DESIGN DESIGNATION

HWY 168

A.A.D.T. - 2025 = 2150

V = 55 M.P.H.

FUNCTIONAL CLASSIFICATION-MAJOR COLLECTOR

RTE JJ

A.A.D.T. - 2025 = 1203

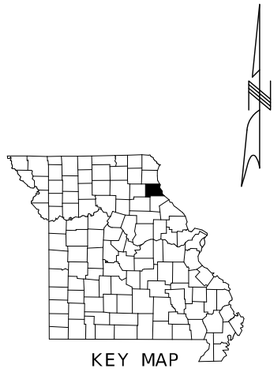
V = 55 M.P.H.

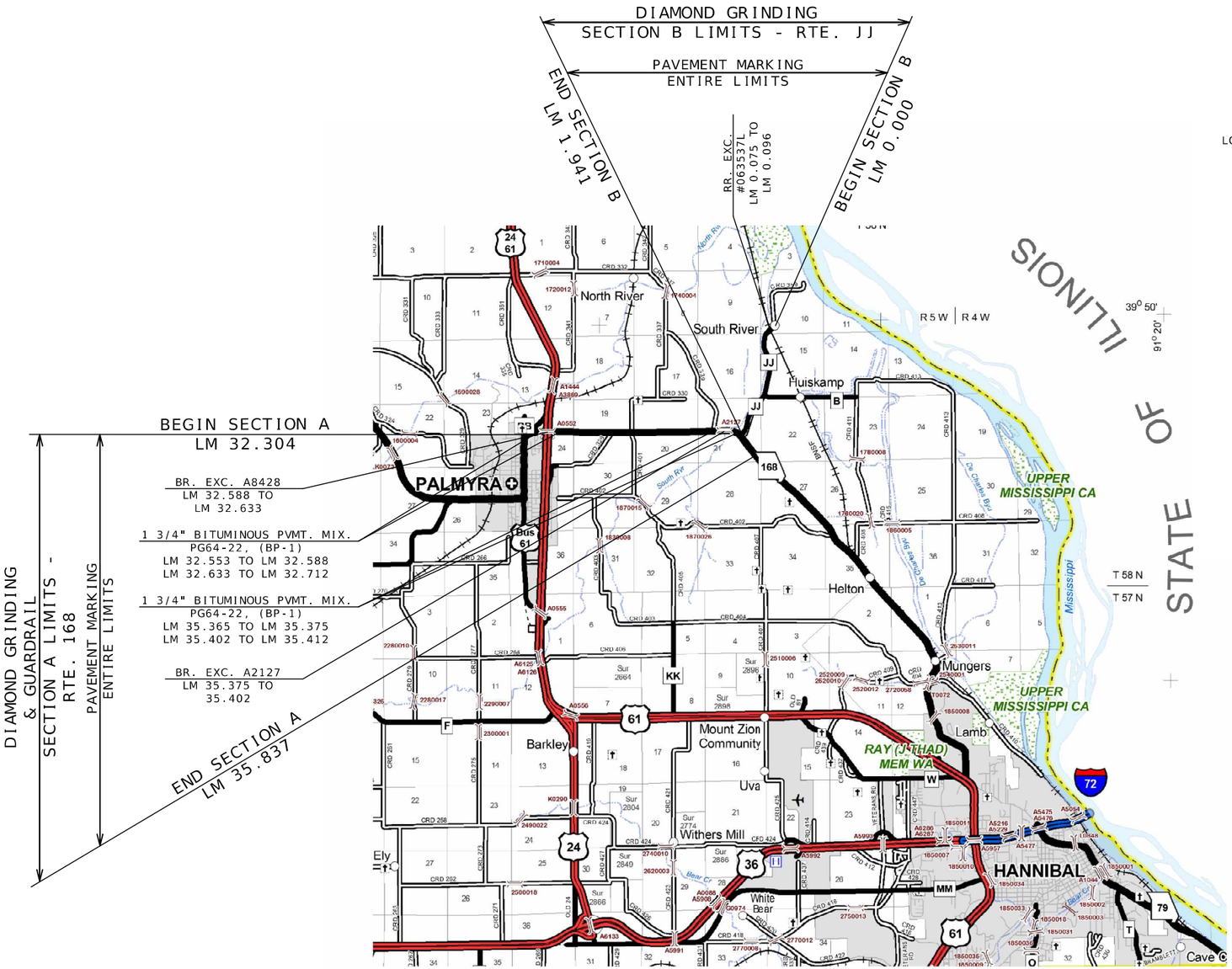
FUNCTIONAL CLASSIFICATION-MINOR COLLECTOR

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED STATE HIGHWAY MARION COUNTY

T58N - R5W
T58N - R6W





INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (TS) (1 SHEET)	2
QUANTITIES (QU) (3 SHEETS)	3
SPECIAL SHEETS (SS)	4-6
TRAFFIC CONTROL SHEETS (TC)	7-12

LENGTH OF PROJECT

SECTION A - RTE. 168	
BEGINNING OF SECTION A	LM 32.304 RTE. 168
END OF SECTION A	LM 35.837 RTE. 168
APPARENT LENGTH	3.533 MI.
EQUATIONS AND EXCEPTIONS:	
LM 32.588 TO LM 32.633	-0.045 MI.
LM 35.375 TO LM 35.402	-0.027 MI.
TOTAL CORRECTIONS	-0.072 MI.
NET LENGTH OF SECTION A	3.461 MI.
SECTION B - RTE. JJ	
BEGINNING OF SECTION B	LM 0.000 RTE. JJ
END OF SECTION B	LM 1.941 RTE. JJ
APPARENT LENGTH	1.941 MI.
EQUATIONS AND EXCEPTIONS:	
LM 0.075 TO LM 0.096	-0.021 MI.
TOTAL CORRECTIONS	-0.021 MI.
NET LENGTH OF SECTION B	1.920 MI.
STATE LENGTH	5.381 MILES

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
08/03/2025 9:42:21 AM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED: 8/4/2025

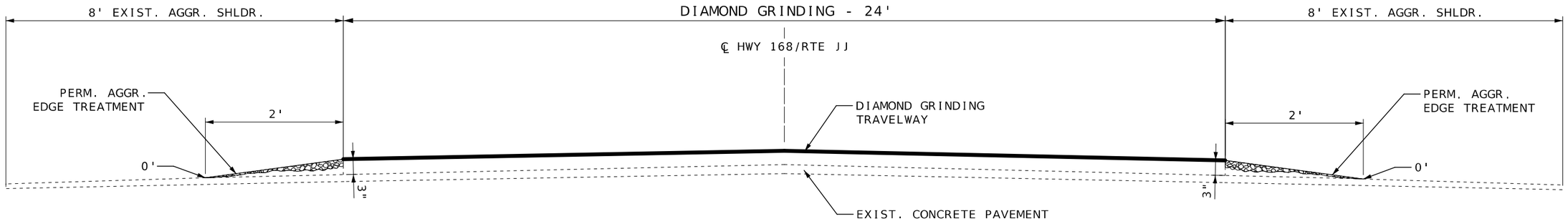
ROUTE	STATE
168	MO
DISTRICT	SHEET NO.
NE	1

COUNTY: MARION
JOB NO.: JNE0054
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)

TITLE SHEET



HWY 168
LM 32.712 TO LM 35.365*
LM 35.412 TO LM 35.837

RTE JJ
LM 0.000 TO LM 0.075*
LM 0.096 TO LM 1.941

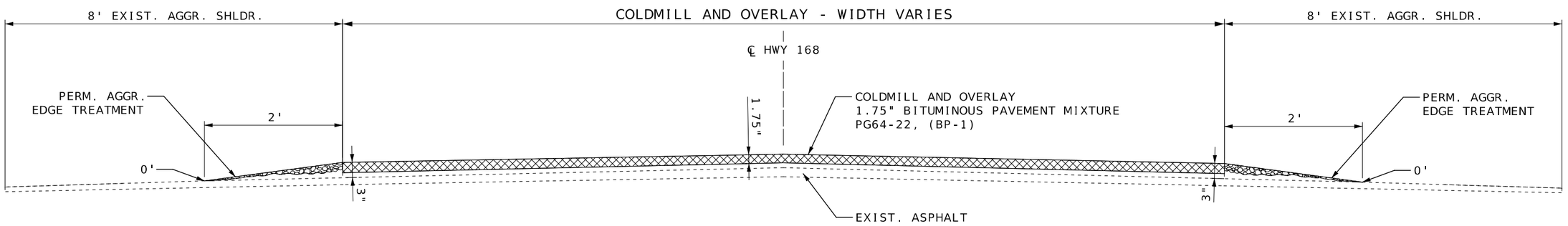
HWY 168
*BR EXC(A2127): LM 35.365 TO LM 35.412

RTE JJ
*RR EXC(#063537L): LM 0.075 TO LM 0.096

LEGEND

COLDMILL AND OVERLAY

PERMANENT AGGREGATE EDGE TREATMENT



HWY 168
LM 32.533 TO LM 32.588 - 28'*
LM 32.633 TO LM 32.712 - 28'
LM 35.365 TO LM 35.375 - 24' TO 32'*
LM 35.402 TO LM 35.412 - 32' TO 24'

HWY 168
*BR EXC(A8428): LM 32.588 TO LM 32.633

*BR EXC(A2127): LM 35.375 TO LM 35.402

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
07/30/2025 4:12:24 PM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
7/29/2025

ROUTE	STATE
168/JJ	MO
DISTRICT	SHEET NO.
NE	2

COUNTY
MARION

JOB NO.
JNE0054

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)

TYPICAL SECTION
SHEET 1 OF 1
NOT TO SCALE

FULL DEPTH PAVEMENT REPAIR

LOC	LOG MILE	LANE ONE OR BOTH	PANEL LENGTH FT	LANE OR PANEL WIDTH FT	FURNISHING AND PLACING CONCRETE QUANTITY SQ.YD.	SUBGRADE COMPACTION QUANTITY SQ.YD.	4" TYPE 1 OR 5 AGGREGATE BASE QUANTITY SQ.YD.	# OF INTERNAL SAW CUTS FOR REPAIRS OVER 6 FT IN LENGTH	FULL DEPTH SAW CUT QUANTITY L.F.	DOWEL BAR QUANTITY EACH	# OF NEW JOINTS WITH DOWEL BASKETS	DOWEL BAR WITH BASKETS QUANTITY EACH	TIE BAR QUANTITY EACH	REMARKS
RTE 168	VARIOUS	ONE	6	12	1200.0	120.0	120.0	0	5400	3000	0	0	0	150 LOCATIONS
RTE JJ	VARIOUS	ONE	6	12	120.0	12.0	12.0	0	540	300	0	0	0	15 LOCATIONS
ADDITIONAL LOCATIONS DETERMINED BY THE ENGINEER (10%)					12.0	1.2	1.2	0	54.0	30.0	0	0.0	0.0	
				TOTAL	1332.0	134.0	134.0	--	5994.0	3330.0	--	0.0	0.0	

NOTE: SUBGRADE COMPACTION AND AGGREGATE BASE ESTIMATED AT 10% OF FURNISHING AND PLACING CONCRETE, PER MODOT EPG 613.3; INTERNAL SAW CUTS ARE INCLUDED IN FULL DEPTH SAW CUT QUANTITY.

EXISTING PAVEMENT IS 8" NON-REINFORCED CONCRETE PAVEMENT

CLASS A PARTIAL DEPTH PAVEMENT REPAIR

LOC	LOG MILE	PANEL LENGTH (FT)	PANEL OR LANE WIDTH (FT)	MAX REPAIR DEPTH (FT)	REMOVAL FOR CLASS A REPAIR QUANTITY (SY)	FURNISHING/PLACING CONCRETE FOR REPAIR (C.Y.)	REMARKS
HWY 168	VARIOUS	6.00	6	0.333	280	31	70 LOCATIONS
RTE JJ	VARIOUS	6.00	6	0.333	20	2	5 LOCATIONS
ADDITIONAL LOCATIONS DETERMINED BY THE ENGINEER (10%)					28	3	
				TOTAL	328	36	

DIAMOND GRINDING

LOG MILE	LOG MILE	LENGTH (FT)	WIDTH (FT)	QTY (SY)	REMARKS
32.712	35.365	14007.84	24	37354	RTE 168
35.365	35.412	248.16	~	~	BR EXC: A2127
35.412	35.837	2244.00	24	5984	RTE 168
0.000	0.075	396.00	24	1056	RTE JJ
0.075	0.096	110.88	~	~	RR EXC: #063537L
0.096	1.920	9630.72	24	25682	RTE JJ
1.920	1.941	110.88	VARIES	890	RTE JJ
			TOTAL	70,966	

PERMANENT AGGREGATE EDGE TREATMENT

LOG MILE	LOG MILE	LENGTH (FT)	AGGREGATE SHOULDER WIDTH (FT)	AREA (SY)	THICKNESS 3" WEDGE (IN)	TYPE 1 AGGR. 0.058 TONS/SY/IN (TONS)	REMARKS
32.712	35.365	14007.84	2	6225.7	3.00	541.6	HWY 168: LEFT & RIGHT
35.412	35.837	2244.00	2	997.3	3.00	86.8	HWY 168: LEFT & RIGHT
0.000	0.075	396.00	2	176.0	3.00	15.3	RTE JJ: LEFT & RIGHT
0.096	1.920	9630.72	2	4280.3	3.00	372.4	RTE JJ: LEFT & RIGHT
					TOTAL	1016.1	

GUARDRAIL

LOG MILE	LOCATION	MGS GUARDRAIL (LF)	TYPE A CRASHWORTHY END TERMINAL (MASH) (EACH)	SHAPING SLOPES CLASS III (STA)	REMARKS
34.534	EBL	450.0	2	6.0	HWY 168
34.556	WBL	540.0	2	7.0	HWY 168
35.064	EBL	660.0	2	8.0	HWY 168
	TOTAL	1650.0	6	21	

REMOVAL OF IMPROVEMENTS

LOG MILE	LOCATION	DESCRIPTION
34.534	RT	GUARDRAILL - RIGHT - APPROX. 550 FT
34.556	LT	GUARDRAILL - LEFT - APPROX. 640 FT
35.064	RT	GUARDRAILL - RIGHT - APPROX. 760 FT
	1 LUMP SUM	

ISLAND MARKING

8" WHITE CLASS 1 PAVEMENT MARKING PAINT (18-MIL, TYPE P BEADS)

LOG MILE	PERIMETER (LF)	REMARKS
1.939	70	RTE JJ RAISED ISLAND
TOTAL	70	

LOG MILES ARE APPROXIMATE - MATCH EXISTING STRIPING

DURABLE INTERSECTION MARKING

PREFORMED THERMOPLASTIC PAVEMENT MARKING

LOG MILE	RAILROAD CROSSING MARKER (EACH)	REMARKS
0.175	1	RTE JJ S RAILROAD CROSSING MARKER
0.000	1	RTE JJ S RAILROAD CROSSING MARKER
TOTAL	2	

LOG MILES ARE APPROXIMATE - MATCH EXISTING STRIPING

MOBILIZATION

1 LUMP SUM

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
07/30/2025 4:12:54 PM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
7/29/2025

ROUTE 168/JJ
STATE MO
DISTRICT NE
SHEET NO. 3
COUNTY MARION
JOB NO. JNE0054
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)

SUMMARY OF QUANTITIES
SHEET 1 OF 3

PAVEMENT MARKINGS

LOG MILE	LOG MILE	LOCATION	CLASS 1 PAVEMENT MARKING PAINT (18-MIL, TYPE P BEADS) 4" YELLOW INTERMITTENT CENTERLINE (LF)	4" YELLOW SOLID/INTERMITTENT CENTERLINE (LF)	4" YELLOW DOUBLE SOLID CENTERLINE (LF)	4" WHITE SOLID EDGELINE (LF)	REMARKS
32.304	32.338	RTE 168 E	-	-	359	-	DOUBLE SOLID
32.338	32.490	RTE 168 E	-	1003	-	-	EB SOLID AND WB INTERMITTENT
32.490	32.631	RTE 168 E	-	931	-	-	EB INTERMITTENT AND WB SOLID
32.631	32.663	RTE 168 E	50	-	-	-	INTERMITTENT
32.663	32.810	RTE 168 E	-	970	-	-	EB SOLID AND WB INTERMITTENT
32.810	33.052	RTE 168 E	-	-	2556	-	DOUBLE SOLID
33.052	33.224	RTE 168 E	-	1135	-	-	EB INTERMITTENT AND WB SOLID
33.224	33.679	RTE 168 E	610	-	-	-	INTERMITTENT
33.679	33.850	RTE 168 E	-	1129	-	-	EB SOLID AND WB INTERMITTENT
33.850	33.883	RTE 168 E	-	-	348	-	DOUBLE SOLID
33.883	34.056	RTE 168 E	-	1142	-	-	EB INTERMITTENT AND WB SOLID
34.056	34.646	RTE 168 E	780	-	-	-	INTERMITTENT
34.646	34.797	RTE 168 E	-	997	-	-	EB SOLID AND WB INTERMITTENT
34.797	34.814	RTE 168 E	30	-	-	-	INTERMITTENT
34.814	34.978	RTE 168 E	-	1082	-	-	EB INTERMITTENT AND WB SOLID
34.978	35.320	RTE 168 E	460	-	-	-	INTERMITTENT
35.320	35.491	RTE 168 E	-	1129	-	-	EB SOLID AND WB INTERMITTENT
35.491	35.613	RTE 168 E	-	-	1288	-	DOUBLE SOLID
35.613	35.787	RTE 168 E	-	1148	-	-	EB INTERMITTENT AND WB SOLID
35.787	35.837	RTE 168 E	70	-	-	-	INTERMITTENT
0.000	0.709	RTE JJ S	-	-	7487	-	DOUBLE SOLID
0.709	0.880	RTE JJ S	-	1129	-	-	SB INTERMITTENT AND NB SOLID
0.880	0.983	RTE JJ S	140	-	-	-	INTERMITTENT
0.983	1.156	RTE JJ S	-	1142	-	-	SB SOLID AND NB INTERMITTENT
1.156	1.196	RTE JJ S	-	-	422	-	DOUBLE SOLID
1.196	1.369	RTE JJ S	-	1142	-	-	SB INTERMITTENT AND NB SOLID
1.369	1.395	RTE JJ S	40	-	-	-	INTERMITTENT
1.395	1.561	RTE JJ S	-	1096	-	-	SB SOLID AND NB INTERMITTENT
1.561	1.584	RTE JJ S	-	-	243	-	DOUBLE SOLID
1.584	1.653	RTE JJ S	-	455	-	-	SB INTERMITTENT AND NB SOLID
1.653	1.750	RTE JJ S	-	-	1024	-	DOUBLE SOLID
1.750	1.818	RTE JJ S	-	449	-	-	SB SOLID AND NB INTERMITTENT
1.818	1.941	RTE JJ S	-	-	1299	-	DOUBLE SOLID
32.334	35.837	RTE 168 E	-	-	-	36,992	EDGELINE
EXCEPTION		RTE 168 E				-925	EDGELINE EXCEPTIONS
0.000	1.925	RTE JJ S	-	-	-	20,328	EDGELINE
EXCEPTION		RTE JJ S				-120	EDGELINE EXCEPTIONS
		SUBTOTAL	2,180	16,079	15,026	56,275	
		TOTAL		33,285		56,275	
LOG MILES ARE APPROXIMATE - MATCH EXISTING STRIPING							

COLDMILLING BITUMINOUS PAVEMENT FOR REMOVAL OF SURFACING (3 IN. THICK OR LESS)

LOG MILE	LOG MILE	LENGTH (FT)	THICKNESS (IN)	WIDTH (FT)	COLDMILLING (SY)	REMARKS
32.553	32.588	184.80	1.75	28	575	HWY 168: ASPHALT
32.633	32.712	417.12	1.75	28	1298	HWY 168: ASPHALT
35.365	35.375	52.80	1.75	24-32	161	HWY 168: ASPHALT, SHOULDER WIDTH VARIES
35.402	35.412	52.80	1.75	32-24	159	HWY 168: ASPHALT, SHOULDER WIDTH VARIES
				TOTAL	2,193	

1 3/4" BITUMINOUS PAVEMENT MIXTURE PG64-22, (BP-1)

LOG MILE	LOG MILE	LENGTH (FT)	THICKNESS (IN)	WIDTH (FT)	AREA (SQ YD)	1 3/4" BP-1 @ 1.987 TONS/CY (TONS)	TACK COAT 0.10 GAL/ SQ. YD. (GAL)	REMARKS
32.553	32.588	184.8	1.75	28	575	55.5	57.5	HWY 168: ASPHALT
32.588	32.633	237.6	~	~	~	~	~	BR EXC: A8428
32.633	32.712	417.1	1.75	28	1298	125.4	129.8	HWY 168: ASPHALT
35.365	35.375	52.8	1.75	24-32	161	15.6	16.1	HWY 168: ASPHALT, SHOULDER WIDTH CHANGE
35.375	35.402	142.6	~	~	~	~	~	BR EXC: A2127
35.402	35.412	52.8	1.75	32-24	159	15.4	15.9	HWY 168: ASPHALT, SHOULDER WIDTH CHANGE
					SUBTOTAL	211.9	219.3	
					TOTAL	211.9	220.0	

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
08/20/2025 9:41:46 AM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
8/4/2025

ROUTE	STATE
168/JJ	MO
DISTRICT	SHEET NO.
NE	3

COUNTY
MARION

JOB NO.
JNE0054

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)

SUMMARY OF QUANTITIES
SHEET 2 OF 3

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	2	32.00			43	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	4	64.00			35	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)
W012-2x	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	12	192.00			2	ROAD/BRIDGE/RAMP WORK AHEAD
WO20-2	48X48	16.00						DETOUR AHEAD
WO20-3	48X48	16.00						ROAD CLOSED AHEAD
WO20-4	48X48	16.00	12	192.00			7	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	10	160.00			8	FLAGGER (SYMBOL)
WO21-2	36X36	9.00						FRESH OIL
WO21-5	48X48	16.00	1	16.00			21	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	4	8.76				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	2	20.00			1	ROAD WORK NEXT XX MILES
GO20-2	48X24	8.00	2	16.00			26	END ROAD WORK
GO20-4	36X18	4.50	3	13.50			53	PILOT CAR FOLLOW ME
GO20-4a	42X30	8.75	6	52.50			58	PILOT CAR IN USE WAIT & FOLLOW
GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW
GO20-5aP	36X24	6.00						WORK ZONE (PLAQUE)
MO4-8a	24X18	3.00						END DETOUR
MO4-9L	48X36	12.00						DETOUR (LEFT)
MO4-9R	48X36	12.00						DETOUR (RIGHT)
MO4-9P	48X12	4.00						STREET NAME (PLAQUE)
MO4-10L	48X18	6.00						DETOUR ARROW (LEFT)
MO4-10R	48X18	6.00						DETOUR ARROW (RIGHT)
REGULATORY SIGNS								
R1-1	48X48	13.25						STOP
R1-2	48TRI.	6.93						YIELD
R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)
R1-3P	30X12	2.50						ALL WAY (PLAQUE)
R2-1	36X48	12.00						SPEED LIMIT XX
R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00						NO TURNS
R3-4	48X48	16.00						NO U-TURN (SYMBOL)
R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00						DO NOT PASS
R4-2	36X48	12.00						PASS WITH CARE
R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)
R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)
R5-1	30X30	6.25						DO NOT ENTER
R5-1a	36X24	6.00						WRONG WAY
R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)
R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)
R6-2L	24X30	5.00						ONE WAY (LEFT)
R6-2R	24X30	5.00						ONE WAY (RIGHT)
R9-9	24X12	2.00						SIDEWALK CLOSED
R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE
R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE
R10-6	24X36	6.00						STOP HERE ON RED (45^ ARROW)
R11-2	48X30	10.00						ROAD CLOSED
R11-3a	60X30	12.50						ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60X30	12.50						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	4	48.00			59	WORK ZONE NO PHONE ZONE

616-10.05 CONSTRUCTION SIGNS	TOTAL
	815

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	100	CHANNELIZER (TRIM-LINE)
6161026		CHANNELIZER (VERTICAL PANEL)
6161030		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		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
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
Brian Untiedt
08/20/2025 9:41:20 AM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
8/4/2025

ROUTE	STATE
168/JJ	MO

DISTRICT	SHEET NO.
NE	3

COUNTY
MARION

JOB NO.
JEN0054

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

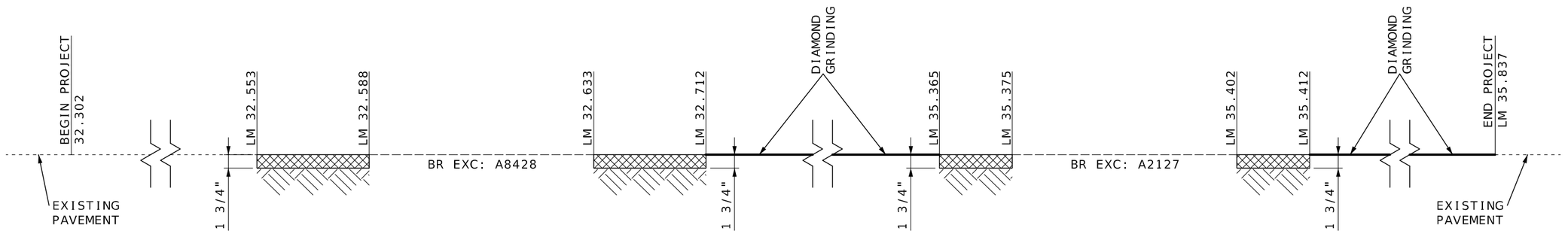
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

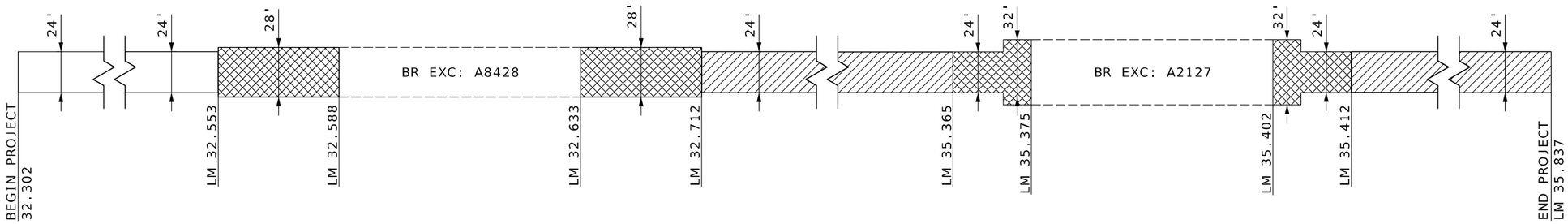
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

SUMMARY OF QUANTITIES
SHEET 3 OF 3

BEGIN PROJECT L.M. 32.302

END PROJECT L.M. 35.837





LONGITUDINAL DEPTH TRANSITION/DIAMOND GRINDING

LEGEND

COLDMILL AND OVERLAY

DIAMOND GRINDING

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER
PE-2009001137
PROFESSIONAL ENGINEER
08/20/2025 9:40:55 AM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
8/4/2025

ROUTE	STATE
168	MO
DISTRICT	SHEET NO.
NE	4

COUNTY
MARION

JOB NO.
JNE0054

CONTRACT ID.

PROJECT NO.

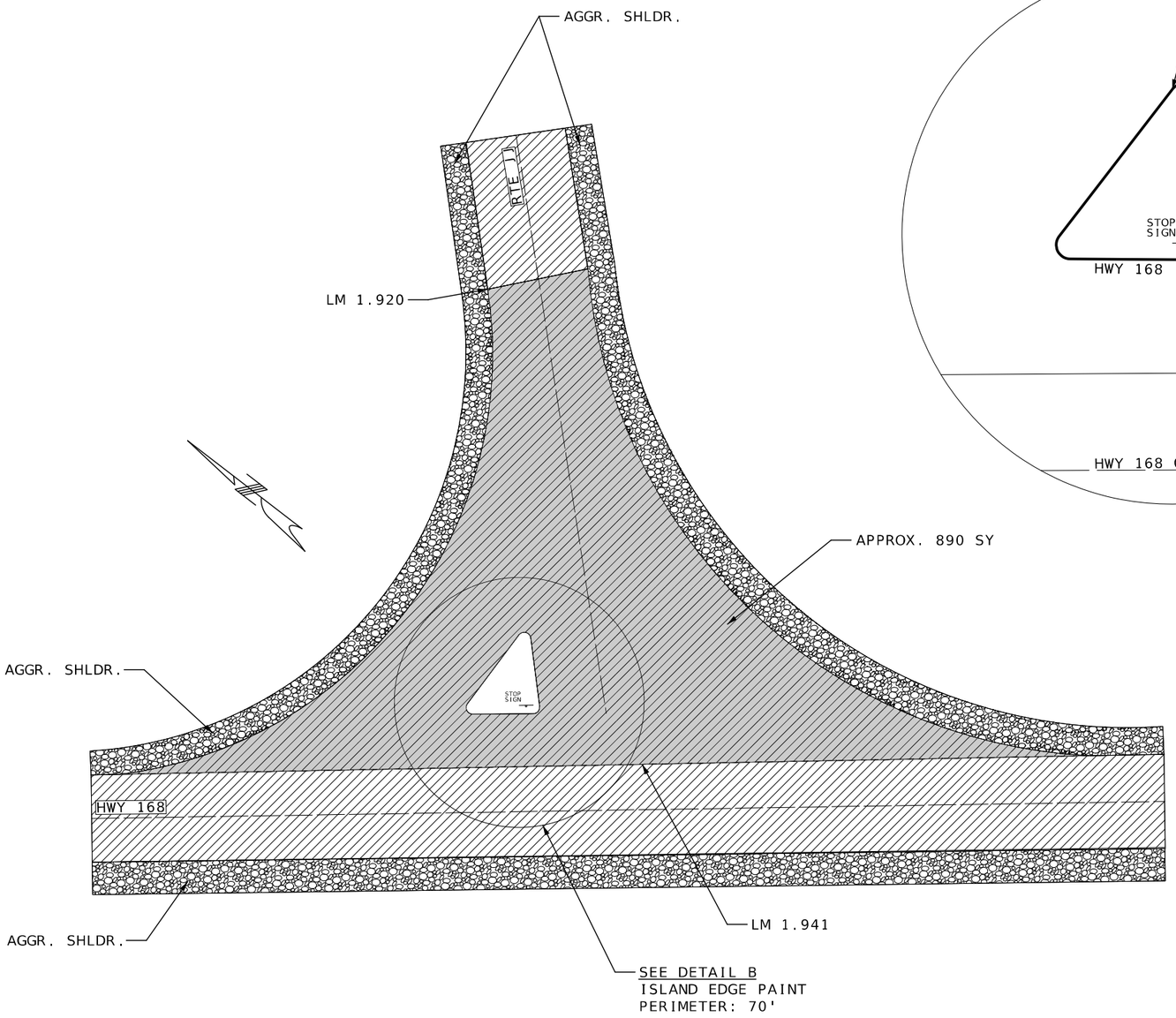
BRIDGE NO.

DESCRIPTION	DATE

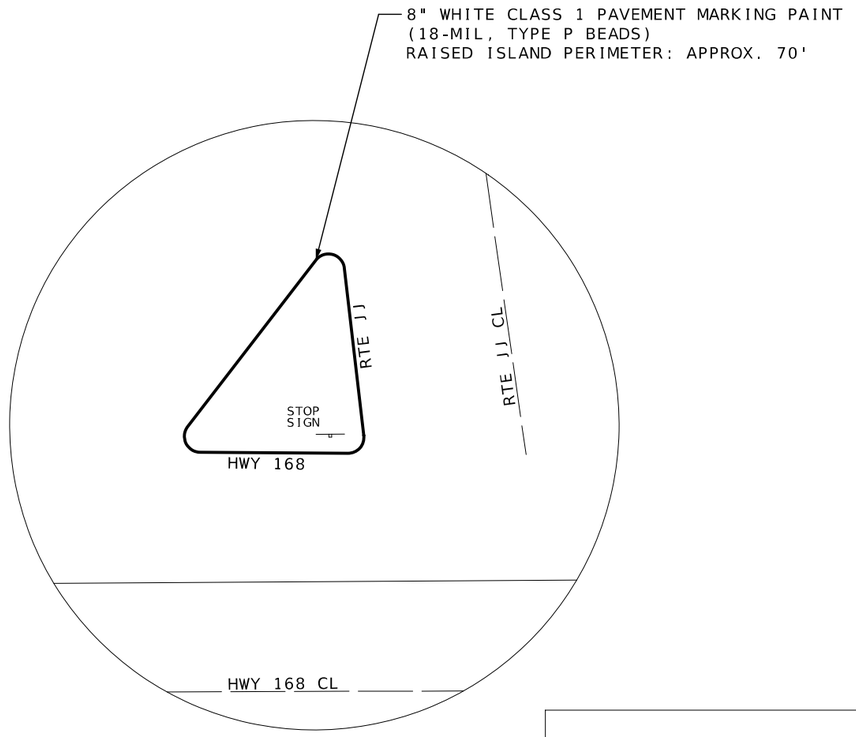
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

SPECIAL SHEET
SHEET 1 OF 3
NOT TO SCALE



DETAIL B



LEGEND

- DIAMOND GRINDING
- AGGREGATE SHOULDER
- STOP SIGN — EXISTING STOP SIGN

NOTE:
LOG MILES AND DISTANCES ARE APPROXIMATE.

ROUTE JJ
ISLAND PAINTING AND EXCEPTION
LOG MILE 1.939 SB

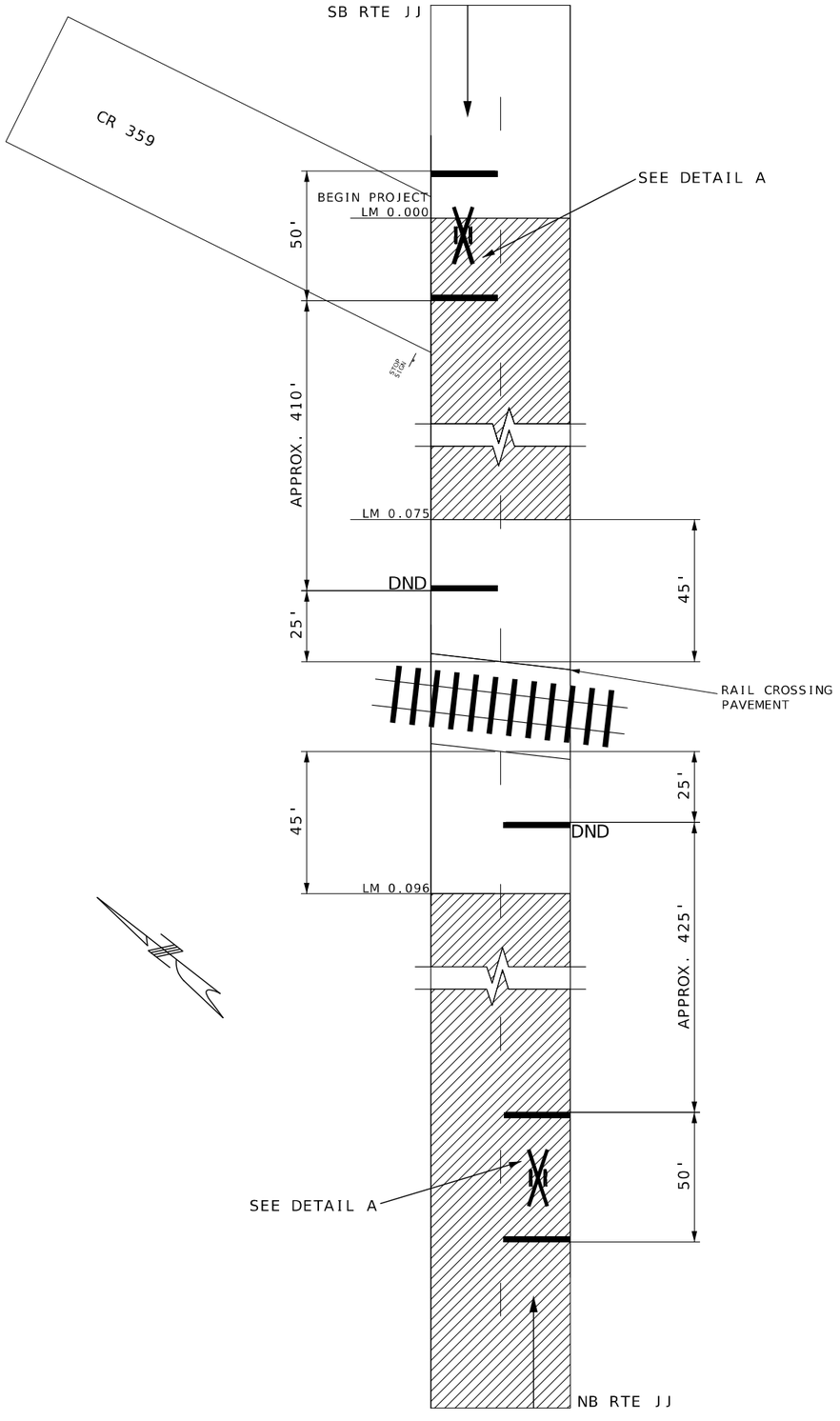
STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
Brian Untiedt
08/20/2025 9:40:33 AM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED	8/4/2025
ROUTE	JJ
STATE	MO
DISTRICT	NE
SHEET NO.	5
COUNTY	MARION
JOB NO.	JNE0054
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)

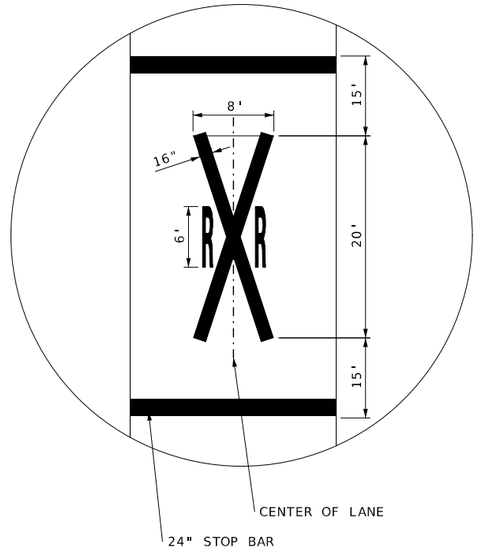
SPECIAL SHEET
SHEET 2 OF 3
NOT TO SCALE



LEGEND

DIAMOND GRINDING

STOP SIGN — EXISTING STOP SIGN



DETAIL A

NOTE:
LOG MILES AND DISTANCES ARE APPROXIMATE.

ROUTE JJ
CROSSING DOT #063537L
LOG MILE 0.821

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
08/20/2025 9:40:07 AM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
8/4/2025

ROUTE	STATE
JJ	MO
DISTRICT	SHEET NO.
NE	6

COUNTY
MARION

JOB NO.
JNE0054

CONTRACT ID.

PROJECT NO.

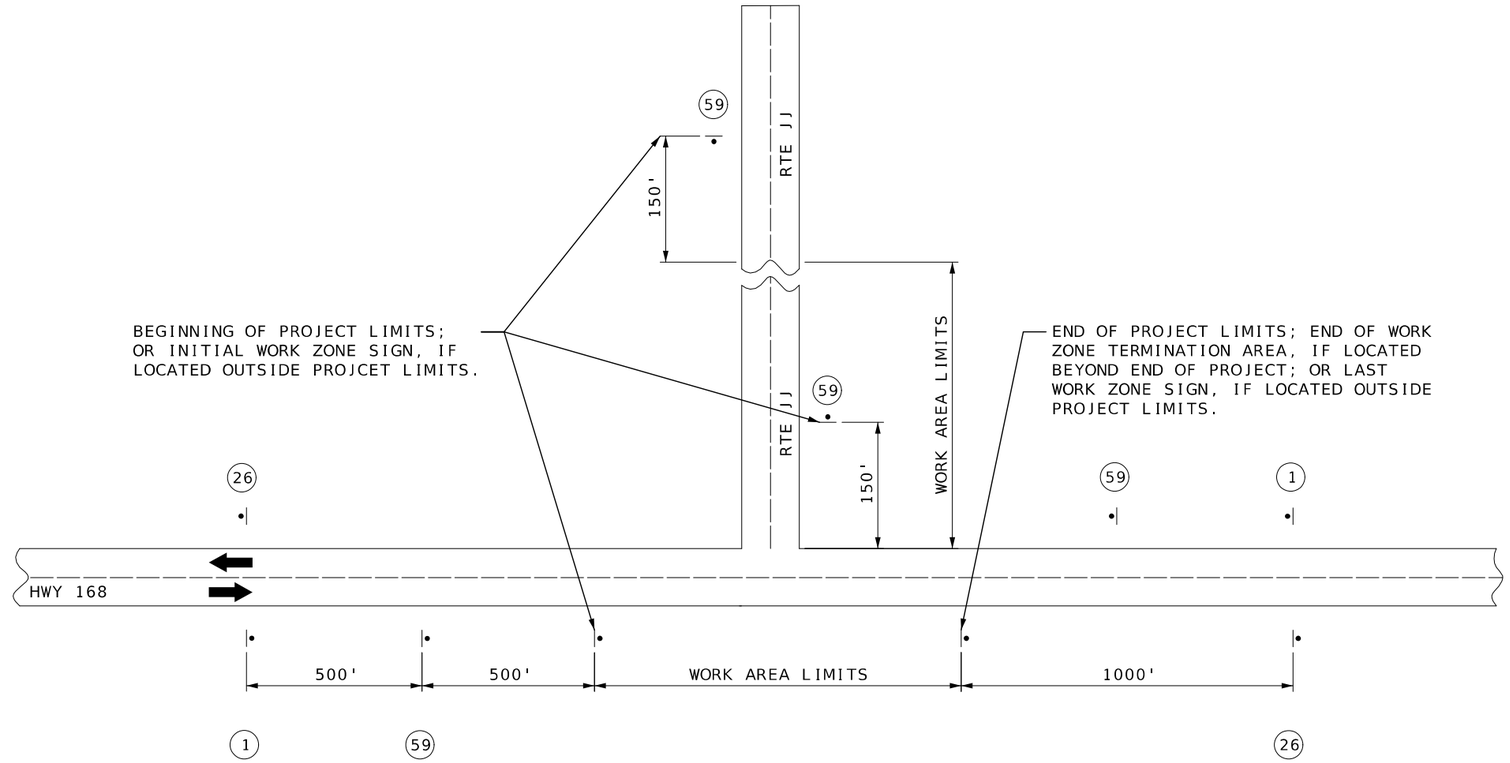
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

SPECIAL SHEET
SHEET 3 OF 3
NOT TO SCALE



NOTES:

SIGN (1) AND (26) ARE ONLY USED ON PROJECT LENGTHS 2 MILES OR GREATER.

PROVIDE SIGNS IN EACH DIRECTION ON TWO-WAY HIGHWAY.

DISTANCE MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS.

GO20-1

(1)

CONST-8

(59)

GO20-2

(26)

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
08/20/2025 9:39:54 AM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
8/4/2025

ROUTE	STATE
168/JJ	MO
DISTRICT	SHEET NO.
NE	7

COUNTY
MARION

JOB NO.
JNE0054

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)

TRAFFIC CONTROL
SHEET 1 OF 6
NOT TO SCALE

WO20-1

(2)

BRIDGE
OR
RAMP

WO20-4

(7)

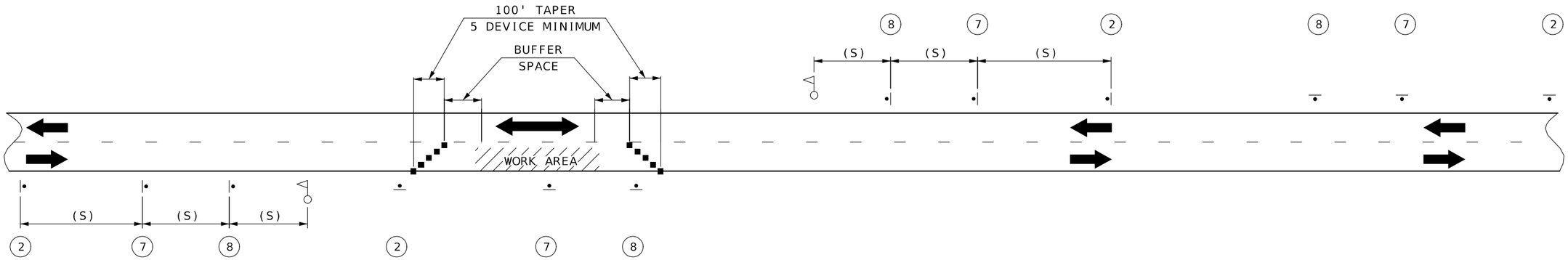
WO20-7a

(8)

GO20-4

(53)

SIGN 53, "PILOT CAR FOLLOW ME" SHALL BE THE CONTRACTOR'S RESPONSIBILITY WHEN IN USE DURING OPERATION.



SET 1	SET 2	SET 3	SET 4
ACTIVE	INACTIVE	ACTIVE	INACTIVE

NOTES:

THIS PLAN IS FOR DAYLIGHT FLAGGING OPERATIONS ONLY. WHEN NIGHT WORK IS REQUIRED, OR OTHERWISE ALLOWED BY THE ENGINEER, WORK ZONE LIGHTING SHALL BE PROVIDED IN ACCORDANCE WITH SEC 616.5.2. CHANNELIZING DEVICES

LOCATED DOWNSTREAM OF THE ONE-LANE, TWO-WAY TAPER ARE OPTIONAL. THESE DEVICES SHOULD BE ELIMINATED WHEN THEIR USE WILL REDUCE THE USABLE LANE WIDTH, INCLUDING ANY ACCEPTABLE SHOULDERS, TO LESS THAN 10' OR WILL SIGNIFICANTLY AFFECT THE RESURFACING OPERATION.

SIGN SETS 1 AND 3 ARE ACTIVE AND (I.E., SIGNS FACE ONCOMING TRAFFIC) SIGN SETS 2 AND 4 ARE INACTIVE (I.E., SIGNS DO NOT FACE EITHER DIRECTION OF TRAFFIC) WHEN THE RESURFACING OPERATION IS LOCATED BETWEEN SIGN SETS 1 AND 3.

WHEN SIGN SETS 2 AND 4 ARE ACTIVE, SIGN SETS 1 AND 3 BECOME INACTIVE AND ARE ADVANCED TO BECOME SETS 2 AND 4 WITH SIGN LEGENDS TURNED AWAY FROM BOTH DIRECTIONS OF TRAFFIC. WHEN THE RESURFACING OPERATION ADVANCES TO BETWEEN SIGN SETS 2 AND 4, SIGN SETS 2 AND 4 BECOME ACTIVE (I.E., NEW SIGN SETS 1 AND 3) AND SIGN SETS 1 AND 3 ADVANCED IN THE DIRECTION OF THE OPERATION (I.E., NEW SIGN SETS 2 AND 4).

■ -CHANNELIZERS

-FLAGGER

SPEED	SIGN SPACING (FT) (1)	BUFFER SPACE
PERMANENT POSTED (MPH)	NON-DIVIDED HIGHWAYS (S)	LENGTH (FT)
0-35	200	250
40-45	350	360
50-55	500	495
60-70	1000	730

(1) SPACING BETWEEN SIGNS, BETWEEN LAST SIGN AND FLAGGER, BEGINNING OF TAPER OR SIGNED CONDITION.

SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS.

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
08/20/2025 9:39:27 AM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
8/4/2025

ROUTE	STATE
168/JJ	MO
DISTRICT	SHEET NO.
NE	8

COUNTY
MARION

JOB NO.
JNE0054

CONTRACT ID.

PROJECT NO.

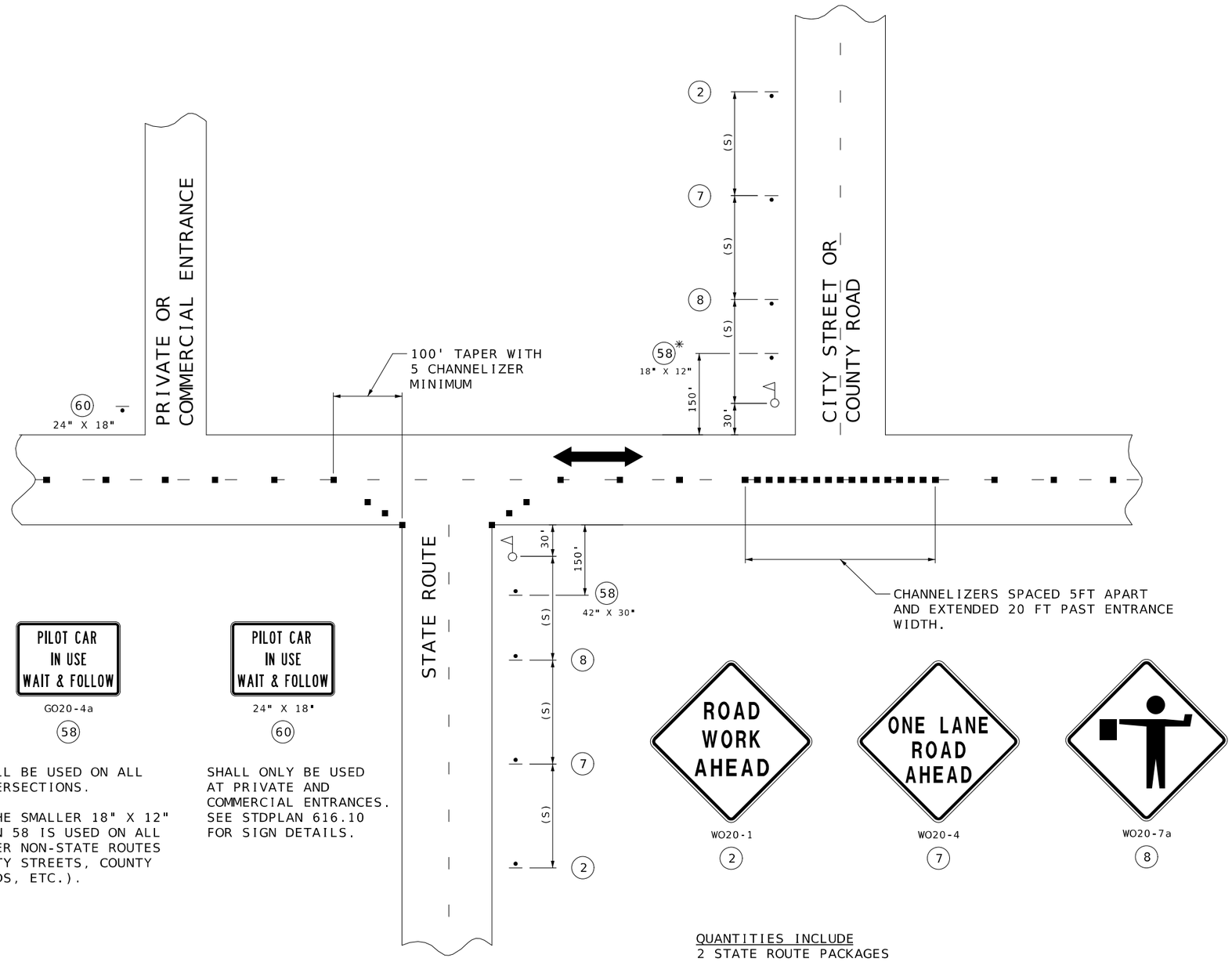
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

TRAFFIC CONTROL
SHEET 2 OF 6
NOT TO SCALE



SPEED	SIGN SPACING (FT) (1)	CHANNELIZER SPACING (FT)
PERMANENT POSTED (MPH)	NON-DIVIDED HIGHWAYS (S)	BUGGER/ WORK AREA (TYP.)
0-35	200	40
40-45	350	80
50-55	500	80
60-70	1000	120

(1) SPACING BETWEEN SIGNS BETWEEN LAST SIGN AND FLAGGER, BEGINNING OF TAPER OR SIGNED CONDITION. SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS.

NOTES:
WARNING SIGNS SHALL BE ERECTED AT EACH INTERSECTION WITH ANOTHER STATE HIGHWAY WITHIN THE WORK ZONE.

ADDITIONAL WARNING SIGNS SHALL BE ERECTED AT OTHER INTERSECTIONS WITHIN THE WORK ZONE, AS DIRECTED BY THE ENGINEER.

■ - CHANNELIZERS (AS SPECIFIED)

- FLAGGER

NOT TO SCALE

GO20-4a

58

SHALL BE USED ON ALL INTERSECTIONS.

* THE SMALLER 18" X 12" SIGN 58 IS USED ON ALL OTHER NON-STATE ROUTES (CITY STREETS, COUNTY ROADS, ETC.).

24" X 18"

60

SHALL ONLY BE USED AT PRIVATE AND COMMERCIAL ENTRANCES. SEE STDPLAN 616.10 FOR SIGN DETAILS.

WO20-1

2

WO20-4

7

WO20-7a

8

QUANTITIES INCLUDE
2 STATE ROUTE PACKAGES
4 COUNTY ROAD PACKAGES

SIDE ROADS ENTERING WORK ZONES

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
08/20/2025 9:39:00 AM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
8/4/2025

ROUTE	STATE
168/JJ	MO
DISTRICT	SHEET NO.
NE	9

COUNTY
MARION

JOB NO.
JNE0054

CONTRACT ID.

PROJECT NO.

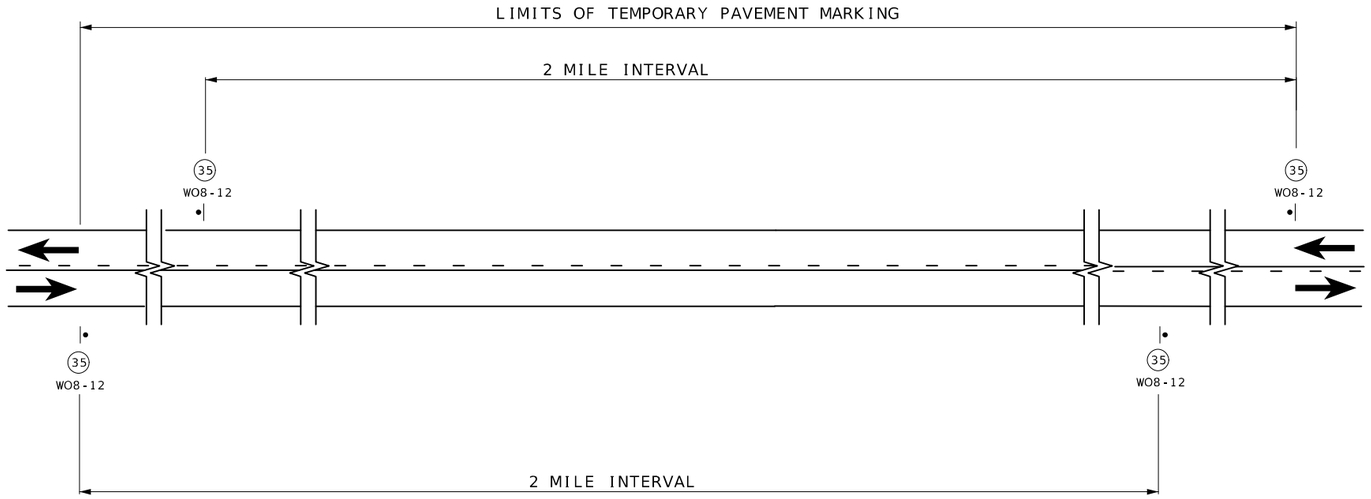
BRIDGE NO.

DESCRIPTION	DATE

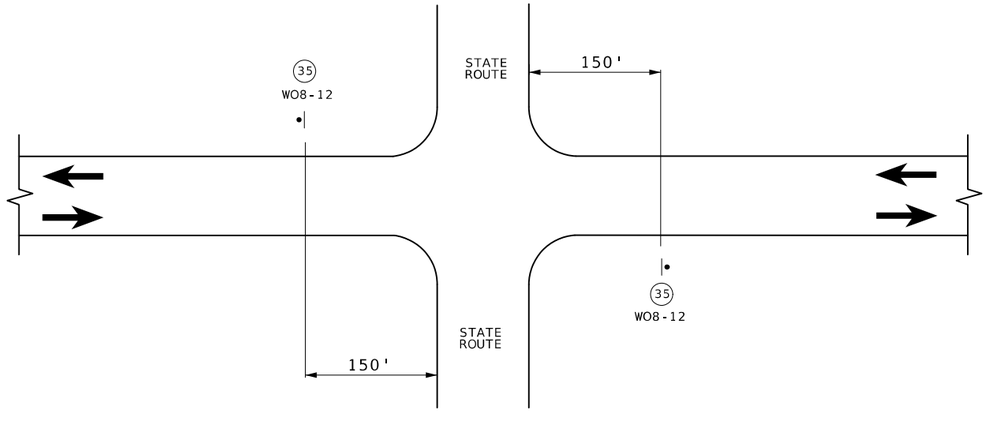
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

TRAFFIC CONTROL
SHEET 3 OF 6
NOT TO SCALE



SIGN SPACING AND TEMPORARY STRIPING FOR MAINLINE



SIGN SPACING AT STATE ROUTE INTERSECTIONS
SHOWING TEMPORARY STRIPING FOR MAINLINE

NOTES:

SIGN (35) AND TEMPORARY RAISED PAVEMENT MARKING (SEE STANDARD PLAN 620.10) INSTALLED WHERE CENTERLINE STRIPING HAS BEEN COVERED OR REMOVED. SIGNS ARE TO REMAIN IN PLACE UNTIL THE PERMANENT CENTERLINE PAVEMENT MARKINGS ARE IN PLACE. SIGNS SHALL BE COVERED OR REMOVED WHEN PAVEMENT CENTERLINE MARKING HAS BEEN INSTALLED.

SIGN (35) IS PLACED AT APPROXIMATELY TWO-MILE INTERVALS AND AT STATE ROUTE JUNCTIONS. WHEN THE INSTALLATION AT A JUNCTION IS WITHIN ONE-EIGHTH MILE OF THE NORMAL MAINLINE SIGN (35), THE LATTER MAY BE ELIMINATED.

ALL SIGNS SHALL BE POST MOUNTED AND IN ACCORDANCE WITH STANDARD PLAN 616.10 AND 903.03.

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
08/20/2025 9:38:37 AM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
8/4/2025

ROUTE	STATE
168/JJ	MO
DISTRICT	SHEET NO.
NE	10

COUNTY
MARION

JOB NO.
JNE0054

CONTRACT ID.

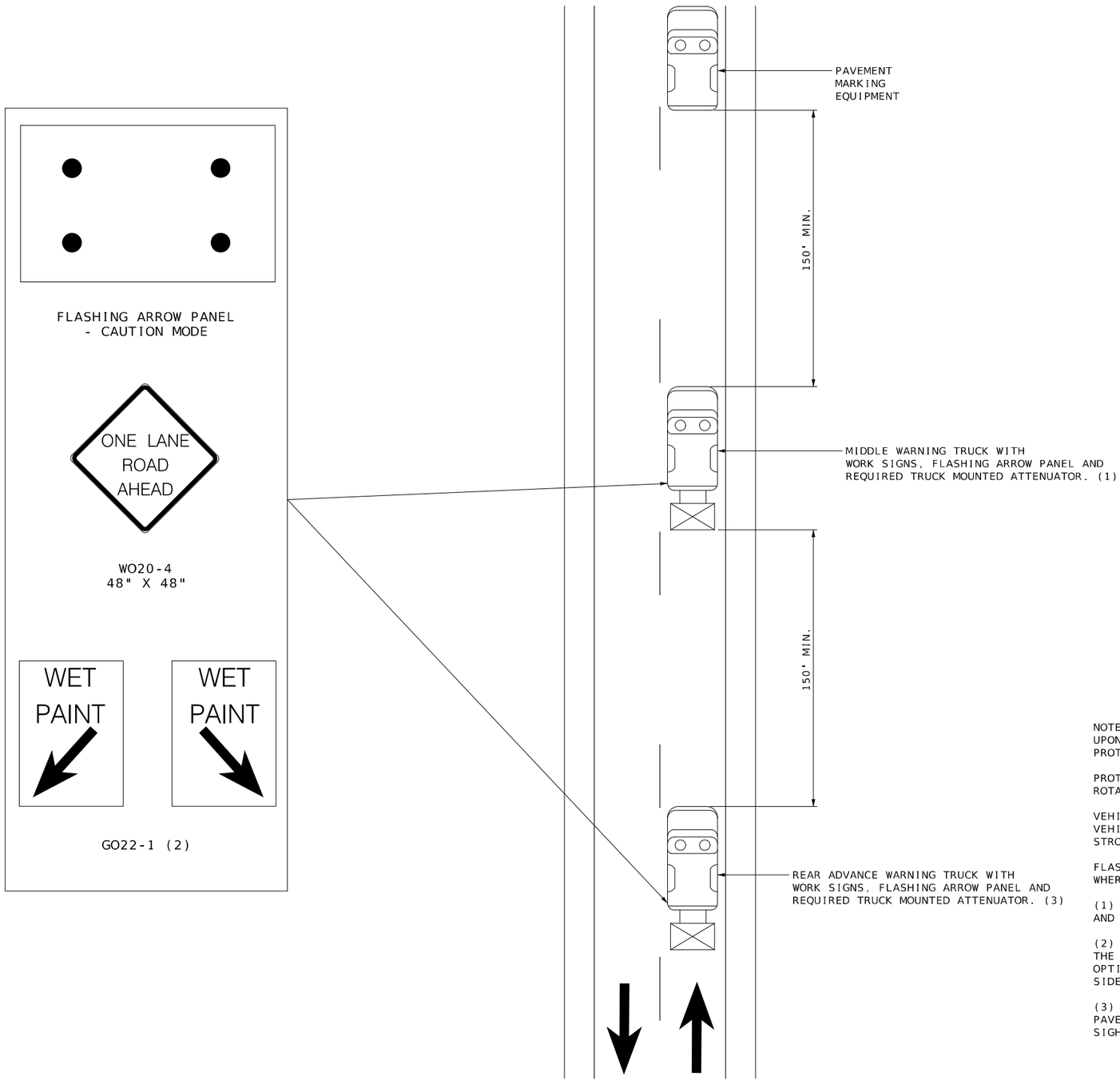
PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

TRAFFIC CONTROL
SHEET 4 OF 6
NOT TO SCALE



CENTERLINE/EDGELINE STRIPING ON TWO-LANE HIGHWAYS

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

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

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

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

(1) TRUCK IS OPTIONAL ON TWO-LANE UNDIVIDED HIGHWAYS IF SIGNING AND ARROW BOARD IS MOUNTED ON THE PAVEMENT MARKING EQUIPMENT.

(2) WET PAINT SIGNS ARE INSTALLED TO INDICATE THE SIDE IN WHICH THE PAVEMENT MARKING MATERIAL IS BEING APPLIED. AT THE CONTRACTOR'S OPTION, A FRONT FACING WET PAINT SIGN MAY BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT MARKING EQUIPMENT.

(3) REAR ADVANCE WARNING TRUCK IS POSITIONED AT THE NO TRACK POINT OF THE PAVEMENT MARKING MATERIAL, OR VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE, OR SPACING SHOWN.

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
08/20/2025 9:38:08 AM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
8/4/2025

ROUTE	STATE
168/JJ	MO
DISTRICT	SHEET NO.
NE	11

COUNTY
MARION

JOB NO.
JNE0054

CONTRACT ID.

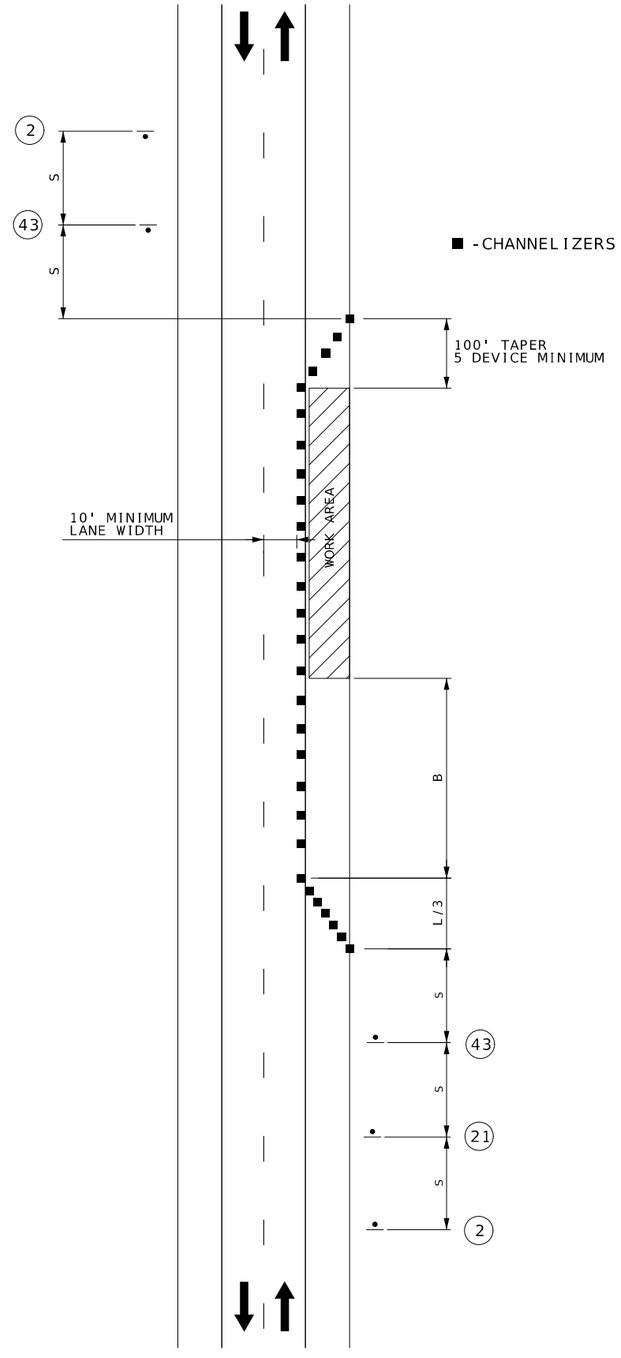
PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

TRAFFIC CONTROL
SHEET 5 OF 6
NOT TO SCALE



SHOULDER WORK

(UNDIVIDED HIGHWAY)

WO20-1

2

BRIDGE
OR
RAMP

WO21-5

21

WO5-1

43

BRIDGE
OR
RAMP

STATE OF MISSOURI
BRIAN UNTIEDT
NUMBER PE-2009001137
PROFESSIONAL ENGINEER
08/20/2025 9:37:45 AM
BRIAN UNTIEDT - CIVIL
MO-PE-2009001137

DATE PREPARED
8/4/2025

ROUTE	STATE
168/JJ	MO
DISTRICT	SHEET NO.
NE	12

COUNTY
MARION

JOB NO.
JNE0054

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)

TEMPORARY TRAFFIC CONTROL
TA-03/TA-06
SHEET 6 OF 6
NOT TO SCALE