MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED STATE HIGHWAY

LINCOLN COUNTY

T49N R1W

DESIGN DESIGNATION

	RTE 47 (W OF U.S. 61)	RTE 47 (E OF U.S. 61)
A.A.D.T. - 2022 =	22745	10075
A.A.D.T. - 2042 =	23030	10200
D.H.V. =	7%	7%
T =	13%	8%
V =	40 M.P.H.	40 M.P.H.
D =	53% (N)	51% (N)

	U.S. 61 EAST OUTER RD
A.A.D.T. - 2022 =	1816
A.A.D.T. - 2042 =	1839
D.H.V. =	X%
T =	8%
V =	35 M.P.H.
D =	X% (N)

FUNCTIONAL CLASSIFICATION - MINOR ARTERIAL

CONTROLLED ACCESS HIGHWAY

THIS SHALL BE A CONTROLLED ACCESS HIGHWAY, BETWEEN STA. 619+00.00 AND STA. 627+00.00 EXCEPT AT LOCATIONS ND AS OTHERWISE SPECIFICALLY SHOWN ON THESE PLANS. NO ABUTTER'S RIGHTS IN OR OF DIRECT ACCESS TO, FROM, OR ACROSS THE HIGHWAY OR ITS RIGHT-OF-WAY SHALL ATTACH OR BELONG TO ANY PROPERTY ABUTTING ON SAID SECTION OF HIGHWAY, OR TO ANY PERSON MERELY BECAUSE OF OWNERSHIP OF SUCH ABUTTING PROPERTY. THERE SHALL BE THE USUAL RIGHT OF ACCESS OVER ANY LOCATION SHOWN ON THESE PLANS EITHER AS (1) AN ENTRANCE OR (2) A PRIVATE UNDERPASS. WHEREVER AN ADJACENT OUTER ROADWAY OR SERVICE ROAD IS SHOWN, THERE SHALL BE THE USUAL RIGHT OF DIRECT ACCESS BETWEEN THE ABUTTING PROPERTY AND SUCH OUTER ROADWAY OR SERVICE ROAD (EXCEPT WHERE ACCESS IS SPECIFICALLY PROHIBITED BY THE SPECIAL SYMBOL DENOTING NO RIGHT OF ACCESS) AND ALONG IT TO AND FROM THE NEAREST LANE OF THE THROUGHWAY OF A PUBLIC HIGHWAY. OUTER ROADWAYS AND SERVICE ROADS, AS THE CASE MAY BE, ARE SO DESIGNATED ON THE PLANS.

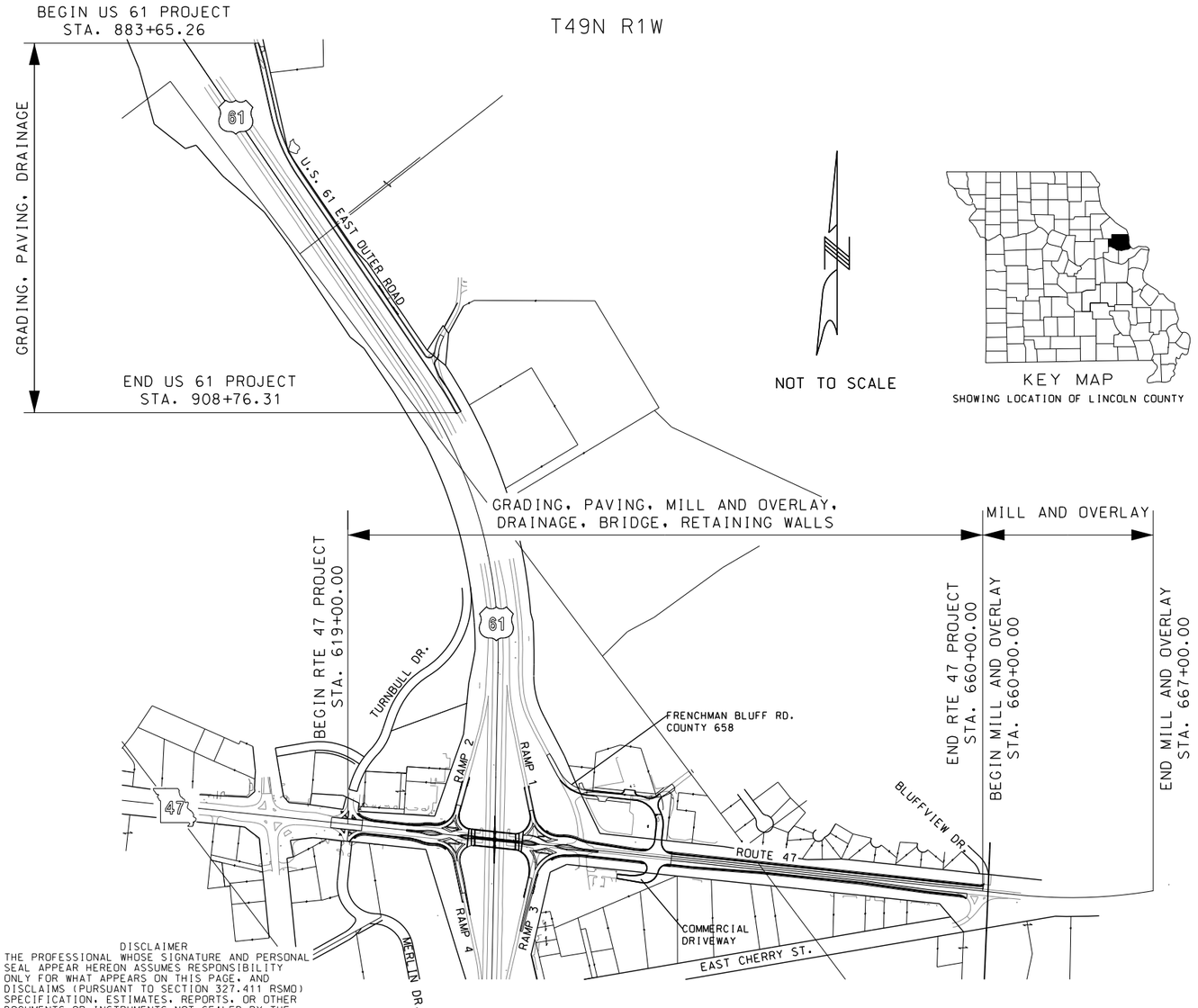
- BEGINNING AND ENDING OF CONTROLLED ACCESS
- CONTROLLED ACCESS
- NO RIGHT OF ACCESS OR CROSSING OF LINES BEARING THIS SYMBOL WILL BE PERMITTED UNDER ANY CIRCUMSTANCES.

CONVENTIONAL SYMBOLS

(USED IN PLANS)

	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
GUARD CABLE		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
UTILITIES		
FIBER OPTICS	-FO-	-FO-
OVERHEAD CABLE TV	-OTV-	-OTV-
UNDERGROUND CABLE TV	-UTV-	-UTV-
OVERHEAD TELEPHONE	-OT-	-OT-
UNDERGROUND TELEPHONE	-UT-	-UT-
OVERHEAD POWER	-OE-	-OE-
UNDERGROUND POWER	-UE-	-UE-
SANITARY SEWER	-S-	-S-
STORM SEWER	-SS-	-SS-
GAS	-G-	-G-
WATER	-W-	-W-
MANHOLE	SAN	
FIRE HYDRANT	HYD	
WATER VALVE	WV	
WATER METER	WM	
DROP INLET	D	
DITCH BLOCK		
GROUND MOUNTED SIGN	SIGN	
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL	PED	
FENCE		
CHAIN LINK	-V-	
WOVEN WIRE	-X-	
GATE POST		
BENCHMARK	BM	

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES



NOT TO SCALE

KEY MAP
SHOWING LOCATION OF LINCOLN COUNTY

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THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

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LENGTH OF PROJECT

ROUTE 47			
BEGINNING OF PROJECT	STA.	619 + 00.00	
END OF PROJECT	STA.	660 + 00.00	
BEGINNING OF MILL AND OVERLAY	STA.	660 + 00.00	
END OF MILL AND OVERLAY	STA.	667 + 00.00	
APPARENT LENGTH		4800.00	FEET
EQUATIONS AND EXCEPTIONS:			
U.S. 61 EAST OUTER ROAD			
BEGINNING OF PROJECT	STA.	883 + 65.26	
END OF PROJECT	STA.	908 + 76.31	
APPARENT LENGTH		2511.05	FEET
EQUATIONS AND EXCEPTIONS:			
TOTAL CORRECTIONS		0.00	FEET
NET LENGTH OF PROJECT		7311.05	FEET
STATE LENGTH		1.385	MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES		19.47	ACRES

STATE OF MISSOURI
DANIEL T. SHANE NUMBER
E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
03/04/2024

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	1

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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NOTES:

1. THE THINNER PAVEMENT THICKNESS FOR EACH ALTERNATE WAS USED FOR THE EARTHWORK COMPUTATION IN THIS PROJECT.

2. ADDITIONAL ROCK BASE FOR DAYLIGHTING AND EDGE DRAINS ARE CONSIDERED INCIDENTAL TO THE COST OF ROCK BASE.

APPLICATION RATES:
ASPHALTIC CONCRETE PAVEMENT:
TYPE SP125B MIX: 1.965 TONS/CY
TYPE SP250B MIX: 2.02 TONS/CY
TYPE SP250C MIX: 2.02 TONS/CY
BITUMINOUS BP-1 MIX: 2.02 TONS/CY
BITUMINOUS BASE (BB) MIX: 2.02 TONS/CY

TACK COAT:
NEW ASPHALT SURFACE: 0.05 GAL/SY
EX. ASPHALT OR CONCRETE SURFACES: 0.08 GAL/SY
COLDMILLED ASPHALT OR CONCRETE SURFACES: 0.10 GAL/SY

PRIME COAT:
0.35 GAL/SY

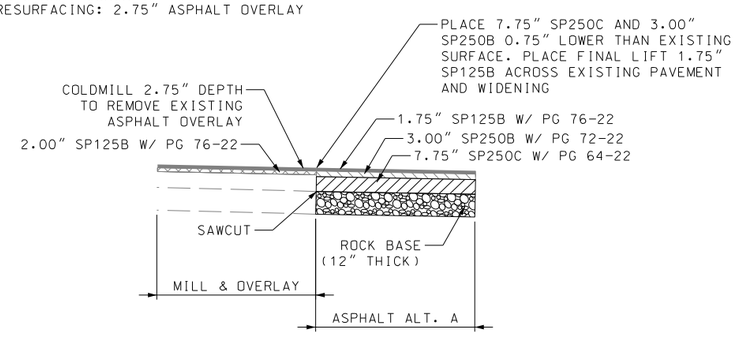
PAVEMENT HISTORY:
ORIGINAL: CONCRETE 1971
RESURFACING: 2.75" ASPHALT OVERLAY

PAVEMENT REHAB SELECTION

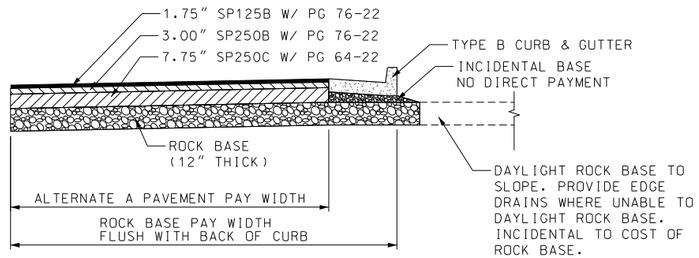
LOCATION	MAINLINE TREATMENT	SHOULDER TREATMENT
MO 47 EXISTING	SHORT TERM TREATMENT OPTION COLDMILL 2.75" AND REPLACE W/ 1.75" SP125B W/ PG 76-22 OVER 2" SP125B W/ PG 76-22	N/A

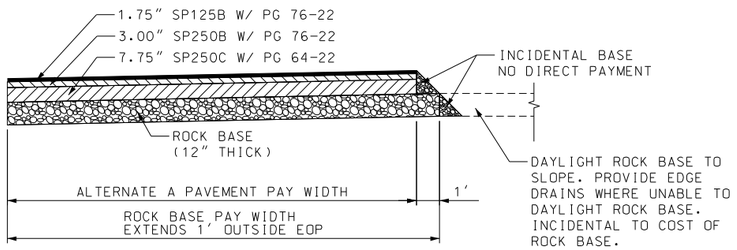
EQUIVALENT PAVEMENT DESIGNS

LOCATION	BASE TYPE	HMA DESIGN	PCCP DESIGN	SHOULDERS
ROUTE 47 DDI	12" ROCK BASE	N/A	10.0" PCCP 15 FT. JOINT SPACING, 1¼" DOWELS, EXTENDED SLAB	A2
MAINLINE ROUTE 47 WIDENING / FRENCHMAN BLUFF	12" ROCK BASE	ALTERNATE A 12.5" HMA 1.75" SP125B W/ PG 76-22 OVER 3.00" SP250B W/ PG 76-22 OVER 7.75" SP250C W/ PG 64-22	ALTERNATE B 10.0" PCCP 15 FT. JOINT SPACING, 1¼" DOWELS, EXTENDED SLAB	N/A
EAST OUTER ROAD	6" TYPE 5 AGGREGATE BASE	ALTERNATE C 9.0" HMA 1.75" BP1 W/ PG 64-22 OVER 7.25" BB W/ 64-22	ALTERNATE D 8.0" PCCP 15 FT. JOINT SPACING, 1¼" DOWELS, EXTENDED SLAB	ALTERNATE E/F A2

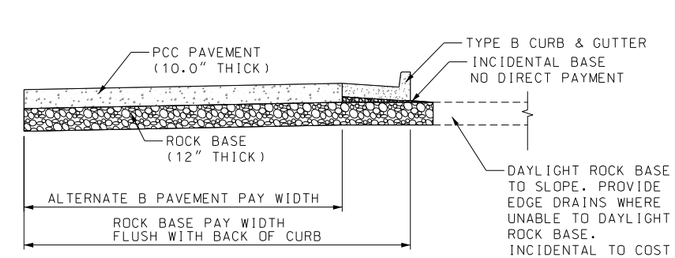


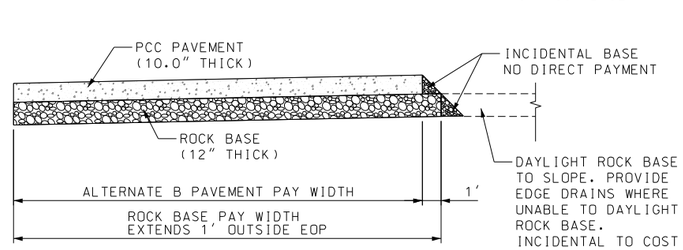
MILL & OVERLAY WITH BASE WIDENING DETAIL
ASPHALT ALTERNATE A



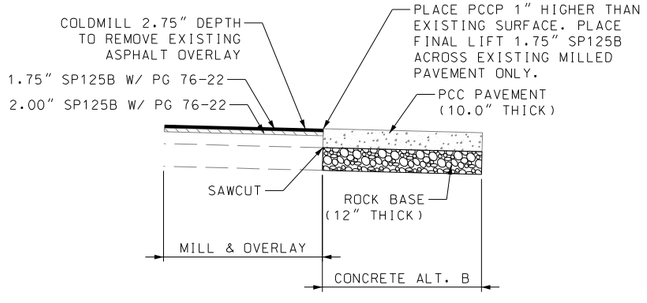


HMA DESIGN
PAVEMENT ALTERNATE A

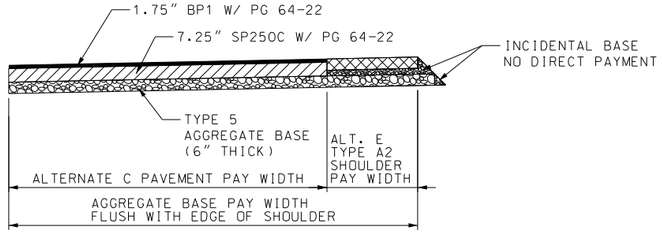




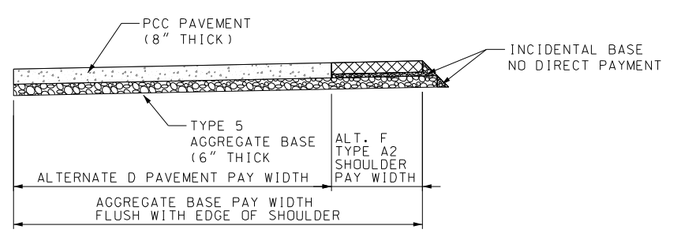
PCCP DESIGN
PAVEMENT ALTERNATE B



MILL & OVERLAY WITH BASE WIDENING DETAIL
CONCRETE ALTERNATE B



HMA DESIGN
PAVEMENT ALTERNATE C
SHOULDER ALTERNATE E



PCCP DESIGN
PAVEMENT ALTERNATE D
SHOULDER ALTERNATE F

TYPICAL SECTIONS
SHEET 1 OF 9

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

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DATE PREPARED
03/04/2024

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	2

COUNTY
LINCOLN
JOB NO.
J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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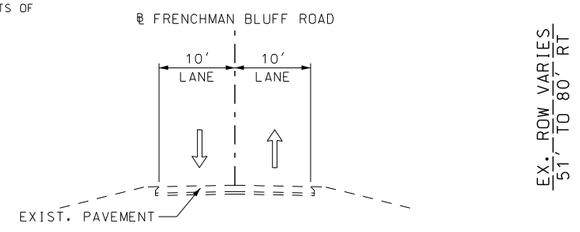
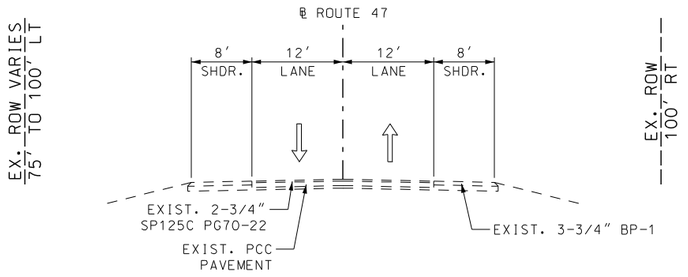
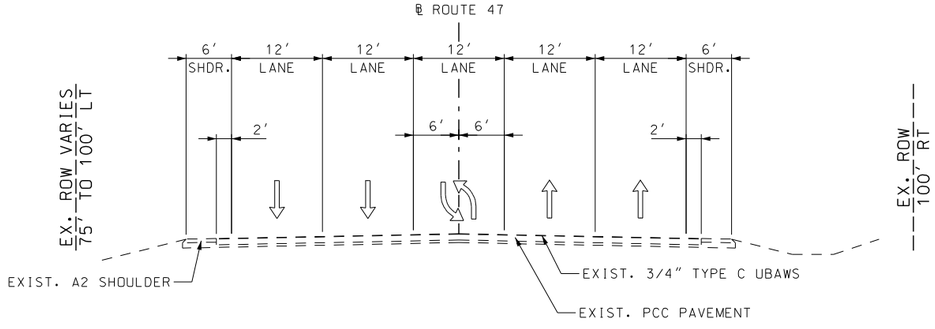


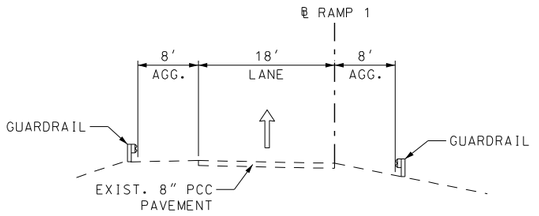
EXISTING TYPICAL SECTION – FRENCHMAN BLUFF ROAD



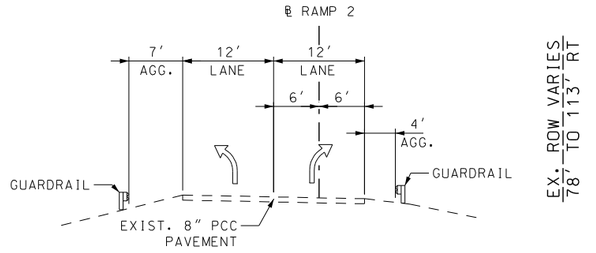
EXISTING TYPICAL SECTION – ROUTE 47: EAST OF BRIDGE



EXISTING TYPICAL SECTION – ROUTE 47: WEST OF BRIDGE



EXISTING TYPICAL SECTION – RAMP 1



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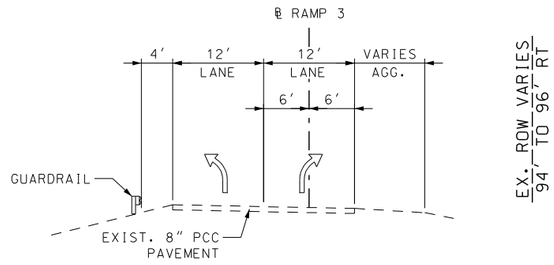

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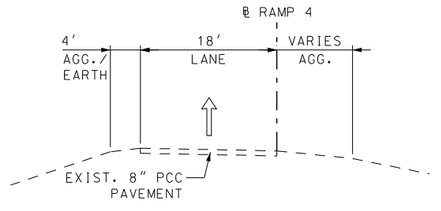

EXISTING TYPICAL SECTION – RAMP 4

EXISTING
TYPICAL SECTIONS
SHEET 2 OF 9

DANIEL T. SHANE NUMBER E-29833 REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI
THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023
ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 2
COUNTY LINCOLN
JOB NO. J2P3043
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)
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

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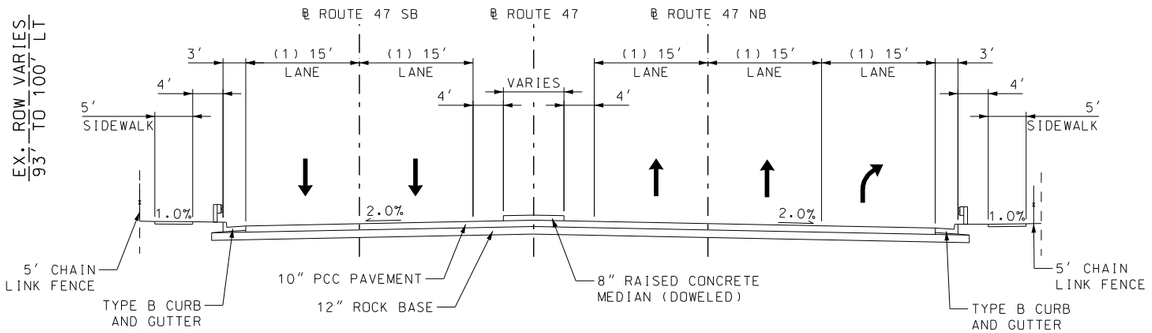
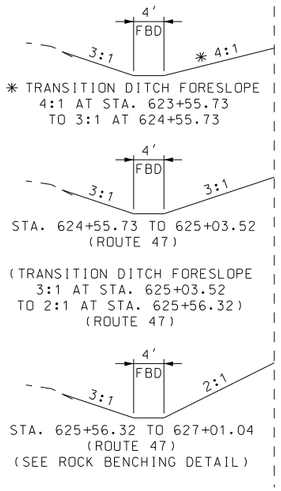
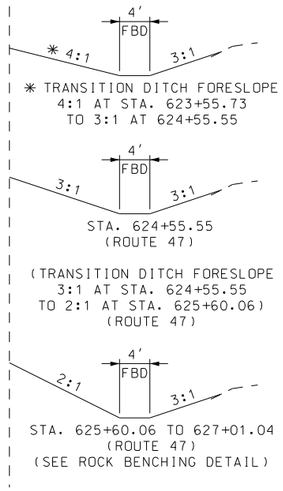


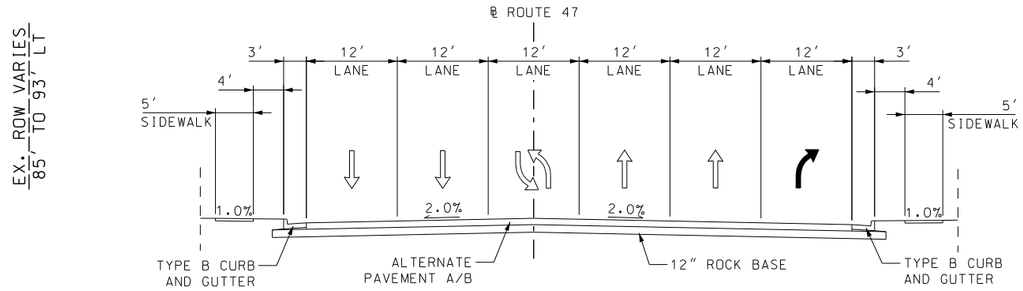
PROPOSED TYPICAL SECTION - ROUTE 47: THRU DIVERGING DIAMOND (WEST)

STA. 624+40.00 TO STA. 627+01.04

(1) SEE INTERSECTION DETAIL SHEETS FOR LANE WIDTH TAPERS.

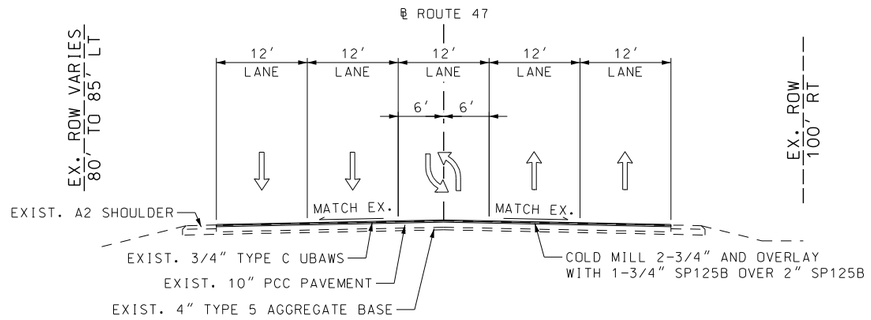






PROPOSED TYPICAL SECTION - ROUTE 47: WEST OF BRIDGE

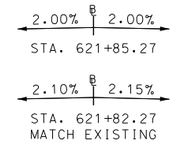
STA. 621+82.27 TO STA. 624+40.00



PROPOSED TYPICAL SECTION - ROUTE 47: WEST OF BRIDGE

STA. 620+00.00 TO STA. 621+82.27

CROSS SLOPE TRANSITION ROUTE 47



PROPOSED
TYPICAL SECTIONS
SHEET 3 OF 9

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

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DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	2

COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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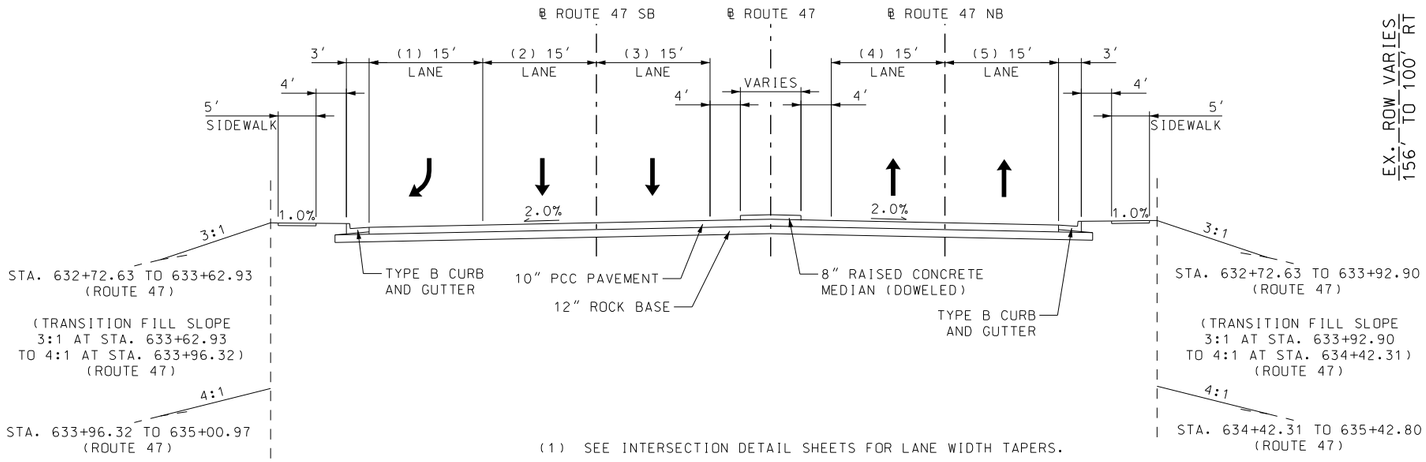
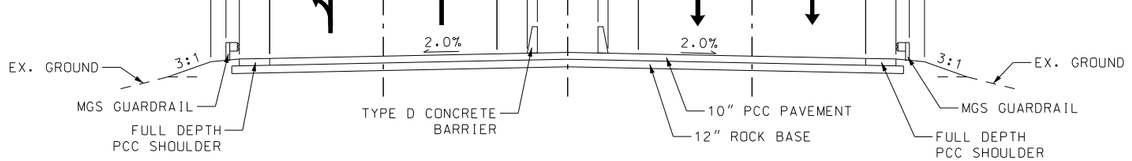


(1) SEE INTERSECTION DETAIL SHEETS FOR LANE WIDTH TAPERS.

PROPOSED TYPICAL SECTION - ROUTE 47: THRU DIVERGING DIAMOND (EAST)

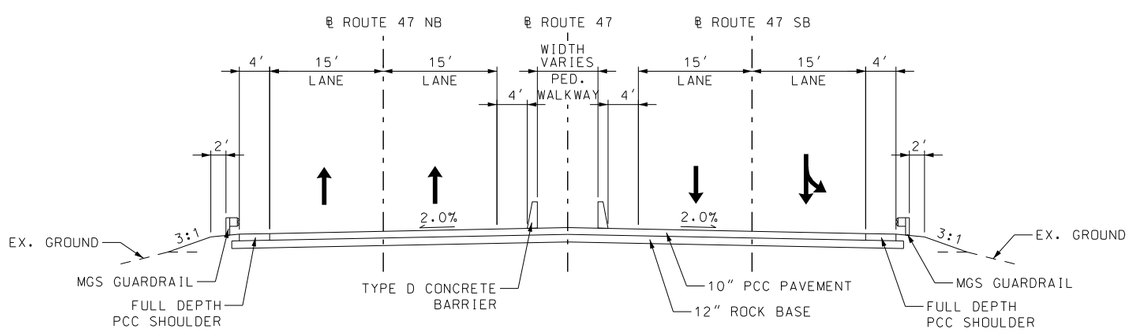
STA. 632+72.63 TO STA. 635+76.81



PROPOSED TYPICAL SECTION - ROUTE 47: THRU DIVERGING DIAMOND (EAST)

STA. 631+07.36 TO STA. 632+72.63

STA. 628+26.86 TO STA. 631+07.36 - SEE BRIDGE PLANS FOR BRIDGE TYPICAL SECTION



PROPOSED TYPICAL SECTION - ROUTE 47: THRU DIVERGING DIAMOND (WEST)

STA. 627+01.04 TO STA. 628+26.86

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PROPOSED
TYPICAL SECTIONS
SHEET 4 OF 9

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	2

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
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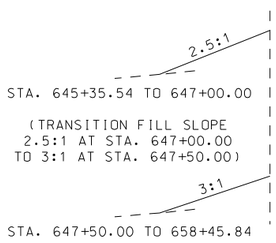
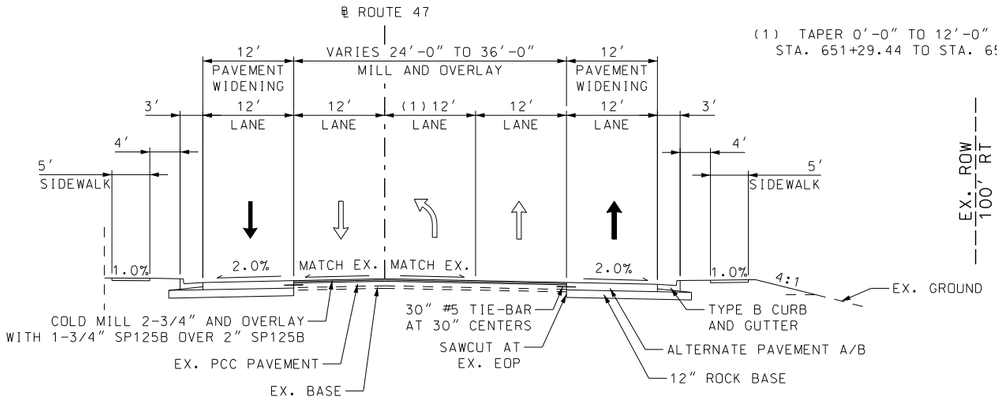
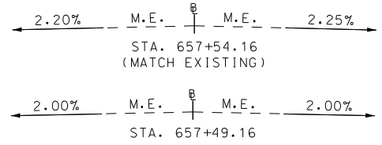




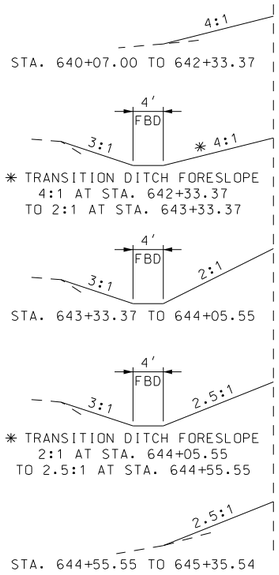
(1) TAPER 0'-0" TO 12'-0"
STA. 651+29.44 TO STA. 655+29.80

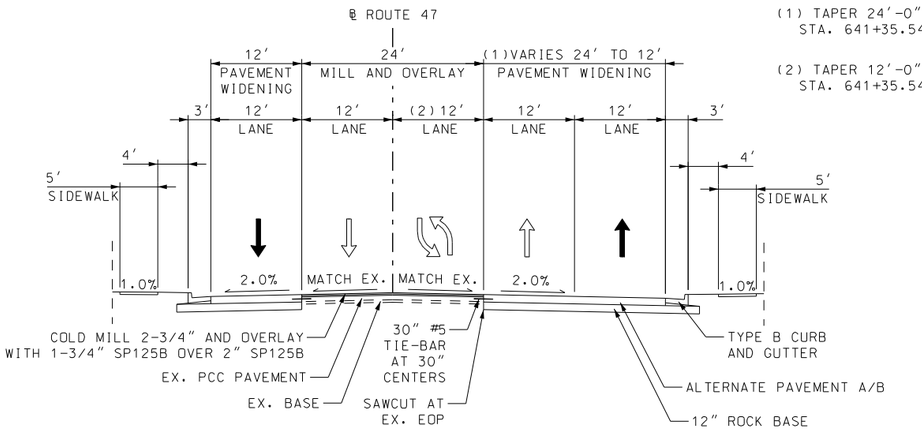
EX. ROW
100' RT

CROSS SLOPE TRANSITION ROUTE 47



PROPOSED TYPICAL SECTION - ROUTE 47: EAST OF BRIDGE
STA. 645+35.54 TO STA. 658+45.84

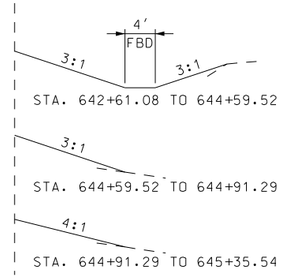




(1) TAPER 24'-0" TO 12'-0"
STA. 641+35.54 TO STA. 645+35.54

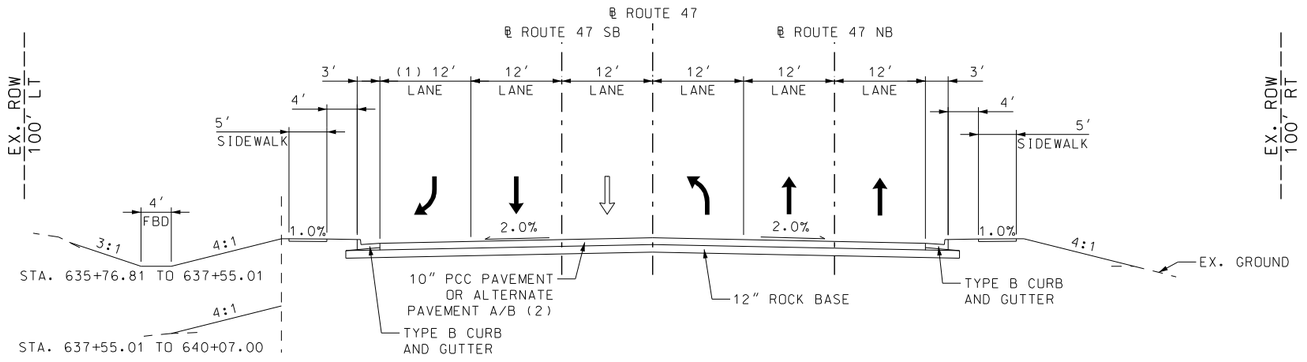
(2) TAPER 12'-0" TO 0'-0"
STA. 641+35.54 TO STA. 645+35.54

EX. ROW
100' RT



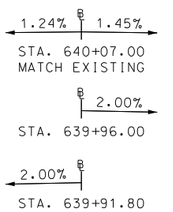
PROPOSED TYPICAL SECTION - ROUTE 47: EAST OF BRIDGE
STA. 640+07.00 TO STA. 645+35.54

(1) TAPER 12'-0" TO 0'-0"
STA. 635+42.80 TO STA. 637+87.80
(2) END PCCP, BEGIN ALTERNATE PAVEMENT A/B
STA. 638+00.00



EX. ROW
100' RT

CROSS SLOPE TRANSITION ROUTE 47



PROPOSED TYPICAL SECTION - ROUTE 47: EAST OF BRIDGE
STA. 635+76.81 TO 640+07.00

PROPOSED
TYPICAL SECTIONS
SHEET 5 OF 9

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE
NUMBER E-29833

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	2

COUNTY
LINCOLN
JOB NO.
J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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JEFFERSON CITY, MO 65102
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CORPORATE LICENSE #2002006608

HRGreen

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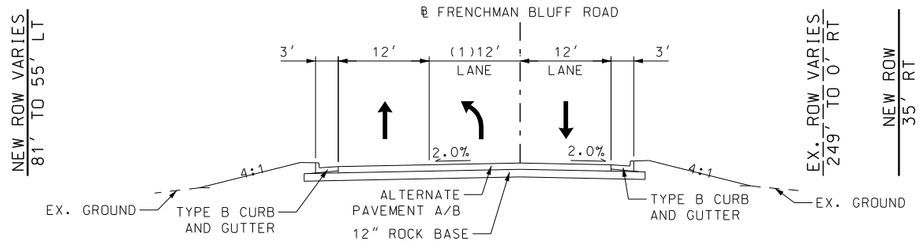
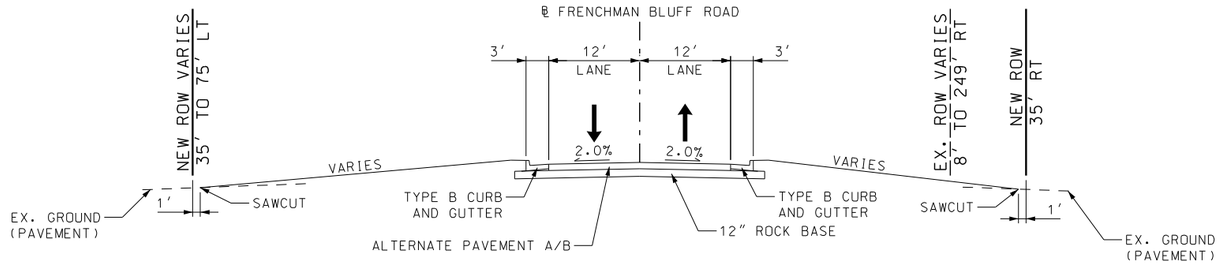


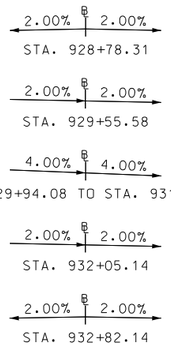
(1) TAPER 0' TO 12'
STA. 934+74.00 TO STA. 937+10.00

PROPOSED TYPICAL SECTION - FRENCHMAN BLUFF ROAD
STA. 934+74.00 TO STA. 937+96.81

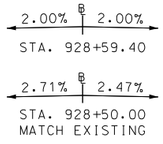


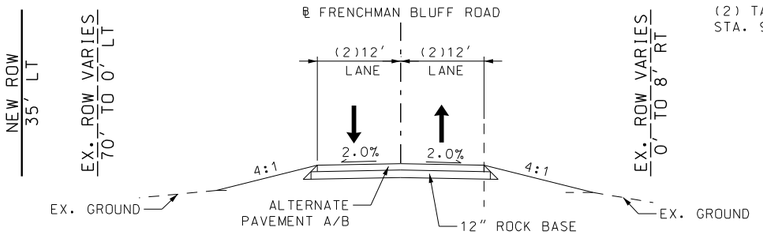
PROPOSED TYPICAL SECTION - FRENCHMAN BLUFF ROAD
STA. 931+78.60 TO STA. 934+74.00

SUPERELEVATION TABLE
FRENCHMAN BLUFF ROAD



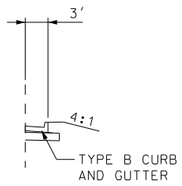
CROSS SLOPE TRANSITION
FRENCHMAN BLUFF ROAD



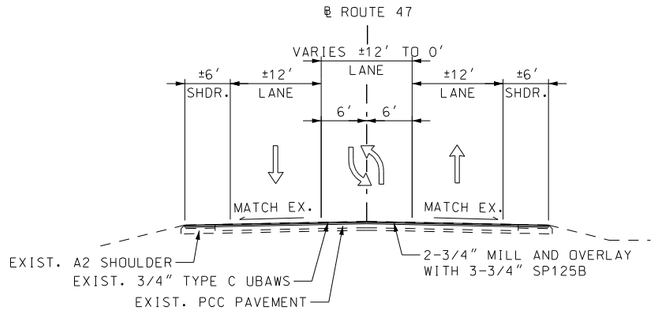


(2) TAPER 10' TO 12'
STA. 928+47 TO STA. 929+00

PROPOSED TYPICAL SECTION - FRENCHMAN BLUFF ROAD
STA. 928+47.00 TO STA. 931+78.60



TYPE B CURB AND GUTTER RT
STA. 930+14.00 TO STA. 931+78.60



PROPOSED TYPICAL SECTION - ROUTE 47: EAST OF CHERRY STREET
STA. 658+45.84 TO STA. 667+00.00

PROPOSED
TYPICAL SECTIONS
SHEET 6 OF 9

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

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DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	2

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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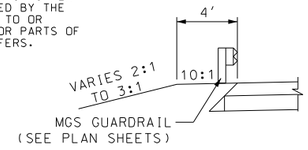
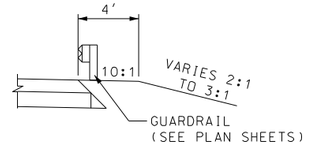


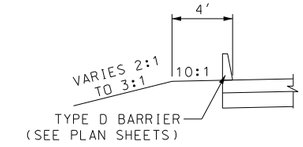
GUARDRAIL

REPLACE GUARDRAIL ALONG EX. LT. SHOULDER:
EX. RAMP 1: STA. 2+18.07 TO STA.3+30.57
EX. RAMP 2: STA. 9+97.66 TO STA. 11+05.28
EX. RAMP 3: STA. 11+74.10 TO STA. 12+73.32



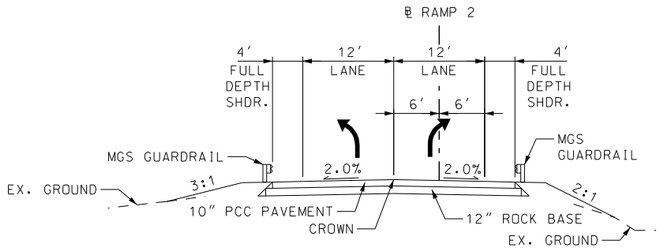
MGS GUARDRAIL

REPLACE GUARDRAIL ALONG EX. RT. SHOULDER:
EX. RAMP 1: STA. 1+09.69 TO STA. 3+32.57
EX. RAMP 2: STA. 10+04.51 TO STA. 11+99.62



TYPE D BARRIER

RAMP1LT: STA. 0+72.32 TO STA. 2+13.56
RAMP2LT: STA. 0+00.00 TO STA. 1+43.40
RAMP3LT: STA. 0+96.26 TO STA. 1+86.15



PROPOSED TYPICAL SECTION - RAMP 2

STA. 10+94.24 TO STA. 11+51.11

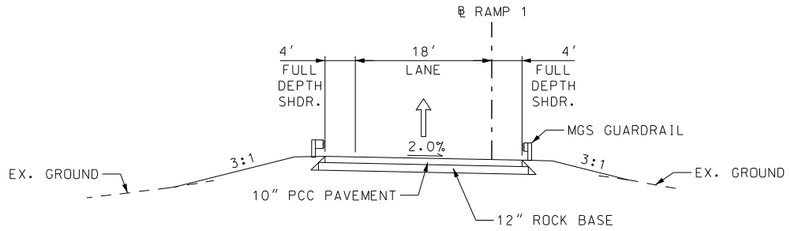
EX. ROW VARIES
106' TO 110' RT

CROSS SLOPE TRANSITION RAMP 2

CROWN 2.00% | 2.00%
STA. 11+58.44

CROWN 0.91% | 2.00%
STA. 11+00.24

CROWN 1.21% | 1.70%
STA. 10+94.24
MATCH EXISTING



PROPOSED TYPICAL SECTION - RAMP 1

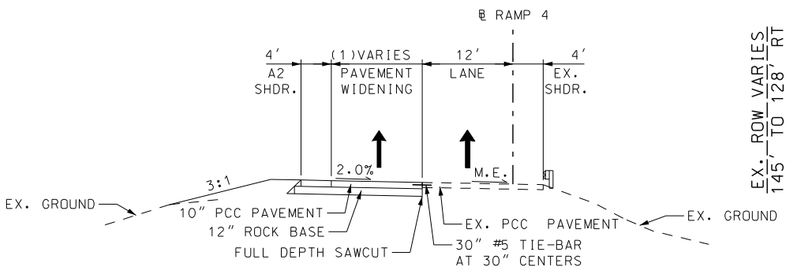
STA. 1+31.00 TO STA. 2+05.00

CROSS SLOPE TRANSITION RAMP 1

1.26% ℄
STA. 2+05.00
MATCH EXISTING

2.00% ℄
STA. 1+90.00

SEE INTERSECTION DETAIL SHEETS FOR RAMP 1 LT AND RAMP 1 RT CROSS SLOPE TRANSITIONS



EX. ROW VARIES
145' TO 128' RT

PROPOSED TYPICAL SECTION - RAMP 4 WIDENING

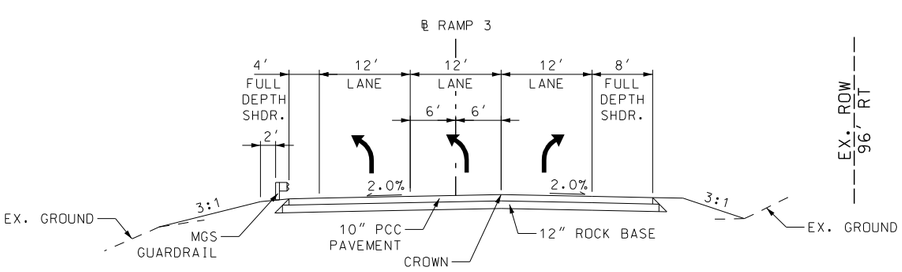
STA. 3+50.37 TO STA. 4+84.92

CROSS SLOPE TRANSITION RAMP 4

CROWN 1.35% | 1.35%
STA. 3+50.37
MATCH EXISTING

CROWN 0.70% | 2.00%
STA. 3+37.37

CROWN 2.00% | 2.00%
STA. 2+83.37



EX. ROW
96' RT

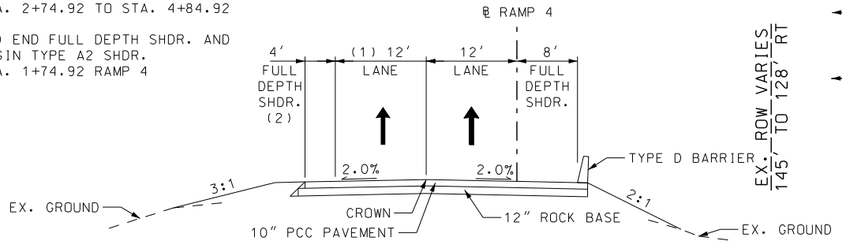
PROPOSED TYPICAL SECTION - RAMP 3

STA. 12+17.50 TO STA. 12+67.99

SEE INTERSECTION DETAIL SHEETS FOR RAMP 3 CROSS SLOPE TRANSITIONS

(1) TAPER 12' TO 0'
STA. 2+74.92 TO STA. 4+84.92

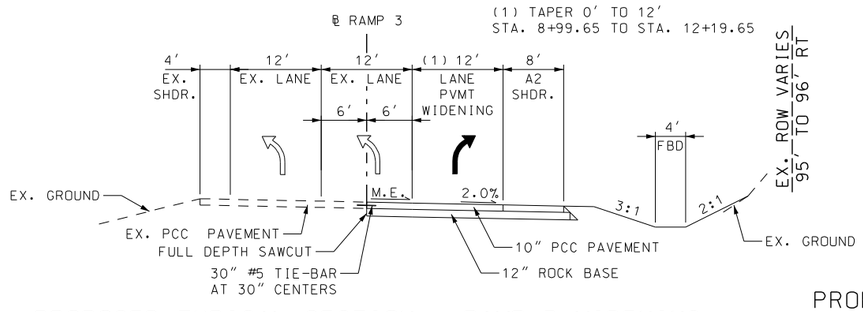
(2) END FULL DEPTH SHDR. AND BEGIN TYPE A2 SHDR.
STA. 1+74.92 RAMP 4



EX. ROW VARIES
145' TO 128' RT

PROPOSED TYPICAL SECTION - RAMP 4

STA. 1+61.50 TO STA. 3+50.37



EX. ROW VARIES
95' TO 96' RT

PROPOSED TYPICAL SECTION - RAMP 3 WIDENING

STA. 8+99.65 TO STA. 12+17.50

PROPOSED TYPICAL SECTIONS
SHEET 7 OF 9

STATE OF MISSOURI
DANIEL T. SHANE
NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

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DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	2

COUNTY
LINCOLN
JOB NO.
J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

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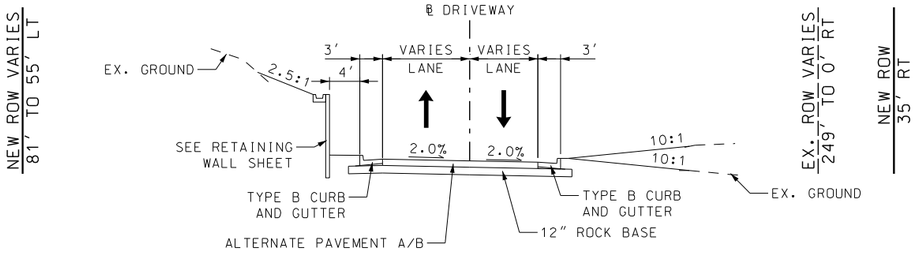
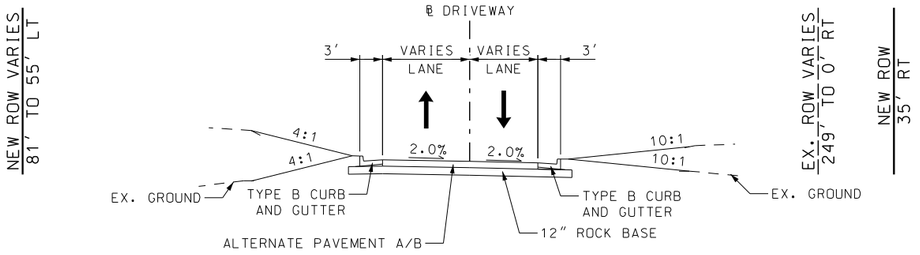


PROPOSED TYPICAL SECTION - COMMERCIAL DRIVEWAY

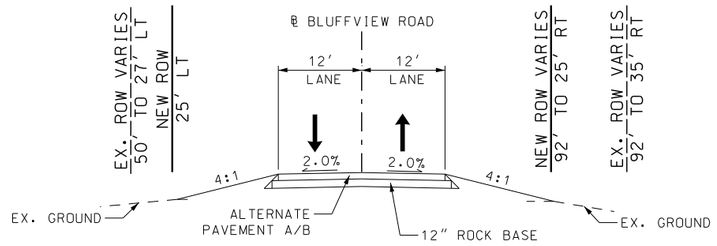
STA. 300+92.00 TO STA. 302+26.00

NOTE:
SEE PLAN SHEETS AND INTERSECTION WARPING DETAIL FOR LANE WIDTHS.



PROPOSED TYPICAL SECTION - COMMERCIAL DRIVEWAY

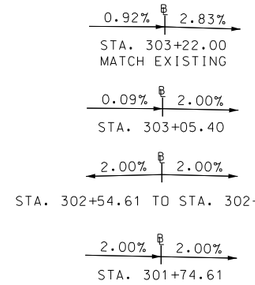
STA. 300+72.00 TO STA. 300+92.00
STA. 302+26.00 TO STA. 303+22.00



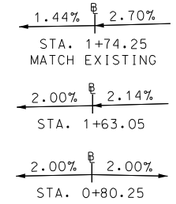
PROPOSED TYPICAL SECTION - BLUFFVIEW ROAD

STA. 0+79.55 TO STA. 1+74.25

CROSS SLOPE TRANSITION COMMERCIAL DRIVEWAY



CROSS SLOPE TRANSITION BLUFFVIEW



PROPOSED
TYPICAL SECTIONS
SHEET 8 OF 9

DANIEL T. SHANE NUMBER E-29833
STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER

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CORPORATE LICENSE #2002006608

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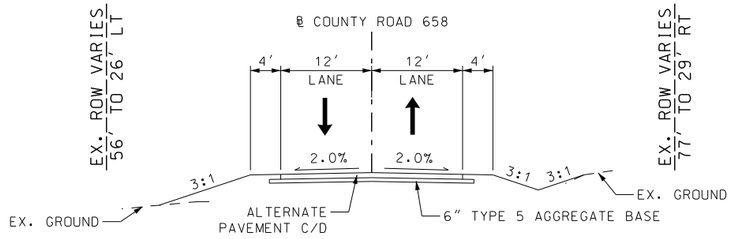
CROSS SLOPE TRANSITION
COUNTY ROAD 658

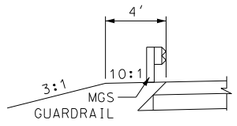
0.19% ℄ 6.35%
STA. 21+92.00
MATCH EXISTING

2.00% ℄ 4.16%
STA. 21+48.20

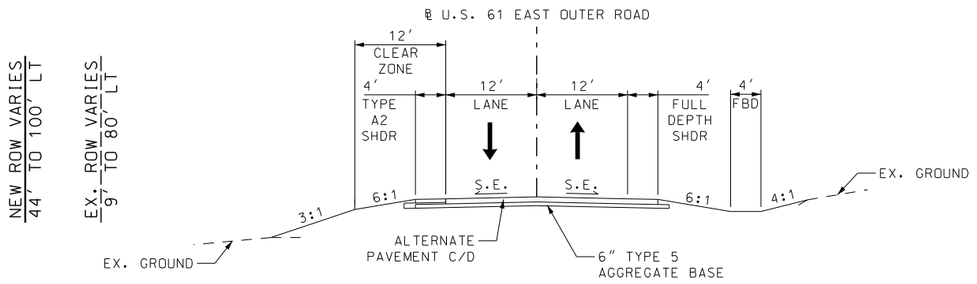
2.00% ℄ 2.00%
STA. 21+05.00



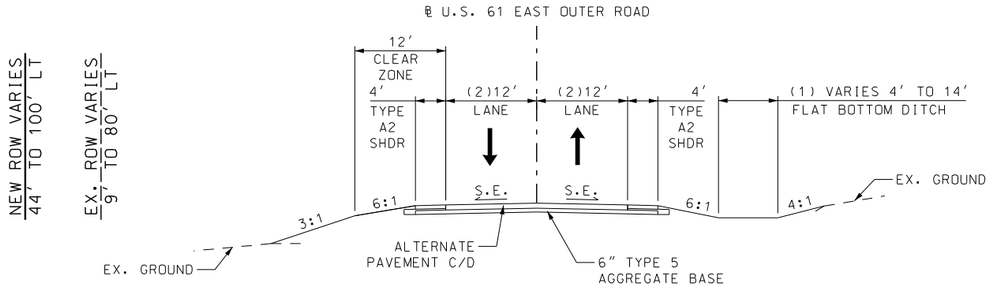
PROPOSED TYPICAL SECTION - COUNTY ROAD 658
STA. 20+16.00 TO STA. 21+92.00



GUARDRAIL
STA. 104+56.35 TO STA. 105+56.35



PROPOSED TYPICAL SECTION - U.S. 61 EAST OUTER ROAD
STA. 114+75.00 TO STA. 118+25.22



PROPOSED TYPICAL SECTION - U.S. 61 EAST OUTER ROAD
STA. 93+28.27 TO STA. 114+75.00

SUPERELEVATION TABLE
U.S. 61 EAST OUTER ROAD

3.02% ℄ 2.27%
STA. 93+28.27
MATCH EXISTING

1.70% ℄ 2.00%
STA. 93+54.58

3.80% ℄ 3.80%
STA. 94+44.89 TO STA. 94+55.37

2.00% ℄ 2.00%
STA. 94+95.16

2.00% ℄ 2.00%
STA. 95+83.58 TO 96+51.69

2.00% ℄ 2.00%
STA. 97+40.12

3.80% ℄ 3.80%
STA. 97+79.90 TO STA. 101+20.92

2.00% ℄ 2.00%
STA. 101+60.71

2.00% ℄ 2.00%
STA. 102+49.13 TO 115+35.36

2.00% ℄ 2.00%
STA. 116+23.78

3.80% ℄ 3.80%
STA. 116+63.57 TO STA. 117+09.96

2.00% ℄ 2.00%
STA. 117+49.75

2.00% ℄ 2.00%
STA. 118+38.17

(1) FLAT BOTTOM DITCH WIDTH:

4' - STA. 93+28.27 TO STA. 94+80.00
14' - STA. 95+40.00 TO STA. 97+00.00
4' - STA. 97+60.00 TO STA. 110+00.00
12' - STA. 110+60.00 TO STA. 111+90.00
4' - STA. 112+50.00 TO STA. 118+25.22
TRANSITION WIDTH BETWEEN ABOVE STATION RANGES

(2) TAPER LANE WIDTH 9' TO 12'
STA. 93+28.27 TO STA. 94+48.27

PROPOSED
TYPICAL SECTIONS
SHEET 9 OF 9

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833 REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
03/04/2024

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	2

COUNTY
LINCOLN
JOB NO.
J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

SAWCUT – FOR INFORMATION ONLY

SHEET	STATION	STATION	ROUTE	LOCATION	SAWCUT LF
10	–	–	DUGAN LANE	TRANSVERSE	36
10	–	–	NB U.S. HIGHWAY 61	LT	156
10	–	–	NB U.S. HIGHWAY 61	RT	402
10	–	–	SB U.S. HIGHWAY 61	RT	412
10	–	–	SB U.S. HIGHWAY 61	LT	123
10	–	–	NORTH LINCOLN DRIVE	TRANSVERSE	149
11	620+00	621+83	ROUTE 47	LT / RT	365
11	621+82	–	ROUTE 47	TRANSVERSE	74
12	02+05	–	RAMP 1	TRANSVERSE	26
12	10+94	–	RAMP 2	TRANSVERSE	32
12	09+00	–	RAMP 3	RT	14
12	09+00	12+14	RAMP 3	CNTR	315
12	12+14		RAMP 3	LT	22
12	03+50	–	RAMP 4	TRANSVERSE	26
12	03+50	04+85	RAMP 4	LT	135
12	04+85	–	RAMP 4	LT	4
13	303+22	–	DRIVEWAY	TRANSVERSE	27
13	640+07	–	ROUTE 47	TRANSVERSE	60
13	640+07	648+00	ROUTE 47	LT / RT	1586
14	648+00	657+54	ROUTE 47	RT	988
14	648+00	658+46	ROUTE 47	LT	1070
15	928+50	–	FRENCHMAN BLUFF	TRANSVERSE	20
15	931+63	–	FRENCHMAN BLUFF	LT	20
15	932+78	–	FRENCHMAN BLUFF	RT	42
15	934+33	–	FRENCHMAN BLUFF	LT	60
15	01+51	–	BLUFFVIEW	RT	27
15	01+74	–	BLUFFVIEW	TRANSVERSE	26
16	93+28	–	EAST OUTER ROAD	TRANSVERSE	32
16	93+70	–	EAST OUTER ROAD	LT	28
17	118+25	–	EAST OUTER ROAD	TRANSVERSE	32
17	21+92	–	COUNTY ROAD 658	TRANSVERSE	24
				SUBTOTAL =	6333
				PAY TOTAL =	0

NOTE: NO DIRECT PAY WILL BE MADE FOR SAWCUT. SAWCUT IS INCLUDED IN THE LUMP SUM COST FOR REMOVAL OF IMPROVEMENTS.

PAVEMENT REMOVAL – FOR INFORMATION ONLY

SHEET	STATION	STATION	ROUTE	PAVEMENT REMOVAL SY
4	621+05	624+00	ROUTE 47	1968
5	624+00	628+46	ROUTE 47	4881
5	630+89	636+00	ROUTE 47	5781
6	636+00	648+00	ROUTE 47	4104
7	648+00	658+46	ROUTE 47	2180
8	928+50	935+50	FRENCHMAN BLUFF	2919
8	00+47	01+74	BLUFFVIEW	300
9	93+28	94+82	EAST OUTER ROAD	309
9	113+86	118+25	EAST OUTER ROAD	1364
10	–	–	U.S. HIGHWAY 61	959
10	–	–	DUGAN LANE	307
10	–	–	NORTH LINCOLN DRIVE	803
			SUBTOTAL =	23806
			PAY TOTAL =	0

NOTE: NO DIRECT PAY WILL BE MADE FOR PAVEMENT REMOVAL. PAVEMENT REMOVAL IS INCLUDED IN THE LUMP SUM COST FOR REMOVAL

DRAINAGE REMOVAL – FOR INFORMATION ONLY

SHEET	STATION	STATION	ROUTE	LOCATION	ITEM TO BE REMOVED
5	11+70	–	RAMP 3	RT	48" RCP FES
5	12+22	–	RAMP 3	LT	48" RCP FES
6	643+39	–	ROUTE 47	RT	30" RCP FES
6	643+39	–	ROUTE 47	LT	30" RCP FES
8	930+96	931+44	FRENCHMAN BLUFF	RT	75 FEET OF 24" CMP
8	00+84	00+95	BLUFFVIEW	LT	40 FEET OF 12" CMP
9	110+39	–	EAST OUTER ROAD	LT	BOX CULVERT INLET

NOTE: NO DIRECT PAY WILL BE MADE FOR DRAINAGE REMOVAL. DRAINAGE REMOVAL IS INCLUDED IN THE LUMP SUM COST FOR REMOVAL OF IMPROVEMENTS.

GUARDRAIL REMOVAL – FOR INFORMATION ONLY

SHEET	STATION	STATION	ROUTE	LOCATION	GUARDRAIL REMOVAL LF
4 / 5	623+71	627+14	ROUTE 47	RT	366
5	625+19	627+01	ROUTE 47	LT	207
5	09+60	11+93	RAMP 2	RT	233
5	09+35	11+99	RAMP 2	LT	264
5	627+36	628+29	ROUTE 47	LT	129
5	627+42	628+38	ROUTE 47	RT	153
5	631+01	631+82	ROUTE 47	LT	114
5	631+00	631+97	ROUTE 47	RT	138
5	00+79	03+54	RAMP 1	LT	274
5	00+57	03+52	RAMP 1	RT	295
5	11+60	13+38	RAMP 3	LT	178
5	632+21	633+28	ROUTE 47	LT	121
5	931+83	934+48	U.S. HIGHWAY 61	CNTR	265

NOTE: NO DIRECT PAY WILL BE MADE FOR GUARDRAIL REMOVAL. GUARDRAIL REMOVAL IS INCLUDED IN THE LUMP SUM COST FOR REMOVAL OF IMPROVEMENTS.

SUMMARY OF QUANTITIES
SHEET 1 OF 14

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE NUMBER E-29833

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	3

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

MISCELLANEOUS REMOVAL – FOR INFORMATION ONLY

SHEET	STATION	ROUTE	LOCATION	ITEM TO BE REMOVED
4	620+74	ROUTE 47	LT	CONCRETE MEDIAN
4	620+77	ROUTE 47	RT	CONCRETE MEDIAN
4	621+21	ROUTE 47	RT	MAILBOX (RELOCATE)
4	621+22	ROUTE 47	RT	MAILBOX (RELOCATE)
4	621+23	ROUTE 47	RT	MAILBOX (RELOCATE)
4	621+26	ROUTE 47	LT	CONCRETE MEDIAN
4	621+27	ROUTE 47	RT	CONCRETE MEDIAN
4	622+65	ROUTE 47	RT	POWER POLE (RELOCATE BY OTHERS)
5	624+66	ROUTE 47	RT	POWER POLE (RELOCATE BY OTHERS)
5	624+67	ROUTE 47	RT	POWER POLE (RELOCATE BY OTHERS)
5	625+71	ROUTE 47	RT	POWER POLE (RELOCATE BY OTHERS)
5	626+10	ROUTE 47	RT	RIP RAP
5	626+23	ROUTE 47	LT	RIP RAP
5	626+44	ROUTE 47	RT	POWER POLE (RELOCATE BY OTHERS)
5	626+65	ROUTE 47	RT	POWER POLE (RELOCATE BY OTHERS)
5	626+78	ROUTE 47	LT	SIGNAL POST
5	626+80	ROUTE 47	RT	SIGNAL POST
5	627+59	ROUTE 47	RT	SIGNAL POST
5	627+72	ROUTE 47	RT	ELECTRIC PULL BOX
5	627+79	ROUTE 47	RT	LIGHT POST
5	628+14	ROUTE 47	LT	RIP RAP
5	628+42	ROUTE 47	RT	POWER POLE (RELOCATE BY OTHERS)
5	630+96	ROUTE 47	RT	POWER POLE (RELOCATE BY OTHERS)
5	631+38	ROUTE 47	RT	ELECTRIC PULL BOX
5	632+56	ROUTE 47	RT	SIGNAL POST
5	632+65	ROUTE 47	RT	ELECTRIC PULL BOX
5	632+87	ROUTE 47	RT	POWER POLE (RELOCATE BY OTHERS)
5	632+87	ROUTE 47	RT	SIGNAL CONTROLLER
5	633+52	ROUTE 47	RT	LIGHT POST
5	634+68	ROUTE 47	RT	MAILBOX (RELOCATE)
5	635+14	ROUTE 47	RT	MAILBOX (RELOCATE)
5	631+61	ROUTE 47	LT	LIGHT POST
5	631+69	ROUTE 47	LT	SIGNAL POST
5	631+74	ROUTE 47	LT	ELECTRIC PULL BOX
5	632+49	ROUTE 47	LT	SIGNAL POST
5	632+65	ROUTE 47	LT	ELECTRIC PULL BOX
5	635+50	ROUTE 47	LT	LIGHT POST
5	01+55	RAMP 1	RT	LIGHT POST
6	638+96	ROUTE 47	LT	WATER METER (RELOCATE BY OTHERS)
6	639+10	ROUTE 47	LT	WATER METER (RELOCATE BY OTHERS)
6	639+18	ROUTE 47	LT	POWER POLE (RELOCATE BY OTHERS)
6	639+26	ROUTE 47	LT	WATER METER
7	657+41	ROUTE 47	LT	LIGHT POST
8	931+15	FRENCHMAN BLUFF	CNTR	MAILBOX (RELOCATE)
8	936+44	FRENCHMAN BLUFF	RT	POWER POLE (RELOCATE BY OTHERS)
8	937+00	FRENCHMAN BLUFF	LT	WATER METER (RELOCATE BY OTHERS)
8	937+31	FRENCHMAN BLUFF	LT	WATER METER (RELOCATE BY OTHERS)
8	937+36	FRENCHMAN BLUFF	LT	HYDRANT (RELOCATE BY OTHERS)
8	937+41	FRENCHMAN BLUFF	LT	WATER METER (RELOCATE BY OTHERS)
8	937+42	FRENCHMAN BLUFF	LT	WATER METER (RELOCATE BY OTHERS)
8	937+43	FRENCHMAN BLUFF	LT	WATER METER (RELOCATE BY OTHERS)
9	–	EAST OUTER ROAD	LT	260 FEET OF FENCE
9	–	EAST OUTER ROAD	LT	POWER POLE (RELOCATE BY OTHERS)
9	–	EAST OUTER ROAD	LT	POWER POLE (RELOCATE BY OTHERS)
9	–	EAST OUTER ROAD	LT	GAS LINE MARKER (RELOCATE BY OTHERS)
9	–	EAST OUTER ROAD	RT	GAS LINE MARKER (RELOCATE BY OTHERS)
9	–	EAST OUTER ROAD	LT	POWER POLE (RELOCATE BY OTHERS)
10	–	U.S. HIGHWAY 61	LT	LIGHT POLE
10	–	U.S. HIGHWAY 61	LT	LIGHT POLE
10	–	U.S. HIGHWAY 61	RT	LIGHTING CONTROLLER
10	–	DUGAN LANE / U.S. 61	LT	MAILBOXES (RELOCATE)

NOTE: NO DIRECT PAY WILL BE MADE FOR MISCELLANEOUS REMOVAL. MISCELLANEOUS REMOVALS ARE INCLUDED IN THE LUMP SUM COST FOR REMOVAL OF IMPROVEMENTS.

SIGN REMOVAL – FOR INFORMATION ONLY

SHEET	STATION	ROUTE	LOCATION	ITEM TO BE REMOVED
10	–	DUGAN LANE	RT	STOP, ONE-WAY, AND STREET NAME SIGNS
10	–	NB U.S. HIGHWAY 61	LT	DO NOT ENTER SIGN
10	–	NB U.S. HIGHWAY 61	LT	YIELD AND ONE-WAY SIGNS
10	–	SB U.S. HIGHWAY 61	LT	DO NOT ENTER SIGN
10	–	SB U.S. HIGHWAY 61	LT	YIELD AND ONE-WAY SIGNS
10	–	NORTH LINCOLN DRIVE	RT	STOP AND ONE-WAY SIGNS
133	620+40	ROUTE 47	LT	YIELD SIGN
133	620+54	ROUTE 47	RT	YIELD AND DO NOT ENTER SIGNS
133	620+66	ROUTE 47	RT	YIELD SIGN
133	620+79	ROUTE 47	LT	STOP SIGN
133	621+23	ROUTE 47	RT	DOUBLE DOWN ARROW
133	621+23	ROUTE 47	RT	STOP SIGN
133	621+38	ROUTE 47	LT	DOUBLE DOWN ARROW
133	621+57	ROUTE 47	LT	YIELD SIGN
133	621+63	ROUTE 47	RT	YIELD SIGN
133	622+34	ROUTE 47	LT	SIGNAL AHEAD SIGN
133	622+46	ROUTE 47	RT	GUIDE SIGN
133	623+83	ROUTE 47	RT	GUIDE SIGN
134	624+54	ROUTE 47	RT	SIGN
134	625+08	ROUTE 47	RT	RIGHT LANE MUST TURN RIGHT SIGN
134	625+39	ROUTE 47	LT	SPEED LIMIT SIGN
134	626+19	ROUTE 47	RT	GUIDE SIGNS
134	626+24	ROUTE 47	LT	GUIDE SIGN
134	626+73	ROUTE 47	RT	GUIDE SIGN
134	626+86	ROUTE 47	LT	ONE-WAY SIGN
134	626+95	ROUTE 47	LT	DO NOT ENTER SIGN
134	627+49	ROUTE 47	LT	ONE-WAY SIGNS
134	627+81	ROUTE 47	LT	ONE-WAY AND GUIDE SIGNS
134	628+32	ROUTE 47	RT	GUIDE SIGNS
134	09+77	RAMP 2	LT	FOOD SIGN (RELOCATE)
134	10+56	RAMP 2	RT	WRONG WAY SIGN
134	10+62	RAMP 2	LT	WRONG WAY SIGN
134	10+69	RAMP 2	LT	FOOD SIGN (RELOCATE)
134	11+20	RAMP 2	RT	HOSPITAL AND ARROW SIGNS
135	631+02	ROUTE 47	LT	GUIDE SIGNS
135	631+50	ROUTE 47	RT	GUIDE SIGNS
135	631+80	ROUTE 47	RT	ONE-WAY SIGN
135	631+93	ROUTE 47	RT	DO NOT ENTER SIGN
135	632+35	ROUTE 47	RT	DO NOT ENTER SIGN
135	632+39	ROUTE 47	LT	GUIDE SIGNS
135	632+60	ROUTE 47	LT	GUIDE SIGNS
135	633+00	ROUTE 47	RT	DO NOT ENTER SIGN
135	633+35	ROUTE 47	RT	GUIDE SIGNS
135	633+94	ROUTE 47	RT	SIGN
135	633+99	ROUTE 47	LT	GUIDE SIGNS
135	634+33	ROUTE 47	RT	COMMUTER PARKING SIGN
135	634+42	ROUTE 47	LT	STOP SIGN
135	634+95	ROUTE 47	LT	GUIDE SIGNS
135	635+28	ROUTE 47	RT	STOP SIGN
135	635+49	ROUTE 47	RT	SPEED LIMIT SIGN
135	635+53	ROUTE 47	LT	DO NOT BLOCK INTERSECTION AND COMMUTER PARKING SIGNS
135	09+52	RAMP 3	RT	GUIDE SIGN (RELOCATE)
135	10+29	RAMP 3	RT	GUIDE SIGN (RELOCATE)
135	10+71	RAMP 3	RT	SIGN
135	12+12	RAMP 3	LT	FOOD SIGN (RELOCATE)
135	12+18	RAMP 3	RT	HOSPITAL AND RIGHT ARROW SIGN
136	637+06	ROUTE 47	LT	GUIDE SIGNS
136	638+80	ROUTE 47	RT	SIGN
136	641+00	ROUTE 47	LT	JCT SIGN
136	643+99	ROUTE 47	LT	UTILITY MARKER (RELOCATE BY OTHERS)
136	644+55	ROUTE 47	LT	SPEED LIMIT SIGN
136	644+65	ROUTE 47	RT	SPEED LIMIT SIGN
137	648+47	ROUTE 47	RT	HOSPITAL AND RIGHT TURN SIGN
137	651+70	ROUTE 47	RT	HOSPITAL AND RIGHT TURN SIGN
137	656+24	ROUTE 47	LT	SPEED LIMIT SIGN
137	658+10	ROUTE 47	LT	ADOPT-A-HIGHWAY SIGN
137	658+44	ROUTE 47	LT	STREET NAME SIGN
138	930+98	FRENCHMAN BLUFF	RT	TO & STATE ROUTE AND DIRECTION ARROW SIGNS
138	931+02	FRENCHMAN BLUFF	LT	UTILITY MARKER (RELOCATE BY OTHERS)
138	931+06	FRENCHMAN BLUFF	RT	STOP SIGN
138	931+45	FRENCHMAN BLUFF	RT	CHEVRON SIGN
138	931+48	FRENCHMAN BLUFF	RT	SIGN POST
138	932+69	FRENCHMAN BLUFF	LT	TRUCK PARKING SIGN
138	01+69	BLUFFVIEW	RT	STOP SIGN
139	95+08	EAST OUTER ROAD	CNTR	SIGNS

NOTE: NO DIRECT PAY WILL BE MADE FOR SIGN REMOVAL. SIGN REMOVAL IS INCLUDED IN THE LUMP SUM COST FOR REMOVAL OF IMPROVEMENTS.

SUMMARY OF QUANTITIES
SHEET 2 OF 14

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

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47	MO

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DATE	DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

CLEARING AND GRUBBING

STATION	STATION	ROUTE	LOCATION	CLEARING AND GRUBBING (AC)
621+85	628+78	ROUTE 47	RT	0.5
625+94	628+69	ROUTE 47	LT	0.3
630+55	654+04	ROUTE 47	RT	1.0
630+51	657+73	ROUTE 47	LT	0.6
883+89	903+06	U.S. HIGHWAY 61	LT	2.5
			SUBTOTAL =	4.8
			PAY TOTAL =	5

REMOVAL OF IMPROVEMENTS	1 LUMP SUM
MOBILIZATION	1 LUMP SUM
CONTRACTOR FURNISHED SURVEYING AND STAKING	1 LUMP SUM

EARTHWORK

STATION	STATION	ROUTE	CLASS A EXCAVATION (CY)	UNCLASSIFIED EXCAVATION (CY)	REQUIRED FILL (FOR INFO ONLY) (CY)	EMBANKMENT IN PLACE (CY)	COMPACTING EMBANKMENT (CY)
GRADING WEST OF U.S. HIGHWAY 61							
620+00.00	628+46.86	ROUTE 47	4620		9979	6052	3927
10+94.24	11+51.11	RAMP 2	487		604	190	414
01+61.50	04+84.92	RAMP 4	561		700	223	477
		SUBTOTAL =	5668	0	11283	6465	4818
GRADING EAST OF U.S. HIGHWAY 61							
630+87.36	658+45.84	ROUTE 47 (1)	9381		22193	11986	10207
01+31.00	02+05.00	RAMP 1	126		2424	2317	107
08+99.65	12+67.99	RAMP 3	1354		4608	3457	1151
300+72.51	303+22.00	DRIVEWAY (1)	2503		1	1	
928+50.00	937+96.81	FRENCHMAN BLUFF	1955		1895	233	1662
00+53.83	01+74.25	BLUFFVIEW (1)	124		72	72	
		SUBTOTAL =	15443	0	31193	18066	13127
GRADING EAST OUTER ROAD							
93+28.27	118+25.22	EAST OUTER ROAD		14258	22886	10767	12119
20+23.67	21+92.00	COUNTY ROAD 658		64	310	256	54
		SUBTOTAL =	0	14322	23196	11022	12174
		PAY TOTAL =	21111	14322	0	35554	30118

(1) EXCAVATION FROM DRIVEWAY AND BLUFFVIEW USED FOR COMPACTING EMBANKMENT ON ROUTE 47.

LINEAR GRADING CLASS 1

SHEET	ROUTE	LOCATION	LINEAR GRADING CLASS 1 (STA)	REMARKS
9	US-60	LT	0.4	SAWCUT AT DUGAN LANE
10	US-61	LT	1.6	NB US-61 OUTSIDE SHOULDER
10	US-61	LT	4.0	NB US-61 INSIDE SHOULDER
10	US-61	RT	4.1	SB US-61 INSIDE SHOULDER
10	US-61	RT	1.2	SB US-61 OUTSIDE SHOULDER
10	US-61	RT	1.5	SAWCUT AT N. LINCOLN DRIVE
		SUBTOTAL =	12.4	
		PAY TOTAL =	14.3	

NOTE: 15% ADDED TO PAY TOTAL.

ROCK FILL

SHEET	STATION	STATION	ROUTE	LOCATION	FURNISHING ROCK FILL (CY)	PLACING ROCK FILL (CY)	SEPARATION GEOTEXTILE (SY)
12	624+20.08	627+39.43	ROUTE 47	RT	1764	1764	2634
12	624+60.48	627+02.89	ROUTE 47	LT	1451	1451	1995
12	10+94.24	11+51.11	RAMP 2	RT	441	441	1322
12	01+61.50	03+50.37	RAMP 4	RT	217	217	760
				SUBTOTAL =	3873	3873	6711
				PAY TOTAL =	4454	4454	7718

NOTES: 15% ADDED TO ROCK FILL AND SEPARATION GEOTEXTILE PAY TOTALS.
WITHIN LIMITS OF 5' GUARDRAIL PLATFORM, USE 4" MINUS ROCK WHICH SHALL BE INCIDENTAL TO ROCK FILL.

SUMMARY OF QUANTITIES
SHEET 3 OF 14

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	3

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

PAVEMENT - ALTERNATE A (ASPHALT)				
SHEET	STATION	STATION	ROUTE	12.5 IN. THICK ASPHALTIC CONCRETE PAVEMENT, SP125B SY
11	621+05.00	624+00.00	ROUTE 47	2130.4
12	624+00.00	624+40.00	ROUTE 47	320.0
13	638+00.00	648+00.00	ROUTE 47	3932.7
13	937+50.00	938+66.81	FRENCHMAN BLUFF	700.9
13	300+36.00	303+22.00	DRIVEWAY	1440.7
14	648+00.00	658+45.84	ROUTE 47	2706.8
15	928+50.00	937+50.00	FRENCHMAN BLUFF	2616.5
15	00+16.94	01+74.25	BLUFFVIEW	518.5
			PAY TOTAL =	14366.5

NOTE: 12.5 IN. THICK ASPHALTIC CONCRETE PAVEMENT, SP125B INCLUDES:
ASPHALTIC CONCRETE MIXTURE PG 76-22 (SP125B MIX) - 1.75 IN. THICK
ASPHALTIC CONCRETE MIXTURE PG 76-22 (SP250B MIX) - 3.00 IN. THICK
ASPHALTIC CONCRETE MIXTURE PG 64-22 (SP250C MIX) - 7.75 IN. THICK

PAVEMENT - ALTERNATE C (ASPHALT)				
SHEET	STATION	STATION	ROUTE	9 IN. THICK BITUMINOUS PAVEMENT SY
16	93+28.27	106+00.00	EAST OUTER ROAD	3391.3
17	106+00.00	118+25.22	EAST OUTER ROAD	3267.3
17	20+12.00	21+92.00	COUNTY ROAD 658	614.5
			PAY TOTAL =	7273.1

NOTE: 9 IN. THICK BITUMINOUS PAVEMENT INCLUDES:
BITUMINOUS PAVEMENT MIXTURE PG 64-22 (BP-1) - 1.75 IN. THICK
BITUMINOUS PAVEMENT MIXTURE PG 64-22 (BASE) - 7.25 IN. THICK

SHOULDER - ALTERNATE E (ASPHALT)					
SHEET	STATION	STATION	ROUTE	LOCATION	TYPE A2 SHOULDER, FLEXIBLE SY
16	93+28.27	106+00.00	EAST OUTER ROAD	LT	563.2
16	93+28.27	106+00.00	EAST OUTER ROAD	RT	567.3
17	106+00.00	114+37.75	EAST OUTER ROAD	LT	372.3
17	106+00.00	118+25.22	EAST OUTER ROAD	RT	544.0
17	115+85.00	118+25.22	EAST OUTER ROAD	LT	107.3
17	20+12.00	20+72.00	COUNTY ROAD 658	LT	32.4
17	20+12.00	20+72.00	COUNTY ROAD 658	RT	63.6
				PAY TOTAL =	2250.0

SUMMARY OF QUANTITIES
SHEET 4 OF 14

STATE OF MISSOURI
DANIEL T. SHANE NUMBER
E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
03/04/2024

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	3

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen®

PAVEMENT – ALTERNATE B (CONCRETE)				
SHEET	STATION	STATION	ROUTE	CONCRETE PAVEMENT (10 IN. NON-REINFORCED 15 FT. JOINTS) SY
11	621+05.00	624+00.00	ROUTE 47	2130.4
12	624+00.00	624+40.00	ROUTE 47	320.0
13	638+00.00	648+00.00	ROUTE 47	3932.7
13	937+50.00	938+66.81	FRENCHMAN BLUFF	700.9
13	300+36.00	303+22.00	DRIVEWAY	1440.7
14	648+00.00	658+45.84	ROUTE 47	2706.8
15	928+50.00	937+50.00	FRENCHMAN BLUFF	2616.5
15	00+16.94	01+74.25	BLUFFVIEW	518.5
			PAY TOTAL =	14366.5

PAVEMENT – ALTERNATE D (CONCRETE)				
SHEET	STATION	STATION	ROUTE	CONCRETE PAVEMENT (8 IN. NON-REINFORCED 15 FT. JOINTS) SY
16	93+28.27	106+00.00	EAST OUTER ROAD	3391.3
17	106+00.00	118+25.22	EAST OUTER ROAD	3267.3
17	20+12.00	21+92.00	COUNTY ROAD 658	614.5
			PAY TOTAL =	7273.1

SHOULDER – ALTERNATE F (CONCRETE)					
SHEET	STATION	STATION	ROUTE	LOCATION	TYPE A2 SHOULDER, RIGID SY
16	93+28.27	106+00.00	EAST OUTER ROAD	LT	563.2
16	93+28.27	106+00.00	EAST OUTER ROAD	RT	567.3
17	106+00.00	114+37.75	EAST OUTER ROAD	LT	372.3
17	106+00.00	118+25.22	EAST OUTER ROAD	RT	544.0
17	115+85.00	118+25.22	EAST OUTER ROAD	LT	107.3
17	20+12.00	20+72.00	COUNTY ROAD 658	LT	32.4
17	20+12.00	20+72.00	COUNTY ROAD 658	RT	63.6
				PAY TOTAL =	2250.0

SUMMARY OF QUANTITIES
SHEET 5 OF 14

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
03/04/2024

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	3

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen®

CONCRETE PAVEMENT

SHEET	STATION	STATION	ROUTE	LOCATION	CONCRETE PAVEMENT (10 IN. NON-REINFORCED 15 FT. JOINTS) SY	REMARKS
12	624+40.00	628+07.78	ROUTE 47		4281.5	
12	631+26.67	636+00.00	ROUTE 47		5672.6	
12	00+04.63	02+05.00	RAMP 1		698.4	INCLUDES ROCK BASE UNDER SHOULDER
12	00+72.55	02+05.00	RAMP 1	RT	62.2	FULL DEPTH SHOULDER
12	00+91.18	02+05.00	RAMP 1	LT	60.0	FULL DEPTH SHOULDER
12	10+94.24	12+49.60	RAMP 2		546.9	INCLUDES ROCK BASE UNDER SHOULDER
12	10+94.24	12+02.82	RAMP 2	RT	50.0	FULL DEPTH SHOULDER
12	10+94.24	12+15.10	RAMP 2	LT	59.8	FULL DEPTH SHOULDER
12	08+99.65	13+96.60	RAMP 3		1381.7	INCLUDES ROCK BASE UNDER SHOULDER
12	12+19.35	13+45.87	RAMP 3	RT	76.1	FULL DEPTH SHOULDER
12	12+17.50	13+57.60	RAMP 3	LT	61.7	FULL DEPTH SHOULDER
12	00+17.19	04+84.92	RAMP 4		1047.0	INCLUDES ROCK BASE UNDER SHOULDER
12	00+72.74	03+50.37	RAMP 4	RT	242.9	FULL DEPTH SHOULDER
12	00+89.90	1+74.92	RAMP 4	LT	48.5	FULL DEPTH SHOULDER
13	636+00.00	638+00.00	ROUTE 47		1429.3	
				PAY TOTAL =	15718.5	

PAVEMENT BASE

SHEET	STATION	STATION	ROUTE	FURNISHING ROCK BASE MATERIAL SY	PLACING ROCK BASE SY	TYPE 5 AGGREGATE FOR BASE (6 IN. THICK) SY	REMARKS
11	621+05.00	624+00.00	ROUTE 47	2318	2318		ALTERNATE PAVEMENT
11	624+00.00	624+40.00	ROUTE 47	347	347		ALTERNATE PAVEMENT
12	624+40.00	628+07.78	ROUTE 47	4431	4431		
12	631+26.67	636+00.00	ROUTE 47	5864	5864		
12	00+04.63	02+05.00	RAMP 1	871	871		INCLUDES ROCK BASE UNDER SHOULDER
12	10+94.24	12+49.60	RAMP 2	743	743		INCLUDES ROCK BASE UNDER SHOULDER
12	08+99.65	13+96.60	RAMP 3	1940	1940		INCLUDES ROCK BASE UNDER SHOULDER
12	00+17.19	04+84.92	RAMP 4	1571	1571		INCLUDES ROCK BASE UNDER SHOULDER
13	636+00.00	638+00.00	ROUTE 47	1562.7	1563		
13	638+00.00	648+00.00	ROUTE 47	4487	4487		ALTERNATE PAVEMENT
13	937+50.00	938+66.81	FRENCHMAN BLUFF	804	804		ALTERNATE PAVEMENT
13	300+36.00	303+22.00	DRIVEWAY	1645	1645		ALTERNATE PAVEMENT
14	648+00.00	658+45.84	ROUTE 47	3372	3372		ALTERNATE PAVEMENT
15	928+50.00	937+50.00	FRENCHMAN BLUFF	3006	3006		ALTERNATE PAVEMENT
15	00+16.94	01+75.25	BLUFFVIEW	592.6	593		ALTERNATE PAVEMENT
16	93+28.27	106+00.00	EAST OUTER ROAD			4730	ALTERNATE PAVEMENT
17	106+00.00	118+25.22	EAST OUTER ROAD			4483	ALTERNATE PAVEMENT
17	20+12.00	21+92.00	COUNTY ROAD 658			717	ALTERNATE PAVEMENT
			PAY TOTAL =	33552	33552	9930	

CONCRETE APPROACH PAVEMENT

SHEET	STATION	STATION	ROUTE	CONCRETE APPROACH PAVEMENT SY
12	628+07.78	628+26.86	ROUTE 47	223.4
12	631+07.36	631+26.67	ROUTE 47	243.2
			PAY TOTAL =	466.5

SHOULDER

SHEET	STATION	STATION	ROUTE	LOCATION	TYPE A2 SHOULDER, RIGID SY
12	08+99.65	12+19.50	RAMP 3	RT	284.5
12	1+74.92	04+84.92	RAMP 4	LT	137.8
				PAY TOTAL =	422.3

MILL AND OVERLAY

SHEET	STATION	STATION	ROUTE	COLDMILLING BITUMINOUS PAVEMENT FOR REMOVAL OR SURFACING (3 IN. OR LESS) SY	ASPHALTIC CONCRETE MIXTURE PG 76-22 (SP125B MIX) (3.75 IN. THICK) TONS	REMARKS
11	620+00.00	621+82.27	ROUTE 47	1215	248.7	
13	640+07.00	648+00.00	ROUTE 47	2115	432.8	
14	648+00.00	658+45.84	ROUTE 47	3477	711.8	
14	658+45.84	667+00.00	ROUTE 47	3417	699.3	SEE TYPICAL SECTIONS
			PAY TOTAL =	10224	2092.7	

SIDEWALK

SHEET	STATION	STATION	ROUTE	LOCATION	CONCRETE CURB RAMP SY	TRUNCATED DOMES SF	CONCRETE SIDEWALK, 4 IN. SY
11	620+57.79	-	ROUTE 47	LT	7.5	10	
11	620+62.39	-	ROUTE 47	RT	7.4	10	
11	620+75.12	620+93.18	ROUTE 47	LT		20	
11	620+76.77	620+84.50	ROUTE 47	RT		20	
11	621+09.00	621+25.67	ROUTE 47	RT		20	
11	621+19.00	621+33.71	ROUTE 47	LT		20	
11	621+41.39	624+00.00	ROUTE 47	RT	9.9	10	133.8
11	621+51.94	624+00.00	ROUTE 47	LT	9.8	10	140.1
12	624+00.00	626+65.98	ROUTE 47	LT	12.7	12	142.9
12	624+00.00	626+86.94	ROUTE 47	RT	12.7	12	154.5
12	626+79.06	627+43.70	ROUTE 47	LT		24	
12	626+98.15	627+58.67	ROUTE 47	RT		24	
12	627+70.04	-	ROUTE 47	RT		12	
12	627+70.39	-	ROUTE 47	LT		12	
12	632+03.69	-	ROUTE 47	RT		12	
12	632+03.78	-	ROUTE 47	LT		12	
12	632+12.52	632+92.92	ROUTE 47	RT		24	
12	632+17.43	632+50.80	ROUTE 47	LT		24	
12	632+60.06	636+00.00	ROUTE 47	LT	12.6	12	185.0
12	633+05.22	636+00.00	ROUTE 47	RT	12.7	12	159.5
13	636+00.00	638+54.33	ROUTE 47	RT	16.7	29	128.8
13	636+00.00	638+60.49	ROUTE 47	LT	20.7	35	128.9
13	639+68.29	648+00.00	ROUTE 47	RT	26.6	33	441.1
13	639+77.51	648+00.00	ROUTE 47	LT	20.7	35	441.0
14	648+00.00	657+39.97	ROUTE 47	RT	11.4	26	512.9
14	648+00.00	658+40.91	ROUTE 47	LT	7.3	14	572.2
				PAY TOTAL =	188.8	483	3140.7

CURB

SHEET	STATION	STATION	ROUTE	LOCATION	CURB AND GUTTER TYPE B, 8 IN. HEIGHT LF
11	621+18.64	624+00.00	ROUTE 47	RT	304
11	621+46.15	624+00.00	ROUTE 47	LT	262
12	624+00.00	626+77.21	ROUTE 47	LT	288
12	624+00.00	626+93.01	ROUTE 47	RT	298
12	632+50.01	636+00.00	ROUTE 47	LT	362
12	632+92.83	636+00.00	ROUTE 47	RT	318
13	636+00.00	638+98.50	ROUTE 47	LT	337
13	636+00.00	638+69.57	ROUTE 47	RT	336
13	639+39.50	648+00.00	ROUTE 47	LT	899
13	639+38.53	648+00.00	ROUTE 47	RT	886
13	301+75.27	303+22.00	DRIVEWAY	RT	149
13	300+82.50	303+22.00	DRIVEWAY	LT	277
13	937+50.00	937+96.81	FRENCHMAN BLUFF	RT	47
13	937+50.00	937+96.81	FRENCHMAN BLUFF	LT	47
14	648+00.00	657+31.53	ROUTE 47	RT	954
14	648+00.00	658+36.95	ROUTE 47	LT	1056
15	930+14.00	932+32.21	FRENCHMAN BLUFF	RT	230
15	931+85.45	933+78.21	FRENCHMAN BLUFF	LT	199
15	933+24.21	937+50.00	FRENCHMAN BLUFF	RT	403
15	934+86.09	935+63.31	FRENCHMAN BLUFF	LT	133
15	935+83.19	937+50.00	FRENCHMAN BLUFF	LT	224
				PAY TOTAL =	8009

SUMMARY OF QUANTITIES
SHEET 6 OF 14

DANIEL T. SHANE NUMBER E-29833
STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 03/04/2024

ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 3
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
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ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

GUARDRAIL

SHEET	STATION	STATION	ROUTE	LOCATION	GUARDRAIL TYPE D LF	MGS GUARDRAIL LF	MGS DOUBLE FACED GUARDRAIL LF	MGS VERTICAL CONCRETE BARRIER TRANSITION EA	MGS END ANCHOR EA	TYPE A CRASHWORTHY END TERMINAL (MASH) EA	TYPE B CRASHWORTHY END TERMINAL EA
10	-	-	U.S. 61 / DUGAN LANE	LT	50.0						
10	-	-	U.S. 61 / NORTH LINCOL	RT	75.0						
12	624+58.60	626+68.55	ROUTE 47	RT		212.5			1	1	
12	624+88.64	626+48.31	ROUTE 47	LT		162.5			2		
12	2+18.07	3+30.57	RAMP 1	LT		112.5		1	1		
12	1+09.69	3+32.57	RAMP 1	RT		225.0			1	1	
12	9+72.66	10+97.66	RAMP 2	LT		125.0		1		1	
12	10+04.51	11+99.62	RAMP 2	RT		200.0			1	1	
12	11+49.10	12+73.32	RAMP 3	LT		125.0		1		1	
12	11+82.50	12+32.50	RAMP 3	RT		50.0			1	1	
12	3+87.87	3+87.87	RAMP 4	RT				1	1		
12	932+17.06	933+97.57	US 61	RT		162.5					
12	932+17.06	933+97.57	US 61	LT		162.5					
12	932+08.07	932+17.06	US 61	CENTER			25.0				1
12	933+97.57	934+22.57	US 61	CENTER			25.0				1
16 / 17	109+95.39	110+95.39	EAST OUTER ROAD	LT		100.0				2	
				PAY TOTAL =	125	1638	50	4	8	8	2

NOTE: STATION LIMITS GIVEN TO START AND END OF MGS GUARDRAIL. VERTICAL BARRIER TRANSITIONS, END ANCHORS, AND MASH END TERMINALS ARE NOT INCLUDED IN STATION RANGE.

CONCRETE MEDIAN

SHEET	STATION	STATION	ROUTE	LOCATION	8 IN. RAISED CONCRETE MEDIAN STRIP SY
11	620+59.02	620+84.49	ROUTE 47	RT	33.3
11	620+59.99	620+97.00	ROUTE 47	LT	78.4
11	621+09.00	621+53.86	ROUTE 47	RT	83.1
11	621+19.00	621+44.72	ROUTE 47	LT	29.6
12	624+45.64	626+41.44	ROUTE 47	CNTR	229.3
12	626+67.83	627+79.40	ROUTE 47	RT	354.3
12	626+68.46	627+51.06	ROUTE 47	LT	229.0
12	627+60.67	627+68.29	ROUTE 47	CNTR	3.7
12	627+73.10	627+82.83	ROUTE 47	RT	1.5
12	627+73.59	627+83.39	ROUTE 47	LT	1.5
12	632+05.65	632+13.01	ROUTE 47	CNTR	3.8
12	631+90.85	632+00.64	ROUTE 47	RT	1.5
12	631+91.01	632+00.73	ROUTE 47	LT	1.5
12	631+52.47	632+93.39	ROUTE 47	LT	399.2
12	631+91.74	633+11.98	ROUTE 47	RT	508.4
12	633+32.23	635+72.81	ROUTE 47	CNTR	262.3
				PAY TOTAL =	2220.2

FENCING

SHEET	STATION	STATION	ROUTE	LOCATION	CHAIN-LINK FENCE (60 IN.) LF
11	624+07.49	626+86.59	ROUTE 47	RT	284
11	624+51.00	626+65.51	ROUTE 47	LT	221
				PAY TOTAL =	505

PAVED APPROACH - CONCRETE

SHEET	STATION	ROUTE	LOCATION	PAVED APPROACH, 8 IN. SY	REMARKS
15	931+63.04	FRENCHMAN BLUFF	LT	104.9	44 FRENCHMAN BLUFF RD
15	932+78.21	FRENCHMAN BLUFF	RT	187.4	12 FRENCHMAN BLUFF RD
15	934+33.22	FRENCHMAN BLUFF	LT	257.0	14 FRENCHMAN BLUFF RD
15	01+49.76	BLUFFVIEW	RT	47.0	100 SARAH ANN BLVD
16	93+70.16	EAST OUTER ROAD	LT	65.4	97 DUGAN LN
			PAY TOTAL =	661.7	

PERMANENT CONCRETE TRAFFIC BARRIER

SHEET	STATION	STATION	ROUTE	LOCATION	CONCRETE TRAFFIC BARRIER, TYPE D LF
12	627+83.28	628+26.14	ROUTE 47	LT	43
12	627+82.70	628+27.61	ROUTE 47	RT	45
12	631+06.81	631+63.23	ROUTE 47	LT	85
12	631+07.85	631+90.96	ROUTE 47	RT	83
12	0+87.33	1+80.57	RAMP 1	LT	136
12	11+35.16	12+09.21	RAMP 2	LT	137
12	13+07.83	13+58.71	RAMP 3	LT	87
12	0+74.31	3+50.37	RAMP 4	RT	280
				PAY TOTAL =	896

SUMMARY OF QUANTITIES
SHEET 7 OF 14

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO

DISTRICT	SHEET NO.
NE	3

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

PERMANENT PAVEMENT MARKINGS

SHEET	STATION	STATION	ROUTE	PREFORMED THERMOPLASTIC PAVEMENT MARKING, 12 IN. WHITE	PREFORMED THERMOPLASTIC PAVEMENT MARKING, 24 IN. WHITE	PREFORMED THERMOPLASTIC PAVEMENT MARKING, 24 IN. YELLOW	PREFORMED THERMOPLASTIC PAVEMENT MARKING, LEFT ARROW	PREFORMED THERMOPLASTIC PAVEMENT MARKING, RIGHT ARROW	PREFORMED THERMOPLASTIC PAVEMENT MARKING, STRAIGHT ARROW	PREFORMED THERMOPLASTIC PAVEMENT MARKING, COMBINATION STR / RIGHT ARROW	PREFORMED THERMOPLASTIC PAVEMENT MARKING, COMBINATION STR / LEFT ARROW	PREFORMED THERMOPLASTIC PAVEMENT MARKING, LANE REDUCTION ARROW	PREFORMED THERMOPLASTIC PAVEMENT MARKING, 12 IN. WHITE, YIELD LINE TRIANGLES	REMARKS
				LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	
162	614+00	616+01	ROUTE 47		34		3	2	4					NB ROUTE 47
162	–	–	N LINCOLN DR		25		1	1	1					N LINCOLN DR – N OF RTE 47
162	–	–	N LINCOLN DR		26		1	1	2					N LINCOLN DR – S OF RTE 47
162	616+53	621+01	ROUTE 47		35		2	2	4					SB ROUTE 47
162	616+65	620+88	ROUTE 47				1							NB ROUTE 47
162	195+34	200+00	TURNBULL	114				1					24	THROUGH LANE, TURN LANE
162	106+67	200+00	MERLIN	105				1					20	THROUGH LANE, TURN LANE
162	621+15	624+00	ROUTE 47				1							SB ROUTE 47
162	621+05	624+00	ROUTE 47			9								NB ROUTE 47
163	101+00	103+65	ROUTE 47 – NB			16		2						NB ROUTE 47
163	201+00	203+65	ROUTE 47 – SB						2					SB ROUTE 47
163	203+65 (SB)	104+01 (NB)	ROUTE 47	125										NB/SB INTERSECTION
163	104+48	109+47	ROUTE 47 – NB		31				5		1			THROUGH LANE, TURN LANE
163	204+47	209+47	ROUTE 47 – SB		30				5		1			THROUGH LANE, TURN LANE
163	209+46 (SB)	210+12 (NB)	ROUTE 47	121										NB/SB INTERSECTION
163	0+17	2+17	RAMP 1 – LT	14										LT/PRE-GORE
163	0+21	1+86	RAMP 1 – RT	53									20	RT
163	10+94 (RAMP 2)	2+03	RAMP 2– LT	26	18		1							LT/PRE-GORE
163	0+56	1+36	RAMP 2 – RT	72				1					10	RT
163	9+00 (RAMP 3)	2+47	RAMP 3– LT	79	36		4	1						LT/PRE-GORE
163	0+00	2+53	RAMP 3 – RT	68									10	RT
163	1+15	2+93	RAMP 4– LT	49								2	10	LT/PRE-GORE
163	0+19	1+82	RAMP 4 – RT	47										RT
163	633+16	636+00	ROUTE 47		30			2	2	s				SB ROUTE 47
163	633+16	636+00	ROUTE 47						2					NB ROUTE 47
164	636+00	638+44	ROUTE 47		38	23	1							NB ROUTE 47
164	933+11	938+62	FRENCHMAN BLUFF		37		1			1				FRENCHMAN BLUFF
164	–	–	DWY 1		39		1			1				DWY 1 – ENTIRE LENGTH
164	639+94	648+00	ROUTE 47				1							SB ROUTE 47
164	639+94	648+00	ROUTE 47		36	28								NB ROUTE 47
165	648+00	660+00	ROUTE 47				1							SB ROUTE 47
165	648+00	660+00	ROUTE 47			85	1	2						NB ROUTE 47
166	20+00	22+16	CR658		31									CR658
			PAY TOTAL =	873	446	161	20	16	27	2	2	2	94	

SUMMARY OF QUANTITIES
SHEET 8 OF 14

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	3

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen®

PERMANENT PAVEMENT MARKINGS (CONT.)

SHEET	STATION	STATION	ROUTE	4 IN. YELLOW HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS LF	6 IN. WHITE HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS LF	6 IN. YELLOW HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS LF	4 IN. YELLOW STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS LF	4 IN. WHITE STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS LF	REMARKS
10	–	–	NB U.S. HIGHWAY 61			708			NB U.S. 61
10	–	–	SB U.S. HIGHWAY 61		464	433			SB U.S. 61
162	601+40	612+00	ROUTE 47	3150	1575				TYPICAL SECTION
162	614+00	616+01	ROUTE 47	376	103				SB ROUTE 47
162	614+00	616+01	ROUTE 47		196				NB ROUTE 47
162	–	–	N LINCOLN DR	198	686				N LINCOLN DR – N OF RTE 47
162	–	–	N LINCOLN DR	160	647				N LINCOLN DR – S OF RTE 47
162	616+53	621+01	ROUTE 47		795				SB ROUTE 47
162	616+65	620+88	ROUTE 47	754	590				NB ROUTE 47
162	195+34	200+00	TURNBULL		256				THROUGH LANE, TURN LANE
162	106+67	200+00	MERLIN	36	357				THROUGH LANE, TURN LANE
162	621+15	624+00	ROUTE 47	110	508				SB ROUTE 47
162	621+05	624+00	ROUTE 47	524	499				NB ROUTE 47
163	101+00	103+65	ROUTE 47 – NB	96	639	213			NB ROUTE 47
163	201+00	203+65	ROUTE 47 – SB	92	316	214			SB ROUTE 47
163	203+65 (SB)	104+01 (NB)	ROUTE 47		76				NB/SB INTERSECTION
163	104+48	109+47	ROUTE 47 – NB		567	456			THROUGH LANE, TURN LANE
163	204+47	209+47	ROUTE 47 – SB		602	412			THROUGH LANE, TURN LANE
163	209+46 (SB)	210+12 (NB)	ROUTE 47		74				NB/SB INTERSECTION
163	0+17	2+17	RAMP 1 – LT		137	221			LT/PRE-GORE
163	0+21	1+86	RAMP 1 – RT		247	168			RT
163	10+94 (RAMP 2)	2+03	RAMP 2– LT		184	177			LT/PRE-GORE
163	0+56	1+36	RAMP 2 – RT		191	87			RT
163	9+00 (RAMP 3)	2+47	RAMP 3– LT		1072	565			LT/PRE-GORE
163	0+00	2+53	RAMP 3 – RT		255	139			RT
163	1+15	2+93	RAMP 4– LT		613	445			LT/PRE-GORE
163	0+19	1+82	RAMP 4 – RT		90	153			RT
163	922+83	933+11	FRENCHMAN BLUFF				926		FRENCHMAN BLUFF
163	633+16	636+00	ROUTE 47	60	615	258			SB ROUTE 47
163	633+16	636+00	ROUTE 47	60	342	257			NB ROUTE 47
164	636+00	638+44	ROUTE 47	466	121				SB ROUTE 47
164	636+00	638+44	ROUTE 47	262	511				NB ROUTE 47
164	933+11	938+62	FRENCHMAN BLUFF				1068	758	FRENCHMAN BLUFF
164	–	–	DWY 1	500	890				DWY 1 – ENTIRE LENGTH
164	639+94	648+00	ROUTE 47	1586	1143				SB ROUTE 47
164	639+94	648+00	ROUTE 47	656	1126				NB ROUTE 47
165	648+00	660+00	ROUTE 47	2420	1705				SB ROUTE 47
165	648+00	660+00	ROUTE 47	1032	1964				NB ROUTE 47
165	660+00	667+00	ROUTE 47	1750	1400				TYPICAL SECTION
166	93+28	118+25	EAST OUTER ROAD				4994		DOUBLE YELLOW
166	20+17	21+91	COUNTY ROAD 658				348		DOUBLE YELLOW
			PAY TOTAL =	14288	21554	4906	7336	758	

SUMMARY OF QUANTITIES
SHEET 9 OF 14

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE NUMBER E-29833

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	3

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DATE	DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

ROADSIDE DEVELOPMENT

SHEET	STATION	STATION	ROUTE	LOCATION	MOWING AC	MULCHING AC	SEEDING - COOL SEASON GRASSES AC	TEMPORARY SEEDING AC	TYPE 2C EROSION CONTROL BLANKET SY
11	621+16	624+00	ROUTE 47	RT	0.2	0.4	0.2	0.2	
11	621+44	624+00	ROUTE 47	LT	0.2	0.4	0.2	0.2	
12	624+00	628+87	ROUTE 47	LT	0.4	0.5	0.4	0.4	1319
12	624+00	628+80	ROUTE 47	RT	0.4	0.6	0.4	0.4	1474
12	630+43	636+00	ROUTE 47	LT	0.8	0.9	0.8	0.8	3291
12	630+69	636+00	ROUTE 47	RT	1.0	1.3	1.0	1.0	3906
13	636+00	648+00	ROUTE 47	LT	0.4	0.8	0.4	0.4	
13	636+00	648+00	ROUTE 47	RT	0.7	1.4	0.7	0.7	
14	648+00	658+46	ROUTE 47	LT	0.4	0.7	0.4	0.4	
14	648+00	657+54	ROUTE 47	RT	0.3	0.5	0.3	0.3	
15	928+50	937+50	FRENCHMAN BLUFF	LT	0.4	0.7	0.4	0.4	
15	928+50	937+50	FRENCHMAN BLUFF	RT	0.3	0.6	0.3	0.3	
16	93+28	106+00	EAST OUTER RD	LT	0.5	0.5	0.5	0.5	2483
16	93+28	106+00	EAST OUTER RD	RT	0.9	1.9	0.9	0.9	
17	106+00	118+25	EAST OUTER RD	LT	1.0	1.1	1.0	1.0	4239
17	106+00	118+25	EAST OUTER RD	RT	0.6	1.2	0.6	0.6	
				SUBTOTAL =	8.5	13.5	8.5	8.5	16712
				PAY TOTAL =	9.8	15.6	9.8	9.8	19219

NOTE: 15% CONTINGENCY ADDED FOR PAY TOTALS.

ROCK BLANKET

SHEET	STATION	STATION	ROUTE	LOCATION	FURNISHING TYPE 2 ROCK BLANKET CY	PLACING TYPE 2 ROCK BLANKET CY	PERMANENT EROSION CONTROL GEOTEXTILE SY	REMARKS
12	628+16.50	628+87.31	ROUTE 47	N. END BENT	605	605	908	2' THICK
12	630+43.51	631+21.74	ROUTE 47	S. END BENT	665	665	998	2' THICK
13	642+33.37	647+64.27	ROUTE 47	LT	1287	1287	1930	2' THICK
				SUBTOTAL =	2557	2557	3836	
				PAY TOTAL =	2941	2941	4412	

NOTES: 15% ADDED TO ROCK BLANKET PAY TOTALS.
WITHIN LIMITS OF 5' GUARDRAIL PLATFORM, USE 4" MINUS ROCK WHICH SHALL BE INCIDENTAL TO TYPE 2 ROCK BLANKET.

SUMMARY OF QUANTITIES
SHEET 10 OF 14

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
03/04/2024

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	3

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DATE	DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

STORMWATER POLLUTION PREVENTION PLAN

SHEET	STATION	STATION	ROUTE	LOCATION	SEDIMENT TRAP ROCK EA	ROCK DITCH CHECK LF	CURB INLET CHECK EA	SEDIMENT REMOVAL CY	SILT FENCE LF
99	622+11	–	ROUTE 47	RT	1		1	1	
99	622+11	624+00	ROUTE 47	RT		16		1	
99	622+35	–	ROUTE 47	LT	1		1	1	
99	622+35	624+00	ROUTE 47	LT		32		2	
100	624+34	–	ROUTE 47	LT	1			1	
100	624+45	–	ROUTE 47	LT			1		
100	624+60	–	ROUTE 47	RT	1			1	
100	624+81	–	ROUTE 47	RT			1		
100	626+39	–	ROUTE 47	RT	1			1	
100	632+74	–	ROUTE 47	LT			1		
100	633+18	–	ROUTE 47	RT			1		
100	633+57	–	ROUTE 47	LT	1			1	
100	633+35	–	ROUTE 47	RT	1			1	
100	633+21	633+53	ROUTE 47	LT		48		3	
100	635+04	–	ROUTE 47	LT	1			1	
100	635+02	636+00	ROUTE 47	LT		32		2	
100	635+21	–	ROUTE 47	LT			1		
100	0+25	3+73	RAMP 1	RT				4	433
100	1+29	3+17	RAMP 1	LT				2	239
100	7+12	9+51	RAMP 2	LT				3	289
100	8+06	9+09	RAMP 2	RT				2	187
100	11+44	13+47	RAMP 3	LT				1	82
100	11+52		RAMP 3	RT		16		1	
100	12+73		RAMP 3	LT	1			1	
100	1+24	4+97	RAMP 4	LT				4	434
100	0+57	2+80	RAMP 4	RT				2	225
100/101	636+00	–	ROUTE 47	RT			1		
101	636+00	637+50	ROUTE 47	LT		48		3	
101	637+48	–	ROUTE 47	LT			1		
101	637+49	–	ROUTE 47	LT	1			1	
101	638+00	–	ROUTE 47	RT			1		
101/102	639+94	658+42	ROUTE 47	LT				19	1862
102	640+09	–	ROUTE 47	RT			1		
102	640+12	–	ROUTE 47	LT			1		
102	640+72	647+29	ROUTE 47	RT				7	662
102	642+15	–	ROUTE 47	RT	1			1	
102	642+25	–	ROUTE 47	RT			1		
102	642+38	–	ROUTE 47	LT			1		
102	643+39	–	ROUTE 47	LT					
102	644+49	–	ROUTE 47	LT			1		
102	644+51	–	ROUTE 47	RT			1		
102	644+59	–	ROUTE 47	LT	1			1	
102	644+63	–	ROUTE 47	RT	1			1	
103	650+65	–	ROUTE 47	RT			2		
103	651+60	–	ROUTE 47	LT			1		
103	652+80	–	ROUTE 47	RT			1		
103	653+80	–	ROUTE 47	LT			1		
103	654+90	–	ROUTE 47	RT			1		
103	565+00	–	ROUTE 47	LT			1		
103	657+00	–	ROUTE 47	RT	1		1	1	
103	658+20	–	ROUTE 47	LT			1		
102/104	929+33	932+34	FRENCHMAN BLUFF	RT				4	353
104	930+14	931+21	FRENCHMAN BLUFF	LT				1	97
104	933+23	–	FRENCHMAN BLUFF	LT/RT			2		
104	934+58	–	FRENCHMAN BLUFF	RT			1		
104	935+40	–	FRENCHMAN BLUFF	LT			1		
104	635+22	–	FRENCHMAN BLUFF		2		2	2	
104	936+77	–	FRENCHMAN BLUFF	LT			1		
104	936+78	–	FRENCHMAN BLUFF	RT			1		
105	95+24	113+61	OUTER ROAD	LT				22	2232
105	110+65	–	OUTER ROAD	LT	1			1	
105	110+68	118+39	OUTER ROAD	RT				8	772
105	114+06	118+49	OUTER ROAD	LT				5	496
				SUBTOTAL =	17	192	33	113	8363
				PAY TOTAL =	17	192	33	113	9617

NOTE: FOR SPECIFIC LOCATIONS OF ROCK DITCH CHECKS, SEE EROSION CONTROL PLAN SHEETS.
15% CONTINGENCY ADDED FOR SILT FENCE.

SUMMARY OF QUANTITIES
SHEET 11 OF 14

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-21833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	3

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

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BRIDGE NO.

DATE	DESCRIPTION

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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HRGreen®

DRAINAGE STRUCTURES

CULVERT SHEET NO.	ROADWAY	STA	LOC.	ACTUAL DEPTH FT	STR. NO.	TYPE	48-IN PRECAST CONCRETE MANHOLE FT.	60-IN PRECAST CONCRETE MANHOLE FT.	PRECAST CONC. DROP INLET 2.5'X3' FT.	PRECAST CONC. DROP INLET 3'x3' FT.	PRECAST CONC. DROP INLET 5'X2' FT.	PRECAST CONC. DROP INLET 5'X3' FT.	MANHOLE FRAME & COVER TYPE 1-B EA.	MANHOLE FRAME & COVER TYPE 2 EA.	MANHOLE FRAME & COVER TYPE 3 EA.	GRATE & BEARING PLATE 5' X 2' EA.	CLASS 3 EXCAVATION C.Y.	REMARKS
1	RTE 47	622+35.23	36.30' LT	4.0	1-2	T						4			1		8	1 - 12" OPENING, 5' CURB INLET OPENING
1	RTE 47	624+45.00	34.50' LT	6.0	2-2	T						6			1		13	1 - 12" OPENING, 5' CURB INLET OPENING
1	RTE 47	622+11.00	46.50' RT	4.0	3-2	T						4			1		5	1 - 12" OPENING, 5' CURB INLET OPENING
1	RTE 47	623+46.90	46.62' RT	5.0	4-2	T						5			1		6	1 - 12" OPENING, 5' CURB INLET OPENING
1	RTE 47	624+81.07	47.63' RT	9.0	5-2	T						9			1		14	1 - 12" OPENING, 5' CURB INLET OPENING
1	RTE 47	626+24.40	77.07' RT	20.5	6-1	MH	21							1			8	2 - 12" OPENINGS
1	RTE 47	622+08.78	63.26' RT	6.0	6-2	T						6			1		0	1 - 12" OPENING, 5' CURB INLET OPENING
2	RTE 47	632+74.92	70.03' LT	15.0	7-2	T						15			1		6	1 - 12" OPENING, 5' CURB INLET OPENING
2	RTE 47	633+18.53	70.08' RT	15.0	8-2	T						15			1		9	2 - 18" OPENINGS, 5' CURB INLET OPENING
2	RTE 47	634+85.00	40.50' RT	7.0	8-3	T						7			1		13	2 - 18" OPENINGS, 5' CURB INLET OPENING
2	RTE 47	636+55.00	40.50' RT	4.5	8-4	T						5			1		6	2 - 18" OPENINGS, 5' CURB INLET OPENING
2	RTE 47	638+25.00	40.50' RT	4.5	8-5	T						5			1		6	2 - 18" OPENINGS, 5' CURB INLET OPENING
2	RTE 47	639+43.22	40.50' RT	4.5	8-6	MH	5						1				6	1 - 12", 2 - 18" OPENINGS, W/LOCKING LID
2	RTE 47	640+10.00	40.50' RT	4.5	8-7	T						5			1		6	1 - 18" OPENING, 5' CURB INLET OPENING
2	RTE 47	639+43.60	76.10' RT	4.0	8-8	T			4						1		13	1 - 12" OPENING, 2.5' CURB INLET OPENING
3	RTE 47	635+21.50	41.00' LT	4.5	9-2	T						5			1		5	2 - 18" OPENINGS, 5' CURB INLET OPENING
3	RTE 47	637+48.46	30.43' LT	4.5	9-3	T						5			1		7	2 - 18" OPENINGS, 5' CURB INLET OPENING
3	RTE 47	640+12.00	28.50' LT	4.5	9-4	T						5			1		8	1 - 18" OPENING, 5' CURB INLET OPENING
3	RTE 47	642+37.50	28.50' LT	6.0	13-2	T						6			1		11	1 - 12" OPENING, 5' CURB INLET OPENING
3	RTE 47	642+25.06	37.82' RT	5.0	14-2	T						5			1		6	1 - 12" OPENING, 5' CURB INLET OPENING
3	RTE 47	644+49.29	28.50' LT	12.5	15-2	T						13			1		26	1 - 12" OPENING, 5' CURB INLET OPENING
4	RTE 47	644+51.02	31.04' RT	9.5	16-2	T						10			1		19	1 - 12" OPENING, 5' CURB INLET OPENING
4	BLUFFVIEW	0+84.64	12.60' LT	4.8	21-1	MH	5						1				5	2 - 12" OPENINGS W/LOCKING LID
5	RTE 47	658+36.04	42.29' LT	3.5	18-1	MH	4							1			1	2 - 18" OPENINGS W/LOCKING LID
5	RTE 47	657+70.00	28.50' LT	4.3	18-2	T						4			1		7	2 - 18" OPENINGS, 5' CURB INLET OPENING
5	RTE 47	655+75.00	28.50' LT	4.5	18-3	T						5			1		10	2 - 18" OPENINGS, 5' CURB INLET OPENING
5	RTE 47	653+80.00	28.50' LT	4.5	18-4	T						5			1		7	1 - 12", 1 - 18" OPENINGS, 5' CURB INLET OPENING
5	RTE 47	651+60.00	28.50' LT	4.0	18-5	T						4			1		5	1 - 12" OPENING, 5' CURB INLET OPENING
6	RTE 47	657+00.00	40.50' RT	4.5	19-2	T						5			1		9	2 - 18" OPENINGS, 5' CURB INLET OPENING
6	RTE 47	654+89.94	39.32' RT	4.5	19-3	T						5			1		6	2 - 18" OPENINGS, 5' CURB INLET OPENING
6	RTE 47	652+79.94	33.02' RT	4.5	19-4	T						5			1		8	2 - 18" OPENINGS, 5' CURB INLET OPENING
6	RTE 47	650+65.00	28.50' RT	4.5	19-5	T						5			1		9	1 - 12", 1 - 18" OPENINGS, 5' CURB INLET OPENING
6	RTE 47	650+65.00	40.65' RT	4.0	19-6	E				4							4	1 - 12" OPENING
7	RTE 47 SB	203+06.36	62.96' LT	10.8	23-2	MH	11							1			12	2 - 12" OPENINGS
7	RTE 47 SB	202+78.82	60.15' LT	5.0	23-3	S2					5					1	12	1 - 12" OPENING
7	OUTER RD	110+28.77	26.51' LT	21.3	24-1	MH	21							1			3	2 - 18" OPENINGS
7	OUTER RD	110+28.77	30.00' RT	6.0	24-2	S2					6					1	14	1 - 18" OPENING
8	FRENCHMAN BL	931+16.83	18.25' RT	7.0	25-2	MH		7						1			18	1 - 18", 2 - 24" OPENINGS
8	FRENCHMAN BL	931+86.41	18.25' RT	5.5	25-4	MH		6						1			15	1 - 12", 2 - 18" OPENINGS
8	FRENCHMAN BL	933+30.00	16.50' RT	4.5	25-5	T			5						1		5	1 - 12", 2 - 18" OPENINGS, 2.5' CURB INLET OPENING
8	FRENCHMAN BL	934+58.21	16.50' RT	4.5	25-6	T			5						1		6	1 - 12", 1 - 18" OPENINGS, 2.5' CURB INLET OPENING
8	FRENCHMAN BL	935+39.12	18.25' RT	4.8	25-7	MH		5						1			16	3 - 12" OPENINGS
8	FRENCHMAN BL	936+77.50	16.50' RT	5.0	25-8	T			5						1		7	2 - 12" OPENINGS, 2.5' CURB INLET OPENING
8	FRENCHMAN BL	936+76.76	27.05' LT	4.0	25-9	T			4						1		4	1 - 12" OPENING, 2.5' CURB INLET OPENING
9	FRENCHMAN BL	931+85.57	16.50' LT	4.0	25-10	T			4						1		7	1 - 12" OPENING, 2.5' CURB INLET OPENING
9	FRENCHMAN BL	933+30.00	16.50' LT	4.0	25-11	T			4						1		6	1 - 12" OPENING, 2.5' CURB INLET OPENING
9	FRENCHMAN BL	935+39.20	21.94' LT	4.0	25-12	T			4						1		5	1 - 12" OPENING, 2.5' CURB INLET OPENING
					SUBTOTALS		67	18	35	4	11	173	2	7	35	2	402	
					PAY TOTALS		67	18	35	4	11	173	2	7	35	2	402	

STATE OF MISSOURI
MARGARET ANN BRUNS NUMBER PE-2010000798
PROFESSIONAL ENGINEER

3/27/2024 11:27:43 AM
Margaret Ann Bruns - Civil
MO PE-2010000798

DATE PREPARED
3/27/2024

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	3

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

EFK • Moen, LLC
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

SUMMARY OF QUANTITIES
SHEET 12 OF 14

REV.

STORM PIPES

CULVERT SHEET NO.	ROADWAY	FROM STR.	TO STR.	STA	STA	GROUP A PIPE 12 IN.	GROUP A PIPE 18 IN.	GROUP A PIPE 30 IN.	GROUP A PIPE 48 IN.	GROUP B PIPE 12 IN.	GROUP B PIPE 18 IN.	GROUP B PIPE 24 IN.	TYPE A PIPE COLLAR	12 IN. OR ALLOWED SUBSTITUTE GROUP A FLARED END SECTION	12 IN. OR ALLOWED SUBSTITUTE GROUP B FLARED END SECTION	18 IN. OR ALLOWED SUBSTITUTE GROUP A FLARED END SECTION	18 IN. OR ALLOWED SUBSTITUTE GROUP B FLARED END SECTION	24 IN. OR ALLOWED SUBSTITUTE GROUP B FLARED END SECTION	30 IN. OR ALLOWED SUBSTITUTE GROUP A FLARED END SECTION	48 IN. OR ALLOWED SUBSTITUTE GROUP A FLARED END SECTION	ROCK LINING	CLASS 3 EXCAVATION	REMARKS
						L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	C.Y.	C.Y.	
1	RTE 47	1-2	1-1	622+35.23	622+35.00	20								1							1	8	
1	RTE 47	2-2	2-1	624+45.00	624+45.00	29								1							1	10	
1	RTE 47	3-2	3-1	622+11.00	622+11.00	19								1							1	1	
1	RTE 47	4-2	4-1	623+46.90	623+46.90	29								1							1	1	
1	RTE 47	5-2	5-1	624+81.07	624+81.07	34								1							1	5	
1	RTE 47	6-2	6-1	622+08.78	626+24.40	18																0	
1	RTE 47	6-1	BOX	626+24.40	626+32.31	6																3	
–	RTE 47	BOX	–	626+45.00	–																187		
2	RTE 47	7-2	7-1	632+74.92	633+27.15	80								1							2	1	
2	RTE 47	8-7	8-6	640+10.00	639+43.22		62															22	
2	RTE 47	8-6	8-5	639+43.22	638+25.00		113															43	
2	RTE 47	8-5	8-4	638+25.00	636+55.00		165															58	
2	RTE 47	8-4	8-3	636+55.00	634+85.00		165															41	
2	RTE 47	8-3	8-2	634+85.00	633+18.53		164															57	
2	RTE 47	8-2	8-1	633+18.53	633+34.01		48									1					2	7	
2	RTE 47	8-8	8-6	639+43.60	639+43.22	31																10	
3	RTE 47	9-4	9-3	640+12.00	637+48.46		259															111	
3	RTE 47	9-3	9-2	637+48.46	635+21.50		222															71	
3	RTE 47	9-2	9-1	635+21.50	635+23.05		20									1					2	2	
3	RTE 47	13-2	13-1	642+37.50	642+37.50	34								1							1	10	
3	RTE 47	14-2	14-1	642+25.06	642+26.10	27								1							1	1	
3	RTE 47	15-2	15-1	644+49.29	644+48.74	42								1							1	31	
4	RTE 47	16-2	16-1	644+51.02	644+52.37	38								1							1	1	
4	BLUFFVIEW	21-2	21-1	0+70.79	0+84.64					32					1							4	
4	RTE 47	17-2	17-1	643+38.54	643+38.84			22					2						2		4	11	
4	RAMP 3	20-2	20-1	11+46.51	12+36.95				71				2							2	18	68	
5	RTE 47	18-5	18-4	651+60.00	653+80.00	216																61	
5	RTE 47	18-4	18-3	653+80.00	655+75.00		190															70	
5	RTE 47	18-3	18-2	655+75.00	657+70.00		190															63	
5	RTE 47	18-2	18-1	657+70.00	658+36.04		63															18	
6	RTE 47	19-6	19-5	650+65.00	650+65.00	10																1	
6	RTE 47	19-5	19-4	650+65.00	652+79.94		210															126	
6	RTE 47	19-4	19-3	652+79.94	654+89.94		205															82	
6	RTE 47	19-3	19-2	654+89.94	657+00.00		205															79	
6	RTE 47	19-2	19-1	657+00.00	657+00.00		22									1						7	
7	RTE 47 SB	23-3	23-2	202+78.82	203+06.36						33											15	
7	RTE 47 SB	23-2	23-1	203+06.36	203+18.03						41						1				3	18	
7	OUTER RD	24-2	24-1	110+28.77	110+28.77		50															9	
7	OUTER RD	24-1	BOX	110+28.77	110+35.64		5															1	
–	OUTER RD	BOX	–	110+39.00	–																111		
8	FRENCHMAN BL	25-9	25-8	936+76.76	936+77.50					40												12	
8	FRENCHMAN BL	25-8	25-7	936+77.50	935+39.12					114												68	
8	FRENCHMAN BL	25-7	25-6	935+39.12	934+58.21					69												45	
8	FRENCHMAN BL	25-6	25-5	934+58.21	933+30.00						126											53	
8	FRENCHMAN BL	25-5	25-4	933+30.00	931+86.41						140											78	
8	FRENCHMAN BL	25-4	25-2	931+86.41	931+16.83						71											49	
8	FRENCHMAN BL	25-3	25-2	931+23.12	931+16.83							10						1				6	
8	FRENCHMAN BL	25-2	25-1	931+16.83	930+18.98							96						1			3	23	
9	FRENCHMAN BL	25-10	25-4	931+85.57	931+86.41					30												11	
9	FRENCHMAN BL	25-11	25-5	933+30.00	933+30.00					30												10	
9	FRENCHMAN BL	25-12	25-7	935+39.20	935+39.12					36												14	
					SUBTOTALS	633	2358	22	71	351	411	106	4	10	1	3	1	2	2	2	341	1496	
					PAY TOTALS	633	2358	22	71	351	411	106	4	10	1	3	1	2	2	2	341	1496	

ROCK DITCH LINER

PLAN SHEET NO.	ROADWAY	STA	STA	LOC	AREA	FURNISHING TYPE 1 ROCK DITCH LINER	FURNISHING TYPE 2 ROCK DITCH LINER	FURNISHING TYPE 3 ROCK DITCH LINER	PLACING TYPE 1 ROCK DITCH LINER	PLACING TYPE 2 ROCK DITCH LINER	PLACING TYPE 3 ROCK DITCH LINER	BEDDING MATERIAL FOR ROCK DITCH LINER	SUBSURFACE DRAINAGE GEOTEXTILE	REMARKS
					S.F.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	S.Y.	
2	RTE 47	624+40	625+81	LT	850		31.5			31.5			125.9	
2	RTE 47	624+45	625+93	RT	904		33.5			33.5			133.3	
2	RTE 47	625+93	626+41	RT	312			21.2			21.2	7.7	54.0	
3	RTE 47	642+33	643+37	LT	618		22.9			22.9			91.7	
3	RTE 47	643+41	644+56	LT	682		25.3			25.3			101.3	
3	RTE 47	642+19	644+60	RT	1455		53.9			53.9			215.4	
3	OUTER RD	100+62	110+41	RT	7845	193.7			193.7				1016.7	
				SUBTOTALS		193.7	167.0	21.2	193.7	167.0	21.2	7.7	1738.2	
				PAY TOTALS		194	168	22	194	168	22	8	1739	

SUMMARY OF QUANTITIES
SHEET 13 OF 14

STATE OF MISSOURI
JOHN P. HUEBBE
NUMBER PE-2009019548
PROFESSIONAL ENGINEER
10:23 AM, OCT 24 2023
JOHN HUEBBE - DISCIPLINE: CIVIL
MO - E-2009019548

DATE PREPARED
10/24/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	3

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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

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

REV.

EFFECTIVE: 04-01-2024

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
WARNING SIGNS								
W01-1L	48X48	16.00					38	TURN (SYMBOL LEFT ARROW)
W01-1R	48X48	16.00						TURN (SYMBOL RIGHT ARROW)
W01-2L	48X48	16.00						CURVE (SYMBOL LEFT ARROW)
W01-2R	48X48	16.00						CURVE (SYMBOL RIGHT ARROW)
W01-3L	**48X48**	**16.00**	1	16			14	**REVERSE TURN (SYMBOL LEFT ARROW)**
W01-3R	**48X48**	**16.00**	1	16			14	**REVERSE TURN (SYMBOL RIGHT ARROW)**
W01-4L	**48X48**	**16.00**	7	112			15	**REVERSE CURVE (SYMBOL LEFT ARROW)**
W01-4R	**48X48**	**16.00**	6	96			15	**REVERSE CURVE (SYMBOL RIGHT ARROW)**
W01-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)
W01-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)
W01-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)
W01-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)
W01-6	**60X30**	**12.50**	4	50			16	**HORIZONTAL ARROW (SYMBOL)**
W01-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
W01-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
W01-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
W01-8	18X24	3.00						CHEVRON (SYMBOL)
W01-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
W03-1	48X48	16.00						STOP AHEAD (SYMBOL)
W03-2	**48X48**	**16.00**	3	48			40	**YIELD AHEAD (SYMBOL)**
W03-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
W03-4	**48X48**	**16.00**	2	32			11	**BE PREPARED TO STOP**
W03-5	**48X48**	**16.00**	2	32			3	**SPEED LIMIT AHEAD**
W04-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)
W04-1R	**48X48**	**16.00**	1	16			61	**MERGE (SYMBOL FROM RIGHT)**
W04-1aL	**48X48**	**16.00**	2	32			6A	**MERGE (ARROW SYMBOL)**
W04-1aR	**48X48**	**16.00**	3	48			6A	**MERGE (ARROW SYMBOL)**
W05-1	**48X48**	**16.00**	3	48			43	**ROAD/BRIDGE/RAMP NARROWS**
W05-3	48X48	16.00						ONE LANE BRIDGE
W05-5	**48X48**	**16.00**	2	32			34	**NARROW LANES**
W06-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)
W06-2	**48X48**	**16.00**	2	32			60	**DIVIDED HIGHWAY END (SYMBOL)**
W06-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)
W07-3a	30X24	5.00						NEXT XX MILES (PLAQUE)
W08-1	**48X48**	**16.00**	4	64			23A	**BUMP**
W08-2	48X48	16.00						DIP
W08-3	48X48	16.00						PAVEMENT ENDS
W08-4	48X48	16.00						SOFT SHOULDER
W08-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)
W08-6	48X48	16.00						TRUCK CROSSING (WITH FLAGS)
W08-6c	48X48	16.00						TRUCK ENTRANCE
W08-7	36X36	9.00						LOOSE GRAVEL
W08-7a	36X36	9.00						FRESH OIL/LOOSE GRAVEL
W08-9	48X48	16.00						LOW SHOULDER
W08-11	**48X48**	**16.00**	6	96			36	**UNEVEN LANES**
W08-12	48X48	16.00						NO CENTER LINE
W08-15	48X48	16.00						GROOVED PAVEMENT
W08-15P	30X24	5.00						MOTORCYCLE (PLAQUE)
W08-17	**48X48**	**16.00**	6	96			23	**SHOULDER DROP-OFF (SYMBOL)**
W08-17P	**30X24**	**5.00**	6	30			23	**SHOULDER DROP-OFF (PLAQUE)**
W10-1	42RND.	9.62						RAILROAD CROSSING
W012-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)
W012-2	48X48	16.00						LOW CLEARANCE (SYMBOL)
W012-2X	24X18	3.00						LOW CLEARANCE (PLAQUE)
W012-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)
W012-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD
W012-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD
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**	14	224			2	**ROAD/BRIDGE/RAMP WORK AHEAD**
W020-2	**48X48**	**16.00**	8	128			18	**DETOUR AHEAD**
W020-3	**48X48**	**16.00**	4	64			20	**ROAD CLOSED AHEAD**
W020-3	**48X48**	**16.00**	3	48			65	**ROAD CLOSED XX FT**
W020-4	**48X48**	**16.00**	4	64			7	**ONE LANE ROAD AHEAD**
W020-5	**48X48**	**16.00**	7	112			5	**RIGHT/CENTER/LEFT LANE CLOSED AHEAD**
W020-5a	**48X48**	**16.00**	1	16			5A	**2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD**
W020-6a	**48X48**	**16.00**	7	112			6	**RIGHT/CENTER/LEFT LANE CLOSED**
W020-7a	**48X48**	**16.00**	4	64			8	**FLAGGER (SYMBOL, WITH FLAGS)**
W021-2	36X36	9.00						FRESH OIL
W021-5	**48X48**	**16.00**	4	64			21	**SHOULDER WORK AHEAD**
W021-5a	**48X48**	**16.00**	1	16			21a	**RIGHT SHOULDER CLOSED**
W021-5b	**48X48**	**16.00**	1	16			21b	**RIGHT SHOULDER CLOSED AHEAD**
G022-1	21X15	2.19	4	9				WET PAINT (ARROW PIVOTS)

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
GUIDE SIGNS								
E05-1	**36X48**	**12.00**	1	12			49	**GORE EXIT**
E05-2	**48X36**	**12.00**	1	12			49a	**EXIT OPEN**
E05-2a	48X36	12.00						EXIT CLOSED
G020-1	**60X24**	**10.00**	2	20			1	**ROAD WORK NEXT XX MILES**
G020-2	48X24	8.00						END ROAD WORK
G020-4	36X18	4.50						PILOT CAR FOLLOW ME
G020-4a	**42X30**	**8.75**	2	18			69	**PILOT CAR IN USE WAIT & FOLLOW**
G020-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW
G020-5aP	**36X24**	**6.00**	4	24			54	**WORK ZONE (PLAQUE)**
M04-8a	**24X18**	**3.00**	5	15			52	**END DETOUR**
M04-9L	48X36	12.00						DETOUR (LEFT ARROW)
M04-9R	48X36	12.00						DETOUR (RIGHT ARROW)
M04-9P	48X12	4.00						STREET NAME (PLAQUE)
M04-10L	48X18	6.00						DETOUR (ARROW LEFT)
M04-10R	48X18	6.00						DETOUR (ARROW RIGHT)
REGULATORY SIGNS								
R1-1	**48X48**	**13.25**	2	27				**STOP**
R1-2	**48TRI.**	**6.93**	4	28			13	**YIELD**
R1-2a	**36X36**	**9.00**	1	9				**TO ONCOMING TRAFFIC (PLAQUE)**
R2-1	**36X48**	**12.00**	4	48			4	**SPEED LIMIT 25/35/50**
R2-1	**36X48**	**12.00**	4	48			25	**SPEED LIMIT 35/45/60**
R3-1	**48X48**	**16.00**	4	64			73	**NO RIGHT TURN (SYMBOL)**
R3-2	**48X48**	**16.00**	17	272			71	**NO LEFT TURN (SYMBOL)**
R3-3	**36X36**	**9.00**	2	18				**NO TURNS**
R3-5R	**30X36**	**7.50**	12	90			72	**RIGHT TURN ONLY**
R3-7L	**30X30**	**6.25**	5	31			68	**LEFT LANE MUST TURN LEFT**
R3-7R	**30X30**	**6.25**	3	19			67	**RIGHT LANE MUST TURN RIGHT**
R3-6R	36X48	12.00						RIGHT TURN OR STRAIGHT ARROW
R4-7a	**36X48**	**12.00**	3	36			42	**KEEP RIGHT (HORIZONTAL ARROW)**
R5-1	**30X30**	**6.25**	2	13			74	**DO NOT ENTER**
R5-1a	**36X24**	**6.00**	2	12			76	**WRONG WAY**
R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)
R6-1R	**54X18**	**6.75**	6	41			70	**ONE WAY ARROW (RIGHT)**
R11-2	**48X30**	**10.00**	13	130			29	**ROAD CLOSED**
R9-9	**36X18**	**4.50**	12	54			63	**SIDEWALK CLOSED**
R11-3a	**60X30**	**12.50**	2	25			66	**ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY**
R10-11a	**36X36**	**9.00**	2	18			19	**NO TURN ON RED**
R11-4	**60X30**	**12.50**	2	25			75	**ROAD CLOSED TO THRU TRAFFIC**
MISCELLANEOUS SIGNS								
CONST-5	**96X48**	**32.00**	2	64			62	**POINT OF PRESENCE**
CONST-7	**48X24**	**8.00**	2	16			77	**RATE OUR WORK ZONE**
CONST-8	**48X36**	**12.00**	2	24			61	**WORK ZONE NO PHONE ZONE**
W4-3R	**48X48**	**16.00**	2	32			103	**LANE ADDED RIGHT SYMBOL**
SPECIAL	**66X42**	**19.25**	2	39			SP	**SLOW VEHICLES**
SPECIAL	**48X48**	**16.00**	12	192			101	**RUMBLE STRIP AHEAD**
SPECIAL	**72X36**	**18.00**	1	18			85	**DETOUR RTE ASSY SIGN 85**
SPECIAL	**72X36**	**18.00**	2	36			80	**DETOUR RTE ASSY SIGN 80**
SPECIAL	**72X36**	**18.00**	3	54			84	**DETOUR RTE ASSY SIGN 81**
SPECIAL	**72X36**	**18.00**	3	54			82	**DETOUR RTE ASSY SIGN 82**
SPECIAL	**72X36**	**18.00**	3	54			83	**DETOUR RTE ASSY SIGN 83**
SPECIAL	**72X36**	**18.00**	1	18			84	**DETOUR RTE ASSY SIGN 84**
SPECIAL	**72X36**	**18.00**	2	36			86	**DETOUR RTE ASSY SIGN 86**
SPECIAL	**72X36**	**18.00**	3	54			87	**DETOUR RTE ASSY SIGN 87**
SPECIAL	**72X36**	**18.00**	2	36			88	**DETOUR RTE ASSY SIGN 88**
SPECIAL	**72X36**	**18.00**	3	54			89	**DETOUR RTE ASSY SIGN 89**
SPECIAL	**72X36**	**18.00**	6	108			90	**DETOUR RTE ASSY SIGN 90**
SPECIAL	**72X36**	**18.00**	1	18			91	**DETOUR RTE ASSY SIGN 91**
SPECIAL	**72X36**	**18.00**	1	18			92	**DETOUR RTE ASSY SIGN 92**
SPECIAL	**72X36**	**18.00**	1	18			93	**DETOUR RTE ASSY SIGN 93**
SPECIAL	**72X36**	**18.00**	1	18			94	**DETOUR RTE ASSY SIGN 94**
SPECIAL	**72X36**	**18.00**	1	18			95	**DETOUR RTE ASSY SIGN 95**
SPECIAL	**72X36**	**18.00**	1	18			96	**DETOUR RTE ASSY SIGN 96**
SPECIAL	**72X36**	**18.00**	1	18			97	**DETOUR RTE ASSY SIGN 97**
SPECIAL	**72X36**	**18.00**	1	18			98	**DETOUR RTE ASSY SIGN 98**
SPECIAL	**72X36**	**18.00**	1	18			99	**DETOUR RTE ASSY SIGN 99**

616-10.05 CONSTRUCTION SIGNS	TOTAL 3993
616-10.10 RELOCATED SIGNS	TOTAL 0

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)
6122009	**2****	**IMPACT ATTENUATOR 45 MPH (SAND BARRELS)**
6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
6122014	**4****	**IMPACT ATTENUATOR 60 MPH (SAND BARRELS)**
6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
6122020	**16****	**REPLACEMENT SAND BARREL**
6122030	**10****	**IMPACT ATTENUATOR (RELOCATION)**
6123001	**1****	**TRUCK MOUNTED ATTENUATOR (TMA)**
6161008	**6**	**ADVANCED WARNING RAIL SYSTEM**
6161012		BUOYS (BOATS KEEP OUT)
6161013		BUOYS (NO WAKE)
6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
6161025	**600**	**CHANNELIZER (TRIM LINE)**
6161030	**60**	**TYPE III MOVEABLE BARRICADE**
6161033	**84**	**DIRECTION INDICATOR BARRICADE**
6161040	**8**	**FLASHING ARROW PANEL**
6161047		TYPE III OBJECT MARKER
6161055		SEQUENTIAL FLASHING WARNING LIGHT
6161070	**600**	**TUBULAR MARKER**
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A	**6****	**CHANGEABLE MESSAGE SIGN W/O COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED**
6161099		CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
6162002	**38****	**TEMPORARY LONG-TERM RUMBLE STRIPS**
6173600D	**4475****	**TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/RETAINED**
6173702B	**4788****	**TEMPORARY TRAFFIC BARRIER ANCHORED CONTRACTOR FURNISHED/ RETAINED**
6173706	**850****	**TEMPORARY TRAFFIC BARRIER STIFFNESS TRANSITION SECTION**
6174000A		TEMPORARY TRAFFIC BARRIER HEIGHT TRANSITION
6175010A	**950****	**RELOCATING TEMPORARY TRAFFIC BARRIER**
6175011B	**1175****	**RELOCATING TEMPORARY TRAFFIC BARRIER ANCHORED**
6175013		RELOCATING TEMPORARY TRAFFIC BARRIER STIFFNESS TRANSITION SECTION
6175020A		RELOCATING TEMPORARY TRAFFIC BARRIER HEIGHT TRANSITION
6122040	**8****	**WORK ZONE CRASH CUSHION (NARROW)**
6122041	**24****	**WORK ZONE CRASH CUSHION (NARROW)(RELOC)**
9029901	**1****	**TEMP. SIGNALS & LIGHTING - OLD CAP**
9029901	**1****	**TEMP. SIGNALS & LIGHTING - CHERRY STAGE 2A-B**
9029901	**1****	**TEMP. SIGNALS & LIGHTING - CHERRY STAGE 2C-3B**
9029901	**1****	**TEMP. SIGNALS & LIGHTING - SB RAMP STAGE 2A-B**
9029901	**1****	**TEMP. SIGNALS & LIGHTING - SB RAMP STAGE 3A-B**
9029901	**1****	**TEMP. SIGNALS & LIGHTING - NB RAMP STAGE 2A-C**
9029901	**1****	**TEMP. SIGNALS & LIGHTING - NB RAMP STAGE 3A**
9029901	**1****	**TEMP. SIGNALS & LIGHTING - NB RAMP STAGE 3B**
6208076	**124994****	**TEMPORARY PAVEMENT MARKING PAINT, 4 INCH L.F.**
6208063	**54****	**TEMPORARY PAVEMENT MARKING PAINT, SYMBOLS**
6207001	**133681****	**PAVEMENT MARKING REMOVAL L.F.**
6207002	**54****	**PAVEMENT MARKING REMOVAL, SYMBOLS**
4019905	**4636****	**TEMP. OPTIONAL PAVEMENT & BASE S.Y.**
4019905	**1110****	**TEMP. ASPHALT SURFACE MODIFICATION S.Y.**
9029901		
8061020	**110****	**TEMPORARY PIPE L.F.**
6169902	**12****	**ADA COMPLIANT BARRICADE**
6191000	**11842****	**PAVEMENT EDGE TREATMENT L.F.**

TEMPORARY TRAFFIC CONTROL	
PAY TOTAL =	1 LUMP SUM

** NOT INCLUDED IN TEMPORARY TRAFFIC CONTROL - 1 LUMP SUM QUANTITY

SUMMARY OF QUANTITIES
SHEET 14 OF 14

STATE OF MISSOURI
MARGARET ANN BRUNS NUMBER PE-2010000798
PROFESSIONAL ENGINEER
03/27/2024 11:28:45 AM
Margaret Ann Bruns - Civil
MO PE-2010000798

DATE PREPARED: 3/27/2024
ROUTE: 47 | STATE: MO
DISTRICT: NE | SHEET NO.: 3
COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE | REV.

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

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

EFK•Moen, LLC
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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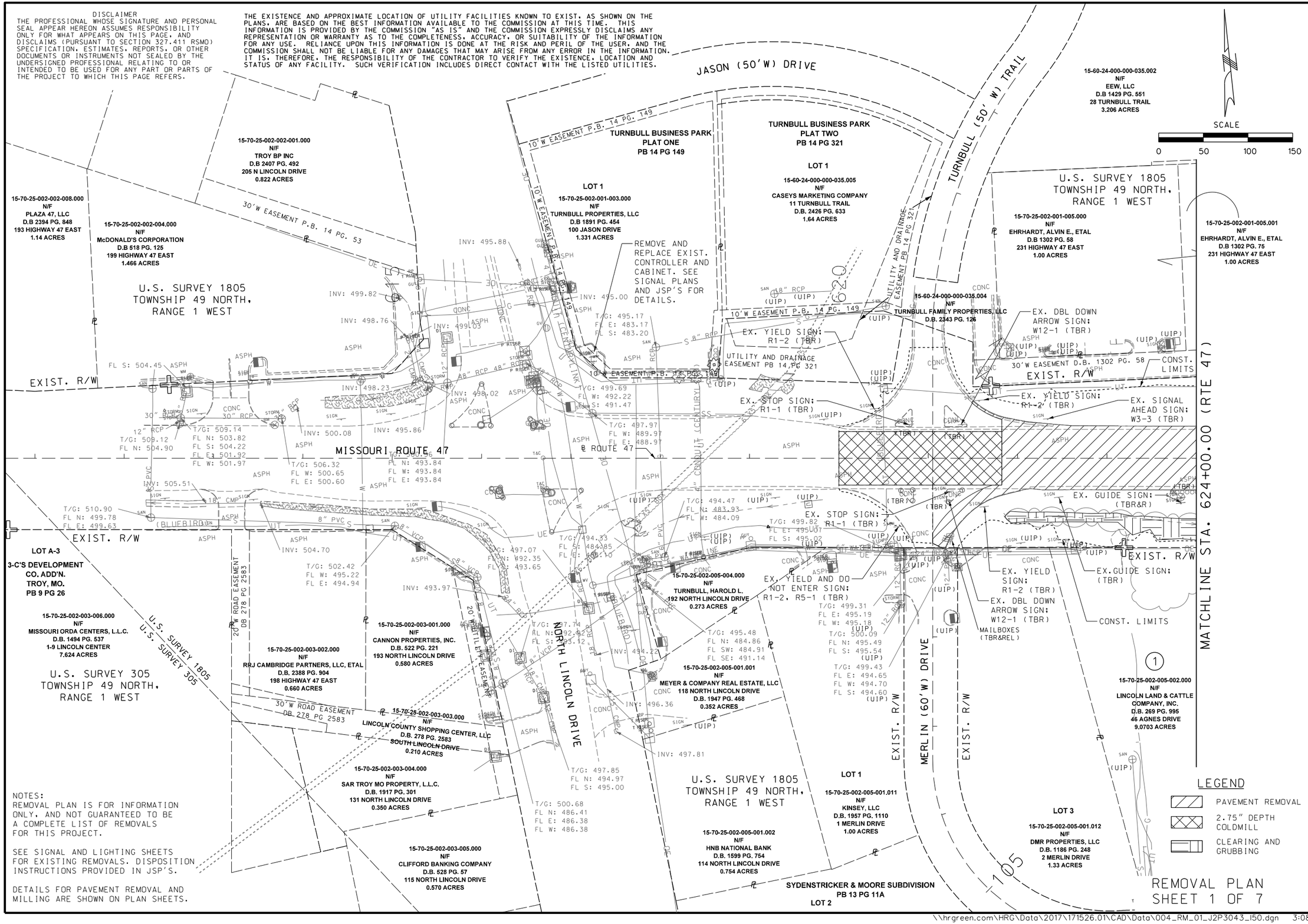

NOTES:
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SEE SIGNAL AND LIGHTING SHEETS FOR EXISTING REMOVALS. DISPOSITION INSTRUCTIONS PROVIDED IN JSP'S.

DETAILS FOR PAVEMENT REMOVAL AND MILLING ARE SHOWN ON PLAN SHEETS.

REMOVAL PLAN
SHEET 1 OF 7

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	4
COUNTY	
LINCOLN	
JOB NO.	
J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

DATE	DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen.

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DETAILS FOR PAVEMENT REMOVAL AND MILLING ARE SHOWN ON PLAN SHEETS.

SEE REMOVAL SHEET 5 FOR INFORMATION REGARDING FRENCHMAN BLUFF ROAD RECONSTRUCTION

SCALE
0 50 100 150

15-70-25-002-001-006.001
N/F
TURNBULL, HAROLD L., & ELSIE W., H/W
WHITSON, MARCY T.
D.B. 2343 PG. 124
0.485 ACRES

15-70-25-002-001-005.001
N/F
EHRHARDT, ALVIN E., ETAL
D.B 1302 PG. 75
231 HIGHWAY 47 EAST
1.00 ACRES

15-70-25-002-001-006.000
N/F
TURNBULL, HAROLD L., & ELSIE TRUST
D.B. 1319 PG. 163
235 HIGHWAY 47 EAST
0.930 ACRES

1
15-70-25-002-005-002.000
N/F
LINCOLN LAND & CATTLE COMPANY, INC.
D.B. 269 PG. 995
46 AGNES DRIVE
9.0703 ACRES

2
15-70-25-001-002-018.000
N/F
TW PROPERTIES, INC.
D.B. 2406 PG. 70
310 HIGHWAY 47 E
3.41 ACRES

LOT 1
15-70-25-001-002-012.000
N/F
CANNON PROPERTIES, INC.
D.B. 542 PG. 193
1011 EAST CHERRY STREET

LOT 2
PROFESSIONAL PARK
PLAT ONE
P.B. 12 PG 40

LOT 3

LOT 4
TROY MANOR
P.B. 5 PG. 75
15-70-25-001-002-017.000
N/F
GRANNEMAN, FRED A., JR. & MARGURITTE A. H/W
D.B. 2421 PG. 681
20 MANOR DRIVE

LOT 5

MISSOURI ROUTE 47
℄ ROUTE 47
℄ RAMP 1
℄ RAMP 2
℄ RAMP 3
℄ RAMP 4
℄ U.S. HWY 61
RAMP 1
RAMP 2
RAMP 3
RAMP 4
EXIST. R/W
NEW R/W
SOUTHBOUND U.S. HIGHWAY 61
NORTHBOUND U.S. HIGHWAY 61
CONST. LIMITS
MATCHLINE STA. 624+00.00 (RTE 47)
MATCHLINE STA. 636+00.00 (RTE 47)
EX. GUIDE SIGN (UIP)
EX. LODGING SIGN (UIP)
EX. FOOD SIGN (UIP)
EX. WRONG WAY SIGNS: R5-1c
EX. HOSPITAL & ARROW SIGN: D9-2, M6-1 (TBR)
EX. DO NOT ENTER SIGN: R5-1 (TBR)
EX. ONE WAY SIGN: R6-1L (TBR)
EX. GUIDE SIGN: M1-4, M1-5 (TBR)
EX. ONE WAY SIGNS: R6-1L, R6-1R (TBR)
EX. GUIDE & ONE WAY SIGN: R6-1L (TBR)
EX. SPEED LIMIT SIGN: R2-1 (TBR)
EX. GUIDE SIGN: M17-9, M3-1, M1-4, M1-5, M5-1L, M6-3 (TBR)
EX. GUIDE SIGN: M17-9, M3-3, M1-4, M6-1, R6-1R (TBR)
EX. GUIDE SIGN AND ONE-WAY SIGN: R6-1L (TBR)
EX. ONE WAY SIGNS: R6-1L (TBR)
EX. DO NOT ENTER SIGNS: R5-1 (TBR)
EX. BRIDGE (TBR)
EX. UNKNOWN WARNING SIGN (TBR)
EX. RIGHT LANE MUST TURN RIGHT SIGN: R3-7R (TBR)
EX. FOOD SIGN (TBR&REL)
EX. FOOD SIGN (UIP)
EX. LODGING SIGN (UIP)
EX. STATE PARK SIGN (REM&REL)
EX. HOSPITAL & RIGHT ARROW SIGN D9-2, M6-1 (TBR)
SIGN (TBR)
EX. GUIDE SIGN (TBR)
EX. STOP SIGN: R1-1 (TBR)
EX. GUIDE SIGN: M4-5, M1-4, M5-1R (TBR)
EX.COMMUTER PARKING SIGN: D4-1R, D4-1P (TBR)
EX. DO NOT BLOCK INTERSECTION SIGN: R10-7 (TBR)
EX. GUIDE SIGN: M1-5, M6-4 (TBR)
EX. GUIDE SIGN: M17-9, M3-1, M1-4, M6-1, R6-1L (TBR)
EX. GUIDE SIGN: (TBR)
EX. STOP SIGN: R1-1 (TBR)
EX. SPEED LIMIT SIGN: R2-1 (TBR)
EX. COMMUTER PARKING SIGN D4-L (TBR)
EX. GUIDE SIGN: M3-1, M1-5 (TBR)
EX. DO NOT ENTER SIGN: R5-1 (TBR)
UIP BOX CULVERT AND EXTEND (SEE BRIDGE SHEETS)
BURIED 50-PR COPPER
BURIED 18-PR COPPER
BURIED 48-FIBER (CENTURYLINK)
(BURIED FIBER)
(GUARDRAIL TBR)
(RIP RAP TBR)
(BUSHES TBR)
(WALL UIP)
(TBRBO)
(TBR&REL)
(UIP)
(TBR)
(UIP) 6" 8" 12" 18" 20" 24" 36"
(UIP) 4" 6" 8" 12" 18" 20" 24" 36"
(TBR) 6" 8" 12" 18" 20" 24" 36"
(TBRBO) 6" 8" 12" 18" 20" 24" 36"
(TBR&REL) 6" 8" 12" 18" 20" 24" 36"
T/G: 485.60
FL W: 481.50
FL E: 481.80
INV. 475.27
INV. 473.45
G: 487.44
FL S: 484.13
FL E: 484.04
T/G: 482.80
FL E: 476.27
FL W: 476.10
INV. 476.73
INV. 474.59
T/G: 491.66
FL W: 484.09
FL S: 484.16
FL SE: 484.60
FL E: 487.41
T/G: 513.63
FL E: 508.79
FL S: 508.74
T/G: 513.60
FL E: 509.17
FL W: 509.14
T/G: 514.36
FL E: 509.64
FL W: 509.55
T/G: 615.31
FL E: 511.53
FL S: 511.45
TOP ELEV: 516.00
FL E: 512.00
FL N: 510.42
FL S: 510.40
T/G: 502.77
FL NW: 491.94
FL NE: 492.18
FL SE: 491.87
FL S: 492.27
T/G: 509.61
FL N: 505.19
FL N: 472.72
FL S: 474.43
FL N: 475.43
FL S: 477.35
U.S. SURVEY 1805
TOWNSHIP 49 NORTH,
RANGE 1 WEST

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LEGEND
PAVEMENT REMOVAL
2.75" DEPTH COLDMILL
CLEARING AND GRUBBING

REMOVAL PLAN
SHEET 2 OF 7

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24933
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	5

COUNTY
LINCOLN
JOB NO.
J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

\\hrgreen.com\HRG\Data\2017\171526.01\CAD\Data\005_RM_02_J2P3043_l50.dgn 3:08:40 PM 10/24/2023

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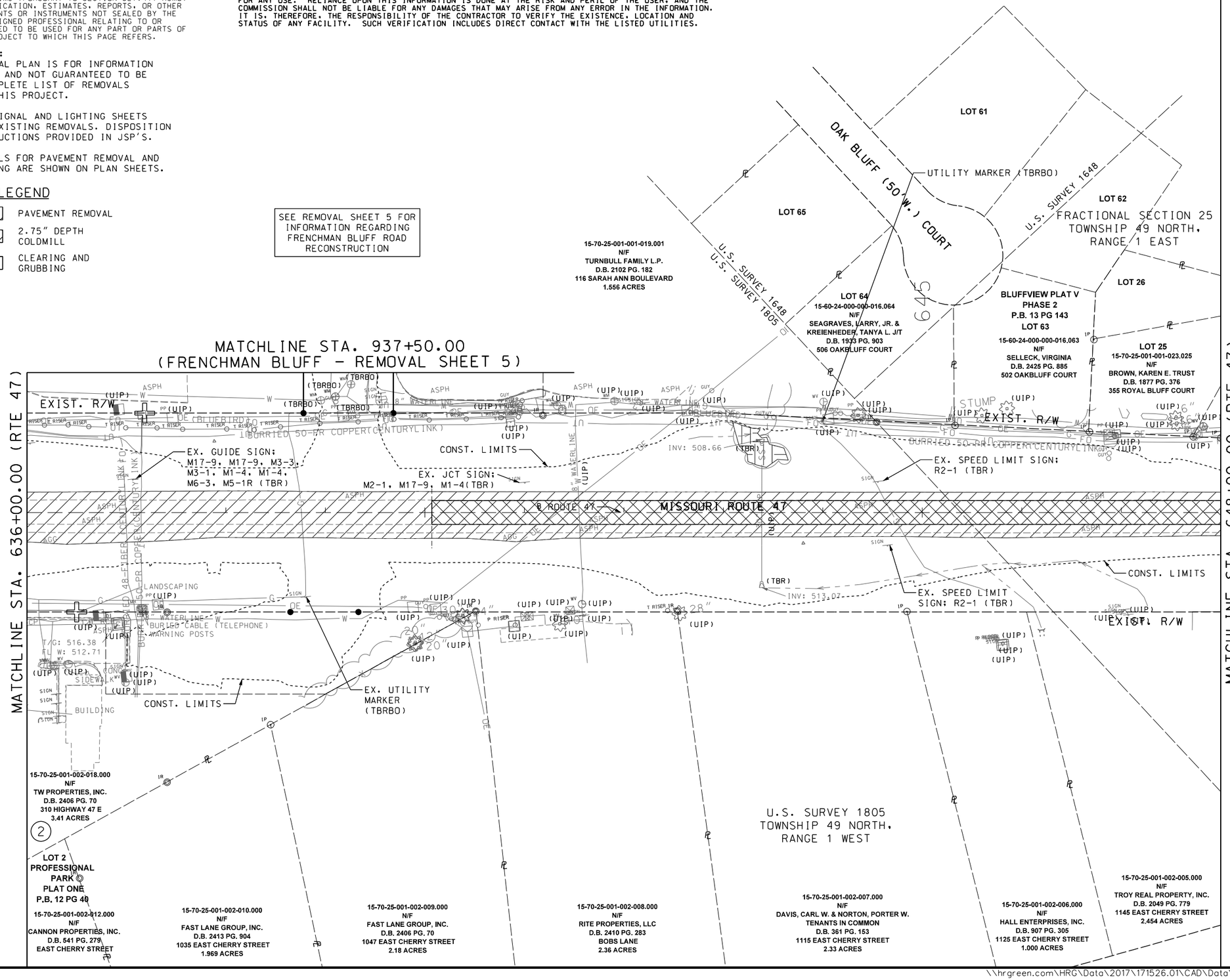
LEGEND

- PAVEMENT REMOVAL
- 2.75" DEPTH COLDMILL
- CLEARING AND GRUBBING

SEE REMOVAL SHEET 5 FOR INFORMATION REGARDING FRENCHMAN BLUFF ROAD RECONSTRUCTION



SCALE
0 50 100 150

REMOVAL PLAN
SHEET 3 OF 7

DANIEL T. SHANE NUMBER E-29833 REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	6

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

\\hrgreen.com\HRG\Data\2017\171526.01\CAD\Data\006_RM_03_J2P3043_150.dgn 3:08:42 PM 10/24/2023

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SEE SIGNAL AND LIGHTING SHEETS FOR EXISTING REMOVALS. DISPOSITION INSTRUCTIONS PROVIDED IN JSP'S.

DETAILS FOR PAVEMENT REMOVAL AND MILLING ARE SHOWN ON PLAN SHEETS.

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LEGEND

- PAVEMENT REMOVAL
- 2.75" DEPTH COLDMILL
- CLEARING AND GRUBBING

SCALE 0 50 100 150

FRACTIONAL SECTION 25
TOWNSHIP 49 NORTH,
RANGE 1 EAST

NW 1/4 NW 1/4 SECTION 30
TOWNSHIP 49 NORTH, RANGE
1 EAST

MATCHLINE STA. 648+00.00 (RTE 47)

ROYAL BLUFF (50'W.) COURT
RIVER BLUFF (50'W.) COURT
BLUFF COURT (50'W.)
BLUFFVIEW (50'W.) DRIVE
EAST CHERRY (100' W.) STREET
MISSOURI ROUTE 47

LOT 21
LOT 22
LOT 23
LOT 24
LOT 16
LOT 15
LOT 14
LOT 8
LOT 7
LOT 6
LOT 2
LOT 1
LOT 31

15-70-25-001-001-023.031
N/F
MILLER DAVID C. & ANDREA S.
D.B. 2383 PG. 957
104 BLUFFVIEW DRIVE

15-70-25-001-001-023.022
N/F
DUNLAP, WILLIAM EDWARD & GLORIA EVELINE LIVING TRUST
D.B. 2416 PG. 519
330 ROYAL BLUFF COURT

15-70-25-001-001-023.024
N/F
BLAYLOCK, CHANTE N.
D.B. 2161 PG. 479
350 ROYAL BLUFF COURT

15-70-25-001-001-023.023
N/F
BROYLES, CYNTHIA G.
D.B. 2043 PG. 37
340 ROYAL BLUFF COURT

15-70-25-001-001-023.016
N/F
DAVIS, SHARON E. TRUST
D.B. 2052 PG. 316
225 RIVER BLUFF COURT

15-70-25-001-001-023.015
N/F
DIETZ, DOUGLAS L. & TANYA J. H/W
D.B. 2397 PG. 954
235 RIVER BLUFF COURT

VILLAS OF BLUFFVIEW
P.B. 13 PG. 142

15-70-25-001-001-023.014
N/F
MOORE, MERLIN & SANDRA TRUST
D.B. 2049 PG. 372
230 RIVER BLUFF COURT

15-70-25-001-001-023.008
N/F
CANNON BUILDERS, INC.
D.B. 1657 PG. 753
125 BLUFF COURT

15-70-25-001-001-023.007
N/F
CANNON BUILDERS, INC.
D.B. 1657 PG. 753
135 BLUFF COURT

15-70-25-001-001-023.006
N/F
CANNON BUILDERS, INC.
D.B. 1648 PG. 825
130 BLUFF COURT

15-70-25-001-001-023.002
N/F
CANNON BUILDERS, INC.
D.B. 1642 PG. 101
109 BLUFFVIEW DRIVE

15-70-25-001-001-023.001
N/F
CANNON BUILDERS, INC.
D.B. 1642 PG. 101
105 BLUFFVIEW DRIVE

END FULL DEPTH WIDENING LT
STA. 658+45.84

MILL & OVERLAY
STA. 658+45.84 TO STA. 667+00.00
(SEE TYPICAL SECTIONS)

EXIST. R/W

CONST. LIMITS

EX. SPEED LIMIT SIGN: R2-1 (TBR)

REMOVE (STREET NAME SIGN) AND COMBINE WITH PROP STOP SIGN
EX. ADOPT-A-HIGHWAY SIGN: I9-1a (TBR)

EX. HOSPITAL & RIGHT TURN SIGN: D9-2, M5-1R (TBR)

EX. HOSPITAL & RIGHT TURN SIGN: D9-2, M6-1 (TBR)

INV: 512.56
INV: 510.96
INV: 510.84
INV: 508.81
INV: 518.75
T/G: 524.52

FRACTIONAL SECTION 25
TOWNSHIP 49 NORTH,
RANGE 1 EAST

15-70-25-001-002-001.000
N/F
LINCOLN COUNTY MEDICAL CENTER
D.B. 2386 PG. 26
1177 EAST CHERRY STREET
0.610 ACRES

15-70-25-001-002-002.000
N/F
REINKER, DALE L. & JOAN A.
REVOCABLE TRUST AGREEMENT
D.B. 2130 PG. 962
1175 EAST CHERRY STREET
0.50 ACRES

15-70-25-001-002-003.000
N/F
GATEWAY RESOURCE MANAGEMENT, LLC
D.B. 1717 PG. 810
1169 EAST CHERRY STREET
0.493 ACRES

15-70-25-001-002-004.000
N/F
LEON LINCOLN SQUARES, LLC ETAL
D.B. 2325 PG. 379
EAST CHERRY STREET
1.00 ACRES

15-70-25-001-002-005.000
N/F
TROY REAL PROPERTY, INC.
D.B. 2049 PG. 779
1145 EAST CHERRY STREET
2.454 ACRES

15-70-25-001-003-013.000
N/F
KRUMWIEDE, LARRY & LILLIAN ANN
REVOCABLE TRUST AGREEMENT
D.B. 1891 PG. 684
1188 EAST CHERRY STREET
0.732 ACRES

15-70-25-001-003-014.000
N/F
KRUMWIEDE, LARRY & LILLIAN ANN
REVOCABLE TRUST AGREEMENT
D.B. 1891 PG. 684
1188 EAST CHERRY STREET
1.00 ACRES

14-90-30-000-000-016.000
N/F
HAMMETT, ROGER D. & HOLLY H/W
D.B. 286 PG. 1292
1194 EAST HIGHWAY 47
8.236 ACRES

U.S. SURVEY 1805
TOWNSHIP 49 NORTH,
RANGE 1 WEST

FIFTH PRINCIPAL MERIDIAN
RANGE 1 WEST
RANGE 1 EAST

NW 1/4 NW 1/4 SECTION 30
TOWNSHIP 49 NORTH, RANGE
1 EAST

REMOVAL PLAN
SHEET 4 OF 7

STATE OF MISSOURI
DANIEL T. SHANE NUMBER
E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	7

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

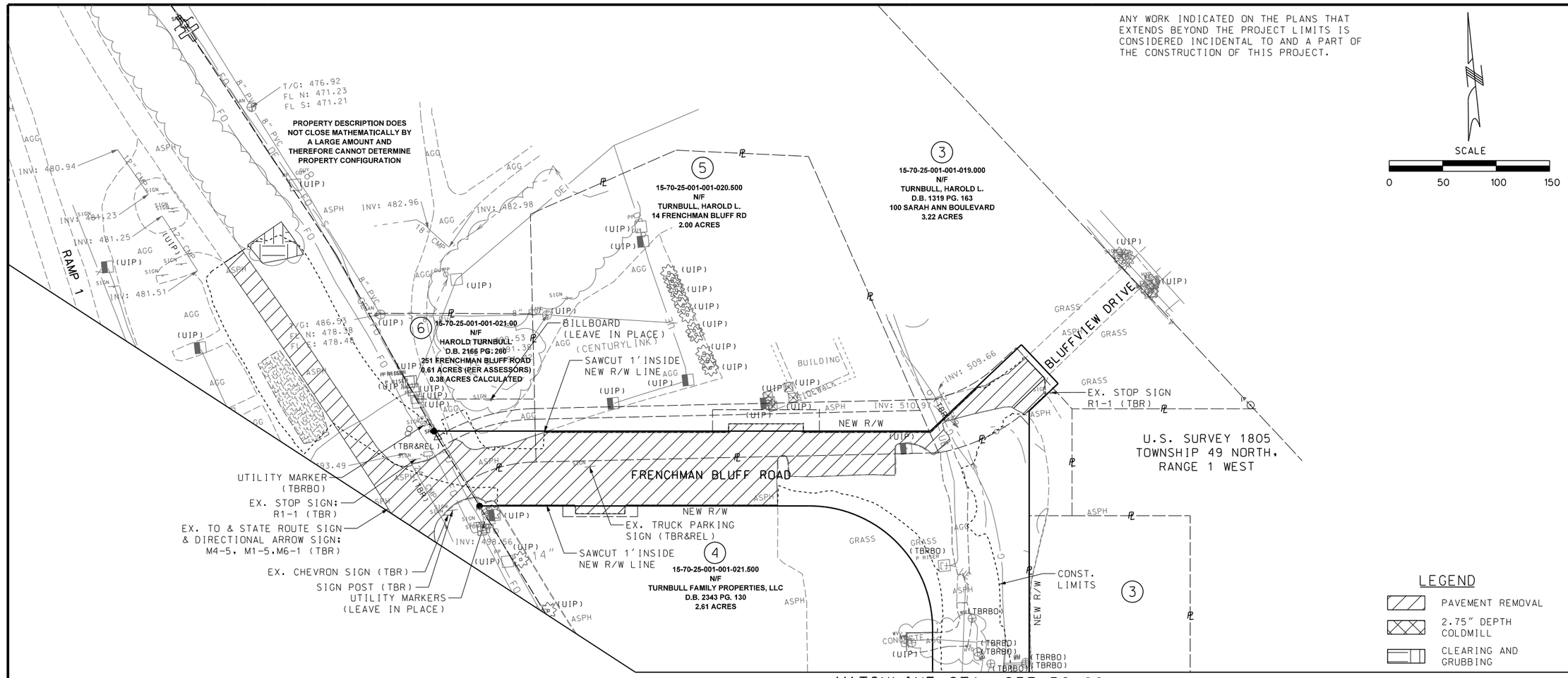
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

\\hrgreen.com\HRG\Data\2017\171526.01\CAD\Data\007_RM_04_J2P3043_I50.dgn 3:08:43 PM 10/24/2023

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.



MATCHLINE STA. 937+50.00
(FRENCHMAN BLUFF - PLAN SHEET 3)

SCALE
0 50 100 150

LEGEND
- PAVEMENT REMOVAL
- 2.75" DEPTH COLDMILL
- CLEARING AND GRUBBING

NOTES:
REMOVAL PLAN IS FOR INFORMATION ONLY, AND NOT GUARANTEED TO BE A COMPLETE LIST OF REMOVALS FOR THIS PROJECT.

SEE SIGNAL AND LIGHTING SHEETS FOR EXISTING REMOVALS. DISPOSITION INSTRUCTIONS PROVIDED IN JSP'S.

DETAILS FOR PAVEMENT REMOVAL AND MILLING ARE SHOWN ON PLAN SHEETS.

SEE REMOVAL SHEETS 1-4 FOR INFORMATION REGARDING ROUTE 47 RECONSTRUCTION

DISCLAIMER
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REMOVAL PLAN
SHEET 5 OF 7

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-21833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	8

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DATE	DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

15-60-24-000-000-006.000
N/F
VIRGINIA K. & MARK A. REESE H/W
DB 2387 PG 68
2.90 ACRES +/-

7 15-60-24-000-000-003.000
TRACT NO. 1
N/F
HAROLD L. & ELSIE W. TURNBULL, TRUSTEES OF THE HAROLD L. TURNBULL & ELSIE W. TURNBULL REVOCABLE LIVING TRUST 8-21-1998
DB 2138 PG 255
53.9 ACRES +/- PER ASSESSORS

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

LEGEND
- PAVEMENT REMOVAL
- 2.75" DEPTH COLDMILL
- CLEARING AND GRUBBING

SCALE 0 50 100 150

NOTES:
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EXIST. R/W
R/W LINE
CONST. LIMITS
U.S. 61 EAST OUTER ROAD
OBJECT MARKER SIGNS (TBR)
TEMPORARY CONST. EASEMENT 25' WIDTH (TRACT 1)
TEMPORARY CONST. EASEMENT 10' WIDTH
TEMPORARY CONST. EASEMENT 10' WIDTH (TRACT 2)
NORTH LINE U.S. SURVEY 1648 SOUTH LINE OF THE N. HALF OF THE N.W. 1/4 SECTION 24, T. 49 N., R. 1 W.
MATCHLINE STA. 896+00.00 (U.S. HIGHWAY 61)
NORTHBOUND U.S. HIGHWAY 61
℄ U.S. HWY 61

15-60-24-000-000-010.000
TRACT NO. 1
N/F
HAROLD L. & ELSIE W. TURNBULL, TRUSTEES OF THE HAROLD L. TURNBULL & ELSIE W. TURNBULL REVOCABLE LIVING TRUST 8-21-1998
(LEASE PARCEL)
DB 2138 PG 255
8.53 ACRES +/- PER DEED

15-60-24-000-000-013.000
N/F
TROY MOTORS, INC. UNDIVIDED 1 / 2 INTEREST
CECIL & BARBARA C. HUPPER H/W
UNDIVIDED 1 / 2 INTEREST
DB 272 PG 295
21.11 ACRES +/-

ALL VEGETATION WITHIN CONSTRUCTION LIMITS TBR

TEMPORARY CONST. EASEMENT 10' WIDTH
PERMANENT DRAINAGE EASEMENT 40' WIDTH
COUNTY ROAD 658
SPEED LIMIT SIGN (UIP)
EX. RECYCLE SIGN (TBR) (UIP)
NEW R/W
CONST. LIMITS
U.S. 61 EAST OUTER ROAD
MATCHLINE STA. 896+00.00 (U.S. HIGHWAY 61)
NORTHBOUND U.S. HIGHWAY 61
SOUTHBOUND U.S. HIGHWAY 61
℄ U.S. HWY 61
7' SIDE X 6' TALL BOX CULVERT (UIP)

REMOVAL PLAN
SHEET 6 OF 7

DANIEL T. SHANE NUMBER E-29833 — STATE OF MISSOURI — REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	9
COUNTY	
LINCOLN	
JOB NO.	
J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

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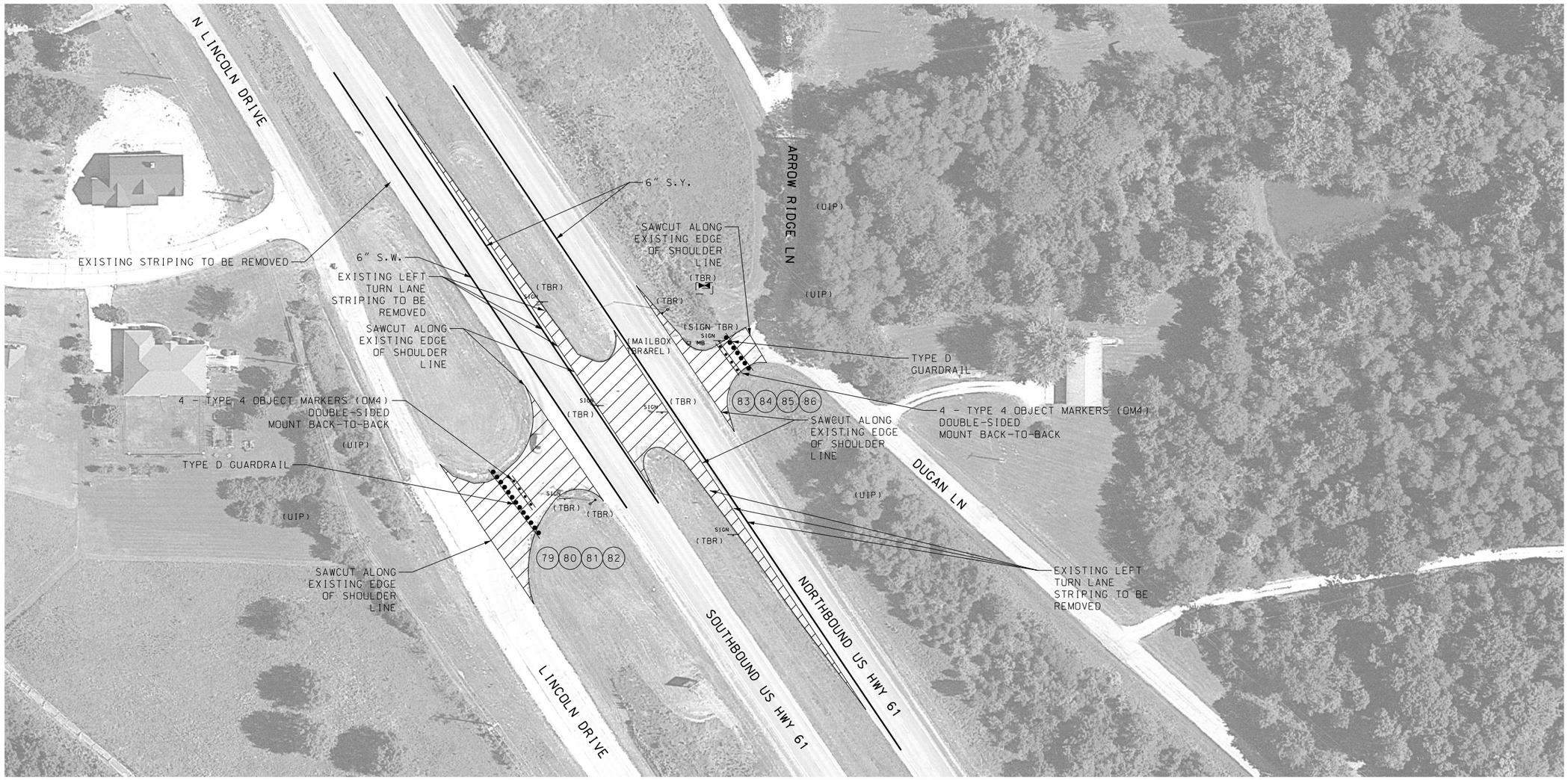
SCALE
0 50 100 150



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SEE REMOVAL SHEETS 1-4 FOR INFORMATION REGARDING ROUTE 47 RECONSTRUCTION

NOTES:
ALL PAVEMENT MARKINGS TO BE HIGH BUILD WATERBORNE PAINT WITH TYPE L BEADS UNLESS NOTED OTHERWISE.

SEE SIGNING SHEETS FOR EXISTING SIGN REMOVALS AND OBJECT MARKER QUANTITIES.

SEE MODOT STANDARD PLAN 903.03BR FOR ADDITIONAL INSTALLATION DETAILS.

THE GRADING REQUIRED AFTER REMOVAL OF AT-GRADE CROSSING IS PAID FOR AS LINEAR GRADING CLASS 1.

LEGEND
PAVEMENT REMOVAL
S.W. - SOLID WHITE
S.Y. - SOLID YELLOW

N. LINCOLN AT-GRADE CROSSING REMOVAL PLAN
SHEET 7 OF 7

STATE OF MISSOURI
DANIEL T. SHANE
NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	10

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DATE	DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
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CORPORATE LICENSE #2002006608
HRGreen

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FOUND 3" PIPE WITH ALUMINUM CAP FOR THE CLOSING CORNER ON THE EAST LINE OF S23,T49N,R1W AND THE INTERSECTION OF THE NORTH LINE OF U.S. SURVEY 1805 DOC# 600-44675, 02/23/1990
SAID CORNER LIES N17°34'54"W, 4206.76' FROM EXISTING ROUTE 47 CENTERLINE STA. 619+00.00
BEGIN PROJECT LIMIT

JASON (50'W) DRIVE

TURNBULL (50' W) TRAIL

SCALE
0 50 100 150

15-70-25-002-002-001.000
N/F
TROY BP INC
D.B 2407 PG. 492
205 N LINCOLN DRIVE
0.822 ACRES

15-70-25-002-002-008.000
N/F
PLAZA 47, LLC
D.B 2394 PG. 848
193 HIGHWAY 47 EAST
1.14 ACRES

15-70-25-002-002-004.000
N/F
McDONALD'S CORPORATION
D.B 518 PG. 125
199 HIGHWAY 47 EAST
1.466 ACRES

U.S. SURVEY 1805
TOWNSHIP 49 NORTH,
RANGE 1 WEST

TURNBULL BUSINESS PARK
PLAT ONE
PB 14 PG 149

LOT 1
15-70-25-002-001-003.000
N/F
TURNBULL PROPERTIES, LLC
D.B 1891 PG. 454
100 JASON DRIVE
1.331 ACRES

TURNBULL BUSINESS PARK
PLAT TWO
PB 14 PG 321

LOT 1
15-60-24-000-000-035.005
N/F
CASEYS MARKETING COMPANY
11 TURNBULL TRAIL
D.B. 2426 PG. 633
1.64 ACRES

15-60-24-000-000-035.002
N/F
EEW, LLC
D.B 1429 PG. 551
28 TURNBULL TRAIL
3.206 ACRES

15-70-25-002-001-005.000
N/F
EHRHARDT, ALVIN E., ETAL
D.B 1302 PG. 58
231 HIGHWAY 47 EAST
1.00 ACRES

15-70-25-002-001-005.001
N/F
EHRHARDT, ALVIN E., ETAL
D.B 1302 PG. 75
231 HIGHWAY 47 EAST
1.00 ACRES

15-60-24-000-000-035.004
N/F
TURNBULL FAMILY PROPERTIES, LLC
D.B. 2343 PG. 126

10' W EASEMENT P.B. 14 PG. 149
30' W EASEMENT P.B. 14 PG. 53
UTILITY AND DRAINAGE EASEMENT PB 14 PG 321
30' W EASEMENT D.B. 1302 PG. 58
EXIST. R/W
CONST. LIMITS

MISSOURI ROUTE 47
℄ ROUTE 47
℄ ROUTE 47 SB
℄ ROUTE 47 NB

5' W. SIDEWALK
TYPE B CURB AND GUTTER
FULL DEPTH SAWCUT

1-1 FES
1-2 T
3-2 T
4-2 T
3-1 FES
4-1 FES

BEGIN PROJECT LIMIT STA. 619+00.00
BEGIN MILL & OVERLAY STA. 620+00.00
BEGIN RECONSTRUCTION STA. 621+82.27
MATCHLINE STA. 624+00.00

SEE NEXT SHEET FOR EASEMENT INFORMATION

LOT A-3
3-C'S DEVELOPMENT CO. ADD'N.
TROY, MO.
PB 9 PG 26

15-70-25-002-003-006.000
N/F
MISSOURI ORDA CENTERS, L.L.C.
D.B. 1494 PG. 537
1-9 LINCOLN CENTER
7.624 ACRES

U.S. SURVEY 305
TOWNSHIP 49 NORTH,
RANGE 1 WEST

U.S. SURVEY 1805
U.S. SURVEY 305

30' ROAD EASEMENT DB 278 PG 2583
20' MISSOURI ELECTRIC EASEMENT

15-70-25-002-003-002.000
N/F
RRJ CAMBRIDGE PARTNERS, LLC, ETAL
D.B. 2388 PG. 904
198 HIGHWAY 47 EAST
0.660 ACRES

15-70-25-002-003-001.000
N/F
CANNON PROPERTIES, INC.
D.B. 522 PG. 221
193 NORTH LINCOLN DRIVE
0.580 ACRES

15-70-25-002-003-003.000
N/F
LINCOLN COUNTY SHOPPING CENTER, LLC
D.B. 278 PG. 2583
SOUTH LINCOLN DRIVE
0.210 ACRES

15-70-25-002-003-004.000
N/F
SAR TROY MO PROPERTY, L.L.C.
D.B. 1917 PG. 301
131 NORTH LINCOLN DRIVE
0.350 ACRES

15-70-25-002-003-005.000
N/F
CLIFFORD BANKING COMPANY
D.B. 528 PG. 57
115 NORTH LINCOLN DRIVE
0.570 ACRES

NORTH LINCOLN DRIVE

15-70-25-002-005-004.000
N/F
TURNBULL, HAROLD L.
192 NORTH LINCOLN DRIVE
0.273 ACRES

15-70-25-002-005-001.001
N/F
MEYER & COMPANY REAL ESTATE, LLC
118 NORTH LINCOLN DRIVE
D.B. 1947 PG. 468
0.352 ACRES

U.S. SURVEY 1805
TOWNSHIP 49 NORTH,
RANGE 1 WEST

15-70-25-002-005-001.002
N/F
HNB NATIONAL BANK
D.B. 1599 PG. 754
114 NORTH LINCOLN DRIVE
0.754 ACRES

SYDENSTRICKER & MOORE SUBDIVISION
PB 13 PG 11A
LOT 2

LOT 1
15-70-25-002-005-001.011
N/F
KINSEY, LLC
D.B. 1957 PG. 1110
1 MERLIN DRIVE
1.00 ACRES

MERLIN (60'W) DRIVE

LOT 3
15-70-25-002-005-001.012
N/F
DMR PROPERTIES, LLC
D.B. 1186 PG. 248
2 MERLIN DRIVE
1.33 ACRES

15-70-25-002-005-002.000
N/F
LINCOLN LAND & CATTLE COMPANY, INC.
D.B. 269 PG. 995
46 AGNES DRIVE
9.0703 ACRES

EXIST. R/W

LEGEND
NEW PAVEMENT
8" RAISED CONCRETE MEDIAN

NOTES:
SEE COORDINATE POINTS SHEETS FOR ALIGNMENT INFORMATION.

ALL STATIONS GIVEN ALONG ROUTE 47 BASELINE UNLESS OTHERWISE NOTED.

ALL BEARINGS SHOWN ARE STATE PLANE BEARINGS, EASTERN ZONE.

RIGHT OF WAY LIMITS FOR THIS PROJECT EXTEND FROM ROUTE 47 STA. 624+35.66 TO STA. 640+48.98, A DISTANCE OF 0.306 MILES, AND FROM US 61 STA. 885+54.30 TO STA. 904+19.18, A DISTANCE OF 0.353 MILES.

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

PLAN SHEET
SHEET 1 OF 5

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE NUMBER E-29833

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	11
COUNTY	
LINCOLN	
JOB NO.	
J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

DISCLAIMER
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

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SEE PLAN SHEET 5 FOR INFORMATION REGARDING FRENCHMAN BLUFF ROAD RECONSTRUCTION

10 BEGIN TYPE D BARRIER 0+72.32 RAMP1LT
11 END TYPE D BARRIER 2+13.56 RAMP1LT
12 BEGIN MGS GR 11+49.10 RAMP3
13 END MGS GR 12+73.32 RAMP3
14 BEGIN TYPE D BARRIER 0+96.26 RAMP3LT
15 END TYPE D BARRIER 1+86.15 RAMP3LT
16 BEGIN MGS GR PEIR PROTECTION 932+17.06 HWY61
17 END MGS GR PIER PROTECTION 933+97.57 HWY61
18 BEGIN MGS GR 11+82.50 RAMP3
19 END MGS GR 12+32.49 RAMP3

SCALE
0 50 100 150

NOTES:
SEE COORDINATE POINTS SHEETS FOR ALIGNMENT INFORMATION.

SEE INTERSECTION DETAIL SHEETS FOR CROSSOVER AND CONCRETE MEDIAN DETAILS.

SEE SPECIAL SHEETS FOR TYPE D BARRIER DETAILS

ALL STATIONS GIVEN ALONG ROUTE 47 BASELINE UNLESS OTHERWISE NOTED.

ALL BEARINGS SHOWN ARE STATE PLANE BEARINGS. EASTERN ZONE.

MGS = MIDWEST GUARDRAIL SYSTEM
MASH = AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (2009)
CET = CRASHWORTHY END TERMINAL

1 BEGIN APPROACH PVMT 628+07.78 RTE47 105+17.60 RTE47NB 205+17.67 RTE47SB
2 END APPROACH PVMT BEGIN APPROACH SLAB 628+26.86 RTE47 105+34.30 RTE47NB 205+39.31 RTE47SB
3 END APPROACH SLAB BEGIN APPROACH PVMT 631+07.36 RTE47 108+15.50 RTE47NB 208+19.75 RTE47SB
4 END APPROACH PVMT 631+26.67 RTE47 108+37.08 RTE47NB 208+37.14 RTE47SB
5 BEGIN MGS GR 624+88.64 RTE47
6 END MGS GR 626+48.31 RTE47
7 END MGS GR 11+99.62 RAMP2
8 BEGIN TYPE D BARRIER 0+00.00 RAMP2LT
9 END TYPE D BARRIER 1+43.40 RAMP2LT

LEGEND
NEW PAVEMENT
8" RAISED CONCRETE MEDIAN
ROCK FILL SEE SPECIAL SHEET
CONCRETE APPROACH PAVEMENT

PLAN SHEET
SHEET 2 OF 5

15-70-25-002-001-006.001
N/F
TURNBULL, HAROLD L., & ELSIE W., H/W
WHITSON, MARCY T.
D.B. 2343 PG. 124
0.485 ACRES

15-70-25-002-001-005.001
N/F
EHRHARDT, ALVIN E., ETAL
D.B 1302 PG. 75
231 HIGHWAY 47 EAST
1.00 ACRES

15-70-25-002-001-005.000
N/F
TURNBULL, HAROLD L., & ELSIE TRUST
D.B. 1319 PG. 163
235 HIGHWAY 47 EAST
0.930 ACRES

1
15-70-25-002-005-002.000
N/F
LINCOLN LAND & CATTLE COMPANY, INC.
D.B. 269 PG. 995
46 AGNES DRIVE
9.0703 ACRES

2
15-70-25-001-002-018.000
N/F
TW PROPERTIES, INC.
D.B. 2406 PG. 70
310 HIGHWAY 47 E
3.41 ACRES

LOT 1
15-70-25-001-002-012.000
N/F
CANNON PROPERTIES, INC.
D.B. 542 PG. 193
1011 EAST CHERRY STREET

LOT 2
PROFESSIONAL PARK PLAT ONE
P.B. 12 PG 40

LOT 3

LOT 4
TROY MANOR
P.B. 5 PG. 75
15-70-25-001-002-017.000
N/F
GRANNEMAN, FRED A., JR. & MARGURITTE A. H/W
D.B. 2421 PG. 681
20 MANOR DRIVE

LOT 5

U.S. SURVEY 1805
TOWNSHIP 49 NORTH,
RANGE 1 WEST

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STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	12

COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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

DATE	DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

\\hrgreen.com\HRG\Data\2017\171526.01\CAD\Data\012_PL_02_J2P3043_150.dgn 3:09:02 PM 10/24/2023

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NOTES:
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ALL STATIONS GIVEN ALONG ROUTE 47 BASELINE UNLESS OTHERWISE NOTED.

ALL BEARINGS SHOWN ARE STATE PLANE BEARINGS, EASTERN ZONE.

LEGEND

NEW PAVEMENT

ROCK BLANKET (2' THICK, TYP.)

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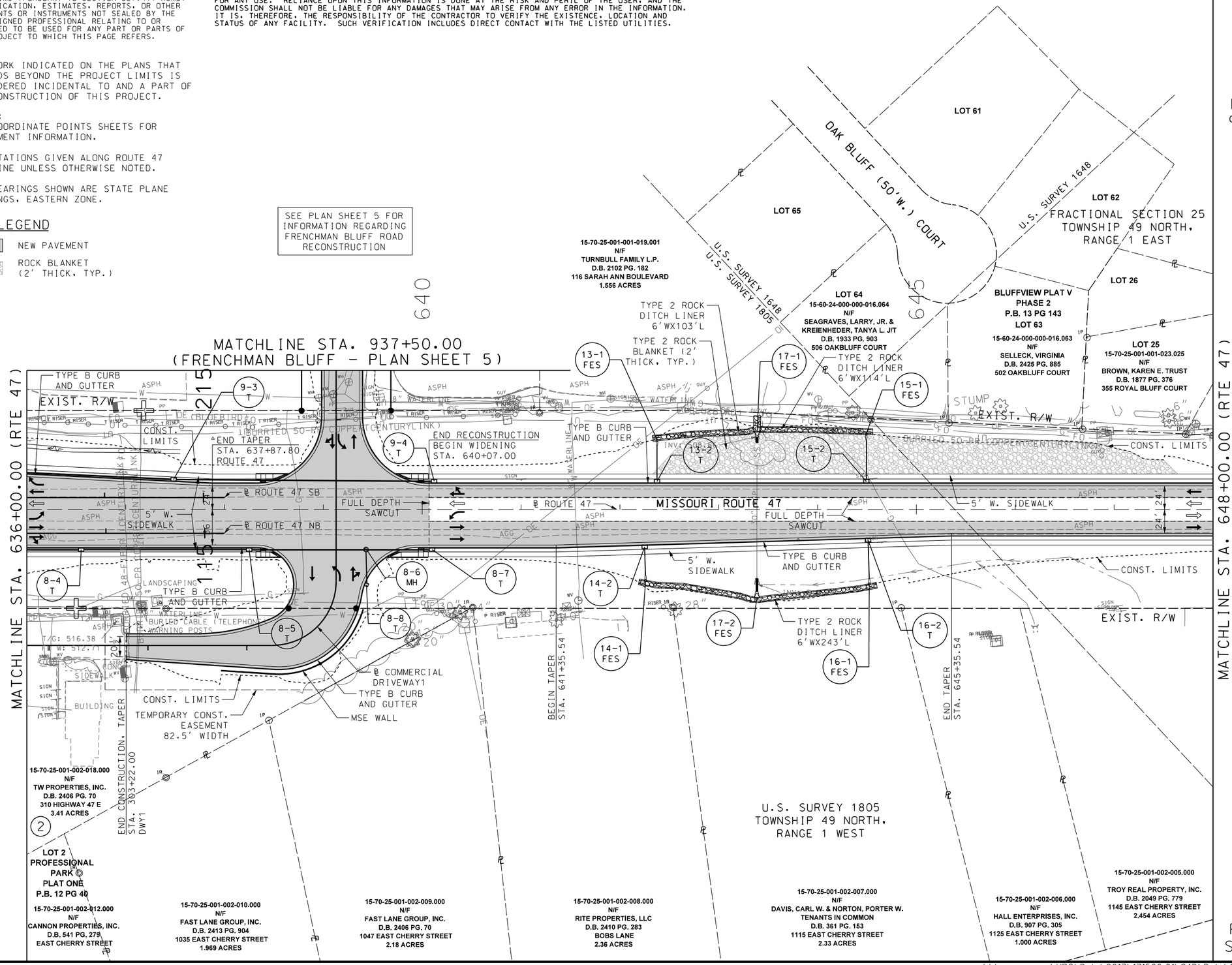
SEE PLAN SHEET 5 FOR INFORMATION REGARDING FRENCHMAN BLUFF ROAD RECONSTRUCTION



SCALE
0 50 100 150

PLAN SHEET
SHEET 3 OF 5

DANIEL T. SHANE NUMBER E-29833 REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	13

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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LEGEND
- NEW PAVEMENT
- 8" RAISED CONCRETE MEDIAN
- ROCK BLANKET (2' THICK, TYP.)

FOUND 3" PIPE WITH ALUMINUM CAP FOR THE CLOSING CORNER ON THE EAST LINE OF S23.T49N.R1W AND THE INTERSECTION OF THE NORTH LINE OF U.S. SURVEY 1805 DOC# 600-46675, 02/23/1990

SAID CORNER LIES N50°17'59"W, 6951.054' FROM EXISTING ROUTE 47 CENTERLINE STA. 660+00.00 END PROJECT LIMIT

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

FRACTIONAL SECTION 25
TOWNSHIP 49 NORTH,
RANGE 1 EAST

NW 1/4 NW 1/4 SECTION 30
TOWNSHIP 49 NORTH, RANGE
1 EAST

SCALE
0 50 100 150

MATCHLINE STA. 648+00.00 (RTE 47)

ROYAL BLUFF (50'W.) COURT
RIVER BLUFF (50'W.) COURT
BLUFF COURT (50'W.)
BLUFFVIEW (50'W.) DRIVE
NEW R/W
650
655
660

LOT 21
LOT 22
15-70-25-001-001-023.022
N/F
DUNLAP, WILLIAM EDWARD &
GLORIA EVELINE LIVING TRUST
D.B. 2416 PG. 519
330 ROYAL BLUFF COURT
LOT 23
15-70-25-001-001-023.023
N/F
BROYLES, CYNTHIA G.
D.B. 2043 PG. 37
340 ROYAL BLUFF COURT
LOT 24
15-70-25-001-001-023.024
N/F
BLAYLOCK, CHANTE N.
D.B. 2161 PG. 479
350 ROYAL BLUFF COURT
LOT 16
15-70-25-001-001-023.016
N/F
DAVIS, SHARON E. TRUST
D.B. 2052 PG. 316
225 RIVER BLUFF COURT
LOT 15
15-70-25-001-001-023.015
N/F
DIETZ, DOUGLAS L. & TANYA J. H/W
D.B. 2397 PG. 954
235 RIVER BLUFF COURT
VILLAS OF BLUFFVIEW
P.B. 13 PG. 142
LOT 14
15-70-25-001-001-023.014
N/F
MOORE, MERLIN & SANDRA TRUST
D.B. 2049 PG. 372
230 RIVER BLUFF COURT
15-70-25-001-001-023.008
N/F
CANNON BUILDERS, INC.
D.B. 1657 PG. 753
125 BLUFF COURT
LOT 8
LOT 7
15-70-25-001-001-023.007
N/F
CANNON BUILDERS, INC.
D.B. 1657 PG. 753
135 BLUFF COURT
LOT 6
15-70-25-001-001-023.006
N/F
CANNON BUILDERS, INC.
D.B. 1648 PG. 825
130 BLUFF COURT
15-70-25-001-001-023.002
N/F
CANNON BUILDERS, INC.
D.B. 1642 PG. 101
109 BLUFFVIEW DRIVE
LOT 2
LOT 1
15-70-25-001-001-023.001
N/F
CANNON BUILDERS, INC.
D.B. 1642 PG. 101
105 BLUFFVIEW DRIVE
LOT 31
15-70-25-001-001-023.031
N/F
MILLER DAVID C. & ANDREA S.
D.B. 2383 PG. 957
104 BLUFFVIEW DRIVE

EXIST. ROW
EXIST. R/W
BLUEBIRD
TYPE B CURB AND GUTTER
5' W. SIDEWALK
CONST. LIMITS
FULL DEPTH SAWCUT
MISSOURI ROUTE 47
BEGIN TAPER STA. 651+29.44
END TAPER STA. 655+29.44
END FULL DEPTH WIDENING RT STA. 657+54.16
END FULL DEPTH WIDENING LT STA. 658+45.84
MILL & OVERLAY STA. 658+45.84 TO STA. 667+00.00 (SEE TYPICAL SECTIONS)
PC STA 660+63.45
END PROJECT LIMIT STA. 660+00.00
EX.FES
INV: 512.56
INV: 510.96
INV: 510.84
INV: 508.81
INV: 518.75
T/G: 524.52
18" CMP
36" RCP
15" CMP
STUMP
CONC
AGG
SIGN
ASPH
19-1 FES
19-2 T
19-3 T
19-4 T
19-5 T
19-6 E
18-1 MH
18-2 T
18-3 T
18-4 T
18-5 T

15-70-25-001-002-001.000
N/F
LINCOLN COUNTY MEDICAL CENTER
D.B. 2386 PG. 26
1177 EAST CHERRY STREET
0.610 ACRES

15-70-25-001-002-002.000
N/F
REINKER, DALE L. & JOAN A.
REVOCABLE TRUST AGREEMENT
D.B. 2130 PG. 962
1175 EAST CHERRY STREET
0.50 ACRES

15-70-25-001-002-003.000
N/F
GATEWAY RESOURCE
MANAGEMENT, LLC
D.B. 1717 PG. 810
1169 EAST CHERRY STREET
0.493 ACRES

FRACTIONAL SECTION 25
TOWNSHIP 49 NORTH,
RANGE 1 EAST

15-70-25-001-002-004.000
N/F
LEON LINCOLN SQUARES, LLC ETAL
D.B. 2325 PG. 379
EAST CHERRY STREET
1.00 ACRES

15-70-25-001-002-005.000
N/F
TROY REAL PROPERTY, INC.
D.B. 2049 PG. 779
1145 EAST CHERRY STREET
2.454 ACRES

EAST CHERRY (100' W.) STREET

15-70-25-001-003-013.000
N/F
KRUMWIEDE, LARRY & LILLIAN ANN
REVOCABLE TRUST AGREEMENT
D.B. 1891 PG. 684
1188 EAST CHERRY STREET
0.732 ACRES

15-70-25-001-003-014.000
N/F
KRUMWIEDE, LARRY & LILLIAN ANN
REVOCABLE TRUST AGREEMENT
D.B. 1891 PG. 684
1188 EAST CHERRY STREET
1.00 ACRES

14-90-30-000-000-016.000
N/F
HAMMETT, ROGER D. & HOLLY H/W
D.B. 286 PG. 1292
1194 EAST HIGHWAY 47
8.236 ACRES

NW 1/4 NW 1/4 SECTION 30
TOWNSHIP 49 NORTH, RANGE
1 EAST

FIFTH PRINCIPAL MERIDIAN
RANGE 1 WEST
RANGE 1 EAST

U.S. SURVEY 1805
TOWNSHIP 49 NORTH,
RANGE 1 WEST

NOTES:
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CURVE RTE47_3
PI 664+58.14
PC 660+63.45
PT 668+47.89
Δ 15° 41' 49.1" (LT)
D 2° 00' 03.7"
L 784.44'
T 394.69'
R 2,863.30'

PLAN SHEET
SHEET 4 OF 5

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE NUMBER E-29833

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	14

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

SCALE
0 50 100 150

PROPERTY DESCRIPTION DOES NOT CLOSE MATHEMATICALLY BY A LARGE AMOUNT AND THEREFORE CANNOT DETERMINE PROPERTY CONFIGURATION

5
15-70-25-001-001-020.500
N/F
TURNBULL, HAROLD L.
14 FRENCHMAN BLUFF RD
2.00 ACRES

3
15-70-25-001-001-019.000
N/F
TURNBULL, HAROLD L.
D.B. 1319 PG. 163
100 SARAH ANN BOULEVARD
3.22 ACRES

6
15-70-25-001-001-021.00
N/F
HAROLD TURNBULL
D.B. 2166 PG: 280
251 FRENCHMAN BLUFF ROAD
0.61 ACRES (PER ASSESSORS)
0.38 ACRES CALCULATED

4
15-70-25-001-001-021.500
N/F
TURNBULL FAMILY PROPERTIES, LLC
D.B. 2343 PG. 130
2.61 ACRES

RAMP 1
BEGIN RECONSTRUCTION STA. 928+50.00 FRENCHMAN BLUFF
END TAPER STA. 929+00.00 FRENCHMAN BLUFF
BEGIN TYPE B CURB & GUTTER RT STA. 930+14.00 FRENCHMAN BLUFF
BEGIN TYPE B CURB & GUTTER LT STA. 931+78.60 FRENCHMAN BLUFF
PRIVATE ENT. ASPH. TYPE I 934+33.22 LT. 60.0' W. PR. GR. 5.00%, EX. GR. 5.6%
BEGIN TAPER RT STA. 934+74.02 FRENCHMAN BLUFF
END RECONSTRUCTION STA. 1+74.25 BLUFFVIEW
PRIVATE ENT. ASPH. TYPE I 332+78.21 RT. 42.0' W. PR. GR. 8.50%, EX. GR. 3.9%
PRIVATE ENT. ASPH. TYPE I 1+49.16 RT. 22.0' W. PR. GR. 8.0%, EX. GR. 7.8%
END TAPER RT STA. 937+09.64 FRENCHMAN BLUFF

FRENCHMAN BLUFF ROAD
BLUFFVIEW DRIVE
SARAH ANN BLVD (50' W)
40' W INGRESS/EGRESS EASEMENT DB.1957 PG 945
INGRESS-EGRESS EASEMENT DB 2343 PG 130)
40' W INGRESS/EGRESS EASEMENT DB 2343 PG 130
NEW R/W
CONST. LIMITS
TYPE B CURB AND GUTTER
℄ FRENCHMAN BLUFF
℄ BLUFFVIEW
FULL DEPTH SAWCUT
TCE 30' WIDTH
TCE 20' WIDTH
TCE 10' WIDTH
U.S. SURVEY 1805
TOWNSHIP 49 NORTH,
RANGE 1 WEST

25-1 FES
25-2 MH
25-3 FES
25-4 MH
25-5 T
25-6 T
25-7 MH
25-8 T
25-9 T
25-10 T
25-11 T
25-12 T
21-1 MH
21-2 FES

MATCHLINE STA. 937+50.00
(FRENCHMAN BLUFF - PLAN SHEET 3)

LEGEND
NEW PAVEMENT

NOTES:
SEE COORDINATE POINTS SHEETS FOR ALIGNMENT INFORMATION.

ALL BEARINGS SHOWN ARE STATE PLANE BEARINGS, EASTERN ZONE.

SEE PLAN SHEETS 1-4 FOR INFORMATION REGARDING ROUTE 47 RECONSTRUCTION

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PLAN SHEET
SHEET 5 OF 5

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

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DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	15

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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LEGEND
NEW PAVEMENT

SCALE
0 50 100 150

15-60-24-000-000-006.000
N/F
VIRGINIA K. & MARK A. REESE H/W
DB 2387 PG 68
2.90 ACRES +/-

(7) 15-60-24-000-000-003.000
TRACT NO. 1
N/F
HAROLD L. & ELSIE W. TURNBULL, TRUSTEES OF THE HAROLD L. TURNBULL & ELSIE W. TURNBULL REVOCABLE LIVING TRUST 8-21-1998
DB 2138 PG 255
53.9 ACRES +/- PER ASSESSORS

(7) 15-60-24-000-000-010.000
DB 2138 PG 255
8.53 ACRES +/-
PER DEED

NW FRACTIONAL 1/4 SECTION 24
TOWNSHIP 49 NORTH, RANGE 1 WEST

NORTH LINE U.S. SURVEY 1648
SOUTH LINE OF THE N. HALF OF THE N.W. 1/4 SECTION 24, T. 49 N., R. 1 W.

PRIVATE ENT. ASPH. TYPE I
93+70.16 LT. 28.0' W.
PR. GR. 5.1%
EX. GR. 4.0%

EXIST. R/W
FULL DEPTH SAWCUT
NEW R/W
CONST. LIMITS
U.S. 61 EAST OUTER ROAD
BEGIN PROJECT LIMIT OUTER ROAD STA. 93+28.27 = U.S. 61 STA. 883+65.26
TEMPORARY CONST. EASEMENT 25' WIDTH (TRACT 1)
DRAIN POND, REMOVE UNSUITABLE MATERIAL, AND FILL - SEE JSP
TEMPORARY CONST. EASEMENT 10' WIDTH
TEMPORARY CONST. EASEMENT 10' WIDTH (TRACT 2)
EXIST. R/W
℄ U.S. 61 EAST OUTER RD
TYPE 1 ROCK DITCH LINER 8'WX538'L
NORTHBOUND U.S. HIGHWAY 61
℄ U.S. HWY 61
MATCHLINE STA. 106+00.00 (U.S. 61 EAST OUTER ROAD)

NOTES:
SEE COORDINATE POINTS SHEETS FOR ALIGNMENT INFORMATION.

ALL BEARINGS SHOWN ARE STATE PLANE BEARINGS, EASTERN ZONE.

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

BEGIN PROJECT LIMIT STA. 93+28.27 EL 556.38 VPC 93+28.90
STA 93+28.90 EL 554.00
EXIST. GROUND LINE
-6.76%
VPI 95+00.00 EL 542.39
-1.25%
VPI 96+05.90 EL 536.26
-0.25%
-2.79%
VPT 98+82.90
VPI 97+68.24 EL 534.90
-0.25%
PROPOSED FINISH GRADE
SPECIAL DITCH PROFILE RIGHT
VPC 100+42.92
VPI 101+00.00 EL 534.06
-2.03%
VPI 102+55.42 EL 534.63
-0.25%
-3.50%
VPI 103+00.00 EL 529.99
-2.96%
VPT 104+67.92
VPI 105+00.00 EL 524.07
-3.48%
ex = 4.85'
K = 79
554.00' v.c.
SSD = 545'
ex = -1.73'
K = 131
425.00' v.c.
10'
50'
MATCHLINE STA. 106+00.00 (U.S. 61 EAST OUTER ROAD)

94	95	96	97	98	99	100	101	102	103	104	105	106
554.85 / 554.84	551.08 / 551.50	547.17 / 548.48	543.51 / 545.78	540.36 / 543.40	535.80 / 541.33	532.51 / 539.57	533.53 / 538.13	537.56 / 537.01	538.19 / 536.20	537.70 / 535.71	536.73 / 535.52	533.01 / 535.40	530.27 / 535.27	535.78 / 535.14	535.99 / 534.90	535.87 / 534.46	535.52 / 533.83	535.40 / 533.01	535.01 / 531.99	533.88 / 530.79	532.48 / 529.40	530.23 / 527.81	527.49 / 526.07	524.32 / 524.32	519.68 / 522.57

570 560 550 540 530 520 510 500

PLAN-PROFILE SHEET
SHEET 1 OF 2

DANIEL T. SHANE NUMBER E-29833 REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	16

COUNTY
LINCOLN
JOB NO.
J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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NOTES:
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ALL STATIONS GIVEN ALONG OUTER RD BASELINE UNLESS OTHERWISE NOTED.

ALL BEARINGS SHOWN ARE STATE PLANE BEARINGS, EASTERN ZONE.

MGS = MIDWEST GUARDRAIL SYSTEM
MASH = AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (2009)
CET = CRASHWORTHY END TERMINAL

LEGEND
NEW PAVEMENT

SCALE
0 50 100 150

7
15-60-24-000-000-010.000
TRACT NO. 1
N/F
HAROLD L. & ELSIE W. TURNBULL, TRUSTEES OF THE HAROLD L. TURNBULL & ELSIE W. TURNBULL REVOCABLE LIVING TRUST 8-21-1998 (LEASE PARCEL)
DB 2138 PG 255
8.53 ACRES +/- PER DEED

15-60-24-000-000-013.000
N/F
TROY MOTORS, INC. UNDIVIDED 1 / 2 INTEREST
CECIL & BARBARA C. HUPPER H/W UNDIVIDED 1 / 2 INTEREST
DB 272 PG 295
21.11 ACRES +/-

15-60-24-000-000-014.000
N/F
BELKOH, INC.
DB 2334 PG 515
5.52 ACRES +/-

MATCHLINE STA. 106+00.00 (U.S. 61 EAST OUTER ROAD)

COUNTY ROAD 658
EXIST. R/W
PERMANENT DRAINAGE EASEMENT 40' WIDTH
ROCK LINING 30'WX40'L (2.5' THICK)
TEMPORARY CONST. EASEMENT 10' WIDTH
CONCRETE WALLS
FIBER OPTIC WARNING POST
CONST. LIMITS
NEW R/W
BEGIN MGS GR 109+95.39
END MGS GR 110+95.39
EXTEND 7'X6' BOX CULVERT
MGS GUARDRAIL
24-1 MH
MASH CET
FL = 482.00
GAS SIGN
FULL DEPTH SAWCUT
END RECONSTRUCTION STA. 21+92.00 CR 658
END PROJECT LIMIT OUTER ROAD STA. 118+25.22 = U.S. 61 STA. 908+76.31
U.S. 61 EAST OUTER ROAD
S 34° 08' 08" E
S 29° 33' 08" E
N 55° 51' 52" E
12'-2"
TYPE 1 ROCK DITCH LINER 8'WX441'L
24-2 S2
℄ U.S. 61 EAST OUTER RD
END TYPE A2, BEGIN FULL DEPTH SHOULDER RT STA. 114+75.00
PR. STA. 118+25.22 = EX. STA. 908+20.78
NORTHBOUND U.S. HIGHWAY 61
ASPH
℄ U.S. HWY 61
GAS WARNING POST
12' WIDE 7' TALL BOX CULVERT
900
905
910
915
920

ex = 1.06'
K = 213
425.00' V.C.
VPC 108+43.95
VPI 109+00.00 EL 510.15
VPI 110+29.00 EL 506.37
VPI 110+56.45 EL 506.60
VPI 110+80.00 EL 506.80
VPT 112+68.95
VPI 113+55.22 EL 500.00
STA. 114+86.00 = STA. 20+00.00 CR 658
-3.48%
-2.93%
-3.50%
+0.84%
-1.50%
-2.47%
-1.56%
EXIST. GROUND LINE
SPECIAL DITCH PROFILE RIGHT
PROPOSED FINISH GRADE
END PROJECT LIMIT STA. 118+25.22 EL 495.06
STA 118+25.22 EL 492.87
10'
50'

106	107	108	109	110	111	112	113	114	115	116	117	118
519.68 / 522.57	512.32 / 520.82	509.59 / 519.07	506.23 / 517.32	503.64 / 515.57	500.70 / 513.82	498.30 / 512.15	497.48 / 510.59	497.30 / 509.14	497.95 / 507.82	498.50 / 506.61	498.91 / 505.53	499.31 / 504.55	499.40 / 503.70	499.96 / 502.94	500.76 / 502.19	501.17 / 501.44	500.63 / 500.69	500.33 / 499.94	498.73 / 499.19	495.61 / 498.44	495.73 / 497.69	495.77 / 496.94	495.67 / 496.19	495.34 / 495.44	494.79

PLAN-PROFILE SHEET
SHEET 2 OF 2

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.
DATE PREPARED 10/25/2023
ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 17
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.
DESCRIPTION
DATE

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

\\hrgreen.com\HRG\Data\2017\171526.01\CAD\Data\017_PP_02_J2P3043_150.dgn 3:09:09 PM 10/24/2023

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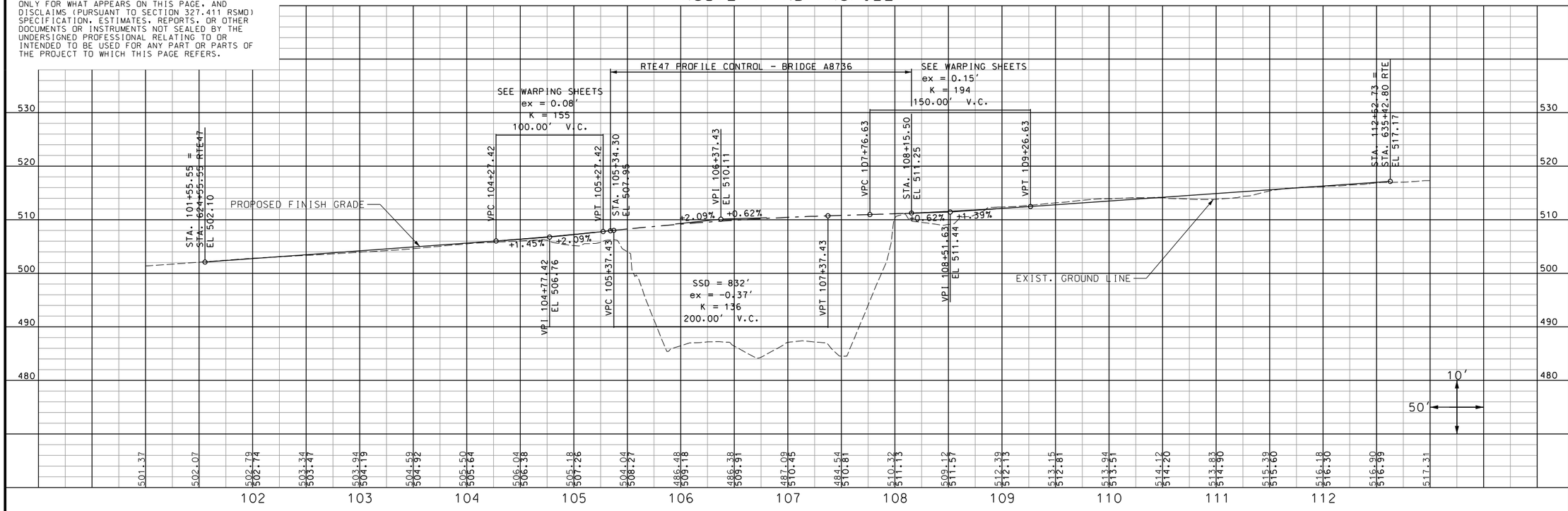
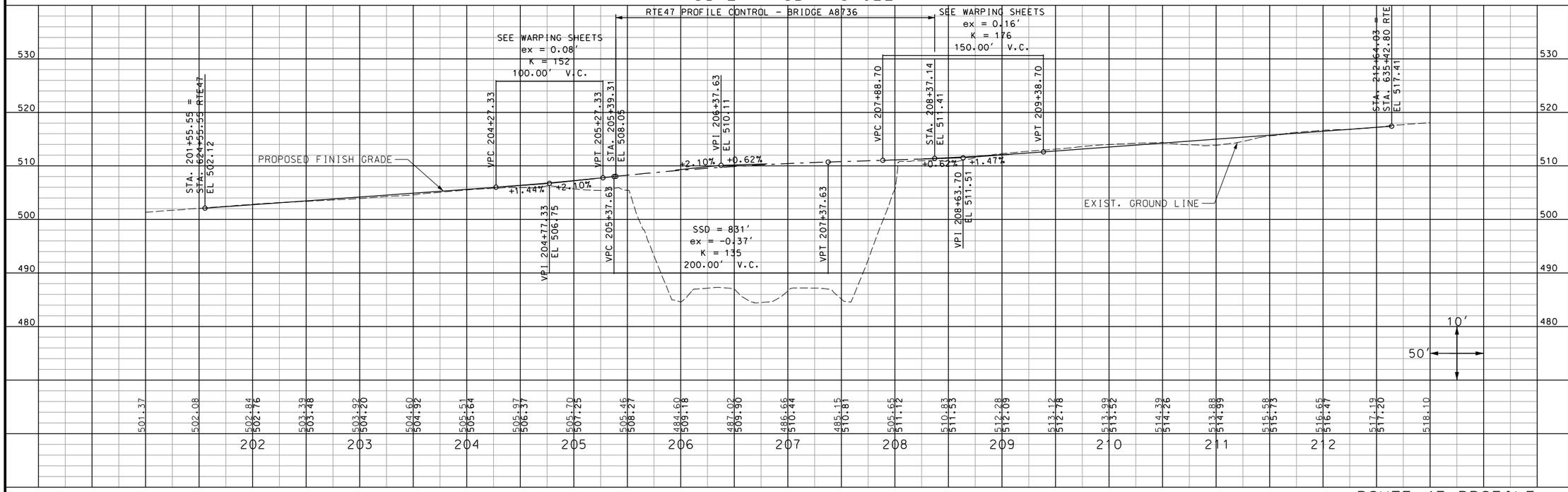
ROUTE 47 NB PROFILE



ROUTE 47 SB PROFILE



ROUTE 47 PROFILE

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	18

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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DATE	DESCRIPTION

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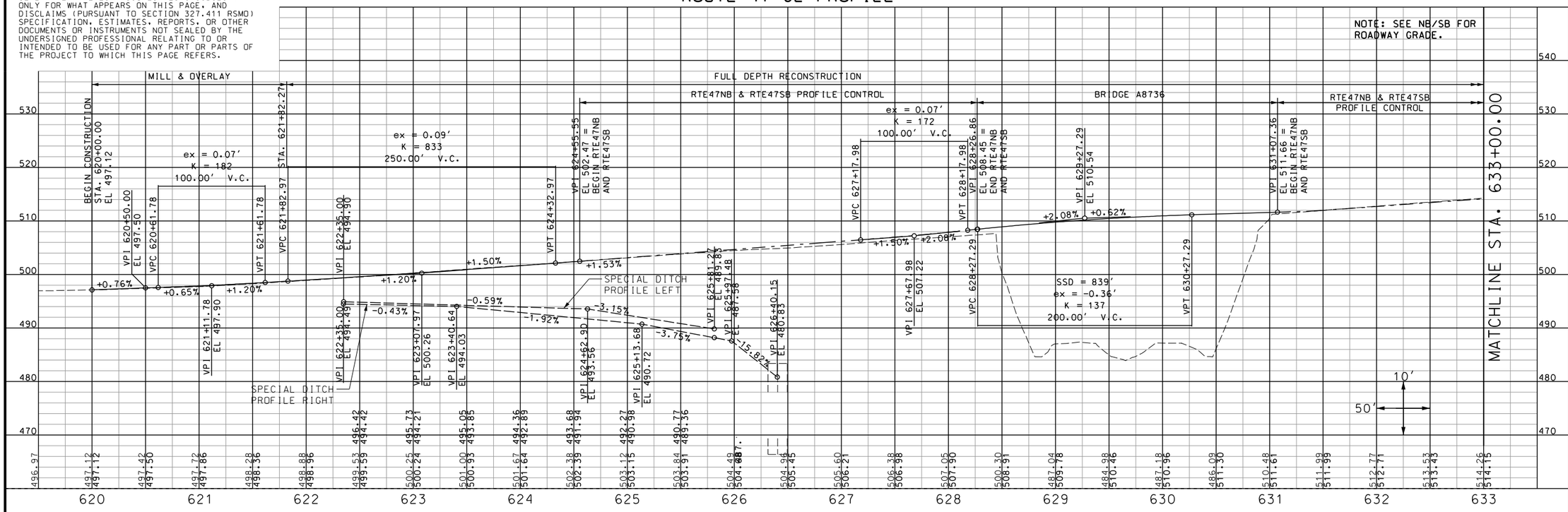
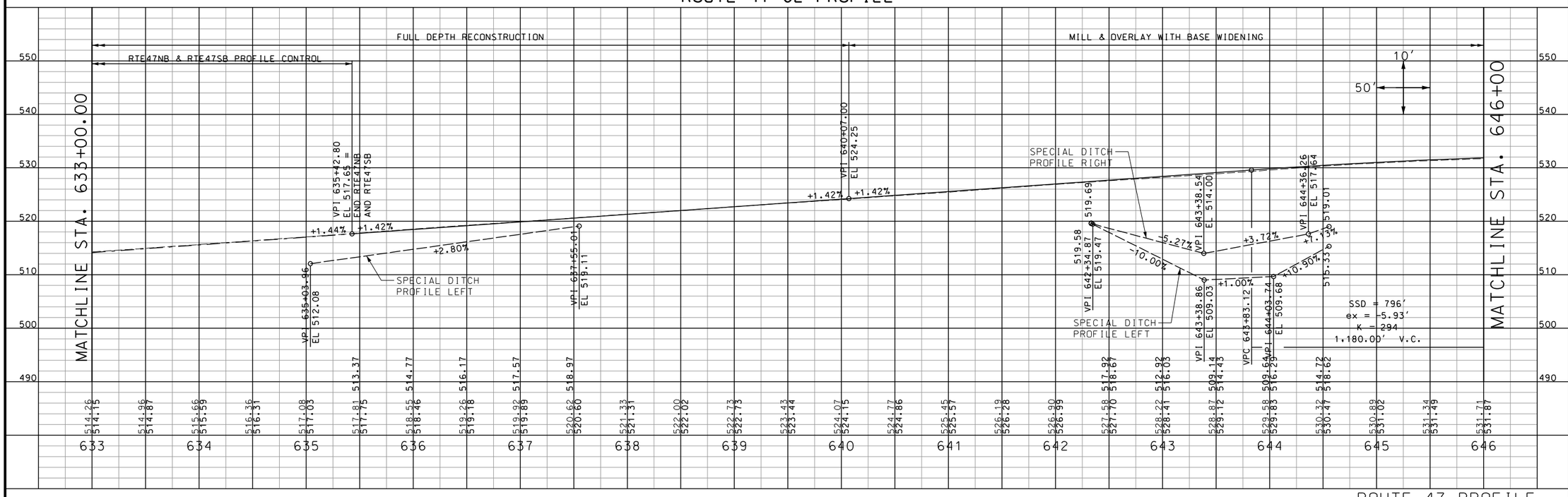
ROUTE 47 CL PROFILE



ROUTE 47 CL PROFILE



ROUTE 47 PROFILE

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

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

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

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DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	19
COUNTY	
LINCOLN	
JOB NO.	
J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

\\hrgreen.com\HRG\Data\2017\171526.01\CAD\Data\019_PR_02_J2P3043_I50.dgn 5:33:20 PM 10/24/2023

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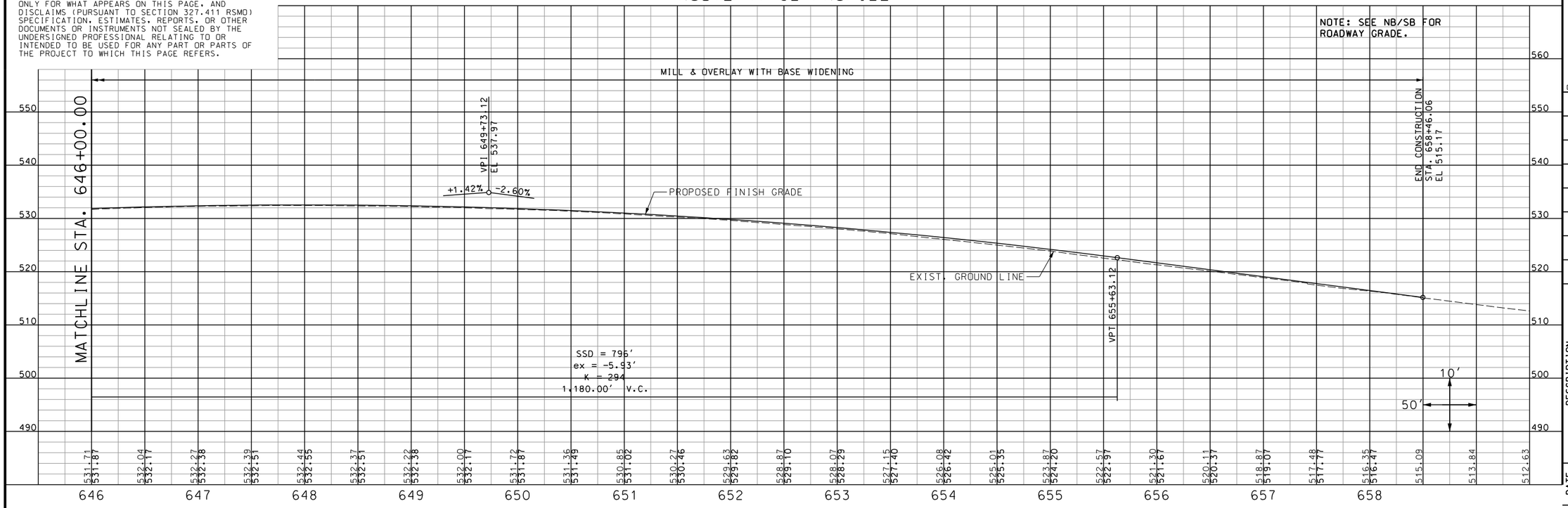
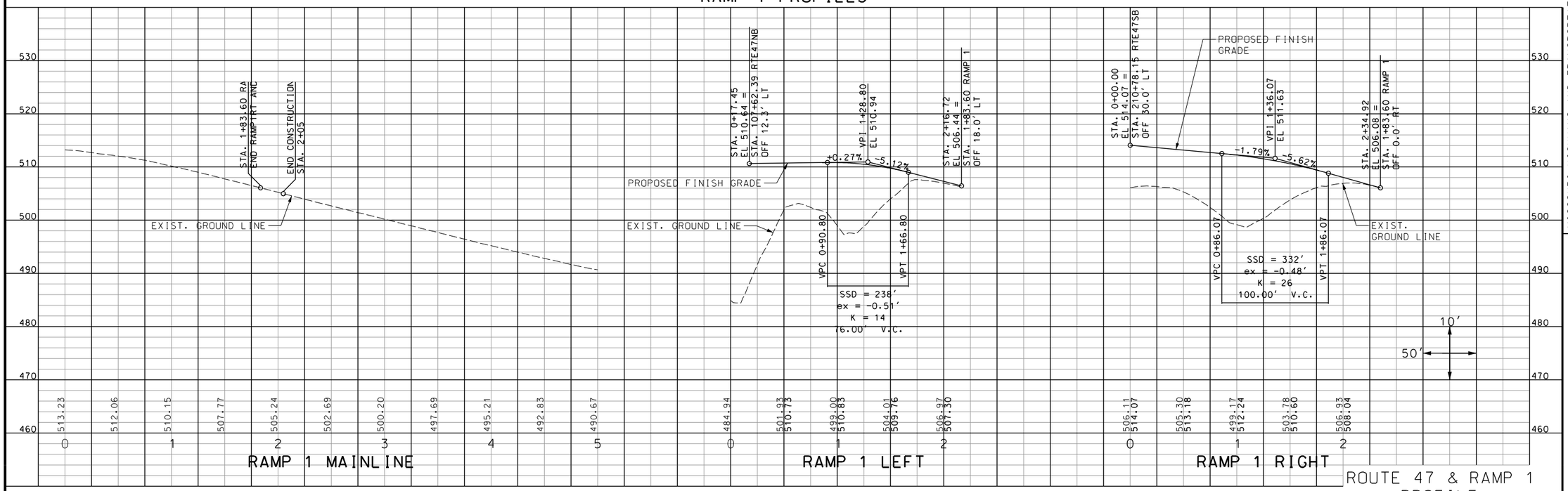


RAMP 1 PROFILES



ROUTE 47 & RAMP 1 PROFILE

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	20
COUNTY	
LINCOLN	
JOB NO.	
J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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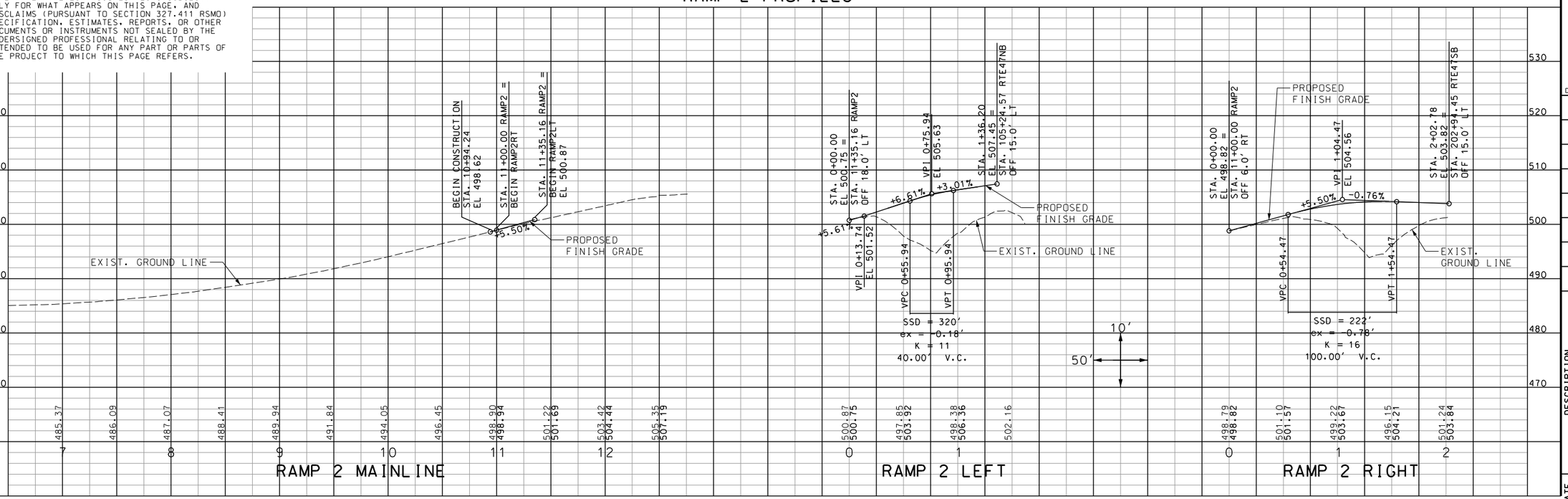
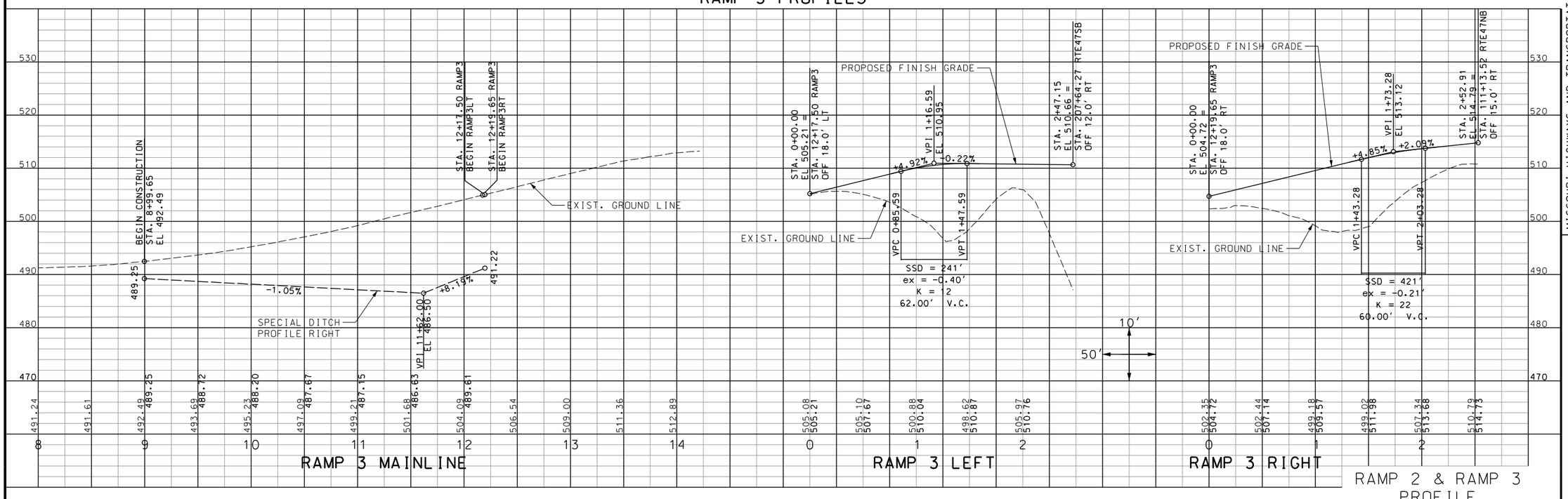
RAMP 2 PROFILES



RAMP 3 PROFILES



RAMP 2 & RAMP 3 PROFILE

DANIEL T. SHANE NUMBER E-24833 STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	21

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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JEFFERSON CITY, MO 65102
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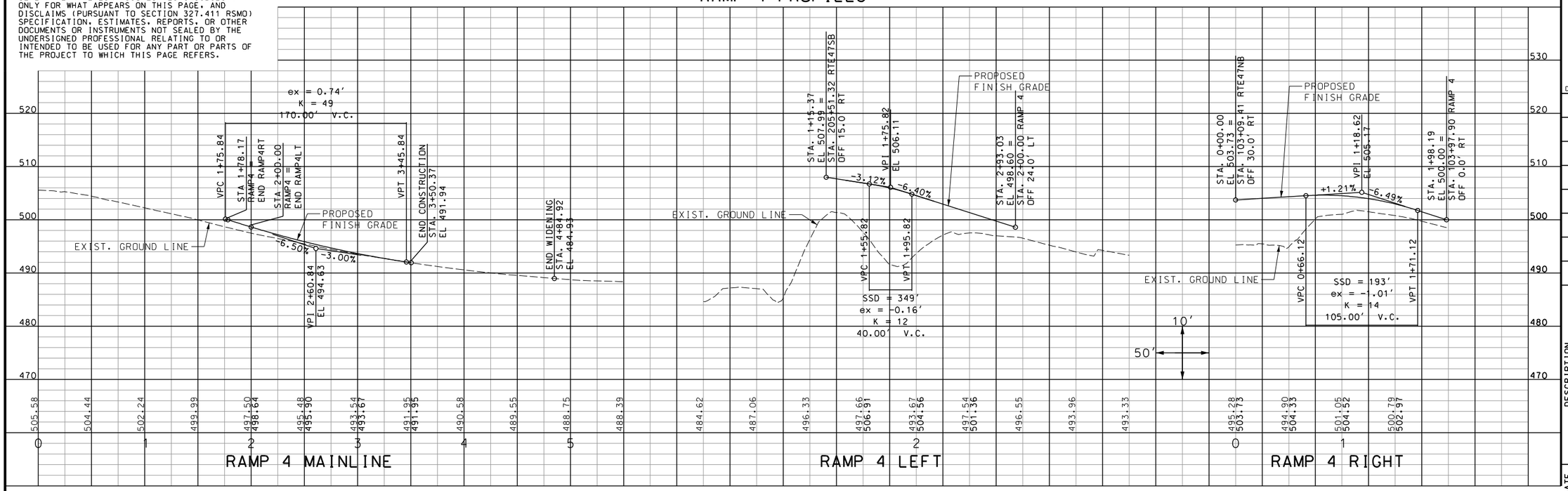
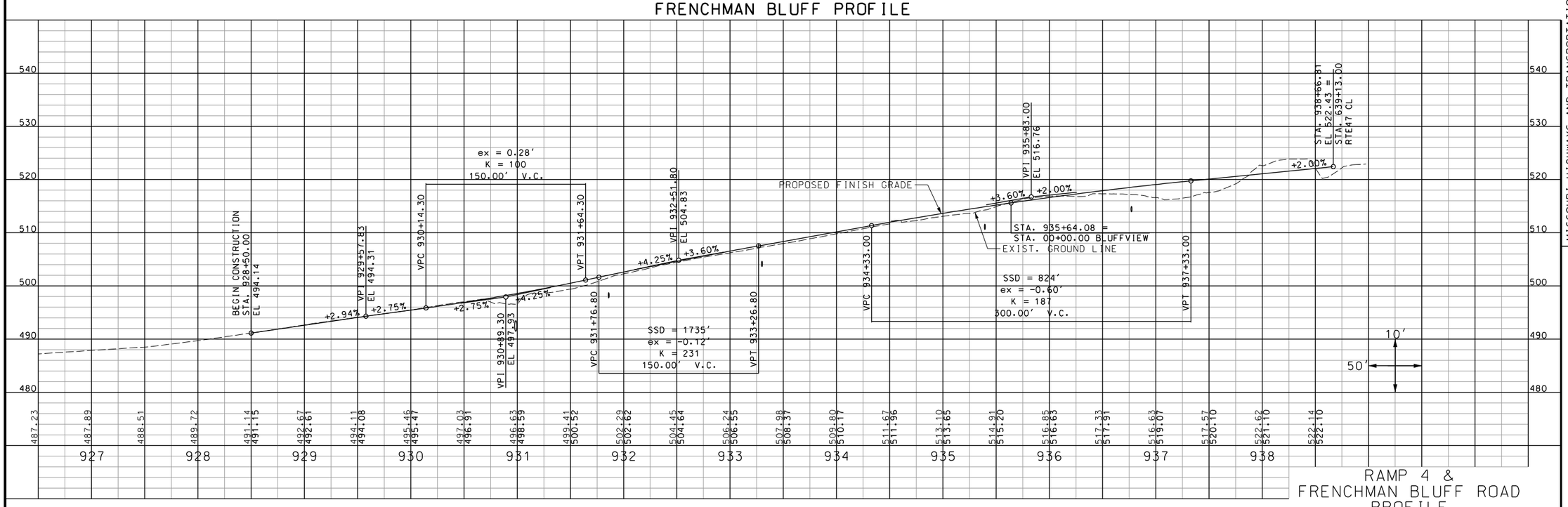
RAMP 4 PROFILES



FRENCHMAN BLUFF PROFILE



STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE NUMBER E-24833

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	22
COUNTY	
LINCOLN	
JOB NO.	
J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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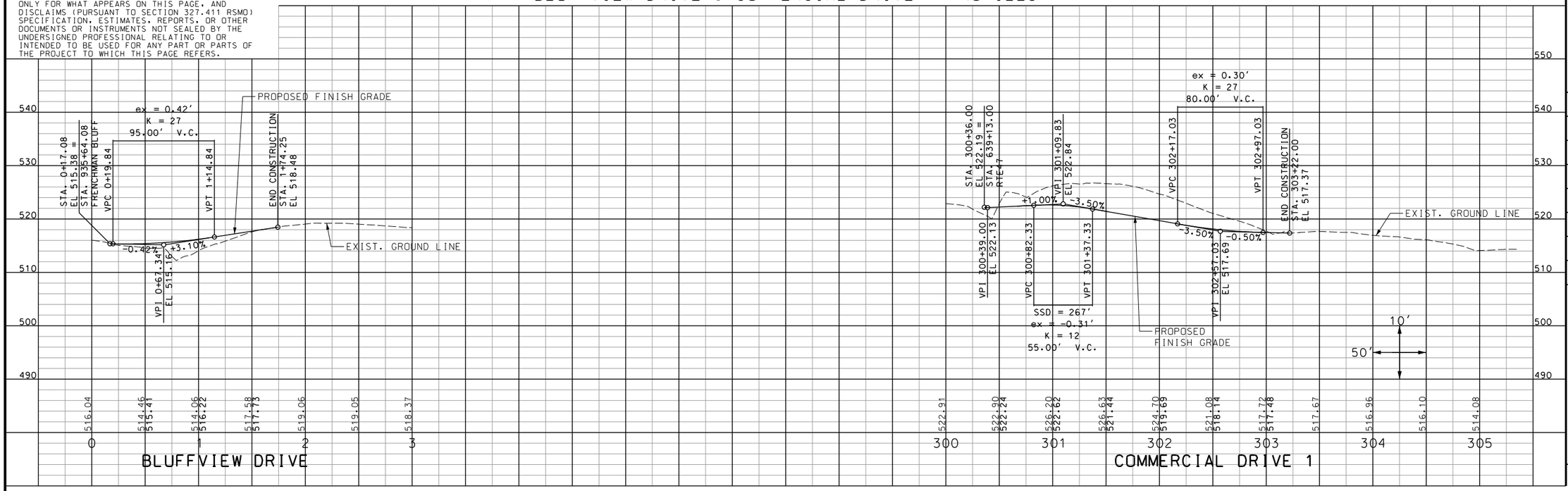
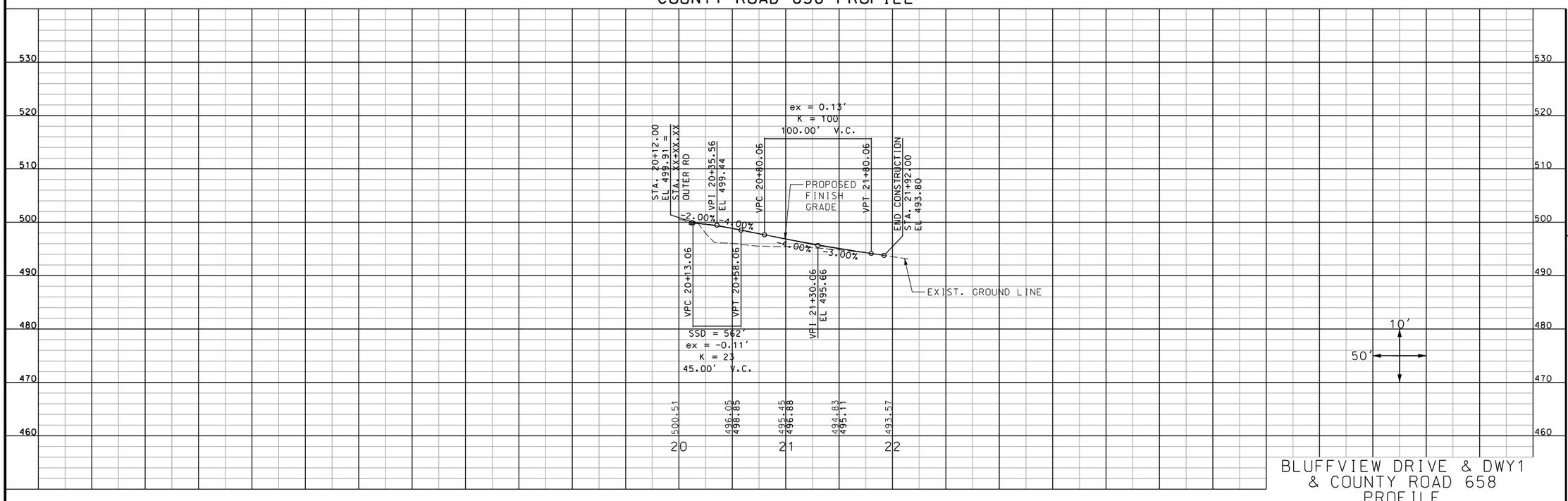
BLUFFVIEW DRIVE & COMMERCIAL DRIVE 1 PROFILES



COUNTY ROAD 658 PROFILE



STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE NUMBER E-29833

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	23

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

ALL PROJECT COORDINATES HAVE BEEN PROJECTED FROM THE MISSOURI STATE PLANE COORDINATE (SPC) SYSTEM OF 1983 USING AN AVERAGE PROJECT PROJECTION (GRID TO GROUND) FACTOR. TO GET BACK TO STATE PLANE COORDINATES, MULTIPY THE PROJECT COORDINATES BY THE AVERAGE GRID FACTOR AS SHOWN IN THE "REFERENCE CONTROL INFORMATION" PORTION OF THIS TABLE.

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	MODIFIED STATE PLANE (GROUND)
HORIZONTAL DATUM	NAD83 (2011)
VERTICAL DATUM	NAVD88
GEOID MODEL	12A
ELEVATIONS DETERMINED BY	differential leveling
PROJECT PROJECTION FACTOR	1.0000661100

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MO COORDINATE SYSTEM OF 1983
CONTROL STATION	MODOT VRS
DESIGNATION	MODOT ELSBERRY CORS ARP
CORS_ID	MOEB
PID	DN5826
LATITUDE	N 39 DEG 10 MIN 44.08721 SEC
LONGITUDE	W 90 DEG 47 MIN 15.53910 MIN
NORTHING (M)	371,355.863
EASTING (M)	225,161.332
ZONE	EAST
PROJECT AVERAGE GRID FACTOR	0.9999338944

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

PROJECT NORTHING X AVERAGE GRID FACTOR
= STATE PLANE NORTHING
PROJECT EASTING X AVERAGE GRID FACTOR
= STATE PLANE EASTING

EXAMPLE: CONTROL POINT # 1
N 1150160.3172 X 0.9999338944 = N 1150084.2849
E 687907.4089 X 0.9999338944 = E 687861.9344

LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND) NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)	DESCRIPTION
PROJECT CONTROL POINTS							
		EX ℄ US 61		1150160.31700	687907.40900	485.54000	CP 1
		EX ℄ US 61		1151071.91000	687544.80900	496.47000	CP 2
		EX ℄ US 61		1146334.59000	688094.08500	530.11000	CP 3
		EX ℄ US 61		1145437.27000	688451.47080	530.99000	CP 4
		EX ℄ ROUTE 47		1148127.29800	691013.94800	508.64000	CP 5
		EX ℄ ROUTE 47		1148230.95700	691905.16600	486.94000	CP 6
		EX ℄ ROUTE 47		1148728.81700	686245.54900	509.57000	CP 7
		EX ℄ ROUTE 47		1148718.36700	685294.44200	531.36000	CP 8
		EX ℄ ROUTE 47		1148449.08400	688138.67700	511.60000	CP 9
		EX ℄ US 61		1149465.80800	687980.86020	484.00000	CP 10
		EX ℄ US 61		1148933.16400	687945.48210	484.87000	CP 11
		EX ℄ US 61		1148236.30000	687932.84460	485.61000	CP 12
		EX ℄ US 61		1147503.23500	687941.44900	496.90000	CP 13
		EX ℄ US 61		1146901.73200	687968.94570	514.84000	CP 14
		EX ℄ ROUTE 47		1148302.08800	690051.30390	529.82000	CP 15
		EX ℄ ROUTE 47		1148316.23900	689354.57350	527.77000	CP 16
		EX ℄ ROUTE 47		1148480.27400	688776.61630	521.06000	CP 17
		EX ℄ ROUTE 47		1148586.98800	687468.29040	501.26000	CP 18
		EX ℄ ROUTE 47		1148528.43600	686903.83370	496.40000	CP 19
		EX ℄ US 61		1153351.39060	686523.48890	560.16300	CP 62
		EX ℄ US 61		1154032.64240	685764.32560	527.86300	CP 63
		EX ℄ US 61		1151407.78120	687518.85440	499.52700	CP 65
		EX ℄ US 61		1151740.67320	687646.83570	485.13600	CP 66
		EX ℄ US 61		1151823.64520	687313.69420	487.46300	CP 67
		EX ℄ US 61		1152043.37510	687134.43170	513.68000	CP 68
		EX ℄ US 61		1152249.75650	687038.62510	518.39700	CP 69
		EX ℄ US 61		1152569.14570	686868.62630	515.70800	CP 70
		EX ℄ US 61		1152888.45480	686741.55380	525.65300	CP 71
		EX ℄ US 61		1153096.74580	686564.64200	550.83000	CP 72

U.S. 61 ALIGNMENT INFORMATION

ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
TANGENT	POB	860+00.00	1154932.72517	684941.47546				
TANGENT	PC	905+18.66	1151192.57393	687477.13256				
CURVE	PC	905+18.66	1151192.57393	687477.13256				
CURVE	PI	914+29.83	1150438.38457	687988.43959	2864.79	1764.38	35°17'15"	RIGHT
CURVE	CC		1149584.99002	685105.91015				
CURVE	PT	922+83.04	1149527.39560	687970.12115				
TANGENT	PT	922+83.04	1149527.39523	687970.12114				
TANGENT	PC	944+15.68	1147395.18626	687927.24604				
CURVE	PC	944+15.68	1147395.18626	687927.24604				
CURVE	PI	949+97.60	1146813.37755	687915.54685	2864.79	1148.23	22°57'53"	LEFT
CURVE	CC		1147337.59184	690791.45703				
CURVE	PT	955+63.91	1146273.11485	688131.77463				
TANGENT	PT	955+63.91	1146273.11485	688131.77463				
TANGENT	POE	1005+81.12	1141615.11225	689996.01964				

RTE 47 EXISTING ALIGNMENT INFORMATION

ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
TANGENT	POB	599+66.86	1148809.58714	684968.63914				
TANGENT	PC	660+63.45	1148170.34827	691031.62383				
CURVE	PC	660+63.45	1148170.34827	691031.62383				
CURVE	PI	664+58.14	1148128.96410	691424.13999	2863.30	784.44	15°41'49"	LEFT
CURVE	CC		1151017.86533	691331.84619				
CURVE	PT	668+47.89	1148195.31830	691813.21416				

COORDINATE POINTS
TABLES
SHEET 1 OF 11

STATE OF MISSOURI
DANIEL T. SHANE
NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	24

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
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SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

RTE 47 NB ALIGNMENT INFORMATION

ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
TANGENT	POB	100+00.00	1148547.05226	687287.03119				
TANGENT	PC	101+83.24	1148527.83916	687469.26164				
CURVE	PC	101+83.24	1148527.83916	687469.26164				
CURVE	PI	102+16.86	1148524.31457	687502.69125	300.00	66.95	12°47′12″	RIGHT
CURVE	CC		1148229.49280	687437.80608				
CURVE	PRC	102+50.19	1148513.47873	687534.51179				
CURVE	PRC	102+50.19	1148513.47873	687534.51179				
CURVE	PI	103+01.67	1148496.88303	687583.24670	175.00	100.14	32°47′12″	LEFT
CURVE	CC		1148679.13718	687590.92345				
CURVE	PT	103+50.33	1148509.32167	687633.20456				
TANGENT	PT	103+50.33	1148509.32167	687633.20456				
TANGENT	PC	104+57.76	1148535.27607	687737.44637				
CURVE	PC	104+57.76	1148535.27607	687737.44637				
CURVE	PI	105+01.55	1148545.85762	687779.94552	175.00	85.83	28°06′04″	RIGHT
CURVE	CC		1148365.46056	687779.72748				
CURVE	PRC	105+43.59	1148535.17337	687822.41896				
CURVE	PRC	105+43.59	1148535.17337	687822.41896				
CURVE	PI	105+78.99	1148526.53571	687856.75653	500.00	70.70	8°06′04″	LEFT
CURVE	CC		1149020.06711	687944.39461				
CURVE	PT	106+14.28	1148522.82318	687891.96868				
TANGENT	PT	106+14.28	1148522.82318	687891.96868				
TANGENT	PC	107+63.65	1148507.16193	688040.51087				
CURVE	PC	107+63.65	1148507.16193	688040.51087				
CURVE	PI	108+03.32	1148503.00213	688079.96529	500.00	79.18	9°04′24″	LEFT
CURVE	CC		1149004.40585	688092.93680				
CURVE	PRC	108+42.83	1148505.11633	688119.58202				
CURVE	PRC	108+42.83	1148505.11633	688119.58202				
CURVE	PI	108+88.21	1148507.53452	688164.89522	175.00	88.80	29°04′24″	RIGHT
CURVE	CC		1148330.36499	688128.90784				
CURVE	PT	109+31.63	1148487.62899	688205.67394				
TANGENT	PT	109+31.63	1148487.62899	688205.67394				
TANGENT	PC	110+39.05	1148440.50588	688302.21096				
CURVE	PC	110+39.05	1148440.50588	688302.21096				
CURVE	PI	110+88.35	1148418.88294	688346.50799	195.00	96.56	28°22′21″	LEFT
CURVE	CC		1148615.74291	688387.75033				
CURVE	PRC	111+35.62	1148420.90744	688395.75917				
CURVE	PRC	111+35.62	1148420.90744	688395.75917				
CURVE	PI	111+57.57	1148421.80929	688417.69885	300.00	43.84	8°22′21″	RIGHT
CURVE	CC		1148121.16057	688408.08046				
CURVE	PT	111+79.45	1148419.50693	688439.53602				
TANGENT	PT	111+79.45	1148419.50693	688439.53602				
TANGENT	POE	115+19.93	1148383.80753	688778.13386				

RTE 47 SB ALIGNMENT INFORMATION

ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
TANGENT	POB	200+00.00	1148582.85383	687290.80586				
TANGENT	PC	201+81.18	1148563.85727	687470.98243				
CURVE	PC	201+81.18	1148563.85727	687470.98243				
CURVE	PI	202+13.38	1148560.48101	687503.00520	300.00	64.15	12°15′10″	LEFT
CURVE	CC		1148862.20362	687502.43799				
CURVE	PRC	202+45.33	1148563.97764	687535.01506				
CURVE	PRC	202+45.33	1148563.97764	687535.01506				
CURVE	PI	203+01.71	1148570.10007	687591.06265	195.00	109.77	32°15′10″	RIGHT
CURVE	CC		1148370.13076	687556.19016				
CURVE	PT	203+55.10	1148545.36779	687641.72952				
TANGENT	PT	203+55.10	1148545.36779	687641.72952				
TANGENT	PC	204+62.52	1148498.24467	687738.26654				
CURVE	PC	204+62.52	1148498.24467	687738.26654				
CURVE	PI	205+07.90	1148478.33914	687779.04526	175.00	88.80	29°04′24″	LEFT
CURVE	CC		1148655.50867	687815.03264				
CURVE	PRC	205+51.32	1148480.75734	687824.35846				
CURVE	PRC	205+51.32	1148480.75734	687824.35846				
CURVE	PI	205+91.00	1148482.87153	687863.97520	500.00	79.18	9°04′24″	RIGHT
CURVE	CC		1147981.46781	687851.00368				
CURVE	PT	206+30.50	1148478.71173	687903.42962				
TANGENT	PT	206+30.50	1148478.71173	687903.42962				
TANGENT	PC	207+79.87	1148463.05048	688051.97180				
CURVE	PC	207+79.87	1148463.05048	688051.97180				
CURVE	PI	208+15.28	1148459.33796	688087.18395	500.00	70.70	8°06′04″	RIGHT
CURVE	CC		1147965.80655	687999.54587				
CURVE	PRC	208+50.57	1148450.70029	688121.52152				
CURVE	PRC	208+50.57	1148450.70029	688121.52152				
CURVE	PI	208+94.36	1148440.01604	688163.99497	175.00	85.83	28°06′04″	LEFT
CURVE	CC		1148620.41310	688164.21300				
CURVE	PT	209+36.40	1148450.59759	688206.49411				
TANGENT	PT	209+36.40	1148450.59759	688206.49411				
TANGENT	PC	210+43.82	1148476.55199	688310.73592				
CURVE	PC	210+43.82	1148476.55199	688310.73592				
CURVE	PI	211+00.22	1148490.17822	688365.46353	175.00	109.12	35°43′33″	RIGHT
CURVE	CC		1148306.73648	688353.01703				
CURVE	PRC	211+52.94	1148469.28438	688417.84896				
CURVE	PRC	211+52.94	1148469.28438	688417.84896				
CURVE	PI	211+94.37	1148453.93566	688456.33160	300.00	82.34	15°43′33″	LEFT
CURVE	CC		1148747.93793	688528.98941				
CURVE	PT	212+35.28	1148449.59158	688497.53385				
TANGENT	PT	212+35.28	1148449.59158	688497.53385				
TANGENT	POE	215+21.23	1148419.60909	688781.90853				

COORDINATE POINTS
TABLES
SHEET 2 OF 11

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen®

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

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

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DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	25

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

RAMP 1 EXISTING ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
TANGENT	POB	0+00.00	1148467.42927	688213.90162				
TANGENT	PC	7+46.34	1149198.67286	688064.54899				
CURVE	PC	7+46.34	1149198.67286	688064.54899				
CURVE	PI	9+05.68	1149354.79420	688032.66204	1432.40	317.38	12°41'43"	RIGHT
CURVE	CC		1149485.31528	689467.97547				
CURVE	PT	10+63.72	1149514.10644	688035.86485				

RAMP 2 EXISTING ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
CURVE	PC	3+50.00	1149422.08388	687900.34895				
CURVE	PI	5+01.27	1149271.08029	687891.41730	1432.40	301.42	12°03'24"	RIGHT
CURVE	CC		1149506.66052	686470.44806				
CURVE	PT	6+51.42	1149125.27325	687851.14119				
TANGENT	PT	6+51.42	1149125.27325	687851.14119				
TANGENT	POE	12+76.03	1148523.21047	687684.83409				

RAMP 1 RIGHT ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
CURVE	PC	0+00.00	1148511.50192	688343.21320				
CURVE	PI	1+37.13	1148504.94385	688206.23947	160.00	226.75	81°11'51"	RIGHT
CURVE	CC		1148671.31885	688335.56143				
CURVE	PT	2+26.75	1148639.30071	688178.79779				
TANGENT	PT	2+26.75	1148639.30071	688178.79779				
TANGENT	POE	2+34.92	1148647.31071	688177.16179				

RAMP 1 LEFT ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
CURVE	PC	0+00.00	1148521.05773	688023.16067				
CURVE	PI	0+08.73	1148520.14256	688031.84071	500.00	17.45	2°00'01"	LEFT
CURVE	CC		1149018.30165	688075.58661				
CURVE	PCC	0+17.45	1148519.53091	688040.54740				
CURVE	PCC	0+17.45	1148519.53091	688040.54740				
CURVE	PI	0+64.77	1148516.21510	688087.74675	120.00	90.14	43°02'18"	LEFT
CURVE	CC		1148639.23589	688048.95681				
CURVE	PCC	1+07.59	1148546.00457	688124.50760				
CURVE	PCC	1+07.59	1148546.00457	688124.50760				
CURVE	PI	1+68.30	1148584.22686	688171.67473	100.00	109.12	62°31'25"	LEFT
CURVE	CC		1148623.69733	688061.54861				
CURVE	PT	2+16.72	1148643.70867	688159.52588				

RAMP 2 RIGHT ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
TANGENT	POB	0+00.00	1148694.48157	687725.91941				
TANGENT	PC	0+30.62	1148664.97082	687717.76768				
CURVE	PC	0+30.62	1148664.97082	687717.76768				
CURVE	PI	1+35.30	1148564.06551	687689.89473	120.00	172.16	82°12'03"	RIGHT
CURVE	CC		1148696.92172	687602.09945				
CURVE	PT	2+02.78	1148577.98767	687586.14042				

RAMP 2 LEFT ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
CURVE	PC	0+00.00	1148654.20331	687739.69219				
CURVE	PI	0+91.30	1148566.19819	687715.38263	80.00	136.20	97°32'56"	LEFT
CURVE	CC		1148632.90271	687816.80434				
CURVE	PRC	1+36.20	1148553.66059	687805.81861				
CURVE	PRC	1+36.20	1148553.66059	687805.81861				
CURVE	PI	1+49.09	1148551.89053	687818.58641	190.00	25.74	7°45'44"	RIGHT
CURVE	CC		1148365.46056	687779.72748				
CURVE	PT	1+61.94	1148548.41224	687830.99816				

RAMP 3 EXISTING ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
CURVE	PC	3+50.00	1147419.23190	687995.38039				
CURVE	PI	4+68.09	1147537.11217	688002.35341	1432.4	235.64	9°25'32"	RIGHT
CURVE	CC		1147334.64833	689425.28086				
CURVE	PT	5+85.64	1147652.25902	688028.53707				
TANGENT	PT	5+85.64	1147652.25902	688028.53707				
TANGENT	POE	14+21.62	1148467.42927	688213.90162				

RAMP 4 EXISTING ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
TANGENT	POB	0+00.00	1148523.21047	687684.83409				
TANGENT	PC	7+02.89	1147835.90351	687832.01935				
CURVE	PC	7+02.89	1147835.90351	687832.01935				
CURVE	PI	8+69.12	1147673.35834	687866.82804	1432.40	330.98	13°14'21"	RIGHT
CURVE	CC		1147535.95876	686431.37560				
CURVE	PT	10+33.87	1147507.16145	687863.48610				

RAMP 3 RIGHT ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
CURVE	PC	0+00.00	1148266.49346	688186.66960				
CURVE	PI	1+52.39	1148415.09403	688220.46043	180.00	252.91	80°30'17"	RIGHT
CURVE	CC		1148226.58148	688362.18893				
CURVE	PT	2+52.91	1148406.28018	688372.59939				

RAMP 3 LEFT ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
CURVE	PC	0+00.00	1148272.37775	688151.08864				
CURVE	PI	0+48.99	1148320.14806	688161.95130	200.00	96.09	27°31'38"	LEFT
CURVE	CC		1148316.72440	687956.06716				
CURVE	PCC	0+96.09	1148367.53078	688149.50633				
CURVE	PCC	0+96.09	1148367.53078	688149.50633				
CURVE	PI	1+22.13	1148392.72266	688142.88974	94.00	50.82	30°58'30"	LEFT
CURVE	CC		1148343.65178	688058.58992				
CURVE	PCC	1+46.91	1148410.91669	688124.25142				
CURVE	PCC	1+46.91	1148410.91669	688124.25142				
CURVE	PI	1+98.98	1148447.29213	688086.98771	150.00	100.24	38°17'25"	LEFT
CURVE	CC		1148303.57907	688019.47244				
CURVE	PT	2+47.15	1148452.75225	688035.20022				

RAMP 4 RIGHT ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
CURVE	PC	0+00.00	1148474.14751	687593.00558				
CURVE	PI	1+02.12	1148475.18360	687695.11893	125.00	171.25	78°29'39"	RIGHT
CURVE	CC		1148349.15394	687594.27383				
CURVE	PT	1+71.25	1148375.32896	687716.50258				
TANGENT	PT	1+71.25	1148375.32896	687716.50258				
TANGENT	POE	1+98.19	1148348.98858	687722.14332				

RAMP 4 LEFT ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
TANGENT	POB	0+00.00	1148462.76037	687940.27623				
TANGENT	PC	0+19.60	1148464.81598	687920.77945				
CURVE	PC	0+19.60	1148464.81598	687920.77945				
CURVE	PI	0+67.64	1148469.85219	687873.01251	500.00	95.77	10°58'28"	LEFT
CURVE	CC		1147967.57205	687868.35351				
CURVE	PCC	1+15.37	1148465.70291	687825.16037				
CURVE	PCC	1+15.37	1148465.70291	687825.16037				
CURVE	PI	2+17.34	1148456.89479	687723.57958	90.00	152.57	97°07'53"	LEFT
CURVE	CC		1148376.03935	687832.93513				
CURVE	PT	2+67.95	1148357.19334	687744.93043				
TANGENT	PT	2+67.95	1148357.19334	687744.93043				
TANGENT	POE	2+93.03	1148332.67006	687750.18203				

COORDINATE POINTS
TABLES
SHEET 3 OF 11

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 26
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

TURNBULL TRAIL EXISTING ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
CURVE	PC	195+34.29	1149014.22071	687245.79124				
CURVE	PI	197+05.55	1148890.68035	687127.18012	500.00	330.00	37°48'55"	LEFT
CURVE	CC		1148667.93600	687606.46686				
CURVE	PT	198+64.29	1148720.36194	687109.22293				
TANGENT	PT	198+64.29	1148720.36194	687109.22293				
TANGENT	POE	200+00.00	1148585.39916	687094.99340				

MERLIN DRIVE EXISTING ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
TANGENT	POB	100+00.00	1148585.39916	687094.99340				
TANGENT	PC	103+36.58	1148250.67683	687059.70261				
CURVE	PC	103+36.58	1148250.67683	687059.70261				
CURVE	PI	105+53.08	1148035.36732	687037.00187	200.00	330.00	94°32'17"	LEFT
CURVE	CC		1148229.70646	687258.60018				
CURVE	PT	106+66.58	1148029.77323	687253.43250				

FRENCHMAN BLUFF ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
TANGENT	POB	922+84.33	1149524.78794	688100.09499				
TANGENT	PC	923+50.80	1149458.33085	688098.75865				
CURVE	PC	923+50.80	1149458.33085	688098.75865				
CURVE	PI	925+00.90	1149308.26619	688095.74110	572.95	293.59	29°21'35"	LEFT
CURVE	CC		1149446.81213	688671.59285				
CURVE	PT	926+44.39	1149175.99646	688166.68635				
TANGENT	PT	926+44.39	1149175.99646	688166.68635				
TANGENT	PC	929+68.41	1148890.45690	688319.84061				
CURVE	PC	929+68.41	1148890.45690	688319.84061				
CURVE	PI	930+90.12	1148783.20019	688377.36968	230.00	223.89	55°46'25"	LEFT
CURVE	CC		1148999.17076	688522.52583				
CURVE	PT	931+92.30	1148770.43855	688498.40990				
TANGENT	PT	931+92.30	1148770.43855	688498.40990				
TANGENT	PC	934+74.02	1148740.89957	688778.57808				
CURVE	PC	934+74.02	1148740.89957	688778.57808				
CURVE	PI	936+24.02	1148725.17179	688927.75125	150.00	235.62	90°00'00"	RIGHT
CURVE	CC		1148591.72639	688762.85030				
CURVE	PT	937+09.64	1148575.99861	688912.02347				
TANGENT	PT	937+09.64	1148575.99861	688912.02347				
TANGENT	POE	938+90.81	1148395.82698	688893.02743				

DWY1 ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
TANGENT	POB	300+00.00	1148395.82698	688893.02743				
TANGENT	PC	300+72.51	1148323.71845	688885.42481				
CURVE	PC	300+72.51	1148323.71845	688885.42481				
CURVE	PI	301+37.51	1148259.07674	688878.60944	65.00	102.10	90°00'00"	RIGHT
CURVE	CC		1148330.53382	688820.78310				
CURVE	PT	301+74.61	1148265.89211	688813.96773				
TANGENT	PT	301+74.61	1148265.89211	688813.96773				
TANGENT	POE	305+35.55	1148303.73763	688455.01457				

BLUFFVIEW ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
TANGENT	POB	0+00.00	1148705.92940	688860.10087				
TANGENT	POE	3+00.00	1148888.68750	689098.00731				

U.S. 61 EAST OUTER ROAD ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
TANGENT	POB	93+28.27	1153167.68095	686553.00648				
TANGENT	PC	94+28.09	1153071.35432	686579.17354				
CURVE	PC	94+28.09	1153071.35432	686579.17354				
CURVE	PI	94+50.13	1153050.07872	686584.95304	1000.00	44.09	2°31'33"	RIGHT
CURVE	CC		1152809.20532	685614.14613				
CURVE	PT	94+72.17	1153028.56909	686589.78927				
TANGENT	PT	94+72.17	1153028.56909	686589.78927				
TANGENT	PC	97+63.10	1152744.72232	686653.60943				
CURVE	PC	97+63.10	1152744.72232	686653.60943				
CURVE	PI	99+52.63	1152559.80939	686695.18528	1000.00	374.62	21°27'50"	LEFT
CURVE	CC		1152964.08609	687629.25257				
CURVE	PT	101+37.72	1152402.93365	686801.54009				
TANGENT	PT	101+37.72	1152402.93365	686801.54009				
TANGENT	PC	116+46.77	1151153.87446	687648.34697				
CURVE	PC	116+46.77	1151153.87446	687648.34697				
CURVE	PI	116+86.79	1151120.75058	687670.80350	1000.00	79.99	4°35'00"	RIGHT
CURVE	CC		1150592.72202	686820.63450				
CURVE	PT	117+26.76	1151085.93813	687690.54131				
TANGENT	PT	117+26.76	1151085.93813	687690.54131				
TANGENT	POE	118+91.79	1150942.37778	687771.93656				

COUNTY ROAD 658 ALIGNMENT INFORMATION								
ELEMENT	POINT TYPE	STATION	NORTHING	EASTING	RADIUS	LENGTH	DELTA/THETA	DIRECTION
TANGENT	POB	20+00.00	1151286.94531	687558.13082				
TANGENT	PC	20+23.67	1151300.22786	687577.72287				
CURVE	PC	20+23.67	1151300.22786	687577.72287				
CURVE	PI	20+56.42	1151318.60413	687604.82828	72.00	61.47	48°54'52"	LEFT
CURVE	CC		1151359.82315	687537.31989				
CURVE	PRC	20+85.14	1151351.11088	687608.79084				
CURVE	PRC	20+85.14	1151351.11088	687608.79084				
CURVE	PI	21+51.94	1151417.42382	687616.87436	286.48	131.26	26°15'08"	RIGHT
CURVE	CC		1151316.44570	687893.16580				
CURVE	PT	22+16.40	1151473.32138	687653.45594				

COORDINATE POINTS
TABLES
SHEET 4 OF 11

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	27

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen®

DISCLAIMER
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CURVE TURNBULL_1
PI 197+05.55
PC 195+34.29
PT 198+64.29
Δ 37° 48′ 54.8″ (LT)
D 11° 27′ 33.0″
L 330.00′
T 171.26′
R 500.00′

SCALE
0 50 100 150

615

620

PC STA 195+34.29

TURNBULL 1

PT STA 198+64.29

TURNBULL TRAIL
S 6° 01′ 07″ W

POT STA 200+00.00
TURNBULL ℄ =
STA 621+05.00
RTE 47 ℄
0.00′ LT

MISSOURI ROUTE 47

POT STA 100+00.00
MERLIN ℄ =
STA 621+05.00
RTE 47 ℄
0.00′ RT

200

POT STA 200+00.00
RTE 47 SB ℄ =
STA 623+00.00
RTE 47 ℄ 18.00′ LT

S 83° 58′ 53″ E

S 83° 58′ 53″ E

100

POT STA 100+00.00
RTE 47 NB ℄ =
STA 623+00.00
RTE 47 ℄ 18.00′ RT

MATCHLINE STA. 624+00.00 (RTE 47)

MERLIN DRIVE
S 6° 01′ 07″ W

PC STA 103+36.58

105

MERLINDR 3

PT STA 106+66.58

CURVE MERLINDR_3
PI 105+53.08
PC 103+36.58
PT 106+66.58
Δ 94° 32′ 16.9″ (LT)
D 28° 38′ 52.4″
L 330.00′
T 216.50′
R 200.00′

COORDINATE POINTS
RTE 47 ALIGNMENTS
SHEET 5 OF 11

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	28

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DATE	DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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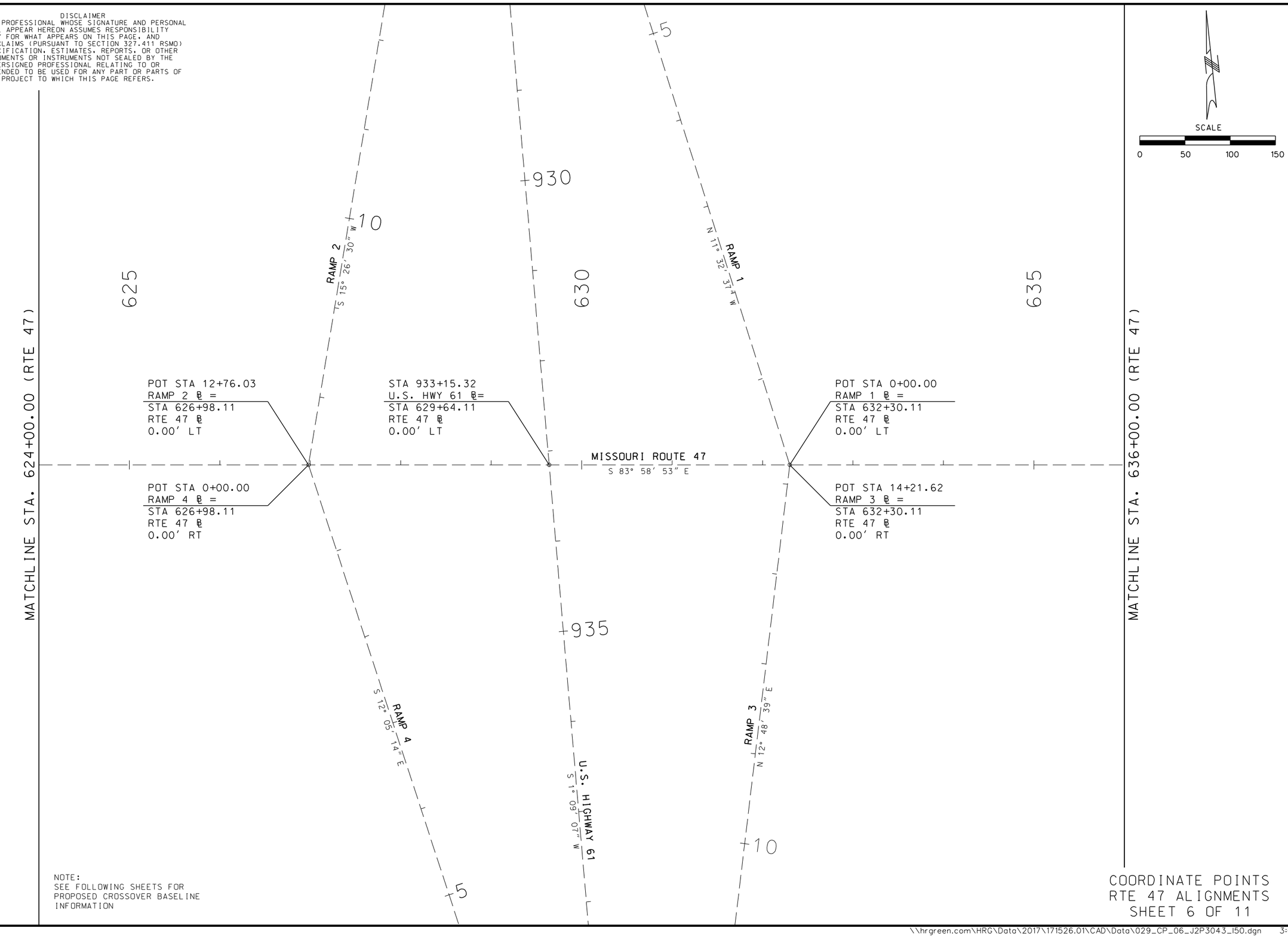

NOTE:
SEE FOLLOWING SHEETS FOR PROPOSED CROSSOVER BASELINE INFORMATION

COORDINATE POINTS
RTE 47 ALIGNMENTS
SHEET 6 OF 11

SCALE
0 50 100 150

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE NUMBER E-24833

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	29

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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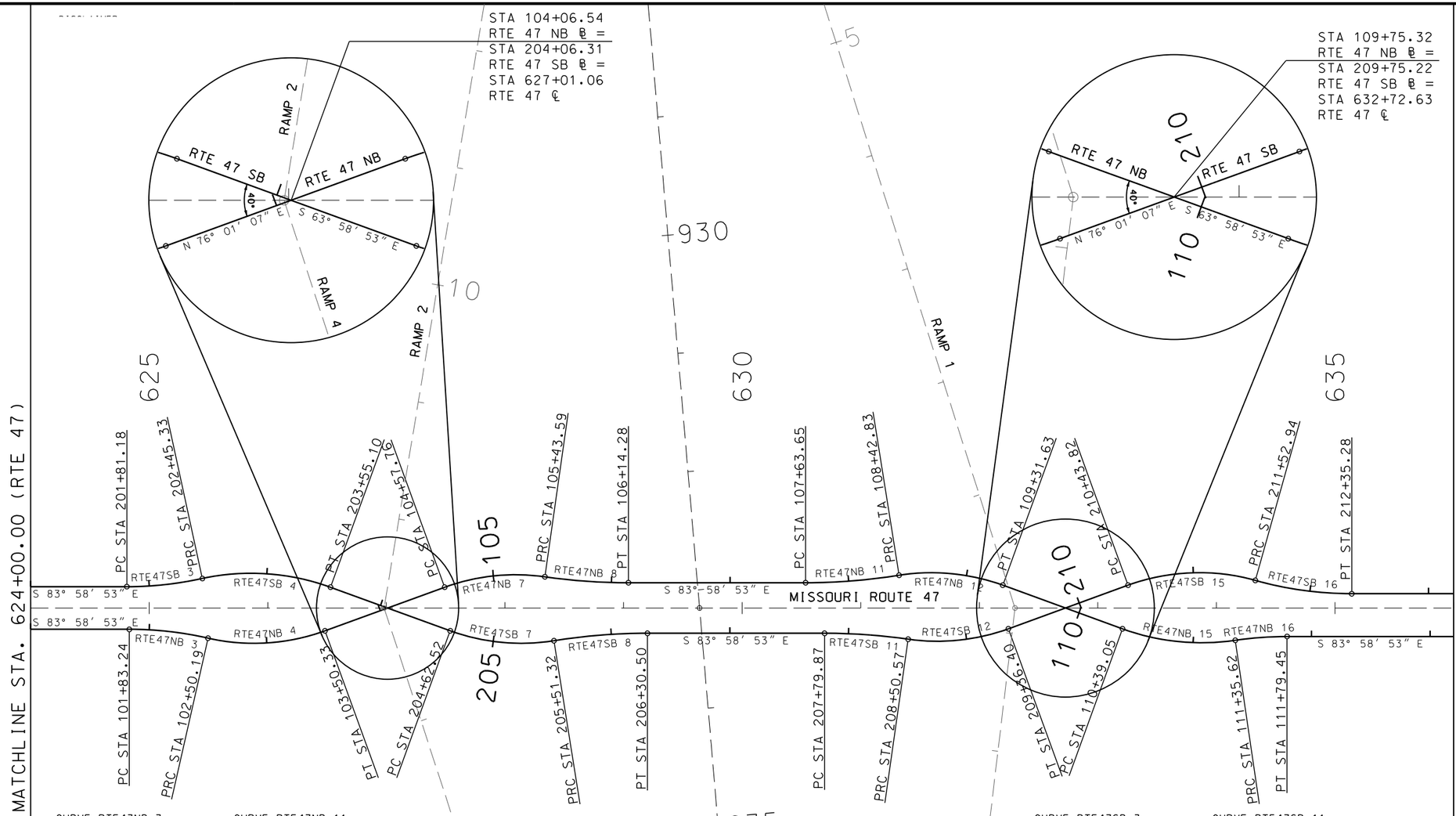

SCALE

0 50 100 150

CURVE RTE47NB_3
PI 102+16.86
PC 101+83.24
PRC 102+50.19
Δ 12° 47′ 11.8″ (RT)
D 19° 05′ 54.9″
L 66.95′
T 33.61′
R 300.00′

CURVE RTE47NB_4
PI 103+01.67
PRC 102+50.19
PT 103+50.33
Δ 32° 47′ 11.8″ (LT)
D 32° 44′ 25.6″
L 100.14′
T 51.48′
R 175.00′

CURVE RTE47NB_7
PI 105+01.55
PC 104+57.76
PRC 105+43.59
Δ 28° 06′ 04.4″ (RT)
D 32° 44′ 25.6″
L 85.83′
T 43.80′
R 175.00′

CURVE RTE47NB_8
PI 105+78.99
PRC 105+43.59
PT 106+14.28
Δ 8° 06′ 04.4″ (LT)
D 11° 27′ 33.0″
L 70.70′
T 35.41′
R 500.00′

CURVE RTE47NB_11
PI 108+03.32
PC 107+63.65
PRC 108+42.83
Δ 9° 04′ 24.2″ (LT)
D 11° 27′ 33.0″
L 79.18′
T 39.67′
R 500.00′

CURVE RTE47NB_12
PI 108+88.21
PRC 108+42.83
PT 109+31.63
Δ 29° 04′ 24.2″ (RT)
D 32° 44′ 25.6″
L 88.80′
T 45.38′
R 175.00′

CURVE RTE47NB_15
PI 110+88.35
PC 110+39.05
PRC 111+35.62
Δ 28° 22′ 21.0″ (LT)
D 29° 22′ 56.8″
L 96.56′
T 49.29′
R 195.00′

CURVE RTE47NB_16
PI 111+57.57
PRC 111+35.62
PT 111+79.45
Δ 8° 22′ 21.0″ (RT)
D 19° 05′ 54.9″
L 43.84′
T 21.96′
R 300.00′

CURVE RTE47SB_3
PI 202+13.38
PC 201+81.18
PRC 202+45.33
Δ 12° 15′ 09.7″ (LT)
D 19° 05′ 54.9″
L 64.15′
T 32.20′
R 300.00′

CURVE RTE47SB_4
PI 203+01.71
PRC 202+45.33
PT 203+55.10
Δ 32° 15′ 09.7″ (RT)
D 29° 22′ 56.8″
L 109.77′
T 56.38′
R 195.00′

CURVE RTE47SB_7
PI 205+07.90
PC 204+62.52
PRC 205+51.32
Δ 29° 04′ 24.2″ (LT)
D 32° 44′ 25.6″
L 88.80′
T 45.38′
R 175.00′

CURVE RTE47SB_8
PI 205+91.00
PRC 205+51.32
PT 206+30.50
Δ 9° 04′ 24.2″ (RT)
D 11° 27′ 33.0″
L 79.18′
T 39.67′
R 500.00′

CURVE RTE47SB_11
PI 208+15.28
PI 207+79.87
PRC 208+50.57
Δ 8° 06′ 04.4″ (RT)
D 11° 27′ 33.0″
L 70.70′
T 35.41′
R 500.00′

CURVE RTE47SB_12
PI 208+94.36
PRC 208+50.57
PT 209+36.40
Δ 28° 06′ 04.4″ (LT)
D 32° 44′ 25.6″
L 85.83′
T 43.80′
R 175.00′

CURVE RTE47SB_15
PI 211+00.22
PC 210+43.82
PRC 211+52.94
Δ 35° 43′ 33.1″ (RT)
D 32° 44′ 25.6″
L 109.12′
T 56.40′
R 175.00′

CURVE RTE47SB_16
PI 211+94.37
PRC 211+52.94
PT 212+35.28
Δ 15° 43′ 33.1″ (LT)
D 19° 05′ 54.9″
L 82.34′
T 41.43′
R 300.00′

NOTE:
SEE FOLLOWING SHEETS FOR PROPOSED CROSSOVER BASELINE INFORMATION

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COORDINATE POINTS CROSSOVER ALIGNMENTS SHEET 7 OF 11

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE NUMBER E-29833

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	30

COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

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

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

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CURVE RAMP2RT_3
PI 1+35.30
PC 0+30.62
PT 2+02.78
Δ 82° 12′ 03.0″ (RT)
D 47° 44′ 47.3″
L 172.16′
T 104.68′
R 120.00′

CURVE RAMP2LT_1
PI 0+91.30
PC 0+00.00
PRC 1+36.20
Δ 97° 32′ 55.7″ (LT)
D 71° 37′ 11.0″
L 136.20′
T 91.30′
R 80.00′

CURVE RAMP2LT_2
PI 1+49.09
PRC 1+36.20
PT 1+61.94
Δ 7° 45′ 43.9″ (RT)
D 30° 09′ 20.4″
L 25.74′
T 12.89′
R 190.00′

CURVE RAMP1LT_1
PI 0+08.73
PC 0+00.00
PCC 0+17.45
Δ 2° 00′ 00.5″ (LT)
D 11° 27′ 33.0″
L 17.45′
T 8.73′
R 500.00′

CURVE RAMP1LT_2
PI 0+64.77
PCC 0+17.45
PCC 1+07.59
Δ 43° 02′ 18.1″ (LT)
D 47° 44′ 47.3″
L 90.14′
T 47.32′
R 120.00′

CURVE RAMP1LT_3
PI 1+68.30
PCC 1+07.59
PT 2+16.72
Δ 62° 31′ 25.4″ (LT)
D 57° 17′ 44.8″
L 109.12′
T 60.71′
R 100.00′

CURVE RAMP1RT_1
PI 1+37.13
PC 0+00.00
PT 2+26.75
Δ 81° 11′ 51.2″ (RT)
D 35° 48′ 35.5″
L 226.75′
T 137.13′
R 160.00′

SCALE
0 50 100 150

CURVE RAMP4RT_1
PI 1+02.12
PC 0+00.00
PT 1+71.25
Δ 78° 29′ 38.9″ (RT)
D 45° 50′ 11.8″
L 171.25′
T 102.12′
R 125.00′

CURVE RAMP4LT_3
PI 0+67.64
PC 0+19.60
PCC 1+15.37
Δ 10° 58′ 27.8″ (LT)
D 11° 27′ 33.0″
L 95.77′
T 48.03′
R 500.00′

CURVE RAMP4LT_4
PI 2+17.34
PCC 1+15.37
PT 2+67.95
Δ 97° 07′ 53.2″ (LT)
D 63° 39′ 43.1″
L 152.57′
T 101.96′
R 90.00′

CURVE RAMP3LT_1
PI 0+48.99
PC 0+00.00
PCC 0+96.09
Δ 27° 31′ 37.5″ (LT)
D 28° 38′ 52.4″
L 96.09′
T 48.99′
R 200.00′

CURVE RAMP3RT_1
PI 1+52.39
PC 0+00.00
PT 2+52.91
Δ 80° 30′ 17.1″ (RT)
D 31° 49′ 51.6″
L 252.91′
T 152.39′
R 180.00′

CURVE RAMP3LT_2
PI 1+22.13
PCC 0+96.09
PCC 1+46.91
Δ 30° 58′ 29.5″ (LT)
D 60° 57′ 10.6″
L 50.82′
T 26.05′
R 94.00′

CURVE RAMP3LT_3
PI 1+98.98
PCC 1+46.91
PT 2+47.15
Δ 38° 17′ 25.0″ (LT)
D 38° 11′ 49.9″
L 100.24′
T 52.07′
R 150.00′

MISSOURI ROUTE 47
U.S. HIGHWAY 61
RAMP 2
RAMP 1
RAMP 4
RAMP 3
RAMP2RT 3
RAMP2LT 1
RAMP2LT 2
RAMP1LT 1
RAMP1LT 2
RAMP1LT 3
RAMP1RT 1
RAMP4RT 1
RAMP4LT 4
RAMP3LT 1
RAMP3LT 2
RAMP3LT 3
RAMP3RT 1
+930
625
630
635
105
210
205
110
215
115
+10
+5

COORDINATE POINTS
RAMP ALIGNMENTS
SHEET 8 OF 11

DANIEL T. SHANE NUMBER E-24833 REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023
ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 31
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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

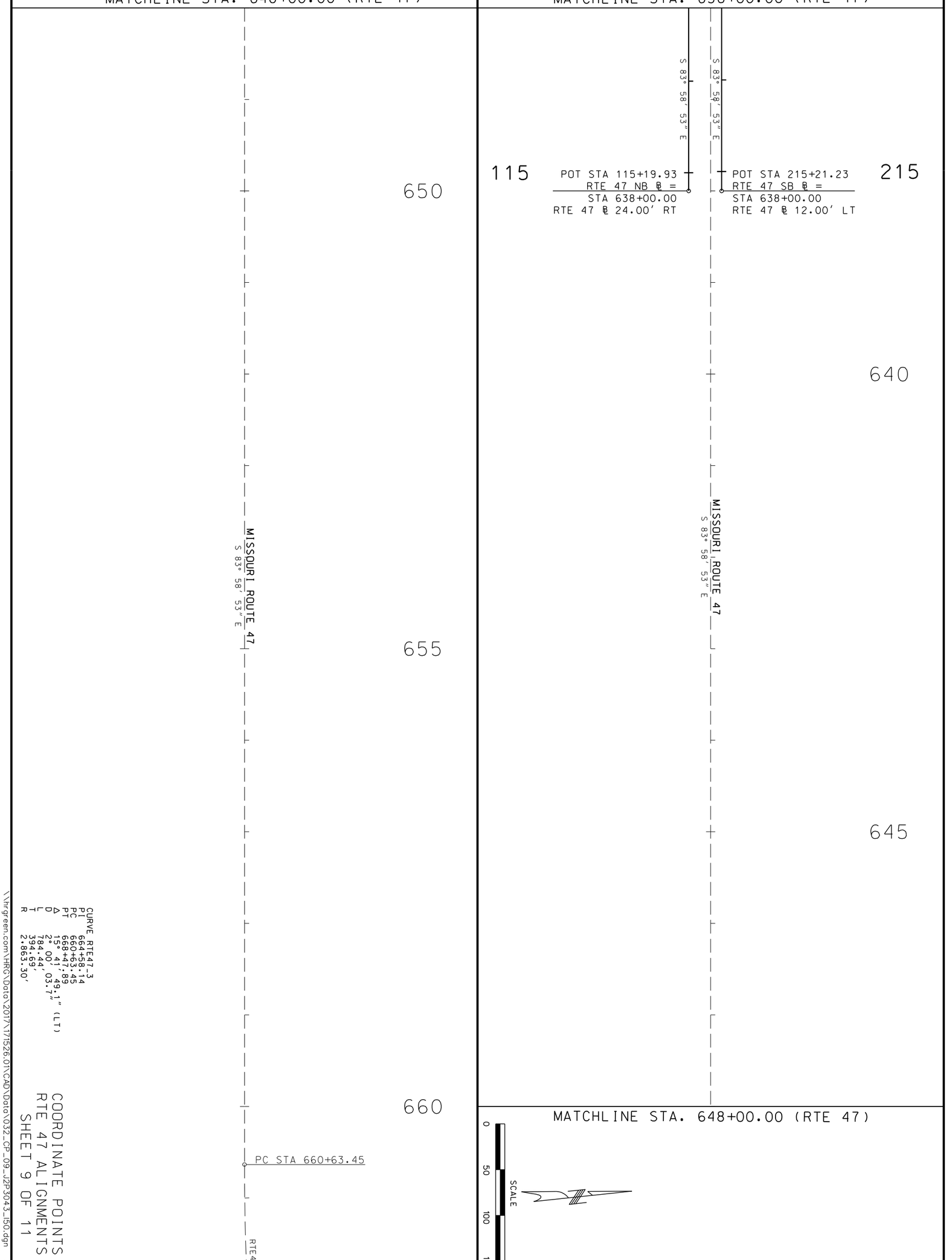
DATE | DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

MATCHLINE STA. 648+00.00 (RTE 47)

MATCHLINE STA. 636+00.00 (RTE 47)



CURVE RTE47_3
PI 664+58.14
PC 660+63.45
PT 668+47.89
Δ 15° 49' 03.1" (LT)
D 2° 00' 39.1"
L 784.44'
T 394.69'
R 2,863.30'

COORDINATE POINTS
RTE 47 ALIGNMENTS
SHEET 9 OF 11

MATCHLINE STA. 648+00.00 (RTE 47)

0 50 100 150
SCALE

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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

DATE	DESCRIPTION

BRIDGE NO.
PROJECT NO.
CONTRACT ID.
JOB NO. J2P3043
COUNTY LINCOLN
DISTRICT NE
ROUTE 47
STATE MO
SHEET NO. 32
DATE PREPARED 10/25/2023

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

STATE OF MISSOURI
DANIEL T. SHANEL
E-24803
NUMBER
ENGINEER

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

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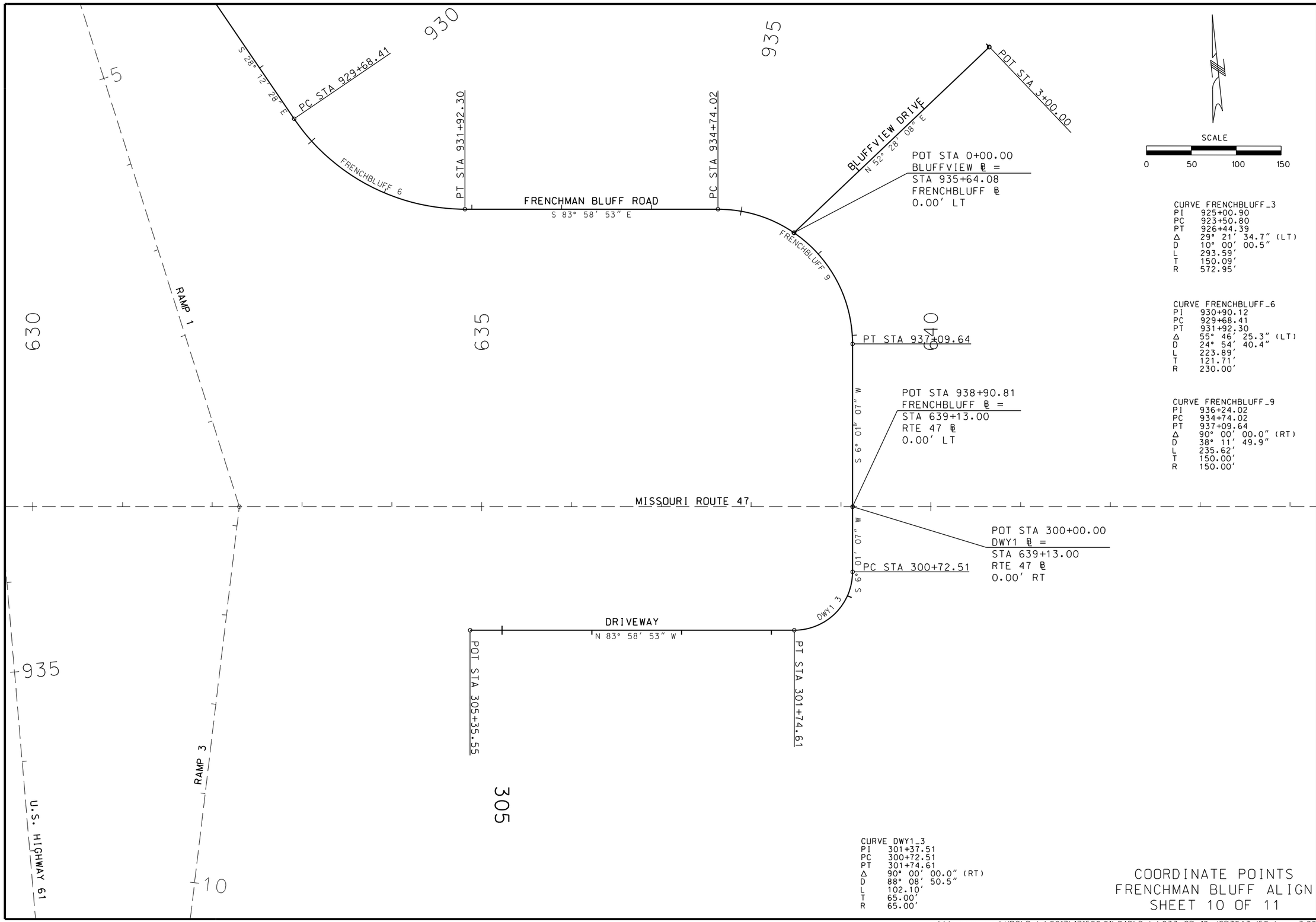

COORDINATE POINTS
FRENCHMAN BLUFF ALIGN
SHEET 10 OF 11

STATE OF MISSOURI
DANIEL T. SHANE NUMBER
E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	33
COUNTY	
LINCOLN	
JOB NO.	
J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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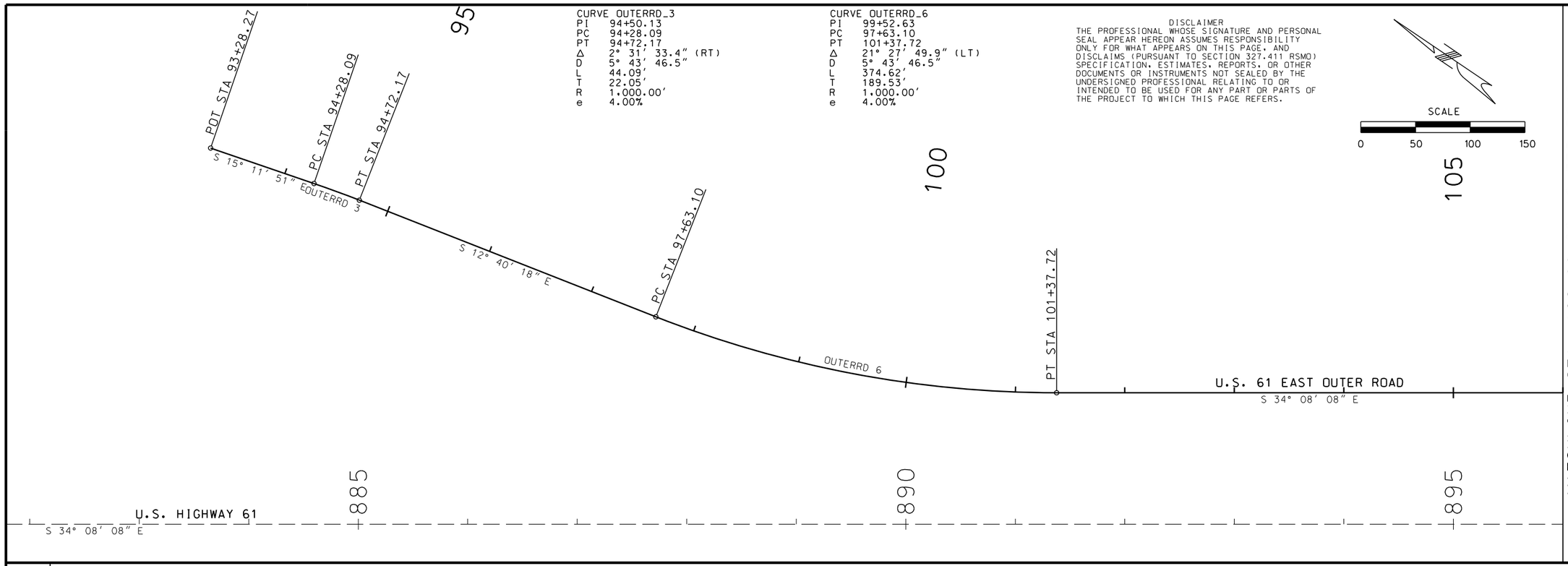
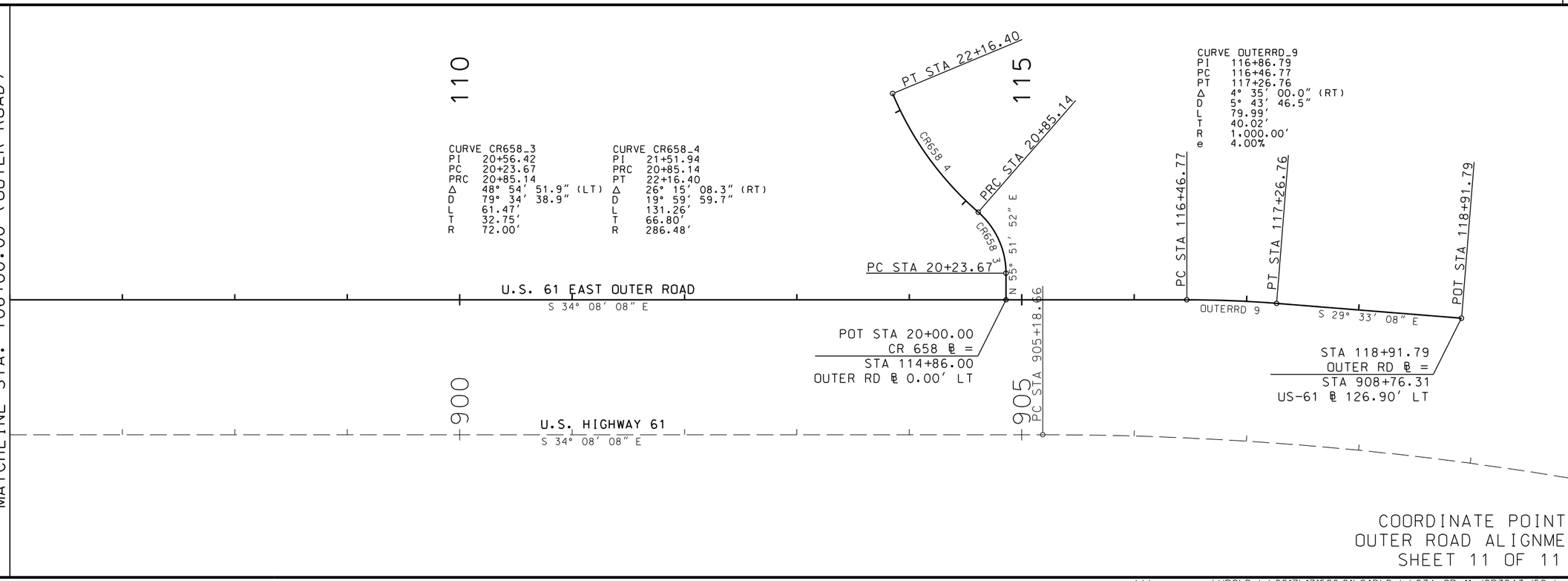
HRGreen.





COORDINATE POINTS
OUTER ROAD ALIGNMENTS
SHEET 11 OF 11

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	34
COUNTY	
LINCOLN	
JOB NO.	
J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

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

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

HR GREEN, INC.
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SCALE
0 20 40 60

CONSTRUCTION LIMITS

GRADING LIMITS MATCH EXISTING

RAMP 1

FRENCHMAN BLUFF ROAD

SRM

GRADING LIMITS MATCH EXISTING

REMOVE EXISTING FRENCHMAN BLUFF ROAD PAVEMENT

EXIST. R/W

EXIST. R/W

CONSTRUCTION LIMITS

NORTHBOUND ROUTE 47

SOUTHBOUND ROUTE 47

GRADING PLAN
FRENCHMAN BLUFF
SHEET 1 OF 1

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	35

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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NOTES:
SEE COORDINATE POINT SHEETS FOR ALIGNMENT INFORMATION.

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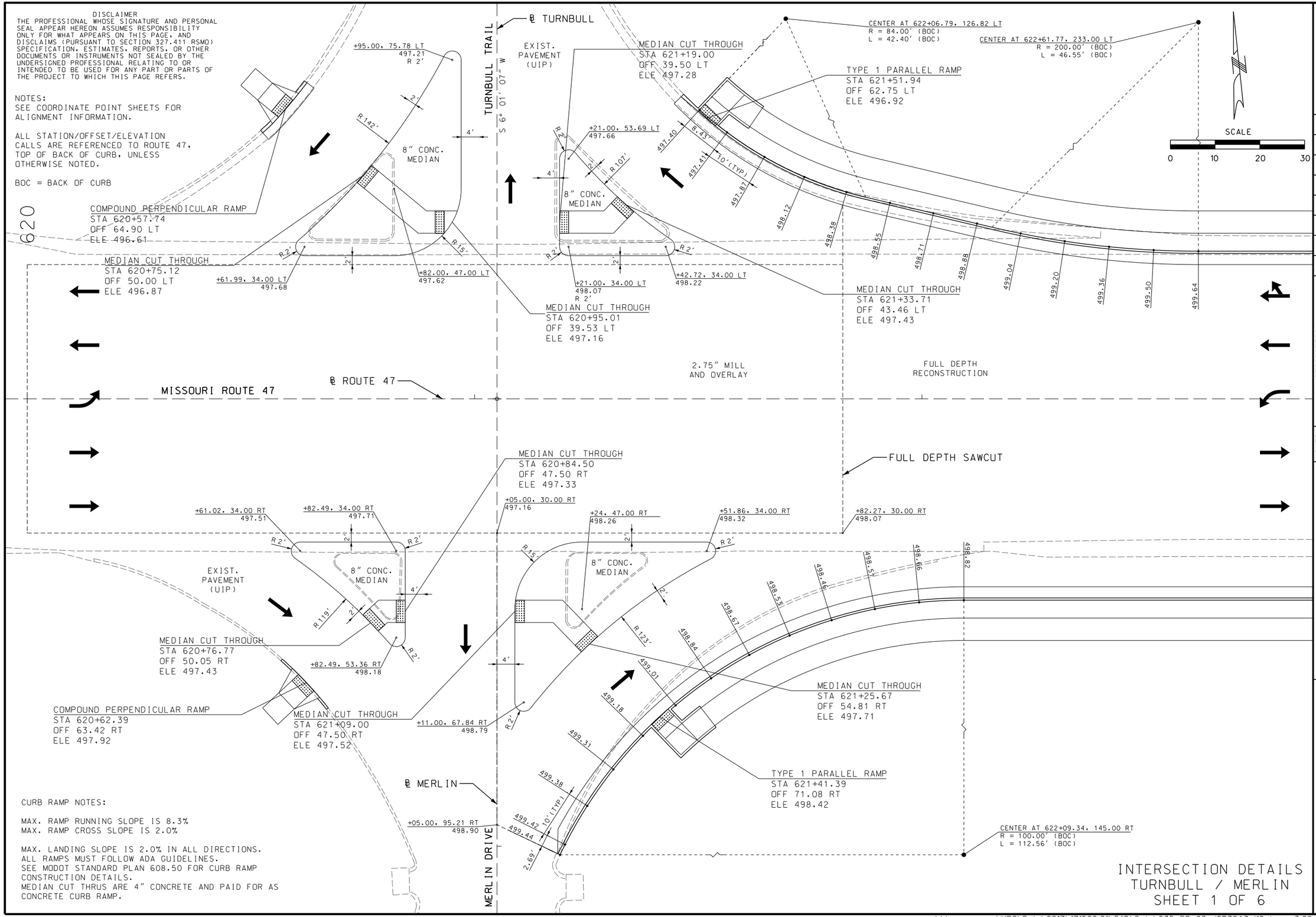
BOC = BACK OF CURB



CURB RAMP NOTES:

MAX. RAMP RUNNING SLOPE IS 8.3%
MAX. RAMP CROSS SLOPE IS 2.0%

MAX. LANDING SLOPE IS 2.0% IN ALL DIRECTIONS.
ALL RAMPS MUST FOLLOW ADA GUIDELINES.
SEE MODOT STANDARD PLAN 608.50 FOR CURB RAMP CONSTRUCTION DETAILS.
MEDIAN CUT THRUS ARE 4" CONCRETE AND PAID FOR AS CONCRETE CURB RAMP.

INTERSECTION DETAILS
TURNBULL / MERLIN
SHEET 1 OF 6

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE NUMBER E-21833

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	36

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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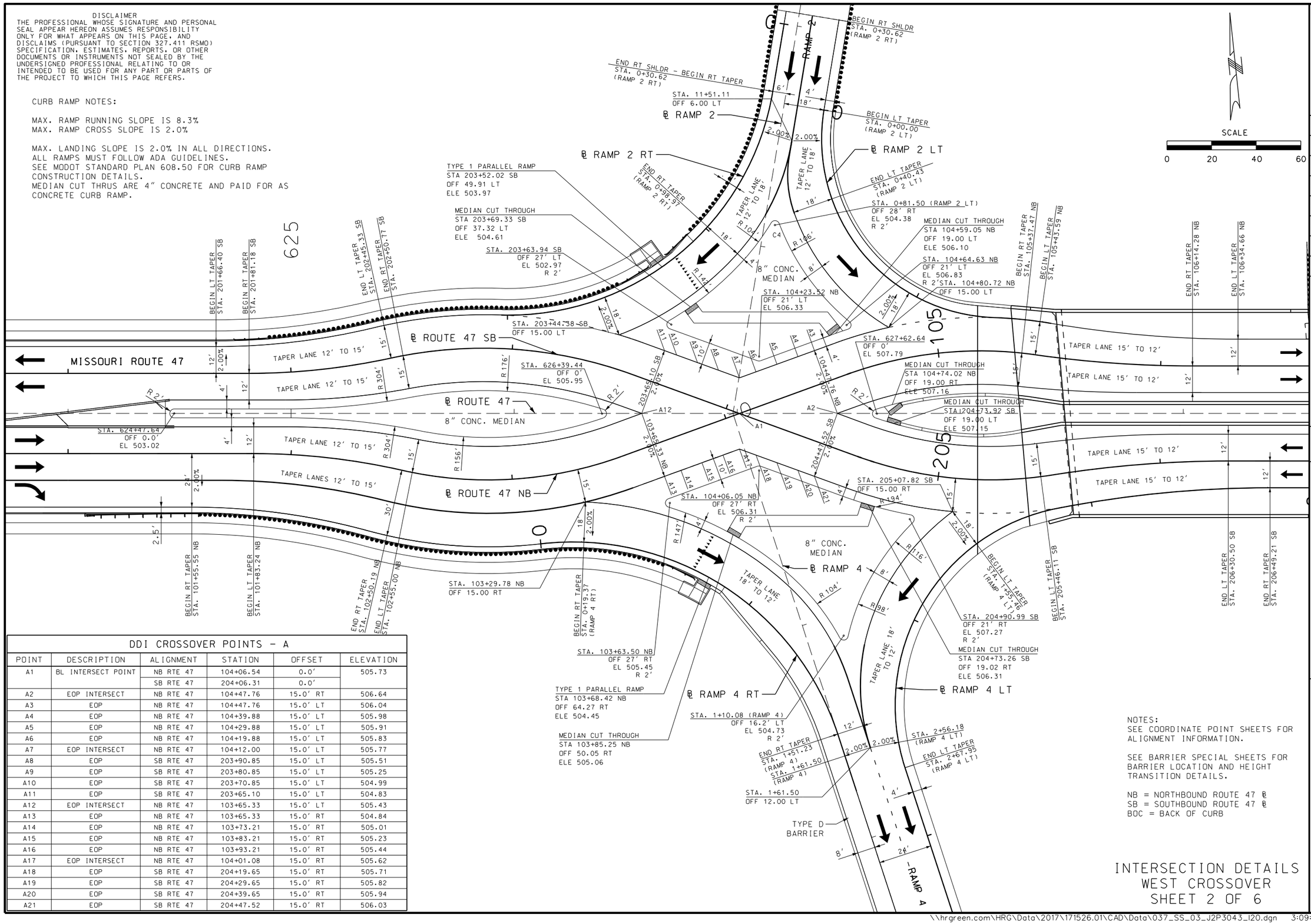

DDI CROSSOVER POINTS - A					
POINT	DESCRIPTION	ALIGNMENT	STATION	OFFSET	ELEVATION
A1	BL INTERSECT POINT	NB RTE 47	104+06.54	0.0'	505.73
		SB RTE 47	204+06.31	0.0'	
A2	EOP INTERSECT	NB RTE 47	104+47.76	15.0' RT	506.64
A3	EOP	NB RTE 47	104+47.76	15.0' LT	506.04
A4	EOP	NB RTE 47	104+39.88	15.0' LT	505.98
A5	EOP	NB RTE 47	104+29.88	15.0' LT	505.91
A6	EOP	NB RTE 47	104+19.88	15.0' LT	505.83
A7	EOP INTERSECT	NB RTE 47	104+12.00	15.0' LT	505.77
A8	EOP	SB RTE 47	203+90.85	15.0' LT	505.51
A9	EOP	SB RTE 47	203+80.85	15.0' LT	505.25
A10	EOP	SB RTE 47	203+70.85	15.0' LT	504.99
A11	EOP	SB RTE 47	203+65.10	15.0' LT	504.83
A12	EOP INTERSECT	NB RTE 47	103+65.33	15.0' LT	505.43
A13	EOP	NB RTE 47	103+65.33	15.0' RT	504.84
A14	EOP	NB RTE 47	103+73.21	15.0' RT	505.01
A15	EOP	NB RTE 47	103+83.21	15.0' RT	505.23
A16	EOP	NB RTE 47	103+93.21	15.0' RT	505.44
A17	EOP INTERSECT	NB RTE 47	104+01.08	15.0' RT	505.62
A18	EOP	SB RTE 47	204+19.65	15.0' RT	505.71
A19	EOP	SB RTE 47	204+29.65	15.0' RT	505.82
A20	EOP	SB RTE 47	204+39.65	15.0' RT	505.94
A21	EOP	SB RTE 47	204+47.52	15.0' RT	506.03

NOTES:
SEE COORDINATE POINT SHEETS FOR ALIGNMENT INFORMATION.

SEE BARRIER SPECIAL SHEETS FOR BARRIER LOCATION AND HEIGHT TRANSITION DETAILS.

NB = NORTHBOUND ROUTE 47 ℄
SB = SOUTHBOUND ROUTE 47 ℄
BOC = BACK OF CURB

INTERSECTION DETAILS
WEST CROSSOVER
SHEET 2 OF 6

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE NUMBER E-29833

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	37

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION
DATE

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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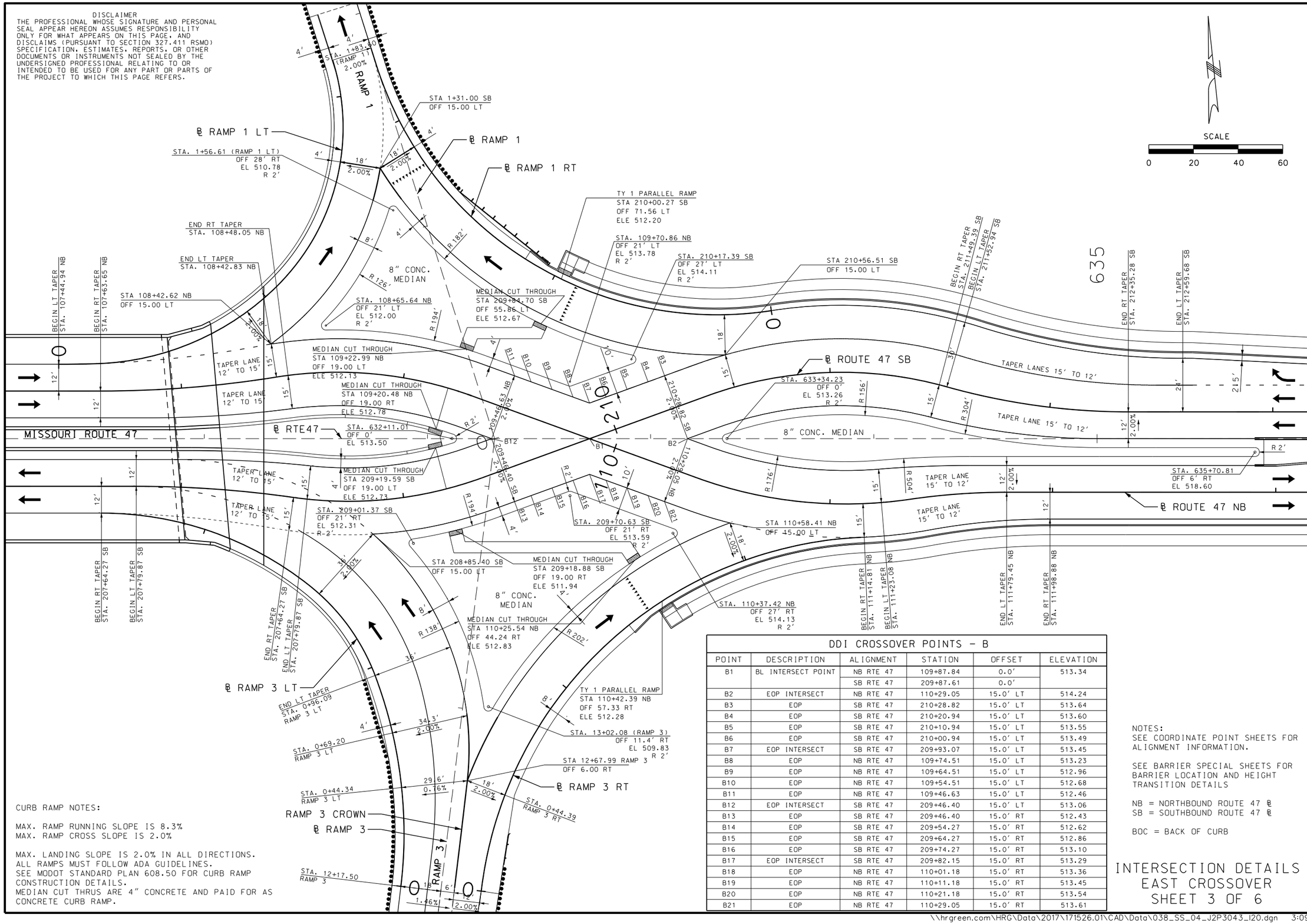

DDI CROSSOVER POINTS - B					
POINT	DESCRIPTION	ALIGNMENT	STATION	OFFSET	ELEVATION
B1	BL INTERSECT POINT	NB RTE 47	109+87.84	0.0'	513.34
		SB RTE 47	209+87.61	0.0'	
B2	EOP INTERSECT	NB RTE 47	110+29.05	15.0' LT	514.24
B3	EOP	SB RTE 47	210+28.82	15.0' LT	513.64
B4	EOP	SB RTE 47	210+20.94	15.0' LT	513.60
B5	EOP	SB RTE 47	210+10.94	15.0' LT	513.55
B6	EOP	SB RTE 47	210+00.94	15.0' LT	513.49
B7	EOP INTERSECT	SB RTE 47	209+93.07	15.0' LT	513.45
B8	EOP	NB RTE 47	109+74.51	15.0' LT	513.23
B9	EOP	NB RTE 47	109+64.51	15.0' LT	512.96
B10	EOP	NB RTE 47	109+54.51	15.0' LT	512.68
B11	EOP	NB RTE 47	109+46.63	15.0' LT	512.46
B12	EOP INTERSECT	SB RTE 47	209+46.40	15.0' LT	513.06
B13	EOP	SB RTE 47	209+46.40	15.0' RT	512.43
B14	EOP	SB RTE 47	209+54.27	15.0' RT	512.62
B15	EOP	SB RTE 47	209+64.27	15.0' RT	512.86
B16	EOP	SB RTE 47	209+74.27	15.0' RT	513.10
B17	EOP INTERSECT	SB RTE 47	209+82.15	15.0' RT	513.29
B18	EOP	NB RTE 47	110+01.18	15.0' RT	513.36
B19	EOP	NB RTE 47	110+11.18	15.0' RT	513.45
B20	EOP	NB RTE 47	110+21.18	15.0' RT	513.54
B21	EOP	NB RTE 47	110+29.05	15.0' RT	513.61

CURB RAMP NOTES:

MAX. RAMP RUNNING SLOPE IS 8.3%
MAX. RAMP CROSS SLOPE IS 2.0%

MAX. LANDING SLOPE IS 2.0% IN ALL DIRECTIONS.
ALL RAMPS MUST FOLLOW ADA GUIDELINES.
SEE MODOT STANDARD PLAN 608.50 FOR CURB RAMP CONSTRUCTION DETAILS.
MEDIAN CUT THRUS ARE 4" CONCRETE AND PAID FOR AS CONCRETE CURB RAMP.

NOTES:
SEE COORDINATE POINT SHEETS FOR ALIGNMENT INFORMATION.

SEE BARRIER SPECIAL SHEETS FOR BARRIER LOCATION AND HEIGHT TRANSITION DETAILS

NB = NORTHBOUND ROUTE 47 ℄
SB = SOUTHBOUND ROUTE 47 ℄

BOC = BACK OF CURB

INTERSECTION DETAILS EAST CROSSOVER SHEET 3 OF 6

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-21833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	38

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

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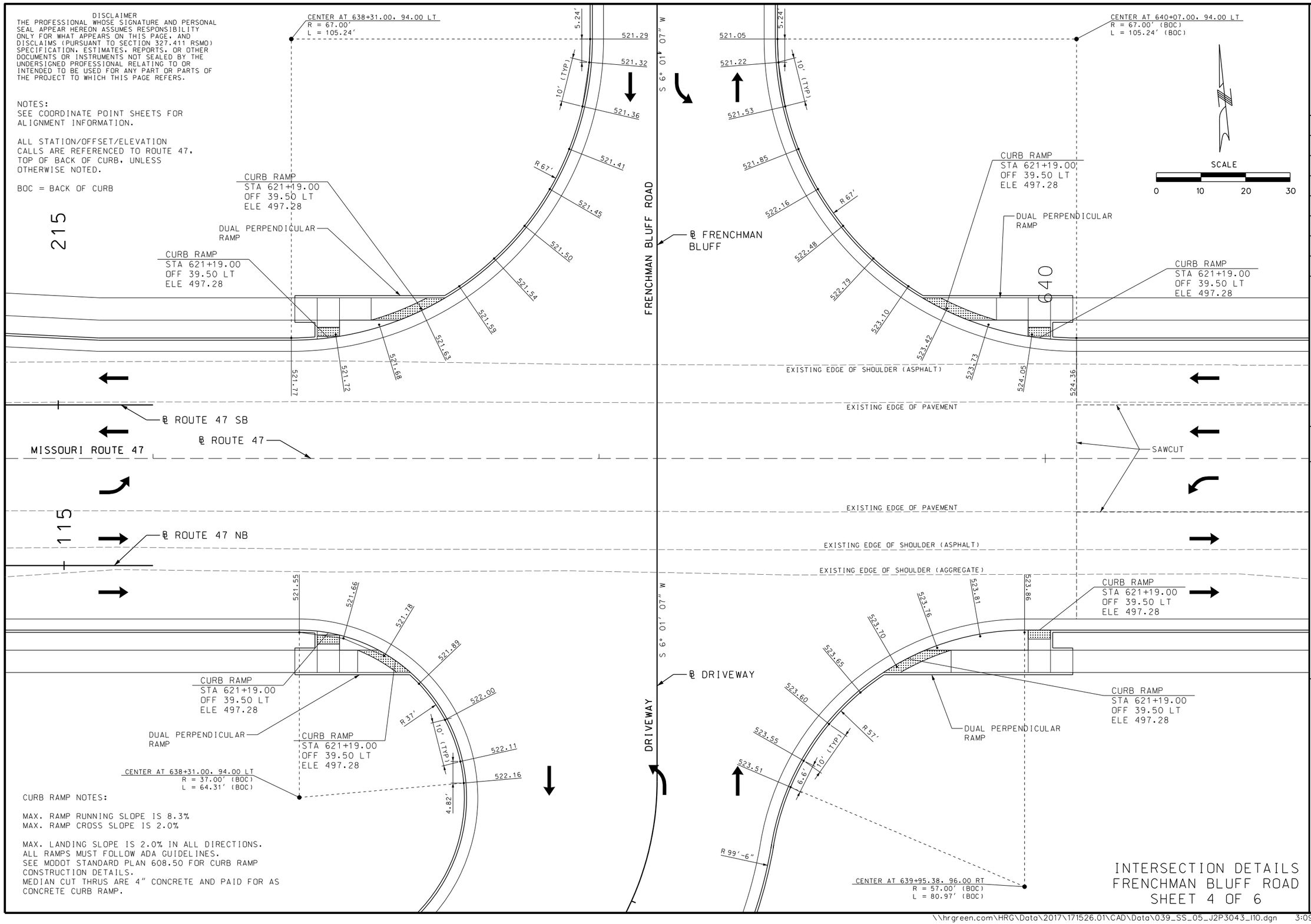

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MEDIAN CUT THRUS ARE 4" CONCRETE AND PAID FOR AS CONCRETE CURB RAMP.

INTERSECTION DETAILS
FRENCHMAN BLUFF ROAD
SHEET 4 OF 6

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	39
COUNTY	
LINCOLN	
JOB NO.	
J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

DESCRIPTION | DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
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ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
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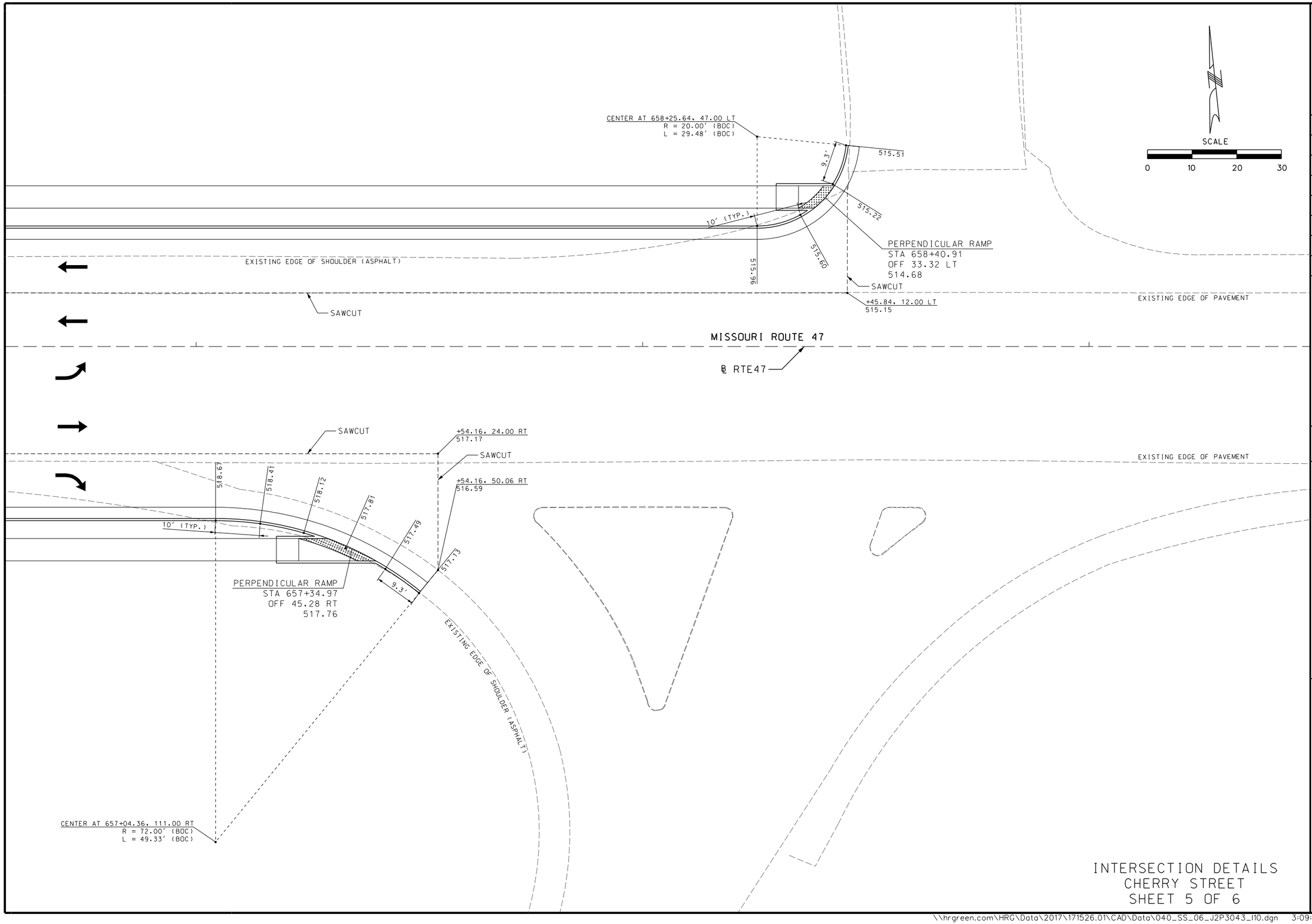

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	40

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

DESCRIPTION	DATE

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CORPORATE LICENSE #2002006608

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935

PC STA 934+74.02

FRENCHMAN BLUFF DRIVE

CENTER AT 935+25.45, 74.67 LT
R = 57.00' (BOC)
L = 60.88' (BOC)

514.72
514.88
515.04
515.20
515.35
515.51
515.67
515.83

POT STA 0+00.00

10' (TYP)

0.93'

CURB HEIGHT FROM
8" TO 0" IN 5'

BLUFFVIEW DRIVE

N 52° 28' 08" E

℄ BLUFFVIEW

516.10
516.26
516.41
516.57
516.72
516.87
517.03
517.18
517.34
516.07

1.78'

10' (TYP)

℄ FRENCHMAN BLUFF

CENTER AT 936+21.03, 79.53 LT
R = 57.00' (BOC)
L = 81.95' (BOC)

20

℄ OUTER ROAD

SCALE
0 10 20 30

500.56
500.06
499.57
499.07
498.59
498.13
497.70

CENTER AT 114+37.75, 42.00 LT
R = 26.00' (BOC)
L = 57.93' (BOC)

7.81'

10' (TYP)

PRC STA 20+85.14

COUNTY ROAD 658

POT STA 20+00.00

PC STA 20+23.67

℄ CR 658

N 55° 51' 52" E

115

498.75
498.74
498.72
498.71
498.70
498.68
498.67
498.66
498.64
498.63
498.62

7.86'

10' (TYP)

END TAPER
STA. 115+17.77
OFF 25.45 LT

CENTER AT 115+23.65, 54.86 LT
R = 26.00' (BOC)
L = 69.88' (BOC)

EAST U.S. 61 OUTER ROAD

5:1 TAPER

BEGIN TAPER
STA. 115+85.00
OFF 12.00 LT

NOTES:
SEE COORDINATE POINT SHEETS FOR ALIGNMENT INFORMATION.

ALL STATION/OFFSET/ELEVATION CALLS ARE REFERENCED TO FRENCHMAN BLUFF, TOP OF BACK OF CURB, OR EAST U.S. 61 OUTER ROAD, EDGE OF SHOULDER, UNLESS OTHERWISE NOTED.

BOC = BACK OF CURB

INTERSECTION DETAILS
BLUFFVIEW DR & CR 658
SHEET 6 OF 6

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED: 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	41

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

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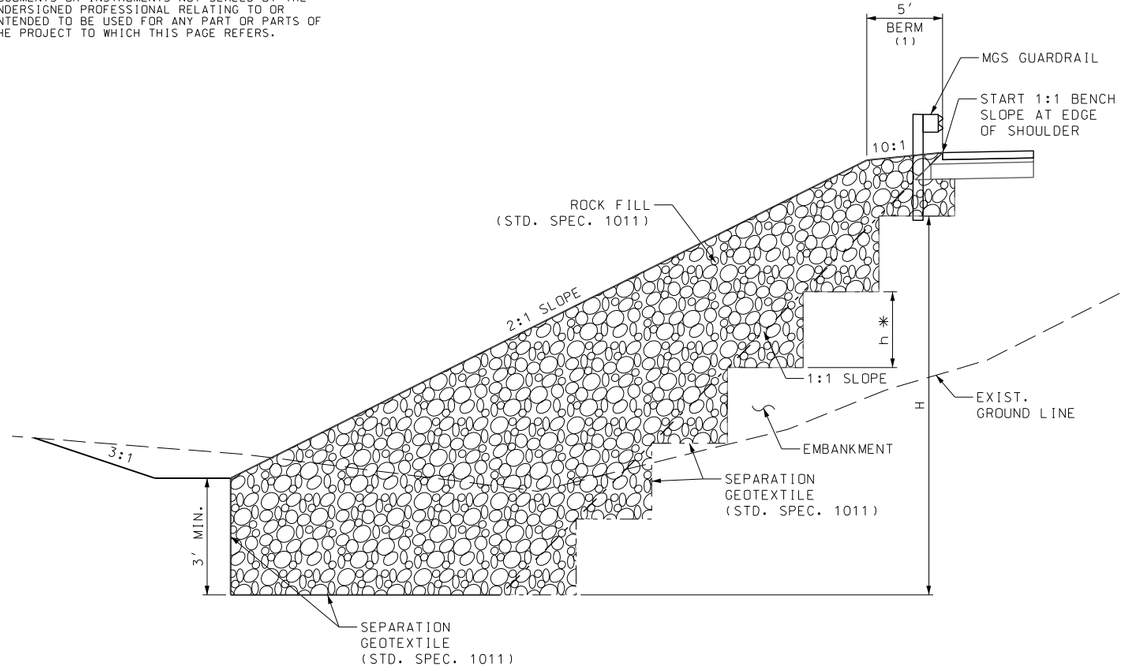
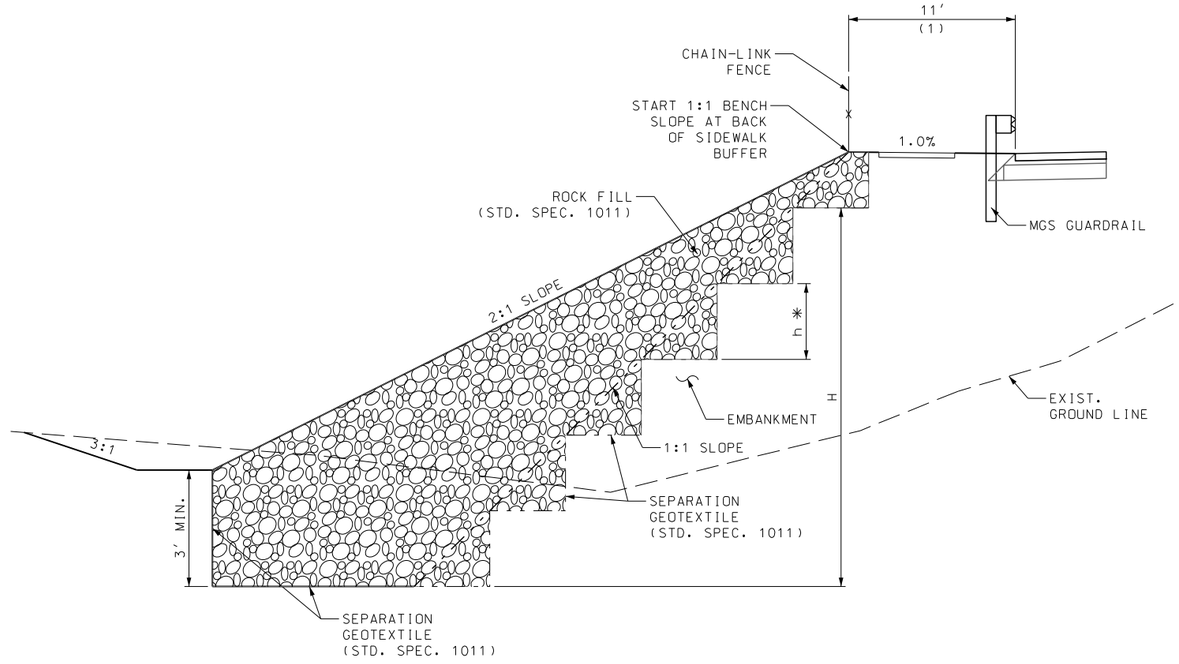


BENCHING AND ROCK FILL DETAIL

STA. 626+88.33 TO STA. 627+39.43 (ROUTE 47 RIGHT)
STA. 626+67.01 TO STA. 627+02.89 (ROUTE 47 LEFT)
STA. 10+94.24 TO STA. 11+51.11 (RAMP 2 RIGHT)
STA. 01+61.50 TO STA. 03+50.37 (RAMP 4 RIGHT)

(1) USE 4" MINUS ROCK WITHIN 5′ GUARDRAIL PLATFORM FOR DRIVING AND MAINTENANCE PURPOSES. 4" MINUS ROCK SHALL BE INCIDENTAL TO ROCK FILL

* BENCHING HEIGHT (h) SHALL BE 3′ MINIMUM TO 10′ MAXIMUM.



BENCHING AND ROCK FILL DETAIL WITH SIDEWALK

STA. 624+20.08 TO STA. 626+88.33 (ROUTE 47 RIGHT)
STA. 624+60.48 TO STA. 626+67.01 (ROUTE 47 LEFT)

ROCK BENCHING
DETAIL
SHEET 1 OF 1

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE NUMBER E-24833

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

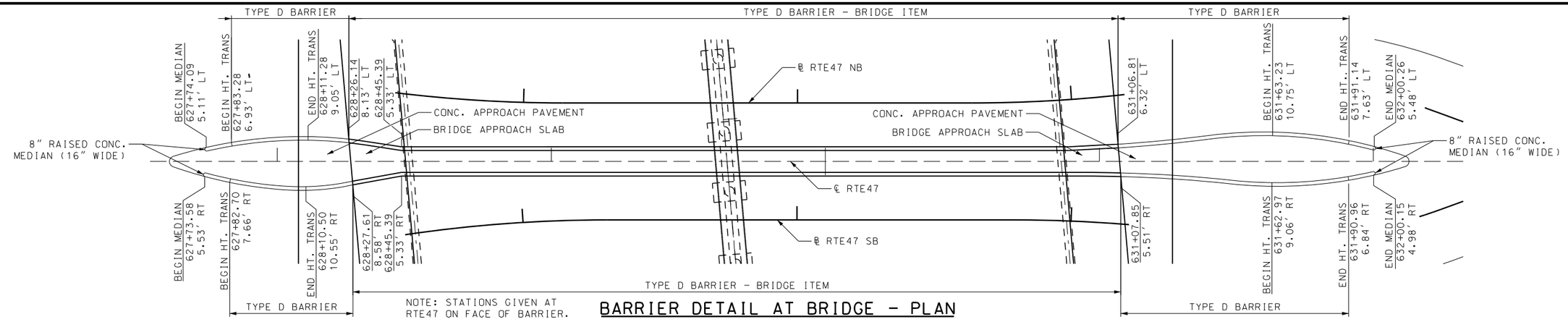
DATE PREPARED: 10/25/2023
ROUTE: 47 | STATE: MO
DISTRICT: NE | SHEET NO.: 42
COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

DATE	DESCRIPTION

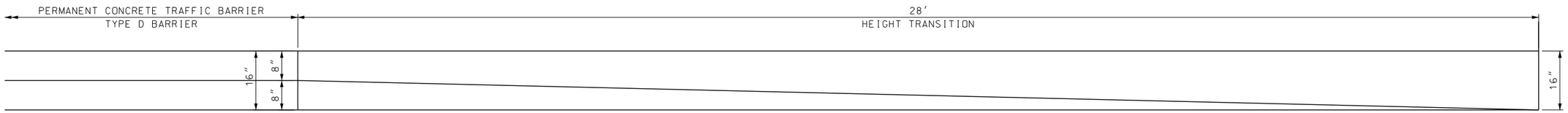
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

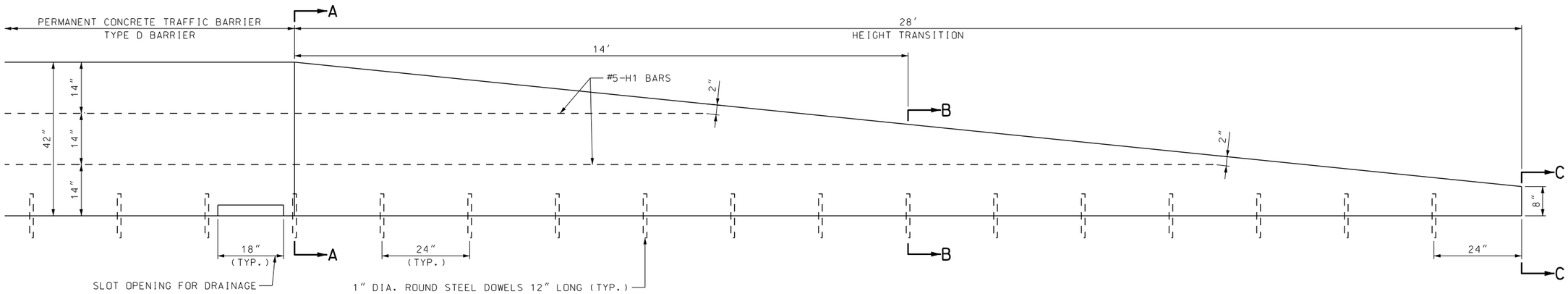


NOTE: STATIONS GIVEN AT RTE47 ON FACE OF BARRIER.

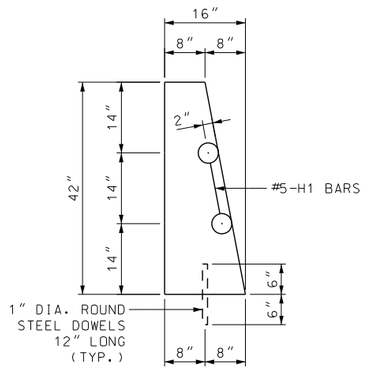
BARRIER DETAIL AT BRIDGE - PLAN



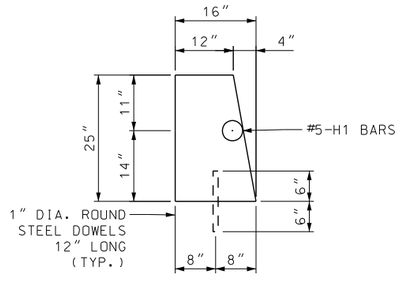
PERMANENT CONCRETE TRAFFIC BARRIER TYPE D HEIGHT TRANSITION - PLAN



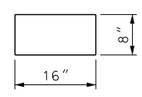
PERMANENT CONCRETE TRAFFIC BARRIER TYPE D HEIGHT TRANSITION - ELEVATION



SECTION A-A



SECTION B-B



SECTION C-C

NOTES:

PERMANENT CONCRETE TRAFFIC BARRIER TYPE D AND HEIGHT TRANSITION SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 617 OF THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND IN ACCORDANCE WITH MISSOURI STANDARD PLAN 617.10 EXCEPT AS MODIFIED BY THIS DRAWING.

PERMANENT CONCRETE TRAFFIC BARRIER, TYPE D HEIGHT TRANSITION TO BE PAID FOR AS CONCRETE TRAFFIC BARRIER, TYPE D OR CONCRETE TRAFFIC BARRIER, TYPE D (MOMENT SLAB).

MIN. PAVEMENT THICKNESS UNDER BARRIER SHALL BE 7.5" CONCRETE.

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TRANSITION DETAIL
BARRIER HEIGHT
SHEET 1 OF 1

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-21833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

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

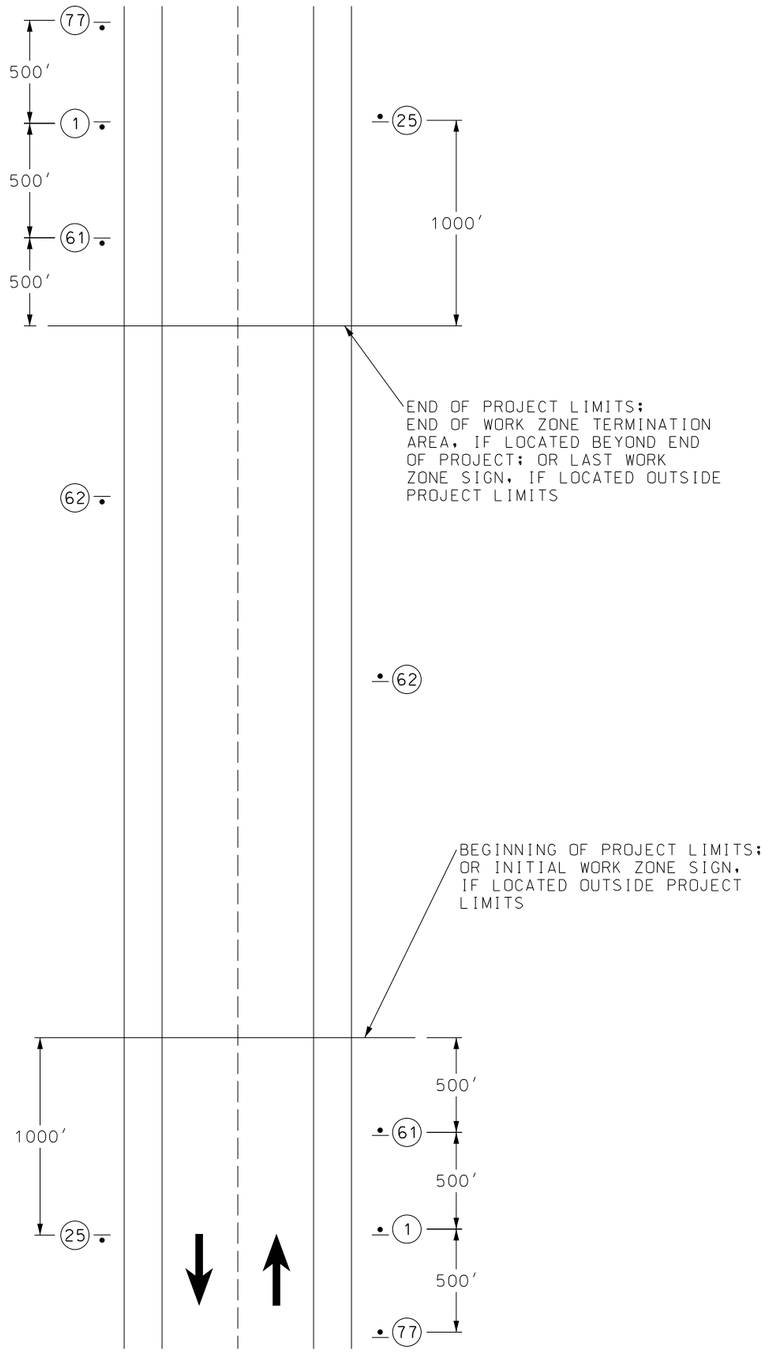
DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	43
COUNTY	
LINCOLN	
JOB NO.	
J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

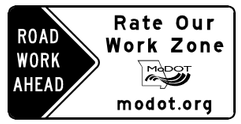
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

BEGIN/END OF PROJECT SIGNING



TWO-LANE UNDIVIDED



CONST-7-48

77

(2)

CONST-8

61

(4)

R2-1

25

R2-1

25

CONST-5-48

62

(3)

NOTES:

(1) THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SIGNING, PAVEMENT MARKING, AND/OR SIGNALS THAT CONFLICTS WITH THE TEMPORARY TRAFFIC CONTROL SIGNING AND DEVICES.

(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 SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL SIGNS.

(3) THE CONTRACTOR SHALL INSTALL CONST-5-48 SIGN [POINT OF PRESENCE] IN A VISIBLE AREA WITHIN THE PROJECT LIMITS THAT DOES NOT DISRUPT THE SEQUENCE OF OTHER WORK ZONE SIGNS. IF A VISIBLE LOCATION WITHIN THE PROJECT IS NOT AVAILABLE, THE CONTRACTOR MAY INSTALL THE SIGN 500 FEET PRIOR TO SIGN CONST-7-48 [RATE OUR WORK ZONE].

NOT TO SCALE

TRAFFIC CONTROL
SHEET 1 OF 55

DISCLAIMER
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STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	44

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTION COMMISSION

MoDOT

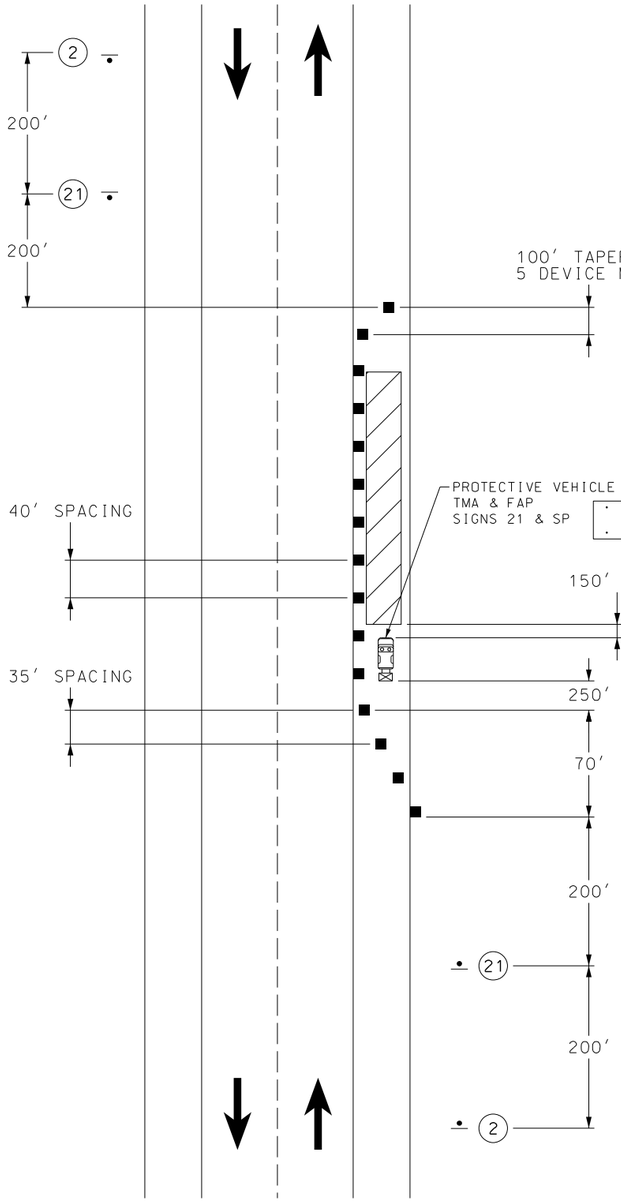
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK·Moen, LLC
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

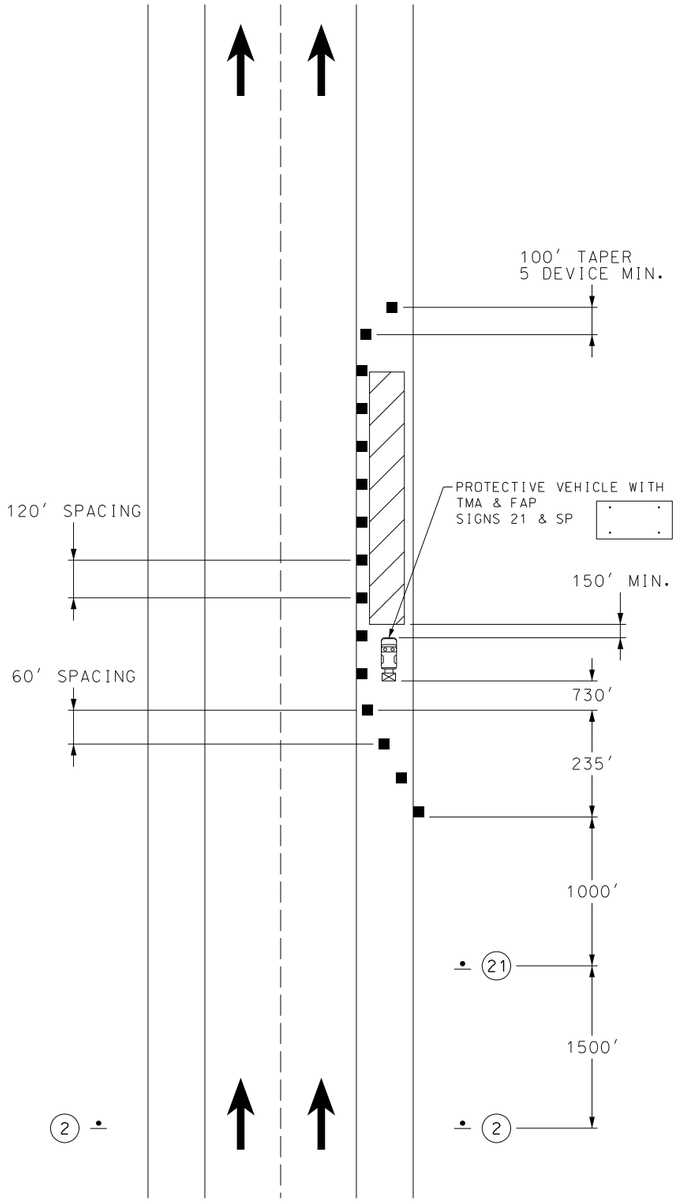
REV.

Z:\18021-US 61 and 47 Study\DGN\Design\Final\Plotsheets\044_TC_01_J2P3043_BEG_END SIGNING.dgn 12:16:49 PM 10/20/2023

STATIONARY SHOULDER WORK ON DIVIDED AND UNDIVIDED HIGHWAYS



MULTI-LANE UNDIVIDED
ROUTE 47
(NORMAL POSTED SPEED LIMIT 35MPH)



MULTI-LANE DIVIDED
ROUTE 61
(NORMAL POSTED SPEED LIMIT 60MPH)

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TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER (TRIMLINE)
- WORK AREA

WO20-1
2

WO21-5
21

SPECIAL
SP

NOTES:

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SIGNING OR PAVEMENT MARKING THAT CONFLICTS WITH THE TEMPORARY TRAFFIC CONTROL SIGNING AND DEVICES.

THE CONTRACTOR SHALL PROVIDE SIGNS ON LEFT AND RIGHT SIDES OF DIVIDED HIGHWAYS.

ALWAYS USE PROTECTIVE VEHICLE WHEN WORKERS ARE PRESENT. USE OF TRUCK/TRAILER MOUNTED ATTENUATOR (TMA) AND FLASHING ARROW PANEL (FAP) IS PROVIDED IN QUANTITIES FOR THIS CONTRACT.

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

NOT TO SCALE

TRAFFIC CONTROL
SHEET 2 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	45

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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

EFK·Moen, LLC
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.

Z:\18021-US 61 and 47 Study\DGN\Design\Final\Plotsheets\045_TC_02_J2P3043_SHOULDER WORK.dgn 12:16:50 PM 10/20/2023

STATIONARY LANE CLOSURE ON A MULTI-LANE HIGHWAY

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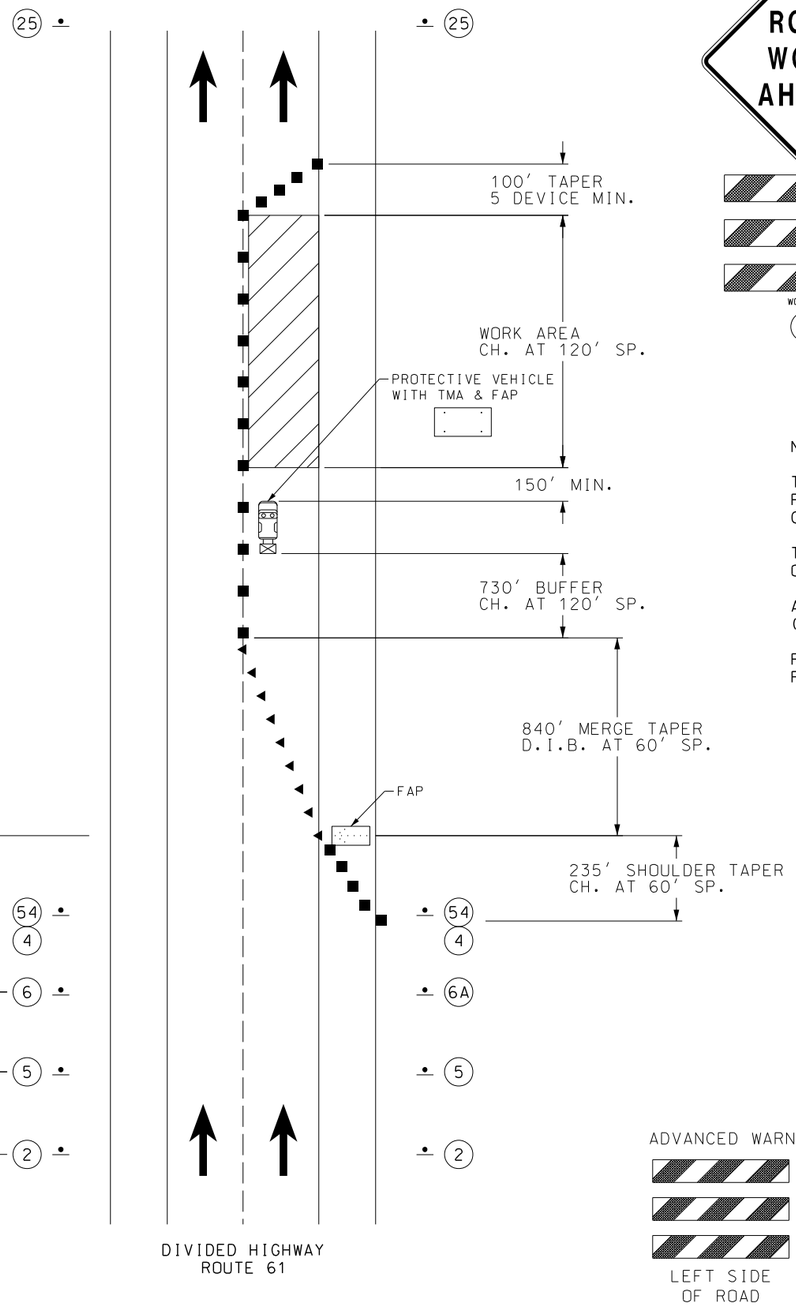


NOT TO SCALE

W020-1
(2)

W020-5
(5)

W020-6a
(6)

W04-1oL
(6A)

G020-5aP
(54)

NOTES:

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SIGNING OR PAVEMENT MARKING THAT CONFLICTS WITH THE TEMPORARY TRAFFIC CONTROL SIGNING AND DEVICES.

THE CONTRACTOR SHALL PROVIDE SIGNS ON LEFT AND RIGHT SIDES OF DIVIDED HIGHWAYS.

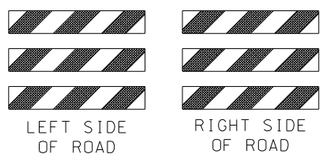
ALWAYS USE PROTECTIVE VEHICLE WITH FLASHING ARROW PANEL (FAP) AND TRUCK/TRAILER MOUNTED ATTENUATOR (TMA).

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

R2-1
(4)

R2-1
(25)

ADVANCED WARNING RAIL SYSTEM



LEFT SIDE OF ROAD

RIGHT SIDE OF ROAD

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER (TRIMLINES)
- DIRECTIONAL INDICATOR BARRICADES (DIB)
- TYPE III MOVABLE BARRICADES
- FLASHING ARROW PANEL (FAP)
- TUBULAR MARKER
- WORK AREA
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN (CMS)
- FLAGGER

TRAFFIC CONTROL
SHEET 3 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	46

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

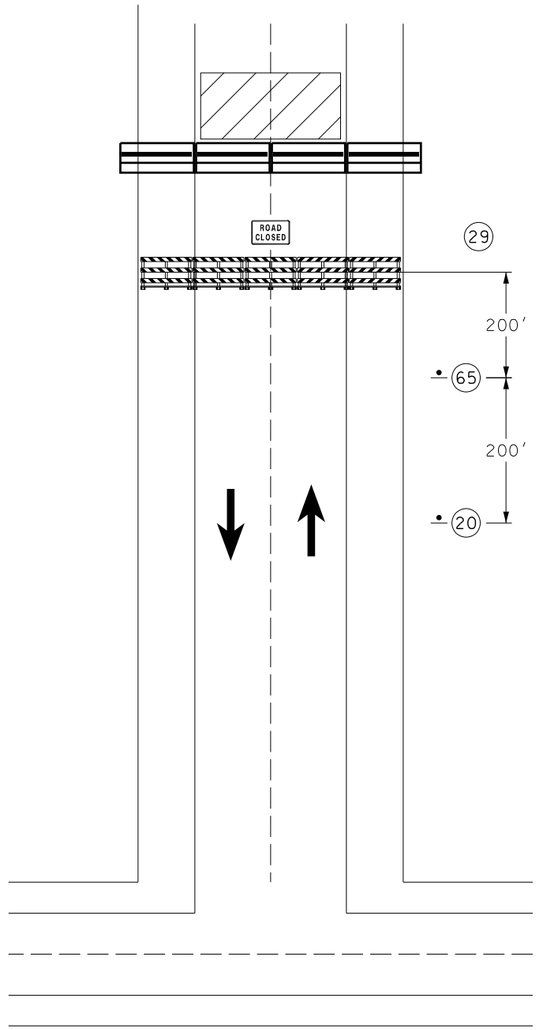
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE	DESCRIPTION	REV.

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

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

CLOSURE OF EXISTING BRIDGES OR NON-TRAVERSABLE ROAD



W020-3
20

W020-3
65

R11-2
29

NOTES:

USE CRASHWORTHY BARRICADES TO CLOSE ENTIRE DRIVING SURFACE INCLUDING THE SHOULDER.

ADDITIONAL BARRICADES CAN BE STAGGERED AT OTHER INTERSECTIONS IN ADVANCE OF THE FULL CLOSURE AS APPROVED BY THE ENGINEER.

NOT TO SCALE

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TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- TYPE III MOVABLE BARRICADE
- WORK AREA
- TEMPORARY CONCRETE BARRIER WITH ASTM TYPE IV 6" RED REFLECTIVE SHEETING WITH 0.080" ALUMINUM BACKING

TRAFFIC CONTROL
SHEET 4 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	47

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

REV.	DESCRIPTION	DATE

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

EFK·Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr Suite 250 St. Louis, MO 63021
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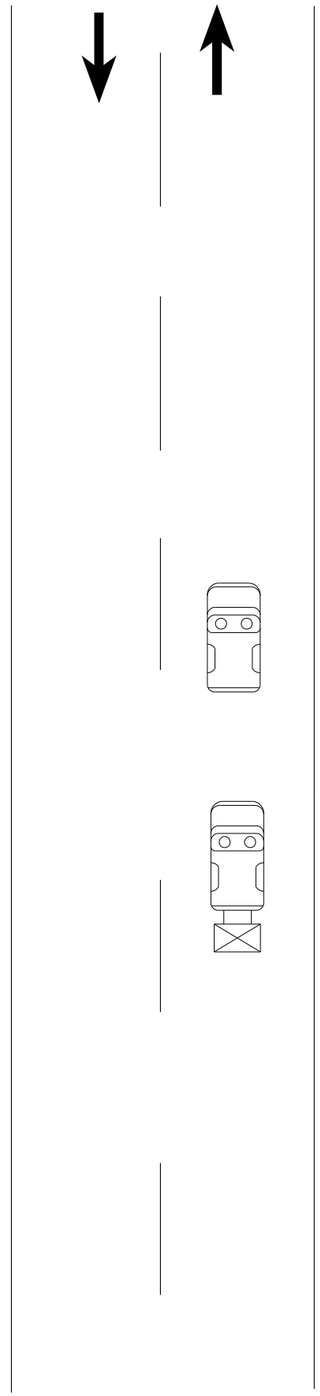
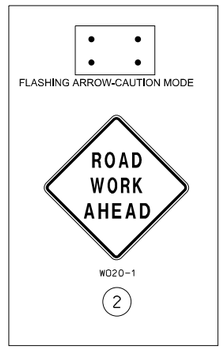
MOBILE OPERATION ON A TWO-LANE HIGHWAY





BACK OF TRUCK
PROTECTIVE VEHICLE

NOT TO SCALE

NOTES:

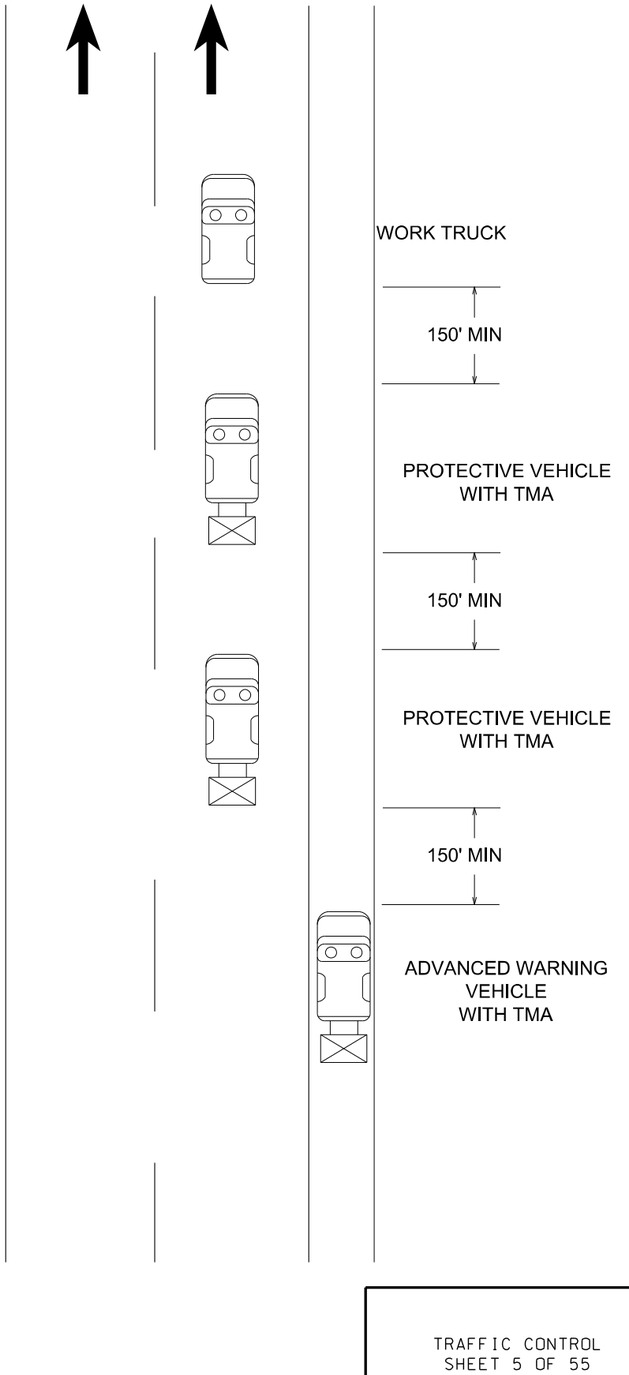
PROTECTIVE TRUCK SHALL DISPLAY HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

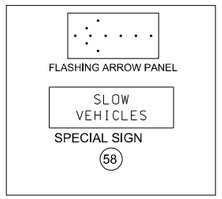
PROTECTIVE TRUCK SHALL DISPLAY FLASHING ARROW PANEL (FAP) IN APPROPRIATE MODE.

WHEN SHOULDER IS AVAILABLE NEXT TO THE LANE CLOSURE A SHOULDER ADVANCE WARNING VEHICLE WITH FLASHING ARROW PANEL (FAP) AND APPROPRIATE LANE CLOSURE SIGN SHALL BE USED. A TMA SHALL BE USED ON SHOULDER ADVANCE WARNING VEHICLE IF VEHICLE ENCROACHES INTO THE LANE OF TRAFFIC.

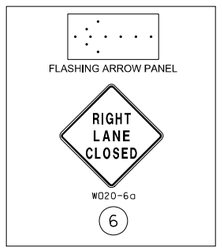
WHEN A SHOULDER IS NOT AVAILABLE NEXT TO THE LANE CLOSURE POSITION PROTECTIVE VEHICLE ON THE OPPOSITE SHOULDER A MINIMUM OF ONE MILE BEHIND ANY TMA IN THE LANE. APPROPRIATE LANE CLOSURE SIGN SHALL BE DISPLAYED.

MOBILE OPERATION ON DIVIDED MULTI-LANE HIGHWAY





BACK OF THE TRUCK
PROTECTIVE VEHICLE



BACK OF THE TRUCK
ADVANCED WARNING VEHICLE

TRAFFIC CONTROL
SHEET 5 OF 55

STATE OF MISSOURI
PROFESSIONAL ENGINEER
MARGARET ANN BRUNS
NUMBER PE-2010000798
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/20/2023
ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 48
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

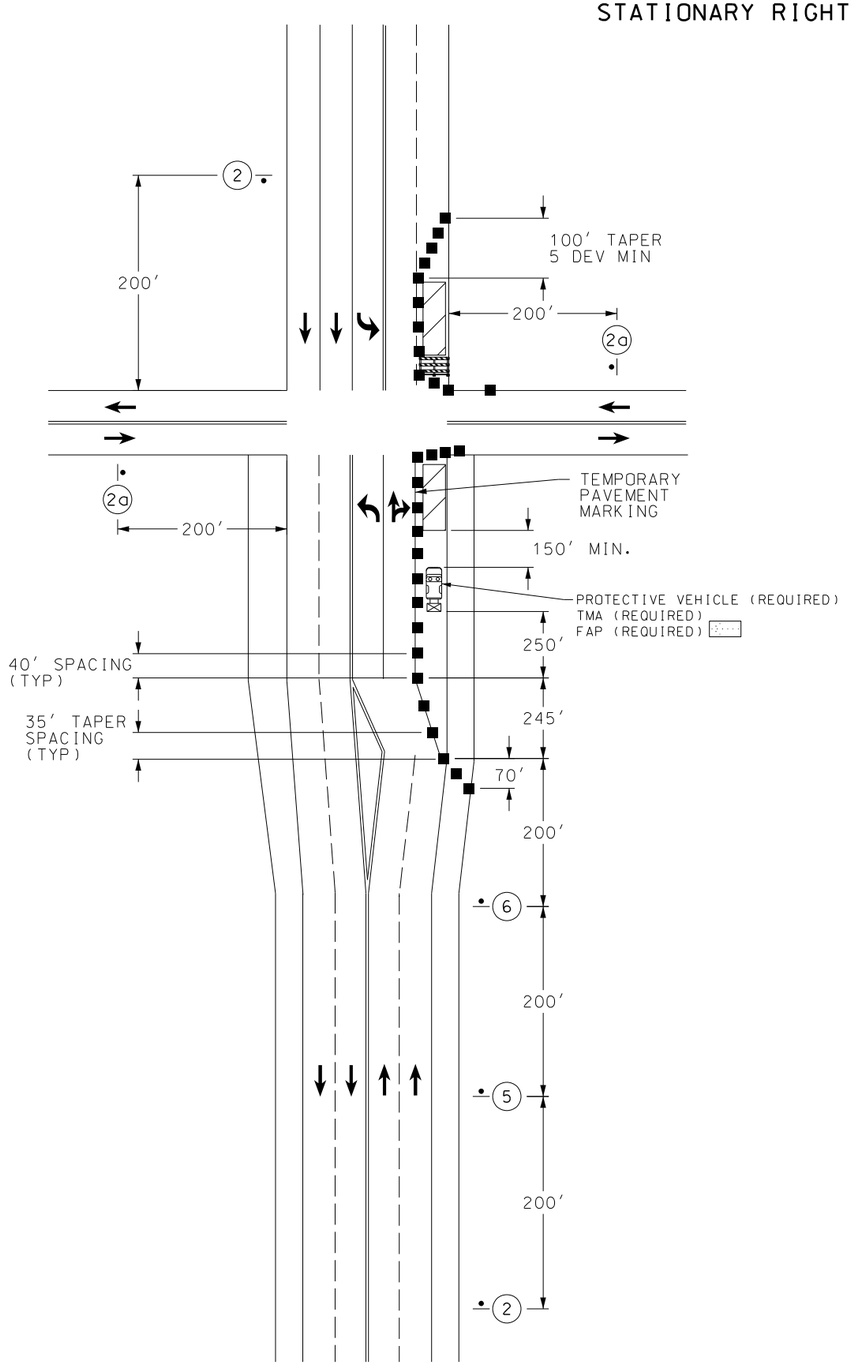
DESCRIPTION | DATE | REV.

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

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

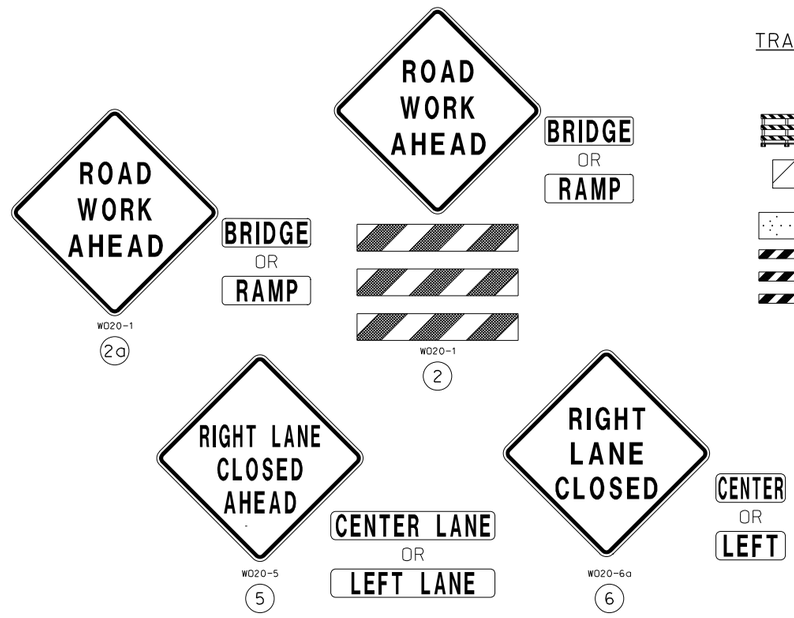
EFK•Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

STATIONARY RIGHT LANE CLOSURE AT INTERSECTION NEAR OR FAR SIDE



ROUTE 47

NOT TO SCALE



TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- TYPE 3 BARRICADE
- WORK SPACE
- ARROW BOARD
- ADVANCED RAIL WARNING SYSTEM
- CHANNELIZER

NOTES:

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SIGNING OR PAVEMENT MARKING THAT CONFLICTS WITH THE TEMPORARY TRAFFIC CONTROL SIGNING AND DEVICES.

FOR SIGNALIZED INTERSECTIONS, ADJUSTMENTS MAY NEED TO BE MADE TO SIGNAL PHASING, TIMING, INDICATIONS OR DETECTOR SETTINGS. SEE JSP FOR MORE INFORMATION.

ALWAYS USE PROTECTIVE VEHICLE WHEN WORKERS ARE PRESENT. USE OF TRUCK/TRAILER MOUNTED ATTENUATOR (TMA) IS PROVIDED IN QUANTITIES FOR THIS CONTRACT.

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

TRAFFIC CONTROL
SHEET 6 OF 55

DISCLAIMER
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 10/20/2023
ROUTE: 47 | STATE: MO
DISTRICT: NE | SHEET NO.: 49
COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

REV.	DESCRIPTION	DATE

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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

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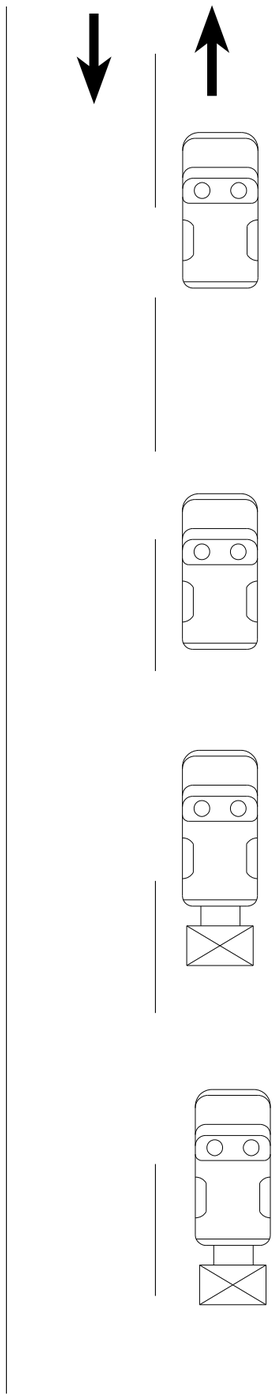
STRIPING OPERATION ON A TWO-LANE HIGHWAY



WET PAINT KEEP RIGHT
SPECIAL SIGN
56
FRONT OF THE TRUCK

END WET PAINT THANK YOU
SPECIAL SIGN
57
BACK OF THE TRUCK

WET PAINT KEEP RIGHT
SPECIAL SIGN
56
WET PAINT
GO22-1 21"x15"
55
FRONT OF THE TRUCK

FLASHING ARROW-CAUTION MODE
STAY BACK 100 FT
GO25-1 SPECIAL SIGN
55
WET PAINT
GO22-1 21"x15"
55
BACK OF THE TRUCK

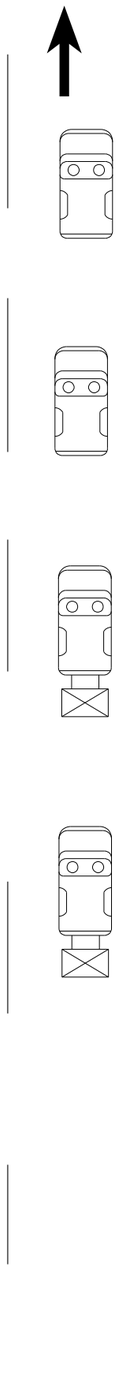
WET PAINT KEEP RIGHT
SPECIAL SIGN
56
FRONT OF THE TRUCK

FLASHING ARROW-CAUTION MODE
SLOW VEHICLES
SPECIAL SIGN
58
WET PAINT
GO22-1 21"x15"
55
BACK OF THE TRUCK

WET PAINT KEEP RIGHT
SPECIAL SIGN
56
FRONT OF THE TRUCK

FLASHING ARROW-CAUTION MODE
SLOW VEHICLES
SPECIAL SIGN
58
WET PAINT
GO22-1 21"x15"
55
BACK OF THE TRUCK

STRIPING OPERATION ON DIVIDED MULTI-LANE HIGHWAY



WET PAINT KEEP RIGHT
SPECIAL SIGN
56
WET PAINT
GO22-1 21"x15"
55
FRONT OF THE TRUCK

FLASHING ARROW PANEL
STAY BACK 100 FT
GO25-1 SPECIAL SIGN
55
WET PAINT
GO22-1 21"x15"
55
BACK OF THE TRUCK

WET PAINT KEEP RIGHT
SPECIAL SIGN
56
FRONT OF THE TRUCK

FLASHING ARROW PANEL
SLOW VEHICLES
SPECIAL SIGN
58
WET PAINT
GO22-1 21"x15"
55
BACK OF TRUCK

WET PAINT KEEP RIGHT
SPECIAL SIGN
56
FRONT OF THE TRUCK

FLASHING ARROW PANEL
SLOW VEHICLES
SPECIAL SIGN
58
WET PAINT
GO22-1 21"x15"
55
BACK OF THE TRUCK

WET PAINT KEEP RIGHT
SPECIAL SIGN
56
FRONT OF THE TRUCK

FLASHING ARROW PANEL
RIGHT LANE CLOSED
W020-6a
6
BACK OF THE TRUCK

WET PAINT KEEP RIGHT
SPECIAL SIGN
56
FRONT OF THE TRUCK

END WET PAINT THANK YOU
SPECIAL SIGN
57
BACK OF THE TRUCK

WET PAINT KEEP RIGHT
SPECIAL SIGN
56
FRONT OF THE TRUCK

END WET PAINT THANK YOU
SPECIAL SIGN
57
BACK OF THE TRUCK

STRIPER

PROTECTIVE VEHICLE

DRY POINT VEHICLE

ADVANCED WARNING VEHICLE

TRAFFIC CONTROL
SHEET 7 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	50

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

REV.	DESCRIPTION	DATE

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

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

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THIS SHEET HAS BEEN INTENTIONALLY LEFT BLANK

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO

DISTRICT	SHEET NO.
NE	51

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

TRAFFIC CONTROL
SHEET 8 OF 55

MISSOURI HIGHWAYS AND TRANSPORTION COMMISSION

MoDOT

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

EFK·Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr Suite 250 St. Louis, MO 63021
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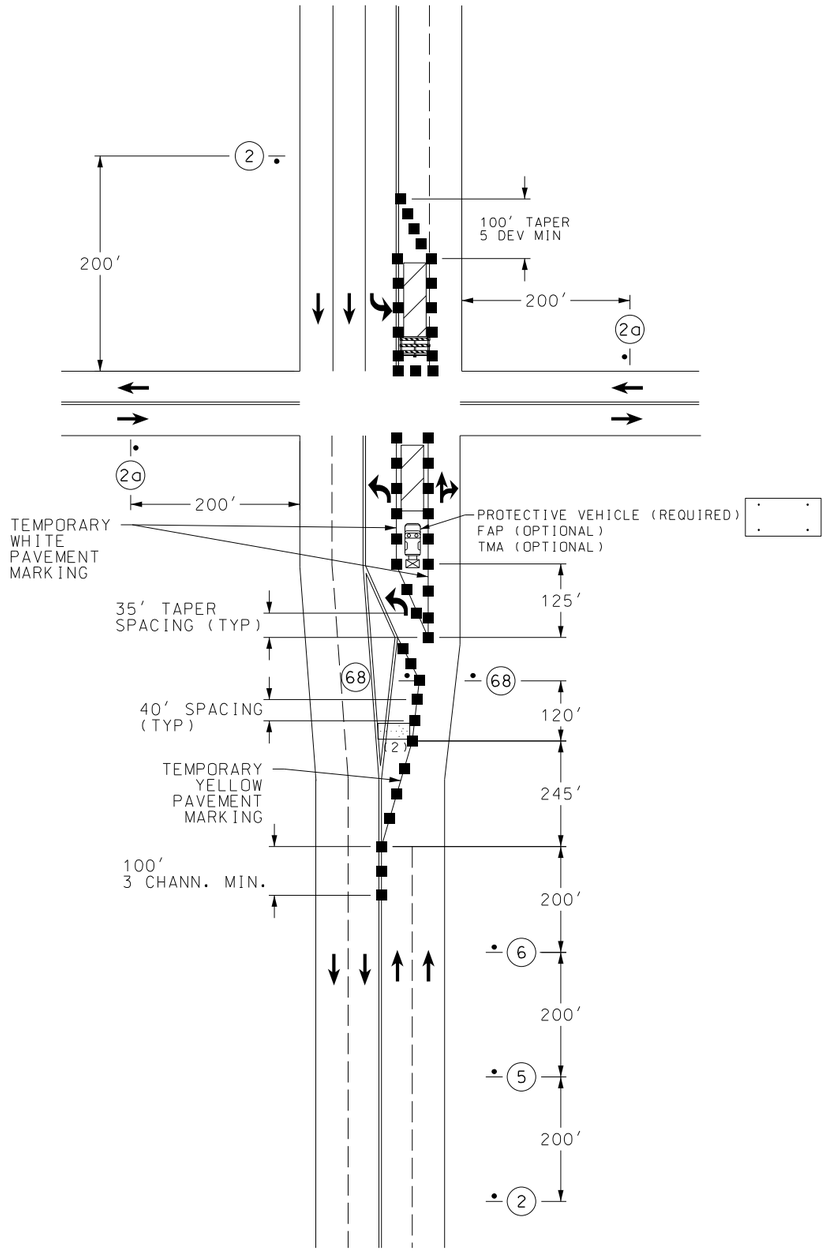
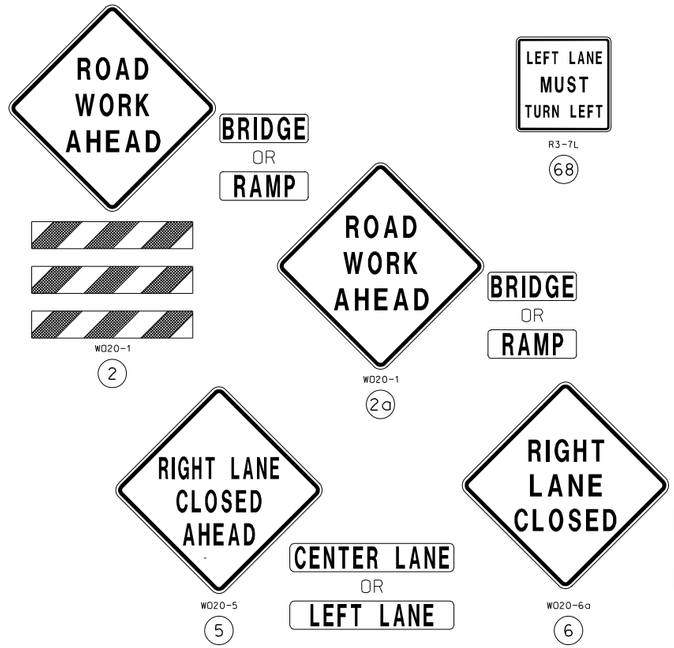
REV.

LANE CLOSURE OF LEFT LANE ON FAR SIDE OF INTERSECTION
WORK ON NEAR OR FAR SIDE



ROUTE 47

NOT TO SCALE



TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- TYPE 3 BARRICADE
- WORK SPACE
- ARROW BOARD
- ADVANCED RAIL WARNING SYSTEM
- CHANNELIZER

NOTES:

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SIGNING OR PAVEMENT MARKING THAT CONFLICTS WITH THE TEMPORARY TRAFFIC CONTROL SIGNING AND DEVICES.

FOR SIGNALIZED INTERSECTIONS, ADJUSTMENTS MAY NEED TO BE MADE TO SIGNAL PHASING, TIMING, INDICATIONS OR DETECTOR SETTINGS. SEE JSP FOR MORE INFORMATION.

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

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

DISCLAIMER
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STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

DATE PREPARED	
10/20/2023	
ROUTE 47	STATE MO
DISTRICT NE	SHEET NO. 52
COUNTY LINCOLN	
JOB NO. J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

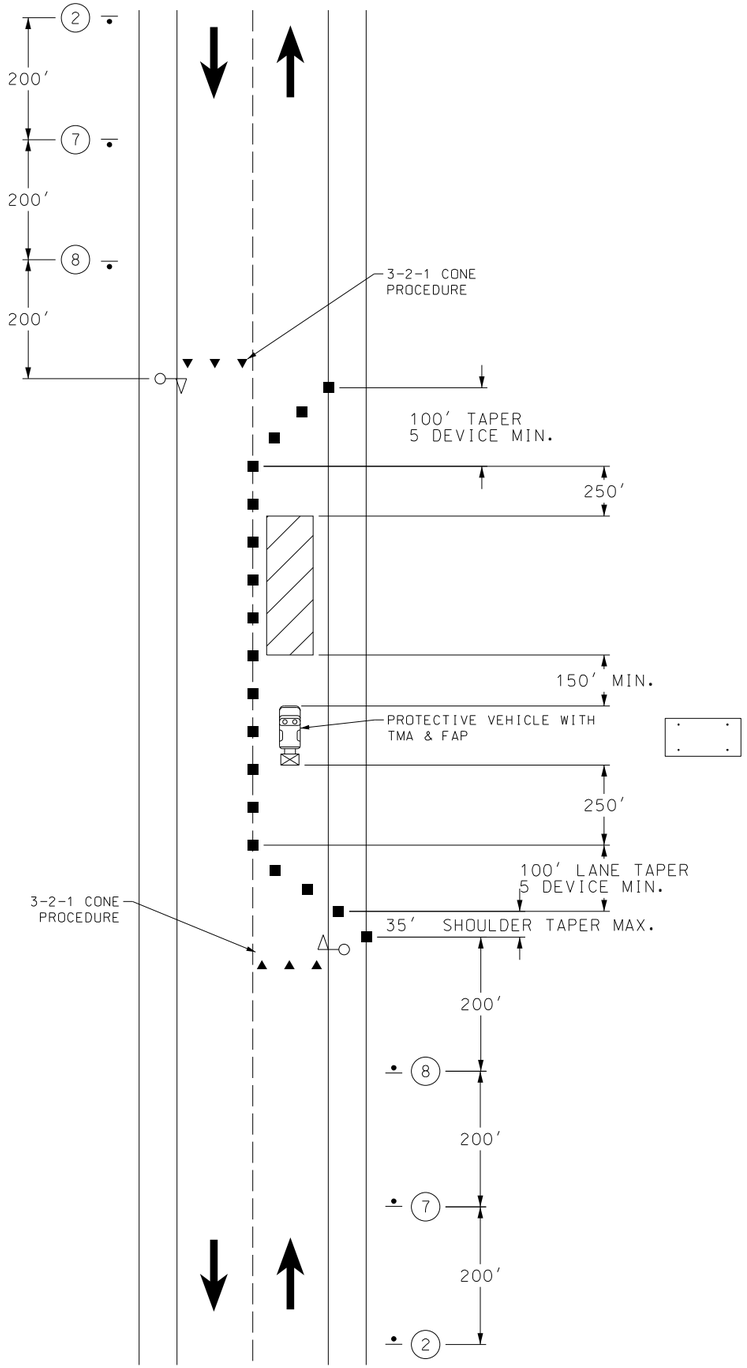
MISSOURI HIGHWAYS AND TRANSPORTION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

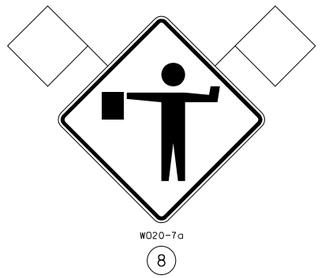
REV.

TRAFFIC CONTROL
SHEET 9 OF 55

STATIONARY LANE CLOSURE ON TWO-LANE ROAD USING FLAGGERS



NOT TO SCALE



TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- 3-2-1 CONE PROCEDURE
- CHANNELIZER
- FLAGGER
- WORK SPACE

NOTES:

FLASHING ARROW PANEL SHALL BE OPERATED IN 'CAUTION' MODE. THE PROTECTIVE VEHICLE SHALL HAVE HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS ACTIVATED FOR THE DURATION OF THE WORK ZONE.

FLAGGERS MUST MAINTAIN A MINIMUM OF 100-FT FROM EQUIPMENT AND/OR WORKERS.

IF USED AT NIGHT, THE CONTRACTOR SHALL PROVIDE LIGHTING FOR THE FLAGGER STATIONS (NO DIRECT PAY). THE STATION SHALL BE ILLUMINATED WITH AN AVERAGE MAINTAINED INTENSITY OF 0.6 FOOTCANDLES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND ENSURING THE FLAGGERS HAVE CURRENT FLAGGER CERTIFICATION TRAINING AS SPECIFIED IN SEC 616.

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SIGNING OR PAVEMENT MARKING THAT CONFLICTS WITH THE TEMPORARY TRAFFIC CONTROL SIGNING AND DEVICES.

THE CONTRACTOR SHALL MAKE ADJUSTMENTS TO WORK ZONE TO FIT ACTUAL FIELD CONDITIONS.

DISCLAIMER
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STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	53

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

DESCRIPTION | DATE | REV.

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

EFK·Moen, LLC
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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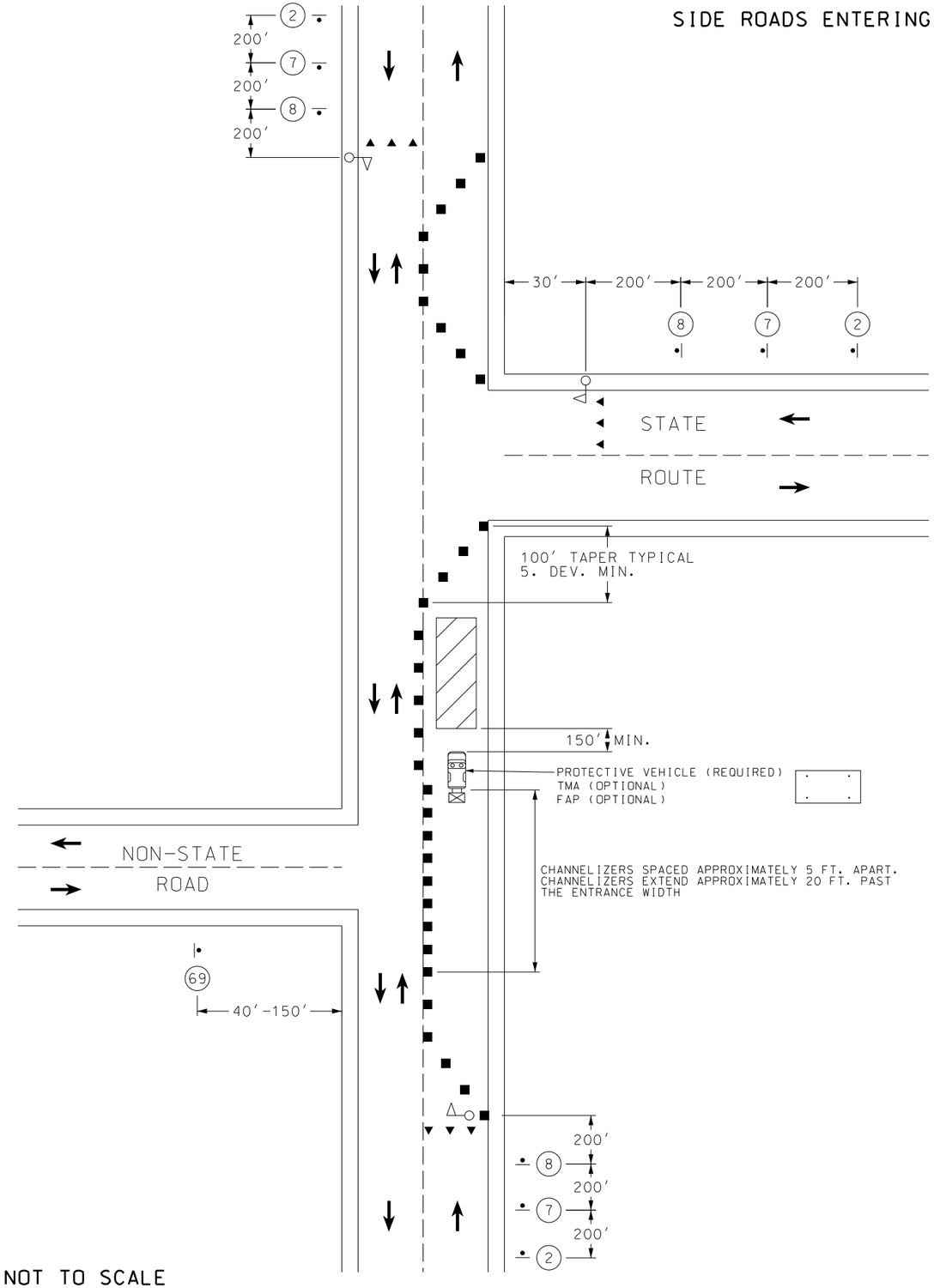
SIDE ROADS ENTERING WORK ZONES



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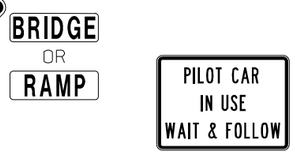
TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- 3-2-1 CONE PROCEDURE
- CHANNELIZER
- FLAGGER
- WORK SPACE

W020-1
2



G020-4a
69

W020-4
7

W020-7a
8

NOTES:

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SIGNING OR PAVEMENT MARKING THAT CONFLICTS WITH THE
TEMPORARY TRAFFIC CONTROL SIGNING AND DEVICES.

ALWAYS USE PROTECTIVE VEHICLE WHEN WORKERS ARE PRESENT. USE OF TRUCK/TRAILER MOUNTED ATTENUATOR (TMA) AND FLASHING ARROW PANEL (FAP) IS PROVIDED IN QUANTITIES FOR THIS CONTRACT.

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

FLAGGERS ARE REQUIRED TO HAVE CURRENT FLAGGER CERTIFICATION TRAINING.

IF USED AT NIGHT, THE FLAGGER STATIONS SHALL BE ILLUMINATED.

TRAFFIC CONTROL
SHEET 11 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	54

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

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

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

EFK·Moen, LLC
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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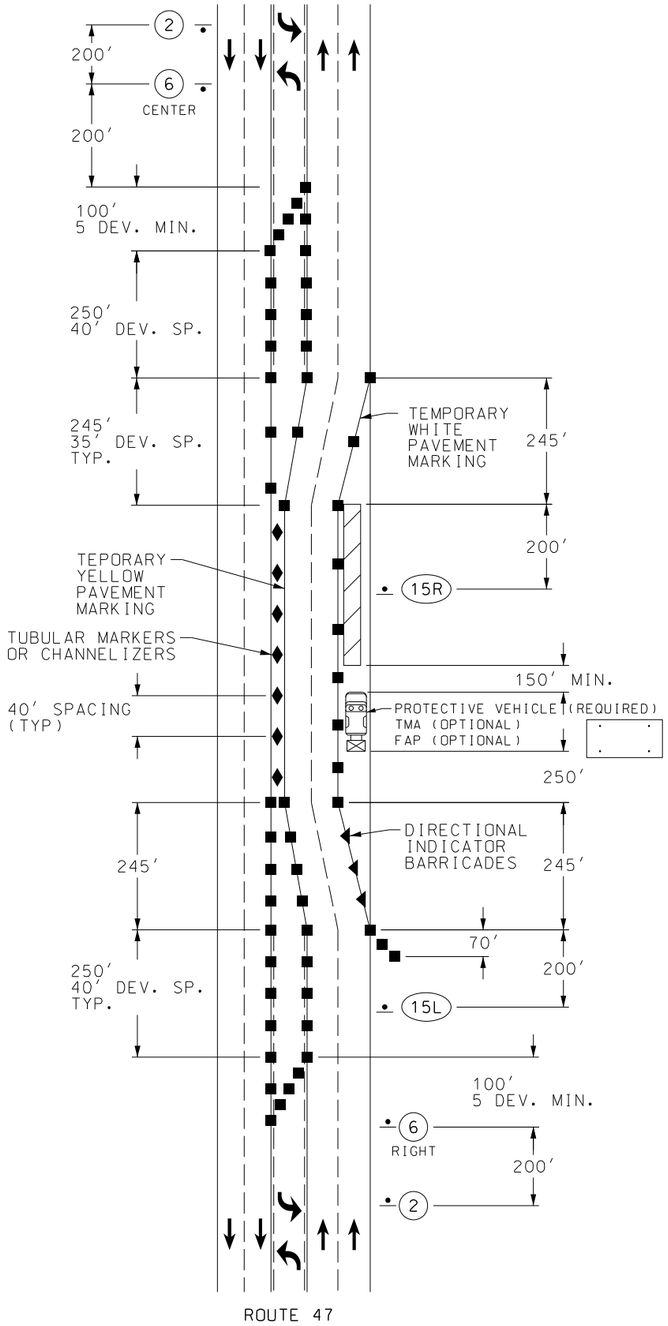
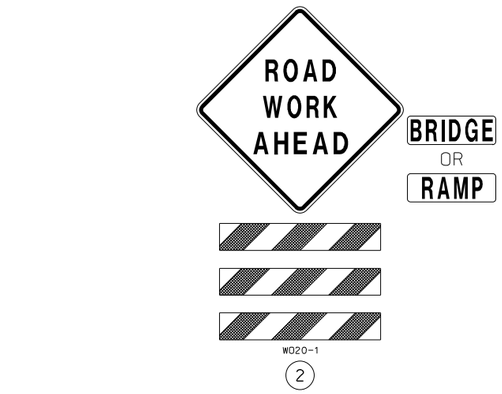
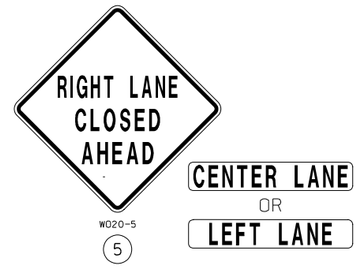
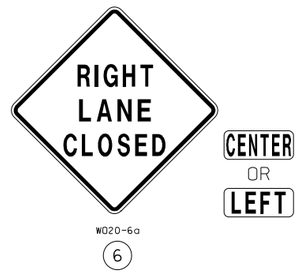
SINGLE LANE CLOSURE ON 5-LANE UNDIVIDED HIGHWAY

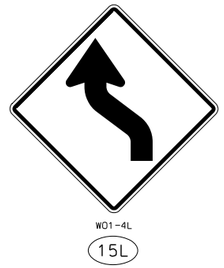


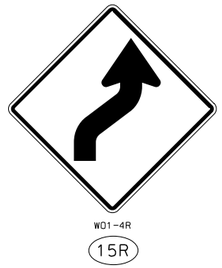
NOT TO SCALE











TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- TYPE 3 BARRICADE
- WORK SPACE
- ARROW BOARD
- ADVANCED RAIL WARNING SYSTEM
- CHANNELIZER
- DIRECTIONAL INDICATOR BARRICADES
- CHANNELIZER OR TUBULAR MARKER

NOTES:

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SIGNING OR PAVEMENT MARKING THAT CONFLICTS WITH THE TEMPORARY TRAFFIC CONTROL SIGNING AND DEVICES.

ALWAYS USE PROTECTIVE VEHICLE WHEN WORKERS ARE PRESENT. USE OF TRUCK/TRAILER MOUNTED ATTENUATOR (TMA) AND FLASHING ARROW PANEL (FAP) IS PROVIDED IN QUANTITIES FOR THIS CONTRACT.

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

DISCLAIMER
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STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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DATE PREPARED 10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	55

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

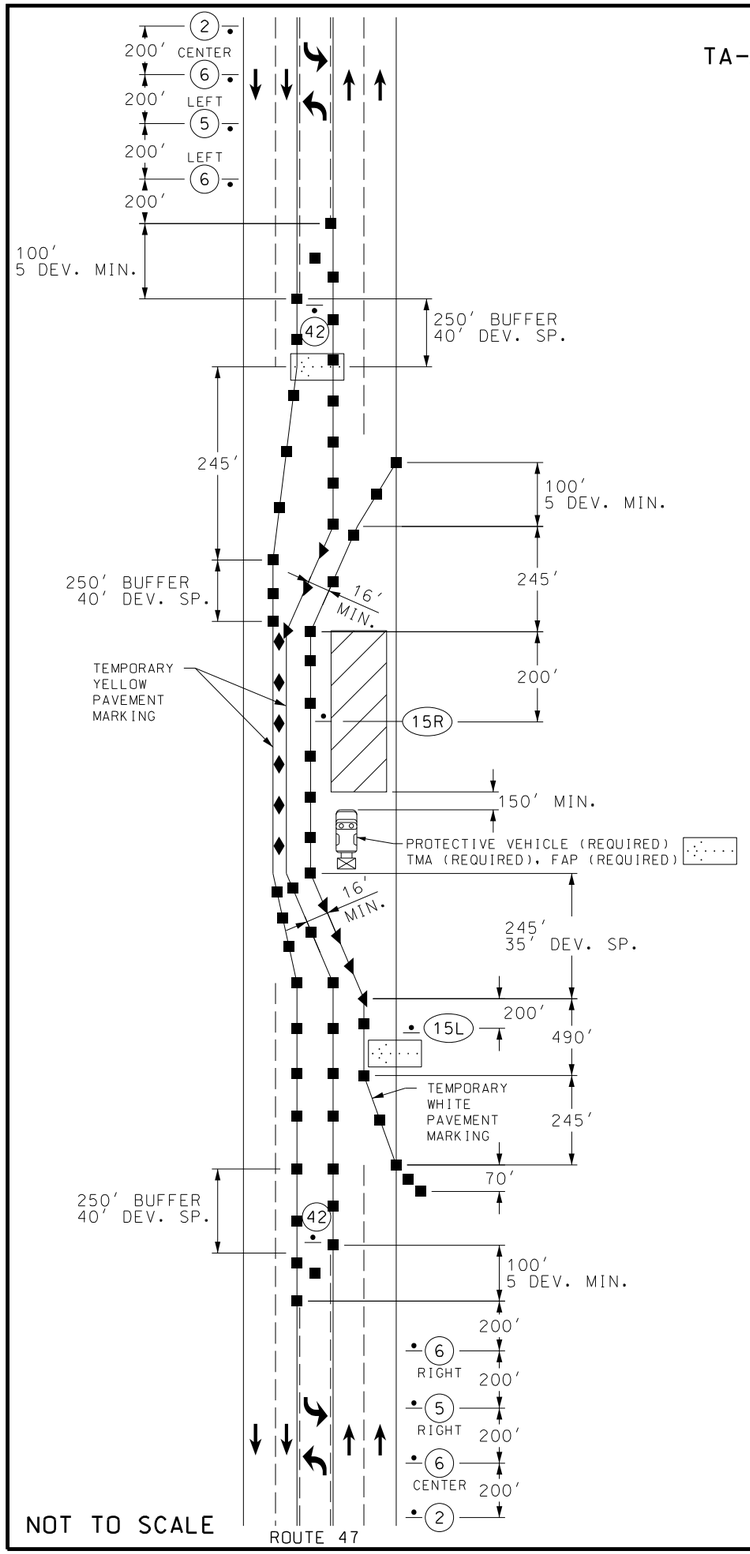
DATE	DESCRIPTION	REV.

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

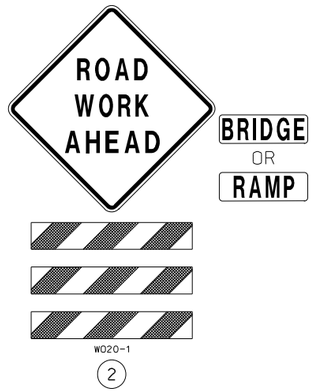
EFK•Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr Phone 314-394-3100
Suite 250 Fax 314-394-3199
St. Louis, MO 63021
Missouri Certificate of Authority: 001578

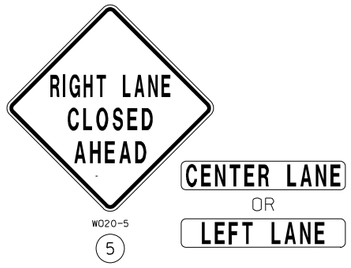
TRAFFIC CONTROL
SHEET 12 OF 55

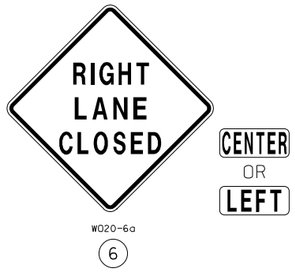
TA-32 - TWO LANE CLOSURE ON 5-LANE UNDIVIDED HIGHWAY

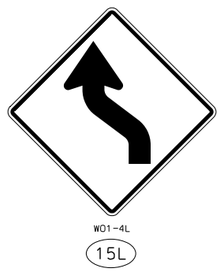


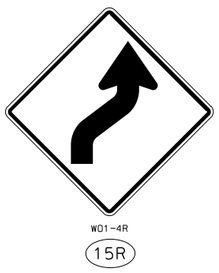
NOT TO SCALE











TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- TYPE 3 BARRICADE
- WORK SPACE
- ARROW BOARD
- ADVANCED RAIL WARNING SYSTEM
- CHANNELIZER
- DIRECTIONAL INDICATOR BARRICADES
- CHANNELIZER OR TUBULAR MARKER

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MARGARET ANN BRUNS
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PROFESSIONAL ENGINEER
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ROUTE	STATE
47	MO

DISTRICT	SHEET NO.
NE	56

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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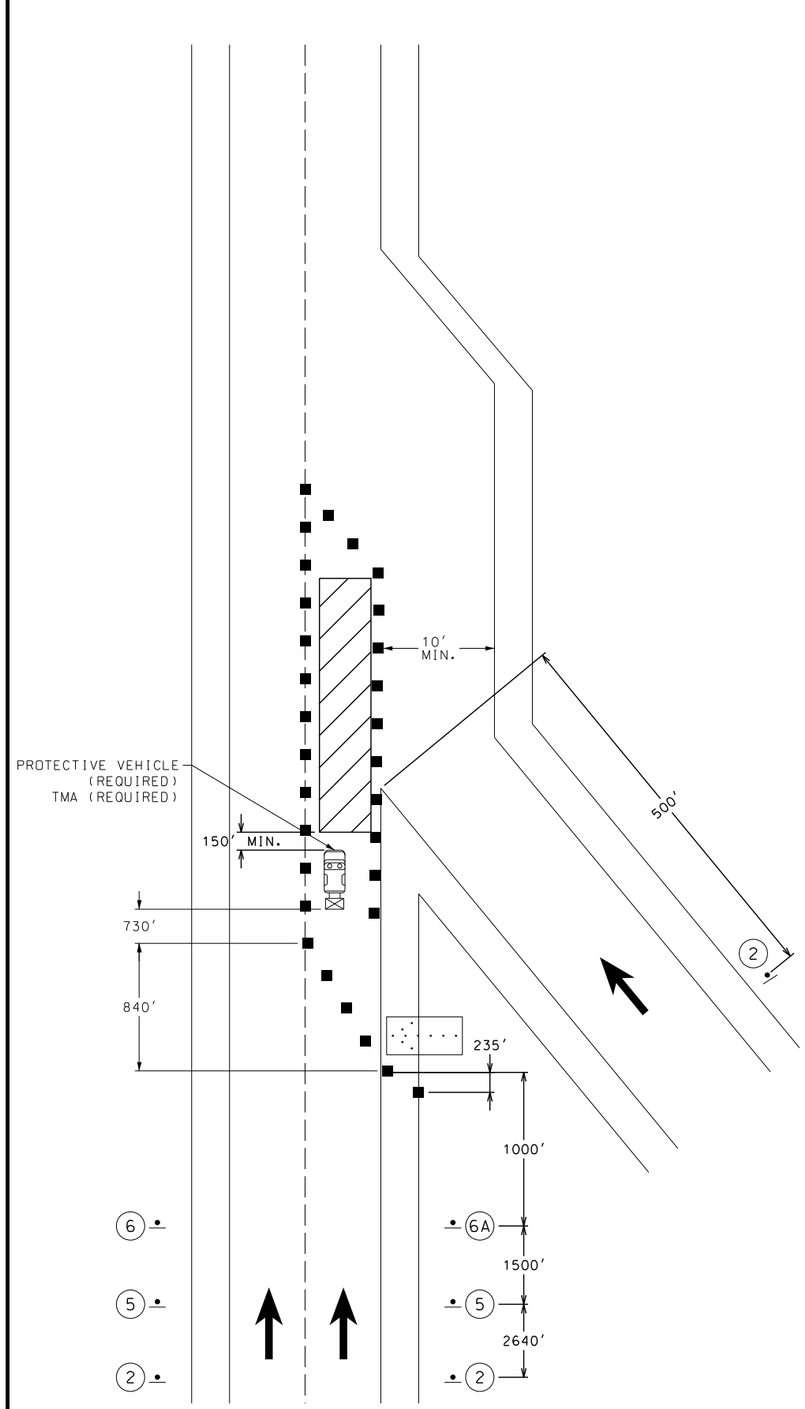
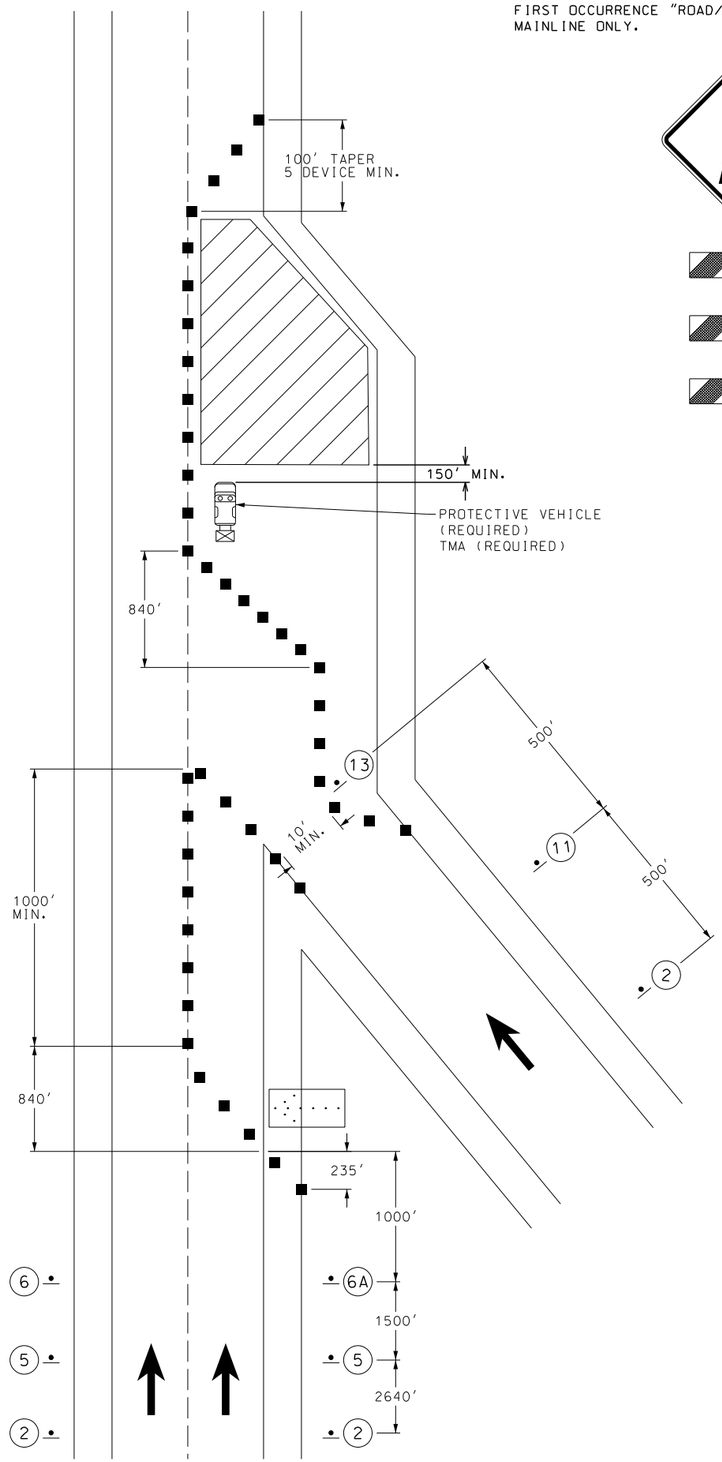
MISSOURI HIGHWAYS AND TRANSPORTION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen, LLC
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

TRAFFIC CONTROL
SHEET 13 OF 55

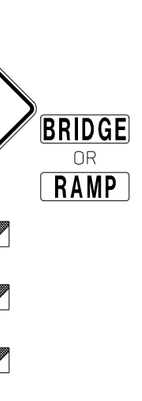
WORK IN THE VICINITY OF A ENTRANCE RAMP

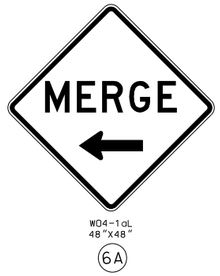


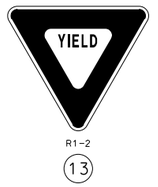


NOT TO SCALE

* NOTE: ADVANCED WARNING RAIL SYSTEM PROVIDED WITH FIRST OCCURRENCE "ROAD/BRIDGE WORK AHEAD" SIGNS ON MAINLINE ONLY.







NOTES:

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TRAFFIC CONTROL
SHEET 14 OF 55

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DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	57

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

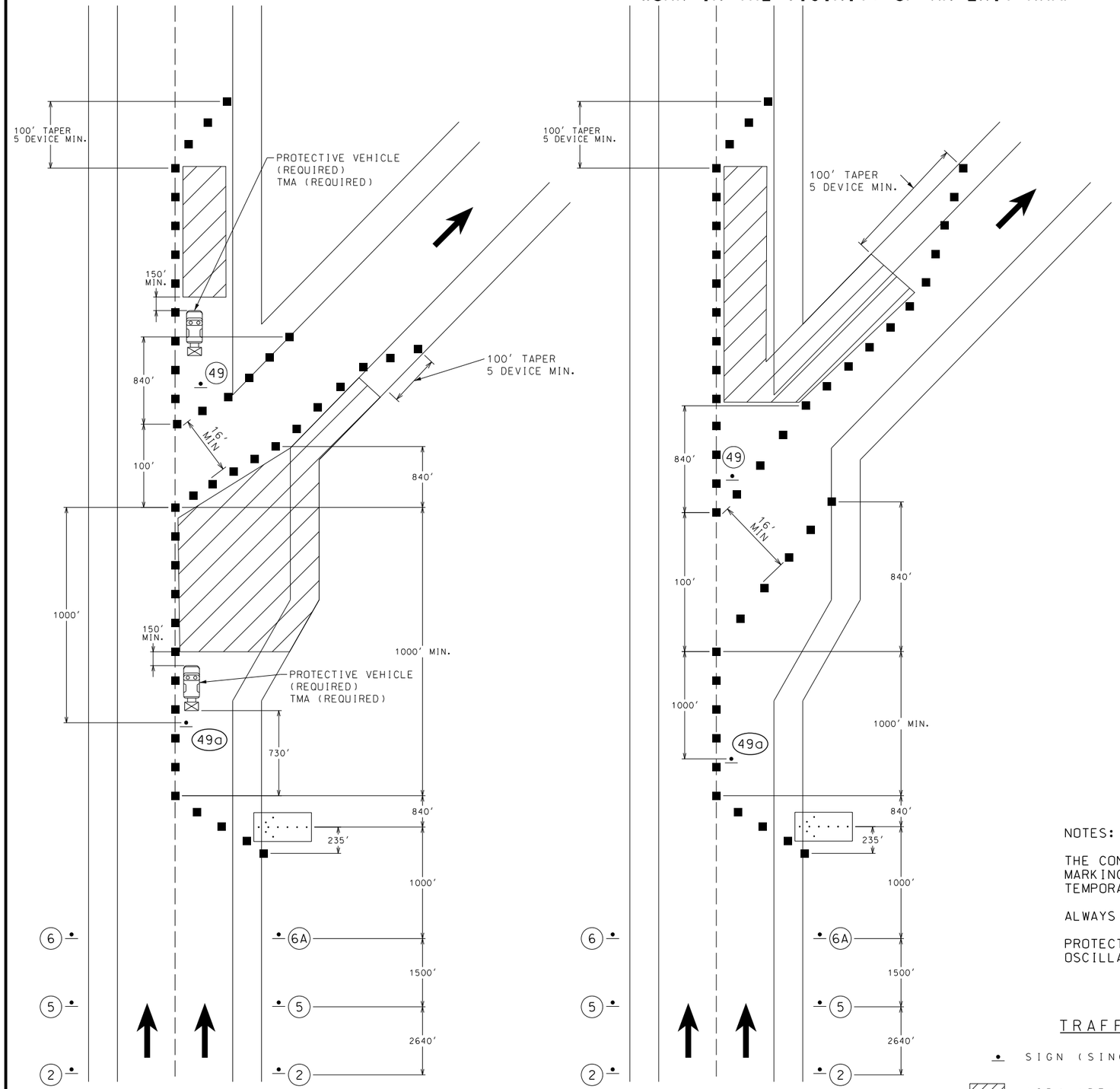
BRIDGE NO.

DESCRIPTION	DATE

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

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

WORK IN THE VICINITY OF AN EXIT RAMP



NOT TO SCALE

BRIDGE
OR
RAMP

CENTER LANE
OR
LEFT LANE

CENTER
OR
LEFT

NOTES:

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TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- ADVANCED WARNING RAIL SYSTEM
- WORK AREA
- CHANNELIZER
- ARROW BOARD

TRAFFIC CONTROL
SHEET 15 OF 55

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DATE PREPARED: 10/20/2023
ROUTE: 47 | STATE: MO
DISTRICT: NE | SHEET NO.: 58
COUNTY: LINCOLN
JOB NO.: J2P3043
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)

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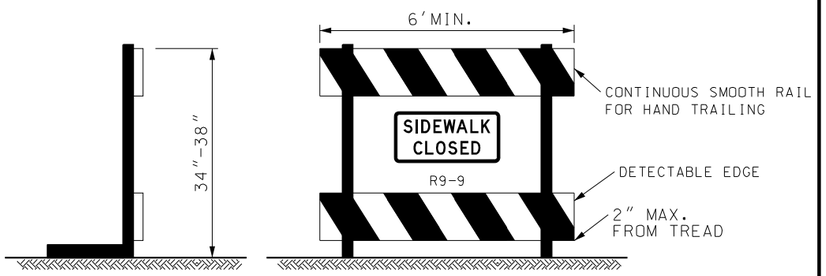
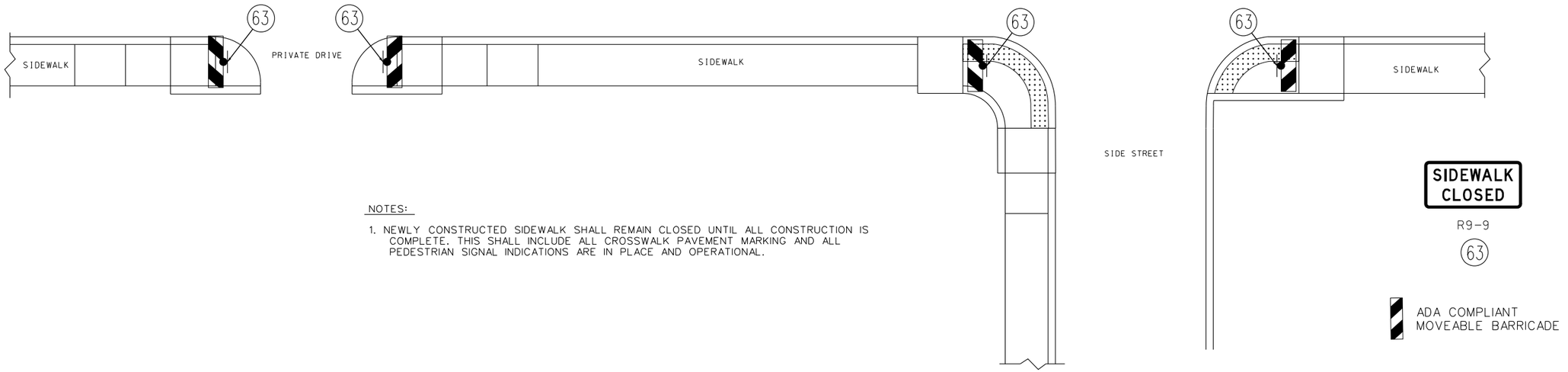
ADA COMPLIANT MOVEABLE BARRICADE



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.

ROUTE 47



NOTES:

1. NEWLY CONSTRUCTED SIDEWALK SHALL REMAIN CLOSED UNTIL ALL CONSTRUCTION IS COMPLETE. THIS SHALL INCLUDE ALL CROSSWALK PAVEMENT MARKING AND ALL PEDESTRIAN SIGNAL INDICATIONS ARE IN PLACE AND OPERATIONAL.

TRAFFIC CONTROL
SHEET 16 OF 55

DISCLAIMER
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NUMBER PE-2010000798
PROFESSIONAL ENGINEER
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DATE PREPARED 10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	59

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

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

EFK·Moen, LLC
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

DETOUR 47 → (80)
DETOUR 47 ← (81)
DETOUR 47 → (82)
DETOUR 47 ← (83)
DETOUR 61 → (86)
DETOUR 61 ← (87)
DETOUR 61 → (88)
DETOUR 61 ← (89)
DETOUR 61 ↑ (90)

DETOUR 47 ← / DETOUR 61 ← (81, 87)
DETOUR AHEAD (18)

NOTE:
6 CMS BOARDS HAVE BEEN PROVIDED - THE EXACT PLACEMENT AND MESSAGE TO BE DETERMINED BY THE ENGINEER.

NOTE:
US ROUTE 61 TEMPORARY TRAFFIC CONTROL FOR BRIDGE REMOVAL - SEE TRAFFIC CONTROL SHEETS 32-36.
ROUTE 47 TEMPORARY TRAFFIC CONTROL FOR BRIDGE REMOVAL - SEE TRAFFIC CONTROL SHEETS 37-41.

LEGEND
LOCATION OF ROAD CLOSURE FOR BRIDGE REMOVAL

NOT TO SCALE

TRAFFIC CONTROL
DETOUR PLAN
BRIDGE REMOVAL
SHEET 17 OF 55

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DATE PREPARED: 10/20/2023
ROUTE: 47 | STATE: MO
DISTRICT: NE | SHEET NO.: 60
COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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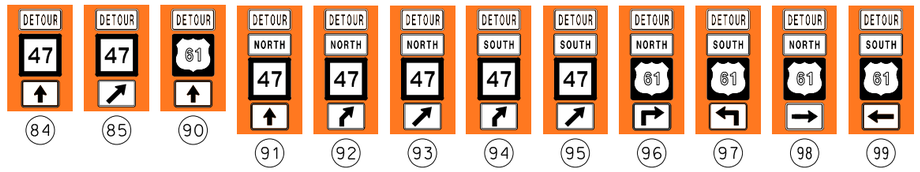

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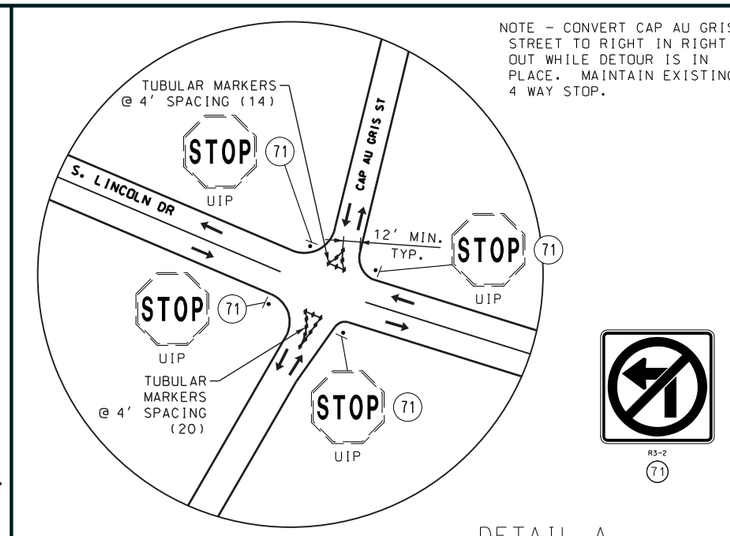

* NOTE:

CAP AU GRIS ST TO BE RESTRICTED TO RIGHT IN/ RIGHT OUT

NOT TO SCALE

TRAFFIC CONTROL
DETOUR PLAN
LEFT TURN RESTRICTIONS
SHEET 18 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
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DATE PREPARED 10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	61

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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REV.	DATE	DESCRIPTION

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MoDOT
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JEFFERSON CITY, MO 65102
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Civil Engineering Design
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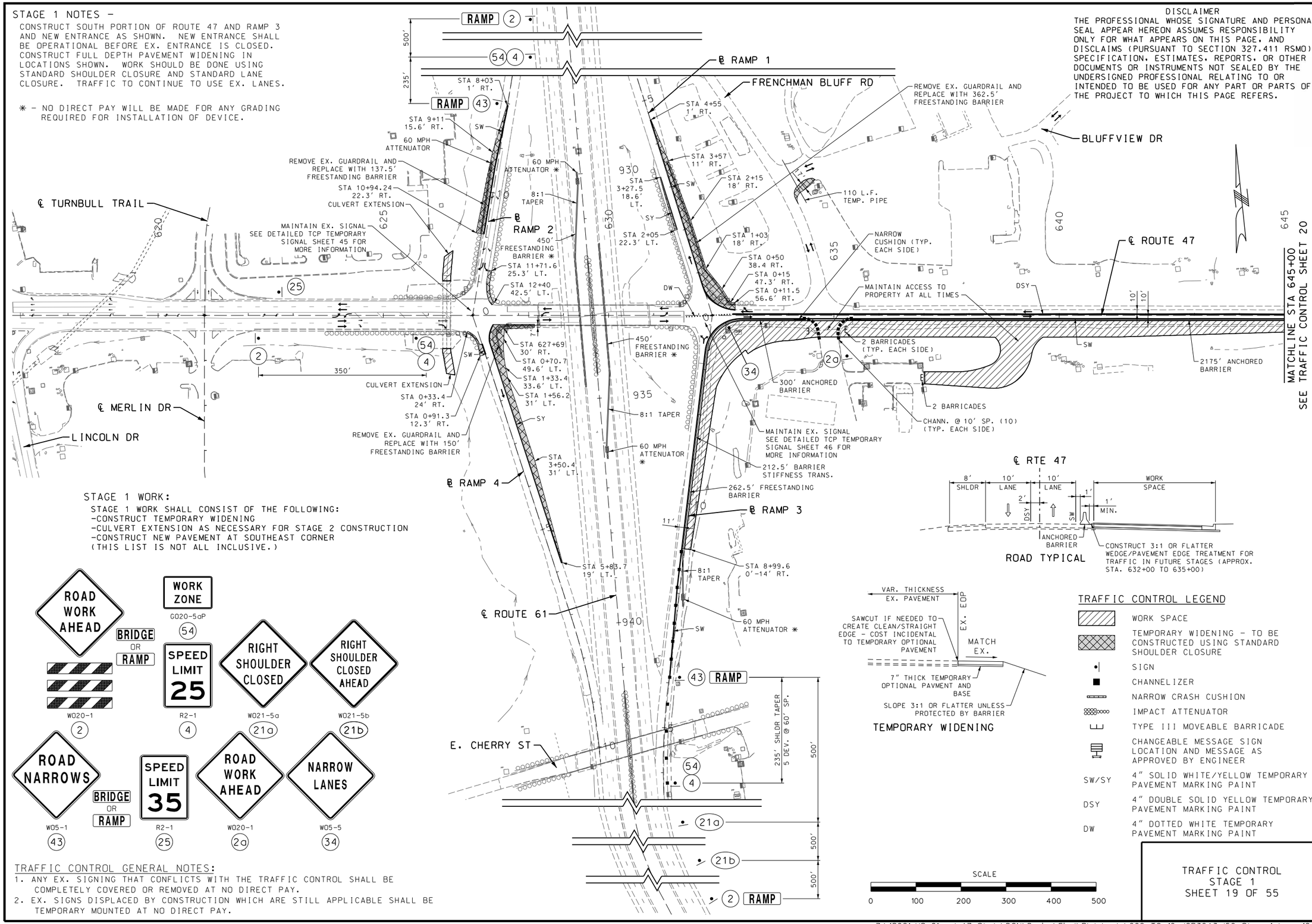
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

Z:\18021-US 61 and 47 Study\DGN\Design\Final\Plotsheets\061_TC_18_J2P3043_i500_Detour for Left Turns.dgn 12:04:42 PM 10/20/2023

STAGE 1 NOTES –

CONSTRUCT SOUTH PORTION OF ROUTE 47 AND RAMP 3 AND NEW ENTRANCE AS SHOWN. NEW ENTRANCE SHALL BE OPERATIONAL BEFORE EX. ENTRANCE IS CLOSED. CONSTRUCT FULL DEPTH PAVEMENT WIDENING IN LOCATIONS SHOWN. WORK SHOULD BE DONE USING STANDARD SHOULDER CLOSURE AND STANDARD LANE CLOSURE. TRAFFIC TO CONTINUE TO USE EX. LANES.

✳ – NO DIRECT PAY WILL BE MADE FOR ANY GRADING REQUIRED FOR INSTALLATION OF DEVICE.



STAGE 1 WORK:

STAGE 1 WORK SHALL CONSIST OF THE FOLLOWING:
-CONSTRUCT TEMPORARY WIDENING
-CULVERT EXTENSION AS NECESSARY FOR STAGE 2 CONSTRUCTION
-CONSTRUCT NEW PAVEMENT AT SOUTHEAST CORNER
(THIS LIST IS NOT ALL INCLUSIVE.)

TRAFFIC CONTROL GENERAL NOTES:

1. ANY EX. SIGNING THAT CONFLICTS WITH THE TRAFFIC CONTROL SHALL BE COMPLETELY COVERED OR REMOVED AT NO DIRECT PAY.
2. EX. SIGNS DISPLACED BY CONSTRUCTION WHICH ARE STILL APPLICABLE SHALL BE TEMPORARY MOUNTED AT NO DIRECT PAY.

ROAD TYPICAL

TEMPORARY WIDENING

TRAFFIC CONTROL LEGEND

- WORK SPACE
- TEMPORARY WIDENING – TO BE CONSTRUCTED USING STANDARD SHOULDER CLOSURE
- SIGN
- CHANNELIZER
- NARROW CRASH CUSHION
- IMPACT ATTENUATOR
- TYPE III MOVEABLE BARRICADE
- CHANGEABLE MESSAGE SIGN LOCATION AND MESSAGE AS APPROVED BY ENGINEER
- SW/SY – 4" SOLID WHITE/YELLOW TEMPORARY PAVEMENT MARKING PAINT
- DSY – 4" DOUBLE SOLID YELLOW TEMPORARY PAVEMENT MARKING PAINT
- DW – 4" DOTTED WHITE TEMPORARY PAVEMENT MARKING PAINT

SCALE
0 100 200 300 400 500

TRAFFIC CONTROL
STAGE 1
SHEET 19 OF 55

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STATE OF MISSOURI
MARGARET ANN BRUNS NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	62

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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

EFK·Moen, LLC
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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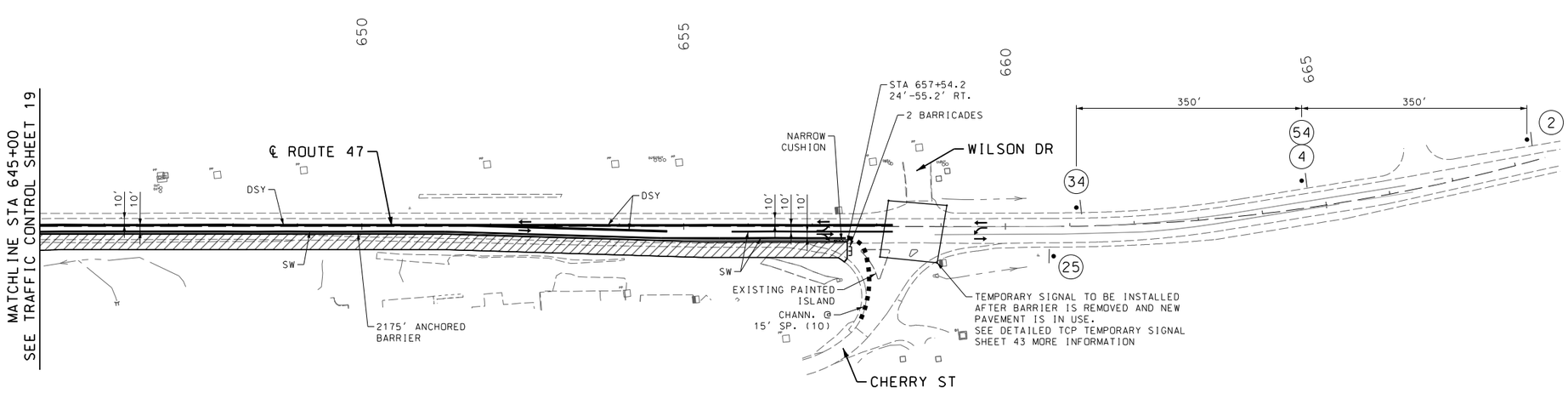

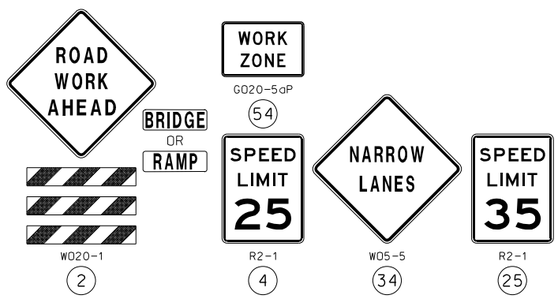

TRAFFIC CONTROL LEGEND

- WORK SPACE
- TEMPORARY WIDENING - TO BE CONSTRUCTED USING STANDARD SHOULDER CLOSURE
- SIGN
- CHANNELIZER
- NARROW CRASH CUSHION
- IMPACT ATTENUATOR
- TYPE III MOVEABLE BARRICADE
- CHANGEABLE MESSAGE SIGN LOCATION AND MESSAGE AS APPROVED BY ENGINEER
- SW/SY — 4" SOLID WHITE/YELLOW TEMPORARY PAVEMENT MARKING PAINT
- DSY — 4" DOUBLE SOLID YELLOW TEMPORARY PAVEMENT MARKING PAINT
- DW — 4" DOTTED WHITE TEMPORARY PAVEMENT MARKING PAINT

SCALE
0 100 200 300 400 500

TRAFFIC CONTROL
STAGE 1
SHEET 20 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
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DATE PREPARED
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ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	63

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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STAGE 2a NOTES-

NORTH SIDE OF BRIDGE TO BE REMOVED. SEE TRAFFIC CONTROL SHEET 17 FOR DETOUR OF RTE 47 DURING REMOVAL OF NORTH PORTION OF BRIDGE PRIOR TO CONSTRUCTION OF THIS STAGE. SEE TRAFFIC CONTROL SHEETS 32-36 FOR DETAILS OF ROUTE 61 TRAFFIC HANDLING AND TRAFFIC CONTROL SHEETS 37-41 FOR ROUTE 47 TRAFFIC HANDLING DURING REMOVAL OF BRIDGE.

TEMPORARY SIGNALS AND LIGHTING AT BOTH EAST AND WEST RAMP TERMINAL, AS WELL AS CHERRY STREET AND OLD CAP AU GRIS ROAD SHALL BE IN PLACE AND OPERATIONAL PRIOR TO ANY LANE SHIFTING.

CONSTRUCT NORTH SIDE OF BRIDGE AND RAMPS 1 & 2 AS SHOWN. TRAFFIC TO BE REDUCED TO SINGLE 12' THRU LANE IN EITHER DIRECTION AND BOTH LANES SHIFTED TO THE EXISTING SOUTH SIDE OF BRIDGE. NO LEFT TURNS WILL BE ALLOWED AT RAMP TERMINALS DURING THIS STAGE. CONSTRUCT NORTH PORTION OF ROUTE 47 AS SHOWN. CONSTRUCT FRENCHMAN BLUFF ROAD RELOCATION - CONSTRUCT ONE HALF AT A TIME OR AS NECESSARY TO MAINTAIN ACCESS TO BLUFFVIEW DRIVE AND EXISTING ENTRANCES.

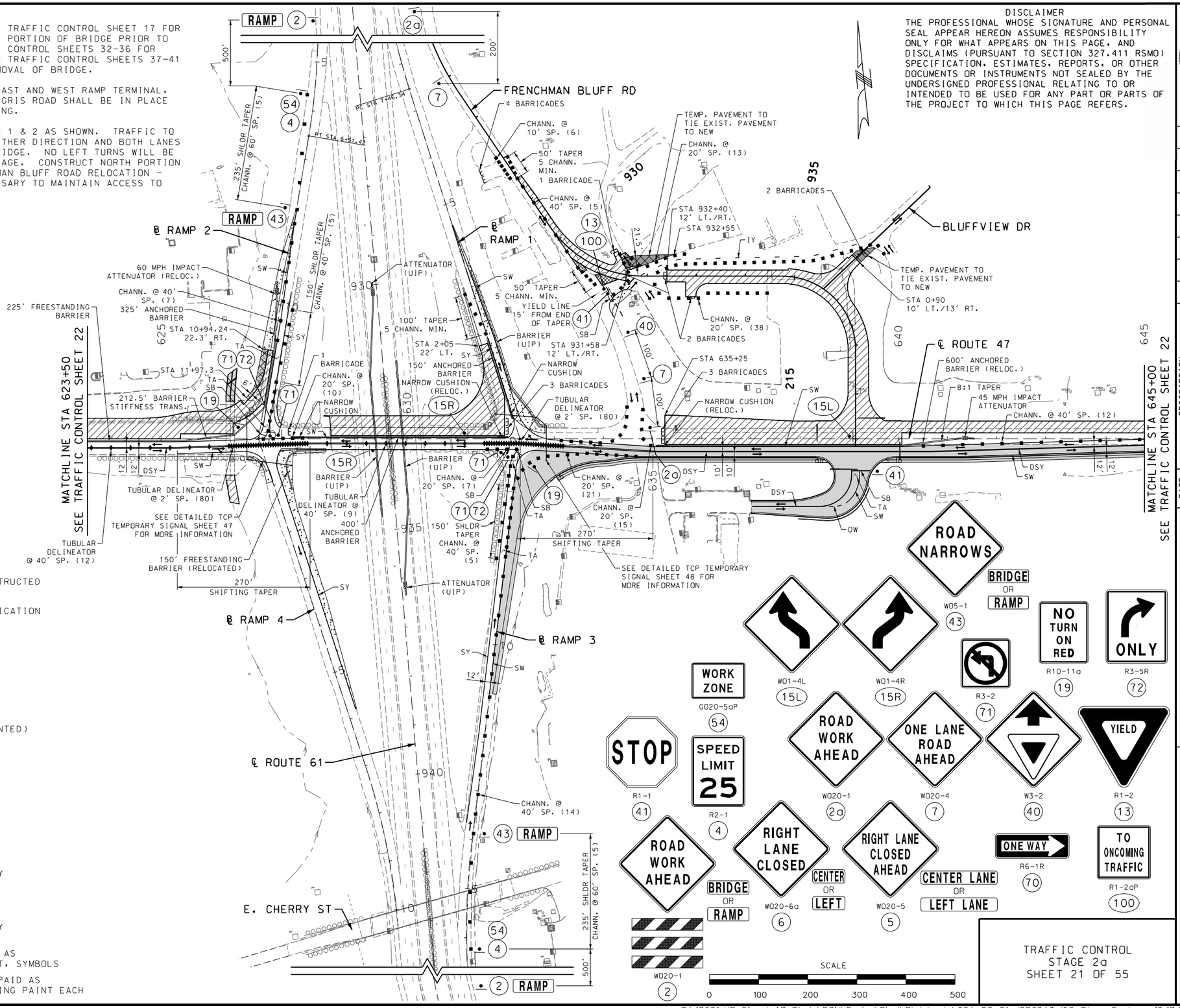
STAGE 2a WORK:

STAGE 2a WORK SHALL CONSIST OF THE FOLLOWING:

- -REMOVE NORTH PORTION OF BRIDGE
- -COMPLETE TEMPORARY SIGNAL INSTALLATION AT THE RAMP TERMINALS AS WELL AS CHERRY STREET AND OLD CAP AU GRIS ROAD
- -BEGIN CONSTRUCTION OF NORTH HALF OF NEW BRIDGE
- -CONSTRUCT ROUTE 47 WIDENING TO NORTH
- -CONSTRUCT FRENCHMAN BLUFF PAVEMENT WHILE MAINTAINING ACCESS AT ALL TIMES
- -CONSTRUCT PERMANENT TRAFFIC SIGNAL AT RELOCATED FRENCHMAN BLUFF. IF EQUIPMENT IS NOT AVAILABLE INSTALL STOP SIGN ON SIDE ROAD UNTIL INSTALLATION CAN BE COMPLETED.

(THIS LIST IS NOT ALL INCLUSIVE.)

SEE TRAFFIC CONTROL SHEET 22 FOR TRAFFIC CONTROL TYPICAL SECTIONS



TRAFFIC CONTROL LEGEND

- WORK SPACE
- TEMPORARY WIDENING - TO BE CONSTRUCTED USING STANDARD SHOULDER CLOSURE
- TEMPORARY ASPHALT SURFACE MODIFICATION
- EXISTING TEMPORARY WIDENING / WEDGING
- PREVIOUS STAGE PERMANENT CONSTRUCTION
- SIGN
- CHANNELIZER
- DIRECTION INDICATOR BARRICADE
- TUBULAR DELINEATOR (SURFACE MOUNTED)
- FLASHING ARROW PANEL
- NARROW CRASH CUSHION
- IMPACT ATTENUATOR
- TYPE III MOVEABLE BARRICADE
- CHANGEABLE MESSAGE SIGN LOCATION AND MESSAGE AS APPROVED BY ENGINEER
- SW/SY - 4" SOLID WHITE/YELLOW TEMPORARY PAVEMENT MARKING PAINT
- DSY - 4" DOUBLE SOLID YELLOW TEMPORARY PAVEMENT MARKING PAINT
- DW - 4" DOTTED WHITE TEMPORARY PAVEMENT MARKING PAINT
- IY - 4" INTERMITTENT YELLOW TEMPORARY PAVEMENT MARKING PAINT
- TA - 8" WHITE TEMPORARY ARROW - PAID AS TEMPORARY PAVEMENT MARKING PAINT, SYMBOLS
- SB - 12" WHITE TEMPORARY STOP BAR - PAID AS (LENGTH x 3) L.F. PAVEMENT MARKING PAINT EACH

TRAFFIC CONTROL
STAGE 2a
SHEET 21 OF 55

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ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	64

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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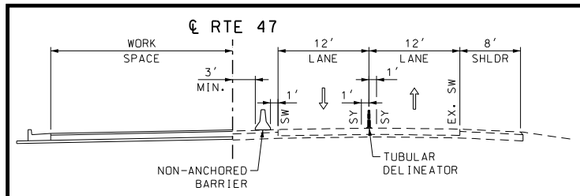
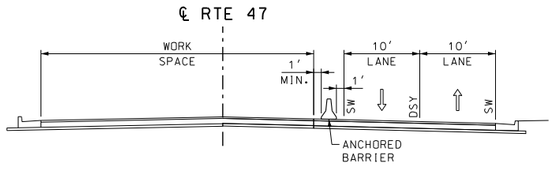
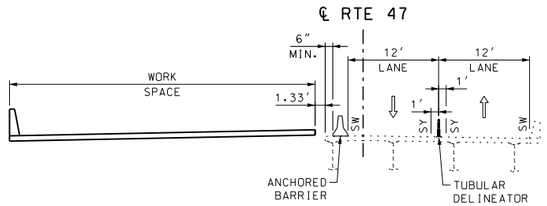


ROAD TYPICAL
NON-ANCHORED BARRIER



ROAD TYPICAL
THROUGH ANCHORED BARRIER



BRIDGE TYPICAL

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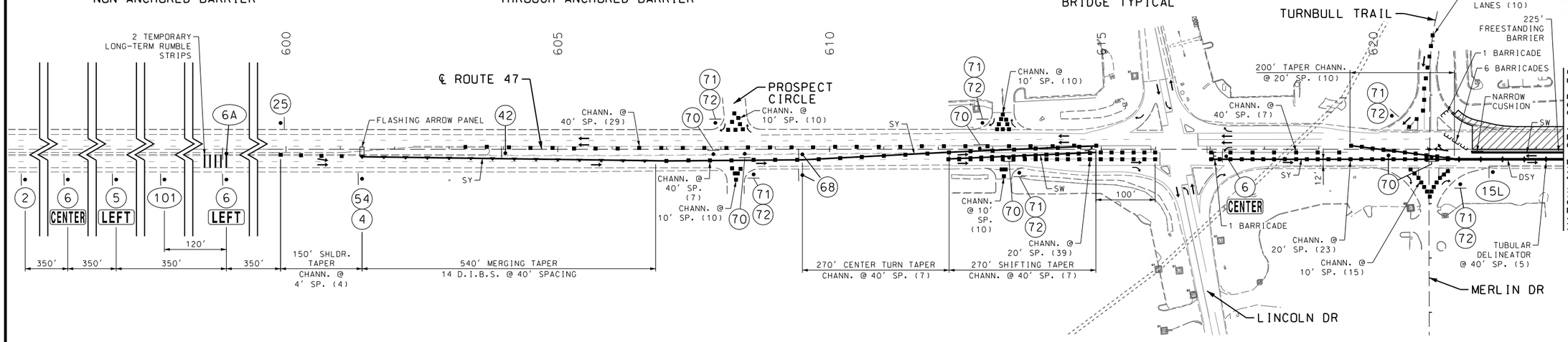

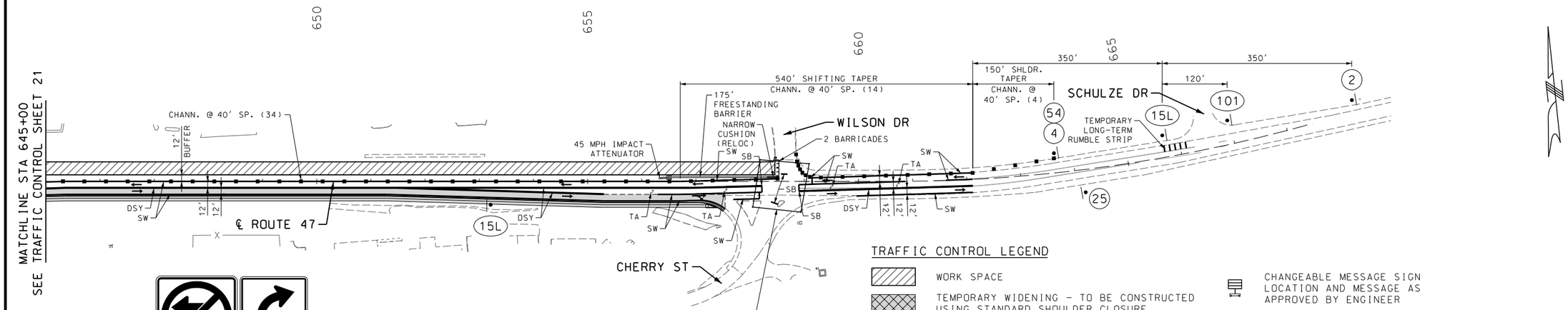

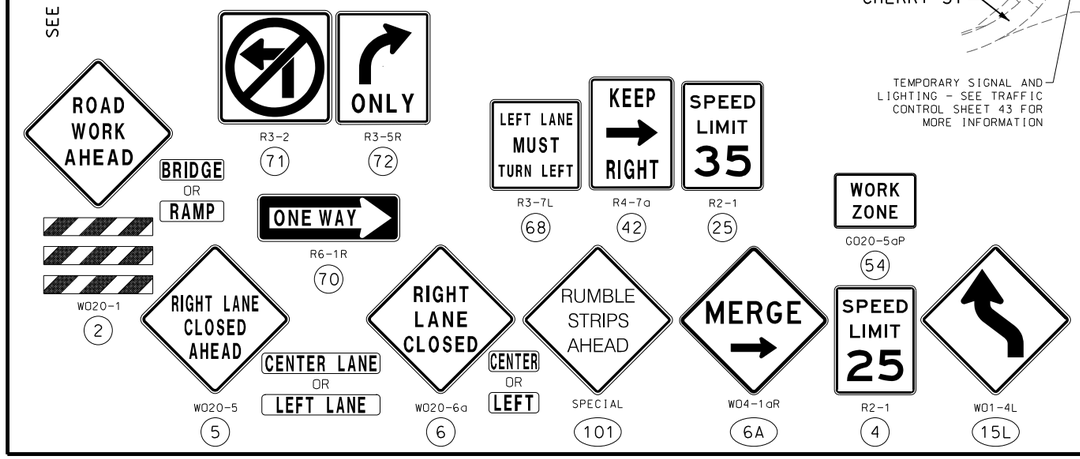

TRAFFIC CONTROL LEGEND

- WORK SPACE
- TEMPORARY WIDENING - TO BE CONSTRUCTED USING STANDARD SHOULDER CLOSURE
- TEMPORARY ASPHALT SURFACE MODIFICATION
- EXISTING TEMPORARY WIDENING / WEDGING
- PREVIOUS STAGE PERMANENT CONSTRUCTION
- SIGN
- CHANNELIZER
- DIRECTION INDICATOR BARRICADE
- TUBULAR DELINEATOR (SURFACE MOUNTED)
- FLASHING ARROW PANEL
- NARROW CRASH CUSHION
- IMPACT ATTENUATOR
- TYPE III MOVEABLE BARRICADE
- CHANGEABLE MESSAGE SIGN LOCATION AND MESSAGE AS APPROVED BY ENGINEER
- SW/SY — 4" SOLID WHITE/YELLOW TEMPORARY PAVEMENT MARKING PAINT
- DSY — 4" DOUBLE SOLID YELLOW TEMPORARY PAVEMENT MARKING PAINT
- DW — 4" DOTTED WHITE TEMPORARY PAVEMENT MARKING PAINT
- IY — 4" INTERMITTENT YELLOW TEMPORARY PAVEMENT MARKING PAINT
- TA — 8" WHITE TEMPORARY ARROW - PAID AS TEMPORARY PAVEMENT MARKING PAINT, SYMBOLS
- SB — 12" WHITE TEMPORARY STOP BAR - PAID AS (LENGTH x 3) L.F. PAVEMENT MARKING PAINT EACH

SCALE
0 100 200 300 400 500

TRAFFIC CONTROL
STAGE 2a
SHEET 22 OF 55

STATE OF MISSOURI
PROFESSIONAL ENGINEER
MARGARET ANN BRUNS
NUMBER PE-2010000798
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10/20/2023

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47	MO
DISTRICT	SHEET NO.
NE	65

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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MISSOURI HIGHWAYS AND TRANSPORTION COMMISSION
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JEFFERSON CITY, MO 65102
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St. Louis, MO 63021
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STAGE 2b NOTES-

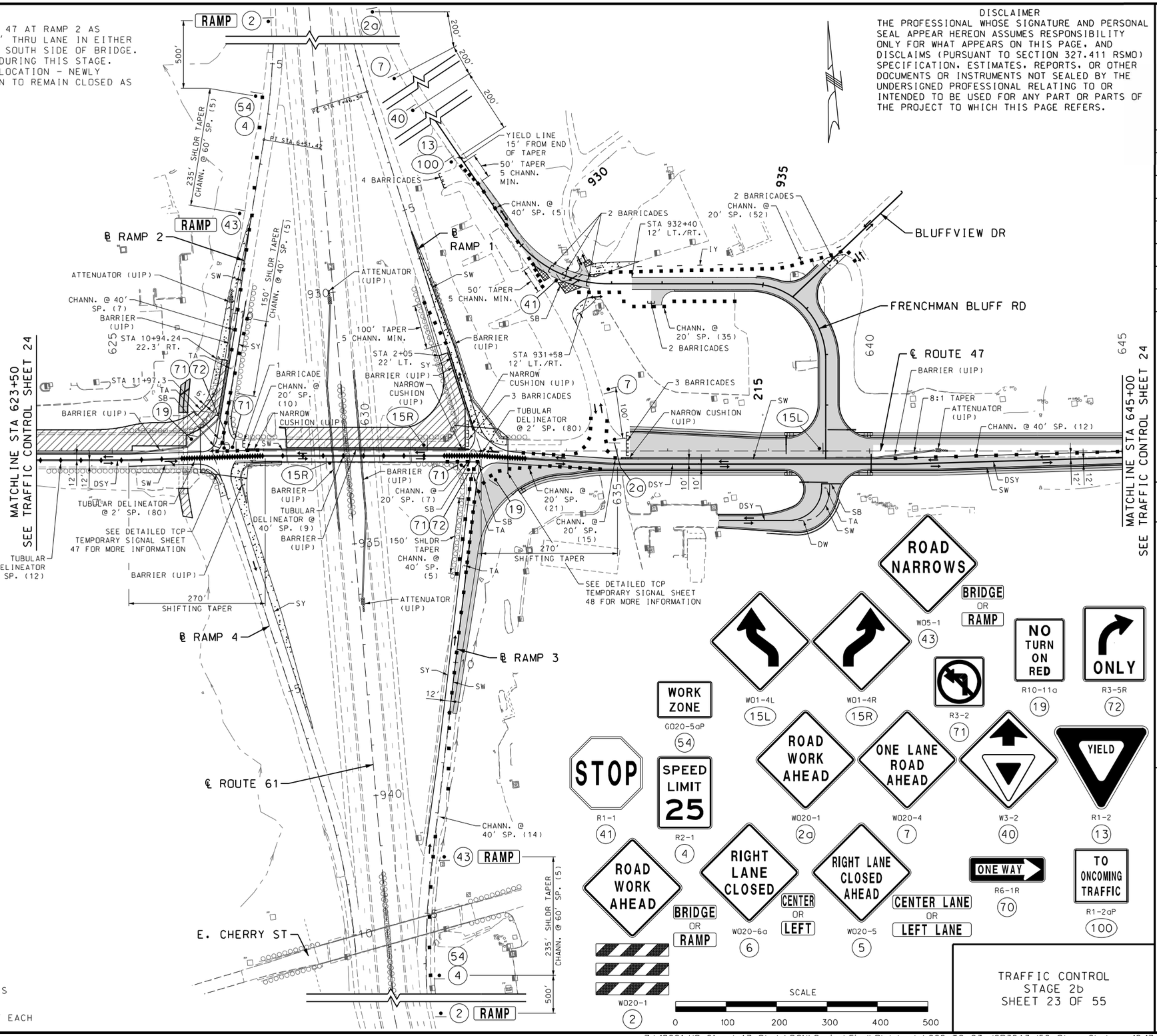
CONTINUE CONSTRUCTION OF THE NORTH SIDE OF ROUTE 47 AT RAMP 2 AS SHOWN. TRAFFIC TO CONTINUE REDUCED TO SINGLE 12' THRU LANE IN EITHER DIRECTION AND BOTH LANES SHIFTED TO THE EXISTING SOUTH SIDE OF BRIDGE. NO LEFT TURNS WILL BE ALLOWED AT RAMP TERMINALS DURING THIS STAGE. CONTINUE CONSTRUCTION OF FRENCHMAN BLUFF ROAD RELOCATION - NEWLY CONSTRUCTED PORTION OF FRENCHMAN BLUFF RELOCATION TO REMAIN CLOSED AS SHOWN DURING THIS STAGE.

STAGE 2b WORK:

STAGE 2b WORK SHALL CONSIST OF THE FOLLOWING:
- -MAINTAIN TEMPORARY SIGNALS FROM PREVIOUS STAGE
- -CONTINUE CONSTRUCTION OF NORTH HALF OF NEW BRIDGE
- -COMPLETE CONSTRUCTION OF FRENCHMAN BLUFF PAVEMENT WHILE MAINTAINING ACCESS AT ALL TIMES
- -CLOSE AND OBLITERATE EXISTING FRENCHMAN BLUFF CONNECTION PAVEMENT

(THIS LIST IS NOT ALL INCLUSIVE.)

SEE TRAFFIC CONTROL SHEET 24 FOR TRAFFIC CONTROL TYPICAL SECTIONS



TRAFFIC CONTROL LEGEND

	WORK SPACE
	TEMPORARY WIDENING - TO BE CONSTRUCTED USING STANDARD SHOULDER CLOSURE
	PREVIOUS STAGE TEMPORARY ASPHALT SURFACE MODIFICATION
	EXISTING TEMPORARY WIDENING / WEDGING
	PREVIOUS STAGE PERMANENT CONSTRUCTION
•|	SIGN
■	CHANNELIZER
▲	DIRECTION INDICATOR BARRICADE
♦	TUBULAR DELINEATOR (SURFACE MOUNTED)
	FLASHING ARROW PANEL
	NARROW CRASH CUSHION
	IMPACT ATTENUATOR
	TYPE III MOVEABLE BARRICADE
	CHANGEABLE MESSAGE SIGN LOCATION AND MESSAGE AS APPROVED BY ENGINEER
SW/SY	4" SOLID WHITE/YELLOW TEMPORARY PAVEMENT MARKING PAINT
DSY	4" DOUBLE SOLID YELLOW TEMPORARY PAVEMENT MARKING PAINT
DW	4" DOTTED WHITE TEMPORARY PAVEMENT MARKING PAINT
IY	4" INTERMITTENT YELLOW TEMPORARY PAVEMENT MARKING PAINT
TA	8" WHITE TEMPORARY ARROW - PAID AS TEMPORARY PAVEMENT MARKING PAINT, SYMBOLS
SB	12" WHITE TEMPORARY STOP BAR - PAID AS (LENGTH x 3) L.F. PAVEMENT MARKING PAINT EACH

TRAFFIC CONTROL
STAGE 2b
SHEET 23 OF 55

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ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	66

COUNTY: LINCOLN
JOB NO.: J2P3043
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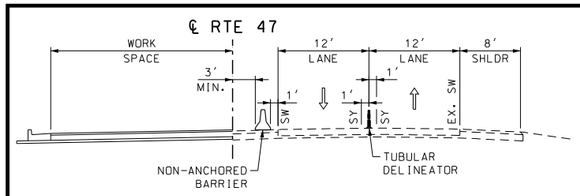
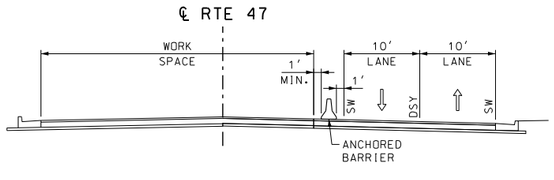
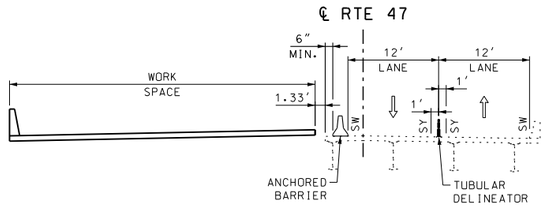


ROAD TYPICAL
NON-ANCHORED BARRIER



ROAD TYPICAL
THROUGH ANCHORED BARRIER



BRIDGE TYPICAL

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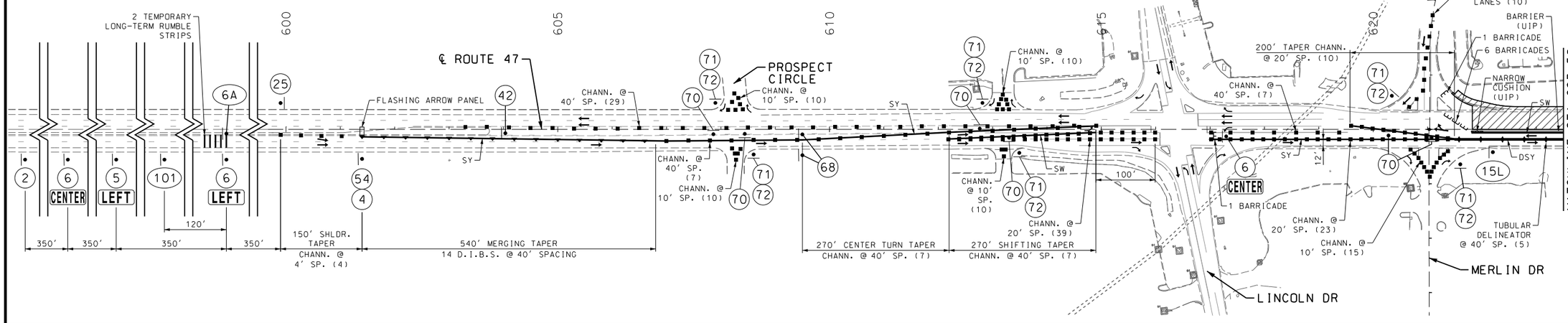

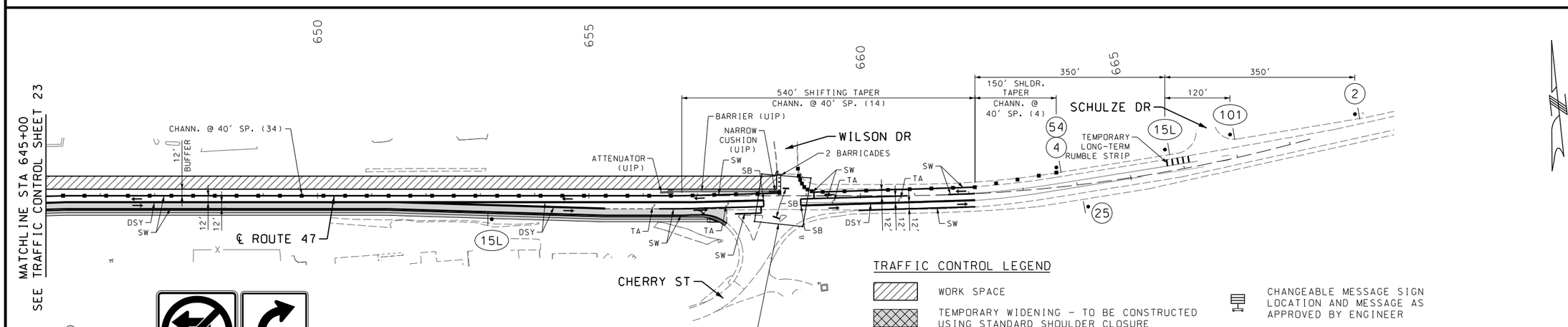

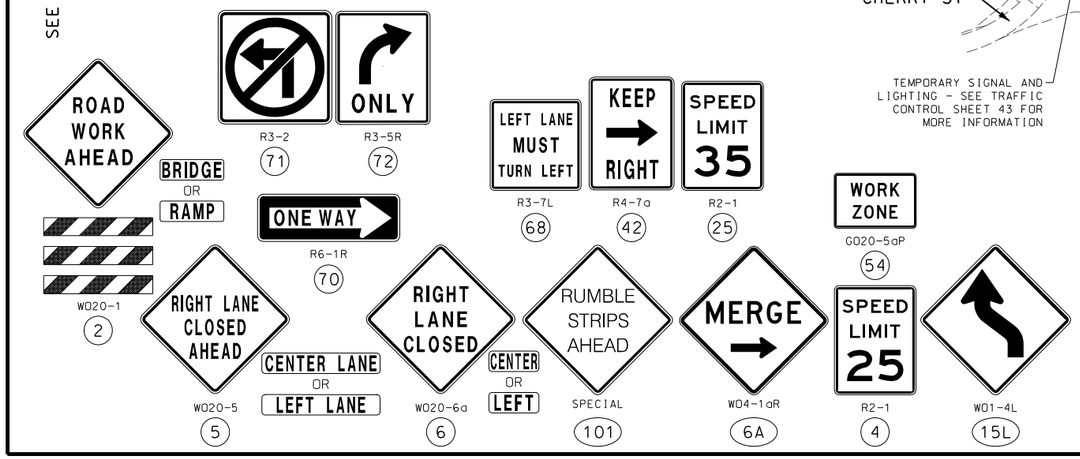

TRAFFIC CONTROL LEGEND

- WORK SPACE
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- TEMPORARY ASPHALT SURFACE MODIFICATION
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- DW 4" DOTTED WHITE TEMPORARY PAVEMENT MARKING PAINT
- IY 4" INTERMITTENT YELLOW TEMPORARY PAVEMENT MARKING PAINT
- TA 8" WHITE TEMPORARY ARROW - PAID AS TEMPORARY PAVEMENT MARKING PAINT, SYMBOLS
- SB 12" WHITE TEMPORARY STOP BAR - PAID AS (LENGTH x 3) L.F. PAVEMENT MARKING PAINT EACH

SCALE
0 100 200 300 400 500

TRAFFIC CONTROL
STAGE 2b
SHEET 24 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
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47	MO
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NE	67

COUNTY
LINCOLN

JOB NO.
J2P3043

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STAGE 2c –

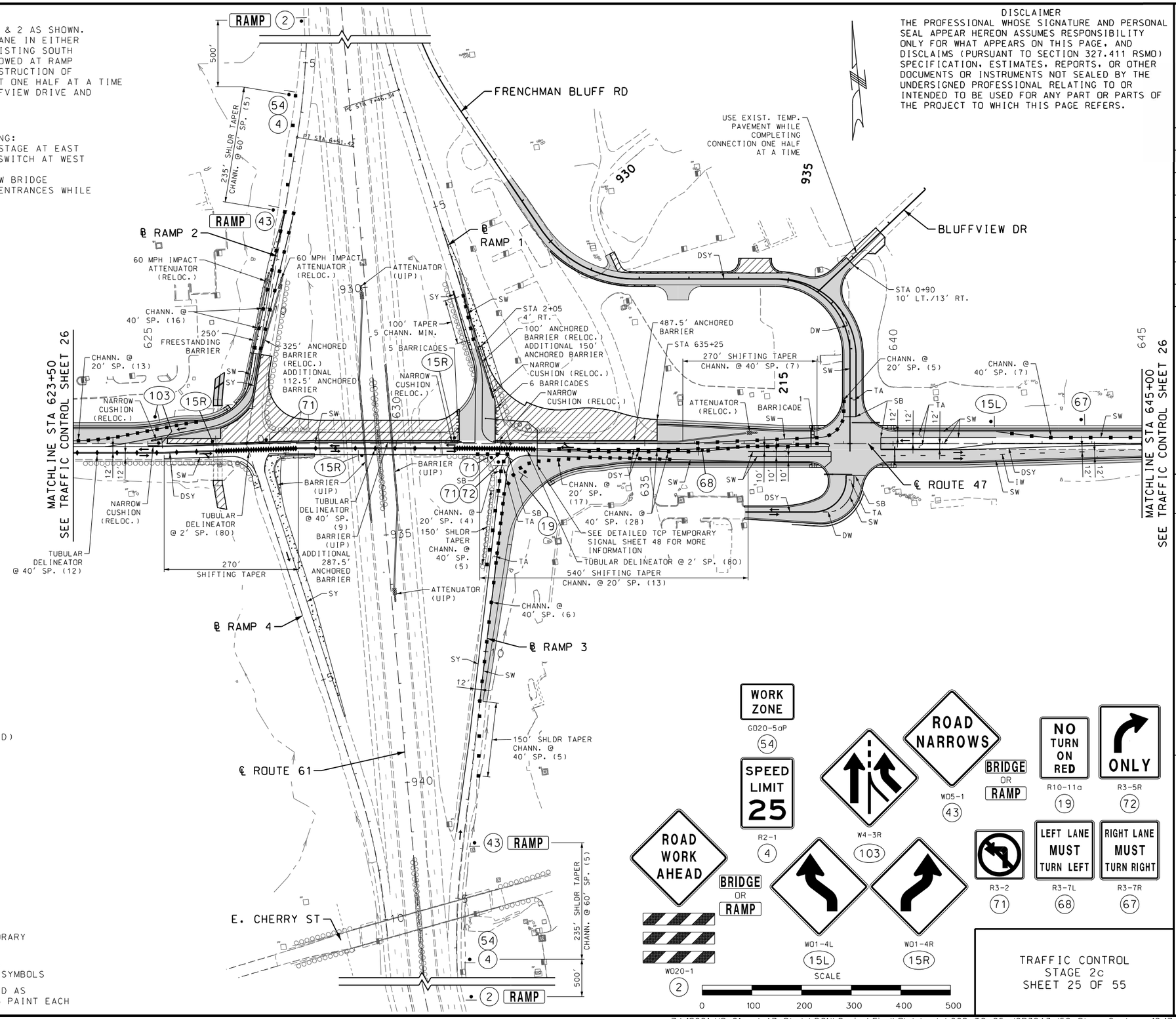
CONSTRUCT NORTH SIDE OF BRIDGE AND RAMPS 1 & 2 AS SHOWN. TRAFFIC TO BE REDUCED TO SINGLE 12' THRU LANE IN EITHER DIRECTION AND BOTH LANES SHIFTED TO THE EXISTING SOUTH SIDE OF BRIDGE. NO LEFT TURNS WILL BE ALLOWED AT RAMP TERMINALS DURING THIS STAGE. CONTINUE CONSTRUCTION OF FRENCHMAN BLUFF ROAD RELOCATION – CONSTRUCT ONE HALF AT A TIME OR AS NECESSARY TO MAINTAIN ACCESS TO BLUFFVIEW DRIVE AND EXISTING ENTRANCES.

STAGE 2c WORK:

STAGE 2c WORK SHALL CONSIST OF THE FOLLOWING:
- MAINTAIN TEMPORARY SIGNALS FROM PREVIOUS STAGE AT EAST RAMPS, MODIFY TEMPORARY SIGNAL FOR LANE SWITCH AT WEST RAMPS
- CONTINUE CONSTRUCTION OF NORTH HALF OF NEW BRIDGE
- COMPLETE CONSTRUCTION OF FRENCHMAN BLUFF ENTRANCES WHILE MAINTAINING ACCESS AT ALL TIMES

(THIS LIST IS NOT ALL INCLUSIVE.)

SEE TRAFFIC CONTROL SHEET 26 FOR TRAFFIC CONTROL TYPICAL SECTIONS



TRAFFIC CONTROL LEGEND

- WORK SPACE
- EXISTING TEMPORARY WIDENING / WEDGING
- PREVIOUS STAGE PERMANENT CONSTRUCTION
- SIGN
- CHANNELIZER
- DIRECTION INDICATOR BARRICADE
- TUBULAR DELINEATOR (SURFACE MOUNTED)
- FLASHING ARROW PANEL
- NARROW CRASH CUSHION
- IMPACT ATTENUATOR
- TYPE III MOVEABLE BARRICADE
- CHANGEABLE MESSAGE SIGN LOCATION AND MESSAGE AS APPROVED BY ENGINEER
- SW/SY — 4" SOLID WHITE/YELLOW TEMPORARY PAVEMENT MARKING PAINT
- DSY — 4" DOUBLE SOLID YELLOW TEMPORARY PAVEMENT MARKING PAINT
- DW — 4" DOTTED WHITE TEMPORARY PAVEMENT MARKING PAINT
- IW/IY — 4" INTERMITTENT WHITE/YELLOW TEMPORARY PAVEMENT MARKING PAINT
- TA — 8" WHITE TEMPORARY ARROW – PAID AS TEMPORARY PAVEMENT MARKING PAINT, SYMBOLS
- SB — 12" WHITE TEMPORARY STOP BAR – PAID AS (LENGTH x 3) L.F. PAVEMENT MARKING PAINT EACH

TRAFFIC CONTROL
STAGE 2c
SHEET 25 OF 55

DISCLAIMER

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STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	68

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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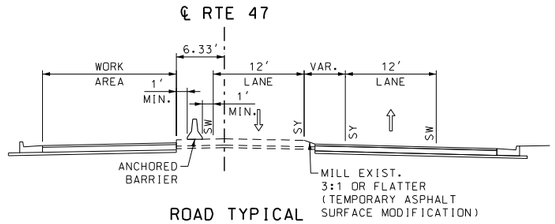
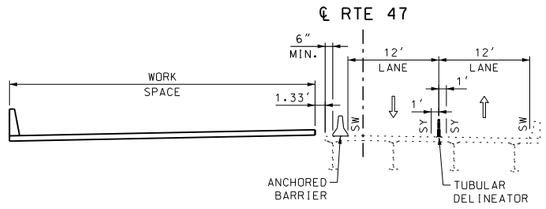
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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



ROAD TYPICAL
THROUGH ANCHORED BARRIER



BRIDGE TYPICAL

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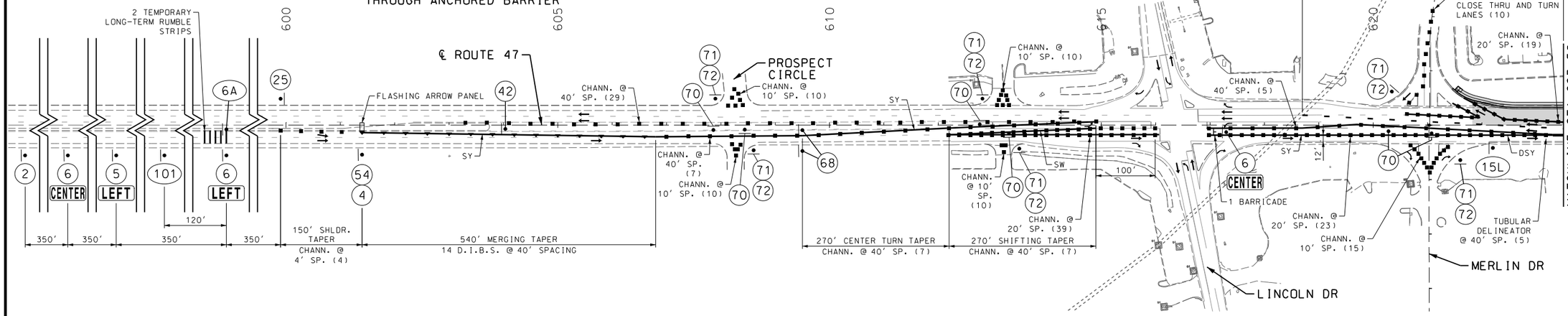
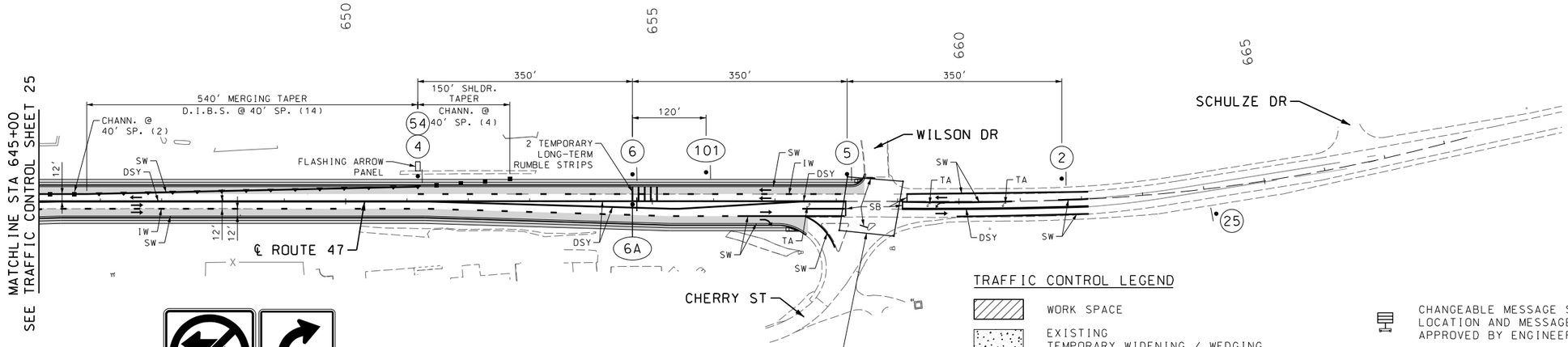
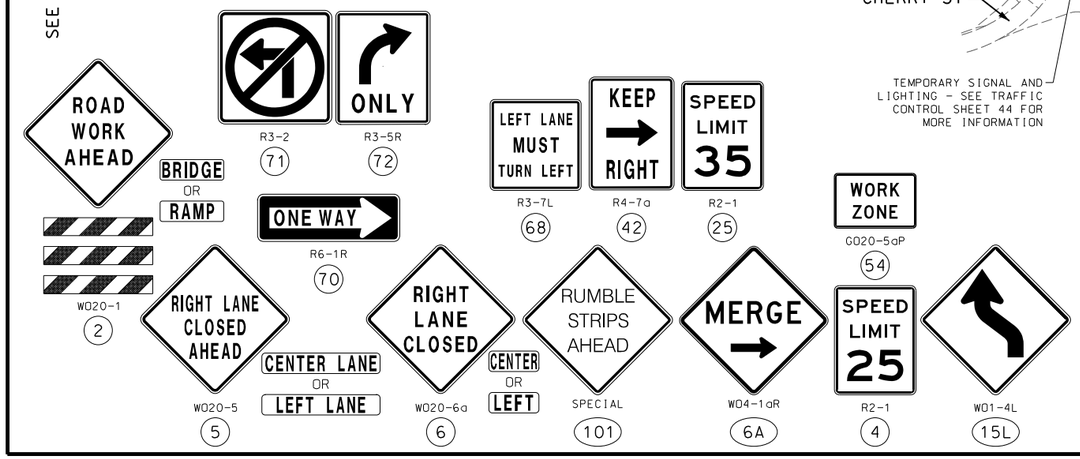


MATCHLINE STA 623+50
SEE TRAFFIC CONTROL SHEET 25





TRAFFIC CONTROL LEGEND

- WORK SPACE
- EXISTING TEMPORARY WIDENING / WEDGING
- PREVIOUS STAGE PERMANENT CONSTRUCTION
- SIGN
- CHANNELIZER
- DIRECTION INDICATOR BARRICADE
- TUBULAR DELINEATOR (SURFACE MOUNTED)
- FLASHING ARROW PANEL
- NARROW CRASH CUSHION
- IMPACT ATTENUATOR
- TYPE III MOVEABLE BARRICADE
- CHANGEABLE MESSAGE SIGN LOCATION AND MESSAGE AS APPROVED BY ENGINEER

SW/SY	4" SOLID WHITE/YELLOW TEMPORARY PAVEMENT MARKING PAINT
DSY	4" DOUBLE SOLID YELLOW TEMPORARY PAVEMENT MARKING PAINT
DW	4" DOTTED WHITE TEMPORARY PAVEMENT MARKING PAINT
IY	4" INTERMITTENT YELLOW TEMPORARY PAVEMENT MARKING PAINT
TA	8" WHITE TEMPORARY ARROW - PAID AS TEMPORARY PAVEMENT MARKING PAINT, SYMBOLS
SB	12" WHITE TEMPORARY STOP BAR - PAID AS (LENGTH x 3) L.F. PAVEMENT MARKING PAINT EACH

SCALE
0 100 200 300 400 500

TRAFFIC CONTROL
STAGE 2c
SHEET 26 OF 55

STATE OF MISSOURI
PROFESSIONAL ENGINEER
MARGARET ANN BRUNS
NUMBER PE-2010000798
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	69

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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

STAGE 3a –

SOUTH SIDE OF BRIDGE TO BE REMOVED. SEE TRAFFIC CONTROL SHEET 17 FOR DETOUR OF ROUTE 47 DURING REMOVAL OF SOUTH PORTION OF BRIDGE PRIOR TO CONSTRUCTION OF THIS STAGE. SEE TRAFFIC CONTROL SHEETS 32-36 FOR DETAILS OF ROUTE 61 TRAFFIC HANDLING AND TRAFFIC CONTROL SHEETS 37-41 FOR ROUTE 47 TRAFFIC HANDLING DURING REMOVAL OF BRIDGE.

TEMPORARY SIGNALS AND LIGHTING AT BOTH EAST AND WEST RAMP TERMINALS SHALL BE IN PLACE AND OPERATIONAL PRIOR TO ANY LANE SHIFTING.

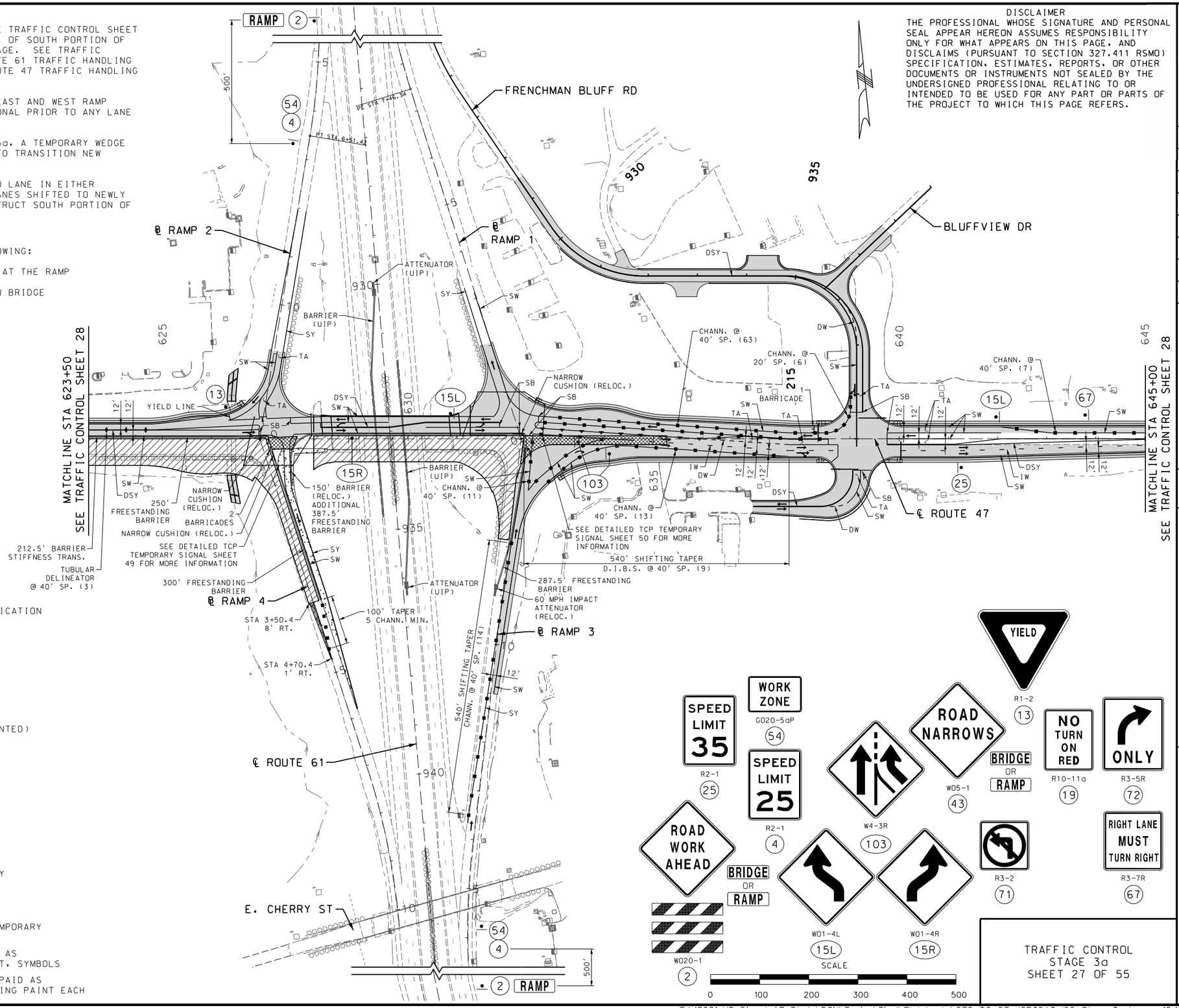
BEFORE BEGINNING CONSTRUCTION OF STAGE 3a, A TEMPORARY WEDGE WILL BE CONSTRUCTED AT RAMP 4 AS SHOWN TO TRANSITION NEW PAVEMENT ELEVATION TO EXISTING.

TRAFFIC TO BE REDUCED TO SINGLE 12' THRU LANE IN EITHER DIRECTION AND A 10' TURN LANE AND ALL LANES SHIFTED TO NEWLY CONSTRUCTED NORTH SIDE OF BRIDGE. CONSTRUCT SOUTH PORTION OF ROUTE 47 AND RAMPS 3 & 4 AS SHOWN.

STAGE 3a WORK:

STAGE 3a WORK SHALL CONSIST OF THE FOLLOWING:
-REMOVE SOUTH PORTION OF BRIDGE
-COMPLETE TEMPORARY SIGNAL INSTALLATION AT THE RAMP TERMINALS
-BEGIN CONSTRUCTION OF SOUTH HALF OF NEW BRIDGE
-CONSTRUCT ROUTE 47 WIDENING TO SOUTH
(THIS LIST IS NOT ALL INCLUSIVE.)

SEE TRAFFIC CONTROL SHEET 28 FOR TRAFFIC CONTROL TYPICAL SECTIONS



TRAFFIC CONTROL LEGEND

	WORK SPACE
	TEMPORARY ASPHALT SURFACE MODIFICATION
	EXISTING TEMPORARY WIDENING / WEDGING
	PREVIOUS STAGE PERMANENT CONSTRUCTION
	SIGN
	CHANNELIZER
	DIRECTION INDICATOR BARRICADE
	TUBULAR DELINEATOR (SURFACE MOUNTED)
	FLASHING ARROW PANEL
	NARROW CRASH CUSHION
	IMPACT ATTENUATOR
	TYPE III MOVEABLE BARRICADE
	CHANGEABLE MESSAGE SIGN LOCATION AND MESSAGE AS APPROVED BY ENGINEER
SW/SY	4" SOLID WHITE/YELLOW TEMPORARY PAVEMENT MARKING PAINT
DSY	4" DOUBLE SOLID YELLOW TEMPORARY PAVEMENT MARKING PAINT
DW	4" DOTTED WHITE TEMPORARY PAVEMENT MARKING PAINT
IW/IY	4" INTERMITTENT WHITE/YELLOW TEMPORARY PAVEMENT MARKING PAINT
TA	8" WHITE TEMPORARY ARROW - PAID AS TEMPORARY PAVEMENT MARKING PAINT, SYMBOLS
SB	12" WHITE TEMPORARY STOP BAR - PAID AS (LENGTH x 3) L.F. PAVEMENT MARKING PAINT EACH

TRAFFIC CONTROL
STAGE 3a
SHEET 27 OF 55

DISCLAIMER
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PROFESSIONAL ENGINEER
MARGARET ANN BRUNS
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DATE PREPARED 10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	70

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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SOUTH PORTION

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EFK•Moen, LLC
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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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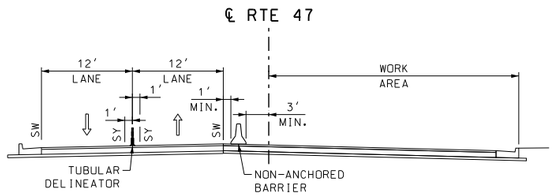
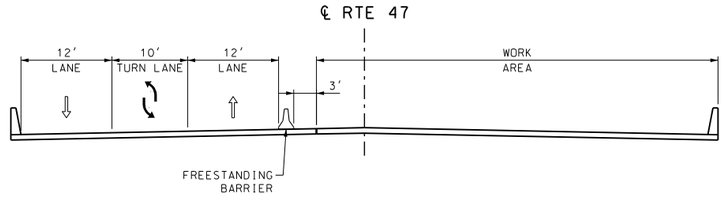


ROAD TYPICAL
THROUGH NON-ANCHORED BARRIER



BRIDGE TYPICAL

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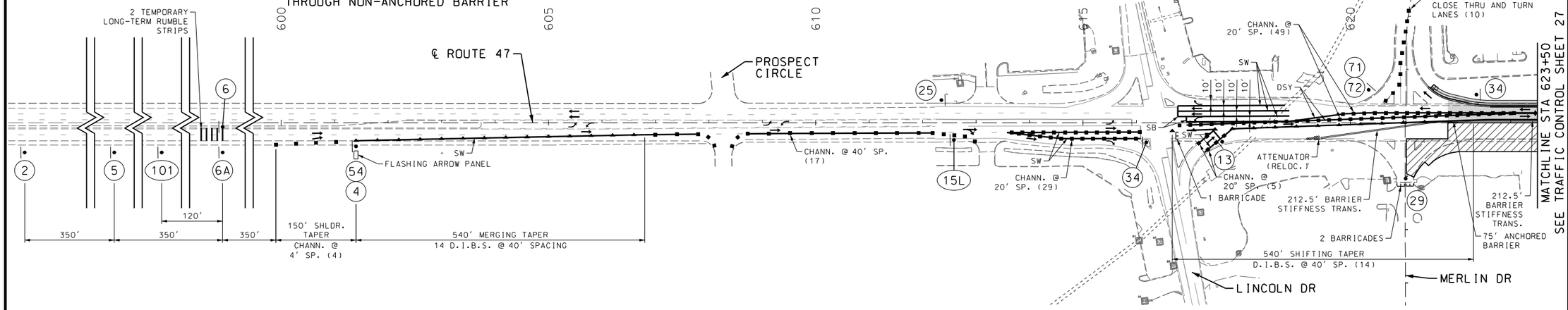

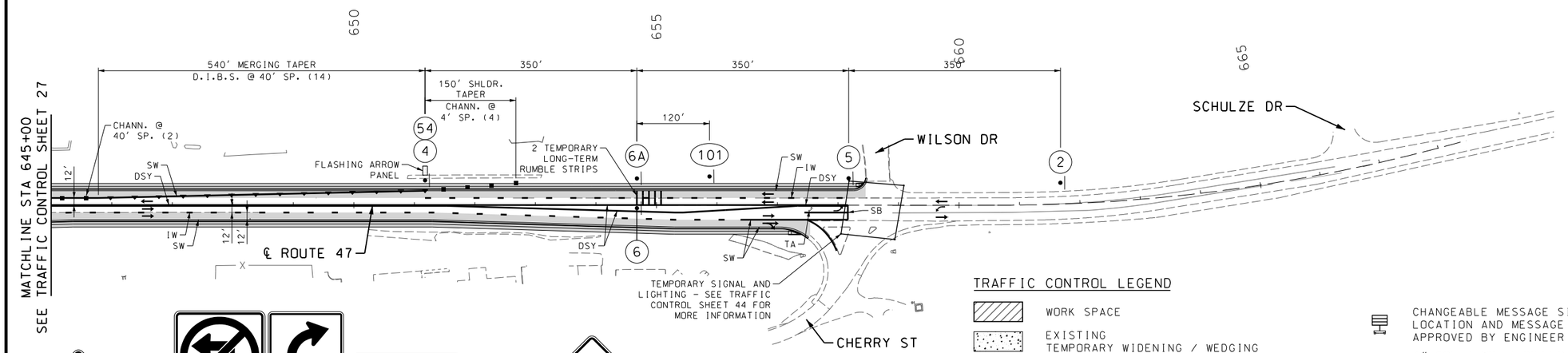

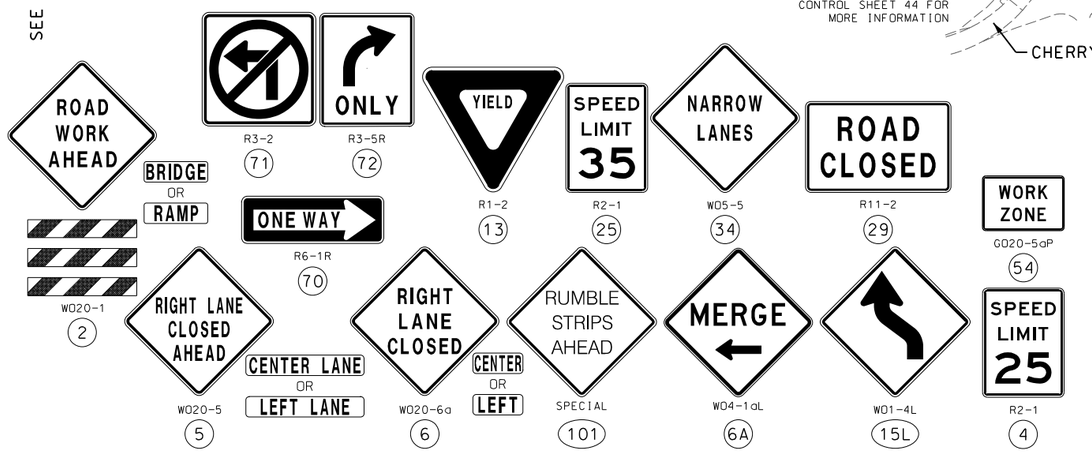

TRAFFIC CONTROL LEGEND

- WORK SPACE
- EXISTING TEMPORARY WIDENING / WEDGING
- PREVIOUS STAGE PERMANENT CONSTRUCTION
- SIGN
- CHANNELIZER
- DIRECTION INDICATOR BARRICADE
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- CHANGEABLE MESSAGE SIGN — LOCATION AND MESSAGE AS APPROVED BY ENGINEER
- SW/SY — 4" SOLID WHITE/YELLOW TEMPORARY PAVEMENT MARKING PAINT
- DSY — 4" DOUBLE SOLID YELLOW TEMPORARY PAVEMENT MARKING PAINT
- DW — 4" DOTTED WHITE TEMPORARY PAVEMENT MARKING PAINT
- IY — 4" INTERMITTENT YELLOW TEMPORARY PAVEMENT MARKING PAINT
- TA — 8" WHITE TEMPORARY ARROW - PAID AS TEMPORARY PAVEMENT MARKING PAINT, SYMBOLS
- SB — 12" WHITE TEMPORARY STOP BAR - PAID AS (LENGTH x 3) L.F. PAVEMENT MARKING PAINT EACH

SCALE
0 100 200 300 400 500

TRAFFIC CONTROL
STAGE 3a
SHEET 28 OF 55

STATE OF MISSOURI
PROFESSIONAL ENGINEER
MARGARET ANN BRUNS
NUMBER PE-2010000798
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DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	71

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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

STAGE 3b –

TRAFFIC TO CONTINUE REDUCED TO SINGLE 12' THRU LANE IN EITHER DIRECTION AND A 10' TURN LANE AND ALL LANES SHIFTED TO NEWLY CONSTRUCTED NORTH SIDE OF BRIDGE. CONSTRUCT SOUTH PORTION OF BRIDGE AND ROUTE 47 RAMP 4 AS SHOWN.

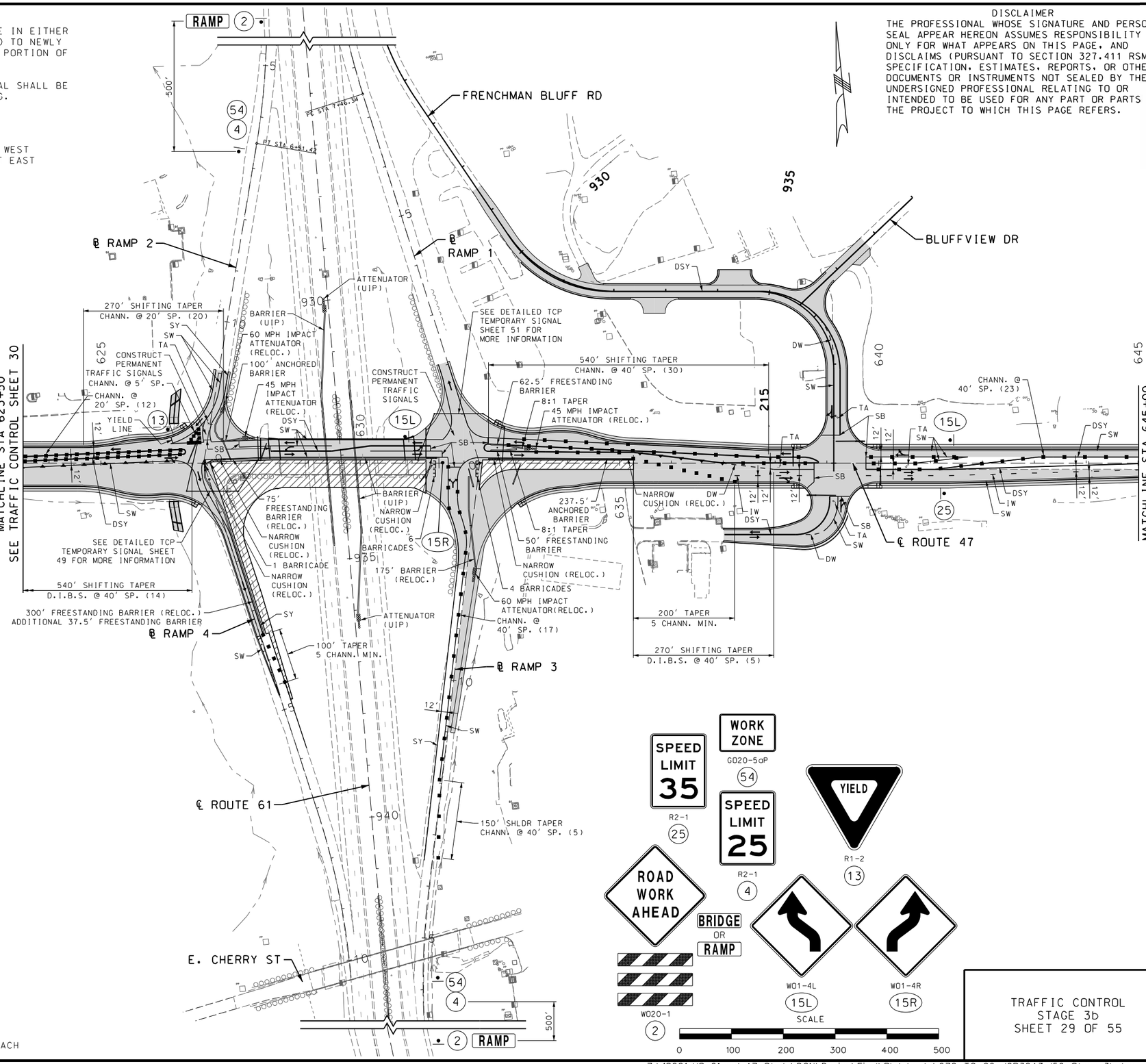
TEMPORARY SIGNALS AND LIGHTING AT EAST RAMP TERMINAL SHALL BE IN PLACE AND OPERATIONAL PRIOR TO ANY LANE SHIFTING.

STAGE 3b WORK:

STAGE 3b WORK SHALL CONSIST OF THE FOLLOWING:
- -MAINTAIN TEMPORARY SIGNALS FROM PREVIOUS STAGE AT WEST RAMPS, MODIFY TEMPORARY SIGNAL FOR LANE SWITCH AT EAST RAMPS
- -CONTINUE CONSTRUCTION OF SOUTH HALF OF NEW BRIDGE
- -PERMANENT TRAFFIC SIGNAL TO BE CONSTRUCTED AND OPERATIONAL BEFORE COMPLETION OF THIS STAGE

(THIS LIST IS NOT ALL INCLUSIVE.)

SEE TRAFFIC CONTROL SHEET 30 FOR TRAFFIC CONTROL TYPICAL SECTIONS



TRAFFIC CONTROL LEGEND

	WORK SPACE
	EXISTING TEMPORARY WIDENING / WEDGING
	PREVIOUS STAGE PERMANENT CONSTRUCTION
	SIGN
	CHANNELIZER
	DIRECTION INDICATOR BARRICADE
	TUBULAR DELINEATOR (SURFACE MOUNTED)
	FLASHING ARROW PANEL
	NARROW CRASH CUSHION
	IMPACT ATTENUATOR
	TYPE III MOVEABLE BARRICADE
	CHANGEABLE MESSAGE SIGN LOCATION AND MESSAGE AS APPROVED BY ENGINEER
SW/SY	4" SOLID WHITE/YELLOW TEMPORARY PAVEMENT MARKING PAINT
DSY	4" DOUBLE SOLID YELLOW TEMPORARY PAVEMENT MARKING PAINT
DW	4" DOTTED WHITE TEMPORARY PAVEMENT MARKING PAINT
IW/IY	4" INTERMITTENT WHITE/YELLOW TEMPORARY PAVEMENT MARKING PAINT
TA	8" WHITE TEMPORARY ARROW - PAID AS TEMPORARY PAVEMENT MARKING PAINT, SYMBOLS
SB	12" WHITE TEMPORARY STOP BAR - PAID AS (LENGTH x 3) L.F. PAVEMENT MARKING PAINT EACH

TRAFFIC CONTROL
STAGE 3b
SHEET 29 OF 55

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PROFESSIONAL ENGINEER
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10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	72

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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JEFFERSON CITY, MO 65102
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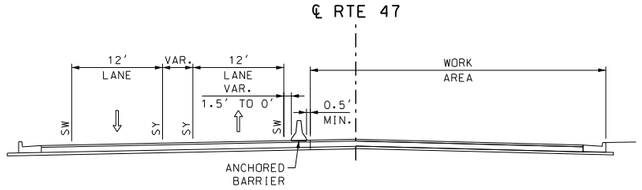
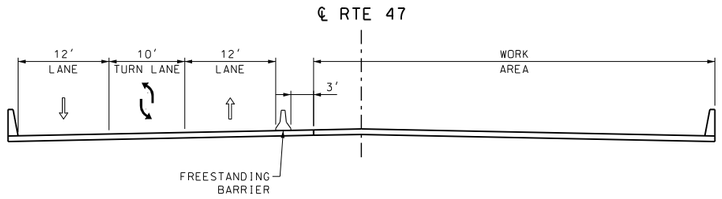


ROAD TYPICAL
THROUGH ANCHORED BARRIER



BRIDGE TYPICAL

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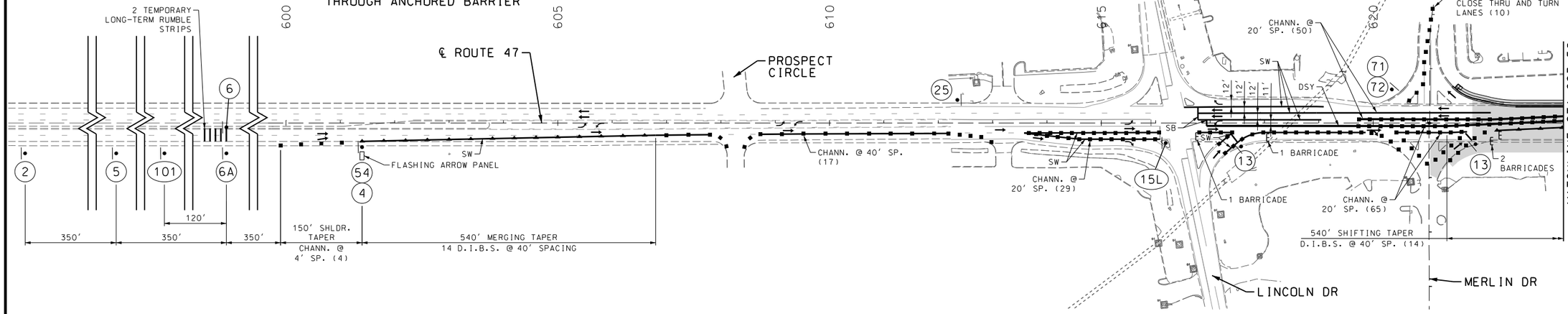

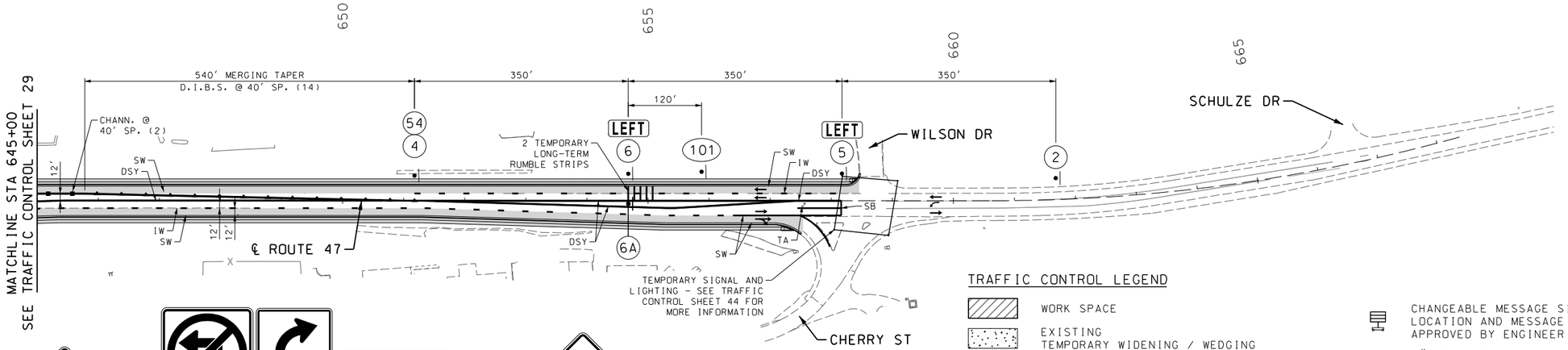

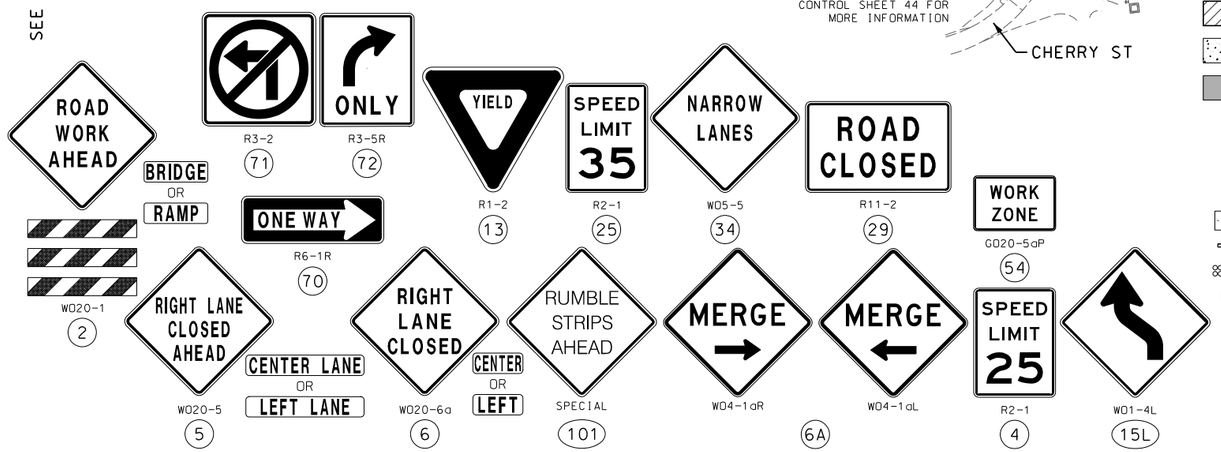

TRAFFIC CONTROL LEGEND

- WORK SPACE
- EXISTING TEMPORARY WIDENING / WEDGING
- PREVIOUS STAGE PERMANENT CONSTRUCTION
- SIGN
- CHANNELIZER
- DIRECTION INDICATOR BARRICADE
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- DW — 4" DOTTED WHITE TEMPORARY PAVEMENT MARKING PAINT
- IY — 4" INTERMITTENT YELLOW TEMPORARY PAVEMENT MARKING PAINT
- TA — 8" WHITE TEMPORARY ARROW - PAID AS TEMPORARY PAVEMENT MARKING PAINT, SYMBOLS
- SB — 12" WHITE TEMPORARY STOP BAR - PAID AS (LENGTH x 3) L.F. PAVEMENT MARKING PAINT EACH

SCALE
0 100 200 300 400 500

TRAFFIC CONTROL
STAGE 3b
SHEET 30 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
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PROFESSIONAL ENGINEER
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DATE PREPARED
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ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	73

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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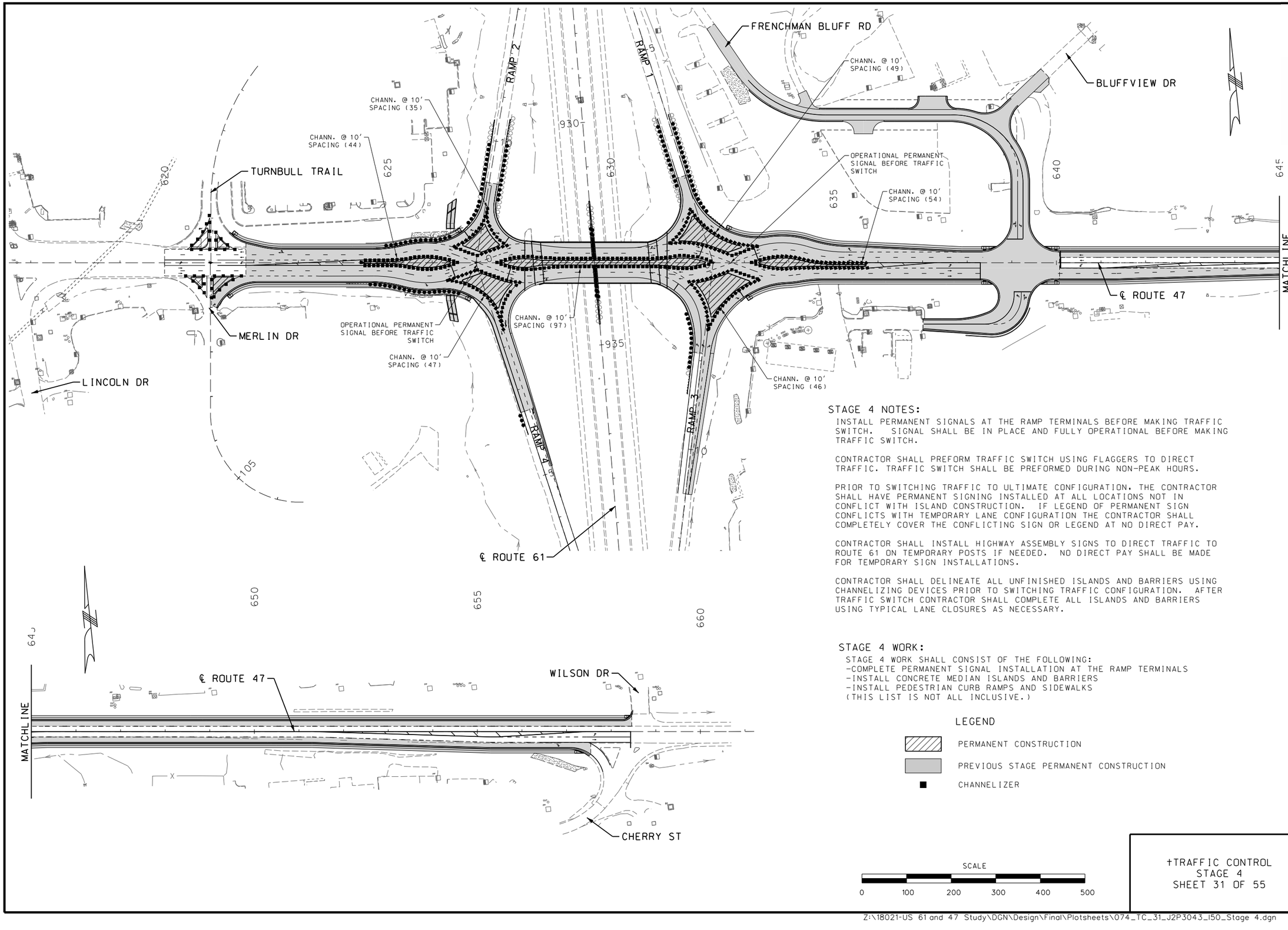

STAGE 4 NOTES:

INSTALL PERMANENT SIGNALS AT THE RAMP TERMINALS BEFORE MAKING TRAFFIC SWITCH. SIGNAL SHALL BE IN PLACE AND FULLY OPERATIONAL BEFORE MAKING TRAFFIC SWITCH.

CONTRACTOR SHALL PREFORM TRAFFIC SWITCH USING FLAGGERS TO DIRECT TRAFFIC. TRAFFIC SWITCH SHALL BE PREFORMED DURING NON-PEAK HOURS.

PRIOR TO SWITCHING TRAFFIC TO ULTIMATE CONFIGURATION, THE CONTRACTOR SHALL HAVE PERMANENT SIGNING INSTALLED AT ALL LOCATIONS NOT IN CONFLICT WITH ISLAND CONSTRUCTION. IF LEGEND OF PERMANENT SIGN CONFLICTS WITH TEMPORARY LANE CONFIGURATION THE CONTRACTOR SHALL COMPLETELY COVER THE CONFLICTING SIGN OR LEGEND AT NO DIRECT PAY.

CONTRACTOR SHALL INSTALL HIGHWAY ASSEMBLY SIGNS TO DIRECT TRAFFIC TO ROUTE 61 ON TEMPORARY POSTS IF NEEDED. NO DIRECT PAY SHALL BE MADE FOR TEMPORARY SIGN INSTALLATIONS.

CONTRACTOR SHALL DELINEATE ALL UNFINISHED ISLANDS AND BARRIERS USING CHANNELIZING DEVICES PRIOR TO SWITCHING TRAFFIC CONFIGURATION. AFTER TRAFFIC SWITCH CONTRACTOR SHALL COMPLETE ALL ISLANDS AND BARRIERS USING TYPICAL LANE CLOSURES AS NECESSARY.

STAGE 4 WORK:

STAGE 4 WORK SHALL CONSIST OF THE FOLLOWING:
-COMPLETE PERMANENT SIGNAL INSTALLATION AT THE RAMP TERMINALS
-INSTALL CONCRETE MEDIAN ISLANDS AND BARRIERS
-INSTALL PEDESTRIAN CURB RAMPS AND SIDEWALKS
(THIS LIST IS NOT ALL INCLUSIVE.)

LEGEND

- PERMANENT CONSTRUCTION
- PREVIOUS STAGE PERMANENT CONSTRUCTION
- CHANNELIZER

SCALE

0 100 200 300 400 500

†TRAFFIC CONTROL
STAGE 4
SHEET 31 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

DATE PREPARED	
10/20/2023	
ROUTE 47	STATE MO
DISTRICT NE	SHEET NO. 74
COUNTY LINCOLN	
JOB NO. J2P3043	
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, LLC
Civil Engineering Design
13523 Barrett Parkway Dr Phone 314-394-3100
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St. Louis, MO 63021
Missouri Certificate of Authority: 001578

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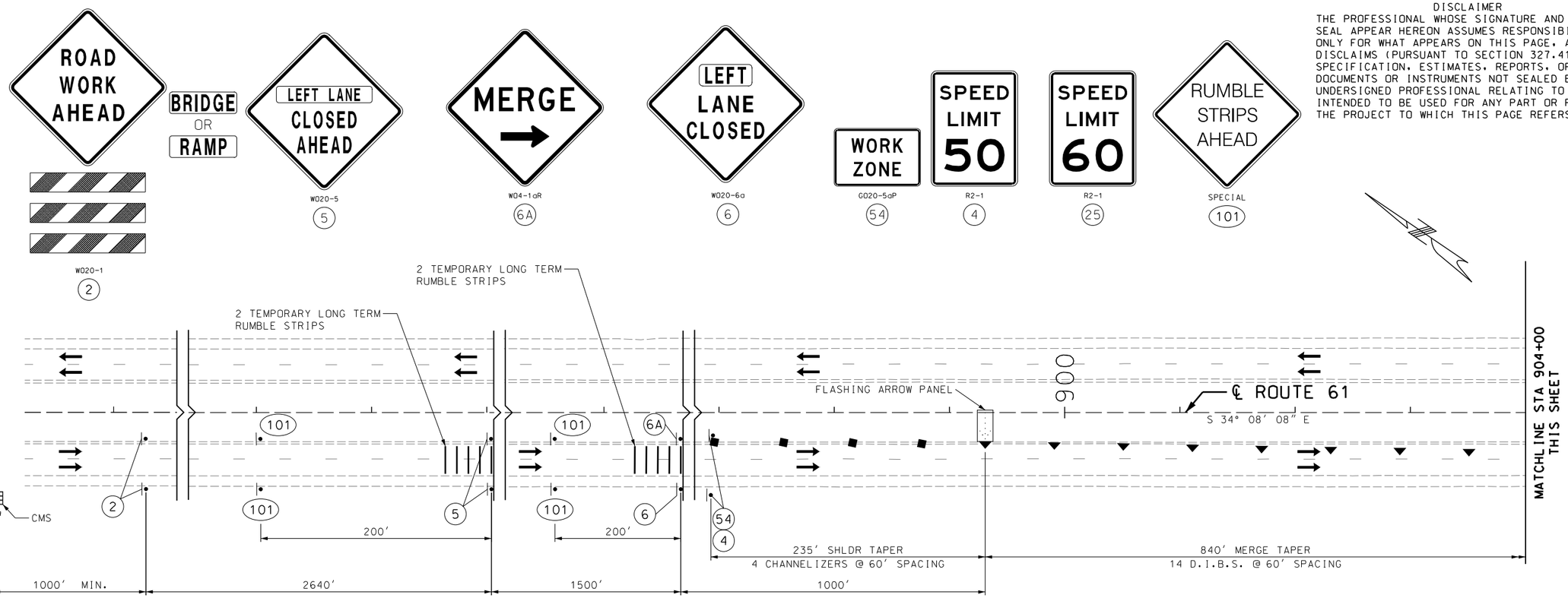

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TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- FLAGGER
- DIRECTIONAL INDICATOR BARRICADES (D.I.B.)
- WORK AREA
- CHANNELIZER (TRIMLINE)
- TYPE III MOVEABLE BARRICADE
- CHANGEABLE MESSAGE BOARD
- FLASHING ARROW PANEL

ADVANCED WARNING RAIL SYSTEM

LEFT SIDE OF ROAD | RIGHT SIDE OF ROAD

TRAFFIC CONTROL ROUTE 61 FOR BRIDGE CLOSURE
SHEET 32 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
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DATE PREPARED 10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	75

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION	REV.

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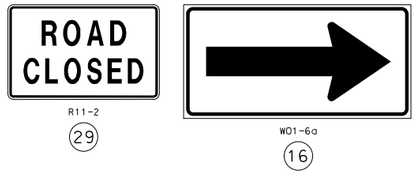

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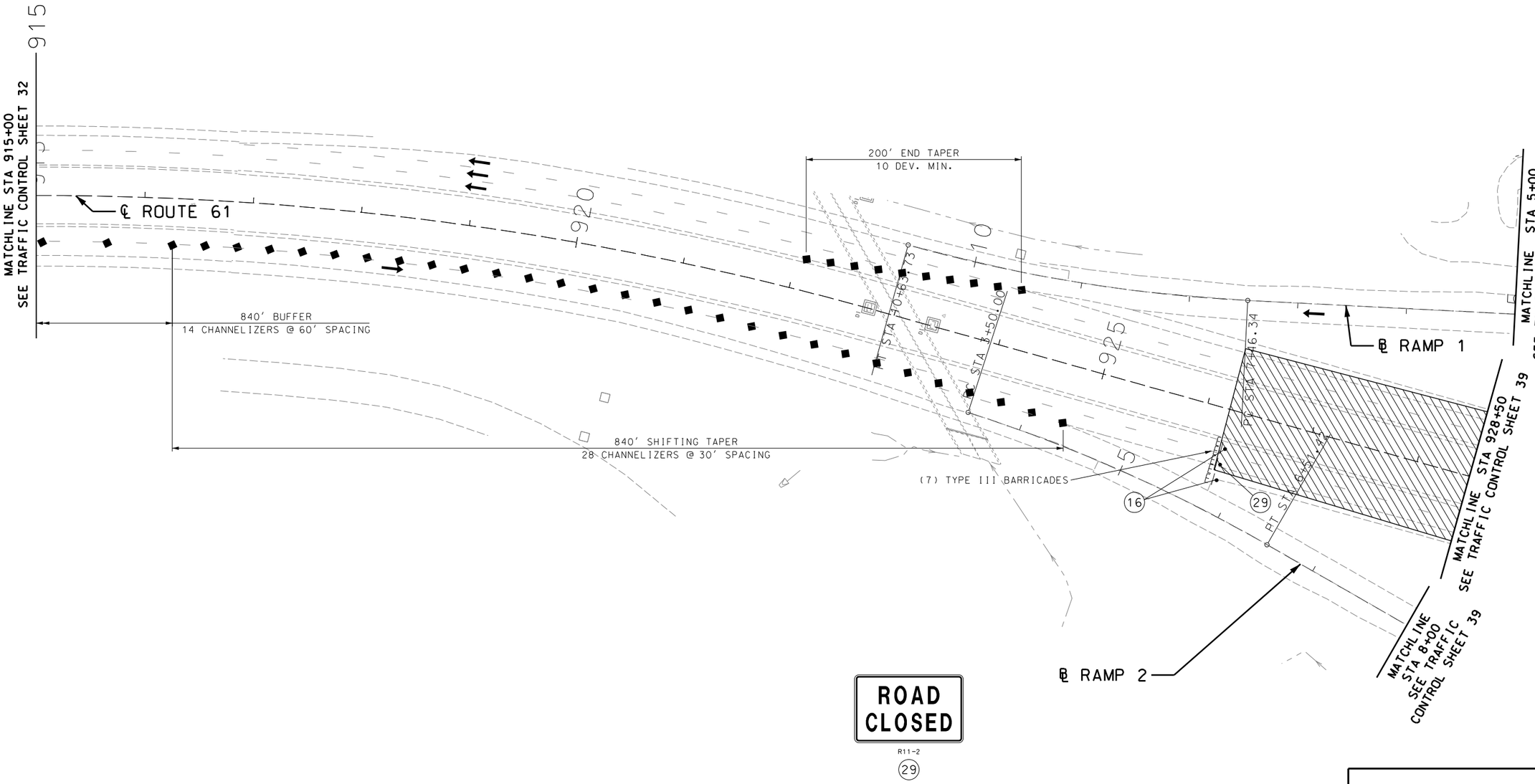

TRAFFIC CONTROL
ROUTE 61 FOR BRIDGE CLOSURE
SHEET 33 OF 55

STATE OF MISSOURI
PROFESSIONAL ENGINEER
MARGARET ANN BRUNS
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ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	76

COUNTY
LINCOLN

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J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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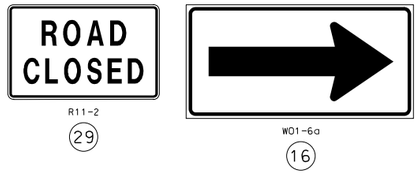

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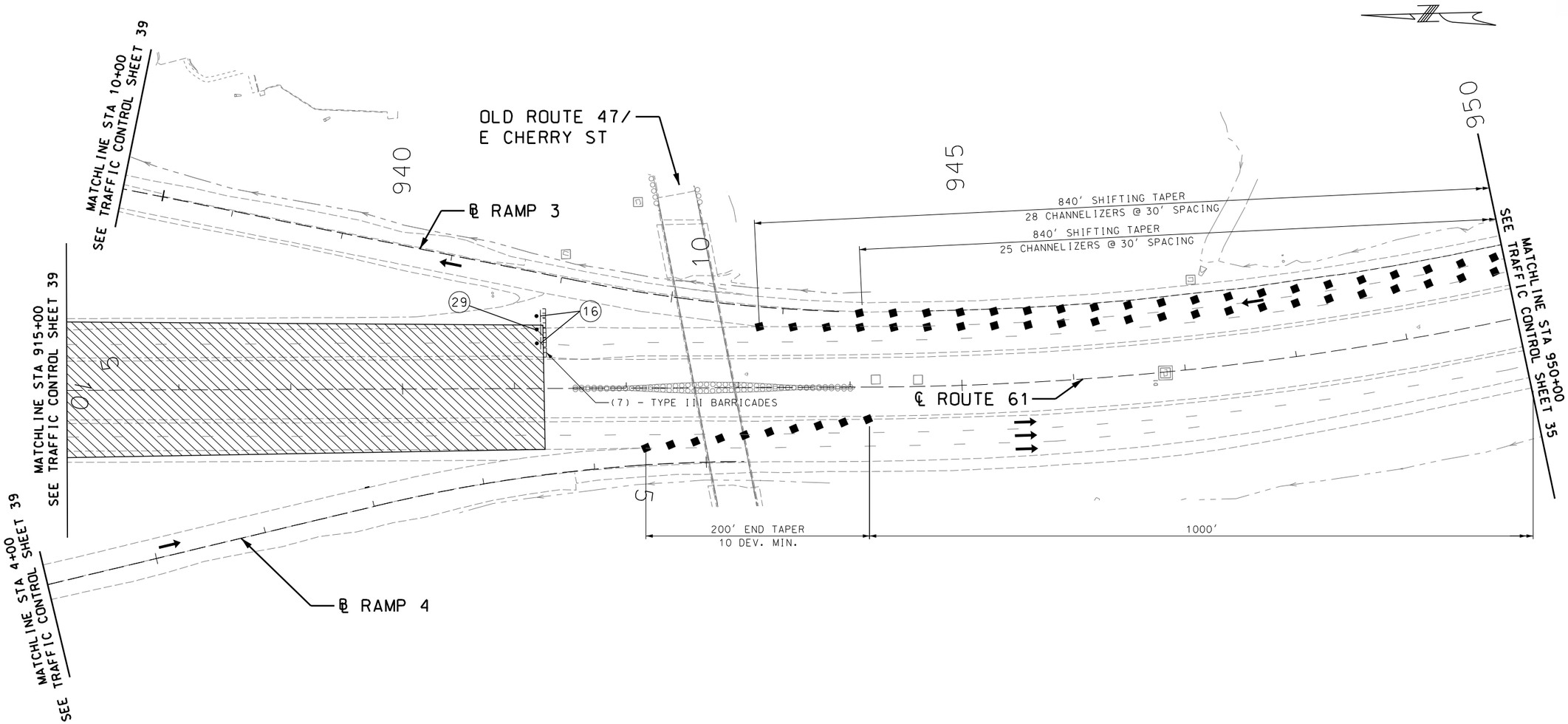

SCALE
0 50 100 150

TRAFFIC CONTROL
ROUTE 61 FOR BRIDGE
CLOSURE
SHEET 34 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
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47	MO
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COUNTY
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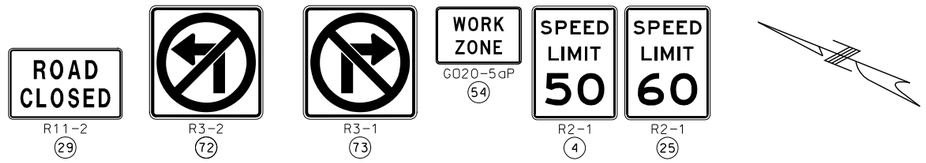

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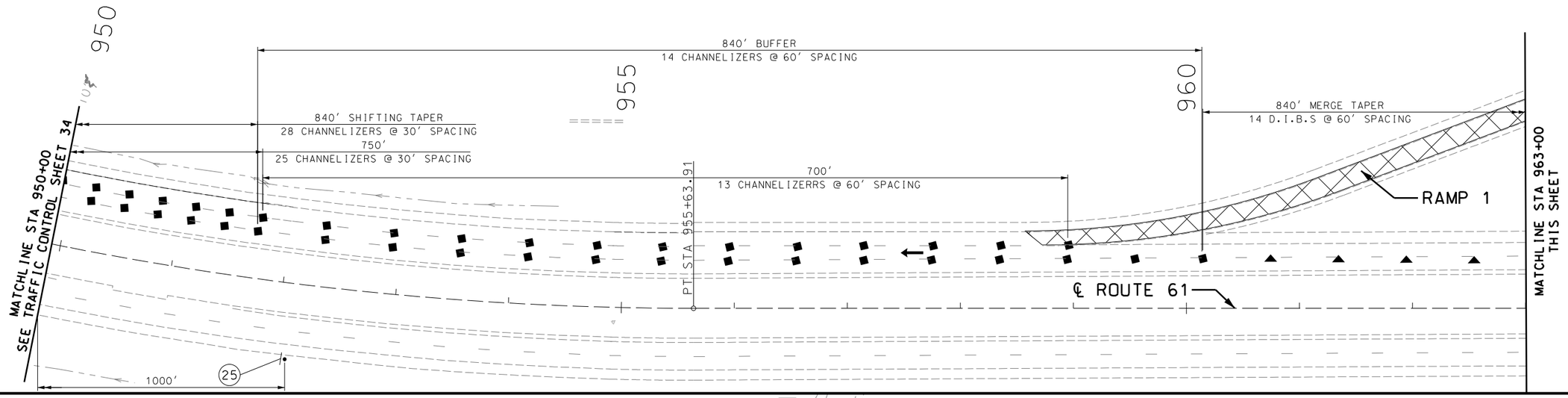

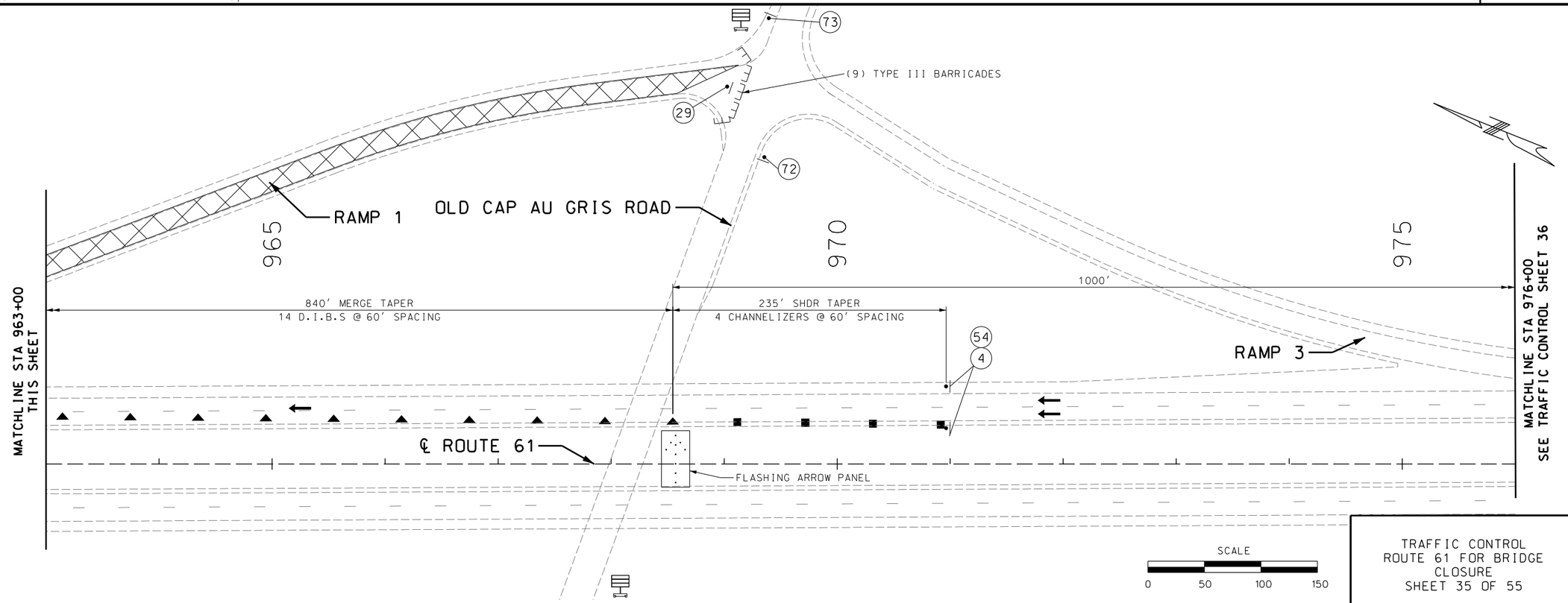

SCALE
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TRAFFIC CONTROL
ROUTE 61 FOR BRIDGE CLOSURE
SHEET 35 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
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DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	78

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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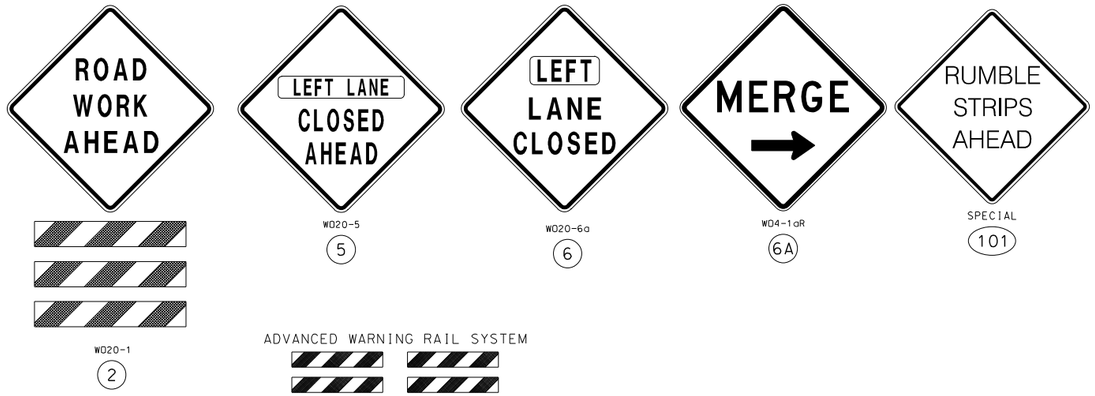

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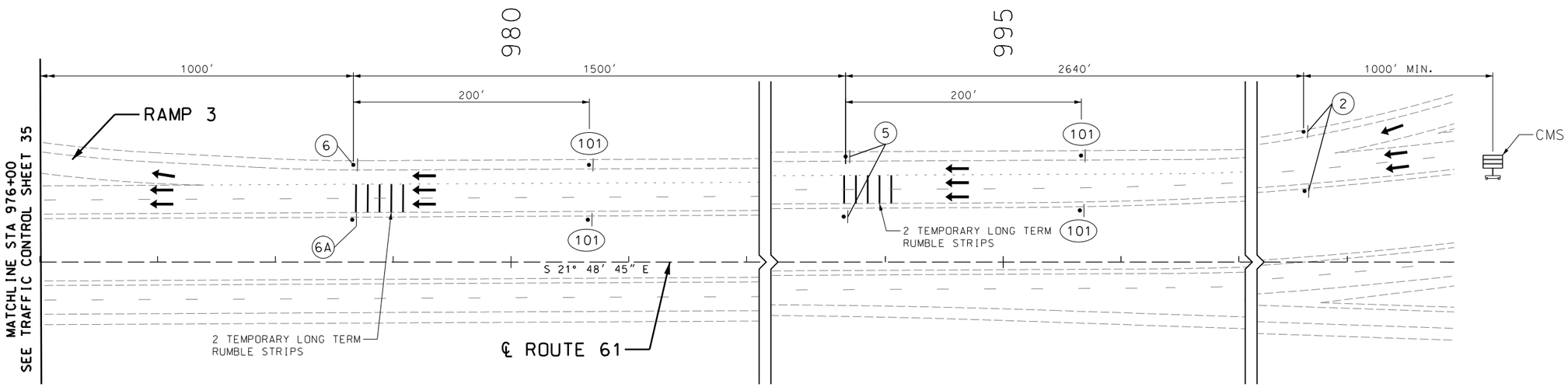

SCALE

0 50 100 150

TRAFFIC CONTROL
ROUTE 61 FOR BRIDGE CLOSURE
SHEET 36 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
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ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	79

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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Suite 250 Fax 314-394-3199
St. Louis, MO 63021
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REV.

SCALE

0 50 100 150

TRAFFIC CONTROL GENERAL NOTES:

1. ANY EX. SIGNING THAT CONFLICTS WITH THE TRAFFIC CONTROL SHALL BE COMPLETELY COVERED OR REMOVED AT NO DIRECT PAY.
2. EX. SIGNS DISPLACED BY CONSTRUCTION WHICH ARE STILL APPLICABLE SHALL BE TEMPORARY MOUNTED AT NO DIRECT PAY.
3. EXACT LOCATION AND MESSAGE OF CMS TO BE DETERMINED BY ENGINEER.

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NUMBER PE-2010000798
PROFESSIONAL ENGINEER
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DATE PREPARED 10/20/2023

ROUTE	STATE
47	MO

DISTRICT	SHEET NO.
NE	80

COUNTY: LINCOLN

JOB NO.: J2P3043

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

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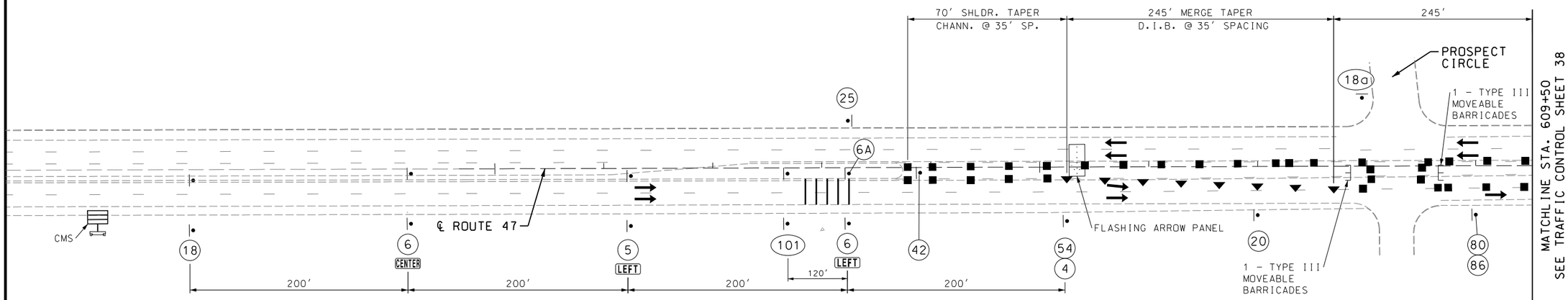

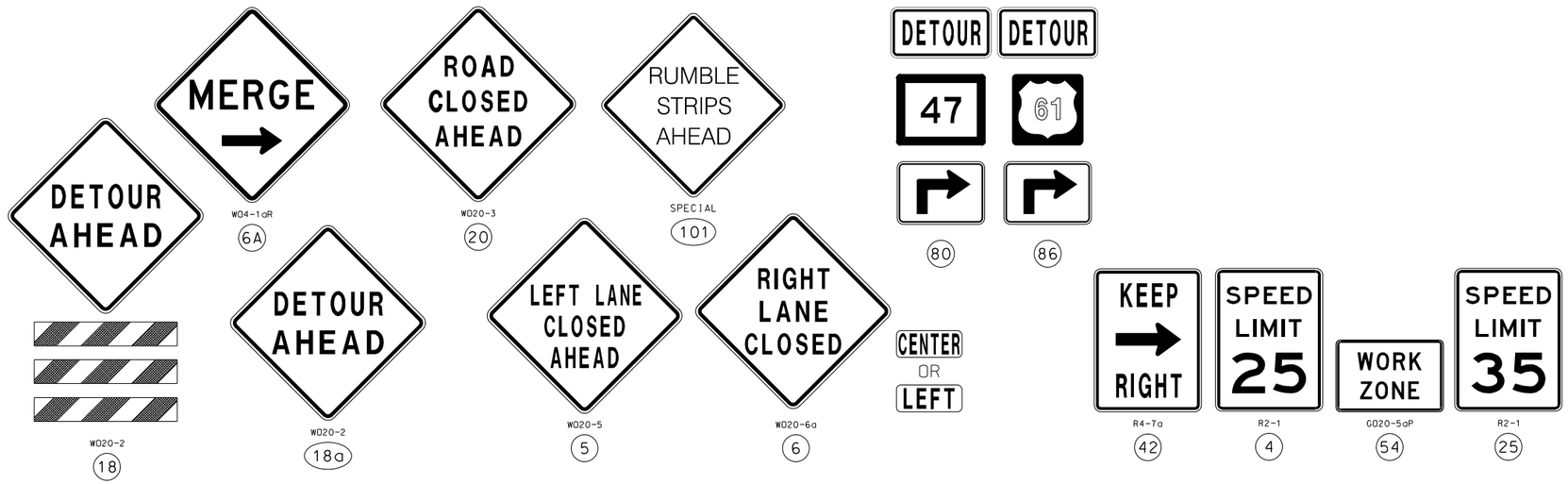

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- FLAGGER
- DIRECTIONAL INDICATOR BARRICADES (D.I.B.)
- WORK AREA
- CHANNELIZER (TRIMLINE)
- TYPE III MOVEABLE BARRICADE
- CHANGEABLE MESSAGE BOARD
- FLASHING ARROW PANEL

TRAFFIC CONTROL
ROUTE 47 FOR BRIDGE CLOSURE
SHEET 37 OF 55

DESCRIPTION	DATE	REV.

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JEFFERSON CITY, MO 65102
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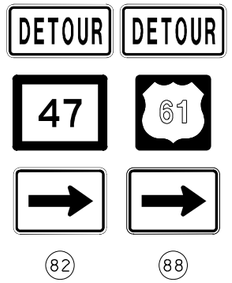

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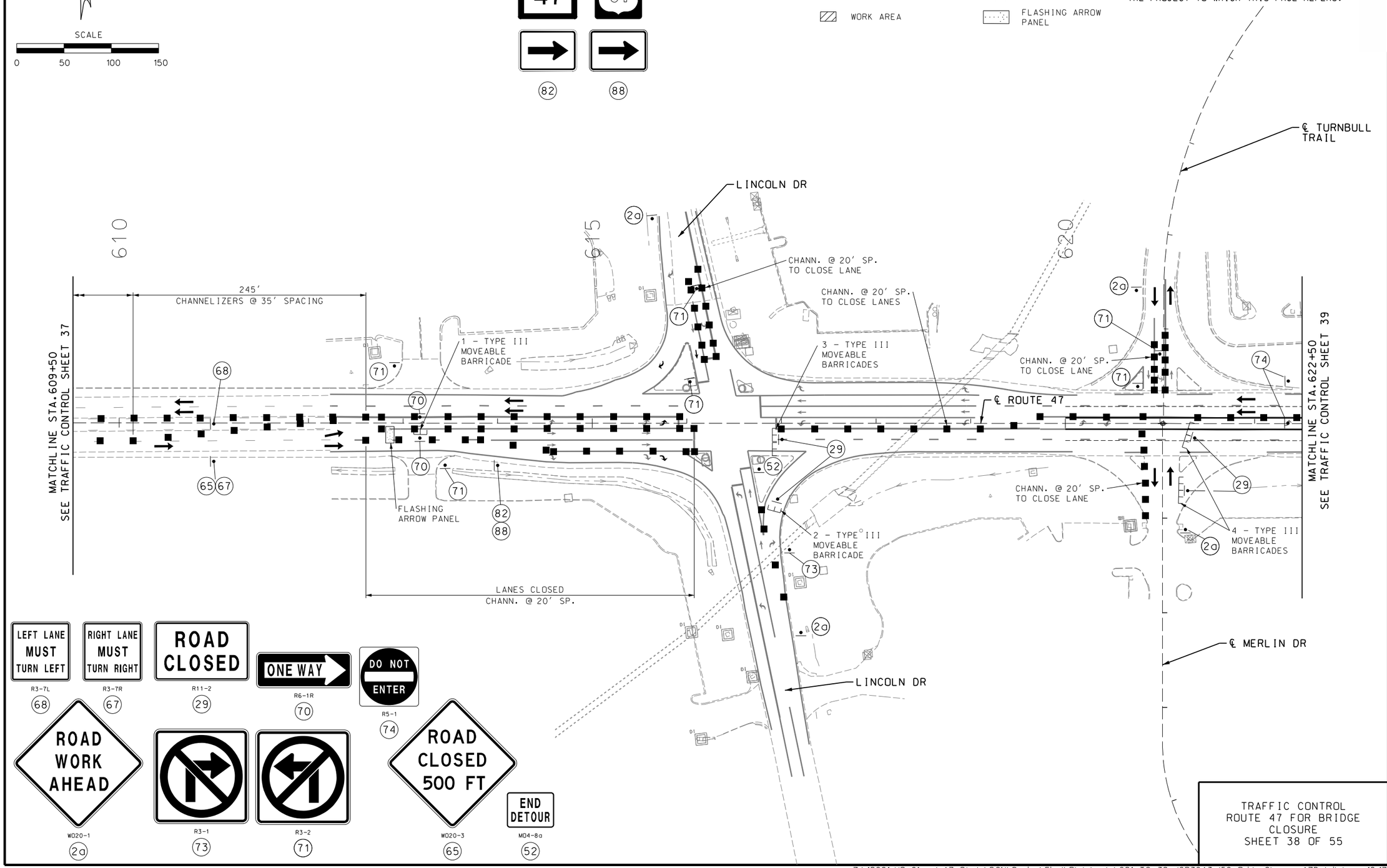

TRAFFIC CONTROL
ROUTE 47 FOR BRIDGE
CLOSURE
SHEET 38 OF 55

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STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
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DATE PREPARED	10/20/2023
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	81
COUNTY	LINCOLN
JOB NO.	J2P3043
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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SCALE
0 50 100 150

TRAFFIC CONTROL LEGEND

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MATCHLINE STA 8+00
SEE TRAFFIC CONTROL SHEET 33

MATCHLINE STA 928+50
SEE TRAFFIC CONTROL SHEET 33

MATCHLINE STA 5+00
SEE TRAFFIC CONTROL SHEET 33

MATCHLINE STA. 622+50
SEE TRAFFIC CONTROL SHEET 38

MATCHLINE STA. 636+00
SEE TRAFFIC CONTROL SHEET 40

MATCHLINE STA 4+00
SEE TRAFFIC CONTROL SHEET 34

MATCHLINE STA 915+00
SEE TRAFFIC CONTROL SHEET 34

MATCHLINE STA 10+00
SEE TRAFFIC CONTROL SHEET 34

℄ ROUTE 61

℄ ROUTE 47

℄ RAMP 1

℄ RAMP 2

℄ RAMP 3

℄ RAMP 4

FRENCHMAN BLUFF RD

CLOSE LEFT LANE OF RAMP

CLOSE LEFT LANE OF RAMP

5- TYPE III MOVEABLE BARRICADES

5- TYPE III MOVEABLE BARRICADES

3- TYPE III MOVEABLE BARRICADES

CHANN. @ 20' SP. TO CLOSE LANES

625

630

635

930

935

ROAD CLOSED
R11-2
29

WRONG WAY
R5-1a
76

ROAD WORK AHEAD
W020-1
2a

R3-2
71

R3-1
73

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TRAFFIC CONTROL
ROUTE 47 FOR BRIDGE CLOSURE
SHEET 39 OF 55

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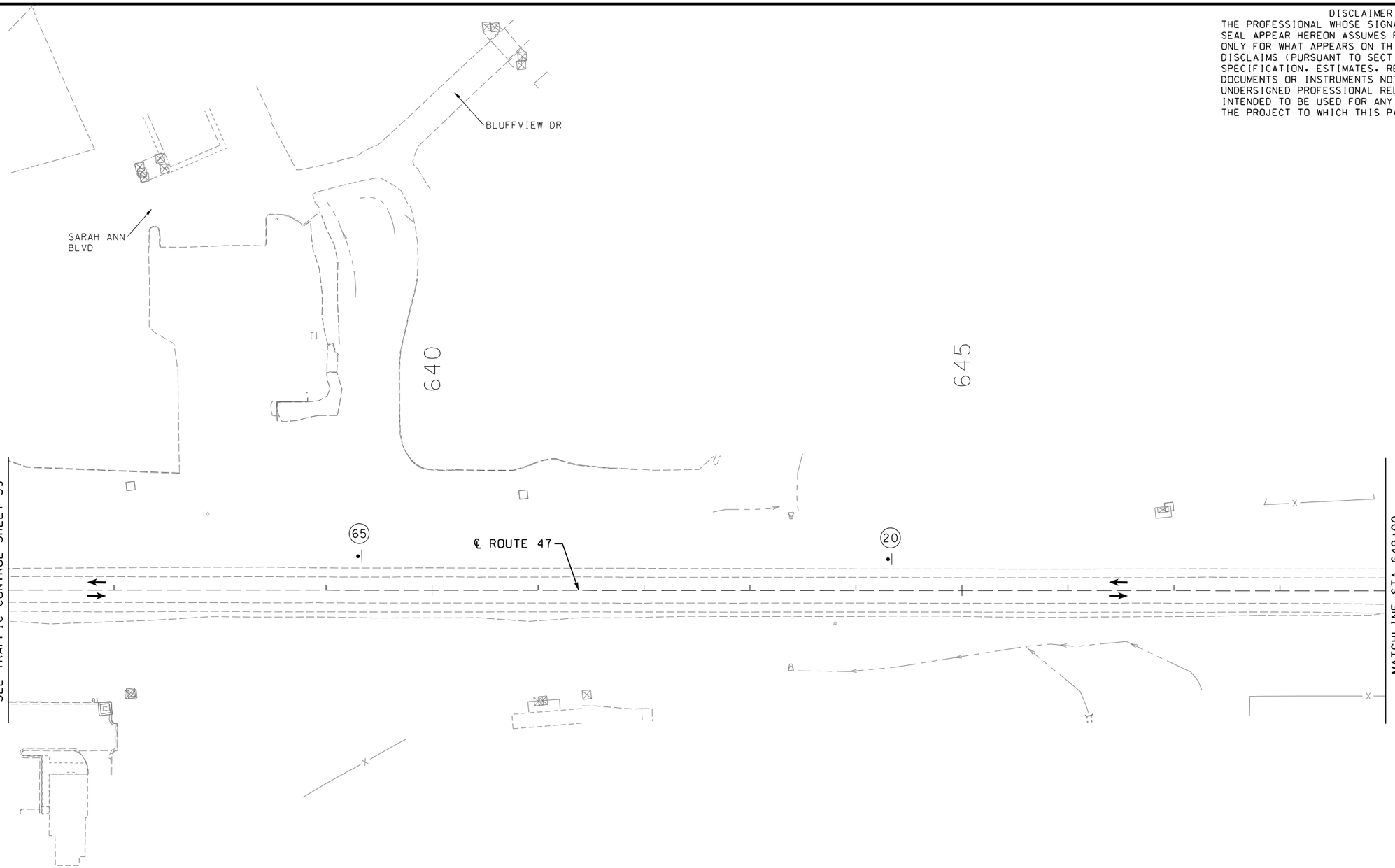

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- FLAGGER
- DIRECTIONAL INDICATOR BARRICADES (D.I.B.)
- WORK AREA
- CHANNELIZER (TRIMLINE)
- TYPE III MOVEABLE BARRICADE
- CHANGEABLE MESSAGE BOARD
- FLASHING ARROW PANEL

SCALE
0 50 100 150

W020-3
65

W020-3
20

TRAFFIC CONTROL
ROUTE 47 FOR BRIDGE CLOSURE
SHEET 40 OF 55

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Civil Engineering Design
13523 Barrett Parkway Dr Phone 314-394-3100
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Missouri Certificate of Authority: 001578

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

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	83

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

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

REV.

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SCALE

0 50 100 150

650

655

660

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- FLAGGER
- DIRECTIONAL INDICATOR BARRICADES (D.I.B.)
- WORK AREA
- CHANNELIZER (TRIMLINE)
- TYPE III MOVEABLE BARRICADE
- CHANGEABLE MESSAGE BOARD
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MATCHLINE STA. 649+00
SEE TRAFFIC CONTROL SHEET 40 OF 55

℄ ROUTE 47

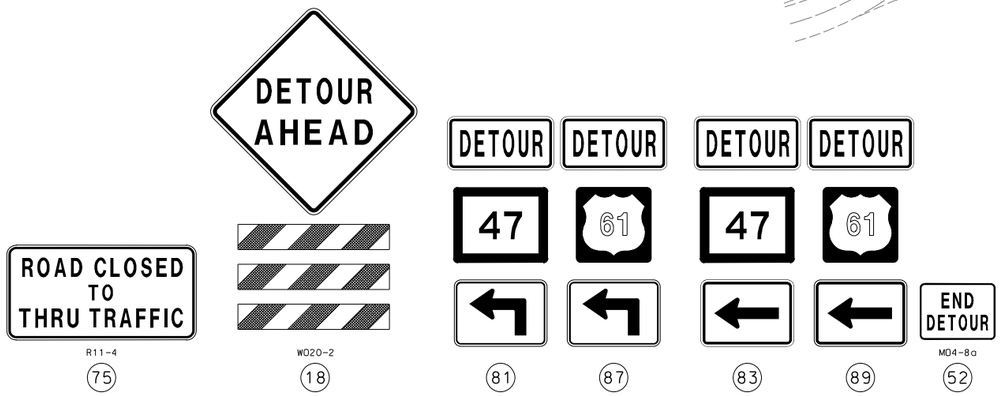
200′ 200′

CMS

89 83 87 81 18 75 52

TEMPORARY SIGNAL

CHERRY ST



TRAFFIC CONTROL
ROUTE 47 FOR BRIDGE CLOSURE
SHEET 41 OF 55

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

MARGARET ANN BRUNS
NUMBER PE-2010000798
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED 10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	84

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

REV.	DESCRIPTION	DATE

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

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

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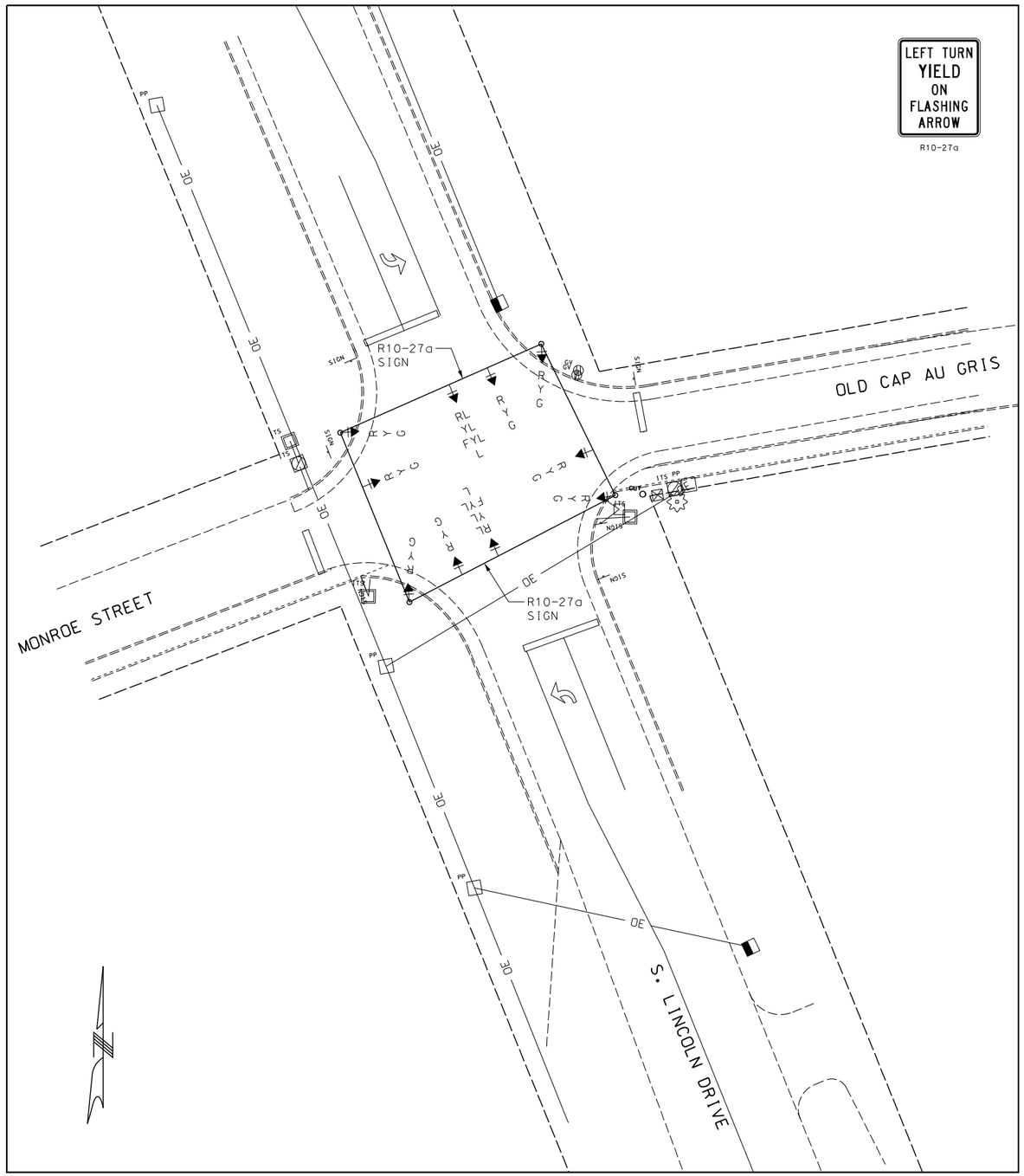

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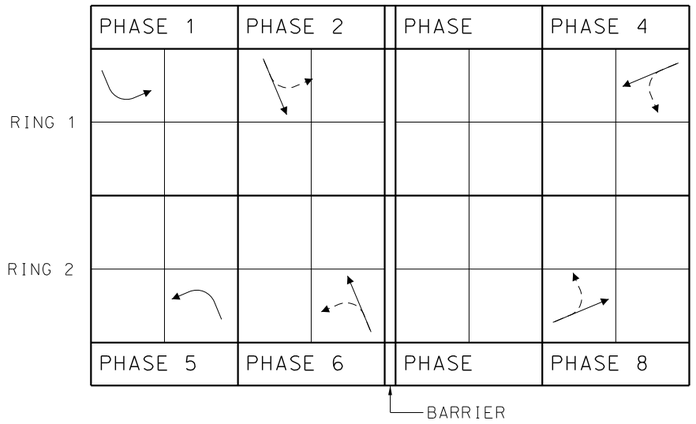
GENERAL TEMPORARY SIGNAL NOTES:

1) THE CONTRACTOR SHALL INSTALL THE TEMPORARY SIGNAL IN COMPLIANCE WITH THE LATEST MUTCD STANDARDS.

2) THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE UTILITIES. EXISTING UTILITIES SHALL BE AVOIDED. THE CONTRACTOR SHALL COORDINATE WITH THE ELECTRIC UTILITY TO DETERMINE THE LOCATION OF THE TEMPORARY SIGNAL POWER SOURCE.

OLD CAP AU GRIS NOTES:

*THIS TEMPORARY SIGNAL, SIGNS AND PAVEMENT MARKING SHALL BE INSTALLED AND OPERATIONAL BEFORE THE START OF STAGE 2 AND ANY BRIDGE REMOVAL.



TEMPORARY TRAFFIC SIGNAL RING STRUCTURE

TRAFFIC CONTROL
TEMPORARY SIGNAL
S. LINCOLN & OLD CAP
SHEET 42 OF 55

STATE OF MISSOURI
PROFESSIONAL ENGINEER
MARGARET ANN BRUNS
NUMBER PE-2010000798
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	85

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTION COMMISSION

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

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

REV.

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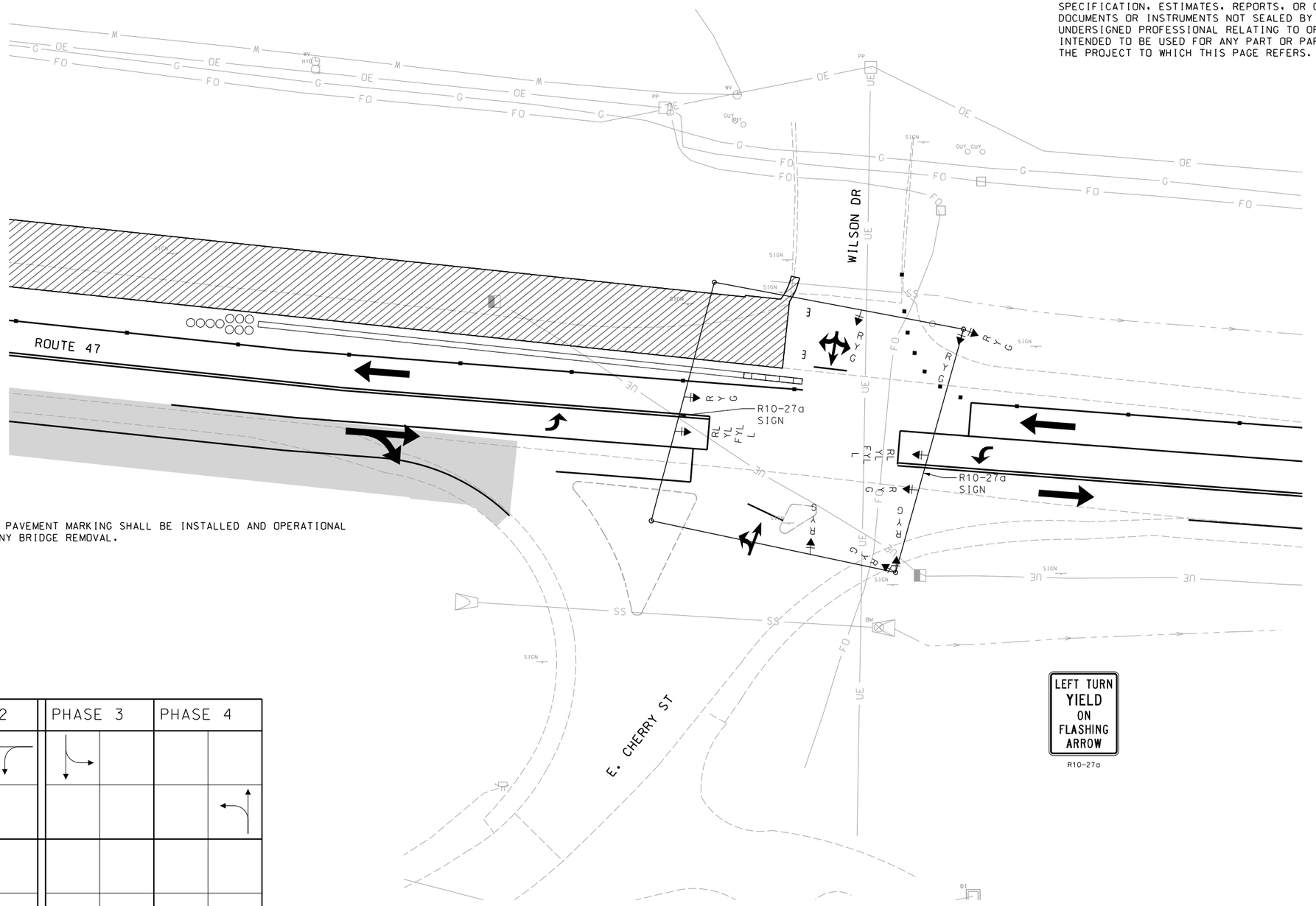
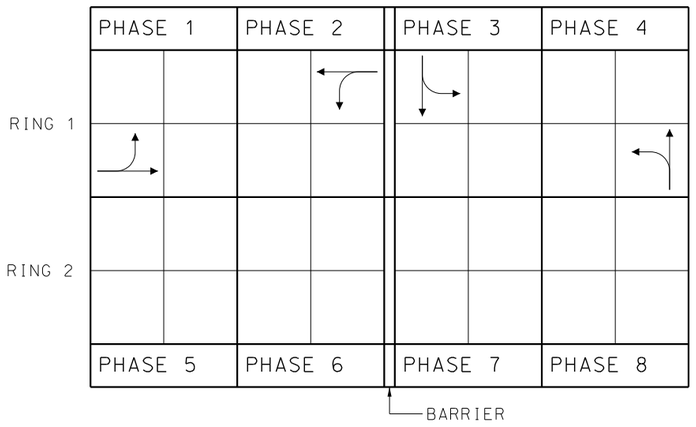


E. CHERRY STREET NOTES:

*THIS TEMPORARY SIGNAL, SIGNS AND PAVEMENT MARKING SHALL BE INSTALLED AND OPERATIONAL BEFORE THE START OF STAGE 2 AND ANY BRIDGE REMOVAL.



TEMPORARY TRAFFIC SIGNAL RING STRUCTURE

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

SCALE
0 20 40 60

TRAFFIC CONTROL
TEMPORARY SIGNAL
CHERRY STAGE 2A & 2B
SHEET 43 OF 55

STATE OF MISSOURI
PROFESSIONAL ENGINEER
MARGARET ANN BRUNS
NUMBER PE-2010000798
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/20/2023
ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 86
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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

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

EFK•Moen, LLC
Civil Engineering Design
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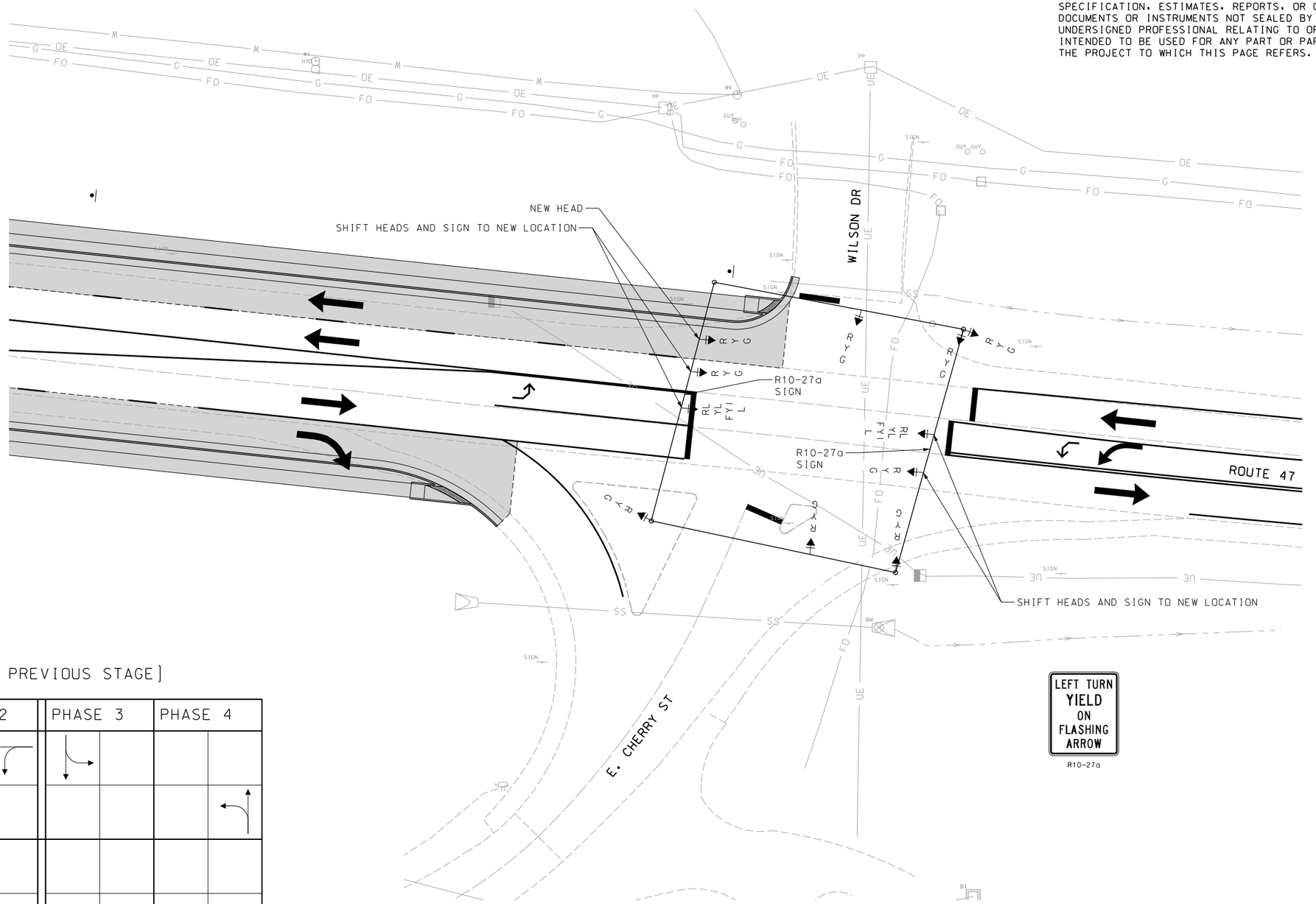

[SAME AS PREVIOUS STAGE]

	PHASE 1	PHASE 2	PHASE 3	PHASE 4
RING 1				
RING 2				
	PHASE 5	PHASE 6	PHASE 7	PHASE 8

BARRIER

TEMPORARY TRAFFIC SIGNAL RING STRUCTURE

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SCALE
0 20 40 60

TRAFFIC CONTROL
TEMPORARY SIGNAL
CHERRY STAGE 2C, 3A & 3B
SHEET 44 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	87

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

DATE	DESCRIPTION	REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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St. Louis, MO 63021
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Fax 314-394-3199
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STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	88

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTION COMMISSION

105 WEST CAPITOL
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REV.

ROUTE 47

RAMP 2

RAMP 4

UIP SIGNAL MAST ARM

UIP CONTROLLER CABINET

UIP PULLBOX

UIP SIGNAL MAST ARM

UIP LIGHT POLE

UIP PULLBOX

MAINTAIN SIGNAL MAST ARM AND BASE
(NO DIRECT PAY)

SOUTHBOUND RAMP TERMINAL
STAGE 1 NOTES:

*NO DIRECT PAY FOR WORK SHOWN ON THIS SHEET.

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

SCALE
0 20 40 60

TRAFFIC CONTROL
TEMPORARY SIGNALS
STAGE 1
SHEET 45 OF 55

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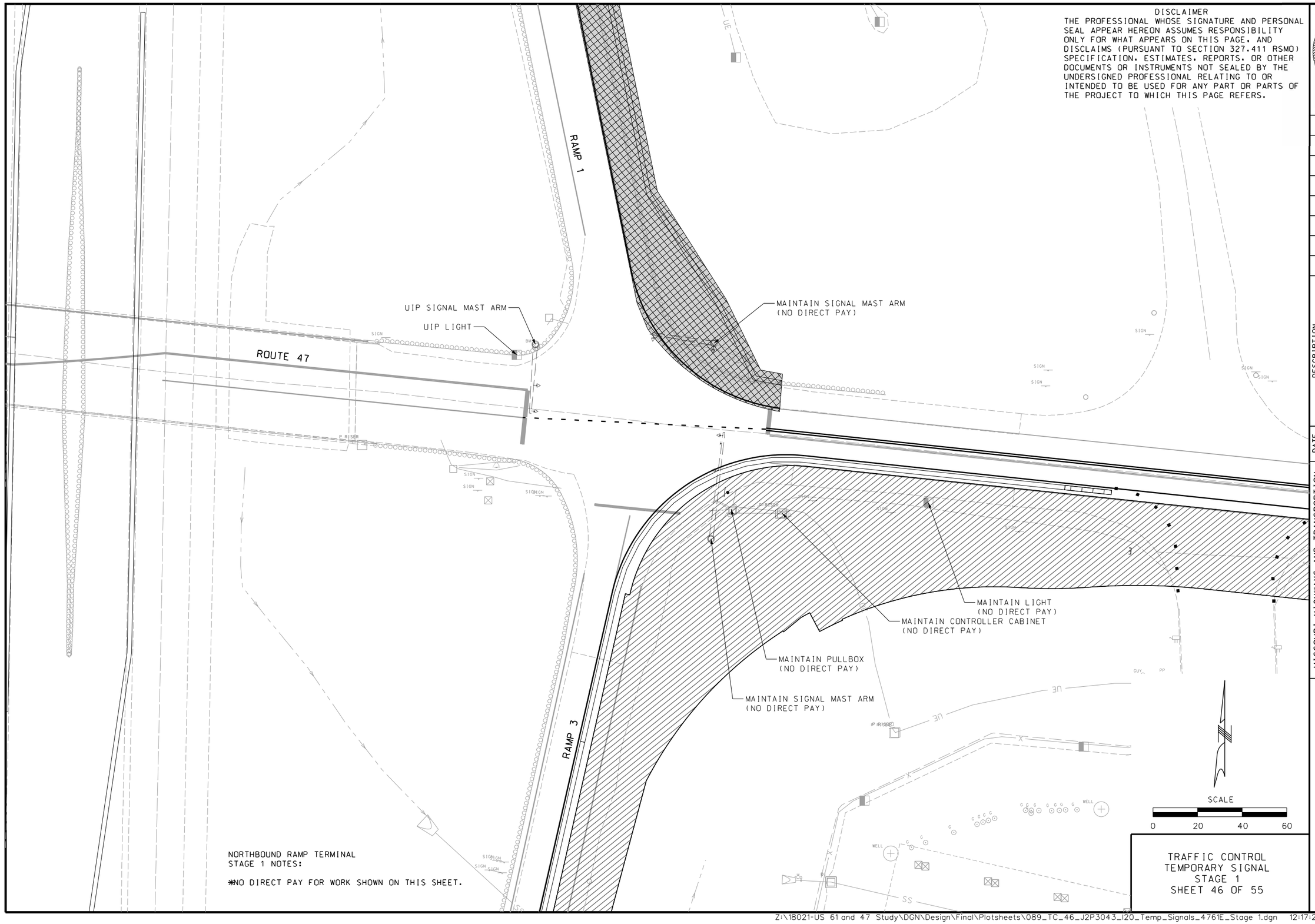

NORTHBOUND RAMP TERMINAL
STAGE 1 NOTES:

*NO DIRECT PAY FOR WORK SHOWN ON THIS SHEET.

TRAFFIC CONTROL
TEMPORARY SIGNAL
STAGE 1
SHEET 46 OF 55

STATE OF MISSOURI
PROFESSIONAL ENGINEER
MARGARET ANN BRUNS
NUMBER PE-2010000798
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	89

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

MISSOURI HIGHWAYS AND TRANSPORTION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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Civil Engineering Design
13523 Barrett Parkway Dr Phone 314-394-3100
Suite 250 Fax 314-394-3199
St. Louis, MO 63021
Missouri Certificate of Authority: 001578

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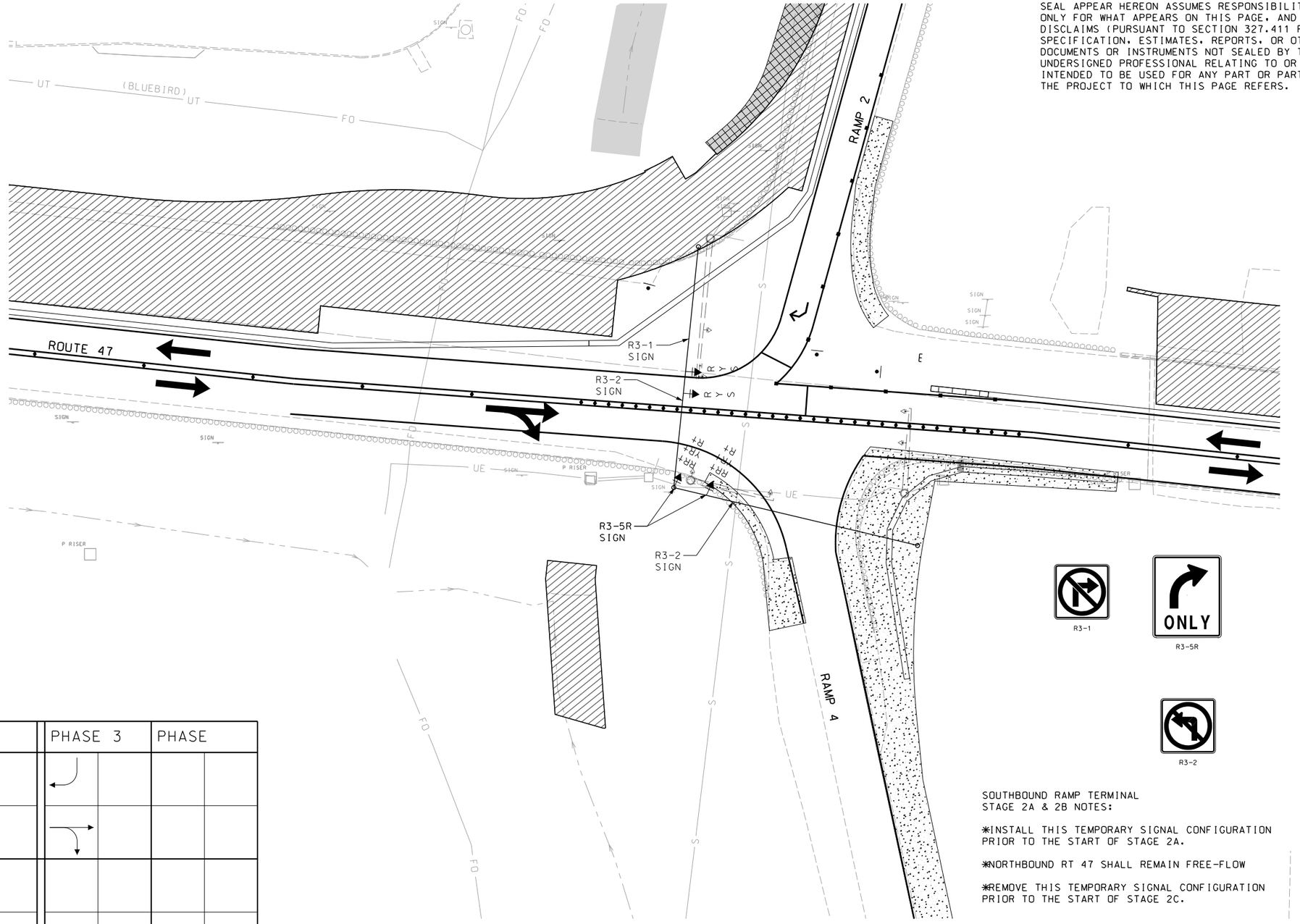
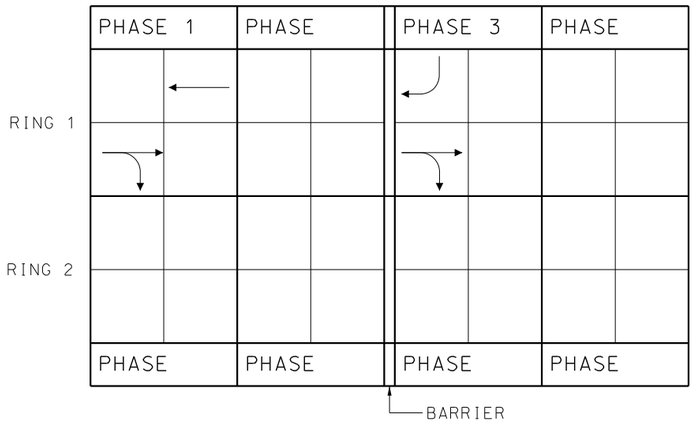


SOUTHBOUND RAMP TERMINAL
STAGE 2A & 2B NOTES:

*INSTALL THIS TEMPORARY SIGNAL CONFIGURATION PRIOR TO THE START OF STAGE 2A.

*NORTHBOUND RT 47 SHALL REMAIN FREE-FLOW

*REMOVE THIS TEMPORARY SIGNAL CONFIGURATION PRIOR TO THE START OF STAGE 2C.



TEMPORARY TRAFFIC SIGNAL RING STRUCTURE

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

SCALE
0 20 40 60

TRAFFIC CONTROL
TEMPORARY SIGNAL
FOR STAGE 2A & 2B
SHEET 47 OF 55

STATE OF MISSOURI
PROFESSIONAL ENGINEER
MARGARET ANN BRUNS
NUMBER PE-2010000798
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DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	90

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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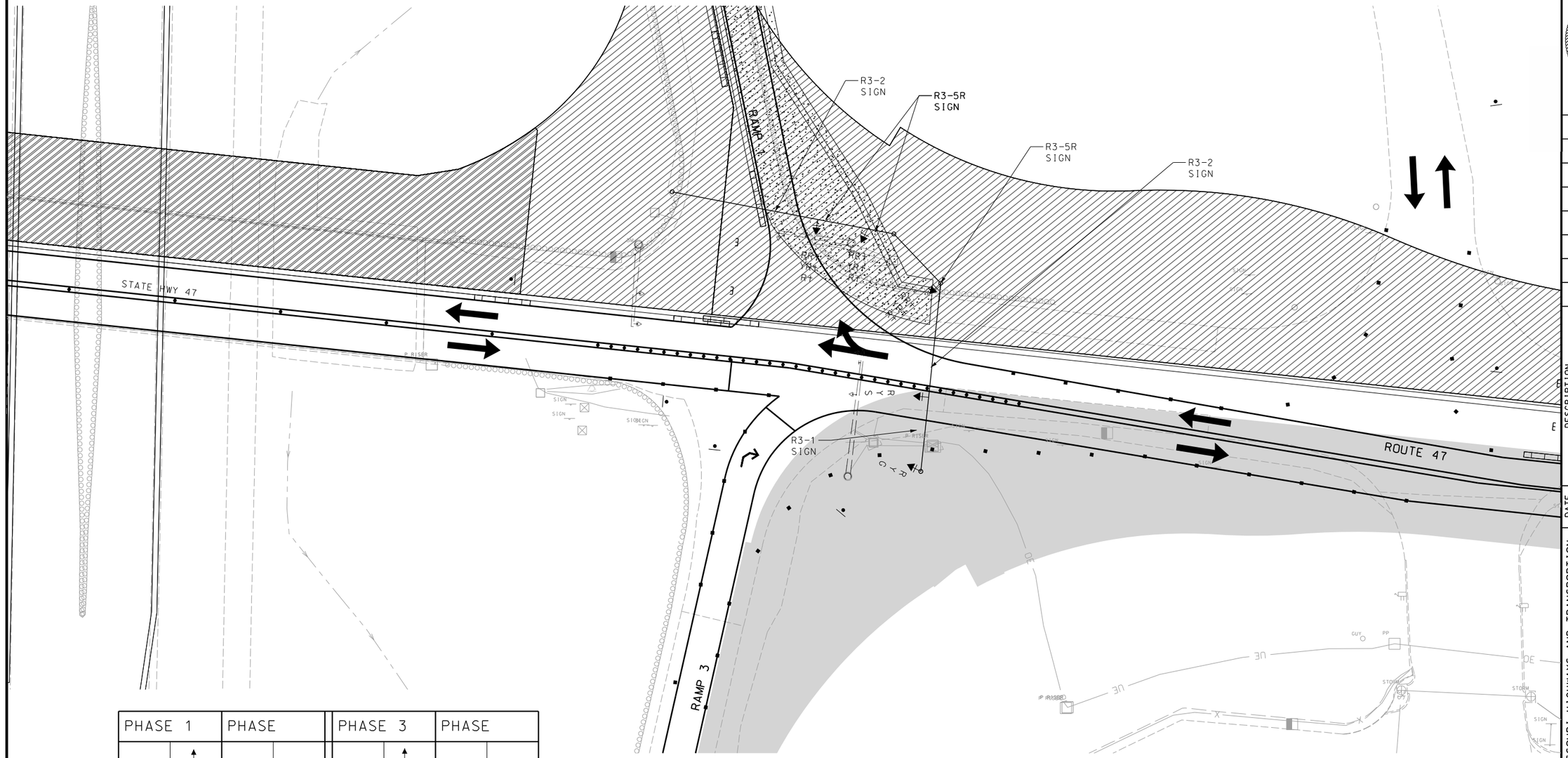

PHASE 1	PHASE	PHASE 3	PHASE
RING 1			
RING 2			
PHASE	PHASE	PHASE	PHASE

BARRIER

TEMPORARY TRAFFIC SIGNAL RING STRUCTURE

NORTHBOUND RAMP TERMINAL
STAGE 2 NOTES:

*THIS TEMPORARY SIGNAL CONFIGURATION SHALL BE INSTALLED PRIOR TO THE START OF STAGE 2.

*SOUTHBOUND RT 47 SHALL REMAIN FREE-FLOW.

R3-1

R3-5R

R3-2

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

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SCALE
0 20 40 60

TRAFFIC CONTROL
TEMPORARY SIGNAL
STAGE 2A, 2B, & 2C
SHEET 48 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	91

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

REV.	DESCRIPTION	DATE

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

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

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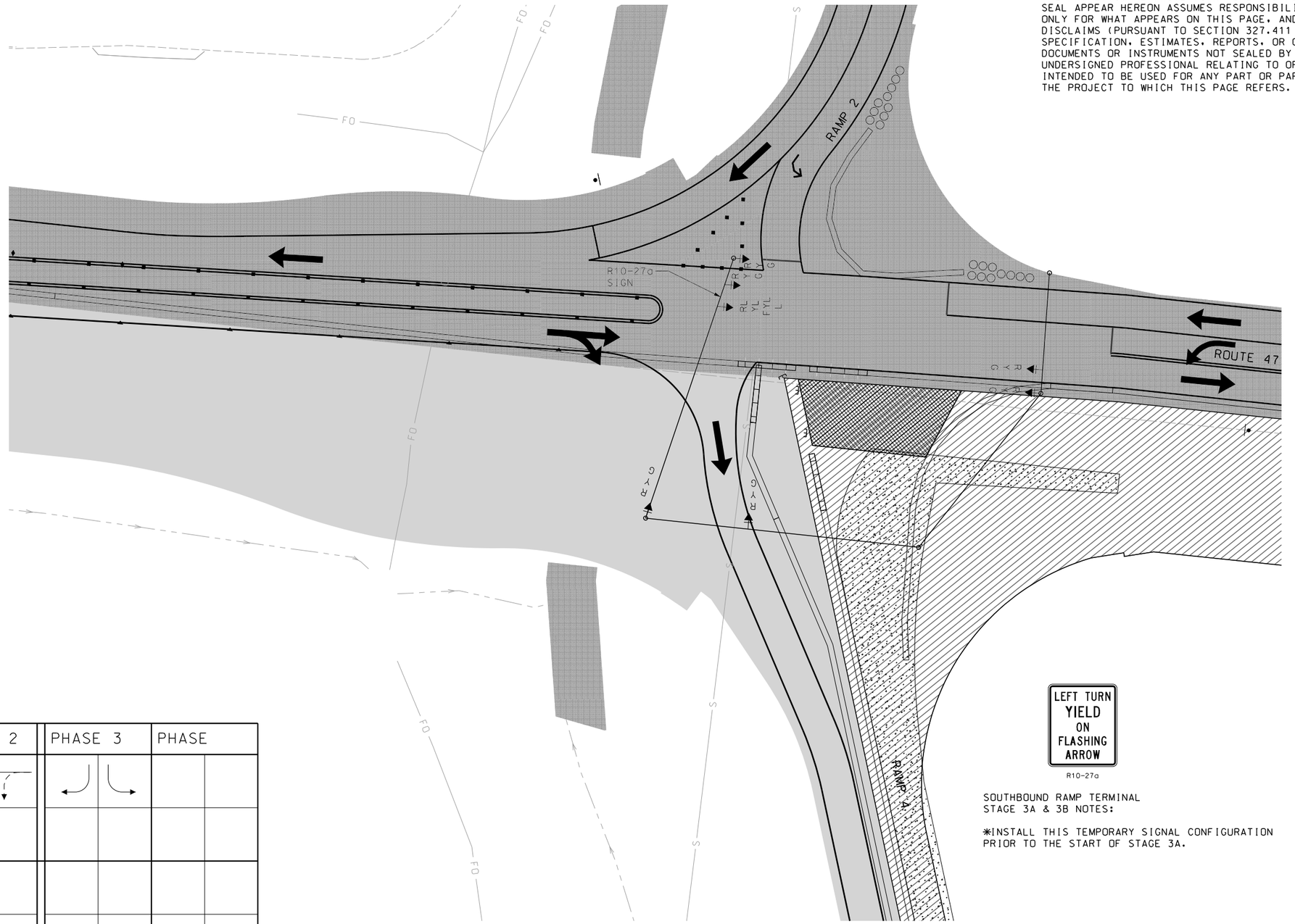


	PHASE		PHASE 2		PHASE 3		PHASE	
RING 1								
RING 2								
	PHASE 5		PHASE 6		PHASE		PHASE	

BARRIER

TEMPORARY TRAFFIC SIGNAL RING STRUCTURE

LEFT TURN YIELD ON FLASHING ARROW

R10-27a

SOUTHBOUND RAMP TERMINAL
STAGE 3A & 3B NOTES:

*INSTALL THIS TEMPORARY SIGNAL CONFIGURATION PRIOR TO THE START OF STAGE 3A.

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

SCALE
0 20 40 60

TRAFFIC CONTROL
TEMPORARY SIGNAL
FOR STAGE 3A & 3B
SHEET 49 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	92

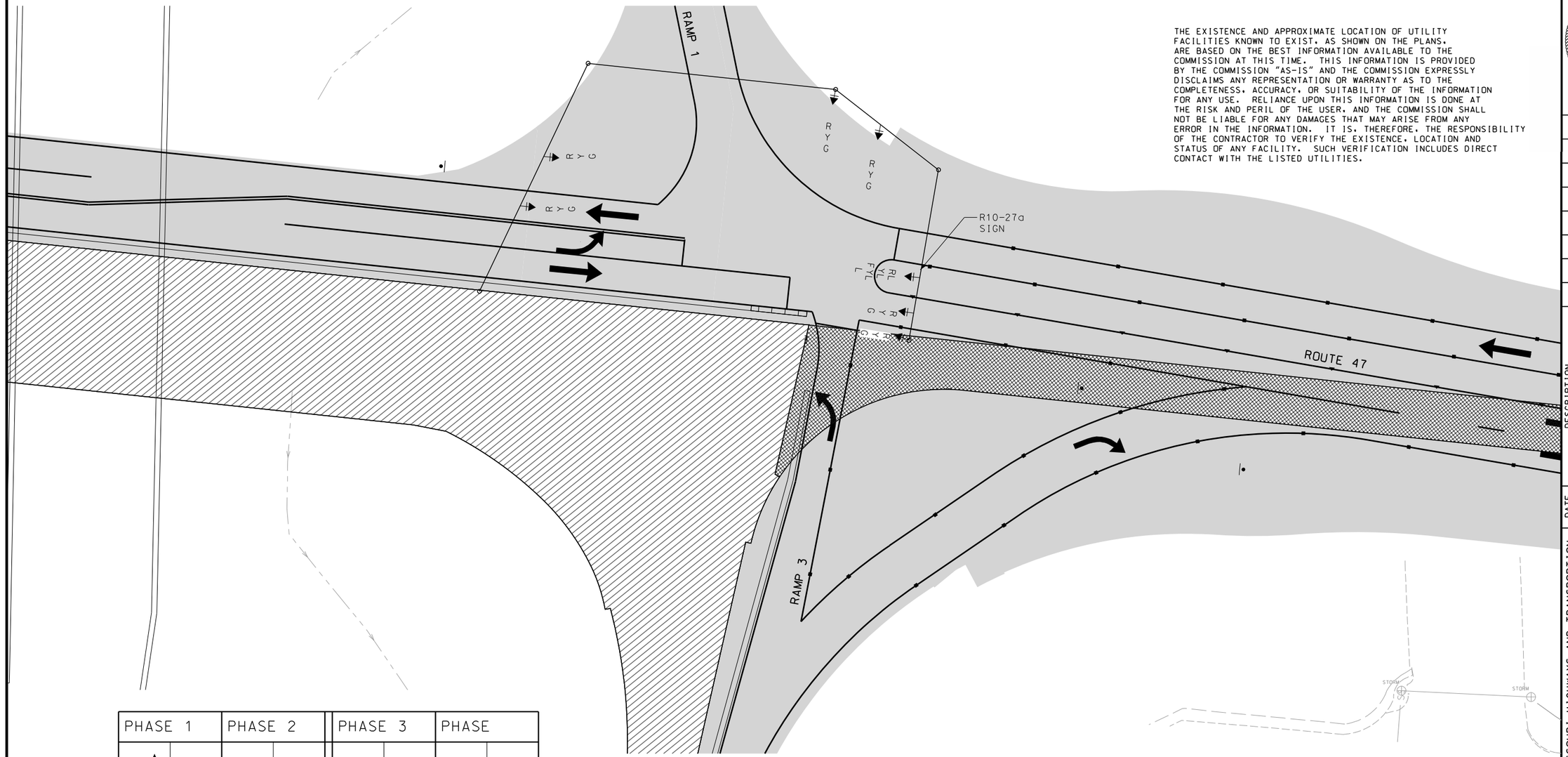
COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

REV.	DATE	DESCRIPTION

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

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



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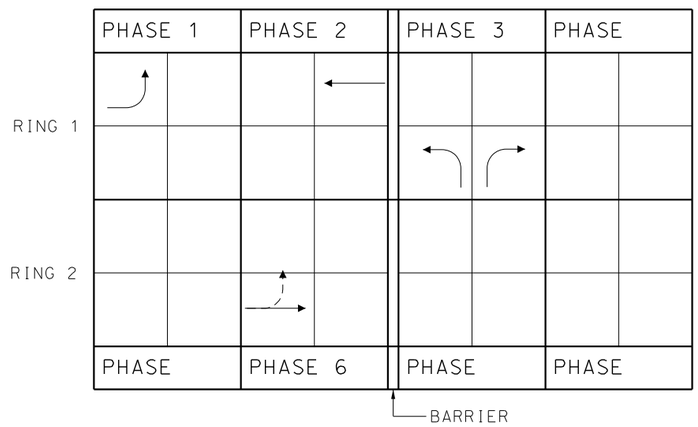
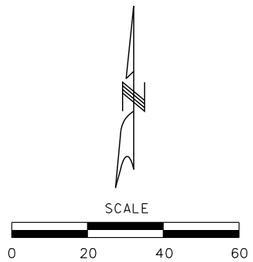


TEMPORARY TRAFFIC SIGNAL RING STRUCTURE

NORTHBOUND RAMP TERMINAL
STAGE 3A NOTES:

*THIS TEMPORARY SIGNAL CONFIGURATION SHALL BE INSTALLED PRIOR TO THE START OF STAGE 3A.

R10-27a



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TRAFFIC CONTROL
TEMPORARY SIGNAL
FOR STAGE 3A
SHEET 50 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	93

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

EFK•Moen, LLC
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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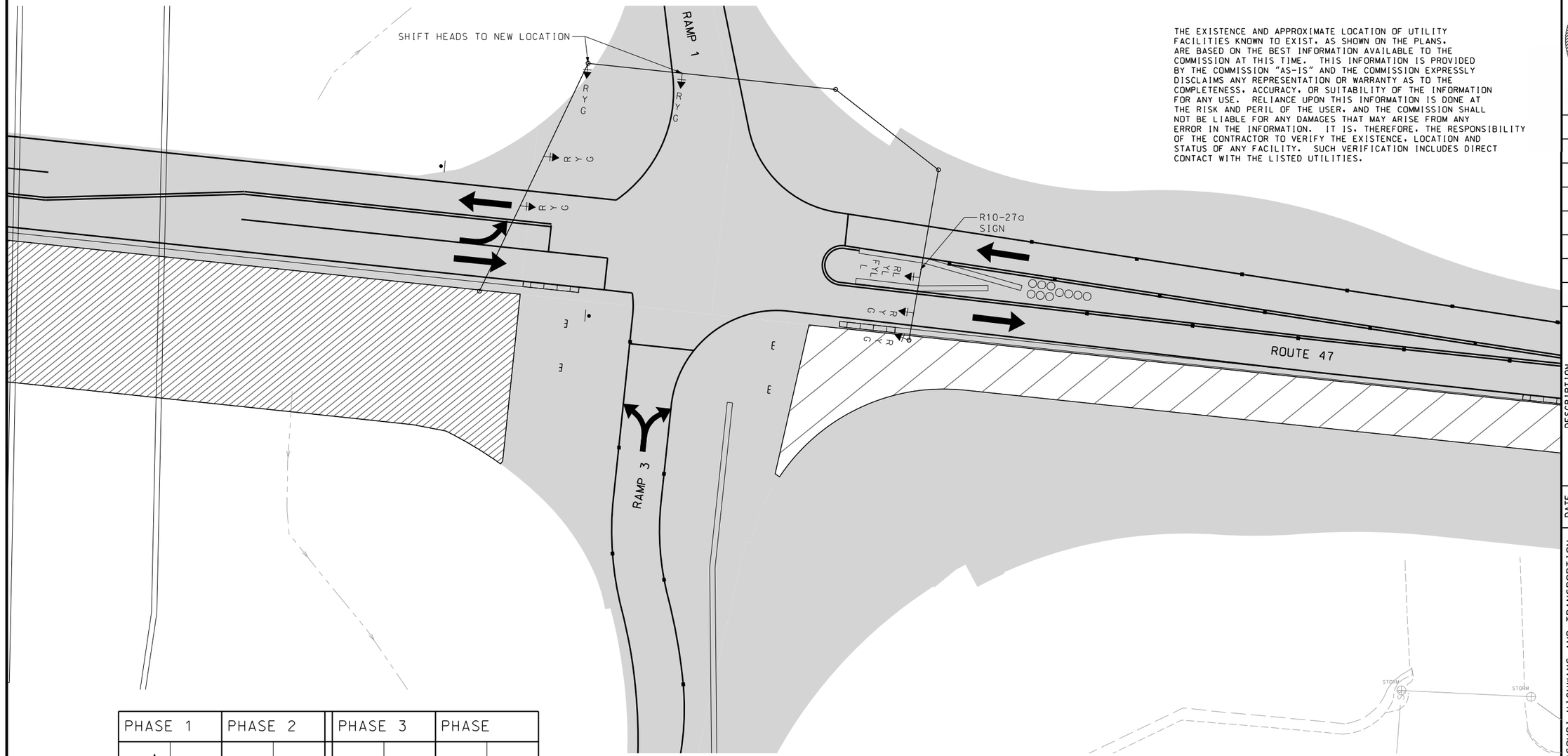

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PHASE 1	PHASE 2	PHASE 3	PHASE
RING 1			
RING 2			
PHASE	PHASE 6	PHASE	PHASE

BARRIER

TEMPORARY TRAFFIC SIGNAL RING STRUCTURE

NORTHBOUND RAMP TERMINAL
STAGE 3B NOTES:

*THIS TEMPORARY SIGNAL CONFIGURATION SHALL BE INSTALLED PRIOR TO THE START OF STAGE 3B.

LEFT TURN YIELD ON FLASHING ARROW
R10-27a

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SCALE
0 20 40 60

TRAFFIC CONTROL
TEMPORARY SIGNAL
FOR STAGE 3B
SHEET 51 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	94

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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

EFK•Moen, LLC
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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THIS SHEET HAS BEEN INTENTIONALLY LEFT BLANK

TRAFFIC CONTROL
SHEET 52 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	95

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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

EFK·Moen, LLC
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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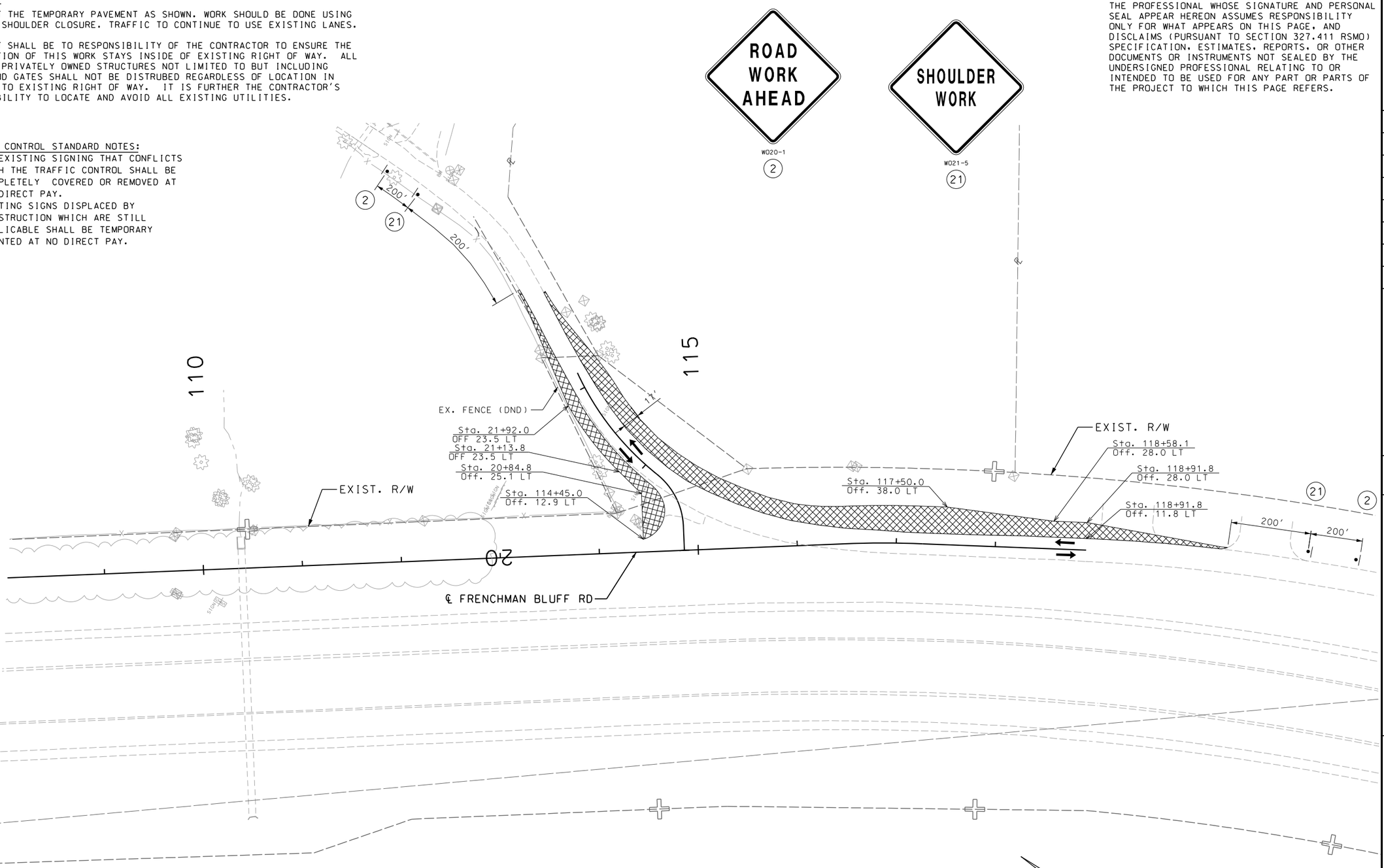
STAGE 1 -
CONSTRUCT THE TEMPORARY PAVEMENT AS SHOWN. WORK SHOULD BE DONE USING STANDARD SHOULDER CLOSURE. TRAFFIC TO CONTINUE TO USE EXISTING LANES.

NOTE: IT SHALL BE TO RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THE CONSTRUCTION OF THIS WORK STAYS INSIDE OF EXISTING RIGHT OF WAY. ALL EXISTING PRIVATELY OWNED STRUCTURES NOT LIMITED TO BUT INCLUDING FENCES AND GATES SHALL NOT BE DISTRUBED REGARDLESS OF LOCATION IN RELATION TO EXISTING RIGHT OF WAY. IT IS FURTHER THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND AVOID ALL EXISTING UTILITIES.

TRAFFIC CONTROL STANDARD NOTES:
1. ANY EXISTING SIGNING THAT CONFLICTS WITH THE TRAFFIC CONTROL SHALL BE COMPLETELY COVERED OR REMOVED AT NO DIRECT PAY.
2. EXISTING SIGNS DISPLACED BY CONSTRUCTION WHICH ARE STILL APPLICABLE SHALL BE TEMPORARY MOUNTED AT NO DIRECT PAY.



TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- STAGE 1: BUILD TEMPORARY PAVEMENT
- FLOW ARROW

SCALE
0 50 100 150

TRAFFIC CONTROL
EAST OUTER ROAD - STAGE 1
SHEET 53 OF 55

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STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	96

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

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

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

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STAGE 2 -
CONSTRUCT THE NEW PAVEMENT OF FRENCHMAN BLUFF RD AS SHOWN. WORK SHOULD BE DONE USING STANDARD LANE SHIFT. TRAFFIC TO CONTINUE TO USE EXISTING LANES AND TEMPORARY PAVEMENT.

W020-1
(2)

W01-4R
(15R)

W01-4L
(15L)

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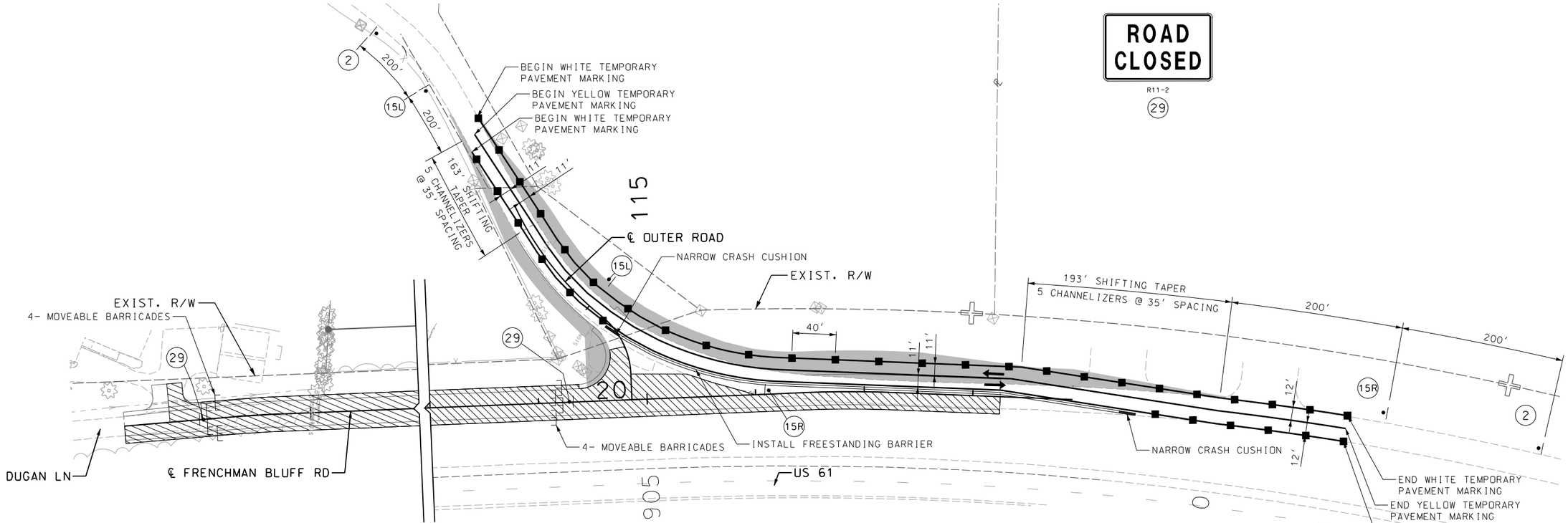
R11-2
(29)



TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- TEMPORARY PAVEMENT BUILT IN STAGE 1
- STAGE 2 WORK AREA
- TYPE III MOVEABLE BARRICADE
- FLOW ARROW

SCALE
0 50 100 150

TRAFFIC CONTROL
EAST OUTER ROAD - STAGE 2
SHEET 54 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS
NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/20/2023
ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 97
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

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

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

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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
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STAGE 3-
CONSTRUCT THE EAST PORTION OF OUTER ROAD ENTRANCE AND FRENCHMAN BLUFF RD AS SHOWN. WORK SHOULD BE DONE USING STANDARD LANE SHIFT. TRAFFIC TO CONTINUE TO USE EXISTING LANES AND TEMPORARY PAVEMENT.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- TEMPORARY PAVEMENT BUILT IN STAGE 1
- NEW PAVEMENT BUILT IN STAGE 2
- STAGE 3 WORK AREA
- TYPE III MOVEABLE BARRICADE
- FLOW ARROW

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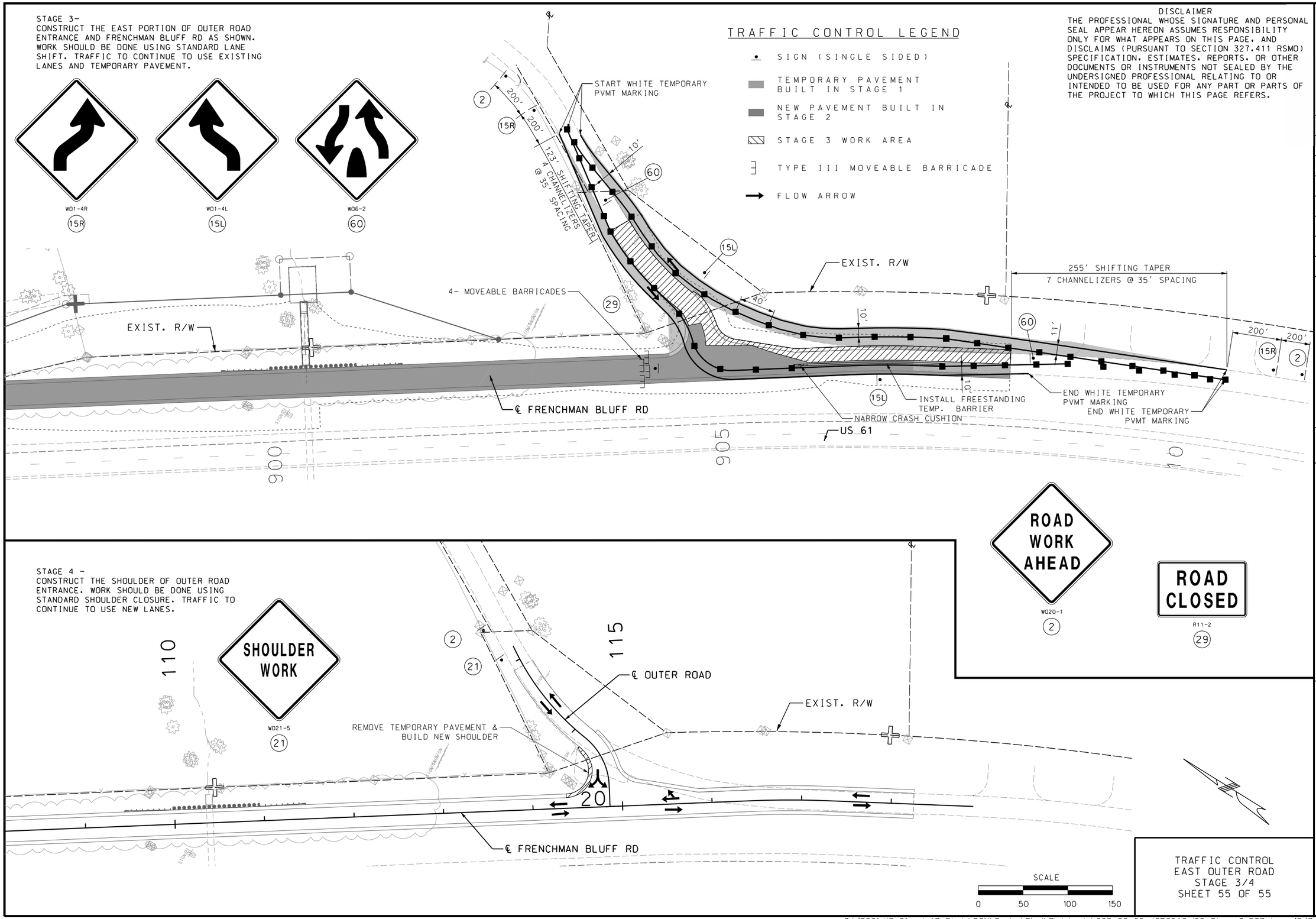

STAGE 4 -
CONSTRUCT THE SHOULDER OF OUTER ROAD ENTRANCE. WORK SHOULD BE DONE USING STANDARD SHOULDER CLOSURE. TRAFFIC TO CONTINUE TO USE NEW LANES.

SCALE
0 50 100 150

TRAFFIC CONTROL
EAST OUTER ROAD
STAGE 3/4
SHEET 55 OF 55

STATE OF MISSOURI
MARGARET ANN BRUNS NUMBER PE-2010000798
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/20/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	98

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTION COMMISSION
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JEFFERSON CITY, MO 65102
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Civil Engineering Design
13523 Barrett Parkway Dr Suite 250
St. Louis, MO 63021
Phone 314-394-3100
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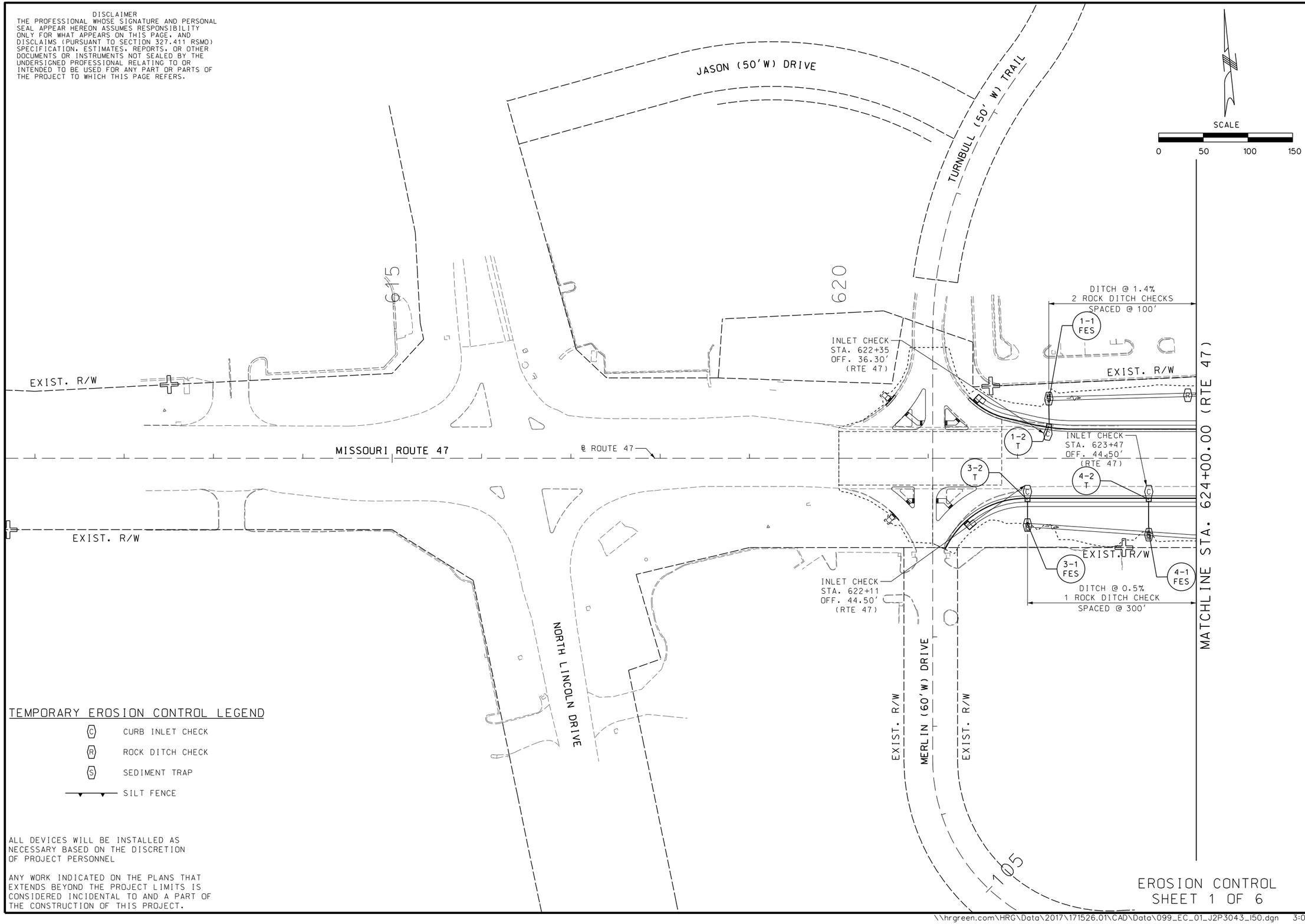

TEMPORARY EROSION CONTROL LEGEND

- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- SILT FENCE

ALL DEVICES WILL BE INSTALLED AS NECESSARY BASED ON THE DISCRETION OF PROJECT PERSONNEL

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

EROSION CONTROL
SHEET 1 OF 6

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE NUMBER E-29833

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED: 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	99

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen.

\\hrgreen.com\HRG\Data\2017\171526.01\CAD\Data\099_EC_01_J2P3043_150.dgn 3:09:36 PM 10/24/2023

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SEE EROSION CONTROL SHEET 5 FOR INFORMATION REGARDING FRENCHMAN BLUFF ROAD

SCALE
0 50 100 150

MATCHLINE STA. 624+00.00 (RTE 47)

MATCHLINE STA. 636+00.00 (RTE 47)

EXIST. R/W

RAMP 2

℄ RAMP 2

RAMP 1

℄ RAMP 1

289 LF SILT FENCE

239 LF SILT FENCE

433 LF SILT FENCE

353 LF SILT FENCE

DITCH @ 4.5%
3 ROCK DITCH CHECKS
SPACED @ 33'

DITCH @ 3.2%
2 ROCK DITCH CHECKS
SPACED @ 43'

23-1 FES

INLET CHECK
STA. 624+45
OFF. 32.50'
(RTE 47)

ROCK DITCH LINER - SEE PLAN SHEET FOR DETAILS

23-2 MH

23-3 S2

2-1 FES

2-2 T

℄ ROUTE 47

MISSOURI ROUTE 47

5-2 T

6-2 T

INLET CHECK
STA. 624+81
OFF. 45.64'
(RTE 47)

6-1 MH

NEW R/W

5-1 FES

ROCK DITCH LINER - SEE PLAN SHEET FOR DETAILS

225 LF SILT FENCE

EXIST. R/W

℄ RAMP 4

RAMP 4

7-1 FES

7-2 T

9-1 FES

9-2 T

INLET CHECK
STA. 632+74
OFF. 68.16'
(RTE 47)

INLET CHECK
STA. 635+21
OFF. 39.00'
(RTE 47)

8-2 T

INLET CHECK
STA. 634+85
OFF. 38.50'
(RTE 47)

8-1 FES

8-3 T

372 LF SILT FENCE

INLET CHECK
STA. 633+18
OFF. 68.32'
(RTE 47)

20-1 FES

434 LF SILT FENCE

261 LF SILT FENCE

ROCK DITCH CHECK
STA. 11+52
OFF. 59.95'
(RAMP3)

20-2 FES

SOUTHBOUND U.S. HIGHWAY 61

NORTHBOUND U.S. HIGHWAY 61

℄ U.S. HWY 61

℄ RAMP 3

RAMP 3

EXIST. R/W

+930 +935 +940 630 635

TEMPORARY EROSION CONTROL LEGEND

- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- SILT FENCE

ALL DEVICES WILL BE INSTALLED AS NECESSARY BASED ON THE DISCRETION OF PROJECT PERSONNEL

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

EROSION CONTROL
SHEET 2 OF 6

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	100

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

DISCLAIMER
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

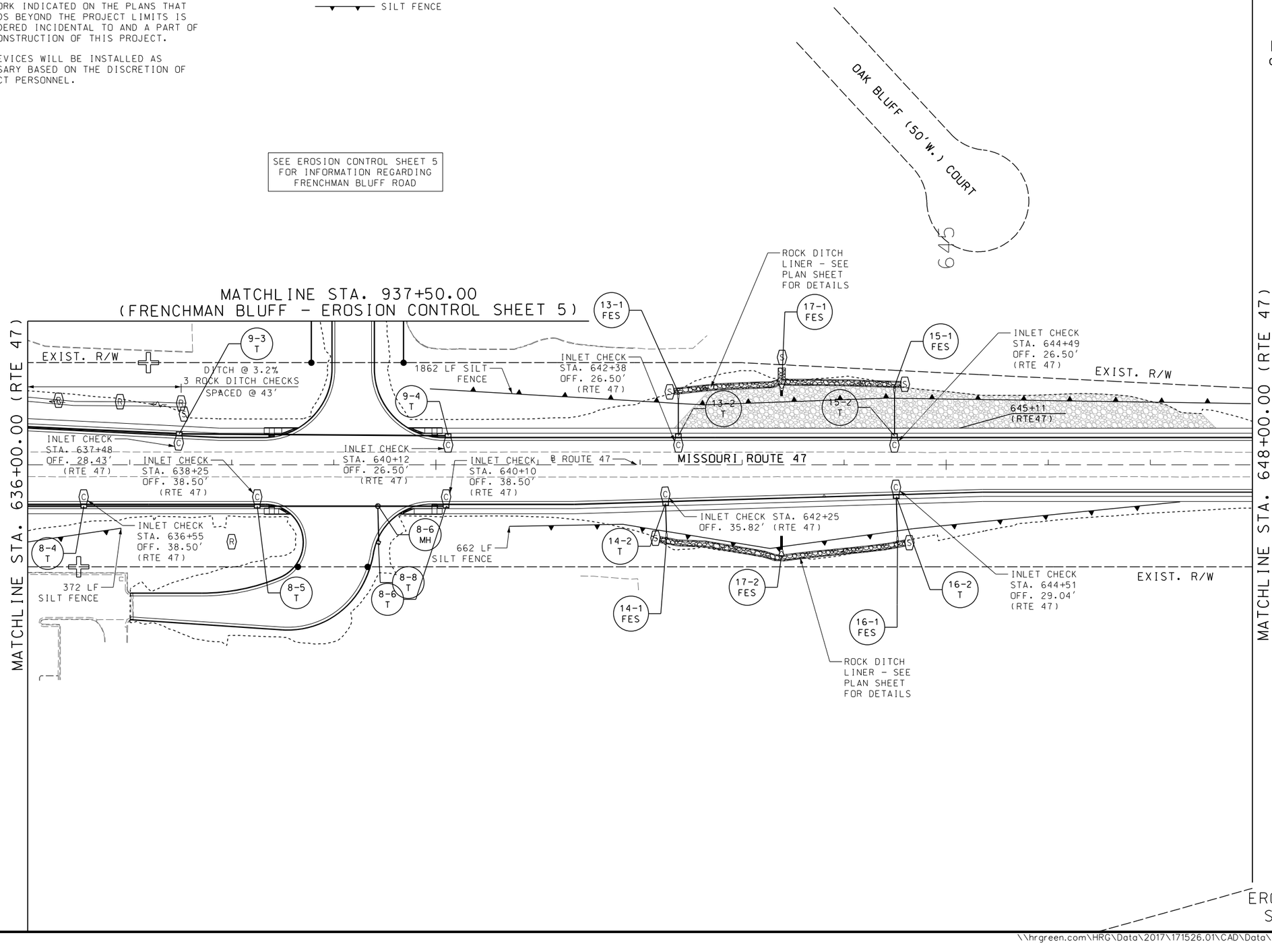
ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

ALL DEVICES WILL BE INSTALLED AS NECESSARY BASED ON THE DISCRETION OF PROJECT PERSONNEL.

TEMPORARY EROSION CONTROL LEGEND

- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- SILT FENCE

SEE EROSION CONTROL SHEET 5 FOR INFORMATION REGARDING FRENCHMAN BLUFF ROAD



SCALE
0 50 100 150

EROSION CONTROL SHEET 3 OF 6

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	101

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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- (R) ROCK DITCH CHECK
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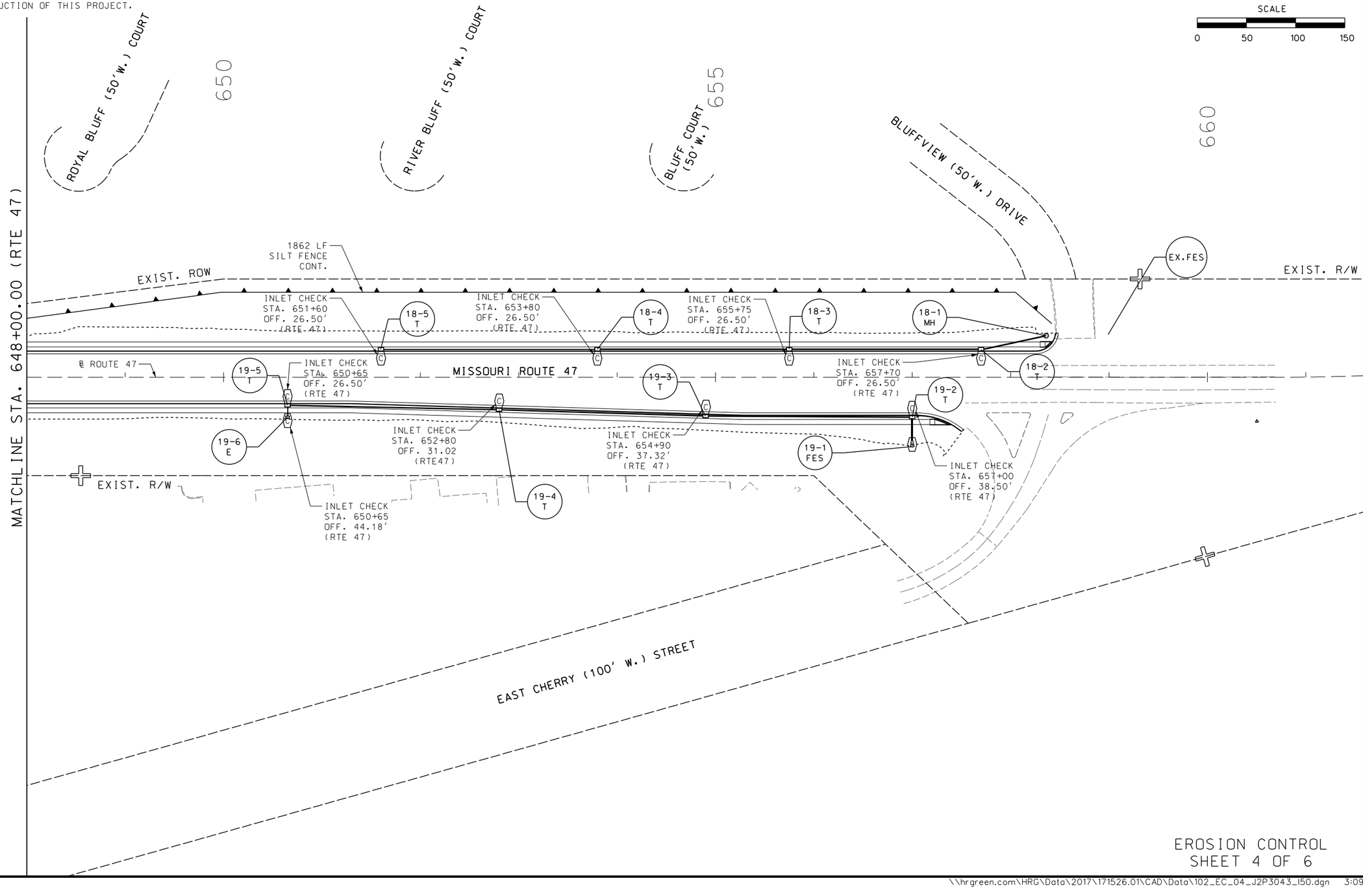
SCALE
0 50 100 150



EROSION CONTROL
SHEET 4 OF 6

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	102

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

DESCRIPTION	DATE

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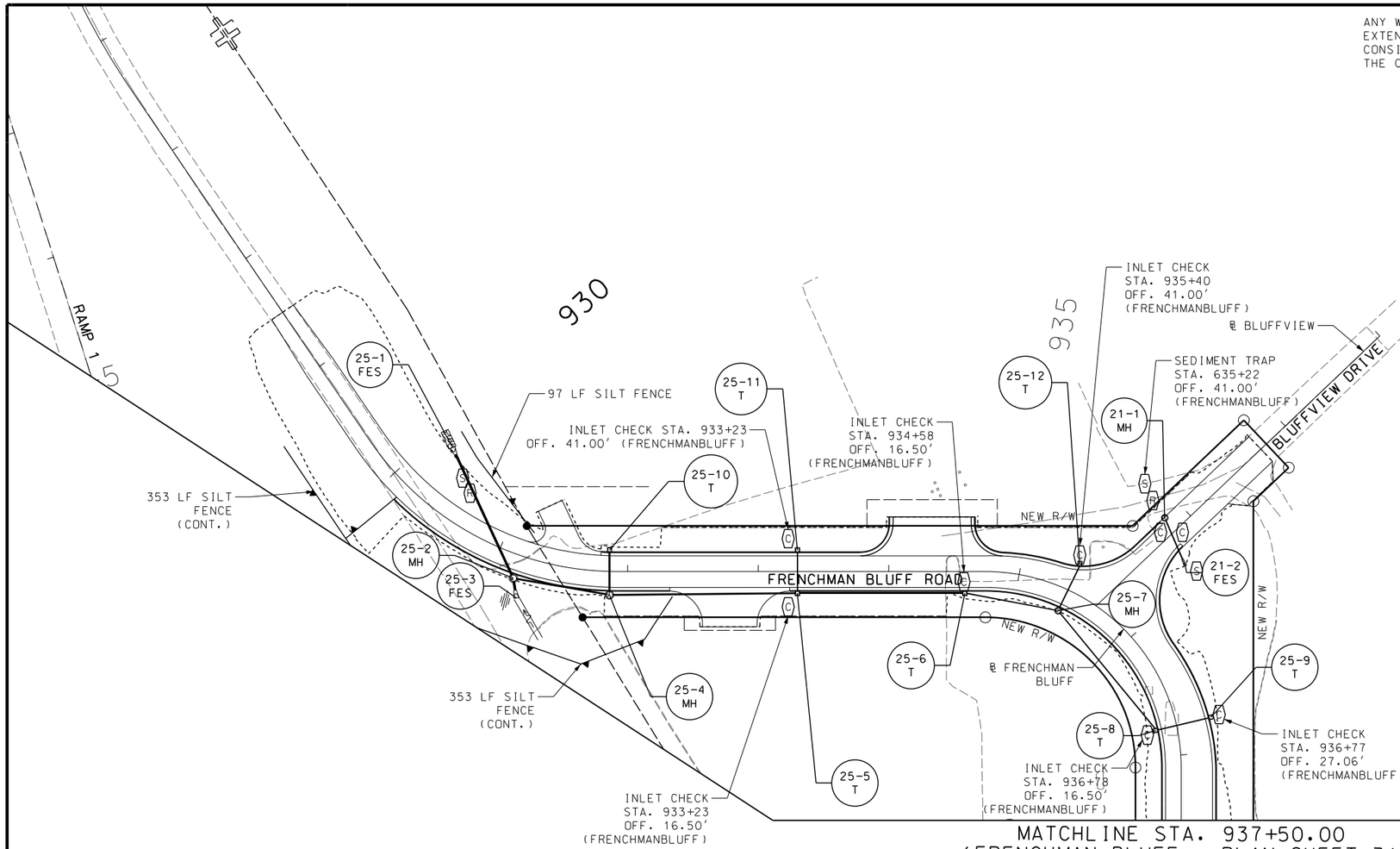

MATCHLINE STA. 937+50.00
(FRENCHMAN BLUFF - PLAN SHEET 3)

SEE EROSION CONTROL SHEETS 1-4 FOR INFORMATION REGARDING ROUTE 47

SCALE
0 50 100 150

TEMPORARY EROSION CONTROL LEGEND

- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- SEDIMENT TRAP

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EROSION CONTROL
SHEET 5 OF 6

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
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DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	103

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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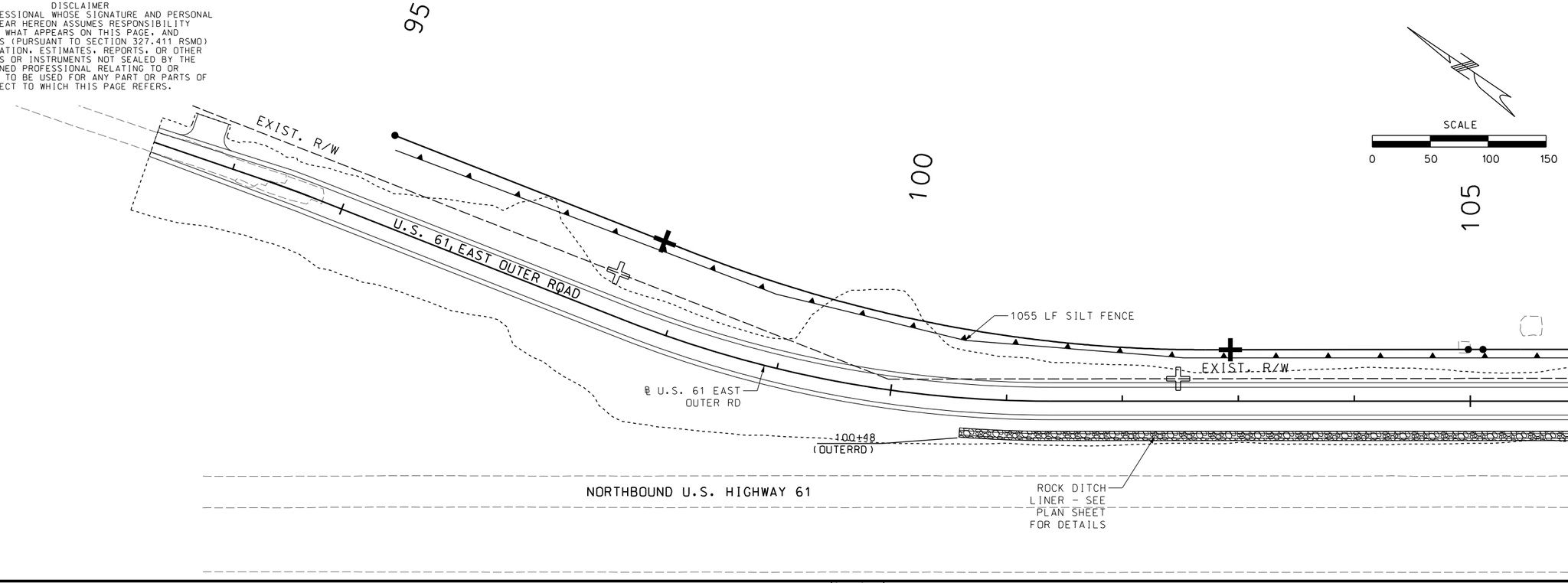
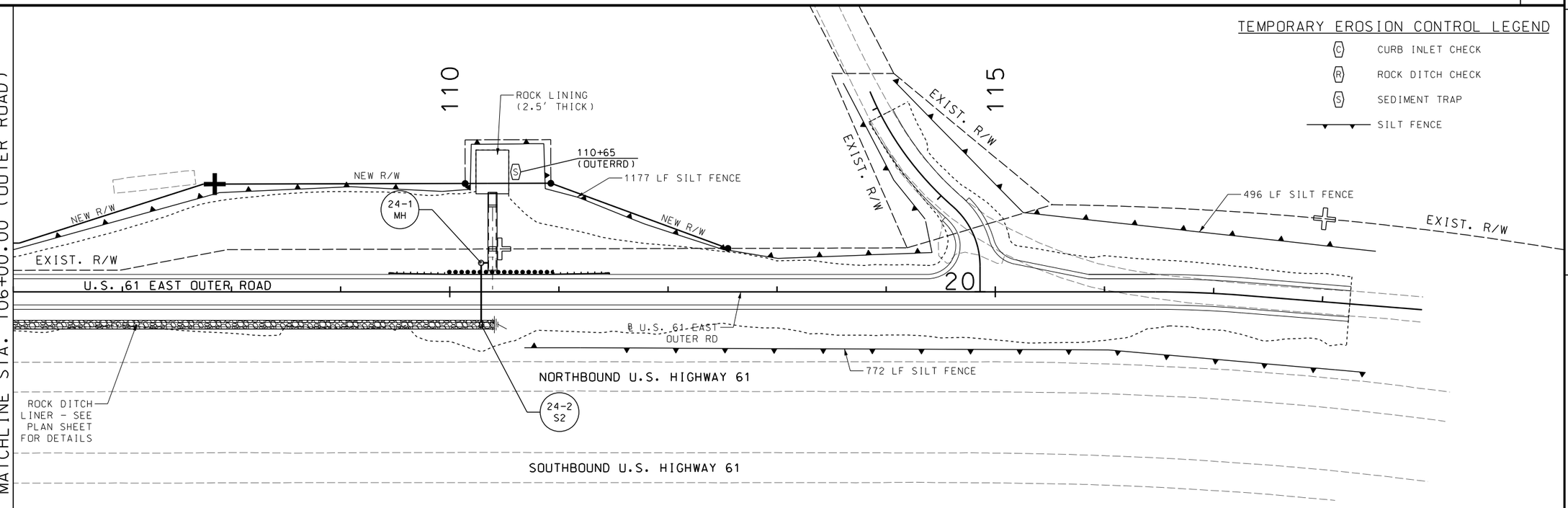


MATCHLINE STA. 106+00.00 (OUTER ROAD)



MATCHLINE STA. 106+00.00 (OUTER ROAD)

TEMPORARY EROSION CONTROL LEGEND

- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- SILT FENCE

EROSION CONTROL
SHEET 6 OF 6

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
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THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	10/25/2023
ROUTE	47
STATE	MO
DISTRICT	NE
SHEET NO.	104
COUNTY	LINCOLN
JOB NO.	J2P3043
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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JASON (50'W) DRIVE

TURNBULL (50'W) TRAIL

PC STA 195+14.29

15-60-24-000-000-035.002
N/F
EEW, LLC
D.B 1429 PG. 551
228 TURNBULL TRAIL
3.206 ACRES

SCALE
0 50 100 150

10'W EASEMENT P.B. 14 PG. 149

TURNBULL BUSINESS PARK
PLAT ONE
PB 14 PG 149

LOT 1
15-70-25-002-001-003.000
N/F
TURNBULL PROPERTIES, LLC
D.B 1891 PG. 454
100 JASON DRIVE
1.331 ACRES

TURNBULL BUSINESS PARK
PLAT TWO
PB 14 PG 321

LOT 1
15-60-24-000-000-035.005
N/F
CASEYS MARKETING COMPANY
11 TURNBULL TRAIL
D.B. 2426 PG. 633
1.64 ACRES

UTILITY AND DRAINAGE EASEMENT PB 14 PG 321

15-70-25-002-002-001.000
N/F
TROY BP INC
D.B 2407 PG. 492
205 N LINCOLN DRIVE
0.822 ACRES

15-70-25-002-002-008.000
N/F
PLAZA 47, LLC
D.B 2394 PG. 848
193 HIGHWAY 47 EAST
1.14 ACRES

15-70-25-002-002-004.000
N/F
McDONALD'S CORPORATION
D.B 518 PG. 125
199 HIGHWAY 47 EAST
1.466 ACRES

30'W EASEMENT P.B. 14 PG. 53

U.S. SURVEY 1805
TOWNSHIP 49 NORTH,
RANGE 1 WEST

615

620

15-60-24-000-000-035.004
N/F
TURNBULL FAMILY PROPERTIES, LLC
D.B. 2343 PG. 126

U.S. SURVEY 1805
TOWNSHIP 49 NORTH,
RANGE 1 WEST

15-70-25-002-001-005.000
N/F
EHRHARDT, ALVIN E., ETAL
D.B 1302 PG. 58
231 HIGHWAY 47 EAST
1.00 ACRES

PT STA 198+64.29

30'W EASEMENT D.B. 1302 PG. 58

EXIST. R/W

EXIST. R/W

CIRCUIT 3 (240V)

C1-3
6

MISSOURI ROUTE 47

℄ ROUTE 47
S 83° 58' 53" E

S 83° 58' 53" E

BEGIN PROJECT
STA. 621+02

MATCHLINE STA. 624+00.00 (RTE 47)

LOT A-3
3-C'S DEVELOPMENT
CO. ADD'N.
TROY, MO.
PB 9 PG 26

EXIST. R/W

15-70-25-002-003-006.000
N/F
MISSOURI ORDA CENTERS, L.L.C.
D.B. 1494 PG. 537
1-9 LINCOLN CENTER
7.624 ACRES

U.S. SURVEY 1805
U.S. SURVEY 305

U.S. SURVEY 305
TOWNSHIP 49 NORTH,
RANGE 1 WEST

20'W ROAD EASEMENT
DB 278 PG 2583

20'W UTILITY EASEMENT

15-70-25-002-003-002.000
N/F
RRJ CAMBRIDGE PARTNERS, LLC, ETAL
D.B. 2388 PG. 904
198 HIGHWAY 47 EAST
0.660 ACRES

15-70-25-002-003-001.000
N/F
CANNON PROPERTIES, INC.
D.B. 522 PG. 221
193 NORTH LINCOLN DRIVE
0.580 ACRES

30'W ROAD EASEMENT
DB 278 PG 2583

15-70-25-002-003-003.000
N/F
LINCOLN COUNTY SHOPPING CENTER, LLC
D.B. 278 PG. 2583
SOUTH LINCOLN DRIVE
0.210 ACRES

15-70-25-002-003-004.000
N/F

NORTH LINCOLN DRIVE

19
496
35

15-70-25-002-005-004.000
N/F
TURNBULL, HAROLD L.
192 NORTH LINCOLN DRIVE
0.273 ACRES

EXIST. R/W

15-70-25-002-005-001.000
N/F
MEYER & COMPANY REAL ESTATE, LLC
118 NORTH LINCOLN DRIVE
D.B. 1947 PG. 468
0.352 ACRES

MERLIN (60'W) DRIVE

S 16° 01' 07" W

EXIST. R/W

PC STA 103+36.58

15-70-25-002-005-002.000
N/F
LINCOLN LAND & CATTLE
COMPANY, INC.
D.B. 269 PG. 995
46 AGNES DRIVE
9.0703 ACRES

U.S. SURVEY 1805
TOWNSHIP 49 NORTH,
RANGE 1 WEST

LOT 1
15-70-25-002-005-001.011
N/F
KINSEY, LLC
D.B. 1957 PG. 1110
1 MERLIN DRIVE
1.00 ACRES

15-70-25-002-005-001.002
N/F
HNB NATIONAL BANK
D.B. 1599 PG. 754
114 NORTH LINCOLN DRIVE
0.754 ACRES

SYDENSTRICKER & MOORE SUBDIVISION
PB 13 PG 11A
LOT 2

LOT 3
15-70-25-002-005-001.012
N/F
DMR PROPERTIES, LLC
D.B. 1186 PG. 248
2 MERLIN DRIVE
1.33 ACRES

105

STA 106+66.58

LIGHTING/INTERCONNECT LEGEND

- CONTROLLER, LIGHTING (240/480V)
- CONTROLLER, LIGHTING (EXISTING)
- POWER SOURCE
- P.S. POWER SUPPLY
- PULL BOX PREFORMED TYPE 1
- LUMINAIRE (EXISTING)
- LED LUMINAIRE TYPE B (45' AT POLE w/ TENON MOUNT)
- CONDUIT, RIGID (TRENCH)
- CONDUIT, RIGID (PUSHED)
- CONDUIT, RIGID (BRIDGE)
- CONTROLLER, CITY OWNED — X-X CIRCUIT, X LUMINAIRE NUMBER
- X PULLBOX NUMBER (LUMINAIRE)
- CABLE-CONDUIT

LIGHTING PLAN
SHEET 1 OF 5

\\hrgreen.com\HRG\Data\2017\171526.01\CAD\Data\105_LT_01_J2P3043_150.dgn 3:09:43 PM 10/24/2023

STATE OF MISSOURI
DANIEL T. SHANE NUMBER
E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	105

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
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PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

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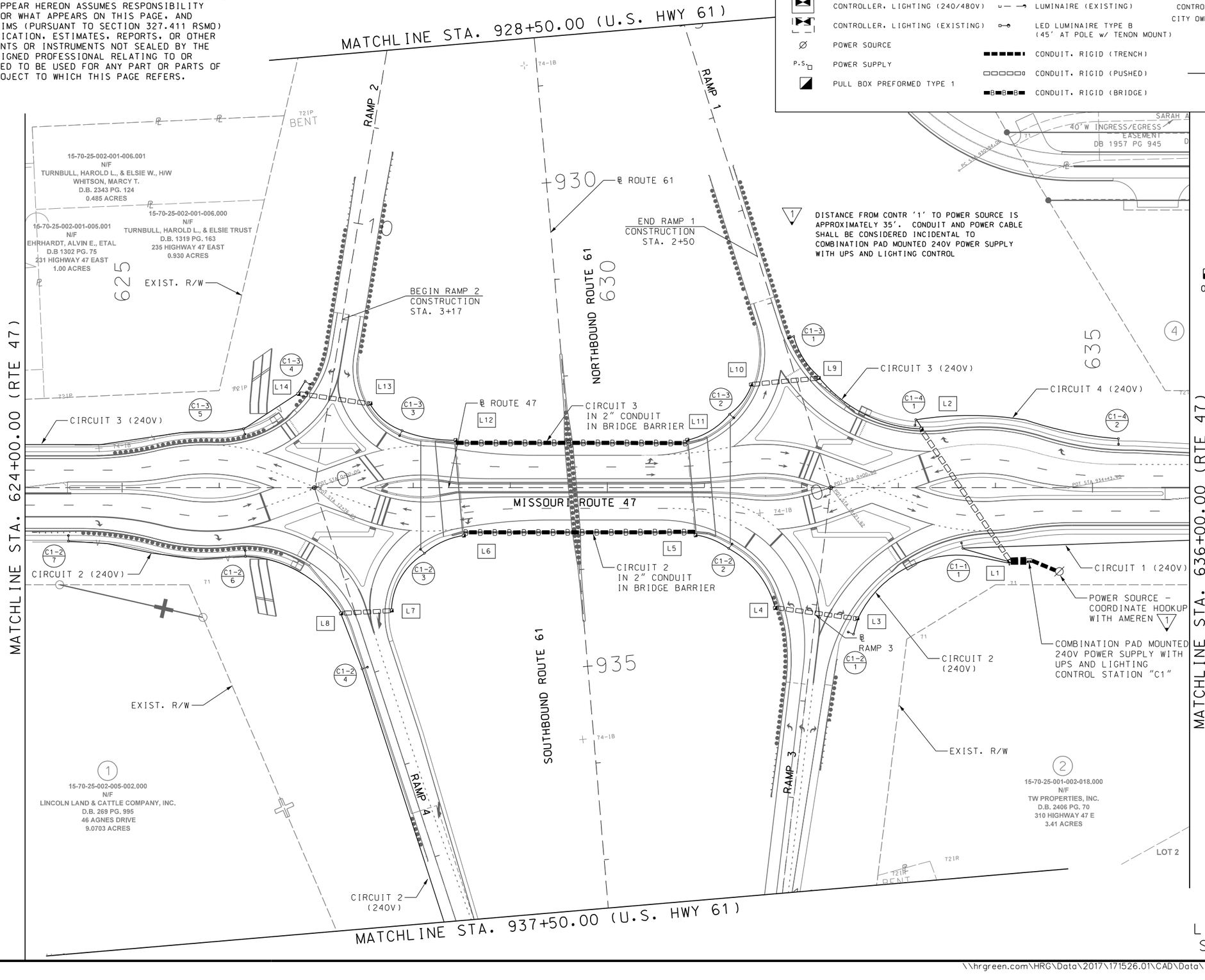
LIGHTING/INTERCONNECT LEGEND

- CONTROLLER, LIGHTING (240/480V)
- CONTROLLER, LIGHTING (EXISTING)
- POWER SOURCE
- POWER SUPPLY
- PULL BOX PREFORMED TYPE 1
- LUMINAIRE (EXISTING)
- LED LUMINAIRE TYPE B (45' AT POLE w/ TENON MOUNT)
- CONDUIT, RIGID (TRENCH)
- CONDUIT, RIGID (PUSHED)
- CONDUIT, RIGID (BRIDGE)
- CONTROLLER CITY OWNED — X-X CIRCUIT, X LUMINAIRE NUMBER
- X PULLBOX NUMBER (LUMINAIRE)
- CABLE-CONDUIT



1 DISTANCE FROM CONTR '1' TO POWER SOURCE IS APPROXIMATELY 35'. CONDUIT AND POWER CABLE SHALL BE CONSIDERED INCIDENTAL TO COMBINATION PAD MOUNTED 240V POWER SUPPLY WITH UPS AND LIGHTING CONTROL

SCALE
0 50 100 150

LIGHTING PLAN
SHEET 2 OF 5

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-21833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	106

COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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DESCRIPTION	DATE

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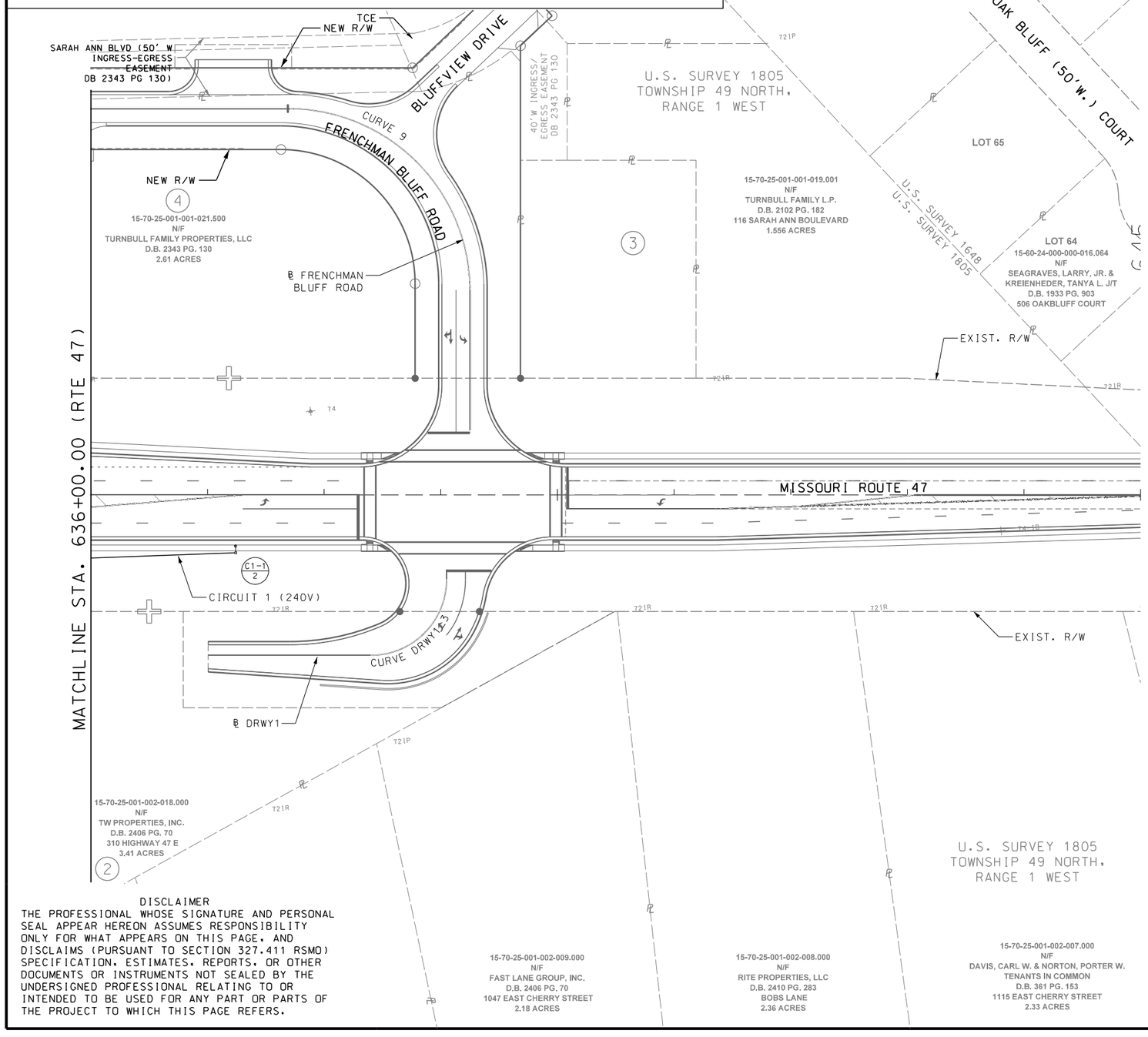
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

LIGHTING/INTERCONNECT LEGEND

- CONTROLLER, LIGHTING (240/480V)
- CONTROLLER, LIGHTING (EXISTING)
- POWER SOURCE
- POWER SUPPLY
- PULL BOX PREFORMED TYPE 1
- LUMINAIRE (EXISTING)
- LED LUMINAIRE TYPE B (45' AT POLE w/ TENON MOUNT)
- CONDUIT, RIGID (TRENCH)
- CONDUIT, RIGID (PUSHED)
- CONDUIT, RIGID (BRIDGE)
- CONTROLLER CITY OWNED — X-X CIRCUIT, X LUMINAIRE NUMBER
- X PULLBOX NUMBER (LUMINAIRE)
- CABLE-CONDUIT



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LIGHTING PLAN
SHEET 3 OF 5

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED: 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	107

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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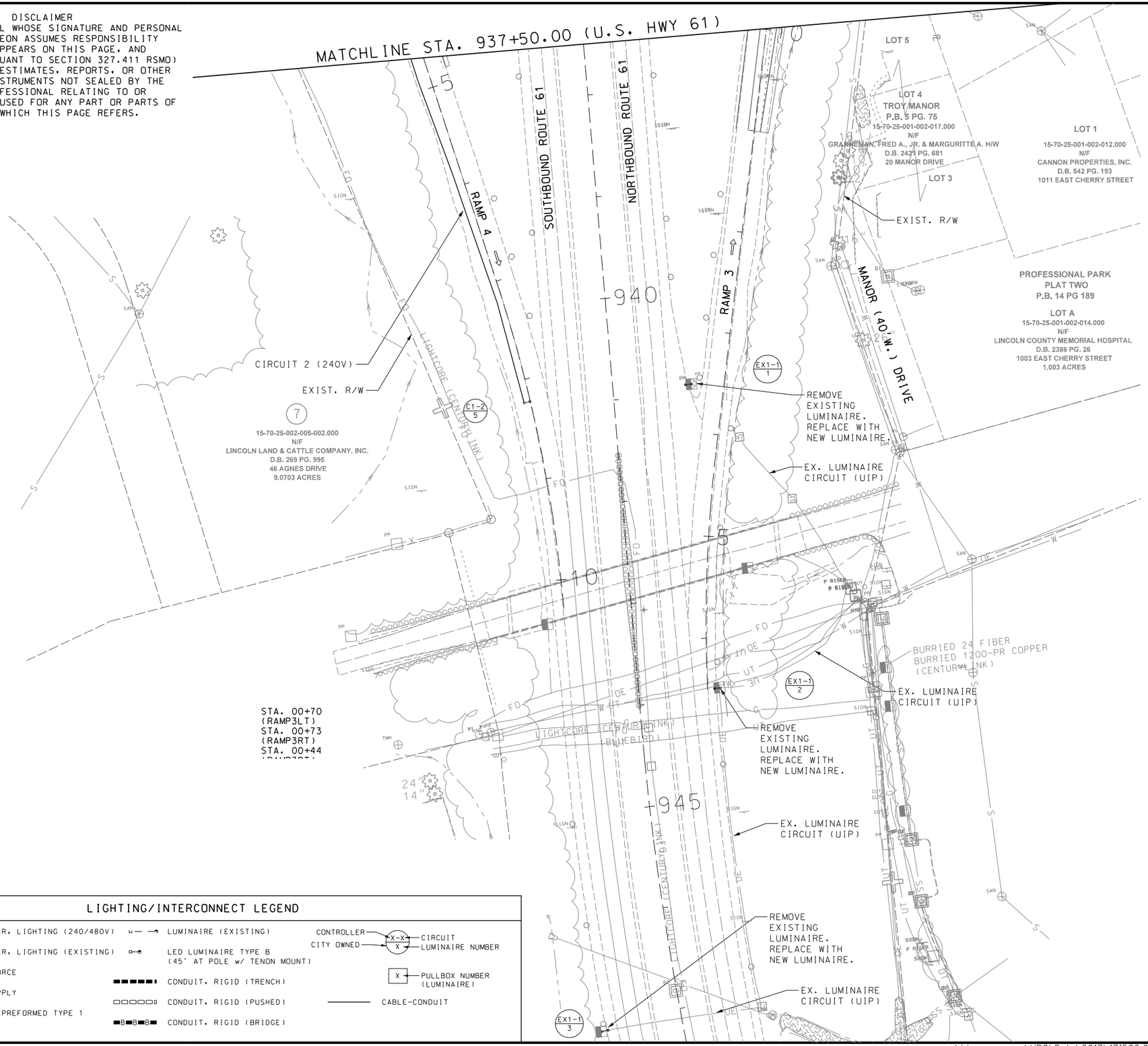

LIGHTING/INTERCONNECT LEGEND

- CONTROLLER, LIGHTING (240/480V)
- CONTROLLER, LIGHTING (EXISTING)
- POWER SOURCE
- POWER SUPPLY
- PULL BOX PREFORMED TYPE 1
- LUMINAIRE (EXISTING)
- LED LUMINAIRE TYPE B (45' AT POLE w/ TENON MOUNT)
- CONDUIT, RIGID (TRENCH)
- CONDUIT, RIGID (PUSHED)
- CONDUIT, RIGID (BRIDGE)
- CONTROLLER CITY OWNED — X-X CIRCUIT / X LUMINAIRE NUMBER
- X — PULLBOX NUMBER (LUMINAIRE)
- CABLE-CONDUIT

LIGHTING PLAN
SHEET 4 OF 5

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DATE PREPARED: 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	108

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

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STATE OF MISSOURI
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REGISTERED PROFESSIONAL ENGINEER

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LIGHTING/INTERCONNECT LEGEND

- CONTROLLER, LIGHTING (240/480V)
- CONTROLLER, LIGHTING (EXISTING)
- POWER SOURCE
- POWER SUPPLY
- PULL BOX PREFORMED TYPE 1
- LUMINAIRE (EXISTING)
- LED LUMINAIRE TYPE B (45' AT POLE w/ TENON MOUNT)
- CONDUIT, RIGID (TRENCH)
- CONDUIT, RIGID (PUSHED)
- CONDUIT, RIGID (BRIDGE)
- CONTROLLER — CITY OWNED — X-X CIRCUIT / X LUMINAIRE NUMBER
- X PULLBOX NUMBER (LUMINAIRE)
- CABLE-CONDUIT

REMOVE EXISTING LUMINAIRE. REPLACE WITH NEW LUMINAIRE.

EX. LUMINAIRE CIRCUIT (UIP)

EXIST. R/W

BURRIED 100-PR COPPER
BURRIED 48-FIBER
(CENTURYLINK)

SOUTHBOUND ROUTE 61

NORTHBOUND ROUTE 61

TURNBULL (50'W) TRAIL

PT STA 10+63.73

PC STA 3+50.00

EXIST. R/W

REMOVE EXISTING LUMINAIRE. REPLACE WITH NEW LUMINAIRE.

EX. LUMINAIRE CIRCUIT (UIP)

RAMP 2

RAMP 1

PC STA 7+46.34

PT STA 6+51.42

15-60-24-000-000-035.003
N/F
TURNBULL, CARTER H.
D.B 2398 PG. 42
TURNBULL TRAIL
2.801 ACRES

15-60-24-000-000-035.002
N/F
EEW, LLC
D.B 1429 PG. 551
28 TURNBULL TRAIL
3.206 ACRES

PROPERTY DESCRIPTION DOES NOT CLOSE MATHEMATICALLY BY A LARGE AMOUNT AND THEREFORE CANNOT DETERMINE PROPERTY CONFIGURATION

BURRIED 100-PR COPPER
BURRIED 48-FIBER
(CENTURYLINK)

MATCHLINE STA. 928+50.00 (U.S. HWY 61)

SCALE
0 50 100 150

LIGHTING PLAN
SHEET 5 OF 5

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	109

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

CONDUIT, CABLE-CONDUIT, AND CABLE QUANTITIES

SHEET NO.	CIRCUIT	FROM	TO	CONDUIT RIGID TRENCH 2" (LF)	CONDUIT RIGID PUSHED 3" (LF)	CONDUIT RIGID BRIDGE 2" (LF)	CABLE-CONDUIT 2c#6 W/ BARE GROUND (LF)	CABLE* 1c #6 (LF)	BARE WIRE* 1c #6 (LF)	TRENCHING TYPE II (LF)
1 / 2	CIRCUIT 3	C1-3-6	C1-3-5				380			375
2	CIRCUIT 3	C1-3-5	L14				70			65
2	CIRCUIT 3	L14	C1-3-4				20			15
2	CIRCUIT 3	L14	L13		75			220	110	
2	CIRCUIT 3	L13	C1-3-3				55			50
2	CIRCUIT 3	C1-3-3	L12				65			60
2	CIRCUIT 3	L12	L11			245		560	280	
2	CIRCUIT 3	L11	C1-3-2				60			55
2	CIRCUIT 3	C1-3-2	L10				45			40
2	CIRCUIT 3	L10	L9		75			220	110	
2	CIRCUIT 3	L9	C1-3-1				60			55
2	CIRCUIT 3	L9	L2				125			120
2	CIRCUIT 4	L2	C1-4-1				20			15
2	CIRCUIT 4	C1-4-1	C1-4-2				220			215
2	CIRCUITS 3/4	L2	L1		164			796	398	
2	CIRCUIT 3	L1	CONTR 'C1'				15			10
2	CIRCUIT 4	L1	CONTR 'C1'				15			10
1 / 2	CIRCUIT 2	C1-2-7	C1-2-6				190			185
2	CIRCUIT 2	C1-2-6	L8				125			120
2	CIRCUIT 2	L8	C1-2-4				70			65
2 / 4	CIRCUIT 2	C1-2-4	C1-2-5				640			635
2	CIRCUIT 2	L8	L7		55			180	90	
2	CIRCUIT 2	L7	C1-2-3				75			70
2	CIRCUIT 2	C1-2-3	L6				50			45
2	CIRCUIT 2	L6	L5			245		560	280	
2	CIRCUIT 2	L5	C1-2-2				45			40
2	CIRCUIT 2	C1-2-2	L4				85			80
2	CIRCUIT 2	L4	L3		90			250	125	
2	CIRCUIT 2	L3	C1-2-1				25			20
2	CIRCUIT 2	L3	L1				186			181
2	CIRCUIT 2	L1	CONTR 'C1'				45			40
2 / 3	CIRCUIT 1	C1-1-2	C1-1-1				365			360
2	CIRCUIT 1	C1-1-1	L1				54			49
2	CIRCUIT 1	L1	CONTR 'C1'		40			150	75	
			SUBTOTAL	0	499	490	3.105	2.936	1.468	2.975
			* PAY TOTAL	0	500	490	3.270	3.090	1.550	3.130

* QUANTITY INCLUDES 5% FOR SNAKING
NOTE: ALL WIRE SHALL BE XLP/USE WITH NO EXCEPTIONS

POLES AND LUMINAIRES

SHEET NO.	POLE NO.	STATION	OFFSET	LOCATION	POLE 45' TOP MOUNT POLE TYPE AT (EACH)	POLE DESIGN NO.	LUMINAIRE LED-B TYPE III TOP MOUNT (EACH)	FOUNDATION FOR 45' MH POLE (EACH)	CABLE #10 AWG 1-COND. POLE AND BRACKET (LF)
1	C1-3-6	622+53	44.6' LT	ROUTE 47	1	3	1	1	100
2	C1-3-5	626+25	60.7' LT	ROUTE 47	1	3	1	1	100
2	C1-3-4	626+89	109.8' LT	ROUTE 47	1	3	1	1	100
2	C1-3-3	627+89	58.9' LT	ROUTE 47	1	3	1	1	100
2	C1-3-2	631+26	75.8' LT	ROUTE 47	1	3	1	1	100
2	C1-3-1	631+92	155.9' LT	ROUTE 47	1	3	1	1	100
2	C1-2-7	624+45	55.0' RT	ROUTE 47	1	3	1	1	100
2	C1-2-6	626+27	70.6' RT	ROUTE 47	1	3	1	1	100
2	C1-2-4	627+47	186.6' RT	ROUTE 47	1	3	1	1	100
2	C1-2-3	628+12	67.5' RT	ROUTE 47	1	3	1	1	100
2	C1-2-2	631+25	62.6' RT	ROUTE 47	1	3	1	1	100
2	C1-2-1	632+54	151.0' RT	ROUTE 47	1	3	1	1	100
2	C1-1-1	633+66	62.5' RT	ROUTE 47	1	3	1	1	100
2	C1-4-1	633+18	70.2' LT	ROUTE 47	1	3	1	1	100
2	C1-4-2	635+27	50.7' LT	ROUTE 47	1	3	1	1	100
3	C1-1-2	637+24	49.6' RT	ROUTE 47	1	3	1	1	100
4	C1-2-5	940+95	87.7' RT	ROUTE 61	1	3	1	1	100
4	EX1-1-1	940+91	77.1' LT	ROUTE 61	1	3	1	*	100
4	EX1-1-2	943+90	80.2' LT	ROUTE 61	1	3	1	*	100
4	EX1-1-3	947+08	79.0' RT	ROUTE 61	1	3	1	*	100
5	EX2-1-1	919+06	80.7' LT	ROUTE 61	1	3	1	*	100
5	EX2-1-2	924+51	86.1' RT	ROUTE 61	1	3	1	*	100
				SUBTOTAL	22		22	17	2.200
				PAY TOTAL	22		22	17	2.200

* USE EXISTING FOOTING IN PLACE

PULL BOXES

SHEET NO.	STATION	OFFSET	ROADWAY	PULL BOX NO.	PREFORMED CLASS 1 (EACH)	DRAIN TYPE* I	CIRCUIT
2	634+14	76.0' RT	ROUTE 47	L1	1	1	CIR 1 / CIR 2 / CIR 3 / CIR 4
2	633+24	60.7' LT	ROUTE 47	L2	1	1	CIRCUIT 3 / CIRCUIT 4
2	632+58	134.6' RT	ROUTE 47	L3	1	1	CIRCUIT 2
2	631+73	124.0' RT	ROUTE 47	L4	1	1	CIRCUIT 2
2	630+91	49.0' RT	ROUTE 47	L5	1	1	CIRCUIT 2
2	628+52	49.3' RT	ROUTE 47	L6	1	1	CIRCUIT 2
2	627+78	126.6' RT	ROUTE 47	L7	1	1	CIRCUIT 2
2	627+25	129.5' RT	ROUTE 47	L8	1	1	CIRCUIT 2
2	632+18	113.0' LT	ROUTE 47	L9	1	1	CIRCUIT 3
2	631+48	106.4' LT	ROUTE 47	L10	1	1	CIRCUIT 3
2	630+83	49.3' LT	ROUTE 47	L11	1	1	CIRCUIT 3
2	628+44	49.1' LT	ROUTE 47	L12	1	1	CIRCUIT 3
2	627+56	86.8' LT	ROUTE 47	L13	1	1	CIRCUIT 3
2	626+82	96.6' LT	ROUTE 47	L14	1	1	CIRCUIT 3
				SUBTOTAL	14	14	
				PAY TOTAL	14	0	

* NO DIRECT PAY

COMBINATION PAD MOUNTED 240V POWER SUPPLY WITH UPS AND LIGHTING CONTROL

SHEET NO.	STATION	OFFSET	ROADWAY	CONTROL LETTER	BREAKERS (AMPS) MAIN	CIRCUIT 1	CIRCUIT 2	CIRCUIT 3	CIRCUIT 4	4-CIR. 240V EACH
2	634+34	76.0' RT	ROUTE 47	C1	ROUTE 47	20	20	20	20	1
									SUBTOTAL	1
									PAY TOTAL	1

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LIGHTING QUANTITY
SHEET 1 OF 1

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
03/04/2024

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	110

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

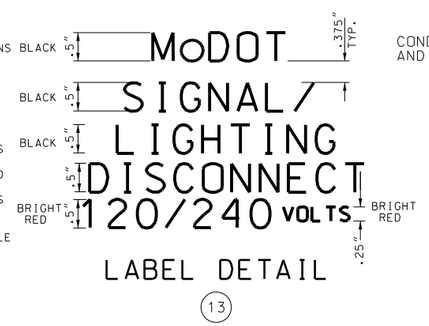
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

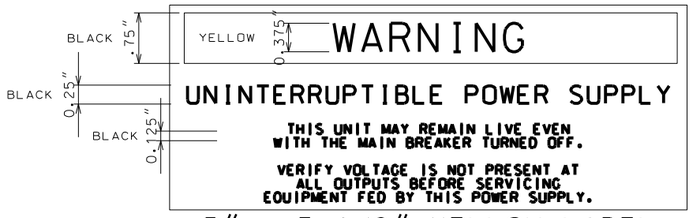
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen.

GENERAL NOTES:

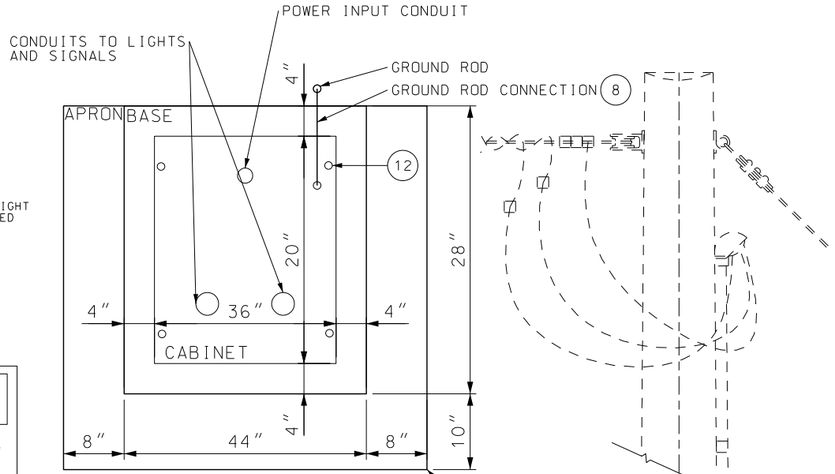
1. ALTERNATE CABINET DIMENSIONS WILL BE ALLOWED AS APPROVED BY THE ENGINEER. INTERIOR CABINET VOLUME SHALL BE EQUAL TO OR GREATER THAN THAT SHOWN ON PLANS AND PROPER CLEARANCES SHALL BE PROVIDED FOR ALL EQUIPMENT. CONCRETE BASE DIMENSIONS SHALL BE MODIFIED TO FIT THE CABINET SUPPLIER.
2. PLACEMENT OF ALL ITEMS SHALL BE APPROVED BY THE ENGINEER.
3. SCHEMATIC DIAGRAM SHALL BE MOUNTED ON INSIDE OF CABINET DOOR.
4. THE UTILITY SHALL BE NOTIFIED IN WRITING 30 DAYS PRIOR TO DATE SERVICE WILL BE REQUIRED.
5. ALL CABINET OPENINGS SHALL BE COVERED AND SEALED WITH LIFETIME SILICONE CAULK.
6. ALL MATERIALS REQUIRED EXCLUDING 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.
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.



LABEL DETAIL
(13)



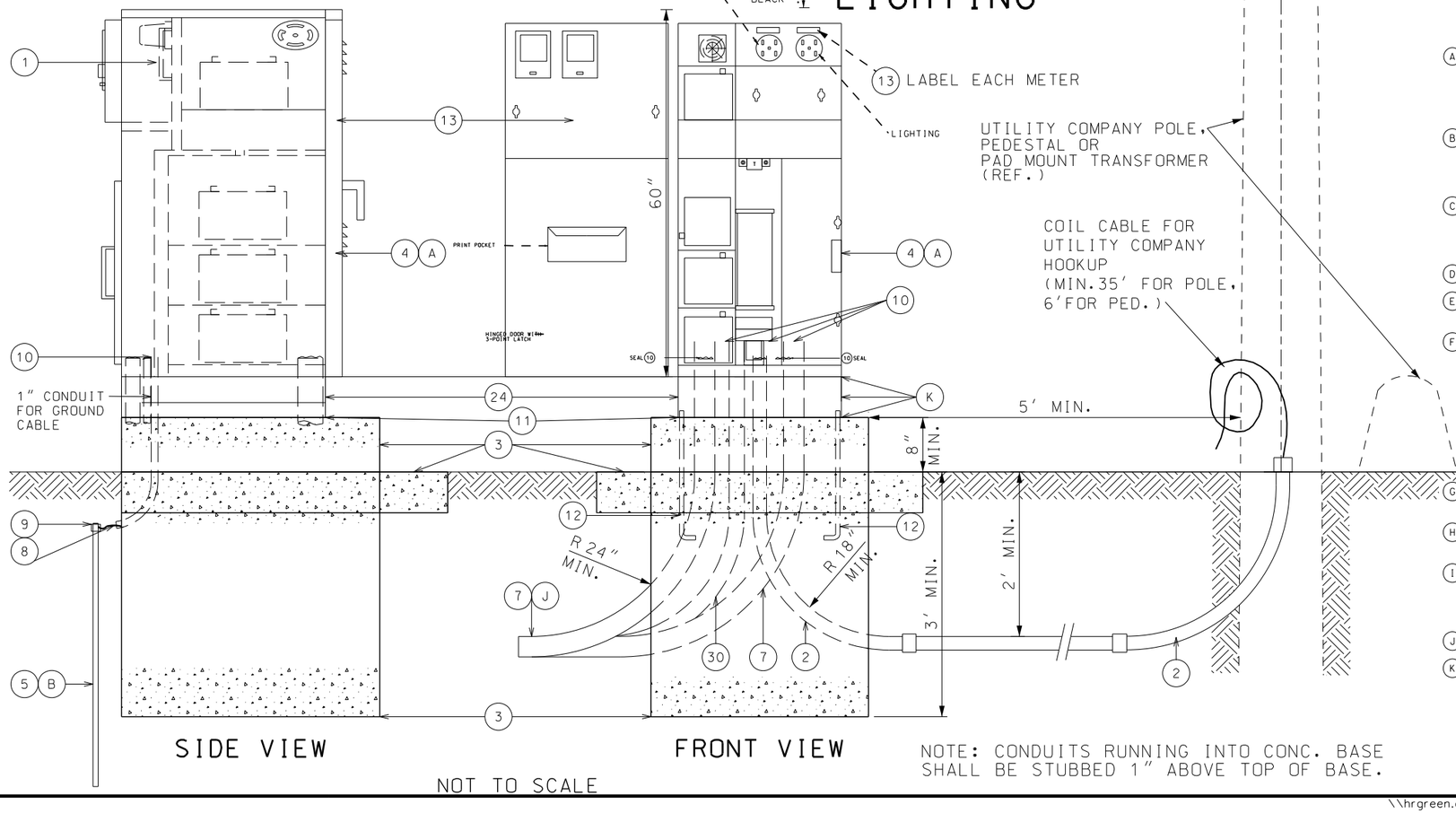
5" x 3 1/2" YELLOW LABEL
(UNDER SIGNAL METER ON LOWER DOOR)



TOP VIEW

LABEL DETAIL

BLACK .5"
BLACK .5"
SIGNAL
LIGHTING



SIDE VIEW

FRONT VIEW

NOTE: CONDUITS RUNNING INTO CONC. BASE SHALL BE STUBBED 1" ABOVE TOP OF BASE.

NOT TO SCALE

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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 ¼" CONDUIT OUT TO SIGNAL CABINET (CAT 5E AND CONTROL WIRING)
*	SEE PLANS FOR SIZE

NOTES

(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.

LIGHTING PLAN
COMBINATION PAD MOUNTED 240V
POWER SUPPLY & LIGHTING CONTROLLER
w/ UNINTERRUPTIBLE POWER SUPPLY
SHEET 1 OF 3

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	111

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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

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

HR GREEN, INC.
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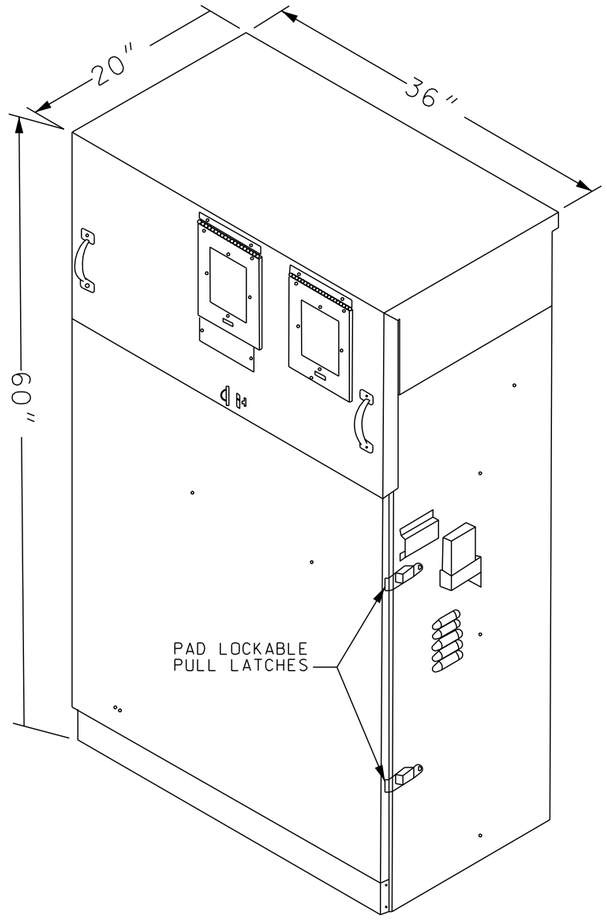
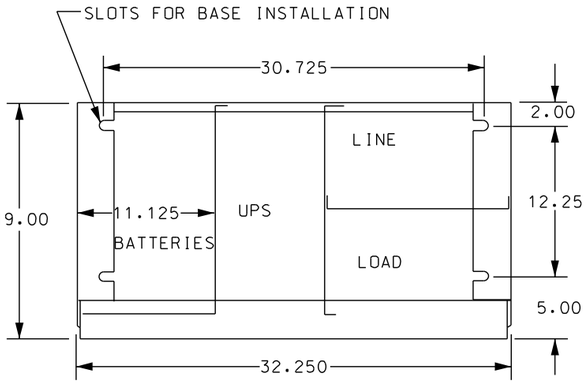
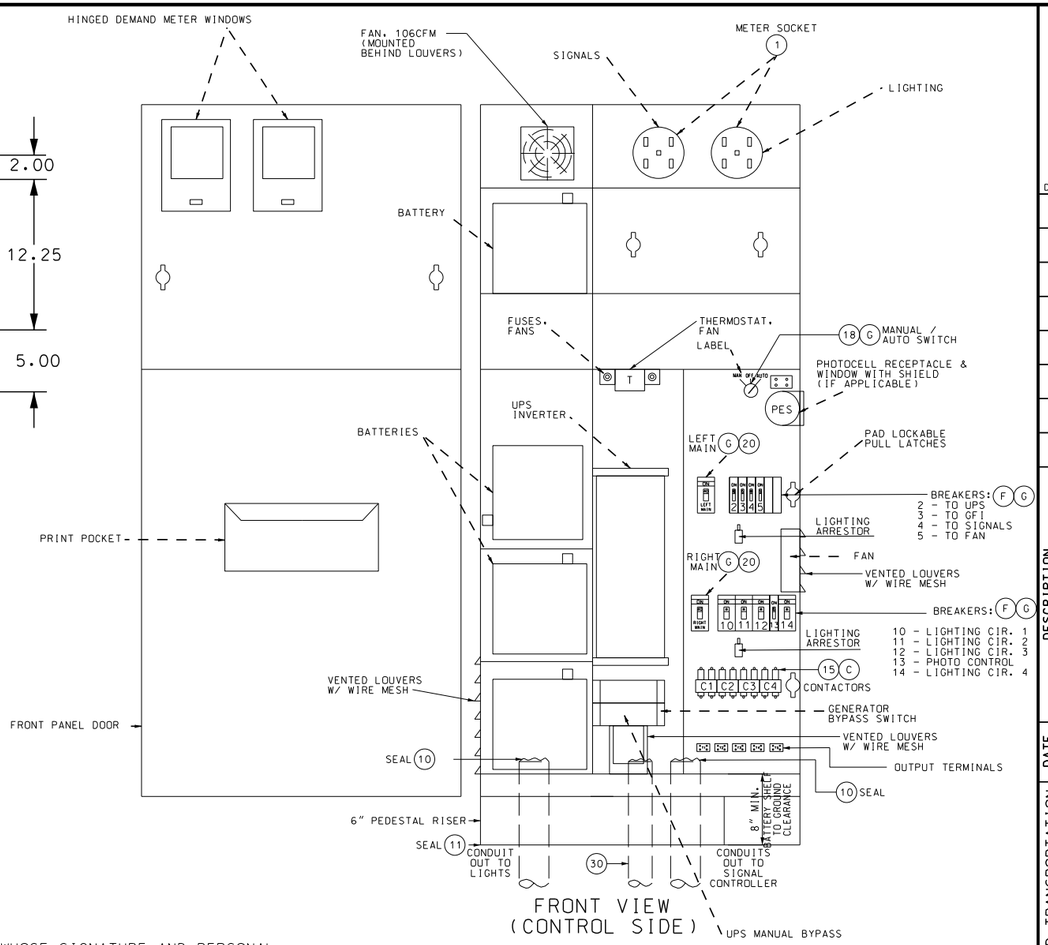




PEDESTAL PLAN VIEW
MOUNTING SLOT DETAIL

NOTE: WHERE SPACE PROVIDES, UPS SHALL HAVE ADDITIONAL LABELS DENOTING 'LIGHTING' CONTROLS



FRONT VIEW (CONTROL SIDE)

NOTE: CONDUITS RUNNING INTO CONC. BASE SHALL BE STUBBED 1" ABOVE TOP OF BASE.

EQUIPMENT LAYOUT
NOT TO SCALE

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(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.

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 ½" CONDUIT OUT TO SIGNAL CABINET (CAT 5E AND CONTROL WIRING)
*	SEE PLANS FOR SIZE

LIGHTING PLAN
COMBINATION PAD MOUNTED 240V POWER SUPPLY & LIGHTING CONTROLLER w/ UNINTERRUPTIBLE POWER SUPPLY
SHEET 2 OF 3

STATE OF MISSOURI
DANIEL T. SHANE NUMBER
E-21833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED: 10/25/2023
ROUTE: 47 | STATE: MO
DISTRICT: NE | SHEET NO.: 112
COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

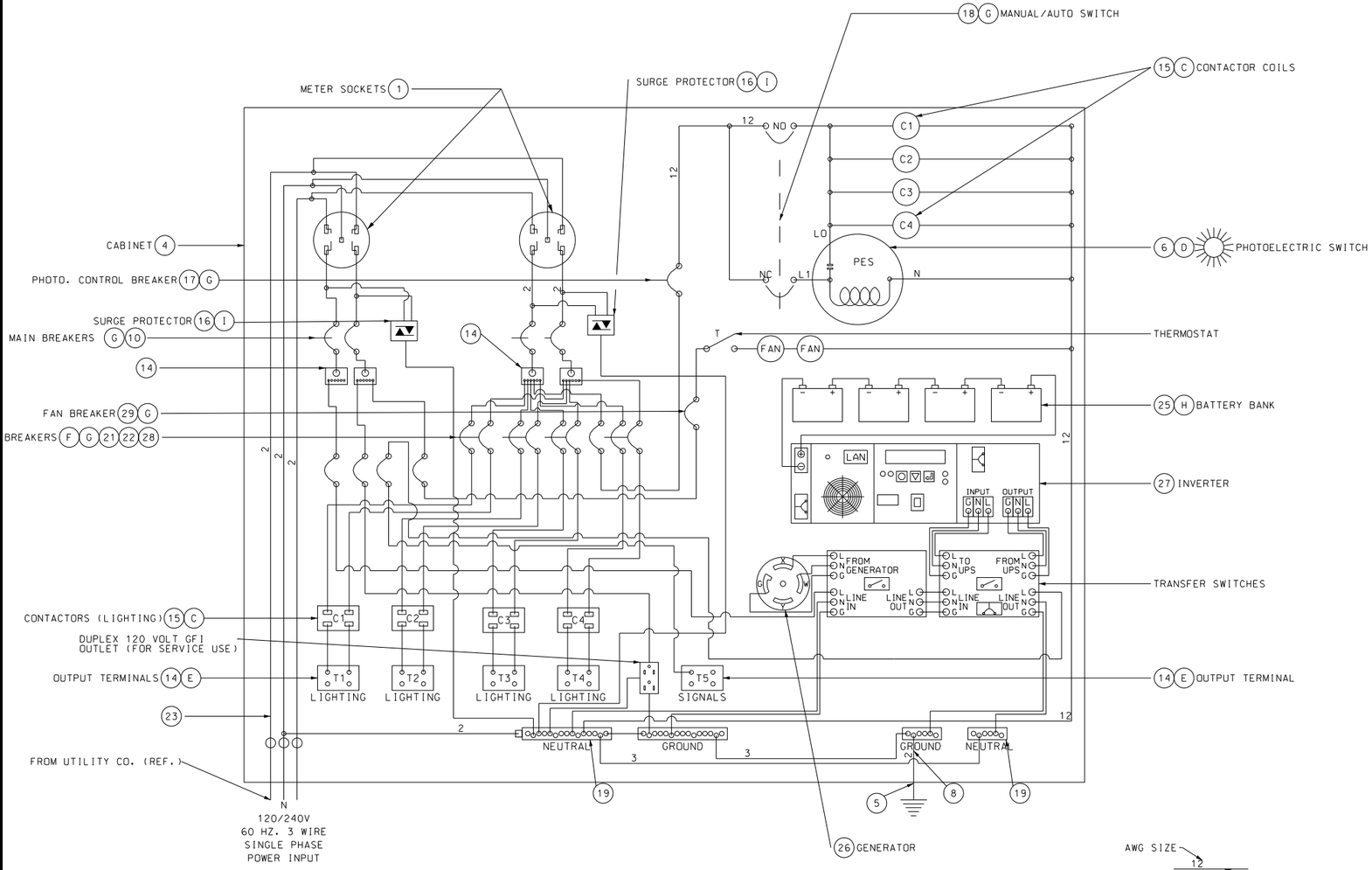
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE	DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

DISCLAIMER
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.



NOT TO SCALE

WIRING DIAGRAM

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 ½" CONDUIT OUT TO SIGNAL CABINET (CAT 5E AND CONTROL WIRING)
*	SEE PLANS FOR SIZE

NOTES

(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.

LIGHTING PLAN
COMBINATION PAD MOUNTED 240V
POWER SUPPLY & LIGHTING CONTROLLER
w/ UNINTERRUPTIBLE POWER SUPPLY
SHEET 3 OF 3

STATE OF MISSOURI
REGISTERED
DANIEL
T. SHANE
NUMBER
E-29833
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	113

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
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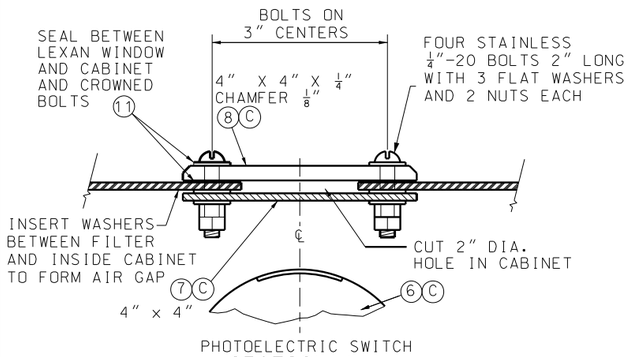
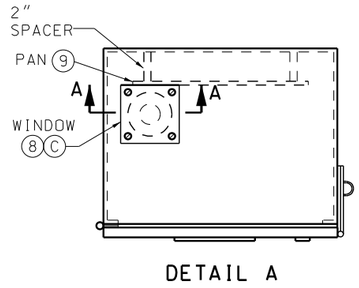


SECTION A-A
WINDOW DETAIL



DETAIL A

LIST OF MATERIALS	
ITEM	DESCRIPTION
1	#2 CORBIN LOCK
2	RIGID CONDUIT ✳
3	CLASS B CONCRETE, 0.4 C.Y.±
4	NEMA 4, DUST-TIGHT, WATERTIGHT, CABINET
5	GROUND ROD, 3/4" DIA. X 8' MIN.
6	PHOTOELECTRIC SWITCH AND SOCKET, 105/285 V., 1000-WATT
7	TRANSLUCENT, PLEXIGLASS FILTER #W2067, 1/8" THICK
8	CLEAR, LEXAN #9034 WINDOW, 1/4" THICK MIN.
9	MOUNTING PAN, 31 1/2" x 12" x 1/4" ALUMINUM OR STAINLESS STEEL
10	PLIABLE DUCT SEALANT
11	LIFETIME SILICONE CAULK
12	ANCHOR BOLTS, 5/8-11 x 14" LONG BOLTS, HOT DIP GALVANIZED, 4 REQUIRED, USE BOLT HEAD OR TACK WELDED NUT ON EMBEDDED END
13	WEATHERPROOF ADHESIVE LABEL, VINYL RAISED LETTERING (OR EQUIVALENT, SEE DETAIL)
	✳ - SEE PLANS

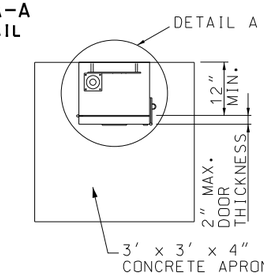
NOTES

(A) IF CABLE-CONDUIT IS SPECIFIED, THE CONDUIT SHALL BE CUT AWAY FROM CABINET BETWEEN PULL BOX AND CONTROL STATION.

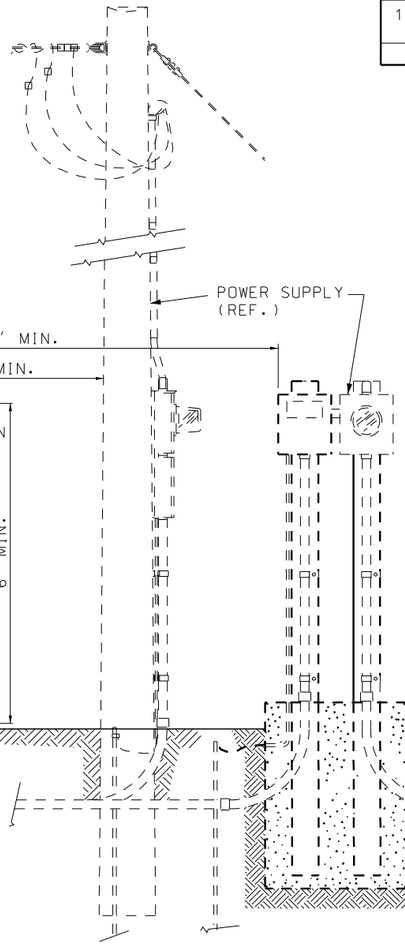
(B) LIGHTING SYSTEM VOLTAGE AS SPECIFIED ON PLANS.

(C) PHOTOELECTRIC SWITCH BRACKETS MAY VARY. LOCATE CENTER OF WIDOW OVER CENTER OF PHOTOELECTRIC SWITCH.

(D) 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 IN. DEEP. CONNECTION TO GROUND ROD SHALL BE CADWELDED.

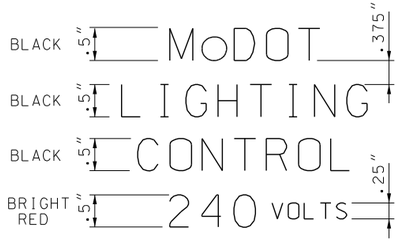


TOP VIEW

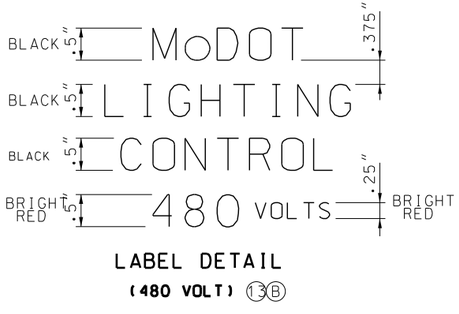


SIDE VIEW

FRONT VIEW



LABEL DETAIL
(240 VOLT) (13B)



LABEL DETAIL
(480 VOLT) (13B)

GENERAL NOTES:

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.

PLACEMENT OF ALL ITEMS SHALL BE APPROVED BY THE ENGINEER.

CABINET SHALL BE LOCATED AWAY FROM TRAFFIC. TOP MOUNT PHOTO CONTROL SHALL FACE AN OPEN SKY. SIDE MOUNT PHOTO CONTROL SHALL FACE NORTH.

SEE PLANS FOR CIRCUIT WIRING; MAXIMUM LOADING PER CIRCUIT IS 7,400 WATTS FOR 240 VOLT AND 11,000 WATTS FOR 480 VOLT.

SCHEMATIC DIAGRAM SHALL BE MOUNTED ON INSIDE OF CABINET DOOR.

THE UTILITY SHALL BE NOTIFIED IN WRITING 30 DAYS PRIOR TO DATE SERVICE WILL BE REQUIRED.

ALL OPENINGS IN CABINET SHALL BE COVERED AND SEALED WITH LIFETIME SILICONE CAULK.

ALL MATERIALS REQUIRED EXCLUDING REFERENCE ITEMS AS SHOWN ON DRAWING SHALL BE INCLUDED IN PRICE BID FOR CONTROL STATION.

GENERAL NOTES:

ALL DIMENSIONS SHOWN ARE IN mm UNLESS OTHERWISE NOTED.

CONTRACTOR HAS THE OPTION TO USE COMBINED METERED LIGHTING CONTROL STATION IN A STAINLESS STEEL ENCLOSURE AT NO ADDITIONAL PAY.

HIGHWAY LIGHTING
BASE MOUNTED
CONTROL STATION
240V OR 480V - 4 CIRCUIT
(901.30F)
SHEET 1 OF 2

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833 REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	114
COUNTY	
LINCOLN	
JOB NO.	
J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
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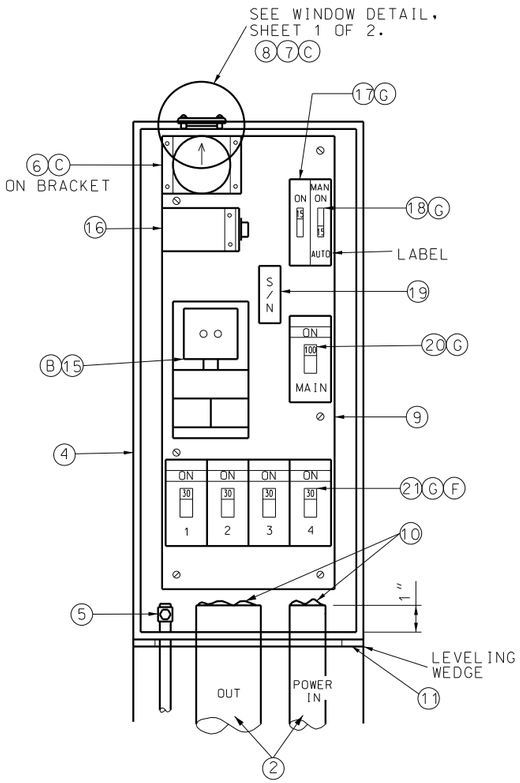
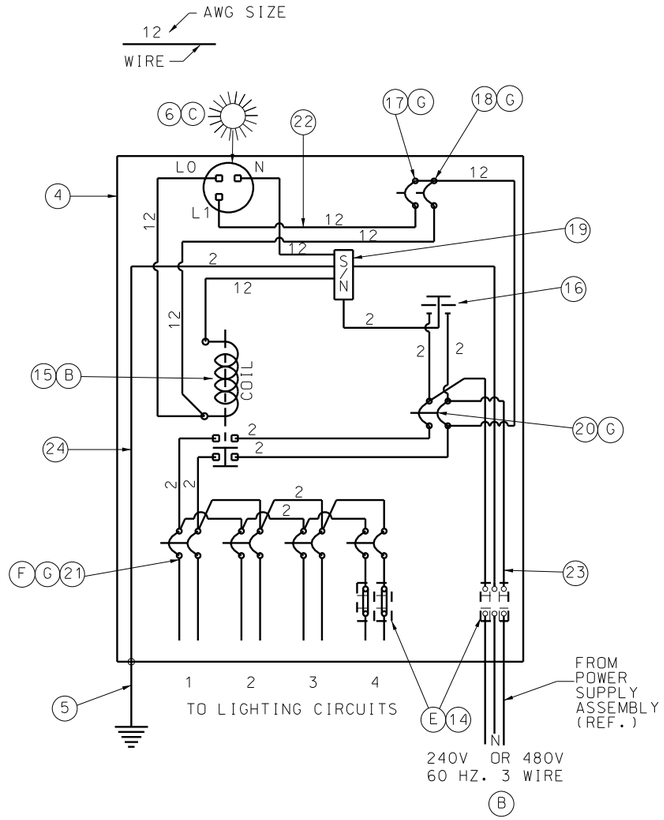


EQUIPMENT LAYOUT



WIRING DIAGRAM

LIST OF MATERIALS	
ITEM	DESCRIPTION
2	RIGID CONDUIT ✳
4	NEMA 4, DUST-TIGHT, WATERTIGHT CABINET
5	GROUND ROD, $\frac{3}{4}$" DIA. X 8' MIN.
6	PHOTOELECTRIC SWITCH AND SOCKET, 105/285 V., 1000 WATT
7	TRANSLUCENT, PLEXIGLASS FILTER #W2067, $\frac{1}{8}$" THICK
8	CLEAR, LEXAN #9034 WINDOW, $\frac{1}{4}$" THICK MIN.
9	MOUNTING PAN, 31 $\frac{1}{2}$" x 12" x $\frac{1}{4}$" ALUMINUM OR STAINLESS STEEL
10	PLIABLE SEALANT
11	LIFETIME SILICONE CAULK
14	INSULATED TERMINAL BLOCK, FOR GREATER THAN 4/0 CABLE
15(240V)	2-POLE, 100 AMP, 120V COIL LIGHTING CONTACTOR
15(480V)	2-POLE, 100 AMP, 240V COIL LIGHTING CONTACTOR
16	2-POLE, 650 VOLT LIGHTING ARRESTER
17	1-POLE, 15 AMP, TYPE B CONTROL BREAKER
18	1-POLE, 15 AMP,TYPE B MANUAL-AUTO SWITCH
19	INSULATED, GROUNDABLE NEUTRAL, 100 AMP
20	2-POLE, 100 AMP, TYPE A MAIN BREAKER
21	2-POLE, 15 AMP(MIN), TYPE A LIGHTING BREAKERS
22	#12 AWG MIN., 600 V. CONTROL CABLE
23	#2 AWG MIN., 600 V. ✳ POWER CABLE
24	#2 AWG MIN., 600 V. GROUND CABLE
✳	SEE PLANS

NOTES

(B) LIGHTING SYSTEM VOLTAGE AS SPECIFIED ON PLANS.

(C) PHOTOELECTRIC SWITCH BRACKETS MAY VARY. LOCATE CENTER OF WINDOW OVER CENTER OF PHOTOELECTRIC SWITCH.

(E) IF FOR REASONS OF VOLTAGE DROP A WIRE SIZE IS SPECIFIED LARGER THAN THE BREAKER LUGS CAN ACCOMMODATE, AN INSULATED HEAVY DUTY TERMINAL BLOCK SHALL BE INSTALLED TO TERMINATE THE LARGER WIRES AND A SMALLER JUMPER CONNECTED TO THE BREAKER ITSELF.

(F) LIGHTING BREAKER SIZING:

SIZE (AMPS)	240V TOTAL CIRCUIT LOAD (WATTS)	480V TOTAL CIRCUIT LOAD (WATTS)
15	0-2800	0 - 5500
20	2850-3700	5550 - 7400
25	3750-4600	7450 - 9200
30	4650-5500	9250 - 11,000
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.

GENERAL NOTES:

ALL DIMENSIONS SHOWN ARE IN mm UNLESS OTHERWISE NOTED.

CONTRACTOR HAS THE OPTION TO USE COMBINED METERED LIGHTING CONTROL STATION IN A STAINLESS STEEL ENCLOSURE AT NO ADDITIONAL PAY.

HIGHWAY LIGHTING
BASE MOUNTED
CONTROL STATION
240V OR 480V - 4 CIRCUIT
(901.30F)
SHEET 2 OF 2

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE NUMBER E-29833

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	115

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

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

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

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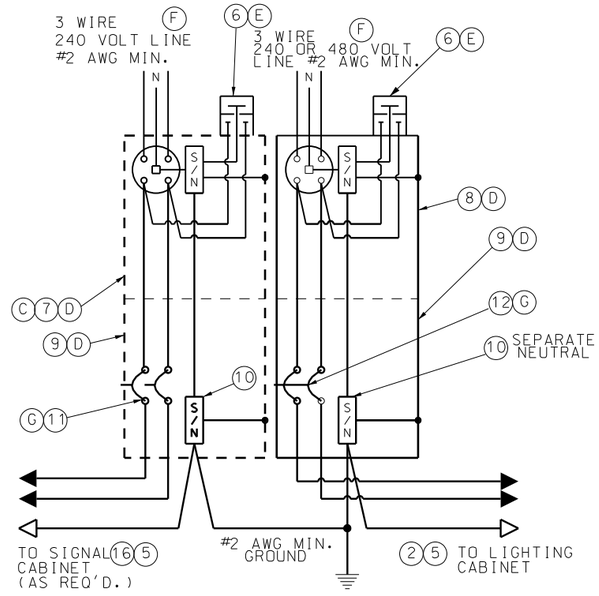
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

LIST OF MATERIALS	
ITEM	DESCRIPTION
1	SERVICE POLE 30' MIN.,CLASS 4 WOOD, CONTRACTOR PROVIDED, MoDOT OWNED*
2	#2 AWG MIN. CABLE, 600 VOLT *
3	SERVICE ENTRANCE HEAD
4	GUY CABLE, AS REQUIRED
5	RIGID CONDUIT, 2" MIN., WITH PREFORMED ELBOWS
6	LIGHTNING ARRESTER, VALVE TYPE, 2 POLE, 650 VOLT
7	METER SOCKET, 200 AMP, FOR SIGNALS
8	METER SOCKET, 200 AMP, FOR LIGHTING
9	LOCKING, RAINTIGHT, NEMA 4 SERVICE DISCONNECT BOX
10	INSULATED, GROUNDABLE NEUTRAL WIRE, 200 AMP MINIMUM
11	SIGNAL BREAKERS, SINGLE POLE, 40A MIN, TYPE A OR B *
12	LIGHTING BREAKER, 2 POLE, 240 VOLT, 100A, TYPE A OR B
13	1/2" METAL CONDUIT
14	#2 AWG MIN. GROUND WIRE
15	GROUND ROD, 3/4" x 8' MIN.
16	#8 AWG MIN. CABLE, 600 VOLT *
17	CLASS B CONCRETE, 0.92 C.Y.±
18	THREADED CONDUIT HUB WITH SEALING WASHERS
19	WEATHERPROOF ADHESIVE LABEL (LIGHTING), VINYL RAISED LETTERING (OR EQUIVALENT, SEE DETAIL)
20	WEATHERPROOF ADHESIVE LABEL (SIGNALS), VINYL RAISED LETTERING (OR EQUIVALENT, SEE DETAIL)
21	W6 x 9 OR W6 x 15 GALVANIZED POST
22	#2 AWG MIN. CABLE, 600 VOLT
23	RIGID CONDUIT, 2" MINIMUM
*	SEE PLANS



WIRING DIAGRAM

LIGHTING AND/OR SIGNALS

NOTES:

(A) SERVICE POLE SHALL BE GUYED WHEN SPAN OF OVERHEAD SERVICE WIRE EXCEEDS 50 FEET.

(B) INCREASE 1 FOOT FOR EACH 5 FEET ABOVE 30 FEET.

(C) SERVICE DISCONNECT BOXES AND METER BOXES SHALL BE ALUMINUM OR STAINLESS STEEL. ALL HARDWARE, HINGES, CATCHES, ETC. SHALL BE STAINLESS STEEL.METER SOCKET FOR SIGNALS OR LIGHTING AND OTHER EQUIPMENT AND MATERIALS SHALL BE U.L. APPROVED, AND CONFORM TO THE REQUIREMENTS OF THE UTILITY COMPANY OR MUNICIPALITY PROVIDING POWER.

(D) SCHEMATIC DIAGRAM SHALL BE MOUNTED ON INSIDE OF CABINET DOOR.

(E) UTILITY COMPANY SHALL DECIDE IF LIGHTNING ARRESTERS ARE TO BE CONNECTED ON THE LOAD OR LINE SIDE OF THE METER. THE UTILITY COMPANY SHALL ALSO DECIDE IF THE LIGHTNING ARRESTER IS TERMINATED IN THE METER OR DISCONNECT CABINET. IF TERMINATED IN THE DISCONNECT CABINET, IT SHALL BE INSTALLED ON THE DISCONNECT CABINET.

(F) LIGHTING SYSTEM VOLTAGE OF 240 VOLTS OR 480 VOLTS AS SHOWN ON THE PLANS.

(G) BREAKERS SHALL CONFORM TO SEC. 901.4 OF THE STANDARD SPECIFICATIONS.

(H) 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 IN. DEEP. CONNECTION TO GROUND ROD SHALL BE CADWELDED.

GENERAL NOTES:

FOR CABLE TYPES AND INSTALLATION, SEE STANDARD SPECIFICATIONS.

THE POWER SUPPLY ASSEMBLY TYPE IS SHOWN ON THE PLANS OR IS DESIGNATED IN THE CONTRACT.

THE UTILITY COMPANY SHALL BE NOTIFIED IN WRITING 30 DAYS PRIOR TO DATE SERVICE WILL BE REQUIRED.

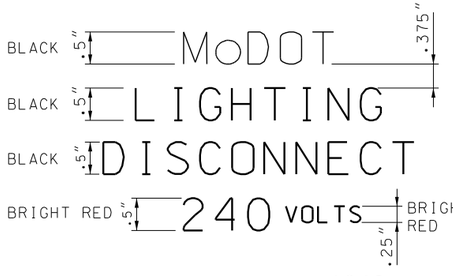
WHERE SIGNAL OR LIGHTING POWER ONLY IS DESIGNATED, OMIT ITEMS NOT REQUIRED.

ALL OPENINGS IN ANY SERVICE BOX OR METER BOX SHALL BE COVERED AND SEALED WITH LIFETIME SILICONE CAULK.

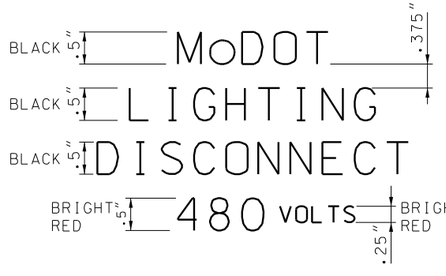
ALL MATERIALS REQUIRED AS SHOWN ON DRAWING, INCLUDING CABLE AND CONDUIT FROM POWER SUPPLY ASSEMBLY TO UTILITY COMPANY FACILITIES, SHALL BE INCLUDED IN UNIT BID PRICE FOR POWER SUPPLY ASSEMBLY.

GENERAL NOTES:

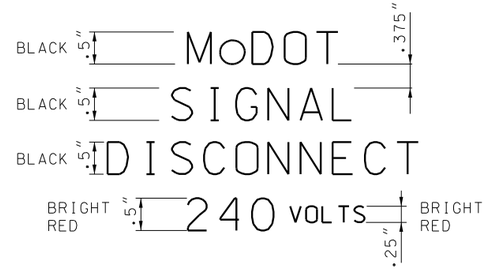
ALL DIMENSIONS SHOWN ARE IN mm UNLESS OTHERWISE NOTED.



LABEL DETAIL (19) (240 VOLT) (F)



LABEL DETAIL (19) (480 VOLT) (F)



LABEL DETAIL (20)

CONTRACTOR HAS THE OPTION TO USE COMBINED METERED LIGHTING CONTROL STATION IN A STAINLESS STEEL ENCLOSURE AT NO ADDITIONAL PAY.

HIGHWAY LIGHTING
POWER SUPPLY ASSEMBLY
SECONDARY SERVICE

(901.80D)
SHEET 1 OF 2

STATE OF MISSOURI
DANIEL T. SHANE
NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	116
COUNTY	
LINCOLN	
JOB NO.	
J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

DATE	DESCRIPTION

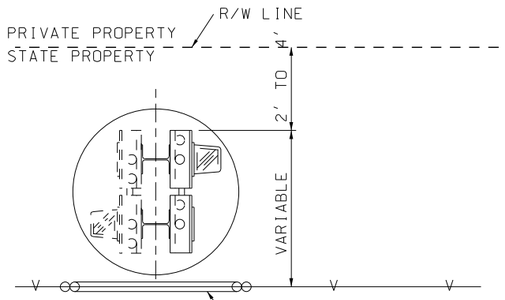
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

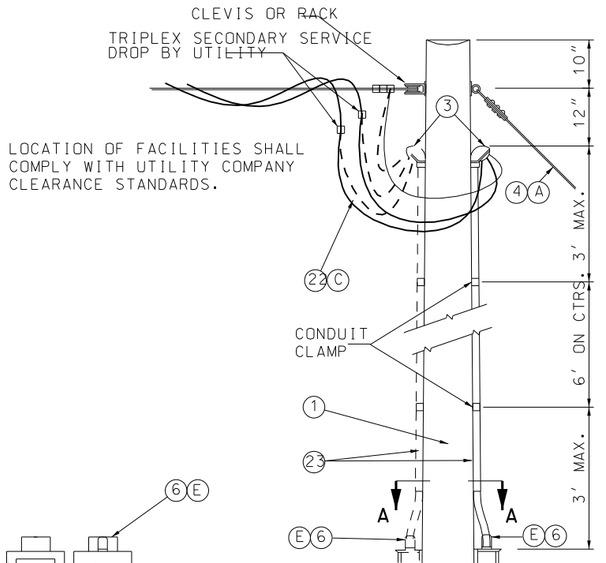
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

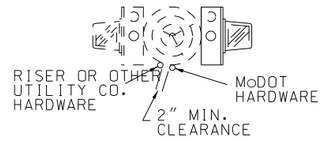
PEDESTAL OR NEW STATE-OWNED POLE TO BE SET WITHIN 2' TO 4' OF RIGHT-OF-WAY LINE.

ALL SERVICE POWER SUPPLY ASSEMBLIES ARE TO BE LOCATED ON STATE PROPERTY.

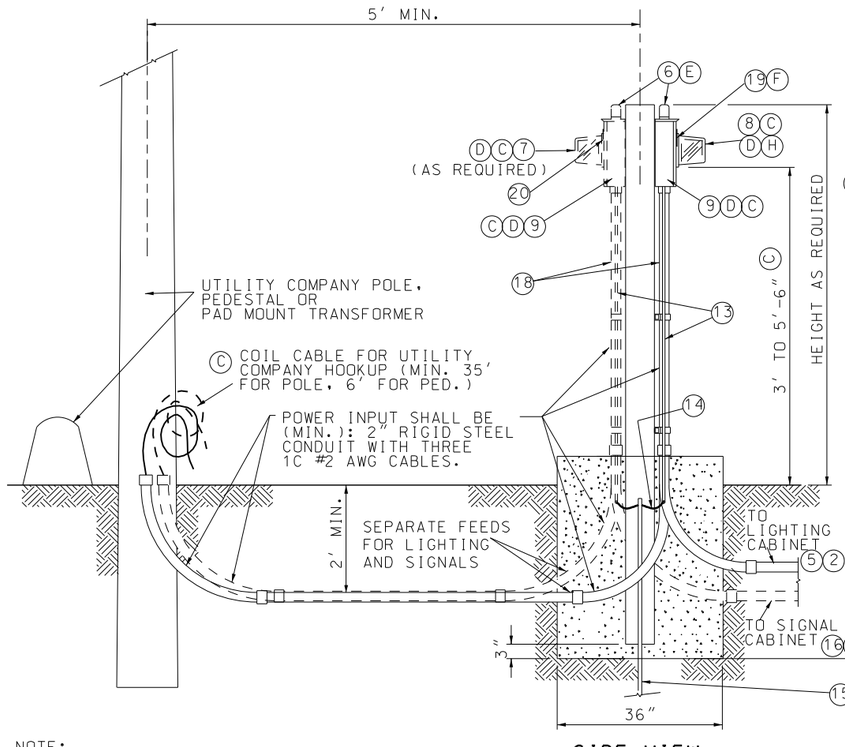


TOP VIEW

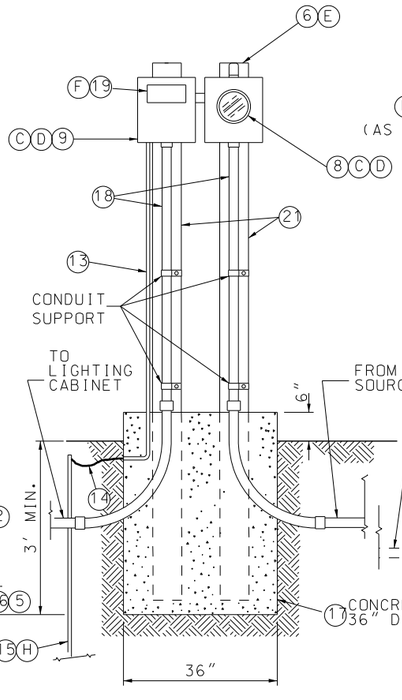




SECTION A-A



SIDE VIEW



FRONT VIEW

NOTE:
CABLE AND CONDUIT FROM POWER SUPPLY ASSEMBLY TO UTILITY COMPANY FACILITIES SHALL BE INCLUDED IN PRICE BID FOR POWER SUPPLY ASSEMBLY.

TYPE 2 (PEDESTAL) UNDERGROUND SERVICE

TYPE 1 (POLE) OVERHEAD SERVICE

CONTRACTOR HAS THE OPTION TO USE COMBINED METERED LIGHTING CONTROL STATION IN A STAINLESS STEEL ENCLOSURE AT NO ADDITIONAL PAY.

GENERAL NOTES:

ALL DIMENSIONS SHOWN ARE IN mm UNLESS OTHERWISE NOTED.

HIGHWAY LIGHTING
POWER SUPPLY ASSEMBLY
SECONDARY SERVICE

(901.80D)
SHEET 1 OF 2

STATE OF MISSOURI
DANIEL T. SHANE NUMBER
E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED: 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	117

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

DATE	DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

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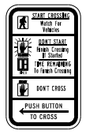
INSTALL NEW CABINET AND CONTROLLER ON EXISTING SIGNAL BASE AT NORTH LINCOLN DRIVE.

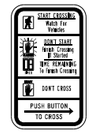
SCALE
0 20 40 60

TRAFFIC SIGNAL NOTES:
1. SIGNAL INDICATION BACKPLATE SHALL BE RETROREFLECTIVE.

PEDESTRIAN SIGN LEGEND
(SIGNS TO BE MOUNTED ON SIGNAL POST)



R10-3eL (9"x15") S1



R10-3eR (9"x15") S2

TRAFFIC SIGNAL SIGN DESIGNATIONS

R3-5a(NEW) 30"X36" A

R3-5L (NEW) 30"X36" B

R3-1(NEW) 36"X36" C

R3-2(NEW) 36"X36" D

EX. ROW
PROP. ROW
TRIP
74-IB
SB OFF-RAMP (RAMP 2)
SB ON-RAMP (RAMP 4)
NEXT SIGNAL LINCOLN DRIVE 1,060 FT
MO ROUTE 47 + 2.0%
NEXT SIGNAL SOUTHBOUND RAMPS 570 FT
MO ROUTE 47 + 2.0%
12'
POT STA 0+00.00
POT STA 12+76.03
(45')
(35')
(50')

1 POLE 7 - 50' TYPE CL MAST ARM, AND VIDEO DETECTION CAMERA ON TYPE A BASE

1 POLE 6 - 45' TYPE CL MAST ARM, VIDEO DETECTION CAMERA, ON TYPE A BASE

POLE 6A - COUNTDOWN TIMER, AND PEDESTRIAN PUSHBUTTON, w/ R10-3eL SIGN ON TYPE C BASE

1 POLE 5 - 35' TYPE C MAST ARM, AND VIDEO DETECTION CAMERA ON TYPE A BASE

(1-3") AND (1-2") BRIDGE CONDUITS BETWEEN PULLBOX 5 AND PULLBOX 6

POLE 5A - COUNTDOWN TIMERS (2), AND PEDESTRIAN PUSHBUTTONS (2), w/ R10-3eR AND R10-3eL SIGNS ON TYPE C BASE

POLE 8A - COUNTDOWN TIMER AND PEDESTRIAN PUSHBUTTON w/ R10-3eR SIGN ON TYPE C BASE

1 POLE 8 - SIGNAL POST ON TYPE C BASE

APPROACH SPEED
RT 47: 35 MPH

MATCHLINE STA. 630+00.00 (RTE 47)

TRAFFIC SIGNALS LEGEND

CONTROLLER	VIDEO DETECTION CAMERA	XX	30 X 6 DETECTION ZONE
CONTROLLER (EXISTING)	PUSH BUTTON DETECTOR		CONDUIT PUSHED
UPS UNINTERRUPTIBLE POWER SUPPLY	CONCRETE PULL BOX TYPE 1	B	CONDUIT BRIDGE
YAGI RADIO ANTENNA	PREFORMED PULL BOX TYPE 1		CONDUIT TRENCHED
SIGNAL HEAD (STANDARD)	ITS PULL BOX TYPE 2 OR 5		TYPE C OR CL MAST ARM ON TYPE A BASE
	TRAFFIC SIGNAL SIGN		LUMINAIRE

GENERAL CONSTRUCTION NOTES:
ALL TRAFFIC SIGNAL AND LIGHTING CONSTRUCTION SHALL CONFORM TO THE MOST CURRENT VERSION OF THE MISSOURI STANDARD PLANS AND SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, SECTIONS 901 AND 902.

CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL DURING ALL CONSTRUCTION PHASES. LANE CLOSURES MUST BE REQUESTED TO THE ENGINEER A MINIMUM OF 48 HOURS IN ADVANCE. ALL TRAFFIC CONTROL MUST MEET MINIMUM REQUIREMENTS OF THE MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION AND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THIS WORK SHALL BE SUBSIDIARY TO OTHER TRAFFIC CONTROL PAY ITEMS.

SIGNAL PLAN
RTE 47 & SB RTE 61

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	118
COUNTY	
LINCOLN	
JOB NO.	
J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

DATE	DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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GENERAL CONSTRUCTION NOTES:

CONTRACTOR SHALL INSTALL NEW UNINTERRUPTED POWER SUPPLY (UPS). PROPOSED LOCATION SHALL BE IN THE SOUTHEAST QUADRANT. EXACT LOCATION SHALL BE STAKED IN FIELD BY CONTRACTOR FOR APPROVAL OF MODOT. ALL WORK FOR THE CONSTRUCTION OF THE UPS, INCLUDING ALL GRADING, MATERIAL, MOUNTING HARDWARE, CONNECTIONS, CONDUIT, CABLE, OR ANY OTHER APPURTANCES REQUIRED FOR THE COMPLETE UPS SYSTEM SHALL BE INCIDENTAL TO THE PAY ITEM "UNINTERRUPTED POWER SUPPLY".

TRAFFIC SIGNAL NOTES:

1. SIGNAL INDICATION BACKPLATE SHALL BE RETROREFLECTIVE.

PEDESTRIAN SIGN LEGEND

(SIGNS TO BE MOUNTED ON SIGNAL POST)

R10-3eL (9"x15") S1

R10-3eR (9"x15") S2

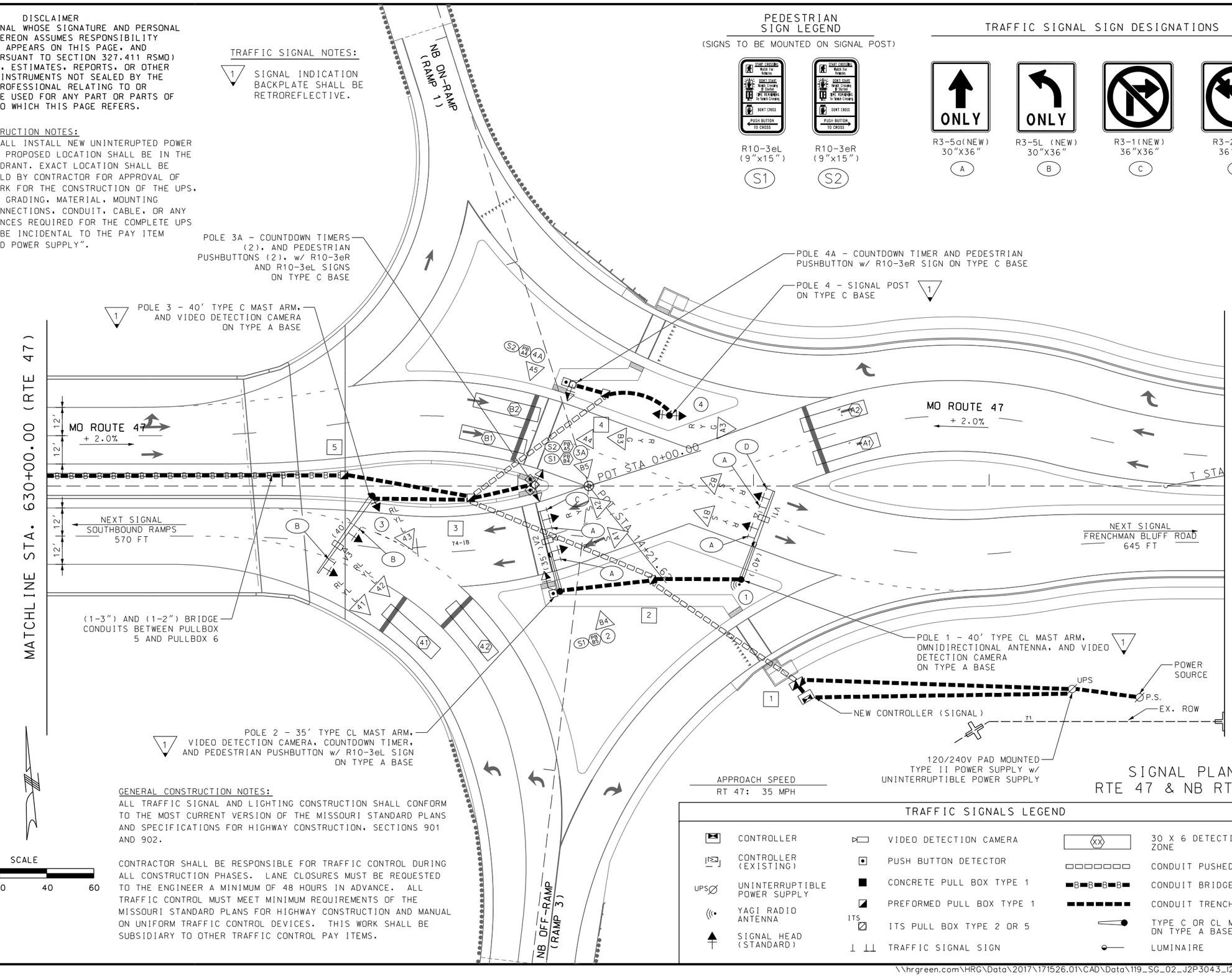
TRAFFIC SIGNAL SIGN DESIGNATIONS

R3-5a(NEW) 30"X36" A

R3-5L (NEW) 30"X36" B

R3-1(NEW) 36"X36" C

R3-2(NEW) 36"X36" D



SCALE

0 20 40 60

GENERAL CONSTRUCTION NOTES:

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CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL DURING ALL CONSTRUCTION PHASES. LANE CLOSURES MUST BE REQUESTED TO THE ENGINEER A MINIMUM OF 48 HOURS IN ADVANCE. ALL TRAFFIC CONTROL MUST MEET MINIMUM REQUIREMENTS OF THE MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION AND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THIS WORK SHALL BE SUBSIDIARY TO OTHER TRAFFIC CONTROL PAY ITEMS.

APPROACH SPEED

RT 47: 35 MPH

TRAFFIC SIGNALS LEGEND

CONTROLLER	VIDEO DETECTION CAMERA	XX	30 X 6 DETECTION ZONE
CONTROLLER (EXISTING)	PUSH BUTTON DETECTOR		CONDUIT PUSHED
UPS UNINTERRUPTIBLE POWER SUPPLY	CONCRETE PULL BOX TYPE 1		CONDUIT BRIDGE
YAGI RADIO ANTENNA	PREFORMED PULL BOX TYPE 1		CONDUIT TRENCHED
SIGNAL HEAD (STANDARD)	ITS PULL BOX TYPE 2 OR 5		TYPE C OR CL MAST ARM ON TYPE A BASE
	TRAFFIC SIGNAL SIGN		LUMINAIRE

SIGNAL PLAN
RTE 47 & NB RTE 61

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

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

DATE	DESCRIPTION

DATE PREPARED	03/04/2024
ROUTE	47
STATE	MO
DISTRICT	NE
SHEET NO.	119
COUNTY	LINCOLN
JOB NO.	J2P3043
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

EFFECTIVE: 07/01/2018

| POST NUMBER | PULL BOX NUMBER | LOCATION: APPROACH | LOCATION: STATION | LOCATION: OFFSET | BASE: A 9 | A 9.5 | A 10 | A 10.5 | A 11 | A 12 | F 9 | F 9.5 | F 10 | F 10.5 | F 11 | F 12 | C | CONCRETE** (CU. YDS.) | PULL BOX: PREFORMED CLASS 1 | CLASS 2 | CLASS 3 | CLASS 5 | CONCRETE STANDARD | DOUBLE, TYPE A | DOUBLE, TYPE B | DRAIN TYPE* I | II A | II B | II C | TOP MOUNT POST 8 FT. | 15 FT. | POST: TYPE C & CL ARM LENGTH A | A | A | A | SIGNAL SPACING B | C | D | D' | SIGN SPACING B | C | D | D' | TYPE B & BL ARM LENGTH E | K | E | K | E | K | LEFT ARM E SIGNAL SPACING F | G | H | H' | SIGN SPACING F | G | H | H' | RIGHT ARM K SIGNAL SPACING L | M | N | N' | SIGN SPACING L | M | N | N' | INCLUDED ANGLE | LUMINAIRE BRACKET ARM* 4 FT. | 6 FT. | 8 FT. | 10 FT. | 12 FT. | 15 FT. |
|---|---|---

EFFECTIVE: 07/01/2018

| POST NUMBER | PULL BOX NUMBER | LOCATION: APPROACH | LOCATION: STATION | LOCATION: OFFSET | BASE: A 9 | A 9.5 | A 10 | A 10.5 | A 11 | A 12 | F 9 | F 9.5 | F 10 | F 10.5 | F 11 | F 12 | C | CONCRETE** (CU. YDS.) | PULL BOX: PREFORMED CLASS 1 | CLASS 2 | CLASS 3 | CLASS 5 | CONCRETE STANDARD | DOUBLE, TYPE A | DOUBLE, TYPE B | DRAIN TYPE* I | II A | II B | II C | TOP MOUNT POST 8 FT. | TOP MOUNT POST 15 FT. | POST: TYPE C & CL ARM LENGTH A | A | A | A | SIGNAL SPACING B | C | D | D' | SIGN SPACING B | C | D | D' | POST: TYPE B & BL ARM LENGTH E | K | E | K | E | K | LEFT ARM E SIGNAL SPACING F | G | H | H' | LEFT ARM E SIGN SPACING F | G | H | H' | RIGHT ARM K SIGNAL SPACING L | M | N | N' | RIGHT ARM K SIGN SPACING L | M | N | N' | INCLUDED ANGLE | LUMINAIRE BRACKET ARM* 4 FT. | 6 FT. | 8 FT. | 10 FT. | 12 FT. | 15 FT. |
|---|---|---

EFFECTIVE: 10-01-2015

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NOTES:

(1) NO DIRECT PAY ITEM.
(2) CAT-5 CABLE INCIDENTAL TO OMNIDIRECTIONAL ANTENNA PAY ITEM.

CONDUIT (WITH #14 TRACER WIRE)

FROM	TO	CENTER TO CENTER DISTANCE	LOOP DET.	TRENCH			PUSHED			MEDIAN			ON STRUCTURE			REMARKS
			1"	2"	3"	4"	2"	3"	4"	2"	3"	4"	2"	3"		
POWER POLE	UPS	30														INCIDENTAL TO UPS
UPS	⊠	115		120												
UPS	1	117		120												
⊠	1	10			26											2 COND. AT 13 FEET
1	2	80						156								2 COND. AT 78 FEET
2	1	40			41											
·																
2	2	40			41											
·																
2	3	85						166								2 COND. AT 83 FEET
3	3	45			46											
3	3A	30		31												
·																
3	4	75						73								
4	4	30			31											
4	4A	15		16												
·																
3	5	60			58											
5	6	295											293	293		
·																
·																
6	7	45			43											
7	5	15			16											
7	5A	30		31												
·																
7	8	95						93								
8	6	25			26											
8	6A	30		31												
8	7	25			26											
·																
7	9	70						68								
9	8	40			41											
9	8A	10		11												
·																
·																
·			

EFFECTIVE 04-01-2018

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POWER SUPPLY

LOCATION			POWER SUPPLY ASSEMBLY		CIRCUIT BREAKER TRIP RATING*				LIGHTING CONTROL * (ON POWER SUPPLY)		SERVICE POLE	
					CONTROLLER		POWER SUPPLY DISCONNECT					
APPROACH	STATION	OFFSET	DRAWING 902.15	DRAWING	AUXILIARY BREAKER	CONT & SIGNAL LAMPS	MAIN BREAKER		120 VOLT CONTROL CABINET	MAIN BREAKER	CONTRACT FURNISH	UTILITY COMPANY
							SIGNALS	LIGHTING				
ROUTE 47	634+35	86.2'RT	Type	1 (7)	15 Amps	40 Amps	100 Amps	40 Amps	1	40 Amps CL FL		AMEREN
			Type		15 Amps	Amps	Amps	Amps		Amps CL FL		

CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT

LOCATION			SYSTEM MASTER (CLOSED LOOP)		ACTUATED (11)		ON-OFF* SWITCH		COORDINATION INTERFACE *						TIME * CLOCK	NEMA CABINET TYPE *			170 CABINET TYPE *		170 SOFTWARE *	
							TYPE		12C/7C HARDWIRE (1)		TIME BASE	CLOSED LOOP		FIBER								
APPROACH	STATION	OFFSET	NEMA	170	NEMA	170	I	II	MASTER	LOCAL		NEMA	170			E	P	DOUBLE	332	336S	BITRAN	WAPITI
ROUTE 47 (AT NB RAMPS)	633+23	90.4'RT			1									1			1					
ROUTE 47 (AT LINCOLN DR)(10)	616+59	88.3'LT			1									1			1					

NEMA DETECTOR ASSIGNMENT **

		CARD POSITION							
		1	2	3	4	5	6	7	8
CHANNEL	1	B1	D1		41	61	A1	C1	
	2	B2	D2		42		A2	C2	

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) = (2)

SIGNAL SIGNS

QUANTITY	MUTCD SIGN NUMBER	SIZE	AREA	SIGN TOTAL AREA ITEM NO. 90208.33	SIGNAL SIGN MOUNTING HARDWARE ITEM NO. 90208.34
		INCHES	SQ.FT.	SQ.FT.	EA.
	R10-10L	30 X 36	7.5		
	R10-10R	24 X 30	5.0		
4	R3-5L	30 X 36	7.5	30.0	4
	R3-5R	30 X 36	7.5		
8	R3-5A	30 X 36	7.5	60.0	8
	R3-6L	30 X 36	7.5		
	R3-6R	30 X 36	7.5		
2	R3-2	36 X 36	9.0	18.0	2
2	R3-1	36 X 36	9.0	18.0	2
	R3-3	24 X 24	4.0		
	D3-1 ***	VAR. X 18			
	D3-1B ***	VAR. X 18			
4	R10-3EL	9 X 15	0.9	(9)	(9)
4	R10-3ER	9 X 15	0.9	(9)	(9)
	R10-13	36 X 24	6.0		
	R10-27A	30 X 36	7.5		
	SUBTOTAL			126.0	16
	TOTAL			126.0	16

NEMA LOAD SWITCH ASSIGNMENTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
NOT USED	OL A	NOT USED	Ø 4 NB LT	NOT USED	Ø 6 SB LT	NOT USED	OL D	OL A (PED)	OL B (PED)	OL C (PED)	OL D (PED)	NOT USED	OL B	OL C	NOT USED

DETECTOR SCHEDULE

DETECTOR NUMBER	APPROACH	TYPE				
		PUSH BUTTON (9)	INDUCTION LOOP (2)			VIDEO** (5)(6)
			STANDARD	DELAY/ EXTEND *	CALL UNIT *	
A1 / A2	ROUTE 47 WB					1
B1 / B2	ROUTE 47 EB					1
41/42	ROUTE 61 NB OFF-RAMP					1
C1 / C2	ROUTE 47 WB					1
D1 / D2	ROUTE 47 EB					1
61	ROUTE 61 SB OFF-RAMP					1
A4	ROUTE 47 WB (PED)	1				
A5	ROUTE 47 WB (PED)	1				
B4	ROUTE 47 EB (PED)	1				
B5	ROUTE 47 EB (PED)	1				
C4	ROUTE 47 WB (PED)	1				
C5	ROUTE 47 WB (PED)	1				
D4	ROUTE 47 EB (PED)	1				
D5	ROUTE 47 EB (PED)	1				
TOTAL		8				

VIDEO DETECTION SYSTEM

CONTROLLER LOCATION			MOVEMENT	DETECTED ZONES (5)	VIDEO DETECTION SYSTEM (EACH)
APPROACH	STATION	OFFSET			
ROUTE 47 (AT NB RAMPS)	633+23	90.4'RT	ROUTE 47 WB	A1, A2, C1, C2	1
			ROUTE 47 EB	B1, B2, D1, D2	1
			ROUTE 61 NB RAMPS	41, 42	1
			ROUTE 61 SB RAMPS	61	1
			PAY TOTAL		1

* ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.

** FOR INFORMATION USE ONLY

*** USE D3-1 FOR ONE LINE. USE D3-1B FOR TWO LINE. NO DIRECT PAY FOR MOUNTING HARDWARE.

(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.

(5) DETECTION ZONES SHALL BE CAPABLE OF DETECTING BICYCLE LANES AND/OR SHARED LANES, IF PRESENT.

(6) IN-GROUND WIRELESS MAGNETOMETER SENSORS WIL NOT BE ALLOWED FOR THIS PROJECT.

(7) SEE SPECIAL SHEETS. PAD MOUNTED 120V/240V POWER SUPPLY & LIGHTING CONTROLLER w/ UNINTERRUPTIBLE POWER SUPPLY. REFER TO POWER SUPPLY w/ UPS JSP.

(9) ALL NEW PUSH BUTTONS SHALL BE ACCESSIBLE PEDESTRIAN SIGNAL (APS). PAID FOR AS "AUDIBLE PEDESTRIAN PUSH BUTTONS AND SIGNING WITH VERBAL WALK MESSAGE, EACH". REFER TO APS PUSH BUTTON JSP.

(10) INSTALL NEW CONTROLLER CABINET ASSEMBLY ON EXISTING CONCRETE BASE. SEE NOTE 11.

(11) CONTROLLER AND CABINET ASSEMBLY SHALL BE 16-CHANNEL NEMA TS1 P-TYPE CABINET. CONTROLLER TO BE COMPATIBLE WITH SIEMONS M60, WITH 5.2.2 OR 3.56G FIRMWARE. MALFUNCTION UNIT SHOULD BE EDI MMU2-16LEip IN ORDER TO MAINTAIN CONSISTANCY. COORDINATION INTERFACE WILL NEED TO BE COMPATIBLE AND FUNCTIONING WITH FRONT STREET MASTER CONTROLLER WHEN COMPLETED.

NETWORK CONNECTED SIGNAL MONITOR

LOCATION			
APPROACH	STATION	OFFSET	SIGNAL MONITOR (EACH)
ROUTE 47 (AT LINCOLN DR)	616+59	88.3' LT	1
ROUTE 47 (AT NB RAMPS)	633+23	90.4' RT	1
ROUTE 47 (AT FRENCHMAN BLUFF RD)	638+28	52.2' RT	1
		TOTAL	3

TRAFFIC SIGNAL MAINTENANCE & PROGRAMMING (902-99.01)

LOCATION			
APPROACH	STATION	OFFSET	TRAFFIC SIGNAL MAINTENANCE & PROGRAMMING (LUMP SUM)
ROUTE 47 (AT LINCOLN DR)	616+59	88.3' LT	1
ROUTE 47 (AT NB RAMPS)	633+23	90.4' RT	
ROUTE 47 (AT FRENCHMAN BLUFF RD)	638+28	52.2' RT	
		TOTAL	1

INSTALL TRAFFIC SIGNAL COMMUNCATION EQUIPMENT

APPROACH	STATION	OFFSET	LOCATION	(902-43.30) DIAL-UP MODEM (EACH)	(902-43.40) SPREAD SPECTRUM RADIO (EACH)	(902-43.49) OMMIDIRECTIONAL ANTENNA (EACH)	REMARKS
ROUTE 47 (AT LINCOLN DR)	616+59	88.3' LT	POLE 1				
ROUTE 47 (AT NB RAMPS)	633+23	90.4' RT	POLE 1	1	1	1	
ROUTE 47 (AT FRENCHMAN BLUFF RD)	638+28	52.2' RT	POLE 1	1	1	1	
TOTAL				2	2	2	

ROUTE 47 AT ROUTE 61 RAMPS
INTERSECTION

D-37C

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STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	123

COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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

DESCRIPTION	DATE

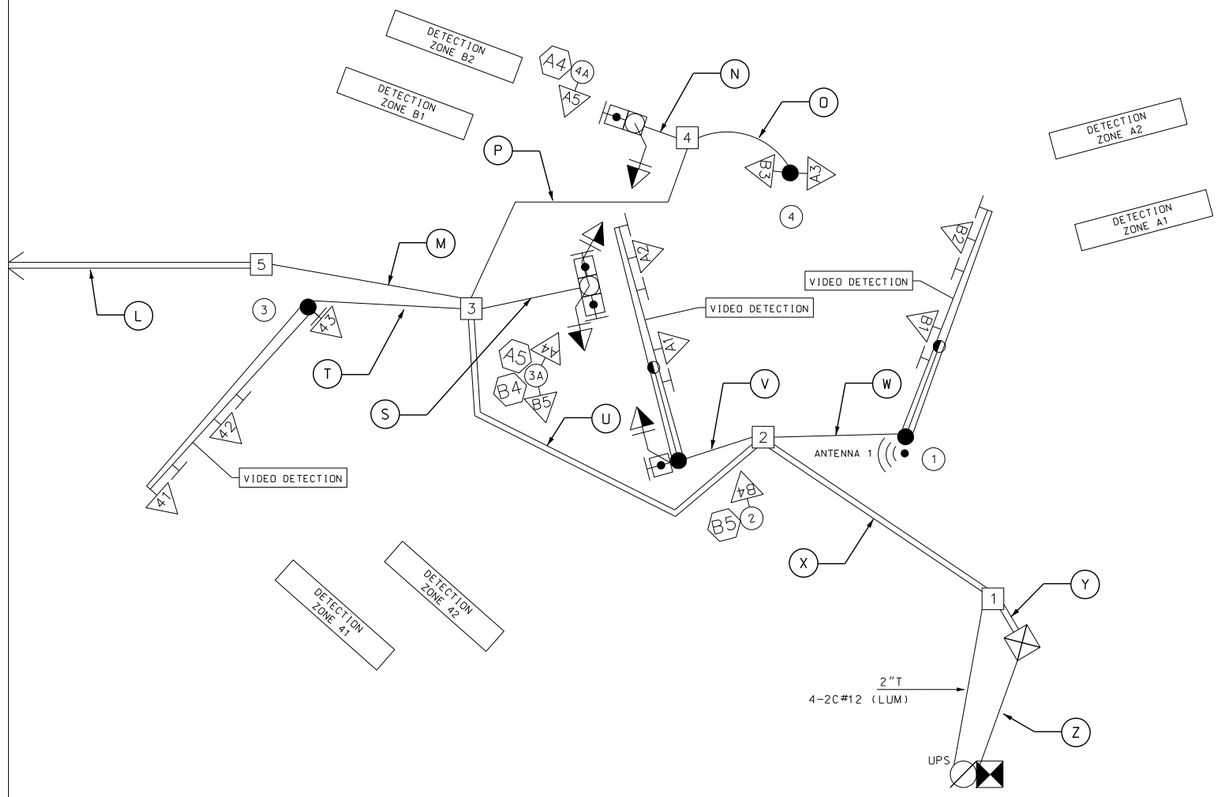
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

EFFECTIVE 12-01-17

WIRING DIAGRAM

NOT TO SCALE



L — 1-3"B; 1-2"B (SPARE)
9-7C#16
4-5C#16 (PED)
4-2C#16 (PB)
2-2C#12 (LUM)
3-VIDEO CABLE

M — 3"T
9-7C#16
4-5C#16 (PED)
4-2C#16 (PB)
2-2C#12 (LUM)
3-VIDEO CABLE

N — 2"T
1-5C#16 (PED)
1-2C#16 (PB)

O — 3"T
2-7C#16

P — 3"P
2-7C#16
1-5C#16 (PED)
1-2C#16 (PB)

S — 2"T
2-5C#16 (PED)
2-2C#16 (PB)

T — 3"T
3-7C#16
1-VIDEO CABLE

U — 2-3"P
14-7C#16
7-5C#16 (PED)
7-2C#16 (PB)
2-2C#12 (LUM)
4-VIDEO CABLE

V — 3"T
2-7C#16
1-5C#16 (PED)
1-2C#16 (PB)
1-2C#12 (LUM)
1-VIDEO CABLE

W — 3"T
2-7C#16
1-2C#12 (LUM)
1-VIDEO CABLE
1-CAT-5 CABLE

X — 2-3"P
18-7C#16
8-5C#16 (PED)
8-2C#16 (PB)
4-2C#12 (LUM)
6-VIDEO CABLE
1-CAT-5 CABLE

Y — 2-3"T
18-7C#16
8-5C#16 (PED)
8-2C#16 (PB)
6-VIDEO CABLE
1-CAT-5 CABLE

Z — 2"T
3-1C#8

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 LUMINAIRE
- X — DETECTOR WITH NUMBER
- X — SIGNAL HEAD WITH NUMBER
- SIGNAL CONTROLLER
- UPS — UNINTERRUPTIBLE POWER SUPPLY
- LIGHTING CONTROLLER
- YAGI COMMUNICATION ANTENNA

DISCLAIMER
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

ROUTE 47 AT ROUTE 61 NB RAMPS (1 OF 2)

INTERSECTION

D-37D

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	124

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
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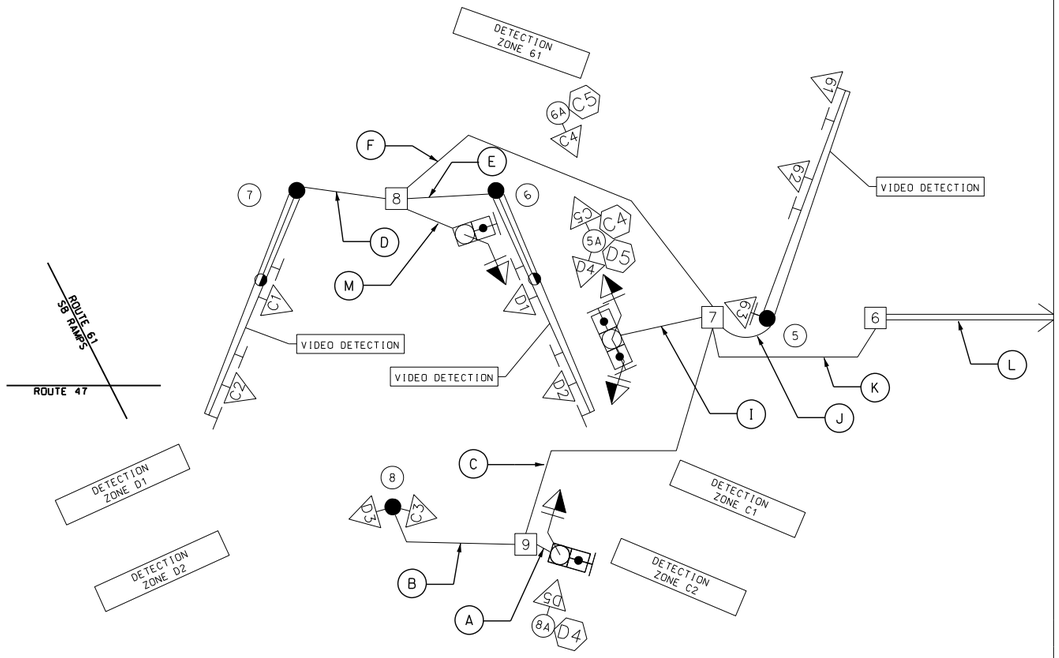
EFFECTIVE 12-01-17

WIRING DIAGRAM

NOT TO SCALE



A — 2"T
1-5C#16 (PED)
1-2C#16 (PB)

B — 3"T
2-7C#16

C — 3"P
2-7C#16
1-5C#16 (PED)
1-2C#16 (PB)

D — 3"T
2-7C#16
1-2C#12 (LUM)
1-VIDEO CABLE

E — 3"T
2-7C#16
1-2C#12 (LUM)
1-VIDEO CABLE

F — 3"P
4-7C#16
1-5C#16 (PED)
1-2C#16 (PB)
2-2C#12 (LUM)
2-VIDEO CABLE

I — 2"T
2-5C#16 (PED)
2-2C#16 (PB)

J — 3"T
3-7C#16
1-VIDEO CABLE

K — 3"T
9-7C#16
4-5C#16 (PED)
4-2C#16 (PB)
2-2C#12 (LUM)
3-VIDEO CABLE

L — 1-3"B; 1-2"B (SPARE)
9-7C#16
4-5C#16 (PED)
4-2C#16 (PB)
2-2C#12 (LUM)
3-VIDEO CABLE

M — 2"T
1-5C#16 (PED)
1-2C#16 (PB)

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 LUMINAIRE
- X DETECTOR WITH NUMBER
- X SIGNAL HEAD WITH NUMBER
- SIGNAL CONTROLLER
- UPS UNINTERRUPTIBLE POWER SUPPLY
- LIGHTING CONTROLLER
- YAGI COMMUNICATION ANTENNA

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ROUTE 47 AT ROUTE 61 SB RAMPS (2 OF 2)
INTERSECTION

D-37D

STATE OF MISSOURI
DANIEL T. SHANE NUMBER
E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 03/04/2024
ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 125
COUNTY LINCOLN
JOB NO. J2P3043
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)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
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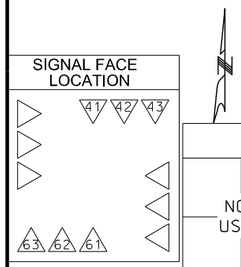
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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

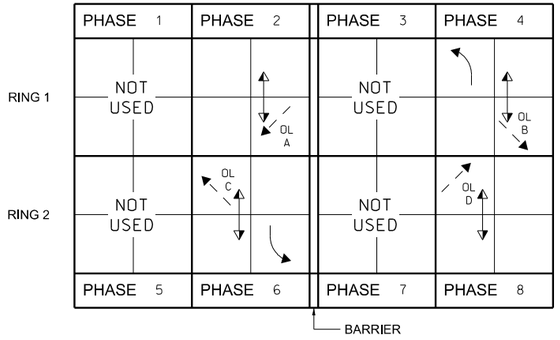
EFFECTIVE 12/01/2017

SIGNAL FACE LOCATION



TRAFFIC PHASING AND COLOR SEQUENCE - ACTUATED CONTROLLERS

	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8																									
	NOT USED	NOT USED	NOT USED		NOT USED		NOT USED	NOT USED																									
									PED Ø OVERLAP A				PED Ø OVERLAP B				PED Ø OVERLAP C				PED Ø OVERLAP D				FYA OVERLAP A				FYA OVERLAP B				FYA OVERLAP C				FYA OVERLAP D			
FACE NUMBERS				41	43				61	63			A4				B4				C4				D4				A1	A3			B1	B3			C1	C3			D1	D3			FACE NUMBERS
				42					62				A5				B5				C5				D5				A2				B2				C2				D2			
SIGNAL INDICATIONS R				RL	RL				RL	RL			W				W				W				W				R	R			R	R			R	R			R	R			R
SIGNAL INDICATIONS Y				YL	YL				YL	YL																			Y	Y			Y	Y			Y	Y			Y	Y			Y
SIGNAL INDICATIONS FYA																																													FYA
SIGNAL INDICATIONS G				L	L				L	L			DW				DW				DW				DW				S				S				S				S				G
																														G				G				G				G			
DETECTOR ASSIGNMENTS				41 42	41				61 62	61																																	DETECTOR ASSIGNMENTS
DETECTOR ASSIGNMENTS (PEDS. ONLY)													A4 A5				B4 B5				C4 C5				D4 D5																			
OVERLAP PARENT PHASES													6				4				6				4				6	6			4	4			6	6			4	4			



RING STRUCTURE

IF CALLED, ALL NON-CONFLICTING PHASES SHALL COMBINE AND TIME CONCURRENTLY. TIME TO BE DETERMINED BY THE ENGINEER AT SIGNAL TURN ON AND SET IN THE CONTROLLER BY THE CONTRACTOR.

LEGEND

- ACTUATED VEHICULAR MOVEMENT
- PARTIALLY RESTRICTED ACTUATED VEHICULAR MOVEMENT
- NON-ACTUATED VEHICULAR MOVEMENT
- PARTIALLY RESTRICTED NON-ACTUATED VEHICULAR MOVEMENT
- ACTUATED PEDESTRIAN MOVEMENT
- NON-ACTUATED PEDESTRIAN MOVEMENT
- VEHICLE STOPPED
- FDW — FLASHING DON'T WALK
- W — WALK
- DW — DON'T WALK
- R/W — RIGHT OF WAY INTERVAL
- YRt — YELLOW RIGHT ARROW
- RT. — GREEN RIGHT ARROW
- LY-YL — YELLOW LEFT ARROW
- L — GREEN LEFT ARROW
- S — GREEN STRAIGHT AHEAD ARROW
- G — CIRCULAR GREEN
- Y — CIRCULAR YELLOW
- R — CIRCULAR RED
- RL — RED LEFT ARROW
- O — TRAFFIC PHASE
- AO — ALL OTHERS
- FR — FLASHING RED
- FY — FLASHING CIRCULAR YELLOW
- FYL — FLASHING YELLOW LEFT ARROW

FLASHING OPERATION	
ROUTE 61 RAMPS	FR
ROUTE 47	FR

CONTROLLER TYPE	8Ø NEMA

TRAFFIC SIGNAL CONTROL OPERATION

ROUTE 47 AT ROUTE 61 RAMPS
INTERSECTION

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STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023
ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 126
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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

DESCRIPTION | DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

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GENERAL CONSTRUCTION NOTES:

CONTRACTOR SHALL INSTALL NEW UNINTERUPTED POWER SUPPLY (UPS). PROPOSED LOCATION SHALL BE IN THE SOUTHWEST QUADRANT. EXACT LOCATION SHALL BE STAKED IN FIELD BY CONTRACTOR FOR APPROVAL OF MODOT. ALL WORK FOR THE CONSTRUCTION OF THE UPS, INCLUDING ALL GRADING, MATERIAL, MOUNTING HARDWARE, CONNECTIONS, CONDUIT, CABLE, OR ANY OTHER APPURTANCES REQUIRED FOR THE COMPLETE UPS SYSTEM SHALL BE INCIDENTAL TO THE PAY ITEM "UNINTERRUPTED POWER SUPPLY".

ALL TRAFFIC SIGNAL AND LIGHTING CONSTRUCTION SHALL CONFORM TO THE MOST CURRENT VERSION OF THE MISSOURI STANDARD PLANS AND SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, SECTIONS 901 AND 902.

CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL DURING ALL CONSTRUCTION PHASES. LANE CLOSURES MUST BE REQUESTED TO THE ENGINEER A MINIMUM OF 48 HOURS IN ADVANCE. ALL TRAFFIC CONTROL MUST MEET MINIMUM REQUIREMENTS OF THE MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION AND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THIS WORK SHALL BE SUBSIDIARY TO OTHER TRAFFIC CONTROL PAY ITEMS.

TRAFFIC SIGNAL NOTES:

1. LUMINAIRE SHALL BE LED 250W EQUIVALENT, FURNISHED, AND INSTALLED BY THE CONTRACTOR.
2. SIGNAL INDICATION BACKPLATE SHALL BE RETROREFLECTIVE.

SCALE

0 20 40 60

PEDESTRIAN SIGN LEGEND

(SIGNS TO BE MOUNTED ON SIGNAL POST)

R10-3eL (9"x15") S1

R10-3eR (9"x15") S2

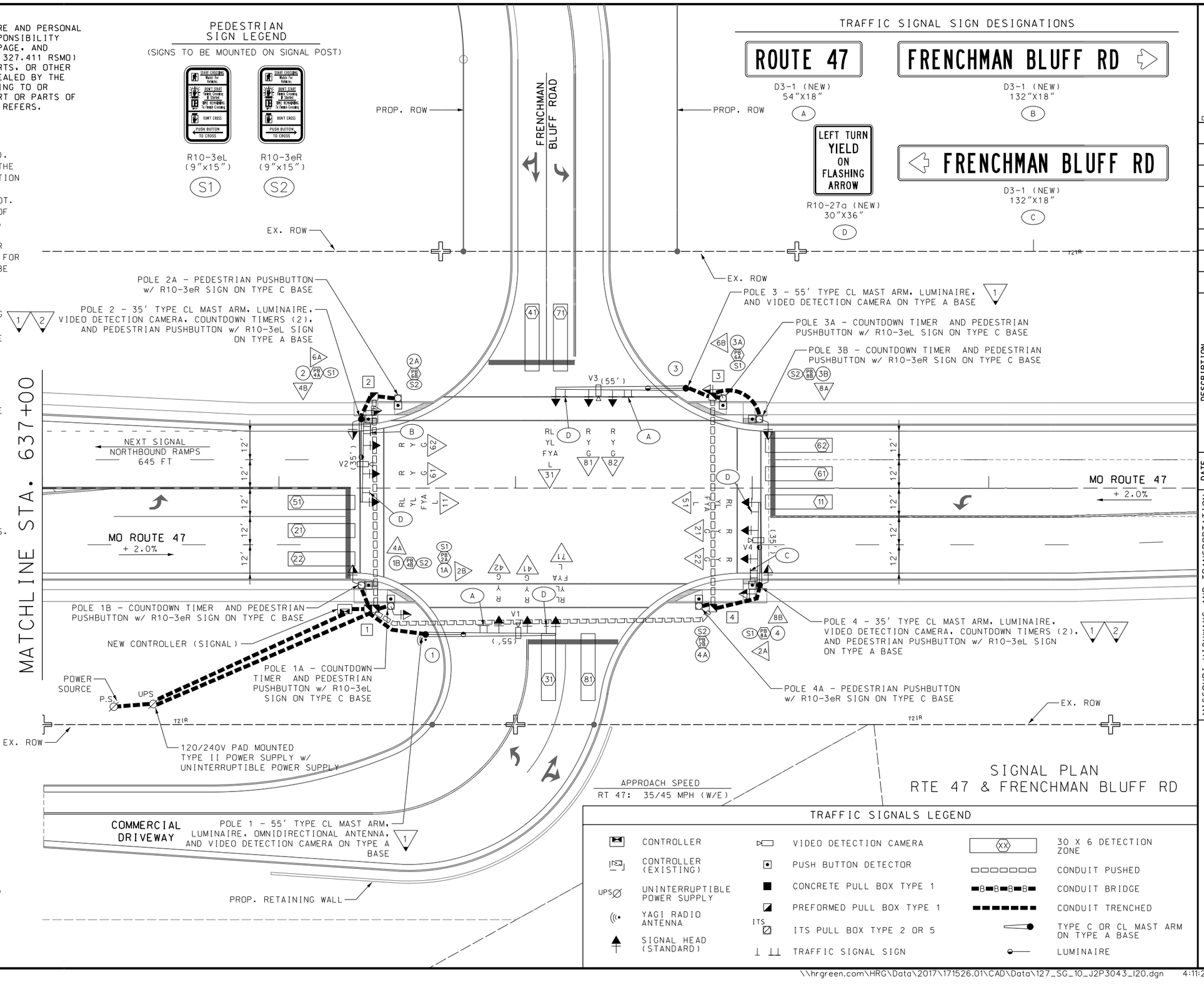
TRAFFIC SIGNAL SIGN DESIGNATIONS

ROUTE 47 — D3-1 (NEW) 54"X18" — A

FRENCHMAN BLUFF RD → — D3-1 (NEW) 132"X18" — B

LEFT TURN YIELD ON FLASHING ARROW — R10-27a (NEW) 30"X36" — D

← FRENCHMAN BLUFF RD — D3-1 (NEW) 132"X18" — C



APPROACH SPEED

RT 47: 35/45 MPH (W/E)

SIGNAL PLAN
RTE 47 & FRENCHMAN BLUFF RD

TRAFFIC SIGNALS LEGEND

CONTROLLER	VIDEO DETECTION CAMERA	XX	30 X 6 DETECTION ZONE
CONTROLLER (EXISTING)	PUSH BUTTON DETECTOR		CONDUIT PUSHED
UPS UNINTERRUPTIBLE POWER SUPPLY	CONCRETE PULL BOX TYPE 1		CONDUIT BRIDGE
YAGI RADIO ANTENNA	PREFORMED PULL BOX TYPE 1		CONDUIT TRENCHED
SIGNAL HEAD (STANDARD)	ITS PULL BOX TYPE 2 OR 5		TYPE C OR CL MAST ARM ON TYPE A BASE
	TRAFFIC SIGNAL SIGN		LUMINAIRE

STATE OF MISSOURI — DANIEL T. SHANE NUMBER E-29833 — REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	03/04/2024
ROUTE	47
STATE	MO
DISTRICT	NE
SHEET NO.	127
COUNTY	LINCOLN
JOB NO.	J2P3043
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

EFFECTIVE: 07/01/2018

POST NUMBER	PULL BOX NUMBER	LOCATION: APPROACH	LOCATION: STATION	LOCATION: OFFSET	BASE: A 9	A 9.5	A 10	A 10.5	A 11	A 12	BASE: F 9	F 9.5	F 10	F 10.5	F 11	F 12	BASE: C	CONCRETE** (CU. YDS.)	PULL BOX: PREFORMED CLASS 1	CLASS 2	CLASS 3	CLASS 5	CONCRETE STANDARD	CONCRETE DOUBLE, TYPE A	CONCRETE DOUBLE, TYPE B	DRAIN TYPE* I	DRAIN TYPE* II A	DRAIN TYPE* II B	DRAIN TYPE* II C	POST: TOP MOUNT POST 8 FT.	TOP MOUNT POST 15 FT.	TYPE C & CL: ARM LENGTH A	ARM LENGTH A	ARM LENGTH A	ARM LENGTH A	SIGNAL SPACING B	SIGNAL SPACING C	SIGNAL SPACING D	SIGNAL SPACING D'	SIGN SPACING B	SIGN SPACING C	SIGN SPACING D	SIGN SPACING D'	TYPE B & BL: ARM LENGTH E	ARM LENGTH K	ARM LENGTH E	ARM LENGTH K	ARM LENGTH E	ARM LENGTH K	LEFT ARM E: SIGNAL SPACING F	SIGNAL SPACING G	SIGNAL SPACING H	SIGNAL SPACING H'	SIGN SPACING F	SIGN SPACING G	SIGN SPACING H	SIGN SPACING H'	RIGHT ARM K: SIGNAL SPACING L	SIGNAL SPACING M	SIGNAL SPACING N	SIGNAL SPACING N'	SIGN SPACING L	SIGN SPACING M	SIGN SPACING N	SIGN SPACING N'	INCLUDED ANGLE	LUMINAIRE BRACKET ARM* 4 FT.	6 FT.	8 FT.	10 FT.	12 FT.	15 FT.
·	·	ROUTE 47	CONTROLLER (AS REQ'D)															1.95																																														
1		ROUTE 47	638+62	61.9'RT				1										3.27														55			30	12	12		24	48	51																												(1)
1A		ROUTE 47	638+47	49.9'RT													1	0.44												1																																											
1B		ROUTE 47	638+35	41.1'RT													1	0.44												1																																											
2		ROUTE 47	638+35	29.1'LT		1												3.01														35			10	12	12		5	28	31																												(1)
2A		ROUTE 47	638+50	37.9'LT													1	0.44												1																																										
3		ROUTE 47	639+72	42.1'LT				1										3.27														55			30	12	12		24	48	51																												(1)
3A		ROUTE 47	639+88	37.9'LT													1	0.44												1																																										
3B		ROUTE 47	640+03	29.1'LT													1	0.44												1																																									
4		ROUTE 47	640+03	41.1'RT		1												3.01														35			10	12	12		5	28	31																												(1)
4A		ROUTE 47	639+78	49.9'RT													1	0.44												1																																									
·	1	ROUTE 47	638+39	51.0'RT																				1		1																																									
·	2	ROUTE 47	638+40	38.7'LT															1							1																																									
·	3	ROUTE 47	639+83	38.7'LT															1							1																																									
·	4	ROUTE 47	639+83	50.7'RT															1							1																																									
SUBTOTAL																		17.15	3					1					6		2	2																																									
TOTAL																		17.15	3					1					6		2	2																																								

SIGNAL HEADS

| SPAN NUMBER | POST NUMBER | FACE NUMBER | LUMINAIRE LED-A, 120V COMPATIBLE | INDICATIONS * 12" LENS CONVENTIONAL R | Y | YL | YRt | FYL | FYR | G | S | L | Rt | (ped) | 12" LENS OPTICAL LIMITING R | Y | YL | YRt | YL | YRt | G | S | L | Rt | VISORS * 12" LENS | PED. | LOUVERS * A | B | C | D | E | F | BACKPLATE* LENSES 1 | 2 | 3 | 4 | 5 | RETROREFLECTIVE BACKPLATE* LENSES 1 | 2 | 3 | 4 | 5 | BRACKET* TYPE I | II | III | ONE-FACE SECTION 1- T | S | C | B | 3- T | S | C | B | 4- T | S | C | B | 5- T | S | C | B | TWO-FACE SECTIONS 11- T | S | B | 33- T | S | C | B | 34- S | B | 35- S | B | 44- S | B | 45- S | B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---

EFFECTIVE: 10-01-2015

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NOTES:

(1) NO DIRECT PAY ITEM.
(2) CAT-5 CABLE INCIDENTAL TO OMNIDIRECTIONAL ANTENNA PAY ITEM.

CONDUIT (WITH #14 TRACER WIRE)

FROM	TO	CENTER TO CENTER DISTANCE	LOOP DET.	TRENCH			PUSHED			MEDIAN			ON STRUCTURE			REMARKS
			1"	2"	3"	4"	2"	3"	4"	2"	3"	4"	2"	3"		
POWER POLE	UPS	20														INCIDENTAL TO UPS
UPS	⊠	90		95												
UPS	1	105		110												
⊠	1	15			36											2 COND. @ 18'
1	(1)	30			33											
1	(1A)	10		11												
1	(1B)	15		16												
1	2	90						88								
2	(2)	15			18											
2	(2A)	15		16												
1	4	150						148								
4	(4)	25			28											
4	(4A)	10		11												
4	3	90						88								
3	(3)	15			18											
3	(3A)	5		6												
3	(3B)	25		26												
SUBTOTALS				291	133			324								
TOTALS				300	140			330								

CABLE

FROM	TO	CENTER TO CENTER DISTANCE	POWER		CONTROL				VIDEO DETECTION	LUMINAIRE		DETECTOR		OMNIDIRECTIONAL ANTENNA (2)		REMARKS
			1c #8	1c #16	2c #16 (PB)	5c #16 (PED)	7c #16	3c #16	VIDEO CABLE (DET.) (1)	CONTROL 2c #12	POLE & BRACKET 1c #10	1c #14 IN DUCT	2c #14 LEAD-IN CABLE	CAT-5 CABLE		
UPS	⊠	90	300													3 CABLES AT 100 FEET
⊠	4 1	45					109									
⊠	4 2	45					96									
⊠	7 1	45					120									
⊠	V1	45							105							
UPS	LUM1	145								155	120					
⊠	ANT	45												75		
⊠	PB 2A	25			30											
⊠	2 B	25				35										
⊠	PB 4B	30			35											
⊠	4 A	30				40										
⊠	1 1	120					175									
⊠	6 1	120					164									
⊠	6 2	120					152									
⊠	V2	120							160							
UPS	LUM2	220								240	120					
⊠	PB 4A	120			125											
⊠	4 B	120				130										
⊠	6 A	120				130										
⊠	PB 6B	120			125											
⊠	3 1	270					345									
⊠	8 1	270					332									
⊠	8 2	270					321									
⊠	V3	270							327							
UPS	LUM3	370								400	120					
⊠	PB 6A	260			265											
⊠	6 B	260				270										
⊠	PB 8B	280			285											
⊠	8 A	280				290										
⊠	2 1	190					234									
⊠	2 2	190					222									
⊠	5 1	190					245									
⊠	V4	190							230							
UPS	LUM4	290								315	120					
⊠	PB 8A	190			195											
⊠	8 A	190				200										
⊠	PB 2B	175			180											
SUBTOTALS			300		1,240	1,295	2,515		822	1110	480			75		
TOTALS			320		1,310	1,360	2,650		870	1,170	510			80		INCLUDES 5% FOR SNAKING

INTERSECTION ROUTE 47 AT FRENCHMAN BLUFF ROAD

D-37B

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	129

COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
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EFFECTIVE 04-01-2018

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POWER SUPPLY

LOCATION			POWER SUPPLY ASSEMBLY		CIRCUIT BREAKER TRIP RATING*				LIGHTING CONTROL * (ON POWER SUPPLY)		SERVICE POLE	
					CONTROLLER		POWER SUPPLY DISCONNECT					
APPROACH	STATION	OFFSET	DRAWING 902.15	DRAWING	AUXILIARY BREAKER	CONT & SIGNAL LAMPS	MAIN BREAKER		120 VOLT CONTROL CABINET	MAIN BREAKER	CONTRACT FURNISH	UTILITY COMPANY
							SIGNALS	LIGHTING				
ROUTE 47	637+46	91.3'RT	Type	1 (7)	15 Amps	40 Amps	100 Amps	40 Amps	1	40 Amps	CI, FL	AMEREN
.	.	.	Type	.	15 Amps	Amps	Amps	Amps		Amps	CI, FL	

CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT

LOCATION			SYSTEM MASTER (CLOSED LOOP)		ACTUATED (10)		ON-OFF* SWITCH		COORDINATION INTERFACE *						TIME * CLOCK	NEMA CABINET TYPE *			170 CABINET TYPE *		170 SOFTWARE *	
							TYPE		12C/7C HARDWIRE (1)		TIME BASE	CLOSED LOOP		FIBER								
APPROACH	STATION	OFFSET	NEMA	170	NEMA	170	I	II	MASTER	LOCAL		NEMA	170			E	P	DOUBLE	332	336S	BITRAN	WAPITI
ROUTE 47 (FRENCHMAN BLUFF)	638+28	52.6'RT	.	.	1	.	.	.	.	.	.	.	.	1		.	1	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.	.

* ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.

** FOR INFORMATION USE ONLY

*** USE D3-1 FOR ONE LINE. USE D3-1B FOR TWO LINE. NO DIRECT PAY FOR MOUNTING HARDWARE.

NEMA DETECTOR ASSIGNMENT **

		CARD POSITION							
		1	2	3	4	5	6	7	8
CHANNEL	1	11	21	31	41	51	61	71	81
	2	.	22	.	42	.	62	.	82

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) = (2)

DETECTOR SCHEDULE

DETECTOR NUMBER	APPROACH	TYPE				
		PUSH BUTTON (9)	INDUCTION LOOP (2)			VIDEO** (5)(6)
			STANDARD	DELAY/ EXTEND *	CALL UNIT *	
.	.	.	.	.	.	.
11	ROUTE 47 WB LT					1
21/22	ROUTE 47 EB					1
.						
31	FRENCHMAN BLUFF NB LT					1
41/42	FRENCHMAN BLUFF SB					1
.						
51	ROUTE 47 EB LT					1
61/62	ROUTE 47 WB					1
.						
71	FRENCHMAN BLUFF SB LT					1
81/82	FRENCHMAN BLUFF NB					1
.						
2A	ROUTE 47 (PED)	1				
2B	ROUTE 47 (PED)	1				
.						
4A	FRENCHMAN BLUFF (PED)	1				
4B	FRENCHMAN BLUFF (PED)	1				
.						
6A	ROUTE 47 (PED)	1				
6B	ROUTE 47 (PED)	1				
.						
8A	FRENCHMAN BLUFF (PED)	1				
8B	FRENCHMAN BLUFF (PED)	1				
TOTAL		8				

(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.

(5) DETECTION ZONES SHALL BE CAPABLE OF DETECTING BICYCLE LANES AND/OR SHARED LANES, IF PRESENT.

(6) IN-GROUND WIRELESS MAGNETOMETER SENSORS WIL NOT BE ALLOWED FOR THIS PROJECT.

(7) SEE SPECIAL SHEETS. PAD MOUNTED 120V/240V POWER SUPPLY & LIGHTING CONTROLLER w/ UNINTERRUPTIBLE POWER SUPPLY. REFER TO POWER SUPPLY w/ UPS JSP.

(9) ALL NEW PUSH BUTTONS SHALL BE ACCESSIBLE PEDESTRIAN SIGNAL (APS). PAID FOR AS "AUDIBLE PEDESTRIAN PUSH BUTTONS AND SIGNING WITH VERBAL WALK MESSAGE, EACH". REFER TO APS PUSH BUTTON JSP.

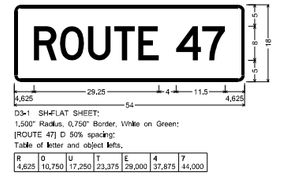
(10) CONTROLLER AND CABINET ASSEMBLY SHALL BE 16-CHANNEL NEMA TS1 P-TYPE CABINET. CONTROLLER TO BE COMPATIBLE WITH SIEMONS M60, WITH 5.2.2 OR 3.56G FIRMWARE. MALFUNCTION UNIT SHOULD BE EDI MMU2-16LEip IN ORDER TO MAINTAIN CONSISTANCY. COORDINATION INTERFACE WILL NEED TO BE COMPATIBLE AND FUNCTIONING WITH FRONT STREET MASTER CONTROLLER WHEN COMPLETED.

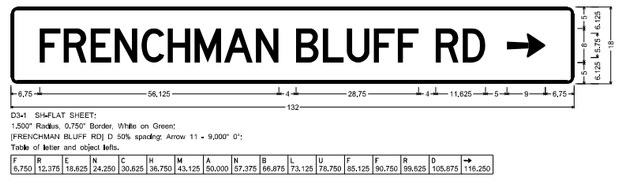
SIGNAL SIGNS

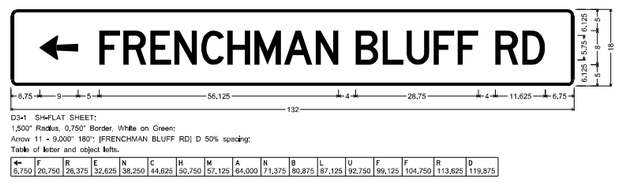
QUANTITY	MUTCD SIGN NUMBER	SIZE	AREA	SIGN TOTAL AREA ITEM NO. 90208.33	SIGNAL SIGN MOUNTING HARDWARE ITEM NO. 90208.34
		INCHES	SQ.FT.	SQ.FT.	EA.
	R10-10L	24 X 30	5.0		
	R10-10R	24 X 30	5.0		
	R3-5L	30 X 36	7.5		
	R3-5R	30 X 36	7.5		
	R3-5A	30 X 36	7.5		
	R3-6L	30 X 36	7.5		
	R3-6R	30 X 36	7.5		
	R3-2	24 X 24	4.0		
	R3-1	24 X 24	4.0		
	R3-3	24 X 24	4.0		
4	D3-1 ***	VAR. X 18	VARIES	46.5	4
	D3-1B ***	VAR. X 18			
4	R10-3EL	9 X 15	0.9	(9)	(9)
4	R10-3ER	9 X 15	0.9	(9)	(9)
	R10-13	36 X 24	6.0		
4	R10-27A	30 X 36	7.5	30.0	4
			SUBTOTAL	76.5	8
			TOTAL	76.5	8

VIDEO DETECTION SYSTEM

CONTROLLER LOCATION			MOVEMENT	DETECTED ZONES (5)	VIDEO DETECTION SYSTEM (EACH)
APPROACH	STATION	OFFSET			
ROUTE 47 (AT FRENCHMAN BLUFF RD)	638+28	52.2'RT	ROUTE 47 WB	11, 61, 62	1
			ROUTE 47 EB	21, 22, 51	1
			FRENCHMAN BLUFF NB	31, 81, 82	1
			FRENCHMAN BLUFF SB	41, 42, 71	1
			PAY TOTAL		1







NEMA LOAD SWITCH ASSIGNMENTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ø 1 WB LT	Ø 2 EB	Ø 3 NB LT	Ø 4 SB	Ø 5 EB LT	Ø 6 WB	Ø 7 SB LT	Ø 8 NB	Ø 2 PED	Ø 4 PED	Ø 6 PED	Ø 8 PED	OVERLAP A	OVERLAP B	OVERLAP C	OVERLAP D

SEE ROUTE 47 AT ROUTE 61 RAMPS INTERSECTION D-37C SHEET FOR ALL INCLUSIVE MISCELLANEOUS TRAFFIC SIGNAL PAY ITEMS.

ROUTE 47 AT FRENCHMAN BLUFF ROAD
INTERSECTION

D-37C

DANIEL T. SHANE NUMBER E-29833 — STATE OF MISSOURI — REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	130

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

DESCRIPTION | DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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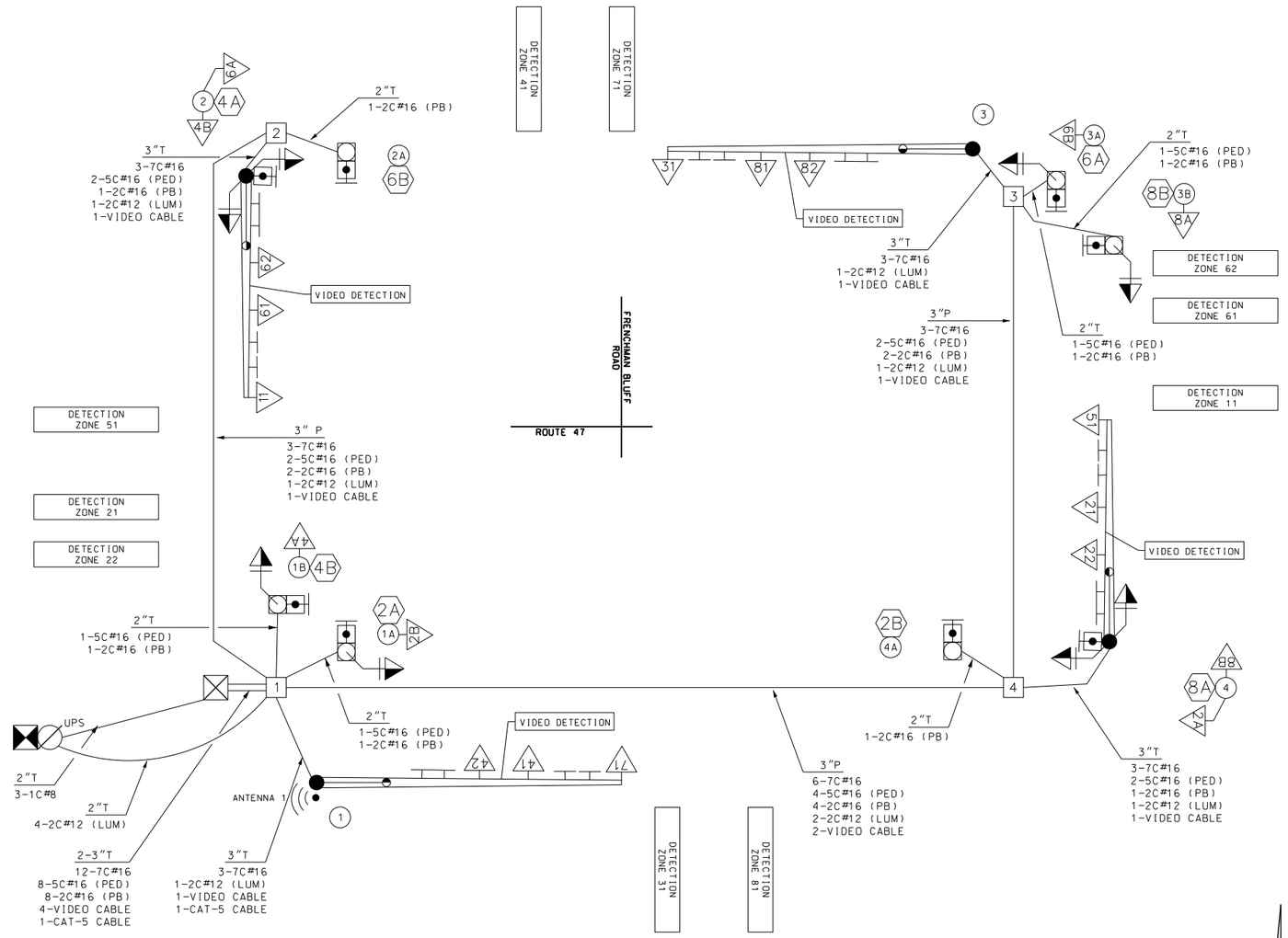
EFFECTIVE 12-01-17

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 LUMINAIRE
- X — DETECTOR WITH NUMBER
- X — SIGNAL HEAD WITH NUMBER
- SIGNAL CONTROLLER
- UPS — UNINTERRUPTIBLE POWER SUPPLY
- LIGHTING CONTROLLER
- YAGI COMMUNICATION ANTENNA

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ROUTE 47 AT FRENCHMAN BLUFF ROAD

INTERSECTION

D-37D

STATE OF MISSOURI
DANIEL T. SHANE NUMBER
E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	131

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
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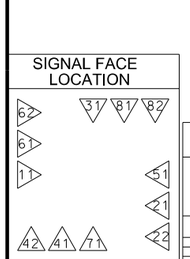
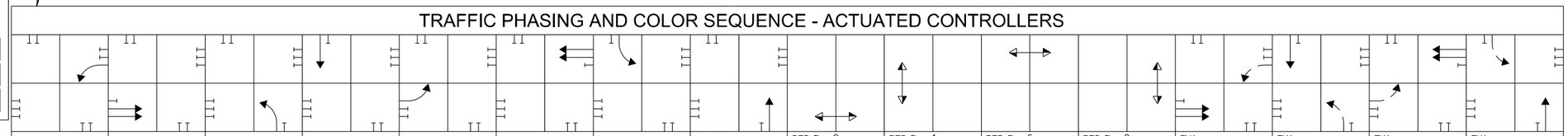
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

EFFECTIVE 12/01/2017

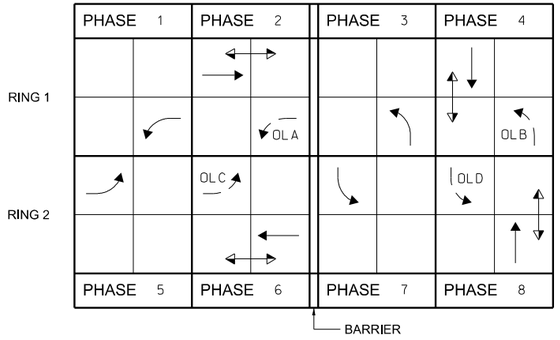
SIGNAL FACE LOCATION



TRAFFIC PHASING AND COLOR SEQUENCE - ACTUATED CONTROLLERS



		PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PED Ø 2 OVERLAP	PED Ø 4 OVERLAP	PED Ø 6 OVERLAP	PED Ø 8 OVERLAP	FYA OVERLAP A	FYA OVERLAP B	FYA OVERLAP C	FYA OVERLAP D	
FACE NUMBERS		11	21	31	41	51	61	71	81	2A	4A	6A	8A	11	31	51	71	FACE NUMBERS
			22		42		62		82	2B	4B	6B	8B					
SIGNAL INDICATIONS	R	RL	R	RL	R	RL	R	RL	R	W	W	W	W					R
	Y	YL	Y	YL	Y	YL	Y	YL	Y									Y
	FYA													FYL	FYL	FYL	FYL	FYA
	G	L	G	L	G	L	G	L	G	DW	DW	DW	DW					G
DETECTOR ASSIGNMENTS		11	21 22	31	41 42	51	61 62	71	81 82									DETECTOR ASSIGNMENTS
DETECTOR ASSIGNMENTS (PEDS. ONLY)										2A 2B	4A 4B	6A 6B	8A 8B					
OVERLAP PARENT PHASES										2	4	6	8	2	4	6	8	



RING STRUCTURE

IF CALLED, ALL NON-CONFLICTING PHASES SHALL COMBINE AND TIME CONCURRENTLY. TIME TO BE DETERMINED BY THE ENGINEER AT SIGNAL TURN ON AND SET IN THE CONTROLLER BY THE CONTRACTOR.

LEGEND

- ACTUATED VEHICULAR MOVEMENT
- PARTIALLY RESTRICTED ACTUATED VEHICULAR MOVEMENT
- NON-ACTUATED VEHICULAR MOVEMENT
- PARTIALLY RESTRICTED NON-ACTUATED VEHICULAR MOVEMENT
- ACTUATED PEDESTRIAN MOVEMENT
- NON-ACTUATED PEDESTRIAN MOVEMENT
- VEHICLE STOPPED
- FDW — FLASHING DON'T WALK
- W — WALK
- DW — DON'T WALK
- R/W — RIGHT OF WAY INTERVAL
- YRt — YELLOW RIGHT ARROW
- RT. — GREEN RIGHT ARROW
- LY-YL — YELLOW LEFT ARROW
- L — GREEN LEFT ARROW
- S — GREEN STRAIGHT AHEAD ARROW
- G — CIRCULAR GREEN
- Y — CIRCULAR YELLOW
- R — CIRCULAR RED
- RL — RED LEFT ARROW
- O — TRAFFIC PHASE
- AO — ALL OTHERS
- FR — FLASHING RED
- FY — FLASHING CIRCULAR YELLOW
- FYL — FLASHING YELLOW LEFT ARROW

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FLASHING OPERATION	
FRENCHMAN BLUFF ROAD	FR
ROUTE 47	FR
CONTROLLER TYPE	8Ø NEMA

TRAFFIC SIGNAL CONTROL OPERATION

ROUTE 47 AT FRENCHMAN BLUFF ROAD

INTERSECTION

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	132

COUNTY: LINCOLN

JOB NO.: J2P3043

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

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

DESCRIPTION

DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

D-38A

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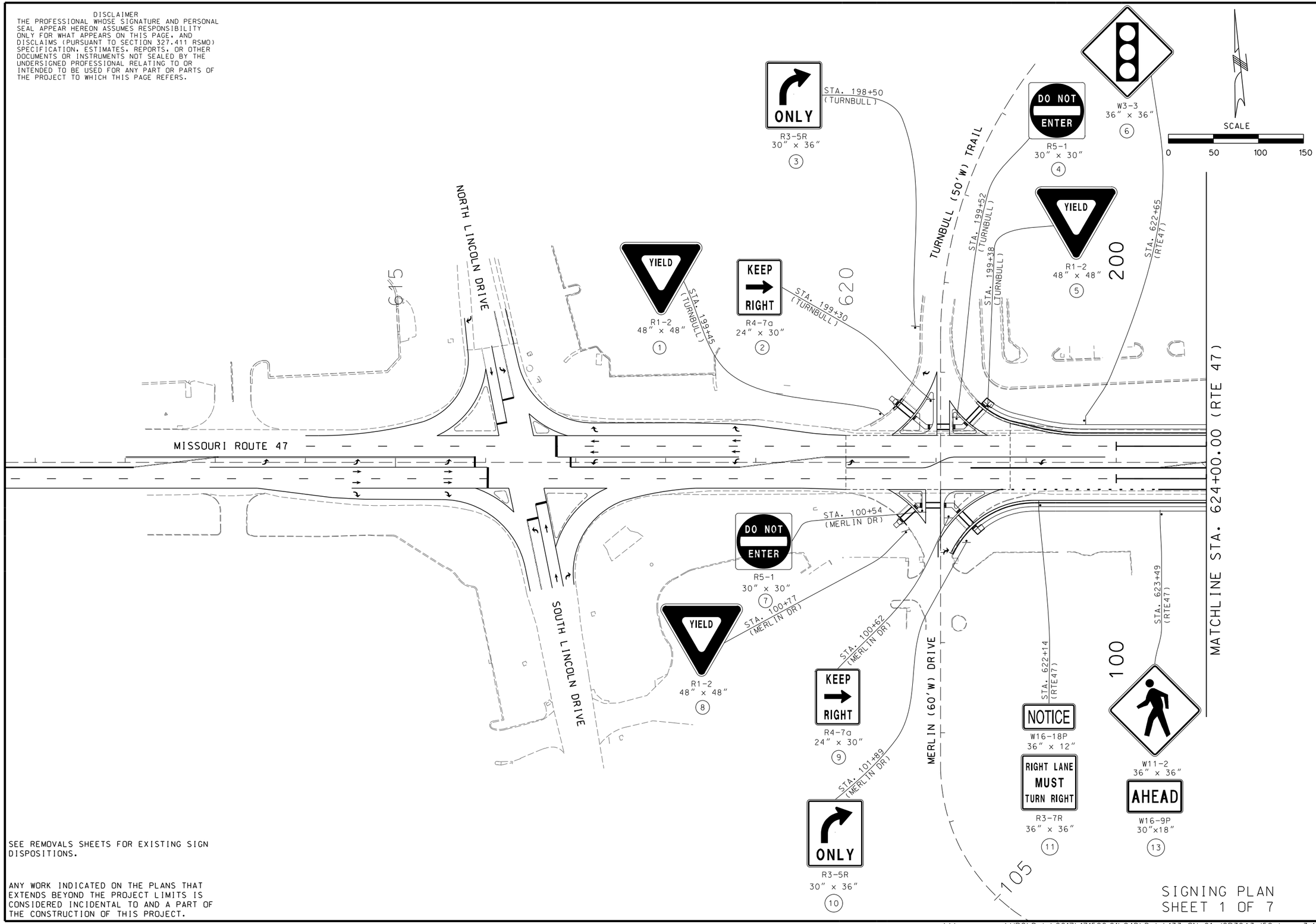

SEE REMOVALS SHEETS FOR EXISTING SIGN DISPOSITIONS.

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

SIGNING PLAN
SHEET 1 OF 7

STATE OF MISSOURI
DANIEL T. SHANE NUMBER
E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	133

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DATE	DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

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H
D9-2
24" x 24"
M6-1
21" x 15"
17c
MOUNT ON TRUSS COLUMN
STA. 10+93 (RAMP2)

WRONG WAY
R5-1a
42" x 30"
17d
MOUNT ON TRUSS COLUMN

(9' X 7') OVERHEAD MOUNT
47 NORTH
Winfield
17a

(9' X 7') OVERHEAD MOUNT
47 SOUTH
Troy
17b
STA. 10+93 (RAMP2)

WRONG WAY
R5-1a
42" x 30"
17e
MOUNT ON TRUSS COLUMN

17a 17b 17c 17d 17e
STA. 10+93 (RAMP2)

W11-2
36" x 36"
STA. 1+18 (RAMP2RT)
W16-7P
30" x 18"
15

W12-1
36" x 36"
16
STA. 627+27 (RTE47)
STA. 11+95 (RAMP2)

R3-2
24" x 24"
18

DO NOT ENTER
R5-1
30"x30"
19
STA. 0+66 (RAMP2LT)

NORTH NORTH
M3-1 M3-1
24" x 12" 24" x 12"
61 47
M1-4 M1-5
24" x 24" 24" x 24"
M5-1L M6-3
21" x 15" 21" x 15"
20
STA. 1+50 (RAMP2LT)

SCALE
0 50 100 150

ONE WAY
R6-1L
54" x 18"
21
STA. 627+86 (RTE47)

R4-8
36" x 48"
22
STA. 627+70 (RTE47)

(11'x10') GROUND MOUNT
47 SOUTH
Troy
61 SOUTH
St Louis
STA. 1+04 (RAMP4LT)
23

YIELD
R1-2
60" x 60"
14
DO NOT ENTER
R5-1
30" x 30"
MOUNT BACK TO BACK
STA. 1+76 (RAMP2RT)

SPEED LIMIT 35
R2-1
36" x 48"
34
STA. 625+01 (RTE47)

MISSOURI ROUTE 47

MATCHLINE STA. 624+00.00 (RTE 47)

MATCHLINE STA. 629+60.00 (RTE 47)

YIELD
R1-2
60" x 60"
33
DO NOT ENTER
R5-1
30" x 30"
MOUNT BACK TO BACK
STA. 1+34 (RAMP2RT)

R4-7
36" x 48"
32
STA. 626+32 (RTE47)

R4-7
24" x 30"
30
STA. 624+48 (RTE47)

31a 31b 31c 31d 31e
STA. 625+37 (RTE47)

NORTH SOUTH
M3-1 M3-3
24" x 12" 24" x 12"
61 61
M1-4 M1-4
24" x 24" 24" x 24"
M5-2L M5-2R
21" x 15" 21" x 15"
29

STA. 0+58 (RAMP4RT)

STA. 0+74 (RAMP4RT)

W11-2
36" x 36"
W16-7P
30" x 18"
28

W24-1L
49" x 49"
ALL LANES
W24-1cP
24" x 18"
25 MPH
W13-1P
24" x 24"
31d
MOUNT ON SUPPORT COLUMN

(10' X 7') OVERHEAD MOUNT
NORTH NORTH
61 47
31a

(6' X 7') OVERHEAD MOUNT
NORTH
47
31b

(9' X 7') OVERHEAD MOUNT
61 SOUTH
St Louis
31c

W24-1L
49" x 49"
ALL LANES
W24-1cP
24" x 18"
25 MPH
W13-1P
24" x 24"
31e
MOUNT ON SUPPORT COLUMN

STA. 625+37 (RTE47)

RAMP 1

SOUTHBOUND U.S. HIGHWAY 61

MOUNT BACK TO BACK
R3-1 R3-2
24" x 24" 24" x 24"
25
STA. 627+10 (RTE47)

STA. 1+83 (RAMP4)
LEFT LANE ENDS
W9-1L
48" x 48"
26

STA. 3+53 (RAMP4)
W4-2L
48" x 48"
27

SIGNING PLAN
SHEET 2 OF 7

DANIEL T. SHANE NUMBER E-24833 REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023
ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 134
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
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GROUND MOUNT
11'x10'
47 NORTH
Winfield
61 NORTH
Hannibal
36

YIELD
R1-2
60" x 60"
38

YIELD
R1-2
60" x 60"
39

RAMP 1

STA. 0+70 (RAMP1LT)

STA. 1+65 (RAMP1RT)

STA. 1+65 (RAMP1RT)

W11-2
36" x 36"
W16-7P
30" x 18"
41

MOUNT BACK TO BACK
R3-1
24" x 24"
R3-2
24" x 24"
40

NORTH
SOUTH
M3-1
24" x 12"
M3-3
24" x 12"
61
61
M1-4
24" x 24"
M1-4
24" x 36"
M5-2L
21" x 15"
M5-2R
21" x 15"
42

STA. 632+63 (RTE47)

STA. 0+64 (RAMP1RT)

R4-7
36" x 48"
44

STA. 633+42 (RTE47)

STA. 635+59 (RTE47)

W11-2
36" x 36"
AHEAD
W16-9P
30" x 18"
45

STA. 635+65 (RTE47)

R4-7
24" x 30"
47

SCALE
0 50 100 150

ONE WAY
R6-1L
54" x 18"
35

STA. 631+22 (RTE47)

STA. 632+02 (RTE47)

R4-8
36" x 48"
56

STA. 629+60.00 (RTE 47)

STA. 1+88 (RAMP3LT)

DO NOT ENTER
R5-1
30" x 30"
55

SOUTH
SOUTH
M3-3
24" x 12"
M3-3
24" x 12"
61
47
M1-4
24" x 24"
M1-5
24" x 24"
M5-1L
21" x 15"
M6-3
21" x 15"
54

STA. 1+28 (RAMP3LT)

MATCHLINE STA. 629+60.00 (RTE 47)

NORTHBOUND U.S. HIGHWAY 61

MISSOURI ROUTE 47

53a 53b 53c 53d 53e
STA. 12+20 (RAMP3)

48
49

46a 46b 46c 46d 46e
STA. 634+29 (RTE47)

(10' X 7')
OVERHEAD MOUNT
(6'X 7')
OVERHEAD MOUNT
(9' X 7')
OVERHEAD MOUNT
SOUTH SOUTH
61 47
SOUTH
47
61 NORTH
Hannibal
46a 46b 46c
STA. 634+29 (RTE47)

MATCHLINE STA. 636+00.00 (RTE 47)

W24-1L
49" x 49"
ALL LANES
W24-1cP
24" x 18"
25 MPH
W13-1P
24" x 24"
46d
MOUNT ON SUPPORT COLUMN
STA. 634+29 (RTE47)

W24-1L
49" x 49"
ALL LANES
W24-1cP
24" x 18"
25 MPH
W13-1P
24" x 24"
46e
MOUNT ON SUPPORT COLUMN
STA. 634+29 (RTE47)

STA. 1+51 (RAMP3RT)

STA. 13+10 (RAMP3)

STA. 633+48 (RTE47)

W11-2
36" x 36"
W16-7P
30" x 18"
50

W12-1
36" x 36"
52

R3-2
24" x 24"
51

RAMP 3

D9-2
24" x 24"
M6-1
21" x 15"
53c
MOUNT ON TRUSS COLUMN
STA. 12+20 (RAMP3)

(16' X 7')
OVERHEAD MOUNT
(9' X 7')
OVERHEAD MOUNT
WRONG WAY
47 SOUTH
Troy
47 NORTH
Winfield
WRONG WAY
R5-1a
42" x 30"
53d
MOUNT ON SUPPORT COLUMN
53a
53b
53e
R5-1a
42" x 30"
MOUNT ON SUPPORT COLUMN
STA. 12+20 (RAMP3)

YIELD
R1-2
60" x 60"
DO NOT ENTER
R5-1
30" x 30"
48
MOUNT BACK TO BACK
STA. 1+72 (RAMP3RT)

YIELD
R1-2
60" x 60"
DO NOT ENTER
R5-1
30" x 30"
49
MOUNT BACK TO BACK
STA. 1+72 (RAMP3RT)

SIGNING PLAN
SHEET 3 OF 7

STATE OF MISSOURI
DANIEL T. SHANE NUMBER
E-29833
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023
ROUTE 47
STATE MO
DISTRICT NE
SHEET NO. 135
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE | DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

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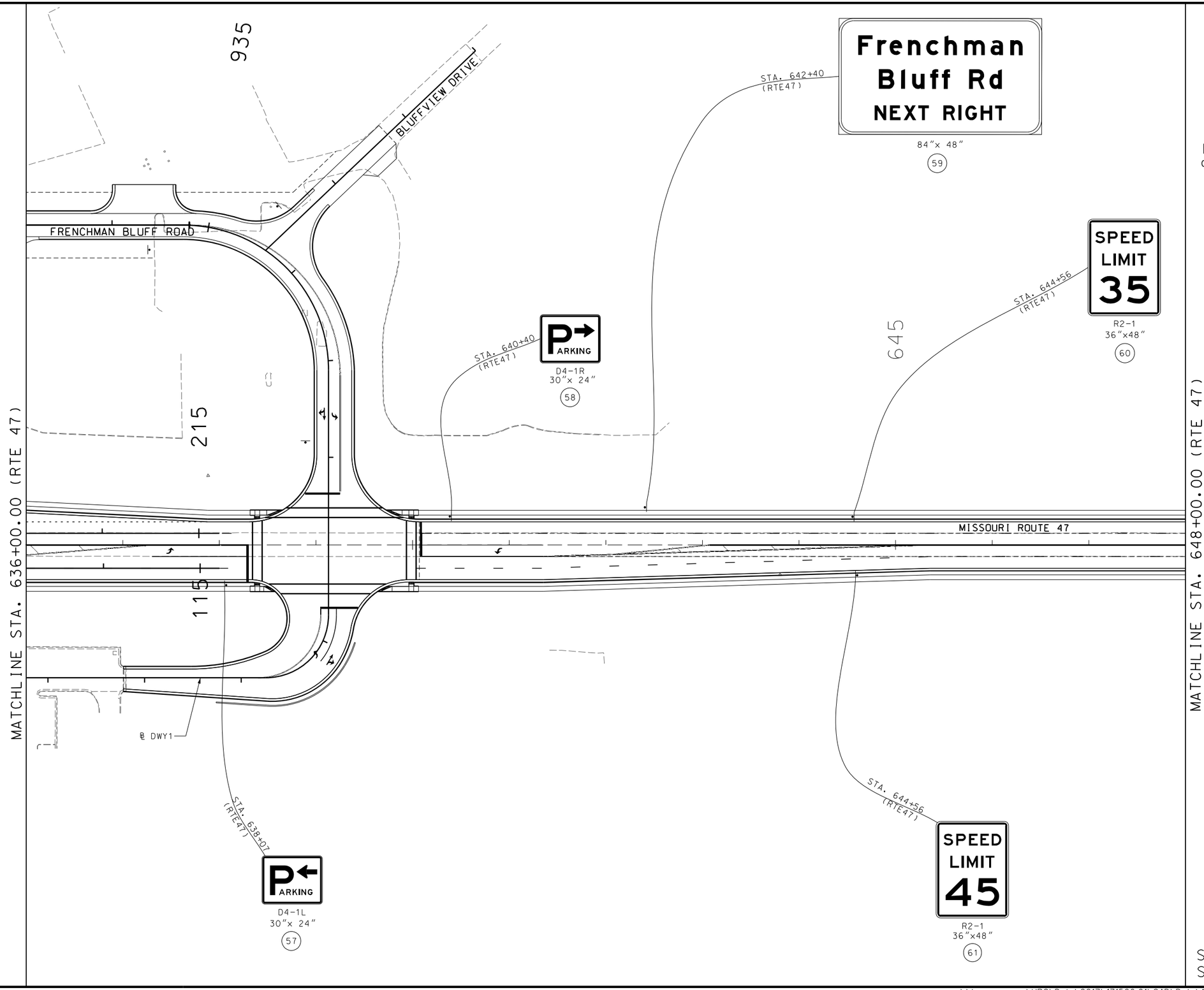

SIGNING PLAN
SHEET 4 OF 7

STATE OF MISSOURI
DANIEL T. SHANE NUMBER
E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED: 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	136

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

DESCRIPTION	DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
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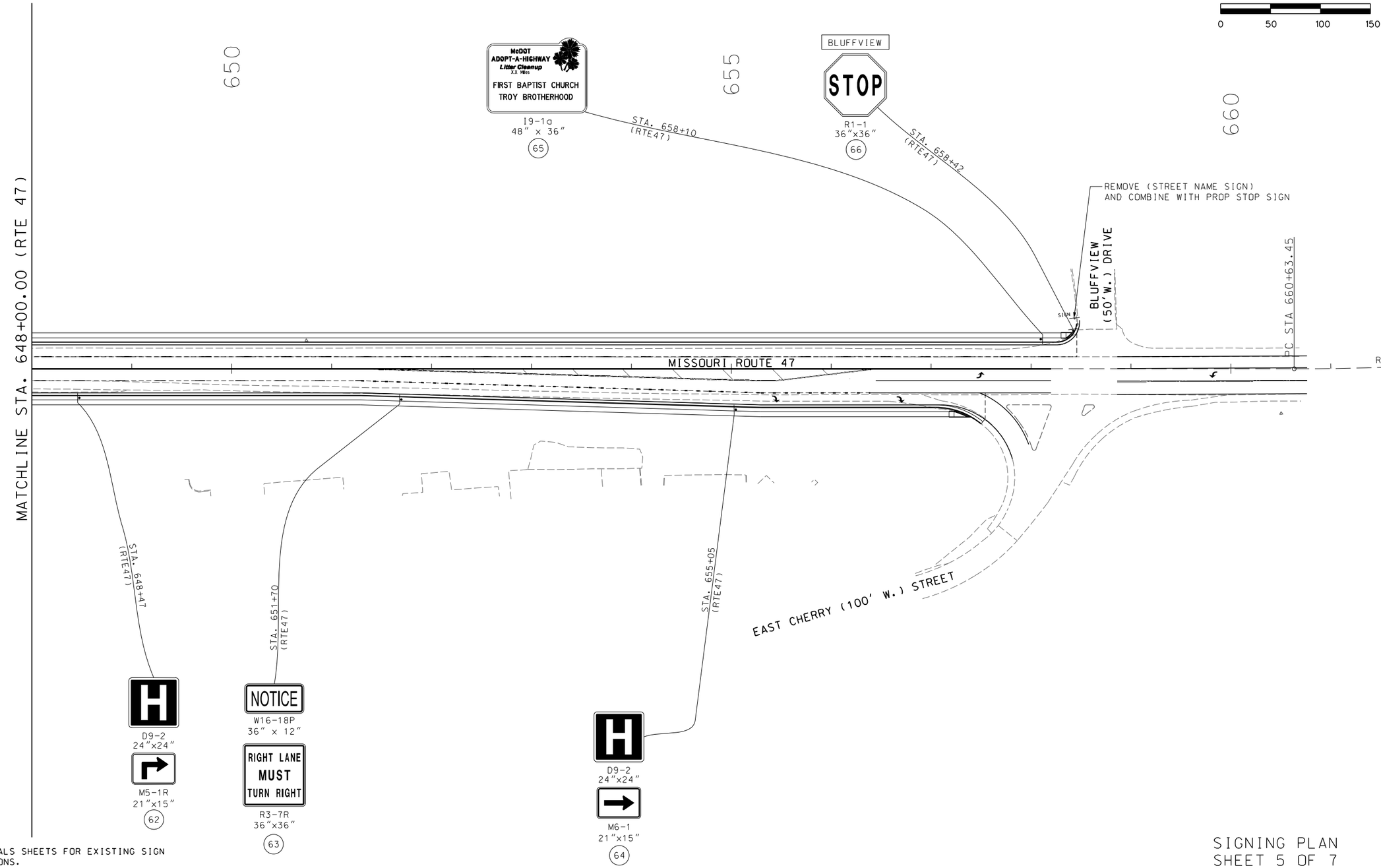

SCALE
0 50 100 150

SEE REMOVALS SHEETS FOR EXISTING SIGN DISPOSITIONS.

SIGNING PLAN
SHEET 5 OF 7

STATE OF MISSOURI
DANIEL T. SHANE NUMBER
E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	137

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

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

HR GREEN, INC.
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SEE REMOVALS SHEETS FOR EXISTING SIGN DISPOSITIONS.

SCALE
0 50 100 150

SPEED LIMIT 25
W3-5
36" x 36"
67
STA. 928+60 (FRENCHBLUFF)

SPEED LIMIT 35
R2-1
36" x 48"
77

STOP
R1-1
36" x 36"
70
STA. 0+24 (BLUFFVIEW)

930
935
635
215
115

BLUFFVIEW DRIVE

FRENCHMAN BLUFF ROAD
69

TO
M4-5
24" x 12"
61
M1-4
24" x 24"
M5-1R
21" x 15"
71
STA. 937+85 (FRENCHBLUFF)

I-5
RAMP 1
RAMP 5
RAMP 6

SPEED LIMIT 25
R2-1
36" x 48"
68
STA. 929+60 (FRENCHBLUFF)

STA. 934+38 (FRENCHBLUFF)
W3-3
36" x 36"

MISSOURI ROUTE 47

SIGNING PLAN
SHEET 6 OF 7

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	138

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DATE	DESCRIPTION

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

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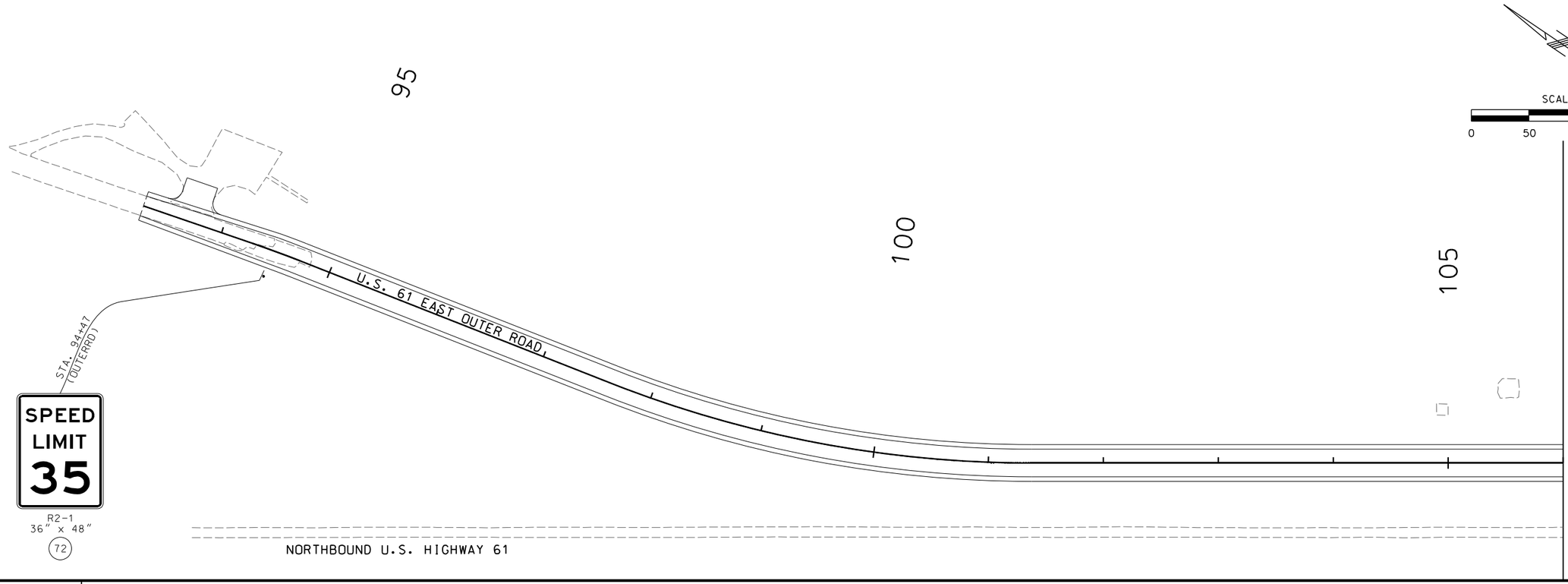

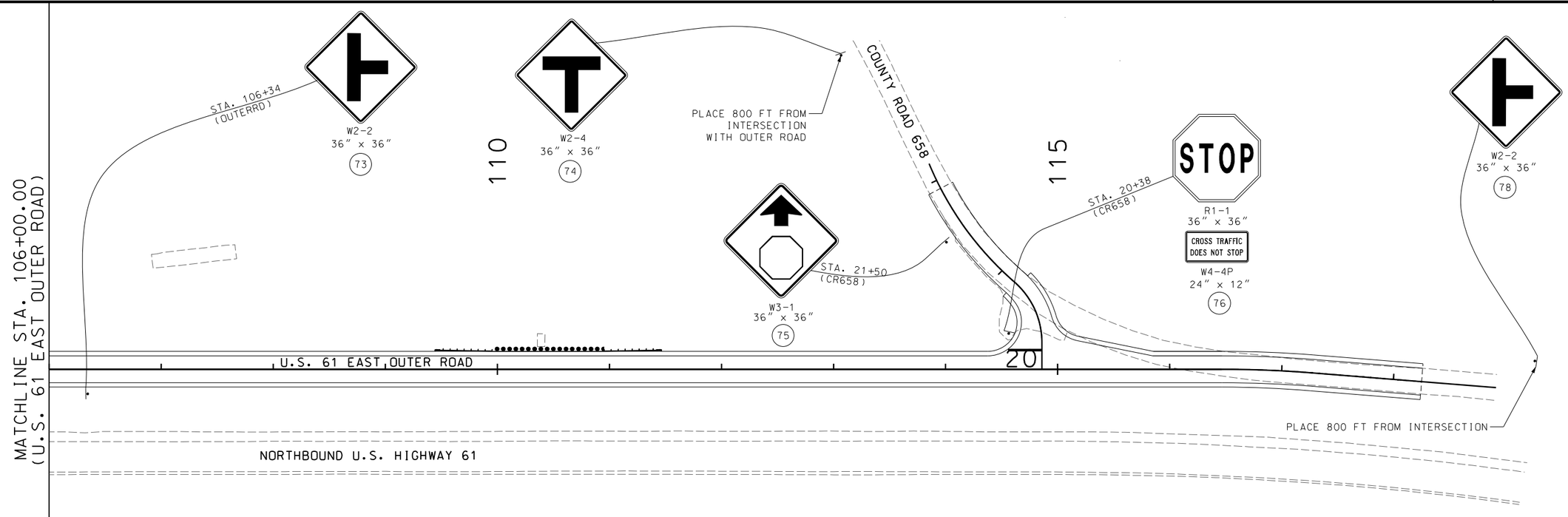

SIGNING PLAN
SHEET 7 OF 7

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	139
COUNTY	
LINCOLN	
JOB NO.	
J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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EFFECTIVE: 04-01-2023

SIGNS (902 SIGNAL SIGNS TABULATED ON D-37A SHEET)						STRUCTURAL STEEL POSTS*						PIPE POSTS *					BACKING BARS **				U-CHANNEL POST	PERFORATED SQUARE STEEL TUBE													FOOTINGS		REMARKS AND OTHER REQUIRED ITEMS
																						2 IN. POST						2.5 IN. POST						BREAK-AWAY			
SIGN NO.	SIGN SIZE	STATION	HORZ CLEAR IF NOT STD	LOCATION	SIGN DTL. SHT. NO.	POST DES NO.	POST NO.1	POST NO.2	POST NO.3	LBS PER FT	TOTAL ITEM NO. 9E+06	PIPE SIZE	POST NO.1	POST NO.2	LBS PER FT	TOTAL ITEM NO. 9031220	2" X []" BARS @ 2.55 LBS PER FT NO.	LGTH	TOTAL	TOTAL	ITEM NO.	POST NO.1	POST NO.2	TOTAL ITEM NO. 9031270A	ANCHORS DRIVEN 12-GA. ITEM NO. 9031271A	DRIVEN 7-GA. ITEM NO. 9031273A	CONCRETE 7-GA. ITEM NO. 9031274	POST NO.1	POST NO.2	TOTAL ITEM NO. 9031280	2.25" INSERT (6FT) ITEM NO. 9031280	ANCHORS DRIVEN 7-GA. ITEM NO. 9031281A	CONCRETE 7-GA. ITEM NO. 9031285	ASSEMBLY ITEM NO. 9031241	EMBD ITEM NO. 9031010	BOLT DOWN ITEM NO. 9031020	
							LF	LF	LF		LBS	IN.	LF	LF		LBS	EACH	IN.	LF	LBS	LF	LF	LF	LF	EA	EA	EA	EA	LF	LF	EA	EA	EA	EA	EA	CU YDS	CU YDS	
1	48x48	199+45		TURNBULL																		13.3		13.3	1												
2	24x30	199+30		TURNBULL																		12.5		12.5	1												
3	30x36	198+50		TURNBULL																		13.0		13.0	1												
4	30x30	199+52		TURNBULL																		12.5		12.5	1												
5	48x48	199+38		TURNBULL																		13.3		13.3	1												
6	36x36	622+65		RTE 47																		14.3		14.3	1												
7	30x30	100+54		MERLINDR																		12.5		12.5	1												
8	48x48	100+77		MERLINDR																		13.3		13.3	1												
9	24x30	100+62		MERLINDR																		12.5		12.5	1												
10	30x36	101+89		MERLINDR																		13.0		13.0	1												
11	ASSY	622+14		RTE 47																									13.0		13.0		1				
12	NOT	USED																																			
13	ASSY	623+49		RTE47																									14.3		14.3		1				
14	ASSY	1+76		RAMP2RT																		14.0		14.0	1												
15	ASSY	1+18		RAMP2RT																									14.8		14.8		1				
16	36x36	11+95		RAMP 2																		14.3		14.3	1												
17a	08x84	10+93		RAMP 2	145																																TUBULAR SUPPORT MOUNT
17b	08x84	10+93		RAMP 2	145																																TUBULAR SUPPORT MOUNT
17c	ASSY	10+93		RAMP 2																																	MOUNT ON COLUMN
17d	42x30	10+93		RAMP 2																																3.53	MOUNT ON COLUMN
17e	42x30	10+93		RAMP 2																																3.67	MOUNT ON COLUMN
18	24x24	627+27		RTE47																		12.0		12.0	1												
19	30x30	0+66		RAMP2LT																		14.0		14.0				1									
20	ASSY	1+50		RAMP2LT													6	50	25	63.75									19.0		19.0			1			
21	54x18	627+86		RTE 47								2.5	12.5		5.79	72.38						12.5		12.5												0.13		
22	36x48	627+70		RTE 47																									15.0		15.0		1				
231	32x120	1+75		RAMP4LT	146	#2	22.3	22.3		15	669.0																									1.08		
24	NOT	USED																																			
25	ASSY	627+10		RTE47																		12.0		12.0	1												
26	48x48	1+83		RAMP 4																									17.5		17.5			1			
27	48x48	3+53		RAMP 4																									17.3		17.3			1			
28	ASSY	0+74		RAMP4RT																									14.8		14.8		1				
29	ASSY	0+58		RAMP4RT													6	50	25	63.75									15.0		15.0		1				
30	24x30	624+48		RTE47																		12.5		12.5	1												
31a	20x84	625+37		RTE47	147																																TUBULAR SUPPORT MOUNT
31b	72x84	625+37		RTE47	147																																TUBULAR SUPPORT MOUNT
31c	08x84	625+37		RTE47	148																																TUBULAR SUPPORT MOUNT
31d	ASSY	625+37		RTE47	146																															4.82	MOUNT ON COLUMN
31e	ASSY	625+37		RTE47	146																															5.42	MOUNT ON COLUMN
32	36x48	626+32		RTE 47																									14.0		14.0		1				
33	ASSY	1+34		RAMP2RT																		14.3		14.3	1												
34	36x48	625+01		RTE47																									14.0		14.0		1				
35	54x18	631+22		RTE 47								2.5	12.5		5.79	72.38																				0.13		
361	32x120	1+20		RAMP1LT	148	#2	21.0	21.0		15	630.0																									1.08		
37	NOT	USED																																			
38	60x60	1+65		RAMP1RT																		14.0		14.0	1												
39	60x60	1+65		RAMP1RT																		16.0		16.0				1									
40	ASSY	632+63		RTE47																		12.0		12.0	1												
41	ASSY	0+92		RAMP1RT																									14.8		14.8		1				
42	ASSY	0+64		RAMP1RT													6	50	25	63.75									14.3		14.3		1				
43	NOT	USED																																			
44	36x48	633+42		RTE 47																									15.0		15.0		1				
45	ASSY	635+59		RTE47																									14.3		14.3		1				
46a	20x84	634+29		RTE47	149																																TUBULAR SUPPORT MOUNT
46b	72x84	634+29		RTE47	149																																TUBULAR SUPPORT MOUNT
46c	08x84	634+29		RTE47	150																																TUBULAR SUPPORT MOUNT
46d	ASSY	634+29		RTE47	146																															5.02	MOUNT ON COLUMN
46e	ASSY	634+29		RTE47	146																															4.81	MOUNT ON COLUMN
				SUBTOTAL							1299					145				191				278	18		2			227		12	3		2.42	27.27	
				TOTAL			SEE FOLLOWING SHEET													**				SEE FOLLOWING SHEET						SEE FOLLOWING SHEET								

* 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

NOM. SIZE (IN.)	WEIGHT LBS/FT	WEIGHT LBS/IN	STUB LENGTH	FOOTING DIA.	FOOTING DEPTH	CONCRETE C.Y.
2½	5.79	0.48	4'-3½"	12"	4'-6"	0.13
3	7.58	0.63	4'-3½"	12"	4'-6"	0.13
4	10.79	0.90	5'-3½"	18"	5'-6"	0.36

POST AND FOOTING DATA TABLE

POST DES. NO.	NOM. SIZE	POST WEIGHT LBS/FT	POST WEIGHT LBS/IN	STUB LENGTH	FOOTING DIA.	FOOTING LEVEL GROUND DEPTH	FOOTING LEVEL GROUND C.Y.	FOOTING 6:1 GRADE DEPTH	FOOTING 6:1 GRADE C.Y.	FOOTING 4:1 GRADE DEPTH	FOOTING 4:1 GRADE C.Y.	FOOTING 3:1 OR 2:1 GRADE DEPTH	FOOTING 3:1 OR 2:1 GRADE C.Y.
1	W6	9.0	0.75	3'-0"	15"	3'-0"	0.14	3'-2"	0.15	3'-3"	0.16	3'-6"	0.17
2	W6	15.0	1.25	4'-0"	24"	4'-0"	0.47	4'-2"	0.50	4'-3"	0.51	4'-6"	0.54
3	W8	18.0	1.50	4'-6"	28"	4'-6"	0.71	4'-8"	0.73	4'-9"	0.74	5'-0"	0.78
4	W10	22.0	1.83	5'-0"	36"	5'-0"	1.31	5'-2"	1.36	5'-3"	1.39	5'-6"	1.45
5	W10	26.0	2.17	5'-0"	36"	5'-0"	1.31	5'-3"	1.37	5'-5"	1.43	5'-9"	1.52
6	W12	35.0	2.92	5'-6"	36"	5'-6"	1.44	5'-9"	1.52	5'-11"	1.56	6'-3"	1.65

D-29
SHEET 1 OF 2

STATE OF MISSOURI — DANIEL T. SHANE NUMBER E-24833 — REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 03/04/2024
ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 140
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

EFFECTIVE: 04-01-2023

SIGNS (902 SIGNAL SIGNS TABULATED ON D-37A SHEET)						STRUCTURAL STEEL POSTS*						PIPE POSTS *					BACKING BARS **				U-CHANNEL POST	PERFORATED SQUARE STEEL TUBE													FOOTINGS		REMARKS AND OTHER REQUIRED ITEMS
																						2 IN. POST						2.5 IN. POST						BREAK-AWAY			
SIGN NO.	SIGN SIZE	STATION	HORZ CLEAR IF NOT STD	LOCATION	SIGN DTL. SHT. NO.	POST DES NO.	POST NO.1	POST NO.2	POST NO.3	LBS PER FT	TOTAL ITEM NO. 9031210	PIPE SIZE	POST NO.1	POST NO.2	LBS PER FT	TOTAL ITEM NO. 9031220	2" X []" BARS @ 2.55 LBS PER FT NO.	LGTH	TOTAL	TOTAL	ITEM NO.	POST NO.1	POST NO.2	TOTAL ITEM NO. 9031270A	ANCHORS DRIVEN 12-GA. ITEM NO. 9031271A	DRIVEN 7-GA. ITEM NO. 9031273A	CONCRETE 7-GA. ITEM NO. 9031274	POST NO.1	POST NO.2	TOTAL ITEM NO. 9031280	2.25" INSERT (6FT) ITEM NO. 9031280	ANCHORS DRIVEN 7-GA. ITEM NO. 9031281A	ANCHORS CONCRETE 7-GA. ITEM NO. 9031285	ASSEMBLY ITEM NO. 9031241	EMBD ITEM NO. 9031010	BOLT DOWN ITEM NO. 9031020	
							LF	LF	LF		LBS	IN.	LF	LF		LBS	EACH	IN.	LF	LBS	LF	LF	LF	LF	EA	EA	EA	LF	LF	LF	EA	EA	EA	EA	CU YDS	CU YDS	
47	24x30	635+65		RTE 47																		12.5		12.5	1												
48	ASSY	1+72		RAMP3RT																		14.0		14.0	1												
49	ASSY	1+72		RAMP3RT																		14.0		14.0			1										
50	ASSY	1+51		RAMP3RT																								14.8		14.8		1					
51	24x24	632+48		RTE47																		12.0		12.0	1												
52	36x36	13+10		RAMP 3																		14.3		14.3	1												
53a	92x84	12+20		RAMP 3	151																															TUBULAR SUPPORT MOUNT
53b	08x84	12+20		RAMP 3	150																															TUBULAR SUPPORT MOUNT
53c	ASSY	12+20		RAMP 3																																MOUNT ON COLUMN
53d	42x30	12+20		RAMP 3																															4.75	MOUNT ON COLUMN
53e	42x30	12+20		RAMP 3																															5.22	MOUNT ON COLUMN
54	ASSY	1+28		RAMP3LT													6	50	25	63.75								15.8				1				
55	30x30	1+28		RAMP3LT																		14.0		14.0			1										
56	36x48	632+02		RTE 47																								14.0		14.0		1					
57	30x24	638+07		RTE 47																		12.0		12.0	1												
58	30x24	640+40		RTE 47																		12.0		12.0	1												
59	84x48	642+40		RTE 47	151	#1	15.8	17.3		9	297.9																									0.32		
60	36x48	644+56		RTE 47																								14.0		14.0		1					
61	36x48	644+56		RTE 47																								14.0		14.0		1					
62	ASSY	648+47		RTE 47																		12.5		12.5	1												
63	ASSY	651+70		RTE 47																								14.3		14.3		1					
64	ASSY	655+05		RTE 47																		13.5		13.5	1												
65	48x36	658+10		RTE 47																		12.8	13.3	26.1	2												
66	36x36	658+42		RTE 47																		13.8		13.8	1												
67	36x36	928+60		FRNCHBLF																		17.5		17.5	1												
68	36x48	929+60		FRNCHBLF																								17.3		17.3		1					
69	36x36	934+38		FRNCHBLF																		14.3		14.3	1												
70	36x36	0+24		BLUFVIEW																		13.5		13.5	1												
71	ASSY	937+85		FRNCHBLF																		14.5		14.5	1												
72	36x48	94+47		OUTERRD																		15.8		15.8	1												
73	36x36	106+34		OUTERRD																		15.3		15.3	1												
74	36x36	-		CR658																		15.0		15.0	1												SEE SHEET SN-07
75	36x36	21+50		CR658																		14.8		14.8	1												SEE SHEET SN-07
76	ASSY	20+38		CR658																		15.8		15.8	1												
77	36x48	928+60		FRNCHBLF																								15.3		15.3		1					
78	36x36	-		OUTERRD																		15.0		15.0	1												
79	18x18	-		US 61																	7																SEE SHEET RM-07
80	18x18	-		US 61																	7																SEE SHEET RM-07
81	18x18	-		US 61																	7																SEE SHEET RM-07
82	18x18	-		US 61																	7																SEE SHEET RM-07
83	18x18	-		US 61																	7																SEE SHEET RM-07
84	18x18	-		US 61																	7																SEE SHEET RM-07
85	18x18	-		US 61																	7																SEE SHEET RM-07
86	18x18	-		US 61																	7																SEE SHEET RM-07
SUBTOTAL											298					0				64	56			322	21		2		104		7	1		0.32	9.97	
TOTAL											1860					150				**	56			600	39		4		331		19	4		2.8	37.3	

* 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

NOM. SIZE (IN.)	WEIGHT LBS/FT	WEIGHT LBS/IN	STUB LENGTH	FOOTING DIA.	FOOTING DEPTH	CONCRETE C.Y.
2½	5.79	0.48	4'- 3½"	12"	4'-6"	0.13
3	7.58	0.63	4'- 3½"	12"	4'-6"	0.13
4	10.79	0.90	5'- 3½"	18"	5'-6"	0.36

POST AND FOOTING DATA TABLE

POST DES. NO.	NOM. SIZE	POST WEIGHT LBS/FT	POST WEIGHT LBS/IN	STUB LENGTH	DIA.	FOOTING LEVEL GROUND DEPTH	FOOTING LEVEL GROUND C.Y.	FOOTING 6:1 GRADE DEPTH	FOOTING 6:1 GRADE C.Y.	FOOTING 4:1 GRADE DEPTH	FOOTING 4:1 GRADE C.Y.	FOOTING 3:1 OR 2:1 GRADE DEPTH	FOOTING 3:1 OR 2:1 GRADE C.Y.
1	W6	9.0	0.75	3'-0"	15"	3'-0"	0.14	3'-2"	0.15	3'-3"	0.16	3'-6"	0.17
2	W6	15.0	1.25	4'-0"	24"	4'-0"	0.47	4'-2"	0.50	4'-3"	0.51	4'-6"	0.54
3	W8	18.0	1.50	4'-6"	28"	4'-6"	0.71	4'-8"	0.73	4'-9"	0.74	5'-0"	0.78
4	W10	22.0	1.83	5'-0"	36"	5'-0"	1.31	5'-2"	1.36	5'-3"	1.39	5'-6"	1.45
5	W10	26.0	2.17	5'-0"	36"	5'-0"	1.31	5'-3"	1.37	5'-5"	1.43	5'-9"	1.52
6	W12	35.0	2.92	5'-6"	36"	5'-6"	1.44	5'-9"	1.52	5'-11"	1.56	6'-3"	1.65

D-29
SHEET 2 OF 2

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833 REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 03/04/2024
ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 141
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION
DATE

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

STANDARD SIGN ASSEMBLIES

SIGN NUMBER	STATION	LOCATION	TYPE R1-2 48x48	R1-2 60x60	R3-1 24x24	R3-2 24x24	R3-5R 30x36	R3-7R 36x36	R4-7a 24x30	R4-8 36x48	R5-1 30x30	R5-1a 42x30	R6-1L 54x18	M1-4 36x36	M1-5 36x36	M3-1 24x12	M5-1L 21x15	M6-1 21x15	M6-3 21x15	W3-3 36x36	W4-2L 48x48	W9-1L 48x48	W11-2 36x36	W12-1 36x36	W16-7P 30x18	W16-9P 30x18	W16-18P 36x12	D9-2 24x24
1	199+45	TURNBULL	1																									
2	199+30	TURNBULL							1																			
3	198+50	TURNBULL					1																					
4	199+52	TURNBULL									1																	
5	199+38	TURNBULL	1																									
6	622+65	RTE 47																		1								
7	100+54	MERLINDR									1																	
8	100+77	MERLINDR	1																									
9	100+62	MERLINDR							1																			
10	101+89	MERLINDR					1																					
11	622+14	RTE 47						1																			1	
12	NOT	USED																										
13	623+49	RTE47																					1			1		
14	1+76	RAMP2RT		1							1																	
15	1+18	RAMP2RT																					1		1			
16	11+95	RAMP 2																						1				
17c	10+93	RAMP 2																1										1
17d	10+93	RAMP 2										1																
17e	10+93	RAMP 2										1																
18	627+27	RTE47				1																						
19	0+66	RAMP2LT									1																	
20	1+50	RAMP2LT												1	1	2	1		1									
21	627+86	RTE 47											1															
22	627+70	RTE 47								1																		
24	NOT	USED																										
25	627+10	RTE47			1	1																						
26	1+83	RAMP 4																				1						
27	3+53	RAMP 4																			1							
28	0+74	RAMP4RT																					1		1			
29	0+58	RAMP4RT												1	1	2	1		1									
		SUBTOTAL	3	1	1	2	2	1	2	1	4	2	1	2	2	4	2	1	2	1	1	1	3	1	2	1	1	1

SIGN SUMMARY

STANDARD SIGN OR SPECIAL SIGN NO.	SIGN DETAIL SHEET NO.	NO. EACH	SIZE, TYPE & SQUARE FEET: SIZE	FLAT SHEET SH ITEM NO. 9035004A	FLAT SHEET FLOURESCENT SHF* ITEM NO. 9035069A	STRUCTURAL ST ITEM NO. 9035011A	STRUCTURAL FLOURESCENT STF * ITEM NO. 9035071A
YIELD R1-2 (48x48)		3	48 x 48	48.0			
YIELD R1-2 (60x60)		1	60 x 60	25.0			
NO RIGHT TURN R3-1		1	24 x 24	4.0			
NO LEFT TURN R3-2		2	24 x 24	8.0			
RIGHT TURN ONLY R3-5R		2	30 x 36	15.0			
RIGHT LANE MUST TURN RIGHT R3-7R		1	36 x 36	9.0			
KEEP RIGHT R4-7a		2	24 x 30	10.0			
KEEP LEFT R4-8		1	36 x 48	12.0			
DO NOT ENTER R5-1		4	30 x 30	25.0			
WRONG WAY R5-1a		2	42 x 30	17.5			
ONE WAY (LEFT) R6-1L		1	54 x 18	6.8			
U.S. ROUTE 61 M1-4		2	36 x 36	18.0			
STATE ROUTE 47 M1-5		2	36 x 36	18.0			
NORTH M3-1		4	24 x 12	8.0			
AHEAD LEFT ARROW M5-1L		2	21 x 15	4.4			
RIGHT ARROW M6-1		1	21 x 15	2.2			
FORWARD ARROW M6-3		2	21 x 15	4.4			
SIGNAL AHEAD W3-3		1	36 x 36		9.0		
LANE ENDS W4-2L		1	48 x 48		16.0		
LEFT LANE ENDS W9-1L		1	48 x 48		16.0		
PEDESTRIAN CROSSING W11-2		3	36 x 36		27.0		
DOUBLE ARROW W12-1		1	36 x 36		9.0		
DIAGONAL ARROW W16-7P		2	30 x 18		7.5		
AHEAD W16-9P		1	30 x 18		3.8		
NOTICE W16-18P		1	36 x 12		3.0		
HOSPITAL D9-2		1	24 x 24	4.0			
GUIDE SIGN 17a	145	1	108 x 84			63.0	
GUIDE SIGN 17b	145	1	108 x 84			63.0	
GUIDE SIGN 23	146	1	132 x 120			110.0	
			SUBTOTAL	239.3	91.3	236.0	0.0
			TOTAL	SEE FOLLOWING SHEET			

* ORANGE, YELLOW & YELLOW/GREEN

D-30
SHEET 1 OF 3

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED: 10/25/2023
ROUTE: 47 | STATE: MO
DISTRICT: NE | SHEET NO.: 142
COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

STANDARD SIGN ASSEMBLIES

SIGN NUMBER	STATION	LOCATION	TYPE R1-2 (60x60)	R2-1 (36x48)	R3-1 (24x24)	R3-2 (24x24)	R4-7 (24x30)	R4-7 (36x48)	R4-8 (36x48)	R5-1 (30x30)	R5-1a (42x30)	R6-1L (54x18)	M1-4 (36x36)	M1-5 (36x36)	M3-1 (24x12)	M3-3 (24x12)	M5-1L (21x15)	M5-2L (21x15)	M5-2R (21x15)	M6-1 (21x15)	M6-3 (21x15)	W11-2 (36x36)	W12-1 (36x36)	W16-7P (30x18)	W16-9P (30x18)	D4-1L (30x24)	D4-1R (30x24)	D9-2 (24x24)
30	624+48	RTE47					1																					
32	626+32	RTE 47						1																				
33	1+34	RAMP2RT	1							1																		
34	625+01	RTE47		1																								
35	631+22	RTE 47										1																
37	NOT	USED																										
38	1+65	RAMP1RT	1																									
39	1+65	RAMP1RT	1																									
40	632+63	RTE47			1	1																						
41	0+92	RAMP1RT																				1		1				
42	0+64	RAMP1RT											2		1	1		1	1									
43	NOT	USED																										
44	633+42	RTE 47						1																				
45	635+59	RTE47																				1			1			
47	635+65	RTE 47					1																					
48	1+72	RAMP3RT	1							1																		
49	1+72	RAMP3RT	1							1																		
50	1+51	RAMP3RT																				1		1				
51	632+48	RTE47				1																						
52	13+10	RAMP 3																					1					
53c	12+20	RAMP 3																		1								1
53d	12+20	RAMP 3									1																	
53e	12+20	RAMP 3									1																	
54	1+28	RAMP3LT											1	1		2	1				1							
55	1+88	RAMP3LT								1																		
56	632+02	RTE 47							1																			
57	638+07	RTE 47																								1		
58	640+40	RTE 47																									1	
60	644+56	RTE 47		1																								
61	644+56	RTE 47		1																								
		SUBTOTAL	5	3	1	2	2	2	1	4	2	1	3	1	1	3	1	1	1	1	1	3	1	2	1	1	1	1

SIGN SUMMARY

STANDARD SIGN OR SPECIAL SIGN NO.	SIGN DETAIL SHEET NO.	NO. EACH	SIZE, TYPE & SQUARE FEET: SIZE	FLAT SHEET SH ITEM NO. 9035004A	FLAT SHEET FLOURESCENT SHF* ITEM NO. 9035069A	STRUCTURAL ST ITEM NO. 9035011A	STRUCTURAL FLOURESCENT STF * ITEM NO. 9035071A
YIELD R1-2 (60x60)		5	60 x 60	125.0			
SPEED LIMIT R2-1		3	36 x 48	36.0			
NO RIGHT TURN R3-1		1	24 x 24	4.0			
NO LEFT TURN R3-2		2	24 x 24	8.0			
KEEP RIGHT R4-7 (24x30)		2	24 x 30	10.0			
KEEP RIGHT R4-7 (36x48)		2	36 x 48	24.0			
KEEP LEFT R4-8		1	36 x 48	12.0			
DO NOT ENTER R5-1		4	30 x 30	25.0			
WRONG WAY R5-1a		2	42 x 30	17.5			
ONE WAY (LEFT) R6-1L		1	54 x 18	6.8			
U.S. ROUTE 61 M1-4		3	36 x 36	27.0			
STATE ROUTE 47 M1-5		1	36 x 36	9.0			
NORTH M3-1		1	24 x 12	2.0			
SOUTH M3-3		3	24 x 12	6.0			
AHEAD LEFT ARROW M5-1L		1	21 x 15	2.2			
DIAGONAL LEFT ARROW M5-2L		1	21 x 15	2.2			
DIAGONAL RIGHT ARROW M5-2L		1	21 x 15	2.2			
RIGHT ARROW M6-1		1	21 x 15	2.2			
FORWARD ARROW M6-3		1	21 x 15	2.2			
PEDESTRIAN CROSSING W11-2		3	36 x 36		27.0		
DOUBLE ARROW W12-1		1	36 x 36		9.0		
DIAGONAL ARROW W16-7P		2	30 x 18		7.5		
AHEAD W16-9P		1	36 x 18		4.5		
PARKING AREA (LEFT) D4-1L		1	30 x 24	5.0			
PARKING AREA (RIGHT) D4-1R		1	30 x 24	5.0			
HOSPITAL D9-2		1	24 x 24	4.0			
GUIDE SIGN 31a	147	1	120 x 84			70.0	
GUIDE SIGN 31b	147	1	72 x 84			42.0	
GUIDE SIGN 31c	148	1	108 x 84			63.0	
GUIDE SIGN 31d	146	1	49 x 49		16.7		
	146	1	24 x 18		3.0		
	146	1	24 x 24		4.0		
GUIDE SIGN 31e	146	1	49 x 49		16.7		
	146	1	24 x 18		3.0		
	146	1	24 x 24		4.0		
GUIDE SIGN 36	148	1	132 x 120			110.0	
GUIDE SIGN 46a	149	1	120 x 84			70.0	
GUIDE SIGN 46b	149	1	72 x 84			42.0	
GUIDE SIGN 46c	150	1	108 x 84			63.0	
GUIDE SIGN 46d	146	1	49 x 49		16.7		
	146	1	24 x 18		3.0		
	146	1	24 x 24		4.0		
GUIDE SIGN 46e	146	1	49 x 49		16.7		
	146	1	24 x 18		3.0		
	146	1	24 x 24		4.0		
GUIDE SIGN 53a	150	1	108 x 84			63.0	
GUIDE SIGN 53b	151	1	192 x 84			112.0	
GUIDE SIGN 59	151	1	84 x 48			28.0	
			SUBTOTAL	337.3	142.8	663.0	0.0
			TOTAL	SEE FOLLOWING SHEET			

* ORANGE, YELLOW & YELLOW/GREEN

D-30
SHEET 2 OF 3

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED: 10/25/2023
ROUTE: 47 | STATE: MO
DISTRICT: NE | SHEET NO.: 143
COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

STANDARD SIGN ASSEMBLIES

SIGN NUMBER	STATION	LOCATION	TYPE R1-1 STOP 36x36	R2-1 SPEED LIMIT 36x48	R3-7R RIGHT LANE MUST TURN RIGHT 36x36	M1-4 U.S. ROUTE 61 24x24	M4-5 TO 24x12	M5-1R 21x15	M6-1 21x15	W2-2 36x36	W2-4 36x36	W3-1 36x36	W3-3 36x36	W3-5 36x36	W4-4P 24x12	W16-18P NOTICE 36x12	I9-1a 48x36	OM4-1 18x18	D9-2 H 24x24
62	648+47	RTE 47						1											1
63	651+70	RTE 47			1											1			
64	655+05	RTE 47							1										1
65	658+10	RTE 47															1		
66	658+42	RTE 47	1																
67	928+60	FRNCHBLF												1					
68	929+60	FRNCHBLF		1															
69	934+38	FRNCHBLF											1						
70	0+24	BLUFVIEW	1																
71	937+85	FRNCHBLF				1	1	1											
72	94+47	OUTERRD		1															
73	106+34	OUTERRD								1									
74	–	CR658									1								
75	21+50	CR658										1							
76	20+38	CR658	1												1				
77	928+60	FRNCHBLF		1															
78	–	–								1									
79	–	US 61																2	
80	–	US 61																2	
81	–	US 61																2	
82	–	US 61																2	
83	–	US 61																2	
84	–	US 61																2	
85	–	US 61																2	
86	–	US 61																2	
		SUBTOTAL	3	3	1	1	1	2	1	2	1	1	1	1	1	1	1	16	2

SIGN SUMMARY

STANDARD SIGN OR SPECIAL SIGN NO.	SIGN DETAIL SHEET NO.	NO. EACH	SIZE, TYPE & SQUARE FEET: SIZE	FLAT SHEET SH ITEM NO. 9035004A	FLAT SHEET FLOURESCENT SHF* ITEM NO. 9035069A	STRUCTURAL ST ITEM NO. 9035011A	STRUCTURAL FLOURESCENT STF * ITEM NO. 9035071A
STOP R1-1		3	36 x 36	27.0			
SPEED LIMIT R2-1		3	36 x 48	36.0			
RIGHT LANE MUST TURN RIGHT R3-7R		1	36 x 36	9.0			
U.S. ROUTE 61 M1-4		1	24 x 24	4.0			
TO M4-5		1	24 x 12	2.0			
AHEAD RIGHT ARROW M5-1R		2	21 x 15	4.4			
RIGHT ARROW M6-1		1	21 x 15	2.2			
SIDE ROAD W2-2		2	36 x 36		18.0		
T-SYMBOL W2-4		1	36 x 36		9.0		
STOP AHEAD W3-1		1	36 x 36		9.0		
SIGNAL AHEAD W3-3		1	36 x 36		9.0		
REDUCED SPEED LIMIT AHEAD W3-5		1	36 x 36		9.0		
CROSS TRAFFIC DOES NOT STOP W4-4P		1	24 x 12		2.0		
NOTICE W16-18P		1	36 x 12		3.0		
ADOPT-A-HIGHWAY I9-1a		1	48 x 36	12.0			
OBJECT MARKER OM4-1		16	18 x 18	36.0			
HOSPITAL D9-2		2	24 x 24	8.0			
			SUBTOTAL	140.6	59.0	0.0	0.0
			TOTAL	718	294	899	0

* ORANGE, YELLOW & YELLOW/GREEN

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE 47 | STATE MO

DISTRICT NE | SHEET NO. 144

COUNTY LINCOLN

JOB NO. J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION | DATE

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

\\hrgreen.com\HRG\Data\2017\171526.01\CAD\Data\142_SN_10-12_J2P3043_I1_D30.dgn 1:18:30 PM 10/25/2023

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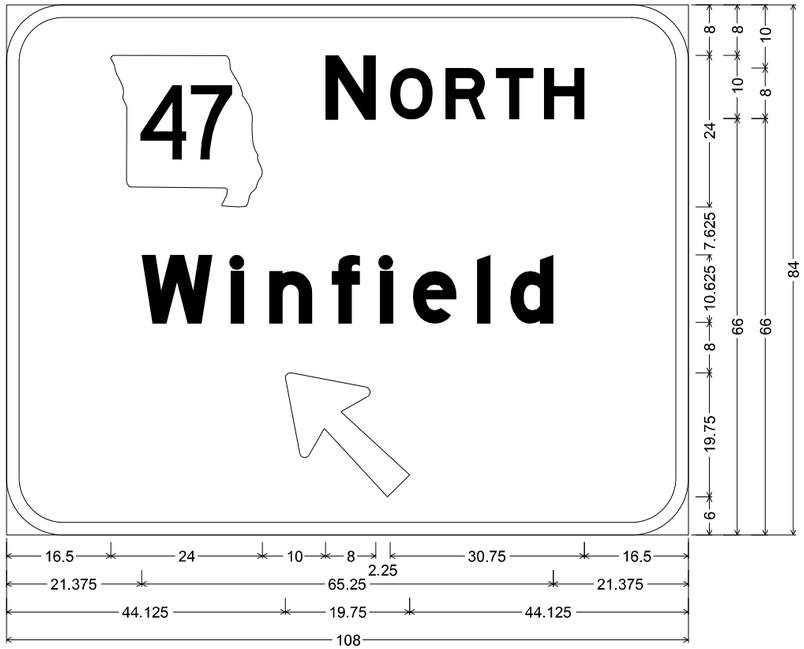


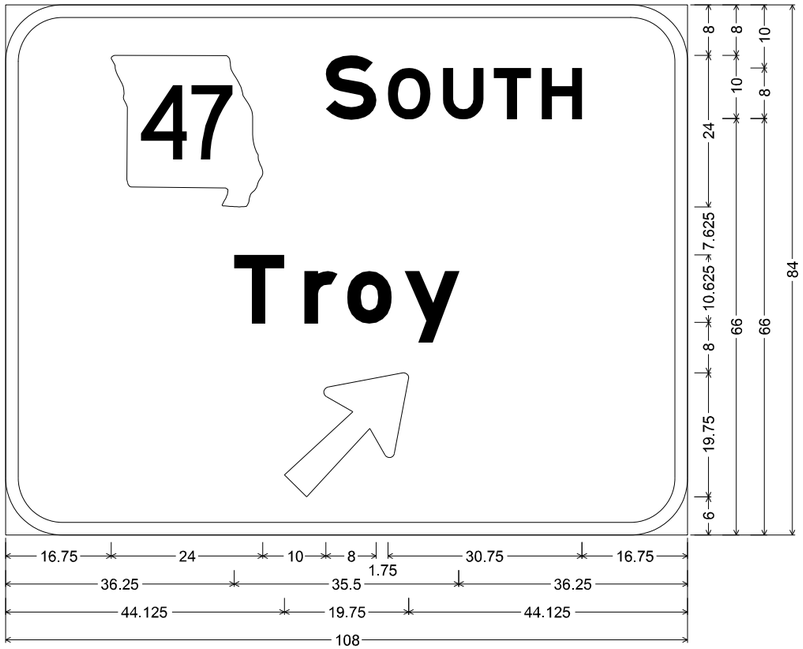
E1-1 ST-STRUCTURAL;
9.000" Radius, 2.000" Border, White on, Green;
State Highway 47 M1-6a 12.000" C; "NORTH", E Mod; "Winfield", E Mod;
Arrow 80 - 25.000" 135';
Table of letter and object lefts

47	N	O	R	T	H
16.500	50.500	60.750	69.500	77.500	85.125

W	I	n	f	l	e	l	d
21.375	35.500	41.625	51.500	59.125	64.375	74.500	79.750

↖
44.125

SIGN 17a
STA. 10+93
RAMP 2



E1-1 ST-STRUCTURAL;
9.000" Radius, 2.000" Border, White on, Green;
State Highway 47 M1-6a 12.000" C; "SOUTH", E Mod; "Troy", E Mod;
Arrow 80 - 25.000" 45';
Table of letter and object lefts

47	S	O	U	T	H
16.750	50.750	60.500	69.250	77.375	84.875

T	r	o	y
36.250	47.375	54.125	63.250

↗
44.125

SIGN 17b
STA. 10+93
RAMP 2

D-31
SHEET 1 OF 7

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED: 10/25/2023
ROUTE: 47 | STATE: MO
DISTRICT: NE | SHEET NO.: 145
COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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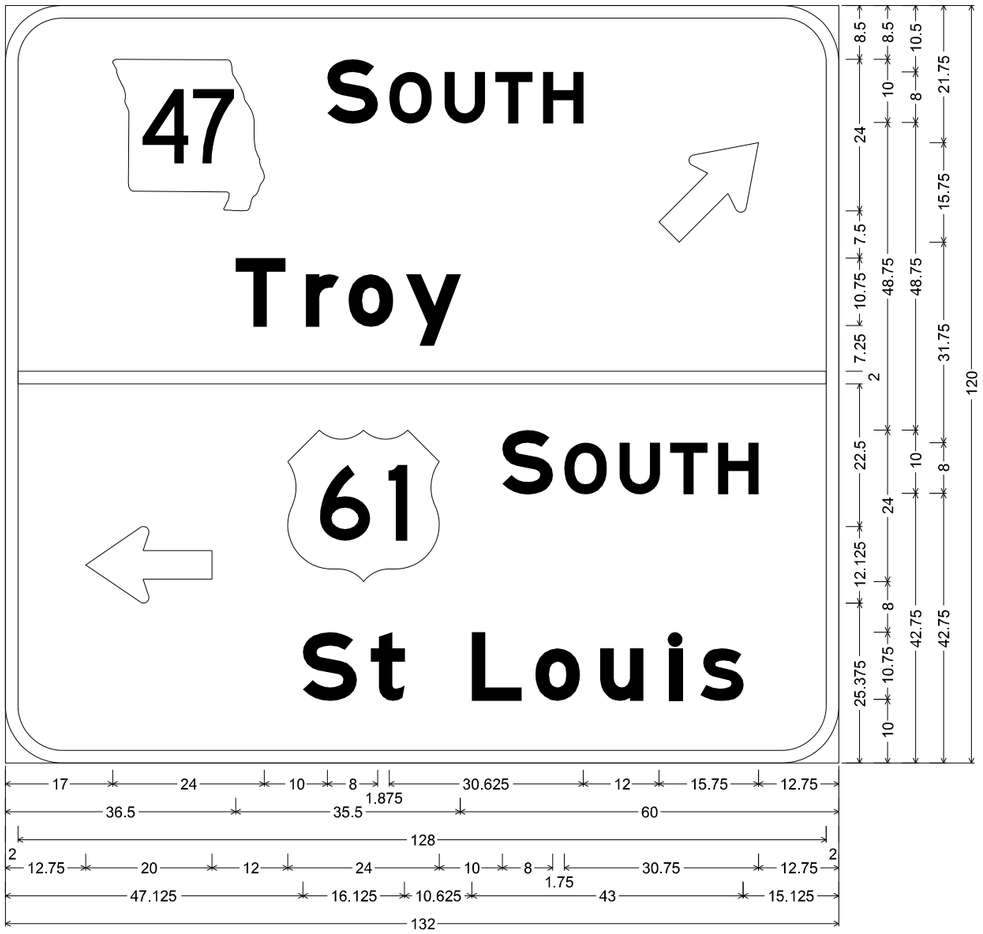
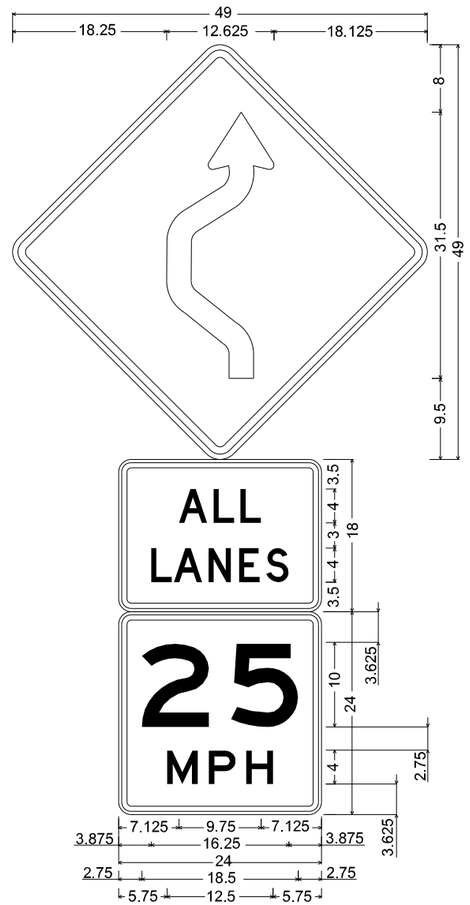


E8-2 ST-STRUCTURAL;
9.000" Radius, 2.000" Border, White on, Green;
State Highway 47 M1-6a 12.000" C; "SOUTH", E Mod; "Troy", E Mod;
Standard Arrow Custom 20.000" X 12.125" 45'; Standard Arrow Custom 20.000" X 12.125" 180';
"SOUTH", E Mod; "St Louis", E Mod;
Table of letter and object lefts

47 17.000	S 51.000	O 60.875	U 69.500	T 77.625	H 85.125	103.500
T 36.500	r 47.625	o 54.375	y 63.500			
— 2.000						
12.750	61 44.750	S 78.750	O 88.500	U 97.250	T 105.375	H 112.875
S 47.125	t 57.875	L 73.875	o 84.000	u 94.250	I 105.125	s 110.125

SIGN 23
STA. 1+75
RAMP 4 LT



W24-1L SHF-FLAT SHEET FLUORESCENT;
36.000" across sides 2.250" Radius, 0.875" Border, 0.625" Indent, Black on, Yellow;

W24-1cP SHF-FLAT SHEET FLUORESCENT;
1.500" Radius, 0.625" Border, 0.375" Indent, Black on, Yellow;
"ALL", D; "LANES", D;

W13-1P SHF-FLAT SHEET FLUORESCENT;
1.500" Radius, 0.625" Border, 0.375" Indent, Black on, Yellow;
"25", E; "MPH", E 120% spacing;
Table of letter and object lefts

18.250				
A 7.125	L 11.250	L 14.375		
L 3.875	A 6.500	N 10.625	E 14.250	S 17.500
2 2.750	5 13.250			
M 5.750	P 10.625	H 15.125		

SIGN 31d, 31e
STA. 625+37
ROUTE 47

SIGN 46d, 46e
STA. 634+29
ROUTE 47

STATE OF MISSOURI
DANIEL T. SHANE
NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	146

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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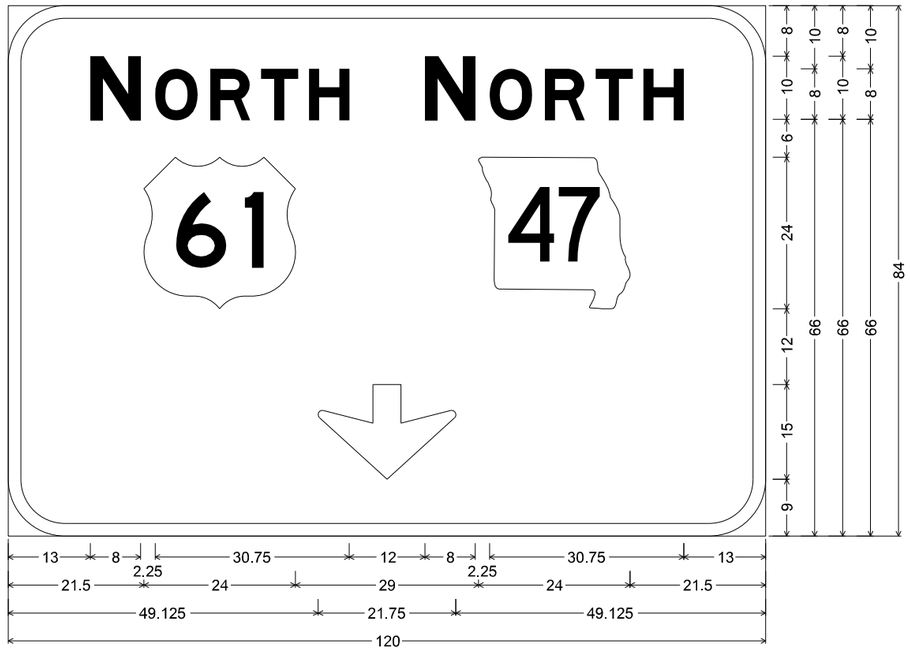


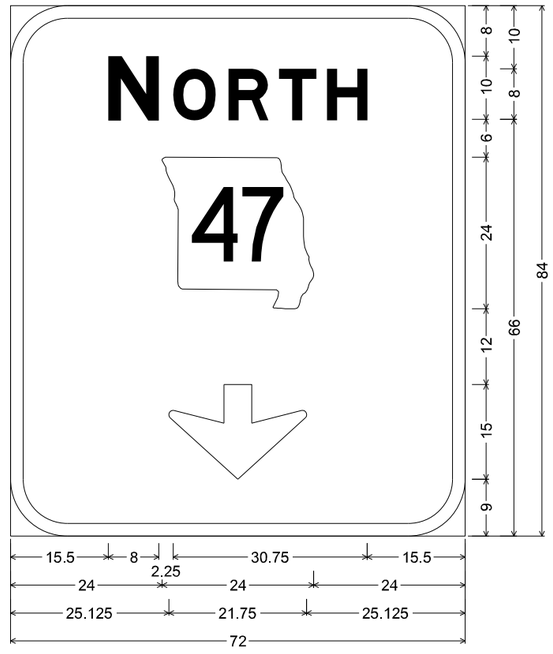
E1-1 ST-STRUCTURAL;
9.000" Radius, 2.000" Border, White on, Green;
"NORTH", E Mod; "NORTH", E Mod; State Highway 47 M1-6a 12.000" C;
Down Arrow 22.000" 270°;
Table of letter and object lefts

N	O	R	T	H	N	O	R	T	H
13.000	23.250	32.000	40.000	47.625	66.000	76.250	85.000	93.000	100.625

61	47
21.500	74.500

⇩
49.125

SIGN 31a
STA. 625+37
ROUTE 47



E1-1 ST-STRUCTURAL;
9.000" Radius, 2.000" Border, White on, Green;
"NORTH", E Mod; State Highway 47 M1-6a 12.000" C;
Down Arrow 22.000" 270°;
Table of letter and object lefts

N	O	R	T	H
15.500	25.750	34.500	42.500	50.125

47
24.000

⇩
25.125

SIGN 31b
STA. 625+37
ROUTE 47

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE NUMBER E-29833
THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	147

COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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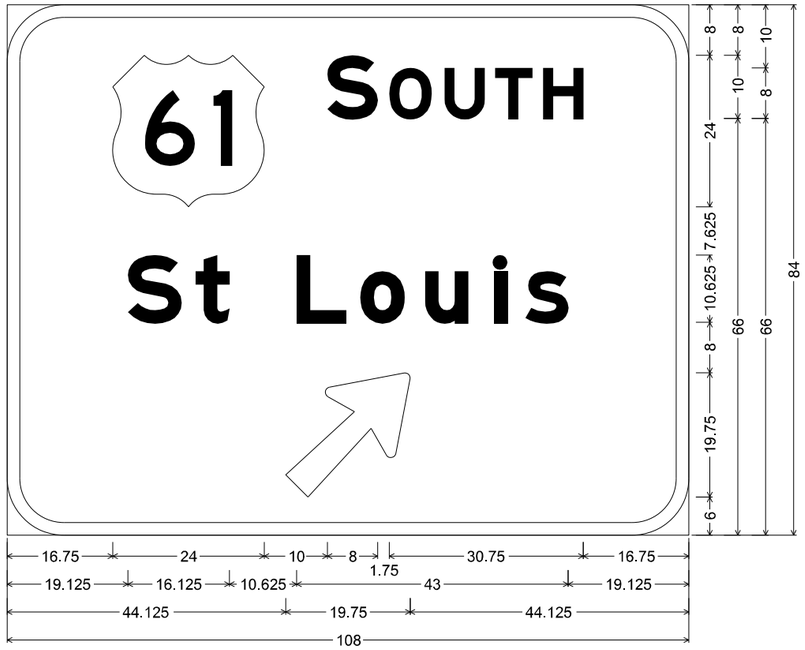


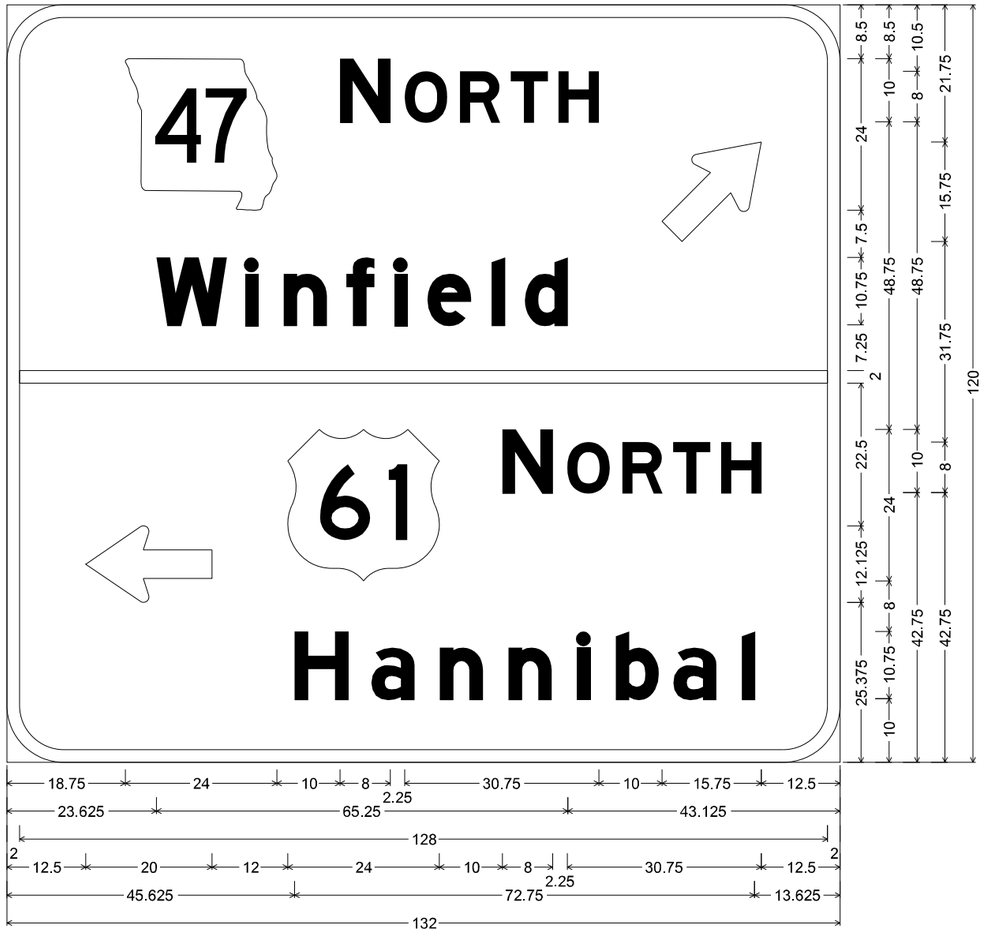
E1-1 ST-STRUCTURAL;
9.000" Radius, 2.000" Border, White on, Green;
"SOUTH", E Mod; "St Louis", E Mod; Arrow 80 - 25.000" 45';
Table of letter and object lefts

61	S	O	U	T	H
16.750	50.750	60.500	69.250	77.375	84.875

S	t	L	o	u	i	s
19.125	29.875	45.875	56.000	66.250	77.125	82.125

⇗
44.125

SIGN 31c
STA. 625+37
ROUTE 47



E8-2 ST-STRUCTURAL;
9.000" Radius, 2.000" Border, White on, Green;
State Highway 47 M1-6a 12.000" C; "NORTH", E Mod; "Winfield", E Mod;
Standard Arrow Custom 20.000" X 12.125" 45'; Standard Arrow Custom 20.000" X 12.125" 180';
"NORTH", E Mod; "Hannibal", E Mod;
Table of letter and object lefts

47	N	O	R	T	H	⇗
18.750	52.750	63.000	71.750	79.750	87.375	103.750

W	i	n	f	i	e	l	d
23.625	37.750	43.875	53.750	61.375	66.625	76.750	82.000

—
2.000

⇦	61	N	O	R	T	H
12.500	44.500	78.500	88.750	97.500	105.500	113.125

H	a	n	n	i	b	a	l
45.625	57.750	68.625	79.500	90.375	96.500	105.625	116.375

SIGN 36
STA. 1+20
RAMP 1 LT

D-31
SHEET 4 OF 7

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	148

COUNTY
LINCOLN
JOB NO.
J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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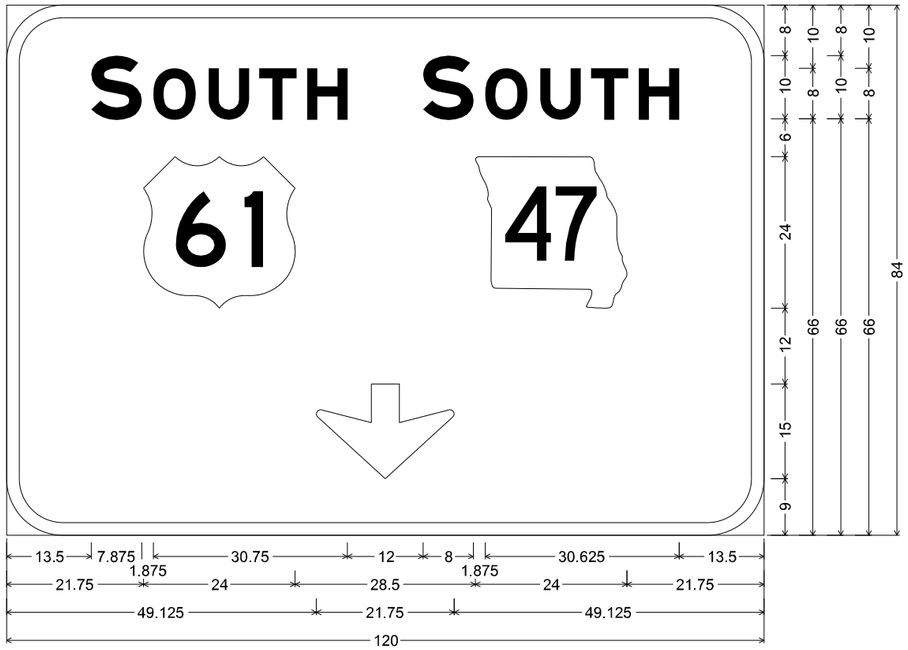


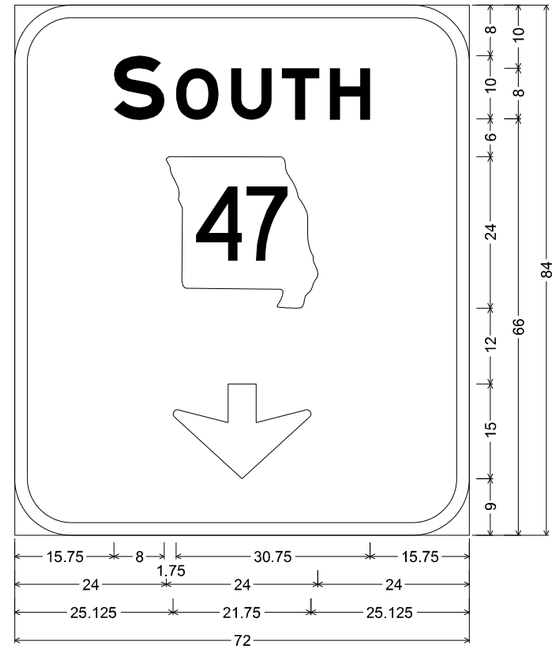
E1-1 ST-STRUCTURAL;
9.000" Radius, 2.000" Border, White on, Green;
"SOUTH", E Mod; "SOUTH", E Mod; State Highway 47 M1-6a 12.000" C;
Down Arrow 22.000" 270°;
Table of letter and object lefts

S	O	U	T	H	S	O	U	T	H
13.500	23.250	32.000	40.000	47.625	66.000	75.875	84.625	92.625	100.125

61	47
21.750	74.250

↓
49.125

SIGN 46a
STA. 634+29
ROUTE 47



E1-1 ST-STRUCTURAL;
9.000" Radius, 2.000" Border, White on, Green;
"SOUTH", E Mod; State Highway 47 M1-6a 12.000" C;
Down Arrow 22.000" 270°;
Table of letter and object lefts

S	O	U	T	H
15.750	25.500	34.250	42.375	49.875

47
24.000

↓
25.125

SIGN 46b
STA. 634+29
ROUTE 47

STATE OF MISSOURI
DANIEL T. SHANE NUMBER
E-29833
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	149

COUNTY
LINCOLN
JOB NO.
J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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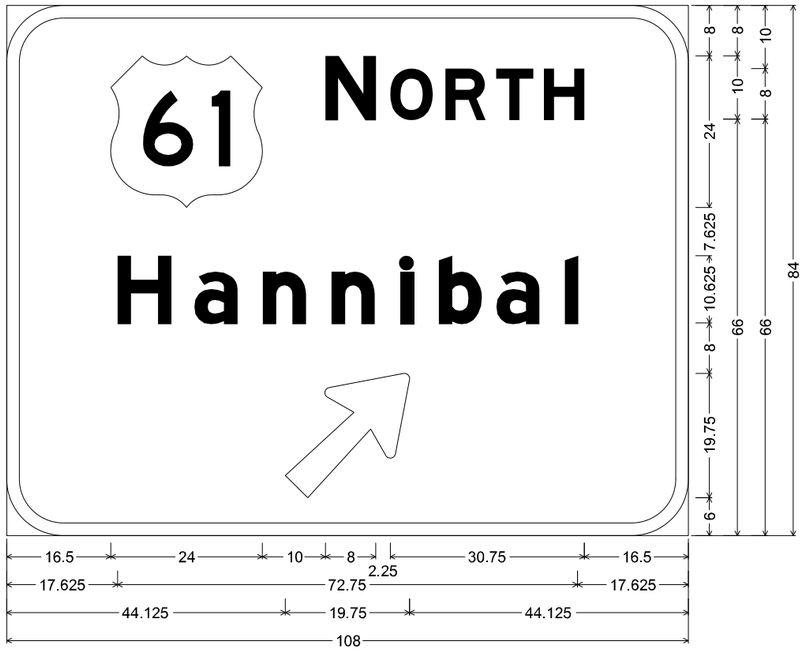


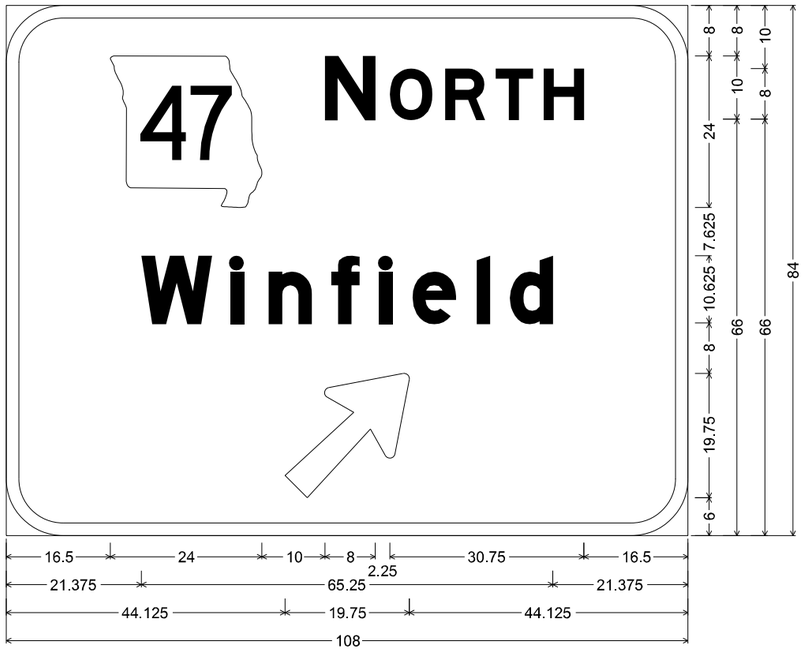
E1-1 ST-STRUCTURAL;
9.000" Radius, 2.000" Border, White on, Green;
"NORTH", E Mod; "Hannibal", E Mod; Arrow 80 - 25.000" 45';
Table of letter and object lefts

61	N	O	R	T	H
16.500	50.500	60.750	69.500	77.500	85.125

H	a	n	n	l	b	a	l
17.625	29.750	40.625	51.500	62.375	68.500	77.625	88.375

⇗
44.125

SIGN 46c
STA. 634+29
ROUTE 47



E1-1 ST-STRUCTURAL;
9.000" Radius, 2.000" Border, White on, Green;
State Highway 47 M1-6a 12.000" C; "NORTH", E Mod; "Winfield", E Mod;
Arrow 80 - 25.000" 45';
Table of letter and object lefts

47	N	O	R	T	H
16.500	50.500	60.750	69.500	77.500	85.125

W	i	n	f	i	e	l	d
21.375	35.500	41.625	51.500	59.125	64.375	74.500	79.750

⇗
44.125

SIGN 53b
STA. 12+20
RAMP 3

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	150

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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MoDOT

HR GREEN, INC.
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PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
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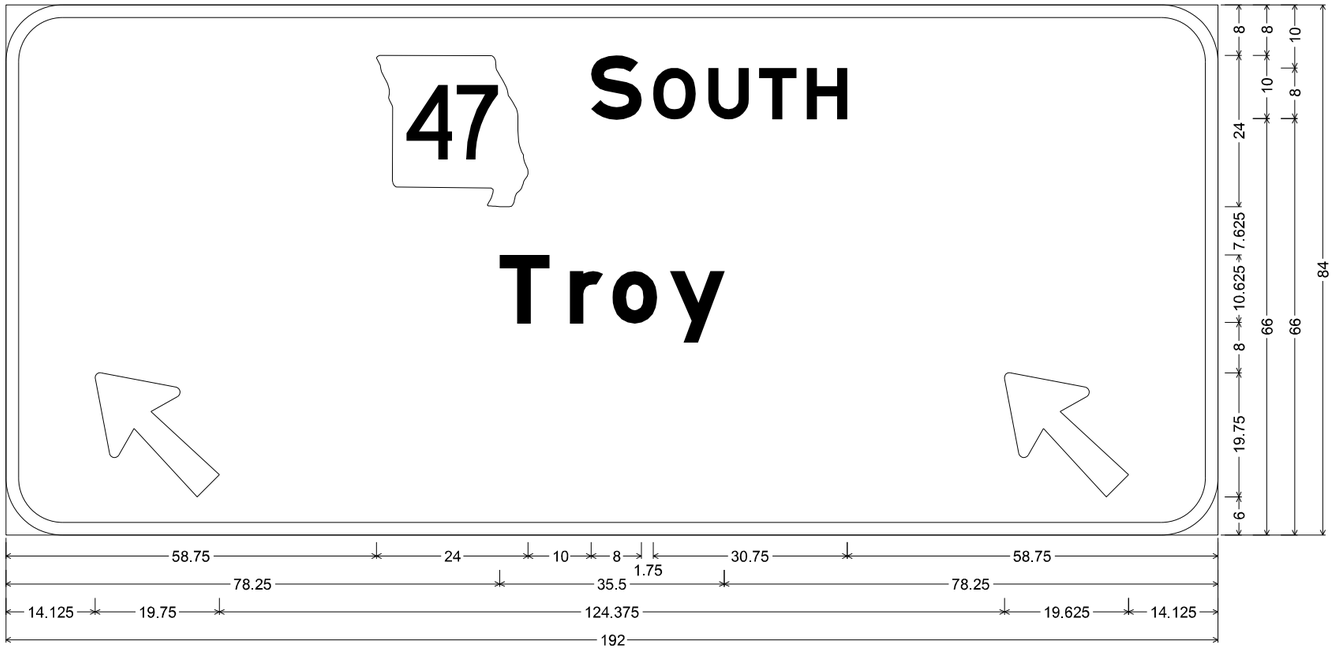
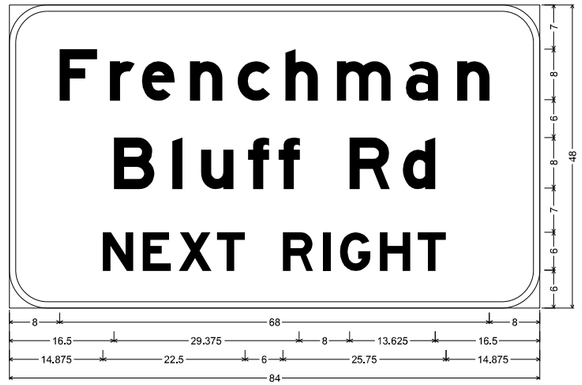


E1-1 ST-STRUCTURAL;
9.000" Radius, 2.000" Border, White on, Green;
State Highway 47 M1-6a 12.000" C; "SOUTH", E Mod; "Troy", E Mod; Arrow 80 - 25.000" 135'; Arrow 80 - 25.000" 135';
Table of letter and object lefts

47 58.750	**S** 92.750	**O** 102.500	**U** 111.250	**T** 119.375	**H** 126.875
T 78.250	**r** 89.375	**o** 96.125	**y** 105.250		
14.125	158.250				

SIGN 53a
STA. 12+20
RAMP 3



D3-2 ST-STRUCTURAL;
6.000" Radius, 1.000" Border, White on, Green;
"Frenchman", E Mod; "Bluff Rd", E Mod; "NEXT RIGHT", E Mod;
Table of letter and object lefts

F 8.000	**r** 15.875	**e** 21.000	**n** 28.625	**c** 36.125	**h** 43.750	**m** 51.875	**a** 62.750	**n** 70.875	
B 16.500	**l** 25.750	**u** 30.375	**f** 37.750	**f** 42.625	**R** 53.875	**d** 62.375			
N 14.875	**E** 21.125	**X** 26.875	**T** 32.875	**R** 43.375	**I** 49.625	**G** 52.375	**H** 58.750	**T** 64.750	

SIGN 59
STA. 642+40
RTE47

D-31
SHEET 7 OF 7

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	
10/25/2023	
ROUTE 47	STATE MO
DISTRICT NE	SHEET NO. 151
COUNTY LINCOLN	
JOB NO. J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

DESCRIPTION	DATE

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

HR GREEN, INC.
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ST. LOUIS, MISSOURI 63141
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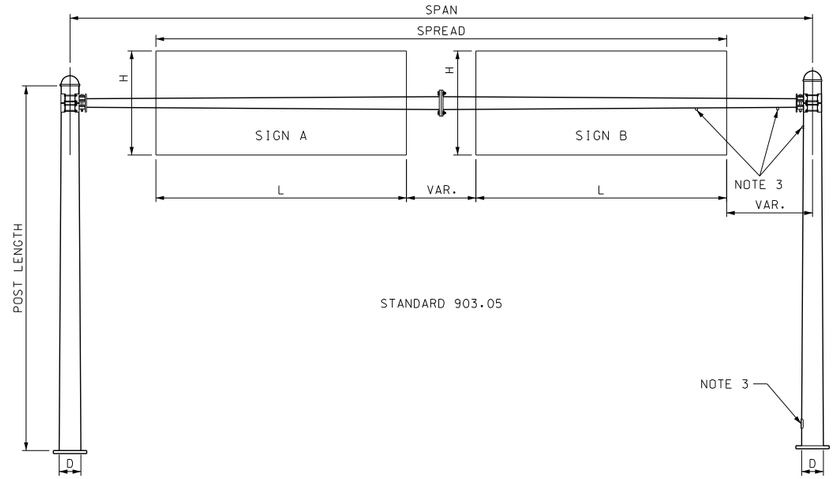
EFFECTIVE 04-01-2005

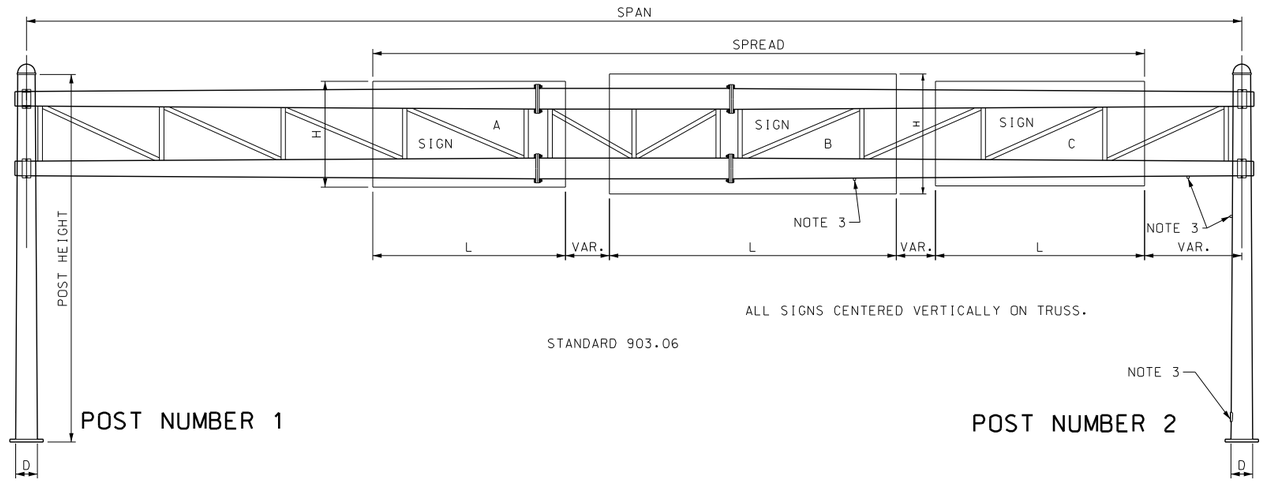


STANDARD 903.05

POST NUMBER 1

ONE TUBE - TYPE S

POST NUMBER 2



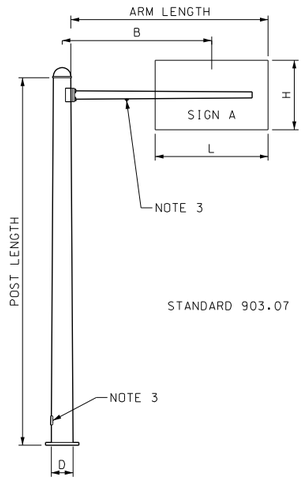
ALL SIGNS CENTERED VERTICALLY ON TRUSS.

STANDARD 903.06

POST NUMBER 1

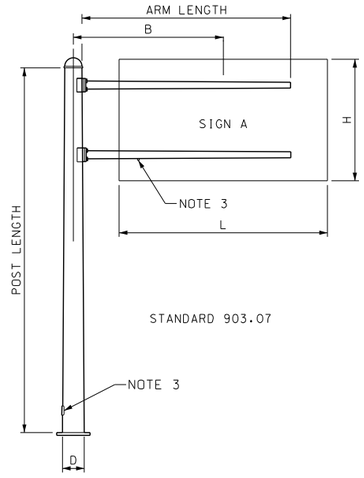
TWO TUBE - TYPE S

POST NUMBER 2



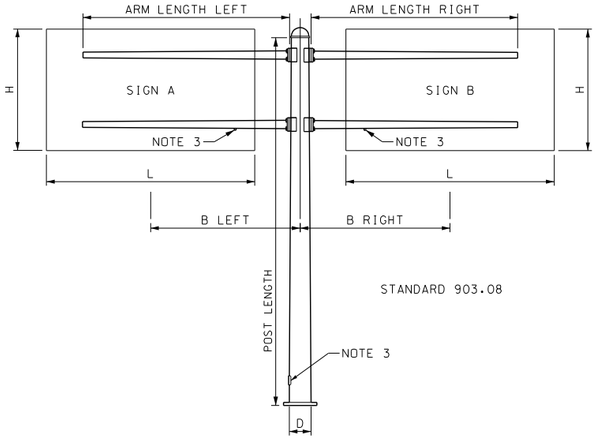
STANDARD 903.07

ONE TUBE - TYPE C



STANDARD 903.07

TWO TUBE - TYPE C



STANDARD 903.08

TWO TUBE - TYPE B

TUBULAR STEEL SUPPORT NUMBERING SYSTEM

THE FIRST SYMBOL (LETTER) INDICATES TYPE AS, C FOR CANTILEVER, B FOR BUTTERFLY, S FOR SPAN TYPE.

THE SECOND SYMBOL (NUMBER) INDICATES SINGLE (1) OR DOUBLE (2) MAST ARMS OR TRUSS.

THE THIRD SYMBOL (NUMBER) INDICATES GAGE - POST
7 = 7 GAUGE (.1793") 77 = 7 + 7 GAUGE (.3586")
3 = 3 GAUGE (.2500") 33 = 3 + 3 GAUGE (.5000")
0 = 0 GAUGE (.3125") 00 = 0 + 0 GAUGE (.6250")

THE FOURTH SYMBOL (NUMBER) INDICATES DIAMETER IN INCHES OF THE POST BASE.

THE FIFTH SYMBOL (NUMBER) INDICATES LENGTH IN FEET OF ARM OR SPAN.

EXAMPLE: DESIGN NUMBER B-20018-24 INDICATES BUTTERFLY TYPE, TWO ARMS, 2-PLY, O-GAUGE, 18" DIAMETER AT BASE OF POST & 24' MAST ARMS.

NOTES

1. ALL POSTS, BEAMS, MAST ARMS, ANGLES, BRACKETS & ETC. SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
2. SHOP DRAWINGS ARE NOT REQUIRED.
3. HANDHOLES AND 1¼" BLIND HALF COUPLINGS REQUIRED ON DESIGNATED POSTS. HANDHOLES SHALL BE PLACED ON RIGHT HAND SHOULDER SIDE OF TRUSSES.
4. STRUCTURES DESIGNED FOR TOTAL SIGN AREA COMMENSURATE WITH HEIGHT OF SIGN AND REQUIRED VERTICAL CEARANCE.
5. DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS - 1985.

TUBULAR STEEL SUPPORT DESIGN DATA

STANDARDS 903.05 THRU 903.08

SIGN NUMBER	STATION	LOCATION	STANDARD NUMBER	TYPE	SPAN OR ARM	B LENGTH	POST LENGTH NO. 1	POST LENGTH NO. 2	CONCRETE FOOTINGS	SIGN DATA SPREAD	SIGN A L	SIGN A H	SPACE	SIGN B L	SIGN B H	SPACE	SIGN C L	SIGN C H	SPACE	SIGN D L	SIGN D H	SPACE	SIGN E L	SIGN E H	SPACE	TOTAL
					FT-IN.	FT-IN.	FT	FT	CU YDS	FT-IN.	FT-IN.	FT-IN.	FT-IN.	FT-IN.	FT-IN.	FT-IN.	FT-IN.	FT-IN.	FT-IN.	FT-IN.	FT-IN.	FT-IN.	FT-IN.	FT-IN.	FT-IN.	SQ FT
17	10+93	RAMP 2	S-2318	S	55'-0"	-	24'-0"	25'-0"	7.20	21'-0"	9'-0"	7'-0"	3'-0"	9'-0"	7'-0"											126
31	625+37	ROUTE 47	S-27718	S	70'-0"	-	21'-9⅛"	23'-0"	10.24	39'-6"	10'-0"	7'-0"	7'-0"	6'-0"	7'-0"	7'-6"	9'-0"	7'-0"								175
46	634+29	ROUTE 47	S-27718	S	71'-6"	-	23'-0"	21'-9⅜"	9.83	39'-6"	10'-0"	7'-0"	7'-0"	6'-0"	7'-0"	7'-6"	10'-0"	7'-0"								182
53	12+20	RAMP 3	S-27718	S	61'-6"	-	25'-0"	24'-3⅜"	9.97	30'-7½"	16'-0"	7'-0"	5'-7½"	9'-0"	7'-0"											185

D-34
SHEET 1 OF 1

D-34

HR GREEN, INC.
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CORPORATE LICENSE #2002006608

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

STATE OF MISSOURI
DANIEL T. SHANE NUMBER
E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 03/04/2024

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	152

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

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

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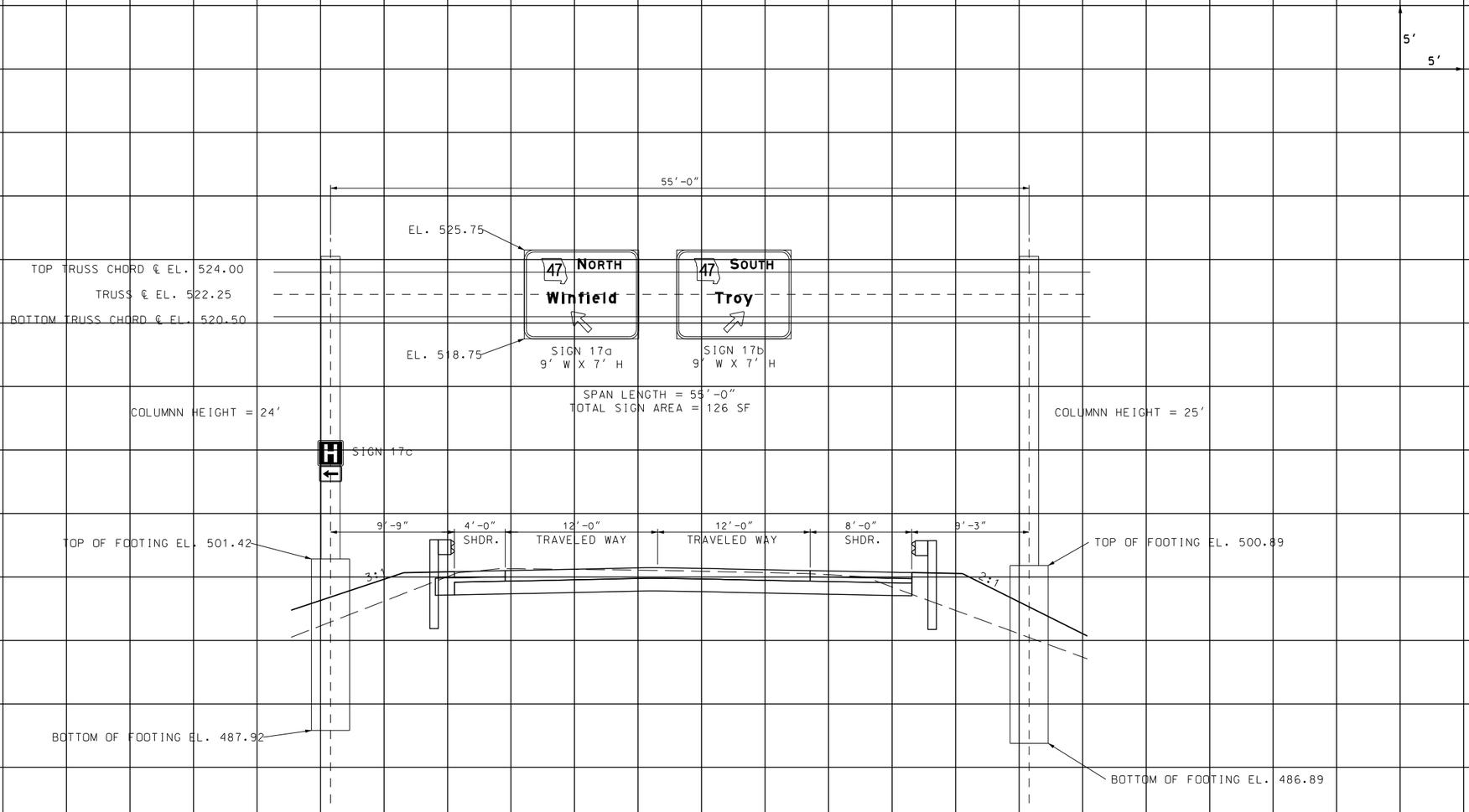

SIGN 17 S-2318
STA. 10+92 (RAMP 2)

SIGN CROSS SECTIONS
SHEET 1 OF 9

DANIEL T. SHANE NUMBER E-24833
STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

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

DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	153

COUNTY: LINCOLN
JOB NO.: J2P3043
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)

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520 MARYVILLE CENTRE DRIVE
SUITE 100
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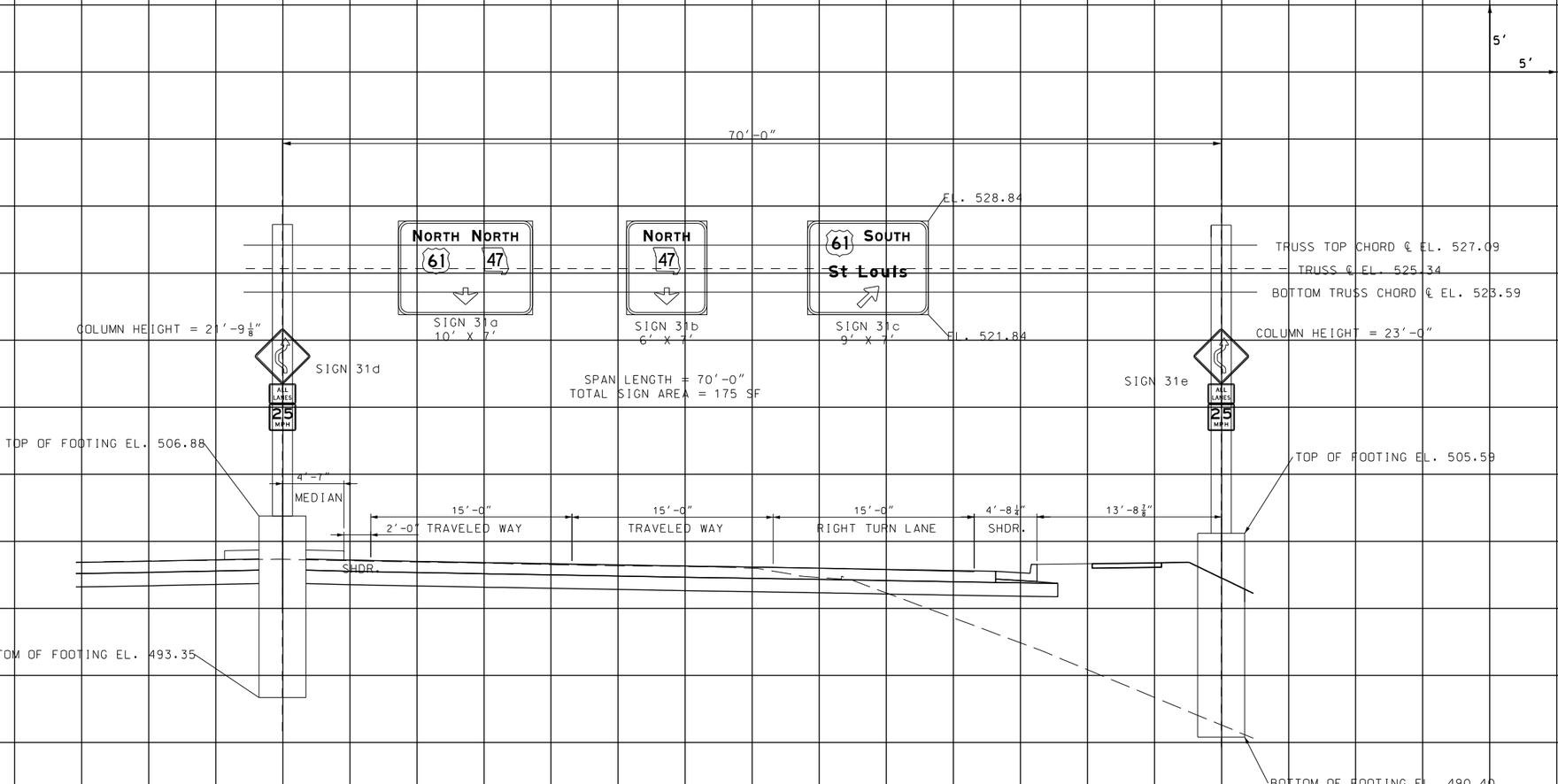

SIGN 31 S-27718
STA. 625+37 (RTF47)

SIGN CROSS SECTIONS
SHEET 2 OF 9

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	154

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
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ST. LOUIS, MISSOURI 63141
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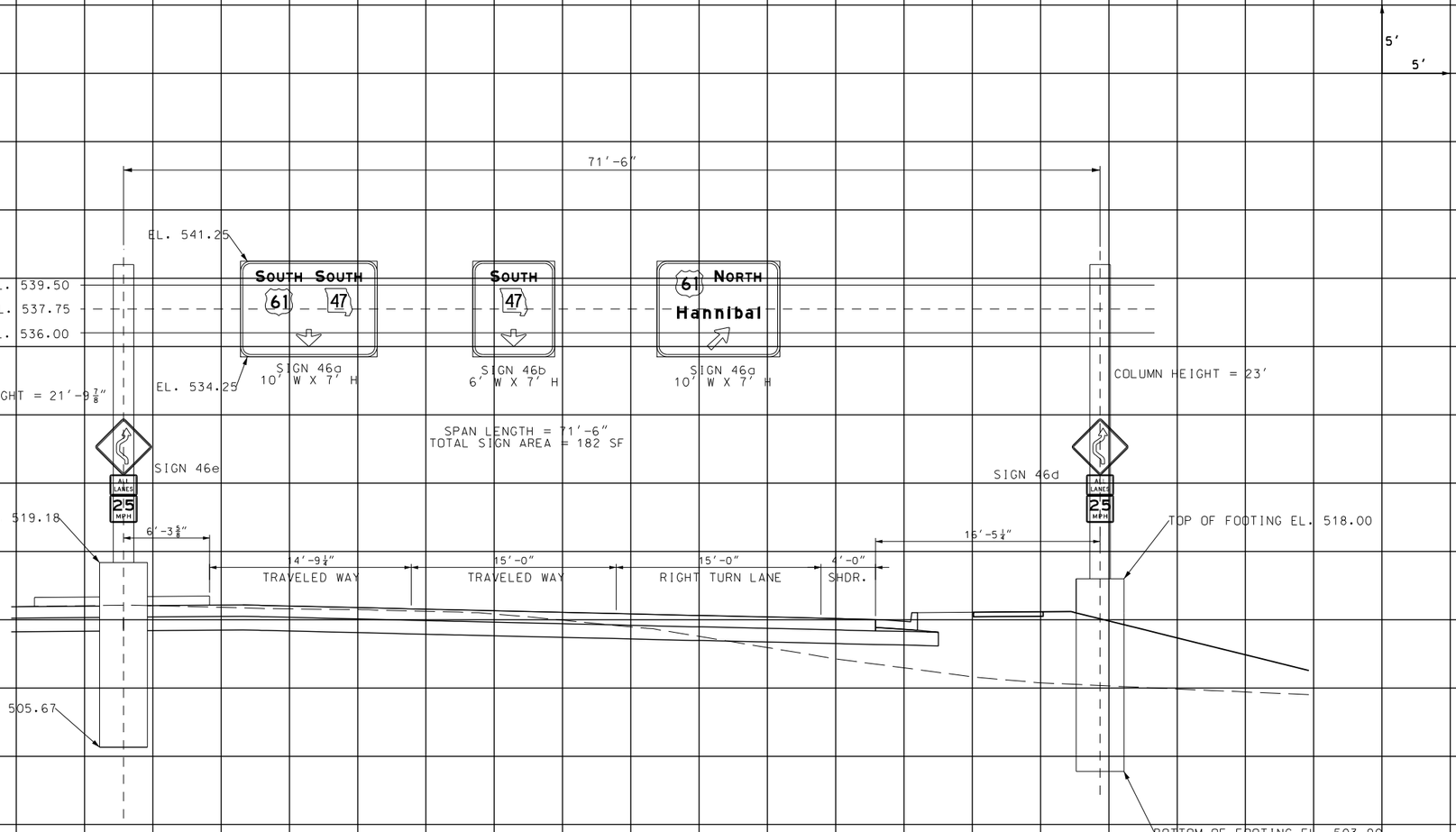

SIGN 46 S-27718
STA. 634+29 (RTE47)

SIGN CROSS SECTIONS
SHEET 3 OF 9

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE NUMBER E-21833

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	155

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DESCRIPTION	DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
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HRGreen

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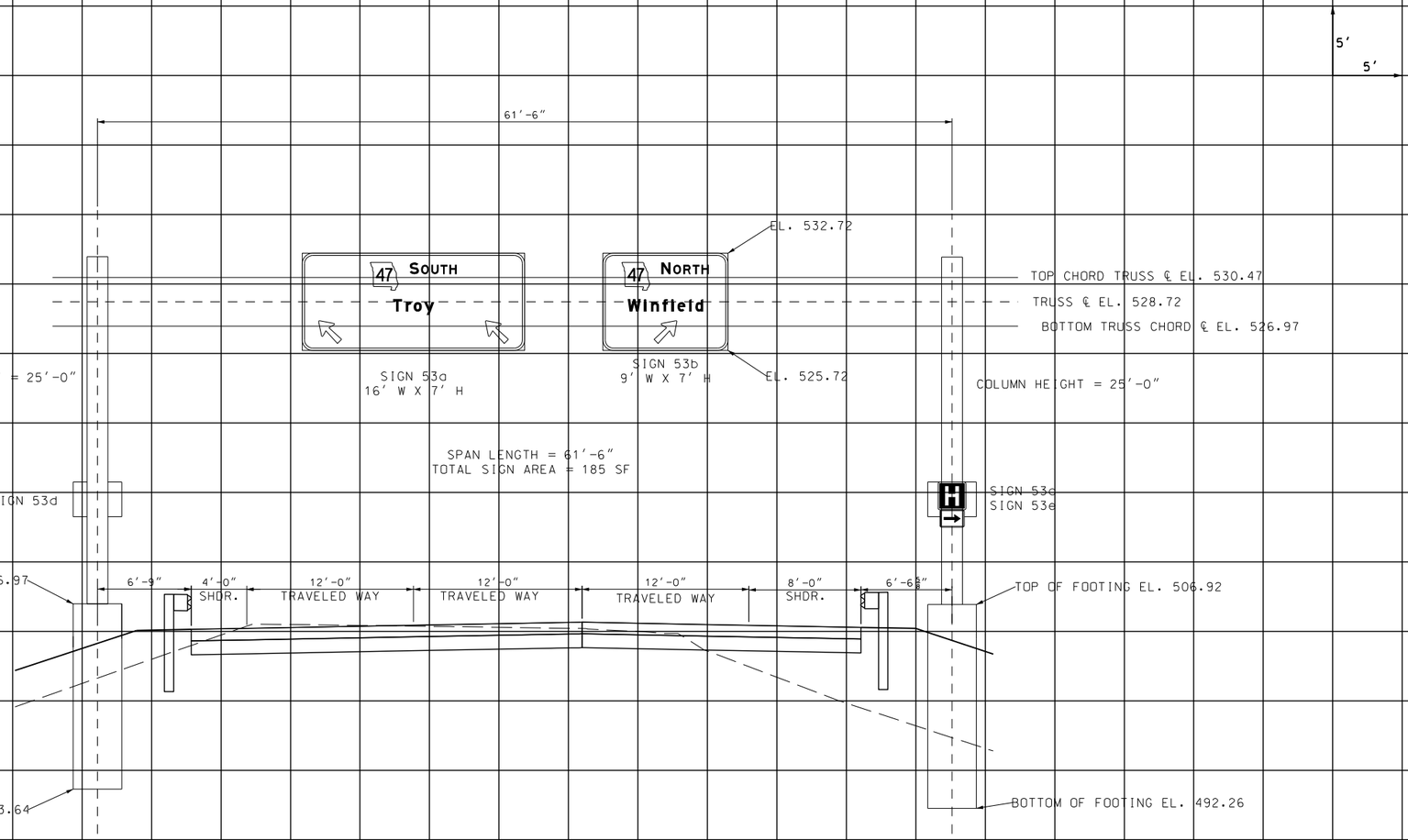

SIGN 53 S-27718
STA. 12+20 (RAMP 3)

SIGN CROSS SECTIONS
SHEET 4 OF 9

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	156

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DATE	DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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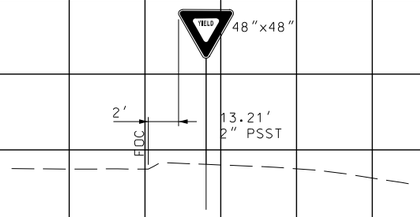
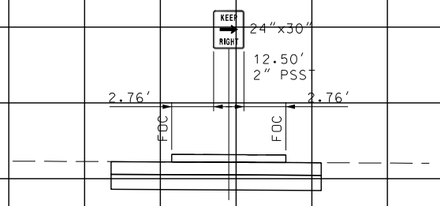
NOTES:
1) ALL SIGN CROSS SECTIONS ARE CUT IN THE DIRECTION OF TRAVEL.

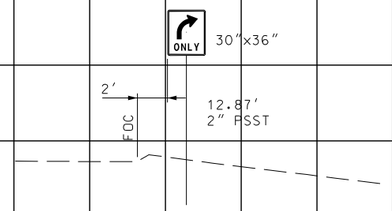
2) ALL SIGNS TO BE PLACED SUCH THAT THE DISTANCE BETWEEN THE EDGE OF PAVEMENT AND THE BOTTOM OF SIGNS IS 7.0' EXCEPT CHEVRON SIGNS IN WHICH THE DISTACE SHALL BE 4.0'.



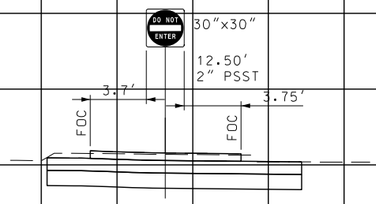
SIGN 1
STA. 199+45 (TURNBULL)



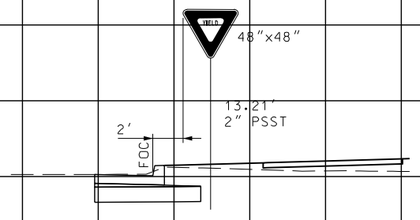
SIGN 2
STA. 199+30 (TURNBULL)



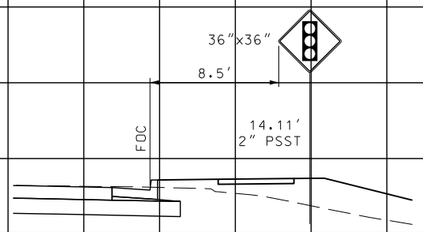
SIGN 3
STA. 198+50 (TURNBULL)



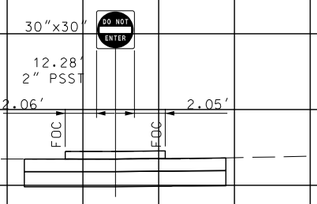
SIGN 4
STA. 199+52 (TURNBULL)



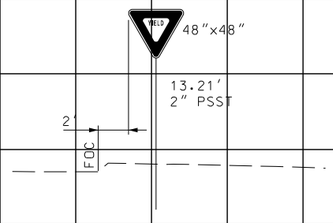
SIGN 5
STA. 199+38 (TURNBULL)



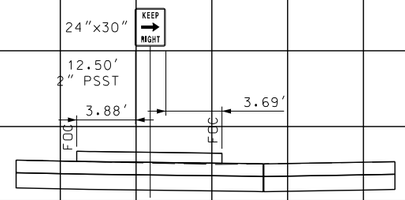
SIGN 6
STA. 622+65 (RTE47)



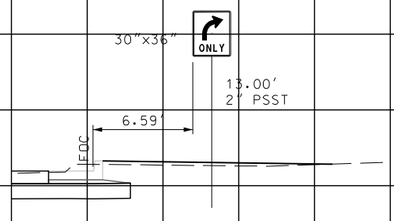
SIGN 7
STA. 100+54 (MERLINDR)



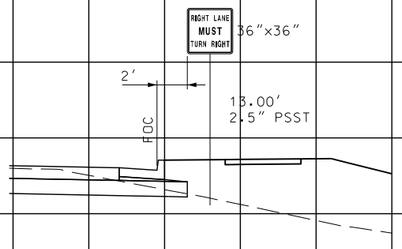
SIGN 8
STA. 100+77 (MERLINDR)



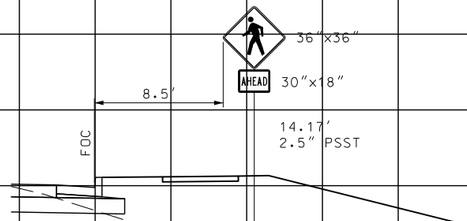
SIGN 9
STA. 100+62 (MERLINDR)



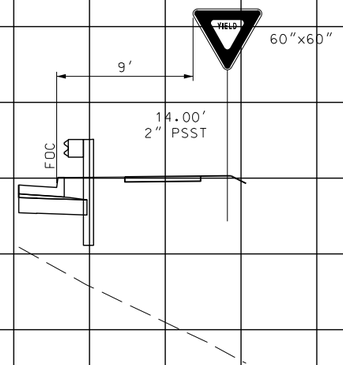
SIGN 10
STA. 101+89 (MERLINDR)



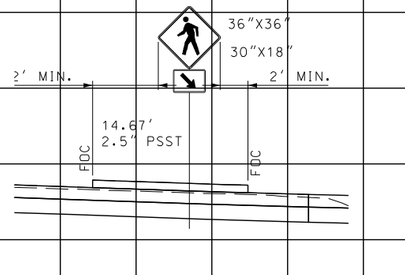
SIGN 11
STA. 622+14 (RTE47)



SIGN 13
STA. 623+49 (RTE47)



SIGN 14
STA. 1+76 (RAMP2RT)



SIGN 15
STA. 1+18 (RAMP2RT)

SIGN CROSS SECTIONS
SHEET 5 OF 9

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	157

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

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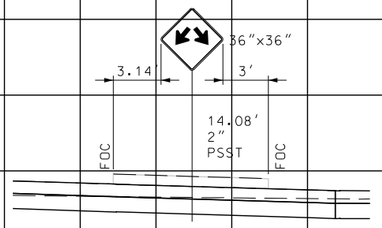
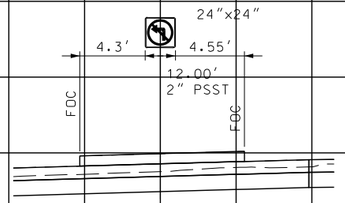
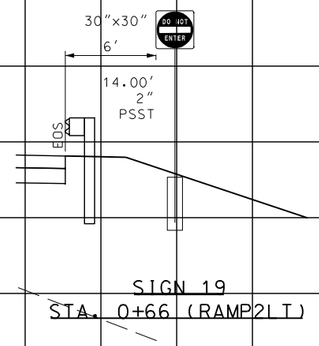


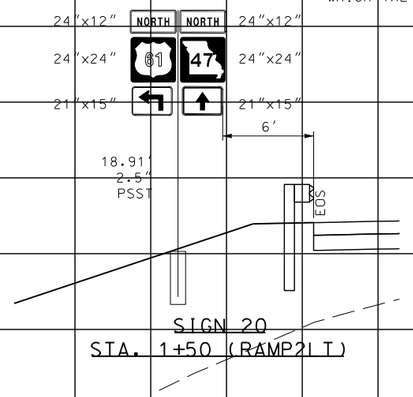
SIGN 16
STA. 11+95 (RAMP2)



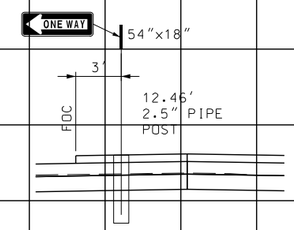
SIGN 18
STA. 627+27 (RTE47)



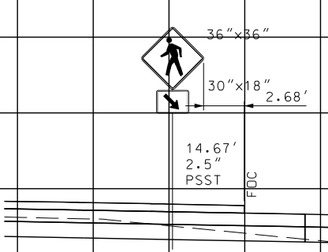
SIGN 19
STA. 0+66 (RAMP2LT)



SIGN 20
STA. 1+50 (RAMP2LT)



SIGN 21
STA. 627+86 (RTE47)



SIGN 22
STA. 627+70 (RTE47)

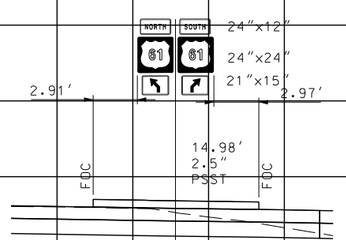
SIGN 23
STA. 1+75 (RAMP4LT)

SIGN 25
STA. 627+10 (RTE47)

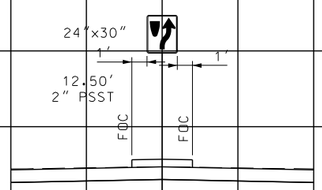
SIGN 26
STA. 1+83 (RAMP4)

SIGN 27
STA. 3+53 (RAMP4)

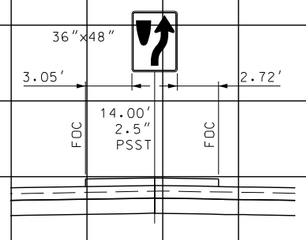
SIGN 28
STA. 0+74 (RAMP4RT)



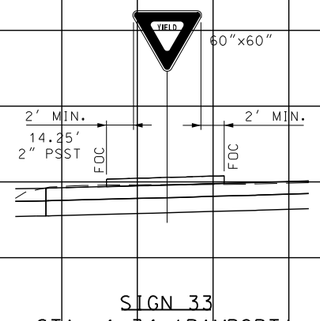
SIGN 29
STA. 0+58 (RAMP4RT)



SIGN 30
STA. 624+48 (RTE47)



SIGN 32
STA. 626+32 (RTE47)



SIGN 33
STA. 1+34 (RAMP2RT)

SIGN CROSS SECTIONS
SHEET 6 OF 9

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	158

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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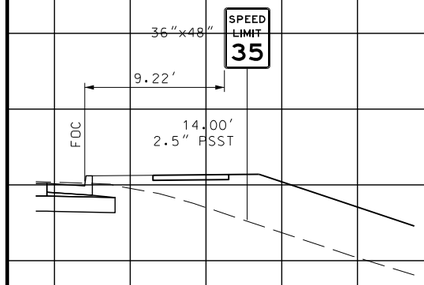
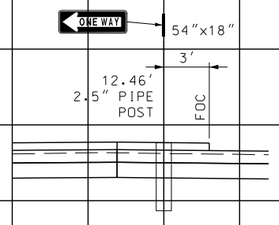
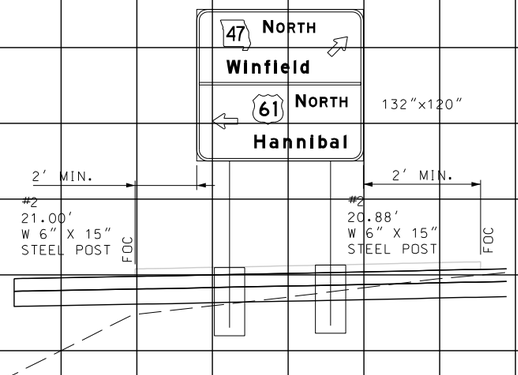


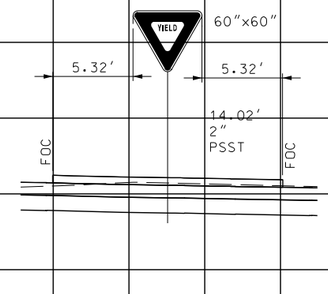
SIGN 34
STA. 625+01 (RTE47)



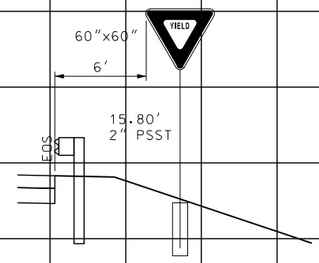
SIGN 35
STA. 631+22 (RTE47)



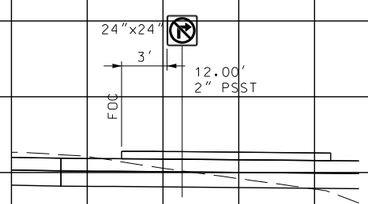
SIGN 36
STA. 1+20 (RAMP1 T)



SIGN 38
STA. 1+65 (RAMP1RT)

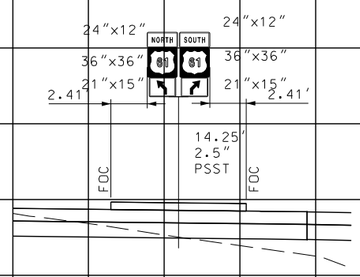


SIGN 39
STA. 1+65 (RAMP1RT)

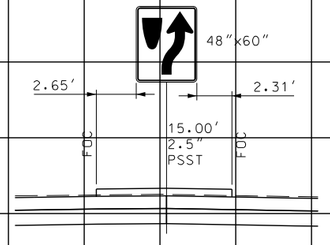


SIGN 40
STA. 632+63 (RTE47)

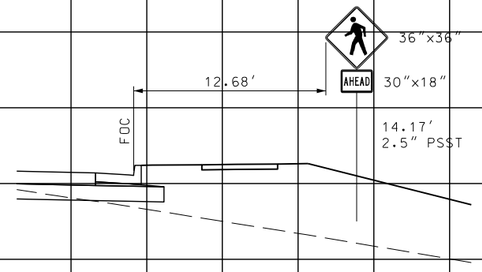
SIGN 41
STA. 0+92 (RAMP1RT)



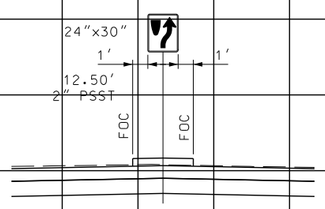
SIGN 42
STA. 0+64 (RAMP1RT)



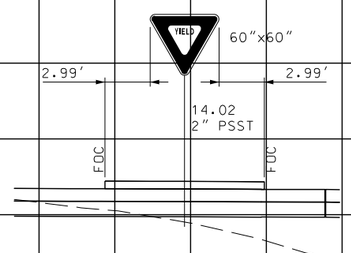
SIGN 44
STA. 633+42 (RTE47)



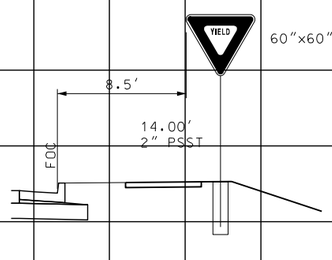
SIGN 45
STA. 635+59 (RTE47)



SIGN 47
STA. 635+65 (RTE47)

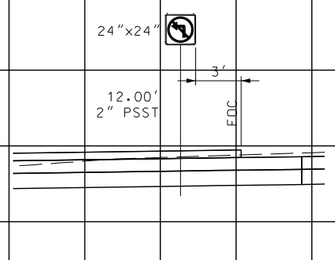


SIGN 48
STA. 1+72 (RAMP3RT)



SIGN 49
STA. 1+72 (RAMP3RT)

SIGN 50
STA. 1+51 (RAMP3RT)



SIGN 51
STA. 632+48 (RTE47)

SIGN CROSS SECTIONS
SHEET 7 OF 9

STATE OF MISSOURI
DANIEL T. SHANE
NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	159

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
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HRGreen

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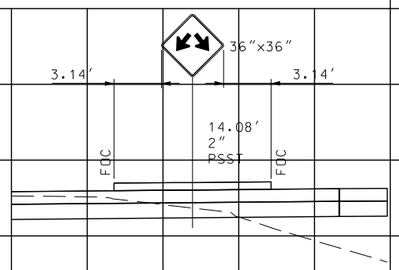
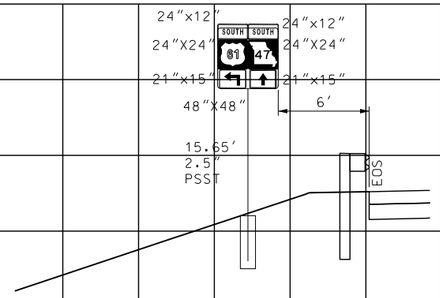
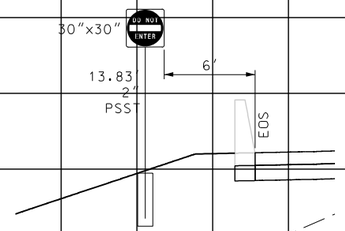


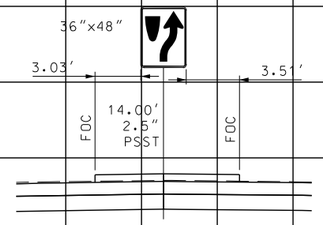
SIGN 52
STA. 13+10 (RAMP3)



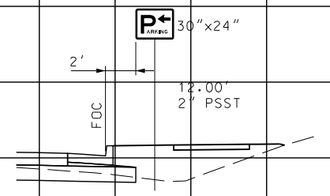
SIGN 54
STA. 1+28 (RAMP3LT)



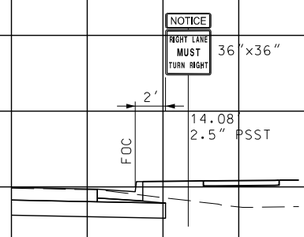
SIGN 55
STA. 1+88 (RAMP3LT)



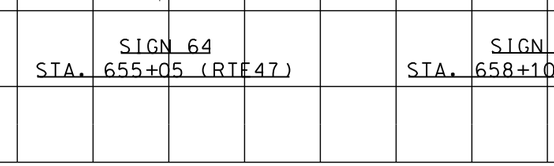
SIGN 56
STA. 632+02 (RTE47)



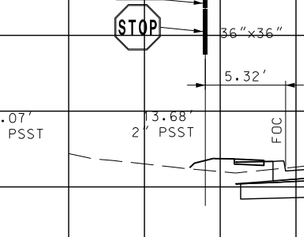
SIGN 57
STA. 638+07 (RTE47)



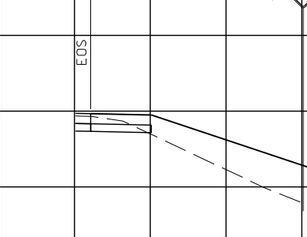
SIGN 58
STA. 640+40 (RTE47)



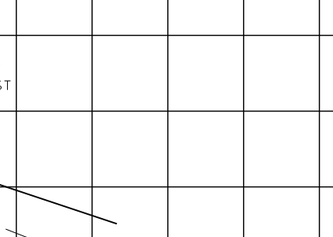
SIGN 59
STA. 642+40 (RTE47)



SIGN 60
STA. 644+56 (RTE47)

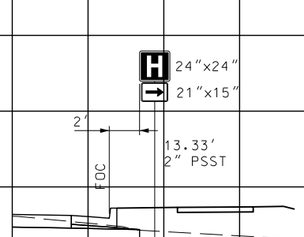


SIGN 61
STA. 644+56 (RTE47)

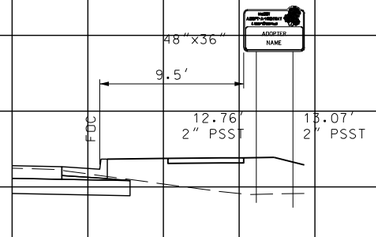


SIGN 62
STA. 648+47 (RTE47)

SIGN 63
STA. 651+70 (RTE47)



SIGN 64
STA. 655+05 (RTE47)



SIGN 65
STA. 658+10 (RTE47)

SIGN 66
STA. 658+42 (RTE47)

SIGN 67
STA. 928+60 (FRENCHBLUFF)

SIGN CROSS SECTIONS
SHEET 8 OF 9

DANIEL T. SHANE NUMBER E-29833 REGISTERED PROFESSIONAL ENGINEER
STATE OF MISSOURI

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	160

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

DISCLAIMER
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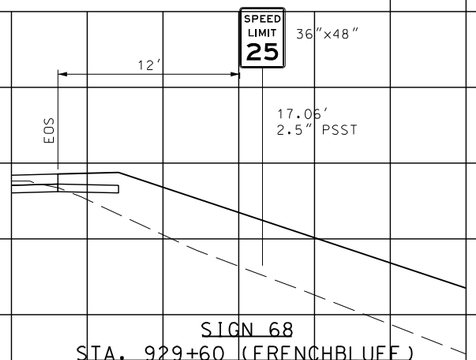
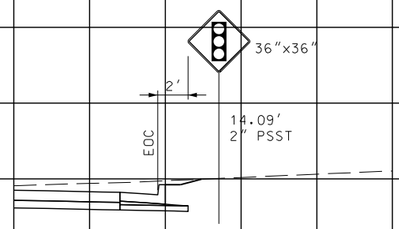
NOTES:
1) ALL SIGN CROSS SECTIONS ARE CUT IN THE DIRECTION OF TRAVEL.

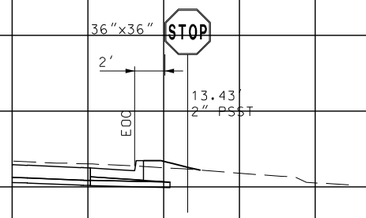
2) ALL SIGNS TO BE PLACED SUCH THAT THE DISTANCE BETWEEN THE EDGE OF PAVEMENT AND THE BOTTOM OF SIGNS IS 7.0' EXCEPT CHEVRON SIGNS IN WHICH THE DISTACE SHALL BE 4.0 .



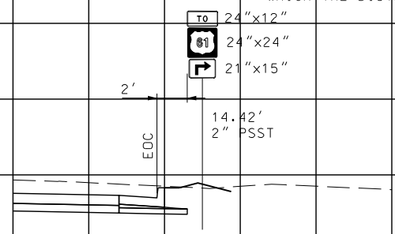
SIGN 68
STA. 929+60 (FRENCHBLUFF)



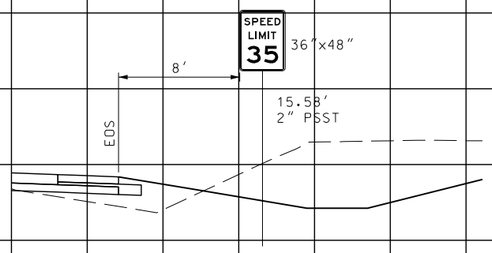
SIGN 69
STA. 934+38 (FRENCHBLUFF)



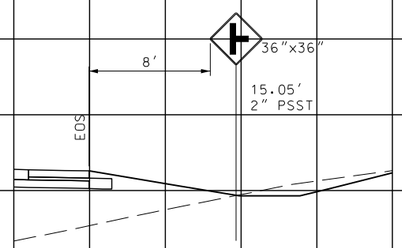
SIGN 70
STA. 0+24 (BLUFFVIEW)



SIGN 71
STA. 937+85 (FRENCHBLUFF)

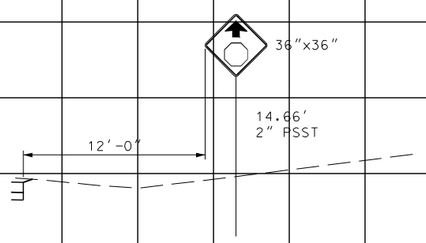


SIGN 72
STA. 94+47 (OUTERRD)

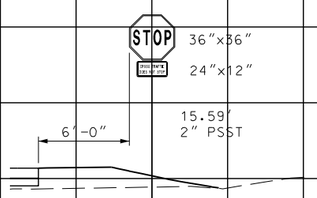


SIGN 73
STA. 106+34 (OUTERRD)

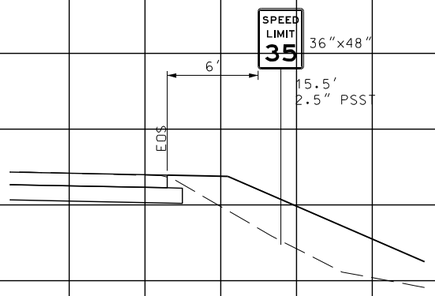
SIGN 74
SEE SN-07



SIGN 75
STA. 21+50 (CR658)



SIGN 76
STA. 20+38 (CR658)



SIGN 77
STA. 928+60 (FRENCHBLUFF)

SIGN 78
SEE SN-07

SIGNS 79-86
SEE RM-07

SIGN CROSS SECTIONS
SHEET 9 OF 9

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. SHANE NUMBER E-21833

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	161

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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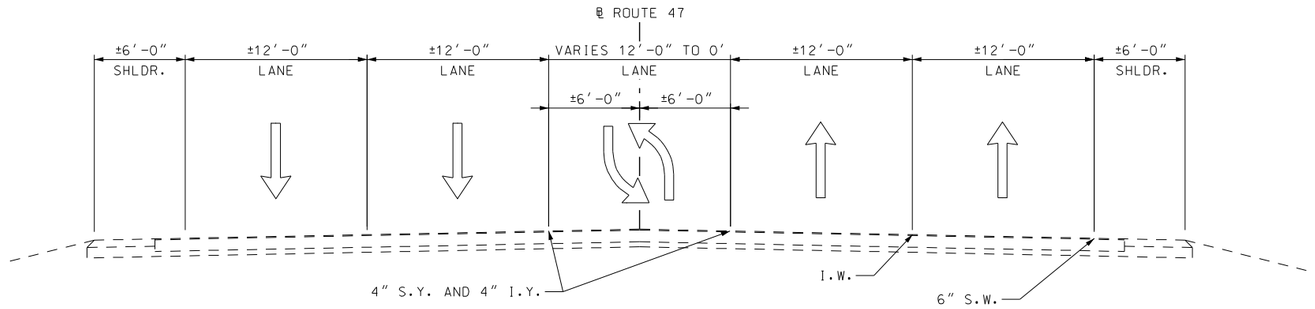

PROPOSED PAVEMENT MARKING TYPICAL SECTION - ROUTE 47: WEST OF LINCOLN DRIVE

STA. 601+40.00 TO STA. 612+00.00

EB AND CL PAVEMENT RESTRIPING STA. 601+40.00 TO STA. 612+00.00
SEE PAVEMENT MARKING TYPICAL SECTION ON THIS SHEET

BEGIN WB RESTRIPING STA. 614+00.00

615

620

TURNBULL (50′ W) TRAIL

MISSOURI ROUTE 47

NORTH LINCOLN DRIVE

MERLIN (60′W) DRIVE

MATCHLINE STA. 624+00.00 (RTE 47)

D.S.Y. 6″ S.W. 24″ S.W. I.W. Y.L.T. 12″ S.W. 12″ W.D.W. 24″ S.Y. AT 30′ ON CENTER

16	STA. 616+00 (RTE47)
17	STA. 615+46 (RTE47)
18	STA. 616+15 (RTE47)
19	STA. 616+48 (RTE47)
20	STA. 616+53 (RTE47)
21	STA. 616+91 (RTE47)
22	STA. 615+89 (RTE47)
23	STA. 616+26 (RTE47)
24	STA. 616+31 (RTE47)
25	STA. 616+65 (RTE47)
26	STA. 617+35 (RTE47)
27	STA. 616+78 (RTE47)
28	STA. 616+80 (RTE47)
29	STA. 616+01 (RTE47)
30	STA. 616+24 (RTE47)
31	STA. 616+32 (RTE47)
32	STA. 616+55 (RTE47)
33	STA. 616+58 (RTE47)

1	STA. 199+70 (TURNBULL)
2	STA. 199+31 (TURNBULL)
3	STA. 621+15 (RTE47)
4	STA. 198+99 (TURNBULL)
5	STA. 621+01 (RTE47)
6	STA. 199+70 (TURNBULL)
7	STA. 100+30 (MERLINDR)
8	STA. 620+88 (RTE47)
9	STA. 100+68 (MERLINDR)
10	STA. 100+88 (MERLINDR)
11	STA. 621+05 (RTE47)
12	STA. 100+30 (MERLINDR)
13	STA. 622+88 (RTE47)
14	STA. 623+47 (RTE47)
15	STA. 620+00 (RTE47)
16	STA. 620+29 (RTE47)
17	STA. 621+82 (RTE47)

STRIPING LEGEND

- S.W. - SOLID WHITE
- S.Y. - SOLID YELLOW
- D.S.Y. - DOUBLE SOLID YELLOW (2, 4″ STRIPE)
- I.W. - INTERMITTENT WHITE (10′STRIPE-30′GAP)
- I.Y. - INTERMITTENT YELLOW (10′STRIPE-30′GAP)
- D.W. - DOTTED WHITE LANE EXTENSION (2′STRIPE-4′GAP)
- W.D.W. - WIDE DOTTED WHITE (3′ STRIPE-9′ GAP)
- Y.L.T. - YIELD LINE TRIANGLES (12″)

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

NOTES:
ALL PAVEMENT MARKINGS TO BE HIGH BUILD WATERBORNE PAINT WITH TYPE L BEADS UNLESS NOTED OTHERWISE.

ARROWS, WORDS, STOP BARS, YIELD LINES, AND 24″ HATCH LINES TO BE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS.

PAVEMENT MARKINGS
SHEET 1 OF 5

SCALE
0 50 100 150

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	162
COUNTY	
LINCOLN	
JOB NO.	
J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

DATE	DESCRIPTION

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

DISCLAIMER
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MATCHLINE STA. 624+00.00 (RTE 47)

MATCHLINE STA. 636+00.00 (RTE 47)

SEE INSERT A FOR CONTINUATION

INSERT A

STA. 928+50
FRENCHBLUFF

D.S.Y.

RAMP 2

5	STA. 01+55 (RAMP2RT)
6	STA. 01+37 (RAMP2RT)
9	STA. 00+41 (RAMP2LT)
10	STA. 00+80 (RAMP2RT)
11	STA. 00+49 (RAMP2RT)
12	STA. 00+85 (RAMP2LT)
14	STA. 0+90 (RAMP2LT)

RAMP 1

23	STA. 0+89 (RAMP1LT)
25	STA. 01+08 (RAMP1LT)
26	STA. 01+58 (RAMP1LT)
27	STA. 01+71 (RAMP1RT)
28	STA. 01+86 (RAMP1RT)
29	STA. 00+56 (RAMP1RT)

RAMP 4

1	STA. 00+19 (RAMP4RT)
2	STA. 00+50 (RAMP4RT)
16	STA. 01+67 (RAMP4LT)
20	STA. 01+37 (RAMP4RT)
21	STA. 02+17 (RAMP4LT)
22	STA. 02+56 (RAMP4LT)

ROUTE 47 NB

3	STA. 103+61 (RTE47NB)	32	STA. 109+14 (RTE47NB)✱	I	STA. 109+82 (RTE47NB)
4	STA. 103+48 (RTE47NB)✱	34	STA. 110+39 (RTE47NB)	K	STA. 110+39 (RTE47NB)✱
13	STA. 104+66 (RTE47NB)	36	STA. 110+58 (RTE47NB)		
14	STA. 104+81 (RTE47NB)	37	STA. 111+15 (RTE47NB)		
24	STA. 108+64 (RTE47NB)	E	STA. 104+01 (RTE47NB)		

RAMP 3

38	STA. 00+70 (RAMP3LT)
39	STA. 00+73 (RAMP3RT)
40	STA. 00+44 (RAMP3RT)
41	STA. 01+41 (RAMP3LT)
43	STA. 01+31 (RAMP3LT)
44	STA. 01+55 (RAMP3LT)
45	STA. 01+37 (RAMP3LT)

ROUTE 47 SB

7	STA. 203+62 (RTE47SB)	B	STA. 203+65 (RTE47SB)	42	STA. 209+00 (RTE47SB)
8	STA. 202+94 (RTE47SB)	C	STA. 204+01 (RTE47SB)	F	STA. 207+80 (RTE47SB)
17	STA. 204+93 (RTE47SB)	D	STA. 204+48 (RTE47SB)	G	STA. 209+46 (RTE47SB)
18	STA. 205+08 (RTE47SB)	30	STA. 210+19 (RTE47SB)	H	STA. 209+82 (RTE47SB)
19	STA. 204+81 (RTE47SB)✱	31	STA. 210+57 (RTE47SB)	J	STA. 210+12 (RTE47SB)
A	STA. 203+55 (RTE47SB)✱	33	STA. 210+44 (RTE47SB)✱	L	STA. 212+64 (RTE47SB)✱

MISSOURI ROUTE 47

SOUTHBOUND U.S. HIGHWAY 61

NORTHBOUND U.S. HIGHWAY 61

RAMP 1 · RAMP 2 · RAMP 3 · RAMP 4

24" S.Y. AT 30' ON CENTER

WATERBORNE PAINT WITH TYPE P BEADS

SCALE
0 50 100 150

NOTES:
ALL PAVEMENT MARKINGS TO BE HIGH BUILD WATERBORNE PAINT WITH TYPE L BEADS UNLESS NOTED OTHERWISE.

ARROWS, WORDS, STOP BARS, YIELD LINES, AND 24" HATCH LINES TO BE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS.

✱ - PAVEMENT MARKING POINT NOT ASSOCIATED WITH ISLAND OR MEDIAN

STRIPING LEGEND

- S.W. - SOLID WHITE
- S.Y. - SOLID YELLOW
- D.S.Y. - DOUBLE SOLID YELLOW (2, 4" STRIPE)
- I.W. - INTERMITTENT WHITE (10'STRIPE-30'GAP)
- I.Y. - INTERMITTENT YELLOW (10'STRIPE-30'GAP)
- D.W. - DOTTED WHITE LANE EXTENSION (2'STRIPE-4'GAP)
- W.D.W. - WIDE DOTTED WHITE (3' STRIPE-9' GAP)
- Y.L.T. - YIELD LINE TRIANGLES (12")

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	163

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

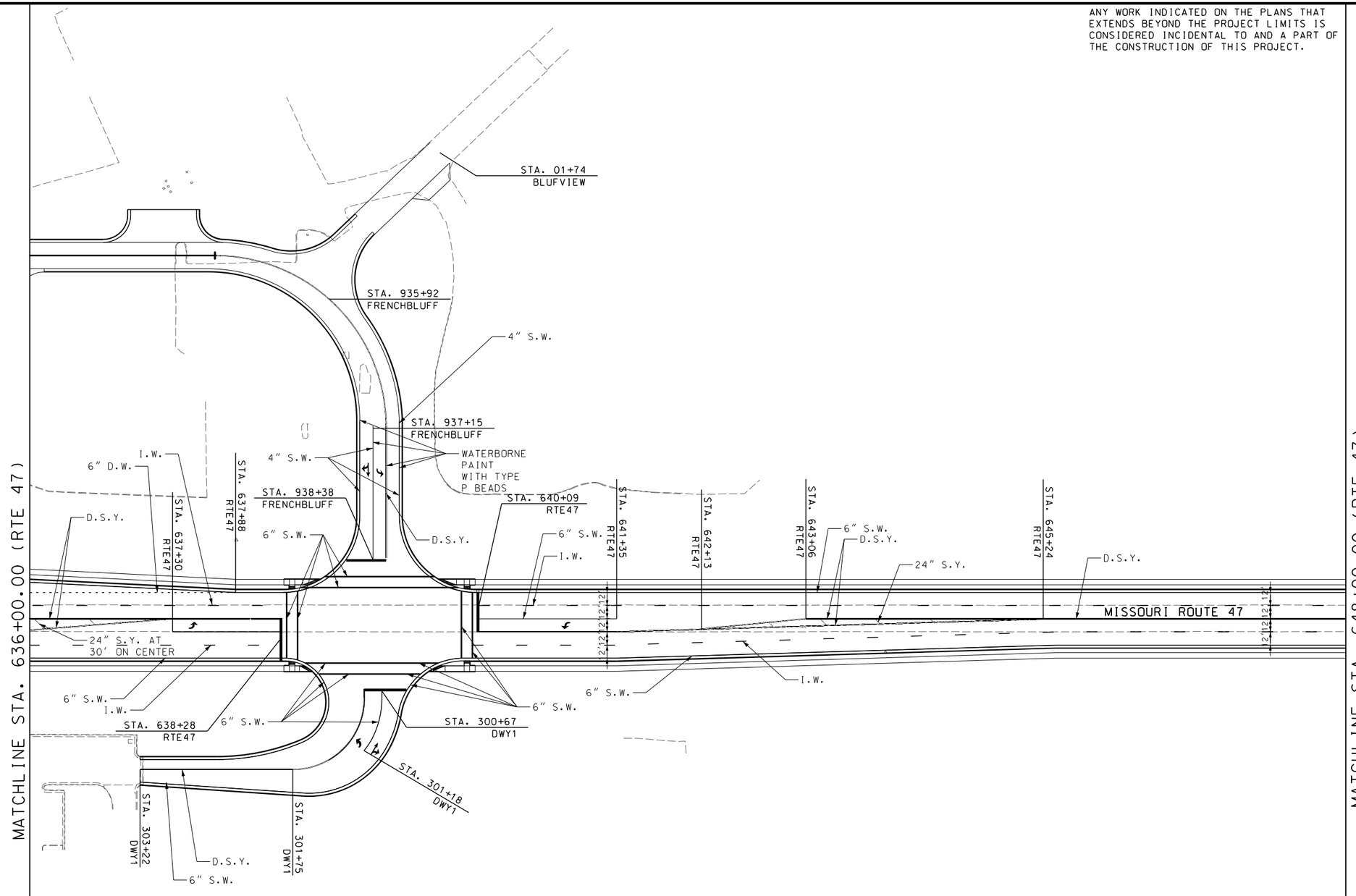
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

PAVEMENT MARKINGS
SHEET 2 OF 5

\\hrgreen.com\HRG\Data\2017\171526.01\CAD\Data\163_PM_02_J2P3043_I50.dgn 3:10:50 PM 10/24/2023

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.



STRIPING LEGEND

- S.W. - SOLID WHITE
- S.Y. - SOLID YELLOW
- D.S.Y. - DOUBLE SOLID YELLOW (2, 4" STRIPE)
- I.W. - INTERMITTENT WHITE (10'STRIPE-30'GAP)
- I.Y. - INTERMITTENT YELLOW (10'STRIPE-30'GAP)
- D.W. - DOTTED WHITE LANE EXTENSION (2'STRIPE-4'GAP)
- W.D.W. - WIDE DOTTED WHITE (3' STRIPE-9' GAP)
- Y.L.T. - YIELD LINE TRIANGLES (12")

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SCALE
0 50 100 150

NOTES:
ALL PAVEMENT MARKINGS TO BE HIGH BUILD WATERBORNE PAINT WITH TYPE L BEADS UNLESS NOTED OTHERWISE.

ARROWS, WORDS, STOP BARS, AND 24" HATCH LINES TO BE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS.

PAVEMENT MARKINGS
SHEET 3 OF 5

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/25/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	164

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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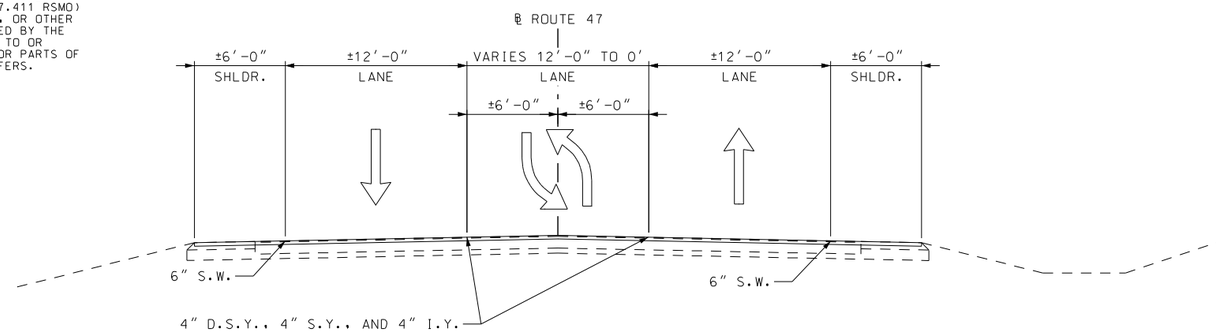
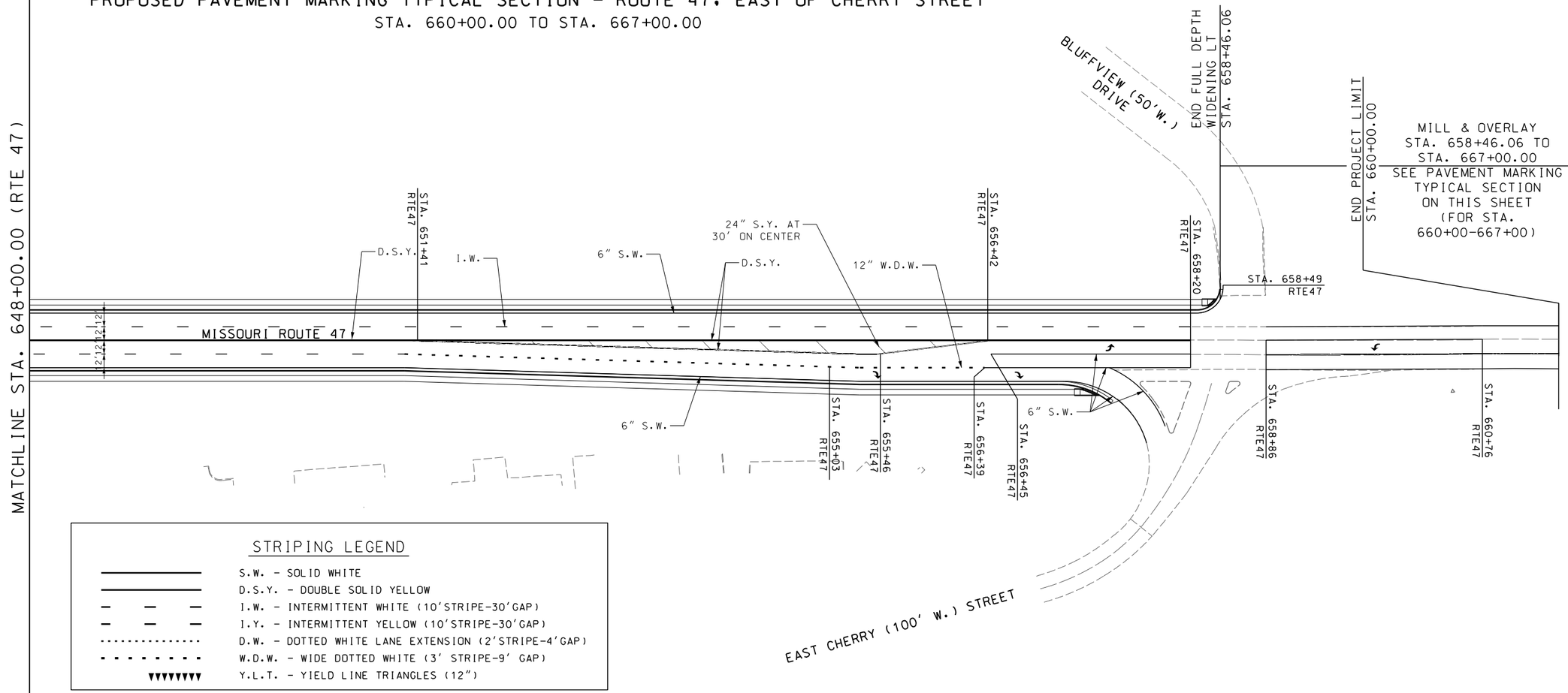


PROPOSED PAVEMENT MARKING TYPICAL SECTION - ROUTE 47; EAST OF CHERRY STREET
STA. 660+00.00 TO STA. 667+00.00



STRIPING LEGEND

- S.W. - SOLID WHITE
- D.S.Y. - DOUBLE SOLID YELLOW
- I.W. - INTERMITTENT WHITE (10′STRIPE-30′GAP)
- I.Y. - INTERMITTENT YELLOW (10′STRIPE-30′GAP)
- D.W. - DOTTED WHITE LANE EXTENSION (2′STRIPE-4′GAP)
- W.D.W. - WIDE DOTTED WHITE (3′ STRIPE-9′ GAP)
- Y.L.T. - YIELD LINE TRIANGLES (12″)

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

NOTES:
ALL PAVEMENT MARKINGS TO BE HIGH BUILD WATERBORNE PAINT WITH TYPE L BEADS UNLESS NOTED OTHERWISE.

ARROWS, WORDS, STOP BARS, AND 24″ HATCH LINES TO BE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS.

PAVEMENT MARKINGS
SHEET 4 OF 5

SCALE
0 50 100 150

STATE OF MISSOURI
DANIEL T. SHANE NUMBER E-24833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED: 10/25/2023
ROUTE: 47 | STATE: MO
DISTRICT: NE | SHEET NO.: 165
COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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

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

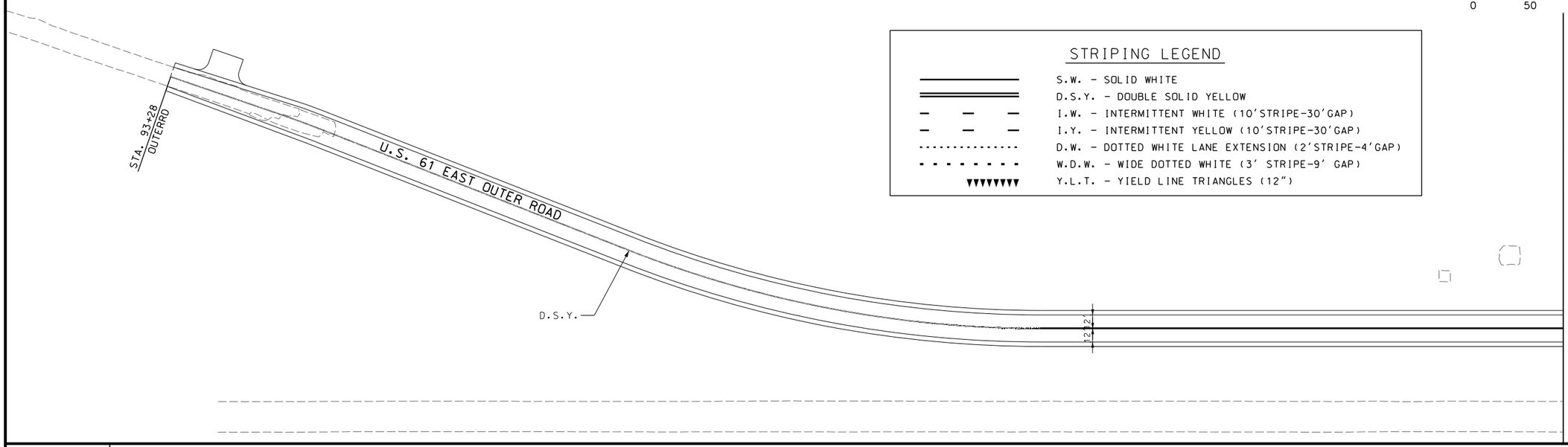
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

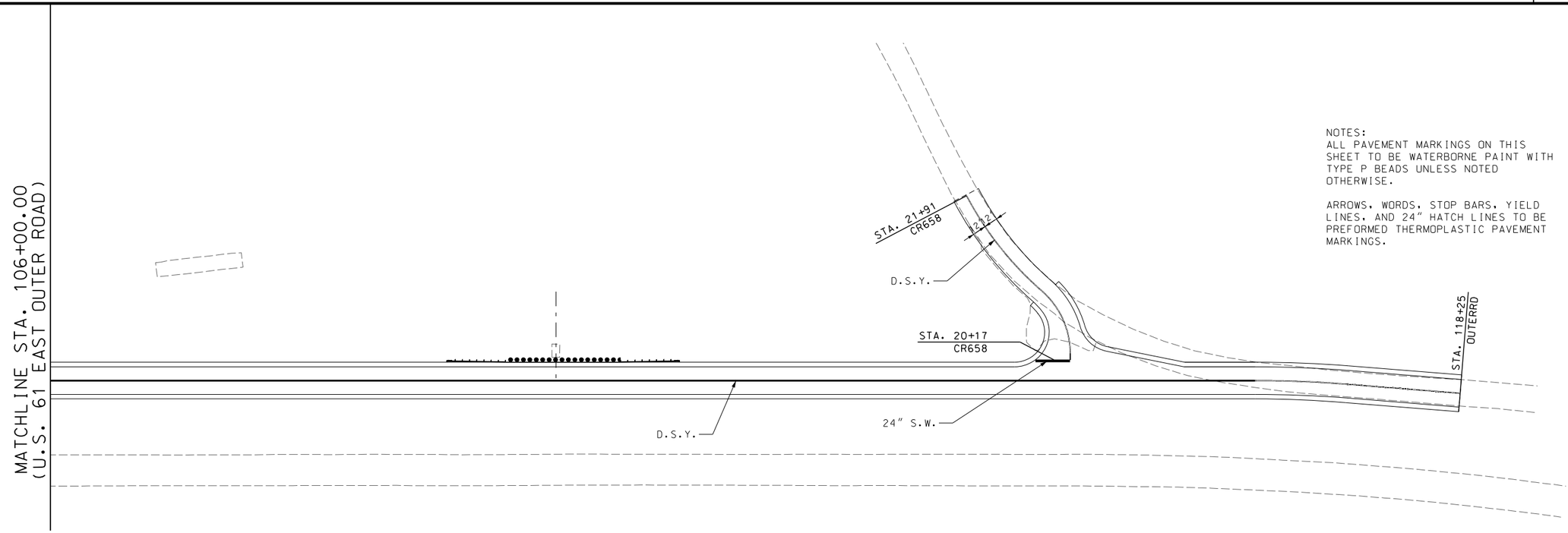
DISCLAIMER
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

SCALE
0 50 100 150

STRIPING LEGEND

- S.W. - SOLID WHITE
- D.S.Y. - DOUBLE SOLID YELLOW
- I.W. - INTERMITTENT WHITE (10'STRIPE-30'GAP)
- I.Y. - INTERMITTENT YELLOW (10'STRIPE-30'GAP)
- D.W. - DOTTED WHITE LANE EXTENSION (2'STRIPE-4'GAP)
- W.D.W. - WIDE DOTTED WHITE (3' STRIPE-9' GAP)
- Y.L.T. - YIELD LINE TRIANGLES (12")





NOTES:
ALL PAVEMENT MARKINGS ON THIS SHEET TO BE WATERBORNE PAINT WITH TYPE P BEADS UNLESS NOTED OTHERWISE.

ARROWS, WORDS, STOP BARS, YIELD LINES, AND 24" HATCH LINES TO BE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS.

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

PAVEMENT MARKINGS
SHEET 5 OF 5

STATE OF MISSOURI
DANIEL T. SHANE NUMBER
E-29833
REGISTERED PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED	
10/25/2023	
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	166
COUNTY	
LINCOLN	
JOB NO.	
J2P3043	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

DATE	DESCRIPTION

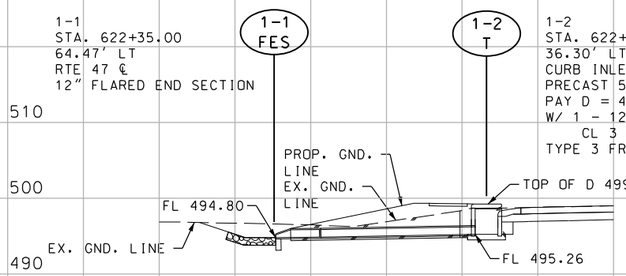
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

\\hrgreen.com\HRG\Data\2017\171526.01\CAD\Data\166_PM_05_J2P3043_150.dgn 3:10:53 PM 10/24/2023

1-1
STA. 622+35.00
64.47' LT
RTE 47 ℄
12" FLARED END SECTION

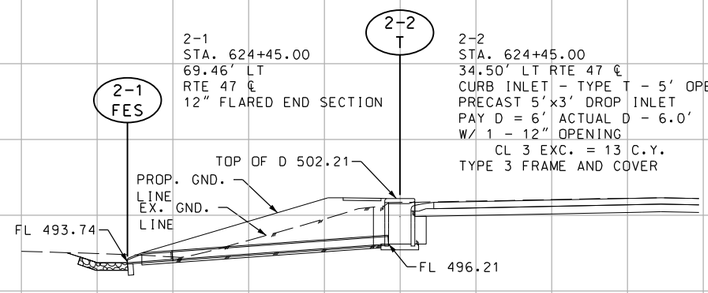
1-2
STA. 622+35.23
36.30' LT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'x3' DROP INLET
PAY D = 4' ACTUAL D - 4.0'
W/ 1 - 12" OPENING
CL 3 EXC. = 8 C.Y.
TYPE 3 FRAME AND COVER



12" (12) x 20' GROUP 'A' PIPE
S = 1.8%
CL 3 EXC. = 8 C.Y.
TYPE 4 INSTALLATION

2-1
STA. 624+45.00
69.46' LT
RTE 47 ℄
12" FLARED END SECTION

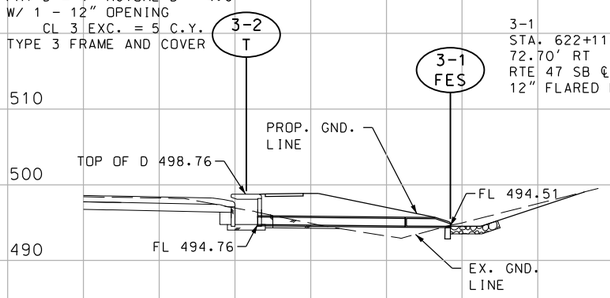
2-2
STA. 624+45.00
34.50' LT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'x3' DROP INLET
PAY D = 6' ACTUAL D - 6.0'
W/ 1 - 12" OPENING
CL 3 EXC. = 13 C.Y.
TYPE 3 FRAME AND COVER



12" (12) x 29' GROUP 'A' PIPE
S = 7.2%
CL 3 EXC. = 10 C.Y.
TYPE 4 INSTALLATION

3-2
STA. 622+11.00
46.50' RT RTE 47 SB ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'x3' DROP INLET
PAY D = 4' ACTUAL D - 4.0'
W/ 1 - 12" OPENING
CL 3 EXC. = 5 C.Y.
TYPE 3 FRAME AND COVER

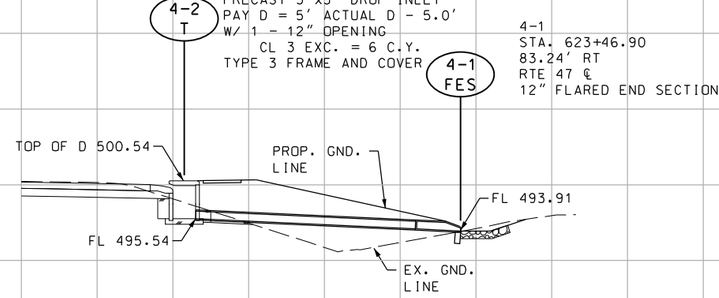
3-1
STA. 622+11.00
72.70' RT
RTE 47 SB ℄
12" FLARED END SECTION



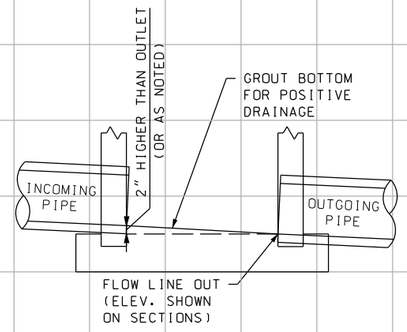
12" (12) x 19' GROUP 'A' PIPE
S = 1.0%
CL 3 EXC. = 1 C.Y.
TYPE 4 INSTALLATION

4-2
STA. 623+46.90
46.62' RT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'x3' DROP INLET
PAY D = 5' ACTUAL D - 5.0'
W/ 1 - 12" OPENING
CL 3 EXC. = 6 C.Y.
TYPE 3 FRAME AND COVER

4-1
STA. 623+46.90
83.24' RT
RTE 47 ℄
12" FLARED END SECTION



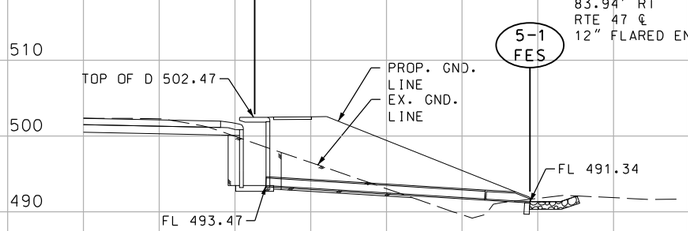
12" (12) x 29' GROUP 'A' PIPE
S = 4.7%
CL 3 EXC. = 1 C.Y.
TYPE 4 INSTALLATION



TYPICAL STORM STRUCTURE BOTTOM
FOR INCOMING & OUTGOING PIPE FLOWLINES

5-2
STA. 624+81.07
47.63' RT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'x3' DROP INLET
PAY D = 9' ACTUAL D - 9.0'
W/ 1 - 12" OPENING
CL 3 EXC. = 14 C.Y.
TYPE 3 FRAME AND COVER

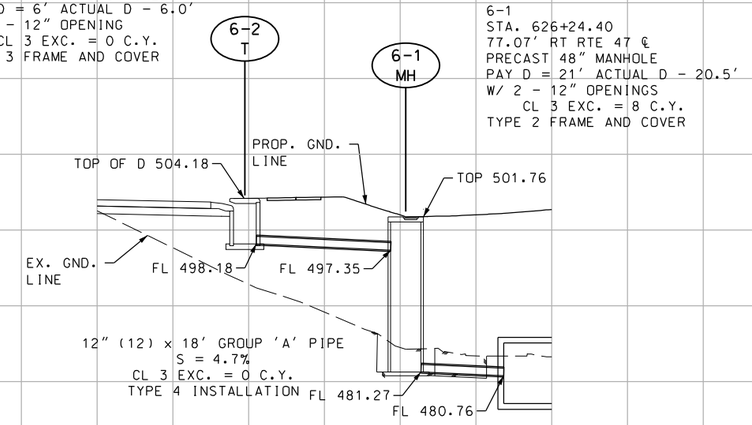
5-1
STA. 624+81.07
83.94' RT
RTE 47 ℄
12" FLARED END SECTION



12" (12) x 34' GROUP 'A' PIPE
S = 6.1%
CL 3 EXC. = 5 C.Y.
TYPE 4 INSTALLATION

6-2
STA. 626+08.78
63.26' RT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'x3' DROP INLET
PAY D = 6' ACTUAL D - 6.0'
W/ 1 - 12" OPENING
CL 3 EXC. = 0 C.Y.
TYPE 3 FRAME AND COVER

6-1
STA. 626+24.40
77.07' RT RTE 47 ℄
PRECAST 48" MANHOLE
PAY D = 21' ACTUAL D - 20.5'
W/ 2 - 12" OPENINGS
CL 3 EXC. = 8 C.Y.
TYPE 2 FRAME AND COVER



12" (12) x 18' GROUP 'A' PIPE
S = 4.7%
CL 3 EXC. = 0 C.Y.
TYPE 4 INSTALLATION

12" (12) x 6' GROUP 'A' PIPE
S = 4.7%
CL 3 EXC. = 3 C.Y.
TYPE 4 INSTALLATION

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STATE OF MISSOURI
JOHN P. HUEBBE
NUMBER PE-2008019548
PROFESSIONAL ENGINEER
4:01 PM, OCT 18 2023
JOHN HUEBBE - DISCIPLINE: CIVIL
MO - PE-2008019548

DATE PREPARED
10/18/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	167

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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

EFK•Moen, LLC
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

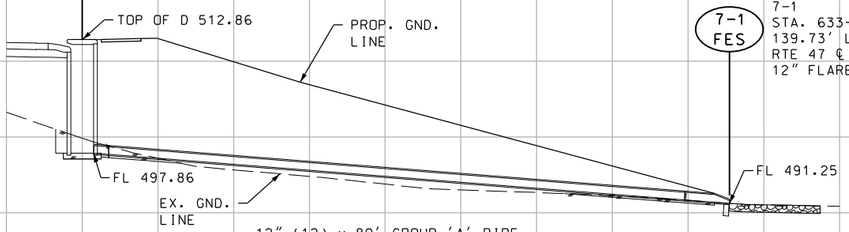
CULVERT SHEET
SHEET 1 OF 11

REV.

Z:\18021-US 61 and 47 Study\DGN\Design\Final\Plotsheets\167_CS_01_J2P3043_I10_Culvert_Section.dgn 2:49:03 PM 10/18/2023

7-2
T

7-2
STA. 632+74.92
70.03' LT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'x3' DROP INLET
PAY D = 15' ACTUAL D - 15.0'
W/ 1 - 12" OPENING
CL 3 EXC. = 6 C.Y.
TYPE 3 FRAME AND COVER



7-1
FES

7-1
STA. 633+27.15
139.73' LT
RTE 47 ℄
12" FLARED END SECTION

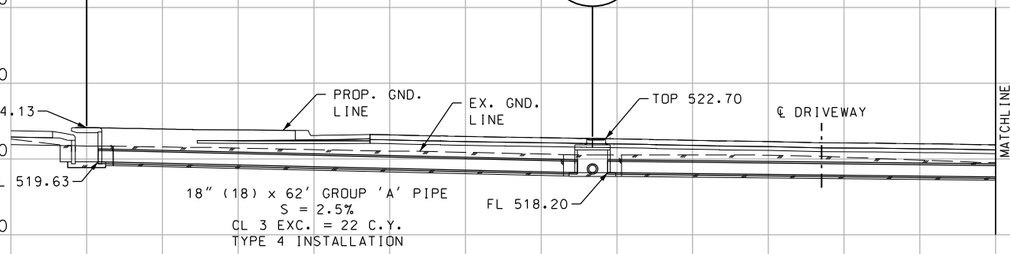
12" (12) x 80' GROUP 'A' PIPE
S = 7.9%
CL 3 EXC. = 1 C.Y.
TYPE 4 INSTALLATION

8-7
T

8-7
STA. 640+10.00
40.50' RT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'x3' DROP INLET
PAY D = 5' ACTUAL D - 4.5'
W/ 1 - 18" OPENING
CL 3 EXC. = 6 C.Y.
TYPE 3 FRAME AND COVER

8-6
MH

8-6
STA. 639+43.22
40.50' RT RTE 47 ℄
PRECAST 48" MANHOLE
PAY D = 5' ACTUAL D - 4.5'
W/ 2 - 18" OPENINGS &
1- 12" OPENING
CL 3 EXC. = 6 C.Y.
TYPE 1B FRAME AND COVER
W/LOCKING LID



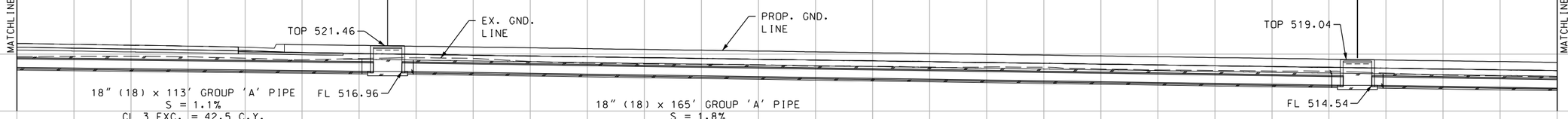
18" (18) x 62' GROUP 'A' PIPE
S = 2.5%
CL 3 EXC. = 22 C.Y.
TYPE 4 INSTALLATION

8-5
T

8-5
STA. 638+25.00
40.50' RT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'x3' DROP INLET
PAY D = 5' ACTUAL D - 4.5'
W/ 2 - 18" OPENINGS
CL 3 EXC. = 6 C.Y.
TYPE 3 FRAME AND COVER

8-4
T

8-4
STA. 636+55.00
40.50' RT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'x3' DROP INLET
PAY D = 5' ACTUAL D - 4.5'
W/ 2 - 18" OPENINGS
CL 3 EXC. = 6 C.Y.
TYPE 3 FRAME AND COVER

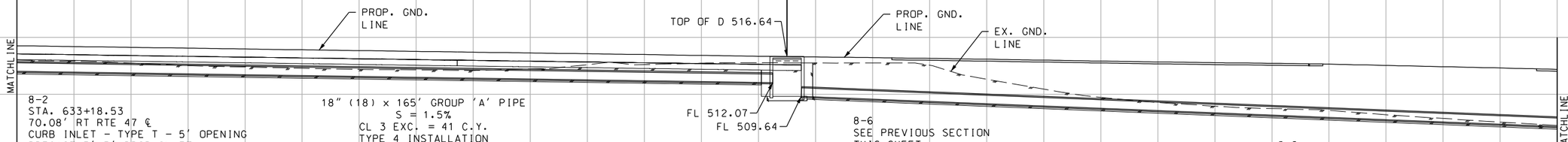


18" (18) x 113' GROUP 'A' PIPE
S = 1.1%
CL 3 EXC. = 42.5 C.Y.
TYPE 4 INSTALLATION

18" (18) x 165' GROUP 'A' PIPE
S = 1.8%
CL 3 EXC. = 58 C.Y.
TYPE 4 INSTALLATION

8-3
T

8-3
STA. 634+85.00
40.50' RT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'x3' DROP INLET
PAY D = 7' ACTUAL D - 7.0'
W/ 2 - 18" OPENINGS
CL 3 EXC. = 13 C.Y.
TYPE 3 FRAME AND COVER



18" (18) x 165' GROUP 'A' PIPE
S = 1.5%
CL 3 EXC. = 41 C.Y.
TYPE 4 INSTALLATION

8-6
SEE PREVIOUS SECTION
THIS SHEET

8-2
STA. 633+18.53
70.08' RT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'x3' DROP INLET
PAY D = 15' ACTUAL D - 15.0'
W/ 2 - 18" OPENINGS
CL 3 EXC. = 9 C.Y.
TYPE 3 FRAME AND COVER

8-2
T

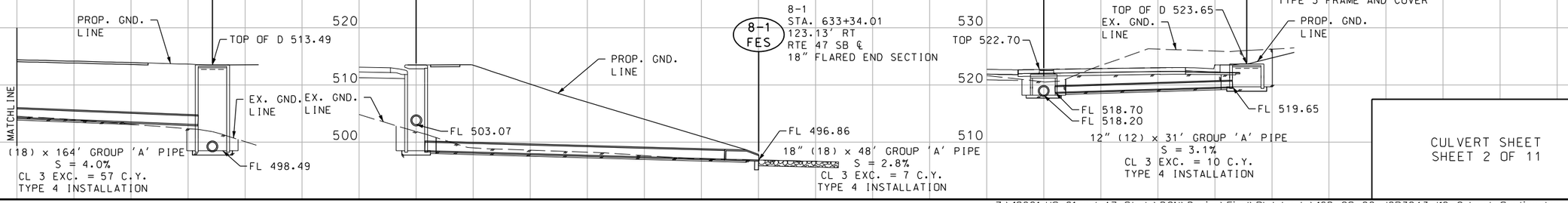
8-2
T

8-2
SEE PREVIOUS SECTION
THIS SHEET

8-6
MH

8-8
T

8-8
STA. 639+43.60
76.10' RT RTE 47 ℄
CURB INLET - TYPE T - 2.5' OPENING
PRECAST 3'x2.5' DROP INLET
PAY D = 4' ACTUAL D - 4.0'
W/ 1 - 12" OPENING
CL 3 EXC. = 13 C.Y.
TYPE 3 FRAME AND COVER



18" (18) x 164' GROUP 'A' PIPE
S = 4.0%
CL 3 EXC. = 57 C.Y.
TYPE 4 INSTALLATION

8-1
FES

18" (18) x 48' GROUP 'A' PIPE
S = 2.8%
CL 3 EXC. = 7 C.Y.
TYPE 4 INSTALLATION

12" (12) x 31' GROUP 'A' PIPE
S = 3.1%
CL 3 EXC. = 10 C.Y.
TYPE 4 INSTALLATION

CULVERT SHEET
SHEET 2 OF 11

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STATE OF MISSOURI
JOHN P. HUEBBE
NUMBER PE-2008019548
PROFESSIONAL ENGINEER
4:02 PM, OCT 18 2023
JOHN HUEBBE - DISCIPLINE: CIVIL
MO - PE2008019548

DATE PREPARED
10/18/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	168

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTION COMMISSION

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

EFK • Moen, LLC
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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STATE OF MISSOURI
JOHN P. HUEBBE
NUMBER PE-2008019548
PROFESSIONAL ENGINEER
4:02 PM, OCT 18 2023
JOHN HUEBBE - DISCIPLINE: CIVIL
MO-PE2008019548

DATE PREPARED
10/18/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	169

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

9-1
STA. 635+23.05
68.88' LT
RTE 47 ℄
18" FLARED END SECTION

9-1 FES

9-2
STA. 635+21.50
41.00' LT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'X3' DROP INLET
PAY D = 5' ACTUAL D = 4.5'
W/ 2 - 18" OPENINGS
CL 3 EXC. = 5 C.Y.

9-2 T

EX. GND. LINE
PROP. GND. LINE
TOP OF D 517.11
FL 512.34
FL 512.61

18" (18) x 20' GROUP 'A' PIPE
S = 1.0%
CL 3 EXC. = 2 C.Y.
TYPE 4 INSTALLATION

9-2
SEE PREVIOUS SECTION THIS SHEET

9-2 T

PROP. GND. LINE
EX. GND. LINE
MATCHLINE

18" (18) x 222' GROUP 'A' PIPE
S = 1.5%
CL 3 EXC. = 71 C.Y.
TYPE 4 INSTALLATION

9-3
STA. 637+48.46
30.43' LT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'X3' DROP INLET
PAY D = 5' ACTUAL D = 4.5'
W/ 2 - 18" OPENINGS
CL 3 EXC. = 7 C.Y.

9-3 T

PROP. GND. LINE
EX. GND. LINE
TOP OF D 520.57
FL 516.07
MATCHLINE

18" (18) x 259' GROUP 'A' PIPE
S = 1.4%
CL 3 EXC. = 111 C.Y.
TYPE 4 INSTALLATION

PROP. GND. LINE
EX. GND. LINE
℄ FRENCHMAN BLUFF
MATCHLINE

9-4
STA. 640+12.00
28.50' LT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'X3' DROP INLET
PAY D = 5' ACTUAL D = 4.5'
W/ 1 - 18" OPENING
CL 3 EXC. = 8 C.Y.

9-4 T

PROP. GND. LINE
EX. GND. LINE
TOP OF D 524.43
FL 519.93
MATCHLINE

13-2
STA. 642+37.50
28.50' LT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'X3' DROP INLET
PAY D = 6' ACTUAL D = 6.0'
W/ 1 - 12" OPENING
CL 3 EXC. = 11 C.Y.

13-2 T

13-1
STA. 642+37.50
70.68' LT
RTE 47 ℄
12" FLARED END SECTION

13-1 FES

PROP. GND. LINE
EX. GND. LINE
TOP OF D 527.56
FL 519.16
FL 521.56

12" (12) x 34' GROUP 'A' PIPE
S = 5.9%
CL 3 EXC. = 10 C.Y.
TYPE 4 INSTALLATION

14-2
STA. 642+25.06
37.82' RT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'X3' DROP INLET
PAY D = 5' ACTUAL D = 5.0'
W/ 1 - 12" OPENING
CL 3 EXC. = 6 C.Y.

14-2 T

14-1
STA. 642+26.10
72.58' RT
RTE 47 ℄
12" FLARED END SECTION

14-1 FES

TOP OF D 527.20
EX. GND. LINE
PROP. GND. LINE
FL 520.41
FL 522.20

12" (12) x 27' GROUP 'A' PIPE
S = 5.4%
CL 3 EXC. = 1 C.Y.
TYPE 4 INSTALLATION

15-2
STA. 644+49.29
28.50' LT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'X3' DROP INLET
PAY D = 13' ACTUAL D = 12.5'
W/ 1 - 12" OPENING
CL 3 EXC. = 26 C.Y.

15-2 T

15-1
STA. 644+48.74
76.72' LT
RTE 47 ℄
12" FLARED END SECTION

15-1 FES

PROP. GND. LINE
EX. GND. LINE
TOP OF D 530.49
FL 514.65
FL 517.99

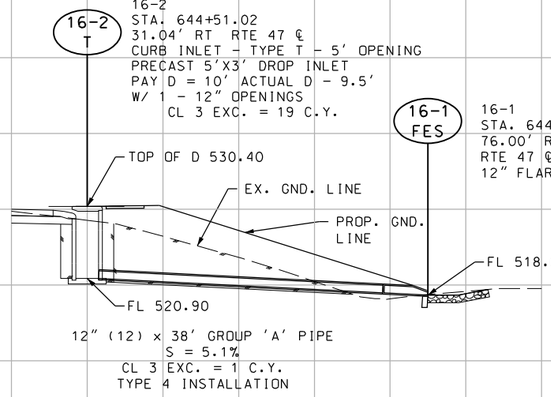
12" (12) x 42' GROUP 'A' PIPE
S = 7.2%
CL 3 EXC. = 31 C.Y.
TYPE 3 INSTALLATION

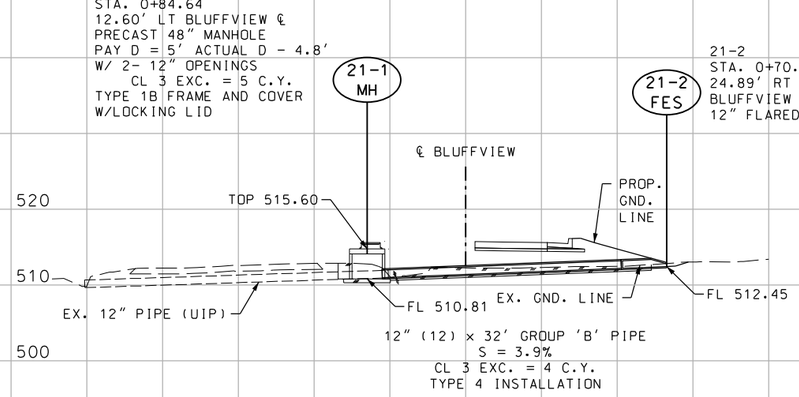
CULVERT SHEET
SHEET 3 OF 11

DESCRIPTION	DATE	REV.

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

EFK·Moen, LLC
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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STATE OF MISSOURI
JOHN P. HUEBBE
NUMBER PE-2008019548
PROFESSIONAL ENGINEER
4:02 PM, OCT 18 2023
JOHN HUEBBE - DISCIPLINE: CIVIL
MO - E-2008019548

DATE PREPARED
10/18/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	170

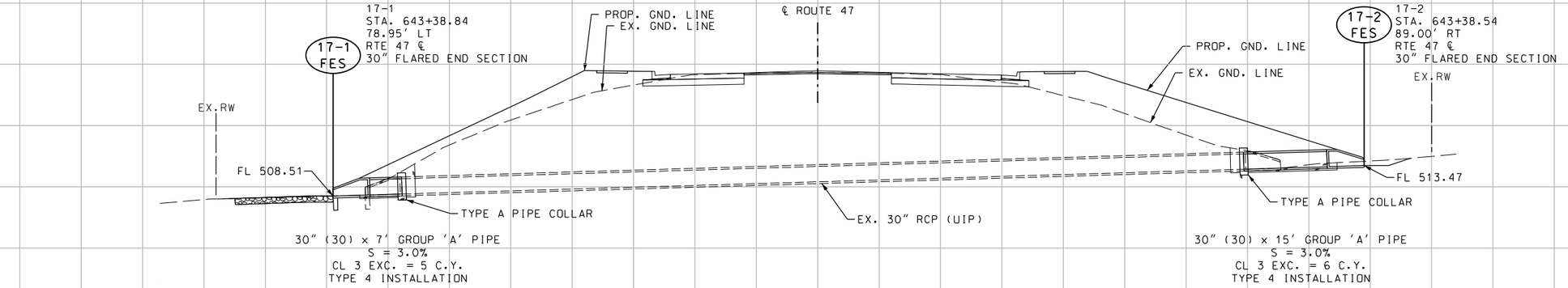
COUNTY
LINCOLN

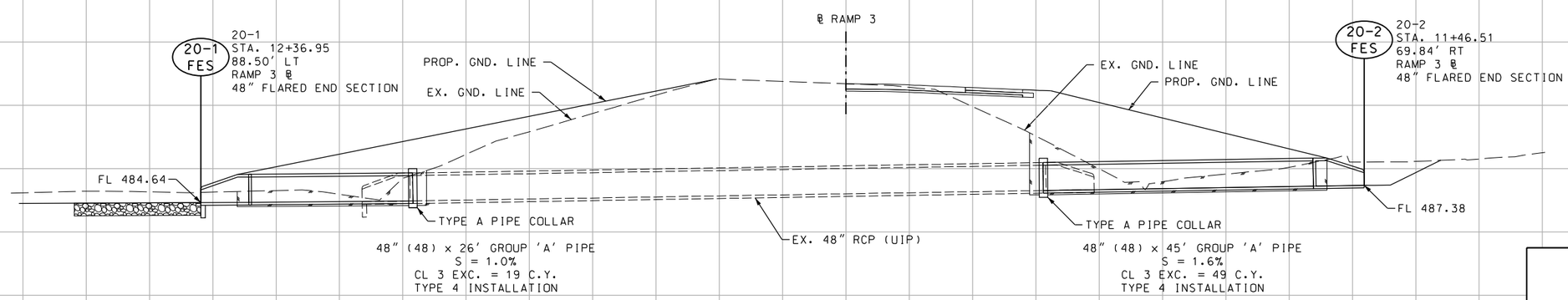
JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.





CULVERT SHEET
SHEET 4 OF 11

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

REV.	DESCRIPTION	DATE

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

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

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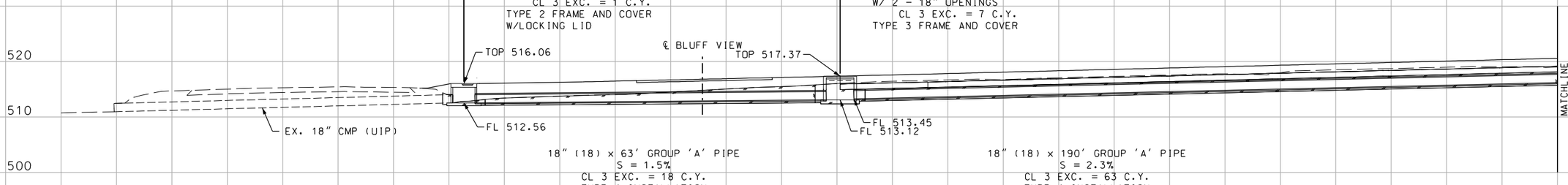

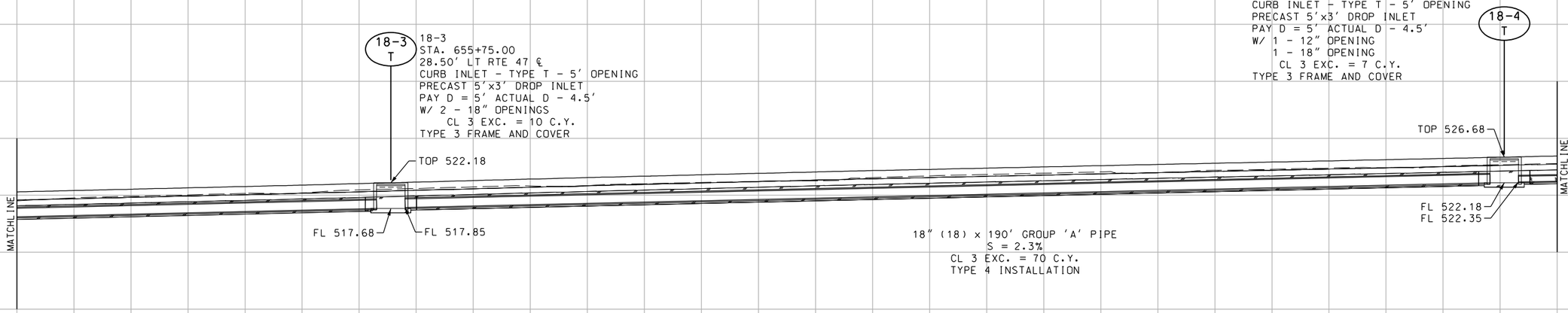

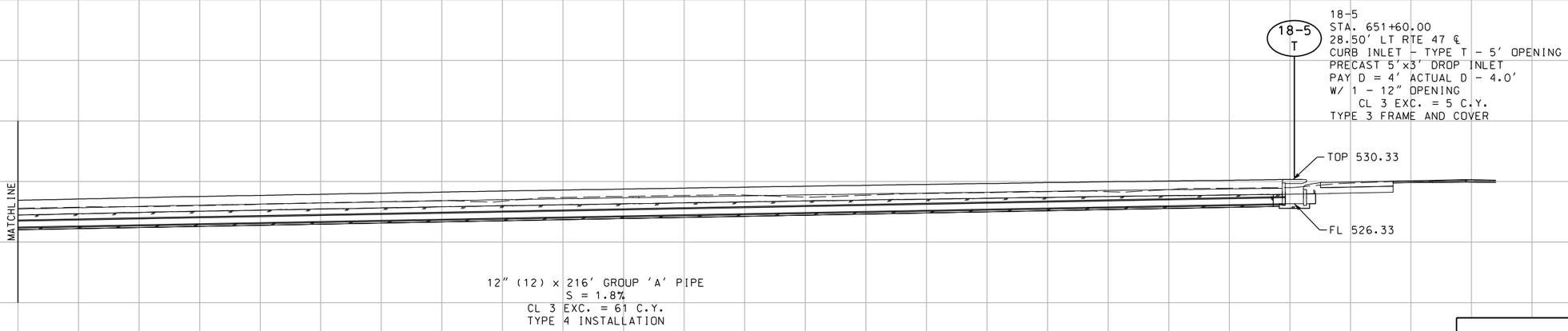

CULVERT SHEET
SHEET 5 OF 11

STATE OF MISSOURI
JOHN P. HUEBBE
NUMBER PE-2008019548
PROFESSIONAL ENGINEER
4:03 PM, OCT 18 2023
JOHN HUEBBE - DISCIPLINE: CIVIL
MO - PE2008019548

DATE PREPARED
10/18/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	171

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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

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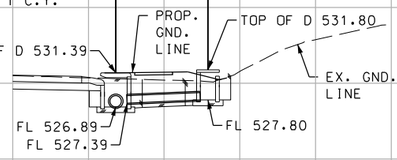
REV.

Z:\18021-US 61 and 47 Study\DGN\Design\Final\Plotsheets\171_CS_05_J2P3043_110_Culvert_Section.dgn 2:49:07 PM 10/18/2023

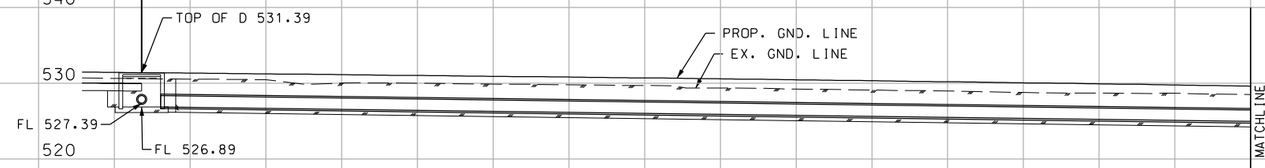
19-5
STA. 650+65.00
28.50' RT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'x3' DROP INLET
PAY D = 5' ACTUAL D - 4.5'
W/ 1 - 12" OPENING
1 - 18" OPENING
CL 3 EXC. = 8 C.Y.
CL 3 EXC. IN ROCK = 1 C.Y.
TYPE 3 FRAME AND COVER

19-6
STA. 650+65.00
40.65' RT RTE 47 ℄
PRECAST 3'x3' TYPE E INLET
PAY D = 4' ACTUAL D - 4.0'
W/ 1 - 12" OPENING
CL 3 EXC. = 3 C.Y.
CL 3 EXC. IN ROCK = 1 C.Y.
OPEN 1 SIDE (SOUTH)



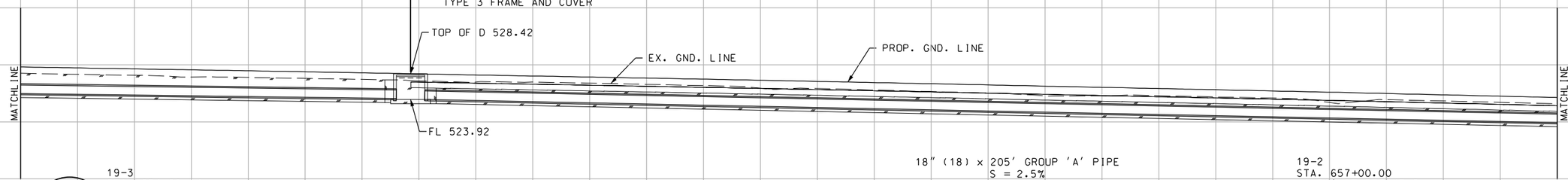
12" (12) x 10' GROUP 'A' PIPE
S = 4.1%
CL 3 EXC. = 1 C.Y.
CL 2 EXC. IN ROCK = 1 C.Y.
TYPE 4 INSTALLATION

19-5
SEE PREVIOUS SECTION
THIS SHEET



18" (18) x 210' GROUP 'A' PIPE
S = 1.3%
CL 3 EXC. = 126 C.Y.
TYPE 4 INSTALLATION

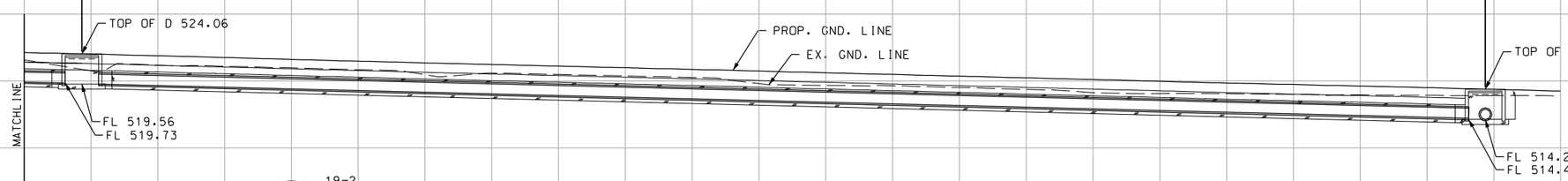
19-4
STA. 652+79.94
33.02' RT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'x3' DROP INLET
PAY D = 5' ACTUAL D - 4.5'
W/ 2 - 18" OPENINGS
CL 3 EXC. = 8 C.Y.
TYPE 3 FRAME AND COVER



18" (18) x 205' GROUP 'A' PIPE
S = 2.5%
CL 3 EXC. = 82 C.Y.
TYPE 4 INSTALLATION

19-3
STA. 654+89.94
39.32' RT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'x3' DROP INLET
PAY D = 5' ACTUAL D - 4.5'
W/ 2 - 18" OPENINGS
CL 3 EXC. = 6 C.Y.
TYPE 3 FRAME AND COVER

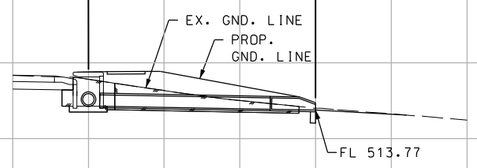
19-2
STA. 657+00.00
40.50' RT RTE 47 ℄
CURB INLET - TYPE T - 5' OPENING
PRECAST 5'x3' DROP INLET
PAY D = 5' ACTUAL D - 4.5'
W/ 2 - 18" OPENINGS
CL 3 EXC. = 9 C.Y.
TYPE 3 FRAME AND COVER



19-2
SEE PREVIOUS SECTION
THIS SHEET

19-1
STA. 657+00.00
70.49' RT
RTE 47 ℄
18" FLARED END SECTION

18" (18) x 205' GROUP 'A' PIPE
S = 2.5%
CL 3 EXC. = 79 C.Y.
TYPE 4 INSTALLATION



18" (18) x 22' GROUP 'A' PIPE
S = 1.8%
CL 3 EXC. = 7 C.Y.
TYPE 4 INSTALLATION

CULVERT SHEET
SHEET 6 OF 11

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STATE OF MISSOURI
JOHN P. HUEBBE
NUMBER PE-2009019548
PROFESSIONAL ENGINEER
4:03 PM, OCT 18 2023
JOHN HUEBBE - DISCIPLINE: CIVIL
MO - PE2009019548

DATE PREPARED
10/18/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	172

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

REV.	DESCRIPTION	DATE

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

EFK • Moen, LLC
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

Z:\18021-US 61 and 47 Study\DGN\Design\Final\Plotsheets\172_CS_06_J2P3043_I10_Culvert_Section.dgn 2:49:08 PM 10/18/2023

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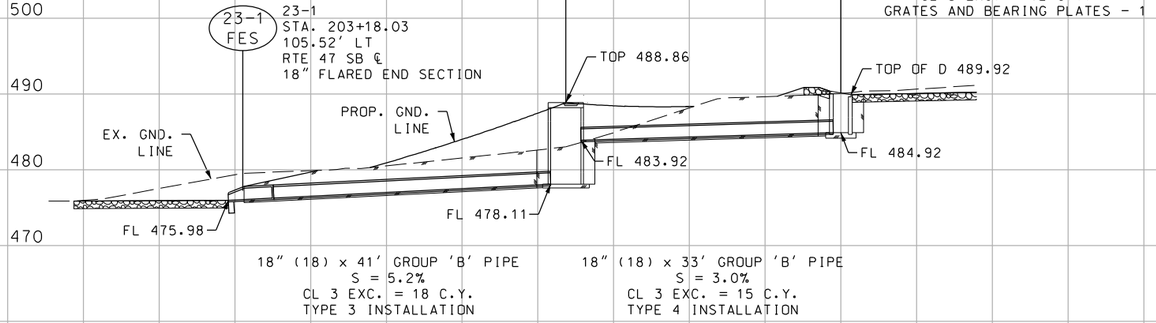

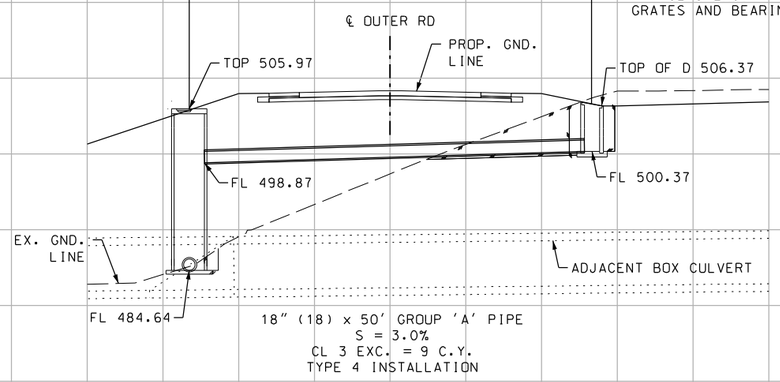

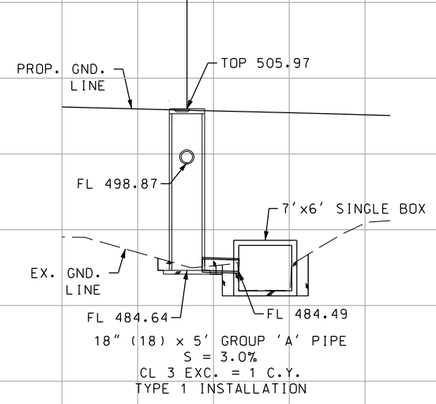

CULVERT SHEET
SHEET 7 OF 11

JOHN P. HUEBBE
NUMBER PE-2008019548
PROFESSIONAL ENGINEER
STATE OF MISSOURI
4:04 PM, OCT 18 2023
JOHN HUEBBE - DISCIPLINE: CIVIL
MO - PE-2008019548

DATE PREPARED 10/18/2023
ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 173
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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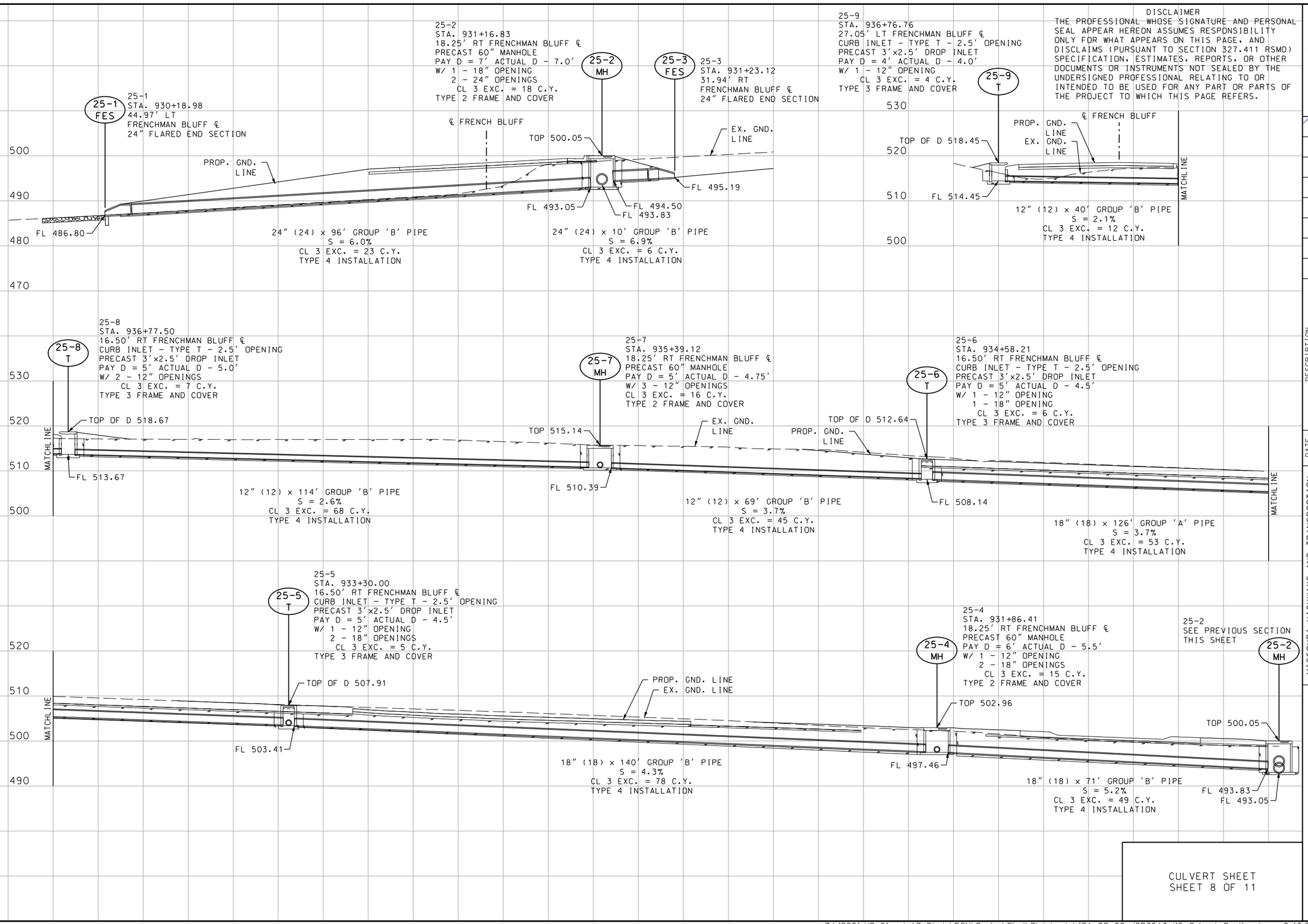
MISSOURI HIGHWAYS AND TRANSPORTION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK·Moen, LLC
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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STATE OF MISSOURI
JOHN P. HUEBBE
NUMBER PE-2008019548
PROFESSIONAL ENGINEER
4:04 PM, OCT 18 2023
JOHN HUEBBE - DISCIPLINE: CIVIL
MO - PE-2008019548

DATE PREPARED
10/18/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	174

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

REV.	DESCRIPTION	DATE

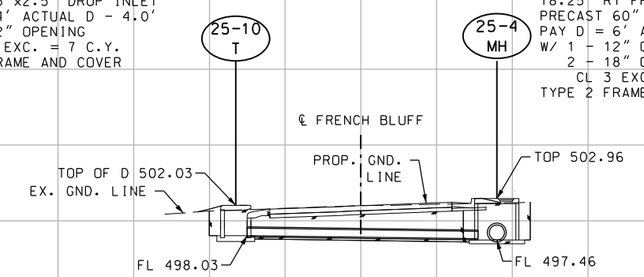
MISSOURI HIGHWAYS AND TRANSPORTION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

CULVERT SHEET
SHEET 8 OF 11

25-10
STA. 931+85.57
16.50' LT FRENCHMAN BLUFF ℄
CURB INLET - TYPE T - 2.5' OPENING
PRECAST 3'x2.5' DROP INLET
PAY D = 4' ACTUAL D - 4.0'
W/ 1 - 12" OPENING
CL 3 EXC. = 7 C.Y.
TYPE 3 FRAME AND COVER

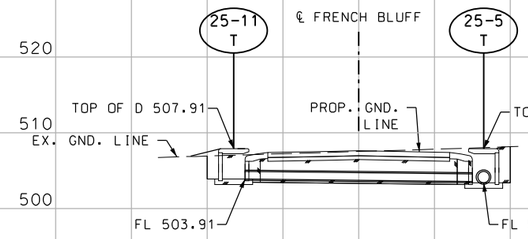
25-4
STA. 931+86.41
18.25' RT FRENCHMAN BLUFF ℄
PRECAST 60" MANHOLE
PAY D = 6' ACTUAL D - 5.5'
W/ 1 - 12" OPENING
2 - 18" OPENINGS
CL 3 EXC. = 15 C.Y.
TYPE 2 FRAME AND COVER



12" (12) x 30' GROUP 'B' PIPE
S = 1.9%
CL 3 EXC. = 11 C.Y.
TYPE 4 INSTALLATION

25-11
STA. 933+30.00
16.50' LT FRENCHMAN BLUFF ℄
CURB INLET - TYPE T - 2.5' OPENING
PRECAST 3'x2.5' DROP INLET
PAY D = 4' ACTUAL D - 4.0'
W/ 1 - 12" OPENING
CL 3 EXC. = 6 C.Y.
TYPE 3 FRAME AND COVER

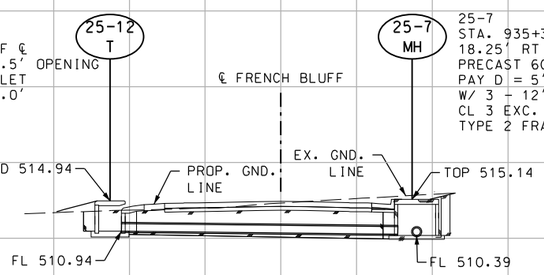
25-5
STA. 933+30.00
16.50' RT FRENCHMAN BLUFF ℄
CURB INLET - TYPE T - 2.5' OPENING
PRECAST 3'x2.5' DROP INLET
PAY D = 5' ACTUAL D - 4.5'
W/ 1 - 12" OPENING
2 - 18" OPENINGS
CL 3 EXC. = 8 C.Y.
TYPE 3 FRAME AND COVER



12" (12) x 30' GROUP 'B' PIPE
S = 1.7%
CL 3 EXC. = 10 C.Y.
TYPE 4 INSTALLATION

25-12
STA. 935+39.20
21.94 LT FRENCHMAN BLUFF ℄
CURB INLET - TYPE T - 2.5' OPENING
PRECAST 3'x2.5' DROP INLET
PAY D = 4' ACTUAL D - 4.0'
W/ 1 - 12" OPENING
CL 3 EXC. = 5 C.Y.
TYPE 3 FRAME AND COVER

25-7
STA. 935+39.12
18.25' RT FRENCHMAN BLUFF ℄
PRECAST 60" MANHOLE
PAY D = 5' ACTUAL D - 4.75'
W/ 3 - 12" OPENINGS
CL 3 EXC. = 16 C.Y.
TYPE 2 FRAME AND COVER



12" (12) x 36' GROUP 'B' PIPE
S = 2.2%
CL 3 EXC. = 14 C.Y.
TYPE 4 INSTALLATION

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STATE OF MISSOURI
JOHN P. HUEBBE
NUMBER PE-2008019548
PROFESSIONAL ENGINEER
4:04 PM, OCT 18 2023
JOHN HUEBBE - DISCIPLINE: CIVIL
MO-E2-2008019548

DATE PREPARED
10/18/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	175

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

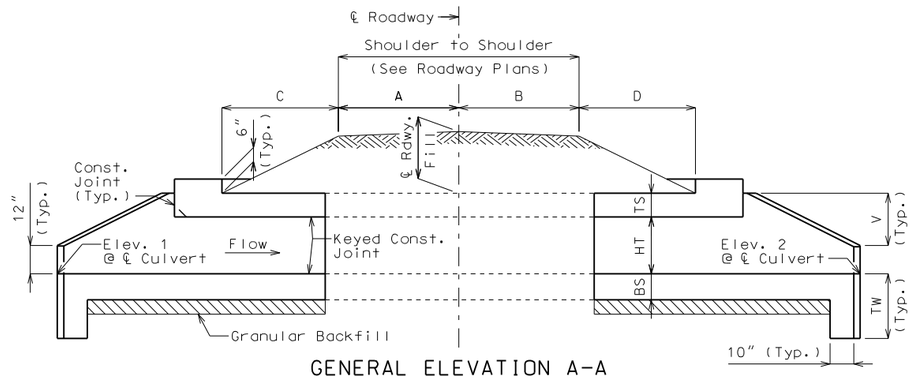
REV.	DESCRIPTION	DATE

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

EFK•Moen, LLC
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

CULVERT SHEET
SHEET 9 OF 11

U.I.P. AND EXTEND EXISTING 2(8'x 7') CONCRETE BOX CULVERT UPSTREAM AND DOWNSTREAM

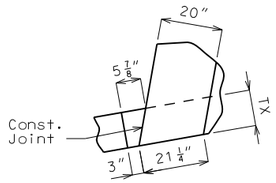


GENERAL ELEVATION A-A

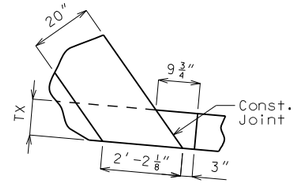
Construction joint key not shown for clarity, see standard plans for details.

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

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



DETAIL A



DETAIL B

Layout Dimensions		
Var.	Equation	Dim.
S	- - -	8'-0"
HT	- - -	7'-0"
TS	- - -	13"
BS	- - -	15"
TX	- - -	8"
TI	- - -	8"
F	2S + 2TX + TI	18'-0"
V	HT + TS - 12"	7'-1"
TW	Max{3'-4" or (BS + 12")}	3'-4"

Hydrologic Data
Drainage Area = 1.4 mi^2
Design Flood Frequency = 100 years
Design Flood Discharge = 970 cfs
Design Flood (D.F.) Elevation = 485.7
Base Flood (100-year)
Base Flood Elevation = 485.7
Base Flood Discharge = 970 cfs
Estimated Backwater = 4.3 ft
Outlet Velocity = 15.9 ft/s
Roadway Overtopping
Overtopping Flood Discharge = N/A
Overtopping Flood Frequency > 500 years
500-Year Flood Elevation = 485.9

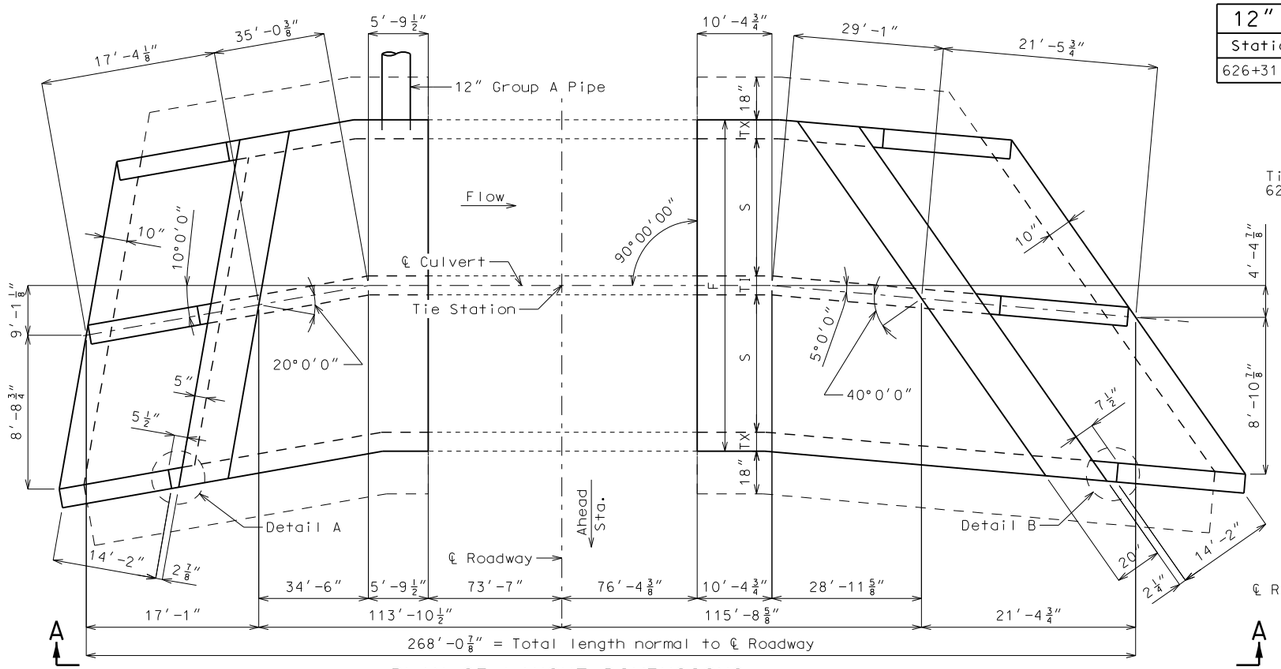
Elevations
Upstream (Elev. 1) = 477.08
Downstream (Elev. 2) = 475.62
Pr. Gr. at Tie Sta. = 505.29

Fill Heights
℄ Rdwy at ℄ Culvert = 20.9 ft
Design (All units) = 22 ft

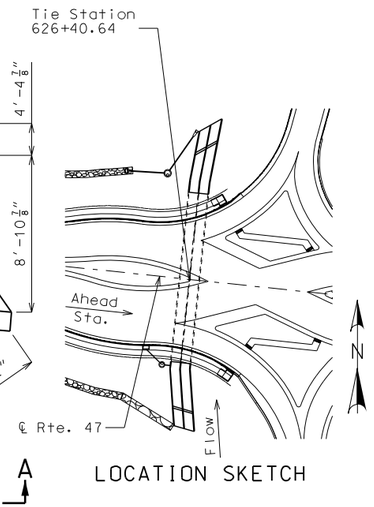
Dimensions are based on end units.
Fill heights are measured from the top of top slab to the top of earth fill or roadway.

Estimated Quantities			Final
Class 4 Excavation	cu. yard	119	
Temporary Shoring	lump sum	1	
Partial Removal of Culvert Concrete	lump sum	1	
Class B-1 Concrete (Culverts)	cu. yard	221.0	
Reinforcing Steel (Culverts)	pound	24,450	

12" Pipe Inlet Data		
Station	Offset	F.L. Elev.
626+31.64	77.07' RT	480.76



PLAN OF LAYOUT DIMENSIONS



LOCATION SKETCH

General Notes:

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

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

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

Standard Plans:
703.37, 703.38, 703.42, 703.44, 703.46, 703.47, 703.60

Miscellaneous:
MoDOT Construction personnel will indicate the type of box culvert constructed:
☐ Precast Concrete Box used
☐ Cast-in-Place Concrete Box used

When alternate precast concrete box sections are used, the minimum distance from inside face of headwalls to precast sections measured along the shortest wall shall be 3 feet. Reinforcement and dimensions for wings and headwalls shall be in accordance with Missouri Standard Plans.

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

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

C.P. #9 = BAR WITH CAP SET FLUSH @ SE QUAD OF RTE 47 AND RTE 61. 25'± SOUTH OF ℄ RTE 47 AND 65'± WEST OF ℄ NB RTE 61 OFF RAMP, ELEV. 511.60'

REPAIRS TO CULVERT: ROUTE 47 OVER TOWN BRANCH CREEK

ROUTE 47 FROM ROUTE H TO ROUTE 147
ABOUT 2.0 MILES NORTH OF ROUTE H
TIE STA. 626+40.64

Designed Sep. 2023
Detailed Sep. 2023
Checked Sep. 2023

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

Sheet No. 1 of 1

STATE OF MISSOURI
CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

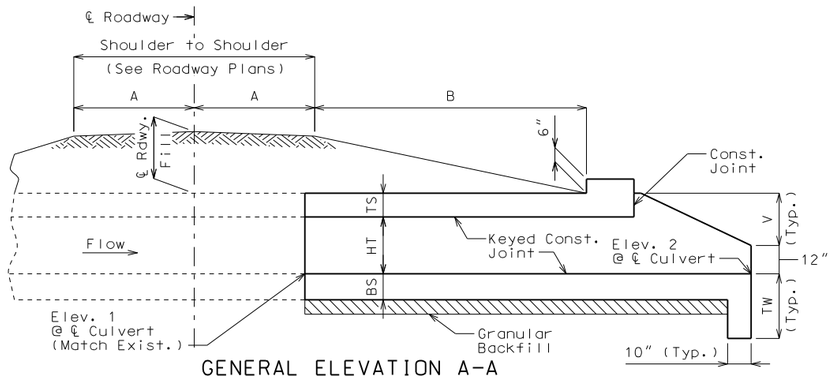
DATE PREPARED 10/24/2023
ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 176
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. .

DESCRIPTION | DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

U.I.P AND EXTEND EXISTING 7'x 6' CONCRETE BOX CULVERT DOWNSTREAM



GENERAL ELEVATION A-A

Construction joint key not shown for clarity, see standard plans for details.

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

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

Layout Dimensions

Var.	Equation	Dim.	Var.	Equation	Dim.	Var.	Equation	Dim.
S	- - -	7'-0"	A	- - -	20'-0"	F	S + 2TX	8'-4"
HT	- - -	6'-0"	B	- - -	57'-9"	G	2V	11'-6"
TS	- - -	9"	C	- - -	19'-3"	V	HT + TS - 12"	5'-9"
BS	- - -	10"	E	G + 23"	13'-5"	W	A + B + E - C	71'-11"
TX	- - -	8"				TW	Max{3'-4" or (BS + 12")}	3'-4"

18" Pipe Inlet Data

Station	Offset	F.L. Elev.
110+34.97	26.51' LT	484.64

Elevations

Upstream (Elev. 1) = 482.1±
Downstream (Elev. 2) = 481.40
Pr. Gr. at Tie Sta. = 508.10

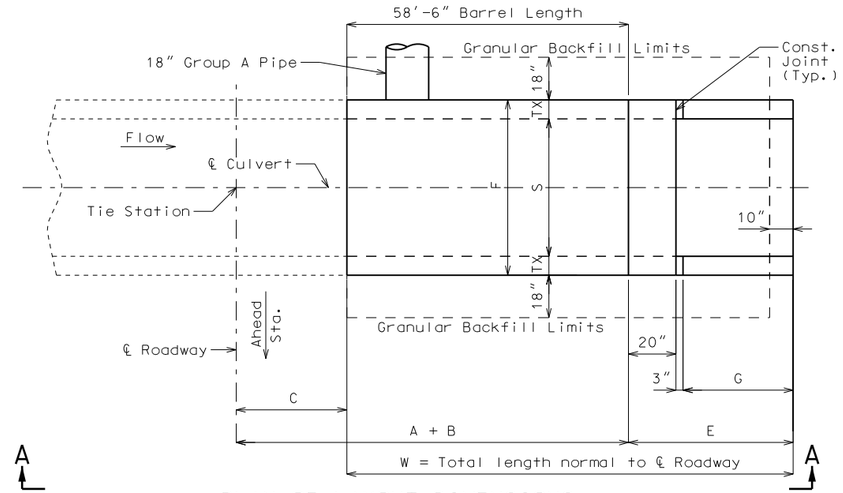
Fill Heights

℄ Rdwy at ℄ Culvert = 19.2 ft
Design (All units) = 20 ft

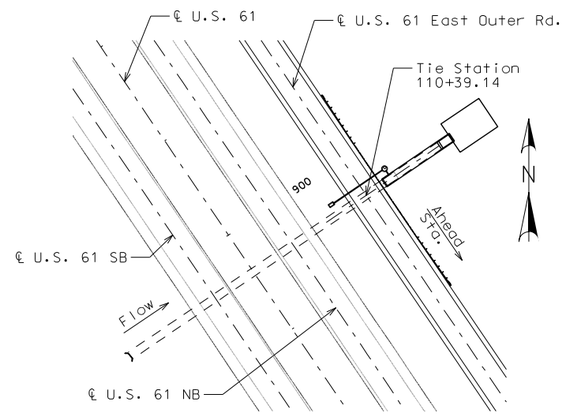
Dimensions are based on end units.
Fill heights are measured from the top of top slab to the top of earth fill or roadway.

Estimated Quantities

			Final
Class 4 Excavation	cu. yard	26	
Temporary Shoring	lump sum	1	
Partial Removal of Culvert Concrete	lump sum	1	
Class B-1 Concrete (Culverts)	cu. yard	53.4	
Reinforcing Steel (Culverts)	pound	9720	



PLAN OF LAYOUT DIMENSIONS



LOCATION SKETCH

General Notes:

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

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

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

Standard Plans:
703.10, 703.16, 703.17, 703.37, 703.38, 703.60

Miscellaneous:
MoDOT Construction personnel will indicate the type of box culvert constructed:
☐ Precast Concrete Box used
☐ Cast-in-Place Concrete Box used

When alternate precast concrete box sections are used, the minimum distance from inside face of headwalls to precast sections measured along the shortest wall shall be 3 feet. Reinforcement and dimensions for wings and headwalls shall be in accordance with Missouri Standard Plans.

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

Traffic Handling:
Structure to be closed during construction. See roadway plans for traffic control.

REPAIRS TO CULVERT: U.S. 61 EAST OUTER ROAD OVER SMALL TRIBUTARY

U.S. 61 EAST OUTER ROAD FROM DUGAN LANE TO ROUTE 47
ABOUT 0.5 MILES NORTH OF ROUTE 47
TIE STA. 110+39.14

Designed Sep. 2023
Detailed Sep. 2023
Checked Sep. 2023

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

STATE OF MISSOURI
CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/24/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
NE	177

COUNTY
LINCOLN

JOB NO.
J2P3043

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)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
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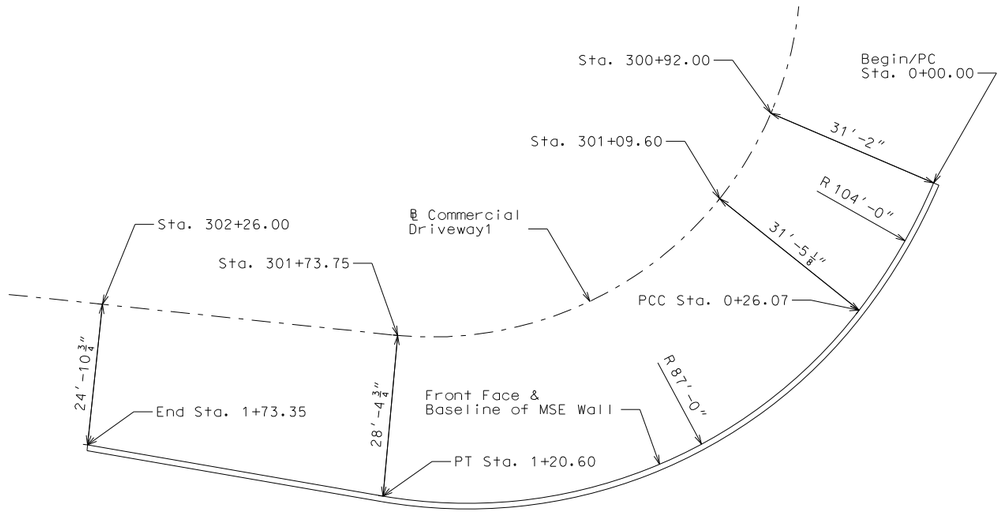
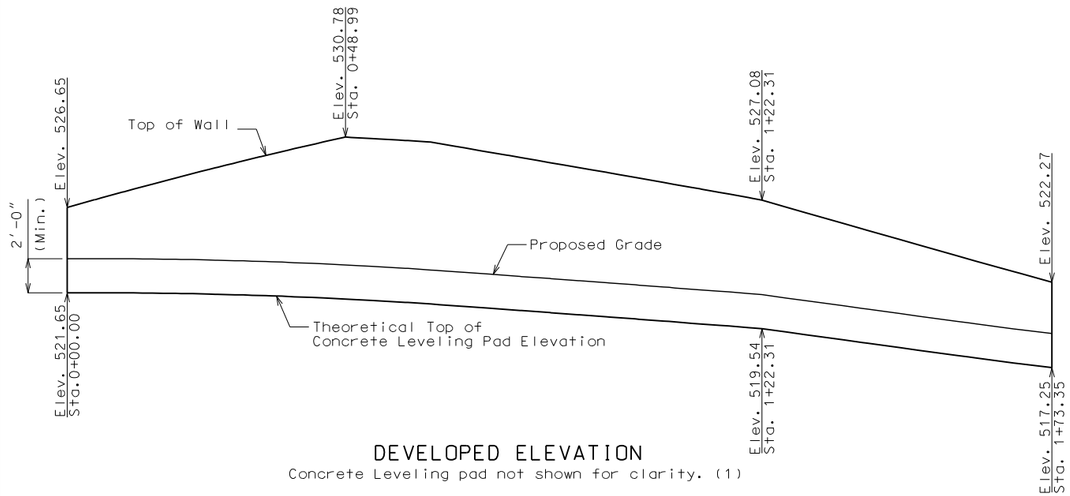
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

SEC/SUR * TWP * RGE *

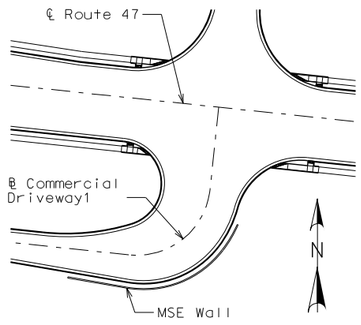


PLAN



DEVELOPED ELEVATION

Concrete Leveling pad not shown for clarity. (1)



LOCATION SKETCH

(1) Wall contractor shall show the following items on the design drawings and/or on the fabricator shop drawings.

- Leveling pad horizontal.
- Leveling pad length and step elevations shall be based on wall manufacturer's recommendation.Top of leveling pad elevations shall not be higher than theoretical top of leveling pad elevations shown on these plans.

Estimated Quantities		
Item		Total
Mechanically Stabilized Earth Wall Systems	sq. foot	1316

Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

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

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

General Notes:

Design Specifications:

2011 AASHTO Guide Specifications for LRFD Seismin Bridge Design (2nd Ed.) and 2014 Interim Revisions (Seimic Details)
Seismic Design Category = B
Design earthquake response spectral acceleration coefficient at 1.0 second period, S_{a1}= 0.168g
Acceleration Coefficient (effective peak ground acceleration coefficient), A_s= 0.139g

Design Loading:

Φ_D = 28° for retained backfill material to be retained by the mechanically stabilized earth wall system.

For unimproved foundation ground, the maximum net allowable bearing capacity is 3.0 ksf.

The maximum applied bearing pressure for the controlling design case at the foundation level shall be shown on the shop drawings and shall be less than the allowable bearing pressure for foundation ground provided herein. For seismic design the maximum applied bearing pressure shall be less than two times the allowable bearing pressure.

Allowable bearing pressure shall not be adjusted from that as shown on the plans.

Contractor shall include design Φ_r (actual $\Phi_r \geq 34°$) and the total unit weight, γ_r, for the select granular backfill (reinforced backfill and wedge area backfill) for structural systems on shop drawings. Contractor shall identify source of select granular backfill material, submit proctor in accordance with AASHTO T 99 (ASTM D698) and gradation with the shop drawings. When backfill material is too coarse to develop a proctor curve the contractor shall determine the maximum dry density (relative density) in accordance with ASTM D4253 and ASTM D4254 and assume percent passing the 200 sieve for optimum water content.

Total unit weight, γ_r = (95% compaction) x (maximum dry density) x (1 + optimum water content)

Design Φ_r = 34° for the select granular backfill (reinforced backfill) only for structural systems.

Factor of safety shall be 2.0 for overturning and 1.5 for sliding.

For seismic design the factor of safety shall be 1.5 for overturning and 1.1 for sliding.

Design Unit Stresses:

All concrete for leveling pad shall be Class B or B-1 with f'c = 4000 psi.

The minimum compressive strength of concrete for precast concrete block shall be 4,000 psi in accordance with Sec 1052.

Miscellaneous:

The MSE wall system shall be built in accordance with Sec 720.

The MSE wall system shall be a small block wall system.

The cost of joint filler and joint seal, complete in place, will be considered completely covered by the contract unit price for Concrete Traffic Barrier (Type A D). See Roadway Plans.

Concrete block and capstone reinforcement shall be epoxy coated.

A filter cloth meeting the requirements for a Separation Geotextile material shall be placed between the select granular backfill for structural systems and the backfill being retained by the mechanically stabilized earth wall system.

The top and bottom elevations are given for a vertical wall. The height of the wall shall be adjusted as necessary to fit the ground slope and the concrete leveling pad shall be adjusted as necessary to account for the wall batter. If a fence is built on an extended gutter, then the height of the wall shall be adjusted further.

The baseline of the wall shown is for a vertical wall. This baseline shall correspond to Elevation at Proposed Grade.

The contractor shall be solely responsible to coordinate construction of the wall with bridge and roadway construction and ensure that the bridge and roadway construction, resulting or existing obstructions, shall not impact the construction or performance of the wall. Soil reinforcement shall be designed and placed to avoid damage by pile driving, guardrail post installation, utility and sign foundations. (See Roadway and Bridge plans.)

MSE Wall Systems Data Table					
Proprietary Wall Systems		Combination Wall Systems			
Manufacturer	System	Facing Unit Manufacturer	Facing Unit	Geogrid Manufacturer	Geogrid

MSE Wall Systems Data Table is to be completed by MoDOT construction personnel to record the manufacturer of the proprietary wall system or the manufacturers of the combination wall system that was used for constructing the MSE wall.

RETAINING WALL SHEET
SHEET 1 OF 2

CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
STATE OF MISSOURI
PROFESSIONAL ENGINEER

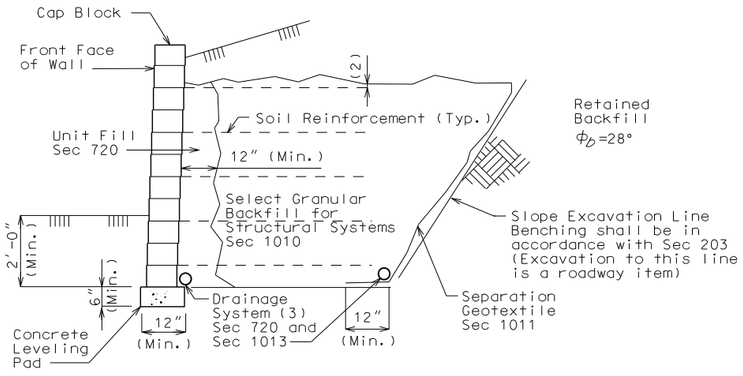
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/24/2023
ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 178
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO.

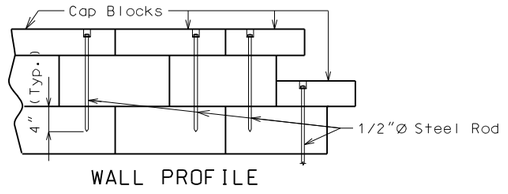
DESCRIPTION | DATE

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

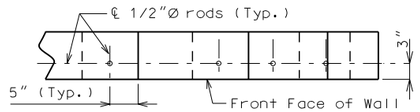
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®



TYPICAL SECTION THRU SMALL BLOCK WALL

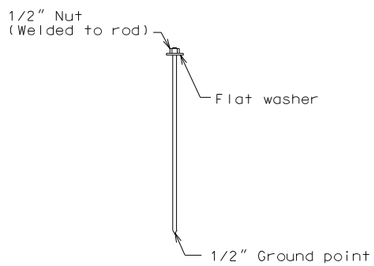


WALL PROFILE



WALL PLAN

(Small Block Wall)



DETAILS OF 1/2" THREADED ROD OR REINFORCING ROD

Material Properties Used in Design				
Reinf. Fill/Select Granular Backfill		Active Force Computations		Foundation
ϕ°	γ (pcf)	ϕ°	γ (pcf)	ϕ°

Note: MSE Wall designer shall include table on shop drawings and provide values used in the design computations. Effects of cohesion shall be ignored unless approved by the engineer.

Note:

Holes shall be 5/8" round and extended 4" into the third layer of blocks, recessed 2" deep by 1 1/2" round.

Rods or reinforcing bars shall be secured by an approved resin anchor system in accordance with Sec 1039.

Recess hole shall be backfilled with non-shrink cement grout.

(1) Inverted U-shape reinforced capstone may be used in lieu of coping. Panel dowels for level-up concrete shall be required and provided by manufacturer. The dowels shall be field trimmed to clear the capstone by a minimum of 1 1/2 inches and a maximum of 2 1/2 inches.

(2) Topmost layer of reinforcement shall be fully covered with select granular backfill for structural systems, as approved by the wall manufacturer, before placement of the Separation Geotextile.

(3) Minimum 6" diameter perforated PVC or PE pipe.

Manufacturer shall show drain details on design plans to be submitted as shown on MoDOT MSE wall plans and/or roadway plans.

Contractor shall modify the drain details as shown if it will improve flow as may be the case for stepped leveling pad, and for an uneven ground line (approval of the engineer required).

Permanent shims for Small block MSE wall:
Shims will be sparingly allowed to maintain horizontal and vertical control. The preferable shim shall be made of a plastic material that will not rust, stain, rot or leach onto the concrete and has a minimum compressive strength equal to block wall unit. Steel or wood shims will not be allowed. Shims shall not exceed 3/16" in thickness and shall distribute load in order to not induce stress into block wall units. No shim shall be used between the concrete leveling pad and the base course of the block wall.

Excavation quantities and pay items are given on the roadway plans. Excavation quantities are based on a soil reinforcement length of 8 ft. The soil reinforcement length may vary based upon the wall design selected by the contractor. Plan excavation quantities will be paid regardless of any actual quantities removed based on the soil reinforcement length and design selected.

- Select granular backfill shall extend a minimum of 12" beyond the end of all soil reinforcement. Where the angle, θ, between the retained backfill excavation/fill line and the horizontal is less than 90°, the wedge area backfill between θ and 90° shall be filled with select granular backfill for structural systems meeting the requirements of Section 1010.

- For $(45° + \phi_b/3) < \theta \leq 90°$, properties for retained backfill shall be used for active force computations.

- For $\theta \leq (45° + \phi_b/3)$, contractor shall have the option to use select granular backfill, ϕ_r , or better aggregate material, ϕ_w for active force computations in the wedge area backfill. For active force computations, the angle of internal friction for wedge area backfill material, ϕ_r or ϕ_w , shall be limited to 34° unless determined otherwise in accordance with Section 1010. If ϕ_r or ϕ_w > 34° is desired for wedge area backfill then test report shall be submitted with shop drawings. ϕ_r or ϕ_w shall not be greater than 40° for computations. Final configuration of this option shall be sent to Geotechnical Section for a new overall global stability analysis. Design ϕ_w shall be shown on the shop drawings if used.

The slope excavation line shall be benched and separation geotextile shall be placed between the retained backfill and either select granular backfill or better aggregate material, and between the select granular backfill and better aggregate material.

Show range of acceptable theta (θ) angle on shop drawings which must be consistent with design computations and proposed construction of wall. Show active force computation properties on shop drawings and in design computations. Coordination between wall designer (manufacturer) and contractor is required before shop drawing submittal.

RETAINING WALL SHEET
SHEET 2 OF 2

CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
STATE OF MISSOURI
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/24/2023
ROUTE 47 | STATE MO
DISTRICT NE | SHEET NO. 179
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO.

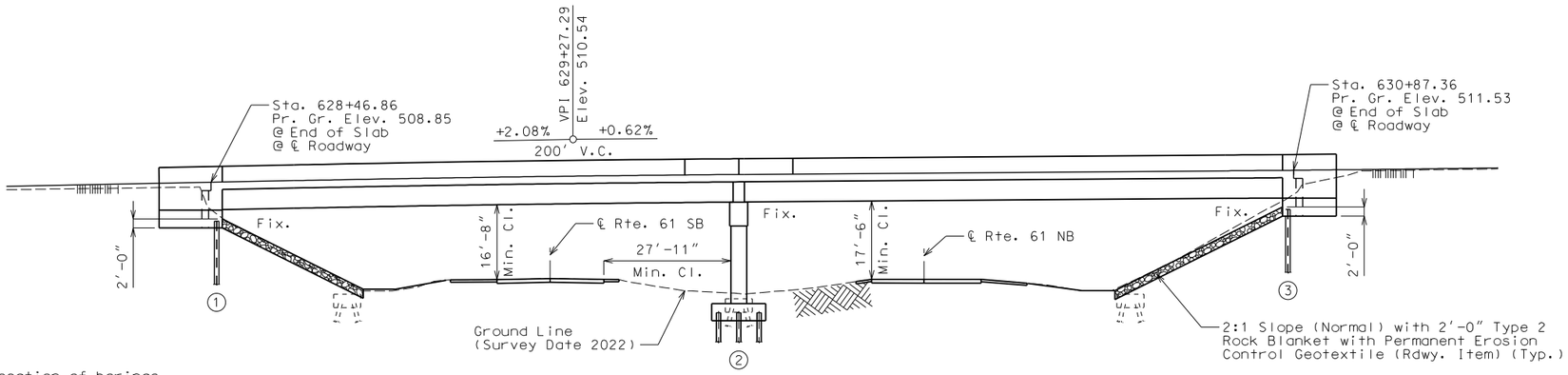
DESCRIPTION | DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

SEC/SUR 25 TWP 49N RGE 1W

(116'-122') PRESTRESSED CONCRETE NU-GIRDER SPANS



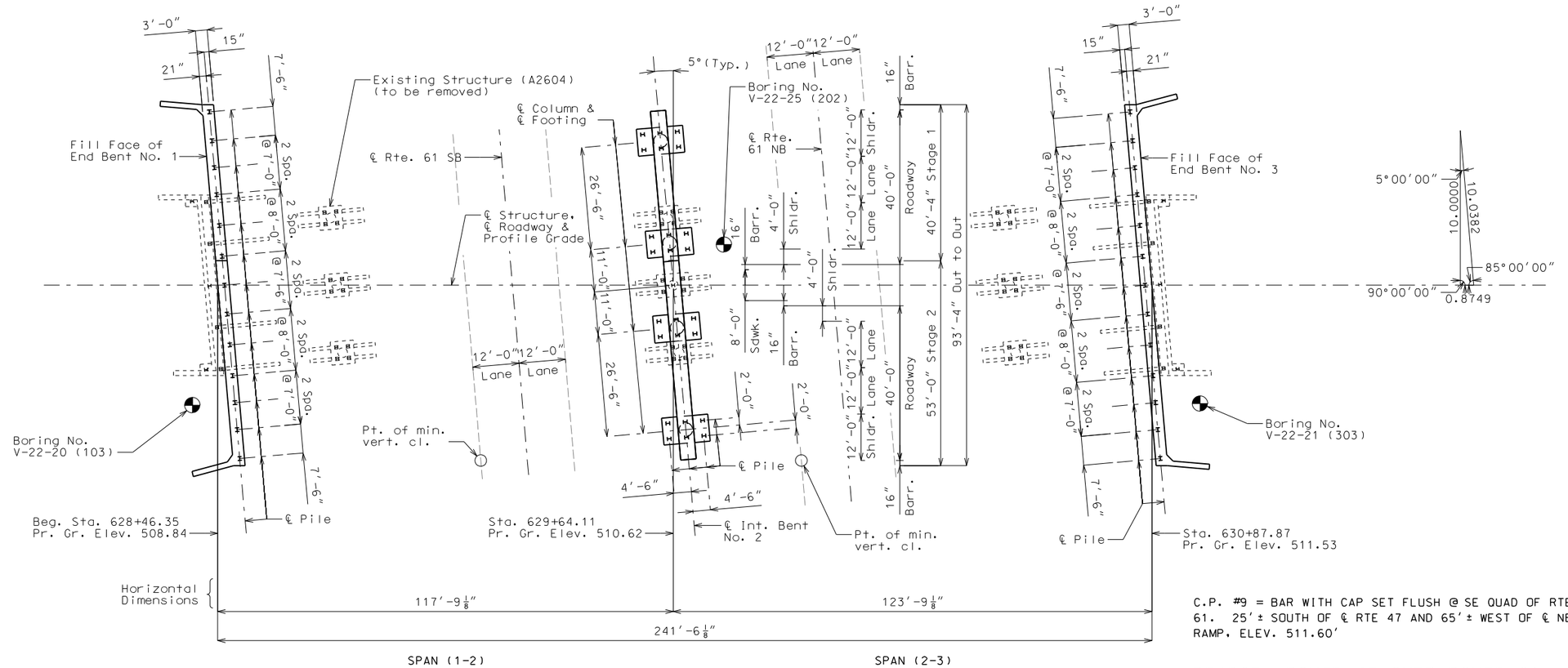
GENERAL ELEVATION

◔ Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheets No. 30, 31 & 32 and may be included in the Electronic Bridge Deliverables. They will also be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

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



PLAN

C.P. #9 = BAR WITH CAP SET FLUSH @ SE QUAD OF RTE 47 AND RTE 61. 25' ± SOUTH OF ℄ RTE 47 AND 65' ± WEST OF ℄ NB RTE 61 OFF RAMP. ELEV. 511.60'

BRIDGE: ROUTE 47 OVER ROUTE 61

ROUTE 47 FROM ROUTE H TO ROUTE 147
ABOUT 2.1 MILES NORTH OF ROUTE H
BEG. STA. 628+46.35

Designed Sep. 2023
Detailed Sep. 2023
Checked Sep. 2023

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

STATE OF MISSOURI
CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/17/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
BR	1

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.: .
PROJECT NO.: .
BRIDGE NO.: A8736

DESCRIPTION	DATE
.	.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

Estimated Quantities

	Item		Substr.	Superstr.	Total
	Removal of Miscellaneous ACM (Non-Friable)	sq. foot			23.0
	Class 1 Excavation	cu. yard	274		274
	Removal of Bridges (A2604)	lump sum			1
	Bridge Approach Slab (Major)	sq. yard			424
	Galvanized Structural Steel Piles (12 in.)	linear foot	2531		2531
	Pile Wave Analysis	each	3		3
	Pile Point Reinforcement	each	50		50
	Class B Concrete (Substructure)	cu. yard	246.1		246.1
*	Type D Barrier	linear foot		1122	1122
	Slab on Concrete NU-Girder	sq. yard		2494	2494
	NU 53, Prestressed Concrete NU-Girder	linear foot		2145	2145
	Reinforcing Steel (Bridges)	pound	40,780		40,780
	Mechanical Bar Splice	each	43	1068	1111
	Conduit System on Structure	lump sum			1
	Steel Int. Diaphragm for P/S Concrete Girders	each		32	32
	Slab Drain	each		22	22
	Vertical Drain at End Bents	each			2
	Plain Neoprene Bearing Pad	each		18	18
	Laminated Neoprene Bearing Pad (Tapered)	each		18	18

* Type D Barrier shall be cast-in-place or slip-form option.

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

Cost of L4x4 ASTM A709 Grade 36 HP pile anchors and 3/4-inch diameter ASTM F3125 Grade A325 Type 1 bolts, complete in place, will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (12 in.).

Foundation Data

Type	Design Data		Bent Number 1	2	3
Load Bearing Pile	Pile Type and Size		HP 12x53	HP 12x53	HP 12x53
	Number	ea	13	24	13
	Approximate Length Per Each	ft	65	41	54
	Pile Point Reinforcement	ea	All	All	All
	Min. Galvanized Penetration (Elev.)	ft	478	Full Length	481
	Pile Driving Verification Method		WEAP	WEAP	WEAP
	Resistance Factor		0.5	0.5	0.5
	Minimum Nominal Axial Compressive Resistance	kip	474	738	497

WEAP = Wave Equation Analysis of Piles

Minimum Nominal Axial Compressive Resistance = $\frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$

All piles shall be galvanized down to the minimum galvanized penetration (elevation).

Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.

The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

HP piles are anticipated to be driven to refusal on rock. Review all borings for depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702.

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
2011 AASHTO Guide Specifications for LRFD Seismic Bridge Design (2nd Ed.) and 2014 Interim Revisions (Seismic Details)
Seismic Design Category = B
Design earthquake response spectral acceleration coefficient at 1.0 second period, SD1 = 0.168g
Acceleration Coefficient (effective peak ground acceleration coefficient), As = 0.14g

Design Loading:

Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf (Min.)
Superstructure: Simply-Supported, Non-Composite for dead load.
Continuous Composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure) f'c = 3,000 psi

Class B-2 Concrete (Superstructure, except Prestressed Girders and Barrier) f'c = 4,000 psi

Class B-1 Concrete (Barrier) f'c = 4,000 psi

Reinforcing Steel (Grade 60) fy = 60,000 psi

Structural Steel HP Pile (ASTM A7909 Grade 50S) fy = 50,000 psi

For prestressed girder stresses, see Sheets No. 13 thru 16.

Neoprene Pads:

Neoprene bearing pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:

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

Reinforcing Steel:

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

Minimum clearance between galvanized piles and uncoated (plain) reinforcing steel including bar supports shall be 1 1/2". Nylon, PVC, or polyethylene spacers shall be used to maintain clearance. Nylon cable ties shall be used to bind the spacers to the reinforcement.

MBS refers to mechanical bar splices. Mechanical bar splices shall be in accordance with Sec 706 or 710.

Traffic Handling:

Vertical clearance for Route 61 traffic during construction shall be 15'-6" minimum over a 24'-0" wide horizontal opening of the roadway in each direction.

Traffic to be maintained on structure during construction. See roadway plans for traffic control and Sheet No. 3 for staged construction details.

Miscellaneous:

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

Estimated Quantities for Slab on Concrete NU-Girder

Item		Total
Class B-2 Concrete	cu. yard	760.8
Reinforcing Steel (Epoxy Coated)	pound	230,270

The table of Estimated Quantities for Slab on Concrete NU-Girder represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for stay-in-place corrugated steel forms, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

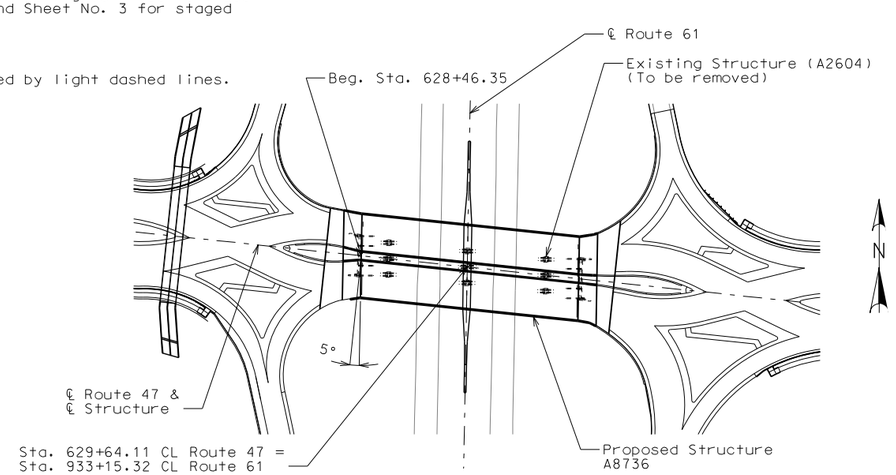
Slab shall be cast-in-place with conventional forms or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

Form sheets shall not rest directly on the top of girder flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Welding on or drilling holes in the girder flanges will not be permitted. All steel fabrication and construction shall be in accordance with Sec 1080 and 712. Certified field welders will not be required for welding of the form supports.

The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for girder loading.



LOCATION SKETCH

CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
STATE OF MISSOURI
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/17/2023
ROUTE 47 | STATE MO
DISTRICT BR | SHEET NO. 2
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

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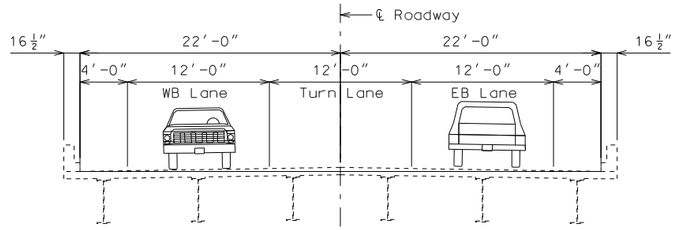
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

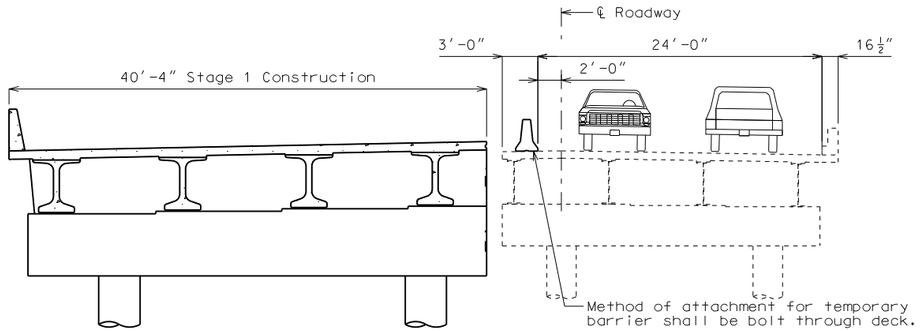
Detailed Sep. 2023
Checked Sep. 2023

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

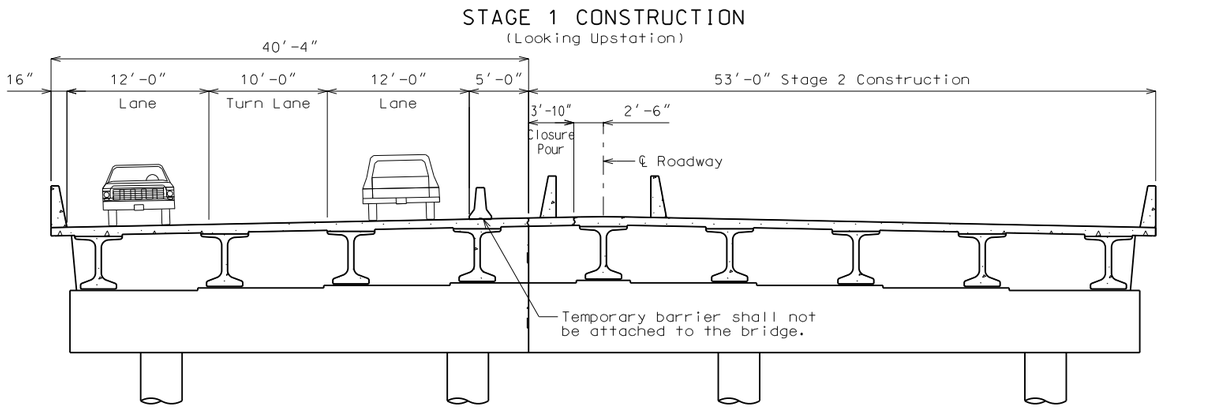
GENERAL NOTES AND QUANTITIES



EXISTING BRIDGE SECTION
(Looking Upstation)



STAGE 1 CONSTRUCTION
(Looking Upstation)



STAGE 2 CONSTRUCTION
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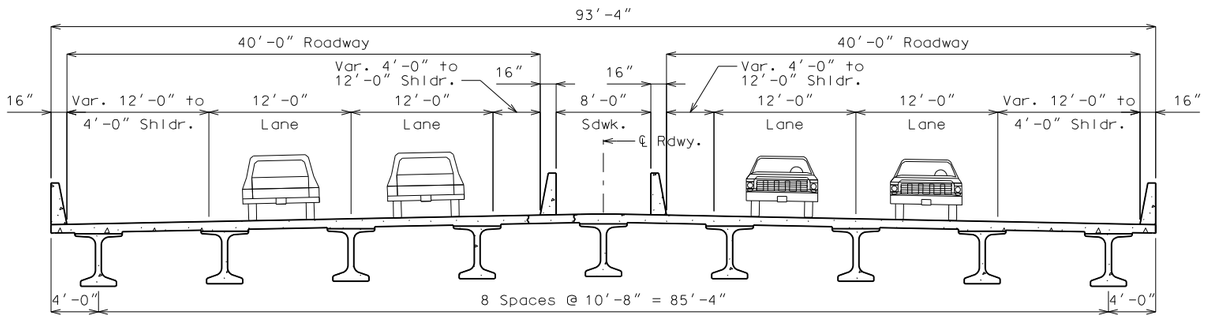

FINAL LAYOUT
(Looking Upstation)

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

Detailed Sep. 2023
Checked Sep. 2023

Sheet No. 3 of 32

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/17/2023

ROUTE	STATE
47	MO

DISTRICT	SHEET NO.
BR	3

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.
.

PROJECT NO.
.

BRIDGE NO.
A8736

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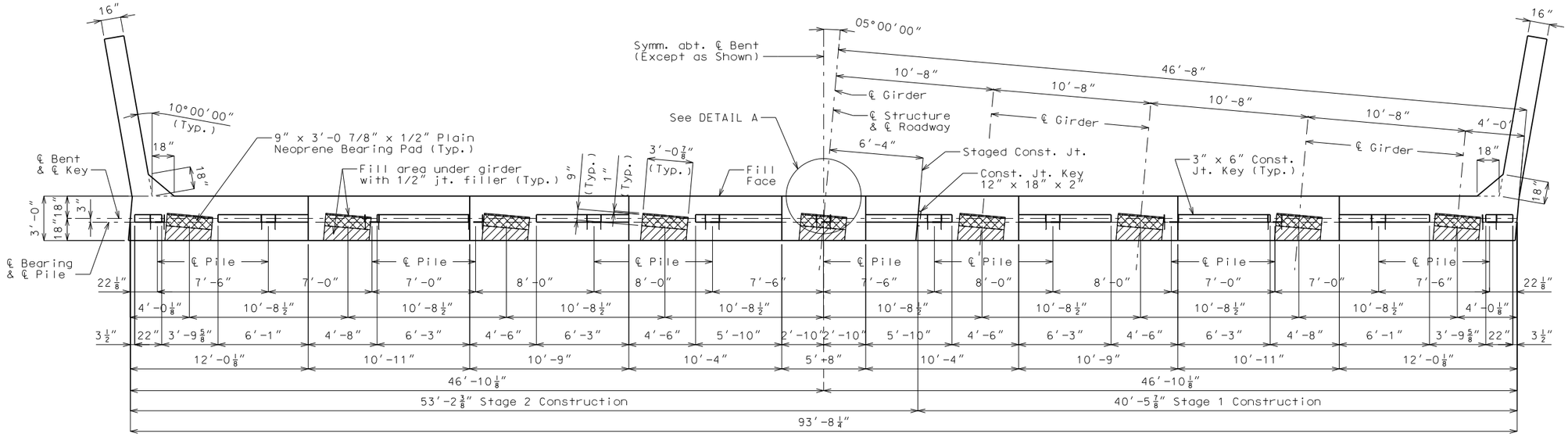
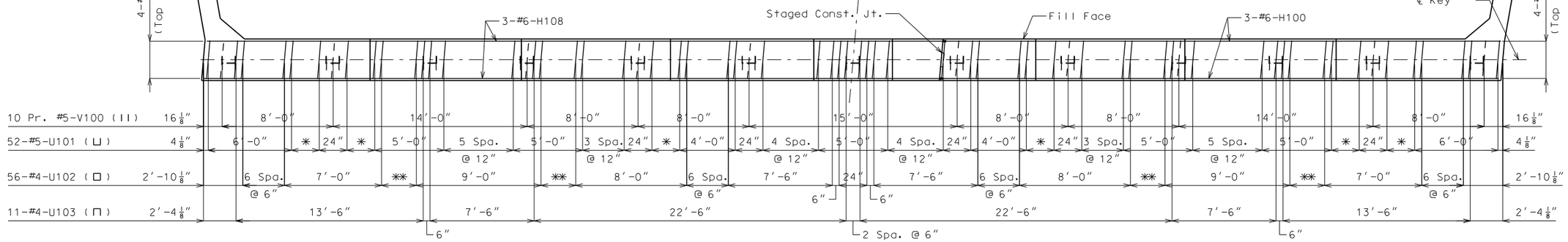
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608



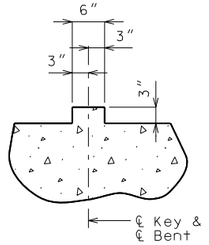
PLAN OF BEAM



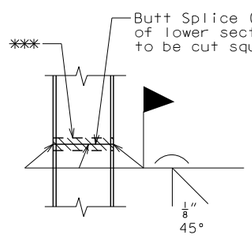
PLAN OF BEAM SHOWING REINFORCEMENT

Keys not shown for clarity.

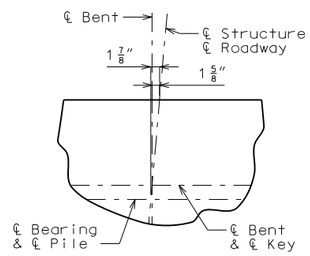
* 2 Spaces @ 12″
** 5 Spaces @ 6″



SECTION THRU KEY



STEEL PILE SPLICE
(If required)



DETAIL A

*** Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

General Notes:

Work this sheet with Sheets No. 5 & 6.

All U bars and pairs of V bars shall be placed parallel to centerline of roadway.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inches.

Pile anchors are requried for all end bent piles. See Sheet No. 8 for Details of HP Pile Anchors.

Substructure Quantity Table for Bent No. 1

Item		Quantity
Class 1 Excavation	cu. yard	84
Galvanized Structural Steel Piles (12 in.)	linear foot	845
Pile Point Reinforcement	each	13
Class B Concrete (Substructure)	cu. yard	50.8

These quantities are included in the Estimated Quantities table on Sheet No. 2.

DETAILS OF END BENT NO. 1

Detailed Sep. 2023
Checked Sep. 2023

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

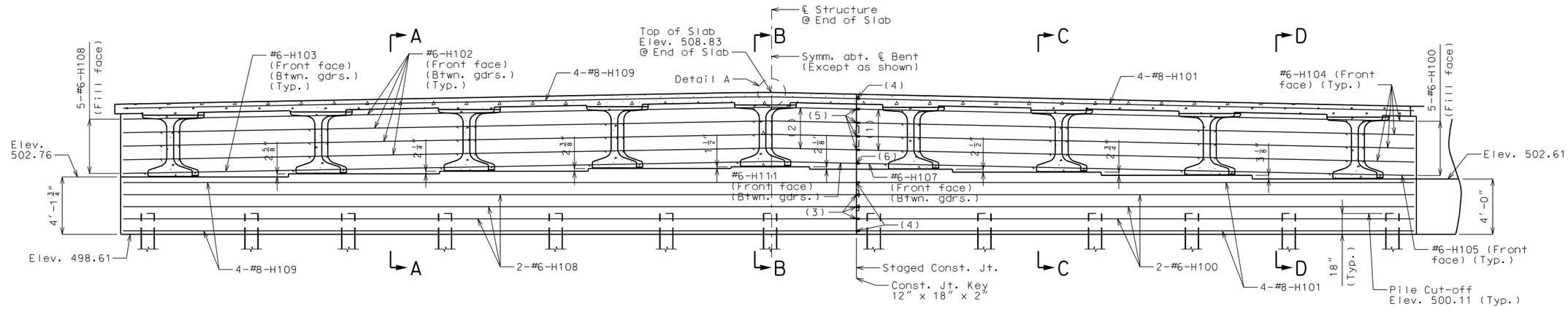
STATE OF MISSOURI
CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/17/2023
ROUTE 47 | STATE MO
DISTRICT BR | SHEET NO. 4
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

DESCRIPTION | DATE

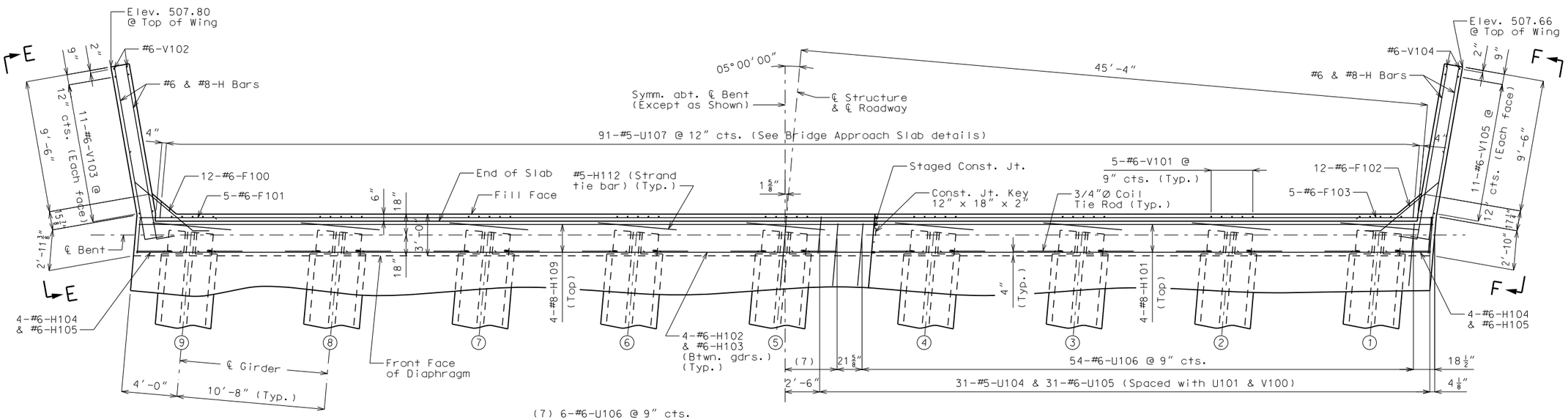
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

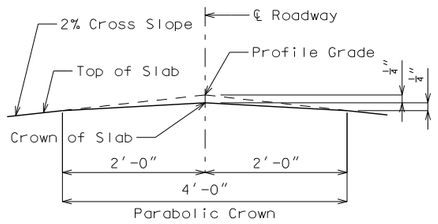


SECTION NEAR END BENT

(1) 4-#6-H106 (Front face) (Btwn. gdrs.)
(2) 4-#6-H110 (Front face) (Btwn. gdrs.)
(3) 2-MBS H100-H108
(4) 4-MBS H101-H109
(5) 1-MBS H106-H110 & 1-MBS H100-H108
(6) 1-MBS H107-H111 & 1-MBS H100-H108



PART PLAN



DETAIL A

General Notes:

Work this sheet with Sheets No. 4 & 6.

For Sections A-A, B-B, C-C & D-D and Elevations E-E & F-F, see Sheet No. 6.

The #6-F100 & #6-F102 bars shall be bent in the field to clear girders.

The U bars shall be placed parallel to the centerline of roadway.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

Strands at the end of the girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.

For location of coil tie rods and #5-H112 (strand tie bar), see Sheet No. 13 or 15.

For details of vertical drain at end bent, see Sheet No. 7.

For details of bridge approach slab, see Sheet No. 26.

DETAILS OF END BENT NO. 1

Detailed Sep. 2023
Checked Sep. 2023

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

CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
STATE OF MISSOURI
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/17/2023
ROUTE: 47 | STATE: MO
DISTRICT: BR | SHEET NO.: 5
COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.: .
PROJECT NO.: .
BRIDGE NO.: A8736

DESCRIPTION | DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
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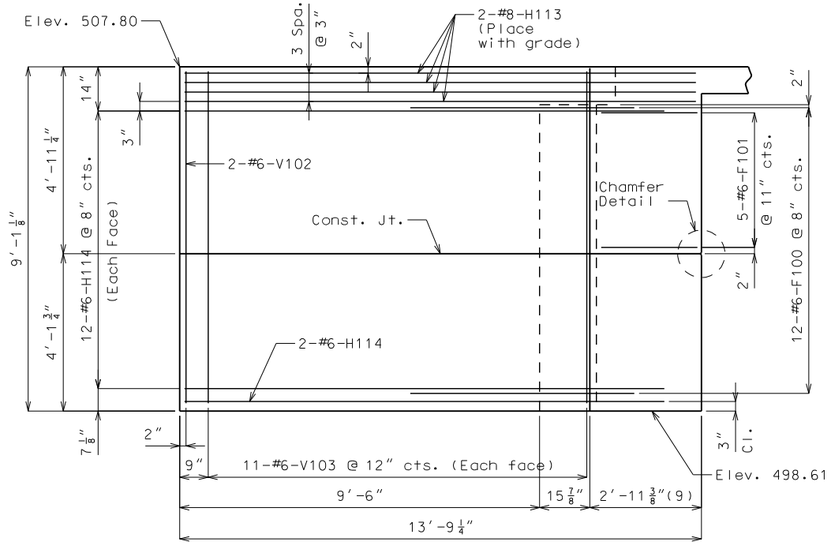
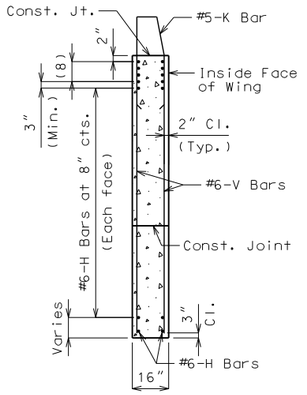
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

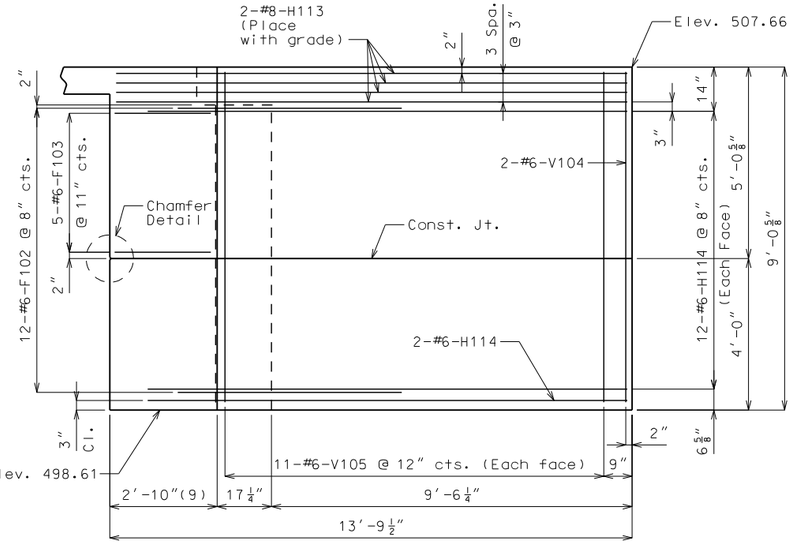


ELEVATION E-E



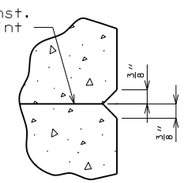
TYPICAL SECTION THRU WING

(8) #8-H Bars at 3" cts. (Each face)(Place with grade)

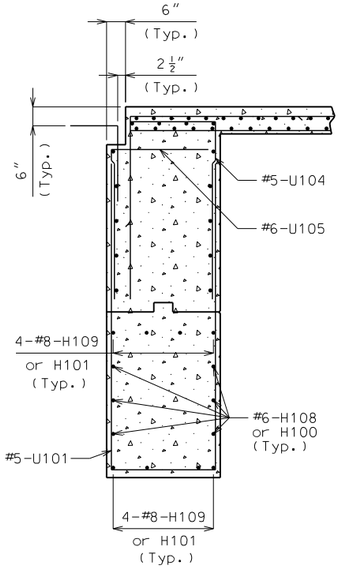


ELEVATION F-F

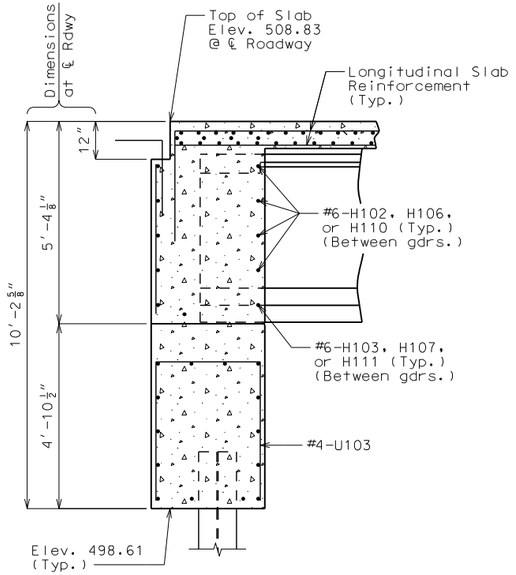
(9) Dimension along outside face of End Bent



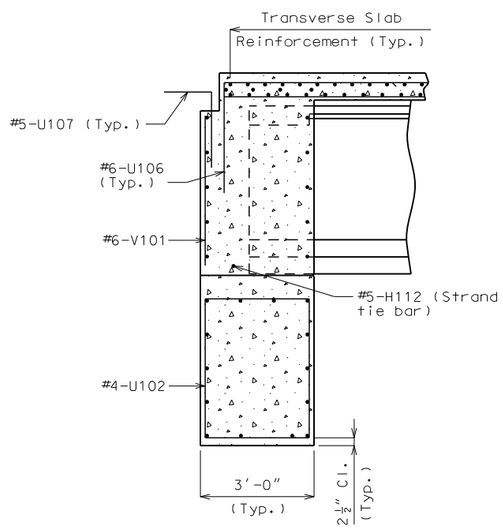
CHAMFER DETAIL



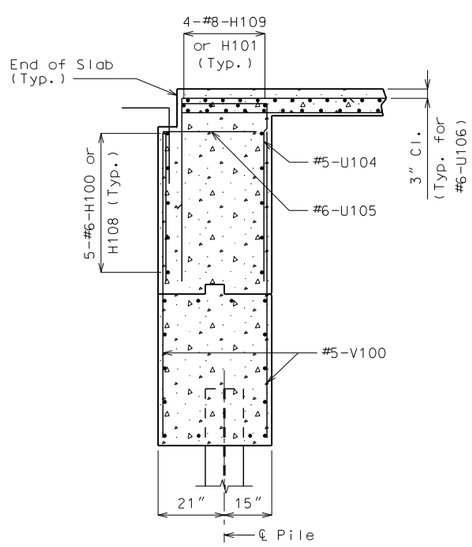
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

DETAILS OF END BENT NO. 1

General Notes:

Work this sheet with Sheets No. 4 & 5.

For reinforcement of the barrier, see Sheet No. 25.

Detailed Sep. 2023
Checked Sep. 2023

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

CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
STATE OF MISSOURI
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/17/2023
ROUTE 47 | STATE MO
DISTRICT BR | SHEET NO. 6
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

DESCRIPTION | DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
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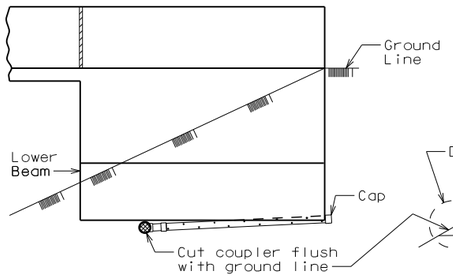
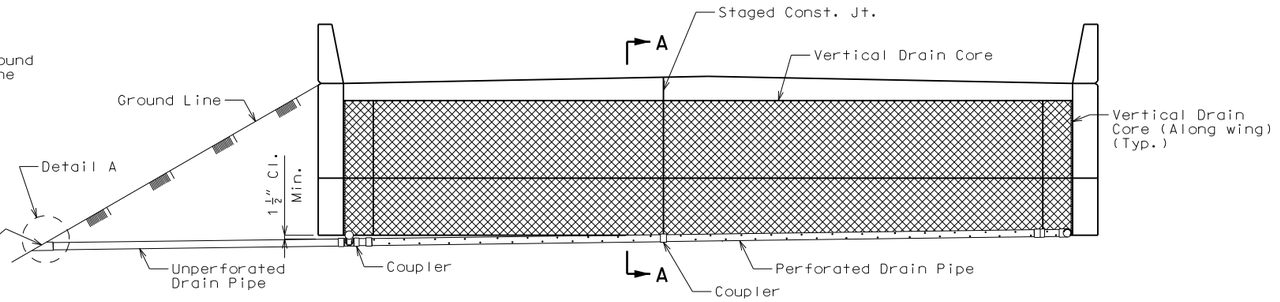
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

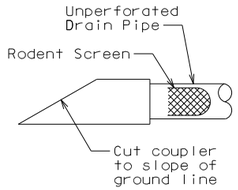
\\hrgreen.com\HRG\Data\2017\171526.01\CAD\Data\B_A8736_006_J2P3043_EndBent1Dtls.dgn 1:02:48 PM 11/17/2023



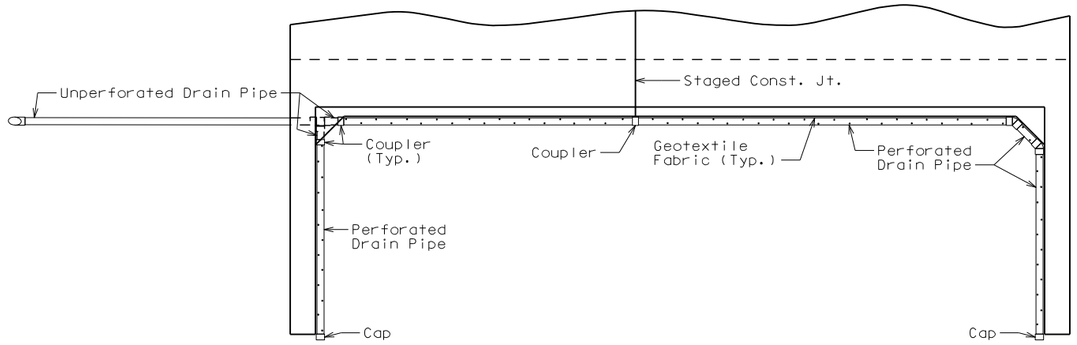
ELEVATION OF WING



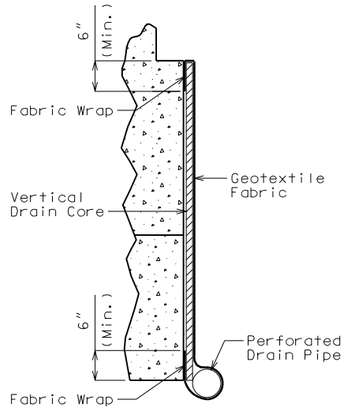
ELEVATION OF END BENT



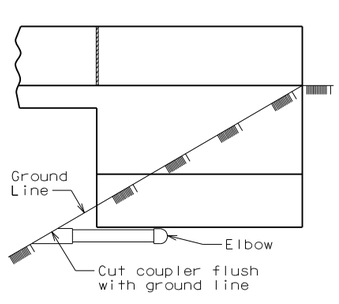
DETAIL A



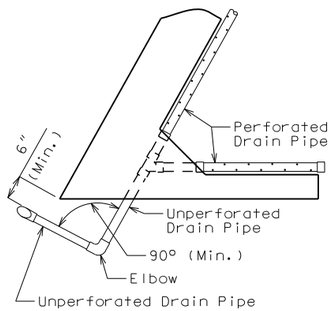
PLAN OF END BENT



PART SECTION A-A
(Section thru wing similar)



ELEVATION OF WING



PART PLAN

OPTIONAL TURNED DRAIN
(Use only when straight drain is not practical.)

General Notes:

All drain pipe shall be sloped 1 to 2 percent.

Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.

Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.

VERTICAL DRAIN AT END BENTS

(Squared end bent shown, skewed end bent similar)

Detailed Sep. 2023
Checked Sep. 2023

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

STATE OF MISSOURI
CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
PROFESSIONAL ENGINEER

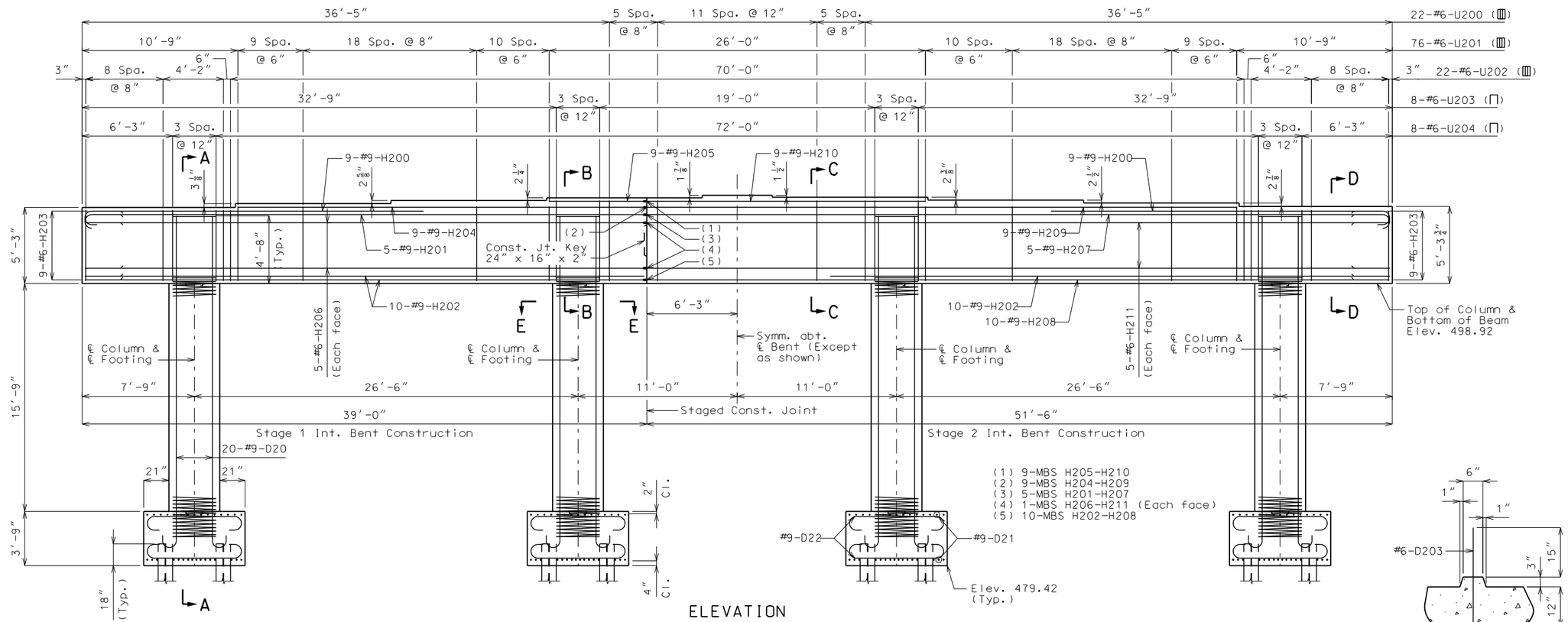
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/17/2023
ROUTE 47 | STATE MO
DISTRICT BR | SHEET NO. 7
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

DESCRIPTION | DATE

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

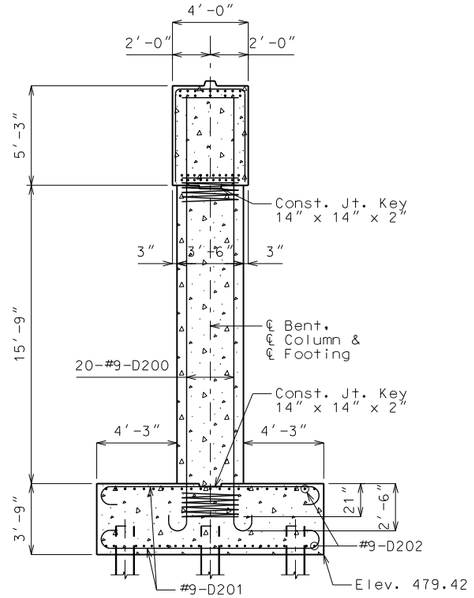
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608



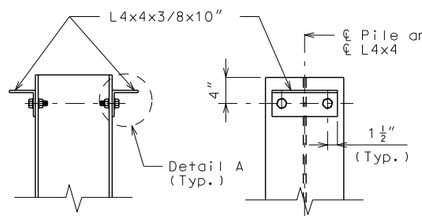
ELEVATION

Beam keys not shown for clarity.

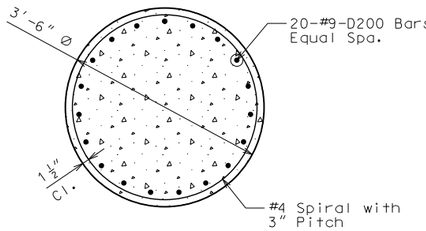
SECTION THRU KEY



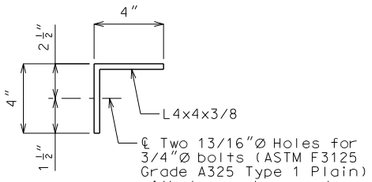
SECTION A-A



DETAILS OF HP PILE ANCHORS

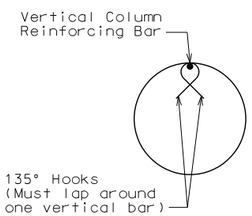


SECTION E-E

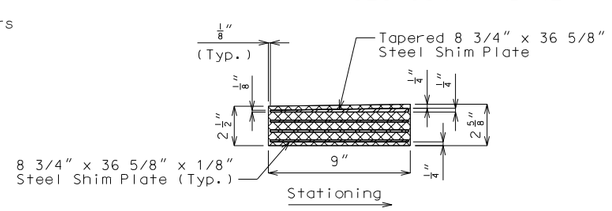


DETAIL A

Galvanizing angles, bolts, washers and nuts will not be required.



SEISMIC STIRRUP BAR



SECTION THRU LAMINATED NEOPRENE BEARING PAD (TAPERED)

Notes:

Work this sheet with Sheet No. 9.

For Sections B-B, C-C, & D-D, see Sheet No. 9.

Substructure Quantity Table for Bent No. 2		
Item		Quantity
Class 1 Excavation	cu. yard	106
Galvanized Structural Steel Piles (12 in.)	linear foot	984
Pile Point Reinforcement	each	24
Class B Concrete (Substructure)	cu. yard	145.1
Reinforcing Steel (Bridges)	pound	40,780
Mechanical Bar Splice	each	43

These quantities are included in the Estimated Quantities table on Sheet No. 2.

DETAILS OF INTERMEDIATE BENT NO. 2

Detailed Sep. 2023
Checked Sep. 2023

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

STATE OF MISSOURI
CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/17/2023

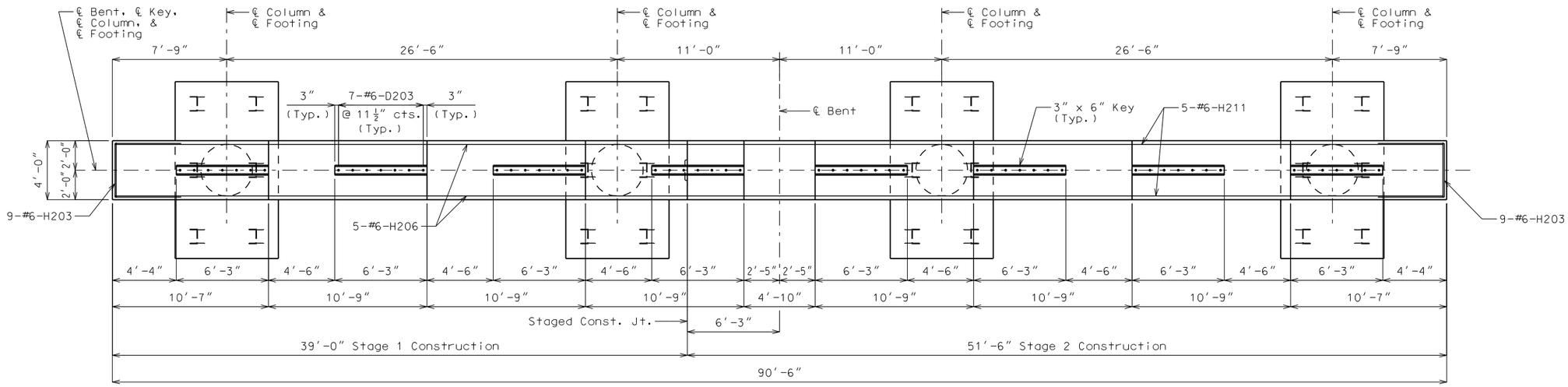
ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
BR	8

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.: .
PROJECT NO.: .
BRIDGE NO.: A8736

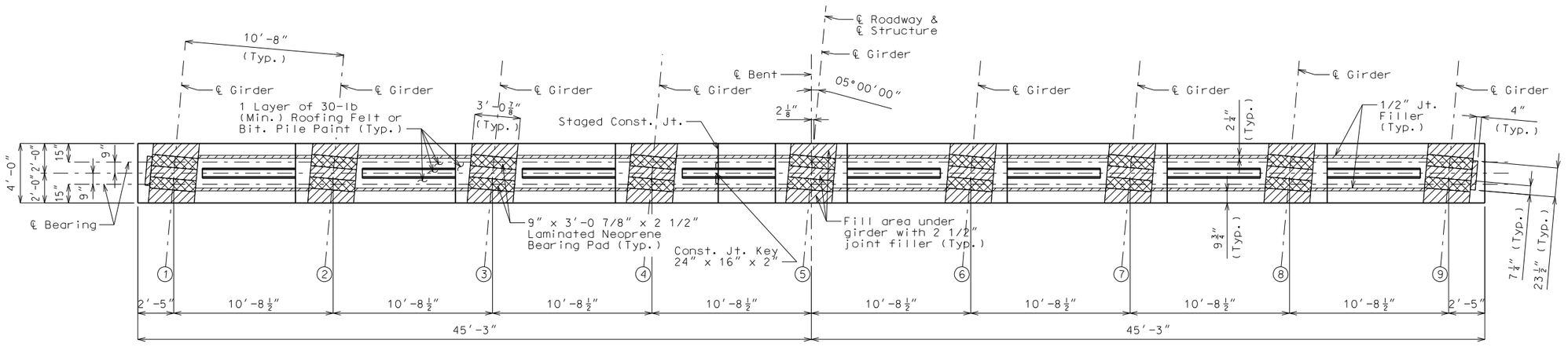
DESCRIPTION	DATE
.	.

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

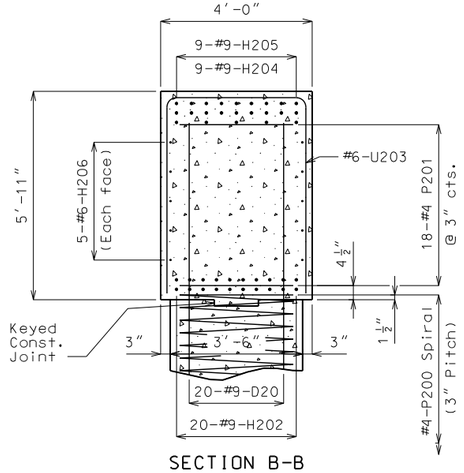
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen



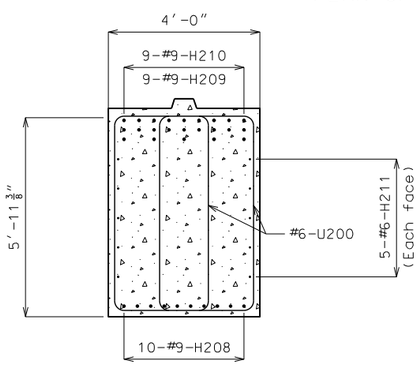
PLAN SHOWING REINFORCEMENT



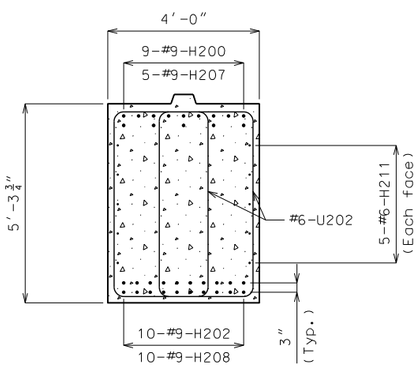
PLAN OF BEAM



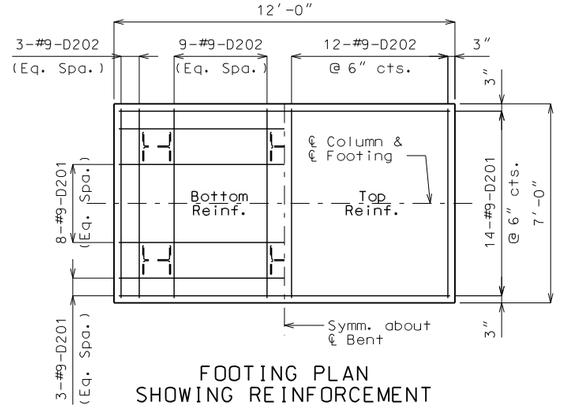
SECTION B-B



SECTION C-C



SECTION D-D



FOOTING PLAN SHOWING REINFORCEMENT

DETAILS OF INTERMEDIATE BENT NO. 2

Notes:

Work this sheet with Sheet No. 8.

For location of Sections B-B, C-C & D-D, see Sheet No. 8.

Detailed Sep. 2023
Checked Sep. 2023

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CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
STATE OF MISSOURI
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	11/17/2023
ROUTE	47
STATE	MO
DISTRICT	BR
SHEET NO.	9
COUNTY	LINCOLN
JOB NO.	J2P3043
CONTRACT ID.	.
PROJECT NO.	.
BRIDGE NO.	A8736

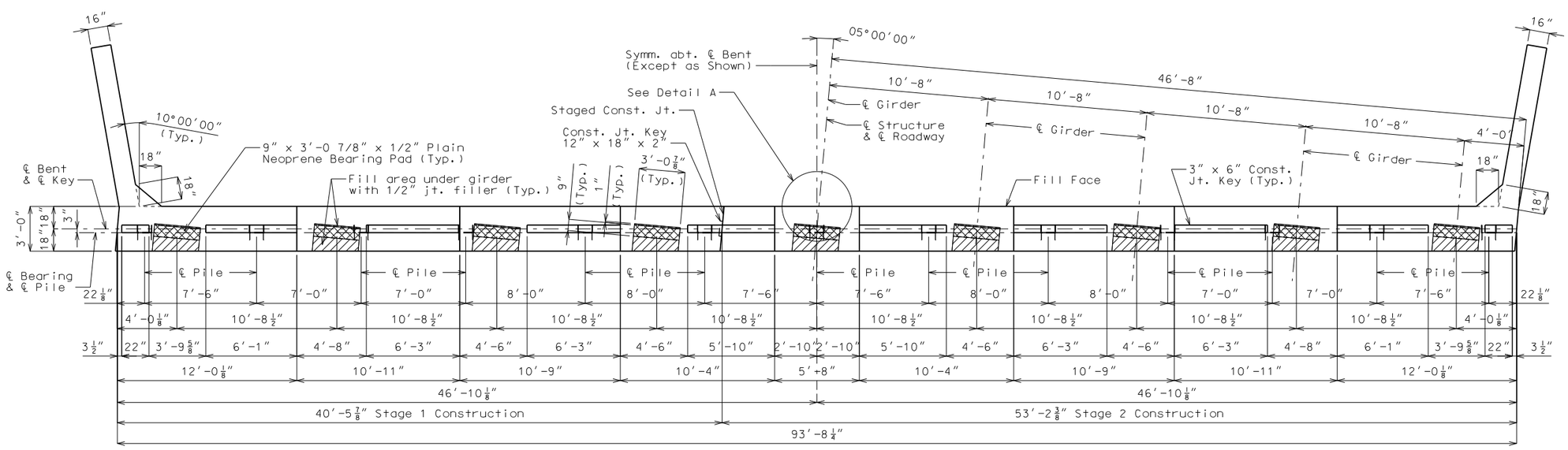
DESCRIPTION

DATE

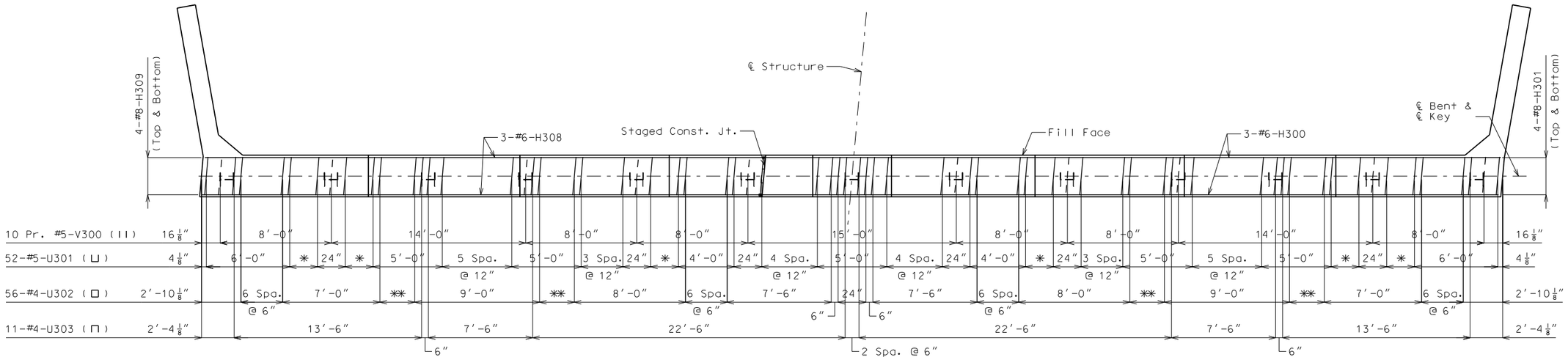
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

\\hrgreen.com\HRG\Data\2017\171526.01\CAD\Data\B_A8736_009_J2P3043_IntBent2Dtls.dgn 1:02:52 PM 11/17/2023

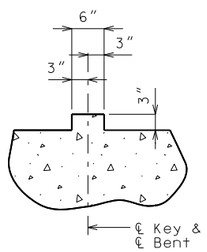


PLAN OF BEAM

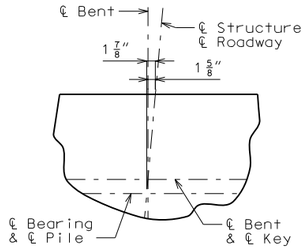


PLAN OF BEAM SHOWING REINFORCEMENT

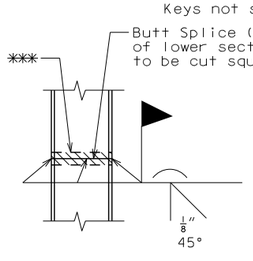
Keys not shown for clarity.



SECTION THRU KEY



DETAIL A



STEEL PILE SPLICE

(If required)

* 2 Spaces @ 12″
** 5 Spaces @ 6″

*** Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

General Notes:

Work this sheet with Sheets No. 11 & 12.

All U bars and pairs of V bars shall be placed parallel to centerline of roadway.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inches.

Pile anchors are requried for all end bent piles. See Sheet No. 8 for Details of HP Pile Anchors.

Substructure Quantity Table for Bent No. 3

Item		Quantity
Class 1 Excavation	cu. yard	84
Galvanized Structural Steel Piles (12 in.)	linear foot	702
Pile Point Reinforcement	each	13
Class B Concrete (Substructure)	cu. yard	50.2

These quantities are included in the Estimated Quantities table on Sheet No. 2.

DETAILS OF END BENT NO. 3

Detailed Sep. 2023
Checked Sep. 2023

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

CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
STATE OF MISSOURI
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/17/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
BR	10

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.: .
PROJECT NO.: .
BRIDGE NO.: A8736

DESCRIPTION	DATE
.	.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
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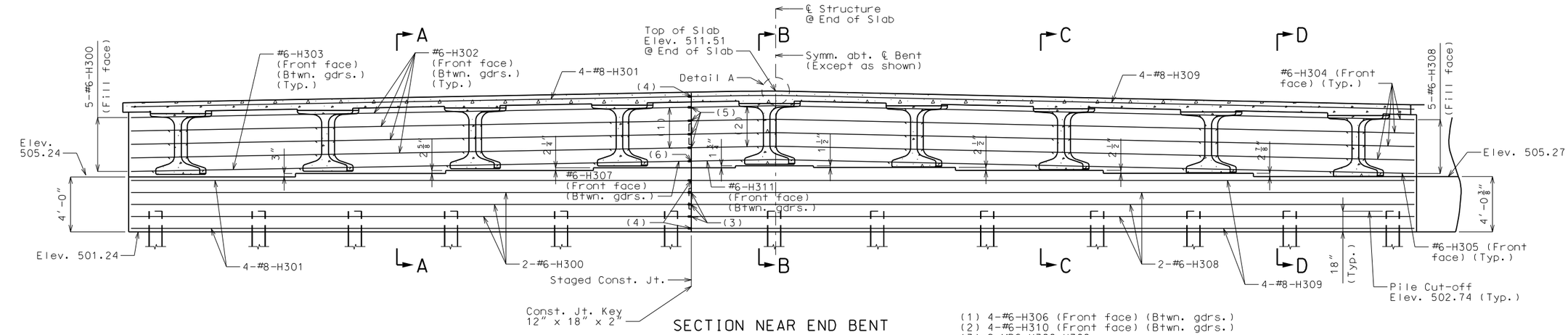
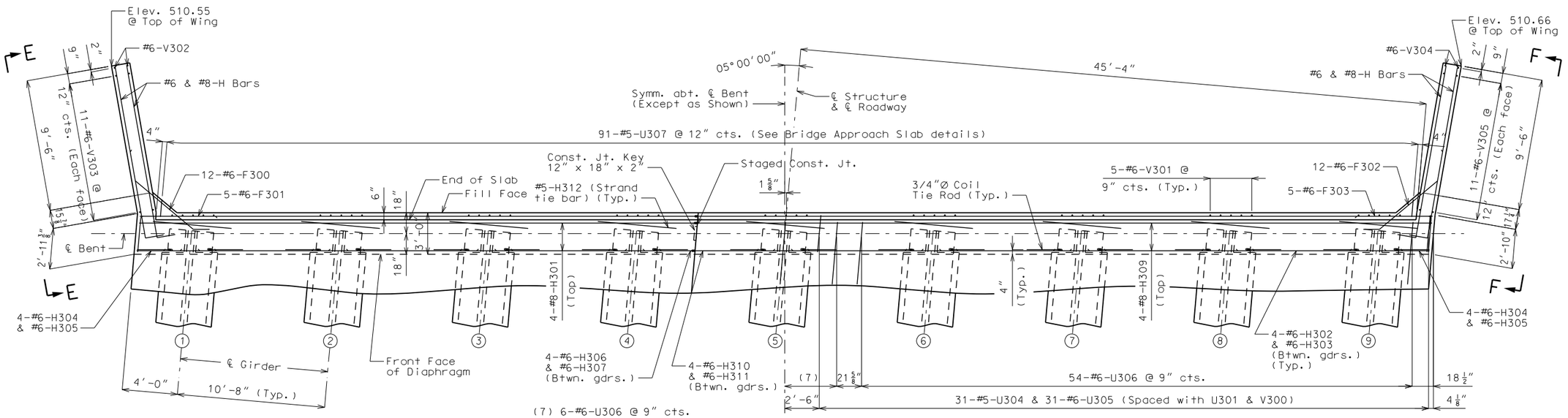
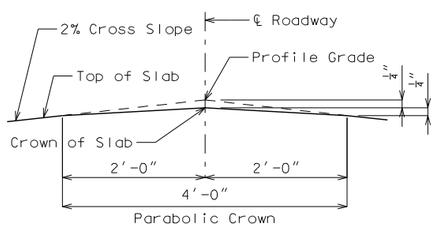


SECTION NEAR END BENT

(1) 4-#6-H306 (Front face) (Btwn. gdrs.)
(2) 4-#6-H310 (Front face) (Btwn. gdrs.)
(3) 2-MBS H300-H308
(4) 4-MBS H301-H309
(5) 1-MBS H306-H310 & 1-MBS H300-H308
(6) 1-MBS H307-H311 & 1-MBS H300-H308



PART PLAN



DETAIL A

General Notes:

Work this sheet with Sheets No. 10 & 12.

For Sections A-A, B-B, C-C & D-D and Elevations E-E & F-F, see Sheet No. 12.

The #6-F300 & #6-F302 bars shall be bent in the field to clear girders.

The U bars shall be placed parallel to the centerline of roadway.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

Strands at the end of the girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.

For location of coil tie rods and #5-H312 (strand tie bar), see Sheet No. 14 or 16.

For details of vertical drain at end bent, see Sheet No. 7.

For details of bridge approach slab, see Sheet No. 26.

DETAILS OF END BENT NO. 3

Detailed Sep. 2023
Checked Sep. 2023

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

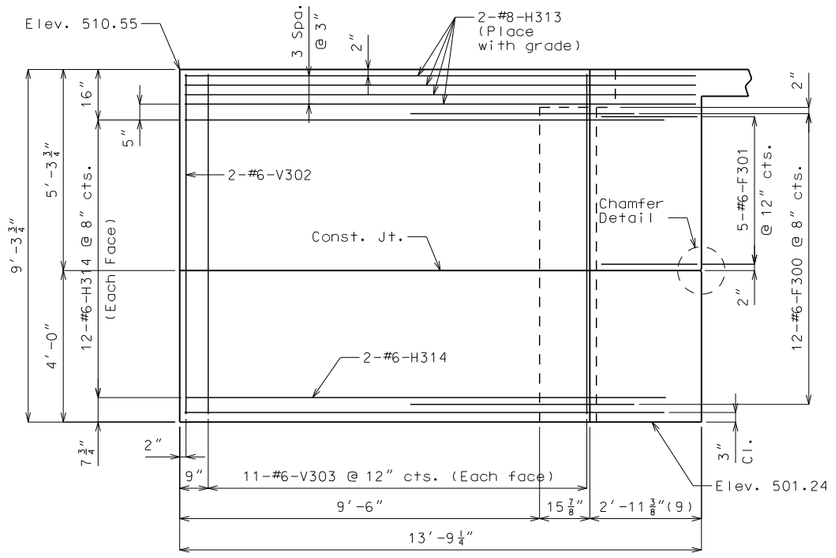
CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
STATE OF MISSOURI
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/17/2023
ROUTE 47 | STATE MO
DISTRICT BR | SHEET NO. 11
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

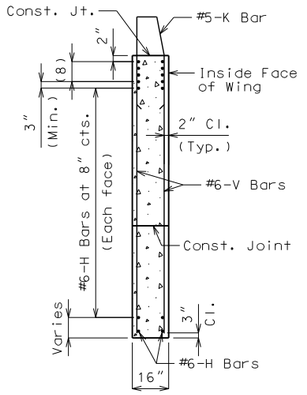
DESCRIPTION | DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608



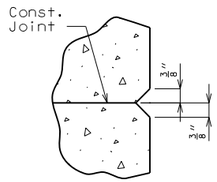
ELEVATION E-E



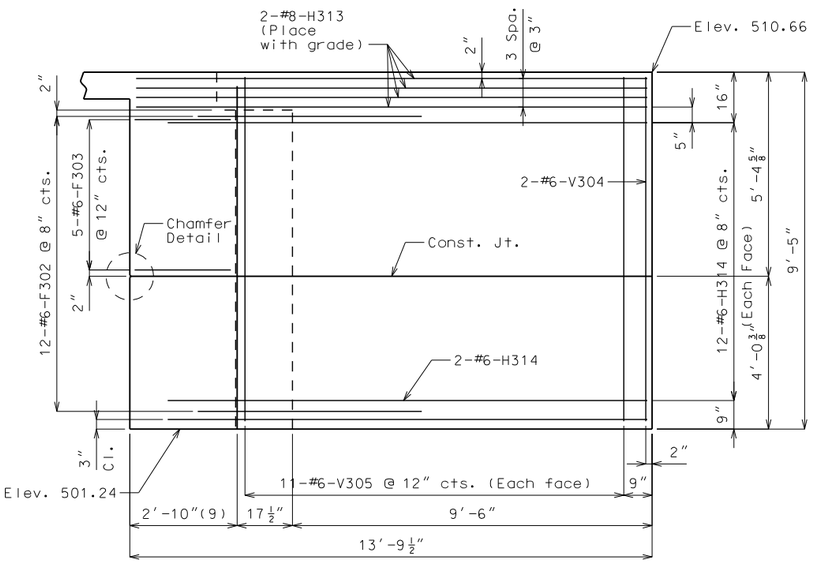
TYPICAL SECTION THRU WING

(8) #8-H Bars at 3" cts. (Each face)(Place with grade)

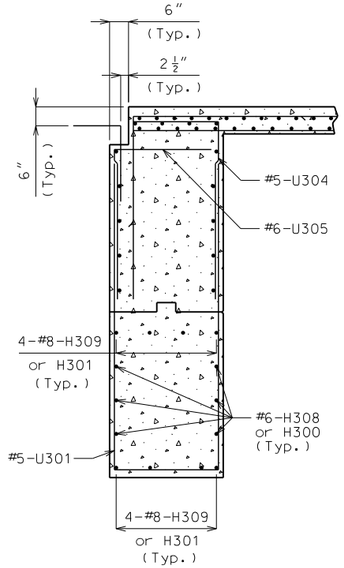
(9) Dimension along outside face of End Bent.



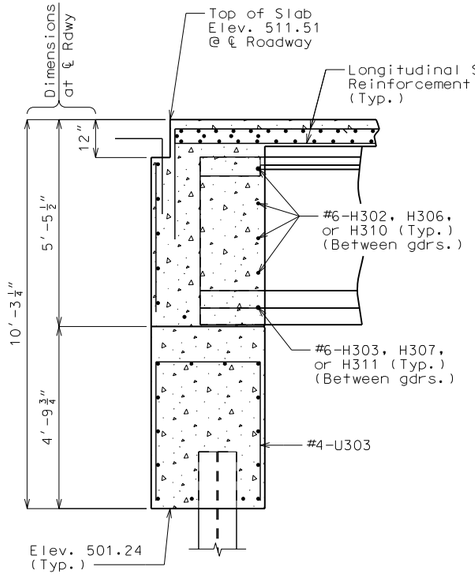
CHAMFER DETAIL



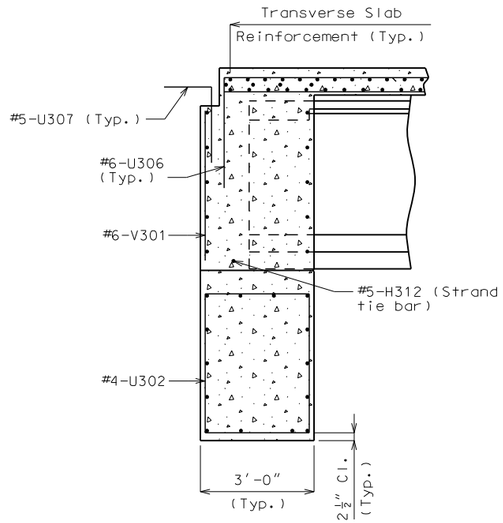
ELEVATION F-F



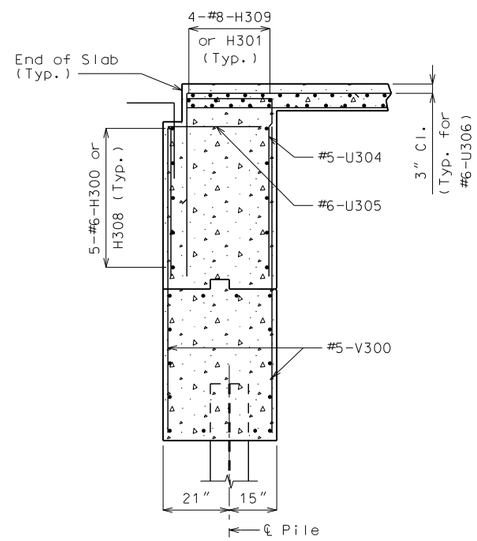
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

DETAILS OF END BENT NO. 3

General Notes:

Work this sheet with Sheets No. 10 & 11.

For reinforcement of the barrier, see Sheet No. 25.

Detailed Sep. 2023
Checked Sep. 2023

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

CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
STATE OF MISSOURI
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

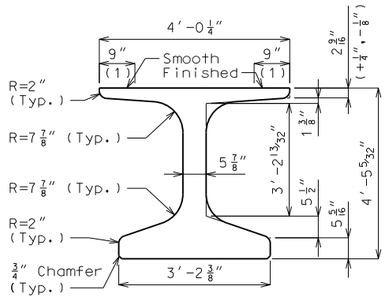
DATE PREPARED 11/17/2023
ROUTE 47 | STATE MO
DISTRICT BR | SHEET NO. 12
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

DESCRIPTION . . . . . .
DATE . . . . . .

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

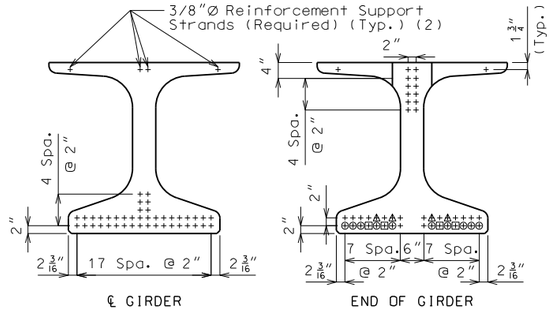
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

(1) Fabricator shall apply a bond breaker to this region.



DIMENSIONS

(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about ℄ Girder. May be moved laterally in pairs.



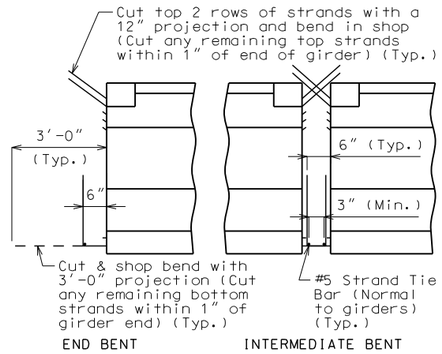
STRAND ARRANGEMENT

+ Indicates prestressing strand.

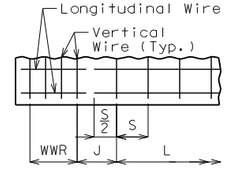
o Indicates cut & shop bend with 3′-0″ projection.

□ Indicates debonded for 10′-0″ from end of girder.

△ Indicates debonded for 6′-0″ from end of girder.



STRANDS AT GIRDER ENDS



WELDED WIRE PLACEMENT

S = Vertical wire spacing

L = Length of WWR mats

J = Distance between WWR mats

Bill of Reinforcing Steel

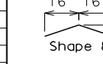
Bars Each Girder

No.	Size/Mark	Length	Shape
138	3 G1	2′-10″	8
2	4 G3	3′-10″	20
2	4 G4	2′-3″	20
2	4 G5	2′-8″	20

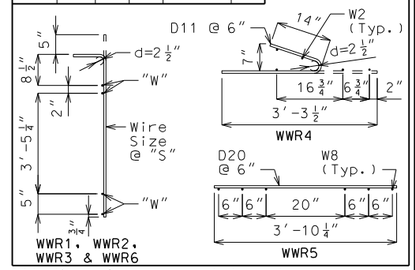
Welded Wire Each Girder

Mark	Size	S	W	L	J
WWR1	D31	4″	W12	2′-4″	4″
WWR2	D31	8″	W12	19′-4″	12″
WWR3	D31	16″	W12	66′-8″	--
WWR6	D31	2″	W12	16″	3¼″

Bending Diagrams



Shape 20



All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

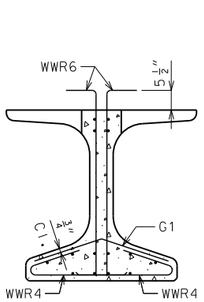
Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1″, unless otherwise shown.

All bar reinforcement shall be Grade 60.

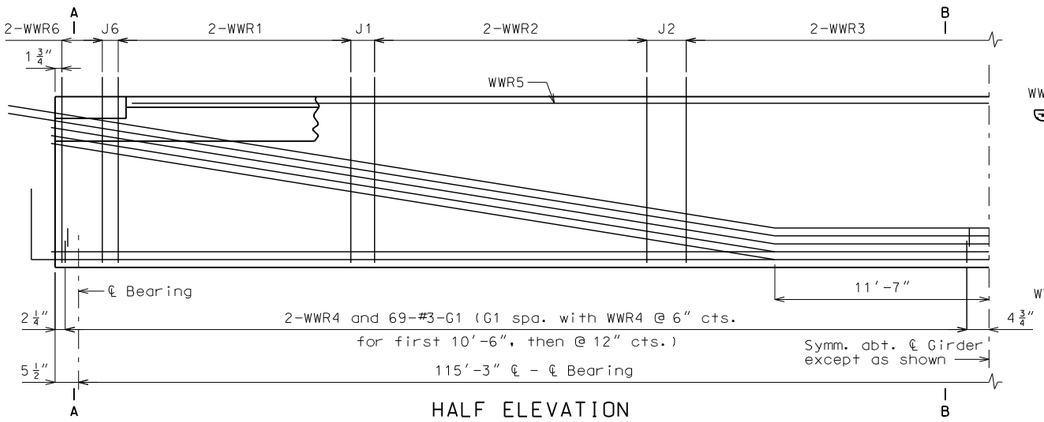
WWR shall not be epoxy coated.

G4 and G5 not required for interior girders. Half number of G3, G4 and G5 not requried for ext. girders.



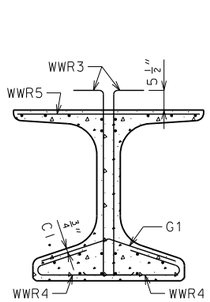
SECTION A-A

Strands not shown for clarity.



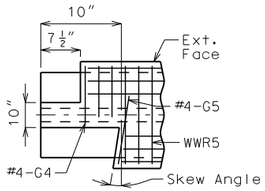
HALF ELEVATION

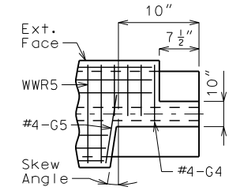
Reinforcement support strands not shown for clarity.



SECTION B-B

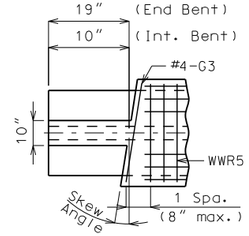
Strands not shown for clarity.





LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT

Rotate 180° for right ext.



INTERIOR GIRDER AT ALL BENTS & EXTERIOR GIRDER AT END BENT

TOP FLANGE BLOCKOUT

Mirror for right advanced.

General Notes:

Concrete for prestressed beams shall be Class A-1 with f′c = 8000 psi and f′ci = 6500 psi.

Use 42 0.6″Ø Grade 270 strands with an initial prestress force of 1846 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior girders are the same except: coil ties, top flange blockout, coil inserts for slab drains, holes for steel intermediate diaphragms.

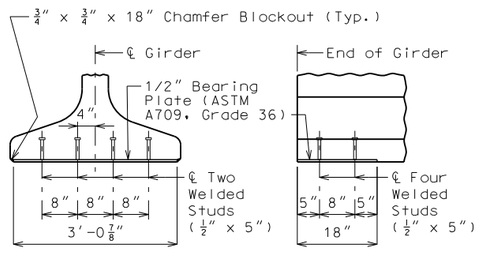
For Girder Camber Diagram, see Sheet No. 20.

The 1 1/2″Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 17.

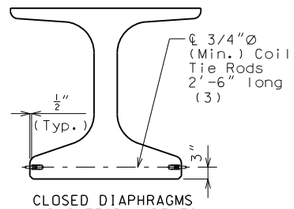
For location of coil inserts at slab drains, see Sheet No. 19.

For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 5, 11 and 18.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.



BEARING PLATE



CLOSED DIAPHRAGMS AND INTEGRAL BENTS

COIL TIES

Exclude coil tie at exterior face of exterior girders except at integral end bents.

(3) 2′-3″ at exterior face of exterior girders at end bents

NU-GIRDERS - SPAN (1-2)

Detailed Sep. 2023
Checked Sep. 2023

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

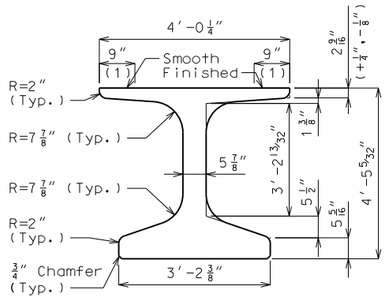
CHRISTOPHER T. HERSINGER NUMBER PE-2012018080 STATE OF MISSOURI PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/17/2023
ROUTE 47 STATE MO
DISTRICT BR SHEET NO. 13
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

DESCRIPTION | DATE

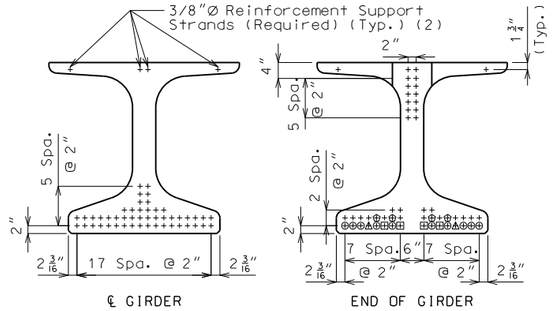
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

(1) Fabricator shall apply a bond breaker to this region.



DIMENSIONS

(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about ℄ Girder. May be moved laterally in pairs.



℄ GIRDER END OF GIRDER

STRAND ARRANGEMENT

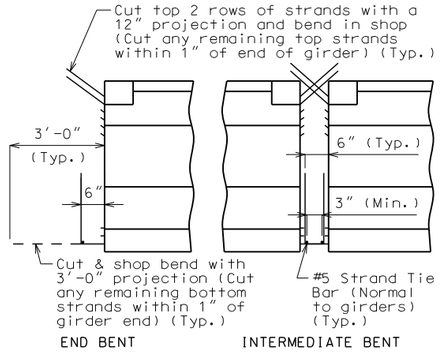
+ Indicates prestressing strand.

o Indicates cut & shop bend with 3′-0″ projection.

□ Indicates debonded for 14′-0″ from end of girder.

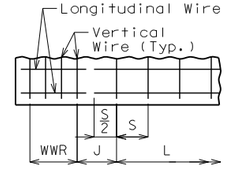
○ Indicates debonded for 10′-0″ from end of girder.

△ Indicates debonded for 6′-0″ from end of girder.



END BENT INTERMEDIATE BENT

STRANDS AT GIRDER ENDS



WELDED WIRE PLACEMENT

S = Vertical wire spacing

L = Length of WWR mats

J = Distance between WWR mats

Bill of Reinforcing Steel

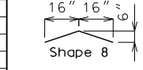
Bars Each Girder

No.	Size/Mark	Length	Shape
144	3 G1	2′-10″	8
2	4 G3	3′-10″	20
2	4 G4	2′-3″	20
2	4 G5	2′-8″	20

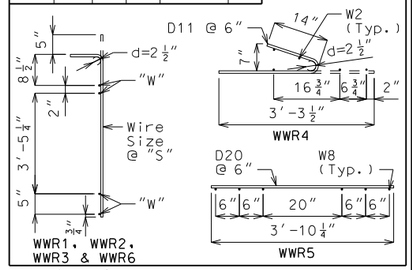
Welded Wire Each Girder

Mark	Size	S	W	L	J
WWR1	D31	4″	W12	4′-4″	4″
WWR2	D31	8″	W12	19′-4″	8″
WWR3	D31	16″	W12	69′-4″	--
WWR6	D31	2″	W12	16″	3¼″

Bending Diagrams



Shape 20



All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

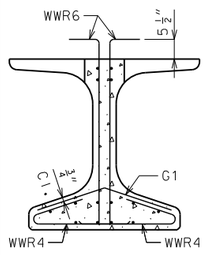
Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1″, unless otherwise shown.

All bar reinforcement shall be Grade 60.

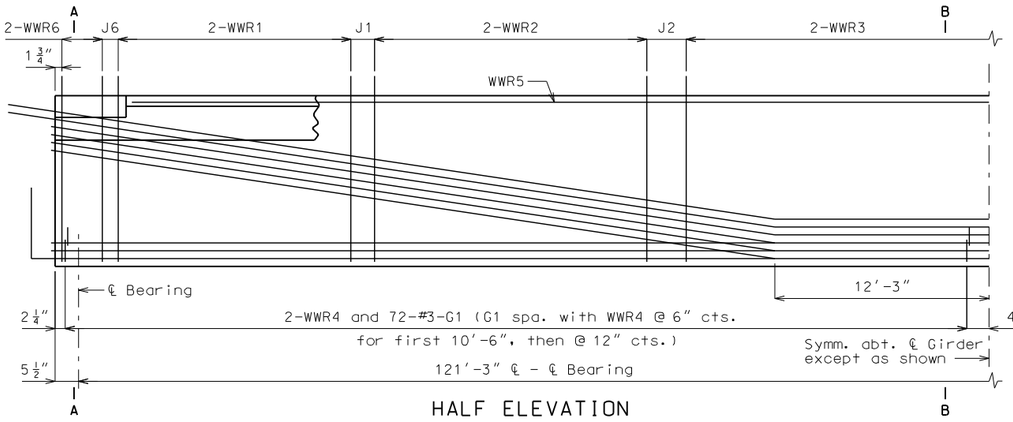
WWR shall not be epoxy coated.

G4 and G5 not required for interior girders. Half no. of G3, G4 and G5 not required for ext. girders of end spans.



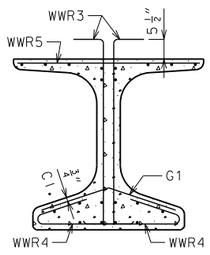
SECTION A-A

Strands not shown for clarity.



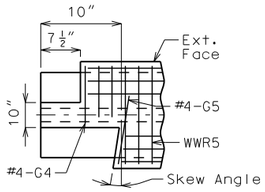
HALF ELEVATION

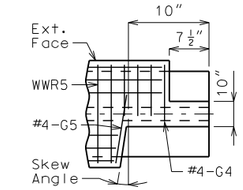
Reinforcement support strands not shown for clarity.



SECTION B-B

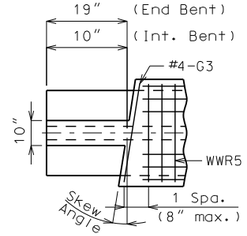
Strands not shown for clarity.





LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT

Rotate 180° for right ext.



INTERIOR GIRDER AT ALL BENTS & EXTERIOR GIRDER AT END BENT

TOP FLANGE BLOCKOUT

Mirror for right advanced.

General Notes:

Concrete for prestressed beams shall be Class A-1 with f′c = 8000 psi and f′ci = 6500 psi.

Use 48 0.6″Ø Grade 270 strands with an initial prestress force of 2109 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior girders are the same except: coil ties, top flange blockout, coil inserts for slab drains, holes for steel intermediate diaphragms.

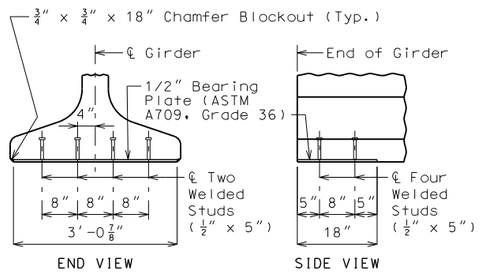
For Girder Camber Diagram, see Sheet No. 20.

The 1 1/2″Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 17.

For location of coil inserts at slab drains, see Sheet No. 19.

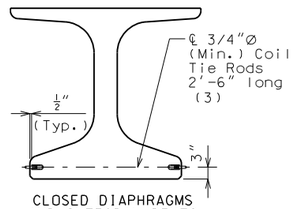
For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 5, 11 and 18.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.



END VIEW SIDE VIEW

BEARING PLATE



CLOSED DIAPHRAGMS AND INTEGRAL BENTS

COIL TIES

Exclude coil tie at exterior face of exterior girders except at integral end bents.

(3) 2′-3″ at exterior face of exterior girders at end bents

NU-GIRDERS - SPAN (2-3)

Detailed Sep. 2023
Checked Sep. 2023

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

STATE OF MISSOURI CHRISTOPHER T. HERSINGER NUMBER PE-2012018080 PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

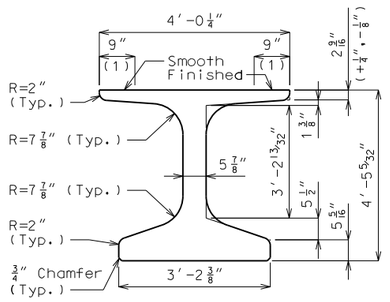
DATE PREPARED 11/17/2023
ROUTE 47 STATE MO
DISTRICT BR SHEET NO. 14
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

DESCRIPTION . . . . . DATE . . . . .

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

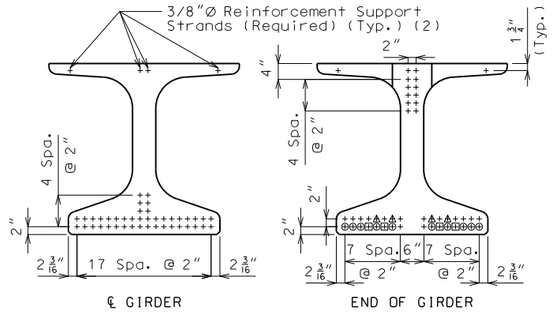
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen®

(1) Fabricator shall apply a bond breaker to this region.



DIMENSIONS

(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about ℄ Girder. May be moved laterally in pairs.



℄ GIRDER END OF GIRDER

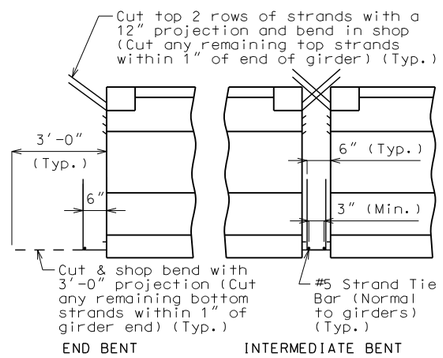
STRAND ARRANGEMENT

+ Indicates prestressing strand.

o Indicates cut & shop bend with 3′-0″ projection.

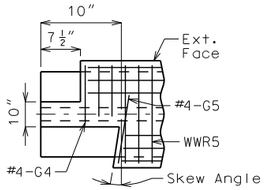
□ Indicates debonded for 10′-0″ from end of girder.

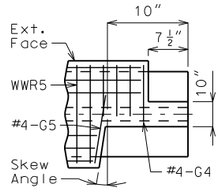
△ Indicates debonded for 6′-0″ from end of girder.



END BENT INTERMEDIATE BENT

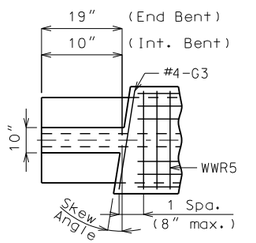
STRANDS AT GIRDER ENDS





LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT

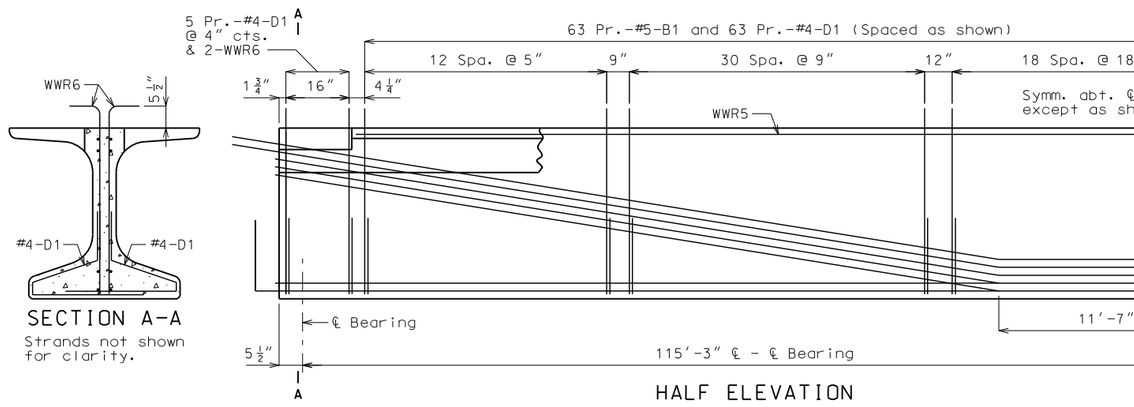
Rotate 180° for right ext.



INTERIOR GIRDER AT ALL BENTS & EXTERIOR GIRDER AT END BENT

TOP FLANGE BLOCKOUT

Mirror for right advanced.

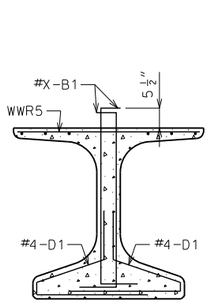


HALF ELEVATION

Reinforcement support strands not shown for clarity.

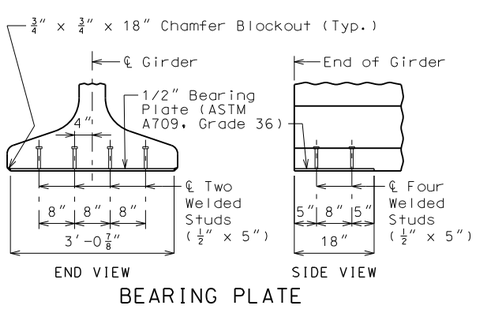
SECTION A-A

Strands not shown for clarity.



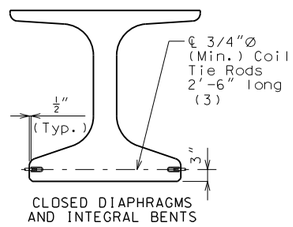
SECTION B-B

Strands not shown for clarity.



END VIEW SIDE VIEW

BEARING PLATE



CLOSED DIAPHRAGMS AND INTEGRAL BENTS

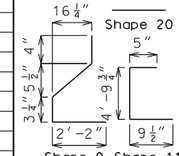
COIL TIES

Exclude coil tie at exterior face of exterior girders except at integral end bents.

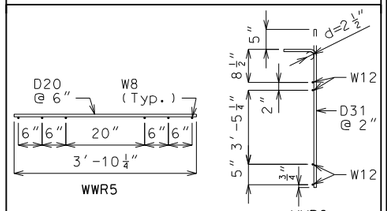
(3) 2′-3″ at exterior face of exterior girders at end bents

Bill of Reinforcing Steel - Each Girder			
No.	Size/ Mark	Length	Shape
250	5 B1	5′-10″	11
270	4 D1	4′-0″	9
2	4 G3	3′-10″	20
2	4 G4	2′-3″	20
2	4 G5	2′-8″	20

Bending Diagrams



Welded Wire Reinforcement - Each Girder



All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1″.

All bar reinforcement shall be Grade 60.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

G4 and G5 not required for interior girders. Half no. of G3, G4 and G5 not required for ext. girders of end spans.

General Notes:

Concrete for prestressed girders shall be Class A-1 with f′c = 8000 psi and f′ci = 6500 psi.

Use 42 0.6″Ø Grade 270 strands with an initial prestress force of 1846 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior girders are the same except: coil ties, top flange blockout, coil inserts for slab drains, holes for steel intermediate diaphragms.

For Girder Camber Diagram, see Sheet No. 20.

The 1 1/2″Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 17.

For location of coil inserts at slab drains, see Sheet No. 19.

For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 5, 11 and 18.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

STATE OF MISSOURI CHRISTOPHER T. HERSINGER NUMBER PE-2012018080 PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/17/2023

ROUTE 47 STATE MO

DISTRICT BR SHEET NO. 15

COUNTY LINCOLN

JOB NO. J2P3043

CONTRACT ID. .

PROJECT NO. .

BRIDGE NO. A8736

DESCRIPTION . . . . . .

DATE . . . . . .

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
HR GREEN, INC. 520 MARYVILLE CENTRE DRIVE SUITE 100 ST. LOUIS, MISSOURI 63141 PHONE: (636) 519.0990 CORPORATE LICENSE #2002006608
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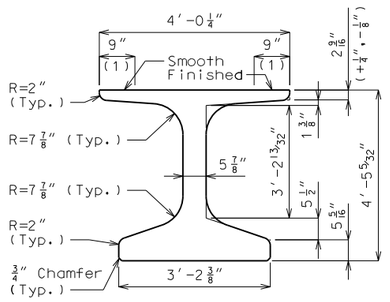
NU-GIRDERS (ALTERNATE REINFORCEMENT) - SPAN (1-2)

Detailed Sep. 2023
Checked Sep. 2023

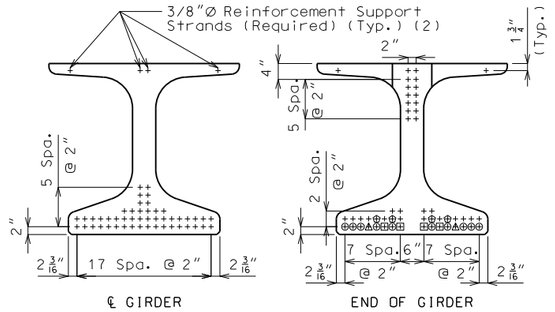
Note: This drawing is not to scale. Follow dimensions.

(1) Fabricator shall apply a bond breaker to this region.



DIMENSIONS

(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about ℄ Girder. May be moved laterally in pairs.



℄ GIRDER END OF GIRDER

STRAND ARRANGEMENT

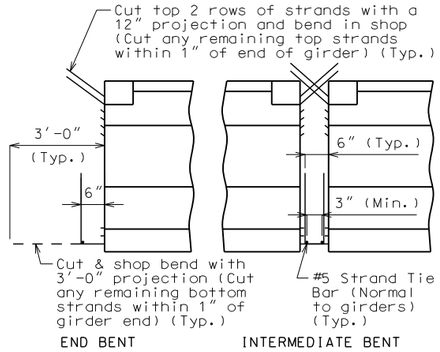
+ Indicates prestressing strand.

o Indicates cut & shop bend with 3′-0″ projection.

□ Indicates debonded for 14′-0″ from end of girder.

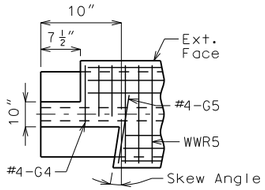
o Indicates debonded for 10′-0″ from end of girder.

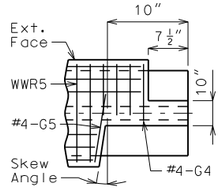
△ Indicates debonded for 6′-0″ from end of girder.



END BENT INTERMEDIATE BENT

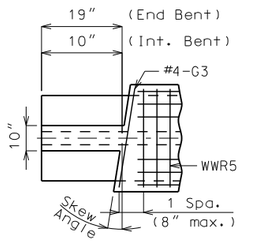
STRANDS AT GIRDER ENDS





LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT

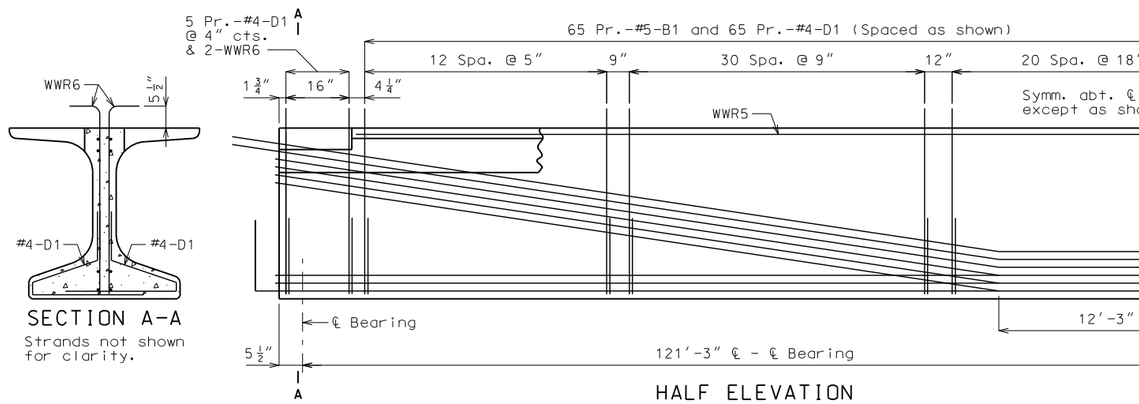
Rotate 180° for right ext.



INTERIOR GIRDER AT ALL BENTS & EXTERIOR GIRDER AT END BENT

TOP FLANGE BLOCKOUT

Mirror for right advanced.



SECTION A-A

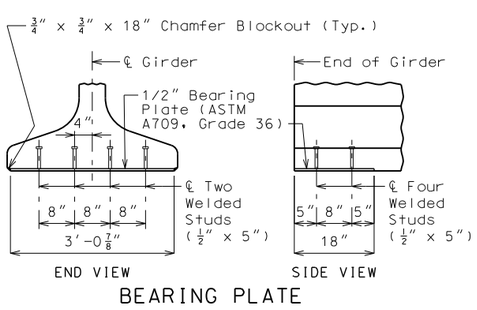
Strands not shown for clarity.

SECTION B-B

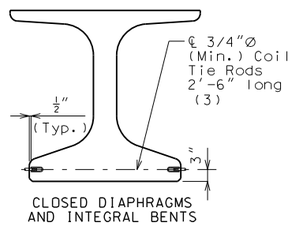
Strands not shown for clarity.

HALF ELEVATION

Reinforcement support strands not shown for clarity.



BEARING PLATE



CLOSED DIAPHRAGMS AND INTEGRAL BENTS

COIL TIES

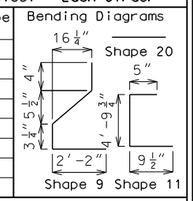
Exclude coil tie at exterior face of exterior girders except at integral end bents.

(3) 2′-3″ at exterior face of exterior girders at end bents

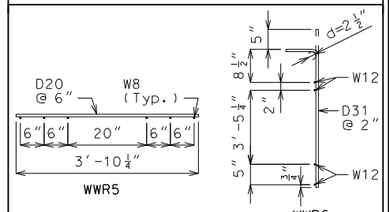
Bill of Reinforcing Steel - Each Girder

No.	Size/ Mark	Length	Shape
258	5 B1	5′-10″	11
278	4 D1	4′-0″	9
2	4 G3	3′-10″	20
2	4 G4	2′-3″	20
2	4 G5	2′-8″	20

Bending Diagrams



Welded Wire Reinforcement - Each Girder



All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1″.

All bar reinforcement shall be Grade 60.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

G4 and G5 not required for interior girders. Half no. of G3, G4 and G5 not required for ext. girders of end spans.

General Notes:

Concrete for prestressed girders shall be Class A-1 with f′c = 8000 psi and f′ci = 6500 psi.

Use 48 0.6″Ø Grade 270 strands with an initial prestress force of 2109 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior girders are the same except: coil ties, top flange blockout, coil inserts for slab drains, holes for steel intermediate diaphragms.

For Girder Camber Diagram, see Sheet No. 20.

The 1 1/2″Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 17.

For location of coil inserts at slab drains, see Sheet No. 19.

For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 5, 11 and 18.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

STATE OF MISSOURI
CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/17/2023

ROUTE 47 | STATE MO

DISTRICT BR | SHEET NO. 16

COUNTY LINCOLN

JOB NO. J2P3043

CONTRACT ID. .

PROJECT NO. .

BRIDGE NO. A8736

DESCRIPTION | DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
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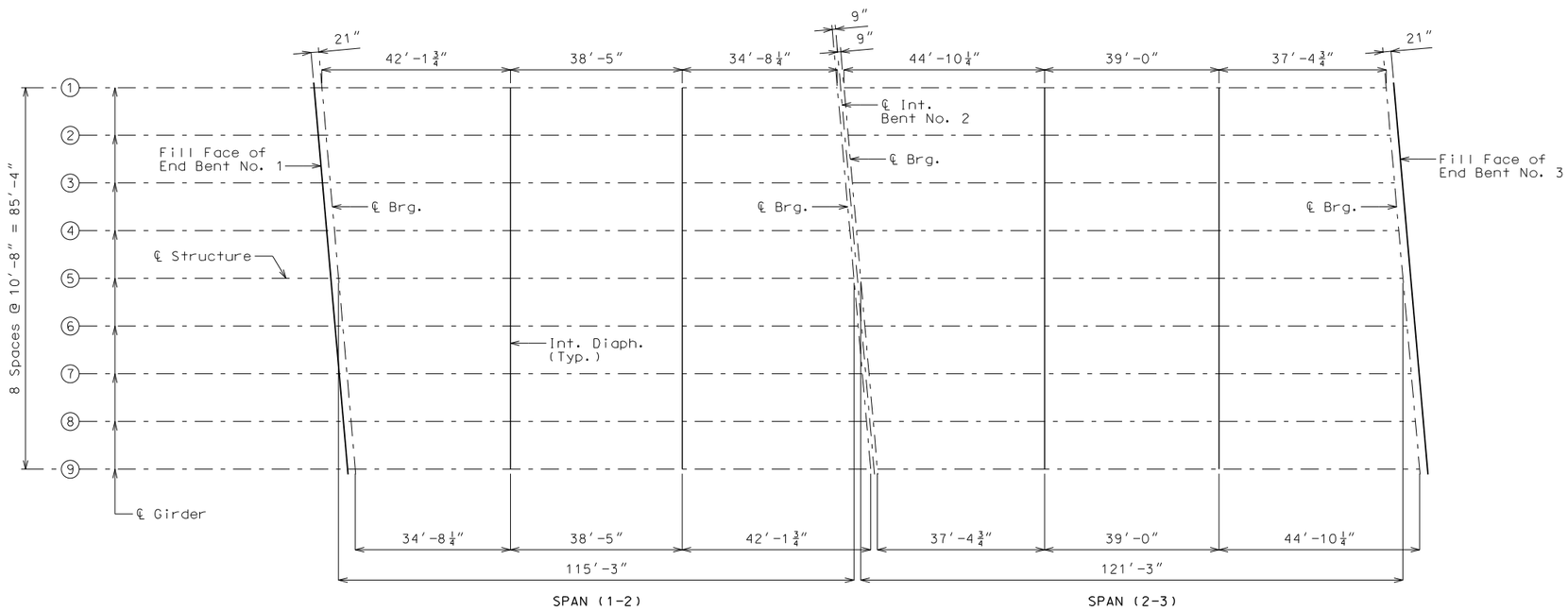
NU-GIRDERS (ALTERNATE REINFORCEMENT) - SPAN (2-3)

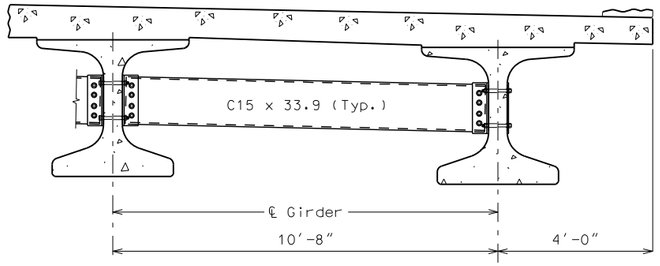
Detailed Sep. 2023
Checked Sep. 2023

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

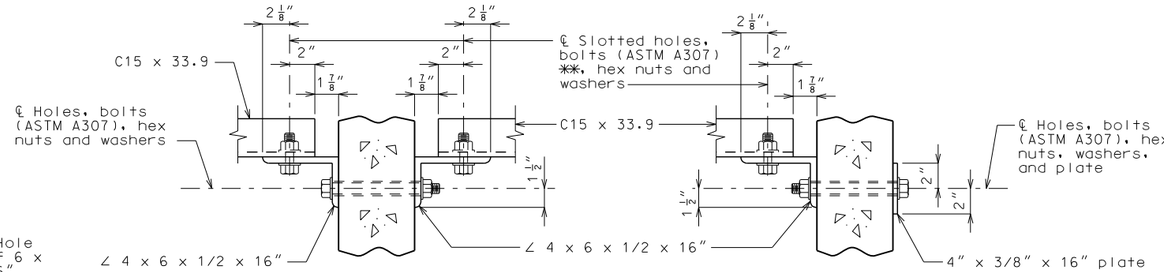


PLAN SHOWING LOCATION OF STEEL INTERMEDIATE DIAPHRAGMS

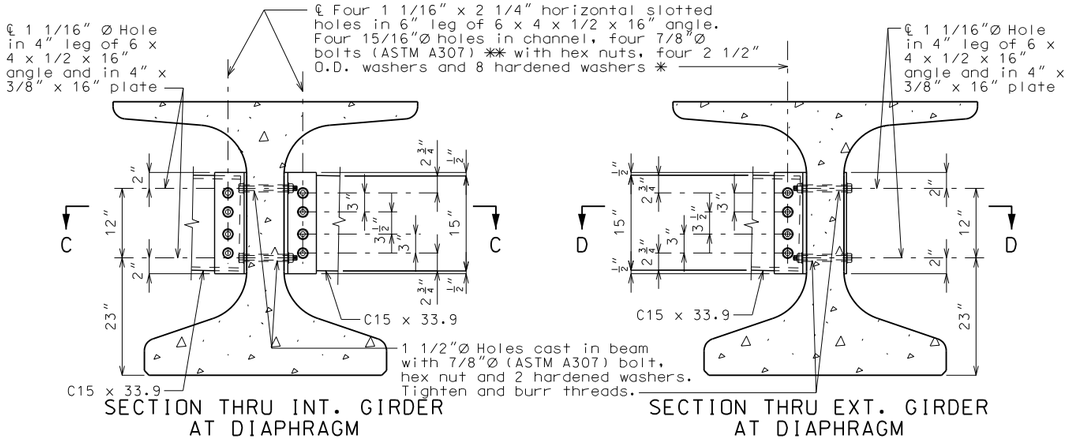
Longitudinal dimensions are horizontal.



PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS



SECTION C-C SECTION D-D



SECTION THRU INT. GIRDER AT DIAPHRAGM

SECTION THRU EXT. GIRDER AT DIAPHRAGM

STEEL DIAPHRAGM NOTES:

✻ In lieu of 2 1/2" outside diameter washers, contractor may substitute a 3/16" (Min. thickness) plate with four 15/16" Ø holes and one hardened washer per bolt.

✻✻ Bolts shall be tightened to provide a tension of one-half that specified in Sec 712 for high strength bolt installation. ASTM F3125 Grade A325 Type 1 bolts may be substituted for and installed in accordance with the requirements for the specified ASTM A307 bolts.

All diaphragm materials including bolts, nuts, and washers shall be galvanized.

Fabricated structural steel shall be ASTM A709 Grade 36 except as noted.

Payment for furnishing and installing steel intermediate diaphragms will be considered completely covered by the contract unit price for Steel Intermediate Diaphragm for P/S Concrete Girders.

Shop drawings will not be required for steel intermediate diaphragms and angle connections.

STEEL INTERMEDIATE DIAPHRAGMS

Detailed Sep. 2023
Checked Sep. 2023

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

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CHRISTOPHER T. HERSINGER
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PROFESSIONAL ENGINEER
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DATE PREPARED 11/17/2023
ROUTE 47 | STATE MO
DISTRICT BR | SHEET NO. 17
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

DESCRIPTION . . . . . | DATE . . . . . .

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
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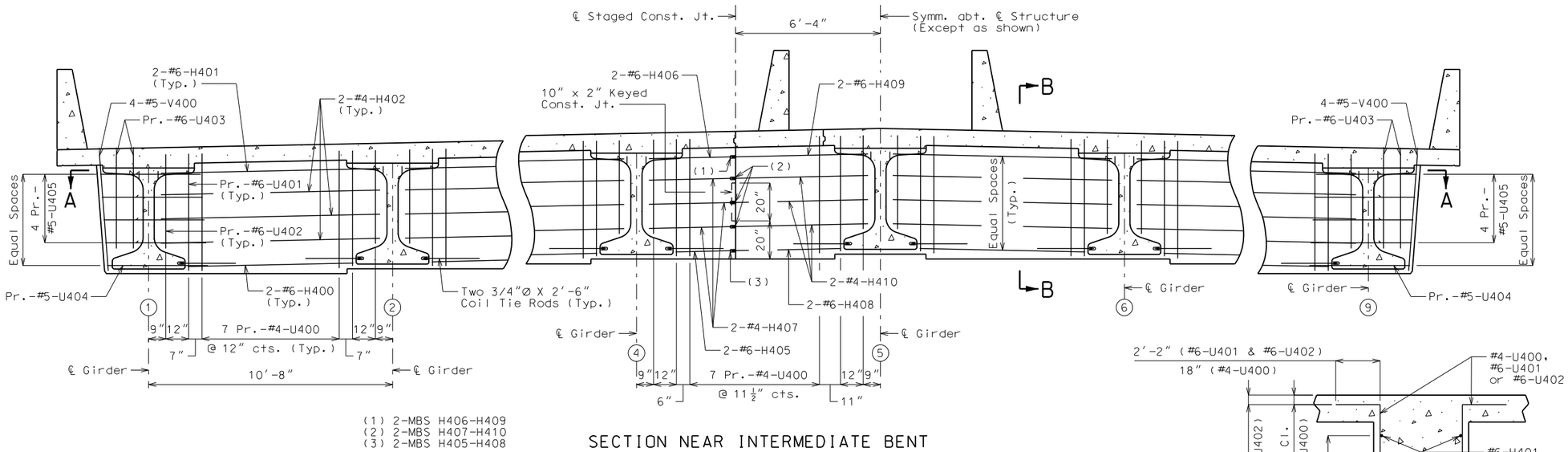
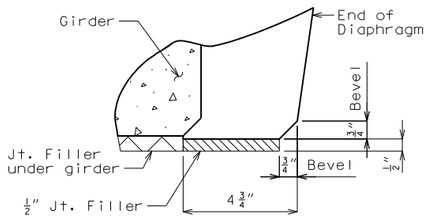
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen.



(1) 2-MBS H406-H409
(2) 2-MBS H407-H410
(3) 2-MBS H405-H408

SECTION NEAR INTERMEDIATE BENT
Normal to ℄ Structure



END DETAIL

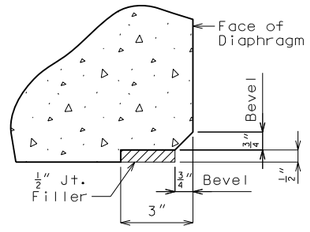
Notes:

For location of Strand Tie Bars, see Sheets No. 13 thru 16.

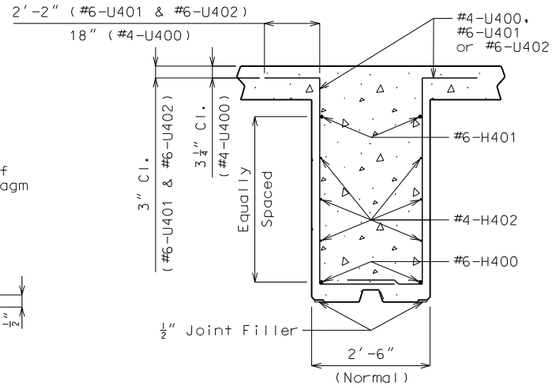
For location of Coil Tie Rods, see Sheets No. 13 thru 16.

Diaphragms at intermediate bents shall be built vertical.

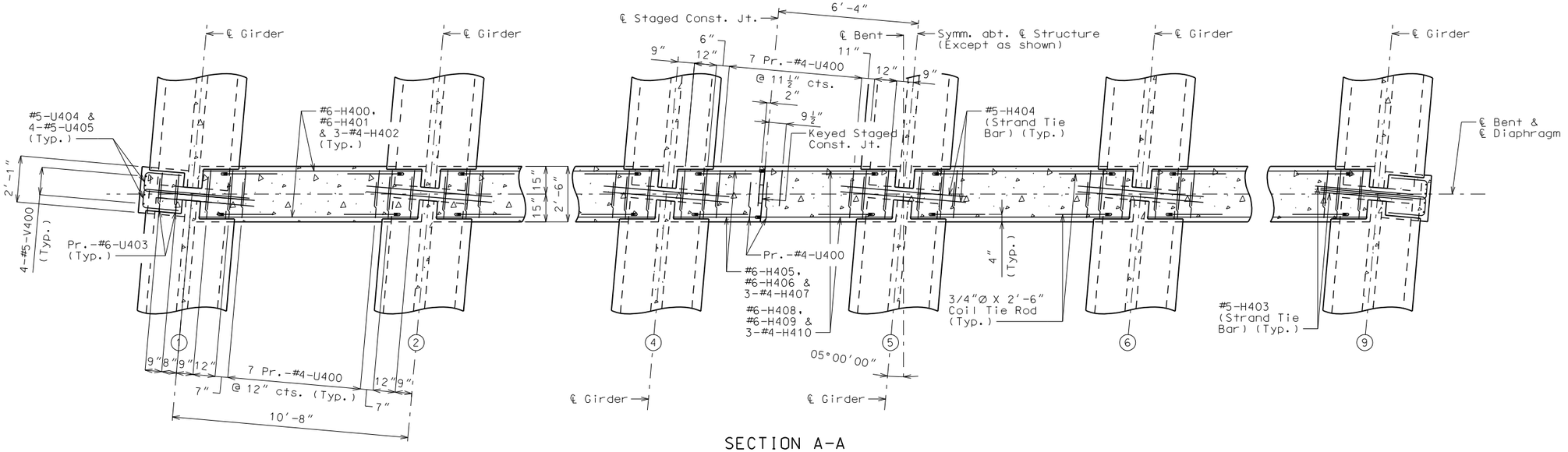
All U-bars in diaphragms are to be placed parallel to ℄ Roadway.



EDGE DETAIL



SECTION B-B



SECTION A-A

CONCRETE DIAPHRAGMS AT INTERMEDIATE BENT NO. 2

Detailed Sep. 2023
Checked Sep. 2023

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

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CHRISTOPHER T. HERSINGER
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PROFESSIONAL ENGINEER

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DATE PREPARED 11/17/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
BR	18

COUNTY LINCOLN

JOB NO. J2P3043

CONTRACT ID. .

PROJECT NO. .

BRIDGE NO. A8736

DATE	DESCRIPTION
.	.

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
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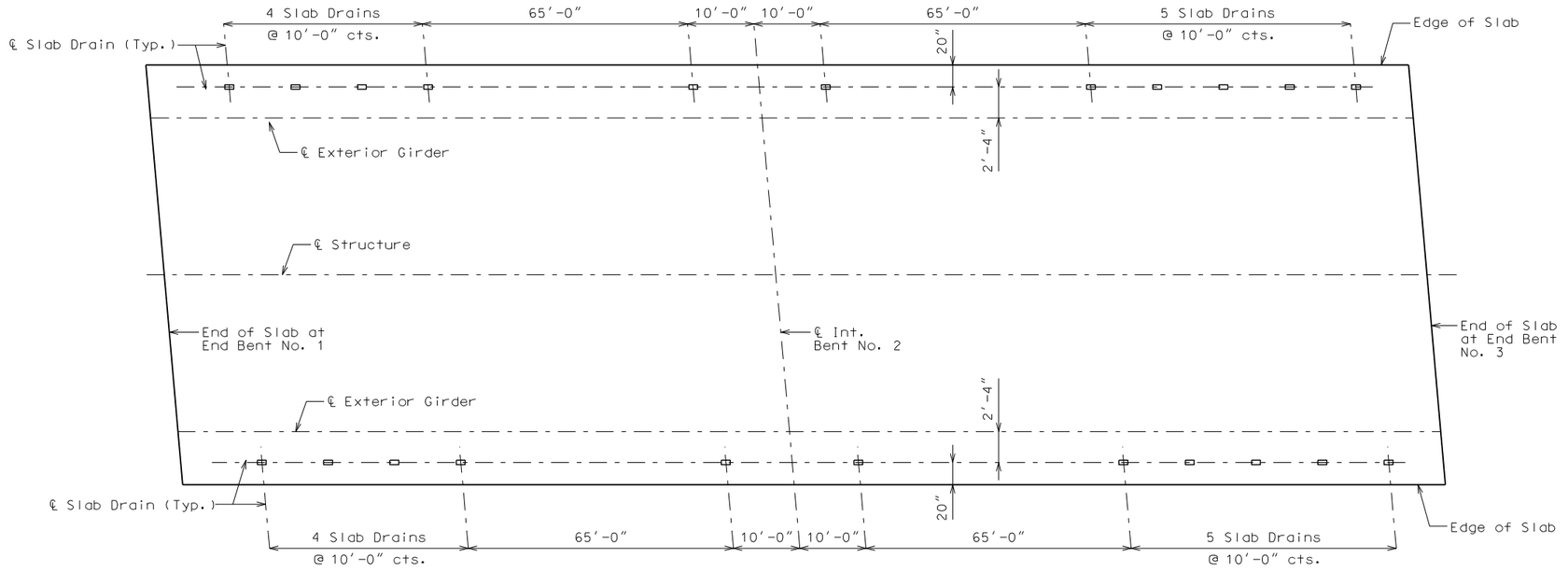
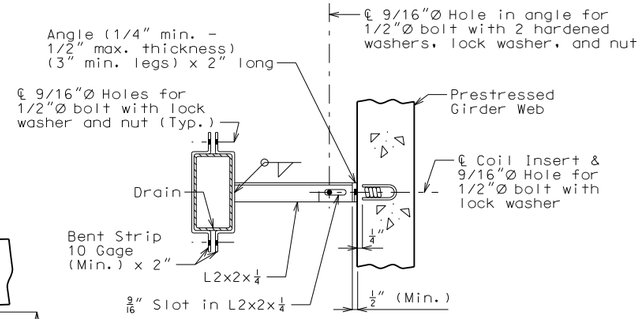
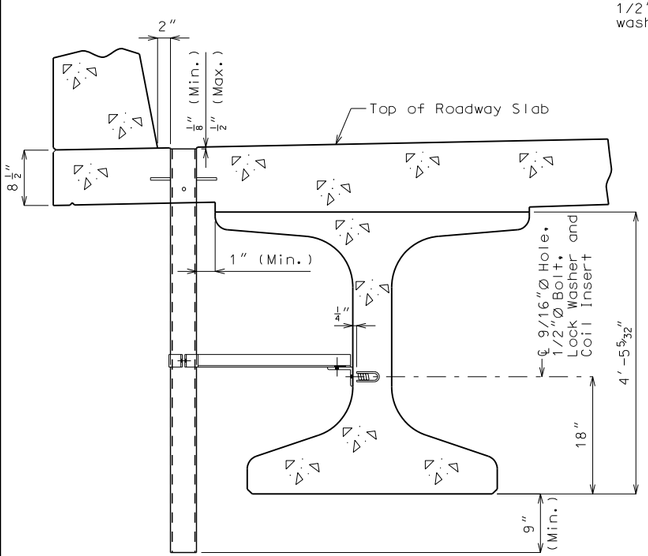


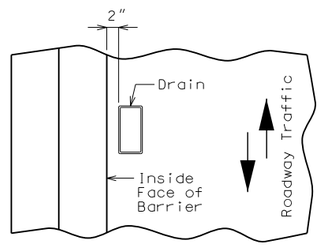
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



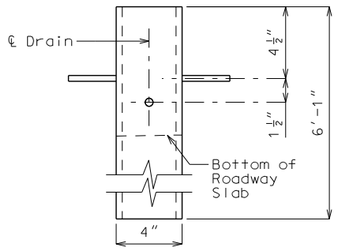
PART SECTION SHOWING BRACKET ASSEMBLY



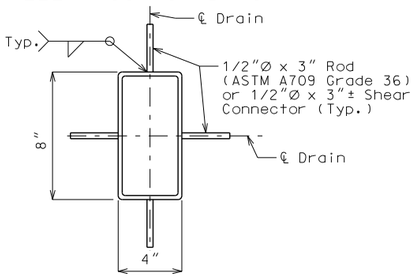
PART SECTION NEAR DRAIN



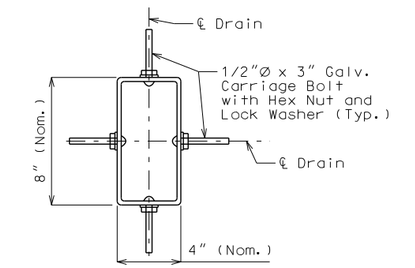
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

General Notes:

Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of same type.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Reinforcing steel shall be shifted to clear drains.

The coil inserts and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.

All 1/2"Ø bolts shall be ASTM A307.

Shop drawings will not be required for the slab drains and the bracket assembly.

The coil insert required for the bracket assembly attachment shall be located on the prestressed girder shop drawings.

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed girder fabricator.

Notes for Steel Drain:

Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:

Shape of drains shall be rectangular with outside nominal dimensions of 8" x 4".

Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

The color of the slab drain shall be gray (Federal Standard 26373). The color shall be uniform throughout the resin and any coating used.

The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall furnish the results of the required ultraviolet testing prior to acceptance of the slab drains.

At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be as recommended by the manufacturer to ensure a smooth, chip free cut.

SLAB DRAINS

Detailed Sep. 2023
Checked Sep. 2023

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

CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
STATE OF MISSOURI
PROFESSIONAL ENGINEER
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DATE PREPARED 11/17/2023
ROUTE 47 | STATE MO
DISTRICT BR | SHEET NO. 19
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

DESCRIPTION	DATE
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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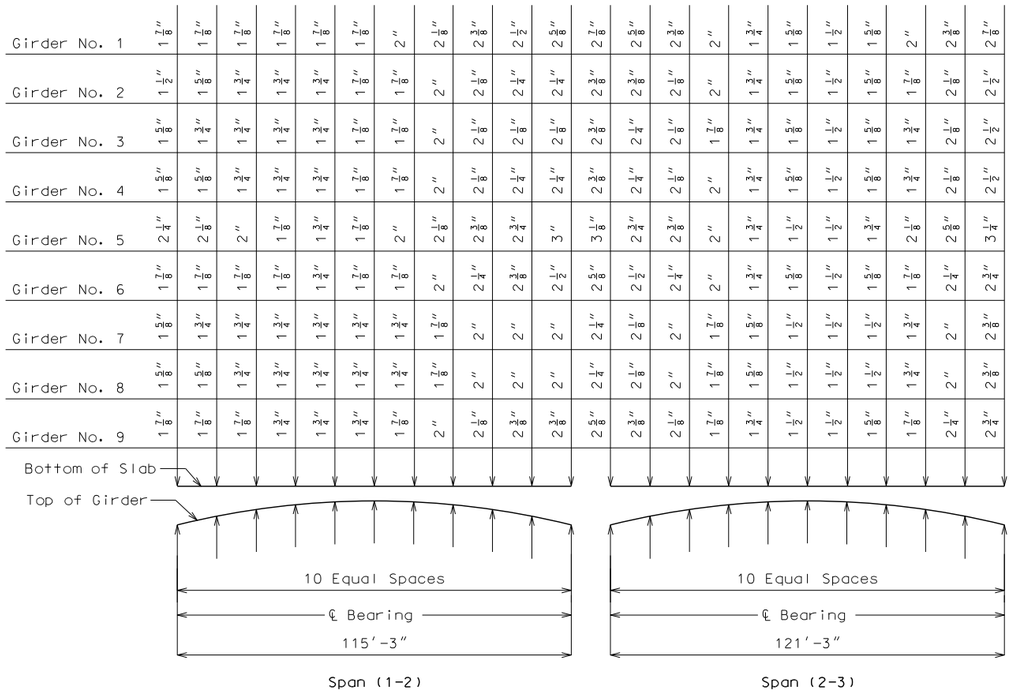
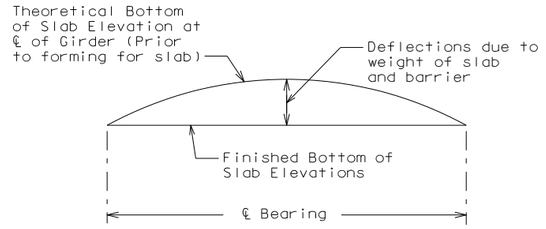


THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness, an adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment.

Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete NU-Girder.

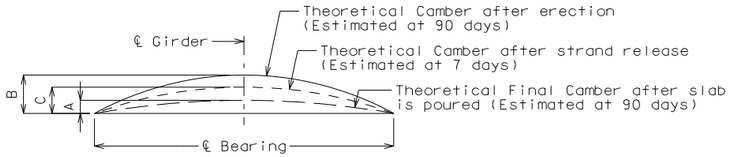


TYPICAL SLAB ELEVATIONS DIAGRAM

Theoretical Bottom of Slab Elevations at Centerline of Girder (Prior to forming for slab) (Estimated at 90 days)

Girder Number	Span (1-2) (115′-3″ ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ Brg.
1	507.24	507.53	507.81	508.06	508.28	508.48	508.64	508.77	508.87	508.95	509.01
2	507.47	507.77	508.06	508.31	508.54	508.73	508.89	509.02	509.11	509.18	509.23
3	507.70	508.00	508.29	508.54	508.77	508.96	509.12	509.24	509.34	509.41	509.46
4	507.94	508.23	508.50	508.75	508.98	509.17	509.33	509.45	509.55	509.62	509.68
5	508.15	508.43	508.69	508.93	509.15	509.34	509.50	509.63	509.73	509.82	509.88
6	507.97	508.27	508.55	508.80	509.03	509.22	509.37	509.49	509.59	509.65	509.70
7	507.78	508.07	508.35	508.60	508.83	509.02	509.17	509.29	509.38	509.45	509.50
8	509.31	509.53	509.90	509.73	510.04	510.13	510.19	510.22	510.23	510.22	510.19
9	507.39	507.67	507.94	508.19	508.40	508.59	508.74	508.87	508.96	509.04	509.09
Girder Number	Span (2-3) (121′-3″ ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ Brg.
1	507.24	507.53	507.81	508.06	508.28	508.48	508.64	508.77	508.87	508.95	509.01
2	509.25	509.48	509.86	509.68	510.00	510.10	510.16	510.19	510.20	510.18	510.16
3	509.47	509.70	510.08	509.90	510.22	510.32	510.38	510.41	510.41	510.40	510.38
4	509.70	509.91	510.28	510.11	510.41	510.51	510.57	510.61	510.62	510.61	510.60
5	509.90	510.10	510.44	510.29	510.57	510.66	510.73	510.77	510.79	510.80	510.80
6	509.72	509.94	510.32	510.14	510.45	510.55	510.61	510.64	510.65	510.63	510.61
7	509.51	509.74	510.11	509.94	510.24	510.34	510.40	510.43	510.44	510.42	510.40
8	509.31	509.53	509.90	509.73	510.04	510.13	510.19	510.22	510.23	510.22	510.19
9	509.11	509.32	509.67	509.51	509.80	509.89	509.95	509.99	510.00	510.00	509.99

Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab and barrier.



Girder	Span (1 - 2)			Span (2 - 3)		
	A	B	C	A	B	C
1	1 7/8″	4 5/8″	3 1/4″	2 1/8″	5 1/2″	3 7/8″
2	1 1/2″			1 5/8″		
3	1 1/2″			1 5/8″		
4	1 3/4″			2″		
5	2 1/4″			2 1/2″		
6	1 1/2″			1 5/8″		
7	1 1/2″			1 5/8″		
8	1 1/2″			1 5/8″		
9	1 7/8″			2 1/8″		

GIRDER CAMBER DIAGRAM

Conversion Factors for Girder Camber (Estimated at 90 days):

0.1 pt. = 0.314 x 0.5 pt.
0.2 pt. = 0.593 x 0.5 pt.
0.3 pt. = 0.813 x 0.5 pt.
0.4 pt. = 0.952 x 0.5 pt.

Detailed Sep. 2023
Checked Sep. 2023

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

STATE OF MISSOURI
CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
PROFESSIONAL ENGINEER

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DATE PREPARED 11/17/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
BR	20

COUNTY: LINCOLN
JOB NO.: J2P3043
CONTRACT ID.: .
PROJECT NO.: .
BRIDGE NO.: A8736

DESCRIPTION	DATE
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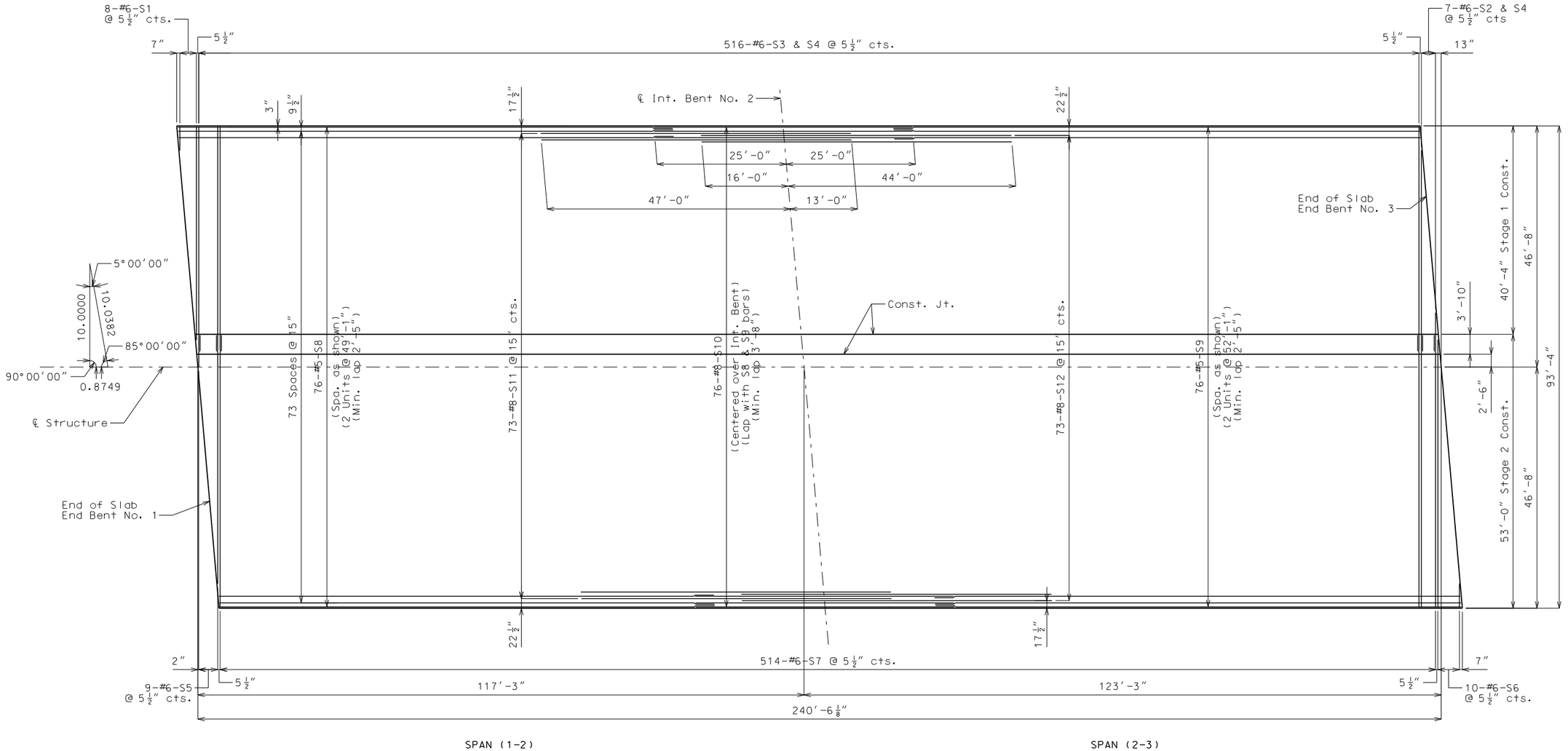

General Notes:

Longitudinal slab dimensions are measured horizontally.

For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 23.

For Details and Reinforcement of barrier not shown, see Sheets No. 24 & 25.

For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, see Sheet No. 20.

For details and locations of Slab Drains, see Sheet No. 19.

PLAN OF SLAB SHOWING TOP REINFORCEMENT

Detailed Sep. 2023
Checked Sep. 2023

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

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CHRISTOPHER T. HERSINGER
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47	MO
DISTRICT	SHEET NO.
BR	21

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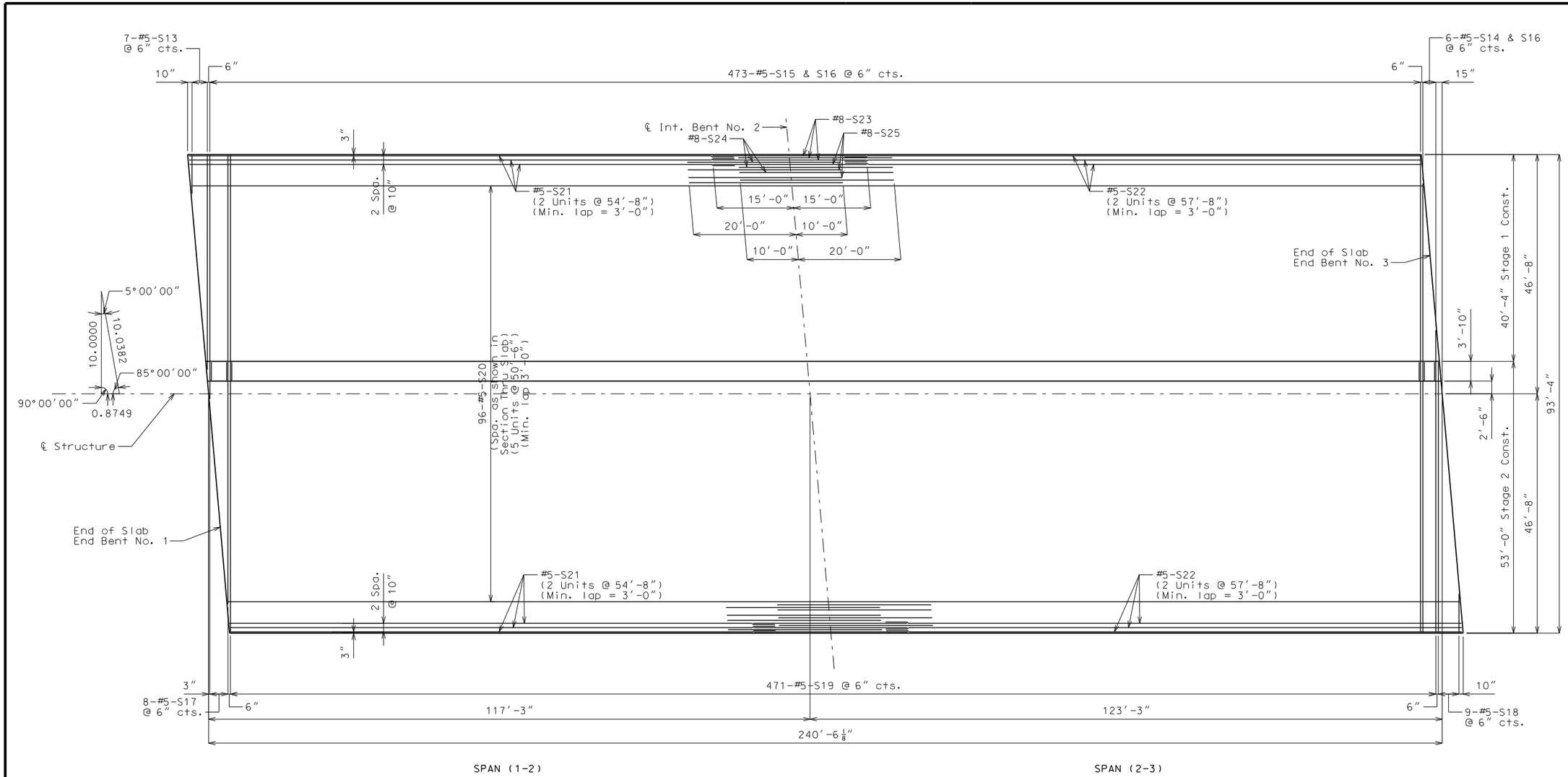

General Notes:

See Sheet No. 21 for General Notes.

PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT

Detailed Sep. 2023
Checked Sep. 2023

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

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ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
BR	22

COUNTY
LINCOLN

JOB NO.
J2P3043

CONTRACT ID.
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PROJECT NO.
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BRIDGE NO.
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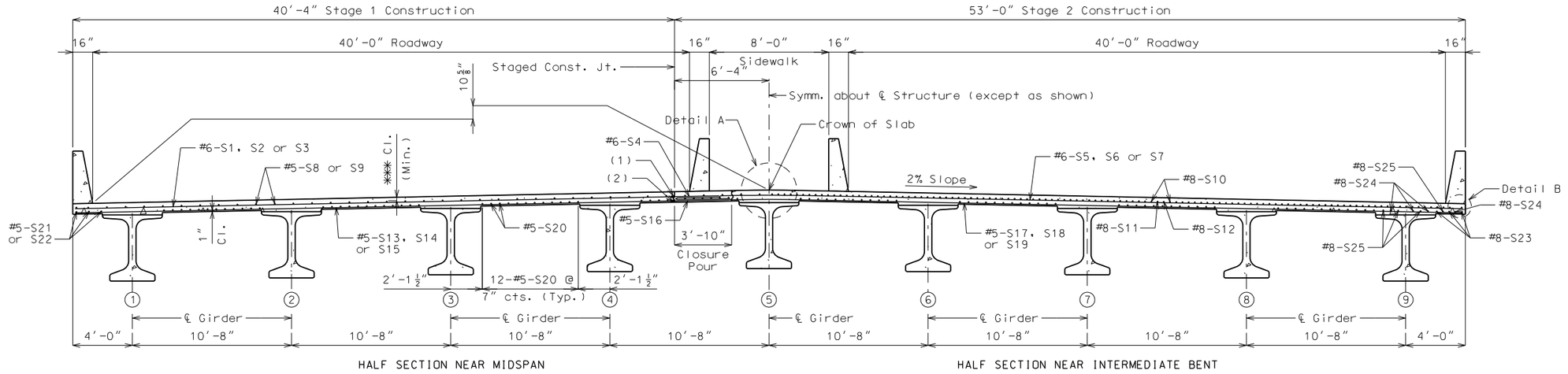
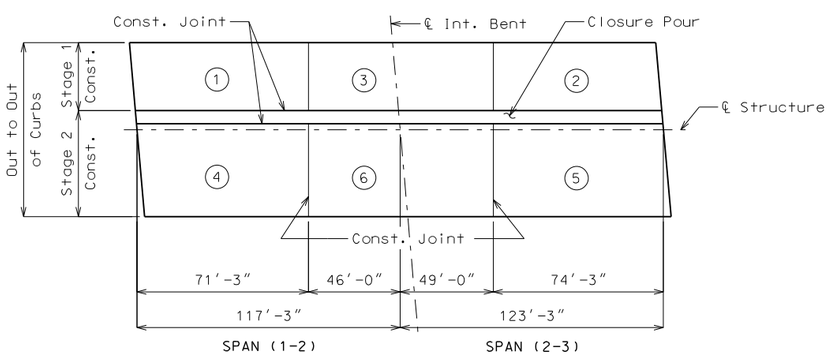


*** 3 1/8" (#5)
2 3/4" (#8)

SECTION THRU SLAB

(1) 7-MBS S2-S4 & 516-MBS S3-S4
(2) 6-MBS S14-S16 & 473-MBS S15-S16



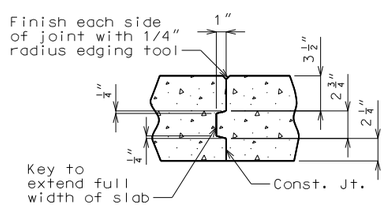
	Sequence of Pours			Min. Rate of Pour Cu. Yds./Hr.
	Direction			With Retarder
Basic Sequence	1 or 4	2 or 5	3 or 6	37
	Either Direction			
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.				
Alternate A Pours	1 or 4	3 + 2 or 6 + 5		66
	End to 3 or End to 6	1 to End or 4 to End		
Alternate B Pours	1 + 3 + 2 or 4 + 6 + 5			66
	End to End			

The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

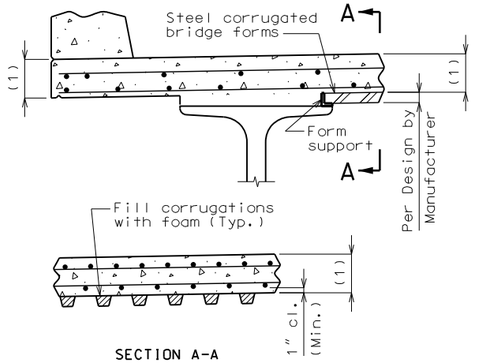
The concrete diaphragm at the intermediate bent and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

Expansive Class B-2 concrete shall be used in the closure pour.

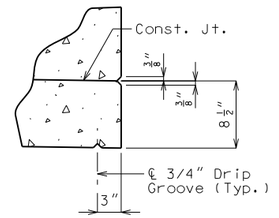
SLAB POURING SEQUENCE



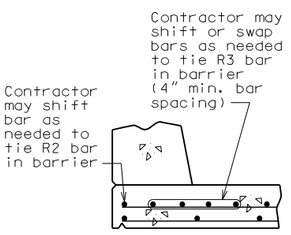
SLAB CONSTRUCTION JOINT



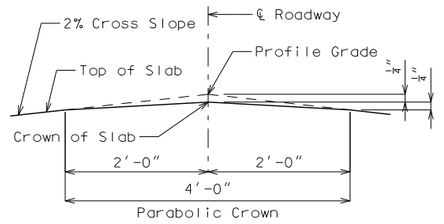
OPTIONAL STAY-IN-PLACE FORM DETAILS



DETAIL B



OPTIONAL SHIFTING TOP BARS AT BARRIER



DETAIL A

Notes:

For reinforcement of barrier not shown, see Sheet No. 24.

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 20.

For Plan of Slab Showing Reinforcement, see Sheets No. 21 & 22.

Minimum lap for S4 & S7 bars is 3'-0".

Minimum lap for S16 & S19 bars is 3'-8".

Haunching:
(1) Slab is to be considered a uniform thickness as shown on the plans. Haunching will vary.

SLAB DETAILS

Detailed Sep. 2023
Checked Sep. 2023

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

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JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

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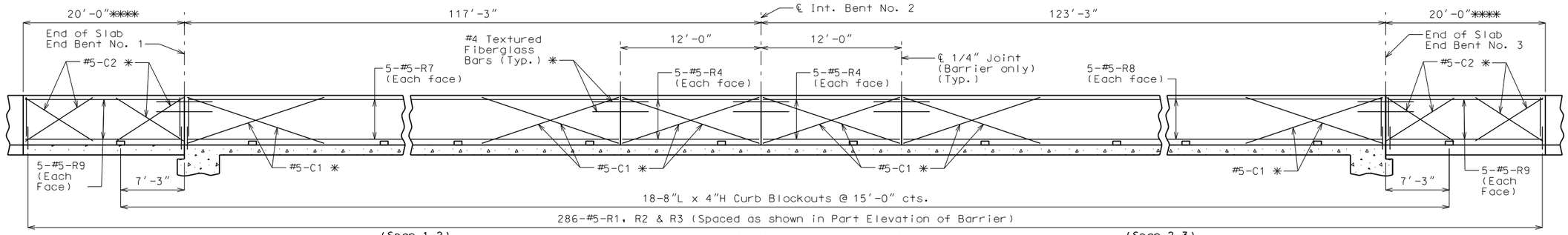
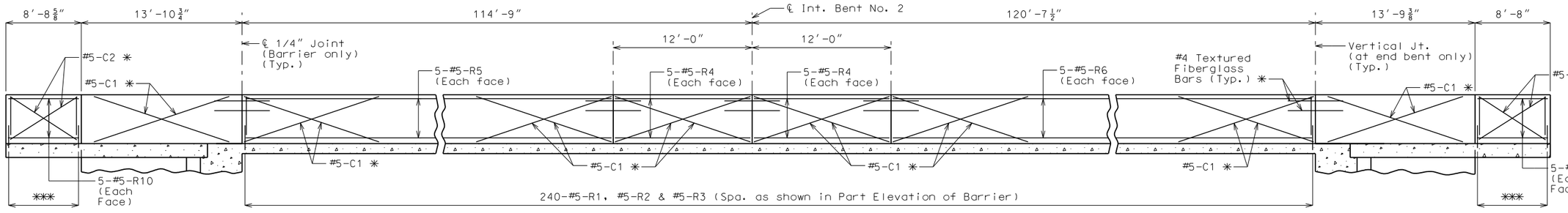


ELEVATION OF SIDEWALK BARRIER

(Left barrier shown, right barrier similar)
Longitudinal dimensions are horizontal.

✱✱✱✱ See Roadway Plans for alignment of barrier on approach slabs.



ELEVATION OF BARRIER

(Left barrier shown, right barrier similar)
Longitudinal dimensions are horizontal.

✱✱✱ 9-#5-R1, #5-R2 & #5-R3 (Spa. as shown in Part Elevation of Barrier)

General Notes:

✱ Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except as noted) normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type D Barrier per linear foot.

Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing for the exterior barriers, and end of approach slab to end of approach slab for the sidewalk barriers.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

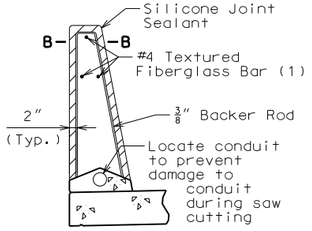
Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

Plastic waterstop shall not be used with saw cut joints.

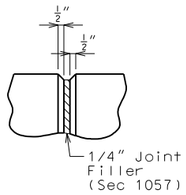
Contractor shall epoxy seal around the 8″ long by 4″ high curb blockouts in the sidewalk barrier. All costs associated with this work will be completely covered by the contract unit price bid for Type D Barrier.

See Sheet No. 25 for conduit notes.

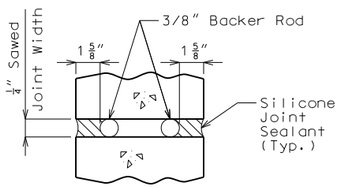


SECTION THRU SAW CUT JOINT

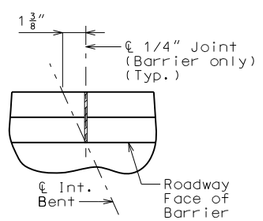
(Use when conduit is required)



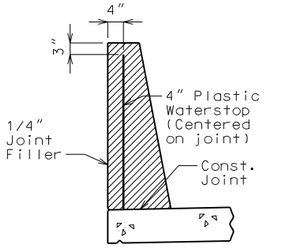
PART ELEVATION AT FORMED JOINT



SECTION B-B



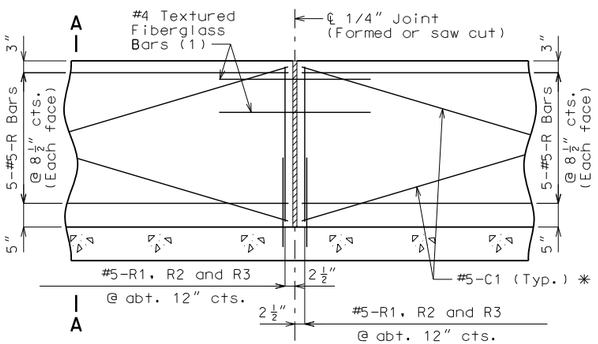
PART PLAN SHOWING JOINT LOCATION



WATERSTOP DETAIL

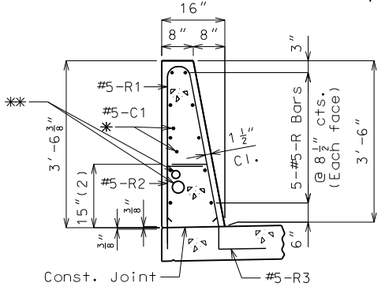
Plastic waterstop shall be placed in all formed joints of the exterior barriers. Plastic waterstop not required in sidewalk barrier joints.

Cost of plastic waterstop, complete in place, will be considered completely covered by the contract unit price for Type D Barrier.



PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

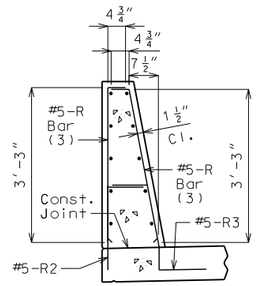


SECTION A-A

Use a minimum lap of 3′-1″ for #5 horizontal barrier bars.

The cross-sectional area above the slab is 3.52 square feet.

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

✱✱ Left sidewalk barrier shall have one 2-inch conduit and one 3-inch conduit. Left and right exterior barriers shall have one 2″ conduit.

TYPE D BARRIER

Detailed Sep. 2023
Checked Sep. 2023

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

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COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

DESCRIPTION . . . . . .
DATE . . . . . .

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General Notes:

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

All conduits shall be rigid nonmetallic schedule 40 heavy wall polyvinyl chloride (PVC) with 3 1/2-inch minimum cover in barrier and 4 1/2-inch cover in abutment wing. Each section of conduit shall bear the Underwriters Laboratories (UL) label.

Minimum clearance between conduits placed in barrier shall be 1".

Drainage shall be provided at low points or other critical locations of all conduits and all junction boxes in accordance with Sec 707. All conduits shall be sloped to drain where possible.

Expansion fittings shall be placed as shown and set in accordance with the manufacturer's requirements and based on the air temperature at the time of setting given an estimated total expansion movement of 1 inch at filled joints using a maximum temperature range of 120°F and a maximum temperature of 110°F.

Additional expansion fittings beyond what is specified on the bridge plans shall be provided and placed in accordance with the conduit manufacturer's recommendations.

Conduit details shown on this sheet are for the exterior barriers. Conduit in sidewalk barrier similar.

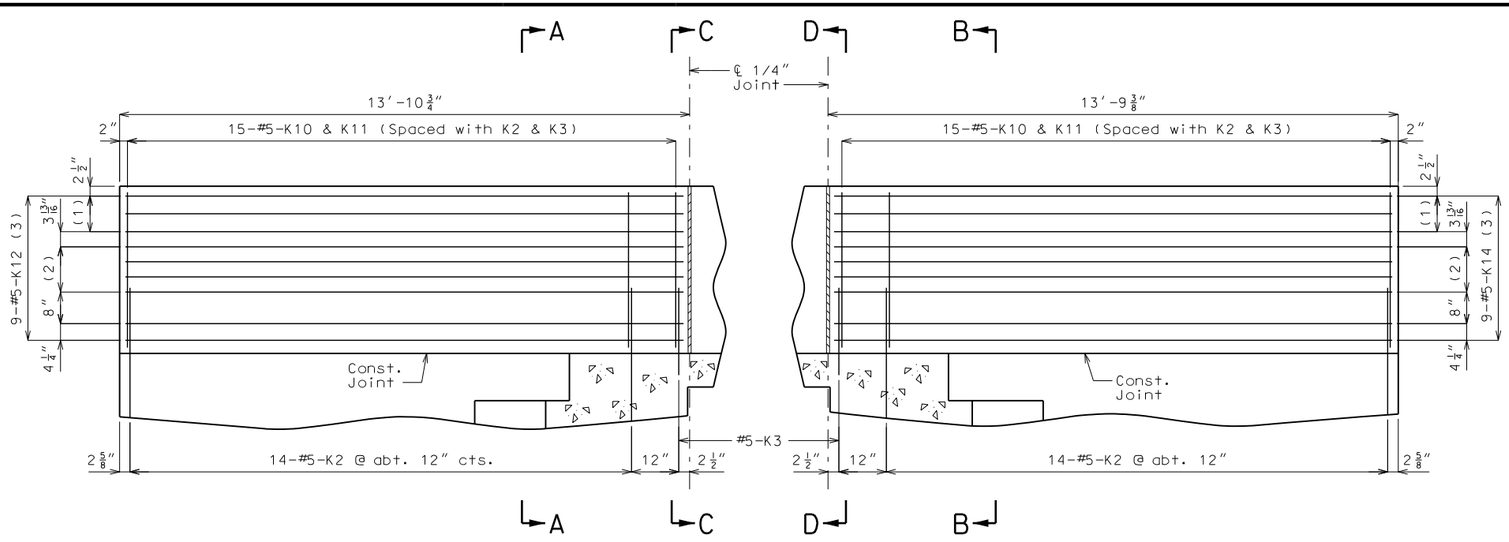
See roadway plans for locations of pull boxes at ends of bridge.

Payment for furnishing and installing Conduit System complete in place, will be considered completely covered by the contract lump sum price for Conduit System on Structure.

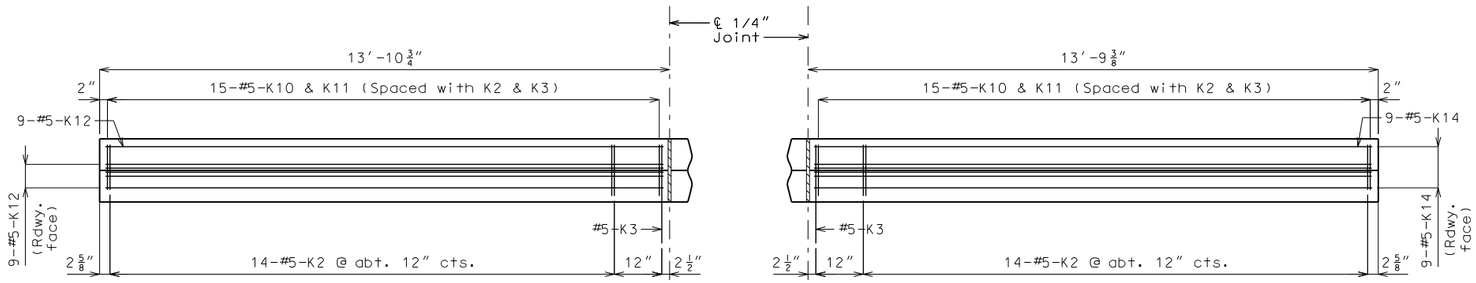
Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

Field bend K12 and K14 bars as necessary to match layout of barrier.

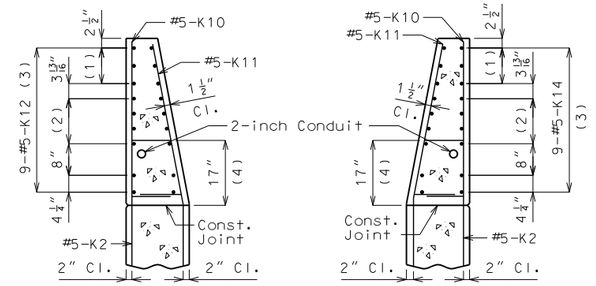


PART ELEVATION



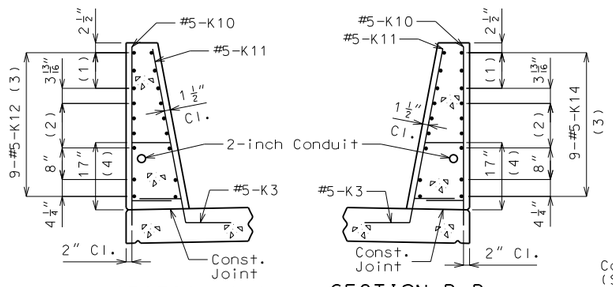
PART PLAN

(1) 2 spaces @ 4½"
(2) 3 spaces @ 3 13/16"
(3) Spaced as shown, each face
(4) To top of bar



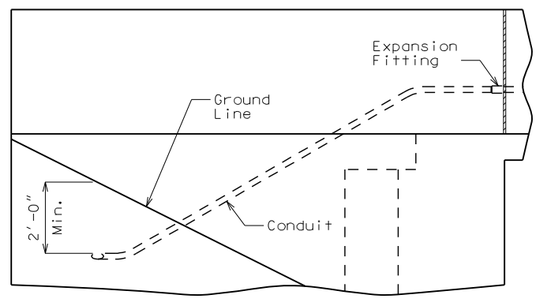
SECTION A-A

SECTION B-B

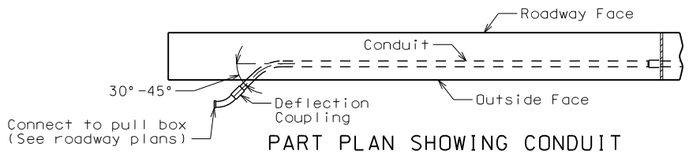


SECTION C-C

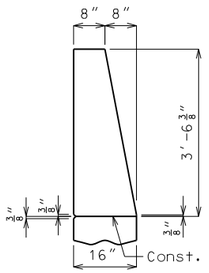
SECTION D-D



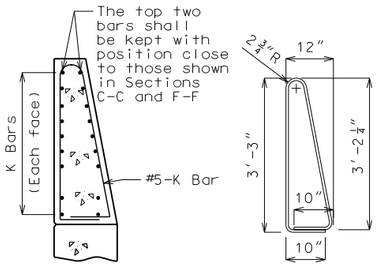
PART ELEVATION SHOWING CONDUIT



PART PLAN SHOWING CONDUIT



TYPICAL BARRIER SECTION



K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)

The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

TYPE D BARRIER AT END BENTS

(Left barrier shown, right barrier similar)

Detailed Sep. 2023
Checked Sep. 2023

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

CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
STATE OF MISSOURI
PROFESSIONAL ENGINEER

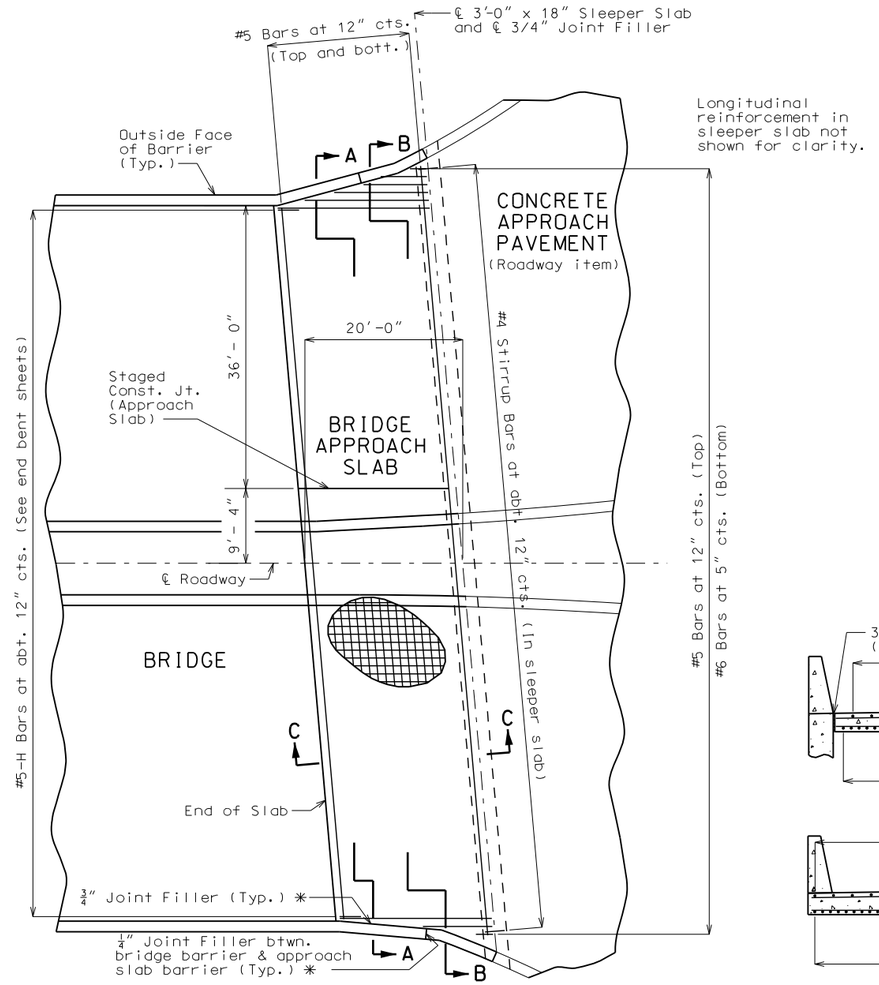
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/27/2023
ROUTE 47 | STATE MO
DISTRICT BR | SHEET NO. 25
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

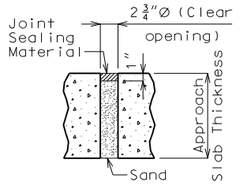
DESCRIPTION . . . . . .
DATE . . . . . .

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

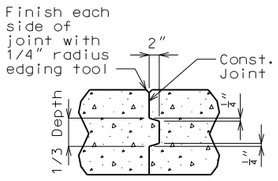


PART PLAN SHOWING REINFORCEMENT

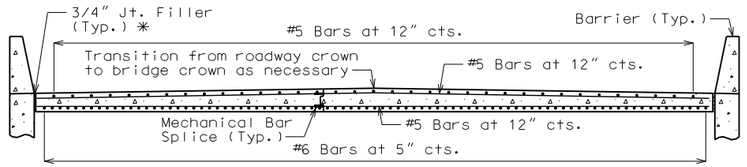


UNDERSEAL ACCESS HOLE DETAIL

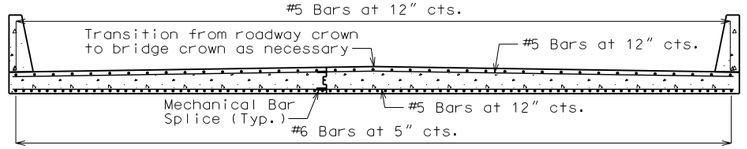
(If required)



CONSTRUCTION JOINT DETAIL



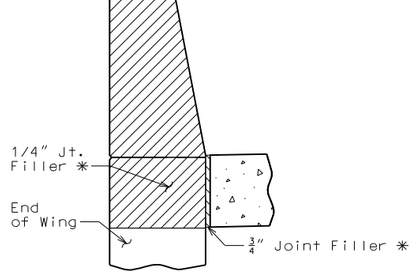
SECTION A-A



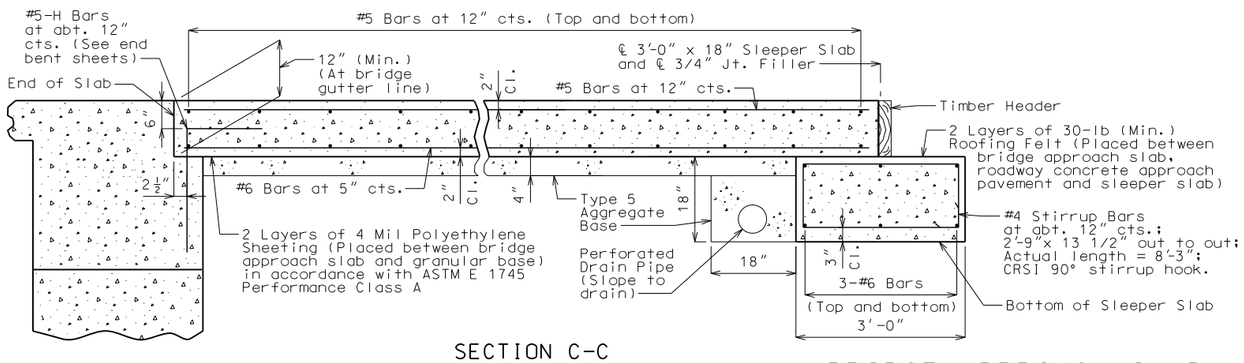
SECTION B-B

With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.

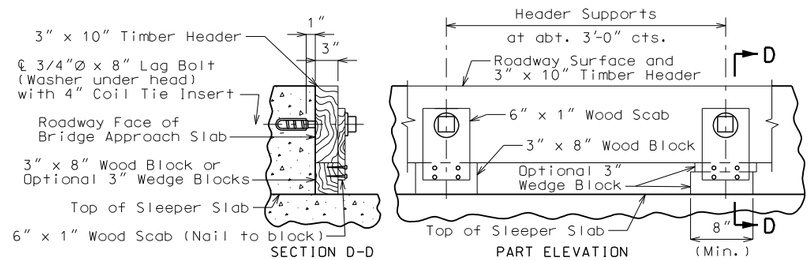
(Sidewalk barriers not shown for clarity)



SECTION BETWEEN BRIDGE BARRIER AND APPROACH SLAB BARRIER



SECTION C-C



SECTION D-D PART ELEVATION

DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

General Notes:

All concrete for the bridge approach slab and sleeper slab shall be in accordance with Sec 503 (f'c = 4,000 psi).

The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated Grade 60 with fy = 60,000 psi.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

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

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 29 inches for #5 bars and 44 inches for #6 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710. (Estimated 46 splices per slab)

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

Longitudinal construction joints in approach slab and sleeper slab shall be located as shown in the Part Plan View.

For concrete approach pavement details, see roadway plans.

See Missouri Standard Plan 609.00 for details of Type A curb.

Payment for furnishing all materials, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, Type 5 aggregate base, joint filler and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Major) per square yard.

* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

BRIDGE APPROACH SLAB (MAJOR)

Detailed Sep. 2023
Checked Sep. 2023

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

STATE OF MISSOURI
CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/17/2023
ROUTE 47 | STATE MO
DISTRICT BR | SHEET NO. 26
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

DESCRIPTION	DATE
.	.

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

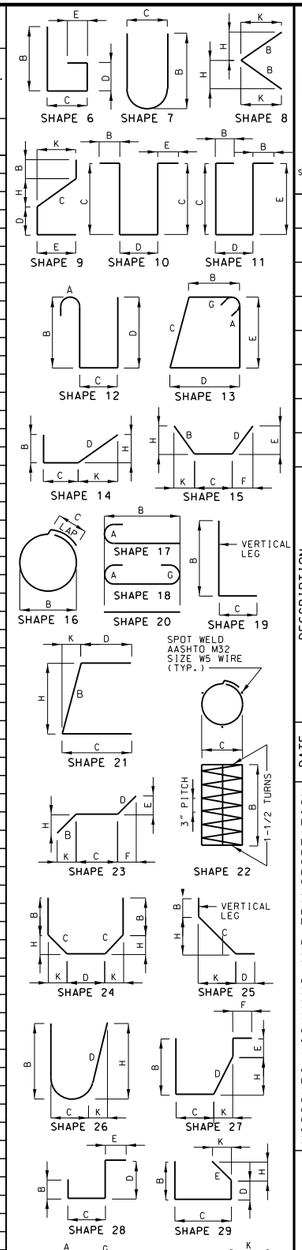
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

BILL OF REINFORCING STEEL

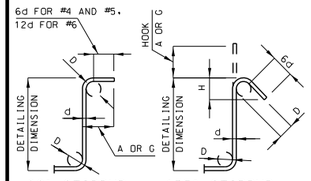
NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
			SUBSTRUCTURE																
			INT. BENT 2																
80	9	D200	FOOTING	E	17		X			23 8.000							24 11	24 11	6777
112	9	D201	FOOTING	E	18		X			11 8.000							14 2	14 2	5395
192	9	D202	FOOTING	E	18		X			6 8.000							9 2	9 2	5984
56	6	D203	KEY	E	20		X			2 6.000							2 6	2 6	210
18	9	H200	BEAM	E	17		X			23 7.000							24 10	24 10	1520
5	9	H201	BEAM	E	17		X			38 10.000							40 1	40 1	681
30	9	H202	BEAM	E	20		X			38 9.000							38 9	38 9	3953
18	6	H203	BEAM	E	10		X				4 6.000	3 7.000					12 7	12 3	331
9	9	H204	BEAM	E	20		X			28 3.000							28 3	28 3	864
9	9	H205	BEAM	E	20		X			6 9.000							6 9	6 9	207
10	6	H206	BEAM	E	20		X			38 10.000							38 10	38 10	583
5	9	H207	BEAM	E	17		X			51 4.000							52 7	52 7	894
10	9	H208	BEAM	E	20		X			51 4.000							51 4	51 4	1745
9	9	H209	BEAM	E	20		X			51 4.000							51 4	51 4	1571
9	9	H210	BEAM	E	20		X			19 3.000							19 3	19 3	589
10	6	H211	BEAM	E	20		X			51 4.000							51 4	51 4	771
4	4	P200	COLUMN	E	35		X			3 3.000	3.000	17 7.500					720 0	720 0	1924
72	4	P201	COLUMN	E	34		X			3 3.000							11 0	11 0	529
44	6	U200	BEAM	E	13	S	X			2 6.000	5 8.000	2 6.000	5 8.000				17 8	17 2	1135
152	6	U201	BEAM	E	13	S	X			2 6.000	5 3.125	2 6.000	5 3.125				16 10	16 4	3729
44	6	U202	BEAM	E	13	S	X			2 6.000	5 0.000	2 6.000	5 0.000				16 4	15 10	1046
8	6	U203	BEAM	E	10	S	X				5 8.000	3 9.000					15 1	14 9	177
8	6	U204	BEAM	E	10	S	X				5 0.000	3 9.000					13 9	13 5	161
			SUPERSTR.																
			END BENT 1																
12	6	F100	WING	E	15	S				2 3.000	5 6.000	14.000	9.000	10.750	17.375	20.625	8 11	8 9	158
5	6	F101	DIAPHRAGM	E	15	S				2 8.250	5 8.000			2 8.250	2.750	8 4	8 4	8 2	61
12	6	F102	WING	E	15	S				14.000	5 6.000	2 3.000	17.375	20.625	9.000	10.750	8 11	8 9	158
5	6	F103	DIAPHRAGM	E	21	S				2 8.250	5 8.000			2 8.250	2.750	8 4	8 4	8 2	61
11	6	H100	BM & DIAPH	E	20					40 4.000							40 4	40 4	666
12	8	H101	BM & DIAPH	E	20					40 4.000							40 4	40 4	1292
28	6	H102	DIAPHRAGM	E	20					9 7.000							9 7	9 7	403
7	6	H103	DIAPHRAGM	E	20					7 3.000							7 3	7 3	76
8	6	H104	DIAPHRAGM	E	20					3 4.000							3 4	3 4	40
2	6	H105	DIAPHRAGM	E	20					2 3.000							2 3	2 3	7
4	6	H106	DIAPHRAGM	E	20					3 9.500							3 10	3 10	23
1	6	H107	DIAPHRAGM	E	20					2 7.250							2 7	2 7	4
11	6	H108	BM & DIAPH	E	20					53 1.000							53 1	53 1	877
12	8	H109	BM & DIAPH	E	20					53 1.000							53 1	53 1	1701
4	6	H110	DIAPHRAGM	E	20					5 9.750							5 10	5 10	35
1	6	H111	DIAPHRAGM	E	20					4 7.500							4 8	4 8	7
9	5	H112	STRAND TIE	E	20					5 9.000							5 9	5 9	54
16	8	H113	WING	E	19					23 6.000	16.000						24 10	24 8	1054
52	6	H114	WING	E	19					12 8.000	12.000						13 8	13 6	1054
52	5	U101	BEAM	E	10	S					7 10.000	2 9.125					18 5	18 3	990
56	4	U102	BEAM	E	13	S				2 9.125	3 8.000	2 9.125	3 8.000				13 7	13 4	499
11	4	U103	BEAM	E	10	S					3 8.000	2 9.125					10 1	9 11	73
62	5	U104	DIAPHRAGM	E	10	S					4 0.000	2 3.000					10 3	10 1	652

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
62	6	U105	DIAPHRAGM	E	19	S				4 0.000	2 9.125						6 9	6 7	613
119	6	U106	DIAPHRAGM	E	19	S				3 0.000	4 7.000						7 7	7 5	1326
20	5	V100	BEAM	E	20					7 10.000							7 10	7 10	163
45	6	V101	DIAPHRAGM	E	20					4 0.000							4 0	4 0	270
2	6	V102	WING	E	20					8 8.000							8 8	8 8	26
22	6	V103	WING	E	20					8 8.000							8 8	8 8	286
2	6	V104	WING	E	20					8 8.000							8 8	8 8	26
22	6	V105	WING	E	20					8 8.000							8 8	8 8	286
			END BENT 3																
12	6	F300	WING	E	15	S				2 3.000	5 6.000	14.000	9.000	10.750	17.375	20.625	8 11	8 9	158
5	6	F301	DIAPHRAGM	E	15	S				2 8.250	5 8.000				2 8.250	2.750	8 4	8 2	61
12	6	F302	WING	E	15	S				14.000	5 6.000	2 3.000	17.375	20.625	9.000	10.750	8 11	8 9	158
5	6	F303	DIAPHRAGM	E	21	S				2 8.250	5 8.000				2 8.250	2.750	8 4	8 2	61
11	6	H300	BM & DIAPH	E	20					40 4.000							40 4	40 4	666
12	8	H301	BM & DIAPH	E	20					40 4.000							40 4	40 4	1292
28	6	H302	DIAPHRAGM	E	20					9 7.000							9 7	9 7	403
7	6	H303	DIAPHRAGM	E	20					7 3.000							7 3	7 3	76
8	6	H304	DIAPHRAGM	E	20					3 4.000							3 4	3 4	40
2	6	H305	DIAPHRAGM	E	20					2 3.000							2 3	2 3	7
4	6	H306	DIAPHRAGM	E	20					3 9.500							3 10	3 10	23
1	6	H307	DIAPHRAGM	E	20					2 7.250							2 7	2 7	4
11	6	H308	BM & DIAPH	E	20					53 1.000							53 1	53 1	877
12	8	H309	BM & DIAPH	E	20					53 1.000							53 1	53 1	1701
4	6	H310	DIAPHRAGM	E	20					5 9.750							5 10	5 10	35
1	6	H311	DIAPHRAGM	E	20					4 7.500							4 8	4 8	7
9	5	H312	STRAND TIE	E	20					5 9.000							5 9	5 9	54
16	8	H313	WING	E	19					23 6.000	16.000						24 10	24 8	1054
52	6	H314	WING	E	19					12 8.000	12.000						13 8	13 6	1054
52	5	U301	BEAM	E	10	S					7 10.000	2 9.125					18 5	18 3	990
56	4	U302	BEAM	E	13	S				2 9.125	3 8.000	2 9.125	3 8.000				13 7	13 4	499
11	4	U303	BEAM	E	10	S					3 8.000	2 9.125					10 1	9 11	73
62	5	U304	DIAPHRAGM	E	10	S					4 0.000	2 3.000					10 3	10 1	652
62	6	U305	DIAPHRAGM	E	19	S				4 0.000	2 9.125						6 9	6 7	613
119	6	U306	DIAPHRAGM	E	19	S				3 0.000	4 7.000						7 7	7 5	1326
20	5	V300	BEAM	E	20					7 10.000							7 10	7 10	163
45	6	V301	DIAPHRAGM	E	20					4 0.000							4 0	4 0	270
2	6	V302	WING	E	20					8 11.000							8 11	8 11	27
22	6	V303	WING	E	20					8 11.000							8 11	8 11	295
2	6	V304	WING	E	20					9 0.000							9 0	9 0	27
22	6	V305	WING	E	20					9 0.000							9 0	9 0	297
			DIAPH. AT																
			INT. BENT 2																
14	6	H400	DIAPHRAGM	E	20					7 3.000							7 3	7 3	152
14	6	H401	DIAPHRAGM	E	20					9 7.000							9 7	9 7	202
42	4	H402	DIAPHRAGM	E	20					9 7.000							9 7	9 7	269
4	5	H403	STRAND TIE	E	20					4 9.000							4 9	4 9	20
14	5	H404	STRAND TIE	E	20					5 9.000							5 9	5 9	84
2	6	H405	DIAPHRAGM	E	20					2 7.250							2 7	2 7	8
2	6	H406	DIAPHRAGM	E	20					3 9.500							3 10	3 10	12
6	4	H407	DIAPHRAGM	E	20					3 9.500							3 10	3 10	15
2	6	H408	DIAPHRAGM	E	20					4 7.500							4 8	4 8	14
2	6	H409	DIAPHRAGM	E	20					5 9.750							5 10	5 10	18

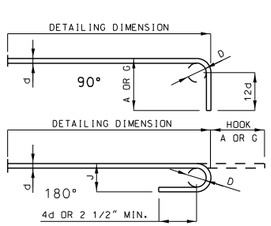


BENDING DIAGRAMS



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

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



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

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.

NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)

ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.

PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.

FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.

REINFORCING STEEL (GRADE 60) FY = 60.000 PSI.

Detailed Sep. 2023
Checked Sep. 2023

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

STATE OF MISSOURI
CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/17/2023
ROUTE 47 | STATE MO
DISTRICT BR | SHEET NO. 27
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

DESCRIPTION
DATE

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

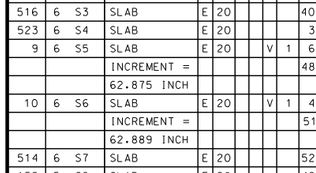
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
6	4	H410	DIAPHRAGM	E	20					5 9.750							5 10	5 10	23
112	4	U400	DIAPHRAGM	E	28	S					2 1.000	4 9.000	18.000				8 4	8 2	611
32	6	U401	DIAPHRAGM	E	28	S					2 3.000	4 9.000	2 2.000				9 2	8 10	425
32	6	U402	DIAPHRAGM	E	28	S					2 3.000	3 10.000	2 2.000				8 3	7 11	381
8	6	U403	DIAPHRAGM	E	28	S					2 3.000	3 10.000	2 2.000				8 3	7 11	95
4	5	U404	DIAPHRAGM	E	6	S				2 11.000	12.000						3 11	3 9	16
16	5	U405	DIAPHRAGM	E	6	S				3 3.000	12.000	16.000					5 7	5 5	90
8	5	V400	DIAPHRAGM	E	20					5 1.000							5 1	5 1	42
			SLAB																
8	6	S1	SLAB	E	20			V	1	4 8.000							4 8	4 8	
			INCREMENT =							41 4.000							41 4	41 4	276
			62.857 INCH																
7	6	S2	SLAB	E	20			V	1	4 2.000							4 2	4 2	
			INCREMENT =							35 8.000							35 8	35 8	209
			63.000 INCH																
516	6	S3	SLAB	E	20					40 2.000							40 2	40 2	31,130
523	6	S4	SLAB	E	20					3 0.000							3 0	3 0	2357
9	6	S5	SLAB	E	20			V	1	6 3.000							6 3	6 3	
			INCREMENT =							48 2.000							48 2	48 2	368
			62.875 INCH																
10	6	S6	SLAB	E	20			V	1	4 8.000							4 8	4 8	
			INCREMENT =							51 10.000							51 10	51 10	424
			62.889 INCH																
514	6	S7	SLAB	E	20					52 9.000							52 9	52 9	40724
152	5	S8	SLAB	E	20					49 1.000							49 1	49 1	7781
152	5	S9	SLAB	E	20					52 1.000							52 1	52 1	8257
76	8	S10	SLAB	E	20					50 0.000							50 0	50 0	10146
73	8	S11	SLAB	E	20					60 0.000							60 0	60 0	11695
73	8	S12	SLAB	E	20					60 0.000							60 0	60 0	11695
7	5	S13	SLAB	E	20			V	1	7 6.000							7 6	7 6	
			INCREMENT =							41 9.000							41 9	41 9	180
			68.500 INCH																
6	5	S14	SLAB	E	20			V	1	6 1.000							6 1	6 1	
			INCREMENT =							34 8.000							34 8	34 8	128
			68.600 INCH																
473	5	S15	SLAB	E	20					40 2.000							40 2	40 2	19816
479	5	S16	SLAB	E	20					3 8.000							3 8	3 8	1832
8	5	S17	SLAB	E	20			V	1	7 2.000							7 2	7 2	
			INCREMENT =							47 2.000							47 2	47 2	227
			68.571 INCH																
9	5	S18	SLAB	E	20			V	1	7 6.000							7 6	7 6	
			INCREMENT =							52 8.000							52 8	52 8	282
			67.75 INCH																
471	5	S19	SLAB	E	20					52 9.000							52 9	52 9	25914
480	5	S20	SLAB	E	20					50 6.000							50 6	50 6	25282
12	5	S21	SLAB	E	20					54 8.000							54 8	54 8	684
12	5	S22	SLAB	E	20					57 8.000							57 8	57 8	722
6	8	S23	SLAB	E	20					30 0.000							30 0	30 0	481
8	8	S24	SLAB	E	20					30 0.000							30 0	30 0	641
8	8	S25	SLAB	E	20					30 0.000							30 0	30 0	641
			BARRIER																
56	5	K2	BARRIER	E	27	S				3 8.000	9.250	14.500	2 5.750		14.250	2.750	8 2	7 11	462
4	5	K3	BARRIER	E	27	S				22.500	9.250	14.500	7.750	12.000	14.250	2.750	5 6	5 3	22
60	5	K10	BARRIER	E	19	S				3 3.000	10.000						4 1	4 0	250

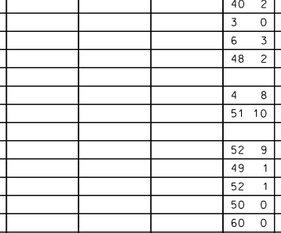
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
60	5	K11	BARRIER	E	21	S				3 3.000	10.000				3 2.250	7.750	4 1	4 0	250
36	5	K12	BARRIER	E	20					13 7.000							13 7	13 7	510
36	5	K14	BARRIER	E	20					13 6.000							13 6	13 6	507
1088	5	R1	BARRIER	E	26	S				3 3.000	5.500	3 3.625			3 3.000	6.750	6 9	6 9	7660
1088	5	R2	BARRIER	E	19	S				20.500	9.500						2 6	2 5	2742
1088	5	R3	BARRIER	E	27	S					9.500	15.250	5.000	12.000	15.000	3.000	3 6	3 4	3783
80	5	R4	BARRIER	E	20					11 9.000							11 9	11 9	980
40	5	R5	BARRIER	E	20					52 10.000							52 10	52 10	2204
40	5	R6	BARRIER	E	20					55 9.000							55 9	55 9	2326
40	5	R7	BARRIER	E	20					54 1.000							54 1	54 1	2256
40	5	R8	BARRIER	E	20					57 1.000							57 1	57 1	2382
40	5	R9	BARRIER	E	20					19 9.000							19 9	19 9	824
40	5	R10	BARRIER	E	20					8 5.000							8 5	8 5	351
			SLIP FORM																
			BARRIER																
56	5	C1	SLIP FORM	E	20					12 0.000							12 0	12 0	701
24	5	C2	SLIP FORM	E	20					8 0.000							8 0	8 0	200
			TOTALS																
	4			E															4515
	5			E															123485
	6			E															97886
	8			E															43393
	9			E															30180
			TOTAL	E															299459
			SLAB ON																
			GIRDER																
	4			E															2062
	5			E															95075
	6			E															89743
	8			E															43393
			TOTAL																230273
			REINFORCING																
			STEEL																
			(BRIDGES)																
	4			E															2453
	6			E															8143
	9			E															30180
			TOTAL																40776
			BARRIER																
	5			E															27509
			TOTAL																27509
			SLIP FORM																
			OPTION																
	5			E															901
			TOTAL																901



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

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



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

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.

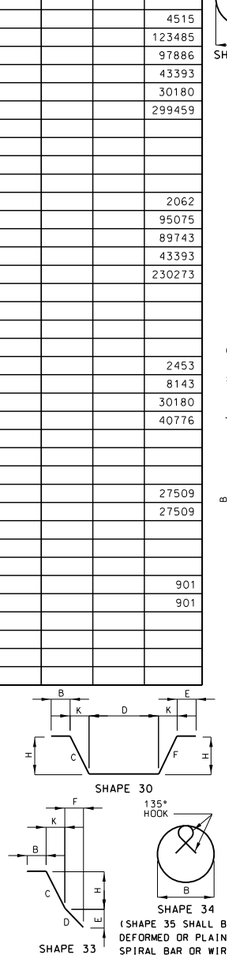
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)

ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.

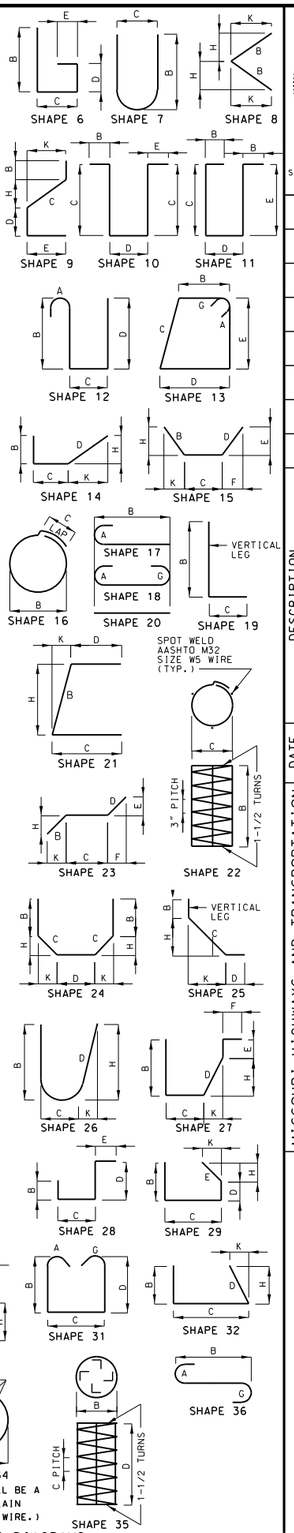
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.

FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.

REINFORCING STEEL (GRADE 60) FY = 60.000 PSI.



BENDING DIAGRAMS



STATE OF MISSOURI
CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/17/2023

ROUTE	STATE
47	MO
DISTRICT	SHEET NO.
BR	28

COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

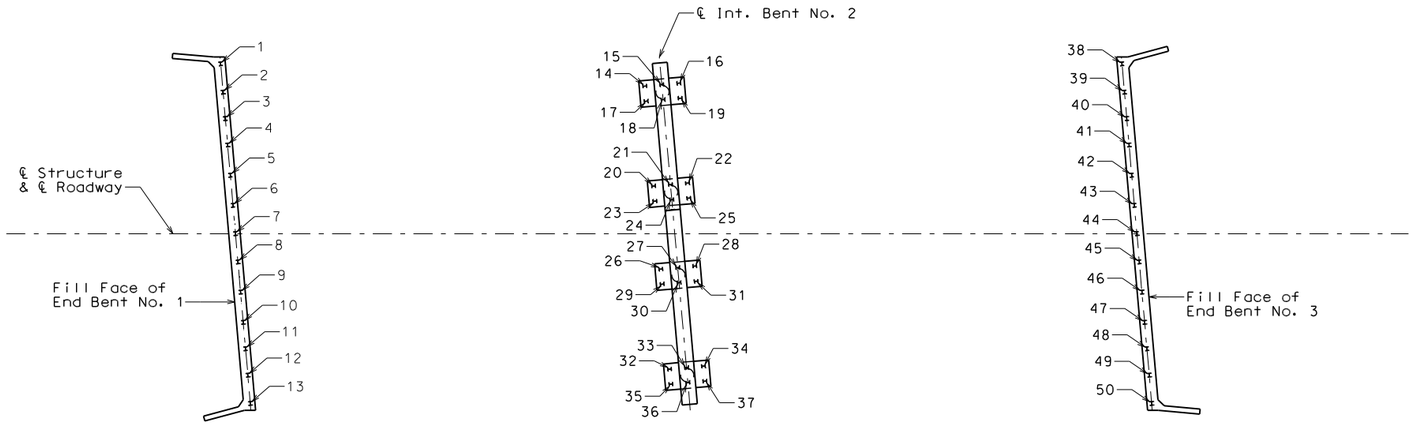
DESCRIPTION
DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

Detailed Sep. 2023
Checked Sep. 2023

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



PART PLAN SHOWING PILE NUMBERING FOR RECORDING AS-BUILT PILE DATA

Note:
Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal

This sheet to be completed by MoDOT construction personnel.

As-Built Pile Data

Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 1
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			

As-Built Pile Data

Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 3
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			

As-Built Pile Data

Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			Intermediate Bent No. 2
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			

AS-BUILT PILE DATA

Detailed Sep. 2023
Checked Sep. 2023

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

\\hrgreen.com\HRG\Data\2017\171526.01\CAD\Data\B_A8736_029_J2P3043_As-BuiltPile.dgn 9:49:06 AM 11/27/2023

CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
STATE OF MISSOURI
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/27/2023
ROUTE 47 STATE MO
DISTRICT BR SHEET NO. 29
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

DESCRIPTION / DATE

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

Missouri Department of Transportation
Construction and Materials

BORING NO. V-22-20 (103)
Page 1 of 2

Job No.: J2P3043 **County:** Lincoln **Route:** 47
Design: A8736 **Skew:** 5 RA **Location:** Over US 61
Bent: 1 **Logged By:** Ricardo Todd **Operator:** Gary Degraffenreid
Station: **Northing:** 1148477.5 **Date of Work:** 04/26/22-04/26/22
Offset: **Easting:** 687822.5 **Depth to Water:** 54.3
Elevation: 499.3 **Requested Northing:** 1148477.5 **Depth Hole Open:** 61.4
Requested Station: 628+50.7 **Requested Easting:** 687833.5 **Time Change:**
Requested Offset: 29.9 R **Equipment:** Acker Renegade ,Split-Spoon Sampler, NQ
Requested Elevation: 500.4 **Location Note:** Offset due to slope
Drill No.: G-9667 **Hammer Efficiency:** 92% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0		0.0-15.3' Brown, LEAN CLAY trace gravel, stiff, moist	495						
5					67	1-2-4 (9)		PP = 1.25 tsf	MC = 24.6% γ_{wet} = 125 pcf(1) LL = 39 PL = 17
10			490		67	2-4-4 (12)		PP = 1.75 tsf	MC = 16.4% γ_{wet} = 135 pcf(1)
15		15.3-20.1' Gray, LEAN CLAY trace sand, and gravel, stiff to very stiff, moist	485		67	4-6-4 (15)		PP = 2.00 tsf	MC = 20.4% γ_{wet} = 130 pcf(1) LL = 44 PL = 22
20		20.1-25.2' Brown, LEAN CLAY, very stiff, moist	480		67	3-5-6 (17)		PP = 2.00 tsf	MC = 17.4% γ_{wet} = 134 pcf(1) LL = 34 PL = 16
25		25.2-29.8' Gray, LEAN CLAY, very stiff, moist	475		67	3-5-6 (17)		PP = 2.25 tsf	MC = 16.9% γ_{wet} = 134 pcf(1) LL = 41 PL = 20
30		29.8-35.0' Gray, LEAN CLAY trace gravel, medium stiff, moist	470		67	0-1-2 (5)		PP = 0.75 tsf	MC = 19.8% γ_{wet} = 131 pcf(1)
35		35.0-54.3' Gray, GRAVELLY LEAN CLAY, very stiff to stiff, moist	465		67	3-4-7 (17)		PP = 2.00 tsf	MC = 15.1% γ_{wet} = 137 pcf(1)
40			460						

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

Coordinate System: Modified U.S. State Plane 1983 **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:** 1.00006611
Coordinate Datum: NAD 83 (CONUS) **Coordinate Units:** U.S. Survey Feet

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

(Continued Next Page)

LETTER BOREHOLE - MODOT 20150728.GDT - 7/26/22 07:52 - Z:\SIG\GINT\PROJECT FILES\J2P3043-A8736.GPJ

Missouri Department of Transportation
Construction and Materials

BORING NO. V-22-20 (103)
Page 2 of 2

Job No.: J2P3043 **County:** Lincoln **Route:** 47
Design: A8736 **Skew:** 5 RA **Location:** Over US 61
Bent: 1 **Logged By:** Ricardo Todd **Operator:** Gary Degraffenreid
Station: **Northing:** 1148477.5 **Date of Work:** 04/26/22-04/26/22
Offset: **Easting:** 687822.5 **Depth to Water:** 54.3
Elevation: 499.3 **Requested Northing:** 1148477.5 **Depth Hole Open:** 61.4
Requested Station: 628+50.7 **Requested Easting:** 687833.5 **Time Change:**
Requested Offset: 29.9 R **Equipment:** Acker Renegade ,Split-Spoon Sampler, NQ
Requested Elevation: 500.4 **Location Note:** Offset due to slope
Drill No.: G-9667 **Hammer Efficiency:** 92% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
40		35.0-54.3' Gray, GRAVELLY LEAN CLAY, very stiff to stiff, moist *(continued)*	455		33	4-6-5 (17)			
45					67	3-5-5 (15)			
50			450		67	3-4-5 (14)			
55		54.3-61.4' Brown, GRAVEL with sand, medium dense to dense, wet, coarse grained	445		67	3-5-5 (21)			Sieve Analysis Sieve # % Passing 1"00.0 94.5 82.9 57.4 45.3 33.1 27.1 10.6 8.0 5.8 4.8
60		61.4-63.4' Limestone, gray, highly weathered	440		67	2-10-10 (31)			
65		63.4-78.4' Cherty Limestone, whitish gray, thin bedded, very strong rock, slightly weathered, fine grained	435		66 (24)			Qu Test Results UCS = 1450 ksf MC = 0% γ_{moist} = 161 pcf	
70			430		100 (44)			Qu Test Results UCS = 1580 ksf MC = 0% γ_{moist} = 152.4 pcf	
75			425		100 (82)			Qu Test Results UCS = 1520 ksf MC = 0% γ_{moist} = 142.1 pcf	
		Bottom of borehole at 78.4 feet.							

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

Coordinate System: Modified U.S. State Plane 1983 **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:** 1.00006611
Coordinate Datum: NAD 83 (CONUS) **Coordinate Units:** U.S. Survey Feet

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

LETTER BOREHOLE - MODOT 20150728.GDT - 7/26/22 07:52 - Z:\SIG\GINT\PROJECT FILES\J2P3043-A8736.GPJ

STATE OF MISSOURI
CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/17/2023
ROUTE 47 | STATE MO
DISTRICT BR | SHEET NO. 30
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

DESCRIPTION . . . . . .
DATE . . . . . .

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

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

BORING DATA

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

Detailed Sep. 2023
Checked Sep. 2023

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

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Missouri Department of Transportation
Construction and Materials

BORING NO. V-22-25 (202)
Page 1 of 2

Job No.: J2P3043 **County:** Lincoln **Route:** 47
Design: A8736 **Skew:** 5 RA **Location:** Over US 61
Bent: 2 **Logged By:** Matthew Kistler **Operator:** Gary Degraffenreid
Station: **Northing:** 1148504.4 **Date of Work:** 05/03/22-05/03/22
Offset: **Easting:** 687963.5 **Depth to Water:** 14.9
Elevation: 485.0 **Requested Northing:** 1148520.1 **Depth Hole Open:** 16.5
Requested Station: 629+62 **Requested Easting:** 687949.8 **Time Change:** At Time of Drilling
Requested Offset: 24.7 L **Equipment:** Acker Renegade ,Split-Spoon Sampler, NQ
Requested Elevation: 484.6 **Location Note:** Offset due to guard rail. Offset and Stationing not measured.
Drill No.: G-9667 **Hammer Efficiency:** 92% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0		0.0-6.1' Tannish brown, LEAN CLAY, stiff, moist to wet	485						
5			480		87	2-3-6 (14)		PP = 1.50 tsf	MC = 18.0% γ_{wet} = 133 pcf(1)
10		6.1-14.9' Gray, LEAN CLAY, stiff, moist	475		93	3-2-4 (9)		PP = 2.00 tsf	MC = 26.3% γ_{wet} = 124 pcf(1) LL = 35 PL = 18
15		14.9-20.4' Gray mottled brown, LEAN CLAY, medium stiff to soft, wet	470		93	0-3-2 (8)		PP = 0.50 tsf	MC = 25.9% γ_{wet} = 124 pcf(1)
20			465		87	2-7-9 (25)		PP = 0.25 tsf	MC = 21.3% γ_{wet} = 129 pcf(1)
25		20.4-43.2' Gray and tan, CLAYEY GRAVEL, dense to loose, wet, fine to coarse grained	460		53	5-6-6 (18)			
30			455		33	7-7-7 (21)			
35			450		20	3-4-5 (14)			
40			445						

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

Coordinate System: Modified U.S. State Plane 1983 **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:** 1.00006611
Coordinate Datum: NAD 83 (CONUS) **Coordinate Units:** U.S. Survey Feet

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

(Continued Next Page)

Missouri Department of Transportation
Construction and Materials

BORING NO. V-22-25 (202)
Page 2 of 2

Job No.: J2P3043 **County:** Lincoln **Route:** 47
Design: A8736 **Skew:** 5 RA **Location:** Over US 61
Bent: 2 **Logged By:** Matthew Kistler **Operator:** Gary Degraffenreid
Station: **Northing:** 1148504.4 **Date of Work:** 05/03/22-05/03/22
Offset: **Easting:** 687963.5 **Depth to Water:** 14.9
Elevation: 485.0 **Requested Northing:** 1148520.1 **Depth Hole Open:** 16.5
Requested Station: 629+62 **Requested Easting:** 687949.8 **Time Change:** At Time of Drilling
Requested Offset: 24.7 L **Equipment:** Acker Renegade ,Split-Spoon Sampler, NQ
Requested Elevation: 484.6 **Location Note:** Offset due to guard rail. Offset and Stationing not measured.
Drill No.: G-9667 **Hammer Efficiency:** 92% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
40		20.4-43.2' Gray and tan, CLAYEY GRAVEL, dense to loose, wet, fine to coarse grained *(continued)*	445		20	4-1-((2)			
45		43.2-45.1' Limestone, highly weathered	440		0	16/0.1', 1'0/0'			
50		45.1-50.4' Cherty Limestone, tan to gray, thin bedded, very strong rock, moderately weathered to slightly weathered, fine to medium grained, Scattered Pitting	435		94 (58)		Qu Test Results UCS = 1340 ksf MC = 0% γ_{moist} = 160.1 pcf		
55		50.4-60.4' Cherty Limestone, tan to gray, thin bedded, very strong rock to strong rock, slightly weathered, Fine Grained	430		98 (42)		Qu Test Results UCS = 1230 ksf MC = 0% γ_{moist} = 163.2 pcf		
60			425		100 (90)		Qu Test Results UCS = 726 ksf MC = 0% γ_{moist} = 144.9 pcf		
65		60.4-70.3' Cherty Limestone, gray, medium bedded, very strong rock, slightly weathered, fine grained, Trace Pitting	420		100 (84)		Qu Test Results UCS = 1470 ksf MC = 0% γ_{moist} = 161.9 pcf		
70			415		90 (54)		Qu Test Results UCS = 1310 ksf MC = 0% γ_{moist} = 159.3 pcf		
		Bottom of borehole at 70.3 feet.							

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

Coordinate System: Modified U.S. State Plane 1983 **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:** 1.00006611
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STATE OF MISSOURI
CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/17/2023
ROUTE 47 STATE MO
DISTRICT BR SHEET NO. 31
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

DESCRIPTION . . . . . .
DATE . . . . . .

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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HR GREEN, INC.
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PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

BORING DATA

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

Detailed Sep. 2023
Checked Sep. 2023

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

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Missouri Department of Transportation
Construction and Materials

BORING NO. V-22-21 (303)
Page 1 of 2

Job No.: J2P3043 **County:** Lincoln **Route:** 47
Design: A8736 **Skew:** 5 RA **Location:** Over US 61
Bent: 3 **Logged By:** Ricardo Todd **Operator:** Gary Degraffenreid
Station: **Northing:** 1148450.6 **Date of Work:** 04/27/22-04/27/22
Offset: **Easting:** 688081.6 **Depth to Water:** 45.1
Elevation: 508.4 **Requested Northing:** 1148452.5 **Depth Hole Open:** 51.3
Requested Station: 630+88.7 **Requested Easting:** 688070.2 **Time Change:**
Requested Offset: 29.9 R **Equipment:** Acker Renegade ,Split-Spoon Sampler, NQ
Requested Elevation: 504.0 **Location Note:** Offset due to slope
Drill No.: G-9667 **Hammer Efficiency:** 92% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0		0.0-20.6' Brown, LEAN CLAY trace gravel, stiff, moist	505						
5				X	67	2-3-4 (11)		PP = 1.25 tsf	MC = 20.0% γ_{wet} = 130 pcf(1)
10			500	X	67	2-4-5 (14)		PP = 1.75 tsf	MC = 20.4% γ_{wet} = 130 pcf(1) LL = 35 PL = 17
15			495	X	67	1-3-5 (12)		PP = 1.50 tsf	MC = 20.5% γ_{wet} = 130 pcf(1)
20		20.6-23.2' Grayish brown, LEAN CLAY trace gravel, stiff, moist	490	X	67	2-5-5 (15)		PP = 2.00 tsf	MC = 15.6% γ_{wet} = 136 pcf(1) LL = 44 PL = 18
25		23.2-24.1' BOULDERS and cobbles 24.1-25.2' Grayish brown, LEAN CLAY trace gravel, very stiff, moist	485	X	67	3-7-6 (20)		PP = 2.25 tsf	MC = 20.2% γ_{wet} = 130 pcf(1) LL = 28 PL = 19
30		25.2-35.1' Brownish gray mottled, LEAN CLAY trace organics, stiff to very stiff, moist	480	X	67	2-4-5 (14)		PP = 1.75 tsf	MC = 23.3% γ_{wet} = 127 pcf(1)
35		35.1-45.1' Grayish brown mottled, LEAN CLAY trace gravel, very stiff to stiff, moist	475	X	67	3-5-4 (14)		PP = 2.00 tsf	MC = 19.2% γ_{wet} = 131 pcf(1) LL = 38 PL = 18
40			470						

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

Coordinate System: Modified U.S. State Plane 1983 **Coordinate Zone:** Missouri East **Coordinate Proj. Factor:** 1.00006611
Coordinate Datum: NAD 83 (CONUS) **Coordinate Units:** U.S. Survey Feet

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Missouri Department of Transportation
Construction and Materials

BORING NO. V-22-21 (303)
Page 2 of 2

Job No.: J2P3043 **County:** Lincoln **Route:** 47
Design: A8736 **Skew:** 5 RA **Location:** Over US 61
Bent: 3 **Logged By:** Ricardo Todd **Operator:** Gary Degraffenreid
Station: **Northing:** 1148450.6 **Date of Work:** 04/27/22-04/27/22
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Elevation: 508.4 **Requested Northing:** 1148452.5 **Depth Hole Open:** 51.3
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Requested Elevation: 504.0 **Location Note:** Offset due to slope
Drill No.: G-9667 **Hammer Efficiency:** 92% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
40		35.1-45.1' Grayish brown mottled, LEAN CLAY trace gravel, very stiff to stiff, moist *(continued)*	465	X	67	1-4-4 (12)		PP = 1.50 tsf	MC = 20.7% γ_{wet} = 130 pcf(1)
45		45.1-53.6' Brown, SAND with clay, loose, wet, fine grained	460	X	33	2-2-2 (6)			Sieve Analysis Sieve # % Passing #100 93.3 #80 89.6 #60 84.1 #40 80.3 #20 58.9 #10 34.3 #4 15.5 #200 12.1
50			455	X	67	2-2-1 (5)			
55		53.6-55.5' Limestone, highly weathered 55.5-65.5' Limestone, whitish gray, thin bedded, medium strong rock to strong rock, slightly weathered, fine grained	450	X	100	33/0.4'		Qu Test Results UCS = 333 ksf MC = 0% γ_{moist} = 140.6 pcf	
60			445	X	100	100 (38)		Qu Test Results UCS = 723 ksf MC = 0% γ_{moist} = 151.1 pcf	
65		Bottom of borehole at 65.5 feet.		X		86 (28)			

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

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STATE OF MISSOURI
CHRISTOPHER T. HERSINGER
NUMBER PE-2012018080
PROFESSIONAL ENGINEER

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DATE PREPARED 11/17/2023
ROUTE 47 STATE MO
DISTRICT BR SHEET NO. 32
COUNTY LINCOLN
JOB NO. J2P3043
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8736

DESCRIPTION . . . . . .
DATE . . . . . .

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

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Checked Sep. 2023

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