

INDEX OF	SHEETS	5		(III.	INTE TATE	OF	ши, М/S			
DESCRIPTION		SHE	ET BER	THURINAN	PE		ALAN ZER BER 0150	45 NOI	NUMEER VC	AND DITES.
TITLE SHEETQUANTITIES (QU) (1 SHEET TRAFFIC CONTROL SHEETS (TO BRIDGE DRAWINGS (B) A5221)	1 3 4- 1-	55		OUTE STRIC SW JSSTRIC SW DAT STRIC SW N JSSTRIC SW BF			N N N N N N N N N N N N N N		
				DATE						
				TRANSPORTATION	CN			105 WEST CAPITOL	RSON CITY, MO 65102	0T (1-888-2/2-888)
LENGTH OF LOG MILES FROM ARAN EAST BOUND (EB) BEGINNING OF PROJECT END OF PROJECT APPARENT LENGTH EQUATIONS AND EXCEPTIONS:	LM (LM (26	CT).469).519 64.00	FEET	MISSOURI HIGHWAYS AND		MADOT				I - 888 - ASK - MUDC
TOTAL CORRECTIONS NET LENGTH OF PROJECT STATE LENGTH FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES	264 0.	0.00 .00 050 0	FEET FEET MILES ACRES							

1 1 2 1 0 1 0 1 0					TOTAL QT		SIGN							QTY TOTAL	SIGN				EFFECTIVE: 07-01-2024		NUTE OF	- MISS MISS
		SIZE	AREA	QTY	AREA REL	.OC RELOC	NUM.			SIZE	AREA	QTY	TOTAL	RELOC RELOC	NUM.		ITEM	τοται	-	111	CRAIC	
Num Num <td>SIGN</td> <td>IN.</td> <td>SQ.FT.</td> <td>EACH</td> <td>SQ.FT. EA</td> <td>CH SQ.FT</td> <td></td> <td>DESCRIPTION</td> <td>SIGN</td> <td>IN.</td> <td>SQ.FT.</td> <td>EACH</td> <td>I SQ.FT.</td> <td>EACH SQ.FT.</td> <td></td> <td>DESCRIPTION</td> <td>NUMBER</td> <td>QTY</td> <td>DESCRIPTION</td> <td>11111</td> <td>SWI</td> <td>ITZER</td>	SIGN	IN.	SQ.FT.	EACH	SQ.FT. EA	CH SQ.FT		DESCRIPTION	SIGN	IN.	SQ.FT.	EACH	I SQ.FT.	EACH SQ.FT.		DESCRIPTION	NUMBER	QTY	DESCRIPTION	11111	SWI	ITZER
No. 100 200 100 100 100 100 100 100 100 100		1			WARNING	j SIGNS	1			1		1	GUI	DE SIGNS			6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)	1111	PE-200	03015045
	WO1 - 1L	48X48	16.00					TURN (SYMBOL LEFT)	E05-1	36X48	12.00					GORE EXIT	6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)	`	SSION	ENGINI
	WO1-1K WO1-2L	48X48	16.00					CURVE (SYMBOL LEFT)	E05-2a	48X36	12.00					EXIT CLOSED	6122010		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)	-	C .	ALL
No. 10 No. 1 No.1 <th< td=""><td>WO1 - 2R</td><td>48X48</td><td>16.00</td><td></td><td></td><td></td><td></td><td>CURVE (SYMBOL RIGHT)</td><td>GO20-1</td><td>60X24</td><td>10.00</td><td>2</td><td>20.00</td><td></td><td></td><td>ROAD WORK NEXT XX MILES</td><td>6122014</td><td></td><td>IMPACT ATTENUATOR 60 MPH (SAND BARRELS)</td><td></td><td>03/26/2025</td><td>12:57:20 PM</td></th<>	WO1 - 2R	48X48	16.00					CURVE (SYMBOL RIGHT)	GO20-1	60X24	10.00	2	20.00			ROAD WORK NEXT XX MILES	6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)		03/26/2025	12:57:20 PM
	WO1-3L	48X48	16.00					REVERSE TURN (SYMBOL LEFT)	GO20-2	48X24	8.00	2	16.00			END ROAD WORK	6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)	_	MO-PE-20	2003015045 PREPARED
	WO1 - 3R	48X48	16.00					REVERSE TURN (SYMBOL RIGHT)	GO20-4	36X18	4.50					PILOT CAR FOLLOW ME	6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)	_	3/26	/2025
No. 0 No. 0 <th< td=""><td>WO1-4L WO1-4R</td><td>48X48 48X48</td><td>16.00</td><td></td><td></td><td></td><td></td><td>REVERSE CURVE (SYMBOL LEFT)</td><td>GO20-4a</td><td>42X30</td><td>8.75</td><td></td><td></td><td></td><td></td><td>PILOT CAR IN USE WAIT & FOLLOW</td><td>6122020</td><td></td><td>IMPACT ATTENUATOR (RELOCATION)</td><td></td><td></td><td></td></th<>	WO1-4L WO1-4R	48X48 48X48	16.00					REVERSE CURVE (SYMBOL LEFT)	GO20-4a	42X30	8.75					PILOT CAR IN USE WAIT & FOLLOW	6122020		IMPACT ATTENUATOR (RELOCATION)			
NUME NUME <th< td=""><td>WO1-4bL</td><td>48X48</td><td>16.00</td><td></td><td></td><td></td><td></td><td>DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)</td><td>GO20-5aP</td><td>2 36X24</td><td>6.00</td><td>4</td><td>24.00</td><td></td><td></td><td>WORK ZONE (PLAQUE)</td><td>6123001</td><td>1</td><td>TRUCK MOUNTED ATTENUATOR (TMA)</td><td></td><td>DISTRICT</td><td>SHEET NO.</td></th<>	WO1-4bL	48X48	16.00					DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)	GO20-5aP	2 36X24	6.00	4	24.00			WORK ZONE (PLAQUE)	6123001	1	TRUCK MOUNTED ATTENUATOR (TMA)		DISTRICT	SHEET NO.
	WO1-4bR	48X48	16.00					DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)	MO4 - 8 a	24X18	3.00					END DETOUR	6161008	4	ADVANCED WARNING RAIL SYSTEM		SW	3
	WO1-4cL	48X48	16.00					TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)	MO4 - 9L	48X36	12.00					DETOUR (LEFT)	6161012		BUOYS (BOATS KEEP OUT)	_		JNTY NTON
	WO1-4CR	48X48 60X30	12 50					HORIZONTAL ARROW (SYMBOL)	MO4 - 9R	48X36	4 00					STREET NAME (PLAQUE)	6161013		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)	-	JOB	3 NO.
No1 No1 <th< td=""><td>WO1-6a</td><td>72X36</td><td>18.00</td><td></td><td></td><td></td><td></td><td>HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)</td><td>MO4-10L</td><td>48X18</td><td>6.00</td><td></td><td></td><td></td><td></td><td>DETOUR ARROW (LEFT)</td><td>6161025</td><td>50</td><td>CHANNELIZER (TRIM LINE)</td><td></td><td>JSRM</td><td>10088</td></th<>	WO1-6a	72X36	18.00					HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)	MO4-10L	48X18	6.00					DETOUR ARROW (LEFT)	6161025	50	CHANNELIZER (TRIM LINE)		JSRM	10088
00.19 01.20 <th< td=""><td>WO1-7</td><td>60X30</td><td>12.50</td><td></td><td></td><td></td><td></td><td>DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)</td><td>MO4 - 10R</td><td>48X18</td><td>6.00</td><td></td><td></td><td></td><td></td><td>DETOUR ARROW (RIGHT)</td><td>6161030</td><td></td><td>TYPE III MOVEABLE BARRICADE</td><td></td><td>CONTRA</td><td>ACT ID.</td></th<>	WO1-7	60X30	12.50					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)	MO4 - 10R	48X18	6.00					DETOUR ARROW (RIGHT)	6161030		TYPE III MOVEABLE BARRICADE		CONTRA	ACT ID.
	WO1-7a	72X36	18.00					DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)		101/10	42.25		REGUL	ATORY SIGNS		6700	6161033	15	DIRECTION INDICATOR BARRICADE	_	PROJE	CT NO.
	WO1-8	18X24 30X36	3.00					CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)	R1-1 R1-2	48X48	6.93						6161040	1	TYPE III OBJECT MARKER			CE NO
No.2 No.2 <th< td=""><td>WO1-00 WO3-1</td><td>48X48</td><td>16.00</td><td></td><td></td><td></td><td></td><td>STOP AHEAD (SYMBOL)</td><td>R1-2a</td><td>36X36</td><td>9.00</td><td></td><td></td><td></td><td></td><td>TO ONCOMING TRAFFIC (PLAQUE)</td><td>6161055</td><td>15</td><td>SEQUENTIAL FLASHING WARNING LIGHT</td><td></td><td>BRIDG</td><td>JE NO.</td></th<>	WO1-00 WO3-1	48X48	16.00					STOP AHEAD (SYMBOL)	R1-2a	36X36	9.00					TO ONCOMING TRAFFIC (PLAQUE)	6161055	15	SEQUENTIAL FLASHING WARNING LIGHT		BRIDG	JE NO.
11.1 10.0 1 10.0 1 10.0 1 10.0	WO3 - 2	48X48	16.00					YIELD AHEAD (SYMBOL)	R1-3P	30X12	2.50					ALL WAY (PLAQUE)	6161070		TUBULAR MARKER			
0.1 0.3 0 0 0.1	WO3 - 3	48X48	16.00					SIGNAL AHEAD (SYMBOL)	R2 - 1	36X48	12.00	4	48.00			SPEED LIMIT 2-60, 2-70	6161095		RADAR SPEED ADVISORY SYSTEM		$1 \mid 1'$	
Single 12 Solution Single 12	WO3-4	48X48	16.00					BE PREPARED TO STOP	R3-1 R3-2	48X48	16.00					NO RIGHT TURN (SYMBOL)	6161096		CHANGEABLE MESSAGE SIGN,		'	
Skill (not like) (1)	WO3-3	48X48	16.00					MERGE (SYMBOL FROM LEFT)	R3-3	36X36	9.00					NO TURNS	0101050		CHANGEABLE MESSAGE SIGN WITHOUT COMM.	z	'	
Ak:14 16:30 1 15:30 Metter 16:17:17 16:17:167 16:17:17:17:17:17:17:17:17:17:17:17:17:17:	WO4-1R	48X48	16.00					MERGE (SYMBOL FROM RIGHT)	R3-4	48X48	16.00					NO U-TURN (SYMBOL)	6161098A		INTERFACE - CONTRACTOR FURNISHED/RETAINED		'	
No.1 No.2 No.2 <th< td=""><td>WO4-1aL</td><td>48X48</td><td>16.00</td><td>1</td><td>16.00</td><td></td><td></td><td>MERGE (LEFT)</td><td>R3-7L</td><td>30X30</td><td>6.25</td><td></td><td></td><td></td><td></td><td>LEFT LANE MUST TURN LEFT</td><td></td><td></td><td>CHANGEABLE MESSAGE SIGN WITH COMM.</td><td>S I P</td><td> '</td><td></td></th<>	WO4-1aL	48X48	16.00	1	16.00			MERGE (LEFT)	R3-7L	30X30	6.25					LEFT LANE MUST TURN LEFT			CHANGEABLE MESSAGE SIGN WITH COMM.	S I P	'	
No.2	WO4-1aR	48X48	16.00	1	16.00				R3-7R	30X30	6.25	2	24.00			RIGHT LANE MUST TURN RIGHT	6161099	4	INTERFACE- CONTRACTOR FURNISHED/RETAINED	SCF C	'	
NO-5 Addet 160 North Market (1980) North Market (1980) North The present (1981) The present (1981) <t< td=""><td>WO5 - 1 WO5 - 3</td><td>48X48</td><td>16.00</td><td></td><td></td><td></td><td></td><td>ONE LANE BRIDGE</td><td>R4-1</td><td>36X48</td><td>12.00</td><td>2</td><td>24.00</td><td></td><td></td><td>PASS WITH CARE</td><td>6162000A</td><td></td><td>TEMPORARY LONG-TERM RUMBLE STRIPS</td><td>B</td><td> '</td><td></td></t<>	WO5 - 1 WO5 - 3	48X48	16.00					ONE LANE BRIDGE	R4-1	36X48	12.00	2	24.00			PASS WITH CARE	6162000A		TEMPORARY LONG-TERM RUMBLE STRIPS	B	'	
No.1 No.1 No.2	WO5 - 5	48X48	16.00					NARROW LANES	R4-7a	36X48	12.00					KEEP RIGHT (HORIZONTAL ARROW)			TEMPORARY TRAFFIC BARRIER		'	
Color 4424 10.00	WO6 - 1	48X48	16.00					DIVIDED HIGHWAY (SYMBOL)	R4-8a	36X48	12.00					KEEP LEFT (HORIZONTAL ARROW)	6173600D		CONTRACTOR FURNISHED/RETAINED		'	
No.7.9 No.8	WO6-2	48X48	16.00					DIVIDED HIGHWAY END (SYMBOL)	R5-1	30X30	6.25					DO NOT ENTER	61726028		TEMPORARY TRAFFIC BARRIER		'	
NULL Adds 16.0 NULL NULL Adds 6.75 NULL NULL <th< td=""><td>WO7-3a</td><td>30X24</td><td>5.00</td><td></td><td></td><td></td><td></td><td>NEXT XX MILES (PLAQUE)</td><td>R5-1a R6-1L</td><td>54X18</td><td>6.75</td><td></td><td></td><td></td><td></td><td>ONE WAY ARROW (LEFT)</td><td>6173002B</td><td></td><td>TEMP. TRAFFIC BARRIER HEIGHT TRANSITION</td><td>, Ш</td><td></td><td></td></th<>	WO7-3a	30X24	5.00					NEXT XX MILES (PLAQUE)	R5-1a R6-1L	54X18	6.75					ONE WAY ARROW (LEFT)	6173002B		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION	, Ш		
VIELS VIELS <th< td=""><td>WO8 - 1</td><td>48X48</td><td>16.00</td><td></td><td></td><td></td><td></td><td>BUMP</td><td>R6-1R</td><td>54X18</td><td>6.75</td><td></td><td></td><td></td><td></td><td>ONE WAY ARROW (RIGHT)</td><td>6175010A</td><td></td><td>RELOCATING TEMPORARY TRAFFIC BARRIER</td><td>DAT</td><td> '</td><td></td></th<>	WO8 - 1	48X48	16.00					BUMP	R6-1R	54X18	6.75					ONE WAY ARROW (RIGHT)	6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER	DAT	'	
PR-1 PR-1 <th< td=""><td>WO8 - 2</td><td>48X48</td><td>16.00</td><td></td><td></td><td></td><td></td><td>DIP</td><td>R6-2L</td><td>24X30</td><td>5.00</td><td></td><td></td><td></td><td></td><td>ONE WAY (LEFT)</td><td></td><td></td><td>TEMPORARY TRAFFIC BARRIER</td><td></td><td><u> </u></td><td></td></th<>	WO8 - 2	48X48	16.00					DIP	R6-2L	24X30	5.00					ONE WAY (LEFT)			TEMPORARY TRAFFIC BARRIER		<u> </u>	
No.5 No.6	WO8 - 3	48X48	16.00					PAVEMENT ENDS	R6-2R	24X30	5.00					ONE WAY (RIGHT)	6176000B		COMMISSION FURNISHED/RETAINED	N		TOL 102 36)
Number Based Loc Index consisting Constraint	WO8-4 WO8-5	48X48	16.00					SLIPPERY WHEN WET (SYMBOL)	K9-9	24/12	2.00					SIDEWALK CLOSED AHEAD.	6177000B		COMMISSION FURNISHED/RETAINED	ATI		AP I 65 - 66
NUMBER 41848 19.00 0	WO8 - 6	48X48	16.00					TRUCK CROSSING	R9-11L	24X18	3.00					(ARROW LEFT) CROSS HERE	6208064A		TEMPORARY RAISED PAVEMENT MARKER	RT	:	T C MO 275
WRE/-1 SEAR 9-00 Image: An and a start in a sta	WO8-6c	48X48	16.00					TRUCK ENTRANCE								SIDEWALK CLOSED AHEAD,	9029400		TEMPORARY TRAFFIC SIGNALS	SPC	1	WES T≺, 88-
Market Number <td>WO8-7</td> <td>36X36</td> <td>9.00</td> <td></td> <td></td> <td></td> <td></td> <td>LOOSE GRAVEL</td> <td>R9-11R</td> <td>24X18</td> <td>3.00</td> <td></td> <td></td> <td></td> <td></td> <td>(ARROW RIGHT) CROSS HERE</td> <td>9029401</td> <td></td> <td>TEMPORARY TRAFFIC SIGNALS AND LIGHTING</td> <td>- NA</td> <td>:</td> <td>05 CI 1-8</td>	WO8-7	36X36	9.00					LOOSE GRAVEL	R9-11R	24X18	3.00					(ARROW RIGHT) CROSS HERE	9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING	- NA	:	05 CI 1-8
With 1 EXAM 10-0 WEENT LANES NO NO <td>WO8-7a</td> <td>48X48</td> <td>16.00</td> <td></td> <td></td> <td></td> <td></td> <td>LOW SHOULDER</td> <td>R11-2</td> <td>48X30</td> <td>10.00</td> <td></td> <td></td> <td></td> <td></td> <td>ROAD CLOSED</td> <td></td> <td></td> <td></td> <td>٣</td> <td>N</td> <td>son 1 T (</td>	WO8-7a	48X48	16.00					LOW SHOULDER	R11-2	48X30	10.00					ROAD CLOSED				٣	N	son 1 T (
Y00-12 20X8 16.00 C CONTROL DEVICES CONTROL DEVIC	WO8-11	48X48	16.00					UNEVEN LANES								ROAD CLOSED XX MILES AHEAD			MAINTENANCE OF COMMISSION OWNED TRAFFIC	Q	S 10	FER
w103-15 0.00 0 000/00 (0000) 000/00 (0000) 000/00 (0000) 00000) 000000 0000000 0000000 0000000 00000000 000000000000000000000000000000000000	WO8-12	48X48	16.00					NO CENTER LINE	R11-3a	60X30	12.50					LOCAL TRAFFIC ONLY	6169901	1	CONTROL DEVICES	×		
000-11 44243 16:00 0 000-000-000-000-000-000-000-000-000-00	WO8-15	48X48	16.00						R11-4	60X30	12.50	2	40.00			ROAD CLOSED TO THRU TRAFFIC	6181000	1	MOBILIZATION	LNC A	. 🖥 🖒	
wab-17 daxe isounce	WO8-17L	48X48	16.00					SHOULDER DROP-OFF (SYMBOL LEFT)	CONST-32	56X12	4.67	2	9.34			SPEEDING/PASSING (PLATE)	0274000	1	CONTRACTOR TORNISHED SORVETING AND START	E H	Ů V	
wd0-17 3024 5.00 0 SHOULDER DR0P-OFF (PLAUE) CONST-5 48246 12.00 POINT OF PRESENCE w10-1 24X24 4.00 0 DOUBLE DR0N ARROW (SYMBOL) CONST-5 48236 12.00 0 POINT OF PRESENCE w10-2 48X46 16.00 0 DOUBLE DR0N ARROW (SYMBOL) CONST-5 48236 12.00 2 24.00 W0RX ZONE NO PHONE ZONE w10-2 48X46 16.00 0 I.OW CLRAAMCE (SYMBOL) CONST-8 48236 12.00 2 24.00 W0RX ZONE NO PHONE ZONE w10-2 48X46 16.00 0 I.OW CLRAAMCE (PLAQUE) IIIII IN X MILES ANADA IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	WO8-17R	48X48	16.00					SHOULDER DROP-OFF (SYMBOL RIGHT)				M	MISCELL	ANEOUS SIGN	١S				1	٦Ĕ	<u> </u>	
W10-1 4/4/W0, 9.02 MA1LKOAU CKOSKING CONST-5 90/48 92.00 POINT OF PRESENCE W112-12 42/4/4 4.00 CONST-5 90/48 92.00 POINT OF PRESENCE W112-2 42/4/4 16.00 CONST-5 48/36 12.00 POINT OF PRESENCE W112-2 42/4/4 16.00 CONST-5 48/36 12.00 POINT OF PRESENCE W112-2 2/4/4 16.00 CONST-6 48/36 12.00 POINT OF PRESENCE W112-2 2/4/4 16.00 CONST-6 48/36 12.00 POINT OF PRESENCE W112-2 2/4/4 14.00 OVEREHADLOW CLEANARCE (FRET AND INCHES) POINT OF PRESENCE POINT OF PRESENCE W112-2 2/4/4 14.00 OVEREHADLOW CLEANARCE (FRET AND INCHES) POINT OF PRESENCE POINT OF PRESENCE W112-2 2/4/4 14.00 OVEREHADLOW CLEANARCE (FRET AND INCHES) POINT OF PRESENCE POINT OF PRESENCE POINT OF PRESENCE W12-2 2/4/4 16.00 SCONTENCE PROFENCE POINT OF PRESENCE POINT OF PRESENCE POINT OF PRESENCE W12-2 4/4/4 10.00<	WO8-17P	30X24	5.00					SHOULDER DROP-OFF (PLAQUE)	CONST-5	48X36	12.00					POINT OF PRESENCE				=	0	5 // 7
W012-2 V013-2 <td>W10-1 W012-1</td> <td>42RND.</td> <td>9.62</td> <td></td> <td></td> <td></td> <td></td> <td>RAILROAD CROSSING</td> <td>CONST-5</td> <td>96X48</td> <td>32.00</td> <td>2</td> <td>24.00</td> <td></td> <td></td> <td>POINT OF PRESENCE</td> <td></td> <td></td> <td></td> <td>- Ino</td> <td>ΓΣ</td> <td>' (C </td>	W10-1 W012-1	42RND.	9.62					RAILROAD CROSSING	CONST-5	96X48	32.00	2	24.00			POINT OF PRESENCE				- Ino	ΓΣ	' (C
w012-2x 24X18 3.00 v	WO12 - 2	48X48	16.00					LOW CLEARANCE (SYMBOL)		40//30	12.00		24.00			TORK ZONE NO THOME ZONE				SS		
w012-2a 8/42 1/4 0 0 <th< td=""><td>W012-2x</td><td>24X18</td><td>3.00</td><td></td><td></td><td></td><td></td><td>LOW CLEARANCE (PLAQUE)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Σ</td><td></td><td></td></th<>	W012-2x	24X18	3.00					LOW CLEARANCE (PLAQUE)												Σ		
W012-1 12000 50:00 Conductant of the strict to the str	WO12-2a	84X24	14.00					OVERHEAD LOW CLEARANCE (FEET AND INCHES)														
NO13-1 SOX30 6.25 ADVISORY SPEED (PLAQUE) ADVISORY SPEED (PLAQUE) <td>WO12-4</td> <td>120X60</td> <td>50.00</td> <td></td> <td></td> <td></td> <td></td> <td>WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD</td> <td></td>	WO12-4	120X60	50.00					WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD														
wolf-3 30X24 5.00 C <	WO13-1	30X30	6.25					ADVISORY SPEED (PLAQUE)														
w1016-3 30X24 5.00 0 0 X X I	WO16-2	30X24	5.00					XXX FEET (PLAQUE)														
W020-2 48/48 16.00 C COUVE CO	WO16-3	30X24	5.00		40.00			X MILE (PLAQUE)														
w20-3 48x48 16.0 A ADA CLOSED AHEAD 616-10.05 TOTAL w20-4 48x48 16.00 A ADA CLOSED AHEAD CONSTRUCTION SIGNS 374 w20-4 48x48 16.00 A ABAD CONSTRUCTION SIGNS 374 w20-5 48x48 16.00 A ABAD CONSTRUCTION SIGNS 374 w20-5 48x48 16.00 A ABAD COSTRUCTION SIGNS TOTAL w20-5 48x48 16.00 A ABAD COSTRUCTION SIGNS TOTAL w20-56 48x48 16.00 A ABAD COSTRUCTION SIGNS TOTAL w20-56 48x48 16.00 A RIGHT/CENTER/LEFT LANE CLOSED RELOCATED SIGNS TOTAL w201-5 48x48 16.00 A FLAGGER (SYMBOL) RELOCATED TOTAL O w201-5 48x48 16.00 A RELOCATED RELOCATED SUMMARY OF QUANTITIES w21-5 48x48 16.00 A	WO20-1 WO20-2	48X48	16.00	3	48.00			DETOUR AHEAD														
48x8 16.00 V<	WO20-3	48X48	16.00					ROAD CLOSED AHEAD	616-10	.05			TOTAL									
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WO20-10 WO20-10 <t< td=""><td>WO20-5</td><td>48X48</td><td>16.00</td><td>3</td><td>48.00</td><td></td><td></td><td>RIGHT/CENTER/LEFT LANE CLOSED AHEAD</td><td></td><td>.10 TED CI</td><td></td><td></td><td></td><td>TOTAL</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	WO20-5	48X48	16.00	3	48.00			RIGHT/CENTER/LEFT LANE CLOSED AHEAD		.10 TED CI				TOTAL								
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W021-236X369.00IIIIIIIW021-548X4816.00III	WO20-7a	48X48	16.00	<u> </u>				FLAGGER (SYMBOL)														
W021-548X4816.00CSHOULDER WORK / SHOULDER WORK A HEADW022-148X4816.00CBLASTING ZONE AHEADW022-242X3610.50CCTURN OFF 2-WAY RADIO AND PHONEW022-342X3610.50CCEND BLASTING ZONEW022-121X152.19CCWET PAINT (ARROW PIVOTS)	WO21-2	36X36	9.00			_		FRESH OIL														
W022-140A4010.00CCBLASTING ZONE AREADW022-242X3610.50CCTURN OFF 2-WAY RADIO AND PHONEW022-342X3610.50CCEND BLASTING ZONEW022-121X152.19CCWET PAINT (ARROW PIVOTS)	WO21-5	48X48	16.00					SHOULDER WORK / SHOULDER WORK AHEAD														
WO22-3 42X36 10.50 END BLASTING ZONE G022-1 21X15 2.19 WET PAINT (ARROW PIVOTS)	W022-1 W022-2	48748	10.00		<u> </u>		-	TURN OFF 2-WAY RADIO AND PHONE											SUMMARY OF QUANTITIES			
GO22-1 21X15 2.19 WET PAINT (ARROW PIVOTS)	WO22-3	42X36	10.50					END BLASTING ZONE											JILLI I OF I			
	GO22-1	21X15	2.19					WET PAINT (ARROW PIVOTS)														







	Girder No.	Dim. A	Dim.
N.	1	9 "	3 <u>1</u> "
	2	18"	$10\frac{1}{2}$
	4	11"	9"
A±			

Note:	For C	Genera	al Not	es	and	Est	ima	t e
Quant	ities	, see	Sheet	No	. 2.			

Checked Mar 2025

GENERAL NOTES:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications Design Loading:

HS20-44 (New Construction) 15lb/Sq. Ft. Wearing Surface

Design Unit Stresses: Structural Carbon Steel (ASTM A709 Grade 36) fy = 36,000 psi

Fabricated Steel Connections:

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

Recoating Existing Steel:

Existing structural steel for Girders 1, 2, & 4 within Span (2-3) shall be recoated where damaged and where paint was removed during the heat straightening process.

Protective Coating: System G in accordance with Sec 1081.

Surface Preparation: Surface preparation of the existing steel shall be in accordance with Sec 1081 for Recoating of Structural Steel (System G). The cost of surface preparation will be considered completely covered by the contract lump sum price for Surface Preparation for Recoating Structural Steel

Prime Coat: The cost of the prime coat will be considered completely covered by the contract lump sum price for Field Application of Inorganic Zinc Primér

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

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

Coating New Steel:

Protective Coating: System G in accordance with Sec 1081.

Prime Coat: The cost of the 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 intermediate field coat will be considered completely covered by the contract lump sum price for Intermediate Field Coat (System G). The cost of the finish field coat will be considered completely covered by the contract lump sum price for Finish Field Coat (System G).

At the option of the contractor, the intermediate field coat and 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.

Estimated Quantities		
I t em		Quantity
Removal of Diaphragm	each	8
Removal of Stiffener Plates & Connection Plates	each	12
Fabricated Structural Carbon Steel (Misc.)	pound	1200
Surface Preparation for Recoating Structural Steel	lump sum	1
Field Application of Inorganic Zinc Primer	lump sum	1
Intermediate Field Coat (System G)	lump sum	1
Finish Field Coat (System G)	lump sum	1
Non-Destructive Testing	lump sum	1
Heat Straightening	lump sum	1
Grind Surface Deformities	lump sum	1
Splice Repair	each	3
Slab Drain Repair	each	3

Traffic Handling:

Traffic to be maintained on structure during construction. See roadway plans for traffic control

The existing vertical clearance shall be maintained during construction when Southbound Route I 49 is open to traffic.

Lane closures on Route I-49 and David Drive shall be in accordance with traffic control plans.

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

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

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

All existing dimensions shown were taken from as-built drawings, or limited field measurements.

The contractor shall complete a non-destructive test on the connection The contractor shall complete a non-destructive test on the connection plate welds at all girder(s) in damaged areas where connection plates will be re-used to confirm suitability of re-use before installing new diaphragm(s). The cost of this work will be considered completely covered by the contract lump sum price for Non-Destructive Testing. See Special Provisions. Required paint removal for this work will be considered completely covered by the lump sum price for Surface Preparation for Recoating Structural Steel.

The contractor shall inspect the damaged girder(s) within the heat straightening limits for cracks by any non-destructive means. The cost of this work will be considered completely covered by the contract lump sum price for Heat Straightening (See Special Provisions).

The contractor shall heat straighten the damaged portions of girder(s). The cost of this work will be considered completely covered by the contract lump sum price for Heat Straightening (See Special Provisions)

The contractor shall grind smooth surface deformities related to the damage such as gouges. The cost of this work will be considered completely covered by the contract lump sum price for Grind Surface Deformities (See Special Provisions).





PART ELEVATION SHOWING LIMITS OF PAINT OVERLAP

(Vertical or horizontal paint limit. Horizontal limit shown)





The cost of furnishing and installing new diaphragms, connection plates, and stiffener plates will be considered completely covered by the contract unit price for Fabricated Structural Carbon Steel (Misc.). Quantity for Fabricated Structural Carbon Steel (Misc.) includes the weight of stiffener plates, connection plates, filler plates, web plates, diaphragm angles, bolts, and any other subsidiary material required.

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

Contractor may field drill holes with the approval of the Engineer to facilitate construction.

Existing diaphragms removed and reused shall be installed with new high strength bolts. The cost of new bolts is covered by the contract unit price for Fabricated Structural Carbon Steel (Misc.).

At the contractor's option, holes in the diaphragm plate of non slab bearing diaphragms may be made 3/16" larger than the nominal diameter of the bolt. A hardened washer shall be used under the bolt head and nut when this option is used. Holes in the girder diaphragm connection plate or transverse web stiffener shall be standard size



PART PLAN SHOWING DIAPHRAGM CONNECTION AT GIRDER NO. 4

(3) See details of web repair on Sheet No. 4.

DIAPHRAGM REPLACEMENT DETAILS

Note: This drawing is not to scale. Follow dimensions. Sheet No. 3 of 5



SECTION A-A









PART SECTION SHOWING SLAB DRAIN ATTACHMENT

-Field bend or replace bracket as required -Replace missing bolt in slab drain attachment bracket with 1/2"Ø bolt, 2 hardened washers, lock washer & nut - Existing Girder 0000 AND TF 00000 -Replace all web splice bolts (4) 0000 VAYS COMMI 6666 00000 0000 6666 0000 0000 "กมานมานมานมานมานม่านมานมานมานมานมานมา – Replace all bottom flange splice bolts (4) PART ELEVATION SHOWING SPLICE REPAIR AT GIRDERS NO. 1, 2 & 4



See Part Plan of Structural Steel on Sheet No. 1 for locations of slab drain bracket repair. All bolts shall be ASTM A307. All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C. All work as shown will be considered completely covered by the contract unit price for Slab Drain Repair. All bolts shall be 7/8-inch diameter ASTM F3125 Grade A325 Type 1. All work as shown will be considered completely covered by the contract unit price for Splice Repair. (4) No more than two splice bolts total may be removed at any one time.

(1) 1 1/2" (Min.) in any direction

(2) Web plate width dimension is approximate, based on a visual assessment of the damage. Contractor to field verify plate dimensions.

(3) Interior face of Girder No. 4, for diaphragm attachment

Flatten puncture in web plate and grind smooth as required. Field drill 3/4"Ø hole at each end of the crack. Field drill 13/16"Ø holes for 3/4"Ø bolts in web.

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

Installation of web plates, complete in place, shall be considered completely covered by the contract unit price for Fabricated Structural Carbon Steel (Misc.)

For details of new diaphragms, see Sheet No. 3.

Detailed Mar. 2025 Checked Mar. 2025

REPAIR DETAILS



GOUGE REPAIR TYPE 1





PLAN OF GOUGE COLLISION DAMAGE

EVALUATION OF FLANGE GOUGE REPAIRS

If the length of gouge is less than or equal to 2 inches and depth of the gouge is 1/16 inch or less, then no repair is necessary.

If the length of the gouge is greater than 2 inches and the depth of the gouge is 3/16 inch or less, then use Gouge Repair Type 1.

If the depth of the gouge is greater than 3/16 inch, then use Gouge Repair Type 2.

Payment for girder gouge repairs will be completely covered by Grind Surface Deformities. See Special Provisions.

* The girder bottom flange shall be repaired for gouging resulting from collision damage as directed by the Engineer. The Contractor shall not perform any repairs until the defects have been reviewed and categorized as Type 1 or Type 2 by the Engineer.

GOUGE REPAIR TYPE 2

Note:

Type 2 repairs shall consist of welding the gouge and grinding it smooth at the Engineer's discretion prior to coating. Welding shall be in accordance with AWS D1.5 standards.

WELD NOTES

All welds shall be made using 1/8" or 5/32" E7018 electrodes only (Not E7028).

Maximum weld size shall be 1/2" across the face of the weld on each pass. Stringer passes shall be used to achieve this dimension.



Preheat shall be 250°F min. prior to any tacking or welding.

All runoff bars and weld backing bars shall be $1/4"\ x\ 1\ 1/2"$ flat bar minimum, and shall extend 2" beyond the edge of the flange.

The groove welds shall have a min. of 60 $^\circ$ inclined angle.



All welds shall be started 1" out on the runoff bar and continued toward the center of the flange. Runoff bars shall be level with the bottom of the groove.

100% penetration welds shall have a min. 1/4" root opening and all welding shall be done from the top side.



All runoff bars shall be burned off 1/8" min. beyond the edge of the flange and ground flush.

All 100% groove weld backing bars shall be torched or arc gouged off to within 1/8" of the flange and then ground smooth. The bottom of the flange shall be ground smooth after welding.

All welds shall be made in the flat position with no welding up or down on incline slope.



Use 1/4" x 1" flat bar to support the edge of welds that are layered, anytime the groove depth exceeds $1/4"\,.$

GOUGE REPAIR TYPE 2 (CONT.)



Edge blocks shall extend 2" from edge of flange, and be removed after welding in the same manner as the backing bar. All welds shall be ground smooth.

Notes:

Welders shall be AWS Certified for overhead welding.

Detailed Mar. 2025 Checked Mar. 2025

GOUGE REPAIR DETAILS

All Type 2 Repairs to girder flanges shall be Q.C. inspected by ultra-sonic testing. Acceptance or rejection of the repair welds shall be based on the requirements of Table 9.2 of AWS D1.5-95.

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