

DESIGN DESIGNATION

A.A.D.T. - 2026 = 18,179
A.A.D.T. - 2046 = 25,046
D.H.V. = 8.61%
T = 10.53%
V = 65 M.P.H.
D = 50.3% E / 49.7% W

FUNCTIONAL CLASSIFICATION- FREEWAY

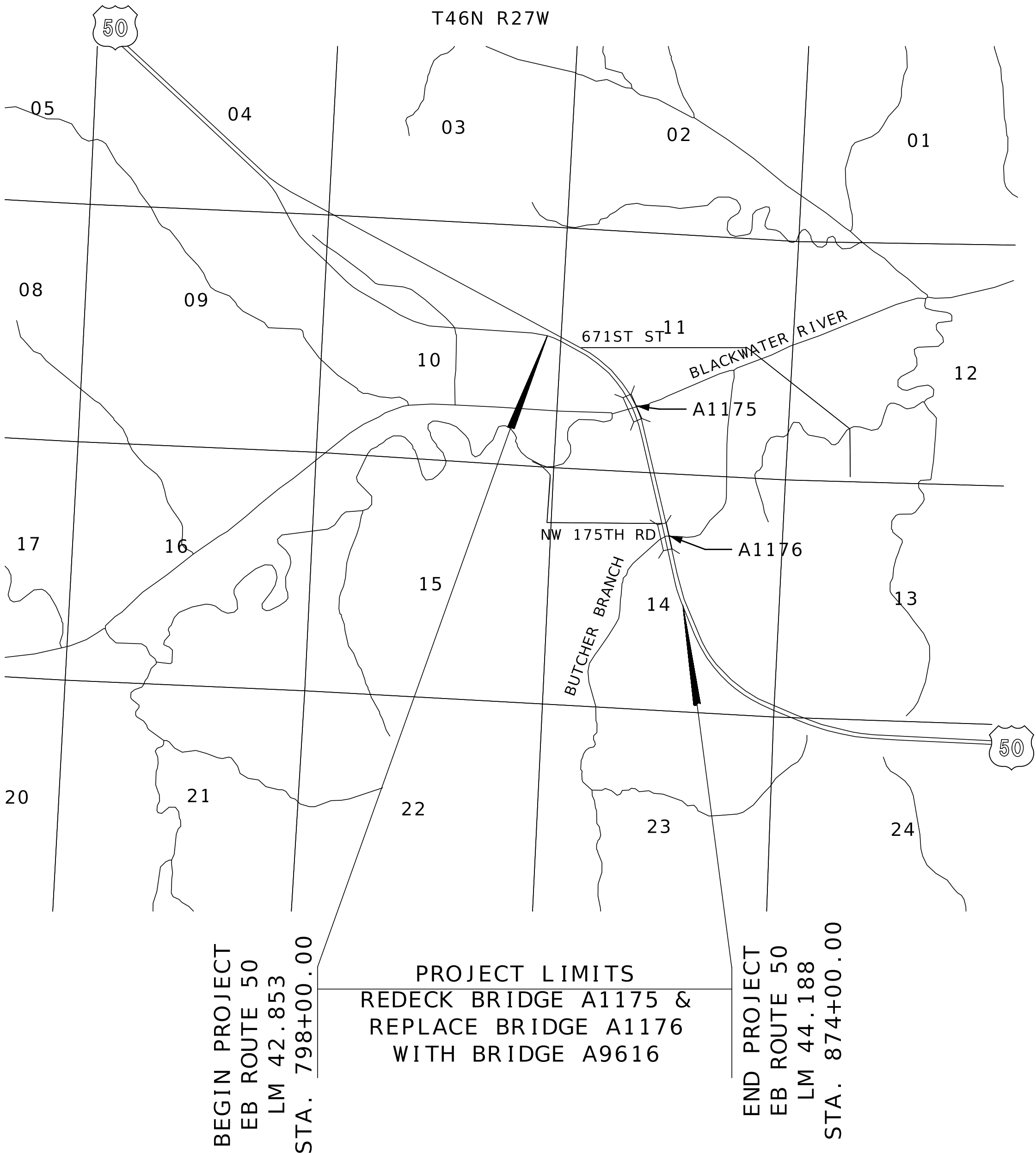
NO R/W REQUIRED

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		
FIRE HYDRANT		
WATER VALVE		
WATER METER		
DROP INLET		
DITCH BLOCK		
GROUND MOUNTED SIGN		
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL		
FENCE		
CHAIN LINK		
WOVEN WIRE		
GATE POST		
BENCHMARK		

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR STATE HIGHWAY
JOHNSON COUNTY



BEGIN PROJECT
EB ROUTE 50
LM 42.853
STA. 798+00.00

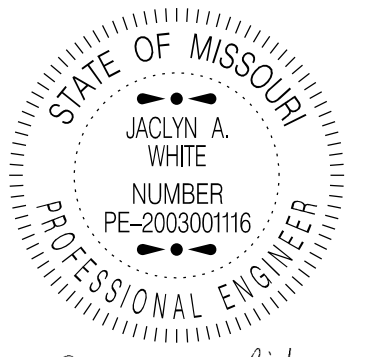
PROJECT LIMITS
REDECK BRIDGE A1175 &
REPLACE BRIDGE A1176
WITH BRIDGE A9616

END PROJECT
EB ROUTE 50
LM 44.188
STA. 874+00.00

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) (2 SHEETS)---	2
QUANTITIES (QU) (3 SHEETS)-----	3
PLAN-PROFILE (PP)-----	4-9
REFERENCE POINTS (RP)-----	10
COORDINATE POINTS (CP)-----	11
SPECIAL SHEETS (SS)-----	12
TRAFFIC CONTROL SHEETS (TC)-----	13-26
EROSION CONTROL SHEETS (EC)-----	27-34
CULVERT SECTIONS (CS)-----	35
CROSS SECTIONS (XS)-----	1-31



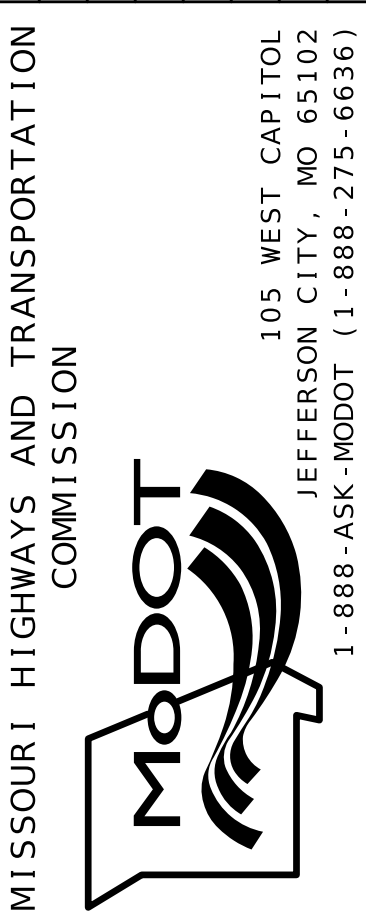
DATE PREPARED	11/17/2025
ROUTE	50
STATE	MO
DISTRICT	KC
SHEET NO.	1
COUNTY	JOHNSON
JOB NO.	JKR0101
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A1175 & A9616

DESCRIPTION	DATE

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA. 798+00.00
END OF PROJECT	STA. 874+00.00

EQUATIONS AND EXCEPTIONS:	809.8 FEET
STA. 826+85.30 BK.=	
STA. 834+95.10 AH.	
APPARENT LENGTH	7600.00 FEET
TOTAL CORRECTIONS	-809.8 FEET
NET LENGTH OF PROJECT	6790.2 FEET
STATE LENGTH	1.286 MILES
FOR INFORMATION ONLY	
ESTIMATED DISTURBED ACRES	2 ACRES



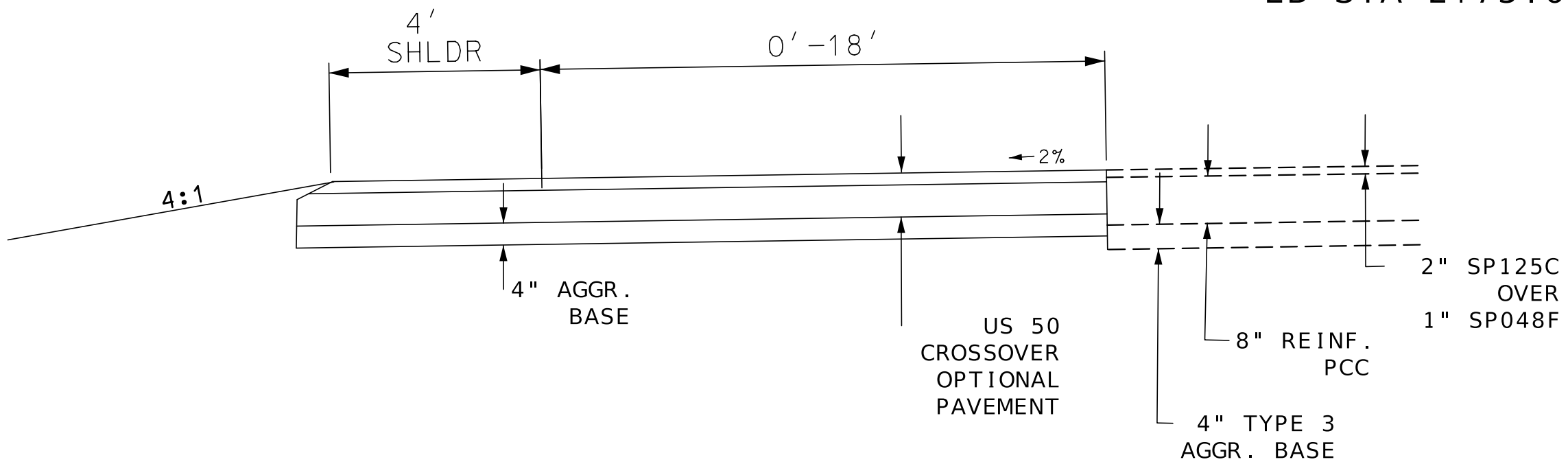
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

NOTE:
CROSSOVERS DESIGNED USING THE
HMA OPTION

OPTIONAL PAVEMENT				
LOCATION	BASE TYPE	HMA DESIGN	PCCP DESIGN	SHOULDER
US 50 CROSSOVER	4" TYPE 5 AGGR. BASE	8" HMA 2" BP-1 W/ PG64-22 OVER 6" BB W/ PG64-22	8" JPCP WIDENED SLAB 15 FT. JOINT SPACINC, 1 1/4" DOWELS	FULL DEPTH

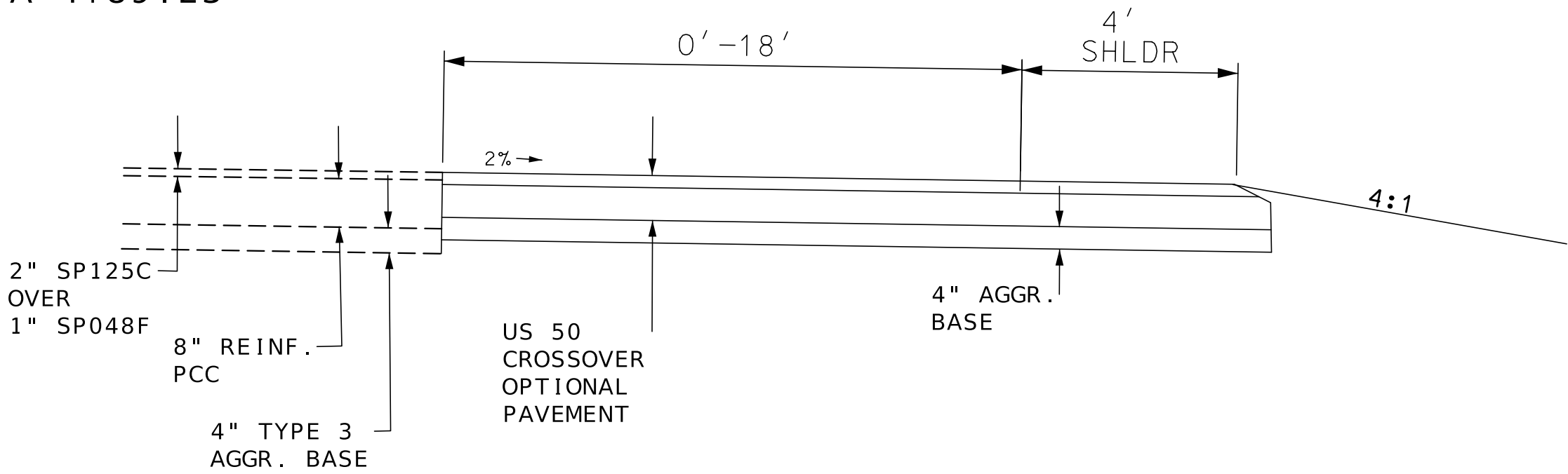


WEST CROSSOVER PROPOSED TYPICAL SECTION
EB STA 2+61.39 - STA 4+60.37
EAST CROSSOVER PROPOSED TYPICAL SECTION
EB STA 2+73.67 - STA 4+89.23



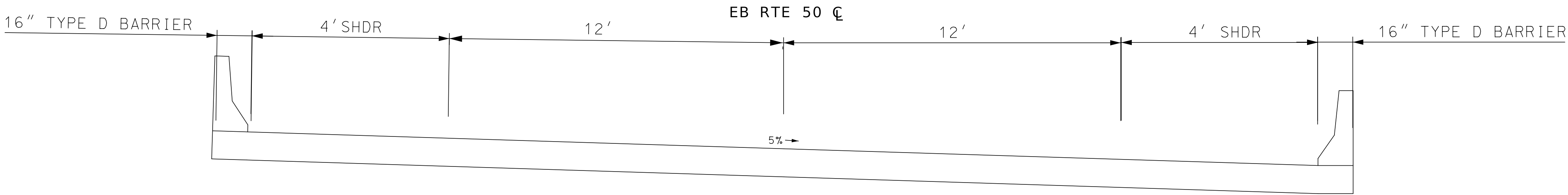
WEST CROSSOVER TYPICAL SECTION
STA. 0+00.00 TO STA. 2+61.39 =
RTE 50 STA. 800+00.00 TO STA. 802+63.09

EAST CROSSOVER TYPICAL SECTION
STA. 4+89.23 TO STA. 7+54.29 =
RTE. 50 STA. 865+84.57 TO STA. 868+50.00



WEST CROSSOVER TYPICAL SECTION
STA. 4+60.36 TO STA. 8+22.50 =
RTE. 50 STA. 804+51.34 TO STA. 808+03.43

EAST CROSSOVER TYPICAL SECTION
STA. 0+00.00 TO STA. 2+73.67 =
RTE. 50 STA. 861+00.00 TO STA. 863+75.38

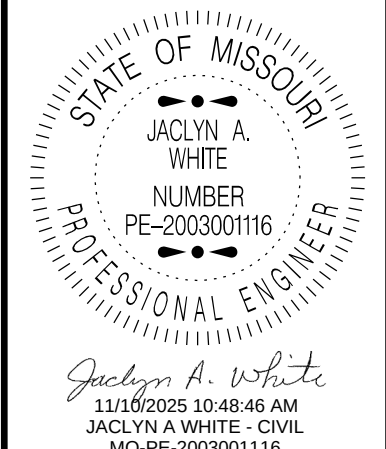


ROUTE 50
PROPOSED BRIDGE A1175

STA 819+26.50 - 822+21.08

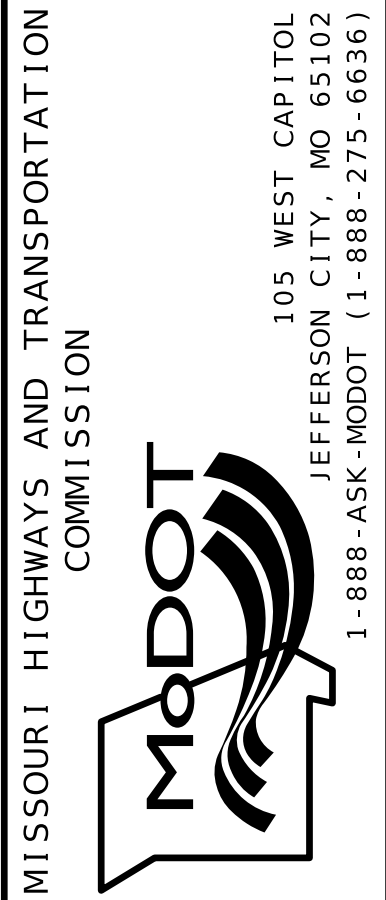
NOT TO SCALE

TYPICAL SECTIONS
SHEET 1 OF 2



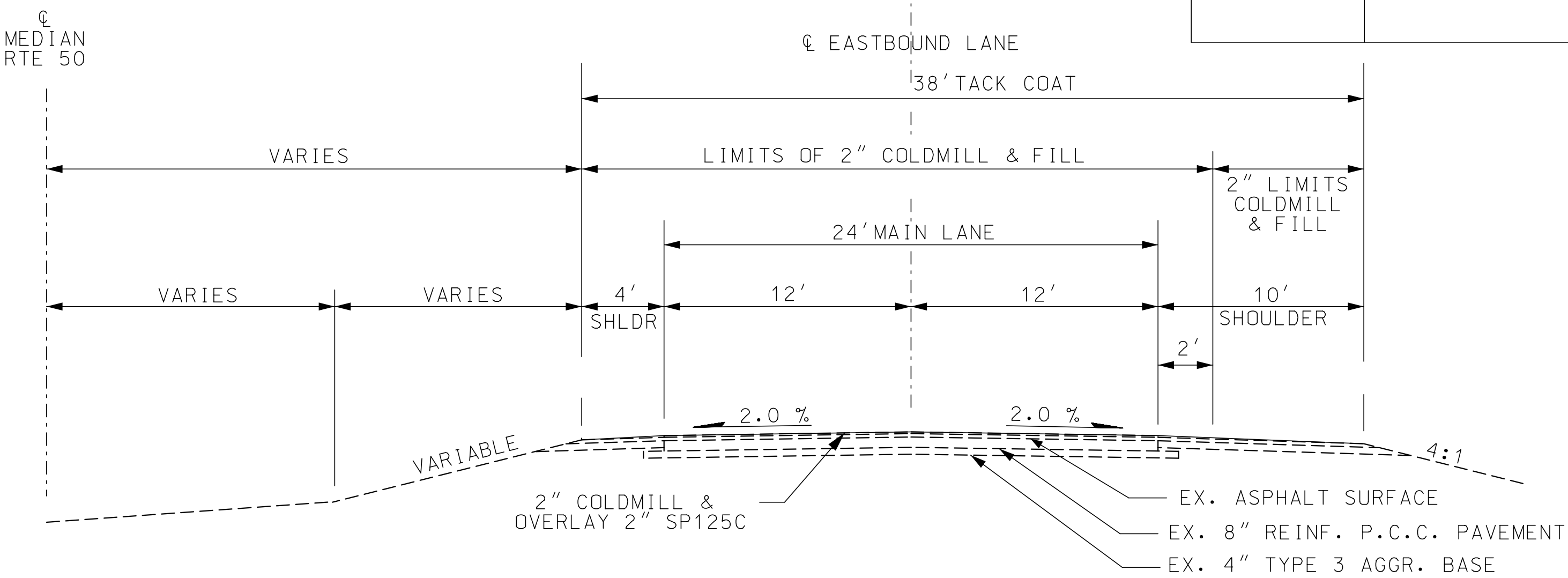
DATE PREPARED 11/10/2025	
ROUTE 50	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY JOHNSON	
JOB NO. JKR0101	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

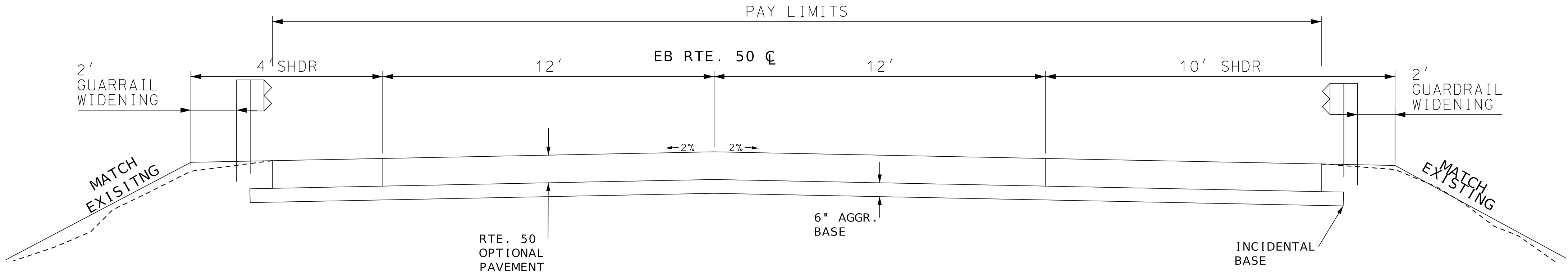


NOTE:
RTE. 50 DESIGNED USING
HMA PAVEMENT

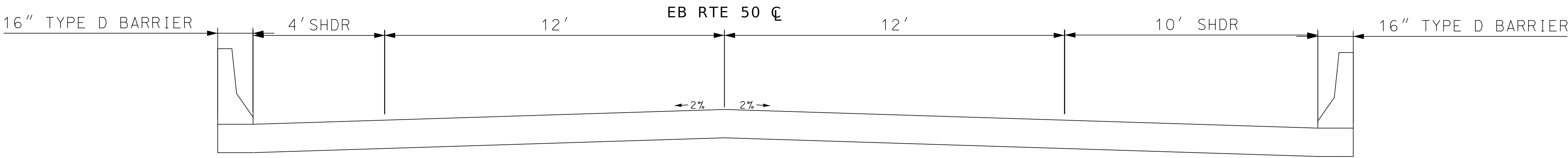
OPTIONAL PAVEMENT				
LOCATION	BASE TYPE	HMA DESIGN	PCCP DESIGN	SHOULDER
US 50 MAINLINE	6" TYPE 5 AGGR. BASE	11.5" HMA 2" SP125C PG70-22 2" SP125C PG70-22 7.5" SP250C PG64-22	10" PCCP	FULL DEPTH



EASTBOUND ROUTE 50
STA 818+41.50 - 818+91.50
STA 822+56.08 - 823+06.08



PROPOSED PAVEMENT EASTBOUND ROUTE 50
STA 856+46.80 - 857+63.50
STA 859+26.04 - 861+10.00

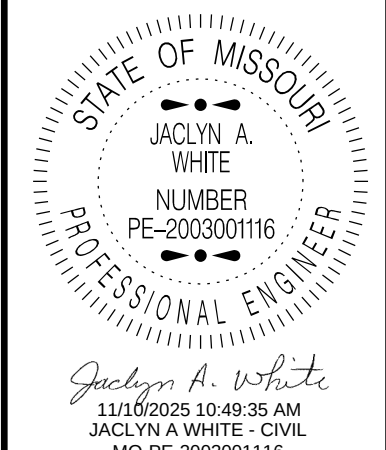


ROUTE 50
PROPOSED BRIDGE A9616

STA 857+98.50 - 858+91.04

NOT TO SCALE

TYPICAL SECTIONS
SHEET 2 OF 2



DATE PREPARED 11/10/2025	
ROUTE 50	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY JOHNSON	
JOB NO. JKR0101	
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

EARTHWORK						
BEGIN STA	END STA	LOCATION	CLASS A EXCAVATION (CY)	COMPACTING EMBANKMENT (CY)	EMBANKMENT IN PLACE (CY)	REMARKS
0+00.00	8+22.50	MEDIAN	151.0	120.8	526.2	BUILD WEST CROSSOVER
0+00.00	8+22.50	MEDIAN	647.0			WEST CROSSOVER REMOVAL
856+46.82	861+10.00	RTE 50	164.6	131.7	71.1	RTE 50
0+00.00	7+54.29	MEDIAN	709.0			EAST CROSSOVER REMOVAL
0+00.00	7+54.29	MEDIAN	142.0	113.6	595.4	BUILD EAST CROSSOVER
TOTAL			1813.6	366.1	1192.7	
USE			1814	366	1193	

MOBILIZATION
1 LUMP SUM

CONTRACTOR FURNISHED SURVEYING AND STAKING
1 LUMP SUM

PAVEMENT QUANTITIES											
BEGIN STA	END STA	LENGTH (FT)	WIDTH (FT)	IN+OUT SHDR WIDTH (FT)	4" TYPE 5 AGGREGATE (SY)	6" TYPE 5 AGGREGATE (SY)	COLDMILL 2" SP125C	MODIFIED COLDMILLING DEPTH TRANSITION (SY)	OPTIONAL PAVE. MAINLINE (SY)	OPTIONAL PAVE CROSSOVER (SY)	REMARKS
0+.00	8+22.50	822.5	14.00	8.0	2074.0					2074.0	WEST CROSSOVER
856+46.80	857+89.50	142.7	24.00	14.0		380.5			602.5		ROUTE 50 WEST OF BRIDGE A9616
859+26.04	861+10.00	184.0	24.00	14.0		490.7			776.9		ROUTE 50 EAST OF BRIDGE A9616
0+.00	7+54.29	754.3	14.00	8.0	1939.9					1939.9	EAST CROSSOVER
857+63.50	857+89.50	26.0	24.00	14.0		69.3			109.8		ROUTE 50 WEST OF BRIDGE A9616 APPROACH PAVEMENT
859+11.04	859+26.04	15.0	24.00	14.0		40.0			63.3		ROUTE 50 EAST OF BRIDGE A9616 APPROACH PAVEMENT
818+41.50	818+91.50	50.0	24.00	8.0			59.3	59.3			MILL/FILL WEST OF BR. A1175
822+56.08	823+06.08	50.0	24.00	8.0			59.3	59.3			MILL/FILL EAST OF BR. A1175
818+91.50	819+06.50	15.0	24.00	8.0		53.3			53.3		ROUTE 50 WEST OF BRIDGE A1175 APPROACH PAVEMENT
822+41.08	822+56.08	15.0	24.00	8.0		53.3			53.3		ROUTE 50 EAST OF BRIDGE A1175 APPROACH PAVEMENT
				TOTAL	4013.9	1087.1	118.6	118.6	1659.1	4013.9	
				USE	4014	1087	119	119	1659.1	4014	
* TACK APPLICATION RATES: 0.05 (GAL/SY)											

TEMPORARY EROSION CONTROL									
STA.	TO	STA.	LOCATION	SILT FENCE (LF)	ALTERNATE DITCH CHECK (LF)	INLET CHECK (EA)	TEMPORARY TYPE "C" BERM (LF)	SEDIMENT REMOVAL (CY)	REMARKS
PHASE 1									
800+33.64			EX. ROUTE 50		35.0			1.0	MEDIAN
818+30.34			ROUTE 50		28.0			1.0	MEDIAN
819+23.53	-	820+05.40	ROUTE 50 RT.	81.9				2.0	
820+30.62			ROUTE 50				128.0	2.0	ALONG WEST BANK
821+13.47			ROUTE 50				121.0	2.0	ALONG EAST BANK
821+13.69	-	822+39.69	RTE 50 RT.	126.0				2.0	
822+54.76			ROUTE 50		35.0			1.0	MEDIAN
855+50.00	-		ROUTE 50		28.0			2.0	MEDIAN
856+70.00	-	858+15.00	RTE 50 RT.	145.0				2.0	
858+34.00			ROUTE 50				138.0	2.0	ALONG NORTH BANK
858+63.00			ROUTE 50				145.0	2.0	ALONG SOUTH BANK
858+98.00	-	860+75.00	ROUTE 50 RT.	178.0				2.0	
860+74.00			ROUTE 50		34.0				MEDIAN
868+00.00			EX. ROUTE 50 LT.			28.0			MEDIAN
SUB - TOTAL				530.9	160.0	28.0	532.0	21.0	
PHASE 2									
801+28.14			EX. ROUTE 50		34.0			1.0	MEDIAN
806+39.00			EX. ROUTE 50		30.0			1.0	MEDIAN
856+73.00			ROUTE 50 LT.		34.0			1.0	MEDIAN
859+25.00			ROUTE 50 LT.		30.0			1.0	MEDIAN
859+62.00			ROUTE 50 LT.		32.0			1.0	MEDIAN
6+25.42			TEMP. EAST X-OVER LT.		35.0			1.0	
SUB - TOTAL				0.0	195.0	0.0	0.0	6.0	
TOTAL				530.9	355.0	28.0	532.0	27.0	
USE				531	355	28	532	27	

STATE OF MISSOURI

JACLYN A. WHITE

NUMBER

PE-2003001116

PROFESSIONAL ENGINEER

Jaclyn A. White

11/18/2025 9:02:28 AM

JACLYN A. WHITE - CIVIL

MO-PE-2003001116

DATE PREPARED

11/17/2025

ROUTE

50

STATE

MO

DISTRICT

KC

SHEET NO.

3

COUNTY

JOHNSON

JOB NO.

JKR0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION						

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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

MoDOT

PAVEMENT MARKING														
BEGIN STA	END STA	PHASE	LOCATION	TEMPORARY 4" WHITE (LF)	TEMPORARY 4" YELLOW (LF)	TEMPORARY 4" DOUBLE YELLOW (LF)	CLASS 2 PERM. 6" WHITE (LF)	CLASS 2 PERM. 6" INTERMITENT WHITE (LF)	CLASS 2 PERM. 6" YELLOW (LF)	REMOVAL PERM. 6" YELLOW (LF)	REMOVAL PERM. 6" INTERMITENT WHITE (LF)	REMOVAL TEMP. 4" WHITE (LF)	REMOVAL TEMP. 4" YELLOW (LF)	REMOVAL TEMP. 4" DOUBLE YELLOW (LF)
783+15.00	802+12.00	2	EB RTE 50									457.0		
800+00.00	803+13.80 BK	2	WB RTE 50									79		
803+11.20 AH	826+85.30 BK		WB RTE 50							2375		594		
834+95.10 AH	880+00.00		WB RTE 50									1127		
866+20.00	872+71.00		EB RTE 50									163		
834+95.10 AH	865+00.00		WB RTE 50			3009.0				3009				3009.0
783+15.00	800+00.00		EB RTE 50	1685								1685		
0+00.00	8+22.50		W XOVER	823	823							823	823	
800+00.00	808+03.00		WB RTE 50		803								803	
808+03.00	826+85.30 BK		WB RTE 50	1883		3766.0						1883		3766.0
834+95.10 AH	861+90.00		WB RTE 50	2695								2695		
0+00.00	7+54.29		E XOVER	755	755							755	755	
868+50.00	872+71.00		EB RTE 50	421								421		
865+00.00	880+00.00		WB RTE 50		1500								1500	
783+12.00	803+13.80 BK		EB RTE 50				2002.0	501	2002					
800+00.00	803+13.30 BK		WB RTE 50				313.0	79.0	313.0					
803+11.20 AH	826+85.30 BK		EB & WB RTE 50				4748.0	1187.0	4748.0					
834+95.10 AH	872+71.00		EB & WB RTE 50				7552.0	1888.0	7552.0					
872+71.00	880+00.00		WB RTE 50				729.0	183.0	729.0					
TOTAL				8262.0	3881.0	6775.0	15344.0	3838.0	15344.0	5384.0	2420.0	8262.0	3881.0	6775.0
USE				18918			19182		15344	7804		18918		

MGS GUARDRAIL							
BEGIN STA	END STA	LT/RT	SHAPING SLOPES CLASS III (100FT)	MGS BRIDGE TRANSITION (EA)	MGS GUARDRAIL 8' POSTS 6'3" SPACING (LF)	TYPE A CRASHWORTHY END TERMINAL (EACH)	REMARKS
856+74.79	858+19.13	LT	1.7	1.0	50	1.0	TEMP. GUARDRAIL SW OF B0270
856+49.47	858+29.85	RT	1.9	1.0	75	1.0	TEMP. GUARDRAIL NW OF B0270
856+45.36	857+93.82	LT	1.7	1.0	50.0	1.0	WEST OF A9616
856+52.64	857+87.12	RT	1.7	1.0	50.0	1.0	WEST OF A9616
816+95.37	819+22.11	RT	1.9	1.0	75.0	1.0	TEMP. GUARDRAIL NW OF G0952
816+85.92	819+19.26	LT	3.4	1.0	225.0	1.0	TEMP. GUARDRAIL SW OF G0952
817+86.50	819+56.50	BOTH	3.4	2.0	125.0	2.0	WEST OF A1175
861+00.00	862+00.00	LT	1		25.00	1.00	REPLACE AT END OF EAST XOVER
		TOTAL	16.7	8.0	675.0	9.0	
		USE	17	8	675	9	
REMOVAL OF IMPROVEMENTS PAID AS LUMP SUM, BUT SHOWN IN LINEAR FEET FOR CLARITY							
EROSION CONTROL AND SEEDING INCIDENTAL TO SHAPING SLOPES CLASS III							

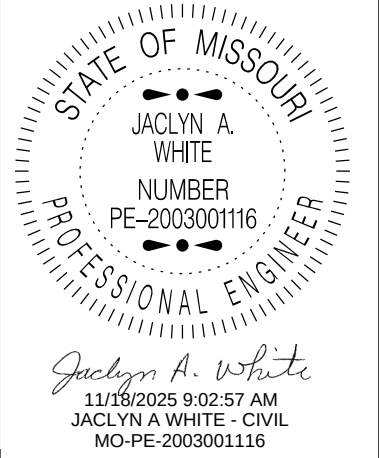
SEEDING						
BEGIN STA	END STA	TEMPORARY SEEDING (ACRES)	SEEDING COOL SEASON MIX (ACRES)	ADDITIONAL MOBILIZATION FOR SEEDING (EACH)	TYPE 1C EROSION CONTROL BLANKET (SY)	REMARKS
0+00.00	7+54.29	0.2	0.3	1.0	1452.0	WEST CROSSOVER
856+25.00	857+92.93		0.1	1.0	484.0	WEST A9616
859+00.30	862+50.00		0.1	1.0	484.0	EAST A9616
0+00.00	8+22.50	0.2	0.2	1.0	968.0	EAST CROSSOVER
TOTAL		0.4	0.7	4.0	3388.0	
USE		1	1	4	3388	

REMOVAL OF IMPROVEMENTS
REMARKS
2613 SY RTE 50 PAVEMENT
528 LF GUARDRAIL
TEMOPORARY GUARDRAIL
1310 LF SAW CUT
4014 SY CROSSOVERS PAVEMENT
CROSSOVER PIPE
RUMBLES AT CROSSOVER ENTRANCES
1 LUMP SUM

BITUMINOUS RUMBLE STRIPS						
STA	STA	RTE.	LENGTH (FT)	LEFT RUMBLE (STA)	RIGHT RUMBLE (STA)	REMARKS
0+00.00	2+62.19	WEST XOVER	262.19	2.62		START OF XOVER
4+60.92	8+22.50	WEST XOVER	362		3.62	END OF CROSSOVER
818+41.50	819+26.22	50.000	85	0.85	0.85	WEST OF A1175
822+17.80	823+06.08	50.000	88	0.88	0.88	EAST OF A1175
856+46.80	857+98.50	50	152	1.52	1.52	WEST OF A9616
858+91.04	861+10.00	50	219	2.19	2.19	EAST OF A9616
0+00.00	2+73.67	EAST XOVER	274		2.74	START OF XOVER
4+89.23	7+54.29	EAST XOVER	265	2.65		END OF CROSSOVER
			SUBTOTAL	10.71	11.80	
			TOTAL	22.51		
			USE	22.5		

DRAINAGE					
BEGIN STA	END STA	18 IN GROUP A PIPE (FT)	18 IN GROUP A FES 3:1 SLOPE (EA)	CLASS 3 EXCVATION (CY)	REMARKS
0+94.92	3+05.91	397.0	2.0		EAST CROSSOVER
0+00.00	7+54.29			2.6	EAST CROSSOVER
		TOTAL	397.0	2.6	
		USE	397	2.6	

TYPE 2 ROCK BLANKET					
BEGIN STA	END STA	FURNISHING TYPE 2 ROCK BLANKET (CY)	PLACING TYPE 2 ROCK BLANKET (CY)	PERMANENT EROSION GEOTEXTILE (SY)	REMARKS
857+74.36	858+25.63	189.2	189.2	283.8	WEST FO A9616
858+74.84	859+09.11	111.2	111.2	166.8	EAST OF A9616
819+06.36	819+67.74	223.6	223.6	335.4	WEST OF A1175
821+77.65	822+37.77	215.4	215.4	323.1	EAST OF A1175
TOTAL		739.4	739.4	1109.1	
USE		740	740	1110	

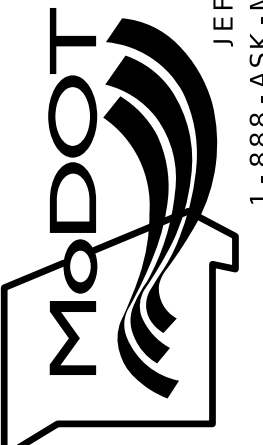


DATE PREPARED 11/17/2025	
ROUTE 50	STATE MO
DISTRICT KC	SHEET NO. 3
COUNTY JOHNSON	
JOB NO. JKR0101	
CONTRACT ID.	

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)

SIGN	SIZE	AREA	QTY	TOTAL	QTY	TOTAL	SIGN		SIGN	SIZE	AREA	QTY	TOTAL	QTY	TOTAL	SIGN		ITEM	TOTAL	EFFECTIVE: 07-01-2025
	IN.	SQ. FT.	EACH	SQ. FT.	EACH	SQ. FT.	NO.	DESCRIPTION		IN.	SQ. FT.	EACH	SQ. FT.	EACH	SQ. FT.	NO.	DESCRIPTION	NUMBER	QTY	DESCRIPTION
WARNING SIGNS									GUIDE SIGNS											
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT)	E05-1	36X48	12.00						GORE EXIT	6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT)	E05-2	48X36	12.00						EXIT OPEN	6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT)	E05-2a	48X36	12.00						EXIT CLOSED	6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT)	GO20-1	60X24	10.00	4	40.00				ROAD WORK NEXT XX MILES	6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT)	GO20-2	48X24	8.00	4	32.00				END ROAD WORK	6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT)	GO20-4	36X18	4.50						PILOT CAR FOLLOW ME	6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
WO1-4L	48X48	16.00	2	32.00				REVERSE CURVE (SYMBOL LEFT)	GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW	6122020		REPLACEMENT SAND BARREL
WO1-4R	48X48	16.00	2	32.00				REVERSE CURVE (SYMBOL RIGHT)	GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW	6122030		IMPACT ATTENUATOR (RELOCATION)
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT)	GO20-5aP	36X24	6.00	8	48.00				WORK ZONE (PLAQUE)	6122040	1	WORK ZONE CRASH CUSHION (NARROW)
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT)	MO4-8a	24X18	3.00						END DETOUR	6122041		WORK ZONE CRASH CUSHION (RELOCATION)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT)	MO4-9L	48X36	12.00						DETOUR (LEFT)	6123001		TRUCK MOUNTED ATTENUATOR (TMA)
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT)	MO4-9R	48X36	12.00						DETOUR (RIGHT)	6161012		BUOYS (BOATS KEEP OUT)
WO1-6	60X30	12.50	3	37.50				HORIZONTAL ARROW (SYMBOL)	MO4-9P	48X12	4.00						STREET NAME (PLAQUE)	6161013		BUOYS (NO WAKE)
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)	MO4-10L	48X18	6.00						DETOUR ARROW (LEFT)	6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)	MO4-10R	48X18	6.00						DETOUR ARROW (RIGHT)	6161020		CHANNELIZER (DRUM-LIKE)
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)	REGULATORY SIGNS									6161022		CHANNELIZER (CONE)
WO1-8	18X24	3.00						CHEVRON (SYMBOL)	R1-1	48X48	13.25						STOP	6161025	134	CHANNELIZER (TRIM-LINE)
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)	R1-2	48TRI	6.93						YIELD	6161026		CHANNELIZER (VERTICAL PANEL)
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)	R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)	6161030	17	TYPE 3 MOVEABLE BARRICADE
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)	R1-3P	30X12	2.50						ALL WAY (PLAQUE)	6161033	30	DIRECTION INDICATOR BARRICADE
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)	R2-1	36X48	12.00	5	60.00				SPEED LIMIT XX	6161040	2	FLASHING ARROW PANEL
WO3-4	48X48	16.00						BE PREPARED TO STOP	R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)	6161047		TYPE 3 OBJECT MARKER
WO3-5	48X48	16.00						SPEED LIMIT AHEAD	R3-2	48X48	16.00	3	48.00				NO LEFT TURN (SYMBOL)	6161055	30	SEQUENTIAL FLASHING WARNING LIGHT
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)	R3-3	36X36	9.00						NO TURNS	6161070	153	TUBULAR MARKER
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)	R3-4	48X48	16.00						NO U-TURN (SYMBOL)	6161095		RADAR SPEED ADVISORY SYSTEM
WO4-1aL	48X48	16.00	2	32.00				MERGE (LEFT)	R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT	6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
WO4-1aR	48X48	16.00						MERGE (RIGHT)	R3-7R	30X30	6.25	1	6.25				RIGHT LANE MUST TURN RIGHT			CHANGEABLE MESSAGE SIGN WITHOUT COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS	R4-1	36X48	12.00	6	72.00				DO NOT PASS	6161098A		CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
WO5-3	48X48	16.00						ONE LANE BRIDGE	R4-2	36X48	12.00						PASS WITH CARE			CHANGEABLE MESSAGE SIGN WITHOUT COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
WO5-5	48X48	16.00						NARROW LANES	R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)	6161099		CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)	R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)			CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)	R5-1	30X30	6.25						DO NOT ENTER	6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
WO6-3	48X48	16.00	6	96.00				TWO WAY TRAFFIC (SYMBOL)	R5-1a	36X24	6.00						WRONG WAY	6162002	8	TEMPORARY LONG-TERM RUMBLE STRIPS
WO7-3a	30X24	5.00	4	20.00				NEXT XX MILES (PLAQUE)	R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)	6173600D		TEMPORARY TRAFFIC BARRIER, CONTRACTOR FURNISHED/RETAINED
WO8-1	48X48	16.00						BUMP	R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)			TEMP. TRAFFIC BARRIER ANCHORED, CONTRACTOR FURNISHED/RETAINED
WO8-2	48X48	16.00						DIP	R6-2L	24X30	5.00						ONE WAY (LEFT)	6173700B		TEMP. TRAFFIC BARRIER STIFFNESS TRANSITION CONTRACTOR FURNISHED/RETAINED
WO8-3	48X48	16.00						PAVEMENT ENDS	R6-2R	24X30	5.00						ONE WAY (RIGHT)			TEMP. TRAFFIC BARRIER HEIGHT TRANSITION, CONTRACTOR FURNISHED/RETAINED
WO8-4	48X48	16.00						SOFT SHOULDER	R9-9	24X12	2.00						SIDEWALK CLOSED	6173706		TEMP. TRAFFIC BARRIER ANCHORED, CONTRACTOR FURNISHED/RETAINED
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)	R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE			TEMP. TRAFFIC BARRIER STIFFNESS TRANSITION CONTRACTOR FURNISHED/RETAINED
WO8-6	48X48	16.00						TRUCK CROSSING	R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE	6174000A		RELOCATING TEMPORARY TRAFFIC BARRIER
WO8-6c	48X48	16.00						TRUCK ENTRANCE	R10-6	24X36	6.00						STOP HERE ON RED (45^ ARROW)	6175010A		RELOCATING TEMP. TRAFFIC BARRIER ANCHORED
WO8-7	36X36	9.00						LOOSE GRAVEL	R11-2	48X30	10.00	9	90.00				ROAD CLOSED	6175013		RELOCATING TEMP. TRAFFIC BARRIER STIFFNESS
WO8-7a	36X36	9.00						FRESH OIL / LOOSE GRAVEL	R11-3a	60X30	12.50						ROAD CLOSED XX MILES AHEAD	6175020A		RELOCATING TEMP. TRAFFIC BARRIER HEIGHT
WO8-9	48X48	16.00						LOW SHOULDER	R11-4	60X30	12.50						LOCAL TRAFFIC ONLY	6208064A		TEMPORARY RAISED PAVEMENT MARKER
WO8-11	48X48	16.00						UNEVEN LANES	CONST-3A	60X48	20.00						ROAD CLOSED TO THRU TRAFFIC	9029400		TEMPORARY TRAFFIC SIGNALS
WO8-12	48X48	16.00						NO CENTER LINE	CONST-3X	56X12	4.67						FINE SIGN	9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING
WO8-15	48X48	16.00						GROOVED PAVEMENT	MISCELLANEOUS SIGNS											
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)	CONST-5	48X36	12.00						POINT OF PRESENCE			
WO8-17L	48X48	16.00						SHOULDER DROP-OFF (SYMBOL LEFT)	CONST-5	96X48	32.00						POINT OF PRESENCE			
WO8-17R	48X48	16.00						SHOULDER DROP-OFF (SYMBOL RIGHT)	CONST-8	48X36	12.00	4	48.00				WORK ZONE NO PHONE ZONE			
WO8-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)	SPECIAL	48X48	16.00	4	64.00				RUMBLE STRIPS AHEAD			
W10-1	42RND	9.62						RAILROAD CROSSING												
WO12-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)												
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)												
WO12-2x	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) 45 MPH												
WO16-2	30X24	5.00						XXX FEET (PLAQUE)												
WO16-3	30X24	5.00						X MILE (PLAQUE)												
WO20-1	48X48	16.00	5	80.00				ROAD/BRIDGE/RAMP WORK AHEAD												
WO20-2	48X48	16.00						DETOUR AHEAD												
WO20-3	48X48	16.00	1	16.00				ROAD CLOSED AHEAD	616-10.05											
WO20-4	48X48	16.00						ONE LANE ROAD AHEAD	CONSTRUCTION SIGNS											
WO20-5	48X48	16.00	4	64.00				RIGHT/CENTER/LEFT LANE CLOSED AHEAD												
WO20-5a	48X48	16.00						2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD	616-10.10											
WO20-6a	48X48	16.00	2	32.00				RIGHT/CENTER/LEFT LANE CLOSED	RELOCATED SIGNS											
WO20-7a	48X48	16.00						FLAGGER (SYMBOL)												
WO21-2	36X36	9.00						FRESH OIL												
WO21-5	48X48	16.00						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	2	4.38				WET PAINT (ARROW PIVOTS)												

STATE OF MISSOURI

JACLYN A. WHITE

NUMBER

PE-2003001116

PROFESSIONAL ENGINEER

11/18/2025 9:03:27 AM

JACLYN A. WHITE - CIVIL

MO-PE-2003001116

DATE PREPARED

11/17/2025

ROUTE

50

STATE

MO

DISTRICT

KC

SHEET NO.

3

COUNTY

JOHNSON

JOB NO.

JKR0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

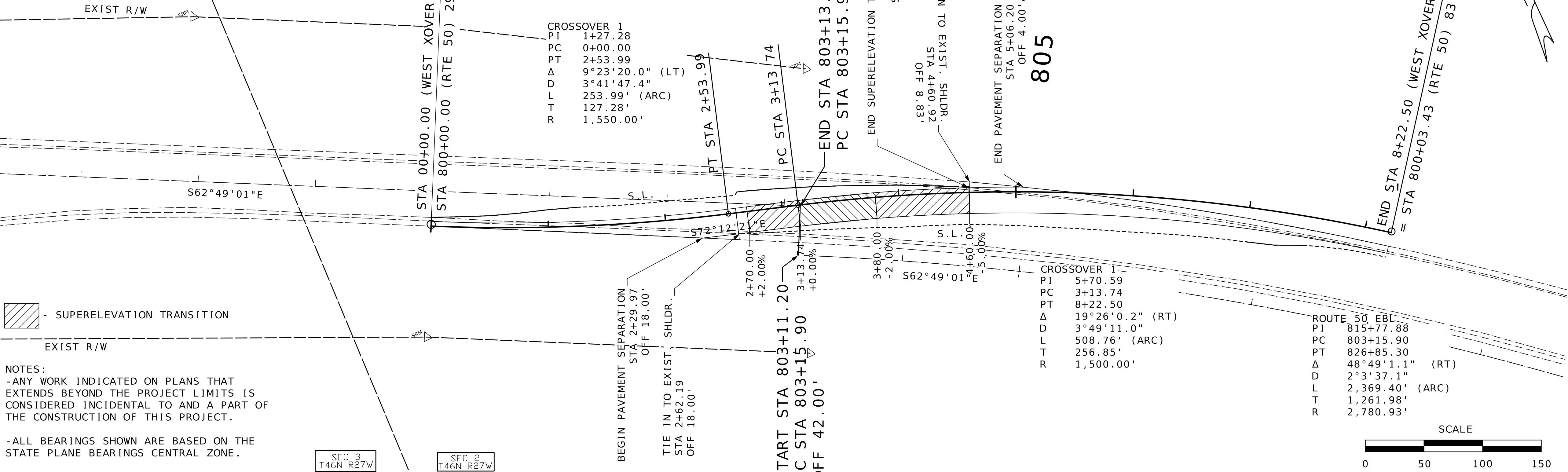
105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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

BUILD A2 SHOULDER FROM 0+00.00 TO 2+62.19 AND
4+60.92 TO 8+22.50 AFTER CROSSOVER IS REMOVED

BUILD RUMBLE FROM STA 0+00.00 TO 2+62.19 AND
4+60.92 TO 8+22.50 AFTER CROSSOVER IS REMOVED

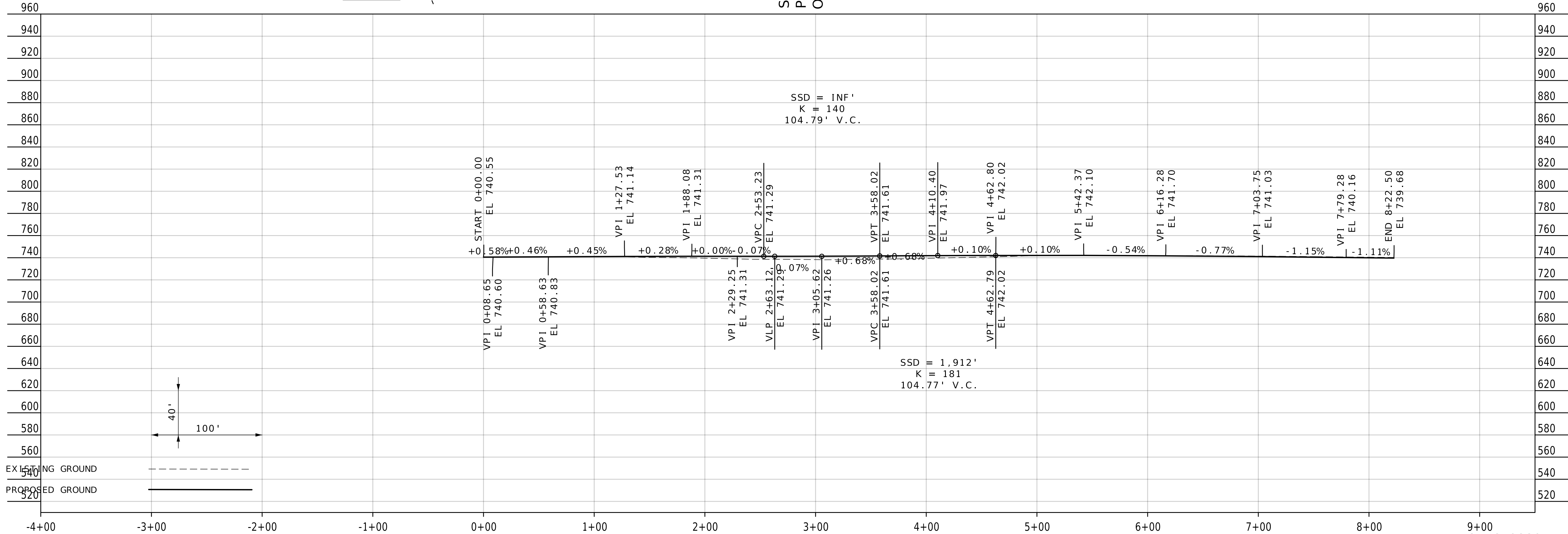


NOTES:
-ANY WORK INDICATED ON PLANS THAT
EXTENDS BEYOND THE PROJECT LIMITS IS
CONSIDERED INCIDENTAL TO AND A PART OF
THE CONSTRUCTION OF THIS PROJECT.

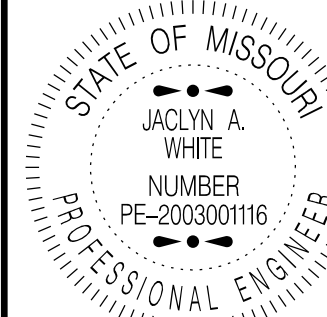
-ALL BEARINGS SHOWN ARE BASED ON THE
STATE PLANE BEARINGS CENTRAL ZONE.

SEC. 3
T46N R27W

SEC. 2
T46N R27W



WEST CROSSOVER
PLAN-PROFILE SHEET
SHEET 1 OF 6



Jaclyn A. White
11/07/2025 4:19:15 PM
JACLYN A WHITE - CIVIL
MO-PE-200300116

DATE PREPARED
11/7/2025

ROUTE 50 STATE MO

DISTRICT KC SHEET NO. 4

COUNTY JOHNSON

JOB NO. JKR0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

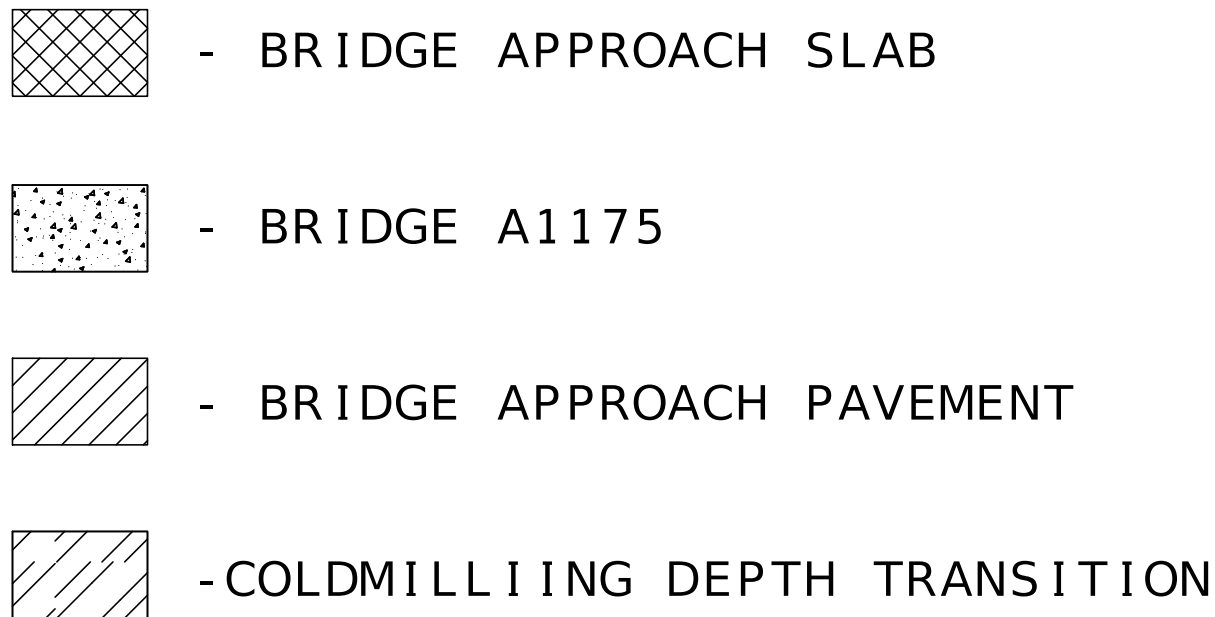
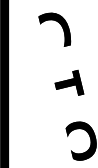
DATE

DATE

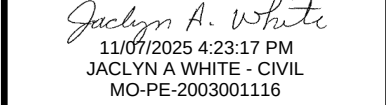
DATE

DATE

DATE



SPILL FILL:
-ADD TYPE 2 ROCK BLANKET TO SPILL FILL
SLOPES AT END BENTS 1 AND 6



BRIDGE NO. _____

TOL
102
36)

TATI
CAPI
10 65
75-66WEST
TY, M
88-27

105
ON CI
(1-8

AND T
SION

JEFF
WASK - M

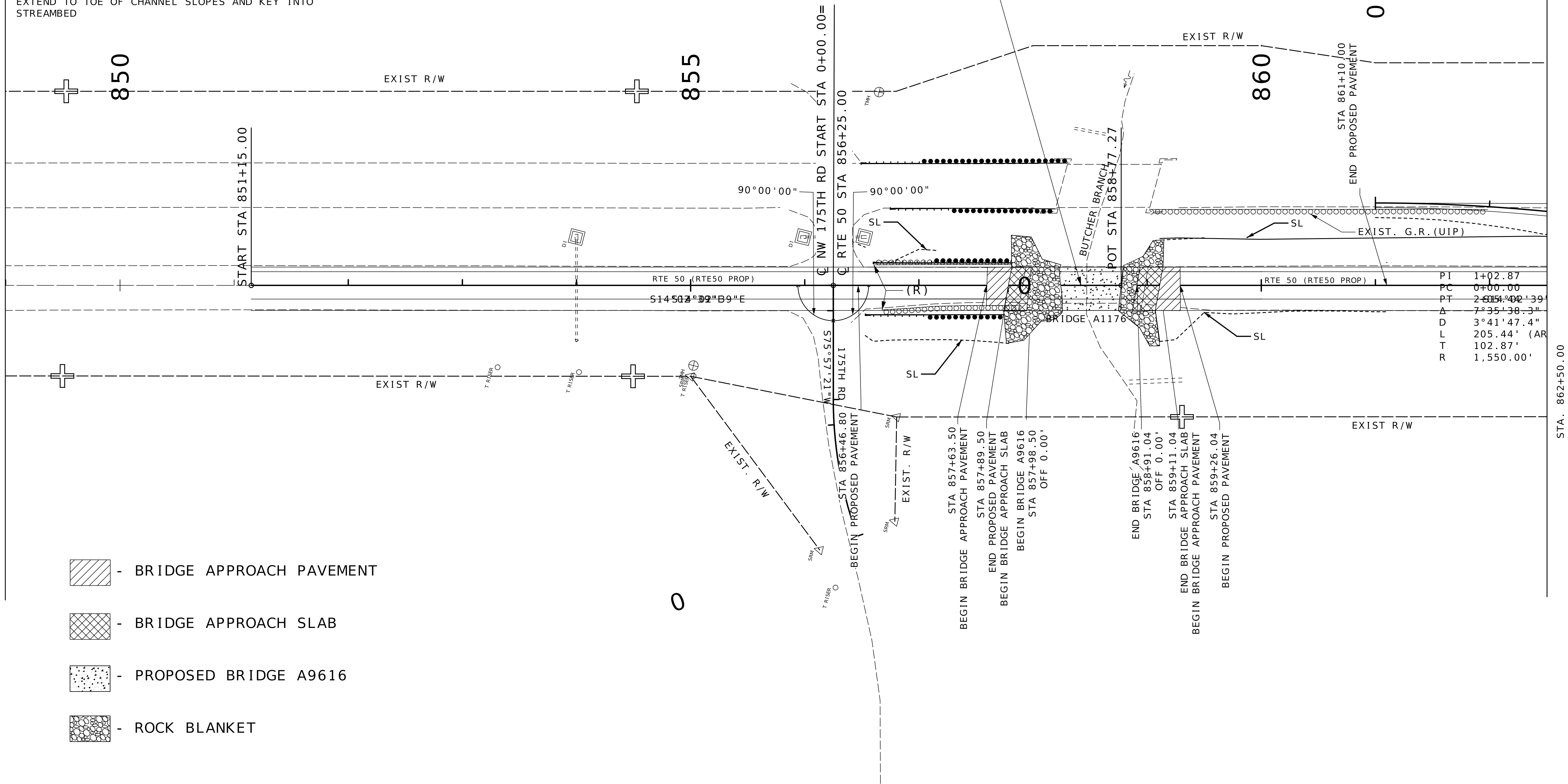


888 - A

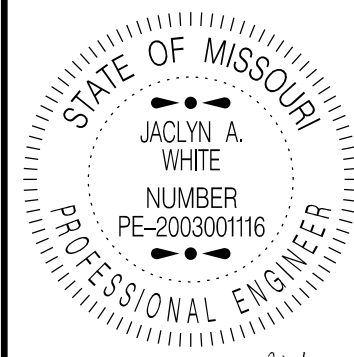
ISSN

M	V
---	---

- BUILD BR. NO. A9616 OVER BUTCHER BRANCH
SKEW 10° LA
(90°) PRESTRESSED CONCRETE NU-GIRDER SPAN
ROADWAY DESIGN FREQUENCY: 100 YEAR EVENT
- REMOVE EX. BRIDGE A1176 OVER BUTCHER BRANCH



EB ROUTE 50
PLAN-PROFILE SHEET
SHEET 3 OF 6



Jaclyn A. White
11/17/2025 8:19:44 AM
JACLYN A WHITE - CIVIL
MO-PE-2003001116

DATE PREPARED
11 / 14 / 2025

ROUTE 50	STATE MO
-------------	-------------

DISTRICT	SHEET NO
KC	6

COUNTY
JOHNSON

JOB NO.
JKR0101

CONTRACT ID.

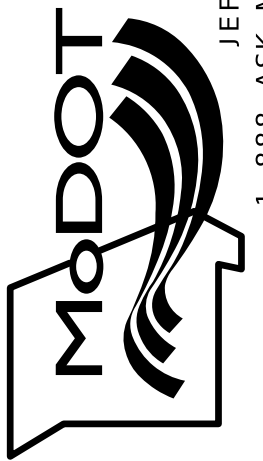
PROJECT NO.

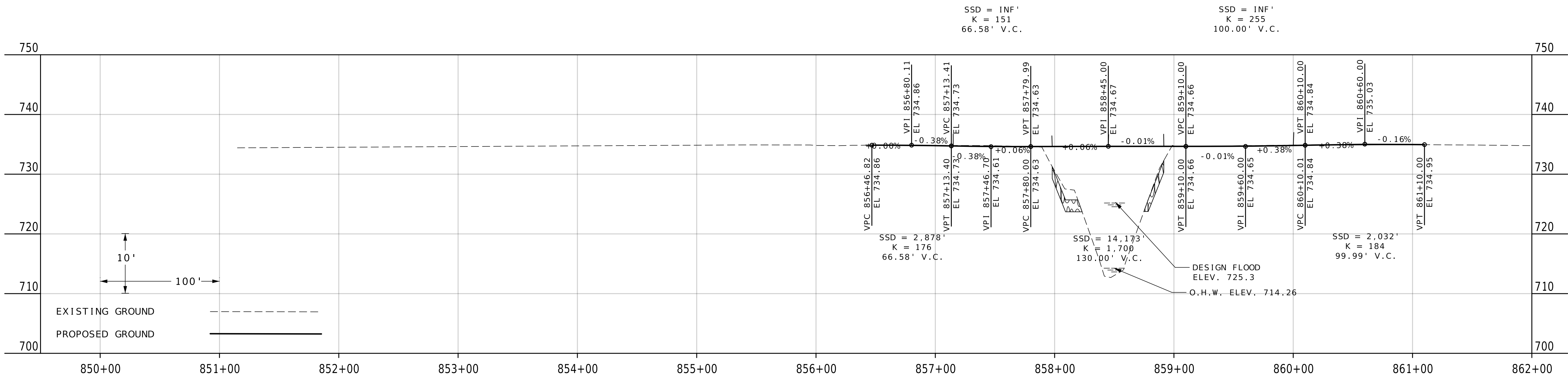
BRIDGE NO.

[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102





ROUTE 50 PROFILE

STATE OF MISSOURI

JACLYN A. WHITE

NUMBER

PE-2003001116

PROFESSIONAL ENGINEER

Jaclyn A. White

11/07/2025 4:24:55 PM

JACLYN A WHITE - CIVIL

MO-PE-2003001116

DATE PREPARED

11/7/2025

ROUTE

50

STATE

MO

DISTRICT

KC

SHEET NO.

7

COUNTY

JOHNSON

JOB NO.

JKR0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE

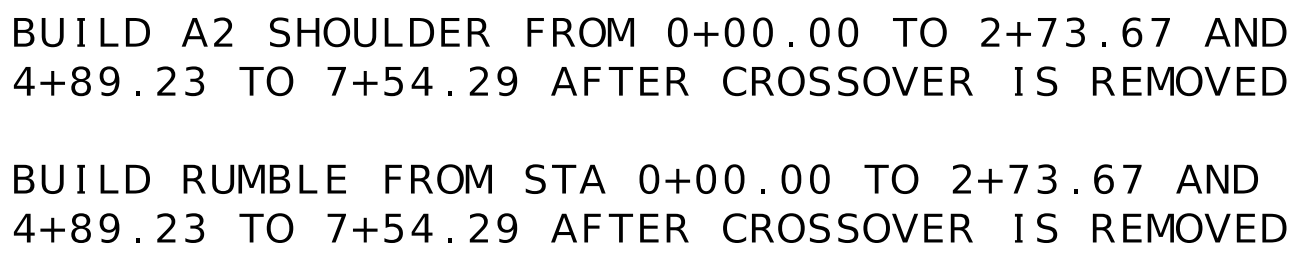
DESCRIPTION

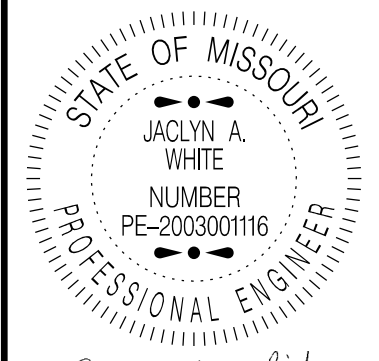
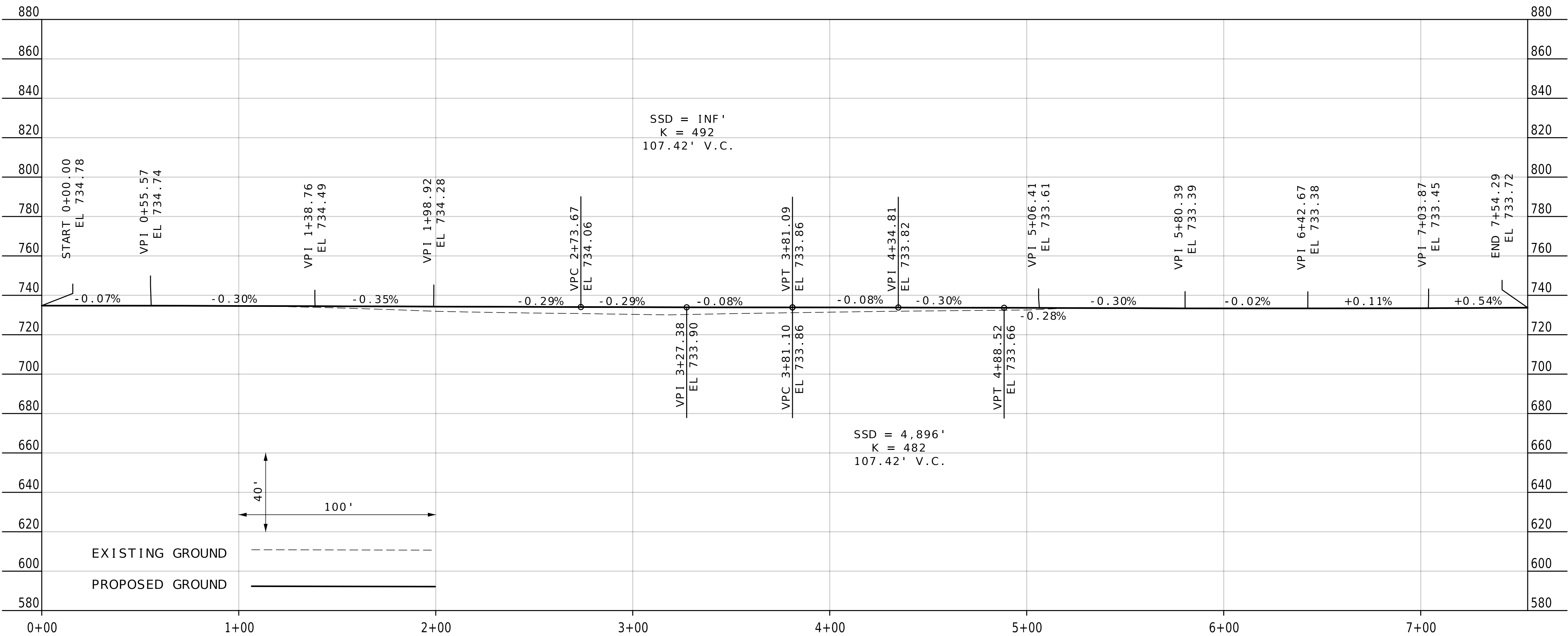
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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

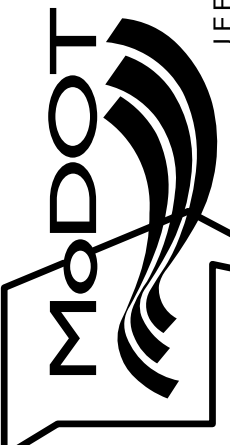




DATE PREPARED 11/7/2025	
ROUTE 50	STATE MO
DISTRICT KC	SHEET NO. 9
COUNTY JOHNSON	
JOB NO. JKR0101	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

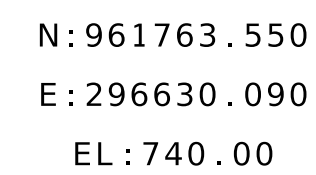
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



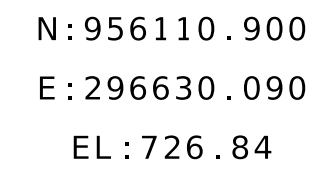
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

SET W/ 5/8" IRON BAR TOPPED W/ PINK CAP
OFF OF NW 751ST RD.



EB MO 50 @ STA.770+32.74 173.01 RT

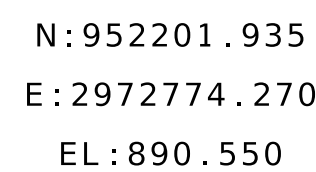
SET W/ 5/8" IRON BAR TOPPED W/ PINK CAP
OFF OF 701ST RD



EB MO 50 @ STA.854+04.15 2541.71 RT

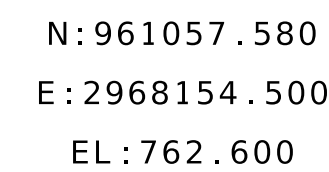
TO GET TO STATE PLANE: COORDINATES x CAF = STATE PLANE

SET W/ 5/8" IRON BAR TOPPED W/ PINK CAP
OFF OF NW 105TH RD.



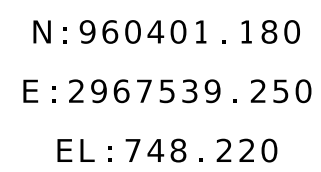
EB MO 50 @ STA.918+09.88 220.93 LT

SET W/ 5/8" IRON BAR TOPPED W/ PINK CAP
EAST SIDE OF NW 671ST RD.



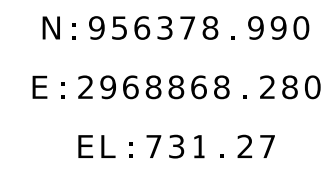
EB MO 50 C STA.807+03.08 1074.90 LT

SET W/ 5/8" IRON BAR TOPPED W/ PINK CAP
ON OLD 50 HWY. OUTER ROAD IN THE GRASS
WEST OF GUARDRAIL



EB MO 50 @ STA.805+85.90 186.59 LT

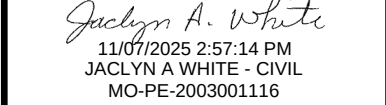
SET 5/8" IRON PIN W/ MODOT CONTROL CAPS
IN SW QUAD OF EB RTE. 50 AT NW 175TH ST.



EB MO 50 C STA.856+87.22 305.36 RT



NOT TO SCALE



DATE PREPARED

11/7/2025

ROUTE 50	STATE MO
-------------	-------------

DISTRICT KC	SHEET NO. 10
----------------	-----------------

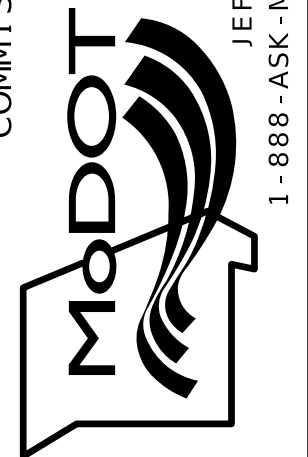
COUNTY
JOHNSON

JOB NO.
JKR0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

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 MULTIPLY THE PROJECT COORDINATES BY THE AVERAGE GRID FACTOR AS SHOWN IN THE "REFERENCE CONTROL INFORMATION" PORTION OF THIS TABLE.

PROJECT COORDINATE INFORMATION				COORDINATE POINT LISTING								
COORDINATE SYSTEM		Modified State Plane (Ground)		SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND)			DESCRIPTION	GPK POINT ID
HORIZONTAL DATUM	NAD83		NORTHING (US SURVEY FT)					EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)			
VERTICAL DATUM		NAVD88										
GEOID MODEL		Geoid 18		PROJECT CONTROL POINTS								
ELEVATIONS DETERMINED BY		GPS Observation			803+15.90	WB US 50	2780.93	957,905.26	2,965,934.07			A229
PROJECT PROJECTION FACTOR		1.00001655			815+00.78	WB US 50	-273.04	959,802.43	2,968,327.29			A228
					859+75.00	WB US 50	100	956,149.64	2,969,137.34			A250
					935+35.16	WB US 50	77.03	951,646.46	2,974,527.75	877.17	FENCE GATEPOST	231
REFERENCE CONTROL INFORMATION				ALIGNMENTS								
COORDINATE SYSTEM		MO Coordinate System of 1983			771+00.00	WB US 50	0	961,886.73	2,964,360.66		BEGIN CHAIN	
CONTROL STATION		MO Geographic Reference System			803+15.90	WB US 50	0	960,379.04	2,967,204.50		PC CURVE	
DESIGNATION		JO-60			815+77.98	WB US 50	0	960,253.53	2,967,423.76		HPI CURVE	
CORS_ID					826+85.30	WB US 50	0	959,335.94	2,968,318.76		PT CURVE	
PID		101060			865+75.00	WB US 50	0	955,591.84	2,969,379.95		END CHAIN	
LATITUDE		38 48' 52.71875"			0+00.00	WEST XOVER	0	960,535.33	2,966,926.71		BEGIN CHAIN WEST CROSSOVER/ PC CURVE 1	
LONGITUDE		093 53' 19.59052"			1+27.28	WEST XOVER	0	960,481.89	2,967,042.19		HPI CURVE 1	
NORTHING (M)		294051.0340			2+53.99	WEST XOVER	0	960,438.28	2,967,161.13		PT CURVE 1	
EASTING (M)		903083.1750			3+13.74	WEST XOVER	0	960,420.02	2,967,218.02		PC CURVE 1	
ZONE		West			5+70.59	WEST XOVER	0	960,321.02	2,967,454.68		HPI CURVE 2	
PROJECT AVERAGE GRID FACTOR		0.99998344			8+22.50	WEST XOVER	0	960,186.14	2,967,667.09		END CHAIN WEST CROSSOVER/ PT CURVE 2	
EXAMPLE OF PROJECT COORDINATE TO S.P.C.					0+00.00	EAST XOVER	0	956,070.16	2,969,334.71		BEGIN CHAIN EAST CROSSOVER/ PC CURVE 1	
PROJECT NORTHING X AVERAGE GRID FACTOR = STATE PLANE NORTHING PROJECT EASTING X AVERAGE GRID FACTOR = STATE PLANE EASTING EXAMPLE: CONTROL POINT # 1 N 294051.0340 X 0.99998344 = N 294046.1645 E 903083.1750 X 0.99998344 = E 903068.2199					1+02.87	EAST XOVER	0	955,969.75	2,969,356.25		HPI CURVE 1	
					2+05.44	EAST XOVER	0	955,868.13	2,969,371.09		PT CURVE 1	
					5+54.45	EAST XOVER	0	955,521.29	2,969,410.06		PC CURVE 2	
					6+54.52	EAST XOVER	0	955,422.44	2,969,424.52		HPI CURVE 2	
					7+54.29	EAST XOVER	0	955,324.77	2,969,445.52		END CHAIN EAST CROSSOVER/ PT CURVE 2	
LINEAR UNIT CONVERSION												
1 METER = 3.280833333 US SURVEY FEET (USFT)												

COORDINATE POINTS
SHEET 1 OF 1

SPEED	SIGN SPACING (FT)	TAPER LENGTH (FT)		OPTIONAL	CHANNELIZER SPACING (FT)	
PERMANENT POSTED (MPH)	DIVIDED HIGHWAYS (S)	SHOULDER (1) (T1)	LANE (2) (T2)	BUFFER LENGTH (FT) (B)	TAPERS	BUFFER/ WORK AREAS
0-35	200	70	245	250	35	40
40-45	500	150	540	360	40	80
50-55	1000	185	660	495	50	80
60-70	SA - 1000 SB - 1500 SC - 2640	235	840	730	60	120

NOTES:

- (1) SHOULDER TAPER LENGTH BASED ON 10 FT. (STANDARD SHOULDER WIDTH) OFFSET.
(2) LANE TAPER LENGTH BASED ON 12 FT. (STANDARD LANE WIDTH) OFFSET.
(3) NEXT XX MILES SIGN NOT REQUIRED FOR NARROW LANE SECTIONS LESS THAN ONE MILE.



WO20 - 1
2



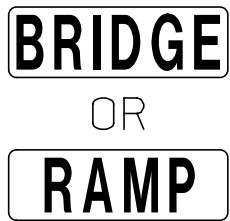
WO21 - 5bR
21B



WO21 - 5aR
21A

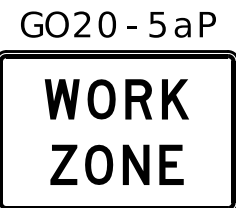


WO5 - 1

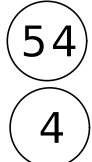


WO7 - 3a
43 *

* OMIT SIGN 43 FOR NO TRAVELWAY ENCROACHMENT.



R2 - 1



54
4



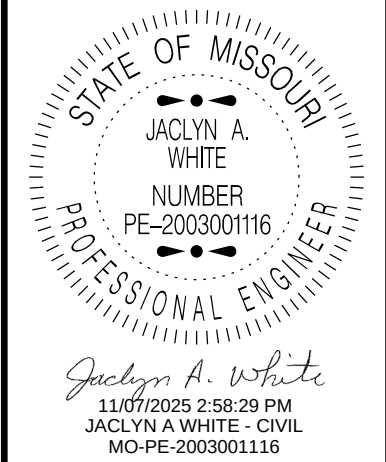
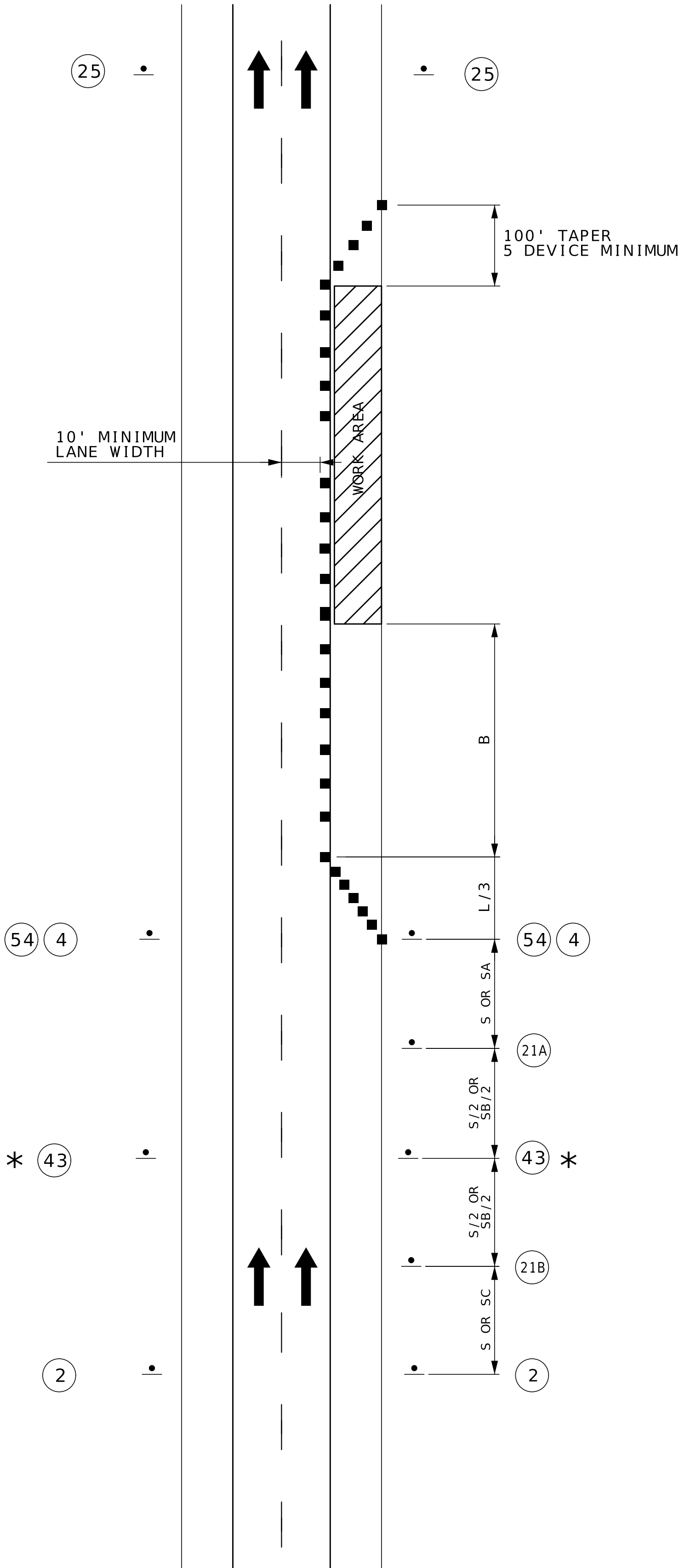
R2 - 1



25
(NORMAL SPEED)

SHOULDER WORK WITH MINOR TRAVELWAY ENCROACHMENT OR NO ENCROACHMENT (DIVIDED HIGHWAY)

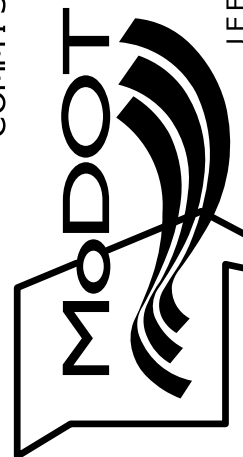
REVISED: 12/30/2024



DATE PREPARED 11/7/2025	
ROUTE 50	STATE MO
DISTRICT KC	SHEET NO. 13
COUNTY JOHNSON	
JOB NO. JKR0101	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

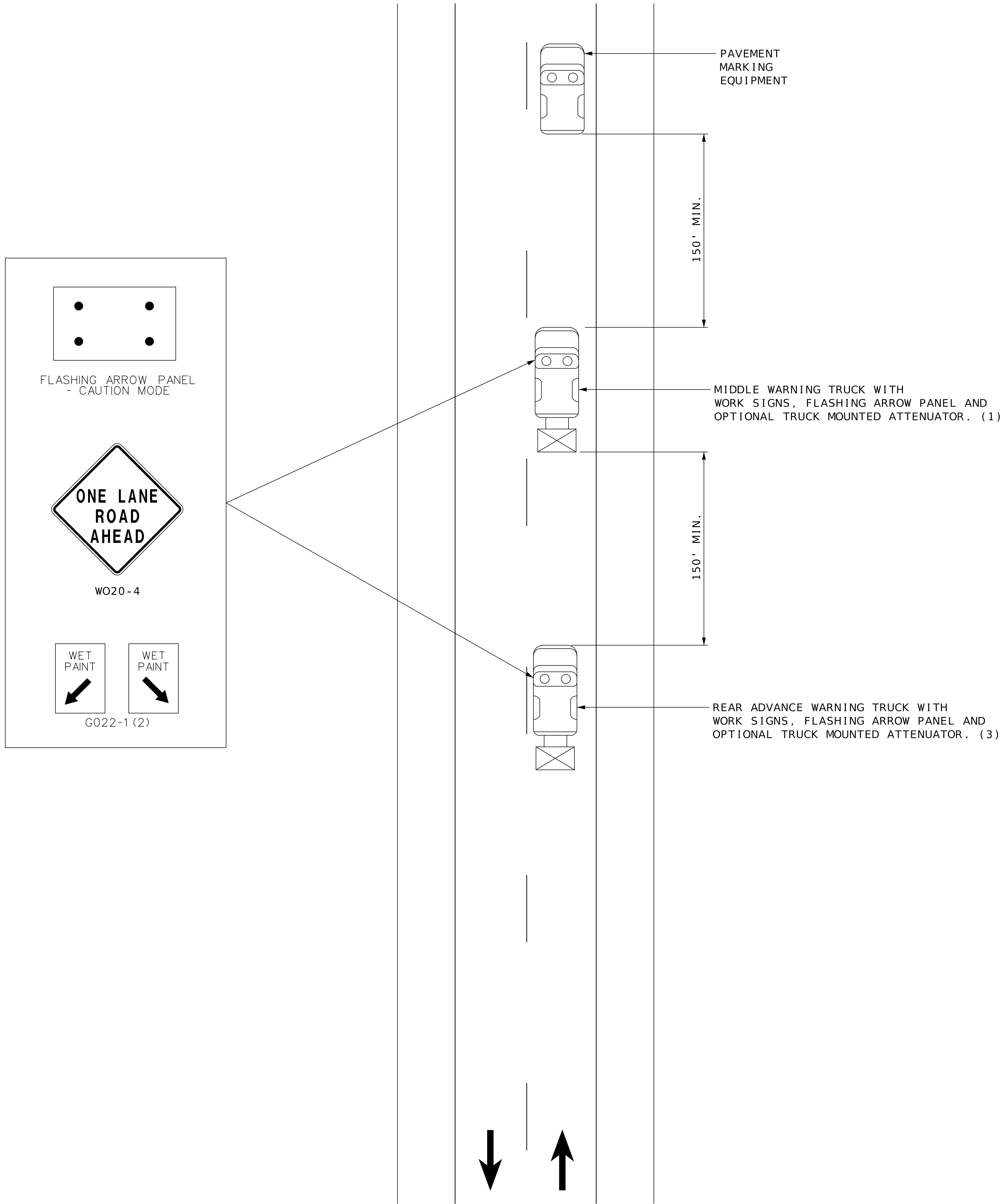
DESCRIPTION	DATE

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



NOT TO SCALE

TRAFFIC CONTROL
SHEET 1 OF 14



NOTES:

UPON APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY PROVIDE ADDITIONAL PROTECTIVE TRUCKS EQUIPPED WITH PROPER WARNING DEVICES.

PROTECTIVE TRUCKS AND WORK VEHICLES SHALL DISPLAY HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

VEHICLE HAZARD WARNING SIGNALS SHALL NOT BE USED INSTEAD OF THE VEHICLE'S HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

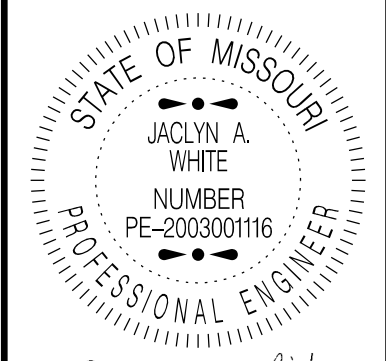
VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.

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

(1) TRUCK IS OPTIONAL ON TWO-LANE UNDIVIDED HIGHWAYS IF SIGNING AND ARROW BOARD ARE MOUNTED ON THE PAVEMENT MARKING EQUIPMENT.

(2) WET PAINT SIGNS ARE INSTALLED TO INDICATE THE SIDE IN WHICH THE PAVEMENT MARKING MATERIAL IS BEING APPLIED. AT THE CONTRACTOR'S OPTION, A FRONT FACING WET PAINT SIGN MAY BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT MARKING EQUIPMENT.

(3) REAR WARNING TRUCK IS POSITIONED AT THE NO TRACK POINT OF THE PAVEMENT MARKING MATERIAL, OR VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE, OR SPACING SHOWN, WHICHEVER IS GREATER.

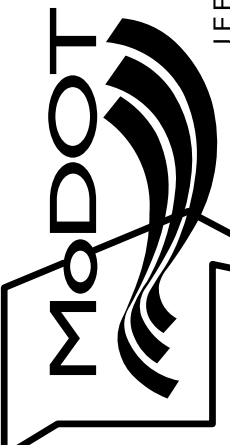


DATE PREPARED
11/17/2025

ROUTE 50	STATE MO
DISTRICT KC	SHEET NO. 16
COUNTY JOHNSON	
JOB NO. JKR0101	
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)

NOT TO SCALE

STRIPING ON TWO-LANE HIGHWAY

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- ◻

SIGN (DOUBLE SIDED)
- ◁

FLAGGER
- ▲

CONE
- CHANNELIZER
- E

BARRICADE
- ≡

CHANGEABLE MESSAGE BOARD
- ◆

TUBULAR MARKER
- ⊠

WORK ZONE

NOTE:
INSTALLATION OF TEMPORARY GUARDRAIL DURING
PHASE 1 NEXT TO OUTSIDE WB AND EB LANES
SHALL BE ACCOMPLISHED USING OUTSIDE
(RIGHT) LANE CLOSURES. SEE LANE CLOSURE
DETAIL ON SHEET XX.

TRAFFIC CONTROL NOTE:
TEMPORARILY COVER OR REMOVE ALL PERMANENT
PAVEMENT MARKING, SIGNING, OR OTHER
TRAFFIC CONTROL DEVICES THAT ARE IN
CONFLICT WITH THE TEMPORARY TRAFFIC CONTROL SHOWN.

PHASE 1

TRAFFIC:
EB: SINGLE LANE SHIFTED TO OUTSIDE THROUGH CROSSOVER CONSTRUCTION
EB: SINGLE LANE SHIFTED INSIDE/OUTSIDE THROUGH PAVEMENT MARKING
AND GUARDRAIL CONSTRUCTION
WB: SINGLE LANE SHIFTED TO OUTSIDE THROUGH CROSSOVER CONSTRUCTION

CONSTRUCTION:
TEMPORARY CROSSOVER
TEMPORARY PIPE AND FES UNDER TEMPORARY CROSSOVER
TEMPORARY GUARDRAIL
TEMPORARY PAVEMENT MARKING

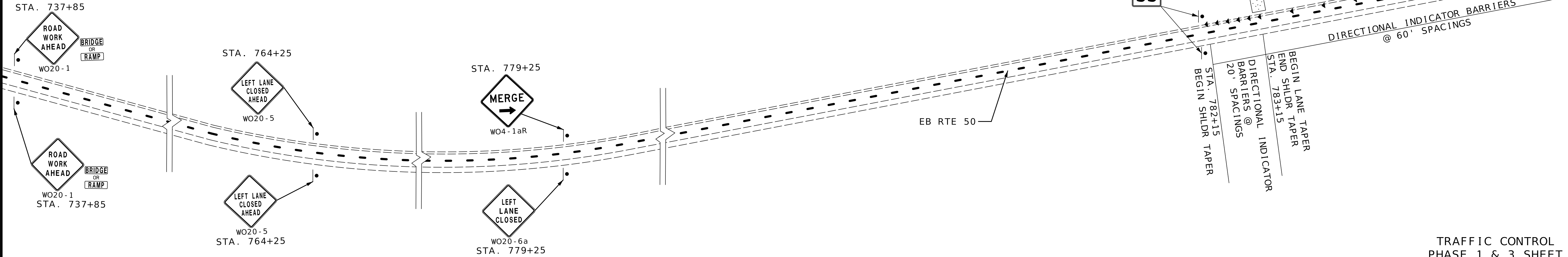
PHASE 3

TRAFFIC:
EB: SINGLE LANE SHIFTED TO OUTSIDE THROUGH CROSSOVER REMOVAL
EB: SINGLE LANE SHIFTED INSIDE/OUTSIDE THROUGH REMOVAL OF
TEMPORARY PAVEMENT MARKING AND GUARDRAIL REMOVAL
WB: SINGLE LANE SHIFTED TO OUTSIDE THROUGH CROSSOVER REMOVAL

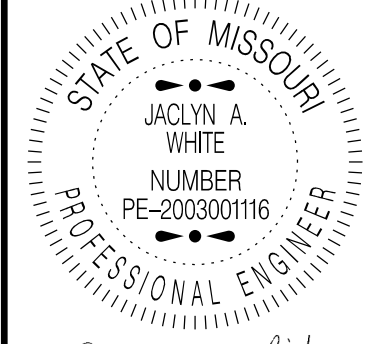
CONSTRUCTION:
REMOVAL OF TEMPORARY CROSSOVER
REMOVAL OF TEMPORARY PIPE AND FES UNDER TEMPORARY CROSSOVER
REMOVAL OF TEMPORARY GUARDRAIL
REMOVAL OF TEMPORARY PAVEMENT MARKING

PHASE 4

PERMANENT PAVEMENT MARKING. SEE QUANTITY SHEETS FOR LIMITS



TRAFFIC CONTROL
PHASE 1 & 3 SHEET
SHEET 5 OF 14



Jaclyn A. White
11/17/2025 7:58:47 AM
JACLYN A WHITE - CIVIL
MO-PE-2003001116

DATE PREPARED

11/14/2025

ROUTE 50 STATE MO

DISTRICT KC SHEET NO. 17

COUNTY

JOHNSON

JOB NO.

JKR0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

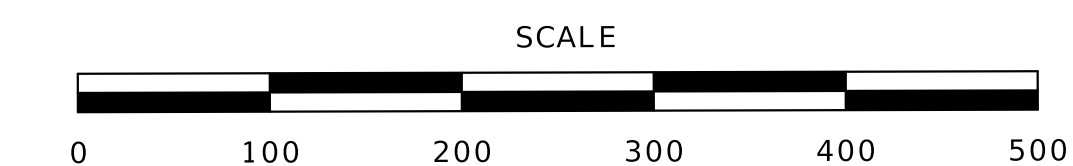
DATE

DATE

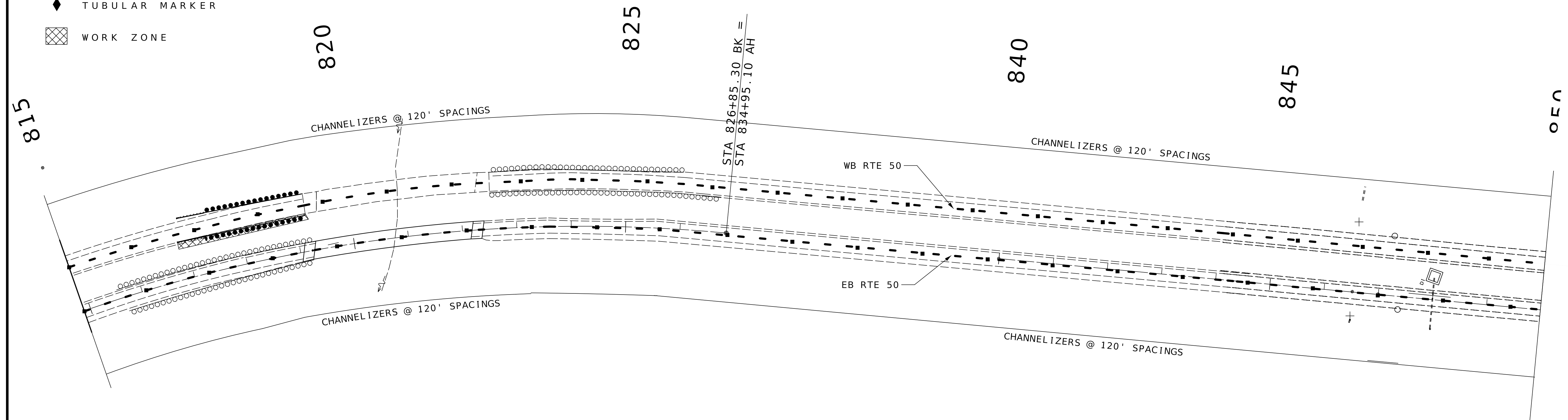
DATE

DATE

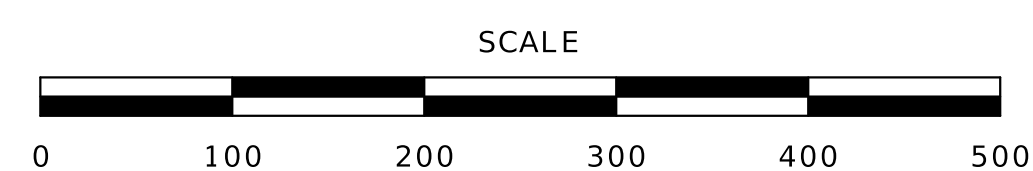
	SIGN (SINGLE SIDED)
	SIGN (DOUBLE SIDED)
	FLAGGER
	CONE
	CHANNELIZER
	BARRICADE
	CHANGEABLE MESSAGE BOARD
	TUBULAR MARKER
	WORK ZONE

[illegible]

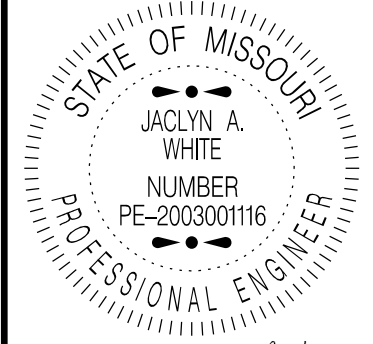
	SIGN (SINGLE SIDED)
	SIGN (DOUBLE SIDED)
	FLAGGER
	CONE
	CHANNELIZER
	BARRICADE
	CHANGEABLE MESSAGE BOARD
	TUBULAR MARKER
	WORK ZONE



PI	815+77.88	
PC	803+15.90	
PT	826+85.30	
	48°49'1.1"	(RT)
	2°3'37.1"	
	2,369.40'	(ARC)
	1,261.98'	
	2,780.93'	



TRAFFIC CONTROL
PHASE 1 & 3 SHEET
SHEET 7 OF 14



Jaclyn A. White
11/17/2025 7:59:48 AM
JACLYN A WHITE - CIVIL
MO-PE-2003001116

DATE PREPARED

11 / 14 / 2025

ROUTE 50	STATE MO
-------------	-------------

DISTRICT KC	SHEET NO. 19
----------------	-----------------

COUNTY
JOHNSON

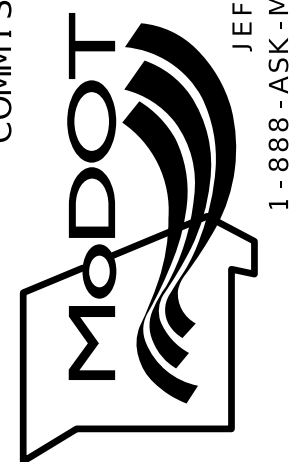
JOB NO.
JKR0101

CONTRACT ID.

PROJECT NO.

PROJECT NO. _____

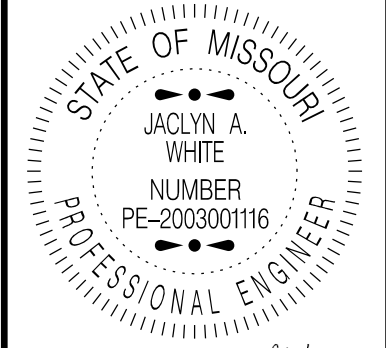
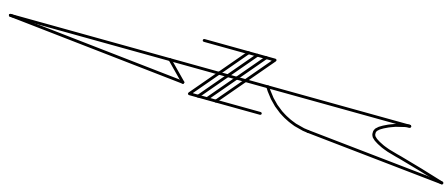
BRIDGE NO.

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- SIGN (DOUBLE SIDED)
- FLAGGER
- CONE
- CHANNELIZER
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- TUBULAR MARKER
- WORK ZONE

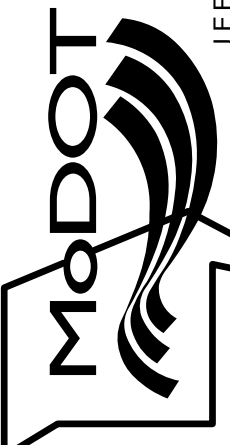


DATE PREPARED
11/14/2025 8:00:23 AM
JACLYN A WHITE - CIVIL
MO-PE-2003001116

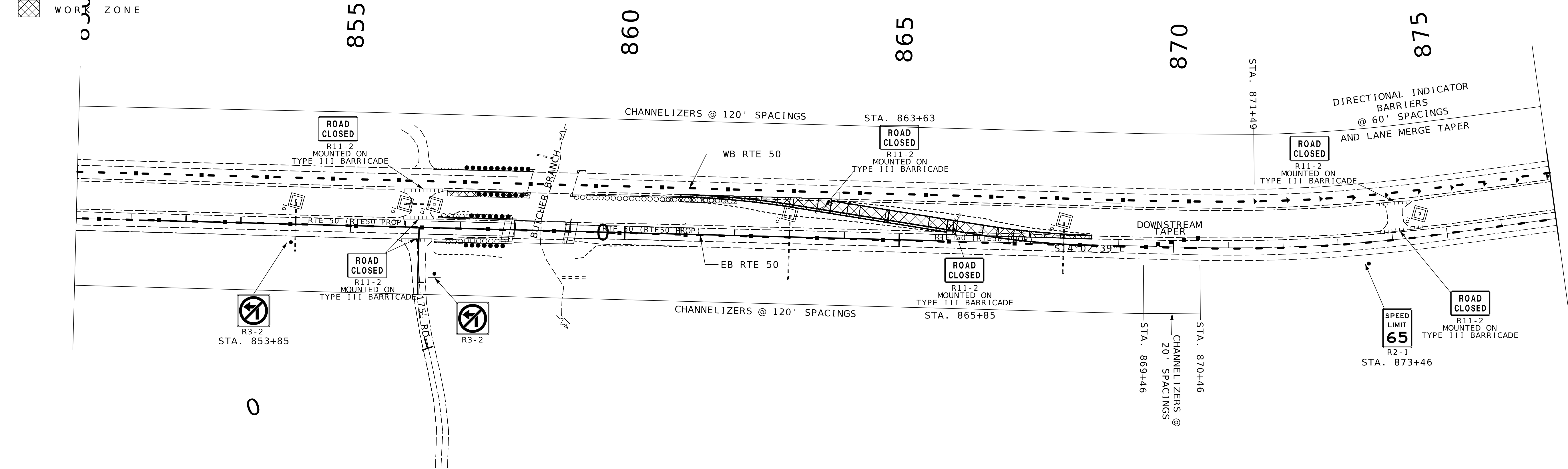
DATE PREPARED 11/14/2025	
ROUTE 50	STATE MO
DISTRICT KC	SHEET NO. 20
COUNTY JOHNSON	
JOB NO. JKR0101	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

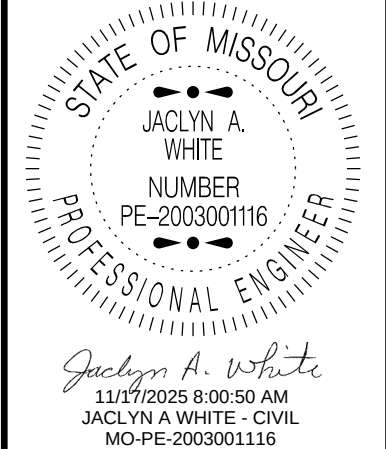
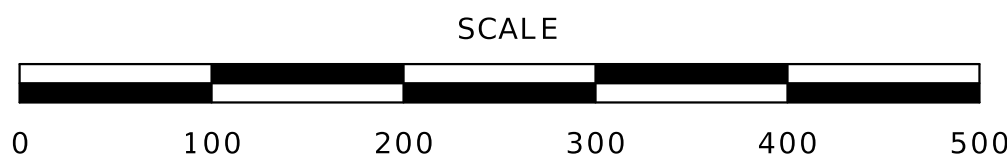
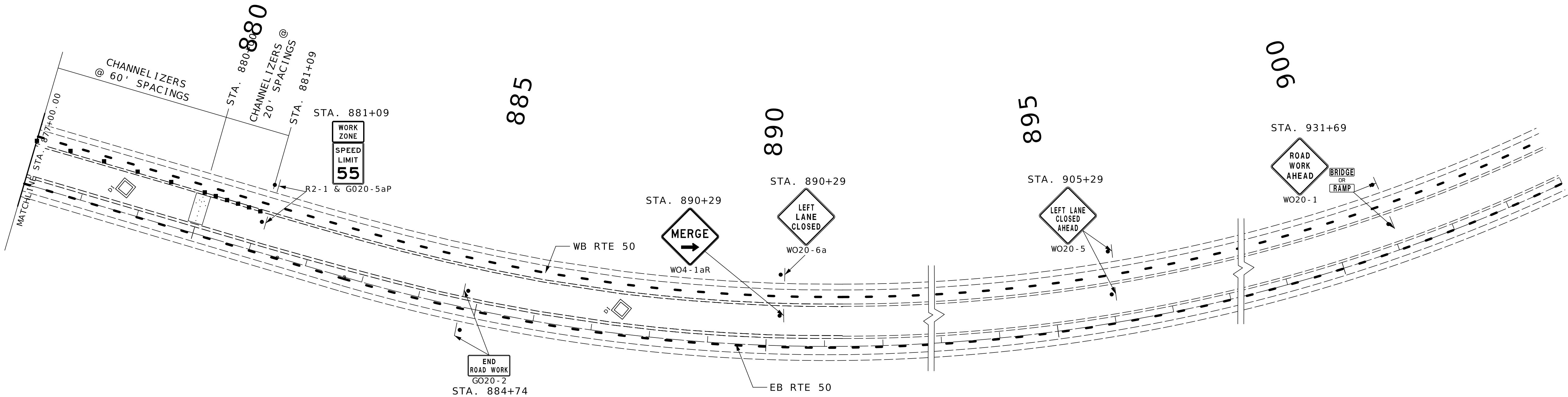
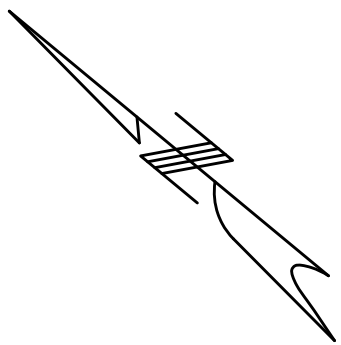


105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- SIGN (DOUBLE SIDED)
- FLAGGER
- CONE
- CHANNELIZER
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- TUBULAR MARKER
- WORK ZONE



DATE PREPARED 11/14/2025	
ROUTE 50	STATE MO
DISTRICT KC	SHEET NO. 21
COUNTY JOHNSON	
JOB NO. JKR0101	
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)

TRAFFIC CONTROL LEGEND

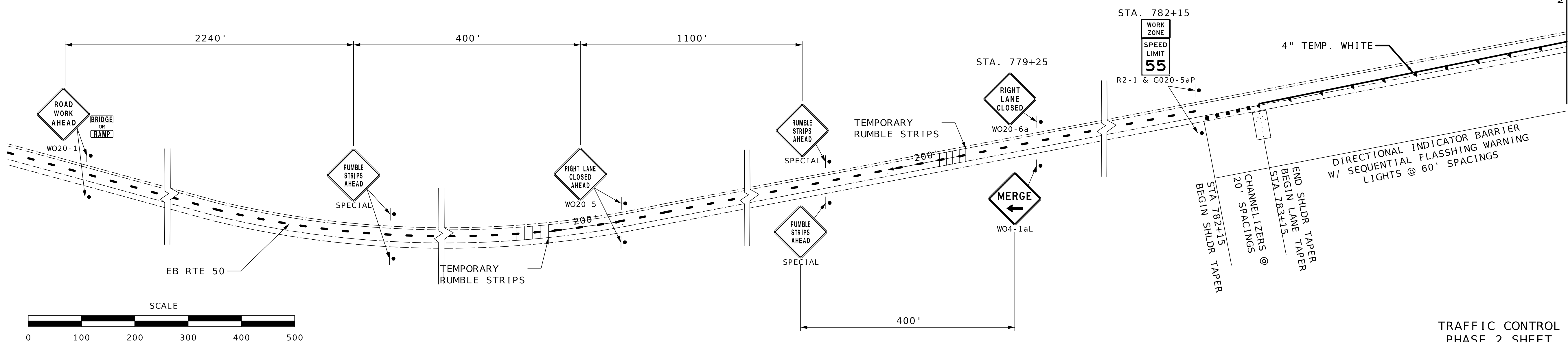
- | | |
|---|--------------------------|
|  | SIGN (SINGLE SIDED) |
|  | SIGN (DOUBLE SIDED) |
|  | FLAGGER |
|  | CONE |
|  | CHANNELIZER |
|  | BARRICADE |
|  | CHANGEABLE MESSAGE BOARD |
|  | TUBULAR MARKER |
|  | WORK ZONE |

TRAFFIC CONTROL NOTE:
TEMPORARILY COVER OR REMOVE ALL PERMANENT
PAVEMENT MARKING, SIGNING, OR OTHER
TRAFFIC CONTROL DEVICES THAT ARE IN
CONFLICT WITH THE TEMPORARY TRAFFIC
CONTROL SHOWN.

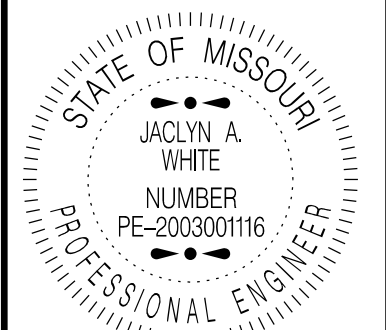
PHASE 2:

TRAFFIC:
EB/WB HEAD TO HEAD ON WB LANES

CONSTRUCTION:
BRIDGE WORK IN EB LANES



TRAFFIC CONTROL
PHASE 2 SHEET
SHEET 10 OF 14



Jaclyn A. White
11/17/2025 8:01:25 AM
JACLYN A WHITE - CIVIL
MO-PE-2003001116

DATE PREPARED
11/14/2025

ROUTE 50	STATE MO
-------------	-------------

DISTRICT KC	SHEET NO. 22
COUNTY	

COUNTY
JOHNSON

JKR0101

CONTRACT ID.

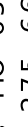
PROJECT NO.

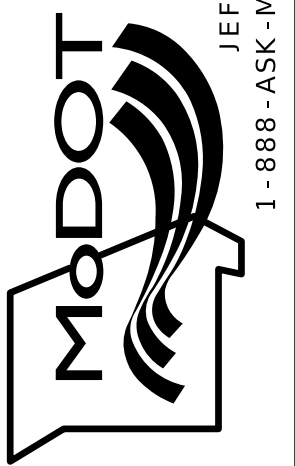
BRIDGE NO.

--	--	--	--	--	--	--	--

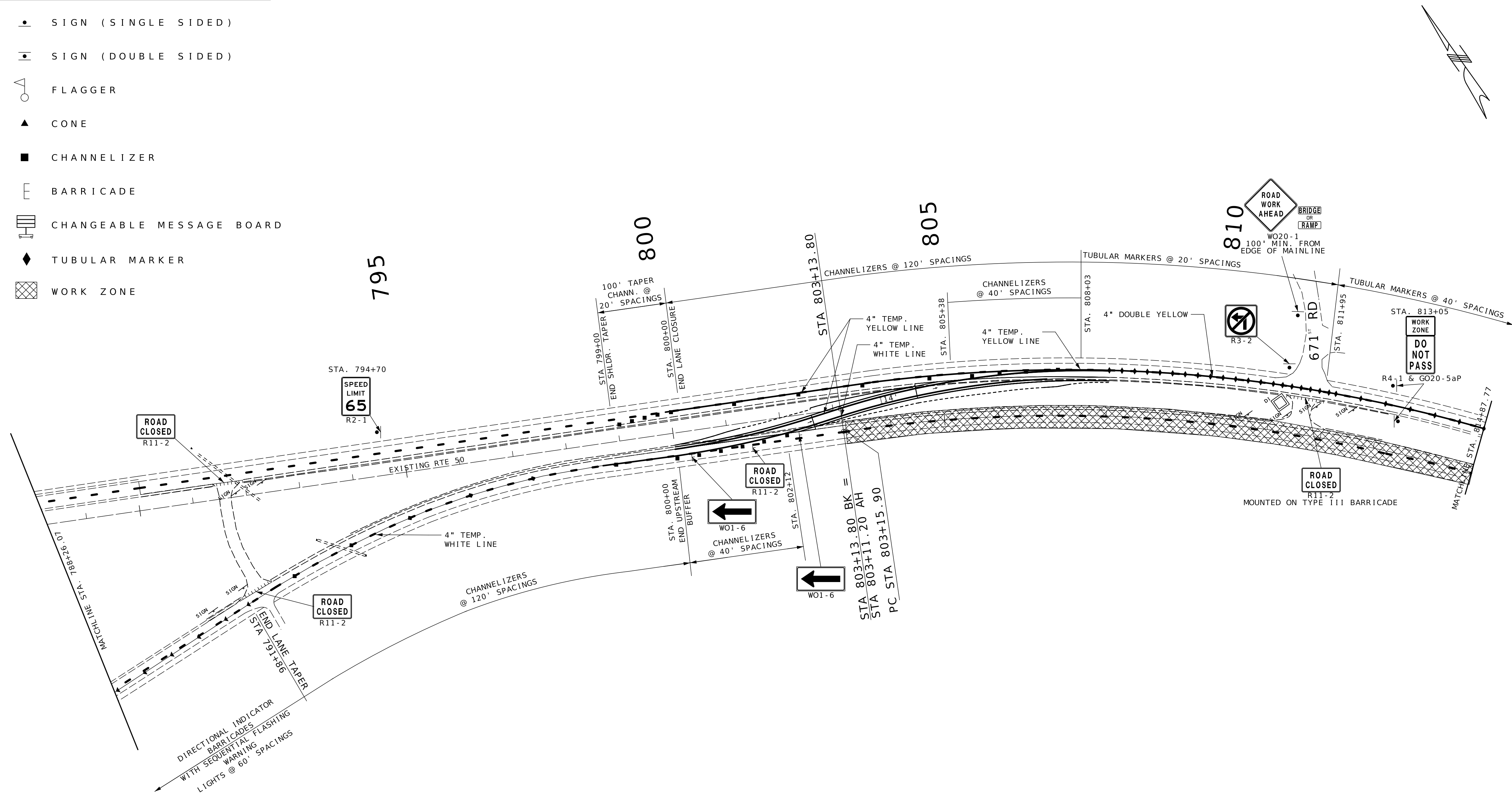
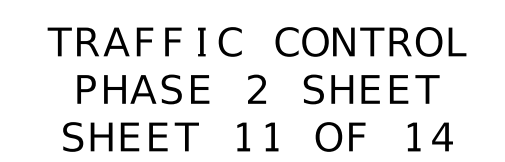
[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

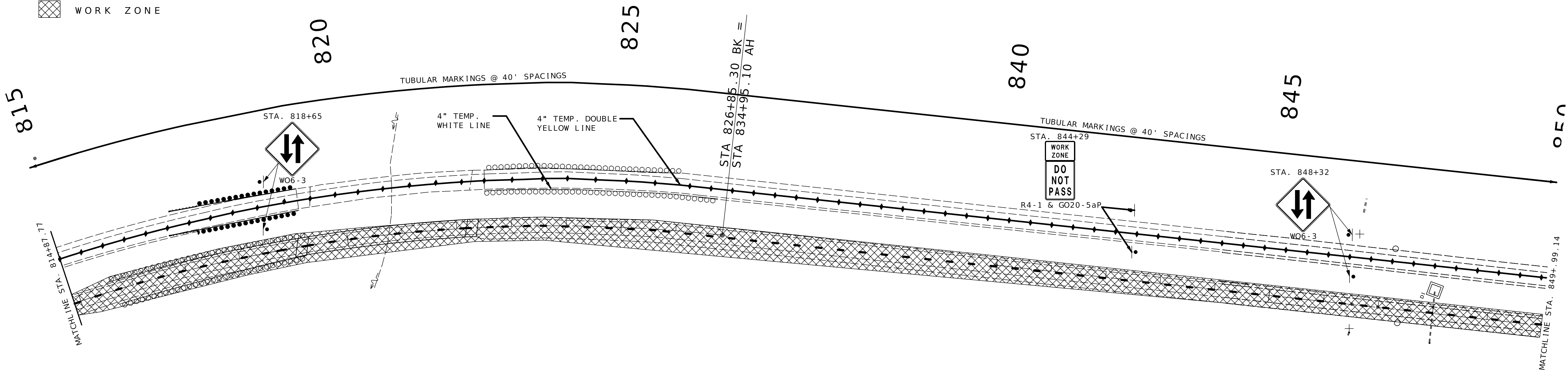


	SIGN (SINGLE SIDED)
	SIGN (DOUBLE SIDED)
	FLAGGER
	CONE
	CHANNELIZER
	BARRICADE
	CHANGEABLE MESSAGE BOARD
	TUBULAR MARKER
	WORK ZONE

[illegible]

TRAFFIC CONTROL LEGEND

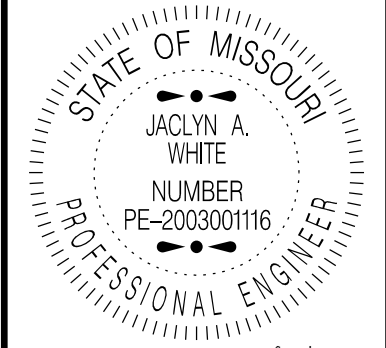
- SIGN (SINGLE SIDED)
- ◼ SIGN (DOUBLE SIDED)
- ◻ FLAGGER
- ▲ CONE
- CHANNELIZER
- ⌌ BARRICADE
- ◻ CHANGEABLE MESSAGE BOARD
- ◆ TUBULAR MARKER
- ▨ WORK ZONE



PI 815+77.88
PC 803+15.90
PT 826+85.30
48°49'11.1" (RT)
2°3'37.1"
2,369.40' (ARC)
1,261.98'
2,780.93'



TRAFFIC CONTROL
PHASE 2 SHEET
SHEET 12 OF 14



DATE PREPARED
11/14/2025

ROUTE	STATE
50	MO
DISTRICT	SHEET NO.
KC	24

COUNTY
JOHNSON

JOB NO.
JKR0101

CONTRACT ID.

PROJECT NO.

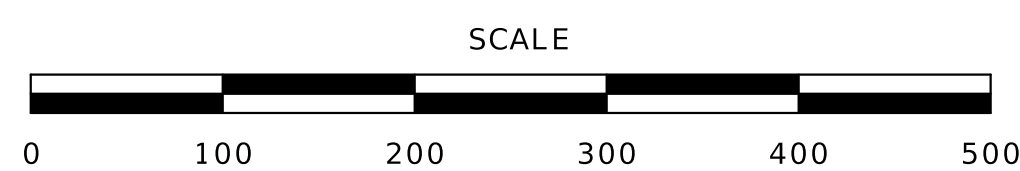
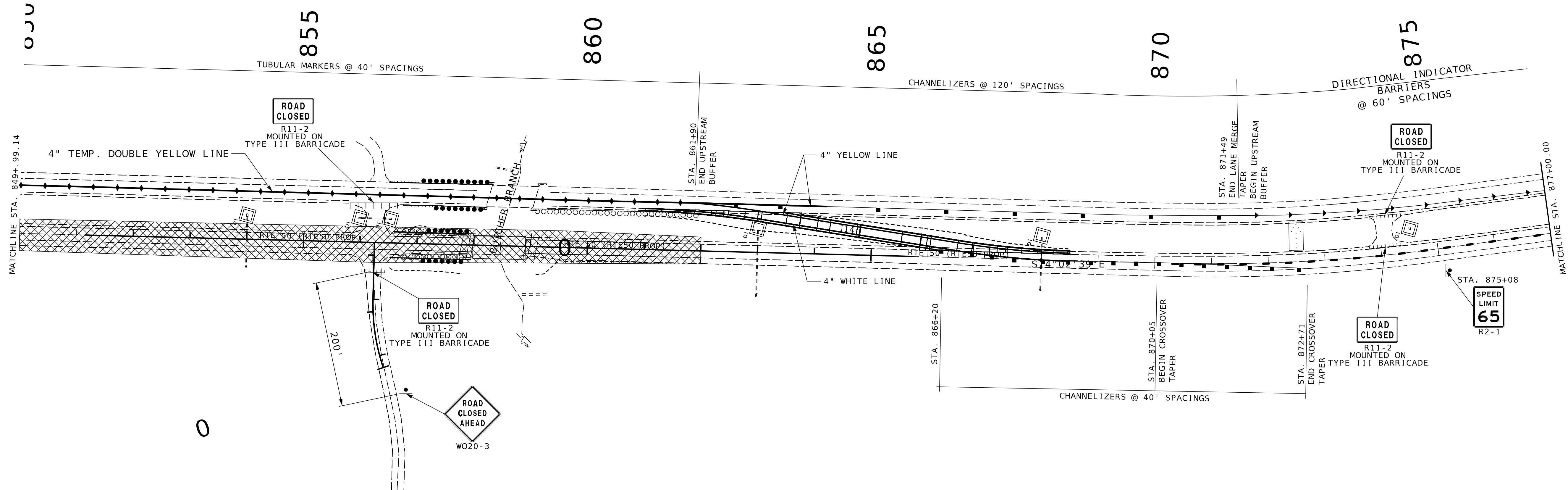
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

	SIGN (SINGLE SIDED)
	SIGN (DOUBLE SIDED)
	FLAGGER
	CONE
	CHANNELIZER
	BARRICADE
	CHANGEABLE MESSAGE BOARD
	TUBULAR MARKER
	WORK ZONE



TRAFFIC CONTROL
PHASE 3 SHEET
SHEET 13 OF 14



Jaclyn A. White
11/17/2025 8:03:11 AM
JACLYN A WHITE - CIVIL
MO-PE-2003001116

MO-PE-2003001116
DATE PREPARED

11 / 14 / 2025

ROUTE 50	STATE MO
-------------	-------------

DISTRICT KC	SHEET NO. 25
----------------	-----------------

COUNTY
JOHNSON

JOB NO.
JKR0101

CONTRACT ID.

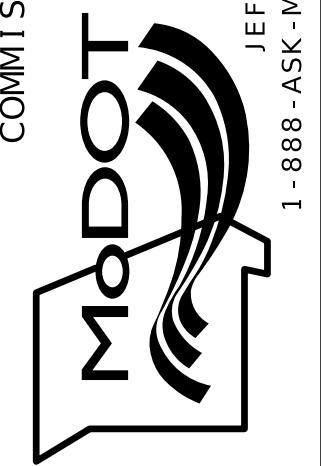
PROJECT NO.

BRIDGE NO.

BRIDGE NO.							

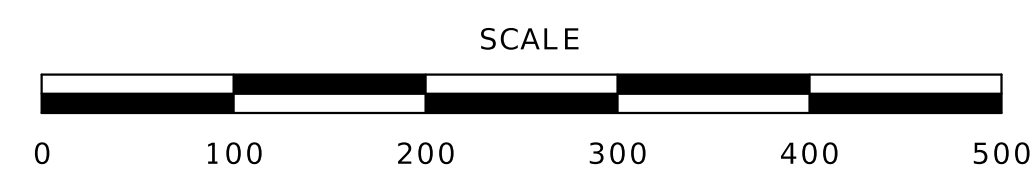
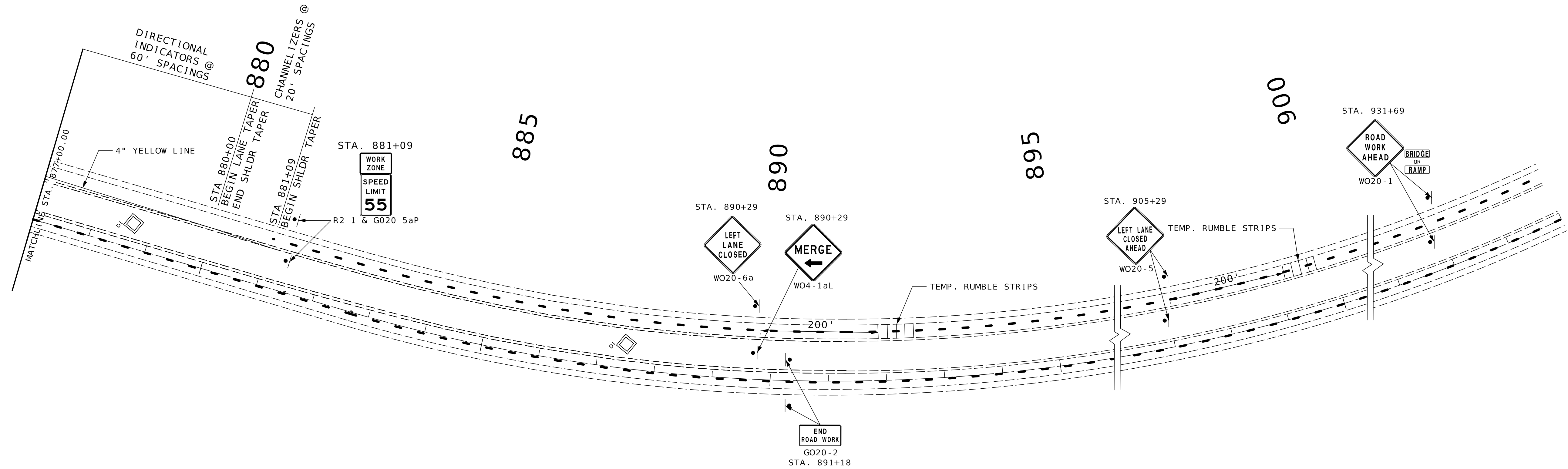
[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

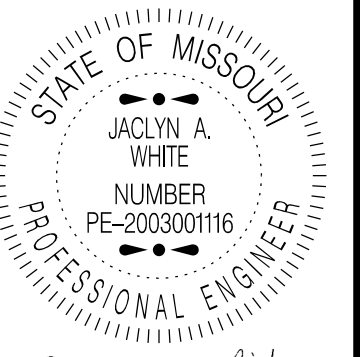


105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

	SIGN (SINGLE SIDED)
	SIGN (DOUBLE SIDED)
	FLAGGER
	CONE
	CHANNELIZER
	BARRICADE
	CHANGEABLE MESSAGE BOARD
	TUBULAR MARKER
	WORK ZONE



TRAFFIC CONTROL
PHASE 3 SHEET
SHEET 14 OF 14



Jaclyn A. White
11/17/2025 8:03:45 AM
JACLYN A WHITE - CIVIL
MO-PE-2003001116

DATE PREPARED

11 / 14 / 2025

ROUTE	STATE
50	MO

DISTRICT	SHEET NO.
KC	26

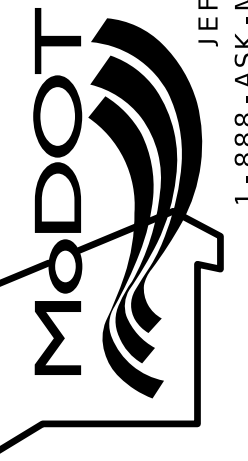
COUNTY
JOHNSON

JOB NO.
JKR0101

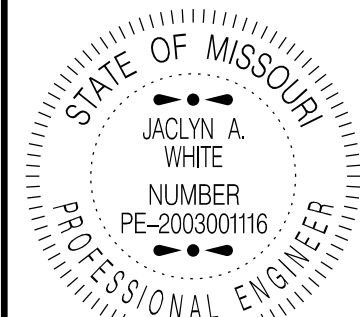
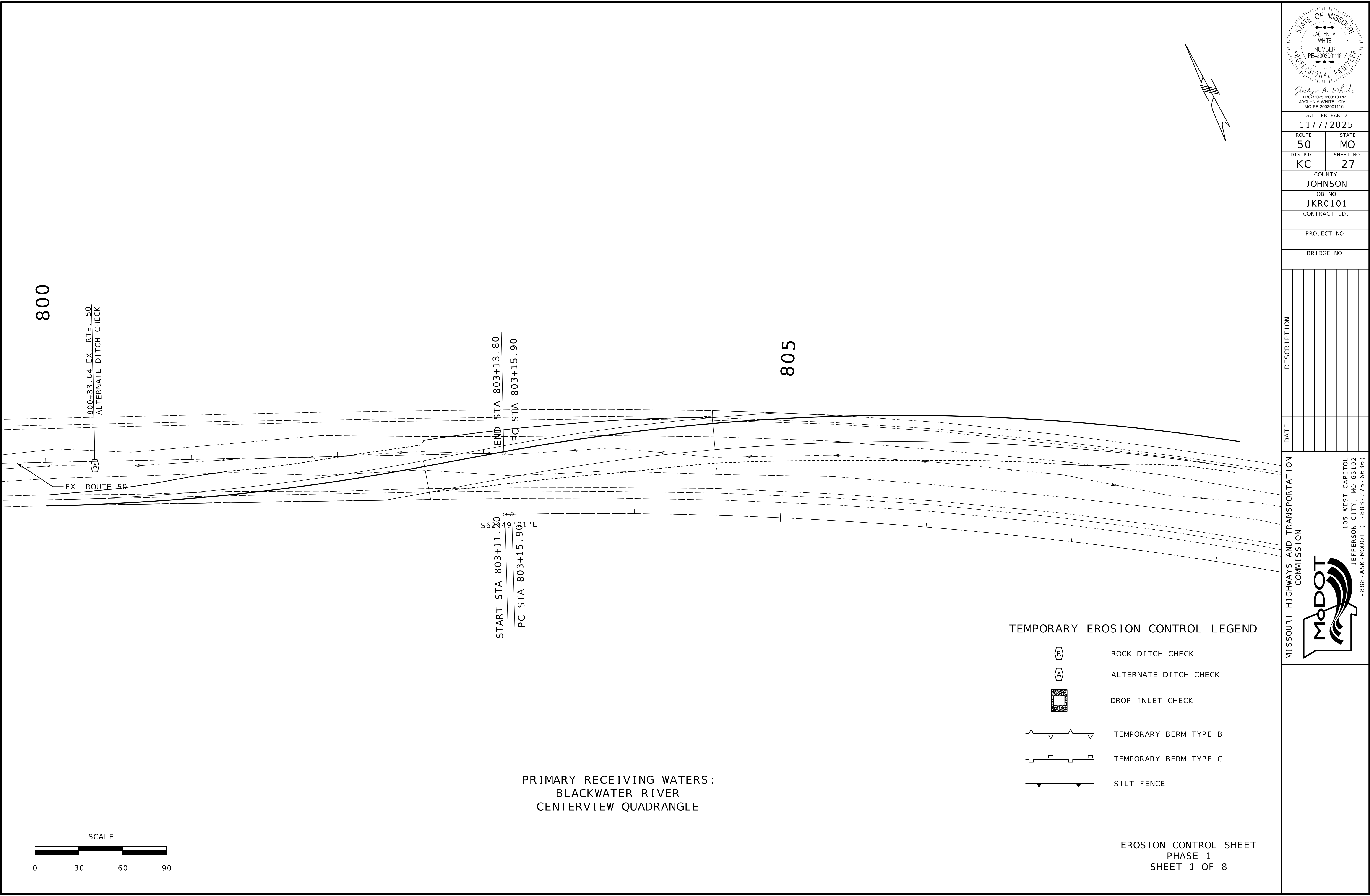
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSIONWAYS AND THE
COMMISSION

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



Jaclyn A. White
11/07/2025 4:03:13 PM
JACLYN A WHITE - CIVIL
MO-PE-2003001116

DATE PREPARED
11/7/2025

ROUTE	STATE
50	MO

DISTRICT	SHEET NO.
KC	27

COUNTY
JOHNSON

JOB NO.
JKR0101

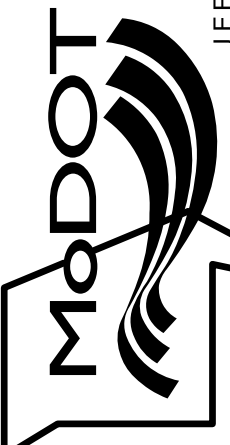
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

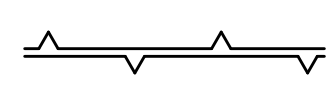
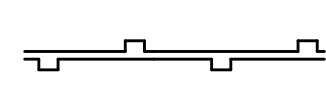
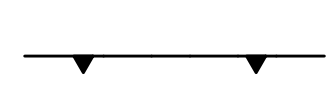
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

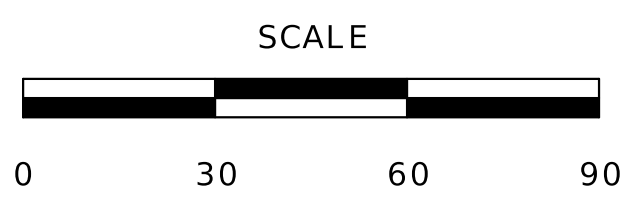


105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TEMPORARY EROSION CONTROL LEGEND

-  ROCK DITCH CHECK
-  ALTERNATE DITCH CHECK
-  DROP INLET CHECK
-  TEMPORARY BERM TYPE B
-  TEMPORARY BERM TYPE C
-  SILT FENCE

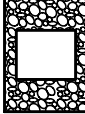
PRIMARY RECEIVING WATERS:
BLACKWATER RIVER
CENTERVIEW QUADRANGLE

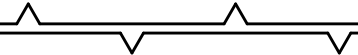


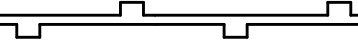
TEMPORARY EROSION CONTROL LEGEND

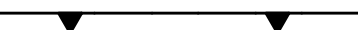
- 

ROCK DITCH CHECK
- 

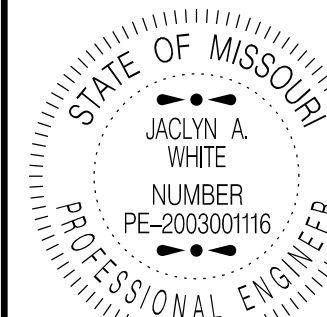
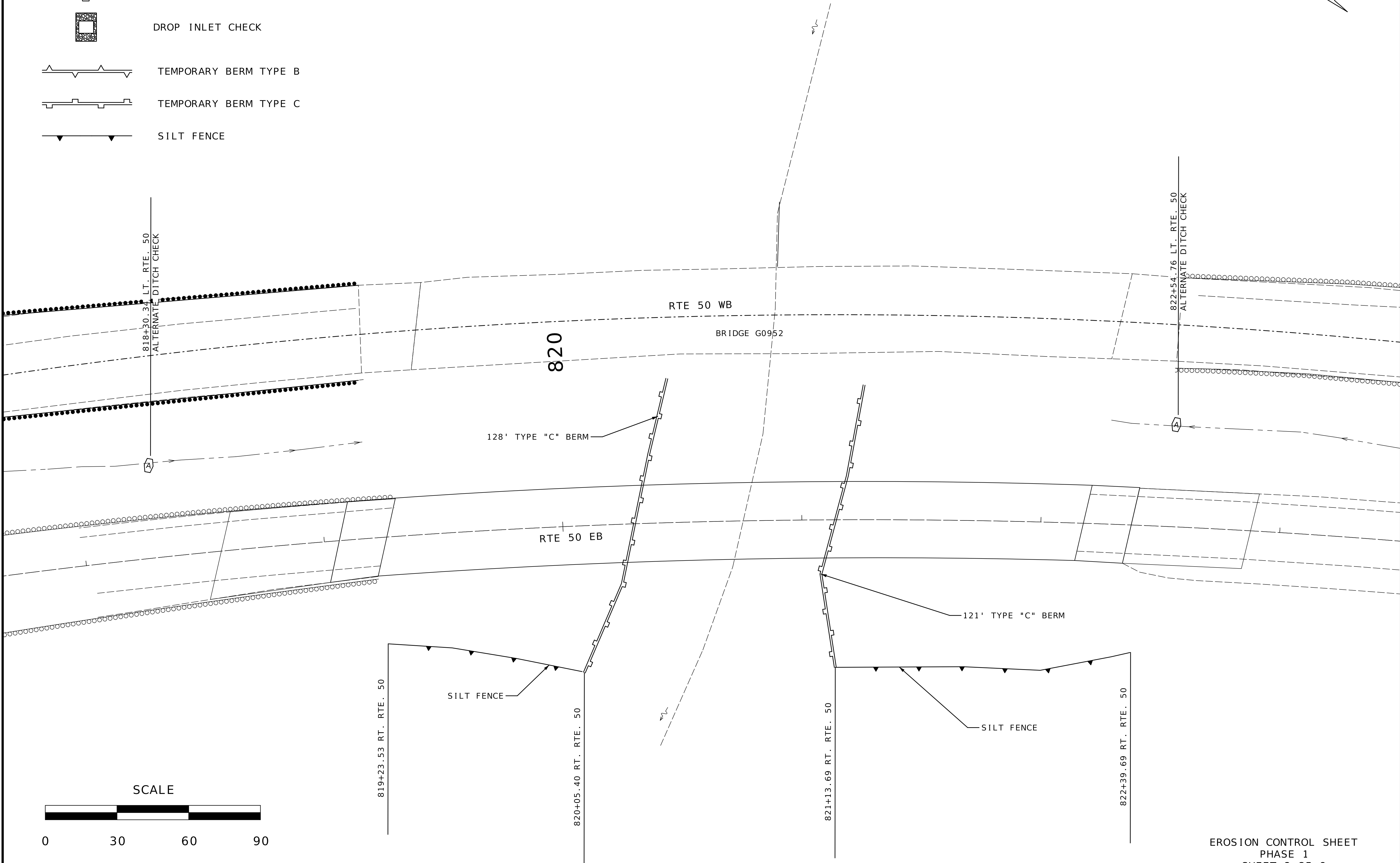
ALTERNATE DITCH CHECK
- 

DROP INLET CHECK
- 

TEMPORARY BERM TYPE B
- 

TEMPORARY BERM TYPE C
- 

SILT FENCE



Jaclyn A. White
11/07/2025 4:05:04 PM
JACLYN A WHITE - CIVIL
MO-PE-2003001116

DATE PREPARED
11/7/2025

ROUTE	STATE
50	MO
DISTRICT	SHEET NO.
KC	28

COUNTY
JOHNSON

JOB NO.
JKR0101

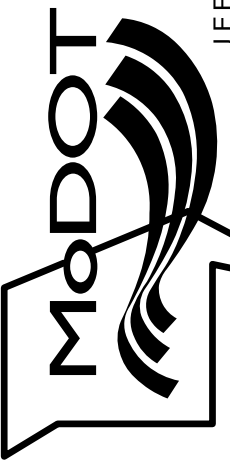
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

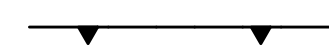
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

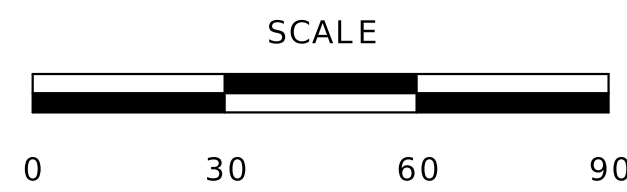


105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

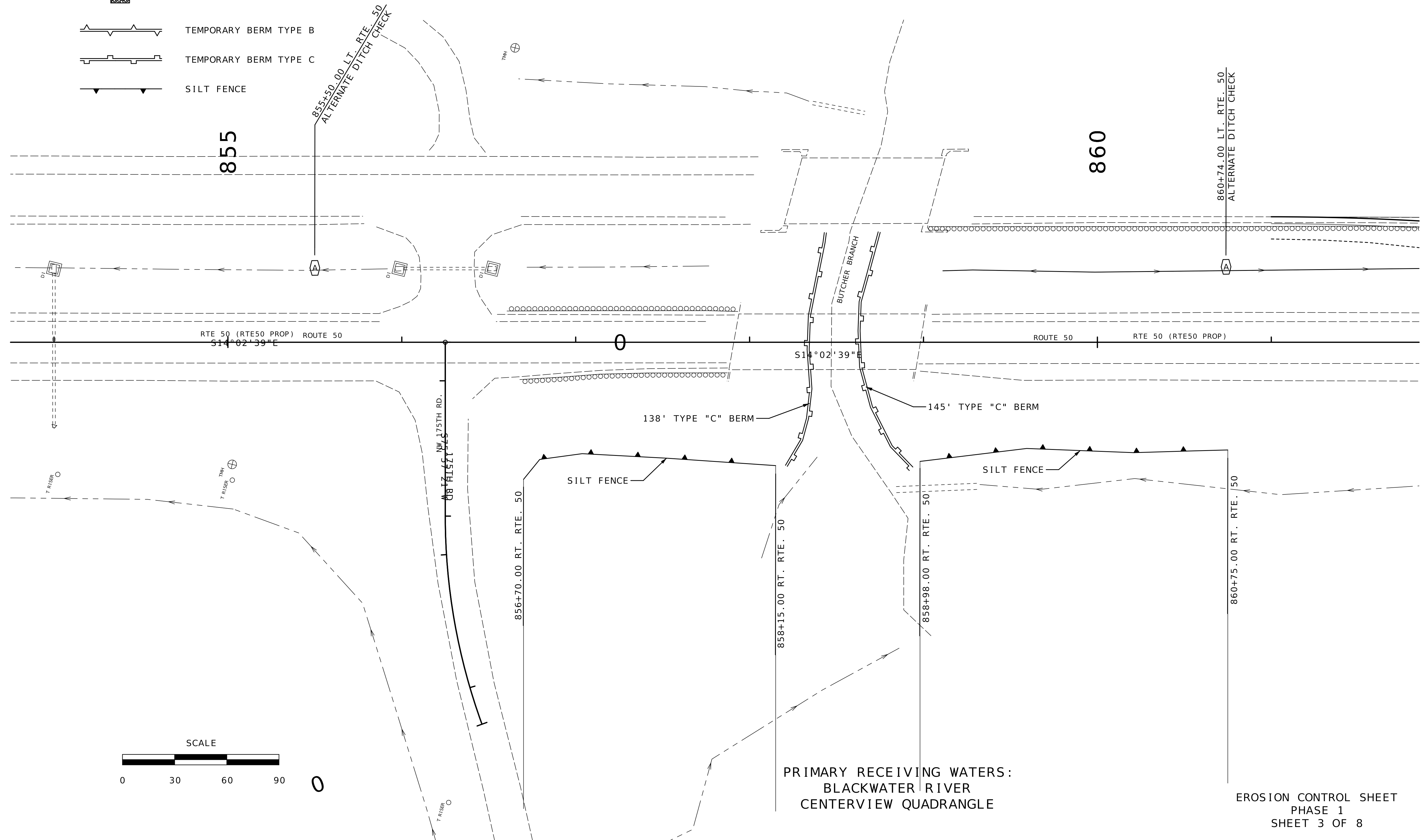
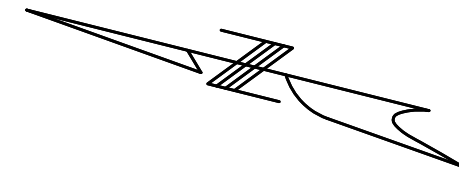
TEMPORARY EROSION CONTROL LEGEND



SILT FENCE

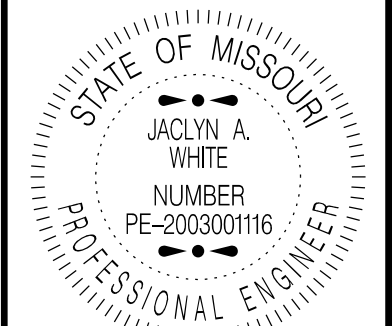


0



PRIMARY RECEIVING WATERS:
BLACKWATER RIVER
CENTERVIEW QUADRANGLE

EROSION CONTROL SHEET
PHASE 1
SHEET 3 OF 8



Jaclyn A. White
11/07/2025 4:05:33 PM
JACLYN A WHITE - CIVIL
MO-DE-2003001116

DATE PREPARED
11/7/2025

ROUTE 50	STATE MO
DISTRICT KC	SHEET NO. 29

COUNTY
JOHNSON

JOB NO.
JKR0101

CONTRACT ID.

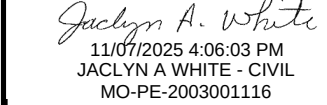
PROJECT NO.

BRIDGE NO.

[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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



DATE PREPARED

11 / 7 / 2025

ROUTE 50	STATE MO
-------------	-------------

DISTRICT	SHEET NO.
KC	30

COUNTY
JOHNSON

JOB NO.
JKR0101

CONTRACT ID.

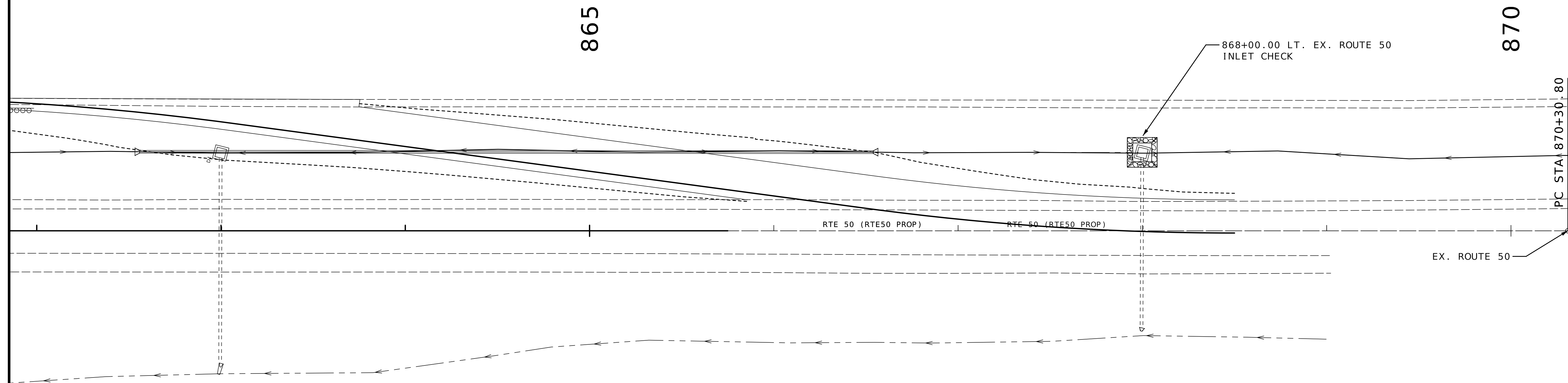
PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION


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

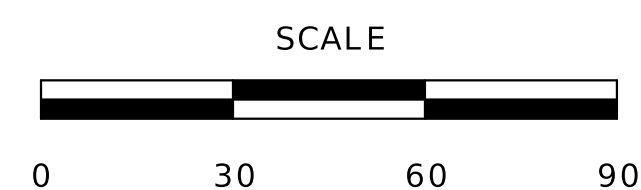
--



TEMPORARY EROSION CONTROL LEGEND

- | | |
|---|-----------------------|
|  | ROCK DITCH CHECK |
|  | ALTERNATE DITCH CHECK |
|  | DROP INLET CHECK |
|  | TEMPORARY BERM TYPE B |
|  | TEMPORARY BERM TYPE C |
|  | SILT FENCE |

PRIMARY RECEIVING WATERS:
BLACKWATER RIVER
CENTERVIEW QUADRANGLE



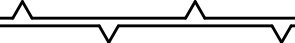
EROSION CONTROL SHEET
PHASE 1
SHEET 4 OF 8

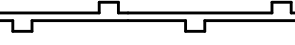
TEMPORARY EROSION CONTROL LEGEND

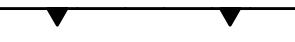
- 

ROCK DITCH CHECK
- 

ALTERNATE DITCH CHECK
- 

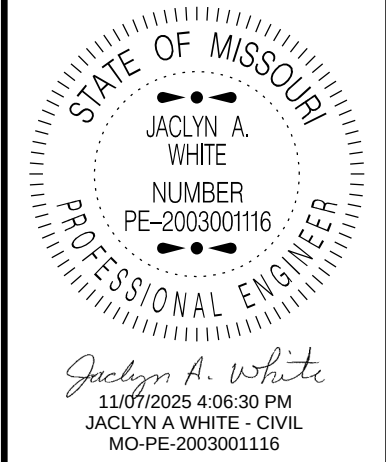
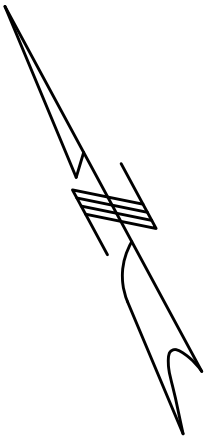
DROP INLET CHECK
- 

TEMPORARY BERM TYPE B
- 

TEMPORARY BERM TYPE C
- 

SILT FENCE
- 

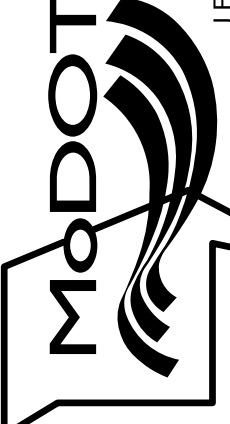
TEMPORARY SEEDING



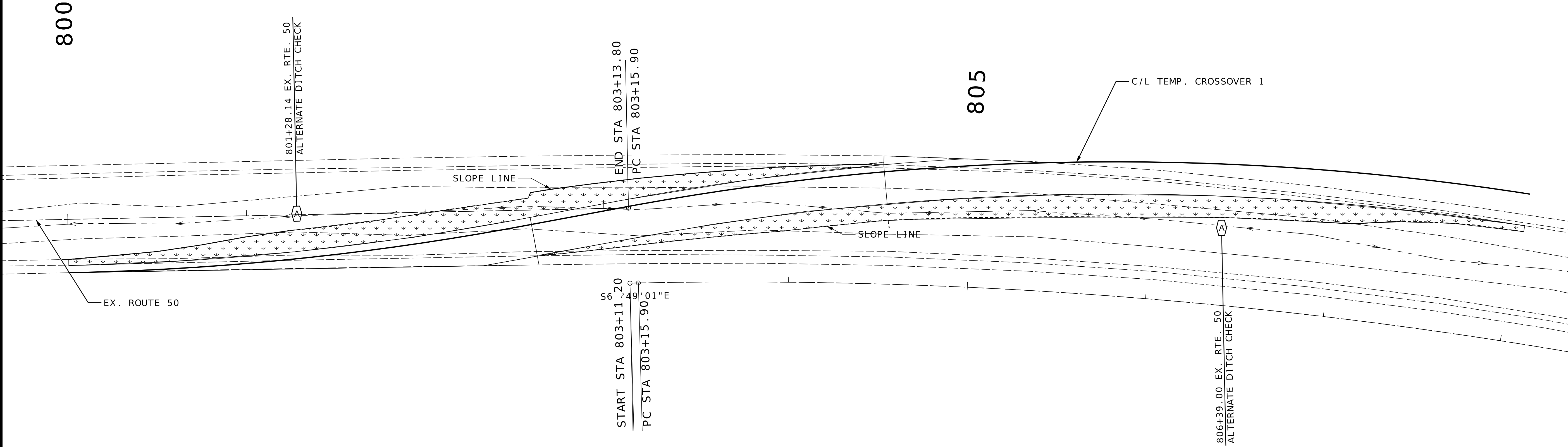
DATE PREPARED 11/7/2025	
ROUTE 50	STATE MO
DISTRICT KC	SHEET NO. 31
COUNTY JOHNSON	
JOB NO. JKR0101	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

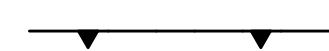


105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

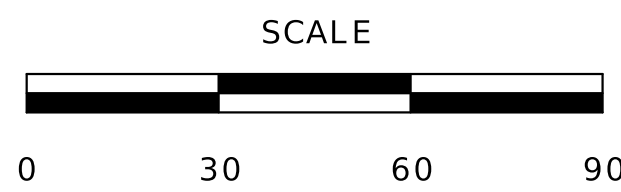


PRIMARY RECEIVING WATERS:
BLACKWATER RIVER
CENTERVIEW QUADRANGLE

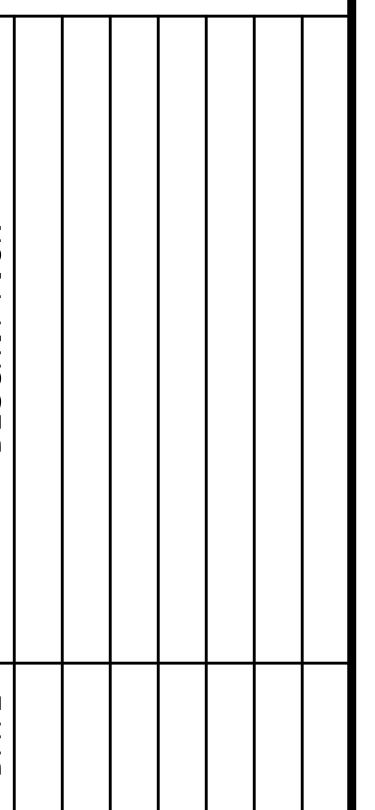
TEMPORARY EROSION CONTROL LEGEND



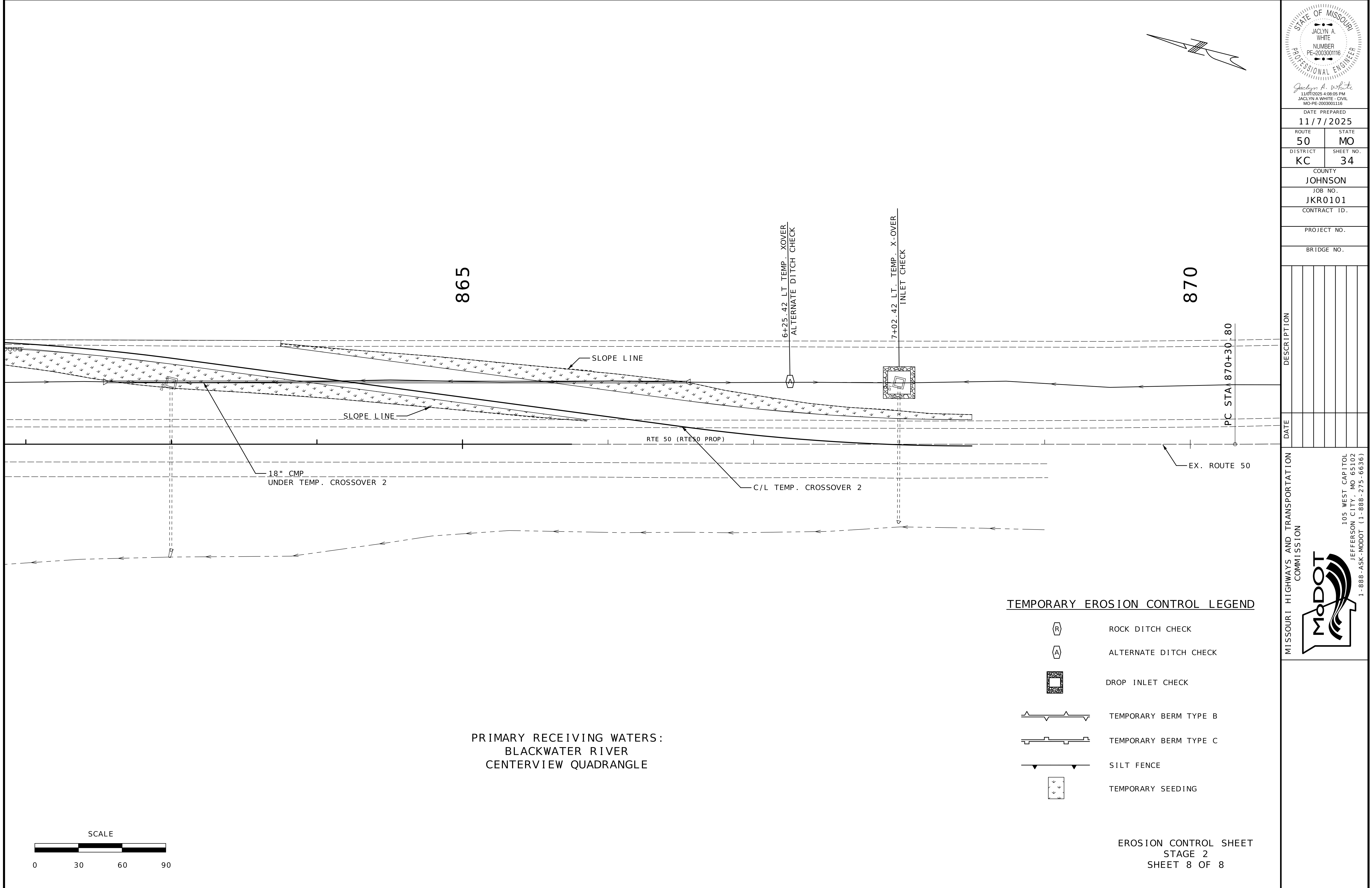
SILT FENCE



EROSION CONTROL SHEET
PHASE 2
SHEET 7 OF 8



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



STATE OF MISSOURI

JACLYN A. WHITE

NUMBER

PE-2003001116

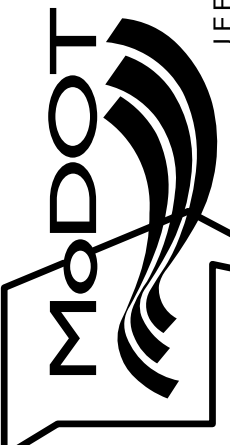
PROFESSIONAL ENGINEER

Jaclyn A. White
11/07/2025 4:08:05 PM
JACLYN A WHITE - CIVIL
MO-PE-2003001116

DATE PREPARED	
11/7/2025	
ROUTE	STATE
50	MO
DISTRICT	SHEET NO.
KC	34
COUNTY	
JOHNSON	
JOB NO.	
JKR0101	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

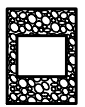
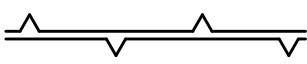
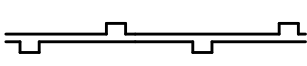
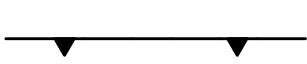
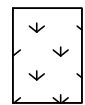
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

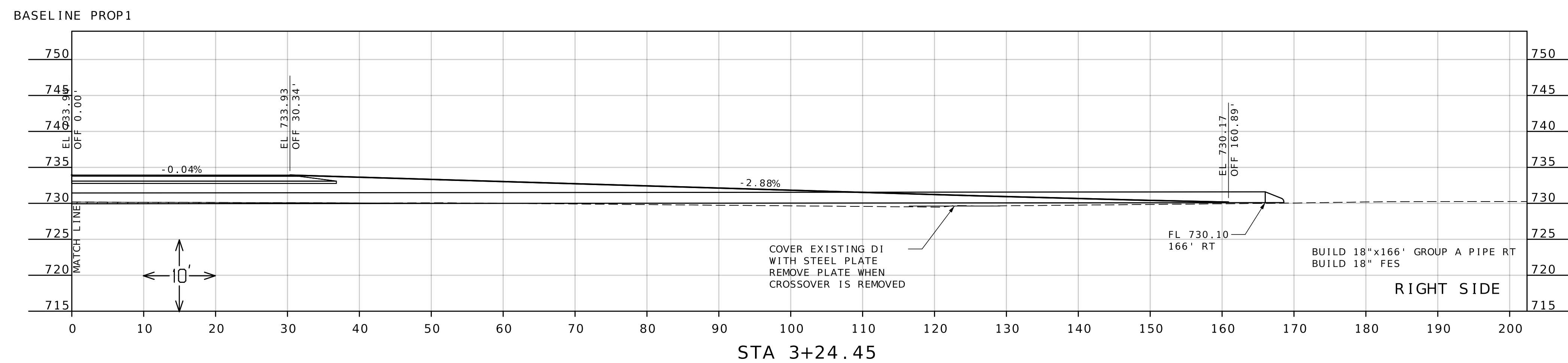
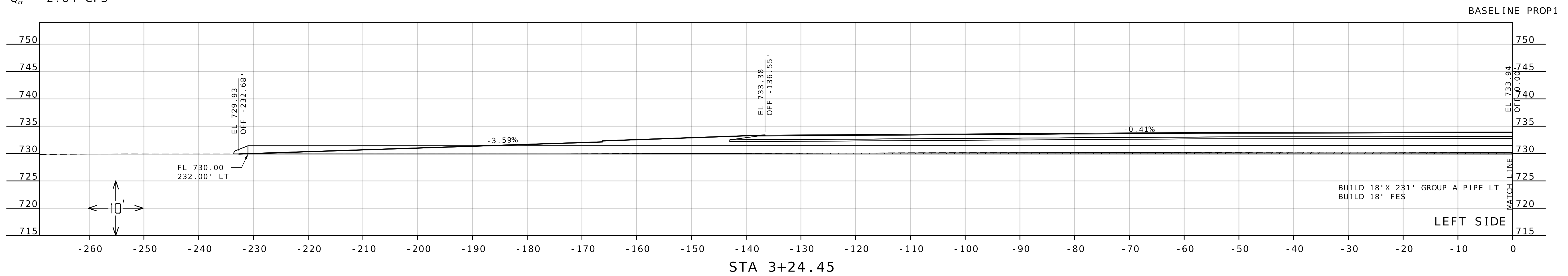


105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TEMPORARY EROSION CONTROL LEGEND

-  ROCK DITCH CHECK
-  ALTERNATE DITCH CHECK
-  DROP INLET CHECK
-  TEMPORARY BERM TYPE B
-  TEMPORARY BERM TYPE C
-  SILT FENCE
-  TEMPORARY SEEDING

PRIMARY RECEIVING WATERS:
BLACKWATER RIVER
CENTERVIEW QUADRANGLE

$$\begin{aligned} DA &= 0.12 \text{ ACRES} \\ Q_{50} &= 0.30 \text{ CFS} \\ Q_{OT} &= 2.84 \text{ CFS} \end{aligned}$$


MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

Sta. 857+98.50
Pr. Gr. Elev. 734.64
@ End of Slab
@ $\frac{1}{4}$ Roadway _____

← VPI Sta. 858+45.00
Elev. 734.67
L = 130'

+0.06% -0.01%

Sta. 858+91.04
Pr. Gr. Elev. 734.66
@ End of Slab
@ C Roadway

⊙ Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheet No. 22 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.

Notes:

For General Notes, Foundation Data,
Hydrologic Data, Estimated Quantities,
Estimated Quantities for Slab on Concrete
NU-Girder and Location Sketch, see Sheet
No. 2.

Roadway fill shall be completed to the final roadway section and up to the elevation of the bottom of the concrete beam within the limits of the structure and for not less than 25 feet in back of the fill face of the end bents before any piles are driven for any bents falling within the embankment section.

B.M. #2 - 5/8" IRON BAR PINK CAP, EASTING: 2966630.0900,
NORTHING: 956110.9000, ELEVATION: 726.1840

BRIDGE: ROUTE 50 EB OVER BUTCHERS BRANCH

ROUTE 50 EB FROM ROUTE M TO ROUTE 58
ABOUT 2.0 MILES NORTHWEST OF ROUTE 58
BEGINNING STATION 857+97.99

Designed May 2025
Detailed June 2025
Checked July 2025

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

Sheet No. 1 of 22

General Notes:

Design Specifications:

- 2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
- 2023 AASHTO Guide Specifications for LRFD Seismic Bridge Design (3rd Ed.)

Seismic Design Category = A (Seismic Details)

Design earthquake response spectral acceleration coefficient at 1.0 second period, $S_{D1} < 0.15$

Design Loading:

- Vehicular = HL-93
- Future Wearing Surface = 35 lb/sf
- Earth = 120 lb/sf
- Equivalent Fluid Pressure = 45 lb/cf (Min.)
- Superstructure: Non-Composite for dead load.
Composite for live load.

Design Unit Stresses:

- Class B Concrete (Substructure) $f'c = 3,000$ psi
- Class B-1 Concrete (Barrier) $f'c = 4,000$ psi
- Class B-2 Concrete (Superstructure, except Prestressed Girders and 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 girder stresses, see Sheets No. 10 & 11.

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.

Traffic Handling:

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

Estimated Quantities for Slab on Concrete NU-Girder		
Item		Total
Class B-2 Concrete	cu. yard	149
Reinforcing Steel (Epoxy Coated)	pound	39,030

The table of Estimated Quantities for Slab on Concrete NU-Girder represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for stay-in-place corrugated steel forms, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

Slab shall be cast-in-place with conventional forms or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

For details of stay-in-place corrugated steel forms, see Sheet No. 15.

Estimated Quantities				
Item		Substr.	Superstr.	Total
Removal of Miscellaneous ACM (Non-Friable)	sq. foot		9	9
Class 1 Excavation	cu. yard	90		90
Removal of Bridges (A1176)	lump sum			1
Bridge Approach Slab (Major)	sq. yard		172	172
Galvanized Structural Steel Piles (12 in.)	linear foot	605		605
Dynamic Pile Testing	each	2		2
Pile Point Reinforcement	each	10		10
Class B Concrete (Substructure)	cu. yard	35.2		35.2
Type D Barrier	linear foot		223	223
Slab on Concrete NU-Girder	sq. yard		418	418
NU 43, Prestressed Concrete NU-Girder	linear foot		363	363
Slab Drain	each	16		16
Vertical Drain at End Bents	each			2
Plain Neoprene Bearing Pad	each		8	8

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

Cost of L4x4 ASTM A709 Grade 36 HP pile anchors and 3/4-inch diameter ASTM F3125 Grade A325 Type 1 bolts, complete in place, will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (12 in.).

Foundation Data			
Type	Design Data	Bent Number	
		1	2
Load Bearing Pile	Pile Type and Size	HP 12x53	HP 12x53
	Number	5	5
	Approximate Length Per Each	ft 60	61
	Pile Point Reinforcement	ea All	All
	Min. Galvanized Penetration (Elev.)	ft Full Length	Full Length
	Pile Driving Verification Method	DT	DT
	Resistance Factor	0.65	0.65
	Minimum Nominal Axial Compressive Resistance	kip 404	405

DT = Dynamic Testing

Load Bearing Pile:

$$\text{Minimum Nominal Axial Compressive Resistance} = \frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$$

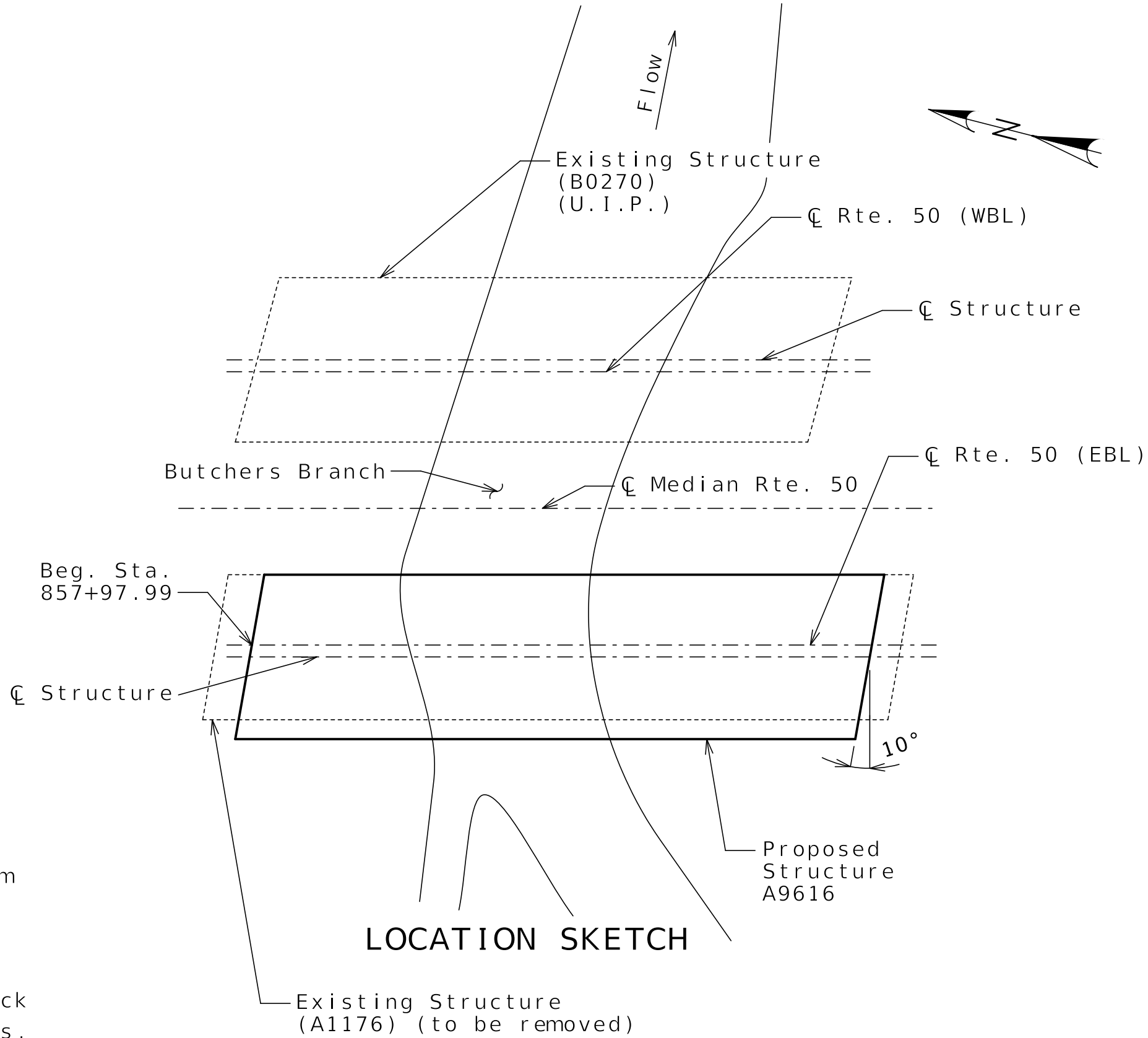
All piles shall be galvanized down to the minimum galvanized penetration (elevation).

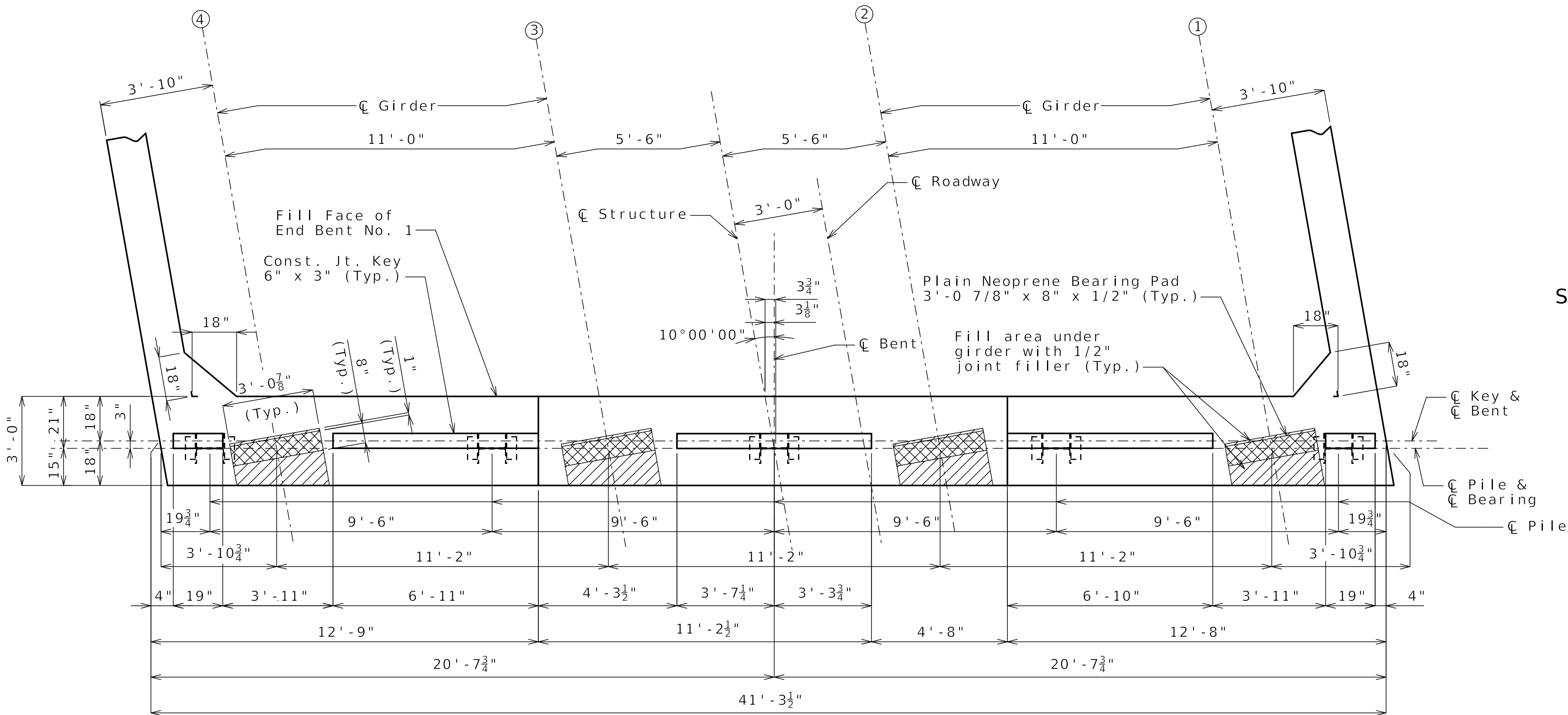
Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.

The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

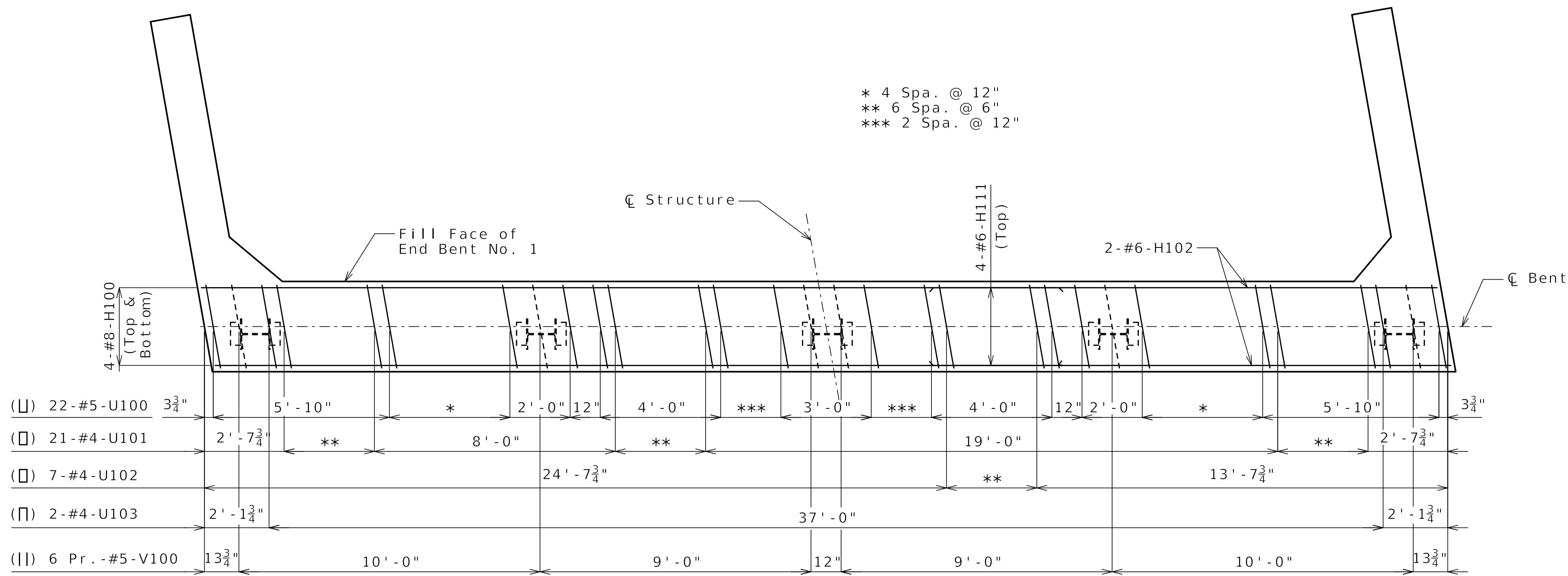
HP piles are anticipated to be driven to refusal on rock. Review all borings for depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702. When pile refusal on rock occurs, as approved by the engineer, the minimum nominal axial compressive resistance is verified and no additional pile driving verification method is required.

Hydrologic Data
Drainage Area = 3.6 mi²
Design Flood Frequency = 50 years
Design Flood Discharge = 2400 cfs
Design Flood (D.F.) Elevation = 725.3
Base Flood (100-year)
Base Flood Elevation = 726.0
Base Flood Discharge = 2800 cfs
Estimated Backwater = 0.0 ft
Average Velocity thru Opening = 8.6 ft/s
Freeboard (50-year)
Freeboard = 6.1 ft
Roadway Overtopping
Overtopping Flood Discharge = N/A cfs
Overtopping Flood Frequency > 500 years
500-year Flood Elevation = 727.7





PLAN OF BEAM

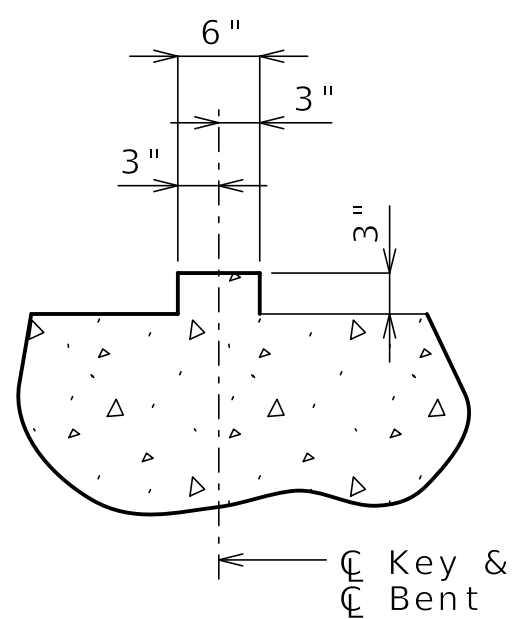


PLAN OF BEAM SHOWING REINFORCEMENT

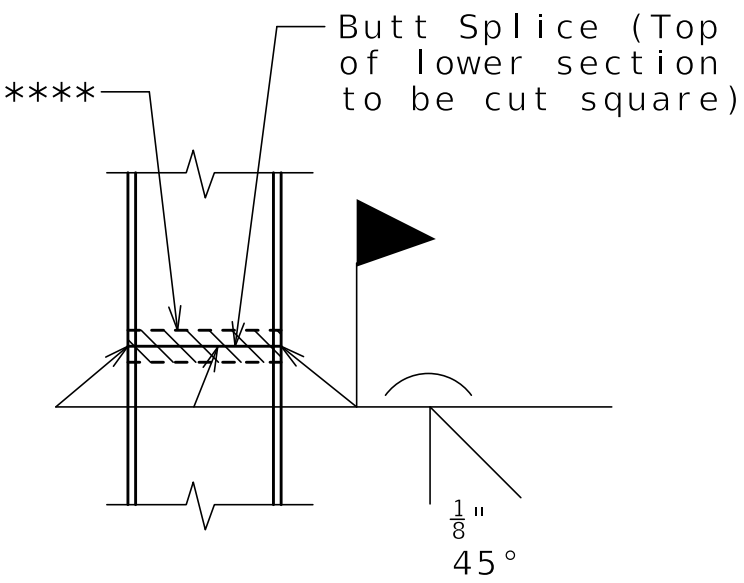
(Keys and steps not shown for clarity.)

DETAILS OF END BENT NO. 1

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



SECTION THRU KEY



STEEL PILE SPLICE
(If required)

**** Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	45
Galvanized Structural Steel Piles (12 in.)	linear foot	300
Dynamic Pile Testing	each	1
Pile Point Reinforcement	each	5
Class B Concrete (Substructure)	cu. yard	17.6

These quantities are included in the Estimated Quantities table on Sheet No. 1.

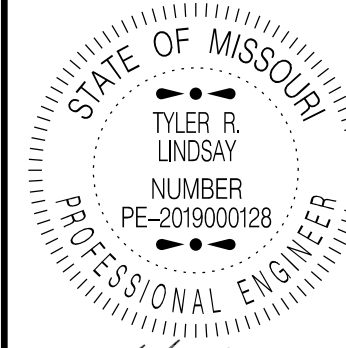
Notes:

For details of End Bent No. 1 not shown, see Sheets No. 4 & 5.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inches.

The U bars and pairs of V bars shall be placed parallel to centerline of roadway.

For details of Vertical Drain at End Bents, see Sheet No. 6.



DATE PREPARED
10/21/2025 6:57:00 AM
TYLER R. LINDSAY - CIVIL
MO-PE-2019000128

ROUTE 50
DISTRICT BR

STATE MO
SHEET NO. 3

COUNTY JOHNSON

JOB NO. JKR0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9616

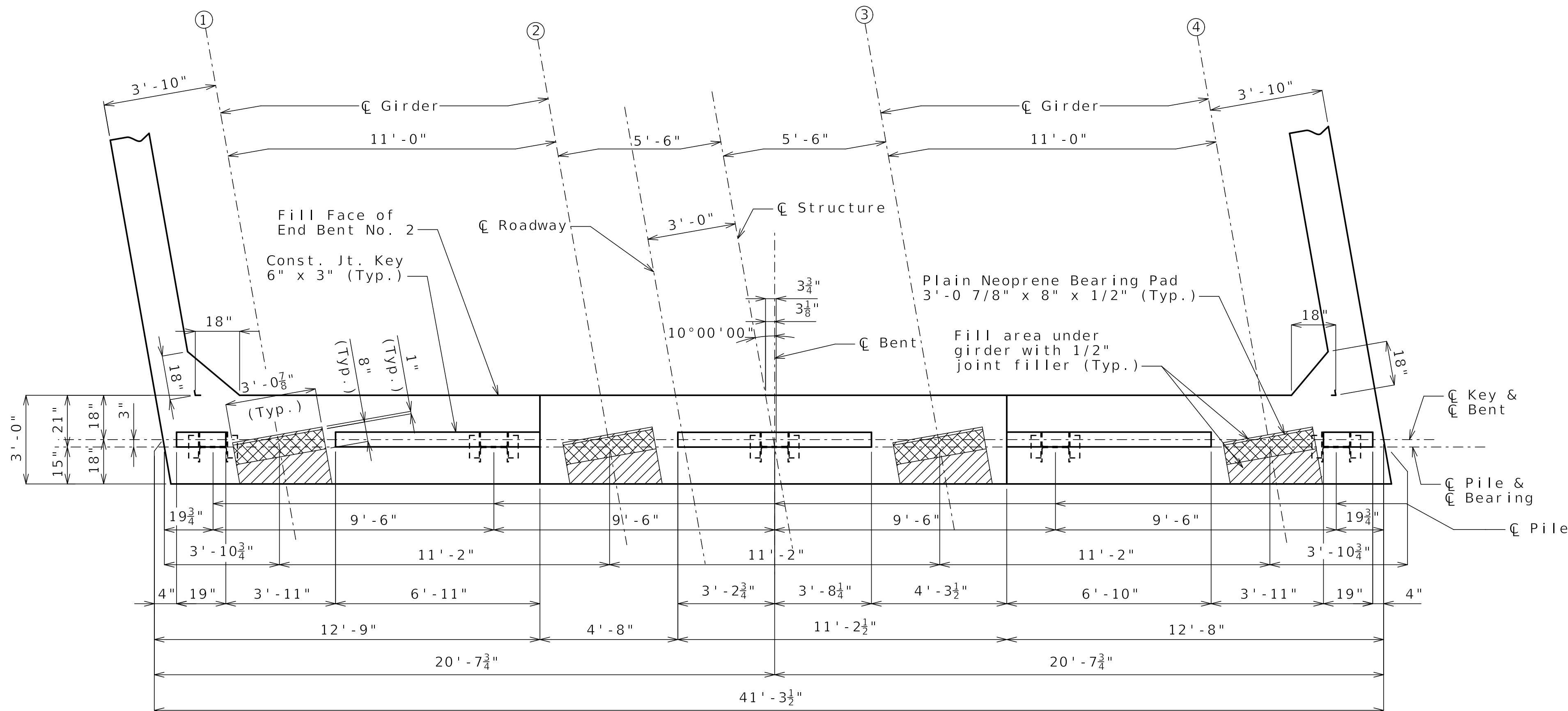
DESCRIPTION

DATE

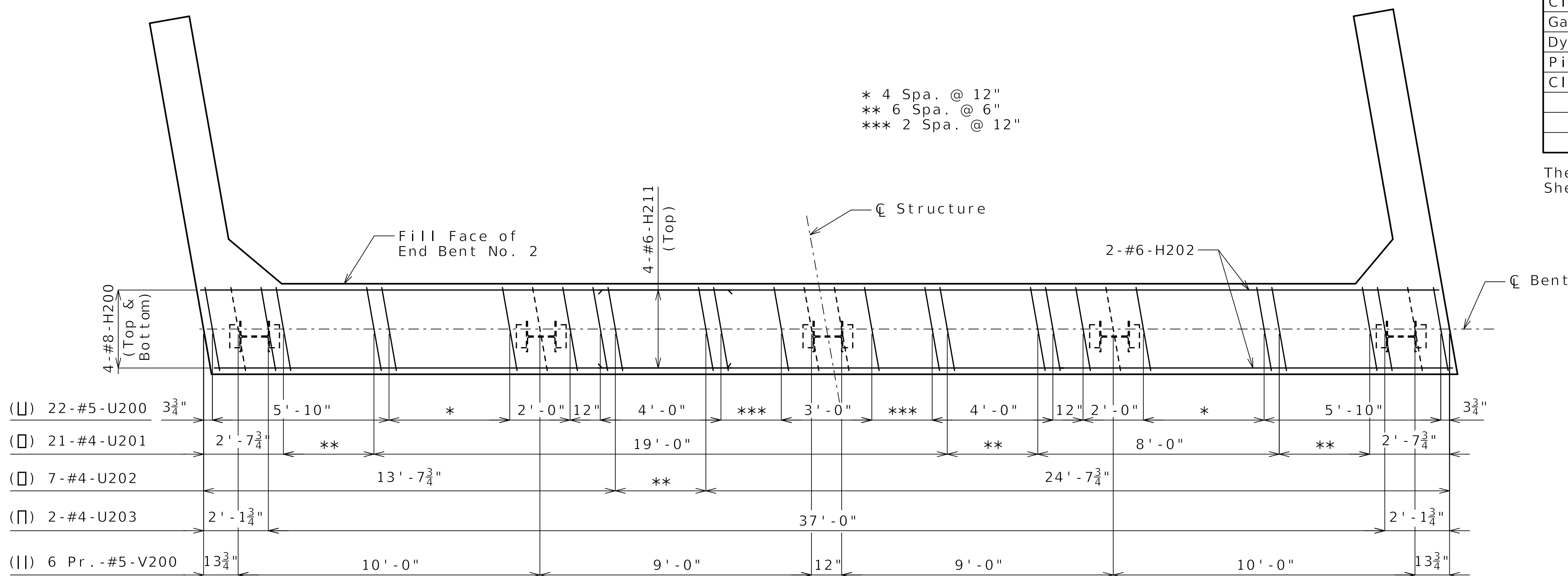
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MODOT

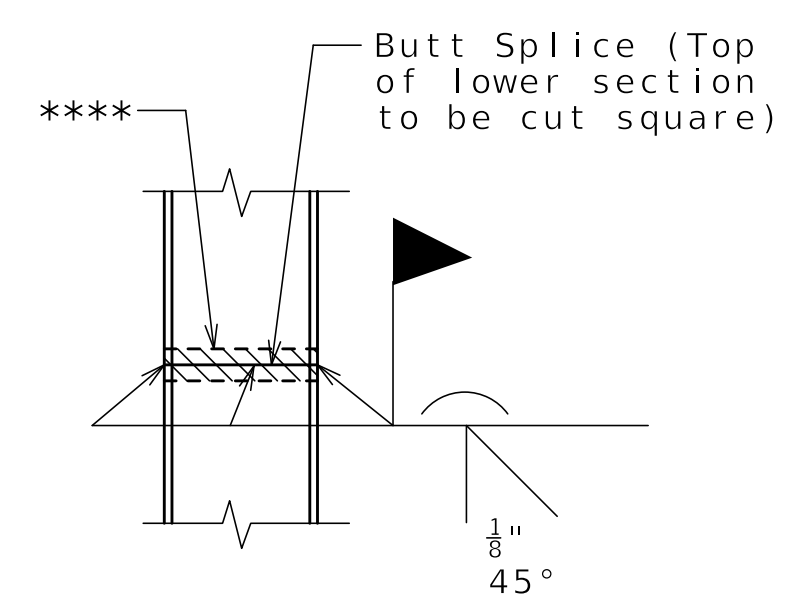
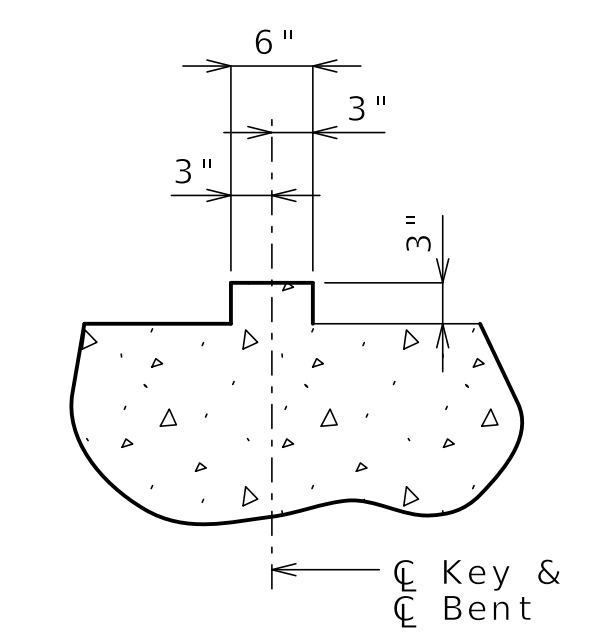


PLAN OF BEAM



PLAN OF BEAM SHOWING REINFORCEMENT
(Keys and steps not shown for clarity.)

DETAILS OF END BENT NO. 2



Substructure Quantity Table for Bent No. 2		
Item		Quantity
Class 1 Excavation	cu. yard	45
Galvanized Structural Steel Piles (12 in.)	linear foot	305
Dynamic Pile Testing	each	1
Pile Point Reinforcement	each	5
Class B Concrete (Substructure)	cu. yard	17.6

These quantities are included in the Estimated Quantities table on Sheet No. 1.

Notes:
For details of End Bent No. 2 not shown, see Sheets No. 8 & 9.
Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inches.
The U bars and pairs of V bars shall be placed parallel to centerline of roadway.
For details of Vertical Drain at End Bents, see Sheet No. 6.

STATE OF MISSOURI
TYLER R. LINDSAY
NUMBER
PE-2019000128
PROFESSIONAL ENGINEER
10/21/2025 6:57:56 AM
TYLER R. LINDSAY - CIVIL
MO-PE-2019000128

DATE PREPARED
10/21/2025

ROUTE
50

DISTRICT
BR

STATE
MO

SHEET NO.
7

COUNTY
JOHNSON

JOB NO.
JKR0101

CONTRACT ID.

PROJECT NO.

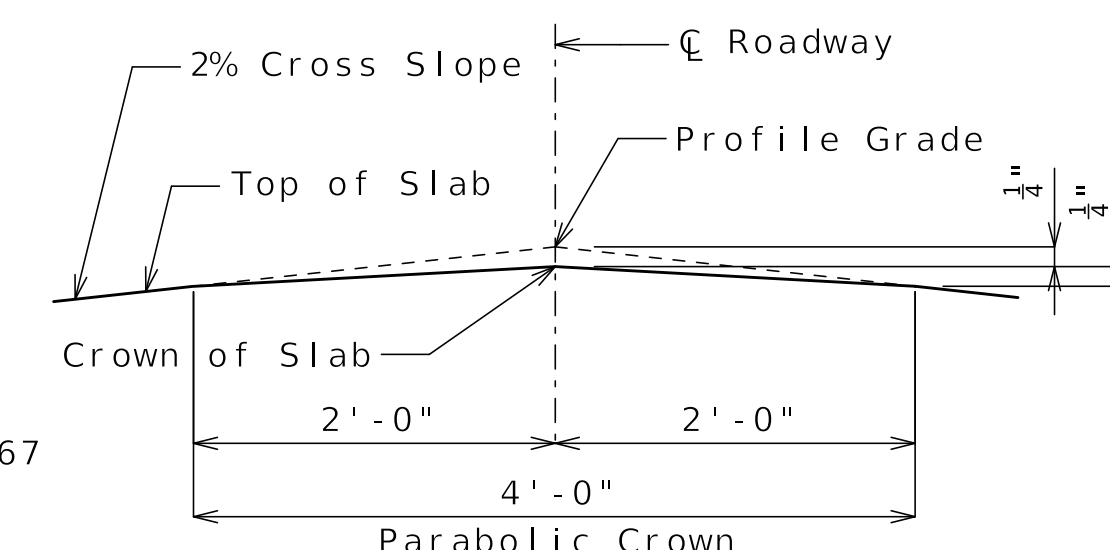
BRIDGE NO.
A9616

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

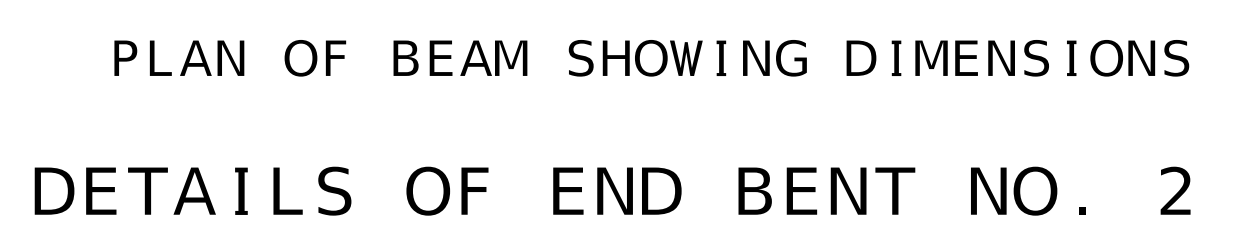
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



Two 13/16"Ø Holes for 3/4"Ø bolts (ASTM F3125 Grade A325 Type 1) with two washers and one

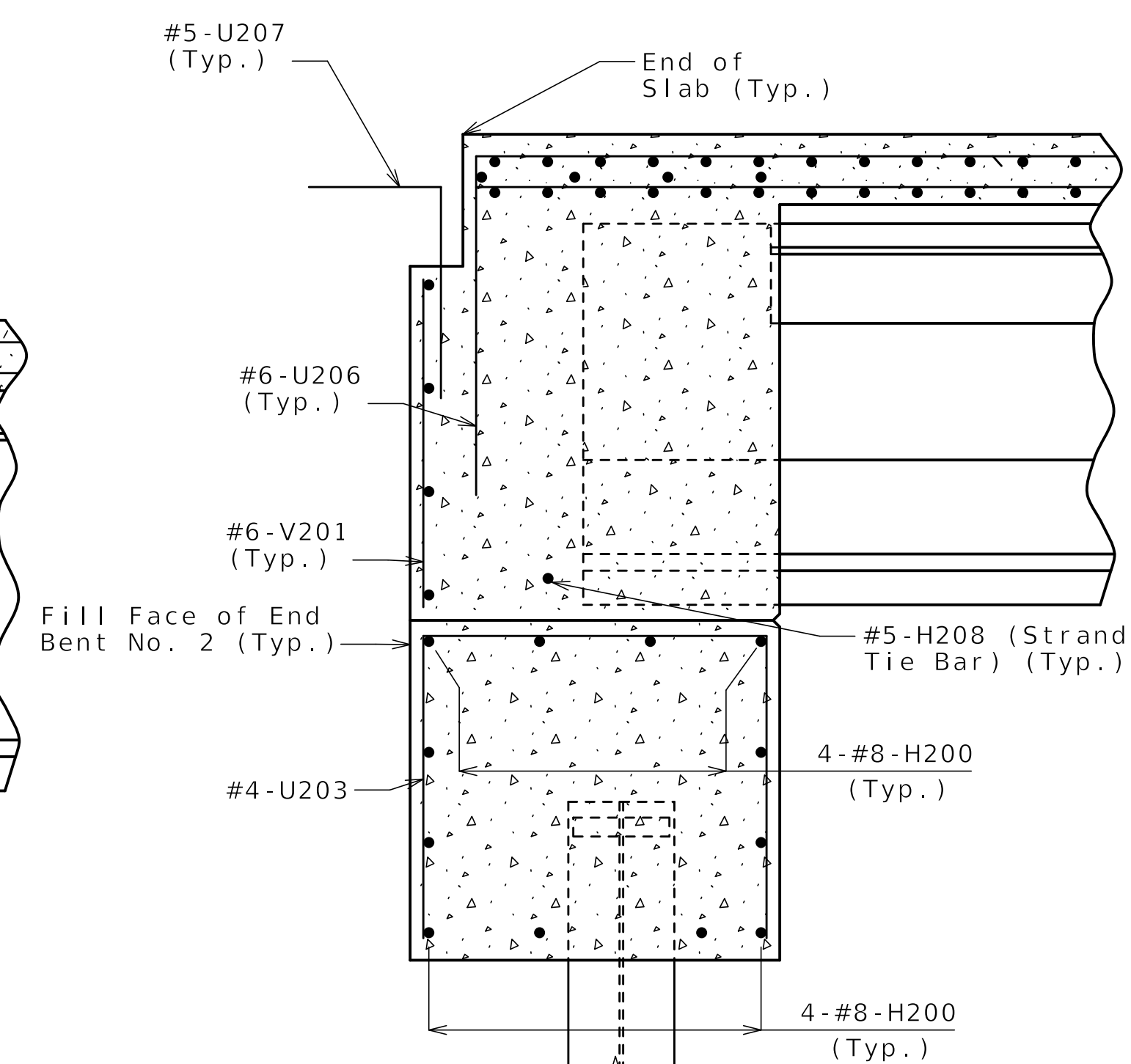
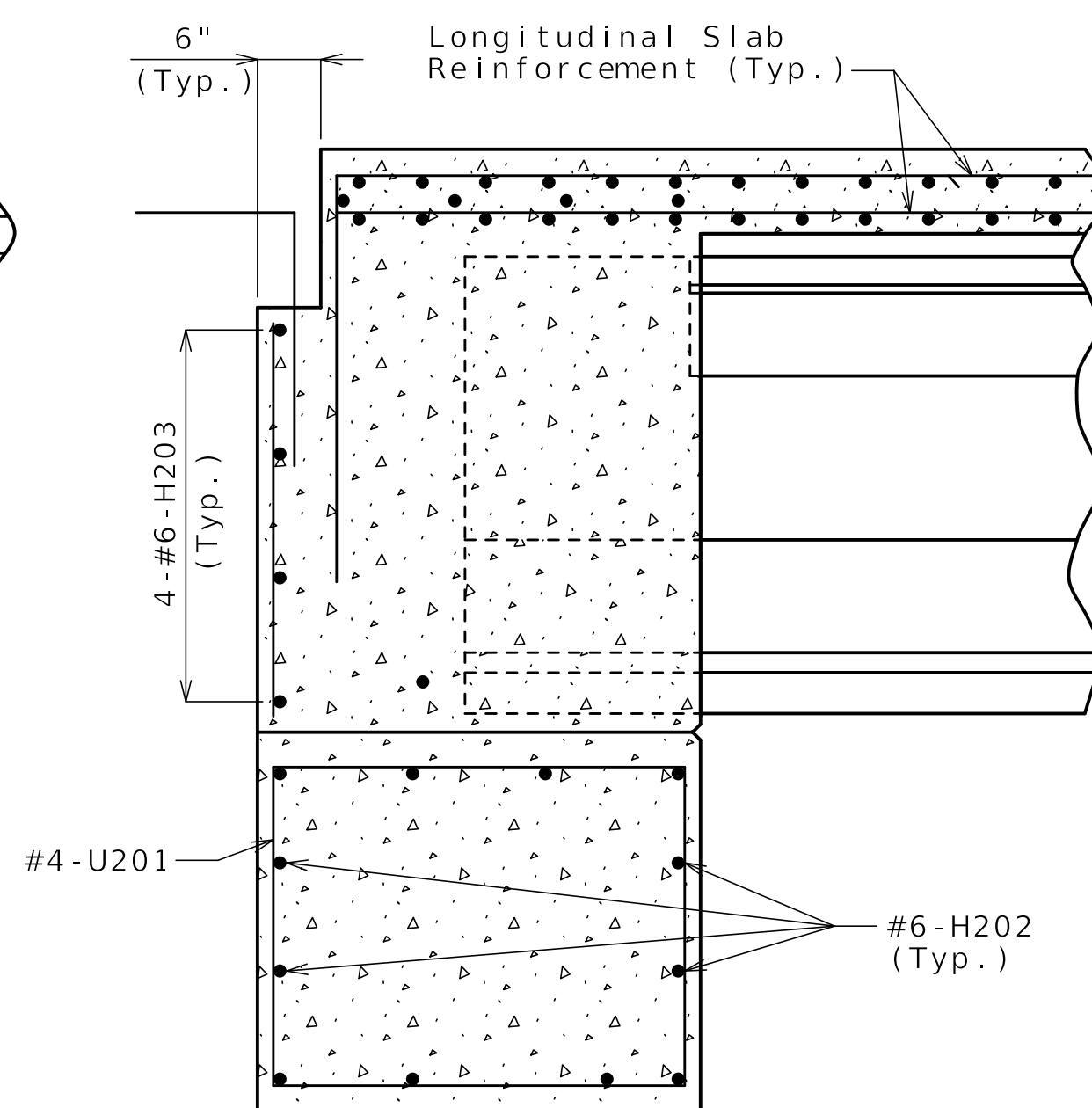
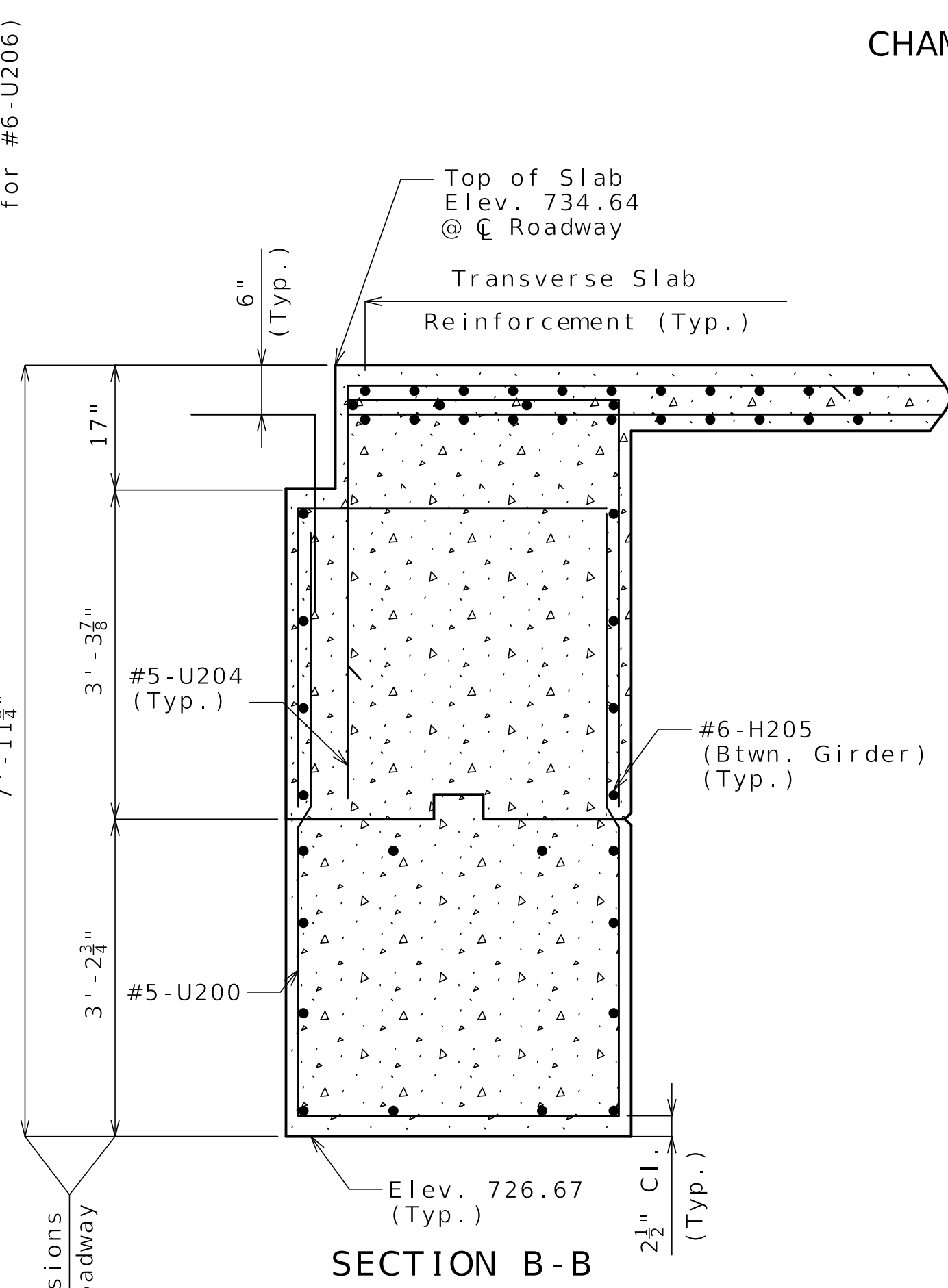
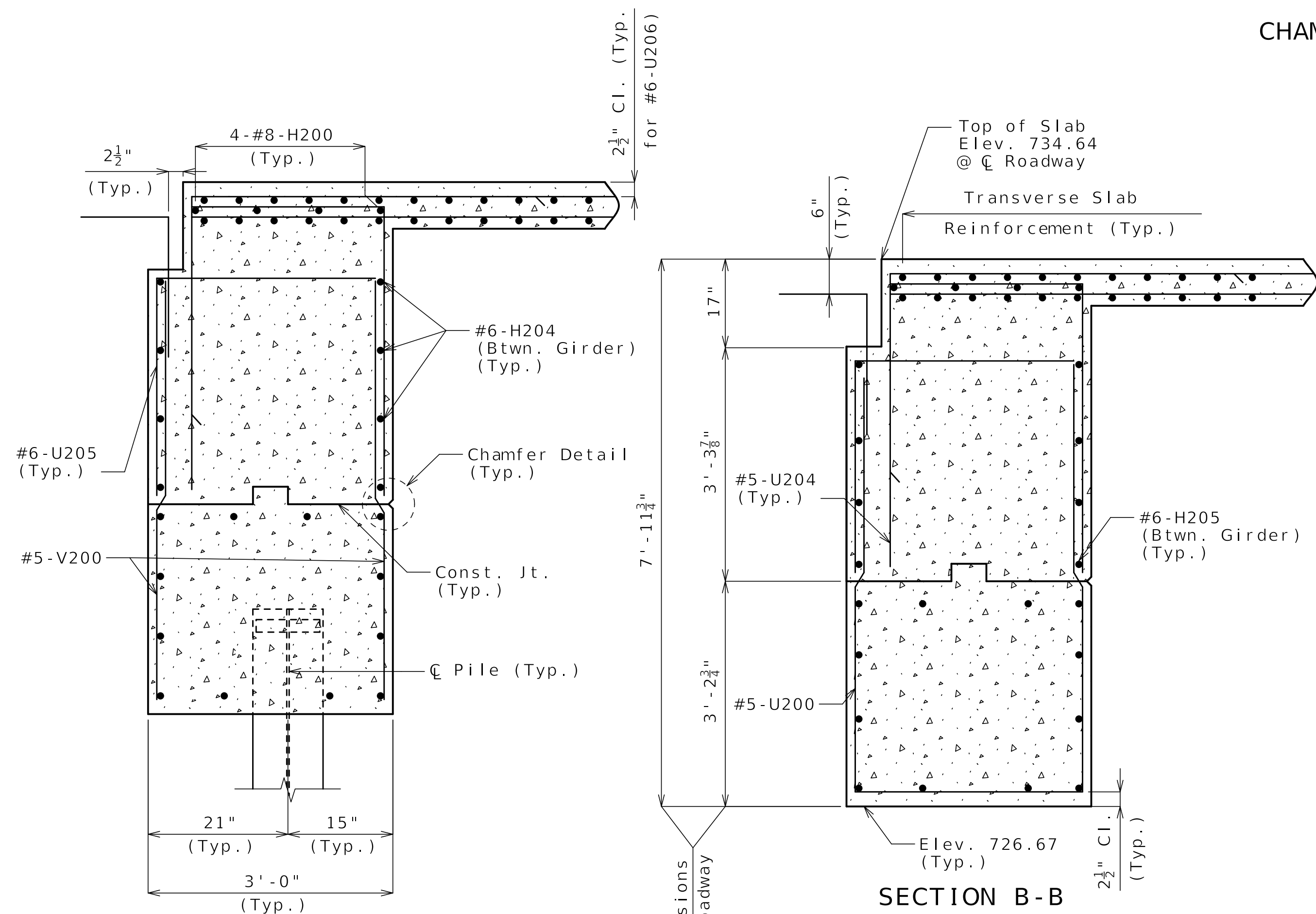
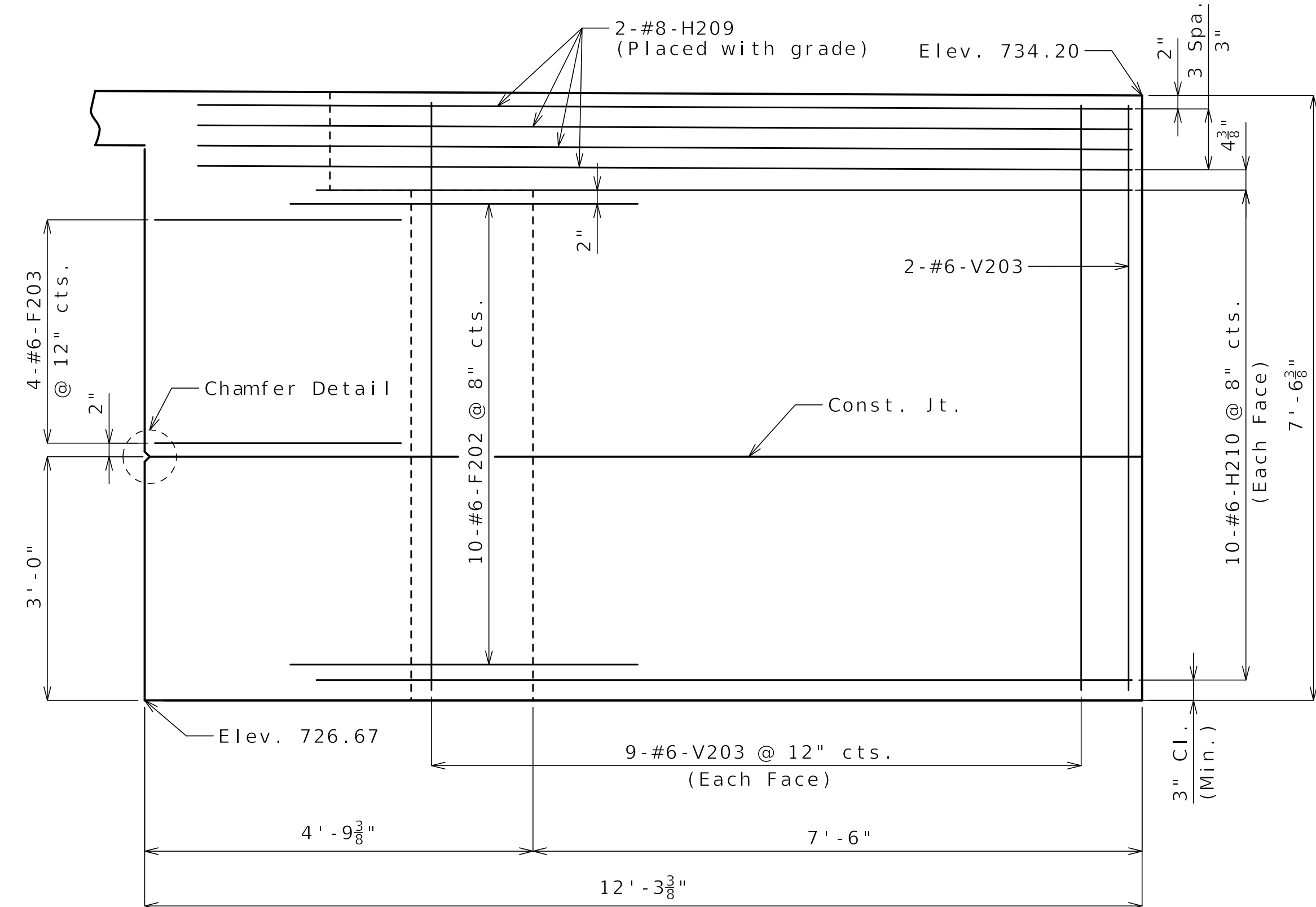
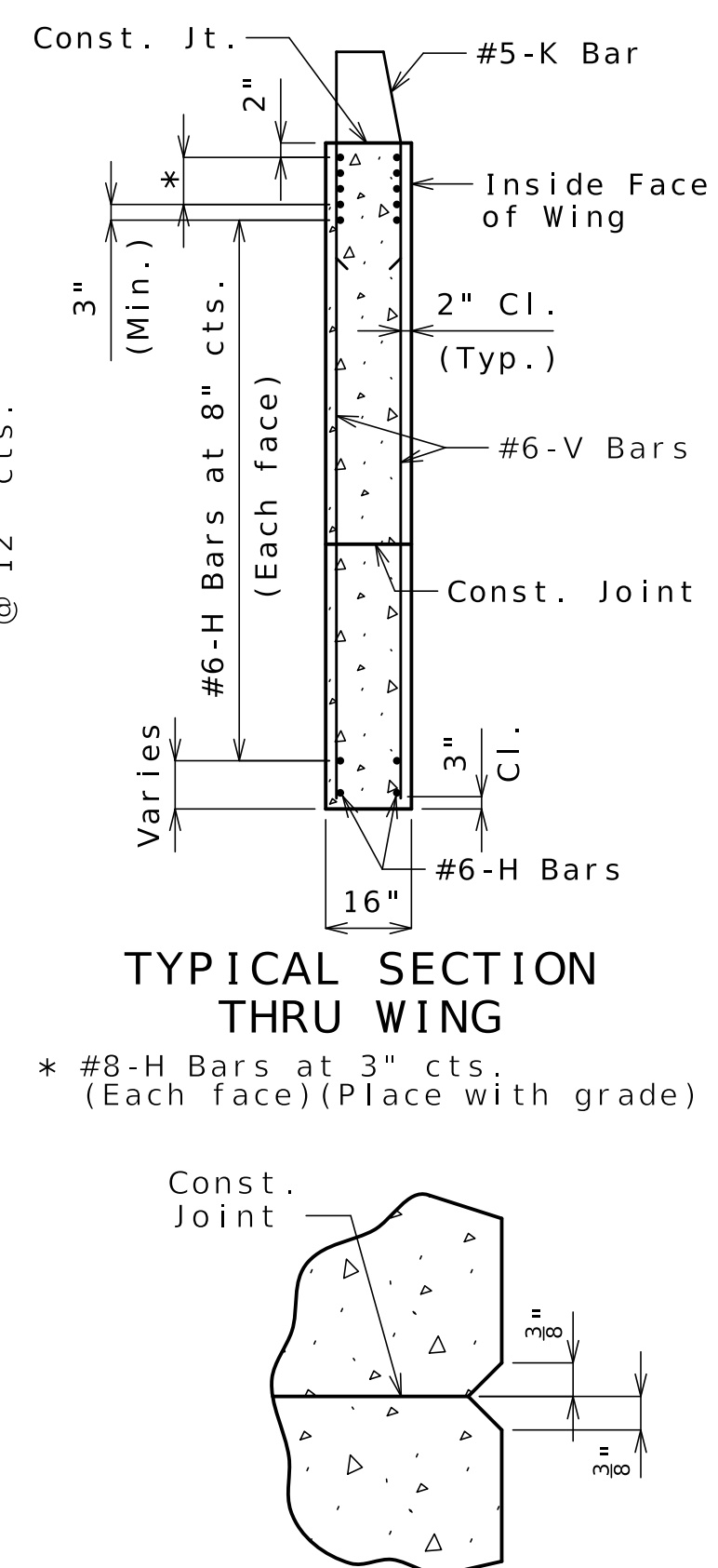
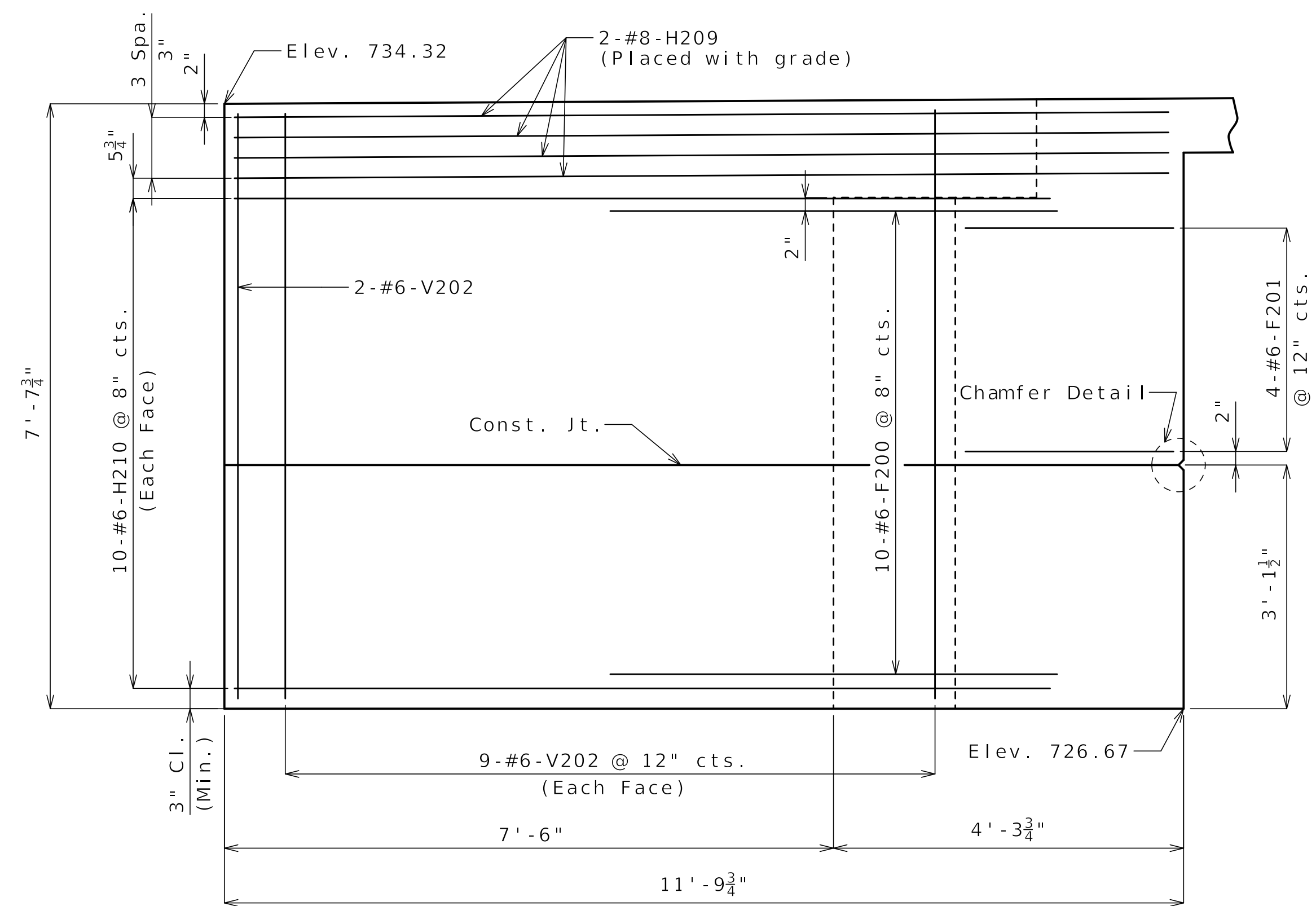
Angles shall be coated with a minimum of two coats of non-aluminum epoxy mastic primer to provide a dry film thickness of 4 mils minimum, 8 mils maximum, or galvanized in accordance with Sec 1081. Bolts, washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.

For details of bridge approach slab,
see Sheet No. 18.



MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

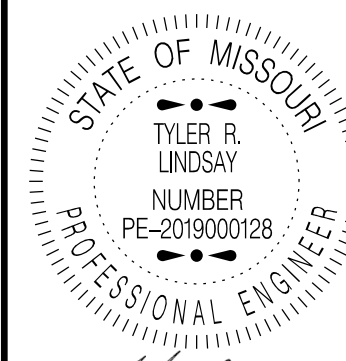


Notes:

For details of End Bent No. 2 not shown, see Sheets
No. 7 & 8.

For locations of Sections A-A, B-B, C-C, & D-D and Elevations E-E & F-F, see Sheet No. 8.

For reinforcement of the barrier, see Sheet No. 17.



10/21/2025 6:58:17 AM
TYLER R. LINDSAY - CIVIL
MO DE 2010000120

DATE PREPARED
10/21/2025

ROUTE	STATE
50	MO

DISTRICT	SHEET NO
BR	9

COUNTY
JOHNSON

JOB NO.
JKR0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9616

A9818					

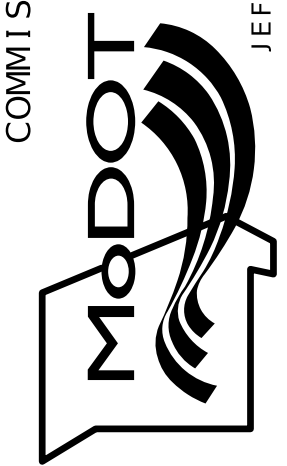
[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

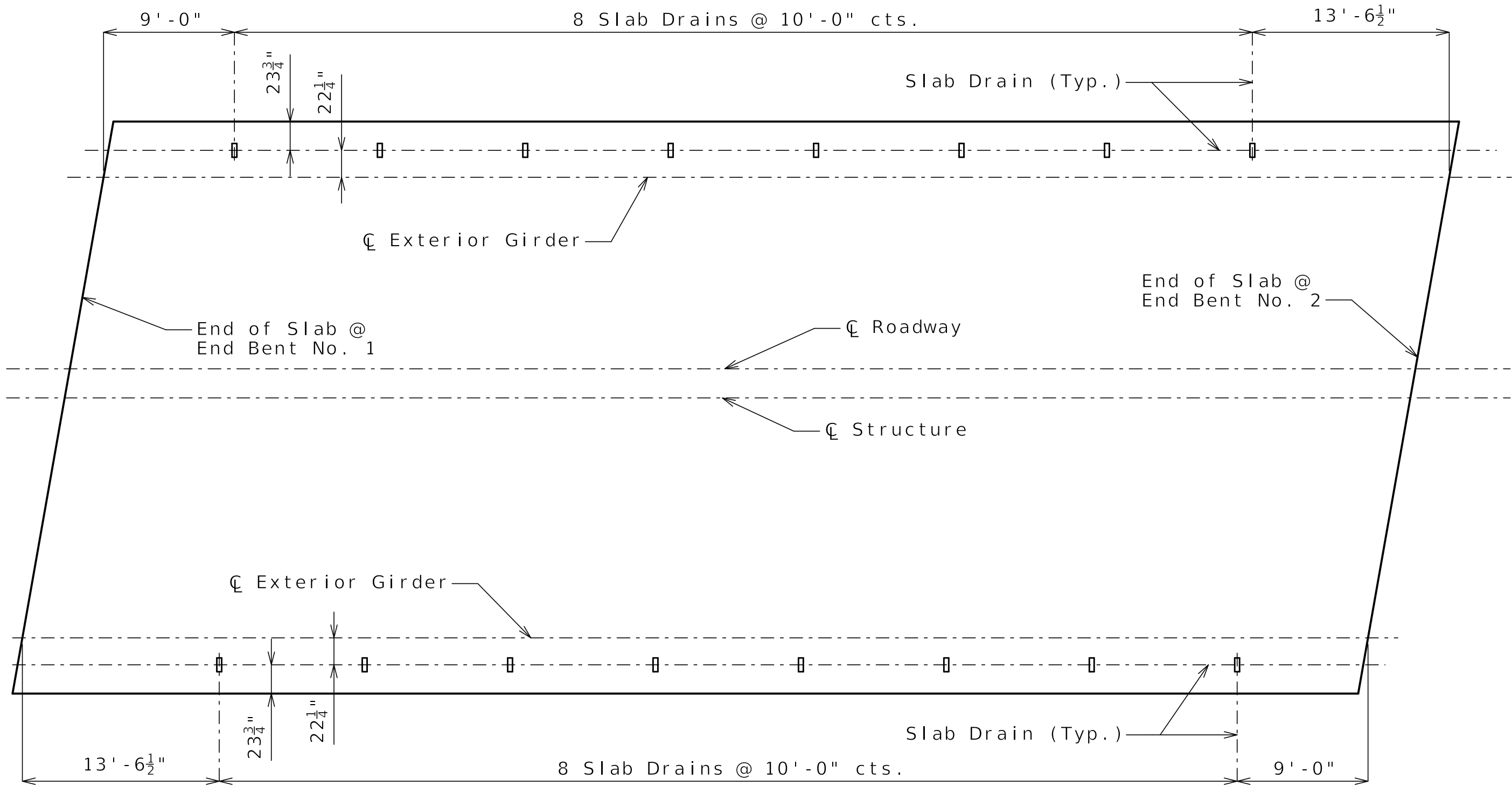
MoDOT

105 WEST CAPITOL
JEFFERSON CITY, MO 65102

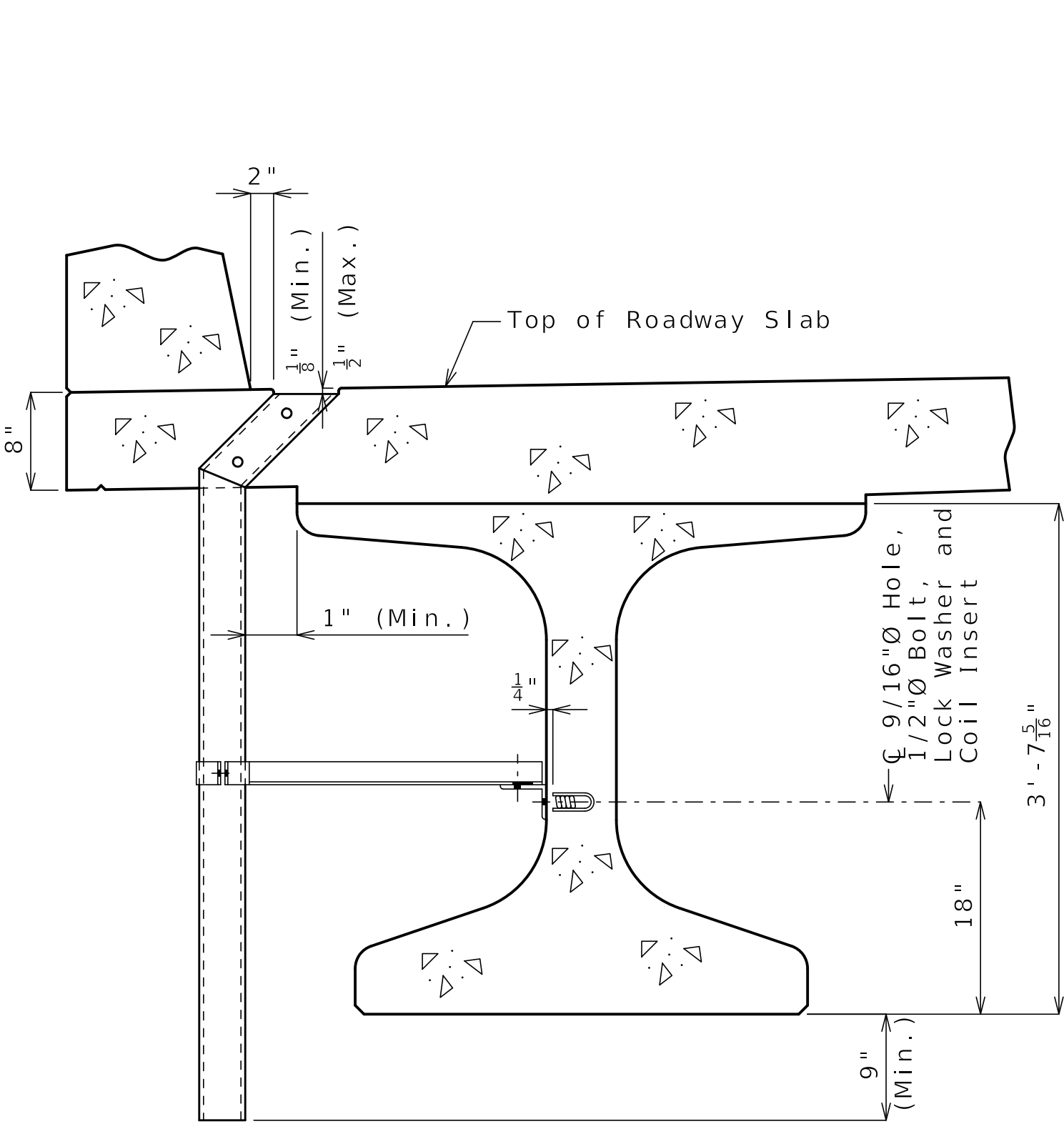
--	--



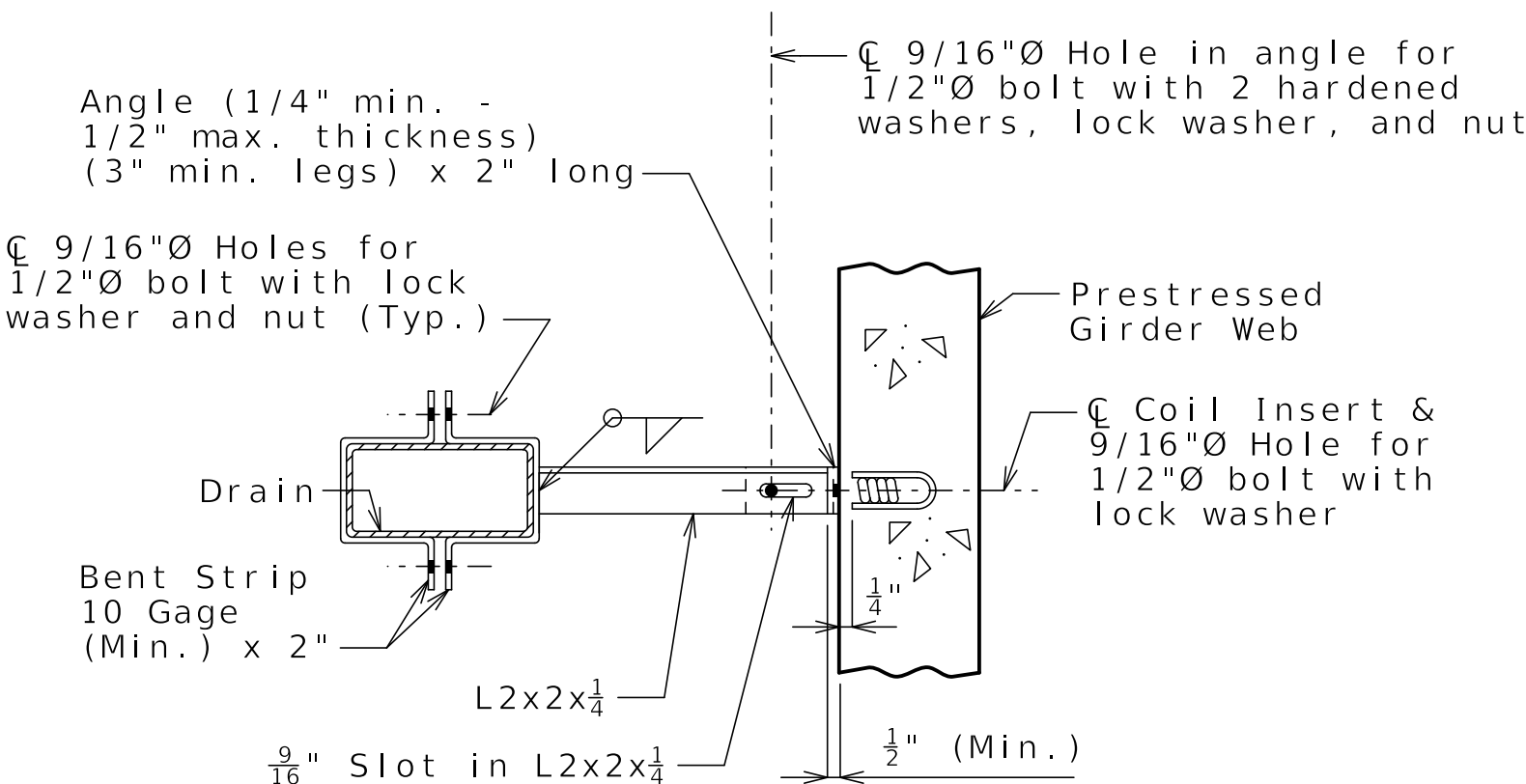
105 WEST CAPITOL
JEFFERSON CITY, MO 65102



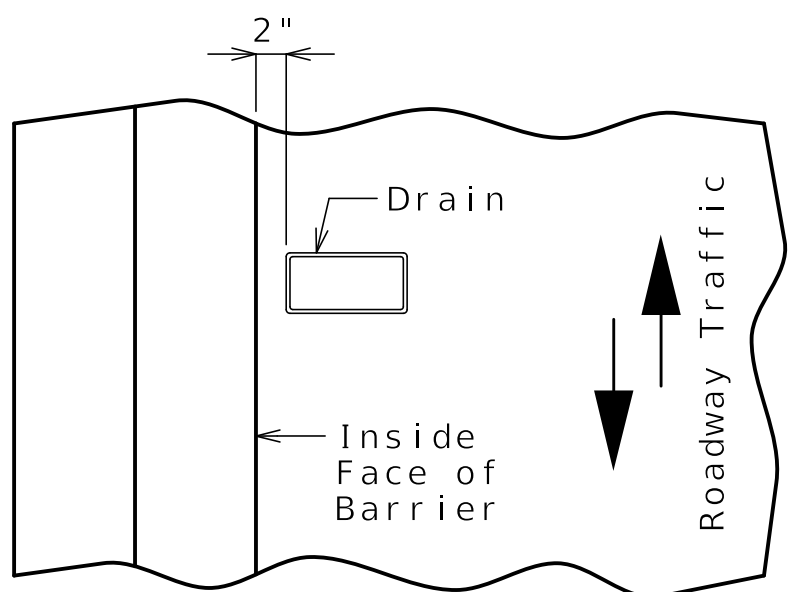
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



PART SECTION NEAR DRAIN

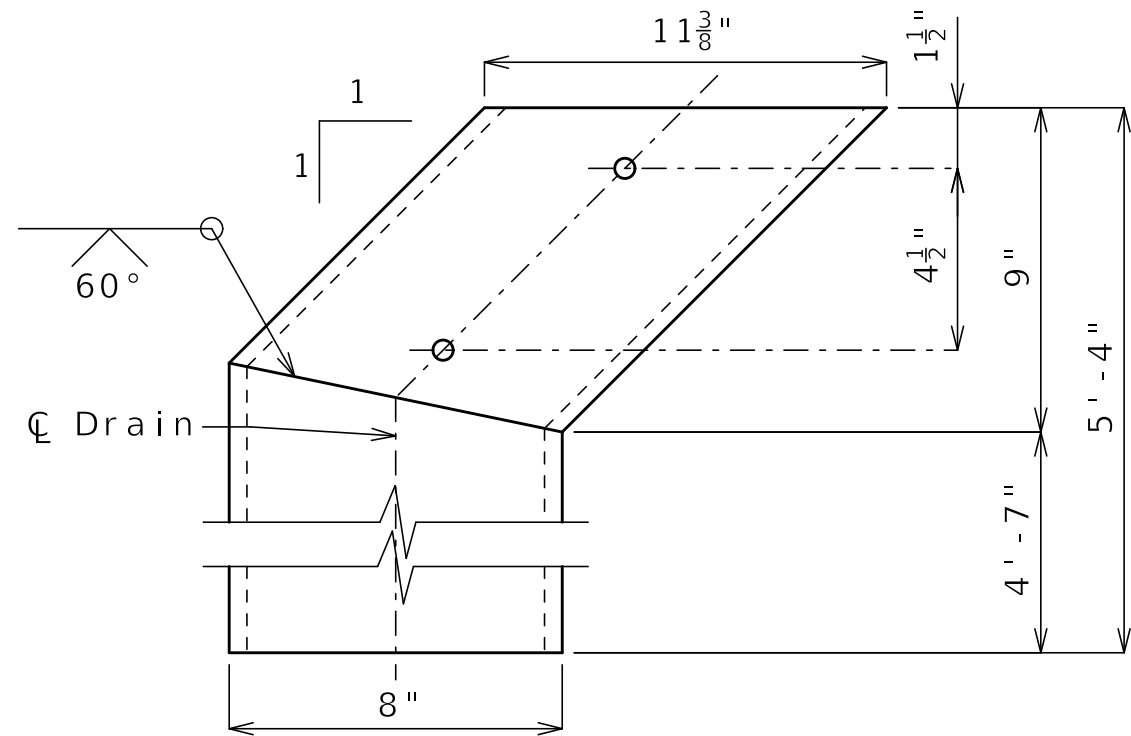


PART SECTION SHOWING BRACKET ASSEMBLY

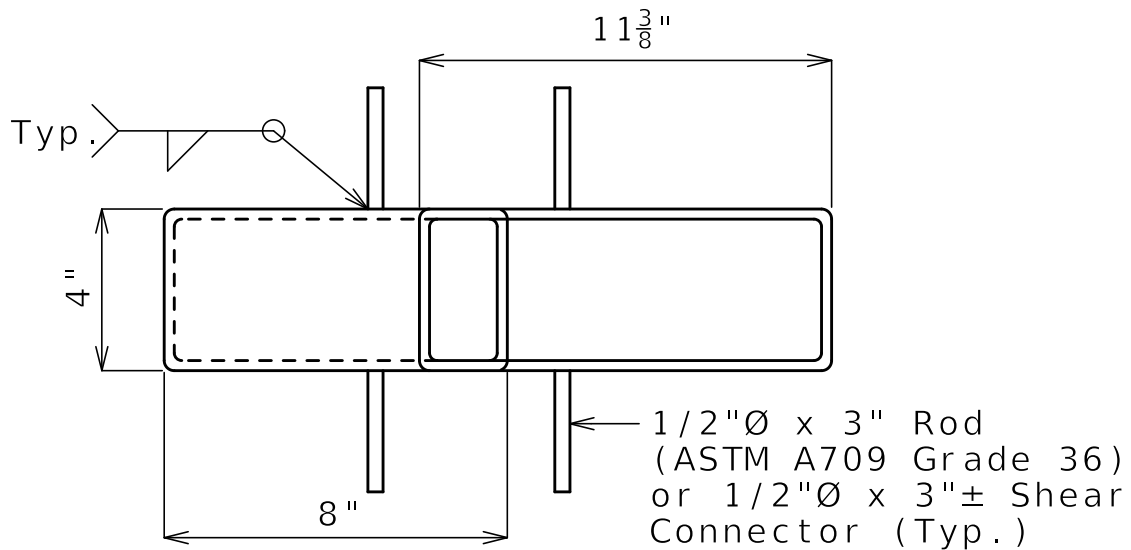


PART PLAN OF SLAB AT DRAIN

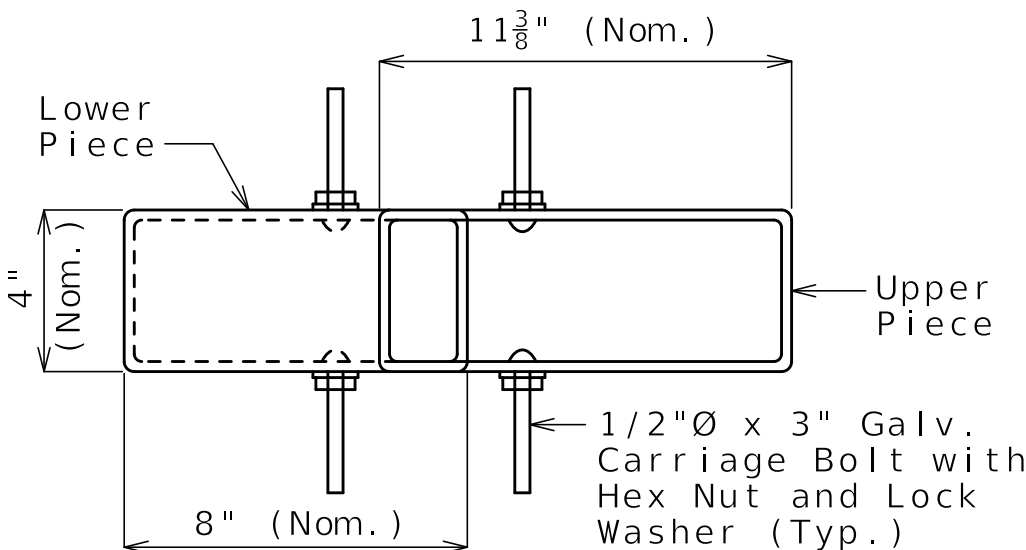
SLAB DRAINS



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

General Notes:

Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of same type.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Reinforcing steel shall be shifted to clear drains.

The coil inserts and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.

All 1/2"Ø bolts shall be ASTM A307.

Shop drawings will not be required for the slab drains and the bracket assembly.

The coil insert required for the bracket assembly attachment shall be located on the prestressed girder shop drawings.

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed girder fabricator.

Notes for Steel Drain:

Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:

Shape of drains shall be rectangular with outside nominal dimensions of 8" x 4".

Minimum reinforced wall thickness shall be 1/4 inch.

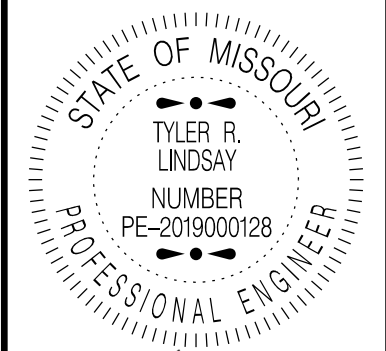
The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

The color of the slab drain shall be gray (Federal Standard #26373). The color shall be uniform throughout the resin and any coating used.

The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall furnish the results of the required ultraviolet testing prior to acceptance of the slab drains.

At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be as recommended by the manufacturer to ensure a smooth, chip free cut.

Both upper and lower drain pieces shall be rigidly connected to each other. Drain flow shall not be obstructed. Approval of the engineer is required.



DATE PREPARED
10/21/2025 6:58:58 AM
TYLER R. LINDSAY - CIVIL
MO-PE-2019000128

ROUTE 50
DISTRICT BR

STATE MO
SHEET NO. 12

COUNTY JOHNSON
JOB NO. JKR0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9616

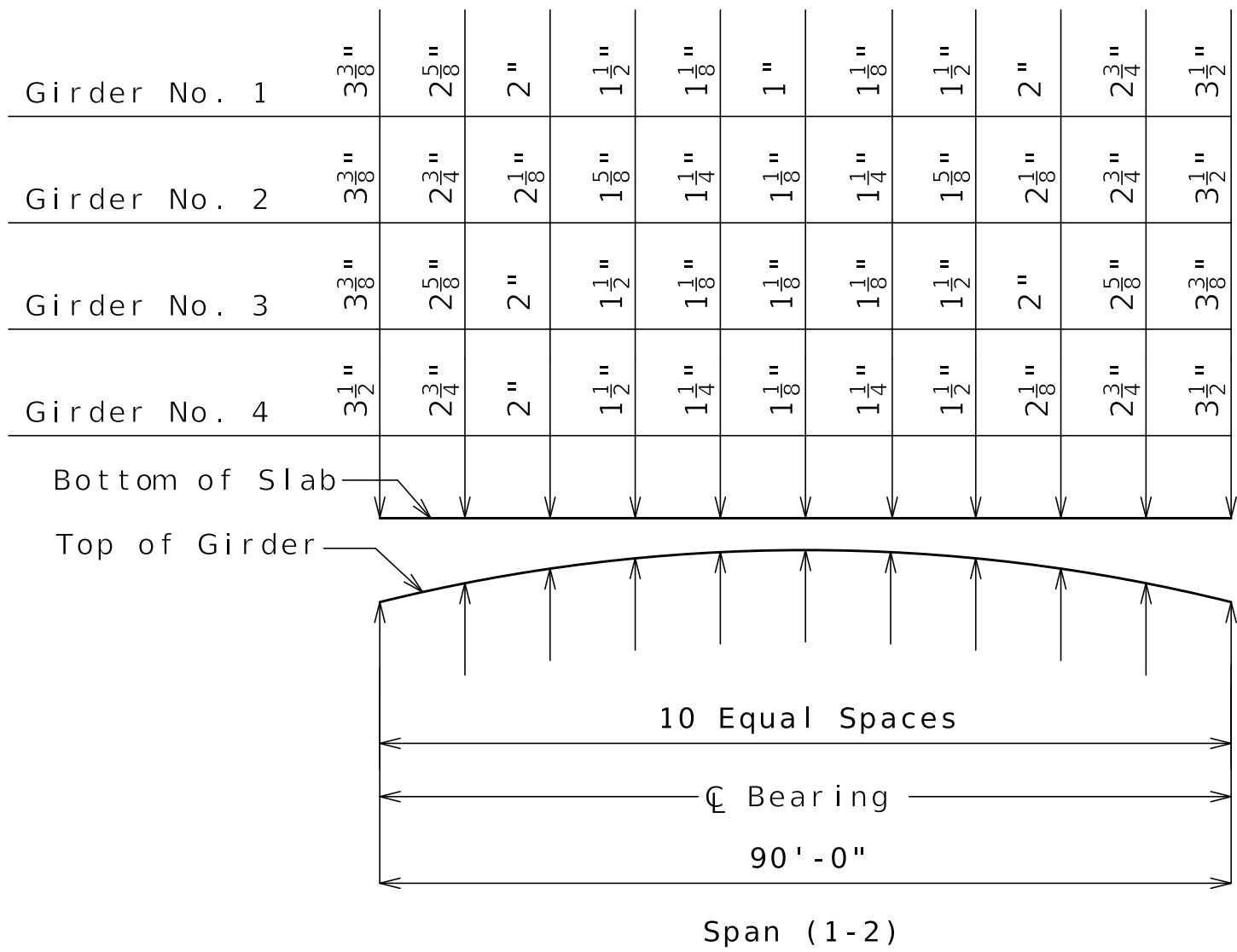
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT



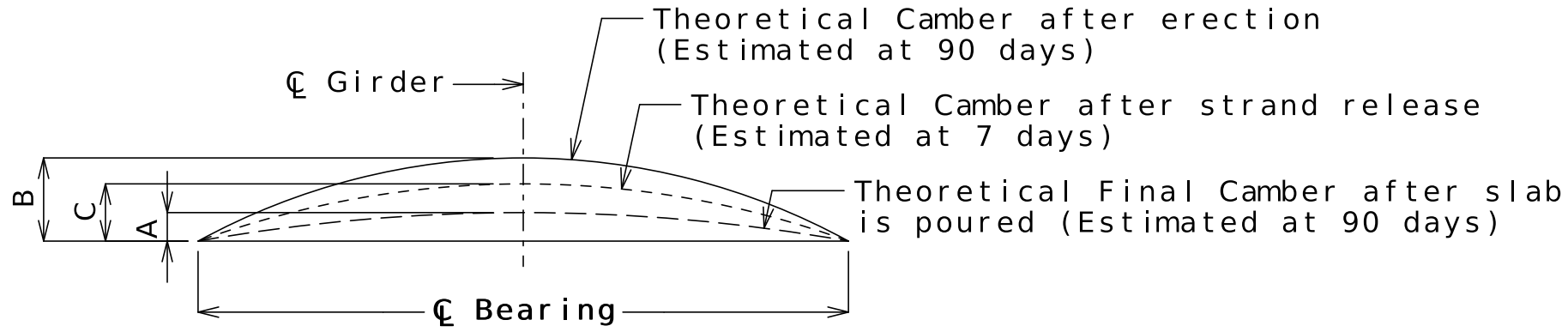
THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness, an adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment.

Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete NU-Girder.

Theoretical Bottom of Slab Elevations at Centerline of Girder (Prior to forming for slab) (Estimated at 90 days)											
Girder Number	Span (1-2) (90'-0" C Brg. - C Brg.)										
	C Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	C Brg.
1	733.71	733.76	733.81	733.85	733.87	733.88	733.88	733.85	733.82	733.78	733.73
2	733.93	733.98	734.03	734.07	734.10	734.11	734.10	734.08	734.04	734.00	733.95
3	733.80	733.86	733.91	733.95	733.98	733.99	733.98	733.96	733.92	733.88	733.83
4	733.58	733.64	733.69	733.72	733.75	733.76	733.75	733.73	733.70	733.66	733.61

Elevations are based on a constant slab thickness of 8" and include allowance for theoretical dead load deflections due to weight of slab and barrier.

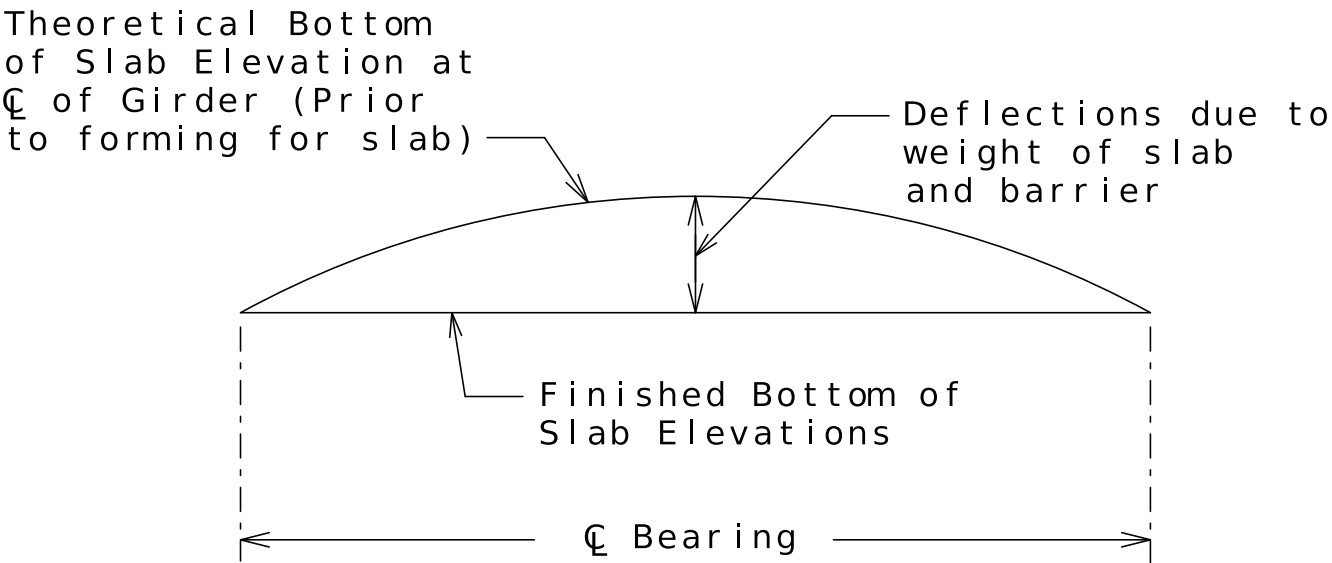


Girder	Span (1-2)		
	A	B	C
Exterior	2 3/8"	4 3/8"	3"
Interior	2 3/8"		

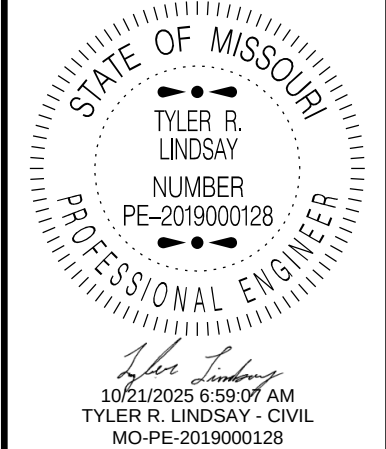
GIRDER CAMBER DIAGRAM

Conversion Factors for Girder Camber (Estimated at 90 days):

0.1 pt. = 0.314 x 0.5 pt.
0.2 pt. = 0.593 x 0.5 pt.
0.3 pt. = 0.813 x 0.5 pt.
0.4 pt. = 0.952 x 0.5 pt.



TYPICAL SLAB ELEVATIONS DIAGRAM



DATE PREPARED 10/21/2025	
ROUTE 50	STATE MO
DISTRICT BR	SHEET NO. 13
COUNTY JOHNSON	
JOB NO. JKR0101	
CONTRACT ID.	

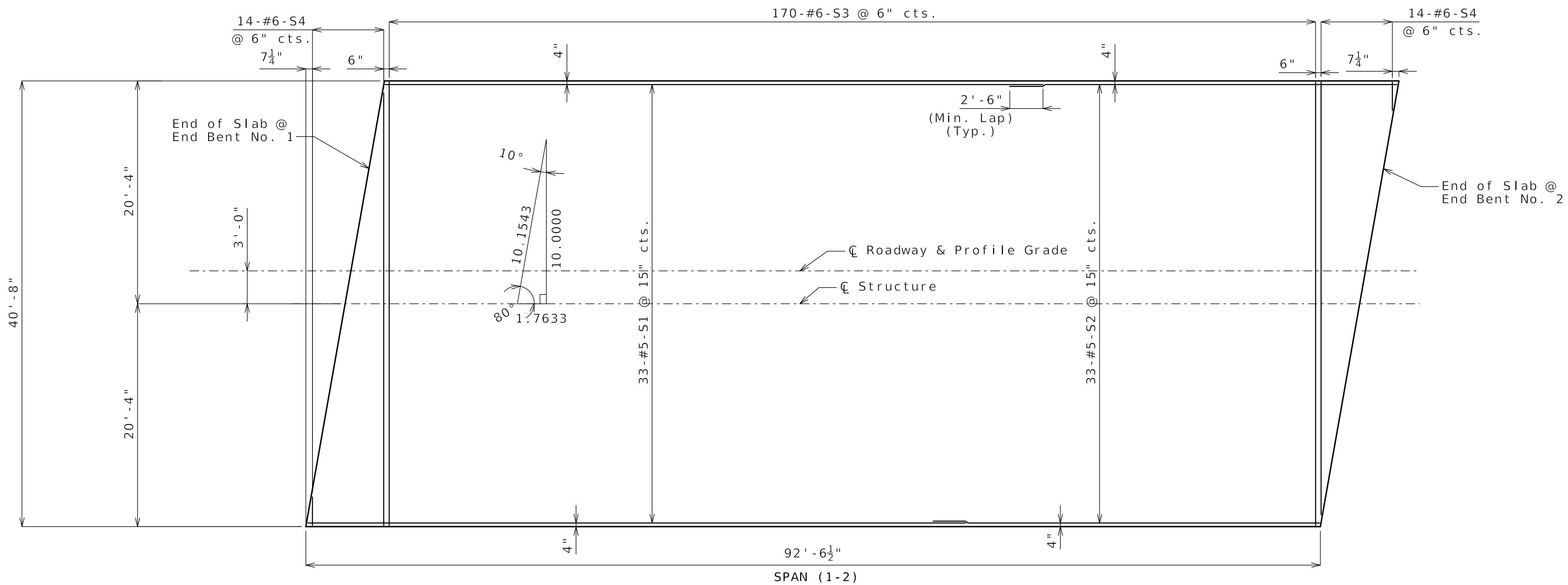
PROJECT NO.
BRIDGE NO. A9616

DESCRIPTION	DATE

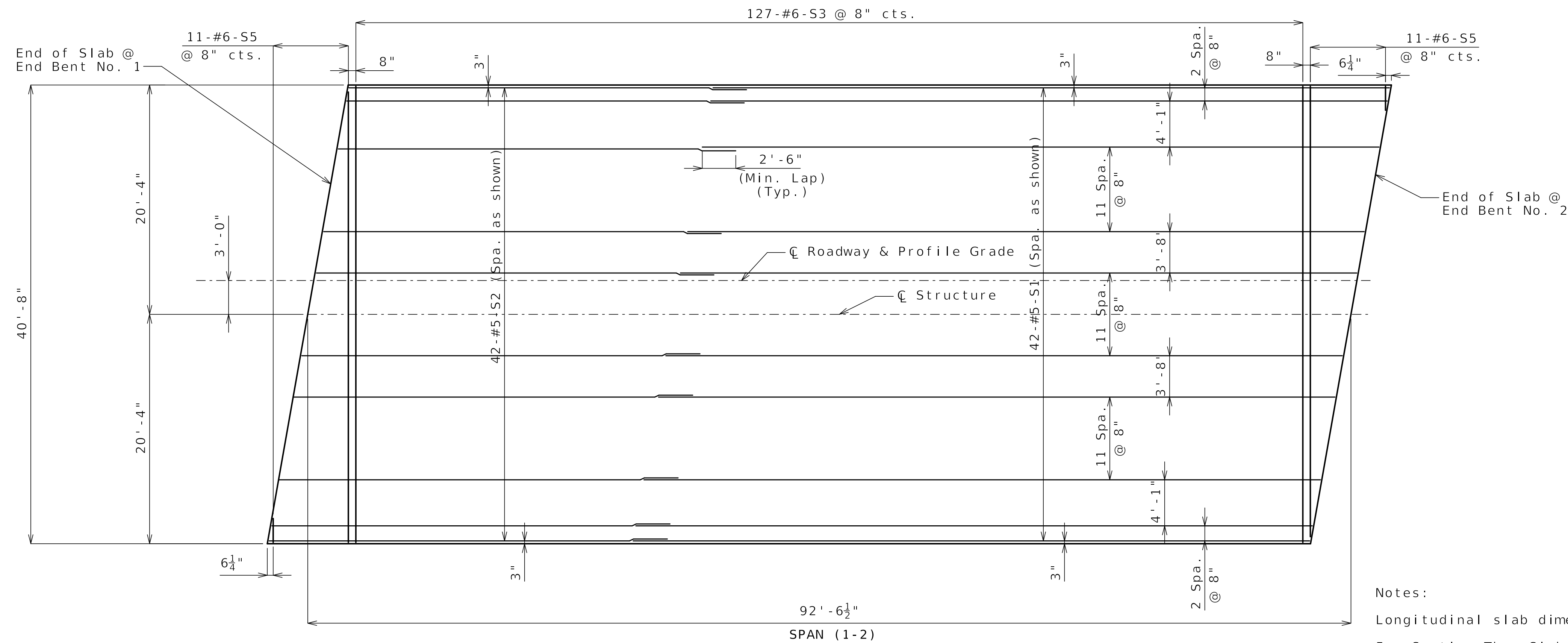
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT



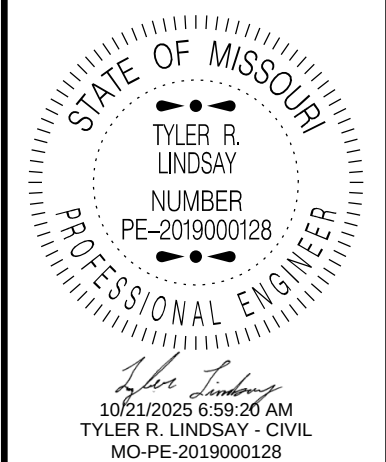
PLAN OF SLAB SHOWING TOP REINFORCEMENT



PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT

PLANS OF SLAB SHOWING REINFORCEMENT

- Notes:
- Longitudinal slab dimensions are measured horizontally.
 - For Section Thru Slab, see Sheet No. 15.
 - For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, See Sheet No. 13.
 - For details and reinforcement of barrier, see Sheet No. 16.

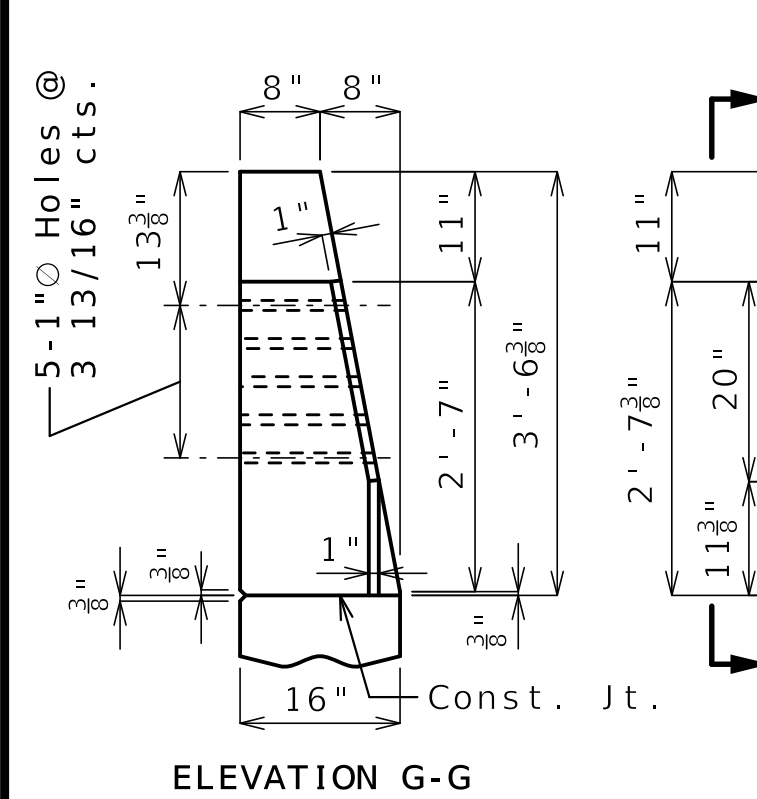
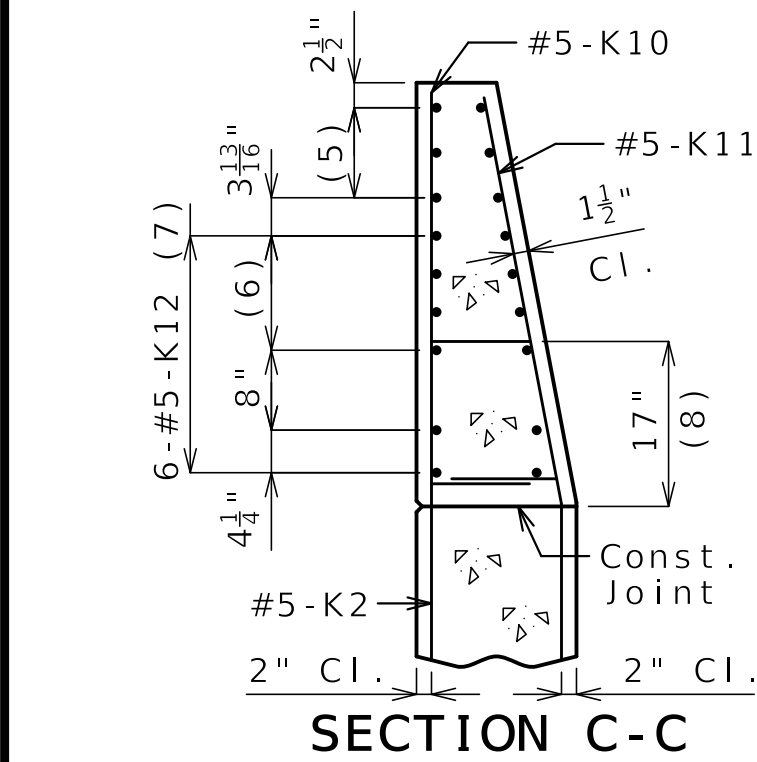
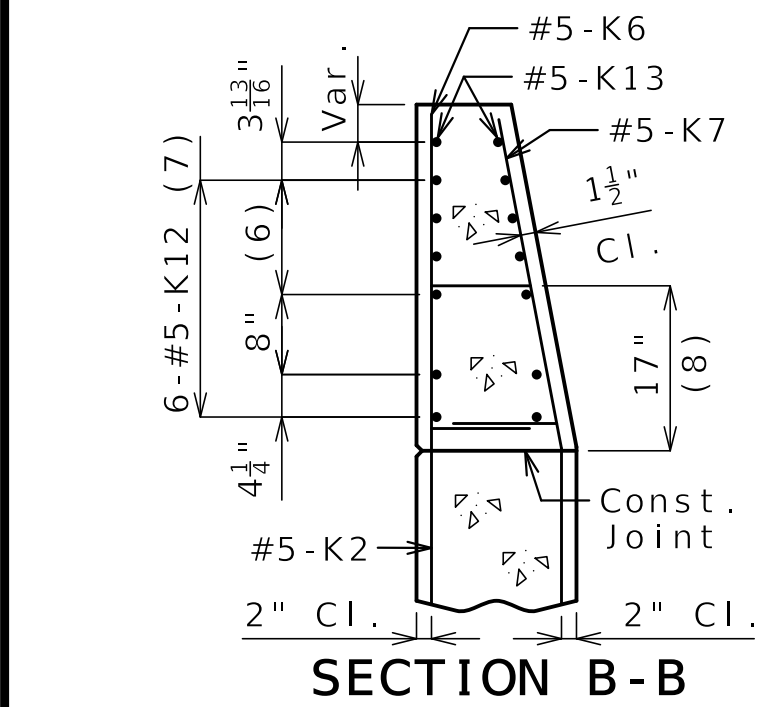
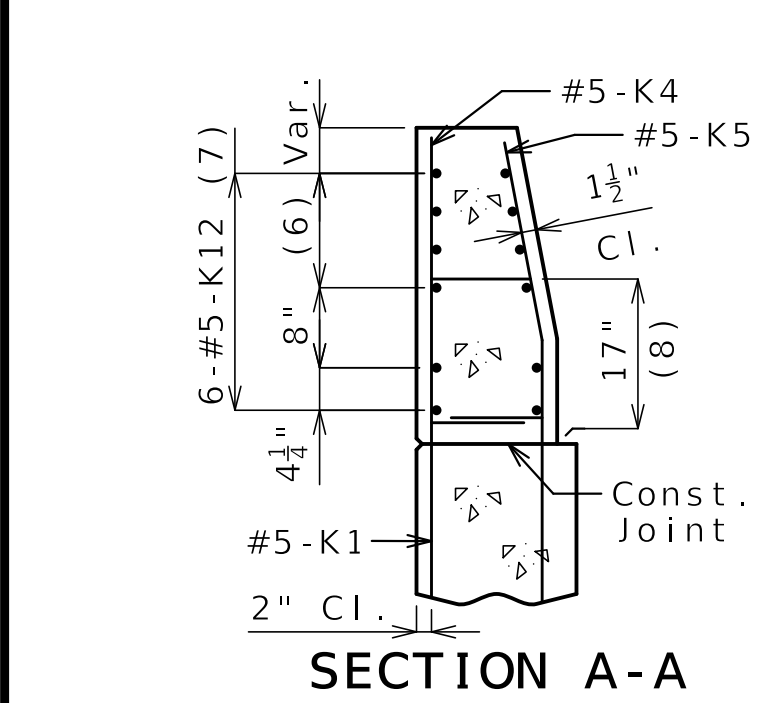


DATE PREPARED 10/21/2025	
ROUTE 50	STATE MO
DISTRICT BR	SHEET NO. 14
COUNTY JOHNSON	
JOB NO. JKR0101	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9616	

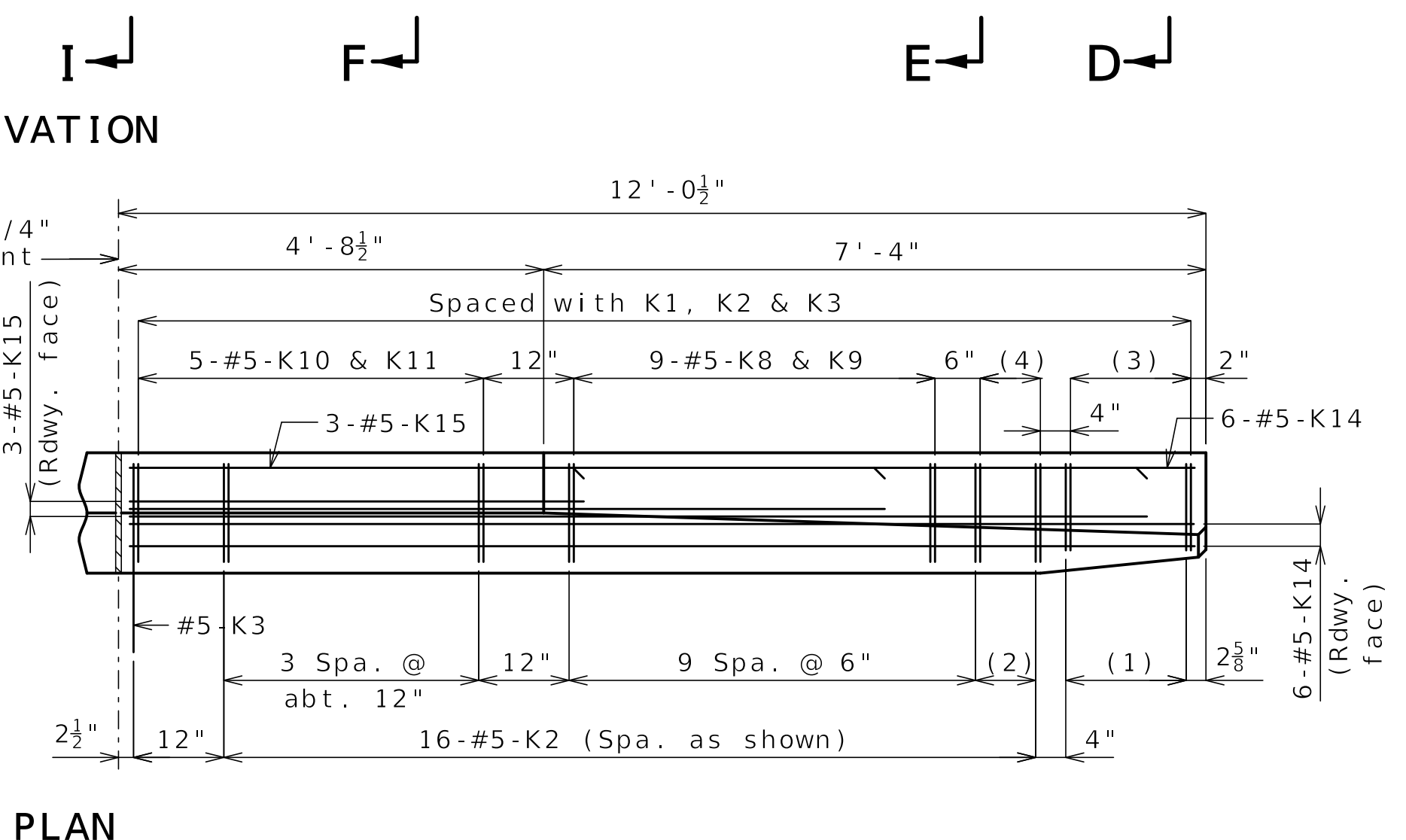
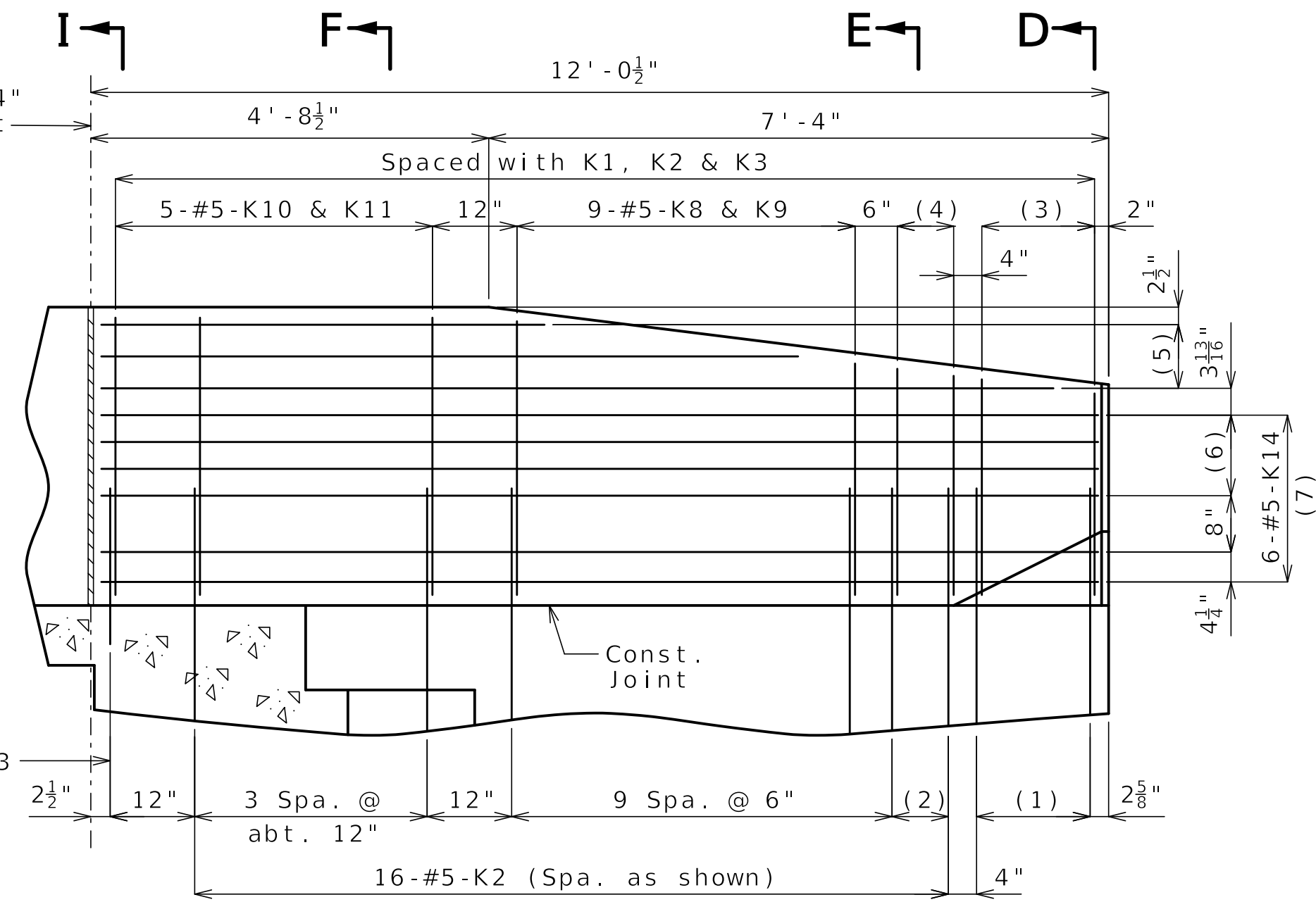
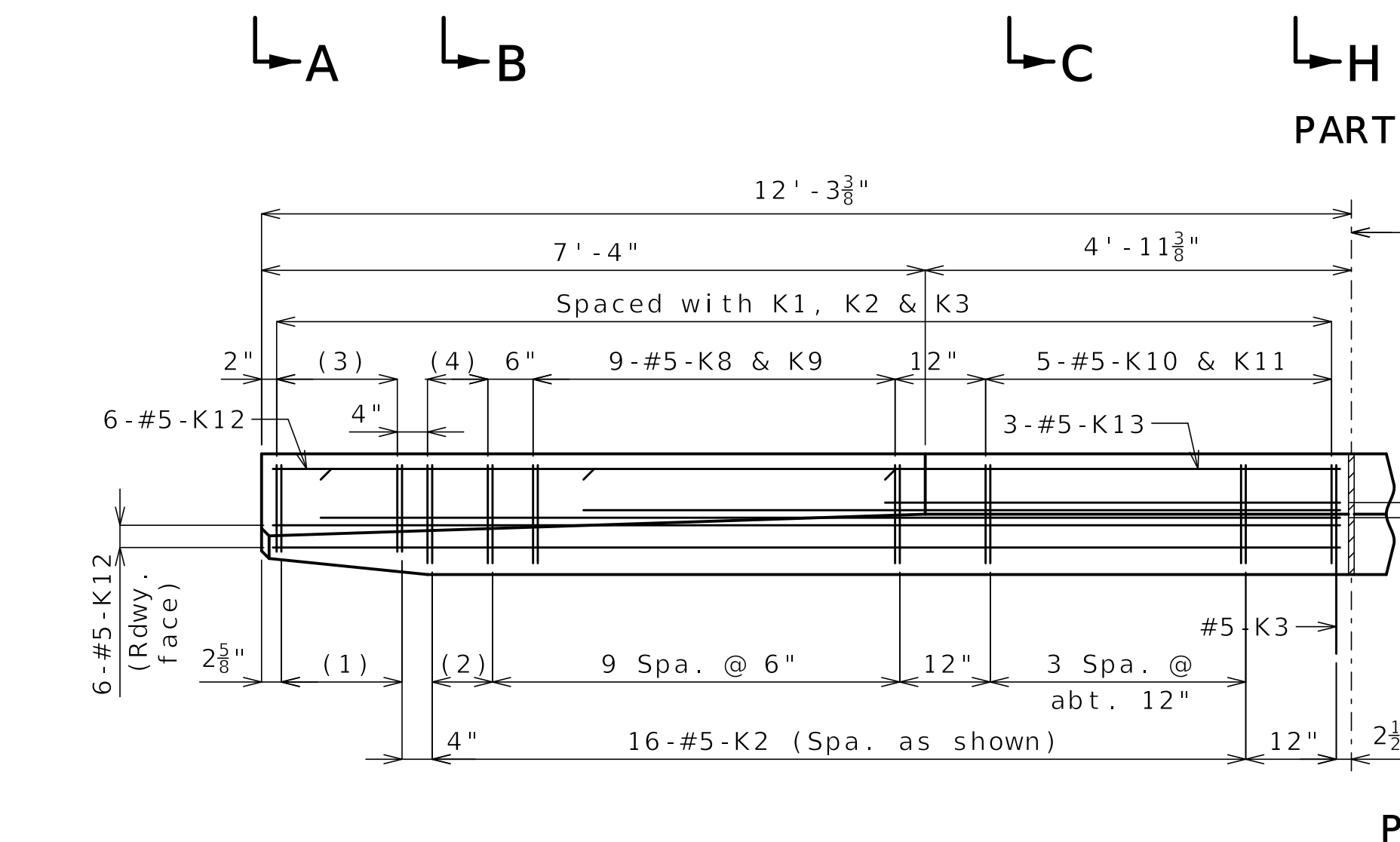
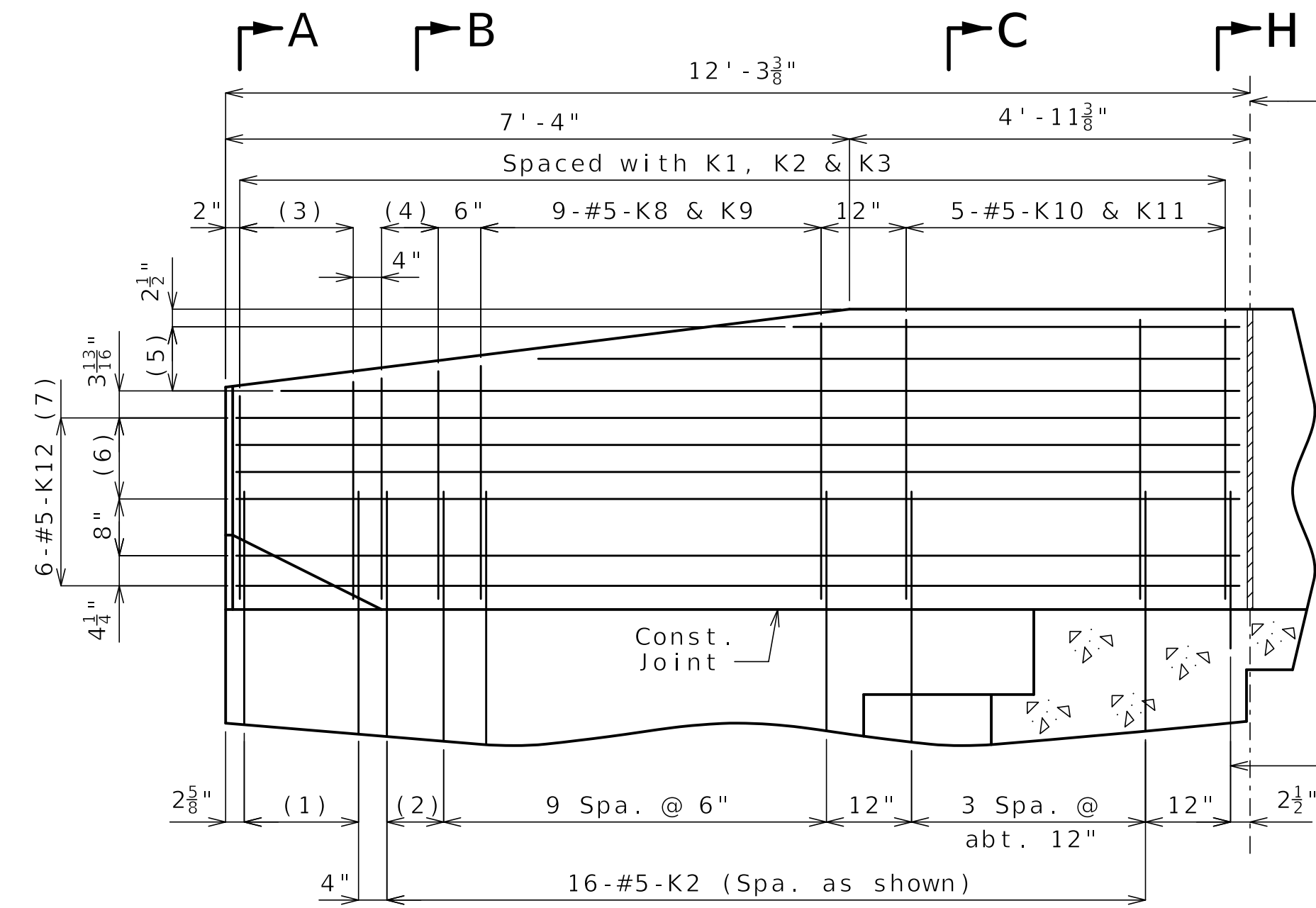
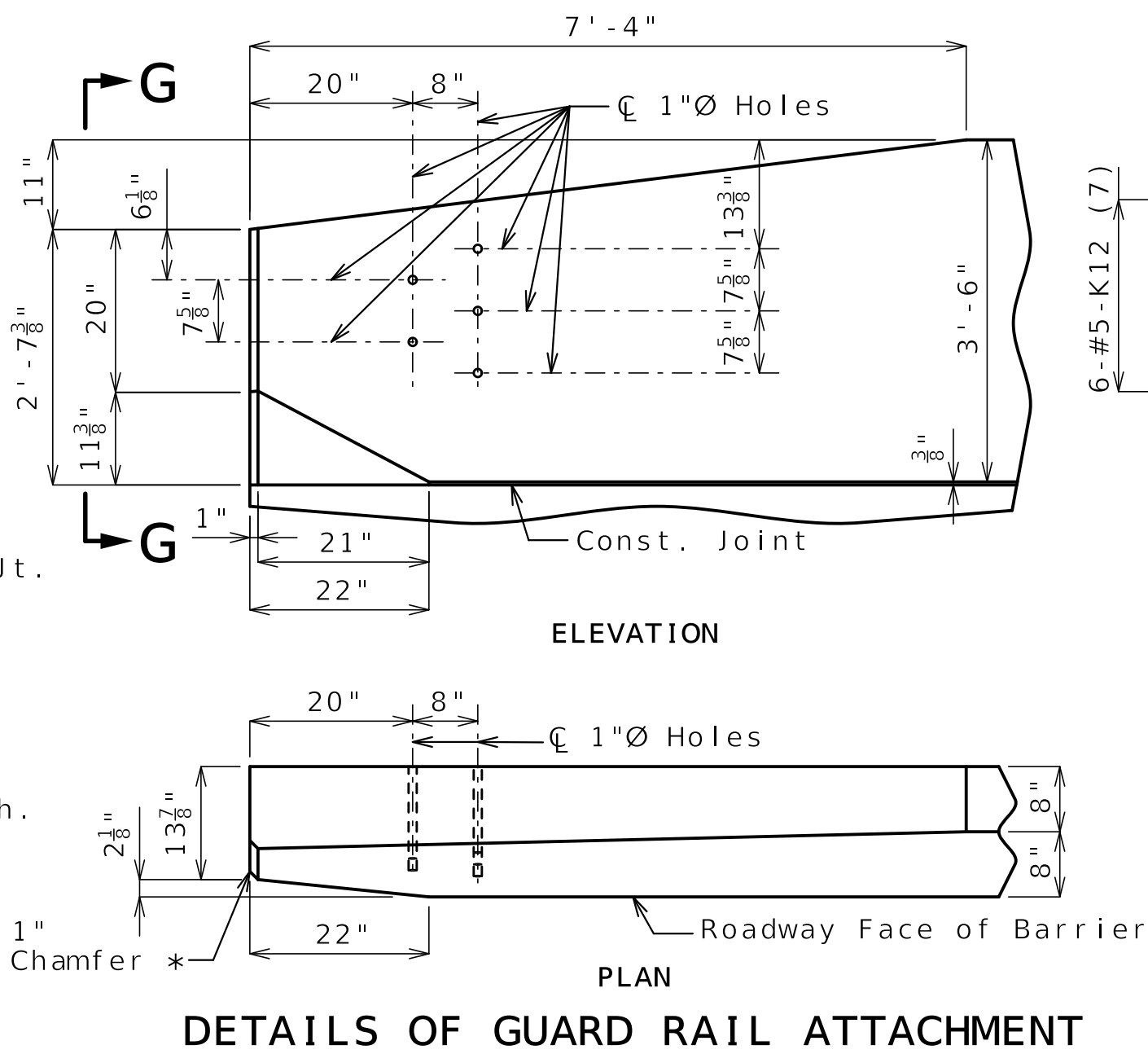
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

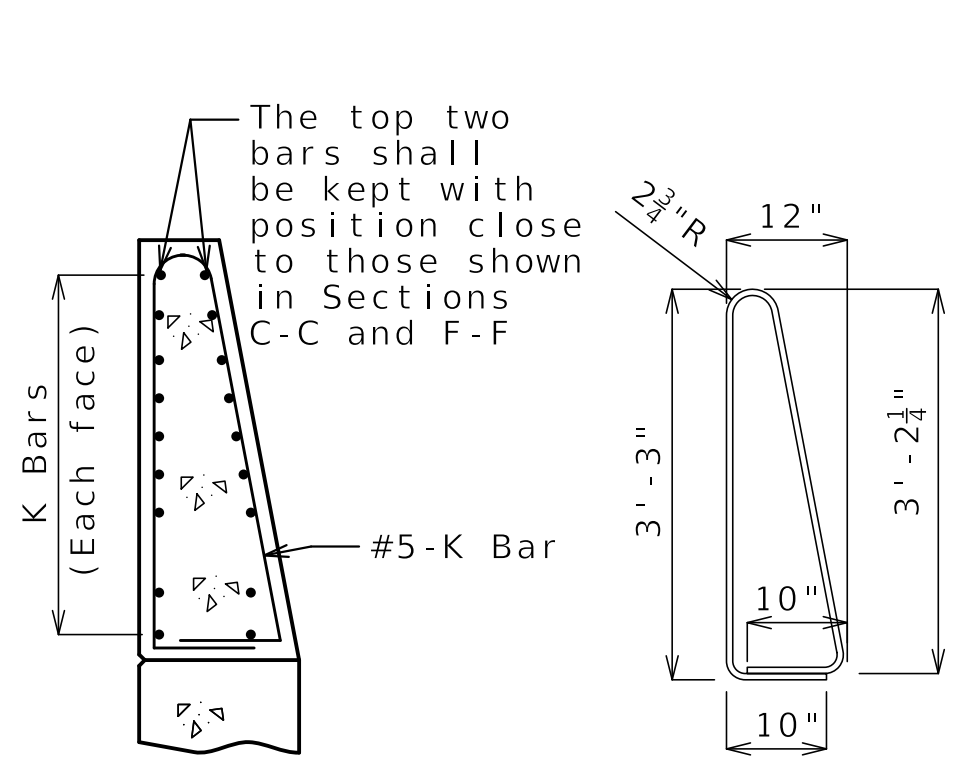
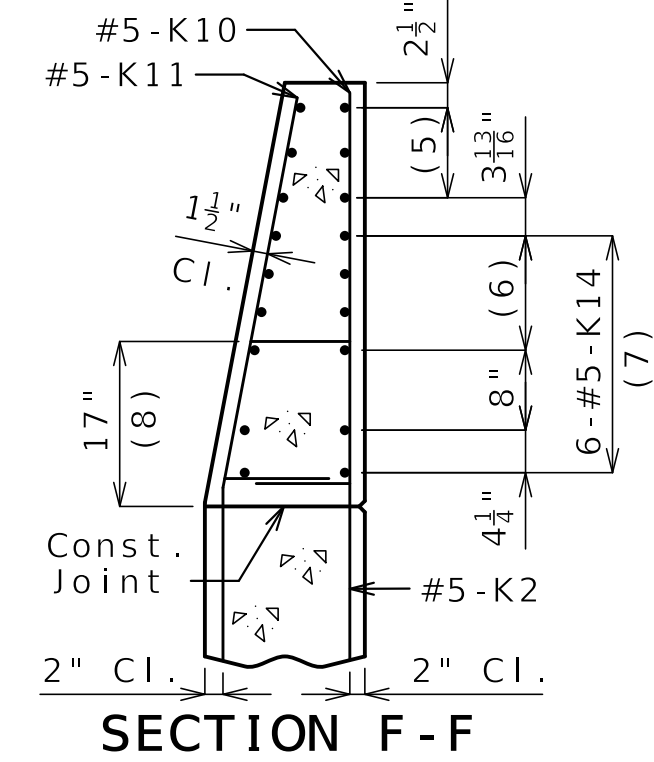
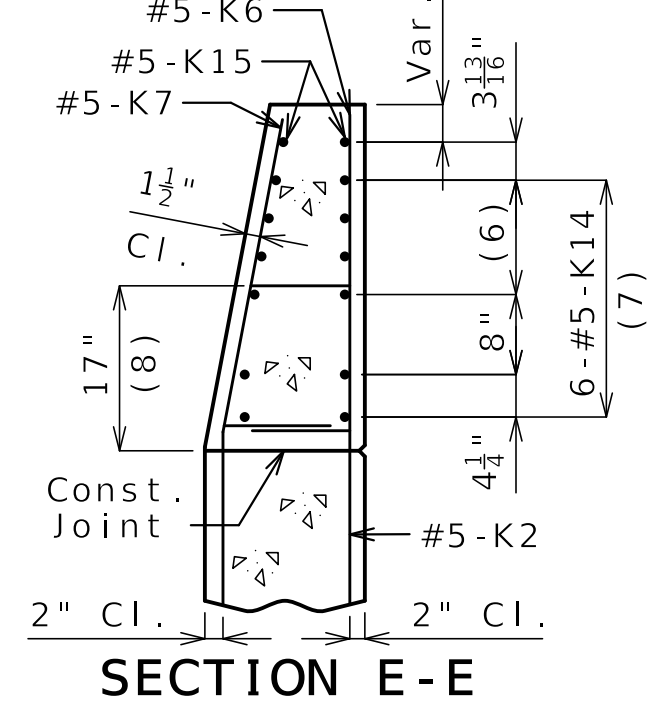
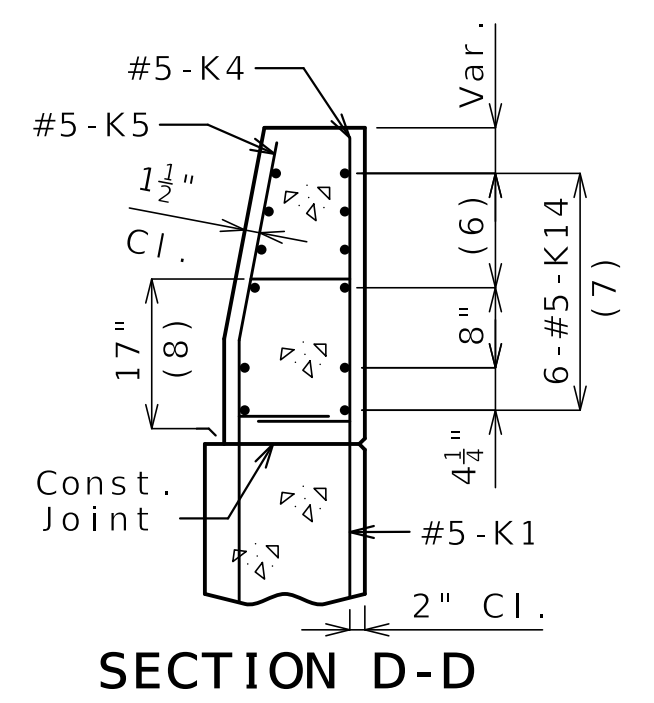
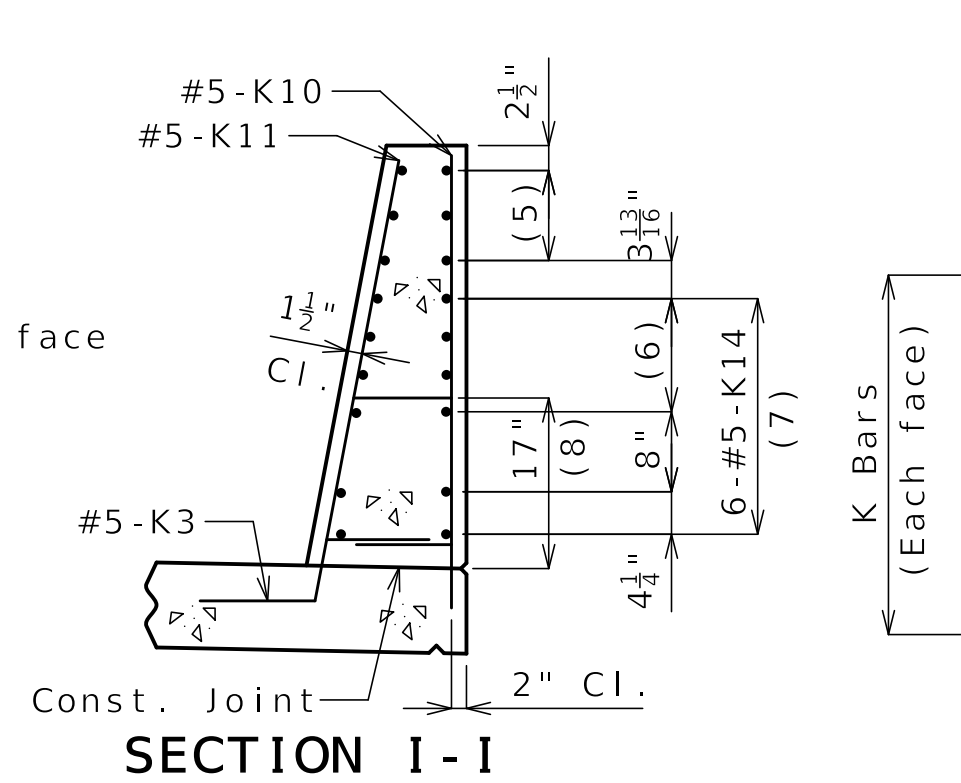
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



* Transition to zero at Type A curb for gutter lines to match.



- (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 @ 4 1/2" cts., each face
- (6) 3 spaces @ 3 3/8"
- (7) Spaced as shown, each face
- (8) To top of bar



(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. 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.

TYPE D BARRIER AT END BENTS

(Left barrier shown, right barrier similar)

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

Sheet No. 17 of 22

Detailed June 2025
Checked July 2025



DATE PREPARED
10/21/2025 7:00:04 AM
TYLER R. LINDSAY - CIVIL
MO-PE-2019000128

ROUTE 50
DISTRICT BR

STATE MO
SHEET NO. 17

COUNTY JOHNSON
JOB NO. JKR0101
CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9616

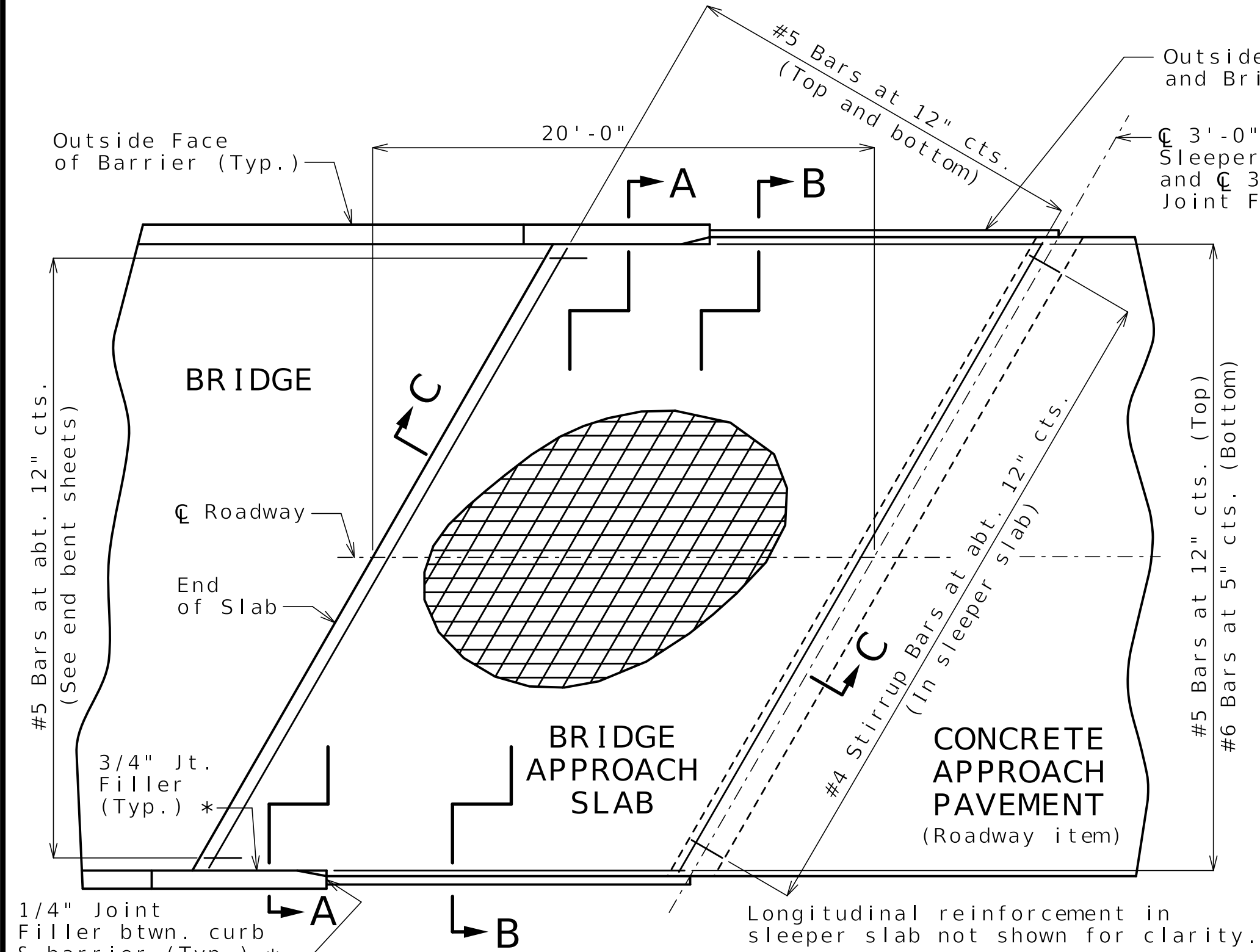
DESCRIPTION

DATE

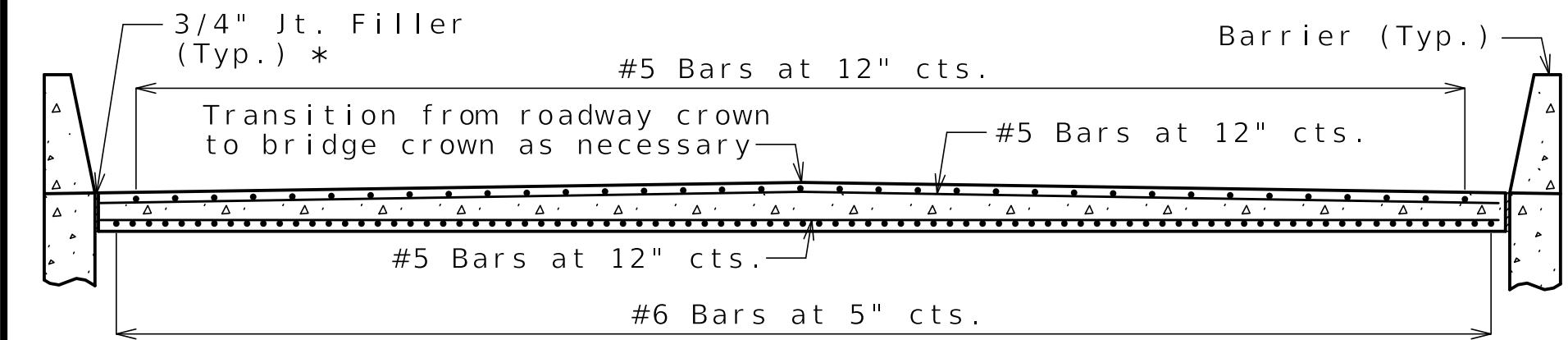
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

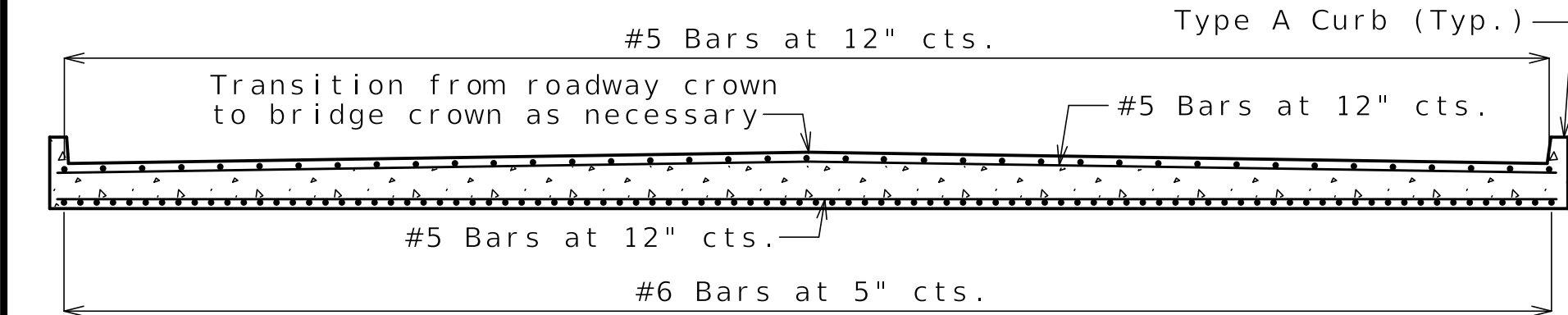
MODOT



PART PLAN SHOWING REINFORCEMENT

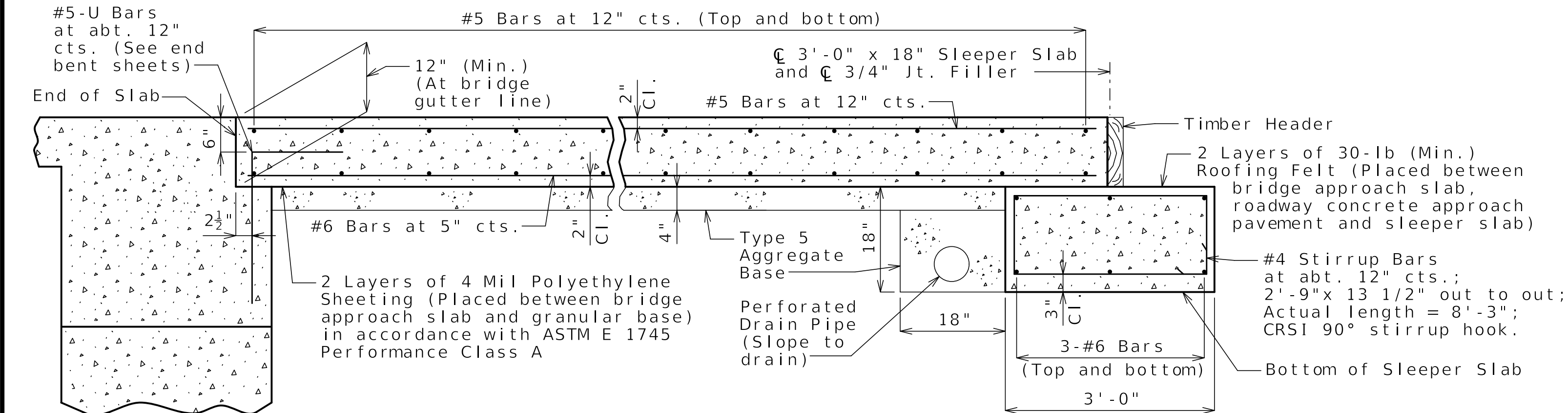


SECTION A-A



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.



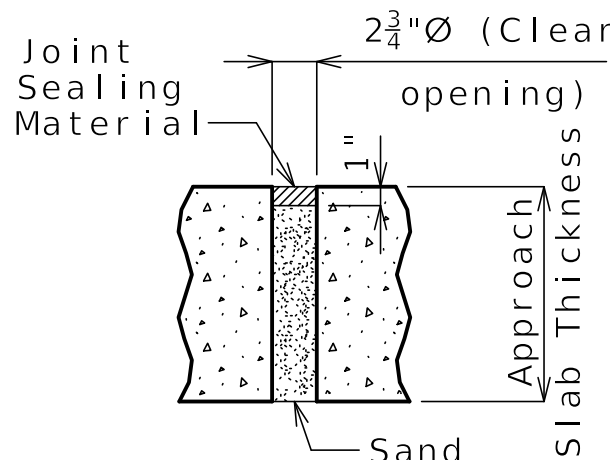
SECTION C-C

BRIDGE APPROACH SLAB (MAJOR)

Detailed June 2025
Checked July 2025

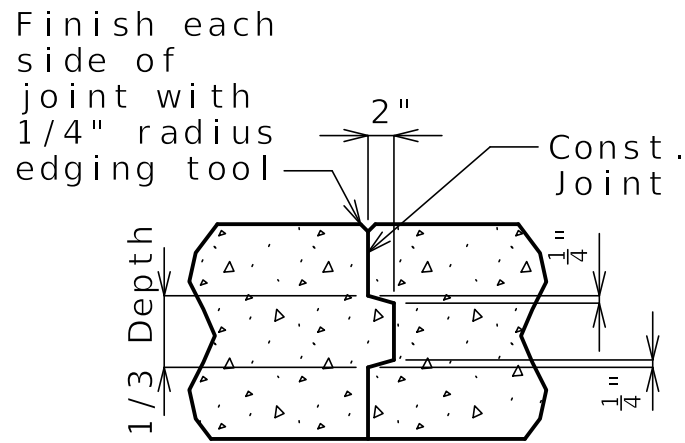
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 18 of 22

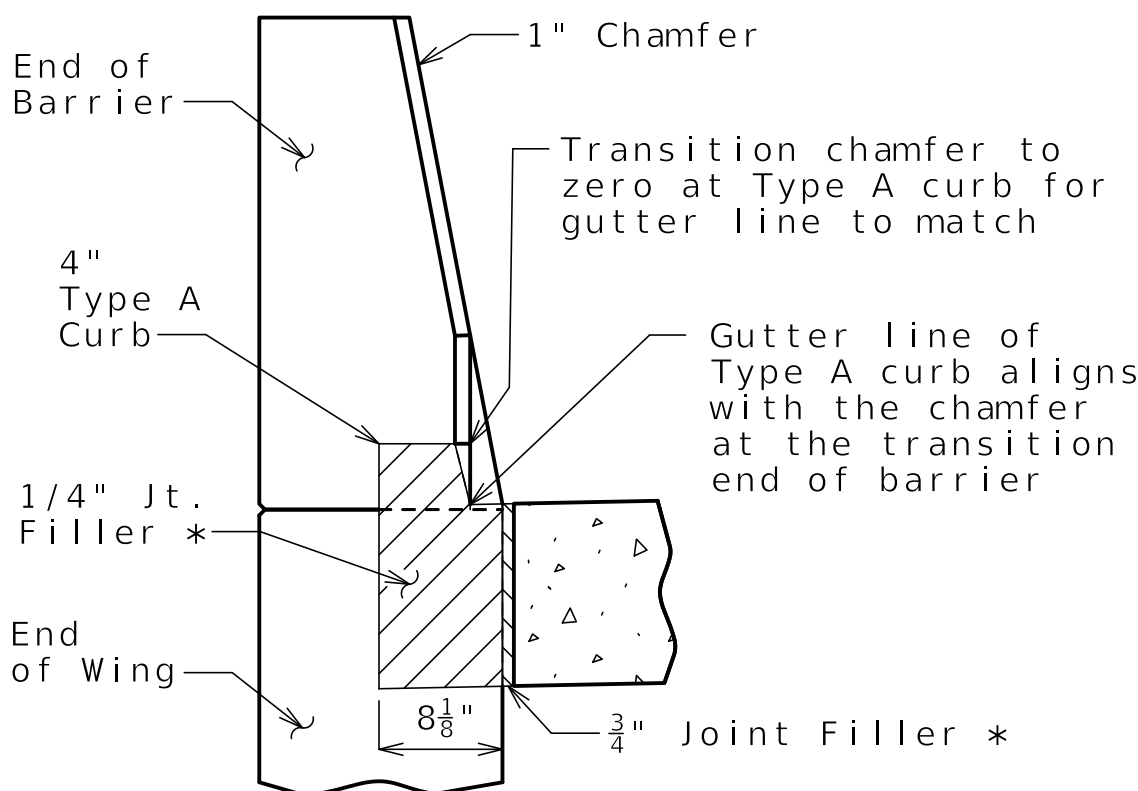


UNDERSEAL ACCESS HOLE DETAIL

(If required)



CONSTRUCTION JOINT DETAIL



SECTION BETWEEN CURB AND BARRIER

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 $f_y = 60,000$ 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 24 inches for #5 bars and 40 inches for #6 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710.

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.

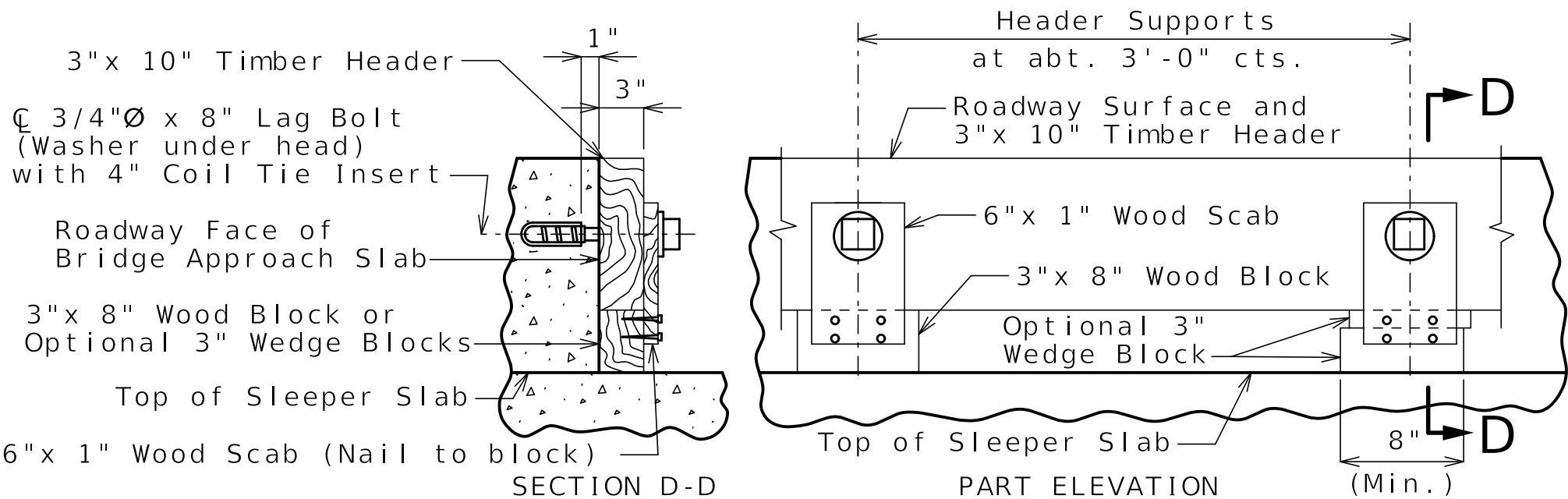
Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab.

For concrete approach pavement details, see roadway plans.

See Missouri Standard Plan 609.00 for details of Type A curb.

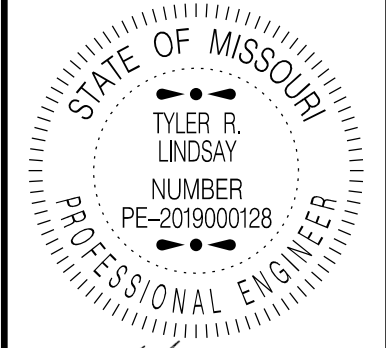
Payment for furnishing all materials, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, Type 5 aggregate base, joint filler and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered 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.



DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.



DATE PREPARED
10/21/2025

ROUTE
#50#

DISTRICT
BR

STATE
MO

SHEET NO.
18

COUNTY
JOHNSON

JOB NO.
KRC0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9016

DESCRIPTION

DATE

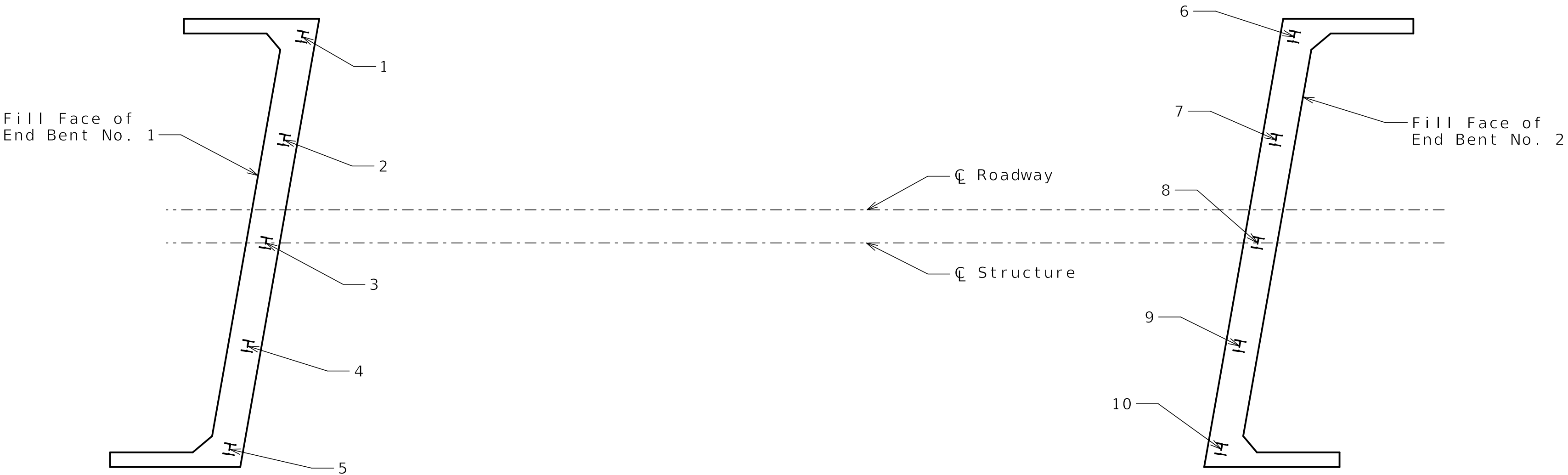
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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

MoDOT



PART PLAN SHOWING PILE NUMBERING FOR RECORDING AS-BUILT PILE DATA

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
					End Bent No. 1
1					
2					
3					
4					
5					
					End Bent No. 2
6					
7					
8					
9					
10					

Note:
Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal
D. PDA test pile
E. Minimum tip elevation controlled
(Use when actual blow count is less than PDA blow count due to minimum tip elevation requirement. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating actual value is higher than PDA value.)

This sheet to be completed by MoDOT construction personnel.

STATE OF MISSOURI

TYLER R. LINDSAY

NUMBER

PE-2019000128

PROFESSIONAL ENGINEER

10/21/2025 7:02:16 AM

TYLER R. LINDSAY - CIVIL

MO-PE-2019000128

DATE PREPARED

10/21/2025

ROUTE

STATE

####50

MO

DISTRICT

SHEET NO.

BR

21

COUNTY

JOHNSON

JOB NO.

JKR0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A9616

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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



MoDOT-Geotechnical Section
1617 Missouri Blvd
Jefferson City, MO 65109

SUBSURFACE DIAGRAM

PROJECT NAME Bridge Replacement-MGK
PROJECT LOCATION Over Butchers Branch
CLIENT _____
PROJECT NUMBER KR0101



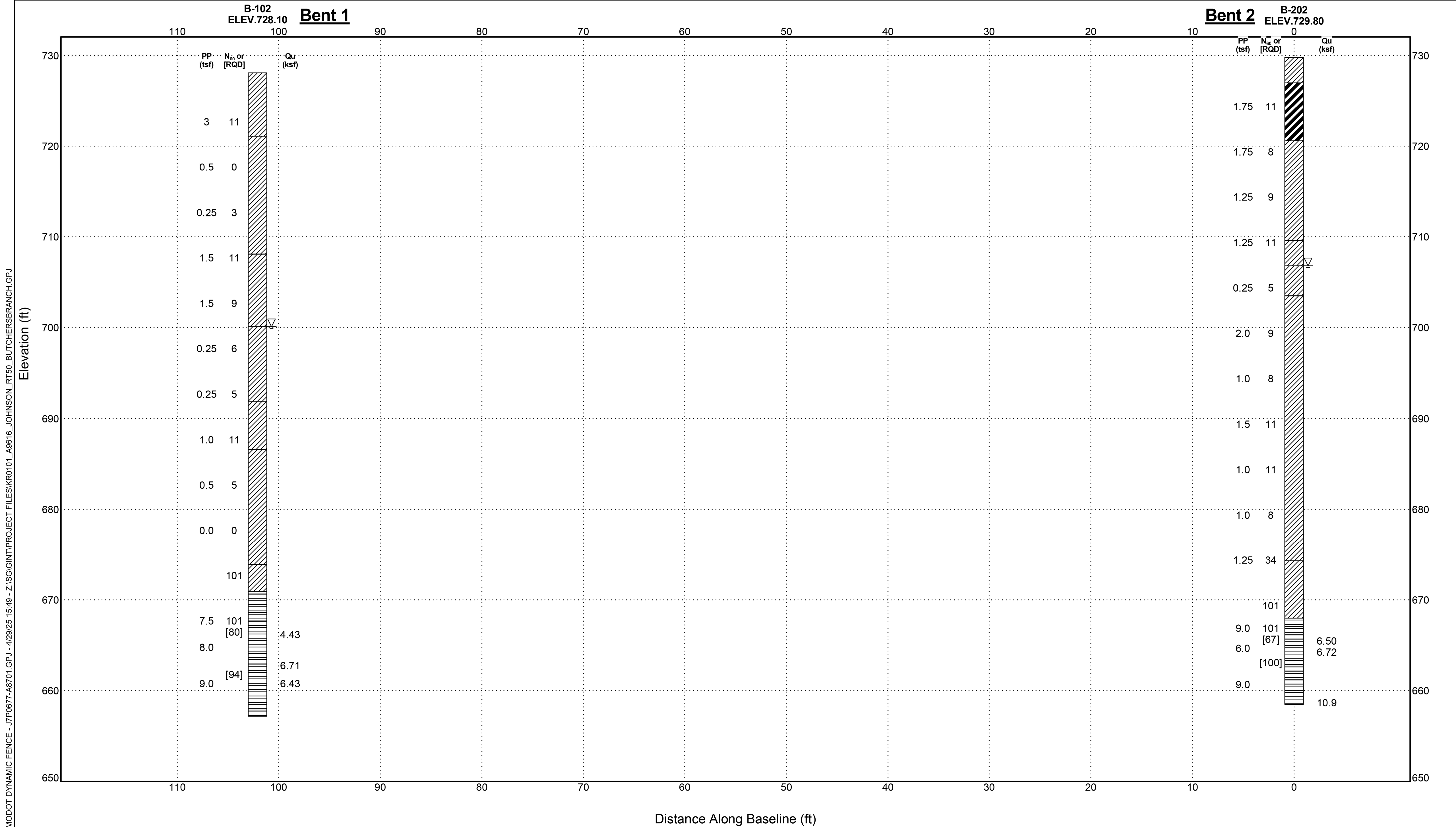
USCS Low Plasticity Clay



Shale



USCS High Plasticity Clay



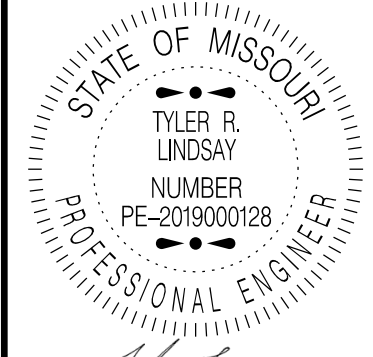
BORING DATA

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

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

Sheet No. 22 of 22

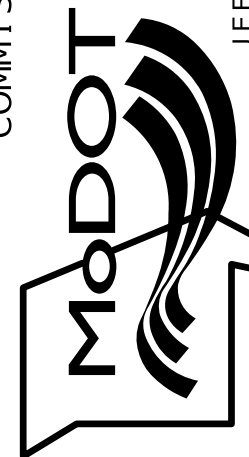
Detailed July 2025
Checked Aug. 2025



DATE PREPARED
10/21/2025
ROUTE **50** STATE **MO**
DISTRICT **BR** SHEET NO. **22**
COUNTY **JOHNSON**
JOB NO. **JKR0101**
CONTRACT ID. _____
PROJECT NO. _____
BRIDGE NO. **A9616**

DATE	DESCRIPTION

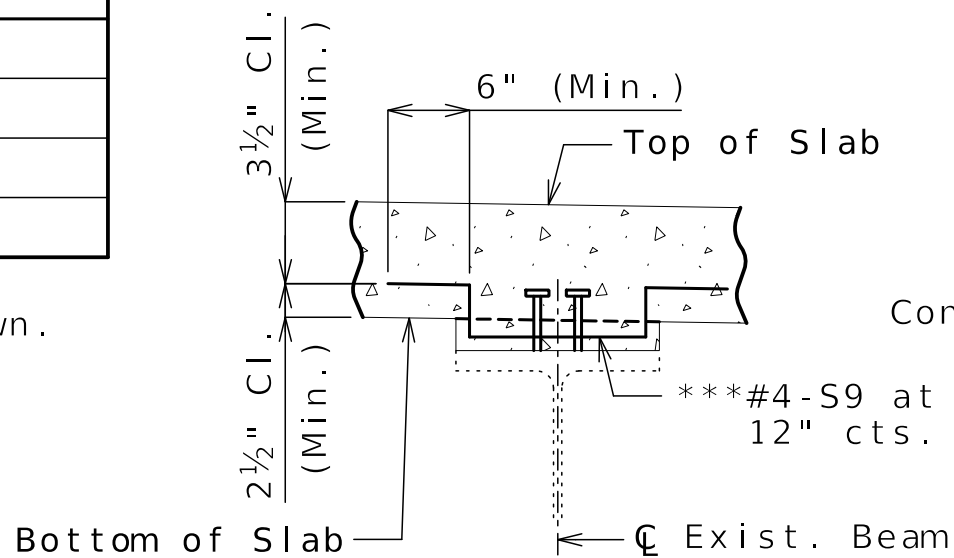
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



U.I.P., REDECK, REHABILITATE AND RECONFIGURE EXISTING TO (45'-60.63'-60.63'-45') CONTINUOUS COMPOSITE WIDE FLANGE BEAM SPANS (SKEW: VARIES)

Required Lap Length For Bar Splices **	
Bar Size	Splice Length
4	2'-7"
5	3'-3"
6	3'-10"
7	4'-11"

** Unless otherwise shown.



DETAIL B

***Include when haunch is over 4".
Estimated 60 bars per beam in Span
(3-4) starting at Int. Bent No. 3

General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications
Seismic Performance Category A

Design Loading:

H20-44 (1965) (Existing)
HS20-44 (New Construction)
35 lb/sf Future Wearing Surface
Earth - 120 lb/cf, Equivalent Fluid Pressure 45 lb/cf (Min.)
Fatigue Stress - Case III

Design Unit Stresses:

Class B-1 Concrete (Barrier) f'c = 4,000 psi
Class B-2 Concrete (End Bents & Superstructure, except Barrier) f'c = 4,000 psi
Reinforcing Steel (ASTM A615 Grade 60) fy = 60,000 psi
Structural Steel (ASTM A709 Grade 50) fy = 50,000 psi

Fabricated Steel Connections:

Field connections shall be made with 3/4-inch diameter ASTM F3125
Type 1 bolts and 13/16-inch diameter holes, except as noted.

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.

Miscellaneous:

Protective coating for concrete bents and piers (Urethane) shall be
applied as shown on the bridge plans and in accordance with Sec 711.

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 plain bars and 30 diameters for deformed
bars, unless otherwise noted.

Roadway surfacing adjacent to bridge ends shall match new bridge
slab surface. (Roadway item)

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

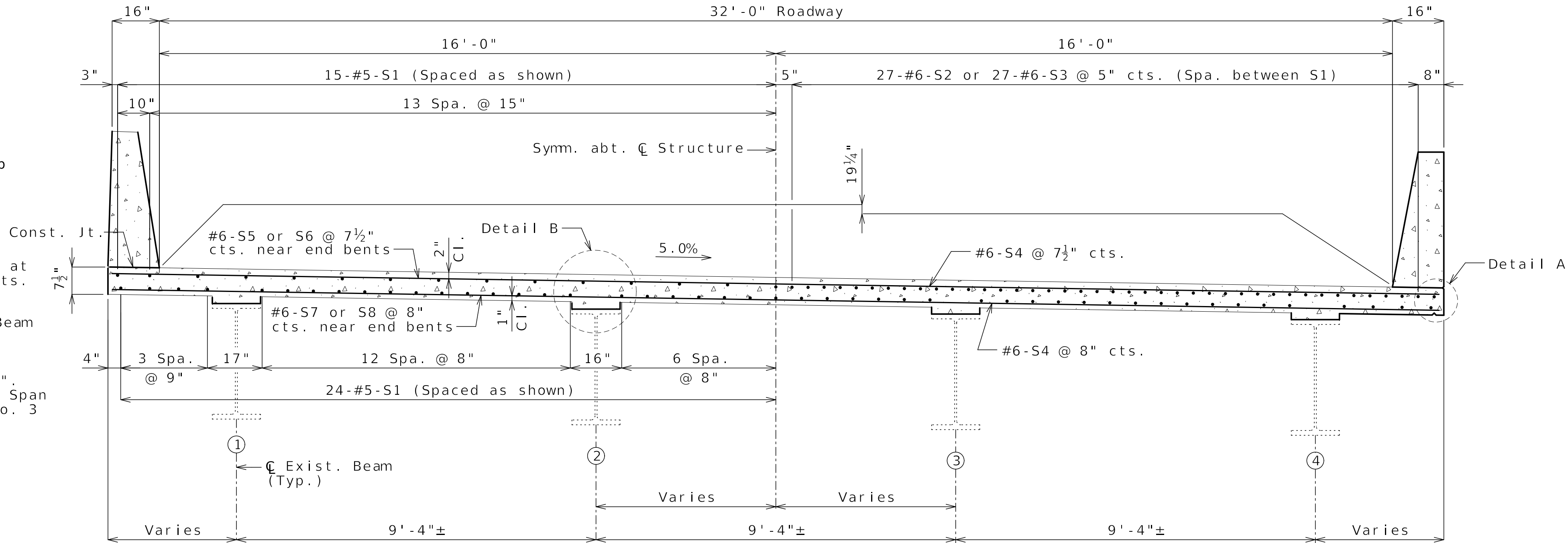
Contractor shall verify all dimensions in field before finalizing the
shop drawings.

The area exposed by the removal of concrete and not covered with
new concrete shall be coated with an approved qualified special
mortar in accordance with Sec 704.

Rubblized concrete from the existing bridge deck that qualifies as
clean fill may be placed on spill slopes at end bents above ordinary
high water line (Roadway item).

Traffic Handling:

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

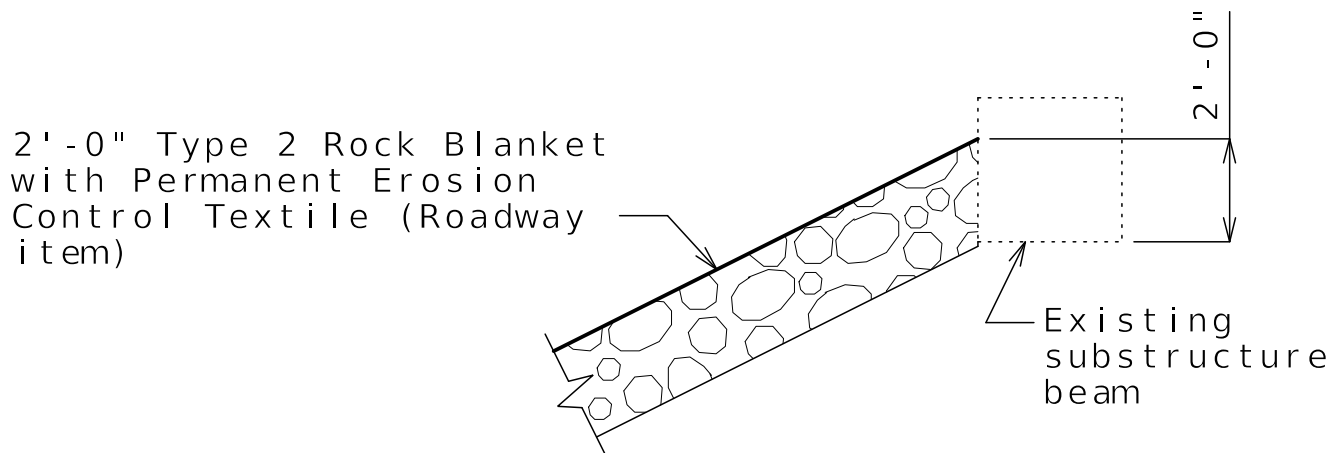


HALF SECTION NEAR MIDSPAN AND END BENTS

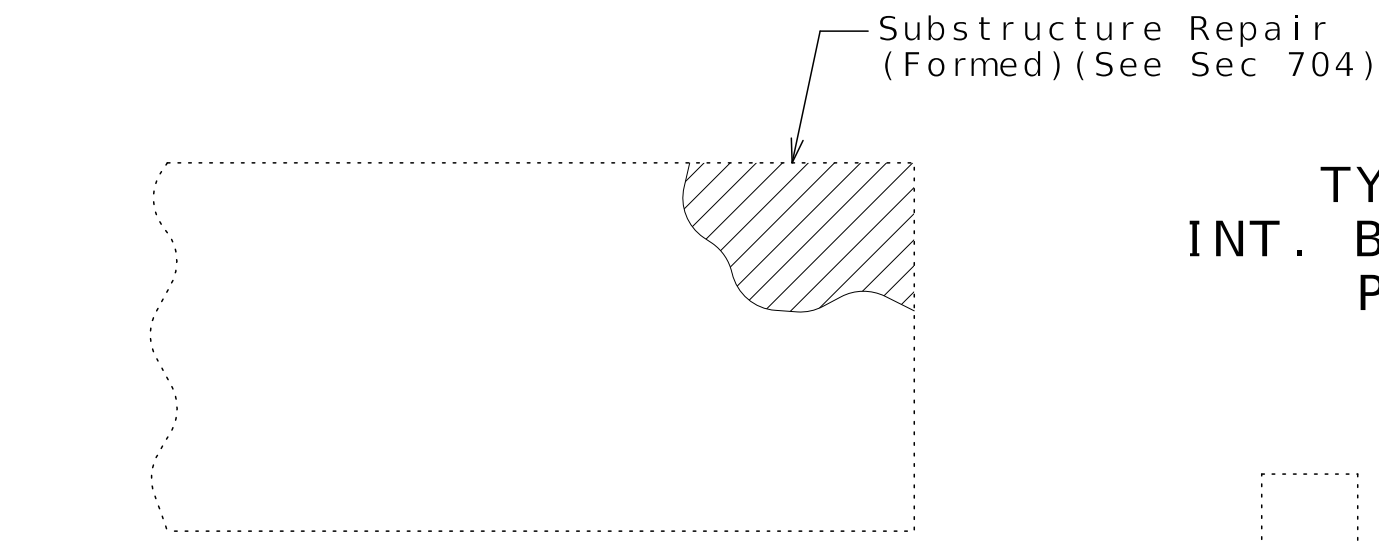
HALF SECTION NEAR INT. BENT

TYPICAL SECTION THRU SLAB

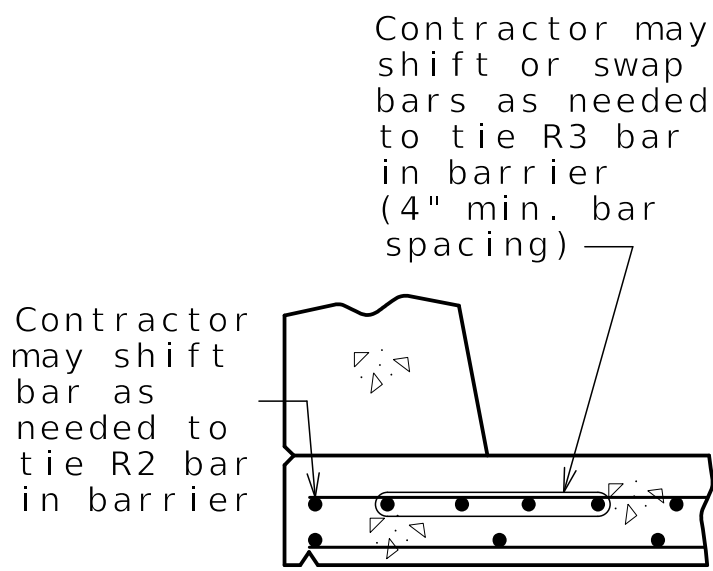
Table Showing S2 & S3 Bar Lengths							
Int. Bent No. 2		Int. Bent No. 3		Int. Bent No. 4		Int. Bent No. 5	
Span 1	Span 2	Span 2	Span 3	Span 3	Span 4	Span 4	Span 5
15'-3"	16'-0"	23'-9"	18'-6"	18'-6"	23'-9"	16'-0"	15'-3"
S2		S3		S3		S2	



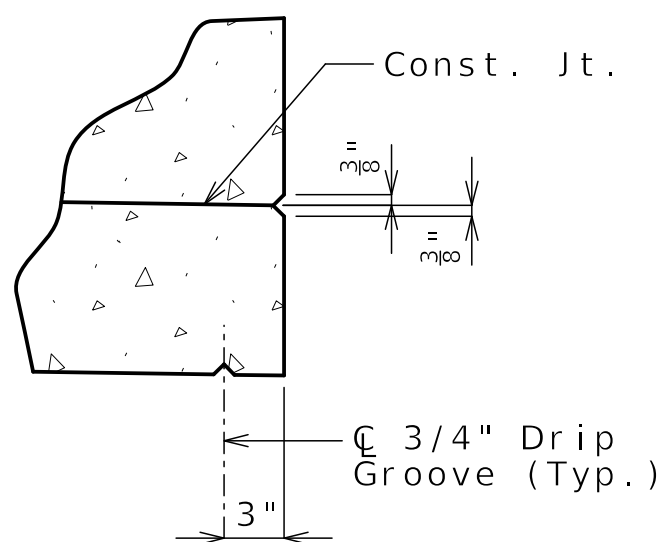
ROCK BLANKET ON SPILL SLOPES



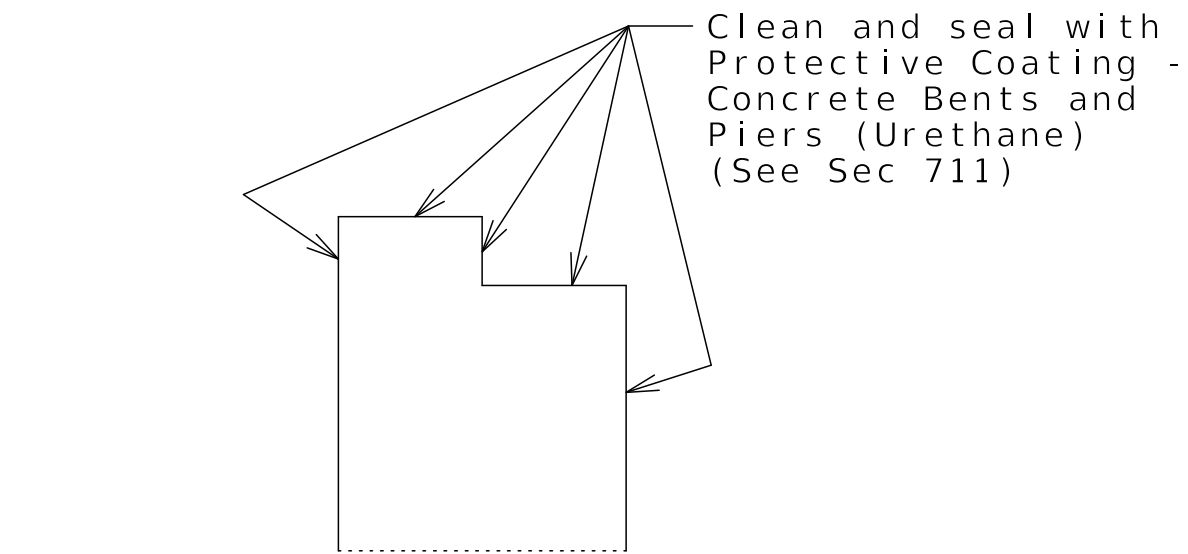
TYPICAL PART ELEVATION SHOWING
SUBSTRUCTURE REPAIR AT
INT. BENT NO. 2



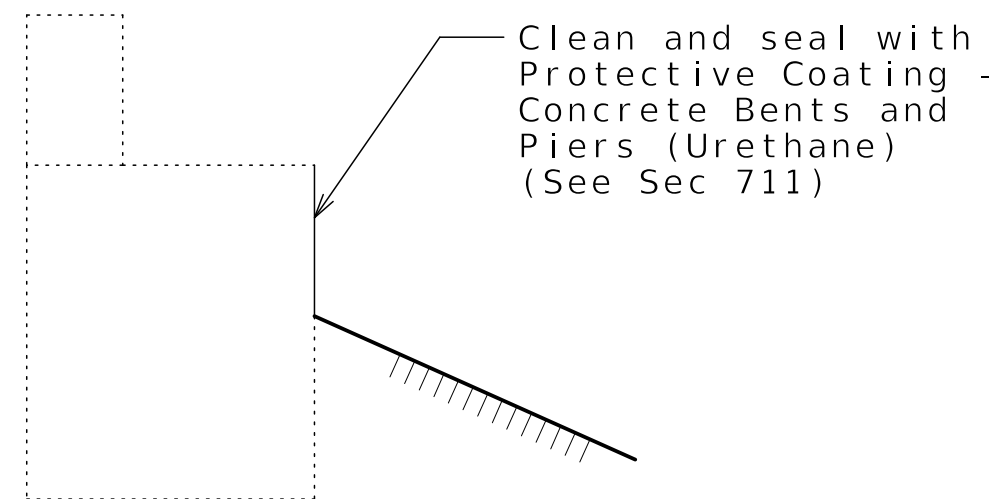
OPTIONAL SHIFTING
TOP BARS AT BARRIER



DETAIL A



TYPICAL SECTION THRU
INT. BENTS NO. 2 & 5 SHOWING
PROTECTIVE COATING



TYPICAL SECTION THRU
END BENTS NO. 1 & 6 SHOWING
PROTECTIVE COATING

REPAIRS TO BRIDGE:

ROUTE 50EB FROM ROUTE M TO ROUTE 58
ABOUT 2.6 MILES SOUTHEAST OF ROUTE M
BEGINNING STATION 819+26.50± (MATCH EXISTING)

Designed Sep. 2025
Detailed Sep. 2025
Checked Sep. 2025

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

Sheet No. 1 of 20

STATE OF MISSOURI

ALEX BENZ

NUMBER

PE-2018003121

PROFESSIONAL ENGINEER

Alex C. Benz

10/23/2025 5:44:18 PM

Alex Benz - Civil

MO PE-2018003121

DATE PREPARED

10/23/2025

ROUTE

50

STATE

MO

DISTRICT

BR

SHEET NO.

1

COUNTY

JOHNSON

JOB NO.

JKR0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A11752

DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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

EFK Moen

Civil Engineering Design

13523 Barrett Parkway Dr

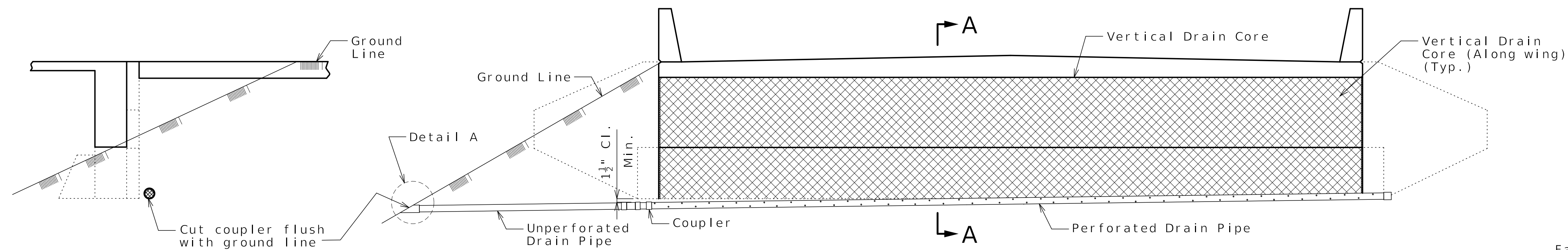
Suite 250

St. Louis, MO 63021

Phone 314-394-3100

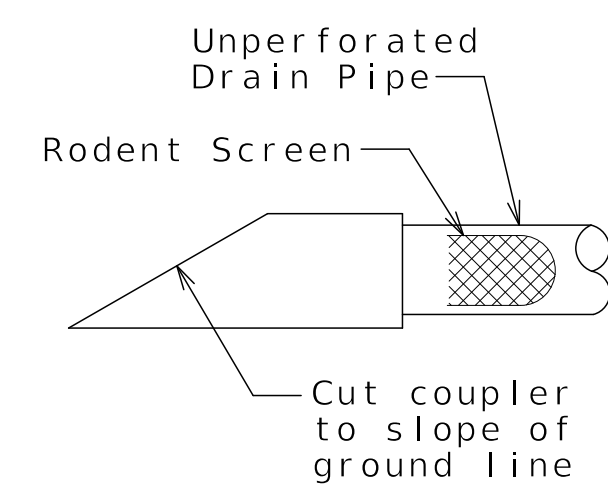
Fax 314-394-3199

Missouri Certificate of Authority: 001578

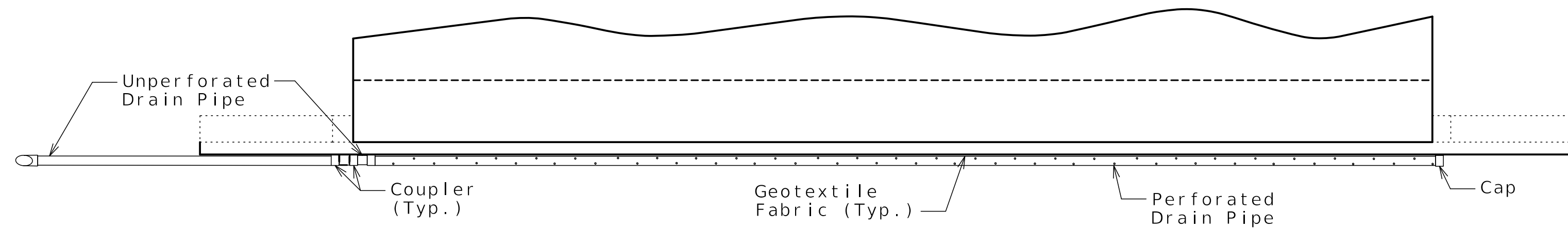


ELEVATION OF WING

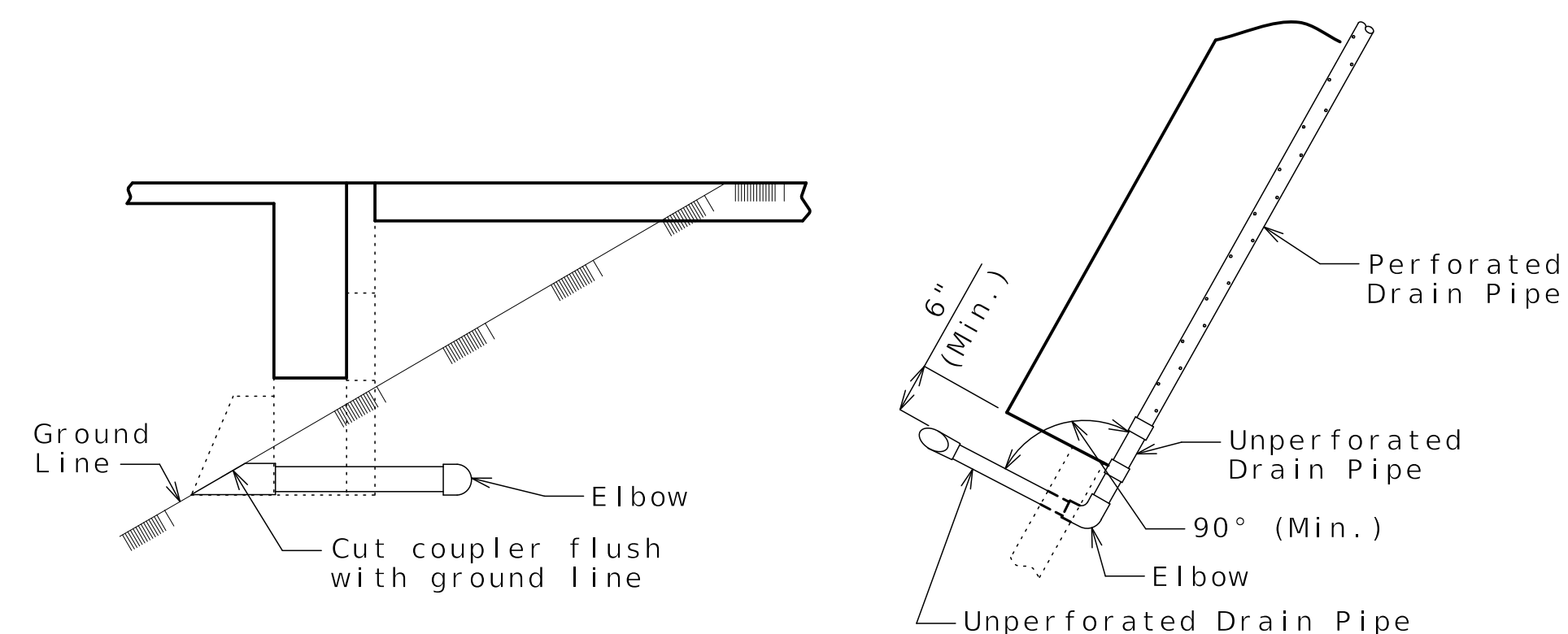
ELEVATION OF END BENT



DETAIL A



PLAN OF END BENT



ELEVATION OF WING

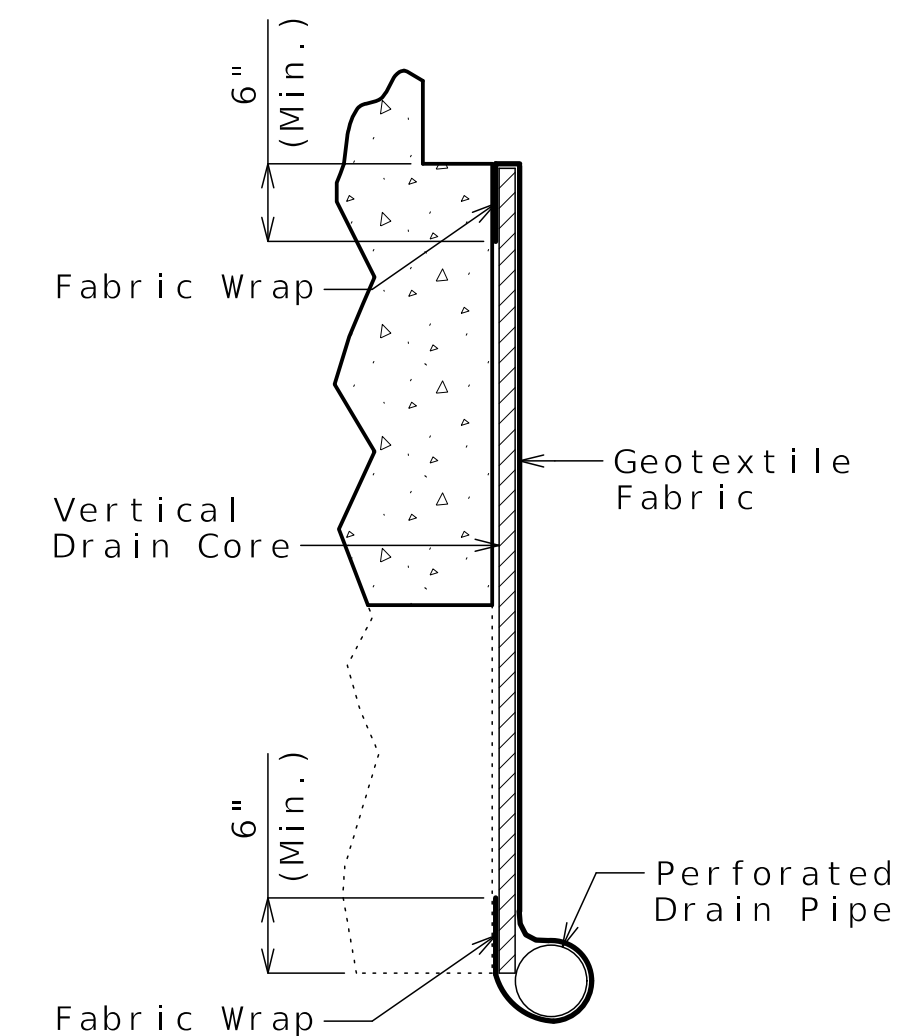
PART PLAN

OPTIONAL TURNED DRAIN

(Use only when straight drain is not practical.)

VERTICAL DRAIN AT END BENTS

(Squared end bent shown, skewed end bent similar)



PART SECTION A-A
(Section thru wing similar)

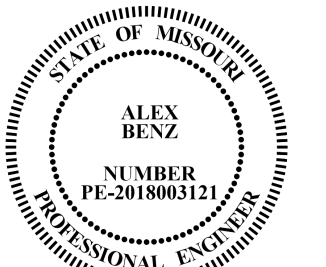
General Notes:

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.



Alex C. Benz
10/23/2025 5:28:06 PM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED

10/23/2025

ROUTE	STATE
50	MO

50	MO
DISTRICT	SHEET NO.

DISTRICT	SHEET NO.
BR	3

DR	5
COUNTY	

JOHNSON

JOB NO.

JKR0101

CONTRACT ID.

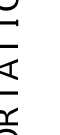
PROJECT NO. _____

BRIDGE NO.

A11752

[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

The logo for the Missouri Department of Transportation (MoDOT) features the word "MoDOT" in a bold, sans-serif font. Below the text is a stylized graphic of a bridge or highway structure with three curved lines representing the road or the state's shape.

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

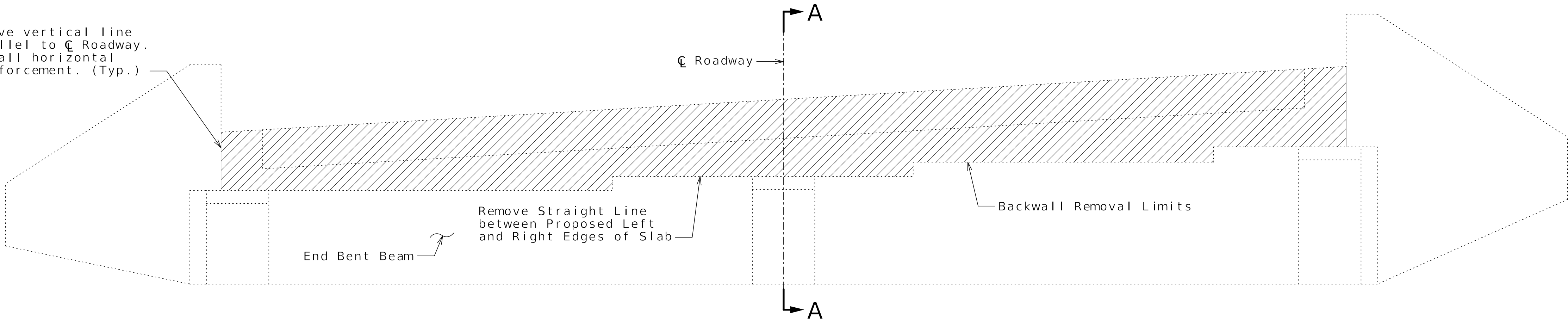
EFK Moen
Civil Engineering Design

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

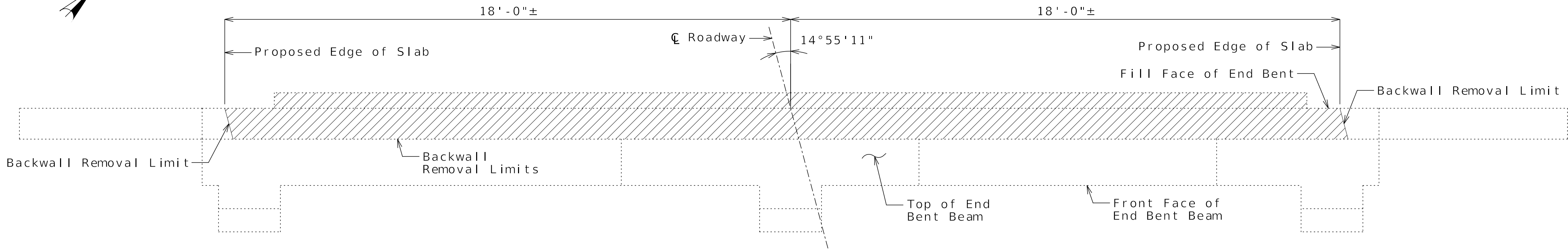
Phone 314-394-3100
Fax 314-394-3199

Missouri Certificate of Authority: 001578

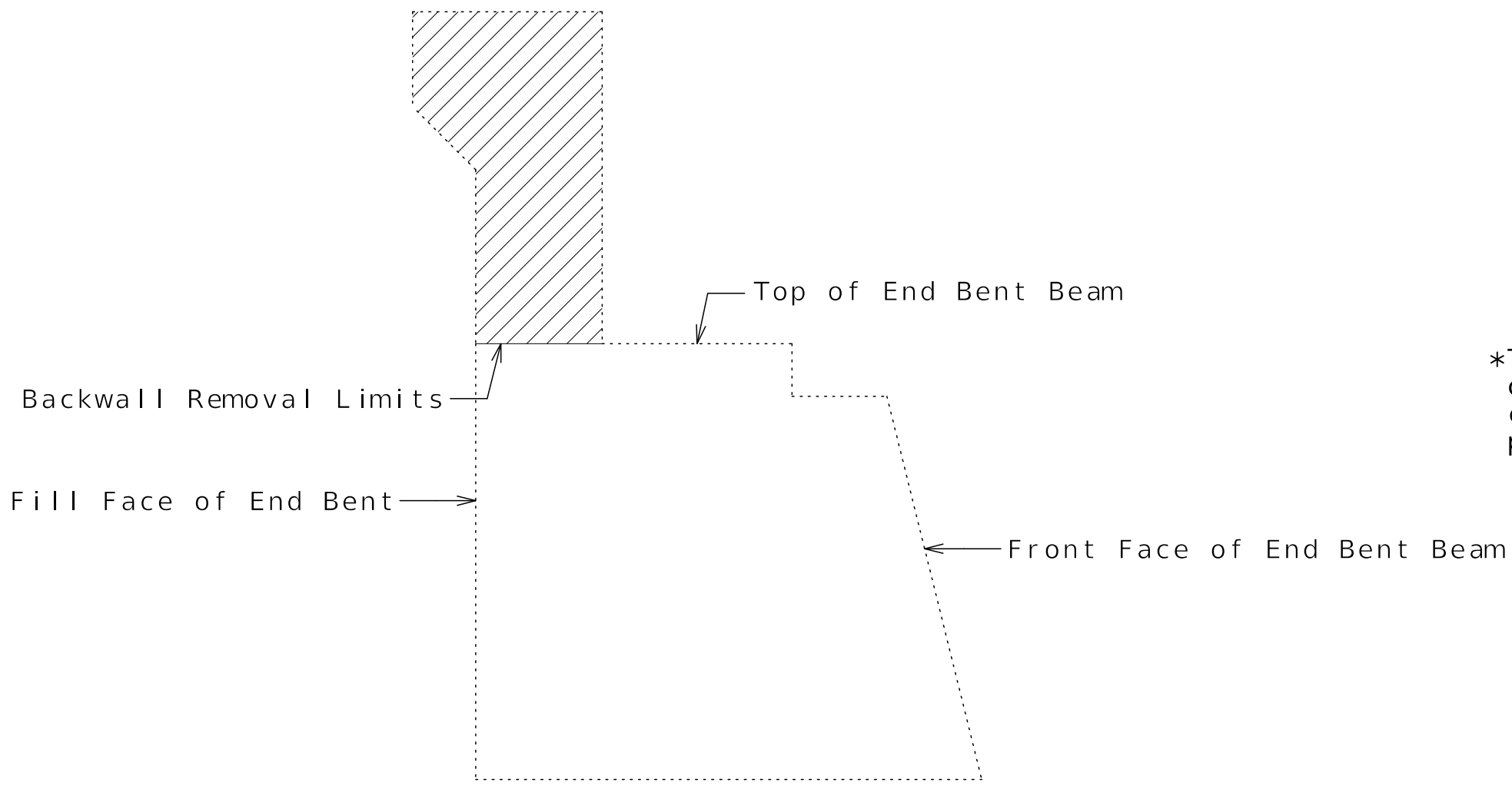
Remove vertical line parallel to C Roadway. Cut all horizontal reinforcement. (Typ.)



ELEVATION OF END BENT NO. 1



PLAN OF END BENT NO. 1

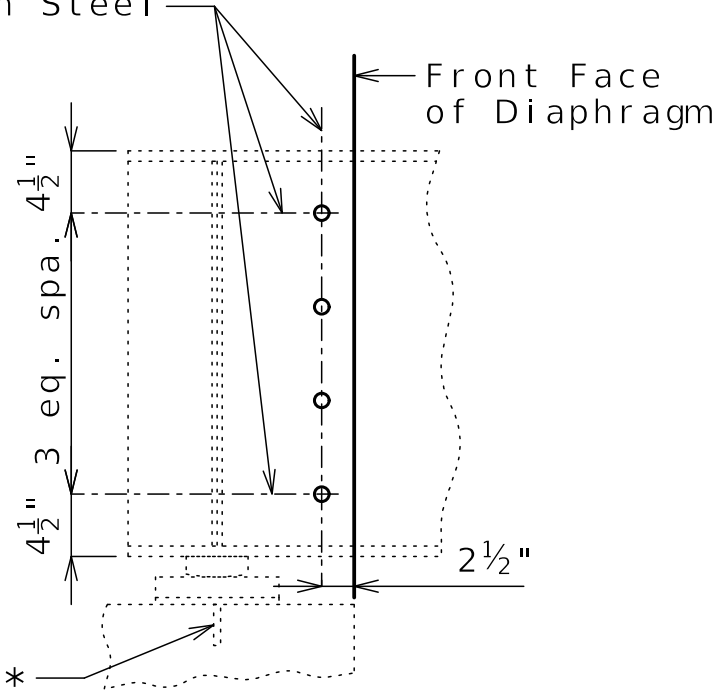


SECTION A-A

C 1 1/16-inch diameter holes in each beam. Cost of field drilling holes in existing wide flange beam webs will be considered completely covered by the contract unit price for Slab on Steel

*These tasks and the temporary support of the beam ends shall be considered completely covered by the contract unit price for Slab on Steel.

Cut existing anchor bolt flush with top of existing end bent beam. Place 3 layers of 30-lb (Min.) roofing felt beneath existing lead plate*



DETAIL OF WEB HOLES & BEARING ASSEMBLY

Notes:

The cost of concrete removal as shown will be considered completely covered by the contract unit price for Removal of Existing Bridge Deck.

Vertical and horizontal backwall reinforcement to be cut off 1 inch below concrete removal surface and the resulting holes shall be filled with a qualified special mortar.

A smooth, level surface shall be provided at removal limits.

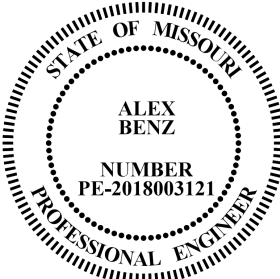
END BENT NO. 1 REMOVAL DETAILS

Detailed Sep. 2025
Checked Sep. 2025

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

Sheet No. 4 of 20

O:\2022R3\MoDOT_ORD_v10.12.02.04\24083 MoDOT JKR0101 Route 50EB Bridge\DGN\Bridge\Final\Plotsheets\B_A11752_004_JKR0101_End-Bent-1-Rem.dgn 9:33:21 AM 10/27/2025



Alex C. Benz
10/27/2025 9:34:46 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
10/27/2025

ROUTE 50 STATE MO

DISTRICT BR SHEET NO. 4

COUNTY JOHNSON

JOB NO. JKR0101

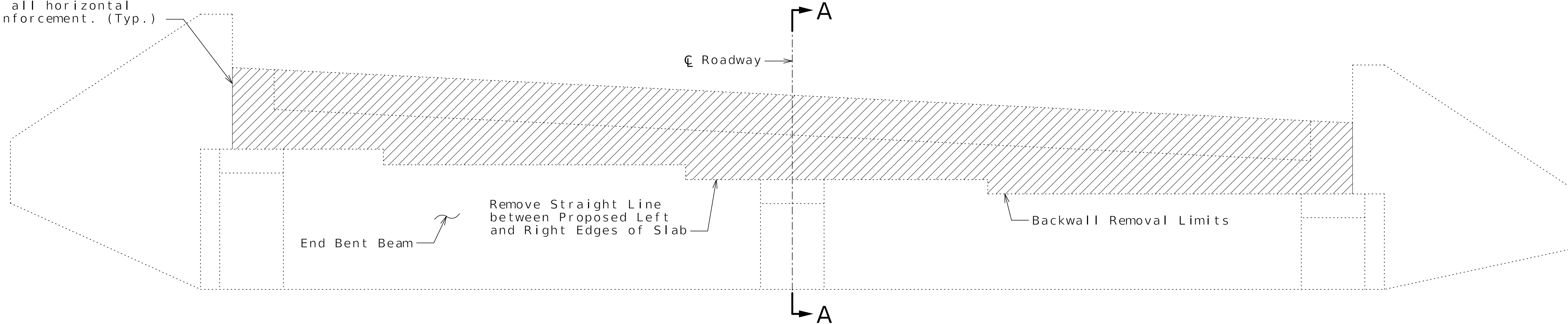
CONTRACT ID.

BRIDGE NO. A11752

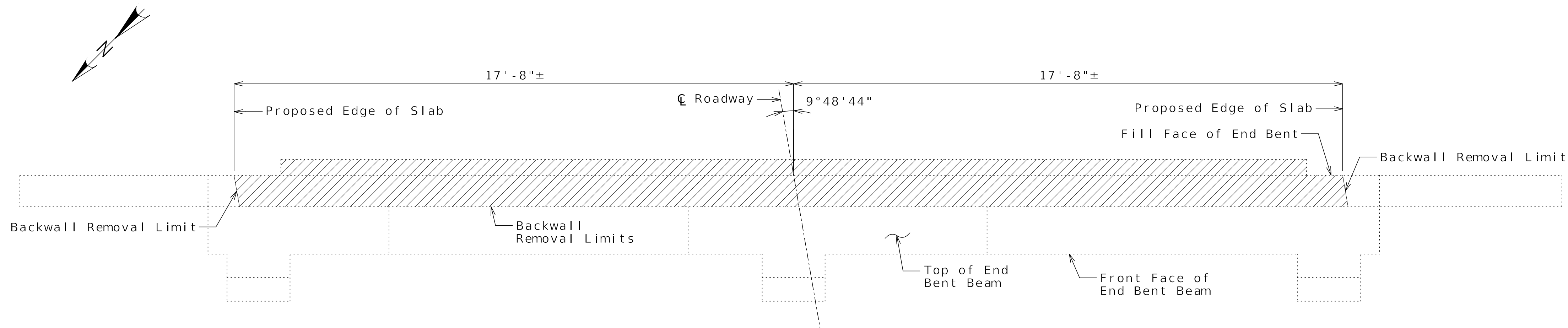
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
MoDOT
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

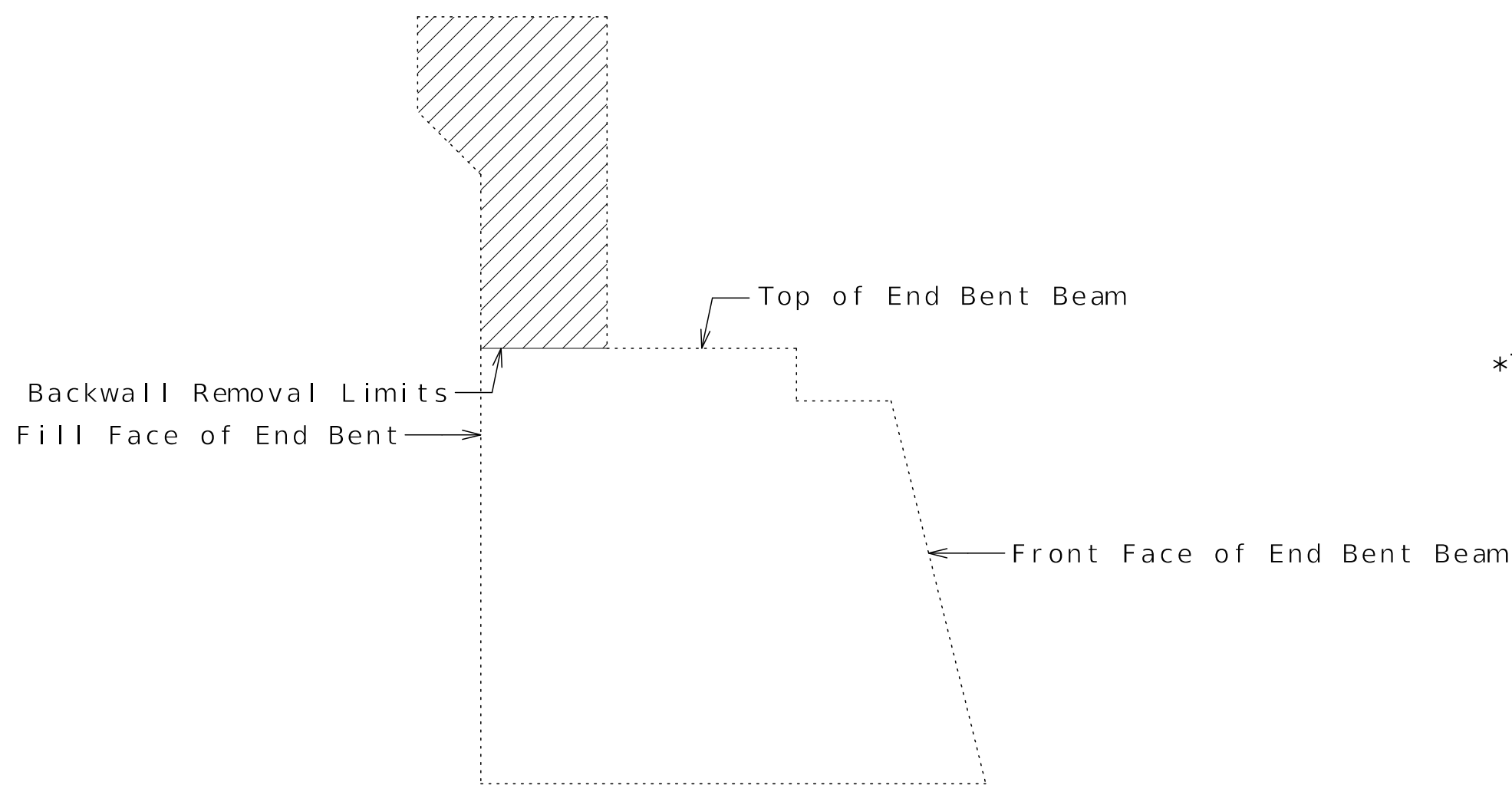
Remove vertical line parallel to C Roadway. Cut all horizontal reinforcement. (Typ.)



ELEVATION OF END BENT NO. 6



PLAN OF END BENT NO. 6

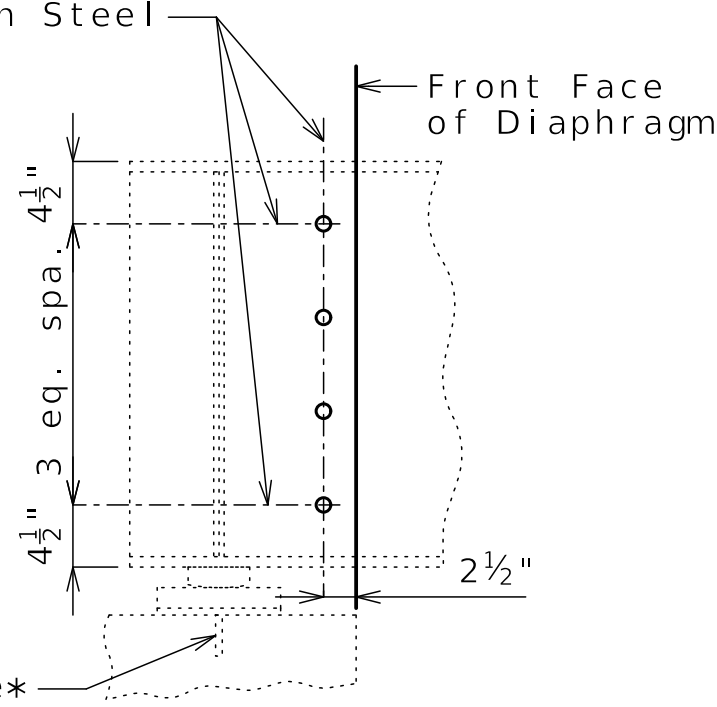


SECTION A-A

C 1 1/16-inch diameter holes in each beam. Cost of field drilling holes in existing wide flange beam webs will be considered completely covered by the contract unit price for Slab on Steel

*These tasks and the temporary support of the beam ends shall be considered completely covered by the contract unit price for Slab on Steel.

Cut existing anchor bolt flush with top of existing end bent beam. Place 3 layers of 30-lb (Min.) roofing felt beneath existing lead plate*



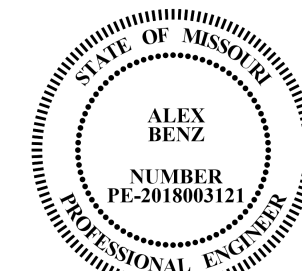
DETAIL OF WEB HOLES & BEARING ASSEMBLY

Notes:

The cost of concrete removal as shown will be considered completely covered by the contract unit price for Removal of Existing Bridge Deck.

Vertical and horizontal backwall reinforcement to be cut off 1 inch below concrete removal surface and the resulting holes shall be filled with a qualified special mortar.

A smooth, level surface shall be provided at removal limits.



Alex C. Benz
10/27/2025 9:35:08 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
10/27/2025

ROUTE 50 STATE MO

DISTRICT BR SHEET NO. 6

COUNTY JOHNSON

JOB NO. JKR0101

CONTRACT ID.

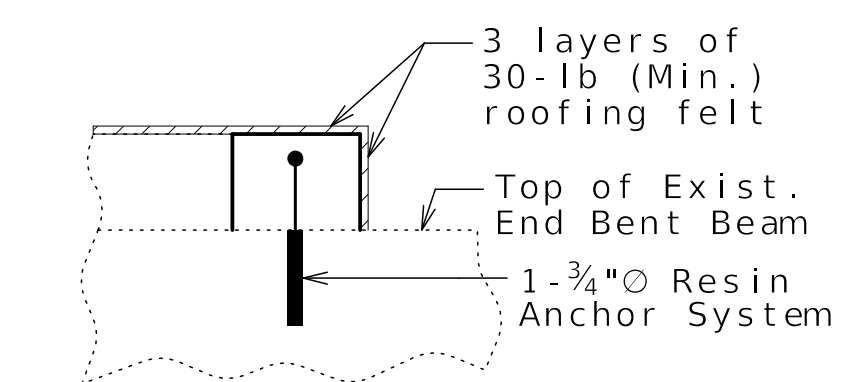
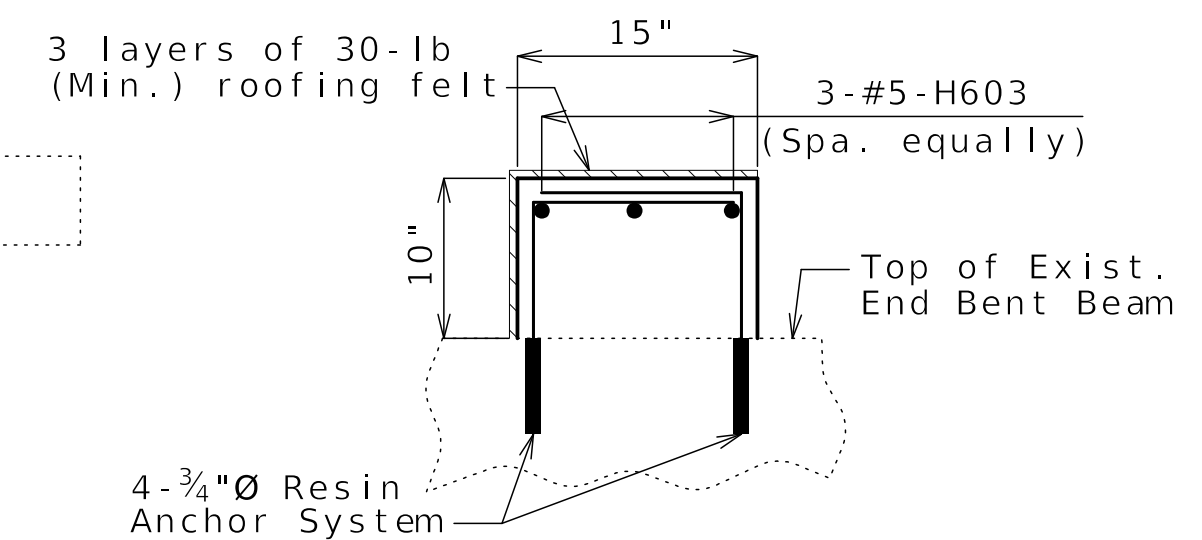
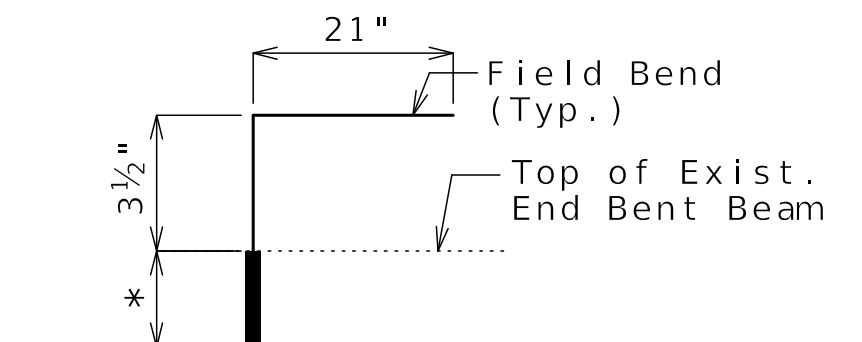
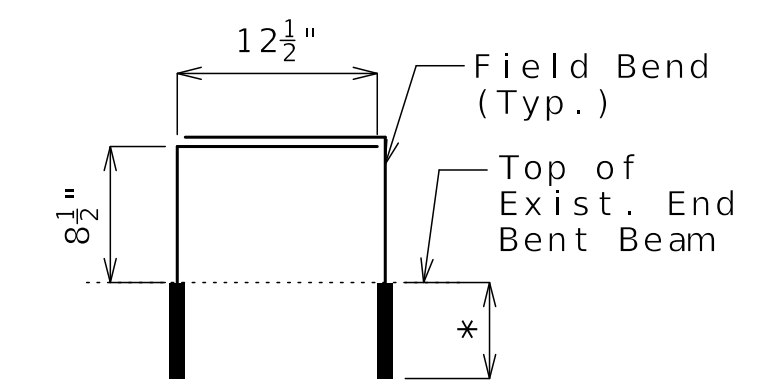
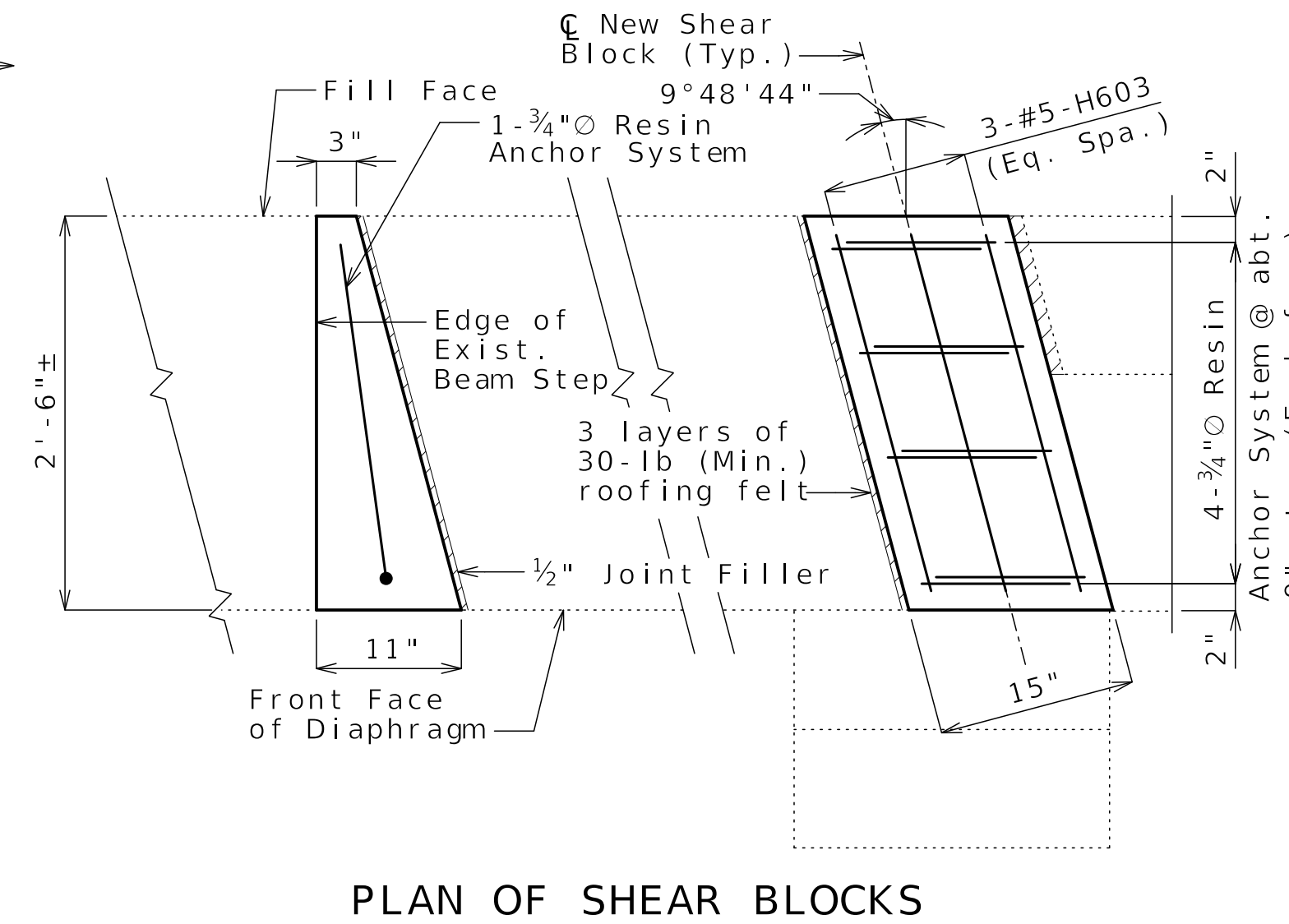
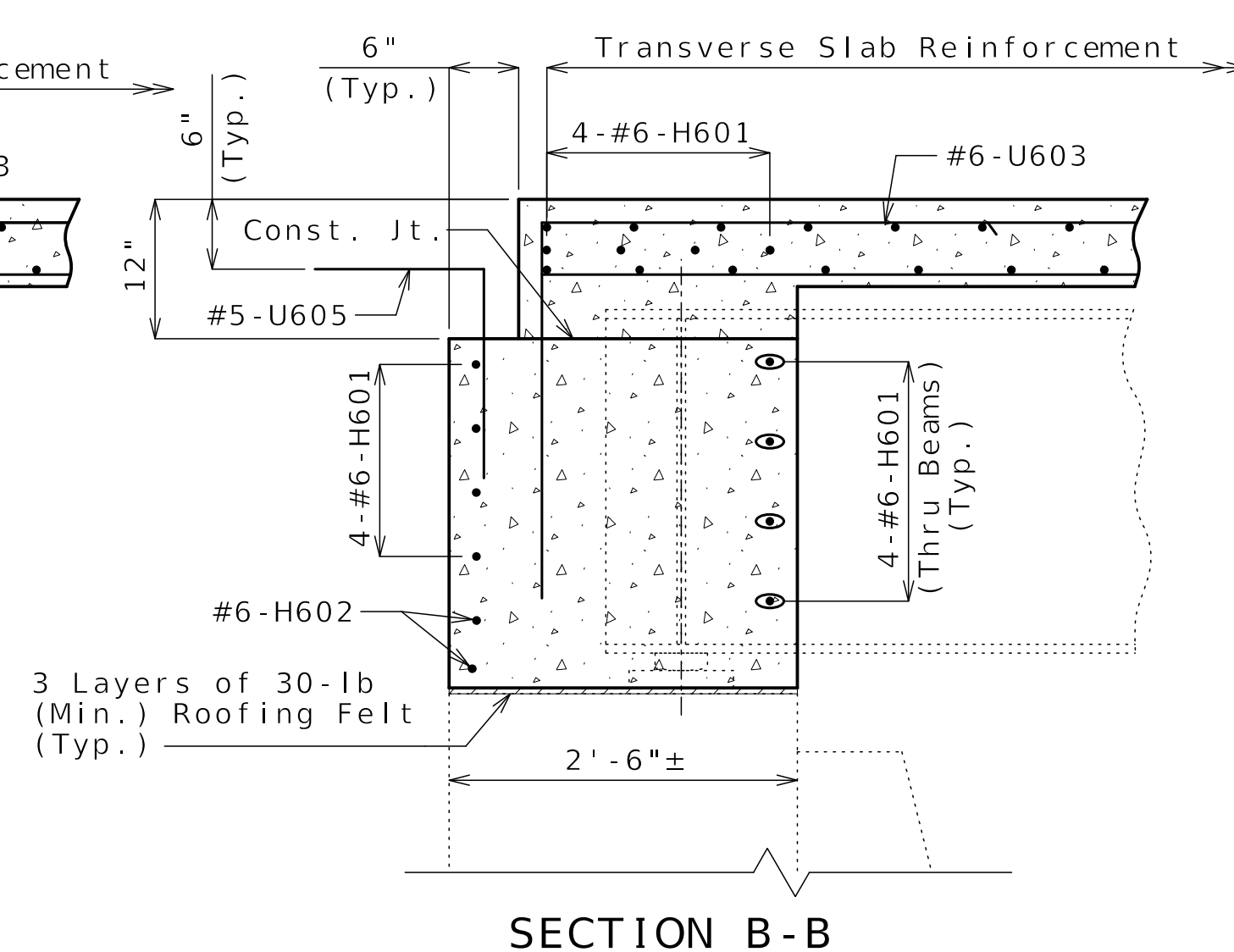
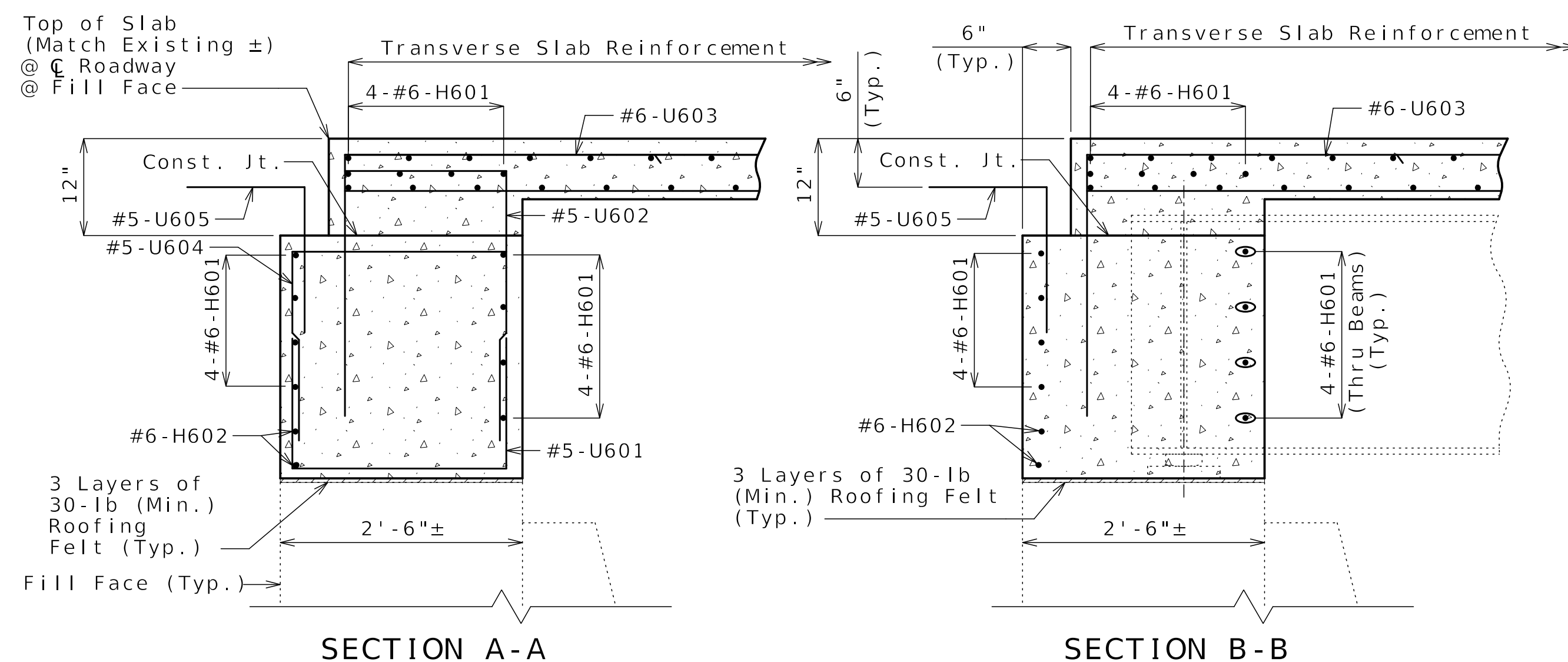
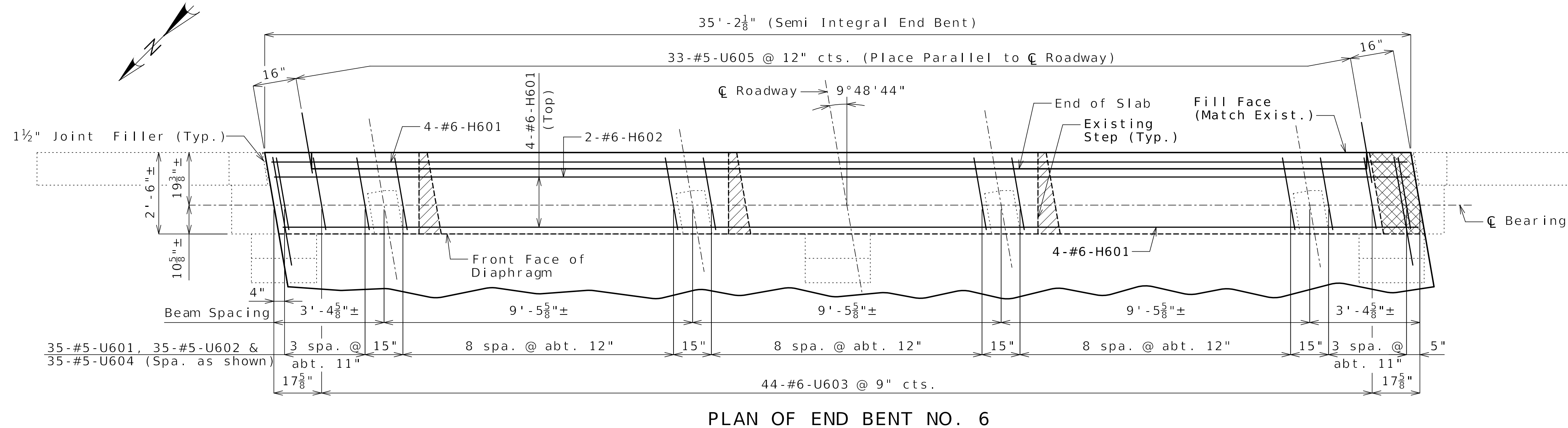
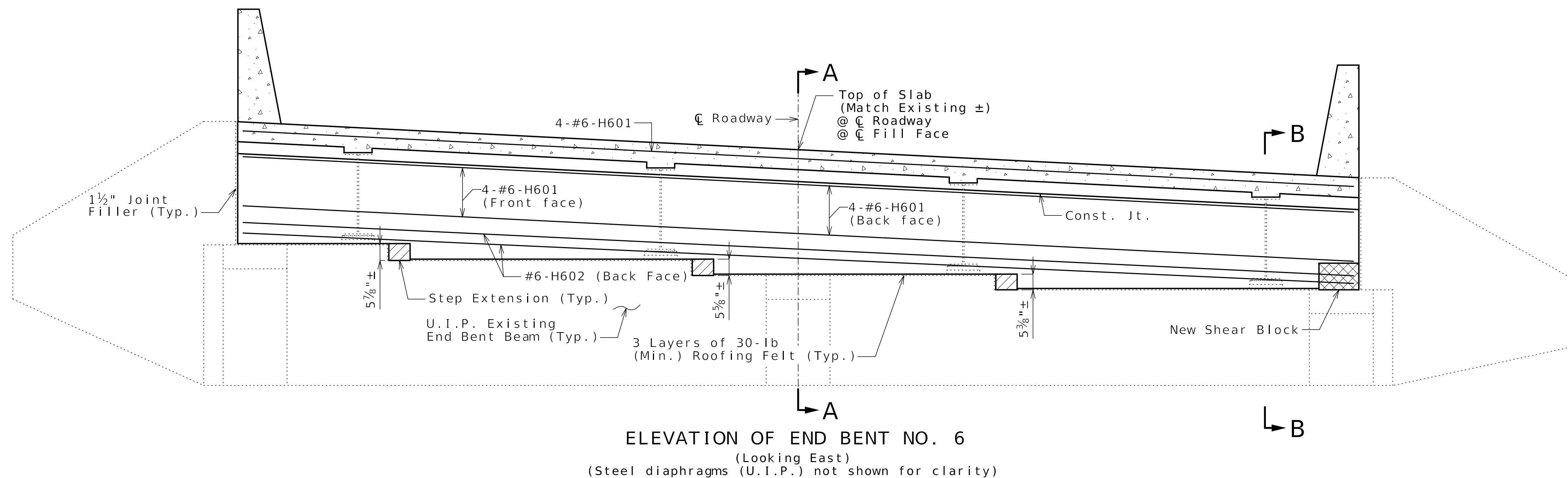
PROJECT NO.

BRIDGE NO. A11752

DESCRIPTION

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

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



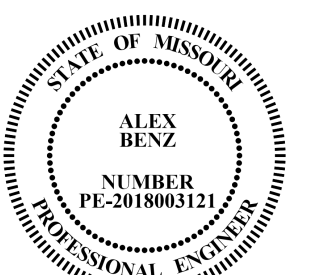
Notes:

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

Cost of furnishing and installing the resin anchor system, complete in place, will be considered completely covered by the contract unit price for Slab on Steel.

The minimum embedment depth in concrete with f'_c = 3,000 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".

An epoxy coated #6 Grade 60 reinforcing bar shall be substituted for the 3/4"Ø threaded rod.



Alex C. Benz
10/27/2025 9:39:05 AM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
10/27/2025

ROUTE	STATE
50	MO

DISTRICT	SHEET NO.
BR	7

COUNTY
JOHNSON

JOB NO.
JKR0101

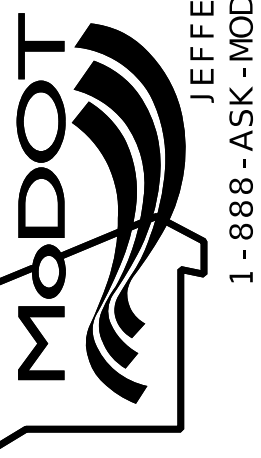
CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A11752

--	--	--	--	--	--	--

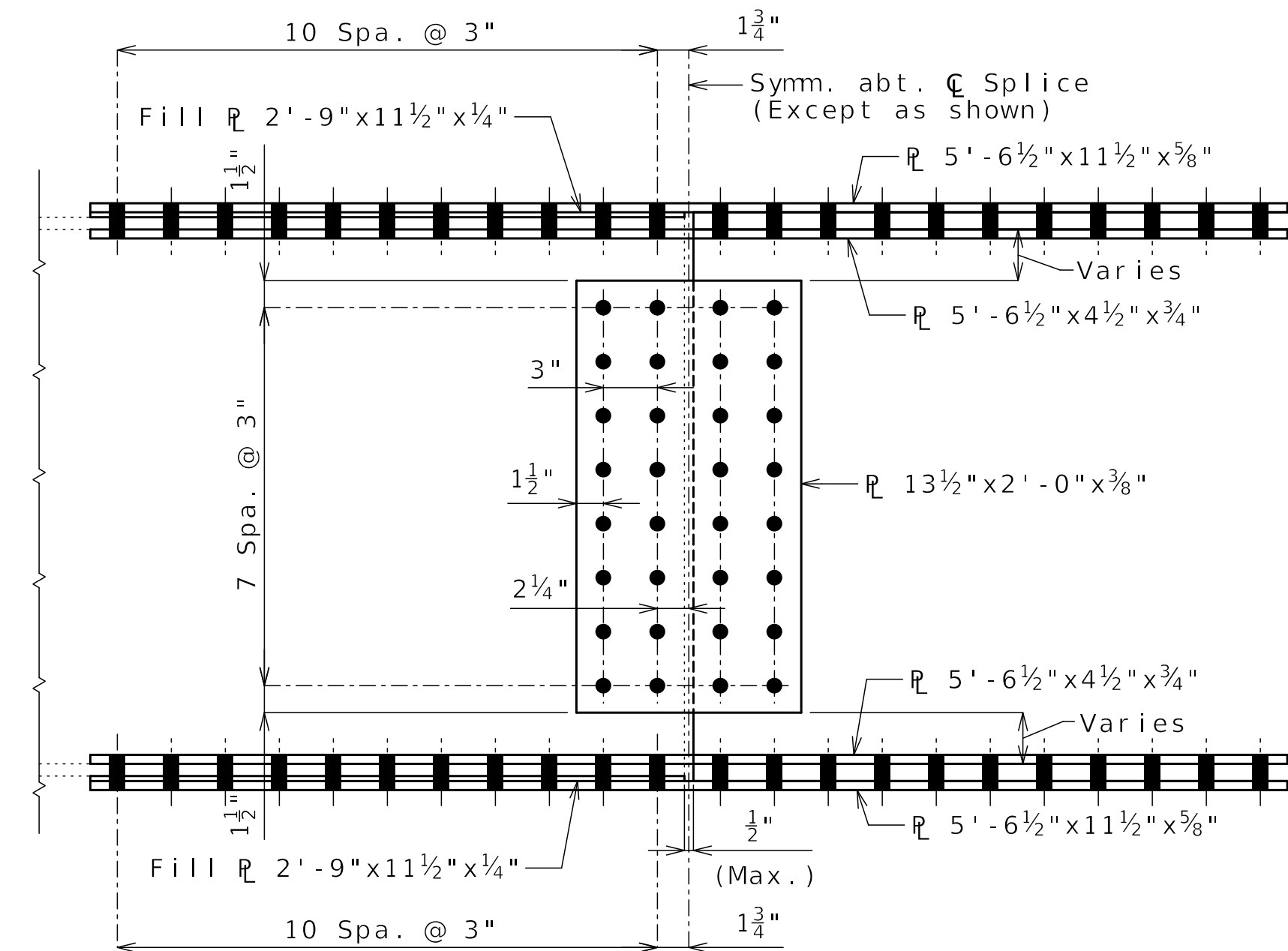
COMMISSION



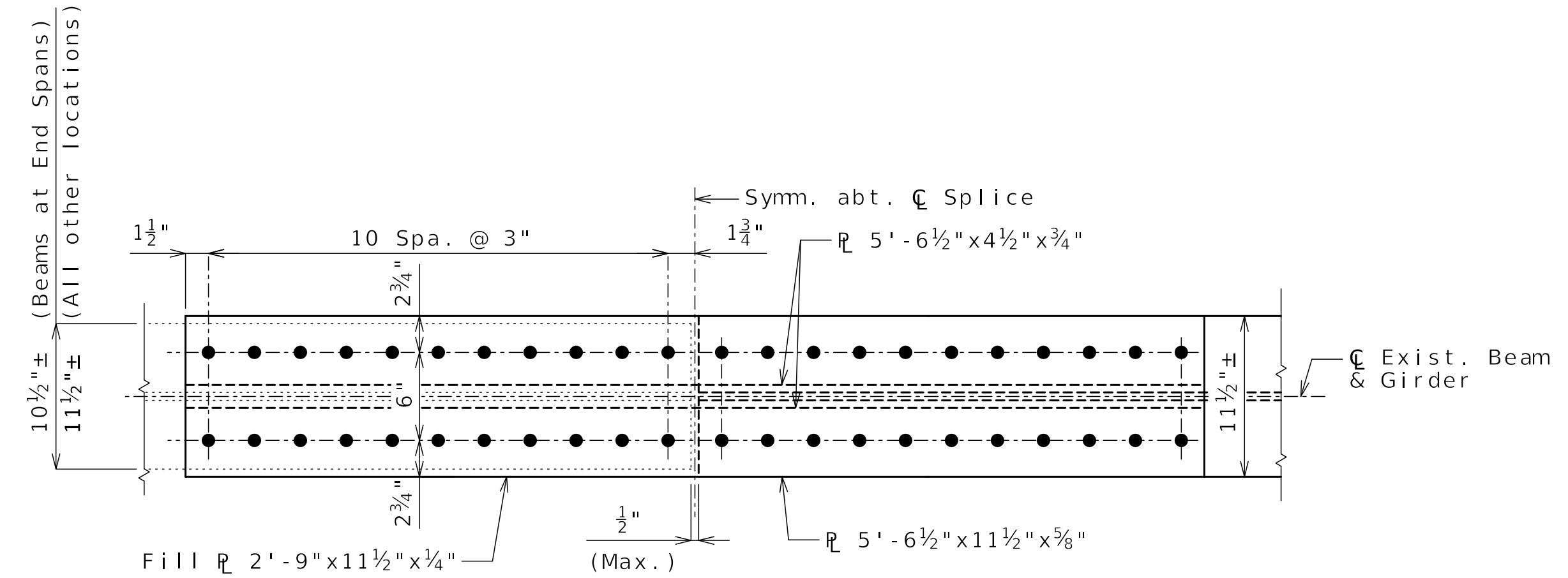
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

ETK♦MOEN
Civil Engineering Design
13523 Barrett Parkway, Dr.

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



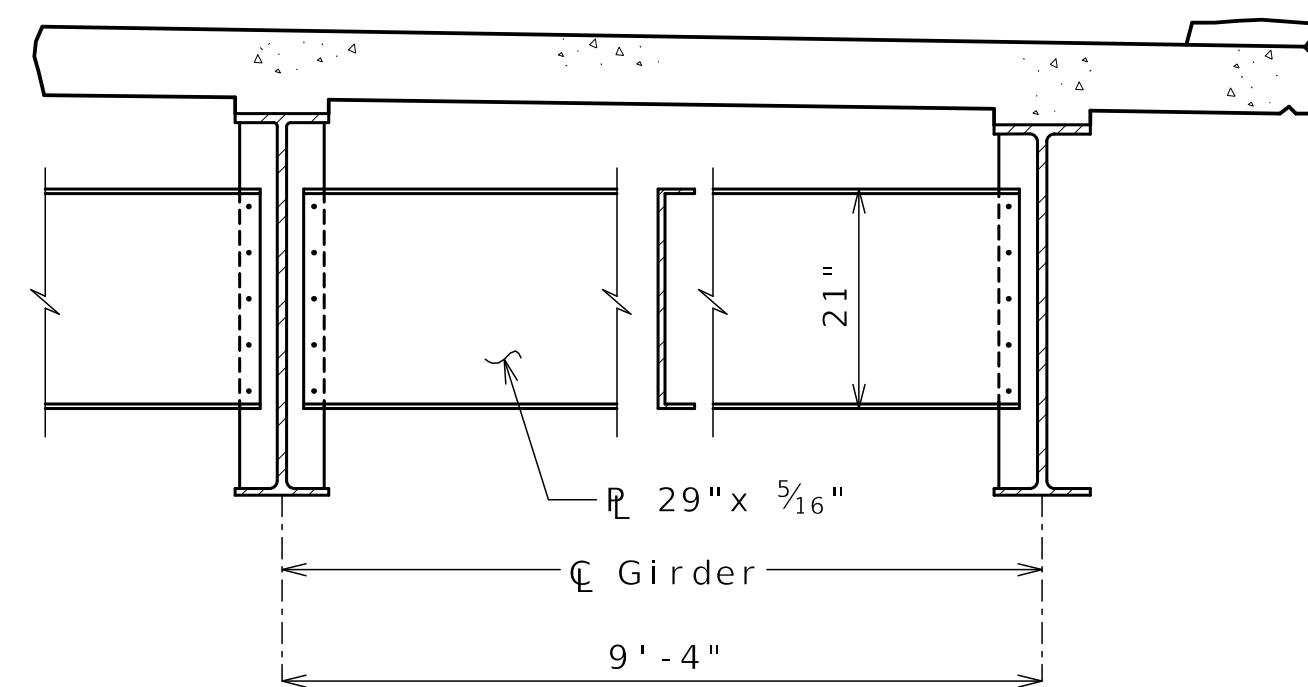
DETAIL OF BOLTED FIELD SPLICE



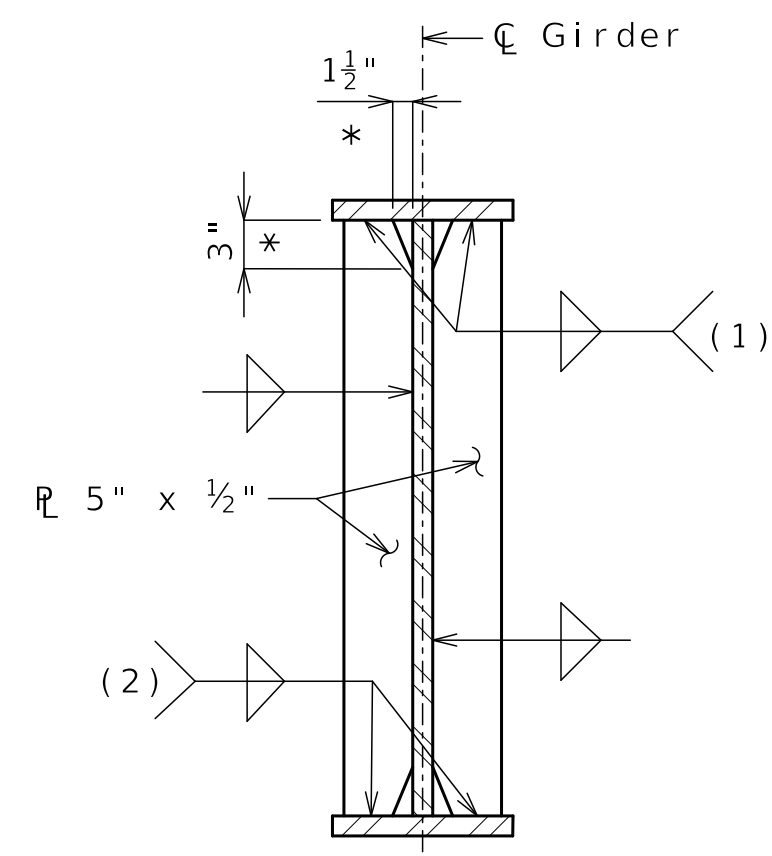
PLAN OF FLANGE (TOP AND BOTTOM)

Bolts shall be 7/8-inch diameter ASTM F3125 Grade A325 Type 1 in 15/16-inch diameter holes.

Contact surfaces shall be in accordance with Sec 1081 for surface preparation.



TYPICAL PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS
AT INT. BENTS NO. 2 & 5



BEARING STIFFENER
(DIAPHRAGM ATTACHED)

WELDING DETAILS

- (1) Tight fit
- (2) Grind or mill to bear.

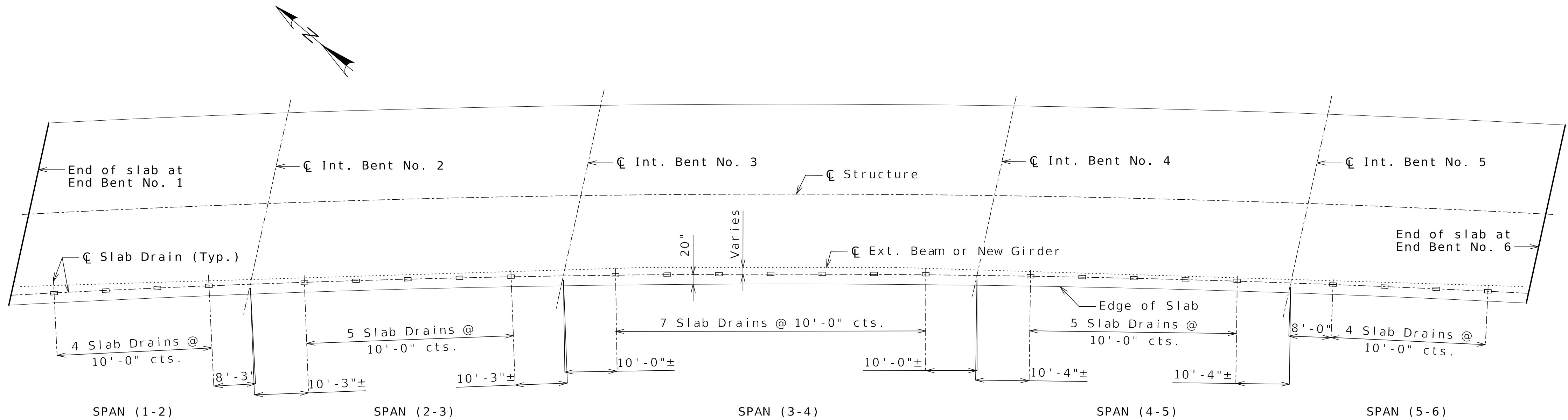
* Typical for all intermediate web stiffeners, intermediate diaphragm connection plates and bearing stiffeners.

Notes :

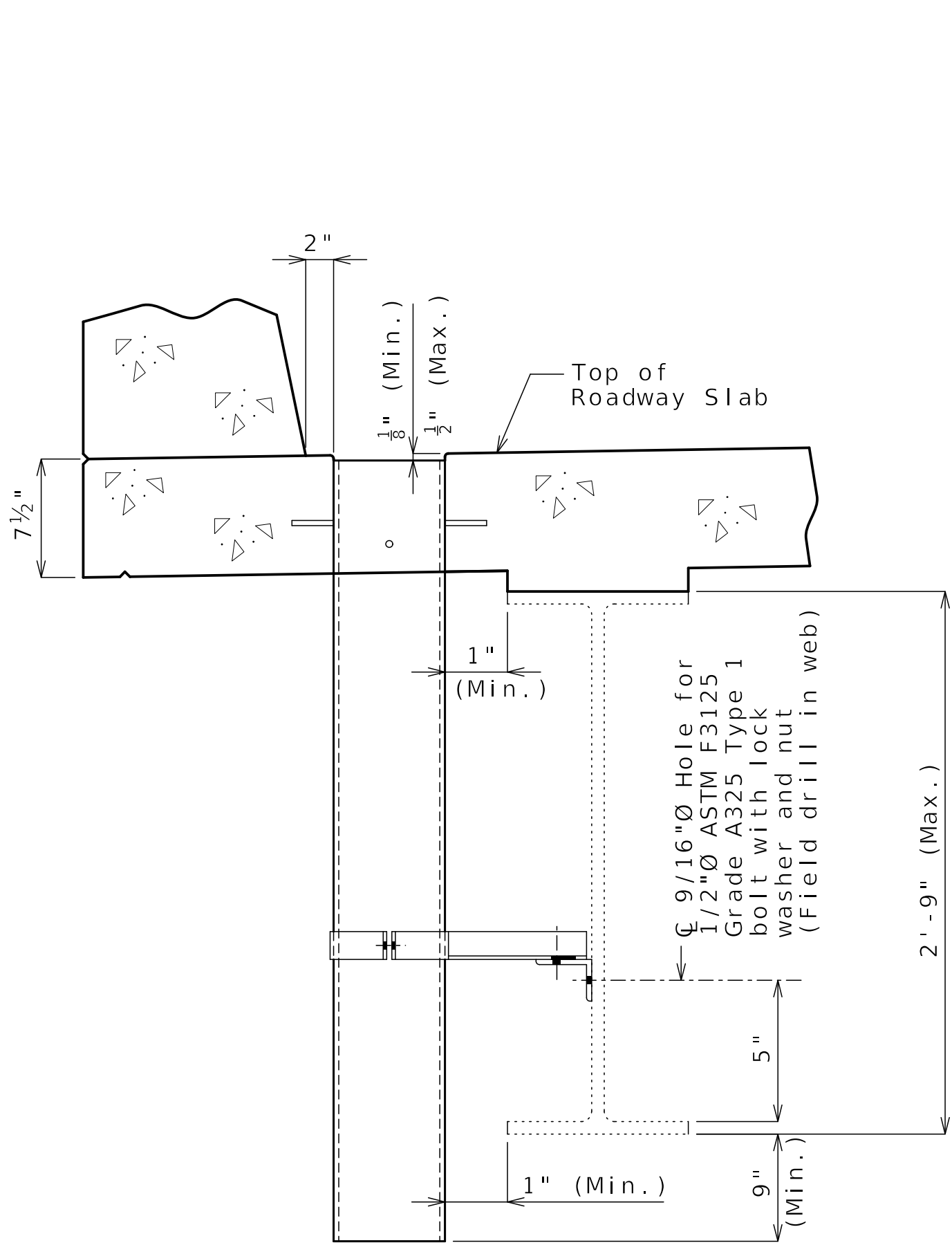
Fabricated steel shall be ASTM A709 Grade 50, except as noted.

The flange and web splice plates shall be subject to notch toughness requirements.

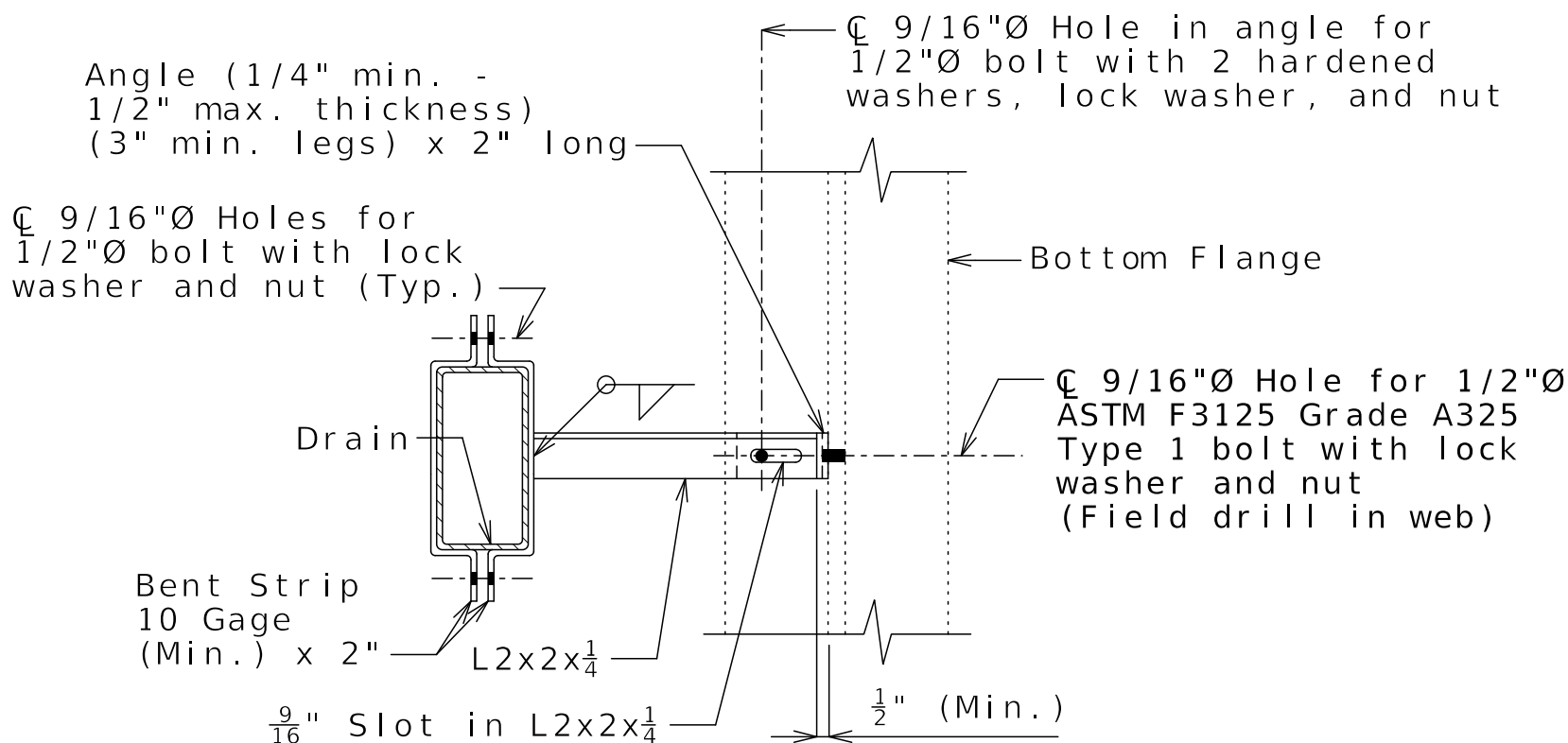
The cost of all splice material shall be considered completely covered by the contract unit price for Reconfigure Existing Structural Steel.



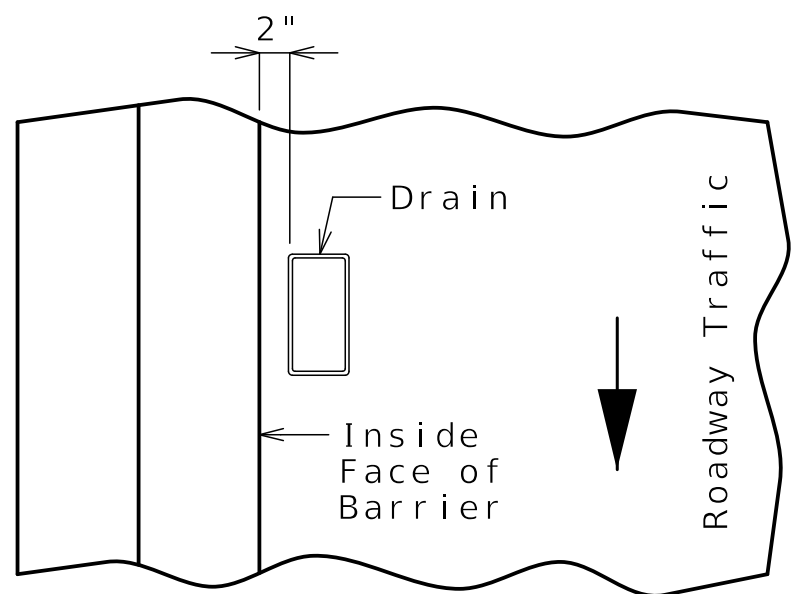
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



PART SECTION NEAR DRAIN

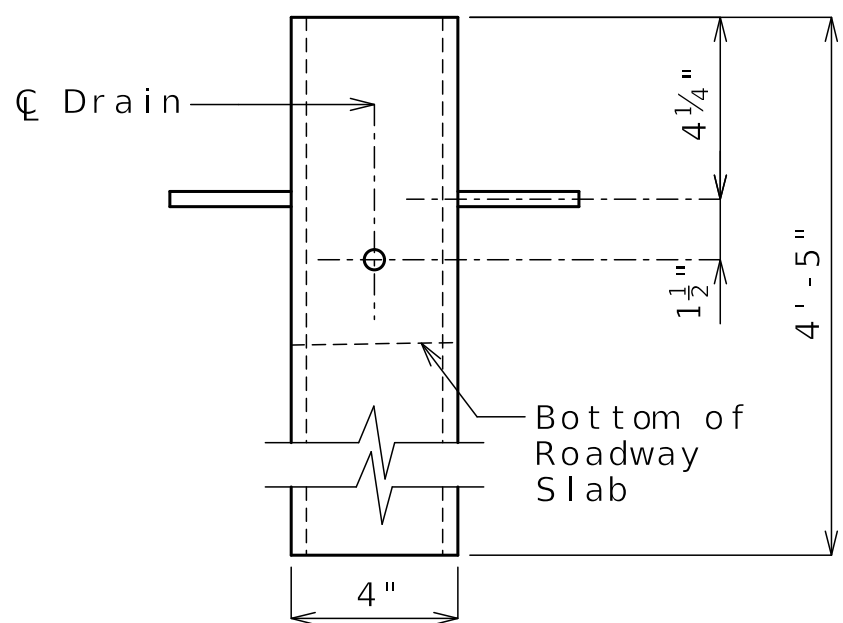


PART SECTION SHOWING BRACKET ASSEMBLY

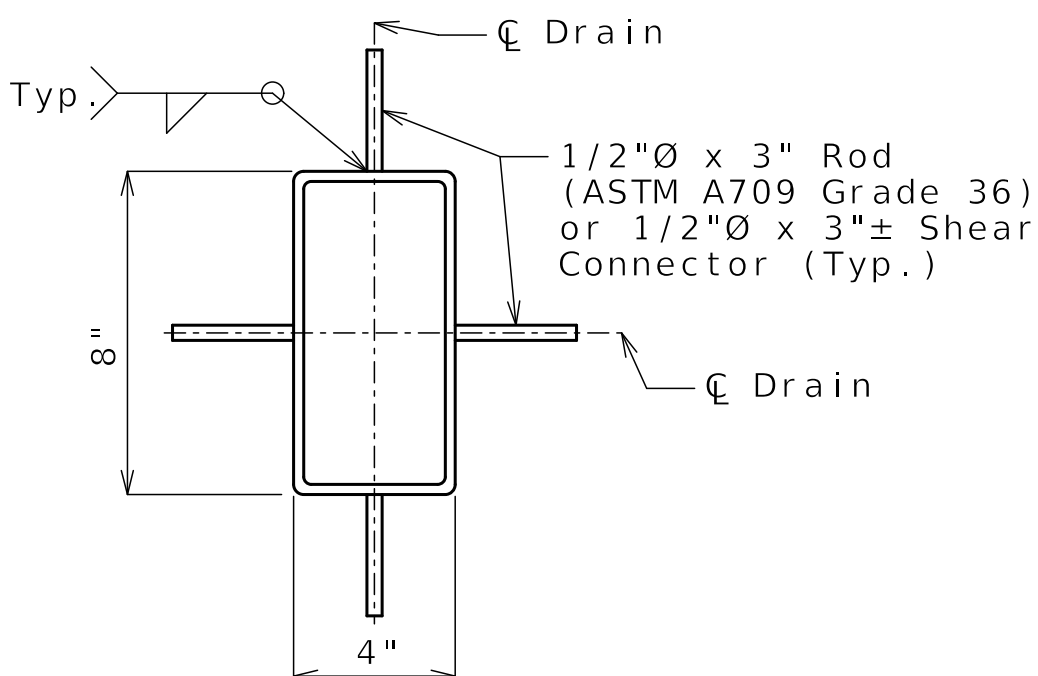


PART PLAN OF SLAB AT DRAIN

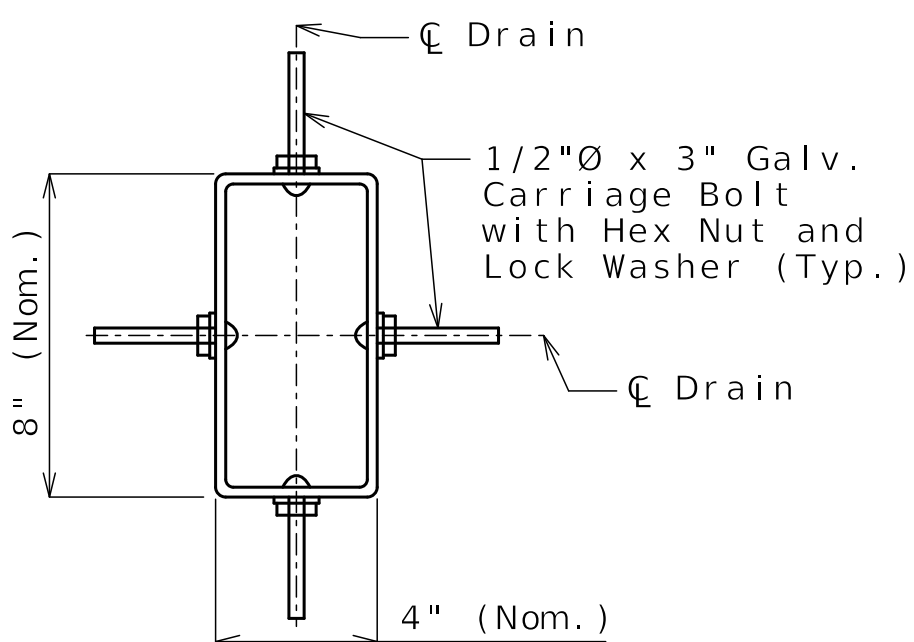
SLAB DRAINS



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

General Notes:

Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of same type.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Reinforcing steel shall be shifted to clear drains.

The bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.

All 1/2"Ø bolts shall be ASTM A307, except as shown.

Shop drawings will not be required for the slab drains and the bracket assembly.

The bolt hole for the bracket assembly attachment shall be shifted to the minimum extent necessary to field drill in the existing web.

(1) See front sheet for slab thickness.

Notes for Steel Drain:

Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:

Shape of drains shall be rectangular with outside nominal dimensions of 8" x 4".

Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

The color of the slab drain shall be gray (Federal Standard #26373). The color shall be uniform throughout the resin and any coating used.

The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall furnish the results of the required ultraviolet testing prior to acceptance of the slab drains.

At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be recommended by the manufacturer to ensure a smooth, chip free cut.



Alex C. Benz
10/23/2025 3:18 PM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
10/23/2025

ROUTE 50 STATE MO

DISTRICT BR SHEET NO. 12

COUNTY JOHNSON

JOB NO. JKR0101

CONTRACT ID.

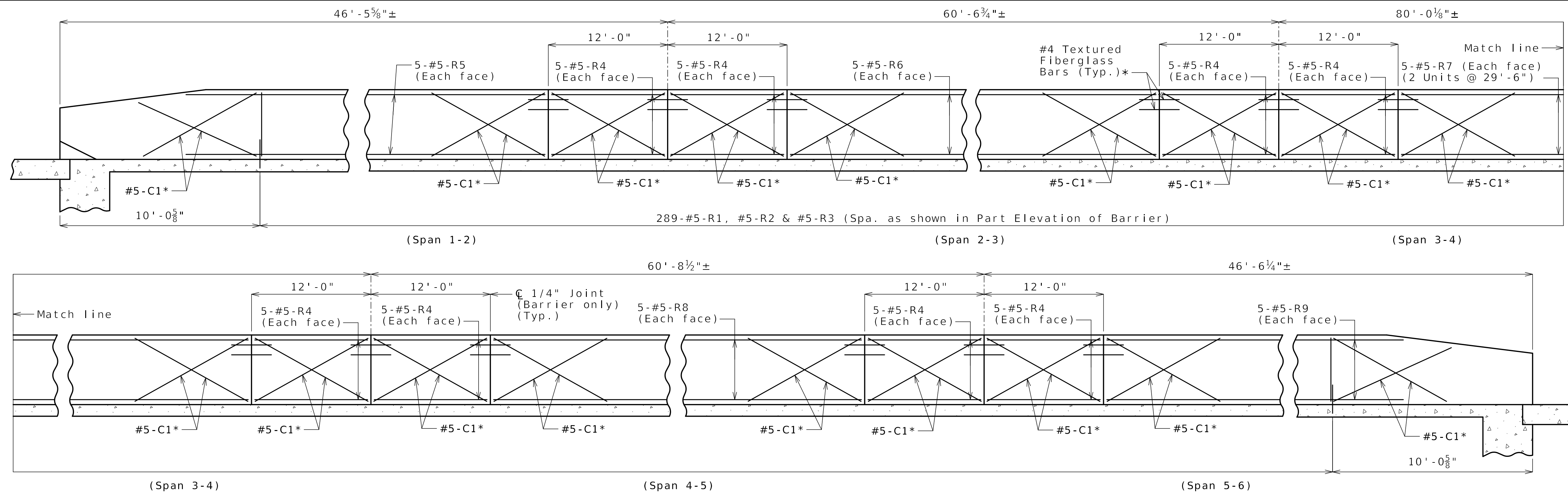
PROJECT NO.

BRIDGE NO. A11752

DESCRIPTION

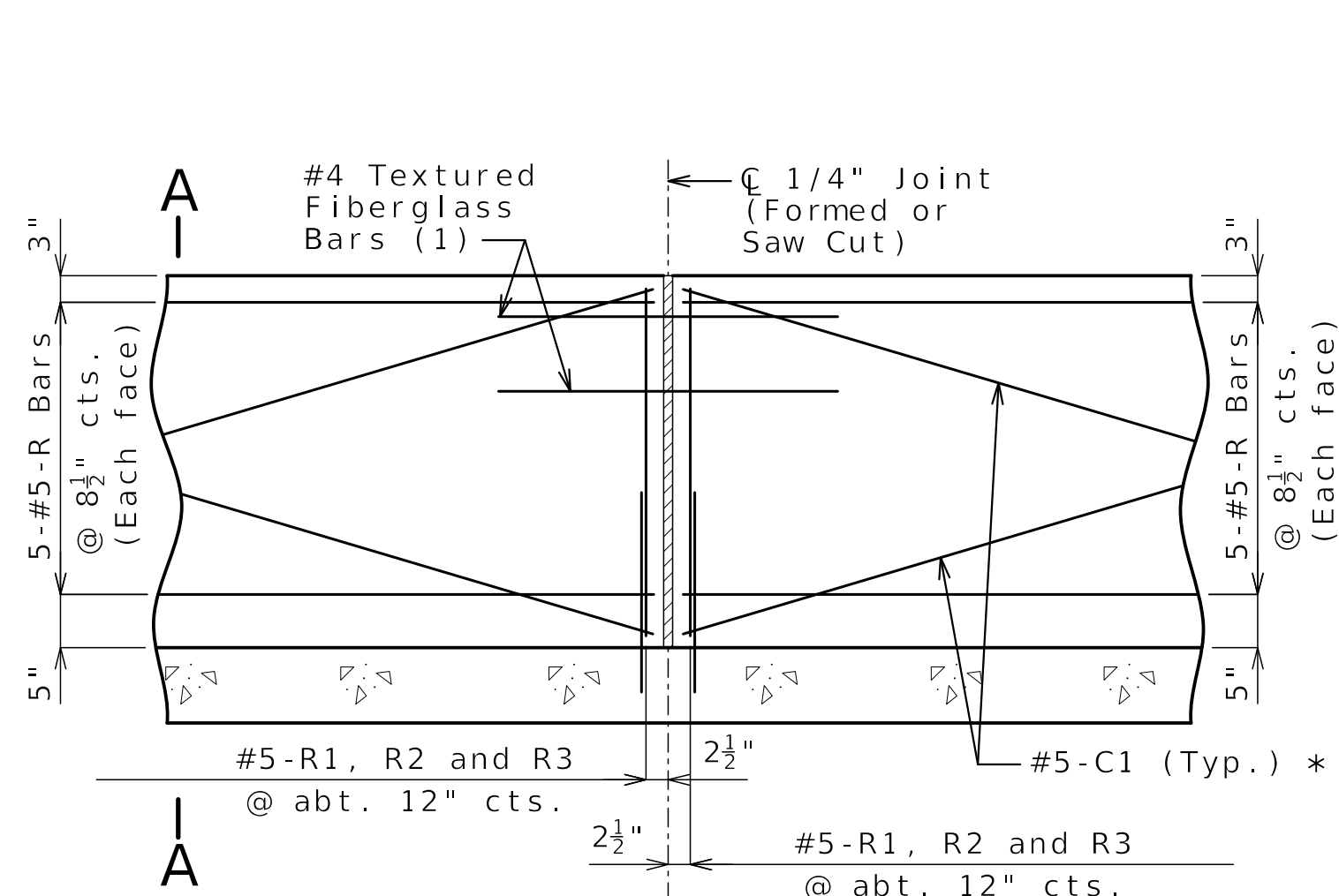
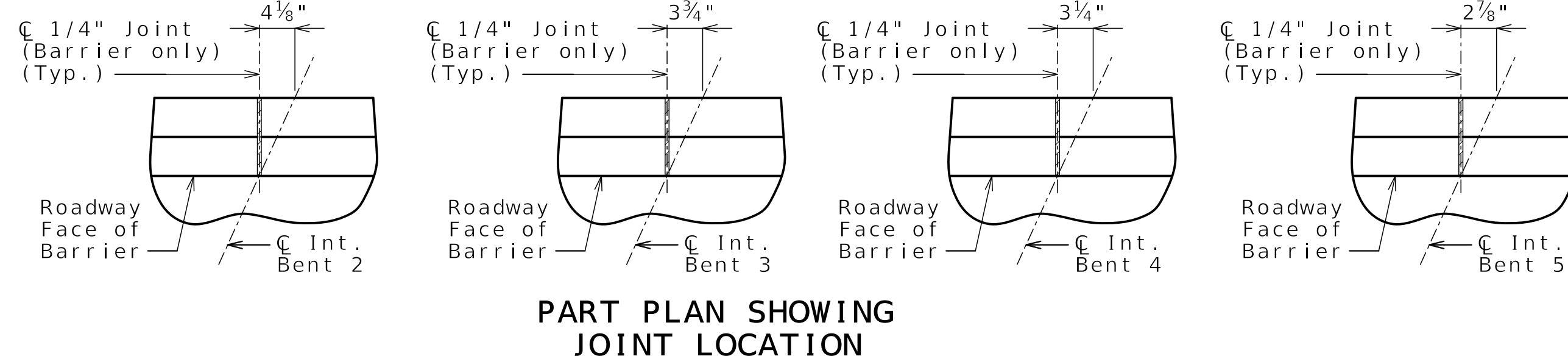
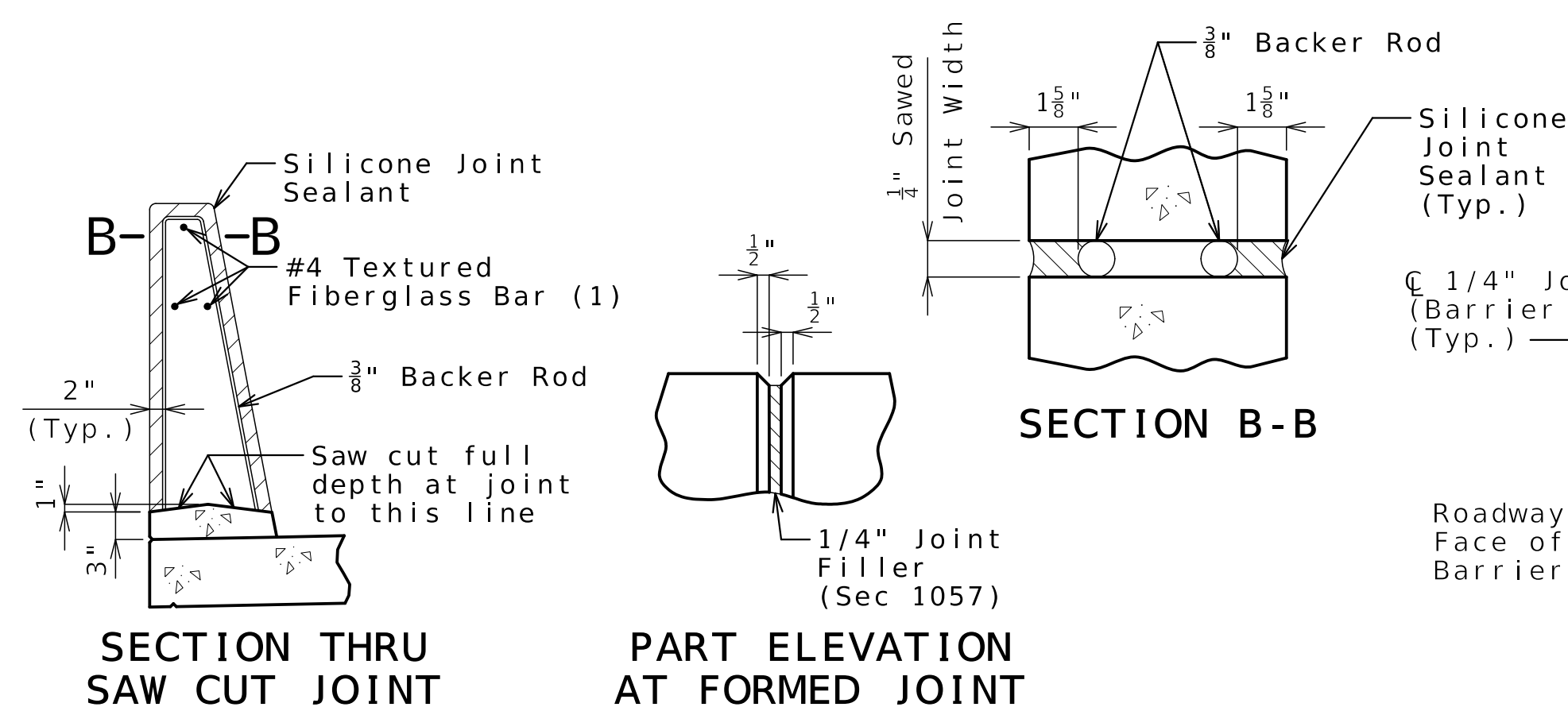


EFK Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



ELEVATION OF BARRIER

Longitudinal dimensions are horizontal.

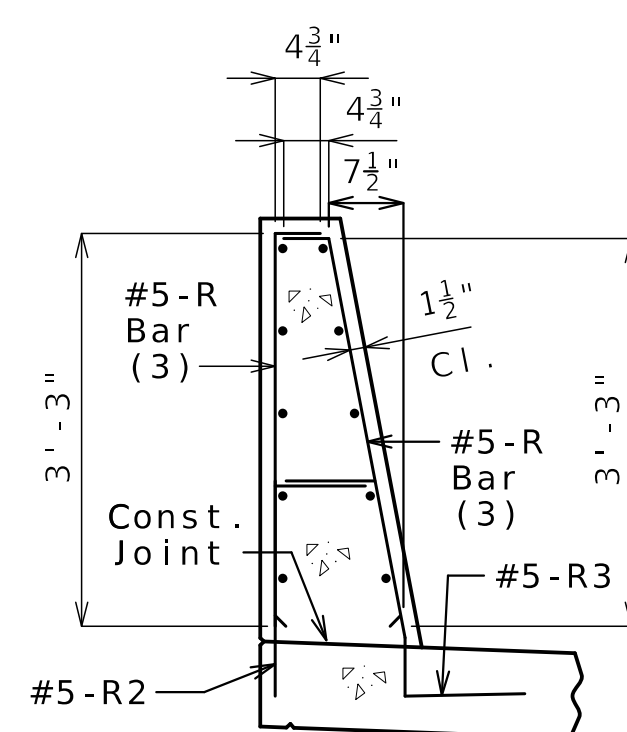


SECTION A-A

Use a minimum lap of 2'-6" for
#5 horizontal barrier bars.

The cross-sectional area above the slab is 3.46 square feet.

(2) To top of bar



(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

LEFT TYPE D BARRIER

Sheet No. 13 of 20

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 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.

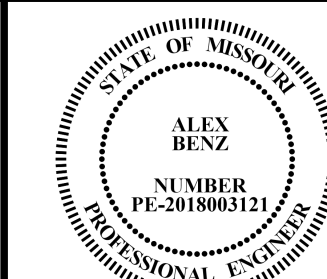
Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of slab to end of slab.

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. 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.



Alex C. Benz
10/23/20255:31:28 PM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
10/23/2025

ROUTE	STATI
50	MO

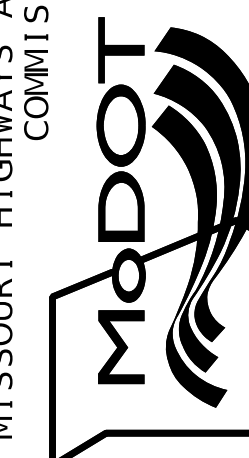
DISTRICT	SHEET
BR	13

COUNTY
JOHNSON

JOB NO.
JKR0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A11752[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

EFK♦Moen
Civil Engineering Design

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

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

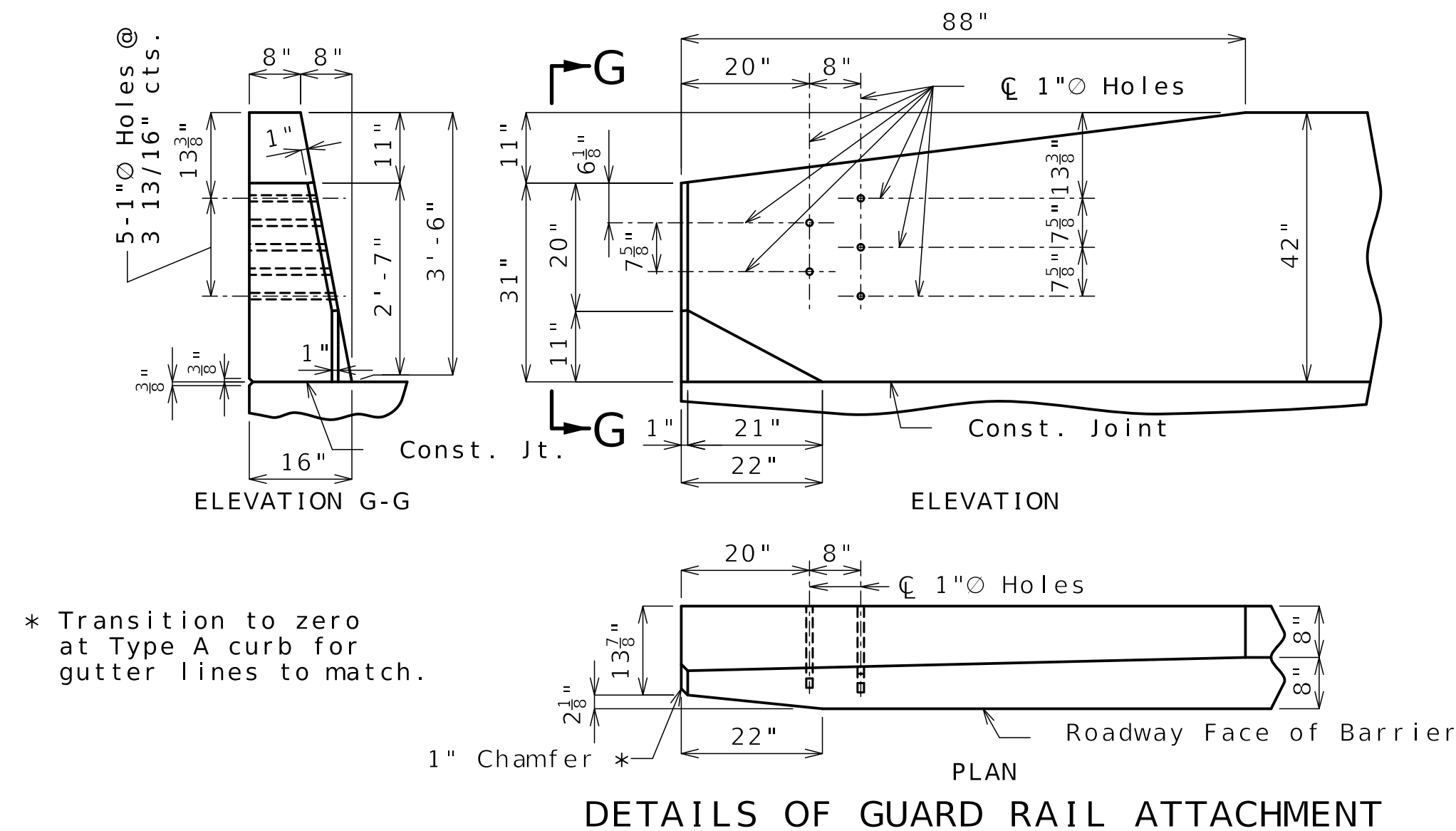
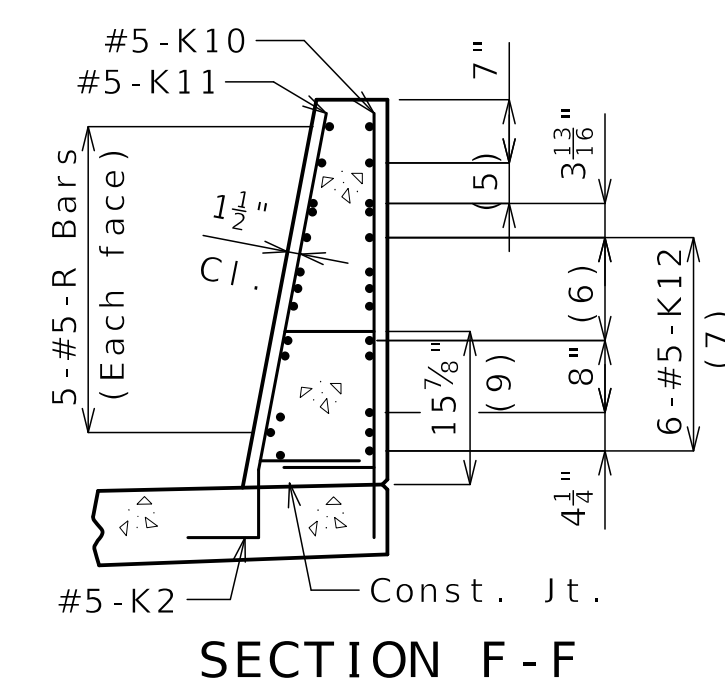
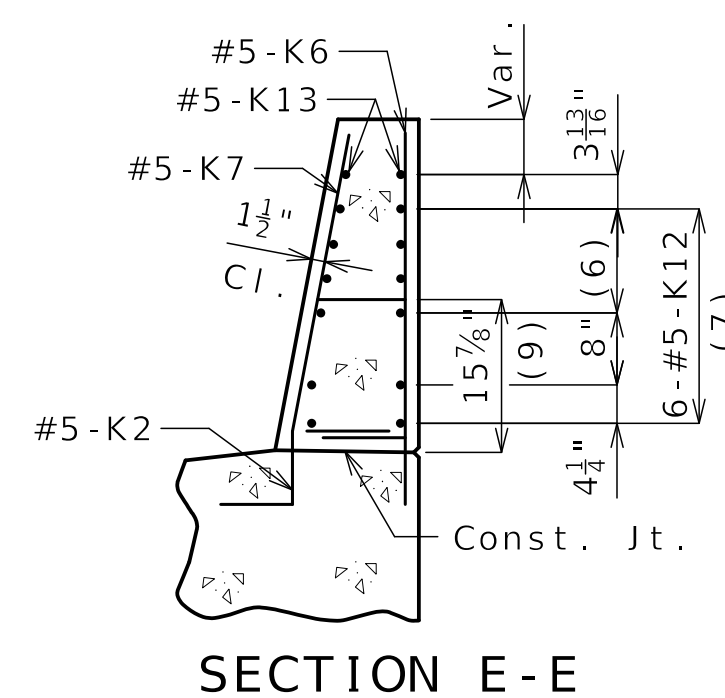
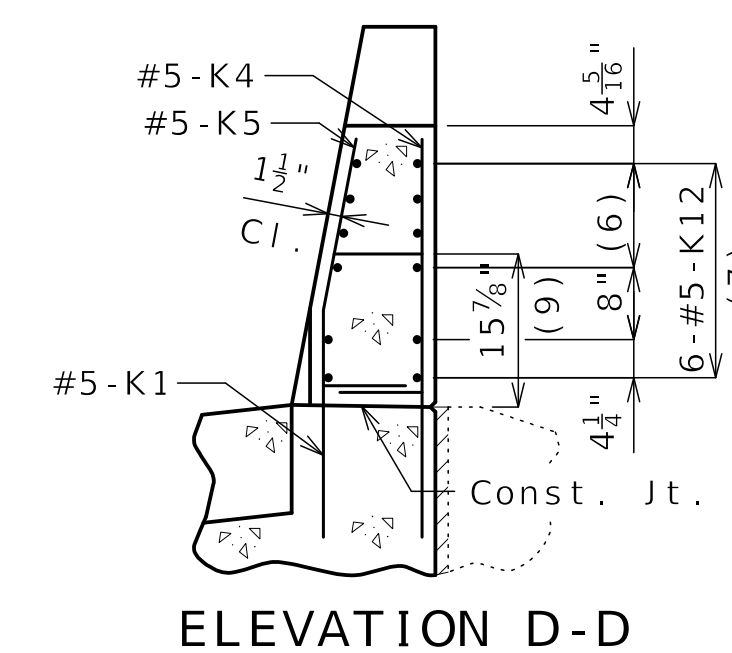
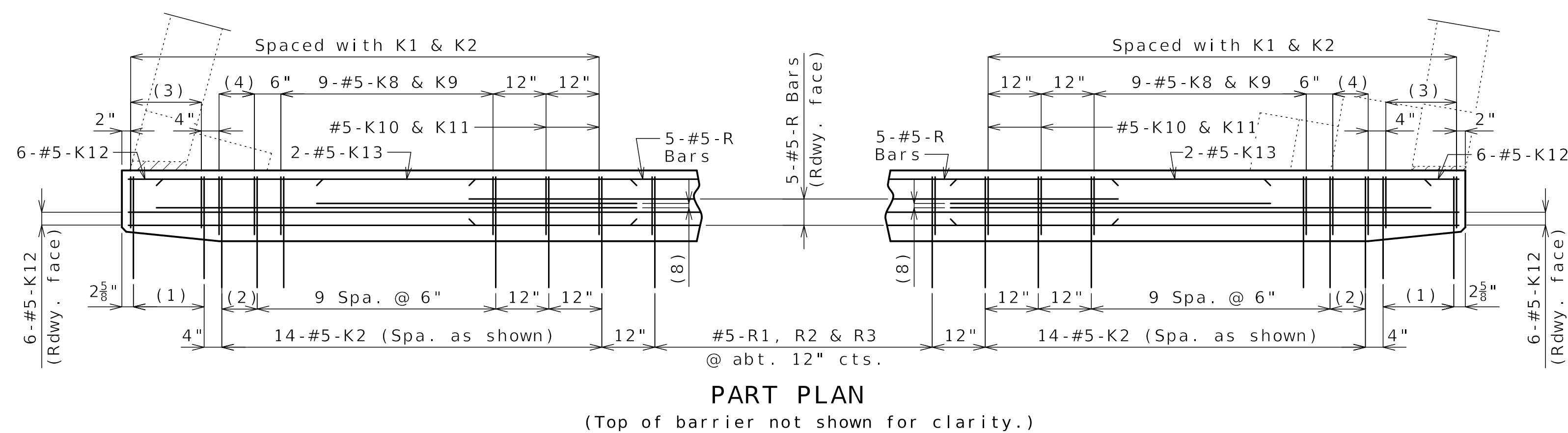
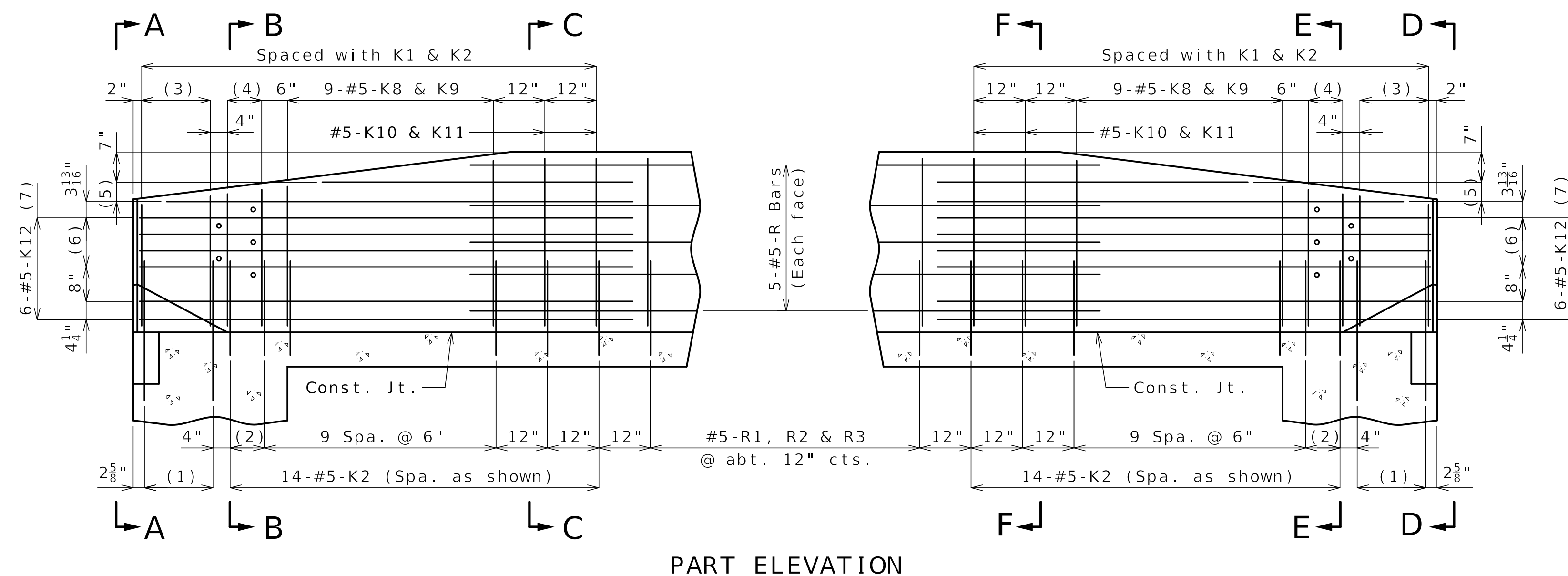
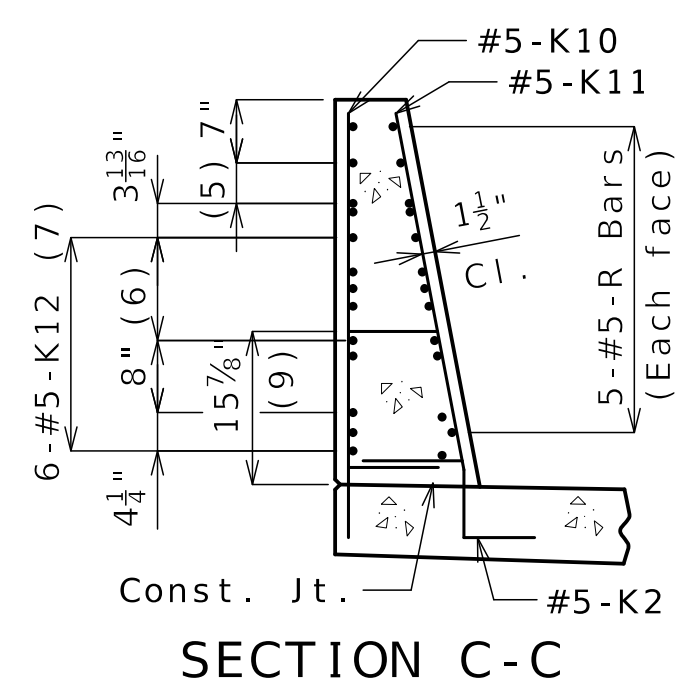
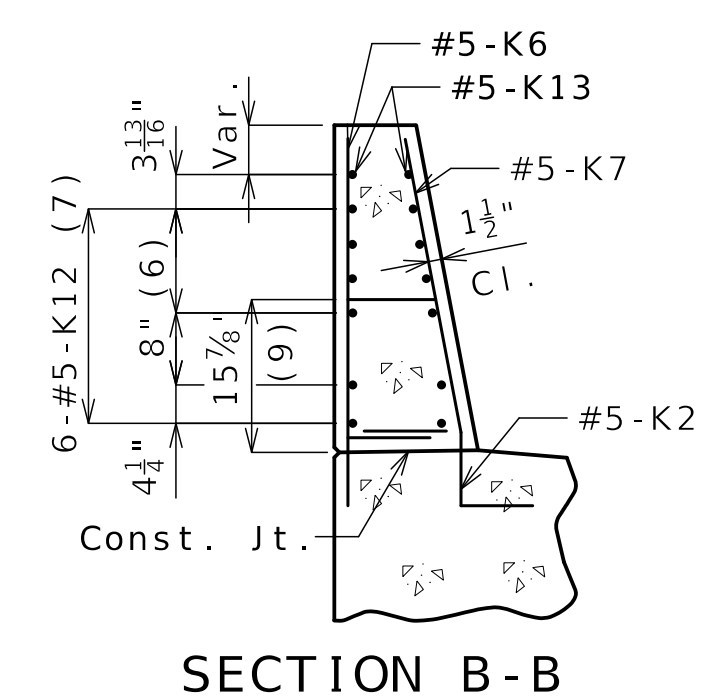
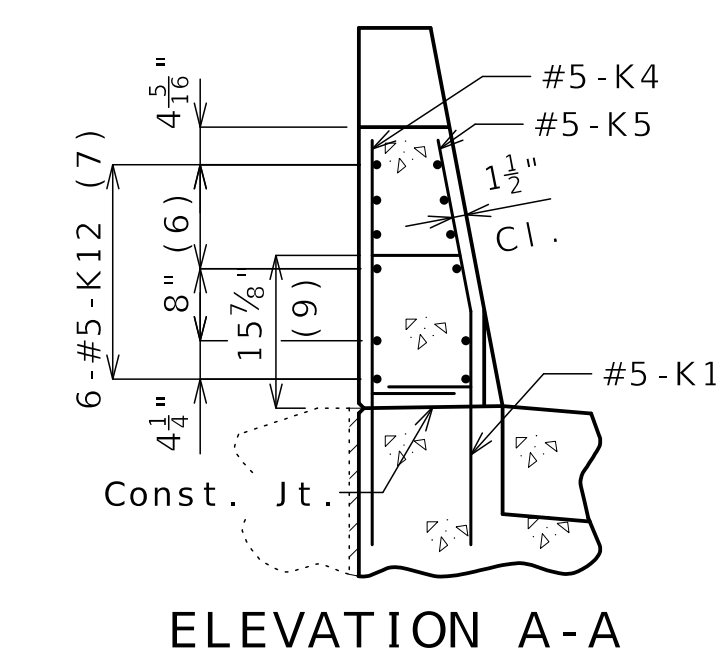
St. Louis, MO 63021 Fax 314-3
Missouri Certificate of Authority: 001578

Detailed Sep. 2025
Checked Sep. 2025

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

0:\2022R3\MoDOT_ORD_v10.12.02.04\24083 MoDOT JKR0101 Route 50EB Bridge\DGN\Bridge\Final\Plotsheets\B_A11752_013_JKR0101_Left-Type-D-Barrier.dgn

REV.



- (1) 5-#5-K1 @ 4" cts.
- (2) 2 spaces @ 4"
- (3) 5-#5-K4 & K5
- (4) 3-#5-K6 & K7
- (5) 2-#5-K13 @ $4\frac{1}{2}$ " cts., each face
- (6) 3 spaces @ $3\frac{1\frac{3}{4}}{16}$ "
- (7) Spaced as shown, each face
- (8) 2-#5-K13 (Roadway face)
- (9) To top of bar

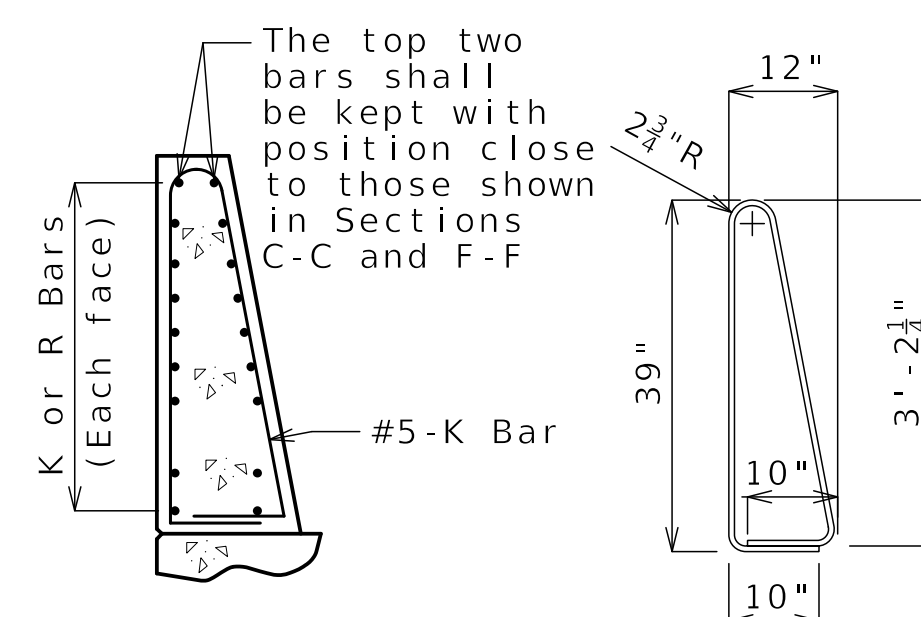
General Notes:

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. 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".

Use a minimum lap of 2'-6" between horizontal K bars and R bars.

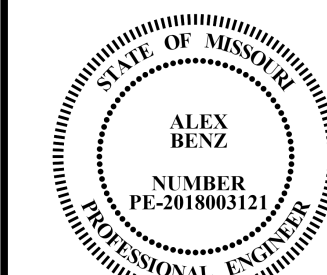


K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(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.



Alex C. Benz
10/23/2025 5:31:53 PM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
10/23/2025

ROUTE	STATION
50	MOORE

DISTRICT	SHEET
BR	15

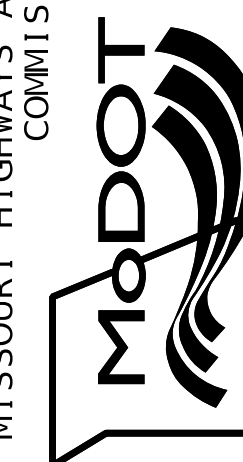
COUNTY
JOHNSON

JOB NO.
JKR0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO.	A11752
------------	--------

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

JEFF MOEN
Civil Engineering Design

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

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

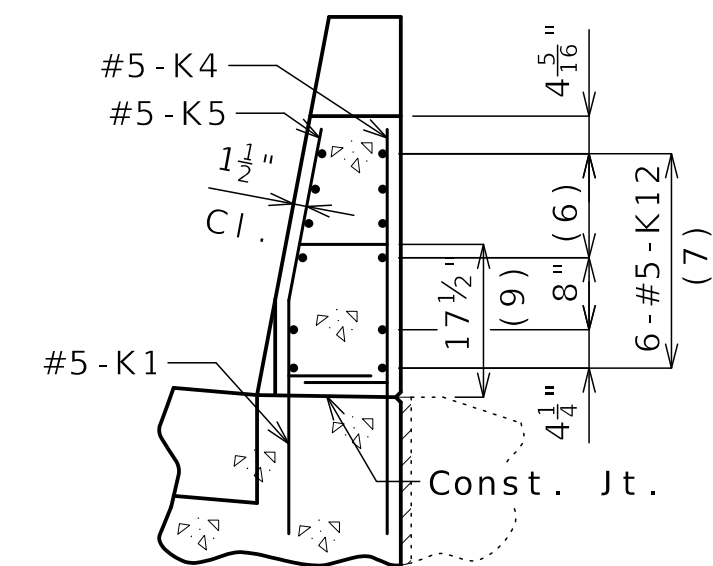
St. Louis, MO 63021 Fax 314-3
Missouri Certificate of Authority: 001578

Detailed Sep. 2025
Checked Sep. 2025

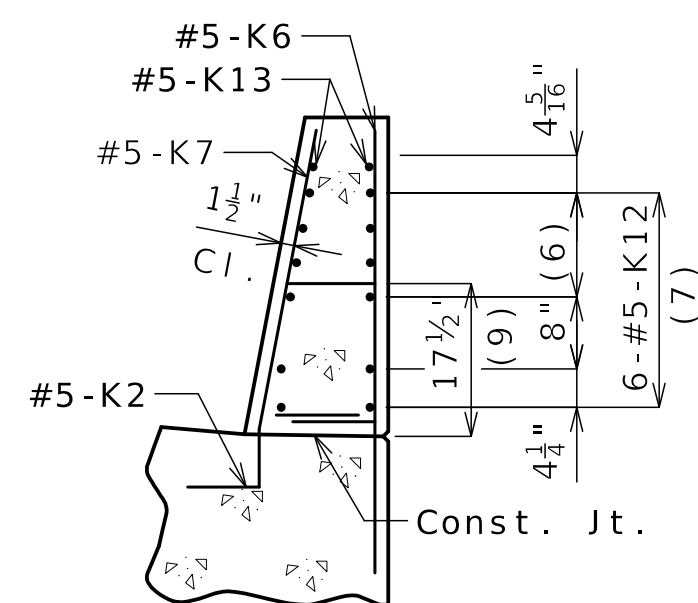
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 15 of 20

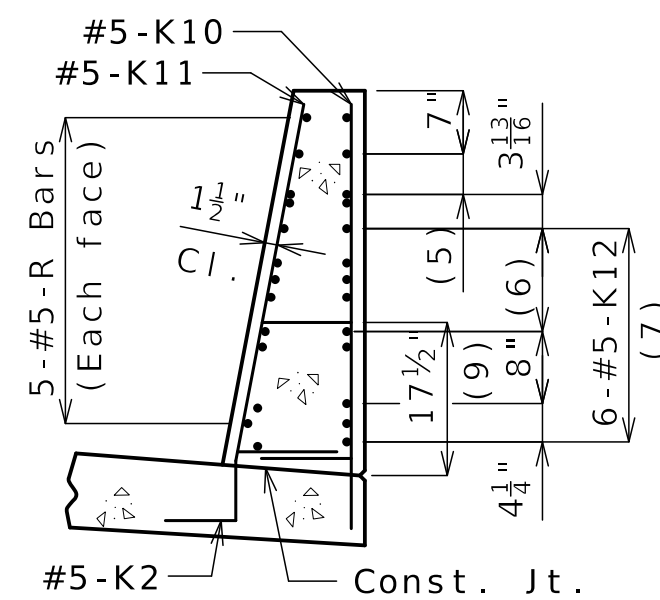
O:\2022R3\MoDOT_ORD_v10.12.02.04\24083 MoDOT JKR0101 Route 50EB Bridge\DGN\Bridge\Final\Plotsheets\B_A11752_015_JKR0101_Left-End-Barrier.dgn 5:24:20 PM 10/23/2025



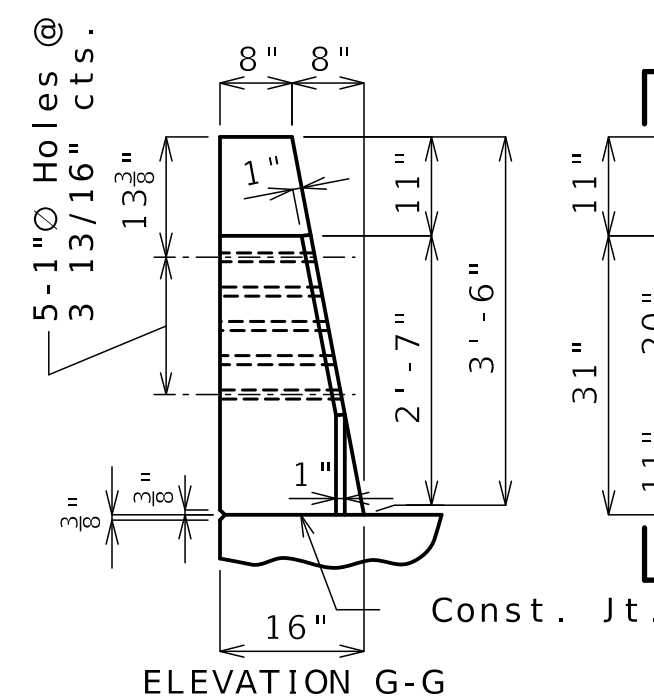
ELEVATION A-A



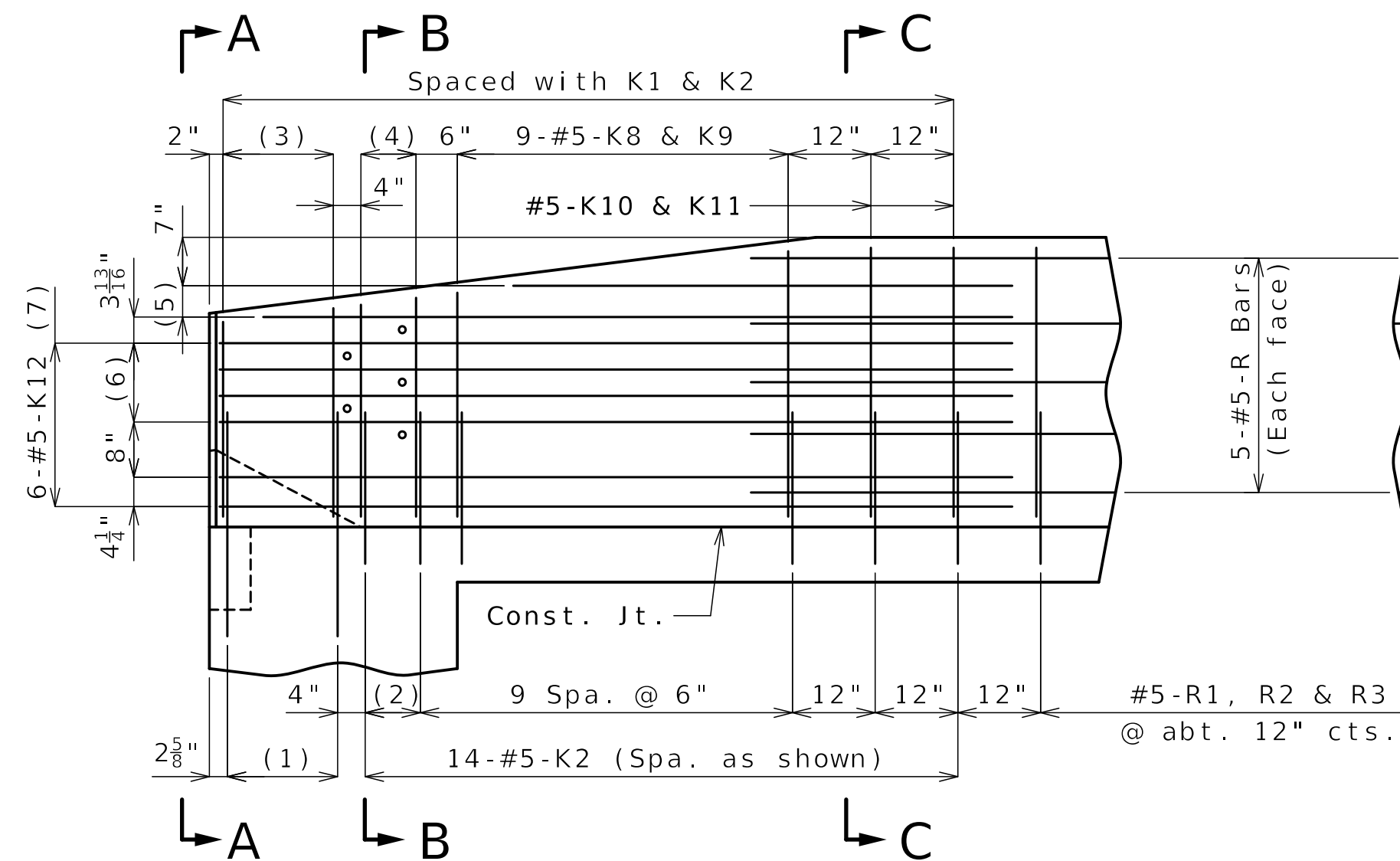
SECTION B-B



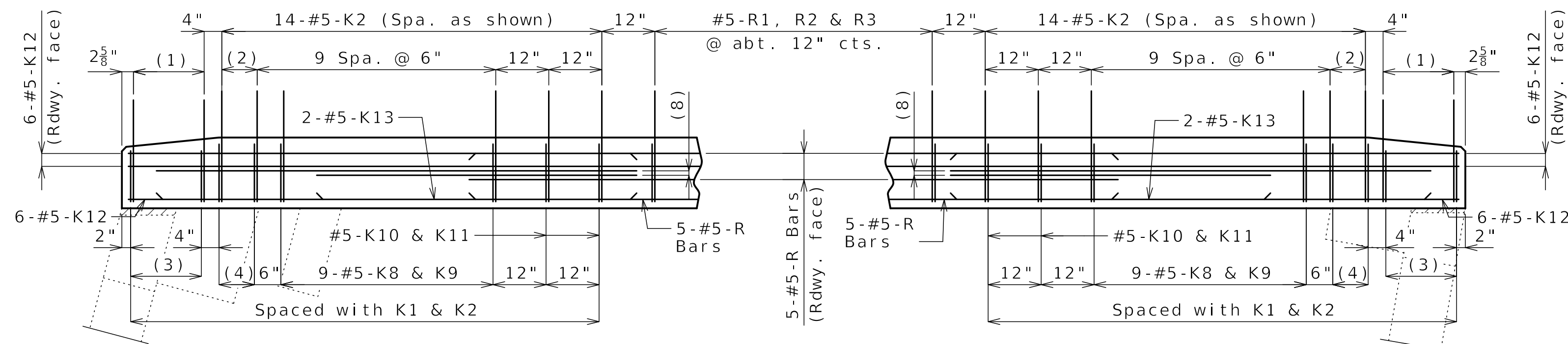
SECTION C-C



ELEVATION G-G



PART ELEVATION



PART PLAN

(Top of barrier not shown for clarity.)

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. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

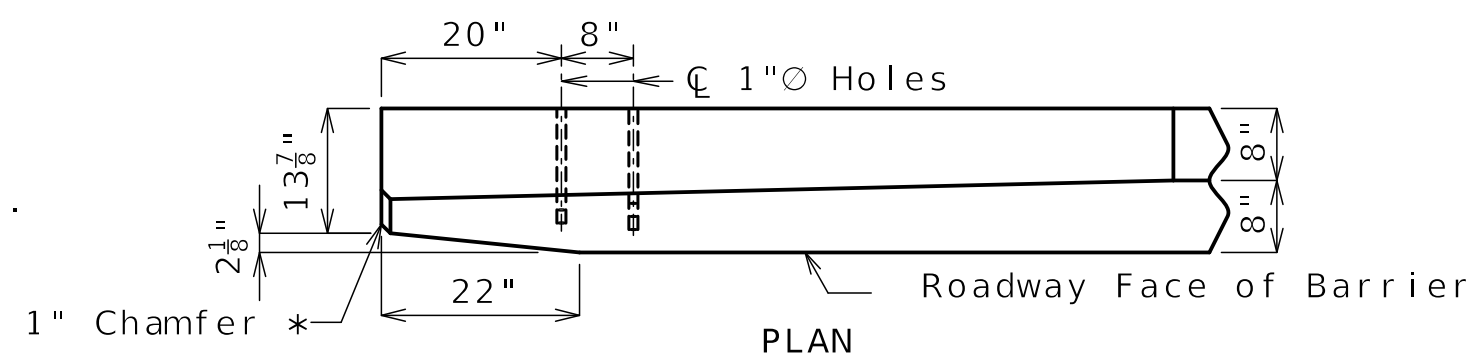
Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2".

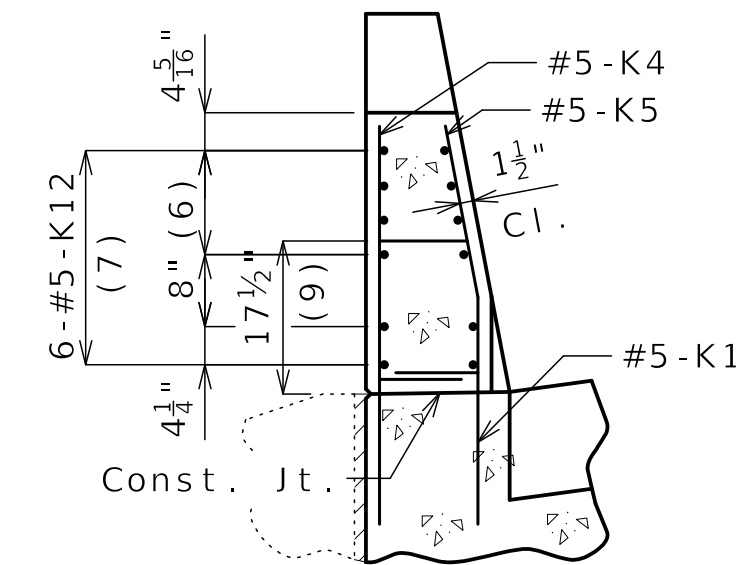
Use a minimum lap of 2'-6" between horizontal K bars and R bars.

- (1) 5-#5-K1 @ 4" cts.
- (2) 2 spaces @ 4"
- (3) 5-#5-K4 & K5
- (4) 3-#5-K6 & K7
- (5) 2-#5-K13 @ 4 1/2" cts., each face
- (6) 3 spaces @ 3 13/8"
- (7) Spaced as shown, each face
- (8) 2-#5-K13 (Roadway face)
- (9) To top of bar

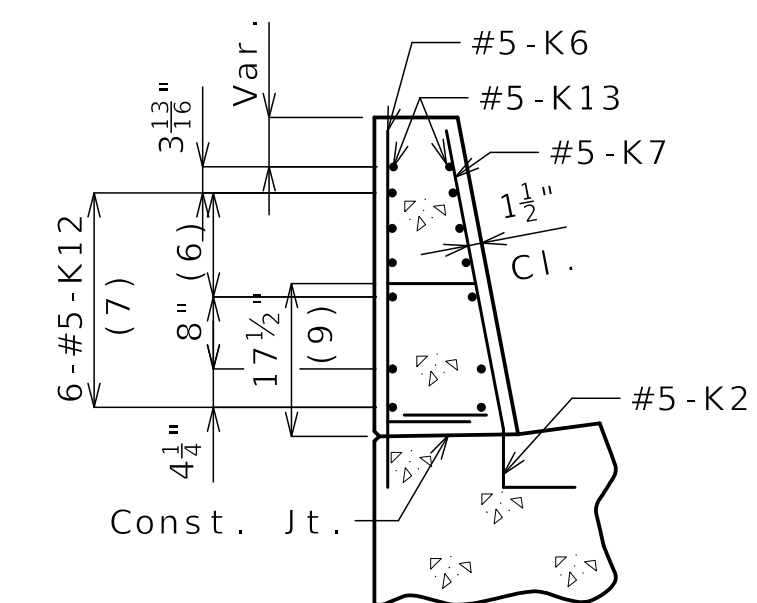
* Transition to zero at Type A curb for gutter lines to match.



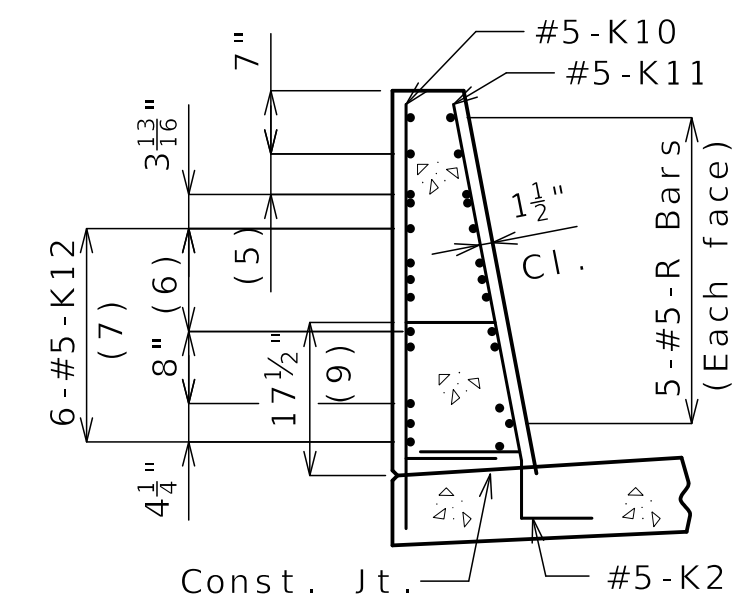
DETAILS OF GUARD RAIL ATTACHMENT



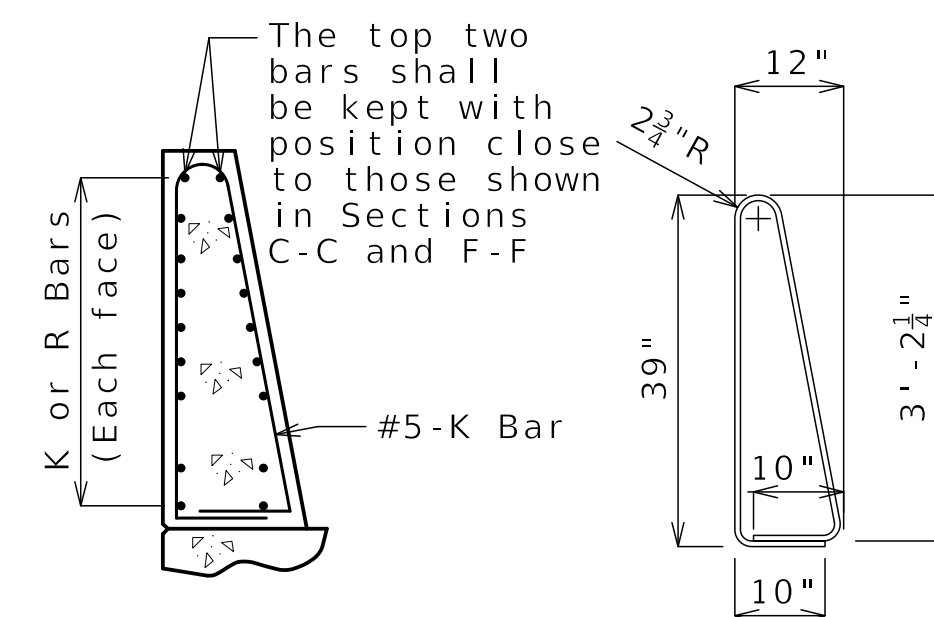
ELEVATION D-D



SECTION E-E



SECTION F-F



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.

RIGHT TYPE D BARRIER AT END BENTS

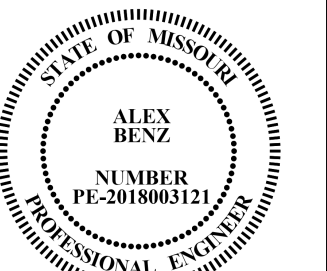
Detailed Sep. 2025
Checked Sep. 2025

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

Sheet No. 16 of 20

O:\2022R3\MoDOT_ORD_v10.12.02.04\24083 MoDOT JKR0101 Route 50EB Bridge\DCN\Bridge\Final\Plotsheets\B-A11752_016-JKR0101-Right-End-Barrier.dgn

5:24:21 PM 10/23/2025



Alex C. Benz
10/23/2025 3:32:54 PM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED
10/23/2025

ROUTE 50 STATE MO

DISTRICT BR SHEET NO. 16

COUNTY JOHNSON

JOB NO. JKR0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A11752

DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITAL JEFFERSON CITY, MO 65102

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

REV.

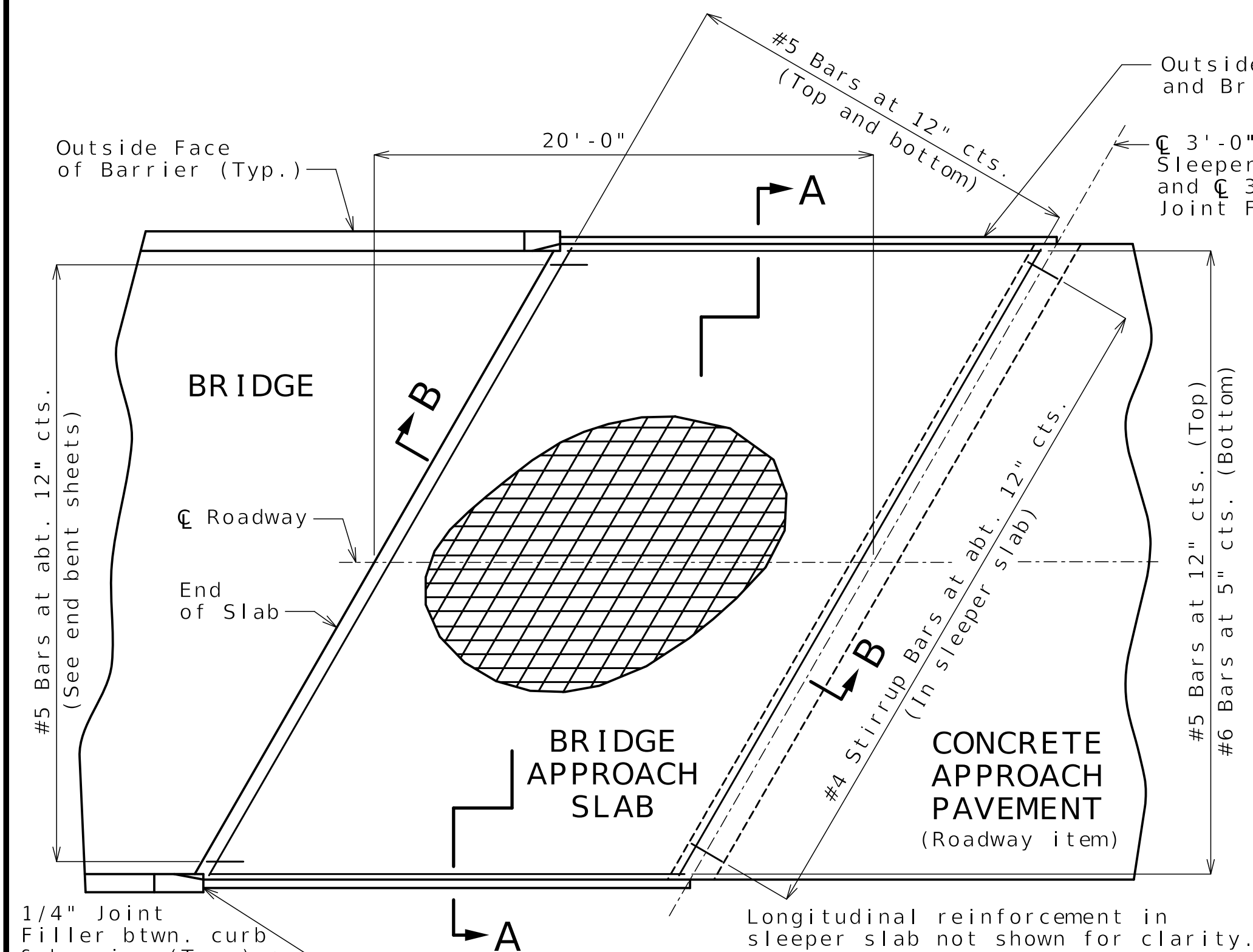
EFK Moen

Civil Engineering Design

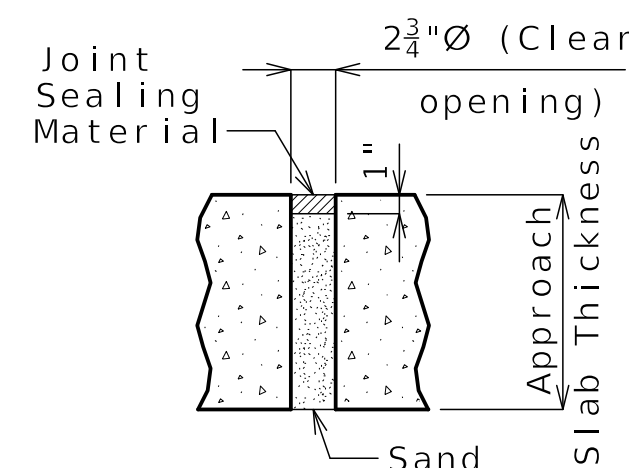
13523 Barrett Parkway Dr Suite 250 St. Louis, MO 63021

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

Missouri Certificate of Authority: 001578

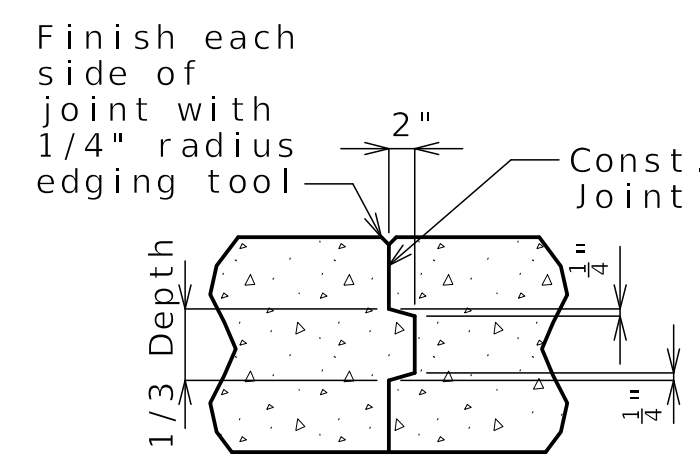


PART PLAN SHOWING REINFORCEMENT

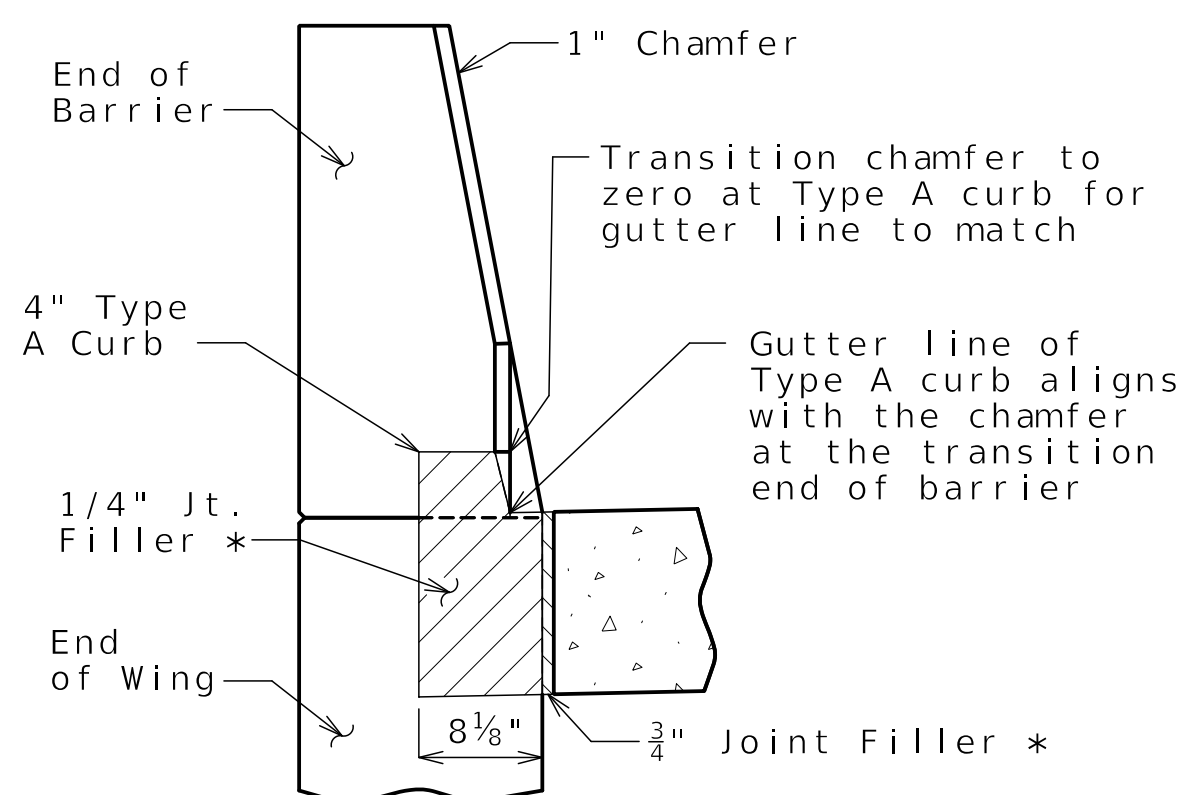


UNDERSEAL ACCESS HOLE DETAIL

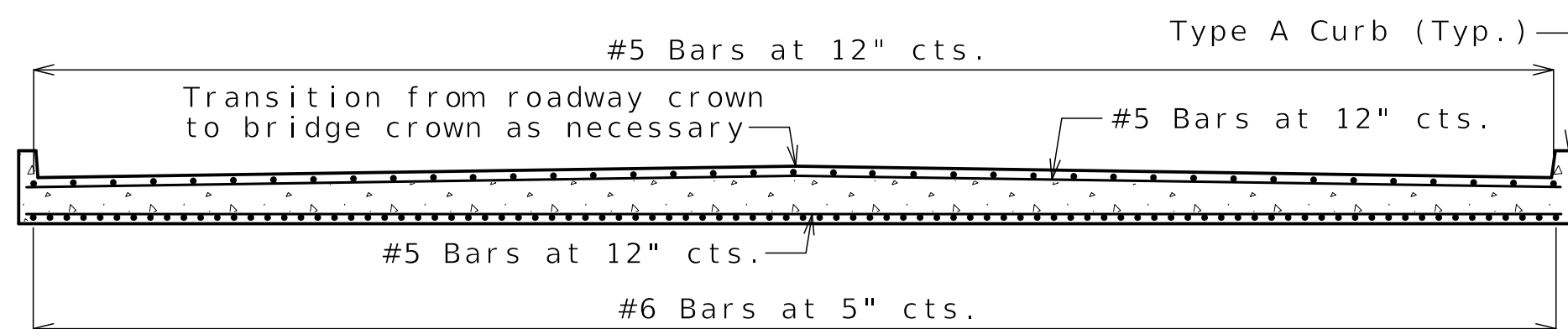
(If required)



CONSTRUCTION JOINT DETAIL

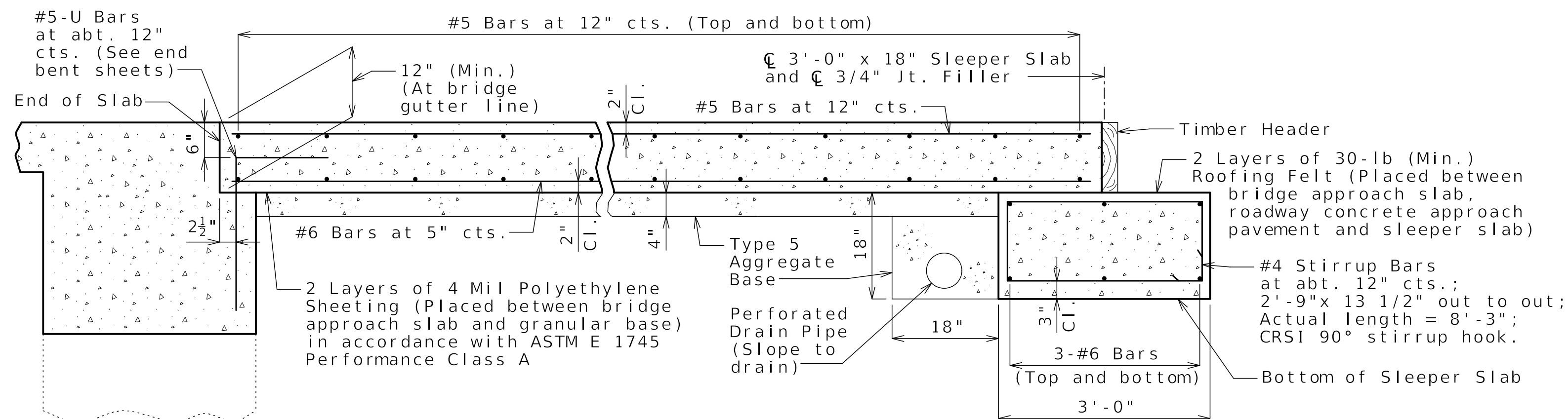


SECTION BETWEEN
CURB AND BARRIER



SECTION A-A

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 B-B

BRIDGE APPROACH SLAB (MAJOR)

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

Sheet No. 17 of 20

O:\2022R3\MoDOT-ORD-v10.12.02.04\24083 MoDOT JKR0101 Route 50EB Bridge\DGN\Bridge\Final\Plotsheets\B-A11752-017 JKR0101-Approach-Slab.dgn 5:24:22 PM 10/23/2025

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 $f_y = 60,000$ 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 24 inches for #5 bars and 40 inches for #6 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710.

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.

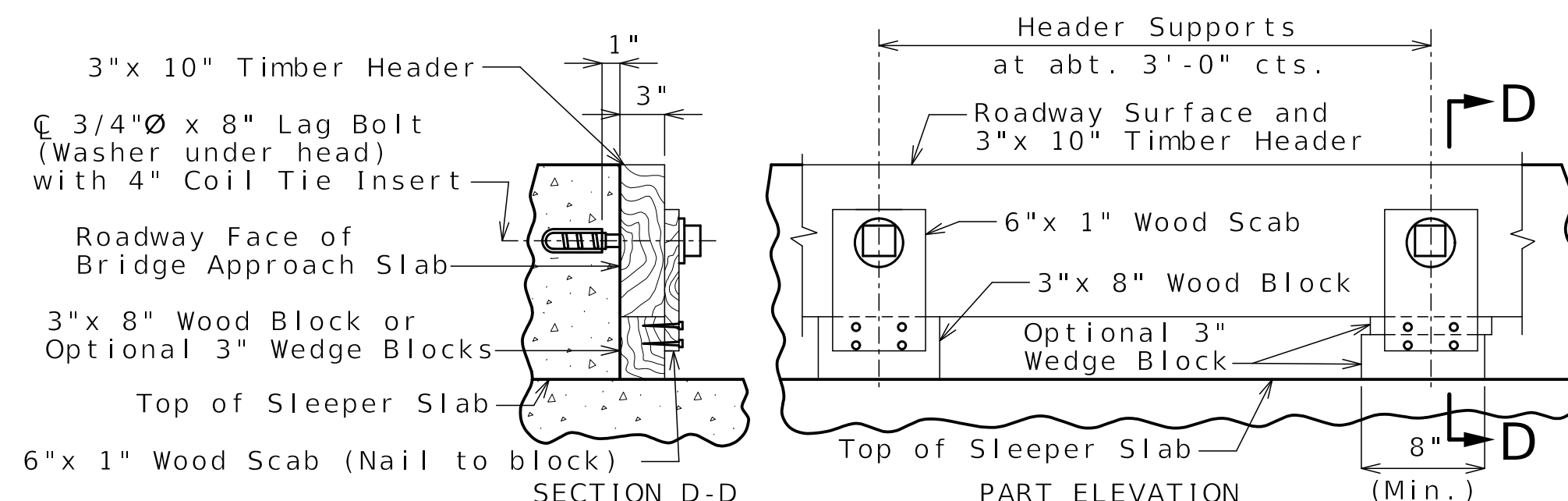
Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab.

For concrete approach pavement details, see roadway plans.

See Missouri Standard Plan 609.00 for details of Type A curb.

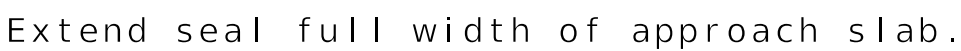
Payment for furnishing all materials, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, Type 5 aggregate base, joint filler and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered 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.



DETAILS OF TIMBER HEADER

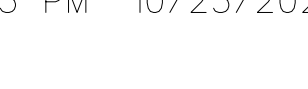
Remove timber header when concrete pavement is placed.

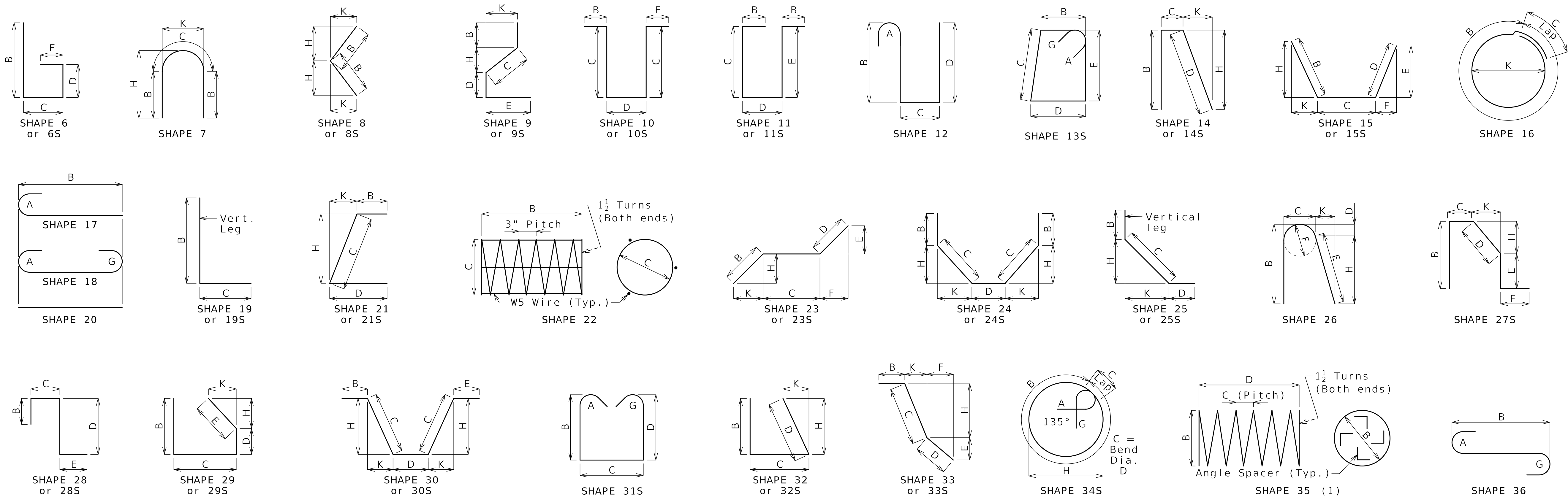


(1) Allowed installation gap ($\pm$) normal to joint at roadway surface (see table)

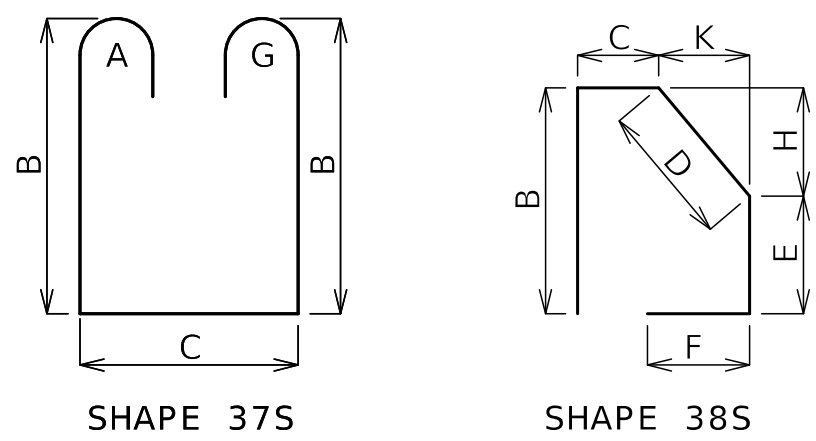
MoDOT construction personnel will record the manufacturer and seal name that was used.

O:\2022R3\MoDOT_ORD_v10.12.02.04\24083 MoDOT JKR0101 Route 50EB Bridge\DGN\Bridge\Final\Plotsheets\B_A11752_018_JKR0101_Joint-Seal.dgn 5:24:23 PM 10/23/2025





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	3 3/4"	10"	7"	5"	
#6	1	4 1/2"	12"	8 1/4"	6"	
#7	2	5 1/4"	14"	9 3/4"	7"	
	3	7"	15"	11 1/2"	8 3/4"	
#8	2	6"	16"	11"	8"	
	3	8"	17"	13 1/4"	10"	
#9	1	9 1/2"	19 1/2"	15 1/2"	11 3/8"	
#10	1	10 3/4"	22"	17 1/2"	13 1/4"	
#11	1	12"	24 1/2"	19 1/2"	14 7/8"	
#14	1	18 1/4"	31 1/4"	27 1/2"	21 5/8"	
#18	1	24"	41 1/2"	36 1/4"	28 1/2"	
Stirrup Pin Bend Shapes (S)						
Size	Case	D	A or G			J
			90°	135°	180°	
#4	2	2"	4 1/2"	4 1/2"	5"	2 7/8"
	3	3"	5"	5 1/4"	6"	3"
#5	2	2 1/2"	5 3/4"	5 3/4"	5 3/4"	3 3/8"
	3	3 3/4"	6 1/4"	6 1/2"	7"	3 5/8"
#6	1	4 1/2"	12"	7 3/4"	8 1/4"	4 5/8"
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.						



BENDING DIAGRAMS

All dimensions are out to out. (1) Shall be a deformed or plain spiral bar or wire.

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.

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		
	Plain	Epoxy	Slab		Barrier	Slip Form	Plain	Epoxy
			Plain	Epoxy				
W5	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0
5	0	0	0	17,002	14,689	901	0	32,592
6	0	0	0	61,664	0	0	0	61,664
7	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0
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	0	0	0	78,666	14,689	901	0	94,563

All superstructure reinforcing steel shall be epoxy coated unless otherwise specified.

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Detailed Sep. 2025
Checked Sep. 2025

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

Sheet No. 19 of 20

STATE OF MISSOURI

ALEX BENZ

NUMBER
PE-2018003121

PROFESSIONAL ENGINEER

Alex C. Benz

10/23/2025 5:33:27 PM

Alex Benz - Civil

MO PE-2018003121

DATE PREPARED

10/23/2025

ROUTE

50

STATE

MO

DISTRICT

BR

SHEET NO.

19

COUNTY

JOHNSON

JOB NO.

JKR0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A11752

DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

EFK Moen

Civil Engineering Design

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

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

Missouri Certificate of Authority: 001578

Bill of Reinforcing Steel																				
No. Req.	Size/ Mark	Location	Codes		Dimensions								Nom. Length	Actual Length	Weight					
					B		C		D		E					F		H		K
			C	SH	V	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	lb
		End Bent No. 1																		
12	6	H101	E	20		35	7.000									35	7	35	7	641
2	6	H102	E	20		34	2.000									34	2	34	2	103
3	5	H103	E	20		2	3.000									2	3	2	3	7
38	5	U101	E	10	S			1	6.000	2	2.000					5	2	4	11	195
38	5	U102	E	10	S			2	9.000	1	8.000					7	2	6	11	274
45	6	U103	E	19		3	0.000	4	10.000							7	10	7	8	518
38	5	U104	E	10	S			2	1.000	2	2.000					6	4	6	1	241
33	5	U105	E	19		2	0.000		15.000							3	3	3	1	106
		End Bent No. 6																		
12	6	H601	E	20		35	7.000									35	7	35	7	641
2	6	H602	E	20		34	2.000									34	2	34	2	103
3	5	H603	E	20		2	3.000									2	3	2	3	7
35	5	U601	E	10	S			1	6.000	2	2.000					5	2	4	11	179
35	5	H602	E	10	S			2	9.000	1	8.000					7	2	6	11	252
44	6	U603	E	19		3	0.000	4	10.000							7	10	7	8	507
35	5	H604	E	10	S			2	1.000	2	2.000					6	4	6	1	222
33	5	U605	E	19		2	0.000		15.000							3	3	3	1	106
		Slab																		
329	5	S1	E	20		44	11.000									44	11	44	11	15413
108	6	S2	E	20		31	3.000									31	3	31	3	5069
108	6	S3	E	20		42	3.000									42	3	42	3	6854
892	6	S4	E	20		34	5.000									34	5	34	5	46111
14	6	S5	E	20	1	32	0.000									32	0	32	0	361
		INCR=27 3/8 IN				2	4.000									2	4	2	4	
8	6	S6	E	20	1	30	8.000									30	8	30	8	210
		INCR=45 1/4 IN				4	3.000									4	3	4	3	
13	6	S7	E	20	1	32	4.000									32	4	32	4	346
		INCR=29 1/4 IN				3	1.000									3	1	3	1	
8	6	S8	E	20	1	30	9.000									30	9	30	9	200
		INCR=48 1/4 IN				2	7.000									2	7	2	7	
240	4	S9	E	10			6.000		4.000		8.000		6.000			2	4	1	11	307
		Barrier																		
20	5	K1	E	27	S		21.500		9.250		5.375		15.750		12.000		5.250		1.000	
56	5	K2	E	27	S		21.500		9.250		17.250		4.000		12.000		17.000		3.250	
20	5	K4	E	19	S	4	2	4.250		10.000						3	2	3	1	66
		INCR=0 1/2 IN				2	6.250		10.000							3	4	3	3	
20	5	K5	E	38	S	4					18.500		9.500		8.250		18.000		4.000	
		INCR=0 1/2 IN									20.500		9.500		8.250		20.000		4.500	
12	5	K6	E	19	S		2	6.750		10.000						3	5	3	3	41
12	5	K7	E	21	S			2	6.625		10.000				2	6.000		6.250		
36	5	K8	E	19	S	4	2	8.500		10.000						3	6	3	5	133
		INCR=0 3/4 IN				3	2.500		10.000							4	0	3	11	
36	5	K9	E	21	S	4			2	8.500		10.000			2	7.750		6.750		
		INCR=0 3/4 IN						3	2.500		10.000				3	1.750		7.750		
8	5	K10	E	19	S		3	3.000		10.000						4	1	4	0	33
8	5	K11	E	21	S			3	3.000		10.000				3	2.250		7.750		
48	5	K12	E	20			9	7.000								9	7	9	7	480
16	5	K13	E	20	8		5	10.000								5	10	5	10	122
		INCR=36IN					8	10.000								8	10	8	10	
578	5	R1	E	26		3	3.000		5.500		2.250	3	1.375		5.500	3	0.750		6.750	
578	5	R2	E	19	S		19.500		9.500							2	5	2	4	1407
578	5	R3	E	27	S				9.500		15.250		4.000		12.000		15.000		3.000	
160	5	R4	E	20		11	8.000									11	8	11	8	1947
10	5	R5	E	20		27	9.000									27	9	27	9	289
20	5	R6	E	20		36	3.000									36	3	36	3	756
40	5	R7	E	20		29	6.000									29	6	29	6	1231
20	5	R8	E	20		36	4.000									36	4	36	4	758
10	5	R9	E	20		27	10.000									27	10	27	10	290
10	5	R10	E	20		28	1.000									28	1	28	1	293
10	5	R11	E	20		27	6.000									27	6	27	6	287
		Slip Form																		
72	5	C1	E	20		12	0.000									12	0	12	0	901

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. 19.

Detailed Sep. 2025
Checked Sep. 2025

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

BILL OF REINFORCING STEEL

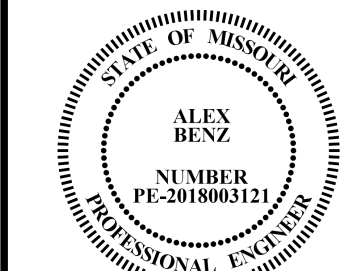
Sheet No. 20 of 20

[illegible]

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.



Alex C. Benz
10/23/20255:33:41 PM
Alex Benz - Civil
MO PE-2018003121

DATE PREPARED

10/23/2025

ROUTE 50	STATE MO
-------------	-------------

DISTRICT BR	SHEET NO 20
----------------	----------------

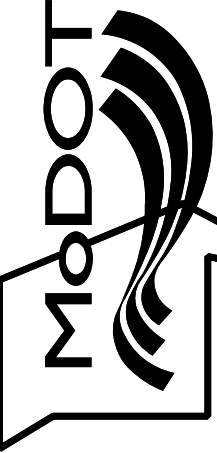
COUNTY
JOHNSON

JOB NO.
JKR0101

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A11752

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

JEFF MOEN
Civil Engineering Design

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