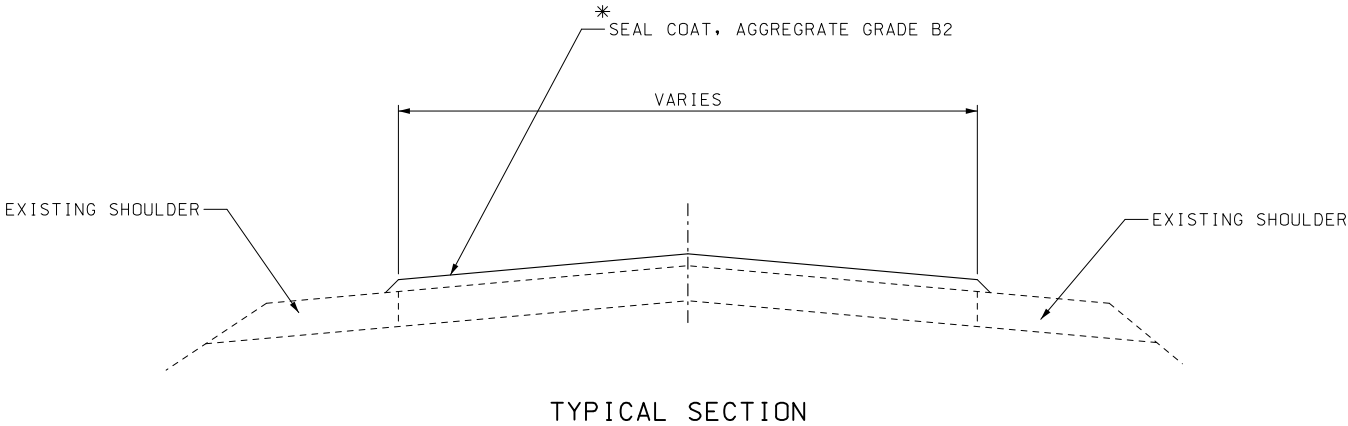




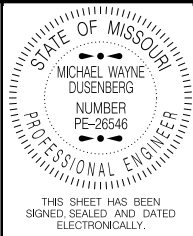
SEAL COAT LOCATIONS				
LOG MILE	LOG MILE	ROUTE	DIRECTION	COUNTY
0.000	5.800	N	S	BOONE
0.869	9.815	WW	E	BOONE/CALLAWAY
0.000	9.219	F	E	CALLAWAY
0.049	20.462	J	S	CALLAWAY
11.134	11.150	J/DD	S	CALLAWAY
0.002	5.687	MM	W	CALLAWAY
0.000	6.808	NN	S	CALLAWAY



\* ROUTE J INCLUDES SURFACE LEVEL SCRATCH COURSE (BP-3 GRADATION PG64-22) AND TACK.

WHILE SCRATCHING HIGH SPOTS OF THE ROADWAY, BREAKING OF AGGREGATE WILL BE ACCEPTABLE.

ESTIMATE FACTORS:  
SURFACE LEVEL SCRATCH COURSE (BP-3 GRADATION PG64-22) - 1.893 TONS/C.Y.  
TACK = 0.08 GAL/SY  
EMULSIFIED ASPHALT, SEAL COAT= 0.38 GAL./S.Y.  
ESTIMATED AVERAGE THICKNESS OF SCRATCH COURSE= $\frac{3}{8}$ "



DATE PREPARED  
8/22/2018

ROUTE	STATE
VARIOUS	MO
DISTRICT	SHEET NO.
CD	2

COUNTY  
BOONE/CALLAWAY

JOB NO.  
J5S3257

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)

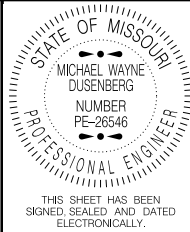
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



REMOVAL OF IMPROVEMENTS					
LOG MILE	LOG MILE	LOCATION	ITEM	QTY	REMARKS
BOONE COUNTY					
5.321	5.448	RTE N	GUARDRAIL & END TERMINAL	625 LF	
5.569		RTE 163	20" CMP	34 LF	SEE CULVERT SECTION SHEET 1
5.569		RTE 163	FULL DEPTH PAVEMENT	43.0 SY	SEE CULVERT SECTION SHEET 1
5.569		RTE 163	FULL DEPTH SAW CUT	42.3 LF	SEE CULVERT SECTION SHEET 1
6.745		RTE. 163 – LT & RT	GUARDRAIL, BRIDGE ANCHOR & END TERMINAL	140 LF	BR. A5794
6.784		RTE. 163 – LT & RT	GUARDRAIL, BRIDGE ANCHOR & END TERMINAL	140 LF	BR. A5794
6.962		RTE. 163 – LT	GUARDRAIL & TURNDOWN END	125 LF	BR.1803
6.958		RTE. 163 – RT	GUARDRAIL & TURNDOWN END	125 LF	BR.1803
7.012		RTE. 163 – LT	GUARDRAIL & TURNDOWN END	125 LF	BR.1803
7.008		RTE. 163 – RT	GUARDRAIL & TURNDOWN END	125 LF	BR.1803
10.907		RTE 163	36"X22" PIPE ARCH(B-5)	64 LF	SEE CULVERT SECTION SHEET 2
10.907		RTE 163	FULL DEPTH PAVEMENT	51.8 SY	SEE CULVERT SECTION SHEET 2
10.907		RTE 163	FULL DEPTH SAW CUT	48.4 LF	SEE CULVERT SECTION SHEET 2
11.153		RTE 163	30" CMP	66 LF	SEE CULVERT SECTION SHEET 3
11.153		RTE 163	FULL DEPTH PAVEMENT	58.0 SY	SEE CULVERT SECTION SHEET 3
11.153		RTE 163	FULL DEPTH SAW CUT	43.6 LF	SEE CULVERT SECTION SHEET 3
0.140		RTE. Y – LT	GUARDRAIL & END TERMINAL	630 LF	BR. N0038
0.181		RTE. Y – LT	GUARDRAIL & TURNDOWN END	275 LF	BR. N0038
0.240		RTE. Y – LT	GUARDRAIL & TURNDOWN END	225 LF	BR. N0038
4.949		RTE. Y – RT	GUARDRAIL, BRIDGE ANCHOR & END TERMINAL	70 LF	BR. N0038
5.005		RTE. Y – LT	GUARDRAIL, BRIDGE ANCHOR & END TERMINAL	70 LF	BR. N0038
CALLAWAY COUNTY					
1.866	1.980	RTE F	BRIDGE ANCHOR & END TERMINAL	75 LF	BR. B0334 – MILLERS CREEK
1.966	1.980	RTE F	GUARDRAIL, BRIDGE ANCHOR & END ANCHOR	80 LF	BR. B0334 – MILLERS CREEK
1.966	1.980	RTE F	BRIDGE ANCHOR & END TERMINAL	70 LF	BR. B0334 – MILLERS CREEK
2.002	2.016	RTE F	BRIDGE ANCHOR & END TERMINAL	70 LF	BR. B0334 – MILLERS CREEK
0.141		CALLAWAY CO. – RTE J WB OFF RAMP – RT	GUARDRAIL & END TERMINAL	163 LF	I-70 INTERCHANGE
0.000		CALLWAY CO. – RTE J WB ON RAMP – RT	GUARDRAIL, END ANCHOR & END TERMINAL	855 LF	I-70 INTERCHANGE
0.000		CALLWAY CO. – RTE J EB OFF RAMP – RT	GUARDRAIL & END TERMINAL	150 LF	I-70 INTERCHANGE
0.000		CALLAWAY CO. – RTE J WB OFF RAMP – LT	GUARDRAIL & BRIDGE ANCHOR	70 LF	BRDGE OVER I-70
0.000		CALLAWAY CO. – RTE J WB ON RAMP – LT	GUARDRAIL, BRIDGE ANCHOR & END ANCHOR	76 LF	BRDGE OVER I-70
0.049		CALLWAY CO. – RTE J EB OFF RAMP – LT	GUARDRAIL & BRIDGE ANCHOR	70 LF	BRDGE OVER I-70
0.049		CALLAWAY CO. – RTE J EB ON RAMP – LT	GUARDRAIL & BRIDGE ANCHOR	70 LF	BRDGE OVER I-70
			TOTAL	1	LUMP SUM

CULVERTS							
APPROX. LOG MILE	LOCATION	GROUP B 30" PIPE LF	CORRUGATED METALLIC-COATED STEEL PIPE ARCH TYPE B-5 LF	GROUP B 30" FES EA	B-5 FES EA	CLASS 3 EXCAVATION CY	REMARKS
5.569	RTE 163	35		2		45	CULVERT REPLACEMENT – SEE CULVERT SECTION SHEET 1
10.907	RTE 163		59		2	86	CULVERT REPLACEMENT – SEE CULVERT SECTION SHEET 2
11.153	RTE 163	59		2		96	CULVERT REPLACEMENT – SEE CULVERT SECTION SHEET 3
	TOTAL	94	59	4	2	227	
	USE	94	59	4	2	227	

SURFACE LEVEL SCRATCH COURSE (BP-3 GRADATION)(PG64-22) (ROUTE J)									
LOG MILE	LOG MILE	LOCATION	NET LENGTH MILES	LENGTH FT	AVG WIDTH FT	AVERAGE AREA SF	QUANTITY 1.893 TONS/CY TONS	TACK 0.08 GAL/SY GALLONS	REMARKS
0.040	3.483	ROUTE J	3.443	18179.040	21	381759.840	836.43	3393.40	BEGIN AT SOUTH END OF I-70 BRIDGE
3.483	3.504	ROUTE J	0.021	110.880	VAR	6197.880	13.58	55.10	RADIUS AT INTERSECTION WITH RTE WW
3.504	4.314	ROUTE J	0.810	4276.800					EXCEPTION
4.314	4.332	ROUTE J	0.018	95.040	VAR	5201.480	11.40	46.20	RADIUS AT INTERSECTION WITH RTE F
4.332	7.112	ROUTE J	2.780	14678.400	22	322924.800	707.52	2870.40	
7.112	7.135	ROUTE J	0.023	121.440					BRIDGE EXCEPTION – A7277 AT MILLERS CREEK
7.135	7.207	ROUTE J	0.072	380.160	22	8363.520	18.32	74.30	
						TOTAL	1,587.25	6,439.40	
						USE	1587.3	6,439	
NOTE ABOVE AREAS ARE FIGURED AT AVERAGE DEPTH OF 3/8"									



DATE PREPARED  
8/22/2018

ROUTE  
VARIOUS  
DISTRICT  
CD  
STATE  
MO  
SHEET NO.  
3

COUNTY  
BOONE/CALLAWAY

JOB NO.  
J5S3257


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)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

OPTIONAL SHOULDERS – RTE. 163

LOG MILE	LOG MILE	LOCATION	NET LENGTH MILES	NET LENGTH MILES	5 3/4" BP-1. PAVEMENT MIX PG64-22 CROSS SECTIONAL* AREA SQ. FT.	VOLUME CY	QUANTITY** TONS	REMARKS
5.589	6.721	ROUTE 163 – LT	1.132	2	1.157	256.12	498.93	
6.721	6.813	ROUTE 163 – LT	0.092					EXCEPTION – BRIDGE A5794 OVER CLEAR CR. INCLUDES EXIST SHOULDER
6.813	6.986	ROUTE 163 – LT	0.173	2	1.157	39.14	76.25	
6.986	7.012	ROUTE 163 – LT	0.026					EXCEPTION – BRIDGE A1803 OVER GANS CR.
7.012	10.652	ROUTE 163 – LT	3.640	2	1.157	823.60	1604.38	
10.652	10.706	ROUTE 163 – LT	0.054					EXCEPTION – BRIDGE W0559 OVER BONNE FEMME CR. INCLUDES GUARDRAIL LENGTH
10.706	11.647	ROUTE 163 – LT	0.941	2	1.157	212.93	414.79	
5.593	6.721	ROUTE 163 – RT	1.128	2	1.157	255.22	497.17	
6.721	6.813	ROUTE 163 – RT	0.092					EXCEPTION – BRIDGE A5794 OVER CLEAR CR. INCLUDES EXIST SHOULDER
6.813	6.982	ROUTE 163 – RT	0.169	2	1.157	38.24	74.49	
6.982	7.008	ROUTE 163 – RT	0.026					EXCEPTION – BRIDGE A1803 OVER GANS CR.
7.008	10.652	ROUTE 163 – RT	3.644	2	1.157	824.51	1606.14	
10.652	10.706	ROUTE 163 – RT	0.054					EXCEPTION – BRIDGE W0559 OVER BONNE FEMME CR. INCLUDES GUARDRAIL LENGTH
10.706	11.647	ROUTE 163 – RT	0.941	2	1.157	212.93	414.79	
							EXCEPTIONS	
5.585	5.593	ROUTE 163 – RT	0.009	2	1.157	1.97	-3.84	ROCK BRIDGE ELEMENTARY SCHOOL
5.656	5.672	ROUTE 163 – RT	0.017	2	1.157	3.77	-7.35	PRIVATE ENTRANCE
5.772	5.784	ROUTE 163 – LT	0.012	2	1.157	2.74	-5.34	E. GANS RD. – ASPH. PAD
6.115	6.121	ROUTE 163 – RT	0.007	2	1.157	1.54	-3.01	HAPPY HOLLOW
6.206	6.212	ROUTE 163 – RT	0.006	2	1.157	1.29	-2.50	PRIVATE ENTRANCE
6.289	6.303	ROUTE 163 – RT	0.013	2	1.157	3.00	-5.84	ROCK BRIDGE STATE PARK
6.379	6.389	ROUTE 163 – RT	0.011	2	1.157	2.40	-4.67	ROCK BRIDGE STATE PARK
6.655	6.661	ROUTE 163 – LT	0.006	2	1.157	1.29	-2.50	PRIVATE ENTRANCE
6.938	6.942	ROUTE 163 – LT	0.005	2	1.157	1.03	-2.00	SOUTH ROCK QUARRY RD.
7.052	7.076	ROUTE 163 – RT	0.024	2	1.157	5.40	-10.52	ROCK BRIDGE STATE PARK
7.625	7.633	ROUTE 163 – LT	0.007	2	1.157	1.63	-3.17	WHISENHUNT DR
7.700	7.716	ROUTE 163 – LT	0.015	2	1.157	3.43	-6.68	PRIVATE ENTRANCE – DOUBLE
7.725	7.731	ROUTE 163 – RT	0.006	2	1.157	1.37	-2.67	PRIVATE ENTRANCE – CIRCLE DRIVE
7.729	7.735	ROUTE 163 – RT	0.006	2	1.157	1.29	-2.50	PRIVATE ENTRANCE – CIRCLE DRIVE
7.763	7.773	ROUTE 163 – LT	0.011	2	1.157	2.49	-4.84	PRIVATE ENTRANCE
7.822	7.826	ROUTE 163 – RT	0.005	2	1.157	1.11	-2.17	PRIVATE ENTRANCE
7.969	7.975	ROUTE 163 – LT	0.005	2	1.157	1.20	-2.34	PRIVATE ENTRANCE
8.002	8.008	ROUTE 163 – LT	0.006	2	1.157	1.29	-2.50	PRIVATE ENTRANCE
8.205	8.211	ROUTE 163 – LT	0.005	2	1.157	1.20	-2.34	PRIVATE ENTRANCE
8.212	8.218	ROUTE 163 – LT	0.006	2	1.157	1.46	-2.84	PRIVATE ENTRANCE
8.403	8.409	ROUTE 163 – LT	0.007	2	1.157	1.54	-3.01	PRIVATE ENTRANCE
9.086	9.092	ROUTE 163 – LT	0.007	2	1.157	1.54	-3.01	PRIVATE ENTRANCE
9.777	9.799	ROUTE 163 – RT	0.023	2	1.157	5.14	-10.02	SOUTH BENNETT DR.
10.155	10.161	ROUTE 163 – RT	0.006	2	1.157	1.37	-2.67	PRIVATE ENTRANCE
10.279	10.289	ROUTE 163 – LT	0.009	2	1.157	2.06	-4.01	PRIVATE ENTRANCE
10.361	10.373	ROUTE 163 – LT	0.012	2	1.157	2.74	-5.34	PRIVATE ENTRANCE
10.585	10.591	ROUTE 163 – LT	0.006	2	1.157	1.46	-2.84	PRIVATE ENTRANCE
10.921	10.933	ROUTE 163 – RT	0.012	2	1.157	2.74	-5.34	WALDEN ESTATES
11.191	11.203	ROUTE 163 – LT	0.011	2	1.157	2.57	-5.01	PRIVATE ENTRANCE
11.419	11.495	ROUTE 163 – LT	0.077	2	1.157	17.31	-33.72	COMMERCIAL ENTRANCE – TRIPLE
11.496	11.508	ROUTE 163 – LT	0.012	2	1.157	2.74	-5.34	COMMERCIAL ENTRANCE
11.514	11.530	ROUTE 163 – LT	0.016	2	1.157	3.51	-6.84	COMMERCIAL ENTRANCE
11.552	11.564	ROUTE 163 – LT	0.011	2	1.157	2.57	-5.01	COMMERCIAL ENTRANCE
11.592	11.612	ROUTE 163 – LT	0.019	2	1.157	4.37	-8.51	COMMERCIAL ENTRANCE
11.600	11.612	ROUTE 163 – RT	0.012	2	1.157	2.83	-5.51	COMMERCIAL ENTRANCE
					RTE 163	SUBTOTAL (1)	5,001.12	
					RTE Y	SUBTOTAL (2)	7,824.15	** 5 3/4" BP-1 – 1.948 TON/CY
						TOTAL	12,825.27	LOG MILES ARE APPROXIMATE
						USE	12,825.3	BITUMINOUS PAVEMENTS SHALL CONSIST OF BP-1 MIX
USE IN PLACE EXISTING PAVED DITCH LOG MI 10.775 TO LOG MI 10.810 – RT								
* PER SIDE – INCLUDES SAFETY EDGE								

TYPE 3 ROCK DITCH LINER

APPROX. LOG MILE	TO	APPROX. LOG MILE	LOCATION	FURNISH TYPE 3 ROCK DITCH LINER CY	PLACING TYPE 3 ROCK DITCH LINER CY	BEDDING MATERIAL FOR ROCK DITCH LINER CY	PERMANENT EROSION CONTROL GEOTEXTILE SY	REMARKS
2.878		2.958	RTE Y – RT	151.8	151.8	101.2	549.1	DITCH LINER
3.059		3.158	RTE Y – RT	187.8	187.8	125.2	679.5	DITCH LINER
4.302		4.438	RTE Y – LT	258.0	258.0	172.0	933.5	DITCH LINER
4.266		4.438	RTE Y – RT	326.3	326.3	217.5	1180.6	DITCH LINER
			TOTAL	923.8	923.8	615.9	3342.8	
			USE	923.8	923.8	616	3343	
DITCH LINER WIDTH FIGURED AT 8' WIDE								DITCH LINER LOCATIONS ARE APPROXIMATE FINAL LOCATIONS TO BE APPROVED BY THE ENGINEER

STATE OF MISSOURI

MICHAEL WAYNE DUSENBERG

NUMBER PE-26546

PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/20/2018

ROUTE VARIOUS STATE MO

DISTRICT CD SHEET NO. 3

COUNTY BOONE/CALLAWAY

JOB NO. J5S3257

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

SUMMARY OF QUANTITIES

SHEET 2 OF 13

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

FULL DEPTH OPTIONAL PAVEMENT REPLACEMENT						
APPROX. LOG MILE	LOCATION	LENGTH FT	WIDTH FT	OPTIONAL PAVEMENT SY	FURNISHING AND PLACING 12" ROCK BASE SY	REMARKS
5.569	RTE 163	18.40	21.15	43.2	43.2	AT CULVERT REPLACEMENT
10.907	RTE 163	19.30	21.20	51.8	51.8	SKEWED - AT CULVERT REPLACEMENT
11.153	RTE 163	24.00	21.76	58.0	58.0	AT CULVERT REPLACEMENT
			TOTAL	95.0	95.0	HMA - 1-3/4" BP-1 OVER 5-3/4" BIT. BASE
			USE	95.0	95.0	PCCP - 7" PCCP W/ 15' JOINTS AND 1-1/4" DOWELS
						CULVERT REPLACEMENT AREAS ARE APPROXIMATE

SUMMARY OF QUANTITIES  
SHEET 3 OF 13



MODIFIED LINEAR GRADING, CLASS 2 - RTE. Y					
LOG MILE	LOG MILE	LOCATION	LENGTH FT	MODIFIED LINEAR GRADING, CL 2 STA	REMARKS
0.179	1.790	ROUTE Y - LT	8507.48	85.07	
1.790	1.800	ROUTE Y - LT	50.00	0.50	CULVERT LOG MI 1.795 FOWLER CR.
1.800	3.025	ROUTE Y - LT	6467.52	64.68	
3.025	3.033	ROUTE Y - LT	46.00	0.46	CULVERT LOG MI 3.029 BRUSHY CR.
3.033	4.569	ROUTE Y - LT	8109.60	81.10	
4.569	4.579	ROUTE Y - LT	53.00	0.53	CULVERT LOG MI 4.574 CONNOR CR.
4.579	4.947	ROUTE Y - LT	1941.44	19.41	
4.947	5.026	ROUTE Y - LT	417.12		EXCEPTION - BRIDGE N0038 OVER CEDAR CREEK - INCLUDES GUARDRAIL
5.026	9.238	ROUTE Y - LT	22239.36	222.39	
0.179	1.790	ROUTE Y - RT	8507.48	85.07	
1.790	1.800	ROUTE Y - RT	50.00	0.50	CULVERT LOG MI 1.795 FOWLER CR.
1.800	3.025	ROUTE Y - RT	6467.52	64.68	
3.025	3.033	ROUTE Y - RT	46.00	0.46	CULVERT LOG MI 3.029 BRUSHY CR.
3.033	4.569	ROUTE Y - RT	8109.60	81.10	
4.569	4.579	ROUTE Y - RT	53.00	0.53	CULVERT LOG MI 4.574 CONNOR CR.
4.579	4.941	ROUTE Y - RT	1909.76	19.10	
4.941	5.020	ROUTE Y - RT	417.12		EXCEPTION - BRIDGE N0038 OVER CEDAR CREEK - INCLUDES GUARDRAIL
5.020	9.238	ROUTE Y - RT	22271.04	222.71	
		EXCEPTIONS			
0.173	0.194	ROUTE Y - LT	120.00	-1.20	RAMP 63 NORTH
0.239	0.255	ROUTE Y - LT	87.00	-0.87	INDUSTRIAL DR.
0.379	0.396	ROUTE Y - LT	92.00	-0.92	SILVER SNIPE ST.
0.463	0.473	ROUTE Y - LT	110.00	-1.10	COMMERCIAL ENTRANCE
0.618	0.638	ROUTE Y - LT	106.00	-1.06	AMERICAN SETTER DR.
1.081	1.095	ROUTE Y - LT	78.00	-0.78	ROBBIE FORBIS RD - ASPH PAD
1.081	1.095	ROUTE Y - RT	74.00	-0.74	ROBBIE FORBIS RD - ASPH PAD
1.833	1.841	ROUTE Y - LT	38.00	-0.38	COMMERCIAL ENTRANCE - CHURCH
1.885	1.889	ROUTE Y - LT	24.00	-0.24	PRIVATE ENTRANCE
2.059	2.075	ROUTE Y - LT	80.00	-0.80	SOUTH RANGELINE RD.
2.375	2.381	ROUTE Y - RT	32.00	-0.32	PRIVATE ENTRANCE
2.738	2.756	ROUTE Y - LT	92.00	-0.92	SOUTH HAWKINS RD
3.449	3.455	ROUTE Y - LT	36.00	-0.36	BOB VEACH RD
4.883	4.895	ROUTE Y - LT	60.00	-0.60	CLINKEN BEARD RD
6.740	6.764	ROUTE Y - LT	124.00	-1.24	PINE RIDGE RECREATIONAL AREA
8.353	8.363	ROUTE Y - LT	52.00	-0.52	BLESSING LN
		RTE. Y SUB TOTAL (2)		936.24	

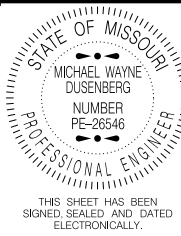
FURNISHING AND PLACING ROCK FILL							
APPROX. LOG MILE		TO	APPROX. LOG MILE	LOCATION	FURNISHING ROCK FILL CY	PLACING ROCK FILL CY	REMARKS
5.569				RTE 163 – LT	60.0	60.0	
5.569				RTE 163 – RT	63.0	63.0	
5.569				RTE 163	70.0	70.0	BACKFILL FOR CULVERT REPLACEMENT 1
6.647		6.663		RTE 163 – LT	112.3	112.3	
6.722		6.741		RTE 163 – LT	102.0	102.0	
10.907				RTE 163	114.0	114.0	BACKFILL FOR CULVERT REPLACEMENT 2
11.153				RTE 163	173.0	173.0	BACKFILL FOR CULVERT REPLACEMENT 3
2.878		2.958		RTE Y – RT	165.2	165.2	
3.059		3.158		RTE Y – RT	204.4	204.4	
4.302		4.438		RTE Y – LT	280.8	280.8	
4.266		4.438		RTE Y – RT	355.2	355.2	
4.950		4.962		RTE Y – RT	87.6	87.6	
5.003		5.020		RTE Y – RT	131.1	131.1	
				TOTAL	1918.7	1918.7	
				USE	1918.7	1918.7	

ROCK LINING					
APPROX. LOG MILE	TO	APPROX. LOG MILE	LOCATION	ROCK LINING CY	REMARKS
5.569			RTE 163	4.0	CULVERT OUTLET
10.907			RTE 163	4.0	CULVERT OUTLET
11.153			RTE 163	4.0	CULVERT OUTLET
			TOTAL	12.0	
			USE	12.0	

MOBILIZATION
TOTAL = 1 LUMP SUM

ADDITIONAL MOBILIZATION FOR SEEDING
TOTAL = 4 EACH

CONTRACTOR FURNISHED SURVEYING AND STAKING
TOTAL = 1 LUMP SUM



DATE PREPARED  
9/20/2018

ROUTE VARIOUS	STATE MO
DISTRICT CD	SHEET NO. 3

COUNTY  
BOONE/CALLAWAY

JOB NO.  
J5S3257


CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE								

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION



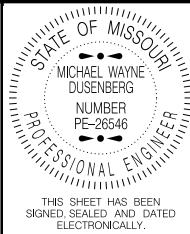
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

SEAL COAT, GRADE B2								
LOG MILE	LOG MILE	LOCATION	MILES	LENGTH FT	AVG WIDTH FT	SEAL COAT AGGREGATE GRADE B2 SY	EMULSIFIED ASPHALT SEAL COAT GAL	REMARKS
BOONE/CALLAWAY COUNTY								
0.869	0.885	ROUTE WW	0.016	84.48	39	366.08	139.11	WIDTH VARIES 42' TO 36'
0.885	0.945	ROUTE WW	0.060	316.8	36	1267.20	481.54	
0.945	0.964	ROUTE WW	0.019	100.32	32	356.69	135.54	WIDTH VARIES 36' TO 28'
0.964	0.984	ROUTE WW	0.020	105.6	28	328.53	124.84	
0.984	1.007	ROUTE WW	0.023	121.44				BRIDGE EXCEPTION - B0334 AT GRINDSTONE CR
1.007	1.476	ROUTE WW	0.469	2476.32	26	7153.81	2718.45	
1.476	1.571	ROUTE WW	0.095	501.6	31	1727.73	656.54	WIDTH VARIES 26' TO 36'
1.571	1.874	ROUTE WW	0.303	1599.84	26	4621.76	1756.27	
1.874	2.286	ROUTE WW	0.412	2175.36	30	7251.20	2755.46	
2.286	2.293	ROUTE WW	0.007	36.96	37	151.95	57.74	WIDTH VARIES 30' TO 44'
2.293	2.471	ROUTE WW	0.178	939.84	44	4594.77	1746.01	
2.471	2.518	ROUTE WW	0.047	248.16				EXCEPTION - ROLLING HILLS ROUNDABOUT
2.518	2.780	ROUTE WW	0.262	1383.36	42	6455.68	2453.16	
2.780	2.804	ROUTE WW	0.024	126.72	32	450.56	171.21	
2.804	2.811	ROUTE WW	0.007	36.96	29	119.09	45.26	WIDTH VARIES 32' TO 26'
2.811	3.513	ROUTE WW	0.702	3706.56	26	10707.84	4068.98	
3.513	6.871	ROUTE WW	3.358	17730.24	26	51220.69	19463.86	
6.871	7.221	ROUTE WW	0.350	1848	44	9034.67	3433.17	
7.221	7.841	ROUTE WW	0.620	3273.6	28	10184.53	3870.12	
7.841	7.856	ROUTE WW	0.015	79.2	36	316.80	120.38	
7.856	8.001	ROUTE WW	0.145	765.6	44	3742.93	1422.31	
8.001	8.033	ROUTE WW	0.032	168.96				BRIDGE EXCEPTION - A4612 AT CEDAR CREEK
8.033	8.389	ROUTE WW	0.356	1879.68	44	9189.55	3492.03	
8.389	9.800	ROUTE WW	1.411	7450.08	27	22350.24	8493.09	
9.800	9.815	ROUTE WW	0.015	81.4	27	244.20	92.80	
CALLAWAY COUNTY								
0.000	1.980	ROUTE F	1.980	10454.4	28	32524.80	12359.42	
1.980	2.002	ROUTE F	0.022					BRIDGE EXCEPTION - A7277 AT MILLERS CREEK
2.002	8.980	ROUTE F	6.978	36843.84	28	114625.28	43557.61	
8.980	9.219	ROUTE F	0.239	1261.92	44	6169.39	2344.37	
11.134	11.150	ROUTE DD/J	0.016	84.48	21	197.12	74.91	FROM SME TO NORTH END OF I-70 BRIDGE
0.049	3.483	ROUTE J	3.434	18131.52	21	42306.88	16076.61	BEGIN AT SOUTH END OF I-70 BRIDGE
3.483	3.504	ROUTE J	0.021	110.88	VAR	688.65	261.69	RADIUS AT INTERSECTION WITH RTE WW
3.504	4.314	ROUTE J	0.810	4276.8	26	12355.20	4694.98	
4.314	4.332	ROUTE J	0.018	95.04	VAR	577.94	219.62	RADIUS AT INTERSECTION WITH RTE F
4.332	7.112	ROUTE J	2.780	14678.4	22	35880.53	13634.60	
7.112	7.135	ROUTE J	0.023	121.44				BRIDGE EXCEPTION - N0743 AT MILLERS CREEK
7.135	18.976	ROUTE J	11.841	62520.48	22	152827.84	58074.58	
18.976	19.042	ROUTE J	0.066	348.48	VAR	2392.69	909.22	RADIUS AT INTERSECTION WITH RTE MM
19.042	19.788	ROUTE J	0.746	3938.88	24.5	10722.51	4074.55	
19.788	20.109	ROUTE J	0.321	1694.88	23	4331.36	1645.92	
20.109	20.234	ROUTE J	0.125	660	23.5	1723.33	654.87	
20.234	20.462	ROUTE J	0.228	1203.84	24	3210.24	1219.89	
0.029	2.040	ROUTE MM	2.011	10618.08	21.5	25365.41	9638.86	
2.040	3.051	ROUTE MM	1.011	5338.08	22	13048.64	4958.48	
3.051	5.174	ROUTE MM	2.123	11209.44	21	26155.36	9939.04	
5.174	5.687	ROUTE MM	0.513	2708.64	20	6019.20	2287.30	
0.000	0.011	ROUTE NN	0.011	58.08	VAR	295.35	112.23	RADIUS AT BUS RTE 54
0.011	0.929	ROUTE NN	0.918	4847.04	22	11848.32	4502.36	
0.929		ROUTE NN		120.5	22	294.56	111.93	INTERSECTION WITH OLD RTE 54
0.929	0.941	ROUTE NN	0.012	63.36	VAR	130.84	49.72	RADIUS AT INTERSECTION WITH OLD RTE 54
0.941	6.808	ROUTE NN	5.867	30977.76	22	75723.41	28774.90	
				SUB TOTAL (1)		731,251.38	277,875.52	
				SUB TOTAL (2)		251,519.38	95,577.36	
				TOTAL		982,770.76	373,452.89	
				USE		982,770.8	373,452.9	

GRAVEL (A) OR CRUSHED STONE (B)					
LOG MILE	LOG MILE	LOCATION	LENGTH MI	GRAVEL OR CRUSHED STONE TONS	REMARKS
5.499	11.647	RTE 163 - LT AND RT	6.148	123.0	
0.179	9.238	RTE Y - LT AND RT	9.059	181.2	
			TOTAL	304.1	
			USE	304	
USE AT EXIST. AGGREGATE ENTRANCES AND COUNTY ROADS					
ESTIMATED AT 20.0 TONS / MILE					

SEEDING AND MULCH					
LOG MILE	LOG MILE	LOCATION	LENGTH MI	SEEDING COOL SEASON MIX ACRE	TEMPORARY SEEDING AND MULCH ACRE
5.499	11.647	RTE. 163	6.148	6.15	1.72
0.179	9.238	RTE. Y	9.059	9.06	2.72
			TOTAL	15.21	4.44
			USE	15.2	4.4
SEEDING ESTIMATED AT 1.0 AC / MILE					



DATE PREPARED 8/23/2018	
ROUTE VARIOUS	STATE MO
DISTRICT CD	SHEET NO. 3

COUNTY BOONE/CALLAWAY
JOB NO. J5S3257
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE								

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

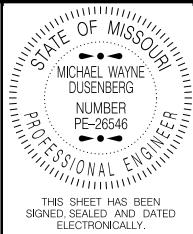
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

SEAL COAT, GRADE B2								
LOG MILE	LOG MILE	LOCATION	MILES	LENGTH FT	AVG WIDTH FT	SEAL COAT AGGREGATE GRADE B2 SY	EMULSIFIED ASPHALT SEAL COAT GAL	REMARKS
BOONE COUNTY								
0.000	5.783	ROUTE N	5.783	30534.24	20	67853.87	25784.47	
5.499	5.631	ROUTE 163	0.132	696.96	VARIES	1830.68	695.66	WIDTH VARIES 54' TO 22'
5.631	6.721	ROUTE 163	1.090	5755.2	22	14068.27	5345.94	
6.758	6.784	ROUTE 163	0.026	137.28				EXCEPTION - BRIDGE A5794 OVER CLEAR CR.
6.813	6.984	ROUTE 163	0.171	902.88	22	2207.04	838.68	
6.984	7.010	ROUTE 163	0.026	137.28				EXCEPTION - BRIDGE A1803 OVER GANS CR.
7.010	8.118	ROUTE 163	1.108	5850.24	22	14300.59	5434.22	
8.118	8.153	ROUTE 163	0.035	184.8	VARIES	928.04	352.65	INTERSECTION IN PIERPONT AT RTE N - INCLUDES A PORTION OF RTE N
8.153	10.652	ROUTE 163	2.499	13195.28	22	32255.13	12256.95	
10.676	10.682	ROUTE 163	0.006	31.68				EXCEPTION - BRIDGE W0559 OVER BONNE FEMME CR.
10.706	11.637	ROUTE 163	0.931	4916.24	22	12017.48	4566.64	
11.637	11.647	ROUTE 163	0.010	52.8	VARIES	130.62	49.64	WIDTH VARIES 22' TO 25'
0.179	4.963	ROUTE Y	4.784	25259.52	20	56132.27	21330.26	
4.963	5.004	ROUTE Y	0.041	216.48				EXCEPTION - BRIDGE N0038 OVER CEDAR CREEK
5.026	9.233	ROUTE Y	4.207	22212.96	20	49362.13	18757.61	
9.233	9.238	ROUTE Y	0.005	26.4	VARIES	244.31	92.84	
9.244		ROUTE Y - LT	0.008	42.24	VARIES	188.96	71.81	S. RANGELINE RD - INTERSECTION AREA
				SUB TOTAL (2)		251,519.38	95,577.36	

SHOULDER RUMBLE STRIPS						
APPROX. LOG MILE	APPROX. LOG MILE	LOCATION	LENGTH MI	LENGTH LF	BITUMINOUS SHOULDER RUMBLE STRIPS STA	REMARKS
5.631	6.721	ROUTE 163 - LT	1.1	5755.0	57.6	
6.721	6.813	ROUTE 163 - LT	0.1	486.0		EXCEPTION - BRIDGE A5794 OVER CLEAR CR. INCLUDES EXIST SHOULDER
6.813	6.986	ROUTE 163 - LT	0.2	913.0	9.1	
6.986	7.012	ROUTE 163 - LT	0.0	137.0		EXCEPTION - BRIDGE A1803 OVER GANS CR.
7.012	10.652	ROUTE 163 - LT	3.6	19220.0	192.2	
10.652	10.706	ROUTE 163 - LT	0.1	284.0		EXCEPTION - BRIDGE W0559 OVER BONNE FEMME CR. INCLUDES GUARDRAIL LENGTH
10.706	11.647	ROUTE 163 - LT	0.9	4969.0	49.7	
5.631	6.721	ROUTE 163 - RT	1.1	5755.0	57.6	
6.721	6.813	ROUTE 163 - RT	0.1	486.0		EXCEPTION - BRIDGE A5794 OVER CLEAR CR. INCLUDES EXIST SHOULDER
6.813	6.982	ROUTE 163 - RT	0.2	892.0	8.9	
6.982	7.008	ROUTE 163 - RT	0.0	137.0		EXCEPTION - BRIDGE A1803 OVER GANS CR.
7.008	10.652	ROUTE 163 - RT	3.6	19241.0	192.4	
10.652	10.706	ROUTE 163 - RT	0.1	284.0		EXCEPTION - BRIDGE W0559 OVER BONNE FEMME CR. INCLUDES GUARDRAIL LENGTH
10.706	11.647	ROUTE 163 - RT	0.9	4969.0	49.7	
0.179	4.947	ROUTE Y - LT	4.8	25175.0	251.8	
4.947	5.026	ROUTE Y - LT	0.1	417.0		EXCEPTION - BRIDGE N0038 OVER CEDAR CREEK - INCLUDES GUARDRAIL
5.026	9.238	ROUTE Y - LT	4.2	22239.0	222.4	
0.179	4.941	ROUTE Y - RT	4.8	25143.0	251.4	
4.941	5.020	ROUTE Y - RT	0.1	417.0		EXCEPTION - BRIDGE N0038 OVER CEDAR CREEK - INCLUDES GUARDRAIL
5.020	9.238	ROUTE Y - RT	4.2	22271.0	222.7	
				- 23561.0	235.6	EXCEPTIONS FOR ENTRANCES, STATE ROUTES AND COUNTY ROADS
				TOTAL	1107.1	
				USE	1107.1	

CENTERLINE RUMBLE STRIPS						
APPROX. LOG MILE	APPROX. LOG MILE	LOCATION	LENGTH MI	LENGTH LF	BITUMINOUS CENTERLINE RUMBLE STRIPS STA	REMARKS
5.631	6.758	ROUTE 163	1.1	5951.0	59.5	
6.758	6.784	ROUTE 163	0.0	137.0		EXCEPTION - BRIDGE A5794 OVER CLEAR CR.
6.784	6.984	ROUTE 163	0.2	1056.0	10.6	
6.984	7.010	ROUTE 163	0.0	137.0		EXCEPTION - BRIDGE A1803 OVER GANS CR.
7.010	10.676	ROUTE 163	3.7	19356.0	193.6	
10.676	10.682	ROUTE 163	0.0	32.0		EXCEPTION - BRIDGE W0559 OVER BONNE FEMME CR.
10.682	11.647	ROUTE 163	1.0	5095.0	51.0	
				TOTAL	314.6	
				USE	314.6	



DATE PREPARED 8/22/2018	
ROUTE VARIOUS	STATE MO
DISTRICT CD	SHEET NO. 3

COUNTY BOONE/CALLAWAY
JOB NO. J5S3257
CONTRACT ID.

PROJECT NO.
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BRIDGE NO.
------------

DESCRIPTION	DATE								

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION



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

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

GUARDRAIL										
LOG MILE	LOG MILE	LOCATION	MGS GUARDRAIL 6 FT. POSTS LF	MGS GUARDRAIL 8 FT. POSTS LF	BRIDGE APPROACH TRANSITION EA	MGS BLOCK AND HEIGHT TRANSITION EA	MGS TYPE A CRASHWORTHY END TERMINAL (MASH) EA	MGS END ANCHOR EA	SHAPING SLOPES CLASS III 100 FT	REMARKS
5.321	5.448	BOONE CO. - ROUTE N - LT		525			2		1.5	
1.966	1.980	CALLAWAY CO. - ROUTE F - LT			1		1		1.3	MILLERS CREEK
1.966	1.980	CALLAWAY CO. - ROUTE F - RT		50	1			1	0.5	MILLERS CREEK
2.002	2.016	CALLAWAY CO. - ROUTE F - LT			1		1		1.3	MILLERS CREEK
2.002	2.016	CALLAWAY CO. - ROUTE F - RT			1		1		1.3	MILLERS CREEK
0.147		CALLAWAY CO. - RTE J WB OFF RAMP - RT	87.5			1	1		0.8	I-70 INTERCHANGE - INCLUDES SEGMENT ALONG RTE J
0.004		CALLWAY CO. - RTE J WB ON RAMP - RT		800			1	1	0.8	I-70 INTERCHANGE - INCLUDES SEGMENT ALONG RTE J
0.000		CALLWAY CO. - RTE J EB OFF RAMP - RT		75		1	1		0.8	I-70 INTERCHANGE
0.140		BOONE CO. - ROUTE Y - LT	580				1	1	6.7	FROM RTE 63 INTERCHANGE DOWN RTE. 63 OUTER ROAD
0.181		BOONE CO. - ROUTE Y - LT	225				1		3.2	FROM RTE. 63 OUTER ROAD TO INDUSTRIAL DRIVE - UIP 262.5' GUARD RAIL DOWN RAMP FROM GR RADIUS
0.240		BOONE CO. - ROUTE Y - LT	125				2		2.8	EAST OF INDUSTRIAL DRIVE
4.938		BOONE CO. - ROUTE Y - RT	25		1		1		1.4	CEDAR CR BRIDGE
4.938		BOONE CO. - ROUTE Y - LT			1		1		1.1	CEDAR CR BRIDGE
4.999		BOONE CO. - ROUTE Y - RT			1		1		1.1	CEDAR CR BRIDGE
4.999		BOONE CO. - ROUTE Y - LT	25		1		1		1.4	CEDAR CR BRIDGE
6.961		BOONE CO. - ROUTE 163 - RT	25		1		1		1.4	GANS CR BRIDGE
6.969		BOONE CO. - ROUTE 163 - LT	12.5		1		1		1.3	GANS CR BRIDGE
7.008		BOONE CO. - ROUTE 163 - RT	12.5		1		1		1.3	GANS CR BRIDGE
7.012		BOONE CO. - ROUTE 163 - LT	25		1		1		1.4	GANS CR BRIDGE
7.527		BOONE CO. - ROUTE 163 - RT	25		1		1		1.4	CLEAR CR BRIDGE
7.527		BOONE CO. - ROUTE 163 - LT			1		1		1.1	CLEAR CR BRIDGE
7.567		BOONE CO. - ROUTE 163 - RT			1		1		1.1	CLEAR CR BRIDGE
7.567		BOONE CO. - ROUTE 163 - LT	25		1		1		1.4	CLEAR CR BRIDGE
		SUB TOTAL (1)							36	
		SUB TOTAL (2)							6	
		TOTAL	1193	1450	16	2	24	3	41	
		USE	1193	1450	16	2	24	3	41	

GUARDRAIL								
LOG MILE	LOG MILE	LOCATION	BRIDGE ANCHOR SECTION 6.5' POSTS EA	TRANSITION SECTION 6.5' POSTS EA	TYPE A GUARDRAIL LF	END ANCHOR EA	SHAPING SLOPES CLASS III 100 FT	REMARKS
0.000		CALLAWAY CO. - RTE J WB OFF RAMP - LT	1	1	87.5		1.1	BRDGE OVER I-70
0.000		CALLAWAY CO. - RTE J WB ON RAMP - LT	1	1	200	1	2.2	BRDGE OVER I-70
0.049		CALLWAY CO. - RTE J EB OFF RAMP - LT	1	1	87.5		1.1	BRDGE OVER I-70
0.049		CALLAWAY CO. - RTE J EB ON RAMP - LT	1	1	100		1.2	BRDGE OVER I-70
		SUB TOTAL (2)					6	
		TOTAL	4	4	475	1		
		USE	4	4	475	1		

STATE OF MISSOURI

MICHAEL WAYNE DUSENBERG

NUMBER PE-28546

PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED

8/22/2018

ROUTE

VARIOUS

DISTRICT

CD

STATE

MO

SHEET NO.

3

COUNTY

BOONE/CALLAWAY

JOB NO.

J5S3257

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



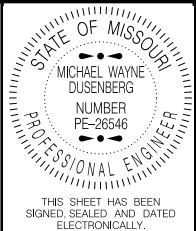


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ADJUSTING EXISTING SIGNS (2) RTE Y			
APPROXIMATE LOG MILE	LOCATION	ITEM	POSTS
RTE Y EB LOG			
0.218	RTE Y	SPEED LIMIT 45	1
0.298	RTE Y	LITTERING FINE SIGN	1
0.318	RTE Y	GUTHRIE 9 MI.	2
1.718	RTE Y	SPEED LIMIT 55	1
0.740	RTE Y	ADDRESS # SIGN	1
1.937	RTE Y	CURVE SYMBOL/40 MPH PLAQUE	1
2.398	RTE Y	WINDING ROAD SYMBOL/35 MPH PLAQUE/NEXT 1 MILE	1
2.658	RTE Y	HILL	1
2.958	RTE Y	CHEVRON	1
2.971	RTE Y	CHEVRON	1
2.985	RTE Y	CHEVRON	1
2.998	RTE Y	CHEVRON	1
3.013	RTE Y	CHEVRON	1
3.019	RTE Y	CHEVRON	1
3.026	RTE Y	CHEVRON	1
3.032	RTE Y	CHEVRON	1
3.758	RTE Y	CURVE SYMBOL/45 MPH PLAQUE	1
4.079	RTE Y	CURVE SYMBOL/40 MPH PLAQUE	1
4.198	RTE Y	HILL	1
4.299	RTE Y	WINDING ROAD SYMBOL/35 MPH PLAQUE	1
4.600	RTE Y	WINDING ROAD SYMBOL/45 MPH PLAQUE	1
4.958	RTE Y	CEDER CREEK/ENTERING CALLAWAY COUNTY	1
5.098	RTE Y	WATER GUAGE MARKER	1
5.580	RTE Y	SIDE ROAD	1
8.737	RTE Y	WINDING ROAD SYMBOL/50 MPH PLAQUE	1
8.998	RTE Y	JCT J	1
9.038	RTE Y	REDUCED SPEED LIMIT AHEAD 40	1
9.118	RTE Y	SPEED LIMIT 40	1
9.158	RTE Y	β MILLERS BURG 13 NEW BLOOMFIELD 4 Φ	2
RTE Y WB LOG			
0.041	RTE Y	ADOPT A HIGHWAY	1
0.170	RTE Y	SPEED LIMIT 50	1
0.262	RTE Y	CURVE SYMBOL/50 MPH PLAQUE	1
2.579	RTE Y	SIDE ROAD	1
3.039	RTE Y	WINDING ROAD SYMBOL/35 MPH PLAQUE	1
3.359	RTE Y	SIDE ROAD	1
3.617	RTE Y	CURVE SYMBOL/45 MPH PLAQUE	1
3.657	RTE Y	HILL	1
3.697	RTE Y	CURVE SYMBOL/20 MPH PLAQUE	1
3.802	RTE Y	CURVE SYMBOL/35 MPH PLAQUE	1
3.822	RTE Y	IMPASSABLE DURING HIGH WATER	1
3.882	RTE Y	WINDING ROAD SYMBOL/45 MPH PLAQUE	1
4.162	RTE Y	WATER GUAGE MARKER	1
4.282	RTE Y	OBJECT MARKER	1
4.285	RTE Y	OBJECT MARKER	1
4.302	RTE Y	WINDING ROAD SYMBOL/45 MPH PLAQUE	1
4.381	RTE Y	ADOPT A HIGHWAY	1
4.641	RTE Y	WINDING ROAD SYMBOL/35 MPH PLAQUE	1
4.919	RTE Y	CURVE SYMBOL/45 MPH PLAQUE	1
5.177	RTE Y	CURVE SYMBOL/45 MPH PLAQUE	1
5.878	RTE Y	WINDING ROAD SYMBOL/35 MPH PLAQUE/NEXT 1 MILE	1
6.000	RTE Y	HILL	1
6.416	RTE Y	SIDE ROAD	1
6.997	RTE Y	CURVE SYMBOL/45 MPH PLAQUE	1
SUBTOTAL (2)			1 LS
*SEE EXISTING SIGNS JSP			

EXTRA CARE SHALL BE TAKEN TO MAKE SURE THE WATER GAGE MARKER AT LM 4.998 EB AND LM 4.162 WB IS SET AT THE EXISTING ELEVATION

SUMMARY OF QUANTITIES  
SHEET 11 OF 13



DATE PREPARED  
8/22/2018

ROUTE VARIOUS	STATE MO
DISTRICT CD	SHEET NO. 3

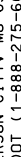
COUNTY  
BOONE/CALLAWAY

JOB NO.  
J5S3257

CONTRACT ID.
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PROJECT NO.
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BRIDGE NO.
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MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

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

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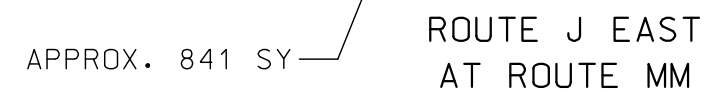
ENTRANCE CULVERT PIPES – RTE Y											
LOG MILE	LOCATION	GROUP B								REMARKS	
		LENGTH (FT)				FES (EACH)					
		12"	15"	18"	21"	12"	15"	18"	21"		
0.754	LT.			34				2		ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
0.913	LT.			34				2		ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
0.986	LT.	26				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
1.022	RT.	28				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
1.160	RT.	28				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
1.246	LT.	30				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
1.258	RT.	33				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
1.334	RT.	26				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
1.373	LT.			28				2		ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
1.471	LT.	28				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
1.536	RT.	28				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
1.588	RT.	26				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
1.598	LT.	28				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
1.870	LT.		26				2			ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
1.893	RT.		28				2			ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
1.928	LT.		28				2			ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
2.165	RT.	32				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
2.239	LT.	32				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
2.294	RT.		28				2			ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
2.649	RT.	28				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
2.677	RT.	26				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
2.722	LT.	26				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
3.261	LT.	38				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
3.355	LT.	38				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
3.531	RT.	26				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
3.938	RT.	26				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
3.975	LT.	26				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
4.236	RT.	26				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
4.658	LT.				30				2	ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
4.919	LT.				34				2	ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
4.919	RT.	30				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
5.138	RT.	32				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
6.639	RT.	30				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
6.701	RT.	36				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
6.838	RT.	42				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
6.878	LT.	25				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
7.098	RT.	33				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
7.099	LT.	33				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
7.138	LT.	32				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
7.139	RT.	35				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
7.398	LT.	34				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
7.458	RT.	30				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
8.057	LT.	30				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
8.378	RT.	30				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
8.658	LT.	27				2				ENTRANCE PIPE – NO DIRECT PAY FOR EXC.	
	TOTAL	1084	110	96	64	72	8	6	4		

PIPE MEASUREMENTS ARE APPROXIMATE. VERIFY BEFORE REPLACEMENT.

SUMMARY OF QUANTITIES  
SHEET 12 OF 13

[illegible]

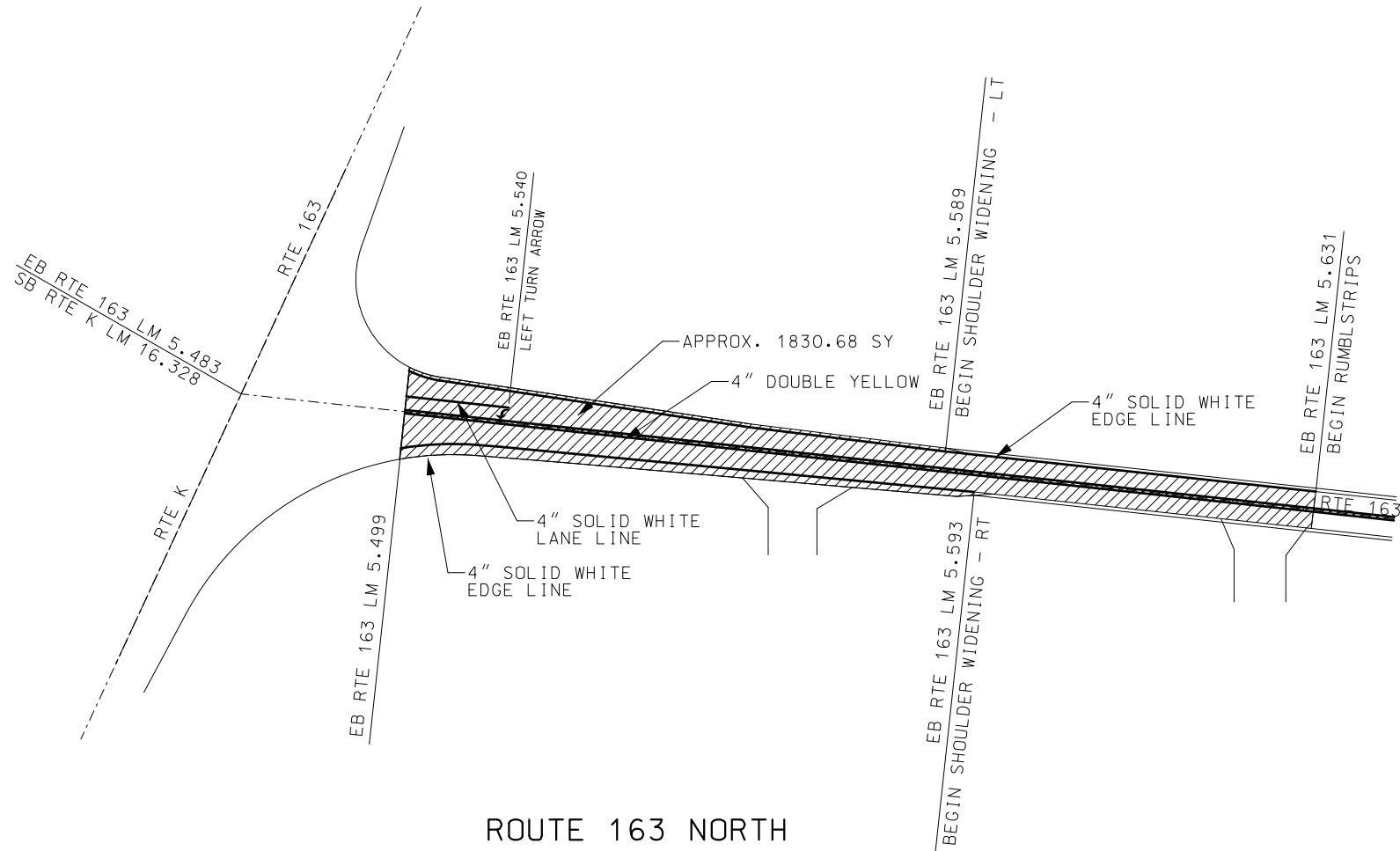




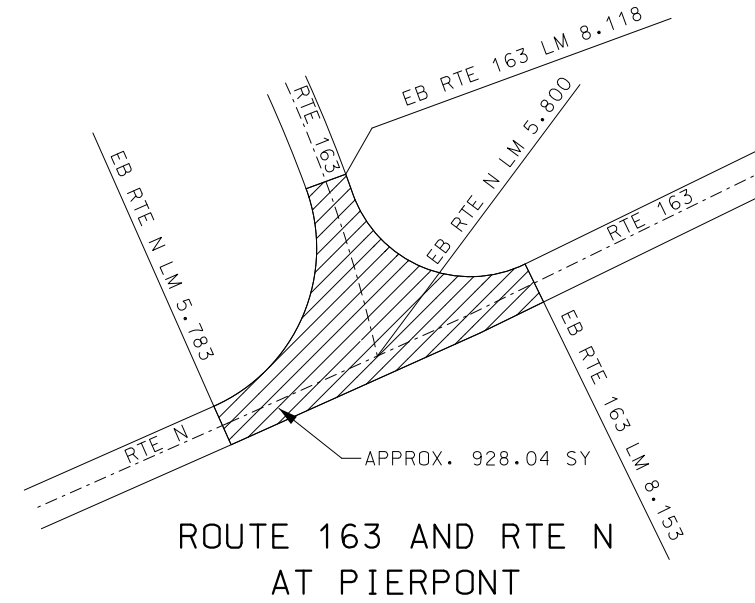
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SPECIAL SHEET  
INTERSECTION AREAS  
SHEET 1 OF 7

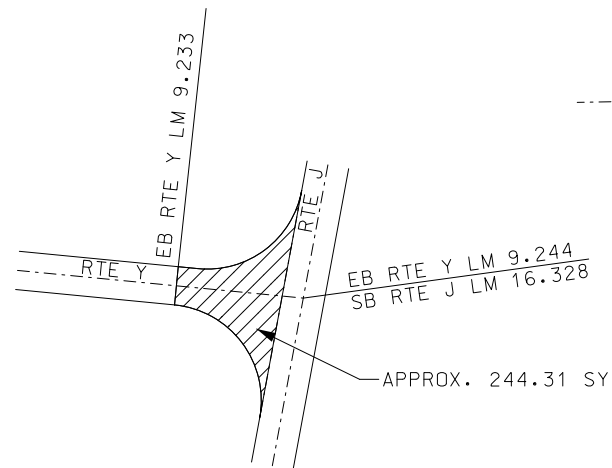
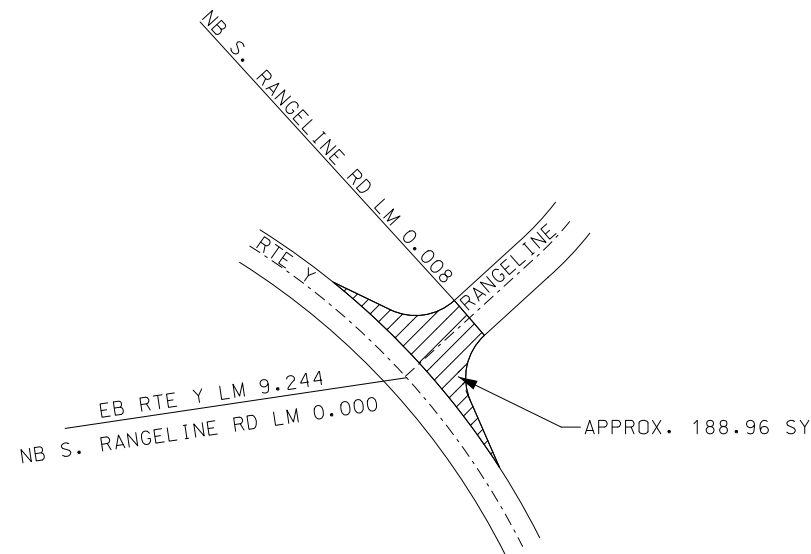
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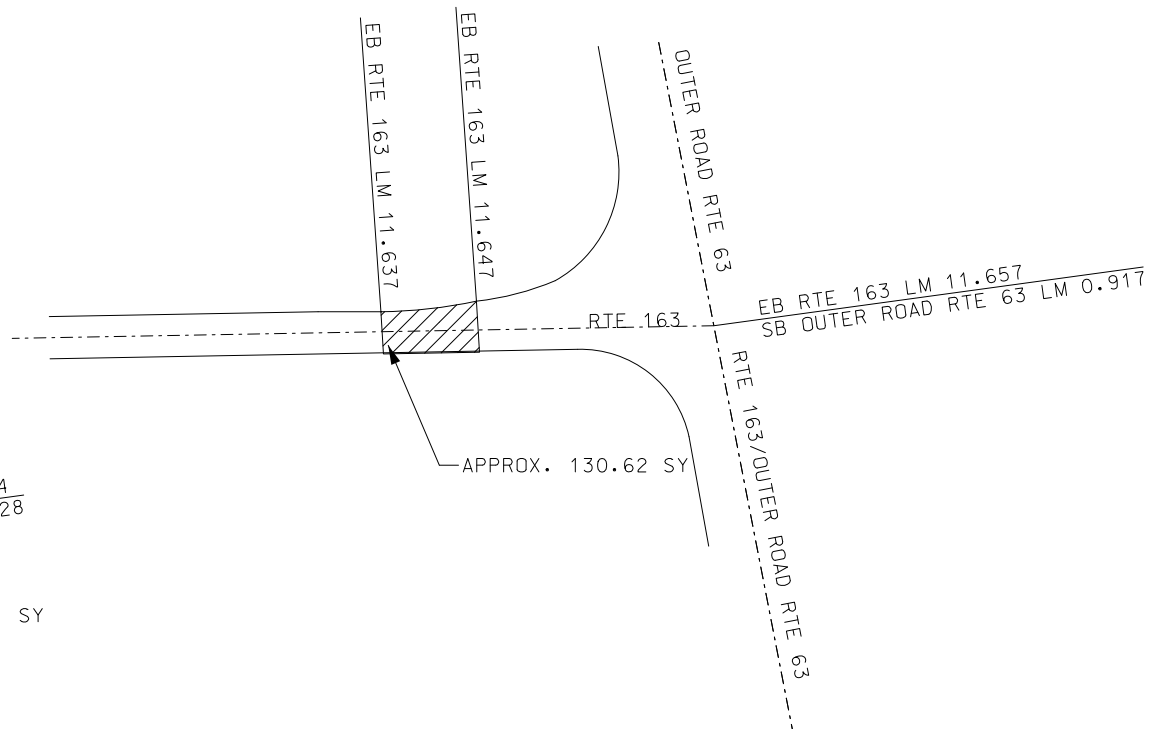
ROUTE 163 NORTH  
AT ROUTE K



ROUTE 163 AND RTE N  
AT PIERPONT

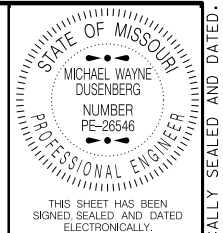


ROUTE Y EAST  
AT ROUTE J



NOT TO SCALE


SPECIAL SHEET  
INTERSECTION AREAS  
SHEET 2 OF 7



DATE PREPARED 8/22/2018	
ROUTE VARIOUS	STATE MO
DISTRICT CD	SHEET NO. 5
COUNTY BOONE/CALLAWAY	
JOB NO. J5S3257	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

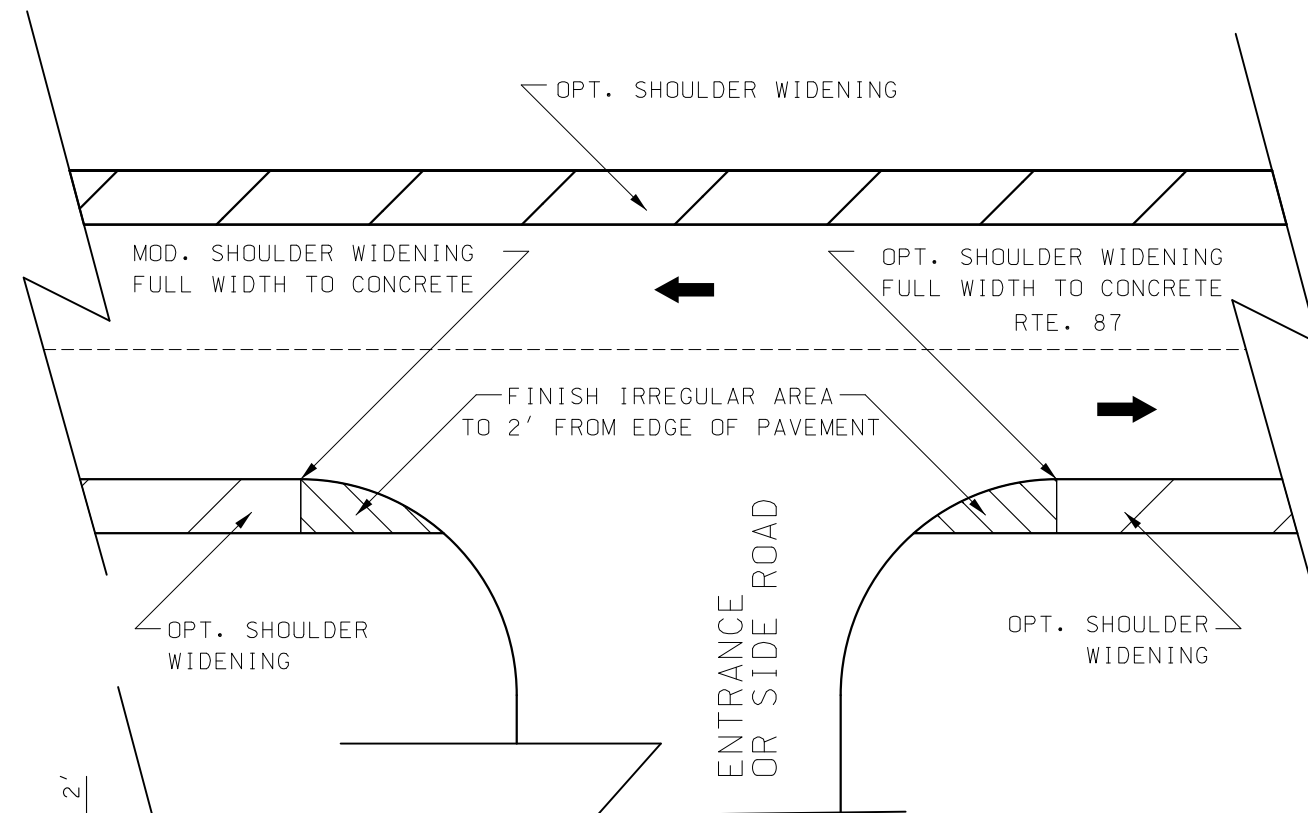
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION



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

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



DETAIL

OPTIONAL SHOULDER WIDENING  
CONSTRUCTION AT CONCRETE  
ENTRANCE OR SIDE ROAD

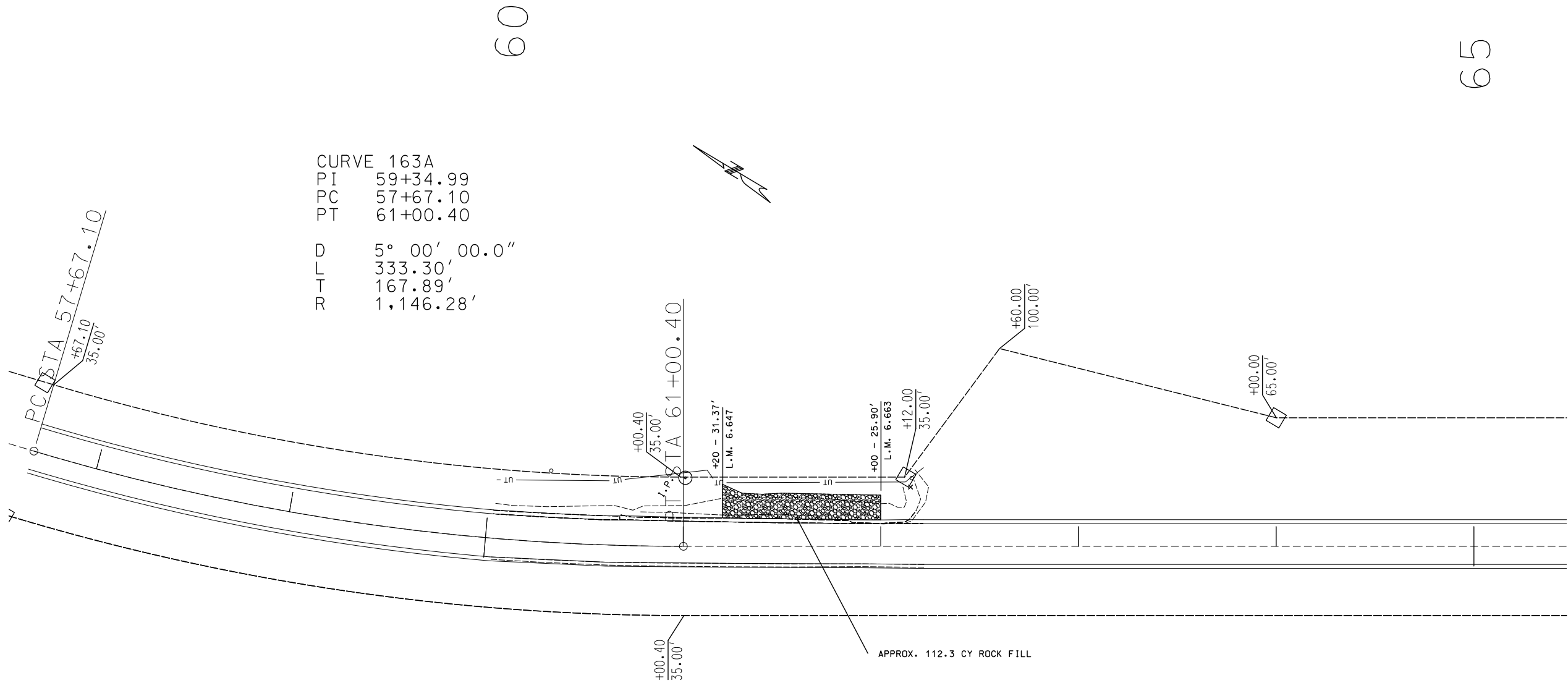


NOT TO SCALE

SPECIAL SHEET  
SHEET 3 OF 7



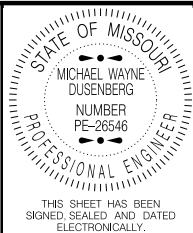
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CURVE 163A  
PI 59+34.99  
PC 57+67.10  
PT 61+00.40  
  
D 5° 00' 00.0"  
L 333.30'  
T 167.89'  
R 1,146.28'

NOT TO SCALE

SPECIAL SHEET  
ROCK FILL AREA  
SHEET 4 OF 7



DATE PREPARED 8/22/2018	
ROUTE VARIOUS	STATE MO
DISTRICT CD	SHEET NO. 7
COUNTY BOONE/CALLAWAY	
JOB NO. J5S3257	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION



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

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

64

65

66

67

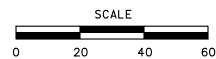
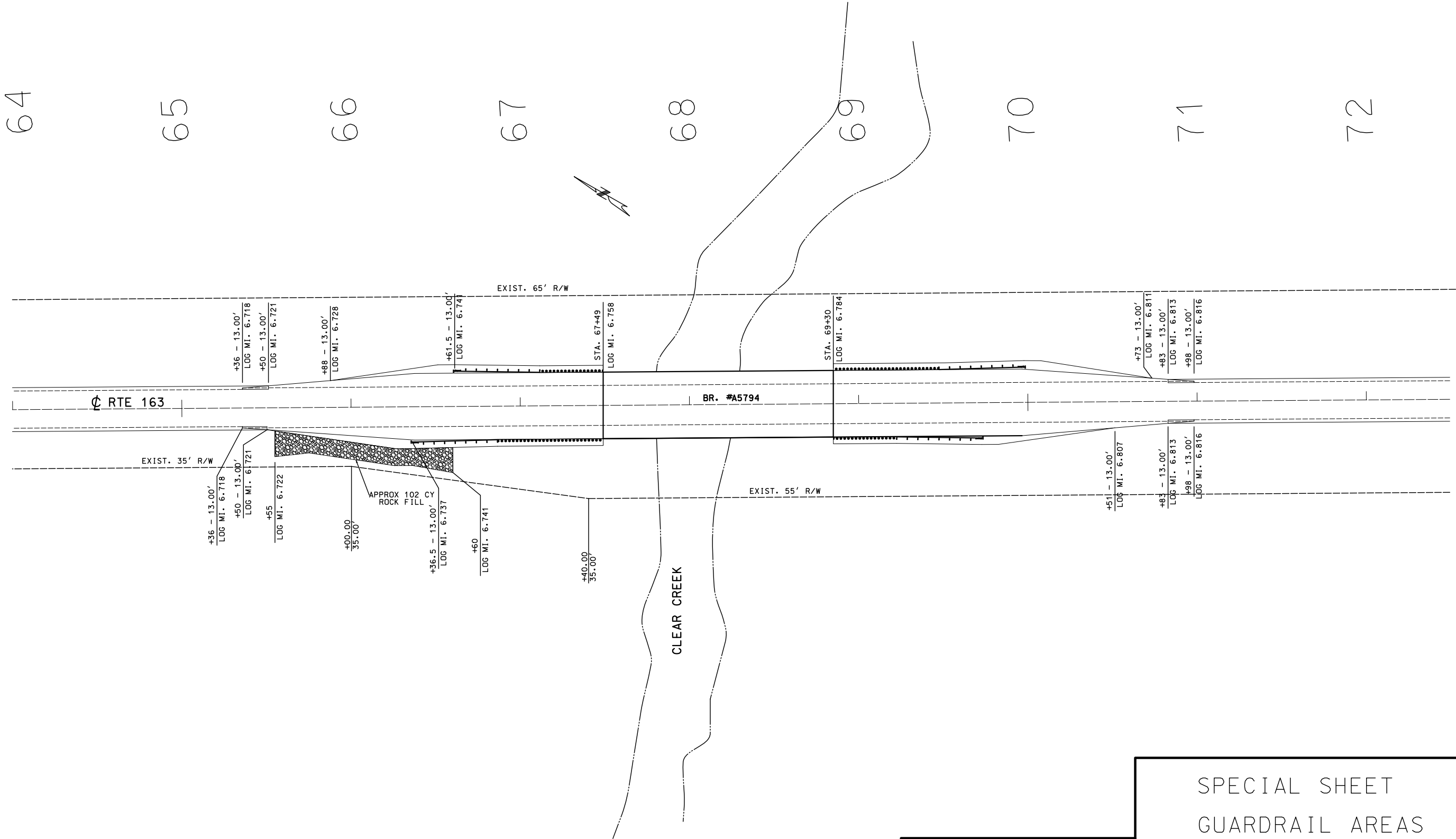
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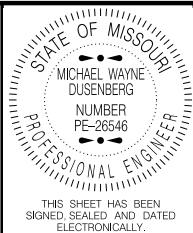
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71

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SPECIAL SHEET  
GUARDRAIL AREAS  
SHEET 5 OF 7



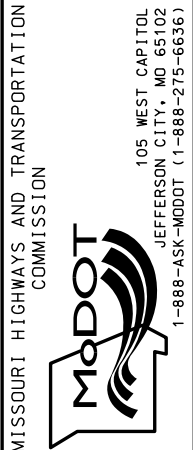
DATE PREPARED  
8/22/2018  
ROUTE  
VARIOUS  
DISTRICT  
CD  
STATE  
MO  
SHEET NO.  
8

COUNTY  
BOONE/CALLAWAY  
JOB NO.  
J5S3257  
CONTRACT ID.

PROJECT NO.

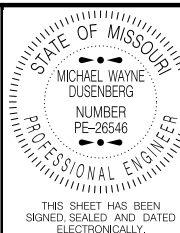
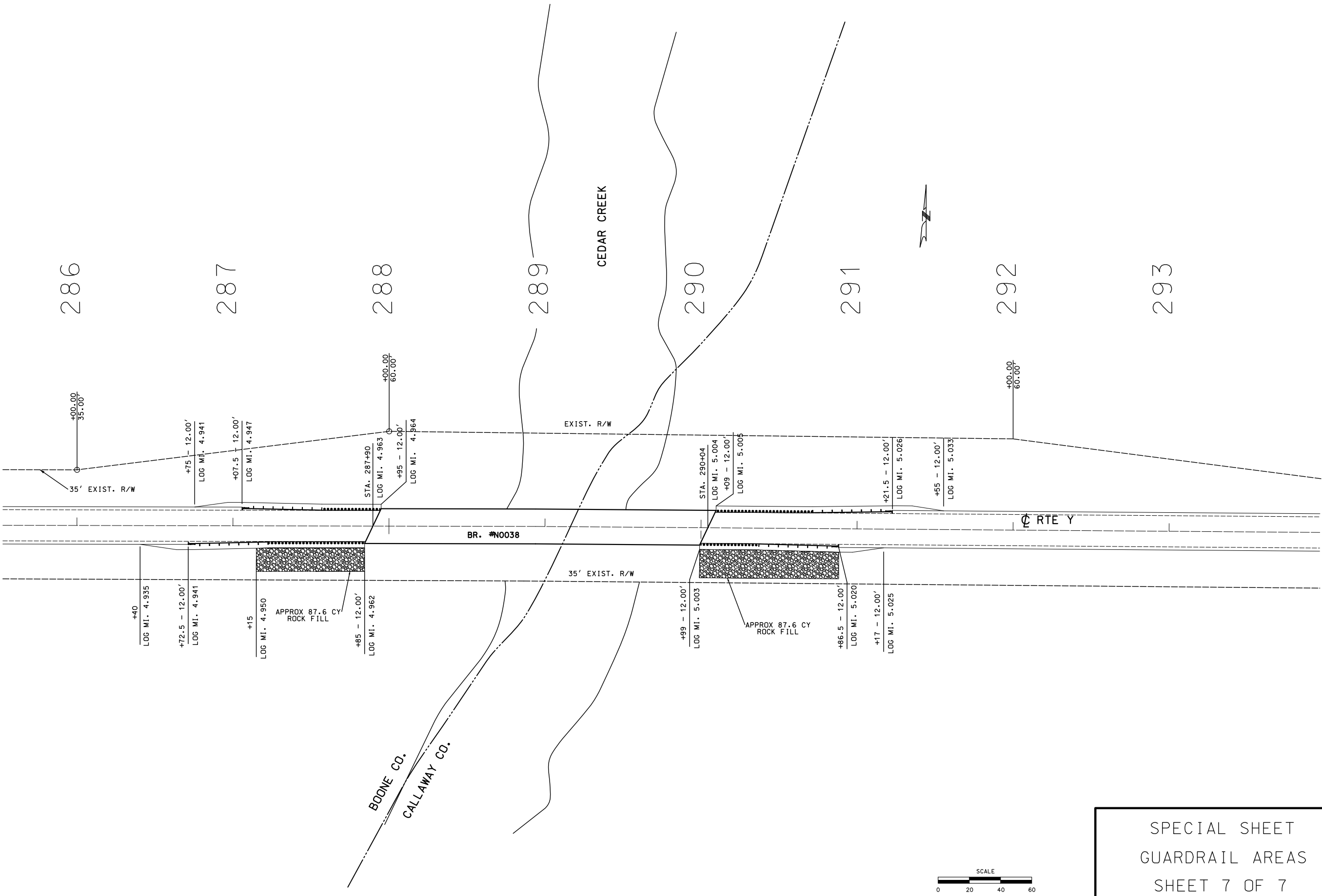
BRIDGE NO.

DATE	DESCRIPTION



IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.





DATE PREPARED  
8/22/2018

ROUTE STATE  
VARIOUS MO

DISTRICT SHEET NO.  
CD 10

COUNTY  
BOONE/CALLAWAY

JOB NO.  
J5S3257

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

**MoDOT**

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

SPECIAL SHEET  
GUARDRAIL AREAS  
SHEET 7 OF 7

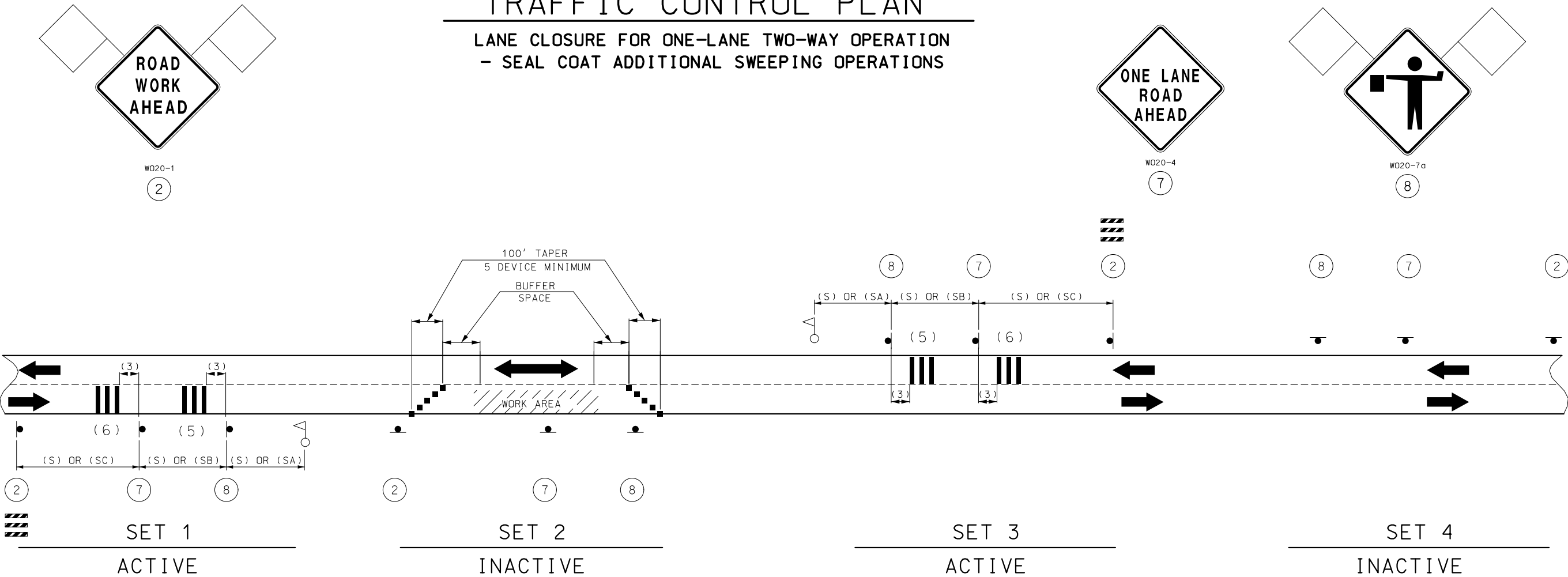
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.





TRAFFIC CONTROL PLAN

LANE CLOSURE FOR ONE-LANE TWO-WAY OPERATION  
- SEAL COAT ADDITIONAL SWEEPING OPERATIONS



SIGN SETS 1 AND 3 ARE ACTIVE (I.E., SIGNS FACE ONCOMING TRAFFIC) AND 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

||| - TEMPORARY SHORT TERM RUMBLE STRIPS

NOTES:

DAYLIGHT FLAGGING OPERATIONS ONLY.

FLAG ASSEMBLIES FOR SIGNS WILL BE PAID FOR AS EACH PER SIGN, EXCEPT FOR SIGN W020-7a WHICH IS SUBSIDIARY TO THE SIGN.

DIMENSIONS IN FEET UNLESS OTHERWISE NOTED.

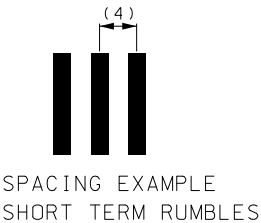
CHANNELIZING DEVICES LOCATED DOWNSTREAM OF THE ONE-LANE, TWO-WAY TAPER ARE OPTIONAL. THESE DEVICES SHOULD BE ELIMINATED WHEN THEIR USE WILL REDUCE THE USABLE LANE WIDTH, INCLUDING ANY ACCEPTABLE SHOULDERS, TO LESS THAN 10' OR WILL SIGNIFICANTLY AFFECT THE SHOULDERING OPERATION.

ADVANCED WARNING RAIL SYSTEM (AWRS) TO BE USED ON SIGN (2) ON THE ACTIVE SIGN SERIES.

PERMANENT POSTED SPEED LIMIT (MPH)	BUFFER SPACE LENGTH (FT)
0 - 35	280
40 - 45	400
50 - 55	560
60 - 70	840

TWO SETS OF RUMBLE STRIPS (5 & 6) MAY BE USED SIMULTANEOUSLY OR ONE SET OF RUMBLE STRIPS MAY BE USED. IF ONE SET OF RUMBLE STRIPS ARE USED, THE PREFERRED PLACEMENT IS AT LOCATION (5).

SHORT-TERM RUMBLE STRIPS		
SPEED MPH	DISTANCE (3)	SPACING (4)
0-45 (OPTIONAL)	120 FT	10 FT
50-55	160 FT	15 FT
60-70	200 FT	20 FT



SPEED	SIGN SPACING (FT.) (1)	
	NON-DIVIDED HIGHWAYS (S)	DIVIDED HIGHWAYS (S)
0-35	200	200
40-45	350	500
50-55	500	1000
60-70	1000	(SA)-1000 (SB)-1500 (SC)-2640

NOTES:

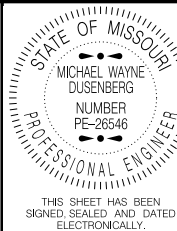
(1) SPACING BETWEEN SIGNS, BETWEEN LAST SIGN AND FLAGGER, BEGINNING OF TAPER OR SIGNED CONDITION.

SPACINGS MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- FLAGGER
- ||| ADVANCED WARNING RAIL SYSTEM (AWRS)

TRAFFIC CONTROL PLAN  
SHEET 3 OF 9



DATE PREPARED  
8/22/2018

ROUTE  
VARIOUS

STATE  
MO

DISTRICT  
CD

SHEET NO.  
13

COUNTY  
BOONE/CALLAWAY

JOB NO.  
J5S3257

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)

REV.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

TRAFFIC CONTROL PLAN

- TEMPORARY RUMBLES
- STATIONARY LANE CLOSURE WITH FLAGGER
- SHOULDER CLOSURE

SHORT-TERM RUMBLE STRIPS		
SPEED	DISTANCE (3)	SPACING (4)
0-45 MPH	120 FT	10 FT
50-55 MPH	160 FT	15 FT
60-70 MPH	200 FT	20 FT

W020-1

W020-4

W021-5b

W020-7a

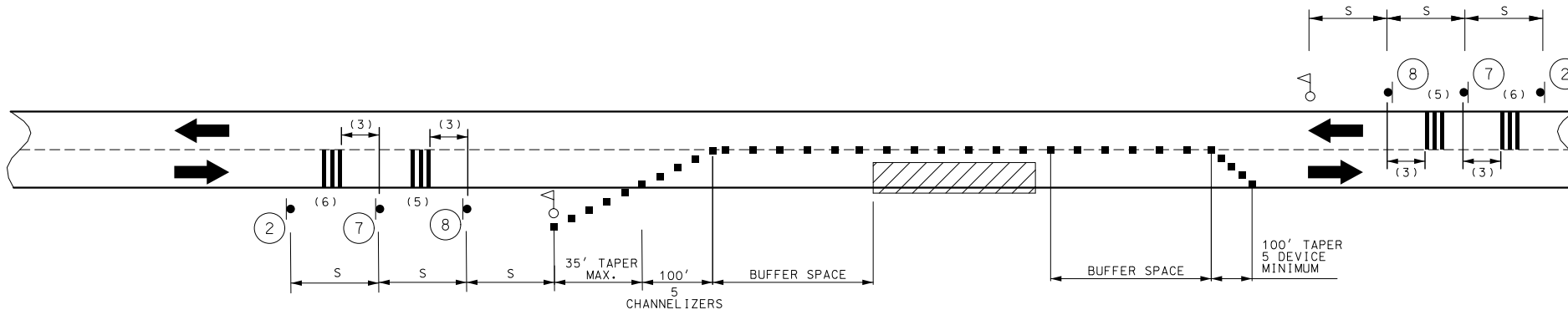
W05-1

W08-17P

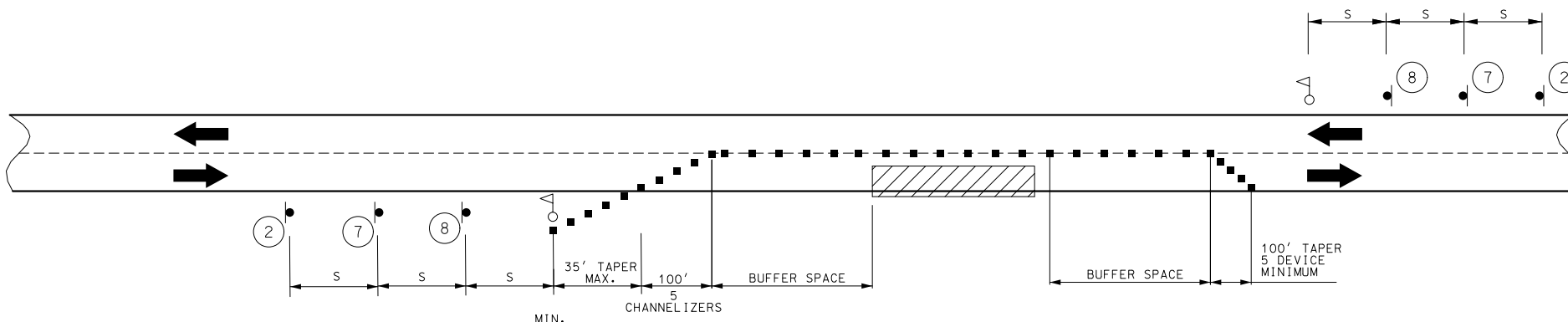
(2) SIGN 23a SHALL BE USED IN ADDITION TO THE SHOULDER DROP-OFF SIGN WHEN SHOULDER DROP-OFF SIGN IS IN PLACE FOR MORE THAN THREE DAYS.

TAPER LENGTHS AND SPACING OF CHANNELIZING DEVICES						
SPEED MPH (S)	MINIMUM TAPER LENGTHS				MAXIMUM CHANNELIZER SPACING	
	SHLDR (1) (T1)	LANE (T2) FOR LATERAL SHIFTS (W)				
			10 FT	11 FT	12 FT	THROUGH TAPER
0-35	70 FT	205 FT	225 FT	245 FT	35 FT	40 FT
40-45	150 FT	450 FT	495 FT	540 FT	40 FT	80 FT
50-55	185 FT	550 FT	605 FT	660 FT	50 FT	80 FT
60-70	235 FT	700 FT	770 FT	840 FT	60 FT	120 FT

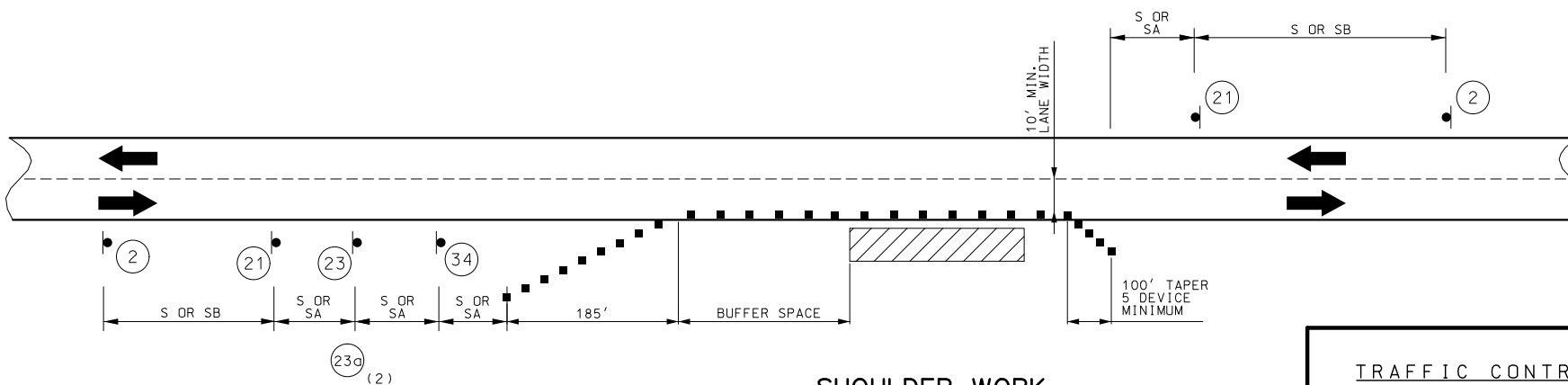
(1) SHOULDER TAPER LENGTH BASED ON 10 FT. (STANDARD SHOULDER WIDTH) OFFSET.



LANE CLOSURE ONE LANE TWO WAY  
OPERATION USING FLAGGERS & TEMPORARY RUMBLES



LANE CLOSURE ONE LANE TWO WAY OPERATION USING FLAGGERS



SHOULDER WORK

NOTES:  
SEE TRAFFIC CONTROL SHEET 2 FOR SIGN, DEVICE AND BUFFER SPACING.

SIGN (2) NOT NEEDED IF SHOULDER WORK IS LOCATED WITHIN THE LIMITS OF AN ACTIVITY AREA WHERE ANOTHER SIGN (2) IS ALREADY USED.

TRAFFIC CONTROL TYPICAL FOR BOTH DIRECTIONS OF TRAFFIC.

SHORT TERM TEMPORARY RUMBLE STRIPS SHALL BE ORANGE IN COLOR AND SHALL CONSIST OF 3 STRIPS.

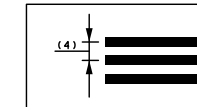
TWO SETS OF RUMBLE STRIPS (5 & 6) MAY BE USED SIMULTANEOUSLY OR ONE SET OF RUMBLE STRIPS MAY BE USED. IF ONE SET OF RUMBLE STRIPS ARE USED, THE PREFERRED PLACEMENT IS AT LOCATION (5).

FLAGGER

CHANNELIZERS

NOT TO SCALE

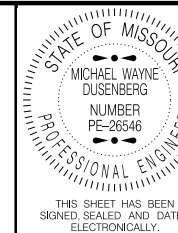
SHORT-TERM RUMBLE STRIPS SPACING EXAMPLE



TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- WORK ZONE
- TEMPORARY SHORT-TERM RUMBLE STRIPS

TRAFFIC CONTROL  
SHEET 4 OF 9



DATE PREPARED  
8/22/2018

ROUTE  
VARIOUS

STATE  
MO

DISTRICT  
CD

SHEET NO.  
14

COUNTY  
BOONE/CALLAWAY

JOB NO.  
J5S3257

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

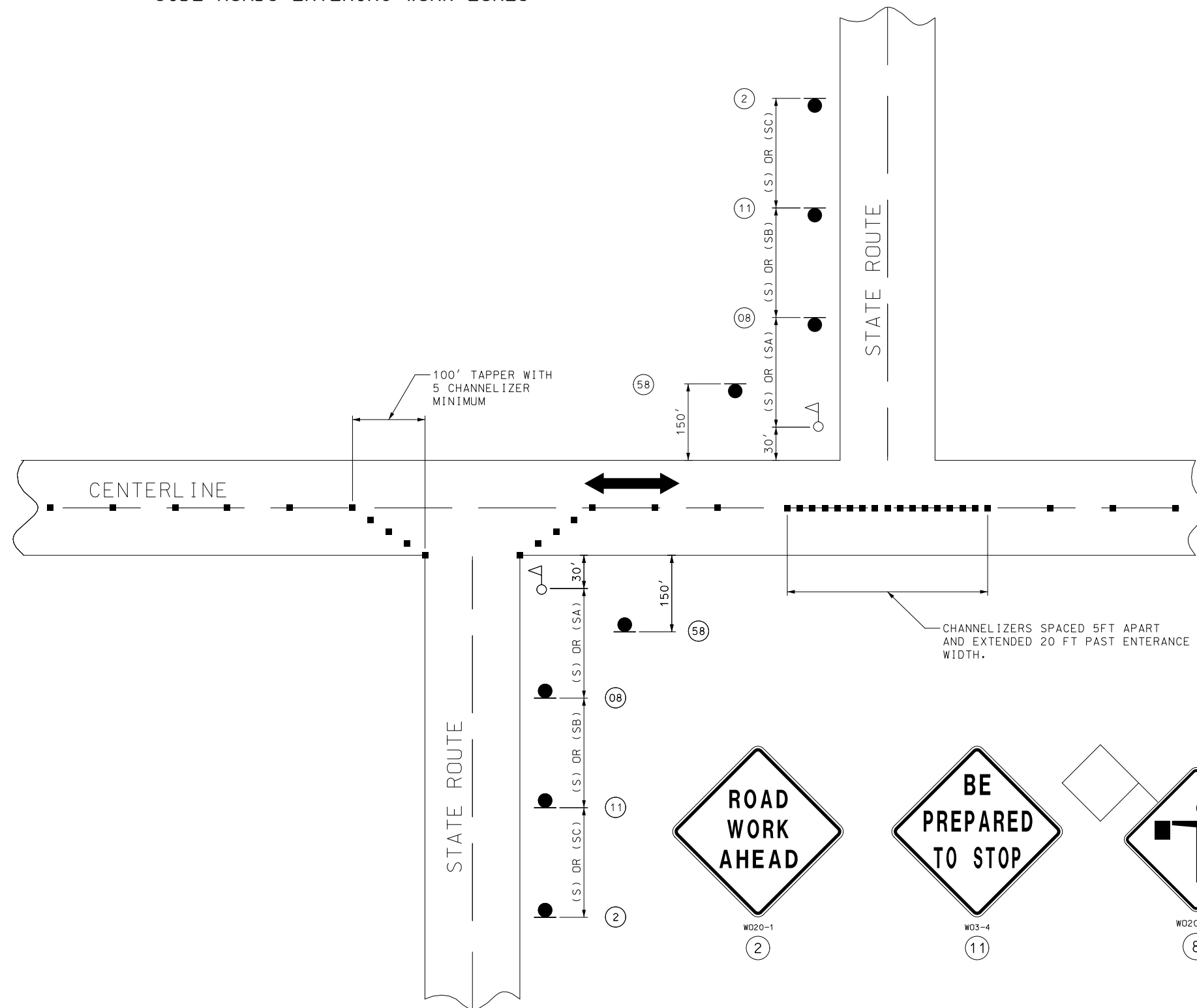
1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.

## TRAFFIC CONTROL PLAN

### SIDE ROADS ENTERING WORK ZONES



SPEED	SIGN SPACING (FT.)	
PERMANENT POSTED (MPH)	NON-DIVIDED HIGHWAYS (S)	DIVIDED HIGHWAYS (S)
0-35	200	200
40-45	350	500
50-55	500	1000
60-70	1000	(SA)-1000 (SB)-1500 (SC)-2640

DISTANCE MAY BE ADJUSTED ACCORDING TO 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. NO DIRECT PAY.

■ - CHANNELIZERS (AS SPECIFIED)

 - FLAGGER



G020-4c

(58)

SIGN 58, SHALL BE PLACED  
AT ALL SIDE ROADS WHEN IN  
USE DURING OPERATION.



SPECIAL

60

SIGN 60, TO BE USED IN  
PRIVATE DRIVEWAYS TO  
ENHANCE WORK ZONE SIGNING.  
SEE SPECIAL PROVISIONS.



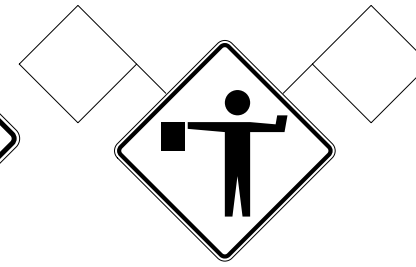
WQ20-1

②



W03-4




11



W020-7a

8

### TRAFFIC CONTROL LEGEND

- |   |                     |
|---|---------------------|
|  | SIGN (SINGLE SIDED) |
|  | CHANNELIZER         |
|  | FLAGGER             |

TRAFFIC CONTROL PLAN  
SHEET 5 OF 9

STATE OF MISSOURI

MICHAEL WAYNE  
DUSENBERG

NUMBER  
PE-26546

PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN  
SIGNED, SEALED AND DATED  
ELECTRONICALLY.

THIS SHEET HAS BEEN  
SIGNED, SEALED AND DATED  
ELECTRONICALLY.

DATE PREPARED  
8/22/2018

ROUTE	STATE
VARIOUS	MO

DISTRICT CD	SHEET NO. 15
----------------	-----------------

COUNTY  
BOONE/CALLAWAY

JOB NO.  
J5S3257


CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

IF A SEAL IS PRESENT ON \_\_\_\_\_



MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

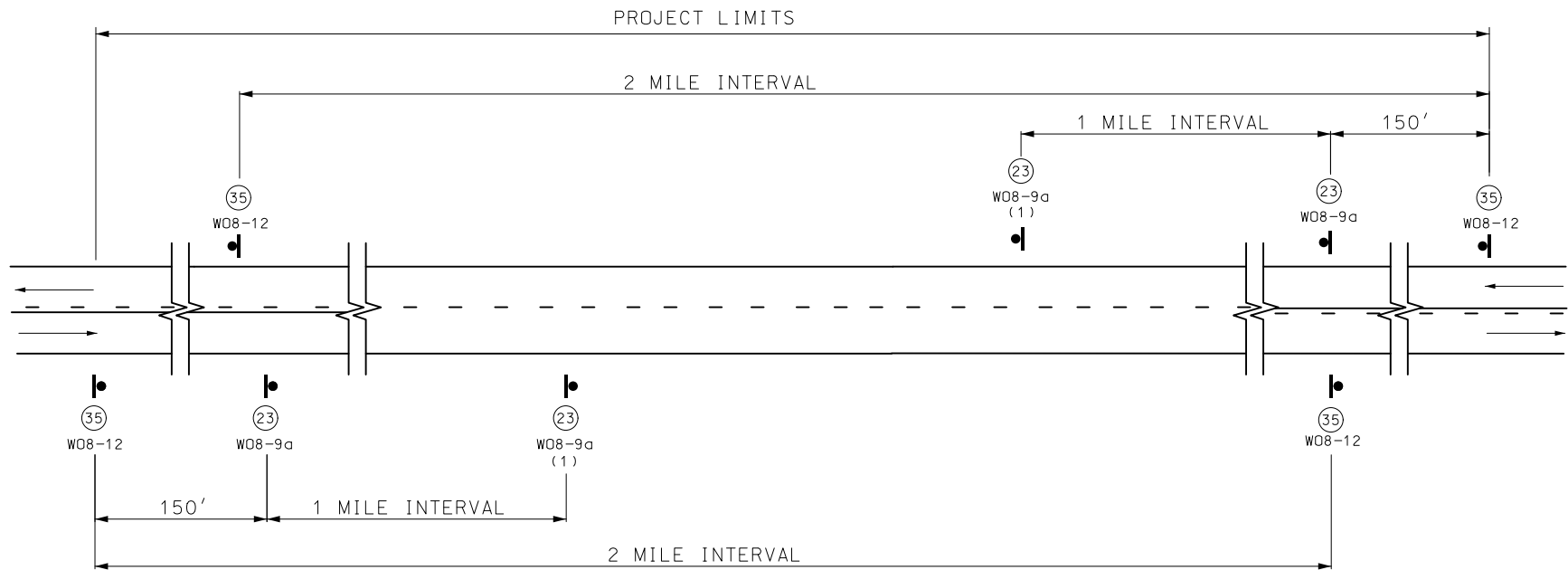
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

THESE RESULTS ARE IN ACCORD WITH THE FINDINGS OF OTHER STUDIES THAT HAVE SHOWN THAT THE USE OF A SINGLE-ENDED SCALE IS MORE APPROPRIATE FOR MEASURING PERCEIVED EFFORT THAN A DOUBLE-ENDED SCALE.

•

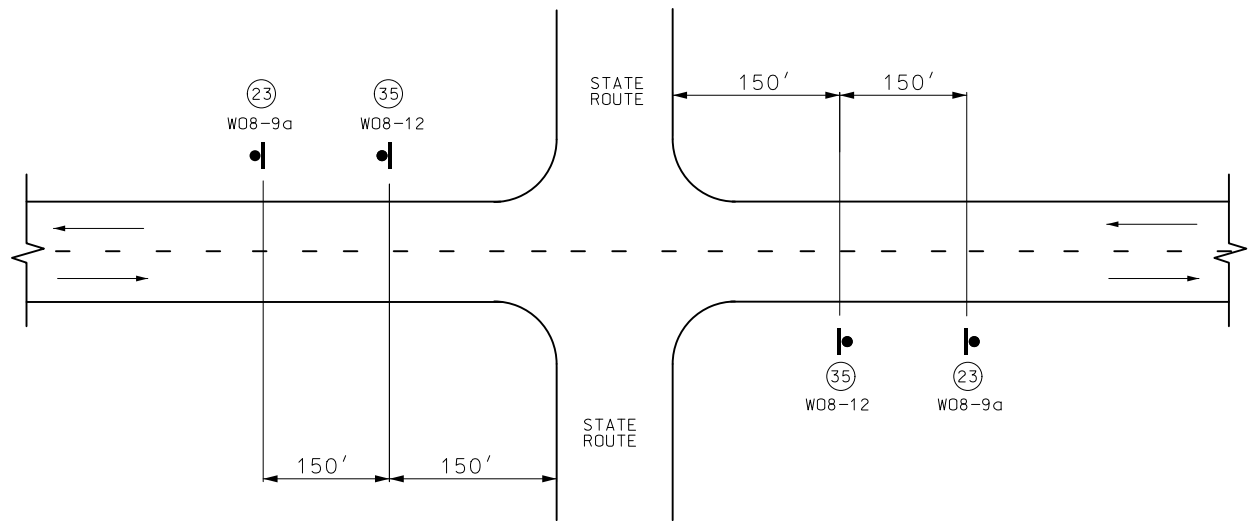
TRAFFIC CONTROL PLAN

NO CENTER LINE  
SHOULDER DROP-OFF



SIGN SPACING FOR MAINLINE

(DETAIL SHOWN IS BASED ON A PROJECT MEETING ALL CONDITIONS: NO CENTER STRIPE AND SHOULDER DROP OFF)  
(1) IF ONLY ONE CONDITION EXISTS (UNEVEN LANES OR SHOULDER DROP OFF), THE SIGN SPACING SHALL BE AT 1 MILE INTERVALS.



SIGN SPACING AT STATE ROUTE INTERSECTIONS



GENERAL NOTES:

FOR DETAILS OF TEMPORARY PAVEMENT MARKING SEE STANDARD PLAN 620.19.

SIGN 23 SHALL BE INSTALLED WHEN TRENCH FOR SHOULDER WIDENING HAS BEEN STARTED. SIGNS ARE TO REMAIN IN PLACE UNTIL THE TRENCH DEPTH IS  $\leq 2"$ .

SIGN 23 IS PLACED AT APPROXIMATELY ONE MILE INTERVALS AND AT STATE ROUTE JUNCTIONS. WHEN THE INSTALLATION AT A JUNCTION IS WITHIN ONE-HALF MILE OF THE NORMAL MAINLINE SIGN 23, THE LATTER MAY BE ELIMINATED.

SIGN 35 AND TEMPORARY PAVEMENT MARKING 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.

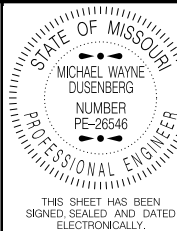
WHEN SHOULDER DROP-OFF SIGNS ARE IN PLACE FOR GREATER THAN THREE DAYS, THE SHOULDER DROP-OFF PLAQUE SHOULD BE USED IN ADDITION WITH THE SHOULDER DROP-OFF SIGN.

TRAFFIC CONTROL LEGEND

● SIGN (SINGLE SIDED)

TRAFFIC CONTROL PLAN  
SHEET 6 OF 9

NOT TO SCALE



DATE PREPARED  
8/22/2018

ROUTE  
VARIOUS

STATE  
MO

DISTRICT  
CD

SHEET NO.  
16

COUNTY  
BOONE/CALLAWAY

JOB NO.  
J5S3257

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

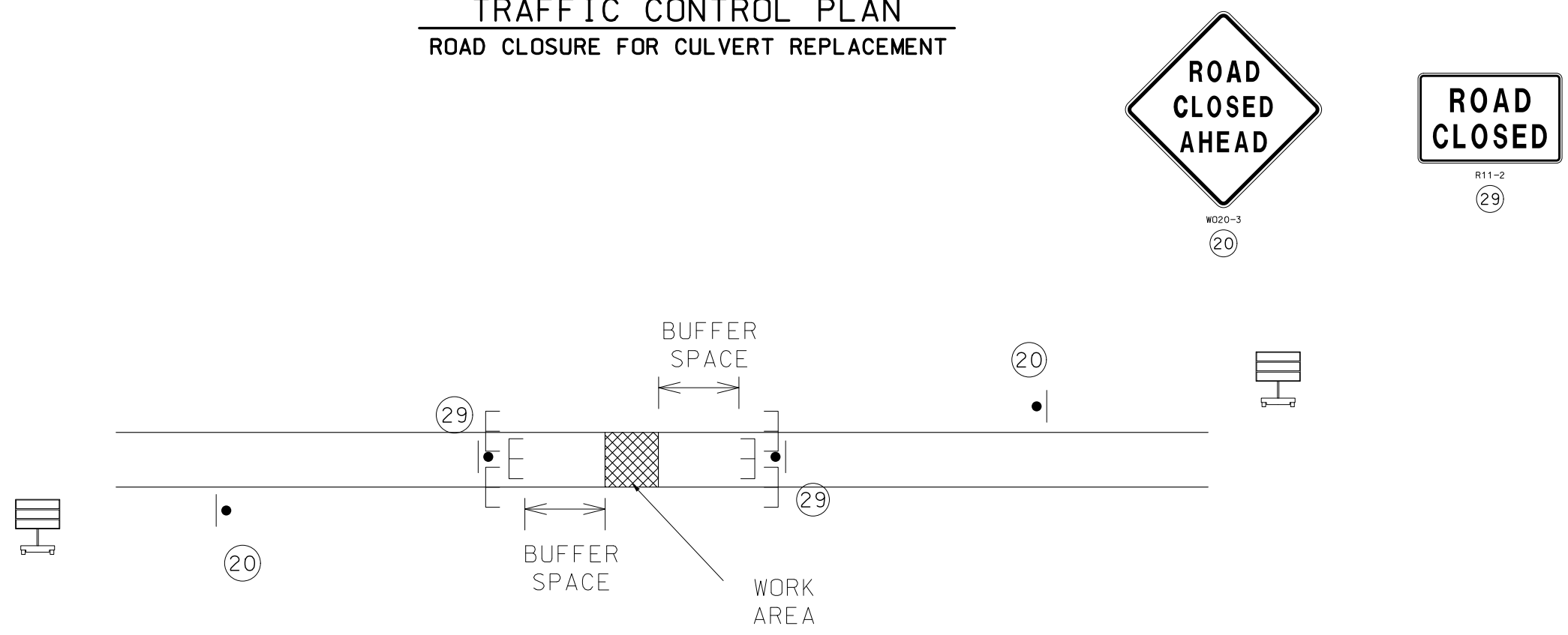
1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.



TRAFFIC CONTROL PLAN  
ROAD CLOSURE FOR CULVERT REPLACEMENT



NOTES:

CULVERT WORK TO BE COMPLETED AT ONE LOCATION AT A TIME TO FACILITATE TRAFFIC CONTROL.

SIGNS AND BARRICADES TO BE RELOCATED TO EACH NEW CULVERT REPLACEMENT AREA. NO DIRECT PAY FOR RELOCATIONS.

SEE TRAFFIC CONTROL SHEET 2 FOR BUFFER LENGTH AND SIGN SPACING.

CHANGEABLE MESSAGES SIGNS TO BE LOCATED AS APPROVED BY THE ENGINEER.

TRAFFIC CONTROL LEGEND

SIGN (SINGLE SIDED)

TYPE III MOVABLE BARRICADE WITH 2 TYPE B WARNING LIGHTS

CHANGEABLE MESSAGE SIGN (CMS)

TRAFFIC CONTROL PLAN  
SHEET 8 OF 9

STATE OF MISSOURI  
MICHAEL WAYNE DUSENBERG  
NUMBER PE-26546  
PROFESSIONAL ENGINEER  
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED  
8/22/2018

ROUTE  
VARIOUS

DISTRICT  
CD

STATE  
MO

SHEET NO.  
18

COUNTY  
BOONE/CALLAWAY

JOB NO.  
J5S3257

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

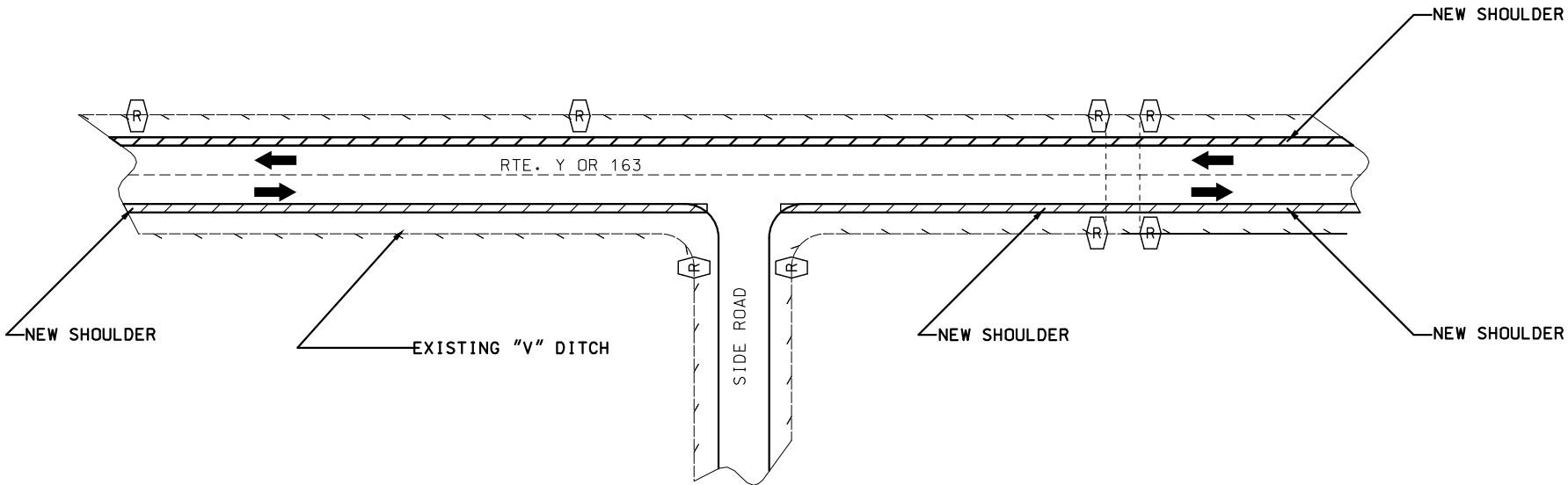
REV.

NOT TO SCALE



EROSION CONTROL – NEW SHOULDER CONSTRUCTION  
ROUTE Y & ROUTE 163

SEE EROSION CONTROL SHEET 2 FOR  
FOR DRAINAGE STRUCTURES

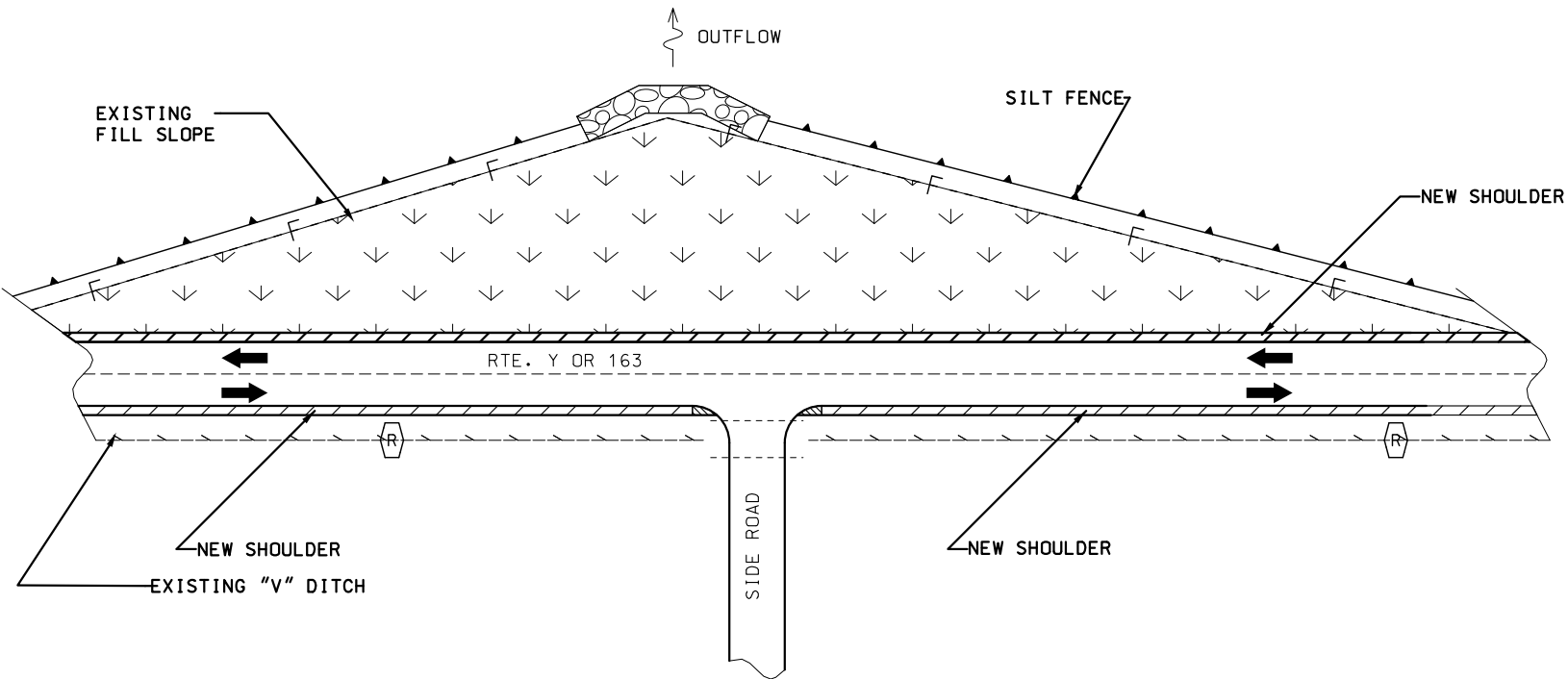


GENERAL NOTES:

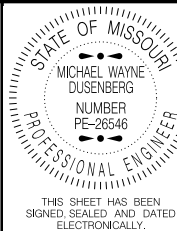
- 1) ALL TEMPORARY EROSION CONTROL MEASURES TO BE PLACED IN A LOCATION THAT PREVENTS SEDIMENT FROM ENTERING ANY STREAM OR FROM LEAVING THE RIGHT OF WAY. EXACT SIZE AND LOCATION OF ALL TEMPORARY EROSION CONTROL MEASURES TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
- 2) REFER TO JOB SPECIAL PROVISIONS AND STANDARD PLAN 806.10J FOR ALL TEMPORARY EROSION CONTROL MEASURES.

TEMPORARY EROSION CONTROL LEGEND

- ROCK DITCH CHECK
- SEDIMENT TRAP
- ALTERNATE DITCH CHECK (SEDIMENT LOG/WATTLE)
- SILT FENCE
- EXISTING FILL SLOPE
- EXISTING "V" DITCH
- EXISTING CULVERT
- EXISTING VEGETATION



NOT TO SCALE



DATE PREPARED  
8/22/2018

ROUTE STATE  
VARIOUS MO

DISTRICT SHEET NO.  
CD 20

COUNTY  
BOONE/CALLAWAY

JOB NO.  
J5S3257

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

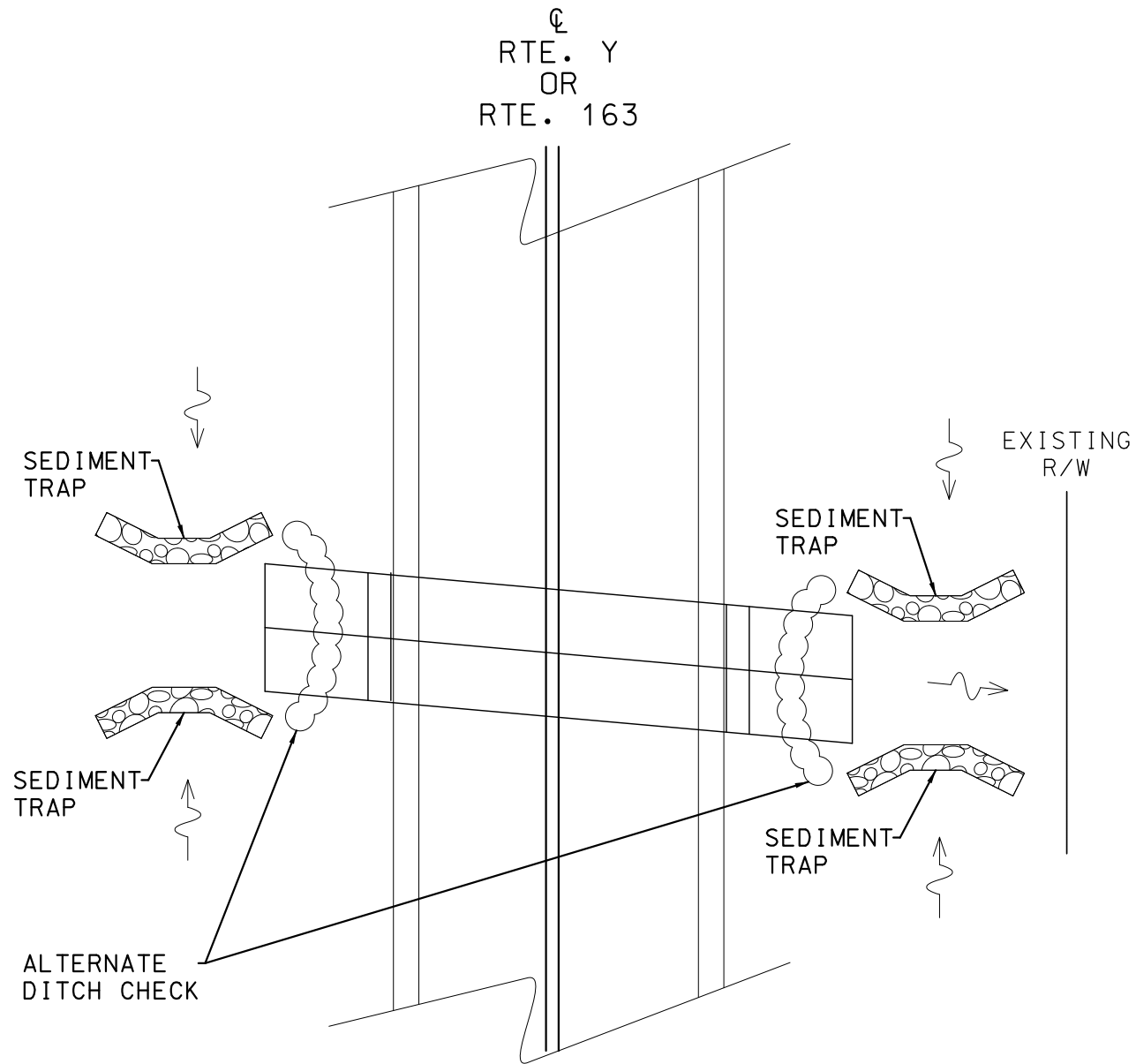
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

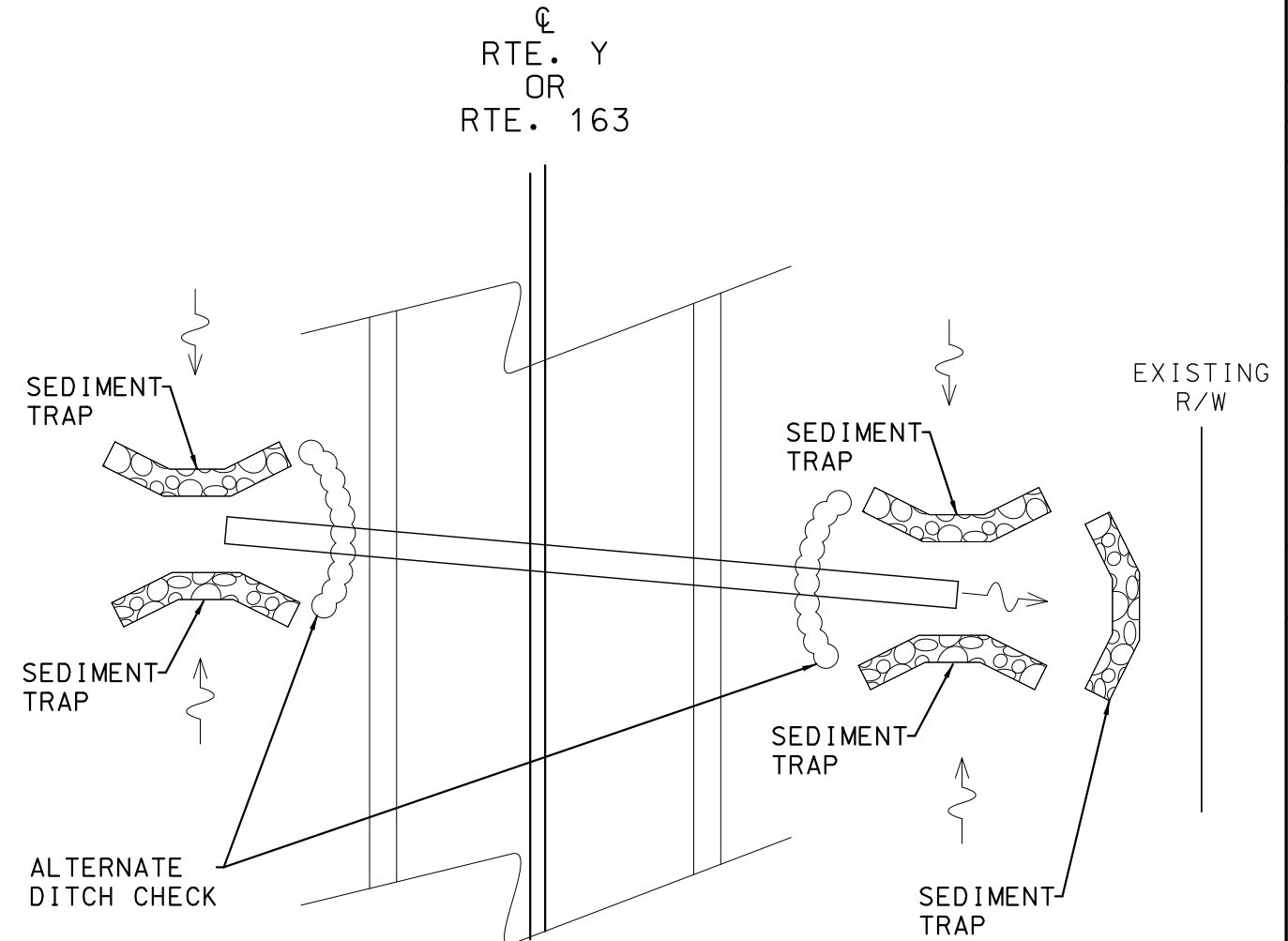
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

EROSION CONTROL - NEW SHOULDER CONSTRUCTION  
ROUTE Y & ROUTE 163



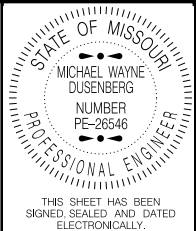
LARGE DRAINAGE  
STRUCTURE CROSSINGS  
PLACING DETAILS



SMALL DRAINAGE  
STRUCTURE CROSSINGS  
PLACING DETAILS

NOT TO SCALE

EROSION CONTROL  
SHEET 2 OF 2



DATE PREPARED
8/22/2018

ROUTE	STATE
VARIOUS	MO

VARIOUS	MU
DISTRICT	SHEET NO.
CD	21

COUNTY  
BOONE /CALL AWAY

JOB NO.


J5S3257

CONTRACT ID.
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PROJECT NO.
-------------

PROJECT NO.

BRIDGE NO.
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[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

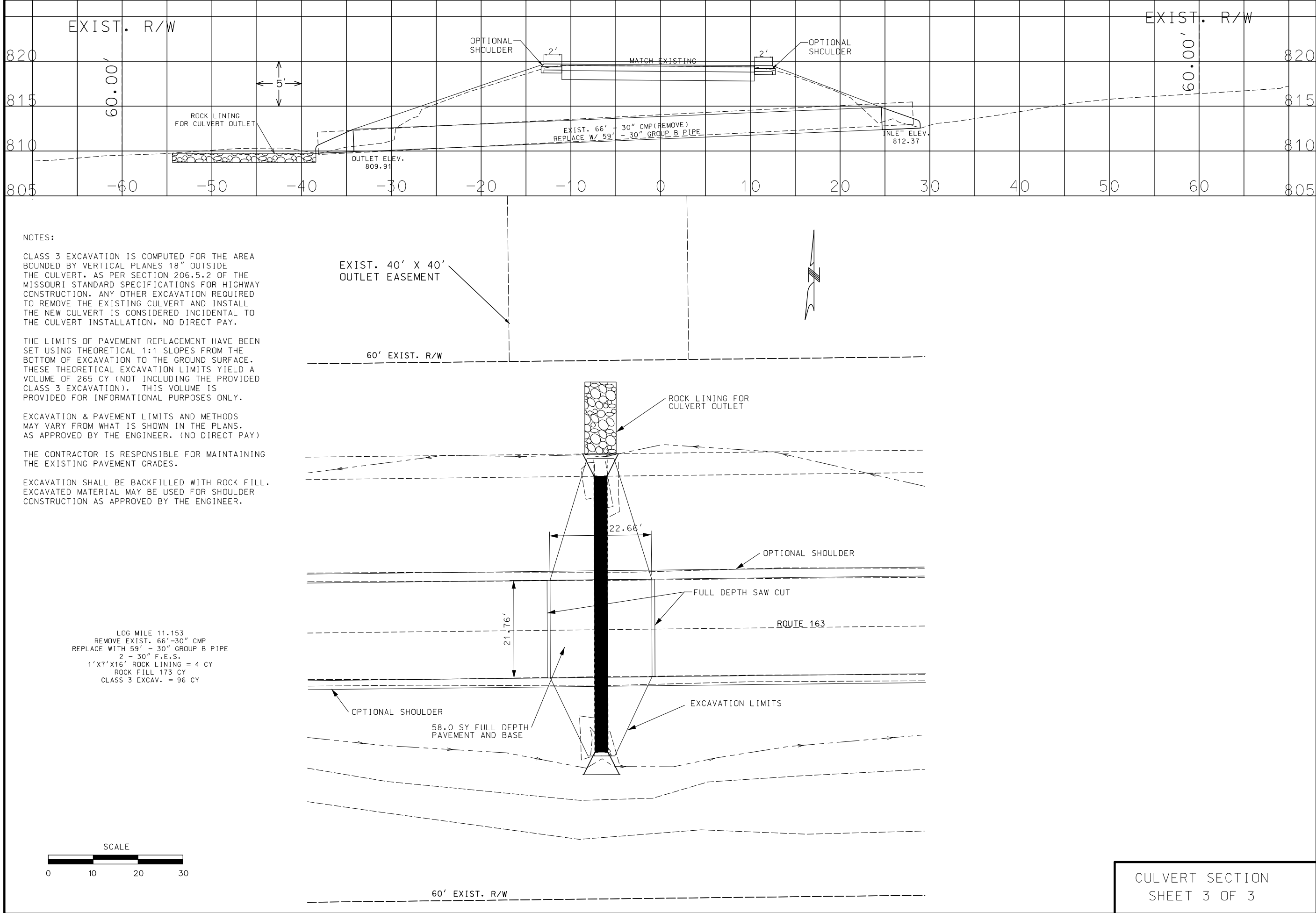
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-273-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.







NOTES:

CLASS 3 EXCAVATION IS COMPUTED FOR THE AREA BOUNDED BY VERTICAL PLANES 18" OUTSIDE THE CULVERT, AS PER SECTION 206.5.2 OF THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. ANY OTHER EXCAVATION REQUIRED TO REMOVE THE EXISTING CULVERT AND INSTALL THE NEW CULVERT IS CONSIDERED INCIDENTAL TO THE CULVERT INSTALLATION, NO DIRECT PAY.

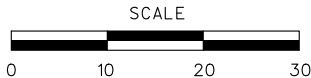
THE LIMITS OF PAVEMENT REPLACEMENT HAVE BEEN SET USING THEORETICAL 1:1 SLOPES FROM THE BOTTOM OF EXCAVATION TO THE GROUND SURFACE. THESE THEORETICAL EXCAVATION LIMITS YIELD A VOLUME OF 265 CY (NOT INCLUDING THE PROVIDED CLASS 3 EXCAVATION). THIS VOLUME IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

EXCAVATION & PAVEMENT LIMITS AND METHODS MAY VARY FROM WHAT IS SHOWN IN THE PLANS, AS APPROVED BY THE ENGINEER. (NO DIRECT PAY)

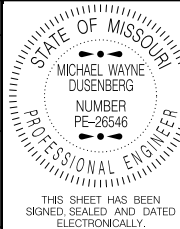
THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE EXISTING PAVEMENT GRADES.

EXCAVATION SHALL BE BACKFILLED WITH ROCK FILL. EXCAVATED MATERIAL MAY BE USED FOR SHOULDER CONSTRUCTION AS APPROVED BY THE ENGINEER.

LOG MILE 11.153  
REMOVE EXIST. 66'-30" CMP  
REPLACE WITH 59' - 30" GROUP B PIPE  
2 - 30" F.E.S.  
1'X7'X16' ROCK LINING = 4 CY  
ROCK FILL 173 CY  
CLASS 3 EXCAV. = 96 CY



CULVERT SECTION  
SHEET 3 OF 3



DATE PREPARED  
8/22/2018

ROUTE VARIOUS STATE MO

DISTRICT CD SHEET NO. 24

COUNTY BOONE/CALLAWAY

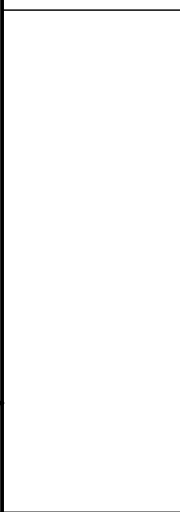
JOB NO. J5S3257  
CONTRACT ID.

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)



IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

U.I.P. & REHAB. EXISTING (40'-52'-40') CONTINUOUS COMPOSITE WIDE FLANGE BEAM SPANS (27°00'00" L.A.)

SEC/SUR 7 TWP 47N RGE 12W



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 8/17/2018

ROUTE 163 STATE MO

DISTRICT BR SHEET NO. 1

COUNTY BOONE

JOB NO. J5S3257

CONTRACT ID.

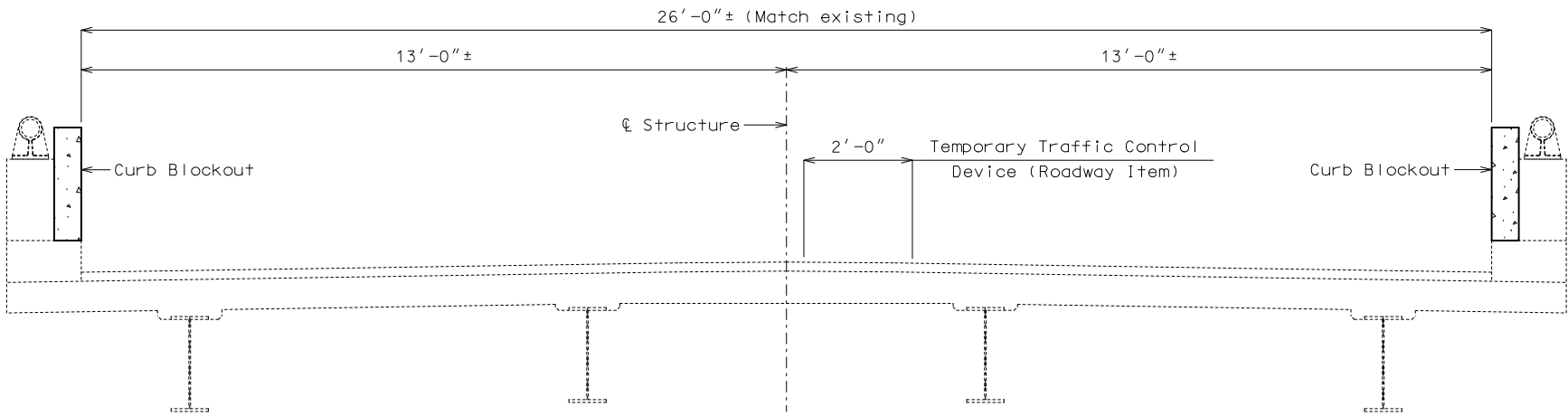
PROJECT NO.

BRIDGE NO. A18031

DESCRIPTION	DATE

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

Item	Total
Curb Blockout linear foot	268



TYPICAL SECTION THRU SLAB

GENERAL NOTES:

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

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

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

All curb blockout reinforcement shall be epoxy coated.

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

Resin Anchors:  
The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.  
  
The minimum embedment depth in concrete with  $f'c = 4,000$  psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

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

Cost of furnishing and installing the resin anchor system complete in place will be considered completely covered by the contract unit price for Curb Blockout.

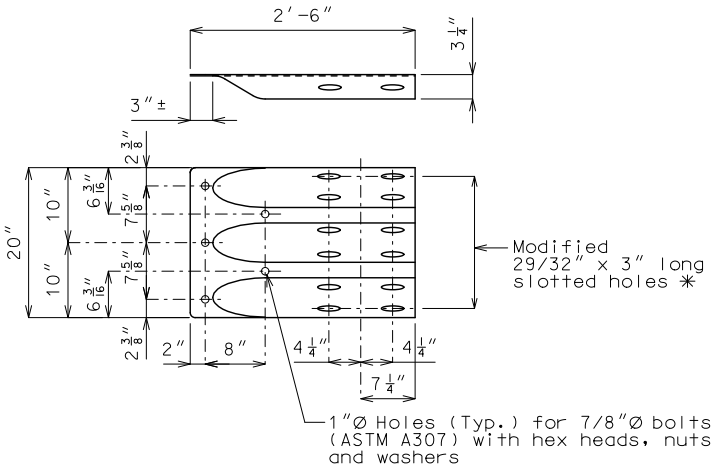
Miscellaneous:  
Maintain traffic on structure during construction.  
See Roadway plans for traffic control.

All exposed edges of curb blockout shall have either a 1/2" radius or a 3/8" bevel unless otherwise shown.

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

Contractor shall verify all dimensions in field before ordering new material.

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



\* Tighten bolts, back off 1/2 turn and burr threads.  
Allow for sliding between Modified Bridge Anchor Section and End Post.

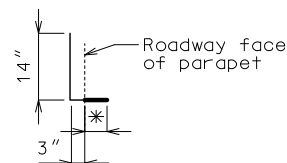
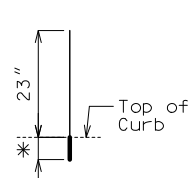
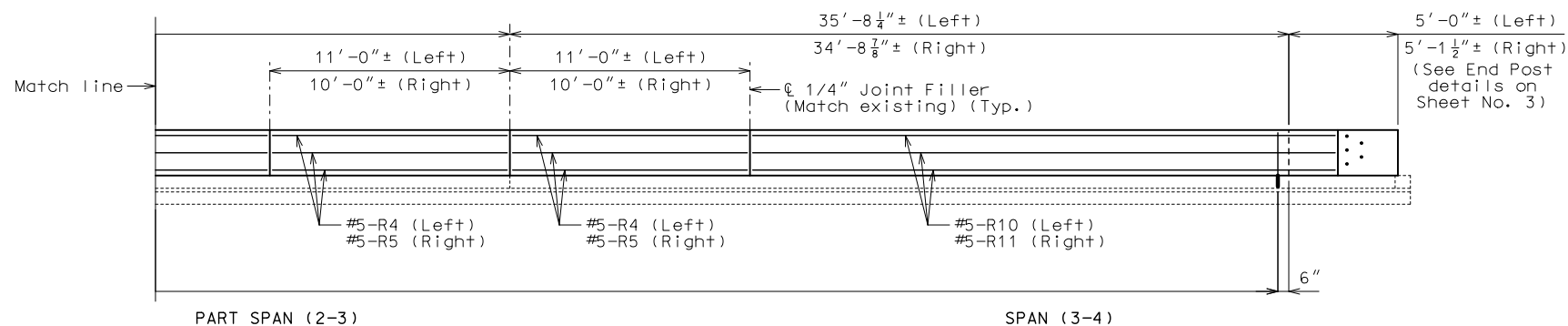
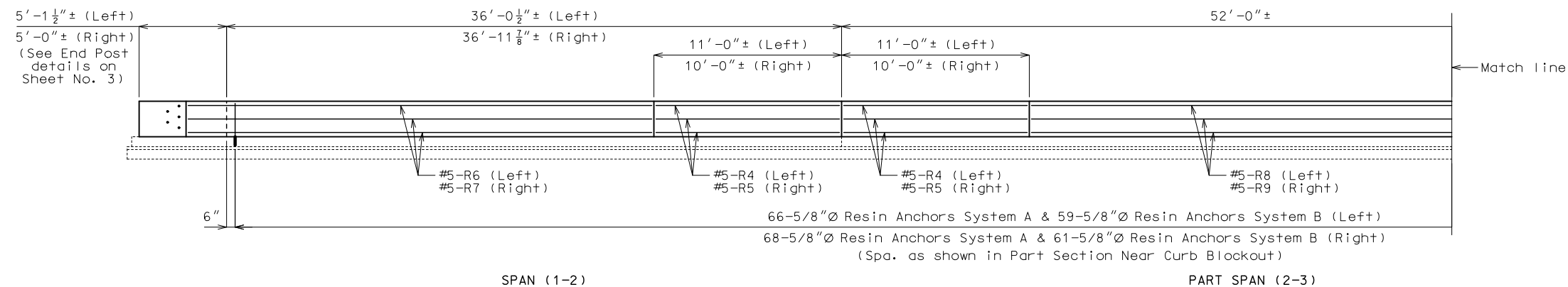
MODIFIED TERMINAL CONNECTION  
AT END BENT NO. 4 (ROADWAY ITEM)

Estimated Quantities	
Item	Total
Curb Blockout linear foot	268

REPAIRS TO BRIDGE:  
ROUTE 163 OVER GANS CREEK

ROUTE 163 FROM ROUTE K TO ROUTE N  
ABOUT 1.1 MILES NORTH OF ROUTE N  
BEG. STA. 79+50.50± (Match Existing)

STD. 606.60
STD. 617.10
STD. 706.35



RESIN ANCHOR  
SYSTEM A  
(150 req'd)  
(Install in curb)

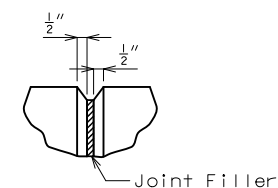
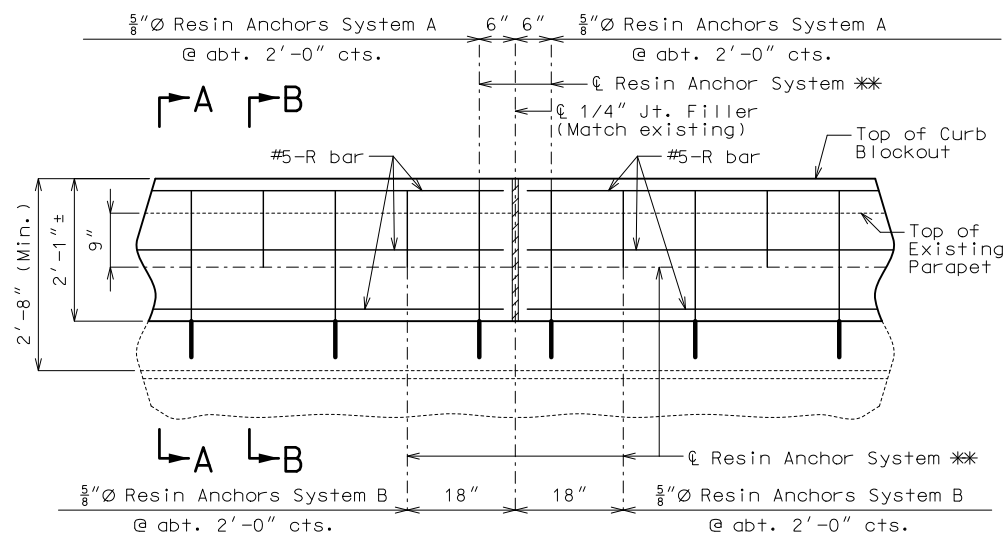
RESIN ANCHOR  
SYSTEM B  
(120 req'd)  
(Install in parapet)

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

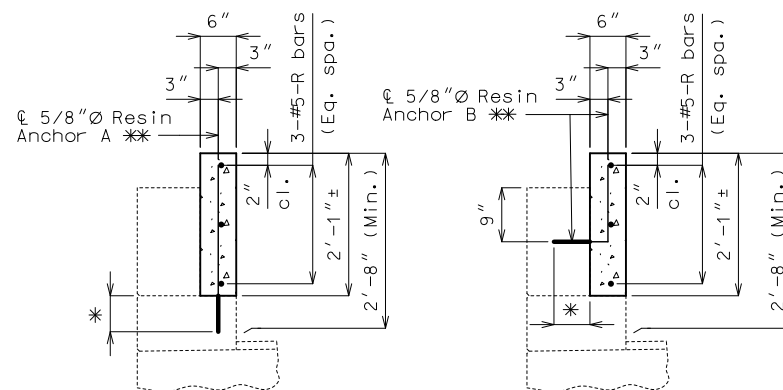
Bridge rail not shown for clarity.

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

## DETAILS OF RESIN ANCHORS



FILLED JOINT DETAIL



Notes:  
Concrete in curb blockout shall be Class B-1 with  $f'_c = 4000$  psi.

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

All exposed edges of curb blockout shall have 1/2" radius or 3/8" bevel unless otherwise shown.

Payment for concrete, reinforcing steel, resin anchor systems, and any other work incidental to the curb blockout, complete in place, will be included in the contract unit price for Curb Blockout per linear foot.

Cost of any concrete curb or parapet repair will be included in the contract unit price for Curb Blockout.

All curb blockout reinforcement shall be epoxy coated.

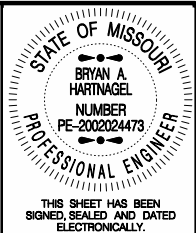
\*\*\* Shift resin anchors where necessary to clear existing anchor bolts for bridge rail, miss curb outlets (if present) and clear existing reinforcement.

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

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

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

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



DATE PREPARED  
8/17/2018

ROUTE 163	STATE MO
DISTRICT BR	SHEET NO. 2

COUNTY  
BOONE

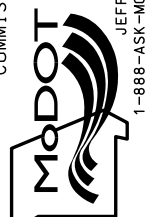
JOB NO.  
J5S3257

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
A18031[illegible]

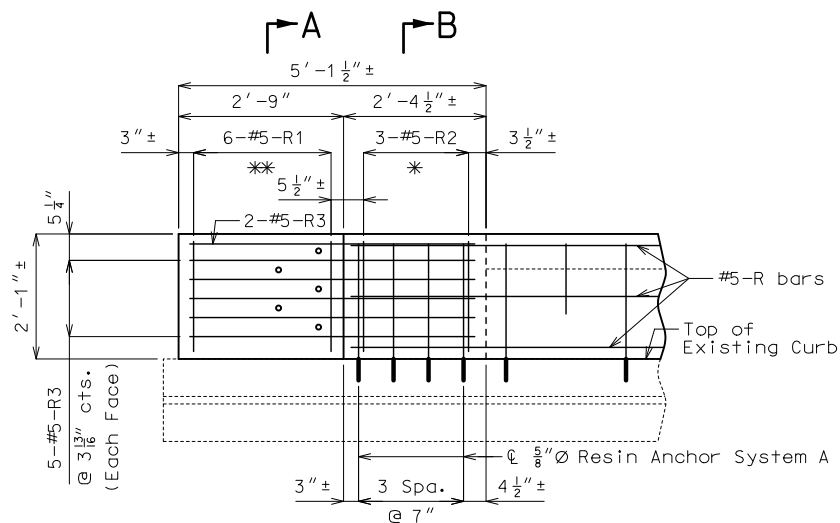
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

Detailed July 2018  
Checked July 2018

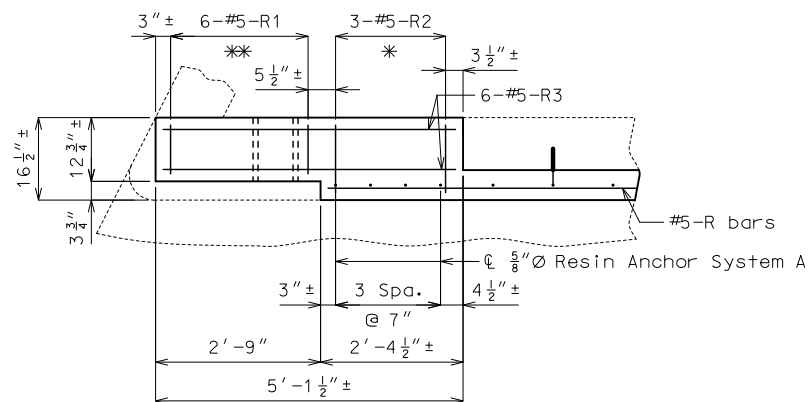
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 2 of 4

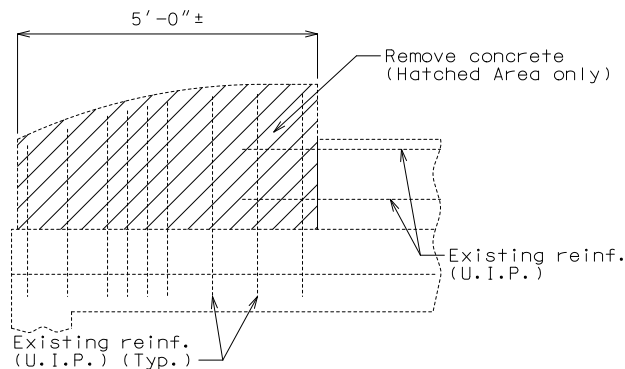
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



ELEVATION SHOWING LEFT (NE) END POST  
AT EXISTING END BENT NO. 1  
(Right (SW) End Post at End Bent No. 4 similar)



PLAN SHOWING LEFT (NE) END POST  
AT EXISTING END BENT NO. 1



PART ELEVATION SHOWING END POST  
CONCRETE REMOVAL

Notes:

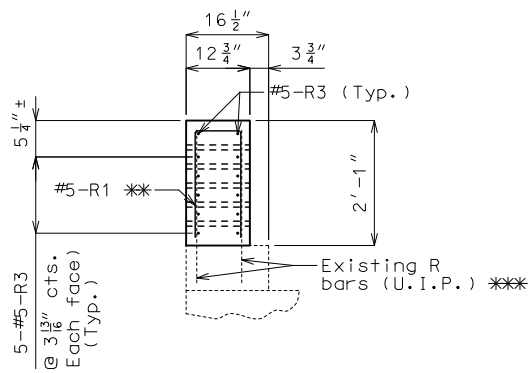
Cost of removing existing end posts will be considered completely covered by the contract unit price for Curb Blockout.

Cut existing R bars to clear top of new end post by at least 1 1/2".

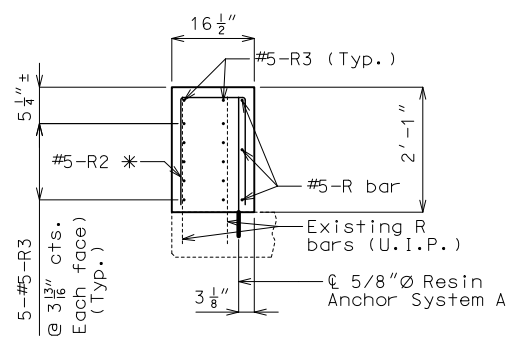
\* Spaced with existing R bars

\*\* Spaced with existing R bars, with additional bars at about 5 1/2" cts. Shift new R bars as required to miss 1"Ø holes. Bend existing R bars as required to miss 1"Ø holes.

\*\*\* At the discretion of the engineer, additional resin anchors may be used at roadway face of end post if existing R bars have deteriorated.



SECTION A-A



SECTION B-B

Notes:

All exposed edges of curb blockout shall have 1/2" radius or 3/8" bevel unless otherwise shown.

Payment for concrete, reinforcing steel, resin anchor systems, and any other work incidental to the curb blockout, complete in place, will be included in the contract unit price for Curb Blockout per linear foot.

Cost of any concrete curb or parapet repair will be included in the contract unit price for Curb Blockout.

All reinforcement shall be epoxy coated.

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

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

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

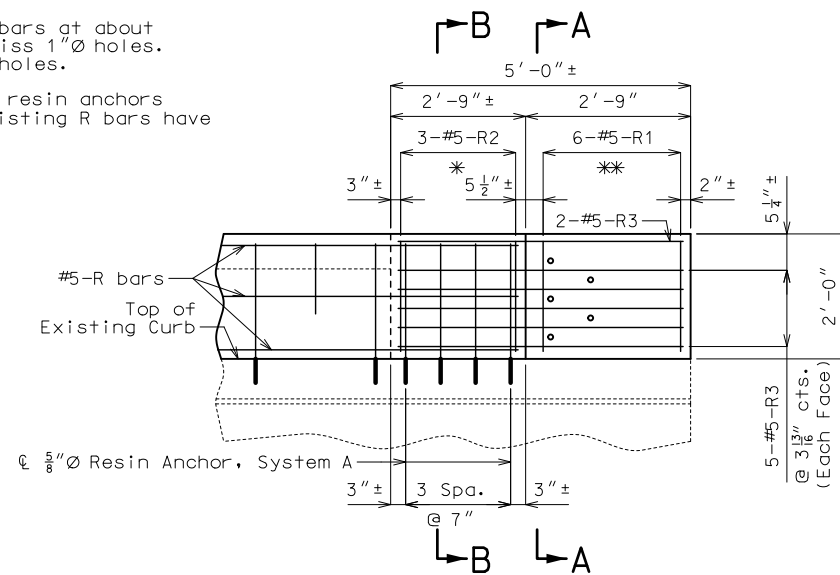
For details of Resin Anchors, System A, see Sheet No. 2.

16 required Resin Anchors, System A, are included in the resin anchor quantity on Sheet No. 2.

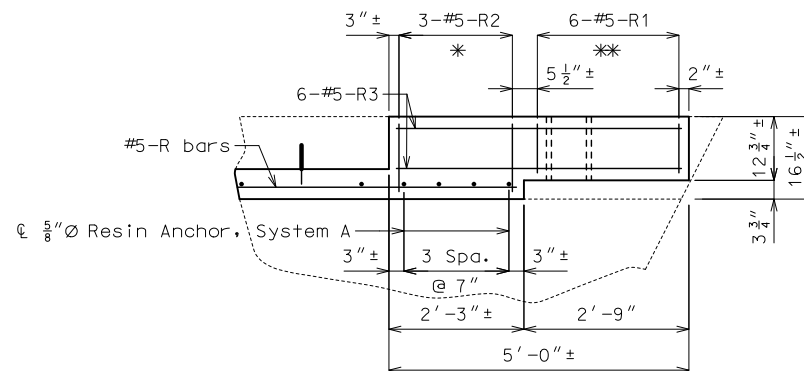
## DETAILS OF END POST AT END BENTS

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

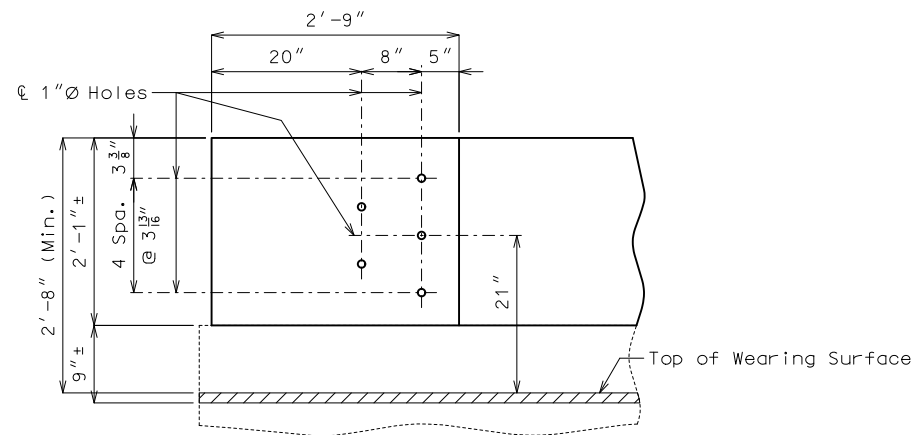
Sheet No. 3 of 4



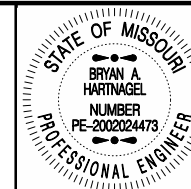
ELEVATION SHOWING LEFT (SE) END POST  
AT EXISTING END BENT NO. 4  
(Right (NW) End Post at End Bent No. 1 similar)  
Existing R bars (U.I.P.) not shown for clarity.



PLAN SHOWING LEFT (SE) END POST  
AT EXISTING END BENT NO. 4  
Existing R bars (U.I.P.) not shown for clarity.



DETAILS OF GUARD RAIL  
ATTACHMENT



THIS SHEET HAS BEEN  
SIGNED, SEALED AND DATED  
ELECTRONICALLY.

DATE PREPARED  
8/17/2018

ROUTE  
163

STATE  
MO

DISTRICT  
BR

SHEET NO.  
3

COUNTY  
BOONE

JOB NO.  
J5S3257

CONTRACT ID.

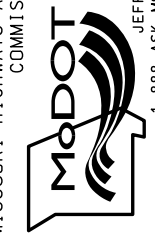
PROJECT NO.

BRIDGE NO.  
A18031

DESCRIPTION

DATE

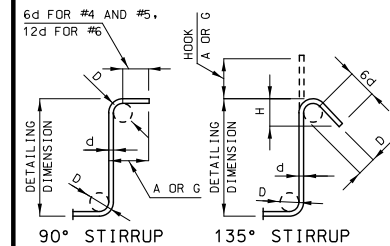
MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION



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

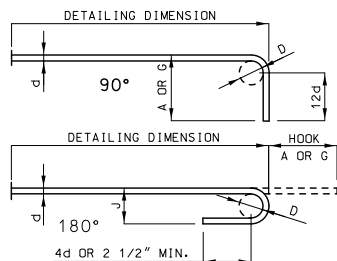
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

# BILL OF REINFORCING STEEL

[illegible]

STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK	135° HOOK	APPROX. H
		HOOK A OR G	HOOK A OR G	
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

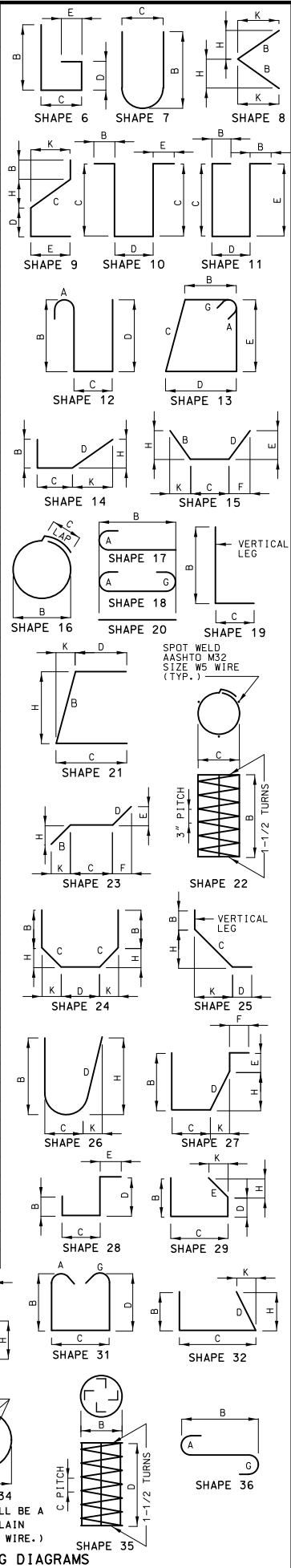
NOTE: UNLESS OTHERWISE NOTED, DIAMETER  
"D" IS THE SAME FOR ALL BENDS AND HOOKS  
ON A BAR.



END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	ALL GRADES		
		180° HOOKS		90° HOOKS
		A OR G	A	A OR G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9 1/2"	15"	11 3/4"	19"
#10	10 3/4"	17"	13 1/4"	22"
#11	12"	19"	14 3/4"	2'-0"
#14	18 1/4"	2'-3"	21 3/4"	2'-7"

**NOTE:**  
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.  
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.  
E = EPOXY COATED REINFORCEMENT.  
S = STIRRUP.  
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.  
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.  
NO. EA. = NUMBER OF BARS OF EACH LENGTH.  
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)  
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.  
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.  
90 DEGREE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.  
REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.

## BILL OF REINFORCING STEEL

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Detailed July 2018  
Checked July 2018

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

Sheet No. 4 of 4

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