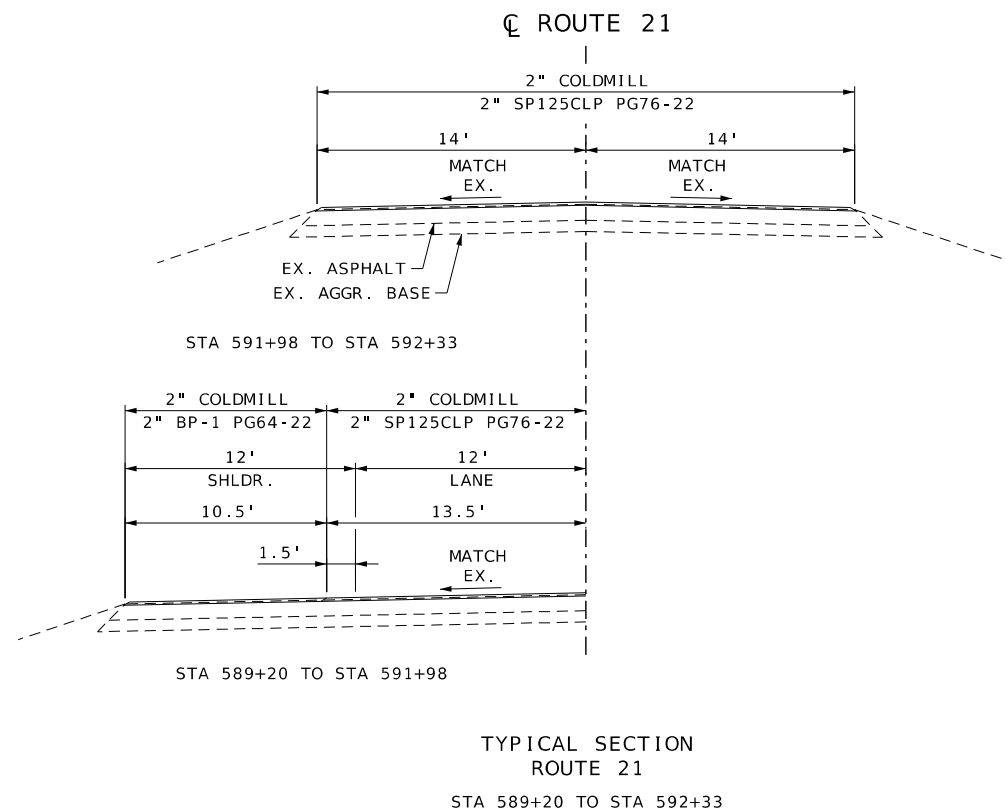
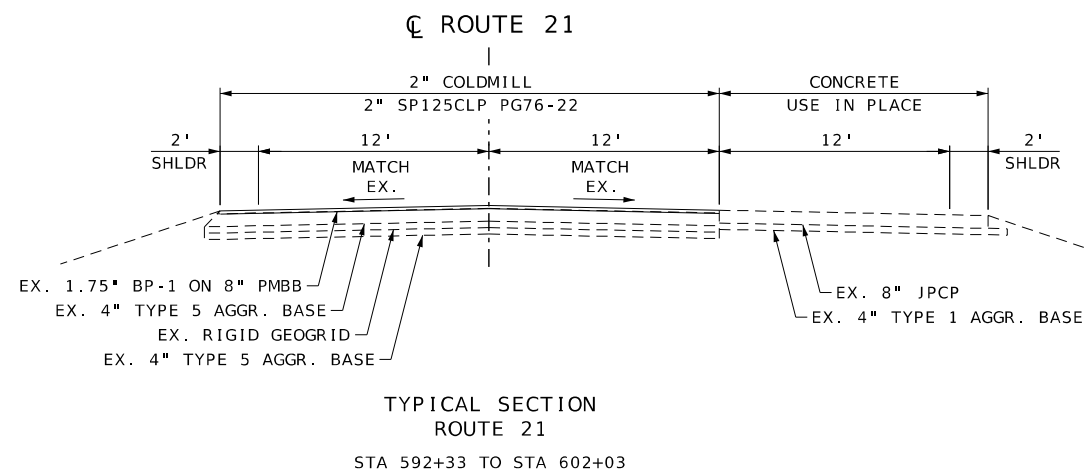
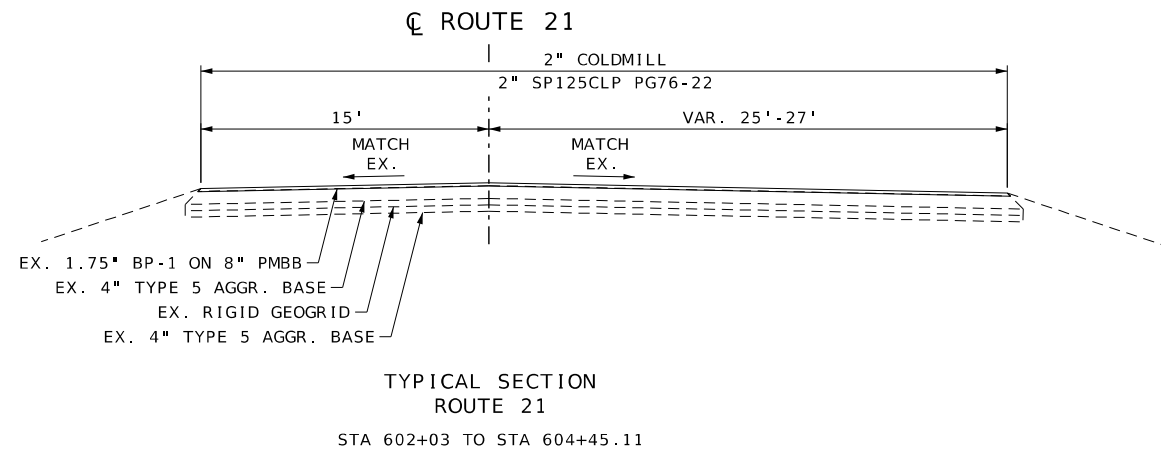
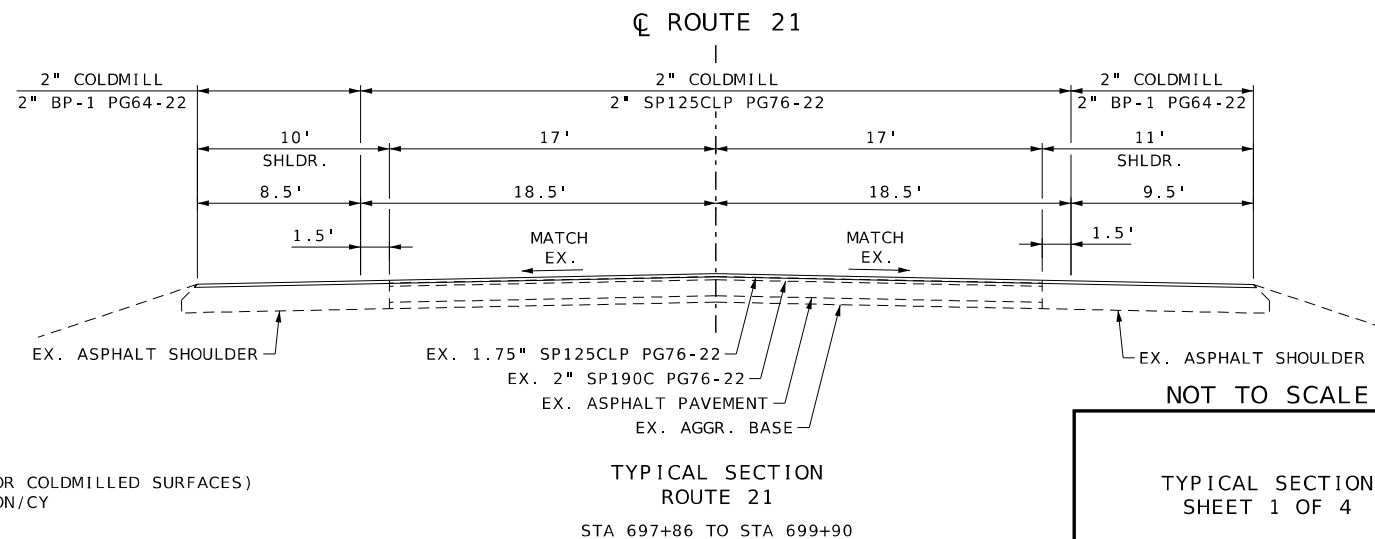
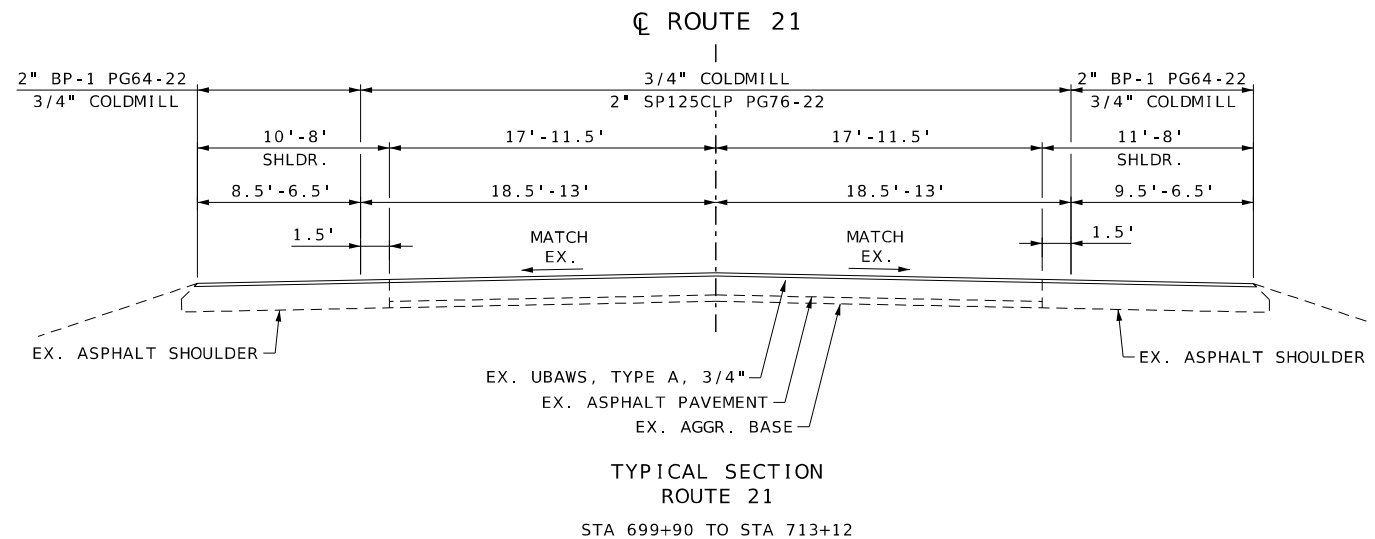
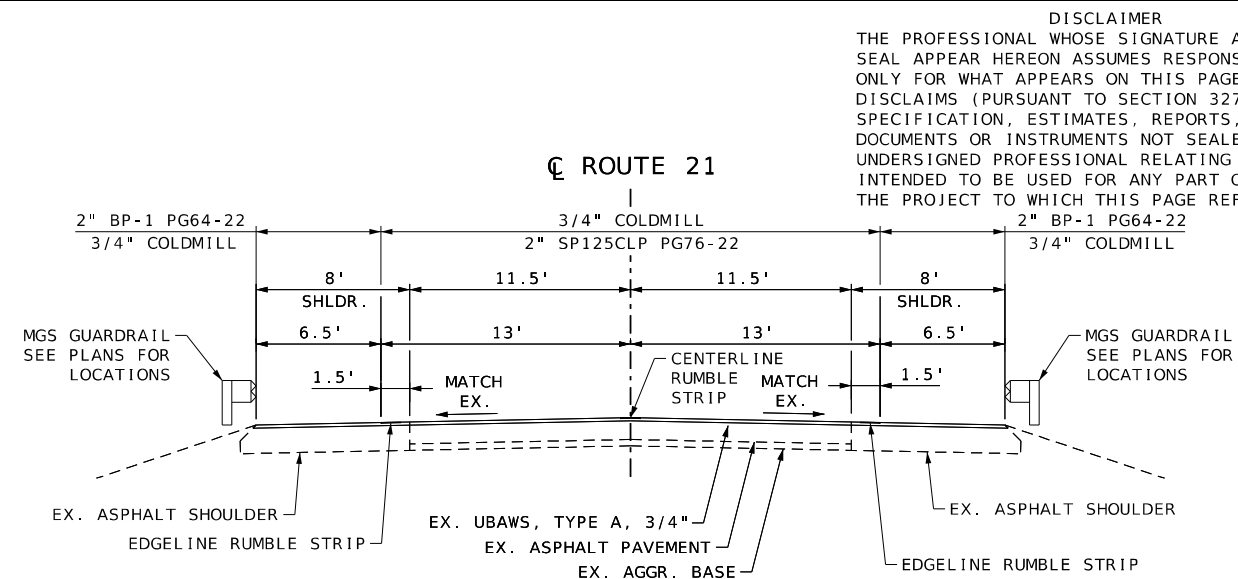




APPLICATION RATES:

TACK COAT: 0.12 GAL/SY (FOR COLDMILLED SURFACES)
SP125CLP PG76-22: 1.970 TON/CY
BP1 PG64-22: 1.987 TON/CY



DISCLAIMER

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Paul J. Kronlage
03/03/2025 4:14:58 AM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED	
3/1/2025	
ROUTE	STATE
21	MO
DISTRICT	SHEET NO.
SL	2
COUNTY	
JEFFERSON	
JOB NO.	
JSL0044	
CONTRACT ID.	

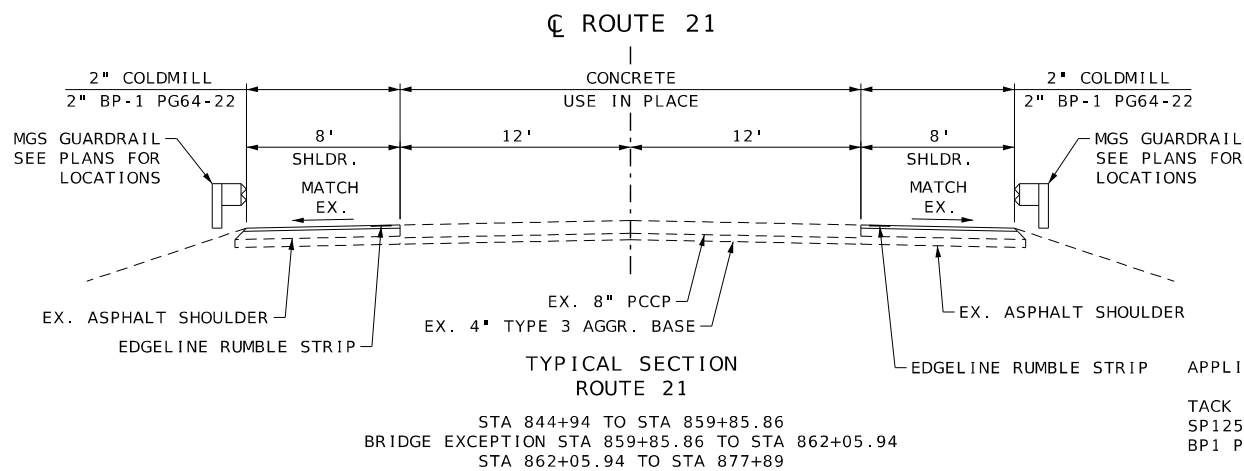
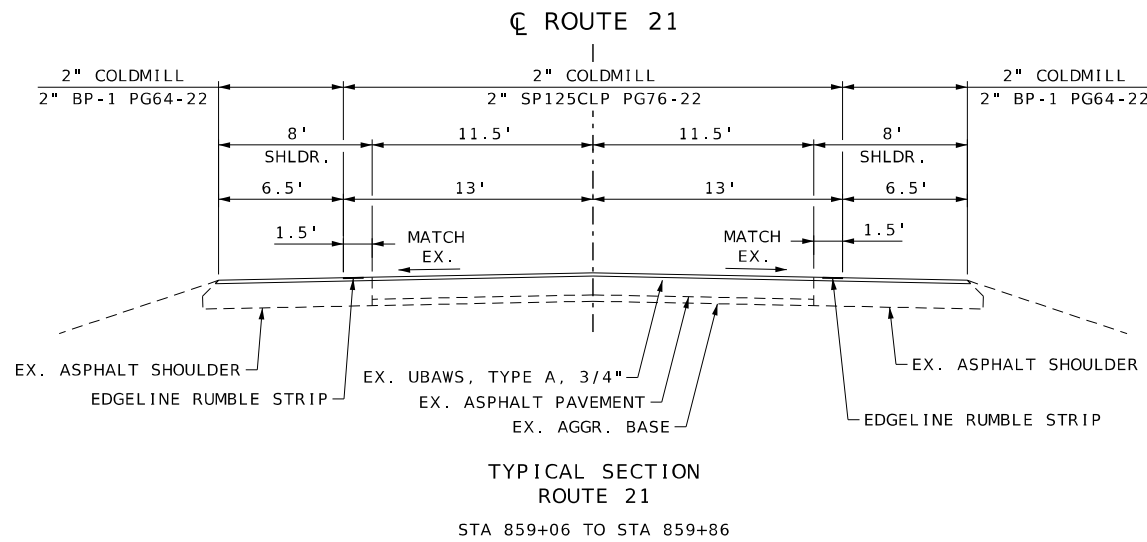
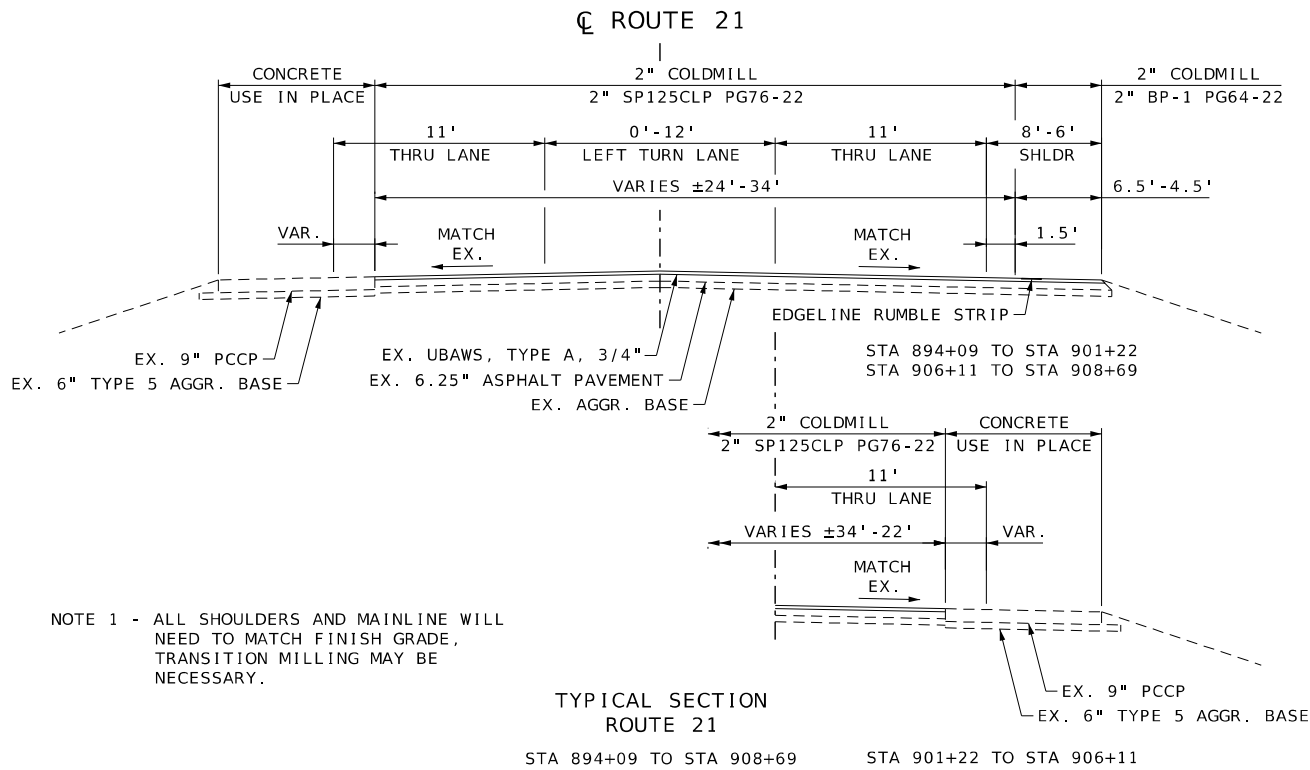
PROJECT NO.
BRIDGE NO.

[illegible]

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

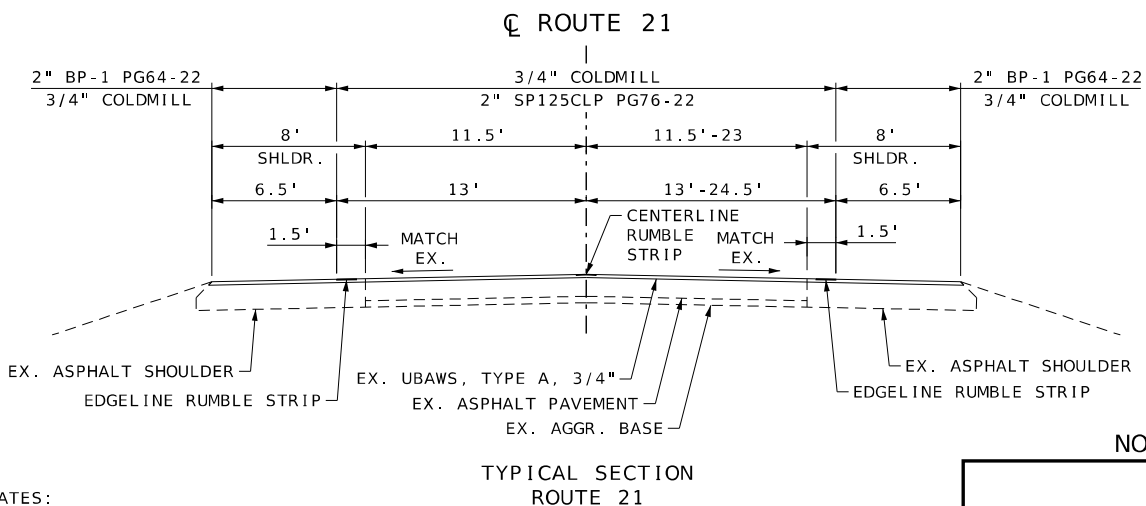
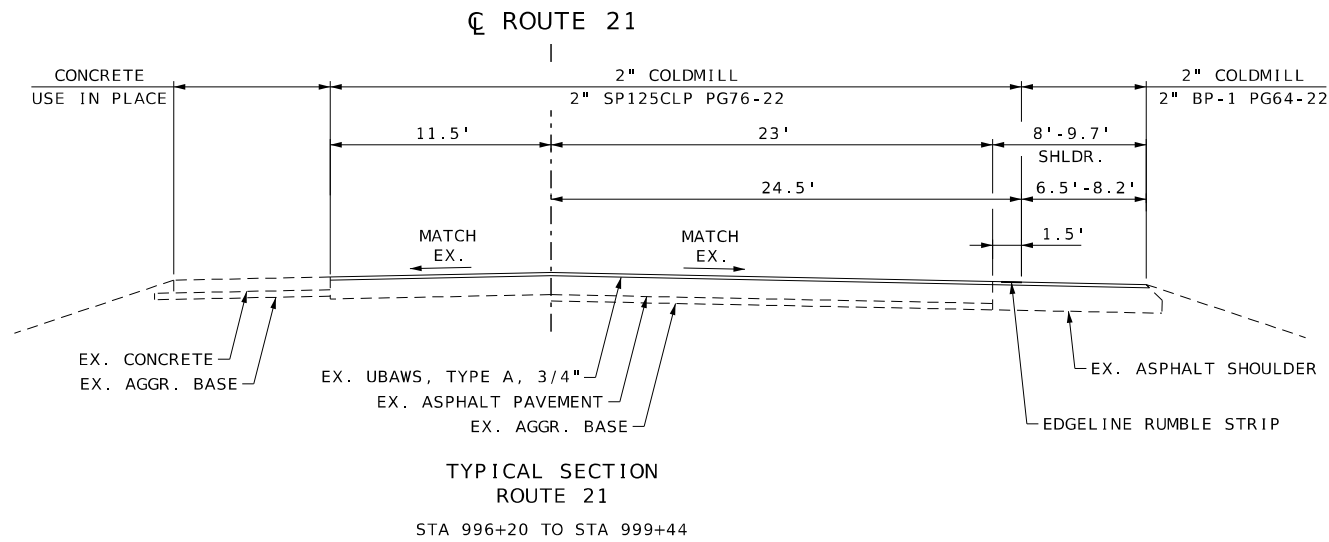
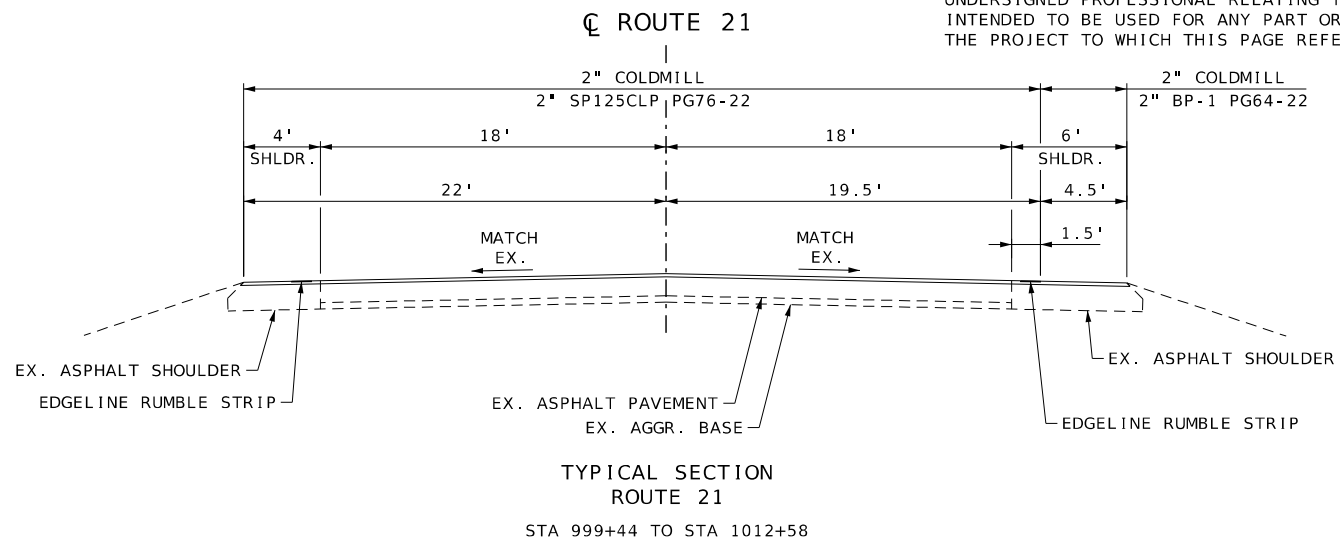
EFK♦Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

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



APPLICATION RATES:

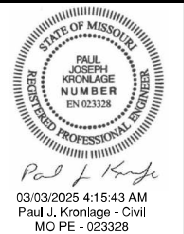
TACK COAT: 0.12 GAL/SY (FOR COLDMILLED SURFACES)
SP125CLP PG76-22: 1.970 TON/CY
BP1 PG64-22: 1.987 TON/CY



NOT TO SCALE

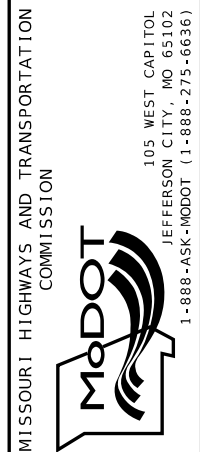
TYPICAL SECTION
SHEET 2 OF 4

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DATE PREPARED 3/1/2025	
ROUTE 21	STATE MO
DISTRICT SL	SHEET NO. 2
COUNTY JEFFERSON	
JOB NO. JSL0044	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE



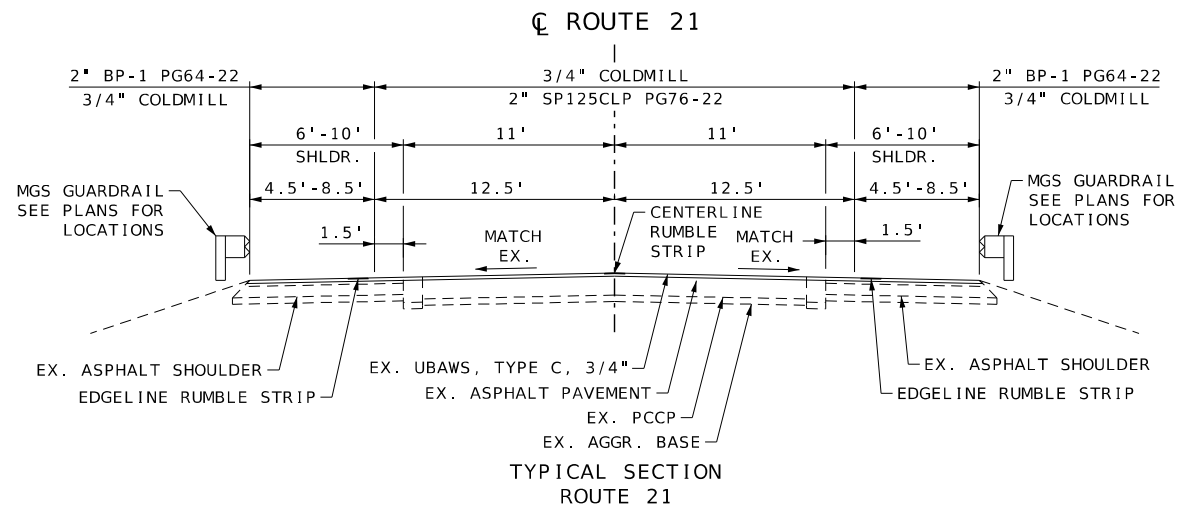
EFK Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

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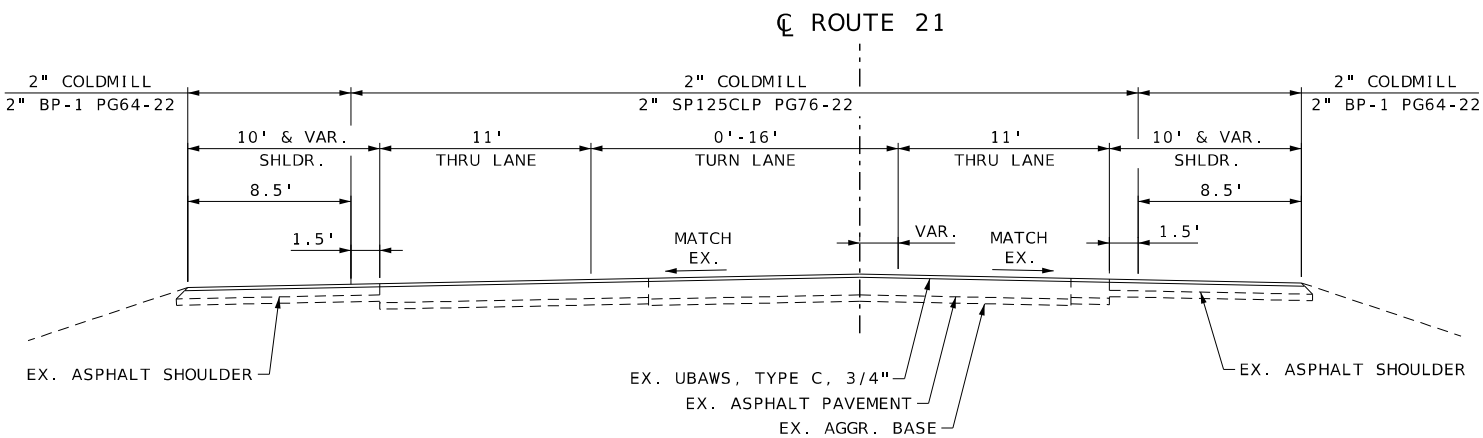
DATE PREPARED
3/1/2025
ROUTE
21
STATE
MO
DISTRICT
SL
SHEET NO.
2
COUNTY
JEFFERSON
JOB NO.
JSL0044
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

NOTE 1 - ALL SHOULDERS AND MAINLINE WILL NEED TO MATCH FINISH GRADE, TRANSITION MILLING MAY BE NECESSARY.

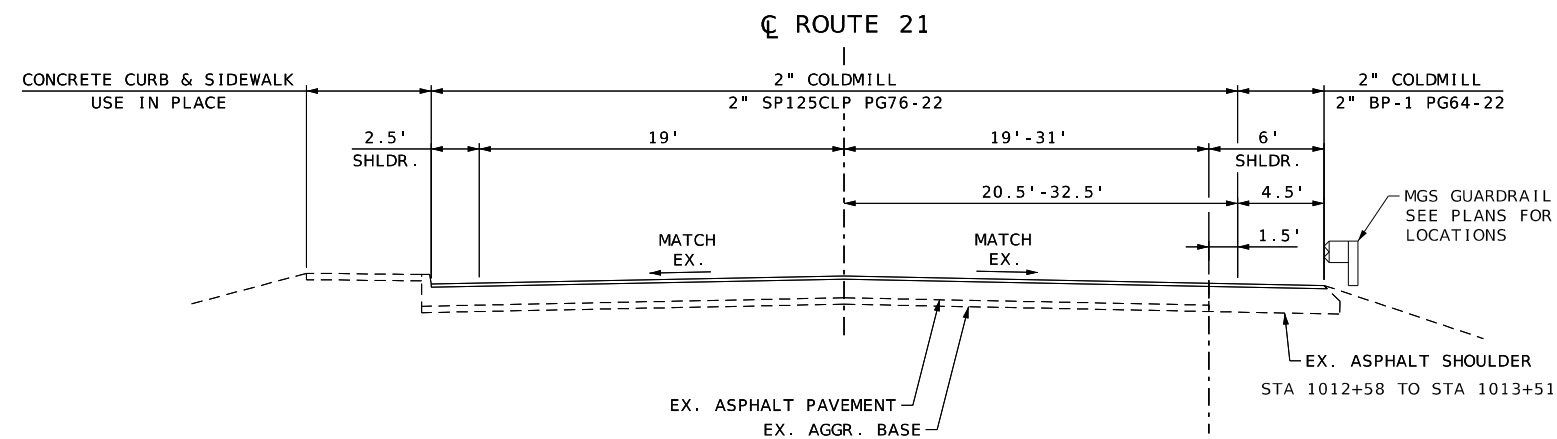


TYPICAL SECTION
ROUTE 21
STA 1030+33 TO STA 1264+48
STA 352+62 TO STA 369+15
STA 258+30 TO STA 385+74
STA 0+00 TO STA 10+11

STA 1047+18 TO STA 1057+86 CENTER TURN LANE, VARIES 0' TO 12'



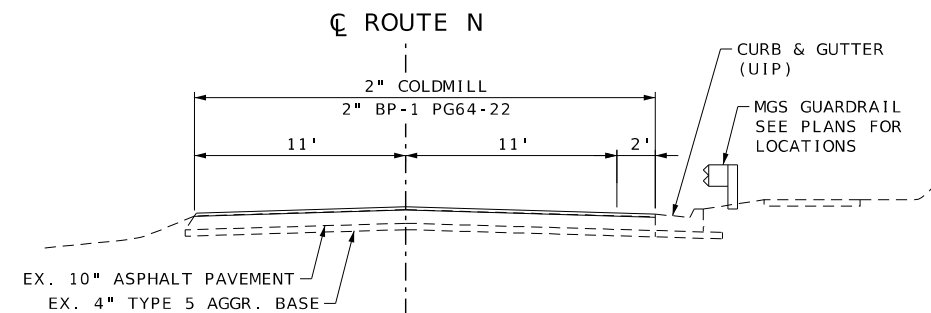
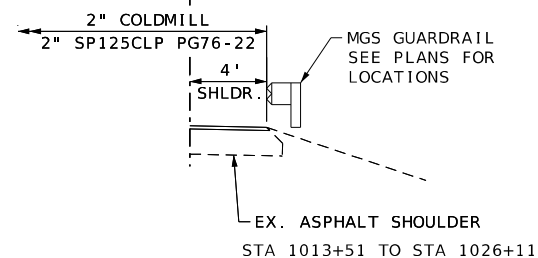
TYPICAL SECTION
ROUTE 21
STA 1026+11 TO STA 1030+33



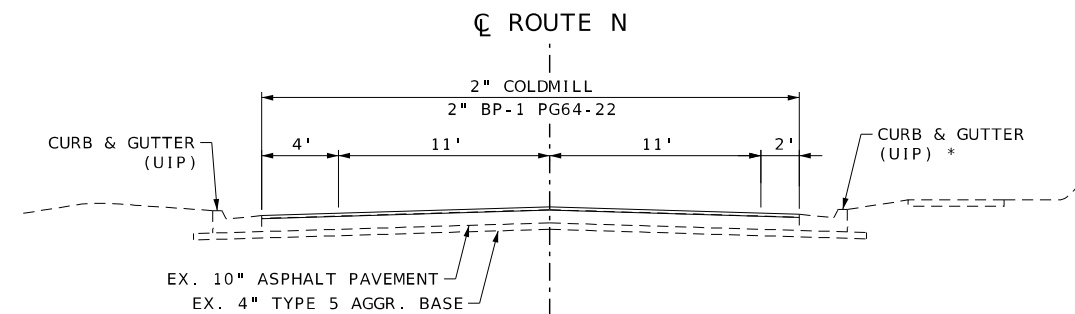
APPLICATION RATES:

TACK COAT: 0.12 GAL/SY (FOR COLDMILLED SURFACES)
SP125CLP PG76-22: 1.970 TON/CY
BP1 PG64-22: 1.987 TON/CY

TYPICAL SECTION
ROUTE 21
STA 1012+58 TO STA 1026+11



TYPICAL SECTION
ROUTE N
STA 43+83 TO STA 76+70



TYPICAL SECTION
ROUTE N
STA 31+10 TO STA 44+48
* EX. SHOULDER, CURB & GUTTER END AT STA 43+83

NOT TO SCALE

TYPICAL SECTION
SHEET 3 OF 4

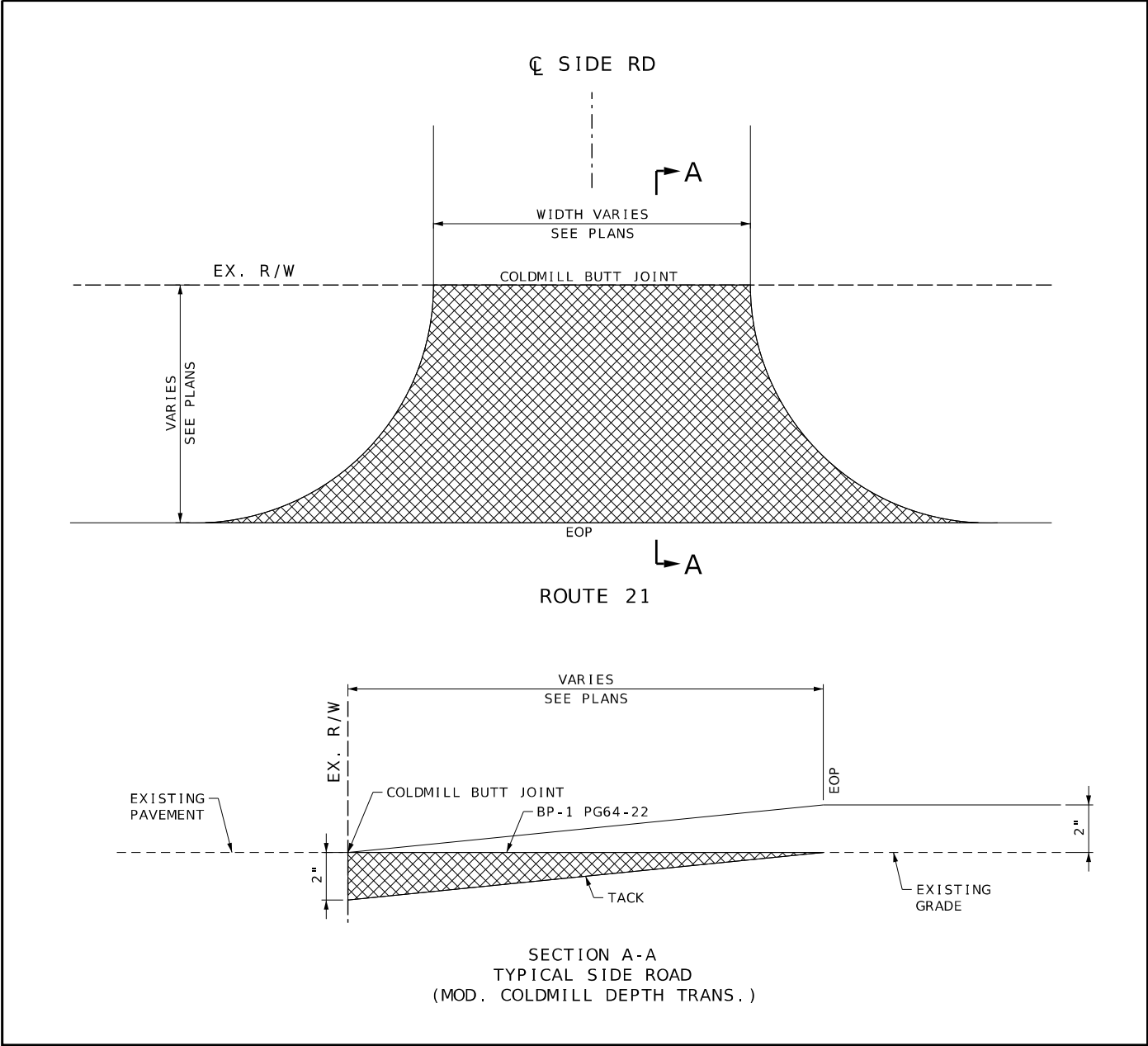
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

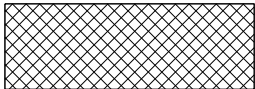
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
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Missouri Certificate of Authority: 001578



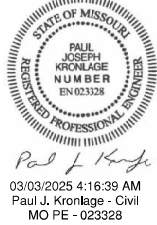
APPLICATION RATES:

TACK COAT: 0.12 GAL/SY (FOR COLDMILLED SURFACES)
SP125CLP PG76-22: 1.970 TON/CY
BP1 PG64-22: 1.987 TON/CY



MODIFIED COLDMILLING
FOR DEPTH TRANSITION

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DATE PREPARED 3/1/2025	
ROUTE 21	STATE MO
DISTRICT SL	SHEET NO. 2
COUNTY JEFFERSON	
JOB NO. JSL0044	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

MoDOT

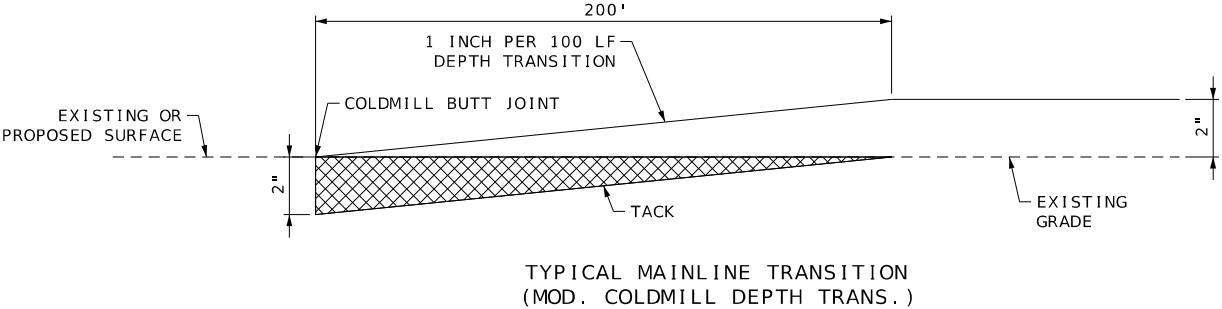
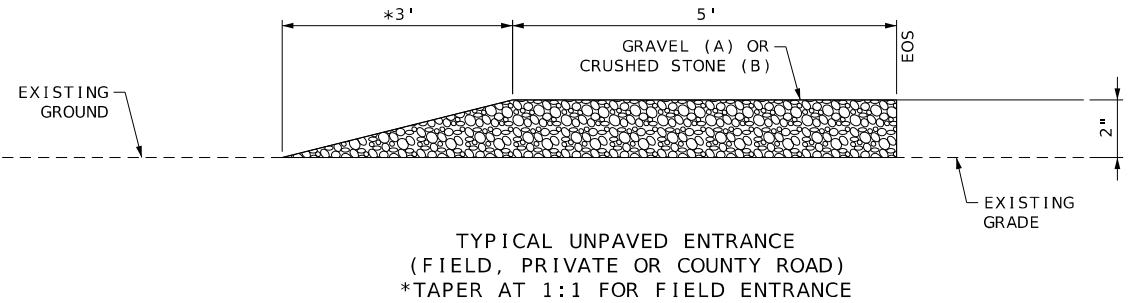
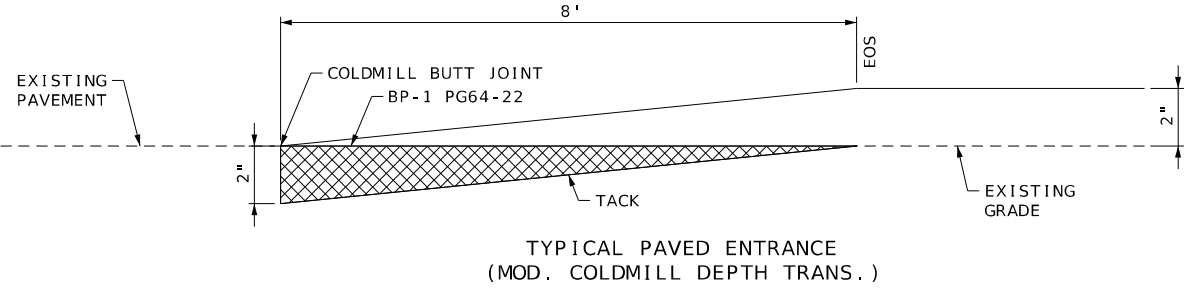
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK Moen
Civil Engineering Design

13523 Barrett Parkway Dr
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St. Louis, MO 63021

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NOT TO SCALE

TYPICAL SECTION
SHEET 4 OF 4

GRAVEL (A) OR CRUSHED STONE (B)						
PLAN SHEET	ROADWAY	STA	STA	LOC	GRAVEL (A) OR CRUSHED STONE (B)	REMARKS
					TON	
4 (TOP)	RTE 21	588+20	602+00	LT	2.0	
4 (BOTTOM)	RTE 21	602+00	721+40	LT/RT	1.1	
5 (TOP)	RTE 21	721+40	749+00	LT/RT	5.3	
5 (BOTTOM)	RTE 21	749+00	774+40	LT/RT	17.1	
6 (TOP)	RTE 21	774+40	800+50	LT/RT	11.0	
6 (BOTTOM)	RTE 21	800+50	827+00	LT/RT	7.4	
7 (TOP)	RTE 21	827+00	852+80	RT	1.3	
7 (BOTTOM)	RTE 21	852+00	879+00	LT/RT	3.1	
8 (TOP)	RTE 21	879+00	905+00	LT/RT	3.7	
8 (BOTTOM)	RTE 21	905+00	931+50	LT/RT	4.1	
9 (TOP)	RTE 21	931+50	957+00	RT	2.0	
9 (BOTTOM)	RTE 21	957+00	986+00	RT	0.7	
10 (BOTTOM)	RTE 21	1012+00	1038+00	LT	1.2	
11 (TOP)	RTE 21	1038+00	1064+00	RT	6.9	
11 (BOTTOM)	RTE 21	1064+00	1090+00	LT/RT	4.6	
12 (TOP)	RTE 21	1090+00	1116+00	LT/RT	2.7	
12 (BOTTOM)	RTE 21	1116+00	1147+50	LT/RT	4.2	
13 (TOP)	RTE 21	1147+50	1173+50	RT	0.1	
13 (BOTTOM)	RTE 21	1173+50	1199+40	LT/RT	5.0	
14 (TOP)	RTE 21	1199+40	1225+40	LT/RT	4.2	
14 (BOTTOM)	RTE 21	1225+40	1251+50	LT/RT	8.9	
15 (TOP)	RTE 21	1251+50	365+70	LT	1.2	
15 (BOTTOM)	RTE 21	365+70	280+70	LT/RT	5.9	
16 (TOP)	RTE 21	280+70	306+70	LT/RT	6.2	
16 (BOTTOM)	RTE 21	306+70	333+40	LT/RT	9.7	
17 (TOP)	RTE 21	333+40	359+00	LT/RT	5.1	
17 (BOTTOM)	RTE 21	359+00	385+00	LT/RT	3.9	
18	RTE 21	385+00	10+11	LT	1.2	
				SUBTOTAL	129.8	
				PAY TOTAL	130	

MAINLINE RESURFACING								
PLAN SHEET	ROADWAY	STA	STA	LOC				REMARKS
					BP - 1	SP125CLP	LOW	
					PG 64-22	PG 76-22	TRACKING	
					TONS	TONS	GAL	
4 (TOP)	RTE 21	588+20	602+00	LT/RT	51.9	432.9	517.6	
4 (BOTTOM)	RTE 21	602+00	721+40	LT/RT	510.1	1126.5	1935.7	
5 (TOP)	RTE 21	721+40	749+00	LT/RT	474.5	953.6	1574.5	
5 (BOTTOM)	RTE 21	749+00	774+40	LT/RT	232.7	443.1	839.2	
6 (TOP)	RTE 21	774+40	800+50	LT/RT	97.4	173.7	399.8	
6 (BOTTOM)	RTE 21	800+50	827+00	LT/RT	438.7	836.3	1392.8	
7 (TOP)	RTE 21	827+00	852+80	LT/RT	450.6	506.8	1149.7	
7 (BOTTOM)	RTE 21	852+00	879+00	LT/RT	630.0	62.2	751.5	
8 (TOP)	RTE 21	879+00	905+00	LT/RT	318.6	897.0	1432.3	
8 (BOTTOM)	RTE 21	905+00	931+50	LT/RT	583.2	182.1	933.4	
9 (TOP)	RTE 21	931+50	957+00	LT/RT	452.0	807.9	1376.7	
9 (BOTTOM)	RTE 21	957+00	986+00	LT/RT	557.3	981.4	1678.5	
10 (TOP)	RTE 21	986+00	1012+00	LT/RT	270.2	1378.0	1939.0	
10 (BOTTOM)	RTE 21	1012+00	1038+00	LT/RT	238.6	1798.5	2354.4	
11 (TOP)	RTE 21	1038+00	1064+00	LT/RT	430.9	940.9	1496.9	
11 (BOTTOM)	RTE 21	1064+00	1090+00	LT/RT	410.5	823.8	1346.9	
12 (TOP)	RTE 21	1090+00	1116+00	LT/RT	471.1	823.7	1412.1	
12 (BOTTOM)	RTE 21	1116+00	1147+50	LT/RT	404.1	827.1	1343.1	
13 (TOP)	RTE 21	1147+50	1173+50	LT/RT	419.3	823.0	1355.5	
13 (BOTTOM)	RTE 21	1173+50	1199+40	LT/RT	395.5	821.4	1327.9	
14 (TOP)	RTE 21	1199+40	1225+40	LT/RT	391.0	823.7	1325.6	
14 (BOTTOM)	RTE 21	1225+40	1251+50	LT/RT	411.5	826.9	1351.3	
15 (TOP)	RTE 21	1251+50	365+70	LT/RT	401.1	825.0	1338.7	
15 (BOTTOM)	RTE 21	365+70	280+70	LT/RT	385.7	819.0	1314.6	
16 (TOP)	RTE 21	280+70	306+70	LT/RT	385.2	823.7	1319.3	
16 (BOTTOM)	RTE 21	306+70	333+40	LT/RT	398.9	845.9	1358.4	
17 (TOP)	RTE 21	333+40	359+00	LT/RT	371.6	811.1	1290.7	
17 (BOTTOM)	RTE 21	359+00	385+00	LT/RT	393.6	823.7	1328.5	
18	RTE 21	385+00	10+11	LT/RT	160.2	345.7	653.6	
19 (TOP)	RTE N	74+00	53+00	LT/RT		718.3	786.0	
19 (BOTTOM)	RTE N	53+00	30+44	LT/RT		602.5	659.3	
SUBTOTAL					11136.0	23905.4	39283.5	
PAY TOTAL					11136.0	23905.4	39284	

CONCRETE SIDEWALK, CURB RAMP, & MEDIAN												
PLAN SHEET	ROADWAY	STA	STA	LOC								REMARKS
					CONCRETE SIDEWALK 4"	CONCRETE CURB RAMP	TRUCATED DOMES	CONC. CURB TYPE S (6" HEIGHT AND UNDER)	CLASS 1 LINEAR GRADING	TURF TYPE TALL FESCUE SODDING	TYPE 1 AGGREGATE FOR BASE (4" THICK)	
					S.Y.	EA.	S.F.	L.F.	STA.	S.Y.	S.Y.	
4 (BOTTOM)	RTE 21	602+00	721+40	LT		1	10.0		0.3	65.0	22.9	
22 (TOP)	RTE N	30+50	34+00	LT/RT	14.4	3	41.5	20.8	0.9	94.4	61.0	
22 (BOTTOM)	RTE N	34+00	39+00	RT	9.1	2	19.6		0.5	86.0	25.4	
23 (TOP)	RTE N	39+00	43+50	RT	5.2		20.5		0.2	41.3	5.2	
23 (BOTTOM)	RTE N	43+50	44+00	RT	5.5	2			0.5	151.0	26.8	
				SUBTOTAL	34.2	8	91.6	20.8	2.4	437.7	141.3	
				PAY TOTAL	34.2	8	92	21	*	438	141	

*SEE "ENTRANCE" FOR TOTAL ON QUANTITY SHEET 6 OF 7

QUANTITY SHEET
SHEET 1 OF 7



Paul J. Kronlage
04/05/2025 10:43:43 AM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/31/2025

ROUTE 21	STATE MO
DISTRICT SL	SHEET NO 3

COUNTY
JEFFERSON

JOB NO.
JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

EFK•Moen
Civil Engineering Design

13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

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REV.

REMOVAL OF IMPROVEMENTS					
PLAN SHEET	STA/LOG MILE	LOC	ROADWAY	EACH	DESCRIPTIONS
9 OF 29 (SG)	978+73	RT	ROUTE 21	1	SIGNAL HEAD
9 OF 29 (SG)	978+74	LT	ROUTE 21	1	SIGNAL HEAD
9 OF 29 (SG)	978+76	RT	ROUTE 21	1	SIGNAL HEAD
9 OF 29 (SG)	978+79	RT	ROUTE 21	1	2 SIGNS (ON SPAN WIRE)
9 OF 29 (SG)	978+81	RT	ROUTE 21	1	SIGNAL HEAD
9 OF 29 (SG)	978+81	LT	ROUTE 21	1	SIGN (ON SPAN WIRE)
9 OF 29 (SG)	978+83	LT	ROUTE 21	1	SIGNAL HEAD
9 OF 29 (SG)	978+85	RT	ROUTE 21	1	PULLBOX
9 OF 29 (SG)	979+08	LT	ROUTE 21	1	VIDEO DETECTOR
9 OF 29 (SG)	979+10	LT	ROUTE 21	1	SIGNAL POST & MOUNTED LUMINAIRE
9 OF 29 (SG)	979+19	LT	ROUTE 21	1	PULLBOX
6 OF 24 (SN)	159.86	LT	ROUTE 21	1	POST & 4 SIGNS
6 OF 24 (SN)	34.52	RT	ROUTE 21	1	POST & 2 SIGNS
6 OF 24 (SN)	34.55	RT	ROUTE 21	1	SIGN
7 OF 24 (SN)	159.75	LT	ROUTE 21	1	SIGN
7 OF 24 (SN)	159.59	LT	ROUTE 21	1	SIGN
7 OF 24 (SN)	159.58	LT	ROUTE 21	1	SIGN
15 OF 29 (SG)	997+34	LT	ROUTE 21	1	SIGNAL CONTROLLER
15 OF 29 (SG)	997+36	LT	ROUTE 21	1	POWER SUPPLY ASSEMBLY
15 OF 29 (SG)	997+64	LT	ROUTE 21	1	VIDEO DETECTOR
15 OF 29 (SG)	997+82	RT	ROUTE 21	1	SIGN (MOUNTED ON MAST ARM)
15 OF 29 (SG)	997+97	RT	ROUTE 21	1	VIDEO DETECTOR
15 OF 29 (SG)	998+12	RT	ROUTE 21	1	SIGN (MOUNTED ON MAST ARM)
15 OF 29 (SG)	998+12	RT	ROUTE 21	1	SIGN (MOUNTED ON MAST ARM)
15 OF 29 (SG)	998+12	RT	ROUTE 21	1	VIDEO DETECTOR
7 OF 24 (SN)	159.58	LT	ROUTE 21	1	SIGN
7 OF 24 (SN)	159.58	LT	ROUTE 21	1	SIGN
7 OF 24 (SN)	34.91	RT	ROUTE 21	1	SIGN
7 OF 24 (SN)	159.44	LT	ROUTE 21	1	SIGN
7 OF 24 (SN)	34.97	RT	ROUTE 21	1	POST & SIGN
7 OF 24 (SN)	159.34	LT	ROUTE 21	1	SIGN
7 OF 24 (SN)	35.01	RT	ROUTE 21	1	SIGN
7 OF 24 (SN)	35.03	RT	ROUTE 21	1	SIGN
7 OF 24 (SN)	159.32	LT	ROUTE 21	1	SIGN
7 OF 24 (SN)	159.26	LT	ROUTE 21	1	SIGN
7 OF 24 (SN)	35.16	RT	ROUTE 21	1	SIGN
7 OF 24 (SN)	159.17	LT	ROUTE 21	1	SIGN
7 OF 24 (SN)	35.20	RT	ROUTE 21	1	2 POSTS & SIGN
7 OF 24 (SN)	35.23	RT	ROUTE 21	1	3 SIGNS
7 OF 24 (SN)	159.12	LT	ROUTE 21	1	SIGN
7 OF 24 (SN)	34.28	RT	ROUTE 21	1	7 SIGNS
7 OF 24 (SN)	35.30	RT	ROUTE 21	1	SIGN
19 OF 29 (SG)	1025+40	RT	ROUTE 21	1	LUMINAIRE
19 OF 29 (SG)	1025+59	RT	ROUTE 21	1	PULLBOX
19 OF 29 (SG)	1025+92	RT	ROUTE 21	1	PULLBOX
19 OF 29 (SG)	1026+13	RT	ROUTE 21	1	SIGNAL POST
19 OF 29 (SG)	1026+13	RT	ROUTE 21	1	SIGNAL HEAD
19 OF 29 (SG)	1026+23	RT	ROUTE 21	1	SIGNAL HEAD
19 OF 29 (SG)	1026+26	RT	ROUTE 21	1	SIGN (MOUNTED ON MAST ARM)
19 OF 29 (SG)	1026+28	RT	ROUTE 21	1	PULLBOX
19 OF 29 (SG)	1026+31	RT	ROUTE 21	1	SIGN (MOUNTED ON MAST ARM)
19 OF 29 (SG)	1026+33	RT	ROUTE 21	1	SIGN (MOUNTED ON MAST ARM)
19 OF 29 (SG)	1026+34	RT	ROUTE 21	1	SIGNAL HEAD
19 OF 29 (SG)	1026+35	RT	ROUTE 21	1	PULLBOX
19 OF 29 (SG)	1026+39	LT	ROUTE 21	1	SIGNAL POST
19 OF 29 (SG)	1026+39	LT	ROUTE 21	1	SIGNAL HEAD
19 OF 29 (SG)	1026+40	LT	ROUTE 21	1	SIGNAL HEAD
19 OF 29 (SG)	1026+40	RT	ROUTE 21	1	SIGN (MOUNTED ON MAST ARM)
19 OF 29 (SG)	1026+40	RT	ROUTE 21	1	SIGNAL HEAD

REMOVAL OF IMPROVEMENTS					
PLAN SHEET	STA/ LOG MILE	LOC	ROADWAY	EACH	DESCRIPTIONS
19 OF 29 (SG)	1026+51	RT	ROUTE 21	1	POWER SUPPLY
19 OF 29 (SG)	1026+60	RT	ROUTE 21	1	CONTROLLER
19 OF 29 (SG)	1026+65	LT	ROUTE 21	1	PULLBOX
19 OF 29 (SG)	1026+75	LT	ROUTE 21	1	LUMINAIRE
19 OF 29 (SG)	1026+81	RT	ROUTE 21	1	LUMINAIRE
19 OF 29 (SG)	1026+86	RT	ROUTE 21	1	PULLBOX
19 OF 29 (SG)	1026+93	RT	ROUTE 21	1	SIGNAL HEAD
19 OF 29 (SG)	1026+93	RT	ROUTE 21	1	SIGN (MOUNTED ON MAST ARM)
19 OF 29 (SG)	1026+93	RT	ROUTE 21	1	SIGN (MOUNTED ON MAST ARM)
19 OF 29 (SG)	1026+94	RT	ROUTE 21	1	SIGNAL HEAD
19 OF 29 (SG)	1026+94	RT	ROUTE 21	1	SIGNAL HEAD
19 OF 29 (SG)	1026+94	RT	ROUTE 21	1	SIGNAL POST
19 OF 29 (SG)	1026+94	RT	ROUTE 21	1	CCTV
19 OF 29 (SG)	1027+02	RT	ROUTE 21	1	PULLBOX
19 OF 29 (SG)	1027+12	LT	ROUTE 21	1	PULLBOX
19 OF 29 (SG)	1027+14	RT	ROUTE 21	1	CONTROLLER
19 OF 29 (SG)	1027+16	LT	ROUTE 21	1	SIGNAL HEAD
19 OF 29 (SG)	1027+19	LT	ROUTE 21	1	SIGN (MOUNTED ON MAST ARM)
19 OF 29 (SG)	1027+27	LT	ROUTE 21	1	SIGNAL HEAD
19 OF 29 (SG)	1027+37	LT	ROUTE 21	1	SIGNAL HEAD
19 OF 29 (SG)	1027+37	LT	ROUTE 21	1	SIGNAL POST
19 OF 29 (SG)	1027+51	LT	ROUTE 21	1	PULLBOX
19 OF 29 (SG)	1028+06	LT	ROUTE 21	1	PULLBOX
19 OF 29 (SG)	1028+21	LT	ROUTE 21	1	LUMINAIRE
7 OF 24 (SN)	159.01	LT	ROUTE 21	1	SIGN
7 OF 24 (SN)	159.01	LT	ROUTE 21	1	SIGN
7 OF 24 (SN)	159.00	LT	ROUTE 21	1	POST & 7 SIGNS
7 OF 24 (SN)	35.37	RT	ROUTE 21	1	2 SIGNS
7 OF 24 (SN)	158.95	LT	ROUTE 21	1	POST & SIGN
7 OF 24 (SN)	35.41	RT	ROUTE 21	1	SIGN
7 OF 24 (SN)	158.92	LT	ROUTE 21	1	3 SIGNS
7 OF 24 (SN)	35.50	RT	ROUTE 21	1	POST & SIGN
8 OF 24 (SN)	158.82	LT	ROUTE 21	1	POST & SIGN
8 OF 24 (SN)	158.76	LT	ROUTE 21	1	POST & SIGN
8 OF 24 (SN)	158.41	LT	ROUTE 21	1	POST & SIGN
8 OF 24 (SN)	35.96	RT	ROUTE 21	1	POST & SIGN
8 OF 24 (SN)	158.40	LT	ROUTE 21	1	POST & SIGN
8 OF 24 (SN)	36.04	RT	ROUTE 21	1	POST & SIGN
8 OF 24 (SN)	158.30	LT	ROUTE 21	1	POST & 2 SIGNS
8 OF 24 (SN)	36.37	RT	ROUTE 21	1	POST & SIGN
8 OF 24 (SN)	36.43	RT	ROUTE 21	1	POST & SIGN
9 OF 24 (SN)	36.59	RT	ROUTE 21	1	SIGN
9 OF 24 (SN)	157.60	LT	ROUTE 21	1	SIGN
9 OF 24 (SN)	37.21	RT	ROUTE 21	1	POST & SIGN
9 OF 24 (SN)	156.95	LT	ROUTE 21	1	POST & SIGN
10 OF 24 (SN)	156.60	LT	ROUTE 21	1	SIGN
10 OF 24 (SN)	38.00	RT	ROUTE 21	1	SIGN
11 OF 24 (SN)	154.46	LT	ROUTE 21	1	POST & SIGN
11 OF 24 (SN)	38.78	RT	ROUTE 21	1	POST & SIGN
11 OF 24 (SN)	39.23	RT	ROUTE 21	1	POST & SIGN
11 OF 24 (SN)	39.40	RT	ROUTE 21	1	SIGN
12 OF 24 (SN)	154.63	LT	ROUTE 21	1	POST & SIGN
12 OF 24 (SN)	39.82	RT	ROUTE 21	1	SIGN
12 OF 24 (SN)	154.45	LT	ROUTE 21	1	SIGN
12 OF 24 (SN)	154.44	LT	ROUTE 21	1	SIGN
12 OF 24 (SN)	39.89	RT	ROUTE 21	1	SIGN

QUANTITY SHEET
SHEET 3 OF 7



04/05/2025 10:44:34 AM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/28/2025

ROUTE	STATE
21	MO

DISTRICT	SHEET NO
SL	3

COUNTY
JEFFERSON

JOB NO.
JSL0044

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)

EFK Moen

Civil Engineering Design

13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

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

REV.

REMOVAL OF IMPROVEMENTS							
PLAN SHEET	STA/ LOG MILE	STA/ LOG MILE	LOC	ROADWAY	EACH	LF	DESCRIPTIONS
13 OF 24 (SN)	153.68		LT	ROUTE 21	1		SIGN
14 OF 24 (SN)	41.68		RT	ROUTE 21	1		POST & SIGN
14 OF 24 (SN)	152.67		LT	ROUTE 21	1		SIGN
14 OF 24 (SN)	152.60		LT	ROUTE 21	1		SIGN
14 OF 24 (SN)	152.16		LT	ROUTE 21	1		POST & SIGN
14 OF 24 (SN)	152.11		LT	ROUTE 21	1		POST & SIGN
14 OF 24 (SN)	42.23		RT	ROUTE 21	1		SIGN
15 OF 24 (SN)	151.86		LT	ROUTE 21	1		2 SIGNS
15 OF 24 (SN)	42.48		RT	ROUTE 21	1		POST & SIGN
15 OF 24 (SN)	151.83		LT	ROUTE 21	1		SIGN
15 OF 24 (SN)	42.63		RT	ROUTE 21	1		POST & SIGN
15 OF 24 (SN)	151.66		LT	ROUTE 21	1		SIGN
16 OF 24 (SN)	31+05		LT	ROUTE N	1		POST & 3 SIGNS
16 OF 24 (SN)	31+02		RT	ROUTE N	1		POST & 4 SIGNS
16 OF 24 (SN)	31+28		RT	ROUTE N	1		SIGN
16 OF 24 (SN)	33+16		LT	ROUTE N	1		SIGN
16 OF 24 (SN)	36+21		RT	ROUTE N	1		SIGN
16 OF 24 (SN)	36+42		LT	ROUTE N	1		SIGN
16 OF 24 (SN)	39+60		RT	ROUTE N	1		SIGN
16 OF 24 (SN)	41+51		LT	ROUTE N	1		SIGN
16 OF 24 (SN)	41+84		LT	ROUTE N	1		SIGN
16 OF 24 (SN)	44+03		LT	ROUTE N	1		SIGN
16 OF 24 (SN)	44+48		RT	ROUTE N	1		SIGN
16 OF 24 (SN)	44+98		RT	ROUTE N	1		SIGN
16 OF 24 (SN)	46+15		RT	ROUTE N	1		2 SIGNS
16 OF 24 (SN)	47+44		LT	ROUTE N	1		SIGN
16 OF 24 (SN)	50+69		LT	ROUTE N	1		SIGN
16 OF 24 (SN)	53+01		RT	ROUTE N	1		2 SIGNS
16 OF 24 (SN)	68+21		LT	ROUTE N	1		2 SIGNS
16 OF 24 (SN)	73+68		RT	ROUTE N	1		2 SIGNS
5 OF 24 (SN)	32.85		RT	ROUTE 21	1		POST & SIGN
2 OF 16 (PL)	738+49	743+68	RT	ROUTE 21		510	GUARDRAIL
4 OF 16 (PL)	858+17	859+80	RT	ROUTE 21		161	GUARDRAIL
4 OF 16 (PL)	858+20	859+79	LT	ROUTE 21		161	GUARDRAIL
4 OF 16 (PL)	861+93	863+54	LT	ROUTE 21		162	GUARDRAIL
4 OF 16 (PL)	861+95	863+56	RT	ROUTE 21		159	GUARDRAIL
7 OF 16 (PL)	1005+91	1006+76	LT	ROUTE 21		159	GUARDRAIL
7 OF 16 (PL)	1009+45	1011+17	LT	ROUTE 21		172	GUARDRAIL
7 OF 16 (PL)	1013+88	1015+86	RT	ROUTE 21		200	GUARDRAIL
7 OF 16 (PL)	1019+41	1023+60	RT	ROUTE 21		425	GUARDRAIL
15 OF 16 (PL)	5+75	10+04	LT	ROUTE 21		427	GUARDRAIL
15 OF 16 (PL)	8+45	10+09	RT	ROUTE 21		165	GUARDRAIL
				PAY TOTAL	1 LUMP SUM		

COLDMILLING PAVEMENT							
PLAN SHEET	ROADWAY	STA	STA	LOC			REMARKS
					COLDMILLING BIT. PAVEMENT 3 IN. OR LESS	MODIFIED COLDMILLING (DEPTH TRANSITIONS)	
					S.Y.	S.Y.	
4 (TOP)	RTE 21	588+20	602+00	LT/RT	4416.6		
4 (BOTTOM)	RTE 21	602+00	721+40	LT/RT	13014.3	1975.1	
5 (TOP)	RTE 21	721+40	749+00	LT/RT	12536.7	448.4	
5 (BOTTOM)	RTE 21	749+00	774+40	LT/RT	5142.1	1002.6	
6 (TOP)	RTE 21	774+40	800+50	LT/RT	1509.7	955.0	
6 (BOTTOM)	RTE 21	800+50	827+00	LT/RT	11461.4	145.8	
7 (TOP)	RTE 21	827+00	852+80	LT/RT	8330.3	970.3	
7 (BOTTOM)	RTE 21	852+00	879+00	LT/RT	4022.2	794.5	
8 (TOP)	RTE 21	879+00	905+00	LT/RT	9599.9	1476.8	
8 (BOTTOM)	RTE 21	905+00	931+50	LT/RT	10298.0	1124.0	
9 (TOP)	RTE 21	931+50	957+00	LT/RT	11048.7	424.2	
9 (BOTTOM)	RTE 21	957+00	986+00	LT/RT	12436.2	1550.1	
10 (TOP)	RTE 21	986+00	1012+00	LT/RT	13646.0	1381.5	
10 (BOTTOM)	RTE 21	1012+00	1038+00	LT/RT	16849.0	1709.6	
11 (TOP)	RTE 21	1038+00	1064+00	LT/RT	12026.0	448.8	
11 (BOTTOM)	RTE 21	1064+00	1090+00	LT/RT	10979.4	244.5	
12 (TOP)	RTE 21	1090+00	1116+00	LT/RT	10978.7	792.3	
12 (BOTTOM)	RTE 21	1116+00	1147+50	LT/RT	11022.8	173.5	
13 (TOP)	RTE 21	1147+50	1173+50	LT/RT	10967.9	327.8	
13 (BOTTOM)	RTE 21	1173+50	1199+40	LT/RT	10946.9	118.8	
14 (TOP)	RTE 21	1199+40	1225+40	LT/RT	10978.5	67.8	
14 (BOTTOM)	RTE 21	1225+40	1251+50	LT/RT	11020.7	240.4	
15 (TOP)	RTE 21	1251+50	365+70	LT/RT	11005.2	151.0	
15 (BOTTOM)	RTE 21	365+70	280+70	LT/RT	10918.5	36.5	
16 (TOP)	RTE 21	280+70	306+70	LT/RT	10981.7	12.5	
16 (BOTTOM)	RTE 21	306+70	333+40	LT/RT	11280.0	39.9	
17 (TOP)	RTE 21	333+40	359+00	LT/RT	10796.3	86.4	
17 (BOTTOM)	RTE 21	359+00	385+00	LT/RT	10978.5	91.9	
18	RTE 21	385+00	10+11	LT/RT	3739.5	844.8	
19 (TOP)	RTE N	74+00	53+00	LT/RT	6549.6	0.0	
19 (BOTTOM)	RTE N	53+00	30+44	LT/RT	5494.5	0.0	
				SUBTOTAL	304975.8	17634.8	
				PAY TOTAL	304976	17635	

MOBILIZATION	1 LUMP SUM
CONTRACTOR FURNISHED SURVEYING AND STAKING	1 LUMP SUM

EROSION CONTROL								
PLAN SHEET	ROADWAY	STA	STA	SILT FENCE	INLET CHECK	ALTERNATE DITCH CHECKS	SEDIEMNT REMOVAL	REMARKS
				L.F.	EA.	L.F.	C.Y.	
22 (TOP)	RTE N	30+50	34+00	200	1		3	
22 (BOTTOM)	RTE N	34+00	39+00	150			2	
23 (TOP)	RTE N	39+00	43+50	50			1	
23 (BOTTOM)	RTE N	43+50	44+00	200			2	
22 & 23	RTE N	30+50	44+00			100		VARIOUS LOCATIONS
		PAY TOTAL		600	1	100	8	

QUANTITY SHEET
SHEET 4 OF 7



Paul J. Kronlage
04/05/2025 10:45:05 AM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/31/2025

ROUTE 21	STATE MO
DISTRICT SL	SHEET NO 3

COUNTY
JEFFERSON

JOB NO.
JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

EFK♦Moen

Civil Engineering Design

13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
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Missouri Certificate of Authority: 001578

GUARDRAIL / BARRIER											
SHEET NO.	ROADWAY	STA	STA	LOC	MGS GUARDRAIL WITH 6-FT POSTS 6FT. -3 IN. SPACING	MGS GUARDRAIL WITH 6-FT POSTS 1FT. -6.75 IN. SPACING	TYPE A CRASHWORTHY END TERMINAL (MASH)	MGS BRIDGE APPROACH TRANSITION	MGS END ANCHOR	SHAPING SLOPES CLASS III	REMARKS
					L.F.	L.F.	EA.	EA.	EA.	STA	
2	RTE 21	738+49	743+68	RT	412.5		2			5.7	
4	RTE 21	857+26	859+81	RT	162.5		1	1		2.8	
4	RTE 21	858+19	859+81	LT	75.0		1	1		2.0	
4	RTE 21	861+94	863+61	RT	75.0		1	1		1.9	
4	RTE 21	861+92	863+93	LT	112.5		1	1		2.3	
6	RTE 21	931+62	937+78	RT	512.5		2			6.4	
6	RTE 21	932+83	937+85	LT	400.0		2			5.6	
6	RTE 21	965+53	970+13	RT	300.0	62.5	2			5.2	
6	RTE 21	966+22	970+80	LT	350.0		2			5.1	
7	RTE 21	1005+90	1011+18	LT	425.0		2			5.5	
7	RTE 21	1013+87	1015+83	RT	100.0		2			2.6	
7	RTE 21	1019+43	1023+71	RT	337.5		2			5.0	
8	RTE 21	1058+27	1061+19	RT	187.5		2			3.3	
8	RTE 21	1058+86	1061+17	LT	200.0		1		1	2.8	CURVED
10	RTE 21	1152+75	1157+64	LT	387.5		2			5.5	
10	RTE 21	1153+02	1157+18	RT	312.5		2			4.8	
10	RTE 21	1174+60	1178+95	RT	337.5		2			5.0	
10	RTE 21	1176+18	1179+12	LT	187.5		2			3.5	
15	RTE 21	8+20	10+09	RT	100.0		1	1		2.2	
15	RTE 21	5+75	10+04	LT	337.5		1	1		4.6	
SUBTOTAL					5312.5	62.5	33	6	1	82	
PAY TOTAL					5313	63	33	6	1	82	

POLES, ARMS AND LUMINAIRES									
SIGNAL SHEET	LUMIN. POLE NO.	STATION	OFFSET	LOCATION	LED A TOP MOUNTED LUMINAIRES	45' ROADWAY TOP MOUNT POLE	FOUNDATIONS		#10 AWG 1 COND. POLE & BRKT.
							45'	40'	FEET
19	A1	1025+29	49.6' RT	RTE 21	1	1	1		90
19	A2	1028+27	40.4' LT	RTE 21	1	1	1		90
TOTALS:					2	2	2		180

PAVEMENT REPAIRS									
ROADWAY	STA	STA	LOC	FURNISHING & PLACING CONCRETE MATERIAL FOR FULL DEPTH PAVEMENT REPAIR	FULL DEPTH PAVEMENT REPAIR SAW CUT	DOWEL BAR FOR FULL DEPTH PAVEMENT REPAIR	SUBGRADE COMPACTION 6 INCH DEPTH PAVEMENT REPAIR	TYPE 1 OR 5 AGGREGATE FOR BASE (4 IN. THICK) PAVEMENT REPAIR	REMARKS
				S.Y.	L.F.	EA.	S.Y.	S.Y.	
ROUTE 21	702+60		LT	4	24				PULLBOX REMOVAL
ROUTE 21	705+00		LT	4	24	10	0.4	0.4	PULLBOX REMOVAL
ROUTE B	576+25	604+45	LT & RT	56.0	252.0	140.0	5.6	5.6	7 LOCATIONS
ROUTE 21	845+00	877+00	LT & RT	251.0	1000.0	520.0	25.1	25.1	26 LOCATONS
SUBTOTAL				315.0	1300.0	670.0	31.1	31.1	
PAY TOTAL				315	1300	670	31	31	

ENTRANCES								
PLAN SHEET	ROADWAY	STA	STA	LOC				REMARKS
					8" PAVED APPROACH	TYPE 5 AGGREGATE FOR BASE (4" THICK)	CLASS 1 LINEAR GRADING	
					S.Y.	S.Y	STA.	
13 (TOP)	RTE 21	1148+83	1150+00	RT	215.5	215.5	0.5	
19 (TOP)	RTE N	43+98	44+58	RT	116.7	116.7	0.3	
	SUBTOTAL				332.2	332.2	0.8	
	SUBTOTAL FROM "ADA SIDEWALKS"				-	-	2.4	
	PAY TOTAL				332.2	332	3.2	

QUANTITY SHEET
SHEET 6 OF 7

STATE OF MISSOURI

PAUL JOSEPH KRONLAGE

REGISTERED PROFESSIONAL ENGINEER

EX-023328

Paul J. Kronlage

04/05/2025 10:46:01 AM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/31/2025

ROUTE 21
DISTRICT SL

STATE MO
SHEET NO. 3

COUNTY JEFFERSON

JOB NO. JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



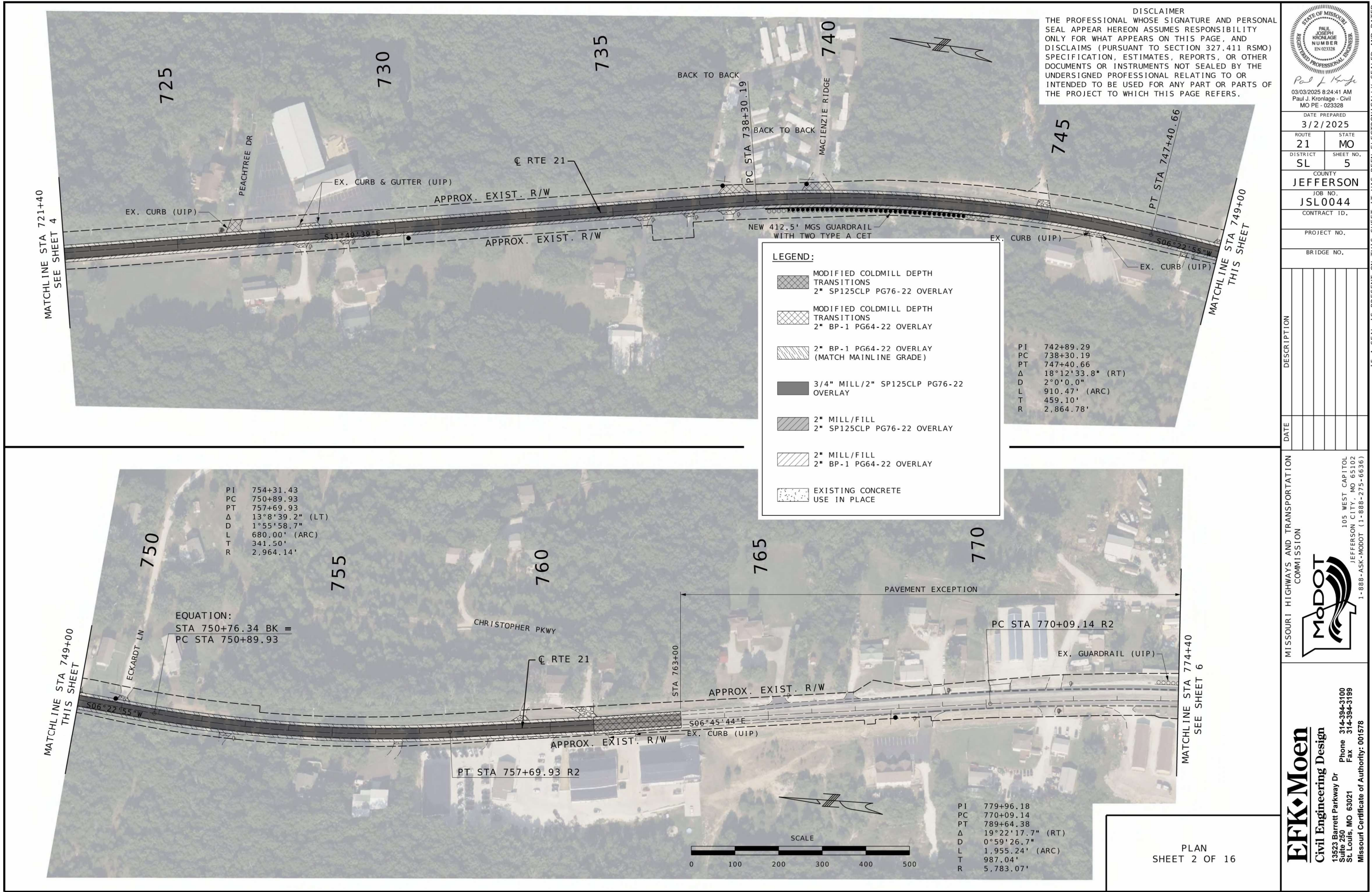
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6636)

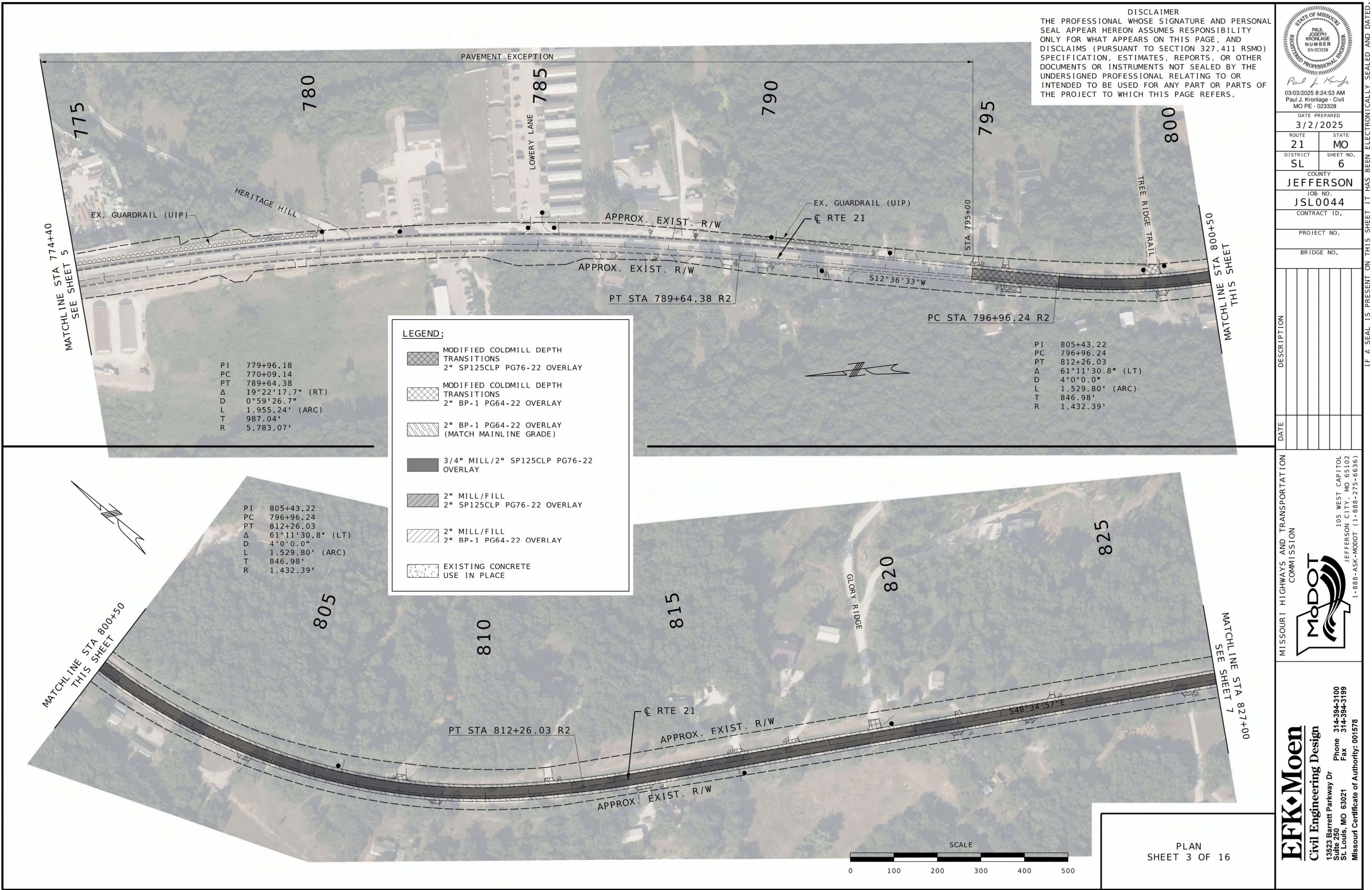
EFK Moen
Civil Engineering Design

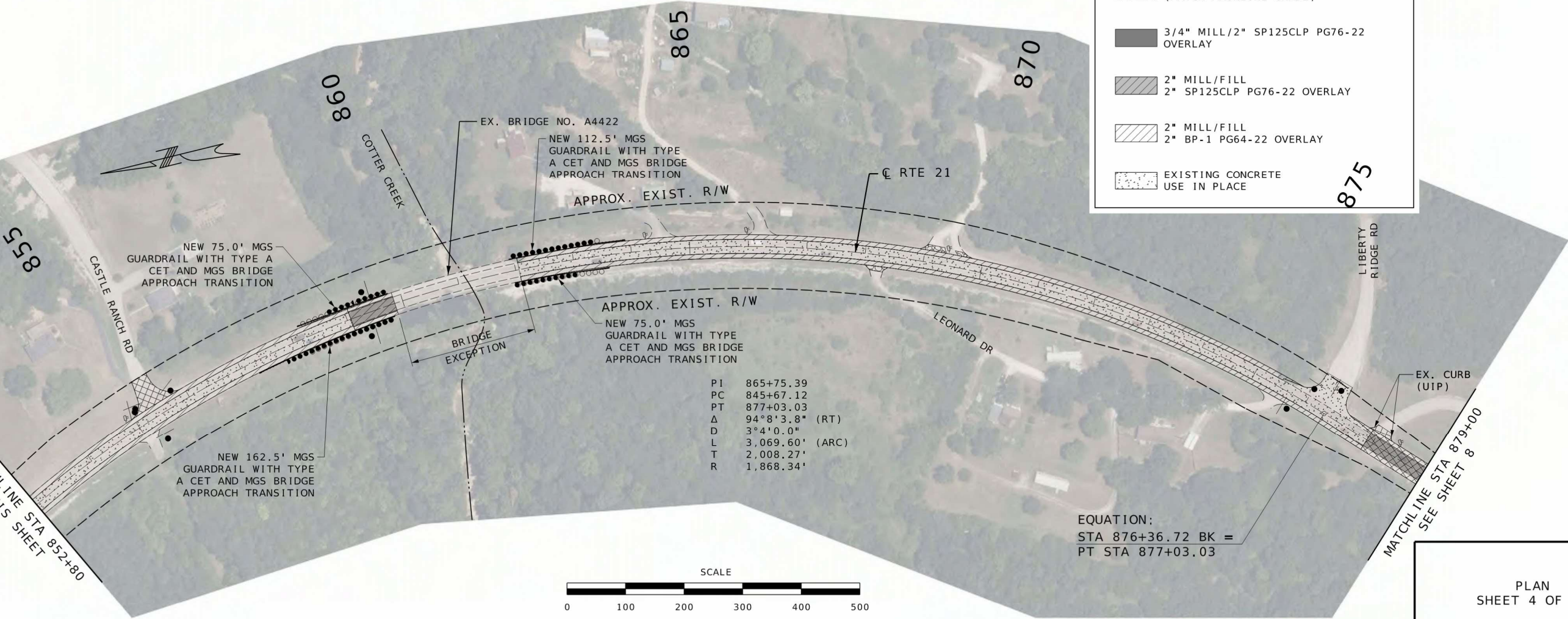
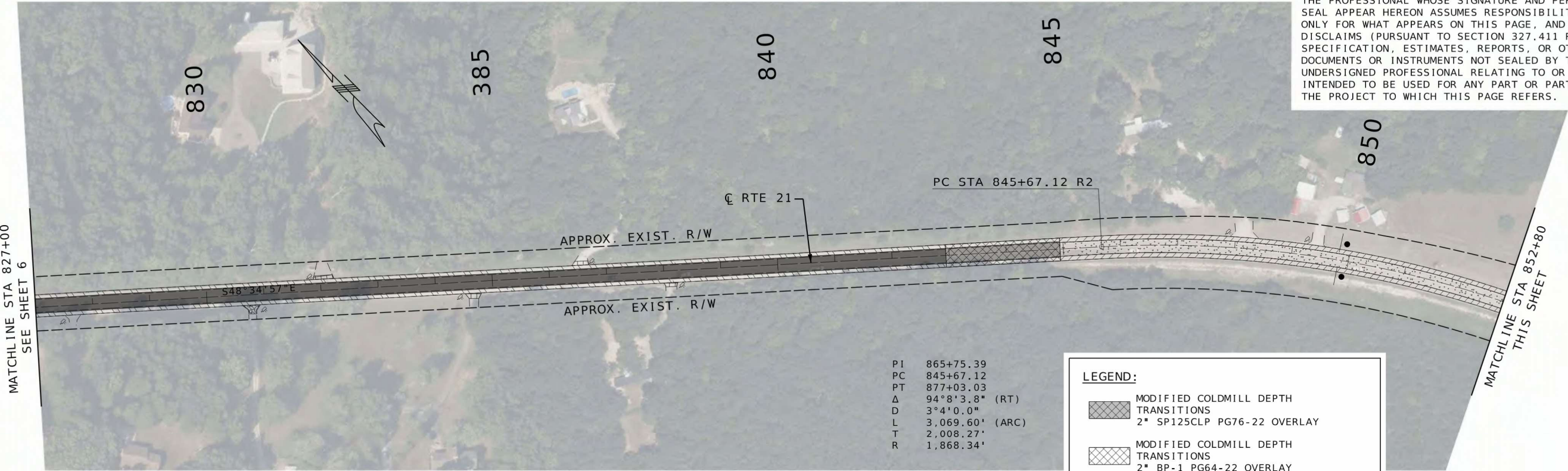
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
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EFFECTIVE: 07-01-2024																											
SIGN	SIZE	AREA	QTY	TOTAL	QTY	TOTAL	SIGN	SIZE	AREA	QTY	TOTAL	QTY	TOTAL	SIGN	SIZE	AREA	QTY	TOTAL	QTY	TOTAL	ITEM	TOTAL					
IN.	SQ. FT.	EACH	SQ. FT.	EACH	SQ. FT.	NUM.	IN.	SQ. FT.	EACH	SQ. FT.	EACH	SQ. FT.	NUM.	IN.	SQ. FT.	EACH	SQ. FT.	EACH	SQ. FT.	NUM.	NUMBER	QTY	DESCRIPTION				
WARNING SIGNS														DESCRIPTION													
W01-1L	48X48	16.00					TURN (SYMBOL LEFT)	E05-1	36X48	12.00											6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)				
W01-1R	48X48	16.00					TURN (SYMBOL RIGHT)	E05-2	48X36	12.00											6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)				
W01-2L	48X48	16.00					CURVE (SYMBOL LEFT)	E05-2a	48X36	12.00											6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)				
W01-2R	48X48	16.00					CURVE (SYMBOL RIGHT)	GO20-1	60X24	10.00	2	20									6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)				
W01-3L	48X48	16.00					REVERSE TURN (SYMBOL LEFT)	GO20-2	48X24	8.00	2	16									6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)				
W01-3R	48X48	16.00					REVERSE TURN (SYMBOL RIGHT)	GO20-4	36X18	4.50	1	4.5									6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)				
W01-4L	48X48	16.00					REVERSE CURVE (SYMBOL LEFT)	GO20-4a	42X30	8.75	5	43.8									6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)				
W01-4R	48X48	16.00					REVERSE CURVE (SYMBOL RIGHT)	GO20-4a	18X12	1.50	15	22.5									6122020		REPLACEMENT SAND BARREL				
W01-4bL	48X48	16.00					DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)	GO20-5aP	36X24	6.00											6122030		IMPACT ATTENUATOR (RELOCATION)				
W01-4bR	48X48	16.00					DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)	MO4-8a	24X18	3.00											6123001	1**	TRUCK MOUNTED ATTENUATOR (TMA)				
W01-4cL	48X48	16.00					TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)	MO4-9L	48X36	12.00											6161008	8	ADVANCED WARNING RAIL SYSTEM				
W01-4cR	48X48	16.00					TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)	MO4-9R	48X36	12.00											6161012		BUOYS (BOATS KEEP OUT)				
W01-6	60X30	12.50					HORIZONTAL ARROW (SYMBOL)	MO4-9P	48X12	4.00											6161013		BUOYS (NO WAKE)				
W01-6a	72X36	18.00					HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)	MO4-10L	48X18	6.00											6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)				
W01-7	60X30	12.50					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)	MO4-10R	48X18	6.00											6161025	250	CHANNELIZER (TRIM LINE)				
W01-7a	72X36	18.00					DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)	REGULATORY SIGNS												6161030	10	TYPE III MOVEABLE BARRICADE					
W01-8	18X24	3.00					CHEVRON (SYMBOL)	R1-1	36X36	9.00	8	72									6161033	28	DIRECTION INDICATOR BARRICADE				
W01-8a	30X36	7.50					CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)	R1-2	48TRI	6.93											6161040	2	FLASHING ARROW PANEL				
W03-1	48X48	16.00					STOP AHEAD (SYMBOL)	R1-2a	36X36	9.00											6161047		TYPE III OBJECT MARKER				
W03-2	48X48	16.00					YIELD AHEAD (SYMBOL)	R1-3P	30X12	2.50											6161055		SEQUENTIAL FLASHING WARNING LIGHT				
W03-3	48X48	16.00					SIGNAL AHEAD (SYMBOL)	R2-1	36X48	12.00											6161070		TUBULAR MARKER				
W03-4	48X48	16.00	6	96			BE PREPARED TO STOP	R3-1	48X48	16.00											6161095		RADAR SPEED ADVISORY SYSTEM				
W03-5	48X48	16.00					SPEED LIMIT AHEAD	R3-2	48X48	16.00											6161096		CHANGEABLE MESSAGE SIGN,				
W04-1L	48X48	16.00					MERGE (SYMBOL FROM LEFT)	R3-3	36X36	9.00										COMMISSION FURNISHED/RETAINED							
W04-1R	48X48	16.00					MERGE (SYMBOL FROM RIGHT)	R3-4	48X48	16.00										CHANGEABLE MESSAGE SIGN W/O COMM.							
W04-1aL	48X48	16.00					MERGE (LEFT)	R3-7L	30X30	6.25											6161098A		INTERFACE - CONTRACTOR FURNISHED/RETAINED				
W04-1aR	48X48	16.00					MERGE (RIGHT)	R3-7R	30X30	6.25													CHANGEABLE MESSAGE SIGN WITH COMM.				
W05-1	48X48	16.00					ROAD/BRIDGE/RAMP NARROWS	R4-1	36X48	12.00											6161099	5**	INTERFACE - CONTRACTOR FURNISHED/RETAINED				
W05-3	48X48	16.00					ONE LANE BRIDGE	R4-2	36X48	12.00											6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM				
W05-5	48X48	16.00					NARROW LANES	R4-7a	36X48	12.00											6162002		TEMPORARY LONG-TERM RUMBLE STRIPS				
W06-1	48X48	16.00					DIVIDED HIGHWAY (SYMBOL)	R4-8a	36X48	12.00											6173600D		TEMPORARY TRAFFIC BARRIER				
W06-2	48X48	16.00					DIVIDED HIGHWAY END (SYMBOL)	R5-1	30X30	6.25										CONTRACTOR FURNISHED/RETAINED							
W06-3	48X48	16.00					TWO WAY TRAFFIC (SYMBOL)	R5-1a	36X24	6.00										TEMPORARY TRAFFIC BARRIER							
W07-3a	30X24	5.00					NEXT XX MILES (PLAQUE)	R6-1L	54X18	6.75											6173602B		CONTRACTOR FURNISHED/COMMISSION RETAINED				
W08-1	48X48	16.00					BUMP	R6-1R	54X18	6.75											6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION				
W08-2	48X48	16.00					DIP	R6-2L	24X30	5.00											6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER				
W08-3	48X48	16.00					PAVEMENT ENDS	R6-2R	24X30	5.00											6176000B		TEMPORARY TRAFFIC BARRIER				
W08-4	48X48	16.00					SOFT SHOULDER	R9-9	24X12	2.00										COMMISSION FURNISHED/RETAINED							
W08-5	48X48	16.00					SLIPPERY WHEN WET (SYMBOL)	R9-11L	24X18	3.00										TEMP. TRAFFIC BARRIER HEIGHT TRANSITION							
W08-6	48X48	16.00					TRUCK CROSSING																COMMISSION FURNISHED/RETAINED				
W08-6c	48X48	16.00					TRUCK ENTRANCE																TEMPORARY RAISED PAVEMENT MARKER				
W08-7	36X36	9.00					LOOSE GRAVEL	R9-11R	24X18	3.00											9029901	1**	TRAFFIC SIGNAL MAINTENANCE & PROGRAMMING				
W08-7a	36X36	9.00					FRESH OIL / LOOSE GRAVEL	R10-6	24X36	6.00											9109901	1**	ITS ASSET MANAGEMENT TOOL				
W08-9	48X48	16.00					LOW SHOULDER	R11-2	48X30	10.00											9109903	800**	MODOT ITS ASSETS RELOCATION				
W08-11	48X48	16.00	20	320			UNEVEN LANES	R11-3a	60X30	12.50											6199903	10**	ADA COMPLIANT TYPE III MOVABLE BARRICADE				
W08-12	48X48	16.00	20	320			NO CENTER LINE																				
W08-15	48X48	16.00					GROOVED PAVEMENT																				
W08-15P	30X24	5.00					MOTORCYCLE (PLAQUE)	R11-4	60X30	12.50																	
W08-17L	48X48	16.00					SHOULDER DROP-OFF (SYMBOL LEFT)	CONST-3A	60X48	20.00																	
W08-17R	48X48	16.00					SHOULDER DROP-OFF (SYMBOL RIGHT)	CONST-3X	56X12	4.67																	
W08-17P	30X24	5.00					SHOULDER DROP-OFF (PLAQUE)	MISCELLANEOUS SIGNS																			
W10-1	42RND.	9.62					RAILROAD CROSSING	CONST-5	48X36	12.00																	
W012-1	24X24	4.00					DOUBLE DOWN ARROW (SYMBOL)	CONST-5	96X48	32.00																	
W012-2	48X48	16.00					LOW CLEARANCE (SYMBOL)	CONST-8	48X36	12.00	2	24															
W012-2x	24X18	3.00					LOW CLEARANCE (PLAQUE)	SPECIAL	66x42	20.00																	
W012-2a	84X24	14.00					OVERHEAD LOW CLEARANCE (FEET AND INCHES)	R10-11a	30x36	9.00																	
W012-4	120X60	50.00					LOW CLEARANCE XX FT XX IN XX MILES AHEAD	G022-1	21X15	2.19																	
W012-5	120X60	50.00					WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD	CONST-5-48	96X48	32	2	64															
W013-1	30X30	6.25					ADVISORY SPEED (PLAQUE)																				
W016-2	30X24	5.00					XXX FEET (PLAQUE)																				
W016-3	30X24	5.00					X MILE (PLAQUE)																				
W020-1	48X48	16.00	12	192			ROAD/BRIDGE/RAMP WORK AHEAD	616-10.05												TOTAL		*NO DIRECT PAY WILL BE MADE FOR RELOCATION OF CONSTRUCTION SIGHTING OR DEVICES.					
W020-2	48X48	16.00					DETOUR AHEAD	CONSTRUCTION SIGNS												1483							
W020-3	48X48	16.00	2	32			ROAD CLOSED AHEAD	616-10.10												TOTAL		** NOT INCLUDED IN TEMPORARY TRAFFIC CONTROL LUMP SUM BID: CMS LOCATION TO BE DETERMINED BY THE ENGINEER.					
W020-4	48X48	16.00	8	128			ONE LANE ROAD AHEAD																				







PI 865+75.39
PC 845+67.12
PT 877+03.03
Δ 94°8'3.8" (RT)
D 3°4'0.0"
L 3,069.60' (ARC)
T 2,008.27'
R 1,868.34'

LEGEND:

- MODIFIED COLDMILL DEPTH TRANSITIONS
2" SP125CLP PG76-22 OVERLAY
- MODIFIED COLDMILL DEPTH TRANSITIONS
2" BP-1 PG64-22 OVERLAY
- 2" BP-1 PG64-22 OVERLAY
(MATCH MAINLINE GRADE)
- 3/4" MILL/2" SP125CLP PG76-22 OVERLAY
- 2" MILL/FILL
2" SP125CLP PG76-22 OVERLAY
- 2" MILL/FILL
2" BP-1 PG64-22 OVERLAY
- EXISTING CONCRETE
USE IN PLACE

EQUATION:
STA 876+36.72 BK =
PT STA 877+03.03

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Paul J. Kronlage - Civil
MO PE - 023328

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3/2/2025

ROUTE 21 STATE MO

DISTRICT SL SHEET NO. 7

COUNTY JEFFERSON

JOB NO. JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

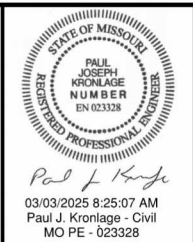
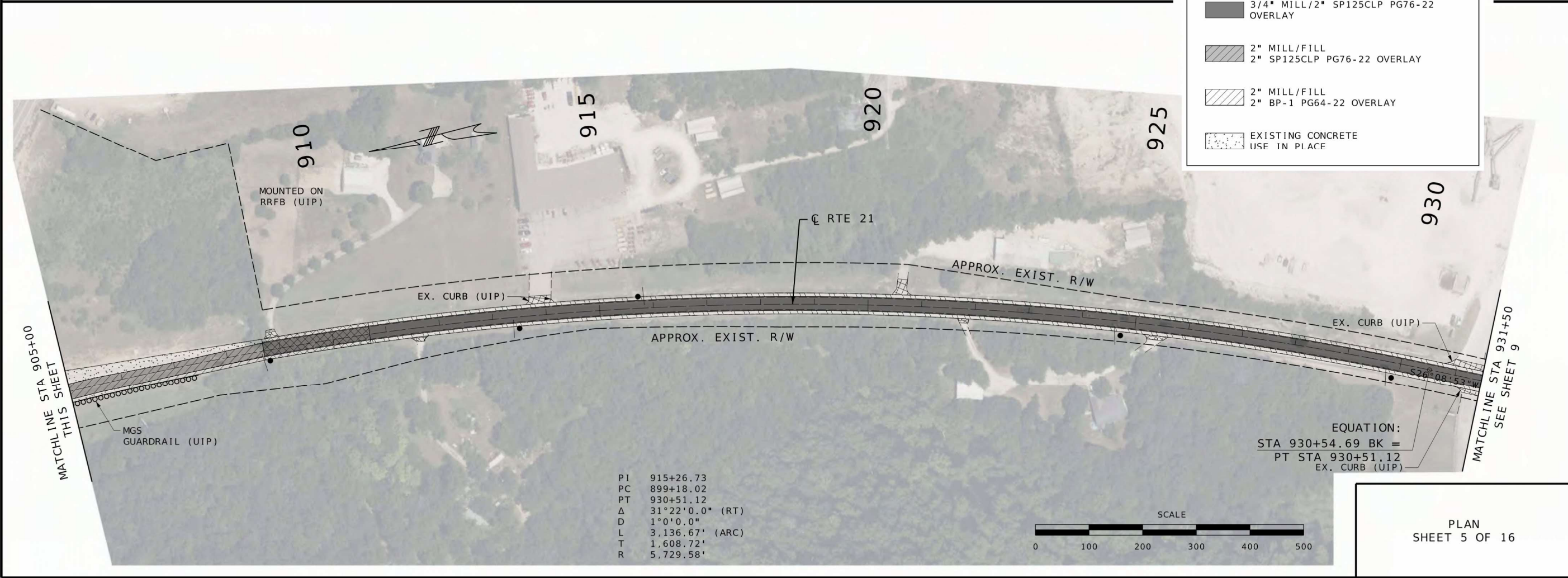
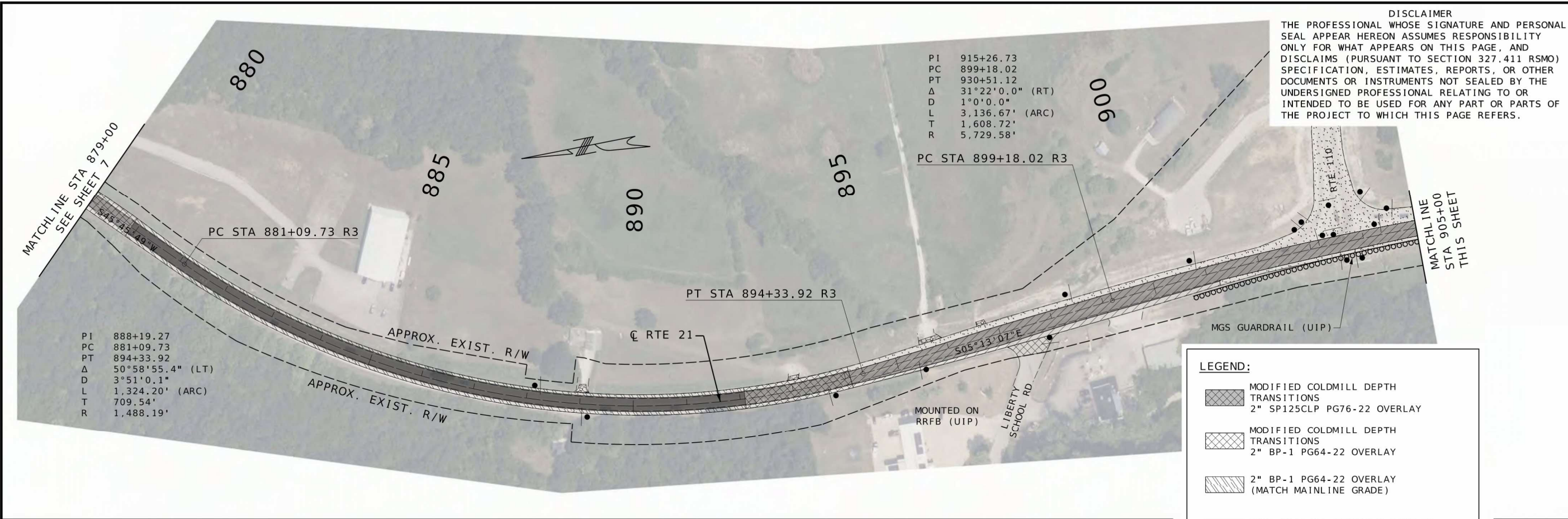
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PLAN
SHEET 4 OF 16



DATE PREPARED 3/2/2025	
ROUTE 21	STATE MO
DISTRICT SL	SHEET NO. 8
COUNTY JEFFERSON	
JOB NO. JSL0044	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

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ROUTE 21 STATE MO

DISTRICT SL SHEET NO. 9

COUNTY JEFFERSON

JOB NO. JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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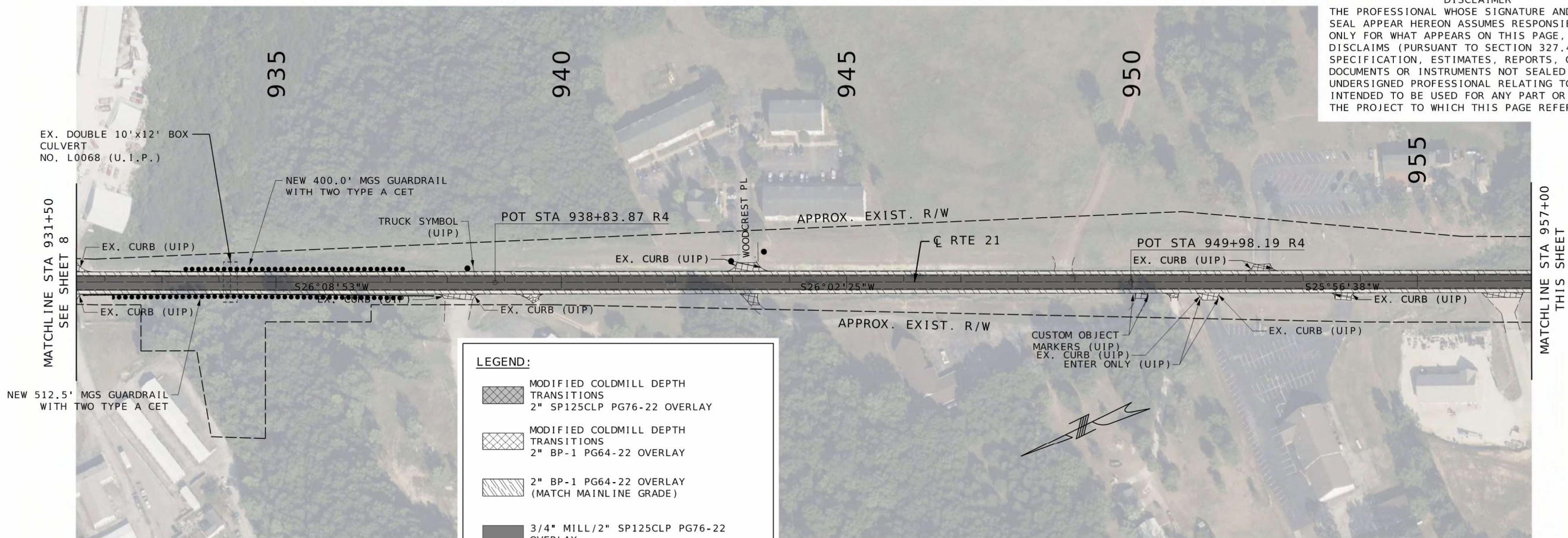
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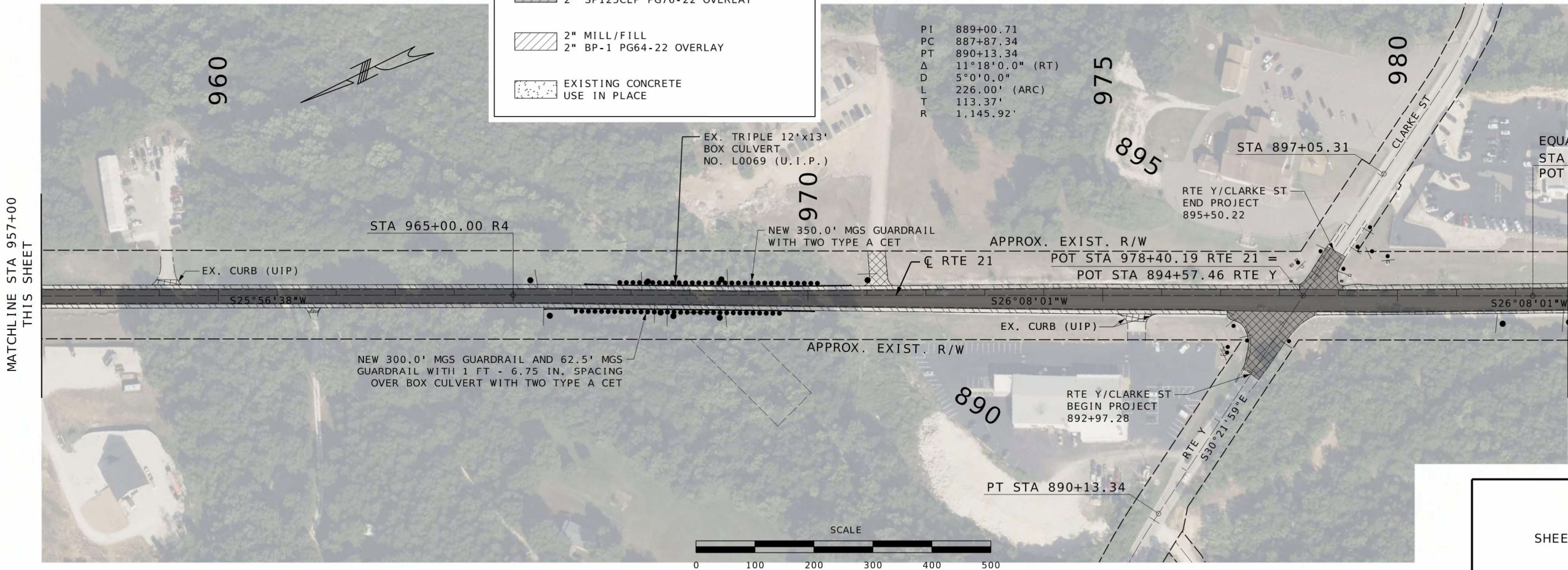
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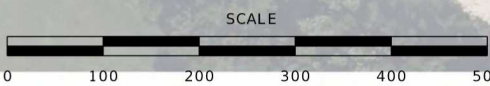


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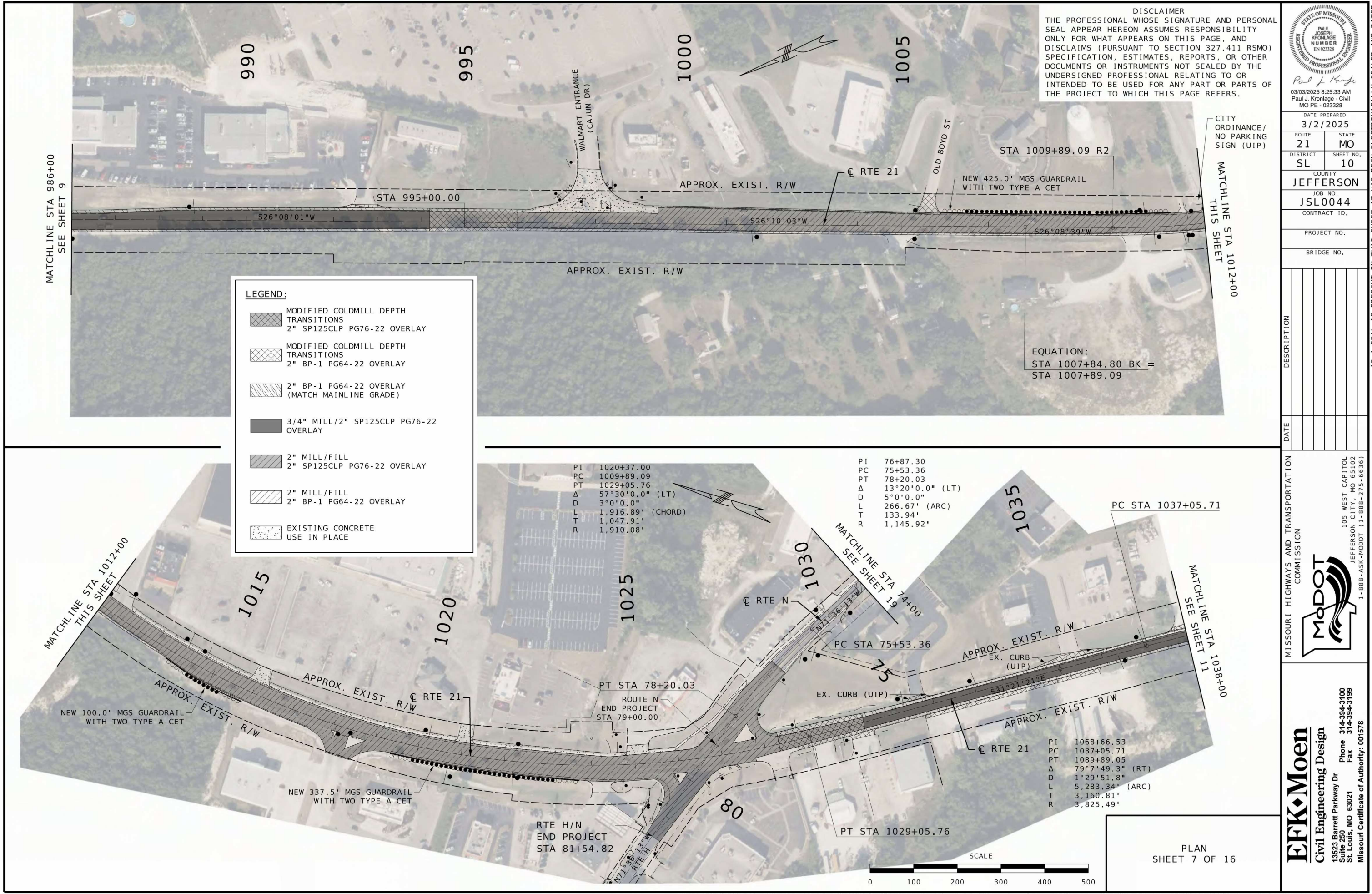
- MODIFIED COLDMILL DEPTH TRANSITIONS
2" SP125CLP PG76-22 OVERLAY
- MODIFIED COLDMILL DEPTH TRANSITIONS
2" BP-1 PG64-22 OVERLAY
- 2" BP-1 PG64-22 OVERLAY
(MATCH MAINLINE GRADE)
- 3/4" MILL/2" SP125CLP PG76-22 OVERLAY
- 2" MILL/FILL
2" SP125CLP PG76-22 OVERLAY
- 2" MILL/FILL
2" BP-1 PG64-22 OVERLAY
- EXISTING CONCRETE
USE IN PLACE



EQUATION:
STA 982+29.40 BK =
POT STA 985+40.00



PLAN
SHEET 6 OF 16



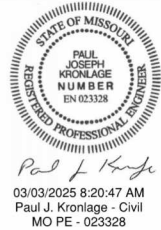
PI 1068+66.53
PC 1037+05.71
PT 1089+89.05
Δ 79°7'49.3" (RT)
D 1°29'51.8"
L 5,283.34' (ARC)
T 3,160.81'
R 3,825.49'

LEGEND:

- MODIFIED COLDMILL DEPTH TRANSITIONS
2" SP125CLP PG76-22 OVERLAY
- MODIFIED COLDMILL DEPTH TRANSITIONS
2" BP-1 PG64-22 OVERLAY
- 2" BP-1 PG64-22 OVERLAY
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- EXISTING CONCRETE
USE IN PLACE

PI 1068+66.53
PC 1037+05.71
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Δ 79°7'49.3" (RT)
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3/2/2025

ROUTE 21 STATE MO

DISTRICT SL SHEET NO. 11

COUNTY JEFFERSON

JOB NO. JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

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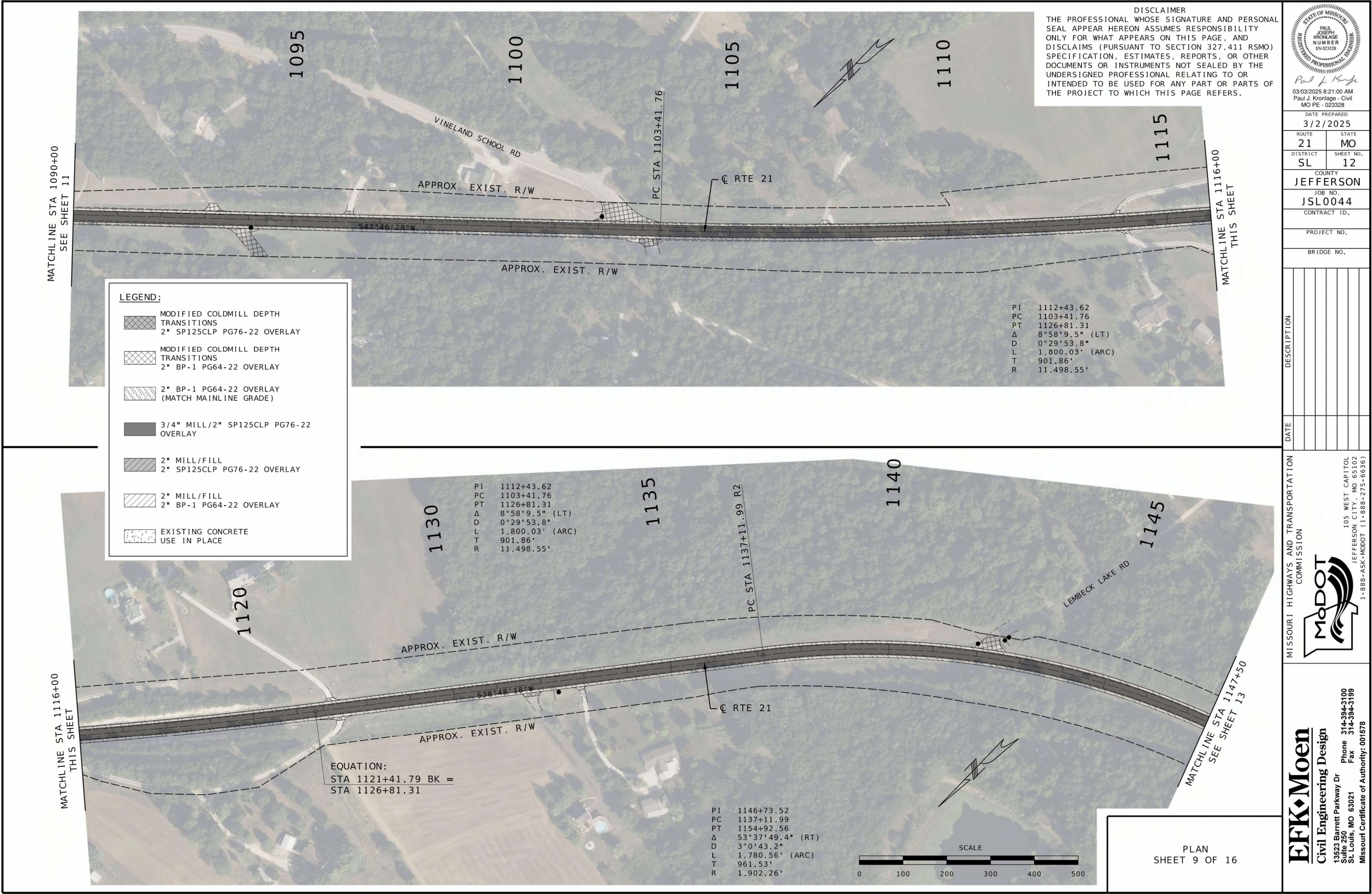
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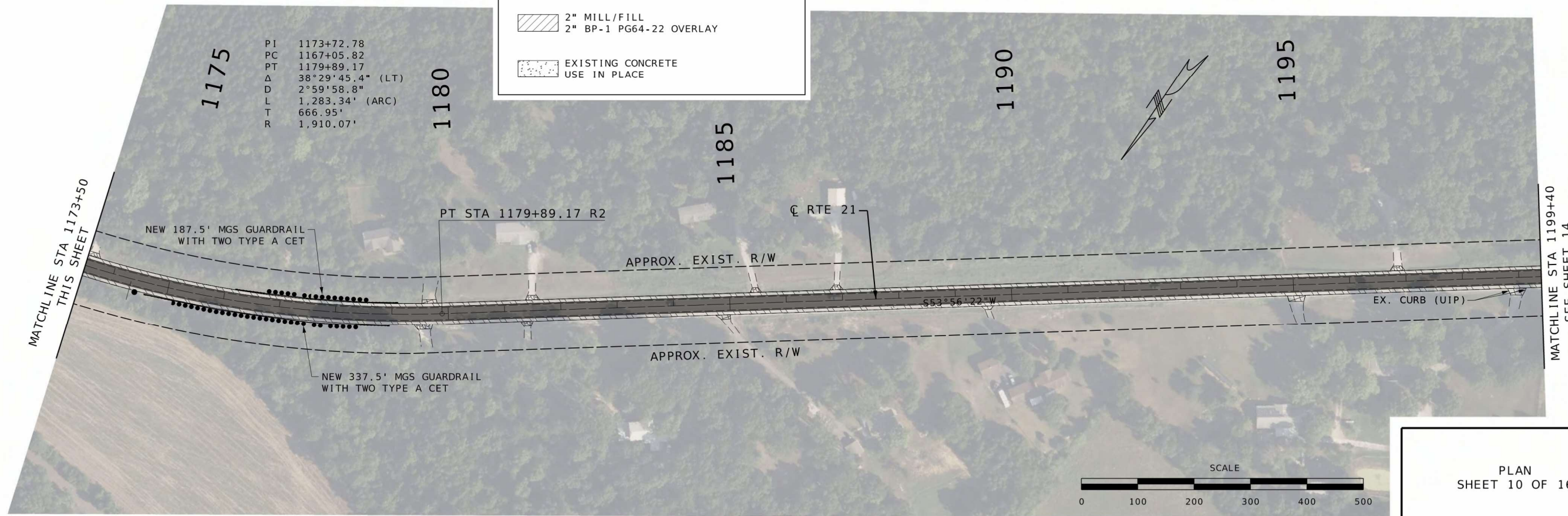
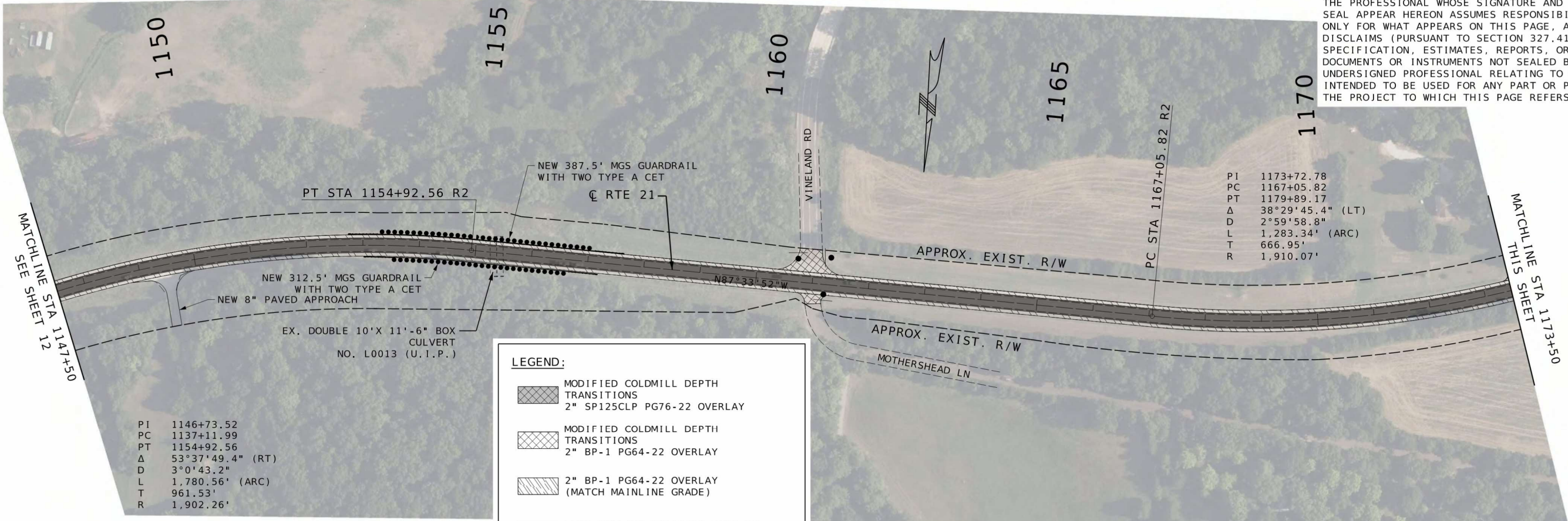
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Paul J. Kronlage - Civil
MO PE - 023328

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3/2/2025

ROUTE 21 STATE MO

DISTRICT SL SHEET NO. 13

COUNTY JEFFERSON

JOB NO. JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

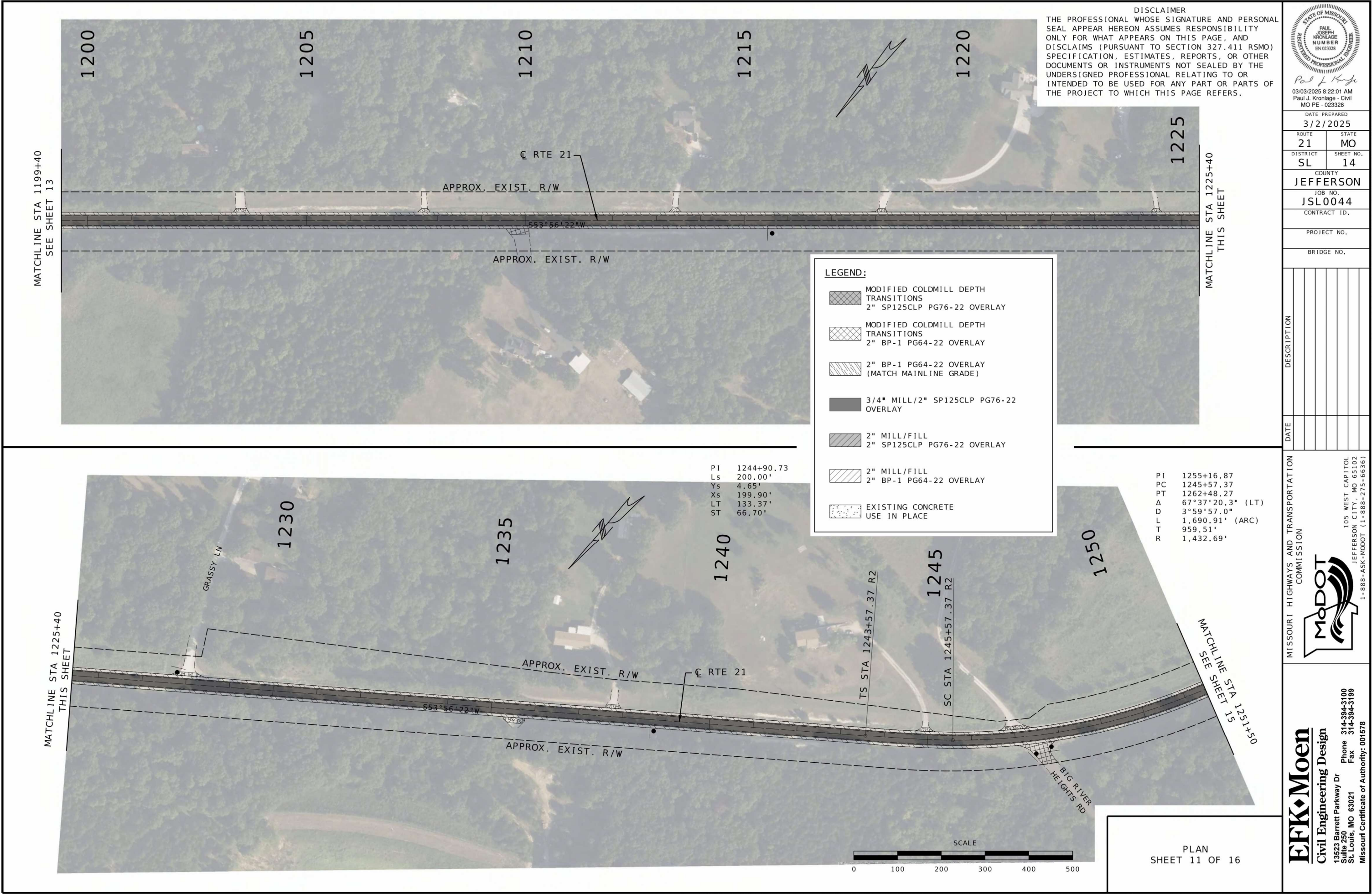
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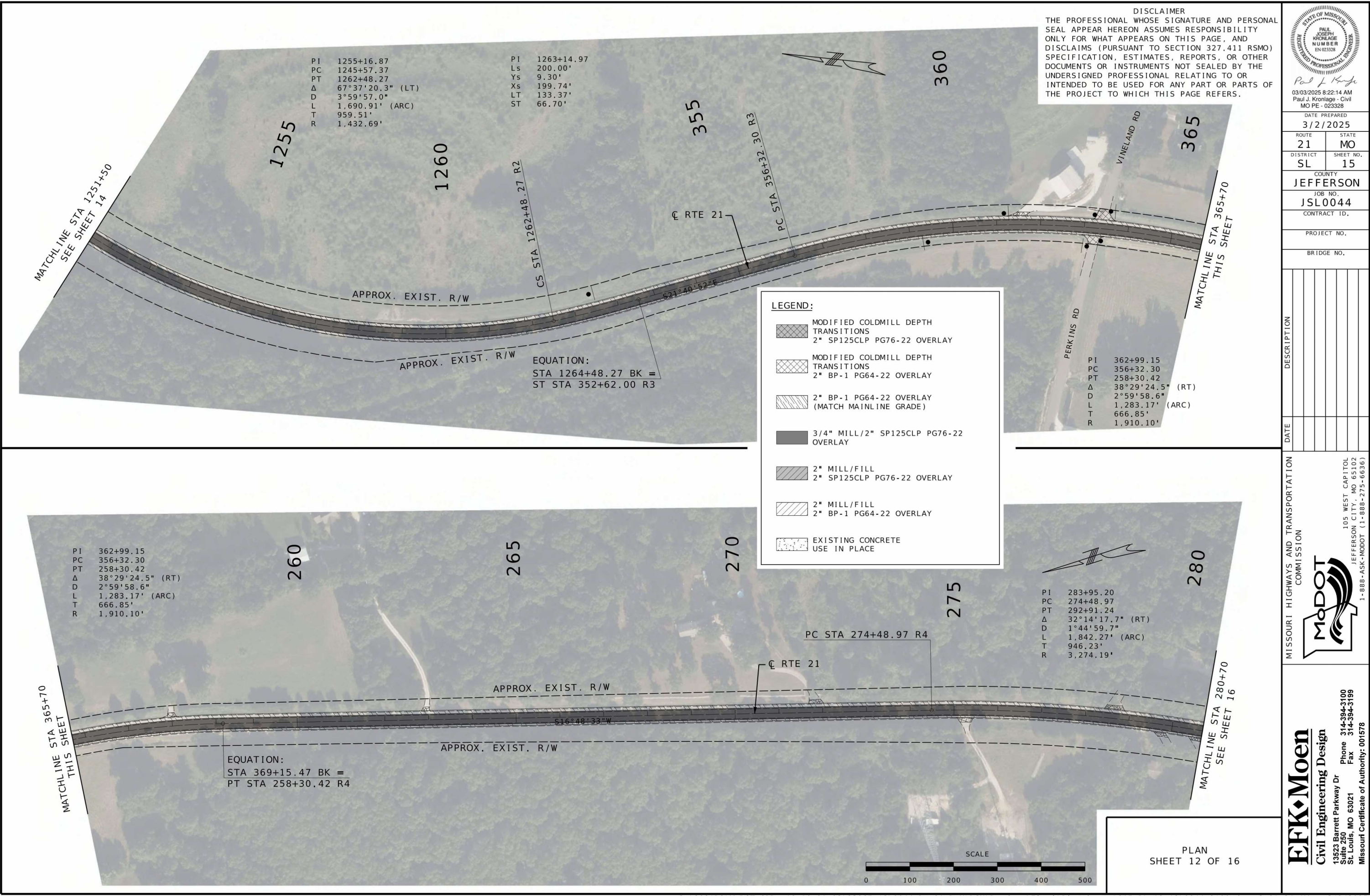
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PLAN
SHEET 10 OF 16





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Paul J. Kronlage - Civil
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DATE PREPARED
3/2/2025

ROUTE 21 STATE MO

DISTRICT SL SHEET NO. 15

COUNTY JEFFERSON

JOB NO. JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

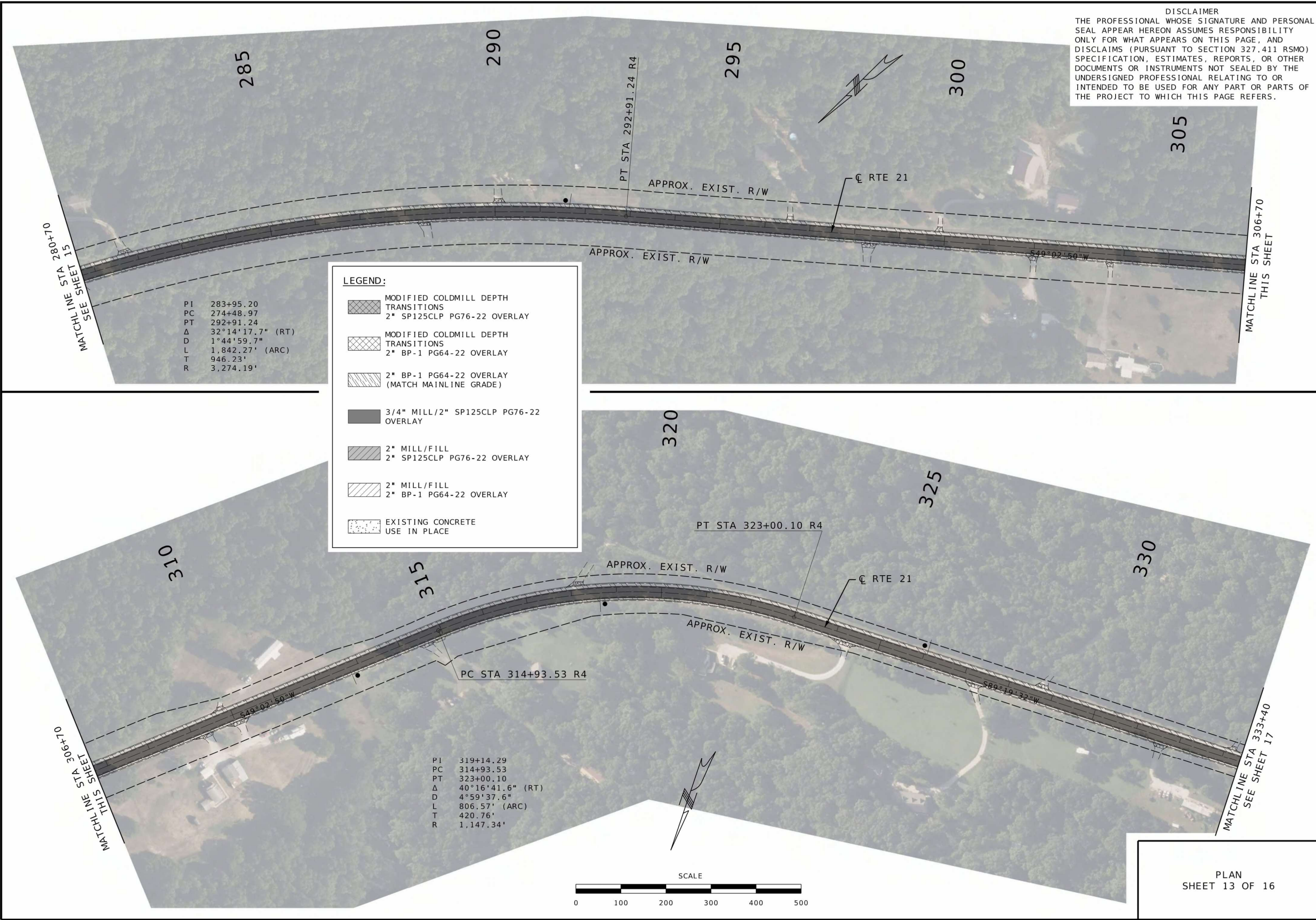
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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PLAN
SHEET 12 OF 16



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Paul J. Kronlage - Civil
MO PE - 023328

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3/2/2025

ROUTE 21 STATE MO

DISTRICT SL SHEET NO. 16

COUNTY JEFFERSON

JOB NO. JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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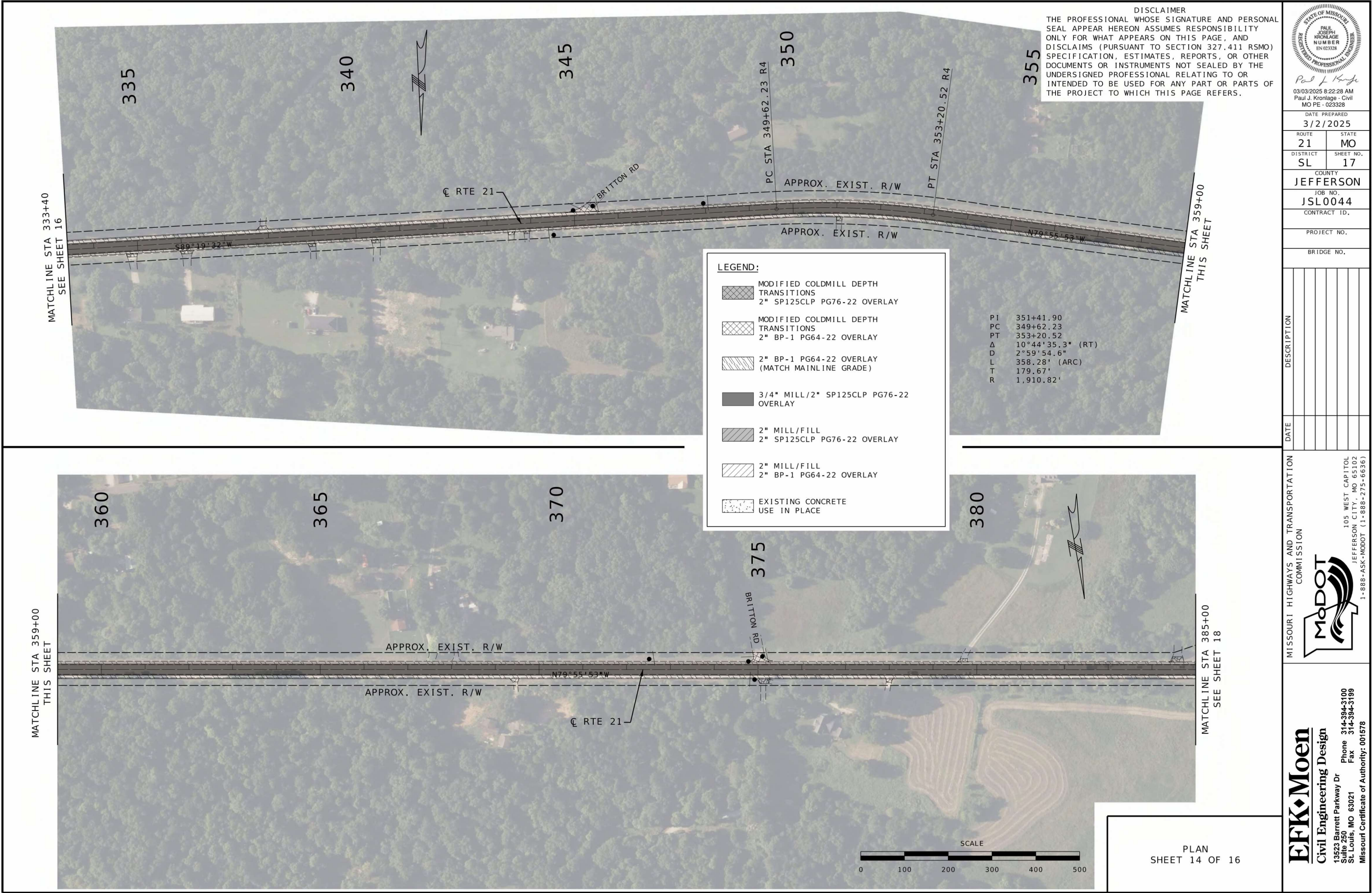
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03/03/2025 8:22:47 AM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/2/2025

ROUTE	STATE
21	MO
DISTRICT	SHEET NO.
SL	18

COUNTY
JEFFERSON

JOB NO.
JSL0044

CONTRACT ID.

PROJECT NO.

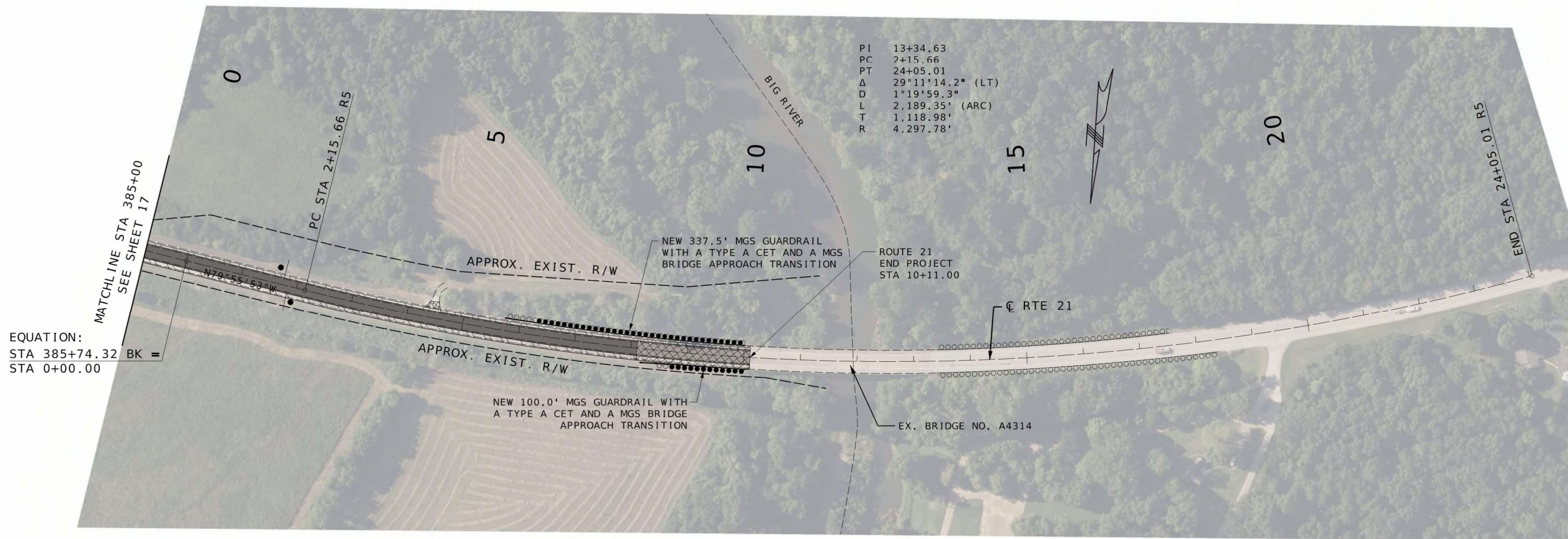
BRIDGE NO.

DESCRIPTION	DATE

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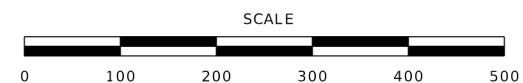
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Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



EQUATION:
STA 385+74.32 BK =
STA 0+00.00

LEGEND:

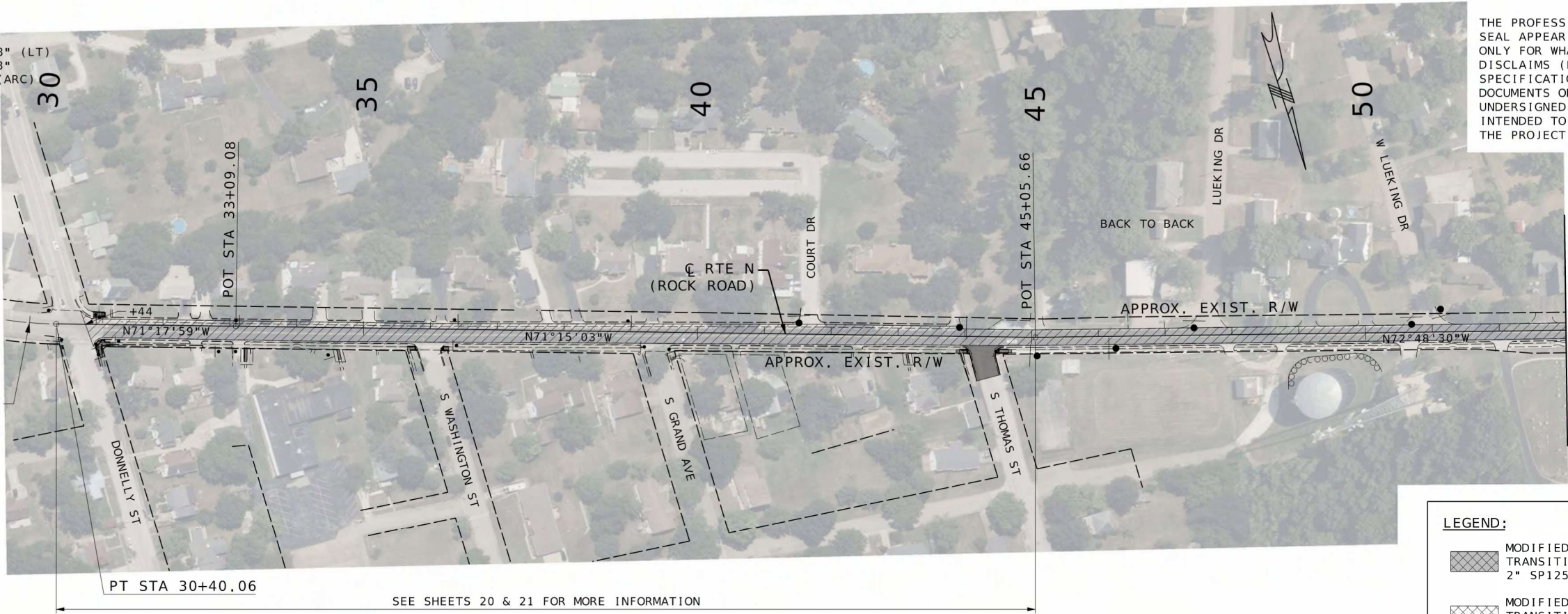
- MODIFIED COLDMILL DEPTH TRANSITIONS
2" SP125CLP PG76-22 OVERLAY
- MODIFIED COLDMILL DEPTH TRANSITIONS
2" BP-1 PG64-22 OVERLAY
- 2" BP-1 PG64-22 OVERLAY
(MATCH MAINLINE GRADE)
- 3/4" MILL/2" SP125CLP PG76-22 OVERLAY
- 2" MILL/FILL
2" SP125CLP PG76-22 OVERLAY
- 2" MILL/FILL
2" BP-1 PG64-22 OVERLAY
- EXISTING CONCRETE
USE IN PLACE



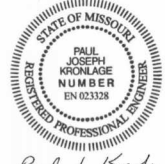
PLAN
SHEET 15 OF 16

PI 29+00.39
PC 27+54.69
PT 30+40.06
Δ 28°30'2.8" (LT)
D 9°59'14.3"
L 285.37' (ARC)
T 145.70'
R 573.69'

ROUTE N
BEGIN PROJECT
STA 30+00.00



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Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/2/2025

ROUTE 21 STATE MO

DISTRICT SL SHEET NO. 19

COUNTY JEFFERSON

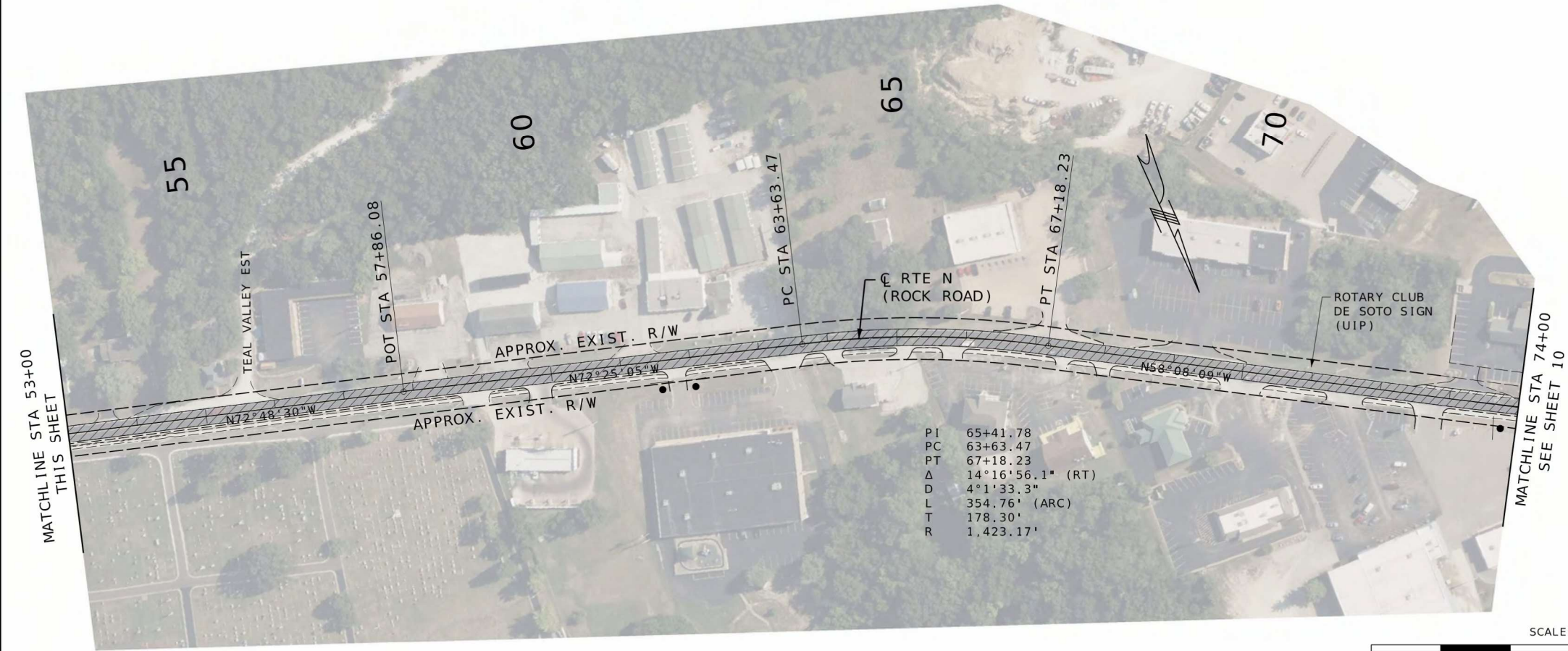
JOB NO. JSL0044

CONTRACT ID.

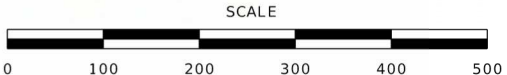
PROJECT NO.

BRIDGE NO.

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PI 65+41.78
PC 63+63.47
PT 67+18.23
Δ 14°16'56.1" (RT)
D 4°1'33.3"
L 354.76' (ARC)
T 178.30'
R 1,423.17'



PLAN
SHEET 16 OF 16

- LEGEND:
- MODIFIED COLDMILL DEPTH TRANSITIONS
2" SP125CLP PG76-22 OVERLAY
 - MODIFIED COLDMILL DEPTH TRANSITIONS
2" BP-1 PG64-22 OVERLAY
 - 2" BP-1 PG64-22 OVERLAY
(MATCH MAINLINE GRADE)
 - NEW CONCRETE PAVED APPROACH
 - 2" MILL/FILL
2" SP125CLP PG76-22 OVERLAY
 - 2" MILL/FILL
2" BP-1 PG64-22 OVERLAY
 - EXISTING CONCRETE
USE IN PLACE

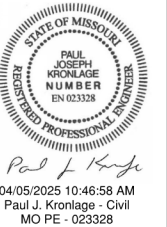
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
MoDOT
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

ROUTE 21 REFERENCE POINTS
GRID NORTH OF THE MISSOURI STATE PLANE COORDINATE
SYSTEM, EASTERN ZONE, NAD - 83, NAVD - 88
RECIPROCAL AVERAGE GRID FACTOR: 0.99998069
(SCALE FACTOR = 1.00001931)

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3/4/2025	
ROUTE	STATE
21	MO
DISTRICT	SHEET NO.
SL	20
COUNTY	
JEFFERSON	
JOB NO.	
JSL0044	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

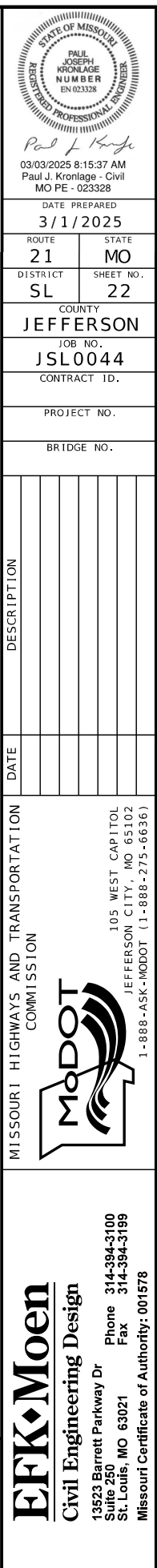
[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITAL
JEFFERSON CITY, MO 65102
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REFERENCE POINTS
SHEET 1 OF 1

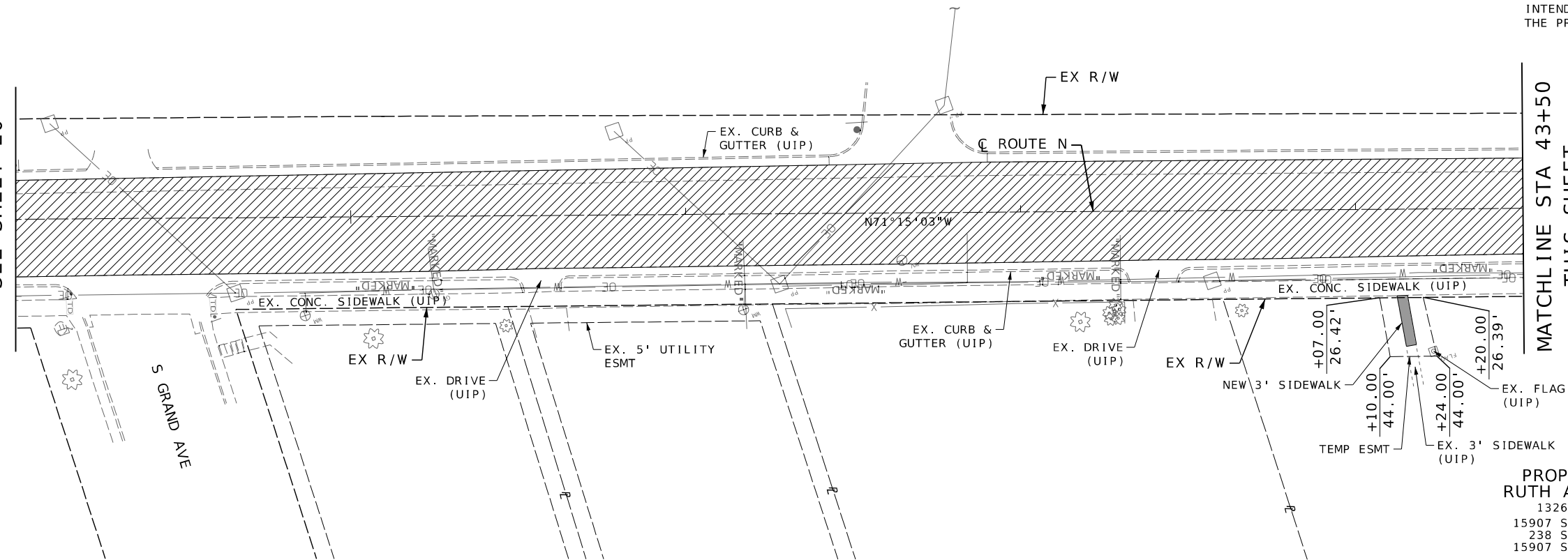


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MATCHLINE STA 39+00
SEE SHEET 20

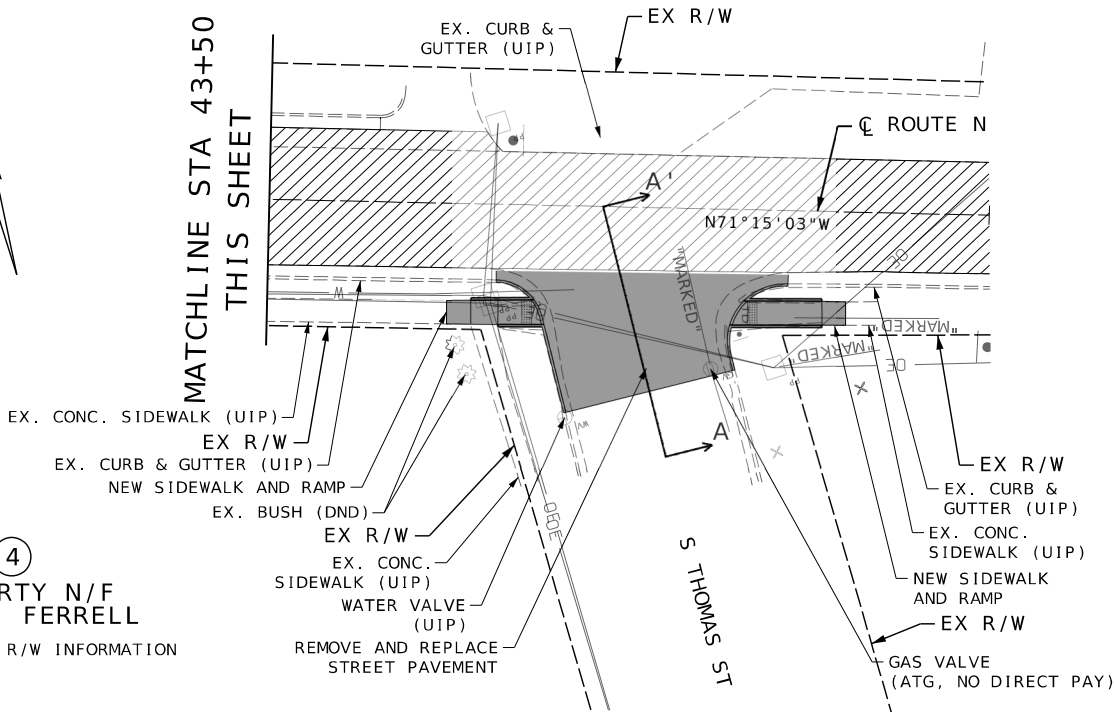
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MATCHLINE STA 43+50
THIS SHEET

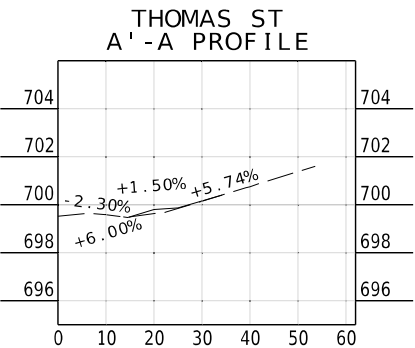
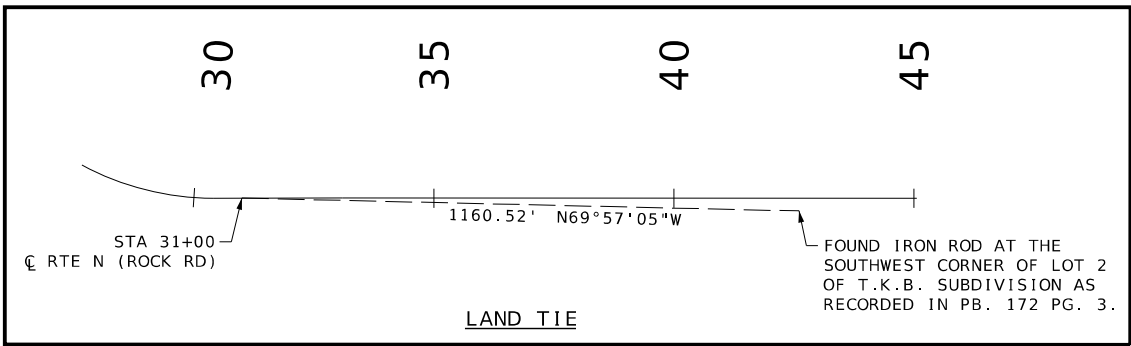


PROPERTY N/F
RUTH A. FERRELL
1326 ROCK ROAD
15907 SF EXISTING
238 SF TEMP. ESM'T
15907 SF REMAINING

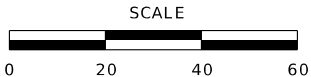
MATCHLINE STA 43+50
THIS SHEET



PROPERTY N/F
RUTH A. FERRELL
SEE ABOVE FOR R/W INFORMATION

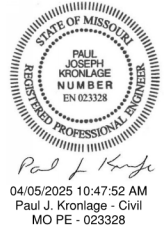


LEGEND:
2\"/>



SPECIAL SHEET
RIGHT OF WAY PLAN
ROUTE N
SHEET 2 OF 2

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DATE PREPARED 4/3/2025	
ROUTE 21	STATE MO
DISTRICT SL	SHEET NO. 23
COUNTY JEFFERSON	
JOB NO. JSL0044	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

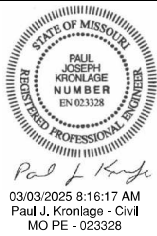
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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JEFFERSON CITY, MO 65102
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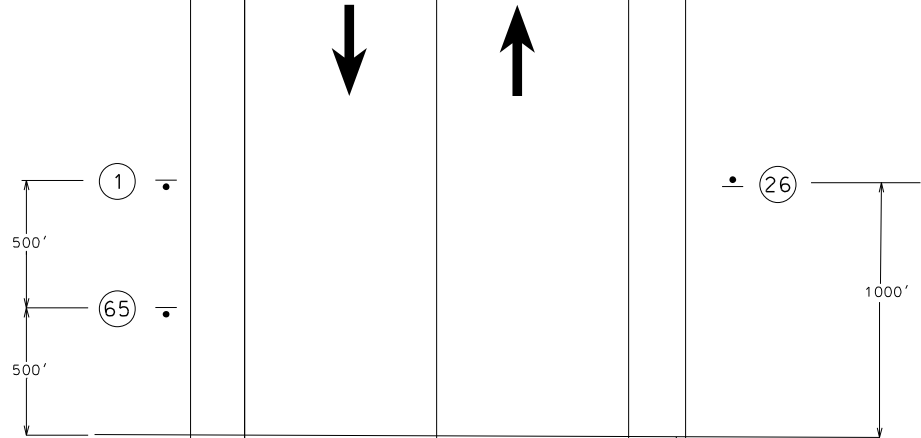
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BEGIN/END OF PROJECT SIGNING FOR UNDIVIDED TWO-LANE

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DATE PREPARED 3/1/2025	
ROUTE 21	STATE MO
DISTRICT SL	SHEET NO. 24
COUNTY JEFFERSON	
JOB NO. JSL0044	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	



END OF PROJECT LIMITS;
END OF WORK ZONE TERMINATION
AREA, IF LOCATED BEYOND END
OF PROJECT; OR LAST WORK
ZONE SIGN, IF LOCATED OUTSIDE
PROJECT LIMITS

ROAD WORK
NEXT 15 MILES

GO20-1

(1)

WORK ZONE
NO PHONE
ZONE

CONST-8

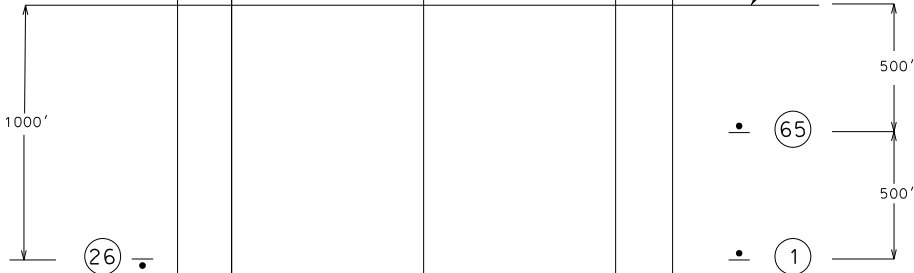
(59)

END
ROAD WORK

GO20-2

(26)

BEGINNING OF PROJECT LIMITS;
OR INITIAL WORK ZONE SIGN,
IF LOCATED OUTSIDE PROJECT
LIMITS

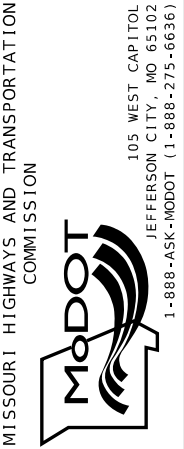


NOTES:

- (1) THE CONTRACTOR IS RESPONSIBLE FOR COMPLETELY COVERING OR REMOVING ALL EXISTING SIGNING, PAVEMENT MARKING, OR SIGNALS THAT CONFLICTS WITH THE TEMPORARY TRAFFIC CONTROL
- (2) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ADJUSTMENTS ACCORDING TO FIELD CONDITIONS. WHERE TRAFFIC BACKUPS OCCUR OR ARE EXPECTED BEYOND THE ADVANCE WARNING AREA, THE CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING ADDITIONAL SIGNING.
- (3) SEE STANDARD PLAN 620.10 FOR PLACEMENT OF NO CENTER LINE, UNEVEN PAVEMENT, BUMP, AND SHOULDER DROP-OFF SIGNS.

TRAFFIC CONTROL
SHEET 1 OF 10

NOT TO SCALE



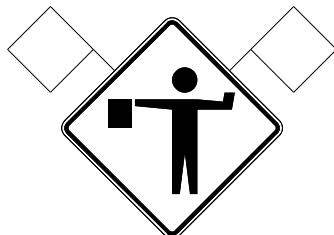
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W020-4

7



W020-7a

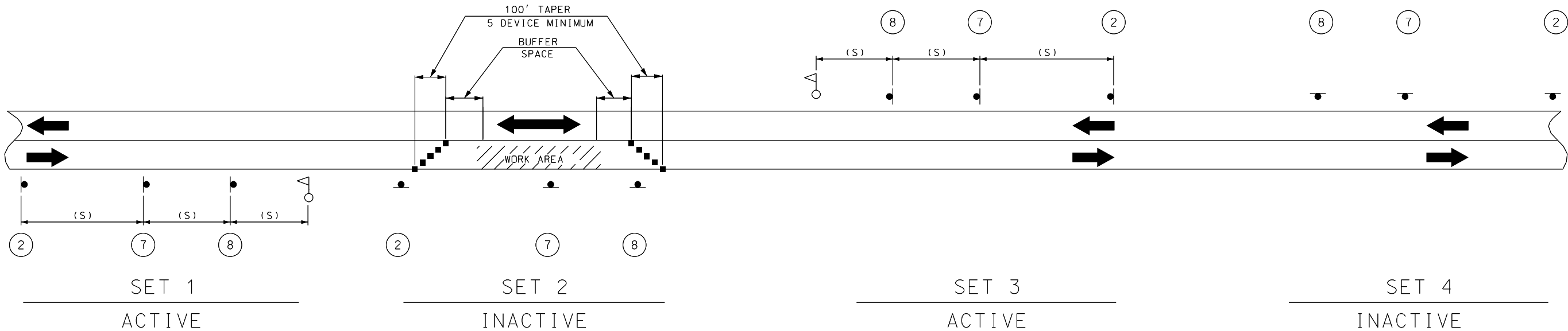
8



G020-4

53

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



NOTES:

DAYLIGHT FLAGGING OPERATIONS ONLY.

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

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

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

■ - CHANNELIZERS

△ - FLAGGER

SPEED	SIGN SPACING (FT) (1)	BUFFER SPACE
PERMANENT POSTED (MPH)	NON-DIVIDED HIGHWAYS (S)	LENGTH (FT)
0-35	200	280
40-45	350	400
50-55	500	560
60-70	1000	840

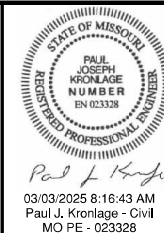
(1) SPACING BETWEEN SIGNS, BETWEEN LAST SIGN AND FLAGGER, BEGINNING OF TAPER OR SIGNED CONDITION.

SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS.

NOT TO SCALE

TRAFFIC CONTROL
SHEET 2 OF 10

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ROUTE
21

DISTRICT
SL

STATE
MO

SHEET NO.
25

COUNTY
JEFFERSON

JOB NO.
JSL0044

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)

EFK Moen
Civil Engineering Design
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Suite 250
St. Louis, MO 63021
Phone 314-394-3100
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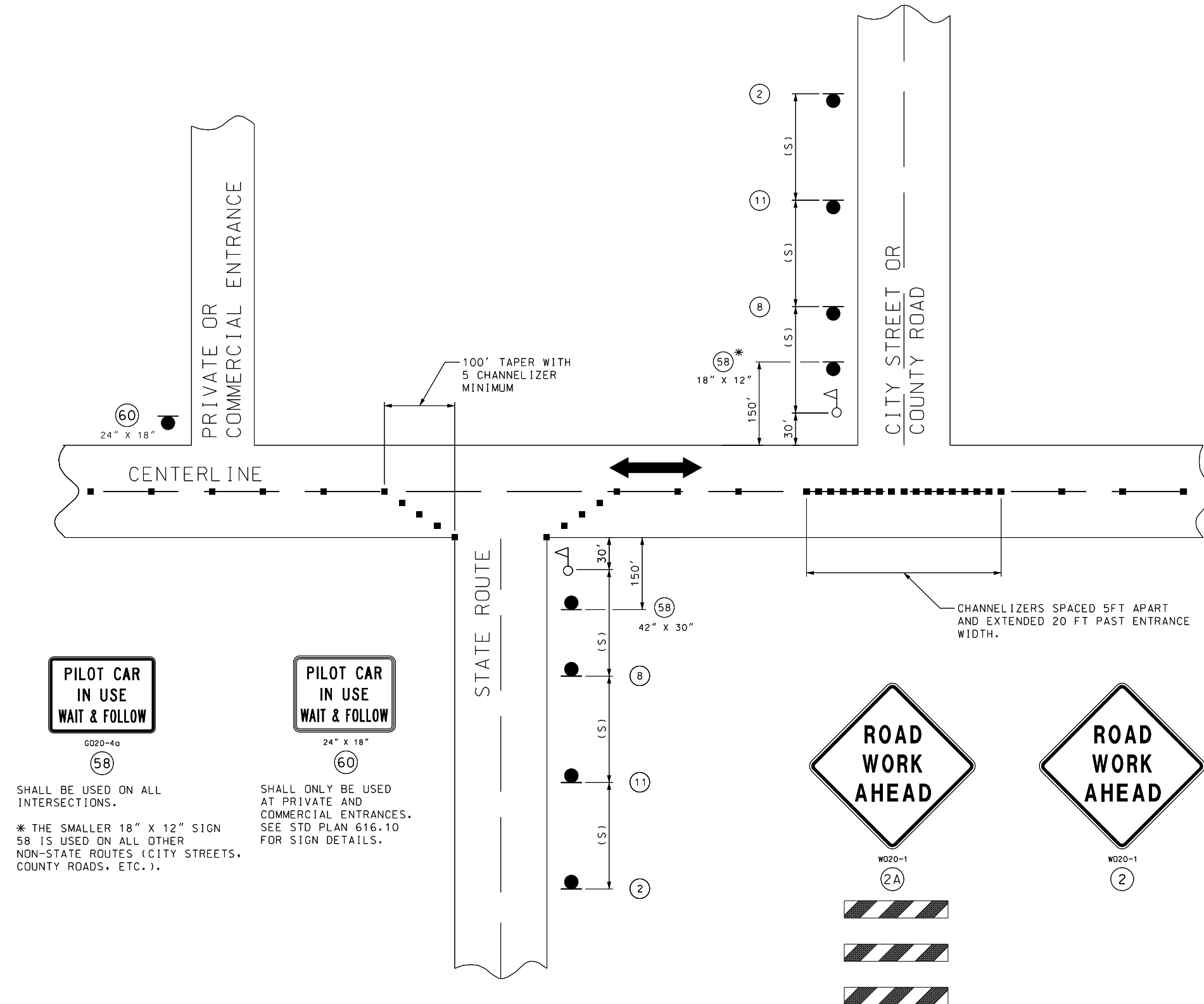
Paul J. Kronlage
03/03/2025 8:17:01 AM
Paul J. Kronlage - Civil
MO PE - 023328

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

SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS.

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

 - FLAGGER



* SIGN (2A) WITH AWRS MUST BE GROUND OR SKID MOUNTED.

NOT TO SCALE

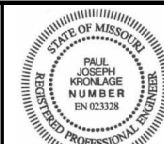
SIDE ROADS ENTERING WORK ZONES

TRAFFIC CONTROL
SHEET 3 OF 10

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Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/1/2025

ROUTE 21 STATE MO

DISTRICT SL SHEET NO. 27

COUNTY JEFFERSON

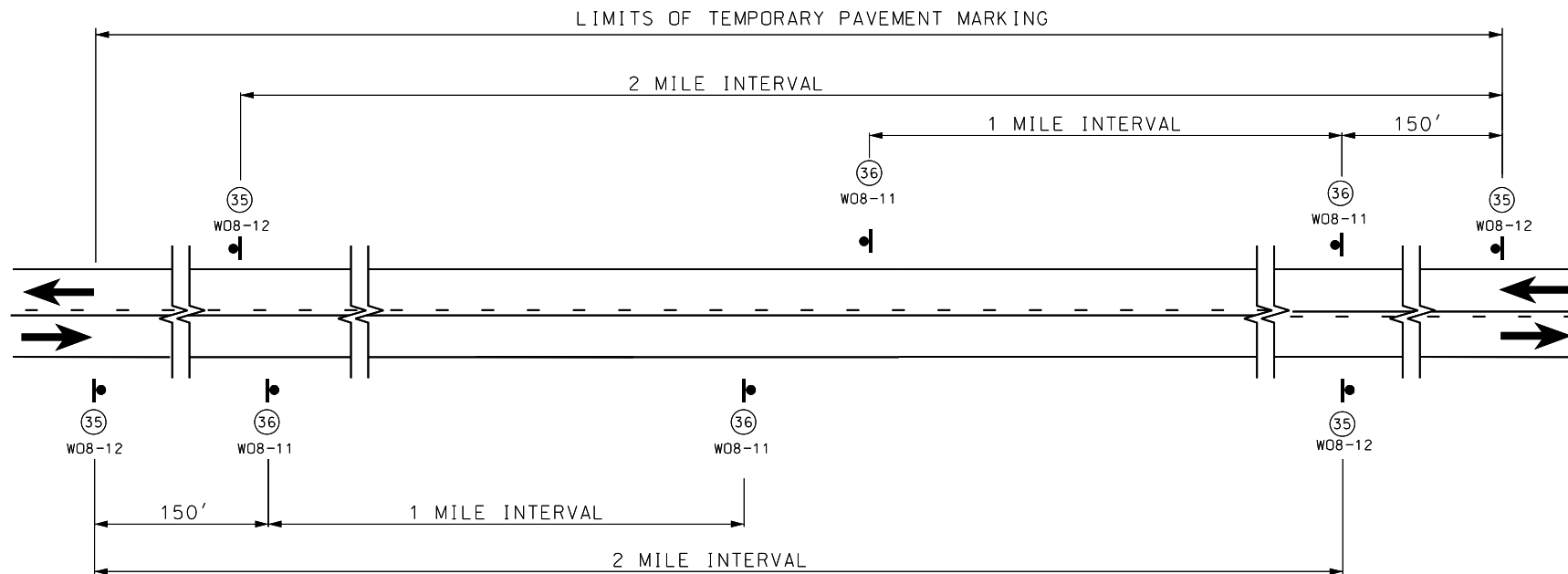
JOB NO. JSL0044

CONTRACT ID.

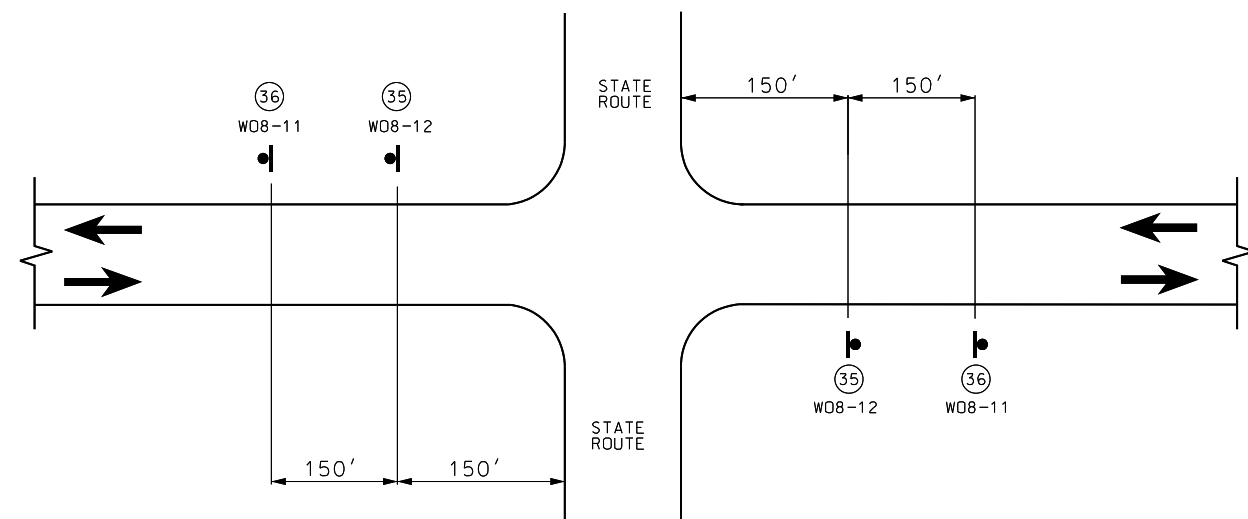
PROJECT NO.

BRIDGE NO.

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SIGN SPACING AND TEMPORARY STRIPING FOR MAINLINE



SIGN SPACING AT STATE ROUTE INTERSECTIONS
SHOWING TEMPORARY STRIPING FOR MAINLINE



W08-12

(35)



W08-11

(36)

NOTES:

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

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

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

SEE STANDARD PLAN 620.10 FOR ALL TEMPORARY PAVEMENT MARKING.

NOT TO SCALE

TRAFFIC CONTROL
SHEET 4 OF 10

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Phone 314-394-3100
Fax 314-394-3199
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MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



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

DATE PREPARED
3/1/2025

21	MO
DISTRICT	SHEET NO.
SL	29

JOB NO.
JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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[illegible]

OPTION						
--------	--	--	--	--	--	--

DESCRIPTION						
-------------	--	--	--	--	--	--

DES					
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DATE							
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DA						
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TOL
6102
5361

TAT

WEST
TY, N
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TRANS-105 N CI 198

PERSONAL INFORMATION

3100
3199

-394-3-

n
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314
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Phone
Fax
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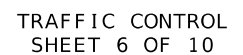
523 B
ite 25
. Louis
ssouri

HC

: 11 PM 3/1/202

NOTES:

- (4) FLASHING ARROW BOARD SHOULD BE LOCATED AT THE BEGINNING OF THE MERGING TAPER WHEN MEDIAN WIDTH ALLOWS THIS PLACEMENT.



LE



BRIDGE
OR
RAMP



WO20.4

7

WO20-7a

8



WO20-6a

(6)

CENTER
OR
LEFT

WO1-3L

(14)

"LEFT"

WO1-3R

(14)

"RIGHT"

A diamond-shaped warning sign with a black border and the text "SHOULDER WORK" in black capital letters.

WO21-5

(21)



LEFT SIDE
OF THE ROAD



RIGHT SIDE
OF THE ROAD

• S I G N (S I N G L E S I D E D)

 WORK AREA

 F L A G G E R

▲ DIRECTIONAL INDICATOR
BARRICADE

■ CHANNELIZER

F BARRICADE

 CHANGEABLE MESSAGE BOARD

PROTECTIVE VEHICLE
WITH TMA AND FLASHING
ARROW PANEL

FLASHING ARROW PANEL

Diagram illustrating a 16' MIN. LANE TAPER for a two-lane road. The diagram shows the taper for both the "RIGHT" and "LEFT" sides of the road.

RIGHT SIDE (Lanes 2 and 6):

- 200' section for Lanes 2 and 6.
- 100' TAPER section.
- 5 DEV. MIN. (5-foot deviation minimum).
- 245' LANE TAPER @ 35' TRIMLINE SPACING.

LEFT SIDE (Lane 14):

- 200' section for Lane 14.
- 100' TAPER section.
- 5 DEV. MIN. (5-foot deviation minimum).
- 245' LANE TAPER @ 35' TRIMLINE SPACING.

General Dimensions:

- 250' BUFFER @ 40' TRIMLINE SPACING.
- 245' LANE TAPER @ 35' TRIMLINE SPACING.

O:\2021R2\MoDOT ORD v10.10.01.03\23067 JSL0044 Rt 21-RtN\DGN\Roadway\Final\Plotsheets\031 TC 08 JSL0044 i1 Single Lane Flagger.dgn 5:21:12 PM 3/1/2025



TAPER LENGTHS AND SPACING OF CHANNELIZING DEVICES					
PERMANENT POSTED SPEED MPH	MINIMUM TAPER LENGTHS (L) FOR LANE WIDTHS (W)			MAXIMUM CHANNELIZER SPACING	
	10 FT	11 FT	12 FT	THROUGH TAPER	THROUGH WORK AREA
0-35	205	225	245	35	40
40-45	450	495	540	40	80
50-55	550	605	660	50	80
60-70	700	770	840	60	120

Diagram illustrating three alternative ways to warn of bridge work:

- Option 1:** Diamond sign **ROAD WORK AHEAD** (WO20-1) with a **2** plaque.
- Option 2:** Diamond sign **ROAD NARROWS** (WO5-1) with a **BRIDGE OR RAMP** plaque and a **43** plaque.
- Option 3:** Diamond sign **SHOULDER WORK** (WO21-5) with a **21** plaque.

1. SEE STANDARD PLAN 616.10 FOR DETAILS
AND ITEMS NOT SHOWN
2. EXISTING SIGNS SHALL BE COVERED DURING
WORKING HOURS ONLY IF IN CONFLICT WITH
TRAFFIC CONTROL PLANS.
3. NO DIRECT PAYMENT WILL BE MADE FOR RELOCATING,
COVERING, UNCOVERING OR REMOVING SIGNS.
4. CONES ALLOWABLE FOR DAYTIME OPERATIONS ONLY.
6. LOCATE FLASHING ARROW PANEL AT BEGINNING OF
TAPER WHEN FEASIBLE, ARROW PANELS ARE ALWAYS
LOCATED BEHIND CHANNELIZERS OR CONES.

EFK♦Moen
Civil Engineering Design

13523 Barrett Parkway Dr
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St. Louis, MO 63021

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REV.

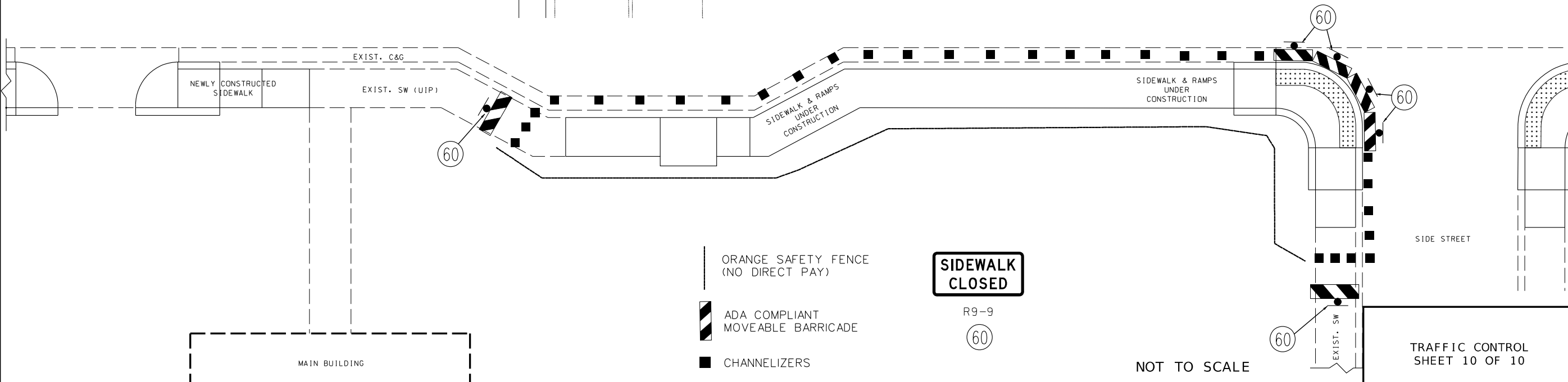
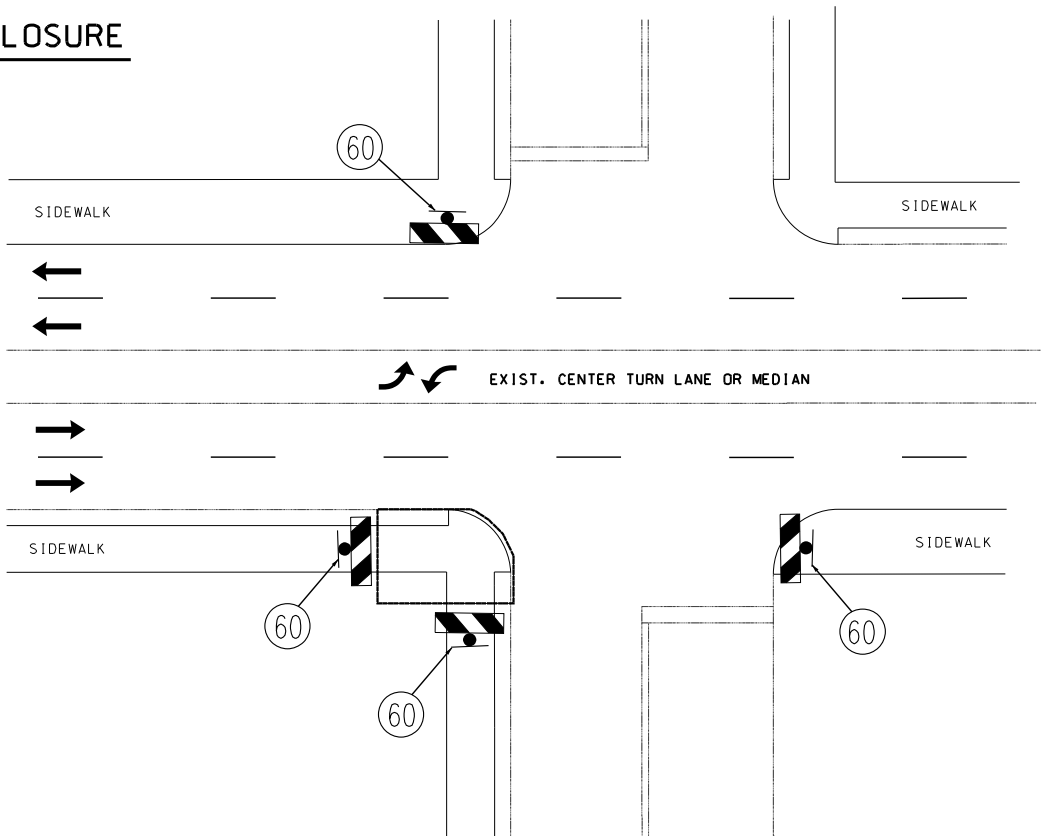
TRAFFIC CONTROL
SHEET 9 OF 10

NOTES:

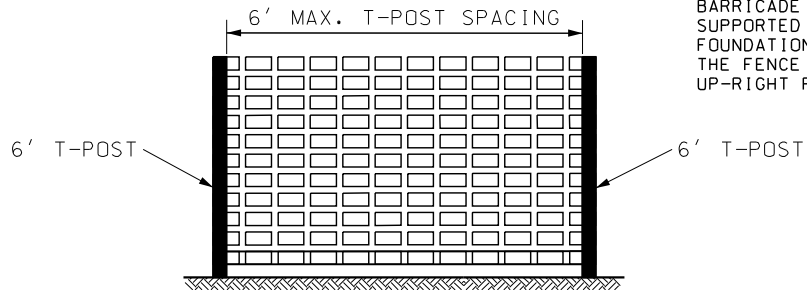
1. NO DIRECT PAYMENT WILL BE MADE FOR ORANGE SAFETY FENCE AS REQUIRED AROUND EXCAVATION OF SIDEWALK & CURB RAMP AREAS.
2. SEE JSP's FOR PEDESTRIAN TRAFFIC DEVICES.
3. WORKING AREAS SHALL BE GUARDED FROM PEDESTRIAN ACCESS BY BARRICADE FENCING 36" TO 48" IN HEIGHT WITH A GAP NO GREATER THAN 6" FROM THE GROUND AND HOLES NO GREATER THAN 4" IN ANY DIRECTION.
4. PEDESTRIAN ACCESS ON SIDEWALK SHALL BE PROVIDED WITH A WIDTH NOT LESS THAN 4' OF SMOOTH STABLE SURFACING ADJACENT TO BARRICADE FENCING FOR ACCESS TO THE MAIN BUILDING.
5. SIDEWALK RAMP CLOSURES FOR RECONSTRUCTION SHALL BE PERFORMED WITH ADA COMPLIANT MOVEABLE BARRICADES. TWO BARRICADES PER PEDESTRIAN APPROACH. ONE SIDEWALK CLOSED SIGN WILL BE PLACED UPON ONE BARRICADE FOR EACH APPROACH, NO MORE THAN ONE 5' SECTION OF SIDEWALK RAMP SHALL BE CLOSED LEADING TO THE MAIN BUILDING AT ANY TIME ADJACENT TO THE WORK AREA.

MULTI-LANE
TYPICAL SIDEWALK CLOSURE

NOT TO SCALE



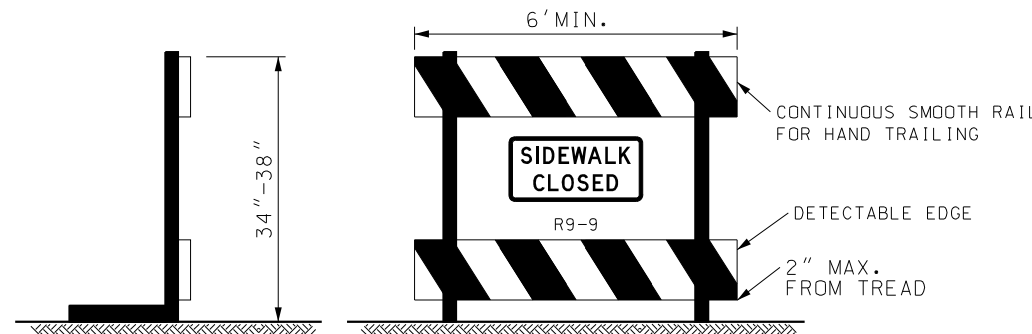
ORANGE PLASTIC SAFETY FENCE



NO DIRECT PAY.
PLASTIC SAFETY NETTING USED FOR
BARRICADE FENCING SHALL BE
SUPPORTED WITH T-POST, ADEQUATE
FOUNDATIONS, AND BALLAST SO THAT
THE FENCE REMAINS TAUT AND IN AN
UP-RIGHT POSITION.



ADA COMPLIANT MOVEABLE BARRICADE



1. WARNING LIGHTS SHALL NOT BE ATTACHED TO ADA COMPLIANT BARRICADES.
2. CHEVRON RAILS ON THE ADA COMPLIANT BARRICADES MUST BE 8" WIDE MIN. AND MEET TYPE 3 RETRO-REFLECTIVE SHEETING AND COLOR CONTRAST BARRICADE RAILS AS SHOWN. THE TOP RAIL MUST PROVIDE A SMOOTH CONTINUOUS RAIL SURFACE SUITABLE FOR HAND TRAILING WITH NO SPLINTERS, BURRS, OR SHARP EDGES. A MINIMUM OF TWO 8" WIDE RAILS IS REQUIRED.
3. NO TRIPPING HAZARDS FROM THE BARRICADES ARE ALLOWED WITHIN THE PEDESTRIAN SPACE. THIS MEANS NO FEET OR BARS USED TO HOLD THE RAILS OR SUPPORT THE DEVICE ARE ALLOWED WITHIN THE WALKWAY. ALL FEET AND BALLASTS WILL NEED TO BE BEHIND THE DEVICE.
4. THE BARRICADE MUST BE THE FULL WIDTH OF THE CLOSED SIDEWALK.

REVISED: 11-19-2018



Paul J. Kronlage
03/03/2025 8:19:04 AM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/1/2025

ROUTE
21

STATE
MO

DISTRICT
SL

SHEET NO.
33

COUNTY
JEFFERSON

JOB NO.
JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

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EFK Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

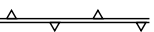
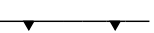
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION
MoDOT
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

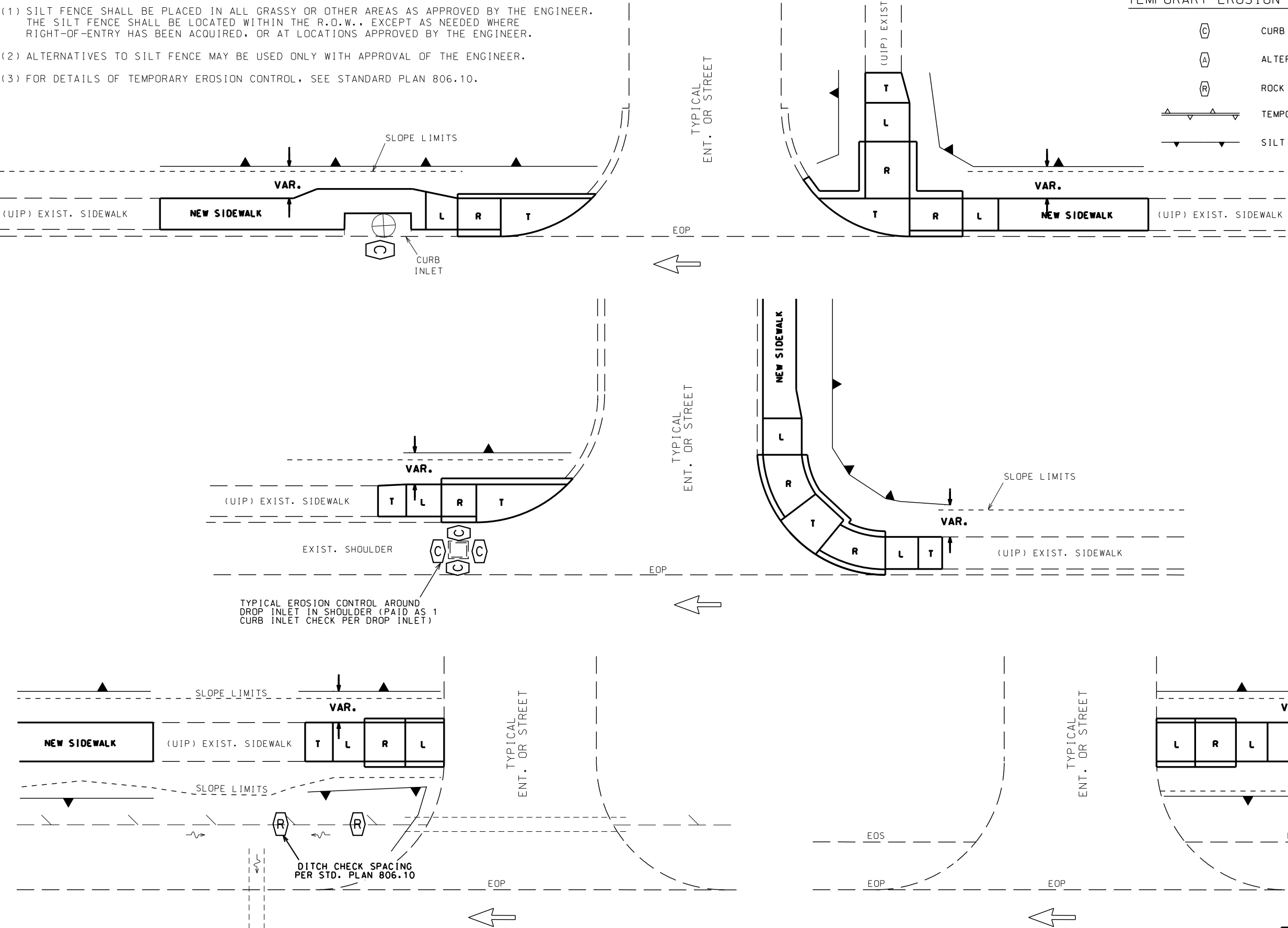
TRAFFIC CONTROL
SHEET 10 OF 10

NOTES:

- (1) SILT FENCE SHALL BE PLACED IN ALL GRASSY OR OTHER AREAS AS APPROVED BY THE ENGINEER. THE SILT FENCE SHALL BE LOCATED WITHIN THE R.O.W., EXCEPT AS NEEDED WHERE RIGHT-OF-ENTRY HAS BEEN ACQUIRED, OR AT LOCATIONS APPROVED BY THE ENGINEER.
- (2) ALTERNATIVES TO SILT FENCE MAY BE USED ONLY WITH APPROVAL OF THE ENGINEER.
- (3) FOR DETAILS OF TEMPORARY EROSION CONTROL, SEE STANDARD PLAN 806.10.

TEMPORARY EROSION CONTROL LEGEND

-  CURB INLET CHECK
-  ALTERNATE CHECK
-  ROCK DITCH CHECK
-  TEMPORARY BERM
-  SILT FENCE



NOT TO SCALE

TYPICAL EROSION CONTROL APPLICATIONS
FOR NEW CURB RAMP & SIDEWALK CONSTRUCTION

PRIMARY RECEIVING WATERS FOR
THIS JOB IS JOACHIM CREEK.

EROSION CONTROL
SHEET 1 OF 3



Paul J. Kronlage
03/01/2025 7:00:01 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/1/2025

ROUTE
21

STATE
MO

DISTRICT
SL

SHEET NO.
34

COUNTY
JEFFERSON

JOB NO.
JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

DATE

DATE

DATE

DATE

DATE

DATE

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DATE

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



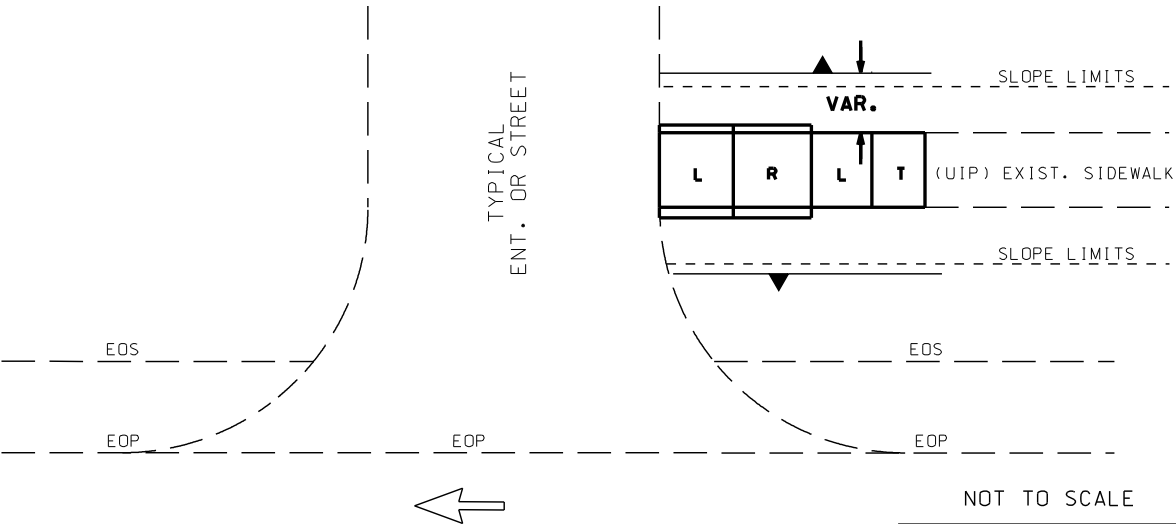
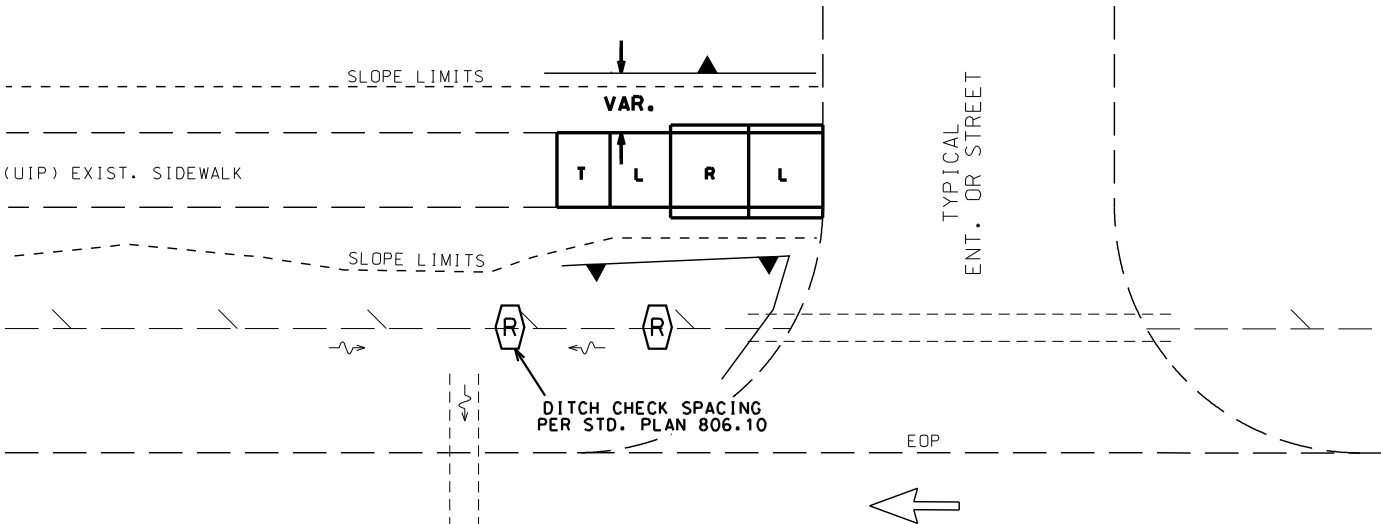
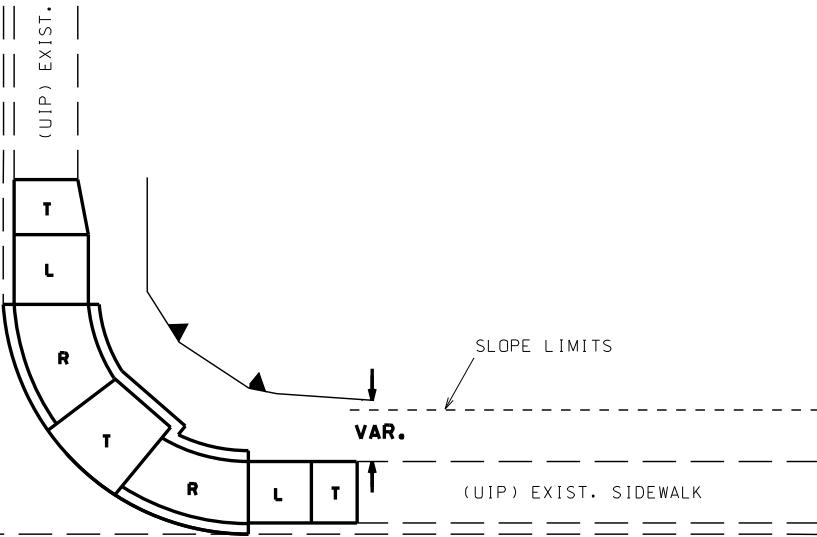
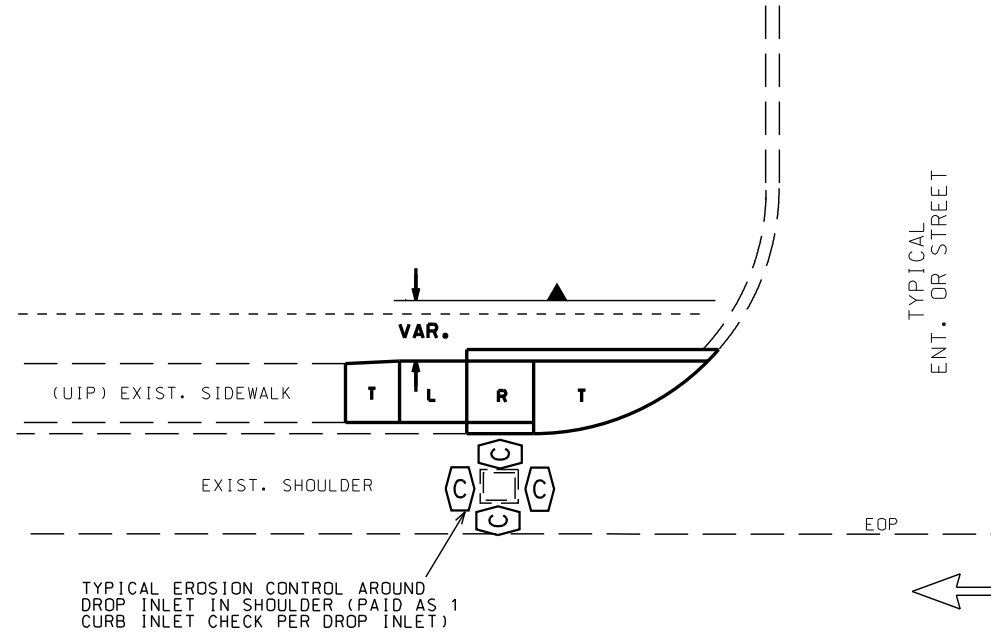
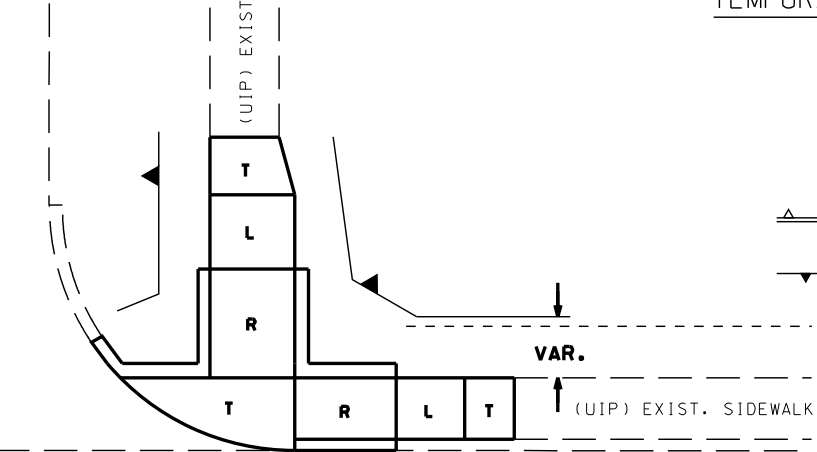
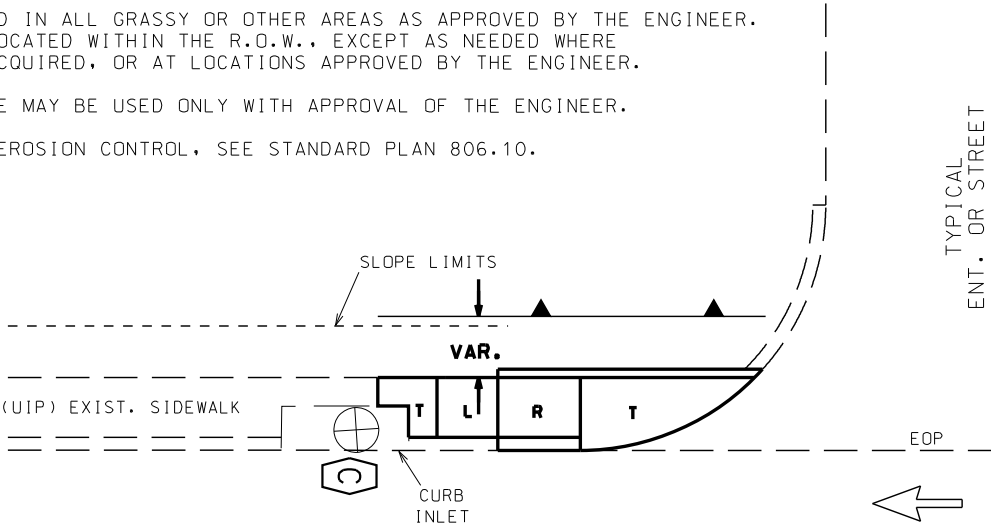
EFK Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

NOTES:

- (1) SILT FENCE SHALL BE PLACED IN ALL GRASSY OR OTHER AREAS AS APPROVED BY THE ENGINEER. THE SILT FENCE SHALL BE LOCATED WITHIN THE R.O.W., EXCEPT AS NEEDED WHERE RIGHT-OF-ENTRY HAS BEEN ACQUIRED, OR AT LOCATIONS APPROVED BY THE ENGINEER.
- (2) ALTERNATIVES TO SILT FENCE MAY BE USED ONLY WITH APPROVAL OF THE ENGINEER.
- (3) FOR DETAILS OF TEMPORARY EROSION CONTROL, SEE STANDARD PLAN 806.10.

TEMPORARY EROSION CONTROL LEGEND

-  CURB INLET CHECK
-  ALTERNATE CHECK
-  ROCK DITCH CHECK
-  TEMPORARY BERM
-  SILT FENCE



NOT TO SCALE

TYPICAL EROSION CONTROL APPLICATIONS FOR NEW CURB RAMP CONSTRUCTION

PRIMARY RECEIVING WATERS FOR THIS JOB IS JOACHIM CREEK.

NOT TO SCALE
EROSION CONTROL SHEET 2 OF 3



DATE PREPARED
3/1/2025
ROUTE 21 STATE MO
DISTRICT SL SHEET NO. 35
COUNTY JEFFERSON
JOB NO. JSL0044
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)

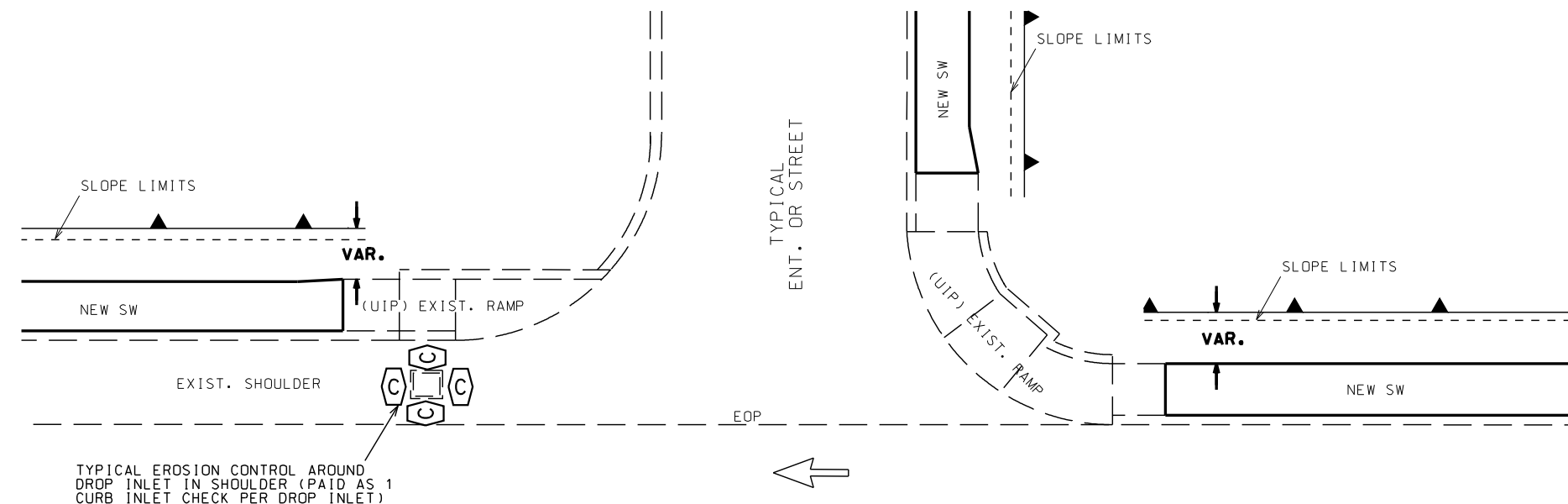
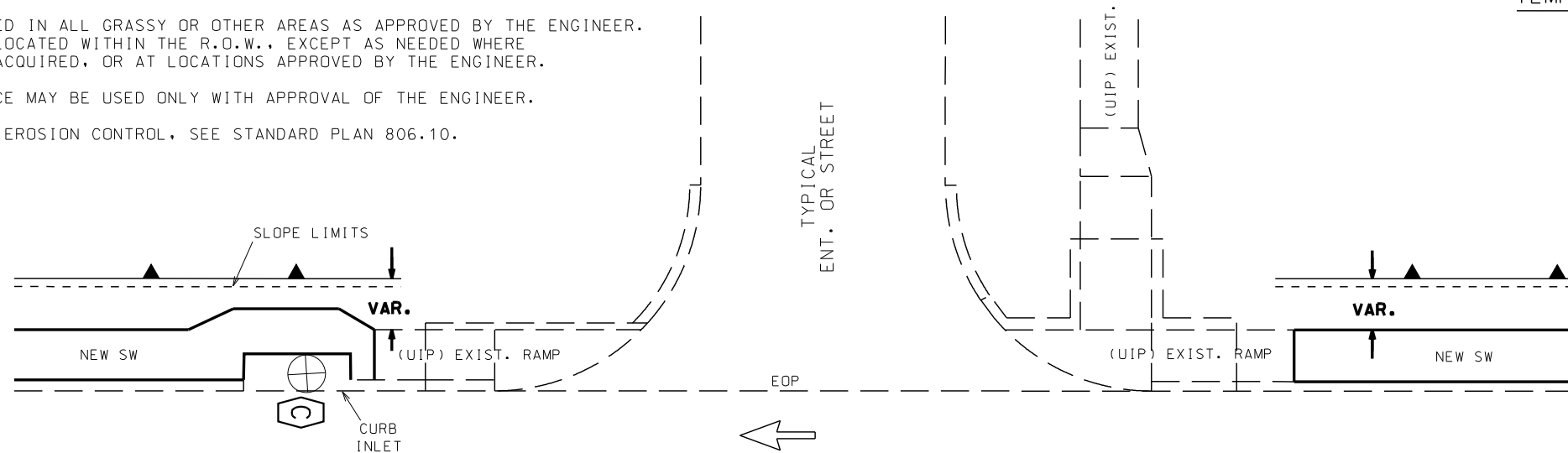
EFK Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

NOTES:

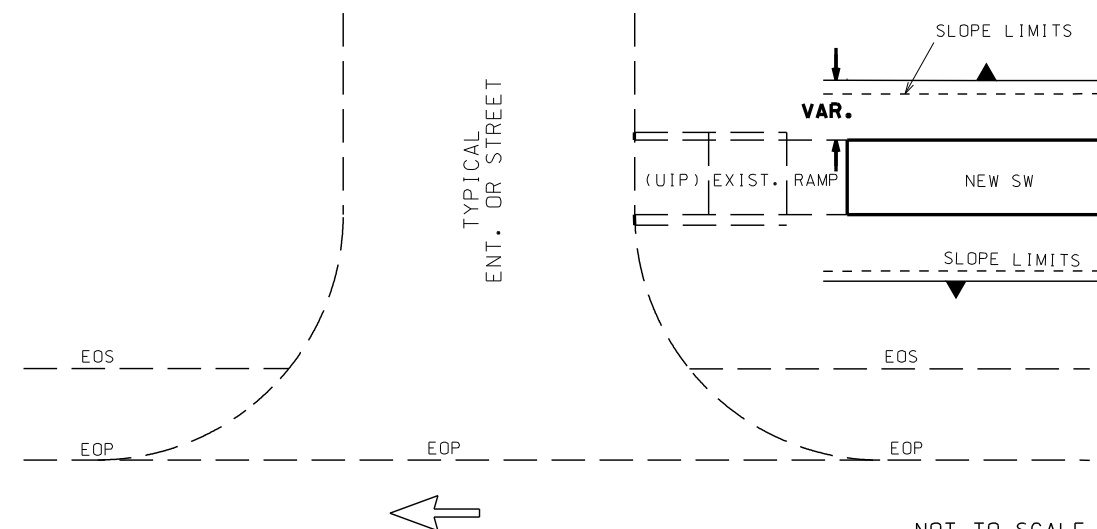
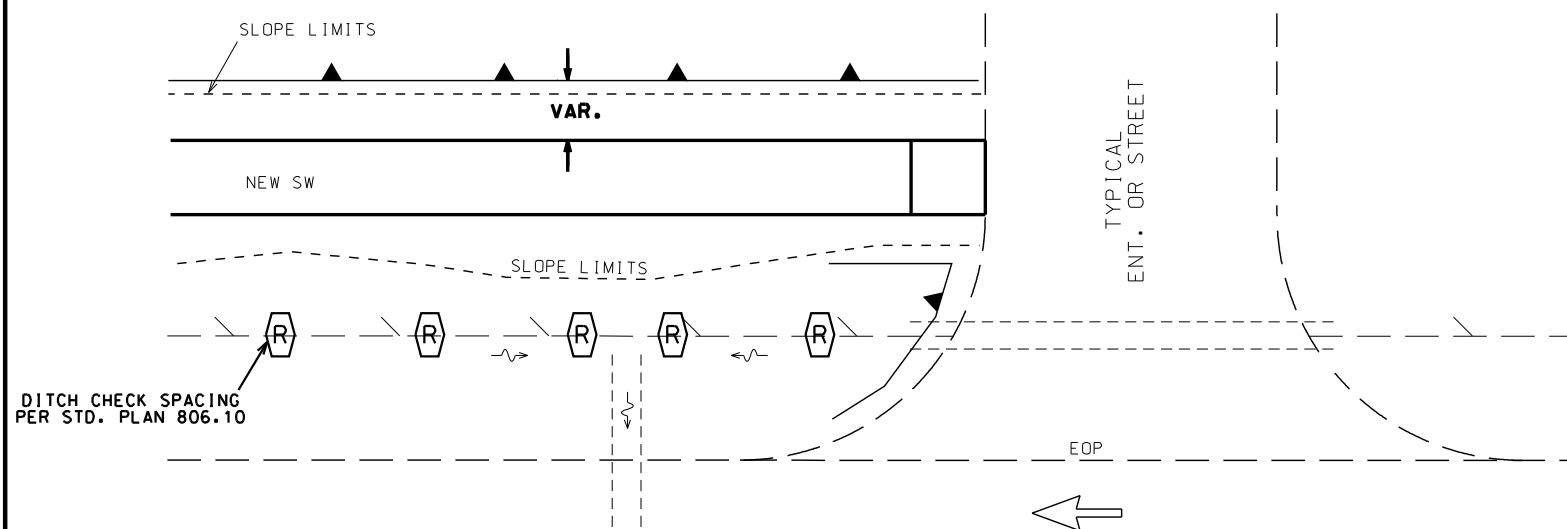
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- (3) FOR DETAILS OF TEMPORARY EROSION CONTROL, SEE STANDARD PLAN 806.10.

TEMPORARY EROSION CONTROL LEGEND

- (C) CURB INLET CHECK
- (A) ALTERNATE CHECK
- (R) ROCK DITCH CHECK
- TEMPORARY BERM
- SILT FENCE



TYPICAL EROSION CONTROL AROUND DROP INLET IN SHOULDER (PAID AS 1 CURB INLET CHECK PER DROP INLET)



NOT TO SCALE

TYPICAL EROSION CONTROL APPLICATIONS FOR NEW SIDEWALK CONSTRUCTION

PRIMARY RECEIVING WATERS FOR THIS JOB IS JOACHIM CREEK.

NOT TO SCALE
EROSION CONTROL SHEET 3 OF 3



Paul J. Kronlage
03/01/2025 7:01:01 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/1/2025

ROUTE 21 STATE MO

DISTRICT SL SHEET NO. 36

COUNTY JEFFERSON

JOB NO. JSL0044

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)

EFK Moen
Civil Engineering Design

13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

WIRING DIAGRAM

EFFECTIVE 12-01-17



03/03/2025 12:45:21 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/3/2025

ROUTE	STATE
21	MO
DISTRICT	SHEET NO.
SL	39

COUNTY
JEFFERSON

JOB NO.
JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

EFK Moen
Civil Engineering Design

13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021

Phone 314-394-3100
Fax 314-394-3199

Missouri Certificate of Authority: 001578

LEGEND

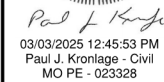
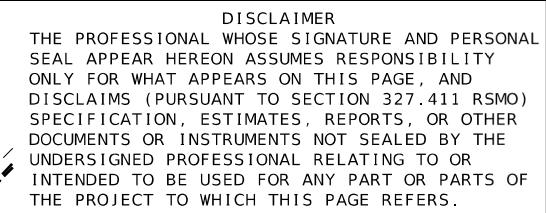
- 3" CONDUIT CONTAINING CABLE WITH SIZE
- CABLE
- X-Xc MULTI-CONDUCTOR CABLE #16 AWG (UNLESS OTHERWISE INDICATED)
- LIC #14 AWG DETECTOR LEAD-IN CABLE (2C TWISTED SHIELDED)
- X PULL BOX WITH NUMBER
- X POST WITH NUMBER
- X POST WITH MAST ARM
- X POST WITH MAST ARM AND LED-A LUMINAIRE
- X DETECTOR WITH NUMBER
- X SIGNAL HEAD WITH NUMBER
- Signal Controller
- Power Supply Assembly
- Lighting Controller
- Power Source

NOT TO SCALE

RTE 21 & RTE B
INTERSECTION

D-37D

SIGNAL PLAN
ROUTE 21 EXIT
RAMP AT ROUTE B
SHEET 3 OF 29



DATE PREPARED
3/3/2025

ROUTE 21	STATE MO
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DISTRICT	SHEET
SL	40

COUNTY
JEFFERSON

JOB NO.
ISI 0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.



MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO. 65102



EFC♦Moen
Civil Engineering Design

3523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021

Phone 314-394-3100
Fax 314-394-3199

1110

DATE PREPARED
4/5/2025

ROUTE 21	STATE MO
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DISTRICT	SHEET NO
SL	42

COUNTY
JEFFERSON

JOB NO.
JSL0044

CONTRACT ID.	
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PROJECT NO.

BRIDGE NO.

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Year	Population (Millions)
1980	18
1985	22
1990	25
1995	28
2000	30
2005	32
2010	34
2015	36
2020	38

1. *Journal of the American Medical Association*, 1997; 278: 1039-1044.

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Phone
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Civil
3523
Suite 2
St. Louis

JUC 155

08 AM 4/5/20

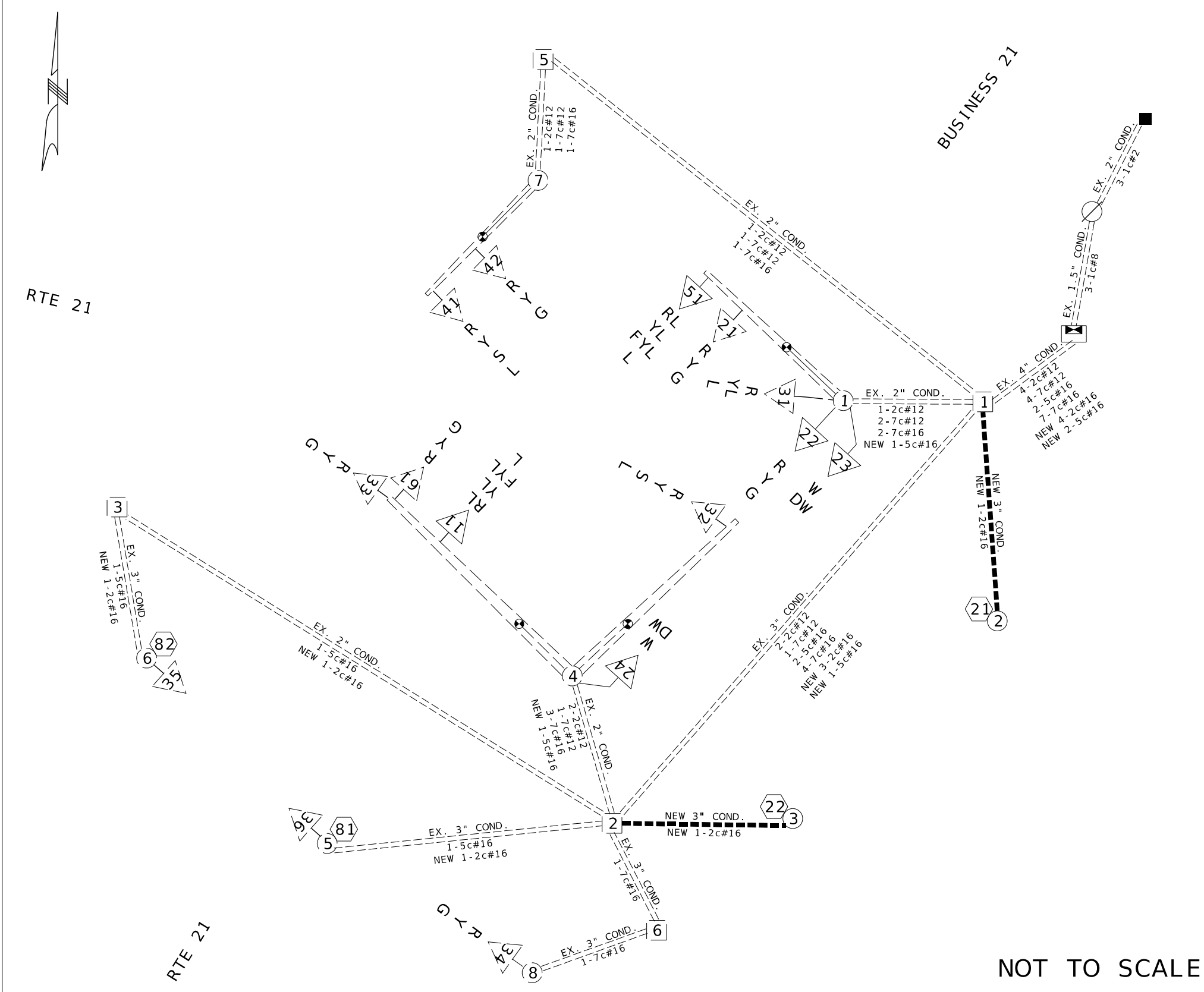
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SIGNAL PLAN
ROUTE 21 AT BUSINESS 21
SHEET 6 OF 29

INTERSECTION	RTE 21 & BUS 21	D-37B	
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WIRING DIAGRAM



NOT TO SCALE

LEGEND

3"

CONDUIT CONTAINING CABLE WITH SIZE

CABLE

X-XC

MULTI-CONDUCTOR CABLE #16 AWG (UNLESS OTHERWISE INDICATED)

LIC

#14 AWG DETECTOR LEAD-IN CABLE (2C TWISTED SHIELDED)

X

PULL BOX WITH NUMBER

X

POST WITH NUMBER

X

POST WITH MAST ARM

X

POST WITH MAST ARM AND LED-A LUMINAIRE

X

DETECTOR WITH NUMBER

X

SIGNAL HEAD WITH NUMBER

X

SIGNAL CONTROLLER

X

POWER SUPPLY ASSEMBLY

X

LIGHTING CONTROLLER

■

POWER SOURCE

RTE 21 & BUS 21
INTERSECTION

D-37D

SIGNAL PLAN
ROUTE 21 AT BUSINESS 21
SHEET 7 OF 29

STATE OF MISSOURI

PAUL JOSEPH KRONLAGE

NUMBER EN023328

PROFESSIONAL ENGINEER

03/03/2025 12:47:28 PM

Paul J. Kronlage - Civil

MO PE - 023328

DATE PREPARED

3/3/2025

ROUTE 21

STATE MO

DISTRICT SL

SHEET NO. 43

COUNTY JEFFERSON

JOB NO. JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

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

EFFK Moen

Civil Engineering Design

13523 Barrett Parkway Dr Suite 250 St. Louis, MO 63021

Phone 314-394-3100 Fax 314-394-3199

Missouri Certificate of Authority: 001578

O:\2021R2\MoDOT_ORD_v10.10.01.03\23067 JSL0044 Rt 21-RtN\DGN\Roadway\Final\Plotsheets\043_SG_07_D37D_JSL0044_iXX_Bus 21.dgn 11:38:48 AM 3/3/2025

EFFECTIVE: 07/01/2018

DESCRIPTION	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
105 WEST CAPITOL JEFFERSON CITY, MO 65102
3-ASK-MODOT (1-888-275-6636)

WAYS AND TRANSPORTATION COMMISSION

R3-5L

R10-12

R10-27a

[illegible]

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

DATE PREPARED	
4/5/2025	
ROUTE	STATE
21	MO
DISTRICT	SHEET NO.
SL	48
COUNTY	
JEFFERSON	
JOB NO.	
JSL0044	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

DETECTOR SCHEDULE							
DETECTOR NUMBER	APPROACH	TYPE					SL DISTRICT TRAFFIC SIGNAL DETECTION SYSTEM
		BACK DETECTOR	INTERSECTION DETECTOR	INDUCTION LOOP (2)			
				STANDARD	DELAY/ EXTEND *	CALL UNIT *	
11	SB RTE 21		1				1 LUMP SUM
21	NB RTE 21		1				
41	WB CLARKE ST		1				
51	NB RTE 21		1				
61	SB RTE 21		1				
81	EB RTE Y		1				
22	NB RTE 21	1					
23	NB RTE 21	1					
62	SB RTE 21	1					
63	SB RTE 21	1					
82	EB RTE Y	1					
83	EB RTE Y	1					
TOTAL							

*** USE D3-1 FOR ONE LINE. USE D3-1B FOR TWO LINE.

- [illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



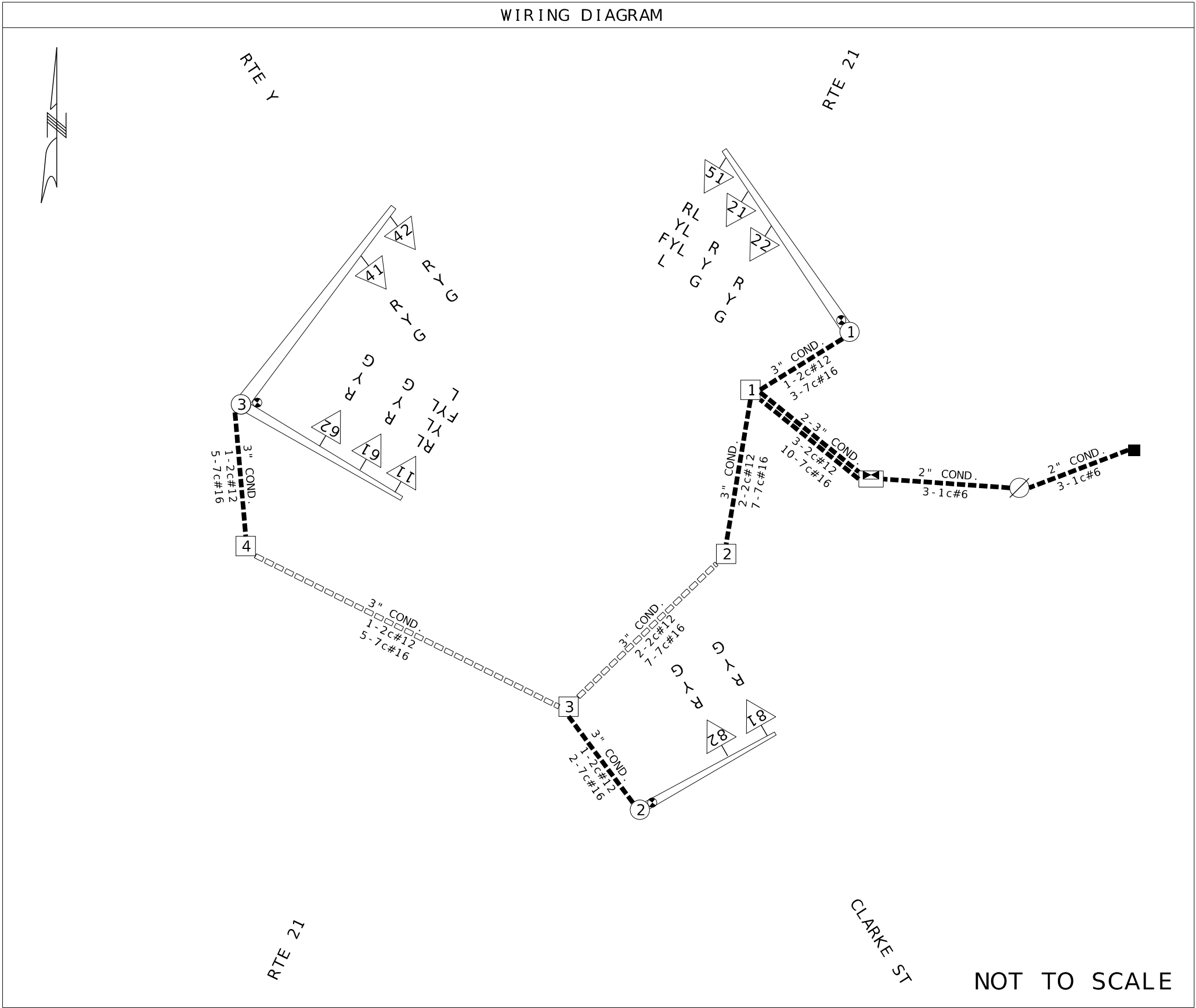
105 WEST CAPITAL
JEFFERSON CITY, MO 65102

NETWORK CONNECTED SIGNAL MONITOR**
RELOCATE EXISTING CCTV ASSEMBLY**
MODOT TS2 TYPE 1 CABINET ASSEMBLY**
DIGITAL CELLULAR MODEM*
SPECTRUM NETWORK COMMUNICATION INSTALLATION COORDINATION, 1 EACH**
MODOT FURNISHED IP-ADDRESSABLE POWER STRIP**
INSTALL NEW OR RELOCATE EXISTING COMMUNICATION EQUIPMENT**
ATC TRAFFIC SIGNAL CONTROLLER**

D-37C

JEFF MOEN
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314/411-1111
Fax 314/411-1112

WIRING DIAGRAM



LEGEND

3"

CONDUIT CONTAINING CABLE WITH SIZE

CABLE

X-XC

MULTI-CONDUCTOR CABLE #16 AWG (UNLESS OTHERWISE INDICATED)

LIC

#14 AWG DETECTOR LEAD-IN CABLE (2C TWISTED SHIELDED)

X

PULL BOX WITH NUMBER

X

POST WITH NUMBER

X

POST WITH MAST ARM

X

POST WITH MAST ARM AND LED-A LUMINAIRE

X

DETECTOR WITH NUMBER

X

SIGNAL HEAD WITH NUMBER

X

SIGNAL CONTROLLER

X

POWER SUPPLY ASSEMBLY

X

LIGHTING CONTROLLER

■

POWER SOURCE

STATE OF MISSOURI

PAUL JOSEPH KRONLAGE

REGISTERED PROFESSIONAL ENGINEER

NUMBER EN 023328

Paul J. Kronlage

03/03/2025 12:51:30 PM

Paul J. Kronlage - Civil

MO PE - 023328

DATE PREPARED

3/3/2025

ROUTE

21

STATE

MO

DISTRICT

SL

SHEET NO.

49

COUNTY

JEFFERSON

JOB NO.

JSL0044

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 (1-888-273-6636)

EFK Moen

Civil Engineering Design

13523 Barrett Parkway Dr

Suite 250

St. Louis, MO 63021

Phone 314-394-3100

Fax 314-394-3199

Missouri Certificate of Authority: 001578

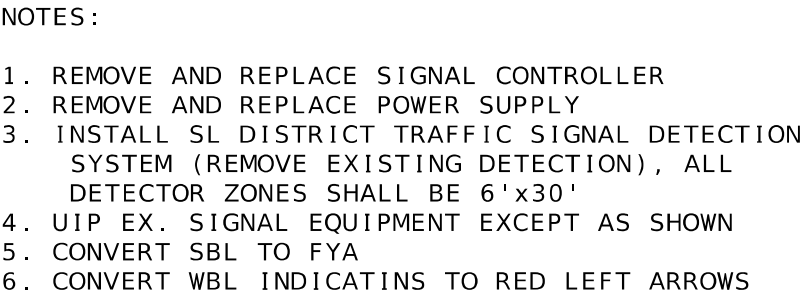
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

RTE 21 & RTE Y
INTERSECTION

D-37D

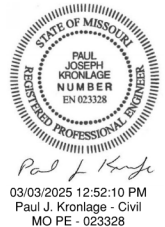
SIGNAL PLAN
ROUTE 21 AT ROUTE Y
SHEET 13 OF 29

O:\2021R2\MoDOT_ORD_v10.10.01.03\23067 JSL0044 Rt 21-RtN\DGN\Roadway\Final\Plotsheets\049_SG_13_D37D_JSL0044_iXX_Route Y.dgn 11:38:52 AM 3/3/2025



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DATE PREPARED	
3/3/2025	
ROUTE	STATE
21	MO
DISTRICT	SHEET NO.
SL	51
COUNTY	
JEFFERSON	
JOB NO.	
JSL0044	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102

EFK♦Moen
Civil Engineering Design

13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021

Phone 314-394-3100
Fax 314-394-3199

DATE PREPARED	
3/3/2025	
ROUTE	STATE
21	MO
DISTRICT	SHEET 1
SL	53
COUNTY	
JEFFERSON	
JOB NO.	
JSL0044	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO. 65102

* ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.

** SEE JSP

*** USE D3-1 FOR ONE LINE. USE D3-1B FOR TWO LINE.

(1) MoDOT "D" PLUG SHALL BE WIRED INTO ALL NEMA CONTROLLERS WITH 7C HARDWIRE INTERCONNECT.

(2) PAYMENT IS MADE FOR THE NUMBER OF 2-CHANNEL DETECTOR CARDS AS SHOWN BELOW THE ASSIGNMENT CHART.

(3) CONTROLLER WILL ALSO INCLUDE ATC TRAFFIC SIGNAL CONTROLLER EQUIPMENT**

MoDOT FURNISHED IP-ADDRESSABLE POWER STRIP**
MoDOT TS2 TYPE 1 CABINET ASSEMBLY**
12-POSITION BACKPANEL FLASHING YELLOW ARROW*
INSTALL NEW OR RELOCATE EXISTING COMMUNICATION EQUIPMENT**
ATC TRAFFIC SIGNAL CONTROLLER**

IEEK♦Moen
Civil Engineering Design

13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021

Phone 314-394-3100
Fax 314-394-3199

REV.

BACK DETECTORS

3	590'	FROM STOP BAR
2	370'	FROM STOP BAR

STATE OF MISSOURI
PAUL JOSEPH KRONLAGE
REGISTERED PROFESSIONAL ENGINEER
NUMBER
EN 023328

Paul J. Kronlage

04/07/2025 8:05:01 AM
Paul J. Kronlage - Civil
MO PE - 023328

PI	1020+37.00
PC	1009+89.09
PT	1029+05.76
Δ	57°30'0.0" (LT)
D	3°0'0.0"
L	1,916.89' (CHORD)
T	1,047.91'
R	1,910.08'

1. REMOVE & REPLACE EXISTING SIGNAL EQUIPMENT EXCEPT AS SHOWN
2. INSTALL SL DISTRICT TRAFFIC SIGNAL DETECTION SYSTEM (REMOVE EXISTING DETECTION), ALL DETECTOR ZONES SHALL BE 6'x30'
3. REMOVE AND RELOCATE CCTV

PULL OLD CABLE OUT FROM EXISTING CONTROLLER AND
 RUN EXISTING CABLE THRU NEW CONDUIT TO NEW
 CONTROLLER. (NO DIRECT PAY)
 NEW SIG
 POST W/ LUMINA
 AND RELOCATED C
 EX. SIGNAL POST
 & CCTV (R&R
 EX. P
 EX. CO

LEGEND

BACK DETECTORS	
22	405' FROM STOP BAR
23	645' FROM STOP BAR

SCALE

0 20 40 60

EFK Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314/414-1100
Fax 314/414-1101
Missouri Certificate of Authority: 0015787

DATE PREPARED
4/5/2025

21	MO
DISTRICT	SHEET NO.

COUNTY
LEEEERSON

JSL0044

PROJECT NO.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	52
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SIGNAL PLAN
ROUTE 21 AT ROUTE N/H
SHEET 21 OF 29

O:\2021R2\MoDOT_ORD_v10.10.01.03\23067 JSL0044 Rt 21-RtN\DGN\Roadway\Final\Plotsheets\057_SG_21_D37B_JSL0044_iXX_Route N.dgn 10:47:18 AM 4/5/2025

DATE PREPARED
3/3/2025

21	MO
DISTRICT	SHEET

COUNTY
JEFFERSON

JSL0044

CONTRACT ID.

PROJECT NO.

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DESCRIPTION

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Phone
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Civil
3523
Suite 2
St. Louis

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ACKNOWLEDGMENTS

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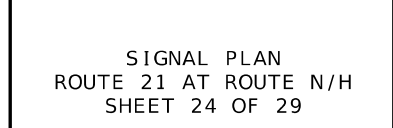
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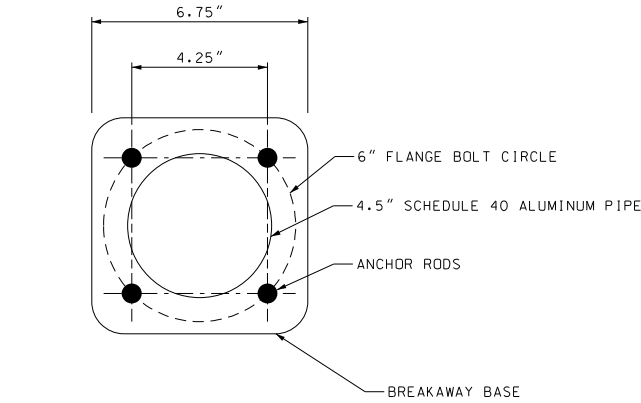
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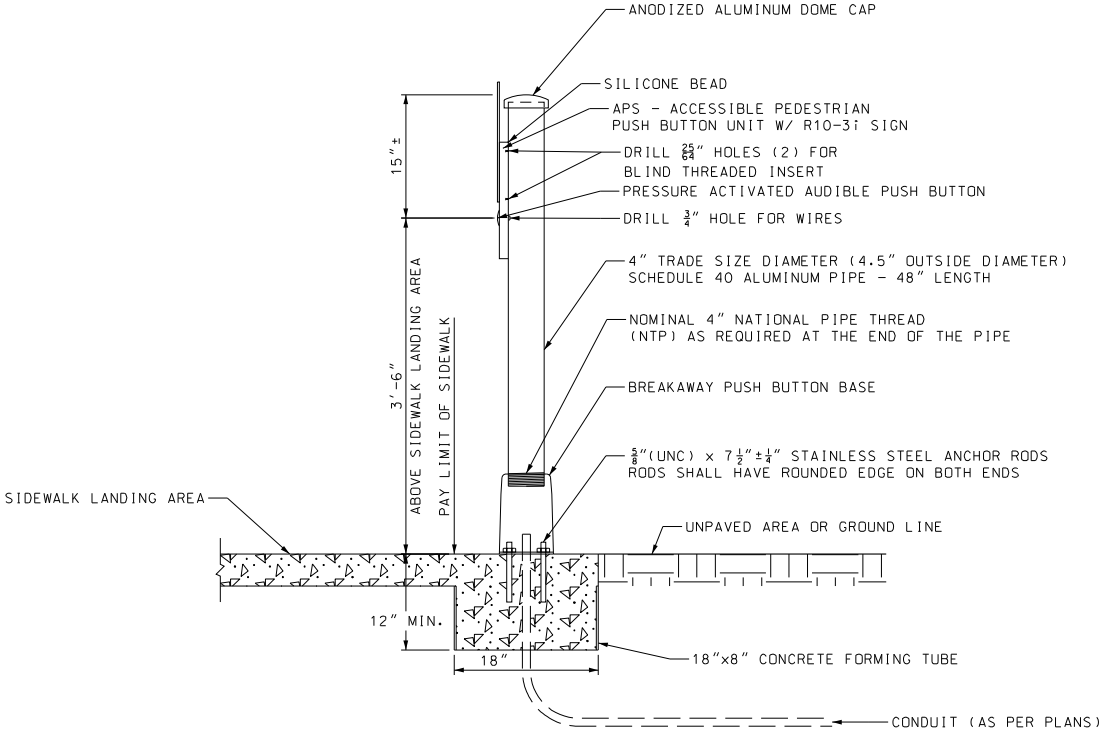
1. Introduction

1





ANCHOR ROD PLACEMENT



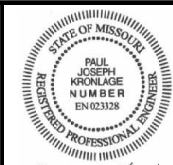
REMOTE PUSH BUTTON POST

NOTES:

- THE REMOTE PUSH BUTTON POST FOUNDATION IS CONSTRUCTED AS PART OF THE SIDEWALK. INCREASE THE SIDEWALK THICKNESS TO 12" (MIN.) TO PROVIDE FOR THE REMOTE PUSH BUTTON POST FOUNDATION.
- INSTALLATION OF THE REMOTE PUSH BUTTON POST SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
- CABLES SHALL HAVE A SLIP-FIT CONNECTION IN THE PEDESTAL THAT WILL DETACH IN THE EVENT THE POLE IS STRUCK.

DISCLAIMER
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SIGNAL SHEET
REMOTE POST DETAIL
SHEET 25 OF 29



Paul J. Kronlage
03/03/2025 8:27:57 AM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/1/2025

ROUTE 21	STATE MO
DISTRICT SL	SHEET NO. 61

COUNTY
JEFFERSON

JOB NO.
JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



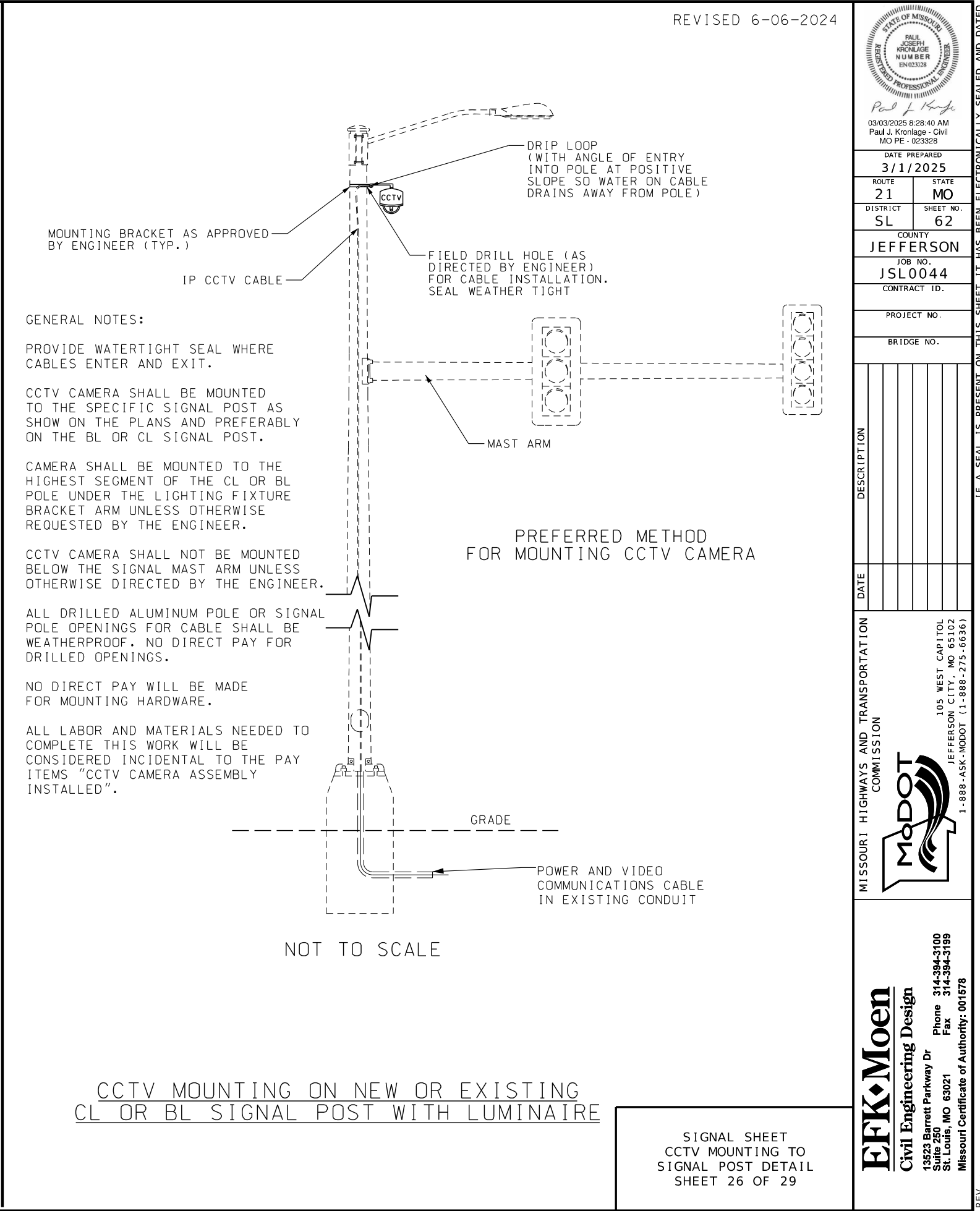
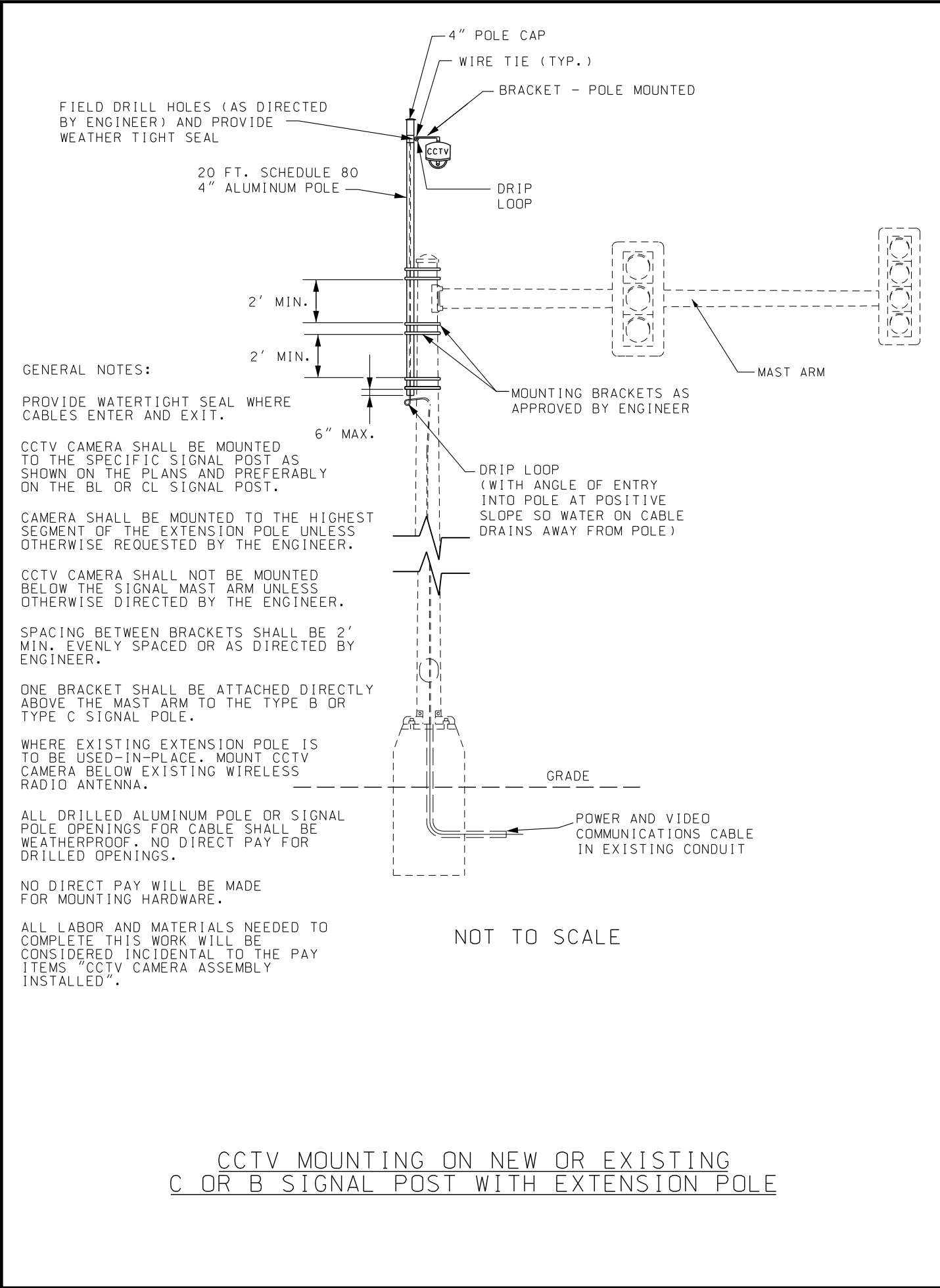
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK Moen
Civil Engineering Design

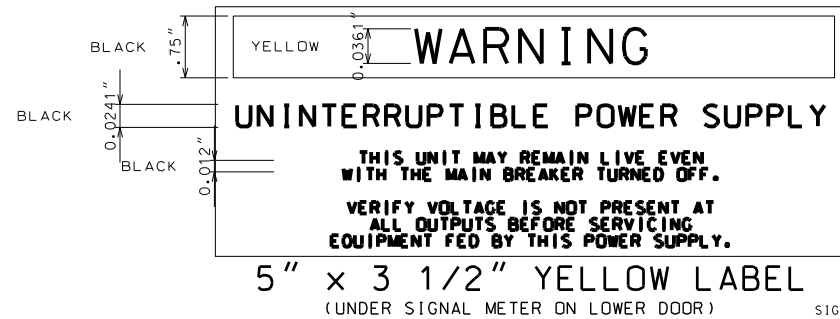
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021

Phone 314-394-3100
Fax 314-394-3199

Missouri Certificate of Authority: 001578



1. ALTERNATE CABINET DIMENSIONS WILL BE ALLOWED AS APPROVED BY THE ENGINEER. INTERIOR CABINET VOLUME SHALL BE EQUAL TO OR GREATER THAN THAT SHOWN ON PLANS AND PROPER CLEARANCES SHALL BE PROVIDED FOR ALL EQUIPMENT. CONCRETE BASE DIMENSIONS SHALL BE MODIFIED TO FIT THE CABINET SUPPLIER. BLACK
2. PLACEMENT OF ALL ITEMS SHALL BE APPROVED BY THE ENGINEER. BLACK
3. SCHEMATIC DIAGRAM SHALL BE MOUNTED ON INSIDE OF CABINET DOOR. BLACK
4. THE UTILITY SHALL BE NOTIFIED IN WRITING 30 DAYS PRIOR TO DATE SERVICE WILL BE REQUIRED. BLACK
5. ALL CABINET OPENINGS SHALL BE COVERED AND SEALED WITH 1/2" SILICONE CAULK. BLACK
6. ALL MATERIALS REQUIRED INCLUDING REFERENCE ITEMS AS SHOWN ON THE DRAWING SHALL BE INCLUDED IN PRICE BID FOR 'PAD MOUNTED POWER SUPPLY AND LIGHTING CONTROLLER WITH UNINTERRUPTIBLE POWER SUPPLY.' CABLE AND CONDUIT FROM POWER SUPPLY ASSEMBLY TO UTILITY COMPANY FACILITIES SHALL BE INCLUDED IN THE BID PRICE. BRIGHT RED
7. REFER TO PLAN SHEET DETAIL TO DETERMINE IF A UTILITY POLE OR PEDESTAL WILL BE REQUIRED.
8. CABINET SHALL BE LOCATED WITH A MINIMUM 36" CLEARANCE, FRONT, BACK, AND SIDES.
9. SEE CABINET MANUFACTURER FOR MOUNTING BASE DIMENSIONS AND ANCHOR BOLT LOCATIONS.



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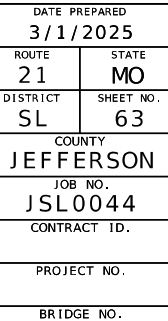
LIST OF MATERIALS	
ITEM	DESCRIPTION
1	METER SOCKET, 200 AMP, WITH LEVER TEST BYPASS
2	RIGID STEEL CONDUIT, 2" MIN. TO UTILITY CO. FACILITIES
3	CLASS B CONCRETE, 1.3 cu. yd. (MIN.)
4	NEMA 3R, DUST-TIGHT, WATERTIGHT CABINET
5	GROUND ROD, 3/4" DIA. x 8' MIN. (MIN. 8' IN SOIL)
6	PHOTOELECTRIC SWITCH AND SOCKET, 105/285 V., 1000 WATT
7	2" MIN. SCH 40 PVC CONDUIT (REF.)
8	#2 AWG MIN., 600 V., GROUND CABLE
9	EXOTHERMIC WELD WIRE TO ROD
10	PLIABLE SEALANT
11	LIFETIME SILICONE CAULK
12	ANCHOR BOLTS, 5/8-11 x 18" LONG BOLTS, HOT DIP GALVANIZED, 4 REQUIRED
13	WEATHERPROOF ADHESIVE LABEL, VINYL RAISED LETTERING (OR EQUIVALENT, SEE DETAIL)
14	INSULATED TERMINAL BLOCK
15	2-POLE, 20 AMP, 120V COIL LIGHTING CONTACTOR
16	2-POLE, 650 VOLT LIGHTNING ARRESTER
17	1-POLE, 15 AMP, TYPE B BREAKER TO PHOTOELECTRIC SWITCH
18	MANUAL-AUTO SWITCH
19	INSULATED GROUNDABLE NEUTRAL, 100 AMP
20	2-POLE, TYPE A MAIN BREAKER
21	2-POLE, 15 AMP (MIN.), TYPE A BREAKERS TO LIGHTING CIRCUITS *
22	1-POLE, 15 AMP (MIN.), TYPE A BREAKER TO SIGNALS *
23	#2 AWG MIN., 600 V., POWER CABLE *
24	6" PEDESTAL RISER
25	12V GEL CELL BATTERIES IN SERIES (4 MINIMUM)
26	30A GENERATOR MALE BASE
27	INVERTER (1100VA MINIMUM)
28	1-POLE, 40 AMP, TYPE B UPS BREAKER
29	1-POLE, 15 AMP, TYPE B FAN BREAKER
30	1 1/2" CONDUIT OUT TO SIGNAL CABINET (CAT 6E AND CONTROL WIRING)
*	SEE PLANS FOR SIZE

- (A) CABINET WITH POWER SUPPLY SHALL BE ALUMINUM OR STAINLESS STEEL. ALL HARDWARE, HINGES, CATCHES, ETC. SHALL BE STAINLESS STEEL. METER SOCKET AND OTHER EQUIPMENT AND MATERIALS SHALL BE U.L. APPROVED AND CONFORM TO THE REQUIREMENTS OF THE UTILITY COMPANY OR MUNICIPALITY PROVIDING POWER.
- (B) IF SUBSURFACE CONDITIONS EXIST WHICH PROHIBIT THE PLACEMENT OF THE GROUND ROD IN A VERTICAL POSITION, THE ROD MAY BE DRIVEN AT AN OBLIQUE ANGLE NOT TO EXCEED 45 DEGREES FROM VERTICAL OR BURIED IN A TRENCH AT LEAST 30 INCHES DEEP. CONNECTION TO GROUND ROD SHALL BE CAD WELDED.
- (C) LIGHTING SYSTEM VOLTAGE AS SPECIFIED ON PLANS (120 OR 240 VOLTS). IF LIGHTS ARE TO BE MOUNTED ON SIGNAL POSTS, VOLTAGE MUST BE 120 VOLTS. 240 VOLT LIGHTS ARE NOT TO BE MOUNTED ON OR WIRED THROUGH SIGNAL POSTS, CONDUIT, OR PULL BOXES.
- (D) LOCATE PHOTOELECTRIC SWITCH AT CENTER OF WINDOW.
- (E) IF FOR REASONS OF VOLTAGE DROP A WIRE SIZE IS SPECIFIED LARGER THAN #2 AWG, A LARGER TERMINAL BLOCK SHALL BE INSTALLED FOR THAT CIRCUIT.
- (F) BREAKER SIZING:

SIZE (AMPS)	240V TOTAL CIRCUIT LOAD (WATTS)	120V TOTAL CIRCUIT LOAD (WATTS)
15	0-2800	0-1390
20	2850-3700	1400-1850
25	3750-4600	1860-2320
30	4650-5500	2330-2780
35	5550-6500	-
40	6550-7400	-

CIRCUIT LOAD INCLUDES LOAD DUE TO LINE LOSS, LAMP, AND BALLAST LOAD.

- (G) ALL CIRCUIT BREAKERS SHALL CONFORM TO SECTION 901.4 OF THE STANDARD SPECIFICATIONS.
- (H) TAPE BATTERY TEMPERATURE SENSOR TO THE SIDE OF EITHER BATTERY #2 OR BATTERY #3. SENSOR SHOULD BE TO THE MIDDLE OF THE BATTERY BANK.
- (I) UTILITY COMPANY SHALL DECIDE IF LIGHTNING ARRESTORS ARE TO BE CONNECTED ON THE LINE SIDE OR THE LOAD SIDE OF THE METER. THE UTILITY COMPANY SHALL ALSO DETERMINE WHERE THE LIGHTNING ARRESTOR SHALL BE MOUNTED.
- (J) INCLUDE ADDITIONAL CONDUITS AS NECESSARY FOR AUXILIARY CIRCUITS.
- (K) SEE CABINET MANUFACTURER FOR MOUNTING BASE DIMENSIONS AND ANCHOR BOLT LOCATIONS.

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

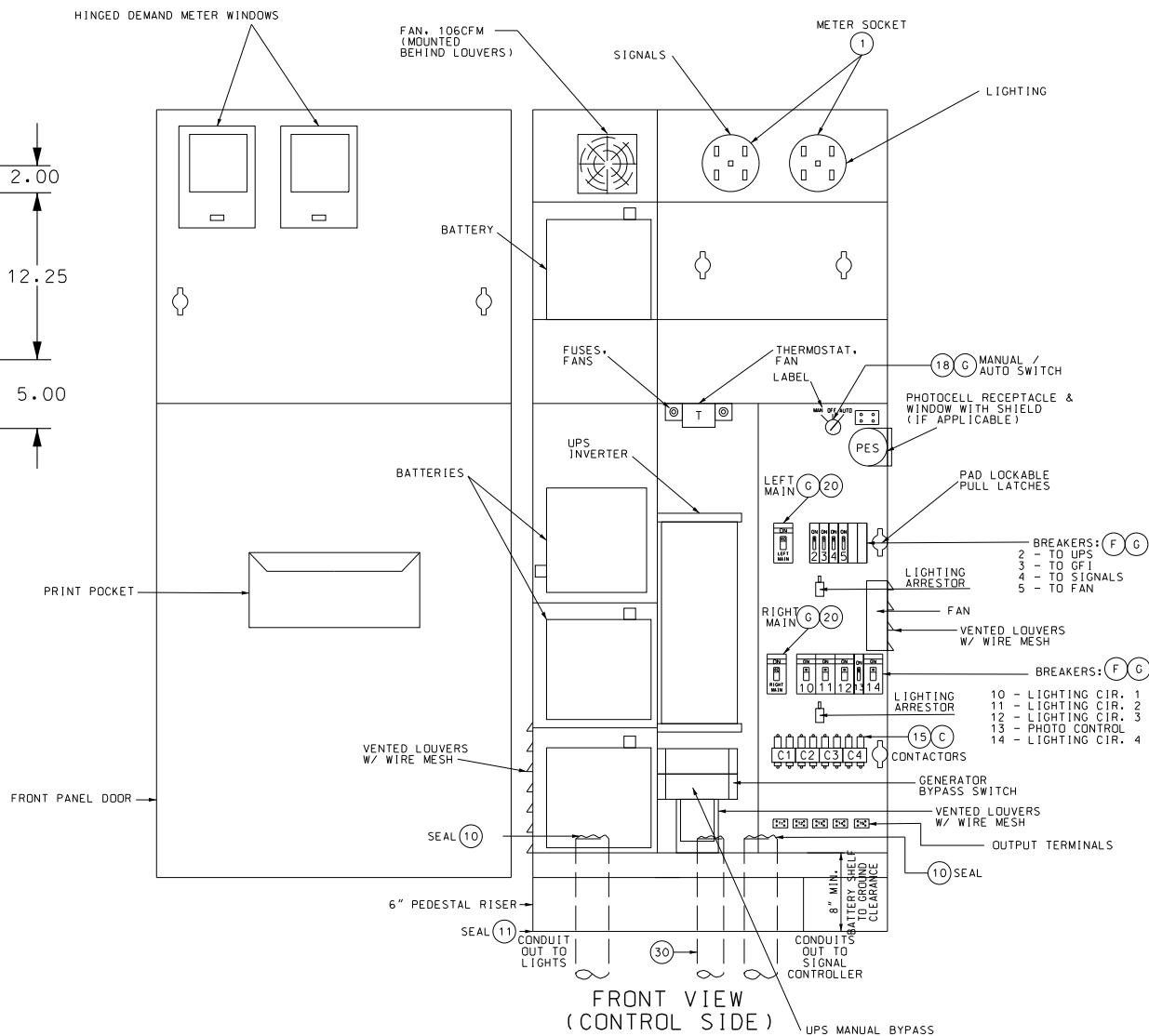
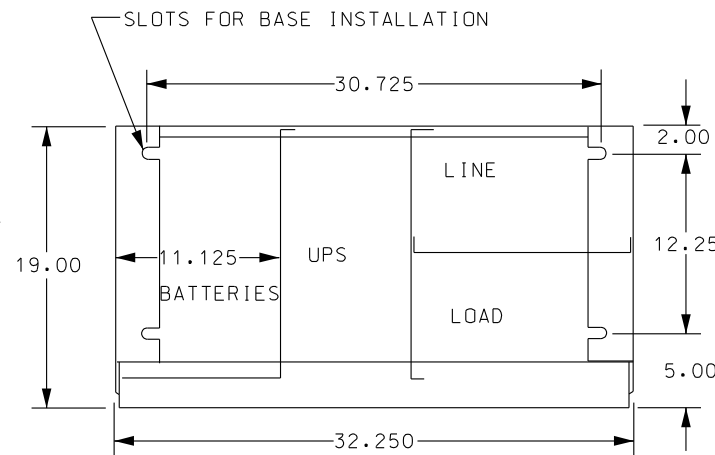
105 WEST CAPITOL
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1-888-ASK-MODOT (1-888-275-6636)

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Missouri Certificate of Authority: 001578

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REV.



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NOTES

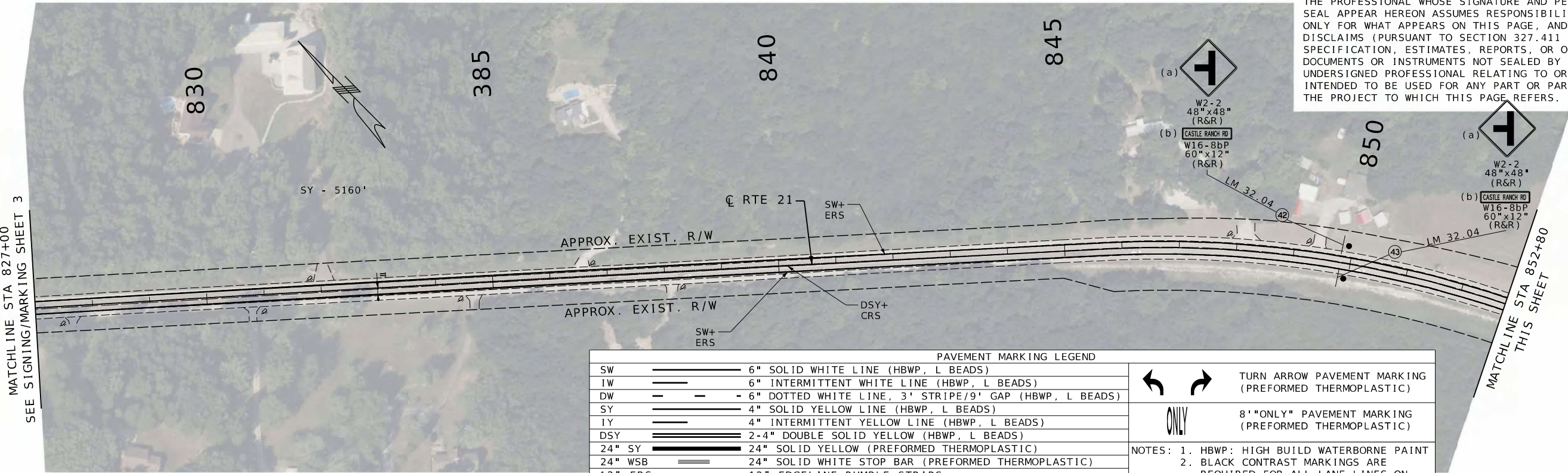
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- (E) IF FOR REASONS OF VOLTAGE DROP A WIRE SIZE IS SPECIFIED LARGER THAN #2 AWG, A LARGER TERMINAL BLOCK SHALL BE INSTALLED FOR THAT CIRCUIT.
- (F) BREAKER SIZING:

	240V TOTAL CIRCUIT LOAD (WATTS)	120V TOTAL CIRCUIT LOAD (WATTS)
SIZE (AMPS)		
15	0-2800	0-1390
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- (K) SEE CABINET MANUFACTURER FOR MOUNTING BASE DIMENSIONS AND ANCHOR BOLT LOCATIONS.

EFK♦Moen
Civil Engineering Design
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Suite 250
St. Louis, MO 63021
Phone 314 314-1111
Fax 314 314-1111
Missouri Certificate of Authority: 001578

MATCHLINE STA 827+00
SEE SIGNING/MARKING SHEET 3



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Paul J. Kronlage
03/03/2025 8:35:13 AM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/1/2025

ROUTE
21

STATE
MO

DISTRICT
SL

SHEET NO.
69

COUNTY
JEFFERSON

JOB NO.
JSL0044

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)

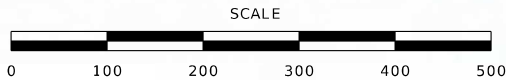
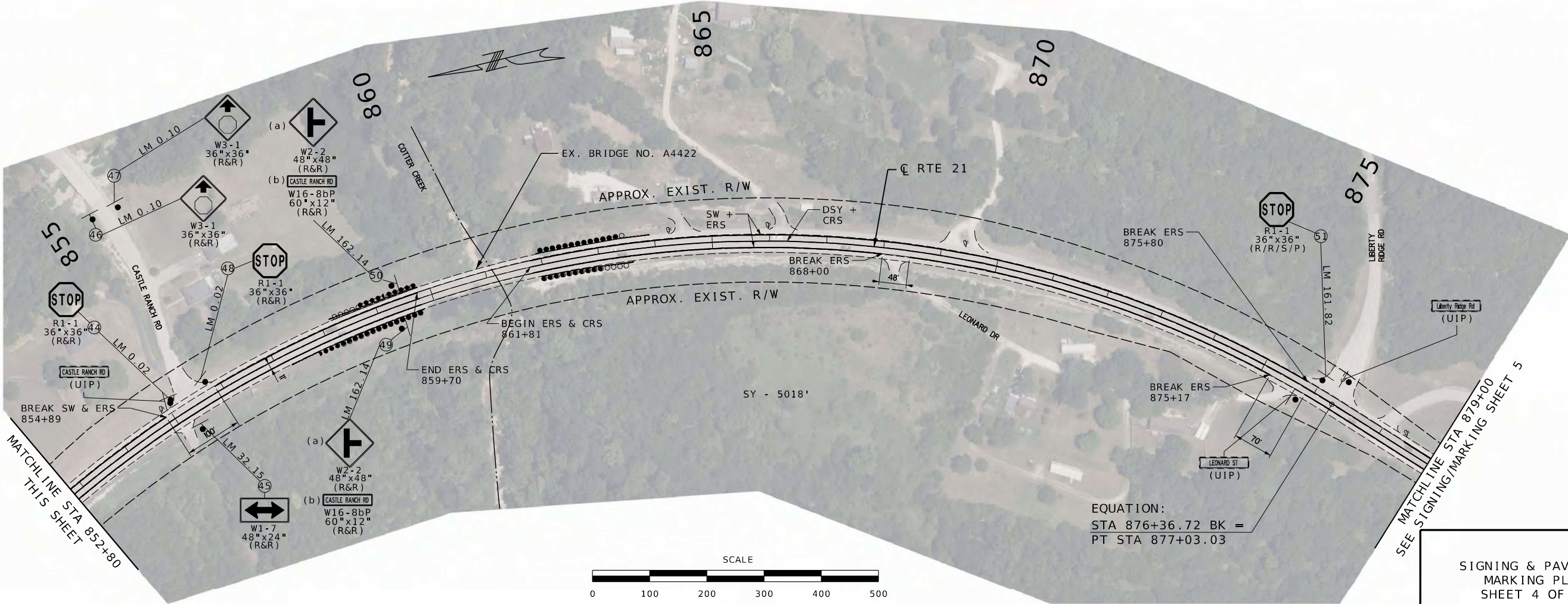
EFK Moen

Civil Engineering Design

13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

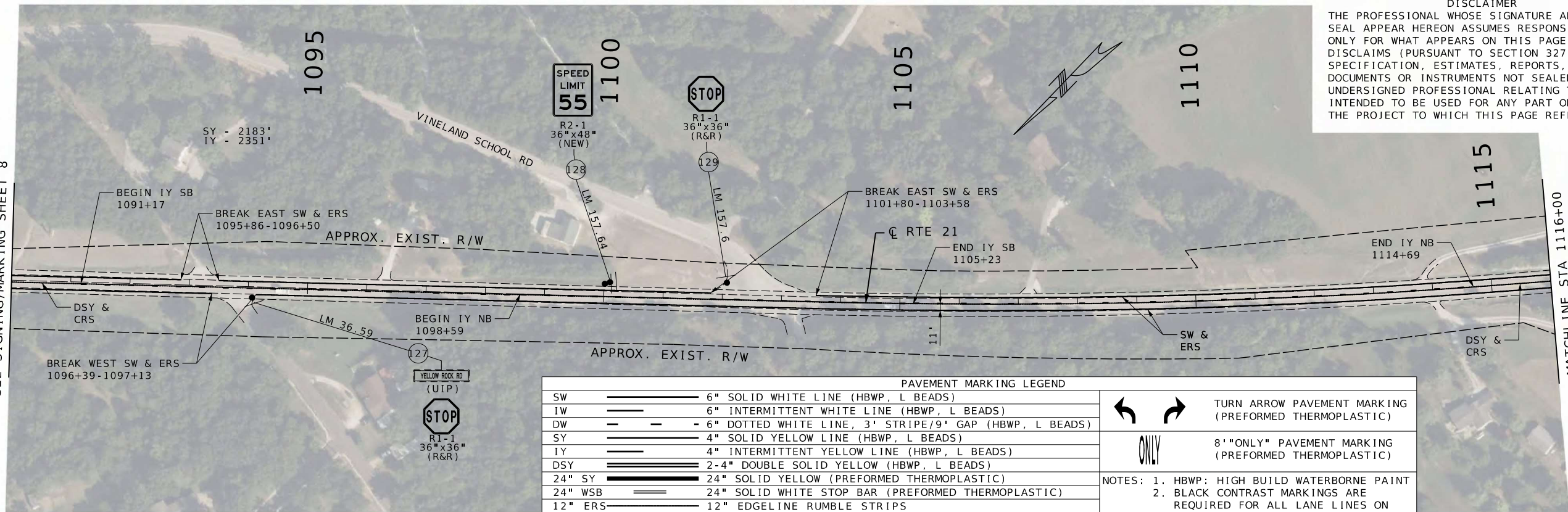
3/1/2025

PAVEMENT MARKING LEGEND		
SW	6" SOLID WHITE LINE (HBWP, L BEADS)	
IW	6" INTERMITTENT WHITE LINE (HBWP, L BEADS)	
DW	6" DOTTED WHITE LINE, 3' STRIPE/9' GAP (HBWP, L BEADS)	
SY	4" SOLID YELLOW LINE (HBWP, L BEADS)	
IY	4" INTERMITTENT YELLOW LINE (HBWP, L BEADS)	NOTES: 1. HBWP: HIGH BUILD WATERBORNE PAINT 2. BLACK CONTRAST MARKINGS ARE REQUIRED FOR ALL LANE LINES ON CONCRETE PAVEMENT (NO DIRECT PAY)
DSY	2-4" DOUBLE SOLID YELLOW (HBWP, L BEADS)	
24" SY	24" SOLID YELLOW (PREFORMED THERMOPLASTIC)	
24" WSB	24" SOLID WHITE STOP BAR (PREFORMED THERMOPLASTIC)	
12" ERS	12" EDGE LINE RUMBLE STRIPS	
12" CRS	12" CENTERLINE RUMBLE STRIPS	



SIGNING & PAVEMENT
MARKING PLAN
SHEET 4 OF 24

MATCHLINE STA 1090+00
SEE SIGNING/MARKING SHEET 8



PAVEMENT MARKING LEGEND		
SW	6"	SOLID WHITE LINE (HBWP, L BEADS)
IW	6"	INTERMITTENT WHITE LINE (HBWP, L BEADS)
DW	6"	DOTTED WHITE LINE, 3' STRIPE/9' GAP (HBWP, L BEADS)
SY	4"	SOLID YELLOW LINE (HBWP, L BEADS)
IY	4"	INTERMITTENT YELLOW LINE (HBWP, L BEADS)
DSY	2-4"	DOUBLE SOLID YELLOW (HBWP, L BEADS)
24" SY	24"	SOLID YELLOW (PREFORMED THERMOPLASTIC)
24" WSB	24"	SOLID WHITE STOP BAR (PREFORMED THERMOPLASTIC)
12" ERS	12"	EDGE LINE RUMBLE STRIPS
12" CRS	12"	CENTERLINE RUMBLE STRIPS

TURN ARROW PAVEMENT MARKING
(PERFORMED THERMOPLASTIC)

8'"ONLY" PAVEMENT MARKING
(PERFORMED THERMOPLASTIC)

NOTES: 1. HBWP: HIGH BUILD WATERBORNE PAINT
2. BLACK CONTRAST MARKINGS ARE
REQUIRED FOR ALL LANE LINES ON
CONCRETE PAVEMENT (NO DIRECT PAY)

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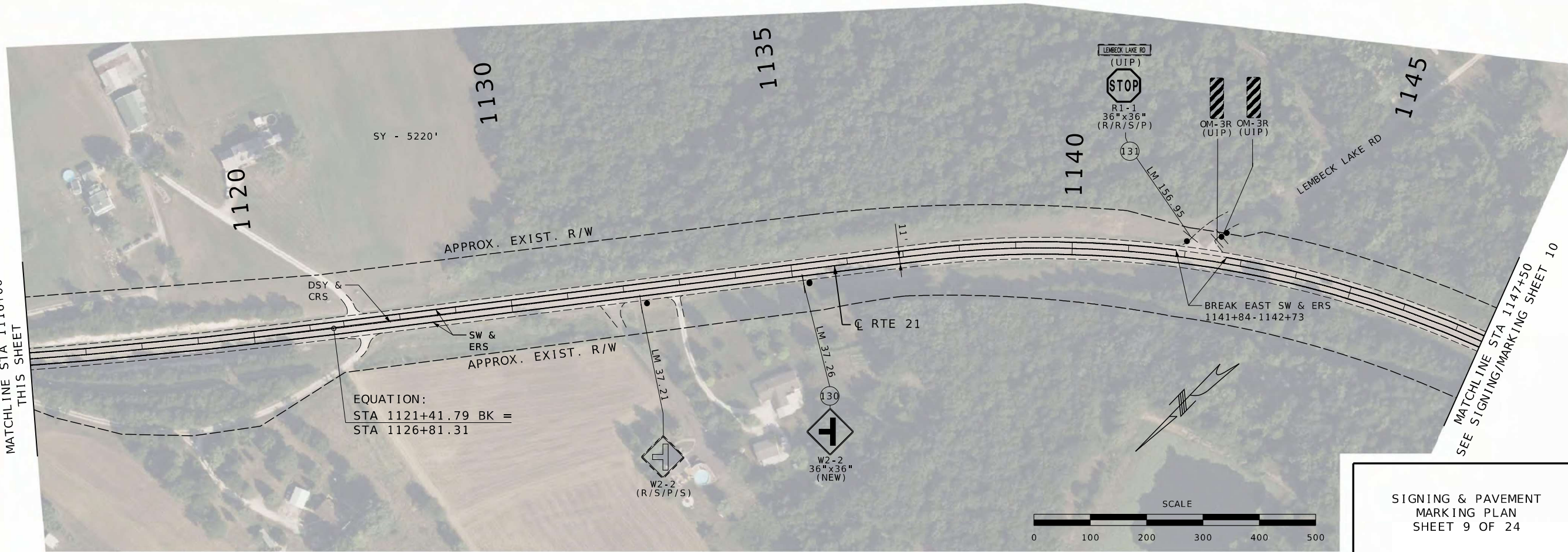
DATE PREPARED
3/1/2025
ROUTE 21 STATE MO
DISTRICT SL SHEET NO. 74
COUNTY JEFFERSON
JOB NO. JSL0044
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

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

MATCHLINE STA 1116+00
THIS SHEET



SIGNING & PAVEMENT
MARKING PLAN
SHEET 9 OF 24

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

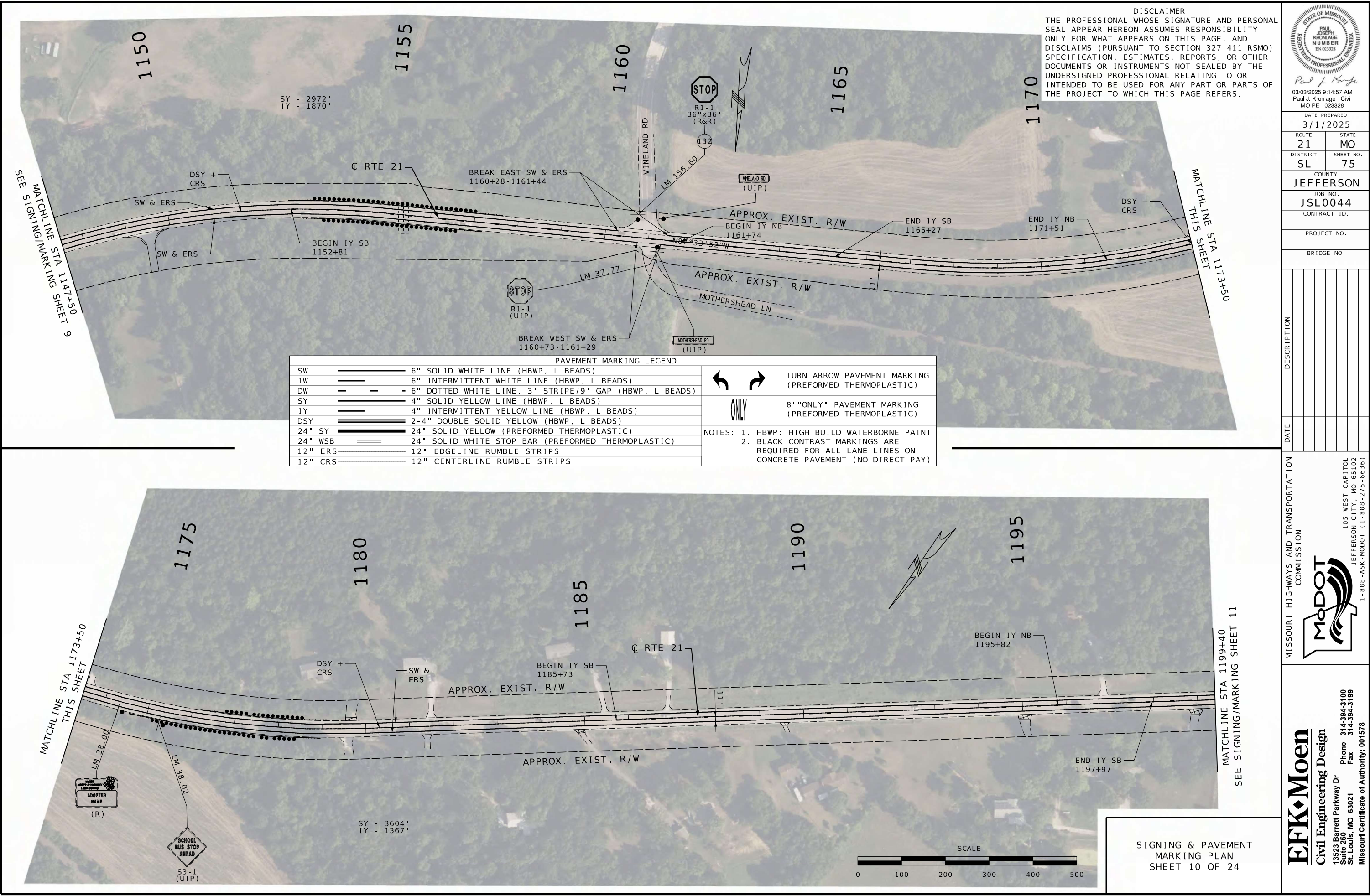


105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6636)

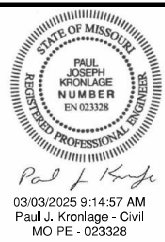
EFK Moen
Civil Engineering Design

13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

REV.



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DATE PREPARED
3/1/2025

ROUTE 21 STATE MO

DISTRICT SL SHEET NO. 75

COUNTY JEFFERSON

JOB NO. JSL0044

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 (1-888-273-6636)

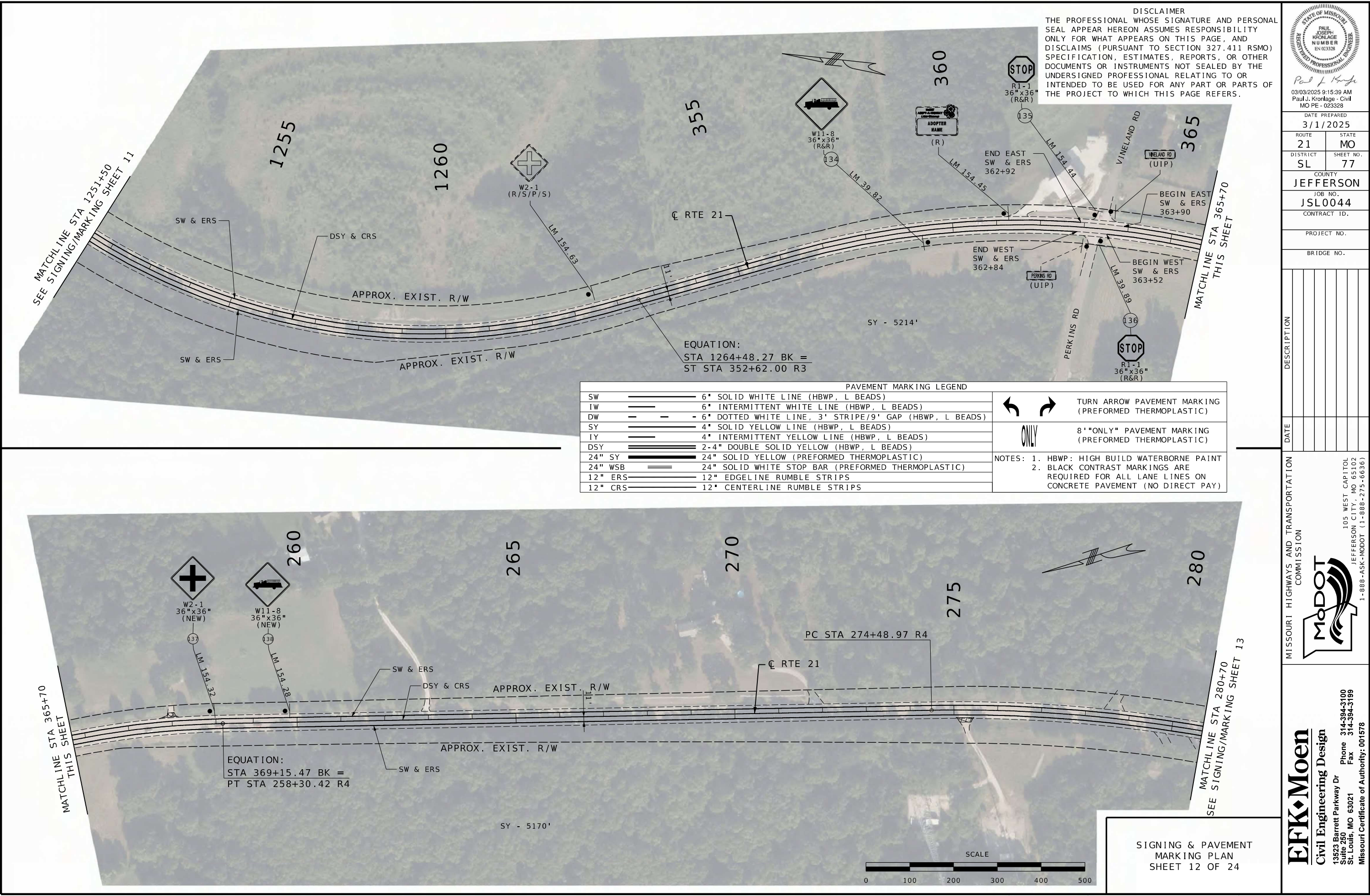
EFK Moen
Civil Engineering Design

13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021

Phone 314-394-3100
Fax 314-394-3199

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SIGNING & PAVEMENT MARKING PLAN
SHEET 10 OF 24



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Paul J. Kronlage
03/03/2025 9:15:39 AM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/1/2025
ROUTE 21 STATE MO
DISTRICT SL SHEET NO. 77

COUNTY JEFFERSON
JOB NO. JSL0044
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)

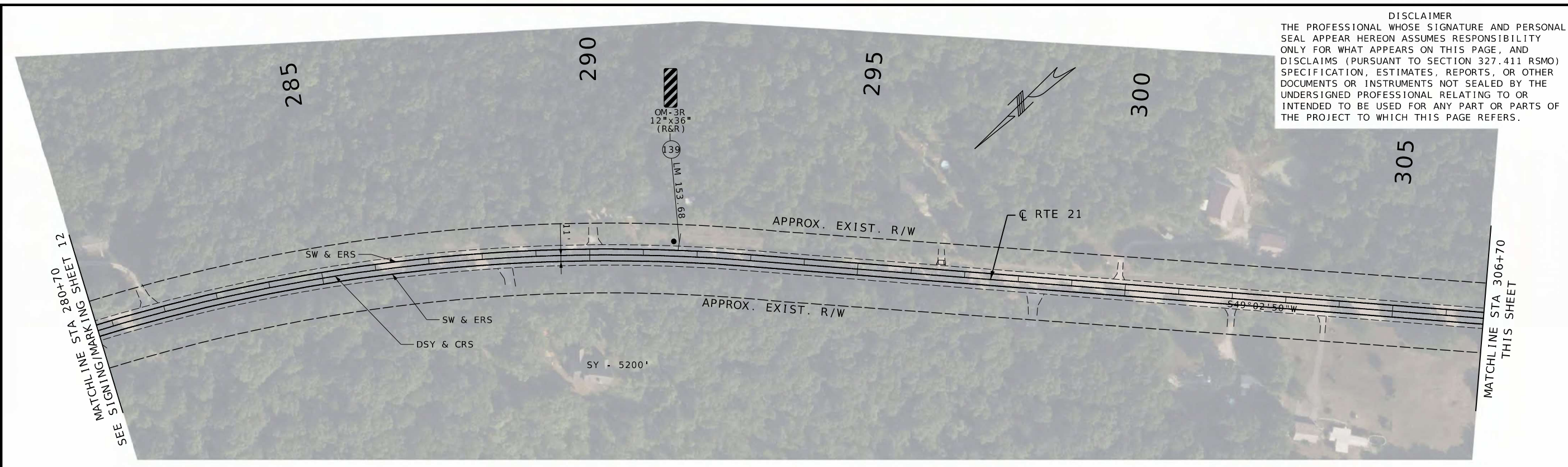
EFK Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

PAVEMENT MARKING LEGEND	
SW	6" SOLID WHITE LINE (HBWP, L BEADS)
IW	6" INTERMITTENT WHITE LINE (HBWP, L BEADS)
DW	6" DOTTED WHITE LINE, 3' STRIPE/9' GAP (HBWP, L BEADS)
SY	4" SOLID YELLOW LINE (HBWP, L BEADS)
IY	4" INTERMITTENT YELLOW LINE (HBWP, L BEADS)
DSY	2-4" DOUBLE SOLID YELLOW (HBWP, L BEADS)
24" SY	24" SOLID YELLOW (PREFORMED THERMOPLASTIC)
24" WSB	24" SOLID WHITE STOP BAR (PREFORMED THERMOPLASTIC)
12" ERS	12" EDGE LINE RUMBLE STRIPS
12" CRS	12" CENTERLINE RUMBLE STRIPS

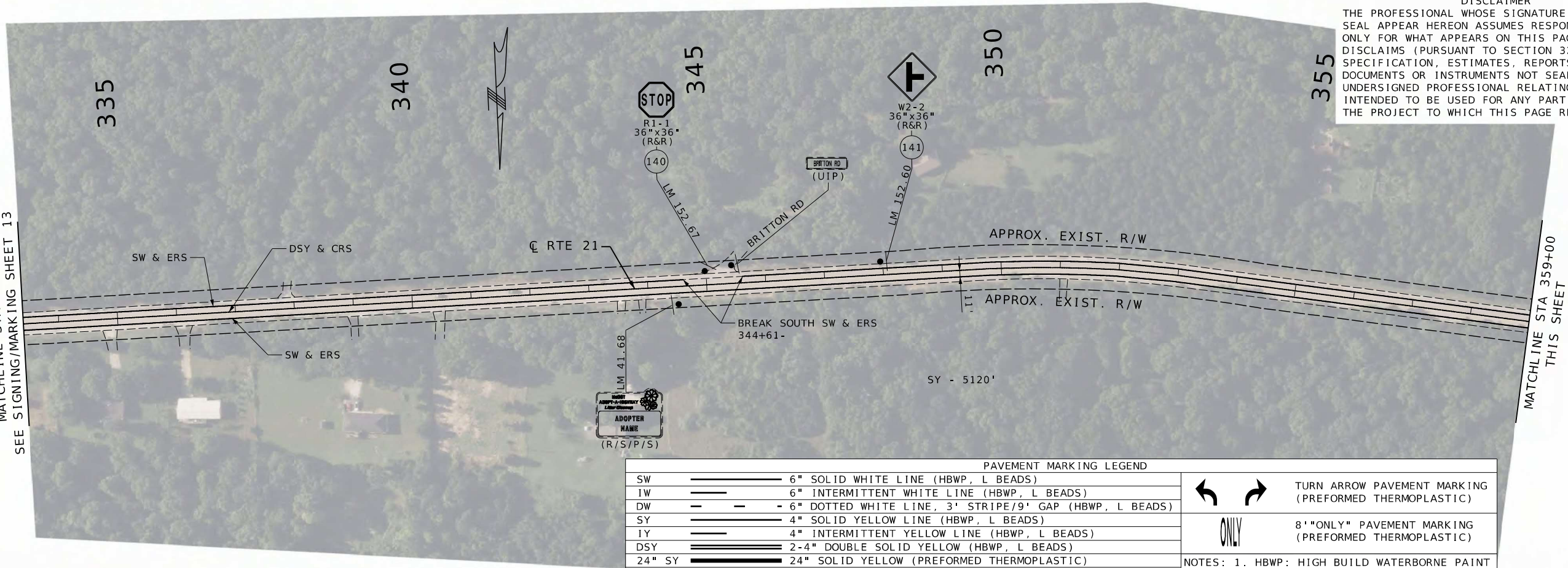
		TURN ARROW PAVEMENT MARKING (PREFORMED THERMOPLASTIC)
		8' "ONLY" PAVEMENT MARKING (PREFORMED THERMOPLASTIC)

NOTES: 1. HBWP: HIGH BUILD WATERBORNE PAINT
2. BLACK CONTRAST MARKINGS ARE REQUIRED FOR ALL LANE LINES ON CONCRETE PAVEMENT (NO DIRECT PAY)

SIGNING & PAVEMENT MARKING PLAN
SHEET 12 OF 24

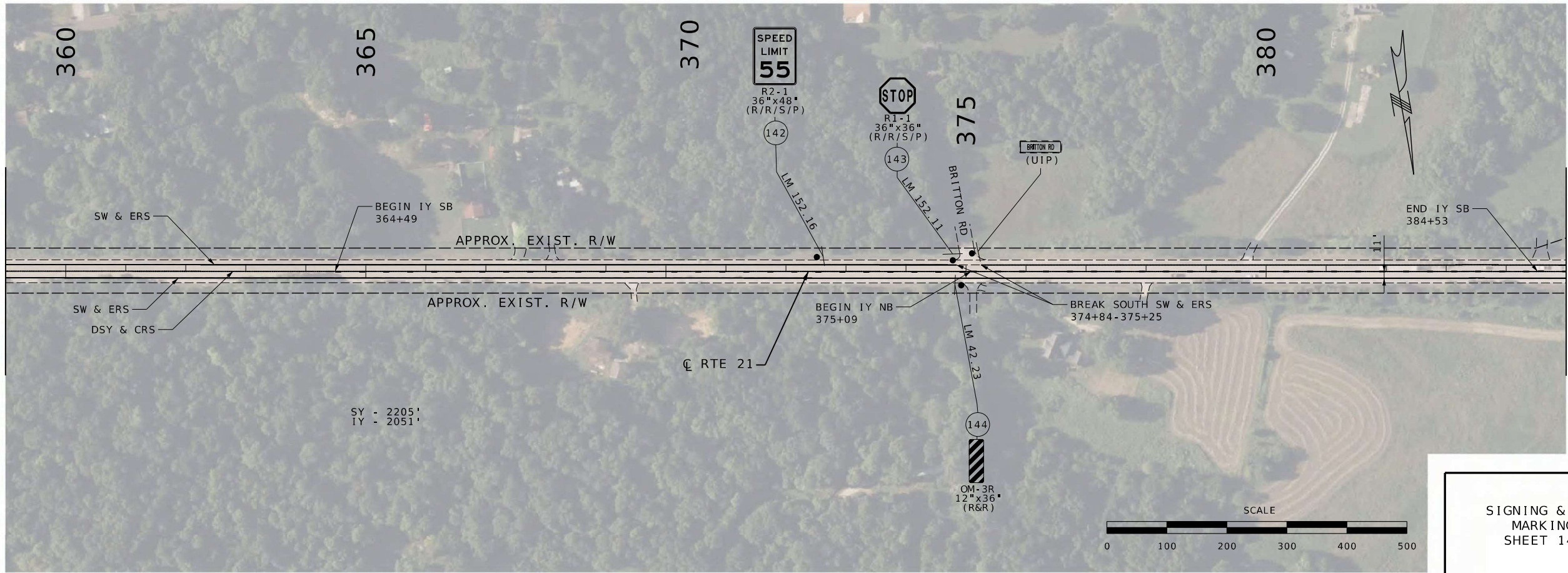


MATCHLINE STA 333+40
SEE SIGNING/MARKING SHEET 13



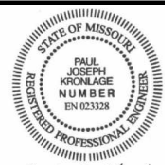
PAVEMENT MARKING LEGEND			
SW	6"	SOLID WHITE LINE (HBWP, L BEADS)	 TURN ARROW PAVEMENT MARKING (PERFORMED THERMOPLASTIC)
IW	6"	INTERMITTENT WHITE LINE (HBWP, L BEADS)	
DW	6"	DOTTED WHITE LINE, 3' STRIPE/9' GAP (HBWP, L BEADS)	
SY	4"	SOLID YELLOW LINE (HBWP, L BEADS)	 8" "ONLY" PAVEMENT MARKING (PERFORMED THERMOPLASTIC)
IY	4"	INTERMITTENT YELLOW LINE (HBWP, L BEADS)	
DSY	2-4"	DOUBLE SOLID YELLOW (HBWP, L BEADS)	
24" SY	24"	SOLID YELLOW (PERFORMED THERMOPLASTIC)	NOTES: 1. HBWP: HIGH BUILD WATERBORNE PAINT 2. BLACK CONTRAST MARKINGS ARE REQUIRED FOR ALL LANE LINES ON CONCRETE PAVEMENT (NO DIRECT PAY)
24" WSB	24"	SOLID WHITE STOP BAR (PERFORMED THERMOPLASTIC)	
12" ERS	12"	EDGE LINE RUMBLE STRIPS	
12" CRS	12"	CENTERLINE RUMBLE STRIPS	

MATCHLINE STA 359+00
THIS SHEET



SIGNING & PAVEMENT
MARKING PLAN
SHEET 14 OF 24

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Paul J. Kronlage
03/03/2025 9:16:20 AM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/1/2025

ROUTE 21 STATE MO

DISTRICT SL SHEET NO. 79

COUNTY JEFFERSON

JOB NO. JSL0044

CONTRACT ID.

PROJECT NO.

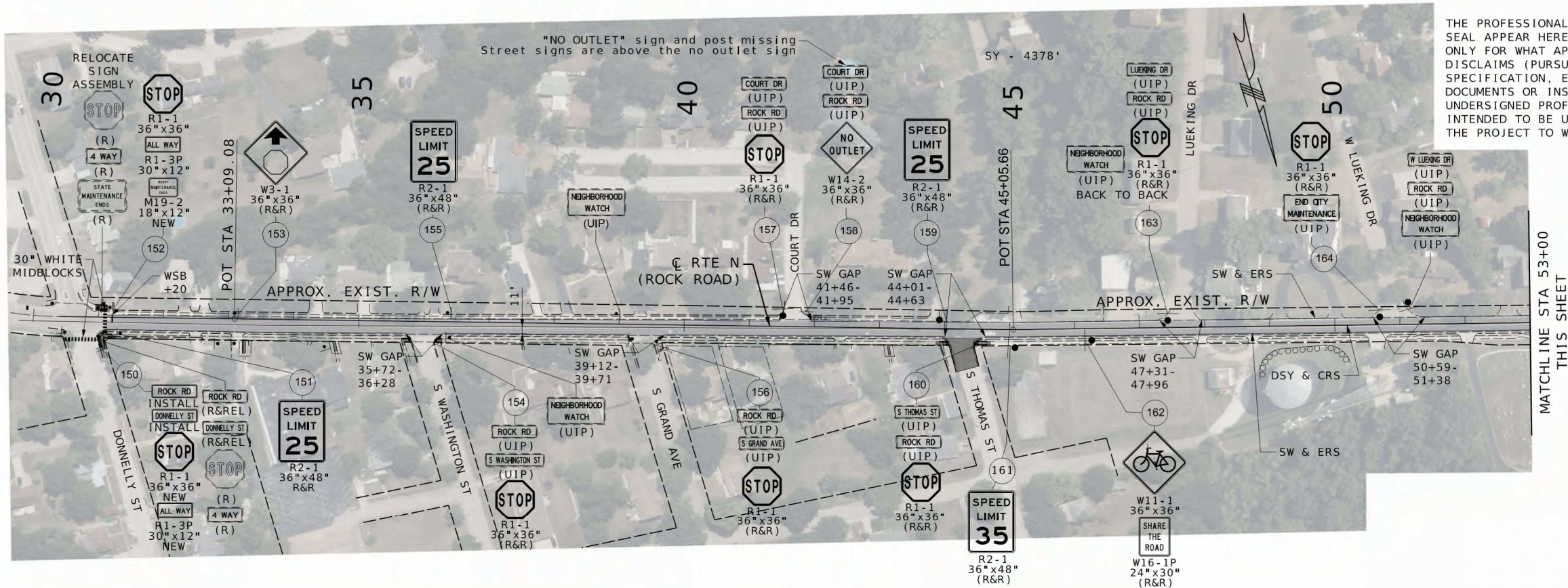
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

EFK Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



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Paul J. Kronlage
03/03/2025 1:01:32 PM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/3/2025

ROUTE
21

STATE
MO

DISTRICT
SL

SHEET NO.
81

COUNTY
JEFFERSON

JOB NO.
JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

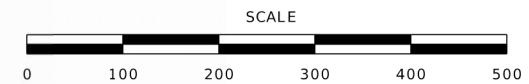
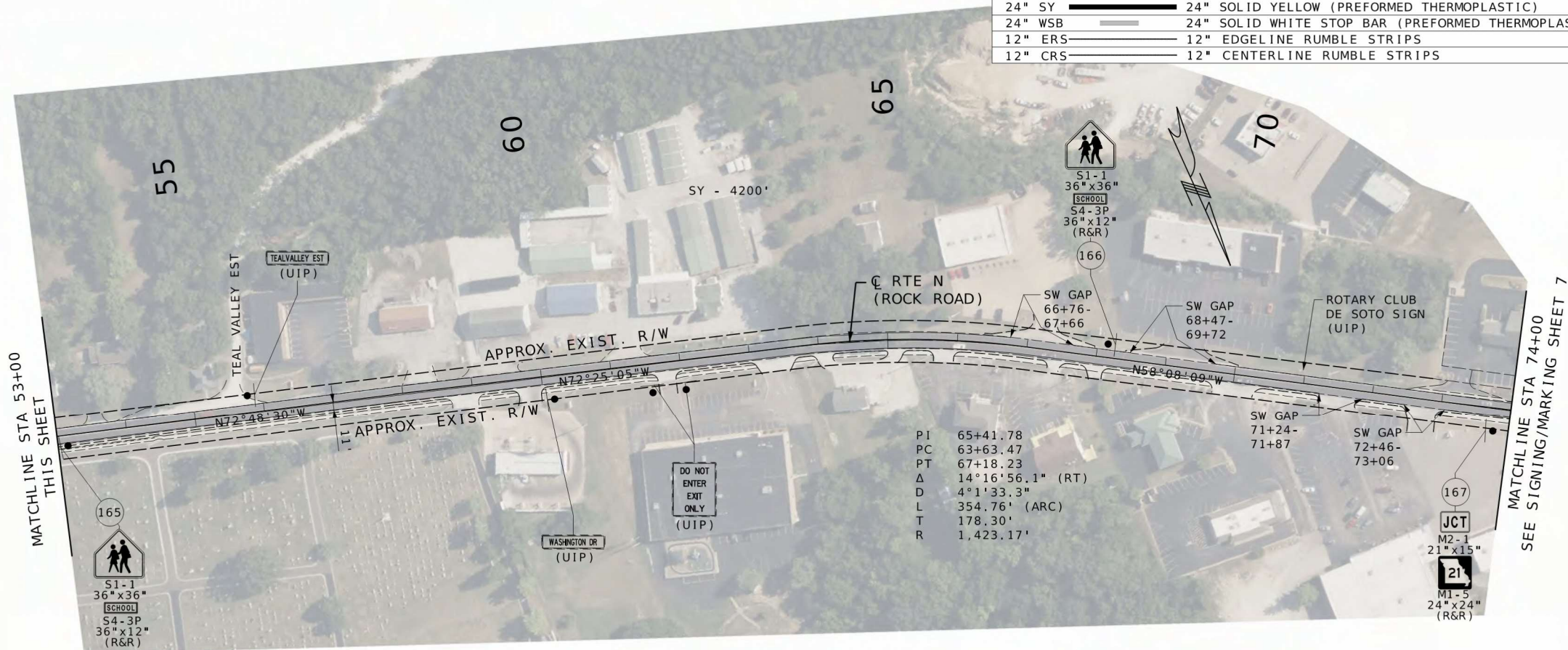
DATE

DATE

DATE

DATE

PAVEMENT MARKING LEGEND		
SW	6" SOLID WHITE LINE (HBWP, L BEADS)	TURN ARROW PAVEMENT MARKING (PERFORMED THERMOPLASTIC)
IW	6" INTERMITTENT WHITE LINE (HBWP, L BEADS)	
DW	6" DOTTED WHITE LINE, 3' STRIPE/9' GAP (HBWP, L BEADS)	ONLY 8' "ONLY" PAVEMENT MARKING (PERFORMED THERMOPLASTIC)
SY	4" SOLID YELLOW LINE (HBWP, L BEADS)	
IY	4" INTERMITTENT YELLOW LINE (HBWP, L BEADS)	NOTES: 1. HBWP: HIGH BUILD WATERBORNE PAINT 2. BLACK CONTRAST MARKINGS ARE REQUIRED FOR ALL LANE LINES ON CONCRETE PAVEMENT (NO DIRECT PAY)
DSY	2-4" DOUBLE SOLID YELLOW (HBWP, L BEADS)	
24" SY	24" SOLID YELLOW (PERFORMED THERMOPLASTIC)	
24" WSB	24" SOLID WHITE STOP BAR (PERFORMED THERMOPLASTIC)	
12" ERS	12" EDGELINE RUMBLE STRIPS	
12" CRS	12" CENTERLINE RUMBLE STRIPS	



SIGNING & PAVEMENT
MARKING PLAN
SHEET 16 OF 20

EFK Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

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.

SIGNS

902 SIGNAL SIGNS TABULATED ON D-37A SHEET

CONCRETE FOOTINGS EMBEDDED

STRUCTURAL STEEL POSTS*

PIPE POSTS*

BACKING BARS**

U-CHANNEL POST

PERFORATED SQUARE STEEL TUBE

2-INCH POST

2.5-INCH POST

EFFECTIVE: 07-01-2024

SIGN NO.

SIGN SIZE

STATION OR LOG MILE

HORIZ CLEAR IF NOT STD

LOCATION

SIGN DTL SHT NO.

ITEM NO.
9031010
CY

POST DES NO.

POST NO. 1 LF

POST NO. 2 LF

POST NO. 3 LF

LBS PER FT

ITEM NO.
9031210
LBS

PIPE SIZE IN

POST NO. 1 LF

POST NO. 2 LF

LBS PER FT

ITEM NO.
9031220
LBS

2" X 3/8" BARS AT 2.55 LBS/FT

ITEM NO.
9031250A
LF

POST NO. 1 LF

POST NO. 2 LF

TOTAL ITEM NO.
9031270A
LF

ANCHORS

DRIVEN 12 GA. ITEM NO.
9031271A
EACH

DRIVEN 7 GA. ITEM NO.
9031273A
EACH

CONCRETE 7 GA. ITEM NO.
9031274
EACH

POST NO. 1 LF

POST NO. 2 LF

TOTAL ITEM NO.
9031280
LF

2.25" INSERT (6 FT) ITEM NO.
9031272A
EACH

ANCHORS

DRIVEN 7 GA. ITEM NO.
9031281A
EACH

CONCRETE 7 GA. ITEM NO.
9031285
EACH

BREAK-AWAY ASSEMBLY ITEM NO.
9031241
EACH

REMARKS AND OTHER REQUIRED ITEMS

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
PAUL JOSEPH KRONLAGE
NUMBER
EN 023328

Paul J. Kronlage
04/05/2025 10:48:14 AM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/4/2025

ROUTE 21 STATE MO

DISTRICT SL SHEET NO. 82

COUNTY JEFFERSON

JOB NO. JSL0044

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MOTD

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

EFK Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250 St. Louis, MO 63021
Phone 314-394-3100 Fax 314-394-3199
Missouri Certificate of Authority: 001578

*BREAKAWAY ASSEMBLY IS INCIDENTAL FOR STRUCTURAL STEEL AND PIPE POSTS.

**BACKING BARS ARE TOTALED WITH STRUCTURAL STEEL OR PIPE POSTS.

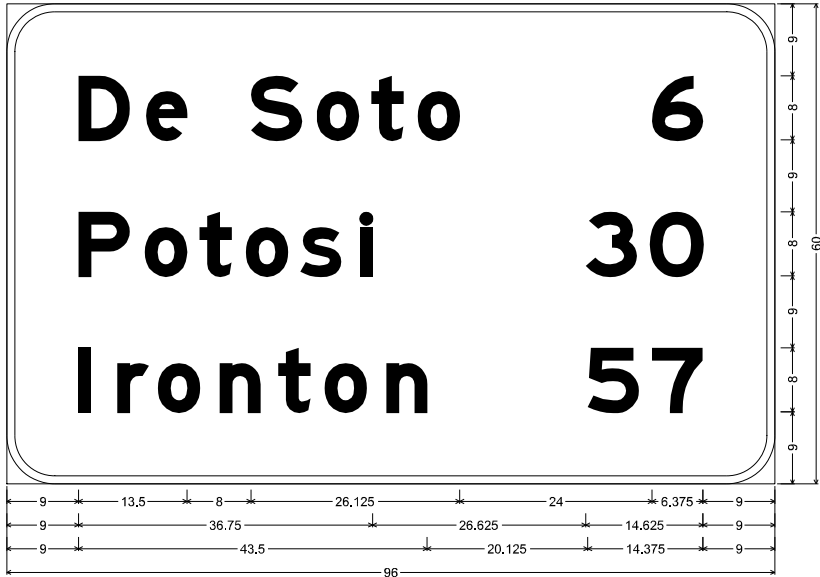
ROUND PIPE POST AND FOOTING DATA TABLE

STRUCTURAL STEEL POST AND FOOTING DATA TABLE

SIGNING & PAVEMENT MARKING PLAN SHEET 17 OF 24

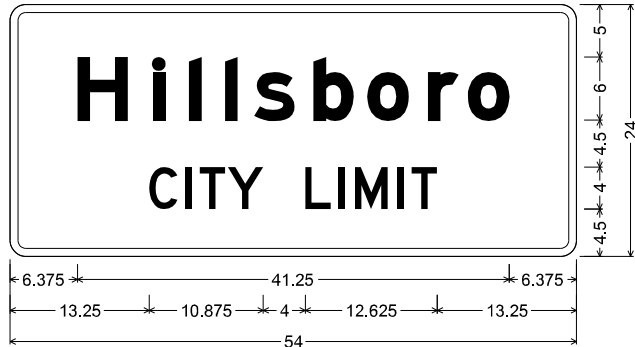
D-29

STANDARD SIGN ASSEMBLIES																													
SIGN NO.	STATION OR LOG MILE	LOCATION	SIGN, TYPE, DESIGNATION, SIZE & NUMBER OF EACH																										
			R3-9b 24"x36"	R4-7a 24"x30"	R5-1 30"x30"	R10-15R 30"x30"	W1-7 48"x24"	W2-1 36"x36"	W2-2 36"x36"	W2-4 48"x48"	W2-8 36"x36"	W3-1 36"x36"	W3-3 36"x36"	W3-5_4S 36"x36"	W4-3R 36"x36"	W11-1 36"x36"	W11-2 48"x48"	W11-8 36"x36"	W11-10 36"x36"	W12-1 30"x30"	W14-2 36"x36"	W16-1P 24"x30"	W16-7P 30"x18"	S1-1 36"x36"	S4-3P 36"x12"	OM3-L 12"x36"	OM3-R 12"x36"	D4-15 36"x18"	D4-15 36"x18"
									or 	or 																			
4	28.89	Route 21																											
10	29.08	Route 21																		1									
11	29.11	Route 21																											
12	29.12	Route 21		1																								1	
14	29.12	Route 21			1																								
15	29.14	Route 21				1																							
18	29.17	Route 21																											
22	29.17	Route 21																											
24	29.23	Route 21														1							1						
25	29.24	Route 21		1																									
27	29.24	Route 21			1																								
31	29.77	Route 21										1																	
35	163.86	Route 21	1																										
38	30.90	Route 21	1																										
39	31.00	Route 21										1																	
41	163.13	Route 21									1																		
42	32.04	Route 21										1																	
43	32.04	Route 21										1																	
45	32.15	Route 21					1																						
46	0.10	Route 21																		1									
47	0.10	Route 21																		1									
49	162.14	Route 21										1																	
50	162.14	Route 21										1																	
57	161.32	Route 21			1																								
59	161.32	Route 21			1																								
61	161.30	Route 21			1																								
66	161.12	Route 21																											
67	33.43	Route 21																											
69	160.64	Route 21																											
73	160.10	Route 21																											
74	34.26	Route 21																											
75	34.28	Route 21																											
76	160.09	Route 21																											



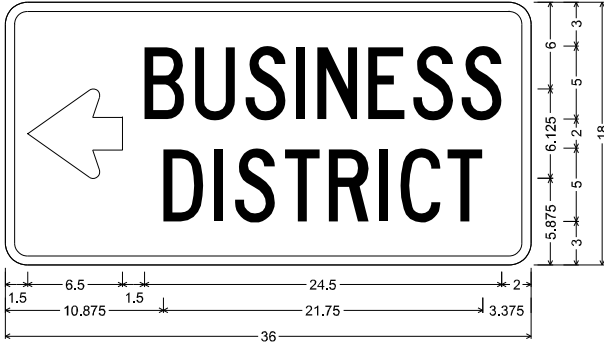
D2-3 ST-STRUCTURAL:
6,000" Radius, 1,000" Border, White on, Green;
"De Soto", E Mod; "6", E Mod; "Potosi", E Mod; "30", E Mod; "Ironton", E Mod; "57", E Mod;
Table of letter and object lefts

D	e	S	o	t	o	6
9,000	17,375	30,500	38,750	45,625	51,375	80,625
P	o	t	o	s	i	3
9,000	17,250	24,125	29,875	36,750	44,250	72,375
I	r	o	n	t	o	5
9,000	13,875	18,875	26,625	34,000	39,750	72,625



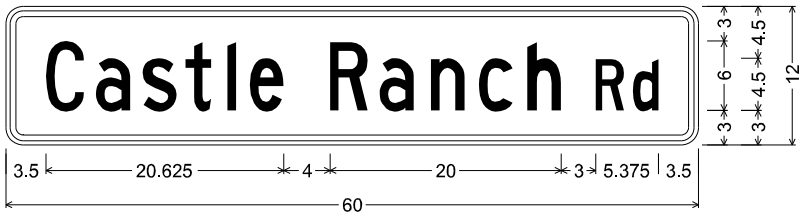
I4-1 SH-FLAT SHEET;
1,500" Radius, 0,750" Border, White on, Green;
"Hillsboro", E Mod; "CITY LIMIT", D;
Table of letter and object lefts

H	I	L	S	B	O	R	O
6,375	13,625	17,000	20,500	23,250	28,875	34,000	39,875
C	I	T	Y				
13,250	16,750	18,125	20,750				
L	I	M	I	T			
28,125	31,375	32,875	36,875	38,250			



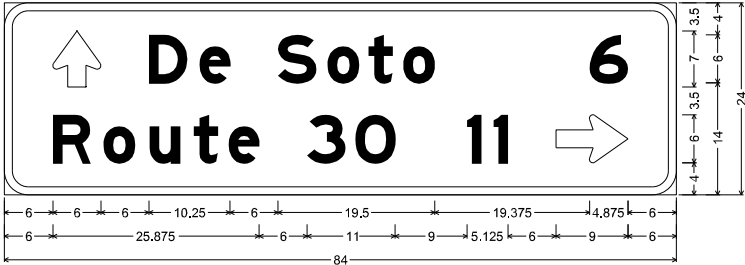
D4-15 SH-FLAT SHEET;
1,500" Radius, 0,625" Border, White on, Green;
Standard Arrow Custom 6,500" X 6,125" 180°;
"BUSINESS", C 70% spacing; "DISTRICT", C 70% spacing;
Table of letter and object lefts

B	U	S	I	N	E	S	S
1,500	9,500	13,000	16,500	19,875	21,375	24,875	27,875
D	I	S	T	R	I	C	T
10,875	14,250	15,750	19,000	22,125	25,625	27,000	30,125



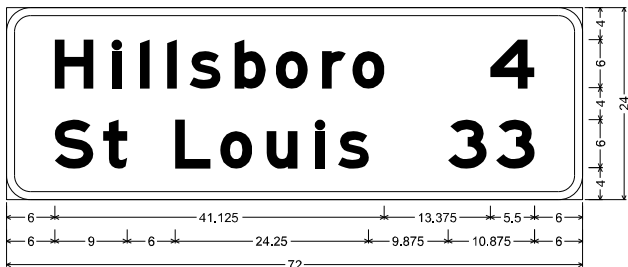
W16-8P SHF-FLAT SHEET FLUORESCENT;
1,500" Radius, 0,500" Border, 0,375" Indent, Black on, Yellow;
"Castle Ranch", C 80% spacing; "Rd", C 80% spacing;
Table of letter and object lefts

C	a	s	t	r	e
3,500	7,750	11,875	15,500	19,125	21,125
R	a	n	c	h	d
28,125	32,375	36,875	41,000	45,125	51,125



D1-2a ST-STRUCTURAL:
3,000" Radius, 1,000" Border, White on, Green;
Standard Arrow Custom 7,000" X 6,000" 90°; "De Soto", E Mod; "6", E Mod; "Route 30", E Mod; "11", E Mod; Standard Arrow Custom 9,000" X 6,000" 0°;
Table of letter and object lefts

D	e	S	o	t	o	6
6,000	18,000	24,375	34,250	40,375	45,500	49,875
R	o	u	t	e	3	0
6,000	12,375	18,125	23,625	28,000	37,875	43,875



D2-2 ST-STRUCTURAL:
3,000" Radius, 1,000" Border, White on, Green;
"Hillsboro", E Mod; "4", E Mod; "St Louis", E Mod; "33", E Mod;
Table of letter and object lefts

H	I	L	S	B	O	R	O	4
6,000	13,250	16,625	20,125	22,875	28,500	33,625	39,375	43,250
S	t	L	o	u	i	s	3	3
6,000	12,000	21,000	26,750	32,500	38,625	41,500	55,125	61,250

SIGNING & PAVEMENT
MARKING PLAN
SHEET 22 OF 24

D - 31



Paul J. Kronlage
03/03/2025 9:24:45 AM
Paul J. Kronlage - Civil
MO PE - 023328

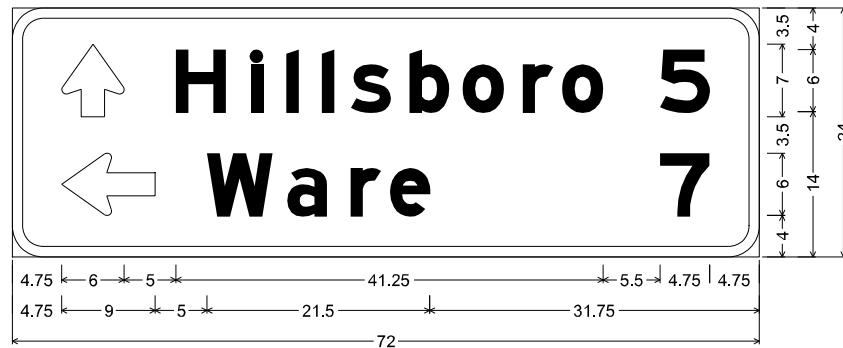
DATE PREPARED
3/1/2025
ROUTE 21 STATE MO
DISTRICT SL SHEET NO. 87
COUNTY JEFFERSON
JOB NO. JSL0044
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION
MoDOT
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6636)

EFK Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



D1-2a ST-STRUCTURAL;

3.000" Radius, 1.000" Border, White on, Green;

Standard Arrow Custom 7.000" X 6.000" 90'; "Hillsboro", E Mod; "5", E Mod;

Standard Arrow Custom 9.000" X 6.000" 180'; "Ware", E Mod; "7", E Mod;

Table of letter and object lefts

	H	I	I	I	s	b	o	r	o	5
4.750	15.750	23.000	26.375	29.875	32.625	38.250	43.375	49.250	53.000	62.500
	W	a	r	e	7					
4.750	18.750	26.500	32.625	36.375	62.500					



D4-15 SH-FLAT SHEET;

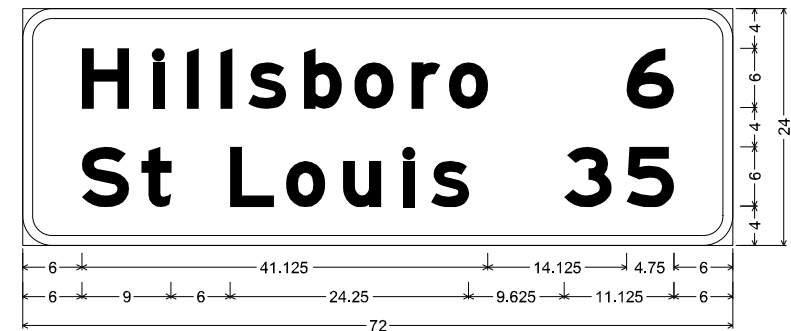
1.500" Radius, 0.625" Border, White on, Green;

"BUSINESS", C 70% spacing; "DISTRICT", C 70% spacing;

Standard Arrow Custom 6.500" X 6.125" 0';

Table of letter and object lefts

B 2,000	U 5,500	S 9,000	I 12,500	N 13,875	E 17,375	S 20,500	S 23,750	➡ 28,000
D 3,375	I 6,750	S 8,250	T 11,625	R 14,625	I 18,125	C 19,625	T 22,750	



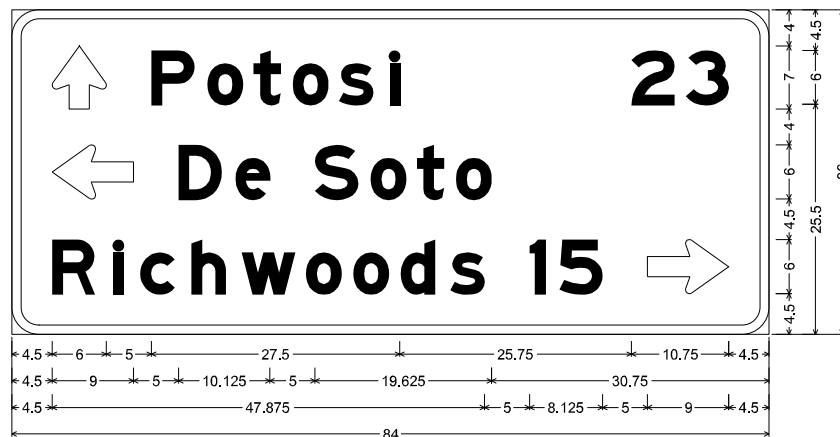
D2-2 ST-STRUCTURAL;

3.000" Radius, 1.000" Border, White on, Green;

"Hillsboro", E Mod; "6", E Mod; "St Louis", E Mod; "35", E Mod;

Table of letter and object lefts

H 6.000	I 13.250	I 16.625	I 20.000	s 22.875	b 28.500	o 33.625	r 39.375	o 43.250	6 61.250
S 6.000	t 12.000	L 21.000	o 26.750	u 32.500	i 38.625	s 41.375	3 54.875	5 61.250	



D1-3a ST-STRUCTURAL;

3.000" Radius, 1.000" Border, White on, Green;

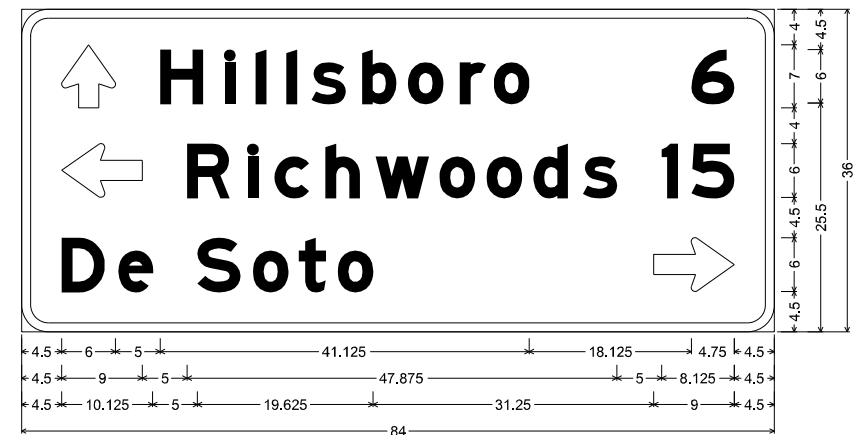
Standard Arrow Custom 7.000" X 6.000" 90'; "Potosi", E Mod; "23", E Mod;

Standard Arrow Custom 9.000" X 6.000" 180'; "De Soto", E Mod; "Richwoods", E Mod; "15", E Mod;

Standard Arrow Custom 9.000" X 6.000" 0';

Table of letter and object lefts

⬆	P	o	t	o	s	l	2	3			
4.500	15.500	21.750	26.750	31.125	36.250	41.875	68.750	74.750			
↔	D	e	S	t	o						
4.500	18.500	24.750	33.625	39.750	44.875	49.250					
R	l	c	h	w	o	d	s	1	5	↔	
4.500	11.250	14.250	18.875	25.500	32.625	37.875	43.125	48.625	57.375	60.750	70.500



D1-3a ST-STRUCTURAL;

3.000" Radius, 1.000" Border, White on, Green;

Standard Arrow Custom 7.000" X 6.000" 90°; "Hillsboro", E Mod; "6", E Mod;

Standard Arrow Custom 9.000" X 6.000" 180'; "Richwoods", E Mod; "15", E Mod; "De Soto", E Mod;

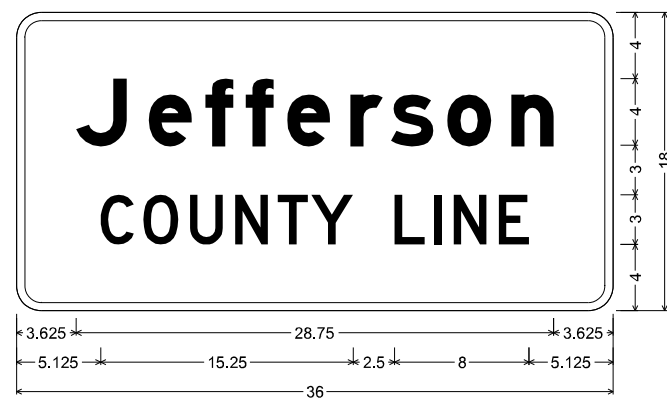
Standard Arrow Custom 9.000" X 6.000" 0:

Table of letter and object lefts

$\uparrow$	H	I	I	I	s	b	o	r	o	6	
4.500	15.500	22.750	26.125	29.500	32.375	38.000	43.125	48.875	52.750	74.750	
$\Leftarrow$	R	I	c	h	w	o	d	d	1	5	
4.500	18.500	25.250	28.250	33.875	39.500	46.625	51.875	57.125	62.625	71.375	74.750
D	e	S	o	t	o	$\Rightarrow$					
4.500	10.750	19.625	25.750	30.875	35.250	70.500					

SIGNING & PAVEMENT
MARKING PLAN
SHEET 23 OF 24

D-31



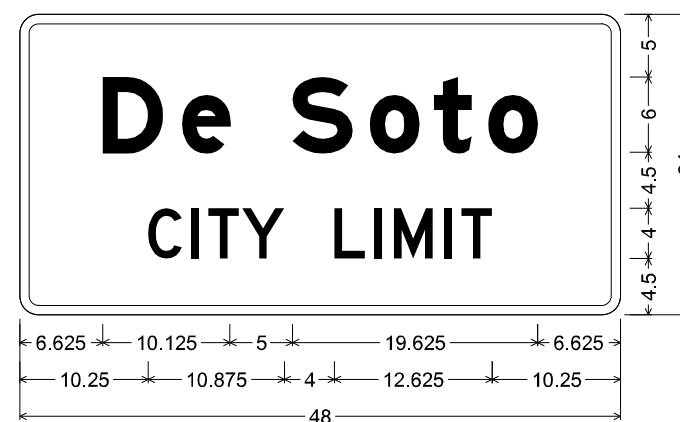
I6-1 SH-FLAT SHEET;
1,500" Radius, 0,500" Border, White on, Green;
"Jefferson", E Mod; "COUNTY LINE", D;
Table of letter and object lefts

J	e	f	f	e	r	s	o	n	
3.625	8.000	11.375	13.875	16.375	20.125	22.625	26.000	29.875	
C	O	U	N	T	Y	L	I	N	E
5.125	7.625	10.500	13.250	15.750	17.750	22.875	25.250	26.375	29.125



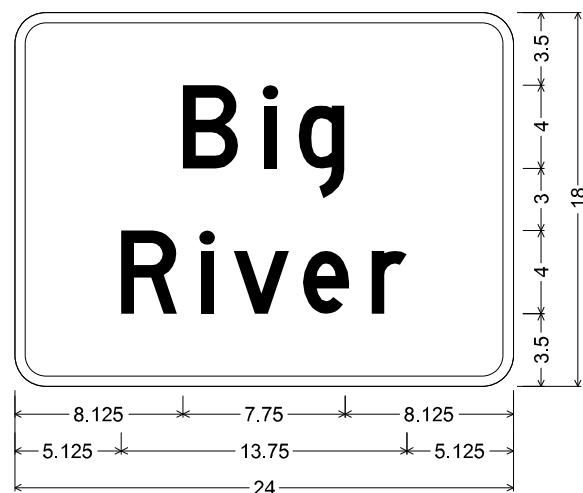
D2-2 ST-STRUCTURAL;
3.000" Radius, 1.000" Border, White on, Green;
"Potosi", E Mod; "23", E Mod; "Ironton", E Mod; "50", E Mod;
Table of letter and object lefts

P 7.000	o 13.250	t 18.375	o 22.750	s 27.875	l 33.500	2 66.125	3 72.125	
l 7.000	r 10.625	o 14.500	n 20.250	t 25.750	o 30.125	n 35.875	5 66.000	0 72.000



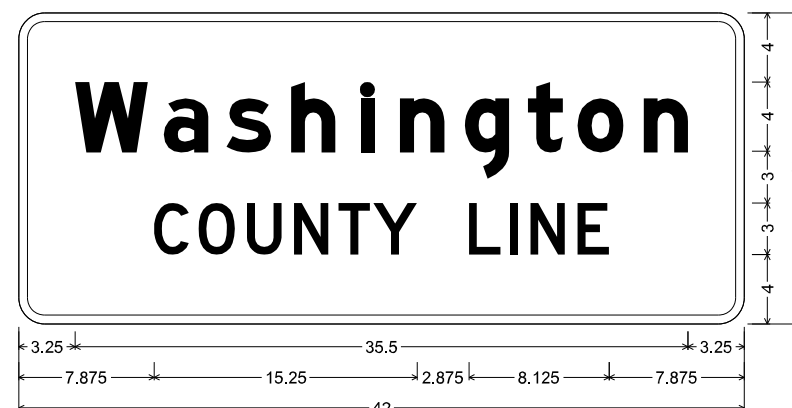
I4-1 SH-FLAT SHEET;
1.500" Radius, 0.750" Border, White on, Green;
"De Soto", E Mod; "CITY LIMIT", D;
Table of letter and object lefts

D 6.625	e 13.000	S 21.750	o 28.000	t 33.125	o 37.375
C 10.250	I 13.750	T 15.125	Y 17.750		
	L 25.125	I 28.375	M 29.875	I 33.875	T 35.250



I3-1 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on, Green;
"Big", D; "River", D;
Table of letter and object lefts

B 8.125	l 12.000	g 13.625		
R 5.125	i 9.000	v 10.500	e 13.875	r 17.125

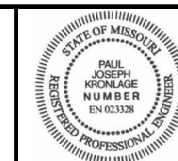


I6-1 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on, Green;
"Washington", E Mod 98% spacing; "COUNTY LINE", D;
Table of letter and object lefts

W 3.250	a 8.375	s 12.000	h 15.750	l 19.875	n 22.125	g 25.875	t 29.500	o 32.375	n 36.125
C 7.875	O 10.375	U 13.250	N 16.000	T 18.500	Y 20.500	L 26.125	I 28.500	N 29.625	E 32.375

SIGNING & PAVEMENT
MARKING PLAN
SHEET 24 OF 24

D-31



Paul F. King

03/03/2025 9:25:20 AM
Paul J. Kronlage - Civil
MO PE - 023328

DATE PREPARED
3/1/2025

ROUTE 21	STA MO
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DISTRICT	SHEET
SL	89

COUNTY
JEFFERSON

JOB NO.
JSL0044

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)

JEFF MOEN
Civil Engineering Design

13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021

Phone 314-394-3100
Fax 314-394-3199

St. Louis, MO 63021 Fax 314-3

[illegible]

REV.