DESIGN DESIGNATION

A.D.T. - 2023 = 84 A.D.T. - 2043 = 114 D.H.V. = 3.5 T = 13.65% V = 55 M.P.H. D = 50.6% / 49.4%

FUNCTIONAL CLASSIFICATION - MAJOR COLLECTOR

NO NEW R/W REQUIRED

CONVENTIONAL SYMBOLS

	EXISTING	NEW
BUILDINGS AND STRUCTURES	[]=2	
GUARD RAIL CONCRETE RIGHT-OF-WAY MARKER STEEL RIGHT-OF-WAY MARKER LOCATION SURVEY MARKER UTILITIES	00000 - - - -	0
FIBER OPTICS OVERHEAD TELEPHONE UNDERGROUND TELEPHONE OVERHEAD POWER UNDERGROUND POWER	-F0- 	-F0- -
GAS WATER	— G — — W —	G
MANHOLE	SAN)
FIRE HYDRANT	HAD	3
WATER VALVE	wv C)
WATER METER	w _w)
DROP INLET	•1]
DITCH BLOCK	=	÷
GROUND MOUNTED SIGN	SIGN	-
LIGHT POLE]
H-FRAME POWER POLE	H	
TELEPHONE PEDESTAL FENCE	PED _	
CHAIN LINK WOVEN WIRE GATE POST	v x]
BENCHMARK	BM⊗)

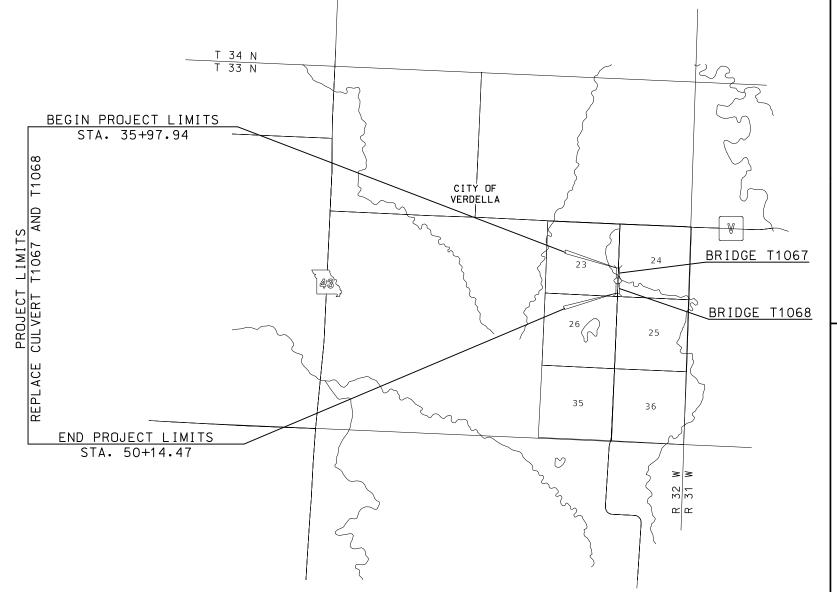
NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED STATE HIGHWAY

BARTON COUNTY





NOT TO SCALE

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY FROR 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 SECTION (TS) (1 SHEET)	2
QUANTITIES (QU) (XX SHEETS)	3
PLAN-PROFILE (PP) (2 SHEET)	4-5
COORDINATE POINTS (CP) (1 SHEET)	6
TRAFFIC CONTROL (TC) (5 SHEETS)	7-11
EROSION CONTROL (EC) (1 SHEET)	12
PAVEMENT MARKING (PM) (1 SHEET)	13
BRIDGE DRAWINGS (B)	
A9289	1-9
A9290	1-9
CROSS SECTIONS (XS)	
A9289	1-7
A9290	8-29

HIIIIII.	PROXILI	PE SS,		MAN MBER 100000011			WHITIM.	44 07 1470
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		PR	OJE	СТ	NO.			
_	49:			GE NO.				0111E
DESCRIPTION								C HATCHER OF IATO A TE

ANDREW BOWMAN

LENGTH OF PROJECT

BEG OF PROJECT	LOG MILE 0.685	
END OF PROJECT	LOG MILE 0.857	
APPARENT LENGTH	908.16	FEET
EQUATIONS AND EXCEPTIONS	NONE	

MISSOURI HIGHWAYS AND TR
COMMISSION
MADOT

NET LENGTH OF PROJECT 908.16 FEET STATE LENGTH 0.172 MILES

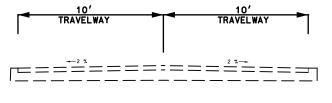
NOTES: LANE WIDTH NOTED IS TYPICAL LANE WIDTH.
ADJUST PAVING WIDTHS TO EXISTING FIELD CONDITIONS.

NO ADDITIONAL PAYMENT WILL BE MADE FOR ADDITIONAL COLDMILLING (UP TO 3") REQUIRED TO REMOVE ENTIRE TOP LIFT DUE TO DELAMINATION. THIS APPLIES TO ENTIRE PROJECT LIMITS.

SURFACE PLACEMENT - ONE PASS PER LANE

NO S.E. CORRECTION

EXISTING CULVERT TYPICAL SECTION

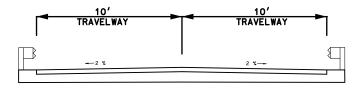


ROUTE W

STA. 38+25.62 - 38+38.62

STA. 47+29.30 - 47+46.30

PROPOSED CULVERT



ROUTE W

STA. 38+20.81 - 38+34.18 STA. 47+26.30 - 47+54.30

ASPHALT FACTORS

COMBINED FACTOR

BP-1 (PG64-22) 1.985 TONS/CY 5.2
BIT. BASE (PG64-22) 2.000 TONS/CY 4.7

TACK COAT

NEW ASPHALT SURFACE 0.05 GAL/SY

IRREGULARITIES: 75 TONS/MI

ROADWAY APPROACH PAVEMI	ENT OPTIONAL DESIGN
10" ASPHALT OPTION	8" CONCRETE OPTION
2.00° BP-1 (PG64-22) 8.00° BITUMINOUS BASE (PG64-22)	8" JPCP 1-1/4" DOWELS 15' JOINTS

PAY LIMITS OF RESURFACING,

VARS

THRU LANE

THRU LANE

MATCH EXIST SLOPE

MATCH EXIST SLOPE

PAYEMENT

STA. 35+97.94 - 38+20.81

STA. 38+34.18 - 40+11.94

ROUTE W

STA. 45+14.22 - 47+26.30

STA. 47+54.30 - 50+14.47

TYPICAL SECTIONS SHEET 1 OF 1

7/27/2023 SW BARTON J7S3550 CONTRACT ID. PROJECT NO. A9289 , A9290

	PAVEMENT											
				TYPE 1 AGGREGATE BASE	OPTIONAL PAVEMENT	TACK COAT						
STATION	STATION	LENGTH	WIDTH	(4 IN. THICK)	(10 IN. THICK)	0.05 GAL/SY	REMARKS					
		FT	FT	SY	SY	GAL						
35+97.94	38+20.81	222.87	20	495.3	495.3	24.8	BEGIN PROJECT - A9289					
38+34.18	40+11.94	177.76	20	395.0	395.0	19.8	A9289-END FULL DEPTH PVMT					
45+14.22	47+26.30	212.08	20	471.3	471.3	23.6	BEGIN FULL DEPTH PVMT-A9290					
47+54.30	50+14.47	260.17	20	578.2	578.2	28.9	A9290 - END PROJECT					
			TOTAL	1939.8	1939.8	97.1						
			USE	1940	1940	98						

	EROSION CONTROL									
BEGIN	END		SILT FENCE	TYPE C BERM	SEEDING - WARM SEASON MIXTURES	TEMPORARY SEEDING	SEDIMENT REMOVAL			
STATION	STATION	LOCATION	LF	LF	ACRE	ACRE	CY	REMARKS		
35+97.94	37+82.60	RT	184.0	43.0	0.13	0.13	6.1	NW QUAD A9289		
38+13.83	40+11.94	RT	239.0	45.0	0.14	0.14	6.9	SW QUAD A9289		
38+50.44	40+11.94	LT	203.0	30.0	0.11	0.11	5.0	SE QUAD A9289		
35+97.94	38+26.73	LT	227.0	32.0	0.16	0.16	5.5	NE QUAD A9289		
45+14.22	47+28.82	RT	215.0	32.0	0.16	0.16	5.4	NW QUAD A9290		
47+59.54	50+14.47	RT	258.0	34.0	0.17	0.17	6.0	SW QUAD A9290		
47+47.63	50+14.47	LT	203.0	30.0	0.17	0.17	5.0	SE QUAD A9290		
35+97.94	38+26.73	LT	227.0	32.0	0.15	0.15	5.5	NE QUAD A9290		
		TOTAL	1756.0	278.0	0.81	0.81	27.4			
		USE	1756	278	0.9	0.9	28			

PAVEMENT MARKING										
	WATER									
BEGIN	END	4" WHITE	4" YELLOW	REMARKS						
STATION	STATION	LF	LF							
36+17.17	40+37.83	841.3		LT & RT MATCH EXIST.						
36+17.17	40+37.83		525.8	€ MATCH EXIST.						
45+26.30	49+54.30	856.0		LT & RT MATCH EXIST.						
45+26.30	49+54.30		535.0	€ MATCH EXIST.						
	TOTAL	1697.3	1060.8							
	USE	1698	1061							

MOBILIZATION 1 LUMP SUM

W MO SW SHEET NO. COUNTY
BARTON
JOB NO.
J7S3550
CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9289 , A9290

	EARTHWORK										
			EMBANKMENT IN PLACE	UNCLASSIFIED EXCAVATION	COMPACTING EMBANKMENT	COMPACTING IN CUT					
STATION	STATION	LOCATION	CY	CY	CY	STA	REMARKS				
35+97.94	40+11.94	ROUTE W	322.9	276.4	599.3	4 . 1	A9289				
45+14.22	50+14.47	ROUTE W	233.5	463.6	697.1	5.0	A9290				
		TOTAL	556.4	740.0	1296.4	9.1					
		USE	557	740	1297	10					

CONTRACTOR	FURNISHED	SURVEYING	AND	STAKING
	1 1 11	MP SLIM		

	REMOVAL OF IMPROVENTS									
BEGIN	END									
STATION	STATION	LOCATION	DESCRIPTION	UNIT	QTY	REMARKS				
37+98.30	-	RT	EXISTING TYPE III OBJECT MARKER	EA	1	A9289				
35+97.94		Ē	SAW CUT	LF	20	ALONG EXIST. PAVEMENT				
35+97.94	40+11.94	Ē	EXISTING ASPHALT PAVEMENT	SY	920					
40+11.94		Ē	SAW CUT	LF	20	ALONG EXIST. PAVEMENT				
38+41.47	-	LT	EXISTING TYPE III OBJECT MARKER	EA	1					
45+14.22		Ę	SAW CUT	LF	20	ALONG EXIST. PAVEMENT				
45+14.22	50+14.47	Ē	EXISTING ASPHALT PAVEMENT	SY	1111					
50+14.47		Ē	SAW CUT	LF	20	ALONG EXIST. PAVEMENT				

			SHAPING	TYPE A	MGS	MGS GUARDRAIL	MGS	
			SLOPES	MASH END	THR I E - BEAM		GUARDRAIL	
BEGIN	END		CLASS III	TERMINAL	TRANSITION	GUARDRAIL	GOARDRATE	
STA	STA	LT/RT	(100FT)	(EA)	(EA)	(LF)	(LF)	REMARKS
36+10.14	38+13.53	RT	2.0	1.0	·	. ,	225.0	A9289
38+34.18	39+55.63	RT	1.2	1.0				A9289
37+17.46	38+20.81	LT	1.0	1.0				A9289
38+41.47	39+81.14	LT	1.4	1.0			237.5	A9289
45+25.17	47+26.30	RT	2.0	1.0	1.0	28.0	112.5	A9290
47+54.30	48+55.26	RT	1.0	1.0	1.0		12.5	A9290
46+25.67	47+26.30	LT	1.0	1.0	1.0	28.0	12.5	A9290
47+54.30	50+04.23	LT	2.5	1.0	1.0		112.5	A9290
		TOTAL	12.1	8.0	4.0	56.0	712.5	
		USE	12	8	4	56	712.5	

ANDREW BOWMAN NUMBER PE-202000001 DATE PREPARED 7/27/2023 MO SHEET NO. COUNTY JOB NO. CONTRACT ID. PROJECT NO.

										EFFECTIVE: 04-01-2023	.,,,,,,
		TOTAL QTY TOTAL SIG	N .			QTY TOTAL SIGN					Julian Salak
	SIZE	AREA QTY AREA RELOCRELOC NUM				AREA QTY TOTAL RELOC RELOC NUM.					8
SIGN	IN.	SQ.FT EACH SQ.FT. EACH SQ.FT.		SIGN	IN.	SQ.FT EACH SQ.FT. EACH SQ.FT.		l I	TOTAL		E R. PE
		WARNING SIGNS	DESCRIPTION	<u> </u>		GUIDE SIGNS	DESCRIPTION	NUMBER	QTY	DESCRIPTION	1
WO1 - 1L		16.00	TURN (SYMBOL LEFT ARROW)	1	36X48		GORE EXIT	6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)	177,88/
WO1 - 1R WO1 - 2L	48X48 48X48		TURN (SYMBOL RIGHT ARROW) CURVE (SYMBOL LEFT ARROW)	1	48X36 48X36		EXIT OPEN EXIT CLOSED	6122009 6122010		IMPACT ATTENUATOR 45 MPH (SAND BARRELS) IMPACT ATTENUATOR 50 MPH (SAND BARRELS)	Ana
WO1-2E	48X48		CURVE (SYMBOL RIGHT ARROW)	1	60X24		ROAD WORK NEXT XX MILES	6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)	09/07/ ANDREV MO-
WO1-3L	48X48		REVERSE TURN (SYMBOL LEFT ARROW)	1	48X24		END ROAD WORK	6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)	DAT
WO1-3R	48X48		REVERSE TURN (SYMBOL RIGHT ARROW)		36X18		PILOT CAR FOLLOW ME	6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)	9 /
WO1-4L	48X48		REVERSE CURVE (SYMBOL LEFT ARROW)	GO20-4a			PILOT CAR IN USE WAIT & FOLLOW	6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)	- W
WO1 - 4R WO1 - 4bL	48X48 48X48		REVERSE CURVE (SYMBOL RIGHT ARROW) DOUBLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)	GO20-4a GO20-5aP			PILOT CAR IN USE WAIT & FOLLOW WORK ZONE (PLAQUE)	6122020 6122030		REPLACEMENT SAND BARREL IMPACT ATTENUATOR (RELOCATION)	DISTRIC
WO1 - 4bE			DOUBLE ARROW REVERSE CURVE (SYMBOL ET ARROWS)	1	24X18		END DETOUR	6123000A		TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)	<u>SW</u>
WO1-4cL			TRIPLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)	1	48X36		DETOUR (LEFT ARROW)	6161008	2	ADVANCED WARNING RAIL SYSTEM	Н в.
WO1-4cR	48X48	16.00	TRIPLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)	MO4 - 9R	48X36	12.00	DETOUR (RIGHT ARROW)	6161012		BUOYS (BOATS KEEP OUT)]
WO1 - 6	60X30		HORIZONTAL ARROW (SYMBOL)	-	48X12		STREET NAME (PLAQUE)	6161013		BUOYS (NO WAKE)	J 7
WO1 - 6a	72X36		HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)	MO4 - 10L			DETOUR (ARROW LEFT)	6161014	F.0	SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)	-
WO1-7 WO1-7a	60X30 72X36		DOUBLE HEAD HORIZONTAL ARROW (SYMBOL) DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)	MO4 - 10R	48X18	REGULATORY SIGNS	DETOUR (ARROW RIGHT)	6161025 6161030		CHANNELIZER (TRIM LINE) TYPE III MOVEABLE BARRICADE	PRO
WO1 - 8	18X24		CHEVRON (SYMBOL)	R1-1	48X48		STOP	6161033	10	DIRECTION INDICATOR BARRICADE	BR
WO1-8a	30X36		CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)	1	48TR I .		YIELD	6161040		FLASHING ARROW PANEL	A9289
WO3 - 1	48X48		STOP AHEAD (SYMBOL)	1	36X36		TO ONCOMING TRAFFIC (PLAQUE)	6161047		TYPE III OBJECT MARKER	
WO3 - 2	48X48		YIELD AHEAD (SYMBOL)	1	30X12		ALL WAY (PLAQUE)	6161055		SEQUENTIAL FLASHING WARNING LIGHT	┧┃ │ │
WO3 - 3	48X48		SIGNAL AHEAD (SYMBOL)	1	36X48		SPEED LIMIT XX	6161070		TUBULAR MARKER	$+$ \parallel \parallel \parallel
WO3 - 4 WO3 - 5	48X48 48X48		BE PREPARED TO STOP SPEED LIMIT AHEAD		48X48	16.00	NO RIGHT TURN (SYMBOL) NO LEFT TURN (SYMBOL)	6161095		RADAR SPEED ADVISORY SYSTEM CHANGEABLE MESSAGE SIGN,	-
WO4-1L	48X48		MERGE (SYMBOL FROM LEFT)		36X36		NO TURNS	6161096		COMMISSION FURNISHED/RETAINED	
WO4-1R	48X48		MERGE (SYMBOL FROM RIGHT)			16.00	NO U-TURN (SYMBOL)			CHANGEABLE MESSAGE SIGN W/O COMM.	
WO4-1aL	48X48	16.00	MERGE (ARROW SYMBOL)	R3-7L	30X30	6.25	LEFT LANE MUST TURN LEFT	6161098A		INTERFACE - CONTRACTOR FURNISHED/RETAINED] RI
WO4-1aR			MERGE (ARROW SYMBOL)	1	30X30		RIGHT LANE MUST TURN RIGHT			CHANGEABLE MESSAGE SIGN WITH COMM.	DES
WO5 - 1	48X48		ROAD/BRIDGE/RAMP NARROWS	1	36X48		DO NOT PASS	6161099	4	INTERFACE - CONTRACTOR FURNISHED/RETAINED	↓
WO5 - 3 WO5 - 5	48X48 48X48		ONE LANE BRIDGE NARROW LANES	1	36X48 36X48		PASS WITH CARE KEEP LEFT (HORIZONTAL ARROW)	6162000A 6162002		WORK ZONE TRAFFIC SIGNAL SYSTEM TEMPORARY LONG-TERM RUMBLE STRIPS	+ $+$ $+$ $+$ $+$ $+$
WO6 - 1	48X48		DIVIDED HIGHWAY (SYMBOL)	1	36X48		KEEP RIGHT (HORIZONTAL ARROW)	0102002		TEMPORARY TRAFFIC BARRIER	+ $+$ $+$ $+$ $+$ $+$
WO6 - 2	48X48		DIVIDED HIGHWAY END (SYMBOL)	1	30X30		DO NOT ENTER	61736000		CONTRACTOR FURNISHED/RETAINED	
WO6-3	48X48	16.00	TWO WAY TRAFFIC (SYMBOL)	R5-1a	36X24	6.00	WRONG WAY			TEMPORARY TRAFFIC BARRIER	1
WO7 - 3a	30X24		NEXT XX MILES (PLAQUE)	1	54X18		ONE WAY ARROW (LEFT)	6173602B		CONTRACTOR FURNISHED/COMMISSION RETAINED	DA]
WO8 - 1	48X48		BUMP		54X18		ONE WAY (LEET)	6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION	$+$ \vdash \vdash \vdash
WO8 - 2 WO8 - 3	48X48 48X48		DIP PAVEMENT ENDS	11	24X30 24X30		ONE WAY (LEFT) ONE WAY (RIGHT)	6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER TEMPORARY TRAFFIC BARRIER	- N
WO8 - 4	48X48		SOFT SHOULDER		24X12		SIDEWALK CLOSED	6176000B		COMMISSION FURNISHED/RETAINED	
WO8 - 5	48X48	16.00	SLIPPERY WHEN WET (SYMBOL)				SIDEWALK CLOSED AHEAD,			TEMP. TRAFFIC BARRIER HEIGHT TRANSITION	1 £
WO8-6		16.00	TRUCK CROSSING (WITH FLAGS)	R9-11L	24X18	3.00	(ARROW LEFT) CROSS HERE	6177000B		COMMISSION FURNISHED/RETAINED	
WO8 - 6 c	48X48		TRUCK ENTRANCE		24740		SIDEWALK CLOSED AHEAD,	6208064A		TEMPORARY RAISED PAVEMENT MARKER	S
WO8 - 7 WO8 - 7a	36X36 36X36		LOOSE GRAVEL FRESH OIL/LOOSE GRAVEL		24X18 24X36		(ARROW RIGHT) CROSS HERE STOP HERE ON RED (45^ ARROW)	9029400		TEMPORARY TRAFFIC SIGNALS TEMPORARY TRAFFIC SIGNALS AND LIGHTING	- ≩ _Z
	48X48		LOW SHOULDER			10.00 2 20.00	ROAD CLOSED	9029401		TEM CRART TRAFFIC STONALS AND ETGITTING	
WO8 - 11			UNEVEN LANES	1	10/100	20,000	ROAD CLOSED XX MILES AHEAD				ANE
WO8-12	48X48	16.00	NO CENTER LINE	R11-3a	60X30	12.50 2 25.00	LOCAL TRAFFIC ONLY				
WO8 - 15			GROOVED PAVEMENT	11		12.50 2 25.00	ROAD CLOSED TO THRU TRAFFIC				Co¥ No No N
WO8 - 15P			MOTORCYCLE (PLAQUE)	CONST - 3A			FINE SIGN				
WO8 - 17 WO8 - 17P			SHOULDER DROP-OFF (SYMBOL) SHOULDER DROP-OFF (PLAQUE)	CONST-3X	36X12	MISCELLANEOUS SIGNS	SPEEDING/PASSING (PLATE)				
W10-1			RAILROAD CROSSING	CONST-5	48X36		POINT OF PRESENCE				SOUR I HIG
WO12-1			DOUBLE DOWN ARROW (SYMBOL)	CONST-5			POINT OF PRESENCE				SSOURI
WO12-2			LOW CLEARANCE (SYMBOL)	CONST-7			RATE OUR WORK ZONE				188
W012-2X			LOW CLEARANCE (PLAQUE)	CONST - 7			RATE OUR WORK ZONE				
WO12-2a WO12-4			OVERHEAD LOW CLEARANCE (FEET AND INCHES) LOW CLEARANCE XX FT XX IN XX MILES AHEAD	CONST-8	48X36	12.00	WORK ZONE NO PHONE ZONE				
WO12-4			WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD								
WO13-1			ADVISORY SPEED (PLAQUE)								
		5.00 2 10.00	XXX FEET (PLAQUE)								
WO16-3			X MILE (PLAQUE)								
WO20-1			ROAD/BRIDGE/RAMP WORK AHEAD	-							
WO20-2		16.00	DETOUR AHEAD ROAD CLOSED AHEAD	1							
WO20-3			ONE LANE ROAD AHEAD	616-10	. 05	TOTAL	1	I			
WO20-5			RIGHT/CENTER/LEFT LANE CLOSED AHEAD			N SIGNS 144					
WO20-5a			2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD	616-10	. 10	TOTAL					
WO20-6a			RIGHT/CENTER/LEFT LANE CLOSED	RELOCAT	ΓED S	I GNS 0					
WO20 - 7a			FLAGGER (SYMBOL, WITH FLAGS)	-							
WO21-2 WO21-5			FRESH OIL SHOULDER WORK AHEAD	1							
WO21-3			BLASTING ZONE AHEAD	1							
			TURN OFF 2-WAY RADIO AND PHONE								
WO22-2	42X36	10.30									
	42X36	10.50	END BLASTING ZONE WET PAINT (ARROW PIVOTS)							QUANTITY SHEET	

ANDREW BOMMAN NO NA L MANUEL M

STATE MO
SHEET NO.

COUNTY

BARTON

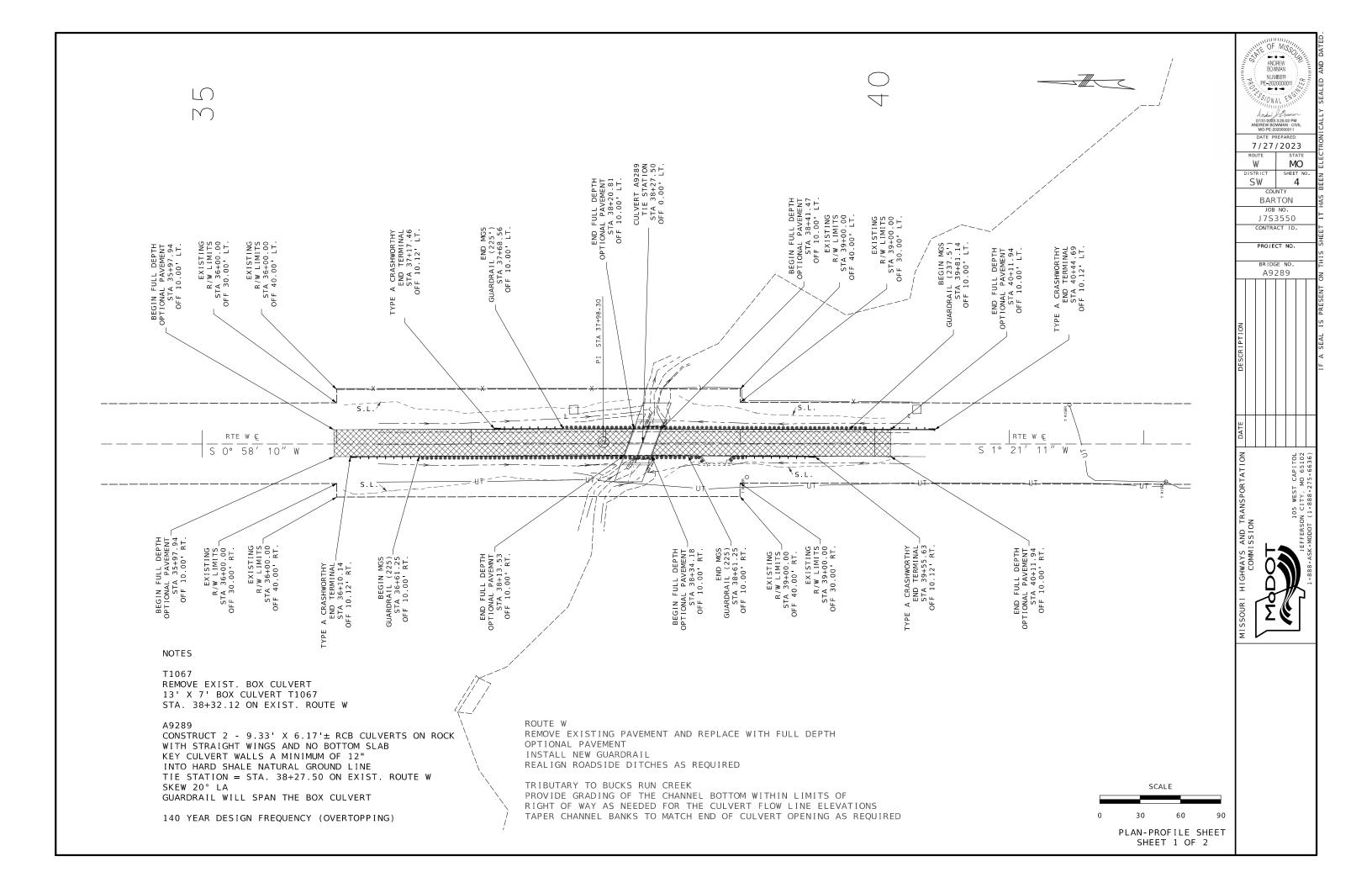
JOB NO.

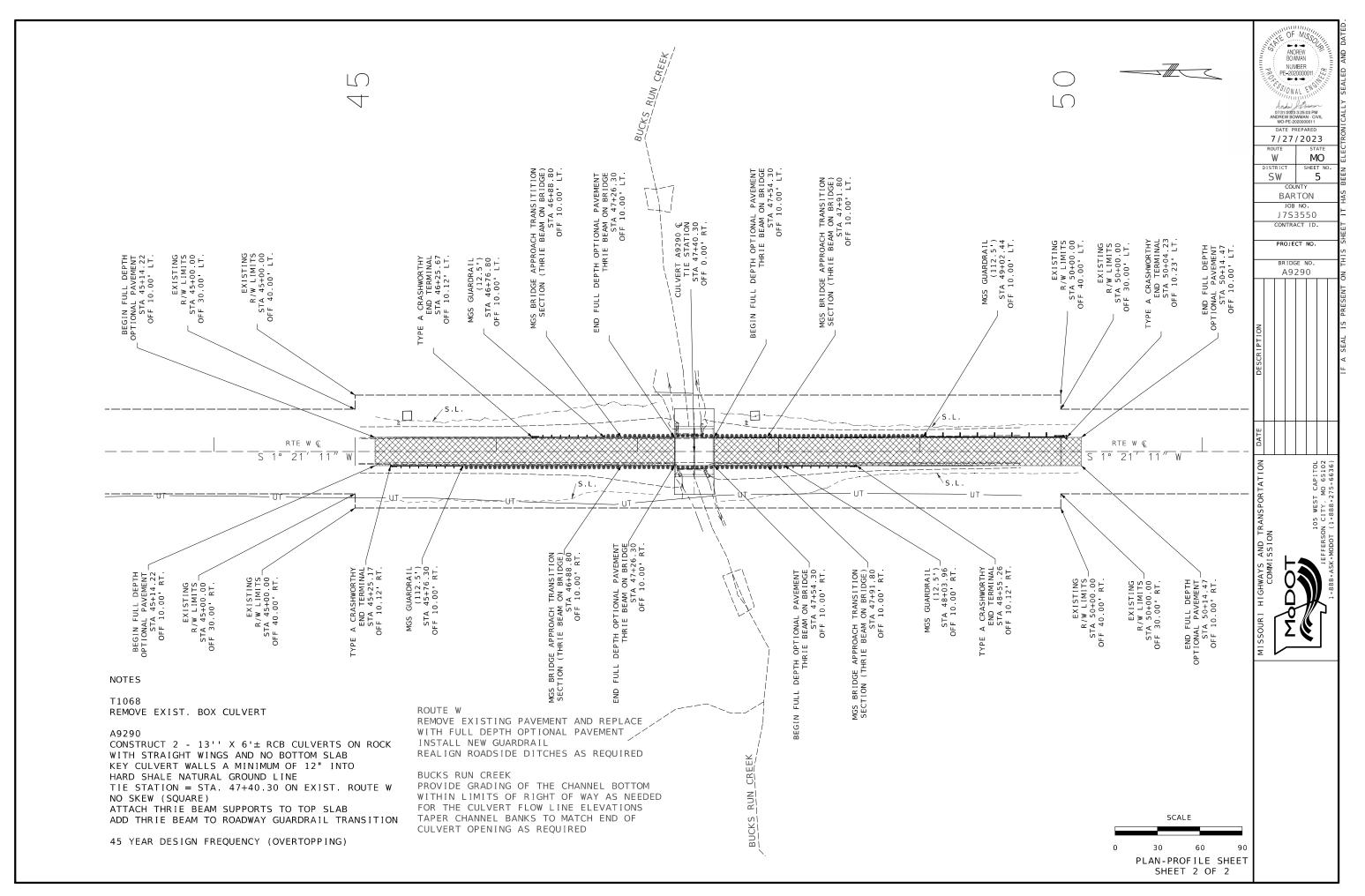
753550

NTRACT ID.

DJECT NO.

DGE NO. , A9290





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 COORDIN	NATE INFORMATION
COORDINATE SYSTEM	MODIFIED STATE PLANE-MO WEST
HORIZONTAL DATUM	NAD83
VERTICAL DATUM	NAVD88
GEOID MODEL	GEOID18
ELEVATIONS	
DETERMINED BY	
PROJECT PROJECTION	1.00009534
REFERENCE CONTR	ROL INFORMATION
COORDINATE SYSTEM	MODOT GNSS
CONTROL STATION	MONE
DESIGNATION M	ODOT NEVADA CORS ARP
CORS_ID M	ONE
P I D	M4686
LATITUDE 3	7 51 56.71985
LONG I TUDE 0	94 20 58.36878
NORTHING (M) 1	88561.0070
EASTING (M) 8	63237.9460
ZONE	O WEST
PROJECT AVERAGE GF	RID FACTOR 0.99990467
EXAMPLE OF PRO.	ECT 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 #___ N ____ X _ . ___ = N E ____ X _ . ___ = E ____ . __

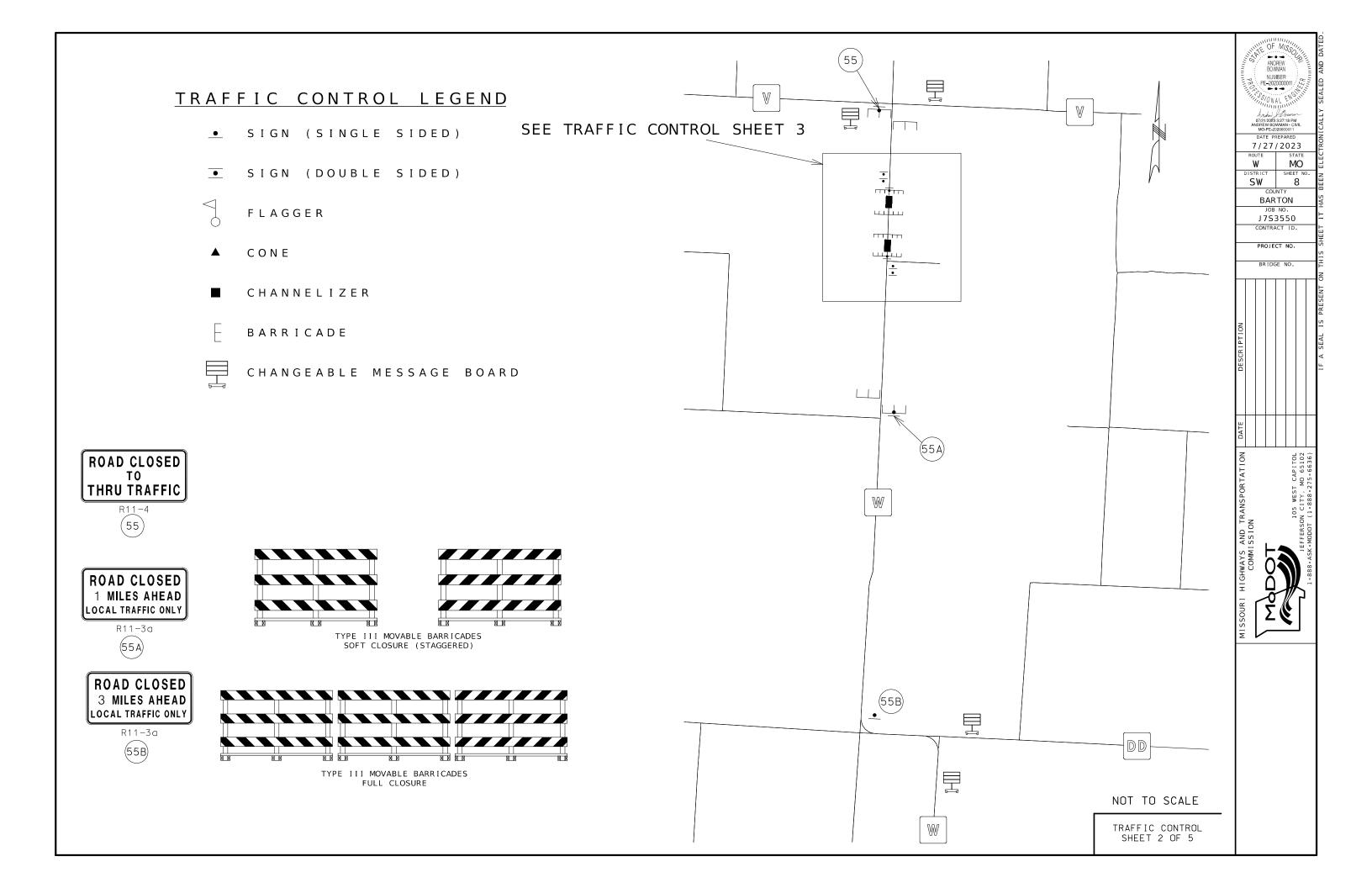
LINEAR UNIT CONVERSION

1 METER = 3.2808333333 US SURVEY FEET (USFT)

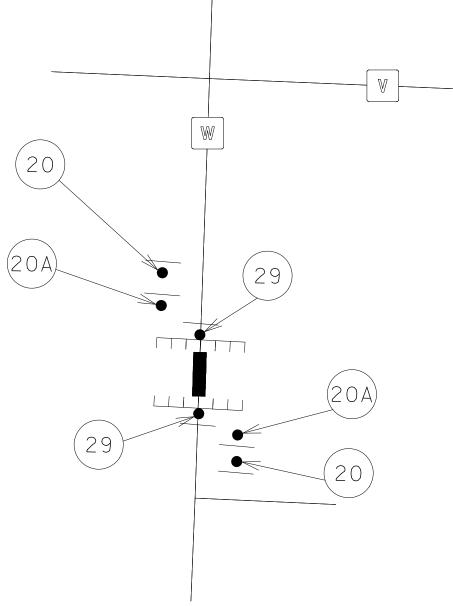
				COORDINATE I	POINT LISTING	ì		
				MODIFIE	D STATE PLANE (GROUND)		
			OFFSET	NORTHING	EASTING	ELEVATION		GPK
SHEET NO	STATION	LOCATION	(USFT)	(US SURVEY FT)	(US SURVEY FT)	(US SURVEY FT)	DESCRIPTION	POINT ID
PROJECT CO	NTROL POINTS							
5	48+69.70	© RTE. W	23.43	519,055.93	2,817,282.35	881.54	CONTROL - CPBM1	CPBM1
5	42+78.62	© RTE. W	-19.67	519,645.83	2,817,339.40	879.77	CONTROL - CP2	CPBM2
4	41+39.52	© RTE. W	18.69	519,785.80	2,817,304.33	883.57	CONTROL - CP3	СРВМЗ
4	38+08.38	© RTE. W	-10.24	520,116.16	2,817,341.07	877.07	CONTROL - CP4	CP4
ALIGNMENTS								
	26+58.38	© RTE. W	0	521,266.24	2,817,350.36	898.57	BEGIN PROJECT	
5	37+98.30	© RTE. W	0	520,126.48	2,817,331.07	878.63	ΡΙ	
	52+94.00	Ç RTE. W	0	518,631.19	2,817,295.76	888.73	END PROJECT	

ANDREW BOWMAN NUMBER PE-20200000 7/27/2023 MO SHEET NO Χ COUNTY JOB NO. CONTRACT ID. PROJECT NO.

REVISED: 4/18/2023 **GENERAL NOTES:** 1. ANY EXISTING SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED ANDREW BOWMAN TEMPORARY SIGNING SHOWN IS FOR WORK ON ONE SIDE OF THE ROAD. FOR WORK ON THE OTHER SIDE, REVERSE ORDER OF THE SIGNS AND CHANNELIZERS. NUMBER SIGNING SHOWN SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE. PE-2020000 ALTERNATE TRAFFIC CONTROL MAY BE USED AS NEEDED AT THE APPROVAL OF THE ENGINEER. REFER TO STANDARD DRAWING 616.10, 619.10, AND 620.10 FOR ADDITIONAL DETAILS AND 903.03 FOR SIGN AND SIGN MOUNTING REQUIREMENTS. SPEED LIMIT SIGNS INDICATING THE NORMAL SPEED LIMIT SHALL BE INSTALLED AT THE END OF THE WORK ZONE, PROVIDED NO FURTHER WORK ZONES WILL BE ENCOUNTERED WITHIN THE NEXT 1/2 MILE. TEMPORARY SPEED LIMIT SIGNS SHALL BE COVERED OR REMOVED WHEN THE CONDITIONS REQUIRING REDUCED SPEEDS DO NOT EXIST. NO DIRECT PAYMENT WILL BE MADE FOR THE RELOCATION OF CHANNELIZERS, CONSTRUCTION SIGNS, OR FLASHING ARROW PANEL, ALL SIGNS, EXCEPT "RATE OUR WORK ZONES" SHALL BE PORTABLE MOUNT AND ARE TO BE MOVED AS WORK PROGRESSES, UNLESS OTHERWISE NOTED. ALL TRAFFIC CONTROL ITEMS SHALL BE REMOVED FROM 7/27/2023 THE ROADWAY DURING NON-WORKING HOURS. W MO 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING PROPER TRAFFIC CONTROL SETUPS THROUGHOUT CONSTRUCTION AS DESCRIBED IN THESE PLANS OR AS APPROVED BY THE ENGINEER. 11. WHERE MINIMUM LANE WIDTHS CANNOT BE ACHIEVED ON THE SIDE STREETS. THE CONTRACTOR SHALL CLOSE HALF OF THE APPROACH AND POSITION A FLAGGER AT EACH END OF THE WORK AREA. LOCATION TO BE SHEET NO SW7 DETERMINED BY THE ENGINEER. ADVANCE FLAGGER SIGNING SHALL BE INSTALLED AS OUTLINED IN THE MUTCD. 12. THE CONTRACTOR SHALL MAINTAIN PUBLIC ACCESS TO ALL BUSINESSES AND STREETS. NO STREET OR ENTRANCE SHALL BE COMPLETELY BLOCKED. BARTON 13. SPACING & DISTANCES OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD & APPROVED BY THE ENGINEER 14. TRAFFIC CONTROL SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). J7S3550 15. ADJUST ADVANCE WARNING SIGN SPACING TO AVOID SIGN PLACEMENT WITHIN THE LIMITS OF THE RAILROAD RIGHT OF WAY. CONTRACT ID. 16. CONTRACTOR SHALL COORDINATE WITH ADA PROJECT, JXXXXXX. PROJECT NO BEGINNING OF PROJECT LIMITS; OR INITIAL WORK ZONE SIGN, IF LOCATED OUTSIDE PROJECT LIMITS. END OF PROJECT LIMITS; END OF WORK ZONE TERMINATION AREA. IF LOCATED BEYOND END OF PROJECT; OR LAST WORK ZONE SIGN, IF LOCATED OUTSIDE (2A)* (59) (56) (1)PROJECT LIMITS. 500' (1) (4) 500' (1) 500' (1) SIDE 1000' (1) (61)(61) 500' (1) 500' (1) (4) 500' (1) SIDE 1000' (1) (56) (1) (59) (2A) * Focus TYPICAL BEGINNING AND END OF PROJECT (1) DISTANCE MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS. WHERE TRAFFIC BACKUPS ARE EXPECTED BEYOND THE ADVANCE (UNDIVIDED HIGHWAY) WARNING AREA, ADDITIONAL SIGNING MAY BE NEEDED. on Bridges (2) SIGN CONST-7-72 IS PLACED 500 FEET BEFORE THE BEGINNING OF PROJECT LIMITS OR THE ROAD WORK AHEAD SIGN OR ROAD WORK NEXT XX MILES SIGN. IF USED, WHEN THESE SIGNS ARE LOCATED OUTSIDE THE PROJECT LIMITS. Rate Our END Work Zone (3) CONST-5-96 SIGN IS PLACED IN A VISIBLE AREA WITHIN ROAD WORK ROAD THE PROJECT LIMITS PROVIDED ITS PLACEMENT DOES NOT WORK DISRUPT A SEQUENCE OF SIGNS. IF A VISIBLE LOCATION WITHIN GO20-2 modot.org THE PROJECT IS NOT AVAILABLE, THE SIGN MAY BE PLACED AHEAD (26) 500 FEET BEFORE SIGN CONST-7-72. CONST - 7 - 72 3.000" Radius, 0.750" Border, White on, Blue; "Focus", D; "on Bridges", D; " ", D; (56) (2) (4) THE "WORK ZONE NO PHONE ZONE" SIGN IS PLACED A MINIMUM OF 3.000" Radius, 0.750" Border, 0.750" Indent, Blue on, White; "Fall 2024", D; Table of letter and object lefts 500 FEET BEFORE THE ROAD WORK AHEAD SIGN. ROAD 0 c u s .000 14.750 20.875 27.500 33.87 (5) CMS PLACEMENT SHALL BE APPROVED BY THE ENGINEER. WORK AHEAD ROAD WORK **WORK ZONE** Completed as Promised NEXT 4.0 MILES NO PHONE ZONE WO20-1 GO20-1 CONST-SP-80 SHF-FLAT SHEET FLUORESCENT; 1.500" Radius, No border, Yellow; "Completed as Promised" Black, D 65% spacing; Table of letter and object lefts NOT TO SCALE (1) CONST-8 (59) (4) *SIGN 2A WITH AWRS MUST TRAFFIC CONTROL (5) BE GROUND OR SKID MOUNTED. SHEET 1 OF 5

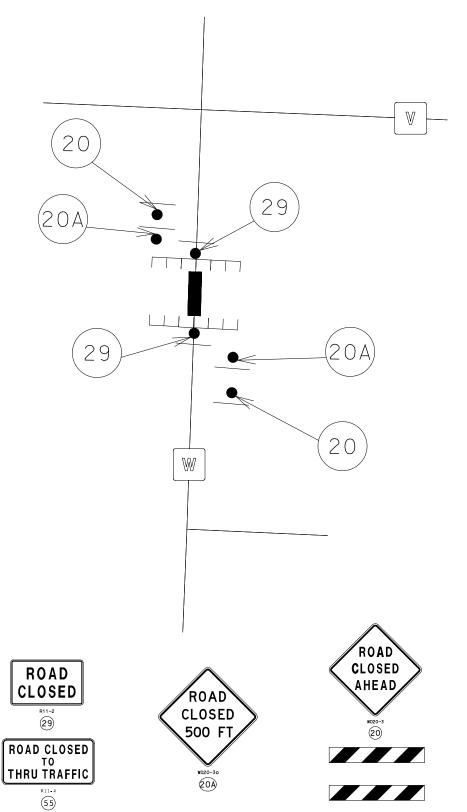


A9289 CLOSURE





A9290 CLOSURE



ANDREW BOMMAN CIVI.

MO-PE-2020000011

DATE PREPARED

7 / 27 / 2023

7/27/2023

ROUTE STATE
W MO

DISTRICT SHEET NO
SW 9

BARTON

JOB NO.

J 7 S 3 5 5 0

PROJECT NO.

BRIDGE NO.

MISSION

I 105 WEST CAPITOL

JEFFERSON CITY, MO 65102

MISSOURI HIGHWAYS AND T
COMMISSION

NOT TO SCALE

TRAFFIC CONTROL SHEET 3 OF 5

TYPICAL CLOSURE OF EXISTING BRIDGES OR NON-TRAVERSABLE ROADS

(OPTIONAL)

SPEED	SIGN SPAC	ING (FT.)	TAPER LEN	GTH (FT.)	OPTIONAL	CHANNELIZER S	SPACING (FT.)
NORMAL	UNDIVIDED	DIVIDED	SHOULDER	LANE	BUFFER	TAPERS	BUFFER/
POSTED					LENGTH (FT.)		WORK AREAS
(MPH)	(S)	(S)	(T1)	(T2)	(B)		
0-35	200	200	_	_	250	_	ĺ
40-45	350	500	_	_	360	_	-
50-55	500	1000	_	_	495	_	_
		SA - 1000					
60-70	1000	SB - 1500	_	_	730	_	_
		SC - 2640					

TYPE OF ROADWAY	SIGN HEIGHT	MAXIMUM WORK ZONE LENGTH (L)
URBAN	1' PORTABLE 7' POST	1 MI.
RURAL UNDIVIDED	1' PORTABLE 5' POST	3 MI.

REFER TO EPG 606.1.3.5 CLOSURES OF EXISTING STREETS, ROADS, AND BRIDGES OR NON-TRAVERSABLE ROADS FOR BRIDGE AND/OR ROAD CLOSURES DESIGNATED NON-TRAVERSABLE

- (1) THE ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY SIGN SHOULD BE LOCATED AT THE FIRST STATE ROUTE OR, UPON THE DISCRETION OF THE SUPERVISOR, ANY OTHER INTERSECTION IN ADVANCE OF THE CLOSURE.
- (2) ADDITIONAL BARRICADES MAY BE USED AND OFFSET TO FACILITATE ACCESS FOR LOCAL TRAFFIC, ETC.
- (3) THE USE OF TYPE D GUARDRAIL AND TYPE 4 OBJECT MARKERS VERSUS TYPE III BARRICADES AND TEMPORARY CONCRETE TRAFFIC BARRIERS ARE DEPENDENT UPON THE DISTRICT/CENTRAL OFFICE REPLACEMENT SCHEDULE.

TRAFFIC CONTROL SHOULD BE REMOVED AS SOON AS PRACTICAL AFTER CONDITION FOR THE CLOSURE NO LONGER EXISTS.

FOR ADVANCE WARNING RAIL SYSTEM, REFER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM (AWRS).

REFER TO STANDARD PLANS FOR HIGHWAY CONSTRUCTION 606.00 GUARDRAIL TYPE D FOR GUARDRAIL AND POST-MOUNTED TYPE III BARRICADES.

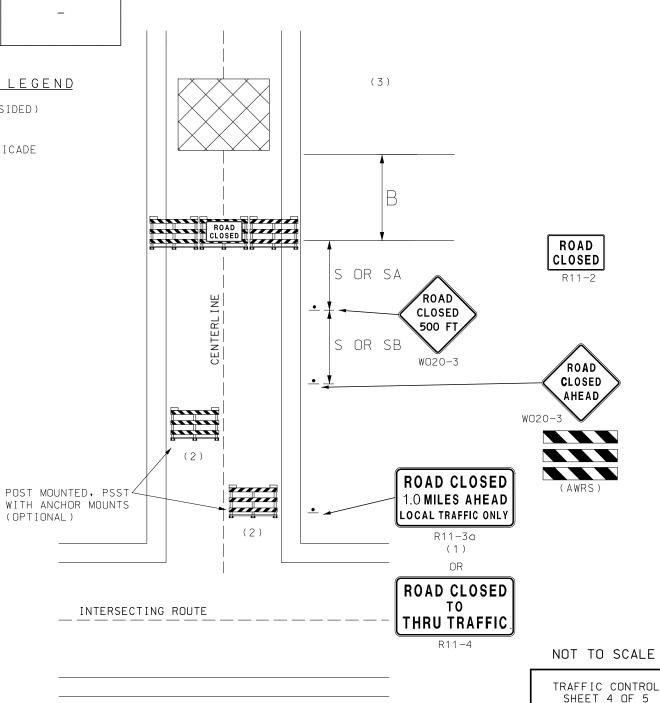
REFER TO STANDARD PLANS FOR HIGHWAY CONSTRUCTION 616.10 TEMPORARY TRAFFIC CONTROL DEVICES FOR TYPE III BARRICADES.

REFER TO STANDARD PLANS FOR HIGHWAY CONSTRUCTION 903.03 SIGN MOUNTING DETAILS DELINEATORS OBJECT MARKERS FOR TYPE 4 OBJECT MARKER.

REFER TO STANDARD PLANS FOR HIGHWAY CONSTRUCTION 617.20 TEMPORARY CONCRETE TRAFFIC BARRIER FOR CONCRETE BARRIERS.

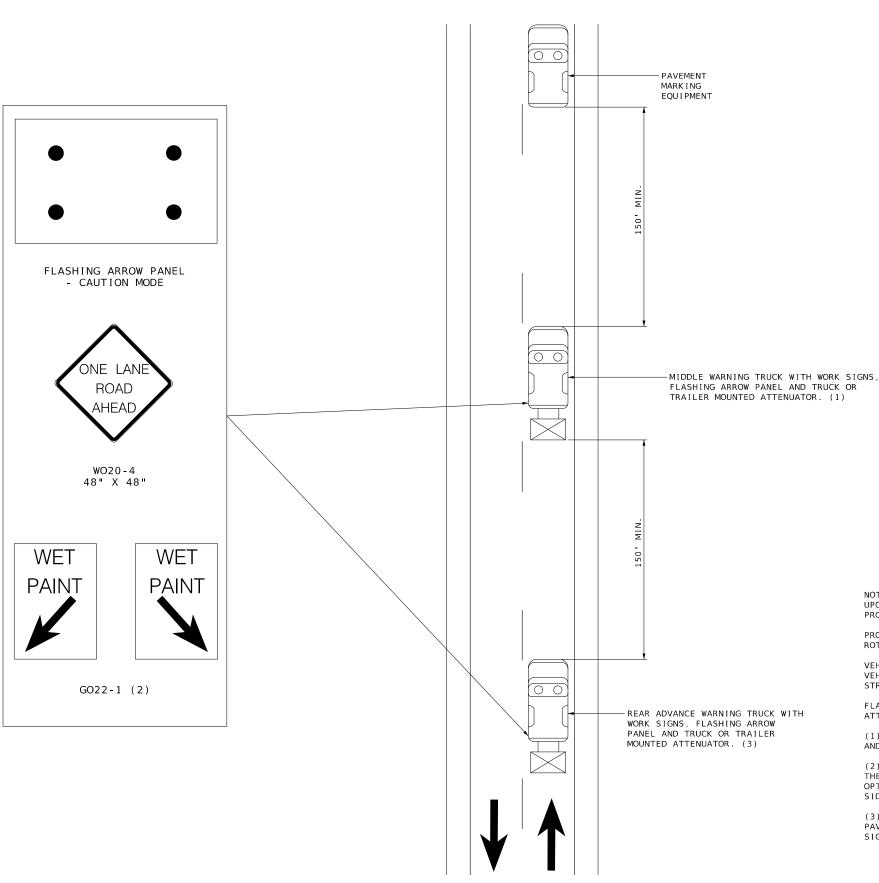
REFER TO STANDARD PLANS FOR HIGHWAY CONSTRUCTION 1042 HIGHWAY SIGN MATERIAL FOR 6-INCH WIDE, 10-12-FOOT LONG RED RETROFLECTIVE SHEETING.





ANDREW BOWMAN NUMBER 7/27/2023 MO SHEET NO SW 10 BARTON J7S3550 CONTRACT ID. PROJECT NO. BRIDGE NO.

REVISED: 4/25/2023



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

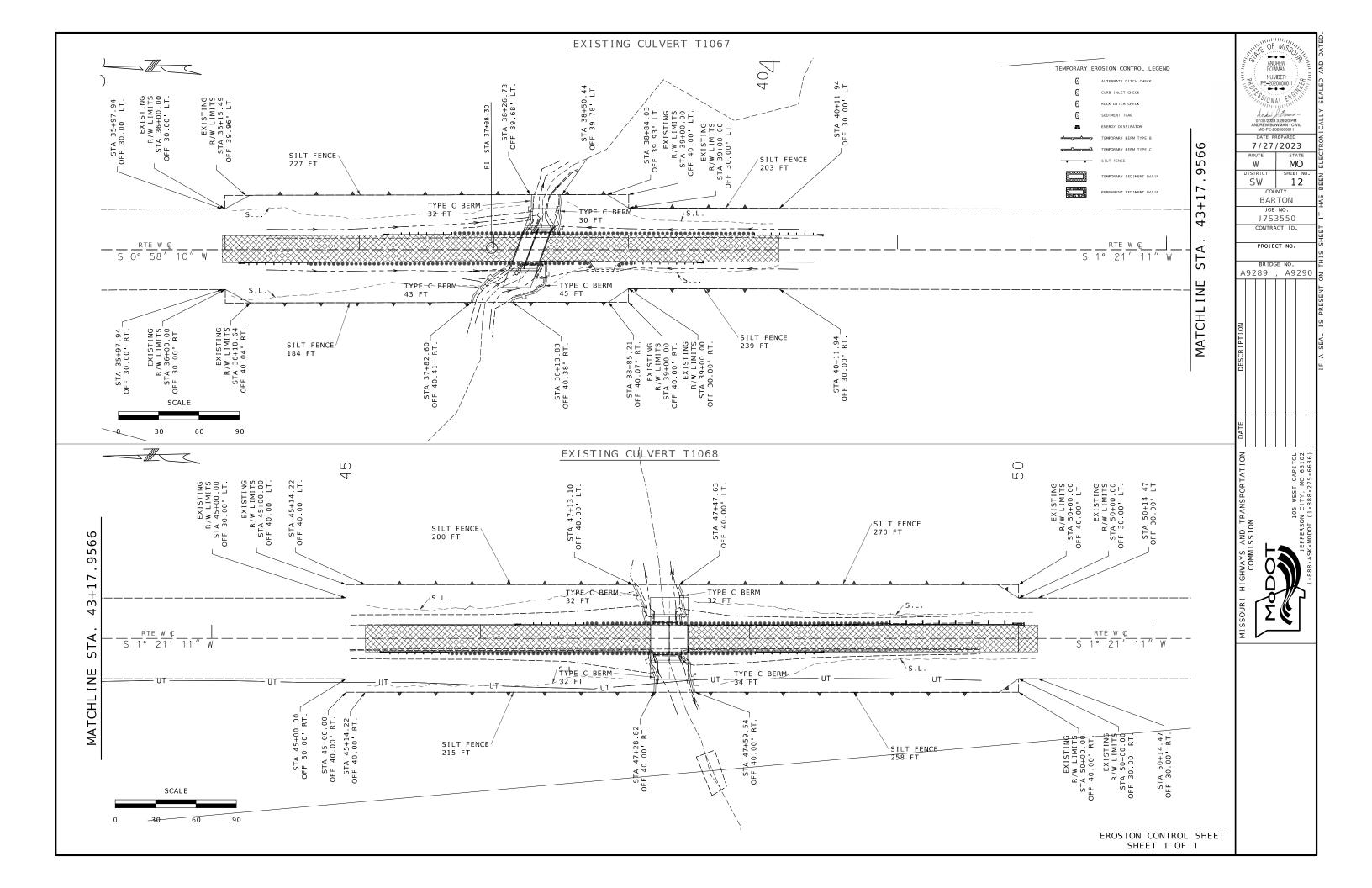
FLASHING ARROW PANELS AND SIGNS SHALL BE INCIDENTAL TO TRUCK MOUNTED ATTENUATORS, WHEREVER USED. NO ADDITIONAL PAYMENT SHALL BE MADE.

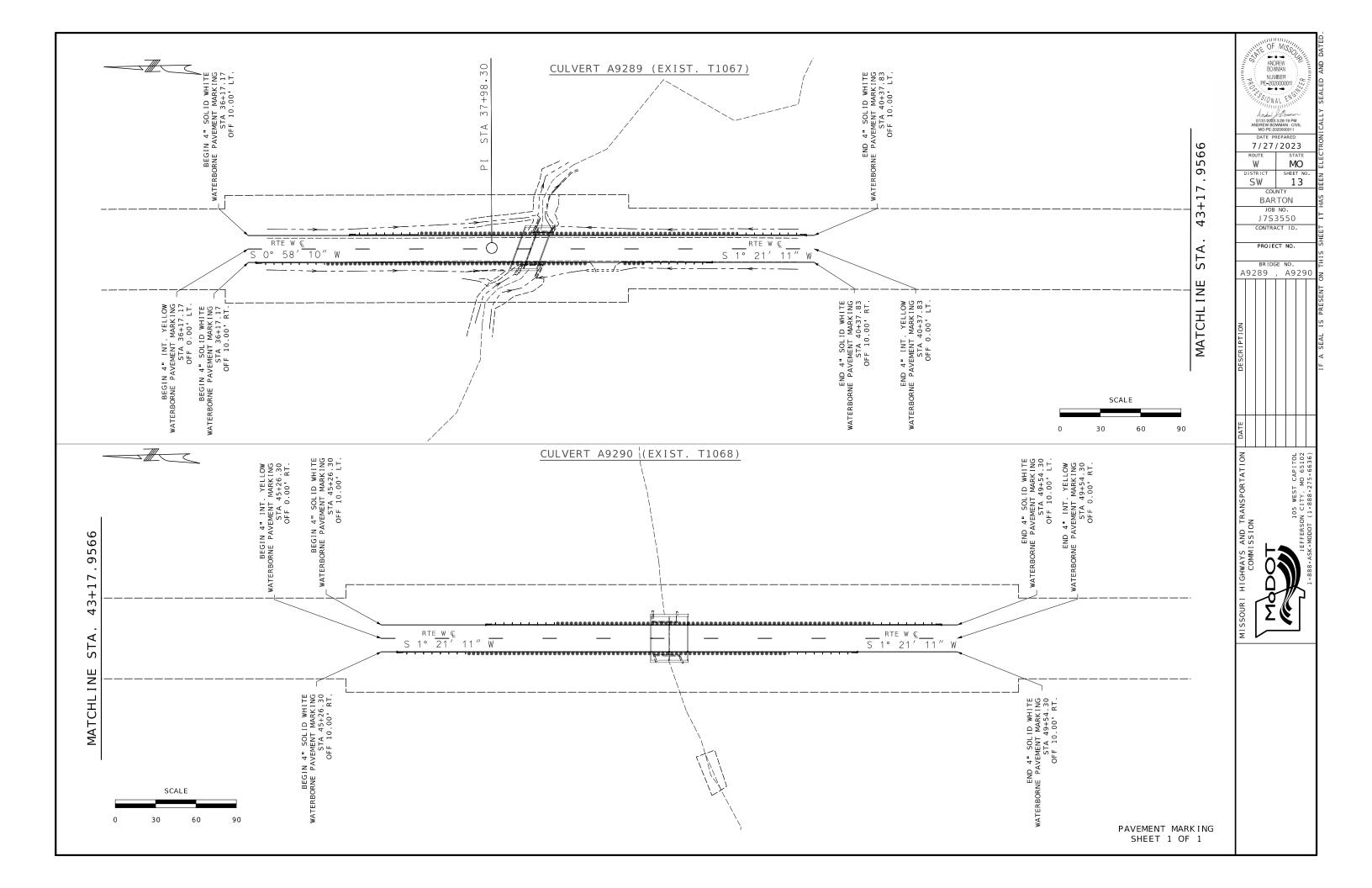
- (1) TRUCK IS OPTIONAL ON TWO-LANE UNDIVIDED HIGHWAYS IF SIGNING AND ARROW BOARD IS MOUNTED ON THE PAVEMENT MARKING EQUIPMENT.
- (2) WET PAINT SIGNS ARE INSTALLED TO INDICATE THE SIDE IN WHICH THE PAVEMENT MARKING MATERIAL IS BEING APPLIED. AT THE CONTRACTOR'S OPTION, A FRONT FACING WET PAINT SIGN MAY 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.

NOT TO SCALE

CENTERLINE/EDGELINE STRIPING ON TWO-LANE HIGHWAYS

TRAFFIC CONTROL SHEET 5 OF 5





Designed Detailed July 2023

Tuly 2023 Tuly 2023 Note: This dr

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

Sheet No. 1 of 6

CULVERT-BRIDGE: ROUTE W OVER TRIBUTARY TO

BUCKS RUN CREEK

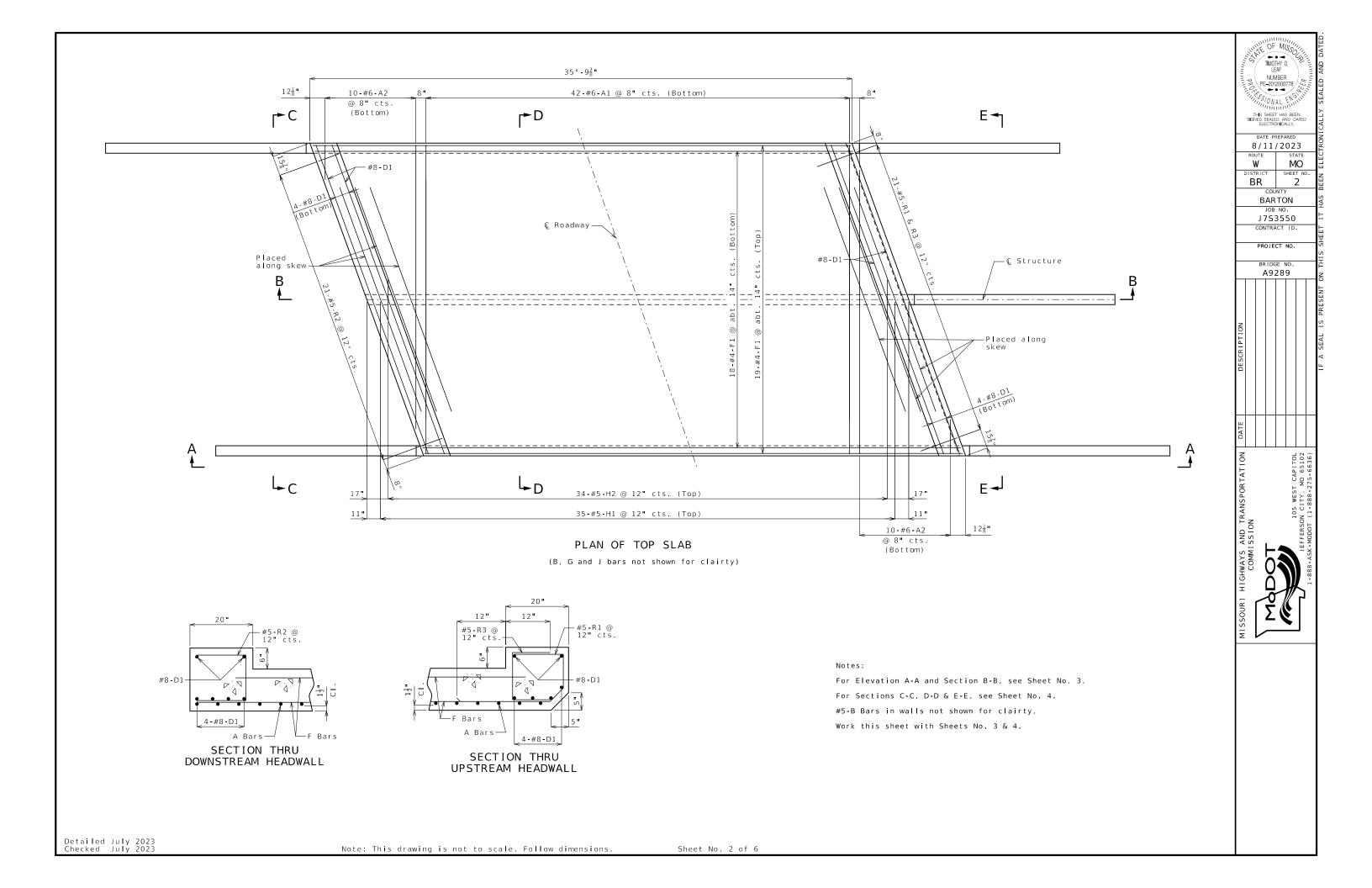
TIE STATION 38+27.50

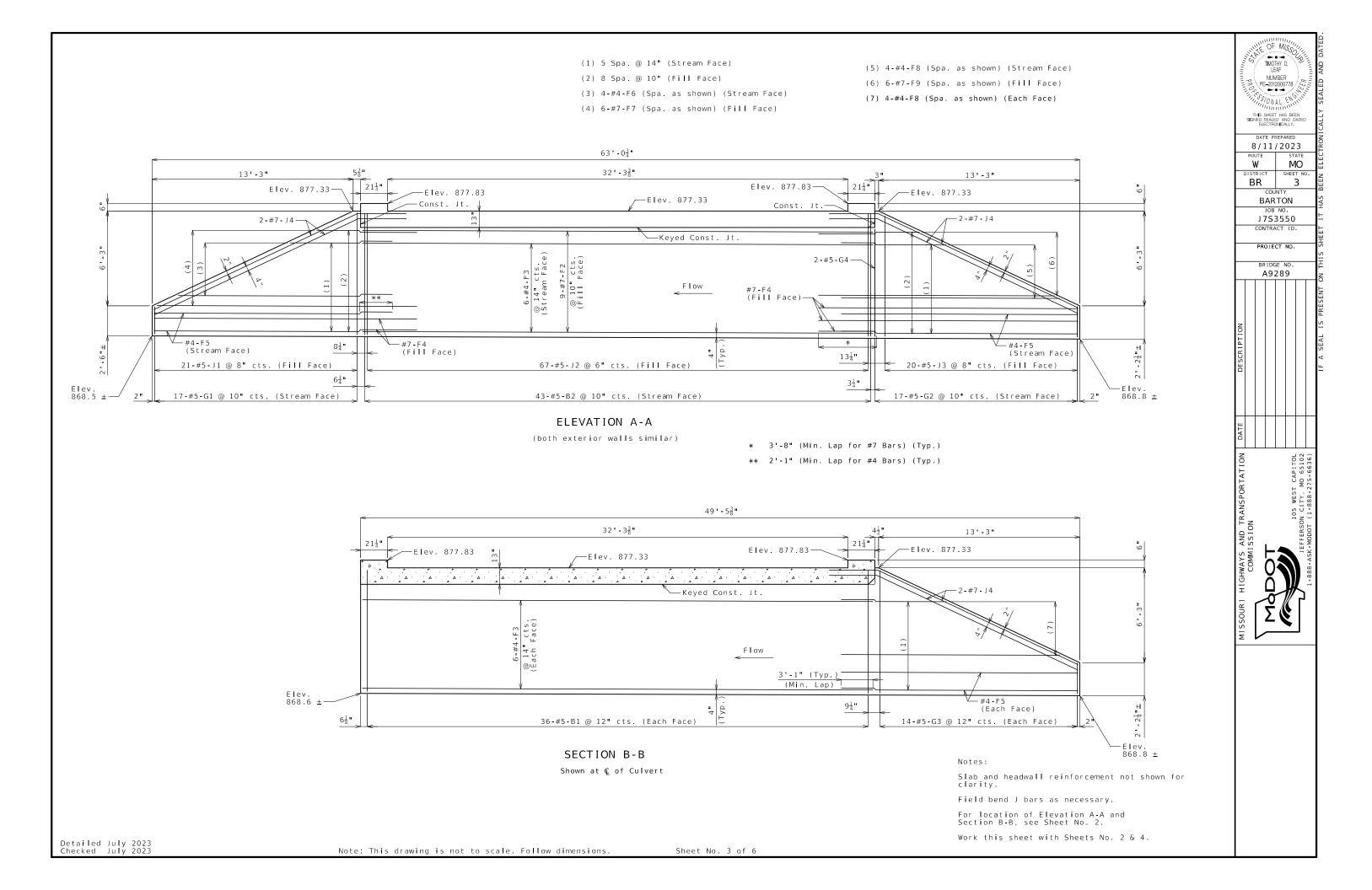
ROUTE W FROM ROUTE V TO ROUTE DD

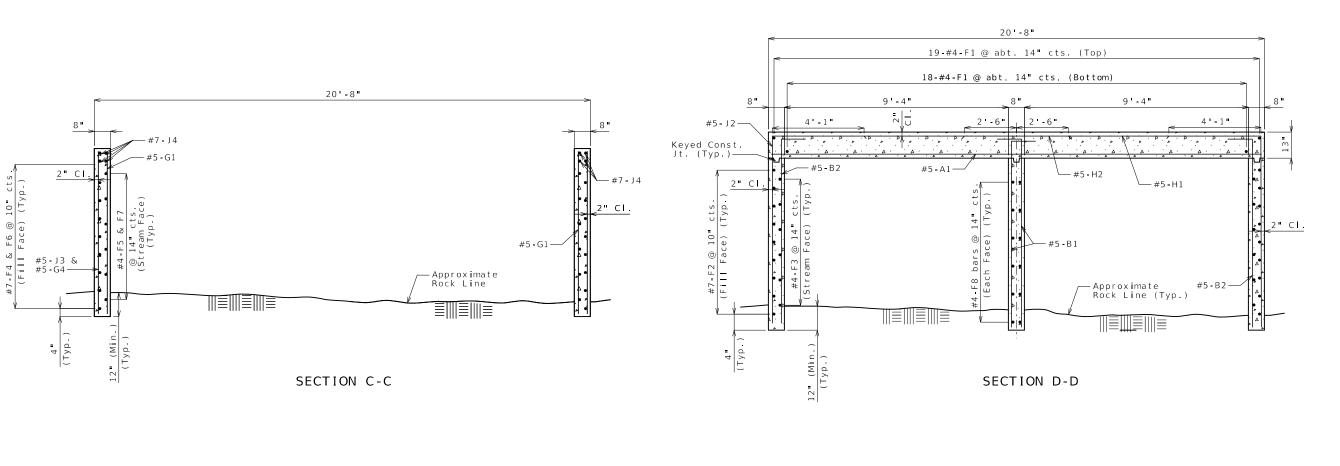
ABOUT 0.7 MILE SOUTH OF ROUTE V

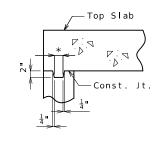
encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the

district, or on any other documentation not expressly warranted, which the contractor may obtain from the Commission.









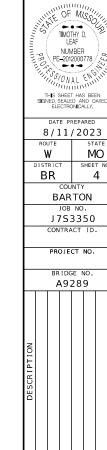
KEYED CONSTRUCTION JOINTS

Exterior wall shown, interior wall similar

* Approximately one third of wall thickness

For location of Sections C thru E, see Sheets No. 2.

An additional 12 has been added to the vertical length of the B bars, G bars and J bars for possible changes to rock elevation. The additional vertical length shall be cut off to 1 1/2 from bottom of wall(s) If not required.





SECTION E-E

20'-8"

9'-4"

-Approximate Rock Line (Typ.)

9'-4"

2" Cl.

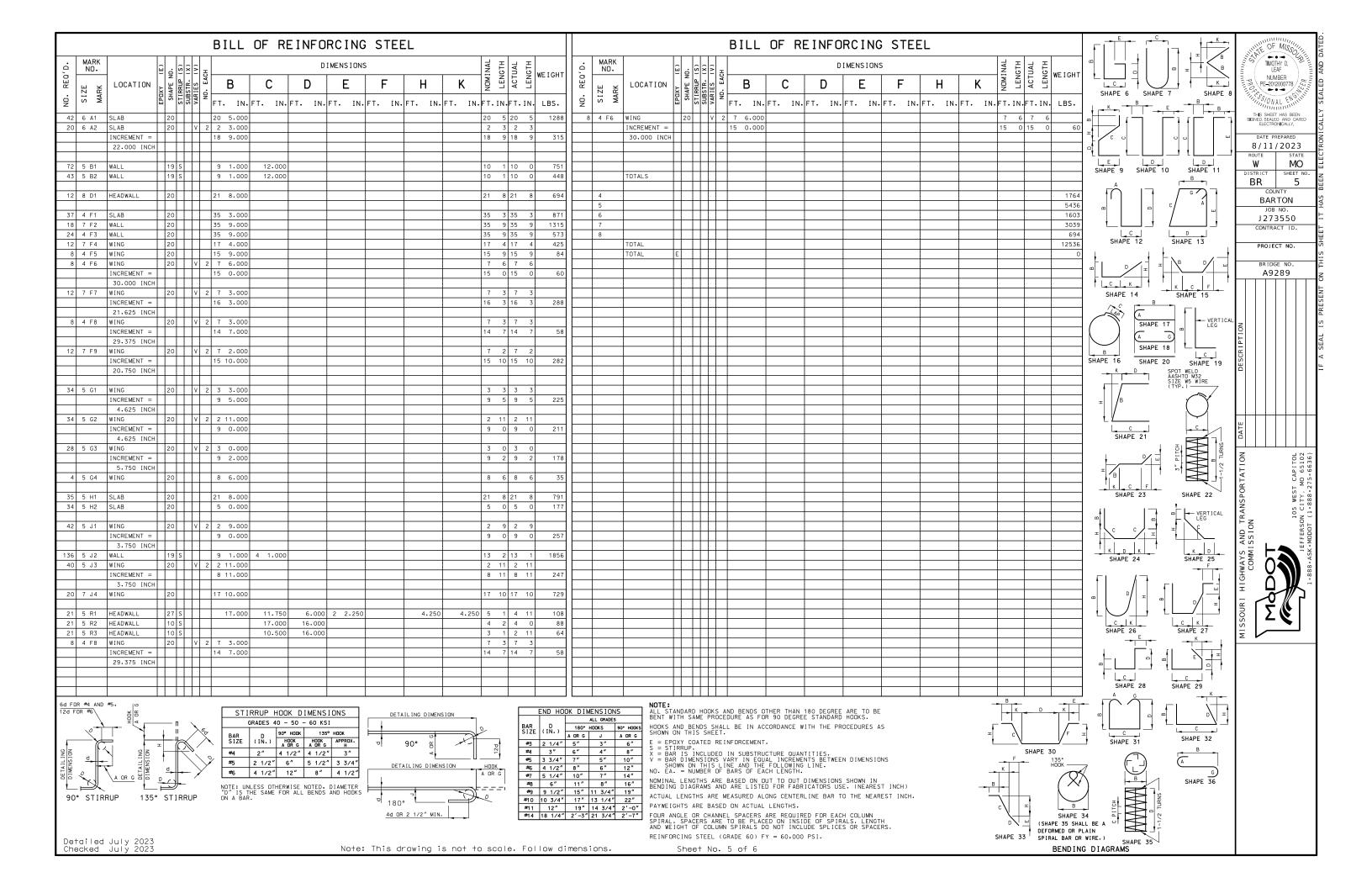
#5 - J3 & #5 - G4 —

#7-F4 & F6 @ 10" cts. (Fill Face) (Typ.)

- #7 **-** J4

2" CI.

#5-G2 & G4-



N₅₀ = (Em/60)Nm N₅₀ - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value (1) = Assumed, (2) = Actual

 Coordinate System:
 Modified U.S. State Plane 1983
 Coordinate Zone:
 Missouri Central
 Coordinate Proj. Factor:
 1.00009534

Coordinate Datum: Horizontal - NAD 83, Vertical - NAVID86rdinate Units: U.S. Survey Feet

E * Persons using this information are cautioned that the materials shown are determined by the equipment noted and accuracy of the "log of materials" is limited thereby and by judgement of the operator. THIS INFORMATION IS FOR DESIGN PURPOSES ONLY.

DocuSign Envelope ID: 12EA950D-14A7-4F1C-AE74-8686B270565B

Missouri Department of Transportation Construction and Materials

BORING NO. B-200 Page 1 of 1

Job No.:J7S3550 (SCI No. 2022-1589.10)	County: Barton	Route: W
Design: _ A9289	Skew: 20 degrees L.A.	Location: Barton County, Missouri
Bent: N/A	Logged By: _James Meyer	Operator: Palmerton and Parrish
Station: <u>38+40.72</u>	Northing: 519167.199	Date of Work: 01/05/23-01/05/23
Offset: _ 10.32' RT	Easting: 2817283.941	Depth to Water: 7.0
Elevation: 877.6	Requested Northing: 520101.1714	Depth Hole Open:
Requested Station: 38+31.01	Requested Easting: 2817320.4694	Time Change:
Requested Offset: 10.00' RT	Equipment: CME 55 ,Split-Spoon Sampler, S	Depth to Water: 7.0 Depth Hole Open: Time Change: Shelby Tube
Requested Elevation:	Location Note: 7.4 miles North of Route 160	

Re	quested	Offset: _10.00' RT	Equipment: _	CME 5	5 ,Sp	lit-Spoon	Sampler, Shell	by Tube		
Re	quested	Elevation:	Location Note	e: <u>7.4</u>	miles	North of	Route 160			
Dri	II No.: _	Rig #338155-SCI	Hammer Effic	iency:	60.	7%		Drilling Method: _	Continuous Flight A	\uger
Depth		Description		Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N ₅₀)	Shear Data	Field Tests	Index Tests
-		0.0-1.5' (FILL) Brown, LEAN CLAY	-					Qu Test Results		
ODOT 20150728.GDT - 1/26/23 12:42 - N/LABORATORYACTIVE GINT PROJECTS/2022-1589 10 J7533550 ROUTE W.CULVERT MODOT.GFU		1.5-5.0' (FILL) Brown, SANDY LEA sand is fine- to coarse-grained, trac rock	N CLAY, e crushed	875		71		UCS = 4.60 ksf MC = 17.2%		LL = 38 PL = 20
. W CULVER!			-			75				LL = 39 PL = 20
33550 ROUTE		5.0-7.5' Brown, SANDY LEAN CLA fine- to coarse-grained, trace fine g			X	11	7-2-2			MC = 14.4%
2-1589.10 J7S		∑ 7.5-18.2' Gray, shale		870		33 100	50/0.3'	Qu Test Results UCS = 1.40 ksf MC = 22.6% 7 moist = 121.8644 pcf		LL = 44 PL = 21
- 10 10 10 10 10 10 10 10 10 10 10 10 10 1								121.8644 pcr		MC = 11.9%
IVE GINI PA										
ZAIORYAU				865	><	100	50/0.3'			
- N:/LABO	5									MC = 7.0%
- 1/26/23 12:										
0150728.GDT		Bottom of borehole at 18.2	feet.	860	><	100	50/0.2'			
ODOT 24										

 N_{so} = (Em/60)Nm N_{so} - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value (1) = Assumed, (2) = Actual

Coordinate System: Modified U.S. State Plane 1983 Coordinate Zone: Missouri Central Coordinate Proj. Factor: 1.00009534
Coordinate Datum: Horizontal - NAD 83, Vertical - NAVID68rdinate Units: U.S. Survey Feet

* Persons using this information are cautioned that the materials shown are determined by the equipment noted and accuracy of the "log of materials" is limited thereby and by judgement of the operator. THIS INFORMATION IS FOR DESIGN PURPOSES ONLY.

BORING DATA

Note: For locations of borings, see Sheet No. 1.

Detailed July 2023 Checked July 2023

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

Sheet No. 6 of 6

TIMOTHY D.

TIMOTH

DATE PREPARED

8/11/2023

ROUTE STATE

W MO

DISTRICT SHEET NO.

BR 6

COUNTY

BARTON
JOB NO.
J 753550
CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9289

ISSOURI HIGHWAYS AND TRANSPORTAT COMMISSION

TO DOT

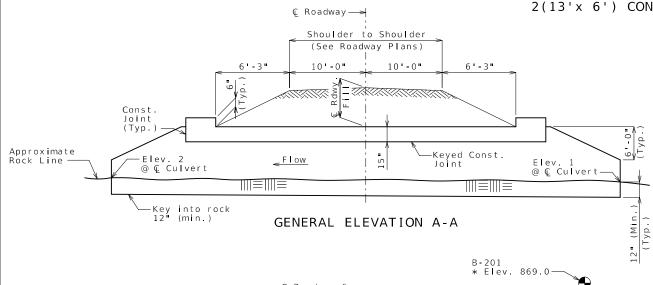
105 WEST CAP

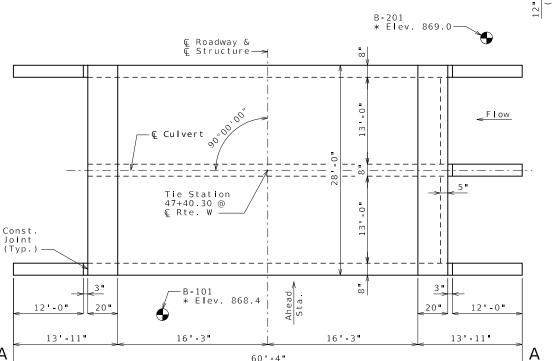
1-888-ASK MODOT (1-888-275-6

Rdwy at C Culvert = 1.8 ft

Design (AII units) = 2.0 ft

Fill Heights





PLAN OF LAYOUT DIMENSIONS

* Elevations indicate top of rock.

	Addit	Additional Top of Shale Information							
Boring	Station	Offset	Ground Surface Elevation	Hard Shale Depth (feet)	Approximate Hard Shale Elevation				
B-101A	47+52.89	9.75' LT	877.2	8	869.2 *				
B-201A	47+21.49	24.13 RT	871.3	3.5	867.8 *				

Design Flood Discharge = 1540 cfs Design Flood (D.F.) Elevation = 877.4 Base Flood (100-year) Base Flood Elevation = 877.8Base Flood Discharge = 1810 cfs Estimated Backwater = 1.6 ft Outlet Velocity = 12.4 ft/s Roadway Overtopping Overtopping Flood Discharge = 1490 cfs

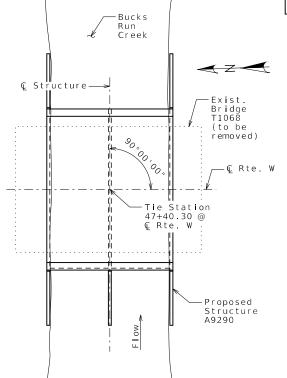
Overtopping Flood Frequency = 45 years

Overtopping Flood Elevation = 877.0

Hydrologic Data

Design Flood Frequency = 50 years

Drainage Area = 2.0 mi²



LOCATION SKETCH

Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheet No. 9 and may be included in the Electronic Bridge Deliverables. They will also be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

The Commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the Commission.

Designed June 2023 Detailed June 2023

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

Sheet No. 1 of 9

Elevations

** Upstream (Elev. 1) = 868.90 ** Downstream (Elev. 2) = 868.70

Pr. Gr. at Tie Sta. = 877.87

Dimensions are based on end units. Fill heights are measured from the top of top slab to the top of earth fill or roadway.

** Flowline elevations are to predicted natural rock in channel. There may be variations in the natural rock elevations (values provided for information only).

Estimated Quant	ities		Final
Class 4 Excavation	cu. yard	195	
Dewater i ng	lump sum	1	
Removal of Bridges (T1068)	lump sum	1	
Class B-1 Concrete (Culverts-Bridge)	cu. yard	75.4	
Reinforcing Steel (Culverts-Bridge)	pound	13,480	
Bridge Guardrail (Thrie Beam)	linear foot	50	

General Notes:

Design Specifications: 2010 AASHTO LRFD Bridge Design Specifications and 2010 Interim Revisions

Design Loading: Vehicular = HL-93 minus lane load, Earth = 120 lb/cf Equivalent Fluid Pressure = 30 lb/cf (min.), 60 lb/cf (max.)

Design Unit Stresses: Class B-1 Concrete (Box Culvert) f'c = 4,000 psi Reinforcing Steel (Grade 60) fy = 60,000 psi

Standard Plans:

703.37, 703.40, 703.46, 703.47

Miscellaneous:

Precast box sections shall not be used. Use cast-in-place

Channel bottom shall be graded within the right of way for transition of channel bed to culvert openings. Channel banks shall be tapered to match culvert openings. (Roadway Item)

Anchor full length of walls by excavating 12" (min.) into and casting concrete against vertical faces of hard, solid undisturbed rock.

Where, under short lengths of walls, top of rock is below elevations given for bottom of walls, plain concrete footings 3 feet in width shall be poured up from rock to bottom of walls. If top of rock is more than 3 feet below bottom of short wall sections, the walls between points of support on rock, shall be designed and reinforced as beams and spaces below walls filled as directed by the engineer. Payment for plain concrete footings and concrete reinforced as wall beams will be considered completely covered by the contract unit price for Class B-1 Concrete (Culverts-Bridge).

If unsuitable material is encountered, excavation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.

If any part of the barrel is exposed, the roadway fill shall be warped to provide 12 inches minimum cover. (Roadway Item)

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

Traffic Handling:

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

B.M. 1 - N:519055.931, E:2817282.348, Elev. 881.54

B.M. 2 - N:519645.828, E:2817339.396, Elev. 879.78

CULVERT-BRIDGE: ROUTE W OVER BUCKS RUN CREEK

ROUTE W FROM ROUTE V TO ROUTE DD ABOUT 0.9 MILE SOUTH OF ROUTE V TIE STA. 47+40.30



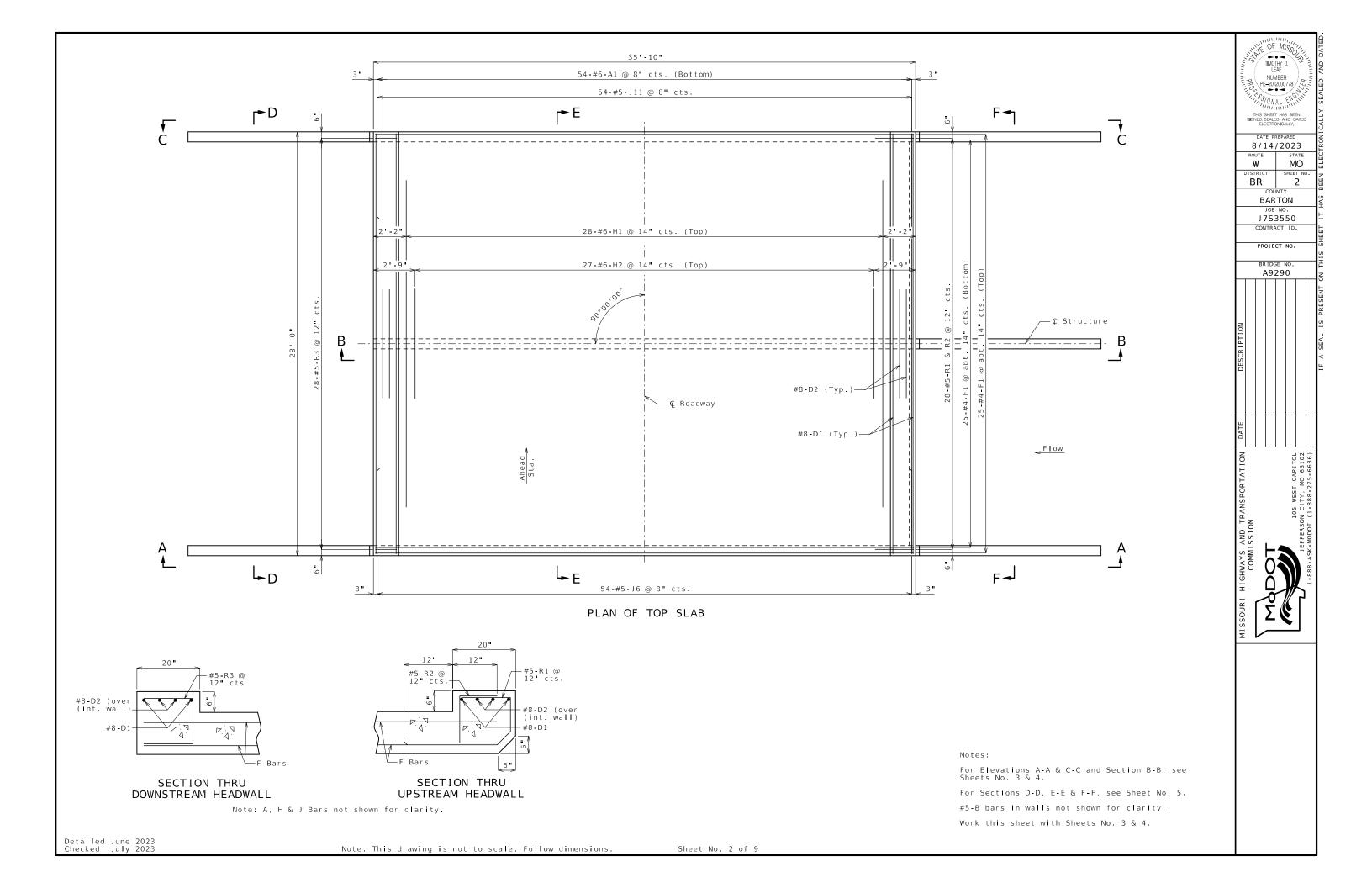
THIS SHEET HAS BEEN SIGNED, SEALED AND DATE! ELECTRONICALLY.

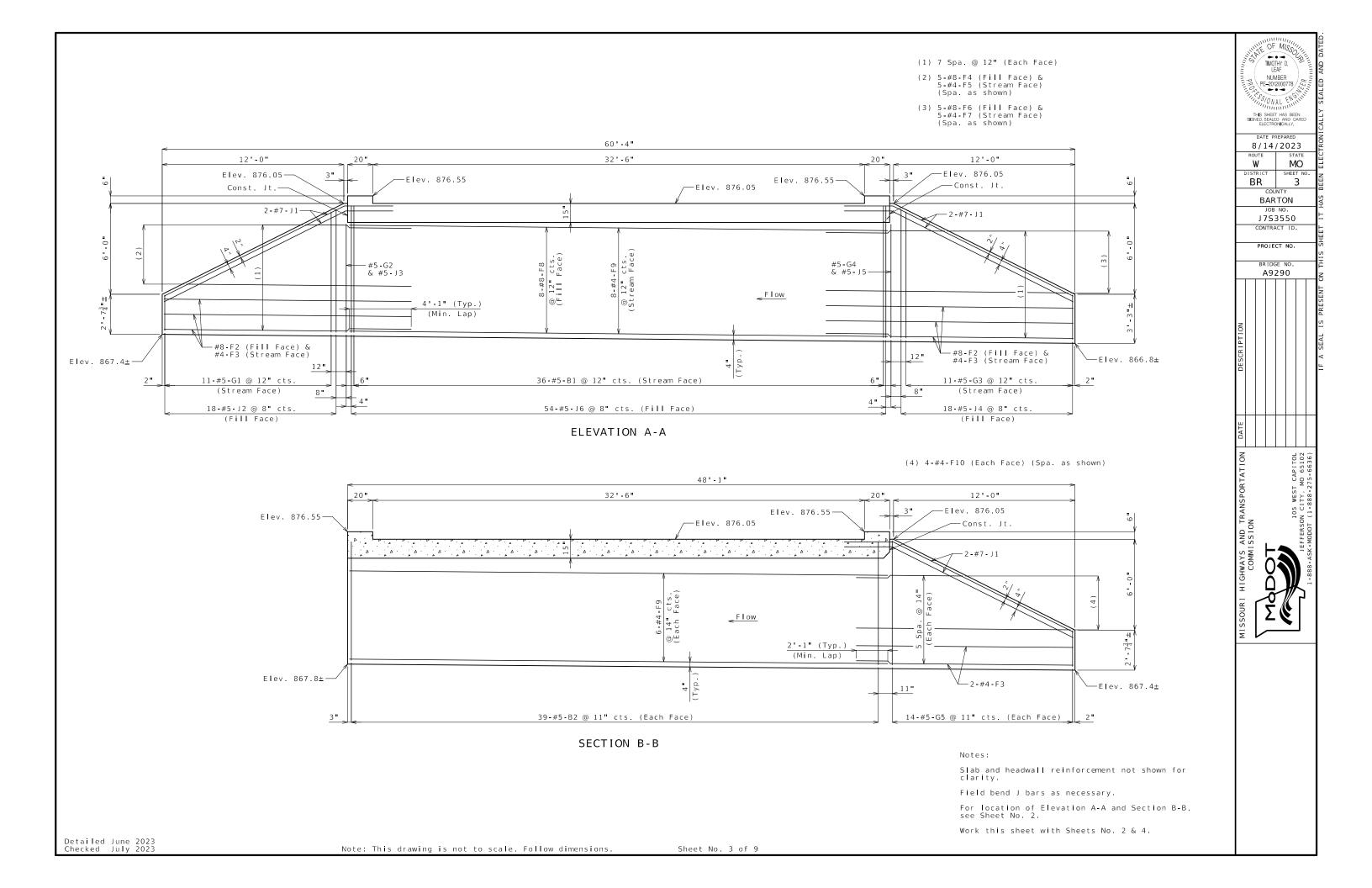
8/14/2023 W MO SHEET NO BR 1

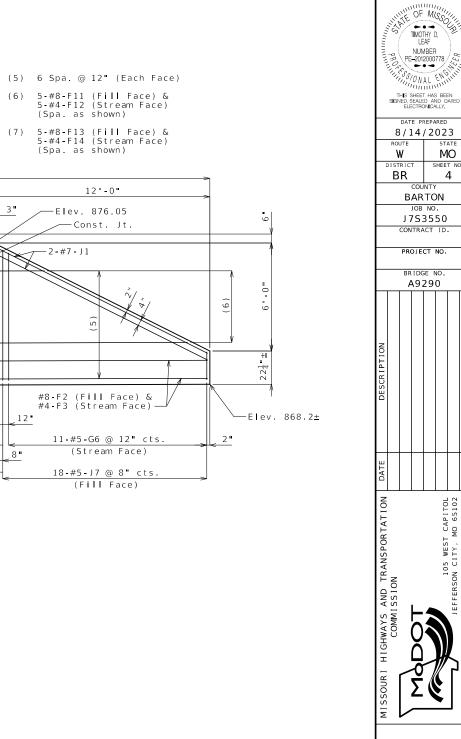
BARTON J7S3550 CONTRACT ID.

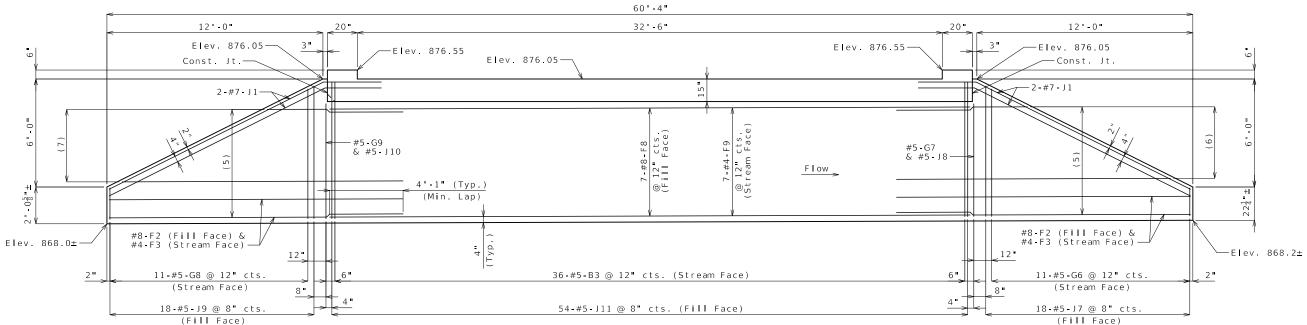
PROJECT NO

A9290







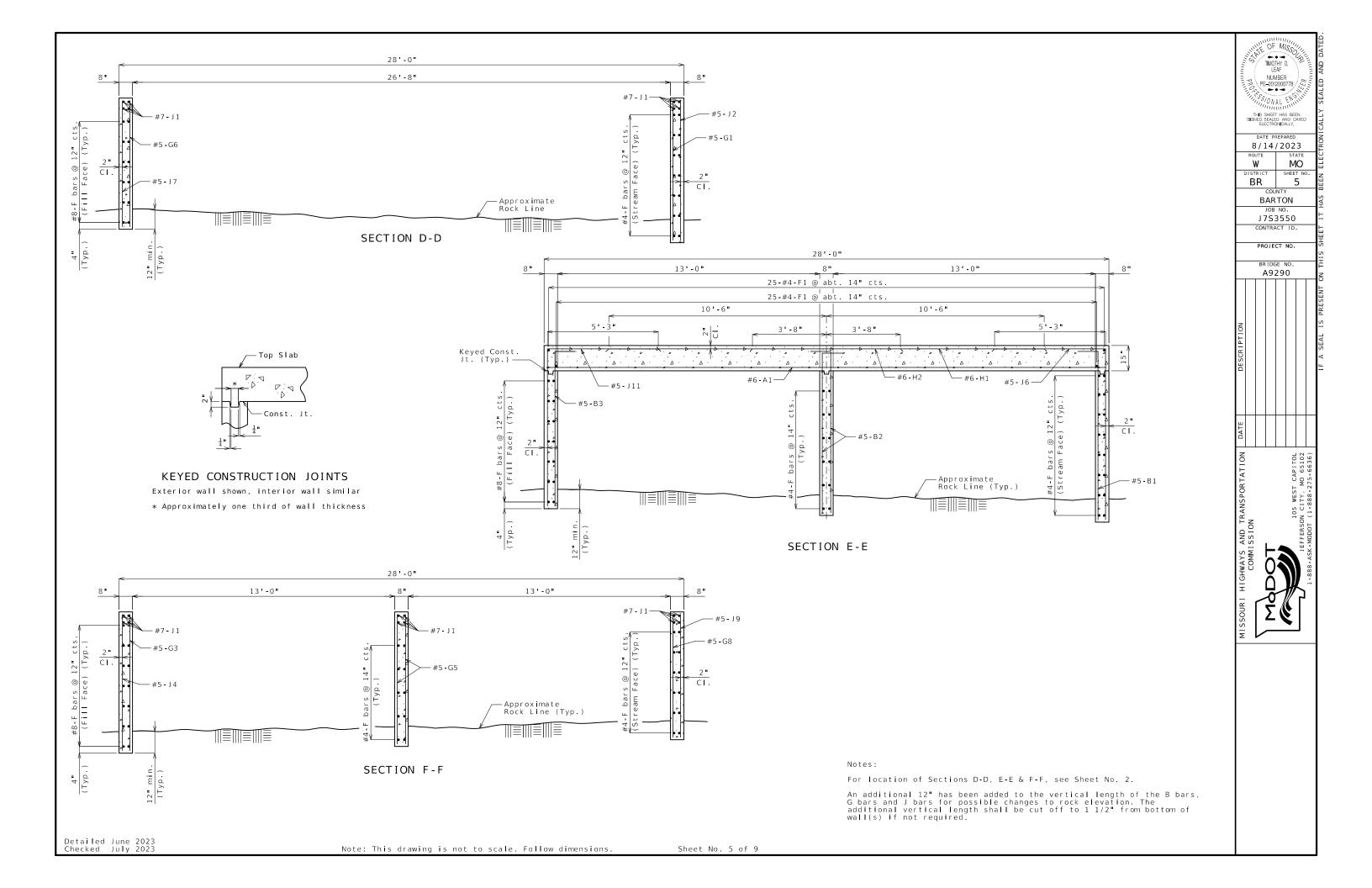


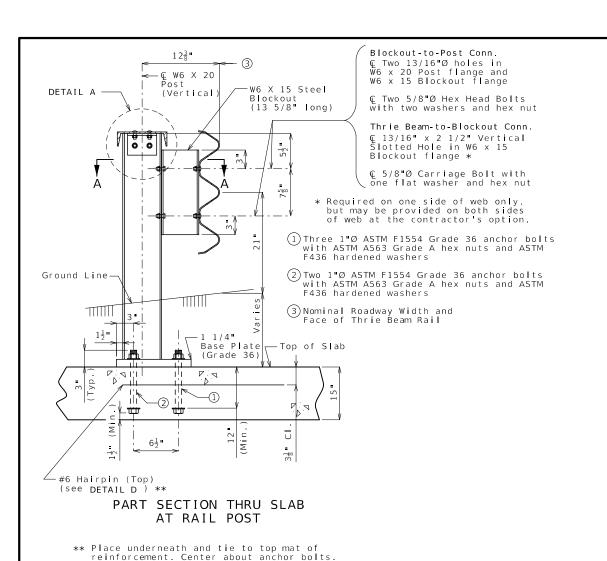
ELEVATION C-C

Slab and headwall reinforcement not shown for clarity.

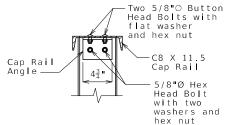
Field bend G bars & J bars as necessary.

For location of Elevation C-C, see Sheet No. 2. Work this sheet with Sheets No. 2 & 3.





Neutral Axis-Symm. abt. € 10°00'00" 31 " 1 ½ " (.qvT) $19\frac{7}{8}$ (±) SECTION THRU THRIE BEAM RAIL



DETAIL A

12"

6½"

- ф-

BASE PLATE

1/4"Ø

5 Posts @ 6'-3" cts. Bridge Anchor Bridge Anchor Section Section (Roadway item) (Roadway item) 32" © Two 5/8 ® Carriage Bolts with flat #6 Hairpin Rail washer and hex nutpost (Tvp.) W6 X 20 Post-DETAIL D 1 Thrie Rail Shoulder — #6 Hairpin

- Bridge Guardrail

(Thrie Beam)

€ Roadway

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

Two 5/8 Ø Hex Head Bolts with two washers and hex nut SECTION A-A

Note: Work this sheet with Sheet No. 7.

W6 X 15

Blockout-

PART PLAN SHOWING POST LOCATIONS (Downstream posts shown, upstream posts similar)

Reinforcement in top slab of culvert may be shifted to clear anchor bolts by 1/2 inch, but shall not be spaced less than 4"

(Typ.)

- © Structure

Detailed June 2023

Sheet No. 6 of 9

0

W6 X 20

1/4"Ø

Post 1/4 Base

Around Flanges/ 5

0

General Notes:

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

Guardrail delineators shall be attached to the top of the guardrail and shall similarly use the delineator details of Missouri Standard Plan 617.10, except that the delineator body shall be attached to the top of the cap rail using galvanized anchorage as shown on Missouri Standard Plan 606.00. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Guardrail delineators will be considered completely covered by the contract unit price for Bridge Guardrail (Thrie Beam).

Panel lengths of channel members shall be attached continuously to a minimum of four posts and a maximum of six posts.

All bolts, nuts, washers, plates, reinforcement and elastomeric material will be considered completely covered by the contract unit price for Bridge Guardrail (Thrie Beam).

All steel connecting bolts and fasteners for posts and railing, and all anchor bolts, nuts, washers and plates shall be galvanized after fabrication. Protective coating and material requirement of steel railing shall be in accordance with Sec 1040.

Rail posts shall be set perpendicular to roadway profile grade, vertically in cross section and aligned in accordance with Sec 713 except that the rail posts shall be aligned by the use of 3 x 1 3/4inch shims such that the post deviates not more than 1/2 inch from true horizontal alignment after final adjustment. The shims shall be placed between the blockout and the thrie beam rail. The thickness of the shims shall be determined by the contractor and verified by the engineer before ordering material

Rail posts shall be seated on 1/16-inch elastomeric pads having the same dimensions as the post base plate. Such pads may be any elastomeric material plain or fibered, having a hardness (durometer) of 50 or above, as certified by the manufacturer. Additional pads or half pads may be used in shimming for alignment. Post heights shown will increase by the thickness of the pad

Minimum length of thrie beam sections is equal to one post space.

A 5/8-inch diameter button-head, oval shoulder bolt with a minimum 3/8-inch thick hex nut shall be used at all slots.

Thrie beam guardrail on the bridge shall be 12-guage

Posts, cap rail angles, base plates, blockouts, channels and channel splice plates shall be fabricated from ASTM A709 Grade 36 steel and

Flat washers 3 x 1 3/4 x 3/16-inch minimum shall be used at all post bolts between the bolt head and beam. The washers shall be rectangular in shape with an 11/16 x 1-inch slot, or when necessary of such design as to fit the contour of the beam. Rectangular washers 3 x 1 3/4 x 5/8-inch shall be used between the blockout and the thrie beam rail.

Special drilling of the thrie beam may be required at the splices. All drilling details shall be shown on the shop drawings.

Fabrication of structural steel shall be in accordance with Sec 1080.

Expansion splices in the thrie beam rail shall be made at either the first or second post on either side of the joint and on structure at bridge ends. When the splice is made at the second post, an expansion slot shall be provided in the thrie beam rail for connection to the first post to allow for

Shim plates 6x6x1/16-inch may be used between the top of the post and the channel member as required for vertical alignment.

Shim plates shall be galvanized after fabrication.

See Missouri Standard Plan 606.00 for details not shown.

Furnishing and installing posts, guardrail and all items necessary to complete that work, including reinforcing bars as shown, will be considered completely covered by the contract unit price for Bridge Guardrail (Thrie Beam).



8/14/2023 W MO SHEET NO BR 6

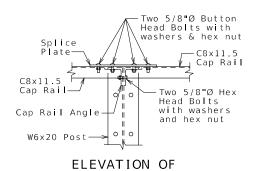
J7S3550 CONTRACT ID.

A9290

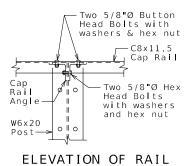
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

BARTON

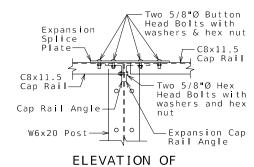
PROJECT NO



TYPICAL SPLICE



POST CONNECTION



EXPANSION SPLICE

PLAN OF EXPANSION SPLICE

Expansion slots shall be on the same side of post as the expansion joint.

EXPANSION CAP RAIL ANGLE

 $L5 \times 3\frac{1}{2} \times \frac{5}{16}$

C8x11.5

 $\mathbb{Q} \quad \frac{13}{16}$ " $\times \quad 2\frac{1}{2}$ "

Slotted

Holes

TOP VIEW

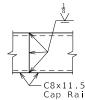
C8x11.5 Cap Rail

Expansion Splice Plate

Cap Rail Angle

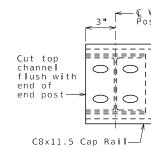
Expansion Cap Rail Angle

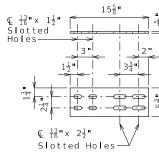
SIDE VIEW





One shop or field splice per panel may be provided at any location.





SPLICE PLATE

Note: Work this sheet with Sheet No. 6.

TIMOTHY D. LEAF

NUMBER

SONAL

8/14/2023

BARTON

J7S3550 CONTRACT ID. PROJECT NO.

A9290

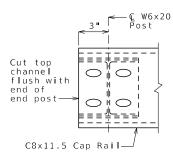
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SHEET NO

7

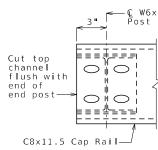
W

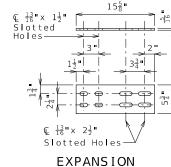
BR



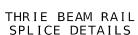
PLAN A-A

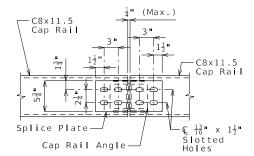
For location of Plan A-A, see Sheet No. __.





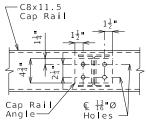
121" Lap © 29/32" X 1 1/8" Slots at regular splices ф ф DIRECTION ф OF TRAFFIC \bigoplus_{i} 0 © 3/4" X 2 1/2" Regular Slots -At splices between posts, eliminate this at post Ф Ф slot or provide button head bolt Ф $4^{\frac{1}{2}}$, $4^{\frac{1}{2}}$ (At regular splices)



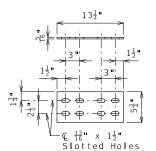


PLAN OF TYPICAL SPLICE

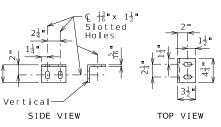
One shop or field splice per panel may be provided at any location.



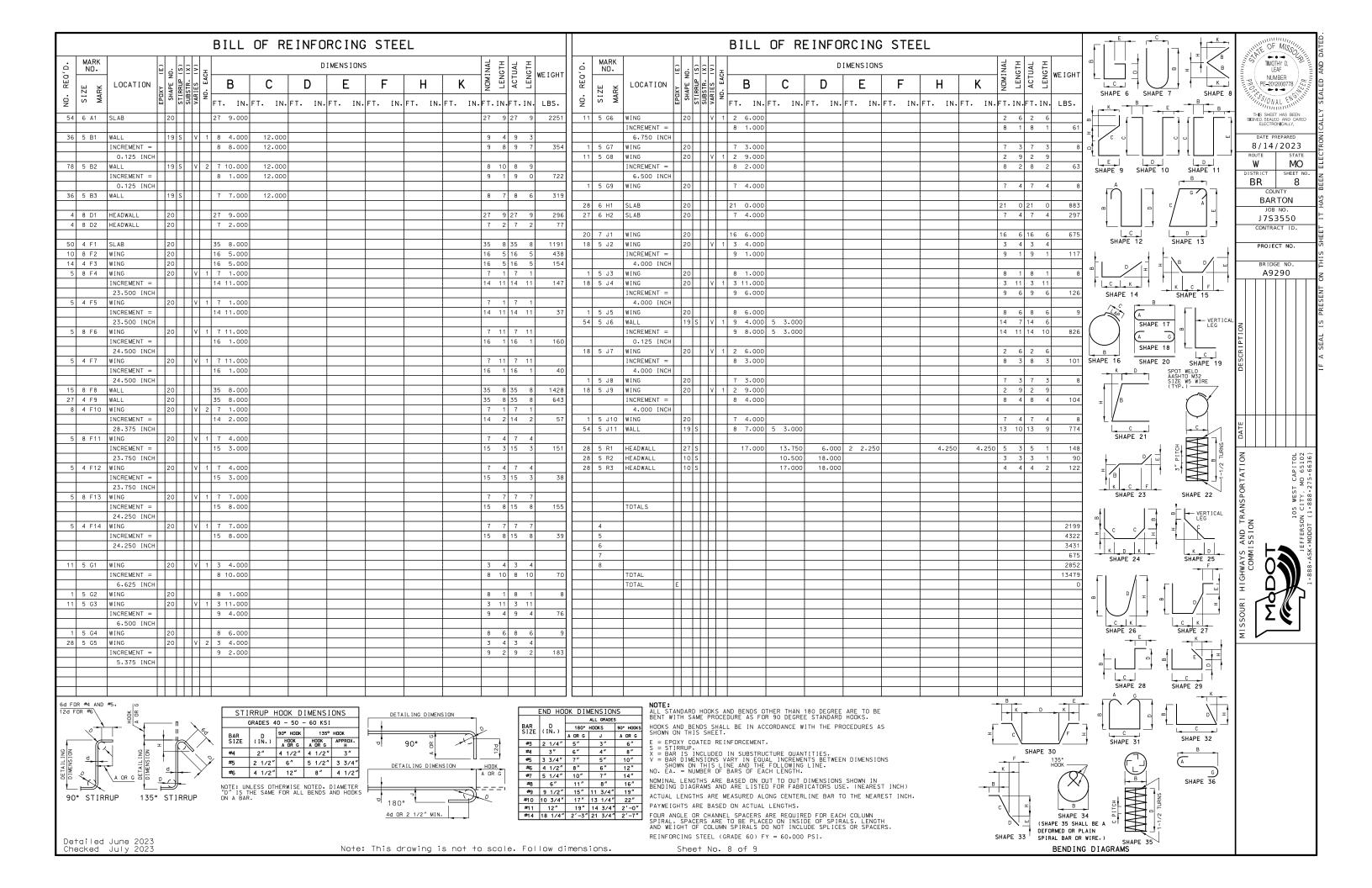
PLAN OF RAIL POST CONNECTION



SPLICE PLATE



CAP RAIL ANGLE $L3\frac{1}{2}x3\frac{1}{2}x\frac{5}{16}$



Coordinate System: Modified U.S. State Plane 1983 Coordinate Zone: Missouri Central Coordinate Proj. Factor: 1.00009534

Coordinate Datum: Horizontal - NAD 83, Vertical - NAVIC68 rdinate Units: U.S. Survey Feet

* Persons using this information are cautioned that the materials shown are determined by the equipment noted and accuracy of the "log of materials" is limited thereby and by judgement of the operator. THIS INFORMATION IS FOR DESIGN PURPOSES ONLY.

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Missouri Department of Transportation Construction and Materials

BORING NO. B-201 Page 1 of 1

Job No.:J7S3550 (SCI No. 2022-1589.10)	County: Barton	Route: W			
Design: A9290	Skew: 20 degrees L.A.	Location: Barton County, Missouri			
Bent: N/A	Logged By:	Operator: Palmerton and Parrish			
Station: 47+58.43	Northing: 2817283.941	Date of Work: 01/05/23-01/05/23			
Offset: 24.47' RT	Easting: 2817320.771	Depth to Water: N/A			
Elevation: 872.0	Requested Northing: 519184.9878	Depth Hole Open:			
Requested Station: 47+40.30	Requested Easting: 2817298.8314	Time Change:			
Requested Offset: 10.00' RT	Equipment: CME 55 ,Split-Spoon Sampler, Shell	by Tube			
Requested Elevation:	Location Note: 7.3 miles North of Route 160				

Requested Offset: 10.00' RT Requested Elevation: Drill No.: Rig #338155-SCI			Equipment: CME 55 ,Split-Spoon Sampler, Shelby Tube						
			Location Note: 7.3 miles North of F						
Drill	No.: _R	lig #338155-SCI	Hammer Efficiency	: 60.	.7% I I		Orilling Method: _	Continuous Flight A	uger
o Depth	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N ₆₀)	Shear Data	Field Tests	Index Tests
		0.0-3.0' Brown, CLAYEY SAND, f coarse-grained, clay is lean	ine- to						
			870		100		Qu Test Results MC = 21.6% \$\gamma_{\text{moist}} = 118.0736 \text{ pcf}		LL = 28 PL = 21
		3.0-13.1' Gray, SHALE		X	89	38-50/0.3'			MC = 4.3%
5				-					
			865						
			-						
 10			-		0	50/0.1'	J		
			ļ .						
			860						
		Bottom of borehole at 13	1 feet.		100	50/0.1'		=	MC = 9.0%

 N_{∞} = (Em/60)Nm N_{∞} - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value (1) = Assumed, (2) = Actual

Coordinate System: Modified U.S. State Plane 1983 Coordinate Zone: Missouri Central Coordinate Proj. Factor: 1.00009534 Coordinate Datum: Horizontal - NAD 83, Vertical - NAVIC86rdinate Units: U.S. Survey Feet

* Persons using this information are cautioned that the materials shown are determined by the equipment noted and accuracy of the "log of materials" is limited thereby and by judgement of the operator. THIS INFORMATION IS FOR DESIGN PURPOSES ONLY.

BORING DATA

Note: For locations of borings, see Sheet No. 1.

Detailed June 2023 Checked July 2023

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

Sheet No. 9 of 9

TIMOTHY D. LEAF NUMBER S/ONAL

8/14/2023

W MO SHEET NO BR 9

BARTON J7S3550

CONTRACT ID. PROJECT NO

A9290