MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED STATE HIGHWAY

ANDREW COUNTY

DESIGN DESIGNATION

A.A.D.T. - 2025(CONSTRUCTION) = 349
A.A.D.T. - 2045(DESIGN) = 435
D.H.V. = 10.0%
T = 19.0%
V = 55 M.P.H.

FUNCTIONAL CLASSIFICATION - MAJOR COLLECTOR

NORMAL RIGHT OF WAY

CONVENTIONAL SYMBOLS

(USED IN PLANS)

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

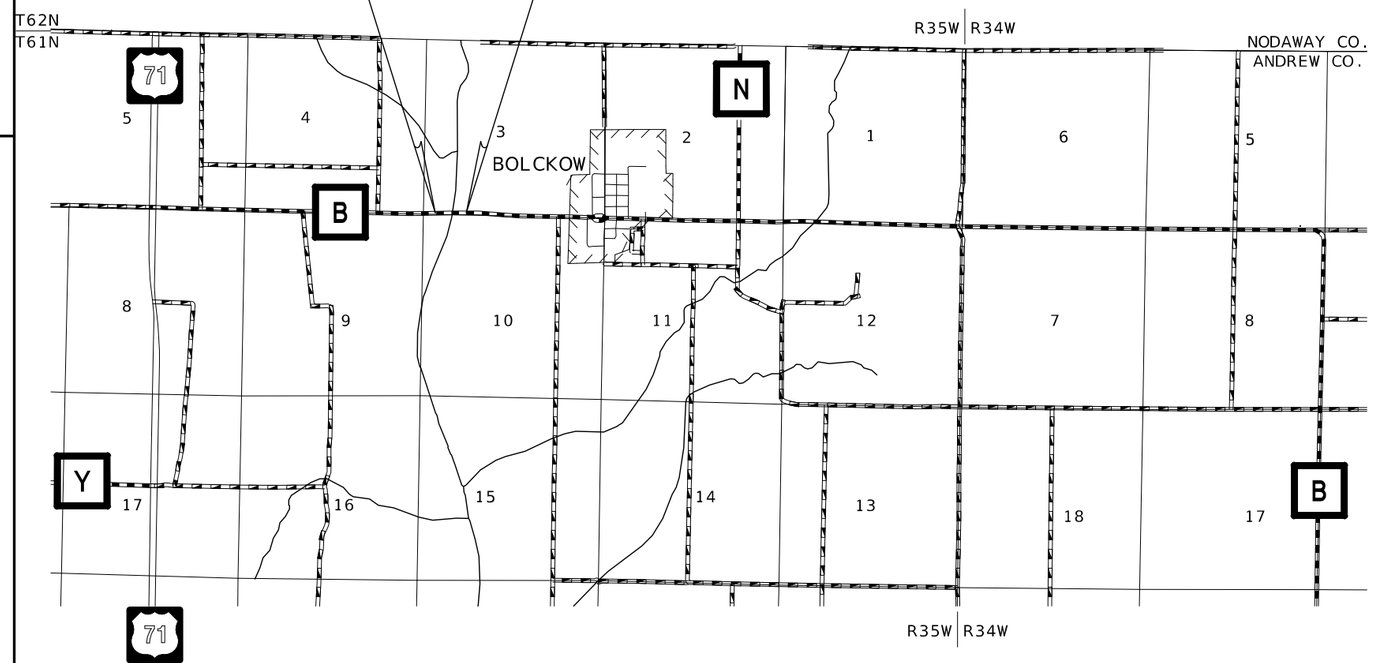
NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES



JOB NO. JNW0047
REDECK BRIDGE A1251
LENGTH = 0.090 MILES

BEGIN PROJECT
STA. 85+81.60
LOG MILE 1.658

END PROJECT
STA. 90+54.60
LOG MILE 1.748



SCALE IN MILES

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

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (TS) (2 SHEETS)	2
QUANTITIES (QU) (2 SHEETS)	3
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COORDINATE POINT SHEET (CP)	7
SPECIAL SHEETS (SS)	8
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BRIDGE DRAWINGS (B)	
A1251	1-14

LENGTH OF PROJECT

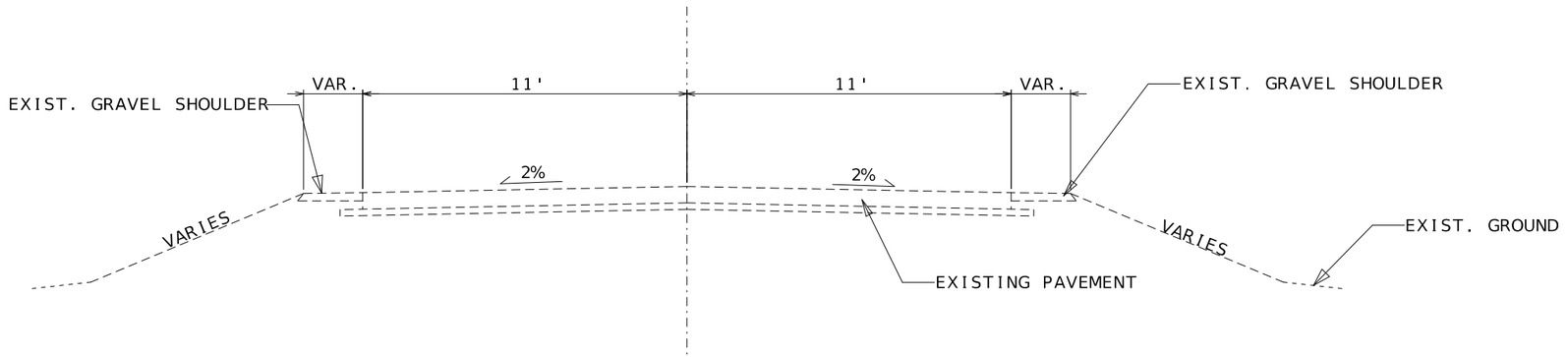
BEGINNING OF PROJECT	STA. 85+81.60
END OF PROJECT	STA. 90+54.60
APPARENT LENGTH	473.00 FEET
EQUATIONS AND EXCEPTIONS:	
TOTAL CORRECTIONS	0.00 FEET
NET LENGTH OF PROJECT	473.00 FEET
STATE LENGTH	0.09 MILES

STATE OF MISSOURI
TREVOR WOLF
NUMBER PE-2026030358
PROFESSIONAL ENGINEER
09/29/2026 10:19:48 AM
TREVOR WOLF - CIVIL
MO-PE-2026030358

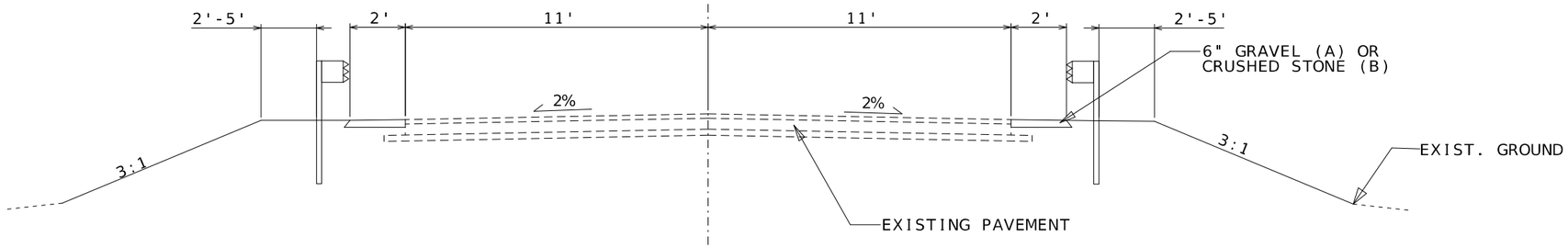
DATE PREPARED: 9/28/2026
ROUTE: B | STATE: MO
DISTRICT: NW | SHEET NO.: 1
COUNTY: ANDREW
JOB NO.: JNW0047
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

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



EXISTING ROADWAY TYPICAL SECTION
ROUTE B
STA 85+29.20 TO STA 86+41.60
STA 89+94.60 TO STA 90+81.50



EXISTING ROADWAY WITH PROPOSED GUARDRAIL
ROUTE B
STA 85+29.20 TO STA 85+81.60
STA 90+54.60 TO STA 90+81.50

NOT TO SCALE

TYPICAL SECTIONS
SHEET 1 OF 2

STATE OF MISSOURI
TREVOR WOLF
NUMBER PE-2026030358
PROFESSIONAL ENGINEER
09/29/2026 10:20:52 AM
TREVOR WOLF - CIVIL
MO-PE-2026030358

DATE PREPARED
9/28/2026

ROUTE	STATE
B	MO
DISTRICT	SHEET NO.
NW	2

COUNTY
ANDREW

JOB NO.
JNW0047

CONTRACT ID.

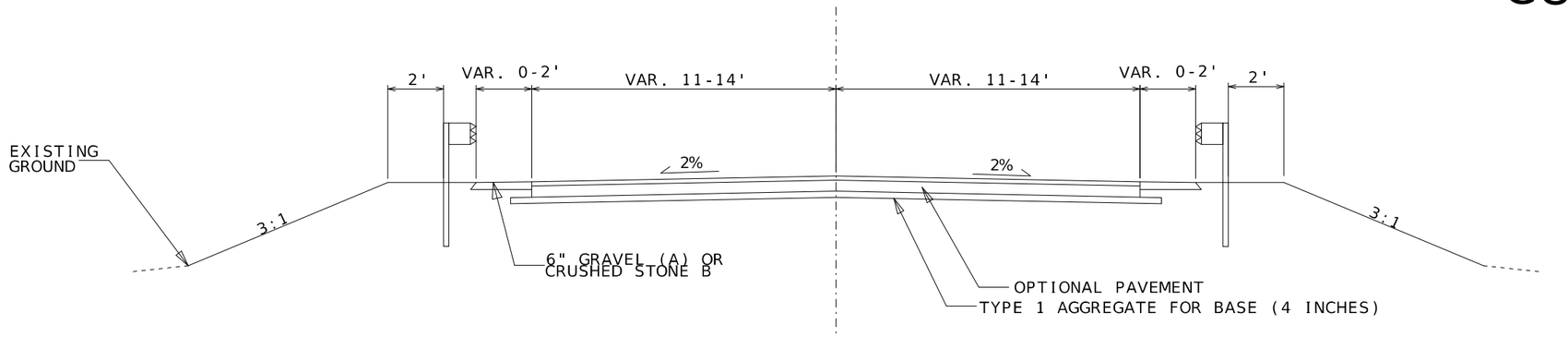
PROJECT NO.

BRIDGE NO.

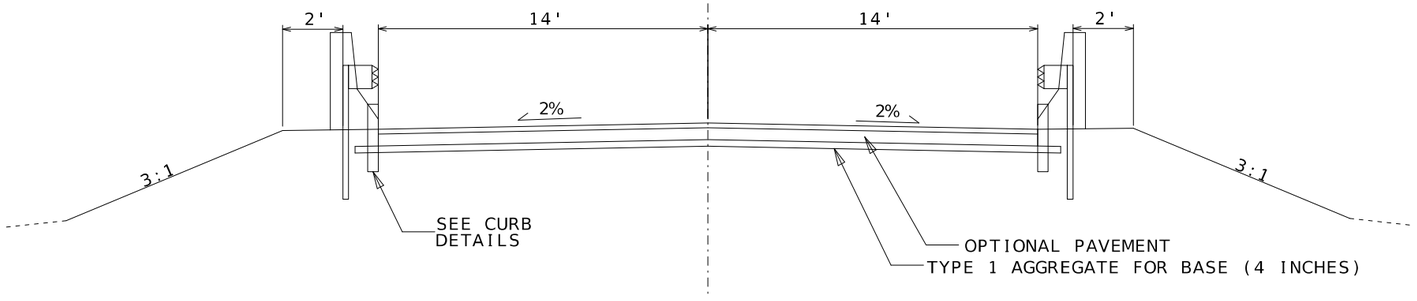
DESCRIPTION	DATE

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

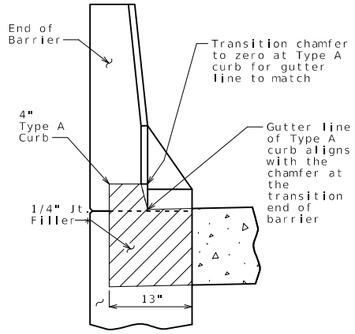
CURB DETAILS



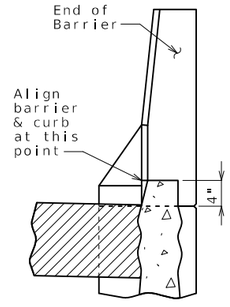
ROUTE B
STA 85+81.60 TO STA 86+31.60
STA 90+04.60 TO STA 90+54.60



CURB AND DRAIN FLUME TYPICAL SECTION
ROUTE B
STA 86+31.60 TO STA 86+41.60
STA 89+94.60 TO STA 90+04.60



4" TYPE A
CURB
CONCRETE OPTION



4" TYPE S CURB

ASPHALT OPTION

OPTIONAL PAVEMENT	
BP DESIGN	PCCP DESIGN
2" BP-1 PG58-28H OVER 10" BIT. BASE PG64-22 ON 4" TYPE 1 AGGREGATE	8" PCCP ON 4" TYPE 1 AGGREGATE

NOT TO SCALE

TYPICAL SECTIONS
SHEET 2 OF 2

STATE OF MISSOURI
TREVOR WOLF
NUMBER PE-2026030358
PROFESSIONAL ENGINEER
09/29/2026 10:21:27 AM
TREVOR WOLF - CIVIL
MO-PE-2026030358

DATE PREPARED
9/28/2026

ROUTE	STATE
B	MO
DISTRICT	SHEET NO.
NW	2

COUNTY
ANDREW

JOB NO.
JNW0047

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

BEGIN STA	END STA	SIDE	DESCRIPTION	QUANTITY	UNITS	REMARKS
86+41.60		LT/RT	SIGN	2.0	EA	OBJECT MARKER
89+94.60		LT/RT	SIGN	2.0	EA	OBJECT MARKER
85+81.60		LT/RT	SAWCUT	22.0	LF	
90+54.60		LT/RT	SAWCUT	22.0	LF	
85+81.60	86+41.60	CL	PAVEMENT	166.7	SY	
89+94.60	90+54.60	CL	PAVEMENT	166.7	SY	
85+21.60	90+84.60	LT/RT	GUARDRAIL	420.0	LF	
			PAY TOTAL	1.0	LS	

GUARDRAIL

BEGIN STATION	END STATION	SIDE	MGS GUARDRAIL (LF)	MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR/NO CURB) (EA)	TYPE A CRASHWORTHY END TERMINAL (MASH) (EA)	SHAPING SLOPES CLASS III (100 FT)
85+29.70	86+42.20	RT	25	1	1	1.4
85+54.70	86+42.20	LT		1	1	1.2
89+94.00	90+81.50	RT		1	1	1.2
89+94.00	90+81.50	LT		1	1	1.2
		TOTALS	25	4	4	5
		PAY TOTALS	25	4	4	5

PAVEMENT

BEGIN STA	END STA	LENGTH (FT)	TYPE 1 AGGREGATE BASE (4") (SY)	OPTIONAL PAVEMENT (SY)	GRAVEL (A) OR CRUSHED STONE (B) (TON)	REMARKS
85+29.70	85+81.60	51.9			5.8	GUARDRAIL ONLY
85+81.60	86+31.60	50.0	138.89	138.89	5.6	
86+31.60	86+41.60	10.0	31.11	31.11		DRAIN FLUME AND 7' LONG CURB
89+94.60	90+04.60	10.0	31.11	31.11		DRAIN FLUME AND 7' LONG CURB
90+04.60	90+54.60	50.0	138.89	138.89	5.6	
90+54.60	90+81.50	26.9			3.0	GUARDRAIL
		TOTAL	340.00	340.00	20.0	
		PAY TOTAL	340.0	340.0	20	

DRAIN FLUME

BEGIN STA	END STA	SIDE	LENGTH (FT)	FURNISHING TYPE 1 ROCK DITCH LINER (CY)	PLACING TYPE 1 ROCK DITCH LINER (CY)	PERMANENT EROSION CONTROL GEOTEXTILE (SY)
86+31.60	86+34.60	LT	30	2.2	2.2	14.4
86+31.60	86+34.60	RT	30	2.2	2.2	14.4
90+01.60	90+04.60	LT	30	2.2	2.2	14.4
90+01.60	90+04.60	RT	30	2.2	2.2	14.4
			TOTALS	8.8	8.8	57.6
			PAY TOTALS	9	9	58

TEMPORARY EROSION CONTROL

BEGIN STA	END STA	SIDE	SILT FENCE (LF)	SEDIMENT REMOVAL (CY)
85+28.83	86+41.60	LT	115.31	1.1
85+28.83	86+41.60	RT	149.75	1.4
89+94.60	90+76.08	LT	140.65	1.5
89+94.60	90+76.08	RT	108.42	1.5
		TOTALS	514.1	5.5
		PAY TOTALS	514	6

PAVEMENT MARKING

BEGIN STA	END STA	SIDE	LENGTH (FT)	PERM. 4" WHITE CLASS 1 PAVEMENT MARKING PAINT TYPE P BEADS (LF)	PERM. 4" YELLOW CLASS 1 PAVEMENT MARKING PAINT TYPE P BEADS (LF)
85+81.60	90+54.60	CL	473.00	946.00	946.00
			TOTALS	946.00	946.00
			PAY TOTALS	946	946

2029901 - MISC. DEBRIS REMOVAL

1 LUMP SUM

CONTRACTOR FURNISHED SURVEYING & STAKING

1 LUMP SUM

MOBILIZATION

1 LUMP SUM

SUMMARY OF QUANTITIES
SHEET 1 OF 2

STATE OF MISSOURI
TREVOR WOLF
NUMBER PE-2026030358
PROFESSIONAL ENGINEER
09/29/2026 10:22:27 AM
TREVOR WOLF - CIVIL
MO-PE-2026030358

DATE PREPARED
9/29/2026

ROUTE	STATE
B	MO

DISTRICT	SHEET NO.
NW	3

COUNTY
ANDREW

JOB NO.
NW0047

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)

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NO.	DESCRIPTION
WARNING SIGNS								
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT)
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT)
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT)
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT)
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT)
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
WO1-8	18X24	3.00						CHEVRON (SYMBOL)
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
WO3-4	48X48	16.00						BE PREPARED TO STOP
WO3-5	48X48	16.00						SPEED LIMIT AHEAD
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)
WO4-1aL	48X48	16.00						MERGE (LEFT)
WO4-1aR	48X48	16.00						MERGE (RIGHT)
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS
WO5-3	48X48	16.00						ONE LANE BRIDGE
WO5-5	48X48	16.00						NARROW LANES
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)
WO6-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)
WO7-3a	30X24	5.00						NEXT XX MILES (PLAQUE)
WO8-1	48X48	16.00						BUMP
WO8-2	48X48	16.00						DIP
WO8-3	48X48	16.00						PAVEMENT ENDS
WO8-4	48X48	16.00						SOFT SHOULDER
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)
WO8-6	48X48	16.00						TRUCK CROSSING
WO8-6c	48X48	16.00						TRUCK ENTRANCE
WO8-7	36X36	9.00						LOOSE GRAVEL
WO8-7a	36X36	9.00						FRESH OIL / LOOSE GRAVEL
WO8-9	48X48	16.00						LOW SHOULDER
WO8-11	48X48	16.00						UNEVEN LANES
WO8-12	48X48	16.00						NO CENTER LINE
WO8-15	48X48	16.00						GROOVED PAVEMENT
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)
WO8-17L	48X48	16.00						SHOULDER DROP-OFF (SYMBOL LEFT)
WO8-17R	48X48	16.00						SHOULDER DROP-OFF (SYMBOL RIGHT)
WO8-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)
W10-1	42RND.	9.62						RAILROAD CROSSING
WO12-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)
WO12-2x	24X18	3.00						LOW CLEARANCE (PLAQUE)
WO12-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)
WO12-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD
WO12-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD
WO13-1	30X30	6.25						ADVISORY SPEED (PLAQUE)
WO16-2	30X24	5.00						XXX FEET (PLAQUE)
WO16-3	30X24	5.00						X MILE (PLAQUE)
WO20-1	48X48	16.00						ROAD/BRIDGE/RAMP WORK AHEAD
WO20-2	48X48	16.00	3	48.00			(18)	DETOUR AHEAD
WO20-3	48X48	16.00	4	64.00			(20) (55)	ROAD CLOSED AHEAD
WO20-4	48X48	16.00						ONE LANE ROAD AHEAD
WO20-5	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED AHEAD
WO20-5a	48X48	16.00						2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
WO20-6a	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED
WO20-7a	48X48	16.00						FLAGGER (SYMBOL)
WO21-2	36X36	9.00						FRESH OIL
WO21-5	48X48	16.00						SHOULDER WORK / SHOULDER WORK AHEAD
WO22-1	48X48	16.00						BLASTING ZONE AHEAD
WO22-2	42X36	10.50						TURN OFF 2-WAY RADIO AND PHONE
WO22-3	42X36	10.50						END BLASTING ZONE
GO22-1	21X15	2.19						WET PAINT (ARROW PIVOTS)

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NO.	DESCRIPTION
GUIDE SIGNS								
E05-1	36X48	12.00						GORE EXIT
E05-2	48X36	12.00						EXIT OPEN
E05-2a	48X36	12.00						EXIT CLOSED
GO20-1	60X24	10.00						ROAD WORK NEXT XX MILES
GO20-2	48X24	8.00						END ROAD WORK
GO20-4	36X18	4.50						PILOT CAR FOLLOW ME
GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW
GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW
GO20-4a	24X18	3.00						PILOT CAR IN USE WAIT & FOLLOW
GO20-5aP	36X24	6.00						WORK ZONE (PLAQUE)
MO4-8a	24X18	3.00	2	6.00			(52)	END DETOUR
MO4-9L	48X36	12.00						DETOUR (EAST)
MO4-9R	48X36	12.00						DETOUR (WEST)
MO4-9P	48X12	4.00						STREET NAME (PLAQUE)
MO4-10L	48X18	6.00						DETOUR ARROW (EAST)
MO4-10R	48X18	6.00						DETOUR ARROW (WEST)
REGULATORY SIGNS								
R1-1	48X48	13.25						STOP
R1-2	48TRI.	6.93						YIELD
R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)
R1-3P	30X12	2.50						ALL WAY (PLAQUE)
R2-1	36X48	12.00						SPEED LIMIT XX
R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00						NO TURNS
R3-4	48X48	16.00						NO U-TURN (SYMBOL)
R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00						DO NOT PASS
R4-2	36X48	12.00						PASS WITH CARE
R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)
R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)
R5-1	30X30	6.25						DO NOT ENTER
R5-1a	36X24	6.00						WRONG WAY
R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)
R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)
R6-2L	24X30	5.00						ONE WAY (LEFT)
R6-2R	24X30	5.00						ONE WAY (RIGHT)
R9-9	24X12	2.00						SIDEWALK CLOSED
R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE
R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE
R10-6	24X36	6.00						STOP HERE ON RED (45^ ARROW)
R11-2	48X30	10.00	2	20.00			(56)	ROAD CLOSED
								ROAD CLOSED XX MILES AHEAD
R11-3a	60X30	12.50	2	25.00			55C	LOCAL TRAFFIC ONLY
R11-4	60X30	12.50	2	25.00			55B	ROAD CLOSED TO THRU TRAFFIC
CONST-3A	60X48	20.00						FINE SIGN
CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)
MISCELLANEOUS SIGNS								
CONST-5	48X36	12.00						POINT OF PRESENCE
CONST-5	96X48	32.00						POINT OF PRESENCE
CONST-8	48X36	12.00						WORK ZONE NO PHONE ZONE
DETOUR 1	78X36	19.50	2	39.00				DETOUR ROUTE ASSEMBLY
DETOUR 2	78X36	19.50	1	19.50				DETOUR ROUTE ASSEMBLY
DETOUR 3	78X36	19.50	2	39.00				DETOUR ROUTE ASSEMBLY
DETOUR 4	78X36	19.50	2	39.00				DETOUR ROUTE ASSEMBLY
DETOUR 5	78X36	19.50	2	39.00				DETOUR ROUTE ASSEMBLY
DETOUR 8	78X36	19.50	3	58.50				DETOUR ROUTE ASSEMBLY
DETOUR 9	78X36	19.50	3	58.50				DETOUR ROUTE ASSEMBLY
DETOUR 10	78X36	19.50	5	97.50				DETOUR ROUTE ASSEMBLY
DETOUR 11	78X36	19.50	1	19.50				DETOUR ROUTE ASSEMBLY
DETOUR 12	78X36	19.50	2	39.00				DETOUR ROUTE ASSEMBLY

616-10.05 CONSTRUCTION SIGNS	TOTAL
	637

616-10.10 RELOCATED SIGNS	TOTAL

EFFECTIVE: 07-01-2025

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)
6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)
6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)
6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
6122020		REPLACEMENT SAND BARREL
6122030		IMPACT ATTENUATOR (RELOCATION)
6122040		WORK ZONE CRASH CUSHION (NARROW)
6122041		WORK ZONE CRASH CUSHION (RELOCATION)
6123001		TRUCK MOUNTED ATTENUATOR (TMA)
6161012		BUOYS (BOATS KEEP OUT)
6161013		BUOYS (NO WAKE)
6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
6161020		CHANNELIZER (DRUM-LIKE)
6161022		CHANNELIZER (CONE)
6161025		CHANNELIZER (TRIM-LINE)
6161026		CHANNELIZER (VERTICAL PANEL)
6161030	10	TYPE 3 MOVEABLE BARRICADE
6161033		DIRECTION INDICATOR BARRICADE
6161040		FLASHING ARROW PANEL
6161047		TYPE 3 OBJECT MARKER
6161055		SEQUENTIAL FLASHING WARNING LIGHT
6161070		TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A	2	CHANGEABLE MESSAGE SIGN WITHOUT COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
6161099		CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
6162002		TEMPORARY LONG-TERM RUMBLE STRIPS
6173600D		TEMPORARY TRAFFIC BARRIER, CONTRACTOR FURNISHED/RETAINED
6173700B		TEMP. TRAFFIC BARRIER ANCHORED, CONTRACTOR FURNISHED/RETAINED
6173706		TEMP. TRAFFIC BARRIER STIFFNESS TRANSITION CONTRACTOR FURNISHED/RETAINED
6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION, CONTRACTOR FURNISHED/RETAINED
6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER
6175011B		RELOCATING TEMP. TRAFFIC BARRIER ANCHORED
6175013		RELOCATING TEMP. TRAFFIC BARRIER STIFFNESS
6175020A		RELOCATING TEMP. TRAFFIC BARRIER HEIGHT
6208064A		TEMPORARY RAISED PAVEMENT MARKER
9029400		TEMPORARY TRAFFIC SIGNALS
9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING

STATE OF MISSOURI
TREVOR WOLF
NUMBER PE-2026030358
PROFESSIONAL ENGINEER
09/29/2026 10:23:25 AM
TREVOR WOLF - CIVIL
MO-PE-2026030358

DATE PREPARED: 9/29/2026

ROUTE	STATE
B	MO

DISTRICT	SHEET NO.
NW	3

COUNTY: ANDREW

JOB NO.: NW0047

CONTRACT ID.:

PROJECT NO.:

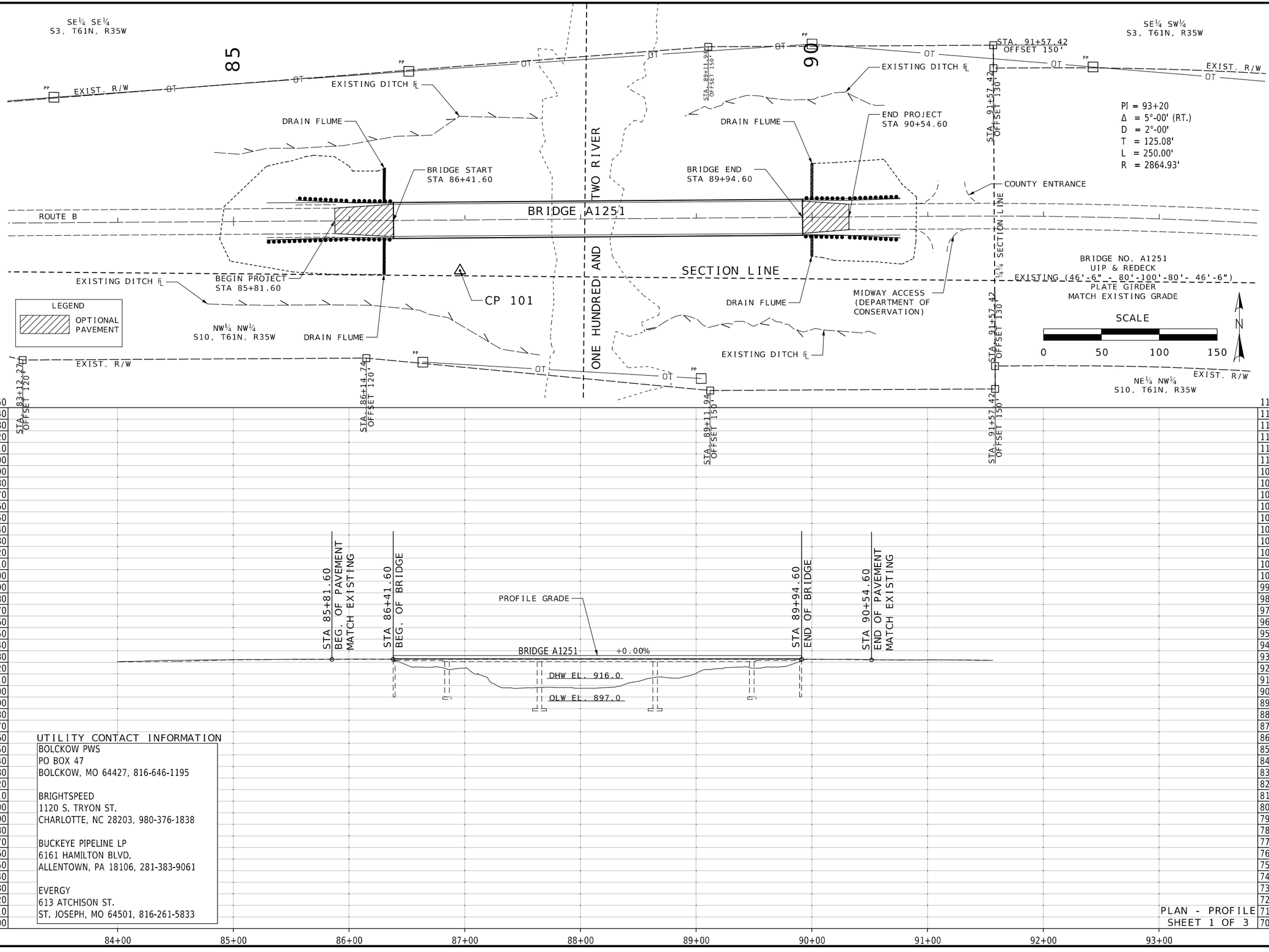
BRIDGE NO.:

DESCRIPTION | DATE | DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

SUMMARY OF QUANTITIES
SHEET 2 OF 2



UTILITY CONTACT INFORMATION

BOLCKOW PWS
PO BOX 47
BOLCKOW, MO 64427, 816-646-1195

BRIGHTSPEED
1120 S. TRYON ST.
CHARLOTTE, NC 28203, 980-376-1838

BUCKEYE PIPELINE LP
6161 HAMILTON BLVD.
ALLENTOWN, PA 18106, 281-383-9061

EVERGY
613 ATCHISON ST.
ST. JOSEPH, MO 64501, 816-261-5833

PLAN - PROFILE
SHEET 1 OF 3

STATE OF MISSOURI
TREVOR WOLF
NUMBER PE-2026030358
PROFESSIONAL ENGINEER
09/29/2026 10:24:10 AM
TREVOR WOLF - CIVIL
MO-PE-2026030358

DATE PREPARED
9/28/2026

ROUTE	STATE
B	MO
DISTRICT	SHEET NO.
NW	4

COUNTY
ANDREW

JOB NO.
JNW0047

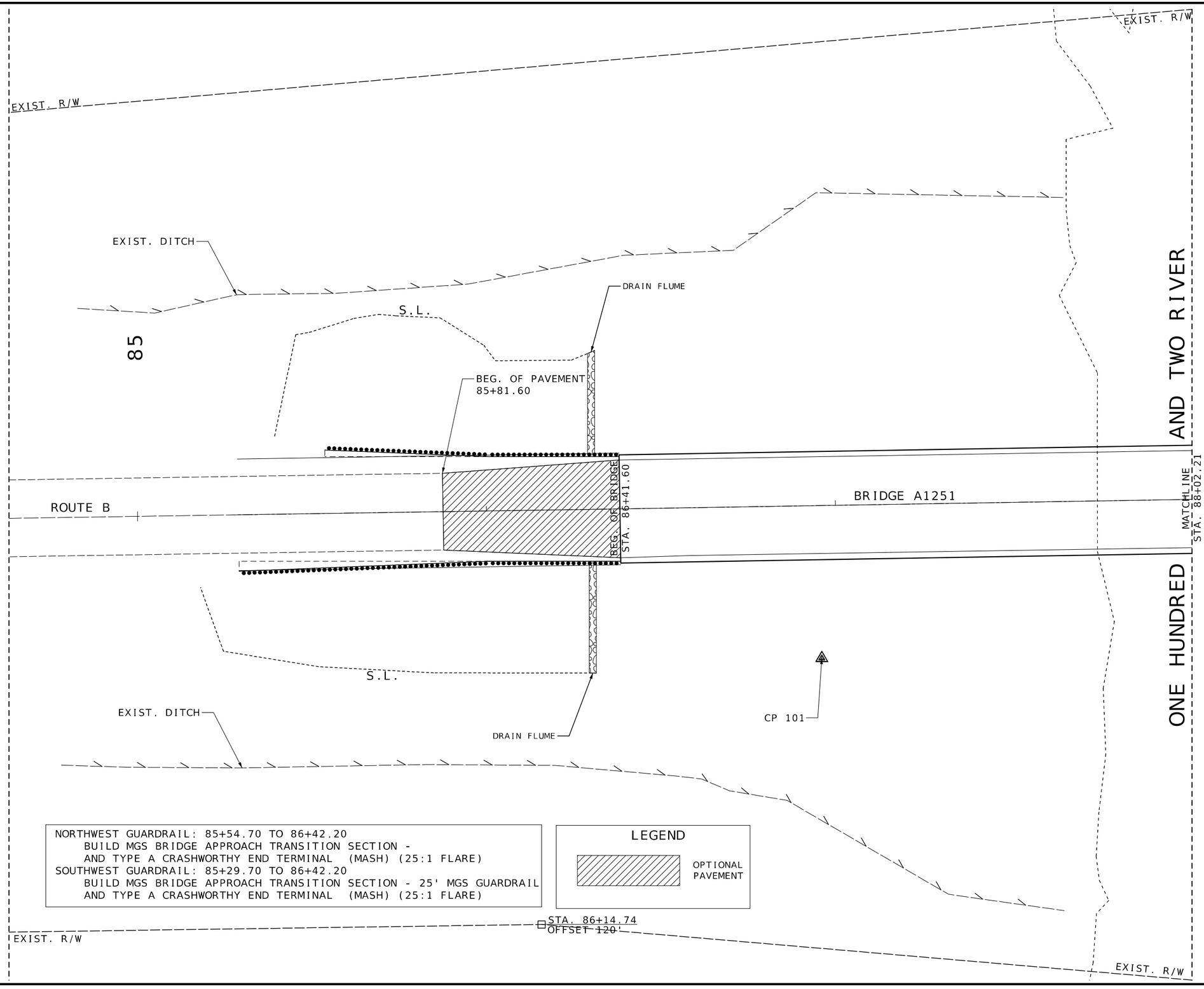
CONTRACT ID.

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)



PLAN
SHEET 2 OF 3

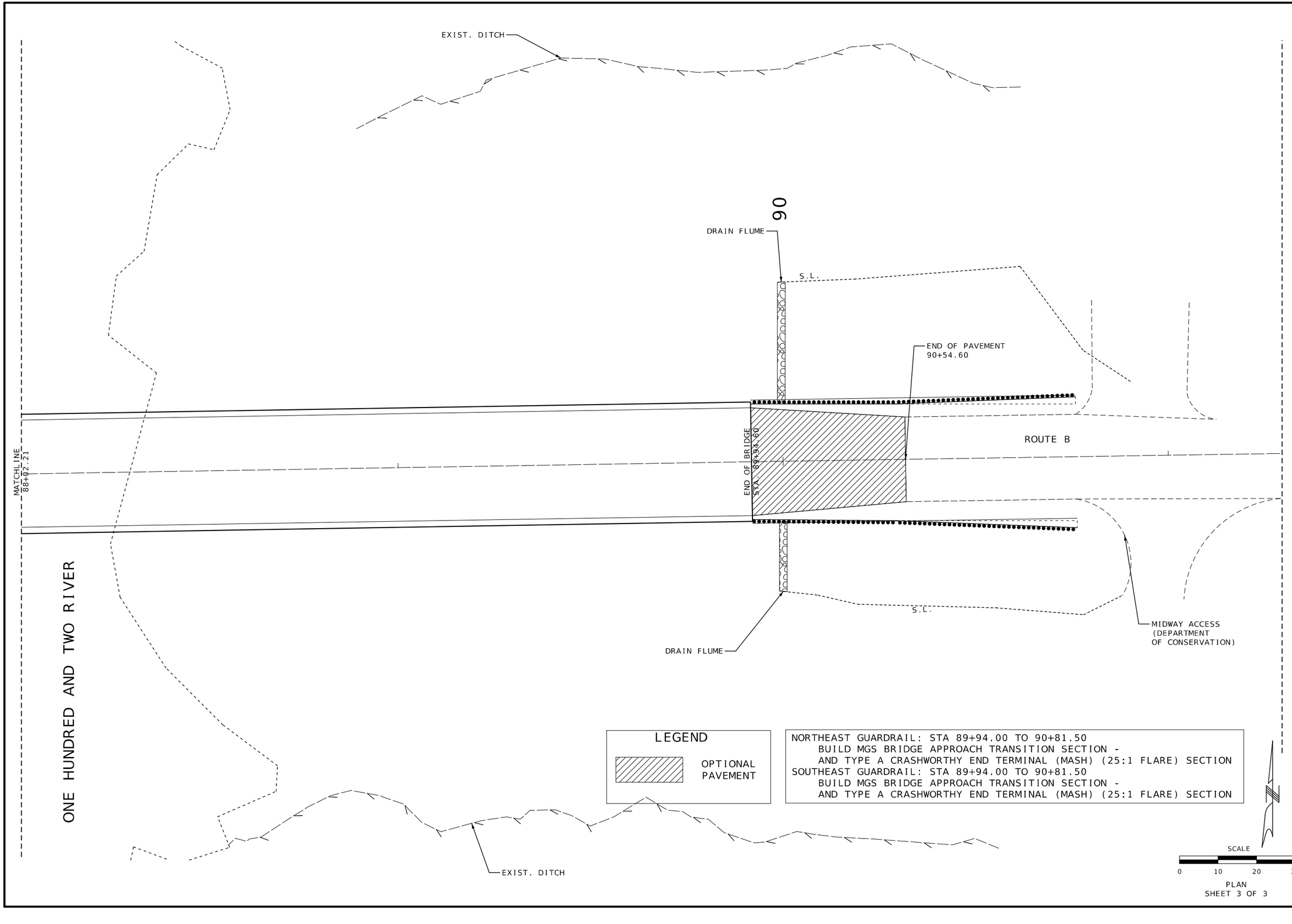
STATE OF MISSOURI
TREVOR WOLF
NUMBER PE-2026030358
PROFESSIONAL ENGINEER
09/29/2026 10:24:53 AM
TREVOR WOLF - CIVIL
MO-PE-2026030358

DATE PREPARED	9/28/2026
ROUTE	B
STATE	MO
DISTRICT	NW
SHEET NO.	5
COUNTY	ANDREW
JOB NO.	JNW0047
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)



PLAN
SHEET 3 OF 3

STATE OF MISSOURI
TREVOR WOLF
NUMBER PE-2026030358
PROFESSIONAL ENGINEER

09/29/2026 10:25:30 AM
TREVOR WOLF - CIVIL
MO-PE-2026030358

DATE PREPARED
9/28/2026

ROUTE	STATE
B	MO
DISTRICT	SHEET NO.
NW	6

COUNTY
ANDREW

JOB NO.
JNW0047

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)

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

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	MODIFIED STATE PLANE "GROUND"
HORIZONTAL DATUM	NAD83/2011
VERTICAL DATUM	NAVD88
GEOID MODEL	GEOID18
ELEVATIONS DETERMINED BY	DIFFERENTIAL LEVELING
PROJECT PROJECTION FACTOR	1.0000830

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MO. COORDINATE SYSTEM OF 1983
CONTROL STATION	MISSOURI CORS
DESIGNATION	MODOT SAVANNAH CORS
CORS_ID	MOSV
PID	DM5403
LATITUDE	39°57'15.14756"
LONGITUDE	94°50'48.02145"
NORTHING (M)	-4849858.094
EASTING (M)	-411232.744
ZONE	2401 (MO-WEST)
PROJECT AVERAGE GRID FACTOR	0.9999516

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

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

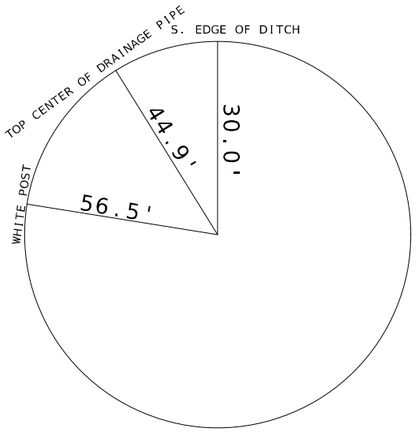
EXAMPLE: CONTROL POINT #101
N 1437526.5999' X 0.9999516 = N 1437407.295'
E 2694231.1987' X 0.9999516 = E 2694007.596'

LINEAR UNIT CONVERSION

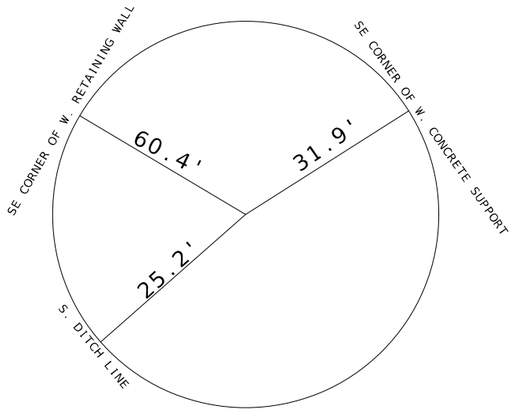
1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

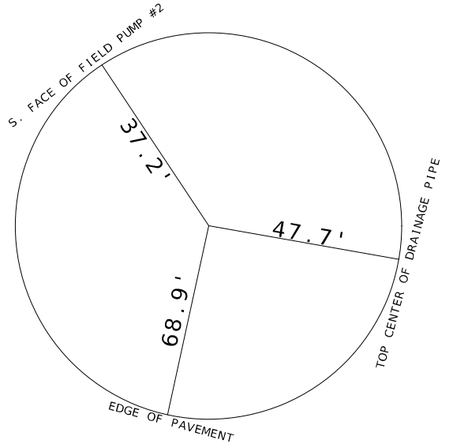
SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND) NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)	DESCRIPTION
PROJECT CONTROL POINTS							
100				1437463.963	2693660.798	930.13	5/8TH X 24" REBAR WITH MODOT CONTROL CAP
101				1437526.582	2694231.180	924.79	5/8TH X 24" REBAR WITH MODOT CONTROL CAP
102				1437610.254	2695558.716	924.78	5/8TH X 24" REBAR WITH MODOT CONTROL CAP
ALIGNMENTS							



CP100



CP101



CP102

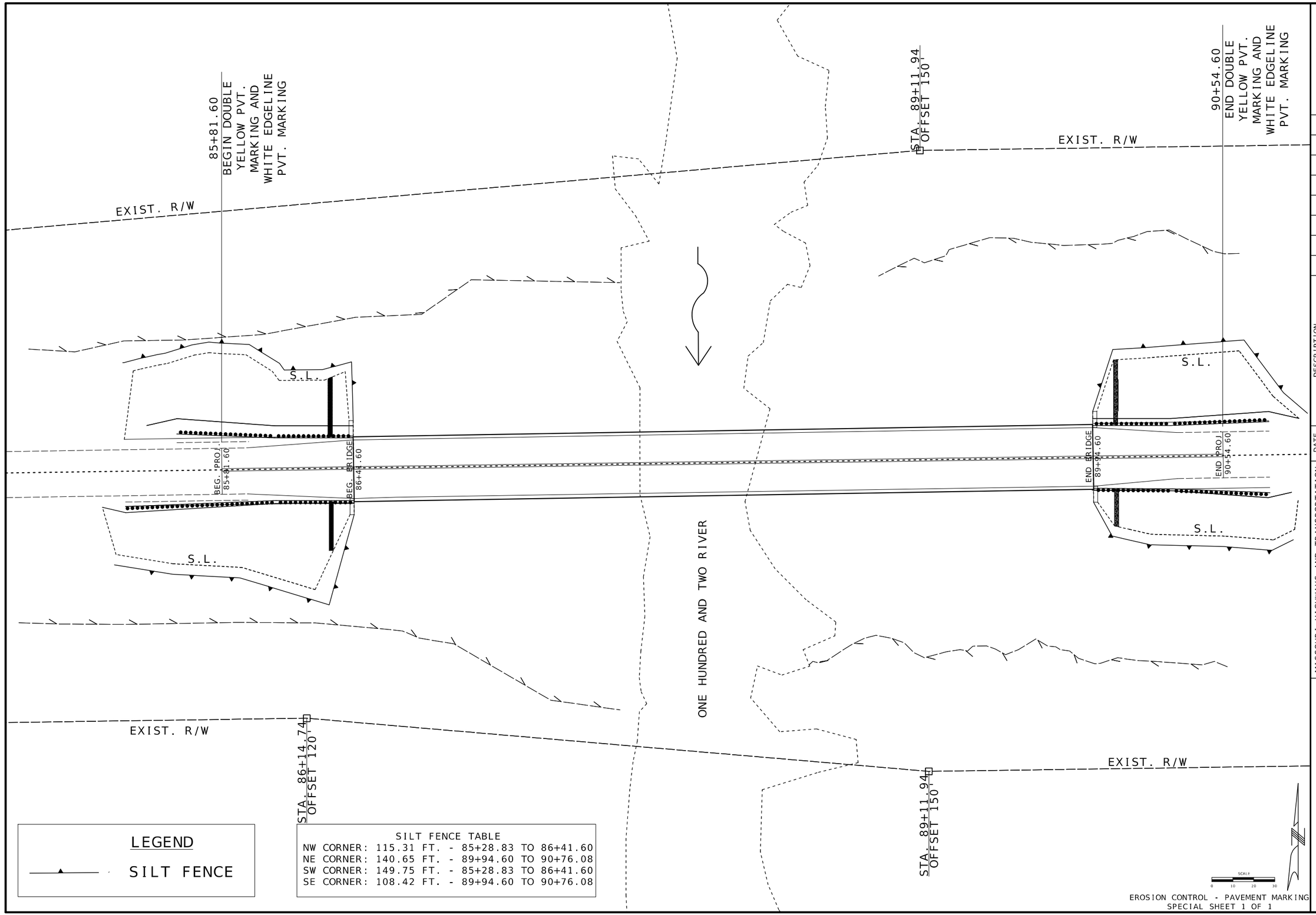
COORDINATE POINTS
SHEET 1 OF 1

STATE OF MISSOURI
TREVOR WOLF
NUMBER PE-2026030358
PROFESSIONAL ENGINEER
09/29/2026 10:26:07 AM
TREVOR WOLF - CIVIL
MO-PE-2026030358

DATE PREPARED: 9/28/2026
ROUTE: B | STATE: MO
DISTRICT: NW | SHEET NO.: 7
COUNTY: ANDREW
JOB NO.: NW0047
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)



EROSION CONTROL - PAVEMENT MARKING
SPECIAL SHEET 1 OF 1

STATE OF MISSOURI
TREVOR WOLF
NUMBER PE-2026030358
PROFESSIONAL ENGINEER
09/29/2026 10:26:39 AM
TREVOR WOLF - CIVIL
MO-PE-2026030358

DATE PREPARED
9/24/2026

ROUTE	STATE
B	MO
DISTRICT	SHEET NO.
NW	8

COUNTY
ANDREW

JOB NO.
JNW0047

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

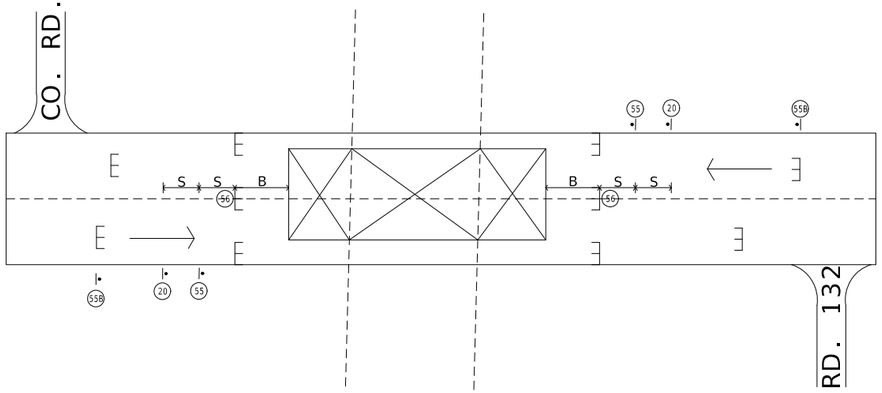
DESCRIPTION	DATE

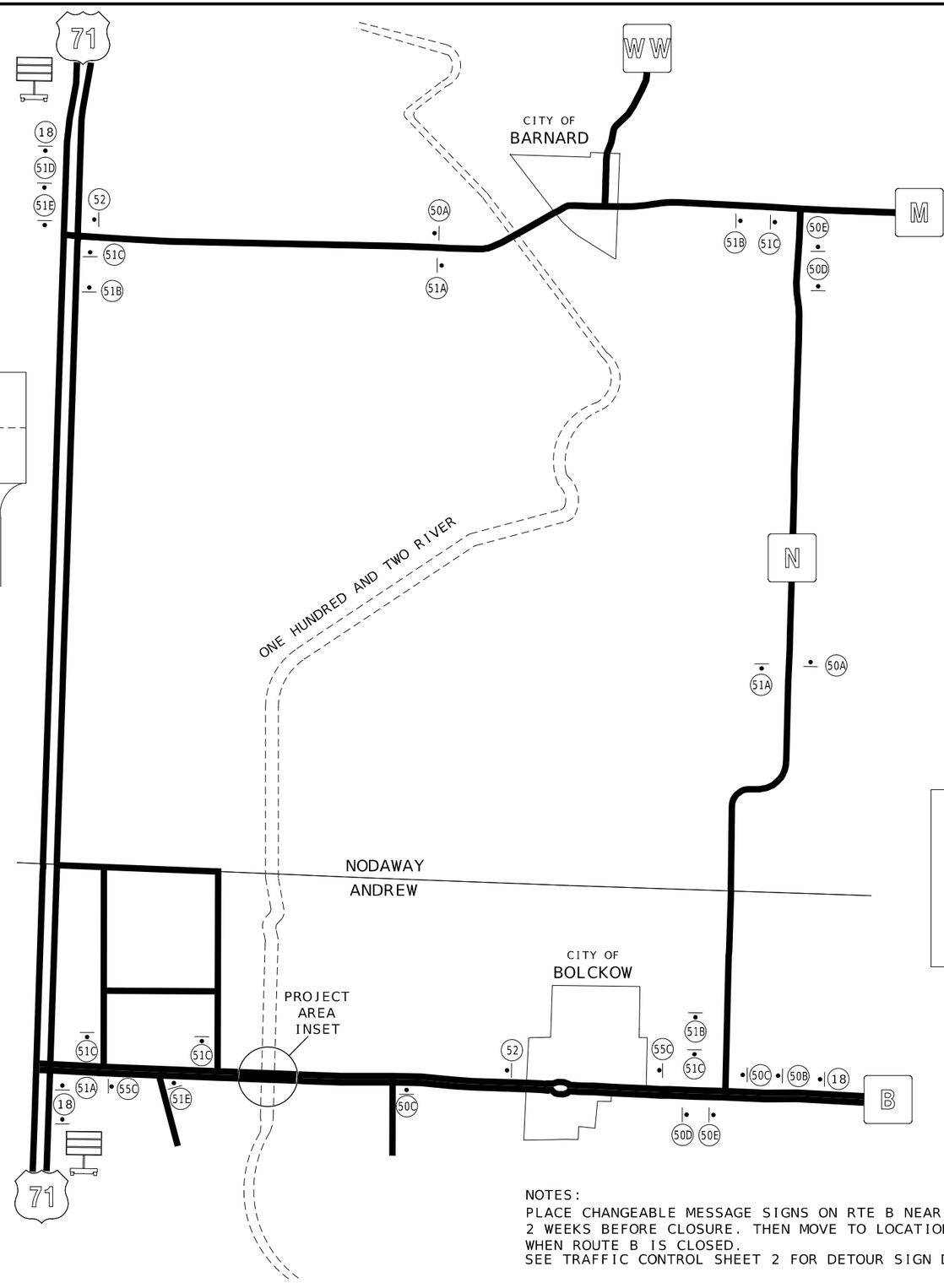
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

SPEED	SIGN SPACING (FT.)	RECOMMENDED
PERMANENT POSTED (MPH)	TWO-LANE TWO-WAY (S)	BUFFER LENGTH (FT.) (B)
55	500	495

PROJECT AREA INSET







WO20-3
(20)



WO20-3
(55)



R11-2
(56)



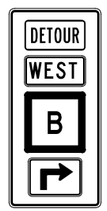
R11-4
(55B)



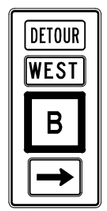
WO20-2
(18)



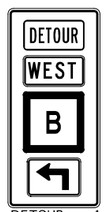
DETOUR - 1
(50A)



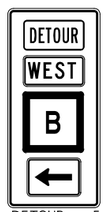
DETOUR - 2
(50B)



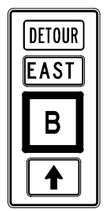
DETOUR - 3
(50C)



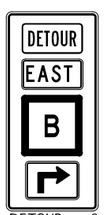
DETOUR - 4
(50D)



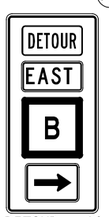
DETOUR - 5
(50E)



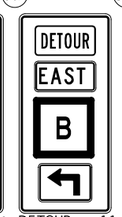
DETOUR - 8
(51A)



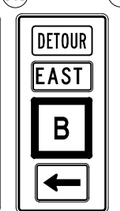
DETOUR - 9
(51B)



DETOUR - 10
(51C)



DETOUR - 11
(51D)



DETOUR - 12
(51E)



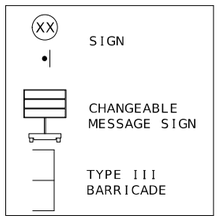
MO4-8a
(52)



R11-3a
(55C)

NOT TO SCALE

KEY TO SYMBOLS



NOTES:
PLACE CHANGEABLE MESSAGE SIGNS ON RTE B NEAR BRIDGE 2 WEEKS BEFORE CLOSURE. THEN MOVE TO LOCATIONS SHOWN WHEN ROUTE B IS CLOSED.
SEE TRAFFIC CONTROL SHEET 2 FOR DETOUR SIGN DETAILS.

TRAFFIC CONTROL
SHEET 1 OF 2

STATE OF MISSOURI
TREVOR WOLF
NUMBER PE-2026030358
PROFESSIONAL ENGINEER
09/29/2026 2:41:46 PM
TREVOR WOLF - CIVIL
MO-PE-2026030358

DATE PREPARED
9/29/2026

ROUTE	STATE
B	MO
DISTRICT	SHEET NO.
NW	9

COUNTY
ANDREW

JOB NO.
JNW0047

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)

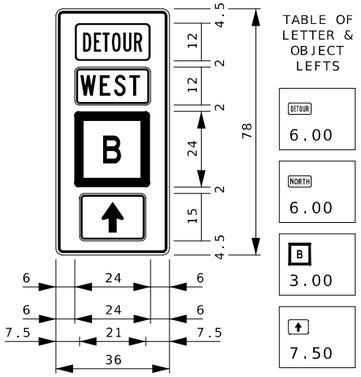


TABLE OF LETTER & OBJECT LEFTS

DETOUR	6.00
NORTH	6.00
B	3.00
↑	7.50

50A DETOUR - 1

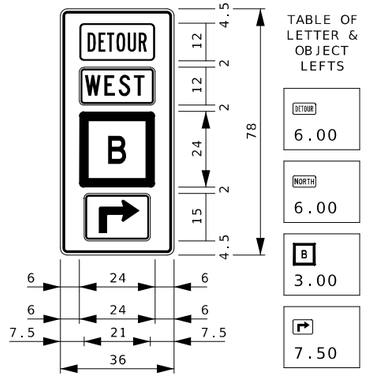


TABLE OF LETTER & OBJECT LEFTS

DETOUR	6.00
NORTH	6.00
B	3.00
↱	7.50

50B DETOUR - 2

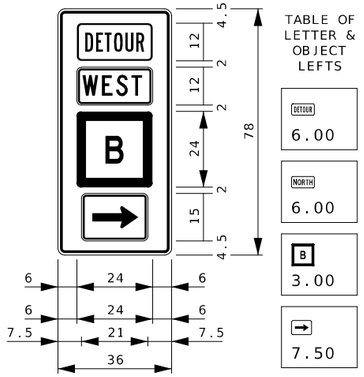


TABLE OF LETTER & OBJECT LEFTS

DETOUR	6.00
NORTH	6.00
B	3.00
→	7.50

50C DETOUR - 3

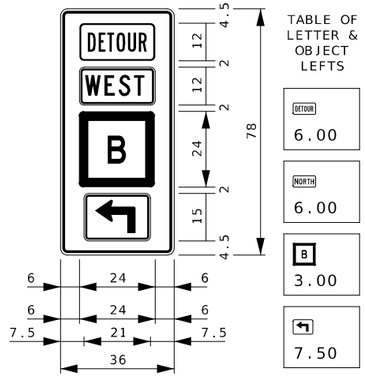


TABLE OF LETTER & OBJECT LEFTS

DETOUR	6.00
NORTH	6.00
B	3.00
↰	7.50

50D DETOUR - 4

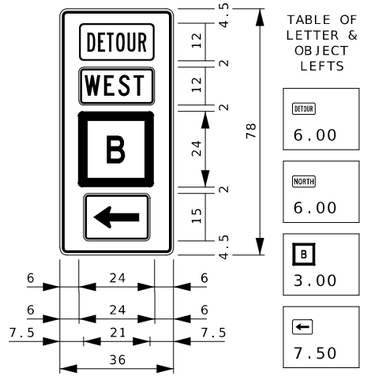


TABLE OF LETTER & OBJECT LEFTS

DETOUR	6.00
NORTH	6.00
B	3.00
←	7.50

50E DETOUR - 5

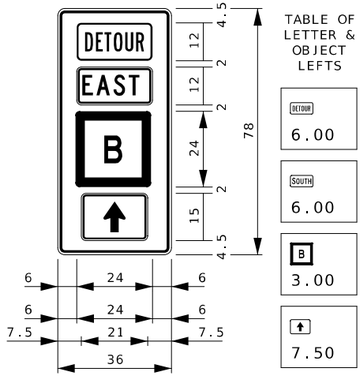


TABLE OF LETTER & OBJECT LEFTS

DETOUR	6.00
SOUTH	6.00
B	3.00
↑	7.50

51A DETOUR - 8

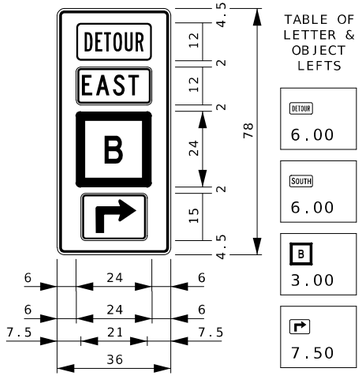


TABLE OF LETTER & OBJECT LEFTS

DETOUR	6.00
SOUTH	6.00
B	3.00
↱	7.50

51B DETOUR - 9

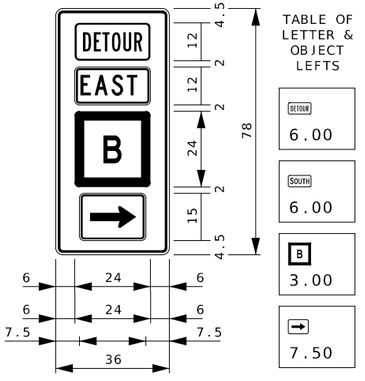


TABLE OF LETTER & OBJECT LEFTS

DETOUR	6.00
SOUTH	6.00
B	3.00
→	7.50

51C DETOUR - 10

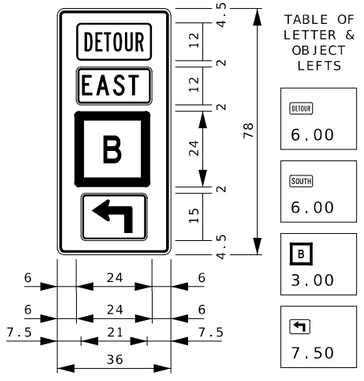


TABLE OF LETTER & OBJECT LEFTS

DETOUR	6.00
SOUTH	6.00
B	3.00
↰	7.50

51D DETOUR - 11

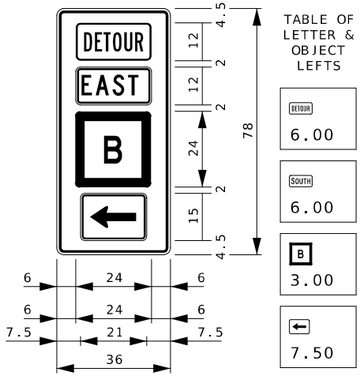


TABLE OF LETTER & OBJECT LEFTS

DETOUR	6.00
SOUTH	6.00
B	3.00
←	7.50

51E DETOUR - 12

NOT TO SCALE

DETOUR SIGN DETAILS

SIGNS 50A-51G

2.25" RADIUS
0.88" BORDER
0.63" INDENT
FLAT SHEET
FLUORESCENT (SHF)
BLACK LEGEND ON
FLUORESCENT ORANGE
BACKGROUND

TRAFFIC CONTROL
SHEET 2 OF 2

STATE OF MISSOURI
TREVOR WOLF
NUMBER PE-2026030358
PROFESSIONAL ENGINEER
09/23/2026 2:42:39 PM
TREVOR WOLF - CIVIL
MO-PE-2026030358

DATE PREPARED
9/29/2026

ROUTE	STATE
B	MO
DISTRICT	SHEET NO.
NW	10

COUNTY
ANDREW

JOB NO.
JNW0047

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

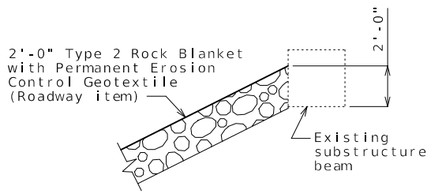
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

U.I.P., REDECK, REHAB AND RECONFIGURE EXISTING (45'- 80'- 100'- 80'- 45') CONTINUOUS COMPOSITE PLATE GIRDER SPANS

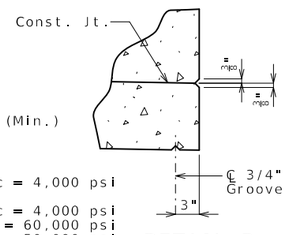
SEC/SUR 3 TWP 61N RGE 35W

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

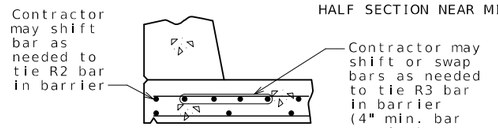
** Unless otherwise shown.



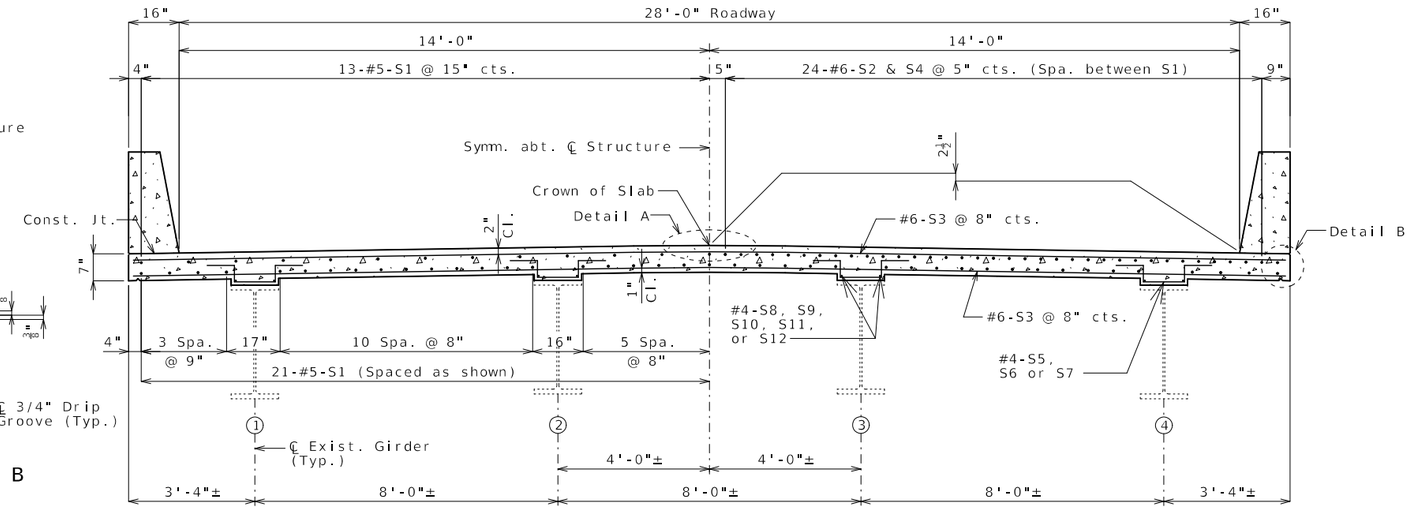
ROCK BLANKET ON SPILL SLOPES



DETAIL B



OPTIONAL SHIFTING TOP BARS AT BARRIER



HALF SECTION NEAR MIDSPAN HALF SECTION NEAR INT. BENT

TYPICAL SECTION THRU SLAB

General Notes:

Design Specifications:

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

Design Loading:

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

Design Unit Stresses:

Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Class B-2 Concrete (End Bents & Superstructure, except Barrier)	f'c = 4,000 psi
Reinforcing Steel (ASTM A615 Grade 60)	fy = 60,000 psi
Structural Steel (ASTM A709 Grade 50)	fy = 50,000 psi

Joint Filler:

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

Fabricated Steel Connections:

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

Neoprene Pads:

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

Reinforcing Steel:

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

Structural Steel Protection Coating (New Steel):

Protective Coating: System L in accordance with Sec 1081.

Coating Limits: All new structural steel and new bearing pad assemblies.

Prime Coat: The cost of the inorganic zinc prime coat will be considered completely covered by the contract unit price for the fabricated structural steel.

Field Coat(s): The color of the field coat(s) shall be Gray (Federal Standard #26373). The cost of the finish field coat will be considered completely covered by the contract lump sum price for Finish Field Coat (System L).

At the option of the contractor, the finish field coat may be applied in the shop. The contractor shall exercise extreme care during all phases of loading, hauling, handling, erection and pouring of the slab to minimize damage and shall be fully responsible for all repairs and cleaning of the coating systems as required by the engineer.

Concrete Protective Coatings:

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

Miscellaneous:

High strength bolts, nuts and washers will be sampled for quality assurance as specified in Sec 106.

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

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

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

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

Traffic Handling:

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

Structural Steel Protective Coating (Existing Facia Girders):

Protective Coating: Gray Epoxy-Mastic Primer (Non-Aluminum) in accordance with Sec 216.50 and 1081.

Coating Limits: Shall be applied to the existing facia girders (Girders No. 1 & 4). Limits of the existing facia girders shall include the bottom of the top exterior flanges, the top of the bottom exterior flanges, the exterior web area, the exterior face of the top and bottom flanges, and the bottom of the bottom flange.

Surface Preparation: Surface preparation of the existing steel shall be in accordance with Sec 1081 for Overcoating of Structural Steel. The cost of surface preparation will be considered completely covered by the contract lump sum price for Surface Preparation for Applying Epoxy-Mastic Primer.

Estimated Quantities for Slab on Steel		
Item		Total
Class B-2 Concrete	cu. yard	254
Reinforcing Steel (Epoxy Coated)	pound	87,870

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

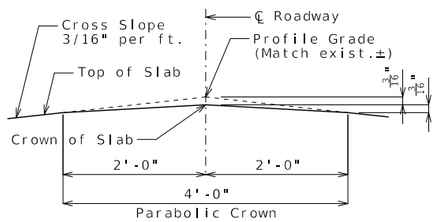
Method of forming the slab shall be in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness Class SC 4 and a finish Type I, II or III.

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

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

Estimated Quantities		
Item		Total
Removal of Existing Bridge Deck	sq. foot	10,841
Slab on Steel	sq. yard	1203
Type H Barrier	linear foot	706
Fiber Reinforced Polymer Wrap	sq. foot	379
Protective Coating - Concrete Bents and Piers (Epoxy)	lump sum	1
Fabricated Structural Low Alloy Steel (Plate Girder) A709 Grade 50	pound	57,950
Slab Drain	each	36
Surface Preparation for Applying Epoxy-Mastic Primer	lump sum	1
Finish Field Coat (System L)	sq. foot	5900
Gray Epoxy-Mastic Primer	lump sum	1
Reconfigure Existing Structural Steel	lump sum	1
Laminated Neoprene Bearing Pad	each	8
Laminated Neoprene Bearing Pad Assembly	each	8

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



DETAIL A

REPAIRS TO BRIDGE: ROUTE B OVER ONE HUNDRED AND TWO RIVER

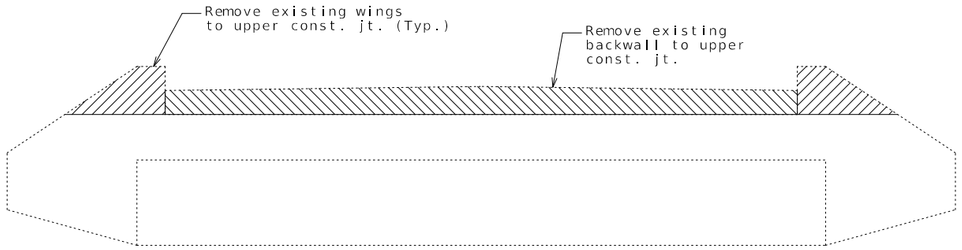
ROUTE B FROM ROUTE 71 TO ROUTE N
ABOUT 1.6 MILES EAST OF ROUTE 71
BEGINNING STATION 86+41.60± (MATCH EXISTING)

STATE OF MISSOURI
TRENTON B. CRAWFORD
NUMBER PE-2012018053
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/8/2026
ROUTE B
STATE MO
DISTRICT BR
SHEET NO. 1
COUNTY ANDREW
JOB NO. JNW0047
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A12512

DESCRIPTION
DATE

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



DETAILS OF CONCRETE REMOVAL AT END BENTS

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

A smooth, level surface shall be provided at removal lines.

General Notes:

Stay-In-Place Forms:

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

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

Form sheets shall not rest directly on the top of beam 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.

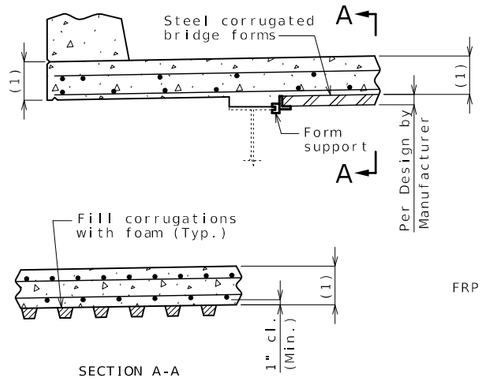
The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for beam loading.

Pouring and Finishing Slab:

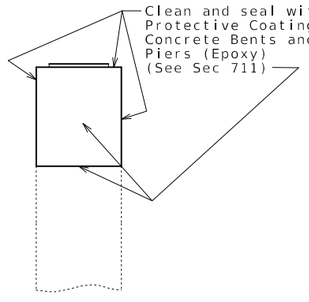
The contractor shall provide bracing necessary for lateral and torsional stability of the beams during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not weld on or drill holes in the beams. The cost for furnishing, installing,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

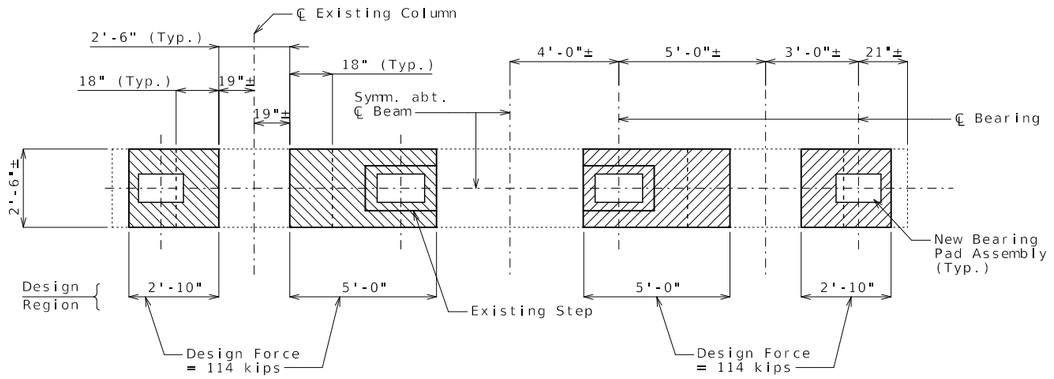


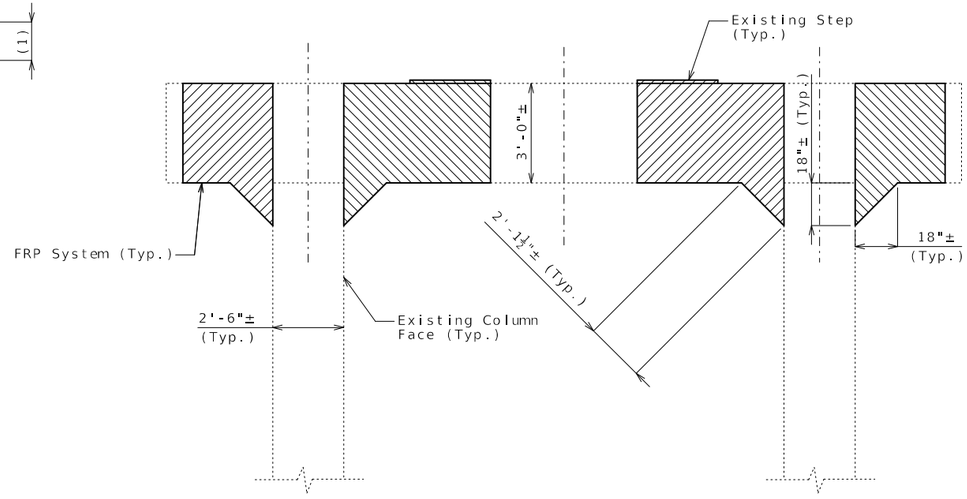
OPTIONAL STAY-IN-PLACE FORM DETAILS



TYPICAL SECTION THRU INT. BENTS NO. 2 & 5 SHOWING PROTECTIVE COATING

Note:
Protective Coating - Concrete Bents and Piers (Epoxy) shall be applied on all locations on the beam cap where FRP Wrap is not at Int. Bents No. 2 & 5.





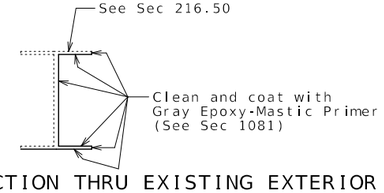
PART PLAN AND ELEVATION OF INT. BENTS NO. 2 & 5 SHOWING DETAILS OF FIBER REINFORCED POLYMER WRAP

(Int. Bent No. 2 shown, Int. Bent No. 5 similar)

Notes:

Design Force is the factored shear force (Load Factor Design) at any cross section in each design region that shall be resisted entirely by the Fiber Reinforced Polymer (FRP) wrap.

See Special Provisions.



TYPICAL SECTION THRU EXISTING EXTERIOR GIRDERS SHOWING PROTECTIVE COATING

STATE OF MISSOURI
TRENTON B. CRAWFORD
NUMBER PE-2012018053
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/8/2026

ROUTE	STATE
B	MO
DISTRICT	SHEET NO.
BR	2

COUNTY
ANDREW

JOB NO.
JNW0047

CONTRACT ID.

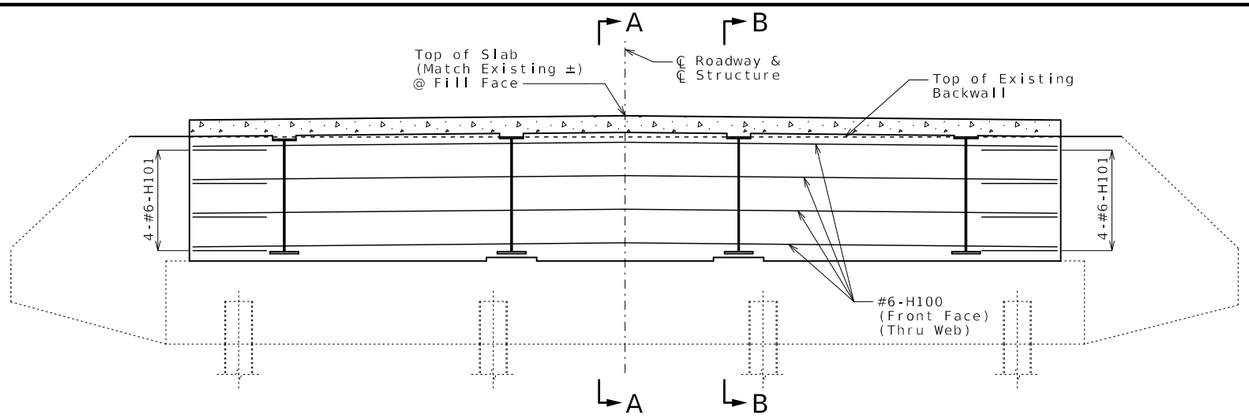
PROJECT NO.

BRIDGE NO.
A12512

DESCRIPTION

DATE

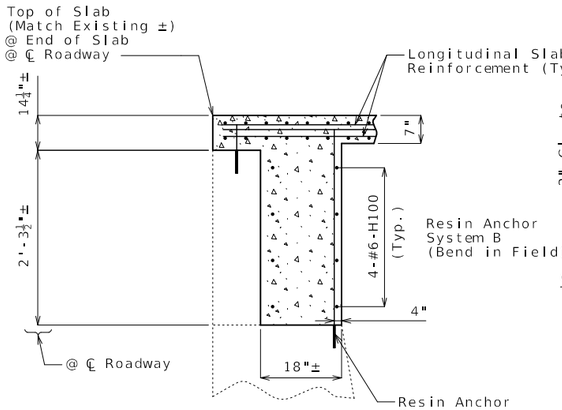
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



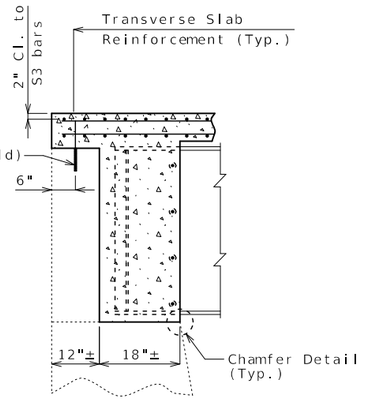
SECTION NEAR END BENT

(End Bent No. 1 shown, End Bent No. 6 similar)

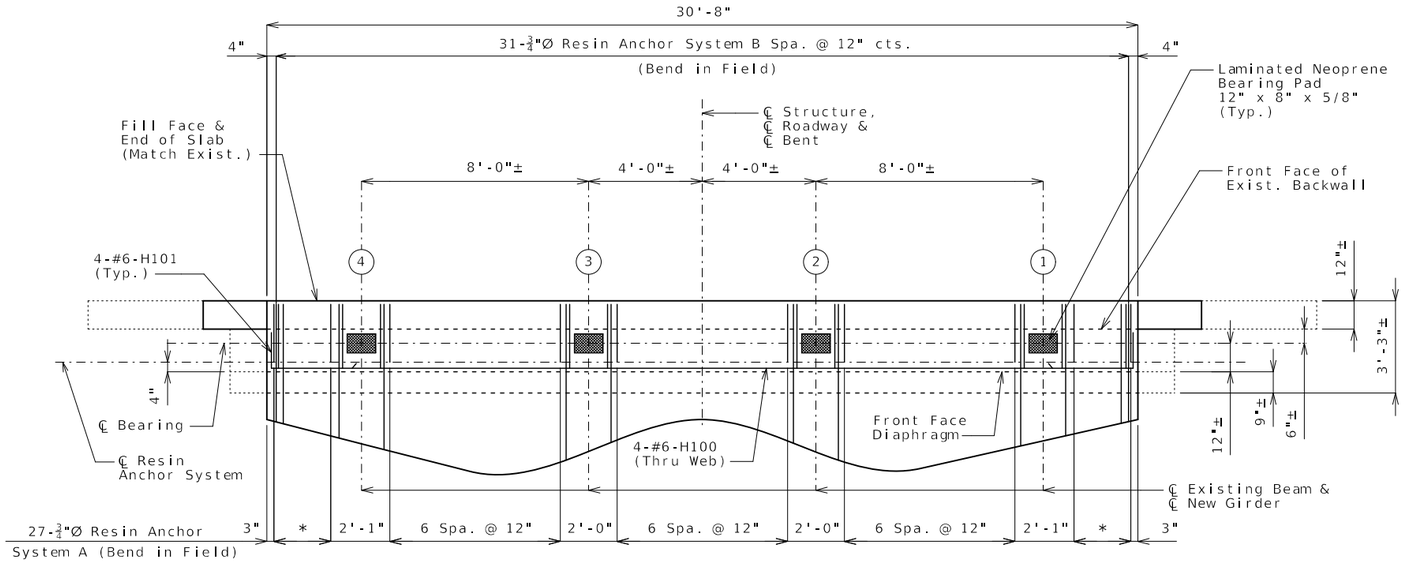
Resin anchors and slab bars not shown for clarity.



SECTION A-A



SECTION B-B

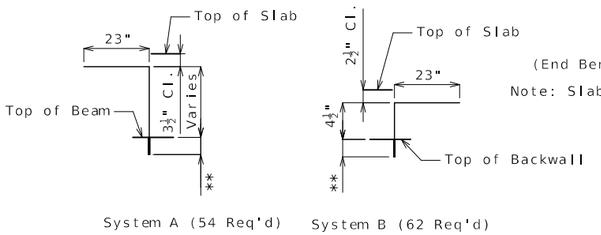


* 2 Spa. @ 12"

PART PLAN

(End Bent No. 1 shown, End Bent No. 6 similar)

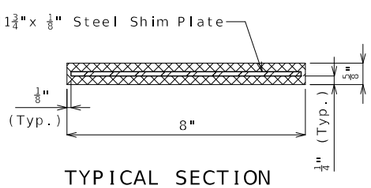
Note: Slab reinforcing steel not shown for clarity.



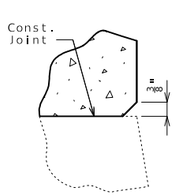
System A (54 Req'd) System B (62 Req'd)

DETAILS OF RESIN ANCHOR SYSTEMS

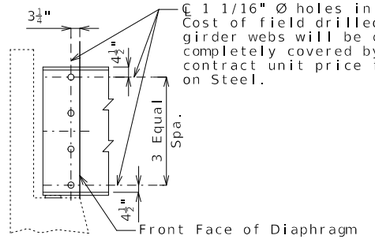
** Manufacturer's recommended embedment length (5" min.)



TYPICAL SECTION THRU 12" x 8" x 5/8" LAMINATED NEOPRENE BEARING PAD



CHAMFER DETAIL



℄ 1 1/16" Ø holes in each girder. Cost of field drilled holes in girder webs will be considered completely covered by the contract unit price for Slab on Steel.

DETAIL OF WEB HOLES AT END BENT

Notes:

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

Cost of placing roofing felt will be considered completely covered by the contract unit price for Slab on Steel.

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

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

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

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

The #6-H100 bars are segmented for ease of placement through girder web holes. The total bar length for #6-H100 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 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 accomodate 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.

DETAILS OF END BENT NO. 1 & 6

Detailed May 2026
Checked Jul. 2026

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

STATE OF MISSOURI
TRENTON B. CRAWFORD
NUMBER PE-2012018053
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/8/2026

ROUTE	STATE
B	MO
DISTRICT	SHEET NO.
BR	3

COUNTY ANDREW

JOB NO. JNW0047

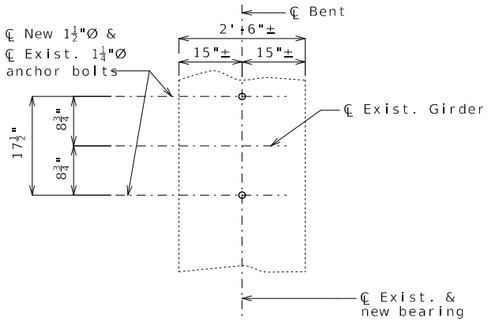
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PROJECT NO.

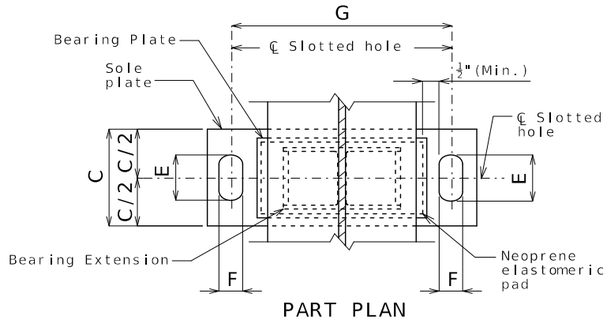
BRIDGE NO. A12512

DESCRIPTION | DATE

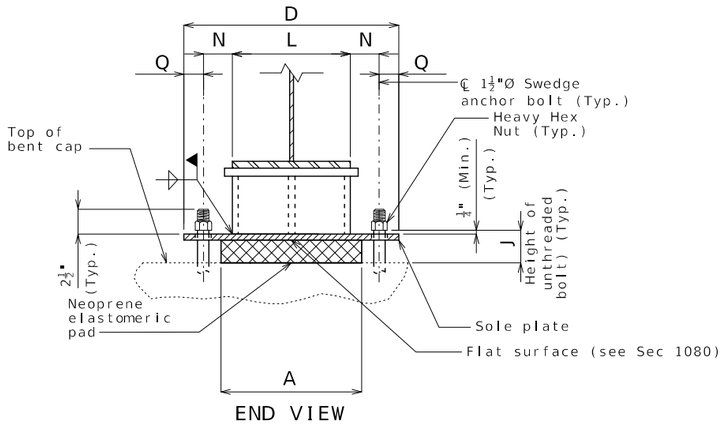
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



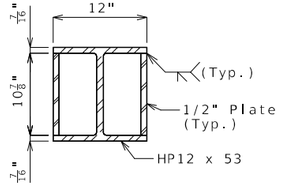
PART PLAN SHOWING
ANCHOR BOLT LOCATION



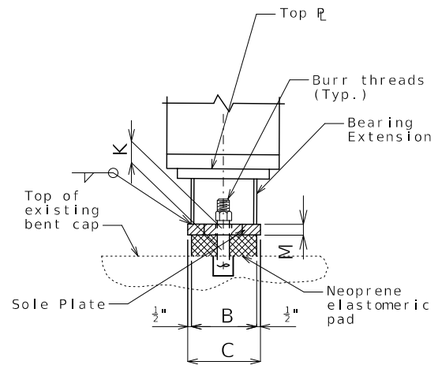
PART PLAN



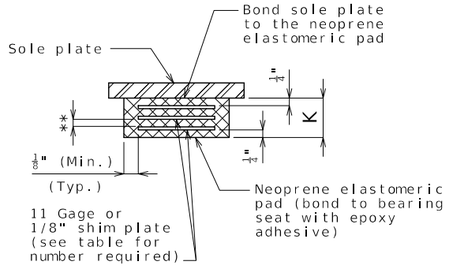
END VIEW



SECTION A-A

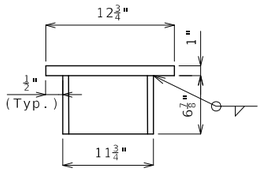


SIDE VIEW

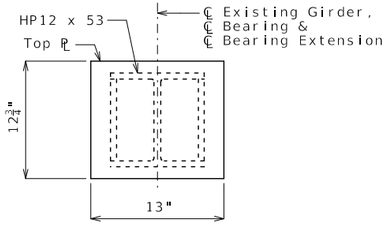


** Layers of 1/2" elastomer alternating with 11 gage or 1/8" shim plate

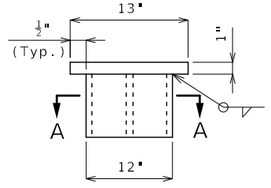
NEOPRENE ELASTOMERIC PAD



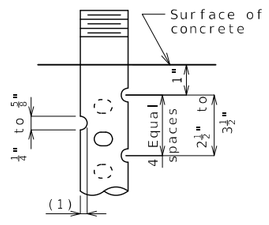
SIDE ELEVATION OF
BEARING EXTENSION



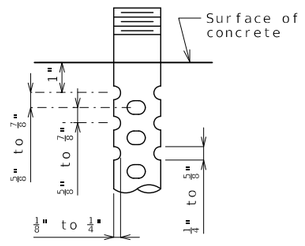
PLAN OF BEARING
EXTENSION



END ELEVATION OF
BEARING EXTENSION



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

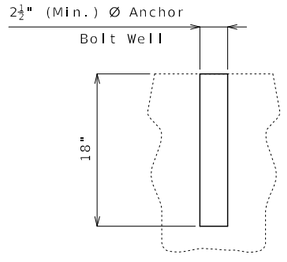


OPTIONAL DETAIL OF 1 3/8"Ø
THRU 2 1/2"Ø ANCHOR BOLTS

SWEDGE ANCHOR BOLT DETAILS

(1) ⅛" for ¾"Ø thru 1¼"Ø anchor bolts

⅛" to ¼" for 1⅜"Ø thru 2½"Ø anchor bolts



DETAIL OF
ANCHOR BOLT WELLS

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
2	14"	12"	13"	22"	7¾"	1⅝"	17½"	6⅜"	4⅜"	12"	1¼"	2¾"	⅛"	2¼"	-	7	4
5	14"	12"	13"	22"	7¾"	1⅝"	17½"	6⅜"	4⅜"	12"	1½"	2¾"	1/16"	2¼"	-	7	4
																TOTAL BEARINGS	8

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

GENERAL NOTES:

Anchor bolts shall be 1¼"Ø ASTM F1554 Grade 55 swedged bolts and shall extend 15" into the concrete 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 P 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 ASTM F2329.

Neoprene Elastomeric Pads shall be 60 Durometer.

Structural steel for sole plate shall be ASTM A709 Grade 50 and 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.

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

Required temporary support load of 16 kips at each bearing is a service load without a factor of safety. It includes the dead load without slab and a construction load of 50 psf applied to the deck area. Live load is not included in the support load (See special provisions).

LAMINATED NEOPRENE BEARING PAD ASSEMBLIES AT INT. BENTS NO. 2 & 5

Detailed Jul. 2026
Checked Jul. 2026

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

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PROFESSIONAL ENGINEER
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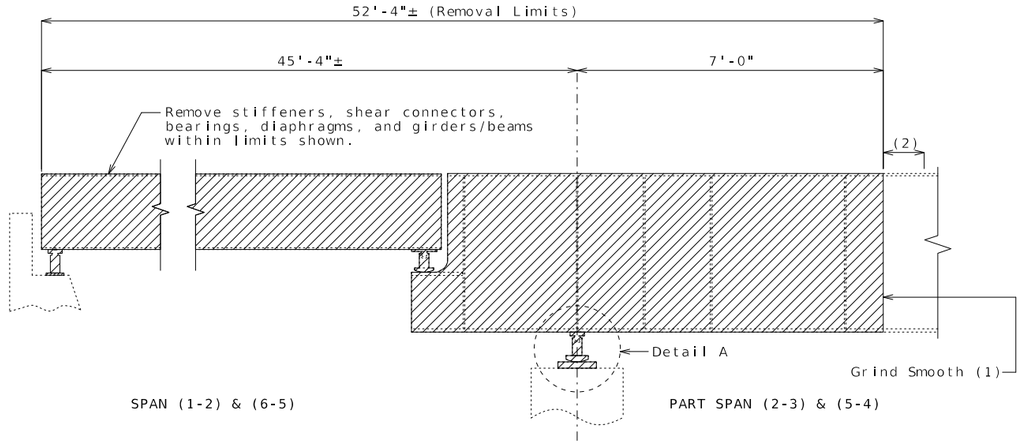
DATE PREPARED 10/8/2026

ROUTE	STATE
B	MO
DISTRICT	SHEET NO.
BR	4

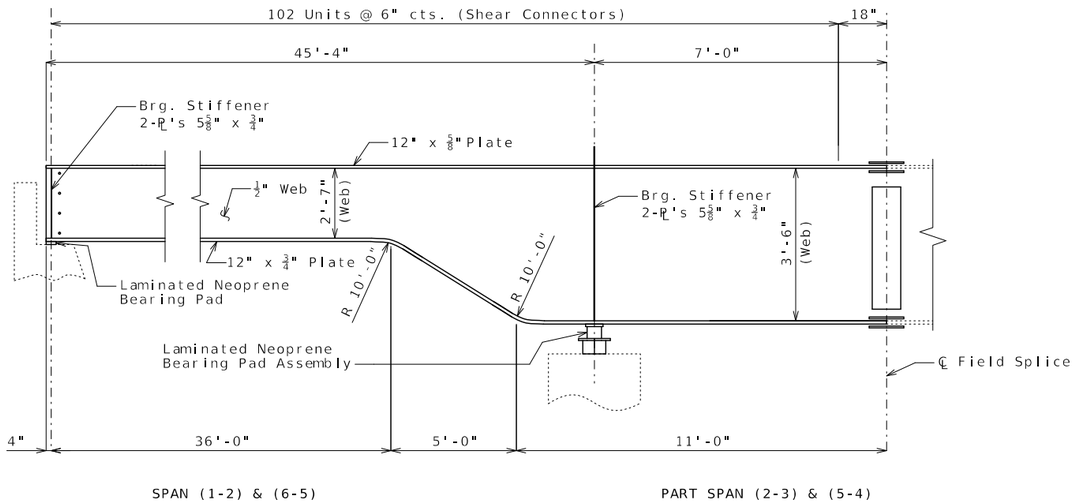
COUNTY ANDREW
JOB NO. JNW0047
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A12512

DESCRIPTION | DATE

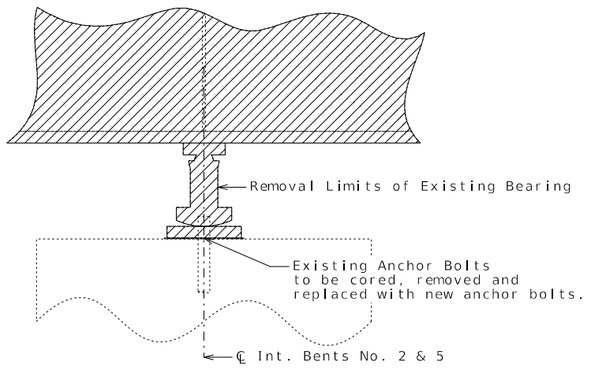
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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1-888-ASK-MODOT (1-888-275-6636)



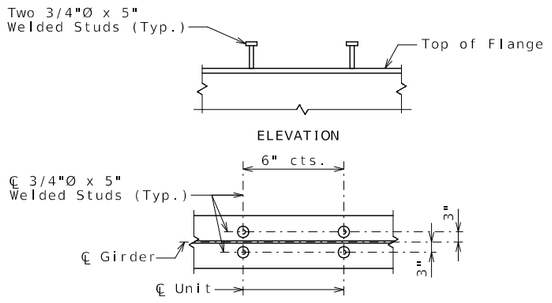
PART ELEVATION OF EXISTING GIRDER AND BEAM SHOWING STRUCTURAL STEEL REMOVAL



PART ELEVATION OF GIRDER SHOWING STRUCTURAL STEEL RECONFIGURATION



DETAIL A



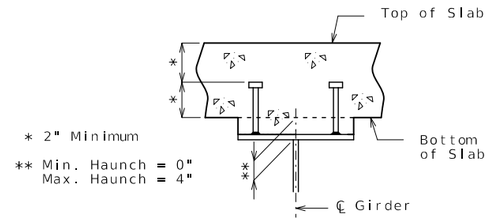
PLAN OF SHEAR CONN. (2 PER UNIT)

DETAILS OF SHEAR CONNECTORS

The cost of supplying and installing shear connectors will be considered completely covered by the contract unit price for Fabricated Structural Low Alloy Steel (Plate Girder) A709, Grade 50.

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

The estimated weight of shear connectors is 1600 lbs.



HALF SECTION THRU GIRDER

SECTION THRU NEW GIRDER SHOWING SHEAR CONNECTORS

(Haunch includes top flange)

Notes:

Removal of existing girders/beams, shear connectors, intermediate diaphragms, end diaphragms, bearings, and any other incidental material included in the removal limits, and any coating repair will be considered completely covered by the contract unit price for Reconfigure Existing Structural Steel.

Any weld material remaining after removal shall be ground flush.

Required temporary load of 12 kips per girder on the Span (2-3) side of Bent 2 and Span (4-5) side of Bent 5. These temporary support loads are service dead loads without a factor of safety. It includes existing girder weight (existing or proposed deck weight not included) and a construction load of 50 psf. See special provisions.

For details of Laminated Neoprene Bearing Pad Assembly, see Sheet No. 4.

For Part Plan of Structural Steel, see Sheet No. 6.

(1) The cut end of existing girders and any damaged areas of existing paint shall be coated with Gray Epoxy-Mastic Primer.

(2) Any shear connectors interfering with splice plate installation shall be removed and flange surface ground smooth.

Notes:

For details of Int. diaphragm, bearing stiffeners and connection plates, see Sheet No. 6.

All new flange and web plates shall be subjected to notch toughness requirements.

Longitudinal dimensions are horizontal.

All fabricated structural steel shall be ASTM A709 Grade 50, except as shown.

For location of slab drain attachment holes, see Sheet No. 9.

For details of bolted field splices and shop welded splices, see sheet No. 7.

Cost of furnishing and installing the shear connectors, complete in place, will be considered completely covered by the contract unit price for Fabricated Structural Low Alloy Steel (Plate Girder) A709, Grade 50.

RECONFIGUARATION OF EXISTING STRUCTURAL STEEL DETAILS

Detailed Aug. 2026
Checked Aug. 2026

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

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TRENTON B. CRAWFORD
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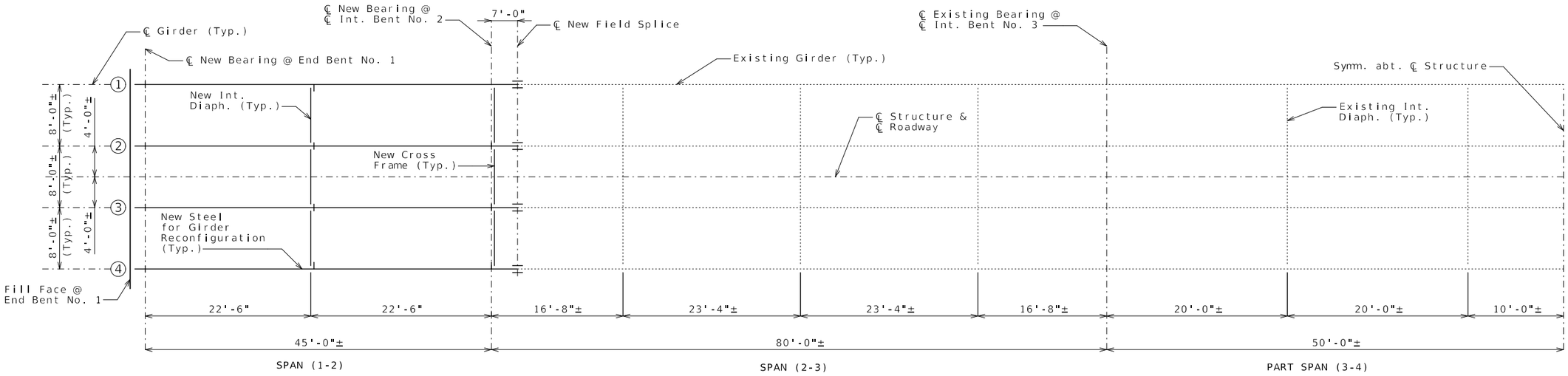
DATE PREPARED 10/8/2026

ROUTE	STATE
B	MO
DISTRICT	SHEET NO.
BR	5

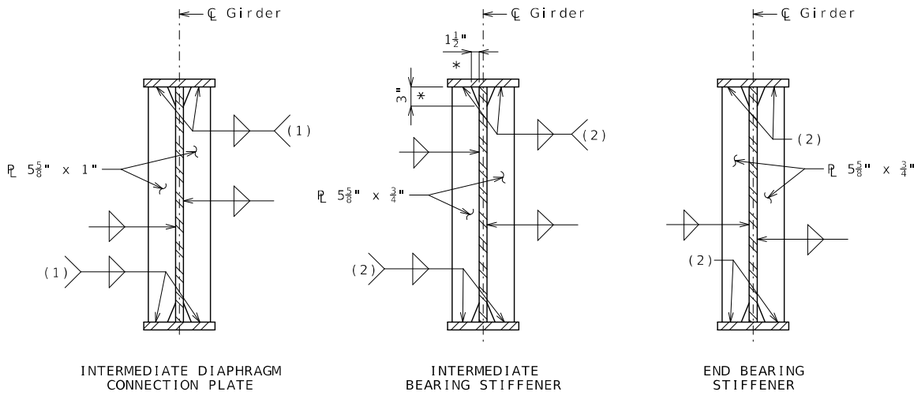
COUNTY: ANDREW
JOB NO.: JNW0047
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A12512

DESCRIPTION | DATE

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PLAN OF STRUCTURAL STEEL

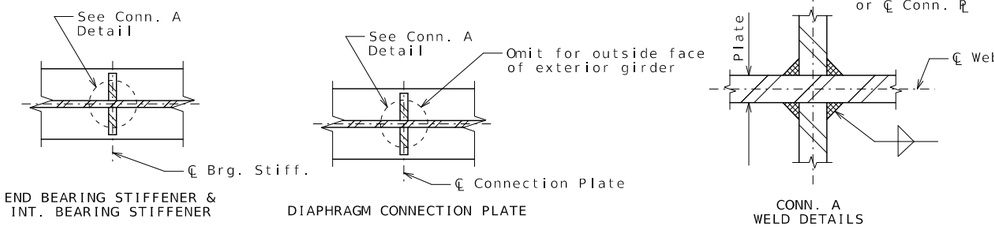


WELDING DETAILS

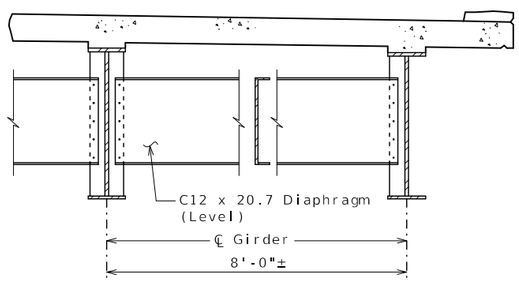
(1) Tight fit

(2) Grind or mill to bear.

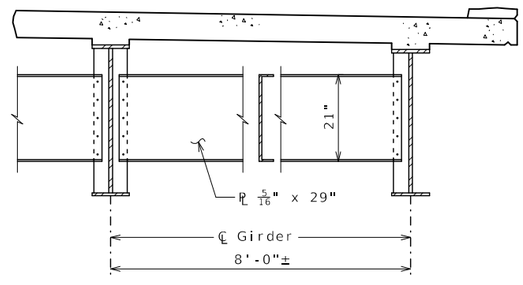
∗ Typical for all intermediate diaphragm connection plates and bearing stiffeners.



TYPICAL LOCATION DETAILS



TYPICAL PART SECTION SHOWING CROSS FRAMES



TYPICAL PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS

Notes:

All fabricated structural steel shall be ASTM A709 Grade 50, except as shown.

Longitudinal dimensions are horizontal.

For details of Girders, see Sheet No. 5.

For details of Shear Connectors, see Sheet No. 5.

For detail of Bolted Field Splices, see Sheet No. 7.

For location of Slab Drain attachment holes, see Sheet No. 9.

RECONFIGURATION OF EXISTING STRUCTURAL STEEL DETAILS

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

Detailed Jun. 2026
Checked Jul. 2026

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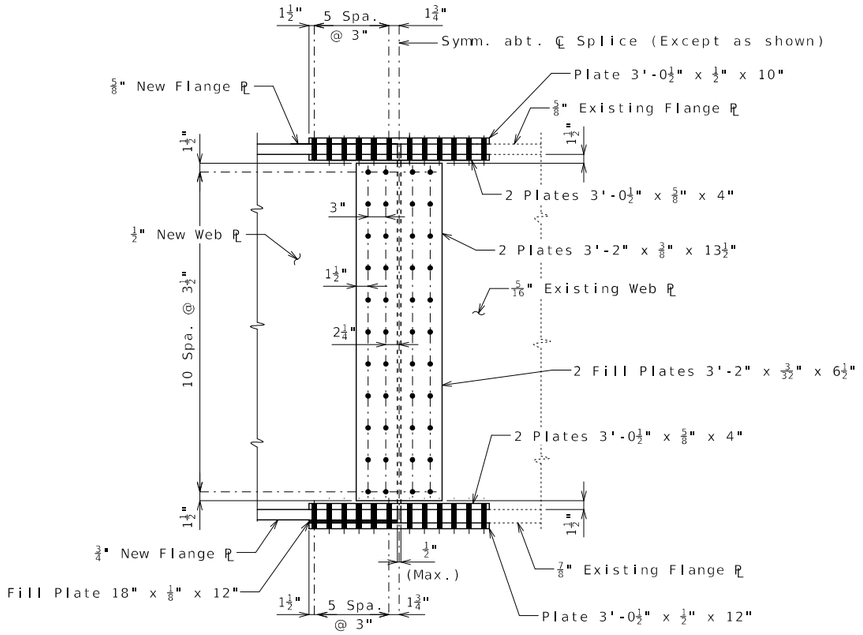
DATE PREPARED 10/8/2026

ROUTE	STATE
B	MO
DISTRICT	SHEET NO.
BR	6

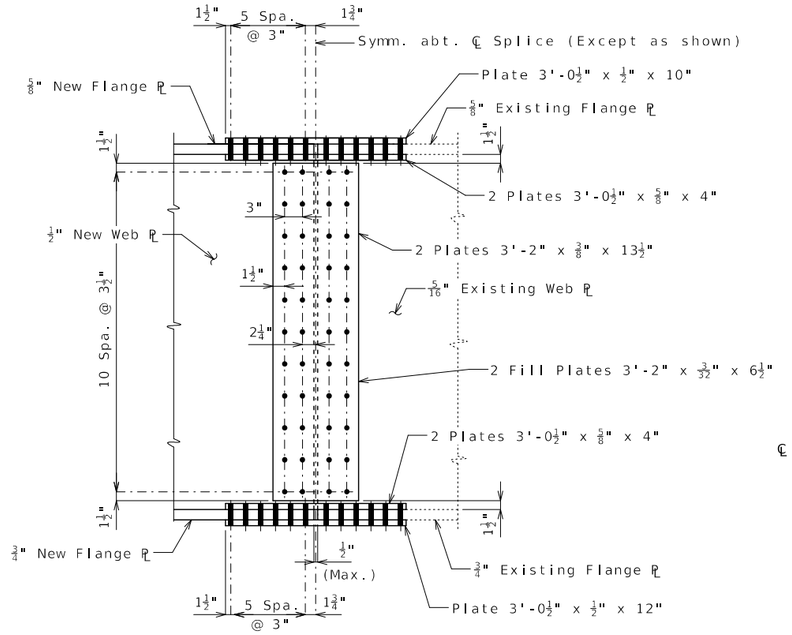
COUNTY: ANDREW
JOB NO.: JNW0047
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A12512

DESCRIPTION	DATE

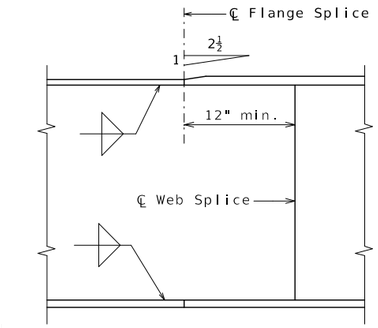
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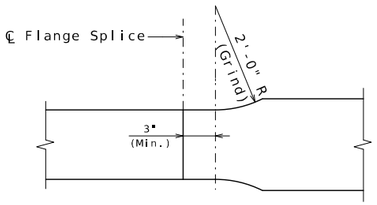
DETAIL OF BOLTED FIELD SPLICE (INTERIOR GIRDER)



DETAIL OF BOLTED FIELD SPLICE (EXTERIOR GIRDER)



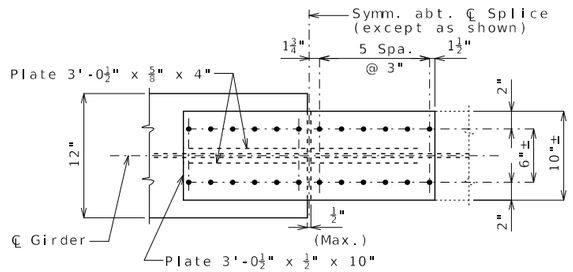
ELEVATION



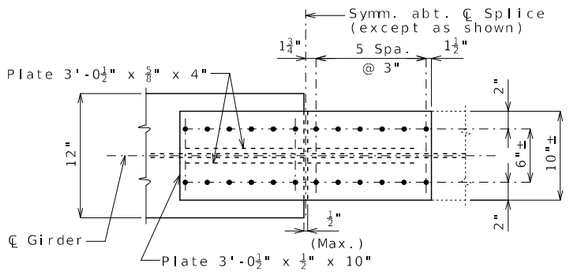
PLAN SHOWING
2'-0" RADIUS TRANSITION

WELDED SHOP WEB AND FLANGE SPLICE

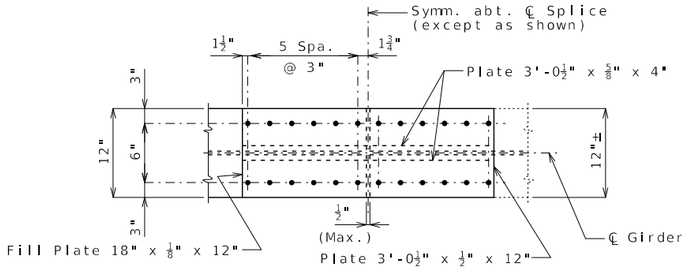
Welded shop web and flange splices may be permitted when detailed on the shop drawings and approved by the engineer. No additional payment will be made for optional welded shop web and flange splices.



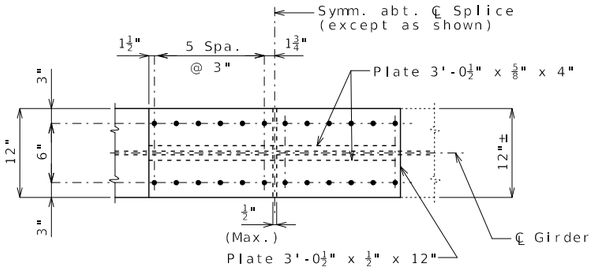
PLAN OF TOP FLANGE (INTERIOR GIRDER)



PLAN OF TOP FLANGE (EXTERIOR GIRDER)



PLAN OF BOTTOM FLANGE (INTERIOR GIRDER)



PLAN OF BOTTOM FLANGE (EXTERIOR GIRDER)

Notes:

Bolts shall be 7/8-inch diameter ASTM F3125 Grade A325 Type 1 in 15/16-inch diameter holes.

Contact surfaces shall be in accordance with Sec 1081 for surface preparation.

The flange and web splice plates shall be subject to notch toughness requirements, when notch toughness is required for flanges on both sides of splice.

All fabricated structural steel shall be ASTM A709 Grade 50, except as shown.

For Plan of Structural Steel and Elevation of Girder, see Sheet No. 6

FIELD SPLICE DETAILS

(Field Splice near Bent No. 2 shown. Field Splice near Bent No. 5 similar)

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DISTRICT	SHEET NO.
BR	7

COUNTY ANDREW

JOB NO. JNW0047

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PROJECT NO.

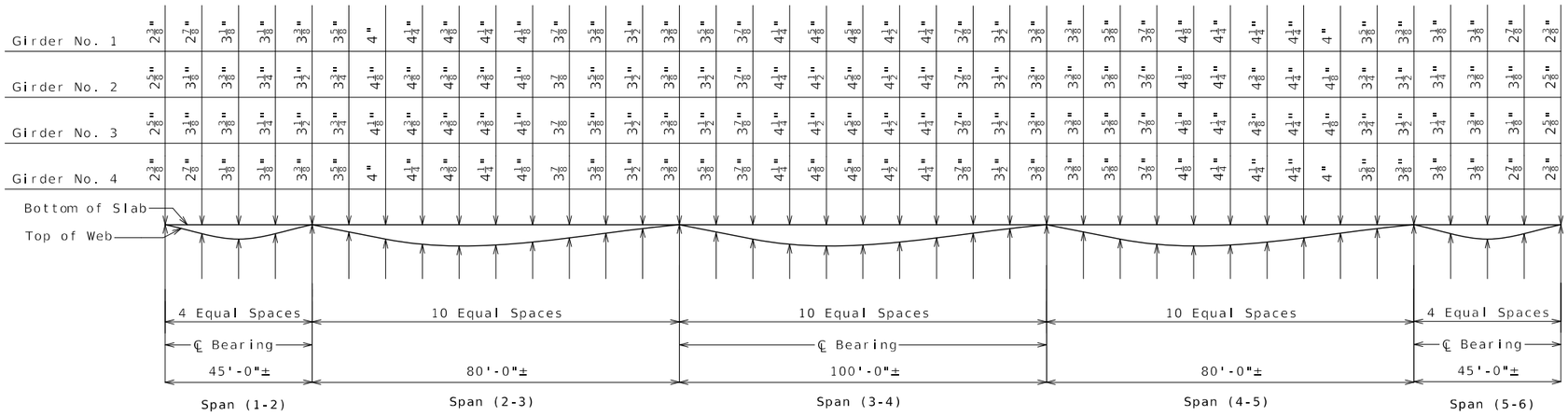
BRIDGE NO. A12512

DESCRIPTION	DATE

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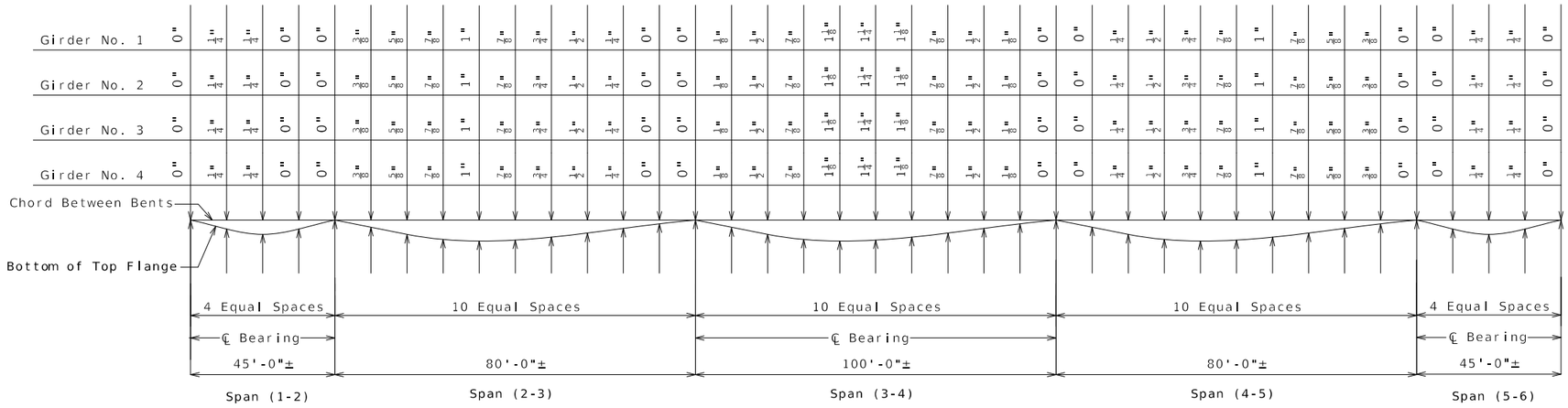
Detailed Jul. 2026
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Note: This drawing is not to scale. Follow dimensions.



THEORETICAL SLAB HAUNCHING DIAGRAM

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

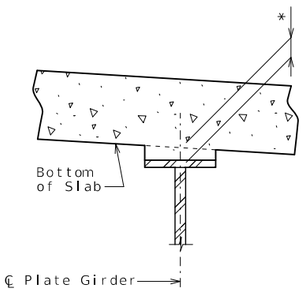


DEAD LOAD DEFLECTION

14.0% of dead load deflection (Exterior Beams) is due to the weight of structural steel.

13.0% of dead load deflection (Interior Beams) is due to the weight of structural steel.

Dead load deflection includes weight of structural steel, concrete slab and barrier.



THEORETICAL SLAB HAUNCH

(Haunch includes top flange)

* See Theoretical Slab Haunching Diagram

Detailed Aug. 2026
Checked Aug. 2026

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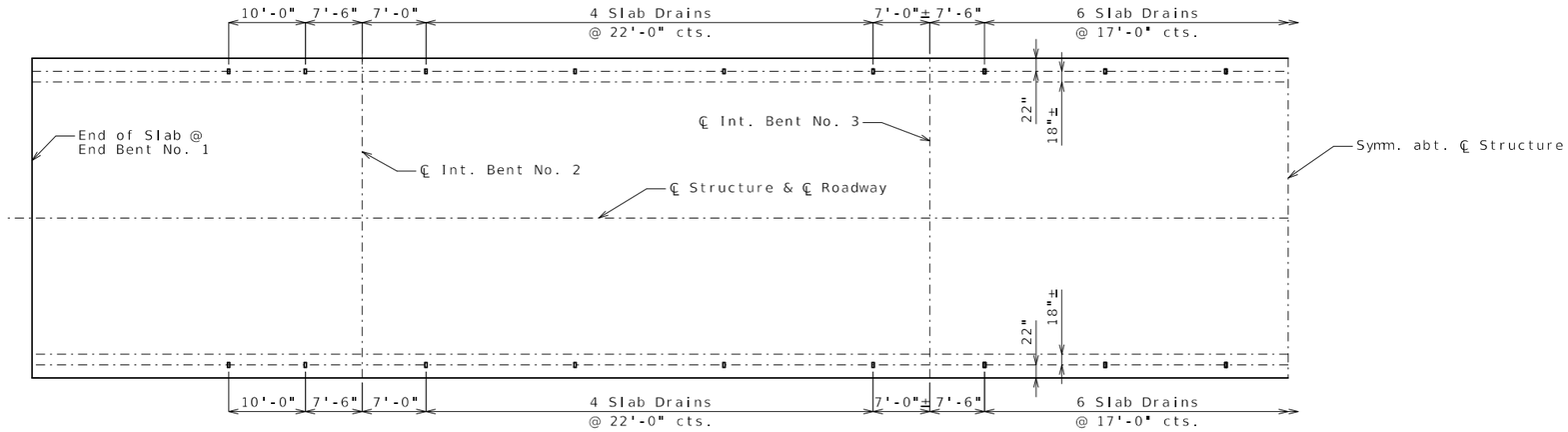
DATE PREPARED 10/8/2026

ROUTE	STATE
B	MO
DISTRICT	SHEET NO.
BR	8

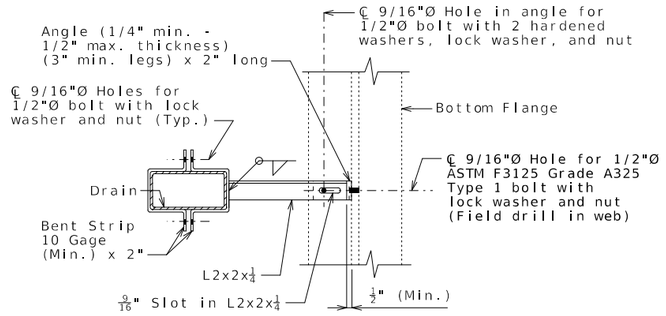
COUNTY: ANDREW
JOB NO.: JNW0047
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A12512

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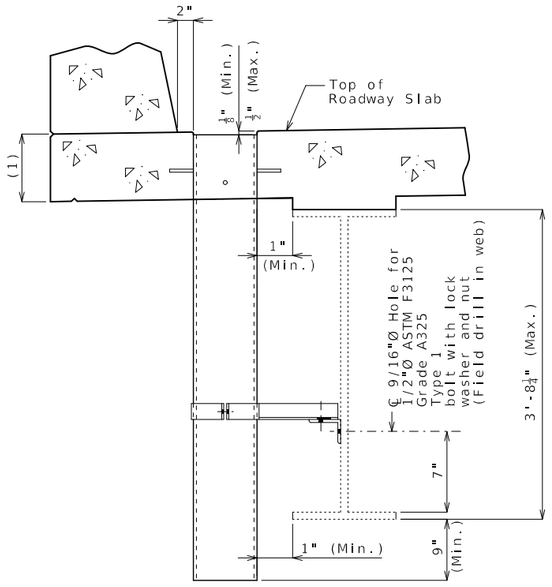
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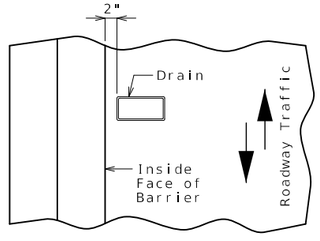
PART PLAN OF SLAB SHOWING DRAIN LOCATIONS



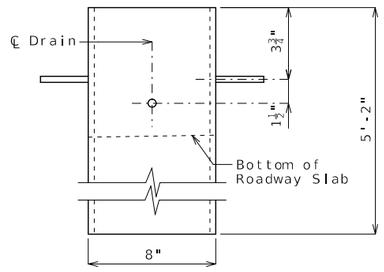
PART SECTION SHOWING BRACKET ASSEMBLY



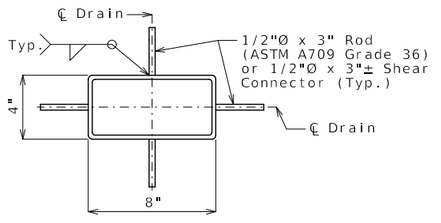
PART SECTION NEAR DRAIN



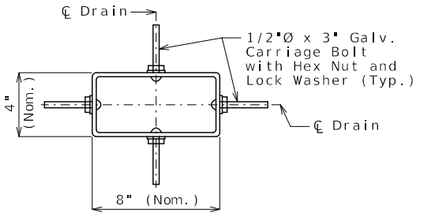
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

General Notes:

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

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

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

Reinforcing steel shall be shifted to clear drains.

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

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM F2329.

All 1/2"Ø bolts shall be ASTM A307, except as shown.

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

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

(1) See front sheet for slab thickness.

Notes for Steel Drain:

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

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

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

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

Minimum reinforced wall thickness shall be 1/4 inch.

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

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

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

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

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DISTRICT	SHEET NO.
BR	9

COUNTY ANDREW

JOB NO. JNW0047

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A12512

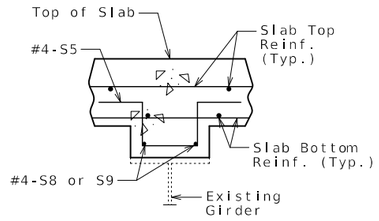
DESCRIPTION	DATE

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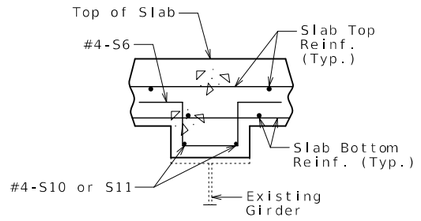
SLAB DRAINS

Detailed Jun. 2026
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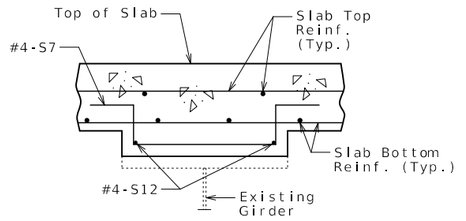
Note: This drawing is not to scale. Follow dimensions.



HAIRPIN A
(HAIRPIN BAR DETAIL)

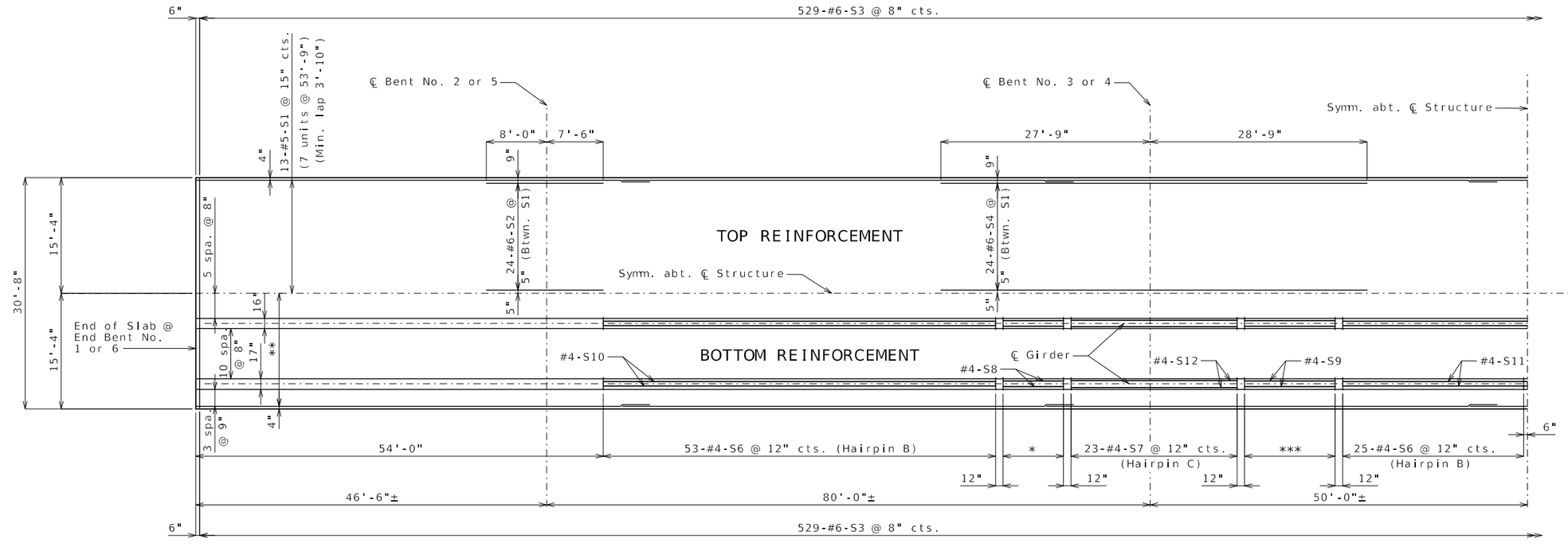


HAIRPIN B
(HAIRPIN BAR DETAIL)



HAIRPIN C
(HAIRPIN BAR DETAIL)

Note: #4-S5, S6 or S7 hairpin bars may be placed at an angle to meet clearances.



* 9-#4-S5 @ 12" cts. (Hairpin A)

** 21-#5-S1 (Spa. as shown)
(7 units @ 53'-9")
(Min. lap 3'-10")

*** 13-#4-S5 @ 12" cts. (Hairpin A)

Notes:

For Typical Section thru Slab, see Sheet No. 1.

For details of barrier not shown, see Sheets No. 11 & 12

PART PLAN OF SLAB SHOWING REINFORCEMENT

Detailed Jul. 2026
Checked Jul. 2026

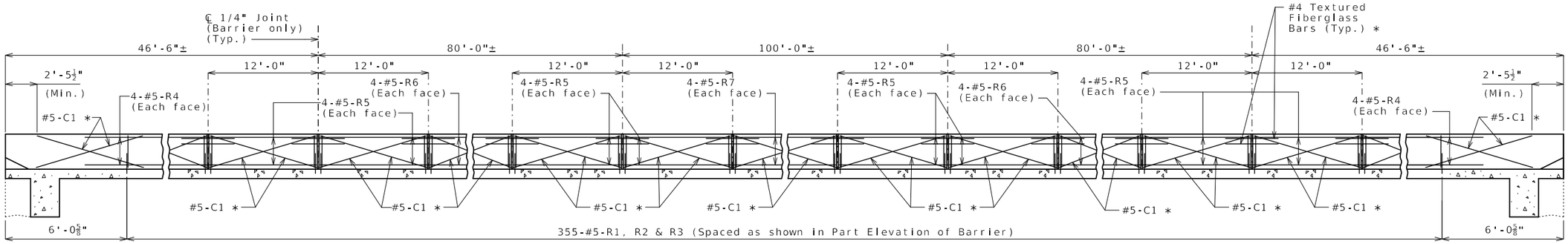
Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
TRENTON B. CRAWFORD
NUMBER PE-2012018053
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/8/2026
ROUTE B | STATE MO
DISTRICT BR | SHEET NO. 10
COUNTY ANDREW
JOB NO. JNW0047
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A12512

DESCRIPTION | DATE

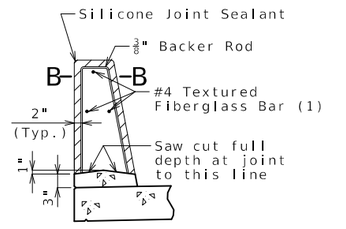
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



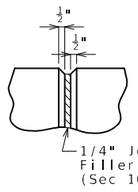
ELEVATION OF BARRIER

(Left barrier shown, right barrier similar)

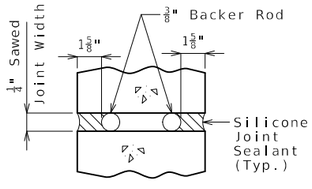
Longitudinal dimensions are horizontal.



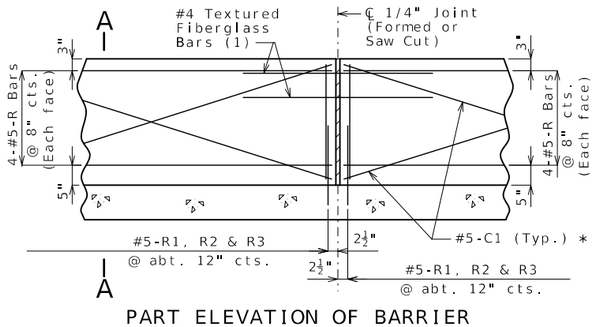
SECTION THRU
SAW CUT JOINT



PART ELEVATION
AT FORMED JOINT

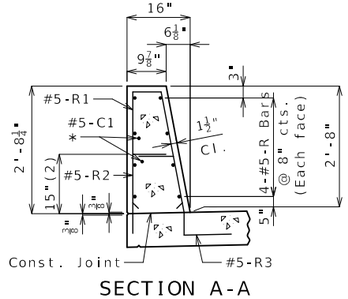


SECTION B-B



PART ELEVATION OF BARRIER

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

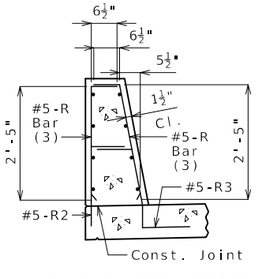


SECTION A-A

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

The cross-sectional area above the slab is 2.88 square feet.

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

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

General Notes:

* Slip-formed option only.

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

Top of barrier shall be built parallel to grade and barrier joints normal to grade.

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

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

Concrete in barrier shall be Class B-1.

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

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

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

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

STATE OF MISSOURI
TRENTON B. CRAWFORD
NUMBER PE-2012018053
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/8/2026

ROUTE	STATE
B	MO
DISTRICT	SHEET NO.
BR	11

COUNTY: ANDREW

JOB NO.: JNW0047

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.: A12512

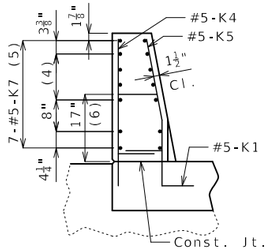
DESCRIPTION	DATE

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

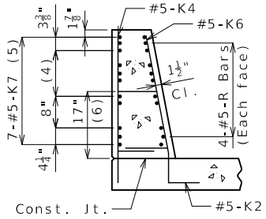
TYPE H BARRIER

Detailed May 2026
Checked Jul. 2026

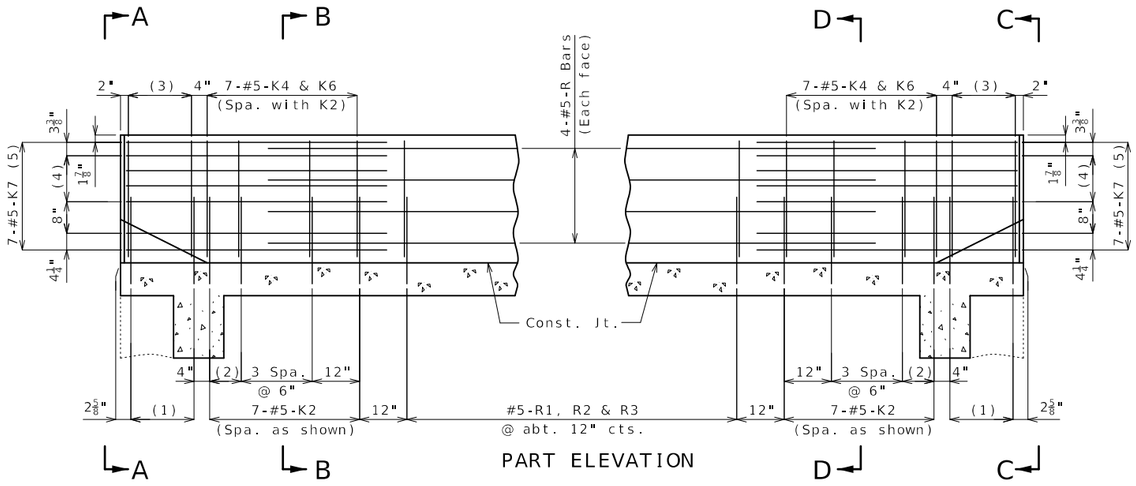
Note: This drawing is not to scale. Follow dimensions.



ELEVATION A-A



SECTION B-B



PART ELEVATION

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

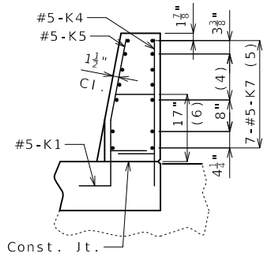
(2) 2 Spaces @ 4"

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

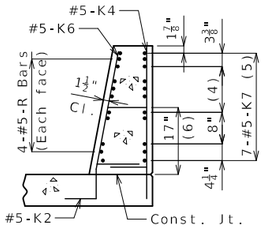
(4) 3 Spaces @ 3 13/16"

(5) Spaced as shown, each face

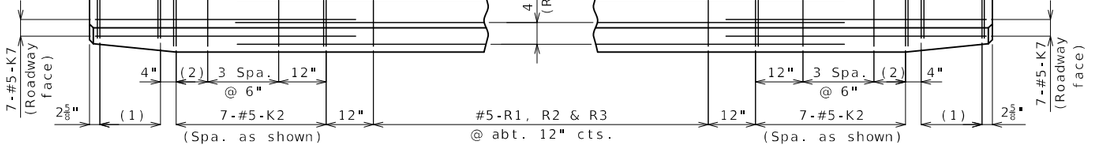
(6) To top of bar



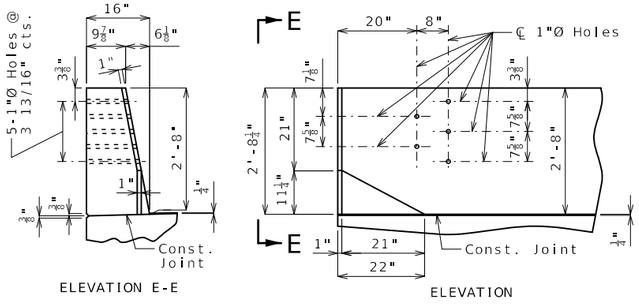
ELEVATION C-C



SECTION D-D

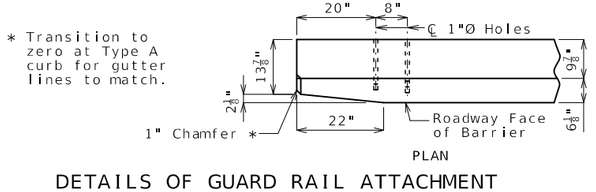


PART PLAN



ELEVATION E-E

ELEVATION



PLAN

DETAILS OF GUARD RAIL ATTACHMENT

General Notes:

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

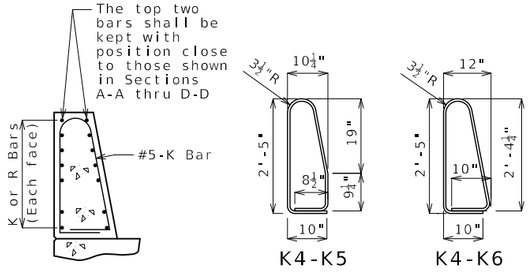
Reinforcing Steel:

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

Use a minimum lap of 2'-6" between K7 bars and R bars.

TYPE H BARRIER AT END BENTS

(Left barrier shown, right barrier similar)



PERMISSIBLE ALTERNATE SHAPES

(Other K bars not shown for clarity)

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

All dimensions are out to out.

STATE OF MISSOURI
TRENTON B. CRAWFORD
NUMBER PE-2012018053
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/8/2026

ROUTE	STATE
B	MO
DISTRICT	SHEET NO.
BR	12

COUNTY: ANDREW

JOB NO.: JNW0047

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.: A12512

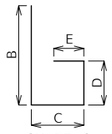
DESCRIPTION

DATE

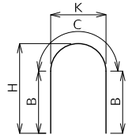
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

Detailed May 2026
Checked Jul. 2026

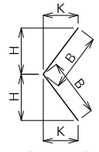
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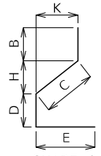
SHAPE 6
or 6S



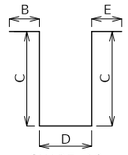
SHAPE 7



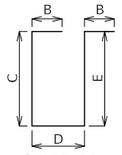
SHAPE 8
or 8S



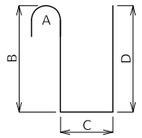
SHAPE 9
or 9S



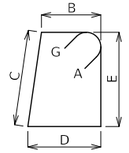
SHAPE 10
or 10S



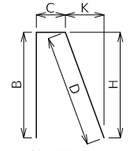
SHAPE 11
or 11S



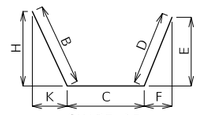
SHAPE 12



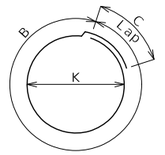
SHAPE 13S



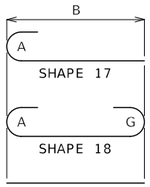
SHAPE 14
or 14S



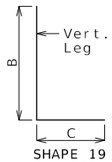
SHAPE 15
or 15S



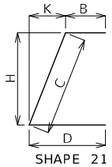
SHAPE 16



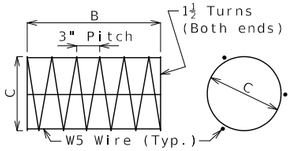
SHAPE 17
SHAPE 18
SHAPE 20



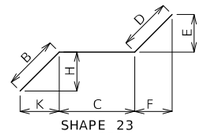
SHAPE 19
or 19S



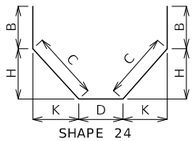
SHAPE 21
or 21S



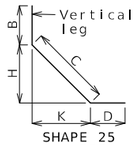
SHAPE 22



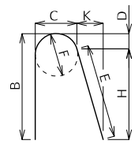
SHAPE 23
or 23S



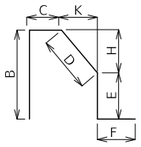
SHAPE 24
or 24S



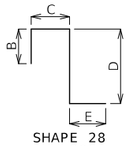
SHAPE 25
or 25S



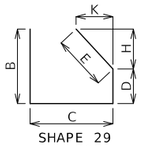
SHAPE 26



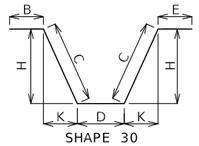
SHAPE 27S



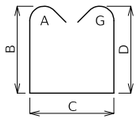
SHAPE 28
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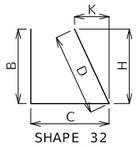
SHAPE 29
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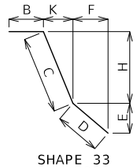
SHAPE 30
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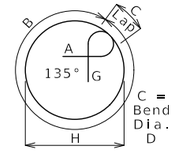
SHAPE 31S



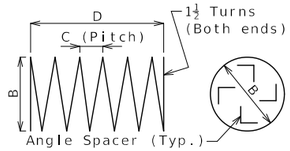
SHAPE 32
or 32S



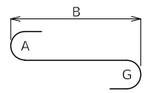
SHAPE 33
or 33S



SHAPE 34S



SHAPE 35 (1)

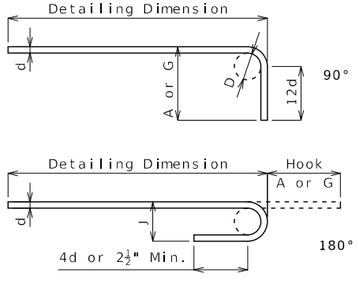


SHAPE 36

Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes

Size	Case	D	A or G		J
			90°	180°	180°
#4	1	3"	8"	6"	4"
#5	1	3¾"	10"	7"	5"
#6	1	4½"	12"	8¼"	6"
#7	2	5¼"	14"	9¾"	7"
	3	7"	15"	11½"	8¾"
#8	2	6"	16"	11"	8"
	3	8"	17"	13¼"	10"
#9	1	9½"	19½"	15½"	11¾"
#10	1	10¾"	22"	17½"	13¼"
#11	1	12"	24½"	19½"	14⅞"
#14	1	18¼"	31¼"	27½"	21⅝"
#18	1	24"	41½"	36¾"	28½"

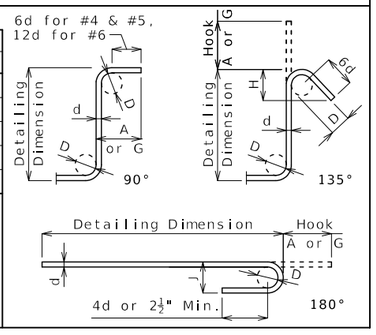


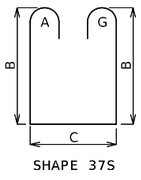
Stirrup Pin Bend Shapes (S)

Size	Case	D	A or G			H	J
			90°	135°	180°	135°	180°
#4	2	2"	4½"	4½"	5"	2⅝"	3"
	3	3"	5"	5¼"	6"	3"	4"
#5	2	2½"	5¾"	5¾"	5¾"	3⅝"	3¾"
	3	3¾"	6¼"	6½"	7"	3⅞"	5"
#6	1	4½"	12"	7¾"	8¼"	4⅜"	6"

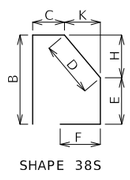
Applicable for all grades of steel.

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





SHAPE 37S



SHAPE 38S

BENDING DIAGRAMS

All dimensions are out to out.

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

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

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

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

Reinforcing Steel Totals (Pounds)

		Substructure		Superstructure				Entire Bridge	
				Slab			Slip		
	Size	Plain	Coated	Plain	Coated	Barrier	Form	Plain	Coated
By Size	W5	0	0	0	0	0	0	0	0
	4	0	0	0	2,738	0	0	0	2,738
	5	0	0	0	25,900	14,376	801	0	41,077
	6	0	0	0	59,233	0	0	0	59,233
	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0
	9	0	0	0	0	0	0	0	0
	10	0	0	0	0	0	0	0	0
	11	0	0	0	0	0	0	0	0
	14	0	0	0	0	0	0	0	0
	18	0	0	0	0	0	0	0	0
By Type		0	0	0	87,871	14,376	801	0	103,048

All superstructure reinforcing steel shall be Epoxy Coated unless otherwise specified.

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Detailed Jun. 2026
Checked Aug. 2026

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

STATE OF MISSOURI
TRENTON B. CRAWFORD
NUMBER PE-2012018053
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/8/2026

ROUTE	STATE
B	MO
DISTRICT	SHEET NO.
BR	13

COUNTY
ANDREW

JOB NO.
JNW0047

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A12512

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 C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
		SUPERSTRUCTURE													
		END BENTS 1 & 6													
8	6 H100	DIAPHRAGM	E	20		30 5.00							30 5	30 5	365
16	6 H101	DIAPHRAGM	E	10S			2 9.00	13.25					6 7	6 3	150
		SLAB													
462	5 S1	SLAB	E	20		53 9.00							53 9	53 9	25,900
96	6 S2	SLAB	E	20		15 6.00							15 6	15 6	2,235
1058	6 S3	SLAB	E	20		30 5.00							30 5	30 5	48,336
96	6 S4	SLAB	E	20		56 6.00							56 6	56 6	8,147
176	4 S5	SLAB	E	10S		6.00	5.00	9.00	6.00				2 7	2 3	265
624	4 S6	SLAB	E	10S		6.00	5.00	7.00	6.00				2 5	2 1	868
184	4 S7	SLAB	E	10S		6.00	5.00	15.00	6.00				3 1	2 9	338
16	4 S8	SLAB	E	20		8 0.00							8 0	8 0	86
16	4 S9	SLAB	E	20		12 0.00							12 0	12 0	128
16	4 S10	SLAB	E	20		52 0.00							52 0	52 0	556
8	4 S11	SLAB	E	20		49 0.00							49 0	49 0	262
16	4 S12	SLAB	E	20		22 0.00							22 0	22 0	235
		BARRIER													
		TYPE H													
20	5 K1	BARRIER	E	27S		21.00	9.25	5.25	15.25	12.00	5.25	1.00	5 3	4 11	103
28	5 K2	BARRIER	E	27S		21.00	9.25	17.25	3.50	12.00	17.00	3.25	5 3	4 11	144
48	5 K4	BARRIER	E	19S		2 5.00	10.00						3 3	3 2	159
20	5 K5	BARRIER	E	38S				19.25	9.50	8.25	18.75	4.25	3 1	3 0	63
28	5 K6	BARRIER	E	21S			2 5.00	10.00			2 4.25	6.00	3 3	3 2	92
56	5 K7	BARRIER	E	20		5 6.00							5 6	5 6	321
710	5 R1	BARRIER	E	14S		2 5.00	6.50	2 5.50			2 5.00	5.50	5 5	5 3	3,888
710	5 R2	BARRIER	E	19S		19.00	9.50						2 5	2 3	1,666
710	5 R3	BARRIER	E	27S			9.50	15.25	3.50	12.00	15.00	3.00	3 4	3 2	2,345
32	5 R4	BARRIER	E	20		31 3.00							31 3	31 3	1,043
112	5 R5	BARRIER	E	20		11 9.00							11 9	11 9	1,373
32	5 R6	BARRIER	E	20		55 9.00							55 9	55 9	1,861
32	5 R7	BARRIER	E	20		39 6.00							39 6	39 6	1,318
		SLIP-FORM													
64	5 C1	SLIP FORM	E	20		12 0.00							12 0	12 0	801

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb

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. 13.

Detailed Jun. 2026
Checked Aug. 2026

Reinforcing steel (ASTM A615 Grade 60) fy = 60,000 psi

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

BILL OF REINFORCING STEEL

Sheet No. 14 of 14

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.

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