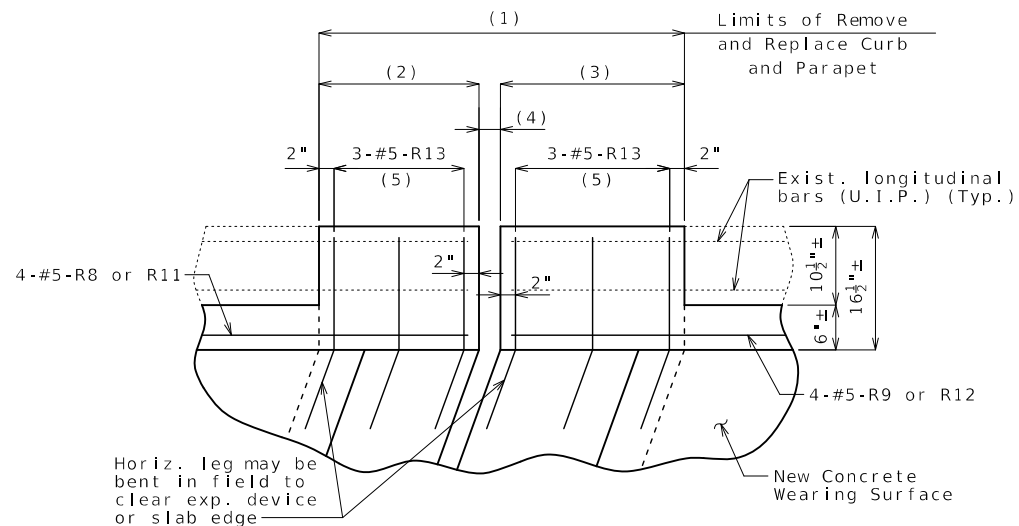
1-888-ASK-MODOT (1-888-275-6636)



**PART ELEVATION OF LEFT BARRIER CURB  
AT INTERMEDIATE BENTS NO. 5 & 8**

Expansion device armor not shown for clarity.

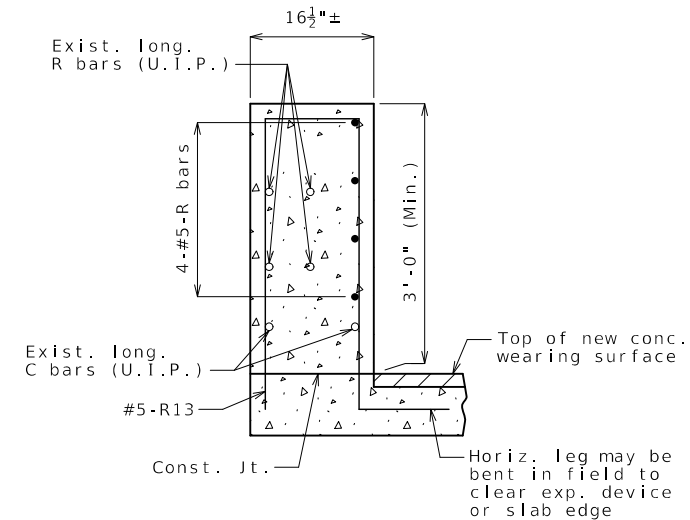
(Right curb and parapet similar by mirroring at  $\mathcal{C}$  Structure)



**PART PLAN OF LEFT BARRIER CURB  
AT INTERMEDIATE BENTS NO. 5 & 8**

Expansion device armor not shown for clarity.

(Right curb and parapet similar by mirroring at  $\mathcal{C}$  Structure)



**SECTION A-A**

- (1) 4'-3 1/8"±
- (2) 2'-1"± (Int. Bent No. 5)  
22 7/8"± (Int. Bent No. 8)
- (3) 23 1/8"± (Int. Bent No. 5)  
2'-1 1/4"± (Int. Bent No. 8)
- (4) 3" Exp. Gap @ 60°F
- (5) 2 Equal spaces

**Notes:**

Payment for all concrete and reinforcement for curb and parapet replacement adjacent to expansion joint work, complete in place, will be considered completely covered by the contract unit price for Remove and Replace Curb and Parapet.

Rail and rail post near joint work shall be removed to 3" from the edge of the next rail post away from the joint work. Rails shall be capped at new open ends similarly to that shown on existing plans. At the contractor's option, the entire rail may be removed. No additional payment will be made for this option.

Ends of existing longitudinal reinforcement in curb and parapet may be trimmed as necessary to maintain 1 1/2" clearance to end of curb and parapet replacement.

For details of strip seal expansion joint system at Intermediate Bents No. 5 & 8, see Sheet No. 11.

**CURB AND PARAPET REPLACEMENT**



DATE PREPARED  
3/3/2025

ROUTE 43 STATE MO

DISTRICT BR SHEET NO. 13

COUNTY JASPER

JOB NO. JSR0073

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A26902

DESCRIPTION

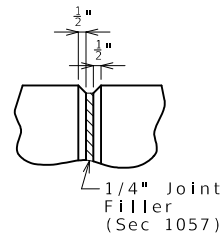
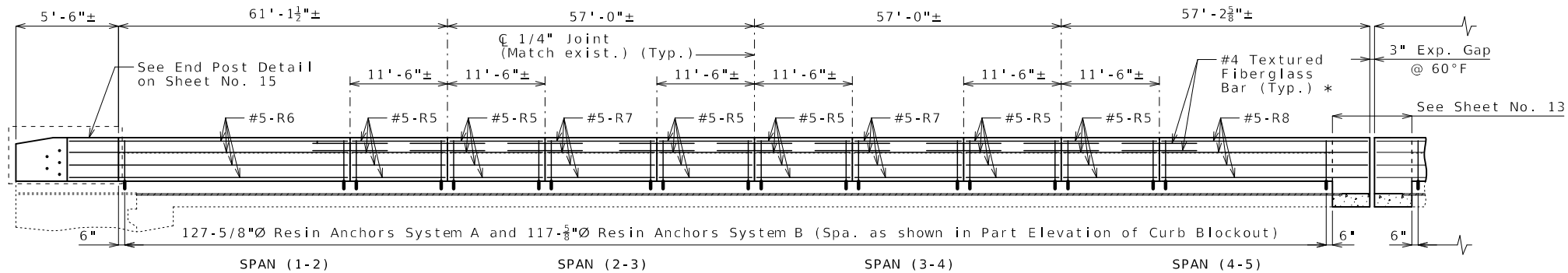
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

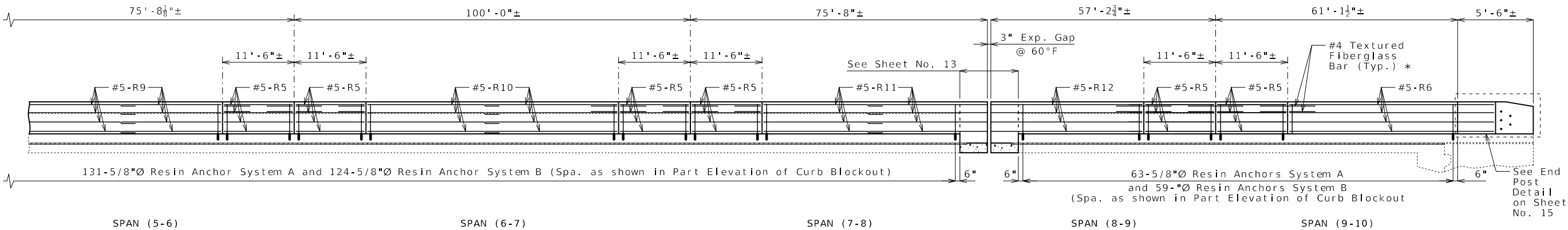
105 WEST CAPITOL JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)

MODOT

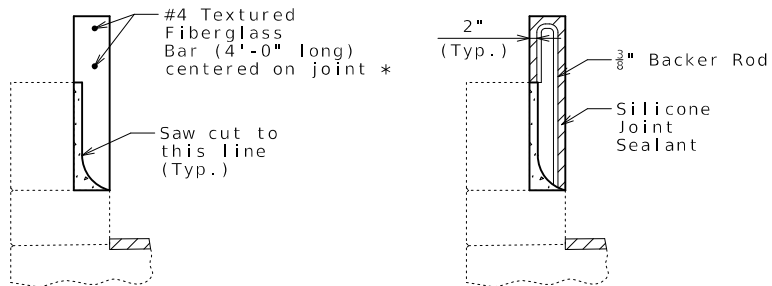


PART ELEVATION AT FORMED JOINT

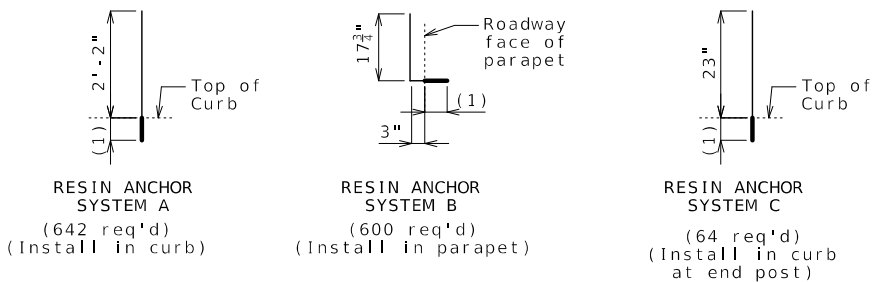


ELEVATION OF LEFT CURB BLOCKOUT  
(Right curb breakout similar)

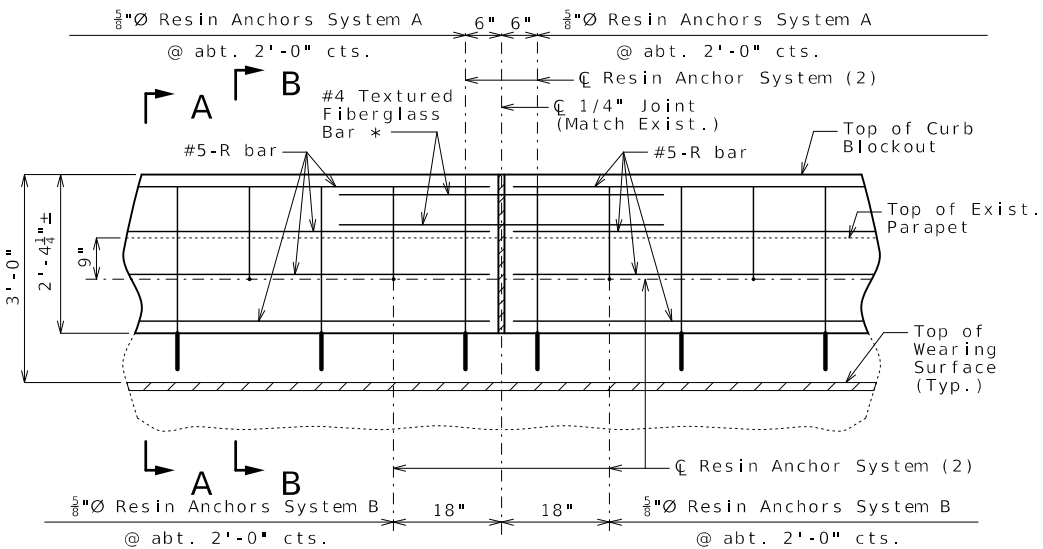
Longitudinal dimensions are along grade and are taken at top outside edge of parapet.



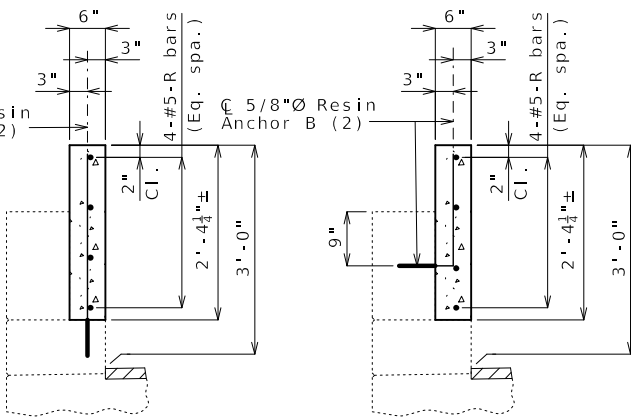
SECTION THRU SAW CUT JOINT



DETAILS OF RESIN ANCHORS  
(1) Use manufacturer's embedment length (5" minimum embedment).



PART ELEVATION OF CURB BLOCKOUT



SECTION A-A

SECTION B-B

CURB BLOCKOUT

Notes:

\* Slip-formed option only.

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

Bridge rail not shown for clarity.

Concrete in curb breakout shall be Class B-1.

Measurement of curb breakout is to the nearest linear foot, measured at the top outside edge of parapet. (Match existing curb and parapet)

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

Payment for concrete, reinforcement, resin anchor systems and any other work incidental to the curb breakout, complete in place, will be considered completely covered by the contract unit price for Curb Blockout per linear foot.

Cost of any concrete curb or parapet repair will be considered completely covered by the contract unit price for Curb Blockout.

All curb breakout reinforcement shall be epoxy coated.

(2) Shift resin anchors where necessary to clear existing anchor bolts for bridge rail, miss curb outlets (if present) and clear existing reinforcement.

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

Concrete traffic barrier delineators shall be placed on top of the curb breakout similarly as shown on Missouri Standard Plans 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 Curb Blockout.

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

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.

An epoxy coated #5 Grade 60 reinforcing bar shall be substituted for the 5/8 inch diameter threaded rod.

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

STATE OF MISSOURI

TYLER R. LINDSAY

PROFESSIONAL ENGINEER

NUMBER

PE-2019000128

DATE PREPARED

3/3/2025

ROUTE

43

DISTRICT

BR

STATE

MO

SHEET NO.

14

COUNTY

JASPER

JOB NO.

JSR0073

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A26902

DESCRIPTION

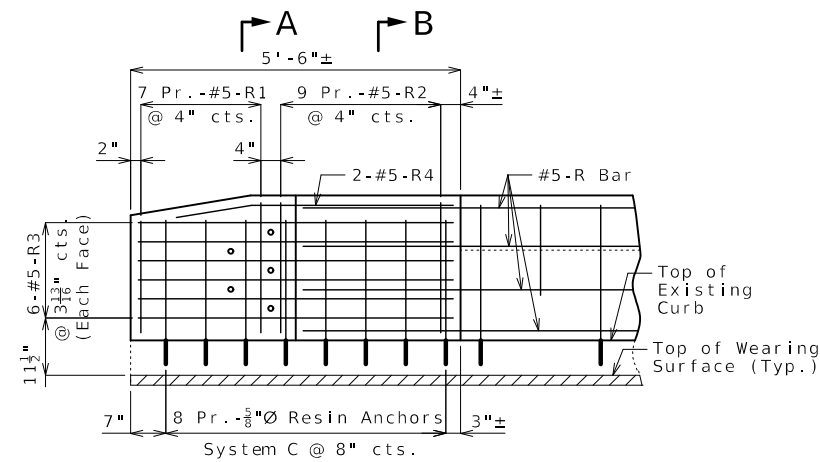
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

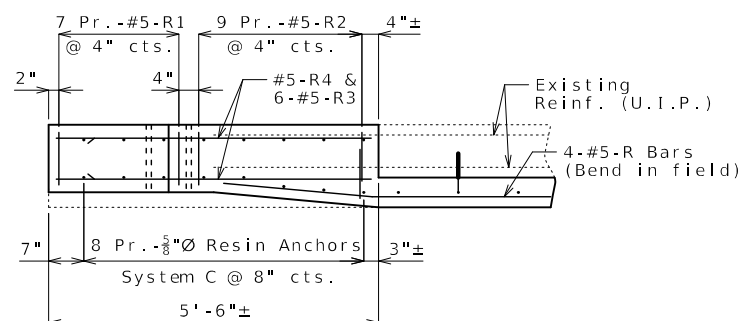
105 WEST CAPITOL

JEFFERSON CITY, MO 65102

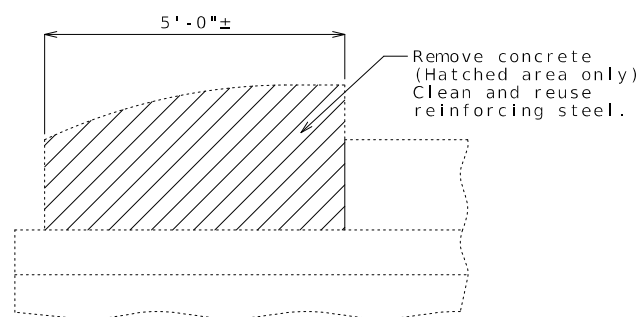
1-888-ASK-MODOT (1-888-275-6636)



ELEVATION SHOWING REINFORCEMENT

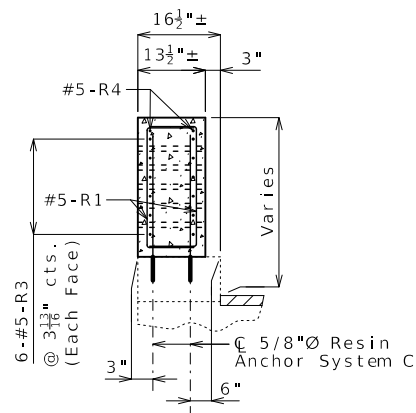


PLAN SHOWING REINFORCEMENT

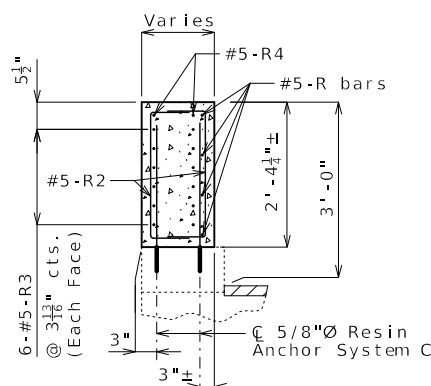


PART ELEVATION SHOWING END POST  
CONCRETE REMOVAL

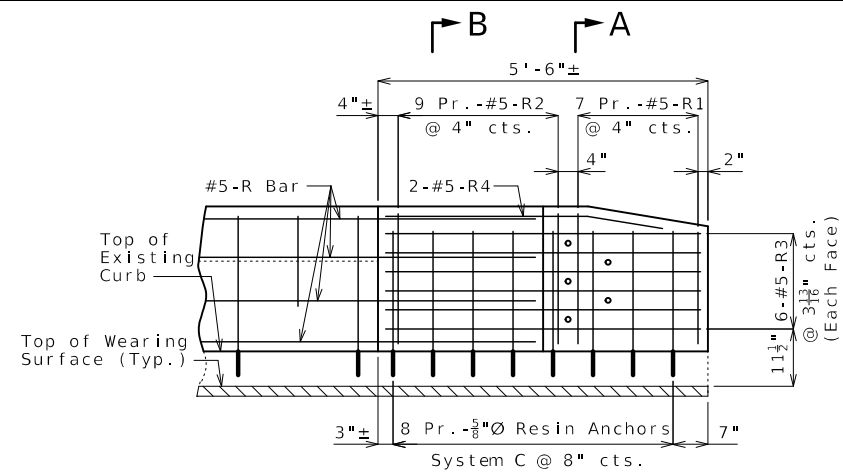
Cost of removing existing end posts will be considered completely covered by the contract unit price for Curb Blockout.



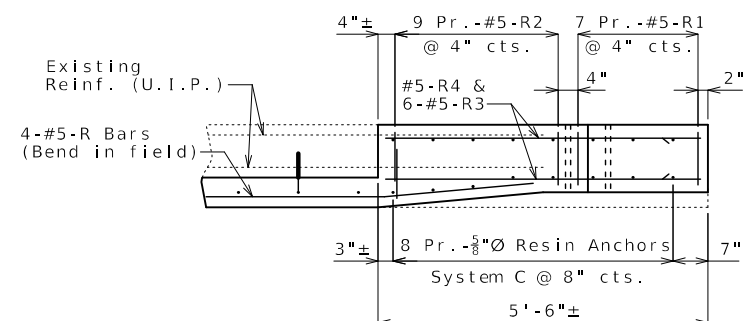
SECTION A-A



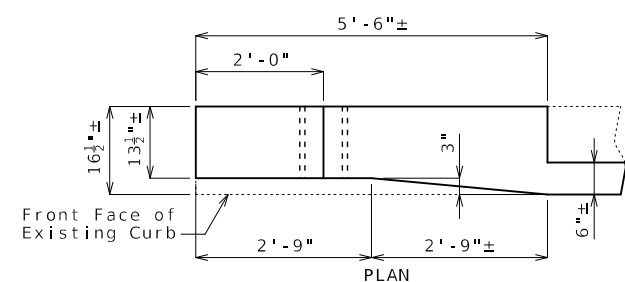
SECTION B-B



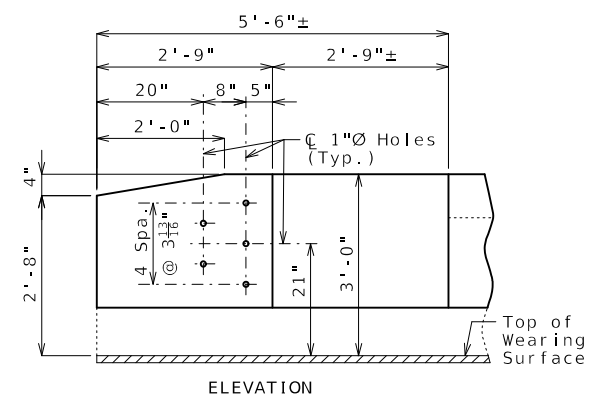
ELEVATION SHOWING REINFORCEMENT



PLAN SHOWING REINFORCEMENT



## PLAN



ELEVATION

### DETAILS OF END POST AND GUARD RAIL ATTACHMENT

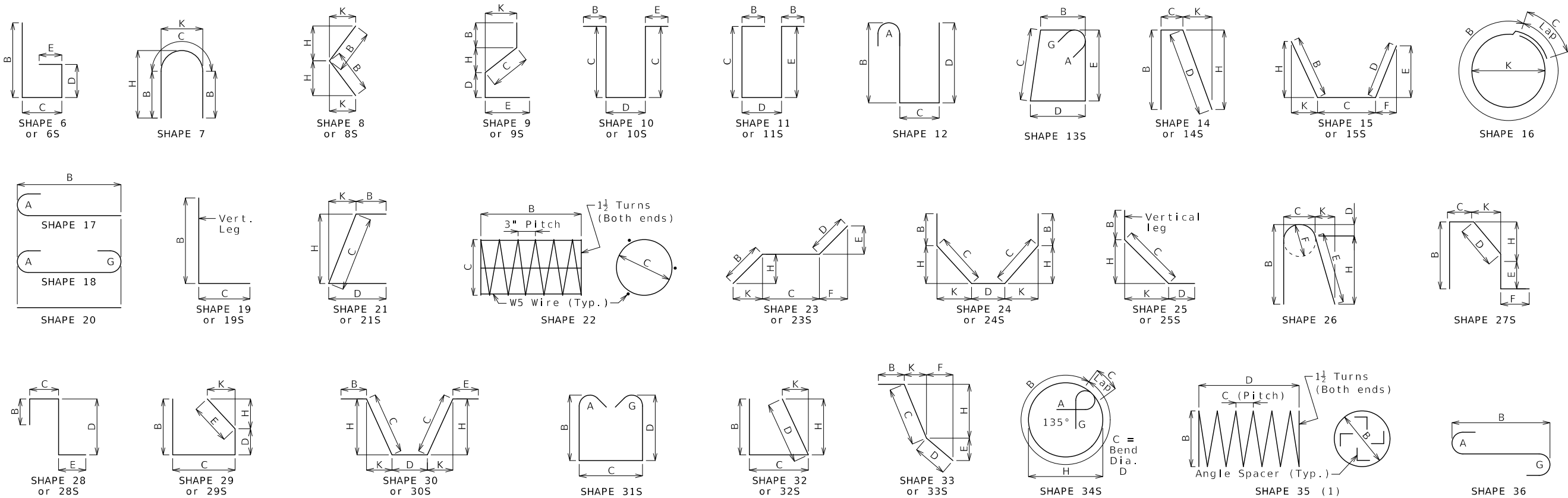
Notes:

Work this sheet with Sheet No. 14.

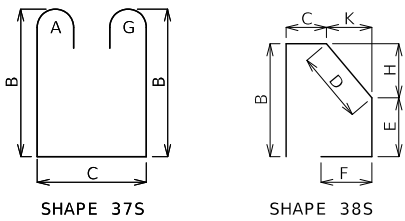
For details of resin anchors, see Sheet No. 14.

Resin anchors shall be shifted or bent in field to clear one-inch diameter holes by at least 1/2 inch.

[illegible]



Finished Bend Dimensions D and Hook Dimensions						
Standard Pin Bend Shapes						
Size	Case	D	A or G		J	
			90°	180°	180°	
#4	1	3"	8"	6"	4"	
#5	1	3 <sup>3</sup> / <sub>4</sub> "	10"	7"	5"	
#6	1	4 <sup>1</sup> / <sub>2</sub> "	12"	8 <sup>1</sup> / <sub>4</sub> "	6"	
#7	2	5 <sup>1</sup> / <sub>4</sub> "	14"	9 <sup>3</sup> / <sub>4</sub> "	7"	
	3	7"	15"	11 <sup>1</sup> / <sub>2</sub> "	8 <sup>3</sup> / <sub>4</sub> "	
#8	2	6"	16"	11"	8"	
	3	8"	17"	13 <sup>1</sup> / <sub>4</sub> "	10"	
#9	1	9 <sup>1</sup> / <sub>2</sub> "	19 <sup>1</sup> / <sub>2</sub> "	15 <sup>1</sup> / <sub>2</sub> "	11 <sup>3</sup> / <sub>4</sub> "	
#10	1	10 <sup>3</sup> / <sub>4</sub> "	22"	17 <sup>1</sup> / <sub>2</sub> "	13 <sup>1</sup> / <sub>4</sub> "	
#11	1	12"	24 <sup>1</sup> / <sub>2</sub> "	19 <sup>1</sup> / <sub>2</sub> "	14 <sup>7</sup> / <sub>8</sub> "	
#14	1	18 <sup>1</sup> / <sub>4</sub> "	31 <sup>1</sup> / <sub>4</sub> "	27 <sup>1</sup> / <sub>2</sub> "	21 <sup>5</sup> / <sub>8</sub> "	
#18	1	24"	41 <sup>1</sup> / <sub>2</sub> "	36 <sup>1</sup> / <sub>4</sub> "	28 <sup>1</sup> / <sub>2</sub> "	
Stirrup Pin Bend Shapes (S)						
Size	Case	D	A or G			J
			90°	135°	180°	
#4	2	2"	4 <sup>1</sup> / <sub>2</sub> "	4 <sup>1</sup> / <sub>2</sub> "	5"	2 <sup>7</sup> / <sub>8</sub> "
	3	3"	5"	5 <sup>1</sup> / <sub>4</sub> "	6"	3"
#5	2	2 <sup>1</sup> / <sub>2</sub> "	5 <sup>3</sup> / <sub>4</sub> "	5 <sup>3</sup> / <sub>4</sub> "	5 <sup>3</sup> / <sub>4</sub> "	3 <sup>3</sup> / <sub>4</sub> "
	3	3 <sup>3</sup> / <sub>4</sub> "	6 <sup>3</sup> / <sub>4</sub> "	6 <sup>3</sup> / <sub>4</sub> "	7"	3 <sup>5</sup> / <sub>8</sub> "
#6	1	4 <sup>1</sup> / <sub>2</sub> "	12"	7 <sup>3</sup> / <sub>4</sub> "	8 <sup>1</sup> / <sub>4</sub> "	4 <sup>5</sup> / <sub>8</sub> "
Applicable for all grades of steel. Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.						



BENDING DIAGRAMS

All dimensions are out to out.

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

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

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

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

Reinforcing Steel Totals (Pounds)							
Size	Substructure		Superstructure			Entire Bridge	
	Plain	Epoxy	Slab	Barrier	Slip Form	Plain	Epoxy
W5	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	6,084	0	0	6,084
6	0	271	382	0	0	0	653
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0
By Type	0	271	382	6,084	0	0	6,737

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

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

STATE OF MISSOURI  
TYLER R. LINDSAY  
NUMBER  
PE-2019000128  
PROFESSIONAL ENGINEER  
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MO-PE-2019000128

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3/3/2025

ROUTE  
43

DISTRICT  
BR

STATE  
MO

SHEET NO.  
16

COUNTY  
JASPER

JOB NO.  
JSR0073

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
A26902

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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





Concrete Protective Coating:

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

Structural Steel Protective Coating:

Protective Coating: System G in accordance with Sec 1081.

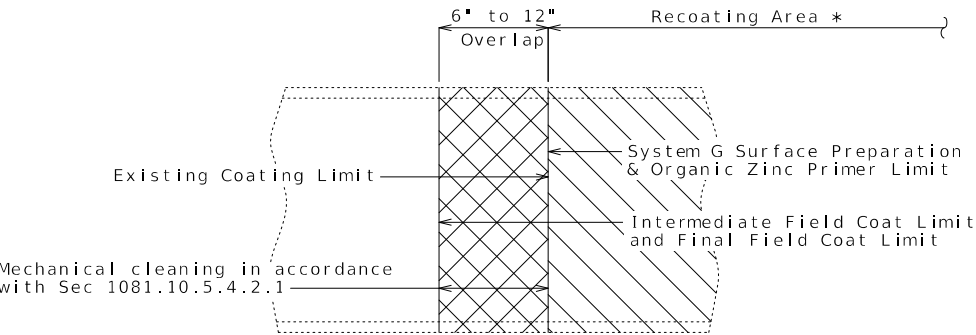
Surface Preparation: Surface preparation of the existing steel shall be in accordance with Sec 1081 for Recoating of Structural Steel (System G) with organic zinc primer. The cost of surface preparation will be considered completely covered by the contract unit price per sq. foot for Surface Preparation for Recoating Structural Steel.

Prime Coat: The cost of the prime coat will be considered completely covered by the contract unit price per sq. foot for Field Application of Organic Zinc Primer.

Field Coat(s): The color of the field coat(s) shall be Gray (Federal Standard #26373). The cost of the intermediate field coat will be considered completely covered by the contract unit price per sq. foot for Intermediate Field Coat (System G). The cost of the finish field coat will be considered completely covered by the contract unit price per sq. foot for Finish Field Coat (System G).

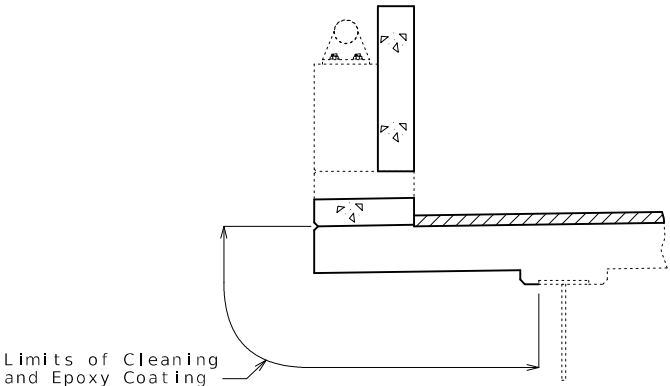
\* The recoating area shall be as indicated below:

All structural steel 5 feet from end of girder at expansion joints near Int. Bent No. 4.

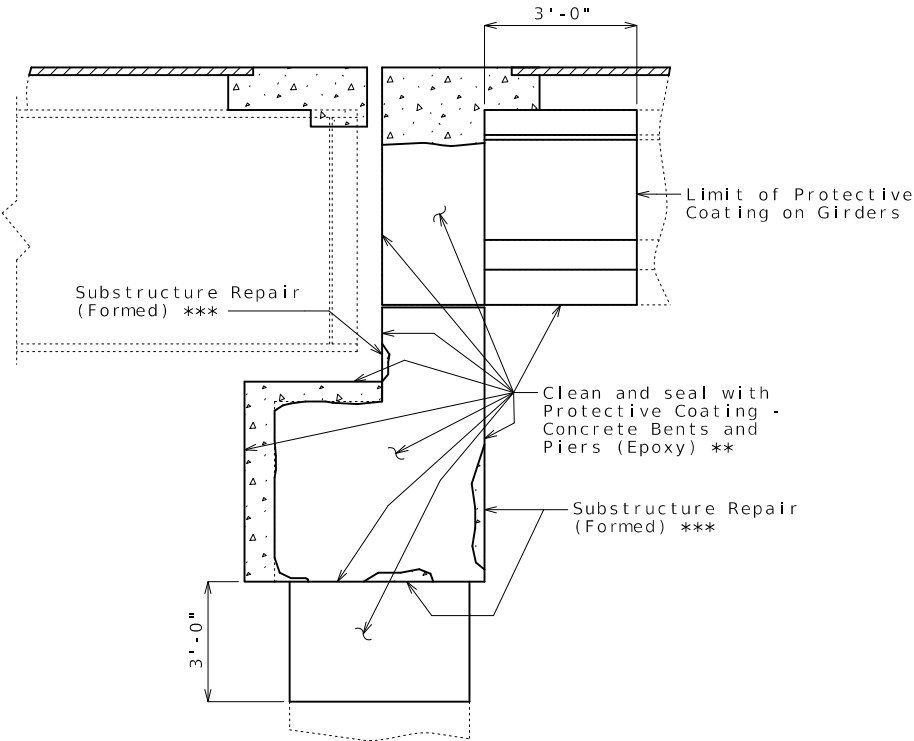


PART ELEVATION SHOWING LIMITS OF PAINT OVERLAP  
(Vertical or horizontal paint limit. Horizontal limit shown)

Limits of Paint Overlap: System G shall overlap the existing coating between 6 inches and 12 inches in order to achieve maximum coverage at the paint limit of each complete system near the expansion and contraction areas. The final field coating shall be masked to provide crisp, straight lines and to prevent overspray beyond the overlap required.



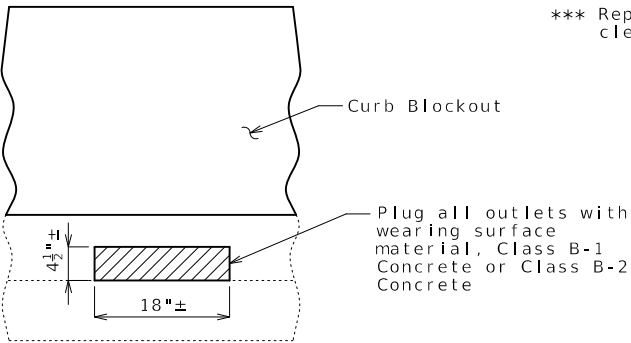
PART SECTION SHOWING LIMITS  
OF CLEANING AND EPOXY COATING  
SLAB EDGE & CANTILEVER



PART ELEVATION SHOWING PROTECTIVE  
COATING AND SUBSTRUCTURE REPAIR  
AT INT. BENT NO. 4

\*\* Protective coating shall be applied after all substructure repairs are completed and fully cured. See Sheet No. 6 for additional details of substructure repairs.

\*\*\* Repairs shall be completed to provide 1 1/2" minimum clearance to existing reinforcing steel.



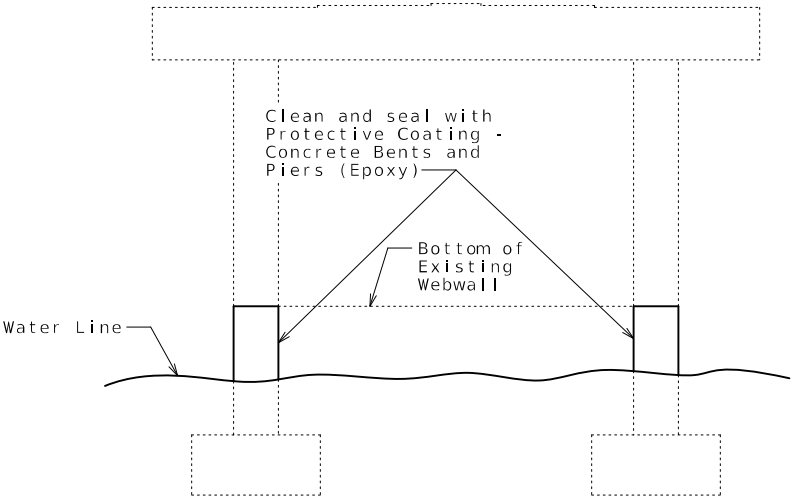
PART ELEVATION SHOWING  
PLUGGING OF CURB OUTLETS

Notes:

New concrete wearing surface not shown for clarity.

Cost of labor and materials required to plug existing curb outlets will be considered completely covered by the contract unit price for Plugging Existing Curb Outlets.

Estimated material required to fill all curb outlets is 3.3 cubic yards (for information only).



ELEVATION AT INT. BENTS NO. 2 & 3  
SHOWING PROTECTIVE COATING

REHAB DETAILS

STATE OF MISSOURI

TYLER R. LINDSAY

NUMBER

PE-2019000128

PROFESSIONAL ENGINEER

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MO-PE-2019000128

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3/3/2025

ROUTE

43

STATE

MO

DISTRICT

BR

SHEET NO.

2

COUNTY

JASPER

JOB NO.

JSR0073

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A26912

DESCRIPTION

DATE

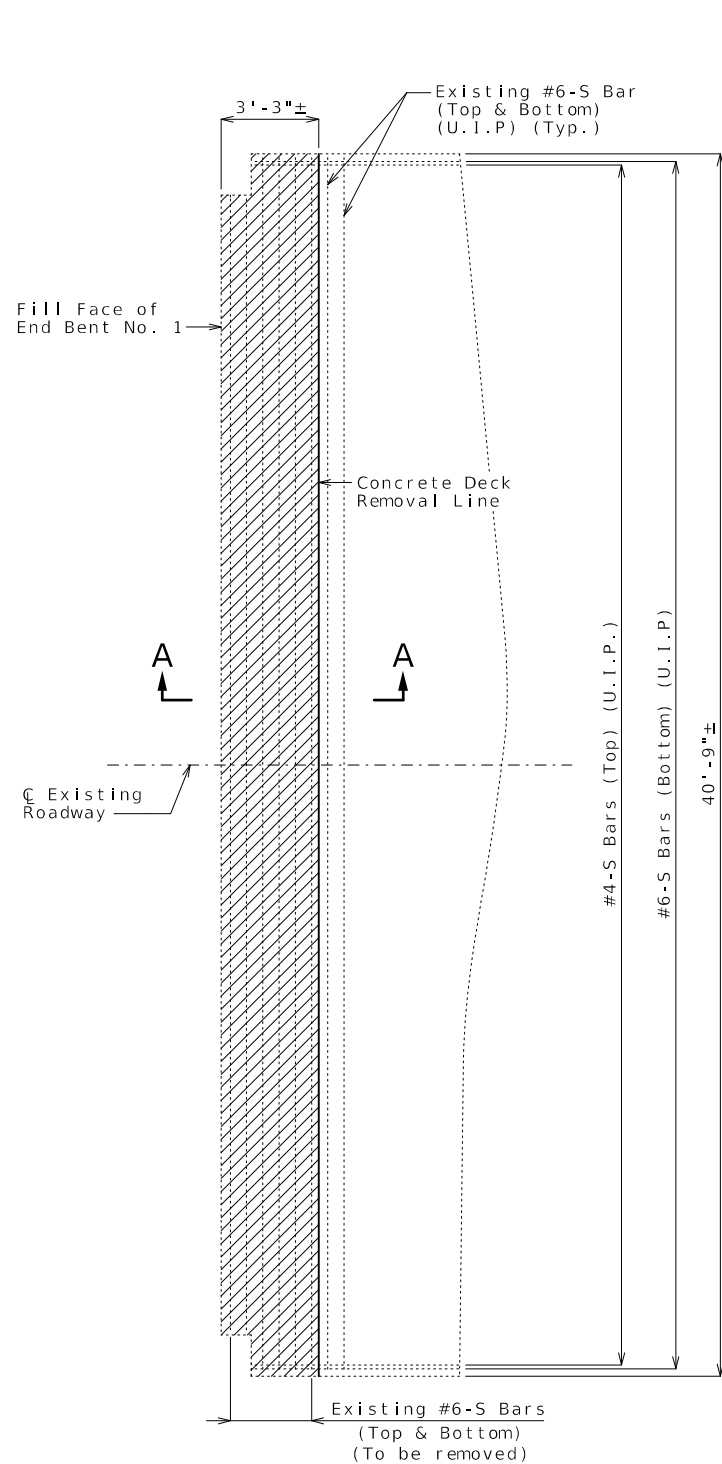
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)



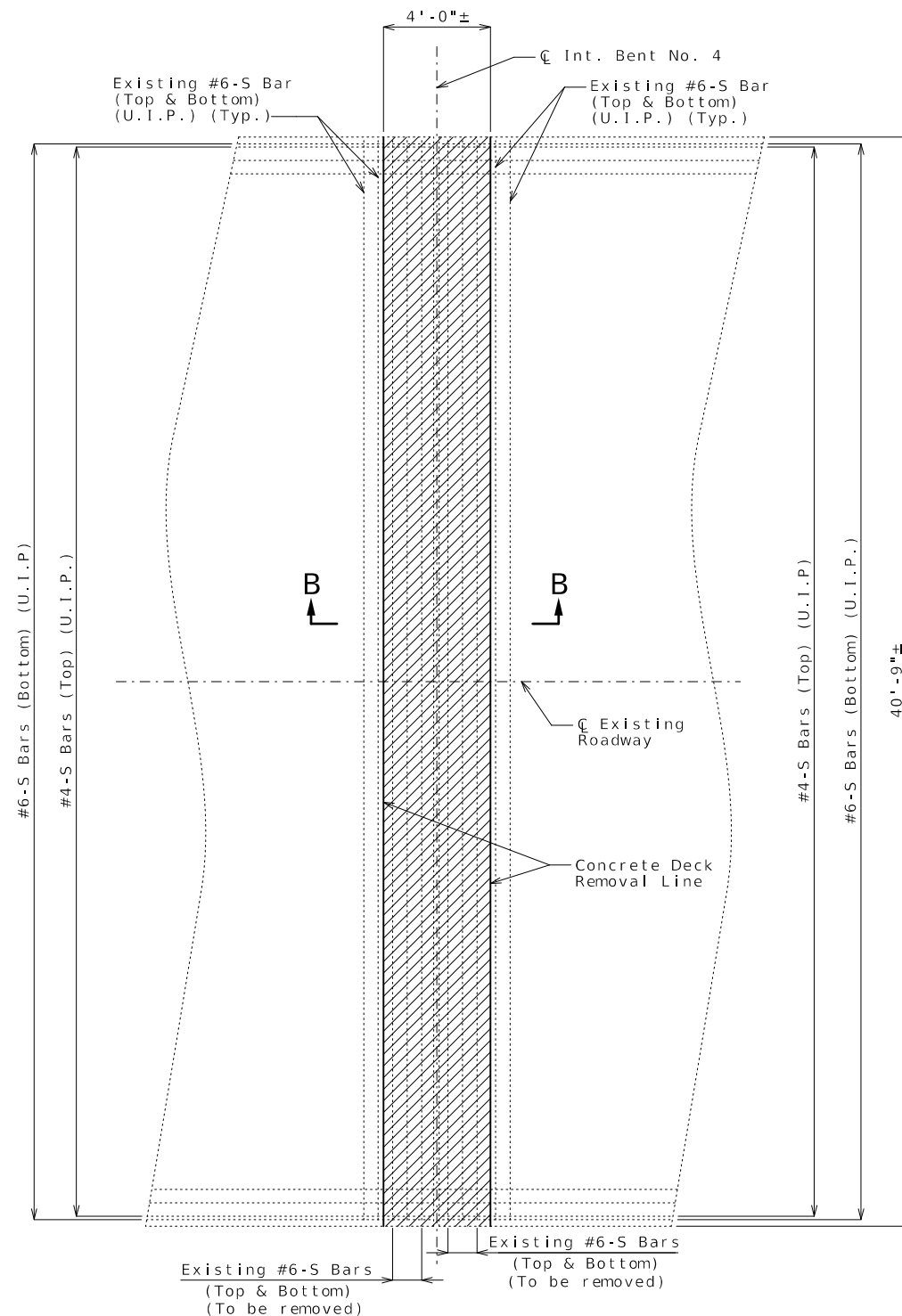
PART PLAN OF SLAB AT END BENT NO. 1  
SHOWING LIMITS OF CONCRETE REMOVAL

Notes:

The cost of concrete removal at End Bent No. 1 as shown, including curtain walls will be considered completely covered by the contract unit price for Partial Removal of Existing Bridge Deck. Vertical & horizontal curtain wall 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 End Bent No. 1 removal lines.

The cost of concrete removal at Int. Bent No. 4 as shown, including existing expansion device, will be considered completely covered by the contract unit price for Removal of Existing Expansion Joint & Adjacent Concrete.

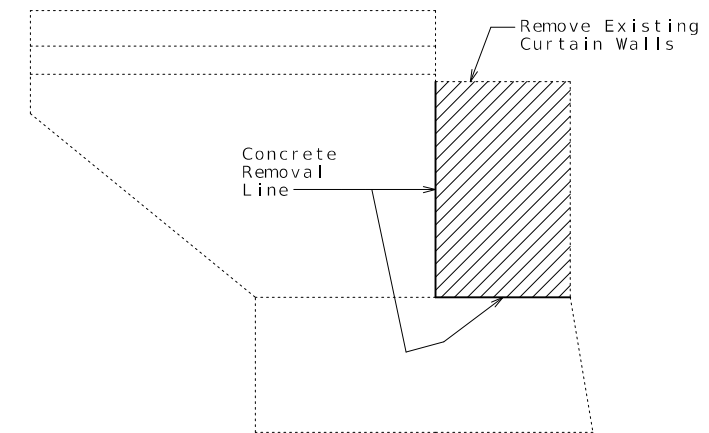


PART PLAN OF SLAB AT INT. BENT NO. 4  
SHOWING LIMITS OF CONCRETE REMOVAL

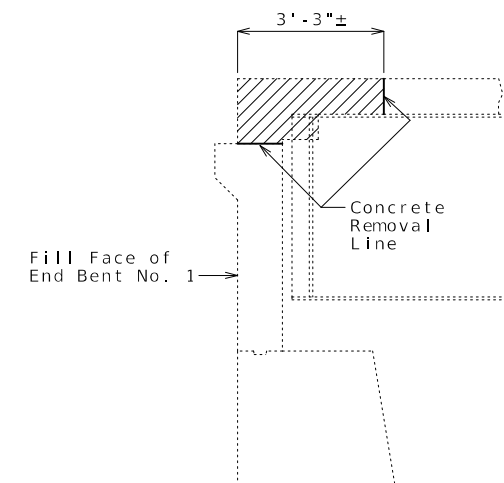
For details of strip seal expansion joint system at Int. Bent No. 4, see Sheet No. 10.

For details of slab replacement, see Sheets No. 4, 5 & 11.

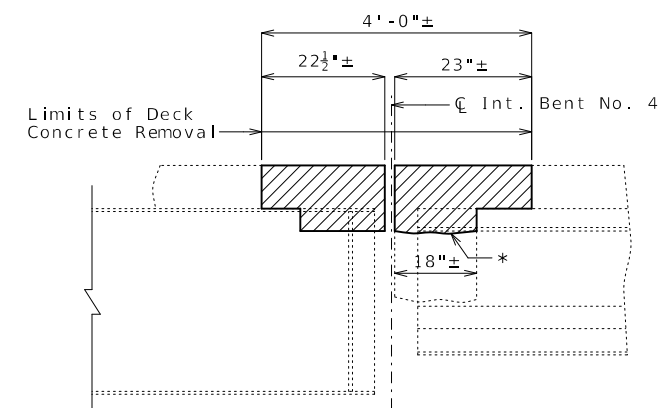
For details of removal and replacement of curb & parapet not shown, see Sheet No. 12.



ELEVATION OF END BENT NO. 1 SHOWING  
LIMITS OF CONCRETE CURTAIN WALL REMOVAL



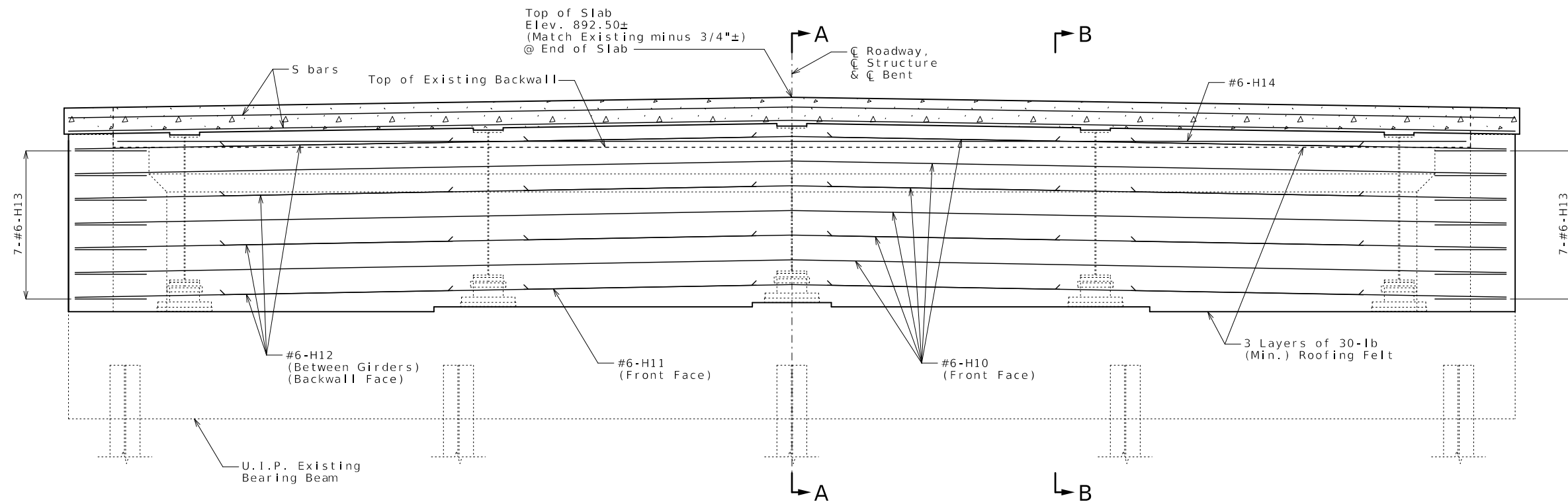
SECTION A-A



SECTION B-B

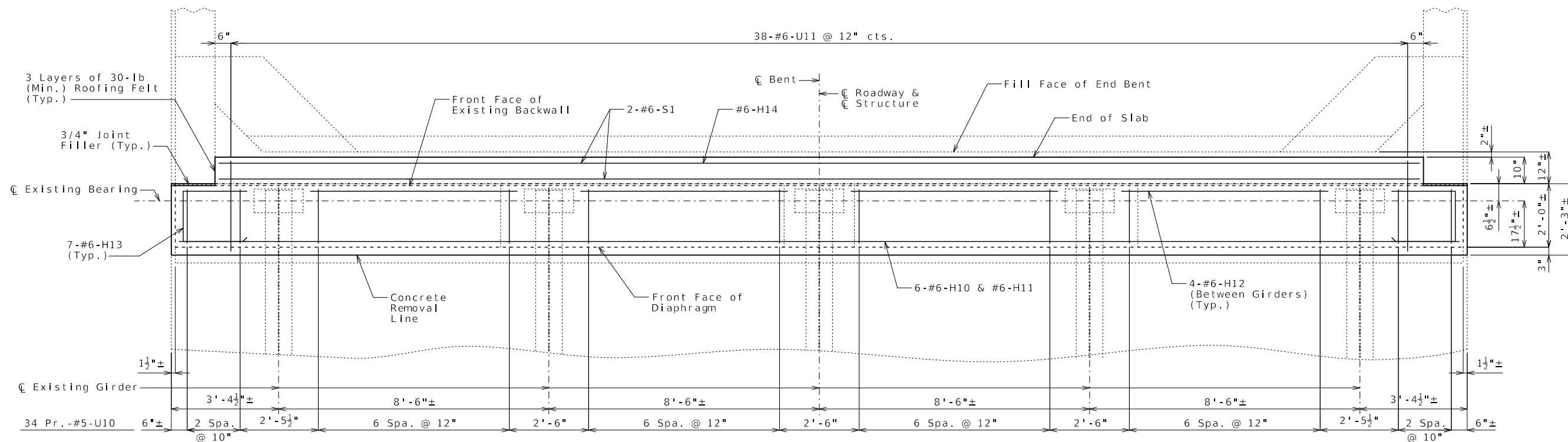
\* Remove concrete diaphragm minimum extent necessary to install new expansion device (4" min. below top of girder).

STATE OF MISSOURI TYLER R. LINDSAY NUMBER PE-2019000128 PROFESSIONAL ENGINEER 03/03/2025 3:02:36 PM TYLER R. LINDSAY - CIVIL MO-PE-2019000128	
DATE PREPARED 3/3/2025	
ROUTE 43	STATE MO
DISTRICT BR	SHEET NO. 3
COUNTY JASPER	
JOB NO. JSR0073	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A26912	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



SECTION NEAR END BENT

Notes: Existing steel end diaphragms not shown for clarity (leave in place).  
Existing S bars not shown for clarity (use in place).



PART PLAN

Notes: Concrete wearing surface not shown for clarity.  
S2 bars not shown for clarity  
Existing S bars not shown for clarity (use-in-place).

Notes:  
For details and reinforcement of barrier, see Sheets No. 12 thru 14.  
Work this sheet with Sheet No. 5.

## DETAILS OF END BENT NO. 1

Detailed Feb. 2025  
Checked Feb. 2025

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

Sheet No. 4 of 16



DATE PREPARED  
3/3/2025  
ROUTE  
43  
DISTRICT  
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STATE  
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SHEET NO.  
4

COUNTY  
JASPER  
JOB NO.  
JSR0073  
CONTRACT ID.

PROJECT NO.

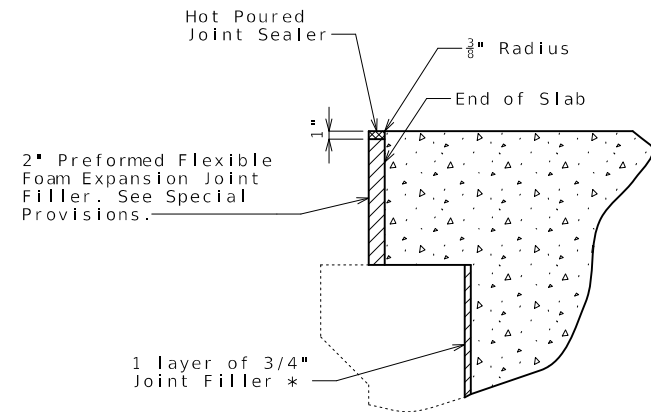
BRIDGE NO.  
A26912

DESCRIPTION	DATE

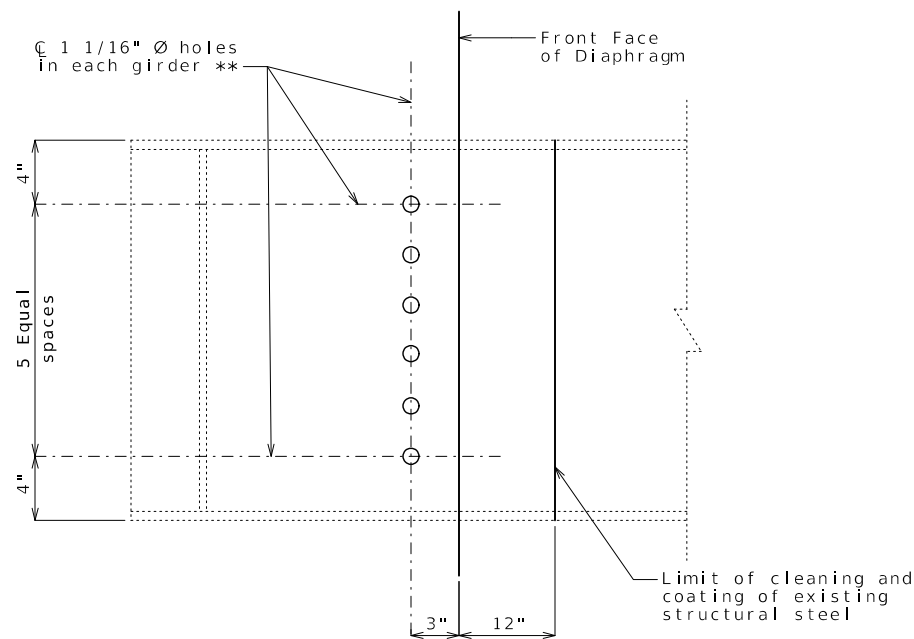
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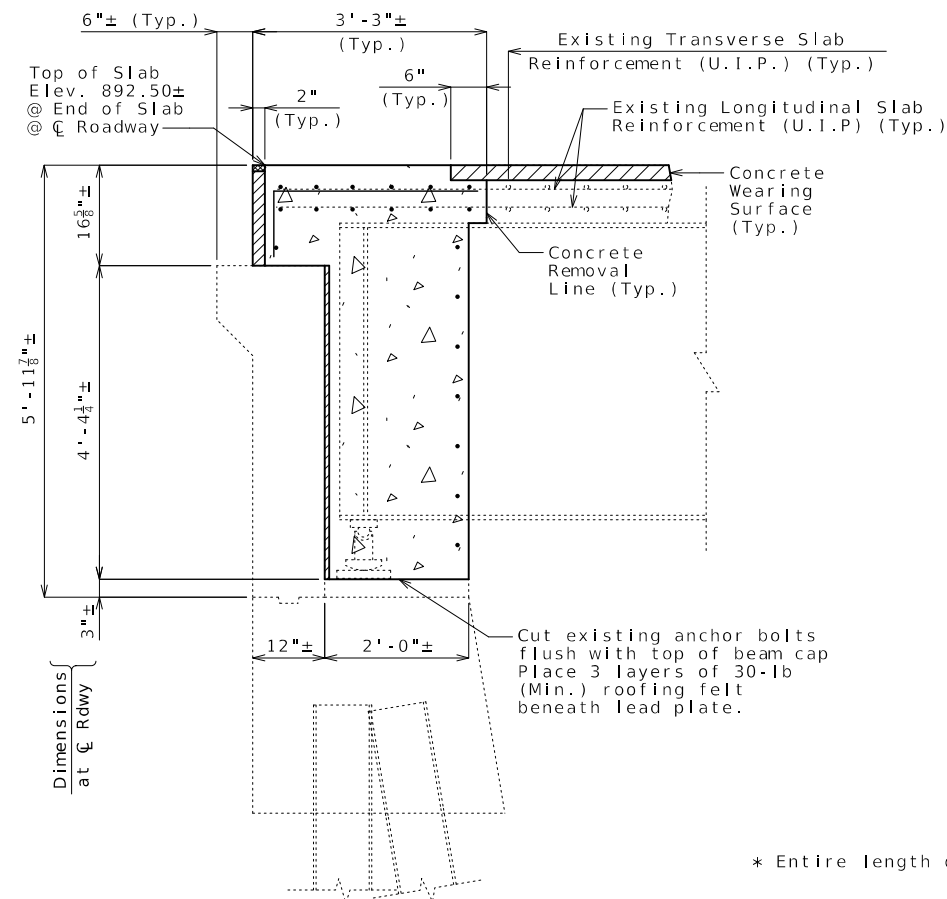


DETAIL A

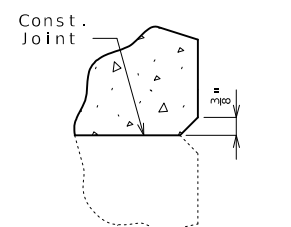


DETAIL OF WEB HOLES AT END BENT

\*\* Cost of field drilling holes in existing girder webs will be considered completely covered by the contract unit price for Class B-2 Concrete.

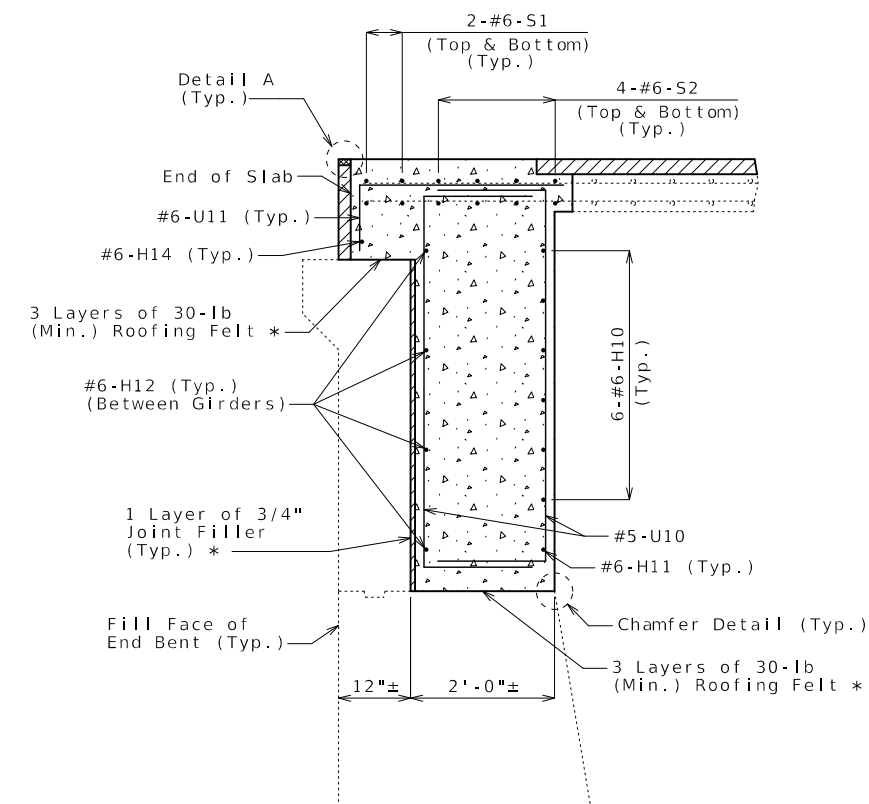


SECTION A-A



CHAMFER DETAIL

\* Entire length of diaphragm



SECTION B-B

Notes:

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 girders shall extend a minimum of one foot outside the face of the girder encasement. Payment for cleaning and coating steel to be encased in concrete will be considered completely covered by the contract unit price for Class B-2 Concrete.

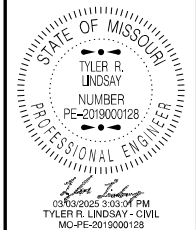
All concrete, complete in place, shall be Class B-2 and will be considered completely covered by contract unit price for Class B-2 Concrete.

The H10 bars are segmented for ease of placement through girder web holes. The total bar length for H10 bars shown in Bill of Reinforcing Steel allows for one lap splice with a length of 3'-10". Actual bar segment lengths to be determined by contractor for ease of installing bars. The contractor may use a mechanical bar splice in lieu of a lap splice. When a mechanical bar splice is used, the actual bar segment length will be determined by the contractor to accommodate manufacturer's recommendations for installation and ease of construction. The cost of furnishing and installing the bar splices will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated). No adjustment of the quantity of reinforcing steel will be allowed for the use of mechanical bar splices.

All reinforcement, complete in place, shall be Grade 60 epoxy coated and will be considered completely covered by contract unit price for Reinforcing Steel (Epoxy Coated).

Work this sheet with Sheet No. 4.

DETAILS OF END BENT NO. 1



DATE PREPARED  
3/3/2025

ROUTE  
43

DISTRICT  
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SHEET NO.  
5

COUNTY  
JASPER

JOB NO.  
JSR0073

CONTRACT ID.

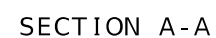
PROJECT NO.

BRIDGE NO.  
A26912

DESCRIPTION	DATE



\* 3 sets of 3-1/2"Ø Resin Anchor Systems  
equally spaced around beam ends.



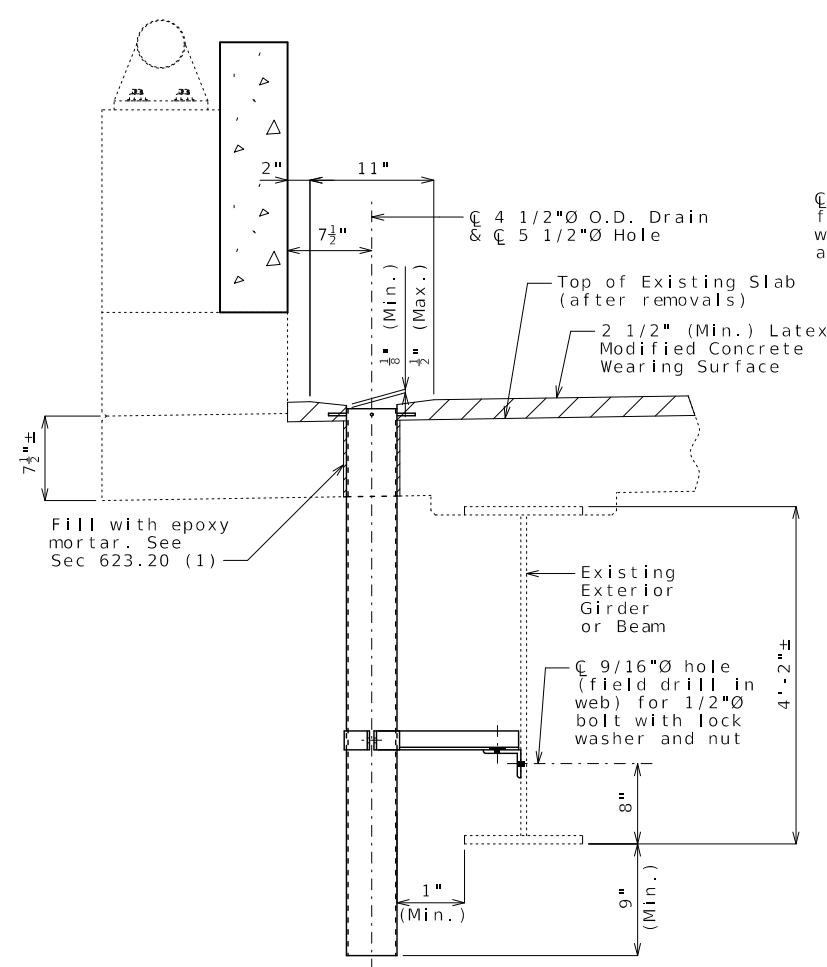
## INTERMEDIATE BENT NO. 4 REPAIR

\*\*\* 4 1/2" plus repair depth (Field bend)

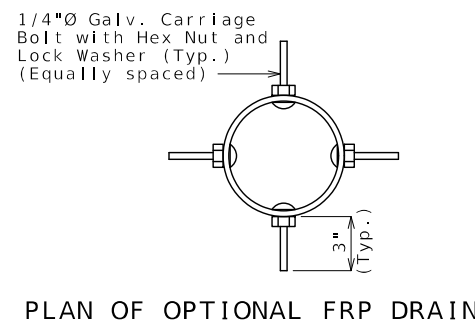
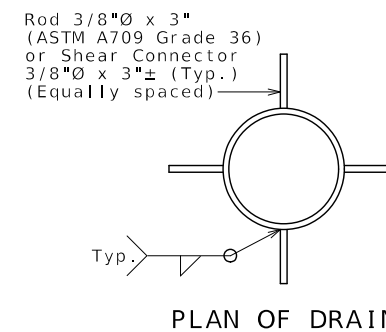
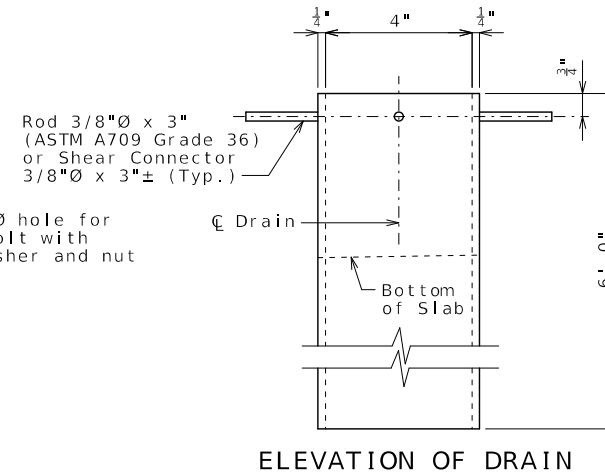
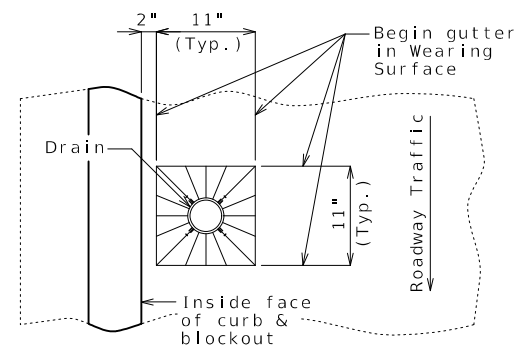
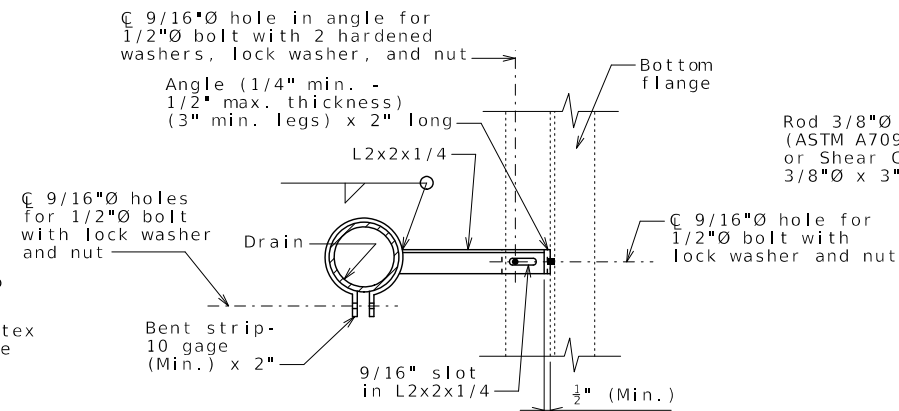


105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
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(1) Use backer rod around drain @ bottom of slab and epoxy inject from the top.



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.

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 M232 (ASTM A153), Class C.

All 1/2-inch diameter bolts shall be ASTM A307, except as noted.

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

Cost of cored slab drains, complete in place, will be considered completely covered by the contract unit price for Cored Slab Drains per each.

Holes for slab drains shall be cored.  
Percussion drilling will not be permitted.

Slab drain locations may be shifted the minimum extent necessary to avoid slab reinforcement and to allow for field drilling bolt hole in web of existing girder for bracket assembly attachment.

Cored slab drains shall be placed vertically.

For details of plugging existing curb outlets, see Sheet No. 2.

Notes for Steel Drain:

Slab drains shall be fabricated from 1/4-inch structural steel tubing ASTM A500 or A501.

The drains shall be galvanized in accordance with ASTM A123.

Drains shall be inserted through slab such that damage to galvanized coating is minimized.

Notes for FRP Drain:

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

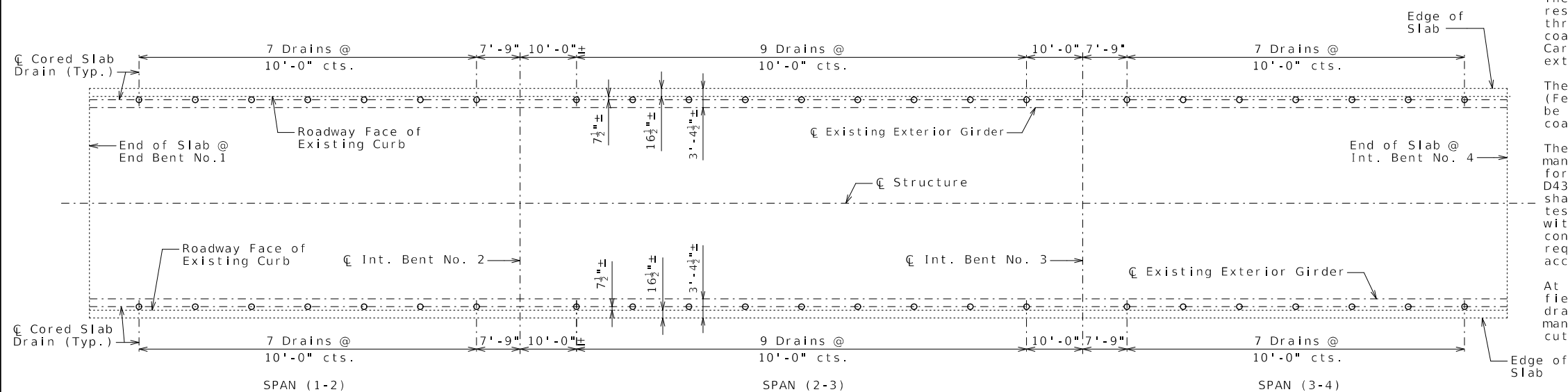
Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance. Care shall be taken to avoid damage to exterior coating during installation.

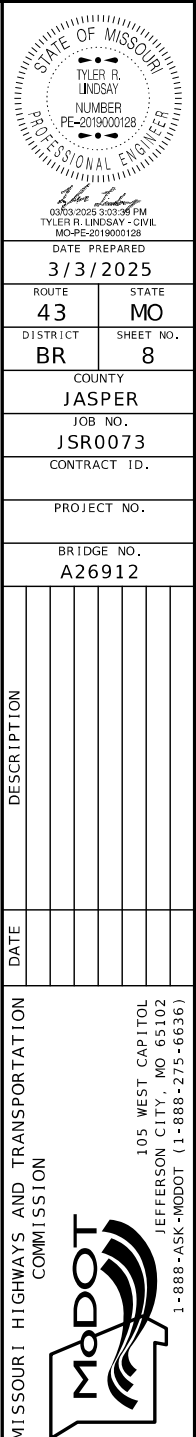
The color of the slab drain shall be gray (Federal Standard #26373). The color shall be uniform throughout the resin and any coating used.

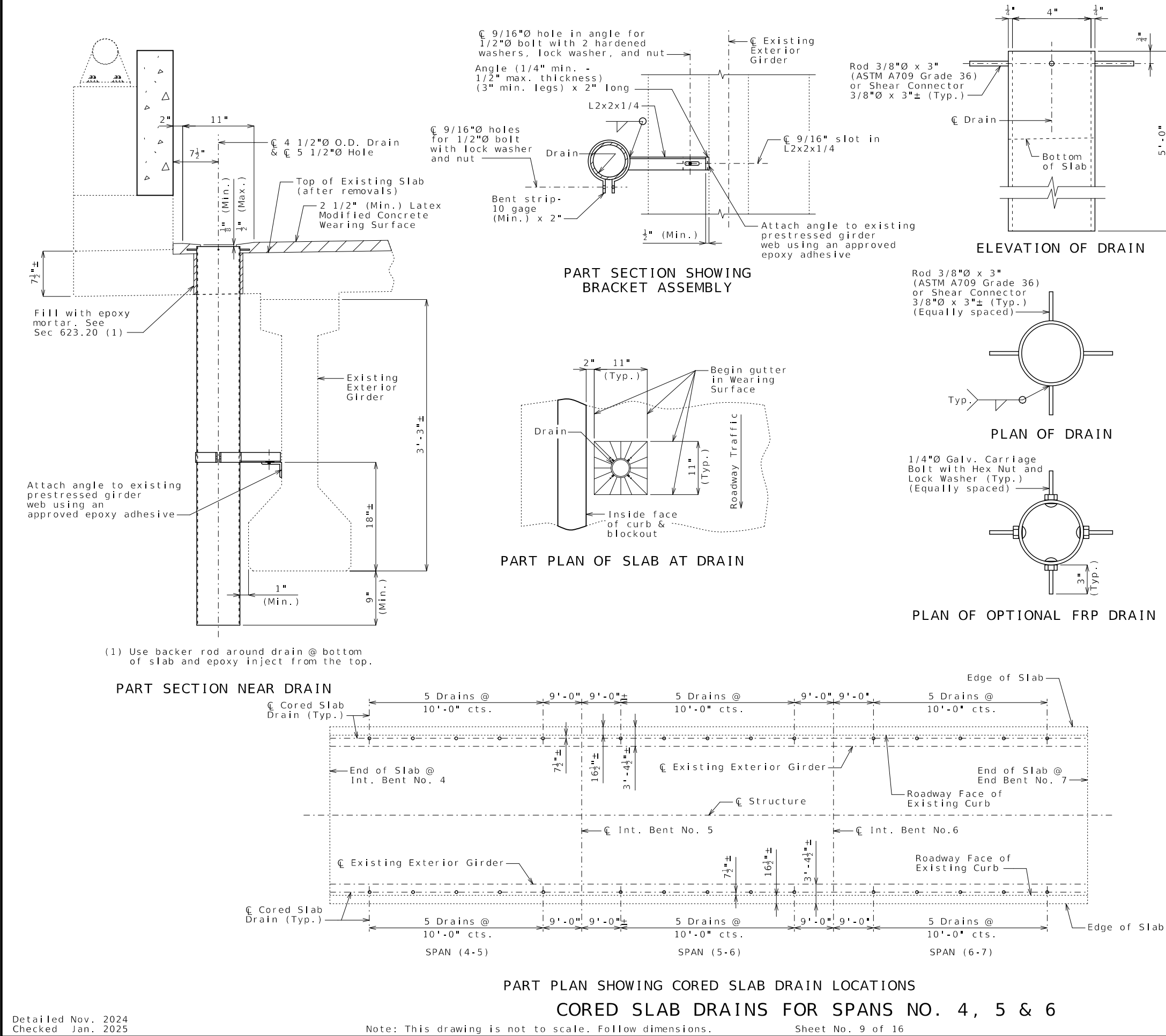
The combination of materials used in the manufacture of the drains shall be tested for Ultraviolet Light Resistance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall 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 drains shall be as recommended by the manufacturer to ensure a smooth, chip-free cut.



CORED SLAB DRAINS FOR SPANS NO. 1, 2 & 3





STATE OF MISSOURI  
TYLER R. LINDSAY  
NUMBER  
PE-2019000128  
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MO-PE-2019000128

DATE PREPARED  
3/3/2025

ROUTE  
43

STATE  
MO

DISTRICT  
BR

SHEET NO.  
9

COUNTY  
JASPER

JOB NO.  
JSR0073

CONTRACT ID.

PROJECT NO.

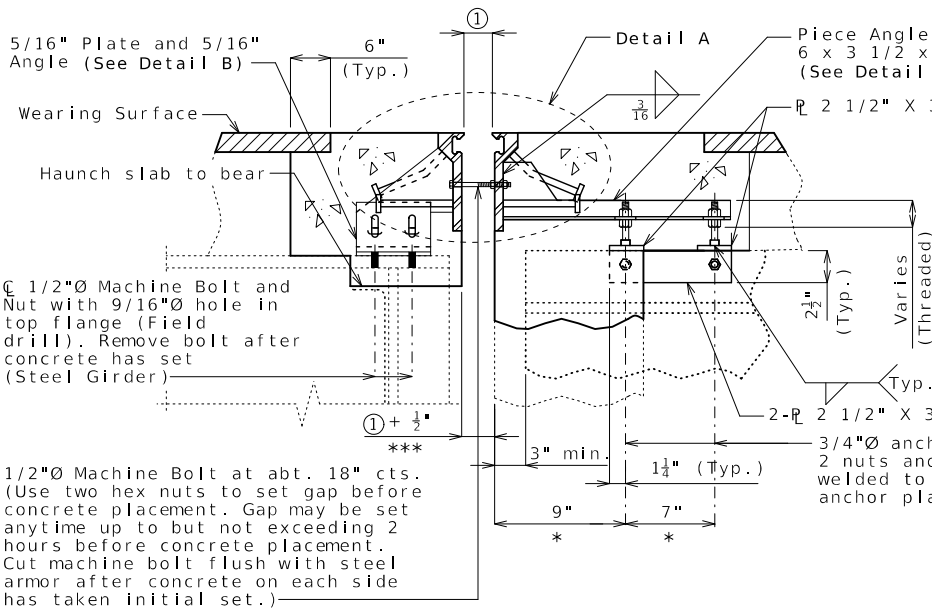
BRIDGE NO.  
A26912

DESCRIPTION

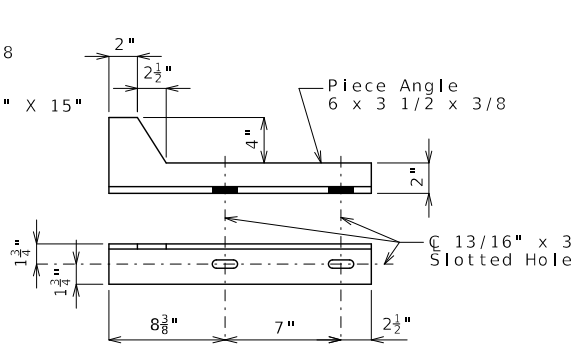
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

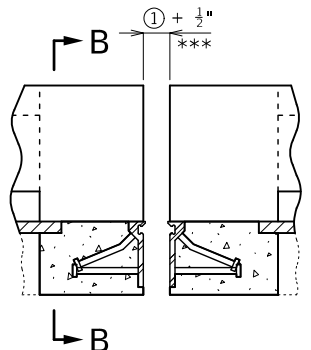
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)



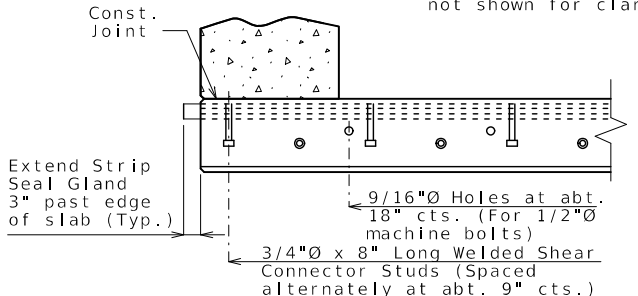
SECTION A-A  
Strip seal gland and slab steel not shown for clarity.  
\* Dimension along C Girder



DETAIL C



PART ELEVATION OF BARRIER  
Strip seal gland not shown for clarity.



PART SECTION B-B

**GENERAL NOTES:**  
Expansion joint system shall be fabricated in one section, except for staged construction and when the length is over 50 feet. A complete joint penetration groove welded splice shall be required. Welds shall be ground flush to provide a smooth surface. The expansion joint system shall be fabricated and installed to the crown and grade of the roadway.  
The strip seal gland shall be installed in joints in one continuous piece without field splices. Factory splicing will be permitted for joints in excess of 53 feet.  
Structural steel for the expansion joint system shall be ASTM A709 Grade 36 except the steel armor may be ASTM A709 Grade 50W. Anchors for the expansion joint system shall be in accordance with Sec 1037. Strip seal expansion joint system shall be in accordance with Sec 717.  
Structural steel for the expansion joint system shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.  
Existing reinforcing steel shall be field bent or cut 1" from the vertical leg of the steel armor at the expansion joint system.  
Concrete shall be forced under and around steel armor and anchors. Proper consolidation of the concrete shall be achieved by localized internal vibration.  
Expansion joint system shall not be set until after new bearings are set.  
② The installation temperature shall be taken as the actual air temperature averaged over the 24-hour period immediately preceding installation.  
③ MoDOT Construction personnel will indicate the strip seal expansion joint system installed.  
Steel armor may also be referred to as extrusion or rail.  
The terms P and R rail are used for identification only, and are not endorsements for any particular manufacturer.  
\*\*\* Because of variation in armor dimensions, the concrete opening will vary if the optional R rail is used. Dimensions shown are based on the P rail option.

② The installation temperature shall be taken as the actual air temperature averaged over the 24-hour period immediately preceding installation.  
③ MoDOT Construction personnel will indicate the strip seal expansion joint system installed.  
Steel armor may also be referred to as extrusion or rail.  
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② The installation temperature shall be taken as the actual air temperature averaged over the 24-hour period immediately preceding installation.  
③ MoDOT Construction personnel will indicate the strip seal expansion joint system installed.  
Steel armor may also be referred to as extrusion or rail.  
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\*\*\* Because of variation in armor dimensions, the concrete opening will vary if the optional R rail is used. Dimensions shown are based on the P rail option.

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\*\*\* Because of variation in armor dimensions, the concrete opening will vary if the optional R rail is used. Dimensions shown are based on the P rail option.

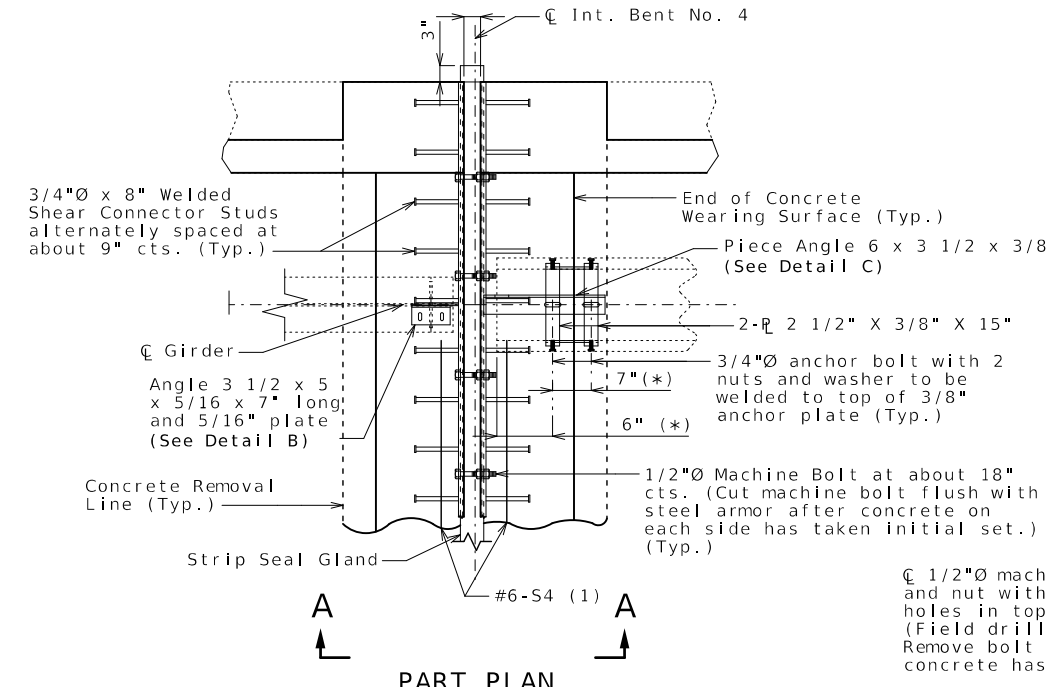
\*\*\* Because of variation in armor dimensions, the concrete opening will vary if the optional R rail is used. Dimensions shown are based on the P rail option.

\*\*\* Because of variation in armor dimensions, the concrete opening will vary if the optional R rail is used. Dimensions shown are based on the P rail option.

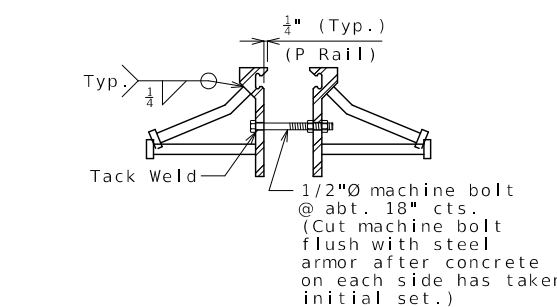
\*\*\* Because of variation in armor dimensions, the concrete opening will vary if the optional R rail is used. Dimensions shown are based on the P rail option.

\*\*\* Because of variation in armor dimensions, the concrete opening will vary if the optional R rail is used. Dimensions shown are based on the P rail option.

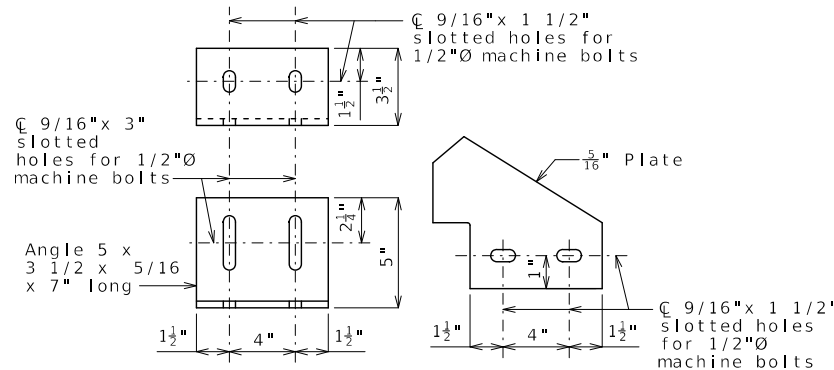
\*\*\* Because of variation in armor dimensions, the concrete opening will vary if the optional R rail is used. Dimensions shown are based on the P rail option.



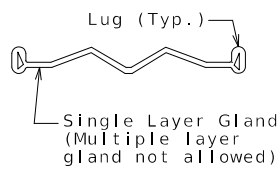
(1) Tied to studs between girders



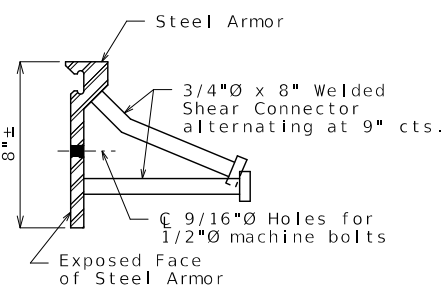
DETAIL A  
(P Rail shown, R Rail similar)



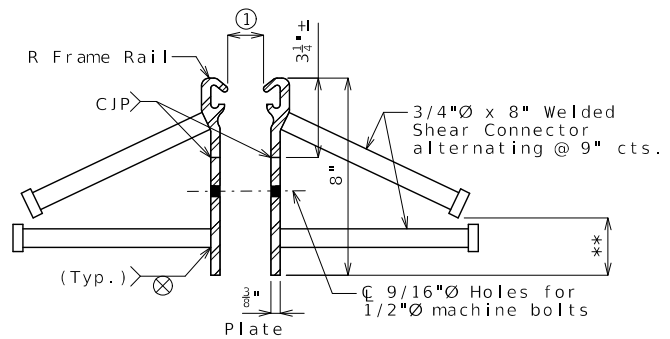
DETAIL B



DETAIL OF GLAND



DETAIL OF JOINT ARMOR  
(P Rail)



\*\* Bend stud in shop if necessary to maintain 1" min. from bottom of vertical plate.

OPTIONAL R RAIL DETAIL

Table of Allowed Transverse Strip Seal Expansion Joint System								
Manufacturer	Strip Seal System (Designated Name)	Movement Parallel to RDWY	Allowed Installation Gap ① Normal to Joint at RDWY Surface @ Air/Surface Temperature ②					
			@ 40°F	@ 50°F	@ 60°F	@ 70°F	@ 80°F	@ 90°F ③
D S Brown	Strip seal L2-500	2 13/16"	2 7/8"	2 11/16"	2 1/2"	2 5/16"	2 1/8"	1 7/8"
Watson Bowman Acme (Wabo)	Strip seal SE-500	2 13/16"	2 7/8"	2 11/16"	2 1/2"	2 5/16"	2 1/8"	1 7/8"

STRIP SEAL EXPANSION JOINT SYSTEM AT INTERMEDIATE BENT NO. 4

STATE OF MISSOURI  
TYLER R. LINDSAY  
NUMBER  
PE-2019000128  
PROFESSIONAL ENGINEER  
03/10/2025 3:04:06 PM  
TYLER R. LINDSAY - CIVIL  
MO-PE-2019000128

DATE PREPARED  
3/3/2025

ROUTE  
43

DISTRICT  
BR

STATE  
MO

SHEET NO.  
10

COUNTY  
JASPER

JOB NO.  
JSR0073

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
A26912

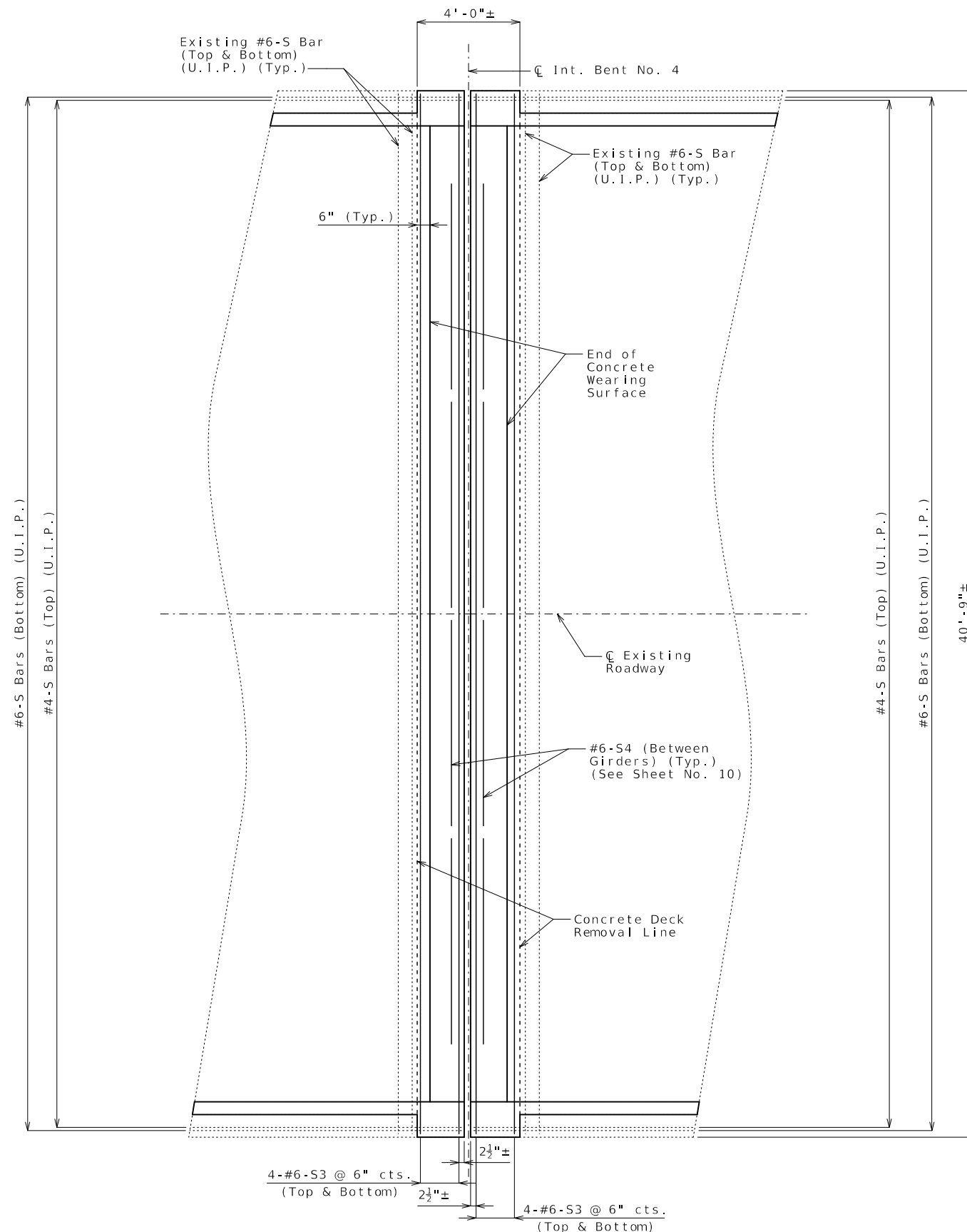
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT



PART PLAN OF SLAB AT  
INTERMEDIATE BENT NO. 4

DETAILS OF CONCRETE & EXPANSION JOINT REPLACEMENT AT INTERMEDIATE BENT NO. 4

Notes:

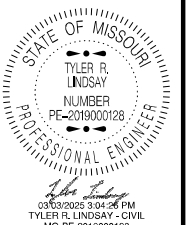
Concrete wearing surface not shown for clarity.

Strip seal gland and expansion device not shown for clarity. See Sheet No. 10 for details.

Payment for slab concrete, complete in place, for expansion device replacement will be considered completely covered by the contract unit price for Class B-2 Concrete.

Payment for furnishing and installing reinforcing steel for expansion joint replacement will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).

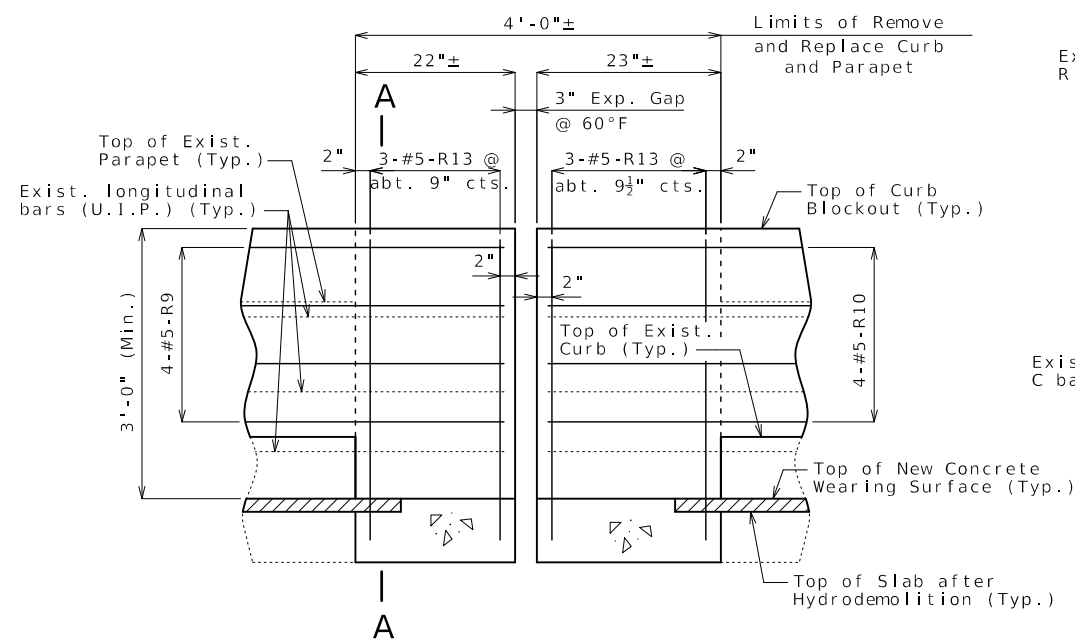
Existing reinforcing steel used in place shall be field bent or cut to clear new expansion joint armor by 1" min.



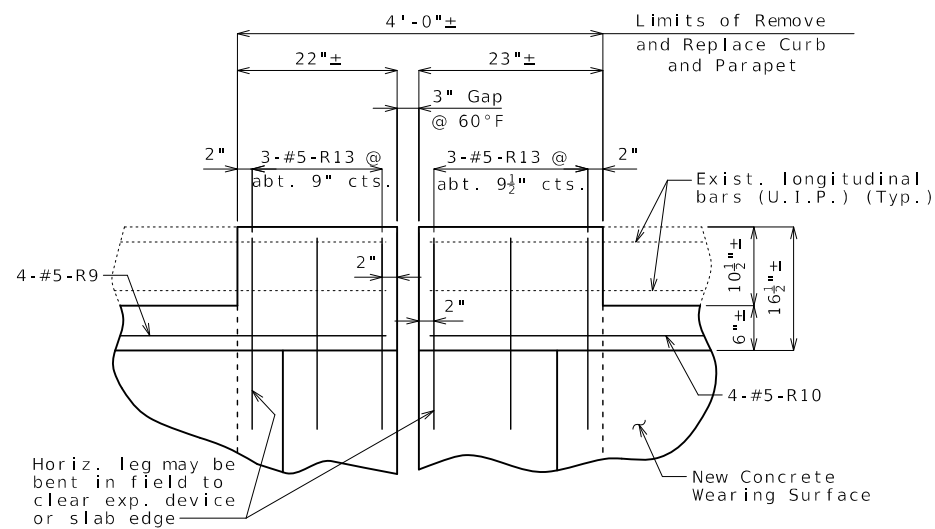
DATE PREPARED 3/3/2025	
ROUTE 43	STATE MO
DISTRICT BR	SHEET NO. 11
COUNTY JASPER	
JOB NO. JSR0073	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A26912	

DATE	DESCRIPTION

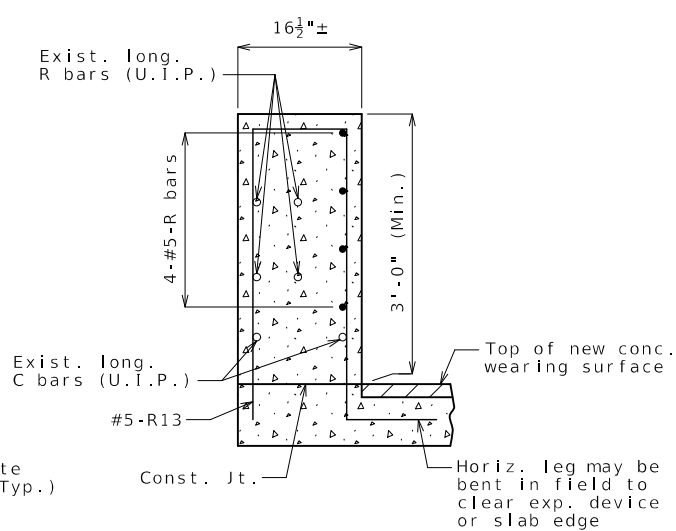




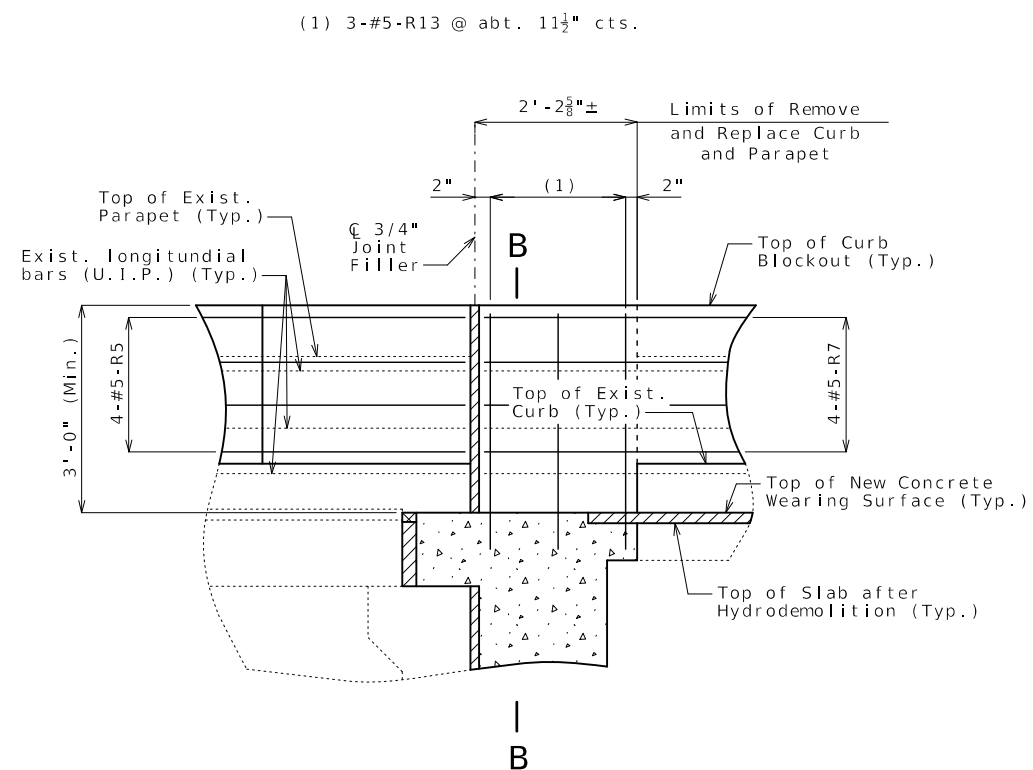
**PART ELEVATION OF LEFT CURB  
AT INTERMEDIATE BENT NO. 4**  
Expansion device armor not shown for clarity.  
(Right curb and parapet similar by mirroring at  $\mathcal{C}$  Structure)



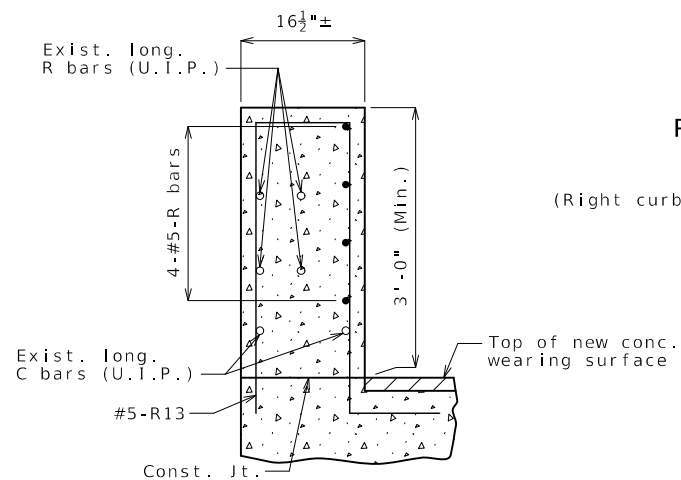
**PART PLAN OF LEFT CURB  
AT INT. BENT NO. 4**  
Expansion device armor not shown for clarity.  
(Right curb and parapet similar by mirroring at  $\mathcal{C}$  Structure)



**SECTION A-A**



**PART ELEVATION OF LEFT CURB  
AT END BENT NO. 1**  
(Right curb and parapet similar by mirroring at  $\mathcal{C}$  Structure)



**SECTION B-B**

**Notes:**

Payment for all concrete and reinforcement for curb and parapet replacement adjacent to expansion device work or end bent, complete in place, will be considered completely covered by the contract unit price for Remove and Replace Curb and Parapet.

Rail and rail post near joint work shall be removed to 3" from the edge of the next rail post away from the joint work. Rails shall be capped at new open ends similarly to that shown on existing plans. At the contractor's option, the entire rail may be removed. No additional payment will be made for this option.

Ends of existing longitudinal reinforcement in curb and parapet may be trimmed as necessary to maintain 1 1/2" clearance to end of curb and parapet replacement.

For details of end bent, see Sheets No. 4 & 5.

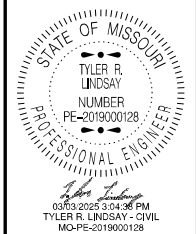
For details of strip seal expansion joint system at Intermediate Bent No. 4, see Sheet No. 10.

**CURB AND PARAPET REPLACEMENT**

Detailed Dec. 2024  
Checked Jan. 2025

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

Sheet No. 12 of 16

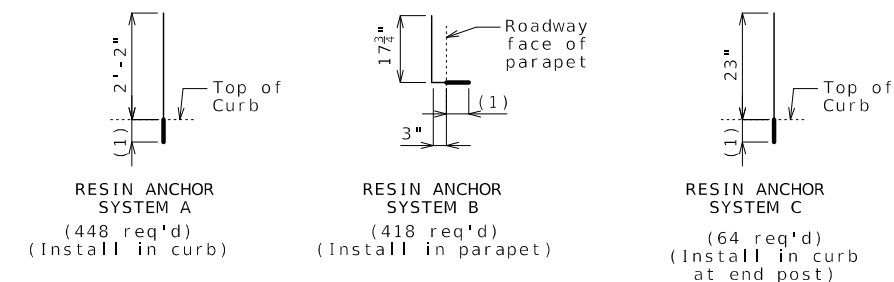
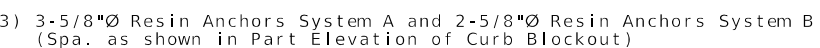
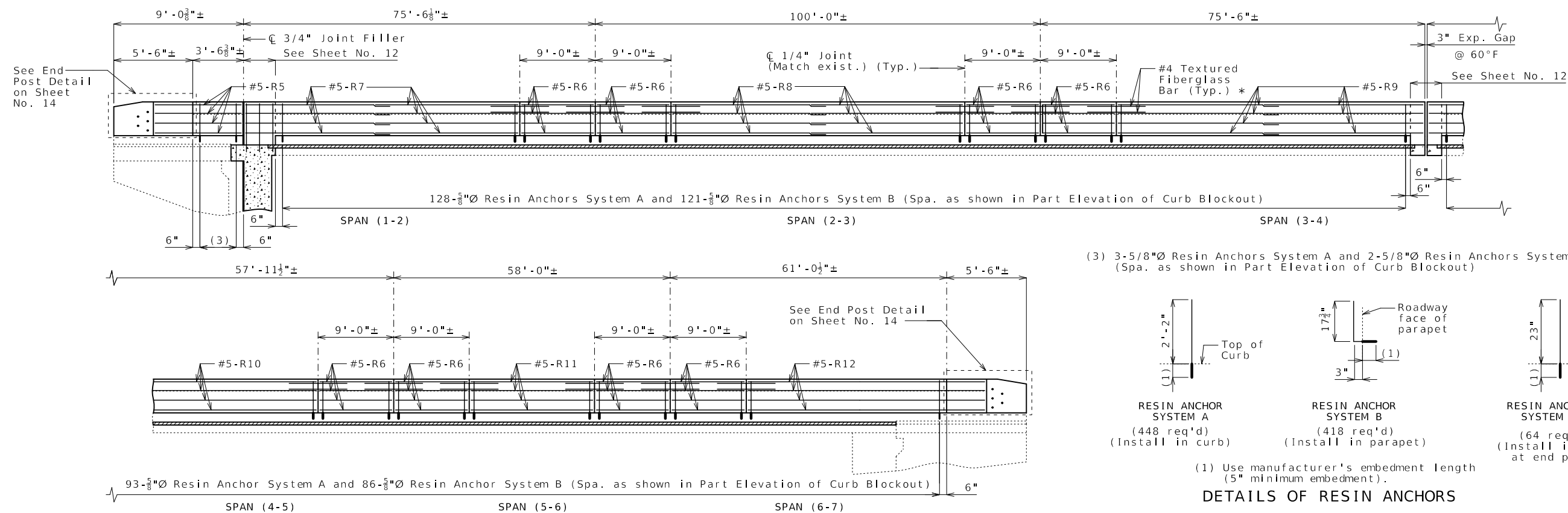


DATE PREPARED <b>3/3/2025</b>	
ROUTE <b>43</b>	STATE <b>MO</b>
DISTRICT <b>BR</b>	SHEET NO. <b>12</b>
COUNTY <b>JASPER</b>	
JOB NO. <b>JSR0073</b>	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. <b>A26912</b>	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



(1) Use manufacturer's embedment length (5" minimum embedment).

## DETAILS OF RESIN ANCHORS

Notes:

\* Slip-formed option only.

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

Bridge rail not shown for clarity.

Concrete in curb blockout shall be Class B-1.

Measurement of curb blockout is to the nearest linear foot, measured at the top outside edge of parapet. (Match existing curb and parapet)

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

Payment for concrete, reinforcement, resin anchor systems and any other work incidental to the curb blockout, complete in place, will be considered completely covered by the contract unit price for Curb Blockout per linear foot.

Cost of any concrete curb or parapet repair will be considered completely covered by the contract unit price for Curb Blockout.

All curb blockout reinforcement shall be epoxy coated.

(2) Shift resin anchors where necessary to clear existing anchor bolts for bridge rail, miss curb outlets (if present) and clear existing reinforcement.

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

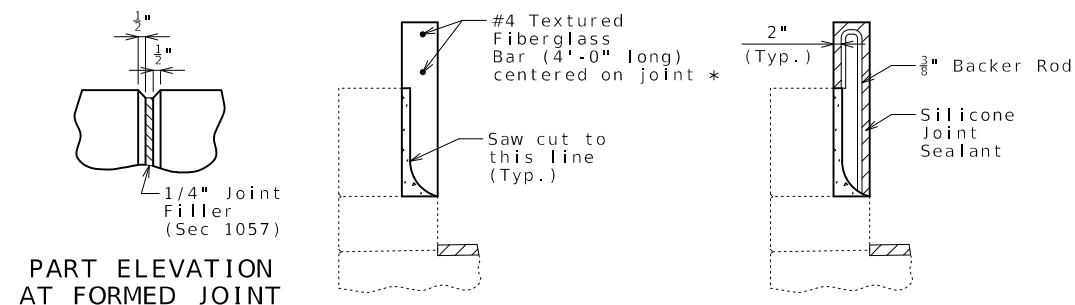
Concrete traffic barrier delineators shall be placed on top of the curb blockout similarly as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators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

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

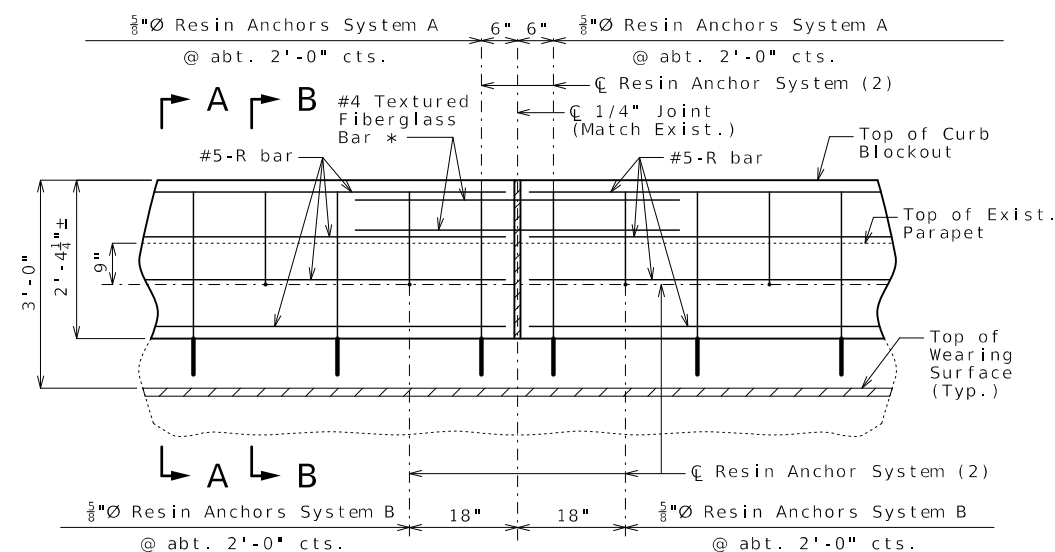
The minimum embedment depth in concrete with  $f'_c = 4,000$  psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5 inches.

An epoxy coated #5 Grade 60 reinforcing bar shall be substituted for the 5/8"Ø threaded rod.

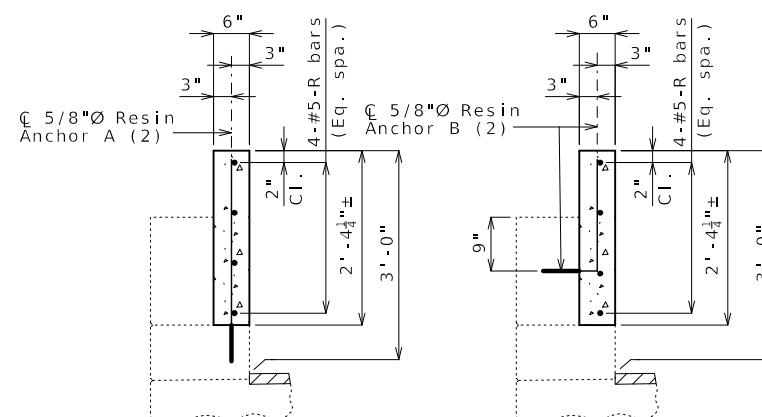
For slip-formed option, both sides of the curb blockout shall have a vertically broomed finish and the top shall have a transversely broomed finish.



## SECTION THRU SAW CUT JOINT



### PART ELEVATION OF CURB BLOCKOUT

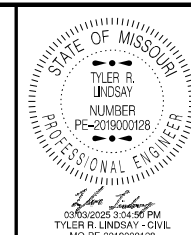


## SECTION B-B

ELEVATION OF LEFT CURB BLOCKOUT  
(Right curb blockout similar)

Longitudinal dimensions are along grade and are taken at top outside edge of parapet.

## CURB BLOCKOUT



DATE PREPARED

3/3/2025

ROUTE	STA
-------	-----

43	MC
----	----

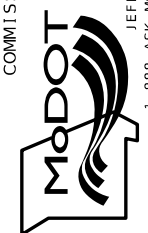
DISTRICT	SHEET
55	1

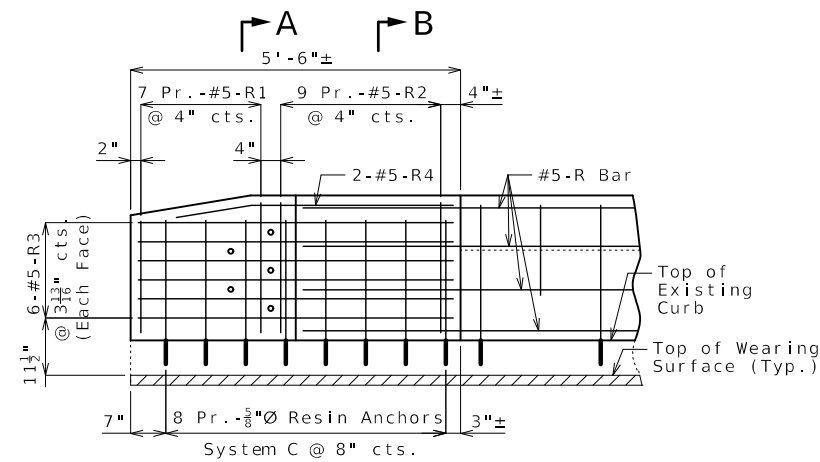
BR	13
----	----

COUNTY  
LACED

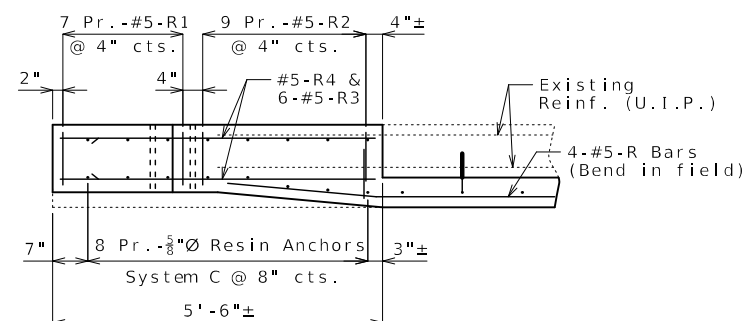
JASPER

JOB NO.  
15P0073

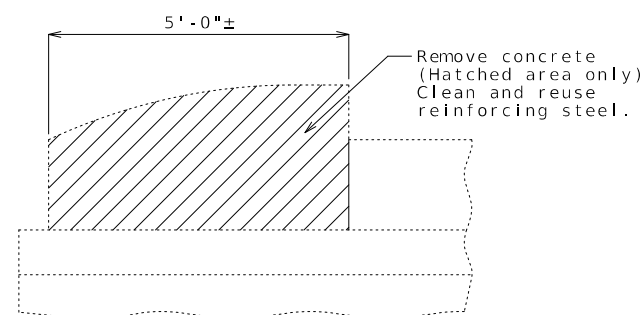
[illegible]



ELEVATION SHOWING REINFORCEMENT  
(Right End Post at End Bent No. 7 similar)

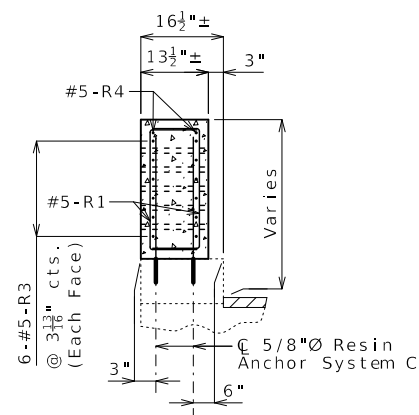


PLAN SHOWING REINFORCEMENT  
LEFT END POST AT END BENT NO. 1

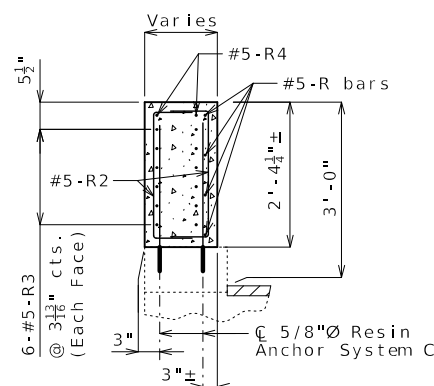


PART ELEVATION SHOWING END POST  
CONCRETE REMOVAL

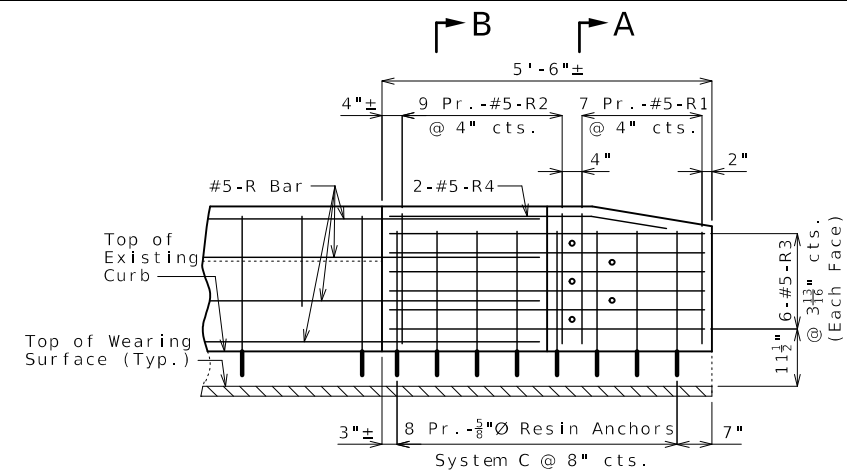
Cost of removing existing end posts will be considered completely covered by the contract unit price for Curb Blockout.



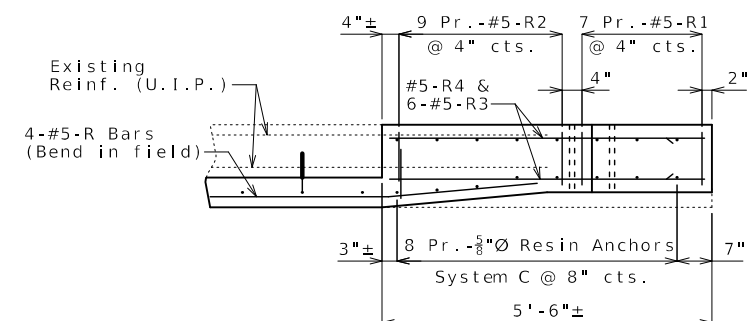
SECTION A-A



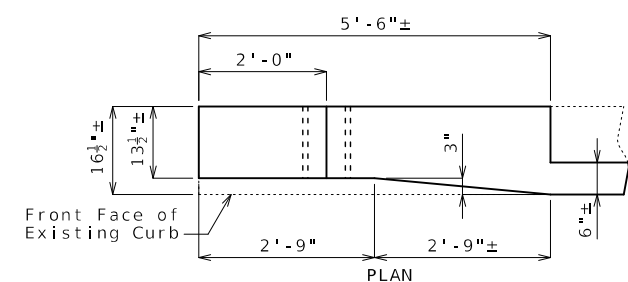
SECTION B-B



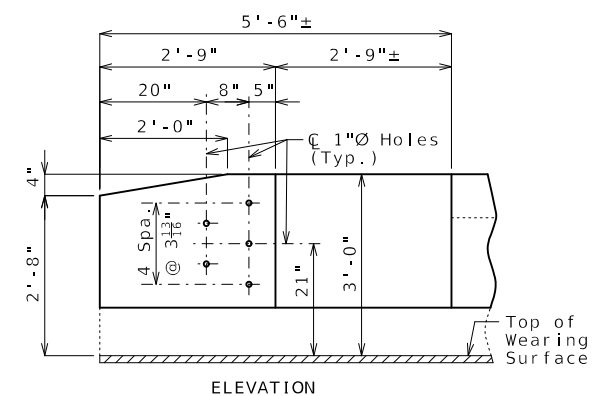
ELEVATION SHOWING REINFORCEMENT  
(Right End Post at End Bent No. 1 similar)



PLAN SHOWING REINFORCEMENT  
LEFT END POST AT END BENT NO. 7



### PLAN



ELEVATION

### DETAILS OF END POST AND GUARD RAIL ATTACHMENT

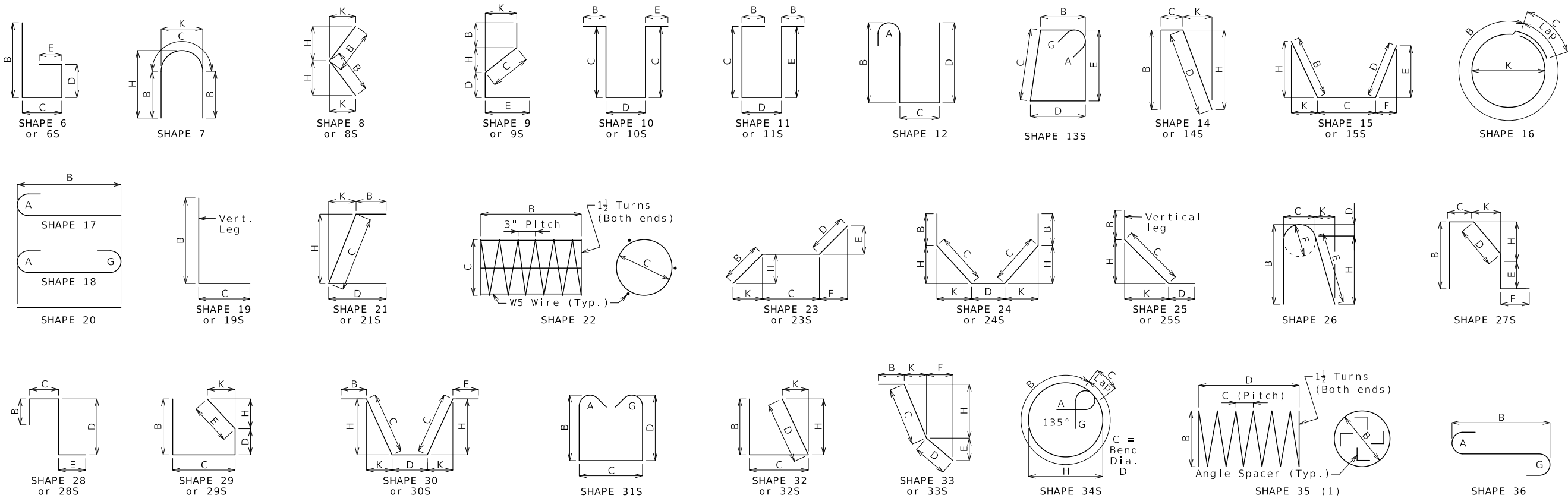
Notes:

Work this sheet with Sheet No. 13.

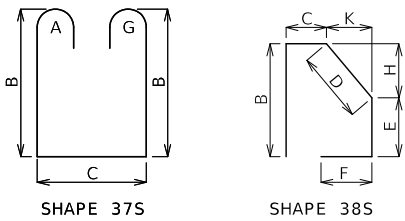
For details of resin anchors, see Sheet No. 13.

Resin anchors shall be shifted or bent in field to clear one-inch diameter holes by at least 1/2 inch.

[illegible]



Finished Bend Dimensions D and Hook Dimensions						
Standard Pin Bend Shapes						
Size	Case	D	A or G		J	
			90°	180°	180°	
#4	1	3"	8"	6"	4"	
#5	1	3 <sup>3</sup> / <sub>4</sub> "	10"	7"	5"	
#6	1	4 <sup>1</sup> / <sub>2</sub> "	12"	8 <sup>1</sup> / <sub>4</sub> "	6"	
#7	2	5 <sup>1</sup> / <sub>4</sub> "	14"	9 <sup>3</sup> / <sub>4</sub> "	7"	
	3	7"	15"	11 <sup>1</sup> / <sub>2</sub> "	8 <sup>3</sup> / <sub>4</sub> "	
#8	2	6"	16"	11"	8"	
	3	8"	17"	13 <sup>1</sup> / <sub>4</sub> "	10"	
#9	1	9 <sup>1</sup> / <sub>2</sub> "	19 <sup>1</sup> / <sub>2</sub> "	15 <sup>1</sup> / <sub>2</sub> "	11 <sup>3</sup> / <sub>4</sub> "	
#10	1	10 <sup>3</sup> / <sub>4</sub> "	22"	17 <sup>1</sup> / <sub>2</sub> "	13 <sup>1</sup> / <sub>4</sub> "	
#11	1	12"	24 <sup>1</sup> / <sub>2</sub> "	19 <sup>1</sup> / <sub>2</sub> "	14 <sup>7</sup> / <sub>8</sub> "	
#14	1	18 <sup>1</sup> / <sub>4</sub> "	31 <sup>1</sup> / <sub>4</sub> "	27 <sup>1</sup> / <sub>2</sub> "	21 <sup>5</sup> / <sub>8</sub> "	
#18	1	24"	41 <sup>1</sup> / <sub>2</sub> "	36 <sup>1</sup> / <sub>4</sub> "	28 <sup>1</sup> / <sub>2</sub> "	
Stirrup Pin Bend Shapes (S)						
Size	Case	D	A or G		H	J
			90°	135°	180°	135°
#4	2	2"	4 <sup>1</sup> / <sub>2</sub> "	4 <sup>1</sup> / <sub>2</sub> "	5"	2 <sup>7</sup> / <sub>8</sub> "
	3	3"	5"	5 <sup>1</sup> / <sub>4</sub> "	6"	3"
#5	2	2 <sup>1</sup> / <sub>2</sub> "	5 <sup>3</sup> / <sub>4</sub> "	5 <sup>3</sup> / <sub>4</sub> "	5 <sup>3</sup> / <sub>4</sub> "	3 <sup>3</sup> / <sub>4</sub> "
	3	3 <sup>3</sup> / <sub>4</sub> "	6 <sup>3</sup> / <sub>4</sub> "	6 <sup>3</sup> / <sub>4</sub> "	7"	3 <sup>5</sup> / <sub>8</sub> "
#6	1	4 <sup>1</sup> / <sub>2</sub> "	12"	7 <sup>3</sup> / <sub>4</sub> "	8 <sup>1</sup> / <sub>4</sub> "	4 <sup>5</sup> / <sub>8</sub> "
Applicable for all grades of steel.						
Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.						



BENDING DIAGRAMS

All dimensions are out to out.

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

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

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

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

Reinforcing Steel Totals (Pounds)							
Size	Substructure		Superstructure			Entire Bridge	
	Plain	Epoxy	Slab	Barrier	Slip Form	Plain	Epoxy
W5	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	561	4,623	0	0	5,184
6	0	142	2,753	0	0	0	2,895
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0
By Type	0	142	3,314	4,623	0	0	8,079

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

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

STATE OF MISSOURI  
TYLER R. LINDSAY  
NUMBER  
PE-2019000128  
PROFESSIONAL ENGINEER  
03/03/2025 3:05:16 PM  
TYLER R. LINDSAY - CIVIL  
MO-PE-2019000128

DATE PREPARED  
3/3/2025  
ROUTE  
43  
DISTRICT  
BR  
COUNTY  
JASPER  
JOB NO.  
JSR0073  
CONTRACT ID.  
PROJECT NO.  
BRIDGE NO.  
A26912

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



A.A.D.T. - 2025 = 839  
A.A.D.T. - 2045 = 1117  
D.H.V. = 10.16%  
T = 23.02%  
V = 55 M.P.H.  
D = 47.6%/52.4% (E/W)

FUNCTIONAL CLASSIFICATION - MAJOR COLLECTOR

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

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

KEY MAP  
LOCATION OF JASPER COUNTY

BARTON COUNTY  
JASPER COUNTY

PROJECT LIMITS  
RE-DECK EXISTING BR. #A2862  
SUBSTRUCTURE REPAIRS,  
ADD GUARDRAIL & DRAINAGE

BEGIN STA. 390+04.20  
END STA. 396+22.39

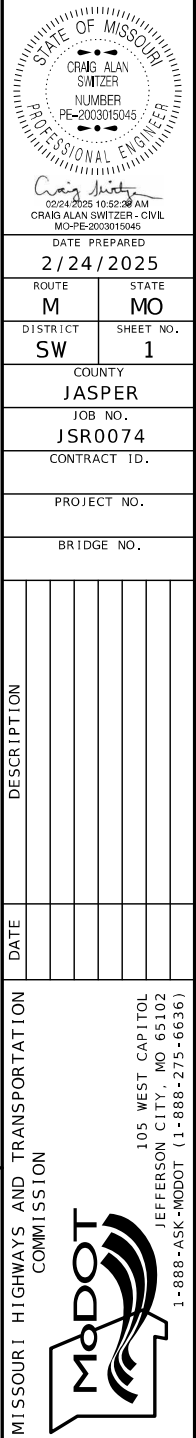
BR. #A2690  
BR. #A2691

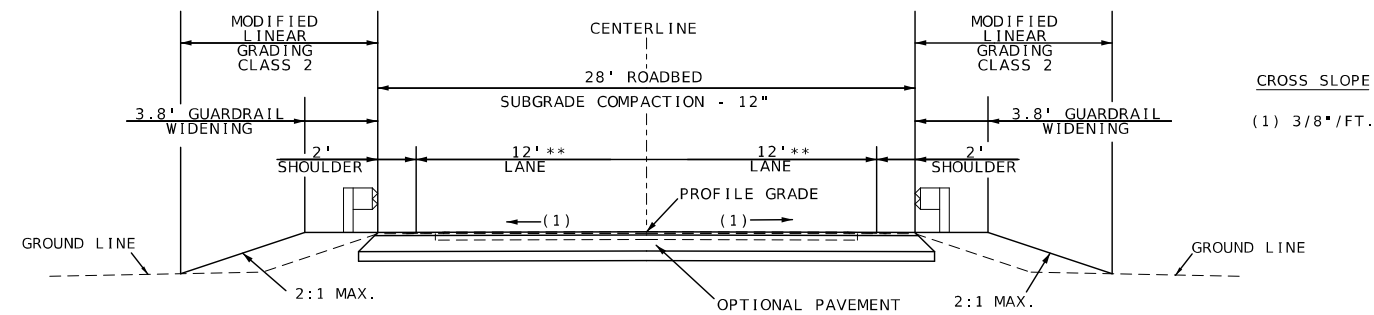
ASBURY  
WACO  
CARL JUNCTION  
ORONOGO  
NECK CITY  
PURCELL  
ALBA  
CARYTOWN

SCALE IN MILES

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	1
TYPICAL SECTIONS (TS) ( 1 SHEET )--	2
QUANTITIES (QU) ( 3 SHEETS)-----	3
PLAN-PROFILE (PP)-----	4
RIGHT OF WAY (RW)-----	XX-XX
REFERENCE POINTS (RP)-----	XX-XX
COORDINATE POINTS (CP)-----	XX-XX
SPECIAL SHEETS (SS)-----	XX-XX
TRAFFIC CONTROL SHEETS (TC)-----	5-7
EROSION CONTROL SHEETS (EC)-----	8
LIGHTING (LT)-----	XX-XX
SIGNALS (SG)-----	XX-XX
SIGNING (SN)-----	XX-XX
PAVEMENT MARKING (PM)-----	XX-XX
CULVERT SECTIONS (CS)-----	XX-XX
BRIDGE DRAWINGS (B)	
A28621-----	1-11
A#####-----	XX-XX
A#####-----	XX-XX
A#####-----	XX-XX
CROSS SECTIONS (XS)-----	XX-XX

BEGINNING OF PROJECT	STA.	390 + 04.20
END OF PROJECT	STA.	396 + 22.39
APPARENT LENGTH		618.19 FEET
EQUATIONS AND EXCEPTIONS:		NONE
TOTAL CORRECTIONS		0.00 FEET
NET LENGTH OF PROJECT		618.19 FEET
STATE LENGTH		0.117 MILES
FOR INFORMATION ONLY		
ESTIMATED DISTURBED ACRES		0.5 ACRES

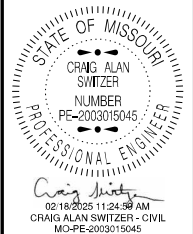




SECTION ON TANGENT  
TYPICAL SECTION ROUTE M  
STA. 392+20.30 TO STA. 392+70.30  
STA. 394+06.30 TO STA. 394+56.30

MATCH EXISTING TYPICAL SECTION  
STA. 390+04.20 TO STA. 392+20.30  
STA. 392+70.30 TO STA. 394+06.30 (BRIDGE)  
STA. 394+56.30 TO STA. 396+22.39

OPTIONAL PAVEMENT		
10" HMA 2" BP-1 w/PG64-22 8" BIT. BASE w/PG64-22 6" TYPE 1 AGGR. BASE	8" PCCP 8" REINF. PCCP 15' JOINTS w/1.25" DOWELS 6" TYPE 1 AGGR. BASE	SHOULDERS FULL DEPTH



DATE PREPARED 2/13/2025	
ROUTE M	STATE MO
DISTRICT SW	SHEET NO. 2
COUNTY JASPER	
JOB NO. JSR0074	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION									
DATE									

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

REMOVAL OF IMPROVEMENTS							
STATION	TO	STATION	LOCATION	DESCRIPTION	UNITS	TOTAL	REMARKS
392+20.30	-	392+90.30	ROUTE M - C/L	EX. PAVEMENT & BASE	S.Y.	162	
392+79.20			ROUTE M - RT.	EX. SIGN	EA.	1	
392+89.39			ROUTE M - LT.	EX. SIGN	EA.	1	
393+87.20			ROUTE M - RT.	EX. SIGN	EA.	1	
393+97.39			ROUTE M - LT.	EX. SIGN	EA.	1	
393+86.30	-	394+56.30	ROUTE M - C/L	EX. PAVEMENT & BASE	S.Y.	165	
LUMP SUM						1	

CONTRACTOR FURNISHED SURVEYING AND STAKING
LUMP SUM = 1

MOBILIZATION
LUMP SUM = 1

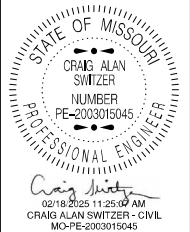
SUBGRADE COMPACTION					
STATION	TO	STATION	LOCATION	(100FT.)	REMARKS
392+20.30	-	392+90.30	ROUTE M - WEST END BRIDGE	0.7	
393+86.30	-	394+56.30	ROUTE M - EAST END BRIDGE	0.7	
TOTAL				1.4	
USE				2	

MODIFIED LINEAR GRADING CLASS 2						
STATION	TO	STATION	LOCATION	LENGTH (FT.)	AREA (100FT.)	REMARKS
390+79.20	-	392+79.20	ROUTE M - RT. SIDE	200.00	2	
392+14.39	-	392+89.39	ROUTE M - LT. SIDE	75.00	1	
393+87.20	-	394+62.20	ROUTE M - RT. SIDE	75.00	1	
393+97.39	-	395+47.39	ROUTE M - LT. SIDE	150.00	2	
TOTAL					6	
USE					6	

OPTIONAL PAVEMENT									
STATION	TO	STATION	LOCATION	LENGTH (FT.)	WIDTH BEGIN (FT.)	END (FT.)	AREA (S.Y.)	6" TYPE 1 AGGR. BASE (S.Y.)	REMARKS
392+20.30	-	392+70.30	ROUTE M - WEST END BR. #A2862	50	24.5	28	145.9	157	
394+06.30	-	394+56.30	ROUTE M - EAST END BR. #A2862	50	28	24.5	146.3	158	
TOTAL							292.2	315	
USE							292.2	315	

TYPE A CURB					
STATION	TO	STATION	LOCATION	LENGTH (FT.)	REMARKS
392+68.20	-	392+79.20	ROUTE M - RT. SIDE	11.00	SW CORNER BRIDGE
392+78.39	-	392+89.39	ROUTE M - LT. SIDE	11.00	NW CORNER BRIDGE
393+87.20	-	393+98.20	ROUTE M - RT. SIDE	11.00	SE CORNER BRIDGE
393+97.39	-	394+08.39	ROUTE M - LT. SIDE	11.00	NE CORNER BRIDGE
TOTAL				44.00	
USE				44	

ROCK FLUME						
STATION	LOCATION	LENGTH (FT.)	TYPE 1 ROCK DITCH LINER		PERMANENT EROSION CONTROL GEOTEXTILE (S.Y.)	REMARKS
			FURNISHING (C.Y.)	PLACING (C.Y.)		
392+66.70	ROUTE M - RT. SIDE	30	2.23	2.23	14.47	SW CORNER BRIDGE
392+76.89	ROUTE M - LT. SIDE	38	2.83	2.83	18.32	NW CORNER BRIDGE
393+99.70	ROUTE M - RT. SIDE	30	2.23	2.23	14.47	SE CORNER BRIDGE
394+09.89	ROUTE M - LT. SIDE	25	1.86	1.86	12.06	NE CORNER BRIDGE
TOTAL			9.15	9.15	59.32	
USE			9	9	59	



DATE PREPARED 2/13/2025	
ROUTE M	STATE MO
DISTRICT SW	SHEET NO. 3
COUNTY JASPER	
JOB NO. JSR0074	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE								

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

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

GUARDRAIL							
STATION	TO	STATION	LOCATION	MGS GUARDRAIL 8' POST 6'3" SPACING (L.F.)	MGS BRIDGE APPROACH TRANSITION, REGULAR (EA.)	MASH TYPE A CRASHWORTHY END TERMINAL (EA.)	REMARKS
390+29.20	-	392+79.20	ROUTE M - RT. SIDE BR. #A2862	162.5	1	1	
391+64.39	-	392+89.39	ROUTE M - LT. SIDE BR. #A2862	37.5	1	1	
393+87.20	-	395+12.20	ROUTE M - RT. SIDE BR. #A2862	37.5	1	1	
393+97.39	-	395+97.39	ROUTE M - LT. SIDE BR. #A2862	112.5	1	1	
TOTAL				350.0	4	4	
USE				350.0	4	4	

SEEDING - COOL SEASON MIXTURE						
STATION	TO	STATION	LOCATION	SEEDING (ACRES)	MULCHING (ACRES)	REMARKS
389+78.00	-	393+04.00	ROUTE M - RT. SIDE	0.3	0.3	SLOPE WIDENING
391+29.00	-	393+07.00	ROUTE M - LT. SIDE	0.2	0.2	SLOPE WIDENING
393+89.00	-	396+33.00	ROUTE M - LT. SIDE	0.1	0.1	SLOPE WIDENING
393+60.00	-	395+50.00	ROUTE M - RT. SIDE	0.2	0.2	SLOPE WIDENING
TOTAL				0.8	0.8	
USE				0.8	0.8	

EROSION CONTROL						
STATION	TO	STATION	LOCATION	SILT FENCE (LF)	SEDIMENT REMOVAL (CY)	REMARKS
389+78.00	-	393+04.00	ROUTE M - RT. SIDE	335.0	3.4	FILL SLOPE
391+29.00	-	393+07.00	ROUTE M - LT. SIDE	185.0	1.9	FILL SLOPE
393+89.00	-	396+33.00	ROUTE M - LT. SIDE	248.0	2.5	FILL SLOPE
393+60.00	-	395+50.00	ROUTE M - RT. SIDE	198.0	2.0	FILL SLOPE
TOTAL				966.0	9.8	
USE				966	10	

PAVEMENT MARKING						
STATION	TO	STATION	LOCATION	STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS		REMARKS
				4" WHITE (L.F.)	4" YELLOW (L.F.)	
392+20.30	-	394+56.30	ROUTE M - LT. EDGE	236.00		
392+20.30	-	394+56.30	ROUTE M - RT. EDGE	236.00		
392+20.30	-	394+56.30	ROUTE M - C/L		59.00	INTERMITTENT C/L
TOTAL				472.00	59.00	
USE				472	59	

SHAPING SLOPES CLASS III						
STATION	TO	STATION	LOCATION	LENGTH (FT.)	AREA (100FT.)	REMARKS
390+04.20	-	390+79.20	ROUTE M - RT. SIDE	75.00	1	
391+39.39	-	392+14.39	ROUTE M - LT. SIDE	75.00	1	
394+62.20	-	395+37.20	ROUTE M - RT. SIDE	75.00	1	
395+47.39	-	396+22.39	ROUTE M - LT. SIDE	75.00	1	
TOTAL					4	
USE					4	

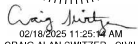
STATE OF MISSOURI

CRAIG ALAN SWITZER

NUMBER

PE-2003015045

PROFESSIONAL ENGINEER



02/18/2025 11:25:14 AM  
CRAIG ALAN SWITZER - CIVIL  
MO-PE-2003015045

DATE PREPARED

2/13/2025

ROUTE

M

STATE

MO

DISTRICT

SW

SHEET NO.

3

COUNTY

JASPER

JOB NO.

JSR0074

CONTRACT ID.


PROJECT NO.

BRIDGE NO.

DESCRIPTION

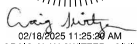
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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

EFFECTIVE: 07-01-2024																				
SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.									ITEM NUMBER	TOTAL QTY	DESCRIPTION		
WARNING SIGNS								GUIDE SIGNS								DESCRIPTION				
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT)	E05-1	36X48	12.00						GORE EXIT	6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT)	E05-2	48X36	12.00						EXIT OPEN	6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT)	E05-2a	48X36	12.00						EXIT CLOSED	6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT)	GO20-1	60X24	10.00						ROAD WORK NEXT XX MILES	6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT)	GO20-2	48X24	8.00						END ROAD WORK	6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT)	GO20-4	36X18	4.50						PILOT CAR FOLLOW ME	6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT)	GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW	6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT)	GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW	6122020		REPLACEMENT SAND BARREL
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)	GO20-5aP	36X24	6.00						WORK ZONE (PLAQUE)	6122030		IMPACT ATTENUATOR (RELOCATION)
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)	MO4-8a	24X18	3.00	2	6				END DETOUR	6123001		TRUCK MOUNTED ATTENUATOR (TMA)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)	MO4-9L	48X36	12.00						DETOUR (LEFT)	6161008		ADVANCED WARNING RAIL SYSTEM
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)	MO4-9R	48X36	12.00						DETOUR (RIGHT)	6161012		BUOYS (BOATS KEEP OUT)
WO1-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)	MO4-9P	48X12	4.00						STREET NAME (PLAQUE)	6161013		BUOYS (NO WAKE)
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)	MO4-10L	48X18	6.00						DETOUR ARROW (LEFT)	6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)	MO4-10R	48X18	6.00						DETOUR ARROW (RIGHT)	6161025		CHANNELIZER (TRIM LINE)
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)	REGULATORY SIGNS								6161030	10	TYPE III MOVEABLE BARRICADE	
WO1-8	18X24	3.00						CHEVRON (SYMBOL)	R1-1	48X48	13.25						STOP	6161033		DIRECTION INDICATOR BARRICADE
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)	R1-2	48TRI	6.93						YIELD	6161040		FLASHING ARROW PANEL
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)	R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)	6161047		TYPE III OBJECT MARKER
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)	R1-3P	30X12	2.50						ALL WAY (PLAQUE)	6161055		SEQUENTIAL FLASHING WARNING LIGHT
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)	R2-1	36X48	12.00						SPEED LIMIT XX	6161070		TUBULAR MARKER
WO3-4	48X48	16.00						BE PREPARED TO STOP	R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)	6161095		RADAR SPEED ADVISORY SYSTEM
WO3-5	48X48	16.00						SPEED LIMIT AHEAD	R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)			CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)	R3-3	36X36	9.00						NO TURNS	6161096		CHANGEABLE MESSAGE SIGN W/O COMM. INTERFACE - CONTRACTOR FURNISHED/RETAINED
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)	R3-4	48X48	16.00						NO U-TURN (SYMBOL)			CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE - CONTRACTOR FURNISHED/RETAINED
WO4-1aL	48X48	16.00						MERGE (LEFT)	R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT	6161098A		
WO4-1aR	48X48	16.00						MERGE (RIGHT)	R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT			
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS	R4-1	36X48	12.00						DO NOT PASS	6161099	6	
WO5-3	48X48	16.00						ONE LANE BRIDGE	R4-2	36X48	12.00						PASS WITH CARE	6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
WO5-5	48X48	16.00						NARROW LANES	R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)	6162002		TEMPORARY LONG-TERM RUMBLE STRIPS
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)	R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)			TEMPORARY TRAFFIC BARRIER
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)	R5-1	30X30	6.25						DO NOT ENTER	6173600D		CONTRACTOR FURNISHED/RETAINED
WO6-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)	R5-1a	36X24	6.00						WRONG WAY			TEMPORARY TRAFFIC BARRIER
WO7-3a	30X24	5.00						NEXT XX MILES (PLAQUE)	R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)	6173602B		CONTRACTOR FURNISHED/COMMISSION RETAINED
WO8-1	48X48	16.00						BUMP	R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)	6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION
WO8-2	48X48	16.00						DIP	R6-2L	24X30	5.00						ONE WAY (LEFT)	6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER
WO8-3	48X48	16.00						PAVEMENT ENDS	R6-2R	24X30	5.00						ONE WAY (RIGHT)			TEMPORARY TRAFFIC BARRIER
WO8-4	48X48	16.00						SOFT SHOULDER	R9-9	24X12	2.00						SIDEWALK CLOSED	6176000B		COMMISSION FURNISHED/RETAINED
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)	R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE			TEMP. TRAFFIC BARRIER HEIGHT TRANSITION
WO8-6	48X48	16.00						TRUCK CROSSING	R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE	6177000B		COMMISSION FURNISHED/RETAINED
WO8-6c	48X48	16.00						TRUCK ENTRANCE	R10-6	24X36	6.00						STOP HERE ON RED (45° ARROW)	6208064A		TEMPORARY RAISED PAVEMENT MARKER
WO8-7	36X36	9.00						LOOSE GRAVEL	R11-2	48X30	10.00	2	20				ROAD CLOSED	9029400		TEMPORARY TRAFFIC SIGNALS
WO8-7a	36X36	9.00						FRESH OIL / LOOSE GRAVEL									ROAD CLOSED XX MILES AHEAD	9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING
WO8-9	48X48	16.00						LOW SHOULDER	R11-3a	60X30	12.50	3	37.5				LOCAL TRAFFIC ONLY			
WO8-11	48X48	16.00						UNEVEN LANES	R11-4	60X30	12.50						ROAD CLOSED TO THRU TRAFFIC			
WO8-12	48X48	16.00						NO CENTER LINE	CONST-3A	60X48	20.00						FINE SIGN			
WO8-15	48X48	16.00						GROOVED PAVEMENT	CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)			
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)	MISCELLANEOUS SIGNS											
WO8-17L	48X48	16.00						SHOULDER DROP-OFF (SYMBOL LEFT)	CONST-5	48X36	12.00						POINT OF PRESENCE			
WO8-17R	48X48	16.00						SHOULDER DROP-OFF (SYMBOL RIGHT)	CONST-5	96X48	32.00						POINT OF PRESENCE			
WO8-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)	CONST-8	48X36	12.00						WORK ZONE NO PHONE ZONE			
W10-1	42RND.	9.62						RAILROAD CROSSING	SPECIAL	36X60	15.00	28	420				DETOUR ROUTE ASSEMBLY			
WO12-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)	SPECIAL	48X96	32.00	2	64				ROAD CLOSURE XX MILES AHEAD			
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)												
WO12-2x	24X18	3.00						LOW CLEARANCE (PLAQUE)												
WO12-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)												
WO12-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD												
WO12-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD												

STATE OF MISSOURI  
CRAIG ALAN SWITZER  
NUMBER  
PE-2003015045  
PROFESSIONAL ENGINEER  
  
02/18/2025 11:25:28 AM  
CRAIG ALAN SWITZER - CIVIL  
MO-PE-2003015045

DATE PREPARED  
2/13/2025

ROUTE  
M

STATE  
MO

DISTRICT  
SW

SHEET NO.  
3

COUNTY  
JASPER

JOB NO.  
JSROO74

CONTRACT ID.


PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

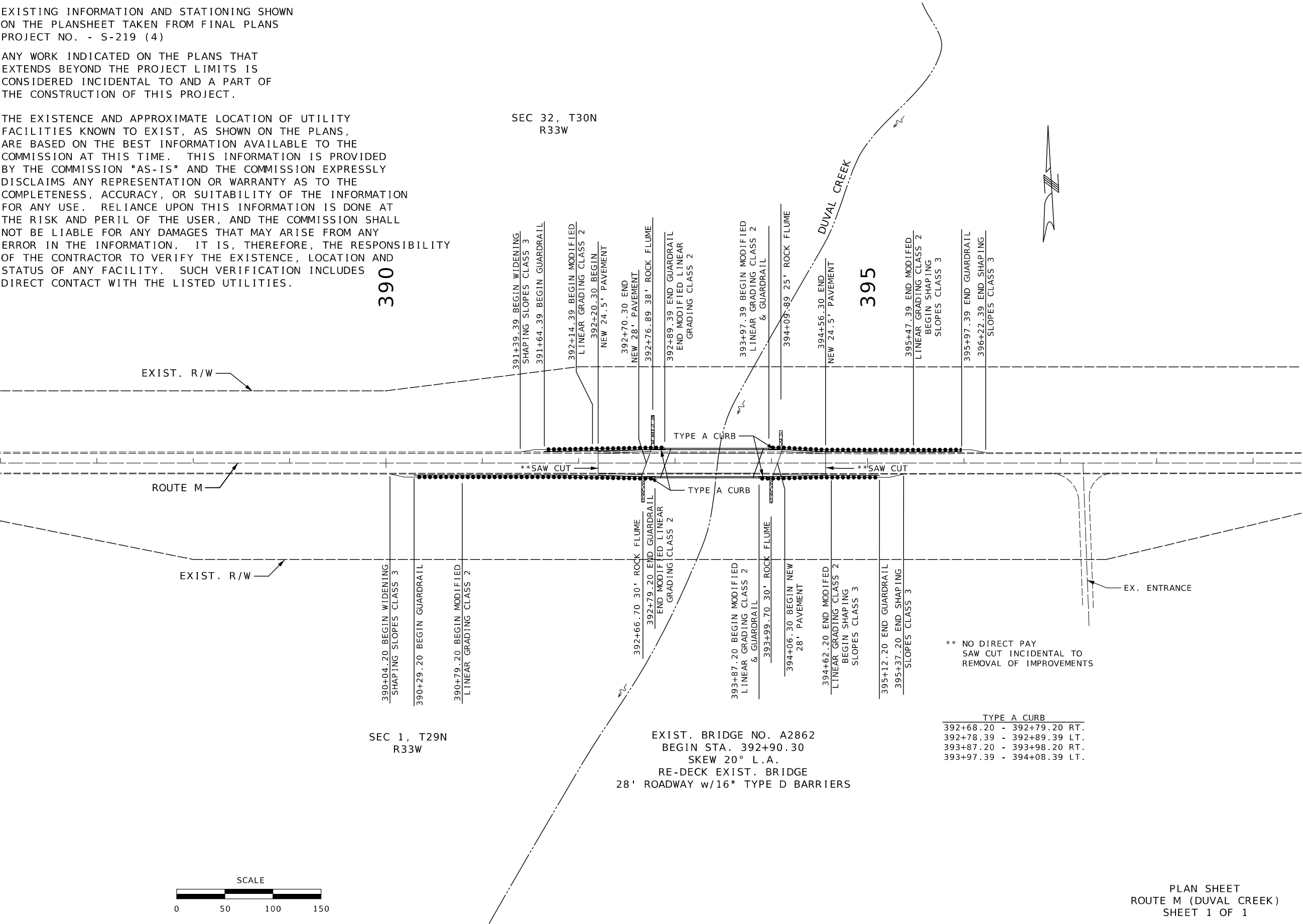


105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

EXISTING INFORMATION AND STATIONING SHOWN  
ON THE PLANSHEET TAKEN FROM FINAL PLANS  
PROJECT NO. - S-219 (4)

ANY WORK INDICATED ON THE PLANS THAT  
EXTENDS BEYOND THE PROJECT LIMITS IS  
CONSIDERED INCIDENTAL TO AND A PART OF  
THE CONSTRUCTION OF THIS PROJECT.

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.



STATE OF MISSOURI  
CRAIG ALAN SWITZER  
NUMBER  
PE-2003015045  
PROFESSIONAL ENGINEER  
02/18/2025 11:25:29 AM  
CRAIG ALAN SWITZER - CIVIL  
MO-PE-2003015045

DATE PREPARED  
2/13/2025

ROUTE  
M

STATE  
MO

DISTRICT  
SW

SHEET NO.  
4

COUNTY  
JASPER

JOB NO.  
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CONTRACT ID.

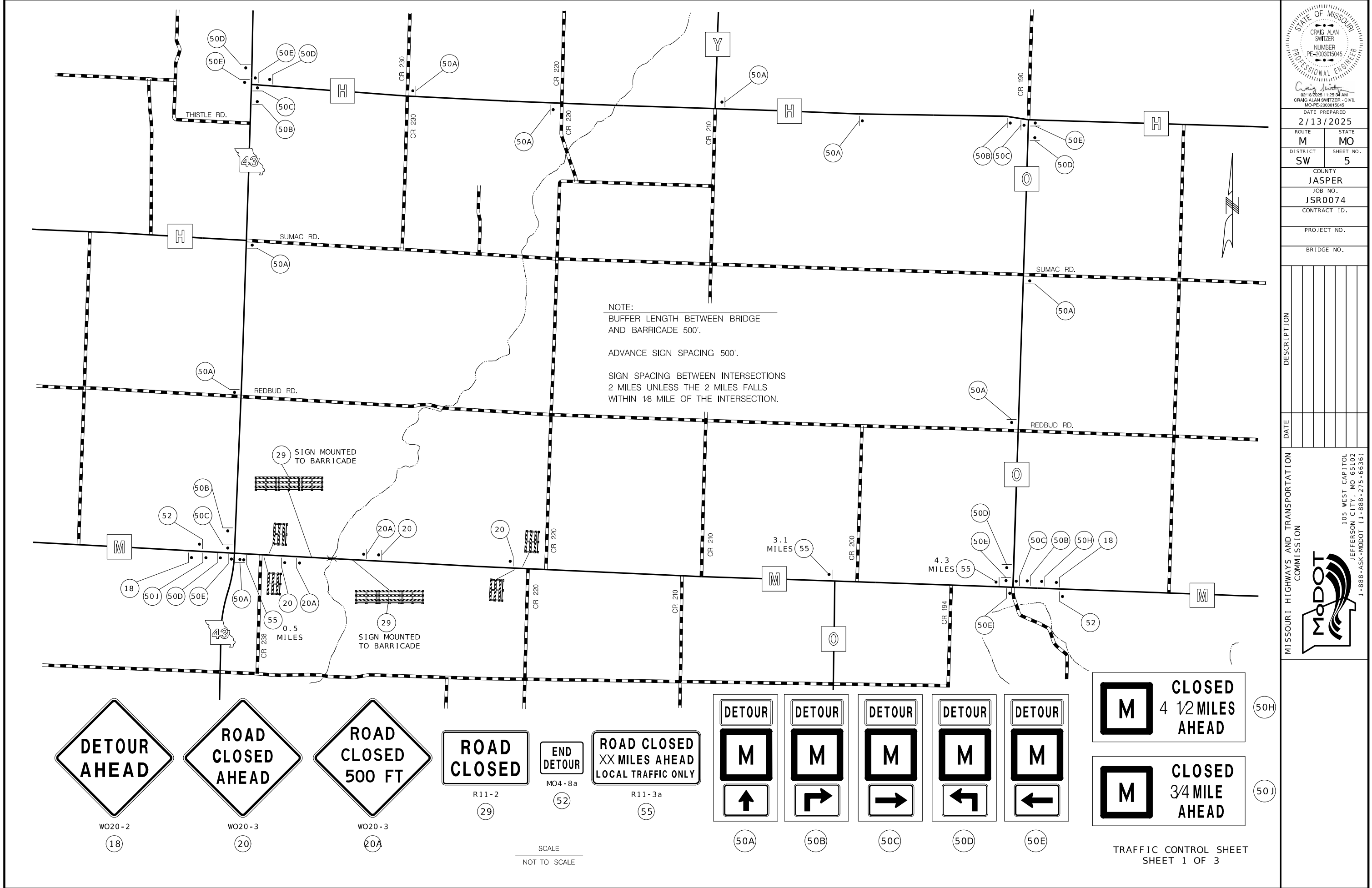
PROJECT NO.

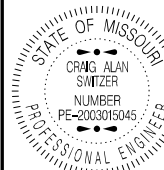
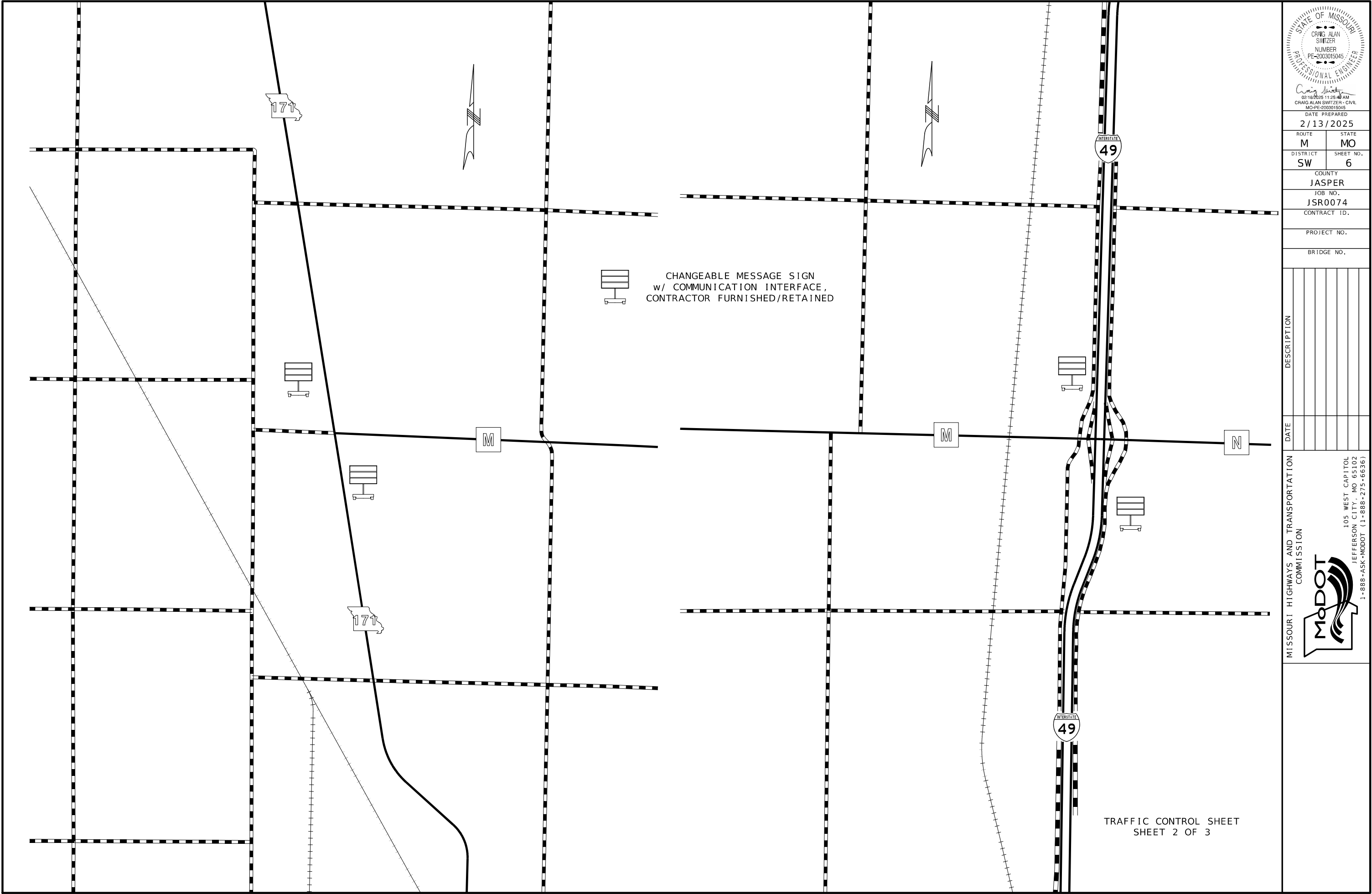
BRIDGE NO.

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MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

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





DATE PREPARED  
2/13/2025

ROUTE  
M

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SHEET NO.  
6

COUNTY  
JASPER

JOB NO.  
JSR0074

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

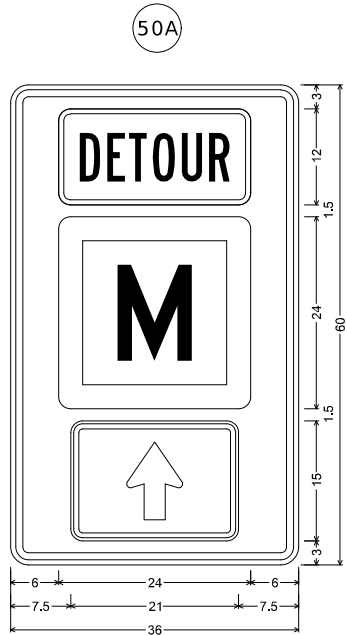
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION



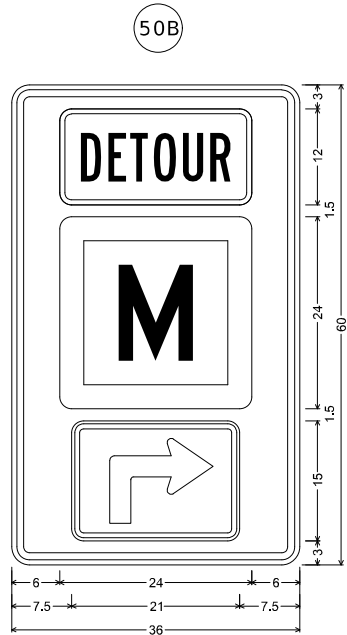
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

TRAFFIC CONTROL SHEET  
SHEET 2 OF 3



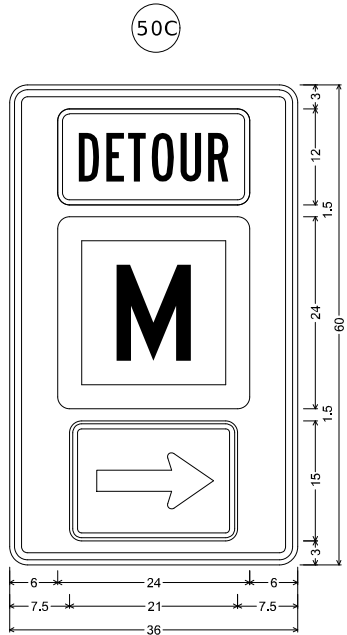
MO4-12 SHF-FLAT SHEET FLUORESCENT;  
2.250" Radius, 0.875" Border, 0.625" Indent, Black on, Orange;  
Table of letter and object lefts

	6,000
	6,000
	7,500



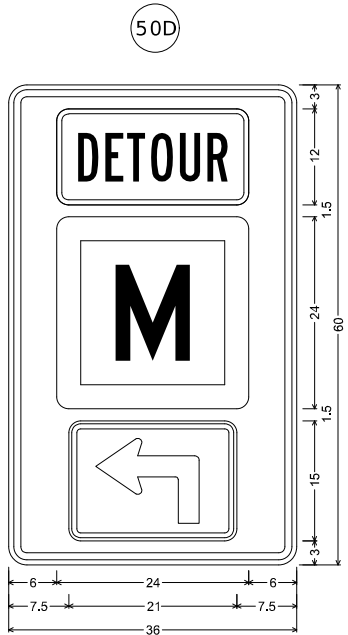
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Table of letter and object lefts

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	6,000
	7,500



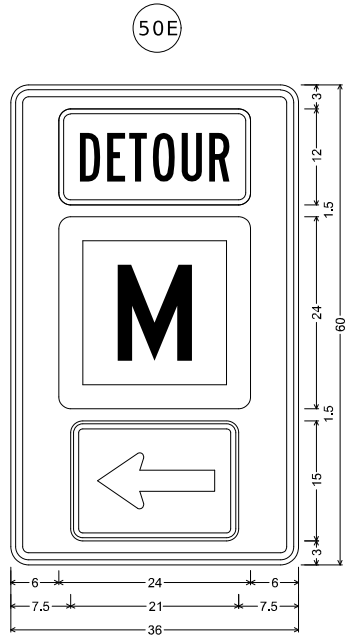
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	7,500



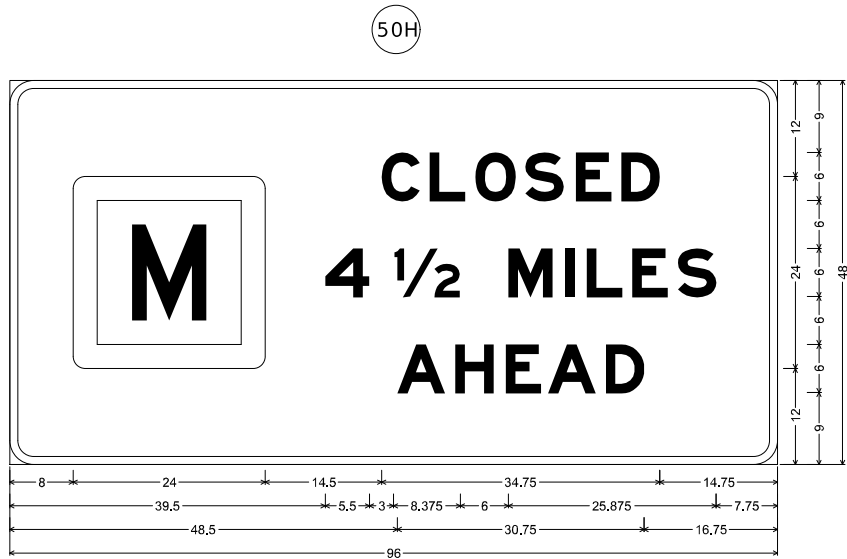
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	7,500



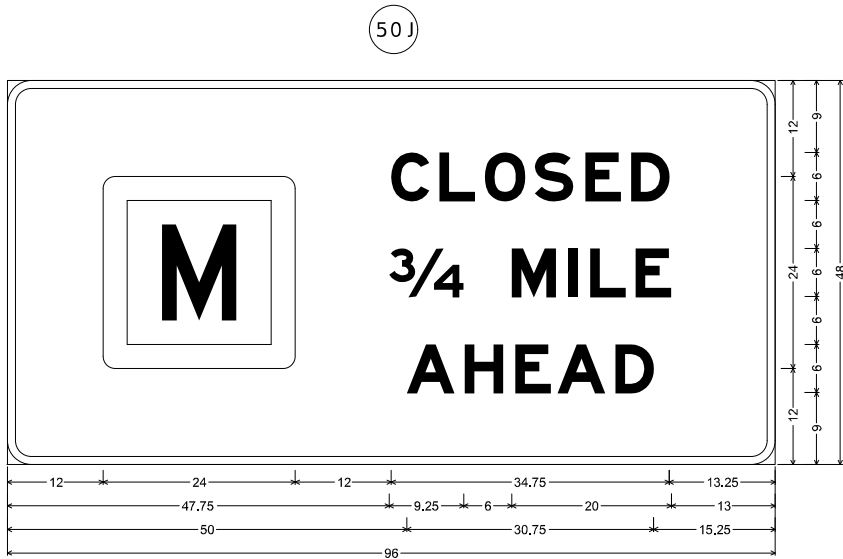
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Table of letter and object lefts

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	6,000
	7,500



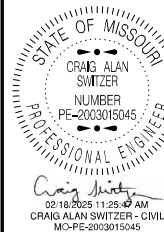
MO4-13 SHF-FLAT SHEET FLUORESCENT;  
3.000" Radius, 1.000" Border, Black on, Orange;  
"CLOSED", E Mod; "4 1/2 MILES", E Mod; "AHEAD", E Mod;  
Table of letter and object lefts

	C	L	O	S	E	D
	46,500	52,500	58,250	64,500	70,750	76,500
4	39,500	48,000	62,375	69,375	72,125	77,875
A	48,500	55,625	62,000	67,250	74,500	



MO4-13 SHF-FLAT SHEET FLUORESCENT;  
3.000" Radius, 1.000" Border, Black on, Orange;  
"CLOSED", E Mod; "3/4 MILE", E Mod; "AHEAD", E Mod;  
Table of letter and object lefts

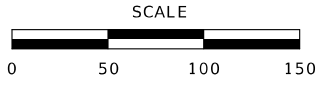
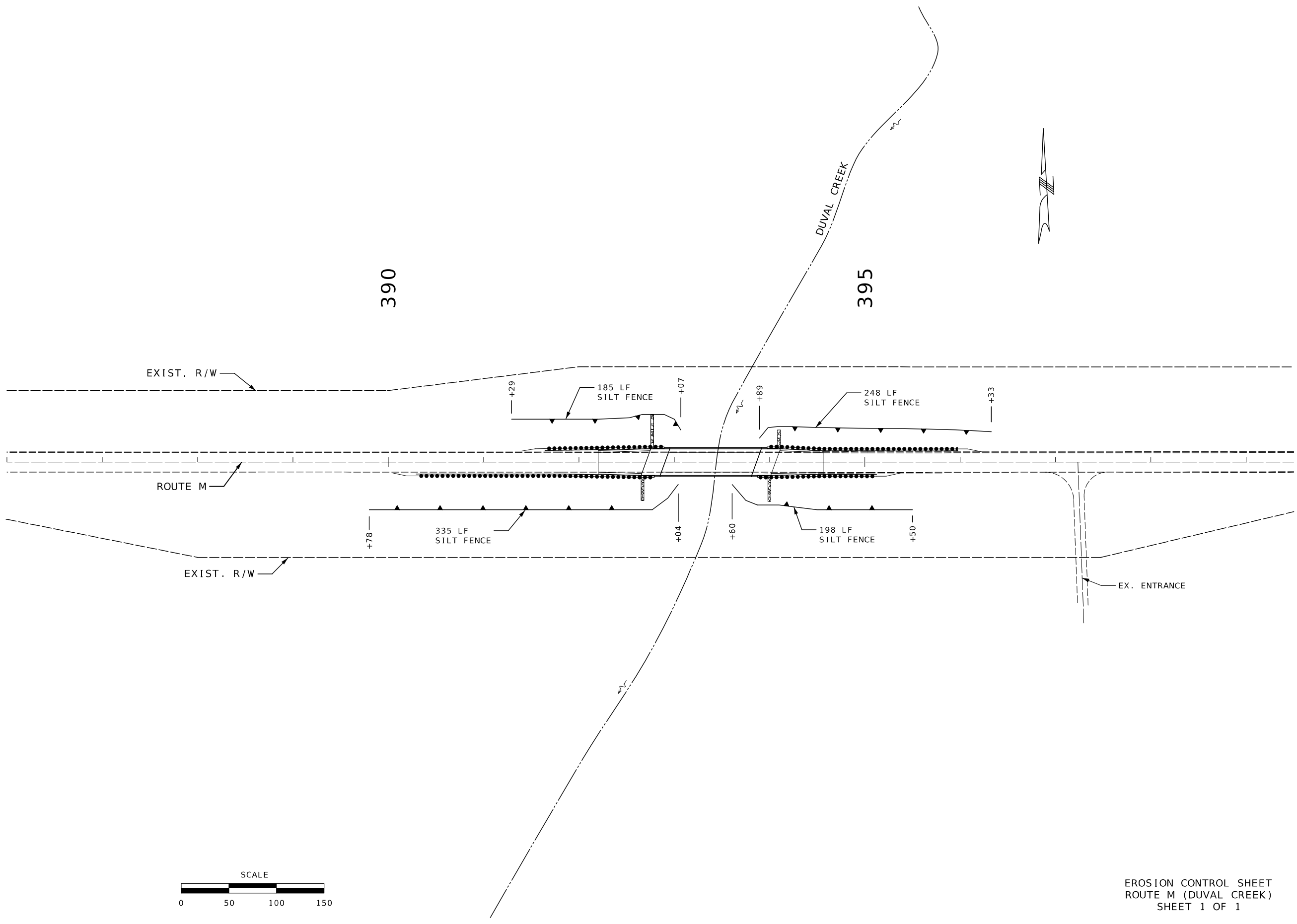
	C	L	O	S	E	D
	48,000	54,000	59,750	66,000	72,250	78,000
3/4	47,750	63,000	70,125	72,875	78,500	
A	50,000	57,125	63,500	68,750	76,000	



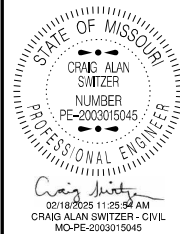
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2/13/2025  
ROUTE  
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MO  
SHEET NO.  
7  
COUNTY  
JASPER  
JOB NO.  
JSR0074  
CONTRACT ID.  
PROJECT NO.  
BRIDGE NO.

DATE	DESCRIPTION





EROSION CONTROL SHEET  
ROUTE M (DUVAL CREEK)  
SHEET 1 OF 1



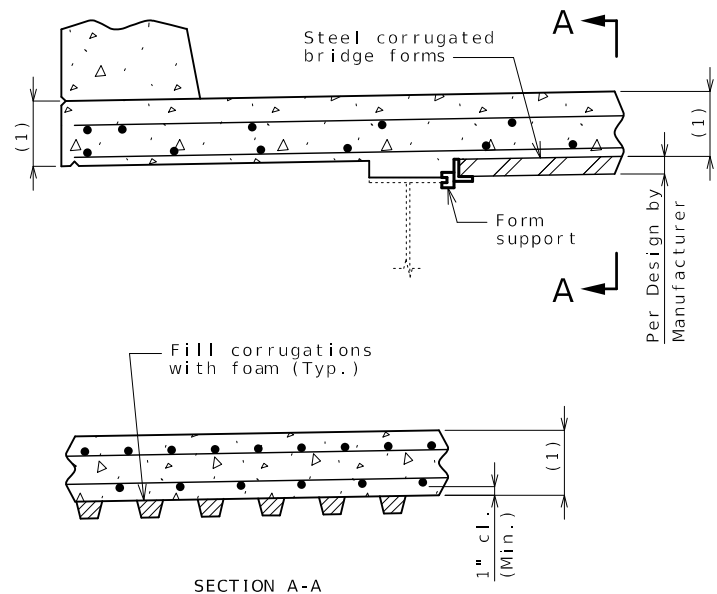
DATE PREPARED 2/13/2025	
ROUTE M	STATE MO
DISTRICT SW	SHEET NO. 8
COUNTY JASPER	
JOB NO. JSR0074	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

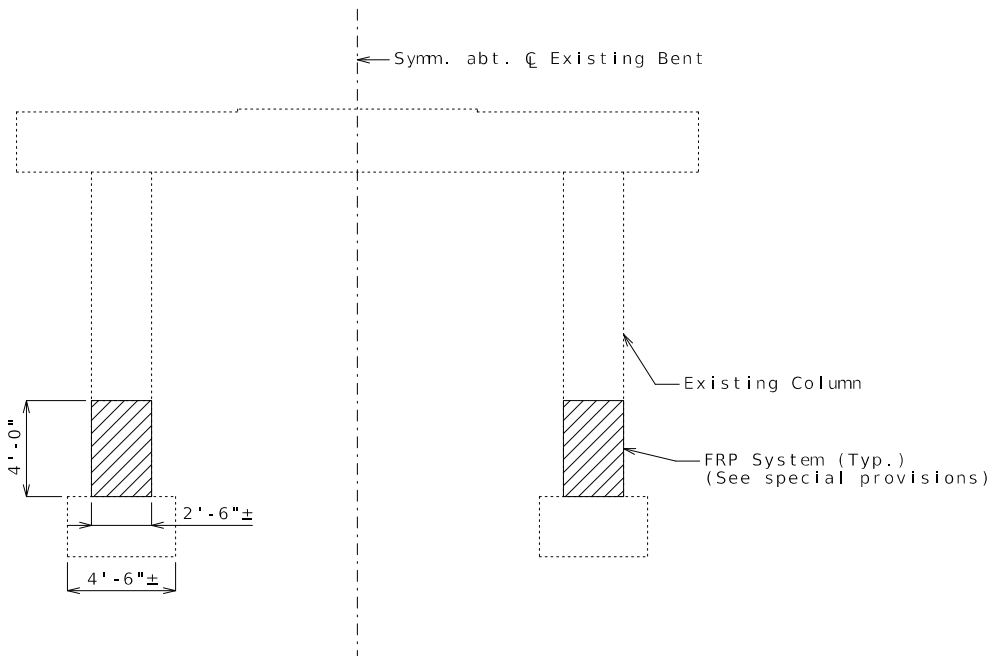
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

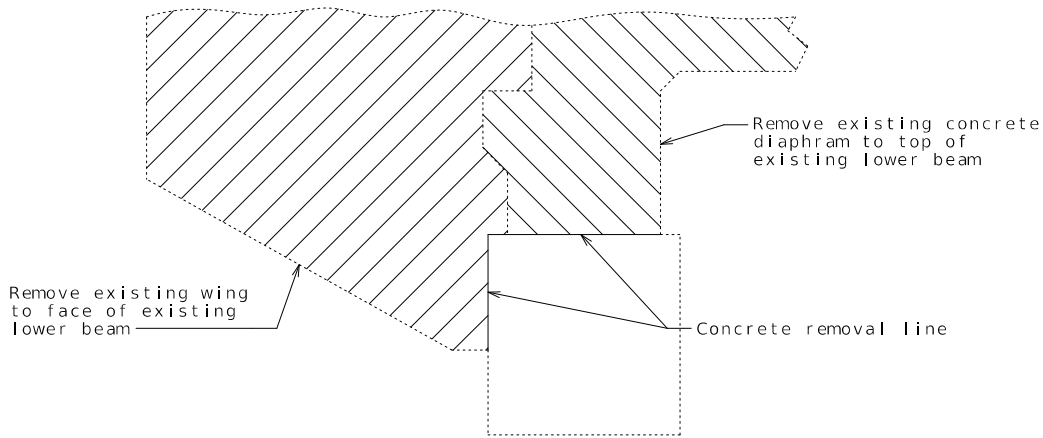




OPTIONAL STAY-IN-PLACE FORM DETAILS



ELEVATION SHOWING FRP WRAP AT INT. BENTS NO. 2 & 3



ELEVATION OF END BENTS SHOWING CONCRETE REMOVAL

The cost of concrete removal as shown will be considered completely covered by the contract unit price for Removal of Existing Bridge Deck.

### 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:

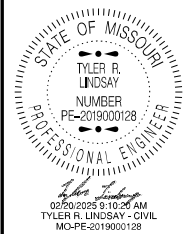
The contractor shall provide bracing necessary for lateral and torsional stability of the beams during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not weld on or drill holes in the beams. The cost for furnishing, installing, 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.

#### Haunching:

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

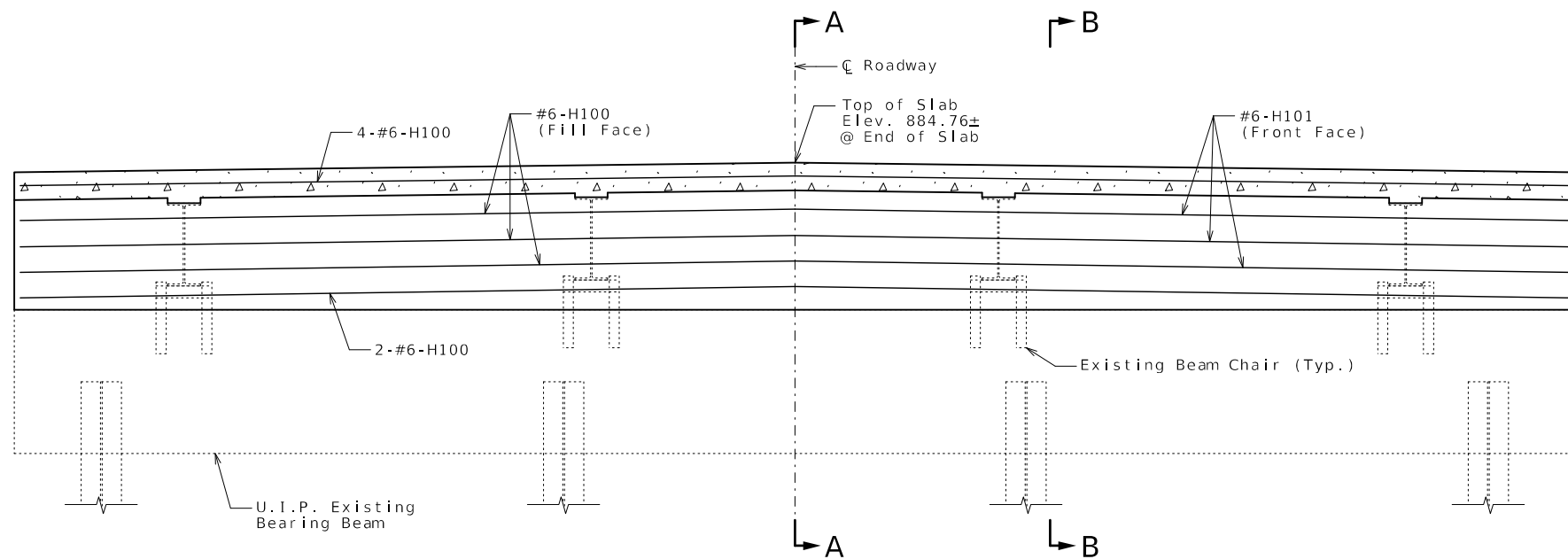


DATE PREPARED 2/20/2025	
ROUTE M	STATE MO
DISTRICT BR	SHEET NO. 2
COUNTY JASPER	
JOB NO. JSR0074	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A28621	

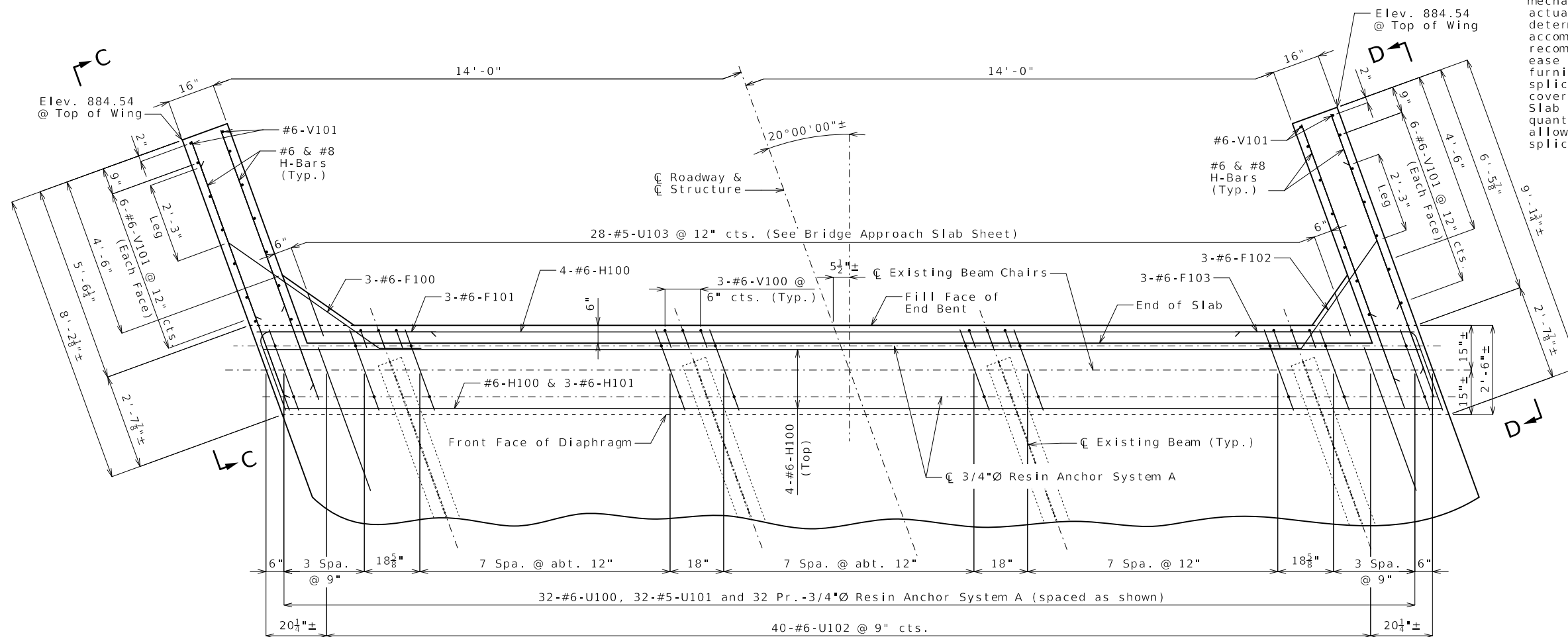
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



SECTION NEAR END BENT



PART PLAN  
(Resin Anchor System B not shown for clarity)

DETAILS OF END BENTS NO. 1 & 4

Notes:

Work this sheet with Sheet No. 4.

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

For reinforcement of barrier, see Sheet No. 8.

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 one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce a dry film thickness 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 in concrete will be considered completely covered by the contract unit price for Slab on Steel.

The H101 bars are segmented for ease of placement through beam web holes. The total bar length for H101 bars shown in the Bill of Reinforcing Steel allows for one lap splice with a length of 3'-10". Actual bar segment lengths to be determined by contractor for ease of installing bars. The contractor may use a mechanical bar splice in lieu of a lap splice. When a mechanical bar splice is used, the actual bar segment length will be determined by the contractor to accommodate manufacturer's recommendations for installation and ease of construction. The cost of furnishing and installing the bar splices will be considered completely covered by the contract unit price for Slab on Steel. No adjustment of the quantity of reinforcing steel will be allowed for the use of mechanical bar splices.

DATE PREPARED  
**2/20/2025**

ROUTE <b>M</b>	STATE <b>MO</b>
DISTRICT <b>BR</b>	SHEET NO. <b>3</b>

COUNTY  
**JASPER**

JOB NO.  
**JSR0074**

CONTRACT ID.

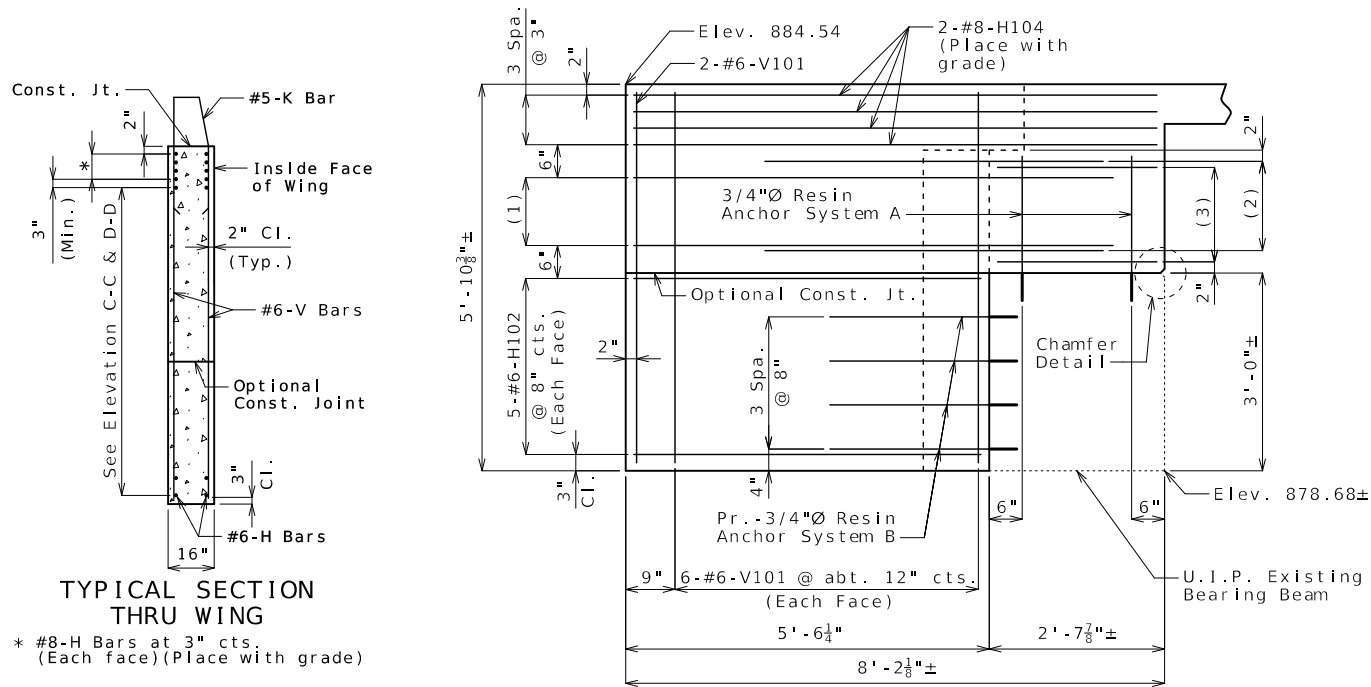
PROJECT NO.

BRIDGE NO.  
**A28621**

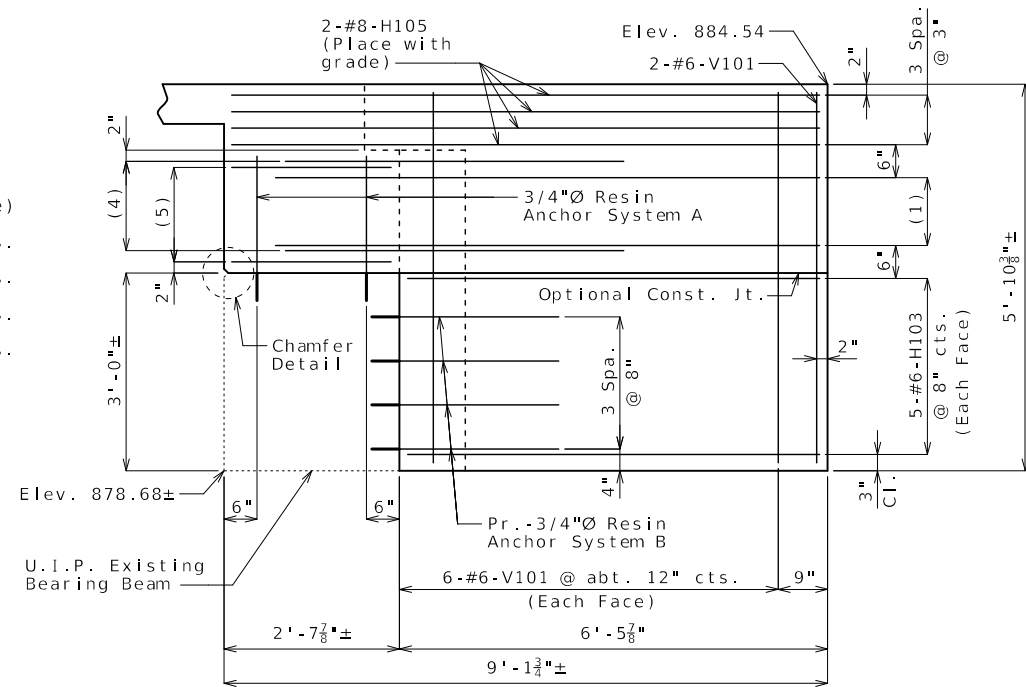
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

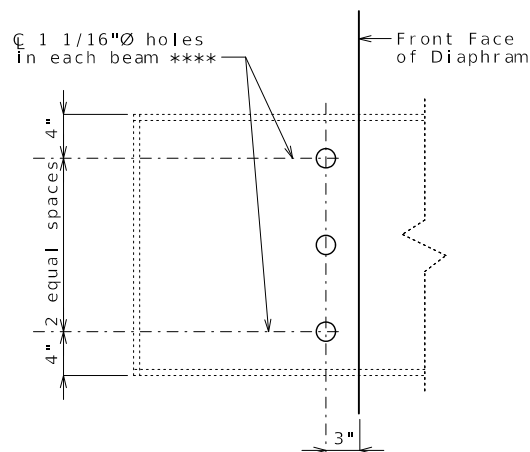
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)



ELEVATION C-C

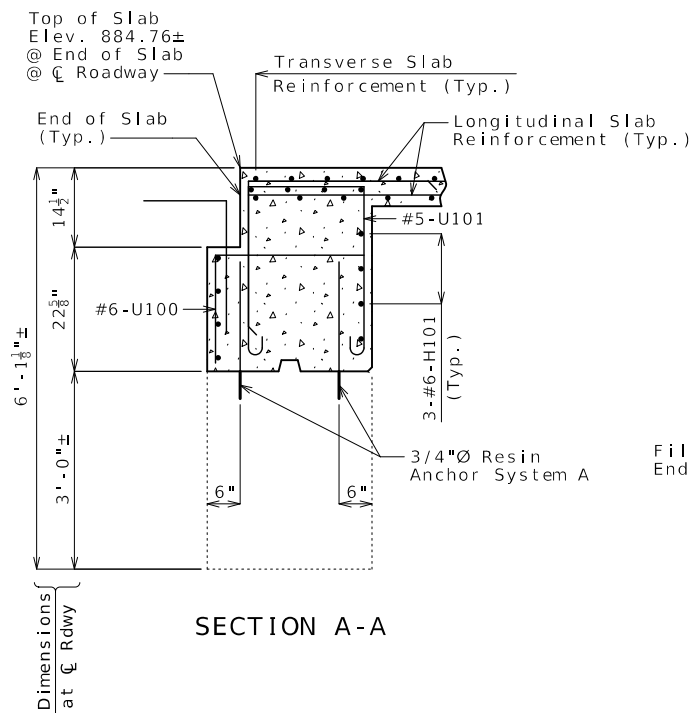


ELEVATION D-D

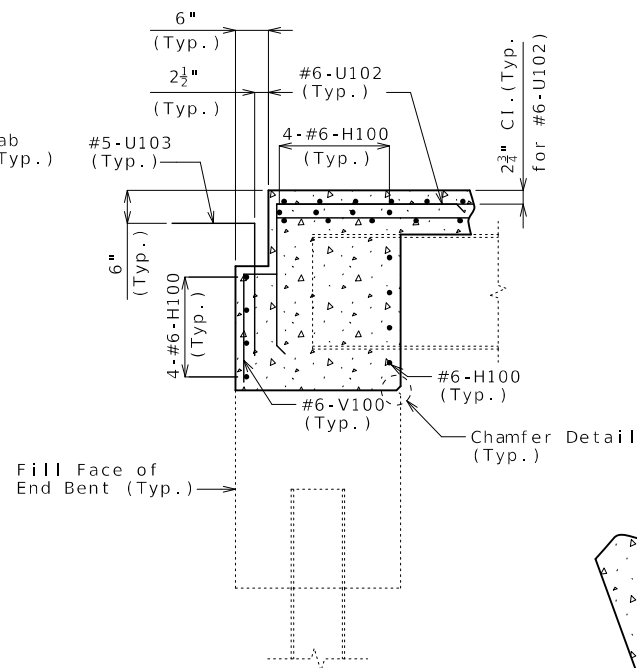


DETAIL OF WEB HOLES AT END BENTS

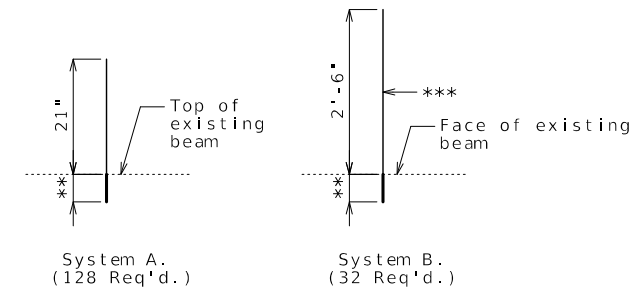
\*\*\*\* Cost of field drilling holes in existing wide flange beam webs will be considered completely covered by the contract unit price for Slab on Steel.



SECTION A-A

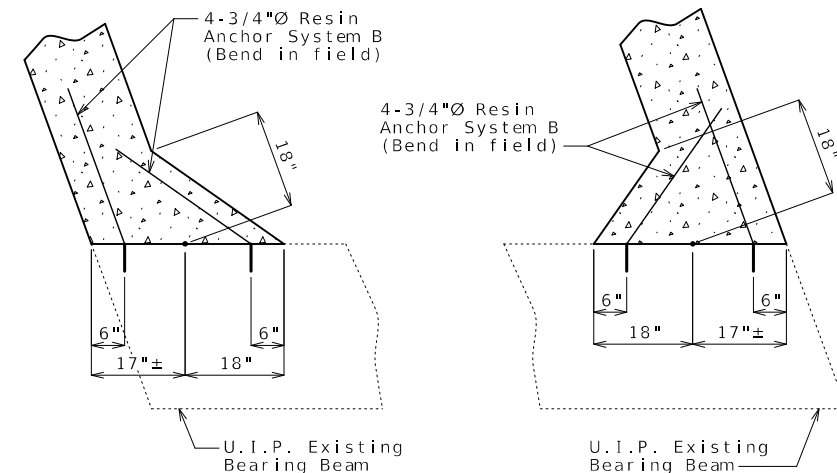


SECTION B-B



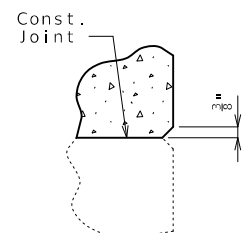
\*\* Manufacturer's recommended embedment length (5" min.)  
\*\*\* Bend in field to maintain 2" CI. min.

DETAILS OF RESIN ANCHOR SYSTEMS



\*\* Manufacturer's recommended embedment length (5" min.)

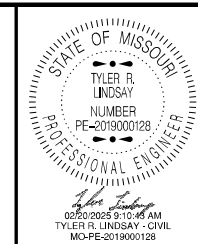
PART SECTIONS SHOWING RESIN ANCHORS IN WINGS



CHAMFER DETAIL

Note:  
Work this sheet with Sheet No. 3.

DETAILS OF END BENTS NO. 1 & 4



DATE PREPARED  
2/20/2025  
ROUTE M STATE MO  
DISTRICT BR SHEET NO. 4

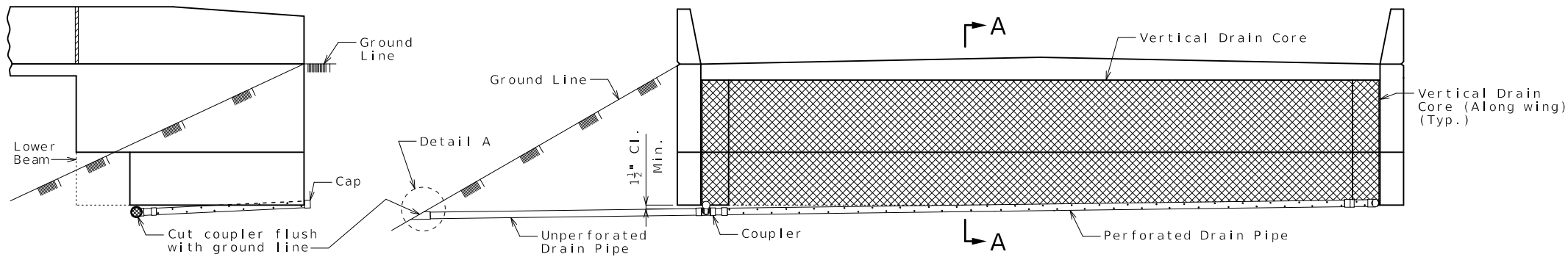
COUNTY JASPER  
JOB NO. JSR0074  
CONTRACT ID.

PROJECT NO.

BRIDGE NO. A28621

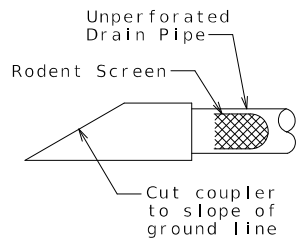
DESCRIPTION	DATE

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

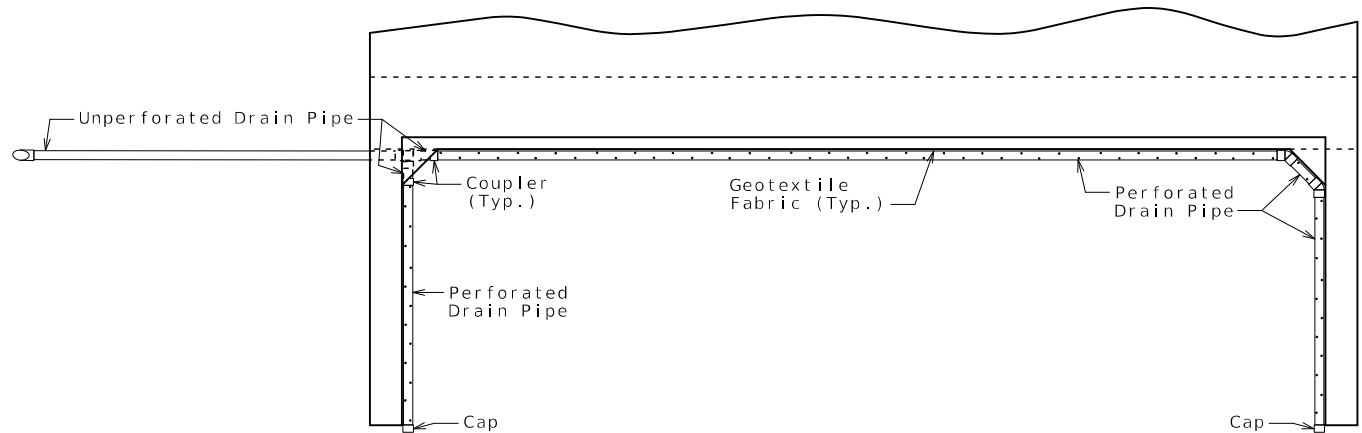


ELEVATION OF WING

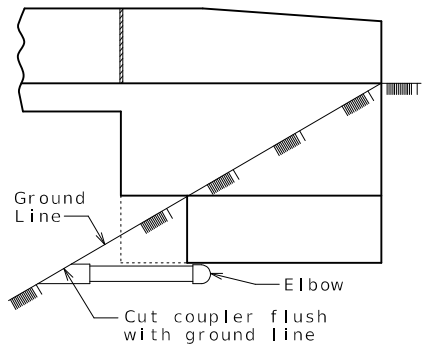
ELEVATION OF END BENT



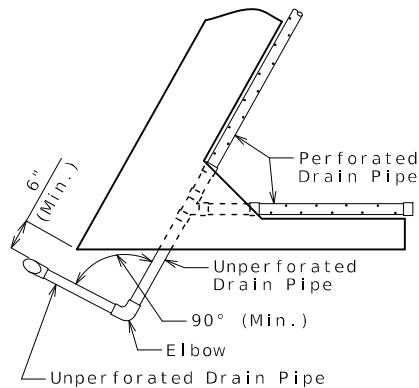
DETAIL A



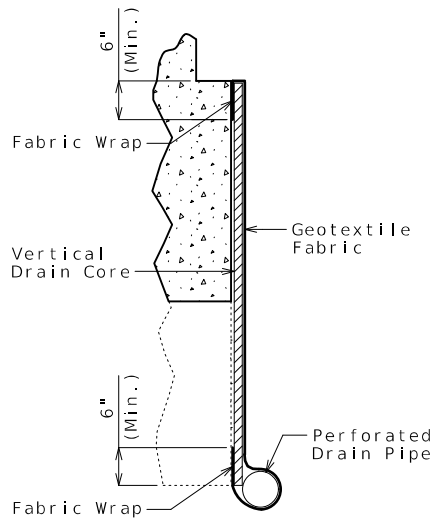
PLAN OF END BENT



ELEVATION OF WING



PART PLAN



PART SECTION A-A  
(Section thru wing similar)

General Notes:

All drain pipe shall be sloped 1 to 2 percent.

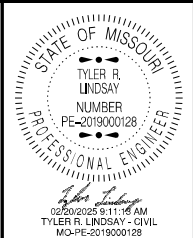
Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.

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

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

VERTICAL DRAIN AT END BENTS

(Squared end bent shown, skewed end bent similar)



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ROUTE M STATE MO  
DISTRICT BR SHEET NO. 5

COUNTY JASPER  
JOB NO. JSR0074  
CONTRACT ID.

PROJECT NO.

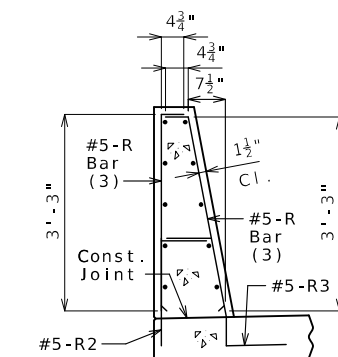
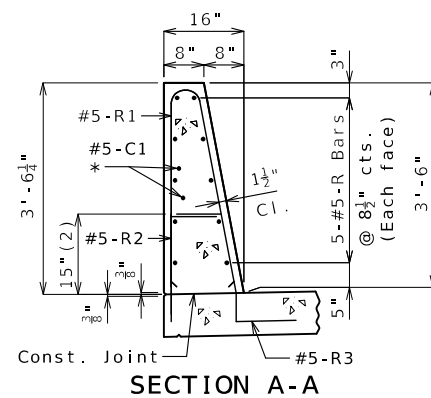
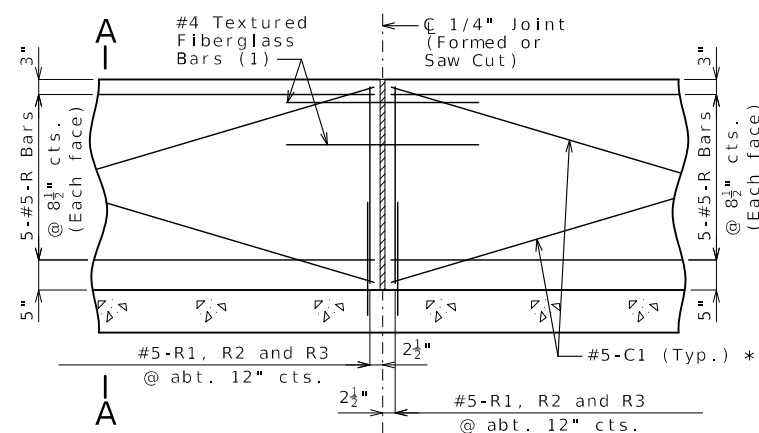
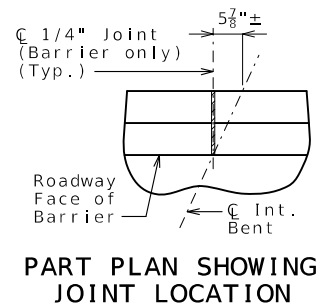
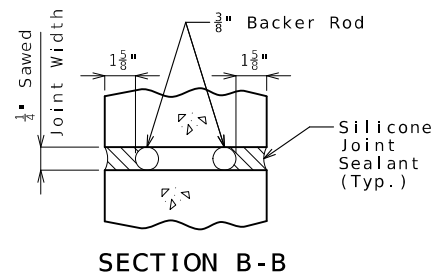
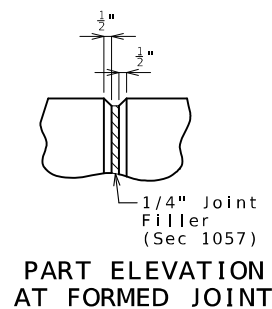
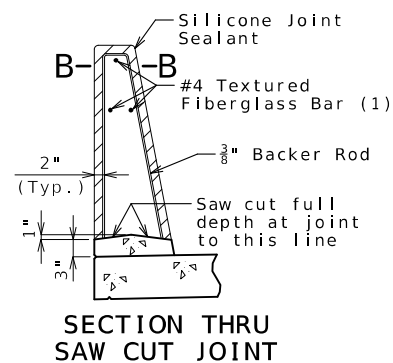
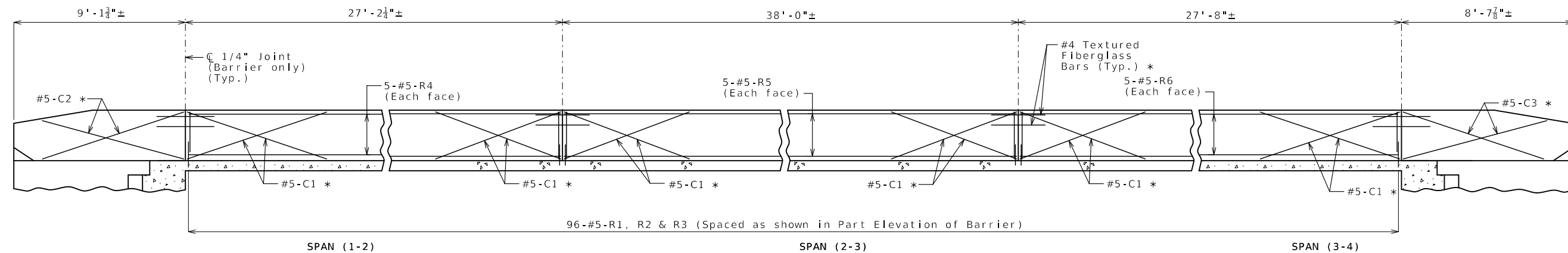
BRIDGE NO.  
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DESCRIPTION	DATE

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







(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.)

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

(2) To top of bar

General Notes:

\* Slip-formed option only.

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

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

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

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

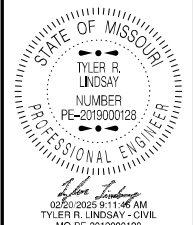
Concrete in barrier shall be Class B-1.

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

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



DATE PREPARED

2/20/2025

ROUTE	STATE
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DISTRICT SHEET  
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JOB NO

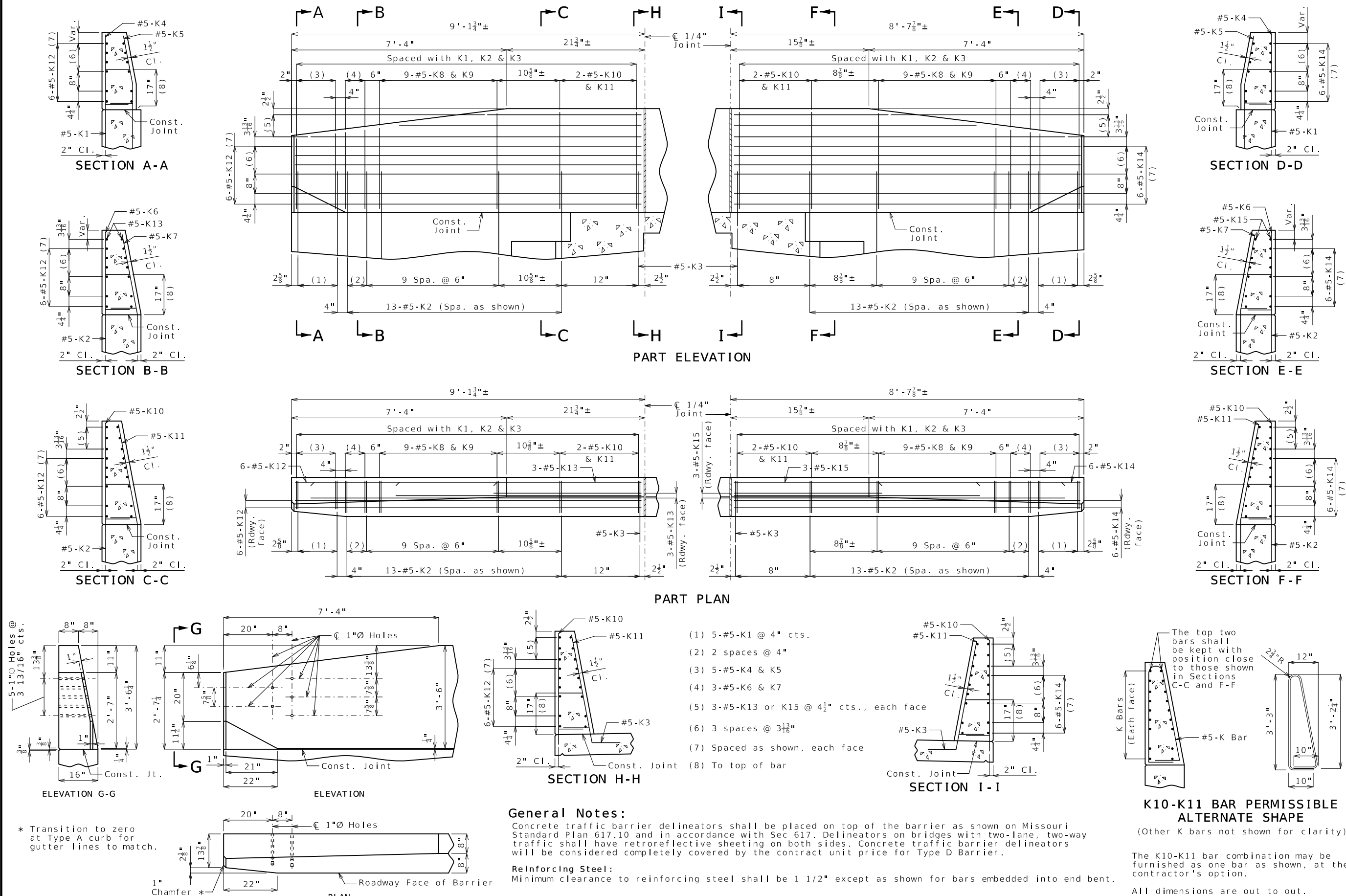
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CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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COMMISSION



STATE OF MISSOURI

TYLER R. LINDSAY

NUMBER

PE-2019000128

PROFESSIONAL ENGINEER

02/20/2025 5:12:06 AM

TYLER R. LINDSAY - CIVIL

MO-PE-2019000128

DATE PREPARED

2/20/2025

ROUTE

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COUNTY

JASPER

JOB NO.

JSR0074

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A28621

DESCRIPTION

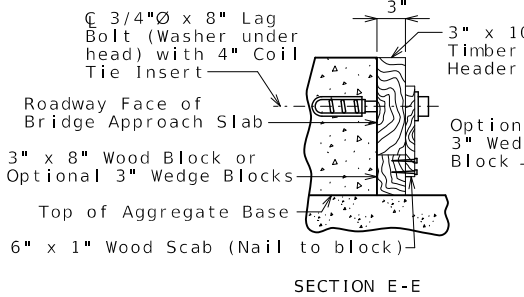
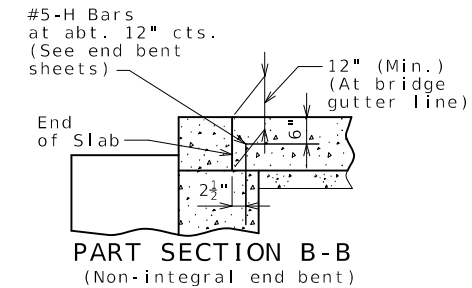
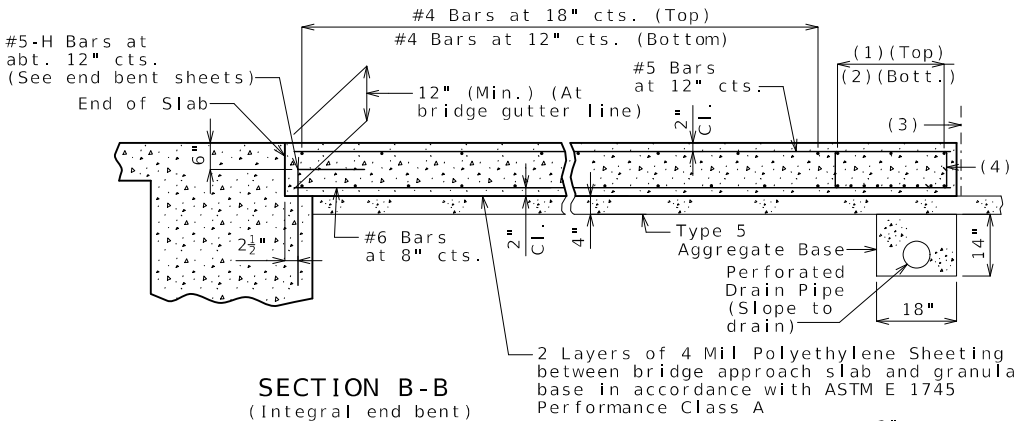
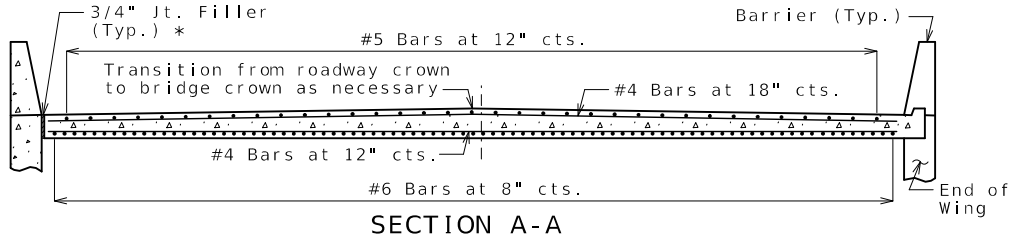
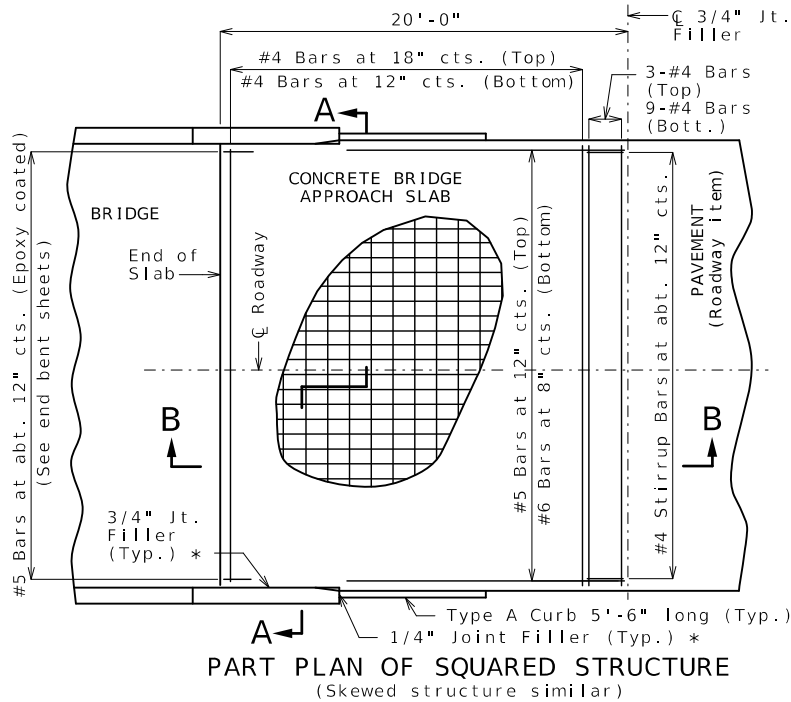
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

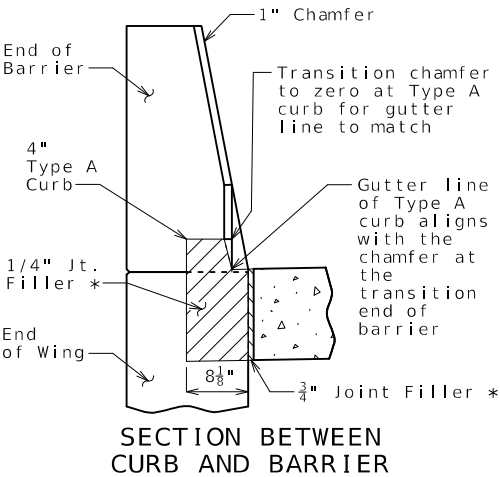
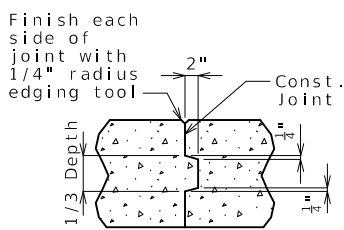
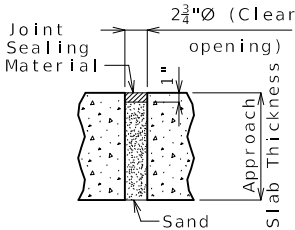
105 WEST CAPITOL

JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)



DETAILS OF TIMBER HEADER  
Remove timber header when concrete pavement is placed.  
OPTIONAL CONCRETE SLAB



**Notes For Concrete Slab Only:**  
All concrete for the bridge approach slab shall be in accordance with Sec 503 (f'c = 4,000 psi).  
The reinforcing steel in the bridge approach slab shall be epoxy coated Grade 60 with fy = 60,000 psi.  
Longitudinal construction joints in bridge approach slab shall be aligned with longitudinal construction joints in bridge slab.  
Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 23 inches for #4 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710.

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

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

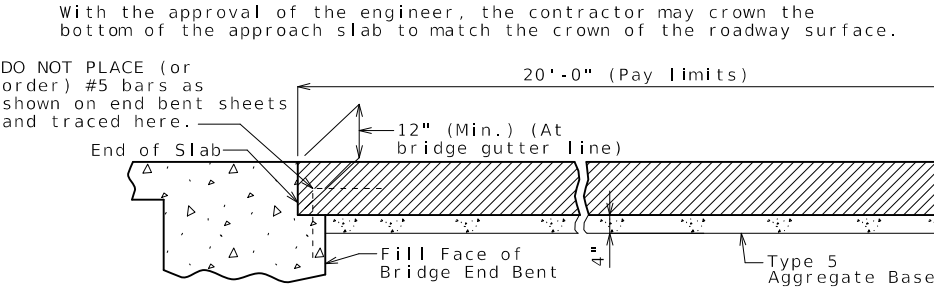
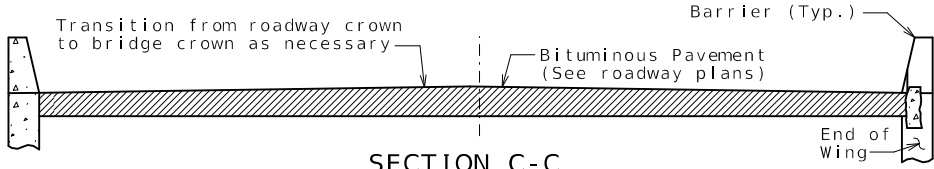
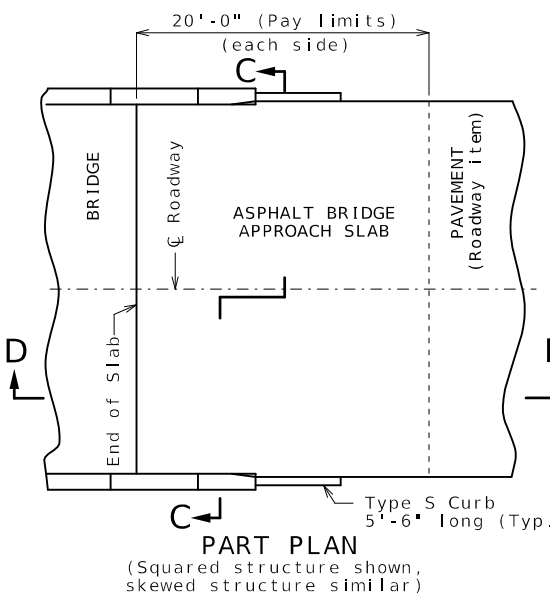
See Missouri Standard Plan 609.00 for details of Type A curb.

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

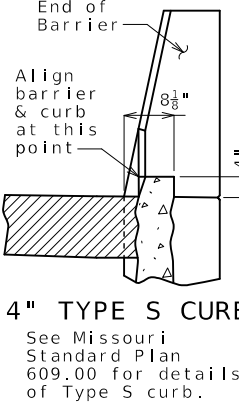
\* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

**General Notes:**  
Contractor shall have the option to construct either slab except as noted.  
The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.  
MoDOT Construction personnel will indicate the bridge approach slab used for this structure:  
☐ Concrete Bridge Approach Slab  
☐ Asphalt Bridge Approach Slab

**Notes For Asphalt Slab Only:**  
Payment for furnishing all materials, labor and excavation necessary to construct the asphalt bridge approach slab, including tack, curb, and Type 5 aggregate base within the pay limits shown, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor) per square yard.  
Application of tack is required between lifts per Sec 403.

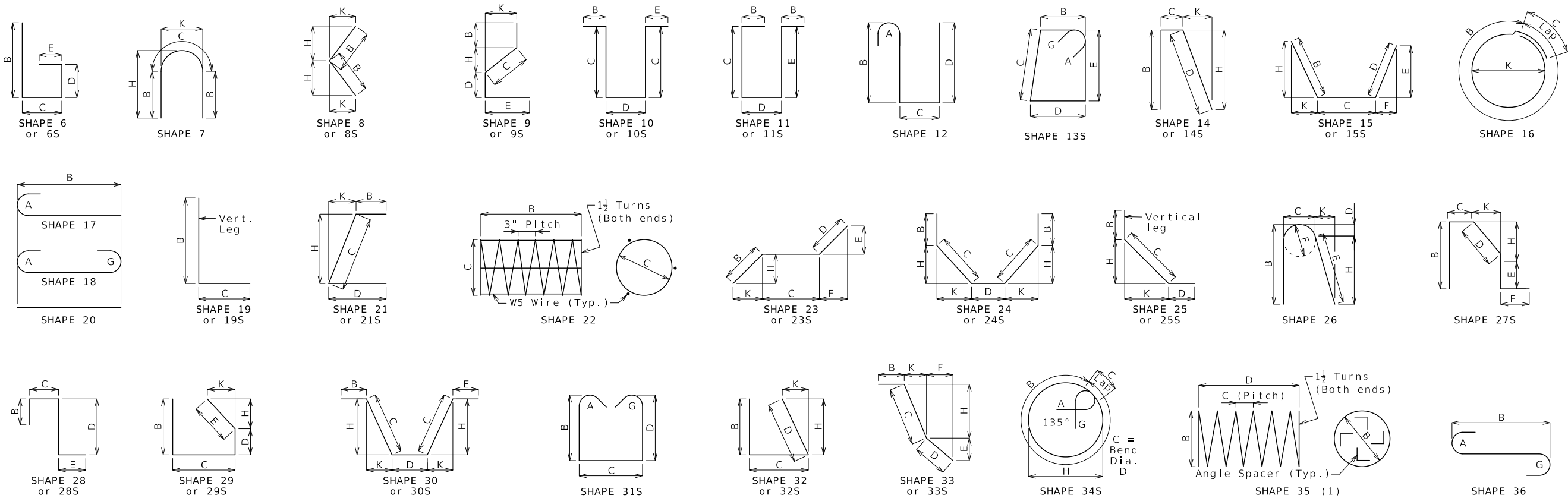


OPTIONAL ASPHALT SLAB (NOT ALLOWED WITH CONCRETE PAVEMENT)

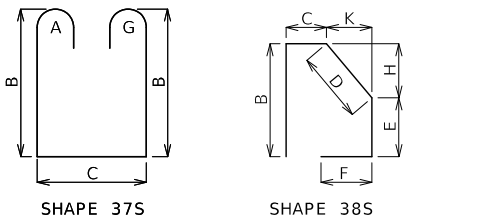


BRIDGE APPROACH SLAB (MINOR)  
Integral end bents shown, non-integral end bent similar.

STATE OF MISSOURI  
TYLER R. LINDSAY  
NUMBER  
PE-2019000128  
PROFESSIONAL ENGINEER  
02/20/2025 9:12:15 AM  
TYLER R. LINDSAY - CIVIL  
MO-PE-2019000128  
DATE PREPARED  
2/20/2025  
ROUTE M STATE MO  
DISTRICT BR SHEET NO. 9  
COUNTY JASPER  
JOB NO. JSR0074  
CONTRACT ID.  
PROJECT NO.  
BRIDGE NO. A28621  
DESCRIPTION  
DATE  
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION  
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)



Finished Bend Dimensions D and Hook Dimensions						
Standard Pin Bend Shapes						
Size	Case	D	A or G		J	
			90°	180°	180°	
#4	1	3"	8"	6"	4"	
#5	1	3 <sup>3</sup> / <sub>4</sub> "	10"	7"	5"	
#6	1	4 <sup>1</sup> / <sub>2</sub> "	12"	8 <sup>1</sup> / <sub>4</sub> "	6"	
#7	2	5 <sup>1</sup> / <sub>4</sub> "	14"	9 <sup>3</sup> / <sub>4</sub> "	7"	
	3	7"	15"	11 <sup>1</sup> / <sub>2</sub> "	8 <sup>3</sup> / <sub>4</sub> "	
#8	2	6"	16"	11"	8"	
	3	8"	17"	13 <sup>1</sup> / <sub>4</sub> "	10"	
#9	1	9 <sup>1</sup> / <sub>2</sub> "	19 <sup>1</sup> / <sub>2</sub> "	15 <sup>1</sup> / <sub>2</sub> "	11 <sup>3</sup> / <sub>4</sub> "	
#10	1	10 <sup>3</sup> / <sub>4</sub> "	22"	17 <sup>1</sup> / <sub>2</sub> "	13 <sup>1</sup> / <sub>4</sub> "	
#11	1	12"	24 <sup>1</sup> / <sub>2</sub> "	19 <sup>1</sup> / <sub>2</sub> "	14 <sup>7</sup> / <sub>8</sub> "	
#14	1	18 <sup>1</sup> / <sub>4</sub> "	31 <sup>1</sup> / <sub>4</sub> "	27 <sup>1</sup> / <sub>2</sub> "	21 <sup>5</sup> / <sub>8</sub> "	
#18	1	24"	41 <sup>1</sup> / <sub>2</sub> "	36 <sup>1</sup> / <sub>4</sub> "	28 <sup>1</sup> / <sub>2</sub> "	
Stirrup Pin Bend Shapes (S)						
Size	Case	D	A or G		H	J
			90°	135°	180°	135° 180°
#4	2	2"	4 <sup>1</sup> / <sub>2</sub> "	4 <sup>1</sup> / <sub>2</sub> "	5"	2 <sup>7</sup> / <sub>8</sub> " 3"
	3	3"	5"	5 <sup>1</sup> / <sub>4</sub> "	6"	3" 4"
#5	2	2 <sup>1</sup> / <sub>2</sub> "	5 <sup>3</sup> / <sub>4</sub> "	5 <sup>3</sup> / <sub>4</sub> "	5 <sup>3</sup> / <sub>4</sub> "	3 <sup>3</sup> / <sub>4</sub> " 3 <sup>3</sup> / <sub>4</sub> "
	3	3 <sup>3</sup> / <sub>4</sub> "	6 <sup>1</sup> / <sub>4</sub> "	6 <sup>1</sup> / <sub>2</sub> "	7"	3 <sup>5</sup> / <sub>8</sub> " 5"
#6	1	4 <sup>1</sup> / <sub>2</sub> "	12"	7 <sup>3</sup> / <sub>4</sub> "	8 <sup>1</sup> / <sub>4</sub> "	4 <sup>5</sup> / <sub>8</sub> " 6"
Applicable for all grades of steel. Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.						



BENDING DIAGRAMS

All dimensions are out to out. (1) Shall be a deformed or plain spiral bar or wire.

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

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

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

Reinforcing Steel Totals (Pounds)							
Size	Substructure		Superstructure			Entire Bridge	
	Plain	Epoxy	Slab	Barrier	Slip Form	Plain	Epoxy
W5	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	7,616	6,080	352	0	14,048
6	0	0	22,111	0	0	0	22,111
7	0	0	0	0	0	0	0
8	0	0	702	0	0	0	702
9	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0
By Type	0	0	30,429	6,080	352	0	36,861

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

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

STATE OF MISSOURI  
TYLER R. LINDSAY  
NUMBER  
PE-2019000128  
PROFESSIONAL ENGINEER  
02/20/2025 9:12:35 AM  
TYLER R. LINDSAY - CIVIL  
MO-PE-2019000128

DATE PREPARED  
2/20/2025

ROUTE  
M

DISTRICT  
BR

STATE  
MO

SHEET NO.  
10

COUNTY  
JASPER

JOB NO.  
JSR0074

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
A28621

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

Bill of Reinforcing Steel																							
No. Req.	Size/ Mark	Location	Codes			Dimensions								Nom. Length	Actual Length	Weight							
						B		C		D		E					F		H		K		
			C	SH	V	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	lb	
		Superstructure																					
		End Bent 1 & 4																					
6	6 F100	WING BRACE	E	15S		2	3.00	5	2.00	14.00		8.00		11.50		15.50		22.00	8	7	8	6	77
6	6 F101	DIAPHRAGM	E	21S				5	0.00	2	3.75			4	8.50	20.50			7	4	7	3	65
6	6 F102	WING BRACE	E	15S		14.00		3	8.25	2	3.00	22.00		15.50		11.50		8.00	7	1	7	0	63
6	6 F103	DIAPHRAGM	E	23S		2	4.00	5	0.00						2	2.25	9.50		7	4	7	1	64
18	6 H100	SLAB & DIAPHRAGM	E	20		32	4.00											32	4	32	4	874	
6	6 H101	DIAPHRAGM	E	20		36	3.00											36	3	36	3	327	
20	6 H102	WING	E	20		5	4.00											5	4	5	4	160	
20	6 H103	WING	E	20		5	9.00											5	9	5	9	173	
16	8 H104	WING	E	20		8	0.00											8	0	8	0	342	
16	8 H105	WING	E	20		8	5.00											8	5	8	5	360	
24	6 H106	WING	E	20		7	8.00											7	8	7	8	276	
64	6 U100	DIAPHRAGM	E	19S		19.50		2	4.75									4	0	3	10	368	
64	5 U101	DIAPHRAGM	E	37S		2	5.00	22.25										7	8	7	6	501	
80	6 U102	DIAPHRAGM	E	19S		2	6.00	4	3.00									6	9	6	7	791	
56	5 U103	DIAPHRAGM	E	19S		2	0.00	15.00										3	3	3	2	185	
24	6 V100	DIAPHRAGM	E	19S		19.50		6.00										2	2	2	0	72	
56	6 V101	WING	E	20		5	7.00											5	7	5	7	470	
		Slab																					
132	5 S1	SLAB	E	20		50	4.00											50	4	50	4	6,930	
96	6 S2	SLAB	E	20		24	0.00											24	0	24	0	3,461	
289	6 S3	SLAB	E	20		30	5.00											30	5	30	5	13,203	
38	6 S4	SLAB	E	20	2	29	1.00											29	1	29	1		
		Incr. = 17.875"				2	3.00											2	3	2	3	894	
32	6 S5	SLAB	E	20	2	29	10.00											29	10	29	10		
		Incr. = 22.000"				2	4.00											2	4	2	4	773	
		Barrier																					
		Type D																					
20	5 K1	BARRIER	E	27S		3	8.00	9.25	5.25	3	2.75				5.25	1.00		8	1	7	11	165	
52	5 K2	BARRIER	E	27S		3	8.00	9.25	14.50	2	5.75				14.25	2.75		8	2	7	11	429	
4	5 K3	BARRIER	E	27S		21.00		9.25	14.50	6.25		12.00			14.25	2.75		5	3	4	11	21	
20	5 K4	BARRIER	E	19S	4	2	4.25	10.00										3	2	3	1		
		Incr. = 0.500"				2	6.25	10.00										3	4	3	3	66	
20	5 K5	BARRIER	E	38S	4				18.50	9.50		8.25		18.00	4.00			3	0	2	11		
		Incr. = 0.500"							20.50	9.50		8.25		20.00	4.50			3	2	3	1	63	
12	5 K6	BARRIER	E	19S		2	6.75	10.00										3	5	3	3	41	
12	5 K7	BARRIER	E	21S				2	6.75	10.00				2	6.00	6.25		3	5	3	4	42	
36	5 K8	BARRIER	E	19S	4	2	8.50	10.00										3	7	3	5		
		Incr. = 0.750"				3	2.50	10.00										4	1	3	11	138	
36	5 K9	BARRIER	E	21S	4			2	8.50	10.00				2	7.75	6.75		3	7	3	6		
		Incr. = 0.750"						3	2.50	10.00				3	1.75	7.75		4	1	4	0	141	
8	5 K10	BARRIER	E	19S		3	3.00	10.00										4	1	4		33	
8	5 K11	BARRIER	E	21S				3	3.00	10.00				3	2.25	7.75		4	1	4	0	33	
24	5 K12	BARRIER	E	20		8	10.00											8	10	8	10	221	
12	5 K13	BARRIER	E	20	4	8	1.00											8	1	8	1		
		Incr. = 36.000"				2	1.00											2	1	2	1	64	
24	5 K14	BARRIER	E	20		8	4.00											8	4	8	4	209	
12	5 K15	BARRIER	E	20	4	7	7.00											7	7	7	7		
		Incr. = 36.000"				19.00												1	7	1	7	57	
192	5 R1	BARRIER	E	26		3	3.00	5.50	2.25	3	1.25	5.50	3	0.75	6.75			7	0	6	9	1,352	
192	5 R2	BARRIER	E	19S		19.00		9.50										2	5	2	3	451	
192	5 R3	BARRIER	E	27S				9.50	15.25	3.50		12.00		15.00	3.00			3	4	3	2	634	
20	5 R4	BARRIER	E	20		26	11.00											26	11	26	11	561	
20	5 R5	BARRIER	E	20		37	9.00											37	9	37	9	787	
20	5 R6	BARRIER	E	20		27	5.00											27	5	27	5	572	
		Slip-Form																					
24	5 C1	SLIP FORM	E	20		12	0.00											12		12		300	
4	5 C2	SLIP FORM	E	20		6	9.00											6	9	6	9	28	

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.

Detailed Jan. 2025  
Checked Jan. 2025

All bars shall be Grade 60.

# BILL OF REINFORCING STEEL

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

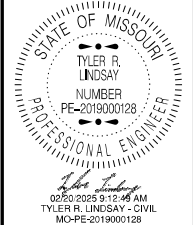
Sheet No. 11 of 11

[illegible]

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

SH = Required shape, see bending diagrams.

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



DATE PREPARED	
2/20/2025	
ROUTE	STATE
M	MO
DISTRICT	SHEET NO.
BR	11
COUNTY	
JASPER	
JOB NO.	
JSR0074	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO. A28621

[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

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