MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED STATE HIGHWAY JACKSON COUNTY



KEY MAP
LOCATION OF JACKSON COUNTY

DESIGN DESIGNATION US-71

A.A.D.T. - 2026 = 86,000
A.A.D.T. - 2046 = 95,000
D.H.V. = 8%
T = 11%
V = 65 M.P.H.
D = 50%

FUNCTIONAL CLASSIFICATION - MAJOR COLLECTOR

DESIGN DESIGNATION BANNISTER ROAD (ROUTE W)

A.A.D.T. - 2026 = 21,000
A.A.D.T. - 2046 = 28,000
D.H.V. = 10%
T = 4%
V = 40 M.P.H.
D = 50%

FUNCTIONAL CLASSIFICATION - MINOR ARTERIAL

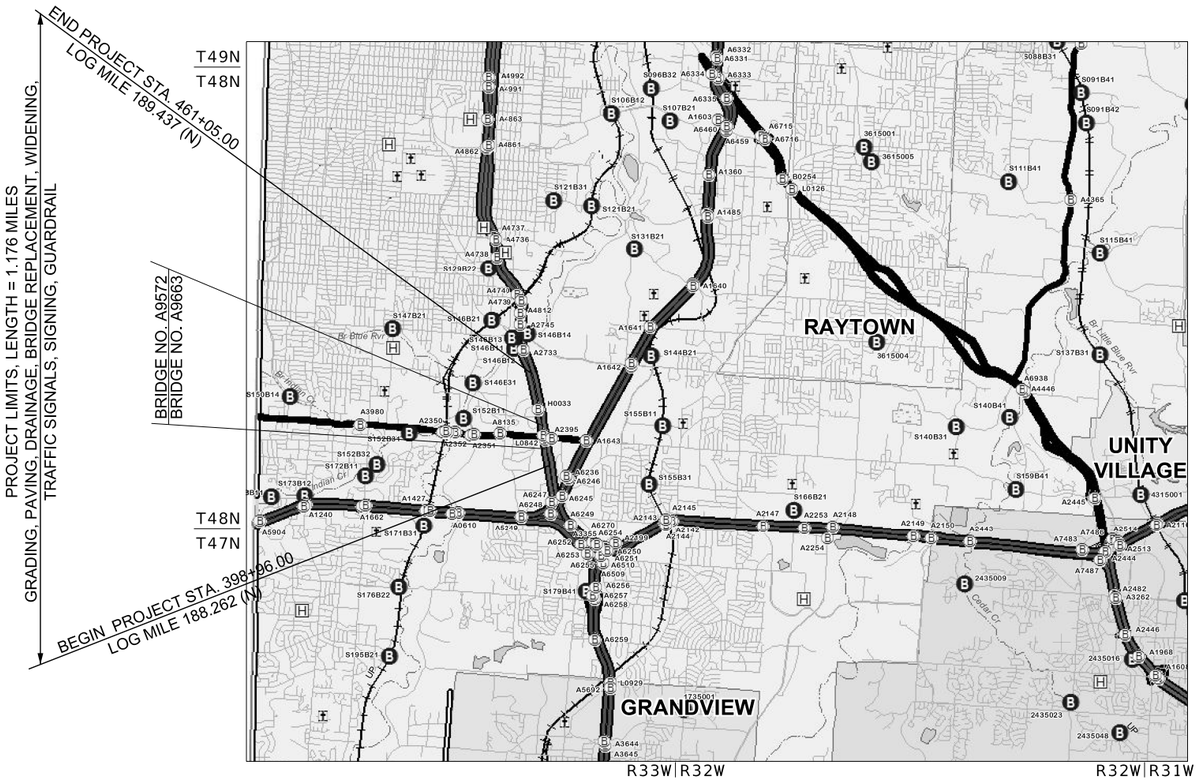
NO RIGHT-OF-WAY ACQUISITION.

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



N.T.S.

KANSAS CITY, JACKSON COUNTY, MISSOURI
SECTIONS (22, 26, 27) TOWNSHIP 48, RANGE 33

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.

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (TS) (07 SHEETS)	2
QUANTITIES (QU) (9 SHEETS)	3
PLAN (PL)	4 - 9
PROFILE (PR)	10 - 22
REFERENCE POINTS (RP)	23
COORDINATE POINTS (CP)	24
SPECIAL SHEETS (SS)	25 - 28
DRAINAGE SHEETS (DR)	29 - 45
TRAFFIC CONTROL SHEETS (TC)	46 - 79
EROSION CONTROL SHEETS (EC)	80 - 89
LIGHTING (LT)	90 - 95
SIGNALS (SG)	96 -101
ITS (ITS)	102-105
SIGNING (SN)	106-132
PAVEMENT MARKING (PM)	133-141
BRIDGE DRAWINGS (B)	
A9572	1 - 39
A9663	1 - 41
H00336	1 - 8
A23951	1 - 2
CROSS SECTIONS (XS)	1 - 93

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA.	398+96.00
END OF PROJECT	STA.	461+05.00
APPARENT LENGTH		6,209.0 FEET
EQUATIONS AND EXCEPTIONS:		NONE
TOTAL CORRECTIONS		0.00 FEET
NET LENGTH OF PROJECT		6209.0 FEET
STATE LENGTH		1.176 MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES		5.9 ACRES

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MISSOURI.
SEALED AND DATED ELECTRONICALLY

DATE PREPARED: 10/31/2025
ROUTE: 71 | STATE: MO
DISTRICT: KC | SHEET NO.: 1
COUNTY: JACKSON
JOB NO.: J4S3490
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)

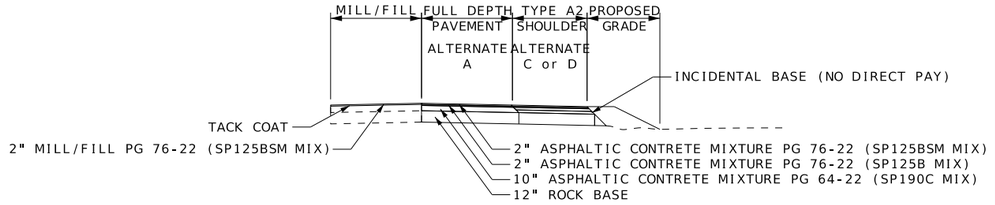
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

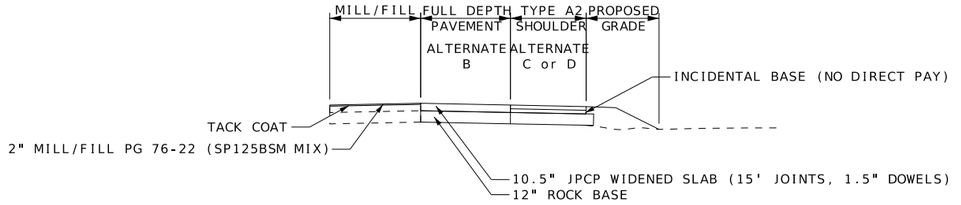
TREKK DESIGN GROUP, LLC

US-71 ALTERNATE PAVEMENT

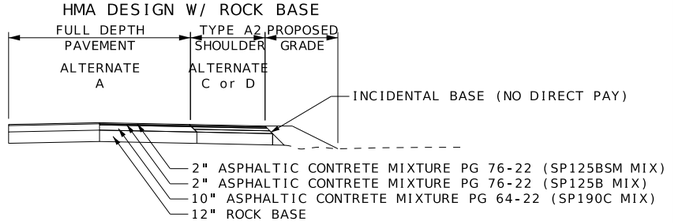
OUTSIDE WIDENING
HMA DESIGN W/ ROCK BASE



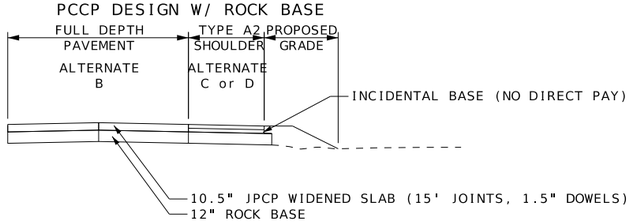
OUTSIDE WIDENING
PCCP DESIGN W/ ROCK BASE



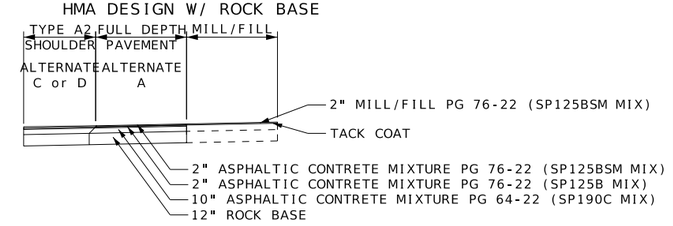
FULL RECONSTRUCTION
HMA DESIGN W/ ROCK BASE



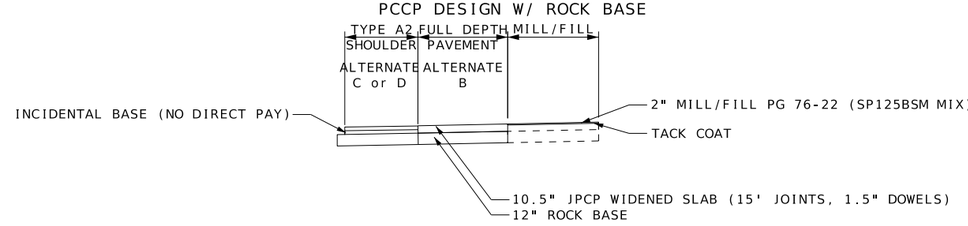
FULL RECONSTRUCTION
PCCP DESIGN W/ ROCK BASE



INSIDE WIDENING
HMA DESIGN W/ ROCK BASE

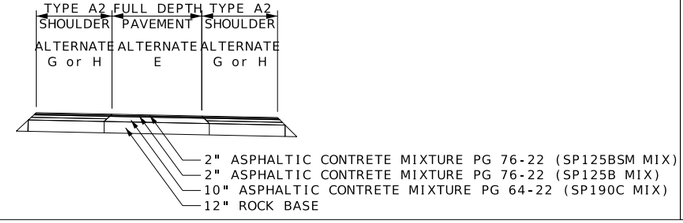


INSIDE WIDENING
PCCP DESIGN W/ ROCK BASE

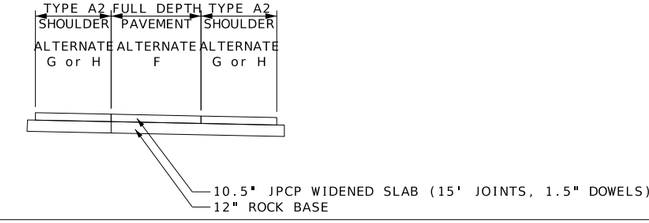


US-71 RAMPS ALTERNATE PAVEMENT

FULL RECONSTRUCTION
HMA DESIGN W/ ROCK BASE



FULL RECONSTRUCTION
PCCP DESIGN W/ ROCK BASE



ASPHALT ESTIMATE FACTORS ✳	
ASPHALTIC CONTRETE MIXTURE, PG 76-22 (SP125BSM)	1.965 TONS/C.Y.
TACK COAT (EXIST. OR MILLED SURFACE)	0.10 GAL/S.Y.
TACK COAT (BETWEEN LIFTS) ✳✳	0.05 GAL/S.Y.

✳FOR INFORMATION ONLY
✳✳NO DIRECT PAY

ASPHALT ALTERNATE USED TO DESIGN THE PROJECT

DESIGNED PAVEMENT THICKNESSES BASED ON FULL DEPTH PAVEMENT WIDTH EXTENDED A MINIMUM OF 1.5-FEET BEYOND THE STRIPED EDGE LINE LOCATION.

SHOULDERS 4' OR LESS IN WIDTH MAY BE CONSTRUCTED AS FULL DEPTH PAVEMENT AS PART OF TRAVEL WAY.

US-71
TYPICAL SECTIONS
SHEET 1 OF 7

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MISSOURI.

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

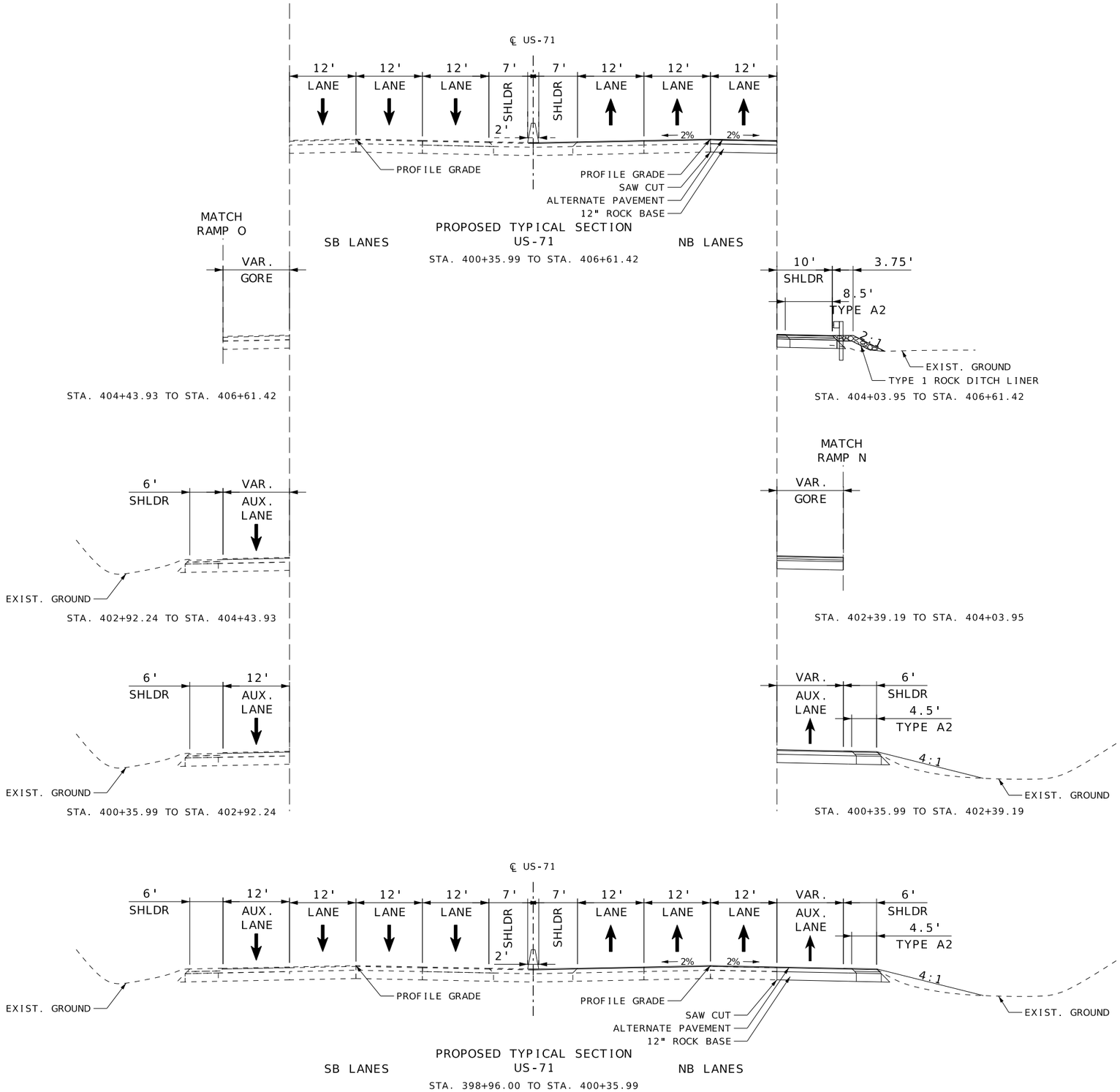
DATE PREPARED: 11/12/2025
ROUTE: 71 | STATE: MO
DISTRICT: KC | SHEET NO.: 2
COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

REV.	DESCRIPTION	DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4655
Fax: (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300



US-71
TYPICAL SECTIONS
SHEET 2 OF 7

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/31/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	2

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

REV.

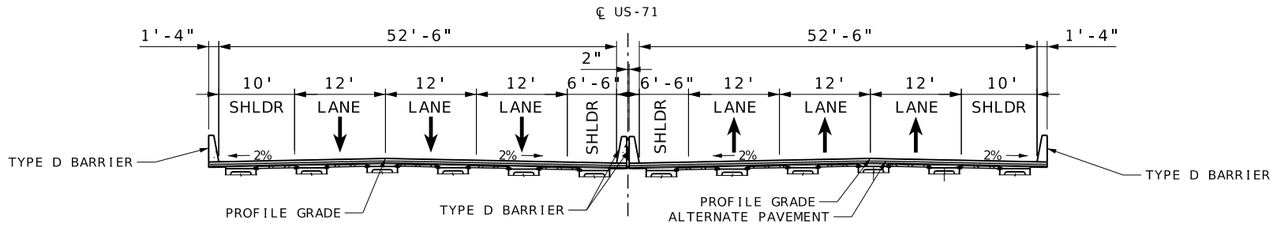
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

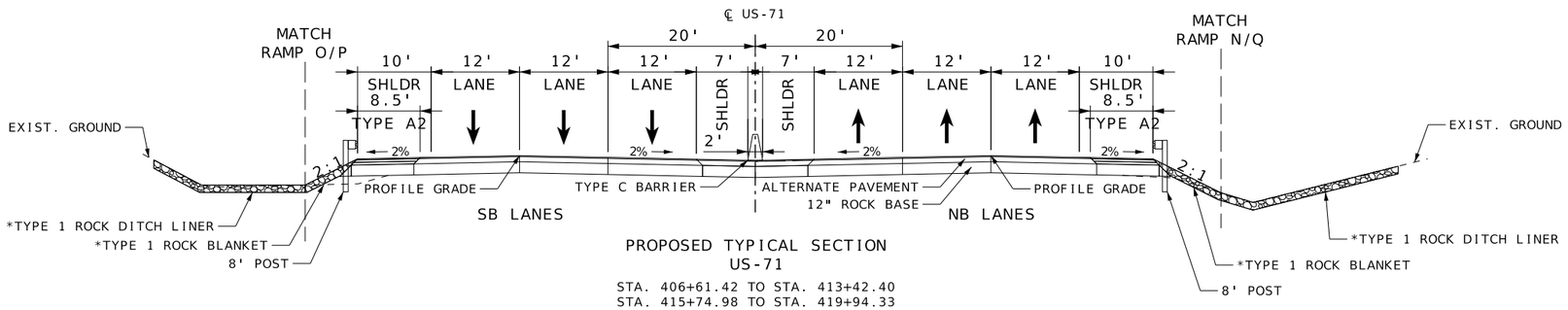
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

002_TS_02_J4S3490_I10_US_71.dgn 11:23:59 AM 10/31/2025



PROPOSED TYPICAL SECTION ON BRIDGE
US-71

STA. 413+42.40 TO STA. 415+74.98



PROPOSED TYPICAL SECTION
US-71

STA. 406+61.42 TO STA. 413+42.40
STA. 415+74.98 TO STA. 419+94.33

*SEE PLAN AND PERMANENT EROSION CONTROL SHEETS FOR LIMITS OF TYPE 1 ROCK BLANKET AND TYPE 1 ROCK DITCH LINER.

US-71
TYPICAL SECTIONS
SHEET 3 OF 7

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MISSOURI.

DATE PREPARED
10/31/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	2

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

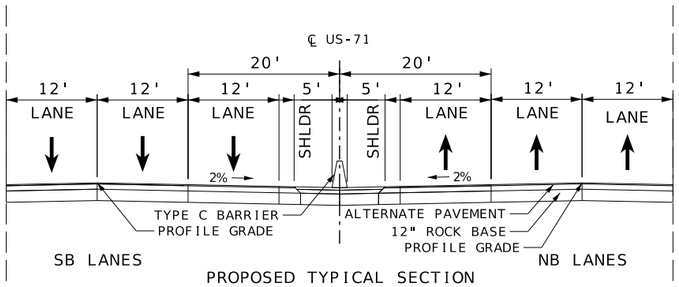
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

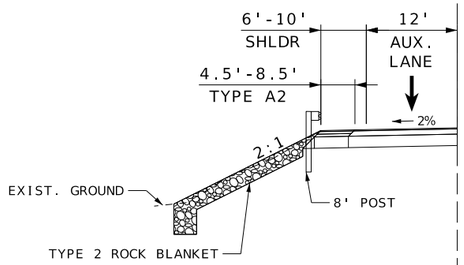
REV.

002_TS_03_J4S3490_I10_US_71.dgn 11:24:00 AM 10/31/2025

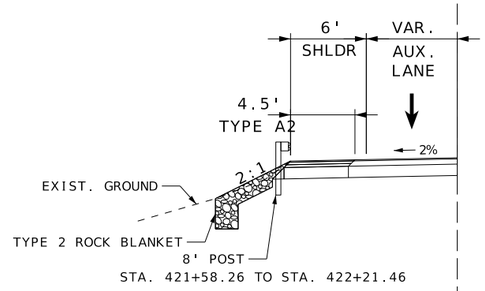


PROPOSED TYPICAL SECTION
US-71

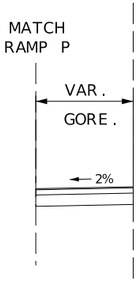
STA. 419+94.33 TO STA. 428+50.00



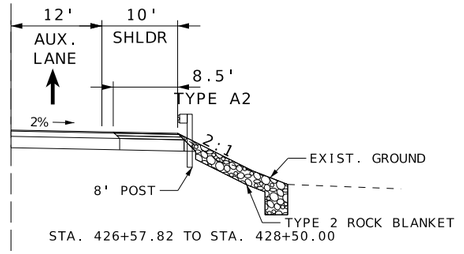
STA. 422+21.46 TO STA. 428+50.00



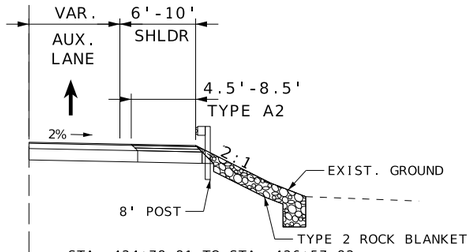
STA. 421+58.26 TO STA. 422+21.46



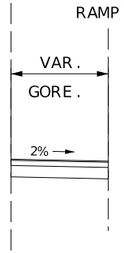
STA. 419+94.33 TO STA. 421+58.26



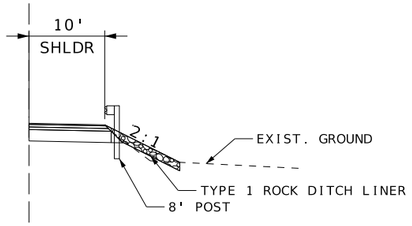
STA. 426+57.82 TO STA. 428+50.00



STA. 424+78.81 TO STA. 426+57.82



STA. 423+00.96 TO STA. 424+78.81



STA. 419+94.33 TO STA. 423+00.96

US-71
TYPICAL SECTIONS
SHEET 4 OF 7

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I HEREBY CERTIFY THAT THIS PLAN WAS SIGNED AND DATED ELECTRONICALLY

DATE PREPARED 10/31/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	2

COUNTY JACKSON

JOB NO. J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

REV.

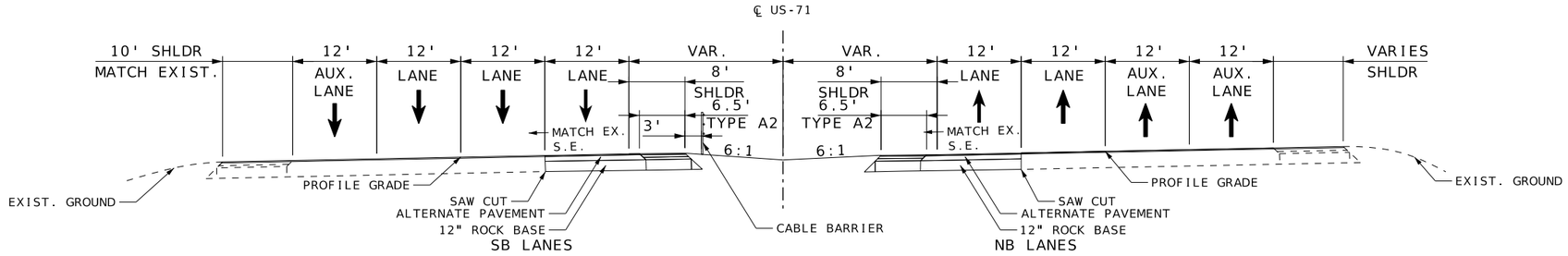
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

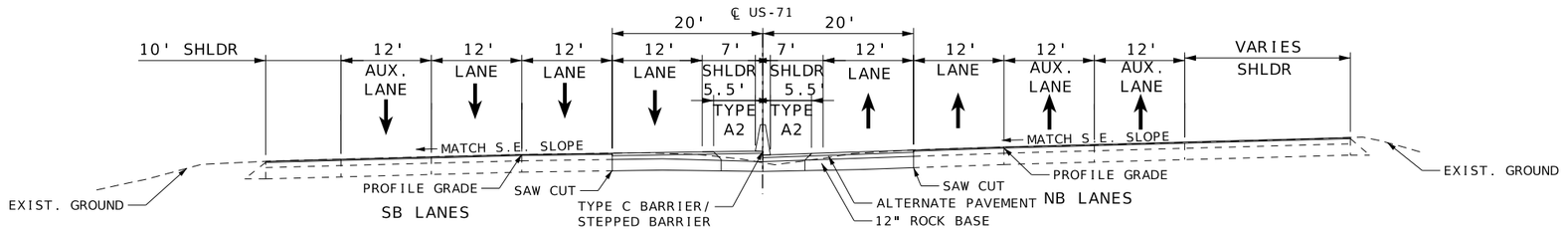
Missouri Cert. of Authority 2002010300

002_TS_04_J4S3490_I10_US_71.dgn 11:24:01 AM 10/31/2025



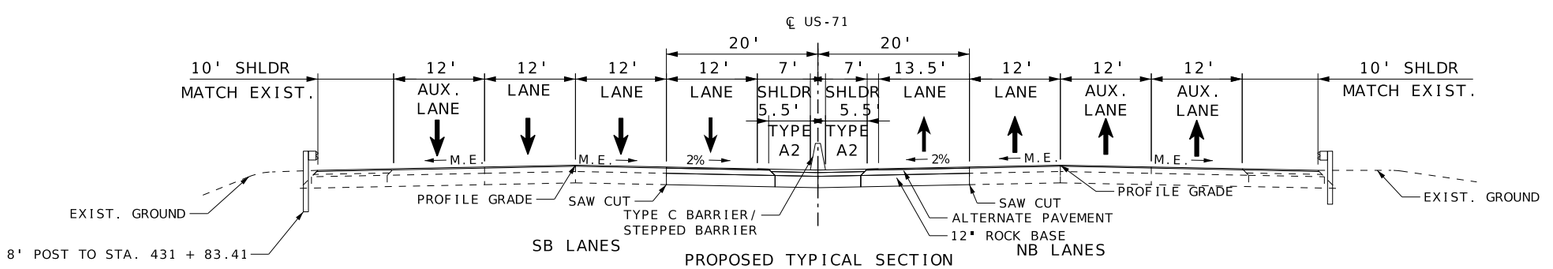
PROPOSED TYPICAL SECTION FOR SUPERELEVATION
US-71

STA. 456+58.94 TO STA. 461+05.00



PROPOSED TYPICAL SECTION FOR SUPERELEVATION
US-71

STA. 444+25.00 TO STA. 456+58.94



PROPOSED TYPICAL SECTION
US-71

STA. 428+50.00 TO STA. 444+25.00

US-71
TYPICAL SECTIONS
SHEET 5 OF 7

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I'M LOCKED AND KEY'D. #EMAIL SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/31/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	2

COUNTY
JACKSON

JOB NO.
J4S3490

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

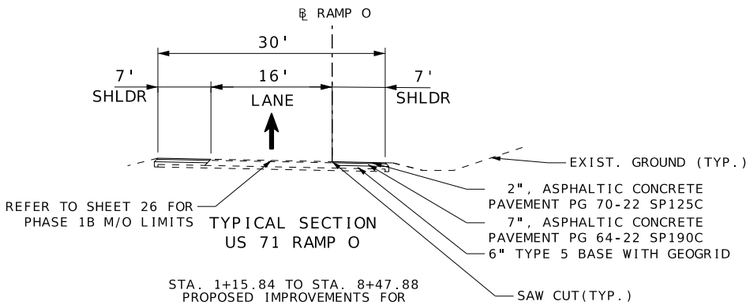
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

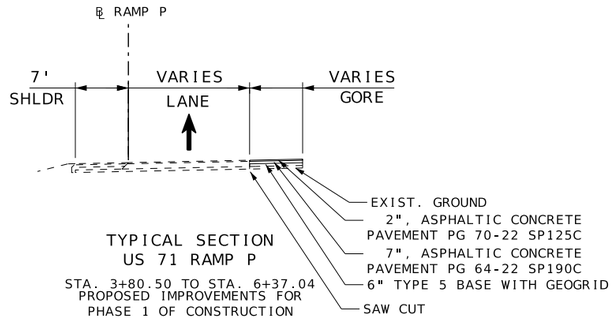
REV.

002_TS_05_J4S3490_I10_US_71.dgn 11:24:02 AM 10/31/2025



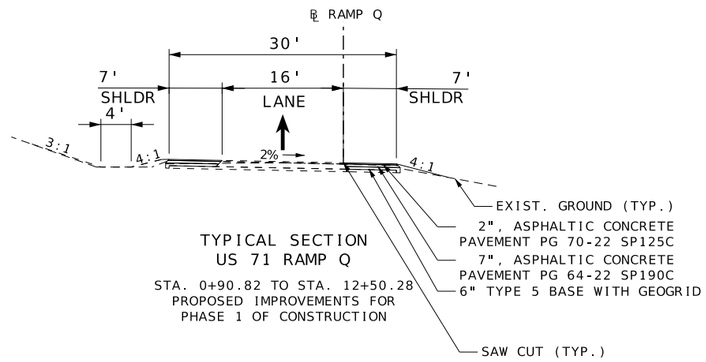
TYPICAL SECTION
US 71 RAMP O

STA. 1+15.84 TO STA. 8+47.88
PROPOSED IMPROVEMENTS FOR
PHASE 1 OF CONSTRUCTION



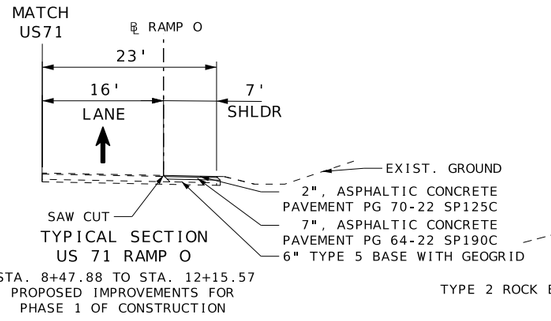
TYPICAL SECTION
US 71 RAMP P

STA. 3+80.50 TO STA. 6+37.04
PROPOSED IMPROVEMENTS FOR
PHASE 1 OF CONSTRUCTION



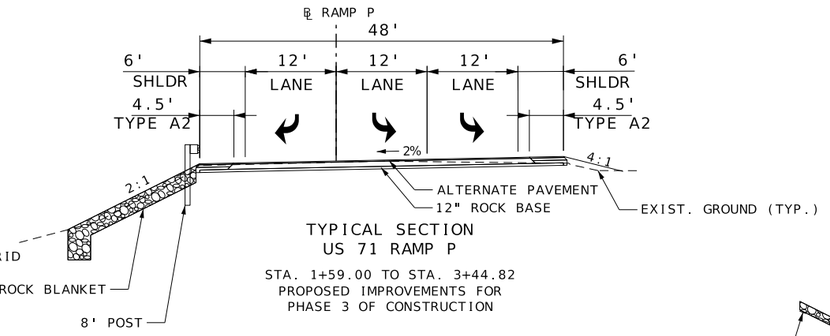
TYPICAL SECTION
US 71 RAMP Q

STA. 0+90.82 TO STA. 12+50.28
PROPOSED IMPROVEMENTS FOR
PHASE 1 OF CONSTRUCTION



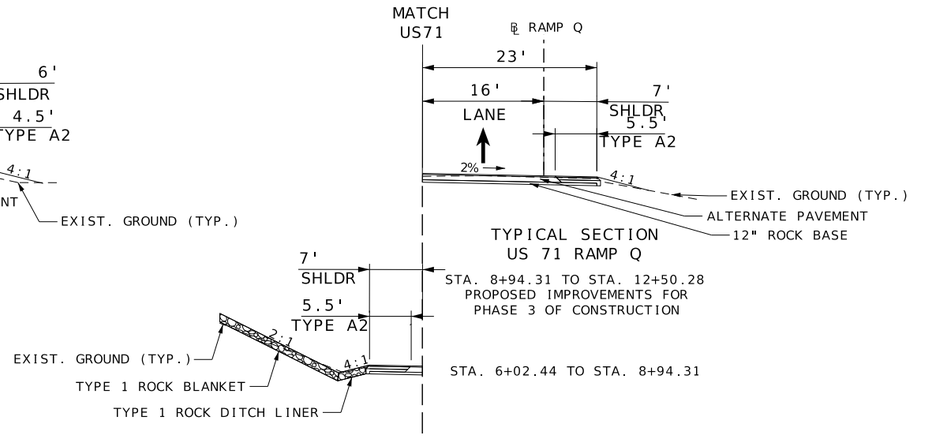
TYPICAL SECTION
US 71 RAMP O

STA. 8+47.88 TO STA. 12+15.57
PROPOSED IMPROVEMENTS FOR
PHASE 1 OF CONSTRUCTION



TYPICAL SECTION
US 71 RAMP P

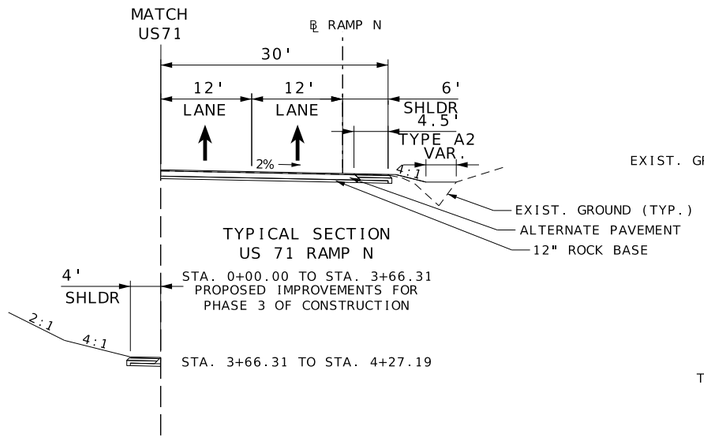
STA. 1+59.00 TO STA. 3+44.82
PROPOSED IMPROVEMENTS FOR
PHASE 3 OF CONSTRUCTION



TYPICAL SECTION
US 71 RAMP Q

STA. 8+94.31 TO STA. 12+50.28
PROPOSED IMPROVEMENTS FOR
PHASE 3 OF CONSTRUCTION

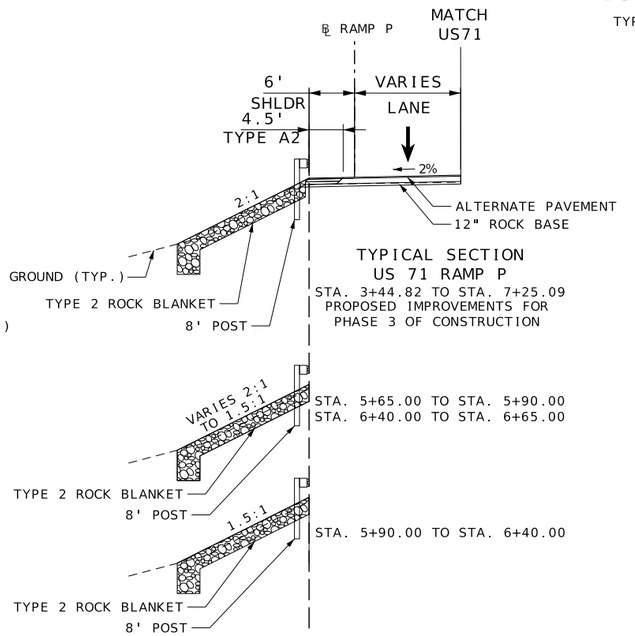
STA. 6+02.44 TO STA. 8+94.31



TYPICAL SECTION
US 71 RAMP N

STA. 0+00.00 TO STA. 3+66.31
PROPOSED IMPROVEMENTS FOR
PHASE 3 OF CONSTRUCTION

STA. 3+66.31 TO STA. 4+27.19



TYPICAL SECTION
US 71 RAMP P

STA. 3+44.82 TO STA. 7+25.09
PROPOSED IMPROVEMENTS FOR
PHASE 3 OF CONSTRUCTION

STA. 5+65.00 TO STA. 5+90.00
STA. 6+40.00 TO STA. 6+65.00

STA. 5+90.00 TO STA. 6+40.00

US-71 RAMPS
TYPICAL SECTIONS
SHEET 6 OF 7

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED: 11/10/2025
ROUTE: 71 | STATE: MO
DISTRICT: KC | SHEET NO.: 2
COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

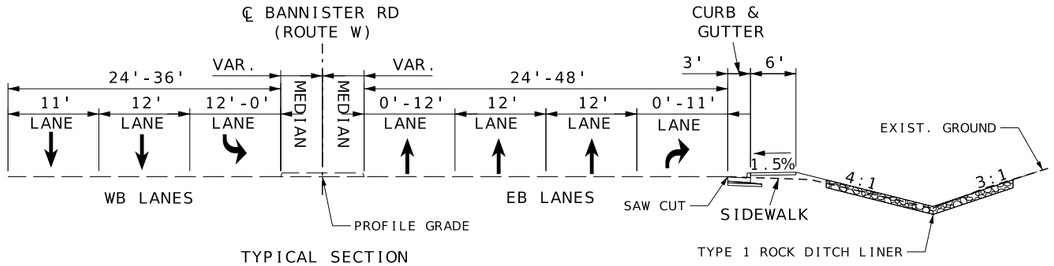
DESCRIPTION | DATE | REV.

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

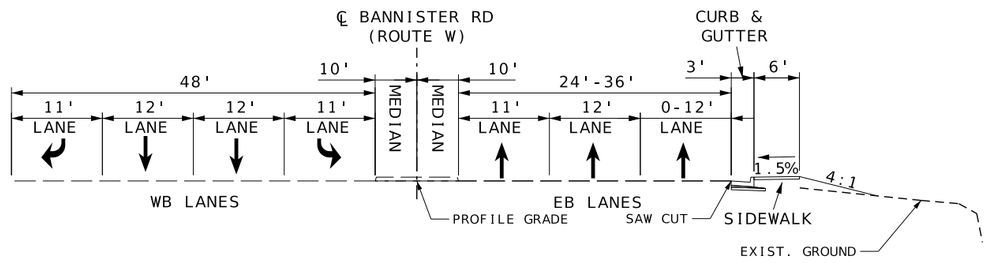
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

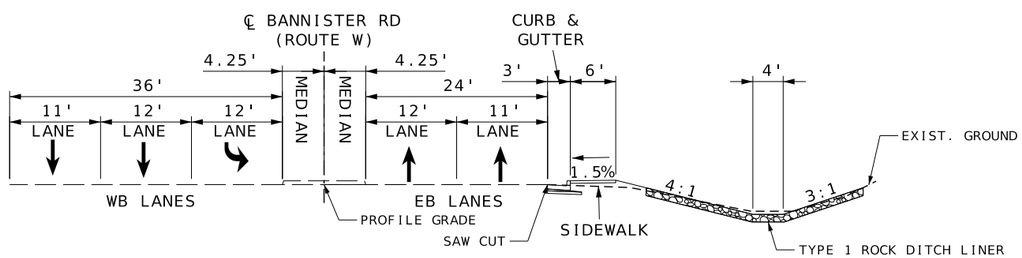


TYPICAL SECTION
BANNISTER ROAD (ROUTE W)
STA. 205+01.87 TO STA. 207+87.60

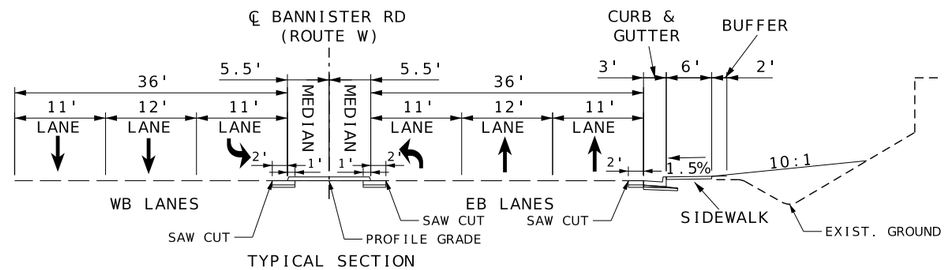


TYPICAL SECTION
BANNISTER ROAD (ROUTE W)
STA. 211+50.77 TO STA. 212+51.35

OPTIONAL PAVEMENT	
ASPHALT OPTION	CONCRETE OPTION
2" SP125C w/ PG 70-22 Over 2" SP125C w/ PG 70-22 Over 7" SP190C w/ PG 64-22 6" TYPE 5 BASE	9" JPCP WIDENED SLAB 15 FT. JOINT SPACING 1.5" DOWELS 6" TYPE 5 BASE



TYPICAL SECTION
BANNISTER ROAD (ROUTE W)
STA. 203+11.06 TO STA. 205+01.87



TYPICAL SECTION
BANNISTER ROAD (ROUTE W)
STA. 207+87.60 TO STA. 211+50.77

BANNISTER ROAD (ROUTE W)
TYPICAL SECTIONS
SHEET 7 OF 7

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
11/12/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	2

COUNTY
JACKSON

JOB NO.
J4S3490

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

002_TS_07_J4S3490_I10_Bannister.dgn 9:59:31 AM 11/12/2025

MOBILIZATION
1 LUMP SUM

ADDITIONAL MOBILIZATION FOR SEEDING
3 EACH

CONTRACTOR FURNISHED SURVEYING AND STAKING
1 LUMP SUM

CLEARING AND GRUBBING
2 ACRE

REMOVAL OF IMPROVEMENTS

SHEET NO.	ROADWAY	FROM STA.	TO STA.	OFFSET (FT)	SIDE	ITEM	QUANTITY	UNIT
4-5	US-71	404+65.25	413+40.31	55.16	RT	GUARDRAIL	648	LF
5	US-71	415+53.46	421+27.91	47.38	RT	GUARDRAIL	576	LF
5	US-71	415+76.57	419+39.09	47.08	LT	GUARDRAIL	363	LF
5-6	US-71	415+68.81	423+05.63	16.69	LT	GUARDRAIL	738	LF
5	US-71	418+60.82	421+85.98	14.95	RT	GUARDRAIL	326	LF
5-8	US-71	421+37.58	461+05.00	8.42	LT	GUARDRAIL CABLE	3354	LF
6	US-71	422+21.46	431+83.32	62	LT	GUARDRAIL	895	LF
6-7	US-71	426.57.82	440+87.76	66	RT	GUARDRAIL	1430	LF
7	US-71	444+51.23	446+27.44	4.54	RT	GUARDRAIL	176	LF
7	US-71	445+21.00	446+87.61	4.91	LT	GUARDRAIL	167	LF
5-6	RAMP P	4+74.07	7+25.09	6.84	LT	GUARDRAIL	251	LF
5-6	RAMP Q	8+67.15	12+50.28	8.04	RT	GUARDRAIL	382	LF
5	US-71	419+29.01		57.69	LT	SIGN	1	EACH
5	US-71	419+64.49		61.14	RT	SIGN	1	EACH
7	US-71	421+72.02			LT	SIGNS & TRUSS	1	EACH
7	US-71	432+83.54			LT	SIGNS & TRUSS	1	EACH
7	US-71	445+71.77			LT	SIGNS & TRUSS	1	EACH
4	RAMP N	4+65.32		30.8	LT	SIGN	1	EACH
4	RAMP N	5+07.49		34.95	LT	SIGN	1	EACH
5	RAMP N	10+57.97		17.87	RT	SIGN	1	EACH
4	RAMP O	6+77.66		31.71	LT	SIGN	1	EACH
9	RAMP P	1+34.71		26.24	LT	SIGN	1	EACH
5	RAMP P	3+57.96		19.52	LT	SIGN	1	EACH
5	RAMP P	3+58.12		32.85	RT	SIGN	1	EACH
5	RAMP P	3+83.41		35.83	RT	SIGN	1	EACH
5	RAMP P	6+75.12		12.08	LT	SIGN	1	EACH
9	BANNISTER	203+22.64		56.47	RT	SIGN	1	EACH
9	BANNISTER	203+56.20		51.27	RT	SIGN	1	EACH
9	BANNISTER	204+00.33		50.69	LT	SIGN	1	EACH
9	BANNISTER	206+41.93		59.03	LT	SIGN	1	EACH
9	BANNISTER	204+68.92		45.45	RT	SIGN	1	EACH
9	BANNISTER	207+14.14		68.4	LT	SIGN	1	EACH
9	BANNISTER	207+31.15		65.29	RT	SIGN	1	EACH
9	BANNISTER	207+41.87		63.66	RT	SIGN	1	EACH
4-5	US-71	400+35.99	412+94.12		RT	PAVEMENT & SHOULDERS	32180.6	SF
4-5	US-71	406+61.42	412+94.12		LT	PAVEMENT & SHOULDERS	24675.0	SF
5-8	US-71	416+23.26	461+05.00		RT	PAVEMENT & SHOULDERS	93969.5	SF
5-8	US-71	416+23.26	461+05.00		LT	PAVEMENT & SHOULDERS	100980.0	SF
4	RAMP N	0+00.00	4+27.19		LT	PAVEMENT & SHOULDERS	11403.0	SF
5	RAMP P	1+59.00	7+25.09		RT	PAVEMENT & SHOULDERS	15921.0	SF
5-6	RAMP Q	6+02.44	12+50.28		LT	PAVEMENT & SHOULDERS	11524.0	SF
5	BANNISTER	213+21.61	214+84.17		RT/LT	PAVEMENT & SHOULDERS	6947.8	SF
9	BANNISTER	207+90.49	208+12.05		RT	ISLAND	24.3	SY
9	BANNISTER	211+59.96	211+93.12		RT	ISLAND	61.4	SY
9	BANNISTER	208+73.57	210+78.74		RT/LT	CONCRETE MEDIAN	192.9	SY
9	BANNISTER	211+30.48	211+40.50	45	LT	ISLAND	6.8	SY
4	US-71	398+96.00	400+35.99	44	RT	SAWCUT	140	LF
4	US-71	400+35.99	406+61.42	32	RT	SAWCUT	625	LF
6-8	US-71	428+50.00	461+05.00	20	LT	SAWCUT	3229	LF
6-8	US-71	428+50.00	461+05.00	20	RT	SAWCUT	3260	LF
9	BANNISTER	208+68.40	210+83.61		RT/LT	SAWCUT	448	LF
9	BANNISTER	210+59.90		2	LT	PULL BOX	1	EACH
9	BANNISTER	211+63.89		48.1	RT	PULL BOX	1	EACH
9	BANNISTER	211+70.68		63.2	RT	PULL BOX	1	EACH
9	BANNISTER	208+94.50		3.2	LT	PULL BOX	1	EACH
9	BANNISTER	208+04.28		49.1	LT	PULL BOX	1	EACH
9	BANNISTER	208+12.61		59.4	LT	PULL BOX	1	EACH
9	BANNISTER	203+56.23		48	RT	SIGN ASSEMBLY	1	EACH
9	BANNISTER	207+42.42		49	RT	SIGN ASSEMBLY	1	EACH
9	BANNISTER	211+33.23		48	LT	SIGN ASSEMBLY	1	EACH
4,5,6	US-71	405+57.42	424+77.62		RT	ITS CABLE	2082	LF
4,5,6	US-71	411+77.08	415+95.47		RT	COLD MILL TEMP. PAV. (RAMP N&Q)	1611	SY
4,5,6	US-71	412+98.96	415+86.45		LT	COLD MILL TEMP. PAV. (RAMP O&P)	887	SY
						PROJECT TOTAL	1 LUMP SUM	

EARTHWORK

ROADWAY	STATION BEGIN	STATION END	CLASS A EXCAVATION (CY)	COMPACTING EMBANKMENT (CY)	COMPACTING IN CUT STA.
71	398+96.00	461+05.00	18798	3597	
BANNISTER	203+23.54	211+15.00	400	672	
RAMP N	0+00.00	12+74.50	1581	42	
RAMP P	1+59.00	7+25.09	474	788	
RAMP Q	6+00.00	12+50.27	517	1158	
DETENTION BASIN	203+71.12	207+36.66	4044	63	
US-71	398+96.00	412+94.12			14
US-71	416+23.26	428+50.00			12
US-71	428+50.00	461+05.00			33
		PROJECT TOTAL	25814	6320	59

CONCRETE TRAFFIC BARRIER

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	CONCRETE TRAFFIC BARRIER, TYPE C (LF)
4-5	US-71	406+61.42	413+42.40	LT/RT	681
5-8	US-71	415+74.98	456+58.94	LT/RT	4084
			PROJECT TOTAL		4765

COLDMILLING

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	LENGTH	WIDTH	COLDMILLING 3 IN OR LESS (SY)	REMARKS
4	US-71	398+96.00	406+61.42	765.42	44	2762	SOUTH OF BRIDGES
6-8	US-71	428+50.00	461+05.00	3228.65	46	16413	SB NORTH OF BRIDGES
6-8	US-71	428+50.00	461+05.00	3259.61	46	17921	NB NORTH OF BRIDGES
4,5,6	US-71	411+77.08	415+95.47	418.39	28	1611	NB RAMP TEMP PAV
4,5,6	US-71	412+98.96	415+86.45	287.49	28	887	SB RAMP TEMP PAV
			PROJECT TOTAL			39594	

SIDEWALK

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	CONCRETE SIDEWALK, 4 IN. (SY)	CONCRETE CURB RAMP (SY)	TRUNCATED DOMES (SF)
9	BANNISTER	203+23.54	207+89.92	RT	343.1		
9	BANNISTER	203+11.06	203+38.64	RT			30
9	BANNISTER	203+26.64	203+50.64	RT		104.7	
9	BANNISTER	207+69.63	207+88.85	R		114	
9	BANNISTER	207+83.86	207+89.92	RT			12
9	BANNISTER	207+95.41	208+15.18	RT	11.8	82.7	-
9	BANNISTER	207+96.34	208+02.40	RT			12
9	BANNISTER	208+11.30	208+14.35	RT			12
9	BANNISTER	208+43.36	211+28.62	RT	195.3		-
9	BANNISTER	208+37.79	208+40.84	RT			12
9	BANNISTER	211+23.71	211+25.71	RT			12
9	BANNISTER	211+59.71	211+86.33	RT	16.8	128.4	
9	BANNISTER	211+60.66	211+62.58	RT			12
9	BANNISTER	211+80.75	211+85.77	RT			12
9	BANNISTER	214+26.14	215+25.00	RT	7.1		
			PROJECT TOTAL		574.1	429.8	114

SUMMARY OF QUANTITIES
SHEET 1 OF 9

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM AUTHORIZED BY MODOT TO SEAL AND DATE ELECTRONICALLY

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	3

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

REV.

SHOULDER

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	TYPE A2 SHOULDER (SY)
4-5	US-71	402+70.55	412+94.12	RT	1044
4-5	US-71	406+61.42	412+94.12	LT	608
4-5	US-71	406+61.42	412+94.12	LT/RT	914
5	US-71	416+23.26	421+21.52	LT	438
5-6	US-71	416+23.26	424+64.39	RT	763
5-8	US-71	416+23.26	461+05.00	LT/RT	7099
5-6	US-71	416+62.16	428+50.00	LT	267
5-6	US-71	420+14.43	428+50.00	RT	605
4	RAMP N	0+00.00	4+27.19	RT	284
5-6	RAMP P	1+59.00	5+34.46	RT	171
5	RAMP Q	6+02.44	9+12.73	LT	190
			PROJECT TOTAL		12383

SHOULDER

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	TYPE A2 SHDR ALT. C-D (SY)	TYPE A2 SHDR ALT. G-H (SY)
4-5	US-71	402+70.55	412+94.12	RT	1044	
4-5	US-71	406+61.42	412+94.12	LT	608	
4-5	US-71	406+61.42	412+94.12	LT/RT	914	
5	US-71	416+23.26	421+21.52	LT	438	
5-6	US-71	416+23.26	424+64.39	RT	763	
5-8	US-71	416+23.26	461+05.00	LT/RT	7099	
5-6	US-71	416+62.16	428+50.00	LT	267	
5-6	US-71	420+14.43	428+50.00	RT	605	
4	RAMP N	0+00.00	4+27.19	RT		284
5-6	RAMP P	1+59.00	5+34.46	RT		171
5	RAMP Q	6+02.44	9+12.73	LT		190
				PROJECT TOTAL	11738	645

CONCRETE APPROACH PAVEMENT

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	CONCRETE APPROACH PAVEMENT (SY)
5	US-71	412+94.12	413+35.68	339.3
5	US-71	415+81.70	416+23.26	339.3
	PROJECT TOTAL			678.6

AGGREGATE

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	FURNISHING 12" ROCK BASE (SY)	PLACING 12" ROCK BASE W/ GEOGRID (SY)	SEPARATION GEOTEXTILE (SY)	6" TYPE 5 BASE W/ GEOGRID (SY)
	US-71	398+96.00	412+94.12	RT/LT	10630	10630	10630	
	US-71	416+23.26	461+05.00	RT/LT	34694	34694	34694	
4-5	RAMP O	1+99.98	11+48.02	RT			792	792
4-5	RAMP O	2+76.71	11+07.44	LT			588	588
5-6	RAMP P	1+59.00	6+37.57	RT			142	142
5-6	RAMP Q	0+66.87	6+02.44	LT			397	397
5-6	RAMP Q	0+90.58	6+02.44	RT			399	399
			PROJECT TOTAL		45324	45324	47642	2318

FULL DEPTH PAVEMENT REPAIR

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	FURNISHING AND PLACING CONCRETE MATERIAL FOR FULL DEPTH PAV. (SY)	SUBGRADE COMPACTION (6IN DEPTH) (SY)	TYPE 1 OR 5 AGGREGATE FOR BASE (SY)	FULL DEPTH PAV. REPAIR SAW CUT (LF)	DOWEL BAR FOR FULL DPTH PAV. REPAIR (EACH)
4	US-71	398+96.00	406+61.42	RT	8.0	0.4	0.4	36	24
4	US-71	398+96.00	406+61.42	RT	8.0	0.4	0.4	36	24
6	US-71	428+50.00	435+00.00	RT/LT	8.0	0.4	0.4	36	24
6	US-71	428+50.00	435+00.00	RT/LT	8.0	0.4	0.4	36	24
7	US-71	435+00.00	449+00.00	RT/LT	8.0	0.4	0.4	36	24
7	US-71	435+00.00	449+00.00	RT/LT	8.0	0.4	0.4	36	24
7	US-71	435+00.00	449+00.00	RT/LT	8.0	0.4	0.4	36	24
8	US-71	449+00.00	461+05.00	RT/LT	8.0	0.4	0.4	36	24
8	US-71	449+00.00	461+05.00	RT/LT	8.0	0.4	0.4	36	24
8	US-71	449+00.00	461+05.00	RT/LT	8.0	0.4	0.4	36	24
			TOTAL		80.0	4	4	360	240

GUARDRAIL / GUARD CABLE

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	MGS GUARDRAIL 8FT. POST 6FT. -3 IN. SPACING (LF)	MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR/NO CURB) (EACH)	TYPE A CRASHWORTHY END 6FT. -3 IN. SPACING (EACH)	MGS END ANCHOR (EACH)	HIGH TENSION GUARD CABLE (LF)	TYPE C CRASHWORTHY END TERMINAL (MASH) (EACH)
4-5	US-71	404+08.98	413+22.61	RT	862.5	1	1			
4-5	US-71	406+99.17	413+49.17	LT	650	1		1		
5	US-71	415+68.34	421+30	RT	526.5	1		1		
5	US-71	415+94.77	419+46.33	LT	300	1	1			
5-6	US-71	417+03.48	431+86.40	RT	1437.5		1	1		
5-7	US-71	422+74.46	440+86.21	RT	1762.5		1	1		
8	US-71	456+83.95	461+05.04	LT	-				421	
	US-71	456+58.94	456+81.69	LT/RT						1
			PROJECT TOTAL		5539	4	4	4	421	1

PAVEMENT

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	US-71 ALT. A-B PAVEMENT (SY)	RAMP ALT. E-F PAVEMENT (SY)	9" SP125C SHOULDER PAVEMENT (SY)	BANNISTER OPTIONAL PAVEMENT (SY)	ASPHALTIC CONCRETE 2" SP125BSM W/ PG76-22 (TON)	ASPHALTIC CONCRETE 2" & VARIABLE DEPTH SP125C W/ PG70-22 (TON)	TACK COAT (GAL)
4	US-71	398+96.00	400+35.99	RT	210.0						21
4	US-71	400+35.99	406+61.42	RT	833.9						83
4	US-71	398+96.00	406+61.42	RT					301.5		30
4-5	US-71	406+61.42	412+94.12	LT	2741.7						274
4-5	US-71	406+61.42	412+94.12	RT	2741.7						274
5-6	US-71	416+23.26	428+50.00	LT	6151.7						615
5-6	US-71	416+23.26	428+50.00	RT	5567.4						557
6-8	US-71	428+50.00	461+05.00	LT	5068.3						507
6-8	US-71	428+50.00	461+05.00	RT	4873.6						487
6-8	US-71	428+50.00	461+05.00	RT					1956.4		196
6	US-71	428+50.00	432+19.07	LT					205.9		21
6-7	US-71	432+31.07	437+93.69	LT					313.9		31
7-8	US-71	438+05.69	460+46.66	LT					1246.4		125
8	US-71	460+58.75	461+05.00	LT					25.5		3
6	US-71	422+21.44	428+50.00	LT			559.5				56
6	US-71	425+81.19	428+50.00	RT			322.5				32
6	US-71	432+19.07	432+31.07	LT	61.3						6
6	US-71	437+93.69	438+05.69	LT	61.3						6
6	US-71	460+46.66	460+58.75	LT	61.3						6
4	RAMP N	0+00.00	4+27.19	LT		1100.1					110
5-6	RAMP P	1+59.00	7+25.09	RT		1769.0					177
5-6	RAMP Q	6+02.44	12+50.28	LT		1280.5					128
4-5	RAMP O	1+08.17	11+14.65	RT			747.1				75
4-5	RAMP O	0+67.57	10+15.62	LT			791.6				79
5	RAMP P	3+80.50	5+86.43	RT			148.3				15
5-6	RAMP Q	0+66.87	10+56.02	LT			719.3				72
5-6	RAMP Q	0+90.50	11+73.66	RT			848.4				85
5	BANNISTER	208+68.11	210+83.61	LT/RT				145.5			15
5	BANNISTER	208+79.50	211+13.50	RT				52.0			5
6	BANNISTER	207+90.49	208+12.02	RT				24.3			2
7	BANNISTER	211+59.84	211+93.12	RT				61.4			6
8	BANNISTER	211+28.07	211+42.73	LT				5.7			1
5	BANNISTER	213+59.38	214+05.74	LT				60.0			6
5	BANNISTER	213+93.48	214+19.86	RT				22.9			2
5	BANNISTER	214+25.19	214+39.85	LT				6.0			1
5	BANNISTER	214+38.64	214+73.96	LT				50.9			5
4,5,6	US-71	411+77.08	415+95.47	RT						879.4	161
4,5,6	US-71	412+98.96	415+86.45	LT						484.0	89
4,5,6	US-71	411+77.08	415+95.47	RT						175.9	161
4,5,6	US-71	412+98.96	415+86.45	LT						96.8	89
			PROJECT TOTAL		28372.2	4149.6	4136.7	428.7	4049.6	1636.1	4614

NOTE: ASPHALT ALTERNATE USED TO DESIGN THE PROJECT AND DETERMINE EARTHWORK QUANTITIES.

CONCRETE MEDIAN

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	CONCRETE MEDIAN 8 IN (SY)	REMARKS
9	BANNISTER	207+84.84	208+16.20	RT	28.4	RAMP O ISLAND
9	BANNISTER	208+70.40	210+81.56	LT/RT	245.4	CONCRETE MEDIAN
9	BANNISTER	211+59.60	211+89.89	RT	54	RAMP N ISLAND
9	BANNISTER	211+27.95	211+42.74	LT	6.9	RAMP Q ISLAND
9	BANNISTER	214+04.47	214+39.77	LT/RT	31.2	CULVERT
			PROJECT TOTAL		365.9	

SUMMARY OF QUANTITIES

SHEET 2 OF 9

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I, JASON MICHAEL SHAFER, STATE OF MISSOURI, HEREBY CERTIFY THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER AND I HAVE BEEN AUTHORIZED BY THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION TO SEAL ENGINEERING DOCUMENTS. I FURTHER CERTIFY THAT THE ATTACHED DOCUMENTS WERE PREPARED UNDER MY DIRECT SUPERVISION AND THAT I HAVE COMPLIED WITH ALL STATUTES, RULES AND REGULATIONS GOVERNING THE PRACTICE OF ENGINEERING AND THE USE OF THE SEAL WHEN I SEALED THESE DOCUMENTS. I UNDERSTAND THAT THE ELECTRONIC SEAL ON THESE DOCUMENTS SHALL CORRESPOND TO A HANDWRITTEN SIGNATURE AND DATE AS DESCRIBED IN 20 CSR 2030-3.060(3). IT IS A VIOLATION OF MISSOURI LAW FOR ANY PERSON TO ALTER THIS DOCUMENT IN ANY WAY UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. IF THIS SEAL IS PRESENT ON THIS SHEET, IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED: 11/12/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	3

COUNTY: JACKSON

JOB NO.: J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREK DESIGN GROUP, LLC

REV.

TEMPORARY EROSION CONTROL

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	ROCK DITCH CHECK (LF)	CURB INLET CHECK (LF)	SEDIMENT TRAP ROCK (CY)	SILT FENCE (LF)	ALTERNATE DITCH CHECK (LF)	TYPE C BERM (LF)	SEDIMENT REMOVAL (CY)	SLOPE DRAIN (LF)
77	US-71	402+37		RT/LT		2					2	
77	US-71	406+37		RT/LT		2					2	
77	US-71	407+25		RT/LT		2					2	
78	US-71	408+75		RT/LT		2					2	
78	US-71	410+20		RT/LT		2					2	
78	US-71	411+65		RT/LT		2					2	
78	US-71	412+75		RT/LT		2					2	
78	US-71	416+30		RT/LT		2					2	
78	US-71	420+00		RT/LT		2					2	
78	US-71	412+84	413+10	RT							1	102
78	US-71	413+09	413+35	LT							1	77
78	US-71	417+89	418+15	LT							1	33
78	US-71	419+90	420+16	RT							1	47
79	US-71	421+60		RT				694			7	
79	US-71	424+84		RT/LT		2					2	
79	US-71	426+00		RT/LT		2					2	
79	US-71	427+75		RT/LT		2					2	
79	US-71	429+25		RT/LT		2					2	
79	US-71	430+75		RT/LT		2					2	
79	US-71	432+25		RT/LT		2					2	
79	US-71	432+68.82		RT		2					2	
79	US-71	433+75		RT/LT		2					2	
79	US-71	435+25		RT/LT		2					2	
79	US-71	432+25		LT			1					
80	US-71	436+75		RT		2					2	
80	US-71	437+71		RT/LT		2					2	
80	US-71	438+00		LT			1					
80	US-71	438+00		RT/LT		2					2	
80	US-71	439+50		RT/LT		2					2	
80	US-71	440+65		RT/LT		2					2	
80	US-71	441+30		RT/LT		2					2	
80	US-71	441+95		RT/LT		2					2	
80	US-71	442+38		RT/LT		2					2	
80	US-71	442+80		RT/LT		2					2	
80	US-71	443+70		RT/LT		2					2	
80	US-71	444+55		RT/LT		2					2	
80	US-72	445+90		RT/LT		2					2	
80	US-73	447+25		RT/LT		2					2	
80	US-74	448+60		RT/LT		2					2	
81	US-71	449+73		RT		1					1	
81	US-71	450+00		RT/LT		2					2	
81	US-71	450+75		RT		1					1	
81	US-71	451+40		RT		1					1	
81	US-71	452+03		RT		1					1	
81	US-71	452+65		RT		1					1	
81	US-71	454+25		RT		1					1	
81	US-71	456+50		RT		1					1	
81	US-71	460+53		LT			1					
77	RAMP N	2+34	8+07	RT	24						24	
77	RAMP N	6+06	8+05	LT	9						9	
78	RAMP N	8+55	13+03	LT	20						20	
78	RAMP N	8+58	12+78	RT	19						19	
78	RAMP N	13+07		LT	1						1	
78	RAMP O	0+82	6+41	LT	21						18	
77	RAMP O	6+72	7+61	LT	4						4	
78	RAMP P	0+61	1+86	LT				128			1	
78	RAMP P	1+92	3+42	RT					4		4	
78	RAMP P	2+01	6+12	LT				416			4	
78	RAMP P	4+02		LT			1					
78	RAMP P	4+13		LT			1					
78	RAMP P	6+19.77	6+59.83	LT						38		
78	RAMP Q	1+38	5+87	LT	4						4	
78	RAMP Q	6+42		LT	1							
78	RAMP Q	5+34	6+84	RT	2						2	
78	RAMP Q	0+65	5+00	RT				439			4	
79	RAMP Q	8+34	11+05	RT	8						8	
79	RAMP Q	11+57	13+50	RT	3						3	
78	BANNISTER	208+70	211+22	LT	7						7	
78	BANNISTER	208+53	210+52	LT	8						8	
78	BANNISTER	203+40	205+65	RT				225			2	
78	BANNISTER	207+80		RT		1					1	
78	BANNISTER	208+83		RT		1					1	
78	BANNISTER	211+10		RT		1					1	
			PROJECT TOTAL		131	74	5	1902	4	38	228	259

CURB & GUTTER

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	MODIFIED CONCRETE CURB & GUTTER TYPE B (LF)
9	BANNISTER	203+16.33	207+83.32	R	470
9	BANNISTER	208+43.36	211+28.62	R	287
9	BANNISTER	214+36.34	214+53.74	R	18
		PROJECT TOTAL			775

SEEDING AND MULCHING

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	SEEDING - COOL SEASON MIX. (ACRE)	MULCHING (ACRE)
83	US-71	398+96.00	404+60.94	RT	0.12	0.12
83	US-71	406+61.31	407+49.30	LT	0.01	0.01
83	US-71	404+03.95	404+65.33	RT	0.01	0.01
84	US-71	418+90.72	419+94.33	LT	0.02	0.02
84	US-71	421+27.75	423+00.96	RT	0.05	0.05
87	US-71	456+83.97	461+05.00	RT/LT	0.18	0.18
83-84	RAMP O	1+07.69	12+85.26	RT	0.11	0.11
84-85	RAMP Q	6+02.44	8+62.50	RT	0.14	0.14
84	RAMP Q	3+42.23	4+77.35	RT	0.06	0.06
85	BANNISTER	203+63.04	207+61.01	RT	0.73	0.73
				SUBTOTAL	1.4	1.4
				TOTAL	1.4	1.4

SUMMARY OF QUANTITIES
SHEET 3 OF 9

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	3

COUNTY
JACKSON

JOB NO.
J4S3490

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

REV.

LIGHTING - POLE AND BRACKET

SHEET NO.	ROADWAY	STATION	OFFSET	TYPE AT 45 FT LIGHTING POLE DESIGN 2 (EA)	BRACKET ARM 15 FT (EA)	POLE FOUNDATION 45' MOUNTING HEIGHT (EA)	LED LUMINAIRE (UNDERPASS) (EA)	TYPE AT 30 FT LIGHTING POLE (EA)	BRACKET ARM 12 FT (EA)	POLE FOUNDATION 30' MOUNTING HEIGHT (EA)	POLE AND BRACKET CABLE 1 CONDUCTOR #10 AWG (LF)	LUMINAIRE LED-A (EA)	LUMINAIRE LED-B (EA)	REMARKS
87	US-71	402+10.50	72.0' RT	1	1	1					120		1	RAMP N GORE
88	US-71	421+17.70	71.5' LT							1				RAMP P GORE
89	US-71	423+23.13	66.6' LT							1				
89	US-71	424+78.59	81.4' RT							1				
89	US-71	425+34.67	68.6' LT							1				
89	US-71	427+03.10	72.2' RT							1				
92	BANNISTER	207+54.70	112.4' LT							1				RAMP P ISLAND NOSE
92	BANNISTER	207+58.54	70.4' RT							1				RAMP O ISLAND NOSE
92	BANNISTER	208+59.94	58.6' RT							1				RAMP O INTERSECTION
92	BANNISTER	209+25.85	2.0' LT				1							LUMINAIRE 4
92	BANNISTER	209+26.79	2.0' RT				1							LUMINAIRE 3
92	BANNISTER	209+82.94	2.0' LT				1							LUMINAIRE 1
92	BANNISTER	209+83.92	2.0' RT				1							LUMINAIRE 2
92	BANNISTER	210+85.00	54.0' LT					1	1	1	84	1		LUMINAIRE 5
92	BANNISTER	211+73.00	71.0' LT					1	1	1	84	1		LUMINAIRE 6
SUBTOTAL				1	1	1	4	2	2	10	288	2	1	
PROJECT TOTAL				1	1	1	4	2	2	10	290	2	1	

LIGHTING - CABLE & CONDUIT

SHEET NO.	ROADWAY	FROM STATION	TO STATION	CENTER TO CENTER DISTANCE (LF)	CABLE-CONDUIT 1 IN. 2 CONDUCTOR AND 1 BARE NEUTRAL 8 AWG (LF)	CABLE 6 AWG 1 CONDUCTOR (LF)	CONDUIT 3 IN. RIGID PUSHED (LF)	CONDUIT 3 IN. RIGID TRENCHED (LF)	CONDUIT 2 IN. RIGID EXTERNAL ON STRUCTURE (LF)	TRENCHING TYPE 1 (LF)	REMARKS
87-88	RAMP N	402+10.50	12+75.36	1101	1167					1101	RAMP N GORE
92	BANNISTER	212+45.35	211+19.25	135		482					CONTROLLER TO PB6
92	BANNISTER	211+19.25	210+59.90	82		277	80				PB 6 TO PB 14
92	BANNISTER	210+59.90	210+89.23	58		202	56				PB 14 TO LUMINAIRE 5
92	BANNISTER	210+89.23	211+73.00	90		365	91				LUMINAIRE 5 TO LUMINAIRE 6
92	BANNISTER	210+59.90	209+88.42	71		306		70	20		PB 14 TO JB 1
92	BANNISTER	209+88.39	209+82.94	6		38			6		JB1 TO LUMINAIRE 1
92	BANNISTER	209+88.42	209+88.39	6		85			15		JB1 TO JB2
92	BANNISTER	209+88.39	209+83.92	5		35			5		JB2 TO LUMINAIRE 2
92	BANNISTER	209+88.39	209+21.31	68		98		67	20		JB1 TO JB4
92	BANNISTER	209+21.31	209+25.85	5		35			5		JB4 TO LUMINAIRE 4
92	BANNISTER	209+21.31	209+21.31	5		82			15		JB4 TO JB3
92	BANNISTER	209+21.31	209+26.78	6		38			6		JB3 TO LUMINAIRE 3
SUBTOTAL					1167	2043	227	137	92	1101	
PROJECT TOTAL					1170	2040	227	137	92	1101	

PERMANENT EROSION CONTROL

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	FURNISHING TYPE 1 ROCK BLANKET (CY)	PLACING TYPE 1 ROCK BLANKET (CY)	FURNISHING TYPE 1 ROCK DITCH LINER (CY)	PLACING TYPE 1 ROCK DITCH LINER (CY)	FURNISHING TYPE 2 ROCK BLANKET (CY)	PLACING TYPE 2 ROCK BLANKET (CY)	PERMANENT EROSION CONTROL GEOTEXTILE (SY)	REMARKS
83-84	US-71	404+65.33	414+32.47	RT/LT			1910	1910			2866	
82-83	US-71	407+00.52	414+22.98	RT/LT	4464	4464					6695	
83	US-71	414+80.34	421+28.12	RT/LT			1400	1400			2100	
83	US-71	415+08.66	423+00.96	RT/LT	3107	3107					4660	
83	US-71	417+05.12	428+40.00	LT					1166	1166	1749	
83	US-71	419+04.59		LT	4	4					5	
83	US-71	419+15.51		LT	4	4					5	
84	US-71	432+25.00		LT	6	6					9	
85	US-71	438+00.00		LT	4	4					5	
86	US-71	460+52.72		LT	6	6					9	
82-83	RAMP N	4+27.19	12+85.26	RT			674	674			1011	
83	RAMP Q	3+27.67	3+86.64	RT					481	481	722	
84	RAMP Q	8+62.17	12+50.28	RT					478	478	717	
83	RAMP P	6+06.80	6+68.81	LT					99	99	147	
83	BANNISTER	203+50.65	207+88.00	RT			488	488			731	
83	BANNISTER	208+43.36	211+28.61	RT			294	294			441	
83	BANNISTER	212+85.25	213+60.00	LT					62	62	93	
83	BANNISTER	214+57.59	215+39.27	RT					139	139	139	
			PROJECT TOTAL		7595	7595	3984	3984	2425	2425	22104	

SUMMARY OF QUANTITIES
SHEET 5 OF 9

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED 10/3/2025
ROUTE 71 | STATE MO
DISTRICT KC | SHEET NO. 3
COUNTY JACKSON
JOB NO. J4S3490
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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

PERMANENT PAVEMENT MARKING

SHEET	LOCATION	FROM STATION	TO STATION	LOCATION	CLASS 2 HIGH BUILD PAINT WITH TYPE L BEADS				PREFORMED THERMOPLASTIC PAVEMENT MARKING			
					6" WHITE			6" YELLOW	STOP BAR	LEFT ARROW	RIGHT ARROW	24" WHITE XWALK
					SOLID (LF)	INTERMITTENT (LF)	DOTTED (LF)	SOLID (LF)	(LF)	(EA)	(EA)	(EA)
130-131	US-71	398+96.00	414+68.32	LT	1615							
130	US-71	398+96.00	402+16.80	LT			81					
130-134	US-71	398+96.00	461+05.00	LT		1551						
130-134	US-71	398+96.00	461+05.00	LT		1516						
130-134	US-71	398+96.00	461+05.00	LT				1707				
130-134	US-71	398+96.00	461+05.00	RT				1708				
130-134	US-71	398+96.00	461+05.00	RT		1553						
130-132	US-71	398+96.00	432+84.04	RT		1411						
130-131	US-71	398+96.00	413+44.53	RT	1496							
130	US-71	398+96.00	402+39.19	RT			86					
130-131	US-71	402+16.80	421+58.26	LT	1941							
130-132	US-71	402+39.19	426+90.20	RT	2452							
132-134	US-71	414+60.61	461+05.00	RT	4,695							
131-134	US-71	415+72.88	461+05.00	LT	4578							
131-134	US-71	421+58.26	461+05.00	LT			985					
131-134	US-71	426+90.20	461+05.00	RT			856					
131-134	US-71	432+89.15	461+05.00	RT			705					
130-131	RAMP N	0+00	4+37.89	LT	439							
130-131	RAMP N	2+01.07	13+30.45	LT				230				
130-131	RAMP N	4+37.89	13+29.69	LT		223						
130-131	RAMP N	11+01.07	13+28.92	LT/RT	228							
138	RAMP N	13+30.44		LT					24			
130-131	RAMP O	0+60.22	10+64.66	LT				1026				
138	RAMP P	0+48.71		LT/RT					24			
131	RAMP P	0+49.20	3+44.58	LT/RT	295							
131	RAMP P	0+49.20	6+49.21	RT				602				
131	RAMP P	0+49.83	3+44.58	RT	295			-				
131-132	RAMP Q	0+53.94	11+04.65	LT				1052				
138	BANNISTER	207+28.06		LT								
138	BANNISTER	207+62.82		RT							1	
138	BANNISTER	207+86.57		LT						1		
138	BANNISTER	207+93.96		RT								1
138	BANNISTER	207+98.12	208+79.09	RT/LT			31					
138	BANNISTER	207+99.19		LT						1		
138	BANNISTER	208+26.06		RT								1
138	BANNISTER	208+70.41		LT					12			
138	BANNISTER	208+81.67		RT						1		
138	BANNISTER	209+50.44		LT						1		
138	BANNISTER	210+61.56		LT						1		
138	BANNISTER	210+68.55	211+46.87	RT/LT			32					
138	BANNISTER	211+38.32		LT								
138	BANNISTER	211+42.47		RT								1
138	BANNISTER	211+51.83		RT						1		
138	BANNISTER	211+63.82		RT						1		
138	BANNISTER	211+76.82		RT							1	
138	BANNISTER	211+95.46		RT								1
		SUBTOTAL			18034	6254	2776	6325	60	7	2	4
		PROJECT TOTAL				27064		6325	60	7	2	4

TEMPORARY PAVEMENT MARKING

BID ITEM NO.	ITEM	UNIT	PHASE 1	PHASE 2	PHASE 3	TOTAL
6207001	PAVEMENT MARKING REMOVAL	LF	79	1098	18749	19926
6207002	PAVEMENT MARKING REMOVAL (SYMBOLS)	EACH	4	-	-	4
6205301B	TEMPORARY REMOVABLE MARKING TAPE 4 IN. WHITE	LF	1098	18749	-	19847
6205303B	TEMPORARY REMOVABLE MARKING TAPE 4 IN. YELLOW	LF	-	4282	-	4282

SUMMARY OF QUANTITIES
SHEET 4 OF 9

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	3

COUNTY
JACKSON

JOB NO.
J4S3490

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

ITS												
SHEET NO.	ROADWAY	FROM STATION	TO STATION	OFFSET	CENTER TO CENTER DISTANCE (LF)	2 INCH CONDUIT TRENCHED (LF)	2 INCH CONDUIT PUSHED (LF)	FIBER OPTIC CABLE 48-STRAND SINGLE MODE (LF)	FIBER SPLICE VAULT (EA)	PREFORMED PULL BOX CLASS 5 (EA)	FIBER OPTIC SPLICING, TESTING & DOCUMENTATION (LS)	REMARKS
99	RAMP N	4+30.60		22.0					1			SPLICE VAULT MoDOT071-18
99-100	RAMP N	4+30.60	12+90.12		870	1736		993				MoDOT071-18 TO PBM071-18-1
100	RAMP N	12+90.12		49.0						1		PULL BOX PBM071-18-1
100	RAMP N & RAMP Q	12+90.12	0+73.53		186		368	246				UNDER BANNISTER RD (ROUTE W)
100	RAMP Q	0+73.53		71.6						1		PULL BOX PBM071-18-2
100-101	RAMP Q & US-71	0+73.53	428+00.00		1330	2656		1453				PBM071-18-2 TO MoDOT071-19
101	US-71	428+00.00		77.2					1			SPLICE VAULT MoDOT071-19
SUBTOTAL						4392	368	2692	2	2	1	
PROJECT TOTAL						4392	368	2690	2	2	1	

DRAINAGE STRUCTURES										
STRUCT. NO.	STATION	ROADWAY	LOCATION	TYPE	15" GROUP A FLARED END SECTION (EACH)	18" GROUP A FLARED END SECTION (EACH)	24" GROUP A FLARED END SECTION (EACH)	24" SAFETY SLOPE END SECTION (EACH)	TRASH RACK HEADWALL (EACH)	REMARKS
207F1	207+89.97	BANNISTER	89.36 RT	15 FES	1					
412F1	412+75.16	US-71	72.05 RT	18 FES		1				
416H1	416+51.97	US-71	206.25 LT	TWH					1	
419F1	419+04.69	US-71	162.55 LT	18 FES		1				
419F2	419+15.53	US-71	122.74 LT	15 FES	1					
420F1	420+60.58	US-71	167.91 RT	18 FES		1				
432F1	432+27.42	US-71	123.50 LT	24 FES			1			
438F1	438+00.00	US-71	133.91 LT	15 FES	1					
460F1	460+52.72	US-71	97.66 LT	24 FES SS				1		
413F1	413+06.66	US-71	207.67 RT	15 FES	1					SEE SHEET NO. 21 FOR TEMPORARY DRAINAGE
414F1	414+18.92	US-71	120.64 LT	24 FES SS				1		SEE SHEET NO. 22 FOR TEMPORARY DRAINAGE
SUBTOTAL					4	3	1	2	1	
PROJECT TOTAL					4	3	1	2	1	

SUMMARY OF QUANTITIES
SHEET 6 OF 9

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	3

COUNTY
JACKSON

JOB NO.
J4S3490

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

REV.

DRAINAGE PIPES

FROM STRUCT.	TO STRUCT.	ACTUAL LENGTH (FT)	PIPE DIAMETER (IN)	15 IN. PIPE GROUP A (LF)	18 IN. PIPE GROUP A (LF)	24 IN. PIPE GROUP A (LF)	PIPE COLLAR, TYPE A (EACH)	CLASS 3 EXCAVATION (CUYD)	INSTALLATION TYPE	REMARKS
207D1	207F1	100.4	15	100				218	4	
208D1	211D1	225.0	18		225			239	4	
208S1	208D1	17.6	18		18			20	4	
211D1	211S1_EX	42.5	18		43			31	4	
406B2_EX	407B2	86.0	15	86				104	4	
407B1	407B2	2.5	15					2	4	
407B2	408B2	148.0	15	148				176	4	
408B1	408B2	2.5	15	3				2	4	
408B2	410B2	143.0	18		143			173	4	
410B1	410B2	2.5	15	3				2	4	
410B2	411B2	143.0	18		143			137	4	
411B1	411B2	2.5	15	3				2	4	
411B2	412B2	108.0	18		108			79	4	
412B1	412B2	2.5	15	3				2	4	
412B2	412F1	60.8	18		61			59	4	
416B1	420B1	368.0	15	368				32	4	
416B2	416B1	2.5	15	3				2	4	
416H1	416Q1	--	3					--	4	
416M1	419F1	223.0	18		223			274	4	
416Q1	416M1	18.3	18		18			32	4	
419M1	419F2	81.7	15	82				42	4	
419S1	419M1	46.5	15	47				29	4	
420B1	423B1	353.0	15	353				69	4	
420B2	420B1	2.5	15	3				2	4	
420S1	420F1	84.6	18		85			51	4	
423B1	426B1	243.0	15	243				42	4	
423B2	423B1	2.5	15	3				2	4	
426B1	427B1	173.0	18		173			84	4	
426B2	426B1	2.5	15	3				2	4	
427B1	429B1	148.0	24			148		114	4	
427B2	427B1	2.5	15	3				2	4	
429B1	430B1	148.0	24			148		121	4	
429B2	429B1	2.5	15	3				2	4	
430B1	432B1	148.0	24			148		122	4	
430B2	430B1	2.5	15	3				2	4	
432B1	432F1	112.3	24			112		118	4	
432B2	432B1	2.5	15	3				2	4	
433B1	435B1	148.0	15	148				79	4	
433B2	433B1	2.5	15	3				2	4	
435B1	436B1	148.0	15	148				86	4	
435B2	435B1	2.5	15	3				2	4	
436B1	438B1	123.0	15	123				90	4	
436B2	436B1	2.5	15	3				2	4	
438B1	438F1	122.7	15	123				84	4	
438B2	438B1	2.5	15	3				2	4	
439B1	440B1	113.0	15	113				71	4	
439B2	439B1	2.5	15	3				2	4	
440B1	441B1	63.0	15	63				41	4	
440B2	440B1	2.5	15	3				2	4	
441B1	441B3	63.0	15	63				44	4	
441B2	441B1	2.5	15	3				2	4	
441B3	442B1	41.0	15	41				30	4	
441B4	441B3	2.5	15	3				2	4	
442B2	442B1	2.5	15	3				2	4	
442B3	442B1	40.1	18		40			68	4	
442B4	442B3	2.5	15	3				2	4	
443B1	442B3	88.0	18		88			140	4	
443B2	443B1	2.5	15	3				2	4	
444B1	443B1	83.0	18		83			121	4	
444B2	444B1	2.5	15	3				2	4	
445B1	444B1	133.0	18		133			171	4	
445B2	445B1	2.5	15	3				2	4	
447B1	445B1	133.0	18		133			139	4	
447B2	447B1	2.5	15	3				2	4	
448B1	447B1	133.0	15	133				91	4	
448B2	448B1	2.5	15	3				2	4	
450B1	448B1	138.0	15	138				73	4	
450B2	450B1	2.5	15	3				1	4	
450B3	450B2	73.0	15	73				8	4	
451B1	450B3	63.0	15	63				0.16	4	
452B1	451B1	61.0	15	61				0	4	
452B2	452B1	60.0	15	60				0	4	
454B1	456B1	223.1	15	223				140	4	
456B1	460S1	399.2	15	399				323	4	
460S1	460F1	90.7	24			91		135	4	
413F1		7.2	15	7			1			SEE SHEET NO. 21 FOR TEMPORARY DRAINAGE
414F1		3.6	24			4	1			SEE SHEET NO. 22 FOR TEMPORARY DRAINAGE
			SUBTOTAL	3490	1717	651	2	4357		
			PROJECT TOTAL	3490	1717	651	2			

SUMMARY OF QUANTITIES
SHEET 7 OF 9

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO

DISTRICT	SHEET NO.
KC	3

COUNTY
JACKSON

JOB NO.
J4S3490

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

DRAINAGE STRUCTURES

STRUCT. NO.	STATION	ROADWAY	LOCATION	TYPE	ACTUAL "D"	CURVED VANE GRATE AND FRAME 2 FT X 2 FT (EACH)	CURVED VANE GRATE AND FRAME 2 FT X 4 FT (EACH)	GRATE AND BEARING PLATE 3 FT X 3 FT (EACH)	GRATE AND BEARING PLATE 5 FT X 2 FT (EACH)	GRATE AND BEARING PLATE 5 FT X 3 FT (EACH)	PRECAST CONCRETE MANHOLE 48 IN (FT)	PRECAST CONCRETE DROP INLET 2 FT X 2 FT (FT)	PRECAST CONCRETE DROP INLET 4 FT X 2 FT (FT)	PRECAST CONCRETE DROP INLET 3 FT X 3 FT (FT)	PRECAST CONCRETE DROP INLET 5 FT X 2 FT (FT)	PRECAST CONCRETE DROP INLET 5 FT X 3 FT (FT)	MANHOLE FRAME AND COVER, TYPE 1-B (EACH)	CLASS 3 EXCAVATION (CUYD)
207D1	207+79.83	BANNISTER	69.10 RT	D 2 X 2	3.18	1						3						4
208D1	208+83.00	BANNISTER	43.00 RT	D 2 X 2	7.59	1						8						10
208S1	208+82.58	BANNISTER	64.03 RT	S-1 5 X 3	5.00					1						5		14
211D1	211+10.01	BANNISTER	43.00 RT	D 2 X 2	4.50	1						5						6
407B1	407+25.00	US-71	3.25 LT	B 2 X 4	4.54		1						5					8
407B2	407+25.00	US-71	3.25 RT	B 2 X 4	6.93		1						7					12
408B1	408+75.00	US-71	3.25 LT	B 2 X 4	4.54		1						5					8
408B2	408+75.00	US-71	3.25 RT	B 2 X 4	6.88		1						7					12
410B1	410+20.00	US-71	3.25 LT	B 2 X 4	4.54		1						5					8
410B2	410+20.00	US-71	3.25 RT	B 2 X 4	6.25		1						6					11
411B1	411+65.00	US-71	3.25 LT	B 2 X 4	4.54		1						5					5
411B2	411+65.00	US-71	3.25 RT	B 2 X 4	5.04		1						5					7
412B1	412+75.00	US-71	3.25 LT	B 2 X 4	4.54		1						5					6
412B2	412+75.00	US-71	3.25 RT	B 2 X 4	5.04		1						5					6
416B1	416+30.00	US-71	3.25 LT	B 2 X 4	4.60		1						5					2
416B2	416+30.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					2
416M1	416+75.00	US-71	177.00 LT	4' MH	9.46						9						1	22
416Q1	416+60.68	US-71	193.41 RT	S-1 3 X 3	7.77			1						8				18
419M1	419+00.00	US-71	61.75 LT	4' MH	6.27						6						1	10
419S1	418+50.00	US-71	63.70 LT	S-1 3 X 3	4.50			1						5				5
420B1	420+00.00	US-71	3.25 LT	B 2 X 4	4.60		1						5					1
420B2	420+00.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					2
420S1	420+50.00	US-71	76.90 RT	S-1 5 X 2	4.25				1						4			9
423B1	423+55.00	US-71	3.25 RT	B 2 X 4	5.10		1						5					2
423B2	423+55.00	US-71	3.25 LT	B 2 X 4	4.54		1						5					1
426B1	426+00.00	US-71	3.25 LT	B 2 X 4	5.11		1						5					4
426B2	426+00.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					3
427B1	427+75.00	US-71	3.25 LT	B 2 X 4	5.60		1						6					7
427B2	427+75.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					4
429B1	429+25.00	US-71	3.25 RT	B 2 X 4	5.56		1						6					7
429B2	429+25.00	US-71	3.25 LT	B 2 X 4	4.54		1						5					5
430B1	430+75.00	US-71	3.25 LT	B 2 X 4	5.61		1						6					7
430B2	430+75.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					4
432B1	432+25.00	US-71	3.25 LT	B 2 X 4	5.65		1						6					7
432B2	432+25.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					5
433B1	433+75.00	US-71	3.25 LT	B 2 X 4	4.70		1						5					5
433B2	433+75.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					5
435B1	435+25.00	US-71	3.25 LT	B 2 X 4	4.63		1						5					5
435B2	435+25.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					5
436B1	436+75.00	US-71	3.25 LT	B 2 X 4	4.96		1						5					7
436B2	436+75.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					6
438B1	438+00.00	US-71	3.25 LT	B 2 X 4	5.09		1						5					8
438B2	438+00.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					6
439B1	439+50.00	US-71	3.25 LT	B 2 X 4	4.78		1						5					7
439B2	439+50.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					5
440B1	440+65.00	US-71	3.25 LT	B 2 X 4	4.72		1						5					6
440B2	440+65.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					6
441B1	441+30.00	US-71	3.25 LT	B 2 X 4	4.92		1						5					7
441B2	441+30.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					6
441B3	441+95.00	US-71	3.25 LT	B 2 X 4	5.06		1						5					7
441B4	441+95.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					5
442B1	442+37.95	US-71	3.25 LT	B 2 X 4	6.97		1						7					10
442B2	442+37.95	US-71	3.25 RT	B 2 X 4	4.55		1						5					5
442B3	442+80.00	US-71	3.25 LT	B 2 X 4	6.10		1						6					9
442B4	442+80.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					5
443B1	443+70.00	US-71	3.25 LT	B 2 X 4	5.82		1						6					8
443B2	443+70.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					5
444B1	444+55.00	US-71	3.25 LT	B 2 X 4	5.74		1						6					8
444B2	444+55.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					6
445B1	445+90.00	US-71	3.25 LT	B 2 X 4	5.70		1						6					10
445B2	445+90.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					8
447B1	447+25.00	US-71	3.25 LT	B 2 X 4	5.59		1						6					8
447B2	447+25.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					5
448B1	448+60.00	US-71	3.25 LT	B 2 X 4	5.22		1						5					8
448B2	448+60.00	US-71	3.25 RT	B 2 X 4	4.54		1						5					5
450B1	450+00.00	US-71	3.25 LT	B 2 X 4	4.99		1						5					8
450B2	450+00.00	US-71	3.25 RT	B 2 X 4	4.94		1						5					6
450B3	450+74.98	US-71	3.25 RT	B 2 X 4	4.91		1						5					6
451B1	451+40.00	US-71	3.25 RT	B 2 X 4	4.85		1						5					6
452B1	452+03.00	US-71	3.25 RT	B 2 X 4	4.92		1						5					5
452B2	452+65.00	US-71	3.25 RT	B 2 X 4	4.55		1						5					5
454B1	454+25.00	US-71	3.25 RT	B 2 X 4	4.56		1						5					5
456B1	456+50.00	US-71	3.25 RT	B 2 X 4	5.27		1						5					7
460S1	460+52.66	US-71	0.00	S-1 5 X 2	5.62				1						6			12
					SUBTOTAL	3	64	2	2	1	15	16	336	13	10	5	2	500
					PROJECT TOTAL	3	64	2	2	1	15	16	336	13	10	5	2	4857

SUMMARY OF QUANTITIES

SHEET 8 OF 9

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE 71 | STATE MO
DISTRICT KC | SHEET NO. 3
COUNTY JACKSON
JOB NO. J4S3490
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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

WARNING SIGNS

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT)
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT)
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT)
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT)
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT)
WO1-4bL	48X48	16.00	2	32.00				DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4bR	48X48	16.00	4	64.00				DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)
WO1-6	60X30	12.50	4	50.00				HORIZONTAL ARROW (SYMBOL)
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
WO1-8	18X24	3.00						CHEVRON (SYMBOL)
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
WO3-4	48X48	16.00						BE PREPARED TO STOP
WO3-5	48X48	16.00						SPEED LIMIT AHEAD
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)
WO4-1aL	48X48	16.00	1	16.00				MERGE (LEFT)
WO4-1aR	48X48	16.00	4	64.00				MERGE (RIGHT)
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS
WO5-3	48X48	16.00						ONE LANE BRIDGE
WO5-5	48X48	16.00						NARROW LANES
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)
WO6-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)
WO7-3a	30X24	5.00						NEXT XX MILES (PLAQUE)
WO8-1	48X48	16.00						BUMP
WO8-2	48X48	16.00						DIP
WO8-3	48X48	16.00						PAVEMENT ENDS
WO8-4	48X48	16.00						SOFT SHOULDER
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)
WO8-6	48X48	16.00						TRUCK CROSSING
WO8-6c	48X48	16.00						TRUCK ENTRANCE
WO8-7	36X36	9.00						LOOSE GRAVEL
WO8-7a	36X36	9.00						FRESH OIL / LOOSE GRAVEL
WO8-9	48X48	16.00						LOW SHOULDER
WO8-11	48X48	16.00						UNEVEN LANES
WO8-12	48X48	16.00						NO CENTER LINE
WO8-15	48X48	16.00						GROOVED PAVEMENT
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)
WO8-17L	48X48	16.00						SHOULDER DROP-OFF (SYMBOL LEFT)
WO8-17R	48X48	16.00						SHOULDER DROP-OFF (SYMBOL RIGHT)
WO8-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)
W10-1	42RND.	9.62						RAILROAD CROSSING
WO12-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)
W012-2x	24X18	3.00						LOW CLEARANCE (PLAQUE)
WO12-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)
WO12-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD
WO12-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD
WO13-1	30X30	6.25	4	25.00				ADVISORY SPEED (PLAQUE)
WO16-2	30X24	5.00						XXX FEET (PLAQUE)
WO16-3	30X24	5.00						X MILE (PLAQUE)
WO20-1	48X48	16.00	18	288.00				ROAD/BRIDGE/RAMP WORK AHEAD
WO20-2	48X48	16.00						DETOUR AHEAD
WO20-3	48X48	16.00	14	224.00				ROAD CLOSED AHEAD
WO20-4	48X48	16.00						ONE LANE ROAD AHEAD
WO20-5	48X48	16.00	5	80.00				RIGHT/CENTER/LEFT LANE CLOSED AHEAD
WO20-5a	48X48	16.00	3	48.00				2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
WO20-6a	48X48	16.00	7	112.00				RIGHT/CENTER/LEFT LANE CLOSED
WO20-7a	48X48	16.00						FLAGGER (SYMBOL)
WO21-2	36X36	9.00						FRESH OIL
WO21-5	48X48	16.00	5	80.00				SHOULDER WORK / SHOULDER WORK AHEAD
WO22-1	48X48	16.00						BLASTING ZONE AHEAD
WO22-2	42X36	10.50						TURN OFF 2-WAY RADIO AND PHONE
WO22-3	42X36	10.50						END BLASTING ZONE
GO22-1	21X15	2.19						WET PAINT (ARROW PIVOTS)

GUIDE SIGNS

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
E05-1	36X48	12.00						GORE EXIT
E05-2	48X36	12.00						EXIT OPEN
E05-2a	48X36	12.00	6	72.00				EXIT CLOSED
GO20-1	60X24	10.00	8	80.00				ROAD WORK NEXT XX MILES
GO20-2	48X24	8.00	4	32.00				END ROAD WORK
GO20-4	36X18	4.50						PILOT CAR FOLLOW ME
GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW
GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW
GO20-5aP	36X24	6.00	4	24.00				WORK ZONE (PLAQUE)
MO4-8a	24X18	3.00						END DETOUR
MO4-9L	48X36	12.00						DETOUR (LEFT)
MO4-9R	48X36	12.00						DETOUR (RIGHT)
MO4-9P	48X12	4.00						STREET NAME (PLAQUE)
MO4-10L	48X18	6.00						DETOUR ARROW (LEFT)
MO4-10R	48X18	6.00						DETOUR ARROW (RIGHT)

REGULATORY SIGNS

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
R1-1	48X48	13.25						STOP
R1-2	48TRI.	6.93	1	6.93				YIELD
R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)
R1-3P	30X12	2.50						ALL WAY (PLAQUE)
R2-1	36X48	12.00	12	144.00				SPEED LIMIT XX
R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00	2	32.00				NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00						NO TURNS
R3-4	48X48	16.00						NO U-TURN (SYMBOL)
R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00						DO NOT PASS
R4-2	36X48	12.00						PASS WITH CARE
R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)
R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)
R5-1	30X30	6.25						DO NOT ENTER
R5-1a	36X24	6.00						WRONG WAY
R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)
R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)
R6-2L	24X30	5.00						ONE WAY (LEFT)
R6-2R	24X30	5.00						ONE WAY (RIGHT)
R9-9	24X12	2.00	5	10.00				SIDEWALK CLOSED
R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE
R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE
R10-6	24X36	6.00						STOP HERE ON RED (45^ ARROW)
R11-2	48X30	10.00	14	140.00				ROAD CLOSED
R11-3a	60X30	12.50						ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60X30	12.50	2	25.00				ROAD CLOSED TO THRU TRAFFIC
CONST-3A	60X48	20.00	4	80.00				FINE SIGN
CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)

MISCELLANEOUS SIGNS

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
50A-F	36X78	19.50	17	331.50				DETOUR SIGNS (LARGE)
50G-Q	36X60	15.00	38	570.00				DETOUR SIGNS (SMALL)
CONST-5	96X48	32.00	4	128.00				FOCUS ON BRIDGES - POP
GO25-1	96X48	32.00	1	32.00				SLOW VEHICLES

616-10.05 CONSTRUCTION SIGNS	TOTAL
	2791

616-10.10 RELOCATED SIGNS	TOTAL
	0

EFFECTIVE: 07-01-2025

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008	2	IMPACT ATTENUATOR 40 MPH (SAND BARRELS)
6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)
6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
6122012	4	IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)
6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
6122020	6	REPLACEMENT SAND BARREL
6122030	1	IMPACT ATTENUATOR (RELOCATION)
6122040	1	WORK ZONE CRASH CUSHION (NARROW)
6122041	1	WORK ZONE CRASH CUSHION (NARROW) (RELOC.)
6123001		TRUCK MOUNTED ATTENUATOR (TMA)
6161008		ADVANCED WARNING RAIL SYSTEM
6161012		BUOYS (BOATS KEEP OUT)
6161013		BUOYS (NO WAKE)
6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
6161025	575	CHANNELIZER (TRIM LINE)
6161030	81	TYPE III MOVEABLE BARRICADE
6161033		DIRECTION INDICATOR BARRICADE
6161040	12	FLASHING ARROW PANEL
6161047		TYPE III OBJECT MARKER
6161055		SEQUENTIAL FLASHING WARNING LIGHT
6161070		TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A		CHANGEABLE MESSAGE SIGN WITHOUT COMM. INTERFACE- CONTRACTOR FURNISHED/RETAINED
6161099	15	CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE- CONTRACTOR FURNISHED/RETAINED
6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
6162002	3	TEMPORARY LONG-TERM RUMBLE STRIPS
6173600D	2804	TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/RETAINED
6173602B		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/COMMISSION RETAINED
6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION
6175010A	1722	RELOCATING TEMPORARY TRAFFIC BARRIER
6176000B		TEMPORARY TRAFFIC BARRIER COMMISSION FURNISHED/RETAINED
6177000B		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION COMMISSION FURNISHED/RETAINED
6208064A		TEMPORARY RAISED PAVEMENT MARKER
9029400		TEMPORARY TRAFFIC SIGNALS
9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING

SUMMARY OF QUANTITIES
SHEET 9 OF 9

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	3

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

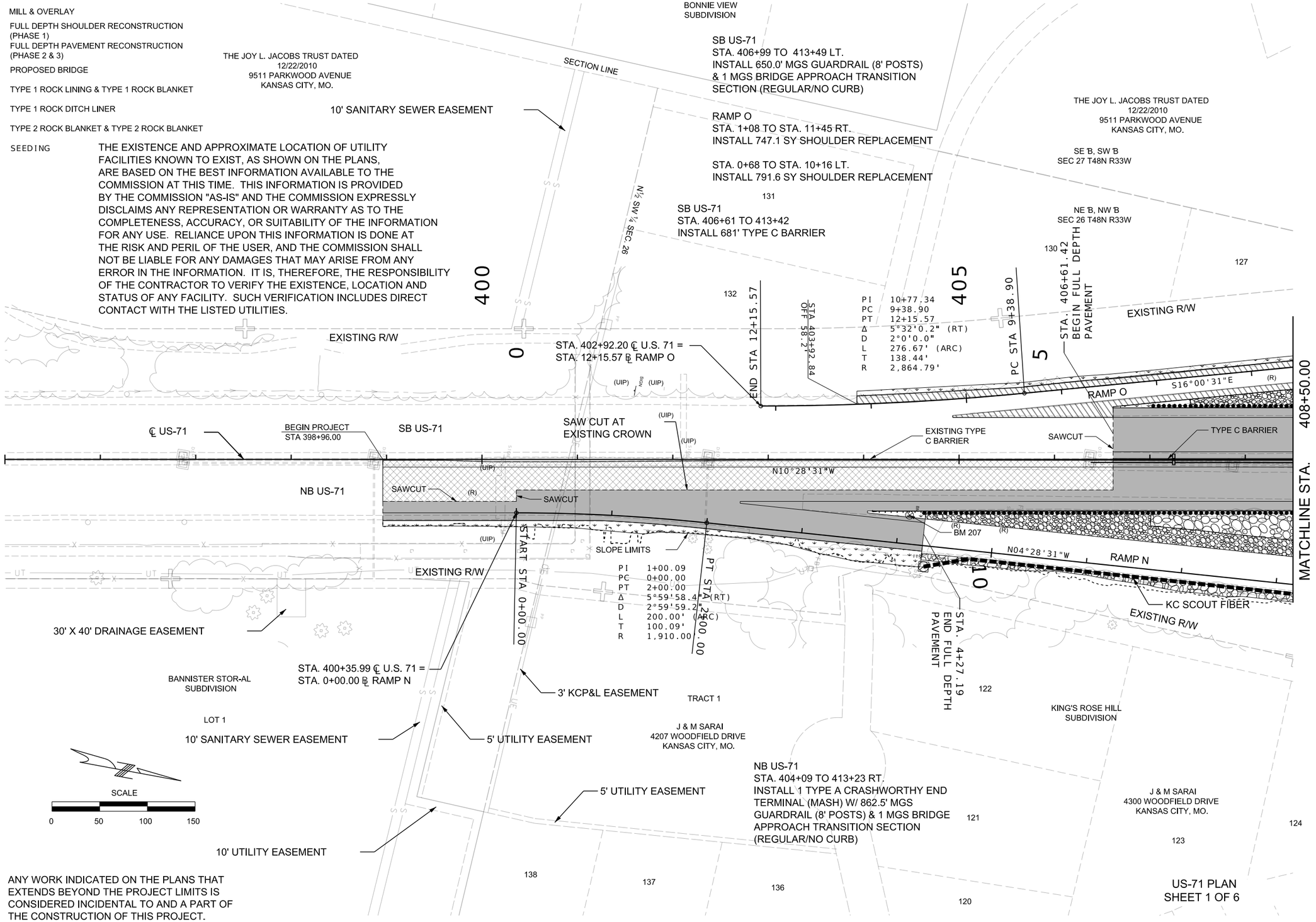
REV.

LEGEND

- MILL & OVERLAY
- FULL DEPTH SHOULDER RECONSTRUCTION (PHASE 1)
- FULL DEPTH PAVEMENT RECONSTRUCTION (PHASE 2 & 3)
- PROPOSED BRIDGE
- TYPE 1 ROCK LINING & TYPE 1 ROCK BLANKET
- TYPE 1 ROCK DITCH LINER
- TYPE 2 ROCK BLANKET & TYPE 2 ROCK BLANKET
- SEEDING

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.

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.



US-71 PLAN
SHEET 1 OF 6

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED 10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	4

COUNTY JACKSON
JOB NO. J4S3490
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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

004_PL_01_J4S3490_I50_US71.dgn 9:46:55 AM 10/3/2025

LAND SURVEY MONUMENT
"+" CUT IN CONC.
SW CORNER OF NE 1/4 SECT. 26 T48N R33W
℄ BANNISTER RD. (ROUTE W) 208+55.46, 8.8624' RT N01°53'33"E

SEC LINE

¼ SEC LINE

BANNISTER RD (ROUTE W)

SE ¼, SW ¼
SEC 27 T48N R33W

THE JOY L. JACOBS TRUST DATED 12/22/2010
9511 PARKWOOD AVENUE

SLOPE LIMITS

SW ¼, SE ¼
SEC 27 T48N R33W

BDS 2ND MO. NOB HILL LLC.
NOB HILL 2ND PLAT, TRACT D
9320 CLEVELAND AVENUE

BDS 2ND MO. NOB HILL LLC.
NOB HILL 2ND PLAT, TRACT D
9321 MYRTLE AVENUE

US-71
STA. 415+75 TO 456+59
INSTALL 4084' TYPE C BARRIER

US-71
STA. 413+22 TO 415+75
INSTALL 253' TYPE D BARRIER

US-71
STA. 412+12 TO 413+36
INSTALL 339.3 SQ.YD. CONCRETE APPROACH PAVEMENT

SB US-71
STA. 417+03 TO 431+86 LT.
INSTALL 1 TYPE A CRASHWORTHY END TERMINAL (MASH) W/ 1437.5' MGS GUARDRAIL (8' POSTS)

SB US-71
STA. 415+95 TO 419+46 LT.
INSTALL 1 TYPE A CRASHWORTHY END TERMINAL (MASH) W/ 300.0' MGS GUARDRAIL (8' POSTS) & 1 MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR/NO CURB)

EXISTING R/W

PROPOSED DETENTION POND

PI	6+42.42
PC	5+59.33
PT	7+25.09
Δ	9°56'43.0" (LT)
D	5°59'58.4"
L	165.77' (ARC)
T	83.09'
R	955.00'

RAMP P
STA. 3+80 TO STA. 6+37 RT.
INSTALL 174.4 SY SHOULDER REPLACEMENT

STA. 207+90.20 ℄ BANNISTER RD. (ROUTE W)=
STA. 0+00.00 ℄ RAMP O =
STA. 0+00.00 ℄ RAMP P

STA 413+94.67 OFF 156.3'

STA 414+29.61 OFF 130.7'

STA. 414+63.69 ℄ US-71 =
STA. 209+54.85 ℄ BANNISTER RD. (ROUTE W)
PROPOSED SOUTHBOUND BRIDGE A9572
EXISTING BRIDGE L0842 TO BE REMOVED

SECTION LINE

EXISTING R/W

410

415

420

S86°39'36"E

85°19'0"

70°39'5"

W COR. NW¼ SEC. 26

RAMP O

RAMP P

S16°00'31"E

STA. 1+59.00
BEGIN FULL DEPTH PAVEMENT

SLOPE LIMITS (R)

STA. 420+68.71 TRANSITION 2:1 TO 1.5:1

STA. 420+89.47 1.5:1

STA. 421+37.73 SLOPE LIMITS

STA. 421+64.28 TRANSITION 1.5:1 TO 2:1

N01°26'36"W

STA 413+35.68 OFF 54.00'

STA 418+94.12 OFF 54.00'

STA 416+08.26 OFF 54.0'

STA 416+23.26 OFF 54.0'

STA 418+75.46 OFF 75.9'

STA 420+33.54 OFF 45.4'

STA 420+80.14 OFF 45.6'

STA 420+80.14 OFF 45.6'

MATCHLINE STA. 408+50.00

MATCHLINE STA. 422+00.00

TYPE C BARRIER

TRANSITION FROM TYPE C TO TYPE D BARRIER

TRANSITION FROM TYPE D TO TYPE C BARRIER

SB US-71

℄ US-71

TYPE D BARRIER

NB US-71

TYPE C BARRIER

PROPOSED NORTHBOUND BRIDGE A9663

5

10

210

76°41'5"

STA 414+82.06 OFF 151.2'

STA 412+94.12 OFF 54.0'

STA 413+09.12 OFF 54.0'

STA 415+81.70 OFF 54.0'

N17°46'09"W

SLOPE LIMITS

N04°28'31"W

RAMP N

RAMP Q

81°48'55"

111°6'33"

BM 205

NE ¼, NW ¼
SEC 26 T48N R33W

EXISTING R/W

STA 415+08.68 OFF 182.6'

CP 112

SLOPE LIMITS

STA. 6+02.44
BEGIN FULL DEPTH PAVEMENT

RAMP Q
STA. 0+90 TO STA. 11+74 RT.
INSTALL 848.4 SY SHOULDER REPLACEMENT

STA. 0+67 TO STA. 10+72 LT.
INSTALL 802.1 SY SHOULDER REPLACEMENT

KC SCOUT FIBER

BM 206

KC SCOUT FIBER

AT&T DISTRIBUTION LOCATED AT DEPTH BELOW EXISTING & PROPOSED RCB (DND)

STA. 211+51.14 ℄ BANNISTER RD. (ROUTE W)=
STA. 13+87.70 ℄ RAMP N

℄ BANNISTER RD. (ROUTE W)

STA. 211+47.03 ℄ BANNISTER RD. (ROUTE W)=
STA. 0+00.00 ℄ RAMP Q

STA. 420+07.52 ℄ US-71
REMOVE AND RECONSTRUCT 62'-10" BRIDGE CULVERT H00336
(SEE BRIDGE PLANS)

NW ¼, NW ¼
SEC 26 T48N R33W

KING'S ROSE HILL SUBDIVISION

J & M SARAI
4300 WOODFIELD DRIVE
KANSAS CITY, MO.

HART GROVE CREEK

NB US-71
STA. 415+68 TO 421+30 RT.
INSTALL 562.5' MGS GUARDRAIL (8' POSTS) & 1 MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR/NO CURB)

US-71
STA. 415+82 TO 416+23
INSTALL 339.3 SQ.YD. CONCRETE APPROACH PAVEMENT

DAMON PURCELL CONSTRUCTION CO.
PACE TRACT B
4500 E. BANNISTER RD.

SCALE
0 50 100 150

LEGEND

- MILL & OVERLAY
- FULL DEPTH SHOULDER RECONSTRUCTION (PHASE 1)
- FULL DEPTH PAVEMENT RECONSTRUCTION (PHASE 2 & 3)
- PROPOSED BRIDGE
- TYPE 1 ROCK LINING & TYPE 1 ROCK BLANKET
- TYPE 1 ROCK DITCH LINER
- TYPE 2 ROCK BLANKET & TYPE 2 ROCK BLANKET
- SEEDING

US-71 PLAN
SHEET 2 OF 6

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I HEREBY CERTIFY THAT THIS WORK WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MISSOURI.

DATE PREPARED
10/31/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	5

COUNTY
JACKSON

JOB NO.
J4S3490

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

005_PL_02_J4S3490_I50_US71.dgn 12:32:40 PM 10/31/2025

LEGEND

- MILL & OVERLAY
- FULL DEPTH SHOULDER RECONSTRUCTION (PHASE 1)
- FULL DEPTH PAVEMENT RECONSTRUCTION (PHASE 2 & 3)
- PROPOSED BRIDGE
- TYPE 1 ROCK LINING & TYPE 1 ROCK BLANKET
- TYPE 1 ROCK DITCH LINER
- TYPE 2 ROCK BLANKET & TYPE 2 ROCK BLANKET
- SEEDING

NOB HILL 2ND PLAT

US-71
STA. 425+81 TO STA. 461+05 RT.
INSTALL 3218.8 SY SHOULDER REPLACEMENT

STA. 422+21 TO STA. 461+05 LT.
INSTALL 3922.0 SY SHOULDER REPLACEMENT

MYRTLE AVE.

PI 421+81.91
PC 416+73.54
PT 426+90.20
Δ 1°41'40.0" (LT)
D 0°10'0.0"
L 1,016.66' (ARC)
T 508.37'
R 34,377.50'

BDS 2ND NOB HILL LLC.
NOB HILL 2ND PLAT, TRACT D
9321 MYRTLE AVENUE

SORENSON, DANIEL D.
3828 E. 93RD STREET
KANSAS CITY, MO., 64132

TRETSKY, SCOTT R.
3832 E. 93RD STREET
KANSAS CITY, MO., 64132

METRICS REALITY LLC.
3611 JEFFERSON ST.
KANSAS CITY, MO., 64132

STEWERTSHIP INVESTMENTS LLC.
9203 CLEVELAND AVE.
KANSAS CITY, MO., 64132

FULKERSON, RANDY & MARTHA
9201 CLEVELAND AVE.
KANSAS CITY, MO., 64132

10' UTILITY EASEMENT

5' UTILITY EASEMENT

EXISTING R/W

CABLE RD.

EXISTING R/W

425 430 435

MATCHLINE STA. 422+00.00

END STA 7+25.09

SLOPE LIMITS

STA. 422+21.46 ℄ U.S. 71 =
STA. 7+25.09 ℄ RAMP P

HART GROVE CREEK

PT STA 426+90.20

STA. 428+50.00
END FULL DEPTH PAVEMENT
BEGIN MILL & OVERLAY

STA 429+30.00
OFF 66.0'

STA 432+19.07
OFF 66.00'

STA 432+31.07
OFF 66.0'

MATCHLINE STA. 435+50.00

TYPE C BARRIER

SB US-71

SAWCUT

SAWCUT

TYPE C BARRIER

N12°10'11"W

STA 424+12.70
OFF 19.2'

STA 424+62.80
OFF 45.8'

NB US-71

SAWCUT

SAWCUT

℄ US-71

RAMP Q

N17°46'09"W

PC STA 9+65.12

END STA 12+50.28

STA. 426+57.82 ℄ US-71 =
STA. 12+50.28 ℄ RAMP Q

STA. 428+50.00
END FULL DEPTH PAVEMENT
BEGIN MILL & OVERLAY

STA 429+30.00
OFF 66.0'

CP 113

BM 204

(UIP)

(UIP)

SLOPE LIMITS

EXISTING R/W

EXISTING R/W

PI 11+07.81
PC 9+65.12
PT 12+50.28
Δ 5°39'12.3" (RT)
D 1°58'57.2"
L 285.16' (ARC)
T 142.70'
R 2,890.00'

SE ¼
SEC 27 T48N R33W

NE ¼
SEC 26 T48N R33W

DAMON PURCELL CONSTRUCTION CO.
PACE TRACT B
4500 E. BANNISTER RD.

NB US-71
STA. 422+75 TO 440+86 LT.
INSTALL 1 TYPE A CRASHWORTHY END
TERMINAL (MASH) W/ 1762.5' MGS
GUARDRAIL (8' POSTS)

SECTION LINE

DAMON PURCELL CONSTRUCTION CO.

SCALE
0 50 100 150

US-71 PLAN
SHEET 3 OF 6

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	6

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

LEGEND

- MILL & OVERLAY
- FULL DEPTH SHOULDER RECONSTRUCTION (PHASE 1)
- FULL DEPTH PAVEMENT RECONSTRUCTION (PHASE 2 & 3)
- PROPOSED BRIDGE
- TYPE 1 ROCK LINING & TYPE 1 ROCK BLANKET
- TYPE 1 ROCK DITCH LINER
- TYPE 2 ROCK BLANKET & TYPE 2 ROCK BLANKET
- SEEDING

60
52
61
53
10' UTILITY EASEMENT
5' UTILITY EASEMENT
FULKERSON, RANDY & MARTHA
9200 CLEVELAND AVE.
KANSAS CITY, MO., 64132
CLARK, ALEX A.
9101 ASKEW AVE.
KANSAS CITY, MO., 64132
GILKISON, KEVIN
KANSAS CITY, MO., 64132
FULKERSON, RANDY & MARTHA
9201 CLEVELAND AVE.
KANSAS CITY, MO., 64132
5' UTILITY EASEMENT
EXISTING R/W
EXISTING R/W
HART GROVE CREEK
440
445
STA 437+93.69 OFF 66.0'
STA 438+05.69 OFF 66.0'
POT STA 442+00.00
(REPLACE)
(UIP)
SB US-71
TYPE C BARRIER
SAWCUT
℄ US-71
TYPE C BARRIER
N12°10'11"W
NB US-71
SAWCUT
MATCHLINE STA. 435+50.00
MATCHLINE STA. 449+00.00
(RELOCATE)
(UIP)
(UIP)
EXISTING R/W
CP 116
BM 203
EXISTING R/W
SE ¼, SE ¼
SEC 27 T48N R33W
SW ¼, SW ¼
SEC 22 T48N R33W
SECTION LINE
SECTION LINE
SCALE
0 50 100 150
DAMON PURCELL CONSTRUCTION CO.
PACE TRACT B
4500 E. BANNISTER RD.

US-71 PLAN
SHEET 4 OF 6

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	7

COUNTY
JACKSON

JOB NO.
J4S3490

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com
Missouri Cert. of Authority 2002010300

007_PL_04_J4S3490_I50_US71.dgn 9:47:05 AM 10/3/2025

LEGEND

- MILL & OVERLAY
- FULL DEPTH SHOULDER RECONSTRUCTION (PHASE 1)
- FULL DEPTH PAVEMENT RECONSTRUCTION (PHASE 2 & 3)
- PROPOSED BRIDGE
- TYPE 1 ROCK LINING & TYPE 1 ROCK BLANKET
- TYPE 1 ROCK DITCH LINER
- TYPE 2 ROCK BLANKET & TYPE 2 ROCK BLANKET
- SEEDING

LAKIN, DENNIS A. & ROWENA G.
9001 INDIANA AVE.
KANSAS CITY, MO., 64132

SW ¼
SEC 22 T48N R33W

NW ¼
SEC 22 T48N R33W

NE ¼
SEC 22 T48N R33W

GILKISON, KEVIN
KANSAS CITY, MO., 64132

EXISTING R/W

¼ SECTION LINE

US-71
STA. 456+59 TO 461+05
INSTALL 1 TYPE C CRASH CUSHION (MASH)
W/ 420' GUARDCABLE

HART GROVE CREEK

450

455

460

MATCHLINE STA. 449+00.00

PC STA 452+15.56

PI 457+14.81
PC 452+15.56
PT 462+11.54
Δ 9°57'35.3" (LT)
D 1°0'0.0"
L 995.98' (ARC)
T 499.25'
R 5,729.58'

STA 460+46.66
OFF 66.0'

STA 460+58.75
OFF 66.0'

PT STA 462+11.54

SAWCUT

TYPE C BARRIER

SB US-71

GUARD CABLE

℄ U.S. 71

END PROJECT
STA 461+05.00

SLOPE LIMITS

TYPE C CRASH
CUSHION (MASH)
ON CONCRETE PAD

NB US-71

(UIP)

CP 115

BM 201

CP 114

BM 202

TRACT B
PORT AUTHORITY OF
KANSAS CITY, MISSOURI
KANSAS CITY, MO., 64132

SE ¼
SEC 22 T48N R33W

TRACT A
PORT AUTHORITY OF
KANSAS CITY, MISSOURI
KANSAS CITY, MO., 64132

SCALE
0 50 100 150

US-71 PLAN
SHEET 5 OF 6

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	8

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

LEGEND

- MEDIAN STRIP & ISLANDS
- PROPOSED SIDEWALK
- SEEDING
- PROPOSED PAVEMENT
- TYPE 1 ROCK DITCH LINER

BANNISTER RD (ROUTE W)
STA. 203+16 TO 207+83 RT.
INSTALL 486.3' TYPE B CURB & GUTTER

BANNISTER RD (ROUTE W)
STA. 203+14 TO 207+89 RT.
INSTALL 343.1 SY SIDEWALK

BANNISTER RD (ROUTE W)
STA. 208+42 TO 211+26 RT.
INSTALL 286.7' TYPE B CURB & GUTTER

BANNISTER RD (ROUTE W)
STA. 208+37 TO 211+32 RT.
INSTALL 195 SY SIDEWALK

SE ¼, NE ¼
SEC 27 T48N R33W

SW ¼, NW ¼
SEC 26 T48N R33W

STA. 214+07.55 ℄ ROUTE W (BANNISTER RD)
REHAB - JOINT REPAIR AND CULVERT CLEANOUT
BRIDGE CULVERT A23951
(SEE BRIDGE PLANS)

BEGIN PROJECT
STA 203+11.06

END PROJECT
STA 212+51.35

℄ BANNISTER RD (ROUTE W)

S86°39'36"E

¼ SEC LINE

SAWCUT

6' SIDEWALK

SLOPE LIMITS

PROPOSED DETENTION POND

EXISTING R/W

RAMP P

RAMP Q

RAMP N

SEC LINE

SB US-71

NB US-71

℄ U.S. 71

S16°00'31"E

N04°28'31"W

CP 112

BM 206

(UIP)

(R)

205

210

215

0

415

10

5

SCALE
0 50 100 150

BANNISTER ROAD PLAN
SHEET 6 OF 6

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	9

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

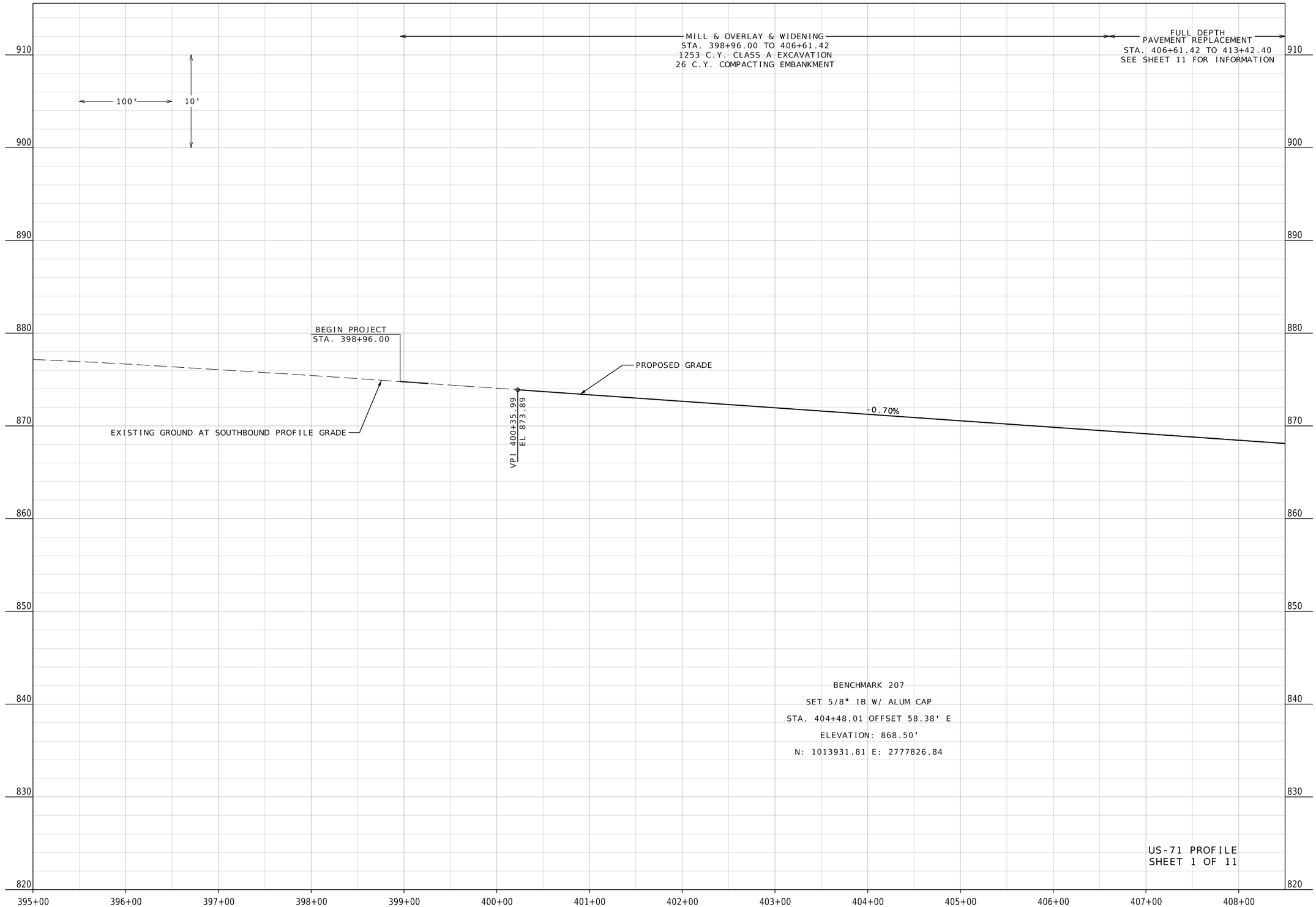
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



BENCHMARK 207
SET 5/8" IB W/ ALUM CAP
STA. 404+48.01 OFFSET 58.38' E
ELEVATION: 868.50'
N: 1013931.81 E: 2777826.84

US-71 PROFILE
SHEET 1 OF 11

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM NOT USING DIGITAL SIGNATURE.
SIGNED AND DATED ELECTRONICALLY.

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	10

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

FULL DEPTH PAVEMENT REPLACEMENT
STA. 406+61.42 TO 413+42.40
5549 C.Y. CLASS A EXCAVATION
1389 C.Y. COMPACTING EMBANKMENT
14 STA. COMPACTING IN CUT

PROPOSED NORTHBOUND BRIDGE A9663
PROPOSED SOUTHBOUND BRIDGE A9572

FULL DEPTH PAVEMENT REPLACEMENT
STA. 415+74.98 TO 428+50.00
1868 C.Y. CLASS A EXCAVATION
2112 C.Y. COMPACTING EMBANKMENT
12 STA. COMPACTING IN CUT

10'
100'

-0.70%

VPC 409+05.00
EL 867.72

VPI 413+30.00
EL 864.74

-0.70%

-5.00%

SSD = 653'
K = 198
850.00' V.C.

PROPOSED GRADE

VPT 417+55.00
EL 843.49

-0.99%

1.00%

-5.00%

417+00.00
EL 836.00

SPECIAL DITCH

418+51.44
EL 834.50

419+03.98
EL 835.03

VPC 421+90.00
EL 821.74

EXISTING GROUND AT SOUTHBOUND PROFILE GRADE

BENCHMARK 205
SET 5/8" IB W/ ALUM CAP
STA. 419+96.25 OFFSET 174.2059 E
ELEVATION: 812.24'
N: 1015476.37' E: 2777657.26'

BENCHMARK 206
SET CHISELED SQUARE ON TOP W SIDE OF UTILITY VAULT
STA. 413+35.04 OFFSET 263.7670 E
ELEVATION: 822.22'
N: 1014841.40' E: 2777867.53'

STA. 420+07.52 CL US-71
REMOVE AND RECONSTRUCT
62'-10" BRIDGE CULVERT H00336
(SEE BRIDGE PLANS)

FL. = 798.48 (RT)

FL. = 794.81 (LT)

US-71 PROFILE
SHEET 2 OF 11

880 870 860 850 840 830 820 810 800 790

409+00 410+00 411+00 412+00 413+00 414+00 415+00 416+00 417+00 418+00 419+00 420+00 421+00 422+00

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	11

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

FULL DEPTH PAVEMENT REPLACEMENT
STA. 415+74.98 TO 428+50.00
SEE SHEET 11 FOR INFORMATION

MILL & OVERLAY & WIDENING
STA. 428+50.00 TO 461+05.00
10128 C.Y. CLASS A EXCAVATION
70 C.Y. COMPACTING EMBANKMENT
33 STA. COMPACTING IN CUT

100'
10'

SSD = 654'
K = 159
660.00' V.C.

PROPOSED GRADE

-5.00%
-0.85%

VPI 425+20.00
EL 805.24

VPT 428+50.00
EL 802.44

EXISTING GROUND AT SOUTHBOUND PROFILE GRADE

BENCHMARK 204
SET 5/8" IB W/ ALUM CAP
STA. 429+92.13 OFFSET 115.7069 E
ELEVATION: 798.98'
N: 1016442.69' E: 2777396.51'

US-71 PROFILE
SHEET 3 OF 11

850 840 830 820 810 800 790 780 770 760

422+00 423+00 424+00 425+00 426+00 427+00 428+00 429+00 430+00 431+00 432+00 433+00 434+00 435+00

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I HEREBY CERTIFY THAT THIS WAS SEALED AND DATED ELECTRONICALLY

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	12

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

MILL & OVERLAY & WIDENING

STA. 428+50.00 TO 461+05.00

SEE SHEET 12 FOR INFORMATION

100'

10'

EXISTING GROUND AT SOUTHBOUND PROFILE GRADE

BENCHMARK 203
SET 5/8" IB W/ ALUM CAP
STA. 440+80.81 OFFSET 135.5748 E
ELEVATION: 793.50'
N: 1017511.08' E: 2777186.39'

830
820
810
800
790
780
770
760
750
740

436+00 437+00 438+00 439+00 440+00 441+00 442+00 443+00 444+00 445+00 446+00 447+00 448+00 449+00

US-71 PROFILE
SHEET 4 OF 11

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM NOT LIABLE FOR ANY UNSEALED, UNSIGNED AND/OR DATED ELECTRONIC SEAL(S).

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	13

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

MILL & OVERLAY & WIDENING

STA. 428+50.00 TO 461+05.00
SEE SHEET 12 FOR INFORMATION

100'

10'

830
820
810
800
790
780
770
760
750
740

END PROJECT
STA. 461 + 05.00

EXISTING GROUND AT SOUTHBOUND PROFILE GRADE

BENCHMARK 202
SET CHISELED SQUARE ON NW CORNER OF CONCRETE BASE OF GATE POST
STA. 450+95.06 OFFSET 240.8918 E
ELEVATION: 791.62'
N: 1018524.74' E: 2777075.52'

BENCHMARK 201
SET 5/8" IB W/ ALUM CAP
STA. 462+01.28 OFFSET 150.4722 E
ELEVATION: 778.46'
N: 1019589.17' E: 2776664.67'

449+00 450+00 451+00 452+00 453+00 454+00 455+00 456+00 457+00 458+00 459+00 460+00 461+00 462+00

US-71 PROFILE
SHEET 5 OF 11

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM NOT LIABLE FOR ANY UNSEALED, SIGNED AND DATED ELECTRONICALLY.

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO

DISTRICT	SHEET NO.
KC	14

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

RAMP N
STA. 0+00.00 TO 4+27.19
3615 C.Y. CLASS A EXCAVATION
60 C.Y. COMPACTING EMBANKMENT

RAMP N
STA. 4+27.19 TO 12+74.50
3003 C.Y. CLASS A EXCAVATION
680 C.Y. COMPACTING EMBANKMENT

100' 10'

PROPOSED GRADE

EXISTING GROUND

SPECIAL DITCH

SSD = 397'
K = 73
370.00' V.C.

VPI 0+00.00 EL 871.92
VPI 0+50.00 EL 871.76
VPI 0+70.00 EL 871.36
VPI 1+00.00 EL 870.61
VPI 1+50.00 EL 870.58
VPI 2+00.00 EL 870.07
VPC 2+95.00 EL 870.76
VPI 3+00.00 EL 868.32
VPI 3+50.00 EL 868.02
VPI 3+78.70 EL 867.85
VPI 4+00.00 EL 867.20
VPC 4+27.19 EL 868.35
VPI 4+50.00 EL 865.93
VPI 4+80.00 EL 869.19
VPI 5+00.00 EL 864.35
VPI 5+50.00 EL 862.54
VPI 5+65.00 EL 862.13
VPI 6+00.00 EL 860.71
VPT 6+65.00 EL 858.18
VPI 6+50.00 EL 857.47
VPI 6+65.00 EL 856.54
VPI 7+00.00 EL 853.58
VPI 7+15.00 EL 852.81
VPI 7+50.00 EL 850.57
VPI 7+65.00 EL 850.01
VPI 8+00.00 EL 847.98
VPI 8+50.00 EL 845.00
VPI 9+00.00 EL 842.30
VPI 9+35.00 EL 840.30
VPI 9+50.00 EL 839.16
VPI 10+00.00 EL 835.55
VPI 10+50.00 EL 831.62
VPI 10+85.00 EL 829.64
VPI 11+00.00 EL 827.97
VPI 11+50.00 EL 825.62

-0.32% -2.00% -2.50% -0.06% -0.85% -1.02% -1.75% -0.60% -0.59% -2.05% -2.54% -3.16% -3.62% -7.73% -4.06% -6.48% -6.20% -8.46% -5.13% -6.40% -8.73% -5.80% -5.96% -5.40% -5.71% -5.95% -7.60% -7.22% -7.86% -5.66% -11.13% -4.70% 0.85% -5.95%

890 880 870 860 850 840 830 820 810 800

-2+00 -1+00 0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00

RAMP N PROFILE
SHEET 6 OF 11

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM NOT LIABLE FOR ANY UNSEALED, SIGNED AND DATED ELECTRONIC FILES.

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	15

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

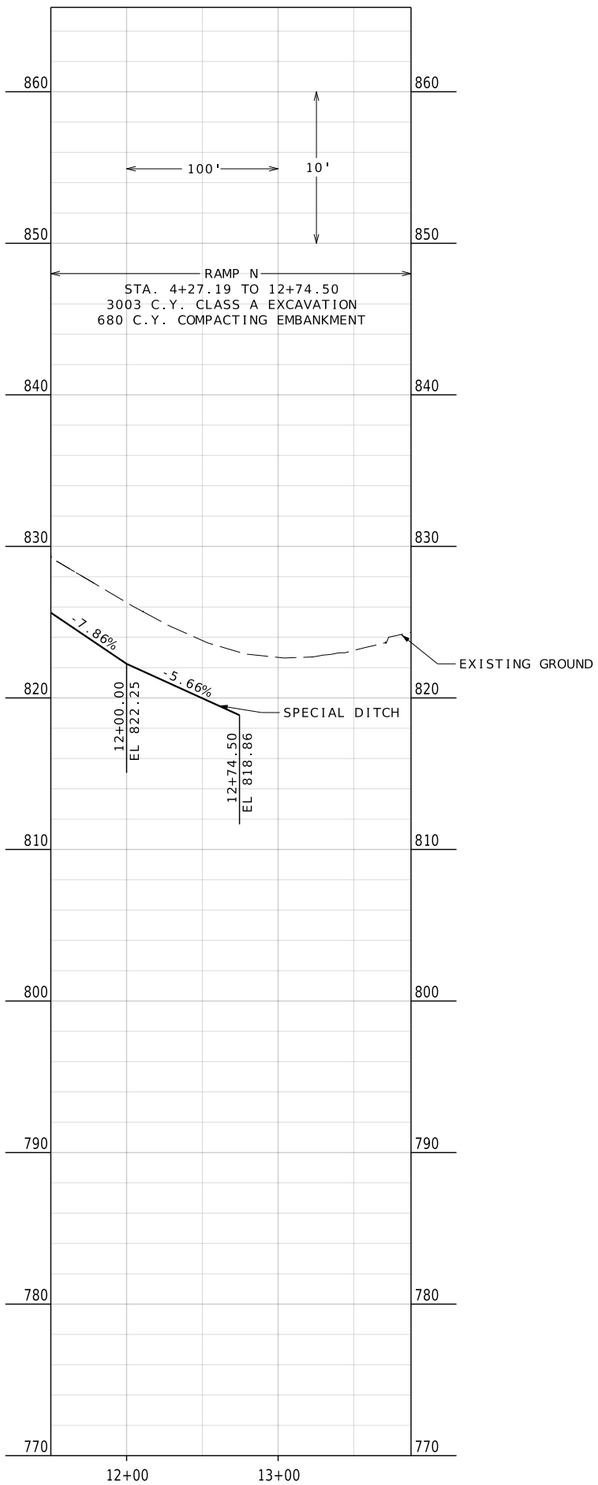
BRIDGE NO.

DESCRIPTION	DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010380



RAMP N PROFILE
SHEET 7 OF 11

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	16

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

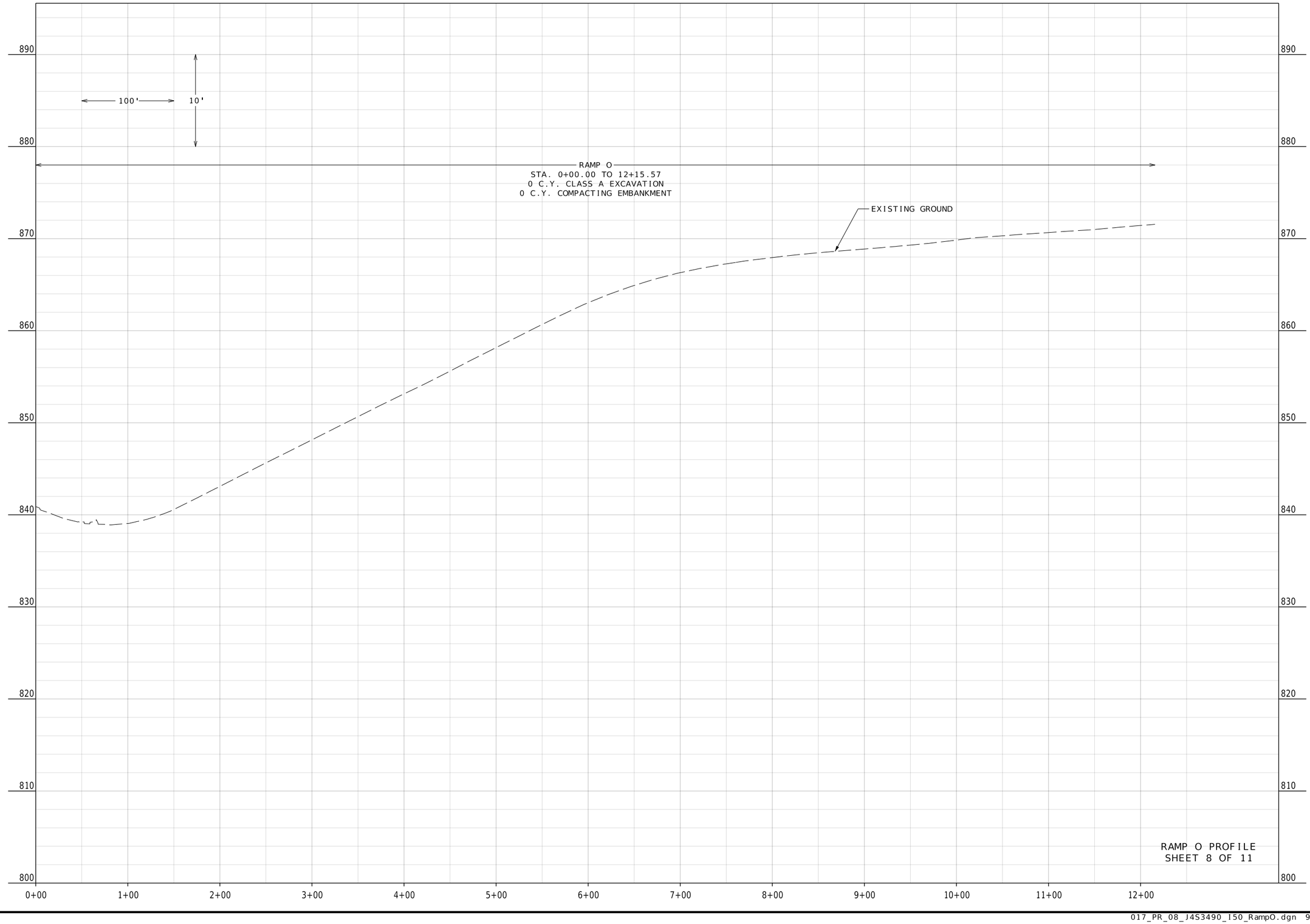
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



RAMP O PROFILE
SHEET 8 OF 11

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	17

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

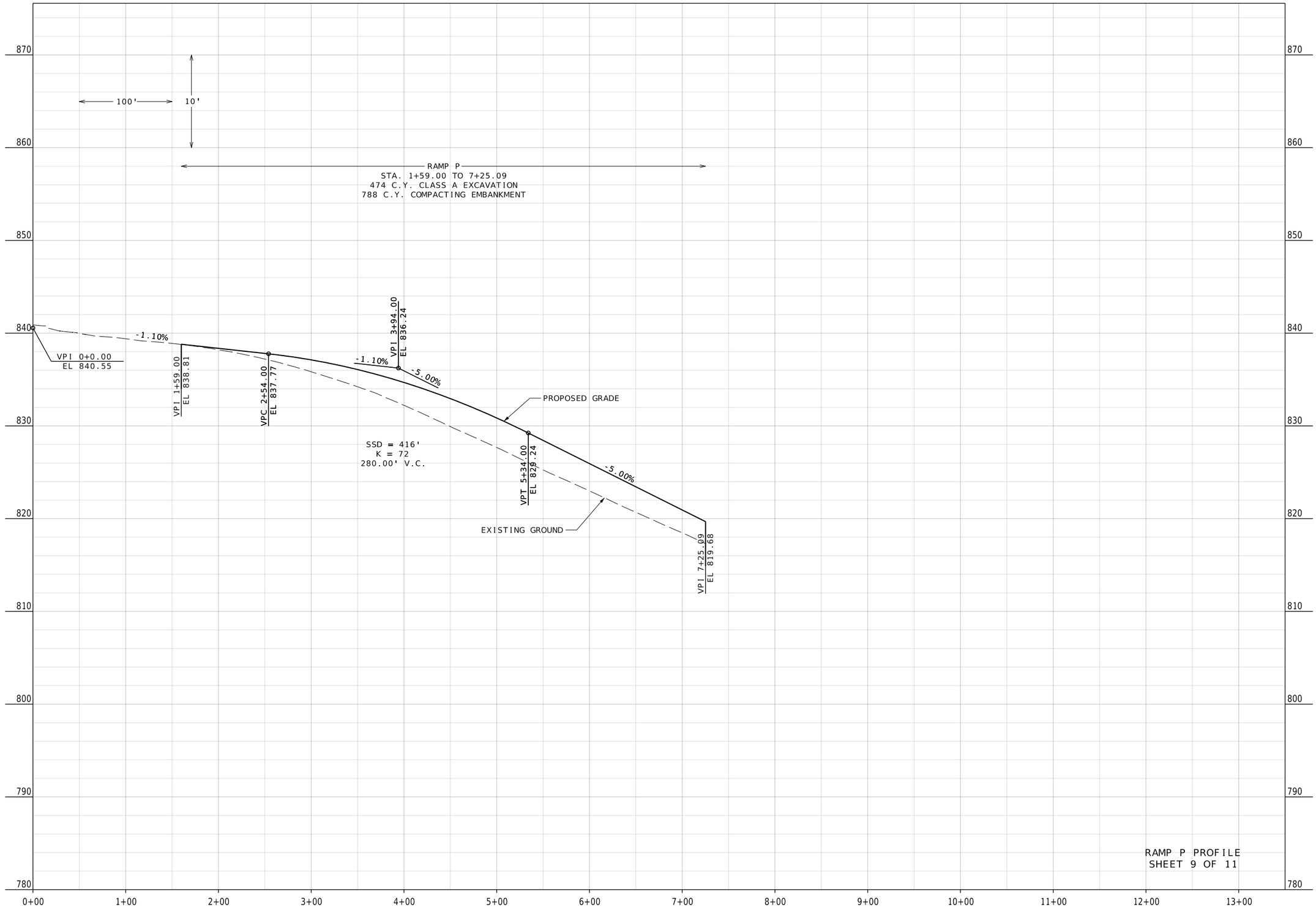
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



RAMP P PROFILE
SHEET 9 OF 11

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM NOT LIABLE FOR ANY UNSEALED, SIGNED AND DATED ELECTRONICALLY

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	18

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

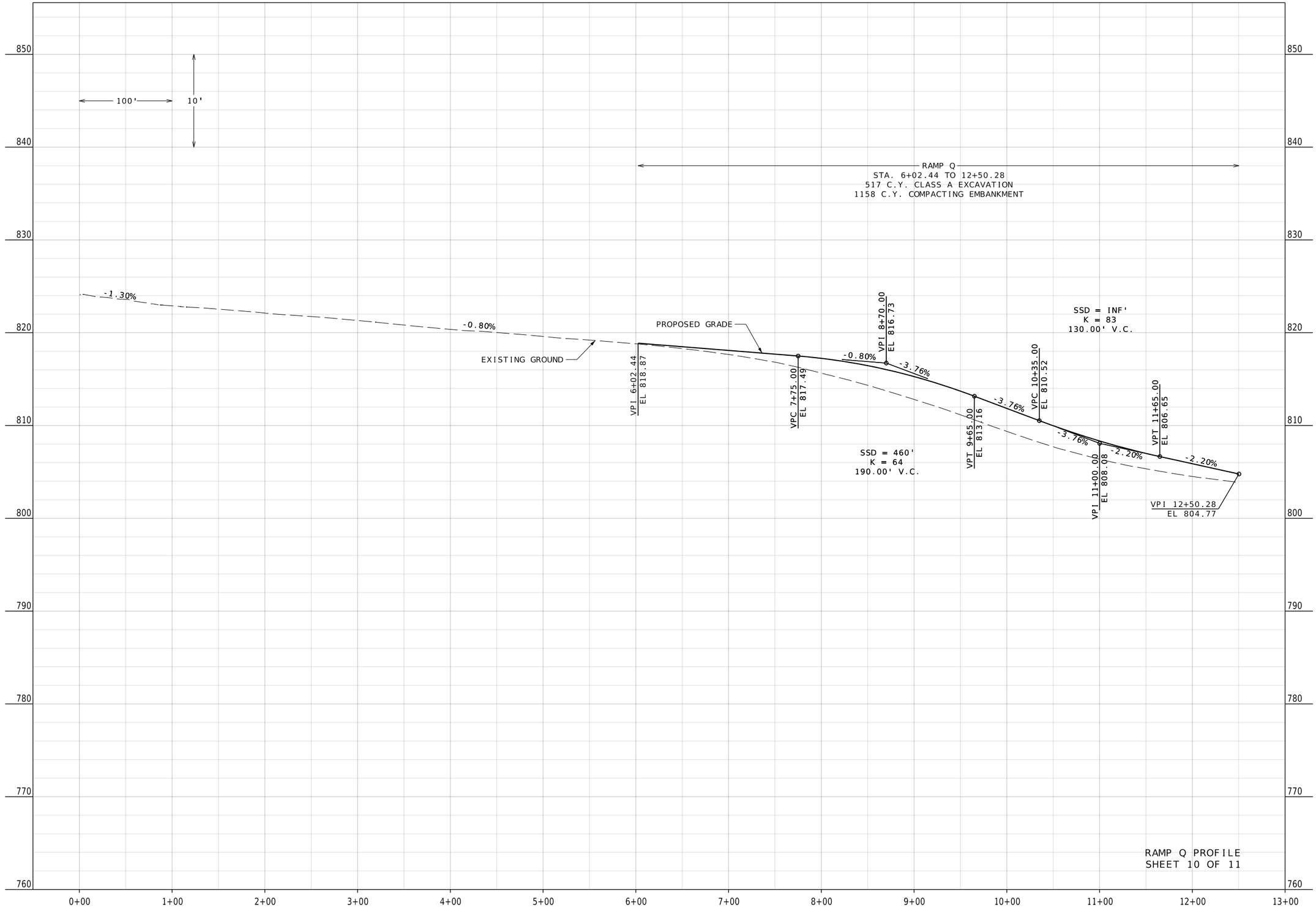
BRIDGE NO.

DESCRIPTION	DATE

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

018_PR_09_J4S3490_I50_RampP.dgn 9:47:33 AM 10/3/2025



STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM NOT LIABLE FOR ANY UNAUTHORIZED, ALTERED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	19

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

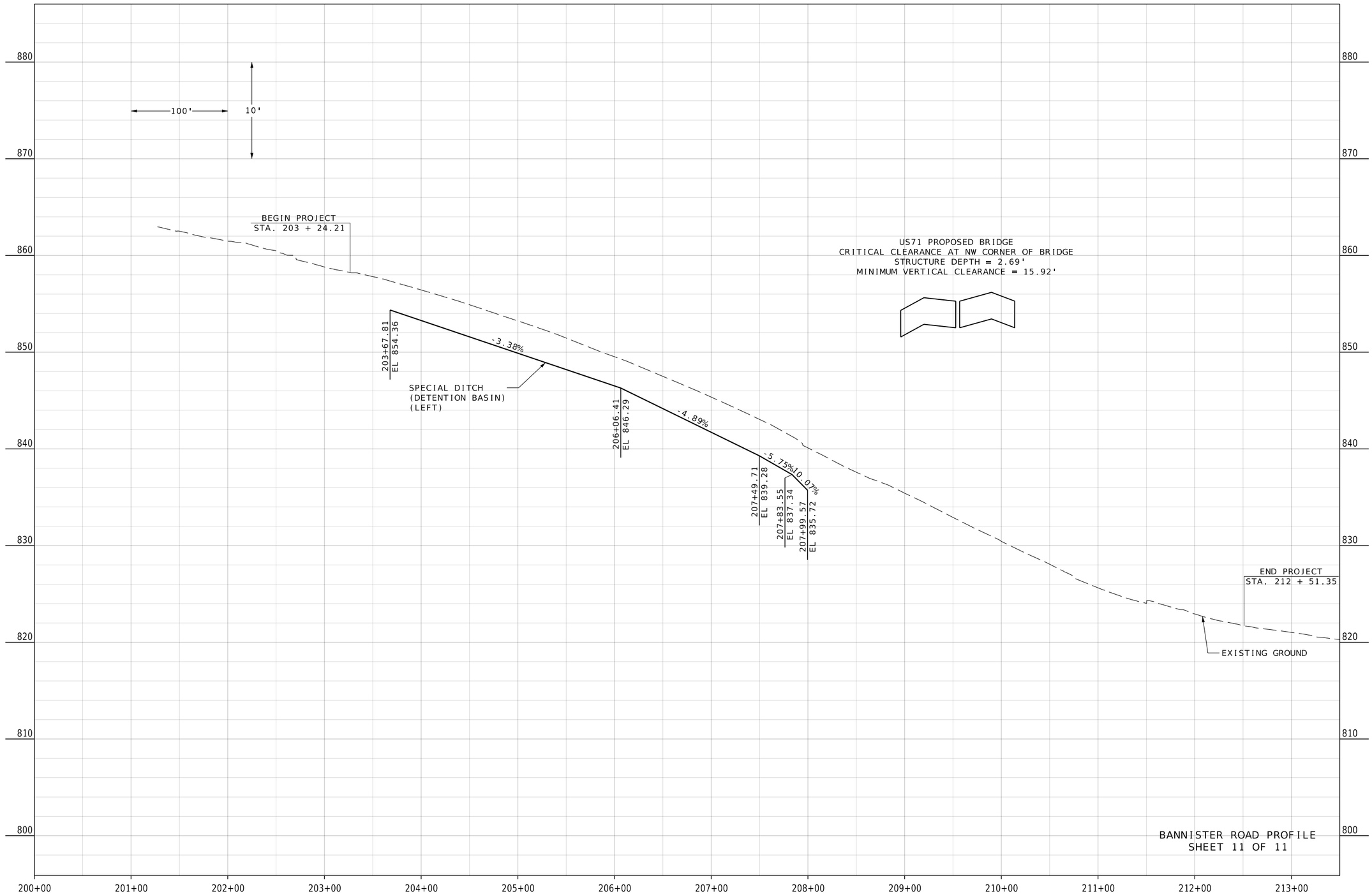
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



BANNISTER ROAD PROFILE
SHEET 11 OF 11

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM NOT YET FULLY SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	20

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

LEGEND

VARIABLE THICKNESS ASPHALTIC CONCRETE OVERLAY

SLOPE LIMITS

STA. 11+50.00
BEGIN TEMPORARY OVERLAY

STA. 11+50.00

STA. 12+15.00

PC STA 12+71.70

PI 13+88.48
PC 12+71.70
PT 15+04.21
Δ 13°19'18.4" (LT)
D 5°43'46.5"
L 232.51' (ARC)
T 116.78'
R 1,000.00'

STA. 14+70.00

STA 15+04.21

STA. 15+65.00

RAMP N

RAMP Q

0%

2%

2%

2%

1%

℄ NB DETOUR

STA. 15+65.00
END TEMPORARY OVERLAY

CONSTRUCTION LIMITS FOR DETOUR PAVEMENT SECTION (TYP.)

7' OF 15" GROUP A PIPE WITH
TYPE A PIPE COLLAR (TEMPORARY)
REPLACE EXISTING HEADWALL WITH
15" TYPE A FLARED END SECTION
UPON COMPLETION

WIDENING FOR
OFFTRACKING

BANNISTER RD (ROUTE W)

SCALE

0 20 40 60

2' 12' 12' 12' 2'

3:1 2% 2% 2% 3:1

VARIABLE DEPTH TEMPORARY PAVEMENT

RAMP N

2' 12' 12' 2'

3:1 2% 2% 3:1

VARIABLE DEPTH TEMPORARY PAVEMENT

BANNISTER ROAD
(ROUTE W)

2' 12' 12' 2'

3:1 2% 2% 3:1

VARIABLE DEPTH TEMPORARY PAVEMENT

RAMP Q

840
830
820
810

11+00 12+00 13+00 14+00 15+00

VPC 11+15.00
EL 831.52

-6.46%

SSD = 193'
K = 35
250.00' V.C.

PROPOSED GRADE

BEGIN TEMPORARY OVERLAY
STA. 11+50.00

-6.46%

+0.74%

VPI 12+40.00
EL 823.49

EXISTING GROUND

VLP 13+39.20
EL 824.32

VPC 13+65.00
EL 824.41

VPT 13+65.00
EL 824.41

VHP 13+99.15
EL 824.54

+0.74%

VPI 14+20.00
EL 824.82

-1.64%

℄ BANNISTER RD (ROUTE W)

SSD = 508'
K = 46
110.00' V.C.

VPT 14+75.00
EL 823.91

-1.64%

END TEMPORARY OVERLAY
STA. 15+65.00

NB DETOUR
PLAN AND PROFILE
SHEET 1 OF 2

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	21

COUNTY
JACKSON

JOB NO.
J4S3490

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

LEGEND

VARIABLE THICKNESS ASPHALTIC CONCRETE OVERLAY

SLOPE LIMITS

STA. 12+15.00
BEGIN TEMPORARY OVERLAY

STA. 12+15.00

STA. 12+47.00

PC STA 12+75.09

STA. 14+68.00

STA. 15+00.00

PT STA 15+25.88

RAMP O

N15°59'56"W

1%

2%

℄ SB DETOUR

2%

3%

RAMP P

N01°37'47"W

CONSTRUCTION LIMITS FOR DETOUR PAVEMENT SECTION (TYP.)

4' OF 24" GROUP A PIPE WITH
TYPE A PIPE COLLAR (TEMPORARY)
REPLACE EXISTING HEADWALL WITH
24" SAFETY SLOPE END SECTION
UPON COMPLETION

BANNISTER RD (ROUTE W)

415

0

I

15

PI 14+01.15
PC 12+75.09
PT 15+25.88
Δ 14°22'9.0" (RT)
D 5°43'46.5"
L 250.79' (ARC)
T 126.06'
R 1,000.00'

STA. 15+00.00
END TEMPORARY OVERLAY

SCALE

0 20 40 60

2' 12' 12' 2'
3:1 2% 2% 3:1
VARIABLE DEPTH TEMPORARY PAVEMENT

BANNISTER ROAD
(ROUTE W)

2' 12' 12' 2'
3:1 2% 2% 3:1
VARIABLE DEPTH TEMPORARY PAVEMENT

RAMP O & RAMP P

850
840
830
820

11+00 12+00 13+00 14+00 15+00 16+00

VPC 11+99.99
EL 844.16

-5.00%

SSD = 193'
K = 35
190.00' V.C.

PROPOSED GRADE

BEGIN TEMPORARY OVERLAY
STA. 12+15.00

-5.00%

+0.50%

VPI 13+00.00
EL 839.16

EXISTING GROUND

VLP 13+80.16
EL 839.66

VPT 13+99.85
EL 839.71

VPC 13+99.85
EL 839.71

℄ BANNISTER RD
(ROUTE W)

VHP 14+25.26
EL 839.78

+0.50%

VPI 14+30.00
EL 839.93

-0.84%

SSD = 841'
K = 52
70.00' V.C.

VPT 14+79.75
EL 839.46

-0.84%

END TEMPORARY OVERLAY
STA. 15+00.00

SB DETOUR
PLAN AND PROFILE
SHEET 2 OF 2

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	22

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

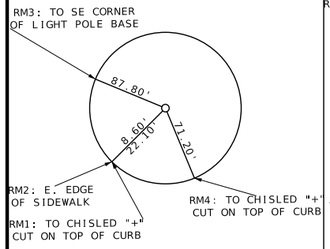
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

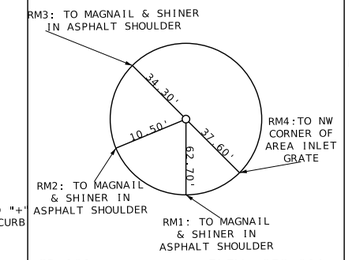
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

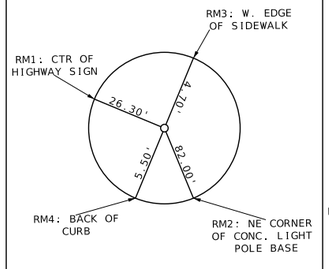
TREKK DESIGN GROUP, LLC



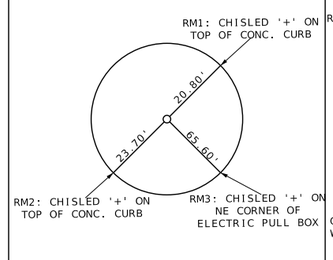
CP 100 ELEV: 868.74'
N: 1,009,954.01 E: 2,779,349.46
⅝" IB W/ ALUMINUM CAP
BEYOND THE LIMITS OF
US-71 ALIGNMENT



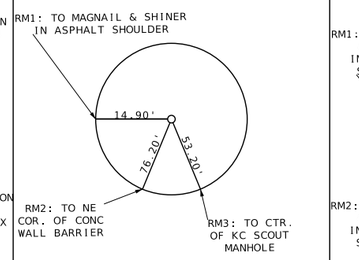
CP 101 ELEV: 873.01'
N: 1,010,098.06 E: 2,778,685.18
⅝" IB W/ ALUMINUM CAP
ON E. SIDE OF I-49 NORTHBOUND LANE
BEYOND THE LIMITS OF
US-71 ALIGNMENT



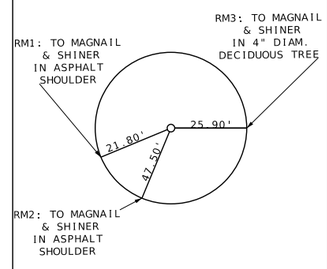
CP 102 ELEV: 803.59'
N: 1,021,351.03 E: 2,776,801.65
⅝" IB W/ ALUMINUM CAP
BEYOND THE LIMITS OF
US-71 ALIGNMENT



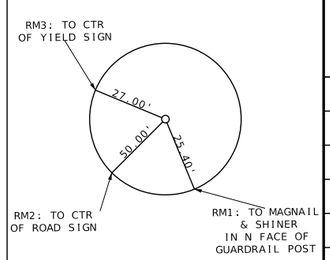
CP 103 ELEV: 793.85'
N: 1,021,112.79 E: 2,775,737.00
⅝" IB W/ ALUMINUM CAP
BEYOND THE LIMITS OF
US-71 ALIGNMENT



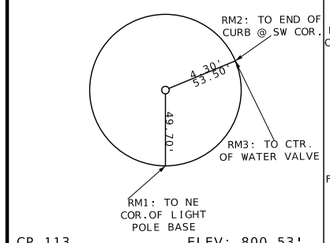
CP 110 ELEV: 878.99'
N: 1,011,573.10 E: 2,778,296.25
SET ⅝" IB W/ ALUMINUM CAP 6" BELOW
GRADE ON E. SIDE OF MO 71
NORTHBOUND LANE
℄ US-71 STA. 380+43.27, 91.13' RT.



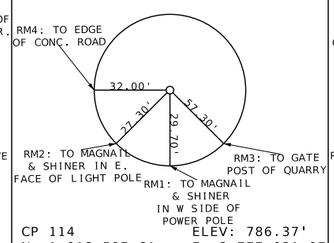
CP 111 ELEV: 873.88
N: 1,012,441.54 E: 2,778,126.03
SET ⅝" IB W/ ALUMINUM CAP
6" BELOW GRADE ON E. SIDE
OF MO 71 NORTHBOUND LANE
℄ US-71 STA. 389+28.18, 81.63' RT.



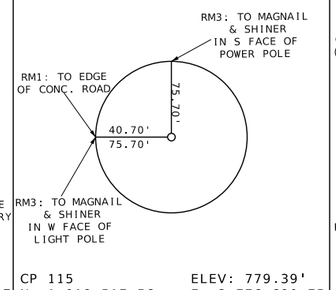
CP 112 ELEV: 820.78'
N: 1,014,998.04 E: 2,777,793.68
SET ⅝" IB W/ ALUMINUM CAP
6" BELOW GRADE AT NE CORNER
OF BANNISTER & MO 71 ONRAMP
℄ US-71 STA. 415+02.50, 219.63' RT.



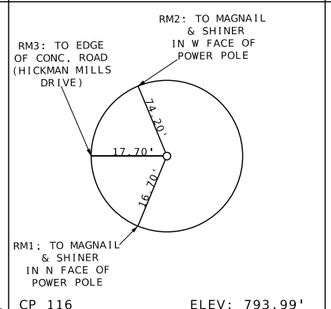
CP 113 ELEV: 800.53'
N: 1,016,420.10 E: 2,777,357.82
SET ⅝" IB W/ ALUMINUM CAP
6" BELOW GRADE ON E. SIDE
OF MO 71 NORTHBOUND LANE
℄ US-71 STA. 429+78.22, 73.16' RT.



CP 114 ELEV: 786.37'
N: 1,018,597.61 E: 2,777,021.97
SET ⅝" IB W/ ALUMINUM CAP
6" BELOW GRADE, N SIDE OF
ENTRANCE TO ROCKRIDGE QUARRY
℄ US-71 STA. 451+77.59, 203.91' RT.



CP 115 ELEV: 779.39'
N: 1,019,517.56 E: 2,776,690.75
SET ⅝" IB W/ ALUMINUM CAP
6" BELOW GRADE ON W SIDE OF



CP 116 ELEV: 793.99'
N: 1,017,417.71 E: 2,777,205.98
SET ⅝" IB W/ ALUMINUM CAP
6" BELOW GRADE ON E. SIDE
OF HICKMAN MILLS DRIVE
℄ US-71 STA. 439+85.41, 135.05' RT.

REFERENCE POINT
SHEET 1 OF 1

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	23

COUNTY
JACKSON

JOB NO.
J4S3490

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 TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of
Authority 2002010300

TREKK DESIGN GROUP, LLC

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	MO83-WF
HORIZONTAL DATUM	NAD83
VERTICAL DATUM	NAVD88
GEOID MODEL	GEOID18
ELEVATIONS DETERMINED BY	GNSS
PROJECT PROJECTION FACTOR	1.00009380

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MO83-WF
CONTROL STATION	XX
DESIGNATION	KANSAS CITY WAAS 1 CORS ARP
CORS_ID	ZKC1
PID	DF9221
LATITUDE	38 52 48.55020 N
LONGITUDE	094 47 26.96366 W
NORTHING (M)	65636.4030
EASTING (M)	678403.3020
DESIGNATION	MOIP INDEPENDENCE CORS ARP
CORS_ID	MOIP
PID	DR4005
LATITUDE	39 07 18.59712 N
LONGITUDE	094 23 14.84177 W
NORTHING (M)	327980.0660
EASTING (M)	859731.9650
ZONE	2403 (MO-West)
PROJECT AVERAGE GRID FACTOR	0.99990620

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 #115
N 1019517.56 X 0.99990620 = N 1019421.929
E 2776690.75 X 0.99990620 = E 2776430.296

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	GPK POINT ID
PROJECT CONTROL POINTS								
		℄ US-71		1,012,441.54	2,778,126.03	873.88	CP 111, BEYOND LIMITS OF PROPOSED ALIGNMENT	
		℄ US-71		1,011,573.10	2,778,296.25	878.99	CP 110, BEYOND LIMITS OF PROPOSED ALIGNMENT	
		℄ US-71		1,010,098.06	2,778,685.18	873.01	CP 101, BEYOND LIMITS OF PROPOSED ALIGNMENT	
		℄ US-71		1,009,954.01	2,779,349.46	868.74	CP 100, BEYOND LIMITS OF PROPOSED ALIGNMENT	
5	415+02.50	℄ US-71	219.63	1,014,998.04	2,777,793.68	820.78	CP. 112	
6	429+78.22	℄ US-71	73.16	1,016,420.10	2,777,357.82	800.53	CP. 113	
7	439+85.41	℄ US-71	135.05	1,017,417.71	2,777,205.98	793.99	CP. 116	
8	451+77.59	℄ US-71	203.91	1,018,597.61	2,777,021.97	786.37	CP. 114	
8	461+27.03	℄ US-71	148.29	1,019,517.56	2,776,690.75	779.39	CP. 115	
		℄ US-71		1,021,351.03	2,776,801.65	803.59	CP 102, BEYOND LIMITS OF PROPOSED ALIGNMENT	
		℄ US-71		1,021,112.79	2,775,737.00	793.85	CP 103, BEYOND LIMITS OF PROPOSED ALIGNMENT	
ALIGNMENTS								
	390+00.00	℄ US-71	0	1,012,497.32	2,778,032.70		BEG. ℄ US-71 CHAIN, NOT SHOWN ON PLAN SHEETS	
4	398+96.00	℄ US-71	0	1,013,378.39	2,777,869.79		BEG. PROJECT	
5	416+73.54	℄ US-71	0	1,015,126.30	2,777,546.61		PC	
6	426+90.20	℄ US-71	0	1,016,123.14	2,777,347.01		PT	
7	442+00.00	℄ US-71	0	1,017,599.01	2,777,028.73		POT	
8	452+15.56	℄ US-71	0	1,018,591.74	2,776,814.64		PC	
8	462+11.54	℄ US-71	0	1,019,542.24	2,776,521.33		PT	
8	461+05.00	℄ US-71	0	1,019,443.18	2,776,560.54		END PROJECT	
	473+14.20	℄ US-71	0	1,020,563.67	2,776,105.95		END. ℄ US-71 CHAIN, NOT SHOWN ON PLAN SHEETS	
4	0+00.00	℄ RAMP NPR	0	1,013,526.22	2,777,899.41		BEG. ℄ RAMP NPR CHAIN	
4	2+00.00	℄ RAMP NPR	0	1,013,724.43	2,777,873.40		PT	
5	13+87.70	℄ RAMP NPR	0	1,014,908.51	2,777,780.72		END. ℄ RAMP NPR CHAIN	
5	0+00.00	℄ RAMP OPR	0	1,014,929.54	2,777,420.39		BEG. ℄ RAMP OPR CHAIN	
4	9+38.90	℄ RAMP OPR	0	1,014,027.05	2,777,679.33		PC	
4	12+15.57	℄ RAMP OPR	0	1,013,757.84	2,777,742.68		END. ℄ RAMP OPR CHAIN	
5	0+00.00	℄ RAMP PPR	0	1,014,929.54	2,777,420.39		BEG. ℄ RAMP PPR CHAIN	
5	5+59.33	℄ RAMP PPR	0	1,015,488.69	2,777,406.30		PC	
6	7+25.09	℄ RAMP PPR	0	1,015,653.21	2,777,387.80		END. ℄ RAMP PPR CHAIN	
5	0+00.00	℄ RAMP QPR	0	1,014,908.75	2,777,776.62		BEG. ℄ RAMP QPR CHAIN	
6	9+65.12	℄ RAMP QPR	0	1,015,827.83	2,777,482.08		PC	
6	12+50.28	℄ RAMP QPR	0	1,016,103.23	2,777,408.58		END. ℄ RAMP QPR CHAIN	
	199+10.44	℄ BANNISTER	0	1,014,980.80	2,776,542.12		BEG. ℄ BANNISTER CHAIN, NOT SHOWN ON PLAN SHEETS	
9	203+24.21	℄ BANNISTER	0	1,014,956.69	2,776,955.20		BEG. PROJECT	
9	212+51.35	℄ BANNISTER	0	1,014,902.67	2,777,880.76		END PROJECT	
	216+98.49	℄ BANNISTER	0	1,014,876.62	2,778,327.14		END. ℄ BANNISTER CHAIN, NOT SHOWN ON PLAN SHEETS	

COORDINATE POINT SHEET
SHEET 1 OF 1

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED 10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	24

COUNTY JACKSON
JOB NO. J4S3490
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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

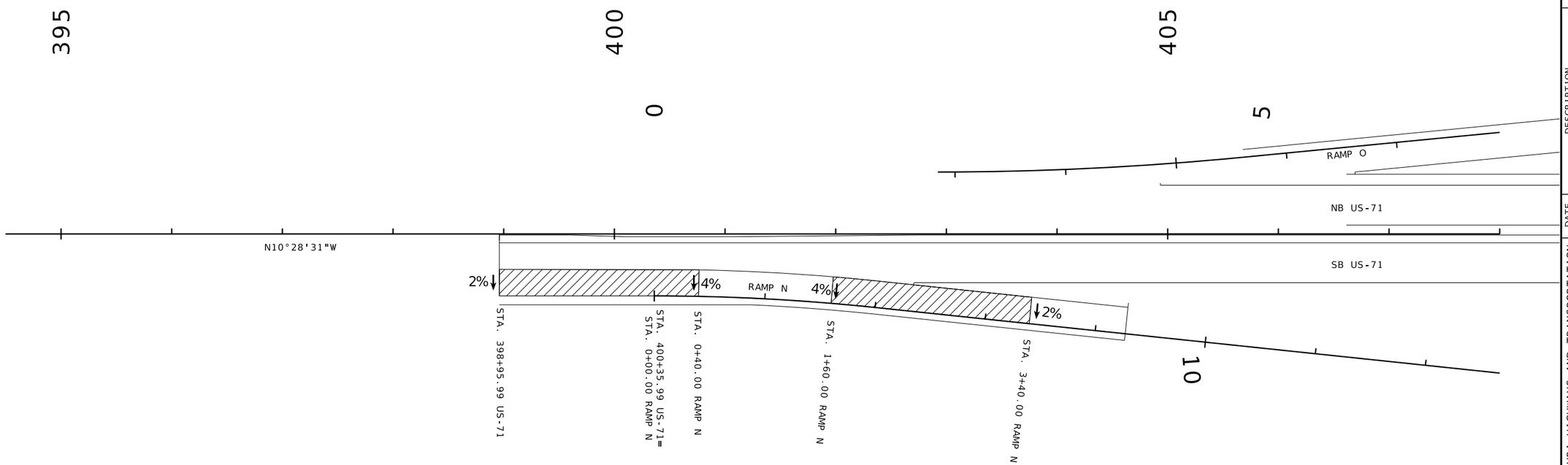
TREKK DESIGN GROUP, LLC

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

REV.

LEGEND

SUPERELEVATION TRANSITION



SCALE

0 50 100 150

SUPERELEVATION SHEETS
SHEET 1 OF 2

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	25

COUNTY
JACKSON

JOB NO.
J4S3490

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)

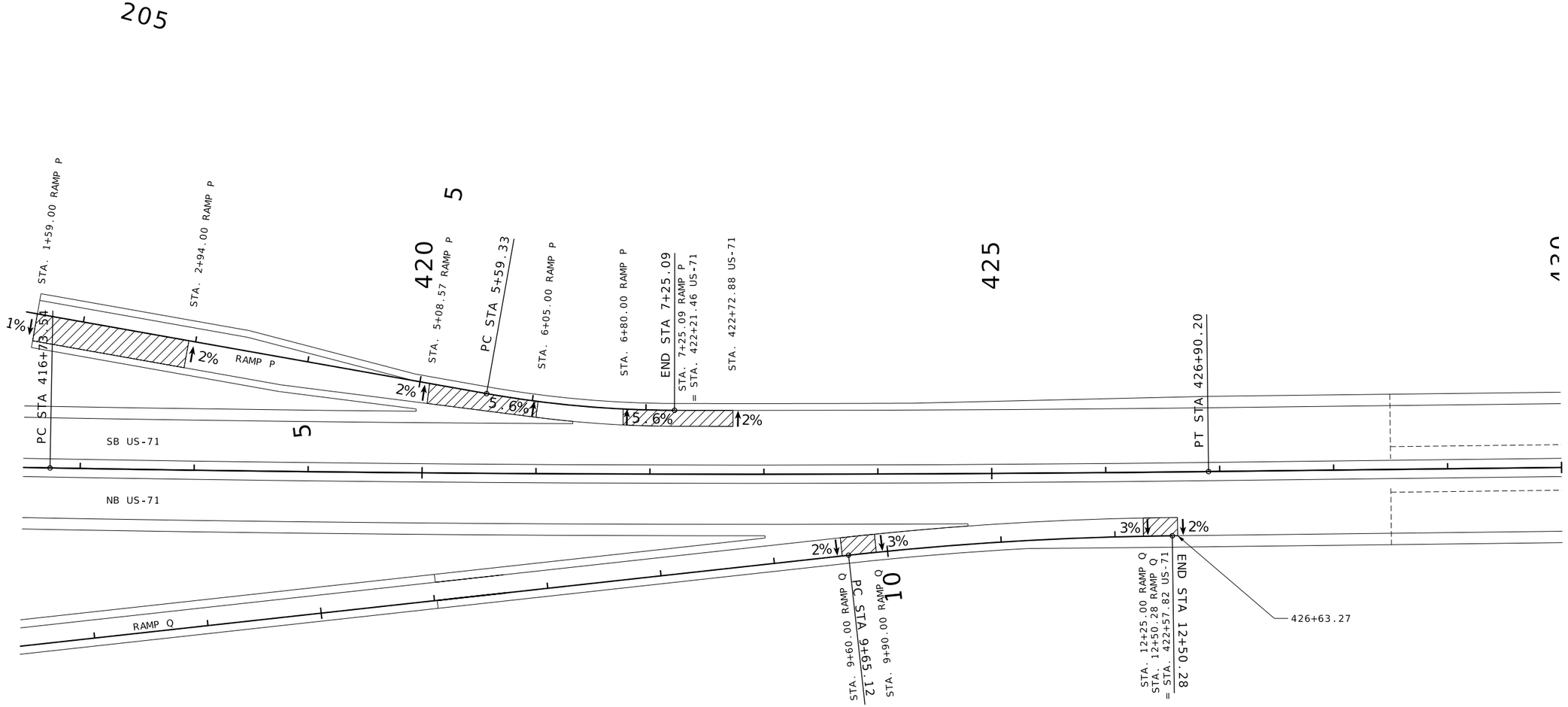
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4855
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

LEGEND

SUPERELEVATION TRANSITION



SCALE

0 50 100 150

SUPERELEVATION SHEETS
SHEET 2 OF 2

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	26

COUNTY
JACKSON

JOB NO.
J4S3490

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)

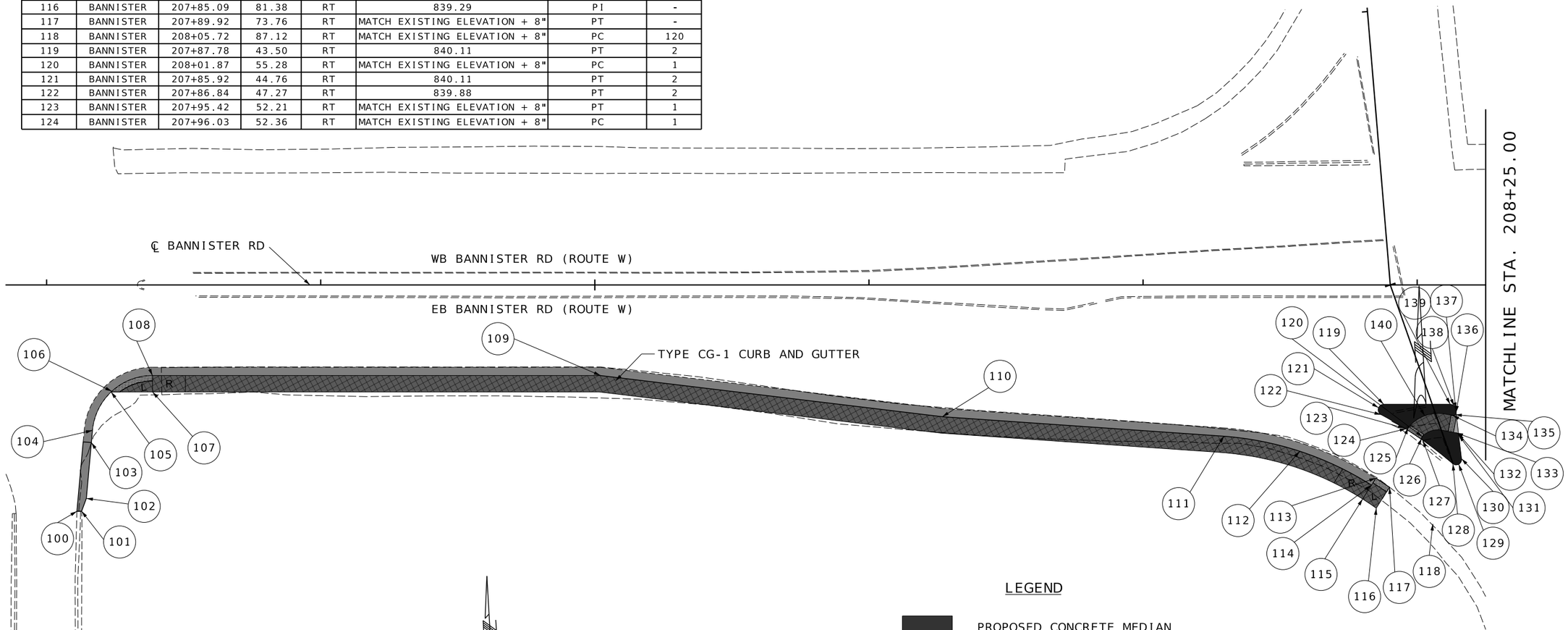
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

CONCRETE MEDIAN LAYOUT POINTS

POINT	ALIGNMENT	STATION	OFFSET	SIDE	ELEVATION	DESCRIPTION	RADIUS
100	BANNISTER	203+11.06	82.50	RT	MATCH EXISTING ELEVATION + 8"	PI	-
101	BANNISTER	203+12.79	82.46	RT	MATCH EXISTING ELEVATION + 8"	PI	-
102	BANNISTER	203+14.49	77.79	RT	MATCH EXISTING ELEVATION + 8"	PI	-
103	BANNISTER	203+16.33	57.46	RT	MATCH EXISTING ELEVATION + 8"	PT	-
104	BANNISTER	203+16.73	53.02	RT	MATCH EXISTING ELEVATION + 8"	PC	22
105	BANNISTER	203+23.54	39.00	RT	MATCH EXISTING ELEVATION + 8"	PC	22
106	BANNISTER	203+23.53	39.00	RT	MATCH EXISTING ELEVATION + 8"	PC	25
107	BANNISTER	203+38.64	39.00	RT	857.87	PT	-
108	BANNISTER	203+38.62	33.00	RT	857.78	PT	25
109	BANNISTER	205+02.05	33.00	RT	851.56	PI	-
110	BANNISTER	206+26.77	48.03	RT	847.47	PI	-
111	BANNISTER	207+29.49	55.13	RT	841.63	PT	117
112	BANNISTER	207+57.16	60.62	RT	840.94	PC	117
113	BANNISTER	207+84.93	70.43	RT	839.02	PC	117
114	BANNISTER	207+83.32	72.96	RT	839.75	PT	117
115	BANNISTER	207+80.11	78.03	RT	840.00	PI	-
116	BANNISTER	207+85.09	81.38	RT	839.29	PI	-
117	BANNISTER	207+89.92	73.76	RT	MATCH EXISTING ELEVATION + 8"	PT	-
118	BANNISTER	208+05.72	87.12	RT	MATCH EXISTING ELEVATION + 8"	PC	120
119	BANNISTER	207+87.78	43.50	RT	840.11	PT	2
120	BANNISTER	208+01.87	55.28	RT	MATCH EXISTING ELEVATION + 8"	PC	1
121	BANNISTER	207+85.92	44.76	RT	840.11	PT	2
122	BANNISTER	207+86.84	47.27	RT	839.88	PT	2
123	BANNISTER	207+95.42	52.21	RT	MATCH EXISTING ELEVATION + 8"	PT	1
124	BANNISTER	207+96.03	52.36	RT	MATCH EXISTING ELEVATION + 8"	PC	1
125	BANNISTER	207+96.72	51.99	RT	MATCH EXISTING ELEVATION + 8"	PT	1
126	BANNISTER	208+01.67	55.92	RT	MATCH EXISTING ELEVATION + 8"	PC	1
127	BANNISTER	208+02.09	56.65	RT	MATCH EXISTING ELEVATION + 8"	PT	1
128	BANNISTER	208+13.04	65.21	RT	MATCH EXISTING ELEVATION + 8"	PT	2
129	BANNISTER	208+15.15	65.37	RT	MATCH EXISTING ELEVATION + 8"	PC	2
130	BANNISTER	208+16.20	63.37	RT	MATCH EXISTING ELEVATION + 8"	PT	2
131	BANNISTER	208+15.18	54.77	RT	MATCH EXISTING ELEVATION + 8"	PT	1
132	BANNISTER	208+14.91	54.21	RT	MATCH EXISTING ELEVATION + 8"	PC	1
133	BANNISTER	208+14.36	53.90	RT	MATCH EXISTING ELEVATION + 8"	PT	1
134	BANNISTER	208+12.95	47.55	RT	MATCH EXISTING ELEVATION + 8"	PT	1
135	BANNISTER	208+13.88	47.31	RT	MATCH EXISTING ELEVATION + 8"	PC	1
136	BANNISTER	208+14.19	46.46	RT	MATCH EXISTING ELEVATION + 8"	PT	1
137	BANNISTER	208+14.05	45.26	RT	MATCH EXISTING ELEVATION + 8"	PT	2
138	BANNISTER	208+13.39	44.00	RT	MATCH EXISTING ELEVATION + 8"	PC	2
139	BANNISTER	208+12.06	43.50	RT	MATCH EXISTING ELEVATION + 8"	PT	2
140	BANNISTER	208+02.74	47.68	RT	MATCH EXISTING ELEVATION + 8"	PC	14



INTERSECTION DETAIL
SHEET 1 OF 2

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	27

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

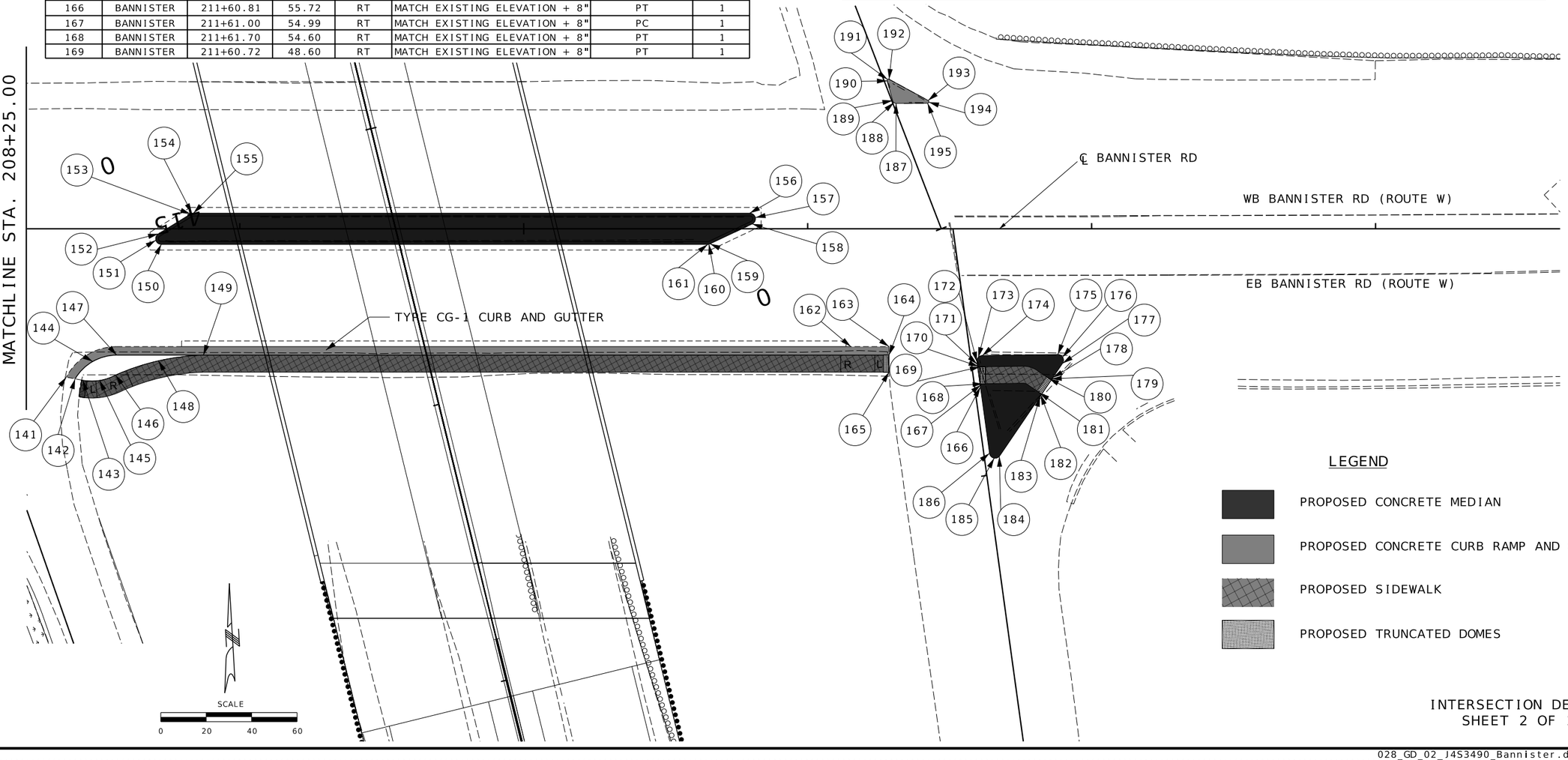
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300
TREKK DESIGN GROUP, LLC

REV.

CONCRETE MEDIAN LAYOUT POINTS

POINT	ALIGNMENT	STATION	OFFSET	SIDE	ELEVATION	DESCRIPTION	RADIUS
141	BANNISTER	208+37.79	58.18	RT	MATCH EXISTING ELEVATION + 8"	PI	-
142	BANNISTER	208+43.79	53.17	RT	MATCH EXISTING ELEVATION + 8"	PI	-
143	BANNISTER	208+44.69	53.34	RT	837.93	PT	-
144	BANNISTER	208+48.20	46.73	RT	837.71	PC	17
145	BANNISTER	208+50.60	53.41	RT	837.31	PC	-
146	BANNISTER	208+56.20	51.53	RT	837.00	PT	-
147	BANNISTER	208+56.62	44.50	RT	837.08	PT	17
148	BANNISTER	208+71.35	46.49	RT	835.89	PC	-
149	BANNISTER	208+87.19	44.50	RT	835.44	PT	-
150	BANNISTER	208+72.33	5.50	RT	836.68	PT	2
151	BANNISTER	208+70.40	4.05	RT	836.74	PC	2
152	BANNISTER	208+71.28	1.80	RT	837.17	PT	2
153	BANNISTER	208+82.62	5.20	LT	836.10	PT	2
154	BANNISTER	208+83.12	5.42	LT	836.30	PC	2
155	BANNISTER	208+83.67	5.50	LT	836.04	PT	2
156	BANNISTER	210+79.61	5.50	LT	826.42	PT	2
157	BANNISTER	210+81.56	3.94	LT	826.83	PC	2
158	BANNISTER	210+80.47	1.69	LT	826.91	PT	2
159	BANNISTER	210+65.64	5.31	RT	827.60	PT	2
160	BANNISTER	210+65.22	5.45	RT	827.26	PC	2
161	BANNISTER	210+64.79	5.50	RT	827.13	PT	2
162	BANNISTER	211+15.17	41.50	RT	MATCH EXISTING ELEVATION + 8"	PI	-
163	BANNISTER	211+28.62	41.50	RT	MATCH EXISTING ELEVATION + 8"	PI	-
164	BANNISTER	211+28.62	44.50	RT	MATCH EXISTING ELEVATION + 8"	PI	-
165	BANNISTER	211+28.62	50.50	RT	MATCH EXISTING ELEVATION + 8"	PI	-
166	BANNISTER	211+60.81	55.72	RT	MATCH EXISTING ELEVATION + 8"	PT	1
167	BANNISTER	211+61.00	54.99	RT	MATCH EXISTING ELEVATION + 8"	PC	1
168	BANNISTER	211+61.70	54.60	RT	MATCH EXISTING ELEVATION + 8"	PT	1
169	BANNISTER	211+60.72	48.60	RT	MATCH EXISTING ELEVATION + 8"	PT	1
170	BANNISTER	211+60.25	48.49	RT	MATCH EXISTING ELEVATION + 8"	PC	1
171	BANNISTER	211+59.71	47.74	RT	MATCH EXISTING ELEVATION + 8"	PT	1
172	BANNISTER	211+59.60	46.90	RT	MATCH EXISTING ELEVATION + 8"	PT	2
173	BANNISTER	211+60.06	45.33	RT	MATCH EXISTING ELEVATION + 8"	PC	2
174	BANNISTER	211+61.55	44.63	RT	MATCH EXISTING ELEVATION + 8"	PT	2
175	BANNISTER	211+88.10	44.26	RT	MATCH EXISTING ELEVATION + 8"	PT	2
176	BANNISTER	211+89.77	45.19	RT	MATCH EXISTING ELEVATION + 8"	PC	2
177	BANNISTER	211+89.78	47.38	RT	MATCH EXISTING ELEVATION + 8"	PT	2
178	BANNISTER	211+86.33	52.45	RT	MATCH EXISTING ELEVATION + 8"	PT	1
179	BANNISTER	211+85.85	52.83	RT	MATCH EXISTING ELEVATION + 8"	PC	1
180	BANNISTER	211+84.94	52.72	RT	MATCH EXISTING ELEVATION + 8"	PT	1
181	BANNISTER	211+81.57	57.68	RT	MATCH EXISTING ELEVATION + 8"	PT	1
182	BANNISTER	211+82.00	58.39	RT	MATCH EXISTING ELEVATION + 8"	PC	1
183	BANNISTER	211+81.84	59.07	RT	MATCH EXISTING ELEVATION + 8"	PT	1
184	BANNISTER	211+67.48	80.17	RT	MATCH EXISTING ELEVATION + 8"	PT	1
185	BANNISTER	211+65.66	80.79	RT	MATCH EXISTING ELEVATION + 8"	PC	1
186	BANNISTER	211+64.02	79.09	RT	MATCH EXISTING ELEVATION + 8"	PT	1
187	BANNISTER	211+31.12	44.14	LT	MATCH EXISTING ELEVATION + 8"	PT	1.32
188	BANNISTER	211+30.36	44.44	LT	MATCH EXISTING ELEVATION + 8"	PC	1.32
189	BANNISTER	211+29.92	45.13	LT	MATCH EXISTING ELEVATION + 8"	PT	1.32
190	BANNISTER	211+27.99	52.09	LT	MATCH EXISTING ELEVATION + 8"	PT	0.47
191	BANNISTER	211+28.13	52.60	LT	MATCH EXISTING ELEVATION + 8"	PC	0.47
192	BANNISTER	211+28.66	52.65	LT	MATCH EXISTING ELEVATION + 8"	PT	0.47
193	BANNISTER	211+42.41	45.18	LT	MATCH EXISTING ELEVATION + 8"	PT	0.55
194	BANNISTER	211+42.63	44.59	LT	MATCH EXISTING ELEVATION + 8"	PC	0.55
195	BANNISTER	211+42.23	44.19	LT	MATCH EXISTING ELEVATION + 8"	PT	0.55



LEGEND

- PROPOSED CONCRETE MEDIAN
- PROPOSED CONCRETE CURB RAMP AND GUTTER
- PROPOSED SIDEWALK
- PROPOSED TRUNCATED DOMES

INTERSECTION DETAIL
SHEET 2 OF 2

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED 10/3/2025
ROUTE 71 | STATE MO
DISTRICT KC | SHEET NO. 28
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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

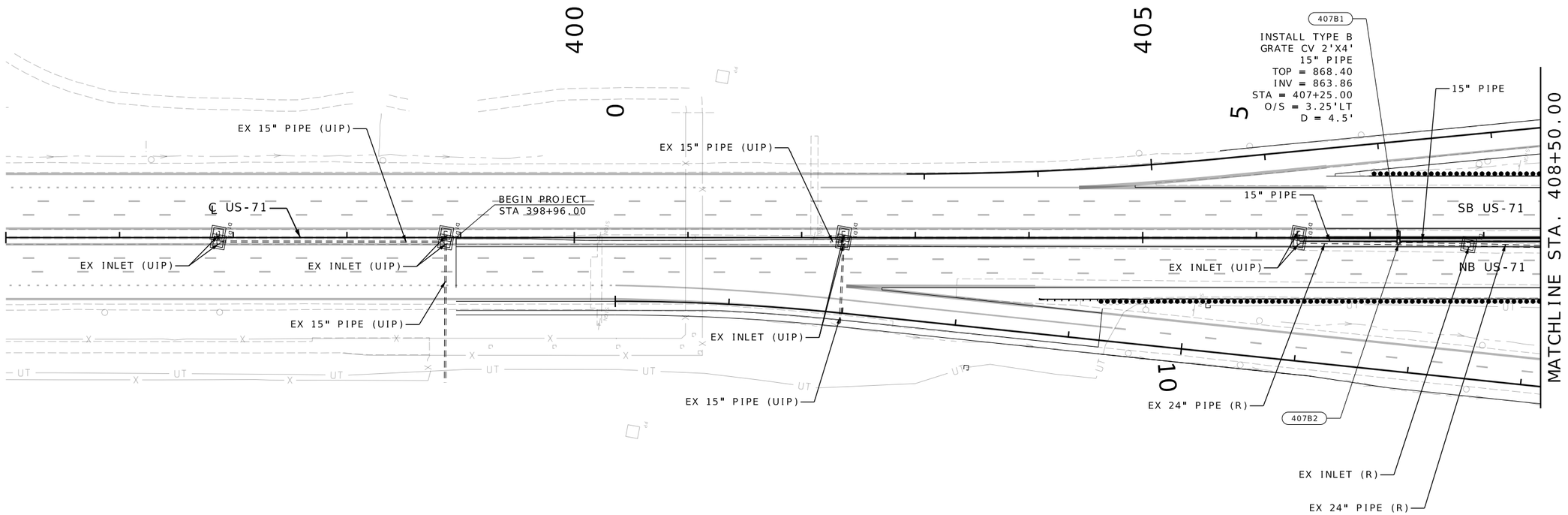
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

REV.



SCALE

0 50 100 150

NOTE:

BUILD NOTES NOT SHOWN ON DRAINAGE PLAN SHEETS CAN BE FOUND ON DRAINAGE PROFILE SHEETS 35 - 43.

US-71 DRAINAGE
SHEET 1 OF 6

STATE OF MISSOURI
HANNA R. JONES
NUMBER PE-2021000273
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
10/2/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	29

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

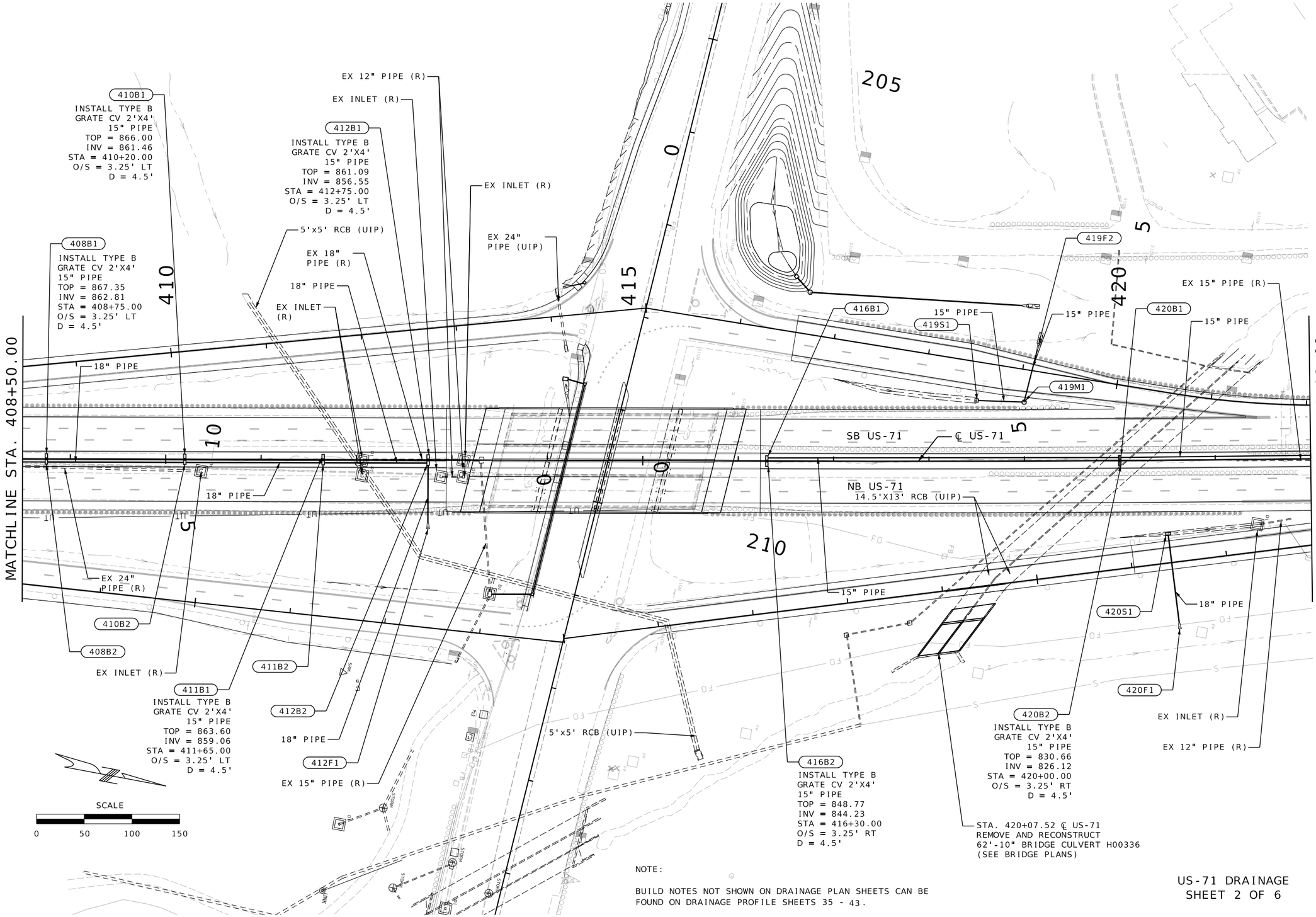
REV.

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



NOTE:

BUILD NOTES NOT SHOWN ON DRAINAGE PLAN SHEETS CAN BE FOUND ON DRAINAGE PROFILE SHEETS 35 - 43.

US-71 DRAINAGE
SHEET 2 OF 6

HANNA R. JONES
NUMBER
PE-2021000273
STATE OF MISSOURI
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
10/2/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	30

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

REV.

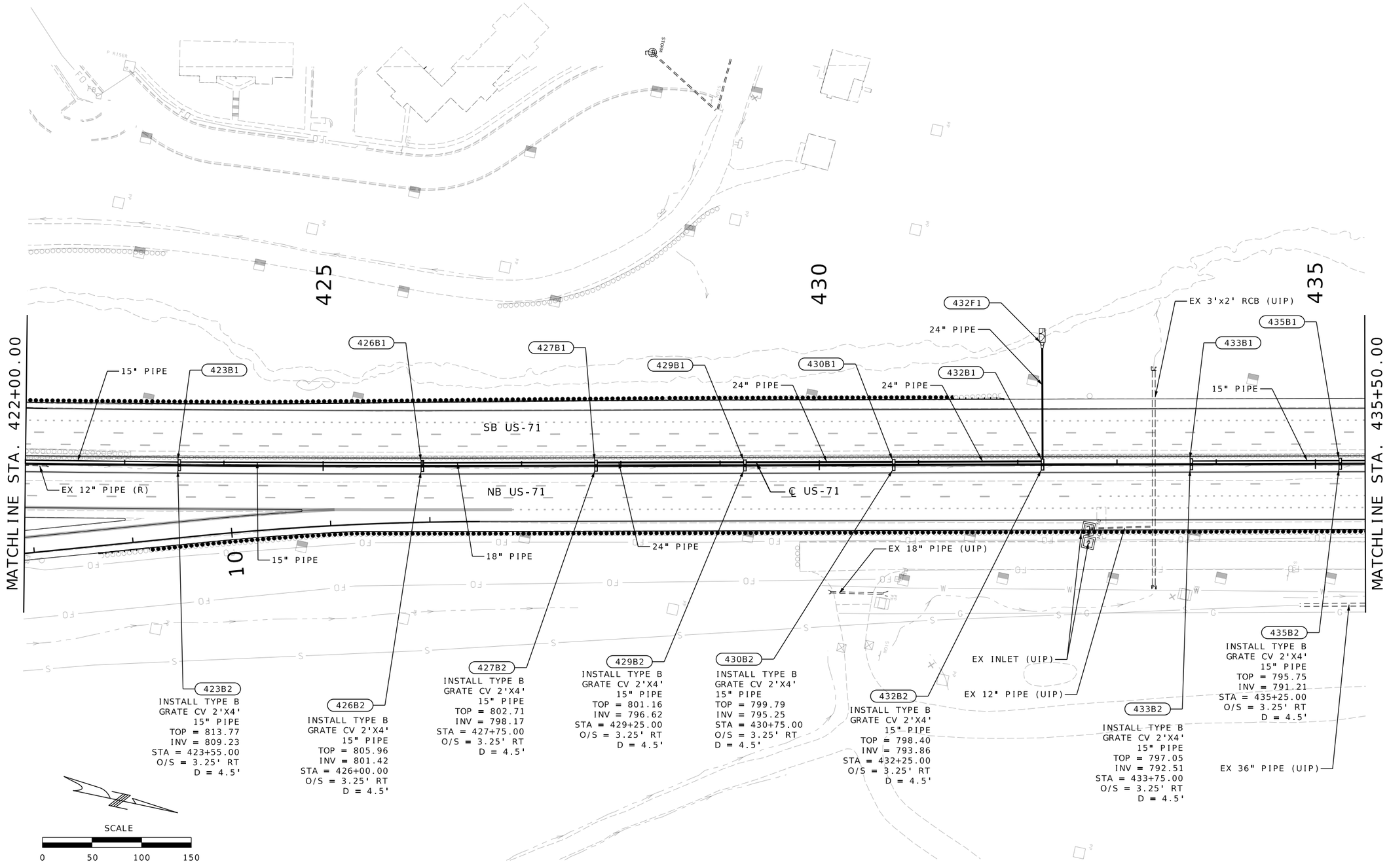
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

030_DR_02_J4S3490_US71.dgn 3:40:53 PM 10/2/2025



NOTE:

BUILD NOTES NOT SHOWN ON DRAINAGE PLAN SHEETS CAN BE FOUND ON DRAINAGE PROFILE SHEETS 35 - 43.

US-71 DRAINAGE
SHEET 3 OF 6

HANNA R. JONES
NUMBER PE-2021000273
STATE OF MISSOURI
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.

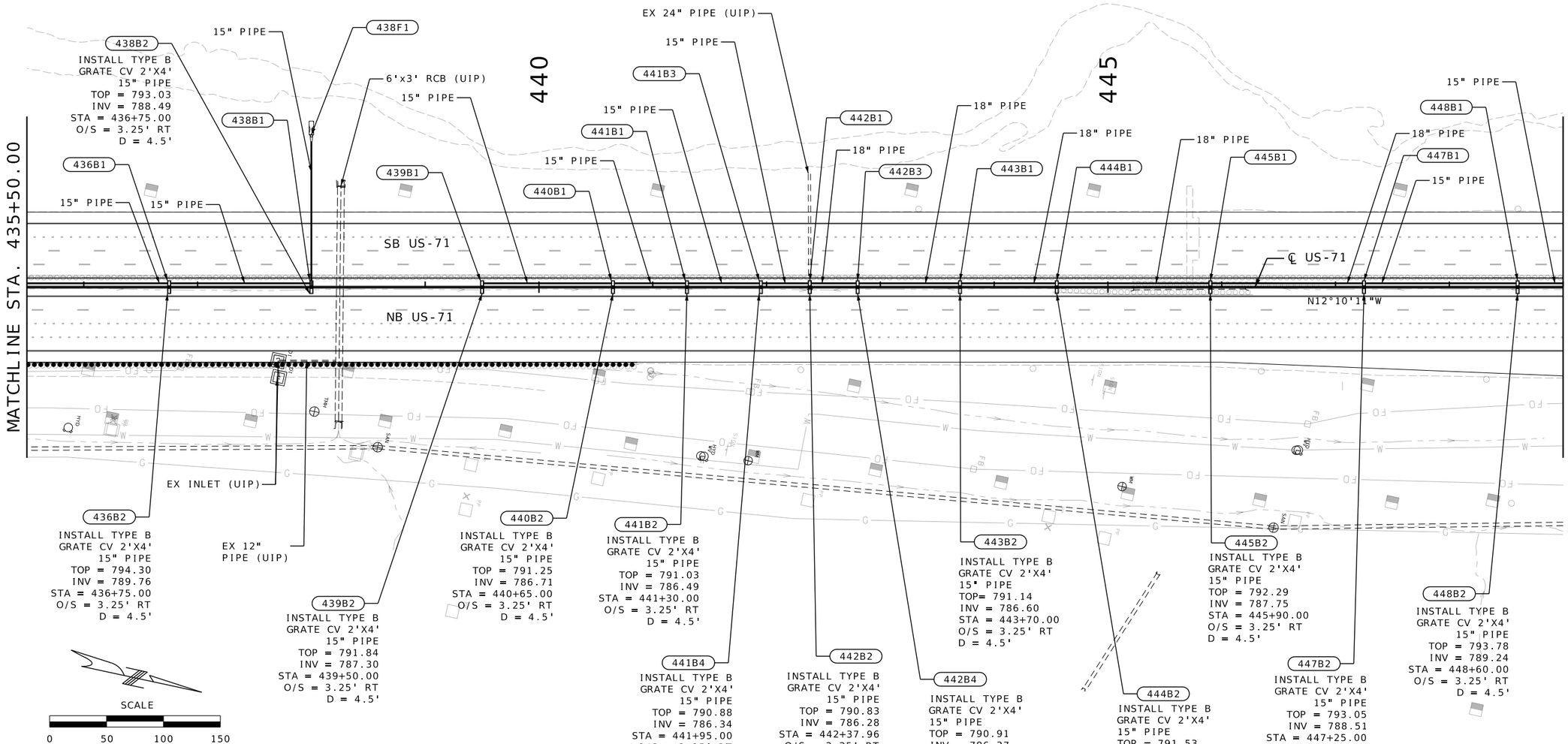
DATE PREPARED	10/2/2025
ROUTE	71
STATE	MO
DISTRICT	KC
SHEET NO.	31
COUNTY	JACKSON
JOB NO.	J4S3490
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE | REV.

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

031_DR_03_J4S3490_US71.dgn 3:40:54 PM 10/2/2025



NOTE:

BUILD NOTES NOT SHOWN ON DRAINAGE PLAN SHEETS CAN BE FOUND ON DRAINAGE PROFILE SHEETS 35 - 43.

US-71 DRAINAGE
SHEET 4 OF 6

HANNA R. JONES
NUMBER PE-2021000273
PROFESSIONAL ENGINEER
STATE OF MISSOURI

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

DATE PREPARED
10/2/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	32

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

REV.

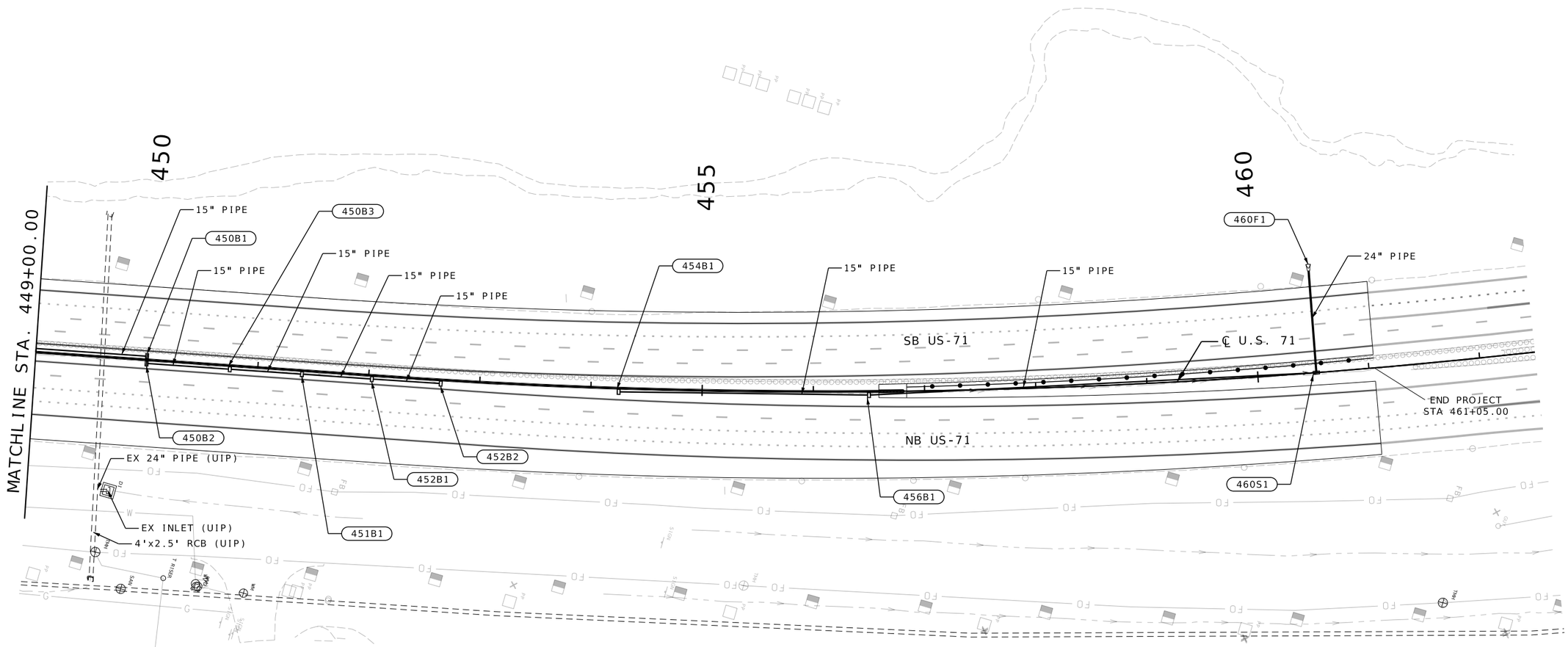
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300



NOTE:

BUILD NOTES NOT SHOWN ON DRAINAGE PLAN SHEETS CAN BE FOUND ON DRAINAGE PROFILE SHEETS 35 - 43.

US-71 DRAINAGE
SHEET 5 OF 6

HANNA R. JONES
NUMBER PE-2021000273
STATE OF MISSOURI
PROFESSIONAL ENGINEER

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

DATE PREPARED
10/2/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	33

COUNTY
JACKSON

JOB NO.
J4S3490

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

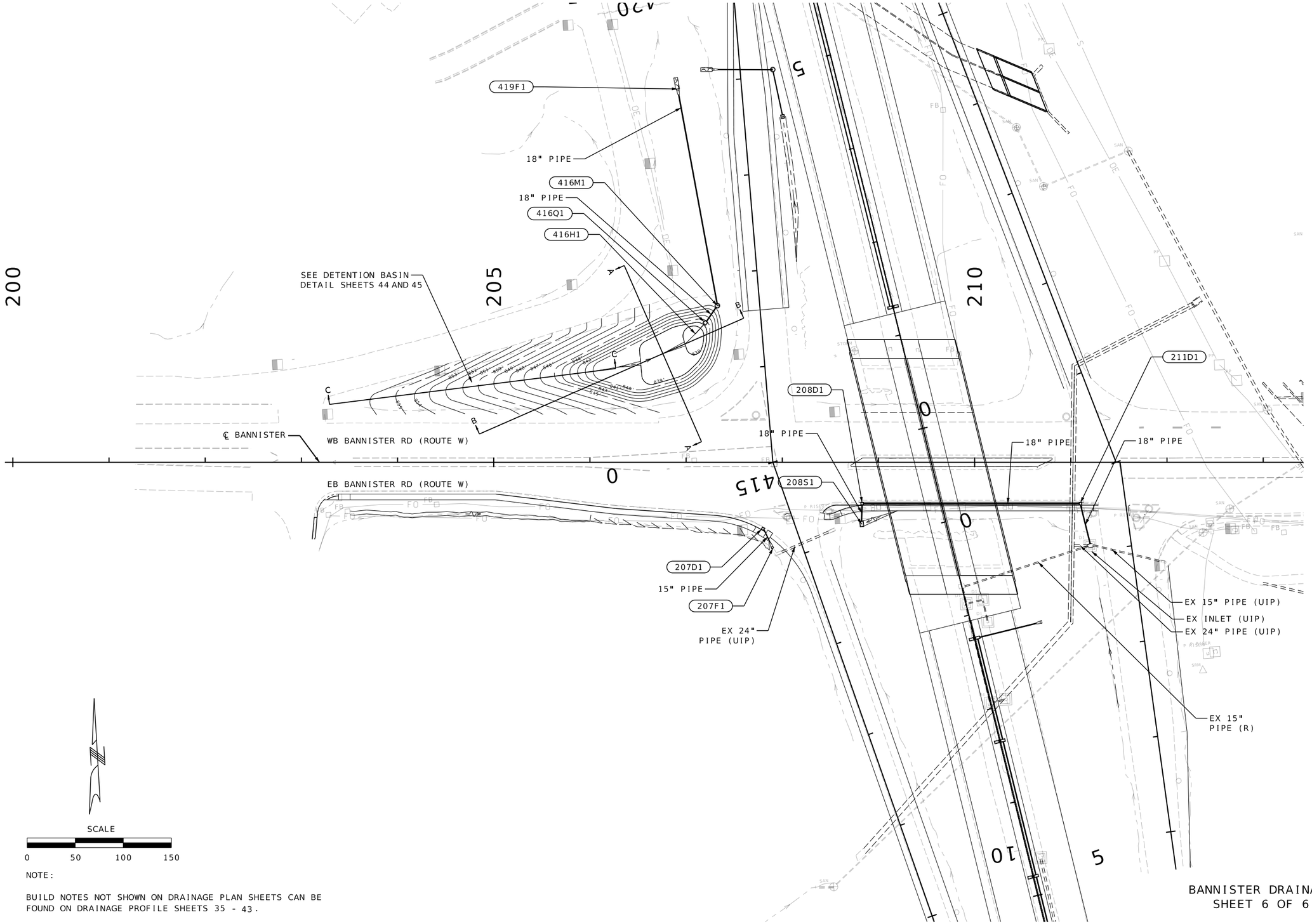
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

REV.



SCALE

0 50 100 150

NOTE:

BUILD NOTES NOT SHOWN ON DRAINAGE PLAN SHEETS CAN BE FOUND ON DRAINAGE PROFILE SHEETS 35 - 43.

BANNISTER DRAINAGE
SHEET 6 OF 6

HANNA R. JONES
NUMBER PE-2021000273
STATE OF MISSOURI
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

DATE PREPARED
10/2/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	34

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

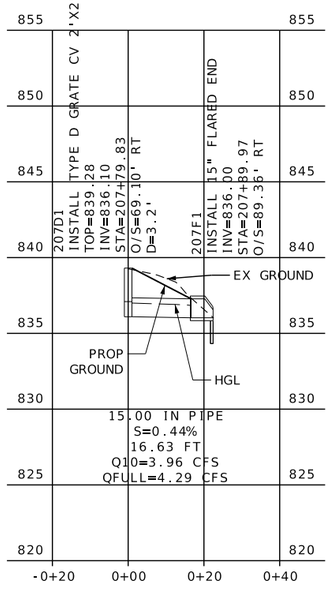
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

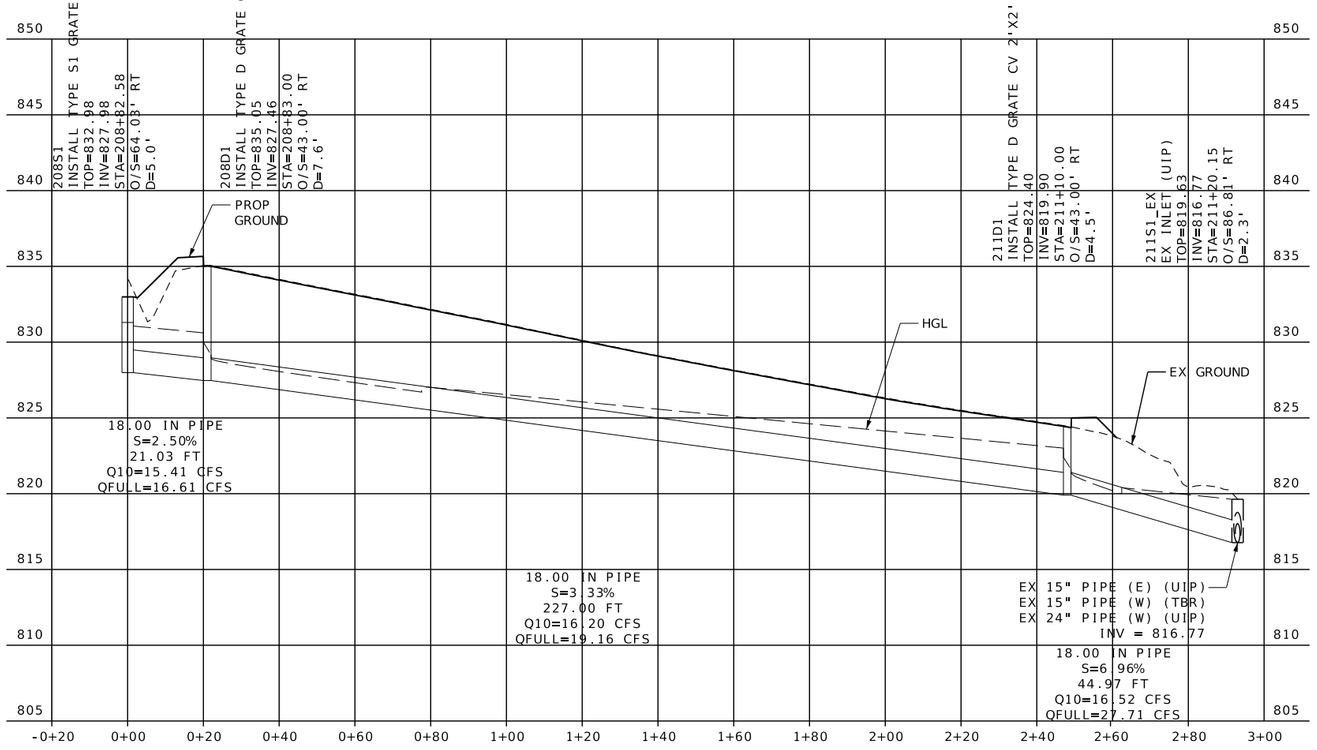
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



LINE 207-A



LINE 211-A

5'
20'

DRAINAGE PROFILE SHEET
SHEET 1 OF 9

HANNA R. JONES
NUMBER PE-2021000273
STATE OF MISSOURI
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

DATE PREPARED
10/2/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	35

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

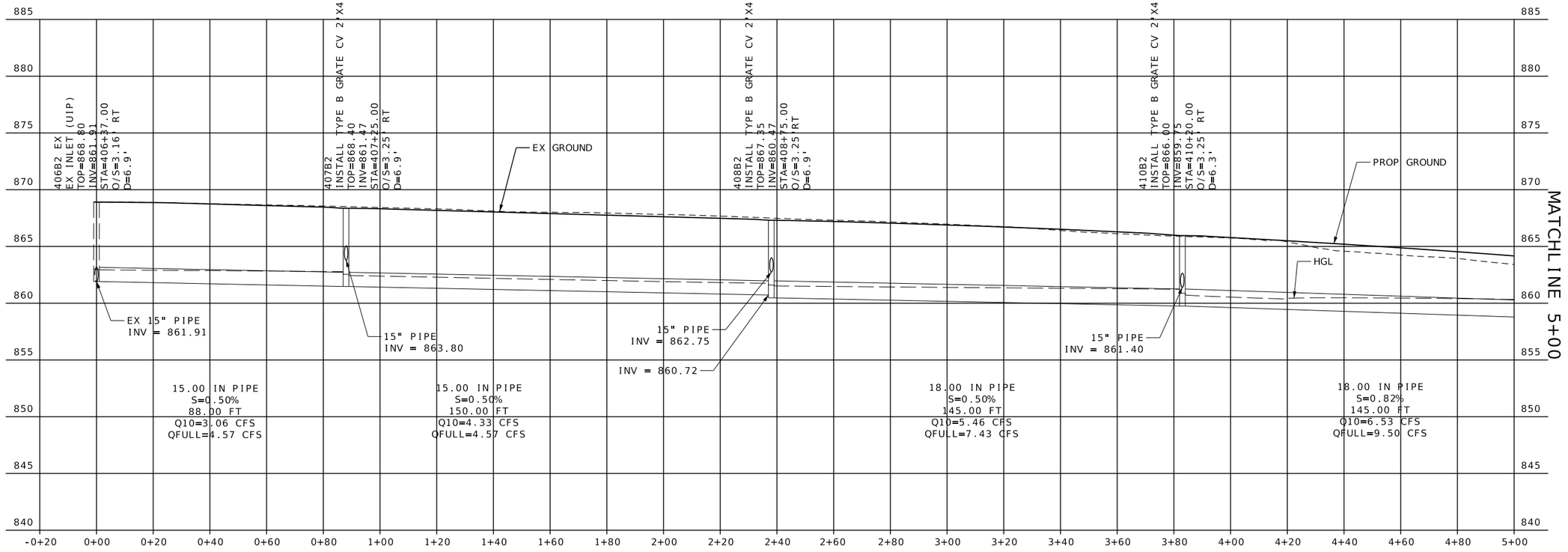
DATE	DESCRIPTION

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

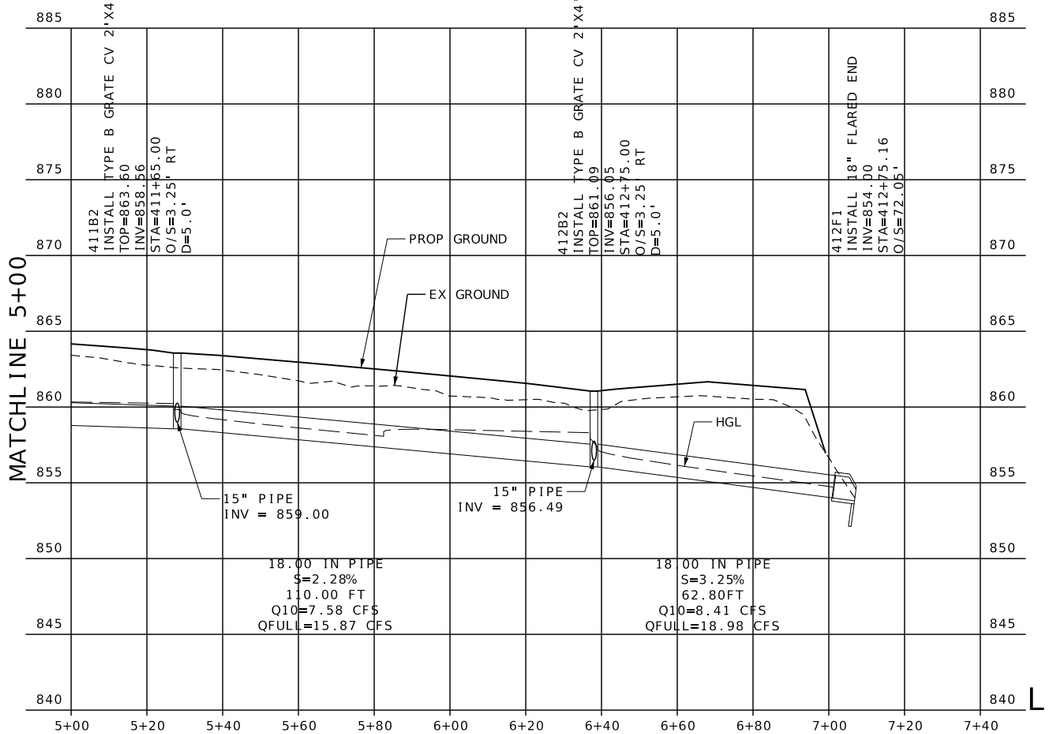
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4855
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002015300

REV.



LINE 412-A



LINE 412-A (CONT.)

5'
20'

DRAINAGE PROFILE SHEET
SHEET 2 OF 9

HANNA R. JONES
NUMBER PE-2021000273
PROFESSIONAL ENGINEER
STATE OF MISSOURI

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

DATE PREPARED
10/2/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	36

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

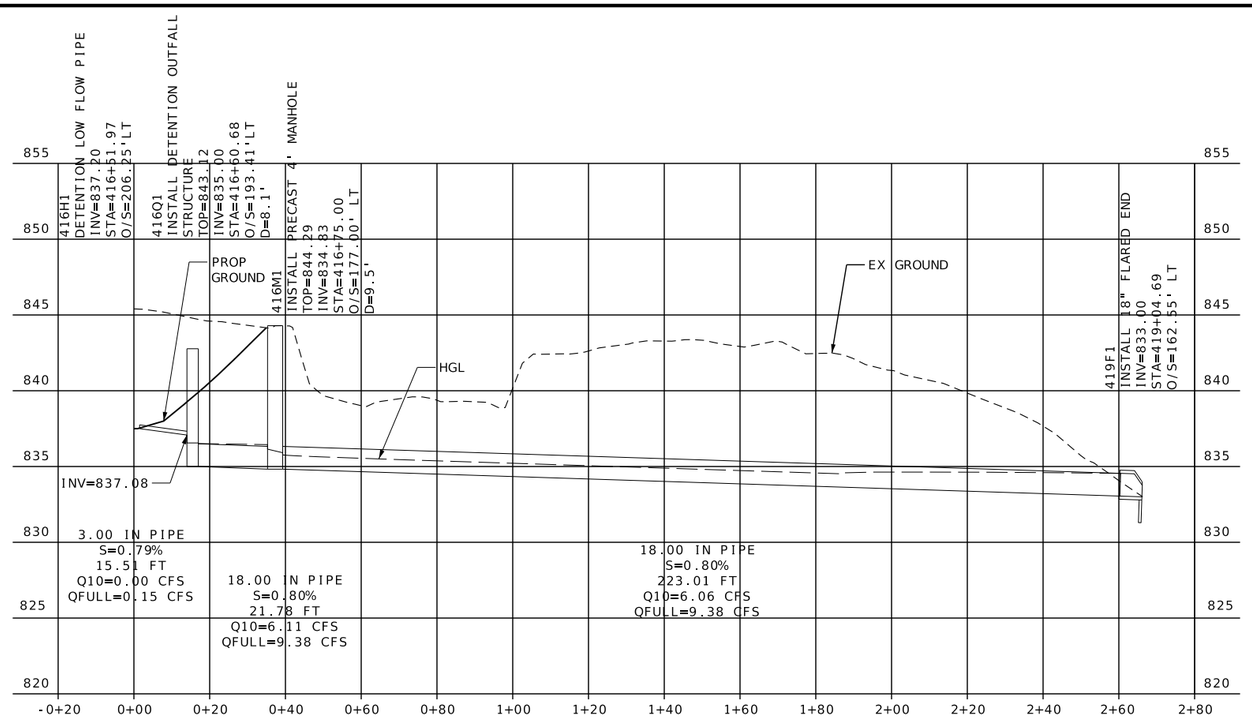
BRIDGE NO.

DATE	DESCRIPTION	REV.

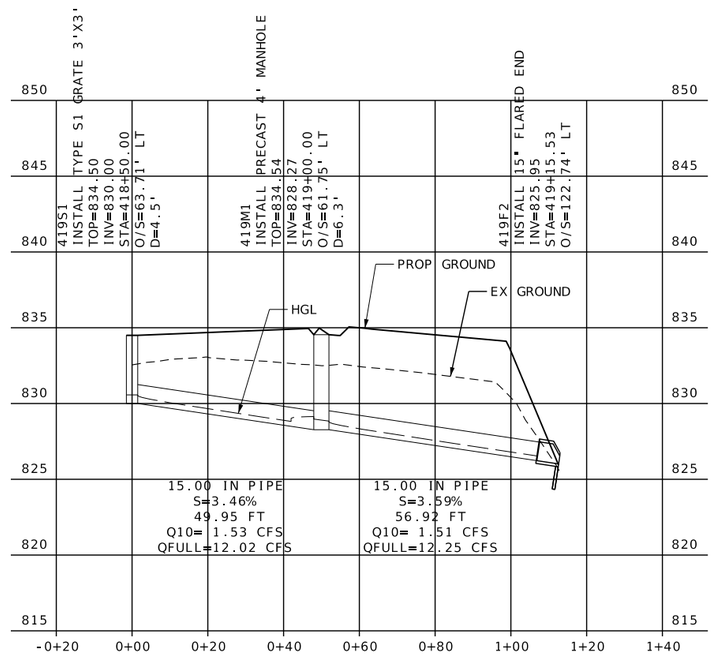
IF A SEAL IS PRESENT ON THIS SHEET, IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

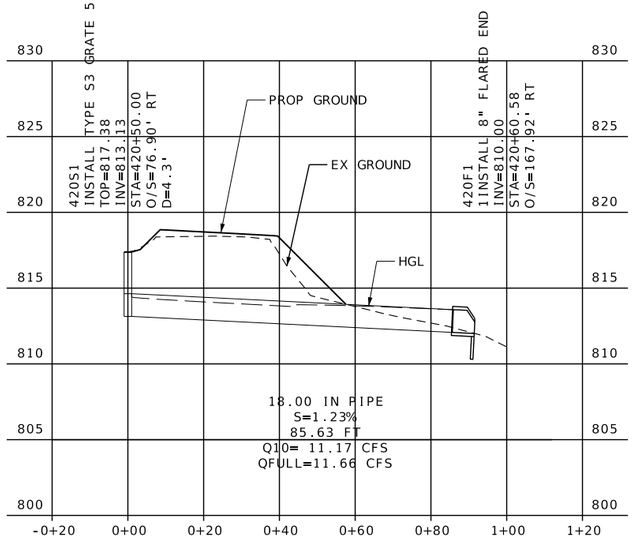
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



LINE 419-A



LINE 419-B



LINE 420-A

5'
20'

DRAINAGE PROFILE SHEET
SHEET 3 OF 9

HANNA R. JONES
NUMBER
PE-2021000273
STATE OF MISSOURI
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

DATE PREPARED
10/2/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	37

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION	REV.

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

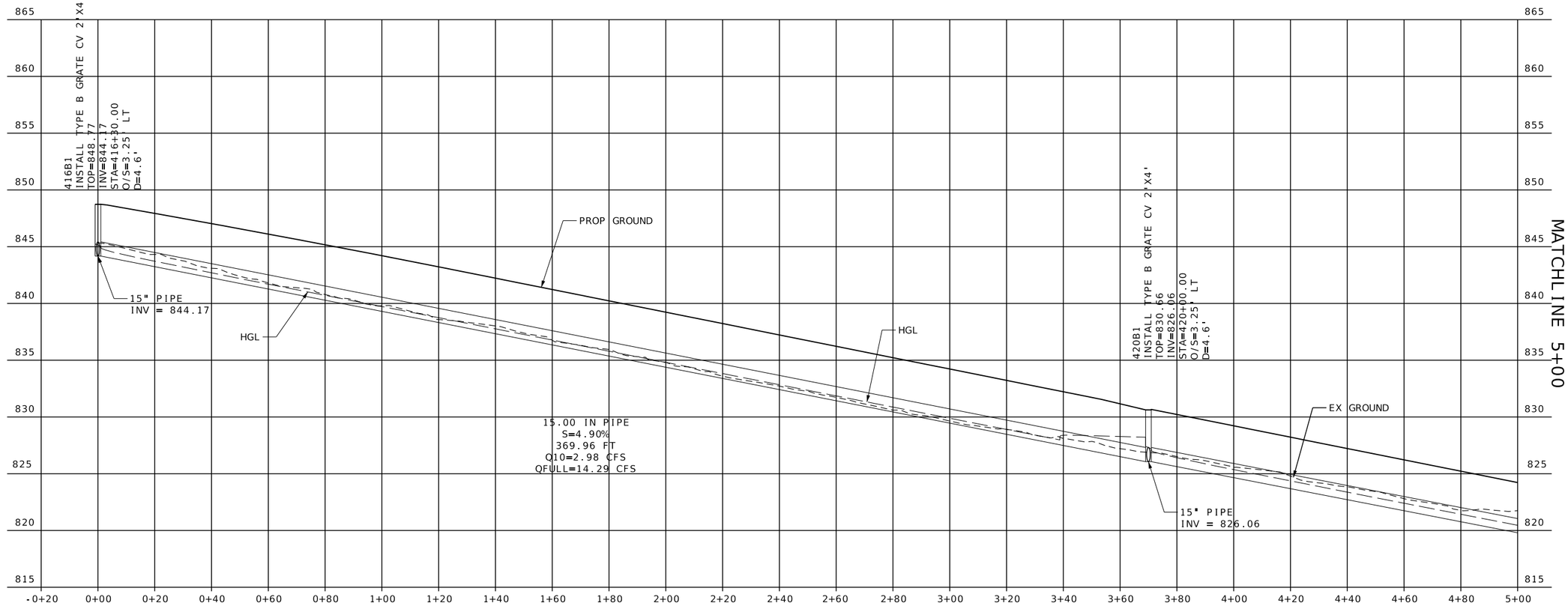
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

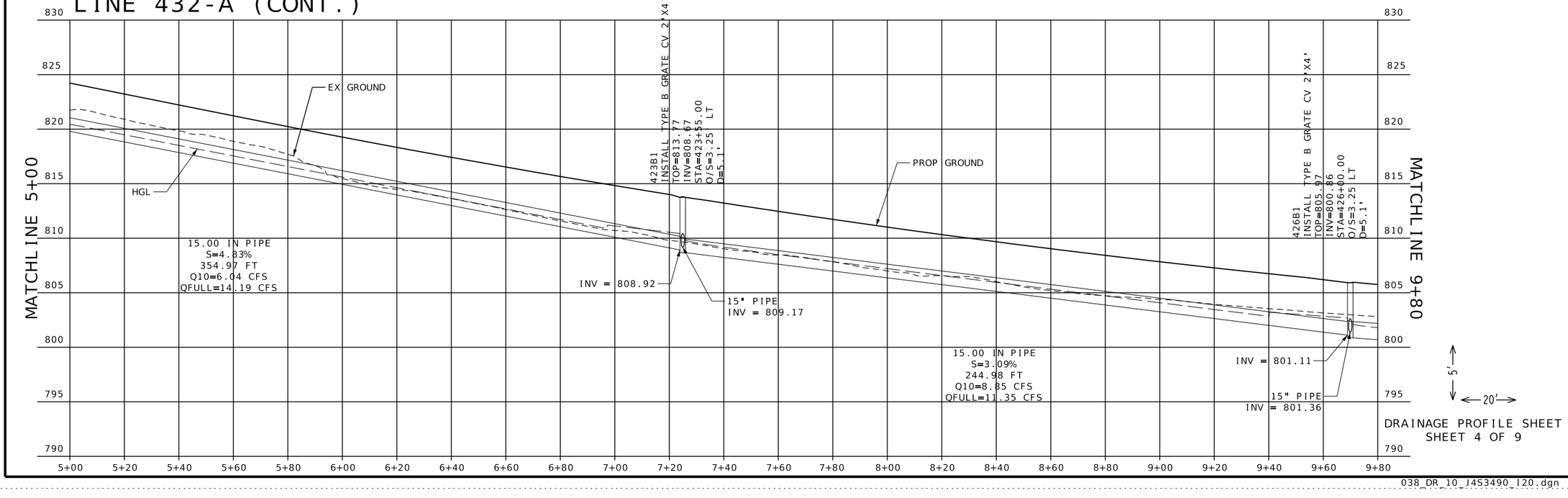
Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



LINE 432-A

LINE 432-A (CONT.)



DRAINAGE PROFILE SHEET
SHEET 4 OF 9

HANNA R. JONES NUMBER PE-2021000273
STATE OF MISSOURI * PROFESSIONAL ENGINEER *

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

DATE PREPARED
10/2/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	38

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

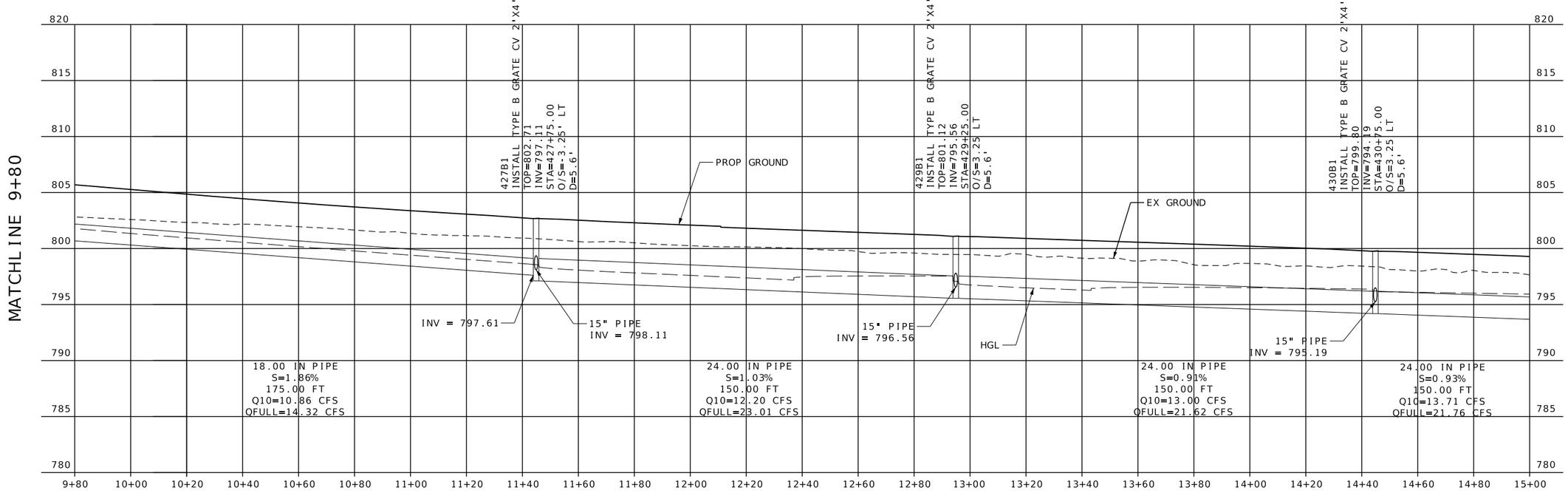
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

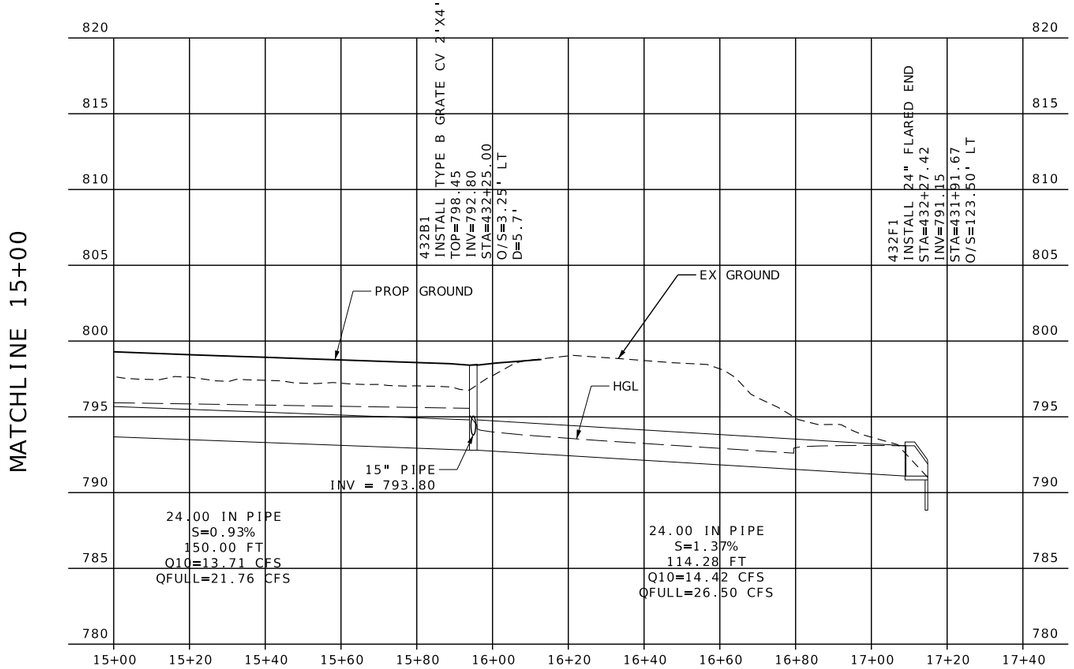
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4655
Fax: (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

REV



LINE 432-A (CONT.)



LINE 432-A (CONT.)

5'
20'

DRAINAGE PROFILE SHEET
SHEET 5 OF 9

HANNA R. JONES
NUMBER PE-2021000273
STATE OF MISSOURI
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
10/2/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	39

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

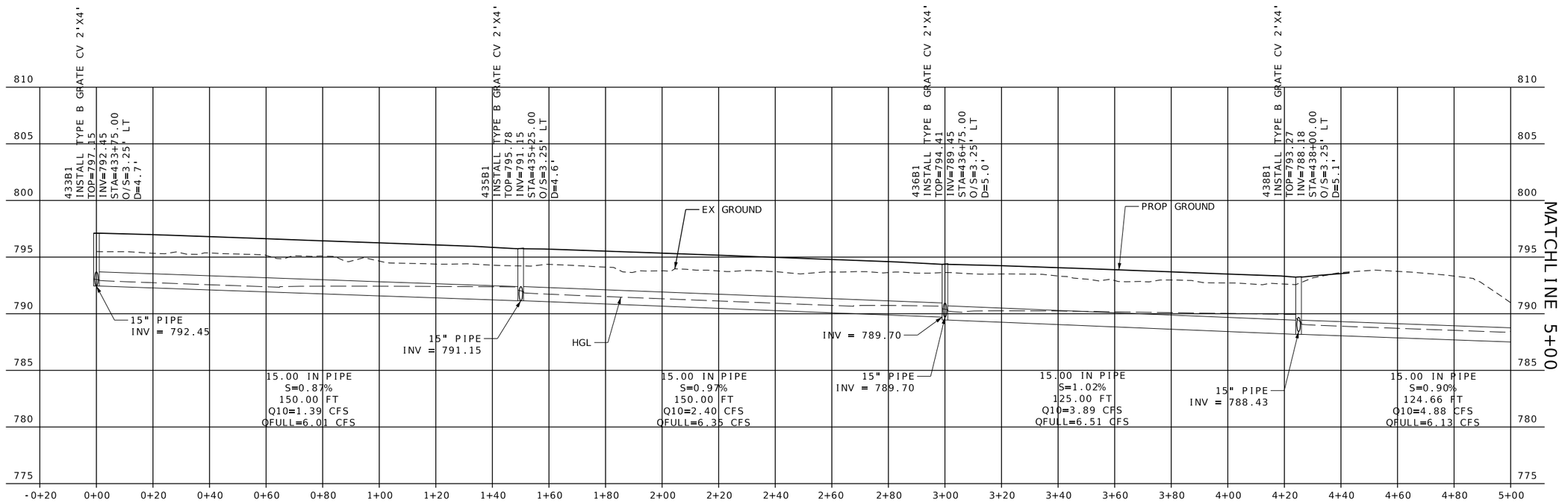
PROJECT NO.

BRIDGE NO.

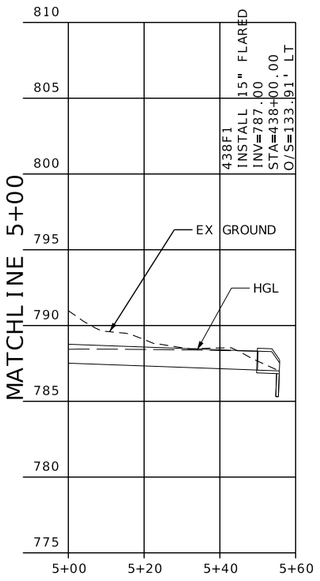
REV.	DESCRIPTION	DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



LINE 438-A



LINE 438-A (CONT.)

5'
20'

DRAINAGE PROFILE SHEET
SHEET 6 OF 9

STATE OF MISSOURI
HANNA R. JONES
NUMBER PE-2021000273
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

DATE PREPARED
10/2/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	40

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

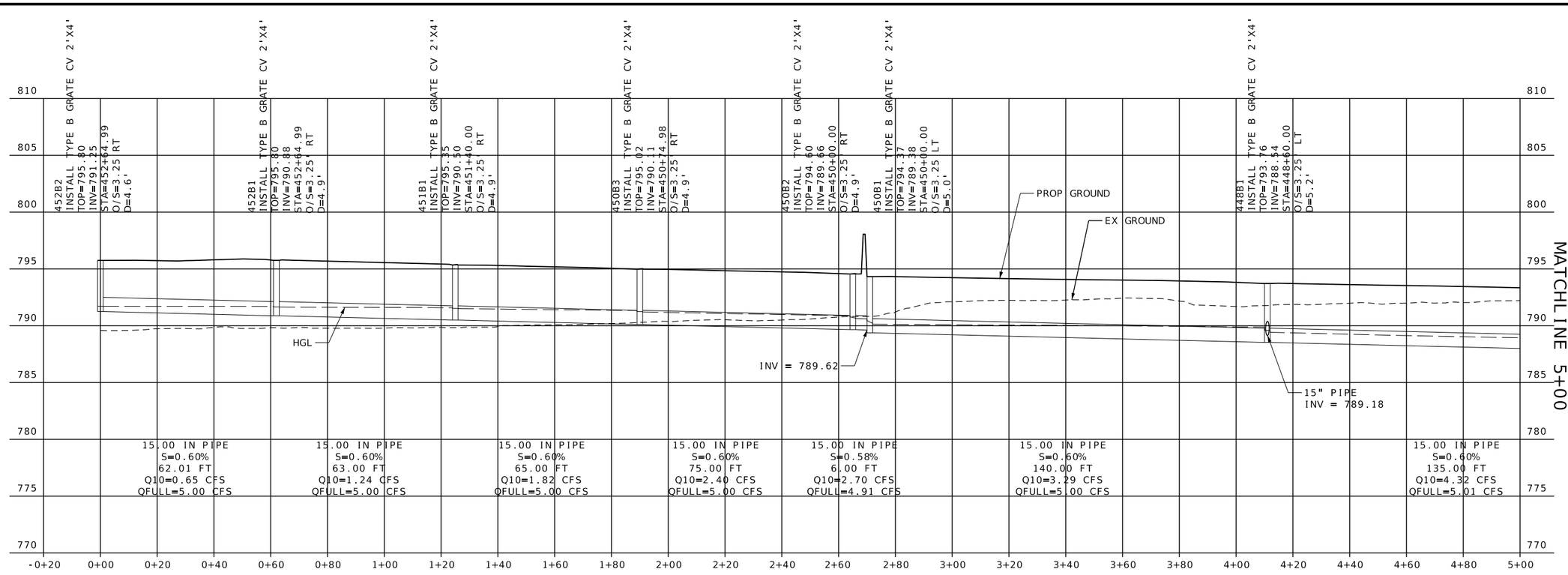
BRIDGE NO.

DATE	DESCRIPTION	REV.

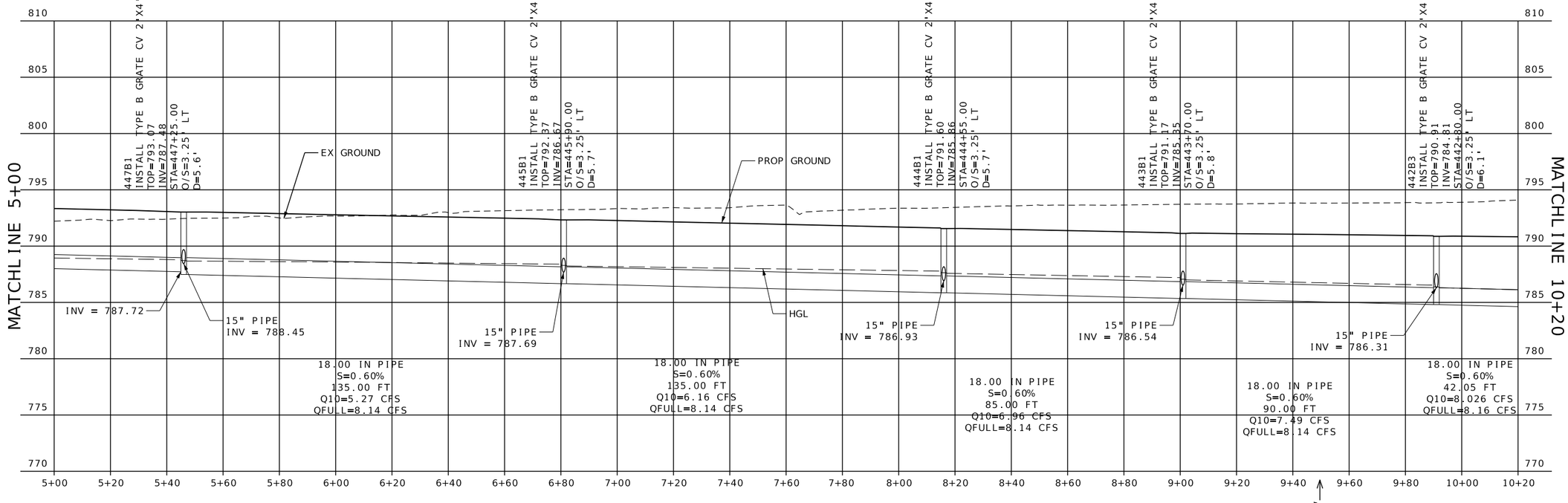
IF A SEAL IS PRESENT ON THIS SHEET, IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com
Missouri Cert. of Authority 2002010300



LINE 442-A



LINE 442-A (CONT.)

5'
20'

DRAINAGE PROFILE SHEET
SHEET 7 OF 9

HANNA R. JONES
NUMBER PE-2021000273
STATE OF MISSOURI
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

DATE PREPARED
10/2/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	41

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

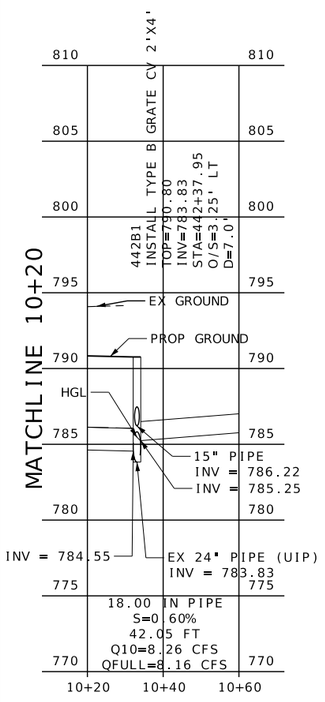
REV.	DESCRIPTION	DATE

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

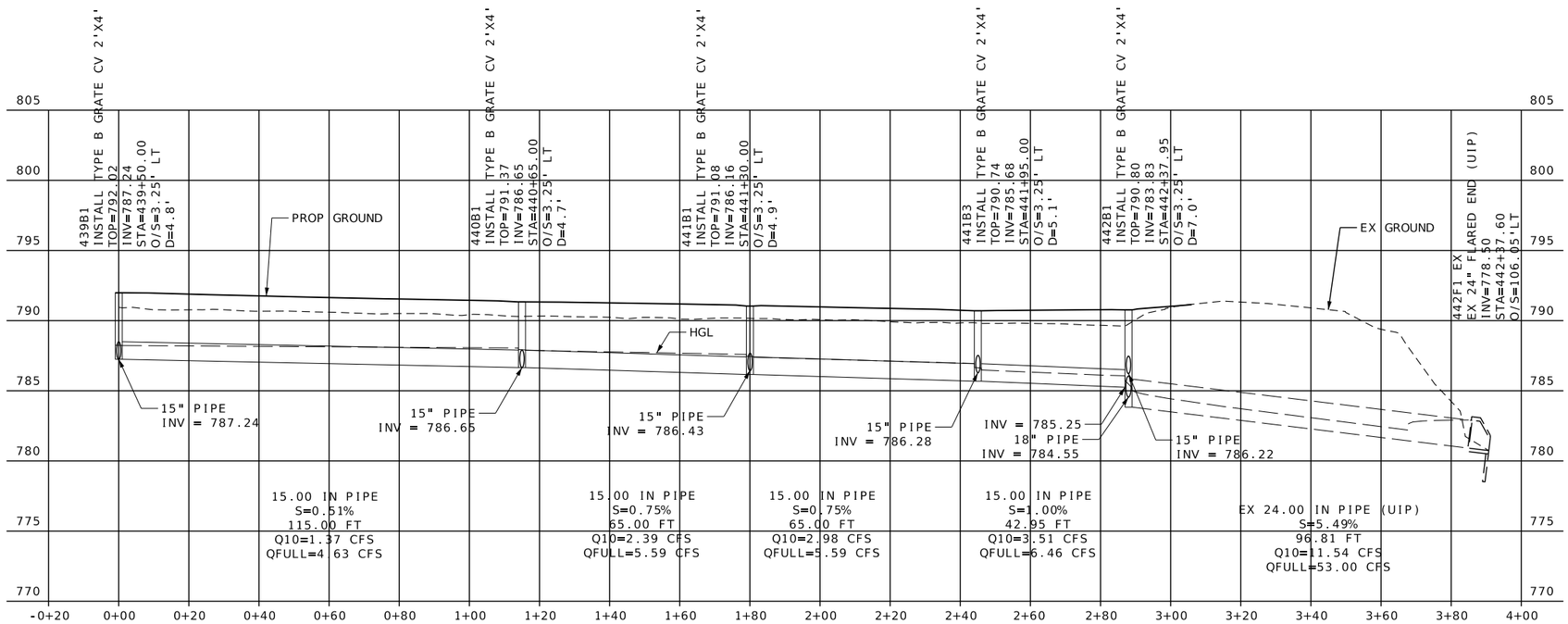
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



LINE 442-A (CONT.)



LINE 442-B

5'
20'

DRAINAGE PROFILE SHEET
SHEET 8 OF 9

HANNA R. JONES
NUMBER PE-2021000273
PROFESSIONAL ENGINEER
STATE OF MISSOURI

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

DATE PREPARED
10/2/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	42

COUNTY
JACKSON

JOB NO.
J4S3490

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)

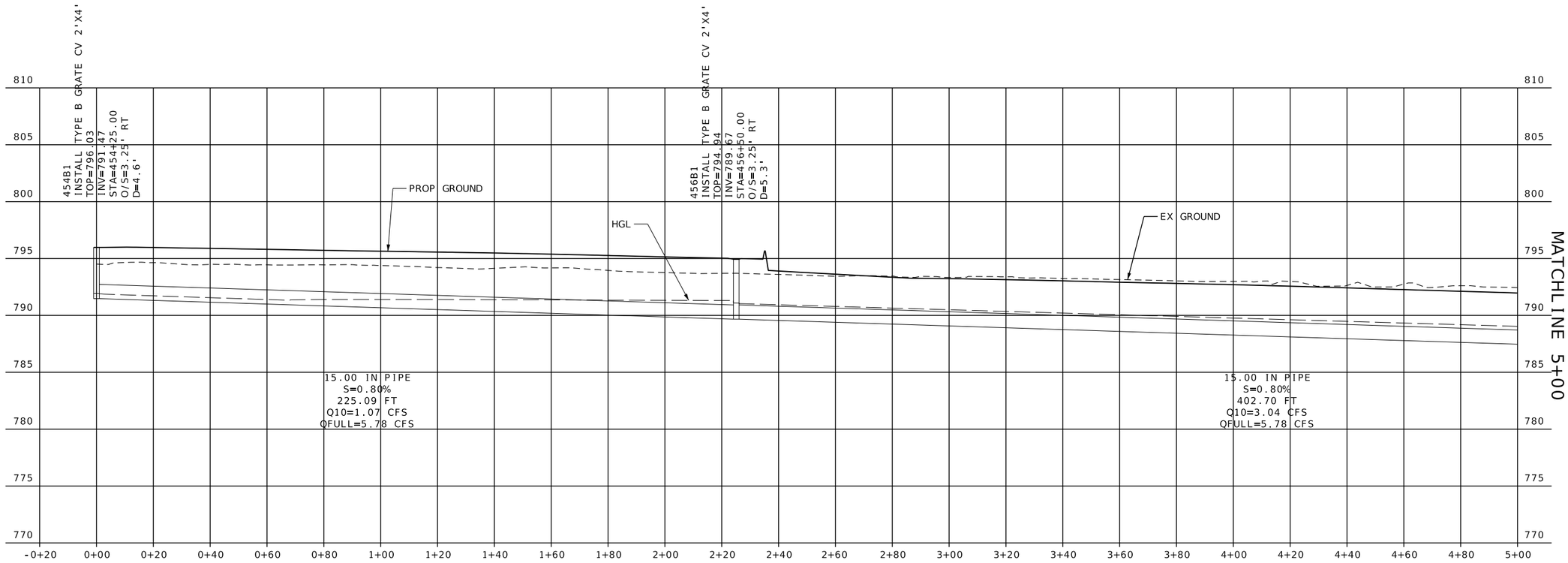
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

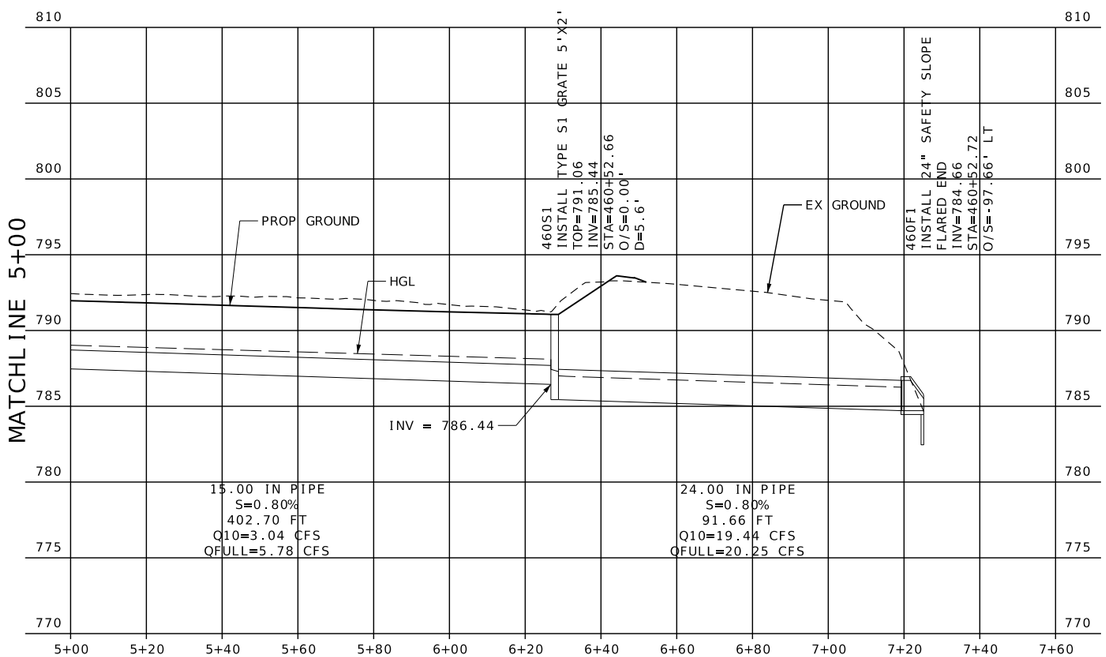
TREKK DESIGN GROUP, LLC

REV.

042_DR_14_J4S3490_I20.dgn 3:41:09 PM 10/2/2025



LINE 460-A



LINE 460-A (CONT.)

5'
20'

DRAINAGE PROFILE SHEET
SHEET 9 OF 9

STATE OF MISSOURI
HANNA R. JONES
NUMBER PE-2021000273
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

DATE PREPARED
10/2/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	43

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

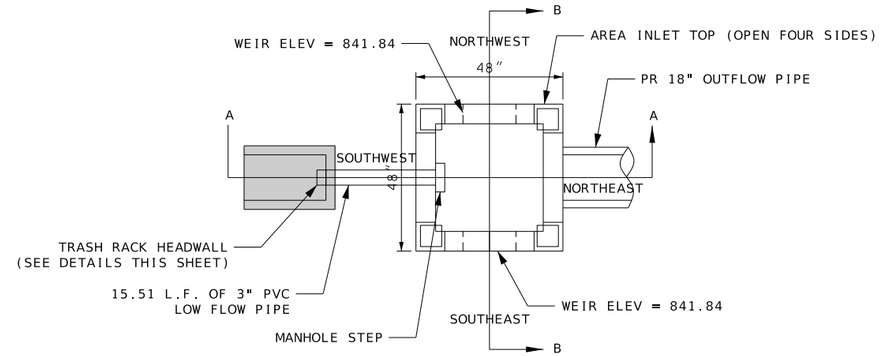
Missouri Cert. of Authority 2002010300

TREK DESIGN GROUP, LLC

REV.

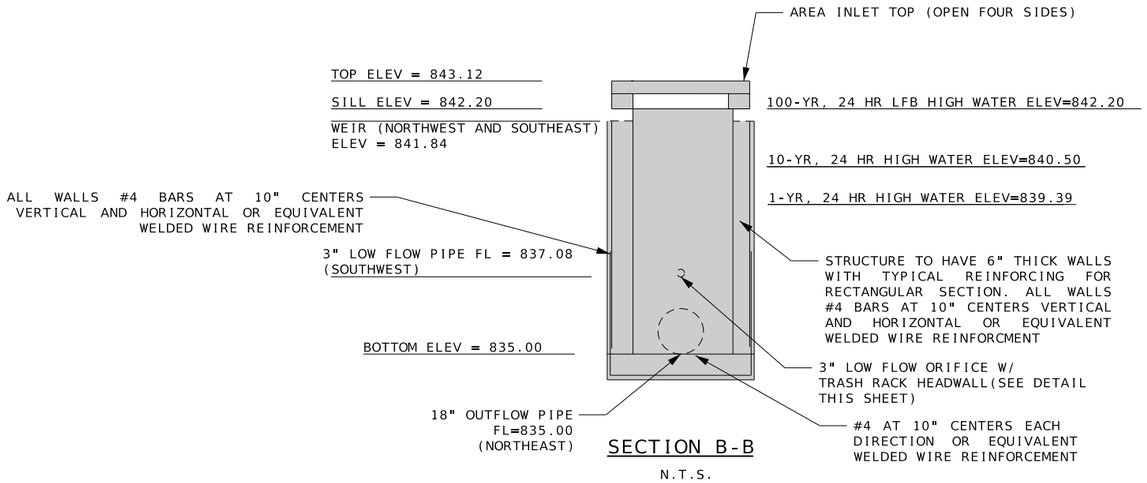
OUTFALL STRUCTURE DETAIL

3" LOW FLOW INVERT AT OUTFALL STRUCTURE	= 837.08
2'W WEIR ELEVATION (NORTHWEST & SOUTHEAST ELEV)	= 841.84
AREA INLET SILL	= 842.20



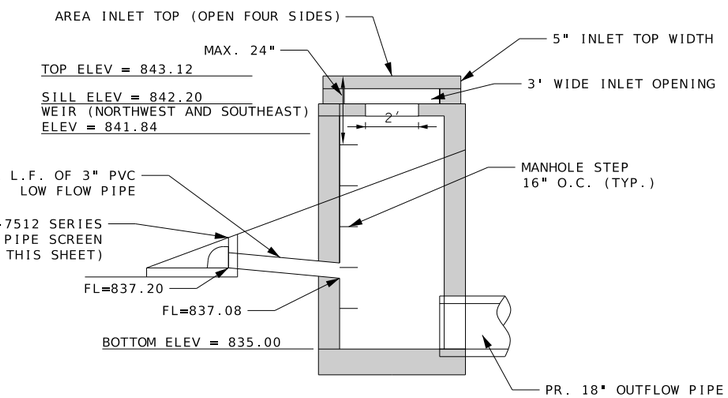
OUTFALL STRUCTURE DETAIL (STRUCTURE 416Q1)
PLAN VIEW

N.T.S.



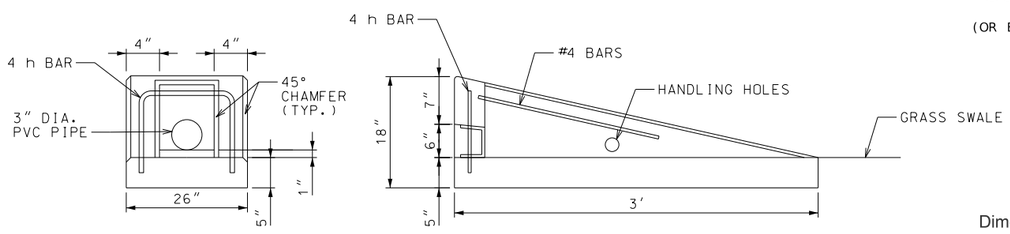
SECTION B-B

N.T.S.



SECTION A-A

N.T.S.



OS A-1.0 TRASH RACK HEADWALL DETAIL

N.T.S.

R-7512 Series
Cast Iron Pipe Screen

(OR EQUIVALENT)



Dimensions in inches

Catalog No.	Height	Length	Openings	Width	for Pipe Size
R-7512-A1	13	18	1	16	10 inch
~~R-7512-B1~~	~~13~~	~~18~~	~~1~~	~~18~~	~~12 inch~~

DETENTION DETAILS
SHEET 1 OF 2

HANNA R. JONES NUMBER PE-2021000273
STATE OF MISSOURI · PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

DATE PREPARED 10/2/2025

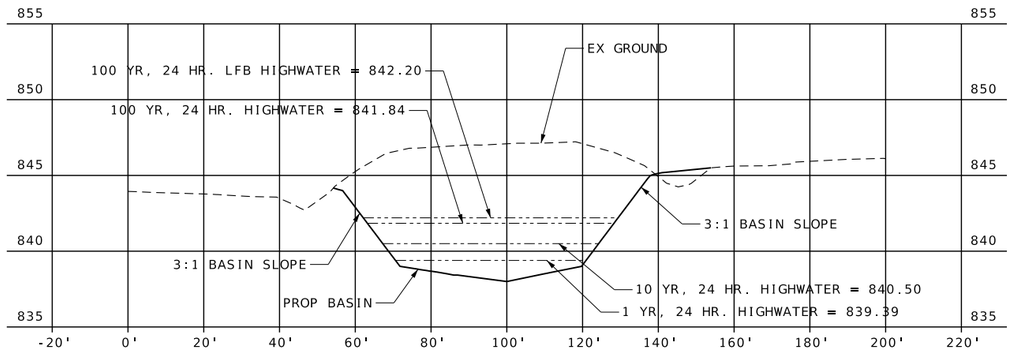
ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	44

COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

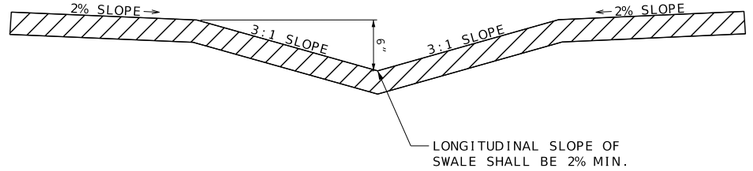
DESCRIPTION | DATE | REV.

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

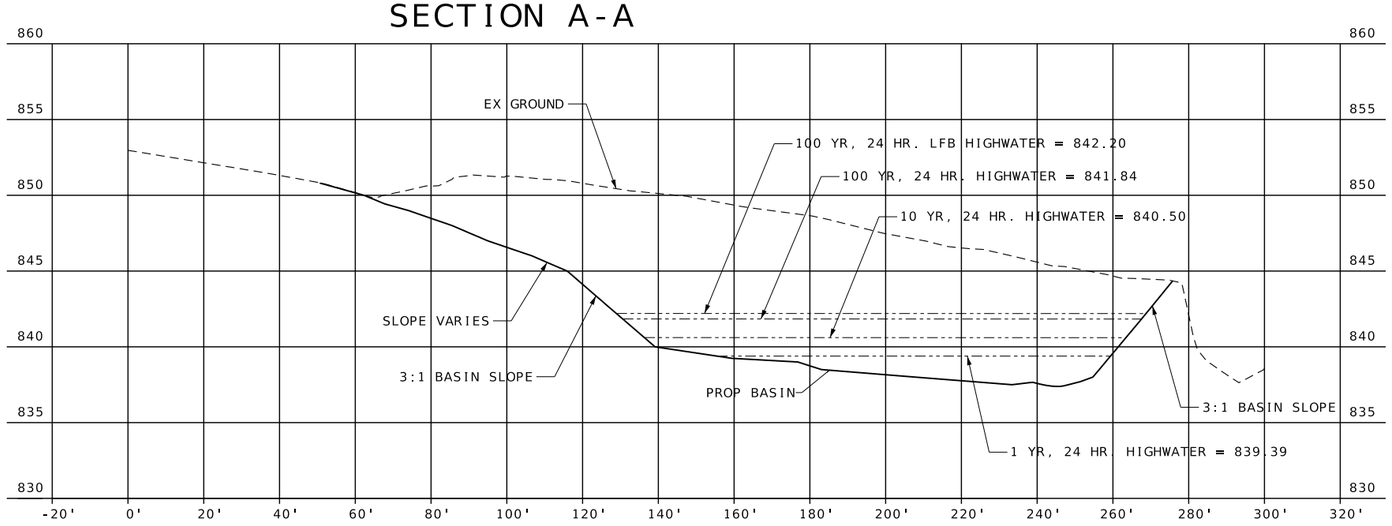
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com
Missouri Cert. of Authority 2002010300
TREKK DESIGN GROUP, LLC



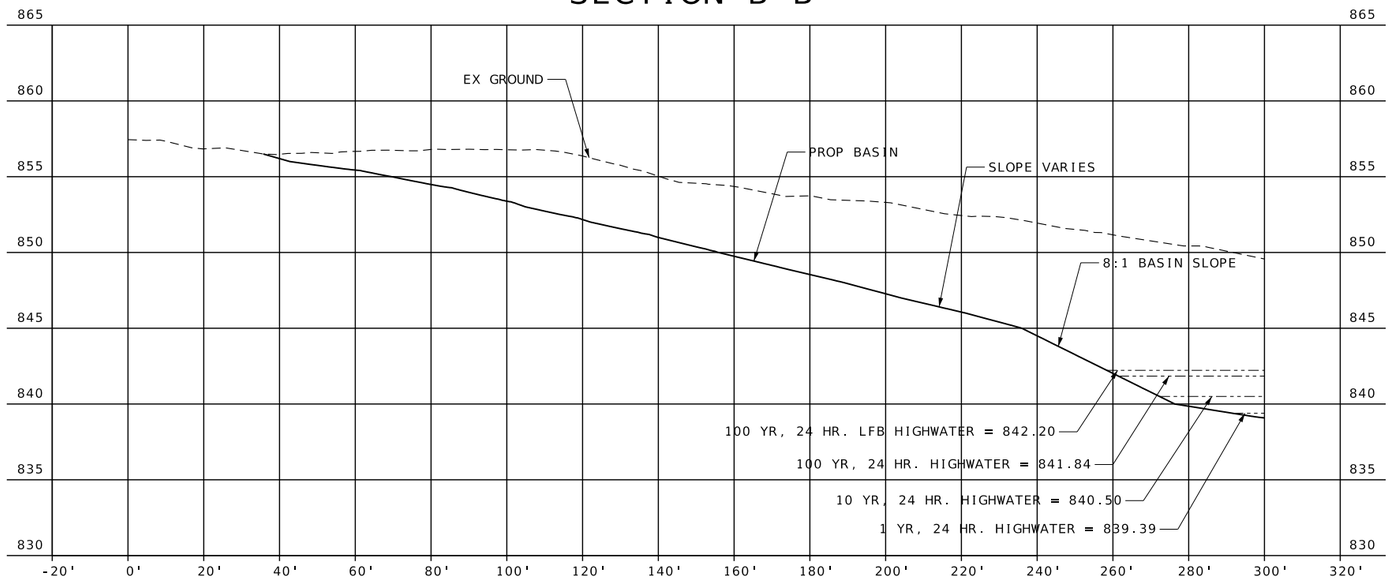
SECTION A-A



DETENTION BASIN PERVIOUS SWALE DETAIL
(N.T.S.)



SECTION B-B



SECTION C-C

DETENTION DETAILS
SHEET 2 OF 2

HANNA R. JONES
NUMBER PE-2021000273
STATE OF MISSOURI
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

DATE PREPARED
10/2/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	45

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

Traffic Control Legend, Sign Spacing, Device Spacing, Channelizing Taper Lengths And Recommended Maximum Speed Reductions

SIGN SPACING, TAPER LENGTHS, CHANNELIZER SPACING								
SPEED	SIGN SPACING (ft.)		TAPER LENGTH (ft.)		RECOMMENDED	LONGI-	CHANNELIZER SPACING (ft.)	
PERMANENT POSTED (mph)	UNDIVIDED (S)	DIVIDED (S)	SHOULDER (1) (T1)	LANE (2) (T2)	BUFFER LENGTH (ft.) (B)	TUDINAL TRANSITION (X)	TAPERS	BUFFER/ WORK AREAS
0-35	200	200	70	245	250	490	35	40
40-45	350	500	150	540	360	1080	40	80
50-55	500	1000	185	660	495	1320	50	80
60-70	1000	SA - 1000 SB - 1500 SC - 2640	235	840	730	1680	60	120

TAPER LENGTH (L)

L = W X P FOR 40 MPH OR MORE

L = $\frac{WP^2}{60}$ FOR 35 MPH OR LESS

L = TAPER LENGTH IN FEET

W = LATERAL SHIFT IN FEET

P = POSTED SPEED PRIOR TO ROAD WORK IN MPH

** THE SA DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO THE FIRST SIGN.

THE SB DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS.

THE SC DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS.

(THE "FIRST SIGN" IS THE SIGN IN A THREE-SIGN SERIES THAT IS CLOSEST TO THE TEMPORARY TRAFFIC CONTROL ZONE. THE "THIRD SIGN" IS THE SIGN THAT IS FURTHEST UPSTREAM FROM THE TEMPORARY TRAFFIC CONTROL ZONE)

DETAILS NOTES:

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

(2) SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS.

(3) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER

(4) CONCRETE BARRIER MAY BE INSTALLED AT 8:1 FLARE RATE FROM THE SHOULDER POINT OF THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- FLAGGER
- CHANNELIZER
- PROTECTIVE VEHICLE WITH WORK SIGN, FLASHING ARROW PANEL AND REAR-MOUNTED IMPACT ATTENUATOR UNIT.
- FLASHING ARROW PANEL
- CHANGEABLE MESSAGE BOARD
- BARRICADE

LEGEND NOTE:

THE PROTECTIVE VEHICLE SIGN SHALL BE MOUNTED AT A RECOMMENDED HEIGHT OF 48 IN. ABOVE THE ROAD SURFACE.

GENERAL NOTES:

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

RECOMMENDED MAXIMUM SPEED REDUCTIONS	
ACTIVITY (I.E. WORKERS, EQUIPMENT OR MATERIAL) LOCATION	RECOMMENDED WORK ZONE SPEED REDUCTION (WHEN APPLICABLE)
10 FT. BEYOND EDGE OF TRAVELWAY TO EDGE OF RIGHT OF WAY	NO SPEED REDUCTION
IN TRAFFIC LANE OR WITHIN 10FT. OF THE TRAFFIC LANE	10 MPH
HEAD-TO-HEAD ON MULTILANE	10 MPH
SPECIAL CIRCUMSTANCES WITHIN A TEMPORARY TRAFFIC CONTROL WORK ZONE MAY WARRANT A LOWER SPEED LIMIT THAN RECOMMENDED ABOVE. ALL SPEED LIMIT REDUCTIONS GREATER THAN 10 MPH SHALL BE DOCUMENTED, SUBMITTED TO AND APPROVED BY THE DISTRICT WORK ZONE COORDINATOR.	

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED 10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	46

COUNTY JACKSON

JOB NO. J4S3490

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

REV.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- WORK AREA
- FLASHING ARROW BOARD
- TEMPORARY RUMBLE STRIP
- PROTECTIVE VEHICLE



WO20-5

(5)





WO20-6a

(6)





WO21-5

(21)



WO20-1

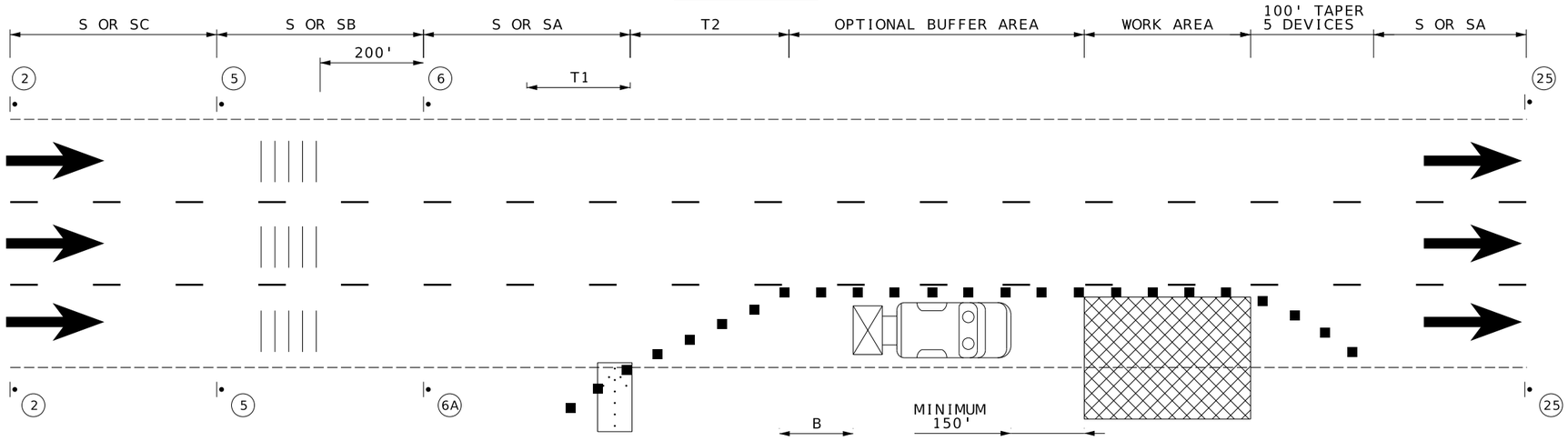
(2)



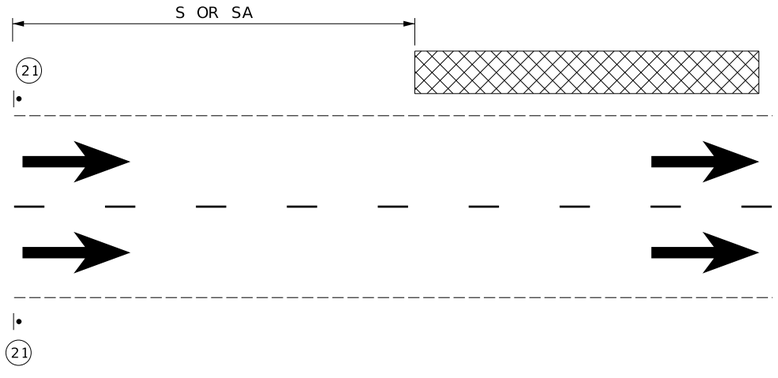
WO4-1aL

(6A)

LANE CLOSURE



WORK BEYOND THE SHOULDER



TRAFFIC CONTROL
SHEET 2 OF 10

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	47

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4655
Fax: (816) 874-4675
www.trekkdesigngroup.com

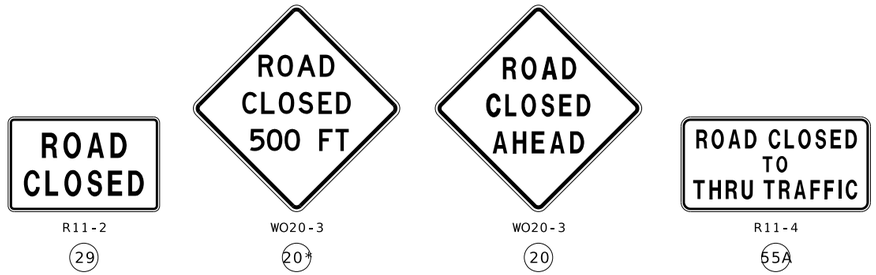
Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

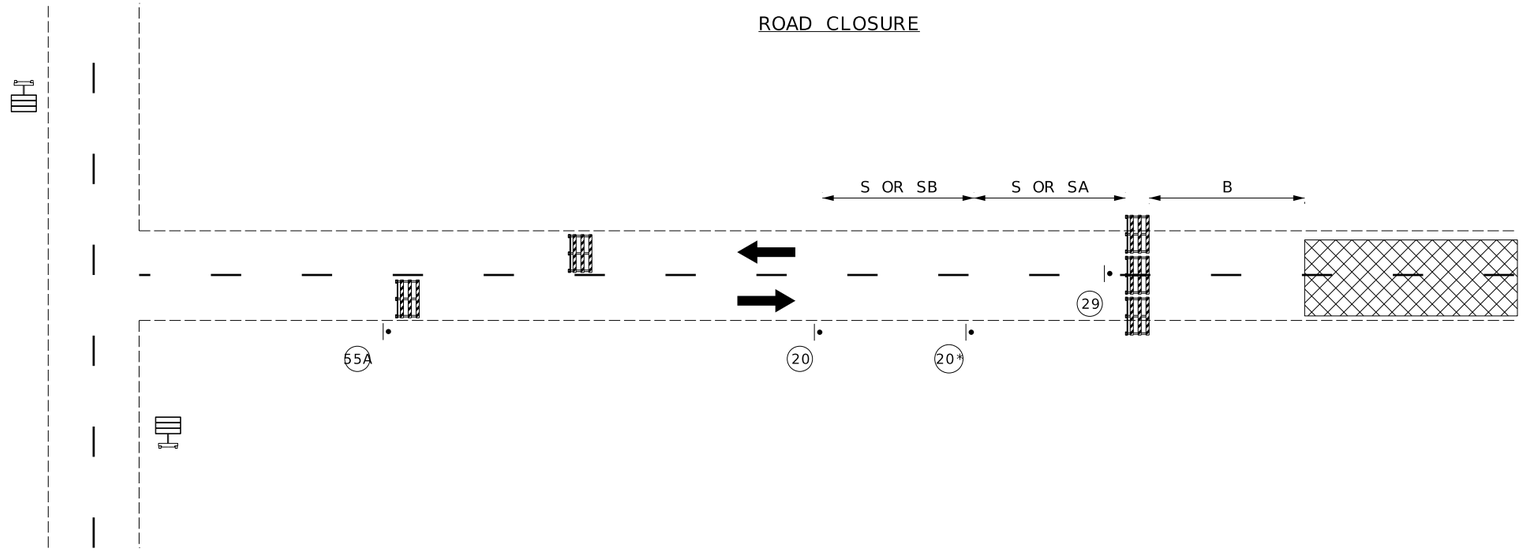
REV.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- WORK AREA
- FLASHING ARROW BOARD



ROAD CLOSURE



TRAFFIC CONTROL
SHEET 3 OF 10

JASON MICHAEL SHAFER
NUMBER PE-2010019596
STATE OF MISSOURI
PROFESSIONAL ENGINEER
I HEREBY CERTIFY THAT THIS WAS SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	48

COUNTY
JACKSON

JOB NO.
J4S3490

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

REV.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- WORK AREA
- FLASHING ARROW BOARD



R2-1

(4)



WO20-6a

(6)



WO20-5a

(5A)



WO4-1aR

(6A)



WO20-1

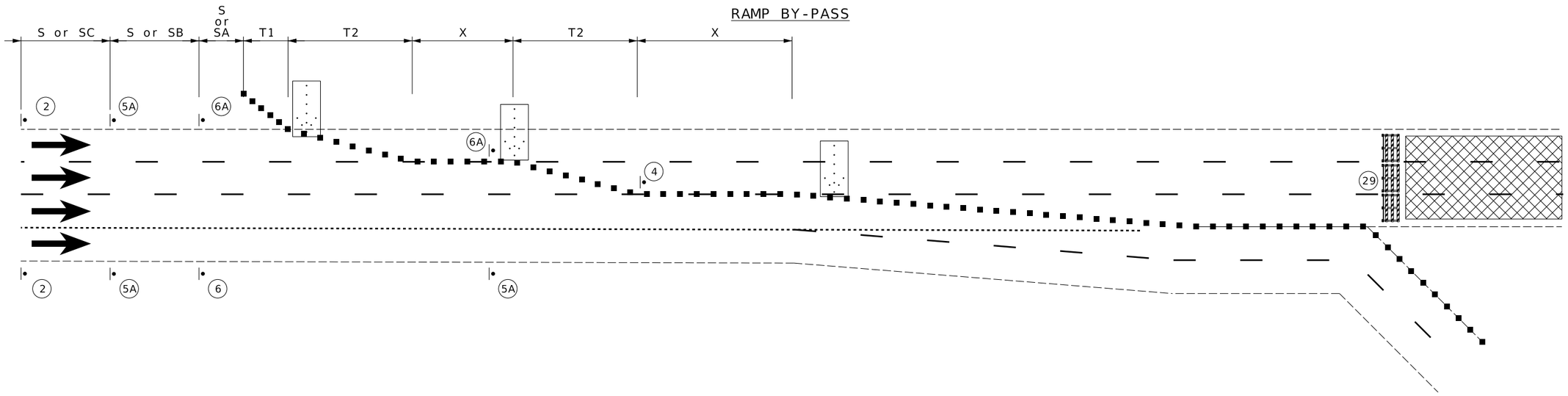
(2)



R11-2

(29)

RAMP BY-PASS



TRAFFIC CONTROL
SHEET 4 OF 10

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	49

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of
Authority 2002010300

TREKK DESIGN GROUP, LLC

REV.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- WORK AREA
- FLASHING ARROW BOARD



WO20-3

20



WO20-3

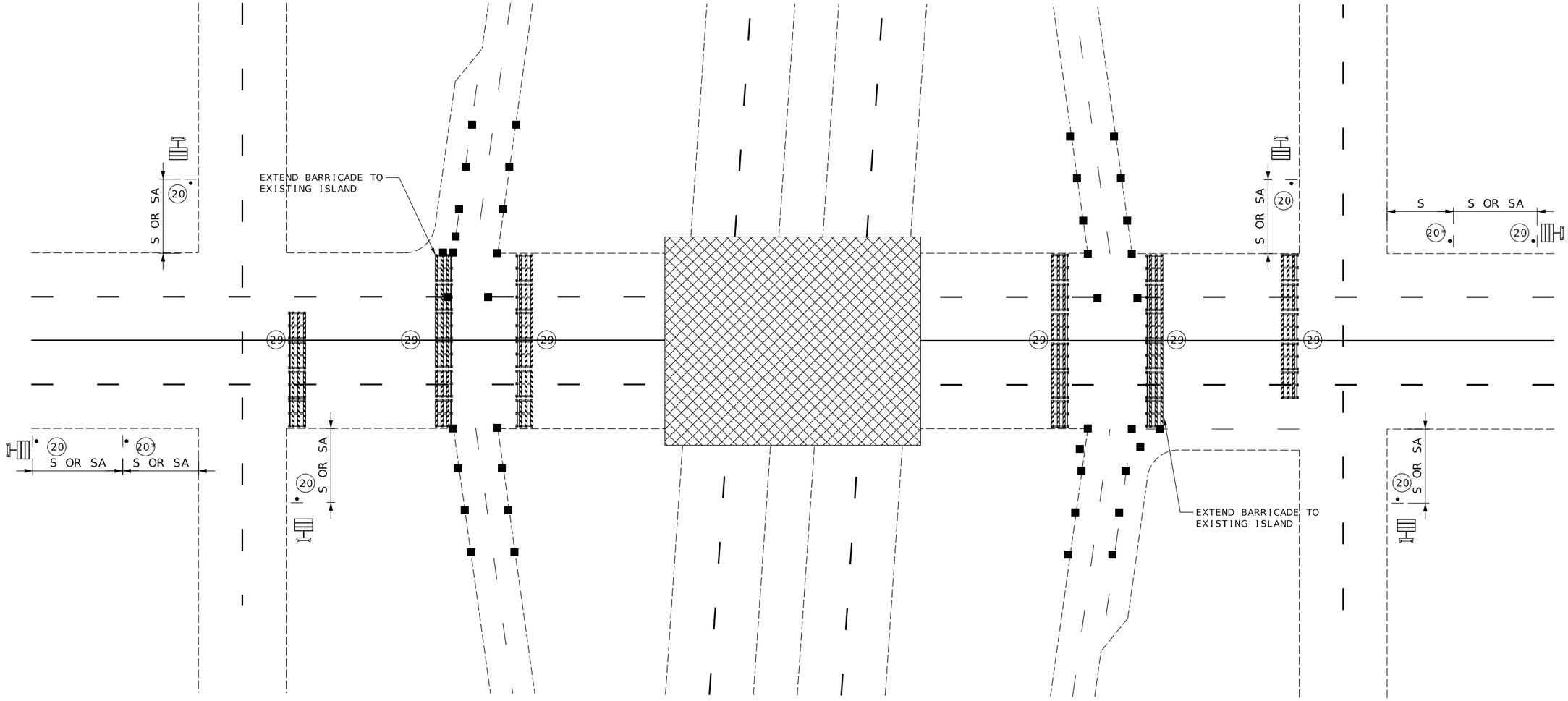
20*



R11-2

29

RAMP BY-PASS



TRAFFIC CONTROL
SHEET 5 OF 10

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

JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
STATE OF MISSOURI

DATE PREPARED: 10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	50

COUNTY: JACKSON

JOB NO.: J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

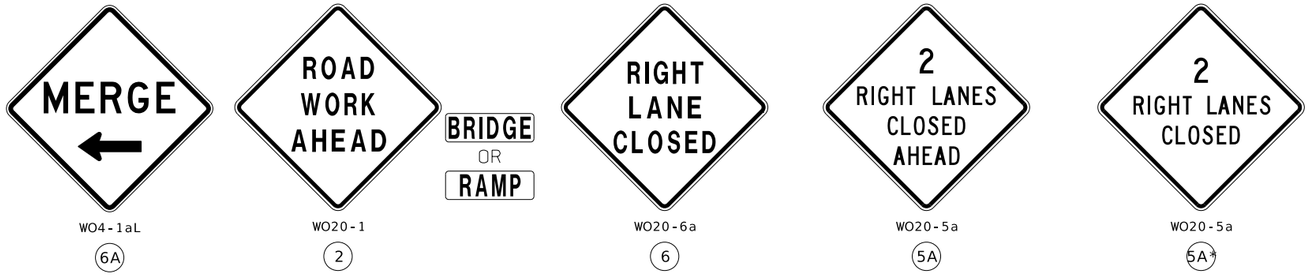
Missouri Cert. of
Authority 2002010300

TREKK DESIGN GROUP, LLC

REV.

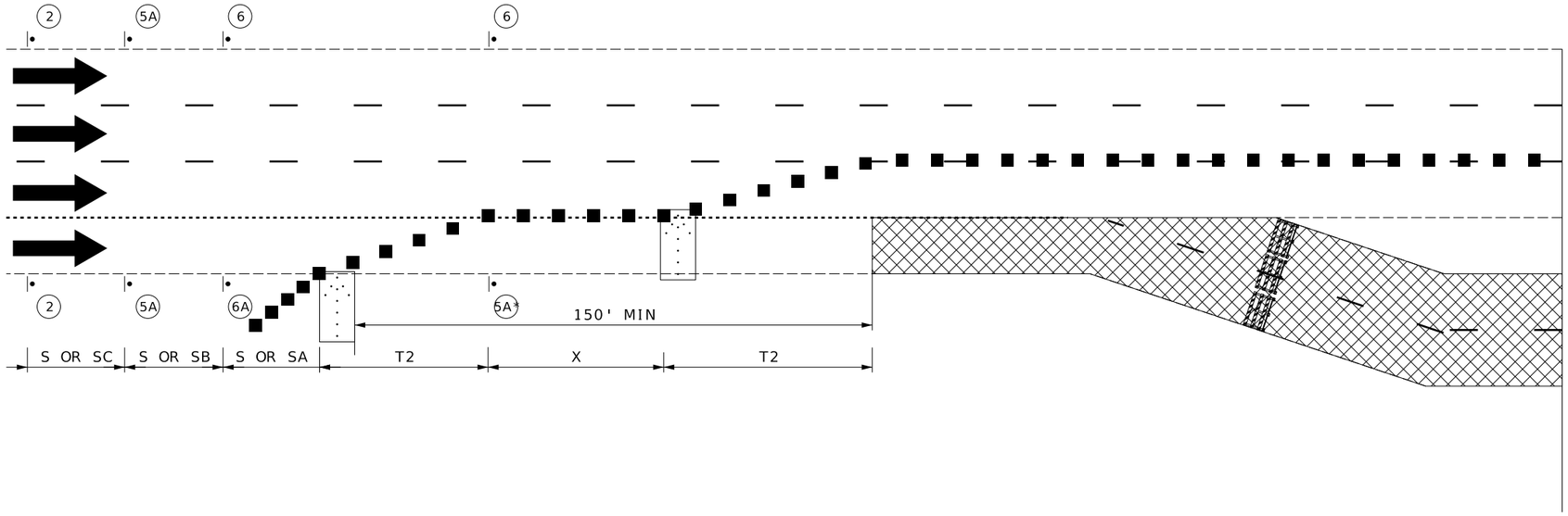
TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- WORK AREA
- FLASHING ARROW BOARD



WO4-1aL (6A) | WO20-1 (2) | WO20-6a (6) | WO20-5a (5A) | WO20-5a (5A*)

STATIONARY WORK ON A FULL CLOSED EXIT LANE AND RAMP



TRAFFIC CONTROL
SHEET 6 OF 10

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM AUTHORIZED TO SEAL AND SIGN THIS DOCUMENT
SEALED AND DATED ELECTRONICALLY

DATE PREPARED 10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	51

COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

REV.	DESCRIPTION	DATE

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- WORK AREA
- FLASHING ARROW BOARD



WO4-1aR

6A



WO20-1

2





WO20-6a

6



WO20-5a

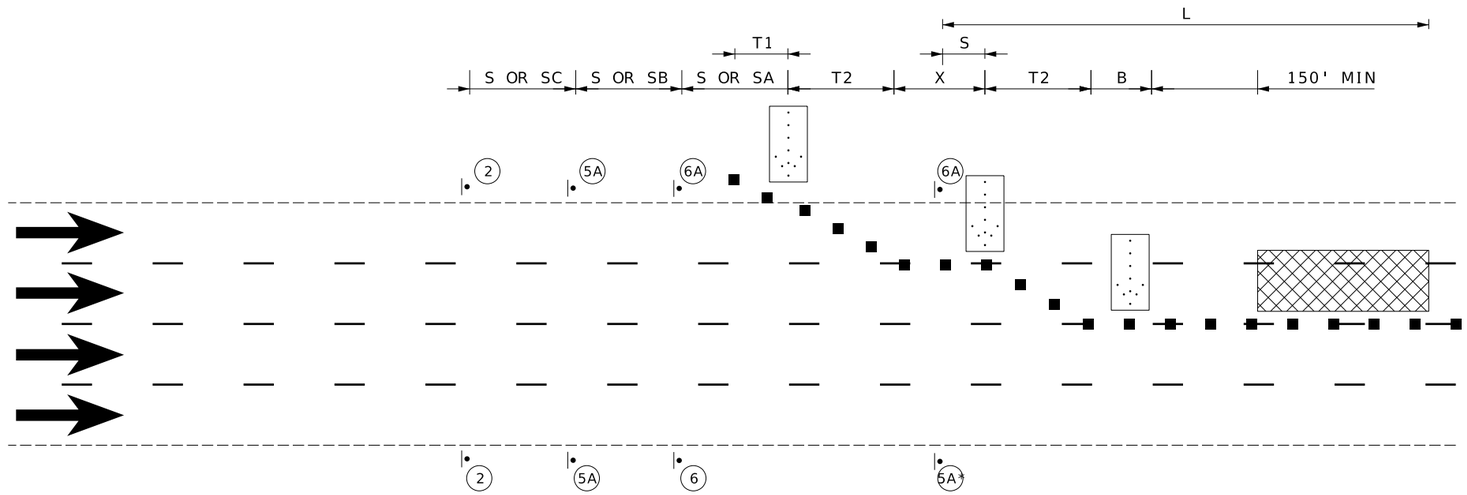
5A



WO20-5a

5A*

STATIONARY DOUBLE LANE CLOSURES ON INTERIOR LANE ON A MULTI-LANE HIGHWAY



TRAFFIC CONTROL
SHEET 7 OF 10

JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
STATE OF MISSOURI

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	52

COUNTY
JACKSON

JOB NO.
J4S3490

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

REV.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- WORK AREA
- FLASHING ARROW BOARD
- TEMPORARY RUMBLE STRIP
- PROTECTIVE VEHICLE



WO20-5

(5)





WO20-6a

(6)





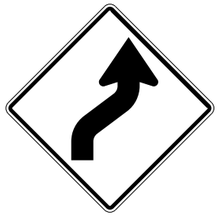
WO20-1

(2)



WO4-1aL

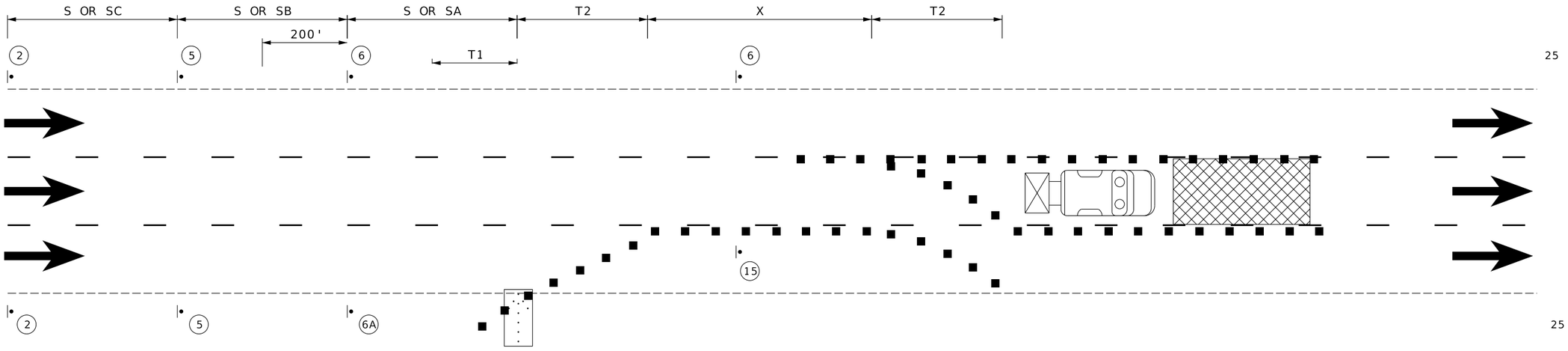
(6A)



WO1-4R

(15)

STATIONARY CLOSURE OF INTERIOR LANE ON A MULTI-LANE HIGHWAY



TRAFFIC CONTROL
SHEET 8 OF 10

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	53

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

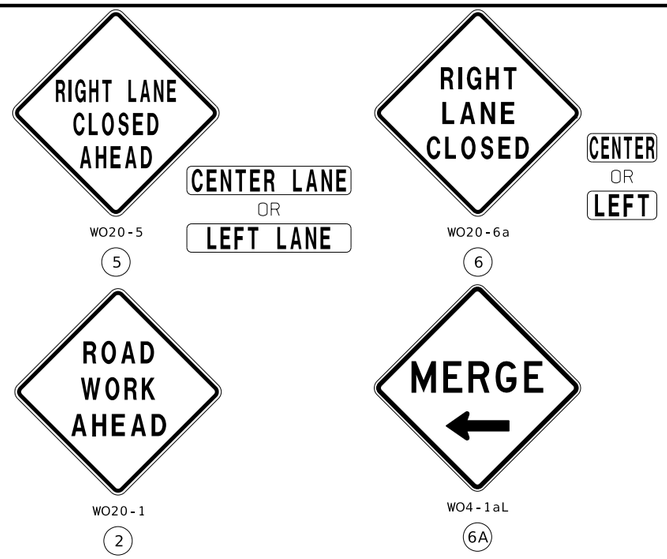
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of
Authority 2002010300

TREKK DESIGN GROUP, LLC

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- WORK AREA
- FLASHING ARROW BOARD
- TEMPORARY RUMBLE STRIP
- PROTECTIVE VEHICLE
- CRASH CUSHION



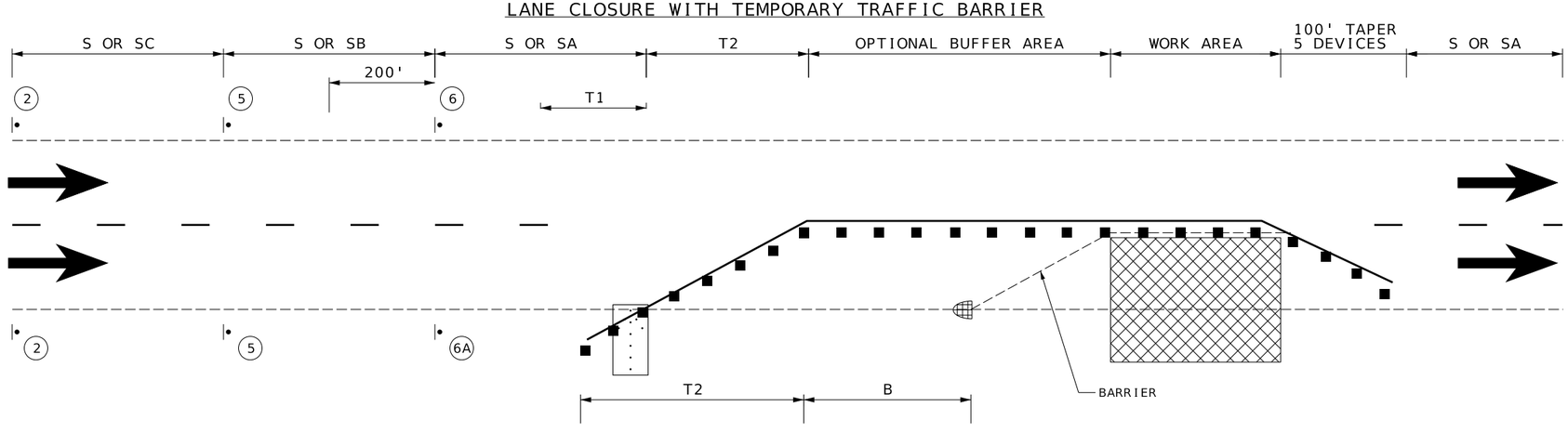
WO20-5 (5)

WO20-6a (6)

WO20-1 (2)

WO4-1aL (6A)

LANE CLOSURE WITH TEMPORARY TRAFFIC BARRIER



TRAFFIC CONTROL
SHEET 9 OF 10

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED: 10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	54

COUNTY: JACKSON
JOB NO.: J4S3490
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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4855
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002015300

REV.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- WORK AREA
- FLASHING ARROW BOARD



WO20-5

(5)





WO20-6a

(6)

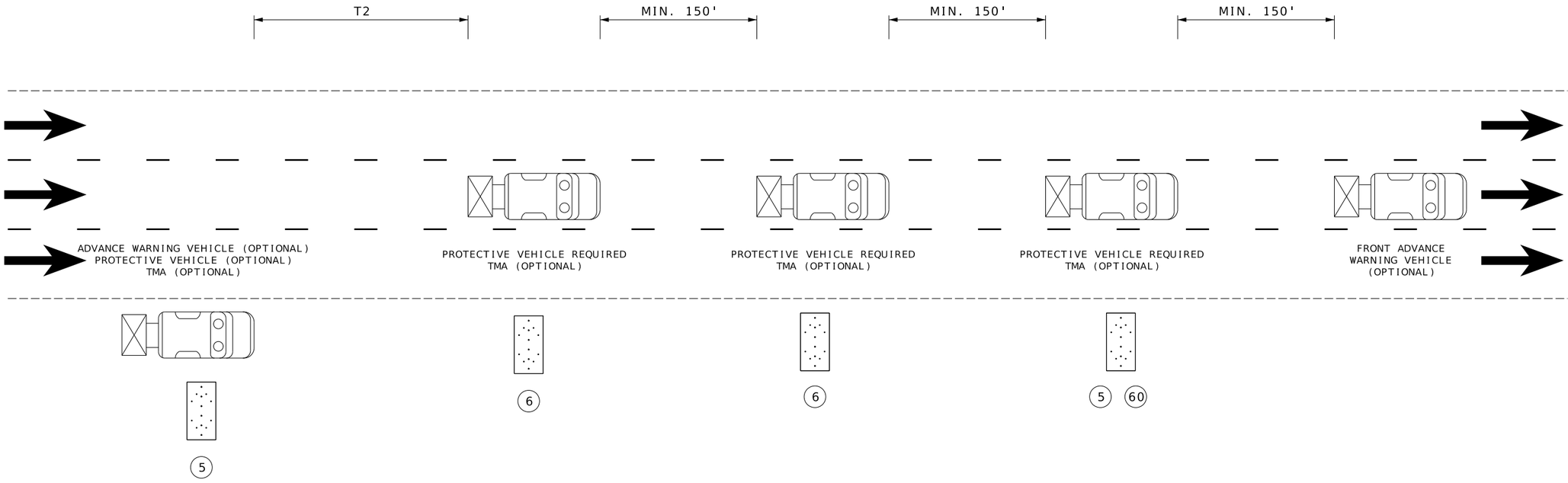




GO25-1

(60)

PAVEMENT MARKING OPERATION ON A MULTI-LANE HIGHWAY



TRAFFIC CONTROL
SHEET 10 OF 10

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	55

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

REV.

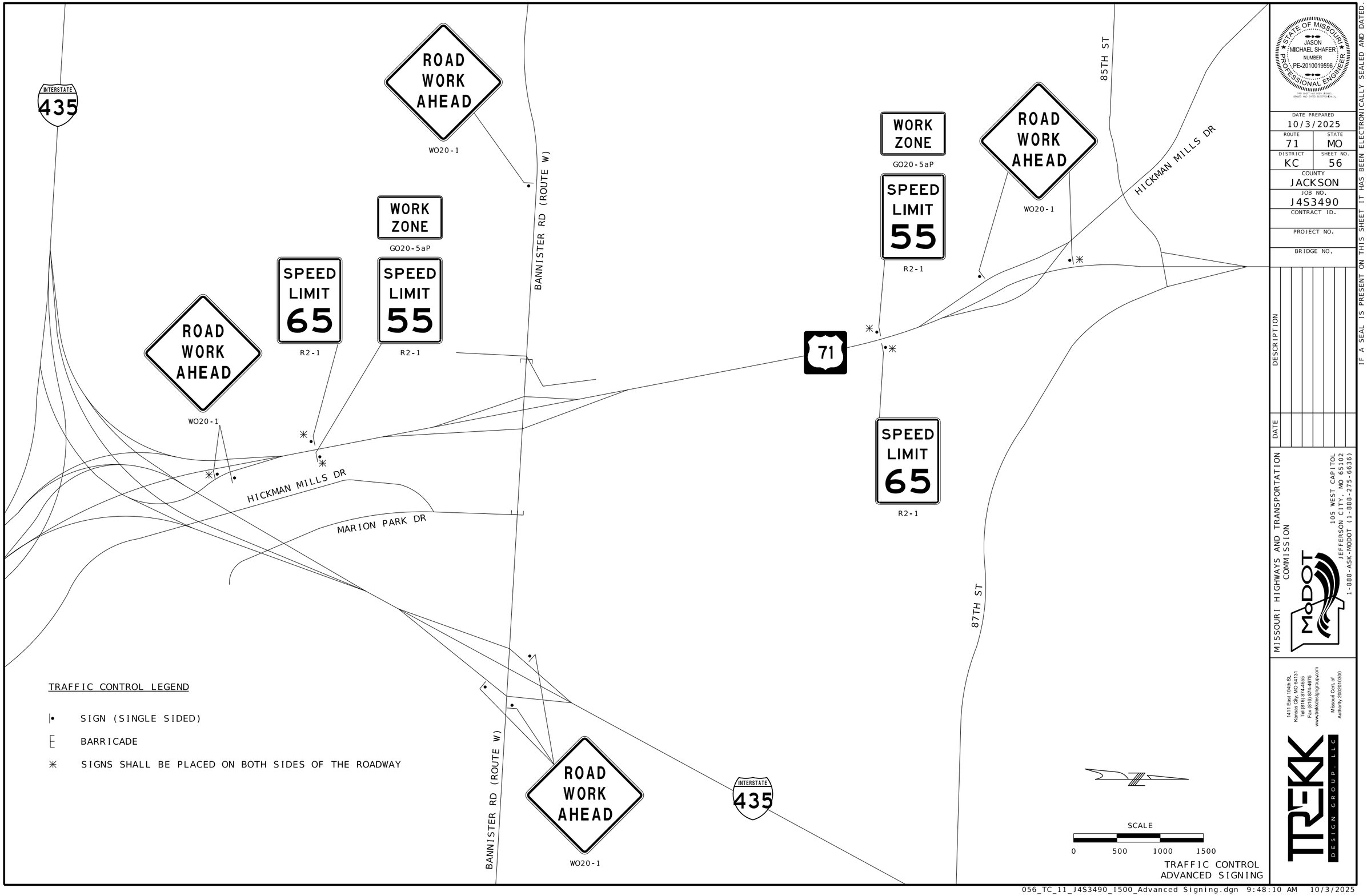
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of
Authority 2002010300

TREKK DESIGN GROUP, LLC



STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	56

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DESCRIPTION	DATE

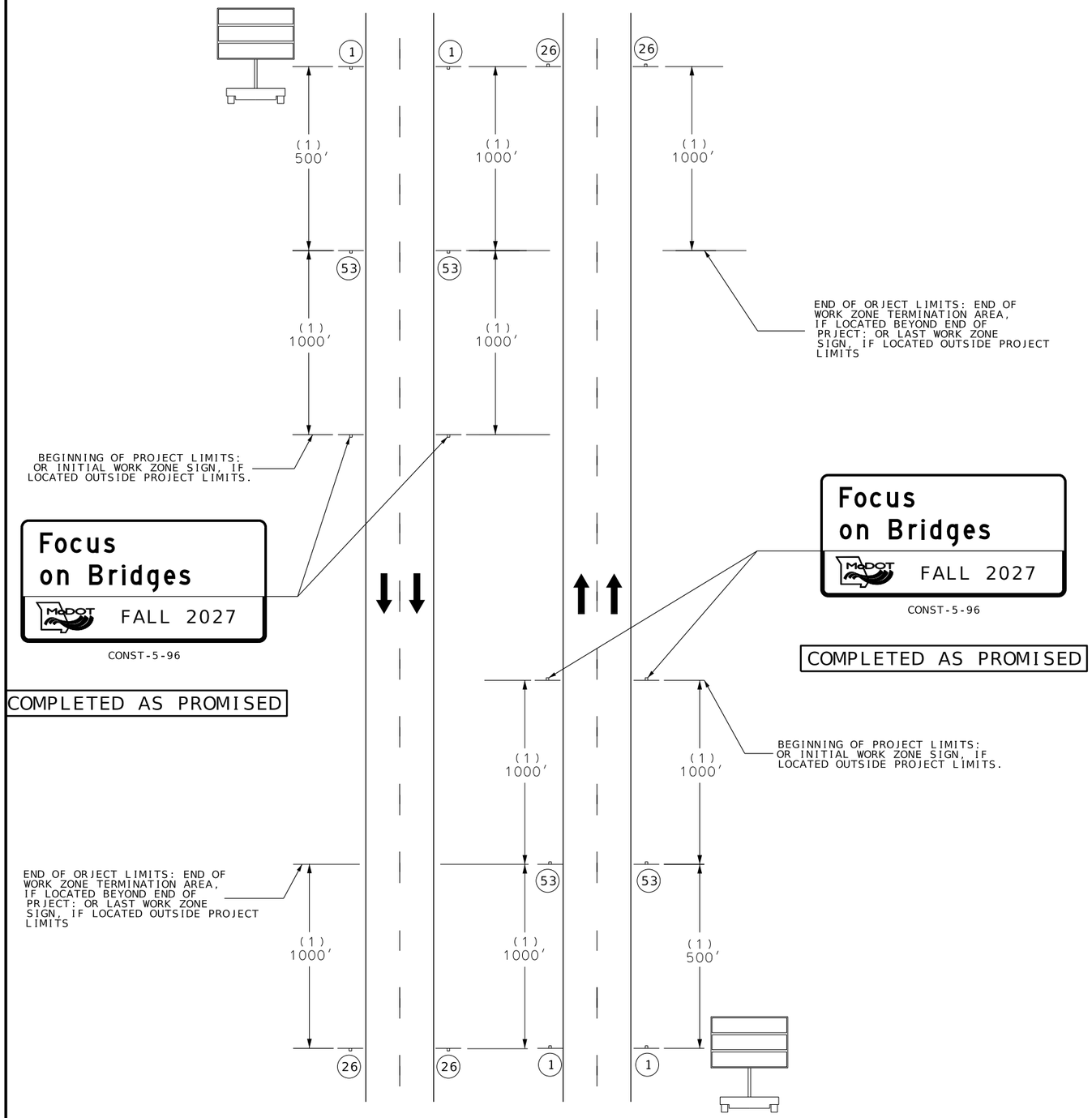
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

056_TC_11_J4S3490_I500_Advanced Signing.dgn 9:48:10 AM 10/3/2025



BEGIN/END OF PROJECT SIGNING

NOTES:

SIGN (1) IS ONLY REQUIRED ON PROJECTS OF 2 MILES OR GREATER IN LENGTH.

SIGNS (26) IS USED ON ALL PROJECTS WHERE SIGN (1) IS USED.

OTHER SIGNS SUCH AS DETOUR OR ALTERNATE ROUTE SIGNING MAY BE USED OUTSIDE THE PROJECT LIMITS.

ANY EXISTING SIGNING THAT CONFILCTS WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED.

(1) DISTANCE MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS. WHERE TRAFFIC BACKUPS ARE EXPECTED BEYOND THE ADVANCE WARNING AREA, ADDITIONAL SIGNING MAY BE NEEDED

ROAD WORK
NEXT 2 MILES
GO20-1
(1)

END
ROAD WORK
GO20-2
(26)

MIN. $250 FINE
SPEEDING
WHEN WORKERS
PRESENT
CONST-3A
(53)

TRAFFIC CONTROL
BEGIN/END OF PROJECT
SIGNING

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM NOT LIABLE FOR ANY UNSEALED, SIGNED AND DATED ELECTRONICALLY

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	57

COUNTY
JACKSON

JOB NO.
J4S3490

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

REV.

REFER TO JSPS FOR CLOSURE DURATIONS AND COMPLETION DATES.

REFER TO "ORDER OF WORK" JSP FOR
NOTIFICATION REQUIREMENTS AND CONTACTS PRIOR TO EACH PHASE CHANGE.

PHASE 1A - RAMP SHOULDER RECONSTRUCTION TO PREPARE FOR
2 LANES OF US-71 TRAFFIC ON THE RAMPS DURING PHASE 2:

TRAFFIC:
RAMP N CLOSURE AS NEEDED FOR SHOULDER WORK
RAMP O CLOSURE AS NEEDED FOR SHOULDER WORK
RAMP P CLOSURE AS NEEDED FOR SHOULDER WORK
RAMP Q CLOSURE AS NEEDED FOR SHOULDER WORK

ONLY ONE RAMP MAY BE CLOSED AT A TIME

NB US-71 TRAFFIC ON EXISTING BRIDGE L0842
SB US-71 TRAFFIC ON EXISTING BRIDGE L0842

BANNISTER RD (ROUTE W) TO REMAIN OPEN

SIDEWALK CLOSURES BETWEEN PARKWOOD AVE AND MARION PARK DRIVE

CONSTRUCTION:

RAMP N SHOULDER REPLACEMENT
RAMP O SHOULDER REPLACEMENT
RAMP P SHOULDER REPLACEMENT
RAMP Q SHOULDER REPLACEMENT

PHASE 1B - MILL & OVERLAY OF RAMPS TO PREPARE FOR
2 LANES OF US-71 TRAFFIC ON THE RAMPS DURING PHASE 2:

TRAFFIC:
RAMP N CLOSED
RAMP O CLOSED
RAMP P CLOSED
RAMP Q CLOSED

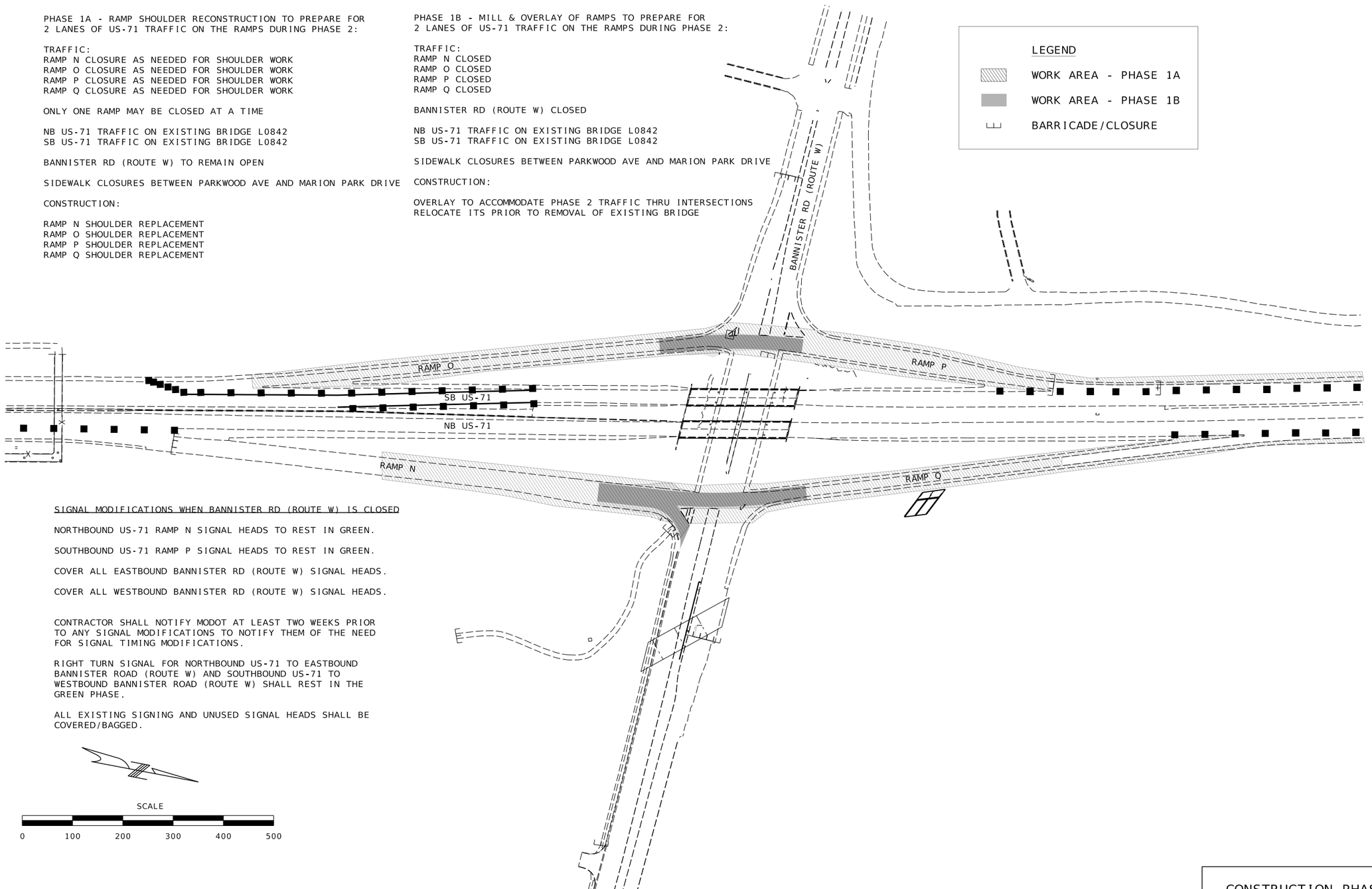
BANNISTER RD (ROUTE W) CLOSED

NB US-71 TRAFFIC ON EXISTING BRIDGE L0842
SB US-71 TRAFFIC ON EXISTING BRIDGE L0842

SIDEWALK CLOSURES BETWEEN PARKWOOD AVE AND MARION PARK DRIVE

CONSTRUCTION:

OVERLAY TO ACCOMMODATE PHASE 2 TRAFFIC THRU INTERSECTIONS
RELOCATE ITS PRIOR TO REMOVAL OF EXISTING BRIDGE



SIGNAL MODIFICATIONS WHEN BANNISTER RD (ROUTE W) IS CLOSED

NORTHBOUND US-71 RAMP N SIGNAL HEADS TO REST IN GREEN.

SOUTHBOUND US-71 RAMP P SIGNAL HEADS TO REST IN GREEN.

COVER ALL EASTBOUND BANNISTER RD (ROUTE W) SIGNAL HEADS.

COVER ALL WESTBOUND BANNISTER RD (ROUTE W) SIGNAL HEADS.

CONTRACTOR SHALL NOTIFY MODOT AT LEAST TWO WEEKS PRIOR TO ANY SIGNAL MODIFICATIONS TO NOTIFY THEM OF THE NEED FOR SIGNAL TIMING MODIFICATIONS.

RIGHT TURN SIGNAL FOR NORTHBOUND US-71 TO EASTBOUND BANNISTER ROAD (ROUTE W) AND SOUTHBOUND US-71 TO WESTBOUND BANNISTER ROAD (ROUTE W) SHALL REST IN THE GREEN PHASE.

ALL EXISTING SIGNING AND UNUSED SIGNAL HEADS SHALL BE COVERED/BAGGED.

SCALE

0 100 200 300 400 500

CONSTRUCTION PHASING PHASE 1

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	58

COUNTY
JACKSON

JOB NO.
J4S3490

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

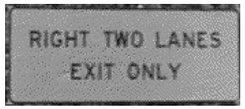
Missouri Cert. of Authority 2002010300

TRAFFIC CONTROL LEGEND

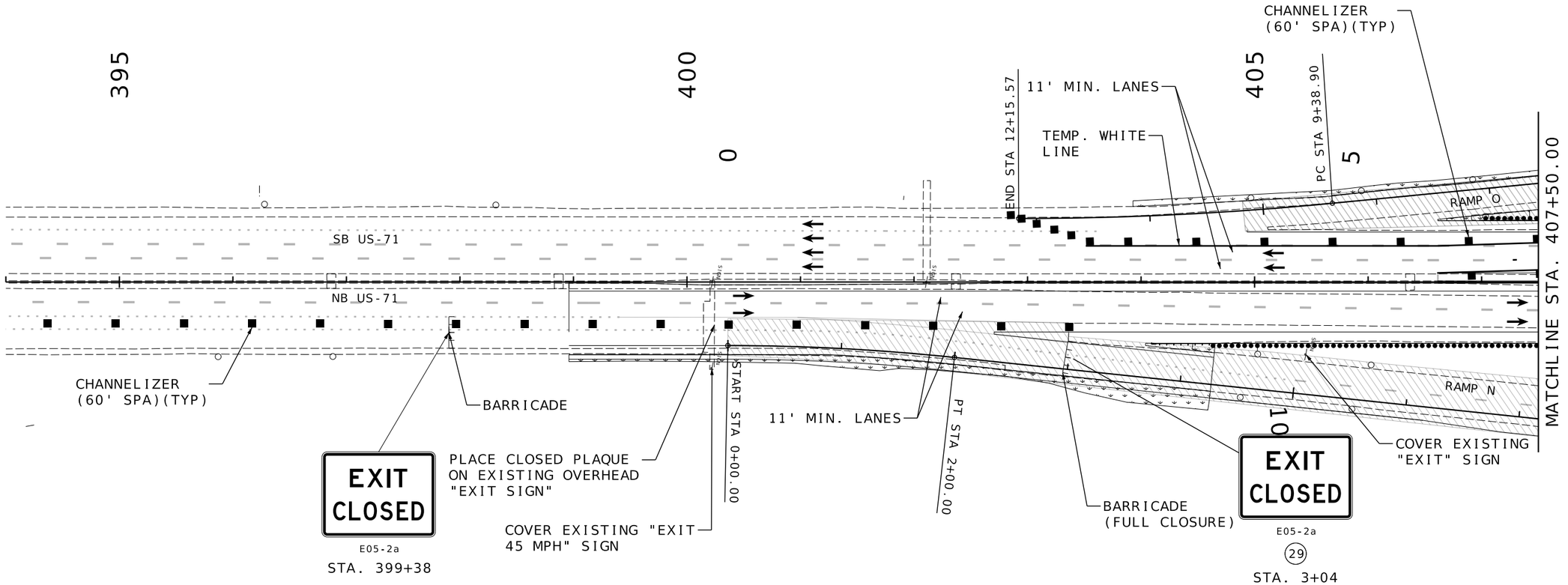
- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- WORK AREA
- LANE OPEN TO TRAFFIC



STA. 382+87
REMOVE OR COVER



STA. 391+38
REMOVE OR COVER



STA. 399+38

STA. 3+04

SCALE
0 50 100 150

NOTE:
FOR LANE CLOSURE STARTING AT STA. 385+00
REFER TO TYPICAL APPLICATION - LANE CLOSURE.
BEGIN LANE CLOSURE TAPER AT STA. 385+00 (NB)
WITH FULL LANE CLOSURE STARTING AT STA 395+00.
SEE SHEET 51 FOR DETAIL.

CONTRACTOR SHALL COVER ALL SIGN CONFLICTING WITH
TEMPORARY TRAFFIC CONTROL DESGIN.

US-71 TRAFFIC CONTROL
PHASE 1
SHEET 1 OF 3

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	59

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

REV.

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300
TREKK DESIGN GROUP, LLC

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- WORK AREA
- LANE OPEN TO TRAFFIC

SIDEWALK CLOSED
R9-9

ROAD CLOSED
R11-2
29
STA. 204+79

BARRICADE (FULL CLOSURE)

BARRICADE (FULL CLOSURE)

EXIT CLOSED
E05-2a
29
STA. 0+83

CHANNELIZER (60' SPA)(TYP)

TEMP. BROKEN WHITE LINE

WO1-4bL
32
STA. 413+36

TEMP. WHITE LINE

MATCHLINE STA. 407+50.00

RAMP O

START STA 0+00.00

START STA 0+00.00

11' MIN. LANES

PC STA 416+73.54

PC STA 5+59.33

SB US-71

NB US-71

CHANNELIZER (60' SPA)(TYP)

MATCHLINE STA. 421+00.00

11' MIN. LANES

RAMP N

RAMP P

RAMP Q

END STA 13+87.70

START STA 0+00.00

BANNISTER RD (ROUTE W)

SIDEWALK CLOSED
R9-9

BARRICADE (FULL CLOSURE)

ROAD CLOSED
R11-2
29
STA. 214+02

SCALE
0 50 100 150

PHASE 1A: RAMP CLOSURES FOR SHOULDER REPLACEMENT

PHASE 1B: RAMPS AND BANNISTER RD (ROUTE W) CLOSURE FOR PROFILE IMPROVEMENTS FOR RAMP DETOUR

US-71 TRAFFIC CONTROL
PHASE 1
SHEET 2 OF 3

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	60

COUNTY
JACKSON

JOB NO.
J4S3490

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)

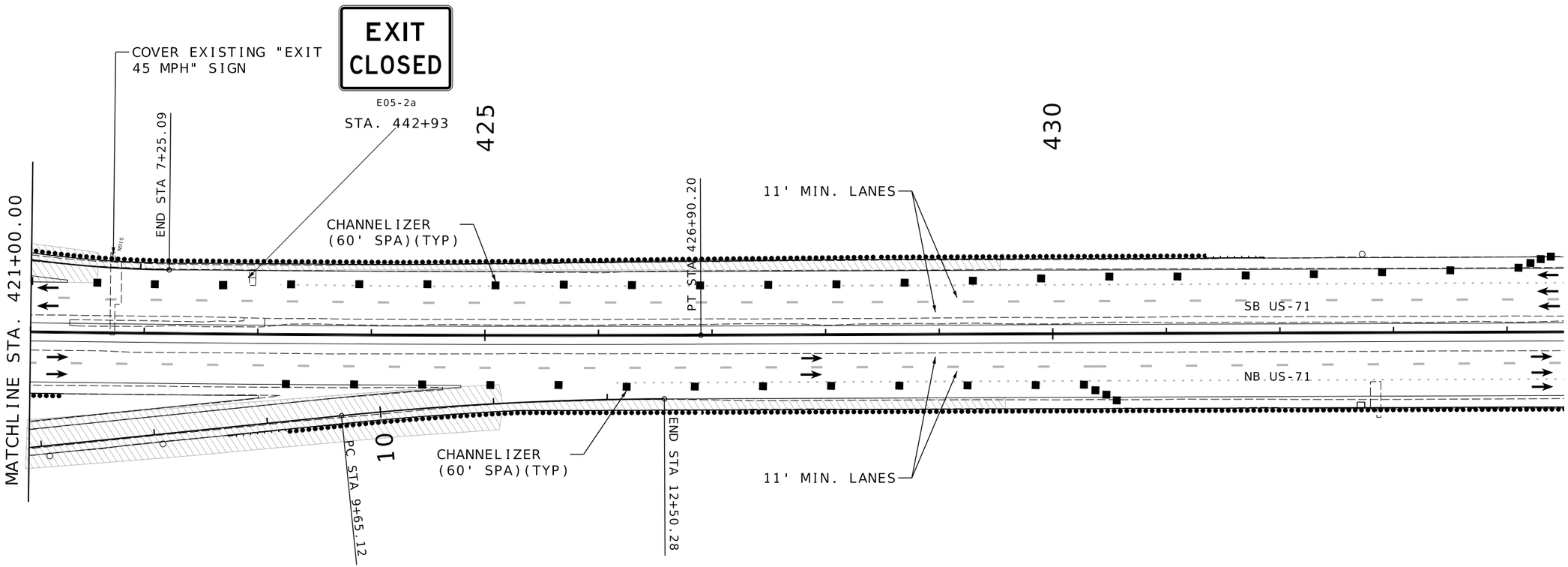
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- WORK AREA
- LANE OPEN TO TRAFFIC



SCALE
0 50 100 150

NOTE:
FOR LANE CLOSURE STARTING AT STA. 428+00
REFER TO TYPICAL APPLICATION - LANE CLOSURE.
BEGIN LANE CLOSURE TAPER AT STA. 434+00 (SB)
WITH FULL LANE CLOSURE STARTING AT STA 428+00.
SEE SHEET 31 FOR DETAIL.

CONTRACTOR SHALL COVER ALL SIGN CONFLICTING WITH
TEMPORARY TRAFFIC CONTROL DESGIN.

US-71 TRAFFIC CONTROL
PHASE 1
SHEET 3 OF 3

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED 10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	61

COUNTY: JACKSON
JOB NO.: J4S3490
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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300
TREKK DESIGN GROUP, LLC

REV.

REFER TO JSPS FOR CLOSURE DURATIONS AND COMPLETION DATES.

REFER TO "ORDER OF WORK" JSP FOR
NOTIFICATION REQUIREMENTS AND CONTACTS PRIOR TO EACH PHASE CHANGE.

PHASE 2 - BRIDGE REMOVAL & CONSTRUCTION:

TRAFFIC:

WB BANNISTER RD (ROUTE W) CLOSED AT MARION PARK DRIVE (NOT SHOWN)
EB BANNISTER RD (ROUTE W) CLOSED AT PARKWOOD AVE

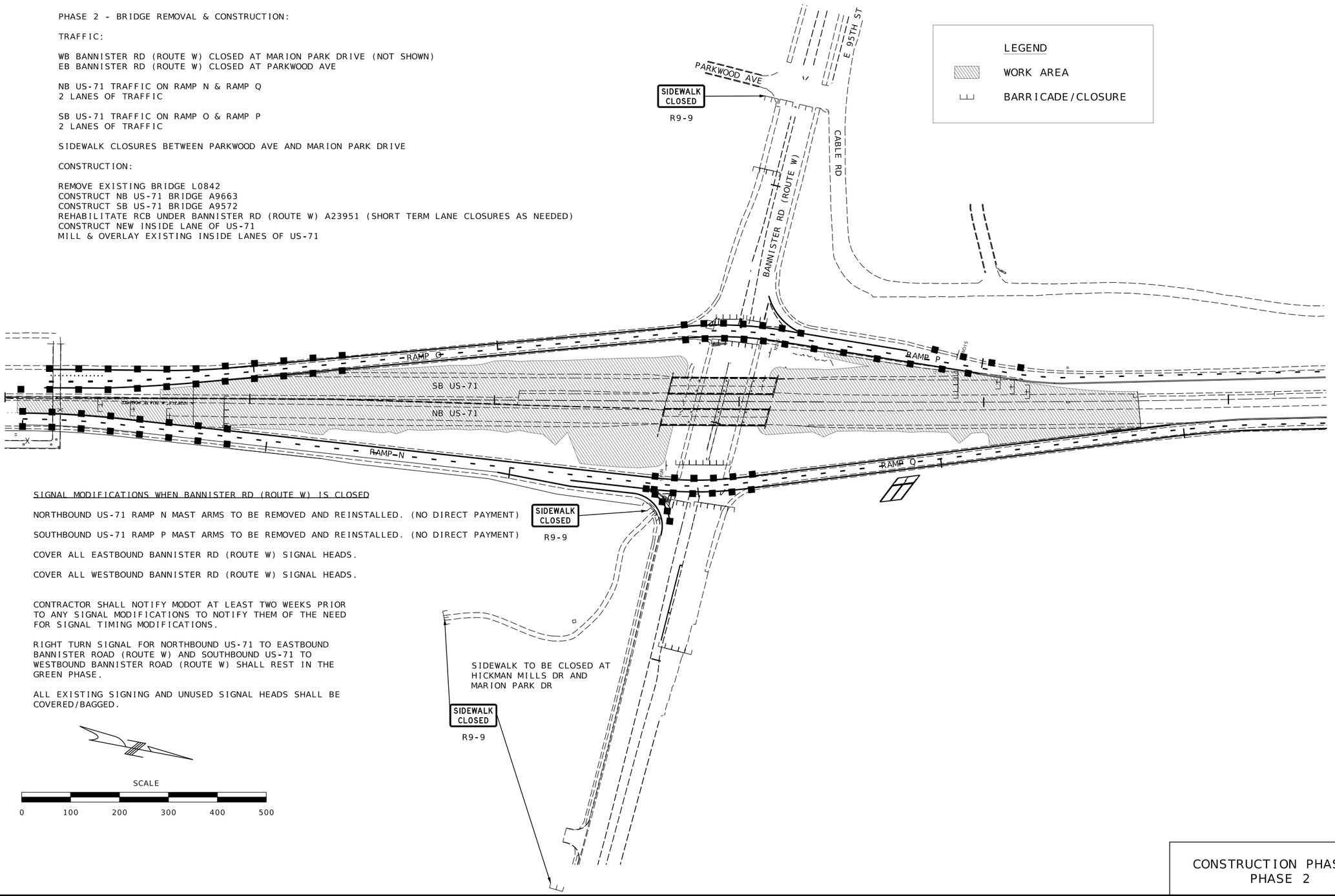
NB US-71 TRAFFIC ON RAMP N & RAMP Q
2 LANES OF TRAFFIC

SB US-71 TRAFFIC ON RAMP O & RAMP P
2 LANES OF TRAFFIC

SIDEWALK CLOSURES BETWEEN PARKWOOD AVE AND MARION PARK DRIVE

CONSTRUCTION:

REMOVE EXISTING BRIDGE L0842
CONSTRUCT NB US-71 BRIDGE A9663
CONSTRUCT SB US-71 BRIDGE A9572
REHABILITATE RCB UNDER BANNISTER RD (ROUTE W) A23951 (SHORT TERM LANE CLOSURES AS NEEDED)
CONSTRUCT NEW INSIDE LANE OF US-71
MILL & OVERLAY EXISTING INSIDE LANES OF US-71



SIGNAL MODIFICATIONS WHEN BANNISTER RD (ROUTE W) IS CLOSED

NORTHBOUND US-71 RAMP N MAST ARMS TO BE REMOVED AND REINSTALLED. (NO DIRECT PAYMENT)

SOUTHBOUND US-71 RAMP P MAST ARMS TO BE REMOVED AND REINSTALLED. (NO DIRECT PAYMENT)

COVER ALL EASTBOUND BANNISTER RD (ROUTE W) SIGNAL HEADS.

COVER ALL WESTBOUND BANNISTER RD (ROUTE W) SIGNAL HEADS.

CONTRACTOR SHALL NOTIFY MODOT AT LEAST TWO WEEKS PRIOR TO ANY SIGNAL MODIFICATIONS TO NOTIFY THEM OF THE NEED FOR SIGNAL TIMING MODIFICATIONS.

RIGHT TURN SIGNAL FOR NORTHBOUND US-71 TO EASTBOUND BANNISTER ROAD (ROUTE W) AND SOUTHBOUND US-71 TO WESTBOUND BANNISTER ROAD (ROUTE W) SHALL REST IN THE GREEN PHASE.

ALL EXISTING SIGNING AND UNUSED SIGNAL HEADS SHALL BE COVERED/BAGGED.

CONSTRUCTION PHASING
PHASE 2

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	62

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

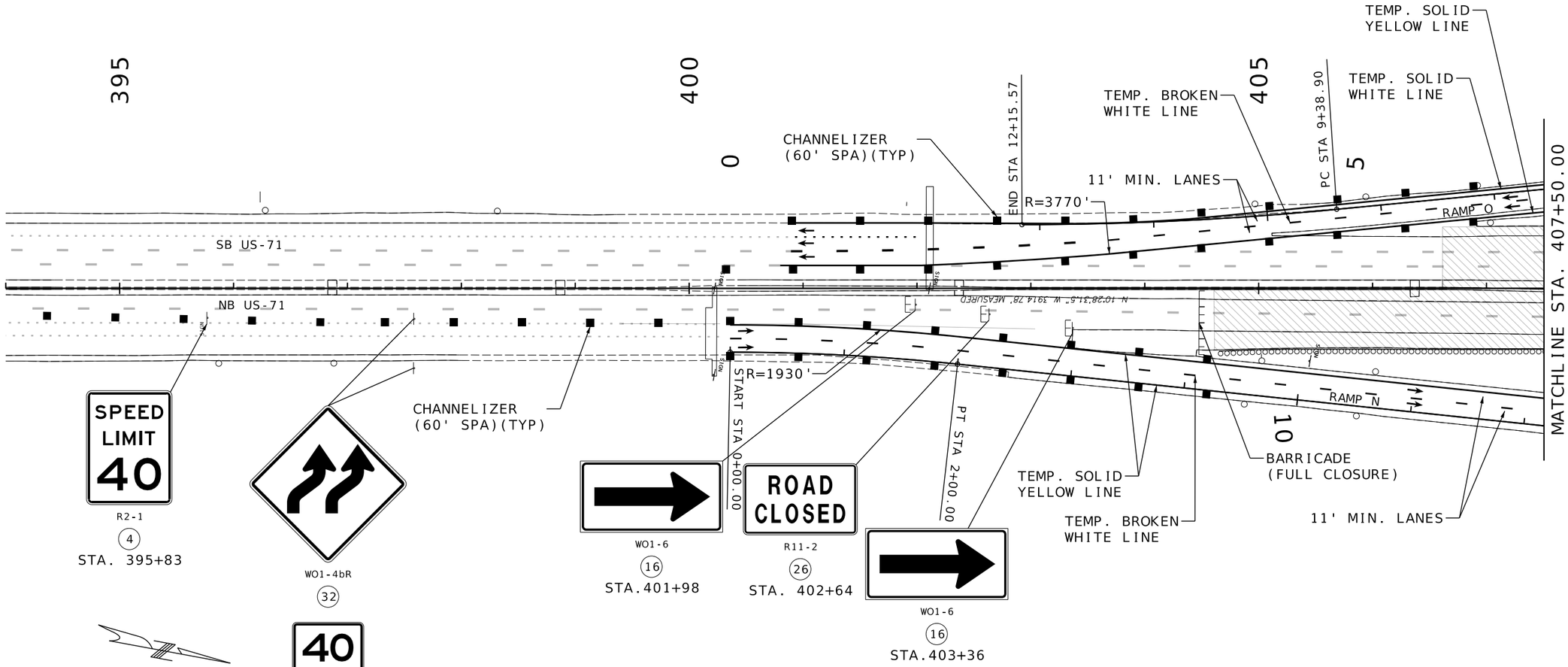
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com
Missouri Cert. of Authority 2002010300
TREKK DESIGN GROUP, LLC

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- WORK AREA
- LANE OPEN TO TRAFFIC



NOTE:
CONTRACTOR SHALL COVER ALL SIGN CONFLICTING WITH TEMPORARY TRAFFIC CONTROL DESGIN.

US-71 TRAFFIC CONTROL
PHASE 2
SHEET 1 OF 6

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	63

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- WORK AREA
- LANE OPEN TO TRAFFIC

MATCHLINE STA. 407+50.00

STA. 204+79

ROAD CLOSED
R11-2
29

BARRICADES (FULL CLOSURE)

BARRICADES (FULL CLOSURE)

COVER EXISTING "YIELD" SIGN

COVER EXISTING "INFORMATION" SIGN

R3-2
24"x34"
STA.0+69

BARRICADE (FULL CLOSURE)

CHANNELIZER (60' SPA)

COVER EXIST. "EXIT SIGN"

ROAD CLOSED
R11-2
29
STA. 420+56

TEMP. SOLID YELLOW LINE

TEMP. BROKEN WHITE LINE

TEMP. SOLID WHITE LINE

CHANNELIZER (40' SPA)

11' MIN. LANES

410

415

420

RAMP O

RAMP P

R=762'

SB US-71

NB US-71

MATCHLINE STA. 421+00.00

RAMP N

RAMP Q

UIP

11' MIN. LANES

BARRICADES (FULL CLOSURE)

SIDEWALK CLOSED
R9-9

BANNISTER RD (ROUTE W)

R=762'

TEMP. SOLID YELLOW LINE

W01-6
60"X30"
STA.420+27
(BEHIND BARR.)

W01-6
60"X30"
STA.420+87
(BEHIND BARR.)

TEMP. BROKEN WHITE LINE

TEMP. SOLID WHITE LINE

COVER EXISTING "YIELD" SIGN

R3-2
STA.13+16
38

ROAD CLOSED
R11-2
29
STA. 214+73

SCALE
0 50 100 150

US-71 TRAFFIC CONTROL
PHASE 2
SHEET 2 OF 6

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	64

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

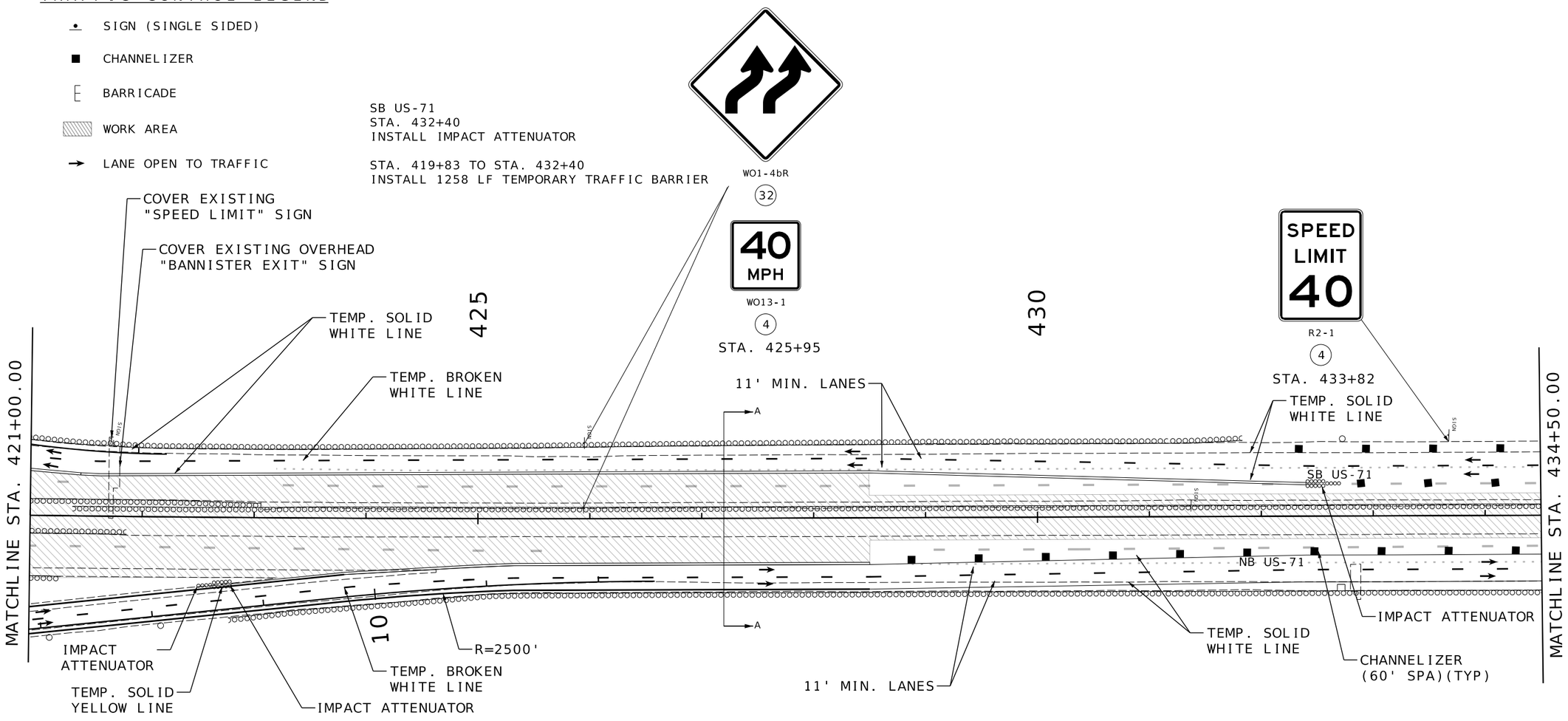
TREKK DESIGN GROUP, LLC

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- WORK AREA
- LANE OPEN TO TRAFFIC

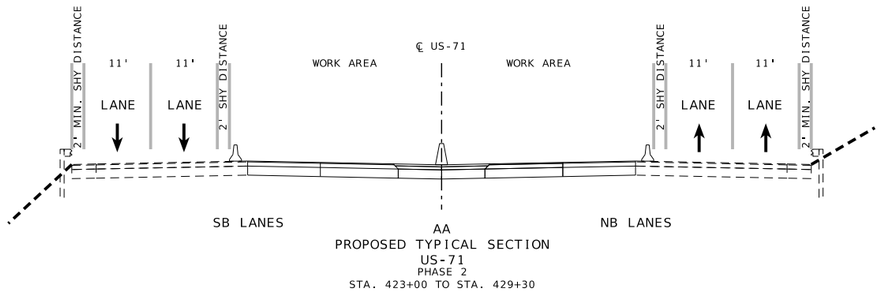
SB US-71
STA. 432+40
INSTALL IMPACT ATTENUATOR

STA. 419+83 TO STA. 432+40
INSTALL 1258 LF TEMPORARY TRAFFIC BARRIER

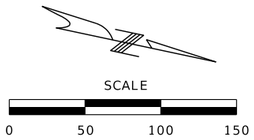


NB US-71
STA. 422+80
INSTALL IMPACT ATTENUATOR

STA. 422+80 TO STA. 428+50
INSTALL 571 LF TEMPORARY TRAFFIC BARRIER



AA
PROPOSED TYPICAL SECTION
US-71
PHASE 2
STA. 423+00 TO STA. 429+30



US-71 TRAFFIC CONTROL
PHASE 2
SHEET 3 OF 6

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED 10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	65

COUNTY: JACKSON
JOB NO.: J4S3490
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)

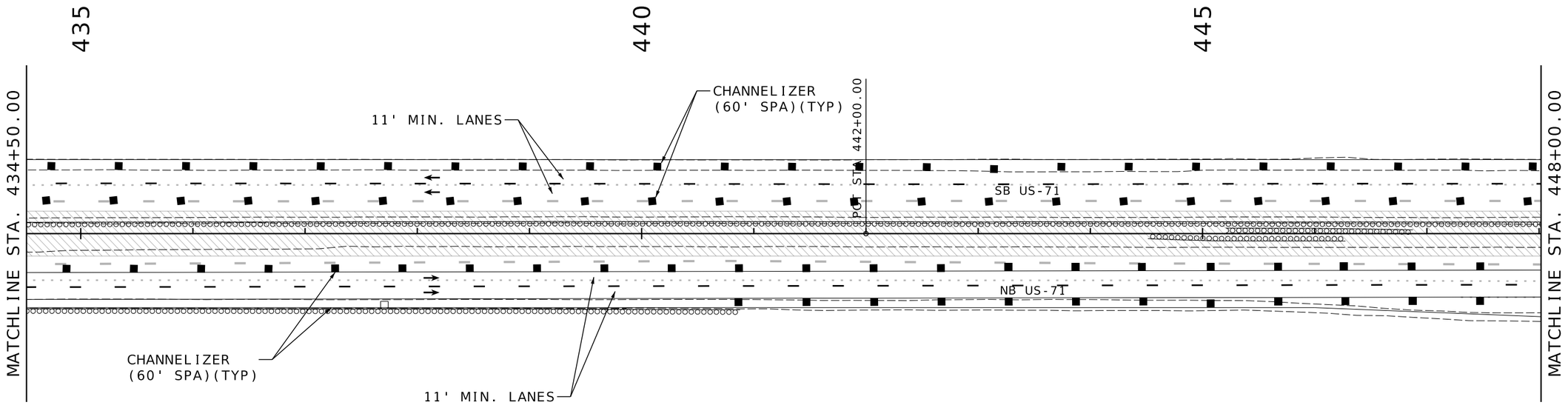
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- WORK AREA
- LANE OPEN TO TRAFFIC



SCALE

0 50 100 150

US-71 TRAFFIC CONTROL
PHASE 2
SHEET 4 OF 6

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	66

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of
Authority 2002010300

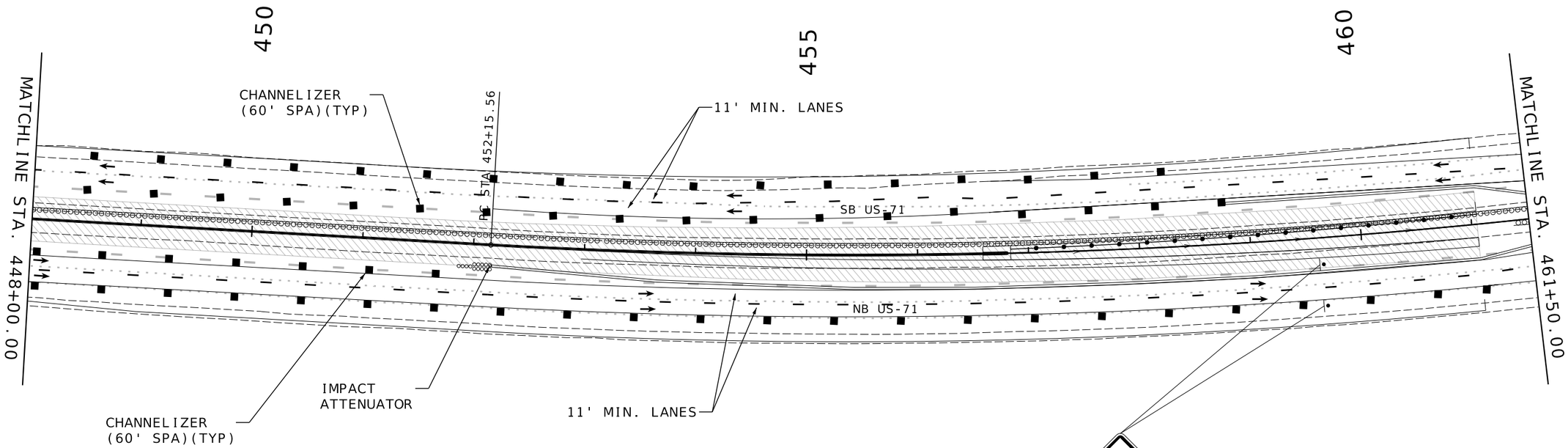
TREKK DESIGN GROUP, LLC

REV.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- WORK AREA
- LANE OPEN TO TRAFFIC

US-71
STA. 458+79 TO STA. 461+89
INSTALL 311 LF PINNED TEMPORARY TRAFFIC BARRIER



SCALE
0 50 100 150

US-71 TRAFFIC CONTROL
PHASE 2
SHEET 5 OF 6

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED	10/3/2025
ROUTE	71
STATE	MO
DISTRICT	KC
SHEET NO.	67
COUNTY	JACKSON
JOB NO.	J4S3490
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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

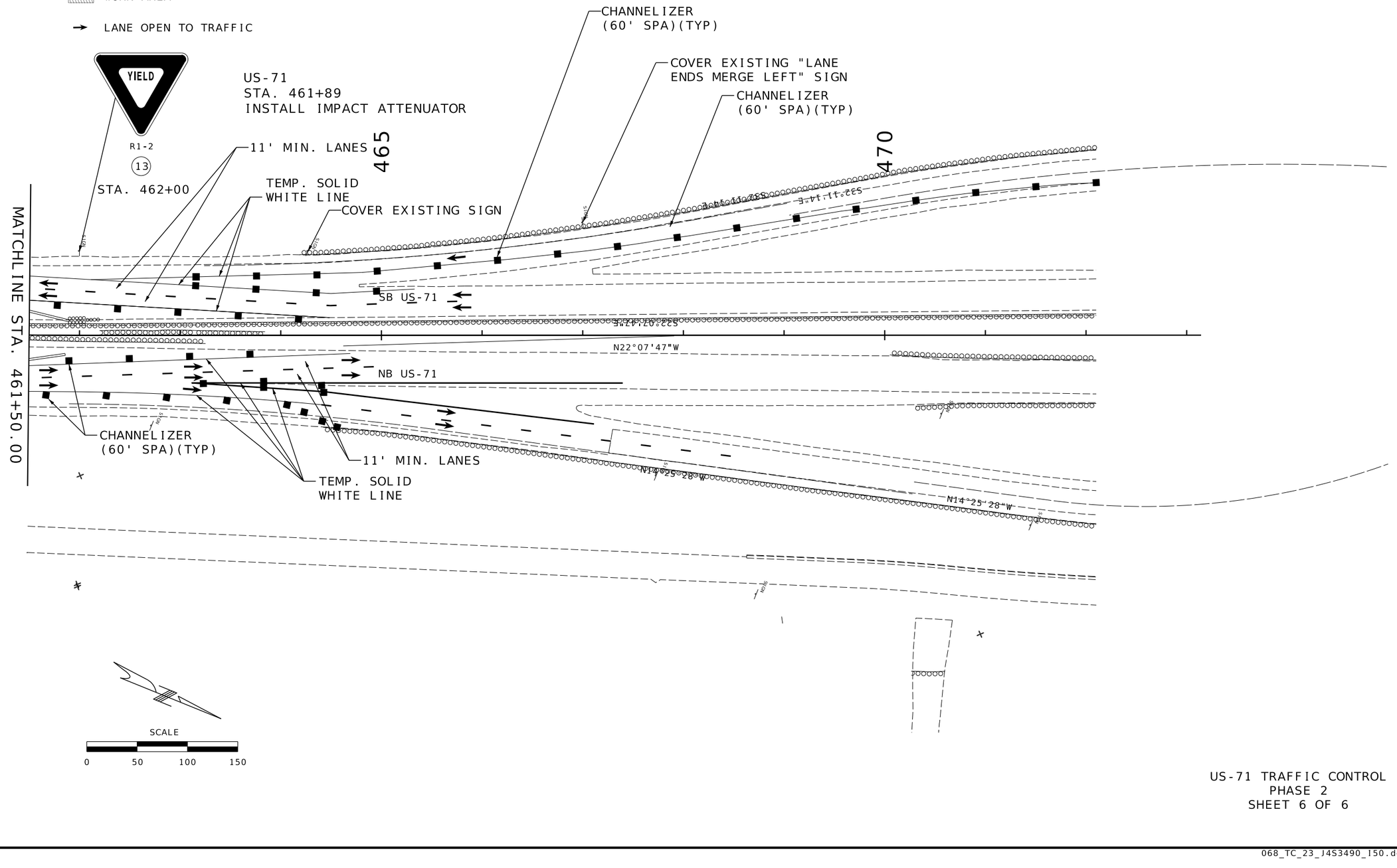
TREKK DESIGN GROUP, LLC

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

REV.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- WORK AREA
- LANE OPEN TO TRAFFIC



US-71 TRAFFIC CONTROL
PHASE 2
SHEET 6 OF 6

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

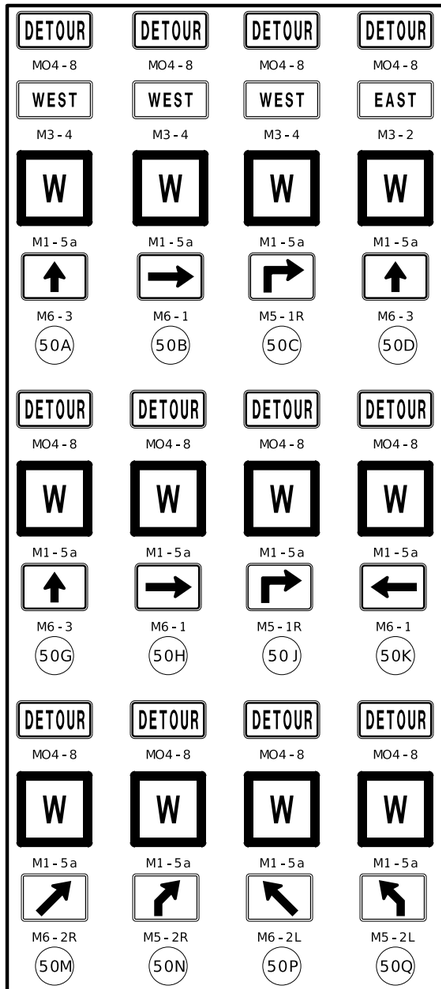
STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED	10/3/2025
ROUTE	71
STATE	MO
DISTRICT	KC
SHEET NO.	68
COUNTY	JACKSON
JOB NO.	J4S3490
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

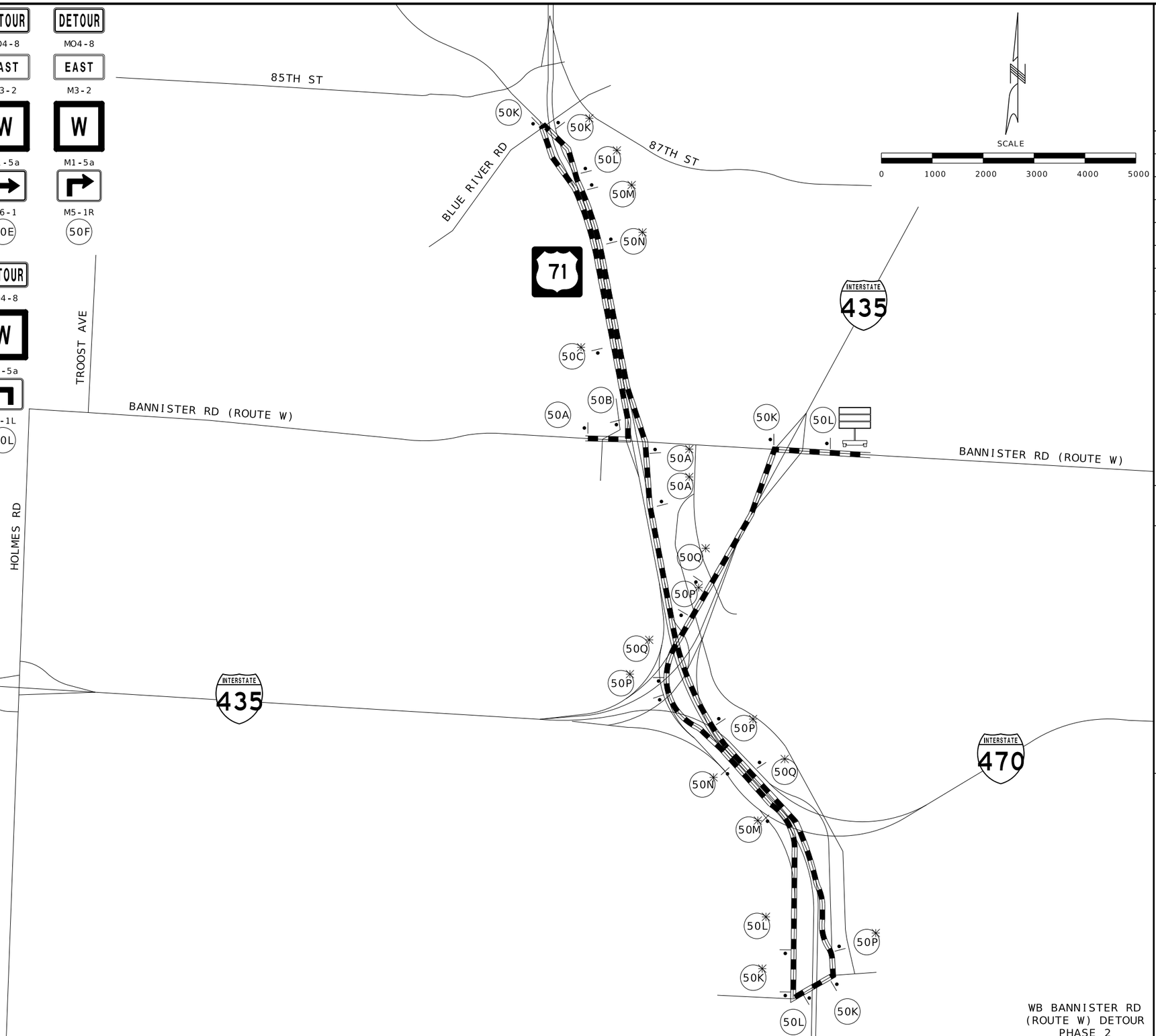
DESCRIPTION | DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



✳ SIGNS SHALL BE PLACED ON BOTH SIDES OF THE ROADWAY



WB BANNISTER RD
(ROUTE W) DETOUR
PHASE 2

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED 10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	69

COUNTY JACKSON
JOB NO. J4S3490
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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

DETOUR MO4-8 | WEST M3-4 | W M1-5a | ↑ M6-3 | 50A

DETOUR MO4-8 | WEST M3-4 | W M1-5a | → M6-1 | 50B

DETOUR MO4-8 | WEST M3-4 | W M1-5a | ↱ M5-1R | 50C

DETOUR MO4-8 | EAST M3-2 | W M1-5a | ↑ M6-3 | 50D

DETOUR MO4-8 | EAST M3-2 | W M1-5a | → M6-1 | 50E

DETOUR MO4-8 | EAST M3-2 | W M1-5a | ↱ M5-1R | 50F

DETOUR MO4-8 | W M1-5a | ↑ M6-3 | 50G

DETOUR MO4-8 | W M1-5a | → M6-1 | 50H

DETOUR MO4-8 | W M1-5a | ↱ M5-1R | 50J

DETOUR MO4-8 | W M1-5a | ← M6-1 | 50K

DETOUR MO4-8 | W M1-5a | ↰ M5-1L | 50L

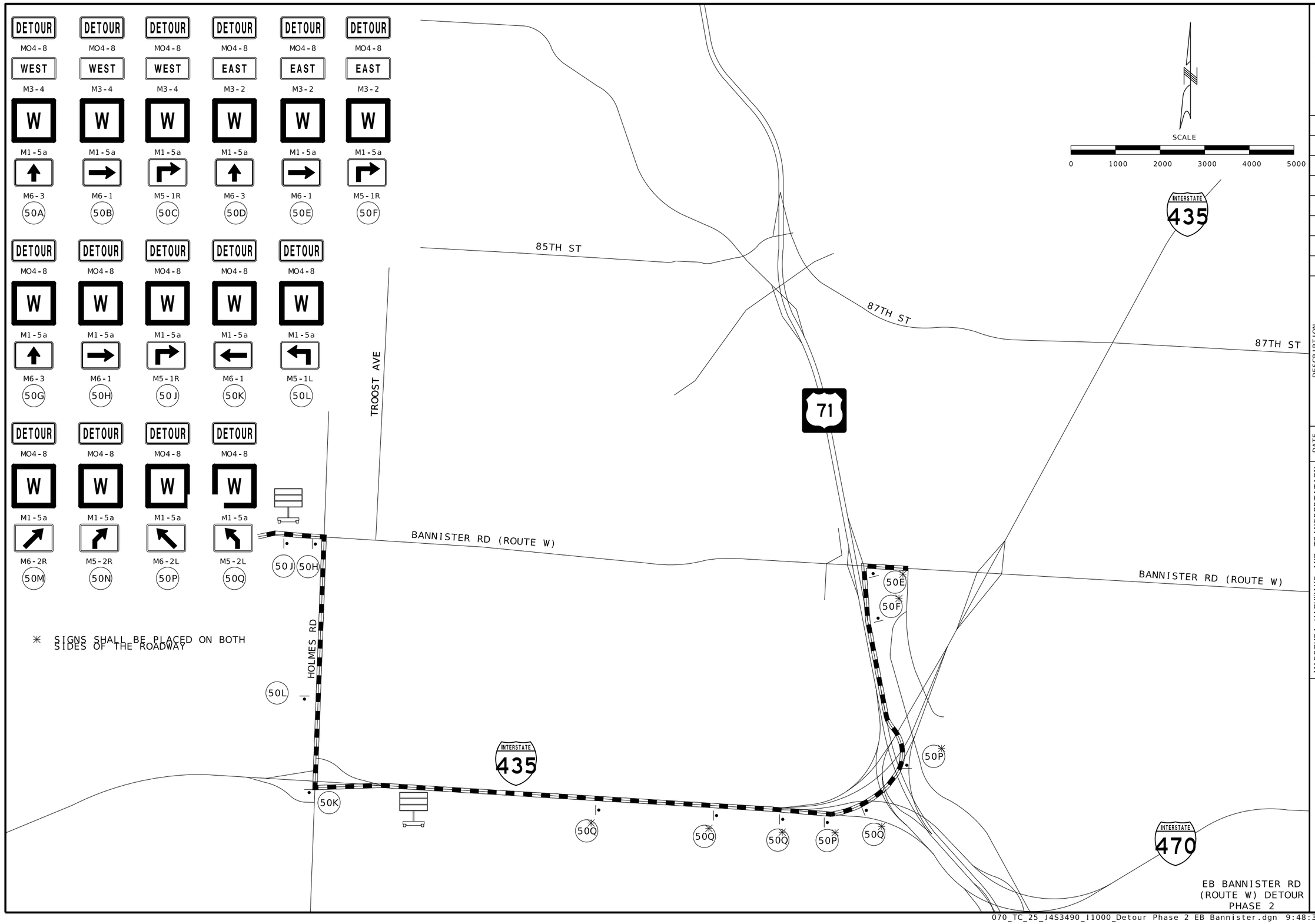
DETOUR MO4-8 | W M1-5a | ↗ M6-2R | 50M

DETOUR MO4-8 | W M1-5a | ↗ M5-2R | 50N

DETOUR MO4-8 | W M1-5a | ↖ M6-2L | 50P

DETOUR MO4-8 | W M1-5a | ↖ M5-2L | 50Q

✳ SIGNS SHALL BE PLACED ON BOTH SIDES OF THE ROADWAY



SCALE
0 1000 2000 3000 4000 5000

EB BANNISTER RD
(ROUTE W) DETOUR
PHASE 2

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED 10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	70

COUNTY JACKSON

JOB NO. J4S3490

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

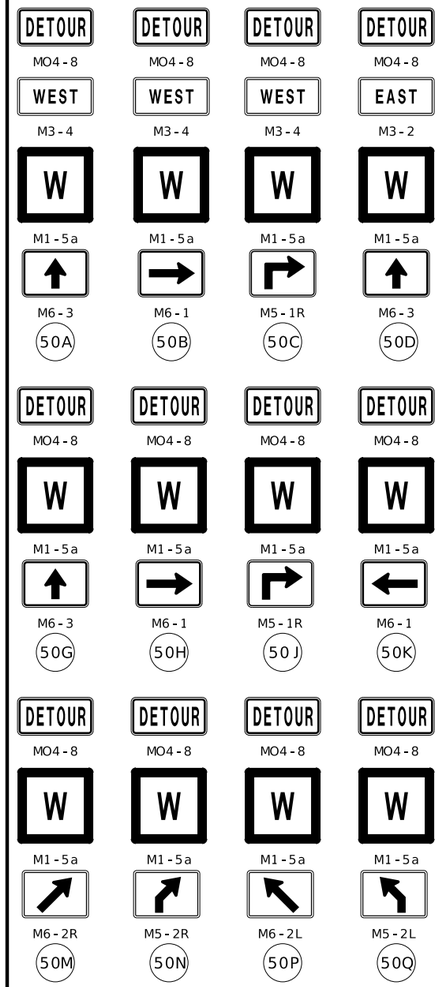
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

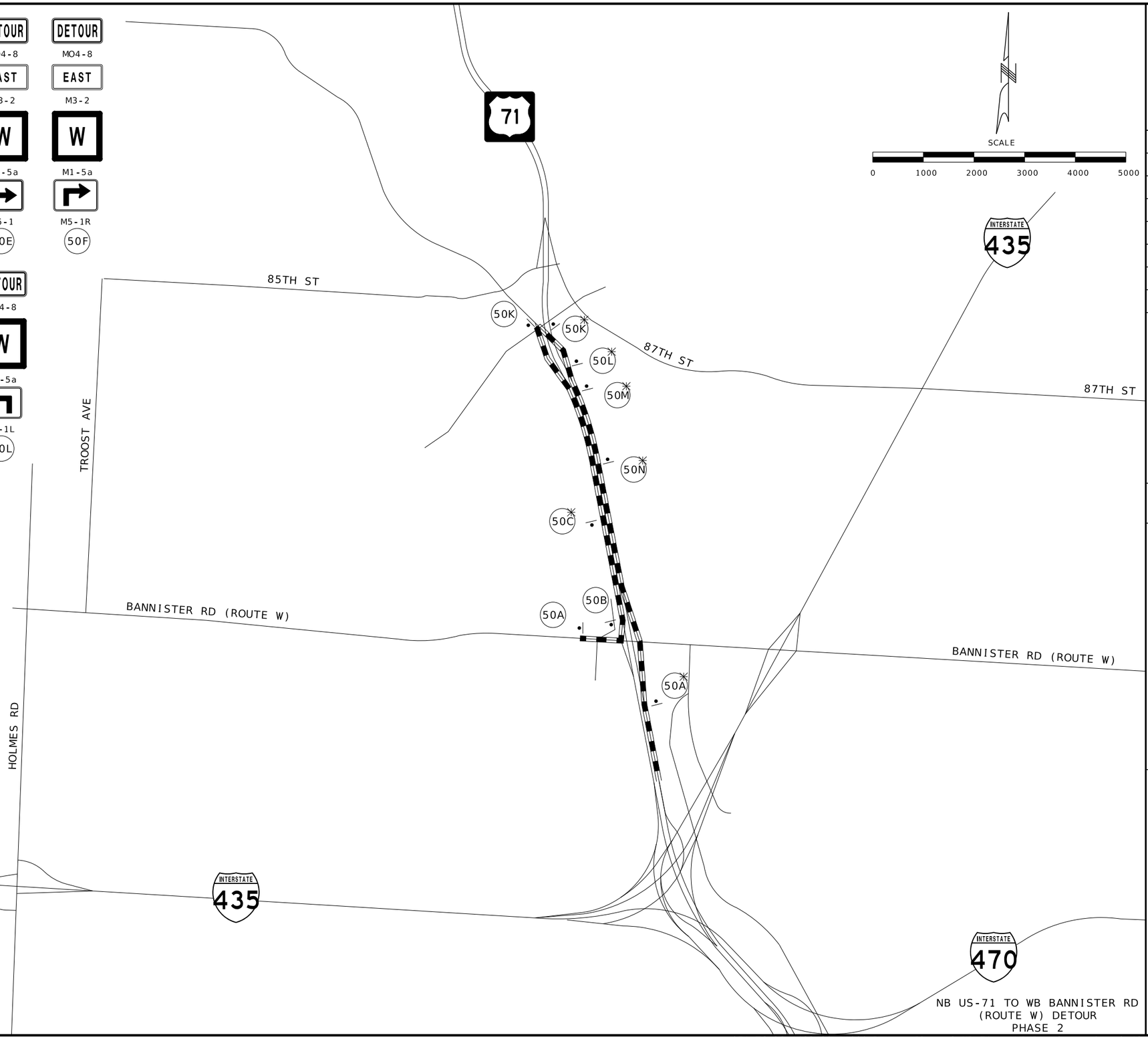
Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

070_TC_25_J4S3490_I1000_Detour Phase 2 EB Bannister.dgn 9:48:39 AM 10/3/2025



✳ SIGNS SHALL BE PLACED ON BOTH SIDES OF THE ROADWAY



NB US-71 TO WB BANNISTER RD (ROUTE W) DETOUR
PHASE 2

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED 10/3/2025

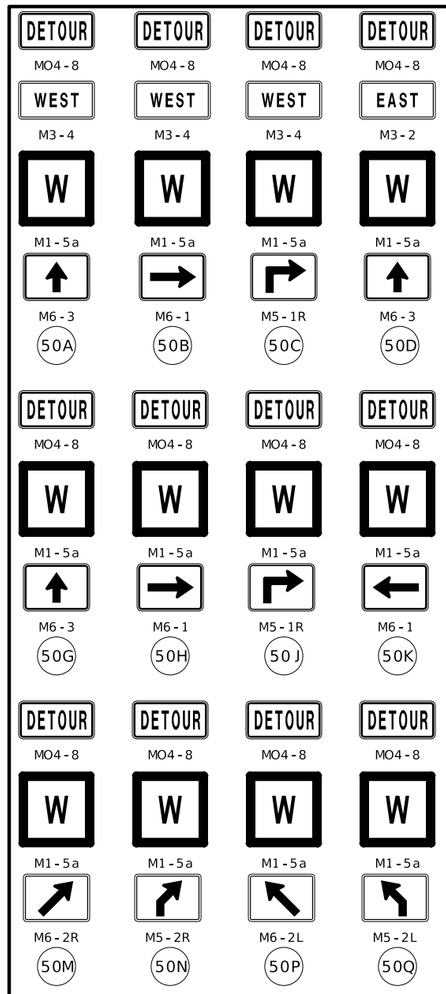
ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	71

COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

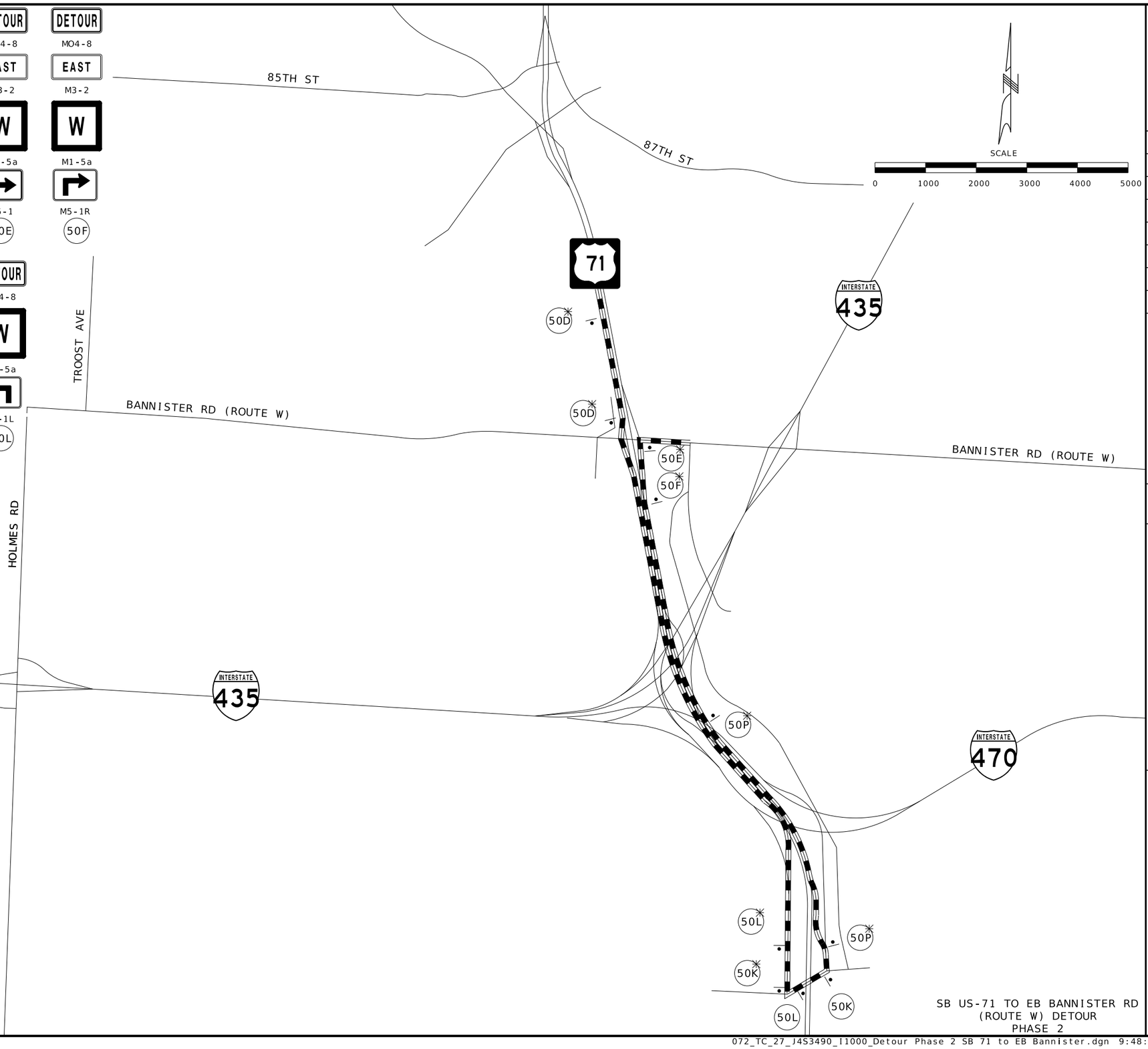
DESCRIPTION	DATE

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com
Missouri Cert. of Authority 2002010300
TREKK DESIGN GROUP, LLC



✳ SIGNS SHALL BE PLACED ON BOTH SIDES OF THE ROADWAY



SB US-71 TO EB BANNISTER RD
(ROUTE W) DETOUR
PHASE 2

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	72

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300
TREKK DESIGN GROUP, LLC

REFER TO JSPS FOR CLOSURE DURATIONS AND COMPLETION DATES.

REFER TO "ORDER OF WORK" JSP FOR
NOTIFICATION REQUIREMENTS AND CONTACTS PRIOR TO EACH PHASE CHANGE.

PHASE 3A - MILL & OVERLAY OF TEMPORARY OVERLAY AND CULVERT A23951 REHABILITATION:

TRAFFIC:
RAMP N CLOSED
RAMP O CLOSED
RAMP P CLOSED
RAMP Q CLOSED

NB US-71 TRAFFIC ON BRIDGE A9663
SB US-71 TRAFFIC ON BRIDGE A9572

SIDEWALK CLOSURES BETWEEN PARKWOOD AVE AND MARION PARK DRIVE

CONSTRUCTION:

BANNISTER RD (ROUTE W) MILL & OVERLAY TO RETURN BANNISTER RD (ROUTE W) AND RAMPS TO EXISTING CONDITIONS
REHABILITATE RCB UNDER EB BANNISTER RD (ROUTE W) A23951 WHILE RAMP N IS CLOSED
REHABILITATE RCB UNDER US-71 H00336 WHILE RAMP Q IS CLOSED

PHASE 3B - RAMP CONSTRUCTION:

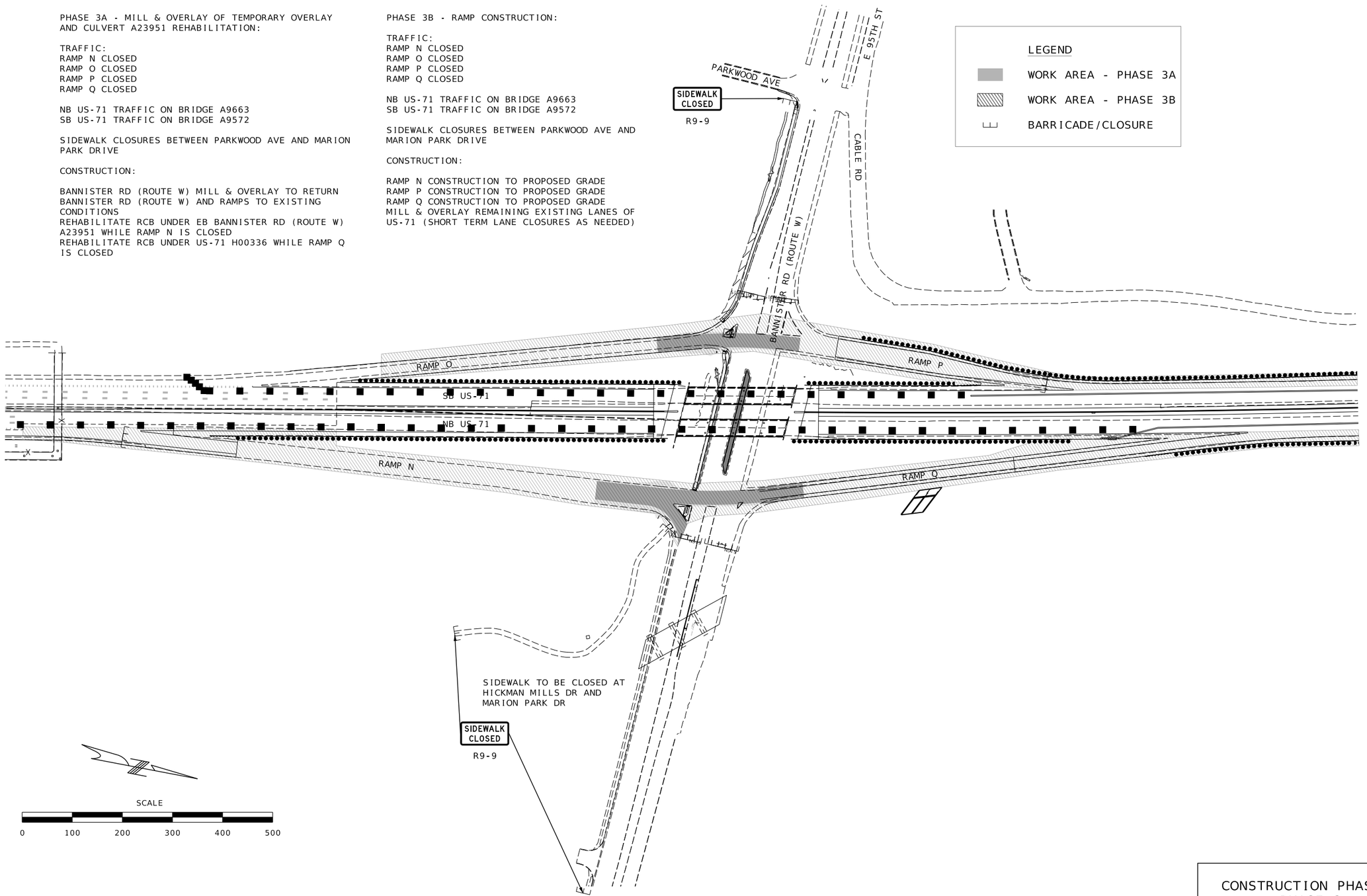
TRAFFIC:
RAMP N CLOSED
RAMP O CLOSED
RAMP P CLOSED
RAMP Q CLOSED

NB US-71 TRAFFIC ON BRIDGE A9663
SB US-71 TRAFFIC ON BRIDGE A9572

SIDEWALK CLOSURES BETWEEN PARKWOOD AVE AND MARION PARK DRIVE

CONSTRUCTION:

RAMP N CONSTRUCTION TO PROPOSED GRADE
RAMP P CONSTRUCTION TO PROPOSED GRADE
RAMP Q CONSTRUCTION TO PROPOSED GRADE
MILL & OVERLAY REMAINING EXISTING LANES OF US-71 (SHORT TERM LANE CLOSURES AS NEEDED)



CONSTRUCTION PHASING
PHASE 3

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	73

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

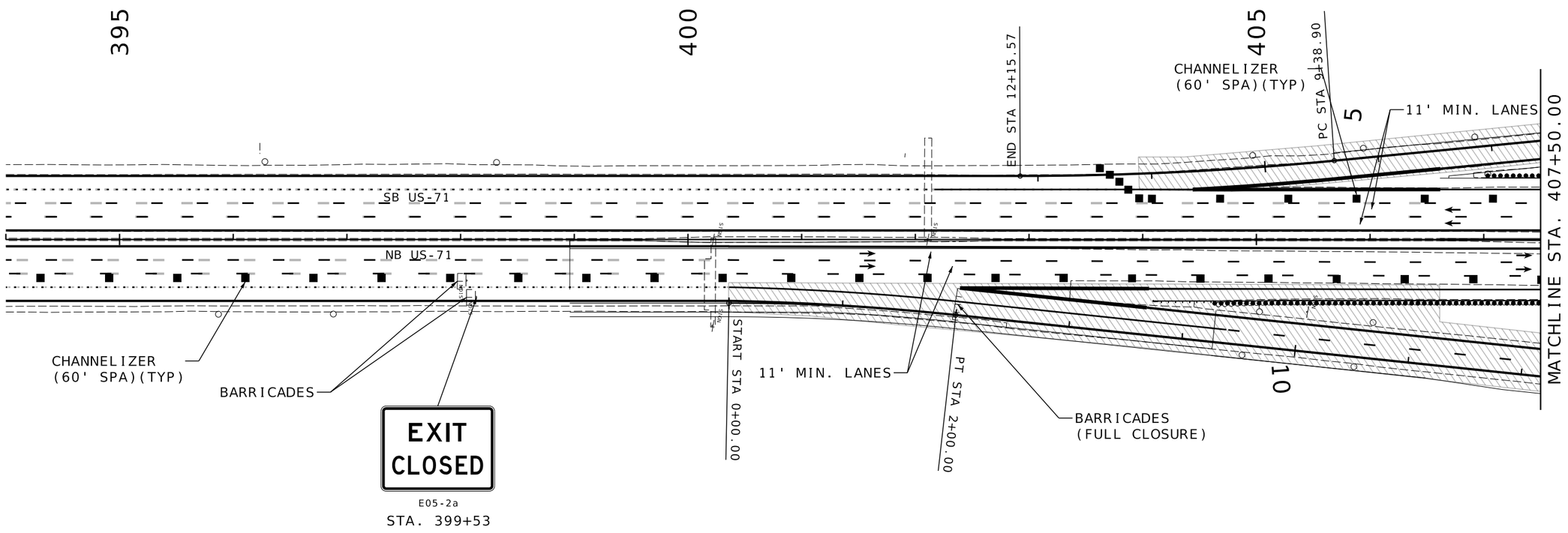
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- WORK AREA
- LANE OPEN TO TRAFFIC



SCALE

0 50 100 150

NOTE:
CONTRACTOR SHALL COVER ALL SIGN CONFLICTING WITH TEMPORARY TRAFFIC CONTROL DESIGN.

US-71 TRAFFIC CONTROL
PHASE 3
SHEET 1 OF 6

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	74

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

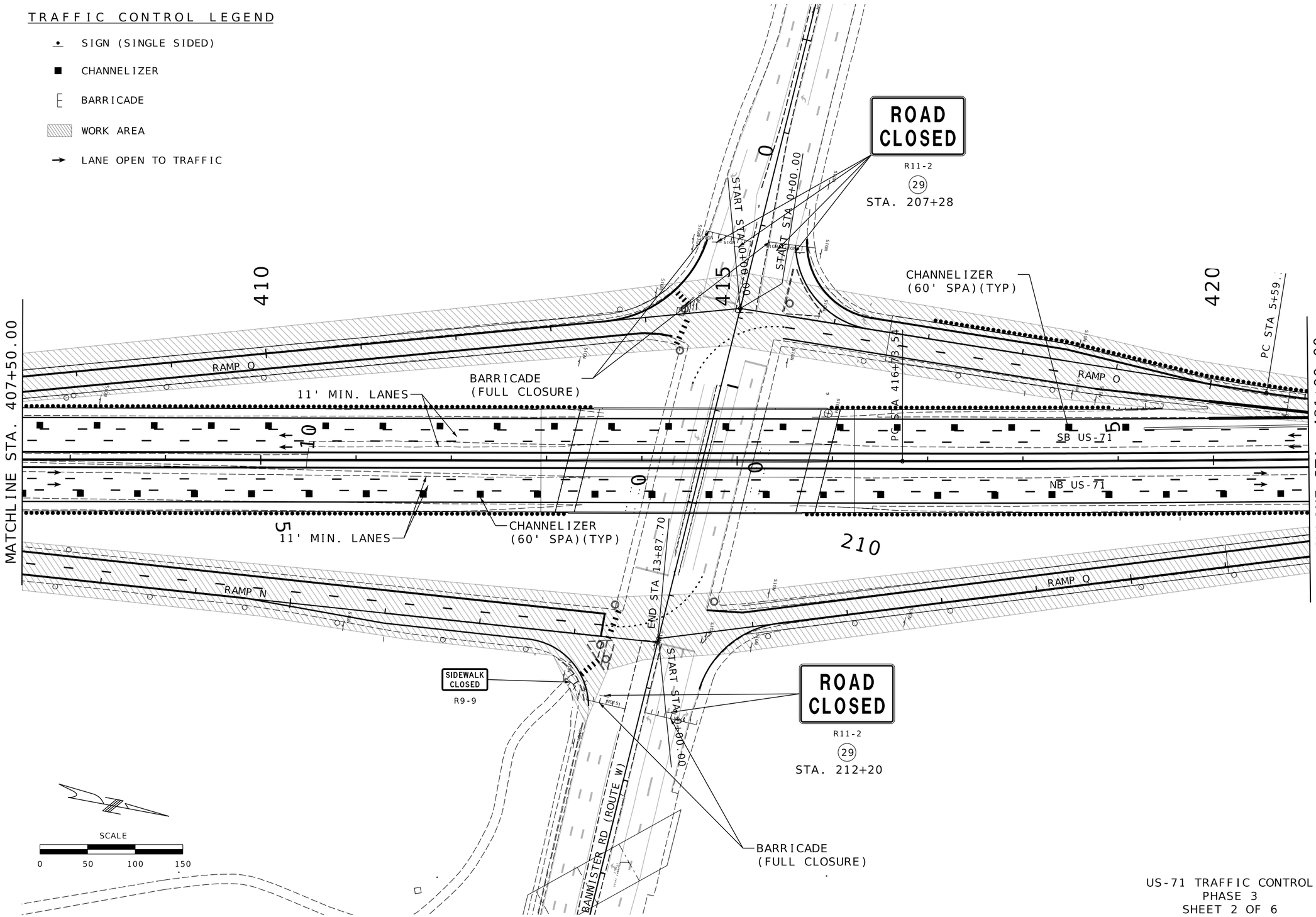
Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

REV.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- WORK AREA
- LANE OPEN TO TRAFFIC



US-71 TRAFFIC CONTROL
PHASE 3
SHEET 2 OF 6

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	75

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION	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)

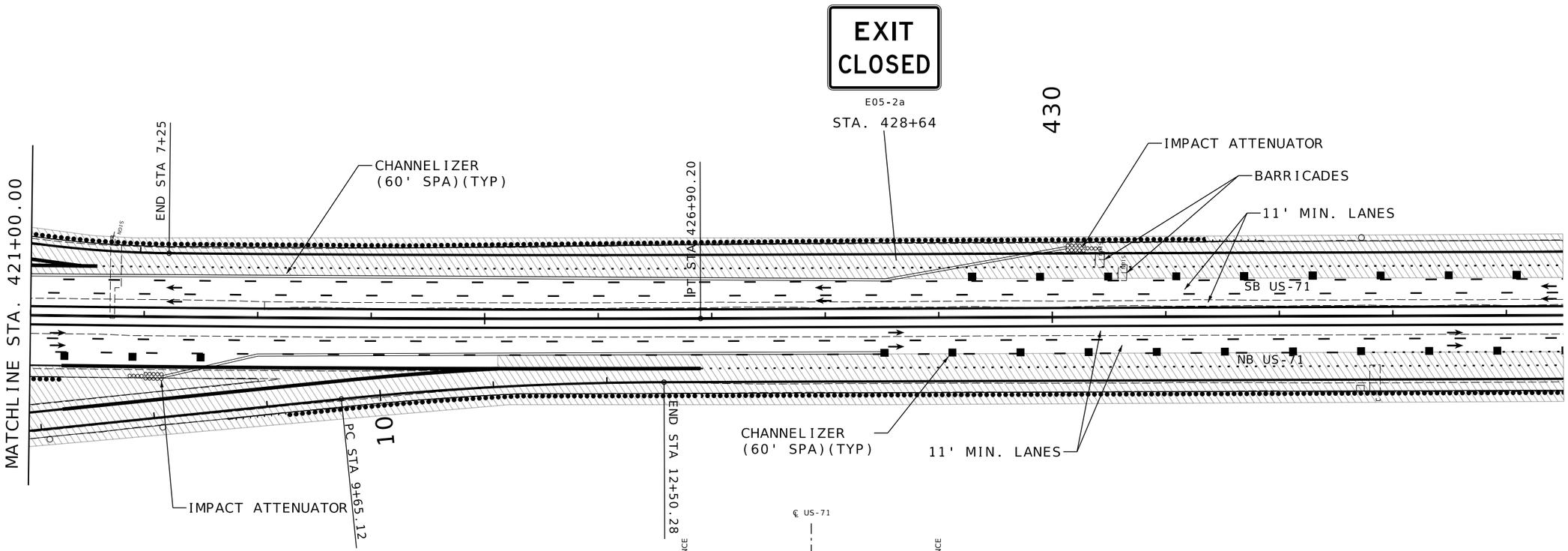
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- WORK AREA
- LANE OPEN TO TRAFFIC

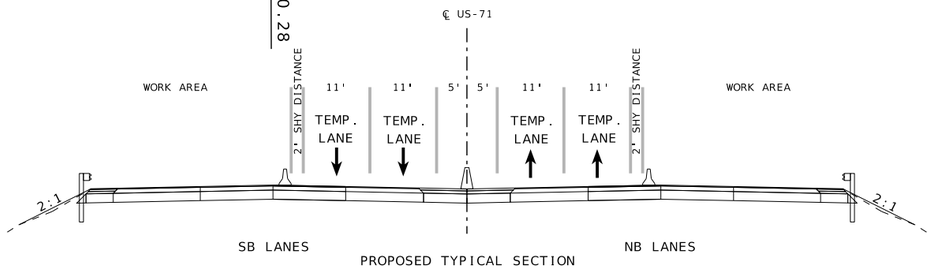
US-71
STA. 419+27 TO STA. 430+12
INSTALL 1087 LF TEMPORARY TRAFFIC BARRIER

STA. 430+12
INSTALL IMPACT ATTENUATOR



US-71
STA. 422+17
INSTALL IMPACT ATTENUATOR

STA. 422+17 TO STA. 428+48
INSTALL 636 LF TEMPORARY TRAFFIC BARRIER



PROPOSED TYPICAL SECTION
US-71
PHASE 3
STA. 423+00 TO STA. 429+30

SCALE
0 50 100 150

US-71 TRAFFIC CONTROL
PHASE 3
SHEET 3 OF 6

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
SEALED AND DATED ELECTRONICALLY

DATE PREPARED 10/3/2025
ROUTE 71 | STATE MO
DISTRICT KC | SHEET NO. 76
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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

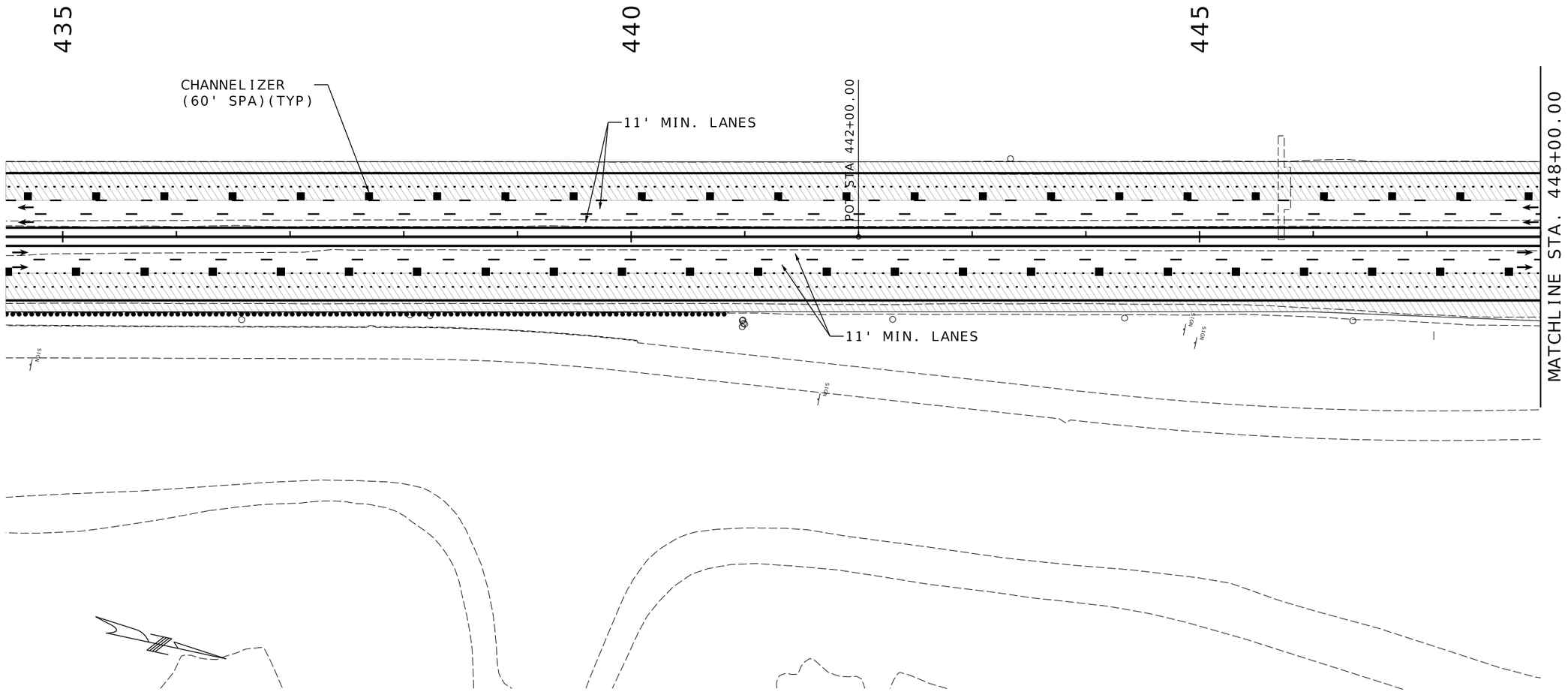
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- WORK AREA
- LANE OPEN TO TRAFFIC



US-71 TRAFFIC CONTROL
PHASE 3
SHEET 4 OF 6

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	69

COUNTY
JACKSON

JOB NO.
J4S3490

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)

MoDOT

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

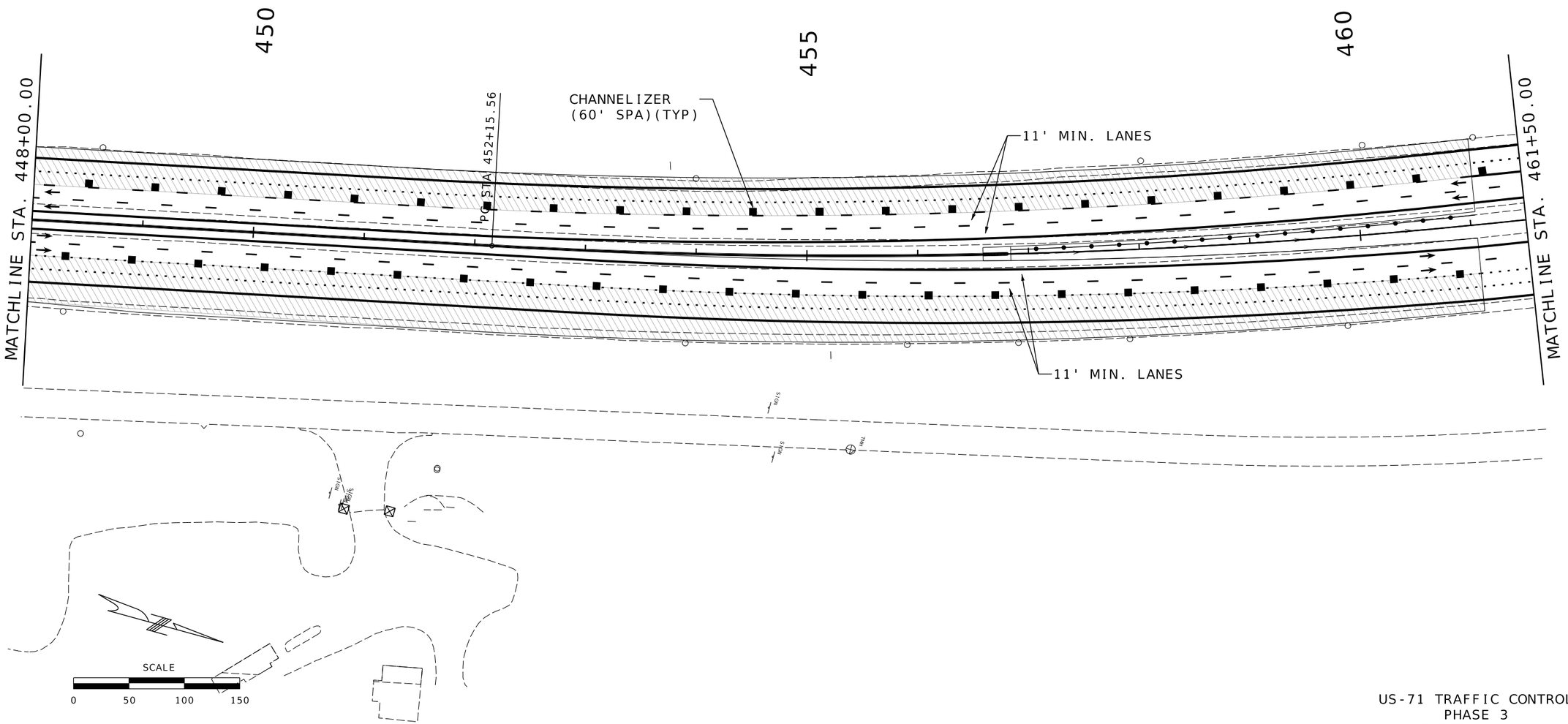
Missouri Cert. of
Authority 2002010300

TREKK DESIGN GROUP, LLC

077_TC_32_J4S3490_I50.dgn 9:48:53 AM 10/3/2025

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- WORK AREA
- LANE OPEN TO TRAFFIC



US-71 TRAFFIC CONTROL
PHASE 3
SHEET 5 OF 6

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

JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
STATE OF MISSOURI

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	78

COUNTY
JACKSON

JOB NO.
J4S3490

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)

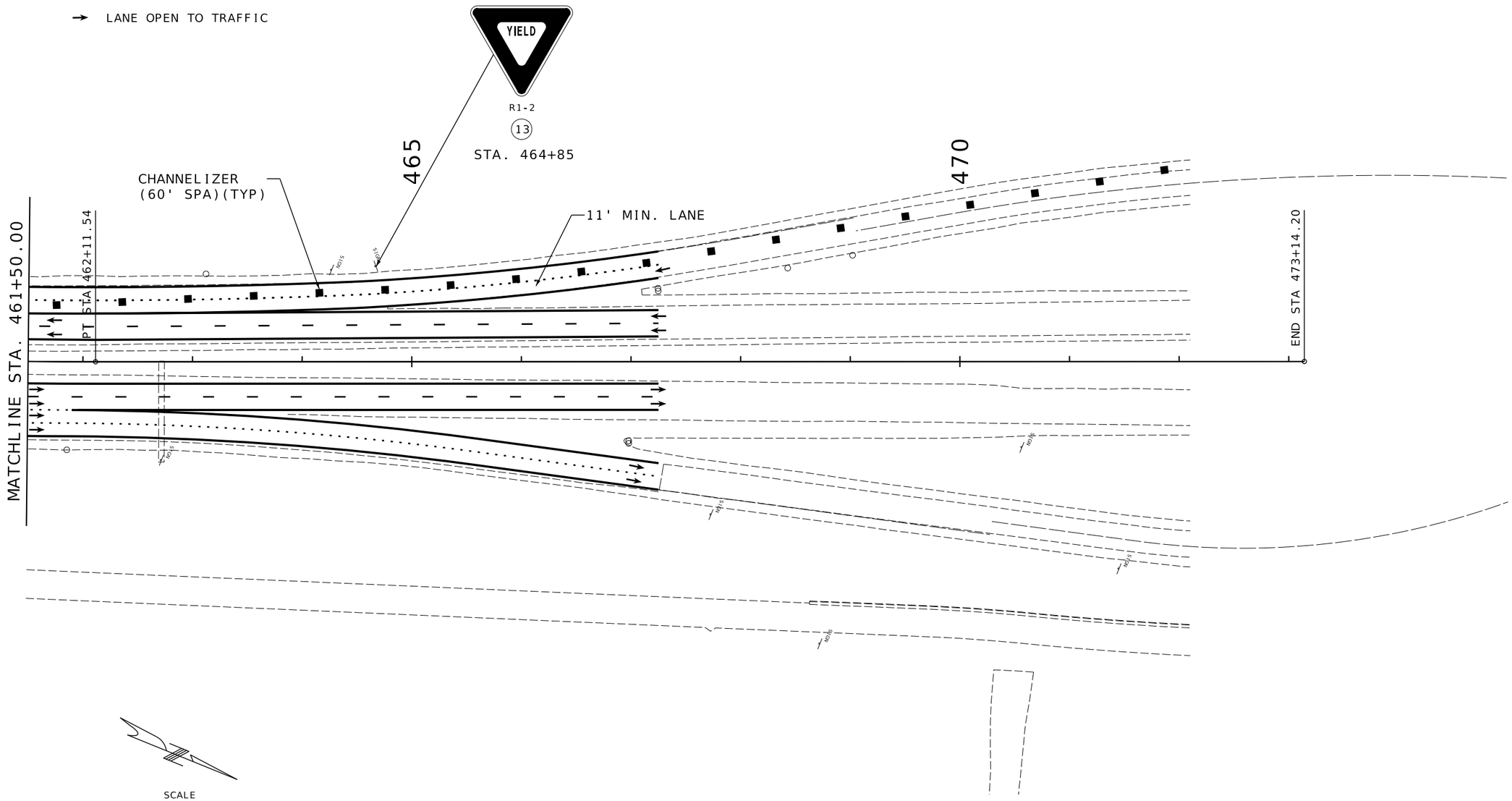
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of
Authority 2002010300

TREKK DESIGN GROUP, LLC

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- BARRICADE
- WORK AREA
- LANE OPEN TO TRAFFIC



US-71 TRAFFIC CONTROL
PHASE 3
SHEET 6 OF 6

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED	10/3/2025
ROUTE	71
STATE	MO
DISTRICT	KC
SHEET NO.	79
COUNTY	JACKSON
JOB NO.	J4S3490
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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- SILT FENCE

SCALE

0 50 100 150

US-71

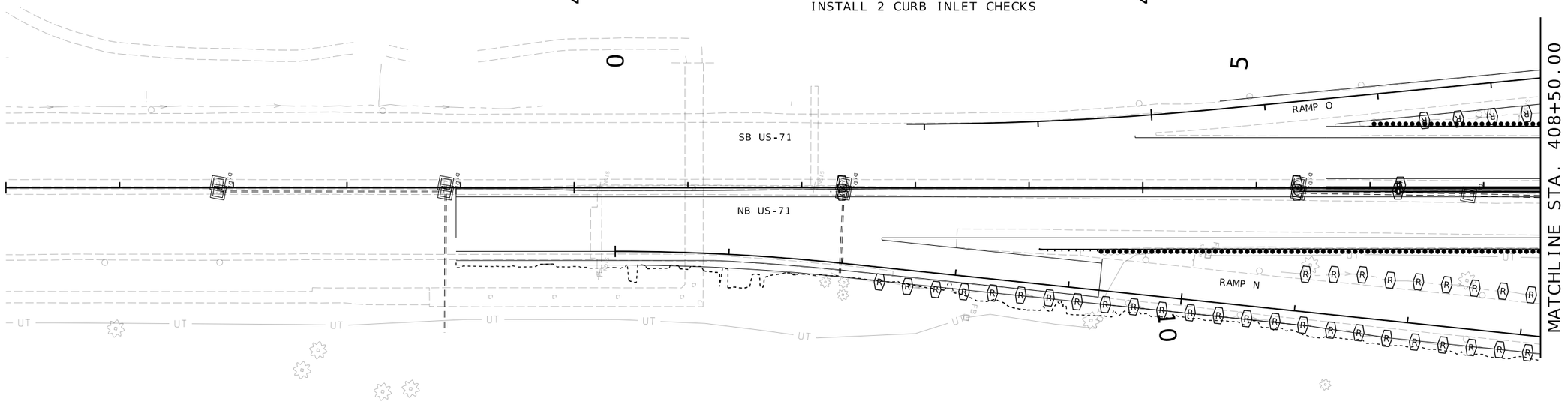
STA. 402+37 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 406+37 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 407+25 RT/LT
INSTALL 2 CURB INLET CHECKS

RAMP O

STA. 6+72 TO 7+61 LT.
INSTALL 4 ROCK DITCH CHECKS AT 30' SPACING



RAMP N

STA. 2+34 TO 8+07 RT.
INSTALL 24 ROCK DITCH CHECKS AT 30' SPACING

STA. 6+06 TO 8+05 LT.
INSTALL 9 ROCK DITCH CHECKS AT 30' SPACING

TEMPORARY EROSION CONTROL
SHEET 1 OF 5

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED 10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	80

COUNTY JACKSON
JOB NO. J4S3490
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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- SILT FENCE

RAMP O

STA. 0+82 TO 6+41 LT.
INSTALL 21 ROCK DITCH CHECKS AT 30' SPACING

BANNISTER

STA. 208+53 TO 210+52 LT.
INSTALL 8 ROCK DITCH CHECKS AT 30' SPACING

STA. 203+40 TO 205+65 RT.
INSTALL 225 LF SILT FENCE

STA. 207+80 RT
INSTALL CURB INLET CHECK

STA. 208+83 RT
INSTALL CURB INLET CHECK

STA. 211+10 RT
INSTALL CURB INLET CHECK

RAMP P

STA. 0+61 TO 1+86 RT
INSTALL 128 LF SILT FENCE

STA. 1+92 TO 3+42 RT.
INSTALL 4 ROCK DITCH
CHECKS AT 50' SPACING

STA. 2+01 TO 6+12 LT.
INSTALL 416 LF SILT FENCE

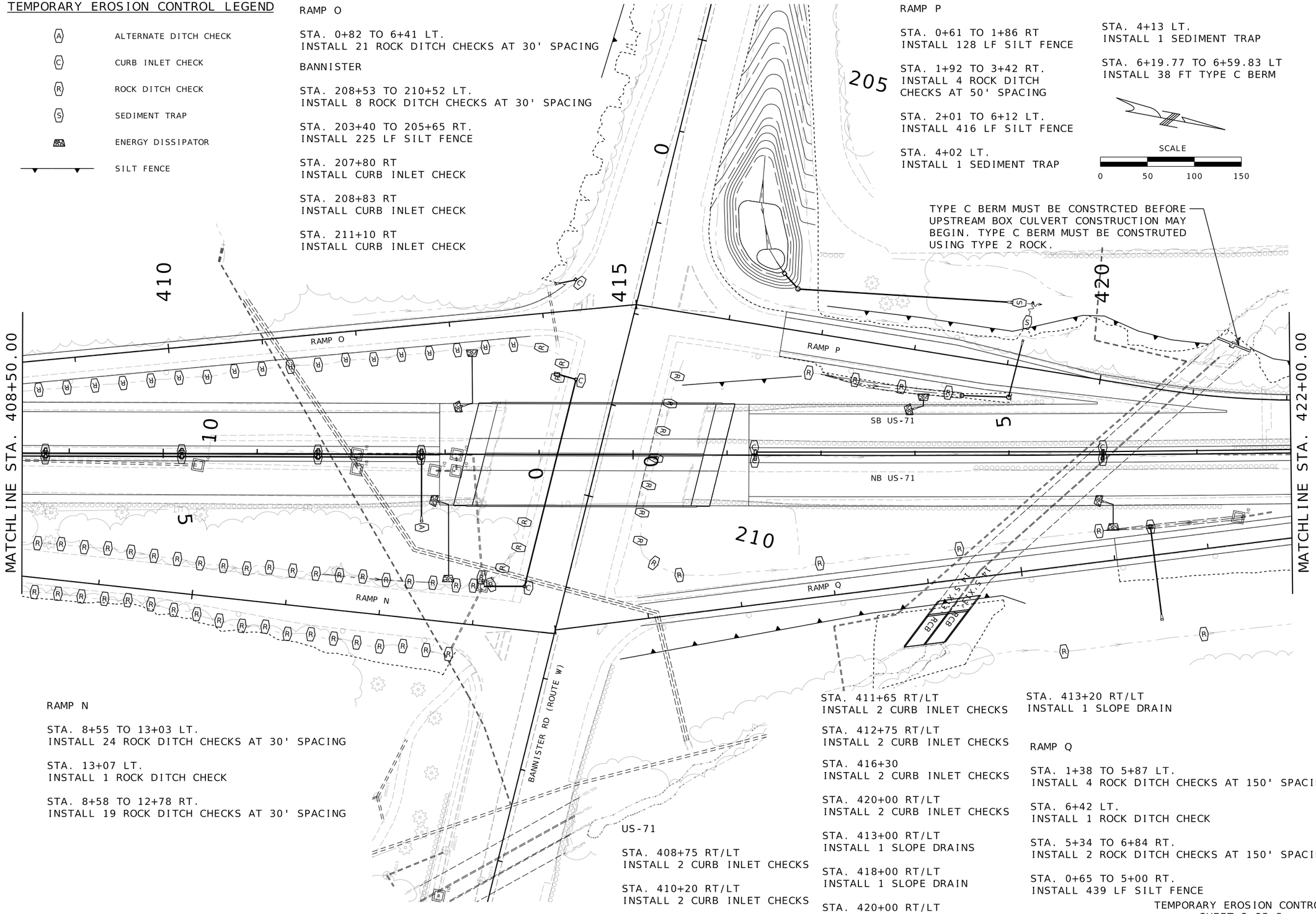
STA. 4+02 LT.
INSTALL 1 SEDIMENT TRAP

STA. 4+13 LT.
INSTALL 1 SEDIMENT TRAP

STA. 6+19.77 TO 6+59.83 LT
INSTALL 38 FT TYPE C BERM

SCALE
0 50 100 150

TYPE C BERM MUST BE CONSTRCTED BEFORE UPSTREAM BOX CULVERT CONSTRUCTION MAY BEGIN. TYPE C BERM MUST BE CONSTRUTED USING TYPE 2 ROCK.



RAMP N

STA. 8+55 TO 13+03 LT.
INSTALL 24 ROCK DITCH CHECKS AT 30' SPACING

STA. 13+07 LT.
INSTALL 1 ROCK DITCH CHECK

STA. 8+58 TO 12+78 RT.
INSTALL 19 ROCK DITCH CHECKS AT 30' SPACING

US-71

STA. 408+75 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 410+20 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 411+65 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 412+75 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 416+30
INSTALL 2 CURB INLET CHECKS

STA. 420+00 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 413+00 RT/LT
INSTALL 1 SLOPE DRAINS

STA. 418+00 RT/LT
INSTALL 1 SLOPE DRAIN

STA. 420+00 RT/LT
INSTALL 1 SLOPE DRAIN

STA. 413+20 RT/LT
INSTALL 1 SLOPE DRAIN

RAMP Q

STA. 1+38 TO 5+87 LT.
INSTALL 4 ROCK DITCH CHECKS AT 150' SPACING

STA. 6+42 LT.
INSTALL 1 ROCK DITCH CHECK

STA. 5+34 TO 6+84 RT.
INSTALL 2 ROCK DITCH CHECKS AT 150' SPACING

STA. 0+65 TO 5+00 RT.
INSTALL 439 LF SILT FENCE

TEMPORARY EROSION CONTROL
SHEET 2 OF 5

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM NOT ONLY RESPONSIBLE FOR, BUT ALSO SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	81

COUNTY
JACKSON

JOB NO.
J4S3490

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- SILT FENCE

US-71

STA. 421+60 TO 428+49 LT.
INSTALL 694 LF SILT FENCE

STA. 432+25 LT.
INSTALL 1 SEDIMENT TRAP

STA. 423+55 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 426+00 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 427+75 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 429+25 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 430+75 RT/LT
INSTALL 2 CURB INLET CHECKS

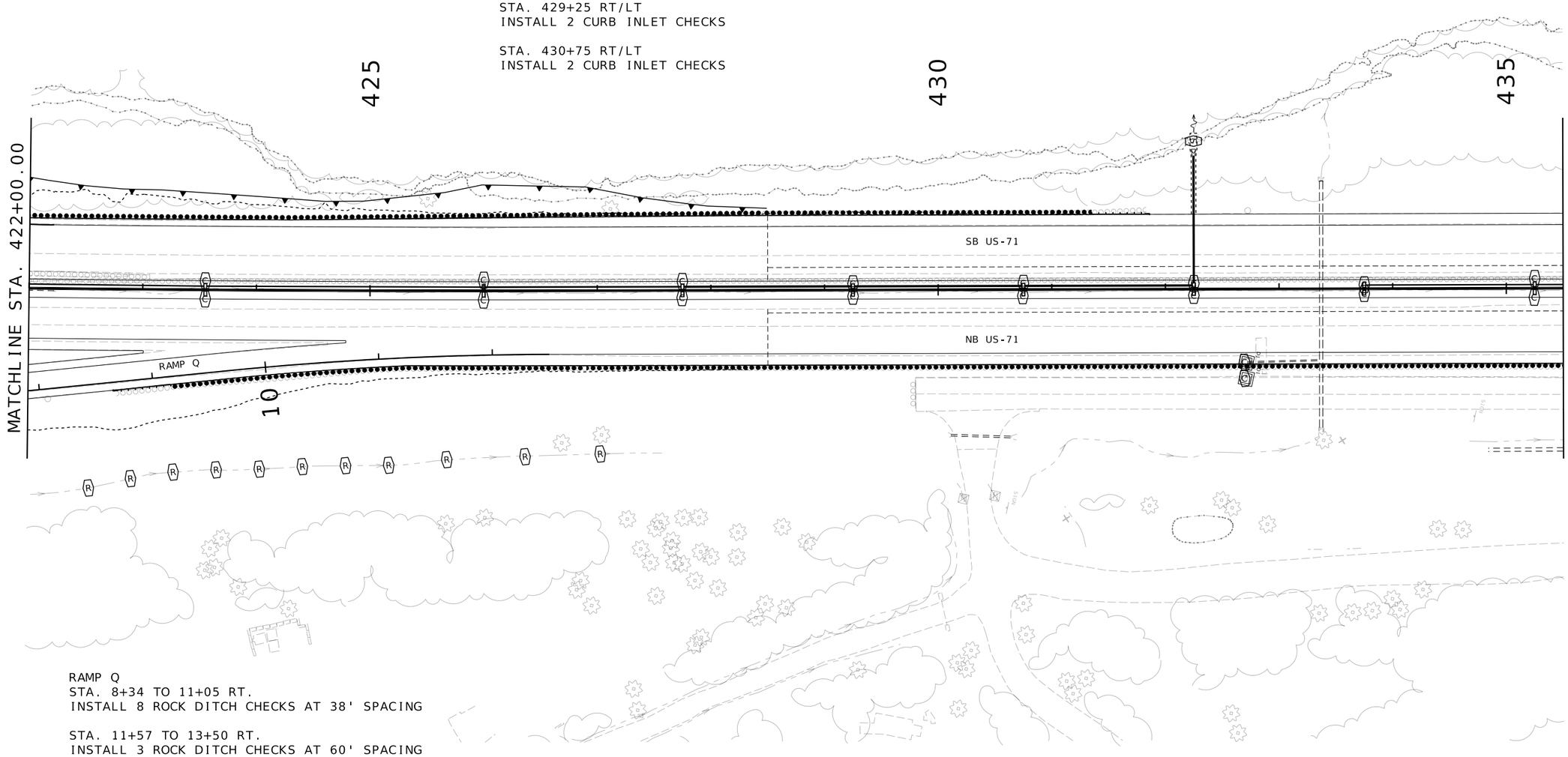
STA. 432+25 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 432+68.82 RT
INSTALL 2 CURB INLET CHECKS

STA. 435+25 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 433+75 RT/LT
INSTALL 2 CURB INLET CHECKS

SCALE
0 50 100 150



RAMP Q
STA. 8+34 TO 11+05 RT.
INSTALL 8 ROCK DITCH CHECKS AT 38' SPACING

STA. 11+57 TO 13+50 RT.
INSTALL 3 ROCK DITCH CHECKS AT 60' SPACING

TEMPORARY EROSION CONTROL
SHEET 3 OF 5

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
SEALED AND DATED ELECTRONICALLY

DATE PREPARED 10/3/2025
ROUTE 71 | STATE MO
DISTRICT KC | SHEET NO. 82
COUNTY JACKSON
JOB NO. J4S3490
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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- SILT FENCE

US-71

STA. 436+75
INSTALL 2 CURB INLET CHECKS

STA. 437+71 RT.
INSTALL 2 CURB INLET CHECKS

STA. 438+00 LT.
INSTALL 1 SEDIMENT TRAP

STA. 438+00 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 439+50 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 440+65 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 441+30 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 441+95 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 442+38 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 442+80 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 443+70 RT/LT
INSTALL 2 CURB INLET CHECKS

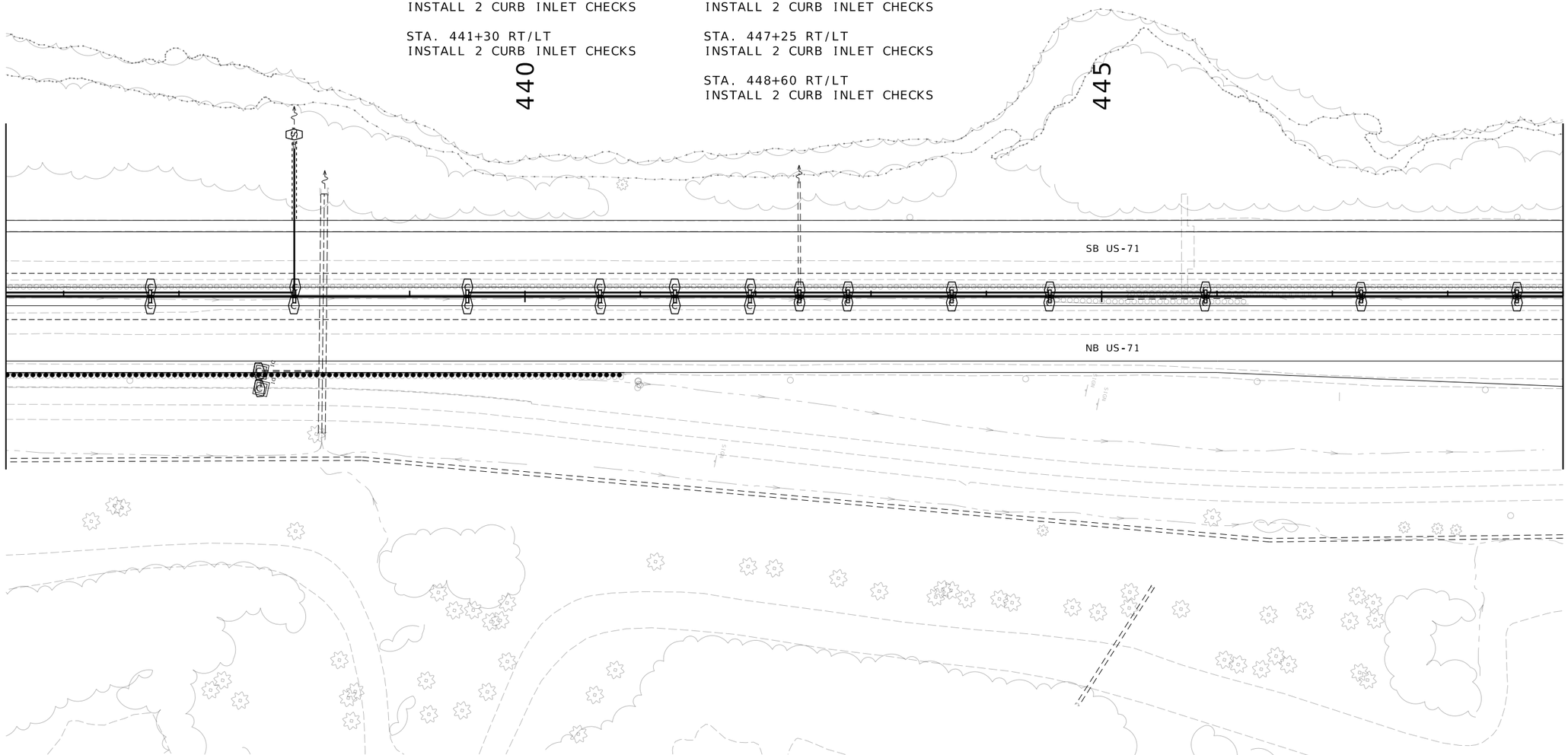
STA. 444+55 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 445+90 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 447+25 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 448+60 RT/LT
INSTALL 2 CURB INLET CHECKS

SCALE
0 50 100 150



TEMPORARY EROSION CONTROL
SHEET 4 OF 5

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM NOT LIABLE FOR ANY UNSEALED, UNSIGNED AND DATED ELECTRONICALLY

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	83

COUNTY
JACKSON

JOB NO.
J4S3490

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- SILT FENCE

US-71

STA. 449+73 RT.
INSTALL 1 CURB INLET CHECK

STA. 450+00 RT/LT
INSTALL 2 CURB INLET CHECKS

STA. 450+75 RT.
INSTALL 1 CURB INLET CHECKS

STA. 451+40 RT.
INSTALL 1 CURB INLET CHECKS

STA. 452+03 RT.
INSTALL 1 CURB INLET CHECKS

STA. 452+65 RT.
INSTALL 1 CURB INLET CHECKS

STA. 454+25 RT.
INSTALL 1 CURB INLET CHECKS

STA. 456+50 RT.
INSTALL 1 CURB INLET CHECKS

STA. 460+53 LT.
INSTALL 1 SEDIMENT TRAP

SCALE
0 50 100 150

450 455 460

MATCHLINE STA. 449+00.00

SB US-71

NB US-71

TEMPORARY EROSION CONTROL
SHEET 5 OF 5

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	84

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

PERMANENT EROSION CONTROL LEGEND

- TYPE 1 ROCK LINING & TYPE 1 ROCK BLANKET
- TYPE 1 ROCK DITCH LINER
- SEEDING
- TYPE 2 ROCK LINING & TYPE 2 ROCK BLANKET

US-71

STA. 398+96.00 TO 404+60.94 RT
INSTALL 0.12 ACRE SEEDING

STA. 406+61.30 TO 407+42.31 LT
INSTALL 0.01 ACRE SEEDING

STA. 404+03.95 TO 404+65.33 RT
INSTALL 0.01 ACRE SEEDING

STA. 404+65.33 TO 414+32.47 RT/LT
INSTALL 1910 CY TYPE 1 DITCH LINER

STA. 407+00.52 TO 414+22.98 RT/LT
INSTALL 4464 CY TYPE 1 ROCK BLANKET

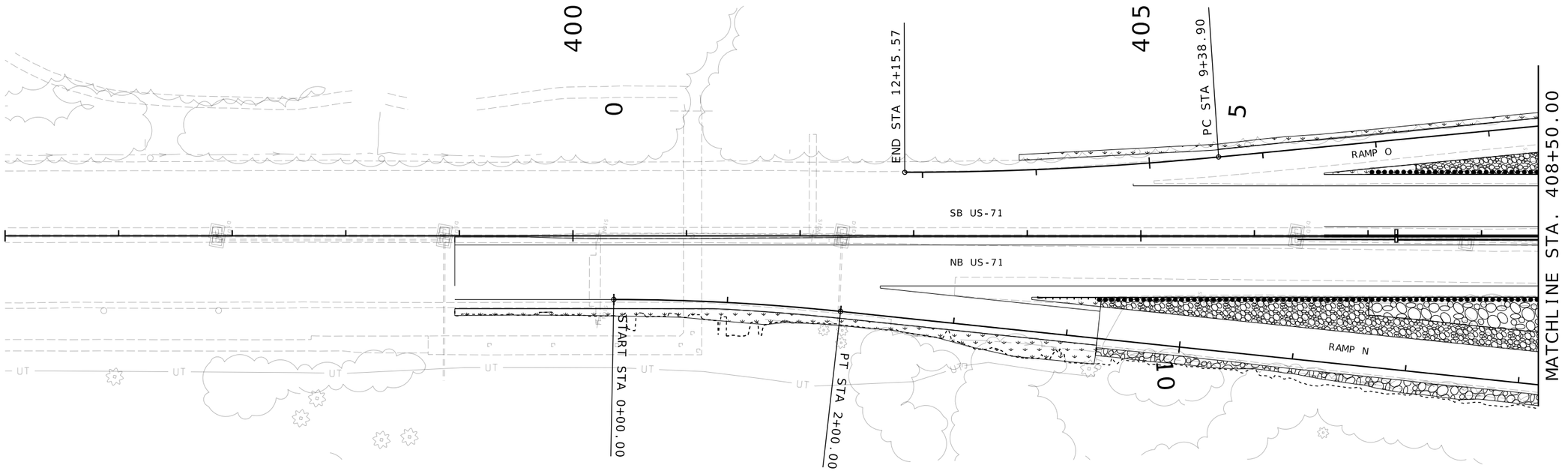
RAMP N

STA. 4+27.19 TO 12+85.26 RT
INSTALL 674 CY TYPE 1 ROCK DITCH LINER

RAMP O

STA. 1+07.69 TO 11+14.43 RT
INSTALL 0.11 ACRE SEEDING

SCALE
0 50 100 150



PERMANENT EROSION CONTROL
SHEET 1 OF 5

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	85

COUNTY
JACKSON

JOB NO.
J4S3490

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

REV.

PERMANENT EROSION CONTROL LEGEND

- TYPE 1 ROCK LINING & TYPE 1 ROCK BLANKET
- TYPE 1 ROCK DITCH LINER
- SEEDING
- TYPE 2 ROCK LINING & TYPE 2 ROCK BLANKET

BANNISTER

STA. 203+50.65 TO 207+88.00 RT
INSTALL 488 CY TYPE 1 ROCK DITCH LINER

STA. 208+43.36 TO 211+28.61 RT
INSTALL 294 CY TYPE 1 ROCK DITCH LINER

STA. 212+85.25 TO 213+60.00 LT
INSTALL 62 CY TYPE 2 ROCK BLANKET

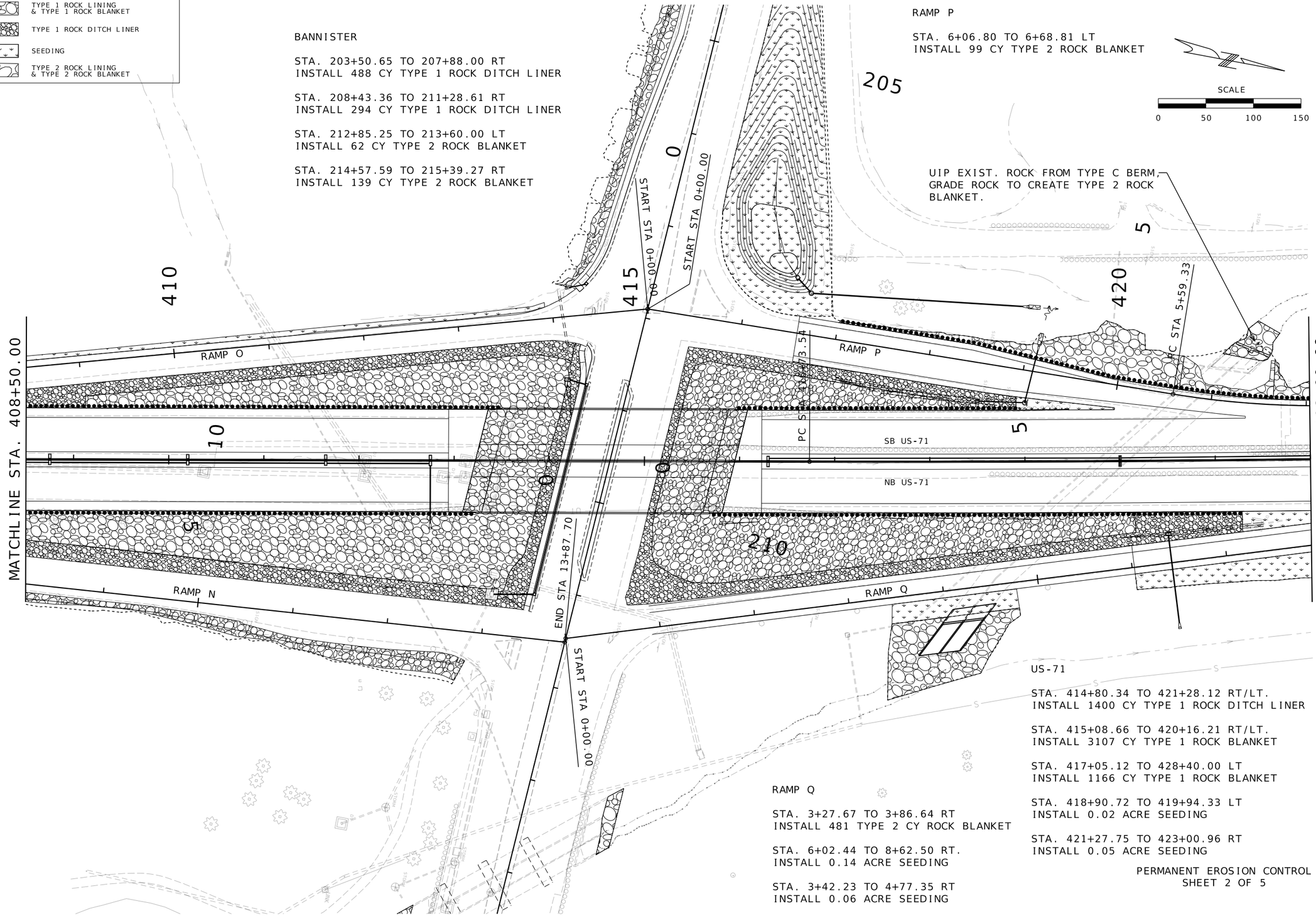
STA. 214+57.59 TO 215+39.27 RT
INSTALL 139 CY TYPE 2 ROCK BLANKET

RAMP P

STA. 6+06.80 TO 6+68.81 LT
INSTALL 99 CY TYPE 2 ROCK BLANKET

SCALE
0 50 100 150

UIP EXIST. ROCK FROM TYPE C BERM, GRADE ROCK TO CREATE TYPE 2 ROCK BLANKET.



RAMP Q

STA. 3+27.67 TO 3+86.64 RT
INSTALL 481 TYPE 2 CY ROCK BLANKET

STA. 6+02.44 TO 8+62.50 RT.
INSTALL 0.14 ACRE SEEDING

STA. 3+42.23 TO 4+77.35 RT
INSTALL 0.06 ACRE SEEDING

US-71

STA. 414+80.34 TO 421+28.12 RT/LT.
INSTALL 1400 CY TYPE 1 ROCK DITCH LINER

STA. 415+08.66 TO 420+16.21 RT/LT.
INSTALL 3107 CY TYPE 1 ROCK BLANKET

STA. 417+05.12 TO 428+40.00 LT
INSTALL 1166 CY TYPE 1 ROCK BLANKET

STA. 418+90.72 TO 419+94.33 LT
INSTALL 0.02 ACRE SEEDING

STA. 421+27.75 TO 423+00.96 RT
INSTALL 0.05 ACRE SEEDING

PERMANENT EROSION CONTROL
SHEET 2 OF 5

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MISSOURI.

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	86

COUNTY
JACKSON

JOB NO.
J4S3490

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

REV.

PERMANENT EROSION CONTROL LEGEND

- TYPE 1 ROCK LINING & TYPE 1 ROCK BLANKET
- TYPE 1 ROCK DITCH LINER
- SEEDING
- TYPE 2 ROCK LINING & TYPE 2 ROCK BLANKET

US-71

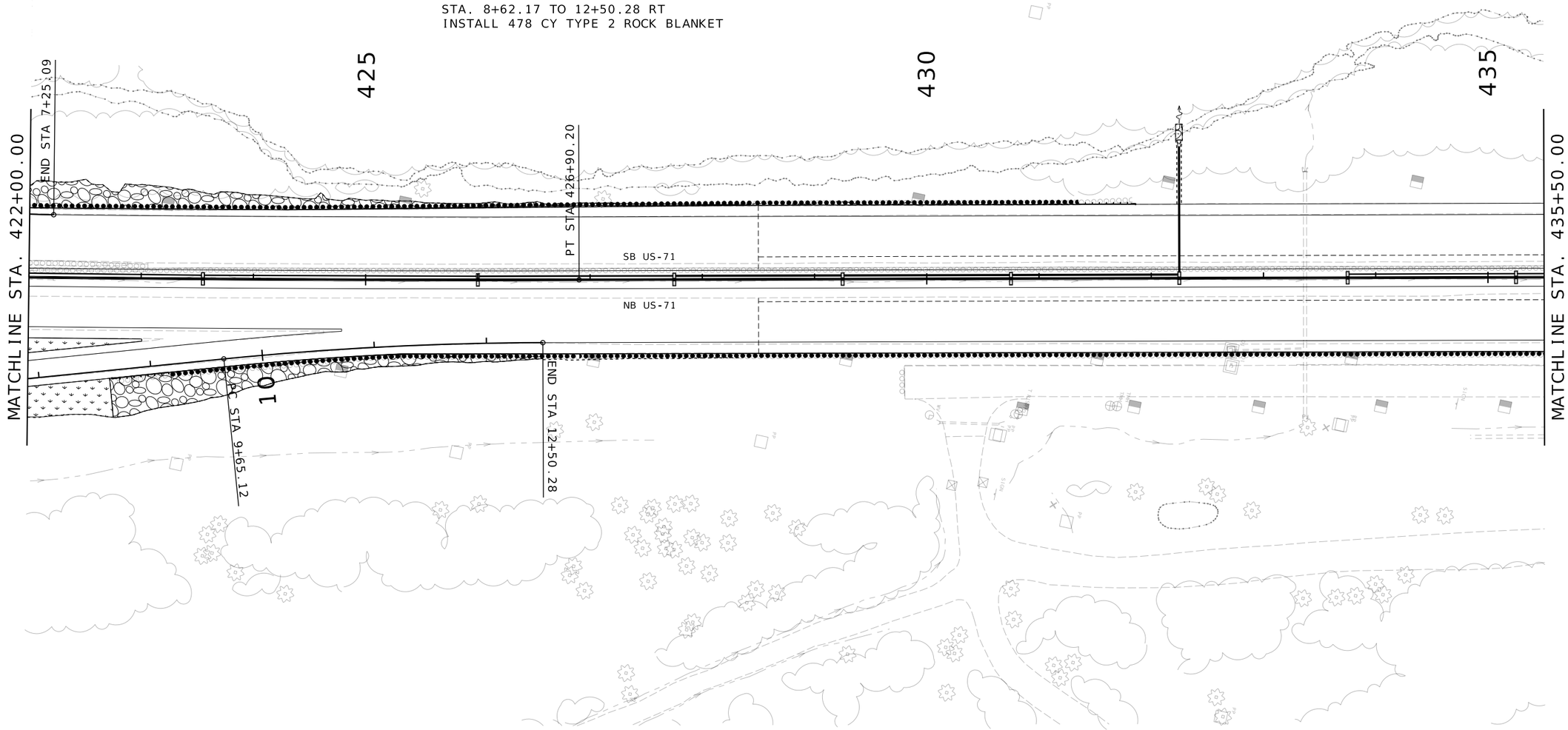
STA. 422+20.54 TO 428+40.00 RT.
INSTALL 245 CY TYPE 1 ROCK BLANKET

STA. 432+25.00 LT. INSTALL
6 CY TYPE 1 ROCK BLANKET

RAMP Q

STA. 8+62.17 TO 12+50.28 RT
INSTALL 478 CY TYPE 2 ROCK BLANKET

SCALE
0 50 100 150



PERMANENT EROSION CONTROL
SHEET 3 OF 5

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM AUTHORIZED VIA RSMO. SIGNED AND DATED ELECTRONICALLY

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	87

COUNTY
JACKSON

JOB NO.
J4S3490

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

REV.

087_EC_08_J4S3490_I50_US71.dgn 9:49:09 AM 10/3/2025

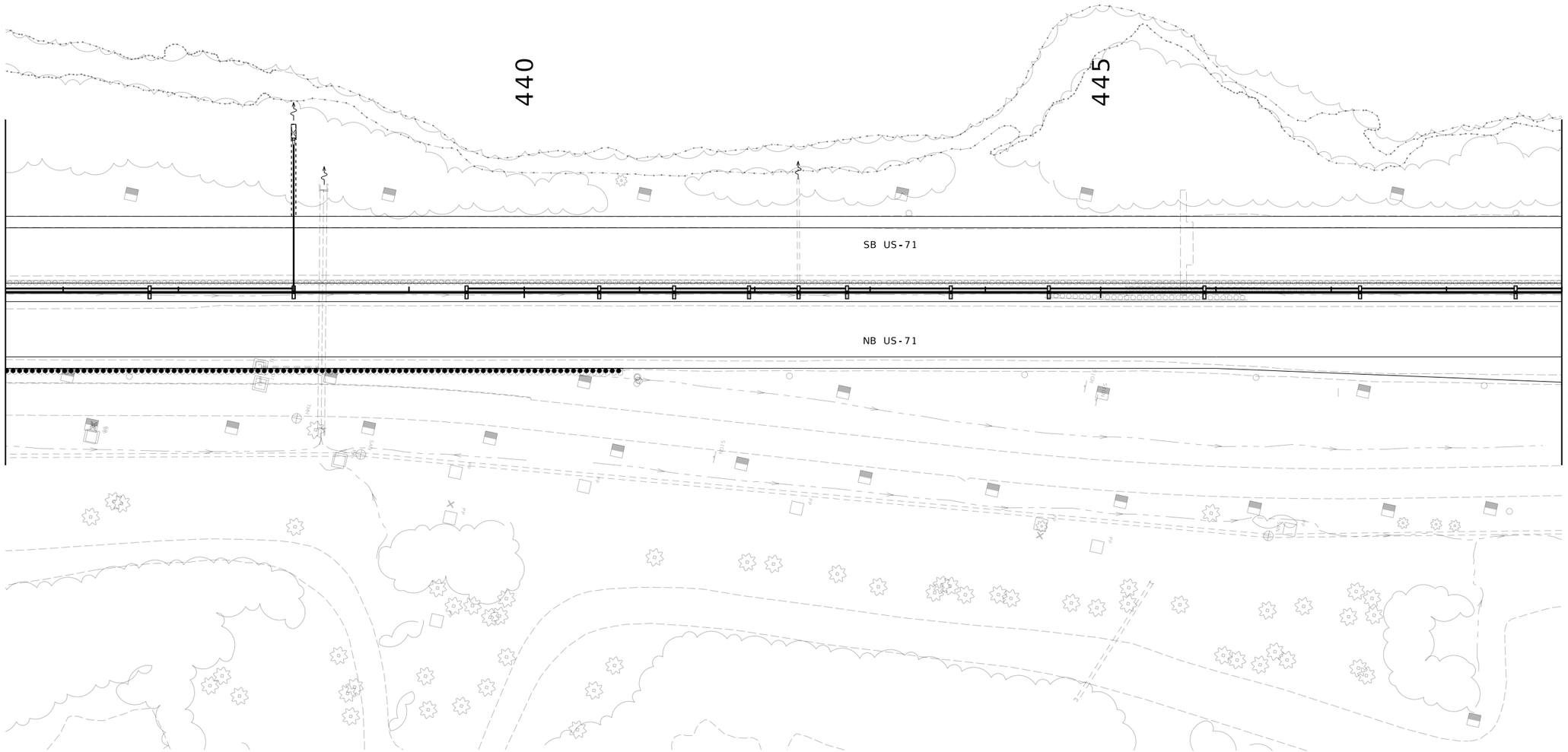
PERMANENT EROSION CONTROL LEGEND

- TYPE 1 ROCK LINING & TYPE 1 ROCK BLANKET
- TYPE 1 ROCK DITCH LINER
- SEEDING
- TYPE 2 ROCK LINING & TYPE 2 ROCK BLANKET

US-71

STA. 438+00.00 LT. INSTALL
4 CY TYPE 1 ROCK BLANKET

SCALE
0 50 100 150



PERMANENT EROSION CONTROL
SHEET 4 OF 5

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM AUTHORIZED TO SEAL AND SIGN THIS DOCUMENT. SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	88

COUNTY
JACKSON

JOB NO.
J4S3490

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

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

PERMANENT EROSION CONTROL LEGEND

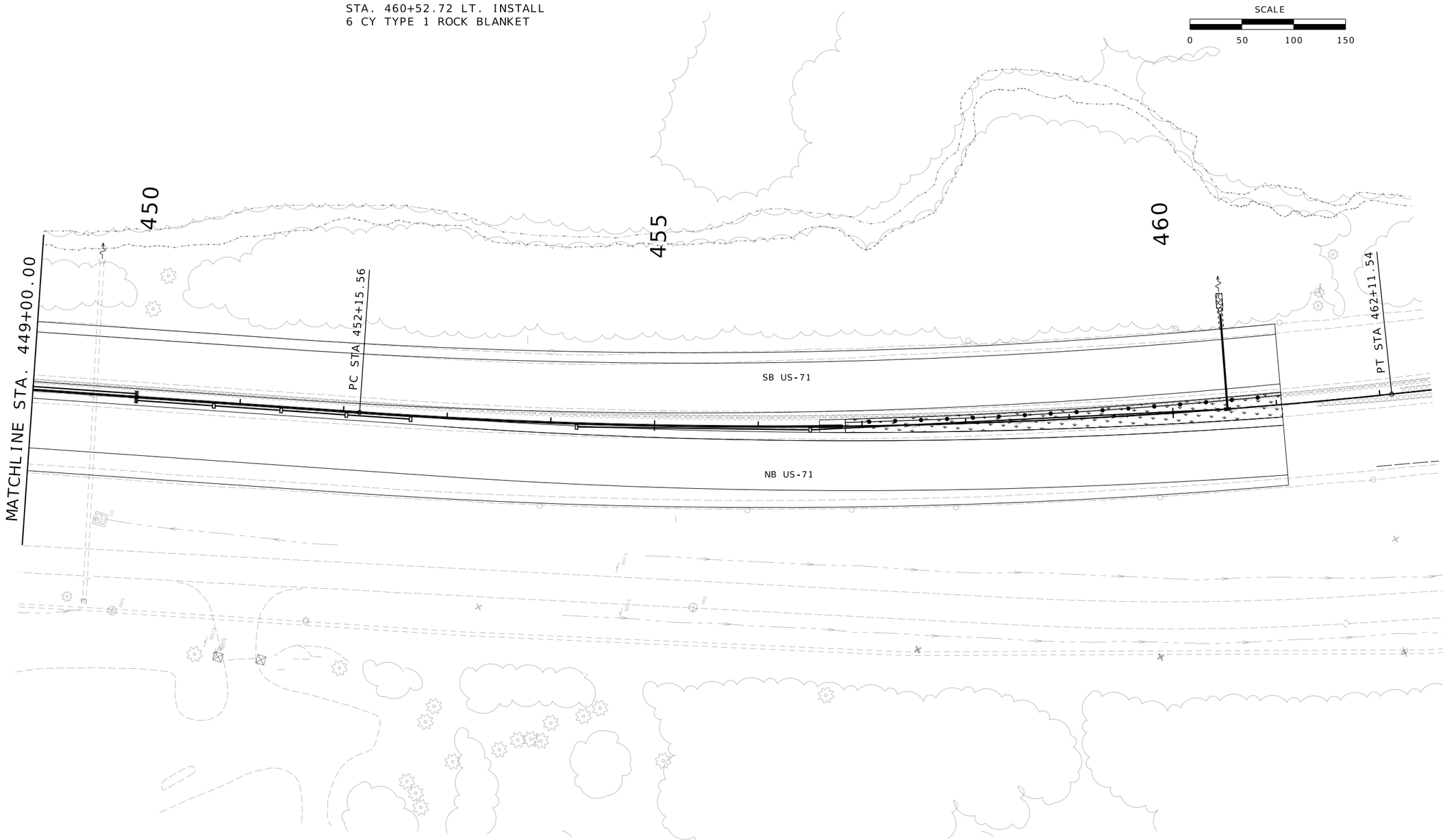
- TYPE 1 ROCK LINING & TYPE 1 ROCK BLANKET
- TYPE 1 ROCK DITCH LINER
- SEEDING
- TYPE 2 ROCK LINING & TYPE 2 ROCK BLANKET

US-71

STA. 456+83.97 TO 461+05.00 RT/LT.
INSTALL 0.18 ACRE SEEDING

STA. 460+52.72 LT. INSTALL
6 CY TYPE 1 ROCK BLANKET

SCALE
0 50 100 150



PERMANENT EROSION CONTROL
SHEET 5 OF 5

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM AUTHORIZED BY MODOT TO SEAL, SIGN AND DATE ELECTRONICALLY

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	89

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

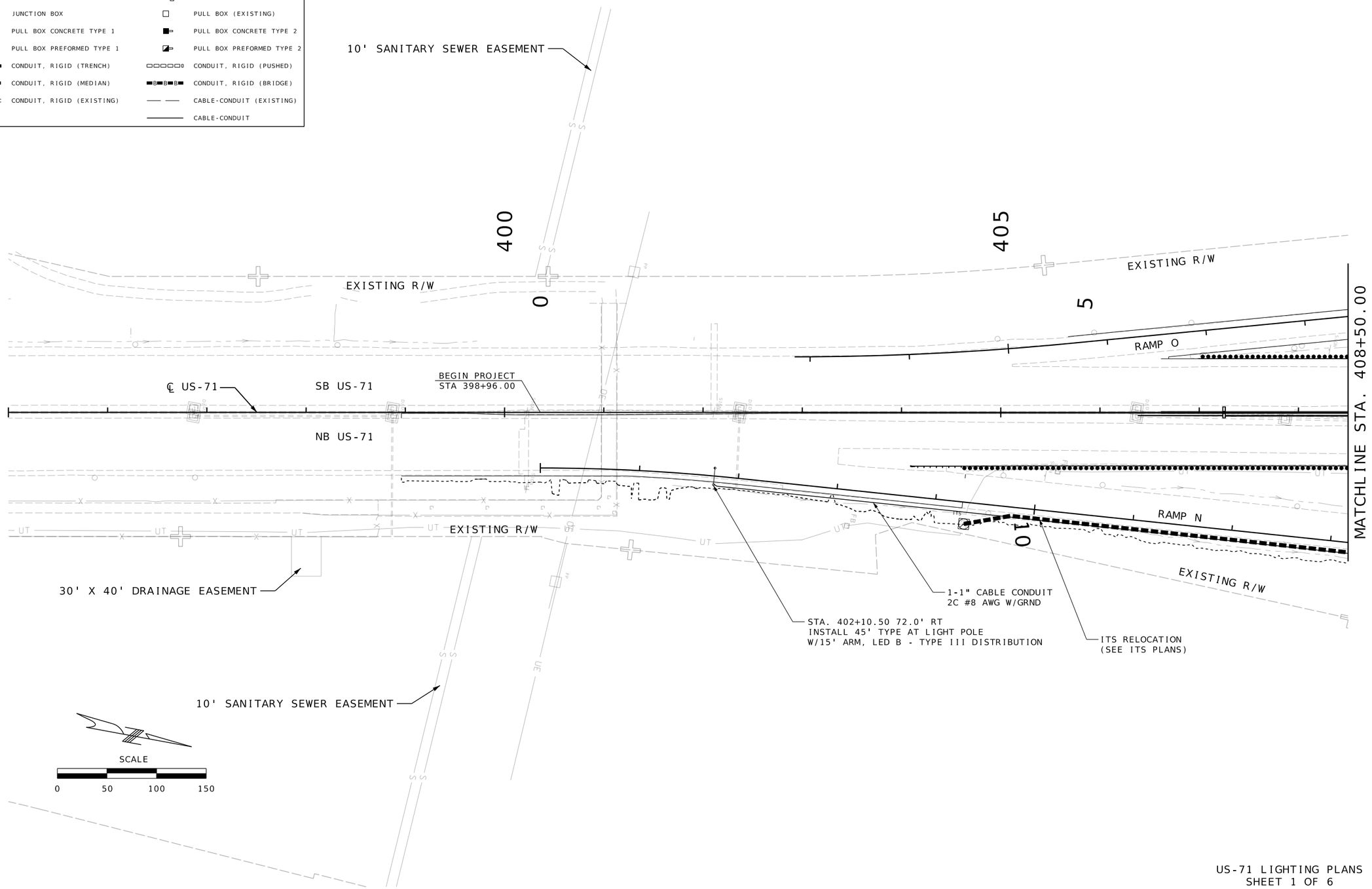
Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

REV.

LIGHTING LEGEND

	CONTROLLER, LIGHTING		LED-A LUMINAIRE
	CONTROLLER, LIGHTING (EXISTING)		LED-B LUMINAIRE
	WOOD POST		LED-C LUMINAIRE
	POWER SUPPLY	P.S.	POWER SOURCE
JCT	JUNCTION BOX		PULL BOX (EXISTING)
	PULL BOX CONCRETE TYPE 1		PULL BOX CONCRETE TYPE 2
	PULL BOX PREFORMED TYPE 1		PULL BOX PREFORMED TYPE 2
	CONDUIT, RIGID (TRENCH)		CONDUIT, RIGID (PUSHED)
M M M	CONDUIT, RIGID (MEDIAN)	B B B	CONDUIT, RIGID (BRIDGE)
	CONDUIT, RIGID (EXISTING)		CABLE-CONDUIT (EXISTING)
			CABLE-CONDUIT



US-71 LIGHTING PLANS
SHEET 1 OF 6

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	90

COUNTY
JACKSON

JOB NO.
J4S3490

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)

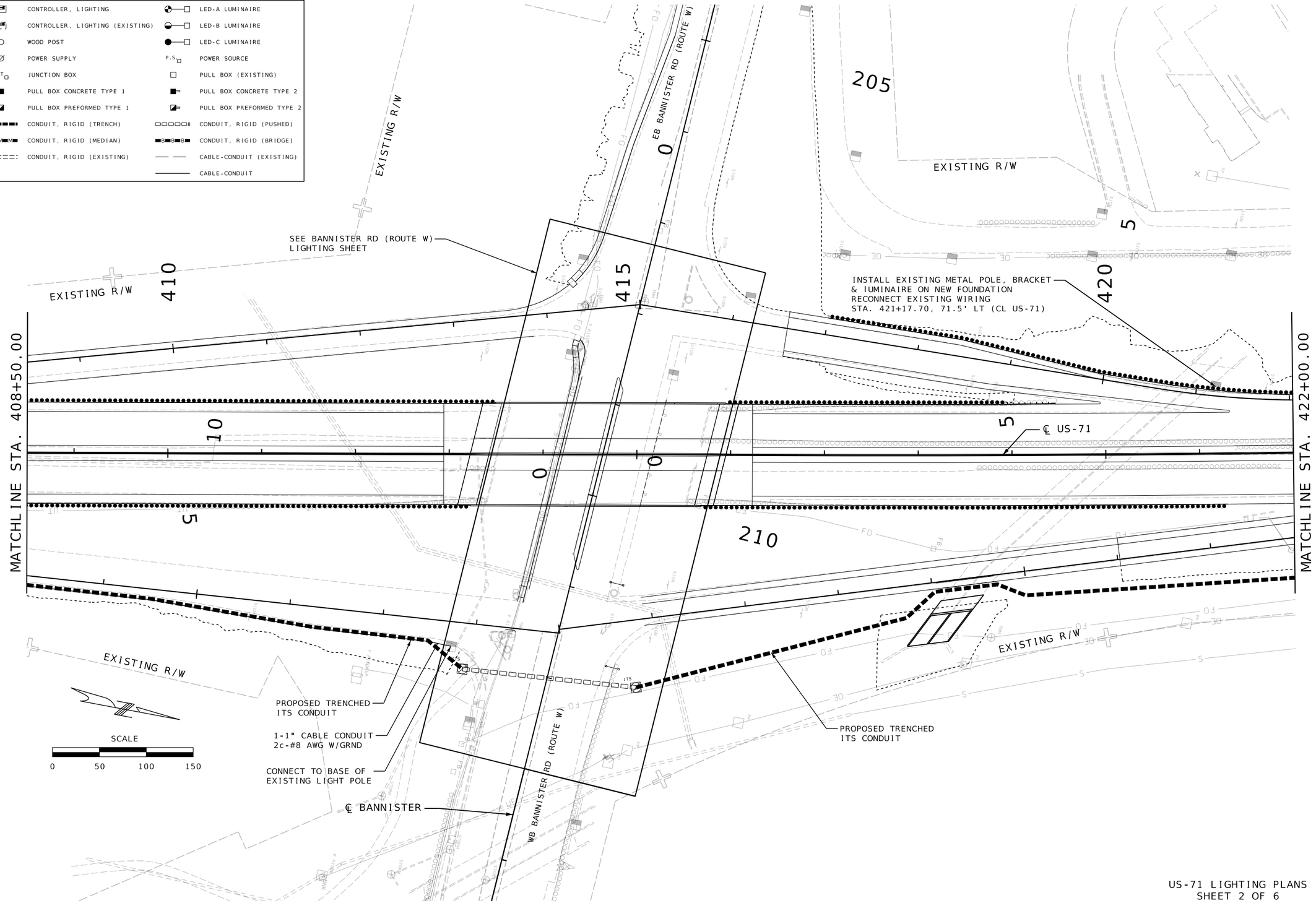
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of
Authority 2002010300

TREKK DESIGN GROUP, LLC

LIGHTING LEGEND

	CONTROLLER, LIGHTING		LED-A LUMINAIRE
	CONTROLLER, LIGHTING (EXISTING)		LED-B LUMINAIRE
	WOOD POST		LED-C LUMINAIRE
	POWER SUPPLY	P.S.	POWER SOURCE
JCT	JUNCTION BOX		PULL BOX (EXISTING)
	PULL BOX CONCRETE TYPE 1		PULL BOX CONCRETE TYPE 2
	PULL BOX PREFORMED TYPE 1		PULL BOX PREFORMED TYPE 2
	CONDUIT, RIGID (TRENCH)		CONDUIT, RIGID (PUSHED)
M M M	CONDUIT, RIGID (MEDIAN)	B B B	CONDUIT, RIGID (BRIDGE)
	CONDUIT, RIGID (EXISTING)		CABLE-CONDUIT (EXISTING)
			CABLE-CONDUIT



US-71 LIGHTING PLANS
SHEET 2 OF 6

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED 10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	91

COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

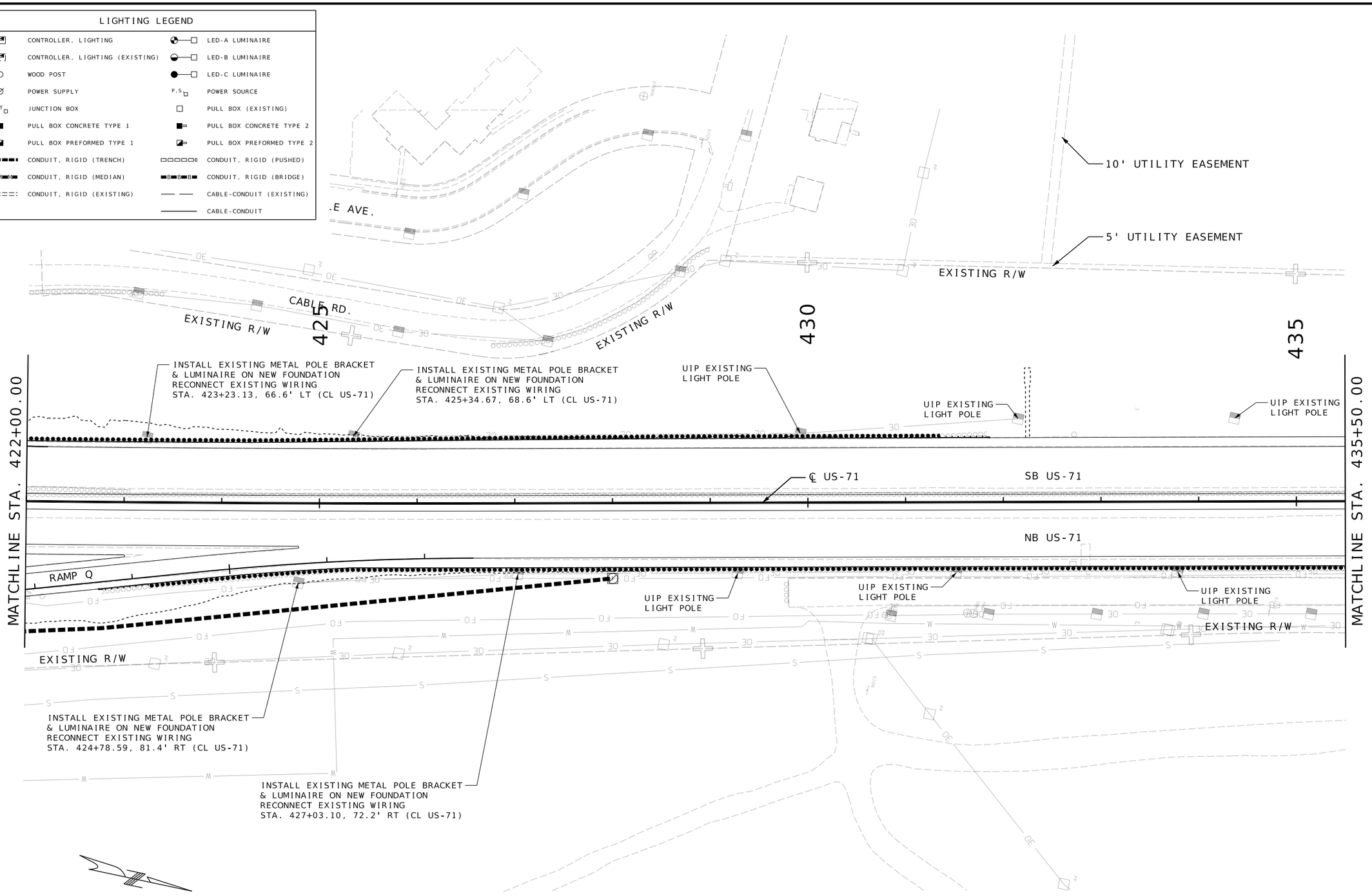
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

LIGHTING LEGEND

	CONTROLLER, LIGHTING		LED-A LUMINAIRE
	CONTROLLER, LIGHTING (EXISTING)		LED-B LUMINAIRE
	WOOD POST		LED-C LUMINAIRE
	POWER SUPPLY	P.S.	POWER SOURCE
JCT	JUNCTION BOX		PULL BOX (EXISTING)
	PULL BOX CONCRETE TYPE 1		PULL BOX CONCRETE TYPE 2
	PULL BOX PREFORMED TYPE 1		PULL BOX PREFORMED TYPE 2
	CONDUIT, RIGID (TRENCH)		CONDUIT, RIGID (PUSHED)
M	CONDUIT, RIGID (MEDIAN)	B	CONDUIT, RIGID (BRIDGE)
	CONDUIT, RIGID (EXISTING)		CABLE-CONDUIT (EXISTING)
			CABLE-CONDUIT



SCALE

0 50 100 150

US-71 LIGHTING PLANS
SHEET 3 OF 6

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	92

COUNTY
JACKSON

JOB NO.
J4S3490

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)

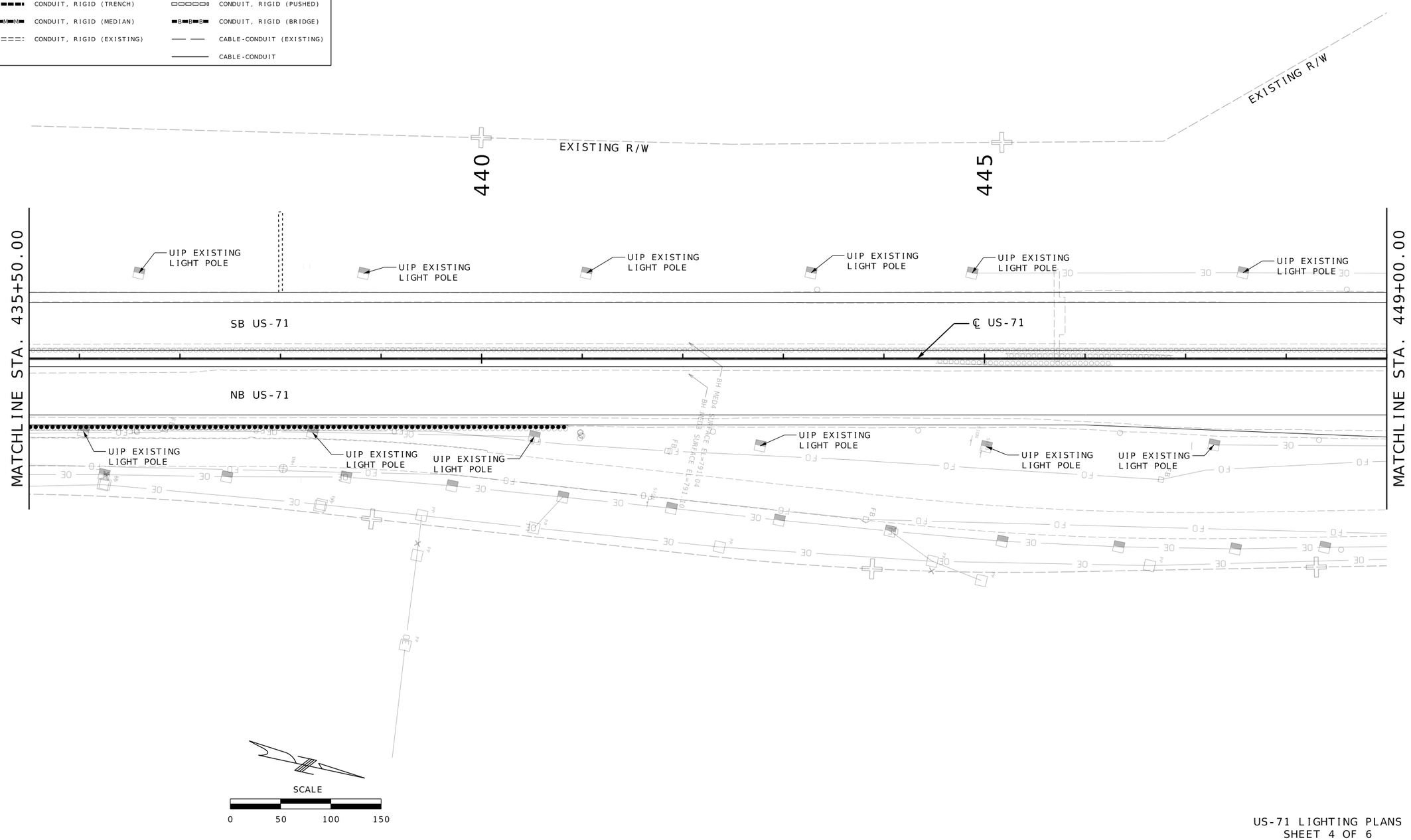
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

LIGHTING LEGEND

	CONTROLLER, LIGHTING		LED-A LUMINAIRE
	CONTROLLER, LIGHTING (EXISTING)		LED-B LUMINAIRE
	WOOD POST		LED-C LUMINAIRE
	POWER SUPPLY	P-S	POWER SOURCE
JCT	JUNCTION BOX		PULL BOX (EXISTING)
	PULL BOX CONCRETE TYPE 1		PULL BOX CONCRETE TYPE 2
	PULL BOX PREFORMED TYPE 1		PULL BOX PREFORMED TYPE 2
	CONDUIT, RIGID (TRENCH)		CONDUIT, RIGID (PUSHED)
	CONDUIT, RIGID (MEDIAN)		CONDUIT, RIGID (BRIDGE)
	CONDUIT, RIGID (EXISTING)		CABLE-CONDUIT (EXISTING)
			CABLE-CONDUIT



US-71 LIGHTING PLANS
SHEET 4 OF 6

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	93

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

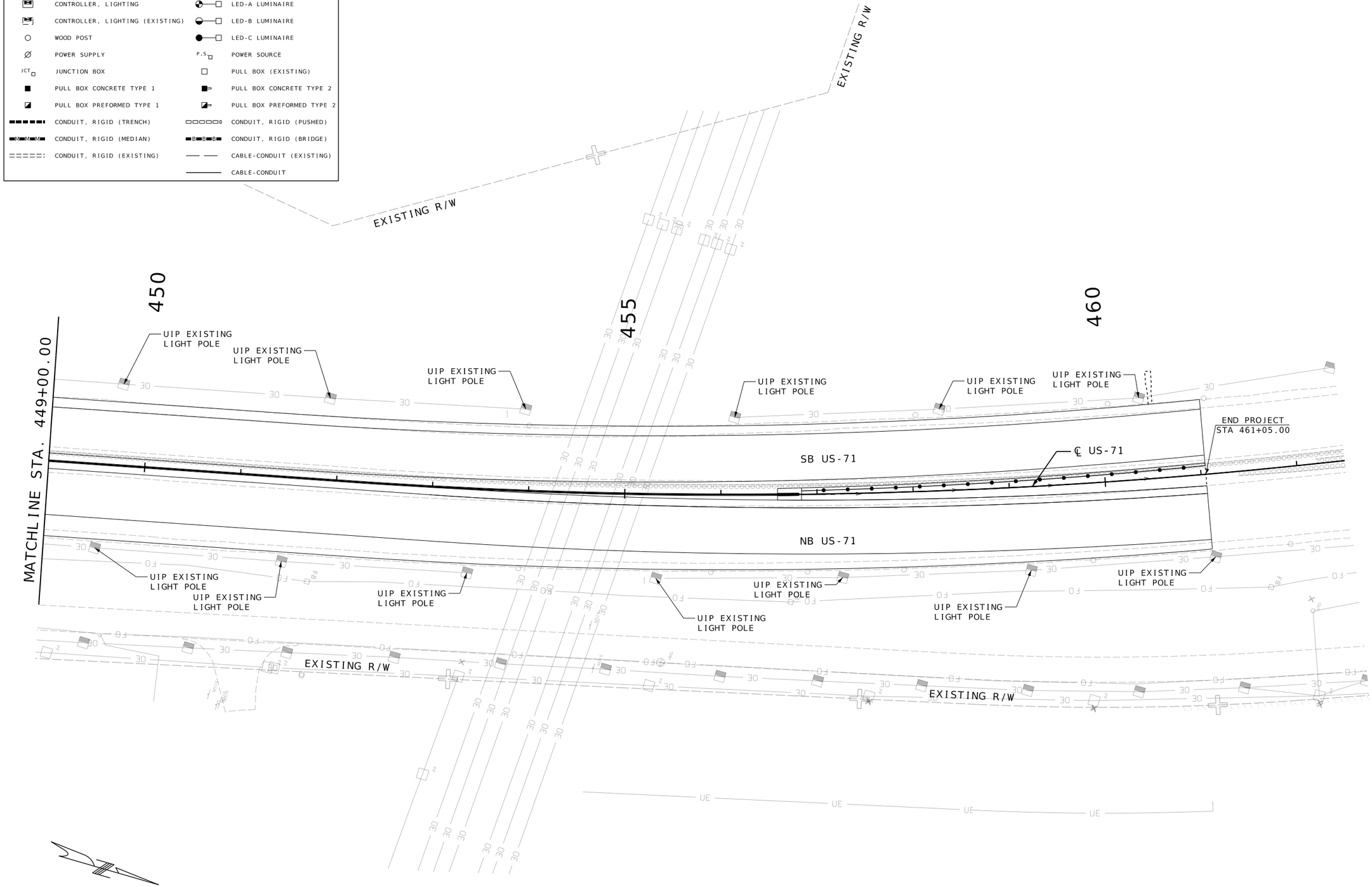
Missouri Cert. of
Authority 2002010300

TREKK DESIGN GROUP, LLC

093_LT_04_J4S3490_I50_US71.dgn 9:49:19 AM 10/3/2025

LIGHTING LEGEND

	CONTROLLER, LIGHTING		LED-A LUMINAIRE
	CONTROLLER, LIGHTING (EXISTING)		LED-B LUMINAIRE
	WOOD POST		LED-C LUMINAIRE
	POWER SUPPLY	P.S.	POWER SOURCE
JCT.	JUNCTION BOX		PULL BOX (EXISTING)
	PULL BOX CONCRETE TYPE 1		PULL BOX CONCRETE TYPE 2
	PULL BOX PREFORMED TYPE 1		PULL BOX PREFORMED TYPE 2
	CONDUIT, RIGID (TRENCH)		CONDUIT, RIGID (PUSHED)
M M M M	CONDUIT, RIGID (MEDIAN)	B B B B	CONDUIT, RIGID (BRIDGE)
	CONDUIT, RIGID (EXISTING)	— —	CABLE-CONDUIT (EXISTING)
			CABLE-CONDUIT



US-71 LIGHTING PLANS
SHEET 5 OF 6

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	94

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

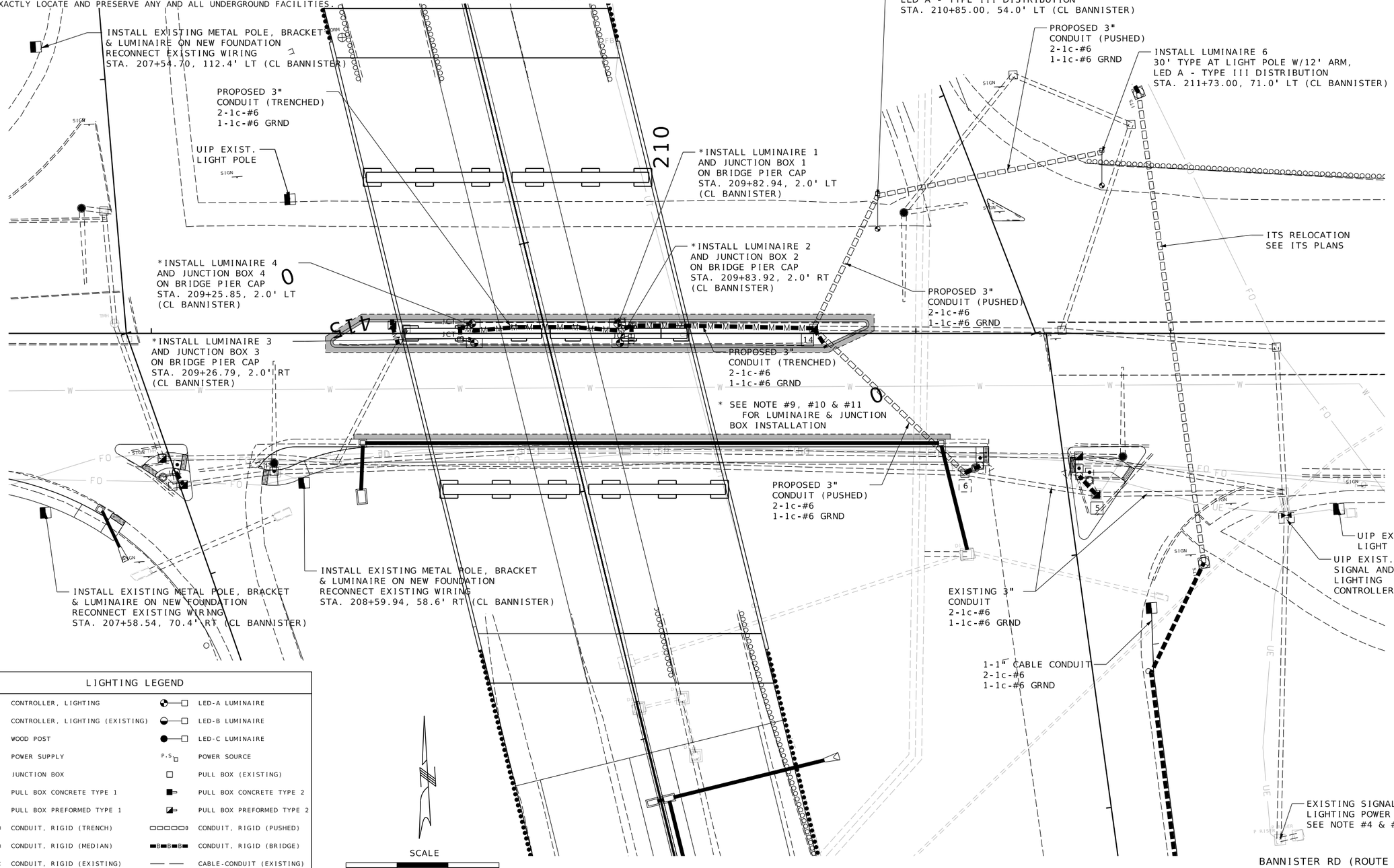
Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

094_LT_05_J4S3490_I50_US71.dgn 9:49:20 AM 10/3/2025

NOTES:

1. ALL LIGHTING CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, SECTION 901 "HIGHWAY LIGHTING", UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL STAKE OR OTHERWISE MARK LOCATIONS WHERE LUMINAIRES, JUNCTION BOXES, AND BRIDGE MOUNTED CONDUIT ARE TO BE INSTALLED. EQUIPMENT LOCATIONS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO PLACEMENT. BOXES AND CONDUIT RUNS ARE APPROXIMATE AND MAY BE FIELD ADJUSTED TO CLEAR OBSTRUCTIONS AND FACILITATE WIRING, AS APPROVED BY THE ENGINEER.
3. THE LOCATION OF UNDERGROUND UTILITIES ARE SHOWN ON THESE PLANS AND/OR THE ROADWAY PLANS IN A APPROXIMATE MANNER ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS OF ALL UTILITIES PRIOR TO ANY WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY BE OCCASIONED BY THE CONTRACTOR'S FAILURE EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND FACILITIES.
4. CONTRACTOR SHALL COORDINATE WITH MODOT TO ACCESS POWER SUPPLY AND DE-ENERGIZE LIGHTING CIRCUITS.
5. ALL POWER FOR PROPOSED LIGHTING SYSTEMS WILL COME FROM EXISTING POWER SUPPLY AND BE WIRED THROUGH THE SIGNAL AND LIGHTING CONTROLLER.
6. ALL EQUIPMENT SHALL BE INSTALLED PER NEC REQUIREMENTS.
7. ALL FLEXIBLE CONDUIT, JUNCTION BOX, CLAMPS AND FITTING ARE SUBSIDIARY TO OTHER BID ITEMS. JUNCTION BOXES SHALL BE SIZED PER NEC REQUIREMENTS.
8. PAYMENT FOR LUMINAIRES WILL BE COVERED UNDER THE "LED LUMINAIRE (UNDERPASS)" BID ITEM. SEE JOB SPECIAL PROVISION FOR MORE DETAIL.
9. JUNCTION BOXES 1 THROUGH 4 SHALL BE LOCATED IN LINE WITH THE TOP EDGE OF PIER CAP AND CENTERED ON THE MIDDLE PIER FOR EACH BRIDGE. INSTALL LUMINAIRE ON EACH SIDE OF PIER CAP, CENTERED ON THE BRIDGE BETWEEN THE 3RD AND 4TH GIRDERS. JUNCTION BOX AND LUMINAIRES SHALL BE CONNECTED WITH RIGID CONDUIT (NOT SHOWN IN PLANS).
10. INSTALL RIGID METAL CONDUIT AND FITTINGS AROUND THE BOTTOM FACE OF THE PIER CAP TO CONNECT JUNCTION BOXES.
11. CONDUIT FROM THE MEDIAN WILL RUN VERTICALLY UP THE PIERS TO PROPOSED JUNCTION BOXES (NOT SHOWN IN PLANS).
12. USE IN PLACE EXISTING SIGNAL CONDUIT (NOT LABELED ON THIS SHEET. SEE SIGNAL PLANS.)



LIGHTING LEGEND

	CONTROLLER, LIGHTING		LED-A LUMINAIRE
	CONTROLLER, LIGHTING (EXISTING)		LED-B LUMINAIRE
○	WOOD POST		LED-C LUMINAIRE
∅	POWER SUPPLY	P.S.	POWER SOURCE
JCT	JUNCTION BOX		PULL BOX (EXISTING)
	PULL BOX CONCRETE TYPE 1		PULL BOX CONCRETE TYPE 2
	PULL BOX PREFORMED TYPE 1		PULL BOX PREFORMED TYPE 2
	CONDUIT, RIGID (TRENCH)		CONDUIT, RIGID (PUSHED)
	CONDUIT, RIGID (MEDIAN)		CONDUIT, RIGID (BRIDGE)
	CONDUIT, RIGID (EXISTING)		CABLE-CONDUIT (EXISTING)
			CABLE-CONDUIT

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED 10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	95

COUNTY JACKSON

JOB NO. J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

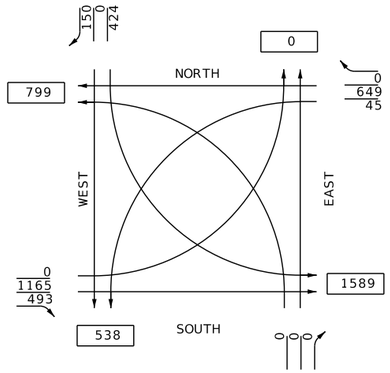
Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

REV.

BANNISTER RD (ROUTE W)
LIGHTING PLANS
SHEET 6 OF 6

095_LT_06_J4S3490_I50_US71.dgn 9:49:22 AM 10/3/2025



TRAFFIC FLOW DIAGRAM
ESTIMATED - PM PEAK
2023 TRAFFIC VOLUME

TRAFFIC SIGNALS LEGEND

- CONTROLLER
- CONTROLLER (EXISTING)
- JUNCTION BOX
- POWER SUPPLY
- WOOD POST
- SIGNAL HEAD (OPT LIM CONV)
- SIGNAL HEAD (OPT LIM)
- SIGNAL HEAD (PEDESTRIAN)
- SIGNAL HEAD (STANDARD)
- CCTV CAMERA
- VIDEO DETECTOR
- PUSH BUTTON DETECTOR
- PREFORMED PULL BOX TYPE 1
- PREFORMED PULL BOX TYPE 2
- CONCRETE PULL BOX TYPE 1
- CONCRETE PULL BOX TYPE 2
- ITS PULL BOX TYPE 2
- ITS PULL BOX TYPE 5
- 6 X 6 LOOP DETECTOR
- 6 X 15 LOOP DETECTOR
- 30 X 6 LOOP DETECTOR
- CONDUIT MEDIAN
- CONDUIT PUSHED
- CONDUIT BRIDGE
- CONDUIT EXISTING
- CONDUIT TRENCHED
- SPAN WIRE
- MAST ARM - TYPE A BASE
- MAST ARM - TYPE C BASE
- MAST ARM - TYPE F BASE

205

RAMP P

EXISTING RAISED ISLAND

12' 12' 12'

UIP TYPE A BASE 30' MAST ARM
STA. 207+72.64, 49.1' LT (℄ BANNISTER)

REMOVE AND REPLACE EXISTING PULL BOX STA. 208+94.50, 3.2' LT INTERCEPT AND RECONNECT LOOPS TO LEAD-IN CABLE

PROPOSED 8 INCH RAISED MEDIAN

UIP EXISTING PULL BOX

SPEED LIMIT 40 MPH
GRADE 6.26%
NEXT SIGNAL 1.42 MI

WB BANNISTER RD (ROUTE W)

DND EXISTING PULL BOX

DND EXISTING PULL BOX

DND EXISTING FIBER PULL BOX

℄ BANNISTER RD

CONNECT NEW CONDUIT TO EXISTING WITH A SUITABLE RADIUS

EB BANNISTER RD (ROUTE W)

PROPOSED 8 INCH RAISED ISLAND

TYPE B (BARRIER) CURB & GUTTER

TYPE B (BARRIER) CURB & GUTTER

MATCHLINE STA. 209+50.00

ADJUST TO GRADE EXISTING PULL BOX

RELOCATE EXISTING PUSH BUTTON DETECTOR TO OTHER SIDE OF POLE. PLUG OR COVER ANY UNUSED HOLES IN POLE.

UIP TYPE A BASE 40' & 30' MAST ARM
STA. 208+48.20, 54.1' RT (℄ BANNISTER)

ADJUST TO GRADE EXISTING PULL BOX

REMOVE AND REPLACE EXISTING PULL BOX
STA. 208+04.28, 49.1' RT

REMOVE EXISTING SIGNAL PEDESTAL AND PUSH BUTTON DETECTOR

INSTALL PEDESTRIAN SIGNAL PEDESTAL, PED. HEAD AND PUSH BUTTON DETECTOR
STA. 208+09.68, 54.5' RT
(CL BANNISTER)

REMOVE AND REPLACE EXISTING PULL BOX
STA. 208+12.61, 59.4' RT
INTERCEPT EXISTING CONDUIT

RAMP O

EXIST. R/W

SCALE
0 20 40 60

US-71 SIGNAL PLAN
SHEET 1 OF 2

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	96

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION	REV.

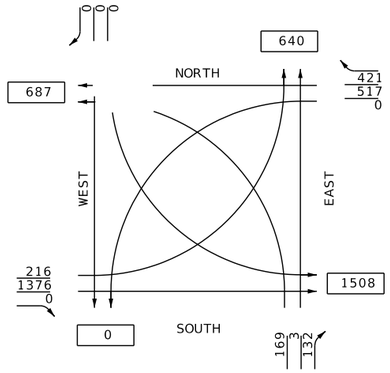
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4655
Fax: (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TRAFFIC SIGNALS LEGEND

- CONTROLLER
- CONTROLLER (EXISTING)
- JUNCTION BOX
- POWER SUPPLY
- WOOD POST
- SIGNAL HEAD (OPT LIM CONV)
- SIGNAL HEAD (OPT LIM)
- SIGNAL HEAD (PEDESTRIAN)
- SIGNAL HEAD (STANDARD)
- CCTV CAMERA
- VIDEO DETECTOR
- PUSH BUTTON DETECTOR
- PREFORMED PULL BOX TYPE 1
- PREFORMED PULL BOX TYPE 2
- CONCRETE PULL BOX TYPE 1
- CONCRETE PULL BOX TYPE 2
- ITS PULL BOX TYPE 2
- ITS PULL BOX TYPE 5
- 6 X 6 LOOP DETECTOR
- 6 X 15 LOOP DETECTOR
- 30 X 6 LOOP DETECTOR
- CONDUIT MEDIAN
- CONDUIT PUSHED
- CONDUIT BRIDGE
- CONDUIT EXISTING
- CONDUIT TRENCHED
- SPAN WIRE
- MAST ARM - TYPE A BASE
- MAST ARM - TYPE C BASE
- MAST ARM - TYPE F BASE



TRAFFIC FLOW DIAGRAM
ESTIMATED - PM PEAK
2023 TRAFFIC VOLUME

MATCHLINE STA. 209+50.00

210

UIP TYPE A BASE 35' & 25' MAST ARM
STA. 210+95.32, 47.4' LT (CL BANNISTER)

LIGHTING CONDUIT
SEE LIGHTING PLANS

PROPOSED 8 INCH
RAISED MEDIAN

PROPOSED 8 INCH
RAISED ISLAND

UIP EXISTING SIGNAL PULL BOX

UIP EXISTING SIGNAL
PULL BOX

EXIST. R/W

WB BANNISTER RD (ROUTE W)

UIP EXISTING PULL BOX

UIP EXISTING PULL BOX

REMOVE AND REPLACE
EXISTING PULL BOX
STA. 210+59.90, 2.0' LT
INTERCEPT AND RECONNECT
LOOPS TO LEAD-IN CABLE

R 95'-0"

UIP TYPE A BASE 35' MAST ARM
STA. 211+81.20, 48.4' RT (CL BANNISTER)

INSTALL PEDESTRIAN SIGNAL PEDESTAL,
PED. HEAD AND PUSH BUTTON DETECTOR
STA. 211+64.07, 66.0' RT (CL BANNISTER)

REMOVE EXISTING SIGNAL PEDESTAL
AND PUSH BUTTON DETECTOR

SPEED LIMIT 40 MPH
GRADE 2.80%
NEXT SIGNAL 0.19 MI

EB BANNISTER RD (ROUTE W)

UIP EXISTING SIGNAL PULL BOX

UIP EXISTING SIGNAL PULL BOX

DND EXISTING
SIGNAL PULL BOX

UIP EXISTING SIGNAL AND LIGHTING CONTROLLER
STA. 212+45.35, 71.4' RT (CL BANNISTER)

REMOVE AND REPLACE
EXISTING PULL BOX
STA. 211+70.68, 63.2' RT

REMOVE EXISTING SIGNAL
PEDESTAL AND PUSH
BUTTON DETECTOR

ADJUST TO GRADE EXISTING
SIGNAL PULL BOX

INSTALL PEDESTRIAN SIGNAL PEDESTAL,
PED. HEAD AND PUSH BUTTON DETECTOR
STA. 211+25.22, 51.9' RT
(CL BANNISTER)

REMOVE AND REPLACE
EXISTING PULL BOX
STA. 211+63.89, 48.1' RT
INTERCEPT EXISTING CONDUIT

TYPE B (BARRIER)
CURB & GUTTER

ADJUST TO GRADE EXISTING
SIGNAL PULL BOX

ADJUST TO GRADE EXISTING
SIGNAL PULL BOX

PROPOSED ITS
RELOCATION

UIP EXISTING
POWER SUPPLY

EXIST. R/W

RAMP N

RAMP Q

SCALE
0 20 40 60

US-71 SIGNAL PLAN
SHEET 2 OF 2

JASON MICHAEL SHAFER
NUMBER PE-2010019596
STATE OF MISSOURI
PROFESSIONAL ENGINEER

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

DATE PREPARED	
10/3/2025	
ROUTE 71	STATE MO
DISTRICT KC	SHEET NO. 97
COUNTY JACKSON	
JOB NO. J4S3490	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

REV.	DESCRIPTION	DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

EFFECTIVE: 07-01-2018

POST NUMBER	PULL BOX NUMBER	LOCATION APPROACH	STATION	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.
7		BANNISTER	208+09.68	54.5' RT													1	0.44											1	
	8	BANNISTER	208+12.61	59.4' RT															1											
	12	BANNISTER	208+04.28	49.1' RT															1											
	13	BANNISTER	208+94.50	3.2' LT															1											
	14	BANNISTER	210+59.90	2.0' LT															1											
6		BANNISTER	211+25.22	51.9' RT													1	0.44											1	
5		BANNISTER	211+64.07	66.0' RT													1	0.44											1	
	5	BANNISTER	211+70.68	63.2' RT															1											
	5A	BANNISTER	211+63.89	48.1' RT															1											

EFFECTIVE: 10-01-2015

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"		
5	5	10			11												
6	6	7			8												
8	7	6			7												
13	50	2	1														
14	10	9	8														
SUBTOTALS			9		26				81								
TOTALS			9		26				81								

CABLE

FROM	TO	CENTER TO CENTER DISTANCE	POWER		CONTROL				CLOSED LOOP INTERCONNECT	LUMINAIRE		DETECTOR		FIBER		REMARKS
					2c #16	5c #16	7c #16	3c #16	3 PAIR #16	CONTROL 2c #12	POLE & BRACKET 1c #10	1c #14 IN DUCT	2c #14 LEAD-IN CABLE	SINGLE-MODE	MULTI-MODE	
	66	93			123	123										
	67	143			179	179										
	69	450			498	498										
5A	30											264	29			
5A	31											264	22			
10	70											264	20			
10	71											264	22			
SUBTOTALS					800	800						1056	93			
TOTALS					840	840						1110	100			INCLUDE 5% FOR SNAKING

INTERSECTION US-71 & BANNISTER RD (ROUTE W) D-37B

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I HEREBY CERTIFY THAT THIS WAS PREPARED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 10/3/2025

ROUTE	STATE
71	MO

DISTRICT	SHEET NO.
KC	99

COUNTY JACKSON

JOB NO. J4S3490

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4655
Fax: (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

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

REV.

099_SG_04_J4S3490_I1_D37B.dgn 9:49:30 AM 10/3/2025

EFFECTIVE: 04-01-2018

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				
RAMP N	212+43	199' RT	Type		15 Amps	40 Amps	60 Amps	Amps		Amps	Cl. Ft.	
(UIP EXISTING)			Type		15 Amps	Amps	Amps	Amps		Amps	Cl. Ft.	

CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT

LOCATION			SYSTEM MASTER (CLOSED LOOP)		ACTUATED		ON-OFF* SWITCH TYPE		COORDINATION INTERFACE *					TIME * CLOCK	NEMA CABINET TYPE *			170 CABINET TYPE *		170 SOFTWARE *	
									12C/7C HARDWIRE (1)		TIME BASE	CLOSED LOOP		FIBER							
APPROACH	STATION	OFFSET	NEMA	170	NEMA	170	I	II	MASTER	LOCAL		NEMA	170			E	EV	DOUBLE	332	336S	BITRAN	WAPITI
RAMP N (UIP EXISTING)	212+45.35	71.4' RT																			

NEMA DETECTOR ASSIGNMENT

CHANNEL	CARD POSITION 1	2	3	4	5	6	7	8
1								
2								

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) = (2)

NEMA LOAD SWITCH ASSIGNMENTS

1	2	3	4	5	6	7	8	9	10	11	12

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		
	D3-1 ***	VAR. X 18			
	D3-1B ***	VAR. X 18			
3	R10-3E	9 X 15	0.9	2.7	3
	R10-11A	24 X 30	5.0		
	R10-13	36 X 24	6.0		
	R10-27A	30 X 36	7.5		
	SUBTOTAL			2.7	3
	TOTAL			3	3

DETECTOR SCHEDULE

DETECTOR NUMBER	APPROACH	TYPE: PUSH BUTTON	INDUCTION LOOP (2): STANDARD	INDUCTION LOOP (2): DELAY/ EXTEND *	INDUCTION LOOP (2): CALL UNIT *	VIDEO
5	RAMP N	1				
6	RAMP N	1				
7	RAMP O	1				
TOTAL		3				

170 INPUT FILE ASSIGNMENTS

	CHANNEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14
"I"	U														
	L														
"J"	U														
	L														

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) = (2)

* ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.

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

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

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

170 OUTPUT FILE ASSIGNMENTS

FR1								MONITOR
FR2								
FR3								
FR4								

170 AUXILIARY OUTPUT FILE

FR5							
FR6							

US-71 & BANNISTER RD (ROUTE W)
INTERSECTION

D-37C

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED 10/3/2025
ROUTE 71 | STATE MO
DISTRICT KC | SHEET NO. 100
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

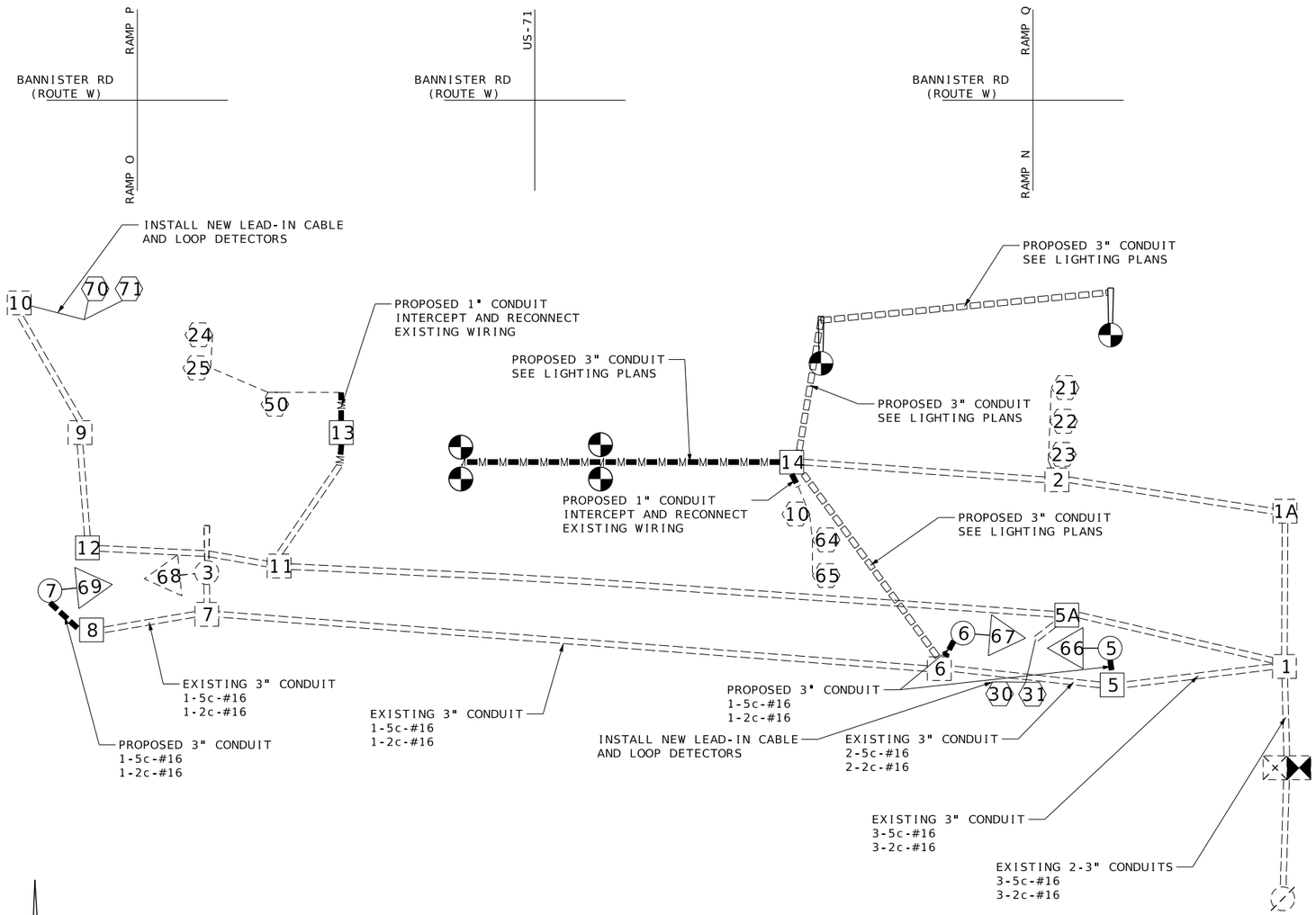
DESCRIPTION | DATE | REV.

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

WIRING DIAGRAM



LEGEND

3"	CONDUIT CONTAINING CABLE WITH SIZE
	CABLE
X-Xc	MULTI-CONDUCTOR CABLE #16 AWG (UNLESS OTHERWISE INDICATED)
LIC	#14 AWG DETECTOR LEAD-IN CABLE (2C TWISTED SHIELDED)
X	PULL BOX WITH NUMBER
X	POST WITH NUMBER
X	POST WITH MAST ARM
X	POST WITH MAST ARM AND LUMINAIRE
X	DETECTOR WITH NUMBER
X	SIGNAL HEAD WITH NUMBER
	SIGNAL CONTROLLER
	POWER SUPPLY
	LIGHTING CONTROLLER

US-71 & BANNISTER (ROUTE W)

INTERSECTION

D-37D

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED 10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	101

COUNTY JACKSON

JOB NO. J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

REV.

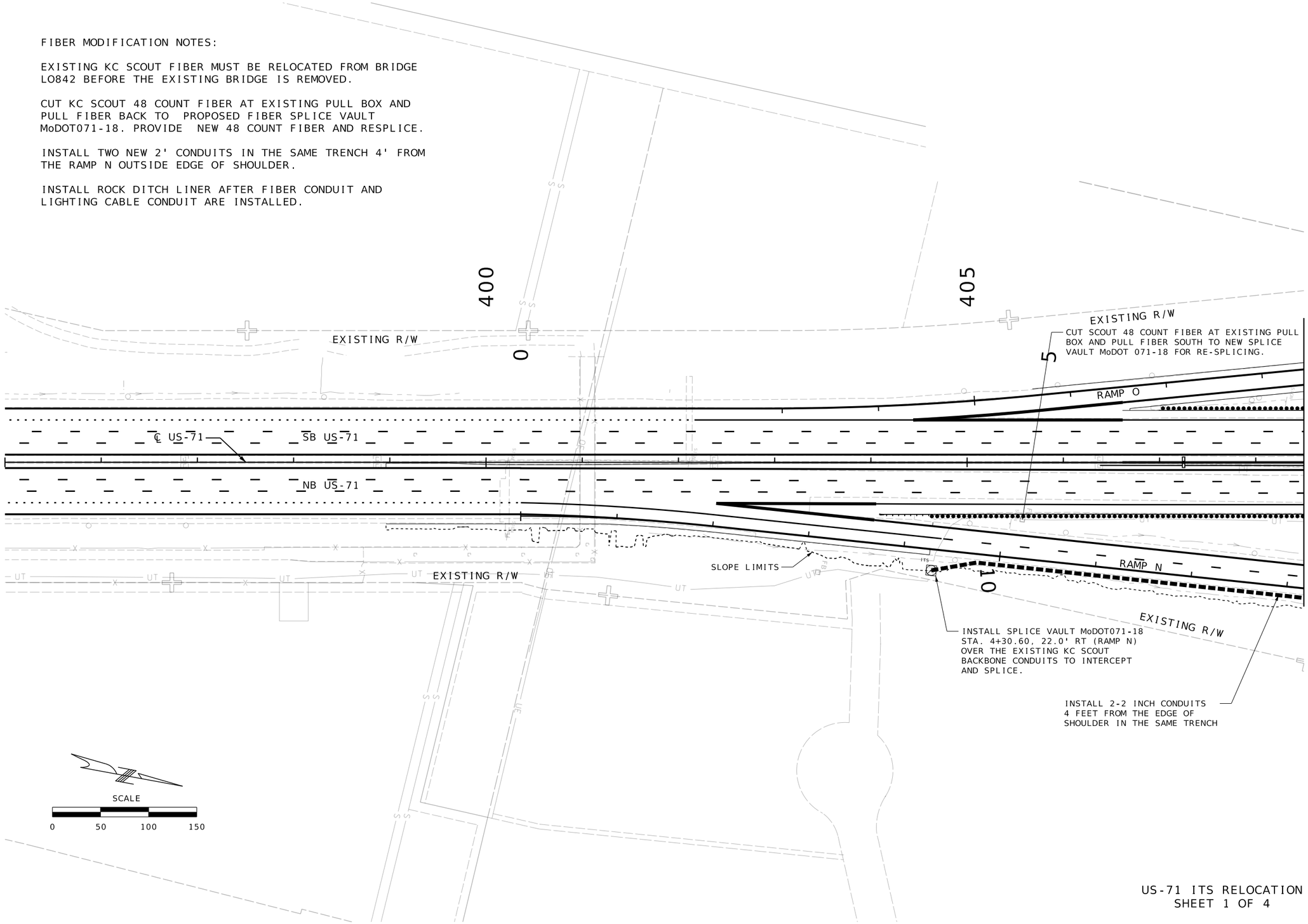
FIBER MODIFICATION NOTES:

EXISTING KC SCOUT FIBER MUST BE RELOCATED FROM BRIDGE LO842 BEFORE THE EXISTING BRIDGE IS REMOVED.

CUT KC SCOUT 48 COUNT FIBER AT EXISTING PULL BOX AND PULL FIBER BACK TO PROPOSED FIBER SPLICE VAULT MoDOT071-18. PROVIDE NEW 48 COUNT FIBER AND RESPLICE.

INSTALL TWO NEW 2' CONDUITS IN THE SAME TRENCH 4' FROM THE RAMP N OUTSIDE EDGE OF SHOULDER.

INSTALL ROCK DITCH LINER AFTER FIBER CONDUIT AND LIGHTING CABLE CONDUIT ARE INSTALLED.



US-71 ITS RELOCATION
SHEET 1 OF 4

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	102

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

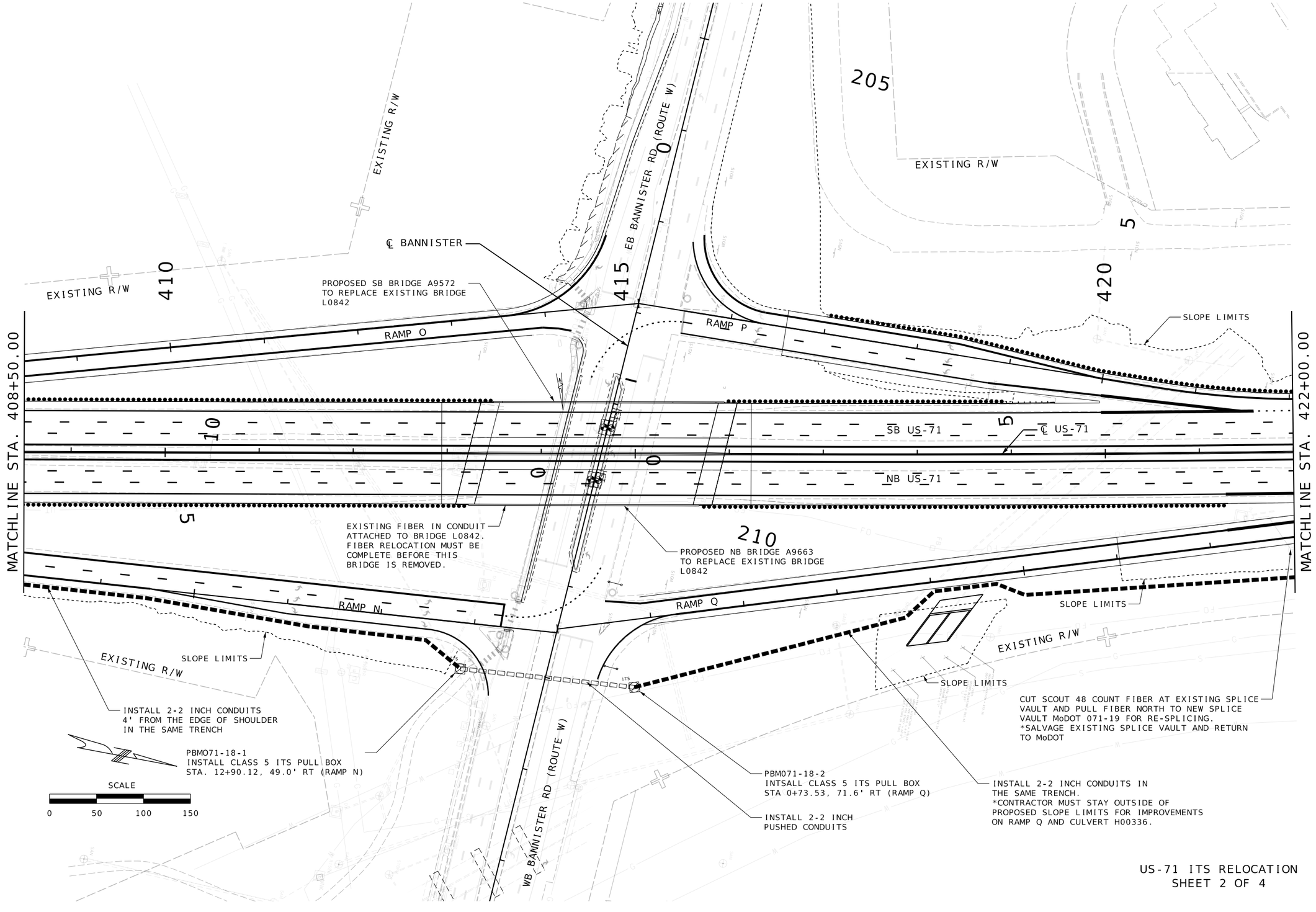
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



US-71 ITS RELOCATION
SHEET 2 OF 4

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	103

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

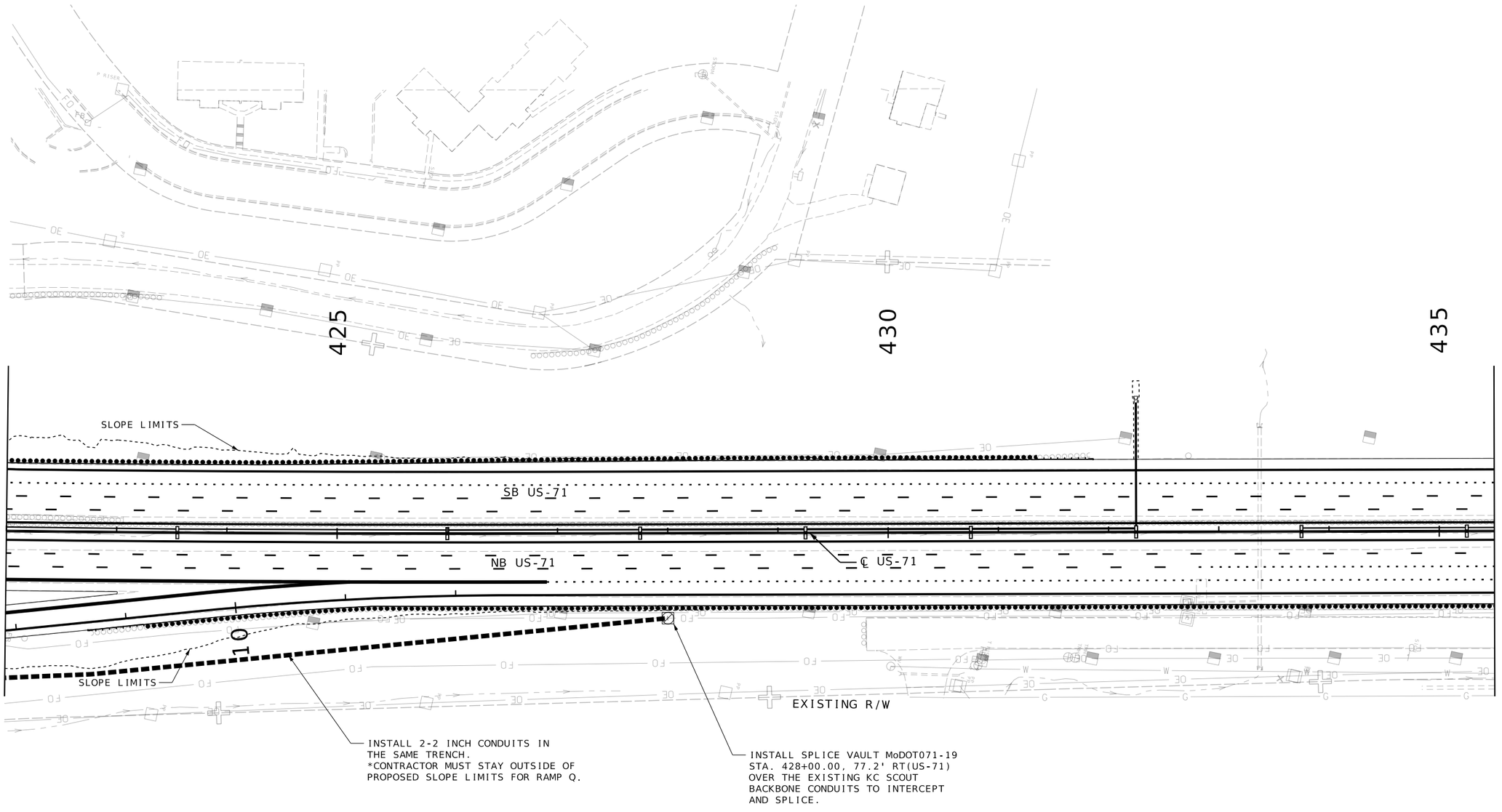
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

MoDOT

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



SCALE

0 50 100 150

US-71 ITS RELOCATION
SHEET 3 OF 4

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	104

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

REV.

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

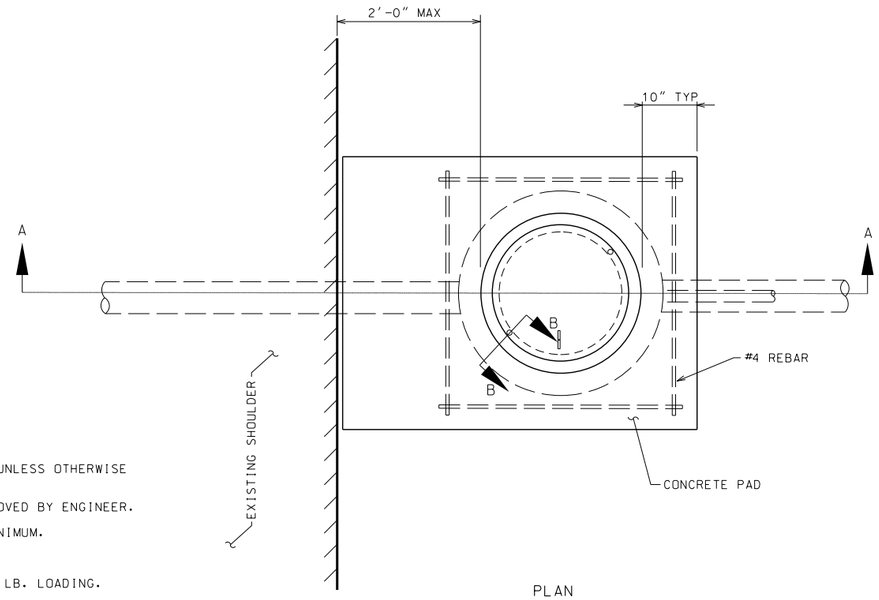
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4655
Fax: (816) 874-4675
www.trekkdesigngroup.com

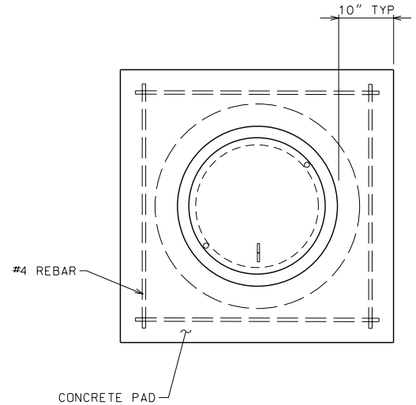
Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



PLAN

PULL BOX ADJACENT TO SHOULDER

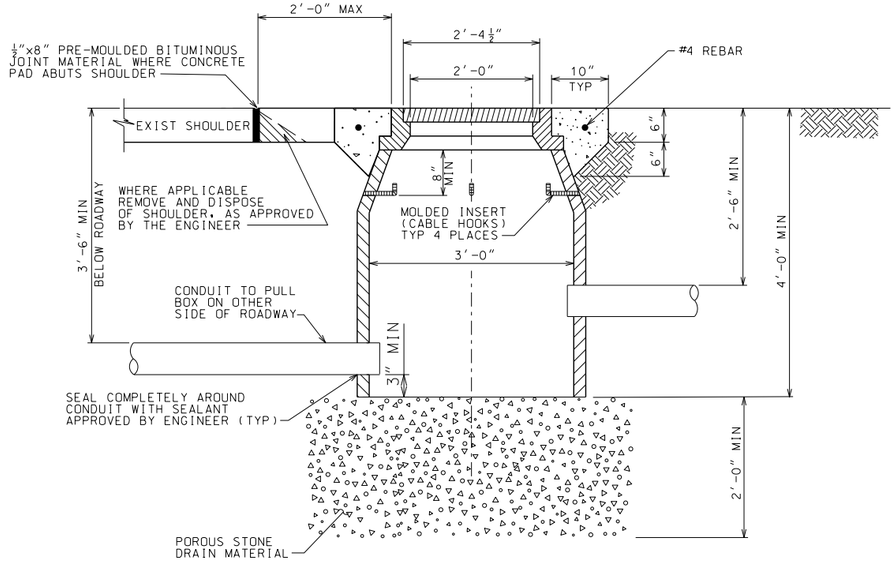


PLAN

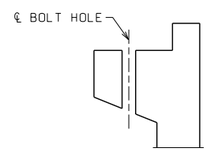
PULL BOX GREATER THAN 2'-0" FROM SHOULDER

NOTES:

1. ALL DIMENSIONS SHOWN ARE NOMINAL, UNLESS OTHERWISE SPECIFIED.
2. BOLT CLEANOUT DETAIL SHALL BE APPROVED BY ENGINEER.
3. ALL CONCRETE SHALL BE 3,000 PSI MINIMUM.
4. LIFT HOLE REQUIRED ON ALL COVERS.
5. COVER SHALL BE A MINIMUM OF 20,000 LB. LOADING.
6. STONE DRAIN MATERIAL SHALL CONFORM TO SECTION 1009 OF THE STANDARD SPECIFICATIONS.
7. LABEL ALL COVERS "KC SCOUT ITS" UNLESS NOTED OTHERWISE ON PLANS.

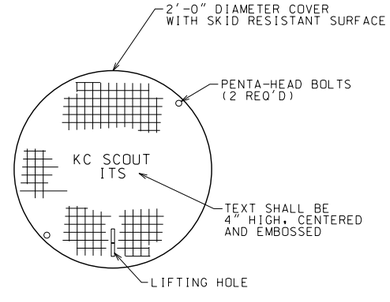


SECTION A-A



SECTION B-B

TYPICAL BOLT CLEANOUT



KC SCOUT COVER

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.

FIBER SPLICE VAULT DETAILS

ITS DETAILS SHEET
SHEET 4 OF 4

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I HEREBY CERTIFY THAT THIS WAS SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	105

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DATE	DESCRIPTION

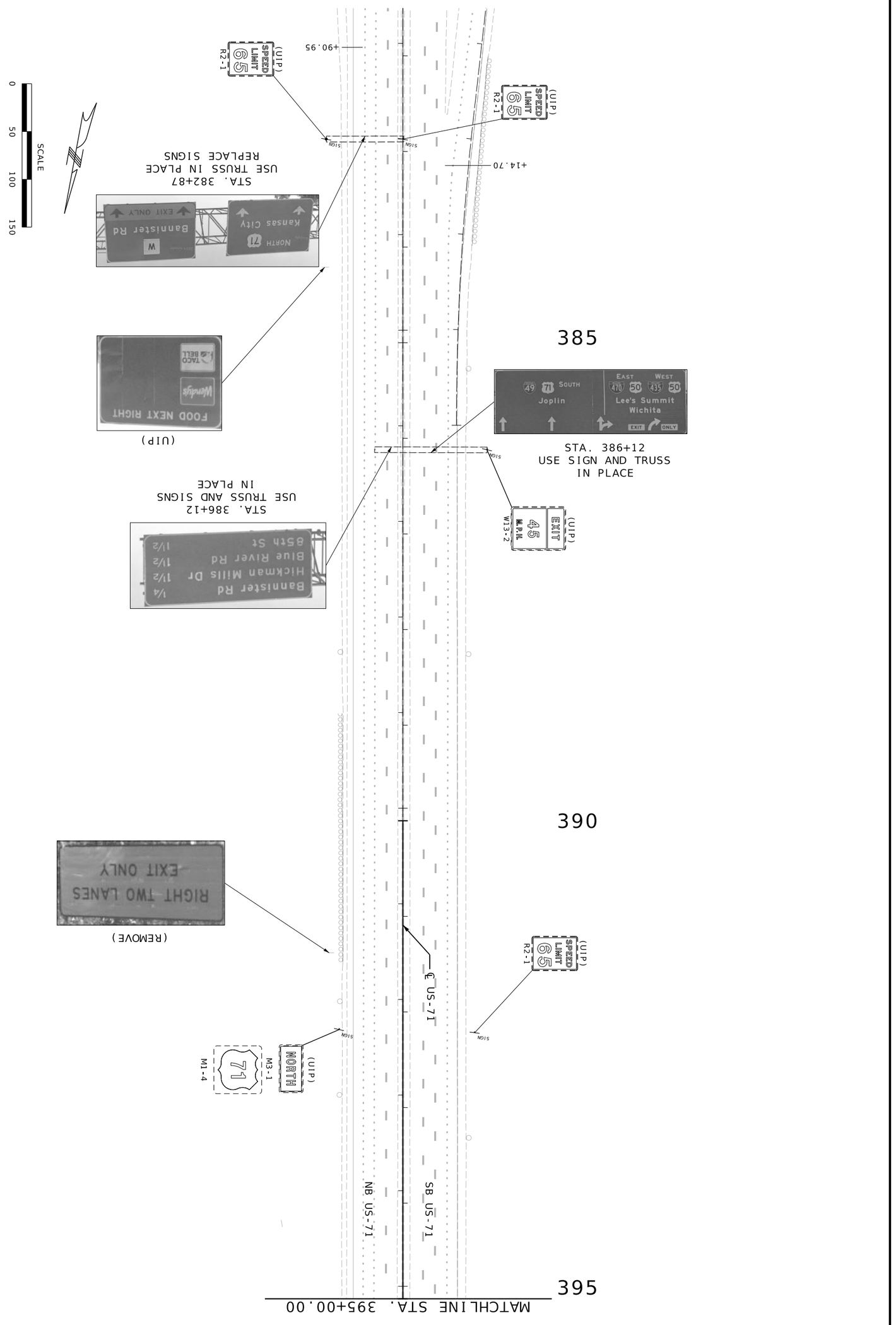
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4855
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



US-71 EXISTING SIGNING
SHEET 1 OF 7

106_SN_01_J453490_150_US71.dgn 9:49:51 AM 10/3/2025

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

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

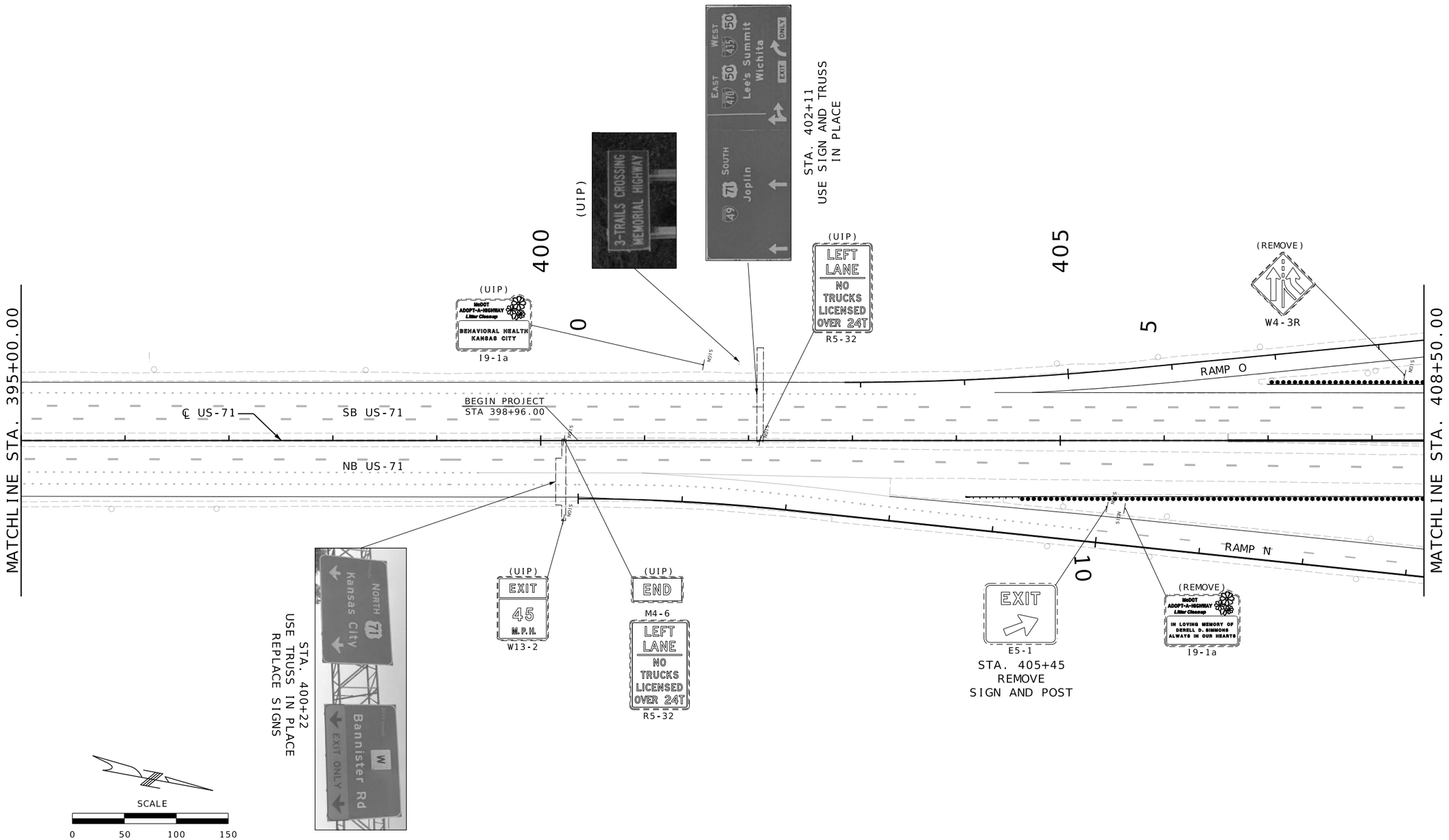
DATE	DESCRIPTION

BRIDGE NO.
PROJECT NO.
CONTRACT ID.
JOB NO. J4S3490
COUNTY JACKSON
DISTRICT KC
SHEET NO. 106
ROUTE 71
STATE MO
DATE PREPARED 10/3/2025

STATE OF MISSOURI
MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

REV.

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



US-71 EXISTING SIGNING
SHEET 2 OF 7

JASON MICHAEL SHAFER
NUMBER PE-2010019596
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	107

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

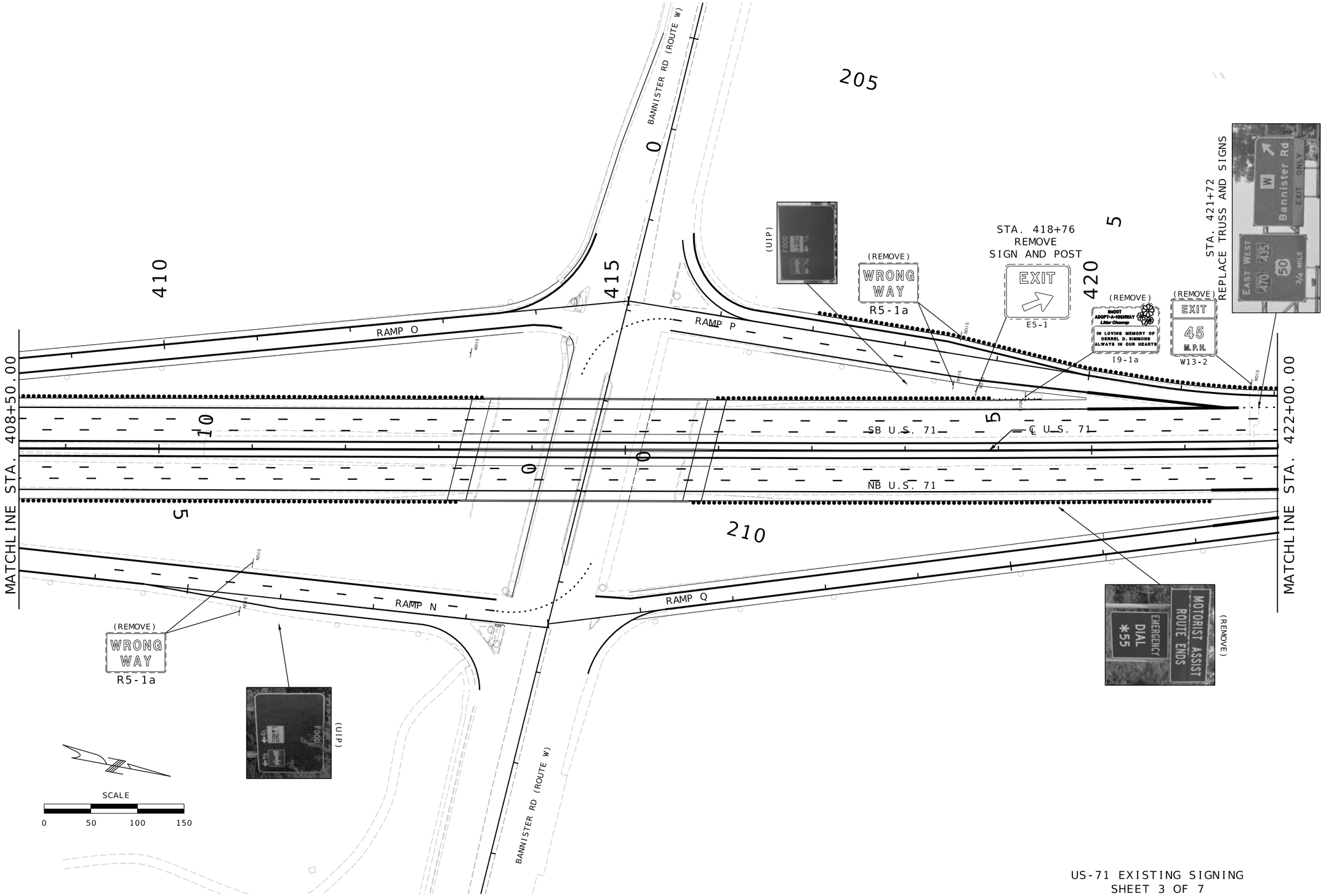
DESCRIPTION	DATE

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



US-71 EXISTING SIGNING
SHEET 3 OF 7

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	108

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

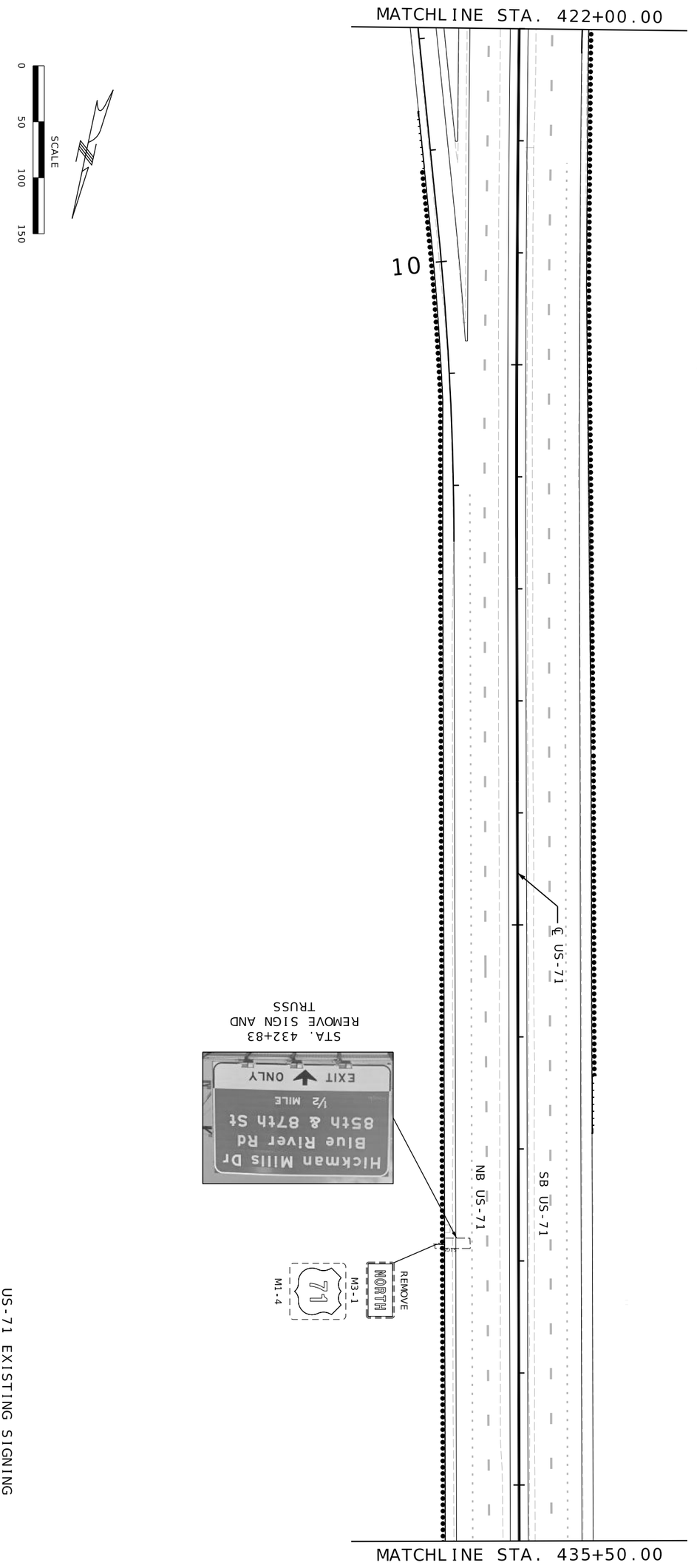
DATE	DESCRIPTION

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



US-71 EXISTING SIGNING
SHEET 4 OF 7

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
MoDOT
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. J4S3490
COUNTY JACKSON
DISTRICT KC
SHEET NO. 109
ROUTE 71
STATE MO
DATE PREPARED 10/3/2025

STATE OF MISSOURI
MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

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

109_SN_04_J4S3490_150_US71.dgn 9:50:00 AM 10/3/2025

MATCHLINE STA. 435+50.00

SCALE
0 50 100 150

NB US-71

SB US-71

440

445

℄ US-71

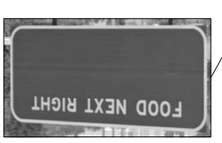
REMOVE
I9-1a
IN LOVING MEMORY OF
DONALD
BERRA JR

(UIP)
SPEED LIMIT 65

(UIP)
SPEED LIMIT 65



STA. 445+72
REPALCE TRUSS AND SIGNS



(UIP)

MATCHLINE STA. 449+00.00

US-71 EXISTING SIGNING
SHEET 5 OF 7

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

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

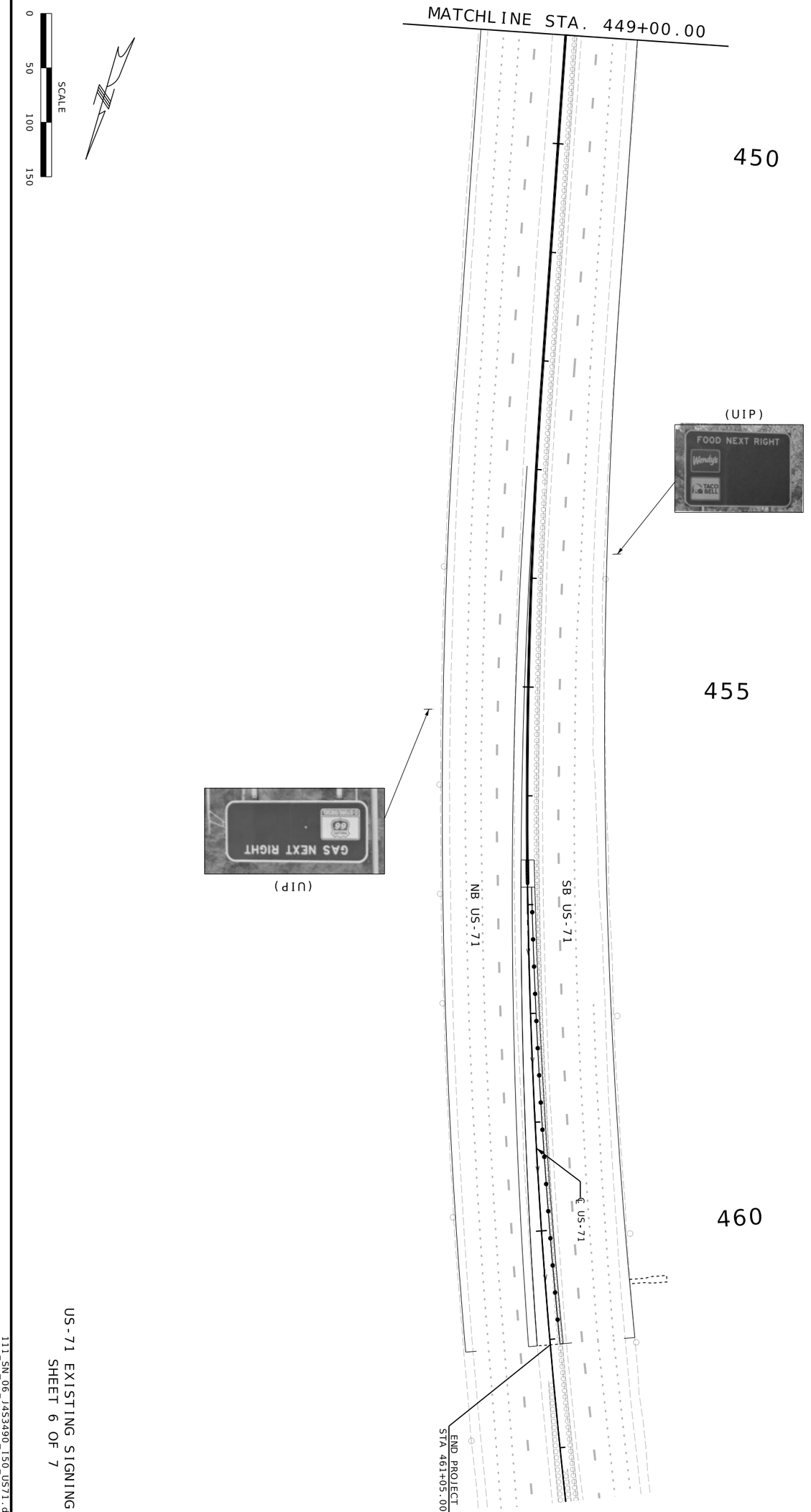
DATE	DESCRIPTION

BRIDGE NO.
PROJECT NO.
CONTRACT ID.
JOB NO. J4S3490
COUNTY JACKSON
DISTRICT KC
SHEET NO. 110
ROUTE 71
STATE MO
DATE PREPARED 10/3/2025

STATE OF MISSOURI
MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

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

110_SN_05_J4S3490_I50_US71.dgn 9:50:02 AM 10/3/2025



US-71 EXISTING SIGNING
SHEET 6 OF 7

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
MoDOT
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. J4S3490
COUNTY JACKSON
DISTRICT KC
SHEET NO. 111
ROUTE 71
STATE MO
DATE PREPARED 10/3/2025

STATE OF MISSOURI
MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

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

111_SN_06_J4S3490_150_US71.dgn 9:50:04 AM 10/3/2025

(UIP) R6-1R
R1-1
R6-3
(UIP) TO M4-5 / SOUTH M3-3 / INTERSTATE 49 M1-1 / M6-1
(UIP) SOUTH M3-3 / 71 M1-4 / M6-1
R6-1 MOUNTED BACK TO BACK WITH R6-1L
R6-1L
R6-1R
(UIP) DO NOT ENTER R5-1
(UIP) W M1-5a / M6-4
(UIP) W12-1
(REMOVE) DO NOT ENTER R5-1
(REMOVE) W M1-5a
(REMOVE) McDOT ADOPT-A-HIGHWAY Litter Cleanup — IN LOVING MEMORY OF TERREL P MORRISON-GETHERS — I9-1a
(REMOVE) YIELD R1-2
(REMOVE) 15 FT 1 IN W12-2a MOUNTED TO EXIST. BRIDGE
(REMOVE) TO M4-5 / SOUTH M3-3 / NORTH M3-1 / INTERSTATE 49 M1-1 / 71 M1-4
(UIP) YIELD R1-2
M5-1L
W16-7P
(UIP) NORTH M3-1 / 71 M1-4 / W1-6
(REMOVE) 15′-1″ W12-2
STA. 218+55.10
RAMP P
RAMP Q
RAMP N
℄ BANNISTER
WB BANNISTER RD (ROUTE W)
EB BANNISTER RD (ROUTE W)
(UIP) DO NOT ENTER R5-1
(REMOVE) STOP R1-1
(REMOVE) TO M4-5 / SOUTH M3-3 / INTERSTATE 49 M1-1 / M5-1R / MORTH M3-1 / SOUTH M3-3
PHOTO ENFORCED R10-18a (REMOVE)
(REMOVE) TO M4-5 / SOUTH M3-3 / INTERSTATE 49 M1-1 / M6-1
(REMOVE) SOUTH M3-3 / 71 M1-4 / M6-1
ONE WAY R6-1L
(REMOVE) W11-2 / W16-7P
UIP YIELD R1-2
(UIP) McDOT ADOPT-A-HIGHWAY Litter Cleanup — IN LOVING MEMORY OF DERELL D. SIMMONS ALWAYS IN OUR HEARTS — I9-1a
(UIP) W M1-5a
(UIP) McDOT ADOPT-A-HIGHWAY Litter Cleanup — CBI FLOORING, LLC HARDWOOD FLOORING PUT IT IN A CAN — I9-1a
(UIP) DO NOT ENTER R5-1
(UIP) W11-2 / W16-7P
(UIP) W4-3R
SB US-71
NB US-71
SIGN
NDIS

SCALE
0 50 100 150

BANNISTER ROAD EXISTING SIGNING
SHEET 7 OF 7

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I HEREBY CERTIFY THAT THIS WAS SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	112

COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

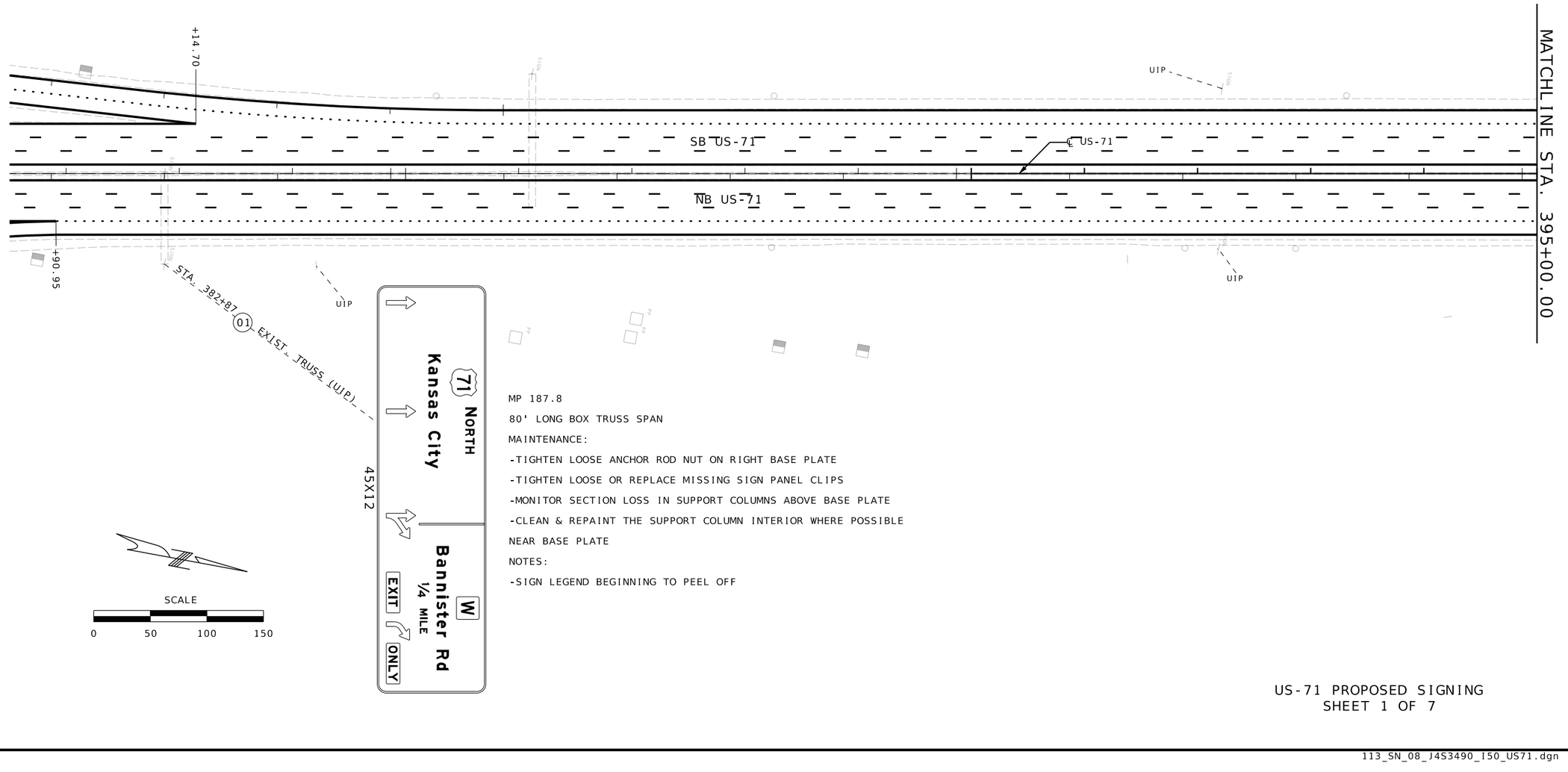
DATE	DESCRIPTION

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300
TREKK DESIGN GROUP, LLC

-BRUSH AROUND RIGHT SUPPORT BLOCKING AUX SIGN



MP 187.8

80' LONG BOX TRUSS SPAN

MAINTENANCE:

-TIGHTEN LOOSE ANCHOR ROD NUT ON RIGHT BASE PLATE

-TIGHTEN LOOSE OR REPLACE MISSING SIGN PANEL CLIPS

-MONITOR SECTION LOSS IN SUPPORT COLUMNS ABOVE BASE PLATE

-CLEAN & REPAINT THE SUPPORT COLUMN INTERIOR WHERE POSSIBLE NEAR BASE PLATE

NOTES:

-SIGN LEGEND BEGINNING TO PEEL OFF

US-71 PROPOSED SIGNING
SHEET 1 OF 7

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	113

COUNTY
JACKSON

JOB NO.
J4S3490

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

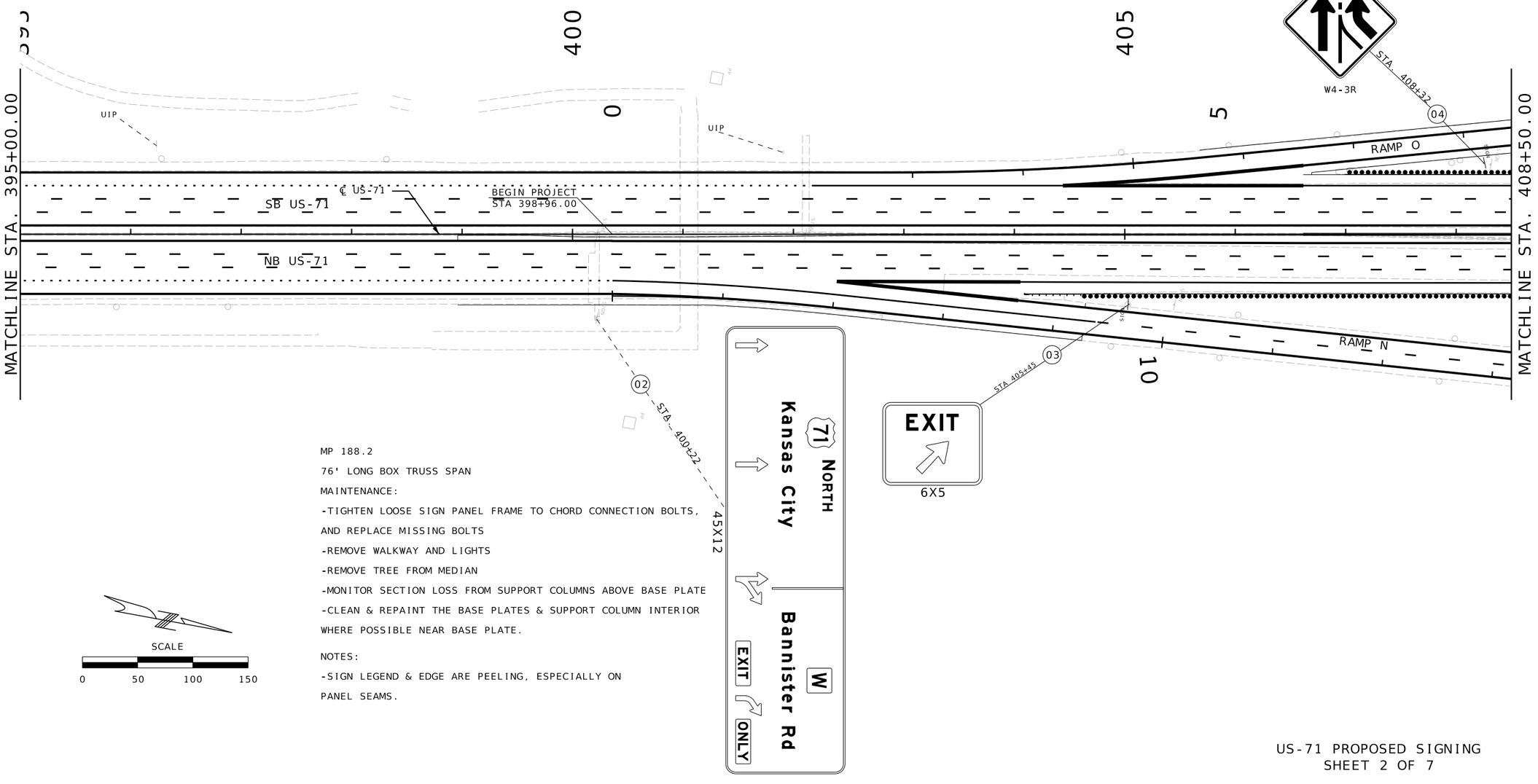
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

REV.



MP 188.2

76' LONG BOX TRUSS SPAN

MAINTENANCE:

-TIGHTEN LOOSE SIGN PANEL FRAME TO CHORD CONNECTION BOLTS, AND REPLACE MISSING BOLTS

-REMOVE WALKWAY AND LIGHTS

-REMOVE TREE FROM MEDIAN

-MONITOR SECTION LOSS FROM SUPPORT COLUMNS ABOVE BASE PLATE

-CLEAN & REPAINT THE BASE PLATES & SUPPORT COLUMN INTERIOR WHERE POSSIBLE NEAR BASE PLATE.

NOTES:

-SIGN LEGEND & EDGE ARE PEELING, ESPECIALLY ON PANEL SEAMS.

US-71 PROPOSED SIGNING
SHEET 2 OF 7

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	114

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREK DESIGN GROUP, LLC

REV.

US-71 PROPOSED SIGNING
SHEET 3 OF 7

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	115

COUNTY
JACKSON

JOB NO.
J4S3490

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)

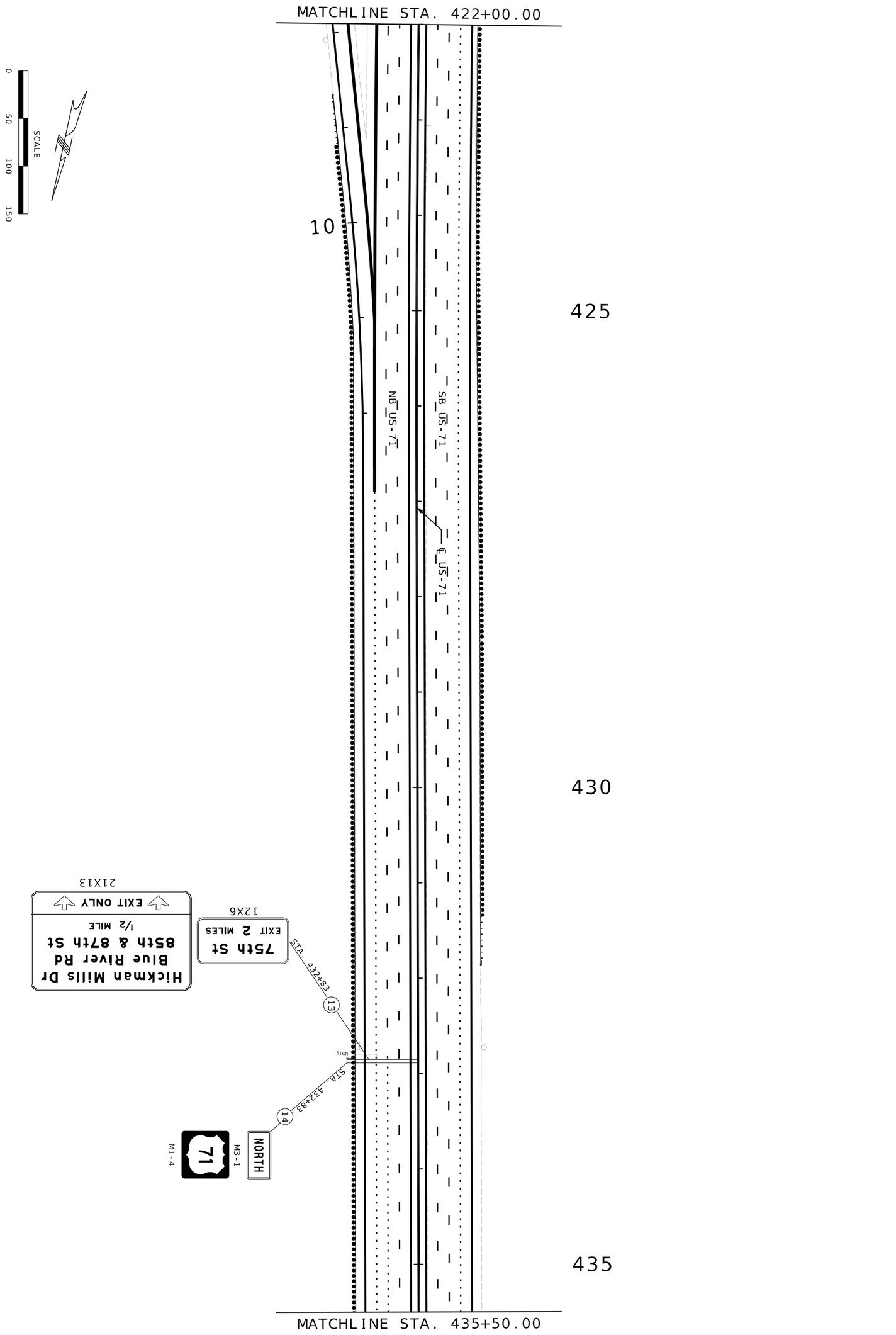
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

REV.

115_SN_10_J4S3490_I50_US71.dgn 9:50:10 AM 10/3/2025



US-71 PROPOSED SIGNING
SHEET 4 OF 7

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

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

DATE	DESCRIPTION

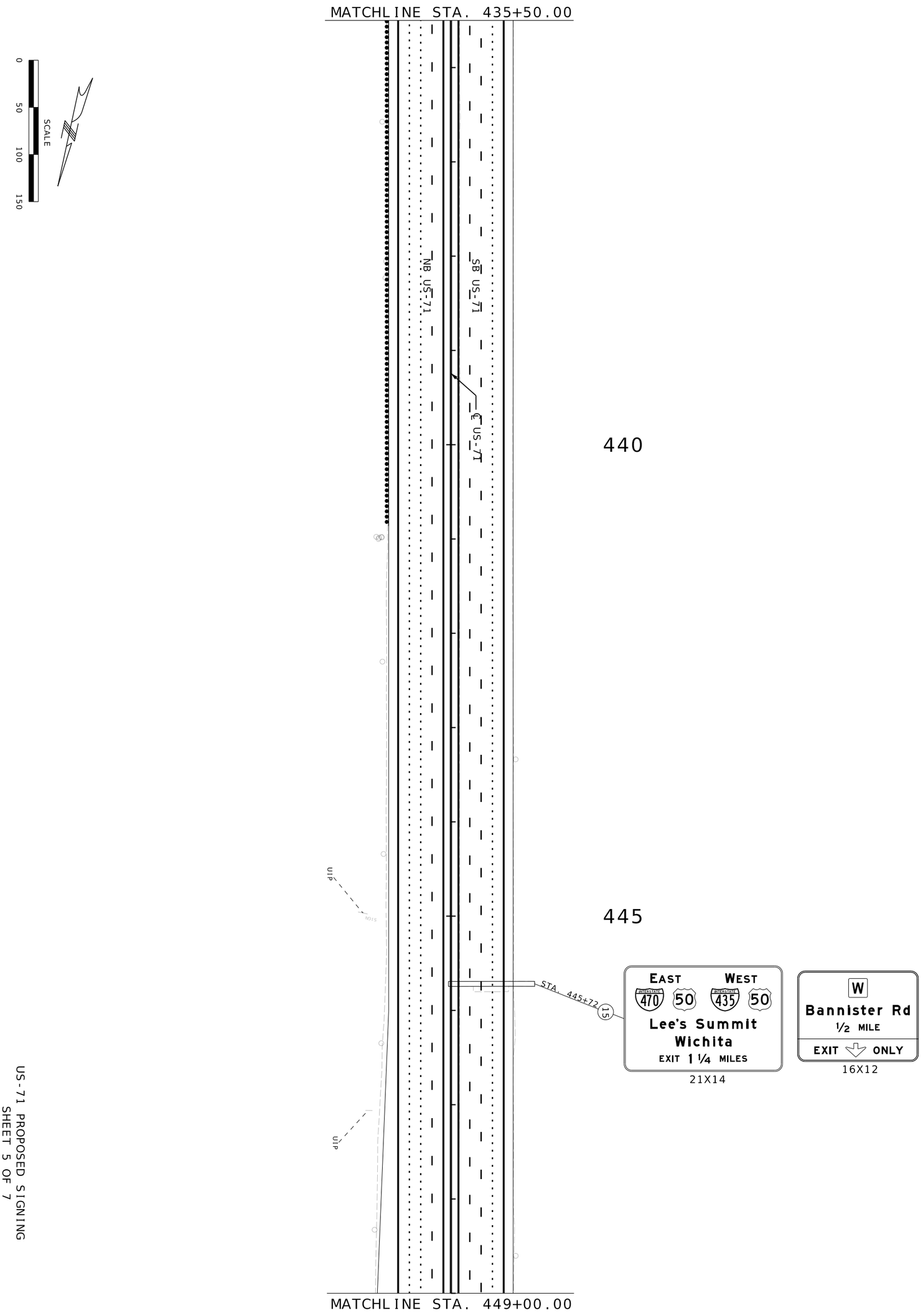
BRIDGE NO.
PROJECT NO.
CONTRACT ID.
JOB NO. J4S3490
COUNTY JACKSON
DISTRICT KC
SHEET NO. 116
ROUTE 71
STATE MO
DATE PREPARED 10/3/2025

STATE OF MISSOURI
MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

REV.

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

116_SN_11_J4S3490_150_US71.dgn 9:50:11 AM 10/3/2025



US-71 PROPOSED SIGNING
SHEET 5 OF 7

117_SN_12_J4S3490_150_US71.dgn 9:50:12 AM 10/3/2025

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

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

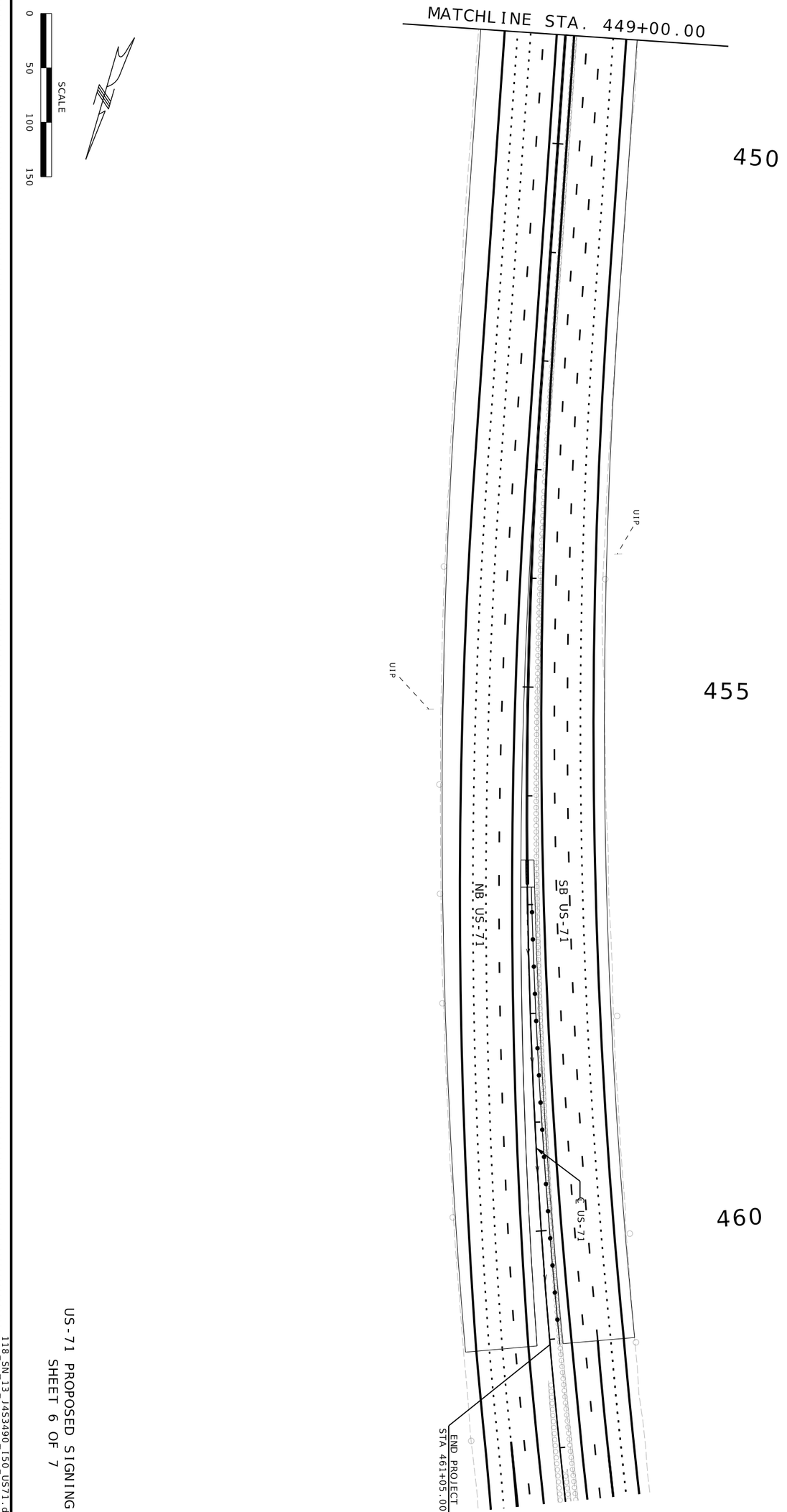
DATE	DESCRIPTION

BRIDGE NO.
PROJECT NO.
CONTRACT ID.
JOB NO. J4S3490
COUNTY JACKSON
DISTRICT KC
SHEET NO. 117
ROUTE 71
STATE MO
DATE PREPARED 10/3/2025

STATE OF MISSOURI
MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

REV.

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



US-71 PROPOSED SIGNING
SHEET 6 OF 7

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

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

DATE	DESCRIPTION

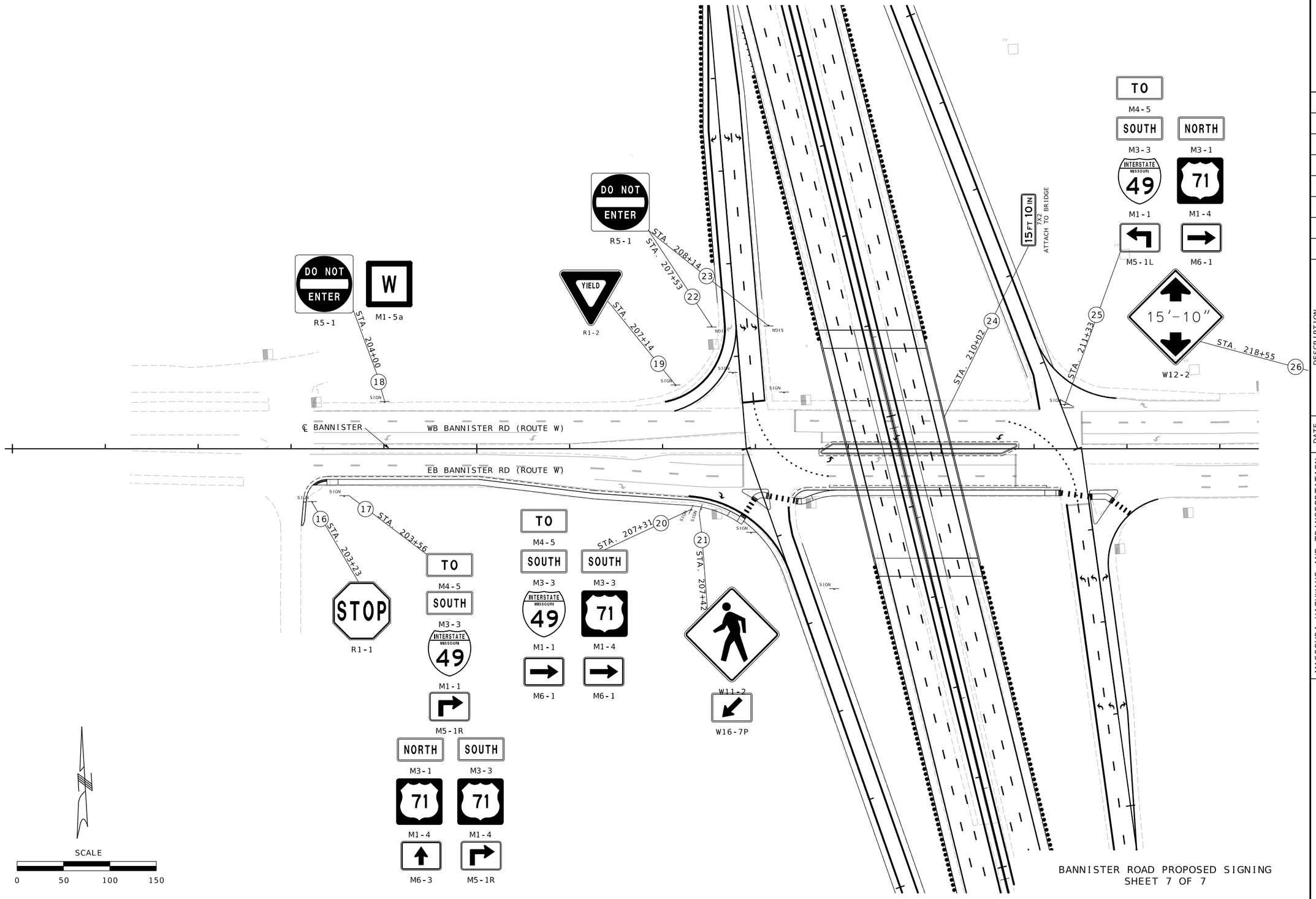
BRIDGE NO.
PROJECT NO.
CONTRACT ID.
JOB NO. J4S3490
COUNTY JACKSON
DISTRICT KC
SHEET NO. 118
ROUTE 71
STATE MO
DATE PREPARED 10/3/2025

STATE OF MISSOURI
MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

REV.

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

118_SN_13_J4S3490_150_US71.dgn 9:50:13 AM 10/3/2025



BANNISTER ROAD PROPOSED SIGNING
SHEET 7 OF 7

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I HEREBY CERTIFY THAT THIS WORK WAS SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	119

COUNTY
JACKSON

JOB NO.
J4S3490

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

SIGNS

902 SIGNAL SIGNS TABULATED ON D-37A SHEET

EFFECTIVE: 07-01-2024

SIGN NO.	SIGN SIZE	STATION OR LOG MILE	HORIZ CLEAR IF NOT STD	LOCATION	SIGN DTL SHT NO.	STRUCTURAL STEEL POSTS* POST DES NO.	POST NO.1 LF	POST NO.2 LF	POST NO.3 LF	LBS PER FT	TOTAL ITEM NO. 9031210 LBS	PIPE POSTS* PIPE SIZE IN	POST NO.1 LF	POST NO.2 LF	LBS PER FT	TOTAL ITEM NO. 9031220 LBS	BACKING BARS** 2" X 3/8" BARS AT 2.55 LBS/FT NO. EACH	LGTH IN.	TOTAL LF	TOTAL LBS	4-INCH SQUARE STEEL POST POST ITEM NO. 9031230 LF	BASE ITEM NO. 9031005 EACH	PERFORATED SQUARE STEEL TUBE 2-INCH POST POST NO.1 LF	POST NO.2 LF	TOTAL ITEM NO. 9031270A LF	ANCHORS DRIVEN 12 GA. ITEM NO. 9031271A EACH	DRIVEN 7 GA. ITEM NO. 9031273A EACH	CONCRETE 7 GA. ITEM NO. 9031274 EACH	2.5-INCH POST POST NO.1 LF	POST NO.2 LF	TOTAL ITEM NO. 9031280 LF	2.25" INSERT (6 FT) ITEM NO. 9031272A EACH	ANCHORS DRIVEN 7 GA. ITEM NO. 9031281A EACH	CONCRETE 7 GA. ITEM NO. 9031285 EACH	BREAK-AWAY ASSEMBLY ITEM NO. 9031241 EACH	REMARKS AND OTHER REQUIRED ITEMS
3	72"X60"	405+45		US-71																	12	1														
4	48"X48"	408+32		US-71																			16		16		1									
5	42"X30"	410+87		US-71																			16	16	32		1									
6	42"X30"	410+97		US-71																			16	16	32		1									
7	42"X30"	418+52		US-71																			16	16	32		1									
8	42"X30"	408+52		US-71																			16	16	32		1									
9	72"X60"	418+76		US-71																	12	1														
10	48"x48"	421+72		US-71																			16		16		1									
11	48"X60"	421+72		US-71																																Mount to Proposed Truss
14	24"X12"	432+83		US-71																																Mount to Proposed Truss
	24"X24"																																			
16	36"X36"	203+23		BANNISTER																			16		16		1									
17	24"X12"	203+23		BANNISTER																										32		32	1		1	1	
	24"X12"																																			
	24"X24"																																			
	21"X15"																																			
	24"X12"																2	50	8	20.40																
	24"X12"																																			
	24"X24"																2	50	8	20.40																
	24"X24"																																			
	21"X15"																2	50	8	20.40																
	21"X15"																																			
18	36"X36"	204+00		BANNISTER																			16		16		1									
	24"X24"																																			
19	48"X48"	270+14		BANNISTER																			16		16		1									
20	24"X12"	207+31		BANNISTER													1	50	4	10.20										32		32	1		1	1	
	24"X12"																2	50	8	20.40																
	24"X12"																																			
	24"X24"																2	50	8	20.40																
	24"X24"																																			
	21"X15"																2	50	8	20.40																
	21"X15"																																			
21	48"X48"	207+42		BANNISTER																										32		32	1		1	1	
	24"X12"																																			
22	36"X36"	207+53		BANNISTER																			16		16		1									
23	36"X36"	208+14		BANNISTER																			16		16		1									
24	84"X24"	210+02		BANNISTER																																Mount to Proposed Bridge
25	24"X12"	211+33		BANNISTER													1	50	4	10.20										16		16	1		1	1	
	24"X12"																2	50	8	20.40																
	24"X12"																																			
	24"X24"																2	50	8	20.40																
	24"X24"																																			
	21"X15"																2	50	8	20.40																
	21"X15"																																			
26	48"X48"	218+55		BANNISTER																					16		1									
SUBTOTAL																	204	24	2				256		12			112	4		4	4			
TOTAL											210						**	24	2				256		12			112	4		4	4			

*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
4	10.79	0.90	5'- 3½"	18"	5~6"	0.36

STRUCTURAL STEEL POST AND FOOTING DATA TABLE

POST DES. NO.	POST NOM. SIZE	POST WEIGHT LBS/FT	POST WEIGHT LBS/IN	POST STUB LENGTH	FOOTING DIA.	LEVEL GROUND DEPTH	LEVEL GROUND C.Y.	6:1 GRADE DEPTH	6:1 GRADE C.Y.	4:1 GRADE DEPTH	4:1 GRADE C.Y.	3:1 OR 2:1 GRADE DEPTH	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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED 11/10/2025

ROUTE 71 | STATE MO
DISTRICT KC | SHEET NO. 120
COUNTY JACKSON
JOB NO. J4S3490
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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

REV.

120_SN_15_J4S3490_I50_D29.dgn 3:32:51 PM 11/10/2025

STANDARD SIGN ASSEMBLIES

SIGN NO.	STATION OR LOG MILE	LOCATION	SIGN, TYPE, DESIGNATION, SIZE & NUMBER OF EACH																			
			R5-1	R1-2	R1-1	W11-2	M5-1L	M5-1R	M6-1	W16-7P	M3-1	M3-3	M4-5	W12-2	R5-1a	W13-2	W4-3R	M1-1	M1-5a	M1-4	M6-3	
			DO NOT ENTER R5-1	YIELD R1-2	STOP R1-1	W11-2	M5-1L	M5-1R	M6-1	W16-7P	NORTH M3-1	SOUTH M3-3	TO M4-5	15'-10" W12-2	WRONG WAY R5-1a	EXIT 45 M.P.H. W13-2	W4-3R	INTERSTATE MISSOURI 49 M1-1	W M1-5a	71 M1-4	M6-3	
4	408+32	US-71															1					
5	410+87	US-71													1							
6	410+97	US-71													1							
7	418+52	US-71													1							
8	418+60	US-71													1							
10	420+92	US-71															1					
11	421+72	US-71														1						
14	432+83	US-71									1									1		
16	203+23	BANNISTER			1																	
17	203+56	BANNISTER						2			1	2	1					1		2	1	
18	204+00	BANNISTER	1																1			
19	207+14	BANNISTER		1																		
20	207+31	BANNISTER							2			2	1					1		1		
21	207+42	BANNISTER				1				1												
22	207+53	BANNISTER	1																			
23	207+53	BANNISTER	1																			
24	210+02	BANNISTER																				
25	211+33	BANNISTER					1			1	1	1	1					1		1		
26	218+55	BANNISTER												1								
		TOTALS	3	1	1	2	1	2	2	3	3	5	3	1	4	1	2	3	1	5	1	

SIGN SUMMARY

EFFECTIVE: 10-01-2016

STANDARD OR SPECIAL SIGN DESIGNATION	SIGN DTL. SHT. NO.	NO. EACH	SIGN SIZE	TYPE & SQUARE FEET			
				FLAT SHEET SH ITEM NO. 9035004A	FLAT SHEET FLUORESCENT SHF* ITEM NO. 9035069A	STRUCTURAL ST ITEM NO. 9035011A	STRUCTURAL FLUORESCENT STF* ITEM NO. 9035071A
R5-1 DO NOT ENTER	STD	3	36"x36"	27.0			
R1-2 YIELD	STD	1	48"X48"	16.0			
R1-1 STOP	STD	1	36"x36"	9.0			
W11-2 PEDESTRIAN CROSS	STD	2	48"X48"		32.0		
M5-1L ADVANCE TURN ARROW	STD	1	21"x15"	2.2			
M5-1R ADVANCE TURN ARROW	STD	1	21"x15"	2.2			
M6-1 RIGHT ARROW	STD	2	21"x15"	4.4			
W16-7P RIGHT UP ARROW	STD	3	30"X18"		11.3		
M3-1 NORTH	STD	3	24"X12"	6.0			
M3-3 SOUTH	STD	5	24"X12"	10.0			
M3-3 TO	STD	3	24"X12"	6.0			
W12-2 LOW CLEARENCE	STD	1	48"X48"		16.0		
R5-1a WRONG WAY	STD	4	42"X30"	35.0			
W13-2 ADVISORY EXIT SPEED	STD	1	48"X60"		20.0		
W4-3R MERGE FROM RIGHT	STD	2	48"X48"		32.0		
M1-1 INTERSTATE SHIELD	STD	3	24"X24"	12.0			
M1-5a STATE LETTERED ROUTE SHIELD	STD	1	24'X24"	4.0			
M1-4 US NUMBERED ROUTE SHIELD	STD	5	24"X24"	20.0			
GROUND MOUNT SIGN 03 & 09		2	72"X60"			60.0	
BRIDGE MOUNT SIGN 23		1	84"X24"				14.0
TOTALS				153.8	111.3	60.0	14.0

*ORANGE, YELLOW AND YELLOW-GREEN

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM DULY LICENSED UNDER THE LAWS OF THE STATE OF MISSOURI
SIGNED AND DATED ELECTRONICALLY

DATE PREPARED: 10/31/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	121

COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

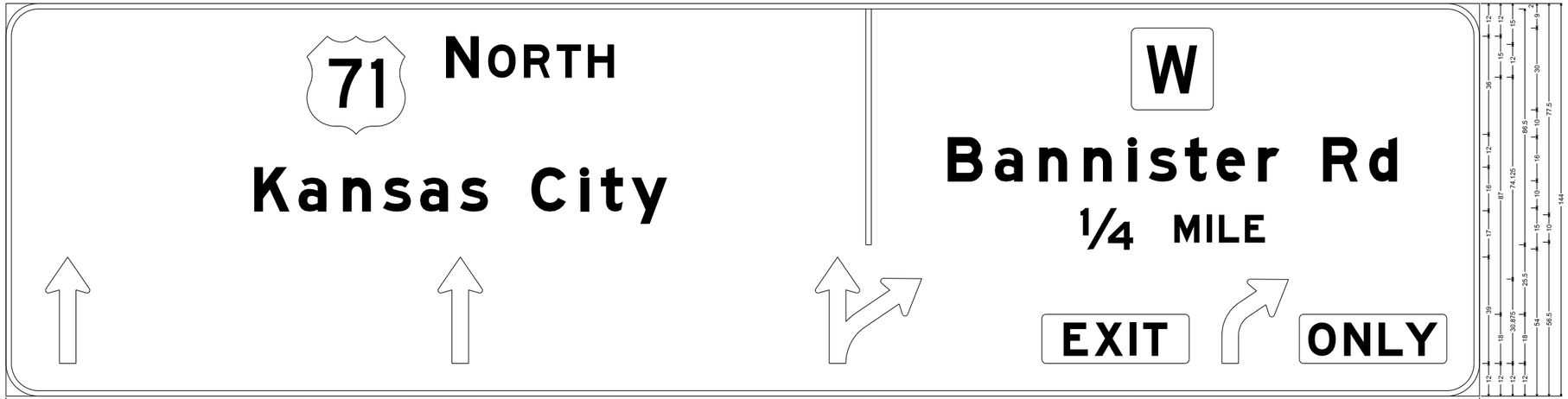
REV.	DESCRIPTION	DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

121_SN_16_J4S3490_I50_D30.dgn 11:26:22 AM 10/31/2025

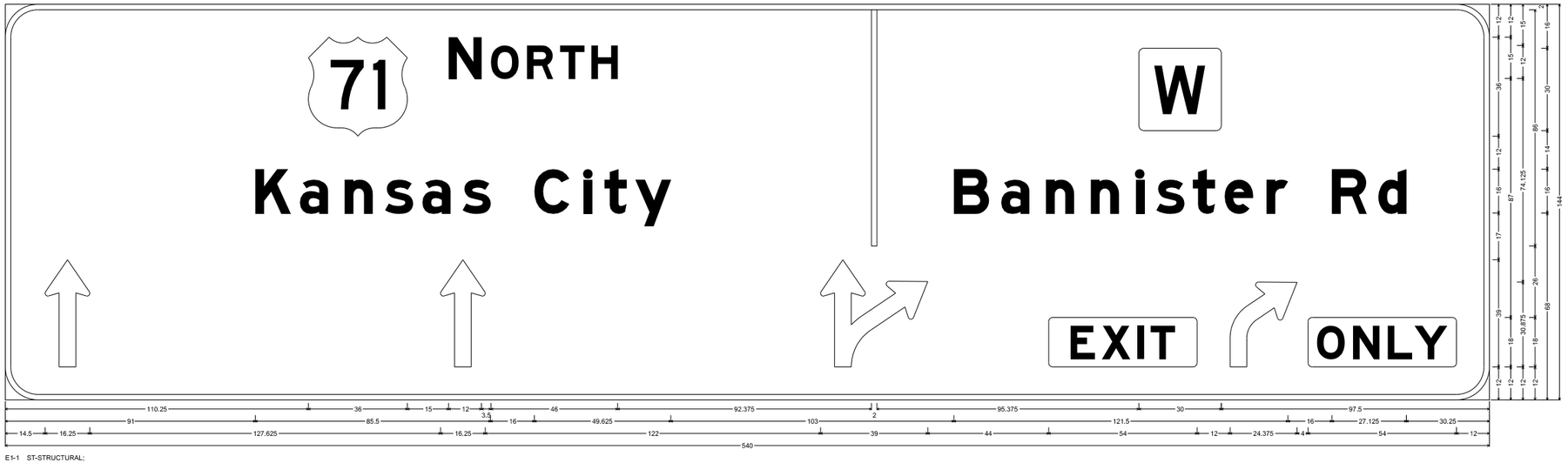
SIGN NO.	01
STATION	382+87
ROADWAY	US-71



E1-1 ST-STRUCTURAL;
12.000" Radius, 2.000" Border, White on, Green;
" ", E Mod; " ", E Mod; "NORTH", E Mod; "Kansas City", E Mod; " ", E Mod; Rounded Rectangle 1.875" Radius;
"Bannister Rd", E Mod; "¼", E Mod; "MILE", E Mod; OH APL Through 16.25x39; OH APL Through 16.25x39; Rounded Rectangle 1.500" Radius Yellow;
Rounded Rectangle 1.500" Radius Yellow;
Table of letter and object lefts

I	315.125	□	412.500																					
0	110.250	N	161.250	O	176.750	R	189.875	T	201.875	H	213.250	B	345.125	a	362.375	n	378.625	n	395.000	I	411.250	s	418.750	t	432.000	e	443.625	r	458.875	R	482.625	d	499.625
K	91.000	a	107.250	n	123.500	s	138.125	a	151.750	s	166.375	C	192.500	I	210.500	t	218.000	y	229.250	¼	393.500	M	428.125	I	440.000	L	444.500	E	454.000				
f	14.500	f	158.375	fe	296.625	▭	379.625	f	445.625	▭	474.000																						

SIGN NO.	02
STATION	400+22
ROADWAY	US-71



E1-1 ST-STRUCTURAL;
12.000" Radius, 2.000" Border, White on, Green;
" ", E Mod; "NORTH", E Mod; "Kansas City", E Mod; " ", E Mod; Rounded Rectangle 1.875" Radius;
"Bannister Rd", E Mod; OH APL Through 16.25x39; OH APL Through 16.25x39; Rounded Rectangle 1.500" Radius Yellow;
Rounded Rectangle 1.500" Radius Yellow;
Table of letter and object lefts

0	110.250	N	161.250	O	176.750	R	189.875	T	201.875	H	213.250	I	315.125											
K	91.000	a	107.250	n	123.500	s	138.125	a	151.750	s	166.375	C	192.500	I	210.500	t	218.000	y	229.250	□	412.500			
B	345.125	a	362.375	n	378.625	n	395.000	I	411.250	s	418.750	t	432.000	e	443.625	r	458.875	R	482.625	d	499.625			
f	14.500	f	158.375	fe	296.625	▭	379.625	f	445.625	▭	474.000													

D-31

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MISSOURI. IF A SEAL IS PRESENT ON THIS SHEET, IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	122

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

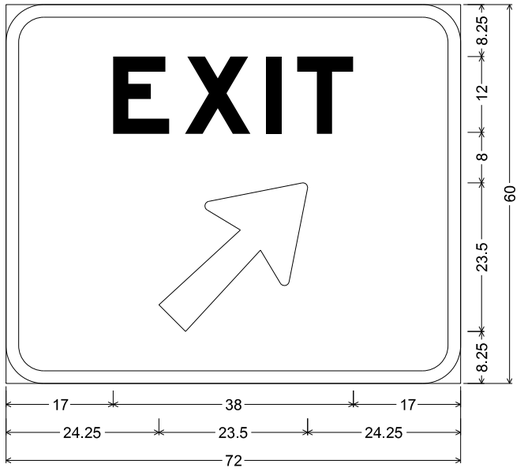
DATE	DESCRIPTION

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4655
Fax: (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

REV

SIGN NO.	03
STATION	405+45
ROADWAY	US-71

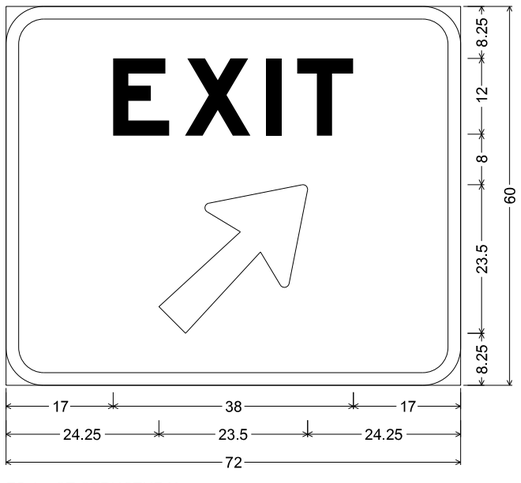


E5-1 ST-STRUCTURAL;
6.000" Radius, 2.000" Border, White on, Green;
"EXIT", E Mod; Arrow 133 - 30.000" 45';
Table of letter and object lefts

E	X	I	T
17.000	28.375	41.250	46.125

⇗
24.250

SIGN NO.	09
STATION	418+76
ROADWAY	US-71

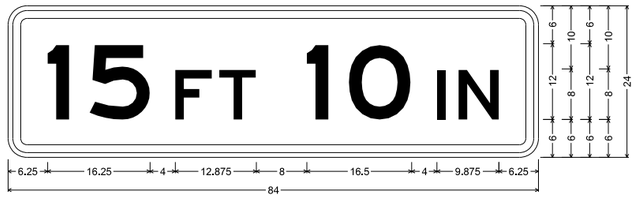


E5-1 ST-STRUCTURAL;
6.000" Radius, 2.000" Border, White on, Green;
"EXIT", E Mod; Arrow 133 - 30.000" 45';
Table of letter and object lefts

E	X	I	T
17.000	28.375	41.250	46.125

⇗
24.250

SIGN NO.	23
STATION	210+02
ROADWAY	ROUTE W



W12-2a SHF-FLAT SHEET FLUORESCENT;
3.000" Radius, 1.250" Border, 0.750" Indent, Black on, Yellow;
"15 FT 10 IN", E;
Table of letter and object lefts

I	S	F	T	I	O	I	N
6.250	12.875	26.500	33.500	47.375	54.000	67.875	71.375

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I F A SEAL JS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	123

COUNTY
JACKSON
JOB NO.
J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

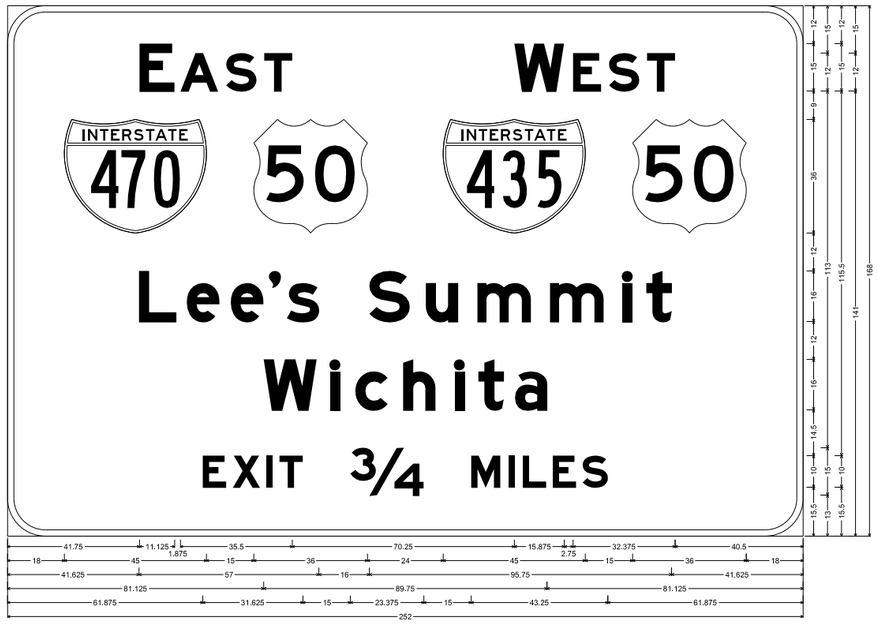
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4655
Fax: (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

REV

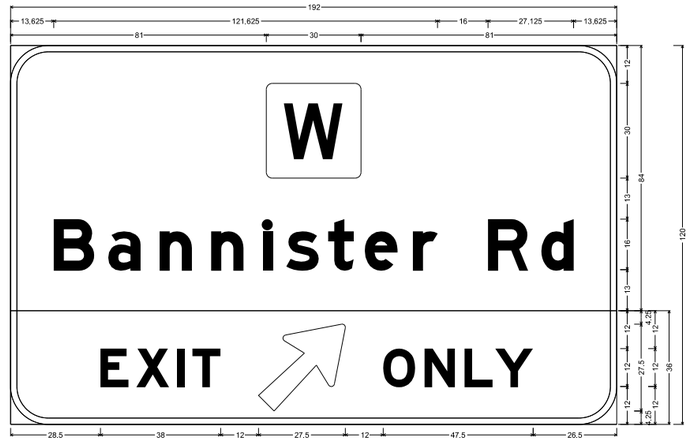
123_SN_18_J4S3490_I50_D31.dgn 9:50:19 AM 10/3/2025

SIGN NO.	12
STATION	421+72
ROADWAY	US-71



E1-1 ST-STRUCTURAL;
12.000" Radius, 2.000" Border, White on, Green;
"EAST", E Mod; Interstate 470 18.000" B; "WEST", E Mod; Interstate 435 18.000" B; "Lee's Summit", E Mod; "Wichita", E Mod; "EXIT", E Mod: "¾", E Mod; "MILES", E Mod;
Table of letter and object lefts

E 41.750	A 54.750	S 69.250	T 81.250	W 160.500	E 179.125	S 190.500	T 202.500	
18.000	78.000	138.000	198.000					
L 41.625	e 56.750	e 70.750	' 83.125	s 88.500	S 114.625	u 132.500	m 148.875	m 171.875	l 194.875	t 202.375
W 81.125	i 102.250	c 110.125	h 125.375	i 141.625	t 149.125	a 160.750				
E 61.875	X 71.375	I 82.125	T 96.125	¾ 108.500	M 146.875	I 158.625	L 163.250	E 172.750	S 162.125	



E1-1 ST-STRUCTURAL;
12.000" Radius, 2.000" Border, White on, Green;
Rounded Rectangle 1.875" Radius;
"Bannister Rd", E Mod;

STF-STRUCTURAL FLUORESCENT;
12.000" Radius, 2.000" Border, Black on, Yellow;
"EXIT", E Mod; Arrow 160 - 35.000" 45°; "ONLY", E Mod;
Table of letter and object lefts

81.000										
B 13.625	a 30.875	n 47.250	n 63.500	l 79.875	s 87.375	t 100.625	e 112.250	r 127.375	R 151.250	d 168.125
E 28.500	X 39.875	I 52.750	T 57.625	R 78.500	O 118.000	N 131.125	L 143.750	Y 153.500		

I.F.A. SEAL, J.S. PRESENT ON THIS SHEET. IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM AUTHORIZED TO SEAL AND SIGN THIS DOCUMENT
SIGNED AND DATED ELECTRONICALLY

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	124

COUNTY
JACKSON

JOB NO.
J4S3490

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)

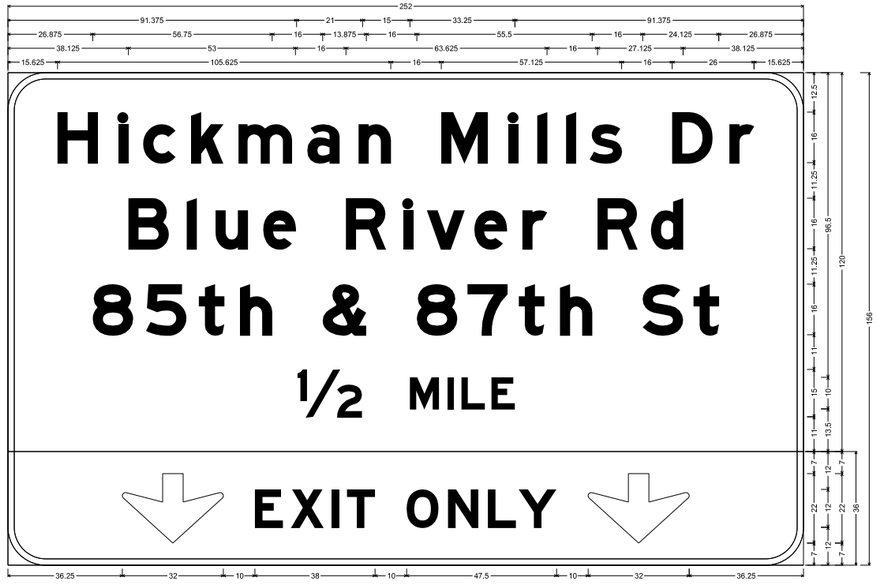
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

REV.

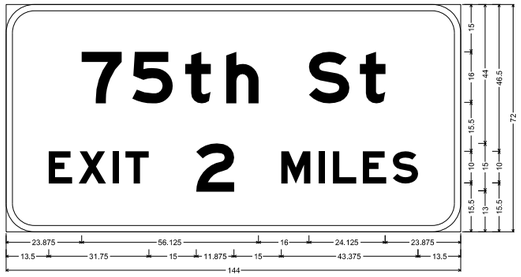
SIGN NO.	13
STATION	432+83
ROADWAY	US-71



E1-1 ST-STRUCTURAL;
12.000" Radius, 2.000" Border, White on, Green;
"Hickman Mills Dr", E Mod; "Blue River Rd", E Mod; "85th & 87th St", E Mod; "½", E Mod; "MILE", E Mod;

STF-STRUCTURAL FLUORESCENT:
12.000" Radius, 2.000" Border, Black on, Yellow;
Down Arrow 22.000" 270; "EXIT ONLY", E Mod; Down Arrow 22.000" 270;
Table of letter and object lefts

H	I	c	k	m	a	n	M	I	I	l	l	s	D	r	
15.625	34.875	42.875	58.000	73.000	94.750	111.125	137.250	158.500	167.625	176.750	184.250	210.375	228.500		
B	I	u	e	R	I	v	e	r	R	d					
38.125	56.625	65.750	80.875	107.125	125.125	132.625	147.750	163.000	186.750	203.625					
8	5	t	h	&	8	7	t	h	S	t					
26.875	43.750	60.500	73.500	99.625	129.500	145.625	161.875	174.875	201.000	217.125					
½	M	I	L	E											
91.375	127.375	139.125	143.625	153.125											
⇩	E	X	I	T	O	N	L	Y	⇩						
36.250	78.250	89.625	102.500	107.375	126.250	139.375	152.000	161.750	183.750						



E1-1 ST-STRUCTURAL;
9.000" Radius, 2.000" Border, White on, Green;
"75th St", E Mod; "EXIT", E Mod; "2", E Mod; "MILES", E Mod;
Table of letter and object lefts

7	5	t	h	S	t						
23.875	40.000	56.750	69.750	96.000	112.125						
E	X	I	T	2	M	I	L	E	S		
13.500	23.000	33.750	37.750	60.250	87.125	99.000	103.500	113.000	122.500		

JASON MICHAEL SHAFER
NUMBER PE-2010019596
STATE OF MISSOURI
PROFESSIONAL ENGINEER
I'M GETTING MY SEAL. SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	125

COUNTY
JACKSON

JOB NO.
J4S3490

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)

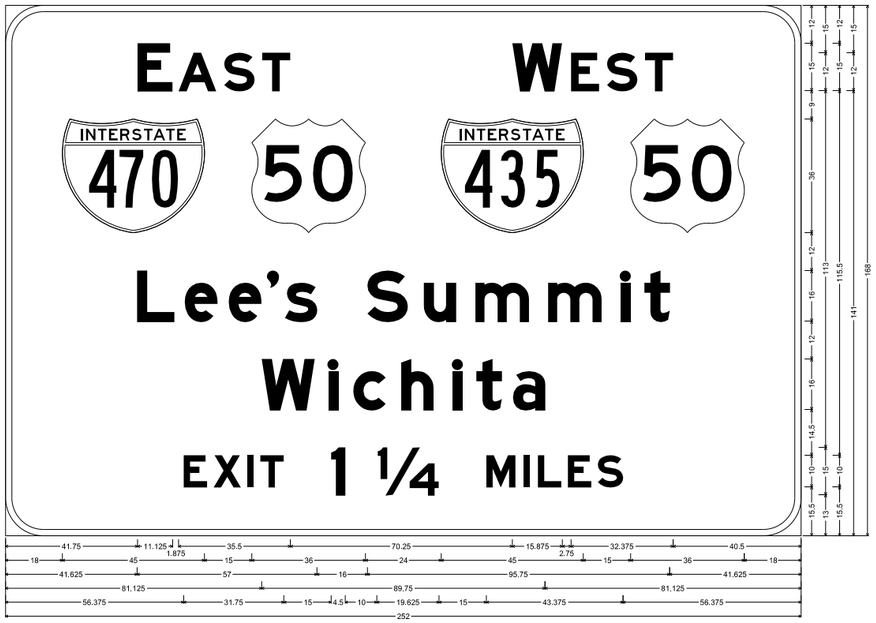
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

REV.

SIGN NO.	15
STATION	445+72
ROADWAY	US-71



E1-1 ST-STRUCTURAL;
12.000" Radius, 2.000" Border, White on, Green;
"EAST", E Mod; Interstate 470 18.000" B; "WEST", E Mod; Interstate 435 18.000" B; "Lee's Summit", E Mod; "Wichita", E Mod; "EXIT", E Mod; "1 ¼", E Mod; "MILES", E Mod;
Table of letter and object lefts

E 41.750	A 54.750	S 69.250	T 81.250	W 160.500	E 179.125	S 190.500	T 202.500	
18.000	78.000	138.000	198.000					
L 41.625	e 56.750	e 70.750	s 83.125	S 88.500	S 114.625	u 132.500	m 148.875	m 171.875	l 194.875	t 202.375
W 81.125	i 102.250	c 110.125	h 125.375	l 141.625	t 149.125	a 160.750				
E 56.375	X 65.875	I 76.625	T 80.750	I 103.125	¼ 117.625	M 152.250	I 164.125	L 168.625	E 178.125	S 187.625



E1-1 ST-STRUCTURAL;
12.000" Radius, 2.000" Border, White on, Green;
Rounded Rectangle 1.875" Radius;
"Bannister Rd", E Mod; "½", E Mod; "MILE", E Mod;

STF-STRUCTURAL FLUORESCENT;
12.000" Radius, 2.000" Border, Black on, Yellow;
"EXIT", E Mod; Down Arrow 22.000" 270°; "ONLY", E Mod;
Table of letter and object lefts

81.000														
B 13.625	a 30.875	n 47.250	n 63.500	l 79.875	s 87.375	t 100.625	e 112.250	r 127.375	R 151.250	d 168.125				
½ 61.375	M 97.375	I 109.125	L 113.625	E 123.125										
E 26.500	X 37.875	I 50.750	T 55.625	76.500	O 120.500	N 133.625	L 146.250	Y 156.000						

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4655
Fax: (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
STATE OF MISSOURI
I, JASON MICHAEL SHAFER, HEREBY CERTIFY THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MISSOURI. I HEREBY CERTIFY THAT THE ATTACHED DOCUMENTS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MISSOURI. SIGNED AND DATED ELECTRONICALLY.

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	126

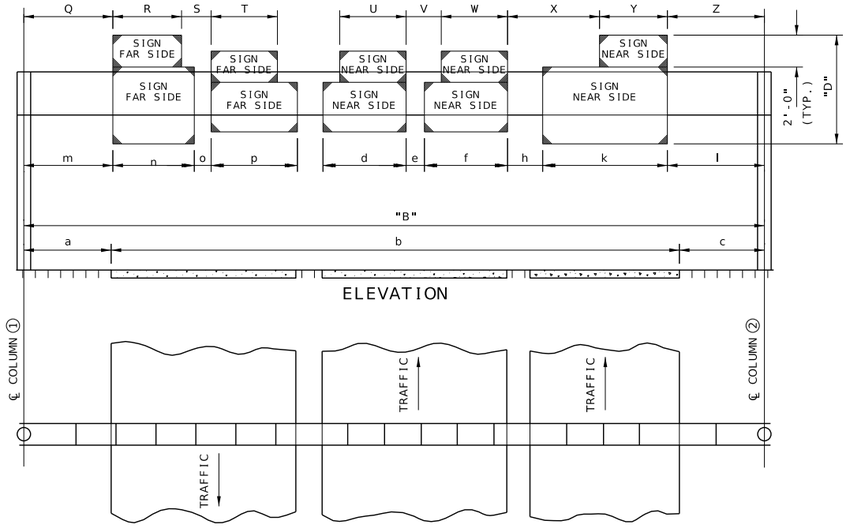
COUNTY
JACKSON
JOB NO.
J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

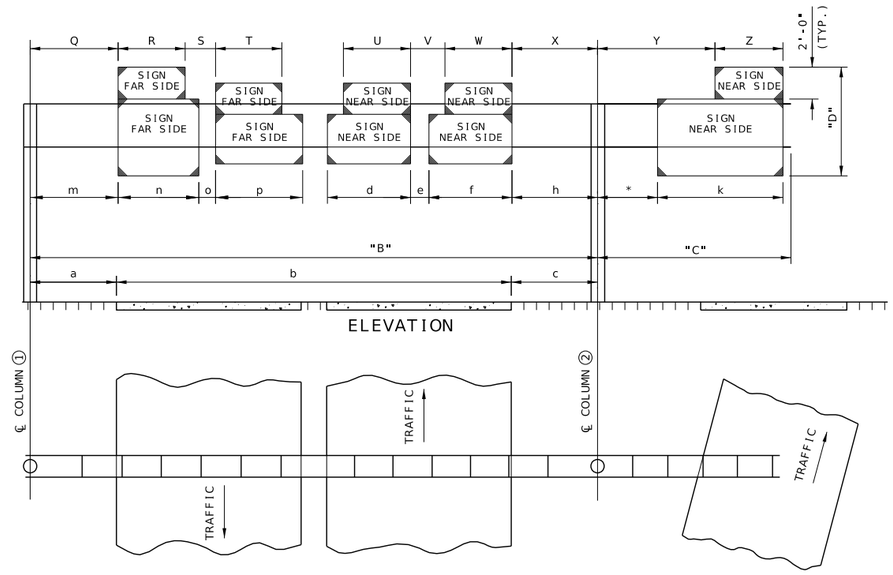
IF A SEAL IS PRESENT ON THIS SHEET, IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.

126_SN_21_J4S3490_I50_D31.dgn 9:50:22 AM 10/3/2025



DIMENSIONS
TYPE 'B' SIGN BRIDGE



DIMENSIONS
TYPE 'BC' SIGN BRIDGE

NOTE: ABOVE MINIMUMS ARE RECOMMENDED DIMENSIONS.

* MINIMUM = 6'-0" WHEN ALUMINUM IS USED.

SIGN BRIDGE DIMENSIONS

SIGN NO.	STATION NUMBER	TRUSS DESCRIPTION					ROADWAY DESCRIPTION			"D"	SIGN SPACING															COLUMN DATA				
					CHORD						NEAR SIDE									FAR SIDE						COLUMN 1		COLUMN 2		CONCRETE FOOTINGS (CU. YD.)
		Type	"B"	"C"	ALUM.	STEEL	a	b	c		d	Ht.	e	f	Ht.	h	k	Ht.	l	m	n	Ht.	o	p	Ht.	H	TYPE	H	TYPE	
01	382+87									12.0							45.0	12.0	23.2	11.9										
02	400+22									12.0							45.0	12.0	19.0	11.9										
12	421+72	D	70.2		X		8.0	48.0	7.3	14.0							16.0	10.0	11.7	15.1	21.0	14.0	6.3			19.3	II	23.6	II	27.2
13	432+83	D	71.3		X		8.0	48.0	15.3	13.0							21.0	13.0	16.8	14.0	12.0	6.0	7.5			18.7	I	19.4	I	24.9
15	445+72	D	79.8		X		8.0	48.0	23.7	14.0							16.0	12.0	21.4	15.5	21.0	14.0	5.7			18.3	II	21.8	II	27.2

SIGN BRIDGE DIMENSIONS

SIGN NO.	STATION NUMBER	TRUSS DESCRIPTION					ROADWAY DESCRIPTION			"D"	SIGN SPACING										
					CHORD						NEAR SIDE							FAR SIDE			
		Type	"B"	"C"	ALUM.	STEEL	a	b	c		U	V	W	X	Y	Z		Q	R	S	T

GENERAL NOTES

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS - 1985 AND LATEST INTERIM.

BASIC ASSUMPTIONS: WIND VELOCITY = 70 mph, WIND PRESSURE ON SIGN AREA = 27 psf, ICE LOAD = 3 psf.

STRUCTURAL ALUMINUM STRESS = 10,000 psi.

STRUCTURAL CARBON STEEL (ASTM A709 GRADE 36) fs = 20,000 psi.

REINFORCING STEEL (GRADE 40) fs= 20,000 psi.

CLASS B CONCRETE fc = 1,200 psi.

ALLOWABLE SOIL PRESSURE = 2,750 psf.

ALLOWABLE UNIT STRESSES DUE TO WIND LOAD OR WIND LOAD IN COMBINATION WITH OTHER FORCES ARE INCREASED 40%.

MINIMUM CLEARANCE: VERTICAL ROADWAY CLEARANCE = 17~6".

MINIMUM CLEARANCE TO REINFORCING SHALL BE 2", UNLESS OTHERWISE SHOWN.

TRUSS SHALL BE ALL WELDED CONSTRUCTION. ALL WELDING TO BE CONTINUOUS UNLESS OTHERWISE SHOWN.

QUALIFICATION OF WELDING OPERATORS WILL BE REQUIRED.

STRUCTURAL STEEL WELDING AND WELDER QUALIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH THE A.W.S. D1.2 BRIDGE WELDING CODE AS AMENDED BY THE MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS ON STRUCTURAL STEEL CONSTRUCTION.

ALUMINUM WELDING AND WELDER QUALIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITION OF A.W.S. D1.2 STRUCTURAL WELDING CODE - ALUMINUM, EXCEPT AS AMENDED BY SECTION 903 OF THE MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

ALL ALUMINUM FILLET WELDS SHALL BE $\frac{3}{16}$" UNLESS OTHERWISE SHOWN.

COATING: ALL COLUMNS SHALL BE GALVANIZED AS PER AASHTO M 111. ALL STRUCTURAL STEEL (EXCEPT THE COLUMNS) SHALL BE CLEANED AND COATED WITH SYSTEM G IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTIONS 712.12 AND 903.3.4. COLOR OF THE FINISHED COAT SHALL BE GRAY.

PAYMENT FOR GALVANIZING, CLEANING AND COATING SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER SIGN TRUSS. ALL THE STRUCTURAL STEEL MAY BE GALVANIZED IN LIEU OF COATING PORTIONS OF THE STEEL MAY BE GALVANIZED WITH THE APPROVAL OF THE ENGINEER.

PERMITS MUST BE OBTAINED FOR ALL TRUCK LOADS OVER LEGAL LENGTH.

OVERHEAD SIGN TRUSSES
STRUCTURAL STEEL OR ALUMINUM

DATA SHEET
(SEE STANDARD 903.10 OR 903.60)

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM NOT USING DIGITAL SIGNATURE. SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 10/3/2025
ROUTE: 71 | STATE: MO
DISTRICT: KC | SHEET NO.: 127
COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

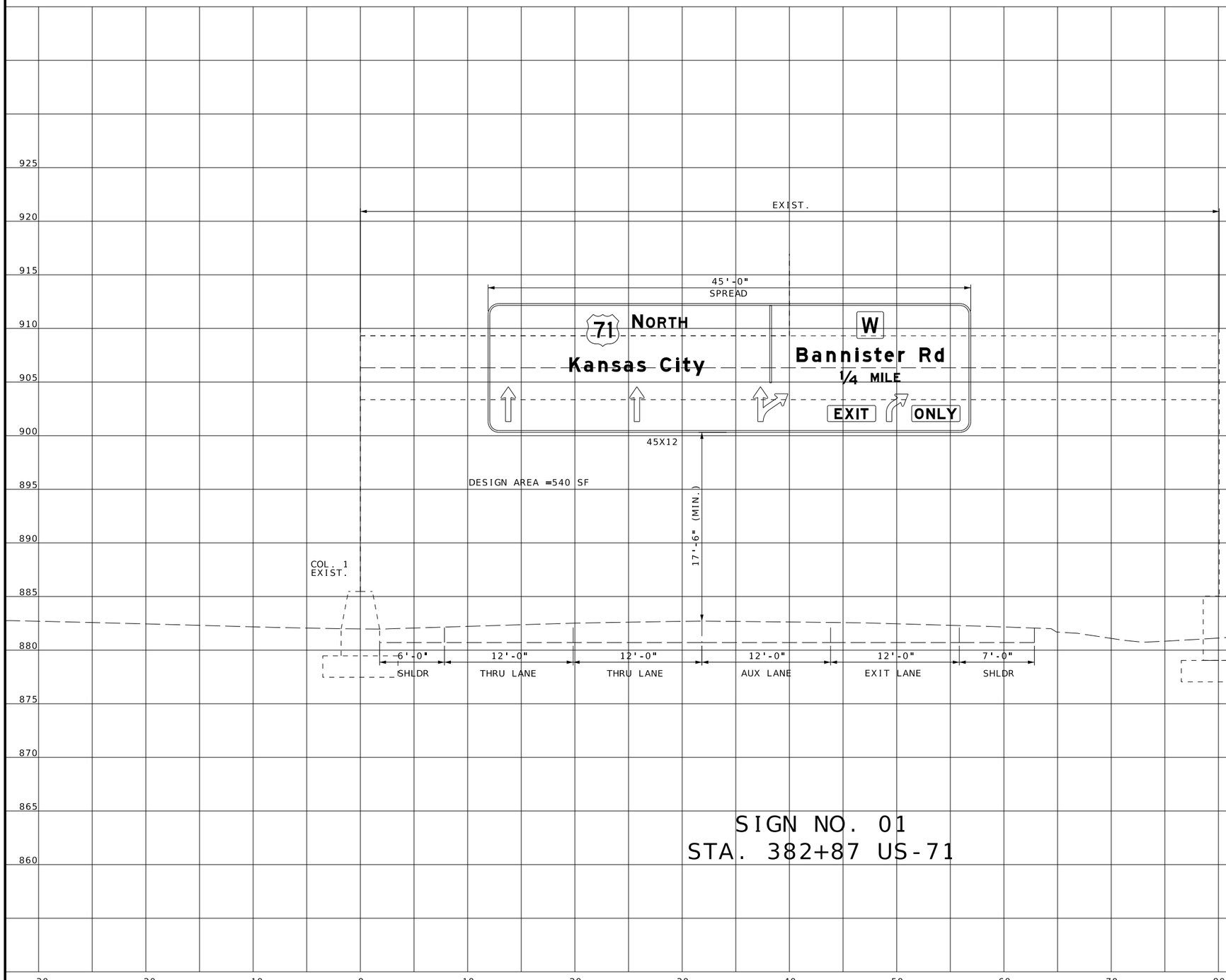
DESCRIPTION | DATE

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)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com
Missouri Cert. of Authority 2002010300
TREK DESIGN GROUP, LLC

REV.



SIGN NO. 01
STA. 382+87 US-71

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
IF A SEAL IS PRESENT ON THIS SHEET, IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	128

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

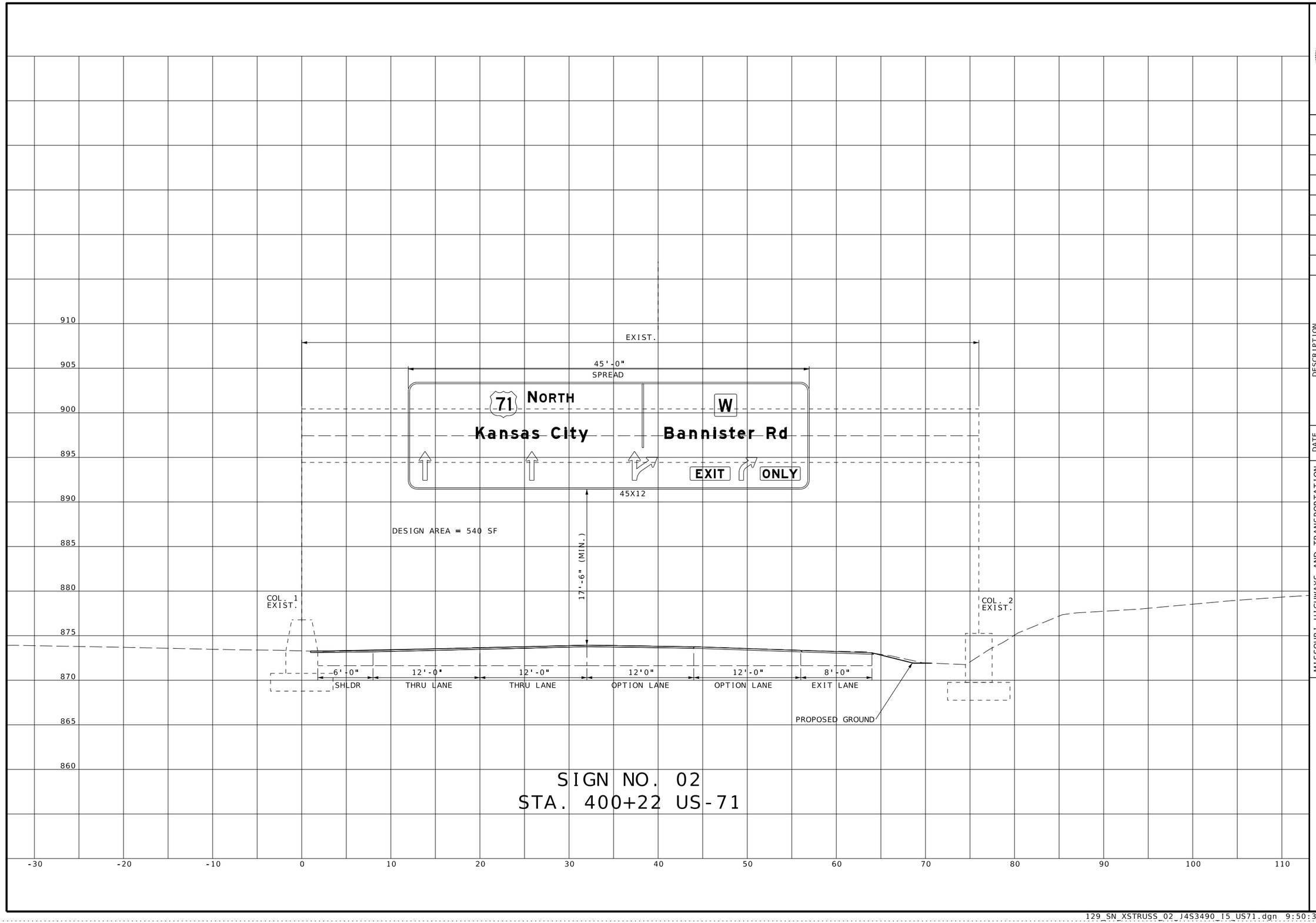
PROJECT NO.

BRIDGE NO.

REV.	DESCRIPTION	DATE

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300
TREKK DESIGN GROUP, LLC



SIGN NO. 02
STA. 400+22 US-71

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	129

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

REV.

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

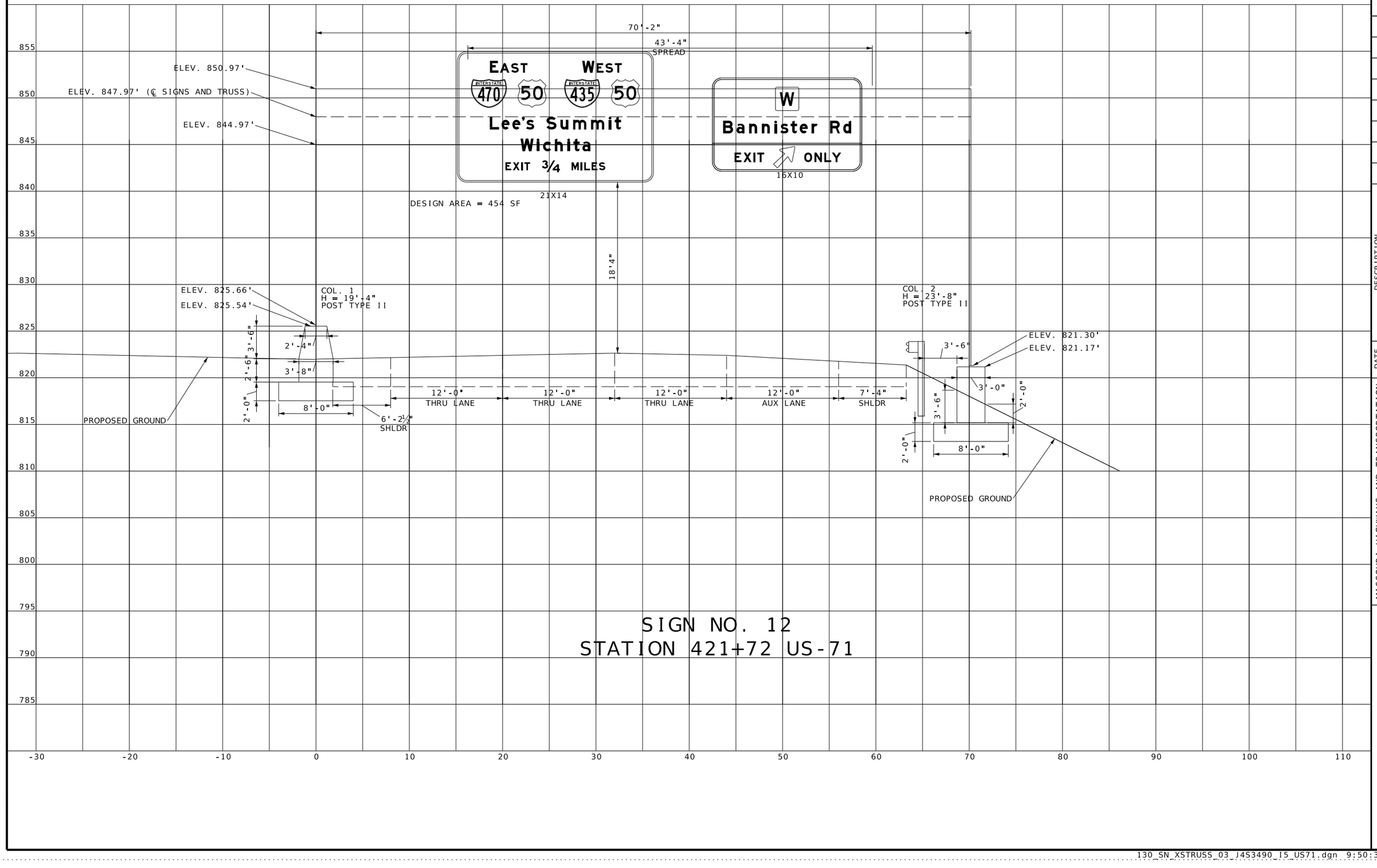
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of
Authority 2002010300

TREKK DESIGN GROUP, LLC



SIGN NO. 12
STATION 421+72 US-71

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	130

COUNTY
JACKSON

JOB NO.
J4S3490

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

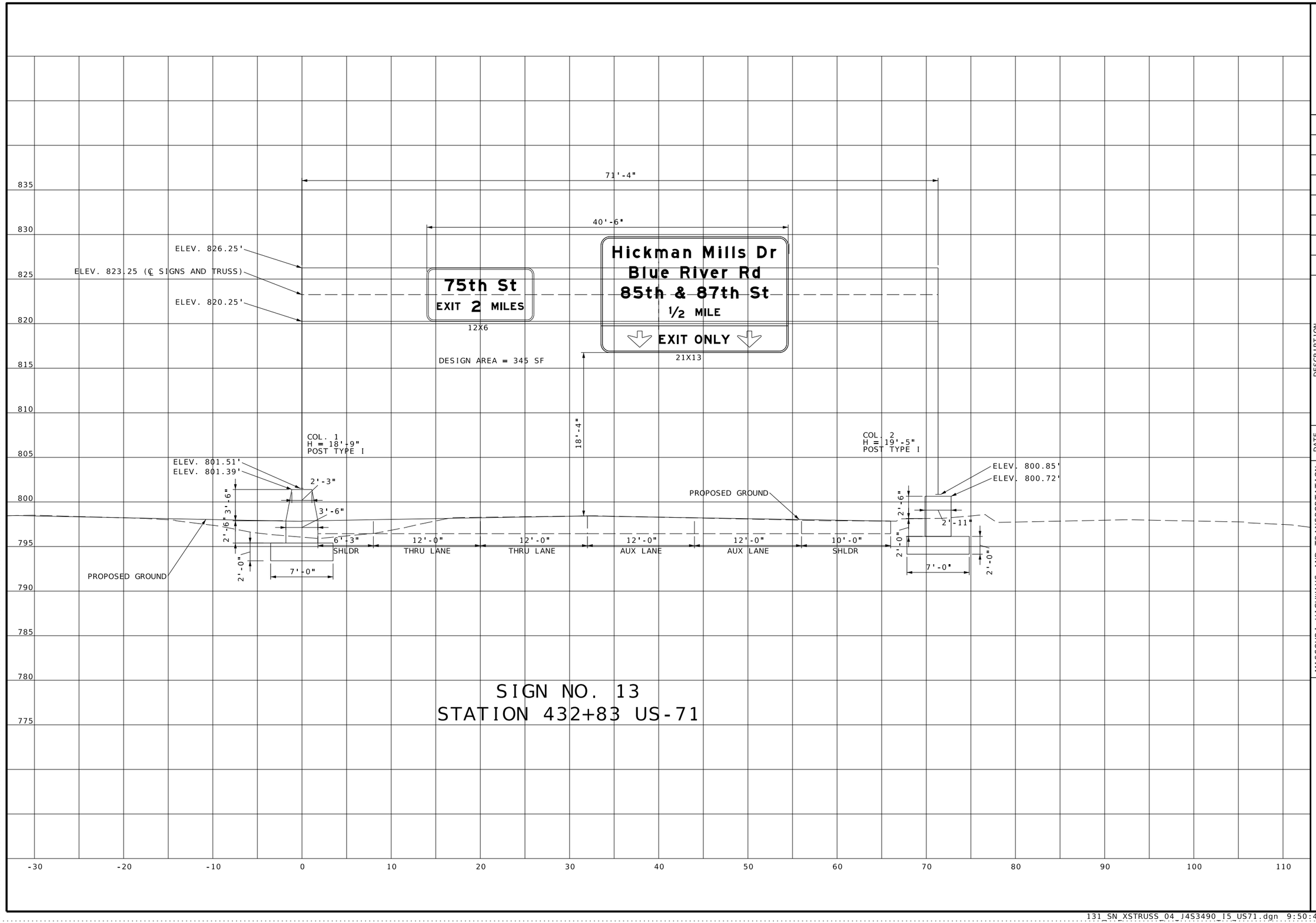
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

REV.



STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM NOT LIABLE FOR ANY UNSEALED, SIGNED AND DATED ELECTRONICALLY.

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	131

COUNTY
JACKSON

JOB NO.
J4S3490

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

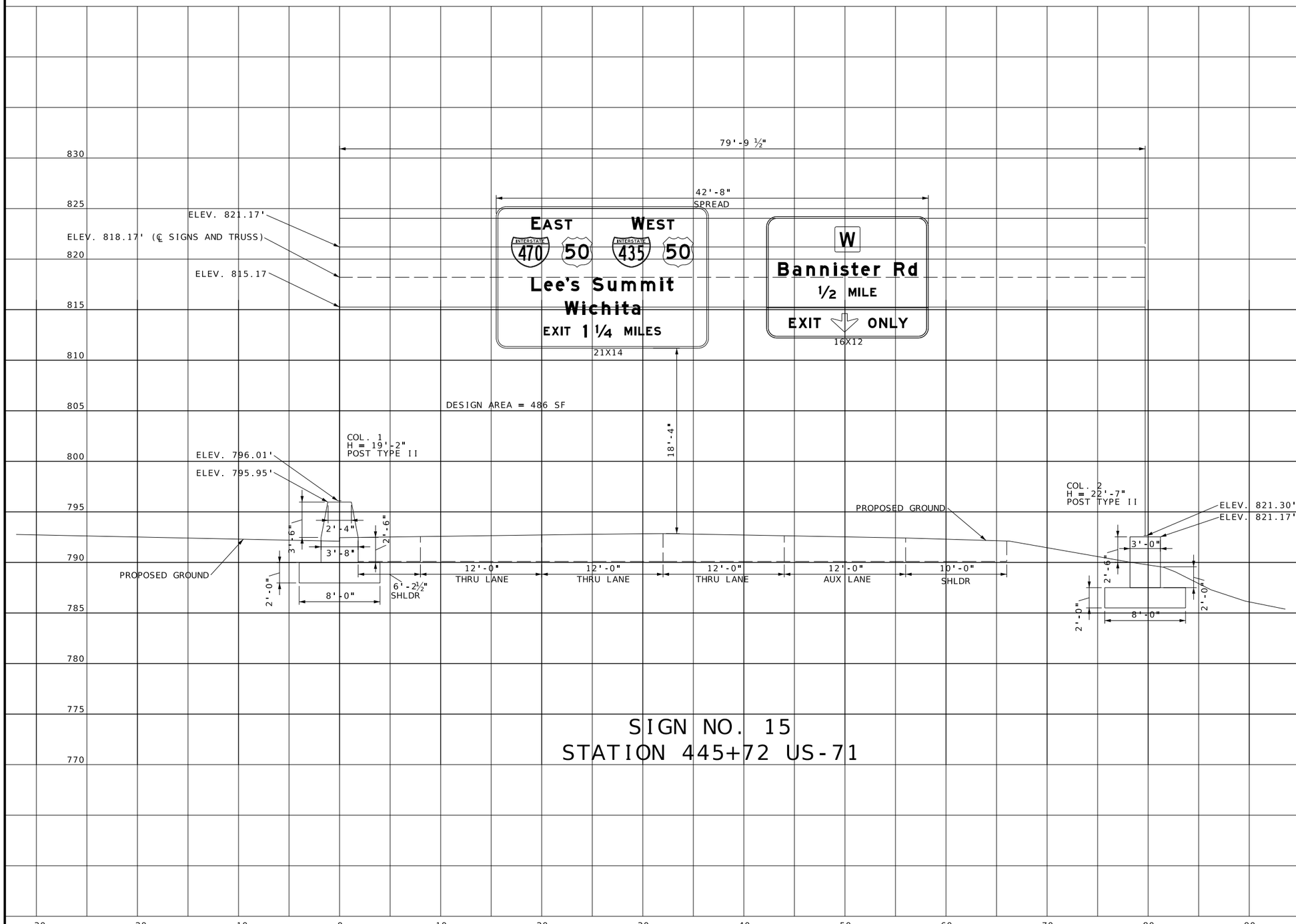
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

REV.



SIGN NO. 15
STATION 445+72 US-71

JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
STATE OF MISSOURI

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	132

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

REV.	DESCRIPTION	DATE

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

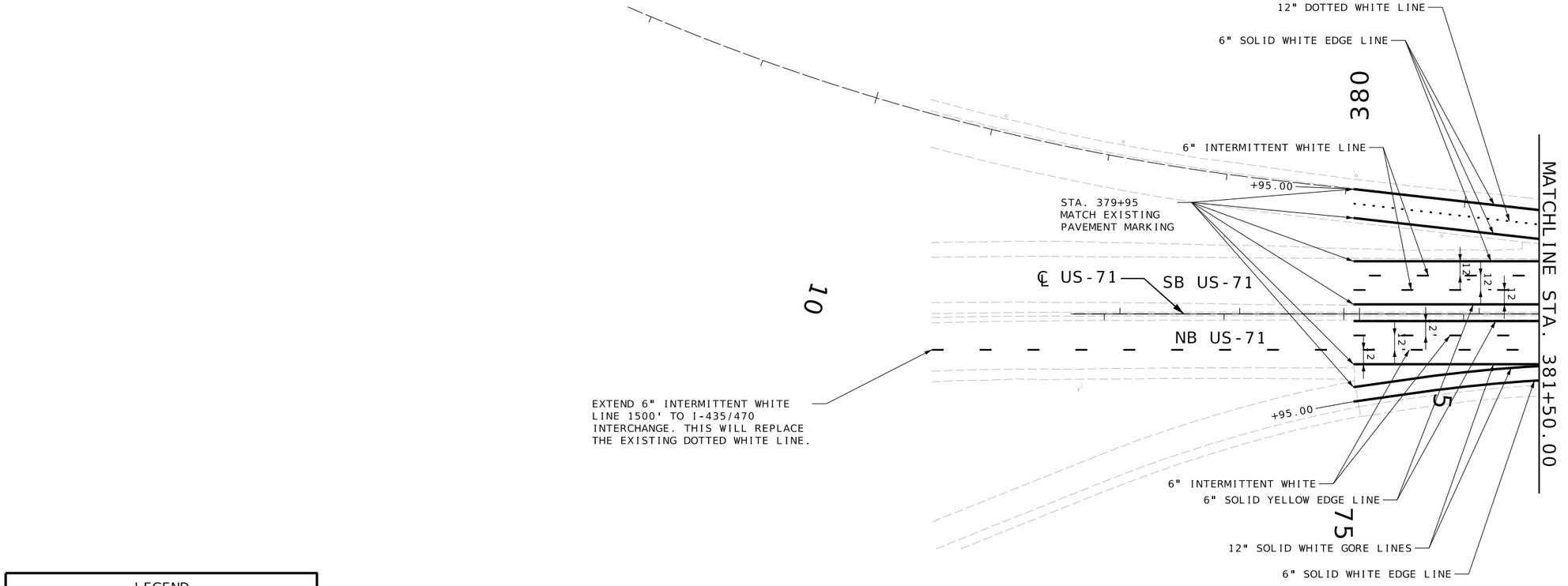
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



LEGEND

— — INTERMITENT 10'/30' GAP

- - - - - - - - - - DOTTED 3'/9' GAP

SCALE

0 50 100 150

US-71 PAVEMENT MARKING
SHEET 1 OF 9

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	133

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

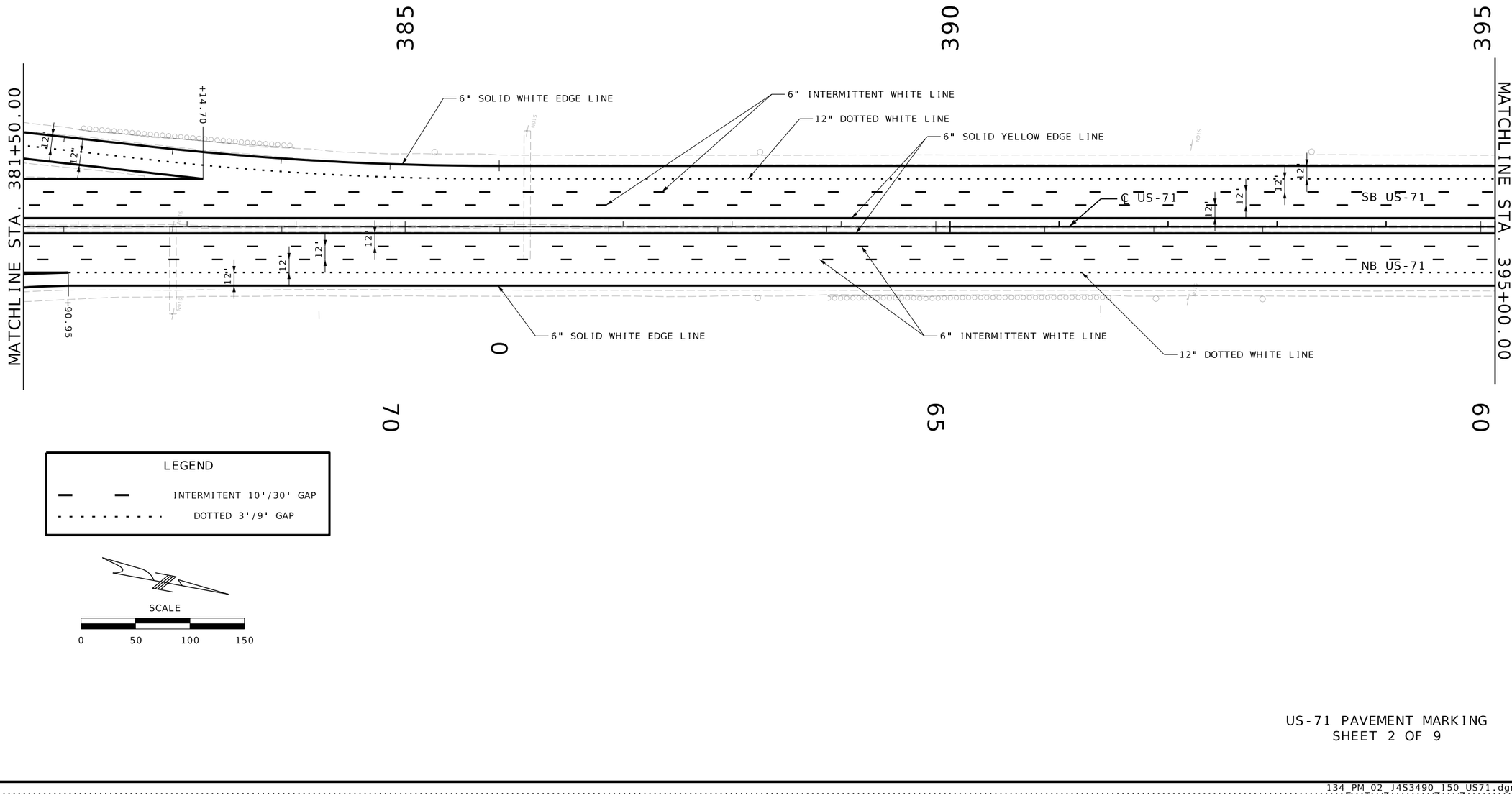
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4855
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of
Authority 2002010300

TREKK DESIGN GROUP, LLC



LEGEND

INTERMITENT 10'/30' GAP

DOTTED 3'/9' GAP

SCALE

0 50 100 150

US-71 PAVEMENT MARKING
SHEET 2 OF 9

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM NOT LIABLE FOR ANY UNAUTHORIZED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	134

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

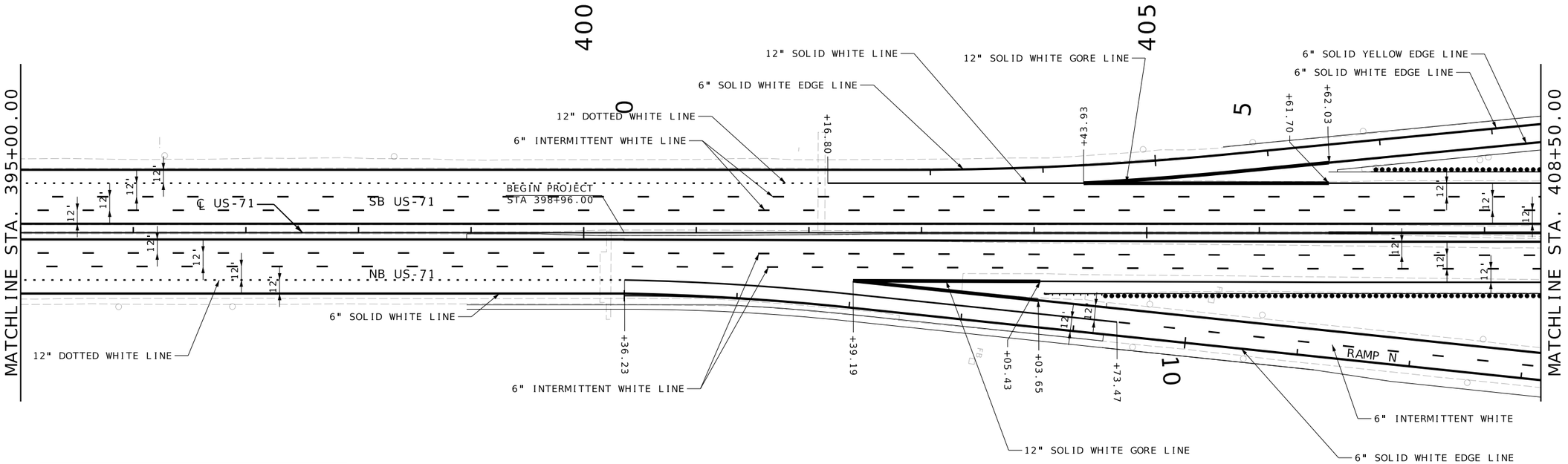
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

REV.



LEGEND

INTERMITENT 10'/30' GAP

DOTTED 3'/9' GAP

SCALE

0 50 100 150

US-71 PAVEMENT MARKING
SHEET 3 OF 9

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	135

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

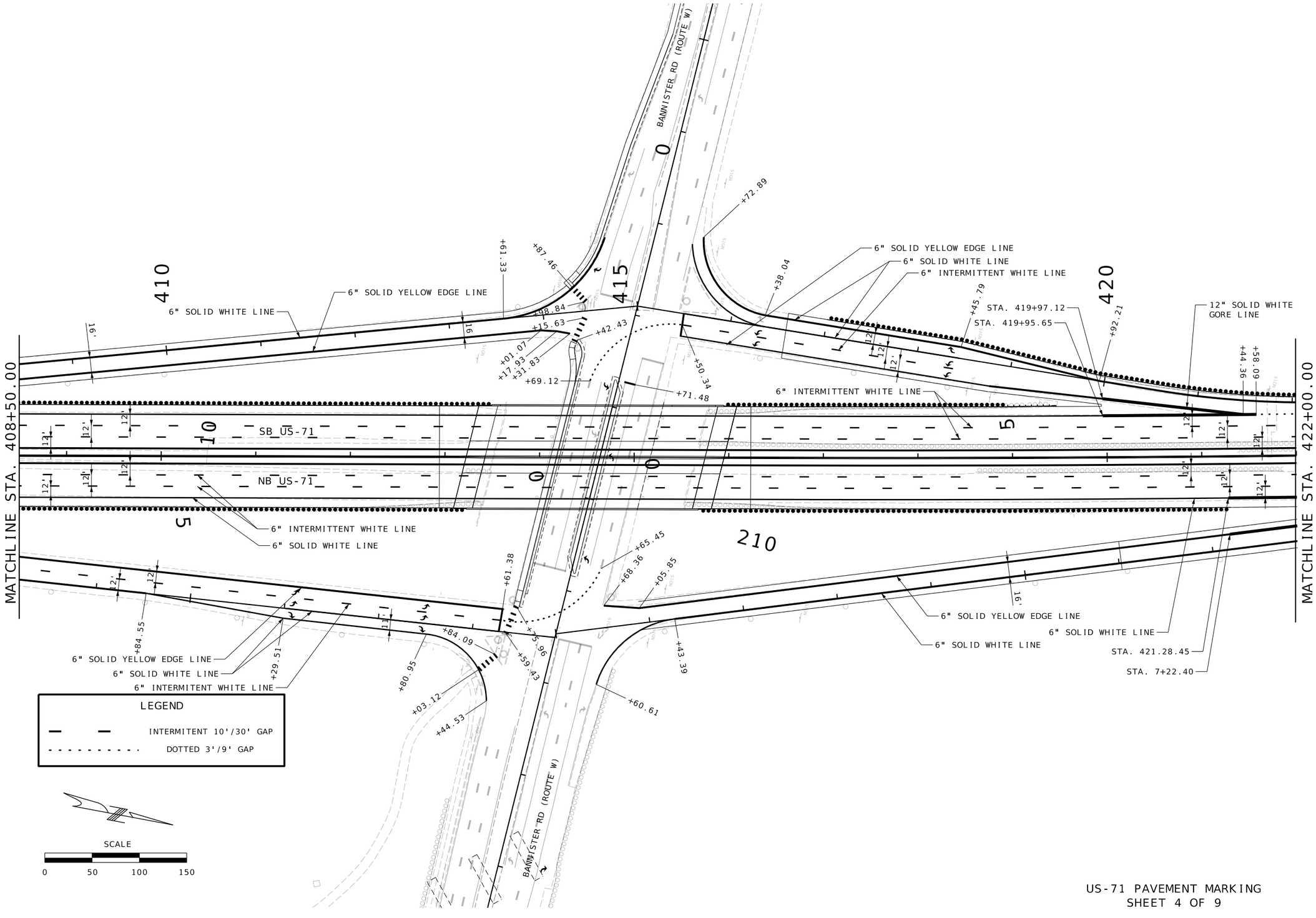
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



US-71 PAVEMENT MARKING
SHEET 4 OF 9

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER
I AM NOT FULLY RESPONSIBLE FOR SEALED AND DATED ELECTRONICALLY

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	136

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

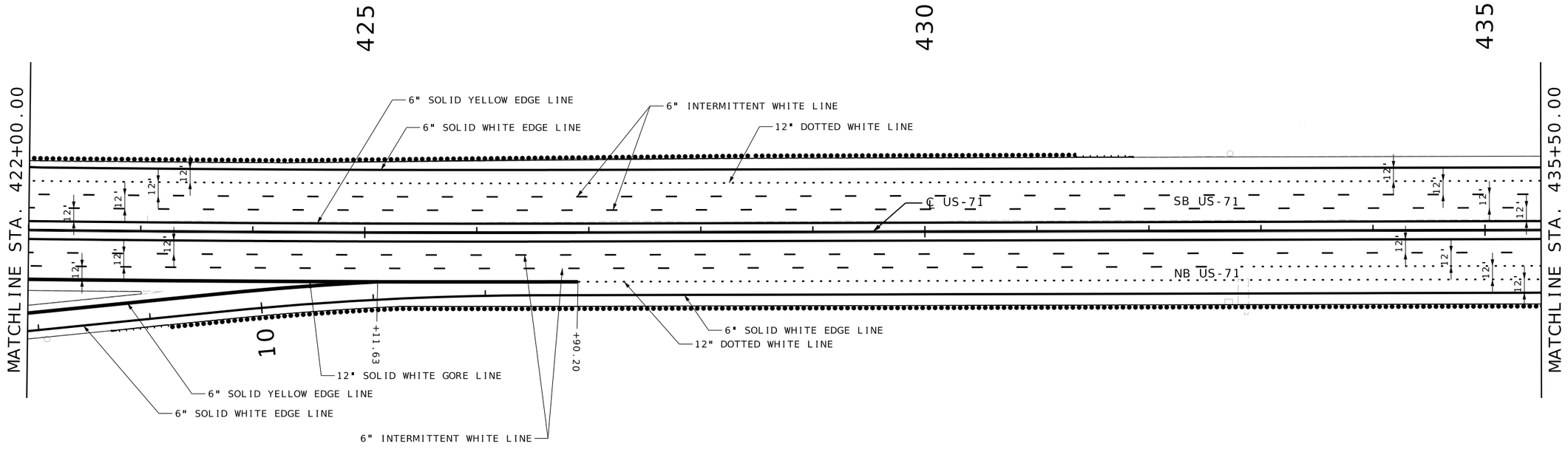
DESCRIPTION	DATE

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



LEGEND

INTERMITENT 10'/30' GAP

DOTTED 3'/9' GAP

SCALE

0 50 100 150

US-71 PAVEMENT MARKING
SHEET 5 OF 9

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	137

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

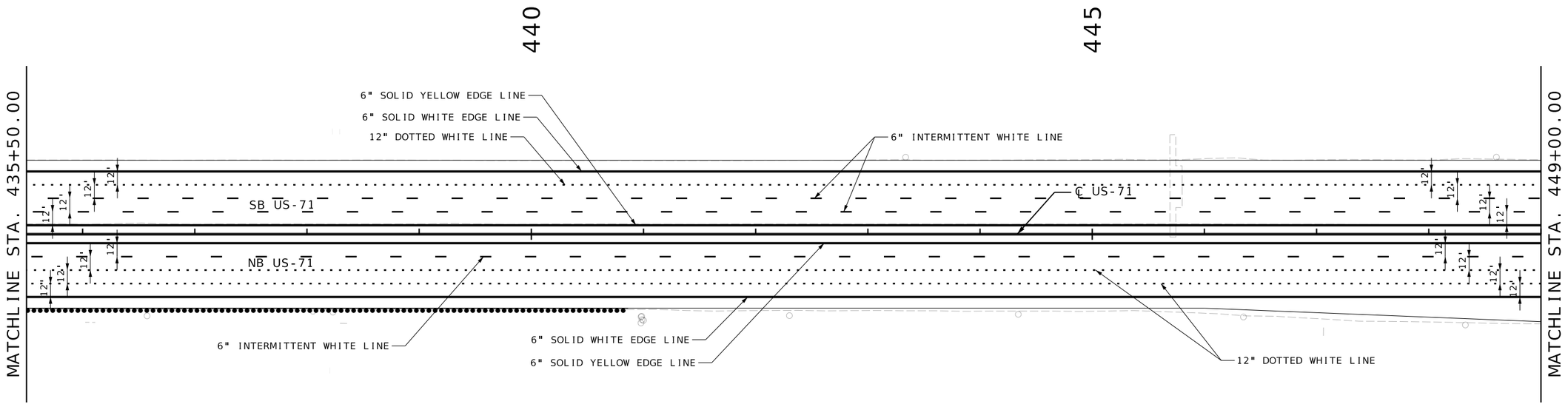
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



LEGEND

INTERMITENT 10'/30' GAP

DOTTED 3'/9' GAP

SCALE

0 50 100 150

US-71 PAVEMENT MARKING
SHEET 6 OF 9

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	138

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

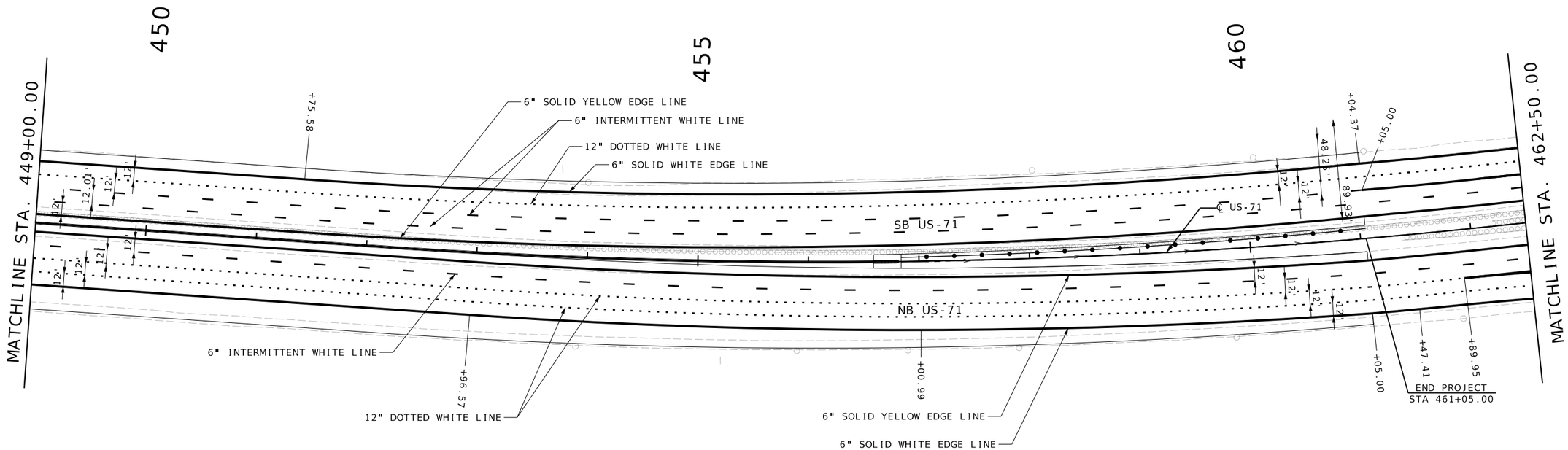
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



LEGEND

INTERMITENT 10'/30' GAP

DOTTED 3'/9' GAP

SCALE

0 50 100 150

US-71 PAVEMENT MARKING
SHEET 7 OF 9

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

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	139

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

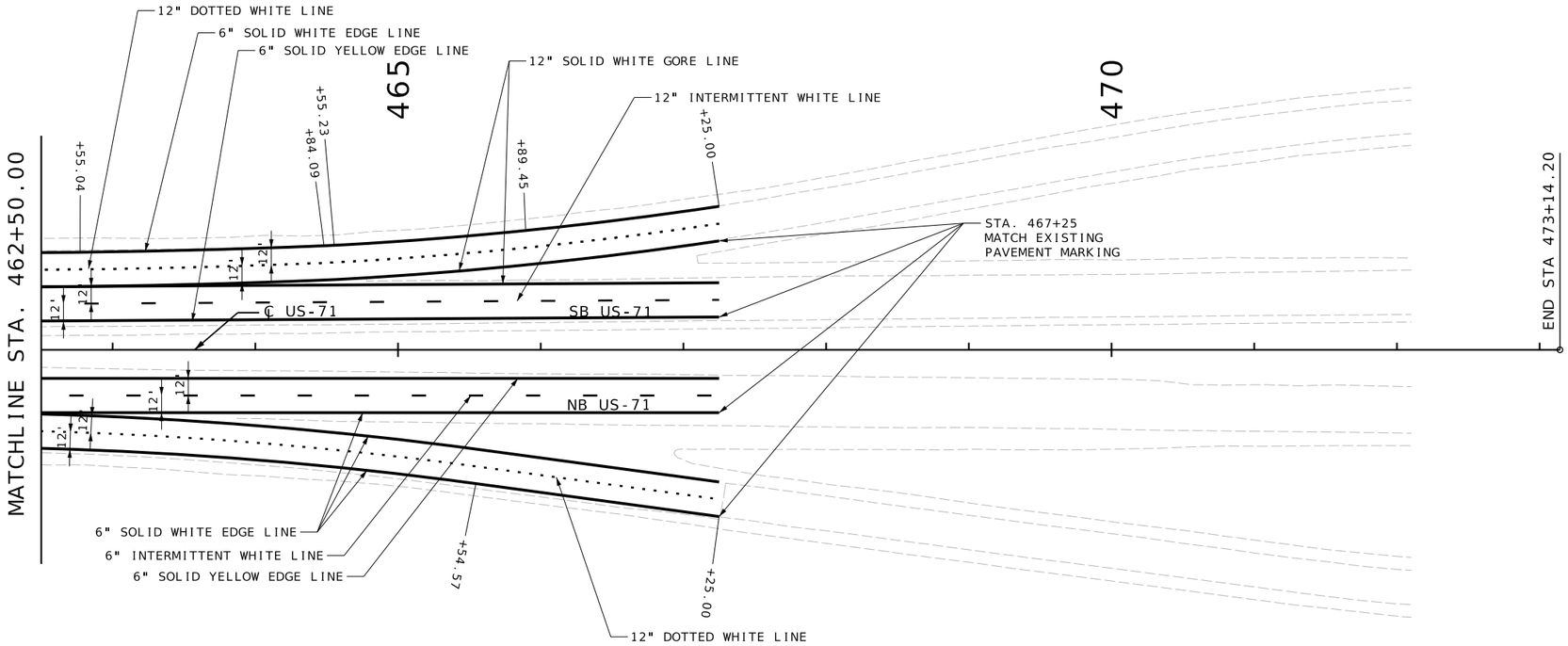
DESCRIPTION	DATE

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



LEGEND

INTERMITENT 10'/30' GAP

DOTTED 3'/9' GAP

SCALE

0 50 100 150

US-71 PAVEMENT MARKING
SHEET 8 OF 9

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	140

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

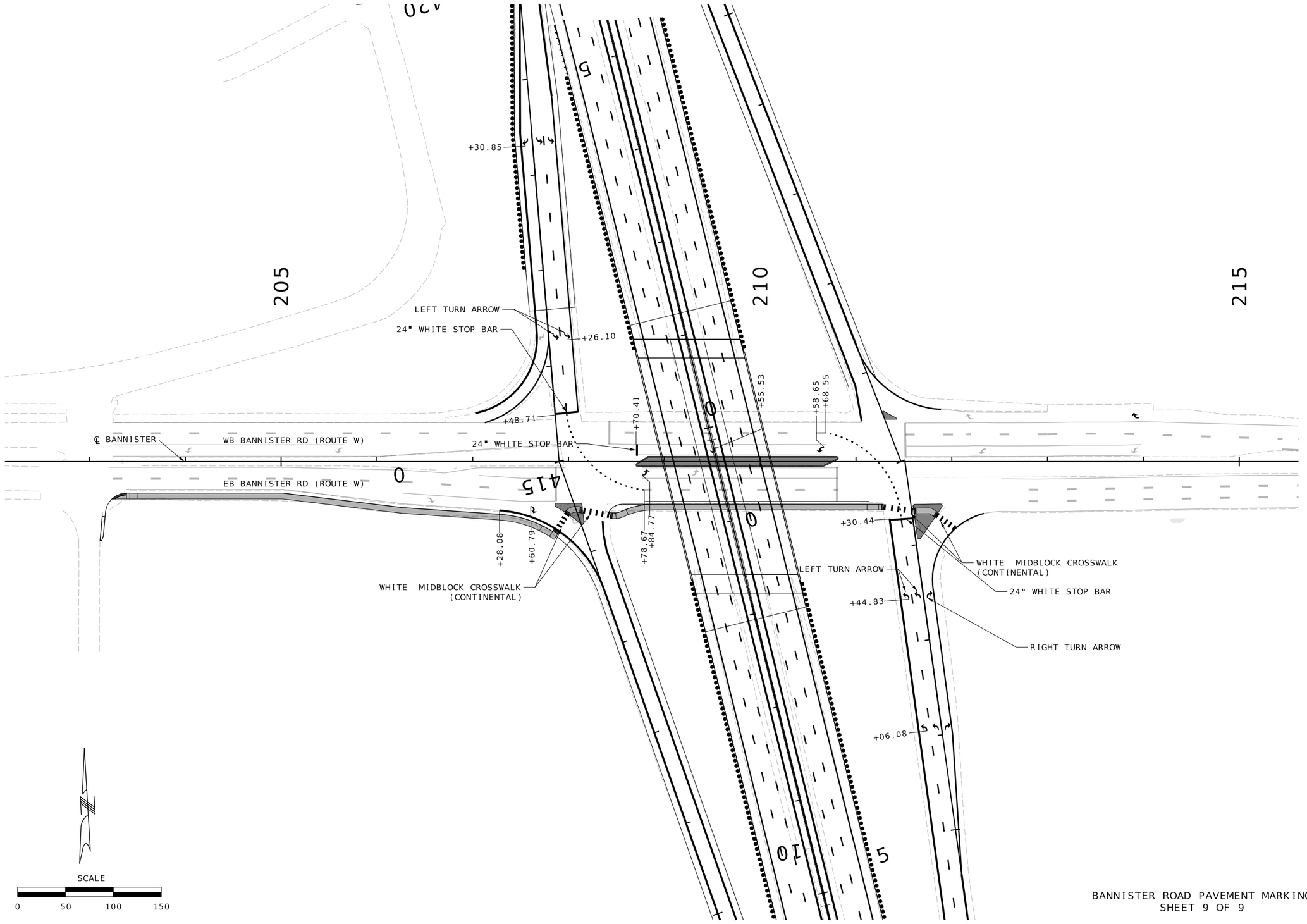
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4855
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



BANNISTER ROAD PAVEMENT MARKING
SHEET 9 OF 9

STATE OF MISSOURI
JASON MICHAEL SHAFER
NUMBER PE-2010019596
PROFESSIONAL ENGINEER

DATE PREPARED
10/3/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
KC	141

COUNTY
JACKSON

JOB NO.
J4S3490

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)

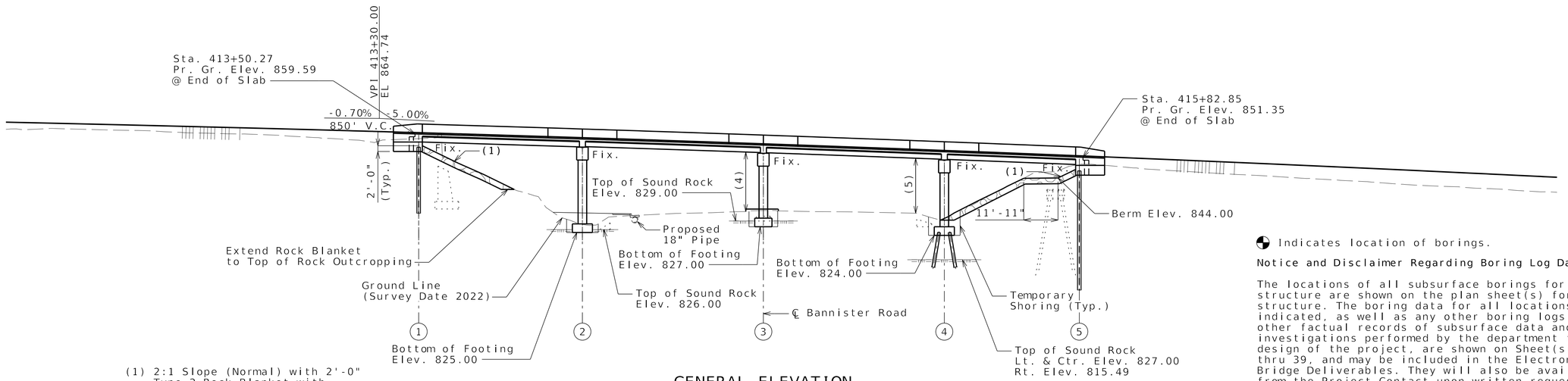
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

(57'-63'-63'-47') PRESTRESSED CONCRETE SPREAD BOX BEAM SPANS

SEC/SUR 26 & 27 TWP 48N RGE 33W



(1) 2:1 Slope (Normal) with 2'-0" Type 2 Rock Blanket with Permanent Erosion Control Geotextile (Roadway Item) (Typ.)

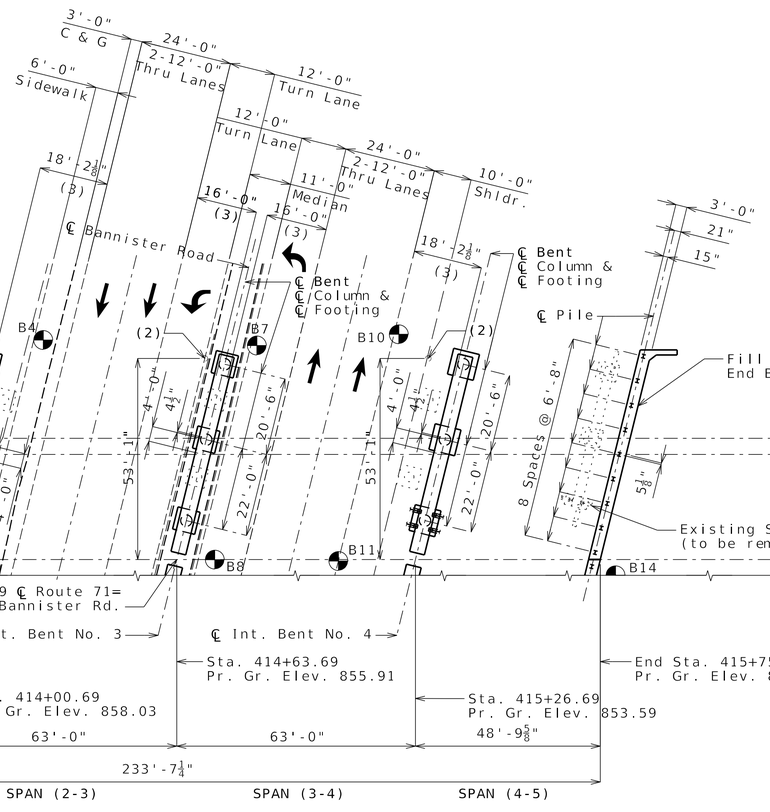
(2) Point of Min. Vert. Clearance

(3) Point of Min. Horiz. Clearance

(4) Min. Vert. Clearance E.B.L.= 17'-5 5/8"

(5) Min. Vert. Clearance W.B.L.= 15'-11 1/8"

GENERAL ELEVATION



PLAN

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

Sheet No. 1 of 39

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. 33 thru 39, 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.

B.M. 207 = SET 5/8" IB W/ ALUM CAP
ELEV. 868.50'

B.M. 206 = SET CHISELED SQUARE ON TOP W SIDE OF UTILITY VAULT
ELEV. 822.22'

B.M. 205 = SET 5/8" IB W/ ALUM CAP
ELEV. 812.24'

BRIDGE: ROUTE US-71 SB OVER ROUTE W (BANNISTER ROAD)

ROUTE 71 FROM ROUTE 435/470 TO ROUTE 56
ABOUT 1.0 MILE NORTH OF ROUTE 435/470
BEGINNING STATION 413+41.89 (FILL FACE @ ℄ ROUTE 71)

Designed July 2025
Detailed July 2025
Checked July 2025

STATE OF MISSOURI
PROFESSIONAL ENGINEER
DERRICK J. PRICE
NUMBER PE-2019032100
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	1

COUNTY JACKSON

JOB NO. J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9572

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

B_A9572_001_J4S3490_GPE.dgn 3:25:40 PM 10/22/2025

Estimated Quantities

Item		Substr.	Superstr.	Total
Removal of Miscellaneous ACM (Non-Friable)	sq. foot	-	-	40
Class 1 Excavation	cu. yard	305	-	305
Class 1 Excavation in Rock	cu. yard	24	-	24
Temporary Shoring	lump sum	1	-	1
Removal of Bridges (L0842) (NB & SB)	lump sum	-	-	1
Bridge Approach Slab (Major)	sq. yard	-	240	240
Galvanized Structural Steel Piles (12 in.)	linear foot	460	-	460
Galvanized Structural Steel Piles (14 in.)	linear foot	52	-	52
Pile Wave Analysis	each	2	-	2
Pre-Bore for Piling	linear foot	458	-	458
Pile Point Reinforcement	each	22		22
Class B Concrete (Substructure)	cu. yard	248.4		248.4
Type D Barrier	linear foot		520	520
Slab on Concrete Beam	sq. yard		1,426	1,426
21 in., Prestressed Concrete Spread Box Beam	linear foot		1,374	1,374
Reinforcing Steel (Bridges)	pound	2,920		2,920
Reinforcing Steel (Epoxy Coated)	pound	38,210		38,210
Vertical Drain at End Bents	each		2	2
Laminated Neoprene Bearing Pad (Tapered)	each		48	48

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete Beam.

All reinforcement in the end bents is included in the Estimated Quantitites for Slab on Concrete Beam.

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 Beam.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete Beam.

Removal of Bridges (L0842 NB & SB) includes complete removal of existing Bridge L0842 NB & L0842 SB. Existing columns are to be removed a minimum of two feet below the bottom of proposed final grades. Existing footings may remain in place unless interference with new construction occurs.

Removal of Miscellaneous ACM (Non-Friable) includes removal of the asbestos containing material on existing Bridge L0842 NB & L0842 SB.

Estimated Quantities for Slab on Concrete Beam

Item		Total
Class B-2 Concrete	cu. yard	418
Reinforcing Steel (Epoxy Coated)	pound	118,910

The table of Estimated Quantities for Slab on Concrete Beam 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.

Foundation Data

Type	Design Data		Bent Number 1	2	3	4	5	
Load Bearing Pile	Pile Numbers ***		1-9	-	-	10-13	14-19	20-22
	Pile Type and Size		HP 12x53	-	-	HP 14x73	HP 12x53	
	Number	ea	9	-	-	4	6	3
	Approximate Length Per Each	ft	20	-	-	13	16	61
	Pile Point Reinforcement	ea	All	-	-	All	All	
	Min. Galvanized Penetration (Elev.)	ft	Full Length	-	-	Full Length	Full Length	
	Minimum Tip Penetration (Elev.)	ft	835	-	-	812	830	791
	Criteria for Min. Tip Penetration		Min. Embed.	-	-	**	Min. Embed.	**
	Pile Driving Verification Method		WEAP	-	-	WEAP	WEAP	
	Resistance Factor		0.5	-	-	0.5	0.5	
	Minimum Nominal Axial Compressive Resistance	kip	338	-	-	622	338	
Spread Footing	Foundation Material		-	Rock	Rock	Rock	-	
	Minimum Nominal Bearing Resistance	ksf	-	88	118	90	-	

** Penetration of anticipated soft geotechnical layers

*** See Sheet No. 32 for pile numbering

DF = FHWA-modified Gates Dynamic Pile Formula

WEAP = Wave Equation Analysis of Piles

Load Bearing Piles:
Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor

Prebore for piles at Bent No. 1 to elevation 835.0.

Prebore for piles at Bent No. 4 to elevation 812.0.

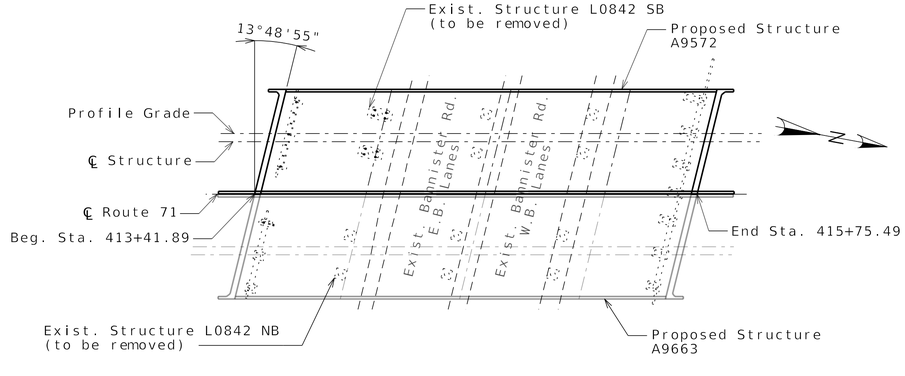
Prebore for piles at Bent No. 5 to elevation 830.0 for piles No. 14-19 and elevation 793.0 for piles No. 20-22 ***

Spread Footings:
Minimum Nominal Bearing Resistance = Maximum Factored Loads/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.

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. When pile refusal on rock occurs, as approved by the engineer, the minimum nominal axial compressive resistance is verified and no additional pile driving verification method is required.



LOCATION SKETCH

GENERAL NOTES AND QUANTITIES

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	2

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9572

DESCRIPTION	DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4855
Fax: (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specification (9th Ed)
2023 AASHTO Guide Specifications for LRFD Seismic Bridge Design (3rd Ed.)
Seismic Design Category A (Nonseismic)
Design earthquake response spectral acceleration coefficient at 1.0 second period, SD1 = 0.061
Acceleration Coefficient (effective peak ground acceleration coefficient), As = 0.040

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 Beams and Barrier)	f'c = 4,000 psi
Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Reinforcing Steel (ASTM A615 Grade 60)	fy = 60,000 psi
Structural Steel HP Pile (ASTM A709 Grade 50)	fy = 50,000 psi

For prestressed box beam stresses, see Sheets No. 17, 18 & 19.

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.

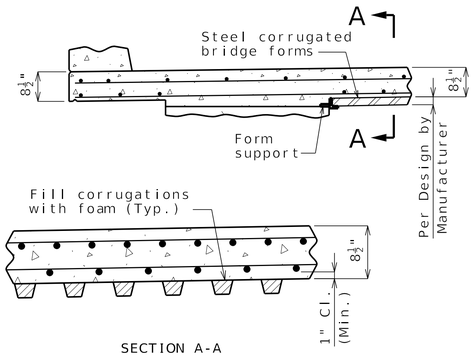
Reinforcing Steel:

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.

Traffic Handling:

Structure to be closed during construction. Route 71 traffic to be maintained in both directions using existing ramps. Route W (Bannister Road) traffic to be maintained on other routes during construction. See roadway plans for traffic control.



SECTION A-A

OPTIONAL STAY-IN-PLACE FORM DETAILS

Stay-In-Place Forms:

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 beam. 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 top of beam. Drilling holes in the beam 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 beam loading.

GENERAL NOTES

DERRICK J. PRICE
NUMBER PE-2019032109
PROFESSIONAL ENGINEER
STATE OF MISSOURI
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

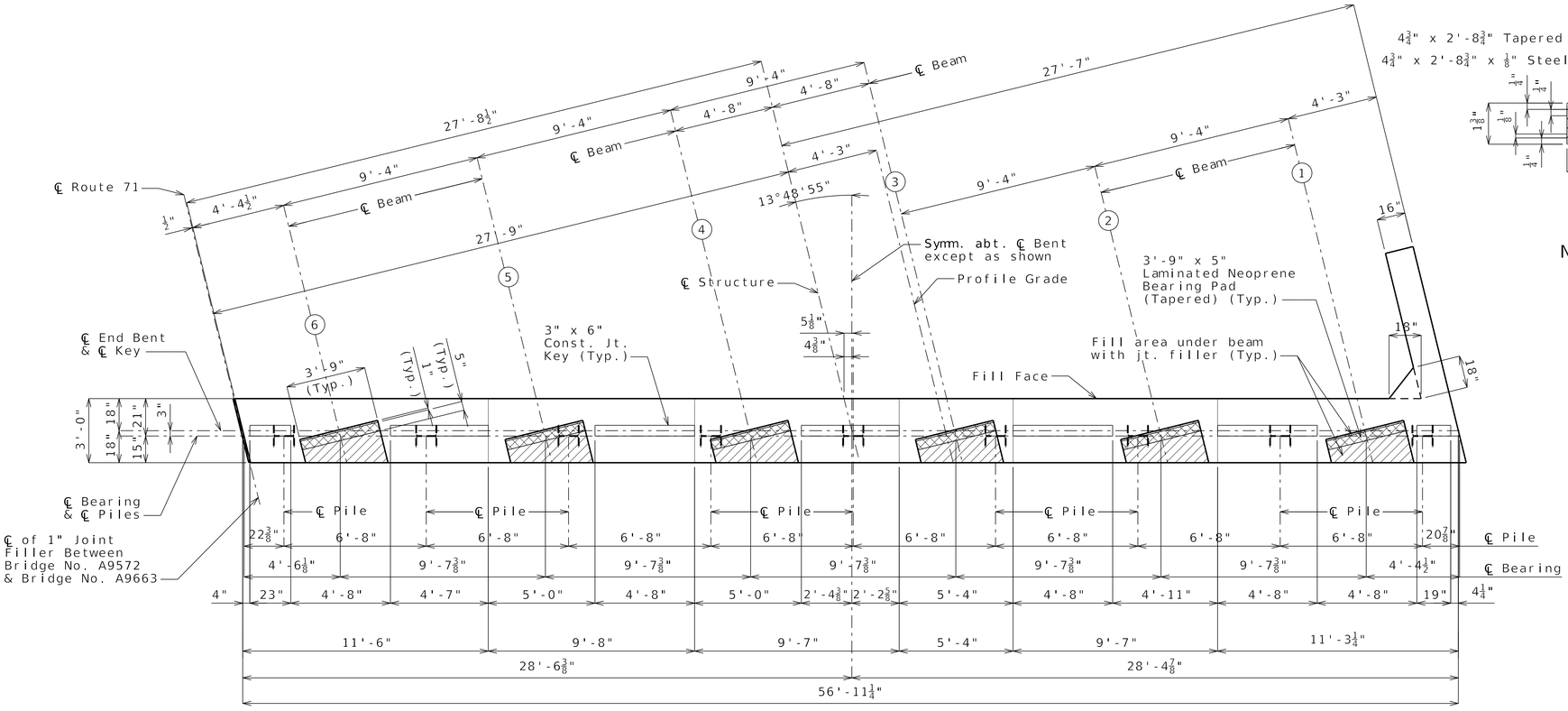
DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 3
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9572

DESCRIPTION | DATE

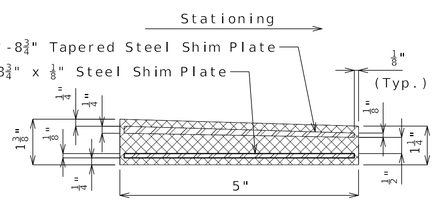
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

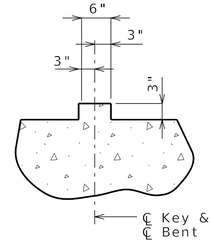
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



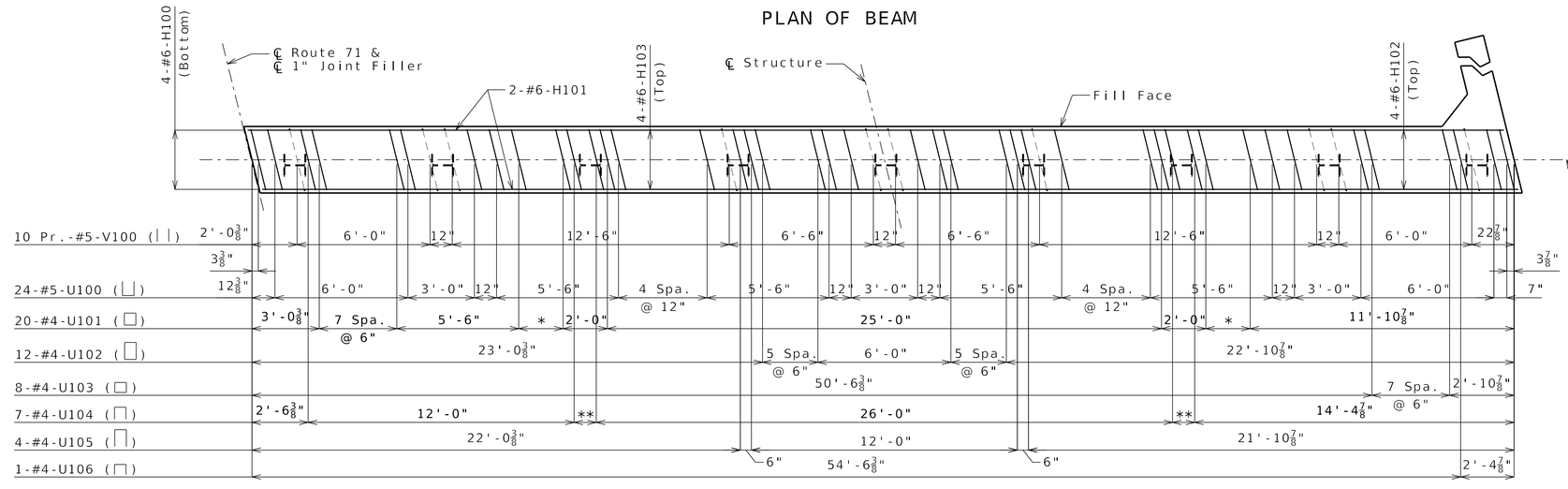
PLAN OF BEAM



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD

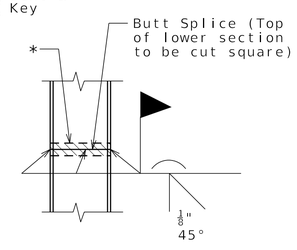


SECTION THRU KEY



PLAN OF BEAM SHOWING REINFORCEMENT

Keys not shown for clarity.



STEEL PILE SPLICE

(If required)

* 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.

END BENT NO. 1

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK A PRICE
NUMBER PE-2019032109
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.

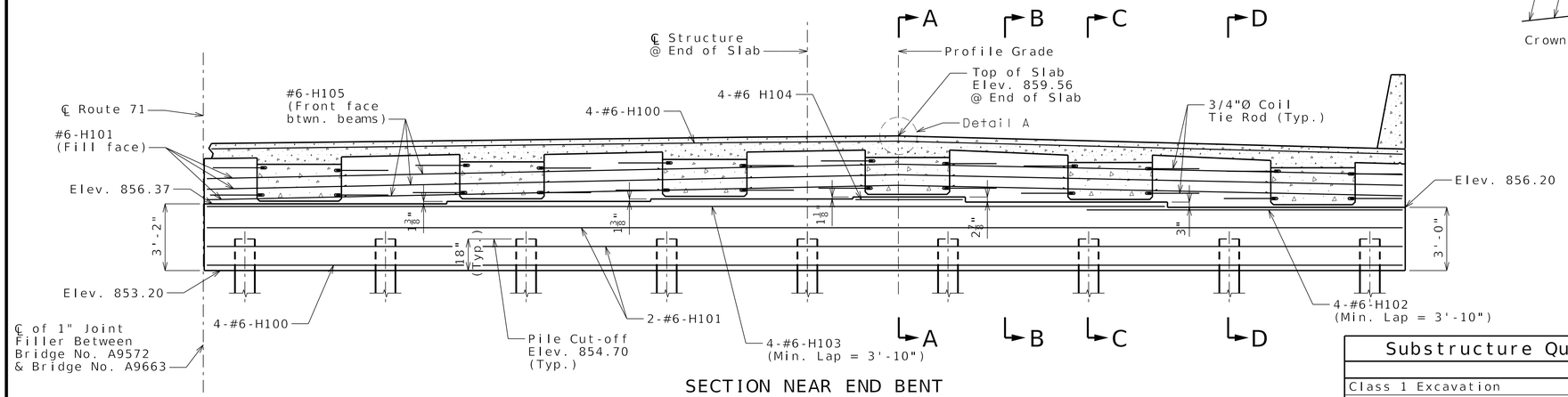
DATE PREPARED 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	4

COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9572

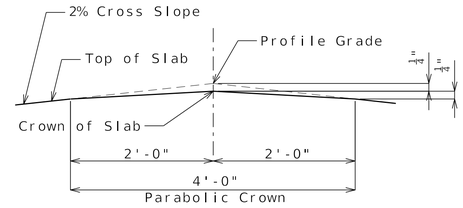
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com
Missouri Cert. of Authority 2002010300
TREKK DESIGN GROUP, LLC



SECTION NEAR END BENT

Note: Keys not shown for clarity.

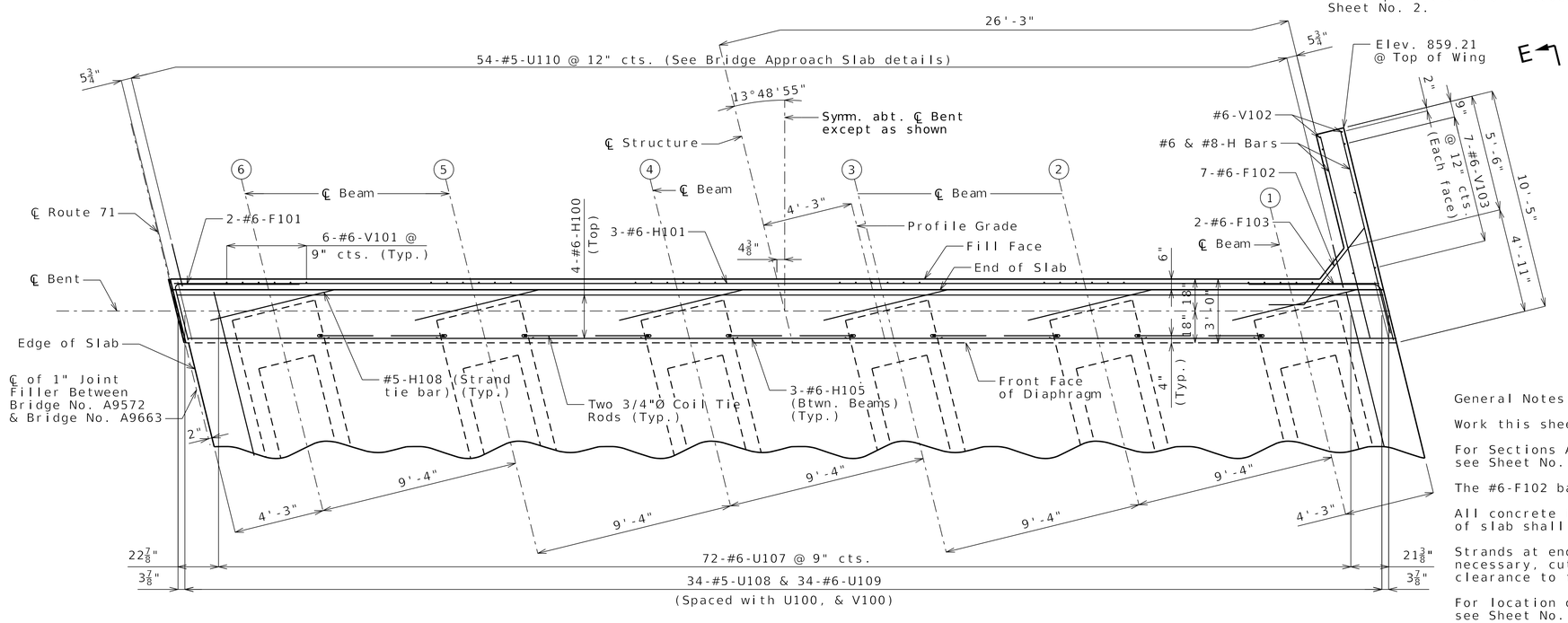


DETAIL A

Substructure Quantity Table for Bent No. 1

Item		Quantity
Class 1 Excavation	cu. yard	43.9
Galvanized Structural Steel Piles (12 in.)	linear foot	177
Pile Wave Analysis	each	1
Pre-Bore for Piling	linear foot	164
Pile Point Reinforcement	each	9
Class B Concrete (Substructure)	cu. yard	21.8

These quantities are included in the Estimated Quantities table on Sheet No. 2.



PART PLAN

END BENT NO. 1

General Notes:

Work this sheet with Sheets No. 4 & 6.

For Sections A-A, B-B, C-C & D-D and Elevation E-E, see Sheet No. 6.

The #6-F102 bars shall be bent in the field to clear beams.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

Strands at end of the beams 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-H108 (strand tie bar), see Sheet No. 17.

For details of vertical drain at end bents, see Sheet No. 7.

For details of bridge approach slab, see Sheet No. 28.

All U bars and pairs of V bars shall be placed parallel to centerline of roadway.

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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.

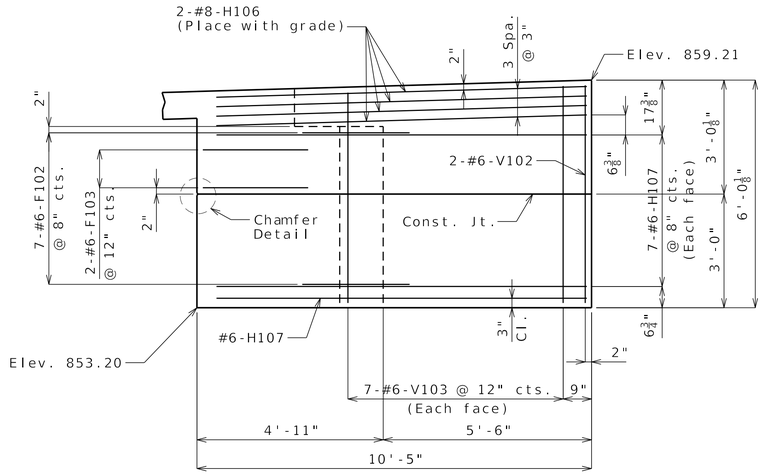
DATE PREPARED 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	5

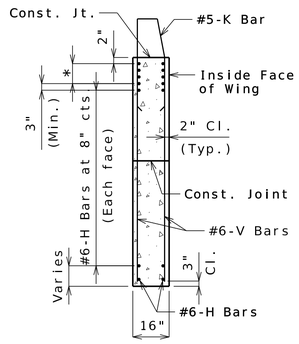
COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9572

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com
Missouri Cert. of Authority 2002010300
TREKK DESIGN GROUP, LLC

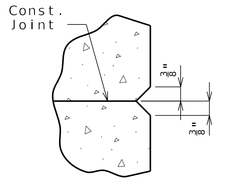


ELEVATION E-E

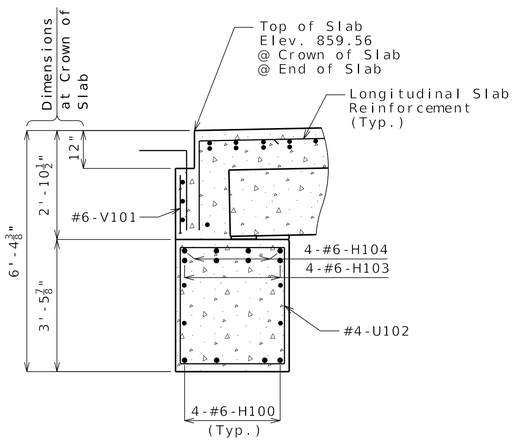


TYPICAL SECTION
THRU WING

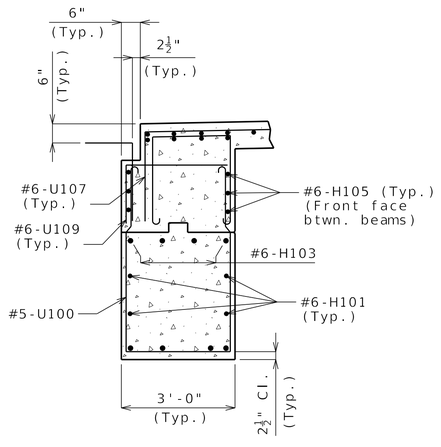
* #8-H Bars at 3" cts.
(Each face)(Place with grade)



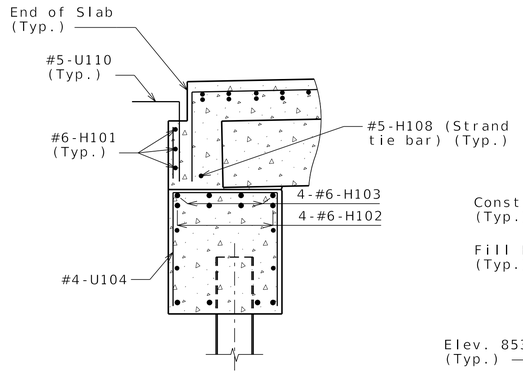
CHAMFER DETAIL



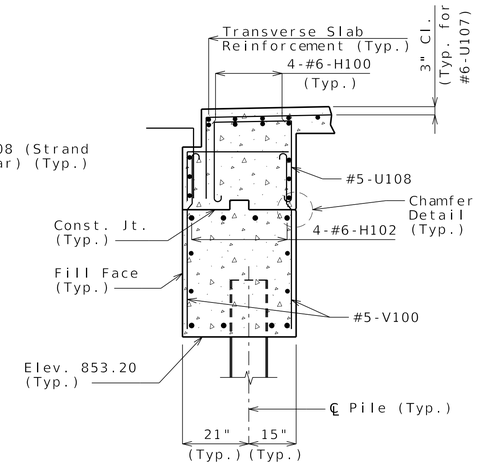
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

General Notes:

Work this sheet with Sheets No. 4 & 5.

For reinforcement of the barrier, see Sheets No. 25, 26 & 27.

END BENT NO. 1

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	6

COUNTY JACKSON

JOB NO. J4S3490

CONTRACT ID.

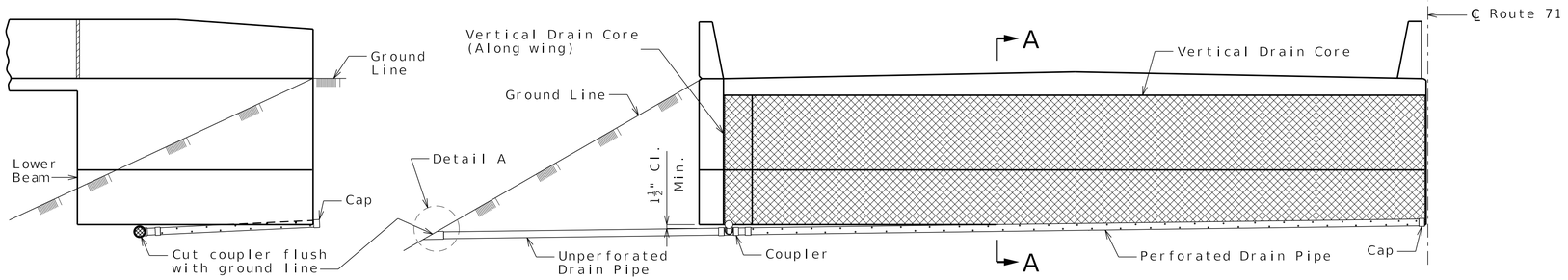
PROJECT NO.

BRIDGE NO. A9572

DESCRIPTION	DATE

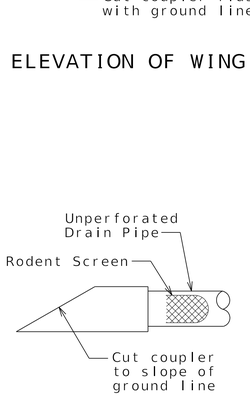
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

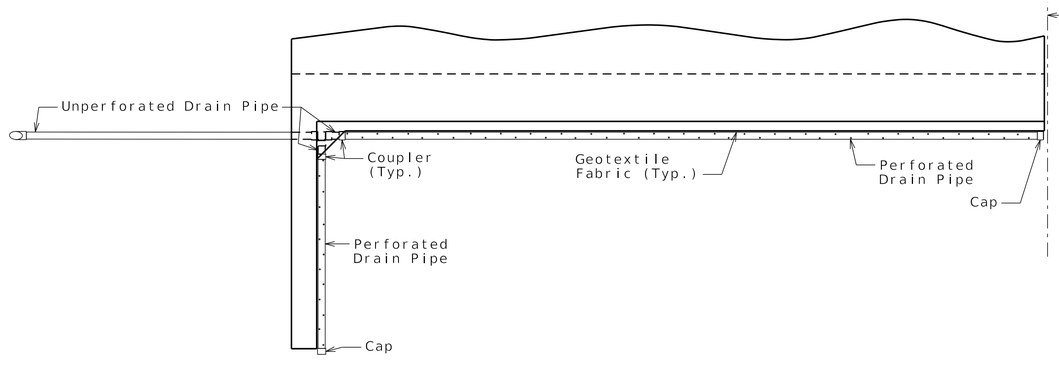


ELEVATION OF WING

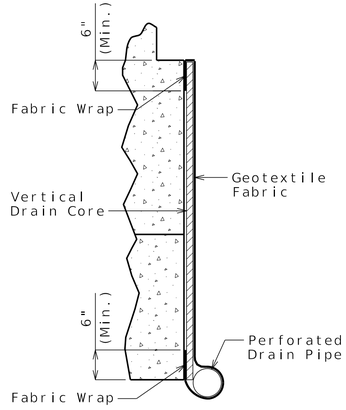
ELEVATION OF END BENT



DETAIL A



PLAN OF END BENT



PART SECTION A-A
(Section thru wing similar)

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 July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	7

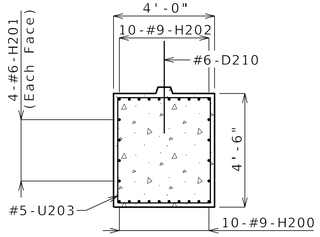
COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9572

DESCRIPTION	DATE

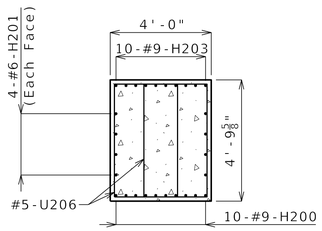
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

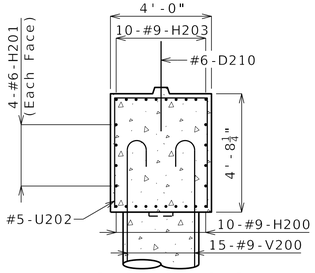
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4855
Fax (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



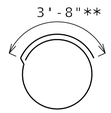
SECTION A-A



SECTION B-B

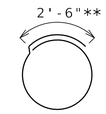


SECTION C-C

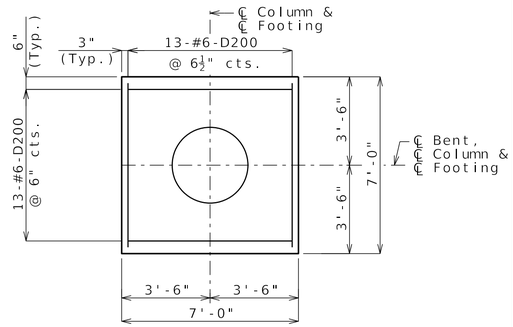


** Minimum lap (Stagger adjacent bar splices)

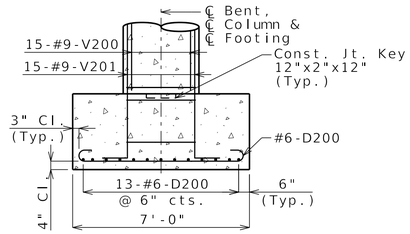
DETAIL OF P200



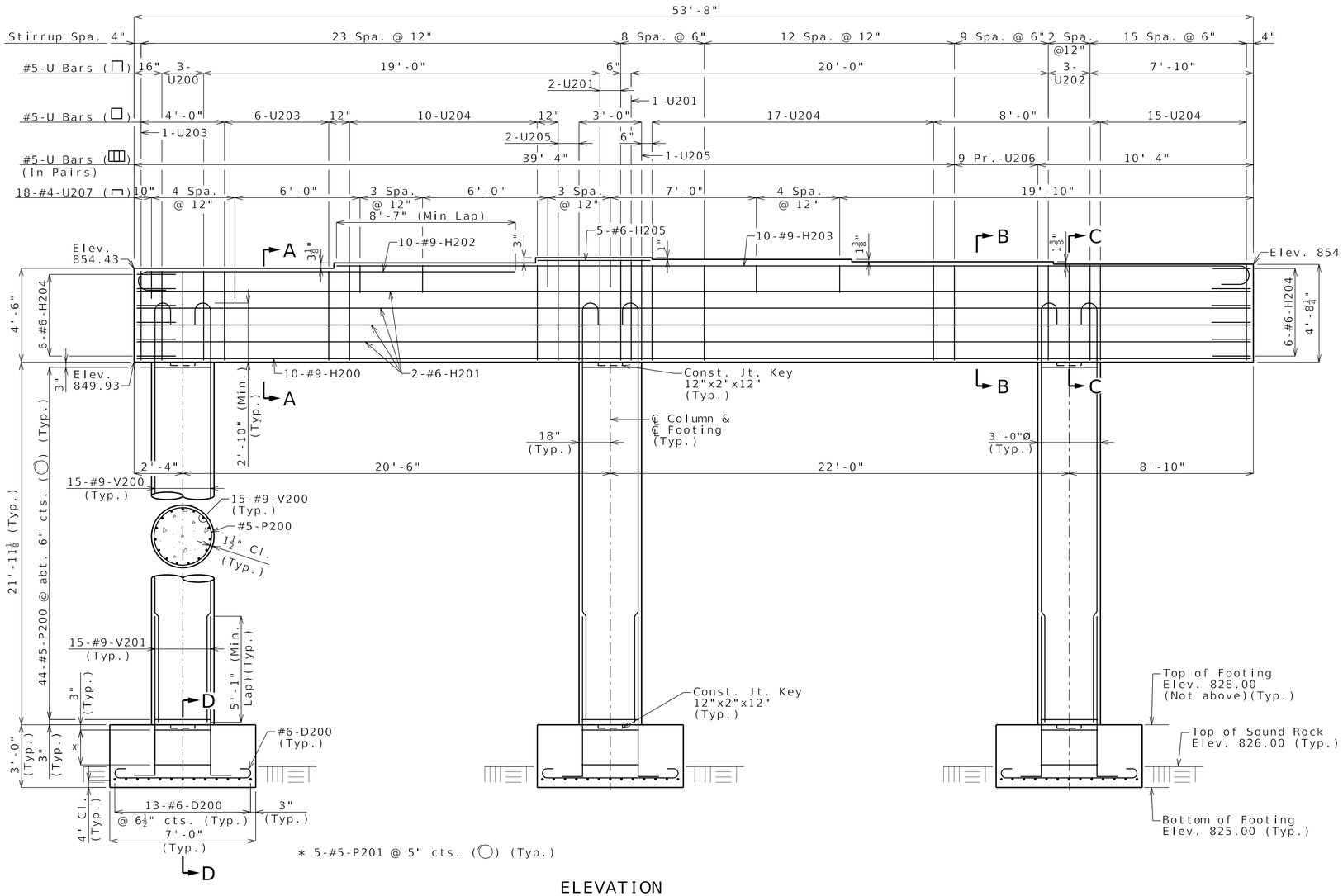
DETAIL OF P201



PLAN OF SPREAD FOOTING



SECTION D-D



ELEVATION

(Beam Keys not shown for clarity)

DETAILS OF INTERMEDIATE BENT NO. 2

Detailed Aug 2025
Checked Aug 2025

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

STATE OF MISSOURI
DUSTIN TREGNAGO
NUMBER PE-2016012977
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	8

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9572

DESCRIPTION

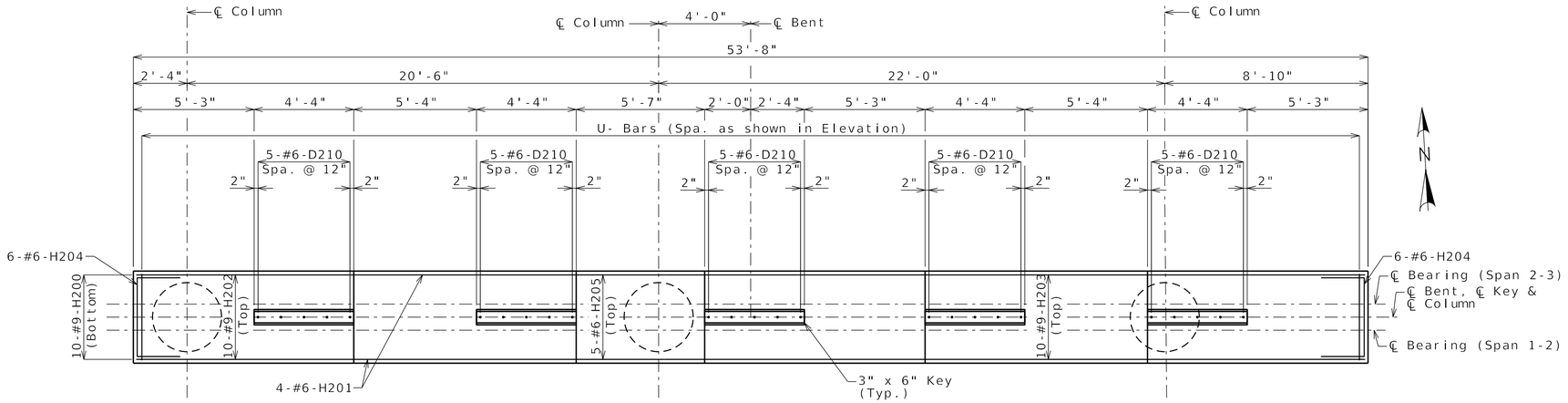
DATE

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

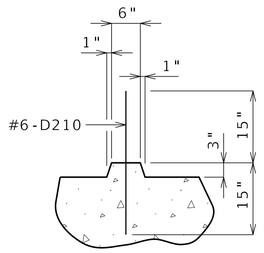
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

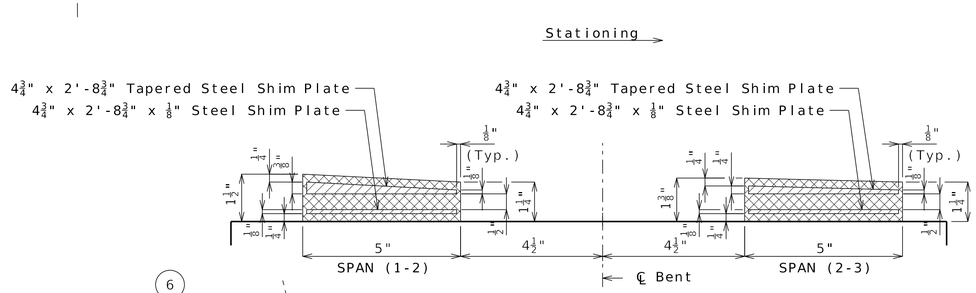
DUSTIN TREGNAGO
PROFESSIONAL ENGINEER
PE-2016012977



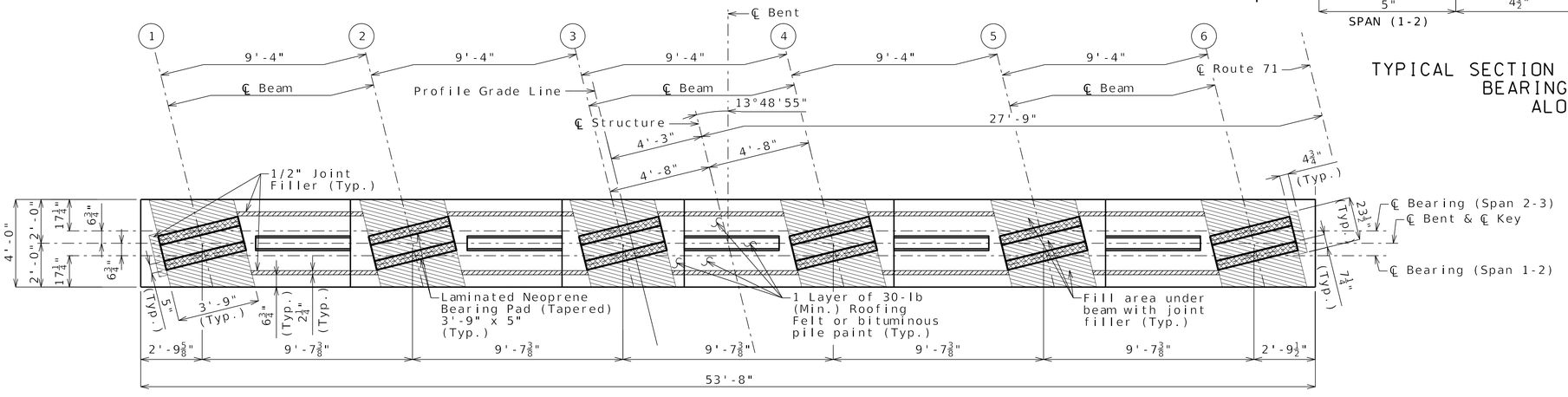
PLAN SHOWING REINFORCEMENT



SECTION THRU KEY



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PADS (TAPERED) ALONG ℄ GIRDER



PLAN OF BEAM

Notes:

For steps 2 inches or more, use 2 1/4 x 1/2 inch joint filler up vertical face.

Work this sheet with Sheet No. 8.

Substructure Quantity Table for Bent No. 2		
Item		Quantity
Class 1 Excavation	cu. yard	85.2
Class 1 Excavation in Rock	cu. yard	5.4
Class B Concrete (Substructure)	cu. yard	71.6
Reinforcing Steel (Bridges)	pound	1099
Reinforcing Steel (Epoxy Coated)	pound	13,309

These quantities are included in the Estimated Quantities table on Sheet No. 2.

DETAILS OF INTERMEDIATE BENT NO. 2

Detailed Aug 2025
Checked Aug 2025

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

STATE OF MISSOURI
DUSTIN TREGNAGO
NUMBER PE-2016012977
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	9

COUNTY JACKSON

JOB NO. J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9572

DESCRIPTION

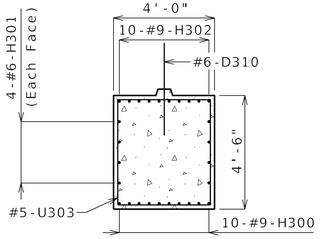
DATE

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

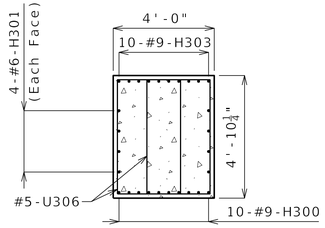
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

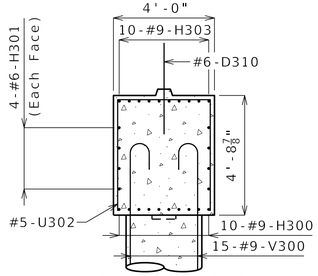
DUSTIN TREGNAGO
PROFESSIONAL ENGINEER
PE-2016012977



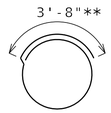
SECTION A-A



SECTION B-B

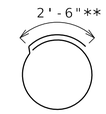


SECTION C-C

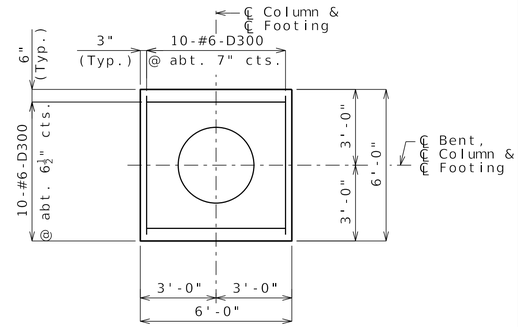


** Minimum lap (Stagger adjacent bar splices)

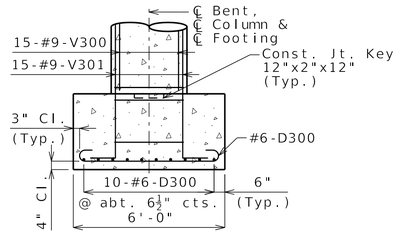
DETAIL OF P300



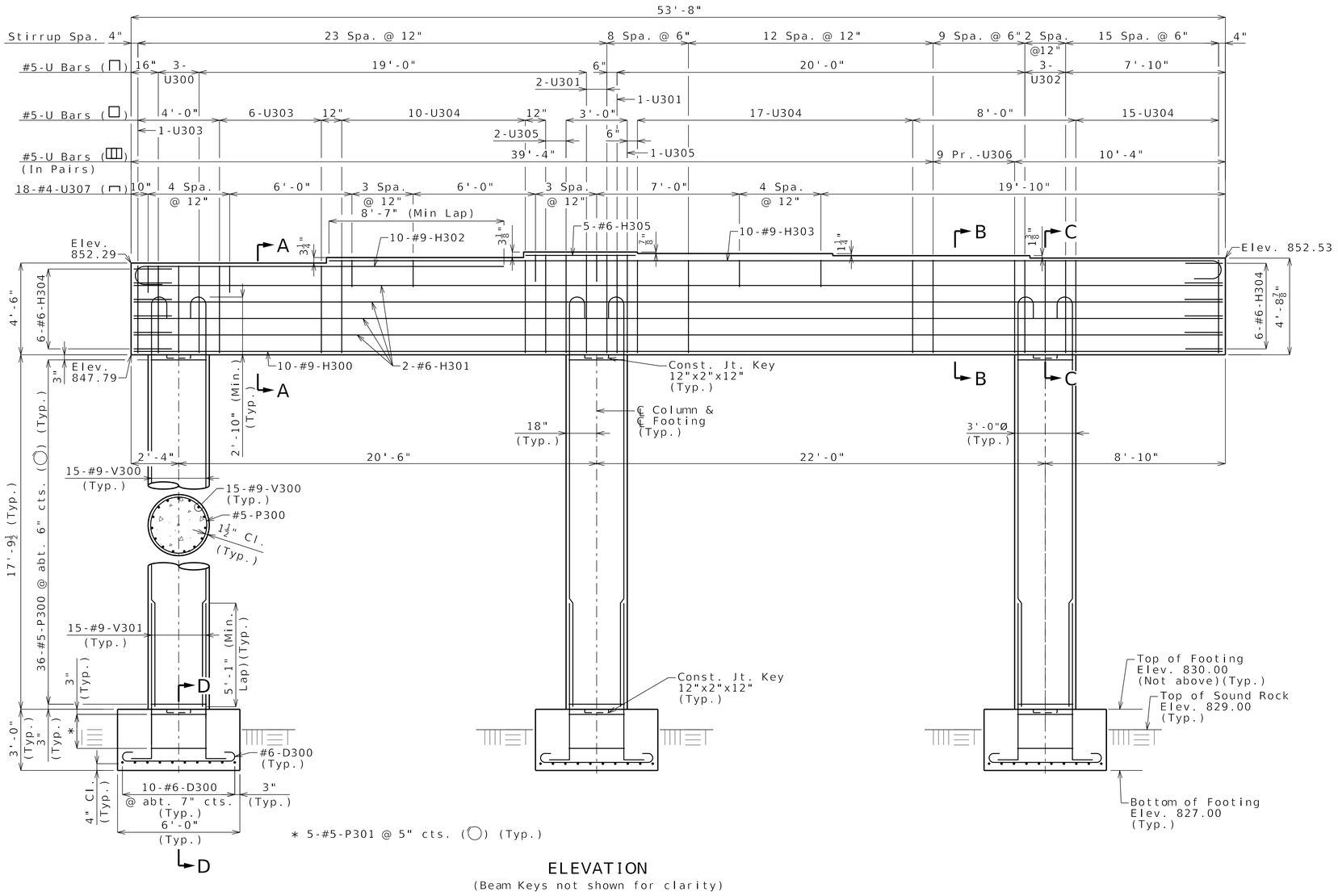
DETAIL OF P301



PLAN OF SPREAD FOOTING



SECTION D-D



ELEVATION

(Beam Keys not shown for clarity)

DETAILS OF INTERMEDIATE BENT NO. 3

Detailed Aug 2025
Checked Aug 2025

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

STATE OF MISSOURI
DUSTIN TREGNAGO
NUMBER PE-2016012977
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	10

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9572

DESCRIPTION

DATE

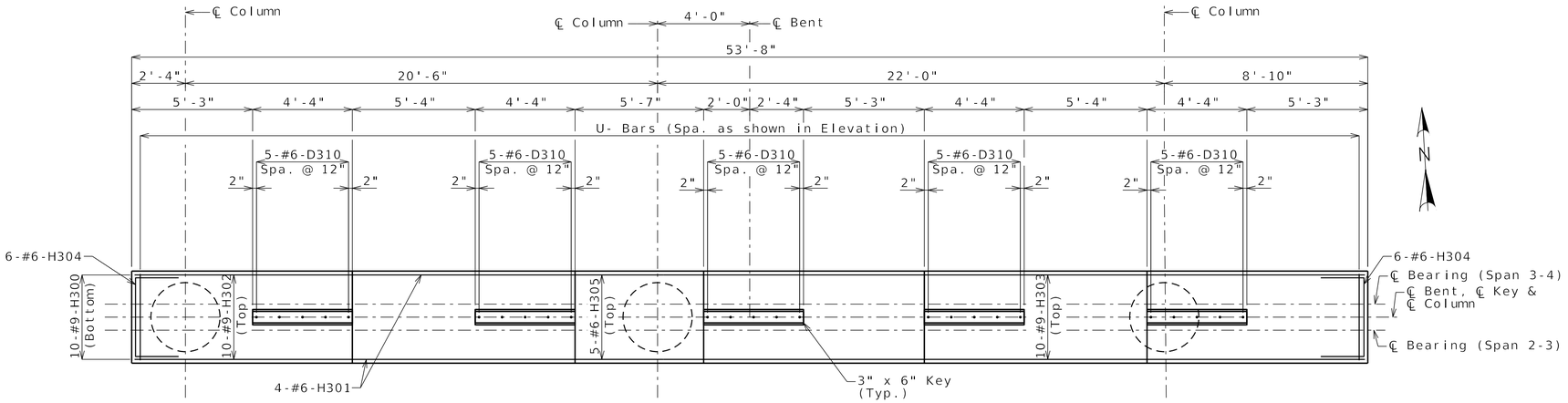
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

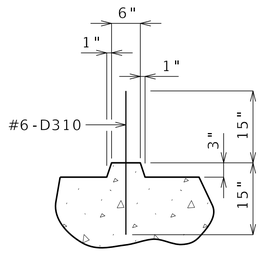
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

DUSTIN TREGNAGO
PROFESSIONAL ENGINEER
PE-2016012977

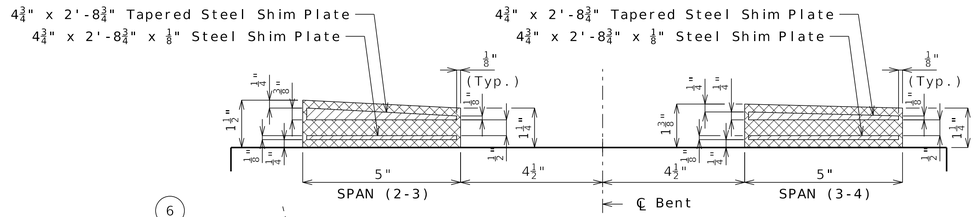


PLAN SHOWING REINFORCEMENT

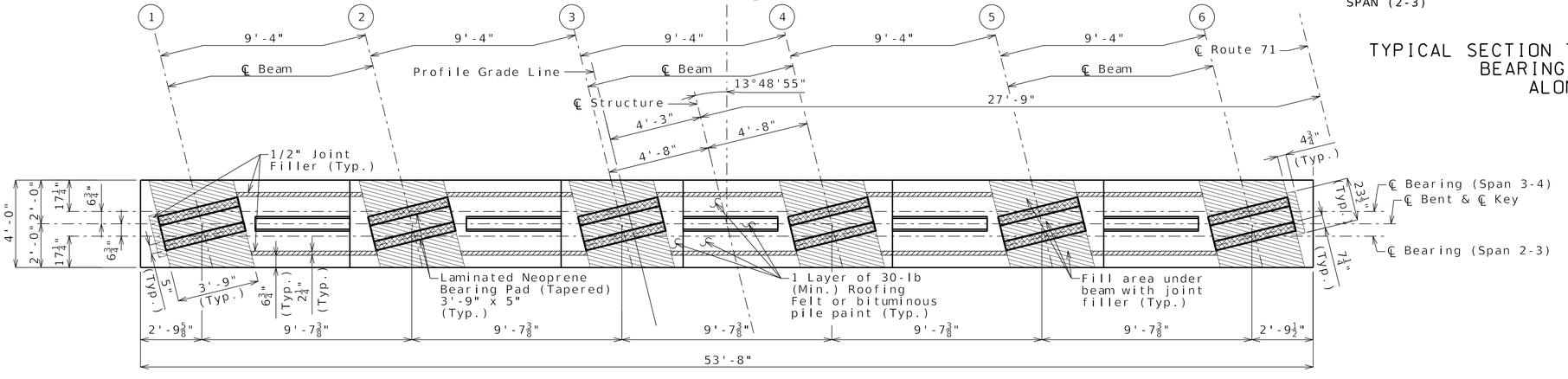


SECTION THRU KEY

Stationing



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PADS (TAPERED) ALONG ℄ GIRDER



PLAN OF BEAM

Notes:

For steps 2 inches or more, use 2 1/4 x 1/2 inch joint filler up vertical face.

Work this sheet with Sheet No. 10.

Substructure Quantity Table for Bent No. 3		
Item		Quantity
Class 1 Excavation	cu. yard	54.0
Class 1 Excavation in Rock	cu. yard	8.0
Class B Concrete (Substructure)	cu. yard	64.2
Reinforcing Steel (Bridges)	pound	795
Reinforcing Steel (Epoxy Coated)	pound	12,377

These quantities are included in the Estimated Quantities table on Sheet No. 2.

DETAILS OF INTERMEDIATE BENT NO. 3

Detailed Aug 2025
Checked Aug 2025

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

STATE OF MISSOURI
DUSTIN TREGNAGO
NUMBER PE-2016012977
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 11
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9572

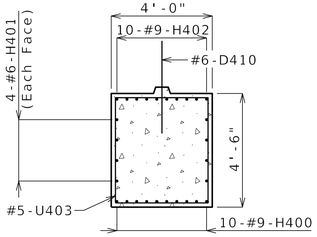
DESCRIPTION | DATE

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

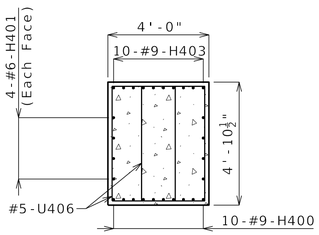
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

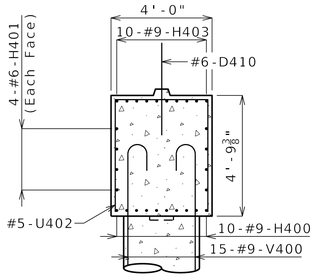
DUSTIN TREGNAGO
PROFESSIONAL ENGINEER
PE-2016012977



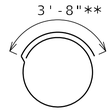
SECTION A-A



SECTION B-B

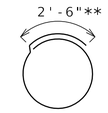


SECTION C-C

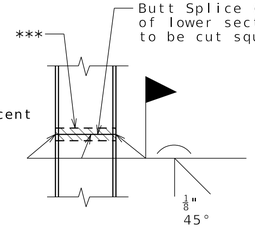


DETAIL OF P400

** Minimum lap (Stagger adjacent bar splices)



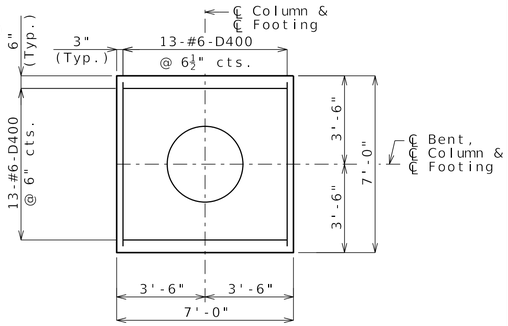
DETAIL OF P401



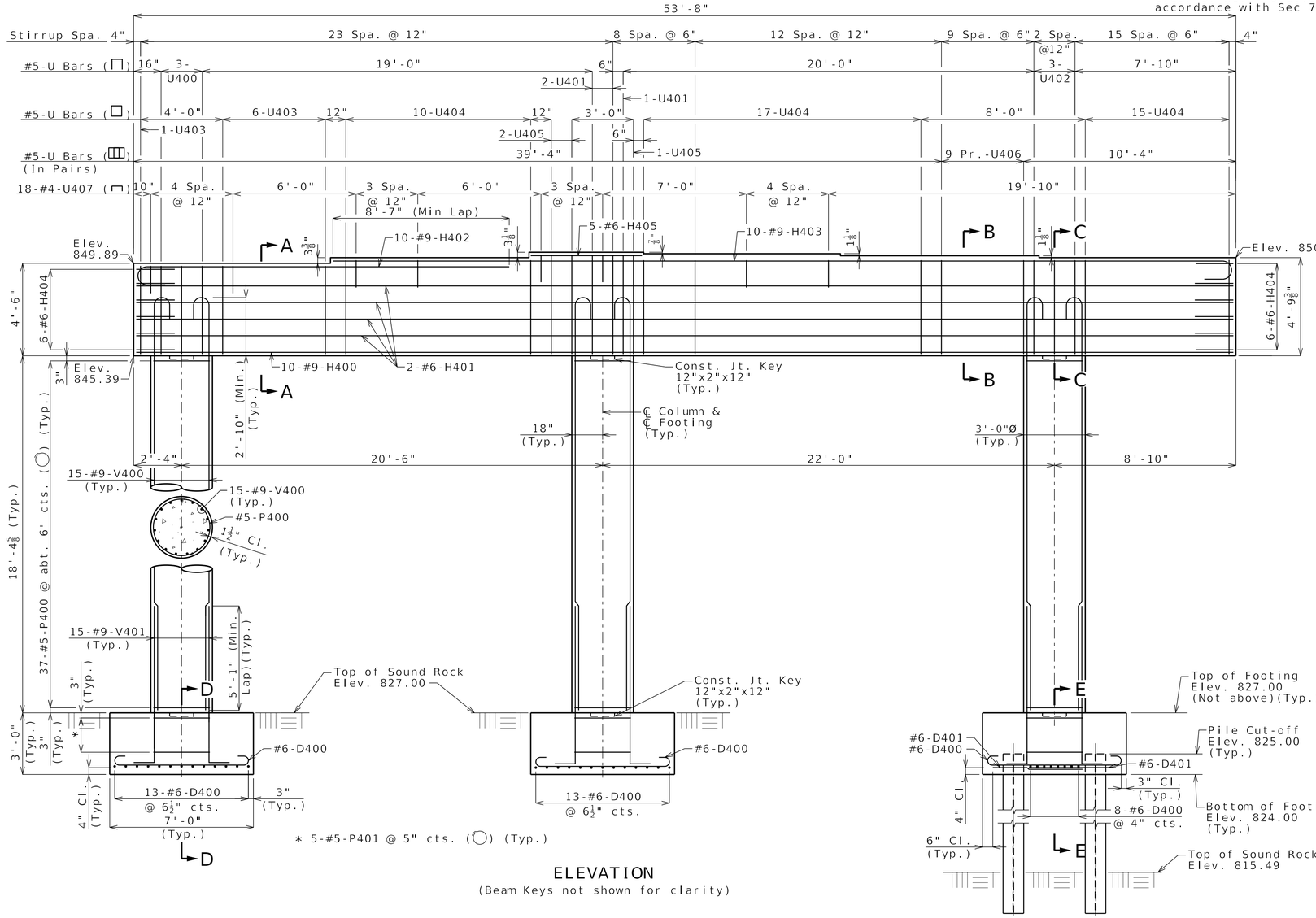
STEEL PILE SPLICE

(If required)

*** Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

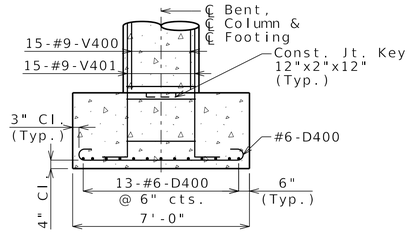


PLAN OF SPREAD FOOTING

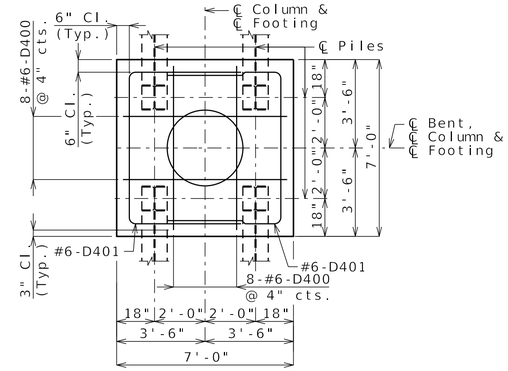


ELEVATION

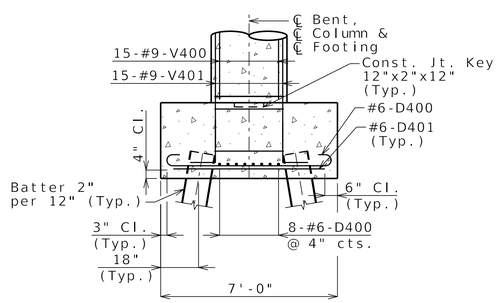
(Beam Keys not shown for clarity)



SECTION D-D



PLAN OF PILE FOOTING



SECTION E-E

DETAILS OF INTERMEDIATE BENT NO. 4

Detailed Aug 2025
Checked Aug 2025

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

STATE OF MISSOURI
DUSTIN TREGNAGO
NUMBER PE-2016012977
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	12

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9572

DESCRIPTION

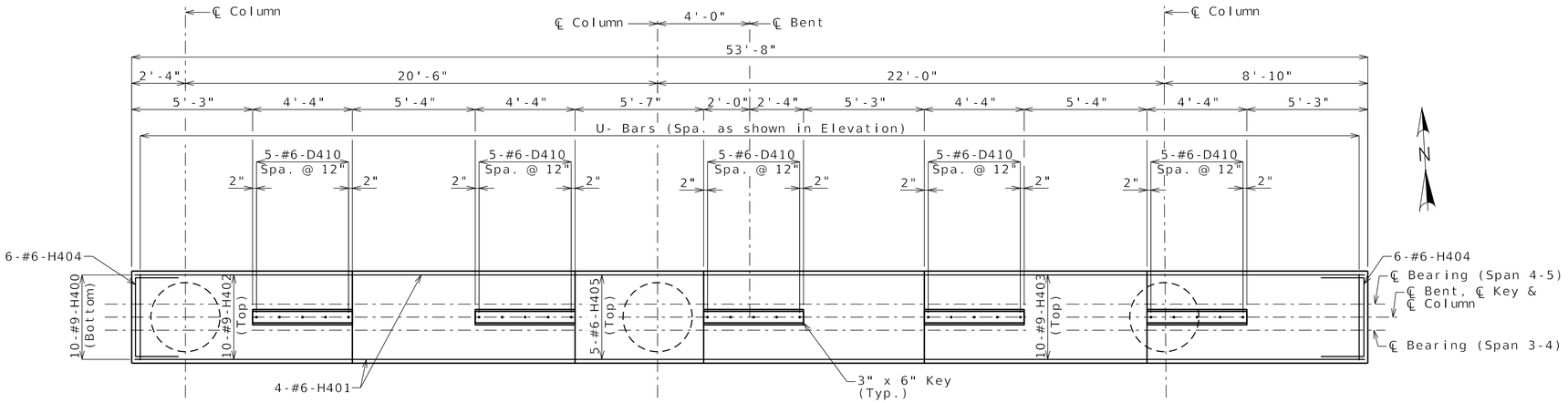
DATE

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

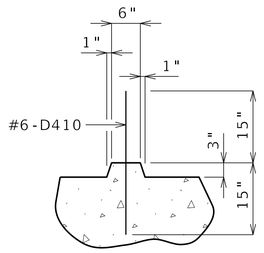
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

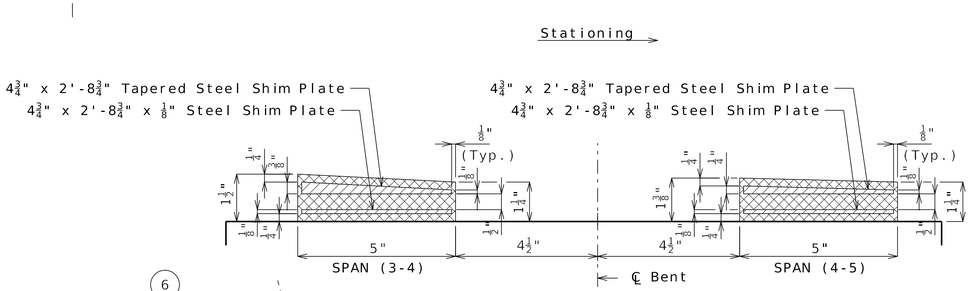
DUSTIN TREGNAGO
PROFESSIONAL ENGINEER
PE-2016012977



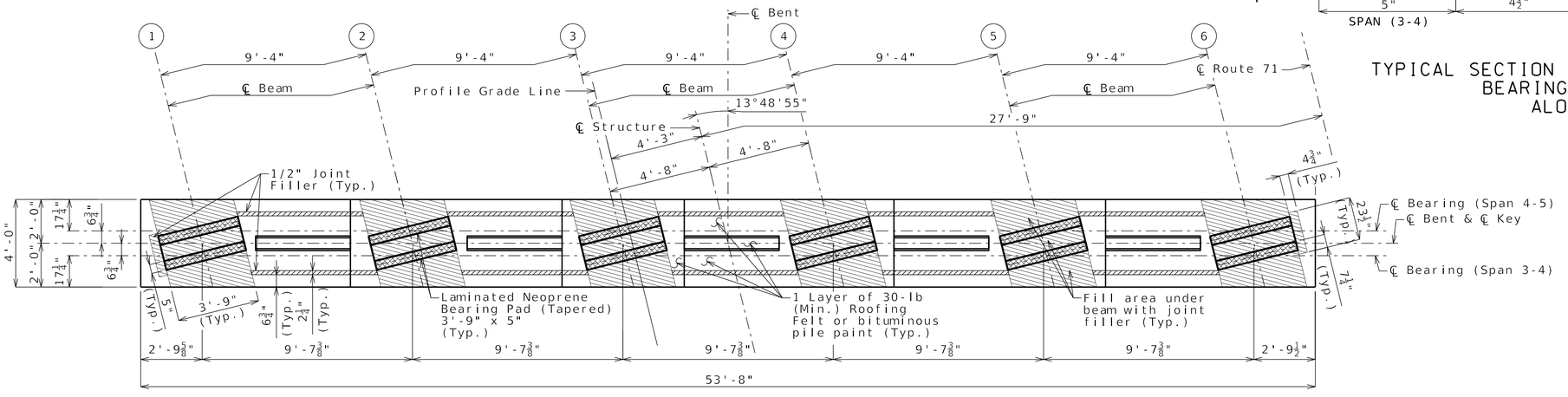
PLAN SHOWING REINFORCEMENT



SECTION THRU KEY



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PADS (TAPERED) ALONG ℄ GIRDER



PLAN OF BEAM

Notes:

For steps 2 inches or more, use 2 1/4 x 1/2 inch joint filler up vertical face.

Work this sheet with Sheet No. 12.

Substructure Quantity Table for Bent No. 4		
Item		Quantity
Class 1 Excavation	cu. yard	77.8
Class 1 Excavation in Rock	cu. yard	10.9
Galvanized Structural Steel Piles (14 in.)	linear foot	52
Pre-Bore for Piling	linear foot	48
Pile Point Reinforcement	each	4
Class B Concrete (Substructure)	cu. yard	69.1
Reinforcing Steel (Bridges)	pound	1023
Reinforcing Steel (Epoxy Coated)	pound	12,519

These quantities are included in the Estimated Quantities table on Sheet No. 2.

DETAILS OF INTERMEDIATE BENT NO. 4

Detailed Aug 2025
Checked Aug 2025

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

STATE OF MISSOURI
DUSTIN TREGNAGO
NUMBER PE-2016012977
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	13

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9572

DESCRIPTION

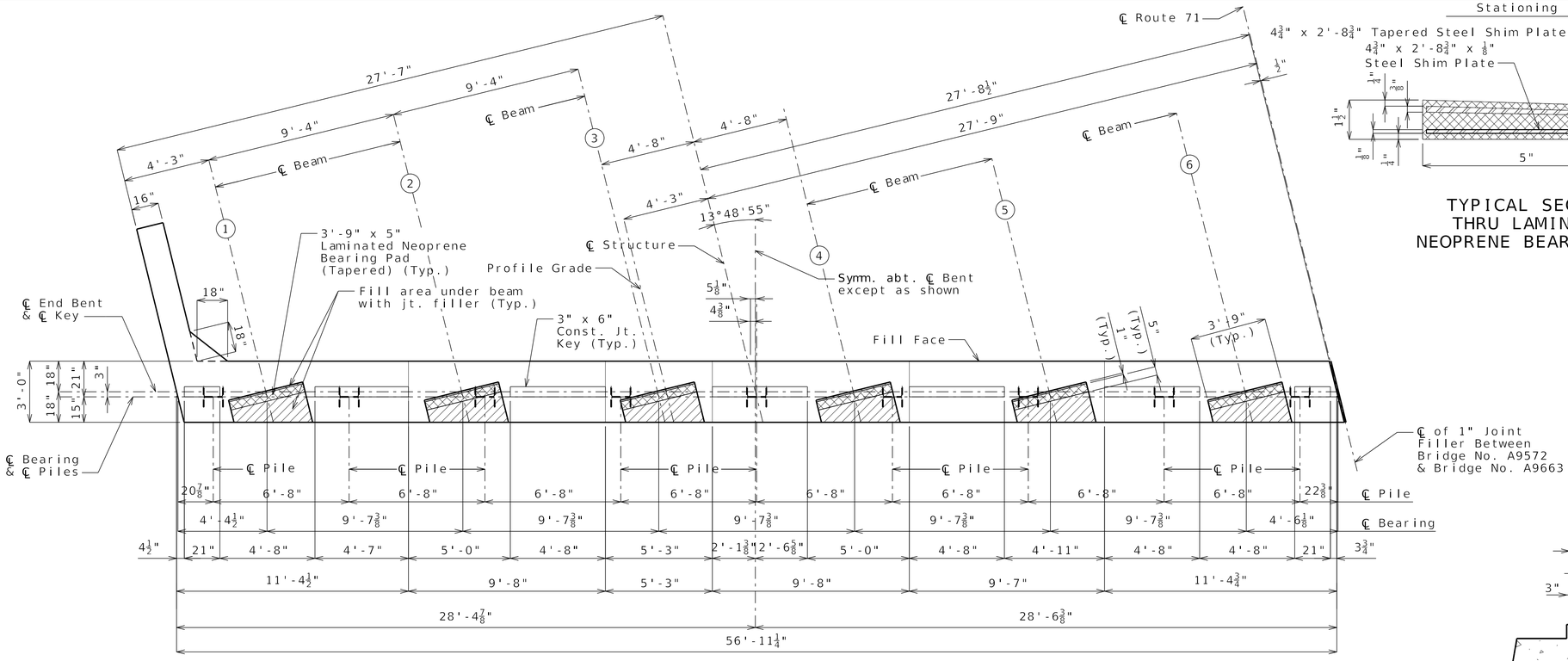
DATE

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

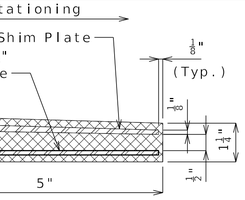
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

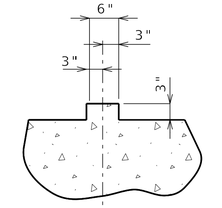
DUSTIN TREGNAGO
PROFESSIONAL ENGINEER
PE-2016012977



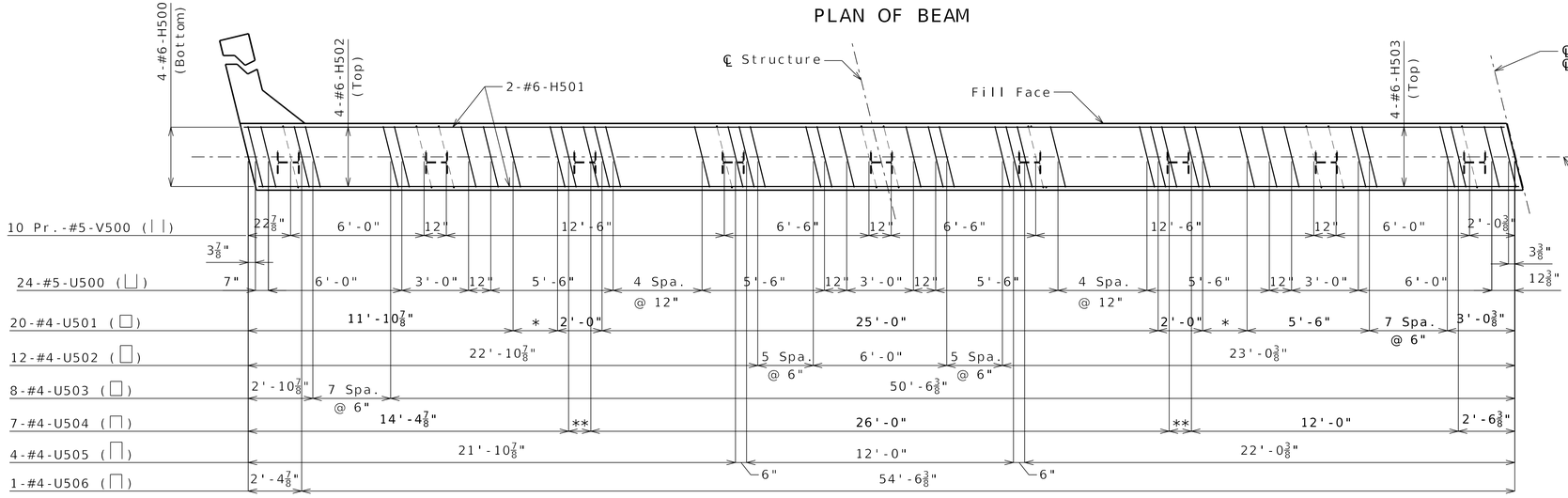
PLAN OF BEAM



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD

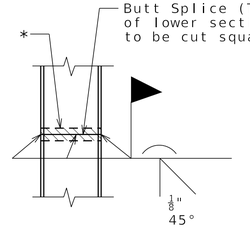


SECTION THRU KEY



* 4 Spa. @ 6"
** 2 Spa. @ 6"

PLAN OF BEAM SHOWING REINFORCEMENT
Keys not shown for clarity.



STEEL PILE SPLICE
(If required)

* 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. 15 & 16.

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.

END BENT NO. 5

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	14

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

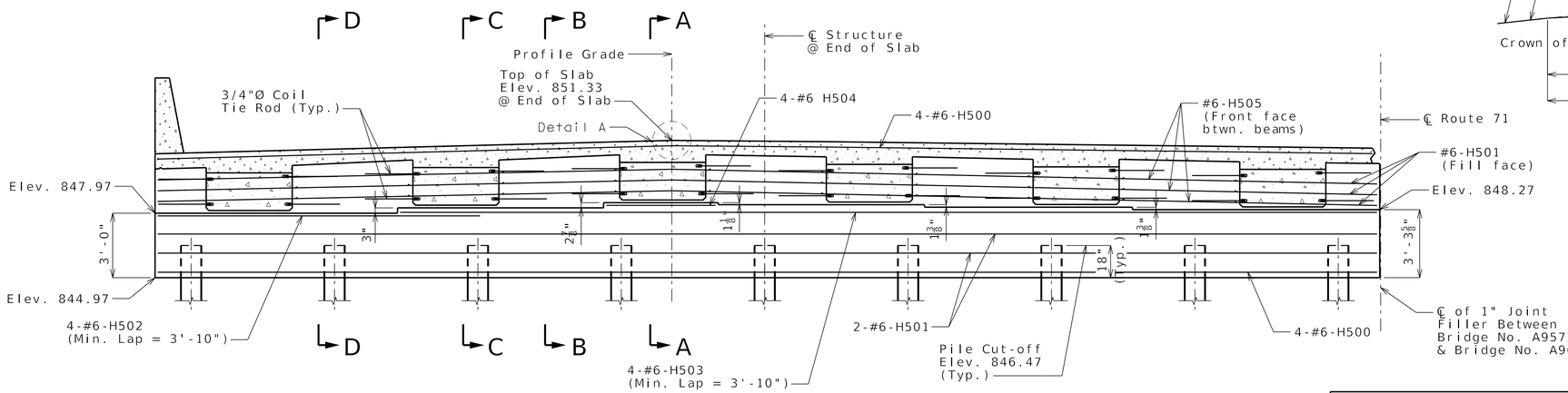
BRIDGE NO.
A9572

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



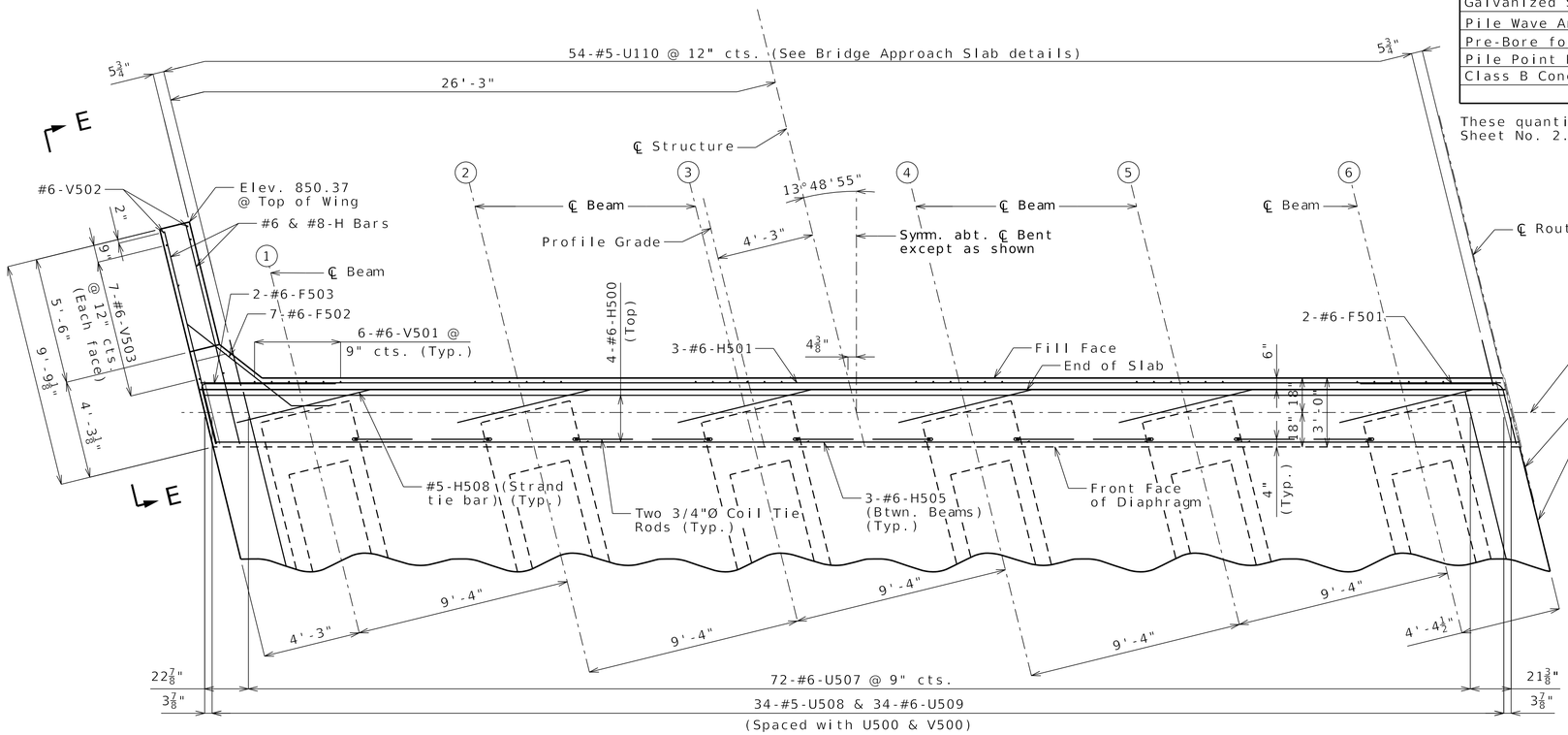
SECTION NEAR END BENT

Note: Keys not shown for clarity.

DETAIL A

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	43.0
Galvanized Structural Steel Piles (12 in.)	linear foot	283
Pile Wave Analysis	each	1
Pre-Bore for Piling	linear foot	246
Pile Point Reinforcement	each	9
Class B Concrete (Substructure)	cu. yard	21.7

These quantities are included in the Estimated Quantities table on Sheet No. 2.



PART PLAN

END BENT NO. 5

General Notes:

Work this sheet with Sheets No. 14 & 16.

For Sections A-A, B-B, C-C & D-D and Elevation E-E, see Sheet No. 16.

The #6-F502 bars shall be bent in the field to clear beams.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

Strands at end of the beams 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-H508 (strand tie bar), see Sheet No. 19.

For details of vertical drain at end bents, see Sheet No. 7.

For details of bridge approach slab, see Sheet No. 28.

All U bars and pairs of V bars shall be placed parallel to centerline of roadway.

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
PROFESSIONAL ENGINEER
DERRICK J. PRICE
NUMBER PE-2019032100
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

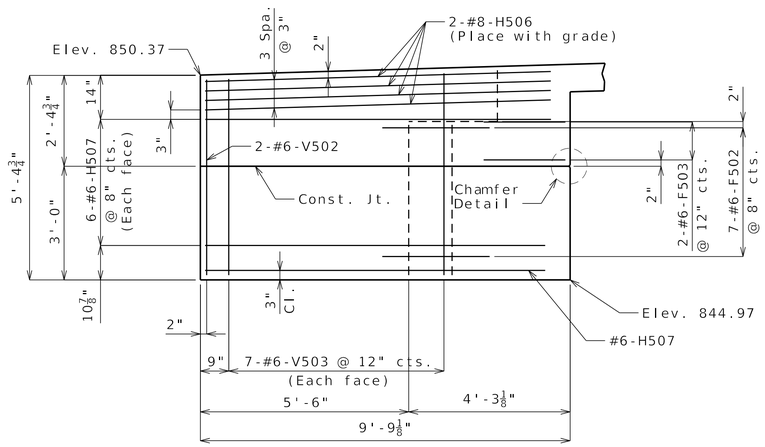
DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 15
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9572

DESCRIPTION | DATE

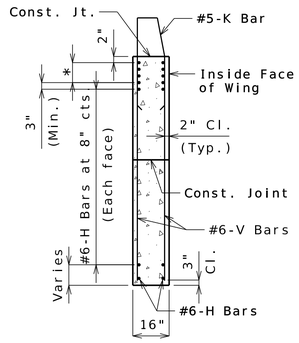
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4655
Fax: (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

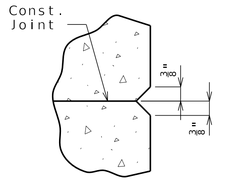


ELEVATION E-E

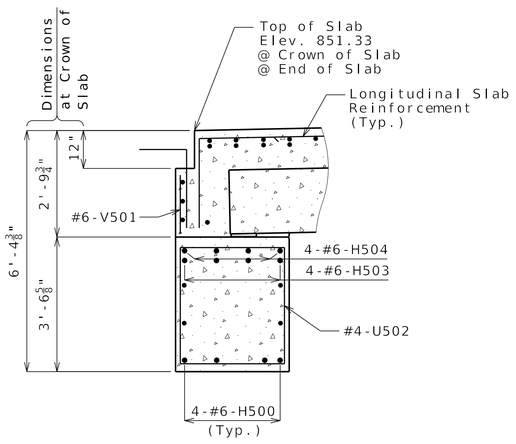


TYPICAL SECTION
THRU WING

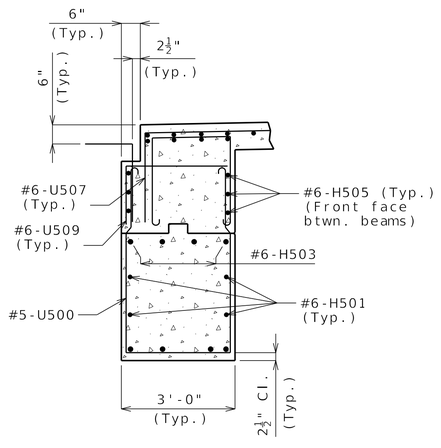
* #8-H Bars at 3" cts.
(Each face)(Place with grade)



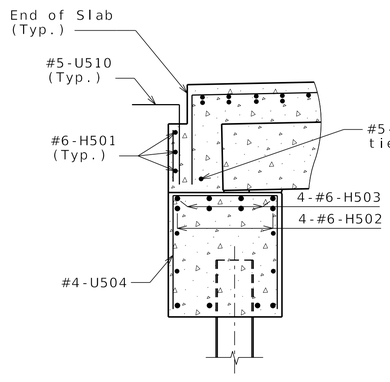
CHAMFER DETAIL



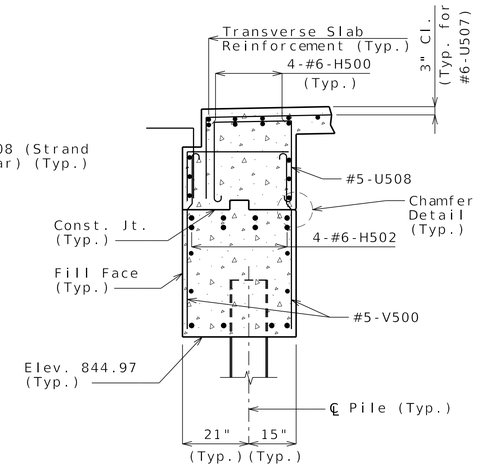
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

General Notes:

Work this sheet with Sheets No. 14 & 15.

For reinforcement of the barrier, see Sheets No. 25, 26 & 27.

END BENT NO. 5

Detailed July 2025
Checked July 2025

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

B_A9572_013_J4S3490_EB5_03.dgn 3:25:57 PM 10/22/2025

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	16

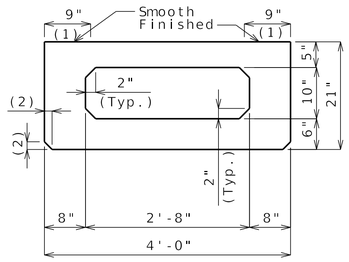
COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9572

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)

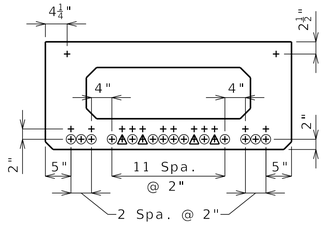
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



DIMENSIONS

(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.

(2) $1\frac{1}{2}$" (Typ.) ($\frac{3}{4}$" Optional)



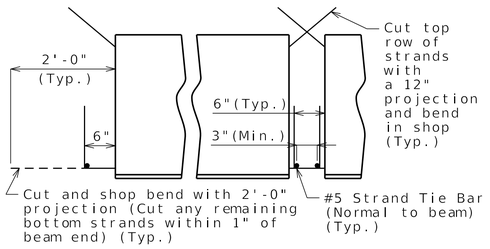
STRAND ARRANGEMENT

All strands are fully bonded unless otherwise noted.

+ Indicates prestressing strand.

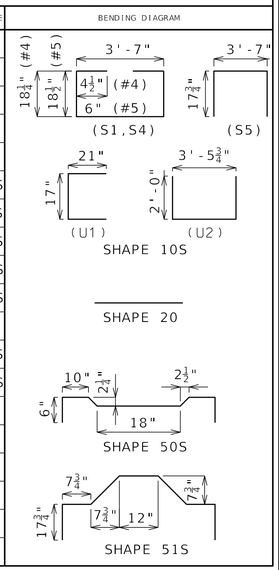
○ Indicates cut and shop bend with 2'-0" projection.

△ Indicates debonded for 2'-0" from end of beam.



STRANDS AT BEAM ENDS

BILL OF REINFORCING STEEL - EACH BEAM				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
5	5 A1	56'-9"	20	
4	4 A2	56'-9"	20	
17	4 C1	3'-7"	20	
53	5 S1	7'-3"	10S	
53	5 S2	6'-9"	51S	
53	4 S3	4'-6"	50S	
18	5 S4	7'-3"	10S	
18	5 S5	6'-4"	10S	
12	6 U1	4'-7"	10S	
4	4 U2	7'-4"	10S	



All dimensions are out to out. Use symmetry for dimensions not shown.

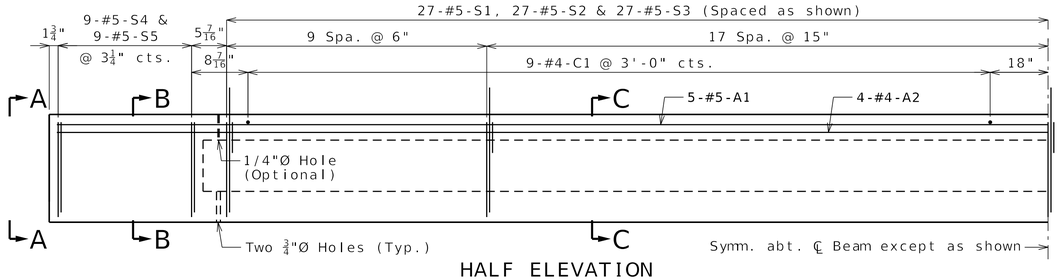
Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual lengths are measured along centerline of bar to the nearest inch.

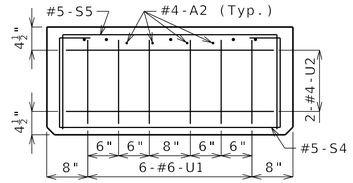
Minimum clearance to reinforcing shall be one inch, unless otherwise shown.

All reinforcement shall be Grade 60.

All S2 bars shall be epoxy coated.

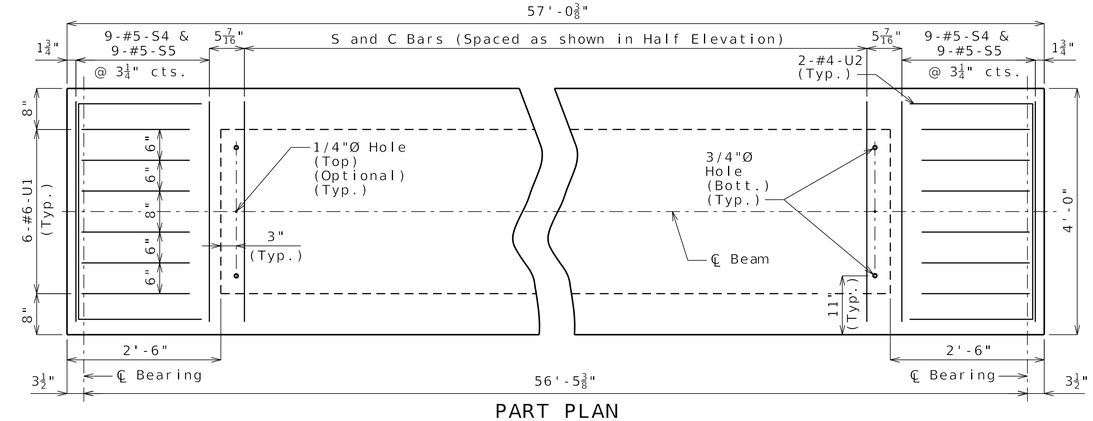


HALF ELEVATION

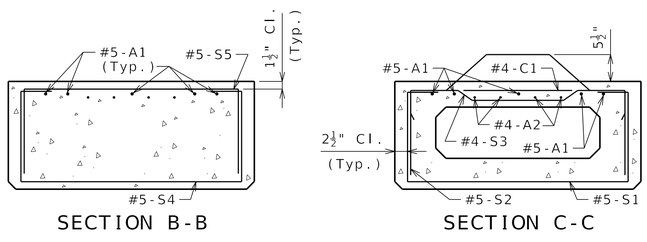


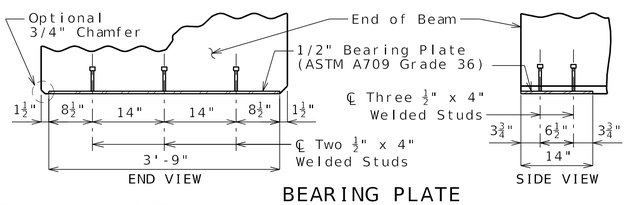
ELEVATION A-A

Strands not shown for clarity.



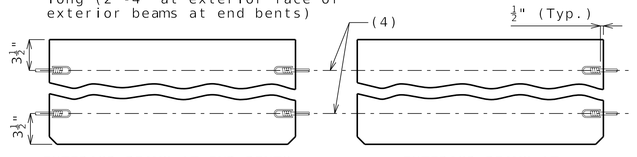
PART PLAN





BEARING PLATE

(4) ℄ 3/4"Ø (Min.) Coil Tie Rods 2'-6" long (2'-4" at exterior face of exterior beams at end bents)



COIL TIES

General Notes:

Concrete for prestressed beams shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

Use 32 strands, 0.6"Ø Grade 270, with an initial prestress force of 1406 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior beams are the same except: coil ties.

For Beam Camber Diagram, see Sheet No. 21.

For location of coil ties at concrete bent diaphragms, see Sheet No. 20.

STATE OF MISSOURI
DERRICK A. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025

ROUTE 71 | STATE MO

DISTRICT BR | SHEET NO. 17

COUNTY JACKSON

JOB NO. J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9572

DESCRIPTION | DATE

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

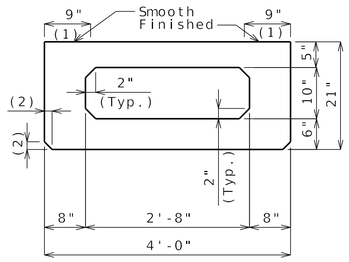
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

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

Detailed July 2025
Checked July 2025

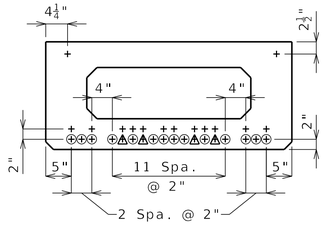
Note: This drawing is not to scale. Follow dimensions.

SPREAD BOX BEAMS - SPAN (1-2)



DIMENSIONS

(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.



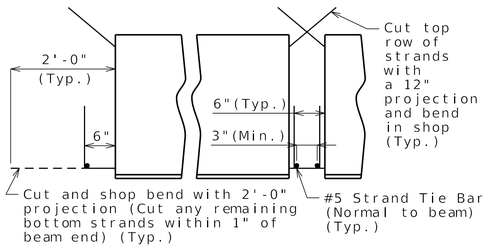
STRAND ARRANGEMENT

All strands are fully bonded unless otherwise noted.

+ Indicates prestressing strand.

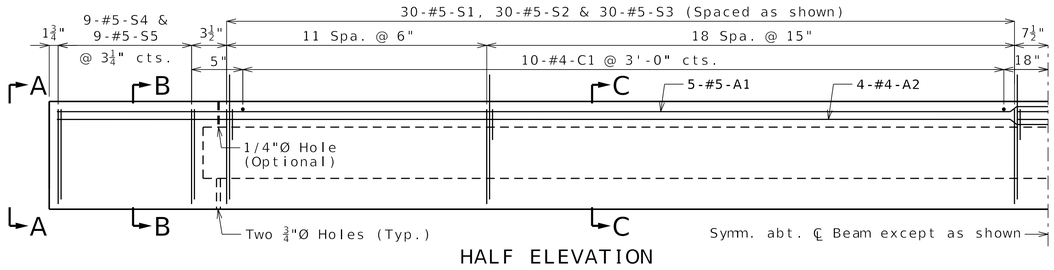
○ Indicates cut and shop bend with 2'-0" projection.

Δ Indicates debonded for 2'-0" from end of beam.

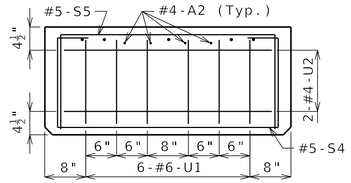


STRANDS AT BEAM ENDS

(2) 1½" (Typ.) (¾" Optional)

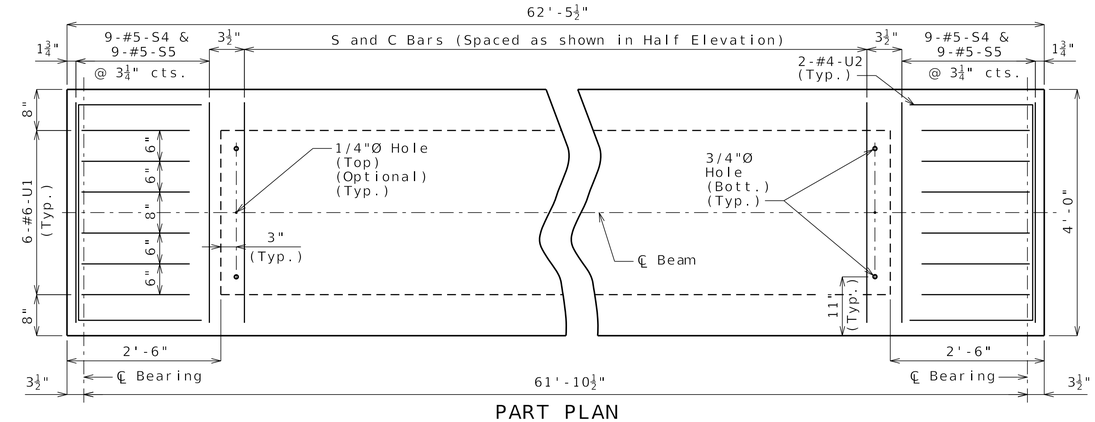


HALF ELEVATION

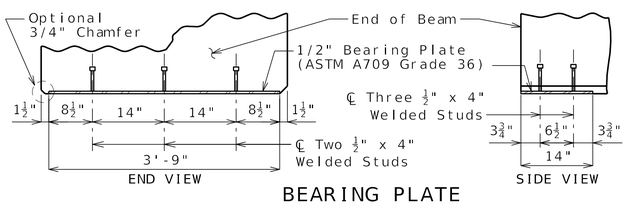


ELEVATION A-A

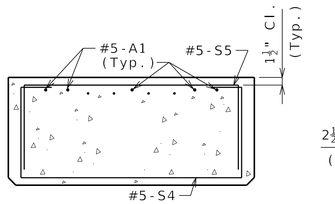
Strands not shown for clarity.



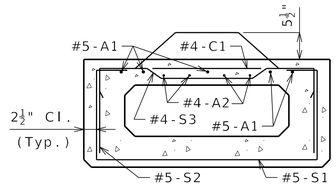
PART PLAN



BEARING PLATE

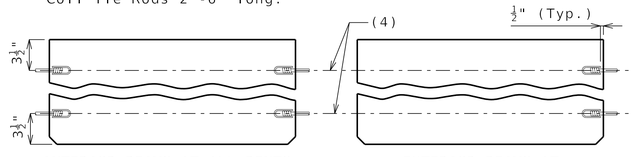


SECTION B-B



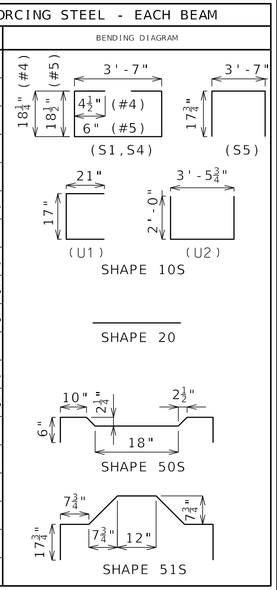
SECTION C-C

(4) ℄ 3/4"Ø (Min.) Coil Tie Rods 2'-6" long.



COIL TIES

BILL OF REINFORCING STEEL - EACH BEAM				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
10	5 A1	32'-2"	20	
8	4 A2	31'-11"	20	
19	4 C1	3'-7"	20	
60	5 S1	7'-3"	10S	
60	5 S2	6'-9"	51S	
60	4 S3	4'-6"	50S	
18	5 S4	7'-3"	10S	
18	5 S5	6'-4"	10S	
12	6 U1	4'-7"	10S	
4	4 U2	7'-4"	10S	



All dimensions are out to out. Use symmetry for dimensions not shown.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be one inch, unless otherwise shown.

All reinforcement shall be Grade 60.

All S2 bars shall be epoxy coated.

General Notes:

Concrete for prestressed beams shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

Use 32 strands, 0.6"Ø Grade 270, with an initial prestress force of 1406 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior beams are the same except: coil ties.

For Beam Camber Diagram, see Sheet No. 21.

For location of coil ties at concrete bent diaphragms, see Sheet No. 20.

STATE OF MISSOURI
DERRICK A. PRICE
NUMBER PE-2019032100
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 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	18

COUNTY: JACKSON

JOB NO.: J4S3490

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.: A9572

DESCRIPTION	DATE

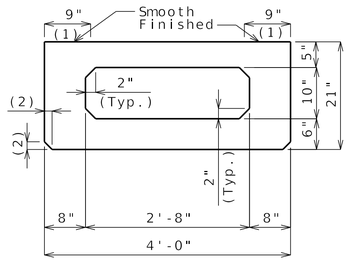
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Detailed July 2025
Checked July 2025

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

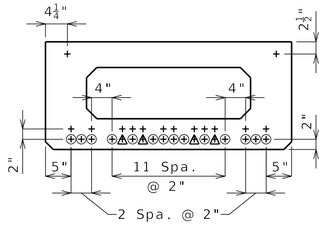
SPREAD BOX BEAMS - SPANS (2-3) & (3-4)



DIMENSIONS

(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.

(2) $1\frac{1}{2}$" (Typ.) ($\frac{3}{4}$" Optional)



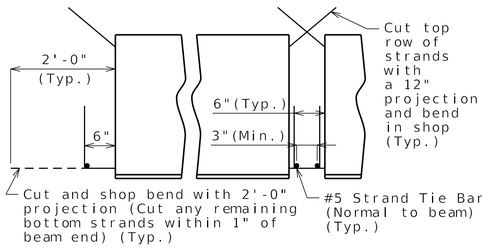
STRAND ARRANGEMENT

All strands are fully bonded unless otherwise noted.

\+ Indicates prestressing strand.

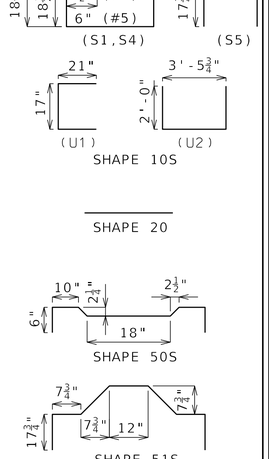
○ Indicates cut and shop bend with 2'-0" projection.

Δ Indicates debonded for 2'-0" from end of beam.



STRANDS AT BEAM ENDS

BILL OF REINFORCING STEEL - EACH BEAM				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
5	5 A1	46'-9"	20	
4	4 A2	46'-9"	20	
15	4 C1	3'-7"	20	
51	5 S1	7'-3"	10S	
51	5 S2	6'-9"	51S	
51	4 S3	4'-6"	50S	
18	5 S4	7'-3"	10S	
18	5 S5	6'-4"	10S	
12	6 U1	4'-7"	10S	
4	4 U2	7'-4"	10S	



All dimensions are out to out. Use symmetry for dimensions not shown.

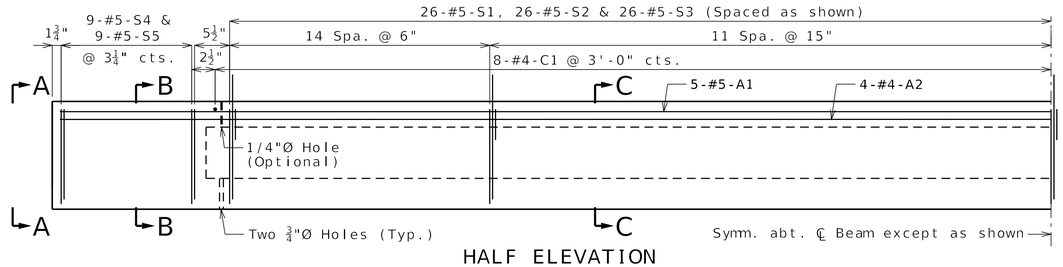
Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual lengths are measured along centerline of bar to the nearest inch.

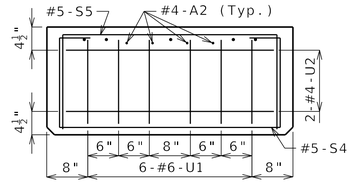
Minimum clearance to reinforcing shall be one inch, unless otherwise shown.

All reinforcement shall be Grade 60.

All S2 bars shall be epoxy coated.

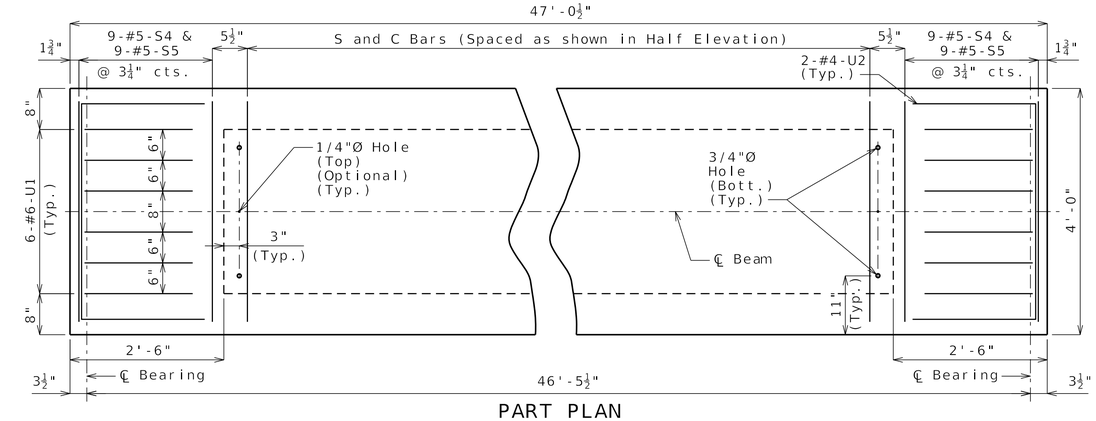


HALF ELEVATION

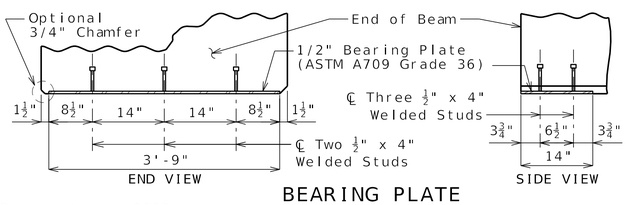


ELEVATION A-A

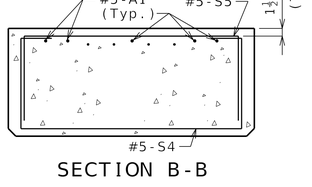
Strands not shown for clarity.



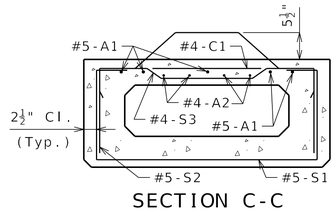
PART PLAN



BEARING PLATE

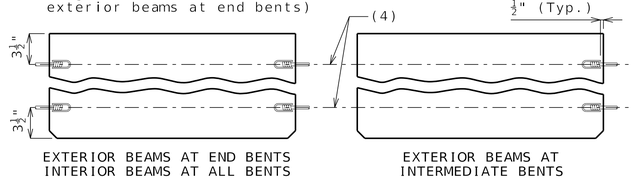


SECTION B-B



SECTION C-C

(4) ℄ 3/4"Ø (Min.) Coil Tie Rods 2'-6" long (2'-4" at exterior face of exterior beams at end bents)



EXTERIOR BEAMS AT END BENTS
INTERIOR BEAMS AT ALL BENTS

EXTERIOR BEAMS AT INTERMEDIATE BENTS

COIL TIES

General Notes:

Concrete for prestressed beams shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

Use 32 strands, 0.6"Ø Grade 270, with an initial prestress force of 1406 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior beams are the same except: coil ties.

For Beam Camber Diagram, see Sheet No. 21.

For location of coil ties at concrete bent diaphragms, see Sheet No. 20 .

STATE OF MISSOURI
DERRICK A. PRICE
NUMBER PE-2019032100
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 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 19
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9572

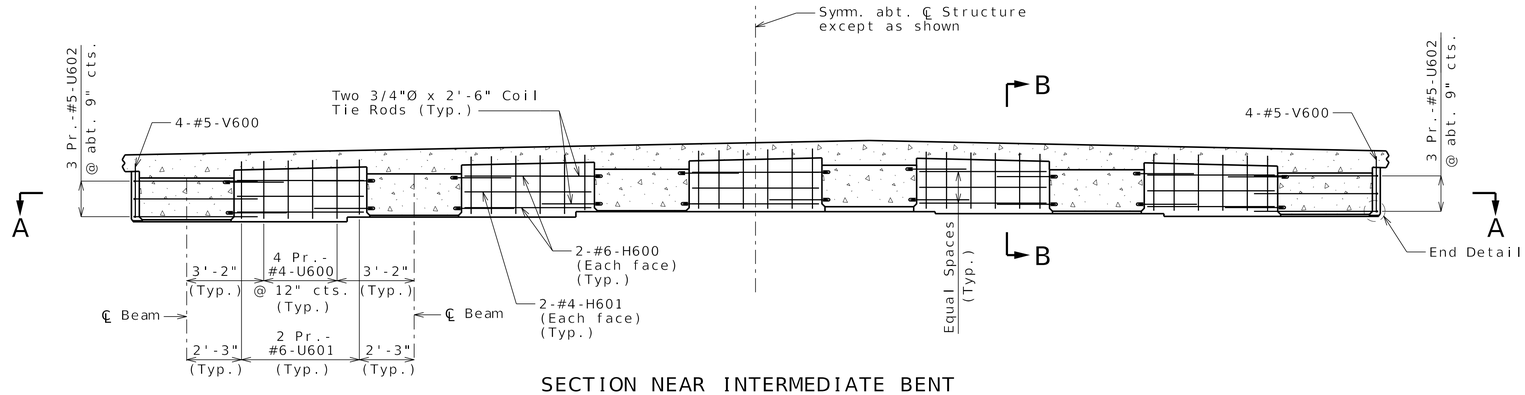
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Detailed July 2025
Checked July 2025

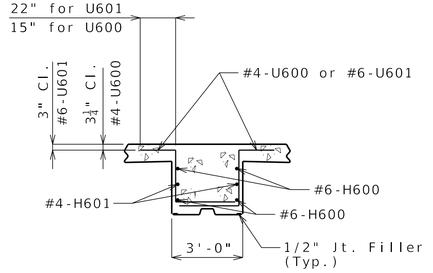
Note: This drawing is not to scale. Follow dimensions.

SPREAD BOX BEAMS - SPAN (4-5)

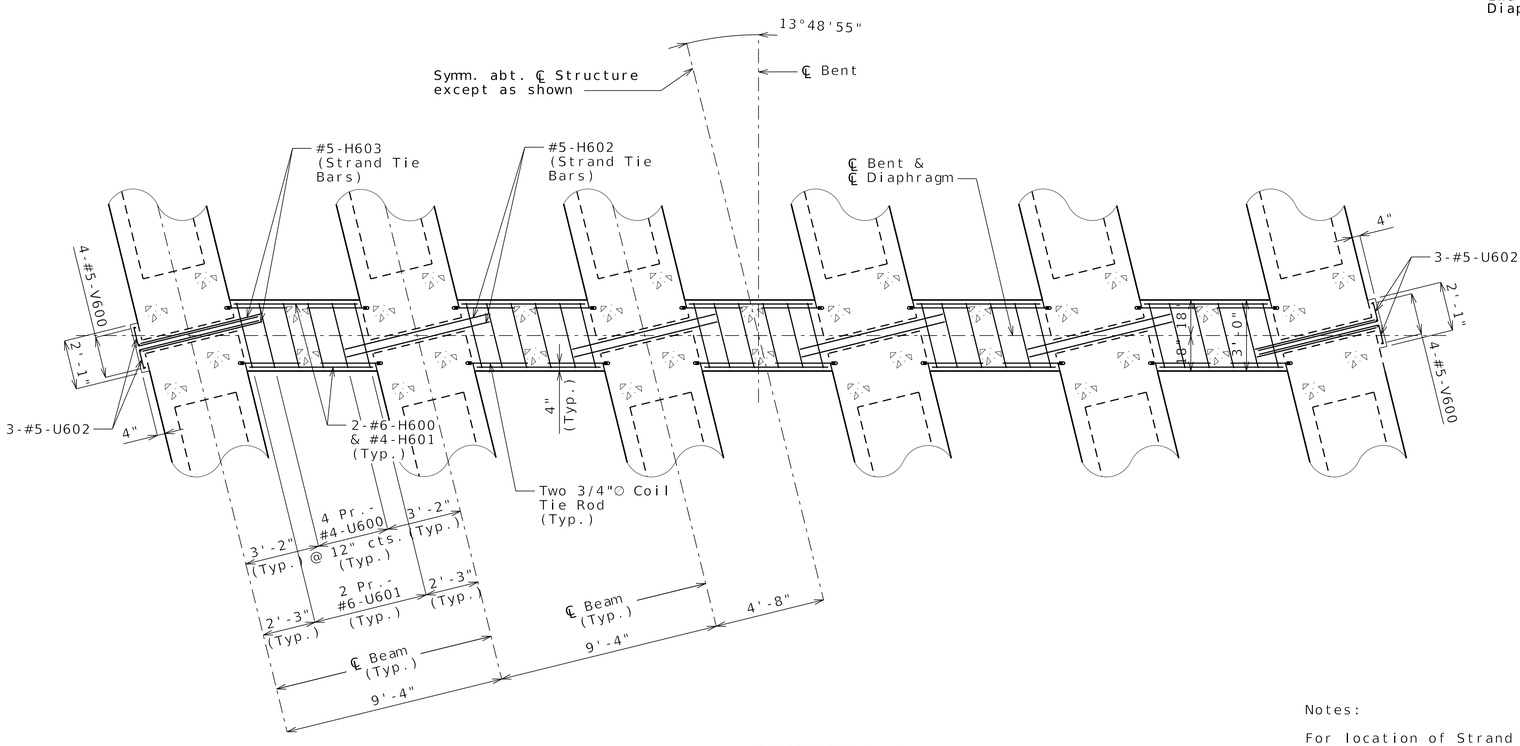


SECTION NEAR INTERMEDIATE BENT

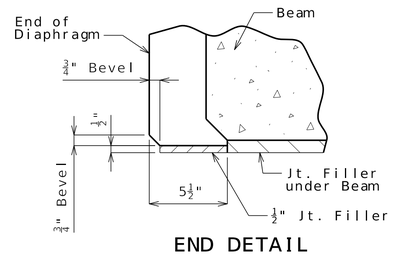
Normal to ℄ Structure



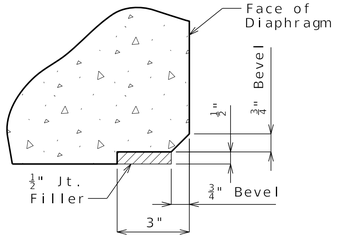
SECTION B-B



SECTION A-A



END DETAIL



EDGE DETAIL

Notes:

For location of Strand Tie Bars, see Sheets No. 17 thru 19.

For location and details of Coil Tie Rods, see Sheets No. 17 thru 19.

Diaphragms at intermediate bents shall be built vertical.

All U-bars in diaphragms are to be placed parallel to ℄ Roadway

CONCRETE DIAPHRAGMS AT INTERMEDIATE BENTS

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	20

COUNTY: JACKSON

JOB NO.: J4S3490

CONTRACT ID.:

PROJECT NO.:

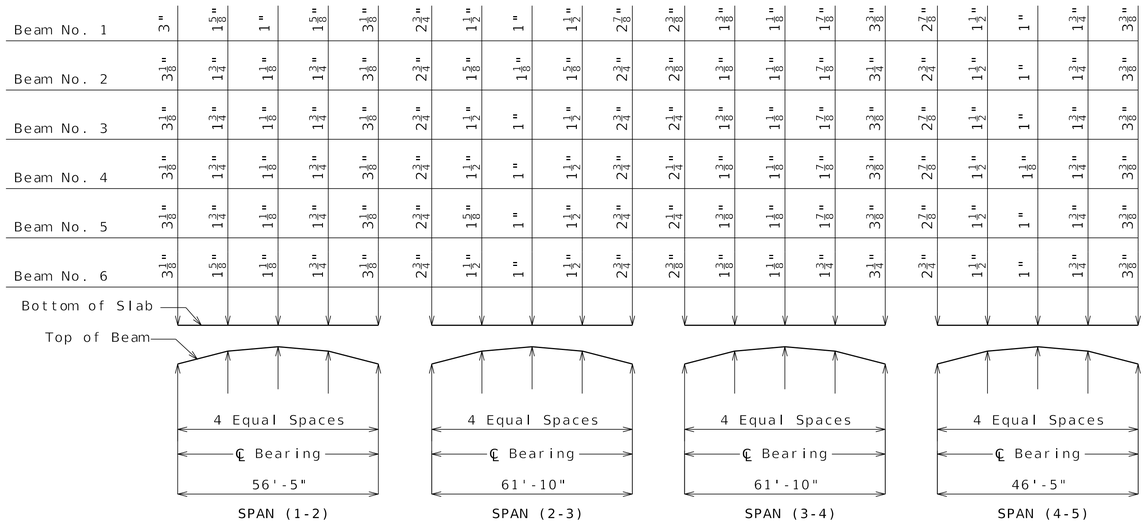
BRIDGE NO.: A9572

DESCRIPTION	DATE

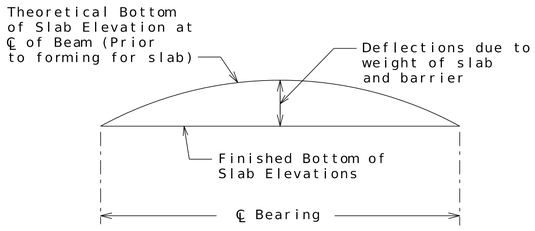
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

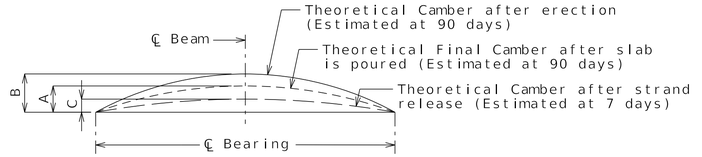
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)



TYPICAL SLAB ELEVATIONS DIAGRAM



Beam	Span (1-2)			Span (2-3)			Span (3-4)			Span (4-5)		
	A	B	C	A	B	C	A	B	C	A	B	C
Exterior	2 1/4"	3 1/2"	2"	2"	3 3/4"	2 1/8"	2"	3 3/4"	2 1/8"	2 1/4"	2 3/4"	1 5/8"
Interior	2 1/4"			2"			2"			2 1/4"		

BEAM CAMBER DIAGRAM

Conversion Factors for Beam Camber (Estimated at 90 days):
0.25 pt. = 0.7125 x 0.5 pt.

If beam 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 Beam.

Theoretical Bottom of Slab Elevations at Centerline of Beam (Prior to forming for slab) (Estimated at 90 days)

Beam Number	Span (1-2) (56'-5" ℄ Brg. - ℄ Brg.)					Span (2-3) (61'-10" ℄ Brg. - ℄ Brg.)					Span (3-4) (61'-10" ℄ Brg. - ℄ Brg.)					Span (4-5) (46'-5" ℄ Brg. - ℄ Brg.)				
	℄ Brg.	.25	.50	.75	℄ Brg.	℄ Brg.	.25	.50	.75	℄ Brg.	℄ Brg.	.25	.50	.75	℄ Brg.	℄ Brg.	.25	.50	.75	℄ Brg.
1	858.32	857.96	857.56	857.08	856.55	856.51	856.10	855.62	855.04	854.39	854.35	853.89	853.36	852.73	852.03	851.99	851.56	851.11	850.63	850.12
2	858.57	858.22	857.82	857.34	856.81	856.78	856.37	855.89	855.32	854.66	854.62	854.17	853.64	853.01	852.31	852.26	851.84	851.39	850.91	850.40
3	858.81	858.47	858.07	857.59	857.06	857.02	856.62	856.15	855.57	854.92	854.88	854.43	853.90	853.27	852.57	852.53	852.11	851.66	851.18	850.67
4	858.72	858.38	857.98	857.51	856.98	856.94	856.54	856.07	855.49	854.84	854.80	854.35	853.83	853.20	852.50	852.46	852.04	851.59	851.11	850.60
5	858.60	858.26	857.86	857.39	856.87	856.83	856.43	855.96	855.39	854.74	854.70	854.25	853.73	853.10	852.41	852.36	851.94	851.50	851.02	850.51
6	858.48	858.14	857.74	857.28	856.75	856.72	856.32	855.84	855.27	854.63	854.59	854.14	853.62	853.00	852.31	852.26	851.85	851.40	850.92	850.42

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 including barrier.

DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
STATE OF MISSOURI
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

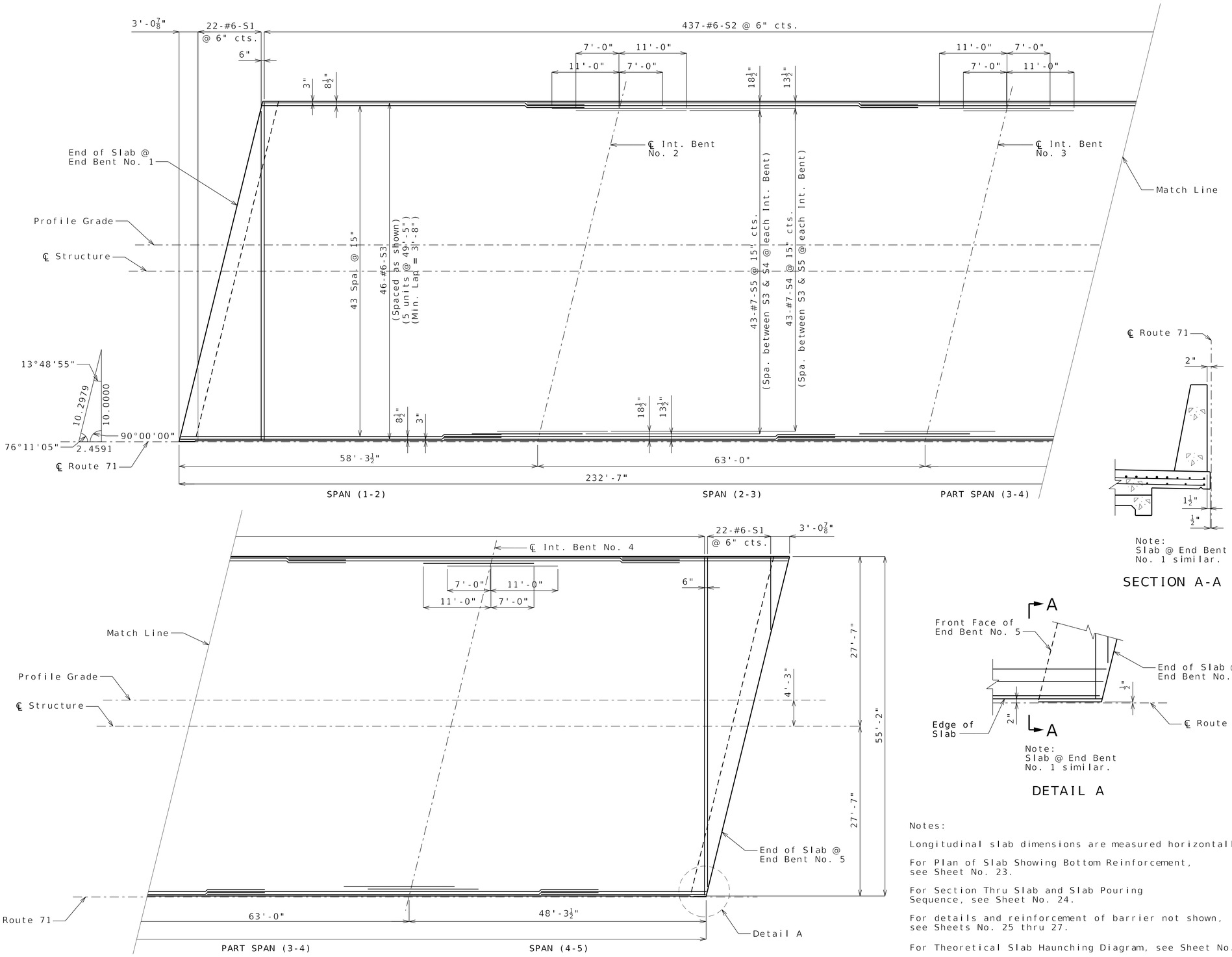
DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 21
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9572

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



PLAN OF SLAB SHOWING TOP REINFORCEMENT

Notes:

Longitudinal slab dimensions are measured horizontally.

For Plan of Slab Showing Bottom Reinforcement, see Sheet No. 23.

For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 24.

For details and reinforcement of barrier not shown, see Sheets No. 25 thru 27.

For Theoretical Slab Haunching Diagram, see Sheet No. 21 .

For Theoretical Bottom of Slab Elevations, see Sheet No. 21 .

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
PROFESSIONAL ENGINEER
DERRICK L PRICE
NUMBER PE-2019032100
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: 10/23/2025

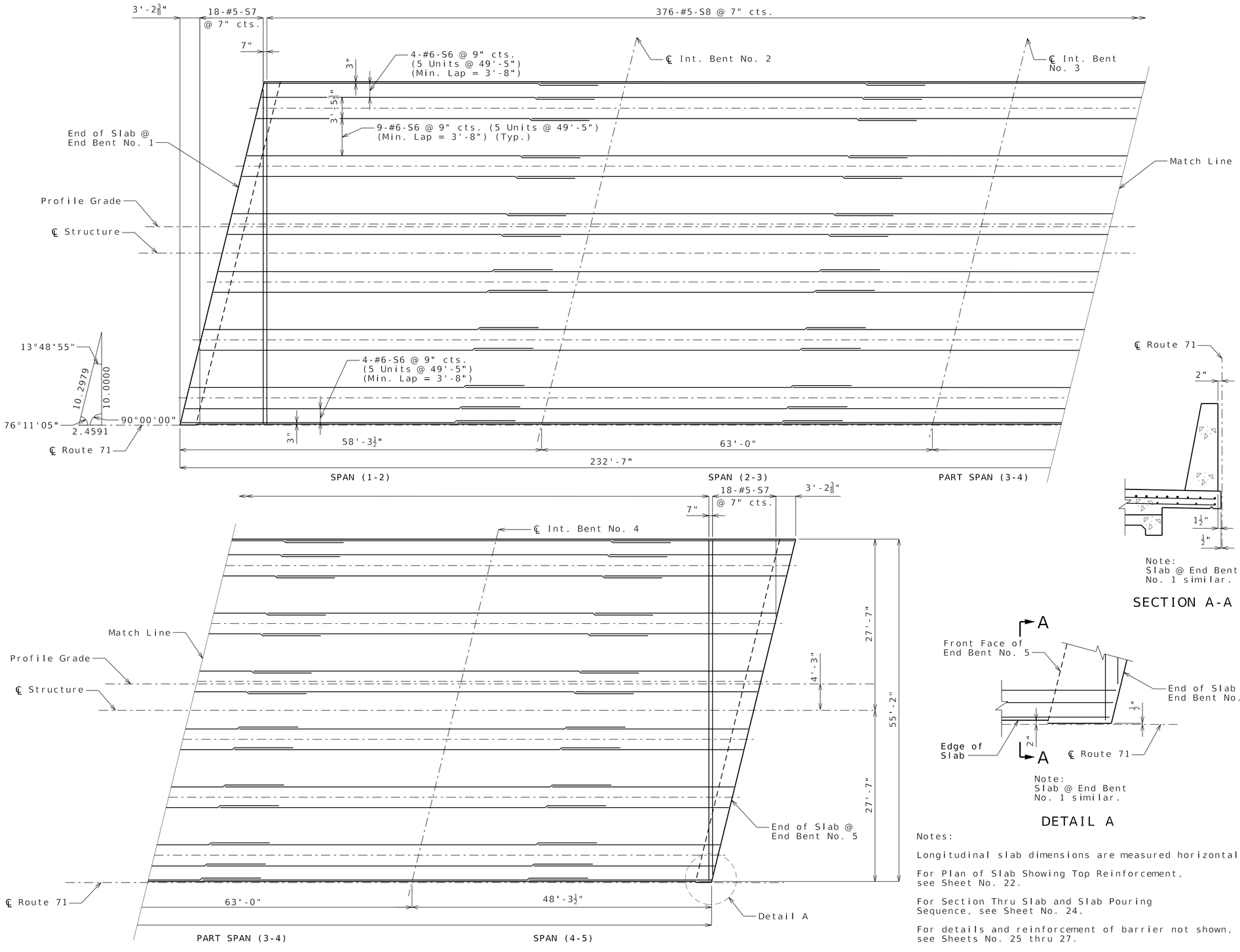
ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	22

COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9572

DESCRIPTION	DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4655
Fax: (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT

Note:
Slab @ End Bent No. 1 similar.

SECTION A-A

Note:
Slab @ End Bent No. 1 similar.

DETAIL A

Notes:

Longitudinal slab dimensions are measured horizontally.

For Plan of Slab Showing Top Reinforcement, see Sheet No. 22.

For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 24.

For details and reinforcement of barrier not shown, see Sheets No. 25 thru 27.

For Theoretical Slab Haunching Diagram, see Sheet No. 21 .

For Theoretical Bottom of Slab Elevations, see Sheet No. 21 .

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	23

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

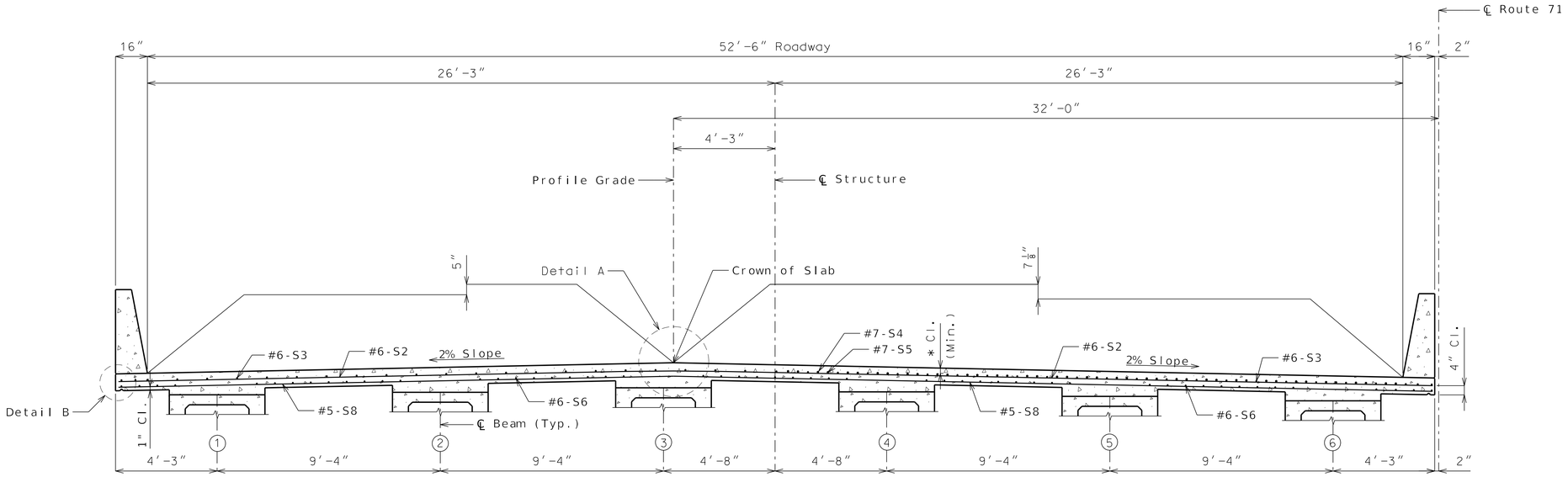
PROJECT NO.

BRIDGE NO.
A9572

DESCRIPTION	DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4855
Fax (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

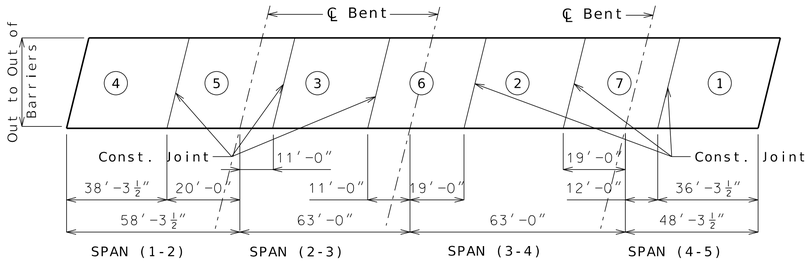


HALF SECTION NEAR MIDSPAN

HALF SECTION NEAR INTERMEDIATE BENT

SECTION THRU SLAB

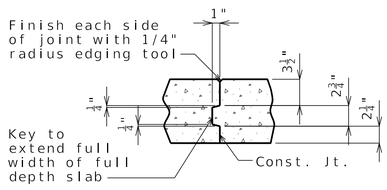
* 3" (#6)
2 7/8" (#7)



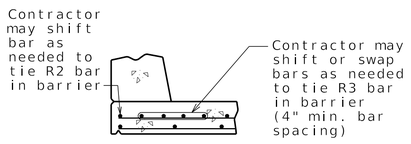
	Sequence of Pours							Min. Rate of Pour Cu. Yds./Hr.
	Direction							With Retarder
Basic Sequence	1	2	3	4	5	6	7	29
	Either Direction							
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.								
Alternate A Pours	1	7 + 2		6 + 3		5 + 4		29
	End to 7	1 to 6		2 to 5		3 to End		
Alternate B Pours	1 + 7 + 2		6 + 3		5 + 4			29
	End to 6		2 to 5		3 to End			
Alternate C Pours	1 + 7 + 2			6 + 3 + 5 + 4				29
	End to 6			2 to End				
Alternate D Pours	1 + 7 + 2 + 6 + 3 + 5 + 4							29
	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.

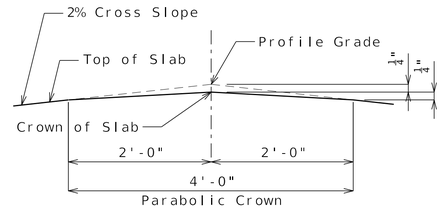
SLAB POURING SEQUENCE



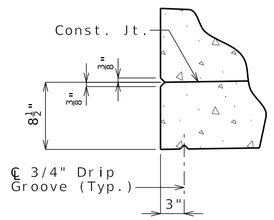
FULL DEPTH SLAB
SLAB CONSTRUCTION JOINT



OPTIONAL SHIFTING TOP BARS AT BARRIER



DETAIL A



DETAIL B

Notes:

For reinforcement of barrier not shown, see Sheets No. 25 thru 27.

For barrier on Approach Slab, see Sheet No. 27 .

For Theoretical Bottom of Slab Elevations, Beam Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 21.

For Plan of Slab Showing Reinforcement, see Sheets No. 22, & 23.

SLAB DETAILS

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032109
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025

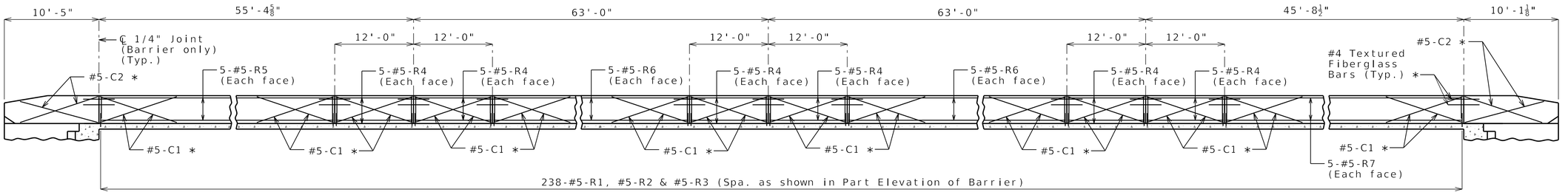
ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	24

COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9572

DESCRIPTION	DATE

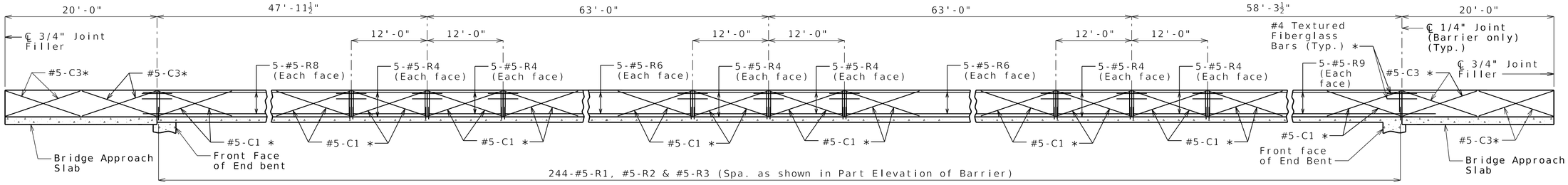
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



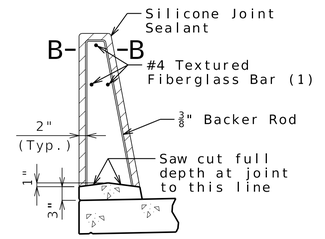
ELEVATION OF LEFT BARRIER

Longitudinal dimensions are horizontal.

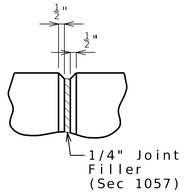


ELEVATION OF RIGHT BARRIER

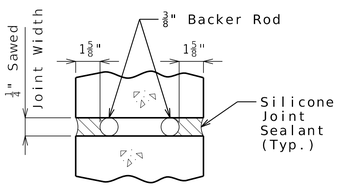
Longitudinal dimensions are horizontal.



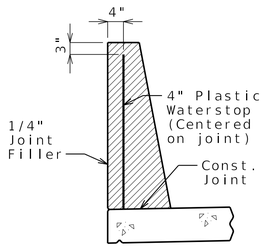
SECTION THRU SAW CUT JOINT



PART ELEVATION AT FORMED JOINT



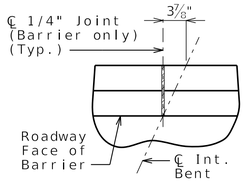
SECTION B-B



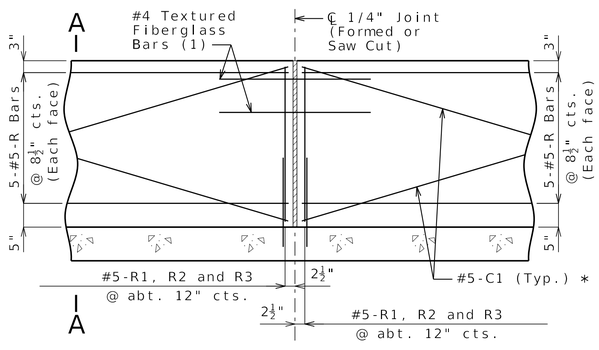
WATERSTOP DETAIL

Plastic waterstop shall be placed in all formed joints, except structures with superelevation, use on lower joints only.

Cost of plastic waterstop, complete in place, will be considered completely covered by the contract unit price for Type D Barrier.

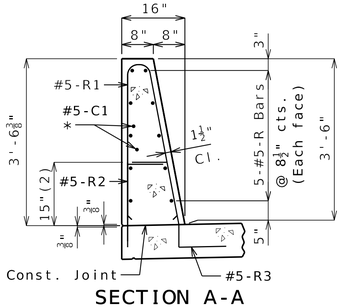


PART PLAN SHOWING JOINT LOCATION



PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

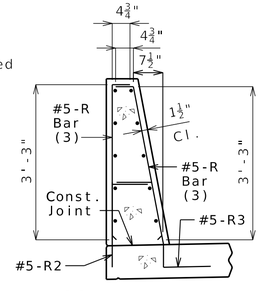


SECTION A-A

Use a minimum lap of 2'-6" 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.)

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 at end bents on left barrier) 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 left barrier and end of approach slab to end of approach slab for the right barrier.

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, one-way traffic shall have retroreflective sheeting on one side. 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.

TYPE D BARRIER

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK A. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

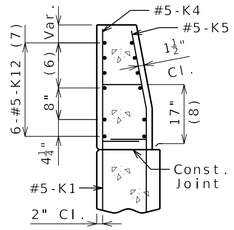
DATE PREPARED: 10/23/2025
ROUTE: 71 | STATE: MO
DISTRICT: BR | SHEET NO.: 25
COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9572

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

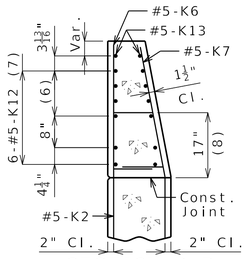
DESCRIPTION | DATE

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

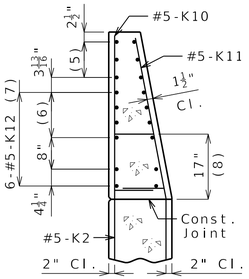
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



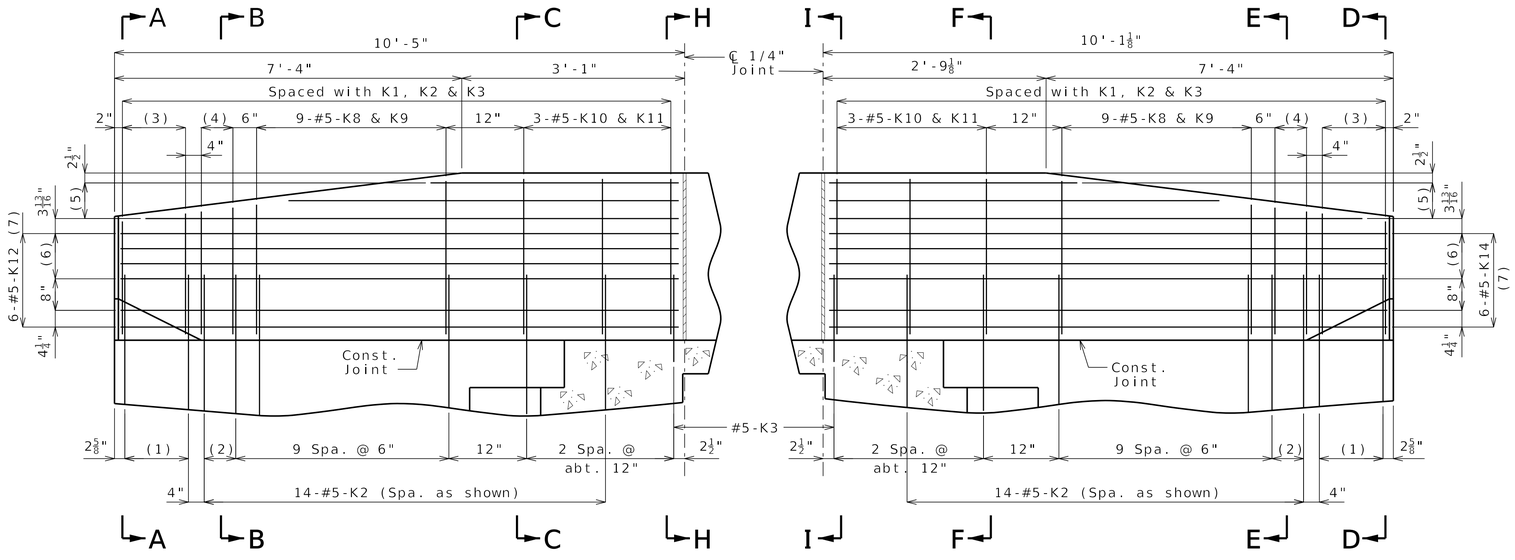
SECTION A-A



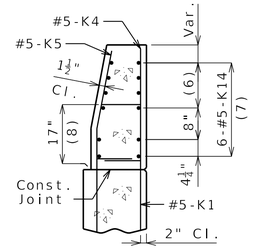
SECTION B-B



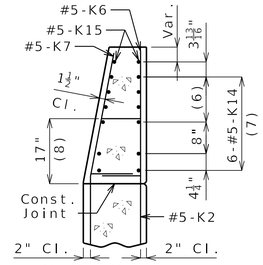
SECTION C-C



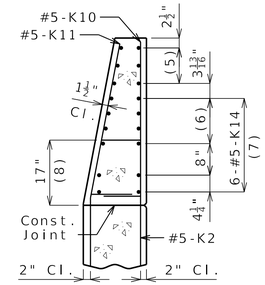
END BENT NO. 1 — PART ELEVATION — END BENT NO. 5



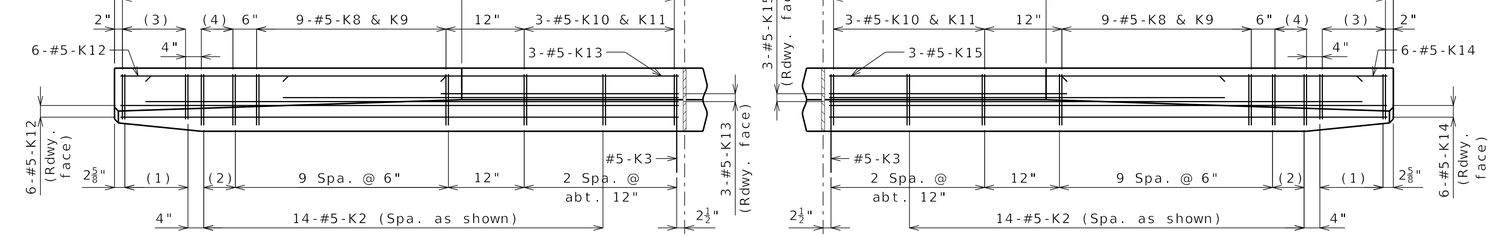
SECTION D-D



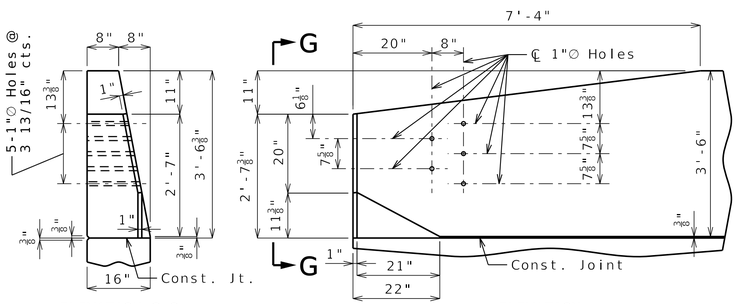
SECTION E-E

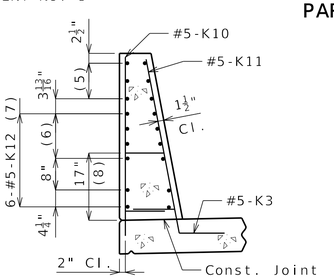


SECTION F-F



END BENT NO. 1 — PART PLAN — END BENT NO. 5





SECTION H-H

(1) 5-#5-K1 @ 4" cts.

(2) 2 spaces @ 4"

(3) 5-#5-K4 & K5

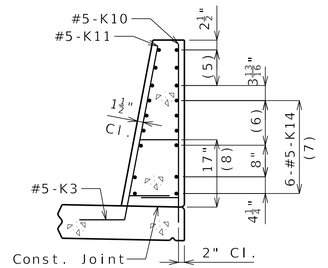
(4) 3-#5-K6 & K7

(5) 3-#5-K13 or K15 @ 4½" cts., each face

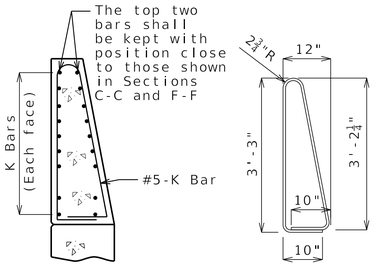
(6) 3 spaces @ 3 13/16"

(7) Spaced as shown, each face

(8) To top of bar



SECTION I-I



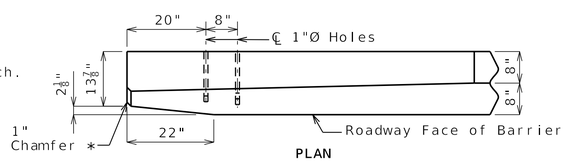
K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(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.

* Transition to zero at Type A curb for gutter lines to match.



DETAILS OF GUARD RAIL ATTACHMENT

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. For two-lane, one-way traffic, retroreflective sheeting may be on one side only unless crossroad or entranceway traffic is just beyond exit to bridge and wrong way driving is to be discouraged with retroreflective sheeting on both side of the delineators, (white and red in this case). Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

LEFT TYPE D BARRIER AT END BENTS

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	26

COUNTY JACKSON

JOB NO. J4S3490

CONTRACT ID.

PROJECT NO.

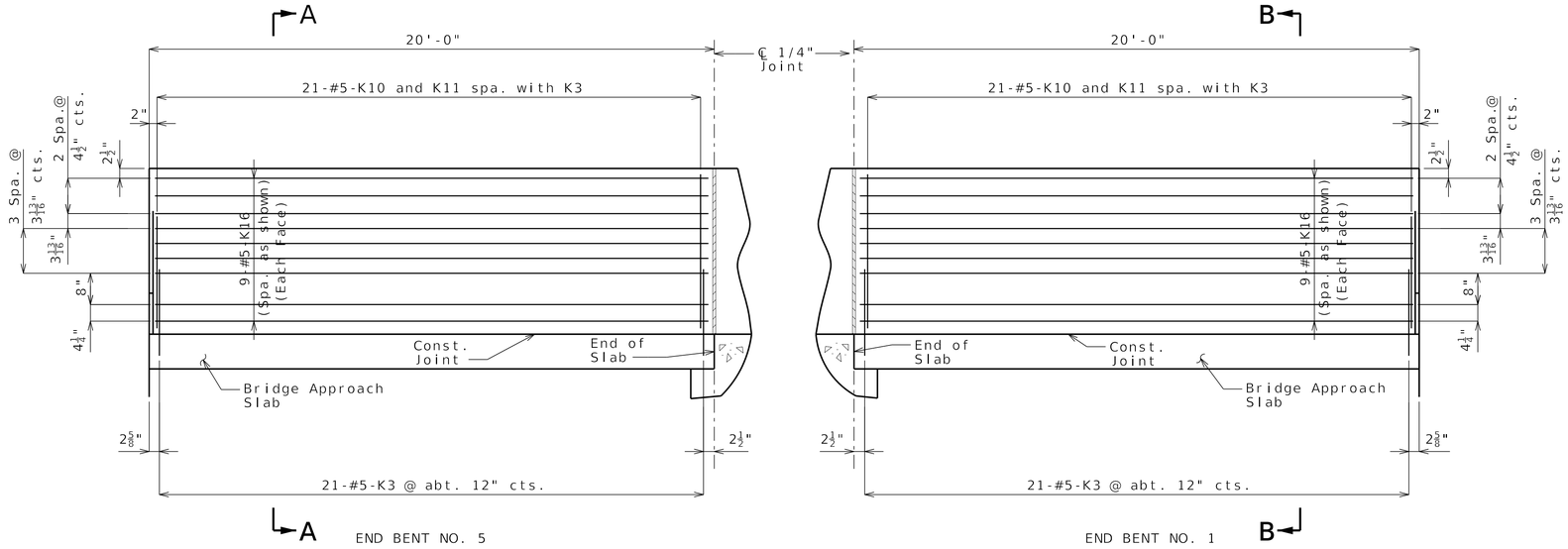
BRIDGE NO. A9572

DATE	DESCRIPTION

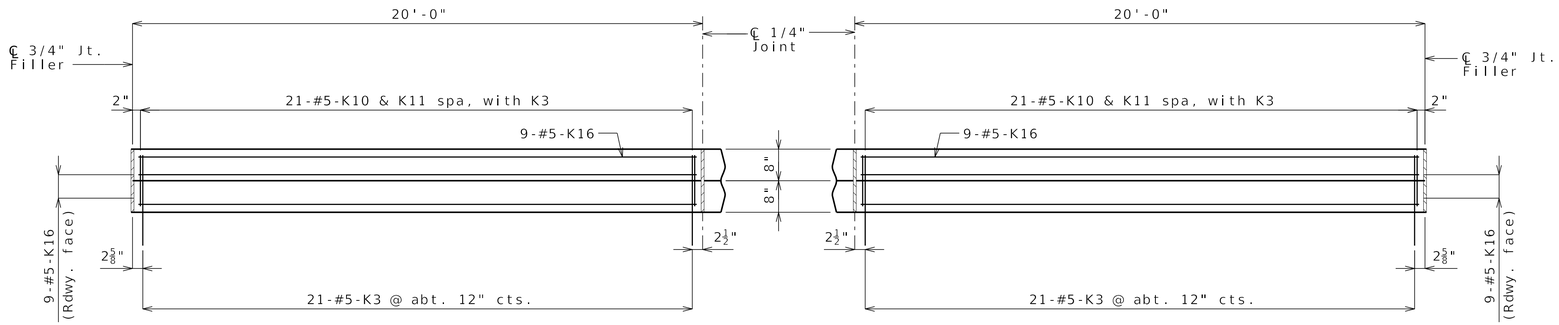
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

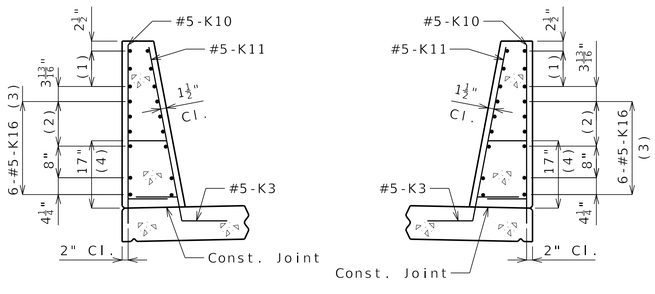
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



PART ELEVATION



PART PLAN



SECTION A-A

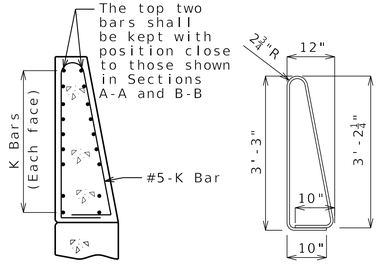
SECTION B-B

(1) 3-#5-K16 @ 4½" cts., each face

(2) 3 spaces @ 3 13/16"

(3) Spaced as shown, each face

(4) To top of bar



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.

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. For two-lane, one-way traffic, retroreflective sheeting may be on one side only unless crossroad or entranceway traffic is just beyond exit to bridge and wrong way driving is to be discouraged with retroreflective sheeting on both side of the delineators, (white and red in this case). Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into approach slab.

RIGHT TYPE D BARRIER AT END BENTS

PROFESSIONAL ENGINEER
STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025

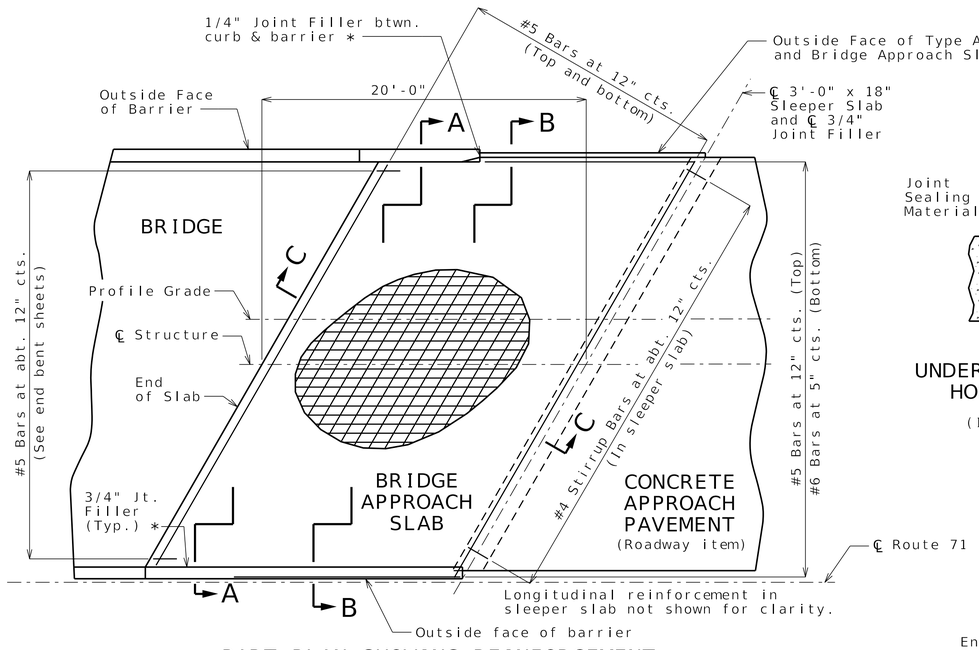
ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	27

COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9572

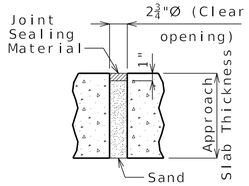
DESCRIPTION	DATE

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
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com
Missouri Cert. of Authority 2002010300
TREKK DESIGN GROUP, LLC

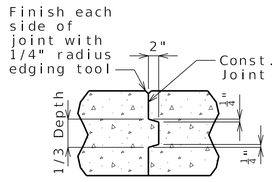


PART PLAN SHOWING REINFORCEMENT

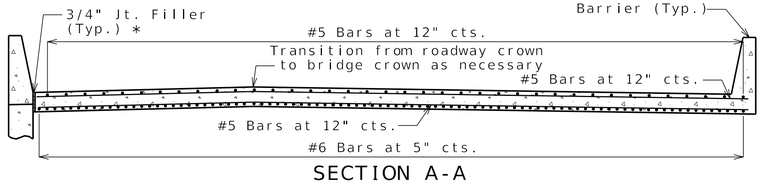


UNDERSEAL ACCESS HOLE DETAIL

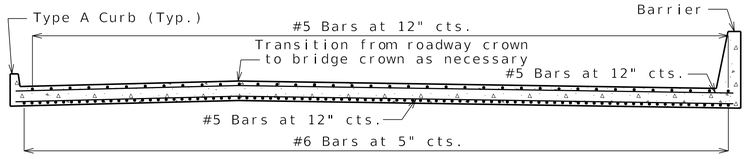
(If required)



CONSTRUCTION JOINT DETAIL

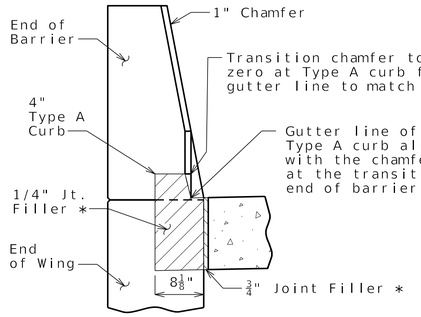


SECTION A-A

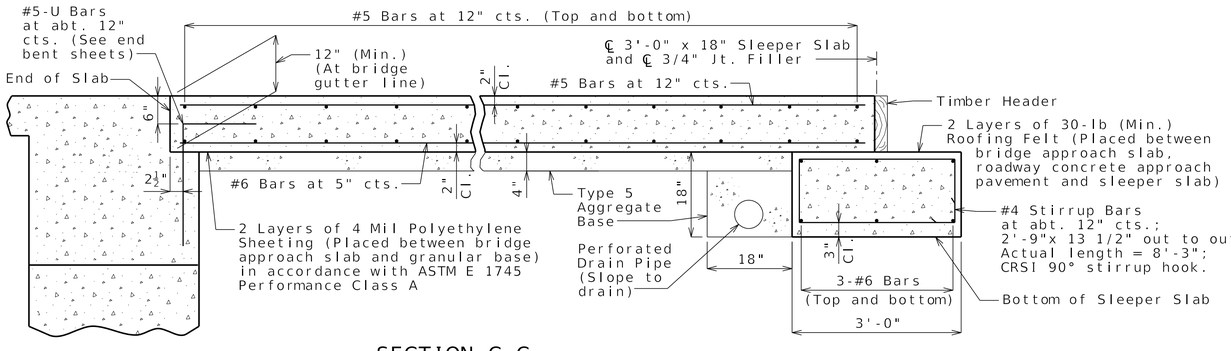


SECTION B-B

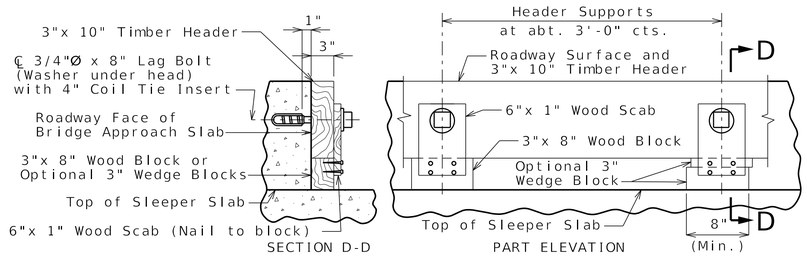
With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION BETWEEN CURB AND BARRIER



SECTION C-C



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.

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 aligned with longitudinal construction joints in bridge slab.

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 July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

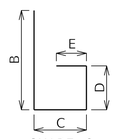
DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 28
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9572

DESCRIPTION | DATE

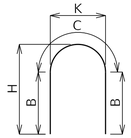
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

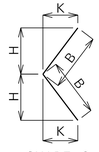
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



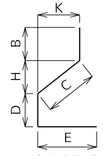
SHAPE 6
or 6S



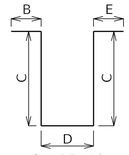
SHAPE 7



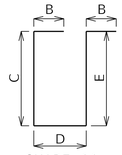
SHAPE 8
or 8S



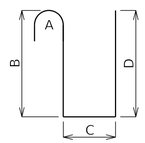
SHAPE 9
or 9S



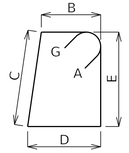
SHAPE 10
or 10S



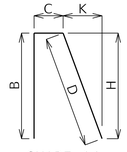
SHAPE 11
or 11S



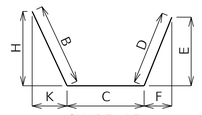
SHAPE 12



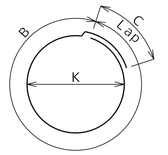
SHAPE 13S



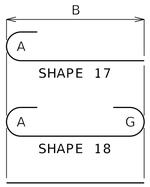
SHAPE 14
or 14S



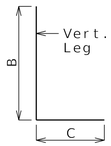
SHAPE 15
or 15S



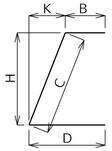
SHAPE 16



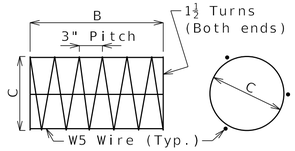
SHAPE 17
SHAPE 18
SHAPE 20



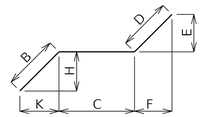
SHAPE 19
or 19S



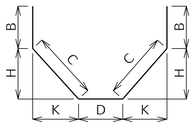
SHAPE 21
or 21S



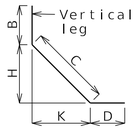
SHAPE 22



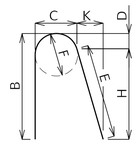
SHAPE 23
or 23S



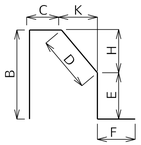
SHAPE 24
or 24S



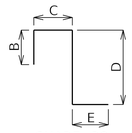
SHAPE 25
or 25S



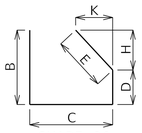
SHAPE 26



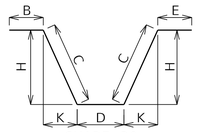
SHAPE 27S



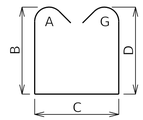
SHAPE 28
or 28S



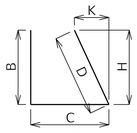
SHAPE 29
or 29S



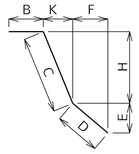
SHAPE 30
or 30S



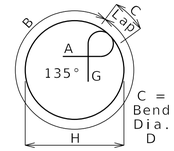
SHAPE 31S



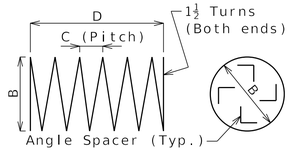
SHAPE 32
or 32S



SHAPE 33
or 33S



SHAPE 34S



SHAPE 35 (1)

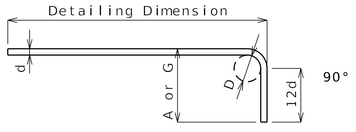


SHAPE 36

Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes

Size	Case	D	A or G		J
			90°	180°	180°
#4	1	3"	8"	6"	4"
#5	1	3¾"	10"	7"	5"
#6	1	4½"	12"	8¼"	6"
#7	2	5¼"	14"	9⅜"	7"
	3	7"	15"	11½"	8¾"
#8	2	6"	16"	11"	8"
	3	8"	17"	13¼"	10"
#9	1	9½"	19½"	15½"	11¾"
#10	1	10¾"	22"	17½"	13¼"
#11	1	12"	24½"	19½"	14⅞"
#14	1	18¼"	31¼"	27½"	21⅝"
#18	1	24"	41½"	36¾"	28½"

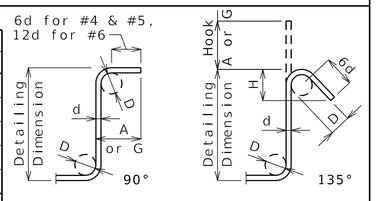


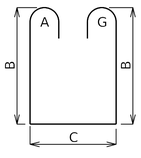
Stirrup Pin Bend Shapes (S)

Size	Case	D	A or G			H	J
			90°	135°	180°	135°	180°
#4	2	2"	4½"	4½"	5"	2⅝"	3"
	3	3"	5"	5¼"	6"	3"	4"
#5	2	2½"	5¾"	5¾"	5¾"	3⅝"	3¾"
	3	3¾"	6¼"	6½"	7"	3⅞"	5"
#6	1	4½"	12"	7¾"	8¼"	4⅝"	6"

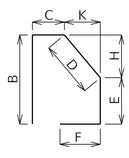
Applicable for all grades of steel.

Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.





SHAPE 37S



SHAPE 38S

BENDING DIAGRAMS

All dimensions are out to out.

Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.

Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.

(1) Shall be a deformed or plain spiral bar or wire.

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 Totals (Pounds)

	Size	Substructure		Superstructure				Entire Bridge	
				Slab			Slip		
		Plain	Epoxy	Plain	Epoxy	Barrier	Form	Plain	Epoxy
By Size	W5	0	0	0	0	0	0	0	0
	4	0	201	0	1,362	0	0	0	1,563
	5	516	8,411	0	24,896	13,425	816	516	47,548
	6	2,401	2,616	0	82,751	0	0	2,401	85,367
	7	0	0	0	9,492	0	0	0	9,492
	8	0	0	0	406	0	0	0	406
	9	0	26,977	0	0	0	0	0	26,977
	10	0	0	0	0	0	0	0	0
	11	0	0	0	0	0	0	0	0
	14	0	0	0	0	0	0	0	0
	18	0	0	0	0	0	0	0	0
By Type		2,917	38,205	0	118,907	13,425	816	2,917	171,353

All superstructure reinforcing steel shall be epoxy coated unless otherwise specified.

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 29
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9572

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4855
Fax (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft	B in.	C ft	C in.	D ft	D in.	E ft	E in.	F ft	F in.	H ft	H in.	K ft	K in.	Nom. Length ft	Nom. Length in.	Actual Length ft	Actual Length in.	Weight lb
		SUBSTRUCTURE																						
		INTERMEDIATE BENT 2																						
78	6	D200 FOOTING		18		6	6.000													7	11	7	11	927
25	6	D210 BEAM KEY	E	20		2	6.000													2	6	2	6	94
10	9	H200 BEAM	E	20		53	5.000													53	5	53	5	1816
8	6	H201 BEAM	E	20		53	5.000													53	5	53	5	642
10	9	H202 BEAM	E	17		18	2.000													19	6	19	6	663
10	9	H203 BEAM	E	17		43	10.000													45	2	45	2	1536
12	6	H204 BEAM	E	10S				12.000	3	7.750										5	8	5	4	96
5	6	H205 BEAM	E	20		5	4.000													5	4	5	4	40
3	5	U200 BEAM	E	10S				4	3.000	3	9.000									12	3	12	0	38
3	5	U201 BEAM	E	10S				4	9.125	3	9.000									13	3	13	0	41
3	5	U202 BEAM	E	10S				4	5.250	3	9.000									12	8	12	6	39
7	5	U203 BEAM	E	10S		3	9.000	4	3.000	3	9.000	4	3.000							17	0	16	8	122
42	5	U204 BEAM	E	10S		3	9.000	4	5.250	3	9.000	4	5.250							17	4	17	0	745
3	5	U205 BEAM	E	10S		3	9.000	4	9.125	3	9.000	4	9.125							18	0	17	8	55
18	5	U206 BEAM	E	13S		2	6.000	4	5.250	2	6.000	4	5.250							14	10	14	6	272
18	4	U207 BEAM	E	10S					12.000	3	9.000									5	9	5	7	67
132	5	P200 COLUMN	E	16		8	7.625	3	8.000									2	9.000	12	4	12	2	1675
15	5	P201 FOOTING		16		8	7.625	2	6.000									2	9.000	11	2	11	0	172
45	9	V200 COLUMN	E	17		24	8.000													26	0	26	0	3978
45	9	V201 COLUMN	E	19		7	9.000		19.500											9	5	9	1	1390
		INTERMEDIATE BENT 3																						
60	6	D300 FOOTING		18		5	6.000													6	11	6	11	623
25	6	D310 BEAM KEY	E	20		2	6.000													2	6	2	6	94
10	9	H300 BEAM	E	20		53	5.000													53	5	53	5	1816
8	6	H301 BEAM	E	20		53	5.000													53	5	53	5	642
10	9	H302 BEAM	E	17		18	2.000													19	6	19	6	663
10	9	H303 BEAM	E	17		43	10.000													45	2	45	2	1536
12	6	H304 BEAM	E	10S				12.000	3	7.750										5	8	5	4	96
5	6	H305 BEAM	E	20		5	4.000													5	4	5	4	40
3	5	U300 BEAM	E	10S				4	3.000	3	9.000									12	3	12	0	38
3	5	U301 BEAM	E	10S				5	0.375	3	9.000									13	10	13	7	43
3	5	U302 BEAM	E	10S				4	5.875	3	9.000									12	9	12	6	39
7	5	U303 BEAM	E	13S		3	9.000	4	3.000	3	9.000	4	3.000							17	0	16	8	122
42	5	U304 BEAM	E	13S		3	9.000	4	5.875	3	9.000	4	5.875							17	5	17	1	748
3	5	U305 BEAM	E	13S		3	9.000	5	0.375	3	9.000	5	0.375							18	6	18	2	57
18	5	U306 BEAM	E	13S		2	6.000	4	5.875	2	6.000	4	5.875							14	11	14	7	274
18	4	U307 BEAM	E	10S					12.000	3	9.000									5	9	5	7	67
108	5	P300 COLUMN	E	16		8	7.625	3	8.000									2	9.000	12	4	12	2	1371
15	5	P301 FOOTING		16		8	7.625	2	6.000									2	9.000	11	2	11	0	172
45	9	V300 COLUMN	E	17		20	6.000													21	10	21	10	3341
45	9	V301 COLUMN	E	19		7	9.000		19.500											9	5	9	1	1390

Bill of Reinforcing Steel

No. Req.	Size/ Mark	LOCATION	Codes C	SH	V	Dimensions B ft	B in.	C ft	C in.	D ft	D in.	E ft	E in.	F ft	F in.	H ft	H in.	K ft	K in.	Nom. Length ft	Nom. Length in.	Actual Length ft	Actual Length in.	Weight lb
		INTERMEDIATE BENT 4																						
68	6	D400 FOOTING		18		6	6.000													7	11	7	11	809
2	6	D401 FOOTING		10				4	1.500	6	0.000									14	3	13	11	42
25	6	D410 BEAM KEY	E	20		2	6.000													2	6	2	6	94
10	9	H400 BEAM	E	20		53	5.000													53	5	53	5	1816
8	6	H401 BEAM	E	20		53	5.000													53	5	53	5	642
10	9	H402 BEAM	E	17		18	2.000													19	6	19	6	663
10	9	H403 BEAM	E	17		43	10.000													45	2	45	2	1536
12	6	H404 BEAM	E	10S				12.000	3	7.750										5	8	5	4	96
5	6	H405 BEAM	E	20		5	4.000													5	4	5	4	40
3	5	U400 BEAM	E	10S				4	3.000	3	9.000									12	3	12	0	38
3	5	U401 BEAM	E	10S				4	9.500	3	9.000									13	4	13	1	41
3	5	U402 BEAM	E	10S				4	6.375	3	9.000									12	10	12	7	39
7	5	U403 BEAM	E	13S		3	9.000	4	3.000	3	9.000	4	3.000							17	0	16	8	122
42	5	U404 BEAM	E	13S		3	9.000	4	6.375	3	9.000	4	6.375							17	6	17	2	752
3	5	U405 BEAM	E	13S		3	9.000	4	9.500	3	9.000	4	9.500							18	1	17	9	56
18	5	U406 BEAM	E	13S		2	6.000	4	6.375	2	6.000	4	6.375							15	0	14	8	275
18	4	U407 BEAM	E	10S					12.000	3	9.000									5	9	5	7	67
111	5	P400 COLUMN	E	16		8	7.625	3	8.000									2	9.000	12	4	12	2	1409
15	5	P401 FOOTING		16		8	7.625	2	6.000									2	9.000	11	2	11	0	172
45	9	V400 COLUMN	E	17		21	2.000													22	6	22	6	3443
45	9	V401 COLUMN	E	19		7	9.000		19.500											9	5	9	1	1390
		SUPERSTRUCTURE																						
		END BENT 1																						
2	6	F101 DIAPHRAGM	E	21				2	8.500	8	2.000					2	7.500		7.750	10	10	10	8	32
7	6	F102 WING BRACE	E	25			20.000	4	7.000		20.000					3	5.000	3	0.000	7	11	7	10	82
2	6	F103 DIAPHRAGM	E	15				7	5.000	2	8.500					2	7.500		7.750	10	2	10	2	31
8	6	H100 BEAM/DIAPH.	E	20		56	7.000													56	7	56	7	680
7	6	H101 BEAM	E	20		56	7.000													56	7	56	7	595
4	6	H102 BEAM	E	20		15	6.000													15	6	15	6	93
4	6	H103 BEAM	E	20		44	4.000													44	4	44	4	266
4	6	H104 BEAM	E	20		5	0.000													5	0	5	0	30
15	6	H105 DIAPHRAGM	E	20		5	2.000													5	2	5	2	116
8	8	H106 WING	E	20		9	6.000													9	6	9	6	203
16	6	H107 WING	E	20		8	0.000													8	0	8	0	192
6	5	H108 STRAND TIE	E	20		6	6.000													6	6	6	6	41
24	5	U100 BEAM/DIAPH.	E	37S		4	5.750	2	9.750	4	5.750									12	9	12	6	313
20	4	U101 BEAM	E	13S		2	9.750	2	10.000	2	9.750	2	10.000							12	3	12	0	160
12	4	U102 BEAM	E	13S		2	9.750	3	0.750	2	9.750	3	0.750							12	8	12	5	100
8	4	U103 BEAM	E	13S		2	9.750	2	8.000	2	9.750	2	8.000							11	11	11	8	62
7	4	U104 BEAM	E	10S				2	10.000	2	9.750									8	5	8	3	39
4	4	U105 BEAM	E	10S				3	0.750	2	9.750									8	11	8	9	23
1	4	U106 BEAM	E	10S				2	8.000	2	9.750									8	1	7	11	5
72	6	U107 DIAPHRAGM	E	19		2	4.500	4	4.000											6	9	6	7	712
34	5	U108 DIAPHRAGM	E	37S		2	3.000	2	3.750											7	9	7	6	266
34	6	U109 DIAPHRAGM	E	19		1	6.250	2	9.750											4	4	4	2	213
54	5	U110 SLAB SEAT	E	19		2	0.000	1	3.000											3	3	3	2	178
20	5	V100 BEAM/DIAPH.	E	17		4	5.000													4	11	4	11	103
36	6	V101 DIAPHRAGM	E	20		1	6.000													1	6	1	6	81

Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

For bending diagrams and steel reinforcing totals, see Sheet No. 29.

All bars shall be Grade 60.

Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.

SH = Required shape, see bending diagrams.

V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

BILL OF REINFORCING STEEL

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025

ROUTE 71 | STATE MO

DISTRICT BR | SHEET NO. 30

COUNTY JACKSON

JOB NO. J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9572

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft	B in.	C ft	C in.	D ft	D in.	E ft	E in.	F ft	F in.	H ft	H in.	K ft	K in.	Nom. Length ft	Nom. Length in.	Actual Length ft	Actual Length in.	Weight lb
2	6	V102 WING	E	20		5	9.000													5	9	5	9	17
14	6	V103 WING	E	20	V	5	8.000													5	8	5	8	118
		INC. = 0.375 INCH				5	7.000													5	7	5	7	
		END BENT 5																						
2	6	F501 DIAPHRAGM	E	15				7	5.000	2	2.800					2	7.500		7.750	10	2	10	0	30
7	6	F502 WING BRACE	E	25			20.000	4	7.000		20.000					3	5.000	3	0.000	7	11	7	10	82
2	6	F503 DIAPHRAGM	E	21				2	8.500	8	2.000					2	7.500		7.750	10	10	10	8	32
8	6	H500 BEAM/DIAPH.	E	20		56	7.000													56	7	56	7	680
7	6	H501 BEAM	E	20		56	7.000													56	7	56	7	595
4	6	H502 BEAM	E	20		15	6.000													15	6	15	6	93
4	6	H503 BEAM	E	20		44	4.000													44	4	44	4	266
4	6	H504 BEAM	E	20		5	0.000													5	0	5	0	30
15	6	H505 DIAPHRAGM	E	20		5	2.000													5	2	5	2	116
8	8	H506 WING	E	20		9	6.000													9	6	9	6	203
16	6	H507 WING	E	20		8	0.000													8	0	8	0	192
6	5	H508 STRAND TIE	E	20		6	6.000													6	6	6	6	41
24	5	U500 BEAM/DIAPH.	E	37S		4	5.000	2	9.750	4	5.000									12	7	12	4	309
20	4	U501 BEAM	E	13S		2	9.750	2	11.250	2	9.750	2	11.250							12	5	12	2	163
12	4	U502 BEAM	E	13S		2	9.750	3	1.750	2	9.750	3	1.750							12	10	12	7	101
8	4	U503 BEAM	E	13S		2	9.750	2	8.000	2	9.750	2	8.000							11	11	11	8	62
7	4	U504 BEAM	E	10S				2	11.250	2	9.750									8	8	8	6	40
4	4	U505 BEAM	E	10S				3	1.875	2	9.750									9	1	8	11	24
1	4	U506 BEAM	E	10S				2	8.000	2	9.750									8	1	7	11	5
72	6	U507 DIAPHRAGM	E	19		2	4.500	4	4.000											6	9	6	7	712
34	5	U508 DIAPHRAGM	E	37S		2	3.000	2	3.750											7	9	7	6	266
34	6	U509 DIAPHRAGM	E	19		1	5.500	2	9.750											4	4	4	2	213
54	5	U510 SLAB SEAT	E	19		2	0.000	1	3.000											3	3	3	2	178
20	5	V500 BEAM/DIAPH.	E	17		4	5.000													4	10	4	10	101
36	6	V501 DIAPHRAGM	E	20		1	5.000													1	5	1	5	77
2	6	V502 WING	E	20		5	1.000													5	1	5	1	15
14	6	V503 WING	E	20	V	5	2.000													5	2	5	2	111
		INC. = 0.5 INCH				5	5.000													5	5	5	5	
		INT DIAPHGRAM																						
60	6	H600 DIAPHRAGM	E	20		5	2.000													5	2	5	2	466
30	4	H601 DIAPHRAGM	E	20		5	2.000													5	2	5	2	104
24	6	H602 STRAND TIE	E	20		6	6.000													6	6	6	6	234
12	5	H603 STRAND TIE	E	20		5	2.000													5	2	5	2	65
120	4	U600 DIAPHRAGM	E	28S				15.000		2	0.000	2	9.750							6	1	5	11	474
60	6	U601 DIAPHRAGM	E	28S				22.000		2	0.250	2	9.750							6	8	6	4	571
36	5	U602 DIAPHRAGM	E	28S				9.750		5	3.000									6	0	5	11	222
24	5	V600 DIAPHRAGM	E	20		2	3.000													2	3	2	3	56
		SLAB																						
44	6	S1 SLAB	E	20	V	11	10.000													11	10	11	10	2192
		INC. = 24.375 INCH				54	6.000													54	6	54	6	
437	6	S2 SLAB	E	20		54	11.000													54	11	54	11	36046
230	6	S3 SLAB	E	20		49	5.000													49	5	49	5	17071
129	7	S4 SLAB	E	20		18	0.000													18	0	18	0	4746
129	7	S5 SLAB	E	20		18	0.000													18	0	18	0	4746
265	6	S6 SLAB	E	20		49	5.000													49	5	49	5	19669

Bill of Reinforcing Steel

No. Req.	Size/ Mark	LOCATION	Codes C	SH	V	Dimensions B ft	B in.	C ft	C in.	D ft	D in.	E ft	E in.	F ft	F in.	H ft	H in.	K ft	K in.	Nom. Length ft	Nom. Length in.	Actual Length ft	Actual Length in.	Weight lb
36	5 S7	SLAB	E	20	V	12	4.000													12	4	12	4	1220
		INC. = 28.50 INCH				52	8.000													52	8	52	8	
376	5 S8	SLAB	E	20		54	11.000													54	11	54	11	21537
		TYPE D BARRIER																						
482	5 R1	BARRIER	E	26		3	3.000		5.500		2.250	3	1.000		5.500	3	0.750		6.750	6	10	6	9	3393
482	5 R2	BARRIER	E	19S		1	8.500		9.500											2	6	2	5	1215
482	5 R3	BARRIER	E	27S					9.500		15.250		5.000		12.000		15.000		3.000	3	6	3	4	1676
120	5 R4	BARRIER	E	20		11	9.000													11	9	11	9	1471
10	5 R5	BARRIER	E	20		43	1.000													43	1	43	1	449
40	5 R6	BARRIER	E	20		38	9.000													38	9	38	9	1617
10	5 R7	BARRIER	E	20		33	5.000													33	5	33	5	349
10	5 R8	BARRIER	E	20		35	8.000													35	8	35	8	372
10	5 R9	BARRIER	E	20		46	0.000													46	0	46	0	480
10	5 K1	BARRIER	E	27S		3	5.000		9.250		5.375	2	11.750				5.250		1.000	7	7	7	5	77
28	5 K2	BARRIER	E	27S		3	5.000		9.250		14.500	2	2.750				14.250		2.750	7	8	7	5	217
44	5 K3	BARRIER	E	27S			22.500		9.250		14.500		7.750		12.000		14.250		2.750	5	6	5	2	237
10	5 K4	BARRIER	E	19S	V	2	4.250		10.000											3	2	3	1	33
		INC. = 0.5 INCH				2	6.250		10.000											3	4	3	3	
10	5 K5	BARRIER	E	38S	V						18.500		9.500		8.250		18.000		4.000	3	0	2	11	31
		INC. = 0.5 INCH									20.500		9.500		8.250		20.000		4.500	3	2	3	1	
6	5 K6	BARRIER	E	19S		2	6.750		10.000											3	4	3	3	20
6	5 K7	BARRIER	E	21S				2	6.625		10.000					2	6.000		6.250	3	4	3	3	20
18	5 K8	BARRIER	E	19S	V	2	8.500		10.000											3	6	3	5	69
		INC. = 0.75 INCH				3	2.500		10.000											4	0	3	11	
18	5 K9	BARRIER	E	21S	V			2	8.500		10.000					2	7.750		6.750	3	6	3	5	69
		INC. = 0.75 INCH						3	2.500		10.000					3	1.750		7.750	4	0	3	11	
48	5 K10	BARRIER	E	19S		3	3.000		10.000											4	1	3	11	196
48	5 K11	BARRIER	E	21S				3	3.000		10.000						2.250		7.750	4	1	3	11	196
24	5 K12	BARRIER	E	20		10	2.000													10	2	10	2	254
6	5 K13	BARRIER	E	20	V	3	7.000													3	7	3	7	41
		INC. = 36 INCH				9	7.000													9	7	9	7	
12	5 K14	BARRIER	E	20		9	10.000													9	10	9	10	123
12	5 K15	BARRIER	E	20	V	3	3.000													3	3	3	3	78
		INC. = 36 INCH				9	3.000													9	3	9	3	
36	5 K16	BARRIER	E	20		19	9.000													19	9	19	9	742
		SLIP FORM																						
56	5 C1	SLIP FORM	E	20		12	0.000													12	0	12	0	701
4	5 C2	SLIP FORM	E	20		7	9.000													7	9	7	9	32
8	5 C3	SLIP FORM	E	20		10	0.000													10	0	10	0	83

Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

For bending diagrams and steel reinforcing totals, see Sheet No. 29.

All bars shall be Grade 60.

Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.

SH = Required shape, see bending diagrams.

V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

Detailed July 2025
Checked July 2025

BILL OF REINFORCING STEEL

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	31

COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9572

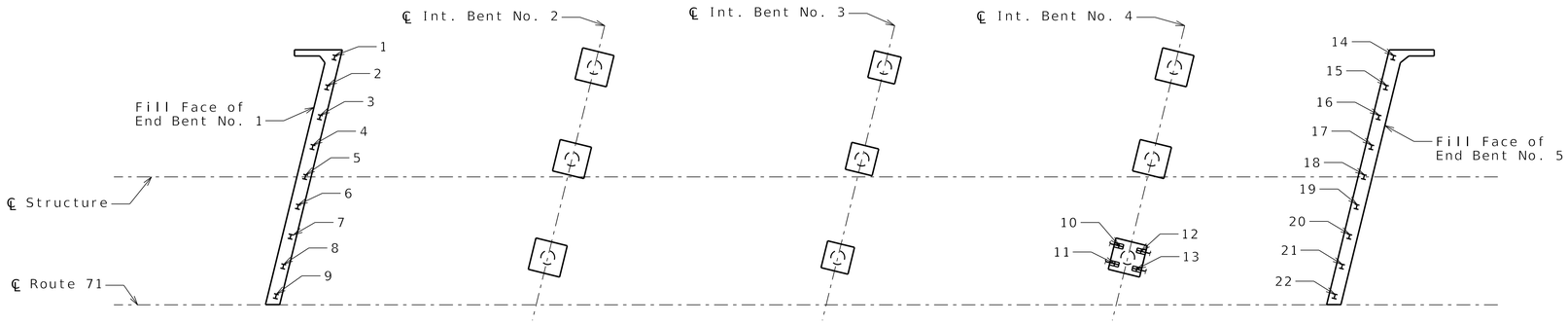
DESCRIPTION	DATE

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC



PART PLAN SHOWING PILE NUMBERING FOR RECORDING AS-BUILT PILE DATA

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			
			Int. Bent No. 4
10			
11			
12			
13			

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 5
14			
15			
16			
17			
18			
19			
20			
21			
22			

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.

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 32
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9572

DESCRIPTION | DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Missouri Department of Transportation
Construction and Materials

BORING NO. B- 1
Page 1 of 1

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1014757.868 **Date of Work:** 06/11/25-06/11/25
Offset: **Easting:** 2777568.162 **Depth to Water:**
Elevation: 859.8 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **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		0.0-0.2' ASPHALT 0.2-0.9' CONCRETE 0.9-1.5' CRUSHED ROCK 1.5-14.6' Possible FILL: brown fat clay and limestone fragments							
			855		100 (72)				
5									
					35 (8)				
			850						
10					33 (7)				
15		14.6-21.4' SHALE - dark gray to gray, extremely soft, weathered, clayey	845		100 (68)				
20			840						
		21.4-22.7' CORE LOSS			55 (0)				
		22.7-22.8' LIMESTONE Refusal at 2.8 feet. Bottom of borehole at 22.8 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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.

Missouri Department of Transportation
Construction and Materials

BORING NO. B- 2
Page 1 of 1

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1014798.122 **Date of Work:** 06/10/25-06/10/25
Offset: **Easting:** 2777605.587 **Depth to Water:**
Elevation: 857.9 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,Split-Spoon Sampler, Shelby Tube, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **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		0.0-0.5' ROOT ZONE 0.5-12.0' FILL - gray and brown fat clay, rock fragments							
			855						
5					22	4-2-3 (6)			MC = 21.0%
			850						
10					89	4-6-8 (18)		PP = 2.50 tsf	MC = 12.8%
		12.0-18.0' CLAY - brown and gray, stiff to very stiff, fat - (CH)	845						
15					83		Qu Test Results UCS = 4.06 ksf MC = 24.3% γ_{moist} = 124.3 pcf	PP = 2.00 tsf	LL = 63 PL = 18
		18.0-21.0' Highly Weathered LIMESTONE 19.5' sampler refusal	840		42	14-50			
20									
		21.0-31.0' LIMESTONE - gray, medium hard, weathered 22.1' 7.5-inch vertical fracture	835		100 (37)				
25					100 (0)				
			830						
30					100 (50)				
		Refusal at 21.0 feet. Bottom of borehole at 31.0 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129.00034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMAT\US71 OVER BANNISTER.GPJ

BORING DATA

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

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 33
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9572

DESCRIPTION | DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Missouri Department of Transportation
Construction and Materials

BORING NO. B- 4
Page 1 of 1

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RFW (UES) **Operator:** BMF
Station: **Northing:** 1014874.741 **Date of Work:** 06/19/25-06/19/25
Offset: **Easting:** 2777534.193 **Depth to Water:**
Elevation: 833.7 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X ,NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 382933 **Hammer Efficiency:** 88% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0	0.0-0.3' ASPHALT 0.3-3.0' Highly Weathered LIMESTONE							
5	3.0-13.8' LIMESTONE - buff white to gray, medium hard and moderately hard, slightly weathered 5.5' Qu = 946 ksf; Unit Weight = 166 pcf	830		83 (50)				
10	10.5' Qu = 863 ksf; Unit Weight = 162 pcf 12.8' Qu = 1,553 ksf; Unit Weight = 167 pcf	825 820		100 (80) 100 (88)				
15	13.8-16.5' SHALE - gray, very soft and soft, weathered 15.2' Qu = 114 ksf; Unit Weight = 148 pcf 16.5-18.8' COAL	815		100 (62)				MC = 8.5%
20	18.8-20.3' LIMESTONE - gray, moderately hard, slightly weathered 19.5' Qu = 1,552 ksf; Unit Weight = 170 pcf 20.3-20.9' SHALE 21.0-21.6' LIMESTONE 21.6-25.3' SHALE - gray, soft, weathered 21.7' Qu = 124 ksf; Unit Weight = 149 pcf 23.5' limestone pockets	810		100 (72)				MC = 14.5% MC = 8.5%
25	25.3-30.5' LIMESTONE - gray to buff white, medium hard, slightly weathered	805		100 (97)				
30	30.2' 1-inch SHALE seam Refusal at 2.5 feet. Bottom of borehole at 30.5 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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.

Missouri Department of Transportation
Construction and Materials

BORING NO. B- 5
Page 1 of 1

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RFW (UES) **Operator:** BCS
Station: **Northing:** 1014872.163 **Date of Work:** 07/03/25-07/03/25
Offset: **Easting:** 2777595.944 **Depth to Water:**
Elevation: 830.7 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X ,NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 357883 **Hammer Efficiency:** 83% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0	0.0-0.3' ASPHALT 0.3-2.0' Highly Weathered LIMESTONE and CLAY 2.0-3.8' Highly Weathered LIMESTONE	830						
5	3.8-11.3' LIMESTONE - gray, hard, weathered and slightly weathered 7.5' Qu = 2,330 ksf; Unit Weight = 166 pcf	825		100 (46) 100 (55)				
10	11.3-15.0' SHALE - dark gray, extremely soft and very soft, weathered 12.2' 5-inch limestone bed	820		100 (32)				MC = 12.8%
15	15.0-16.6' COAL 16.6-17.4' LIMESTONE - gray, hard, weathered 16.6' Qu = 2,395 ksf; Unit Weight = 170 pcf	815		100 (58)				MC = 9.9%
20	17.4-19.0' SHALE - dark gray, extremely soft, weathered, limestone pockets 19.0-21.0' LIMESTONE - gray, medium hard, weathered, shale partings	810		100 (100)				
25	21.0-29.6' LIMESTONE - gray, hard, slightly weathered 21.5' Qu = 2,263 ksf; Unit Weight = 166 pcf 26.7' Qu = 2,572 ksf; Unit Weight = 166 pcf 27.3' 3-inch shale bed	805		100 (95)				
30	29.6-30.5' SHALE - gray, extremely soft, weathered 29.8' Qu = 12 ksf; Unit Weight = 142 pcf Refusal at 3.5 feet. Bottom of borehole at 30.5 feet.							MC = 11.5%

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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.

BORING DATA

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

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

Detailed July 2025
Checked July 2025

LETTER BOREHOLE - MODOT_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129.00034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMAT\US71 OVER BANNISTER.GPJ

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 34
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9572

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2022010300

Missouri Department of Transportation
Construction and Materials

BORING NO. B- 7
Page 1 of 1

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RFW (UES) **Operator:** BMF
Station: **Northing:** 1014930.465 **Date of Work:** 06/18/25-06/18/25
Offset: **Easting:** 2777525.373 **Depth to Water:**
Elevation: 835.4 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X ,Split-Spoon Sampler, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 382933 **Hammer Efficiency:** 88% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0	0.0-0.4' ASPHALT 0.4-1.1' CONCRETE 1.1-2.5' CRUSHED ROCK 2.5-3.5' Highly Weathered LIMESTONE	835						
5	3.5-14.7' LIMESTONE - buff white to gray, moderately hard, slightly weathered 4.1' Qu = 1,171 ksf; Unit Weight = 166 pcf	830		50 100 (54)	50/0.2'			
10	8.5' Qu = 1,127 ksf; Unit Weight = 166 pcf	825		100 (91)				
15	13.5' Qu = 1,910 ksf; Unit Weight = 166 pcf 14.7-17.3' SHALE - gray, extremely soft, weathered	820		100 (90)				
	17.3-19.0' COAL			100 (67)				
20	19.0-21.8' LIMESTONE - gray, hard, slightly weathered 19.5' Qu = 2,242 ksf; Unit Weight = 165 pcf 20.5' 3-inch gray shale bed	815						
	21.8-23.2' SHALE - gray, extremely soft, weathered, clayey 22.4' Qu = 3 ksf; Unit Weight = 137 pcf			100 (92)				MC = 15.6%
25	23.2-27.9' LIMESTONE - gray, medium hard, weathered, shale partings and seams	810						
30	27.9-30.5' LIMESTONE - buff white to gray, medium hard, slightly weathered	805		100 (85)				
	Refusal at 3.5 feet. Bottom of borehole at 30.5 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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.

Missouri Department of Transportation
Construction and Materials

BORING NO. B- 8
Page 1 of 1

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1014929.824 **Date of Work:** 06/18/25-06/18/25
Offset: **Easting:** 2777582.958 **Depth to Water:**
Elevation: 832.4 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,Split-Spoon Sampler, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0	0.0-0.3' ASPHALT 0.3-1.0' CONCRETE 1.0-1.5' CRUSHED ROCK 1.5-2.5' FILL - limestone fragments and fat clay	830		100	50/0.2'			
5	2.5-3.8' Highly Weathered LIMESTONE 3.8-12.8' LIMESTONE - gray, medium hard and moderately hard, weathered 4.5' 3-inch vertical fracture 5.8' 6-inch CORE LOSS 6.6' Qu = 1,143 ksf; Unit Weight = 167 pcf			100 (0)				
10	10.9' Qu = 1,310 ksf; Unit Weight = 167 pcf	825		92 (42)				
15	12.8-15.8' SHALE - dark gray, extremely soft, weathered 13.9' Qu = 3 ksf; Unit Weight = 142 pcf	820		100 (78)				MC = 14.4%
	15.8-17.8' COAL	815		100 (43)				
20	17.8-19.3' LIMESTONE - white, medium hard, slightly weathered 17.8' Qu = 1,014 ksf; Unit Weight = 166 pcf 19.3-20.8' SHALE - gray, extremely soft, weathered, with limestone pockets							
25	20.8-22.8' LIMESTONE - gray, medium hard, weathered 22.3' 6-inch vertical fracture 22.8-26.3' LIMESTONE - gray, medium hard, slightly weathered 23.2' Qu = 786 ksf; Unit Weight = 162 pcf 25.8' Qu = 809 ksf; Unit Weight = 164 pcf	810		100 (70)				
30	26.3-30.8' LIMESTONE - gray and brown to gray, soft and medium hard, weathered 28.5' 2-inch gray shale seam 30.3' 6-inch vertical fracture	805		100 (60)				
	Refusal at 3.8 feet. Bottom of borehole at 30.7 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129.00034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMAT\US71 OVER BANNISTER.GPJ

BORING DATA

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

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

Detailed July 2025
Checked July 2025

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 35
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9572

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Missouri Department of Transportation
Construction and Materials

BORING NO. B-10
Page 1 of 1

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RFW (UES) **Operator:** BMF
Station: **Northing:** 1014966.762 **Date of Work:** 06/17/25-06/17/25
Offset: **Easting:** 2777515.641 **Depth to Water:**
Elevation: 835.1 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X ,Split-Spoon Sampler, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 382933 **Hammer Efficiency:** 88% **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			835						
		0.0-0.2' ASPHALT							
		0.2-0.8' CONCRETE							
		0.8-2.5' CRUSHED ROCK							
		2.5-4.0' FILL - brown fat clay, rock fragments			100	19-50/0.3'			
5		4.0-5.5' Highly Weathered LIMESTONE	830						
		5.5-13.9' LIMESTONE - buff white to gray, medium hard and moderately hard, slightly weathered 7.5' Qu = 1,509 ksf; Unit Weight = 167 pcf			100 (58)				
10			825						
		12.6' Qu = 1,085 ksf; Unit Weight = 165 pcf			95 (85)				
15		13.9-18.0' SHALE - gray, soft, slightly weathered 14.6' Qu = 198 ksf; Unit Weight = 152 pcf	820						MC = 7.9%
		18.0-19.0' COAL 18.2' Qu = 803 ksf; Unit Weight = 119 pcf			100 (82)				MC = 6.3%
20		19.0-20.5' LIMESTONE - gray, medium hard, slightly weathered	815						
		20.5-21.0' SHALE - gray, extremely soft, weathered							
		21.0-21.7' LIMESTONE - gray, medium hard, weathered			100 (82)				MC = 12.7%
25		21.7-23.8' SHALE - gray, extremely soft, weathered 22.5' Qu = 9 ksf; Unit Weight = 136 pcf	810						
		23.8-26.0' LIMESTONE - gray, medium hard, weathered, shale partings and seams 24.0' Qu = 529 ksf; Unit Weight = 156 pcf			100 (98)				
30		26.0-30.8' LIMESTONE - gray, medium hard, slightly weathered	805						
		30.6' argillaceous							
		Refusal at 5.5 feet. Bottom of borehole at 30.8 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129.00034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMAT\US71 OVER BANNISTER.GPJ

BORING DATA

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

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032109
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 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 36
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9572

DESCRIPTION | DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4655
Fax: (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010360

Missouri Department of Transportation
Construction and Materials

BORING NO. B-11
Page 1 of 2

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1014961.973 **Date of Work:** 06/20/25-06/20/25
Offset: **Easting:** 2777577.391 **Depth to Water:** 17.0
Elevation: 832.0 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X, Split-Spoon Sampler, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 357883 **Hammer Efficiency:** 83% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0	0.0-0.2' ASPHALT 0.2-0.9' CONCRETE 0.9-1.5' CRUSHED ROCK 1.5-13.8' FILL - red brown, black and gray lean clay to black fat clay, rock fragments	830						
5				39	3-6-12 (25)		PP = 1.50 tsf	
10	9.0' poor sample recovery	825		11	4-5-5 (14)			
15	13.8-17.0' CLAY - brown and gray, very stiff, lean, shaley - CL	820		72	5-8-11 (26)			
20	17.0-19.7' Highly Weathered LIMESTONE and CLAY 19.7-25.5' LIMESTONE - gray, medium hard, slightly weathered 21.4' Qu = 1,024 ksf; Unit Weight = 165 pcf	815		100 (48)				
25	25.0' Qu = 652 ksf; Unit Weight = 162 pcf 25.5-27.2' LIMESTONE - gray and brown, medium hard, weathered 27.2-29.7' LIMESTONE - white, moderately hard, slightly weathered	810 805		100 (100) 100 (100) 100 (80)				
30	29.0' Qu = 1,569 ksf; Unit Weight = 163 pcf							MC = 9.1%

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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.

Missouri Department of Transportation
Construction and Materials

BORING NO. B-11
Page 2 of 2

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1014961.973 **Date of Work:** 06/20/25-06/20/25
Offset: **Easting:** 2777577.391 **Depth to Water:** 17.0
Elevation: 832.0 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X ,Split-Spoon Sampler, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 357883 **Hammer Efficiency:** 83% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
30	29.7-34.5' SHALE - gray, extremely soft, slightly weathered *(continued)* 32.0' Qu = 8 ksf; Unit Weight = 139 pcf	800		100 (60)				MC = 16.0% MC = 17.8%
35	34.5-37.5' SHALE - blue gray, extremely soft, weathered, with limestone pockets	795		100 (13)				MC = 7.2% MC = 8.0%
40	37.5-40.9' SANDSTONE - gray, extremely soft, weathered, with blue gray shale seams 37.7' Qu = 7 ksf; Unit Weight = 152 pcf 40.9-41.3' LIMESTONE 41.3-45.5' SHALE - gray, extremely soft, weathered, clayey 41.9' Qu = 2 ksf; Unit Weight = 143 pcf	790		100 (62)				MC = 16.8%
45	Refusal at 17.0 feet. Bottom of borehole at 45.5 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129A.00034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMAT\US71_OVER_BANNISTER.GPJ

BORING DATA

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

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032109
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 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 37
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9572
DESCRIPTION
DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Missouri Department of Transportation
Construction and Materials

BORING NO. B-13
Page 1 of 1

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1015076.338 **Date of Work:** 06/11/25-06/11/25
Offset: **Easting:** 2777513.824 **Depth to Water:**
Elevation: 847.4 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,Split-Spoon Sampler, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **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		0.0-0.3' ASPHALT 0.3-1.0' CONCRETE 1.0-1.5' CRUSHED ROCK 1.5-7.5' FILL - gray fat clay, yellow brown shaley clay	845						
5				X	33	2-3-3 (8)		PP = 0.75 tsf	MC = 10.9%
		7.5-8.8' Highly Weathered LIMESTONE (rough drilling)	840						
		8.8-18.8' LIMESTONE - gray, soft and medium hard, weathered			67	50/0.3'			
10					100 (0)				
			835		95 (0)				
15		16.3' 6-inch CORE LOSS	830		95 (44)				
		18.8-20.3' LIMESTONE - gray, moderately hard, slightly weathered							
20		Refusal at 8.8 feet. Bottom of borehole at 20.3 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129.00034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMAT\US71_OVER_BANNISTER.GPJ

BORING DATA

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

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 38
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9572

DESCRIPTION | DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Missouri Department of Transportation
Construction and Materials

BORING NO. B-14
Page 1 of 2

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1015034.589 **Date of Work:** 06/10/25-06/10/25
Offset: **Easting:** 2777567.792 **Depth to Water:** 43.0
Elevation: 848.6 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,Split-Spoon Sampler, Shelby Tube, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **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		0.0-0.5' ROOT ZONE 0.5-12.0' FILL - brown to gray fat clay, rock fragments	845						
5				X	28	2-3-4 (9)		PP = 1.50 tsf	MC = 11.1%
			840						
10				X	39	2-3-4 (9)		PP = 2.25 tsf	MC = 26.8%
		12.0-49.5' Possible FILL - reddish brown and brown and gray fat clay, limestone fragments	835						
15				■	75			PP = 2.25 tsf	
			830						
20				X	100	6-5-9 (18)		PP = 2.25 tsf	
			825						
25				X	78	4-5-7 (15)		PP = 2.50 tsf	MC = 25.4%
			820						
30				X	89	4-4-5 (11)		PP = 1.50 tsf	MC = 22.0%
			815						
35				X	61	2-8-7 (19)			MC = 29.0%
			810						
40				X	100	3-7-9 (20)		PP = 3.50 tsf	MC = 21.0%

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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.

Missouri Department of Transportation
Construction and Materials

BORING NO. B-14
Page 2 of 2

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1015034.589 **Date of Work:** 06/10/25-06/10/25
Offset: **Easting:** 2777567.792 **Depth to Water:** 43.0
Elevation: 848.6 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,Split-Spoon Sampler, Shelby Tube, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **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		12.0-49.5' Possible FILL - reddish brown and brown and gray fat clay, limestone fragments *(continued)* 40.0' rough drilling	805						
45				X	100	3-23-17 (50)		PP = 3.00 tsf	MC = 20.7%
50		49.5-54.0' Highly Weathered LIMESTONE 50.0' rough drilling to 53.5 feet	800	X	100	3-6-32 (48)			MC = 30.5%
55		53.8' sampler refusal 54.0-64.0' Weathered SHALE	795	X	100	50/0.3'			
60			790						
65		64.0-74.0' SHALE - gray, extremely soft and very soft, slightly weathered 64.0' sampler refusal	785	X	100	50			MC = 8.3%
70		Bottom of borehole at 74.0 feet.	780		100 (80)				
					100 (92)				
			775		100 (88)				

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129.00034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMAT\US71_OVER_BANNISTER.GPJ

BORING DATA

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

Detailed July 2025
Checked July 2025

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

DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
STATE OF MISSOURI
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

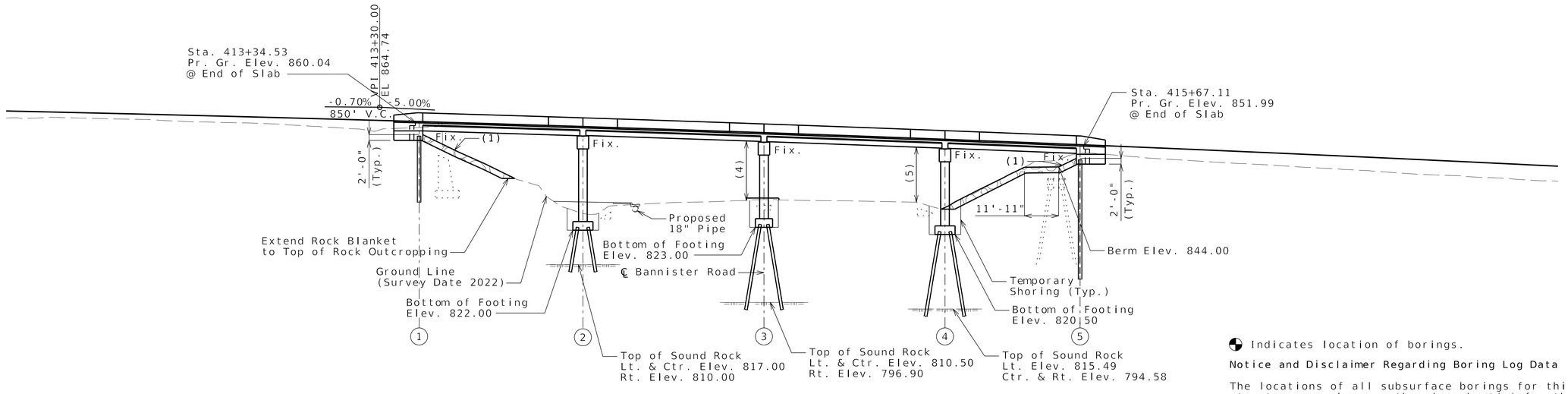
DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 39
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9572
DESCRIPTION
DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4655
Fax: (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

SEC/SUR 26 & 27 TWP 48N RGE 33W

(57'-63'-63'-47') PRESTRESSED CONCRETE SPREAD BOX BEAM SPANS



GENERAL ELEVATION

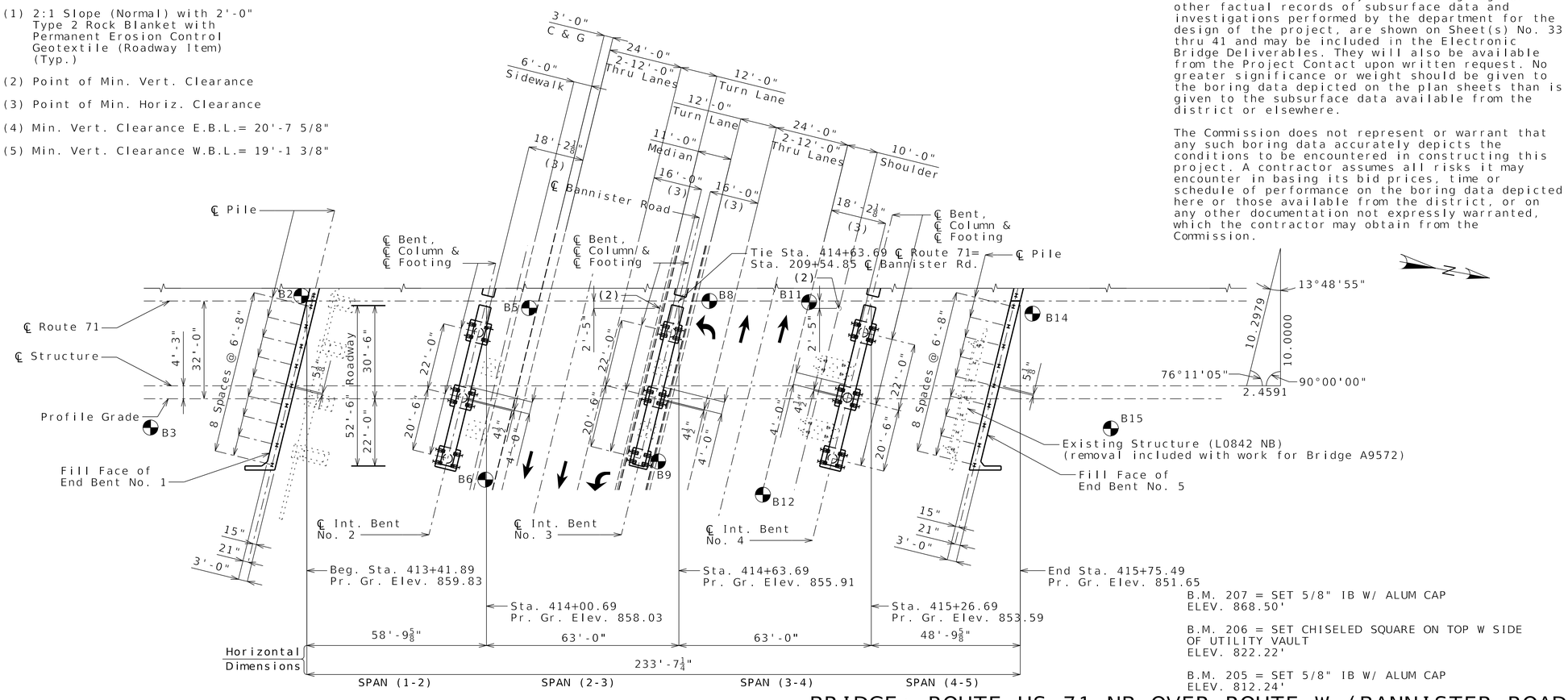
(1) 2:1 Slope (Normal) with 2'-0" Type 2 Rock Blanket with Permanent Erosion Control Geotextile (Roadway Item) (Typ.)

(2) Point of Min. Vert. Clearance

(3) Point of Min. Horiz. Clearance

(4) Min. Vert. Clearance E.B.L.= 20'-7 5/8"

(5) Min. Vert. Clearance W.B.L.= 19'-1 3/8"



PLAN

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. 33 thru 41 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.

B.M. 207 = SET 5/8" IB W/ ALUM CAP
ELEV. 868.50'

B.M. 206 = SET CHISELED SQUARE ON TOP W SIDE OF UTILITY VAULT
ELEV. 822.22'

B.M. 205 = SET 5/8" IB W/ ALUM CAP
ELEV. 812.24'

BRIDGE: ROUTE US-71 NB OVER ROUTE W (BANNISTER ROAD)

ROUTE 71 FROM ROUTE 435/470 TO ROUTE 56
ABOUT 1.0 MILE NORTH OF ROUTE 435/470
BEGINNING STATION 413+41.89 (FILL FACE @ ℄ ROUTE 71)

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	1

COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

DATE	DESCRIPTION

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

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

Estimated Quantities

Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	360	-	360
Temporary Shoring	lump sum	1	-	1
Bridge Approach Slab (Major)	sq. yard	-	240	240
Galvanized Structural Steel Piles (12 in.)	linear foot	805	-	805
Galvanized Structural Steel Piles (14 in.)	linear foot	768	-	768
Pile Wave Analysis	each	2	-	2
Pre-Bore for Piling	linear foot	1,318	-	1,318
Pile Point Reinforcement	each	54	-	54
Class B Concrete (Substructure)	cu. yard	264.0	-	264.0
Type D Barrier	linear foot	-	520	520
Slab on Concrete Beam	sq. yard	-	1,426	1,426
21 in., Prestressed Concrete Spread Box Beam	linear foot	-	1,374	1,374
Reinforcing Steel (Bridges)	pound	2,260	-	2,260
Reinforcing Steel (Epoxy Coated)	pound	41,780	-	41,780
Vertical Drain at End Bents	each	-	2	2
Laminated Neoprene Bearing Pad (Tapered)	each	-	48	48

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete Beam.

All reinforcement in the end bents is included in the Estimated Quantitites for Slab on Concrete Beam.

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 Beam.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete Beam.

Estimated Quantities for Slab on Concrete Beam

Item		Total
Class B-2 Concrete	cu. yard	418
Reinforcing Steel (Epoxy Coated)	pound	118,960

The table of Estimated Quantities for Slab on Concrete Beam 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.

Foundation Data

Type	Design Data		Bent Number									
			1		2	3		4		5		
Load Bearing Pile	Pile Numbers ***		1-6	7-9	10-21	22-29	30-33	34-37	38-45	46-54		
	Pile Type and Size		HP 12x53		HP 14x73	HP 14x73		HP 14x73		HP 12x53		
	Number	ea	6	3	12	8	4	4	8	9		
	Approximate Length Per Each	ft	20	43	13	14	38	11	36	62		
	Pile Point Reinforcement	ea	All		All	All		All		All		
	Min. Galvanized Penetration (Elev.)	ft	Full Length		Full Length	Full Length		Full Length		Full Length		
	Minimum Tip Penetration (Elev.)	ft	835	812	810	810	793	811	792	791		
	Criteria for Min. Tip Penetration		Min. Embed.	**	**	**		Min. Embed.	**	**		
	Pile Driving Verification Method		WEAP		WEAP	WEAP		WEAP		WEAP		
	Resistance Factor		0.5		0.5	0.5		0.5		0.5		
	Minimum Nominal Axial Compressive Resistance	kip	338		594	597		571		338		

** Penetration of anticipated soft geotechnical layers

*** See Sheet No. 32 for pile numbering.

DF = FHWA-modified Gates Dynamic Pile Formula

WEAP = Wave Equation Analysis of Piles

Load Bearing Piles:
Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor

Prebore for piles at Bent No. 1 to elevation 835.0 for piles No. 1-6 and elevation 812.0 for piles No. 7-9 ***.

Prebore for piles at Bent No. 2 to elevation 810.0.

Prebore for piles at Bent No. 3 to elevation 810.0 for piles No. 22-29 and elevation 795.0 for piles No. 30-33 ***.

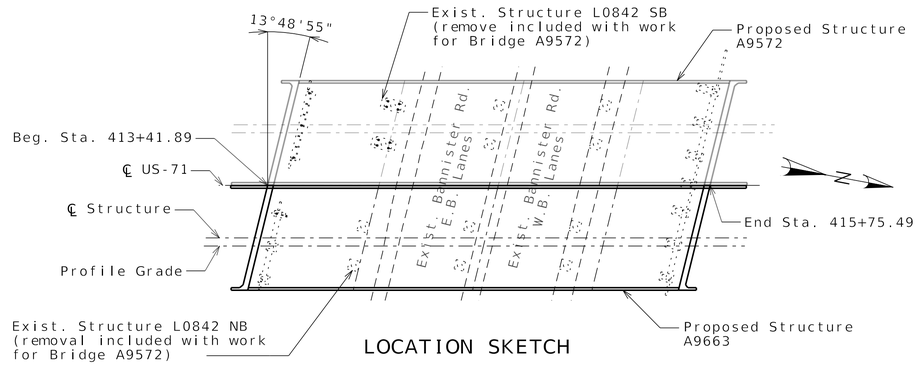
Prebore for piles at Bent No. 4 to elevation 811.0 for piles No. 34-37 and elevation 794.0 for piles No. 38-45 ***.

Prebore for piles at Bent No. 5 to elevation 793.0.

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.

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. When pile refusal on rock occurs, as approved by the engineer, the minimum nominal axial compressive resistance is verified and no additional pile driving verification method is required.



LOCATION SKETCH

STATE OF MISSOURI
DERRICK J PRICE
NUMBER PE-2019032100
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
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	2

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9663

DESCRIPTION	DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

GENERAL NOTES AND QUANTITIES

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specification (9th Ed)
2023 AASHTO Guide Specifications for LRFD Seismic Bridge Design (3rd Ed.)
Seismic Design Category A (Nonseismic)
Design earthquake response spectral acceleration coefficient at 1.0 second period, SD1 = 0.061
Acceleration Coefficient (effective peak ground acceleration coefficient), As = 0.040

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 Beams and Barrier)	f'c = 4,000 psi
Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Reinforcing Steel (ASTM A615 Grade 60)	fy = 60,000 psi
Structural Steel HP Pile (ASTM A709 Grade 50)	fy = 50,000 psi

For prestressed box beam stresses, see Sheets No. 17, 18 & 19.

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.

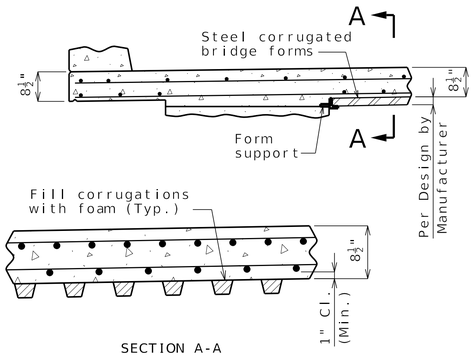
Reinforcing Steel:

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.

Traffic Handling:

Structure to be closed during construction. Route 71 traffic to be maintained in both directions using existing ramps. Route W (Bannister Road) traffic to be maintained on other routes during construction. See roadway plans for traffic control.



SECTION A-A

OPTIONAL STAY-IN-PLACE FORM DETAILS

Stay-In-Place Forms:

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 beam. 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 top of beam. Drilling holes in the beam 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 beam loading.

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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.

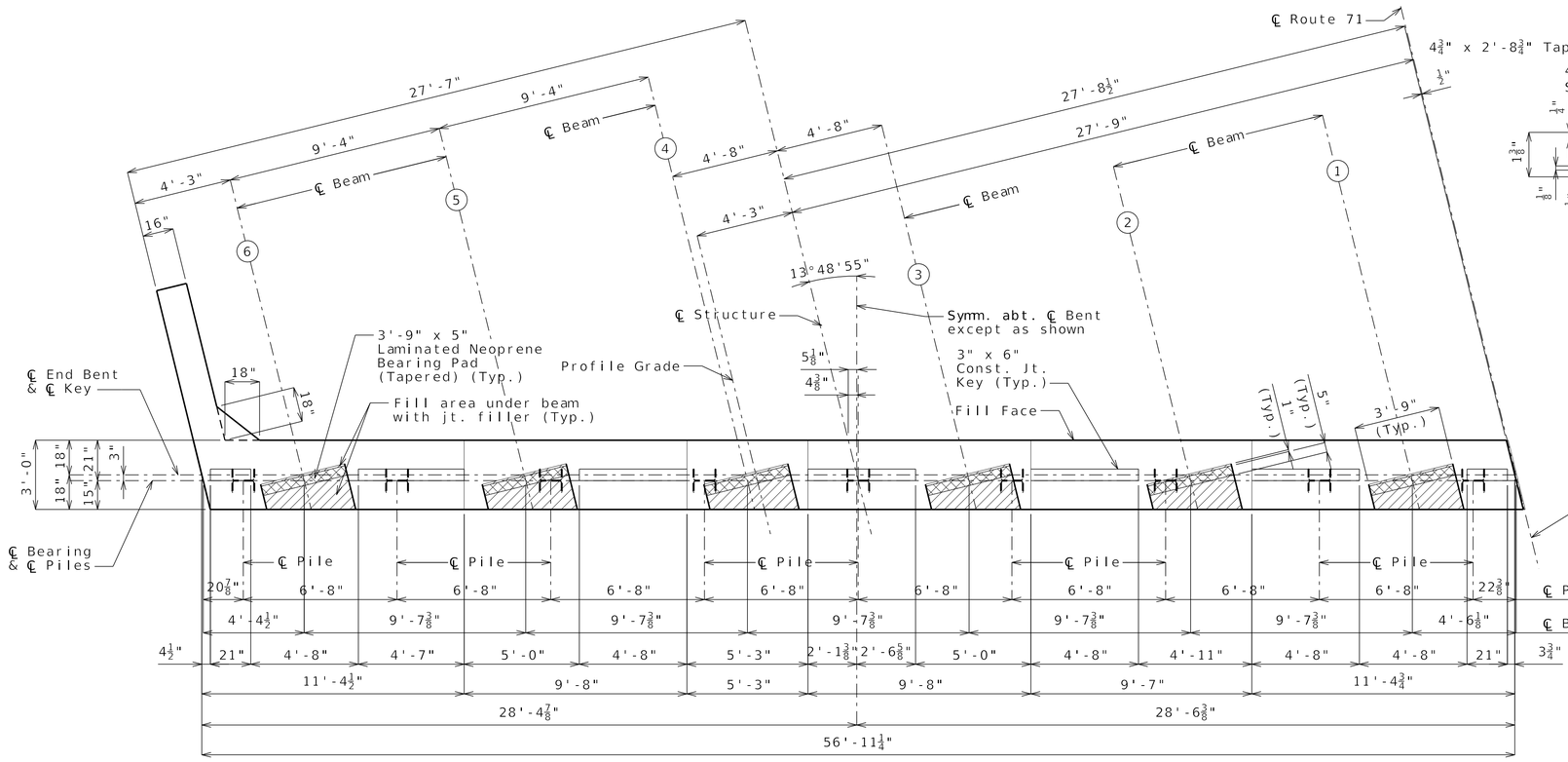
DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 3
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

DESCRIPTION	DATE

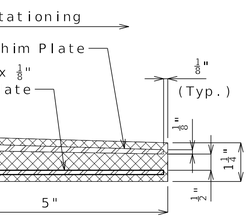
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

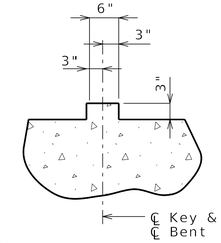
GENERAL NOTES



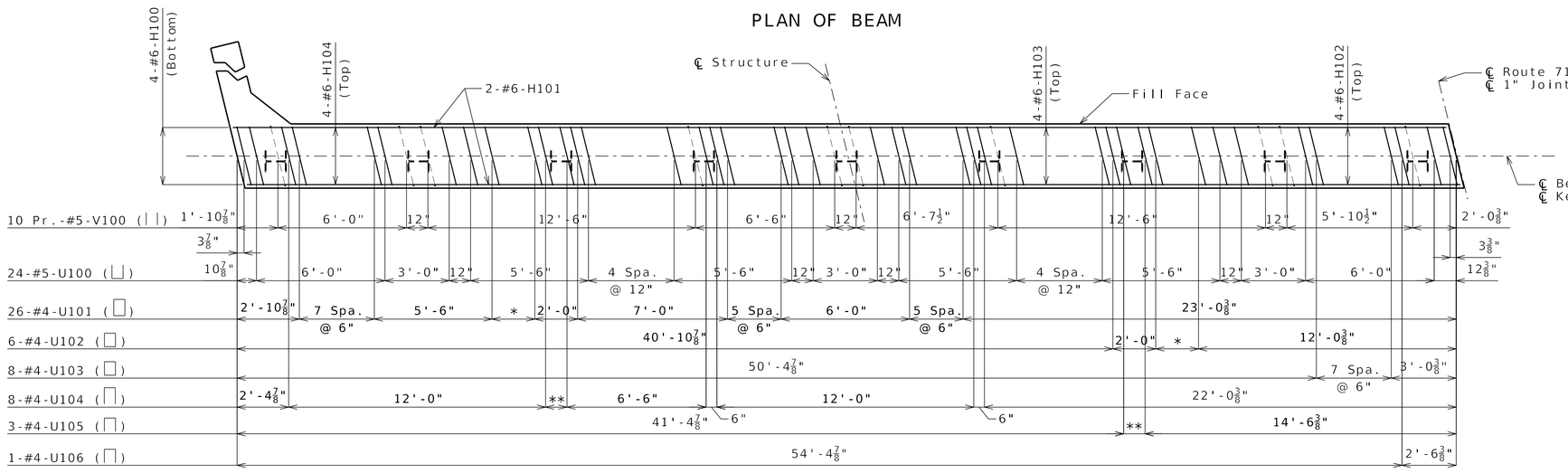
PLAN OF BEAM



TYPICAL SECTION
THRU LAMINATED
NEOPRENE BEARING PAD

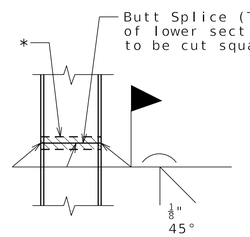


SECTION THRU KEY



* 4 Spa. @ 6"
** 2 Spa. @ 6"

PLAN OF BEAM SHOWING REINFORCEMENT
Keys not shown for clarity.



STEEL PILE SPLICE
(If required)

* 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.

END BENT NO. 1

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	4

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9663

DESCRIPTION	DATE

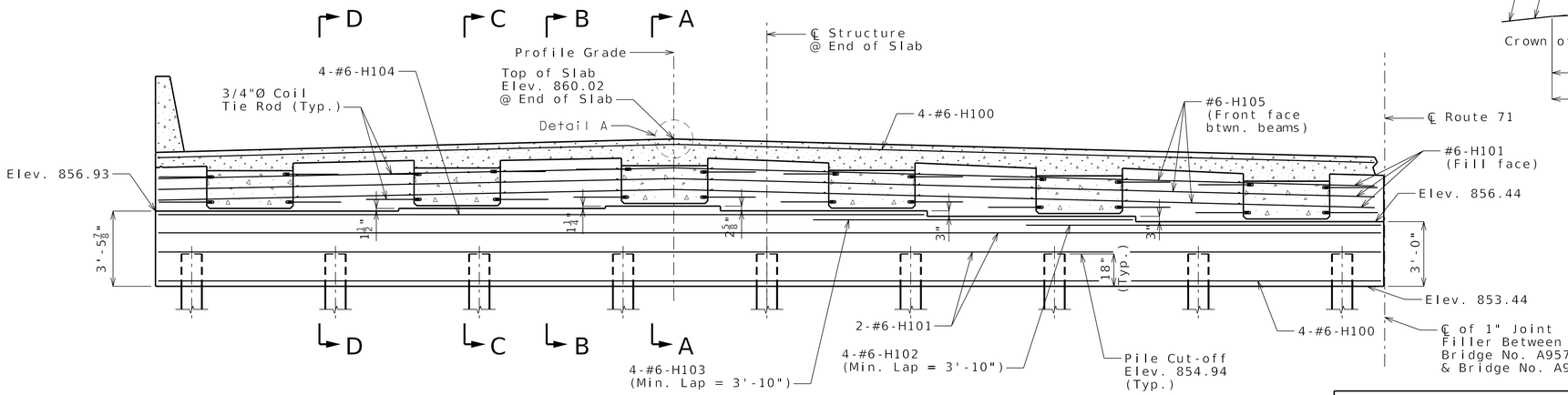
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com
Missouri Cert. of
Authority 2002010300

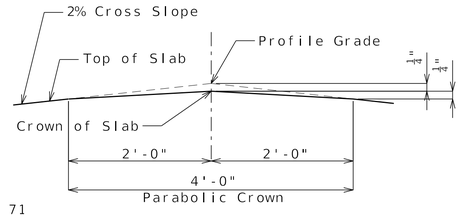
TREKK DESIGN GROUP, LLC

B_A9663_004_J4S3490_EB1_01.dgn 3:35:45 PM 10/22/2025



SECTION NEAR END BENT

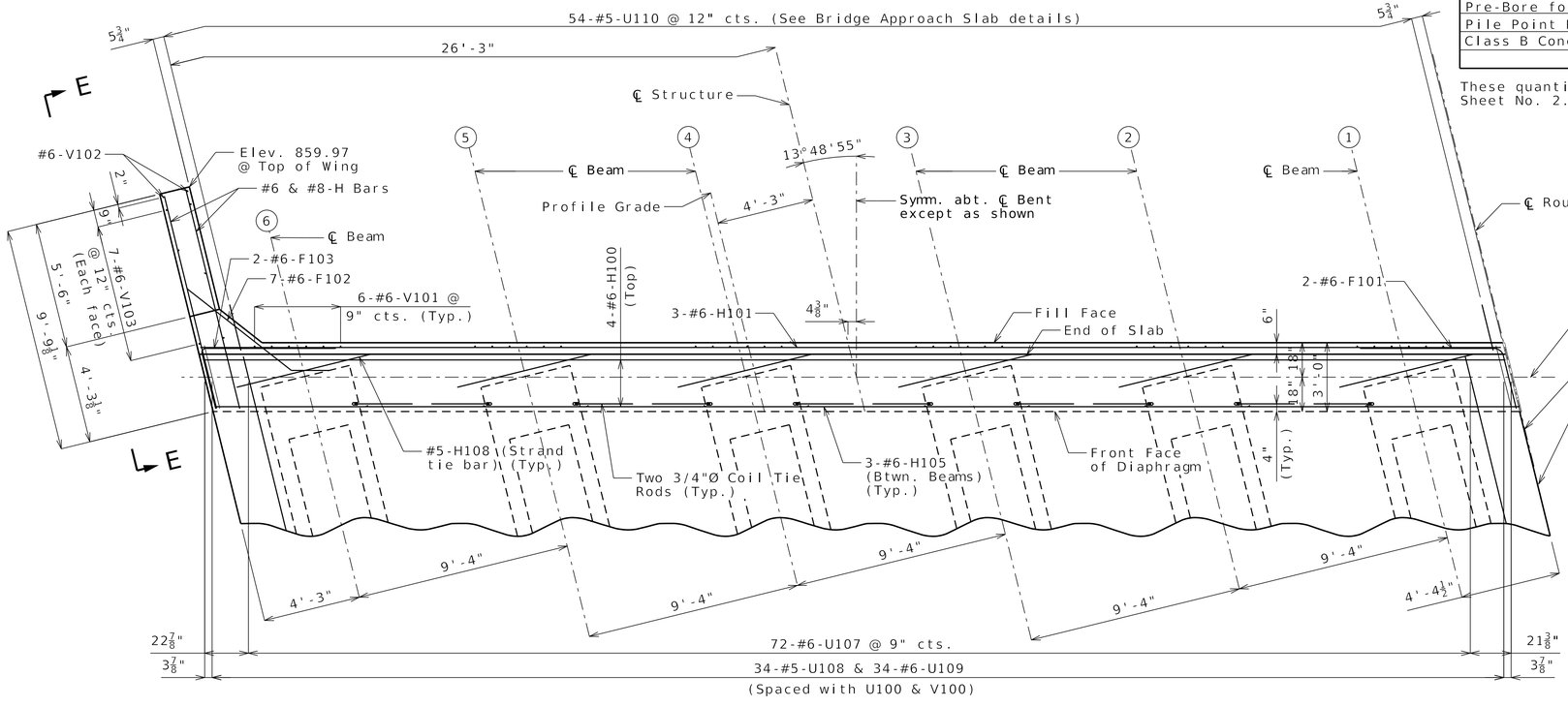
Note: Keys not shown for clarity.



DETAIL A

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	43.0
Galvanized Structural Steel Piles (12 in.)	linear foot	248
Pile Wave Analysis	each	1
Pre-Bore for Piling	linear foot	235
Pile Point Reinforcement	each	9
Class B Concrete (Substructure)	cu. yard	22.9

These quantities are included in the Estimated Quantities table on Sheet No. 2.



PART PLAN

END BENT NO. 1

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

Sheet No. 5 of 41

Detailed July 2025
Checked July 2025

General Notes:

Work this sheet with Sheets No. 4 & 6 .

For Sections A-A, B-B, C-C & D-D and Elevation E-E, see Sheet No. 6 .

The #6-F102 bars shall be bent in the field to clear beams.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

Strands at end of the beams 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-H108 (strand tie bar), see Sheet No. 17.

For details of vertical drain at end bents, see Sheet No. 7 .

For details of bridge approach slab, see Sheet No. 28.

All U bars and pairs of V bars shall be placed parallel to centerline of roadway.

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 5
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

DESCRIPTION | DATE

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

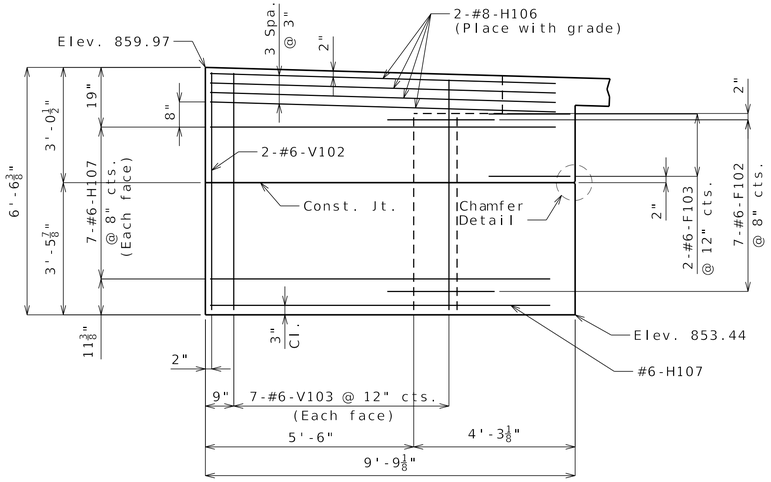
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

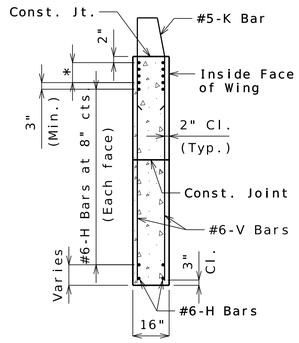
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

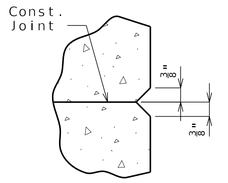


ELEVATION E-E

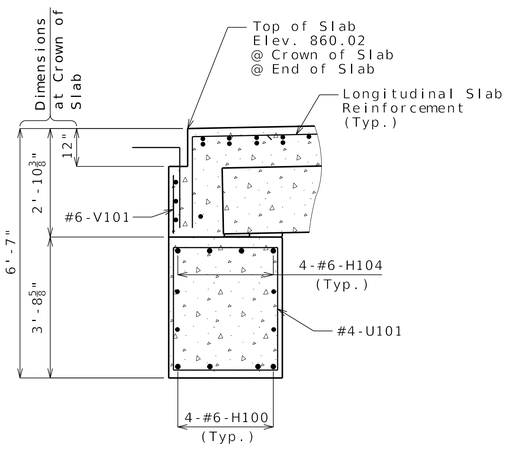


TYPICAL SECTION
THRU WING

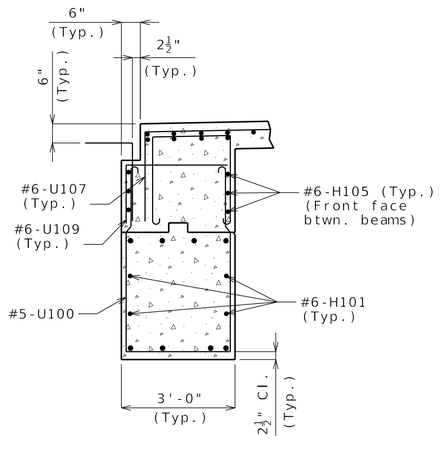
* #8-H Bars at 3" cts.
(Each face)(Place with grade)



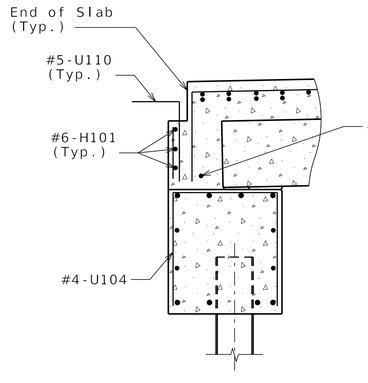
CHAMFER DETAIL



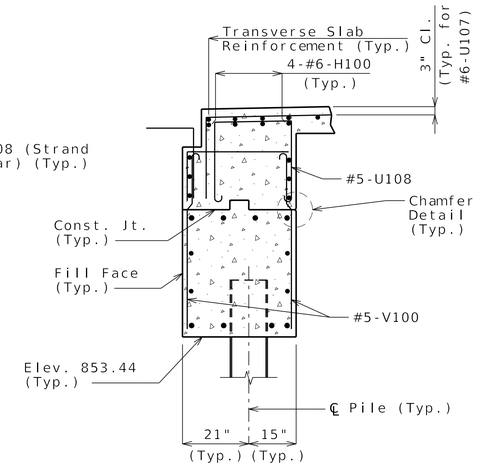
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

General Notes:

Work this sheet with Sheets No. 4 & 5 .

For reinforcement of the barrier, see Sheets No. 25, 26 & 27.

END BENT NO. 1

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	6

COUNTY JACKSON

JOB NO. J4S3490

CONTRACT ID.

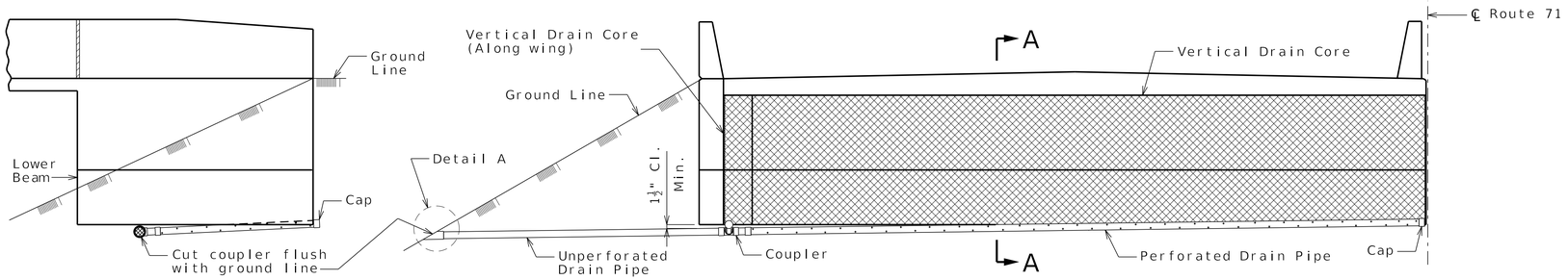
PROJECT NO.

BRIDGE NO. A9663

DESCRIPTION	DATE

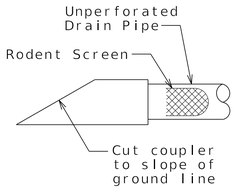
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

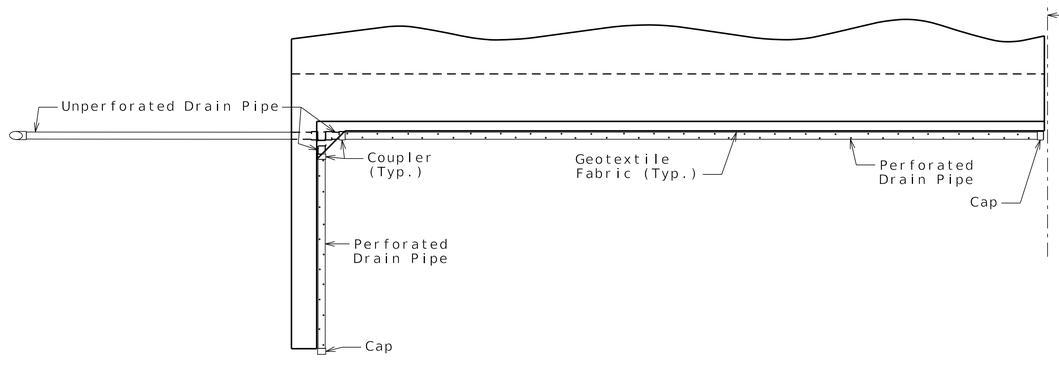


ELEVATION OF WING

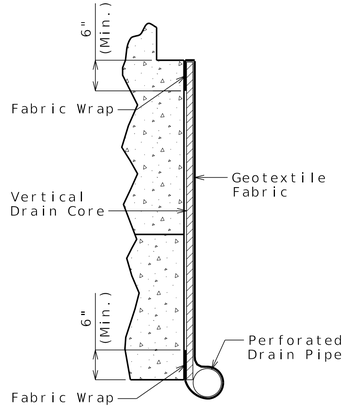
ELEVATION OF END BENT



DETAIL A



PLAN OF END BENT



PART SECTION A-A
(Section thru wing similar)

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 July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

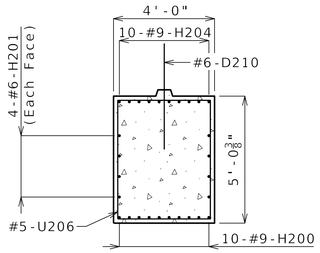
DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 7
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

DESCRIPTION | DATE

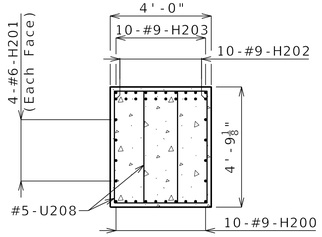
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

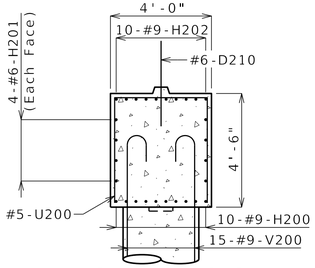
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4855
Fax (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



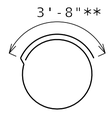
SECTION A-A



SECTION B-B

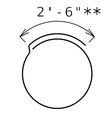


SECTION C-C

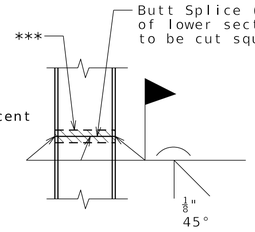


DETAIL OF P200

** Minimum lap (Stagger adjacent bar splices)



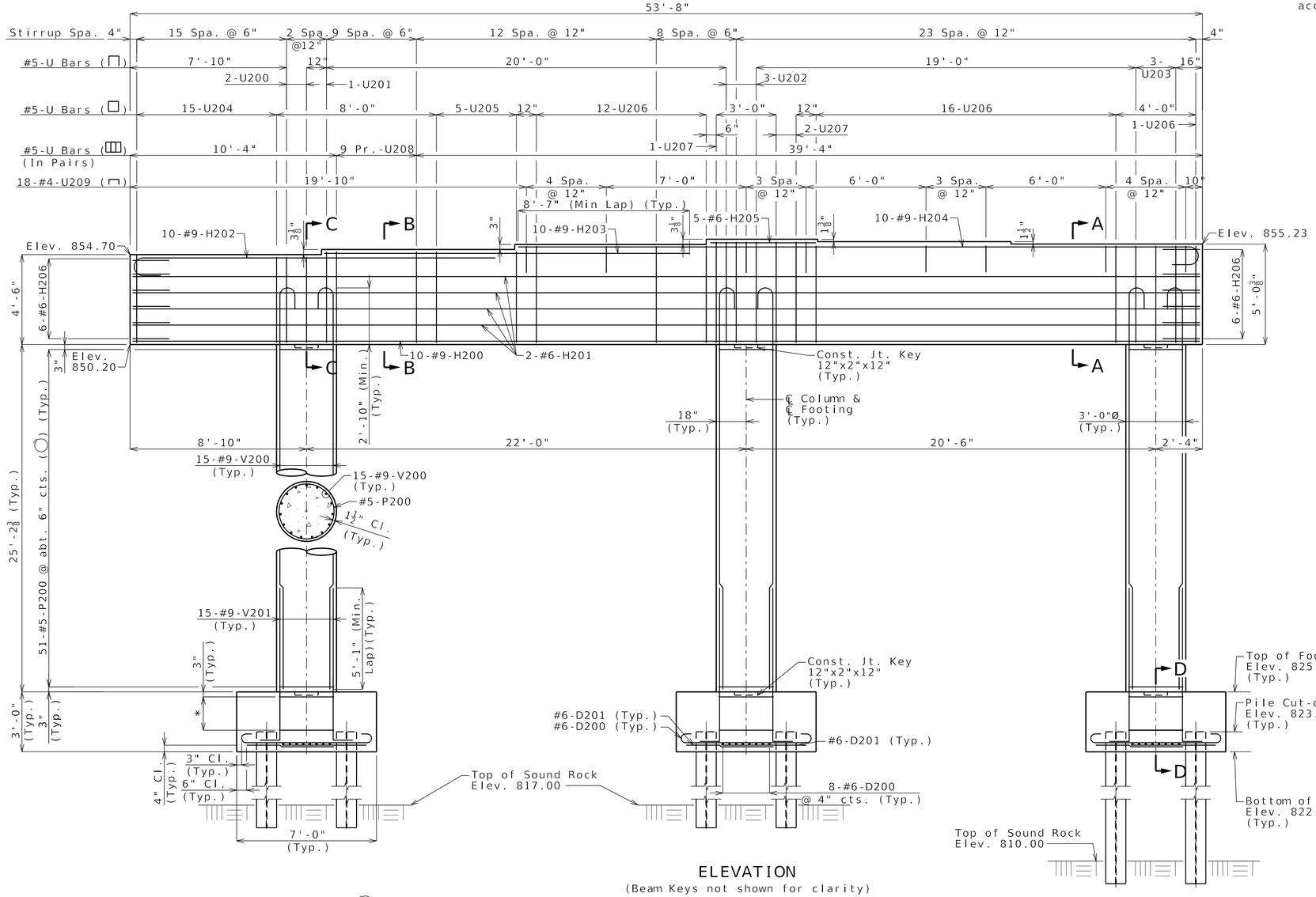
DETAIL OF P201



STEEL PILE SPLICE

(If required)

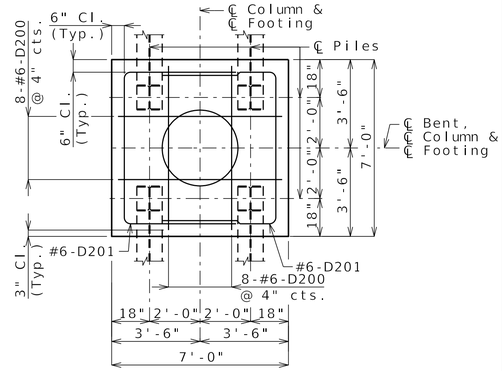
*** Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.



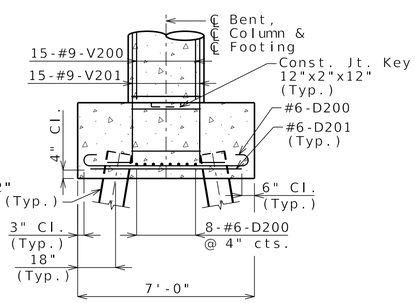
ELEVATION

(Beam Keys not shown for clarity)

∗ 5-#5-P201 @ 5" cts. ( ) (Typ.)



PLAN OF PILE FOOTING



SECTION D-D

DETAILS OF INTERMEDIATE BENT NO. 2

Detailed Aug 2025
Checked Aug 2025

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

STATE OF MISSOURI
MELANIE J. TOWNSEND
NUMBER PE-2000155363
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	8

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9663

DESCRIPTION

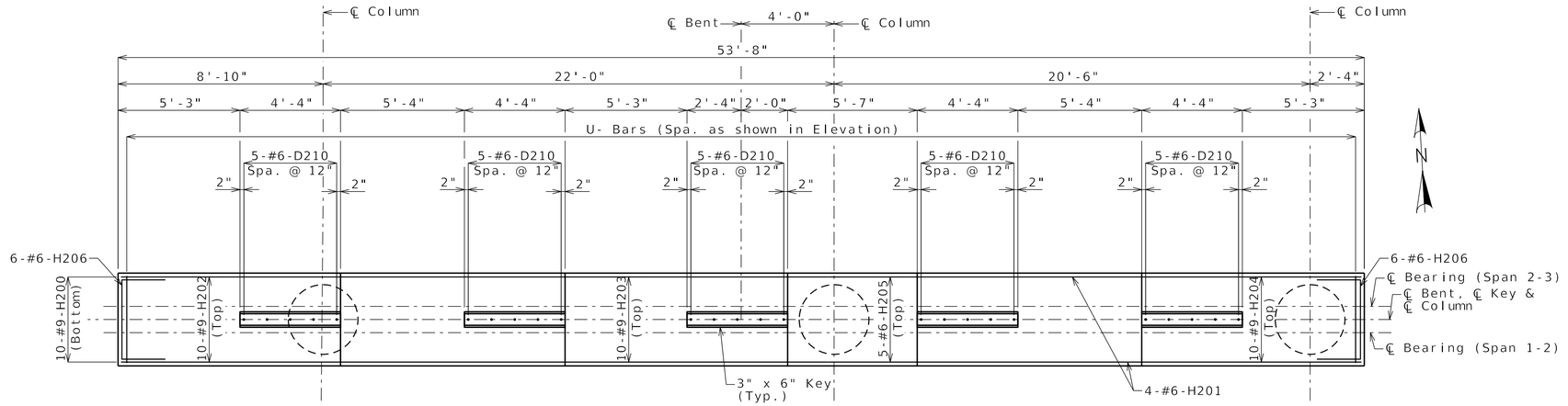
DATE

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

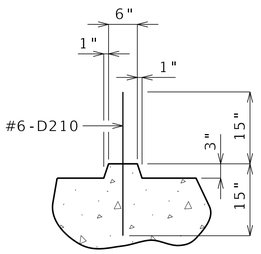
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

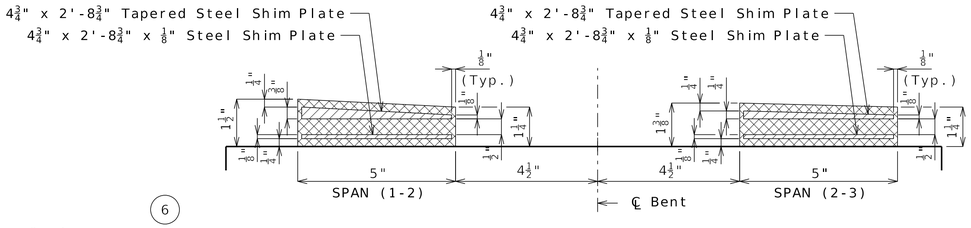
MELANIE J. TOWNSEND
PROFESSIONAL ENGINEER
PE-2000155363



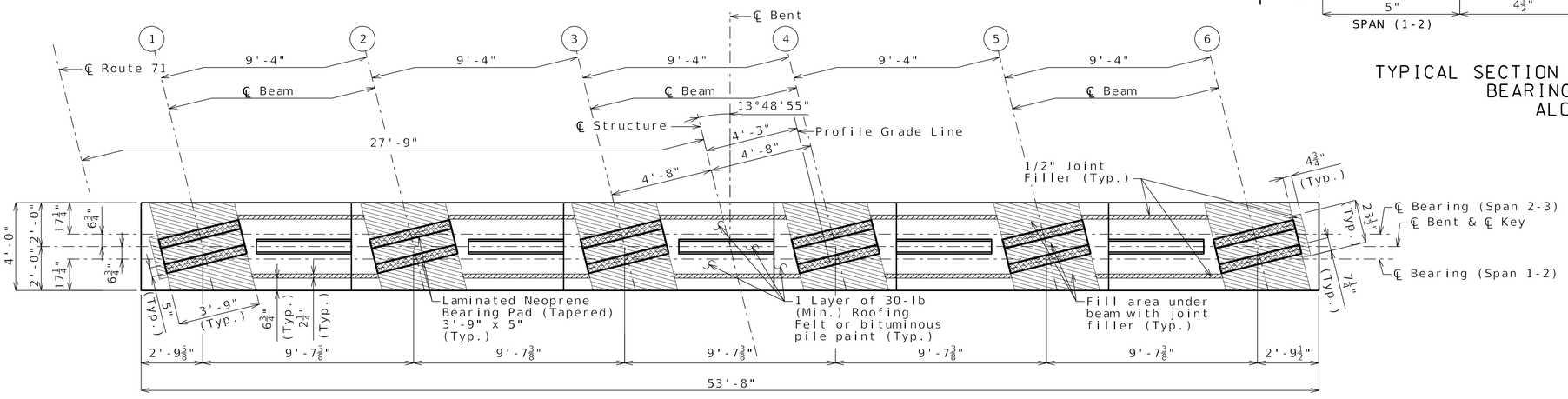
PLAN SHOWING REINFORCEMENT



SECTION THRU KEY



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PADS (TAPERED) ALONG ℄ GIRDER



PLAN OF BEAM

Notes:

For steps 2 inches or more, use 2 1/4 x 1/2 inch joint filler up vertical face.

Work this sheet with Sheet No. 8.

Substructure Quantity Table for Bent No. 2		
Item		Quantity
Class 1 Excavation	cu. yard	100.0
Galvanized Structural Steel Piles (14 in.)	linear foot	156
Pre-Bore for Piling	linear foot	144
Pile Point Reinforcement	each	12
Class B Concrete (Substructure)	cu. yard	75.6
Reinforcing Steel (Bridges)	pound	868
Reinforcing Steel (Epoxy Coated)	pound	14,405

These quantities are included in the Estimated Quantities table on Sheet No. 2.

DETAILS OF INTERMEDIATE BENT NO. 2

Detailed Aug 2025
Checked Aug 2025

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

STATE OF MISSOURI
MELANIE J. TOWNSEND
NUMBER PE-2000155363
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 9
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

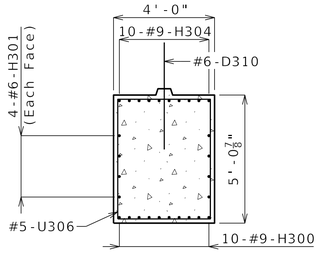
DESCRIPTION | DATE

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

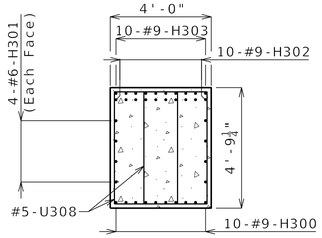
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

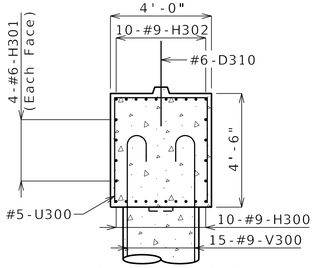
MELANIE J. TOWNSEND
PROFESSIONAL ENGINEER
PE-2000155363



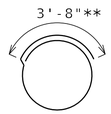
SECTION A-A



SECTION B-B

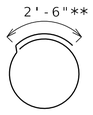


SECTION C-C

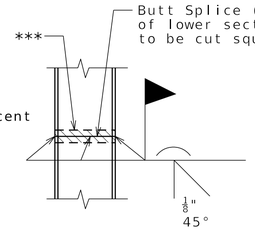


DETAIL OF P300

** Minimum lap (Stagger adjacent bar splices)

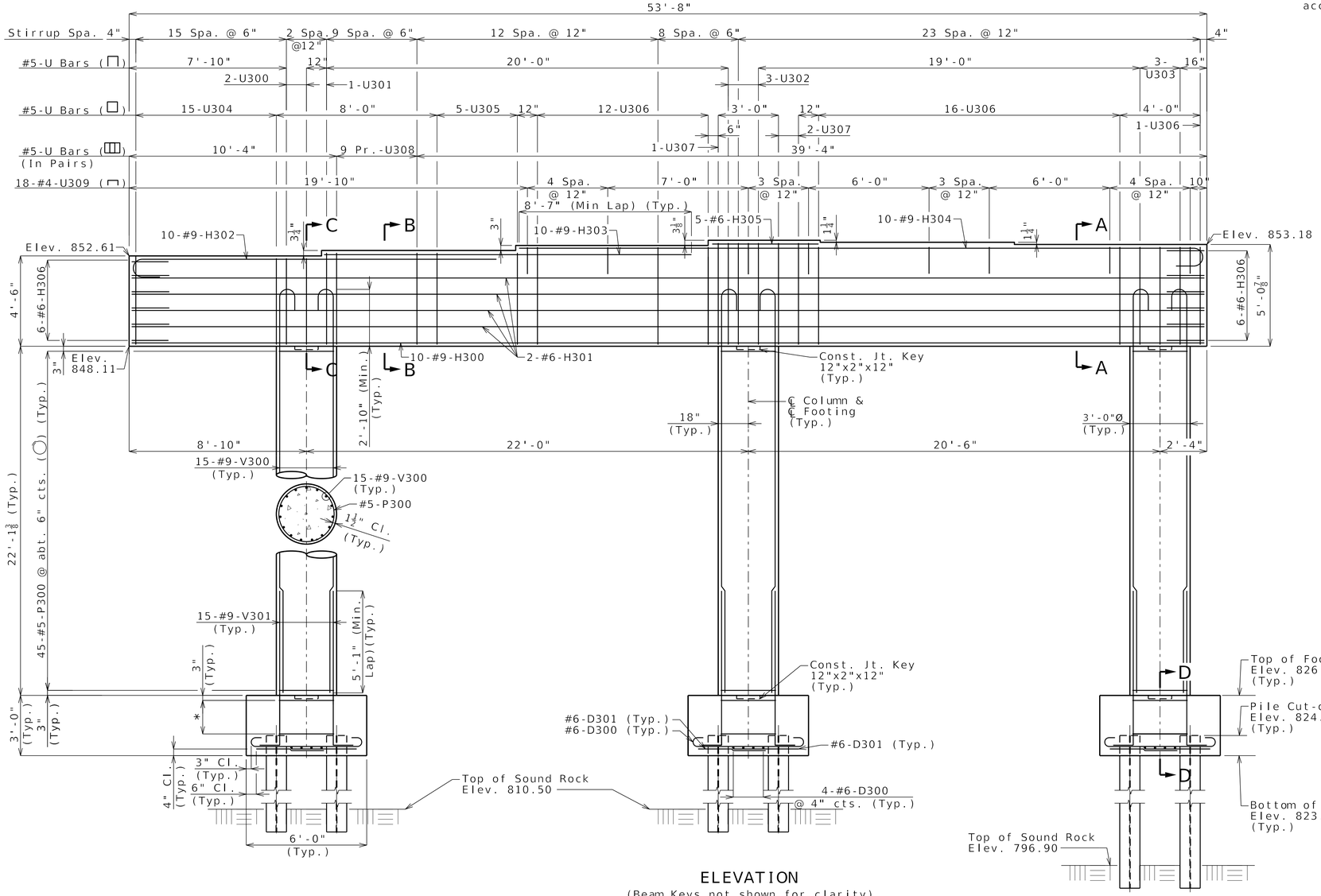


DETAIL OF P301



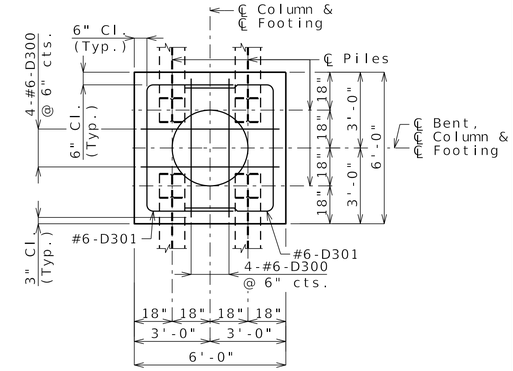
STEEL PILE SPLICE
(If required)

*** Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

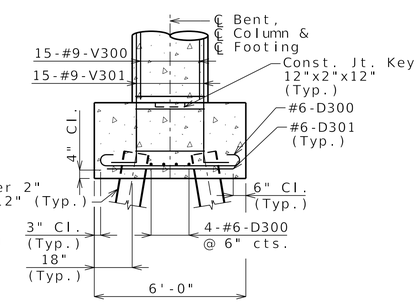


ELEVATION
(Beam Keys not shown for clarity)

∗ 5-#5-P301 @ 5" cts. (◯) (Typ.)



PLAN OF PILE FOOTING



SECTION D-D

DETAILS OF INTERMEDIATE BENT NO. 3

Detailed Aug 2025
Checked Aug 2025

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

STATE OF MISSOURI
MELANIE J. TOWNSEND
NUMBER PE-2000155363
PROFESSIONAL ENGINEER

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

DATE PREPARED
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	10

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9663

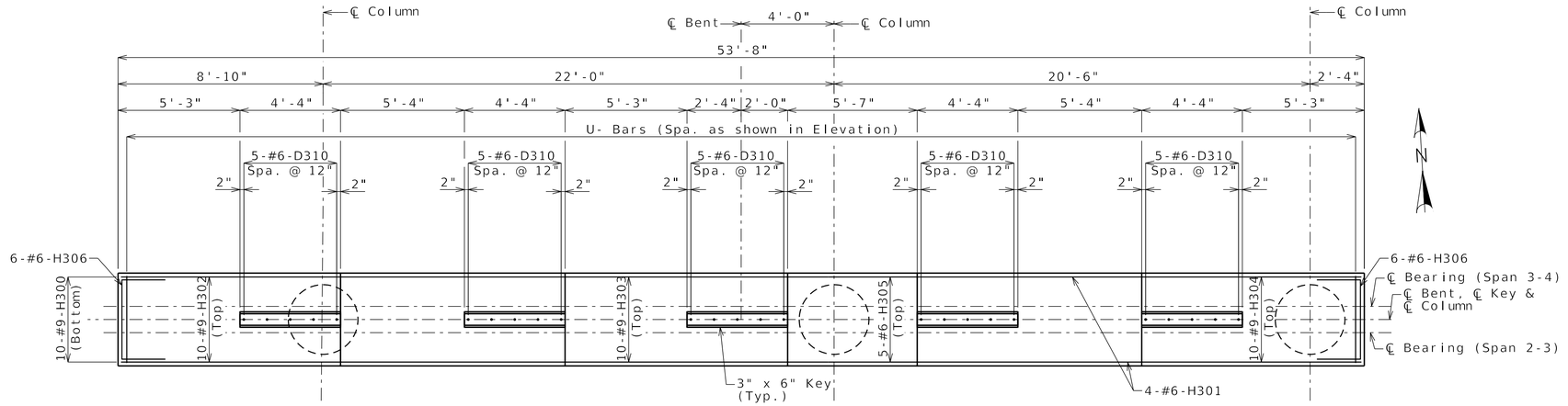
DESCRIPTION	DATE

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

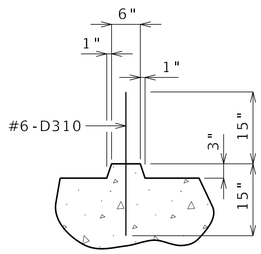
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

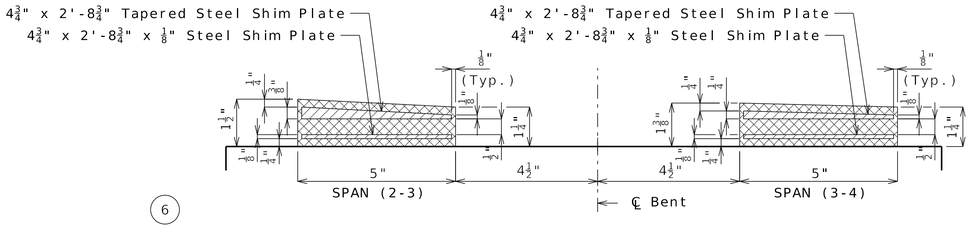
MELANIE J. TOWNSEND
PROFESSIONAL ENGINEER
PE-2000155363



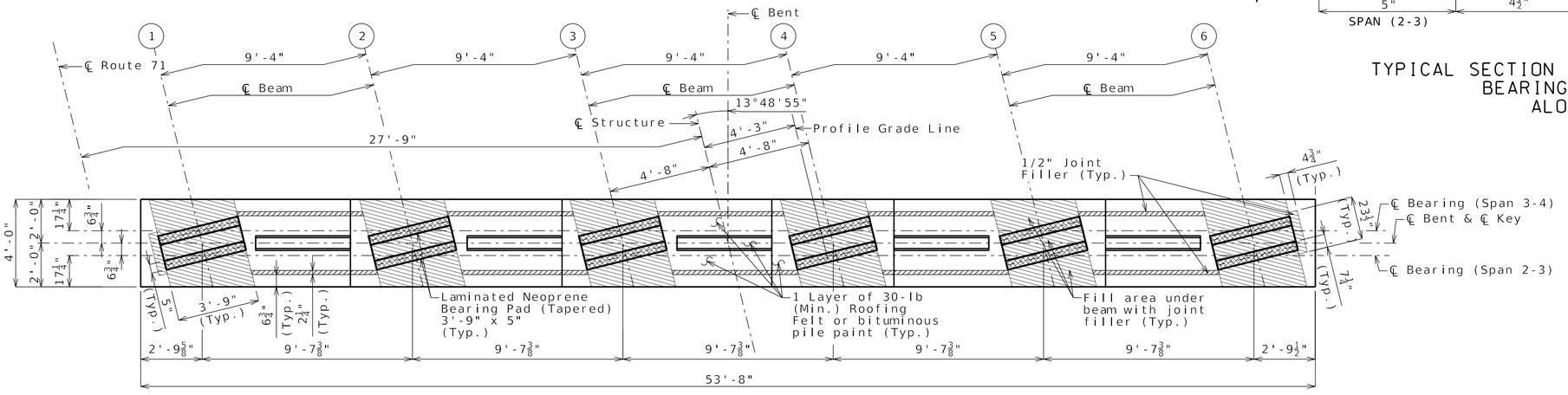
PLAN SHOWING REINFORCEMENT



SECTION THRU KEY



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PADS (TAPERED) ALONG ℄ GIRDER



PLAN OF BEAM

Notes:

For steps 2 inches or more, use 2 1/4 x 1/2 inch joint filler up vertical face.

Work this sheet with Sheet No. 10.

Substructure Quantity Table for Bent No. 3		
Item		Quantity
Class 1 Excavation	cu. yard	75.0
Galvanized Structural Steel Piles (14 in.)	linear foot	264
Pre-Bore for Piling	linear foot	216
Pile Point Reinforcement	each	12
Class B Concrete (Substructure)	cu. yard	68.8
Reinforcing Steel (Bridges)	pound	528
Reinforcing Steel (Epoxy Coated)	pound	13,692

These quantities are included in the Estimated Quantities table on Sheet No. 2.

DETAILS OF INTERMEDIATE BENT NO. 3

Detailed Aug 2025
Checked Aug 2025

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

STATE OF MISSOURI
MELANIE J. TOWNSEND
NUMBER PE-2000155363
PROFESSIONAL ENGINEER

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

DATE PREPARED
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	11

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9663

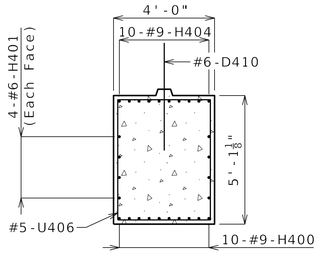
DESCRIPTION	DATE

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

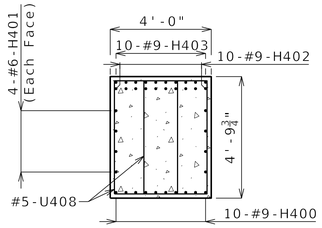
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

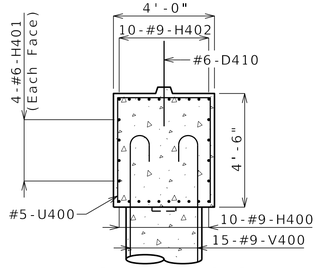
MELANIE J. TOWNSEND
PROFESSIONAL ENGINEER
PE-2000155363



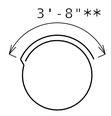
SECTION A-A



SECTION B-B

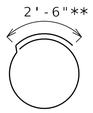


SECTION C-C

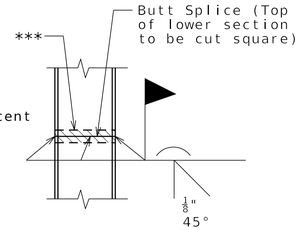


DETAIL OF P400

** Minimum lap (Stagger adjacent bar splices)



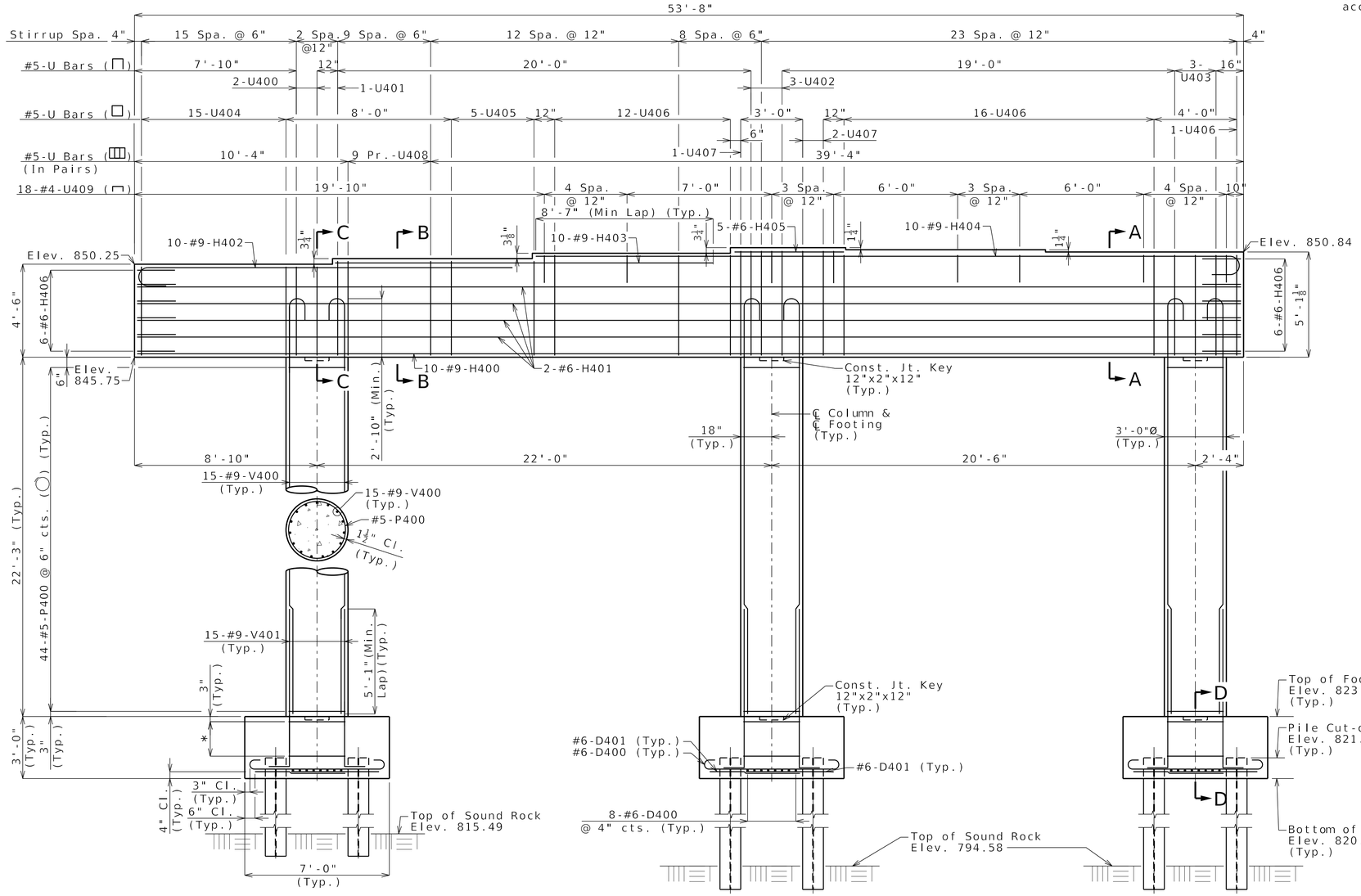
DETAIL OF P401



STEEL PILE SPLICE

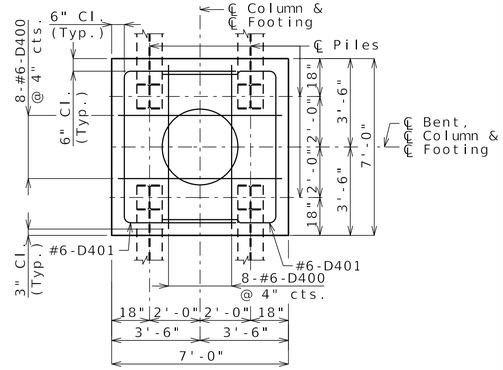
(If required)

*** Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

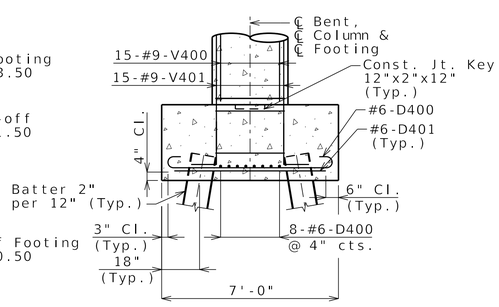


ELEVATION

(Beam Keys not shown for clarity)



PLAN OF PILE FOOTING



SECTION D-D

∗ 5-#5-P401 @ 5" cts. (◯) (Typ.)

DETAILS OF INTERMEDIATE BENT NO. 4

Detailed Aug 2025
Checked Aug 2025

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

STATE OF MISSOURI
MELANIE J. TOWNSEND
NUMBER PE-2000155363
PROFESSIONAL ENGINEER

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

DATE PREPARED
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	12

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9663

DESCRIPTION

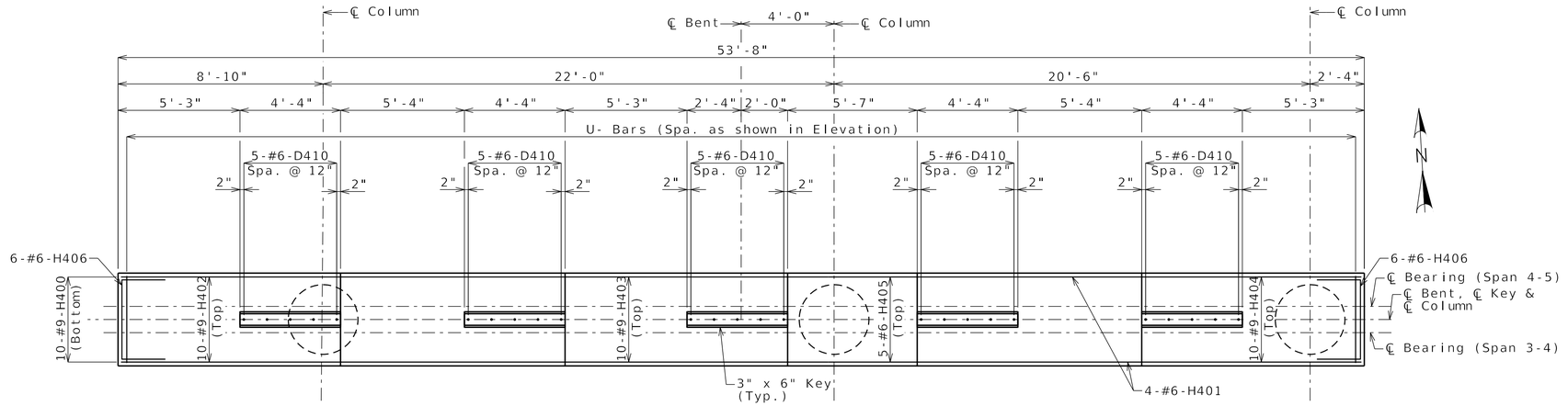
DATE

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

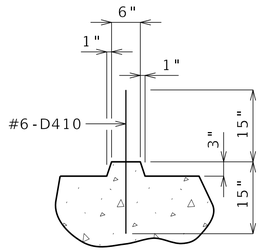
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

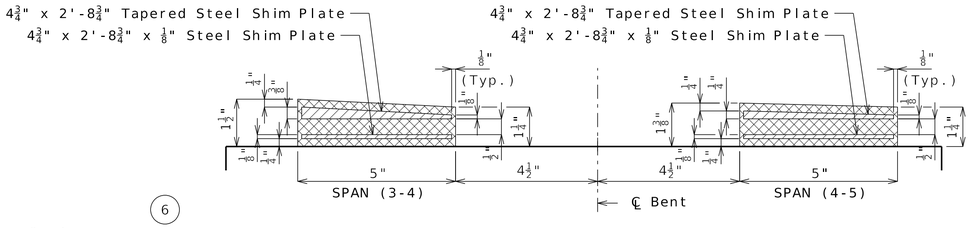
MELANIE J. TOWNSEND
PROFESSIONAL ENGINEER
PE-2000155363



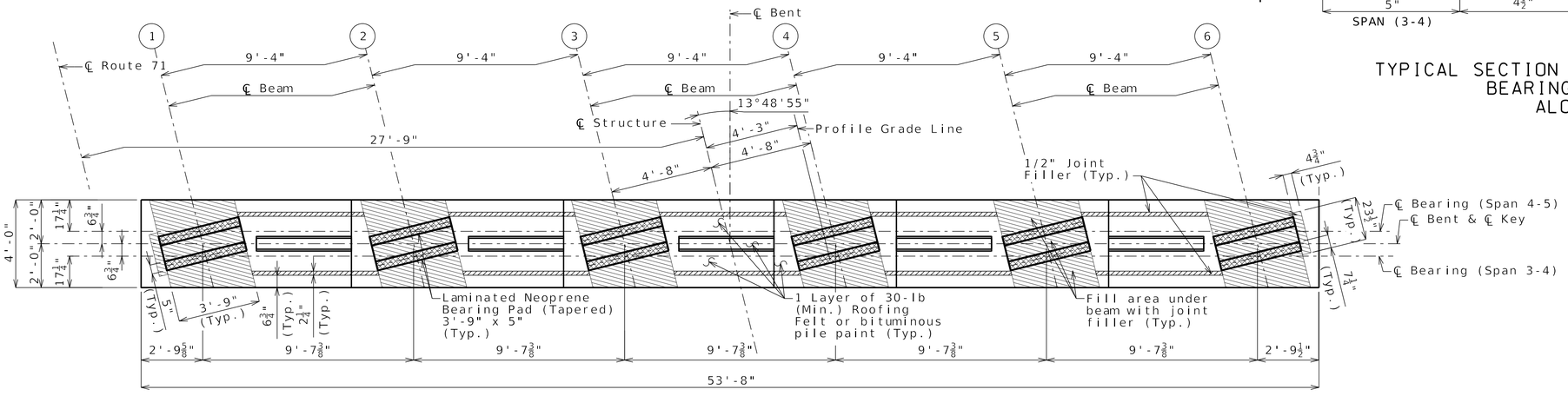
PLAN SHOWING REINFORCEMENT



SECTION THRU KEY



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PADS (TAPERED) ALONG ℄ GIRDER



PLAN OF BEAM

Notes:

For steps 2 inches or more, use 2 1/4 x 1/2 inch joint filler up vertical face.

Work this sheet with Sheet No. 12.

Substructure Quantity Table for Bent No. 4		
Item		Quantity
Class 1 Excavation	cu. yard	94.4
Galvanized Structural Steel Piles (14 in.)	linear foot	332
Pre-Bore for Piling	linear foot	256
Pile Point Reinforcement	each	12
Class B Concrete (Substructure)	cu. yard	73.4
Reinforcing Steel (Bridges)	pound	868
Reinforcing Steel (Epoxy Coated)	pound	13,679

These quantities are included in the Estimated Quantities table on Sheet No. 2.

DETAILS OF INTERMEDIATE BENT NO. 4

Detailed Aug 2025
Checked Aug 2025

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

STATE OF MISSOURI
MELANIE J. TOWNSEND
NUMBER PE-2000155363
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 13
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

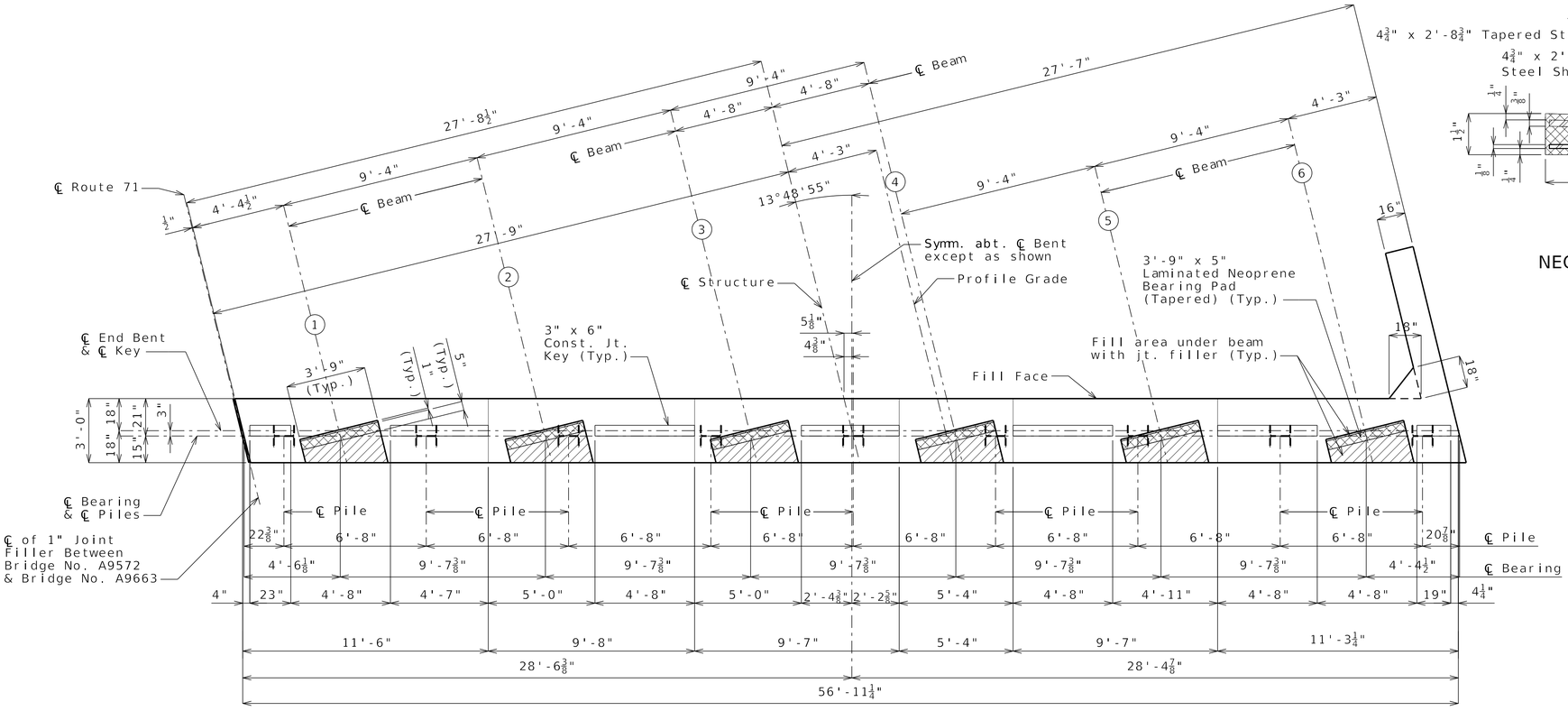
DESCRIPTION | DATE

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

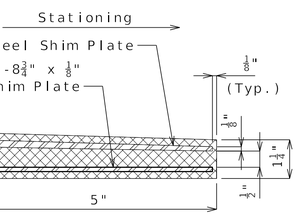
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

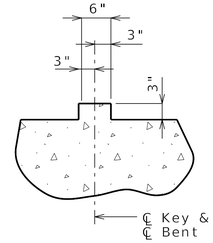
MELANIE J. TOWNSEND
PROFESSIONAL ENGINEER
PE-2000155363



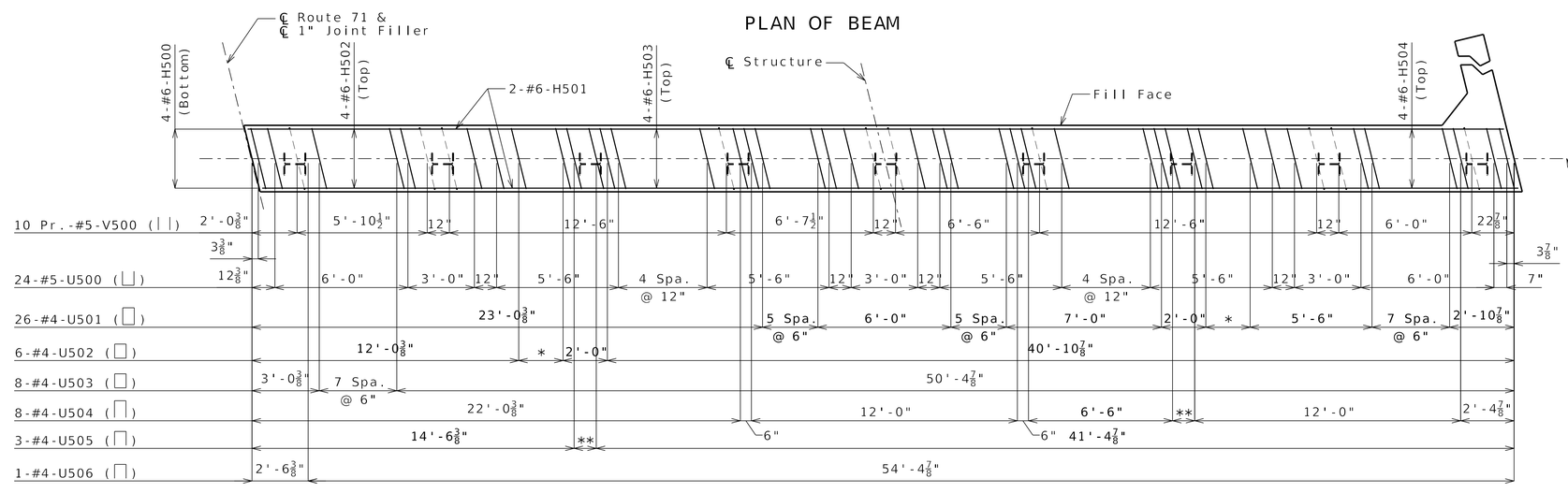
PLAN OF BEAM



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD

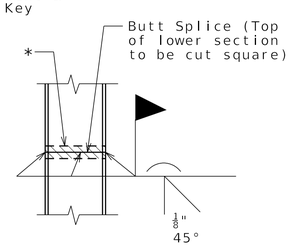


SECTION THRU KEY



* 4 Spa. @ 6"
** 2 Spa. @ 6"

PLAN OF BEAM SHOWING REINFORCEMENT
Keys not shown for clarity.



STEEL PILE SPLICE
(If required)

* 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. 15 & 16.

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.

END BENT NO. 5

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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.

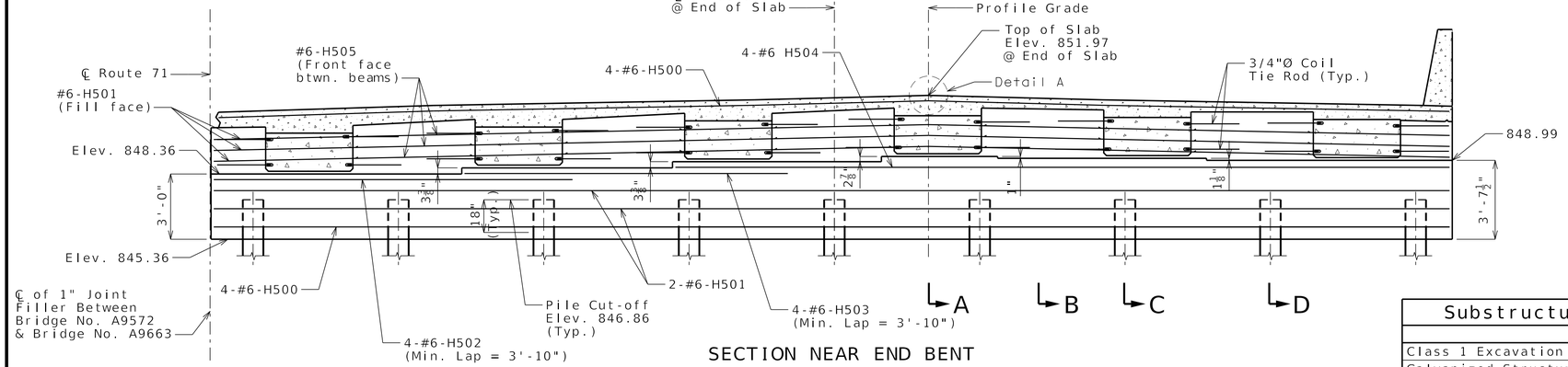
DATE PREPARED	
10/23/2025	
ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	14
COUNTY	
JACKSON	
JOB NO.	
J4S3490	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
A9663	

DESCRIPTION	DATE

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

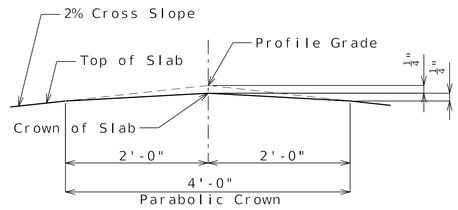
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300



SECTION NEAR END BENT

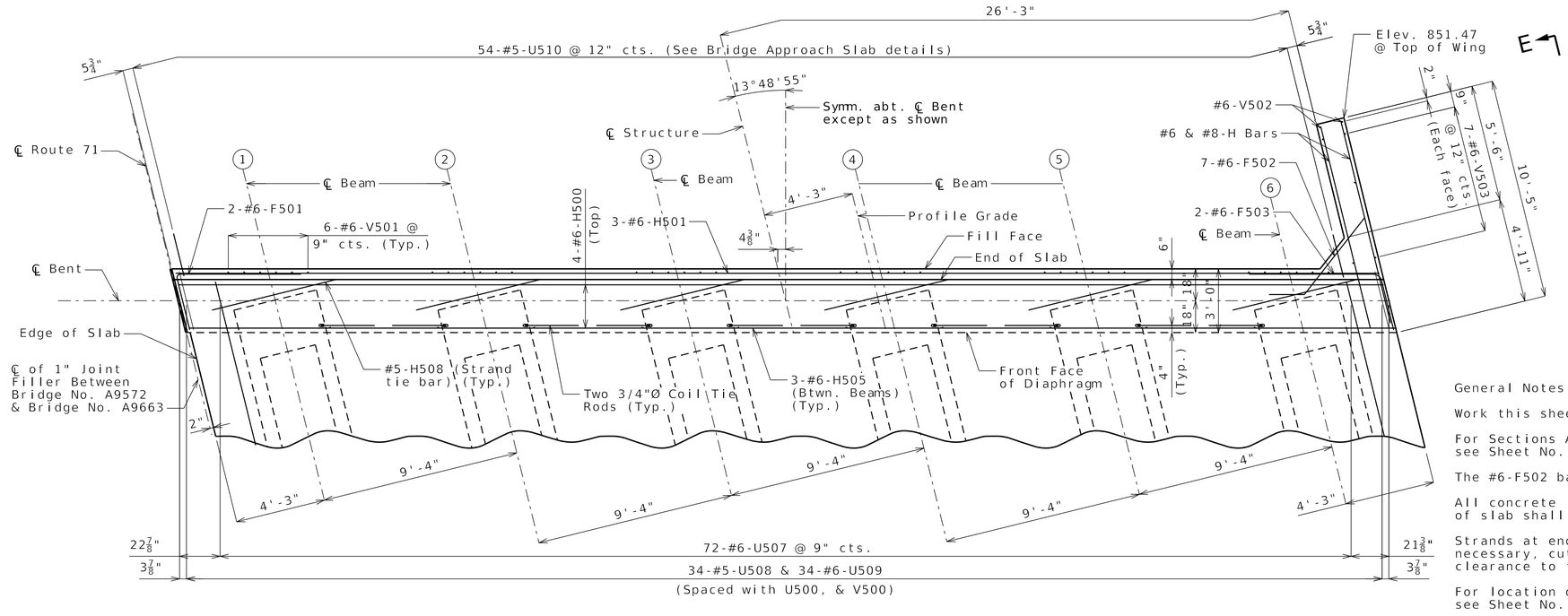
Note: Keys not shown for clarity.



DETAIL A

Substructure Quantity Table for Bent No. 5		
Item		Quantity
Class 1 Excavation	cu. yard	43.9
Galvanized Structural Steel Piles (12 in.)	linear foot	557
Pile Wave Analysis	each	1
Pre-Bore for Piling	linear foot	471
Pile Point Reinforcement	each	9
Class B Concrete (Substructure)	cu. yard	23.4

These quantities are included in the Estimated Quantities table on Sheet No. 2.



PART PLAN

END BENT NO. 5

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

Sheet No. 15 of 41

General Notes:

Work this sheet with Sheets No. 14 & 16.

For Sections A-A, B-B, C-C & D-D and Elevation E-E, see Sheet No. 16.

The #6-F502 bars shall be bent in the field to clear beams.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

Strands at end of the beams 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-H508 (strand tie bar), see Sheet No. 19.

For details of vertical drain at end bents, see Sheet No. 7.

For details of bridge approach slab, see Sheet No. 28.

All U bars and pairs of V bars shall be placed parallel to centerline of roadway.

Detailed July 2025
Checked July 2025

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	15

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

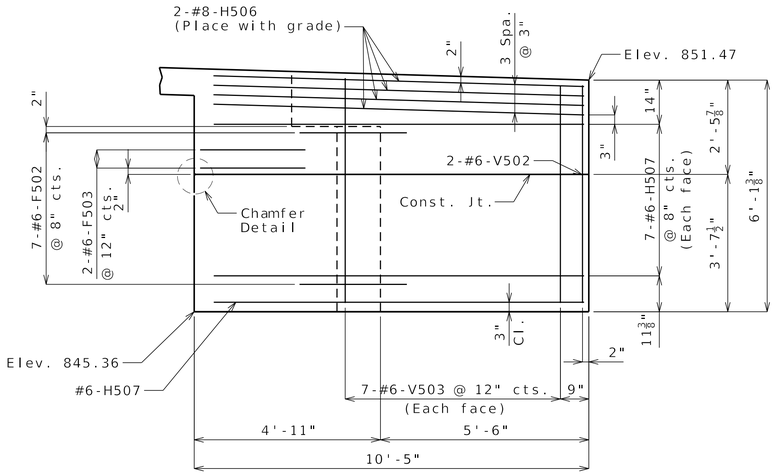
BRIDGE NO.
A9663

DESCRIPTION	DATE

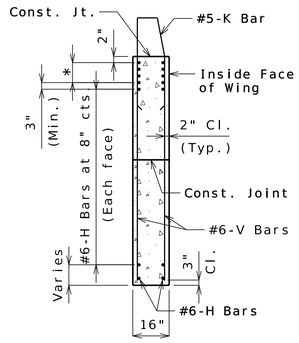
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

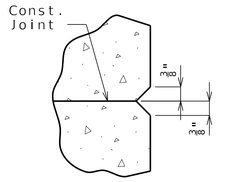


ELEVATION E-E

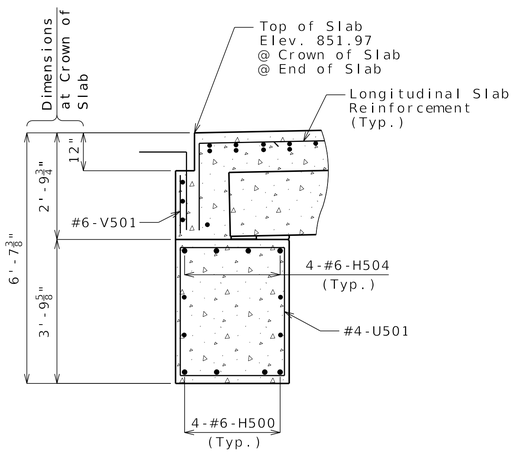


TYPICAL SECTION
THRU WING

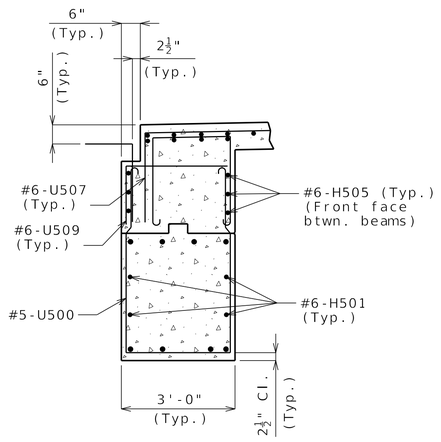
* #8-H Bars at 3" cts.
(Each face)(Place with grade)



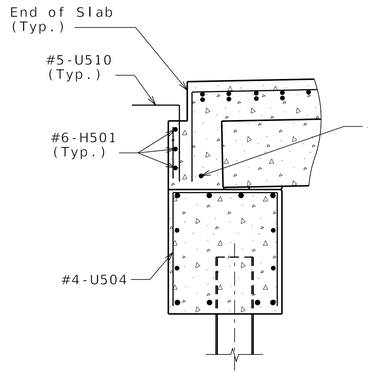
CHAMFER DETAIL



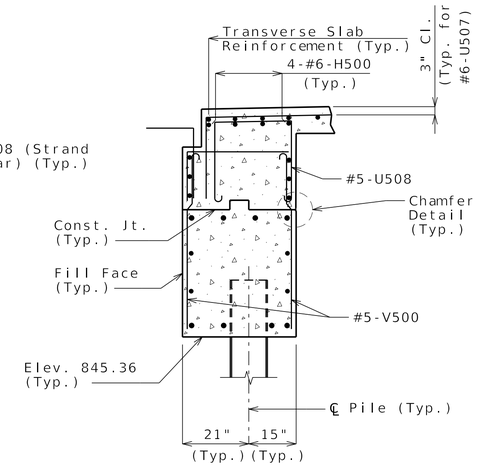
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

General Notes:

Work this sheet with Sheets No. 14 & 15

For reinforcement of the barrier, see Sheets No. 25, 26 & 27.

END BENT NO. 5

Detailed July 2025
Checked July 2025

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

B_A9663_013_J4S3490_EB5_03.dgn 3:35:53 PM 10/22/2025

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	16

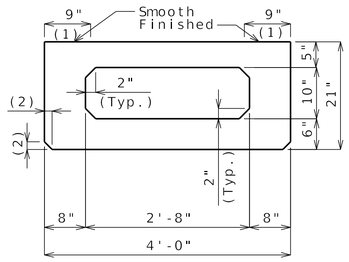
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

DESCRIPTION	DATE

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

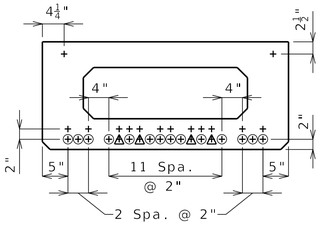
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



DIMENSIONS

(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.



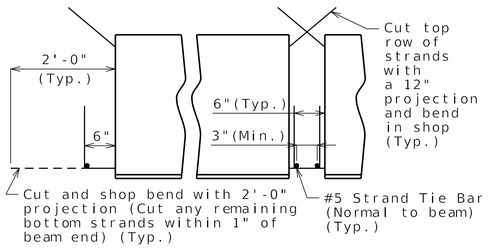
STRAND ARRANGEMENT

All strands are fully bonded unless otherwise noted.

+ Indicates prestressing strand.

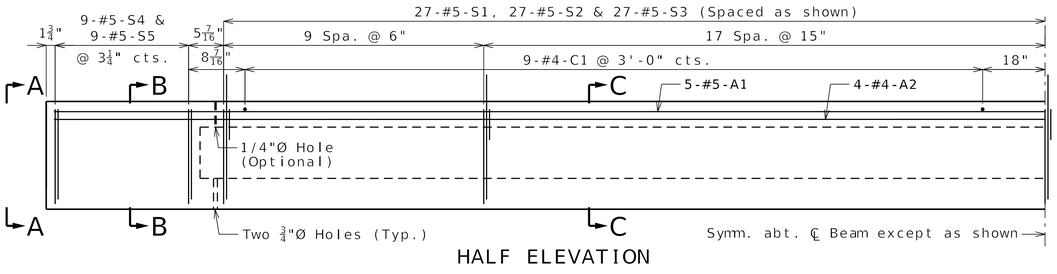
○ Indicates cut and shop bend with 2'-0" projection.

△ Indicates debonded for 2'-0" from end of beam.

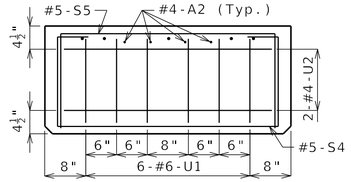


STRANDS AT BEAM ENDS

(2) 1½" (Typ.) (¾" Optional)

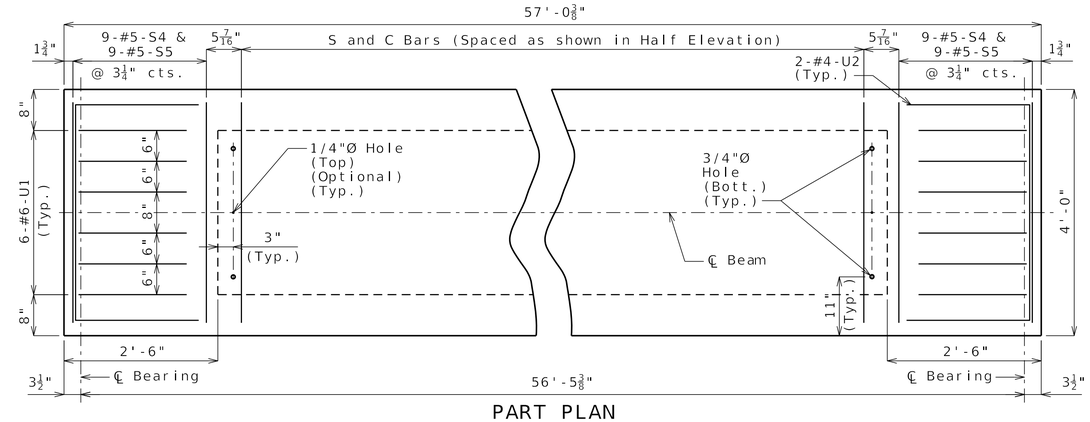


HALF ELEVATION

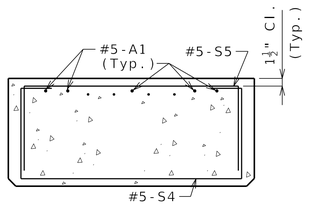


ELEVATION A-A

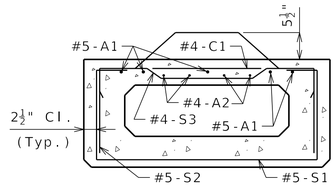
Strands not shown for clarity.



PART PLAN

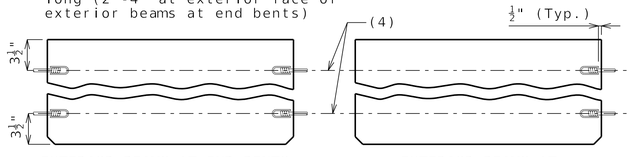


SECTION B-B



SECTION C-C

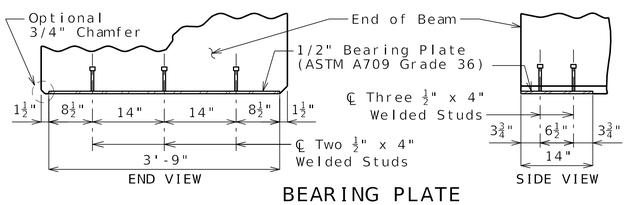
(4) ℄ 3/4"Ø (Min.) Coil Tie Rods 2'-6" long (2'-4" at exterior face of exterior beams at end bents)



EXTERIOR BEAMS AT END BENTS
INTERIOR BEAMS AT ALL BENTS

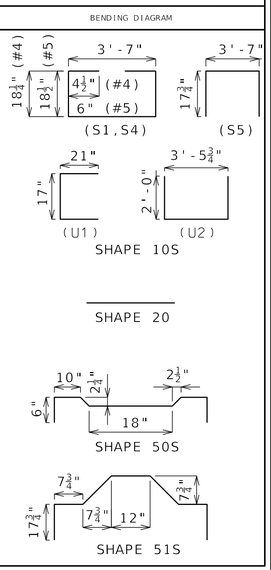
EXTERIOR BEAMS AT INTERMEDIATE BENTS

COIL TIES



BEARING PLATE

BILL OF REINFORCING STEEL - EACH BEAM				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
5	5 A1	56'-9"	20	
4	4 A2	56'-9"	20	
17	4 C1	3'-7"	20	
53	5 S1	7'-3"	10S	
53	5 S2	6'-9"	51S	
53	4 S3	4'-6"	50S	
18	5 S4	7'-3"	10S	
18	5 S5	6'-4"	10S	
12	6 U1	4'-7"	10S	
4	4 U2	7'-4"	10S	



All dimensions are out to out. Use symmetry for dimensions not shown.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be one inch, unless otherwise shown.

All reinforcement shall be Grade 60.

All S2 bars shall be epoxy coated.

General Notes:

Concrete for prestressed beams shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

Use 32 strands, 0.6"Ø Grade 270, with an initial prestress force of 1406 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior beams are the same except: coil ties.

For Beam Camber Diagram, see Sheet No. 21.

For location of coil ties at concrete bent diaphragms, see Sheet No. 20.

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	17

COUNTY JACKSON

JOB NO. J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9663

DESCRIPTION	DATE

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

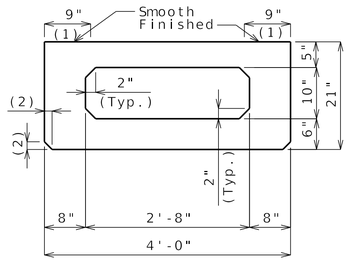
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Detailed July 2025
Checked July 2025

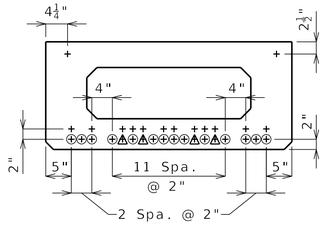
Note: This drawing is not to scale. Follow dimensions.

SPREAD BOX BEAMS - SPAN (1-2)



DIMENSIONS

(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.



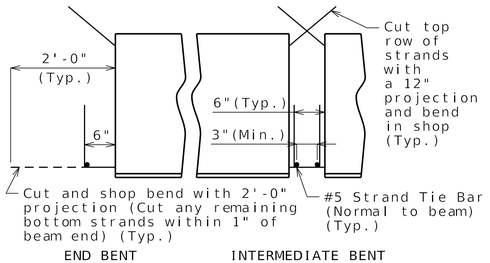
STRAND ARRANGEMENT

All strands are fully bonded unless otherwise noted.

+ Indicates prestressing strand.

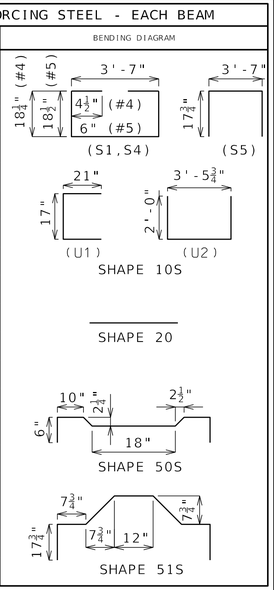
○ Indicates cut and shop bend with 2'-0" projection.

Δ Indicates debonded for 2'-0" from end of beam.

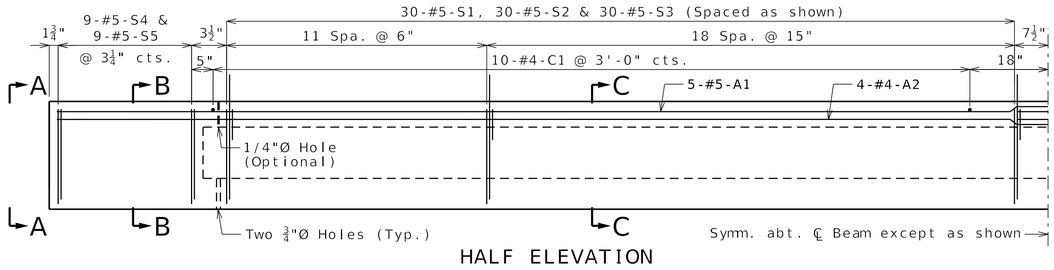


STRANDS AT BEAM ENDS

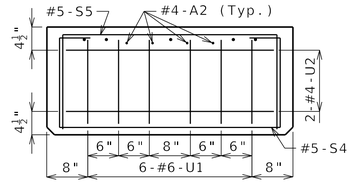
BILL OF REINFORCING STEEL - EACH BEAM				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
10	5 A1	32'-2"	20	
8	4 A2	31'-11"	20	
19	4 C1	3'-7"	20	
60	5 S1	7'-3"	10S	
60	5 S2	6'-9"	51S	
60	4 S3	4'-6"	50S	
18	5 S4	7'-3"	10S	
18	5 S5	6'-4"	10S	
12	6 U1	4'-7"	10S	
4	4 U2	7'-4"	10S	



(2) 1½" (Typ.) (¾" Optional)



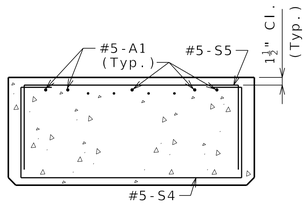
HALF ELEVATION



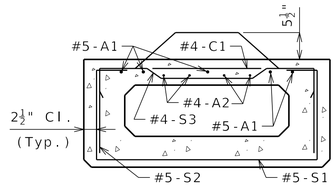
ELEVATION A-A

Strands not shown for clarity.

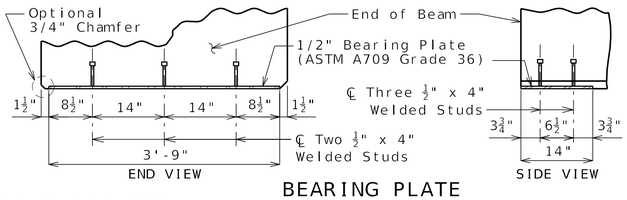
PART PLAN



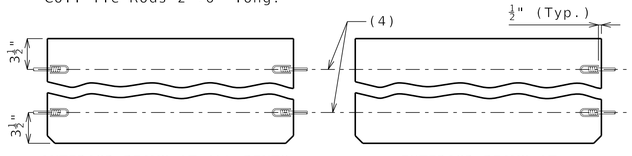
SECTION B-B



SECTION C-C



BEARING PLATE



INTERIOR BEAMS AT ALL BENTS

EXTERIOR BEAMS AT INTERMEDIATE BENTS

COIL TIES

All dimensions are out to out. Use symmetry for dimensions not shown.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be one inch, unless otherwise shown.

All reinforcement shall be Grade 60.

All S2 bars shall be epoxy coated.

General Notes:

Concrete for prestressed beams shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

Use 32 strands, 0.6"Ø Grade 270, with an initial prestress force of 1406 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior beams are the same except: coil ties.

For Beam Camber Diagram, see Sheet No. 21.

For location of coil ties at concrete bent diaphragms, see Sheet No. 20.

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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 10/23/2025

ROUTE 71 | STATE MO

DISTRICT BR | SHEET NO. 18

COUNTY JACKSON

JOB NO. J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9663

DESCRIPTION | DATE

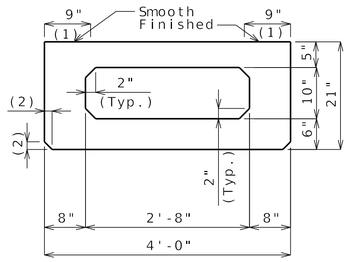
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Detailed July 2025
Checked July 2025

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

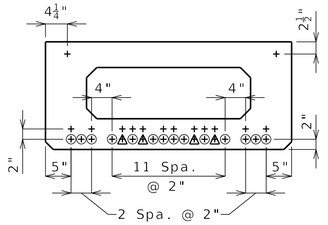
SPREAD BOX BEAMS - SPANS (2-3) & (3-4)



DIMENSIONS

(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.

(2) $1\frac{1}{2}$" (Typ.) ($\frac{3}{4}$" Optional)



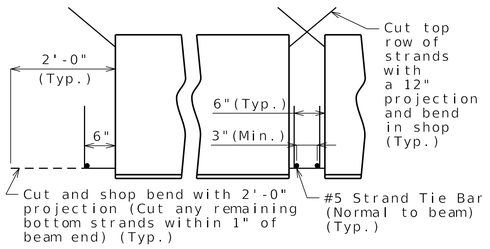
STRAND ARRANGEMENT

All strands are fully bonded unless otherwise noted.

\+ Indicates prestressing strand.

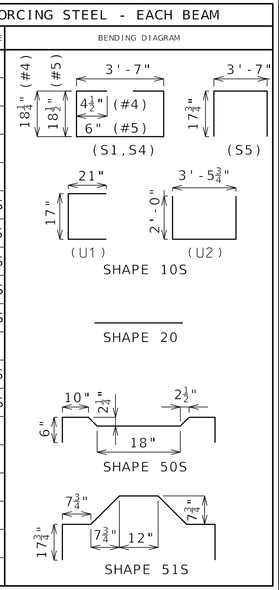
○ Indicates cut and shop bend with 2'-0" projection.

Δ Indicates debonded for 2'-0" from end of beam.



STRANDS AT BEAM ENDS

BILL OF REINFORCING STEEL - EACH BEAM				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
5	5 A1	46'-9"	20	
4	4 A2	46'-9"	20	
15	4 C1	3'-7"	20	
51	5 S1	7'-3"	10S	
51	5 S2	6'-9"	51S	
51	4 S3	4'-6"	50S	
18	5 S4	7'-3"	10S	
18	5 S5	6'-4"	10S	
12	6 U1	4'-7"	10S	
4	4 U2	7'-4"	10S	



All dimensions are out to out. Use symmetry for dimensions not shown.

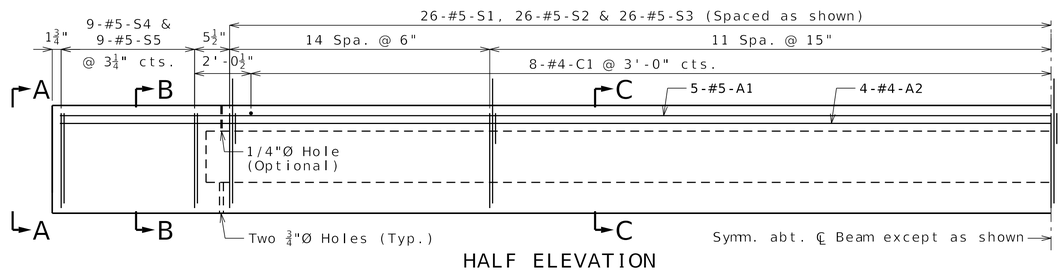
Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual lengths are measured along centerline of bar to the nearest inch.

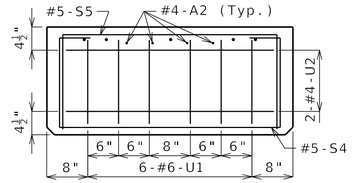
Minimum clearance to reinforcing shall be one inch, unless otherwise shown.

All reinforcement shall be Grade 60.

All S2 bars shall be epoxy coated.

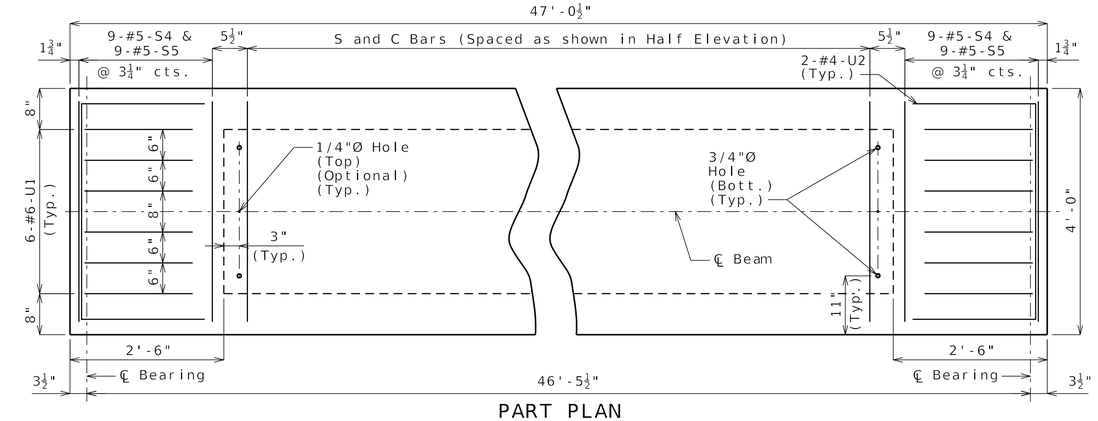


HALF ELEVATION

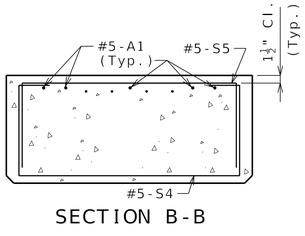


ELEVATION A-A

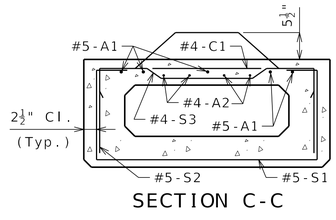
Strands not shown for clarity.



PART PLAN

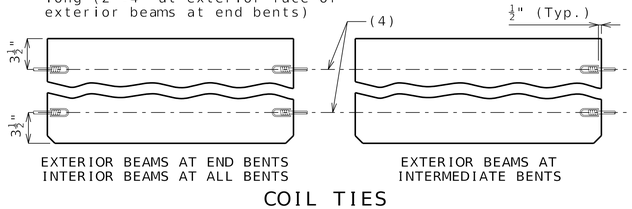


SECTION B-B



SECTION C-C

(4) ℄ 3/4"Ø (Min.) Coil Tie Rods 2'-6" long (2'-4" at exterior face of exterior beams at end bents)



EXTERIOR BEAMS AT END BENTS
INTERIOR BEAMS AT ALL BENTS

EXTERIOR BEAMS AT INTERMEDIATE BENTS

COIL TIES

General Notes:

Concrete for prestressed beams shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

Use 32 strands, 0.6"Ø Grade 270, with an initial prestress force of 1406 kips.

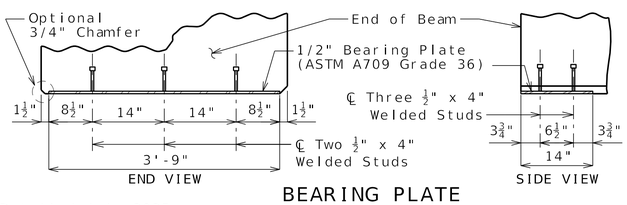
Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior beams are the same except: coil ties.

For Beam Camber Diagram, see Sheet No. 21.

For location of coil ties at concrete bent diaphragms, see Sheet No. 20.



BEARING PLATE

Detailed July 2025
Checked July 2025

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

SPREAD BOX BEAMS - SPAN (4-5)

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

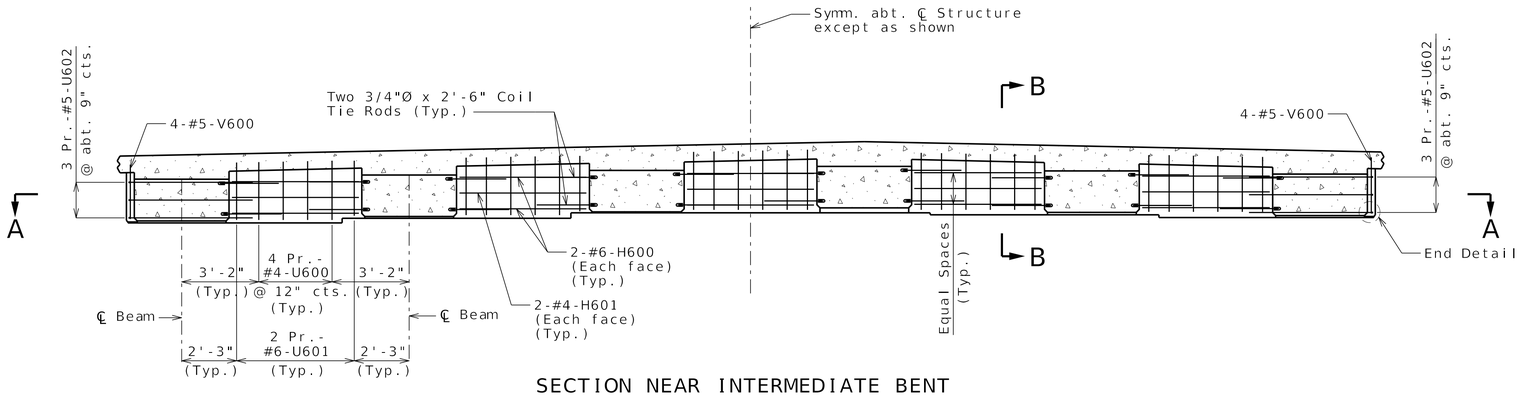
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 19
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

DESCRIPTION | DATE

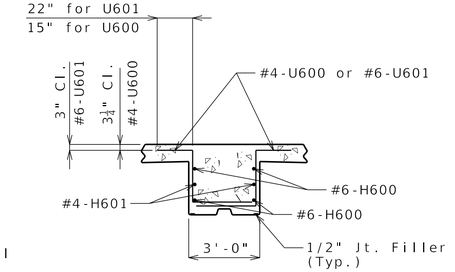
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

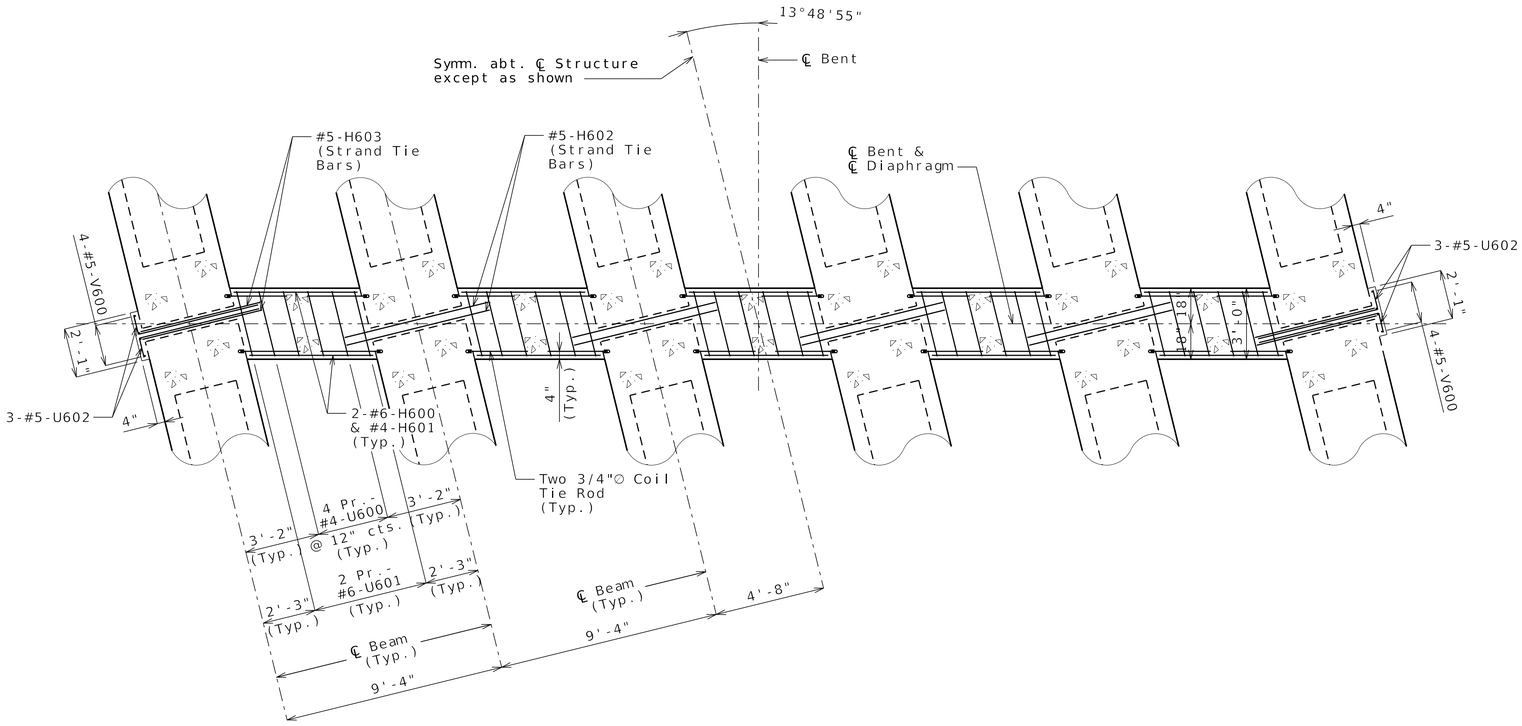


SECTION NEAR INTERMEDIATE BENT

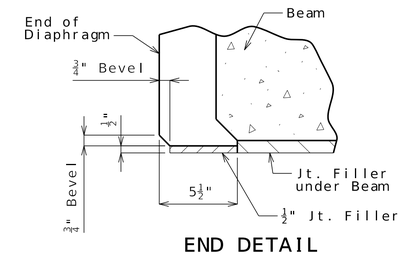
Normal to ℄ Structure



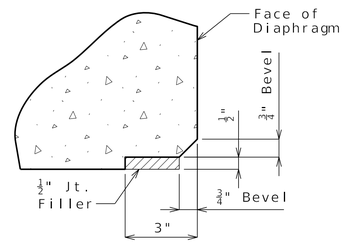
SECTION B-B



SECTION A-A



END DETAIL



EDGE DETAIL

Notes:

For location of Strand Tie Bars, see Sheets No. 17 thru 19.

For location and details of Coil Tie Rods, see Sheets No. 17 thru 19.

Diaphragms at intermediate bents shall be built vertical.

All U-bars in diaphragms are to be placed parallel to ℄ Roadway

CONCRETE DIAPHRAGMS AT INTERMEDIATE BENTS

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	20

COUNTY JACKSON

JOB NO. J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9663

DATE	DESCRIPTION

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

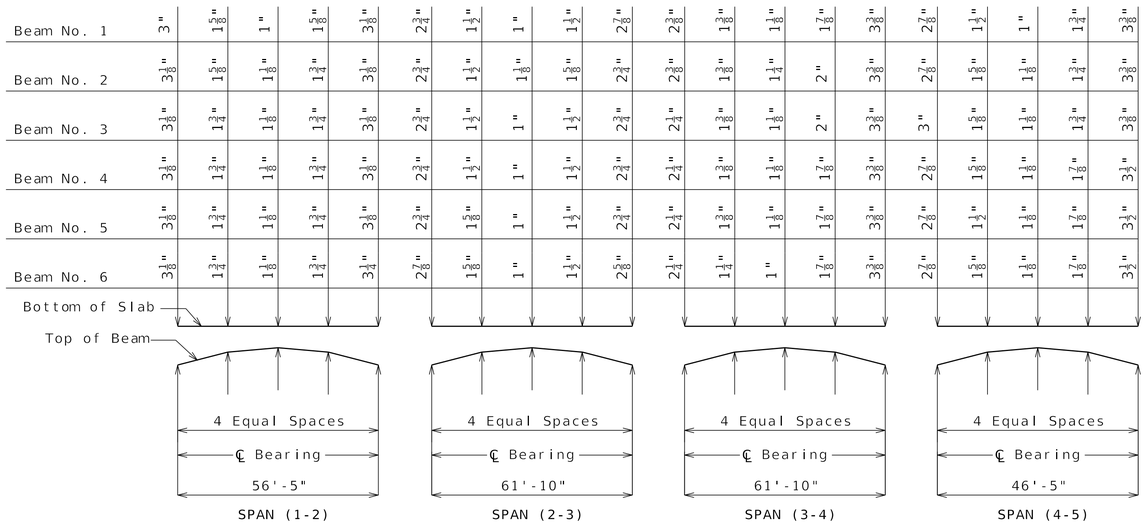
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

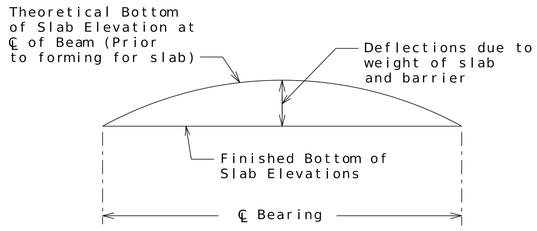
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

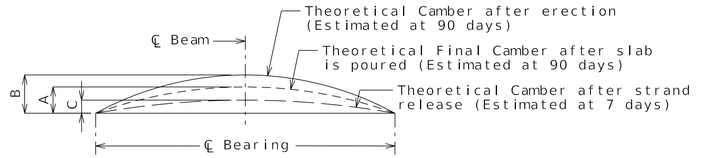
TREKK DESIGN GROUP, LLC



THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)



TYPICAL SLAB ELEVATIONS DIAGRAM



Beam	Span (1-2)			Span (2-3)			Span (3-4)			Span (4-5)		
	A	B	C	A	B	C	A	B	C	A	B	C
Exterior	2¼"	3½"	2"	2"	3¾"	2⅛"	2"	3¾"	2⅛"	2¼"	2¾"	1⅝"
Interior	2¼"			2"			2"			2¼"		

BEAM CAMBER DIAGRAM

Conversion Factors for Beam Camber (Estimated at 90 days):
0.25 pt. = 0.7125 x 0.5 pt.

If beam 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 Beam.

Theoretical Bottom of Slab Elevations at Centerline of Beam (Prior to forming for slab) (Estimated at 90 days)

Beam Number	Span (1-2) (56'-5" ℄ Brg. - ℄ Brg.)					Span (2-3) (61'-10" ℄ Brg. - ℄ Brg.)					Span (3-4) (61'-10" ℄ Brg. - ℄ Brg.)					Span (4-5) (46'-5" ℄ Brg. - ℄ Brg.)				
	℄ Brg.	.25	.50	.75	℄ Brg.	℄ Brg.	.25	.50	.75	℄ Brg.	℄ Brg.	.25	.50	.75	℄ Brg.	℄ Brg.	.25	.50	.75	℄ Brg.
1	858.55	858.21	857.81	857.34	856.82	856.79	856.39	855.92	855.35	854.71	854.67	854.22	853.70	853.08	852.39	852.35	851.93	851.49	851.01	850.51
2	858.80	858.46	858.07	857.60	857.08	857.05	856.65	856.19	855.62	854.98	854.93	854.49	853.98	853.36	852.67	852.62	852.21	851.77	851.29	850.79
3	859.05	858.72	858.33	857.86	857.34	857.31	856.92	856.45	855.88	855.24	854.20	854.76	854.25	853.63	852.94	852.90	852.48	852.04	851.57	851.07
4	859.28	858.94	858.55	858.09	857.57	857.54	857.15	856.68	856.12	855.48	855.44	855.00	854.49	853.87	853.18	853.14	852.73	852.29	851.82	851.32
5	859.17	858.84	858.45	857.99	857.47	857.44	857.05	856.58	856.02	855.39	855.34	854.91	854.40	853.79	853.10	853.05	852.64	852.21	851.74	851.24
6	859.05	858.71	858.33	857.87	857.36	857.32	856.93	856.47	855.91	855.28	855.24	854.80	854.29	853.68	853.00	852.95	852.54	852.11	851.64	851.14

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 including barrier.

STATE OF MISSOURI
PROFESSIONAL ENGINEER
DERRICK J. PRICE
NUMBER PE-2019032100
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

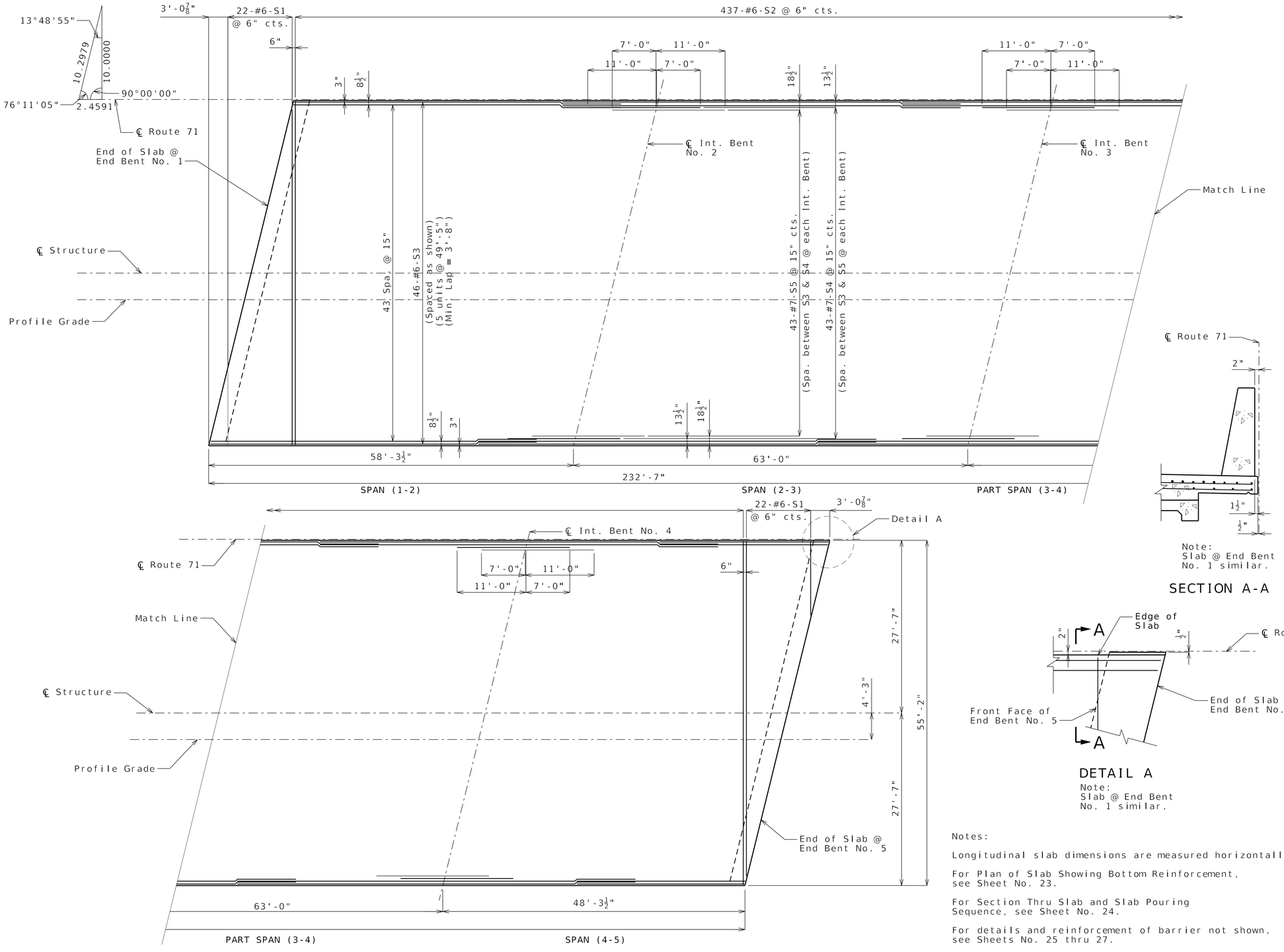
DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 21
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

DESCRIPTION | DATE

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

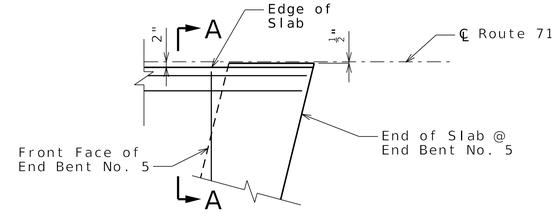
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



Note:
Slab @ End Bent No. 1 similar.

SECTION A-A



DETAIL A

Note:
Slab @ End Bent No. 1 similar.

Notes:

Longitudinal slab dimensions are measured horizontally.

For Plan of Slab Showing Bottom Reinforcement, see Sheet No. 23.

For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 24.

For details and reinforcement of barrier not shown, see Sheets No. 25 thru 27.

For Theoretical Slab Haunching Diagram, see Sheet No. 21.

For Theoretical Bottom of Slab Elevations, see Sheet No. 21.

PLAN OF SLAB SHOWING TOP REINFORCEMENT

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

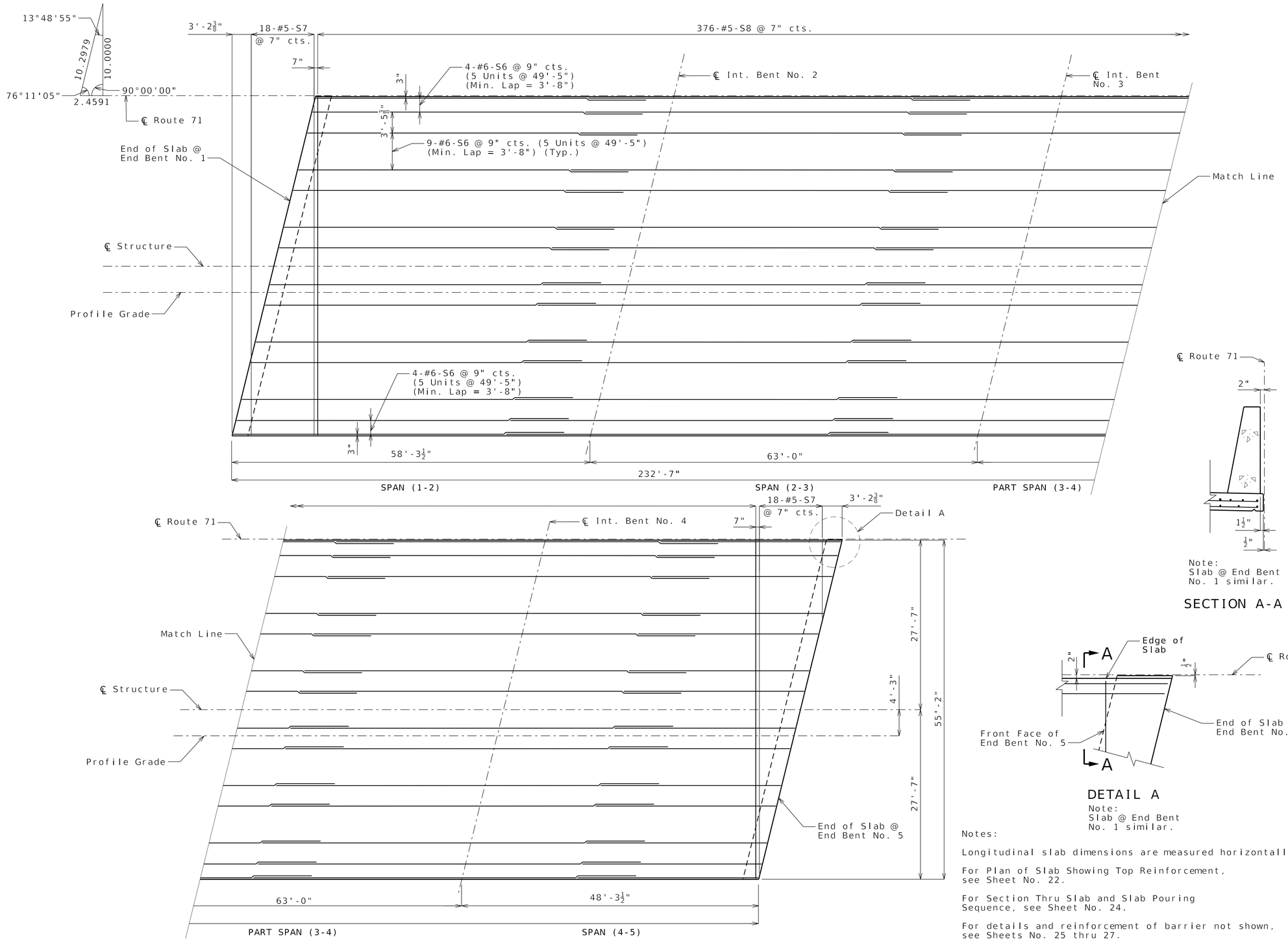
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED: 10/23/2025
ROUTE: 71 | STATE: MO
DISTRICT: BR | SHEET NO.: 22
COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9663

DESCRIPTION | DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT

Notes:

Longitudinal slab dimensions are measured horizontally.

For Plan of Slab Showing Top Reinforcement, see Sheet No. 22.

For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 24.

For details and reinforcement of barrier not shown, see Sheets No. 25 thru 27.

For Theoretical Slab Haunching Diagram, see Sheet No. 21 .

For Theoretical Bottom of Slab Elevations, see Sheet No. 21 .

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2017032100
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
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	23

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

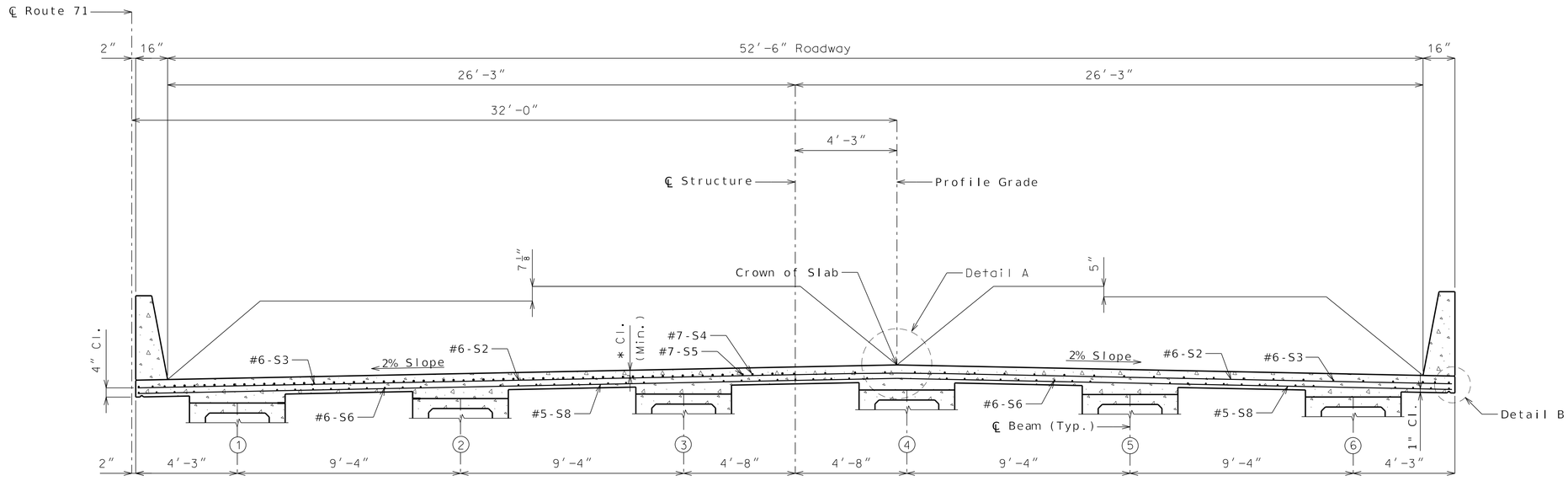
PROJECT NO.

BRIDGE NO.
A9663

DESCRIPTION	DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

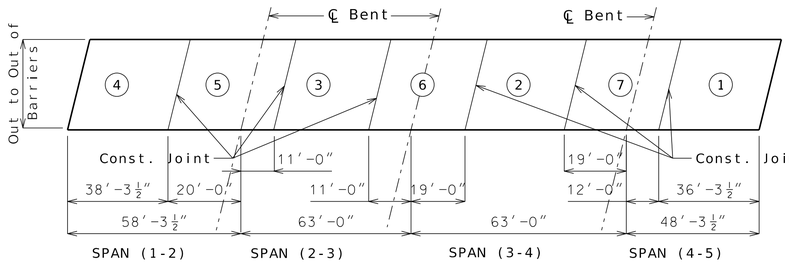


HALF SECTION NEAR INTERMEDIATE BENT

HALF SECTION NEAR MIDSPAN

* 3" (#6)
2 7/8" (#7)

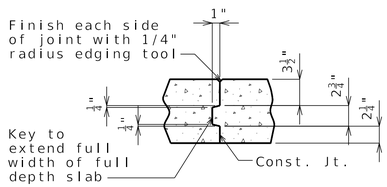
SECTION THRU SLAB



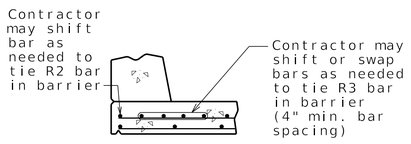
	Sequence of Pours							Min. Rate of Pour Cu. Yds./Hr.
	Direction							With Retarder
Basic Sequence	1	2	3	4	5	6	7	29
	Either Direction							
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.								
Alternate A Pours	1		7 + 2		6 + 3		5 + 4	29
	End to 7		1 to 6		2 to 5		3 to End	
Alternate B Pours	1 + 7 + 2			6 + 3		5 + 4		29
	End to 6			2 to 5		3 to End		
Alternate C Pours	1 + 7 + 2				6 + 3 + 5 + 4			29
	End to 6				2 to End			
Alternate D Pours	1 + 7 + 2 + 6 + 3 + 5 + 4							29
	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.

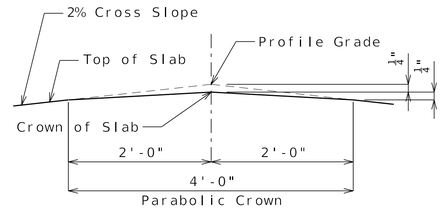
SLAB POURING SEQUENCE



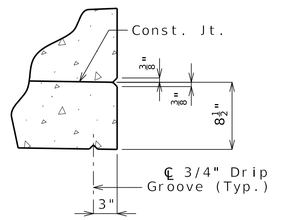
FULL DEPTH SLAB
SLAB CONSTRUCTION JOINT



OPTIONAL SHIFTING
TOP BARS AT BARRIER



DETAIL A



DETAIL B

Notes:

For reinforcement of barrier not shown, see Sheets No. 25 thru 27.

For barrier on Approach Slab, see Sheet No. 27 .

For Theoretical Bottom of Slab Elevations, Beam Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 21.

For Plan of Slab Showing Reinforcement, see Sheets No. 22& 23.

SLAB DETAILS

Detailed July 2025
Checked July 2025

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

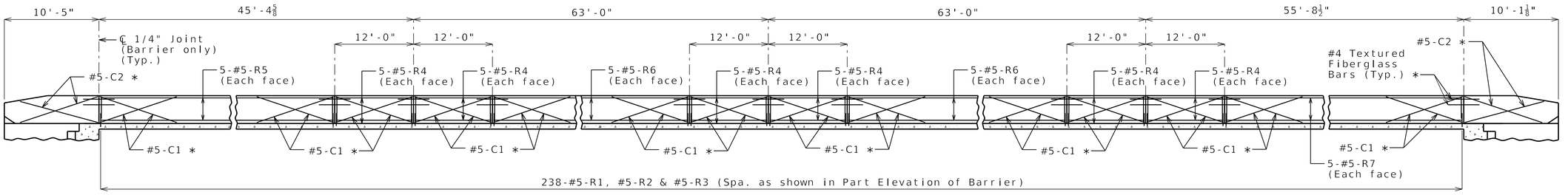
DERRICK J. PRICE
NUMBER PE-2019032100
STATE OF MISSOURI PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 24
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

DESCRIPTION | DATE

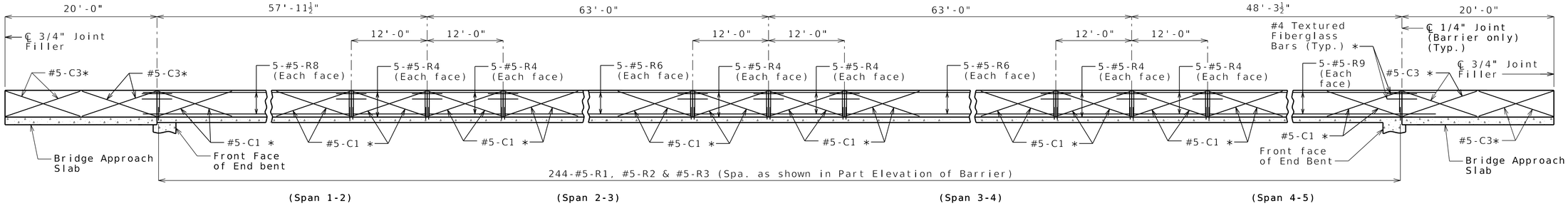
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



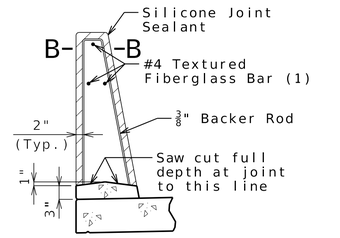
ELEVATION OF RIGHT BARRIER

Longitudinal dimensions are horizontal.

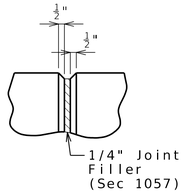


ELEVATION OF LEFT BARRIER

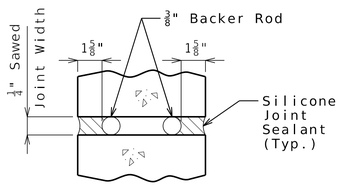
Longitudinal dimensions are horizontal.



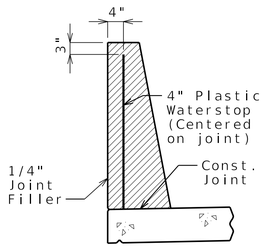
SECTION THRU SAW CUT JOINT



PART ELEVATION AT FORMED JOINT



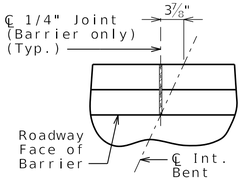
SECTION B-B



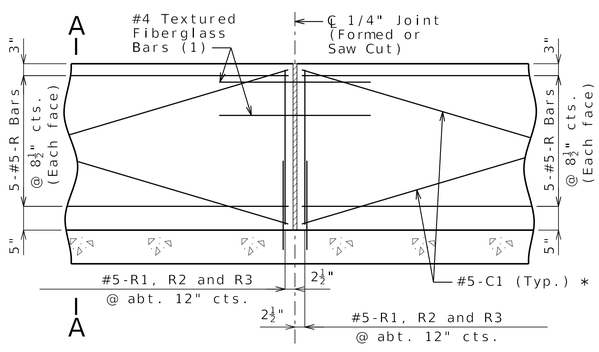
WATERSTOP DETAIL

Plastic waterstop shall be placed in all formed joints, except structures with superelevation, use on lower joints only.

Cost of plastic waterstop, complete in place, will be considered completely covered by the contract unit price for Type D Barrier.

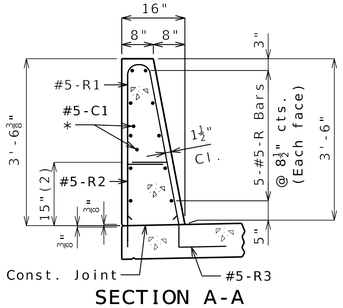


PART PLAN SHOWING JOINT LOCATION



PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

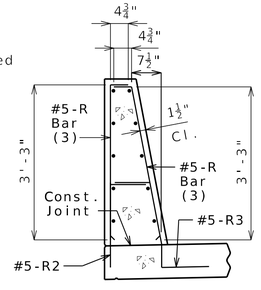


SECTION A-A

Use a minimum lap of 2'-6" 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.)

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 at end bent on left barrier) 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 right barrier and end of approach slab to end of approach slab for the left barrier.

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, one-way traffic shall have retroreflective sheeting on one side. 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.

TYPE D BARRIER

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2017032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

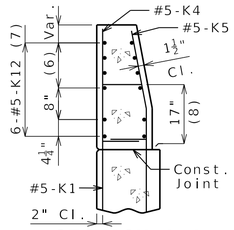
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 25
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

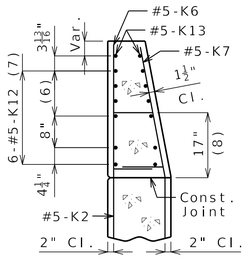
DESCRIPTION	DATE

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

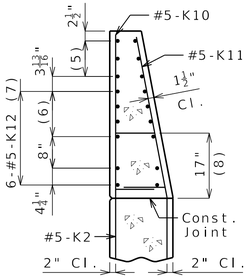
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



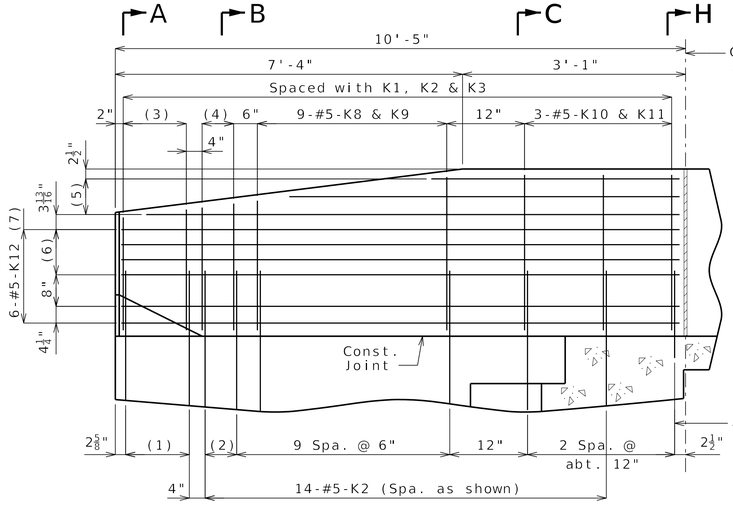
SECTION A-A

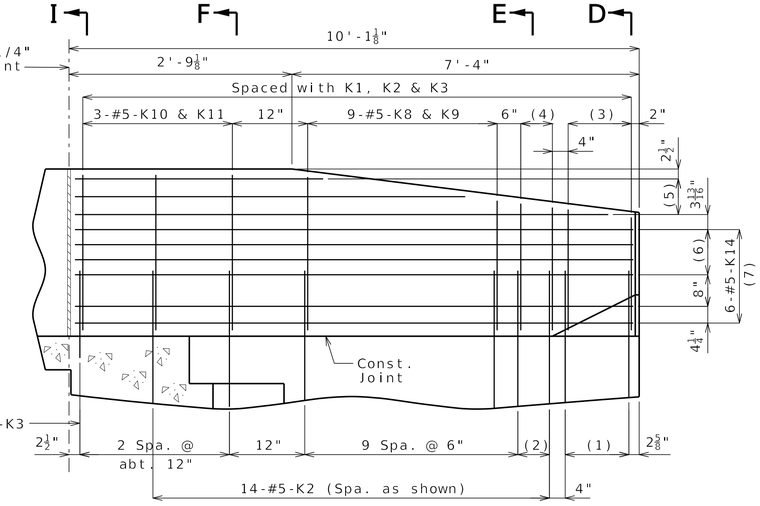


SECTION B-B

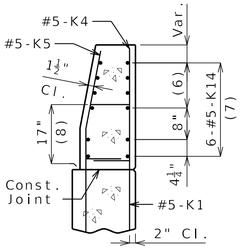


SECTION C-C

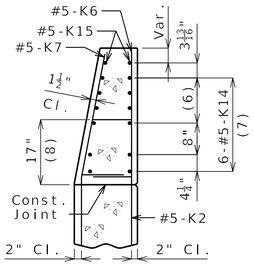




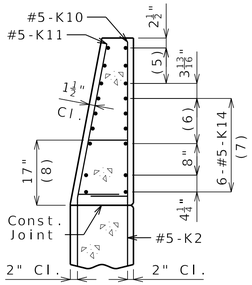
PART ELEVATION



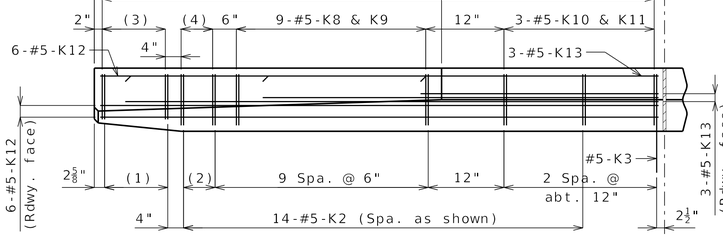
SECTION D-D



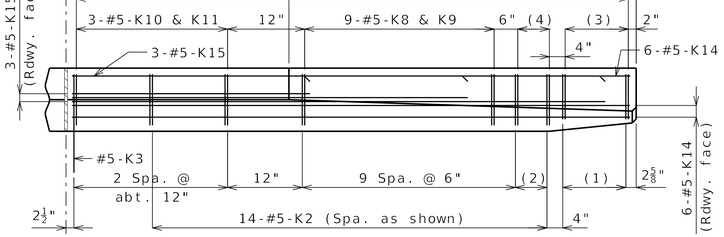
SECTION E-E



SECTION F-F

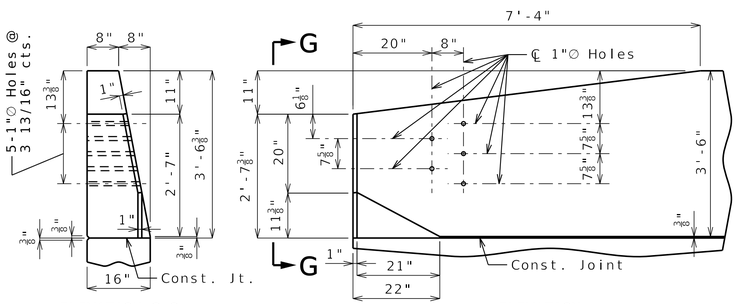


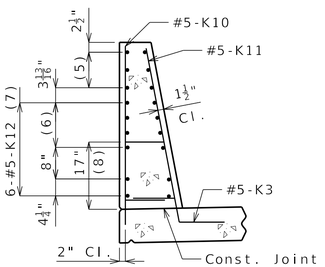
END BENT NO. 5



END BENT NO. 1

PART PLAN





SECTION H-H

(1) 5-#5-K1 @ 4" cts.

(2) 2 spaces @ 4"

(3) 5-#5-K4 & K5

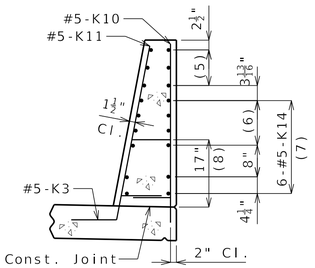
(4) 3-#5-K6 & K7

(5) 3-#5-K13 or K15 @ 4½" cts., each face

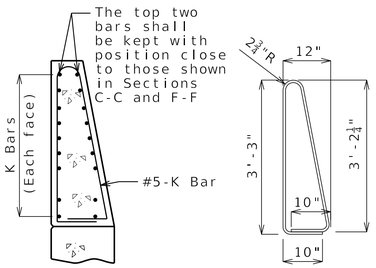
(6) 3 spaces @ 3 13/16"

(7) Spaced as shown, each face

(8) To top of bar



SECTION I-I



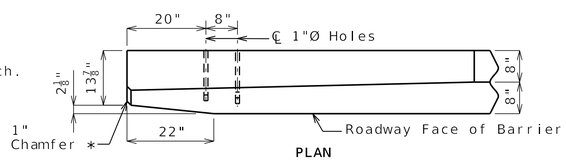
K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(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.

* Transition to zero at Type A curb for gutter lines to match.



DETAILS OF GUARD RAIL ATTACHMENT

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. For two-lane, one-way traffic, retroreflective sheeting may be on one side only unless crossroad or entranceway traffic is just beyond exit to bridge and wrong way driving is to be discouraged with retroreflective sheeting on both side of the delineators, (white and red in this case). Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

RIGHT TYPE D BARRIER AT END BENTS

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	26

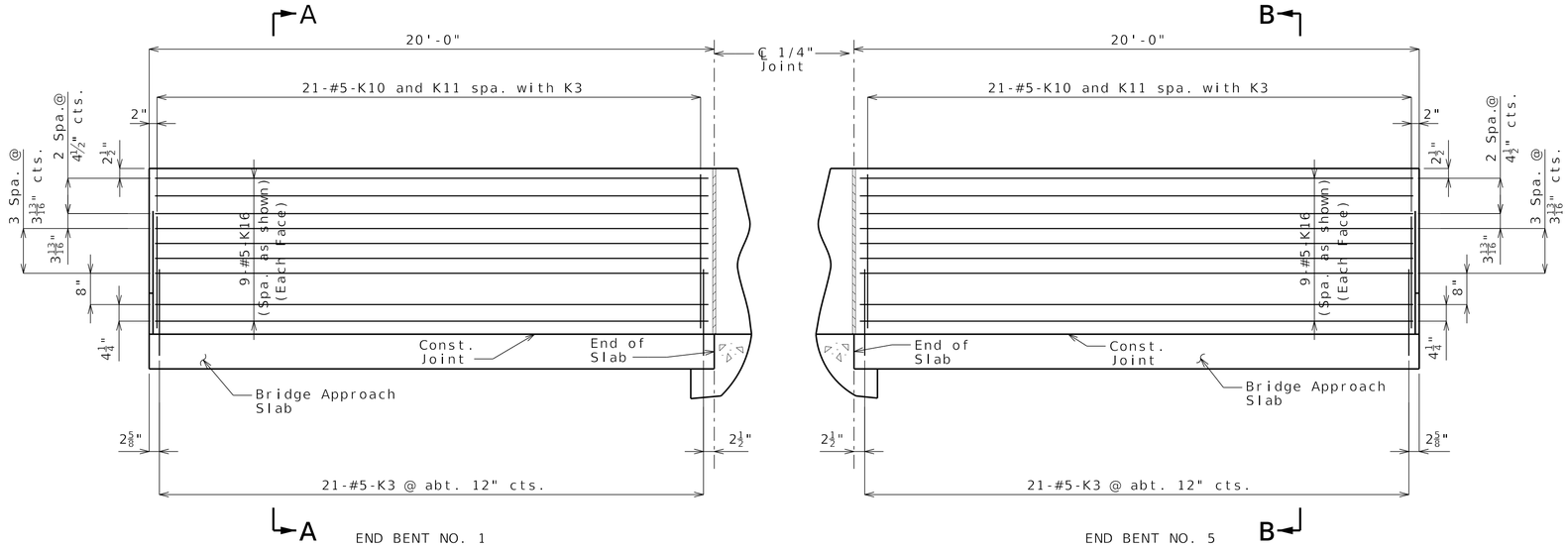
COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9663

DATE	DESCRIPTION

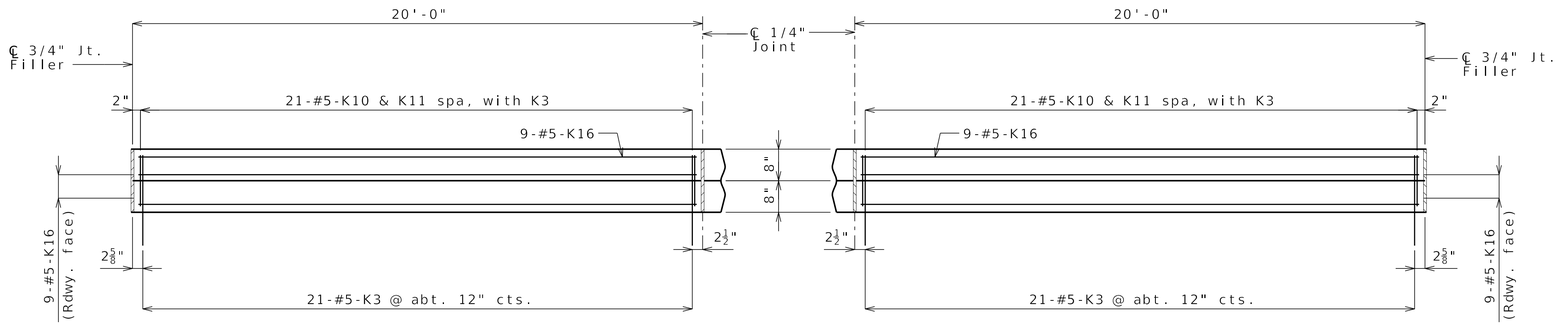
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

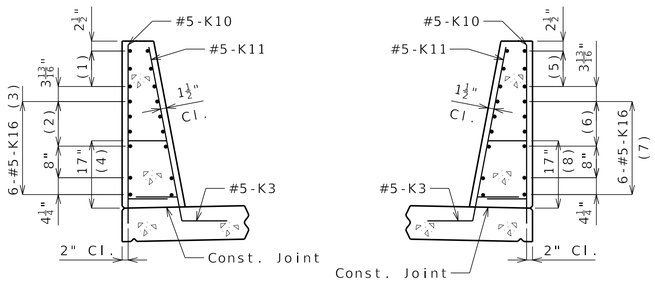
TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



PART ELEVATION



PART PLAN



SECTION A-A

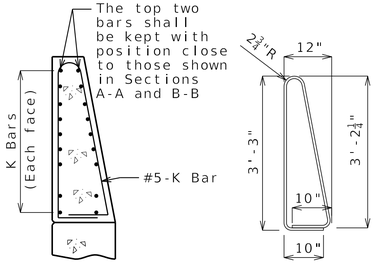
SECTION B-B

(1) 3-#5-K16 @ 4½" cts., each face

(2) 3 spaces @ 3 13/16"

(3) Spaced as shown, each face

(4) To top of bar



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.

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. For two-lane, one-way traffic, retroreflective sheeting may be on one side only unless crossroad or entranceway traffic is just beyond exit to bridge and wrong way driving is to be discouraged with retroreflective sheeting on both side of the delineators, (white and red in this case). Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into approach slab.

LEFT TYPE D BARRIER AT END BENTS

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	27

COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

DESCRIPTION	DATE

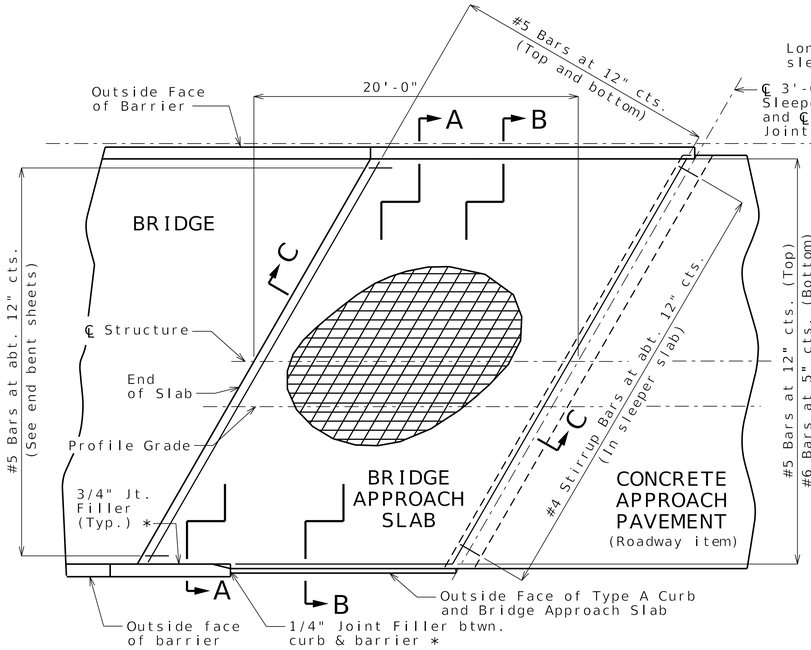
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

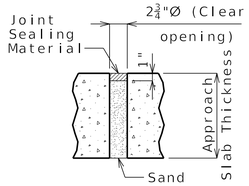
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekdesigngroup.com

Missouri Cert. of Authority 2002010300

TREKK DESIGN GROUP, LLC

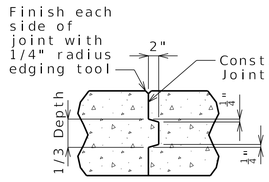


PART PLAN SHOWING REINFORCEMENT

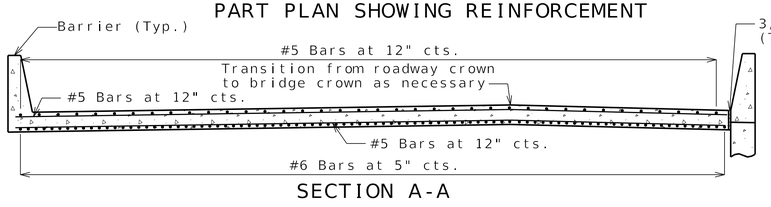


UNDERSEAL ACCESS HOLE DETAIL

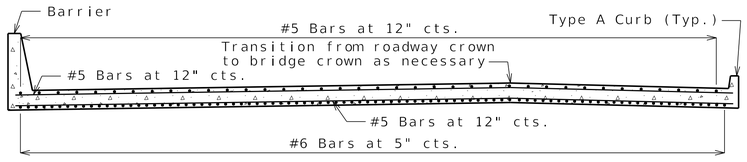
(If required)



CONSTRUCTION JOINT DETAIL

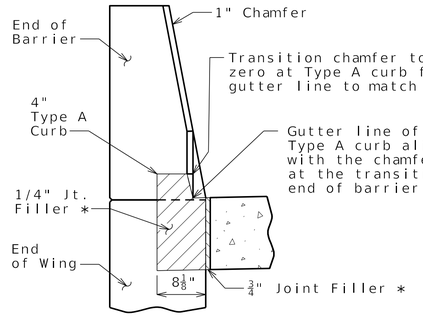


SECTION A-A

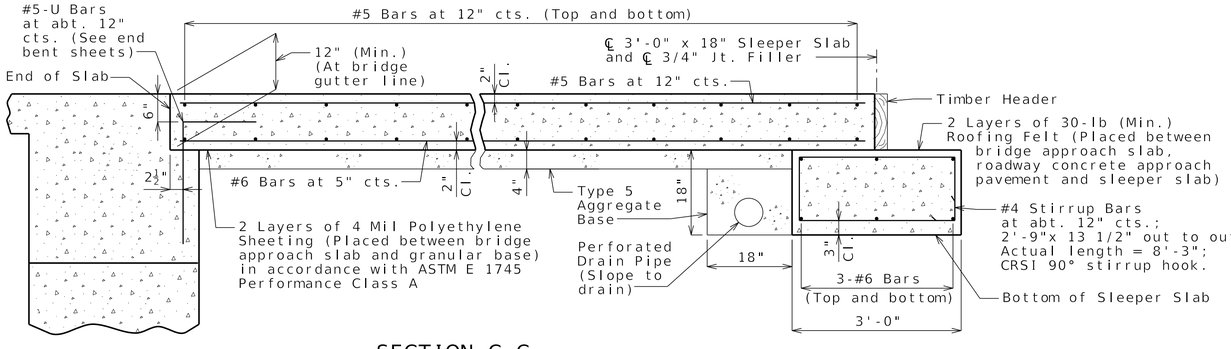


SECTION B-B

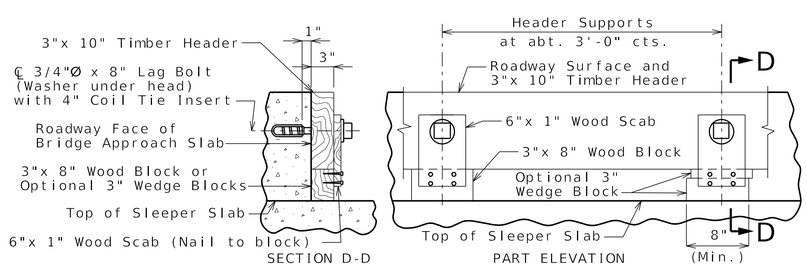
With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION BETWEEN CURB AND BARRIER



SECTION C-C



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.

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 aligned with longitudinal construction joints in bridge slab.

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.

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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 10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	28

COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9663

DATE	DESCRIPTION

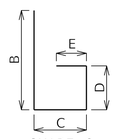
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

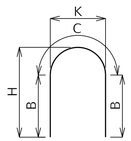
Detailed July 2025
Checked July 2025

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

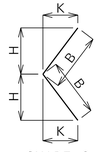
BRIDGE APPROACH SLAB (MAJOR)



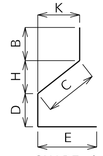
SHAPE 6
or 6S



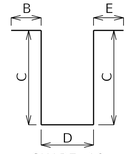
SHAPE 7



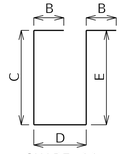
SHAPE 8
or 8S



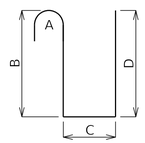
SHAPE 9
or 9S



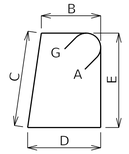
SHAPE 10
or 10S



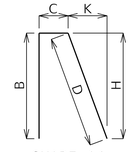
SHAPE 11
or 11S



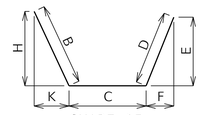
SHAPE 12



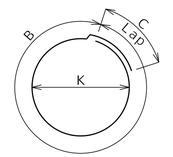
SHAPE 13S



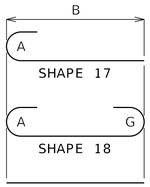
SHAPE 14
or 14S



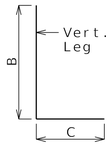
SHAPE 15
or 15S



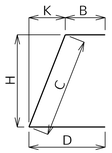
SHAPE 16



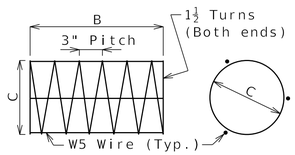
SHAPE 17
SHAPE 18
SHAPE 20



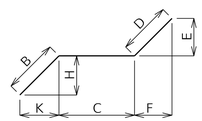
SHAPE 19
or 19S



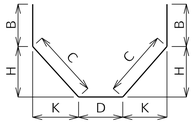
SHAPE 21
or 21S



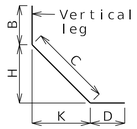
SHAPE 22



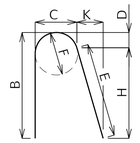
SHAPE 23
or 23S



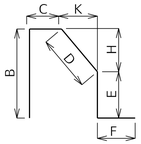
SHAPE 24
or 24S



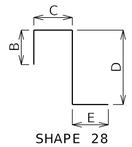
SHAPE 25
or 25S



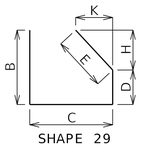
SHAPE 26



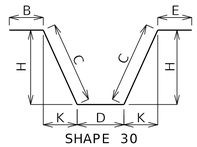
SHAPE 27S



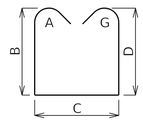
SHAPE 28
or 28S



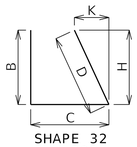
SHAPE 29
or 29S



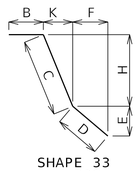
SHAPE 30
or 30S



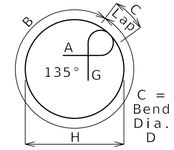
SHAPE 31S



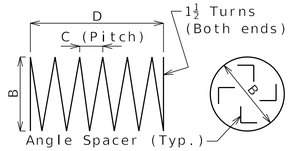
SHAPE 32
or 32S



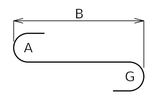
SHAPE 33
or 33S



SHAPE 34S



SHAPE 35 (1)

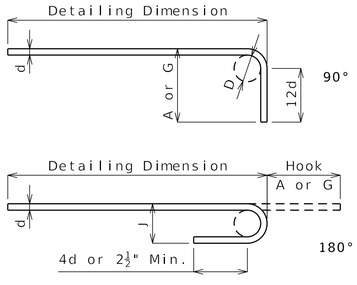


SHAPE 36

Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes

Size	Case	D	A or G		J
			90°	180°	180°
#4	1	3"	8"	6"	4"
#5	1	3¾"	10"	7"	5"
#6	1	4½"	12"	8¼"	6"
#7	2	5¼"	14"	9⅜"	7"
	3	7"	15"	11½"	8¾"
#8	2	6"	16"	11"	8"
	3	8"	17"	13¼"	10"
#9	1	9½"	19½"	15½"	11¾"
#10	1	10¾"	22"	17½"	13¼"
#11	1	12"	24½"	19½"	14⅞"
#14	1	18¼"	31¼"	27½"	21⅝"
#18	1	24"	41½"	36¾"	28½"

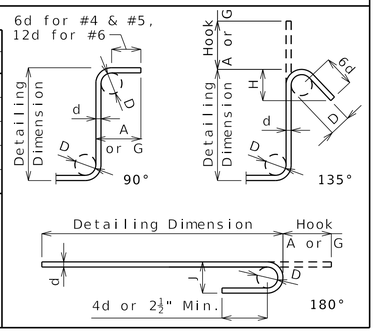


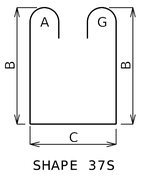
Stirrup Pin Bend Shapes (S)

Size	Case	D	A or G			H	J
			90°	135°	180°	135°	180°
#4	2	2"	4½"	4½"	5"	2⅝"	3"
	3	3"	5"	5¼"	6"	3"	4"
#5	2	2½"	5¾"	5¾"	5¾"	3⅝"	3¾"
	3	3¾"	6¼"	6½"	7"	3⅞"	5"
#6	1	4½"	12"	7¾"	8¼"	4⅝"	6"

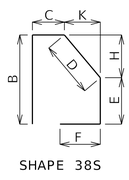
Applicable for all grades of steel.

Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.





SHAPE 37S



SHAPE 38S

BENDING DIAGRAMS

All dimensions are out to out.

Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.

Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.

(1) Shall be a deformed or plain spiral bar or wire.

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 Totals (Pounds)

	Size	Substructure		Superstructure				Entire Bridge	
				Slab			Slip		
		Plain	Epoxy	Plain	Epoxy	Barrier	Form	Plain	Epoxy
By Size	W5	0	0	0	0	0	0	0	0
	4	0	201	0	1,382	0	0	0	1,583
	5	516	9,347	0	24,896	13,425	816	516	48,484
	6	1,748	2,616	0	82,780	0	0	1,748	85,396
	7	0	0	0	9,492	0	0	0	9,492
	8	0	0	0	406	0	0	0	406
	9	0	29,612	0	0	0	0	0	29,612
	10	0	0	0	0	0	0	0	0
	11	0	0	0	0	0	0	0	0
	14	0	0	0	0	0	0	0	0
	18	0	0	0	0	0	0	0	0
By Type		2,264	41,776	0	118,956	13,425	816	2,264	174,973

All superstructure reinforcing steel shall be epoxy coated unless otherwise specified.

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 29
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

DESCRIPTION	DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4855
Fax (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft	B in.	C ft	C in.	D ft	D in.	E ft	E in.	F ft	F in.	H ft	H in.	K ft	K in.	Nom. Length ft	Nom. Length in.	Actual Length ft	Actual Length in.	Weight lb
		SUBSTRUCTURE																						
		INTERMEDIATE BENT 2																						
48	6	D200 FOOTING		18		6	6.000													7	11	7	11	571
6	6	D201 FOOTING		10				4	1.500	6	0.000									14	3	13	11	125
25	6	D210 BEAM KEY	E	20		2	6.000													2	6	2	6	94
10	9	H200 BEAM	E	20		53	5.000													53	5	53	5	1816
8	6	H201 BEAM	E	20		53	5.000													53	5	53	5	642
10	9	H202 BEAM	E	17		18	2.000													19	6	19	6	663
10	9	H203 BEAM	E	17		18	3.000													18	3	18	3	621
10	9	H204 BEAM	E	17		34	2.000													35	6	35	6	1207
5	6	H205 BEAM	E	20		5	4.000													5	4	5	4	40
12	6	H206 BEAM	E	10S					12.000	3	7.750									5	8	5	4	96
2	5	U200 BEAM	E	10S				4	3.000	3	9.000									12	3	12	0	25
1	5	U201 BEAM	E	10S				4	6.125	3	9.000									12	9	12	8	13
3	5	U202 BEAM	E	10S				5	0.250	3	9.000									13	10	13	7	43
3	5	U203 BEAM	E	10S				4	9.125	3	9.000									13	3	13	1	41
15	5	U204 BEAM	E	13S		3	9.000	4	3.000	3	9.000	4	3.000							17	0	16	8	261
5	5	U205 BEAM	E	13S		3	9.000	4	6.125	3	9.000	4	6.125							17	6	17	2	90
29	5	U206 BEAM	E	13S		3	9.000	4	9.125	3	9.000	4	9.125							18	0	17	8	534
3	5	U207 BEAM	E	13S		3	9.000	5	0.250	3	9.000	5	0.250							18	6	18	2	57
18	5	U208 BEAM	E	13S		2	6.000	4	6.125	2	6.000	4	6.125							15	0	14	8	275
18	4	U209 BEAM	E	10S					12.000	3	9.000									5	9	5	7	67
153	5	P200 COLUMN	E	16		8	7.625	3	8.000									2	9.000	12	4	12	2	1942
15	5	P201 FOOTING		16		8	7.625	2	6.000									2	9.000	11	2	11	0	172
45	9	V200 COLUMN	E	17		29	4.000													29	4	29	4	4488
45	9	V201 COLUMN	E	19		7	9.000		19.500											9	5	9	1	1390
		INTERMEDIATE BENT 3																						
24	6	D300 FOOTING		18		5	6.000													6	11	6	11	249
6	6	D301 FOOTING		10				3	7.500	5	0.000									12	3	11	11	107
25	6	D310 BEAM KEY	E	20		2	6.000													2	6	2	6	94
10	9	H300 BEAM	E	20		53	5.000													53	5	53	5	1816
8	6	H301 BEAM	E	20		53	5.000													53	5	53	5	642
10	9	H302 BEAM	E	17		18	2.000													19	6	19	6	663
10	9	H303 BEAM	E	17		18	3.000													18	3	18	3	621
10	9	H304 BEAM	E	17		34	2.000													35	6	35	6	1207
5	6	H305 BEAM	E	20		5	4.000													5	4	5	4	40
12	6	H306 BEAM	E	10S					12.000	3	7.750									5	8	5	4	96
2	5	U300 BEAM	E	10S				4	3.000	3	9.000									12	3	12	0	25
1	5	U301 BEAM	E	10S				4	6.250	3	9.000									12	10	12	7	13
3	5	U302 BEAM	E	10S				5	0.375	3	9.000									13	10	13	8	43
3	5	U303 BEAM	E	10S				4	9.250	3	9.000									13	4	13	1	41
15	5	U304 BEAM	E	13S		3	9.000	4	3.000	3	9.000	4	3.000							17	0	16	8	261
5	5	U305 BEAM	E	13S		3	9.000	4	6.250	3	9.000	4	6.250							17	6	17	2	90
29	5	U306 BEAM	E	13S		3	9.000	4	9.250	3	9.000	4	9.250							18	0	17	8	534
3	5	U307 BEAM	E	13S		3	9.000	5	0.375	3	9.000	5	0.375							18	6	18	2	57
18	5	U308 BEAM	E	13S		2	6.000	4	6.250	2	6.000	4	6.250							15	0	14	8	275
18	4	U309 BEAM	E	10S					12.000	3	9.000									5	9	5	7	67
135	5	P300 COLUMN	E	16		8	7.625	3	8.000									2	9.000	12	4	12	2	1713
15	5	P301 FOOTING		16		8	7.625	2	6.000									2	9.000	11	2	11	0	172

Bill of Reinforcing Steel

No. Req.	Size/ Mark	LOCATION	Codes C	SH	V	Dimensions B ft	B in.	C ft	C in.	D ft	D in.	E ft	E in.	F ft	F in.	H ft	H in.	K ft	K in.	Nom. Length ft	Nom. Length in.	Actual Length ft	Actual Length in.	Weight lb
45	9	V300 COLUMN	E	17		24	10.000													26	2	26	2	4004
45	9	V301 COLUMN	E	19		7	9.000		19.500											9	5	9	1	1390
		INTERMEDIATE BENT 4																						
48	6	D400 FOOTING		18		6	6.000													7	11	7	11	571
6	6	D401 FOOTING		10				4	1.500	6	0.000									14	3	13	11	125
25	6	D410 BEAM KEY	E	20		2	6.000													2	6	2	6	94
10	9	H400 BEAM	E	20		53	5.000													53	5	53	5	1816
8	6	H401 BEAM	E	20		53	5.000													53	5	53	5	642
10	9	H402 BEAM	E	17		18	2.000													19	6	19	6	663
10	9	H403 BEAM	E	17		18	3.000													18	3	18	3	621
10	9	H404 BEAM	E	17		34	2.000													35	6	35	6	1207
5	6	H405 BEAM	E	20		5	4.000													5	4	5	4	40
12	6	H406 BEAM	E	10S					12.000	3	7.750									5	8	5	4	96
2	5	U400 BEAM	E	10S				4	3.000	3	9.000									12	3	12	0	25
1	5	U401 BEAM	E	10S				4	6.250	3	9.000									12	10	12	7	13
3	5	U402 BEAM	E	10S				5	0.625	3	9.000									13	10	13	8	43
3	5	U403 BEAM	E	10S				4	9.375	3	9.000									13	4	13	1	41
15	5	U404 BEAM	E	13S		3	9.000	4	3.000	3	9.000	4	3.000							17	0	16	8	261
5	5	U405 BEAM	E	13S		3	9.000	4	6.250	3	9.000	4	6.250							17	6	17	2	90
29	5	U406 BEAM	E	13S		3	9.000	4	9.375	3	9.000	4	9.375							18	0	17	8	534
3	5	U407 BEAM	E	13S		3	9.000	5	0.625	3	9.000	5	0.625							18	7	18	3	57
18	5	U408 BEAM	E	13S		2	6.000	4	6.250	2	6.000	4	6.250							15	0	14	8	275
18	4	U409 BEAM	E	10S					12.000	3	9.000									5	9	5	7	67
132	5	P400 COLUMN	E	16		8	7.625	3	8.000									2	9.000	12	4	12	2	1675
15	5	P401 FOOTING		16		8	7.625	2	6.000									2	9.000	11	2	11	0	172
45	9	V400 COLUMN	E	17		25	0.000													26	4	26	4	4029
45	9	V401 COLUMN	E	19		7	9.000		19.500											9	5	9	1	1390
		SUPERSTRUCTURE																						
		END BENT 1																						
2	6	F101 DIAPHRAGM	E	21				2	8.500	8	2.000					2	7.500		7.750	10	10	10	8	32
7	6	F102 WING BRACE	E	25			20.000	4	7.000		20.000					3	5.000	3	0.000	7	11	7	10	82
2	6	F103 DIAPHRAGM	E	15				7	5.000	2	8.500					2	7.500		7.750	10	2	10	2	31
8	6	H100 BEAM/DIAPH.	E	20		56	7.000													56	7	56	7	680
7	6	H101 BEAM	E	20		56	7.000													56	7	56	7	595
4	6	H102 BEAM	E	20		15	6.000													15	6	15	6	93
4	6	H103 BEAM	E	20		13	4.000													13	4	13	4	80
4	6	H104 BEAM	E	20		35	4.000													35	4	35	4	212
15	6	H105 DIAPHRAGM	E	20		5	2.000													5	2	5	2	116
8	8	H106 WING	E	20		9	6.000													9	6	9	6	203
16	6	H107 WING	E	20		8	0.000													8	0	8	0	192
6	5	H108 STRAND TIE	E	20		6	6.000													6	6	6	6	41

Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

For bending diagrams and steel reinforcing totals, see Sheet No. 29.

Detailed July 2025
Checked July 2025

All bars shall be Grade 60.

BILL OF REINFORCING STEEL

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

Sheet No. 30 of 41

Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.

SH = Required shape, see bending diagrams.

V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 30
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

DESCRIPTION | DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft	B in.	C ft	C in.	D ft	D in.	E ft	E in.	F ft	F in.	H ft	H in.	K ft	K in.	Nom. Length ft	Nom. Length in.	Actual Length ft	Actual Length in.	Weight lb
24	5 U100	BEAM/DIAPH.	E	37S		4	5.750	2	9.750	4	5.750									12	9	12	6	313
26	4 U101	BEAM	E	13S		2	9.750	3	1.875	2	9.750	3	1.875							12	11	12	8	220
6	4 U102	BEAM	E	13S		2	9.750	2	11.000	2	9.750	2	11.000							12	5	12	2	49
8	4 U103	BEAM	E	13S		2	9.750	2	8.000	2	9.750	2	8.000							11	11	11	8	62
8	4 U104	BEAM	E	10S				3	1.875	2	9.750									9	1	8	11	48
3	4 U105	BEAM	E	10S				2	11.000	2	9.750									8	7	8	5	17
1	4 U106	BEAM	E	10S				2	8.000	2	9.750									8	1	7	11	5
72	6 U107	DIAPHRAGM	E	19		2	4.500	4	4.000											6	9	6	7	712
34	5 U108	DIAPHRAGM	E	37S		2	3.000	2	3.750											7	9	7	6	266
34	6 U109	DIAPHRAGM	E	19		1	6.000	2	9.750											4	4	4	2	213
54	5 U110	SLAB SEAT	E	19		2	0.000	1	3.000											3	3	3	2	178
20	5 V100	BEAM/DIAPH.	E	17		4	5.000													4	11	4	11	103
36	6 V101	DIAPHRAGM	E	20		1	6.000													1	6	1	6	81
2	6 V102	WING	E	20		6	3.000													6	3	6	3	19
14	6 V103	WING	E	20	V	6	3.000													6	3	6	3	135
		INC. = 0.375 INCH				6	7.000													6	7	6	7	
		END BENT 5																						
2	6 F501	DIAPHRAGM	E	15				7	5.000	2	2.800					2	7.500		7.750	10	2	10	0	30
7	6 F502	WING BRACE	E	25			20.000	4	7.000		20.000					3	5.000	3	0.000	7	11	7	10	82
2	6 F503	DIAPHRAGM	E	21				2	8.500	8	2.000					2	7.500		7.750	10	10	10	8	32
8	6 H500	BEAM/DIAPH.	E	20		56	7.000													56	7	56	7	680
7	6 H501	BEAM	E	20		56	7.000													56	7	56	7	595
4	6 H502	BEAM	E	20		15	6.000													15	6	15	6	93
4	6 H503	BEAM	E	20		13	4.000													13	4	13	4	80
4	6 H504	BEAM	E	20		35	7.000													35	7	35	7	214
15	6 H505	DIAPHRAGM	E	20		5	2.000													5	2	5	2	116
8	8 H506	WING	E	20		9	6.000													9	6	9	6	203
16	6 H507	WING	E	20		8	0.000													8	0	8	0	192
6	5 H508	STRAND TIE	E	20		6	6.000													6	6	6	6	41
24	5 U500	BEAM/DIAPH.	E	37S		4	5.000	2	9.750	4	5.000									12	7	12	4	309
26	4 U501	BEAM	E	13S		2	9.750	3	2.750	2	9.750	3	2.750							13	0	12	9	221
6	4 U502	BEAM	E	13S		2	9.750	2	11.375	2	9.750	2	11.375							12	6	12	3	49
8	4 U503	BEAM	E	13S		2	9.750	2	8.000	2	9.750	2	8.000							11	11	11	8	62
8	4 U504	BEAM	E	10S				3	2.750	2	9.750									9	3	9	1	49
3	4 U505	BEAM	E	10S				2	11.375	2	9.750									8	8	8	6	17
1	4 U506	BEAM	E	10S				2	8.000	2	9.750									8	1	7	11	5
72	6 U507	DIAPHRAGM	E	19		2	4.500	4	4.000											6	9	6	7	712
34	5 U508	DIAPHRAGM	E	37S		2	3.000	2	3.750											7	9	7	6	266
34	6 U509	DIAPHRAGM	E	19		1	5.500	2	9.750											4	4	4	2	213
54	5 U510	SLAB SEAT	E	19		2	0.000	1	3.000											3	3	3	2	178
20	5 V500	BEAM/DIAPH.	E	17		4	5.000													4	10	4	10	101
36	6 V501	DIAPHRAGM	E	20		1	5.000													1	5	1	5	77
2	6 V502	WING	E	20		6	1.000													5	10	5	10	18
14	6 V503	WING	E	20	V	5	10.000													5	10	5	10	124
		INC. = 0.5 INCH				6	0.000													6	0	6	0	
		INT DIAPHGRAM																						
60	6 H600	DIAPHRAGM	E	20		5	2.000													5	2	5	2	466
30	4 H601	DIAPHRAGM	E	20		5	2.000													5	2	5	2	104
24	6 H602	STRAND TIE	E	20		6	6.000													6	6	6	6	234
12	5 H603	STRAND TIE	E	20		5	2.000													5	2	5	2	65

Bill of Reinforcing Steel

No. Req.	Size/ Mark	LOCATION	Codes C	SH	V	Dimensions B ft	B in.	C ft	C in.	D ft	D in.	E ft	E in.	F ft	F in.	H ft	H in.	K ft	K in.	Nom. Length ft	Nom. Length in.	Actual Length ft	Actual Length in.	Weight lb
120	4 U600	DIAPHRAGM	E	28S				15.000	2	0.000	2	9.750								6	1	5	11	474
60	6 U601	DIAPHRAGM	E	28S				22.000	2	0.250	2	9.750								6	8	6	4	571
36	5 U602	DIAPHRAGM	E	28S				9.750	5	3.000										6	0	5	11	222
24	5 V600	DIAPHRAGM	E	20		2	3.000													2	3	2	3	56
		SLAB																						
44	6 S1	SLAB	E	20	V	11	10.000													11	10	11	10	2192
		INC. = 24.375 INCH				54	6.000													54	6	54	6	
437	6 S2	SLAB	E	20		54	11.000													54	11	54	11	36046
230	6 S3	SLAB	E	20		49	5.000													49	5	49	5	17071
129	7 S4	SLAB	E	20		18	0.000													18	0	18	0	4746
129	7 S5	SLAB	E	20		18	0.000													18	0	18	0	4746
265	6 S6	SLAB	E	20		49	5.000													49	5	49	5	19669
36	5 S7	SLAB	E	20	V	12	4.000													12	4	12	4	1220
		INC. = 28.50 INCH				52	8.000													52	8	52	8	
376	5 S8	SLAB	E	20		54	11.000													54	11	54	11	21537
		TYPE D BARRIER																						
482	5 R1	BARRIER	E	26		3	3.000	5.500		2.250	3	1.000		5.500	3	0.750		6.750		6	10	6	9	3393
482	5 R2	BARRIER	E	19S		1	8.500	9.500												2	6	2	5	1215
482	5 R3	BARRIER	E	27S				9.500		15.250		5.000		12.000		15.000		3.000		3	6	3	4	1676
120	5 R4	BARRIER	E	20		11	9.000													11	9	11	9	1471
10	5 R5	BARRIER	E	20		43	1.000													43	1	43	1	449
40	5 R6	BARRIER	E	20		38	9.000													38	9	38	9	1617
10	5 R7	BARRIER	E	20		33	5.000													33	5	33	5	349
10	5 R8	BARRIER	E	20		35	8.000													35	8	35	8	372
10	5 R9	BARRIER	E	20		46	0.000													46	0	46	0	480
10	5 K1	BARRIER	E	27S		3	5.000	9.250		5.375	2	11.750				5.250		1.000		7	7	7	5	77
28	5 K2	BARRIER	E	27S		3	5.000	9.250		14.500	2	2.750				14.250		2.750		7	8	7	5	217
44	5 K3	BARRIER	E	27S			22.500	9.250		14.500		7.750		12.000		14.250		2.750		5	6	5	2	237
10	5 K4	BARRIER	E	19S	V	2	4.250	10.000												3	2	3	1	33
		INC. = 0.5 INCH				2	6.250	10.000												3	4	3	3	
10	5 K5	BARRIER	E	38S	V					18.500		9.500		8.250		18.000		4.000		3	0	2	11	31
		INC. = 0.5 INCH								20.500		9.500		8.250		20.000		4.500		3	2	3	1	
6	5 K6	BARRIER	E	19S		2	6.750	10.000												3	4	3	3	20
6	5 K7	BARRIER	E	21S				2	6.625	10.000						2	6.000	6.250		3	4	3	3	20
18	5 K8	BARRIER	E	19S	V	2	8.500	10.000												3	6	3	5	69
		INC. = 0.75 INCH				3	2.500	10.000												4	0	3	11	
18	5 K9	BARRIER	E	21S	V			2	8.500	10.000						2	7.750	6.750		3	6	3	5	69
		INC. = 0.75 INCH						3	2.500	10.000						3	1.750	7.750		4	0	3	11	
48	5 K10	BARRIER	E	19S		3	3.000	10.000												4	1	3	11	196
48	5 K11	BARRIER	E	21S				3	3.000	10.000						3	2.250	7.750		4	1	3	11	196
24	5 K12	BARRIER	E	20		10	2.000													10	2	10	2	254
6	5 K13	BARRIER	E	20	V	3	7.000													3	7	3	7	41
		INC. = 36 INCH				9	7.000													9	7	9	7	
12	5 K14	BARRIER	E	20		9	10.000													9	10	9	10	123
12	5 K15	BARRIER	E	20	V	3	3.000													3	3	3	3	78
		INC. = 36 INCH				9	3.000													9	3	9	3	
36	5 K16	BARRIER	E	20		19	9.000													19	9	19	9	742
		SLIP FORM																						
56	5 C1	SLIP FORM	E	20		12	0.000													12	0	12	0	701
4	5 C2	SLIP FORM	E	20		7	9.000													7	9	7	9	32
8	5 C3	SLIP FORM	E	20		10	0.000													10	0	10	0	83

Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

For bending diagrams and steel reinforcing totals, see Sheet No. 29.

All bars shall be Grade 60.

Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.

SH = Required shape, see bending diagrams.

V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

BILL OF REINFORCING STEEL

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

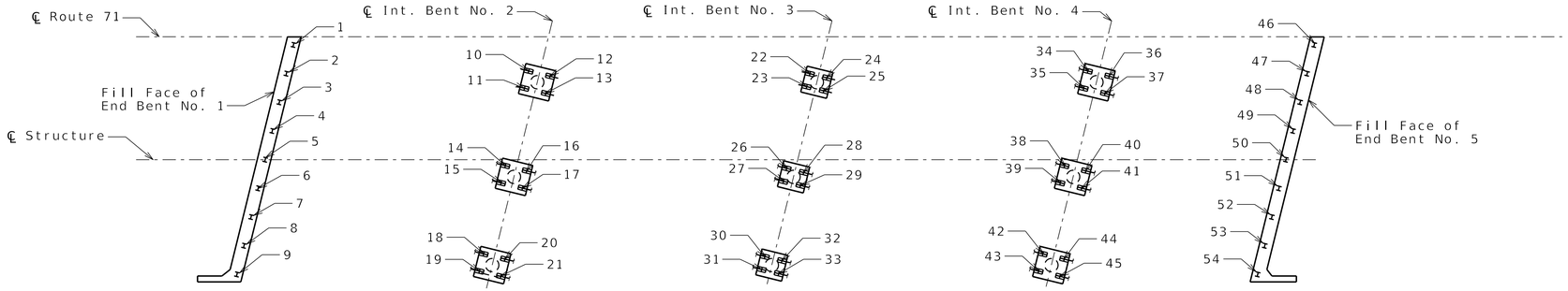
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 31
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

DESCRIPTION	DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300



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			
			Int. Bent No. 2
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

As-Built Pile Data

Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			Int. Bent No. 3
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			

As-Built Pile Data

Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			Int. Bent No. 4
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
			End Bent No. 5
46			
47			
48			
49			
50			
51			
52			
53			
54			

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 32
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

DESCRIPTION | DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

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

Detailed July 2025
Checked July 2025

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

Missouri Department of Transportation
Construction and Materials

BORING NO. B- 2
Page 1 of 1

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1014798.122 **Date of Work:** 06/10/25-06/10/25
Offset: **Easting:** 2777605.587 **Depth to Water:**
Elevation: 857.9 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,Split-Spoon Sampler, Shelby Tube, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **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		0.0-0.5' ROOT ZONE 0.5-12.0' FILL - gray and brown fat clay, rock fragments	855						
5				X	22	4-2-3 (6)			MC = 21.0%
10			850	X	89	4-6-8 (18)		PP = 2.50 tsf	MC = 12.8%
15		12.0-18.0' CLAY - brown and gray, stiff to very stiff, fat - (CH)	845		83		Qu Test Results UCS = 4.06 ksf MC = 24.3% γ_{moist} = 124.3 pcf	PP = 2.00 tsf	LL = 63 PL = 18
20		18.0-21.0' Highly Weathered LIMESTONE 19.5' sampler refusal	840	X	42	14-50			
25		21.0-31.0' LIMESTONE - gray, medium hard, weathered 22.1' 7.5-inch vertical fracture	835		100 (37)				
30			830		100 (0)				
		Refusal at 21.0 feet. Bottom of borehole at 31.0 feet.			100 (50)				

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129.00034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMATS\US71 OVER BANNISTER.GPJ

BORING DATA

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

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 33
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

Missouri Department of Transportation
Construction and Materials

BORING NO. B- 3
Page 1 of 2

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1014757.388 **Date of Work:** 06/09/25-06/09/25
Offset: **Easting:** 2777656.967 **Depth to Water:** 8.0
Elevation: 860.0 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,Split-Spoon Sampler, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **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		0.0-0.3' ASPHALT 0.3-1.2' CONCRETE 1.2-1.5' CRUSHED ROCK 1.5-38.0' Possible FILL - dark gray and brown fat clay, rock fragments							
					11	9-4-4 (10)			
5			855		44	4-8-19 (34)			
					44	8-3-8 (14)			
10			850		56	14-9-8 (21)			
					89	4-3-5 (10)			MC = 25.7%
15			845		56	6-6-9 (19)			MC = 23.0%
					78	25-19-8 (34)			
20			840		50	11-27-12 (49)			
					14 (14)				
25			835						
					0 (0)				
30			830						

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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.

Missouri Department of Transportation
Construction and Materials

BORING NO. B- 3
Page 2 of 2

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1014757.388 **Date of Work:** 06/09/25-06/09/25
Offset: **Easting:** 2777656.967 **Depth to Water:** 8.0
Elevation: 860.0 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,Split-Spoon Sampler, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **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
30		1.5-38.0' Possible FILL - dark gray and brown fat clay, rock fragments *(continued)*			0 (0)				
35			825						
					40 (13)				
40		38.0-41.1' LIMESTONE - gray, medium hard, weathered	820						MC = 9.9%
		41.1-44.0' SHALE - gray to dark gray, extremely soft, weathered, clayey			90 (20)				MC = 10.1%
45		44.0-44.5' COAL 44.5-45.0' CORE LOSS 45.0-46.3' COAL	815						MC = 7.2%
		46.3-48.0' LIMESTONE - gray, medium hard, weathered 47.2' 3-inch gray shale bed			100 (28)				MC = 12.6%
		Refusal at 20.0 feet. Bottom of borehole at 48.0 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129.00034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMAT\US71_OVER_BANNISTER.GPJ

BORING DATA

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

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 34
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4855
Fax (816) 874-4875
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Missouri Department of Transportation
Construction and Materials

BORING NO. B- 5
Page 1 of 1

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RFW (UES) **Operator:** BCS
Station: **Northing:** 1014872.163 **Date of Work:** 07/03/25-07/03/25
Offset: **Easting:** 2777595.944 **Depth to Water:**
Elevation: 830.7 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X ,NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 357883 **Hammer Efficiency:** 83% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0	0.0-0.3' ASPHALT	830						
	0.3-2.0' Highly Weathered LIMESTONE and CLAY							
	2.0-3.8' Highly Weathered LIMESTONE							
5	3.8-11.3' LIMESTONE - gray, hard, weathered and slightly weathered	825		100 (46)				
	7.5' Qu = 2,330 ksf; Unit Weight = 166 pcf			100 (55)				
10		820		100 (32)				MC = 12.8%
	11.3-15.0' SHALE - dark gray, extremely soft and very soft, weathered 12.2' 5-inch limestone bed							MC = 9.9%
15	15.0-16.6' COAL	815		100 (58)				
	16.6-17.4' LIMESTONE - gray, hard, weathered 16.6' Qu = 2,395 ksf; Unit Weight = 170 pcf							
	17.4-19.0' SHALE - dark gray, extremely soft, weathered, limestone pockets							
20	19.0-21.0' LIMESTONE - gray, medium hard, weathered, shale partings	810		100 (100)				
	21.0-29.6' LIMESTONE - gray, hard, slightly weathered 21.5' Qu = 2,263 ksf; Unit Weight = 166 pcf							
25		805		100 (95)				
	26.7' Qu = 2,572 ksf; Unit Weight = 166 pcf 27.3' 3-inch shale bed							
30	29.6-30.5' SHALE - gray, extremely soft, weathered 29.8' Qu = 12 ksf; Unit Weight = 142 pcf							MC = 11.5%
	Refusal at 3.5 feet. Bottom of borehole at 30.5 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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.

Missouri Department of Transportation
Construction and Materials

BORING NO. B- 6
Page 1 of 1

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1014868.321 **Date of Work:** 06/19/25-06/19/25
Offset: **Easting:** 2777653.803 **Depth to Water:**
Elevation: 827.8 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,Split-Spoon Sampler, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0	0.0-0.2' ASPHALT							
	0.2-8.8' Possible FILL - limestone fragments and fat clay	820		8	19-50			MC = 18.6%
10	8.8-12.0' Highly Weathered SHALE 9.5' sampler refusal			50	50/0.2'			
	12.0-14.0' COAL			100 (100)				MC = 17.3%
	13.7' sampler refusal							
	14.0-15.4' LIMESTONE - gray, moderately hard, slightly weathered 14.0' Qu = 1,107 ksf; Unit Weight = 169 pcf 14.8' 3-inch gray shale bed	810		100 (77)				
20	15.4-17.0' SHALE - gray, extremely soft, slightly weathered							
	17.0-26.6' LIMESTONE - gray, medium hard, weathered to slightly weathered 19.1' Qu = 756 ksf; Unit Weight = 162 pcf			100 (100)				
	24.2' Qu = 1,018 ksf; Unit Weight = 161 pcf							
	26.6-32.8' SHALE - gray to blue gray, extremely soft to soft, slightly weathered to weathered	800		100 (37)				MC = 11.0%
30	30.5' limestone pockets 31.5' Qu = 220 ksf; Unit Weight = 146 pcf							MC = 18.0%
	32.8-37.4' SANDSTONE - gray, soft, slightly weathered, with blue gray shale partings 32.8' Qu = 155 ksf; Unit Weight = 138 pcf			100 (67)				MC = 9.9%
								MC = 6.3%
	37.4-40.0' SHALE - blue gray, extremely soft and very soft, slightly weathered, with gray sandstone partings	790		100 (45)				
40	Refusal at 14.0 feet. Bottom of borehole at 40.0 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129.00034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMAT\US71 OVER BANNISTER.GPJ

BORING DATA

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

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 35
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Missouri Department of Transportation
Construction and Materials

BORING NO. B- 8
Page 1 of 1

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1014929.824 **Date of Work:** 06/18/25-06/18/25
Offset: **Easting:** 2777582.958 **Depth to Water:**
Elevation: 832.4 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,Split-Spoon Sampler, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0	0.0-0.3' ASPHALT 0.3-1.0' CONCRETE 1.0-1.5' CRUSHED ROCK 1.5-2.5' FILL - limestone fragments and fat clay	830		100	50/0.2'			
5	2.5-3.8' Highly Weathered LIMESTONE 3.8-12.8' LIMESTONE - gray, medium hard and moderately hard, weathered 4.5' 3-inch vertical fracture 5.8' 6-inch CORE LOSS 6.6' Qu = 1,143 ksf; Unit Weight = 167 pcf	825		100 (0) 92 (42)				
10	10.9' Qu = 1,310 ksf; Unit Weight = 167 pcf	820		100 (78)				MC = 14.4%
15	12.8-15.8' SHALE - dark gray, extremely soft, weathered 13.9' Qu = 3 ksf; Unit Weight = 142 pcf 15.8-17.8' COAL	815		100 (43)				
20	17.8-19.3' LIMESTONE - white, medium hard, slightly weathered 17.8' Qu = 1,014 ksf; Unit Weight = 166 pcf 19.3-20.8' SHALE - gray, extremely soft, weathered, with limestone pockets	810		100 (70)				
25	20.8-22.8' LIMESTONE - gray, medium hard, weathered 22.3' 6-inch vertical fracture 22.8-26.3' LIMESTONE - gray, medium hard, slightly weathered 23.2' Qu = 786 ksf; Unit Weight = 162 pcf 25.8' Qu = 809 ksf; Unit Weight = 164 pcf	805		100 (60)				
30	26.3-30.8' LIMESTONE - gray and brown to gray, soft and medium hard, weathered 28.5' 2-inch gray shale seam 30.3' 6-inch vertical fracture Refusal at 3.8 feet. Bottom of borehole at 30.7 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129.00034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMAT\US71_OVER_BANNISTER.GPJ

BORING DATA

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

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 36
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Missouri Department of Transportation
Construction and Materials

BORING NO. B- 9
Page 1 of 2

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1014922.842 **Date of Work:** 06/13/25-06/13/25
Offset: **Easting:** 2777637.646 **Depth to Water:** 28.0
Elevation: 829.9 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,Split-Spoon Sampler, Shelby Tube, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **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		0.0-0.3' ASPHALT 0.3-1.0' CONCRETE 1.0-1.5' CRUSHED ROCK 1.5-12.0' FILL - reddish brown fat clay, brown fat clay, limestone fragments							
5			825	X	67	2-2-3 (6)		PP = 1.25 tsf	MC = 26.3%
10			820	X	94	2-2-2 (5)		PP = 0.50 tsf	LL = 57 PL = 22 MC = 29.9%
15		12.0-19.0' CLAY - dark brown, stiff, fat, trace limestone fragments - CH	815	X	89	3-5-6 (14)		PP = 2.50 tsf	MC = 23.9%
20		19.0-33.0' Highly Weathered LIMESTONE and CLAY 19.0' sampler refusal	810	■	83			PP = 2.00 tsf	MC = 21.7%
25			805	X	28	10-9-7 (20)			
30			800	X	44	2-3-21 (30)			MC = 28.0%
35		33.0-35.8' Weathered SANDSTONE 33.9' sampler refusal	795	X	60	50/0.4'			MC = 7.0%

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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.

Missouri Department of Transportation
Construction and Materials

BORING NO. B- 9
Page 2 of 2

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1014922.842 **Date of Work:** 06/13/25-06/13/25
Offset: **Easting:** 2777637.646 **Depth to Water:** 28.0
Elevation: 829.9 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,Split-Spoon Sampler, Shelby Tube, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **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
35									
40		35.8-39.0' SANDSTONE - blue gray, soft, slightly weathered 37.3' Qu = 276 ksf; Unit Weight = 139 pcf 39.0-42.8' SHALE - blue gray, extremely soft, slightly weathered, sandstone seams 39.2' Qu = 6 ksf; Unit Weight = 143 pcf 40.0' 3-inch CORE LOSS	790		94 (65)				MC = 7.6% MC = 10.2%
45		42.8-46.0' SHALE - dark gray and gray, extremely soft and very soft, slightly weathered, sandstone partings 43.0' Qu = 52 ksf; Unit Weight = 150 pcf	785		100 (73)				MC = 8.7%
50		46.0-60.3' SHALE - gray, extremely soft, weathered 48.2' Qu = 12 ksf; Unit Weight = 145 pcf	780		100 (70)				MC = 11.9%
55		53.1' Qu = 5 ksf; Unit Weight = 142 pcf	775		100 (50)				MC = 12.5%
60		57.4' Qu = 10 ksf; Unit Weight = 141 pcf Bottom of borehole at 60.3 feet.	770		100 (32)				MC = 12.7%

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129.00034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMAT\US71 OVER BANNISTER.GPJ

STATE OF MISSOURI
DERRICK J PRICE
NUMBER PE-2019032100
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 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 37
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

DATE	DESCRIPTION

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4655
Fax: (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

BORING DATA

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

Detailed July 2025
Checked July 2025

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

Missouri Department of Transportation
Construction and Materials

BORING NO. B-11
Page 1 of 2

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1014961.973 **Date of Work:** 06/20/25-06/20/25
Offset: **Easting:** 2777577.391 **Depth to Water:** 17.0
Elevation: 832.0 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X, Split-Spoon Sampler, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 357883 **Hammer Efficiency:** 83% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0	0.0-0.2' ASPHALT 0.2-0.9' CONCRETE 0.9-1.5' CRUSHED ROCK 1.5-13.8' FILL - red brown, black and gray lean clay to black fat clay, rock fragments	830						
5				39	3-6-12 (25)		PP = 1.50 tsf	
		825						
10	9.0' poor sample recovery			11	4-5-5 (14)			
		820						
15	13.8-17.0' CLAY - brown and gray, very stiff, lean, shaley - CL			72	5-8-11 (26)			
		815						
	17.0-19.7' Highly Weathered LIMESTONE and CLAY			100 (48)				
20	19.7-25.5' LIMESTONE - gray, medium hard, slightly weathered 21.4' Qu = 1,024 ksf; Unit Weight = 165 pcf	810		100 (100)				
25	25.0' Qu = 652 ksf; Unit Weight = 162 pcf			100 (100)				
	25.5-27.2' LIMESTONE - gray and brown, medium hard, weathered	805						
	27.2-29.7' LIMESTONE - white, moderately hard, slightly weathered			100 (80)				
30	29.0' Qu = 1,569 ksf; Unit Weight = 163 pcf							MC = 9.1%

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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.

Missouri Department of Transportation
Construction and Materials

BORING NO. B-11
Page 2 of 2

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1014961.973 **Date of Work:** 06/20/25-06/20/25
Offset: **Easting:** 2777577.391 **Depth to Water:** 17.0
Elevation: 832.0 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X ,Split-Spoon Sampler, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 357883 **Hammer Efficiency:** 83% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
30	29.7-34.5' SHALE - gray, extremely soft, slightly weathered *(continued)* 32.0' Qu = 8 ksf; Unit Weight = 139 pcf	800		100 (60)				MC = 16.0% MC = 17.8%
35	34.5-37.5' SHALE - blue gray, extremely soft, weathered, with limestone pockets	795						MC = 7.2%
40	37.5-40.9' SANDSTONE - gray, extremely soft, weathered, with blue gray shale seams 37.7' Qu = 7 ksf; Unit Weight = 152 pcf			100 (13)				MC = 8.0%
	40.9-41.3' LIMESTONE							
	41.3-45.5' SHALE - gray, extremely soft, weathered, clayey 41.9' Qu = 2 ksf; Unit Weight = 143 pcf	790		100 (62)				MC = 16.8%
45	Refusal at 17.0 feet. Bottom of borehole at 45.5 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129A.000034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMAT\US71_OVER_BANNISTER.GPJ

BORING DATA

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

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

Detailed July 2025
Checked July 2025

STATE OF MISSOURI
DERRICK J PRICE
NUMBER PE-2019032100
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 38
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

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)

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Missouri Department of Transportation
Construction and Materials

BORING NO. B-12
Page 1 of 2

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1014958.548 **Date of Work:** 06/12/25-06/12/25
Offset: **Easting:** 2777642.101 **Depth to Water:** 28.0
Elevation: 828.6 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,Split-Spoon Sampler, Shelby Tube, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **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		0.0-0.7' ASPHALT 0.7-1.1' CRUSHED ROCK 1.1-22.0' FILL - brown and dark brown fat clay, limestone fragments	825	X	89	4-3-4 (9)		PP = 2.75 tsf	MC = 25.3%
5			820	X	100	5-4-6 (13)		PP = 1.50 tsf	MC = 24.9%
10			815	■	100				MC = 16.3%
15		15.0' sampler refusal	810	X	39	3-7-5 (15)			MC = 24.8%
20		22.0-27.0' CLAY - brown, stiff, fat, trace and some limestone fragments - (CH)	805	X	89	3-5-6 (14)		PP = 1.75 tsf	LL = 52 PL = 18 MC = 22.7%
25		27.0-34.0' Highly Weathered LIMESTONE and CLAY	800	X	83	26-22-8 (38)			
30			795	X	100	2-50/0.4'			
35		34.0-38.0' Weathered SANDSTONE							

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129.00034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMAT\US71 OVER BANNISTER.GPJ

Missouri Department of Transportation
Construction and Materials

BORING NO. B-12
Page 2 of 2

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1014958.548 **Date of Work:** 06/12/25-06/12/25
Offset: **Easting:** 2777642.101 **Depth to Water:** 28.0
Elevation: 828.6 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,Split-Spoon Sampler, Shelby Tube, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **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
35		34.4' sampler refusal 34.0-38.0' Weathered SANDSTONE *(continued)*	790	X	100	50/0.4'			MC = 10.8%
40		38.0-39.0' Weathered SHALE 38.9' sampler refusal 39.0-44.6' SHALE - blue gray, extremely soft, slightly weathered, sandstone seams 42.4' Qu = 12 ksf; Unit Weight = 143 pcf	785	X	100 (75) 100 (78)				MC = 10.8%
45		44.6-65.0' SHALE - dark gray and gray, extremely soft and very soft, slightly weathered and weathered 46.7' Qu = 6 ksf; Unit Weight = 139 pcf	780	X	100 (52)				MC = 14.8%
50		51.2' Qu = 58 ksf; Unit Weight = 147 pcf	775	X	100 (84)				MC = 9.0%
55			770	X	100 (28)				MC = 13.7%
60		60.3' Qu = 56 ksf; Unit Weight = 148 pcf	765	X	100 (70)				MC = 9.3% MC = 11.2%
65		Bottom of borehole at 65.0 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129.00034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMAT\US71 OVER BANNISTER.GPJ

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 39
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

DESCRIPTION | DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4875
www.trekkdesigngroup.com

Missouri Cert. of Authority 2002010300

BORING DATA

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

Detailed July 2025
Checked July 2025

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

Missouri Department of Transportation
Construction and Materials

BORING NO. B-14
Page 1 of 2

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1015034.589 **Date of Work:** 06/10/25-06/10/25
Offset: **Easting:** 2777567.792 **Depth to Water:** 43.0
Elevation: 848.6 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,Split-Spoon Sampler, Shelby Tube, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0	0.0-0.5' ROOT ZONE 0.5-12.0' FILL - brown to gray fat clay, rock fragments	845						
5				28	2-3-4 (9)		PP = 1.50 tsf	MC = 11.1%
		840						
10				39	2-3-4 (9)		PP = 2.25 tsf	MC = 26.8%
	12.0-49.5' Possible FILL - reddish brown and brown and gray fat clay, limestone fragments	835						
15				75			PP = 2.25 tsf	
		830						
20				100	6-5-9 (18)		PP = 2.25 tsf	
		825						
25				78	4-5-7 (15)		PP = 2.50 tsf	MC = 25.4%
		820						
30				89	4-4-5 (11)		PP = 1.50 tsf	MC = 22.0%
		815						
35				61	2-8-7 (19)			MC = 29.0%
		810						
40				100	3-7-9 (20)		PP = 3.50 tsf	MC = 21.0%

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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.

Missouri Department of Transportation
Construction and Materials

BORING NO. B-14
Page 2 of 2

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1015034.589 **Date of Work:** 06/10/25-06/10/25
Offset: **Easting:** 2777567.792 **Depth to Water:** 43.0
Elevation: 848.6 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 55LC ,Split-Spoon Sampler, Shelby Tube, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 424035 **Hammer Efficiency:** 75% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
40	12.0-49.5' Possible FILL - reddish brown and brown and gray fat clay, limestone fragments *(continued)* 40.0' rough drilling	805						
45				100	3-23-17 (50)		PP = 3.00 tsf	MC = 20.7%
		800						
50	49.5-54.0' Highly Weathered LIMESTONE 50.0' rough drilling to 53.5 feet			100	3-6-32 (48)			MC = 30.5%
		795						
55	53.8' sampler refusal 54.0-64.0' Weathered SHALE			100	50/0.3'			
		790						
60								
		785		100	50			MC = 8.3%
65	64.0-74.0' SHALE - gray, extremely soft and very soft, slightly weathered 64.0' sampler refusal			100 (80)				
		780		100 (92)				
70								
		775		100 (88)				
	Bottom of borehole at 74.0 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129.00034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMAT\US71_OVER_BANNISTER.GPJ

BORING DATA

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

Detailed July 2025
Checked July 2025

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

STATE OF MISSOURI
DERRICK J. PRICE
NUMBER PE-2019032100
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 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 40
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663
DESCRIPTION
DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel: (816) 874-4655
Fax: (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2002010300

Missouri Department of Transportation
Construction and Materials

BORING NO. B-15
Page 1 of 2

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1015066.63 **Date of Work:** 06/16/25-06/16/25
Offset: **Easting:** 2777600.087 **Depth to Water:** 45.0
Elevation: 848.4 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X ,Split-Spoon Sampler, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 357883 **Hammer Efficiency:** 83% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
0	0.0-0.4' ASPHALT 0.4-1.1' CONCRETE 1.1-1.5' CRUSHED ROCK							
	1.5-14.2' FILL - brown fat clay, gray lean clay, some gravel, black and gray shale fragments	845						
5				61	2-3-3 (8)		PP = 2.00 tsf	MC = 22.5%
		840						
10				78	2-3-3 (8)		PP = 1.75 tsf	MC = 22.2%
		835						
15	14.2-19.0' FILL - yellow brown and gray to reddish brown fat clay			83	4-4-6 (14)		PP = 0.75 tsf	MC = 22.3%
		830						
20	19.0-49.4' FILL - Weathered LIMESTONE and CLAY			61	3-19-15 (47)			MC = 29.0%
		825						
25				50	15-9-15 (33)			
		820						
30	30.5' rough drilling			33	4-2-12 (19)			MC = 15.3%
		815						
35	35.5' rough drilling							
		810						
40				39	7-5-5 (14)			

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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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.

Missouri Department of Transportation
Construction and Materials

BORING NO. B-15
Page 2 of 2

Job No.: J4S3490 **County:** Jackson **Route:** Route 71
Design: **Skew:** **Location:** Bannister Road
Bent: **Logged By:** RAW **Operator:** BCS
Station: **Northing:** 1015066.63 **Date of Work:** 06/16/25-06/16/25
Offset: **Easting:** 2777600.087 **Depth to Water:** 45.0
Elevation: 848.4 **Requested Northing:** **Depth Hole Open:**
Requested Station: **Requested Easting:** **Time Change:**
Requested Offset: **Equipment:** CME 550X ,Split-Spoon Sampler, NQ2
Requested Elevation: **Location Note:**
Drill No.: S/N 357883 **Hammer Efficiency:** 83% **Drilling Method:** Hollow Stem Auger

Depth (ft)	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N_{60})	Shear Data	Field Tests	Index Tests
40	19.0-49.4' FILL - Weathered LIMESTONE and CLAY *(continued)*							
		805						
45								
		800						
50	49.4-53.0' CLAY - brown and gray, stiff, fat, trace gravel - CH			67	5-6-3 (12)		PP = 1.00 tsf	MC = 26.1%
		795						
55	53.0-59.0' Weathered SHALE							
		790		100	50			MC = 13.3%
60	59.0-69.5' SHALE - blue gray to gray, extremely soft and very soft, slightly weathered and weathered 59.0' sampler refusal 59.8' Qu = 42 ksf; Unit Weight = 151 pcf 61.7' Qu = 19 ksf; Unit Weight = 143 pcf			100 (72)				MC = 9.0%
		785		100 (75)				MC = 11.0%
65	67.1' Qu = 88 ksf; Unit Weight = 147 pcf							
		780		100 (52)				MC = 8.6%
	Bottom of borehole at 69.5 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: **Coordinate Zone:** **Coordinate Proj. Factor:**
Coordinate Datum: NAVD88 **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.

BORING DATA

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

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

Detailed July 2025
Checked July 2025

STATE OF MISSOURI
DERRICK J PRICE
NUMBER PE-2019032100
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 10/23/2025
ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 41
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9663

DESCRIPTION | DATE

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

TREKK DESIGN GROUP, LLC
1411 East 104th St.
Kansas City, MO 64131
Tel (816) 874-4655
Fax (816) 874-4675
www.trekkdesigngroup.com
Missouri Cert. of Authority 2022010300

LETTER BOREHOLE - MODOT_20151118.GDT - 8/1/25 10:34 - K:\PROJECTS\A23129\A23129.00034.000 - ROUTE 71 BRIDGE REPLACEMENT\MODOT FORMAT\US71_OVER_BANNISTER.GPJ

U.I.P. AND REHABILITATE EXISTING 3(14'-0" x 11'-6") CONCRETE BOX CULVERT

General Notes:

Deisgn Specifications:
1965 AASHO LFD Standard Specifications
Bridge Culvert Rating = 4

Design Unit Stresses:
Class B-1 Concrete (Box Culvert) f'c = 4,000 psi
Reinforcing Steel (ASTM A615 Grade 60) fy = 60,000 psi

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

Bars bonded in existing concrete not removed shall be cleanly striped and embedded into new concrete where possible.

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

Traffic Handling:
Traffic to be maintained on structure and other routes during construction. See Roadway plans for traffic control.

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

Cost of furnishing and installing the resin anchor system, complete in place, will be considered completely covered by the contract unit price for Superstructure Repair (Unformed).

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

An epoxy coated #4 Grade 60 reinforcing bar shall be substituted for the 1/2" Ø threaded rod.

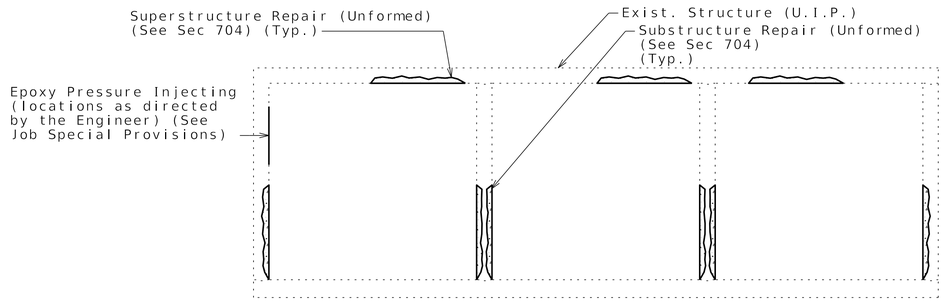
Concrete Protective Coatings:
Protective coating for concrete (epoxy) shall be applied to Superstructure Repair (Unformed) and Substructure Repair (Unformed) plus 6" each side of the repair after repairs are completed. Apply coating as shown on the bridge plans and in accordance with Sec 711.

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

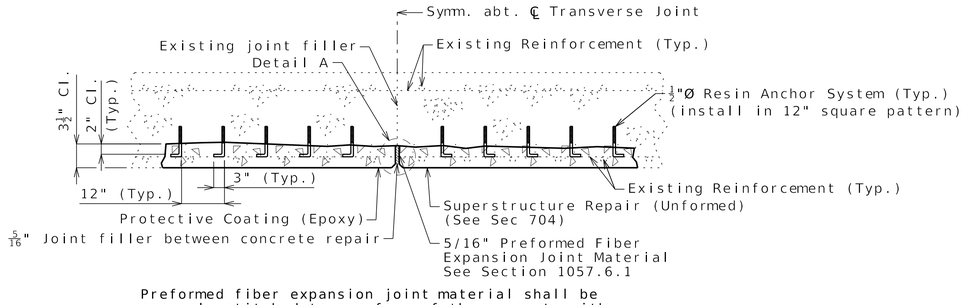
All concrete repairs shall be in accordance with Sec 704, unless otherwise noted,

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).

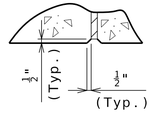
Estimated Quantities			Final Quantities
Class 3 Excavation	cu. yard	82	
Culvert Cleanout	each	1	
Porous Backfill	cu. yard	103	
Temporary Shoring	lump sum	1	
Dewatering	lump sum	1	
Substructure Repair (Unformed)	sq. foot	245	
Superstructure Repair (Unformed)	sq. foot	525	
Epoxy Pressure Injecting	linear foot	20	
Protective Coating - Concrete Bents and Piers (Epoxy)	lump sum	1	
Waterproofing	sq. yard	46	



TYPICAL SECTION THRU EXISTING CULVERT



Preformed fiber expansion joint material shall be securely stitched to one face of the concrete with 10 Gage copper wire or 12 Gage soft drawn galvanized steel wire.



Detail A

DETAILS OF SUPERSTRUCTURE REPAIR (UNFORMED)

REPAIRS TO CULVERT-BRIDGE: ROUTE W (BANNISTER ROAD) OVER HICKMAN MILLS CREEK

ROUTE W FROM US71 TO I-435
ABOUT 0.1 MILE EAST OF ROUTE 71
STA. 214+07.55 (Match Existing) Rte. W

Detailed Aug. 2025
Checked Aug. 2025

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

STATE OF MISSOURI
JOSHUA J. MILLER
NUMBER PE-2009010386
PROFESSIONAL ENGINEER

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

DATE PREPARED: 10/23/2025
ROUTE: W | STATE: MO
DISTRICT: BR | SHEET NO.: 1
COUNTY: JACKSON
JOB NO.: J4S3490
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A23951

DESCRIPTION | DATE

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

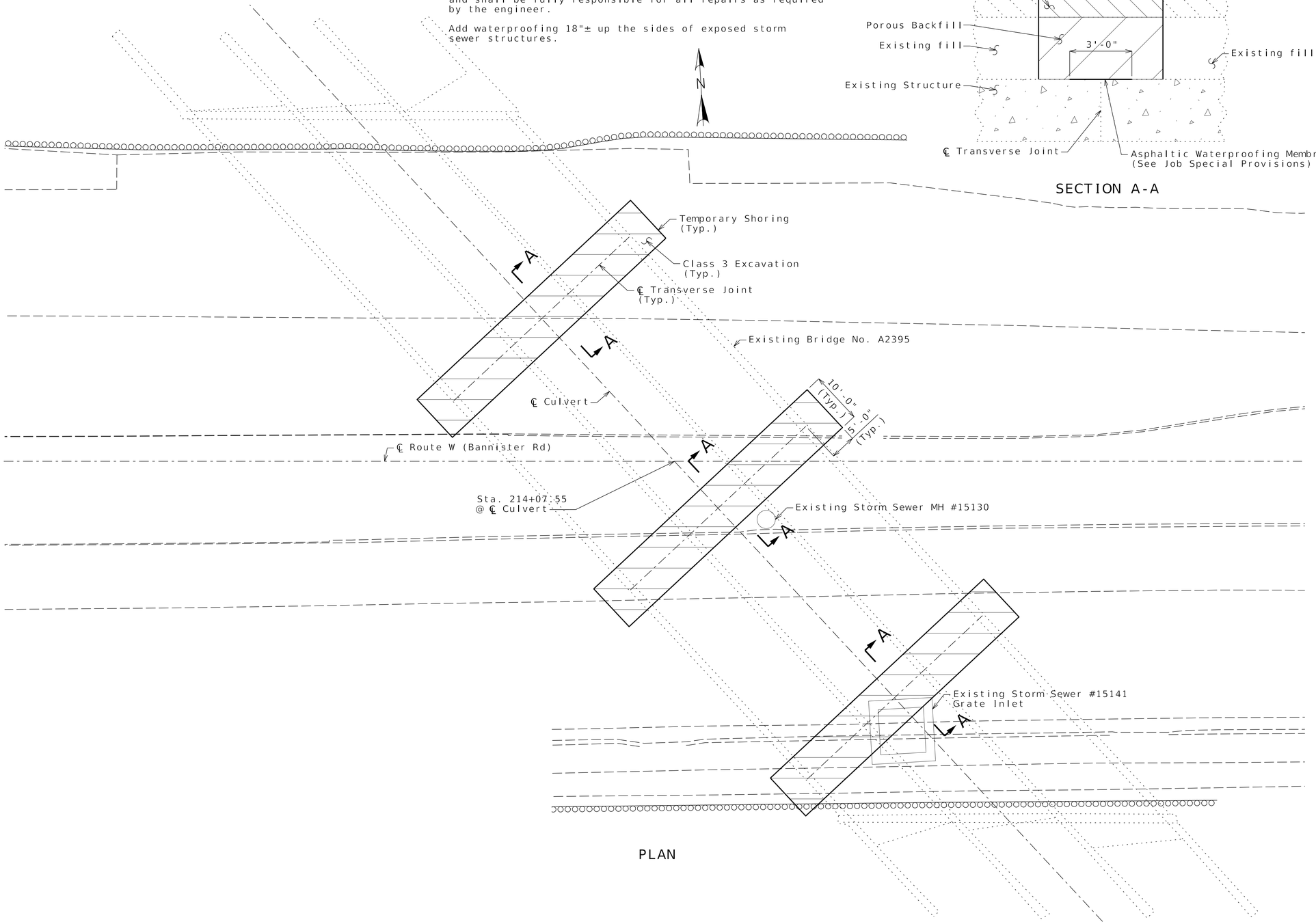
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

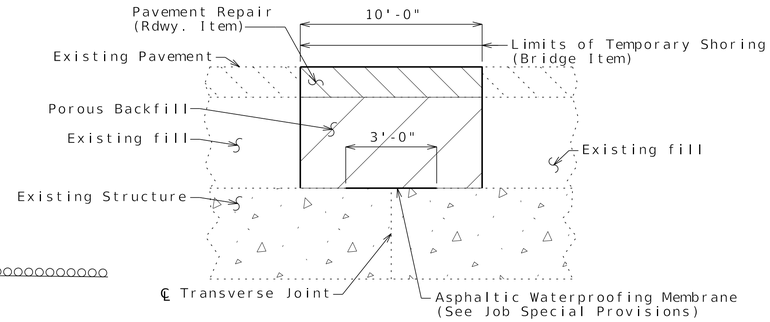
JOSHUA J. MILLER
PROFESSIONAL ENGINEER
PE-2009010386

Note:
The contractor shall exercise extreme care when removing pavement, curb, and base during waterproofing operations adjacent to existing storm sewer structures. The contractor shall be responsible for all damage to existing structures and shall be fully responsible for all repairs as required by the engineer.

Add waterproofing 18"± up the sides of exposed storm sewer structures.



PLAN



SECTION A-A

DETAILS OF WATERPROOFING

Detailed Aug. 2025
Checked Aug. 2025

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

STATE OF MISSOURI
JOSHUA J. MILLER
NUMBER PE-2009010386
PROFESSIONAL ENGINEER

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

DATE PREPARED
10/23/2025

ROUTE	STATE
W	MO
DISTRICT	SHEET NO.
BR	2

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A23951

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

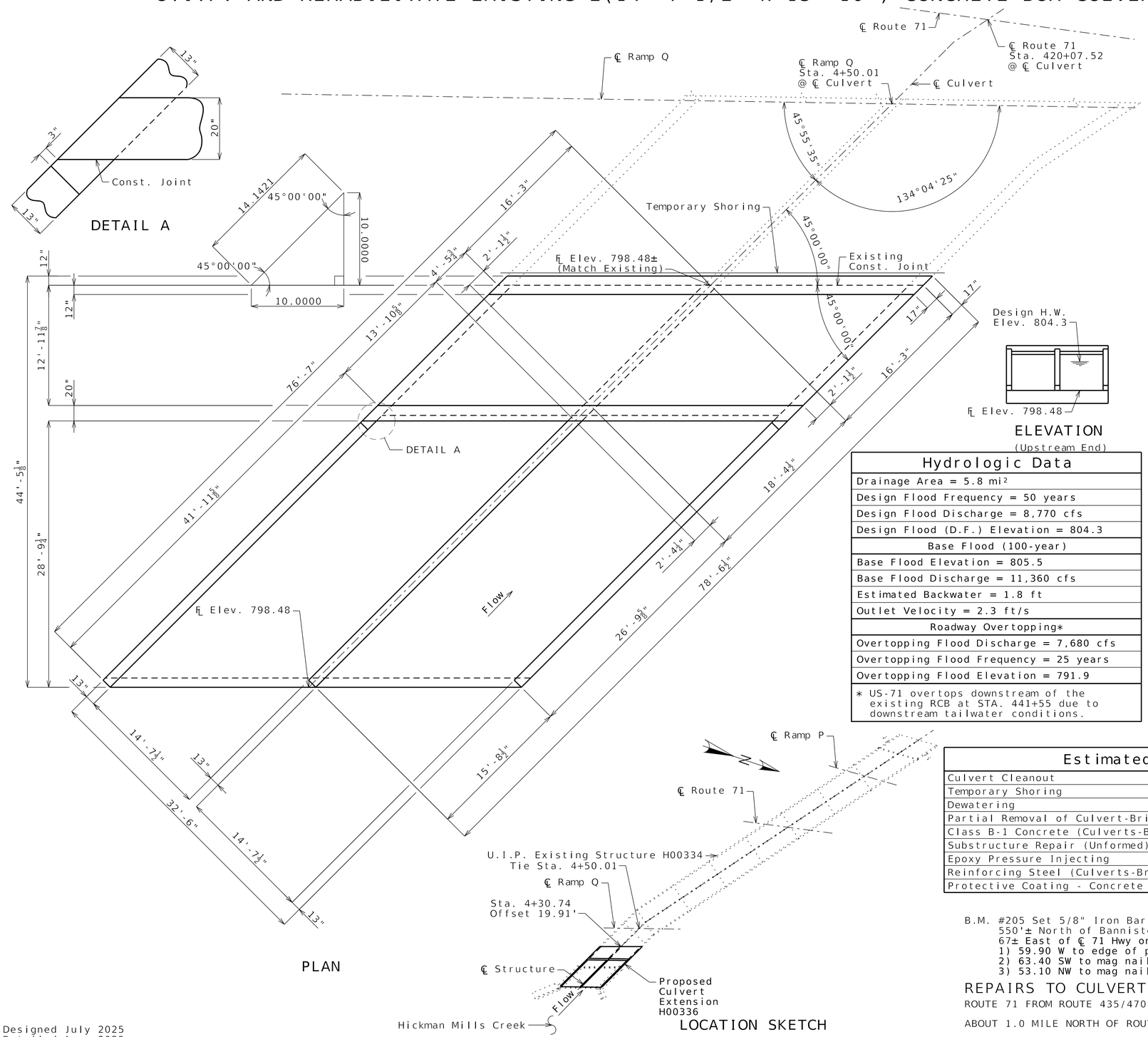
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

JOSHUA J. MILLER
PROFESSIONAL ENGINEER
PE-2009010386

SEC/SUR 26 TWP 48N RGE 33W

U.I.P. AND REHABILITATE EXISTING 2(14'-7 1/2" x 13'-10") CONCRETE BOX CULVERT AND EXTEND UPSTREAM



Hydrologic Data
Drainage Area = 5.8 mi²
Design Flood Frequency = 50 years
Design Flood Discharge = 8,770 cfs
Design Flood (D.F.) Elevation = 804.3
Base Flood (100-year)
Base Flood Elevation = 805.5
Base Flood Discharge = 11,360 cfs
Estimated Backwater = 1.8 ft
Outlet Velocity = 2.3 ft/s
Roadway Overtopping*
Overtopping Flood Discharge = 7,680 cfs
Overtopping Flood Frequency = 25 years
Overtopping Flood Elevation = 791.9
* US-71 overtops downstream of the existing RCB at STA. 441+55 due to downstream tailwater conditions.

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 Fill Height = 8'-0"

DESIGN UNIT STRESSES:
Class B-1 Concrete (Box Culvert) f'c = 4,000 psi
Reinforcing Steel (ASTM A615 Grade 60) fy = 60,000 psi

REINFORCING STEEL:
Minimum clearance to reinforcing steel shall be 1 1/2" unless otherwise shown.

Lap longitudinal bars a minimum of 23" at splices.

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

TRAFFIC HANDLING:
Traffic to be maintained on structure during construction. See Roadway Plans for traffic control.

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

All elevations shown are in feet unless otherwise noted.

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

Contractor shall verify all dimensions in field before finalizing shop drawing.

Bottom of top slab and top of bottom slab and inside face of walls shall be built flush with existing structure.

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)

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

Precast box sections shall not be used for the extension. Use cast-in-place only.

Beveled headwall shall be located at upstream end.

Concrete Protective Coatings:
Protective coating for concrete (epoxy) shall be applied to Substructure Repair (Unformed) plus 6" each side of the repair after repairs are completed. Apply coating as shown on the bridge plans and in accordance with Sec 711.

Cost of any required excavation for culvert-bridge will be considered completely covered by the contract unit price for other items.

Estimated Quantities			Final Quantities
Culvert Cleanout	each	1	
Temporary Shoring	lump sum	1	
Dewatering	lump sum	1	
Partial Removal of Culvert-Bridge Concrete	lump sum	1	
Class B-1 Concrete (Culverts-Bridge)	cu. yard	202.3	
Substructure Repair (Unformed)	sq. foot	32	
Epoxy Pressure Injecting	linear foot	216	
Reinforcing Steel (Culverts-Bridge)	pound	25,500	
Protective Coating - Concrete Bents and Piers (Epoxy)	lump sum	1	

B.M. #205 Set 5/8" Iron Bar w/ Aluminum Cap 1' below grade
550'± North of Bannister and
67± East of ℄ 71 Hwy on ramp
1) 59.90 W to edge of pavement
2) 63.40 SW to mag nail in pavement
3) 53.10 NW to mag nail in pavement

REPAIRS TO CULVERT-BRIDGE: ROUTE 71 OVER HICKMAN MILLS CREEK

ROUTE 71 FROM ROUTE 435/470 TO ROUTE 56

ABOUT 1.0 MILE NORTH OF ROUTE 435/470

VPI STA. 8+70.00 (Match Existing) (US71)

Designed July 2025
Detailed Aug. 2025
Checked Aug. 2025

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

STATE OF MISSOURI
JOSHUA J. MILLER
NUMBER PE-2009010386
PROFESSIONAL ENGINEER

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

DATE PREPARED
11/4/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	1

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
H00336

DESCRIPTION

DATE

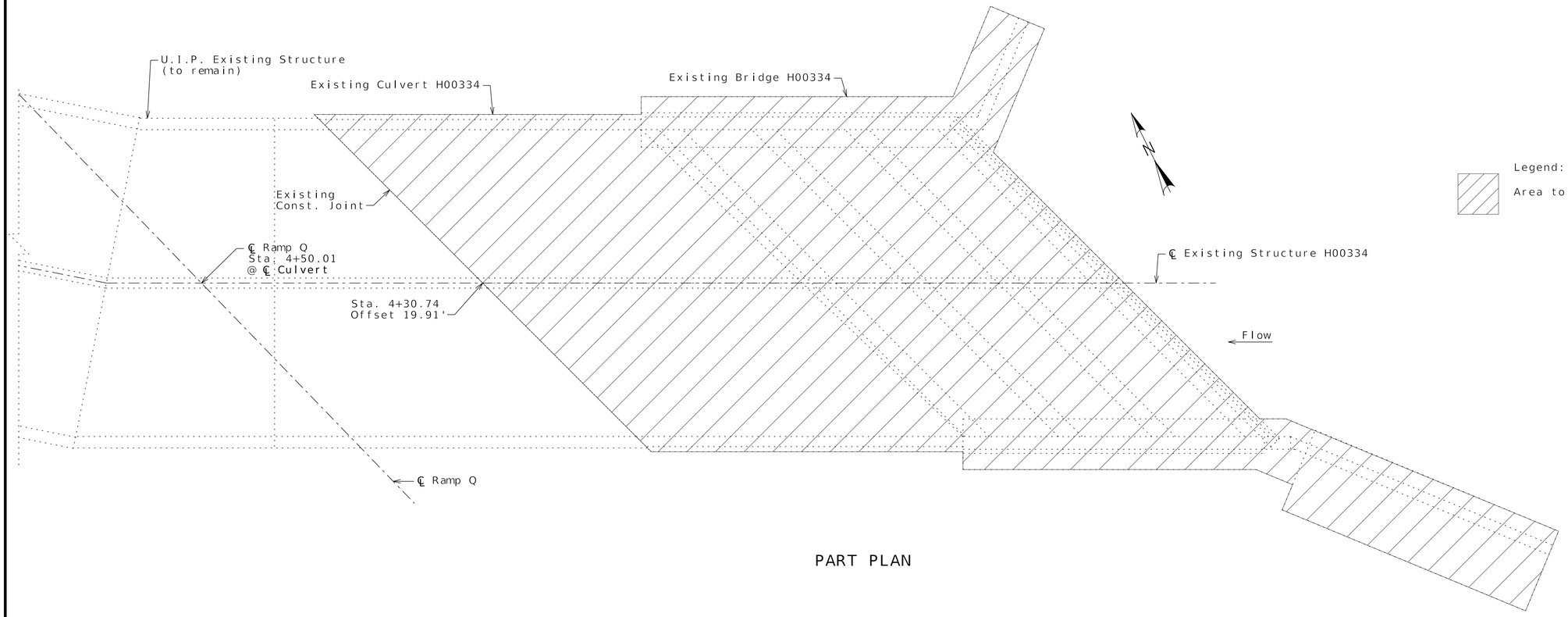
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

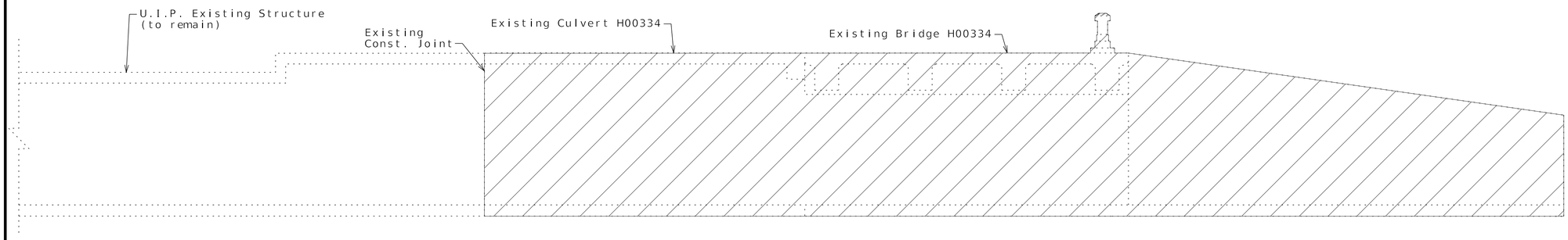
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

JOSHUA J. MILLER
PROFESSIONAL ENGINEER
PE-2009010386



PART PLAN



PART ELEVATION

Notes:

Cut structure to be removed at existing construction joint.

Notes for Concrete Removal:
Hatching indicates those portions of the existing culvert and bridge which are to be removed.

The cost of removing existing structure including but not limited to bridge, wingwalls, top slab, bottom slab, and headwalls will be considered completely covered by the contract unit price for Partial Removal of Culvert-Bridge Concrete.

EXISTING STRUCTURE SHOWING CONCRETE REMOVAL

Detailed Aug. 2025
Checked Aug. 2025

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

STATE OF MISSOURI
JOSHUA J. MILLER
NUMBER PE-2009010386
PROFESSIONAL ENGINEER

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

DATE PREPARED
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	2

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
H00336

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

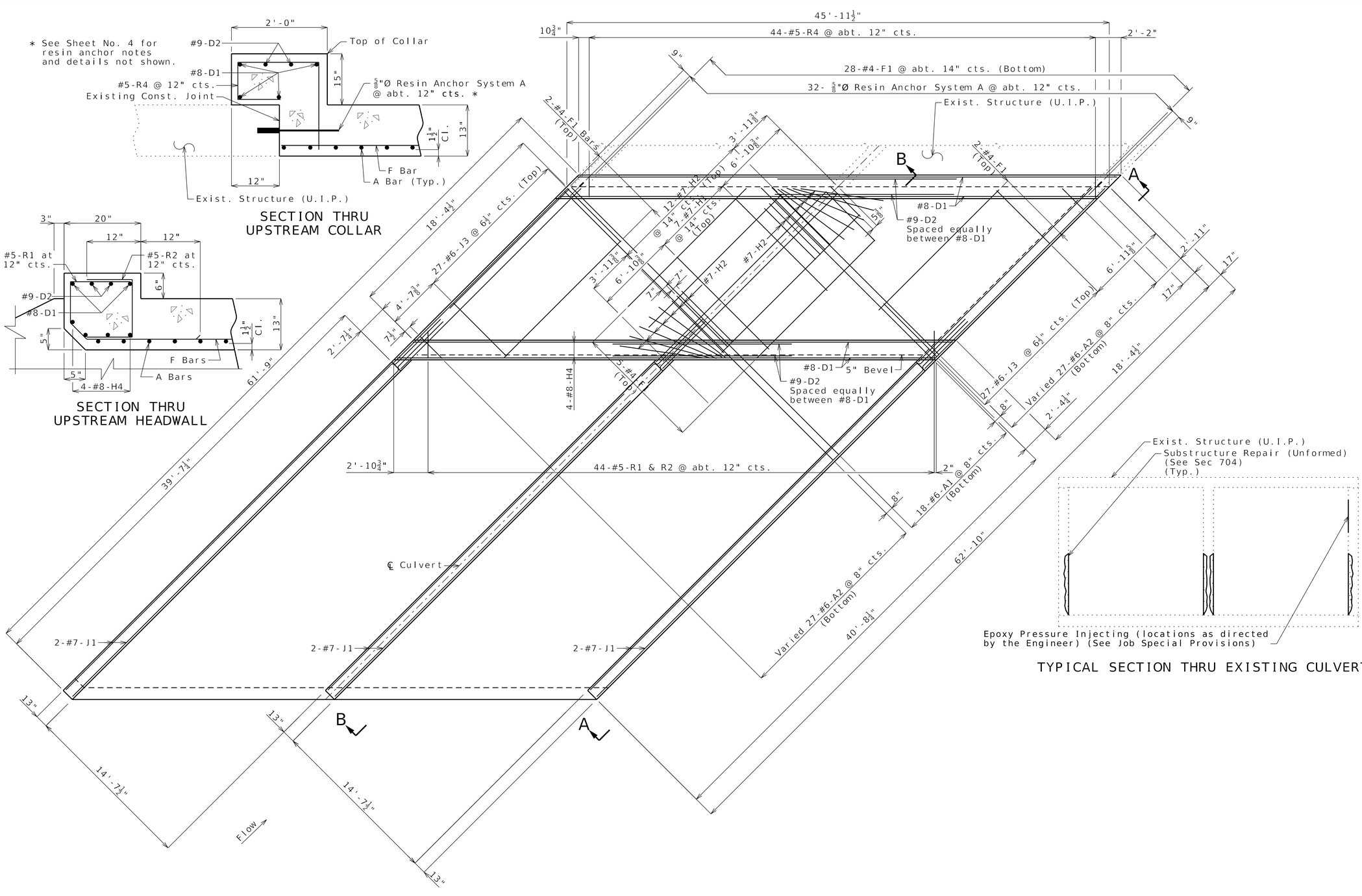
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

JOSHUA J. MILLER
PROFESSIONAL ENGINEER
PE-2009010386

SECTION THRU UPSTREAM COLLAR

SECTION THRU UPSTREAM HEADWALL



PLAN OF REINFORCEMENT IN TOP SLAB

B Bars in walls are not shown for clarity.
Keyed construction joint omitted for clarity.

TYPICAL SECTION THRU EXISTING CULVERT

DETAILS OF BOX CULVERT EXTENSION

Detailed Aug. 2025
Checked Aug. 2025

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

STATE OF MISSOURI
JOSHUA J. MILLER
NUMBER PE-2009010386
PROFESSIONAL ENGINEER

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

DATE PREPARED
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	3

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
H00336

DESCRIPTION

DATE

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

GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

JOSHUA J. MILLER
PROFESSIONAL ENGINEER
PE-2009010386

System A
(64 req'd)

** Manufacturer's recommended embedment length (5" min.)

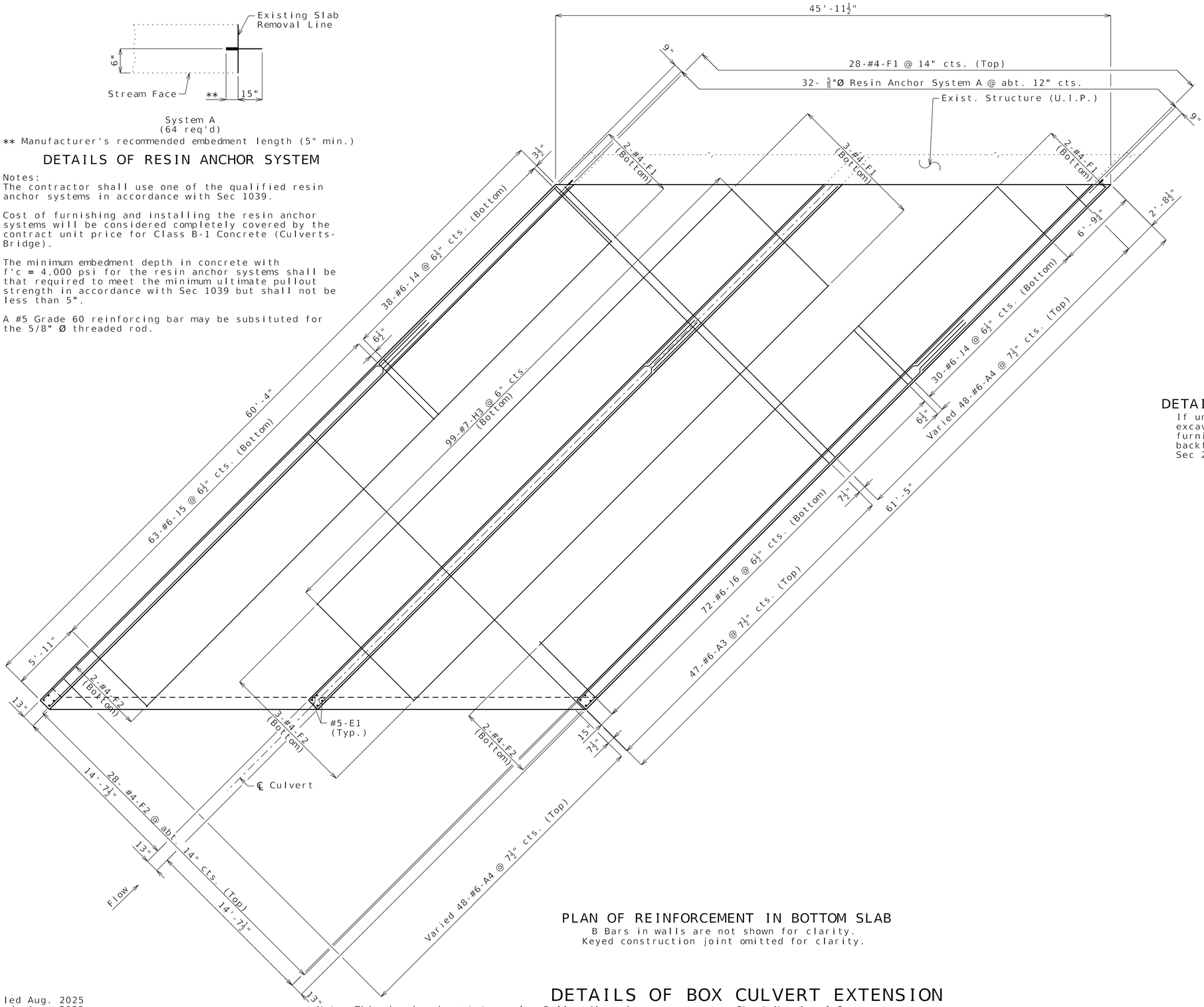
DETAILS OF RESIN ANCHOR SYSTEM

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

Cost of furnishing and installing the resin anchor systems will be considered completely covered by the contract unit price for Class B-1 Concrete (Culverts-Bridge).

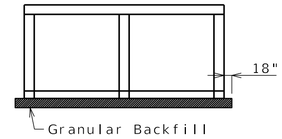
The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor systems shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

A #5 Grade 60 reinforcing bar may be subsituted for the 5/8" Ø threaded rod.



PLAN OF REINFORCEMENT IN BOTTOM SLAB

B Bars in walls are not shown for clarity.
Keyed construction joint omitted for clarity.



DETAILS OF GRANULAR BACKFILL

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

DETAILS OF BOX CULVERT EXTENSION

Detailed Aug. 2025
Checked Aug. 2025

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

STATE OF MISSOURI
JOSHUA J. MILLER
NUMBER PE-2009010386
PROFESSIONAL ENGINEER

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

DATE PREPARED
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	4

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
H00336

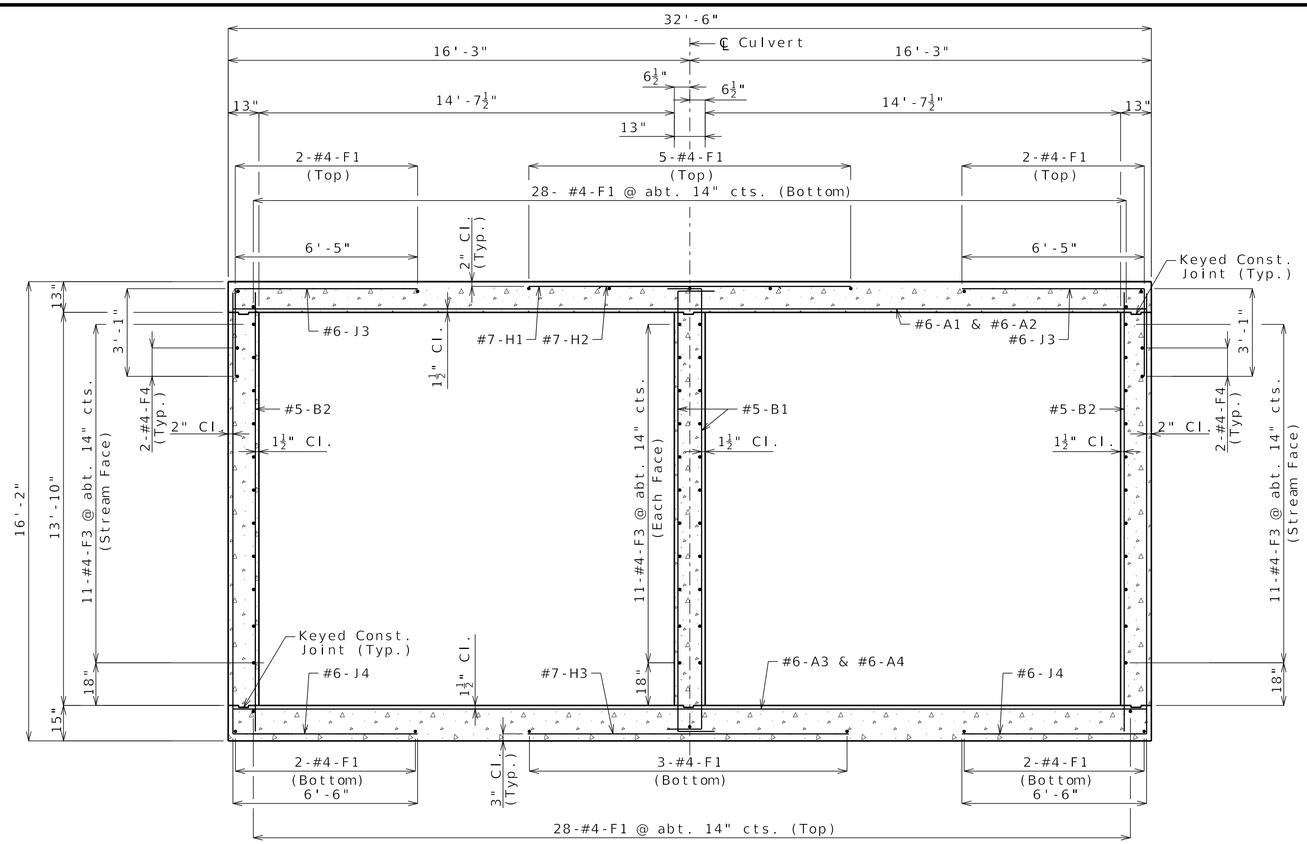
DESCRIPTION	DATE

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

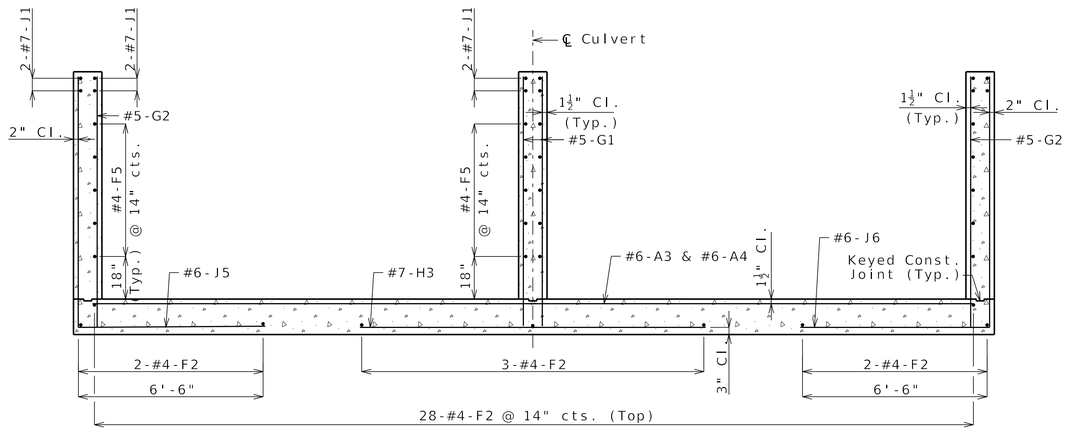
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

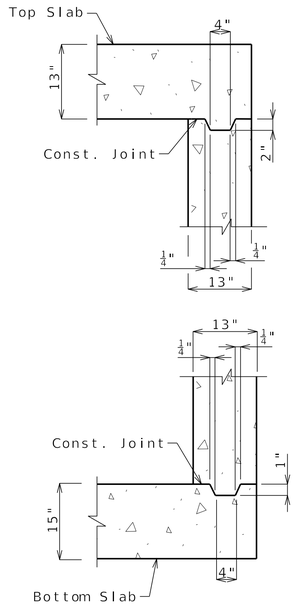
JOSHUA J. MILLER
PROFESSIONAL ENGINEER
PE-2009010386



BARREL REINFORCEMENT
(Looking Downstream)



WING REINFORCEMENT
(Looking Downstream)



KEYED CONSTRUCTION
JOINTS DETAIL

(Exterior wall shown; interior wall similar)

DETAILS OF BOX CULVERT EXTENSION

Detailed Aug. 2025
Checked Aug. 2025

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

STATE OF MISSOURI
JOSHUA J. MILLER
NUMBER PE-2009010386
PROFESSIONAL ENGINEER

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

DATE PREPARED
10/23/2025

ROUTE	STATE
71	MO
DISTRICT	SHEET NO.
BR	5

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
H00336

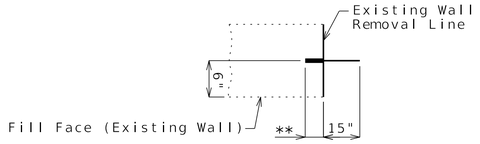
DESCRIPTION	DATE

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

GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

JOSHUA J. MILLER
PROFESSIONAL ENGINEER
PE-2009010386

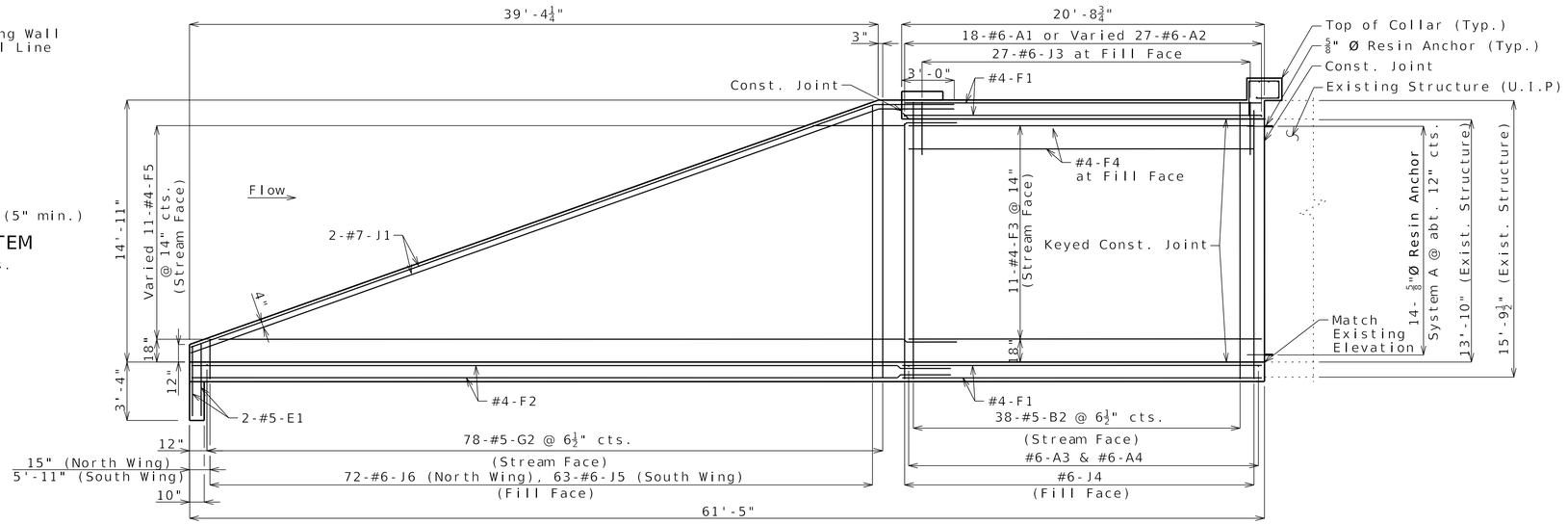


System A
(42 req'd)

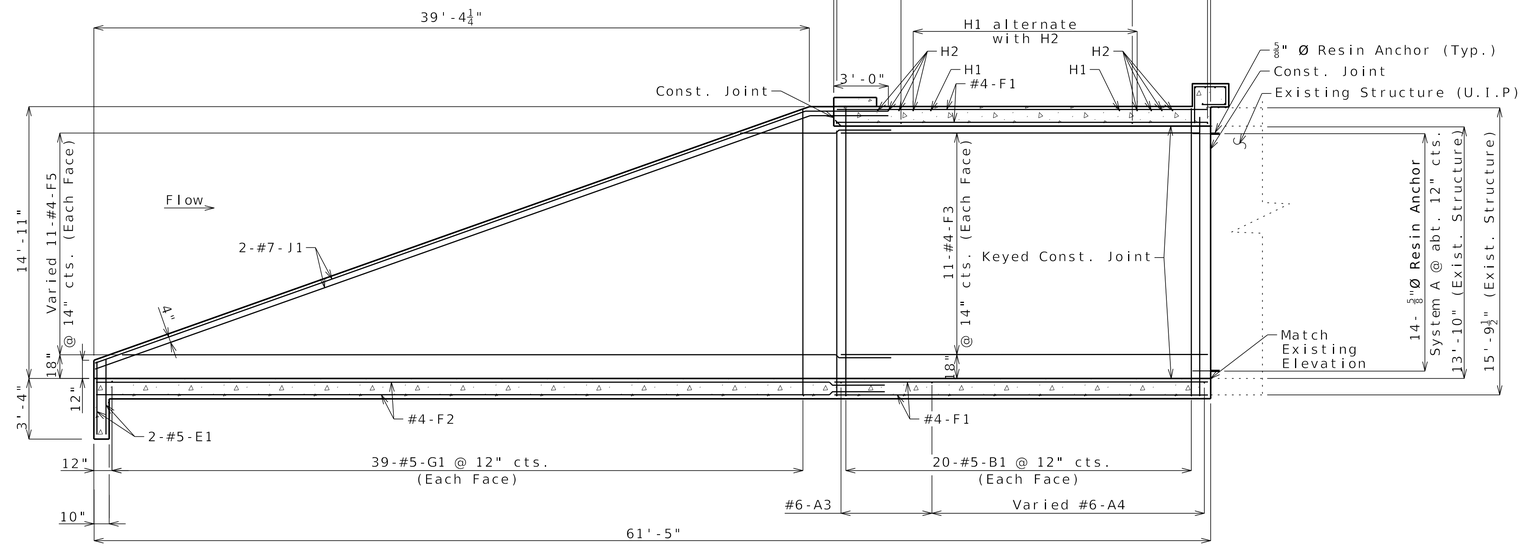
** Manufacturer's recommended embedment length (5" min.)

DETAILS OF RESIN ANCHOR SYSTEM

See Sheet No. 4 for resin anchor notes.



ELEVATION A-A



SECTION B-B

DETAILS OF BOX CULVERT EXTENSION

Detailed Aug. 2025
Checked Aug. 2025

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

STATE OF MISSOURI
JOSHUA J. MILLER
NUMBER PE-2009010386
PROFESSIONAL ENGINEER

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

DATE PREPARED
10/23/2025

ROUTE 71 | STATE MO
DISTRICT BR | SHEET NO. 6
COUNTY JACKSON
JOB NO. J4S3490
CONTRACT ID.
PROJECT NO.
BRIDGE NO. H00336

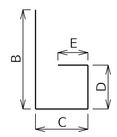
DESCRIPTION | DATE

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

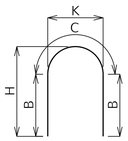
GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

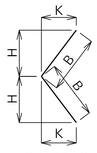
JOSHUA J. MILLER
PROFESSIONAL ENGINEER
PE-2009010386



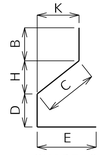
SHAPE 6
or 6S



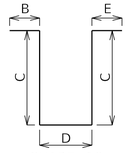
SHAPE 7



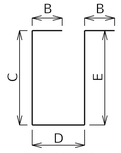
SHAPE 8
or 8S



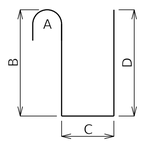
SHAPE 9
or 9S



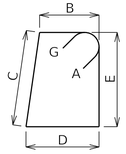
SHAPE 10
or 10S



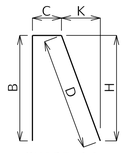
SHAPE 11
or 11S



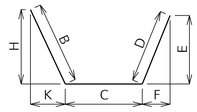
SHAPE 12



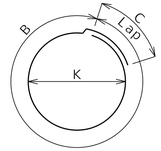
SHAPE 13S



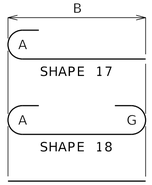
SHAPE 14
or 14S



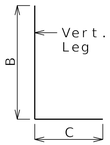
SHAPE 15
or 15S



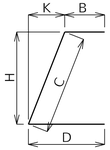
SHAPE 16



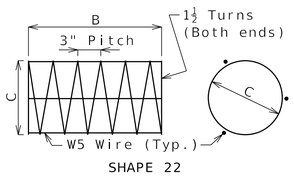
SHAPE 17
SHAPE 18
SHAPE 20



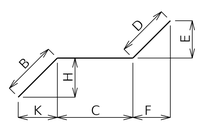
SHAPE 19
or 19S



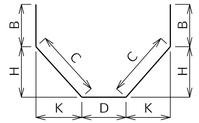
SHAPE 21
or 21S



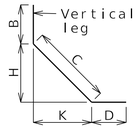
SHAPE 22



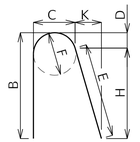
SHAPE 23
or 23S



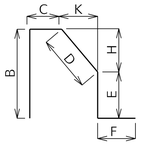
SHAPE 24
or 24S



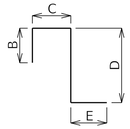
SHAPE 25
or 25S



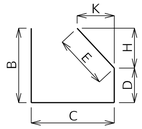
SHAPE 26



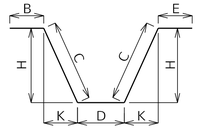
SHAPE 27S



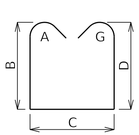
SHAPE 28
or 28S



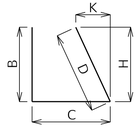
SHAPE 29
or 29S



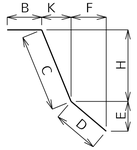
SHAPE 30
or 30S



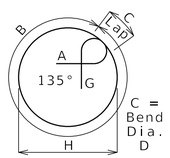
SHAPE 31S



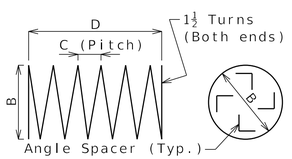
SHAPE 32
or 32S



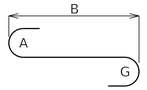
SHAPE 33
or 33S



SHAPE 34S



SHAPE 35 (1)

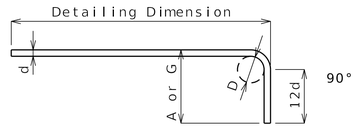


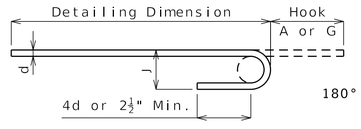
SHAPE 36

Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes

Size	Case	D	A or G		J
			90°	180°	180°
#4	1	3"	8"	6"	4"
#5	1	3¾"	10"	7"	5"
#6	1	4½"	12"	8¼"	6"
#7	2	5¼"	14"	9¾"	7"
	3	7"	15"	11½"	8¾"
#8	2	6"	16"	11"	8"
	3	8"	17"	13¾"	10"
#9	1	9½"	19½"	15½"	11¾"
#10	1	10¾"	22"	17½"	13¼"
#11	1	12"	24½"	19½"	14⅞"
#14	1	18¼"	31¼"	27½"	21⅝"
#18	1	24"	41½"	36¾"	28½"



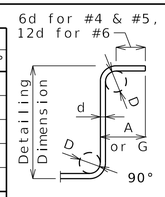


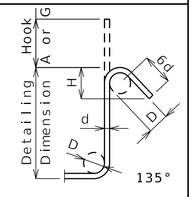
Stirrup Pin Bend Shapes (S)

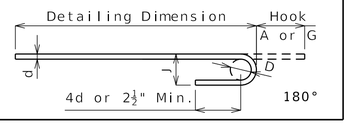
Size	Case	D	A or G			H	J
			90°	135°	180°	135°	180°
#4	2	2"	4½"	4½"	5"	2⅞"	3"
	3	3"	5"	5¼"	6"	3"	4"
#5	2	2½"	5¾"	5¾"	5¾"	3⅝"	3¾"
	3	3¾"	6¼"	6½"	7"	3⅞"	5"
#6	1	4½"	12"	7¾"	8¼"	4⅜"	6"

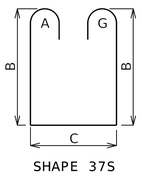
Applicable for all grades of steel.

Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.

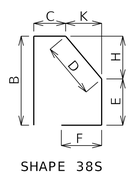








SHAPE 37S



SHAPE 38S

BENDING DIAGRAMS

All dimensions are out to out.

Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.

Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.

(1) Shall be a deformed or plain spiral bar or wire.

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.

STATE OF MISSOURI
JOSHUA J. MILLER
NUMBER PE-2009010386
PROFESSIONAL ENGINEER

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

DATE PREPARED 10/23/2025

ROUTE 71 | STATE MO

DISTRICT BR | SHEET NO. 7

COUNTY JACKSON

JOB NO. J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO. H00336

DESCRIPTION | DATE

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

GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

JOSHUA J. MILLER
PROFESSIONAL ENGINEER
PE-2009010386

Detailed Aug. 2025
Checked Aug. 2025

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

BENDING DIAGRAMS

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
		UPSTREAM BOX EXT													
18	6 A1	TOP SLAB		20		20 3.000							20 3	20 3	547
54	6 A2	TOP SLAB		20	2	2 6.000							11 2	11 2	906
		INC. = 8 IN.				1910.000									
47	6 A3	BOTTOM SLAB		20		20 3.000							20 3	20 3	1430
96	6 A4	BOTTOM SLAB		20	2	2 3.000							17 0	17 0	2451
		INC. = 7.5 IN.				31 9.875									
40	5 B1	INTERIOR WALL		10			12.000	15 9.000					17 9	17 6	730
76	5 B2	EXTERIOR WALL		20		15 9.000							15 9	15 9	1248
6	8 D1	TOP SLAB		20		45 7.000							45 7	45 7	730
4	9 D2	TOP SLAB		20		45 7.000							45 7	45 7	620
12	5 E1	INT. & EXT. WALL		20		311.000							3 11	3 11	49
72	4 F1	TOP & BOTT. SLAB		20		20 4.000							20 4	20 4	978
35	4 F2	BOTT. SLAB		20		42 4.000							42 4	42 4	990
44	4 F3	WALL		20		20 4.000							20 4	20 4	598
4	4 F4	EXTERIOR WALL		20		20 4.000							20 4	20 4	54
44	4 F5	WING WALL		20	4	11 2.000							27 8	27 8	813
		INC.=3.3 FT.				44 2.000									
78	5 G1	INT. WING WALL		20	2	2 2.000							8 11	8 11	725
		INC.=4.25 IN.				15 7.000									
156	5 G2	EXT. WING WALL		20	2	2 2.000							8 11	8 11	1451
		INC.=2.125 IN.				15 7.000									
7	7 H1	TOP SLAB		20		11 9.000							11 9	11 9	168
22	7 H2	TOP SLAB		20		7 1.000							7 1	7 1	319
99	7 H3	BOTT. SLAB		20		11 4.000							11 4	11 4	2293
4	8 H4	TOP SLAB		20		45 7.000							45 7	45 7	487
12	7 J1	TOP SLAB		21		6 8.000	41 8.000				13 9.000	39 4.375	48 4	47 11	1175
54	6 J3	TOP SLAB		19		3 1.000	6 5.000						9 6	9 4	757
68	6 J4	BOTT. SLAB		19		15 9.000	6 6.000						22 3	22 1	2256
63	6 J5	EXT. WING WALL		19	2	3 5.750	6 6.000						16 2	15 11	1506
		INC.=2.375 IN.				15 9.000	6 6.000								
72	6 J6	EXT. WING WALL		19	2	18.375	6 6.000						15 1	14 10	1604
		INC. =2.375 IN.				15 7.000	6 6.000								
44	5 R1	TOP SLAB		27S		17.000	11.875	5.875	2 2.375		4.125	4.125	5 1	4 11	226
44	5 R2	TOP SLAB		10S			10.500	16.000					3 1	2 10	130
44	5 R4	COLLAR		6S		2 1.000	21.000	12.000	12.000				5 10	5 7	256

Bill of Reinforcing Steel

No. Req.	Size/ Mark	Location	Codes C	SH	V	Dimensions B ft in.	C ft in.	D ft in.	E ft in.	F ft in.	H ft in.	K ft in.	Nom. Length ft in.	Actual Length ft in.	Weight lb
		TOTAL													25497
		REINFORCING													
		STEEL (CULVERTS-BRIDGE)													
	4														3433
	5														4815
	6														11457
	7														3955
	8														1217
	9														620
		TOTAL													25497

Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

For bending diagrams see Sheet No. 6.

All bars shall be Grade 60.

Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.

SH = Required shape, see bending diagrams.

V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

Detailed Aug. 2025
Checked Aug. 2025

BILL OF REINFORCING STEEL

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

STATE OF MISSOURI
JOSHUA J. MILLER
NUMBER PE-2009010386
PROFESSIONAL ENGINEER

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

DATE PREPARED
10/23/2025

ROUTE 71 | STATE MO

DISTRICT BR | SHEET NO. 8

COUNTY
JACKSON

JOB NO.
J4S3490

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
H00336

DESCRIPTION | DATE

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

GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

JOSHUA J. MILLER
PROFESSIONAL ENGINEER
PE-2009010386