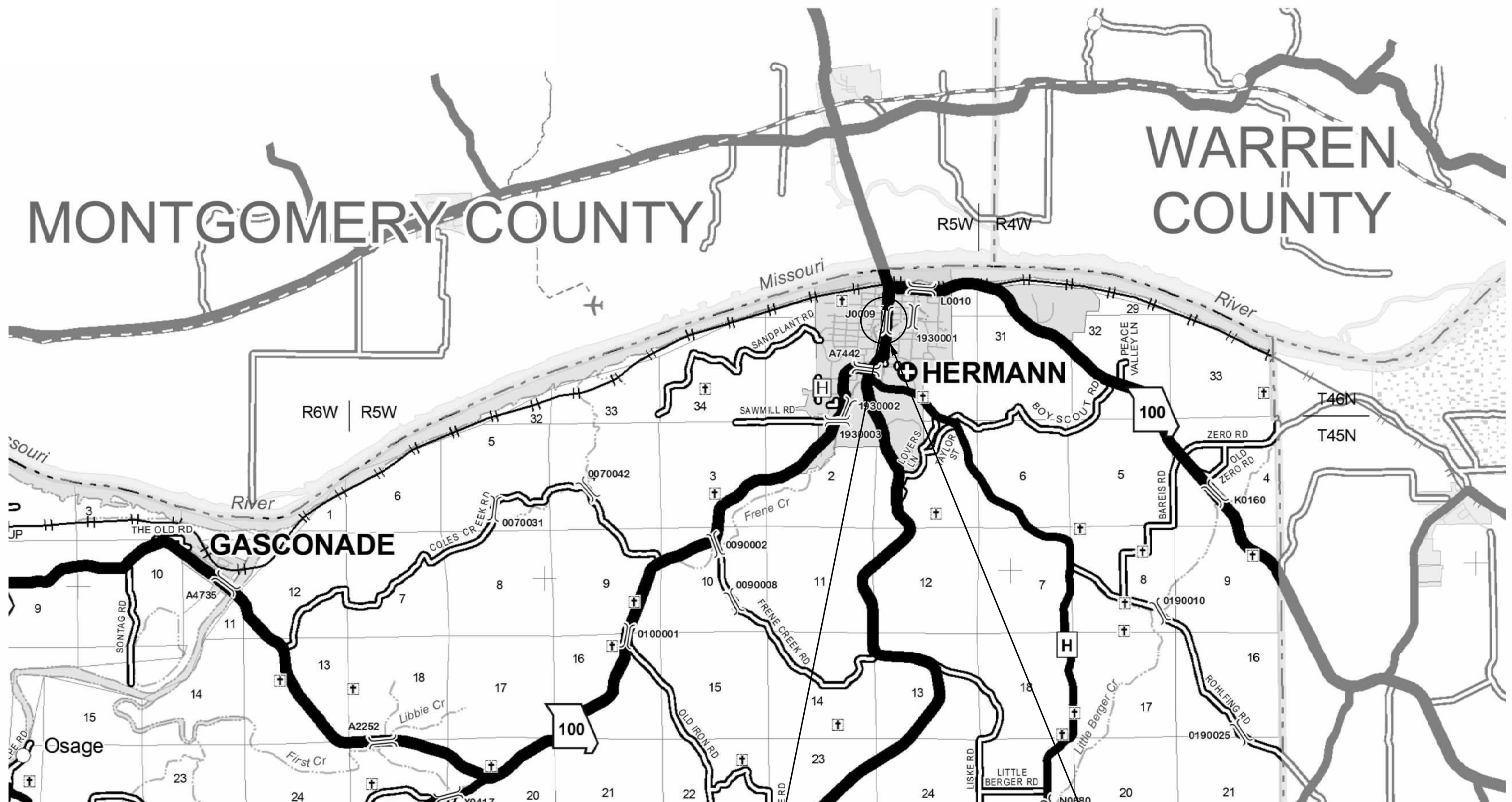
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED
STATE HIGHWAY

GASCONADE COUNTY

ROUTE 19 OVER FRENE CREEK

NOT TO SCALE



STA. 27+35.56
BEGIN PROJECT

STA. 30+47.72
END PROJECT

PROJECT LIMITS
BRIDGE SUPERSTRUCTURE
REPLACEMENT, PAVING,
DRAINAGE

DESIGN DESIGNATION

A.A.D.T. - 2024 = 10,153
A.A.D.T. - 2034 = 10,672
D.H.V. = 7.38%
T = 9.47%
V = 30 M.P.H.
D = 50% / 50%

FUNCTIONAL CLASSIFICATION-MINOR ARTERIAL

NO NEW RIGHT OF WAY
OR EASEMENTS 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

	EXISTING	NEW
FIBER OPTICS	FO	FO
OVERHEAD CABLE TV	OTV	OTV
UNDERGROUND CABLE TV	UTV	UTV
OVERHEAD TELEPHONE	OT	OT
UNDERGROUND TELEPHONE	UT	UT
OVERHEAD POWER	OE	OE
UNDERGROUND POWER	UE	UE
SANITARY SEWER	S	S
STORM SEWER	SS	SS
GAS	G	G
WATER	W	W

MANHOLE (SAN)
FIRE HYDRANT (HYD)
WATER VALVE (WV)
WATER METER (WM)
DROP INLET
DITCH BLOCK
GROUND MOUNTED SIGN (SIGN)
LIGHT POLE
H-FRAME POWER POLE
TELEPHONE PEDESTAL (PED)
FENCE
CHAIN LINK — V —
WOVEN WIRE — X —
GATE POST
BENCHMARK (BM)

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

DISCLAIMER

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

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

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA. 27 + 35.56	
END OF PROJECT	STA. 30 + 47.72	
APPARENT LENGTH		312.16 FEET

EQUATIONS AND EXCEPTIONS:

TOTAL CORRECTIONS	0	FEET
NET LENGTH OF PROJECT	312.16	FEET
STATE LENGTH	0.059	MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES	0.5	ACRES

STATE OF MISSOURI
TRICIA M. BOHLER
NUMBER PE-2000149999
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	8/30/2023
ROUTE	19
STATE	MO
DISTRICT	CD
SHEET NO.	1
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	.
PROJECT NO.	.
BRIDGE NO.	J00092

DESCRIPTION

DATE

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

REV.

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

CDI
5220 Oakland Ave.
St. Louis, MO 63110
(314) 863-5570
CIVIL DESIGN INC.
Missouri State Certificate of Authority #2002006804

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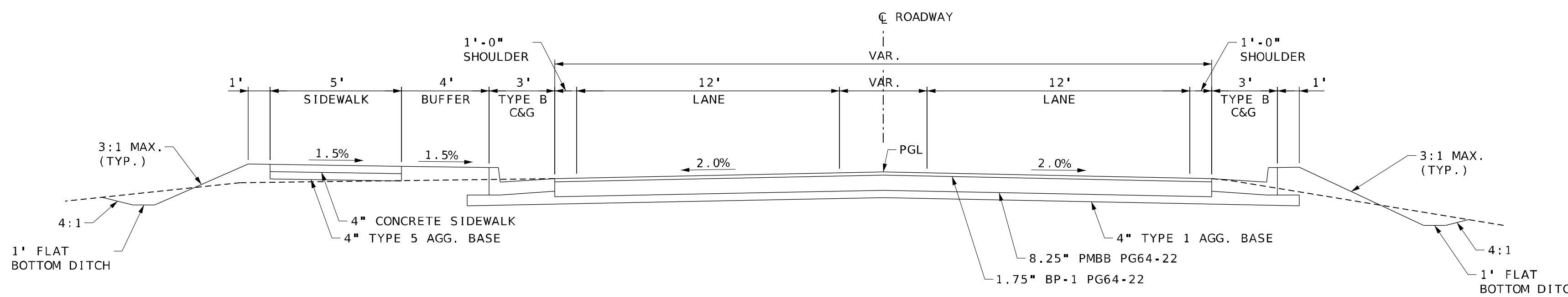
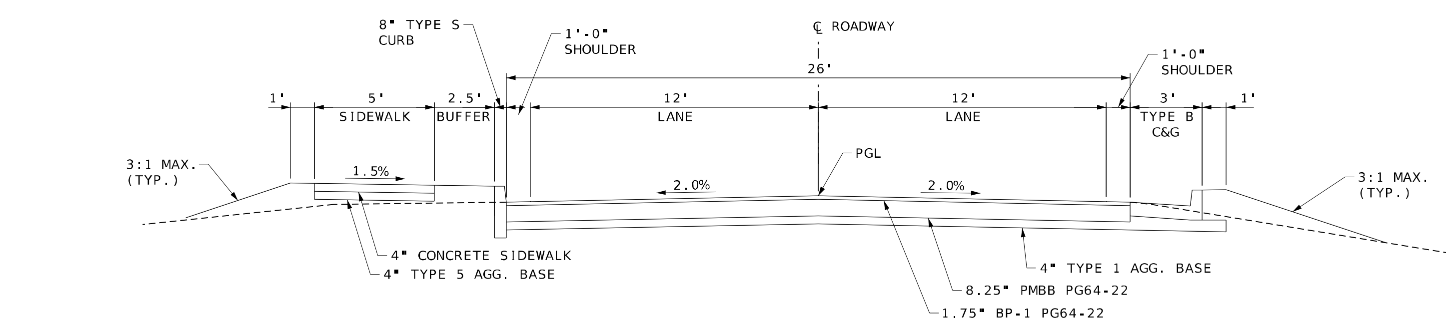


*TAPER GUTTER WIDTH:
2.5'-0' STA. 28+27.98 TO STA. 28+37.98
2.5'-0' STA. 28+30.10 TO STA. 28+40.10
0'-2.5' STA. 29+55.48 TO STA. 29+65.48

ROUTE 19 - FULL DEPTH PAVEMENT

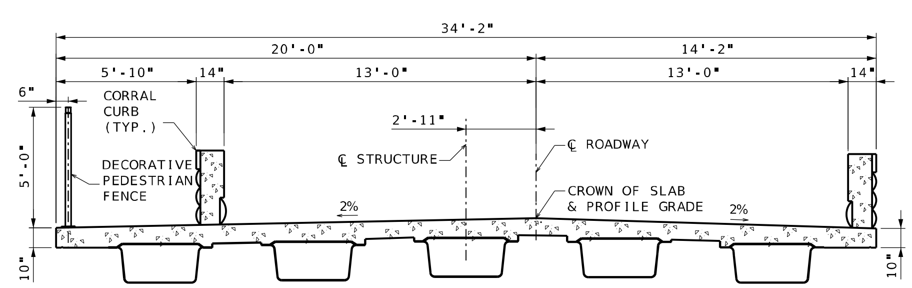
STA. 27+35.56 TO STA. 28+24.04



NOTE: BRIDGE APPROACH SLABS (MINOR)
STA. 28+24.04 TO STA. 28+44.04 TO
STA. 29+61.54 TO STA. 29+81.54

ROUTE 19 - FULL DEPTH PAVEMENT

STA. 29+81.54 TO STA. 30+47.72



ROUTE 19 - BRIDGE

STA. 28+44.04 TO STA. 29+61.54

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TYPICAL SECTION
SHEET 1 OF 1

STATE OF MISSOURI
TRICIA M. BOHLER
NUMBER PE-2000149992
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	8/15/2023
ROUTE	19
STATE	MO
DISTRICT	CD
SHEET NO.	2
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	.
PROJECT NO.	.
BRIDGE NO.	J00092

DATE | DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

5220 Oakland Ave.
St. Louis, MO 63110
(314) 863-5570

CIVIL DESIGN, INC.
Missouri State Certificate of Authority #2002006804

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

REMOVAL OF IMPROVEMENTS

PLAN SHEET	BEGIN STATION	END STATION	SIDE	DESCRIPTION	AMOUNT EA	AMOUNT LF	AMOUNT SY	REMARKS
4	27+35.56	28+42.67	BOTH	PAVEMENT REMOVAL			887	INCL. SAW CUT & BRIDGE APPROACH PVMT
4	29+60.40	30+47.72	BOTH	PAVEMENT REMOVAL			500	INCL. SAW CUT & BRIDGE APPROACH PVMT
4	27+48.18	28+25.72	LT	SIDEWALK REMOVAL			37	
4	29+37.54	29+58.99	RT	GRAVEL REMOVAL			26	
4	27+84.95	28+59.13	RT	GUARDRAIL		75		
4	29+43.18	30+22.07	LT	GUARDRAIL		78		
9	27+53.73		LT	SIGN	1			FOUR HR PARKING
9	28+26.61		LT	SIGN	1			FOUR HR PARKING
9	28+30.84		RT	SIGN	1			FRENE CREEK
9	28+36.08		RT	SIGN	1			OBJECT MARKER
9	28+44.39		LT	SIGN	1			SPEED LIMIT SIGN
9	28+50.90		LT	SIGN	1			OBJECT MARKER
9	29+54.36		RT	SIGN	1			OBJECT MARKER
9	29+70.51		LT	SIGN	1			OBJECT MARKER
9	29+71.72		LT	SIGN	1			FRENE CREEK
9	28+43.79		LT	WATER VALVE	1			ABANDONED
				TOTAL	1 LUMP SUM			

PAVEMENT

PLAN SHEET	BEGIN STATION	END STATION	BITUMINOUS PAVEMENT MIXTURE PG64-22 (BP-1)	BITUMINOUS BASE COURSE PG64-22	TYPE 1 AGGREGATE BASE, 4 IN.	TACK COAT	SUBGRADE COMPACTION
			SY	SY	SY	GALLON	100F
4	27+35.56	28+24.04	420.5	420.5	420.5	21.0	1
4	29+81.54	30+47.72	351.6	351.6	351.6	17.6	1
		SUBTOTAL	772.1	772.1	772.1	38.6	2
			1.75" DEPTH	8.25" DEPTH			
			X 1.948 TONS/CY	X 1.943 TONS/SY			
			TONS	TONS	SY	GALLON	100F
		TOTAL	73.1	343.8	772	39	2

UNDILUTED TACK COAT APPLICATION RATES PER EPG TABLE 407.1.4 USED: 0.05 FOR NEW ASPHALT SURFACES, 0.10 FOR COLDMILLED ASPHALT SURFACES

SIDEWALK

PLAN SHEET	BEGIN STA.	END STA.	SIDE	CONCRETE SIDEWALK 4 IN.	CONCRETE CURB RAMP	TYPE 5 AGGREGATE FOR BASE, 4 IN.	TRUNCATED DOMES
				SY	SY	SY	SF
4	27+39.33	28+50.64	LT	60.7	13	74	10
4	29+67.87	30+24.15	LT	30.0	8	38	
		TOTAL		90.7	21	112	10

CONCRETE CURBS AND GUTTERS

PLAN SHEET	BEGIN STA.	END STA.	SIDE	CURB AND GUTTER TYPE B	TYPE S CURB (OVER 6 IN HEIGHT)	TYPE A GUTTER	TYPE 1 AGG. FOR BASE, 4 IN.	CONCRETE TROUGH WITH STEEL PLATE
				LF	LF	LF	SY	LF
4	27+42.17	28+37.98	RT	123		5	75.9	
4	27+36.50	28+50.10	LT	130	10	5	69.3	5
4	29+55.48	30+29.56	RT	86			41.8	
4	29+67.59	30+33.80	LT		84			
		TOTAL		339	94	10	187	5

CLEARING AND GRUBBING

TOTAL (ACRE)	1

REMOVAL OF IMPROVEMENTS - CITY SEWER/WATER

TOTAL = 1 LUMP SUM

EARTHWORK

LOCATION	BEGIN STATION	END STATION	CLASS A EXCAVATION CY	COMPACTING EMBANKMENT CY
ROUTE 19	27+35.56	28+24.04	209	42
ROUTE 19	29+81.54	30+47.72	132	12
TOTAL			341	54

REMOVAL OF EXISTING PAVEMENT IS INCLUDED IN CLASS A EXCAVATION
SHRINKAGE FACTOR = 1.00

MOBILIZATION

TOTAL = 1 LUMP SUM

QUANTITIES
SHEET 1 OF 3

STATE OF MISSOURI
TRICIA M. BOHLER
NUMBER PE-2000149999
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

DATE PREPARED	8/15/2023
ROUTE	19
STATE	MO
DISTRICT	CD
SHEET NO.	3
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	.
PROJECT NO.	.
BRIDGE NO.	J00092

DESCRIPTION
DATE

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

CDI CIVIL DESIGN, INC.
5220 Oakland Ave.
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PERMANENT PAVEMENT MARKING

PLAN SHEET	BEGIN STATION	END STATION	SIDE	WATERBORNE W/ TYPE P BEADS 4 INCH YELLOW LF	WATERBORNE W/ TYPE P BEADS 4 INCH WHITE LF	REMARKS
12	27+35.56	28+18.02	LT	166		DOUBLE SOLID YELLOW
12	27+35.56	28+18.02	RT	164		DOUBLE SOLID YELLOW
12	28+18.02	30+47.72	CENTER	57		DASHED
12	27+35.56	30+13.61	LT		278	SOLID WHITE
12	27+35.56	30+12.08	RT		277	SOLID WHITE
			TOTAL	387	555	

TEMPORARY EROSION CONTROL

PLAN SHEET	BEGIN STATION	END STATION	SIDE	SILT FENCE LF	ALTERNATE DITCH CHECK LF	TYPE C BERM LF	CURB INLET CHECK EACH	SEDIMENT REMOVAL CY
11	27+44.11	27+62.14	RT	33				0.5
11	27+90.66	28+34.35	RT		36			6.0
11	27+60.81	28+33.47	RT	86				1.0
11	27+73.34	28+48.96	LT		18			3.0
11	28+30.03	28+57.70	LT	34				0.5
11	28+38.81	28+87.48	BOTH			131		
11	28+97.88	29+54.17	BOTH			132		
11	29+75.03	30+32.11	LT	59				0.5
11	30+35.25		LT				1	1.0
11	30+90.64		RT		6			1.0
		TOTAL		212	60	263	1	14

NOTE: SEDIMENT REMOVAL IS BASED ON 1 CY PER DITCH CHECK, 1 CY PER 100 FT OF SILT FENCE

PERMANENT EROSION CONTROL

PLAN SHEET	BEGIN STATION	END STATION	FURNISHING TYPE 2 ROCK BLANKET CY	PLACING TYPE 2 ROCK BLANKET CY	ROCK LINING CY	FURNISHING TYPE 1 ROCK DITCH LINER CY	PLACING TYPE 1 ROCK DITCH LINER CY	PERMANENT EROSION CONTROL GEOTEXTILE SY
4	28+36.23	28+94.43	136	136				204
4	28+94.11	29+78.96	258	258				387
4	27+61.33	28+36.32				5	5	25
4	27+87.00	27+92.04			1			
		TOTAL	394	394	1	5	5	616

SEEDING

PLAN SHEET	BEGIN STATION	END STATION	SEEDING COOL SEASON MIXTURES
4	27+35.56	30+47.72	0.1 ACRE

NOTE: SEEDING QUANTITY = 0.1 ACRE

CONTRACTOR FURNISHED SURVEYING AND STAKING

TOTAL = 1 LUMP SUM

QUANTITIES
SHEET 2 OF 3

STATE OF MISSOURI
TRICIA M. BOHLER
NUMBER PE-2000149993
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

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

DATE PREPARED	8/15/2023
ROUTE	19
STATE	MO
DISTRICT	CD
SHEET NO.	3
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	.
PROJECT NO.	.
BRIDGE NO.	J00092

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

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EFFECTIVE: 04-01-2023

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
WARNING SIGNS								
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT ARROW)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT ARROW)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT ARROW)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT ARROW)
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT ARROW)
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT ARROW)
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT ARROW)
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT ARROW)
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)
WO1-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
WO1-8	18X24	3.00						CHEVRON (SYMBOL)
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
WO3-4	48X48	16.00						BE PREPARED TO STOP
WO3-5	48X48	16.00						SPEED LIMIT AHEAD
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)
WO4-1aL	48X48	16.00						MERGE (ARROW SYMBOL)
WO4-1aR	48X48	16.00						MERGE (ARROW SYMBOL)
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS
WO5-3	48X48	16.00						ONE LANE BRIDGE
WO5-5	48X48	16.00						NARROW LANES
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)
WO6-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)
WO7-3a	30X24	5.00						NEXT XX MILES (PLAQUE)
WO8-1	48X48	16.00						BUMP
WO8-2	48X48	16.00						DIP
WO8-3	48X48	16.00						PAVEMENT ENDS
WO8-4	48X48	16.00						SOFT SHOULDER
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)
WO8-6	48X48	16.00						TRUCK CROSSING (WITH FLAGS)
WO8-6c	48X48	16.00						TRUCK ENTRANCE
WO8-7	36X36	9.00						LOOSE GRAVEL
WO8-7a	36X36	9.00						FRESH OIL/LOOSE GRAVEL
WO8-9	48X48	16.00						LOW SHOULDER
WO8-11	48X48	16.00						UNEVEN LANES
WO8-12	48X48	16.00						NO CENTER LINE
WO8-15	48X48	16.00						GROOVED PAVEMENT
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)
WO8-17	48X48	16.00						SHOULDER DROP-OFF (SYMBOL)
WO8-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)
W10-1	42RND.	9.62						RAILROAD CROSSING
WO12-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)
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						ADVISORY SPEED (PLAQUE)
WO16-2	30X24	5.00						XXX FEET (PLAQUE)
WO16-3	30X24	5.00						X MILE (PLAQUE)
WO20-1	48X48	16.00						ROAD/BRIDGE/RAMP WORK AHEAD
WO20-2	48X48	16.00	2	32.00			1	DETOUR AHEAD
WO20-3	48X48	16.00	4	64.00			4/5	ROAD CLOSED AHEAD / 500 FT
WO20-4	48X48	16.00						ONE LANE ROAD AHEAD
WO20-5	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED AHEAD
WO20-5a	48X48	16.00						2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
WO20-6a	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED
WO20-7a	48X48	16.00						FLAGGER (SYMBOL, WITH FLAGS)
WO21-2	36X36	9.00						FRESH OIL
WO21-5	48X48	16.00						SHOULDER WORK AHEAD
WO22-1	48X48	16.00						BLASTING ZONE AHEAD
WO22-2	42X36	10.50						TURN OFF 2-WAY RADIO AND PHONE
WO22-3	42X36	10.50						END BLASTING ZONE
GO22-1	21X15	2.19						WET PAINT (ARROW PIVOTS)

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
GUIDE SIGNS								
E05-1	36X48	12.00						GORE EXIT
E05-2	48X36	12.00						EXIT OPEN
E05-2a	48X36	12.00						EXIT CLOSED
GO20-1	60X24	10.00						ROAD WORK NEXT XX MILES
GO20-2	48X24	8.00						END ROAD WORK
GO20-4	36X18	4.50						PILOT CAR FOLLOW ME
GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW
GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW
GO20-5aP	36X24	6.00						WORK ZONE (PLAQUE)
MO4-8a	24X18	3.00	2	6.00			3	END DETOUR
MO4-9L	48X36	12.00						DETOUR (LEFT ARROW)
MO4-9R	48X36	12.00						DETOUR (RIGHT ARROW)
MO4-9P	48X12	4.00						STREET NAME (PLAQUE)
MO4-10L	48X18	6.00						DETOUR (ARROW LEFT)
MO4-10R	48X18	6.00						DETOUR (ARROW RIGHT)
REGULATORY SIGNS								
R1-1	48X48	13.25						STOP
R1-2	48TRI.	6.93						YIELD
R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)
R1-3P	30X12	2.50						ALL WAY (PLAQUE)
R2-1	36X48	12.00						SPEED LIMIT XX
R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00						NO TURNS
R3-4	48X48	16.00						NO U-TURN (SYMBOL)
R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00						DO NOT PASS
R4-2	36X48	12.00						PASS WITH CARE
R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)
R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)
R5-1	30X30	6.25						DO NOT ENTER
R5-1a	36X24	6.00						WRONG WAY
R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)
R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)
R6-2L	24X30	5.00						ONE WAY (LEFT)
R6-2R	24X30	5.00						ONE WAY (RIGHT)
R9-9	24X12	2.00						SIDEWALK CLOSED
R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE
R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE
R10-6	24X36	6.00						STOP HERE ON RED (45^ ARROW)
R11-2	48X30	10.00	2	20.00			2	ROAD CLOSED
R11-3a	60X30	12.50						ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60X30	12.50	1	12.50			8	ROAD CLOSED TO THRU TRAFFIC
CONST-3A	60X48	20.00						FINE SIGN
CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)
MISCELLANEOUS SIGNS								
CONST-5	48X36	12.00						POINT OF PRESENCE
CONST-5	96X48	32.00						POINT OF PRESENCE
CONST-7	48X24	8.00						RATE OUR WORK ZONE
CONST-7	72X36	18.00						RATE OUR WORK ZONE
CONST-9	36X60	15.00	5	75.00			50A	DETOUR NORTH RTE 19 STRAIGHT
CONST-10	36X60	15.00	1	15.00			50B	DETOUR NORTH RTE 19 ADVANCED RIGHT
CONST-11	36X60	15.00	1	15.00			50C	DETOUR NORTH RTE 19 RIGHT
CONST-12	36X60	15.00	1	15.00			50D	DETOUR NORTH RTE 19 ADVANCED LEFT
CONST-13	36X60	15.00	1	15.00			50E	DETOUR NORTH RTE 19 LEFT
CONST-14	36X60	15.00	5	75.00			50F	DETOUR SOUTH RTE 19 STRAIGHT
CONST-15	36X60	15.00	1	15.00			50G	DETOUR SOUTH RTE 19 ADVANCED RIGHT
CONST-16	36X60	15.00	1	15.00			50H	DETOUR SOUTH RTE 19 RIGHT
CONST-17	36X60	15.00	1	15.00			50J	DETOUR SOUTH RTE 19 ADVANCED LEFT
CONST-18	36X60	15.00	1	15.00			50K	DETOUR SOUTH RTE 19 LEFT

616-10.05 CONSTRUCTION SIGNS	TOTAL 405
616-10.10 RELOCATED SIGNS	TOTAL *

* NO DIRECT PAY WILL BE MADE FOR RELOCATING SIGNS

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)
6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)
6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)
6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
6122020		REPLACEMENT SAND BARREL
6122030		IMPACT ATTENUATOR (RELOCATION)
6123000A		TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
6161008	2	ADVANCED WARNING RAIL SYSTEM
6161012		BUOYS (BOATS KEEP OUT)
6161013		BUOYS (NO WAKE)
6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
6161025		CHANNELIZER (TRIM LINE)
6161030	15	TYPE III MOVEABLE BARRICADE
6161033		DIRECTION INDICATOR BARRICADE
6161040		FLASHING ARROW PANEL
6161047		TYPE III OBJECT MARKER
6161055		SEQUENTIAL FLASHING WARNING LIGHT
6161070		TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A	2	CHANGEABLE MESSAGE SIGN W/O COMM. INTERFACE - CONTRACTOR FURNISHED/RETAINED
6161099		CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE - CONTRACTOR FURNISHED/RETAINED
6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
6162002		TEMPORARY LONG-TERM RUMBLE STRIPS
6173600D		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/RETAINED
6173602B		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/COMMISSION RETAINED
6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION
6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER
6176000B		TEMPORARY TRAFFIC BARRIER COMMISSION FURNISHED/RETAINED
6177000B		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION COMMISSION FURNISHED/RETAINED
6208064A		TEMPORARY RAISED PAVEMENT MARKER
9029400		TEMPORARY TRAFFIC SIGNALS
9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING

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QUANTITIES
SHEET 3 OF 3

STATE OF MISSOURI
TRICIA M. BOHLER
NUMBER PE-2000149995
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

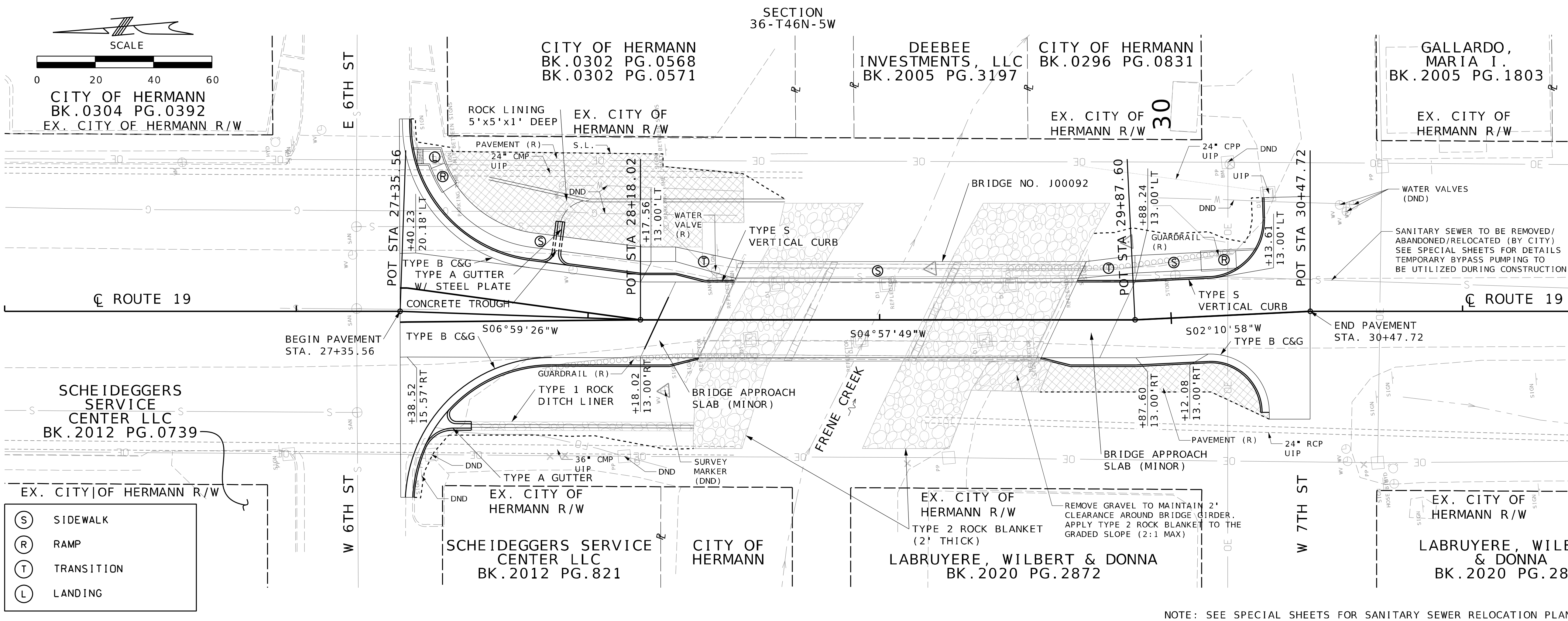
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED 8/15/2023
ROUTE 19 | STATE MO
DISTRICT CD | SHEET NO. 3
COUNTY GASCONADE
JOB NO. J5P3542
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. J00092

DATE | DESCRIPTION

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

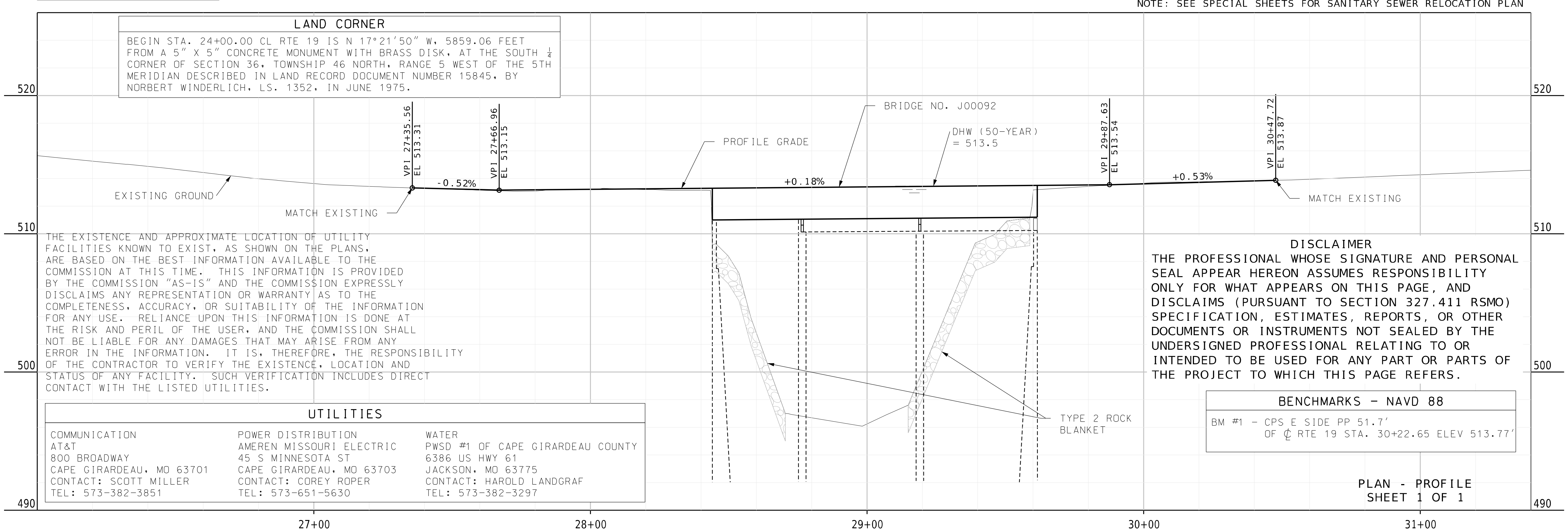
5220 Oakland Ave.
St. Louis, MO 63110
(314) 863-5570
Missouri State Certificate of Authority #2002006804
CDI
CIVIL DESIGN INC.



NOTE: SEE SPECIAL SHEETS FOR SANITARY SEWER RELOCATION PLAN

LAND CORNER

BEGIN STA. 24+00.00 CL RTE 19 IS N 17°21′50″ W, 5859.06 FEET FROM A 5″ X 5″ CONCRETE MONUMENT WITH BRASS DISK, AT THE SOUTH ¼ CORNER OF SECTION 36, TOWNSHIP 46 NORTH, RANGE 5 WEST OF THE 5TH MERIDIAN DESCRIBED IN LAND RECORD DOCUMENT NUMBER 15845, BY NORBERT WINDERLICH, LS. 1352, IN JUNE 1975.



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.

UTILITIES

COMMUNICATION	POWER DISTRIBUTION	WATER
AT&T	AMEREN MISSOURI ELECTRIC	PWSD #1 OF CAPE GIRARDEAU COUNTY
800 BROADWAY	45 S MINNESOTA ST	6386 US HWY 61
CAPE GIRARDEAU, MO 63701	CAPE GIRARDEAU, MO 63703	JACKSON, MO 63775
CONTACT: SCOTT MILLER	CONTACT: COREY ROPER	CONTACT: HAROLD LANDGRAF
TEL: 573-382-3851	TEL: 573-651-5630	TEL: 573-382-3297

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BENCHMARKS - NAVD 88

BM #1 - CPS E SIDE PP 51.7′
OF ℄ RTE 19 STA. 30+22.65 ELEV 513.77′

PLAN - PROFILE
SHEET 1 OF 1

STATE OF MISSOURI
TRICIA M. BOHLER
NUMBER PE-2000149993
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
8/15/2023	
ROUTE 19	STATE MO
DISTRICT CD	SHEET NO. 4
COUNTY GASCONADE	
JOB NO. J5P3542	
CONTRACT ID. .	
PROJECT NO. .	
BRIDGE NO. J00092	

DESCRIPTION
DATE

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

MoDOT

5220 Oakland Ave.
St. Louis, MO 63110
(314) 863-5570

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Missouri State Certificate of Authority #2002006804

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

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

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	1983 STATE PLANE - MO EAST
HORIZONTAL DATUM	XX
VERTICAL DATUM	NAVD 88
GEOID MODEL	XX
ELEVATIONS DETERMINED BY	XX
PROJECT PROJECTION FACTOR	1.0

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	1983 STATE PLANE - MO EAST
CONTROL STATION	XX
DESIGNATION	XX
CORS_ID	XX
PID	XX
LATITUDE	XX
LONGITUDE	XX
NORTHING (M)	XX
EASTING (M)	XX
ZONE	XX
PROJECT AVERAGE GRID FACTOR	1.0

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

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

EXAMPLE: CONTROL POINT #___
N ______.____ X _.________ = N ______.___
E _______.____ X _.________ = E _______.___

LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

				MODIFIED STATE PLANE (GROUND)				
SHEET NO	STATION	LOCATION	OFFSET (USFT)	NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)	DESCRIPTION	GPK POINT ID
PROJECT CONTROL POINTS								
4	28+26.46	RT	24.28'	1045939.1210	552475.8070	510.54	CP301 - 5/8" REBAR WITH CAP	·
4	29+85.34	LT	26.70'	1045776.4250	552512.8470	512.91	CP300 - 5/8" REBAR WITH CAP	·
·	·	·	·	·	·	·	·	·
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·	·	·	·	·	·	·	·	·
ALIGNMENTS								
4	24+00.00	·	·	1046361.5724	552539.7950	·	POB	·
4	27+35.56	·	·	1046027.2731	552510.7618	·	PI	·
4	28+18.02	·	·	1045945.4284	552500.7261	·	PI	·
4	29+87.60	·	·	1045776.4792	552486.0532	·	PI	·
4	30+47.72	·	·	1045716.4026	552483.7633	·	PI	·
4	33+31.18	·	·	1045434.0073	552459.2379	·	POE	·
·	·	·	·	·	·	·	·	·
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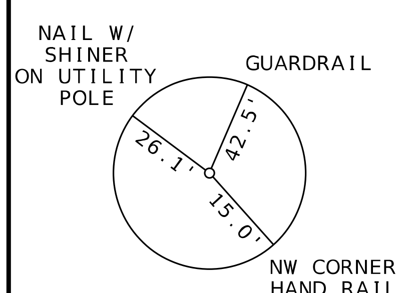
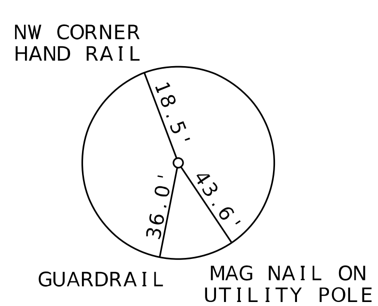


CONTROL POINT #301

5/8" REBAR WITH CAP FROM INTERSECTION OF 6TH STREET AND MARKET STREET, 109 FEET ON THE NORTHWEST SIDE OF THE BRIDGE ON MARKET STREET.



CONTROL POINT #300

5/8" REBAR WITH CAP FROM INTERSECTION OF 6TH STREET AND MARKET STREET, 265 FEET ON THE SOUTHEAST SIDE OF THE BRIDGE ON MARKET STREET.

COORDINATE & REFERENCE POINT SHEET
SHEET 1 OF 1

STATE OF MISSOURI
TRICIA M. BOHLER
NUMBER PE-2000149999
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	8/15/2023
ROUTE	19
STATE	MO
DISTRICT	CD
SHEET NO.	5
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	·
PROJECT NO.	·
BRIDGE NO.	J00092

DESCRIPTION
DATE

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

MoDOT

5220 Oakland Ave.
St. Louis, MO 63110
(314) 863-5570
Missouri State Certificate of Authority #2002006804
CIVIL DESIGN, INC.

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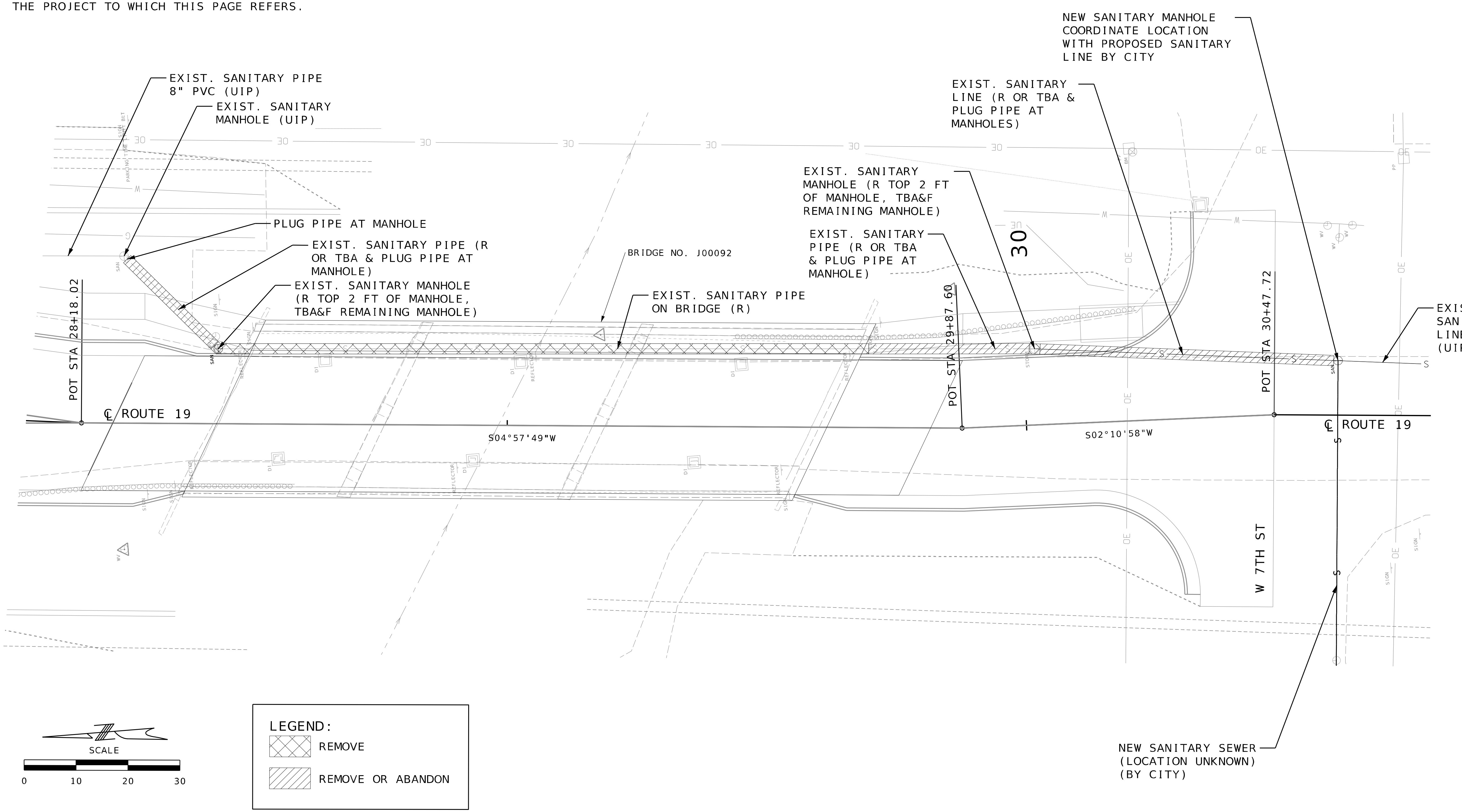
NOTE:
THE CITY OF HERMANN IS RELOCATING THE EXISTING SANITARY SEWER CROSSING WITHIN THE PROJECT LIMITS. THE EXISTING CROSSING IS TO BE REMOVED OR ABANDONED. THIS WORK WILL BE COVERED BY THE PAY ITEM "REMOVAL OF IMPROVEMENTS - CITY SEWER" PER LUMP SUM. THIS SHALL INCLUDE THE REMOVAL OF MANHOLES AND SEWER LINES, INCLUDING PIPE PLUGGING, EXCAVATION, AND BACKFILLING.



SPECIAL SHEETS
SANITARY SEWER DETAILS
SHEET 1 OF 3

STATE OF MISSOURI
TRICIA M. BOHLER
NUMBER PE-2000149999
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 8/15/2023	
ROUTE 19	STATE MO
DISTRICT CD	SHEET NO. 6
COUNTY GASCONADE	
JOB NO. J5P3542	
CONTRACT ID. .	
PROJECT NO. .	
BRIDGE NO. J00092	

DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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P:\5XXX\56XX-57XX\5784 - MoDOT Hermann Bridge\28-Trans\CAD\006_SS_01_J5P3542_I20.dgn 9:59:57 AM 8/15/2023

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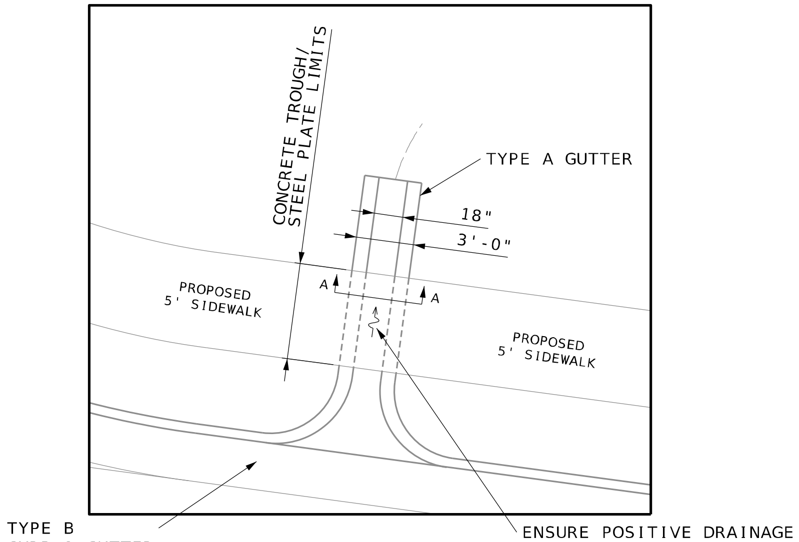
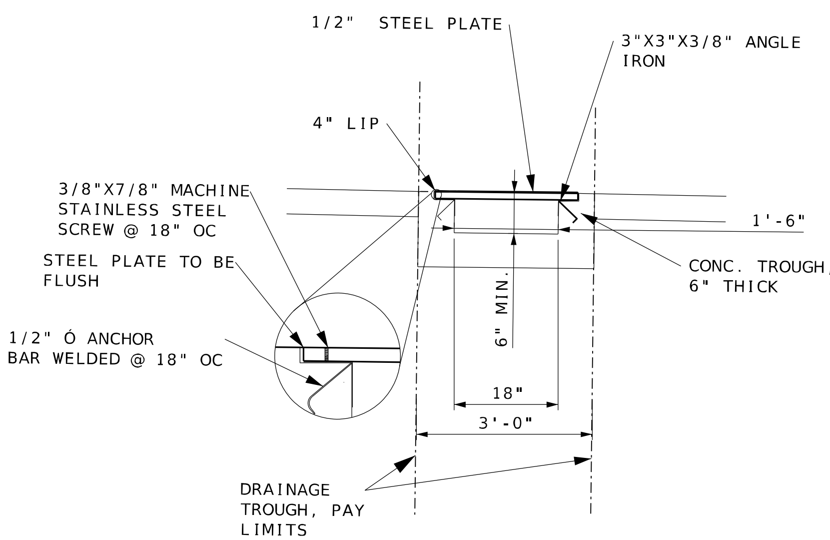


PLAN VIEW

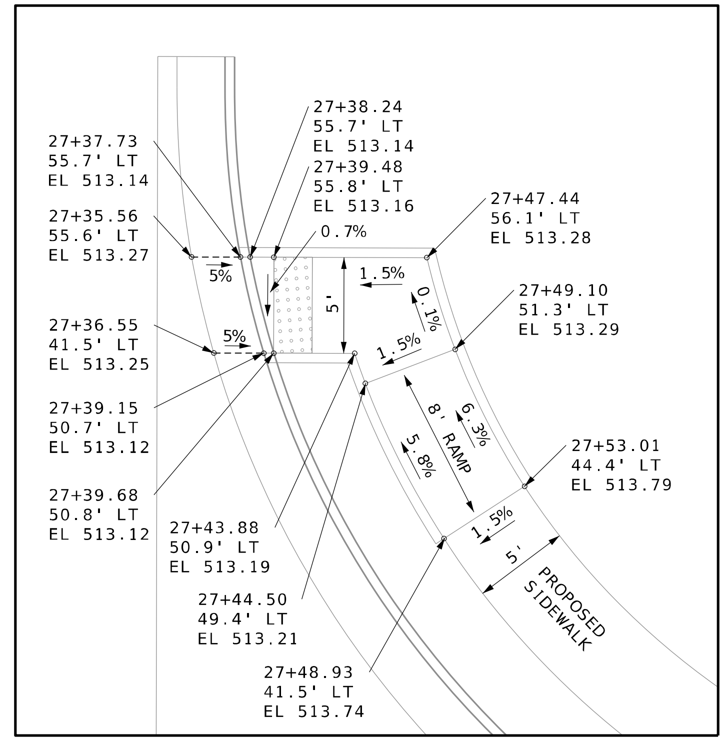


SECTION A-A

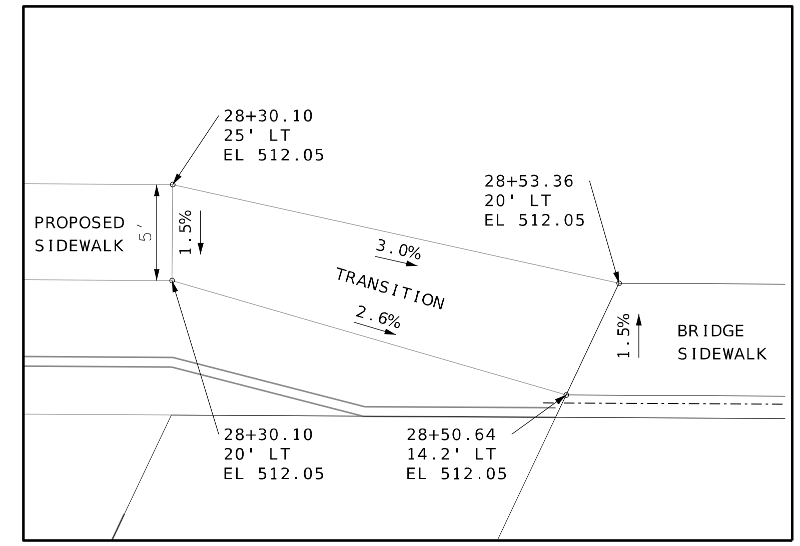
NOTE:

1. THE 1/2" STEEL SLIP-RESISTANT PLATE SHALL HAVE A MIN. STATIC COEFFICIENT OF FRICTION OF 0.6.
2. FLATHEAD STAINLESS STEEL MACHINE SCREWS 3/8" X 7/8". HOLES SHALL BE DRILLED AND TAPPED IN THE FIELD AT INTERVALS NOT TO EXCEED 18" CENTER TO CENTER (NO DIRECT PAY).
3. ALL REINFORCING STEEL BARS SHALL BE EPOXY COATED (NO DIRECT PAY).
4. ALL REINFORCING STEEL, ANCHOR BARS, ANGLE IRON, SCREWS, AN "T" SUPPORTS SHALL BE INCIDENTAL (NO DIRECT PAY).

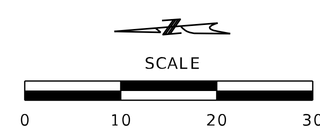
CONCRETE TROUGH WITH STEEL PLATE DETAILS

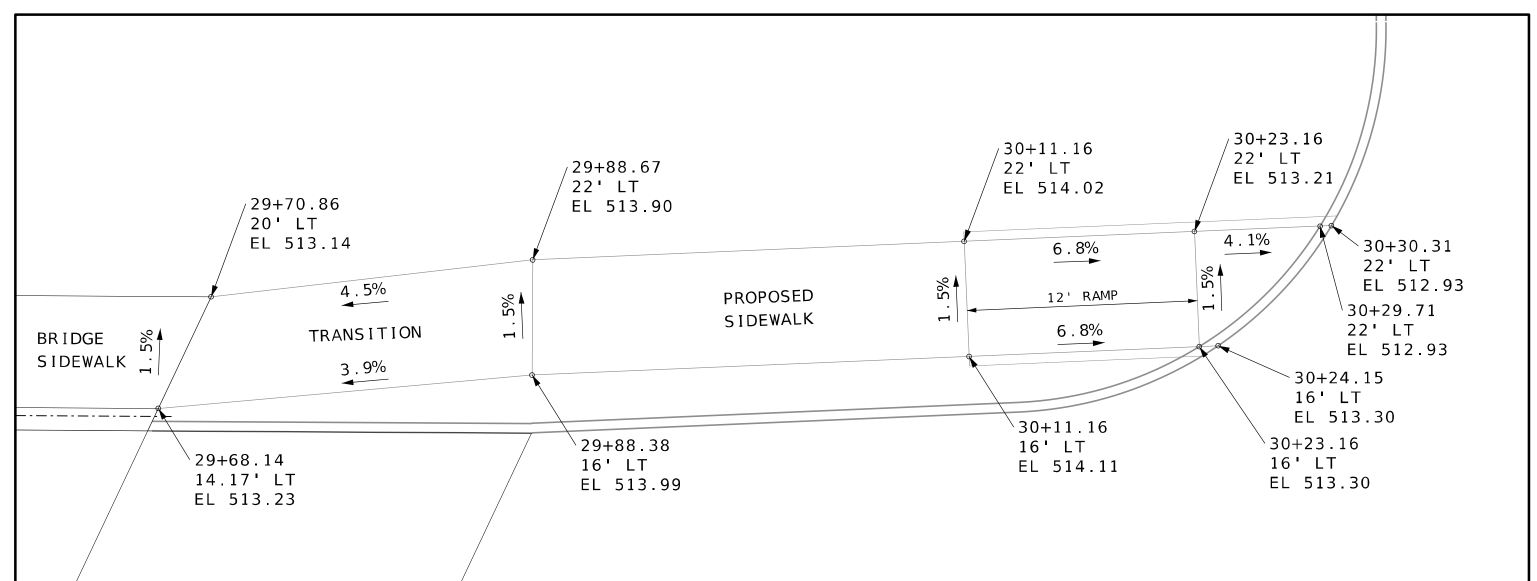


ADA DETAIL 1



ADA DETAIL 2





ADA DETAIL 3

SPECIAL SHEETS
SIDEWALK DETAILS
SHEET 2 OF 3

STATE OF MISSOURI
TRICIA M. BOHLER
NUMBER PE-2000149993
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED	8/15/2023
ROUTE 19	STATE MO
DISTRICT CD	SHEET NO. 7
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	.
PROJECT NO.	.
BRIDGE NO.	J00092

DESCRIPTION

DATE

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

5220 Oakland Ave.
St. Louis, MO 63110
(314) 863-5570

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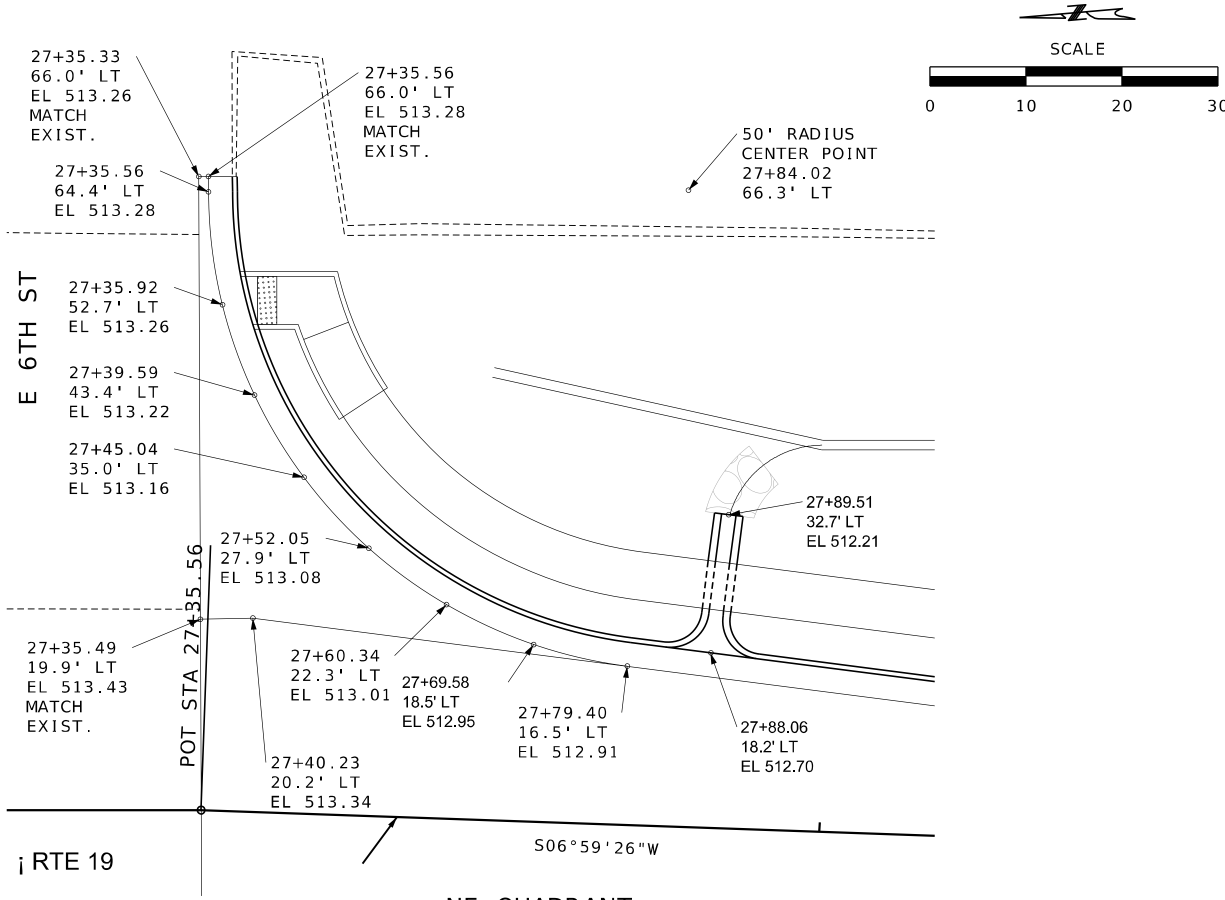
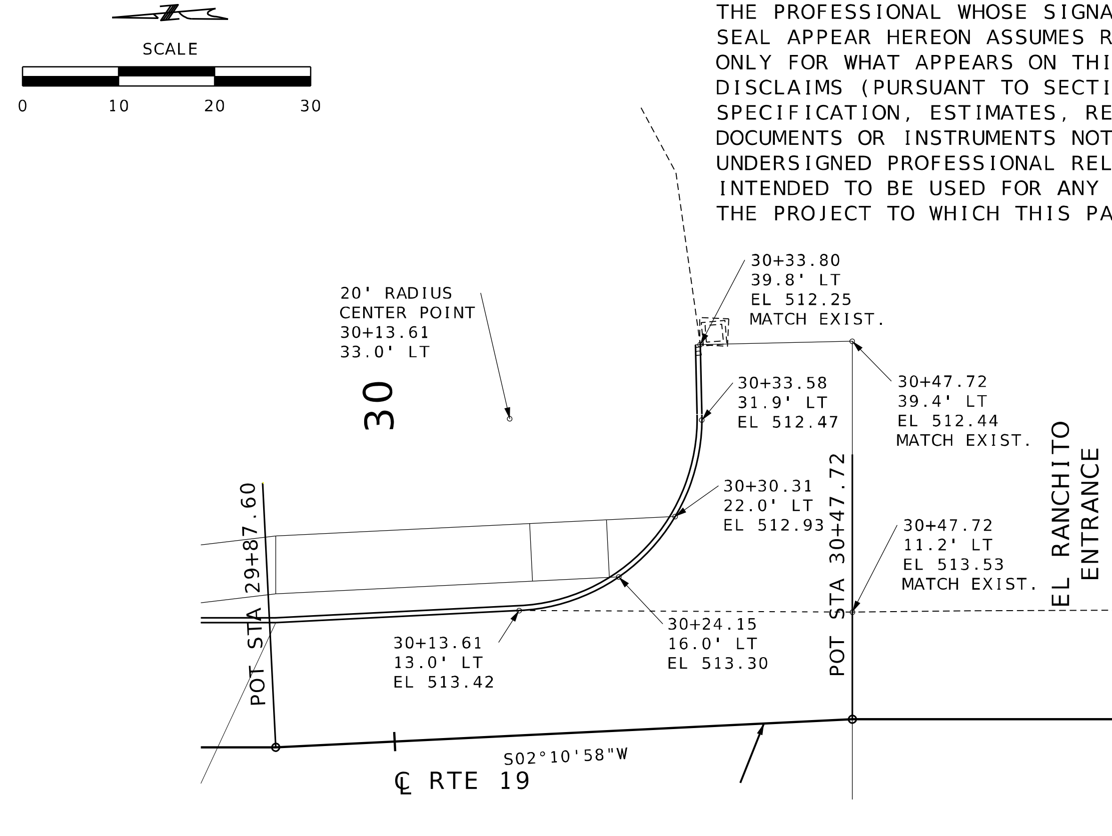
Missouri State Certificate of Authority #2002006804



NE QUADRANT



SE QUADRANT

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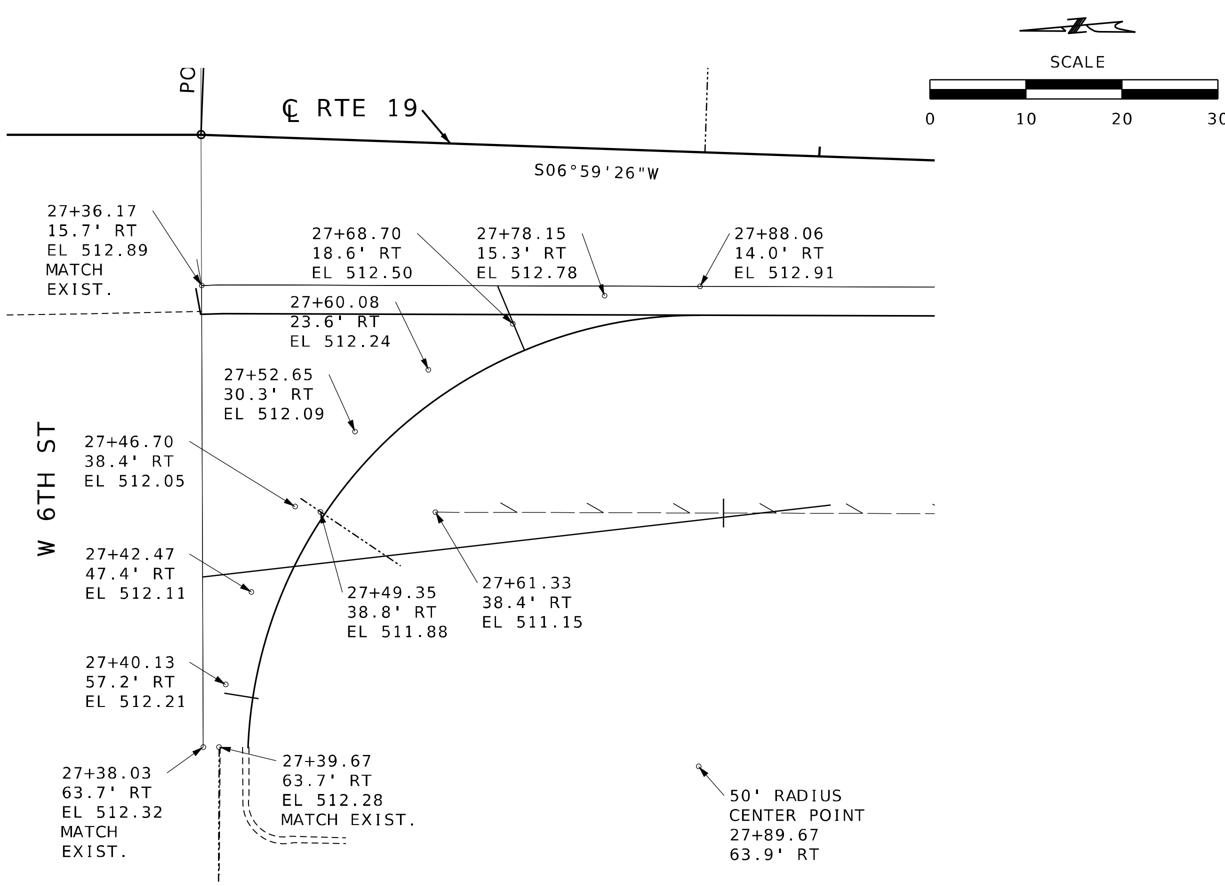
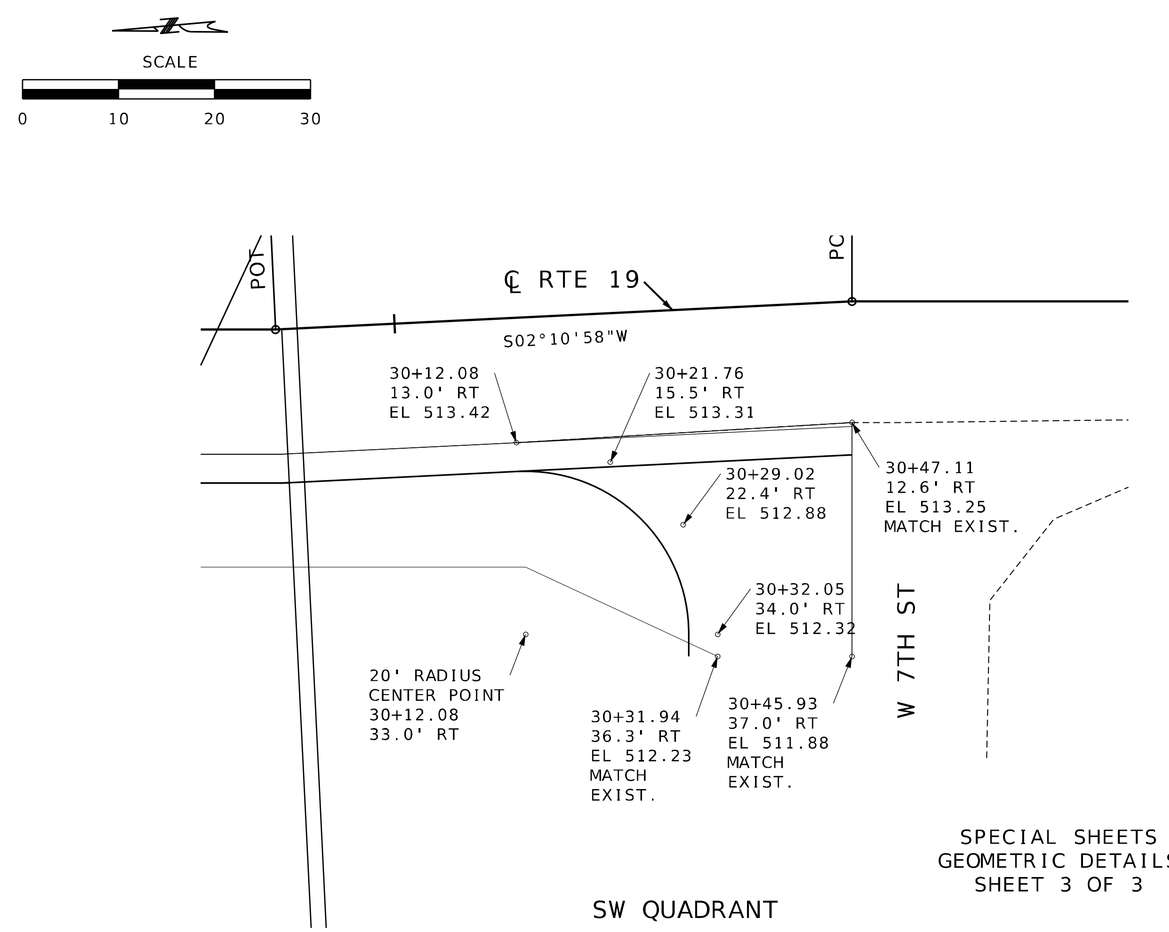


NW QUADRANT



SW QUADRANT

SPECIAL SHEETS
GEOMETRIC DETAILS
SHEET 3 OF 3

STATE OF MISSOURI
TRICIA M. BOHLER
NUMBER PE-2000149999
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	8/15/2023
ROUTE 19	STATE MO
DISTRICT CD	SHEET NO. 8
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	.
PROJECT NO.	.
BRIDGE NO.	J00092

DESCRIPTION

DATE

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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Missouri State Certificate of Authority #2002006804

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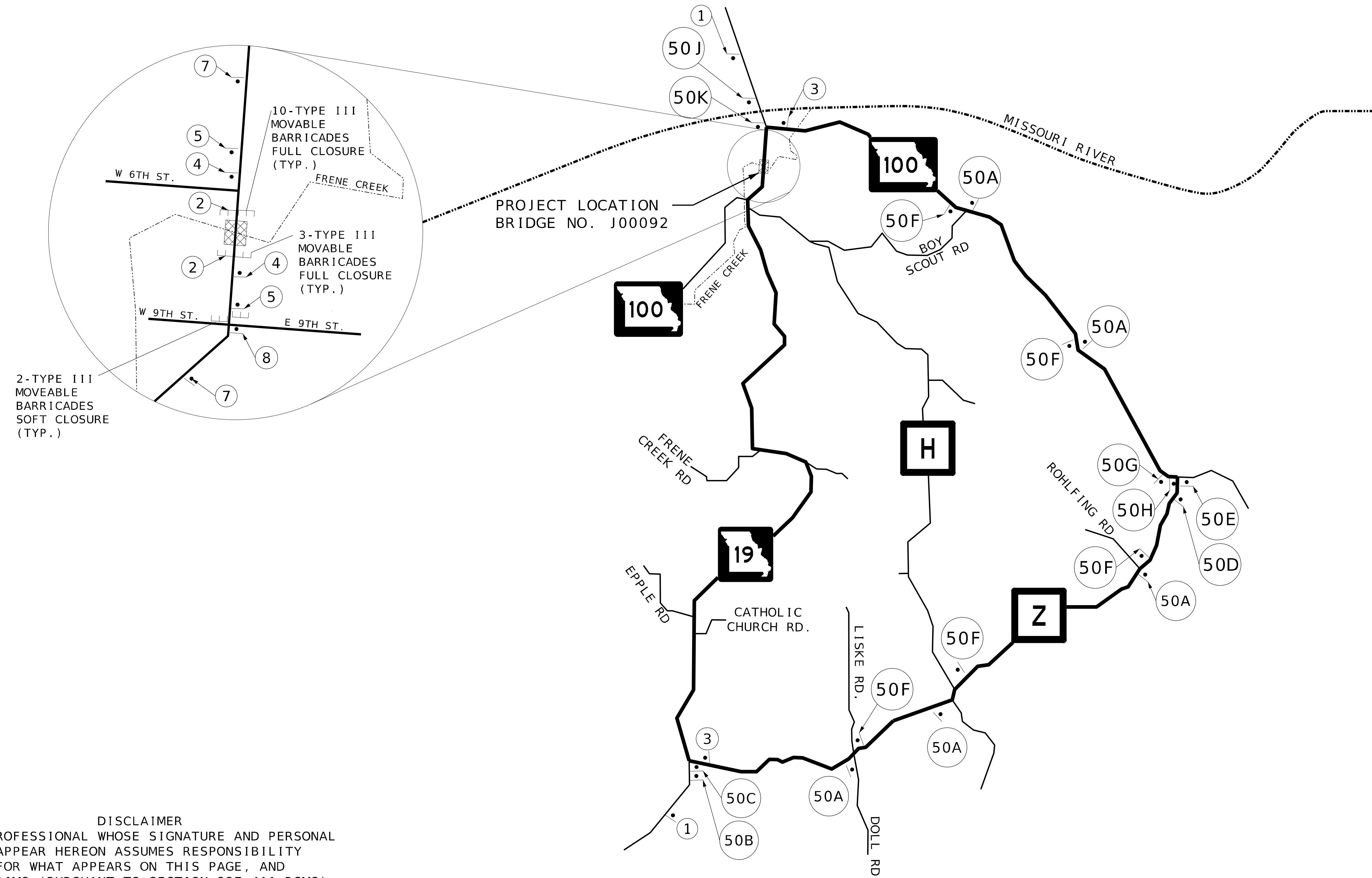

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NOT TO SCALE

TRAFFIC CONTROL
DETOUR PLAN
SHEET 1 OF 2

STATE OF MISSOURI
TRICIA M. BOHLER
NUMBER PE-2000149999
PROFESSIONAL ENGINEER

DATE PREPARED	8/15/2023
ROUTE 19	STATE MO
DISTRICT CD	SHEET NO. 9
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	.
PROJECT NO.	.
BRIDGE NO.	J00092

DATE | DESCRIPTION

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

MoDOT

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St. Louis, MO 63110
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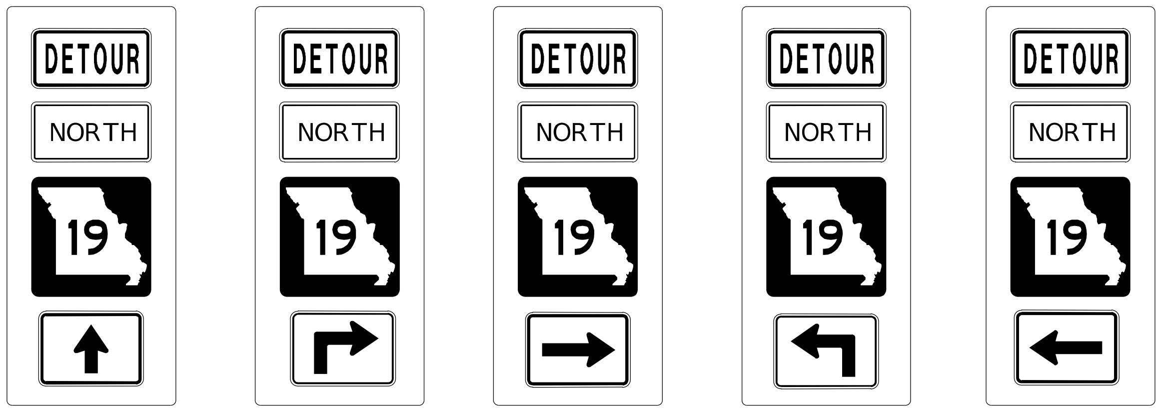
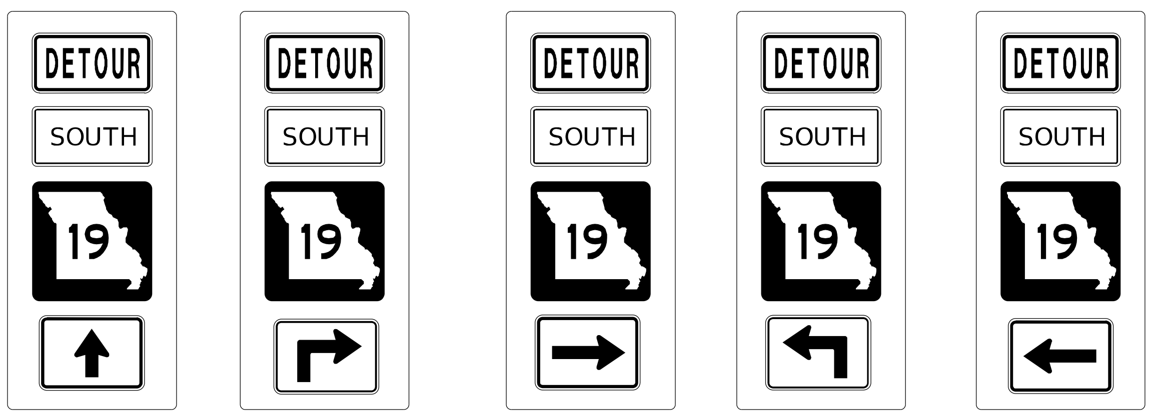


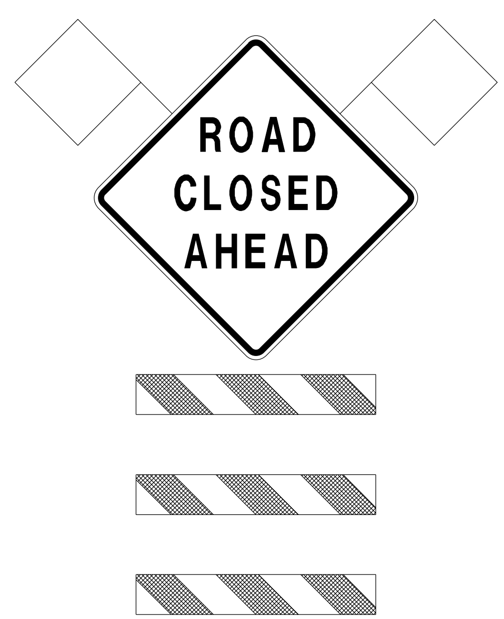
50A 50B 50C 50D 50E



50F 50G 50H 50J 50K

W020-2
1

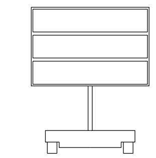
WO20-3
4



W020-3
5

R11-2
2

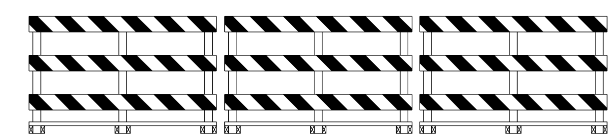
M04-8a
3



7

PLACE DYNAMIC MESSAGE SIGN OR
CHANGEABLE MESSAGE BOARD
PRIOR TO CLOSURE TO NOTIFY
PUBLIC OF CLOSURE DATES.
SIGN WILL BE RELOCATED AFTER
FULL ROAD CLOSURE

R11-4
8



TYPE III MOVABLE BARRICADES
WITH TYPE B WARNING LIGHTS
FULL CLOSURE

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TRAFFIC CONTROL
DETOUR PLAN
SHEET 2 OF 2

STATE OF MISSOURI
TRICIA
M. BOHLER
NUMBER
PE-2000149999
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 8/15/2023	
ROUTE 19	STATE MO
DISTRICT CD	SHEET NO. 10
COUNTY GASCONADE	
JOB NO. J5P3542	
CONTRACT ID. .	
PROJECT NO. .	
BRIDGE NO. J00092	

DESCRIPTION
DATE

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

CIVIL DESIGN, INC.
WBE DBE
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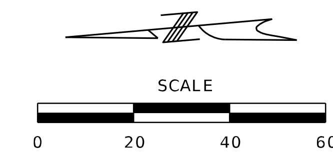

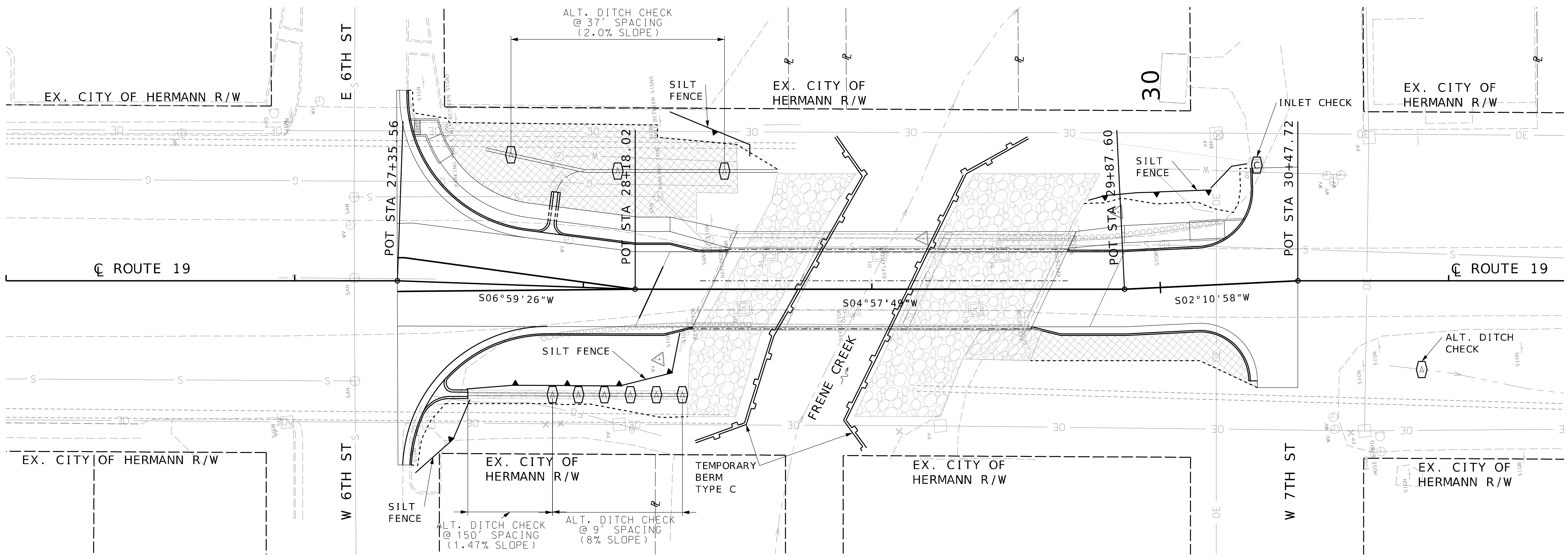

TEMPORARY EROSION CONTROL LEGEND

(A)	ALTERNATE DITCH CHECK
(C)	CURB INLET CHECK
(R)	ROCK DITCH CHECK
(S)	SEDIMENT TRAP
	ENERGY DISSIPATOR
	TEMPORARY BERM TYPE B
	TEMPORARY BERM TYPE C
	SILT FENCE
	TEMPORARY SEDIMENT BASIN
	PERMANENT SEDIMENT BASIN

EROSION CONTROL
SHEET 1 OF 1

STATE OF MISSOURI
TRICIA M. BOHLER
NUMBER PE-2000149995
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	8/15/2023
ROUTE	19
STATE	MO
DISTRICT	CD
SHEET NO.	11
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	.
PROJECT NO.	.
BRIDGE NO.	J00092

DESCRIPTION

DATE

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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St. Louis, MO 63110
(314) 863-5570
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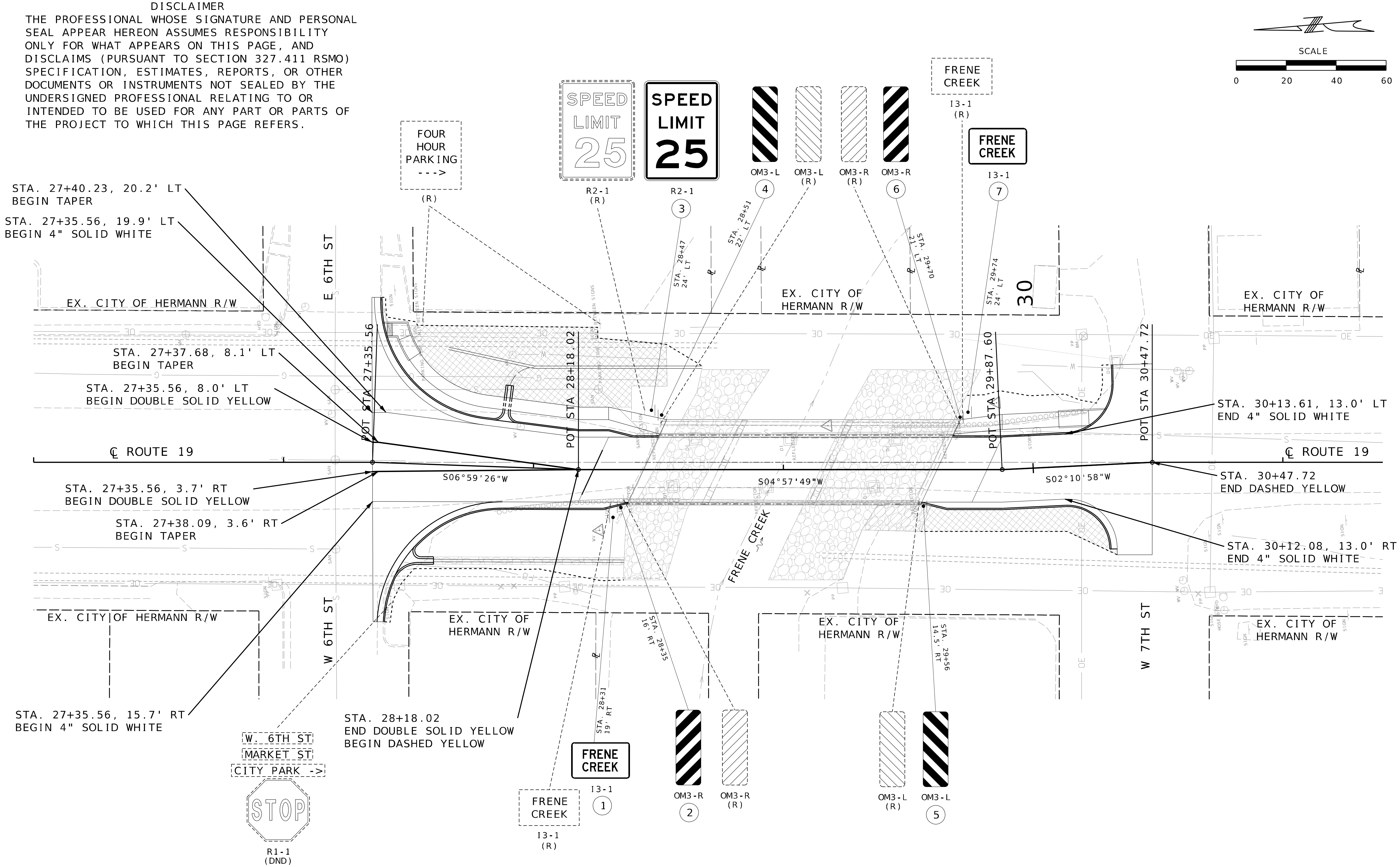

NOTE: REFER TO STD PLANS SECTION 903.03 FOR STANDARD SIGN MOUNTING HEIGHT & OFFSET

SIGNING & PAVEMENT MARKING
SHEET 1 OF 4

STATE OF MISSOURI
TRICIA M. BOHLER
NUMBER PE-2000149990
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	8/15/2023
ROUTE	19
STATE	MO
DISTRICT	CD
SHEET NO.	12
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	.
PROJECT NO.	.
BRIDGE NO.	J00092

DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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EFFECTIVE 07-01-2022

902 SIGNAL SIGNS TABULATED ON D-37A SHEET

SIGNS: SIGN NO.	SIGN SIZE	STATION	HORZ CLEAR IF NOT STD	LOCATION	SIGN DTL. SHT. NO.	CONCRETE FOOTINGS EMBEDDED ITEM NO. 9031010 (CY)
1	VARx18	28+31		ROUTE 19		
2	12x36	28+35		ROUTE 19		
3	30x42	28+47		ROUTE 19		
4	12x36	28+51		ROUTE 19		
5	12x36	29+56		ROUTE 19		
6	12x36	29+70		ROUTE 19		
7	VARx18	29+74		ROUTE 19		
				SUBTOTAL		
				TOTAL		

SIGN NO.	STRUCTURAL STEEL POSTS * POST DES NO.	POST NO.1 (LF)	POST NO.2 (LF)	POST NO.3 (LF)	LBS PER FT	TOTAL ITEM NO. 9031210 (LBS)	PIPE POSTS * PIPE SIZE (IN.)	POST NO.1 (LF)	POST NO.2 (LF)	LBS PER FT	TOTAL ITEM NO. 9031220 (LBS)	BACKING BARS ** 2" X ⅛" BARS @ 2.55 LBS PER FT NO. EACH	LGTH (IN.)	TOTAL (LF)	TOTAL (LBS)	U-CHANNEL POST ITEM NO. 9031250A (LF)
1																
2																
3																
4																
5																
6																
7																
SUBTOTAL																
TOTAL															**	

PERFORATED SQUARE STEEL TUBE

SIGN NO.	2 IN. POST: POST NO.1 (LF)	POST NO.2 (LF)	TOTAL ITEM NO. 9031270A (LF)	ANCHORS: DRIVEN 12-GA. ITEM NO. 9031271A (EA)	DRIVEN 7-GA. ITEM NO. 9031273A (EA)	CONCRETE 7-GA. ITEM NO. 9031274 (EA)	2.5 IN. POST: POST NO.1 (LF)	POST NO.2 (LF)	TOTAL ITEM NO. 9031280 (LF)	2.25" INSERT (6 FT) ITEM NO. 9031272A (EA)	ANCHORS: DRIVEN 7-GA. ITEM NO. 9031281A (EA)	CONCRETE 7-GA. ITEM NO. 9031285 (EA)	BREAK-AWAY ASSEMBLY ITEM NO. 9031241 (EA)	REMARKS AND OTHER REQUIRED ITEMS
1	11.5		11.5	1										
2	10		10	1										
3	13.5		13.5	1										
4	10		10	1										
5	10		10	1										
6	10		10	1										
7	11.5		11.5	1										
SUBTOTAL			76.5	7										
TOTAL			77	7										

* BREAKAWAY ASSEMBLY IS INCIDENTAL FOR STRUCTURAL STEEL AND PIPE POSTS.
** BACKING BARS ARE TOTALED WITH STRUCTURAL STEEL OR PIPE POSTS.

ROUND PIPE POST AND FOOTING DATA TABLE

NOM.SIZE (IN.)	WEIGHT LBS/FT	WEIGHT LBS/IN	STUB LENGTH	FOOTING DIA.	FOOTING DEPTH	CONCRETE C.Y.
2½	5.79	0.48	4'- 3½"	12"	4~6"	0.13
3	7.58	0.63	4'- 3½"	12"	4~6"	0.13
4	10.79	0.90	5'- 3½"	18"	5~6"	0.36

STRUCTURAL STEEL POST AND FOOTING DATA TABLE

POST DES. NO.	POST: NOM. SIZE	WEIGHT LBS/FT	WEIGHT LBS/IN	STUB LENGTH	FOOTING: DIA.	LEVEL GROUND DEPTH	LEVEL GROUND C.Y.	6:1 GRADE DEPTH	6:1 GRADE C.Y.	4:1 GRADE DEPTH	4:1 GRADE C.Y.	3:1 OR 2:1 GRADE DEPTH	3:1 OR 2:1 GRADE C.Y.
1	W6	9.0	0.75	3'-0"	15"	3'-0"	0.14	3'-2"	0.15	3'-3"	0.16	3'-6"	0.17
2	W6	15.0	1.25	4'-0"	24"	4'-0"	0.47	4'-2"	0.50	4'-3"	0.51	4'-6"	0.54
3	W8	18.0	1.50	4'-6"	28"	4'-6"	0.71	4'-8"	0.73	4'-9"	0.74	5'-0"	0.78
4	W10	22.0	1.83	5'-0"	36"	5'-0"	1.31	5'-2"	1.36	5'-3"	1.39	5'-6"	1.45
5	W10	26.0	2.17	5'-0"	36"	5'-0"	1.31	5'-3"	1.37	5'-5"	1.43	5'-9"	1.52
6	W12	35.0	2.92	5'-6"	36"	5'-6"	1.44	5'-9"	1.52	5'-11"	1.56	6'-3"	1.65

SIGNING & PAVEMENT MARKING
SHEET 2 OF 4

STATE OF MISSOURI
TRICIA M. BOHLER
NUMBER PE-2000149998
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	8/15/2023
ROUTE	19
STATE	MO
DISTRICT	CD
SHEET NO.	13
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	.
PROJECT NO.	.
BRIDGE NO.	J00092

DESCRIPTION

DATE

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

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St. Louis, MO 63110
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CDI CIVIL DESIGN INC.

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STANDARD SIGN ASSEMBLIES

SIGN NUMBER	STATION	LOCATION	I3-1 (FRENE CREEK)	OM3-R (OBJECT MARKER (RIGHT))	R2-1 (SPEED LIMIT)	OM3-L (OBJECT MARKER (LEFT))
1	28+31	ROUTE 19	1			
2	28+35	ROUTE 19		1		
3	28+47	ROUTE 19			1	
4	28+51	ROUTE 19				1
5	29+56	ROUTE 19				1
6	29+70	ROUTE 19		1		
7	29+74	ROUTE 19	1			

TYPE / SIGN DESCRIPTION, SIZES & NUMBER OF EACH

SIGN SUMMARY

STANDARD SIGN OR SPECIAL SIGN NUMBER	SIGN DETAIL SHEET NO.	NO. EACH	SIZE	FLAT SHEET SH (ITEM NO. 9035004A)	FLAT SHEET FLUORESCENT SHF * (ITEM NO. 9035069A)	STRUCTURAL ST (ITEM NO. 9035011A)	STRUCTURAL FLUORESCENT STF * (ITEM NO. 9035071A)
I3-1		2	VARx18	6.0			
OM3-R		2	12x36		6.0		
R2-1		1	30x42	8.75			
OM3-L		2	12x36		6.0		
			TOTAL	14.75	12.00		

SIZE, TYPE & SQUARE FEET

* ORANGE, YELLOW & YELLOW/GREEN

SIGNING & PAVEMENT MARKING
SHEET 3 OF 4

STATE OF MISSOURI
TRICIA M. BOHLER
NUMBER PE-2000149999
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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DATE PREPARED 8/15/2023
ROUTE 19 | STATE MO
DISTRICT CD | SHEET NO. 14
COUNTY GASCONADE
JOB NO. J5P3542
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. J00092

DESCRIPTION
DATE

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

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St. Louis, MO 63110
(314) 863-5570
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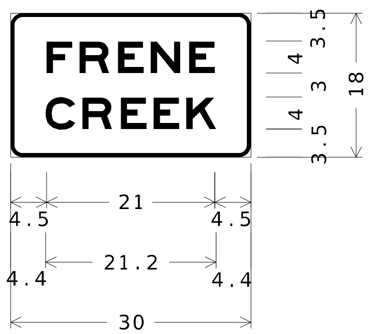
SIGN NO.	1 & 7
STATION	28+31 & 29+74
ROADWAY	RTE 19

SIGN NO.	
STATION	
ROADWAY	



D11-1bP_18x6;
1.5" Radius, 0.5" Border, White on, Green;
"FRENE", F;
"CREEK", F;
Table of widths and spaces

	F		R		E		N		E	
4.5	3.2	0.9	3.7	1.1	3.2	0.9	3.7	1.1	3.2	4.5

	C		R		E		E		K	
4.4	3.7	0.9	3.6	1.2	3.2	0.9	3.1	0.9	3.7	4.4

SIGN NO.	
STATION	
ROADWAY	

SIGN NO.	
STATION	
ROADWAY	

SIGNING & PAVEMENT MARKING
SHEET 4 OF 4

STATE OF MISSOURI
TRICIA M. BOHLER
NUMBER PE-2000149993
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
8/15/2023	
ROUTE 19	STATE MO
DISTRICT CD	SHEET NO. 15
COUNTY GASCONADE	
JOB NO. J5P3542	
CONTRACT ID. .	
PROJECT NO. .	
BRIDGE NO. J00092	

DESCRIPTION
DATE

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

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St. Louis, MO 63110
(314) 863-5570
Missouri State Certificate of Authority #2002006804

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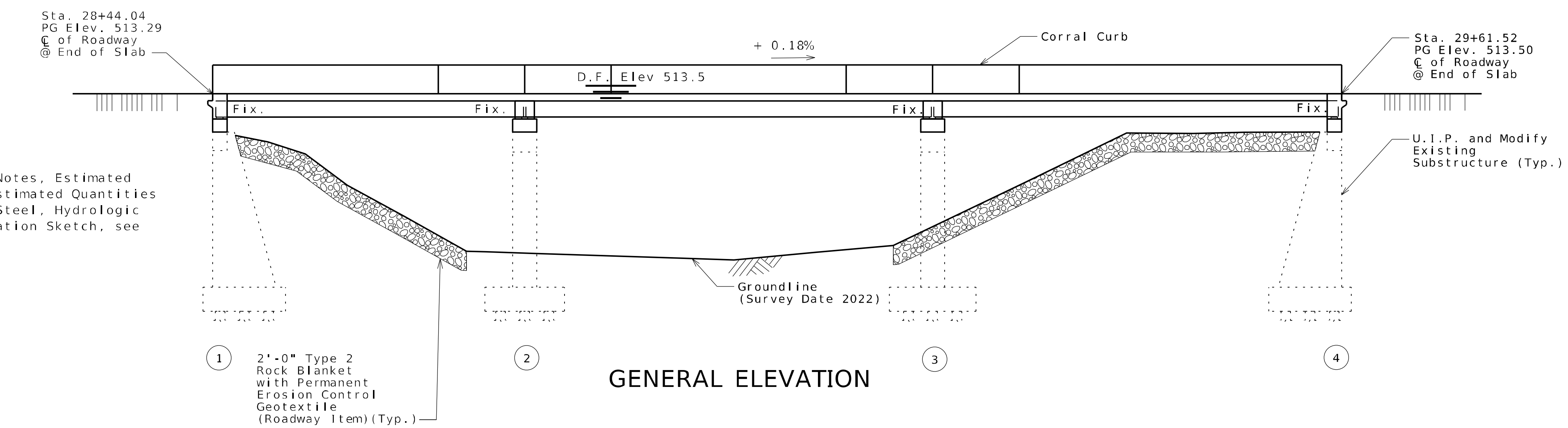
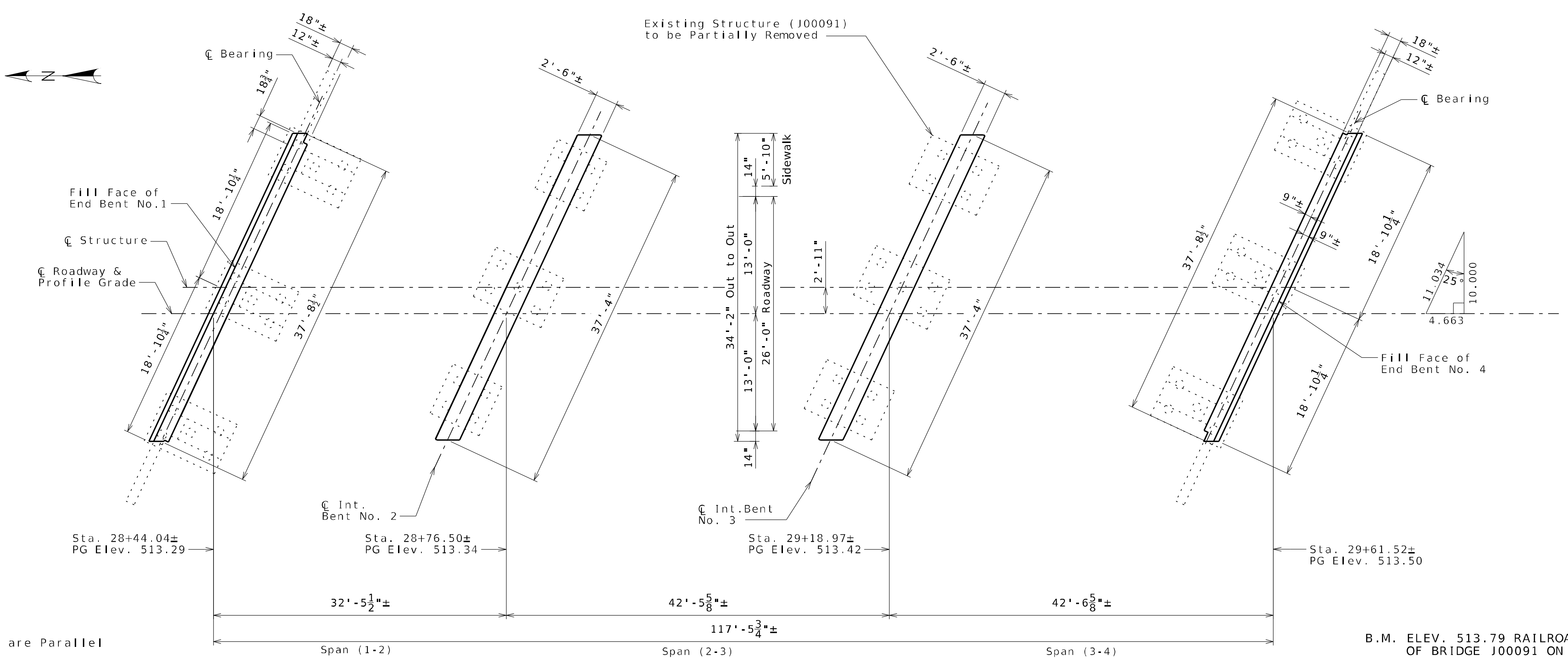
SEC/SUR 36 TWP 46N RGE 5W

U.I.P. AND MODIFY EXISTING SUBSTRUCTURE AND REPLACE SUPERSTRUCTURE WITH (32')(42.5')(42') SIMPLE COMPOSITE 18" PRESS BRAKE FORMED TUB GIRDER SPANS

For General Notes, Estimated Quantities, Estimated Quantities for Slab on Steel, Hydrologic Data and Location Sketch, see Sheet No. 2.



GENERAL ELEVATION



All Bents are Parallel

PLAN

B.M. ELEV. 513.79 RAILROAD SPIKE IN POWER POLE SOUTHEAST OF BRIDGE J00091 ON THE EAST SIDE OF ROUTE 19.

Designed MAY 2023
Detailed MAY 2023
Checked MAY 2023

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

Sheet No. 1 of 32

REPAIRS TO BRIDGE: ROUTE 19 OVER FRENE CREEK

ROUTE 19 FROM MISSOURI RIVER TO ROUTE H
ABOUT 0.6 MILE NORTH OF ROUTE H
BEGINNING STATION 28+44.04± MATCH EXISTING

STATE OF MISSOURI DENNIS W. HECKMAN NUMBER E-27141

DATE PREPARED	8/14/2023
ROUTE 19	STATE MO
DISTRICT BR	SHEET NO. 1
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

6220 Oakland Avenue
St. Louis, MO 63110
314.863.5570

CIVIL DESIGN, INC.
Missouri State Certificate of Authority #2000000804

REV.

P:\5XXX\56XX-57XX\5784 - MoDOT Hermann Bridge\24-Structures\CAD\B_J00092_001_J5P3542_GPE.dgn 7:32:38 AM 8/14/2023

GENERAL NOTES

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)

Design Loading:

Vehicular = HL-93 (Superstructure)
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf (Min.)

Design Unit Stresses:

Class B Concrete (Substructure)............... f'c = 3,000 psi
Class B-2 Concrete (Superstructure,except Corral Curb)..................................f'c = 4,000 psi
Class B-1 Concrete (Corral Curb)............. f'c = 4,000 psi
Reinforcing Steel (Grade 60).................. fy = 60,000 psi
Structural Steel (ASTM A709 Grade 50)......... fy = 50,000 psi

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.

Epoxy coated reinforcing bars shall be coated in accordance with Sec 710.

Neoprene Pads:

Neoprene bearing pads shall be 50 durometer and shall be in accordance with Sec 716.

Traffic Handling:

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

Miscellaneous:

All dimensions are horizontal unless noted otherwise. Drawings shall not be scaled.

High strength bolts, nuts and washers will be sampled for quality assurance as specified in Sec 106.

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

All concrete repairs shall be in accordance with Sec 704, unless otherwise noted.

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

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.

The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved bituminous paint.

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

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

Structural steel and fabrication shall be in accordance with Sec 712.

Estimated Quantities

Item		Substr.	Superstr.	Total
Removal of Miscellaneous ACM (Non-Friable)	sq. foot			138
Class 1 Excavation	cu. yard	25		25
Partial Removal of Substructure Concrete	lump sum			1
Removal of Existing Superstructure	lump sum			1
Bridge Approach Slab (Minor)	sq. yard		116	116
60 in. Decorative Pedestrian Fence (Structures)	linear foot		116	116
Class B Concrete (Substructure)	cu. yard	15.9		15.9
Slab on Steel	sq. yard		446	446
Corral Curb	linear foot		233	233
Form Liners	sq. yard		86	86
Substructure Repair (Unformed)	sq. foot	28		28
Cleaning and Epoxy Coating	sq. foot		215	215
Fiber Reinforced Polymer Wrap	sq. foot	96		96
Reinforcing Steel (Epoxy Coated)	pound	2830		2830
Slab Drain	each		18	18
PBFTG Structural Steel, Erect	lump sum		1	1
PBFTG Structural Steel, Furn and Fab	pound		77,075	77,075
Vertical Drain at End Bents	each			2

All reinforcement below the top of the bearing beam or embedded in the diaphragm is included in the Estimated Quantities for Reinforcing Steel (Epoxy Coated).

Estimated Quantities For Slab on Steel

Item		Total
Class B-2 Concrete	cu. yard	112.0
Reinforcing Steel (Epoxy Coated)	pound	30,200

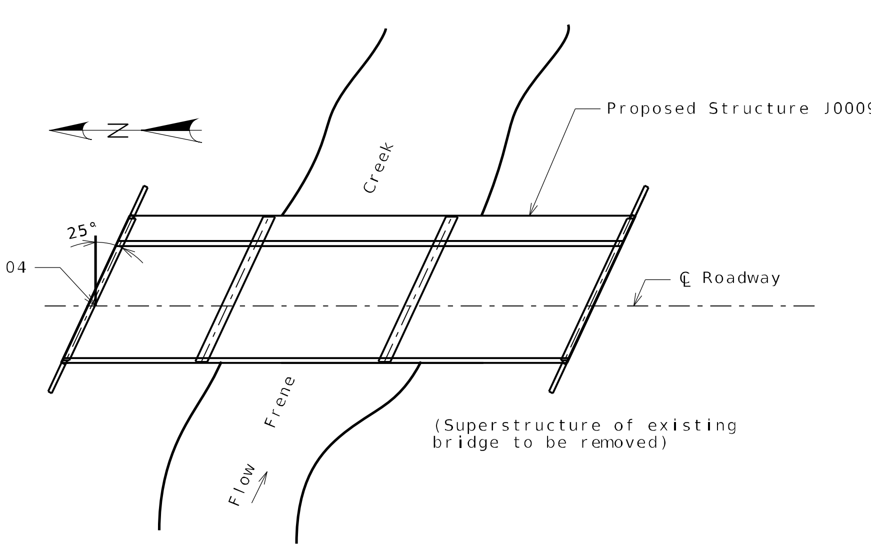
All concrete above the bearing beam is included in the Estimated Quantities for Slab on Steel.

The table of Estimated Quantities for Slab on Steel represents the quantities used by MoDOT 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 and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab. Payment for 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.

Cost of stay-in-place forms, complete in place, will be included in the contract unit price for Slab on Steel.

Hydrologic Data

Drainage Area = 11.4 sq. mi.
Design Flood Frequency = 50 years
Design Flood Discharge = 6825 cfs
Design Flood (D.F.) Elevation = 513.5
Base Flood (100-year)
Base Flood Elevation (Headwater) = 514.2
Base Flood Elevation (Backwater) = 519.0
Base Flood Discharge = 7670 cfs
Estimated Backwater = 0 ft
Average Velocity thru Opening = 7.3 ft/s
Freeboard (50-year)
Freeboard = -2.3 ft
Roadway Overtopping
Overtopping Flood Discharge = 6476 cfs
Overtopping Flood Frequency = 43 years
Overtopping Flood Elevation (Headwater) = 513.3



LOCATION SKETCH

DENNIS W. HECKMAN NUMBER E-27141 STATE OF MISSOURI PROFESSIONAL ENGINEER

DATE PREPARED	8/30/2023
ROUTE 19	STATE MO
DISTRICT BR	SHEET NO. 2
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION

DATE

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

MoDOT

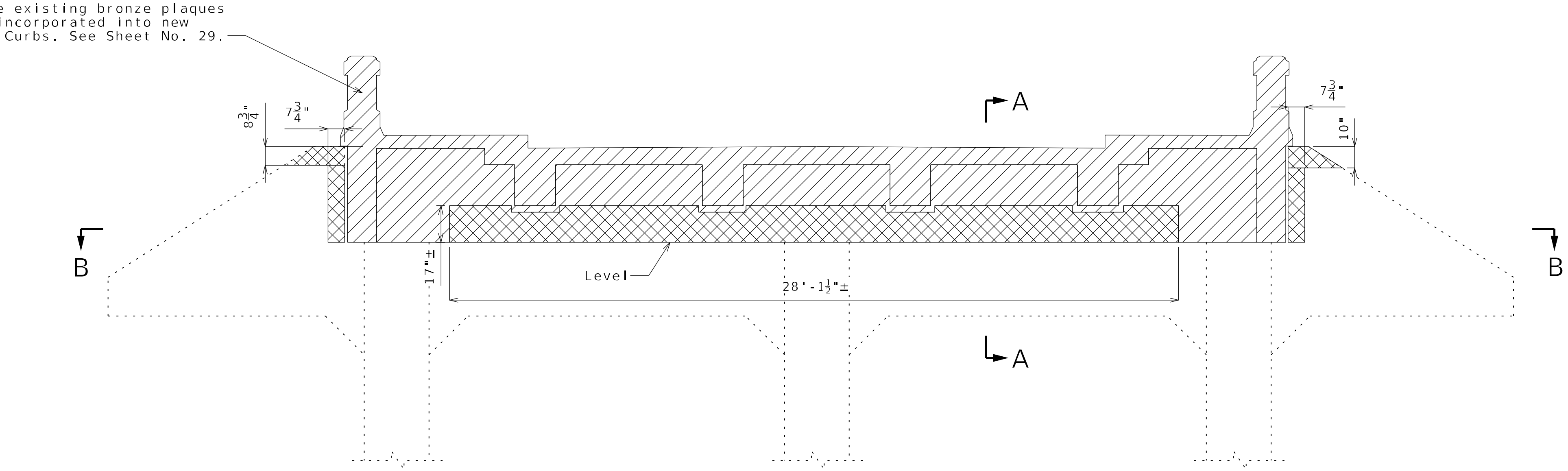
CDI CIVIL DESIGN, INC.
6220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2000000804

GENERAL NOTES AND QUANTITIES

REV.

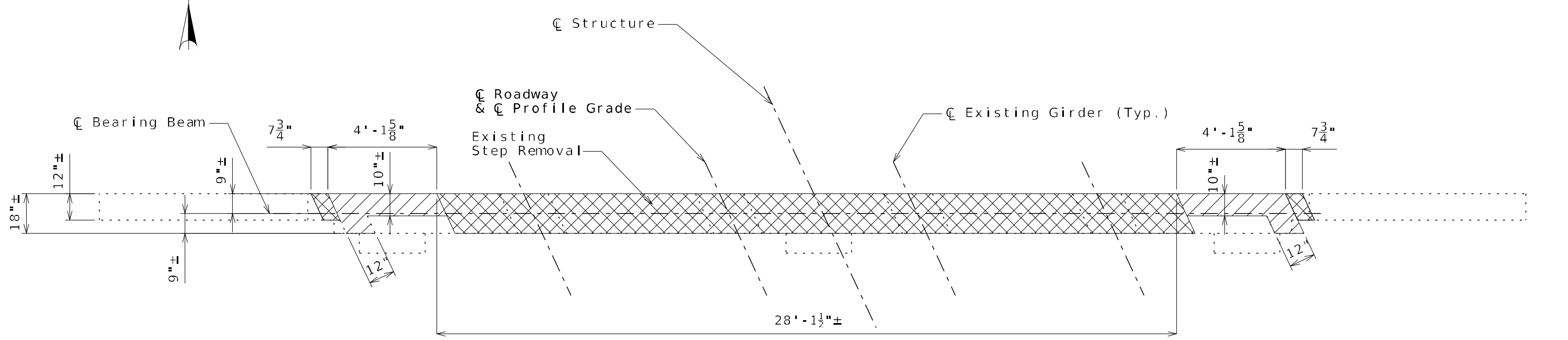
Detailed MAY 2023
Checked MAY 2023

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



ELEVATION

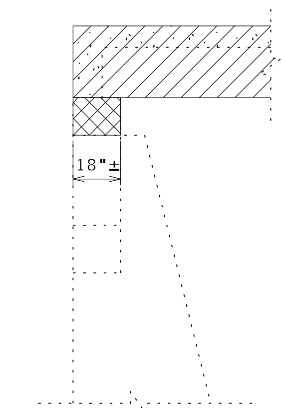
Elevation from Existing Plans (1930)



SECTION B-B

Removal of Superstructure

Partial Removal of Substructure Concrete



SECTION A-A

Notes:

Sawcut a horizontal line and scarify the existing tops at abutments and piers to a maximum depth of 2". Cost for removing concrete to a roughened surface will be considered completely covered by the contract lump sum price for Partial Removal of Substructure Concrete.

For additional dimensions of existing bridge, see existing bridge drawings.

END BENT NO. 1 REMOVAL DETAILS

STATE OF MISSOURI DENNIS W. HECKMAN NUMBER E-27141 PROFESSIONAL ENGINEER

DATE PREPARED	8/14/2023
ROUTE	19
STATE	MO
DISTRICT	BR
SHEET NO.	3
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION

DATE

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

CDI
CIVIL DESIGN, INC.
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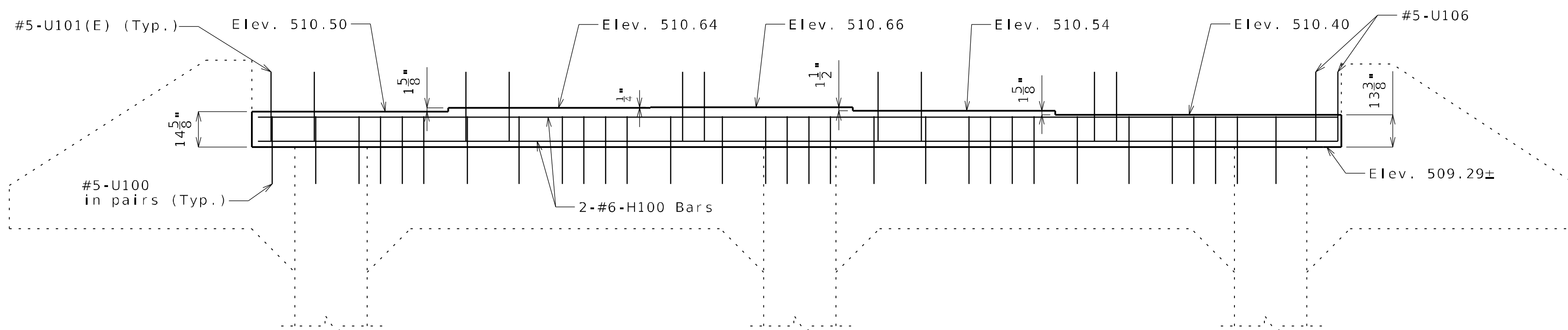
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2000000804

REV.

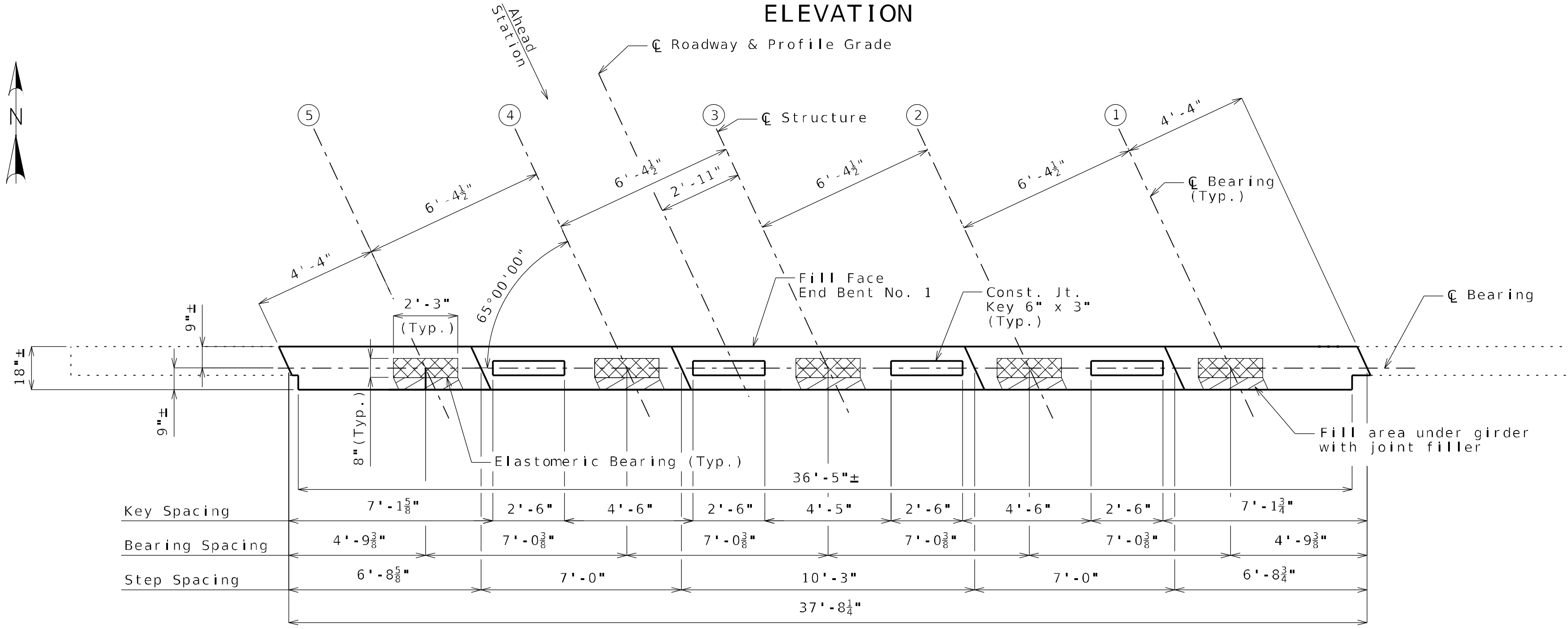
Detailed MAY 2023
Checked MAY 2023

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

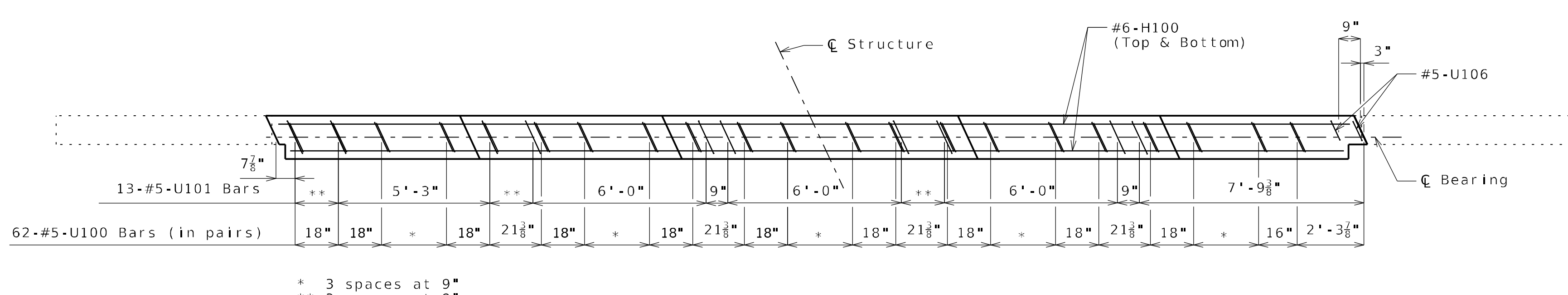
P:\5XXX\56XX-57XX\5784 - MoDOT Hermann Bridge\24-Structures\CAD\B_J00092_003_J5P3542_EB1_Rem.dgn 7:32:48 AM 8/14/2023



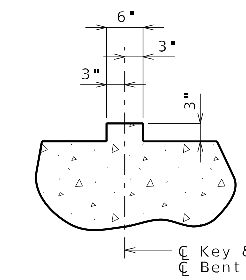
ELEVATION



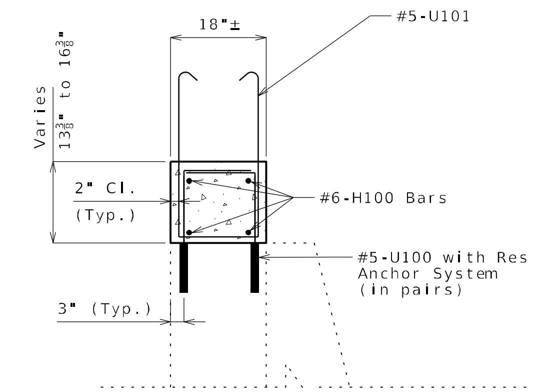
PLAN



PLAN SHOWING REINFORCEMENT



SECTION THRU KEY



SECTION SHOWING NEW BEARING BEAM

Notes:

For details of End Bent No. 1, see Sheet No. 5.

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

For details of bridge approach slab, see Sheet No. 31.

For bearing details, see Sheet No. 22.

All U bars shall be placed parallel to ℄ Roadway.

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

The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor 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 #5 Grade 60 reinforcing bar shall be substituted for the 5/8" ⌀ threaded rod.

Cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for Class B Concrete (Substructure).

Substructure Quantity Table for End Bent No. 1

Item		Quantity
Class 1 Excavation	cu. yard	10.0
Class B Concrete (Substructure)	cu. yard	2.6
Reinforcing Steel (Epoxy Coated)	pound	810

These quantities are included in the Estimated Quantities table on Sheet No. 2.

DATE PREPARED 8/14/2023
ROUTE 19 | STATE MO
DISTRICT BR | SHEET NO. 4
COUNTY GASCONADE
JOB NO. J5P3542
CONTRACT ID.
PROJECT NO.
BRIDGE NO. J00092

DESCRIPTION | DATE

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

CIVIL DESIGN, INC.
6220 Oakland Avenue St. Louis, MO 63139 314.863.5570
Missouri State Certificate of Authority #2000004

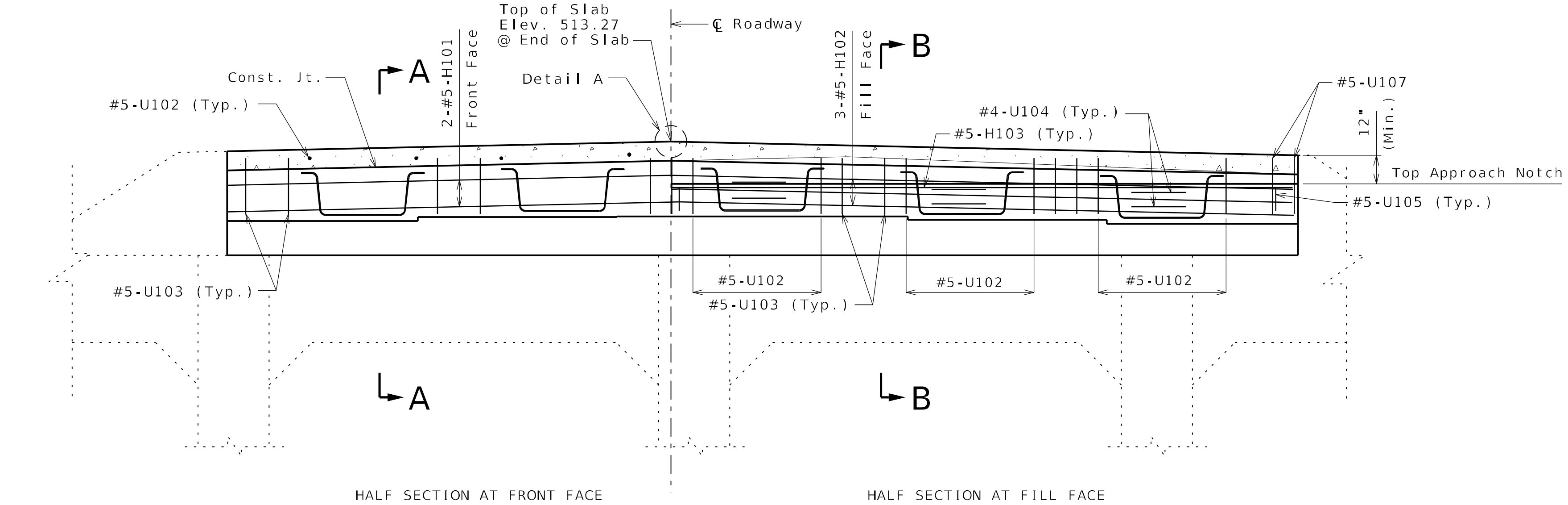
END BENT NO. 1
SUBSTRUCTURE DETAILS

Detailed MAY 2023
Checked MAY 2023

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

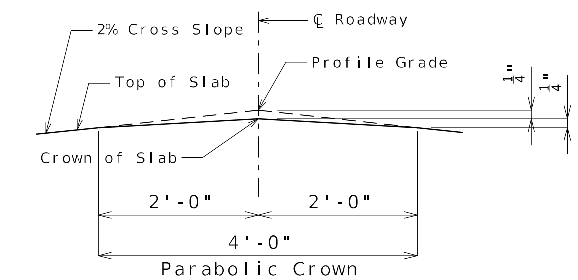
REV.

P:\5XXX\56XX-57XX\5784 - MoDOT Hermann Bridge\24-Structures\CAD\B_J00092_004_J5P3542_EB1_Conc.dgn 7:32:52 AM 8/14/2023

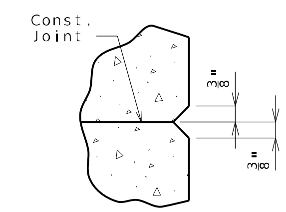


ELEVATION

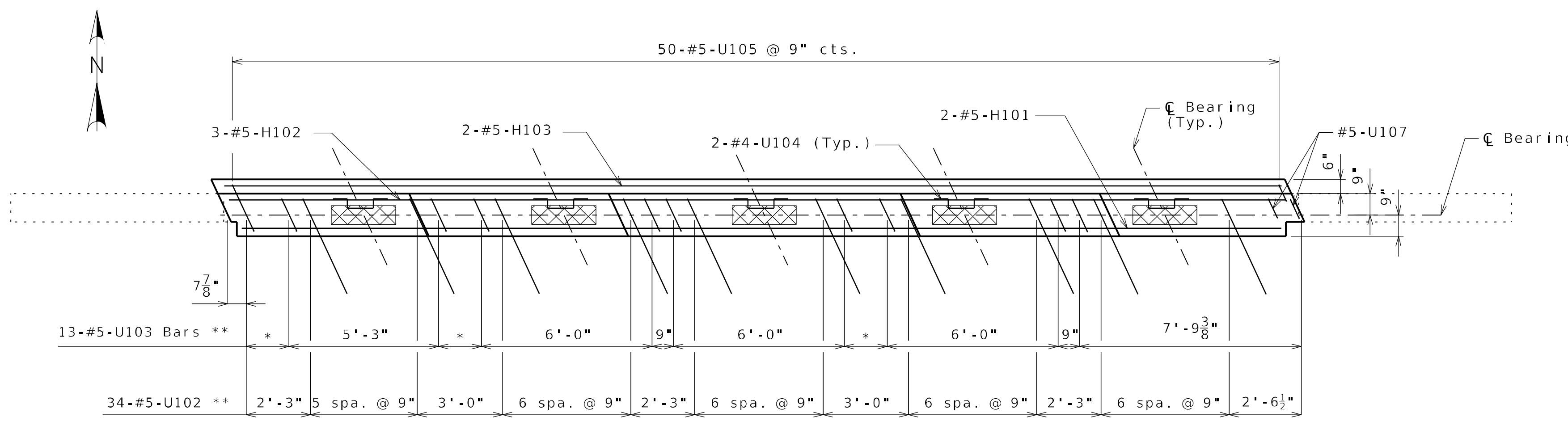
(Key not shown for clarity)



DETAIL A

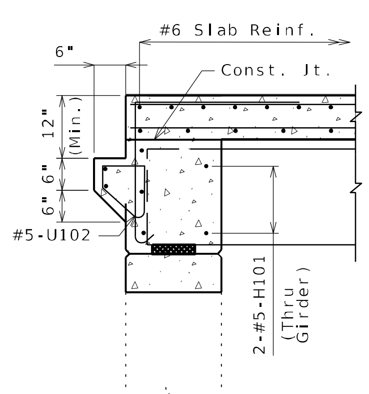


DETAIL B

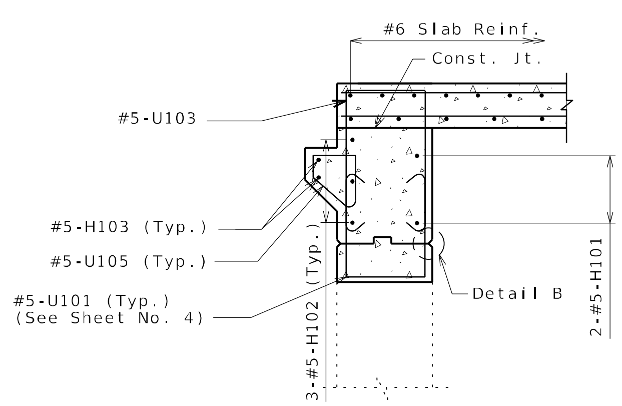


* 2 spaces at 9"
** Lap with #5-U101 from substructure

PLAN



SECTION A-A



SECTION B-B

General Notes:

For details of End Bent No. 1 not shown, see Sheets No. 3 & 5.

All U-bars shall be placed parallel to ℄ Roadway.

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

STATE OF MISSOURI
DENNIS W. HECKMAN
NUMBER E-27141
PROFESSIONAL ENGINEER

DATE PREPARED	8/14/2023
ROUTE 19	STATE MO
DISTRICT BR	SHEET NO. 5
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

6220 Oakland Avenue
St. Louis, MO 63110
314.863.5570

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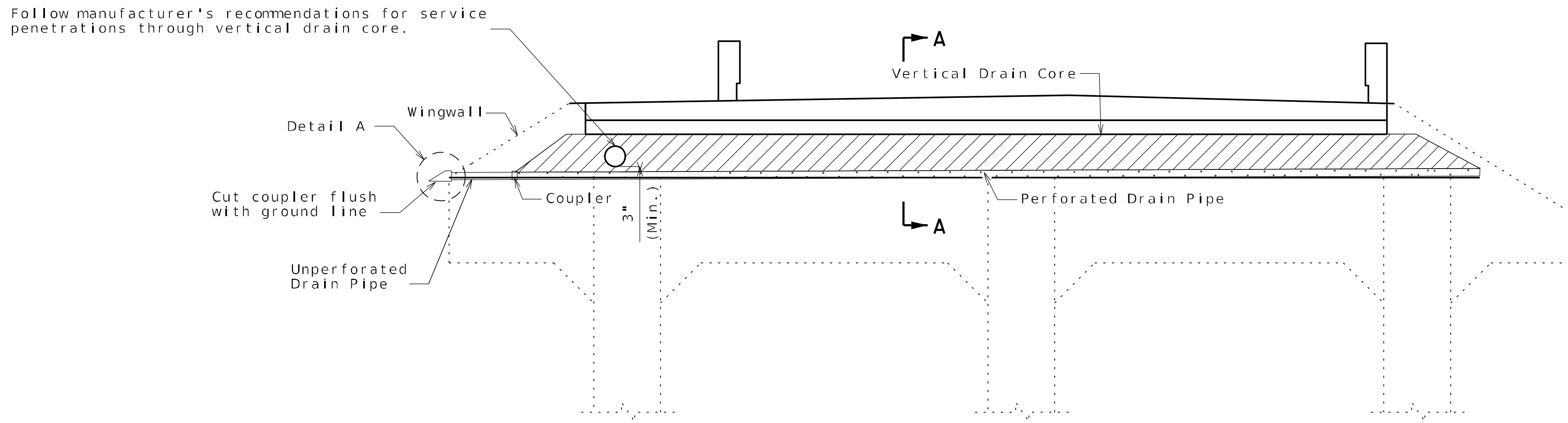
Missouri State Certificate of Authority #2000006804

END BENT NO. 1
DIAPHRAGM DETAILS

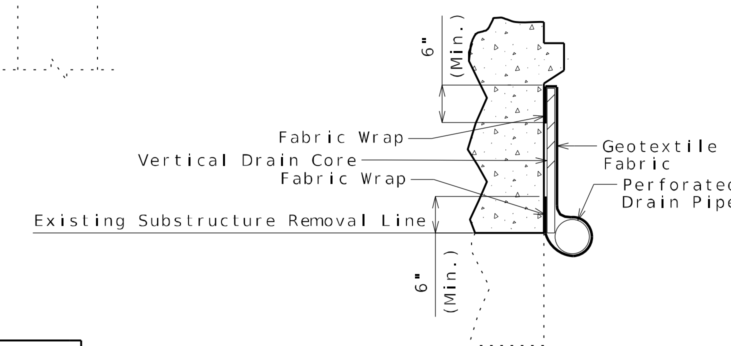
REV.

Detailed MAY 2023
Checked MAY 2023

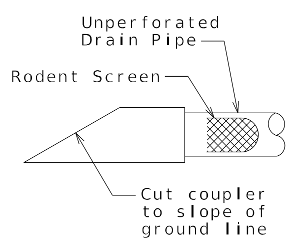
Note: This drawing is not to scale. Follow dimensions.



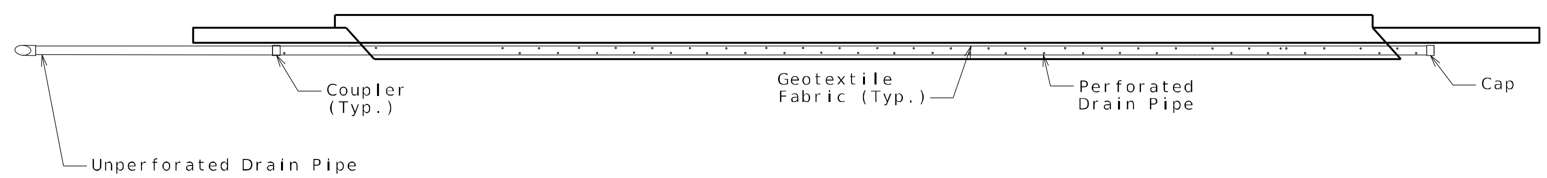
ELEVATION OF END BENT



PART SECTION A-A



DETAIL A



PLAN OF END BENT

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. 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 from end to end of wings and plain pipe shall be used where the vertical drain ends to the exit at ground line.

VERTICAL DRAIN AT END BENTS

STATE OF MISSOURI DENNIS W. HECKMAN NUMBER E-27141 PROFESSIONAL ENGINEER

DATE PREPARED	8/14/2023
ROUTE 19	STATE MO
DISTRICT BR	SHEET NO. 6
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION | DATE

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

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314.863.5570
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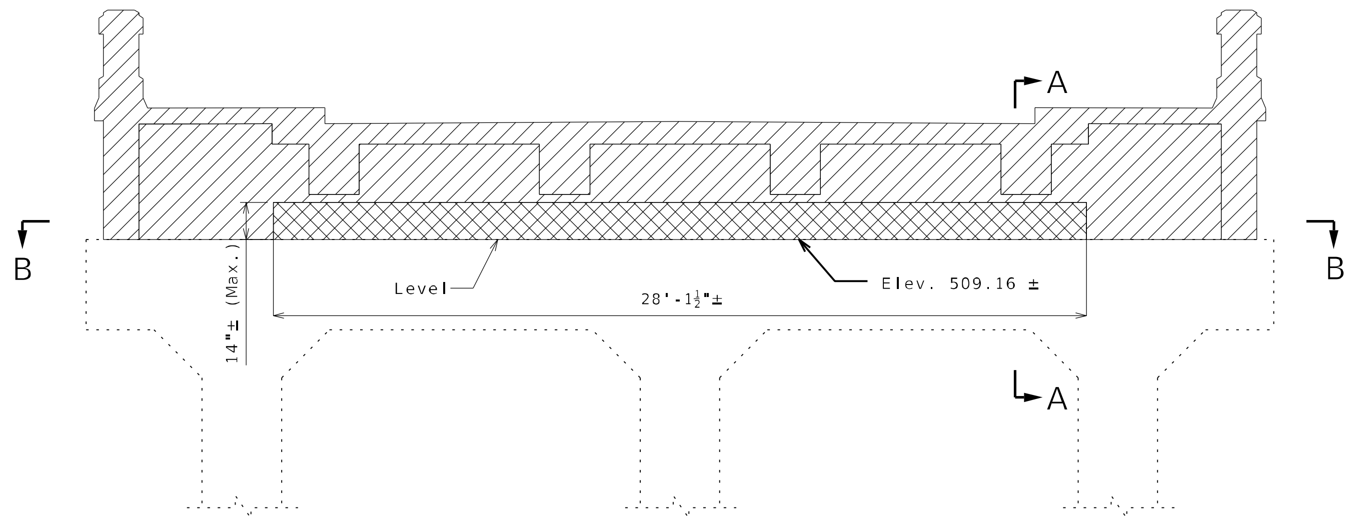
REV.

Detailed MAY 2023
Checked MAY 2023

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

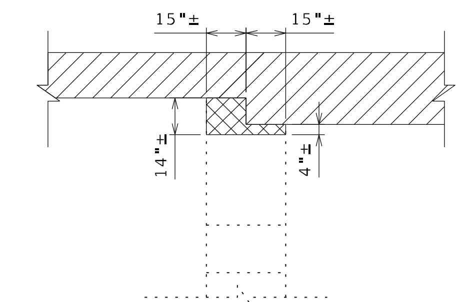


ELEVATION

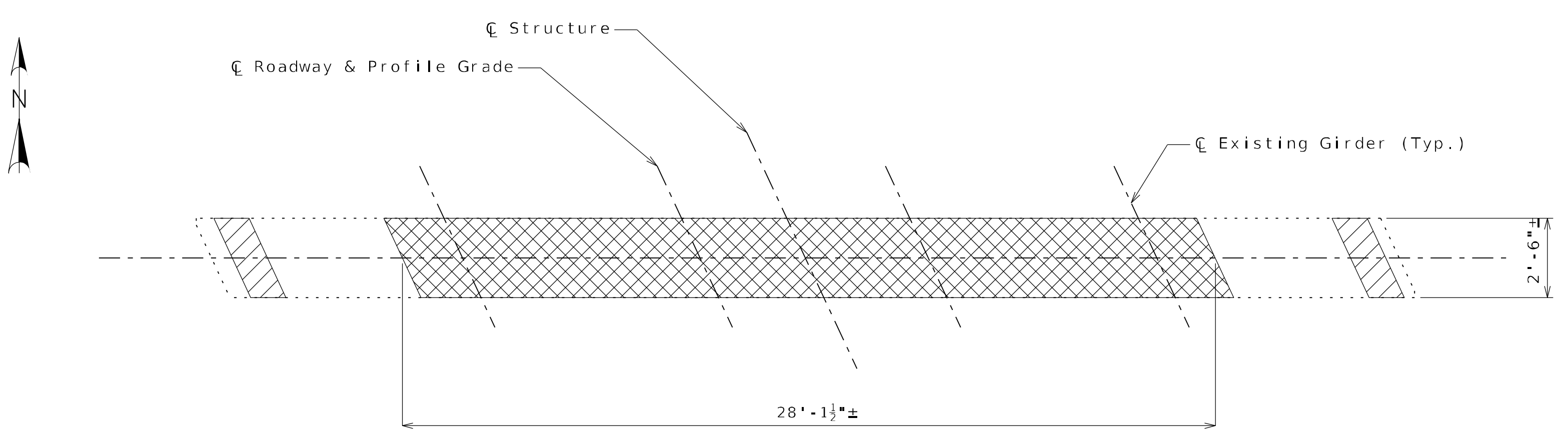
Elevation from Existing Plans (1930)

Removal of Superstructure

Partial Removal of Substructure Concrete



SECTION A-A



SECTION B-B

Notes:

Sawcut a horizontal line and scarify the existing tops at abutments and piers to a maximum depth of 2 inches. Cost for removing concrete to a roughened surface will be considered completely covered by the contract lump sum price for Partial Removal of Substructure Concrete.

For additional dimensions of existing bridge, see existing bridge drawings.

INT. BENT NO. 2
REMOVAL DETAILS

Detailed MAY 2023
Checked MAY 2023

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

Sheet No. 7 of 32

STATE OF MISSOURI
DENNIS W. HECKMAN
NUMBER E-27141
PROFESSIONAL ENGINEER

DATE PREPARED	
8/14/2023	
ROUTE 19	STATE MO
DISTRICT BR	SHEET NO. 7
COUNTY GASCONADE	
JOB NO. J5P3542	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. J00092	

DESCRIPTION

DATE

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

MoDOT

6220 Oakland Avenue
St. Louis, MO 63110
314.863.5570

CIVIL DESIGN, INC.
Missouri State Certificate of Authority #2000000804

REV.

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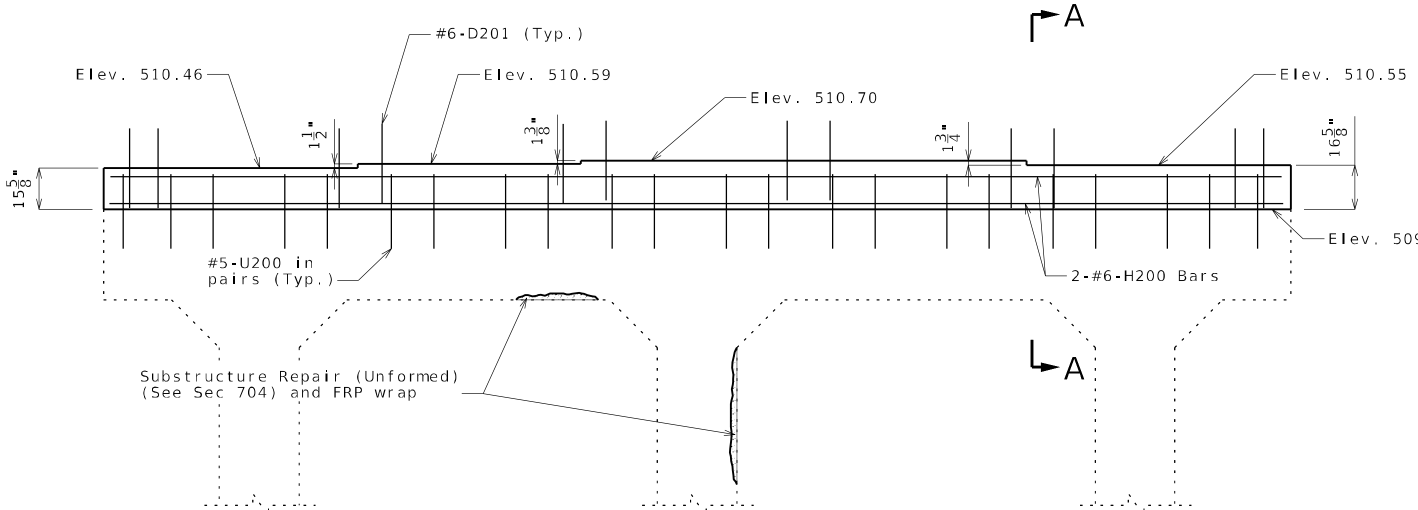
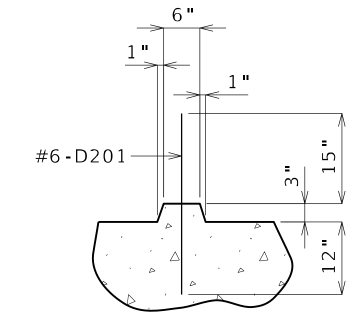


ELEVATION

Looking at north face of Intermediate Bent
Elevation from Existing Plans (1930)
Key not shown for clarity.



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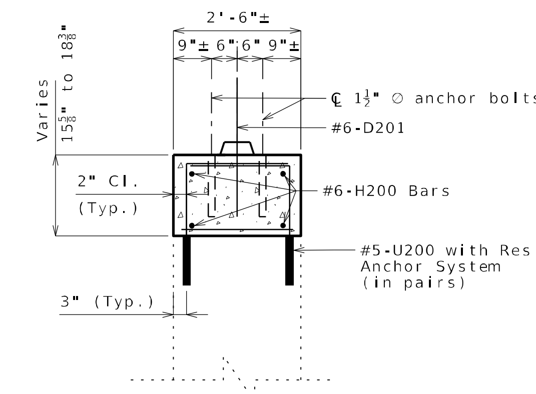
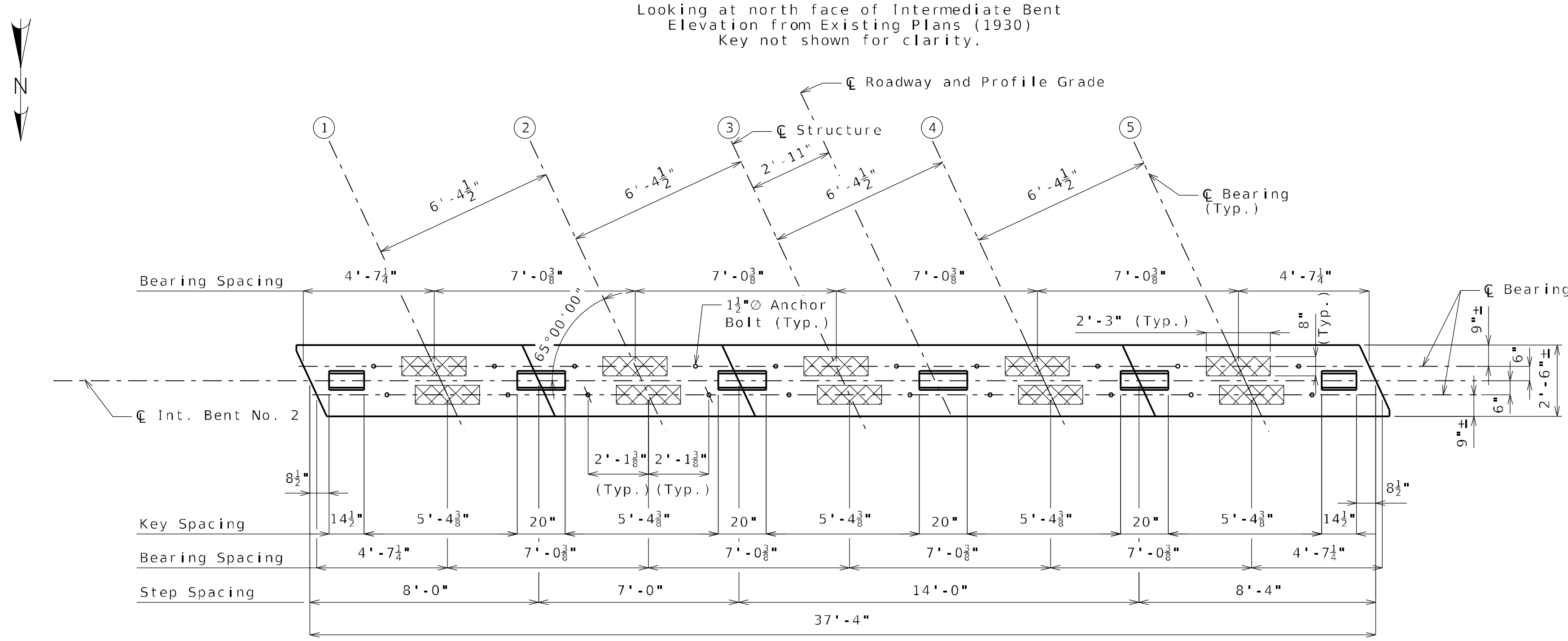
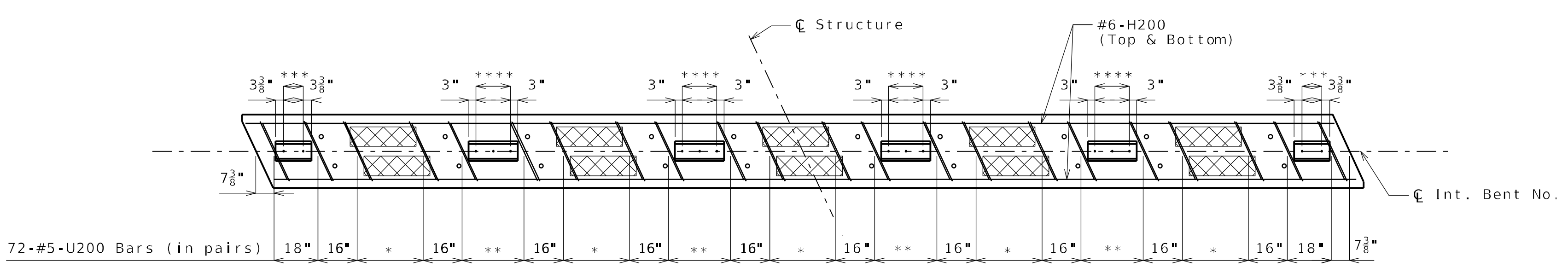


SECTION A-A SHOWING NEW BEARING BEAM



PLAN



* 3 spaces at 9"
** 2 spaces at abt. 12"
*** 2-#6-D201 spaced at 8"
****3-#6-D201 spaced at 7"

PLAN SHOWING REINFORCEMENT

Notes:

For bearing details, see Sheet No. 22.

For details of FRP wrap, see Sheet No. 10.

All U bars shall be placed parallel to ℄ Roadway.

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

The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor 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 #5 Grade 60 reinforcing bar, shall be substituted for the 5/8" ⊙ threaded rod.

Cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for Class B Concrete (Substructure).

Substructure Quantity Table for Int. Bent No. 2

Item		Quantity
Class B Concrete (Substructure)	cu. yard	5.0
Reinforcing Steel (Epoxy Coated)	pound	600

These quantities are included in the Estimated Quantities table on Sheet No. 2.

INT BENT NO. 2 SUBSTRUCTURE DETAILS

DATE PREPARED	8/15/2023
ROUTE 19	STATE MO
DISTRICT BR	SHEET NO. 8
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION | DATE

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

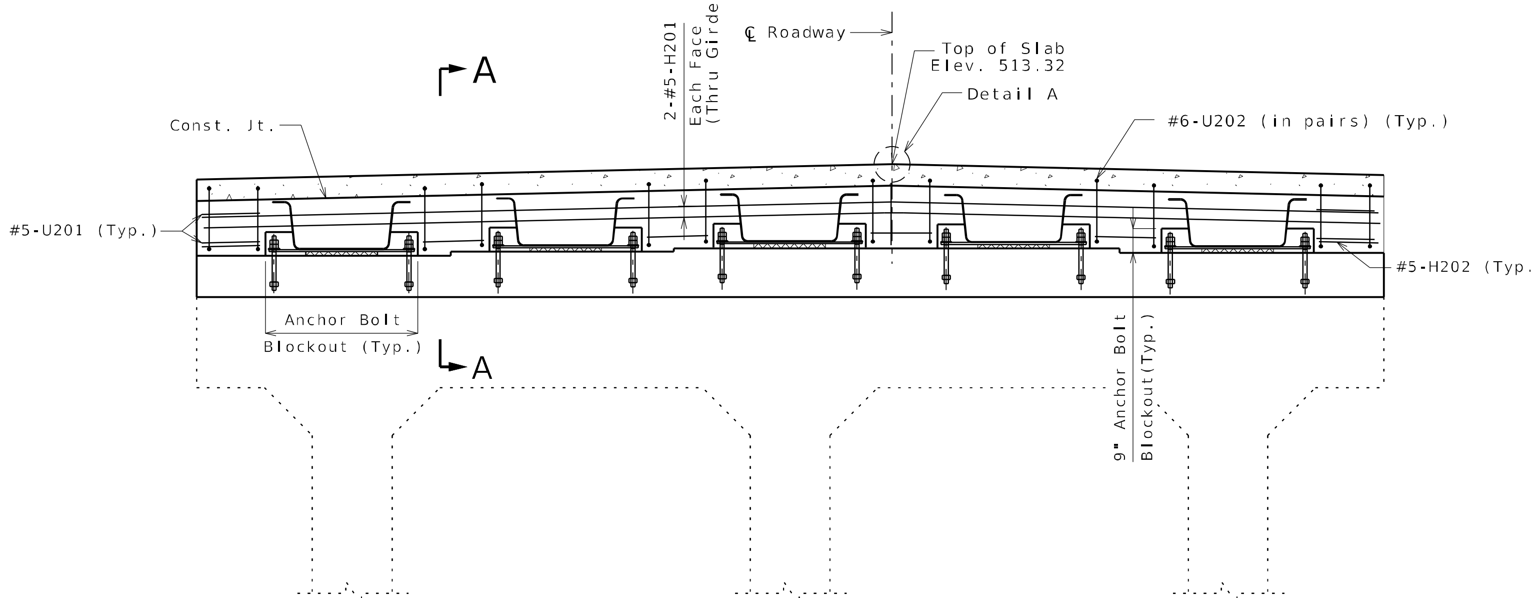
CIVIL DESIGN, INC.
6220 Oakland Avenue
St. Louis, MO 63139
314.863.5570
Missouri State Certificate of Authority #2000000804

REV.

Detailed MAY 2023
Checked MAY 2023

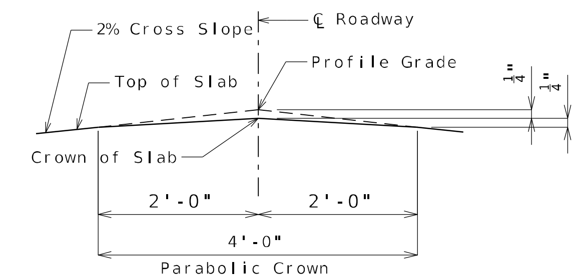
Note: This drawing is not to scale. Follow dimensions.

P:\5XXX\56XX-57XX\5784 - MoDOT Hermann Bridge\24-Structures\CAD\B_J00092_008_J5P3542_IB2_Conc.dgn 12:59:08 PM 8/15/2023

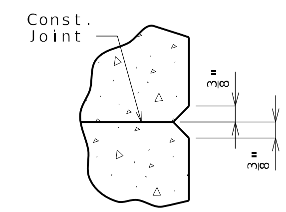


ELEVATION

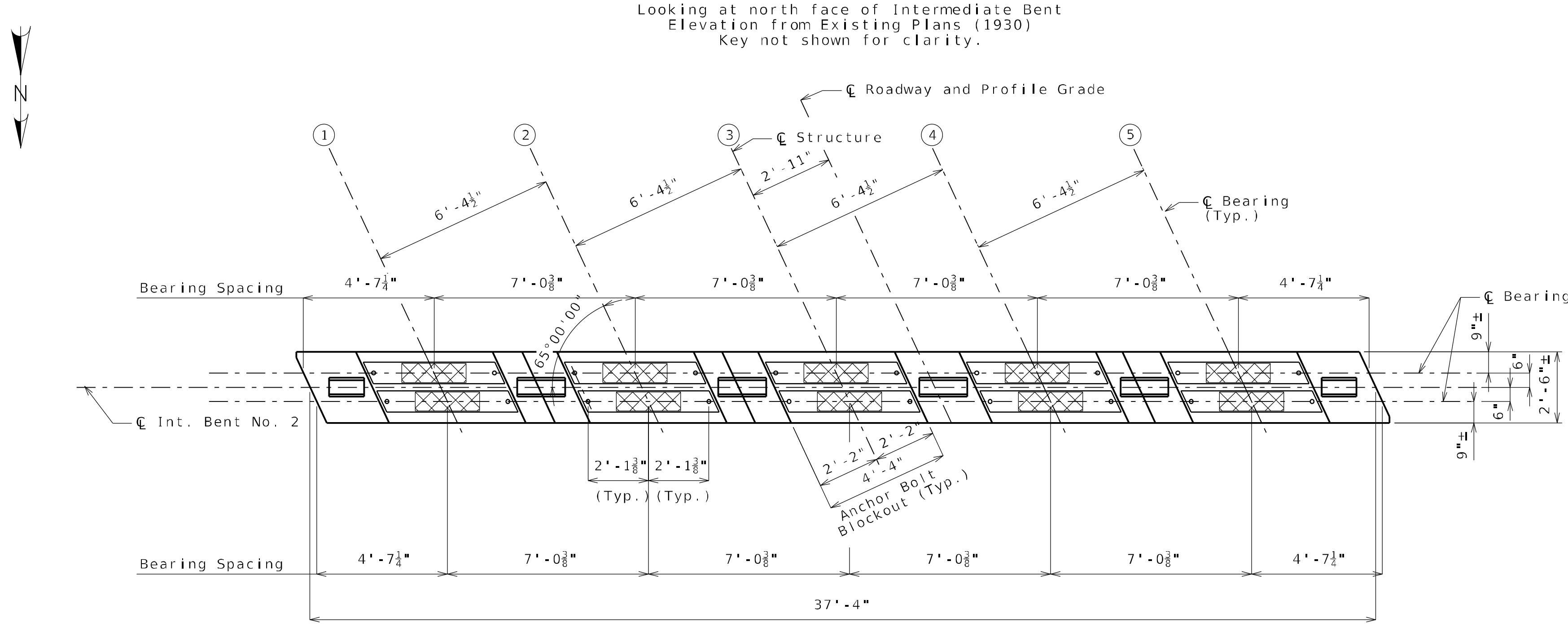
Looking at north face of Intermediate Bent
Elevation from Existing Plans (1930)
Key not shown for clarity.



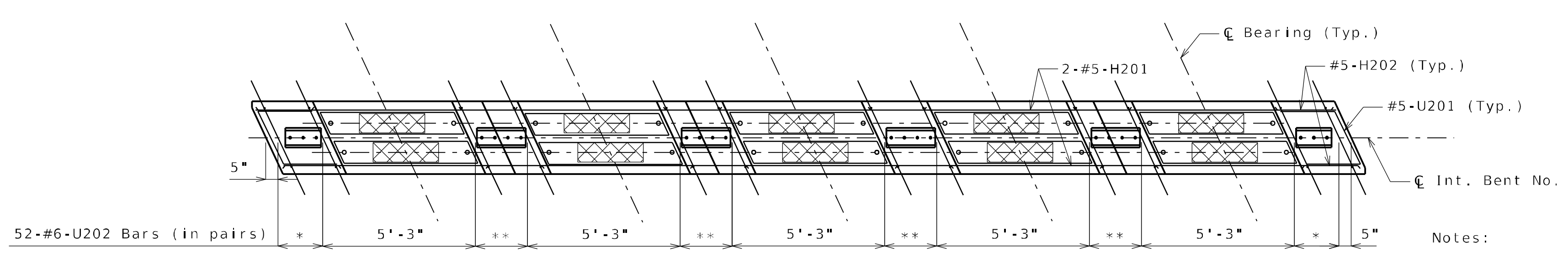
DETAIL A



DETAIL B



PLAN



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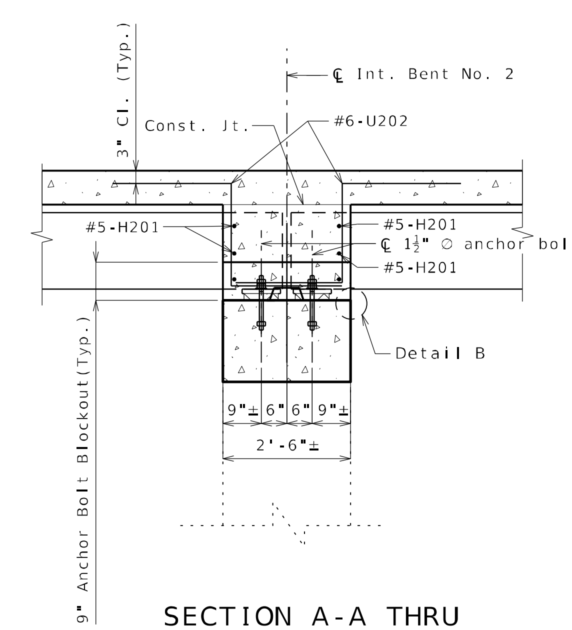
** 4 spaces at 5⅜"

PLAN SHOWING REINFORCEMENT



SECTION A-A THRU DIAPHRAGM

Notes:

For bearing details, see Sheet No. 22.

All U bars shall be placed parallel to ¢ Roadway.

INT BENT NO. 2 DIAPHRAGM DETAILS

DATE PREPARED	8/15/2023
ROUTE	19
STATE	MO
DISTRICT	BR
SHEET NO.	9
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION

DATE

STATE OF MISSOURI
DENNIS W. HECKMAN
NUMBER E-27141
PROFESSIONAL ENGINEER

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

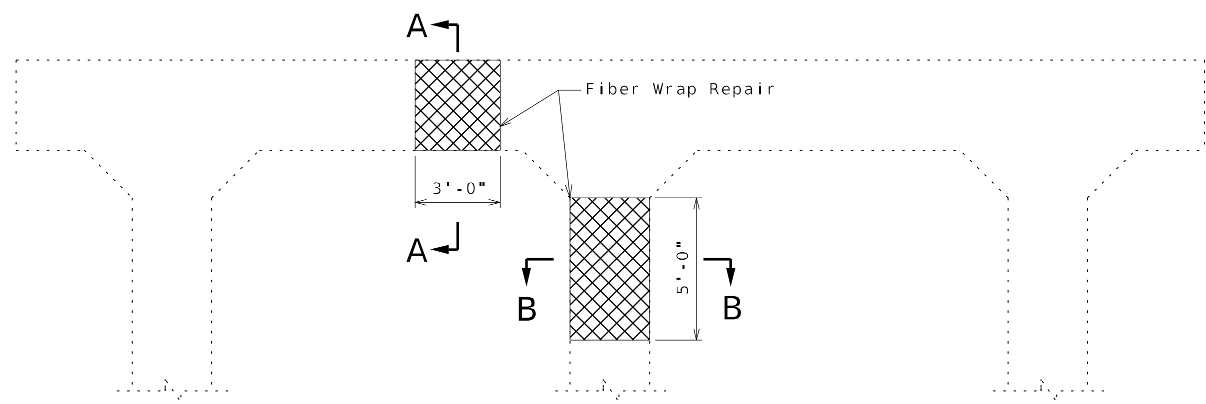
MoDOT

CIVIL DESIGN, INC.
6220 Oakland Avenue
St. Louis, MO 63139
314.863.5570
Missouri State Certificate of Authority #2000005804

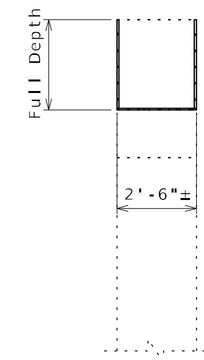
REV.

Detailed MAY 2023
Checked MAY 2023

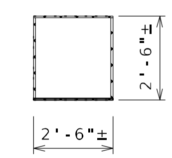
Note: This drawing is not to scale. Follow dimensions.



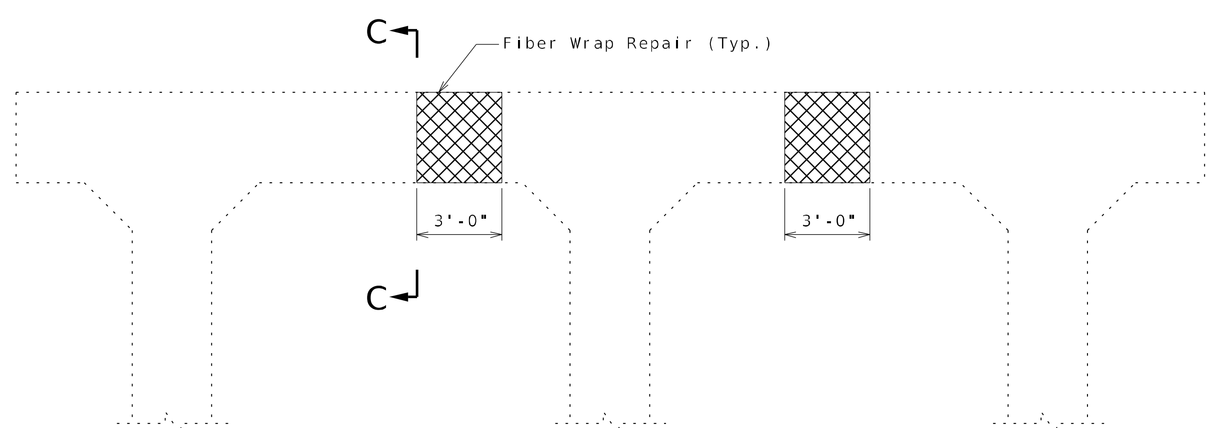
ELEVATION OF INTERMEDIATE BENT NO. 2
(Looking Ahead Station)



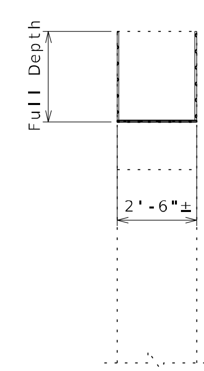
SECTION A-A



SECTION B-B



ELEVATION OF INTERMEDIATE BENT NO. 3
(Looking Ahead Station)



SECTION C-C

Notes:

Substructure repairs to be completed before placing FRP wrap.

Design force for each repair is 30 kips.

Design Force is the factored force at any cross section in each design region that shall be resisted entirely by the FRP reinforcement (See Special Provision).

INTERMEDIATE BENT
CONCRETE REPAIR USING FRP WRAP

Detailed MAY 2023
Checked MAY 2023

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

Sheet No. 10 of 32

DATE PREPARED	8/14/2023
ROUTE 19	STATE MO
DISTRICT BR	SHEET NO. 10
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION

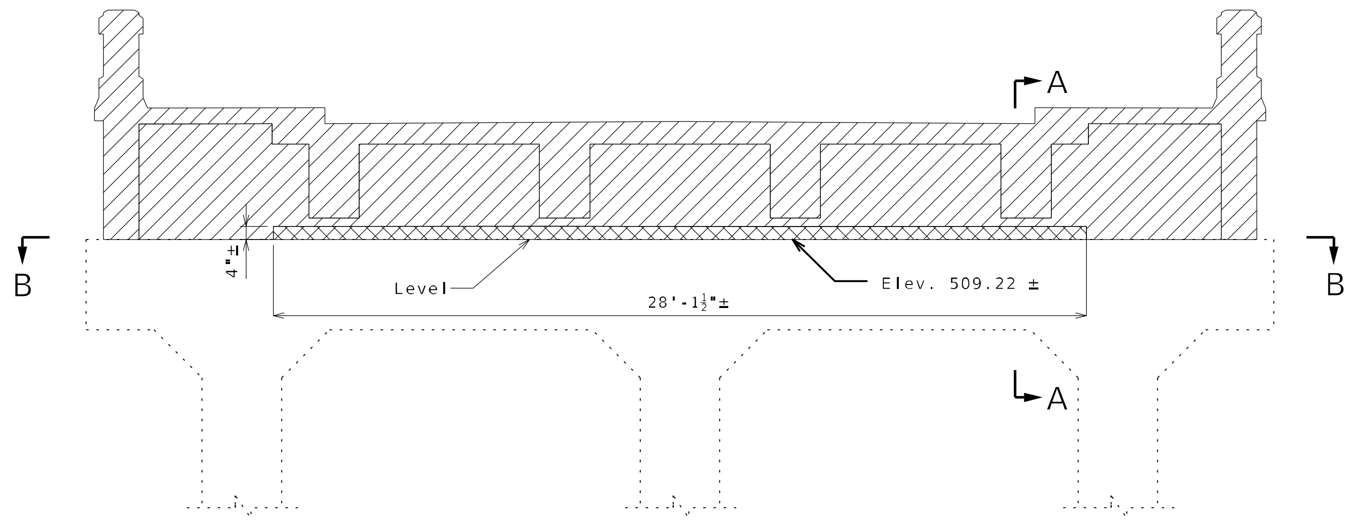
DATE

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

6220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
CIVIL DESIGN, INC.
Missouri State Certificate of Authority #2000000804

DENNIS W. HECKMAN NUMBER E-27141

REV.

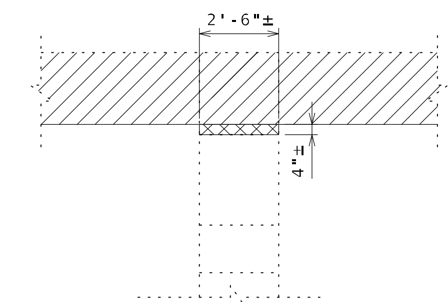


ELEVATION

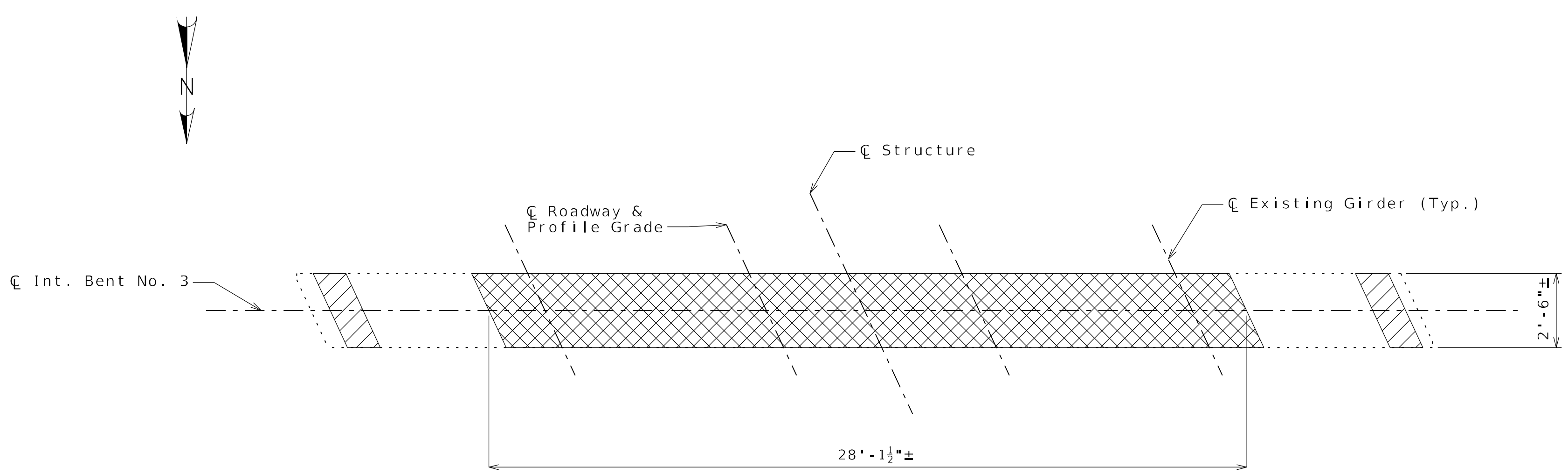
Elevation from Existing Plans (1930)

Removal of Superstructure

Partial Removal of Substructure Concrete



SECTION A-A



SECTION B-B

Notes:

Sawcut a horizontal line and scarify the existing tops at abutments and piers to a maximum depth of 2". Cost for removing concrete to a roughened surface will be considered completely covered by the contract lump sum price for Partial Removal of Substructure Concrete.

For additional dimensions of existing bridge, see existing bridge drawings.

INT. BENT NO. 3 REMOVAL DETAILS

DATE PREPARED	8/14/2023
ROUTE 19	STATE MO
DISTRICT BR	SHEET NO. 11
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

CIVIL DESIGN, INC.
6220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2000000804

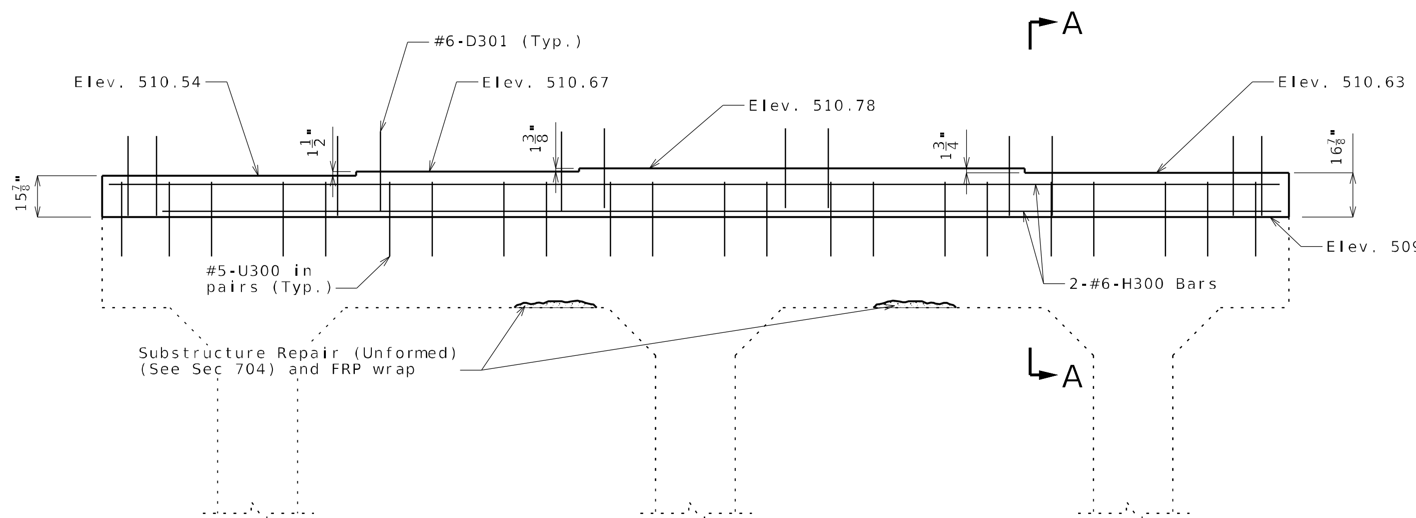
STATE OF MISSOURI
DENNIS W. HECKMAN
NUMBER E-27141
PROFESSIONAL ENGINEER

REV.

Detailed MAY 2023
Checked MAY 2023

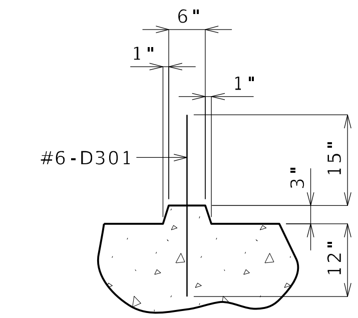
Note: This drawing is not to scale. Follow dimensions.

P:\5XXX\56XX-57XX\5784 - MoDOT Hermann Bridge\24-Structures\CAD\B_J00092_011_J5P3542_IB3_Rem.dgn 7:33:24 AM 8/14/2023

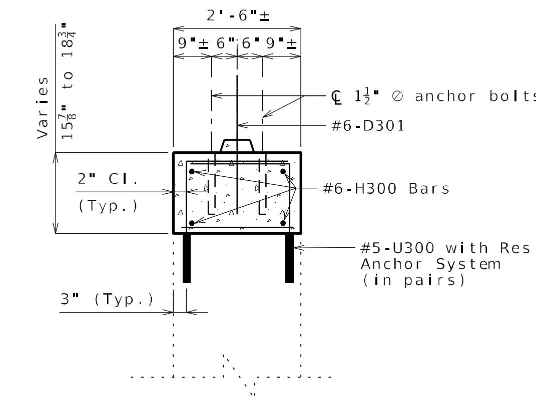


ELEVATION

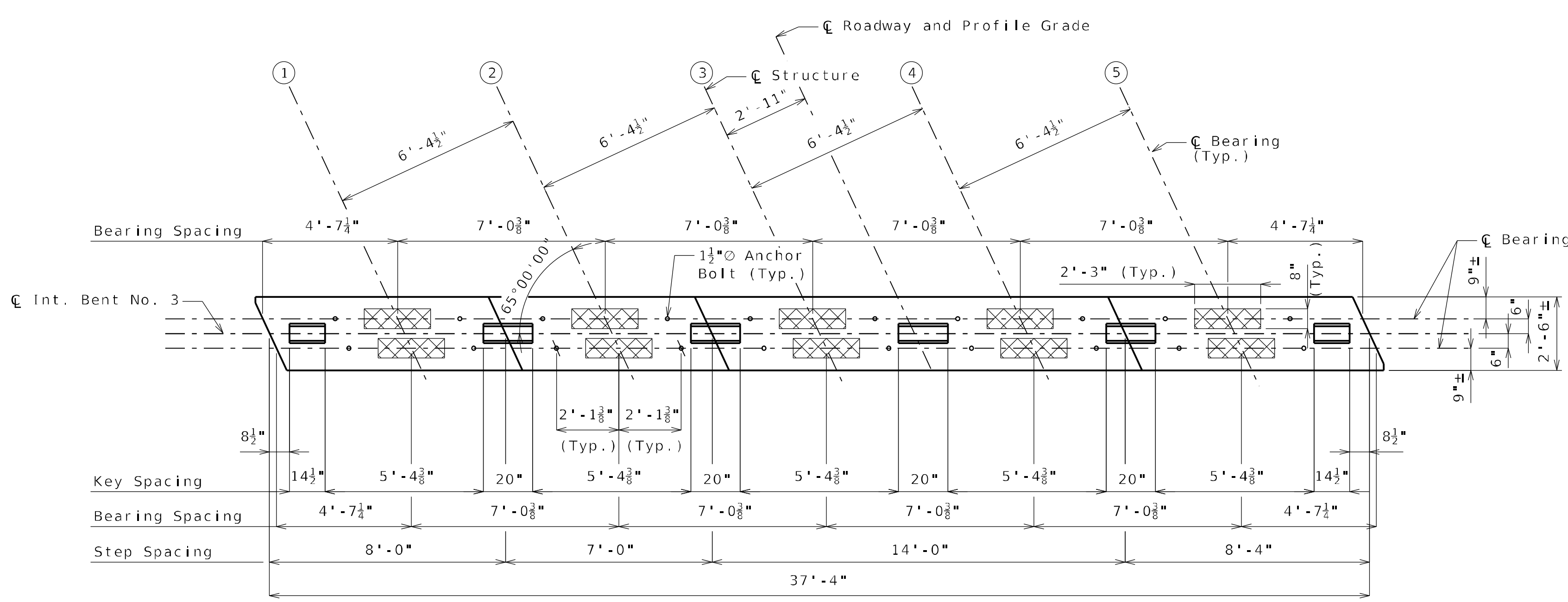
Looking at north face of Intermediate Bent
Elevation from Existing Plans (1930)
Key not shown for clarity.



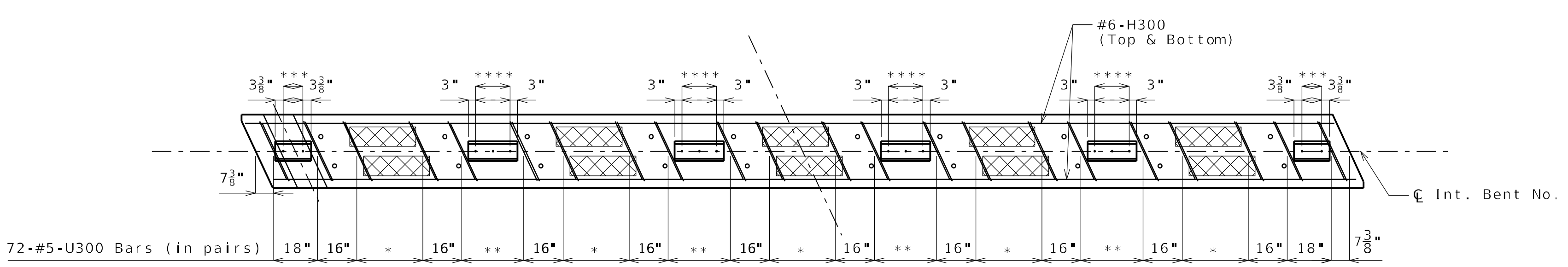
SECTION THRU KEY



SECTION A-A SHOWING NEW BEARING BEAM



PLAN



PLAN SHOWING REINFORCEMENT

* 3 spaces at 9"
** 2 spaces at abt. 12"
*** 2-#6-D301(E) spaced at 8"
****3-#6-D301(E) spaced at 7"

Notes:

For bearing details, see Sheet No. 22.

For details of FRP wrap, see Sheet No. 10.

All U bars shall be placed parallel to ℄ Roadway.

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

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

An epoxy coated #5 Grade 60 reinforcing bar, as shown in details, shall be substituted for the 5/8" ⌀ threaded rod.

Cost of furnishing and installing the anchor system, complete in place, will be considered completely covered by the contract unit price for Class B Concrete (Substructure).

Substructure Quantity Table for Int. Bent No. 3

Item		Quantity
Class B Concrete (Substructure)	cu. yard	5.1
Reinforcing Steel (Epoxy Coated)	pound	600

These quantities are included in the Estimated Quantities table on Sheet No. 2.

INT BENT NO. 3 SUBSTRUCTURE DETAILS

DATE PREPARED 8/15/2023

ROUTE	STATE
19	MO
DISTRICT	SHEET NO.
BR	12

COUNTY GASCONADE
JOB NO. J5P3542
CONTRACT ID.
PROJECT NO.
BRIDGE NO. J00092

DESCRIPTION
DATE

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

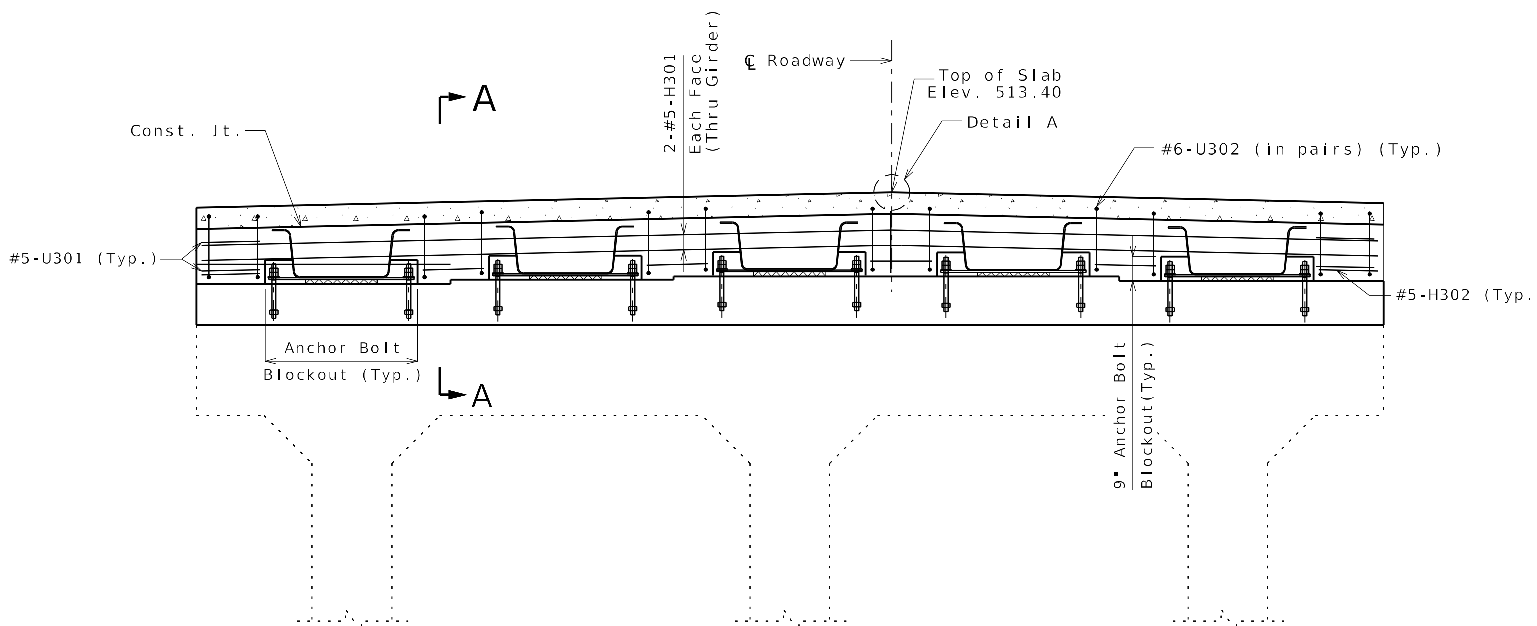
CIVIL DESIGN, INC.
6220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority

REV.

Detailed MAY 2023
Checked MAY 2023

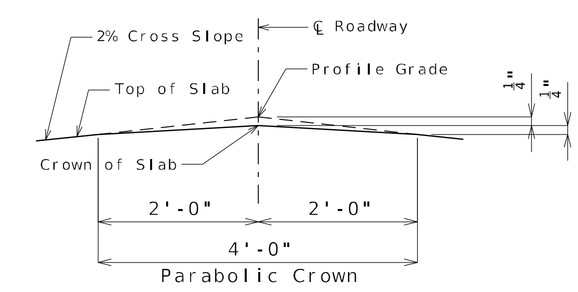
Note: This drawing is not to scale. Follow dimensions.

P:\5XXX\56XX-57XX\5784 - MoDOT Hermann Bridge\24-Structures\CAD\B_J00092_012_J5P3542_IB3_Conc.dgn 12:59:54 PM 8/15/2023

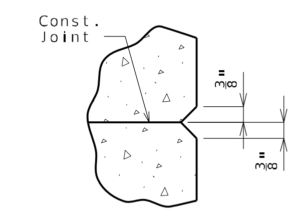


ELEVATION

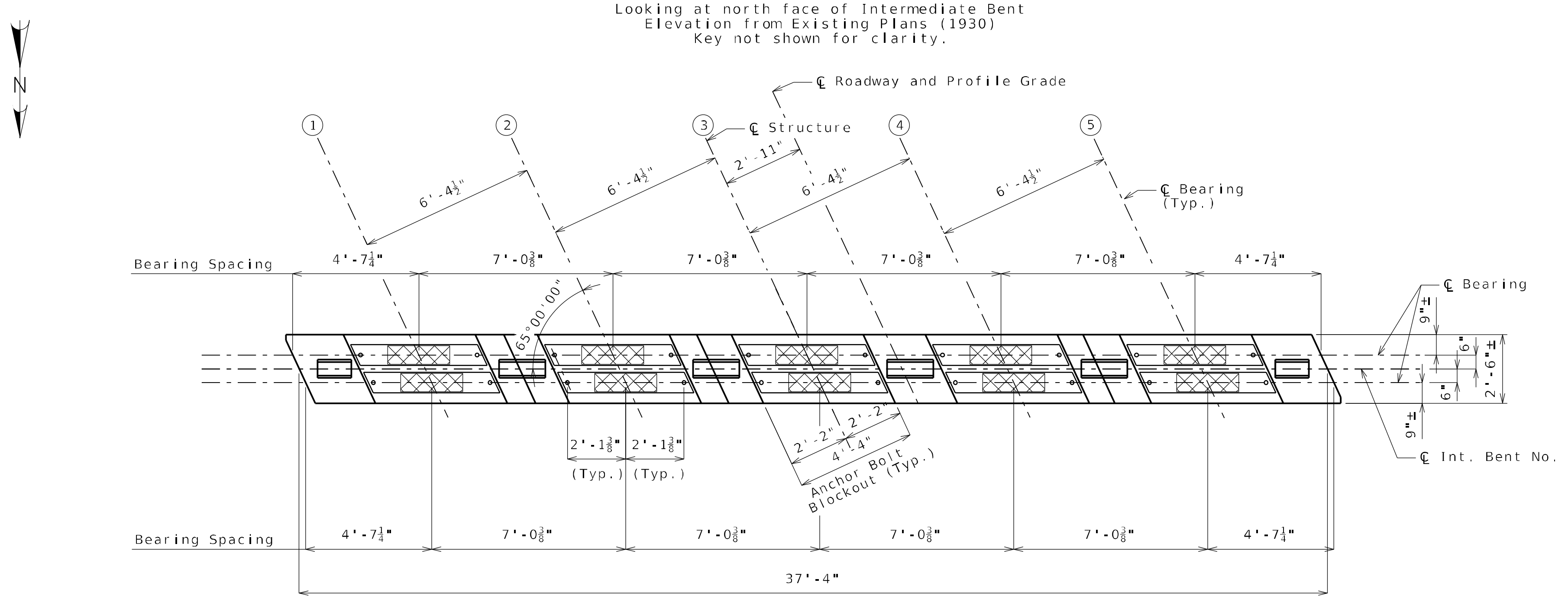
Looking at north face of Intermediate Bent
Elevation from Existing Plans (1930)
Key not shown for clarity.



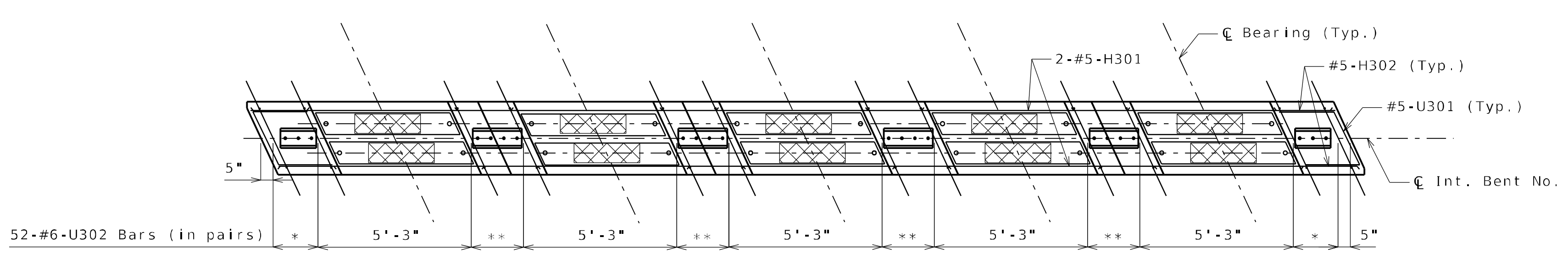
DETAIL A



DETAIL B

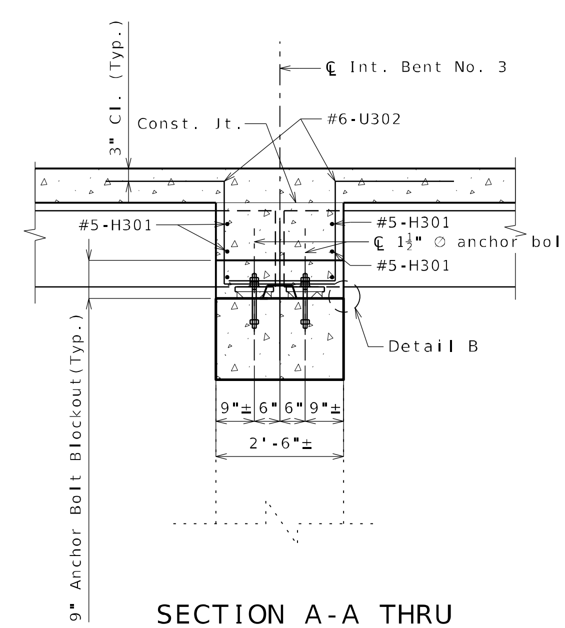


PLAN



PLAN SHOWING REINFORCEMENT

* 3 spaces at 5¼"
** 4 spaces at 5⅝"



SECTION A-A THRU DIAPHRAGM

Notes:

For bearing details, see Sheet No. 22.

All U bars shall be placed parallel to ℄ Roadway.

INT BENT NO. 3 DIAPHRAGM DETAILS

DENNIS W. HECKMAN NUMBER E-27141 STATE OF MISSOURI PROFESSIONAL ENGINEER

DATE PREPARED	8/14/2023
ROUTE 19	STATE MO
DISTRICT BR	SHEET NO. 13
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

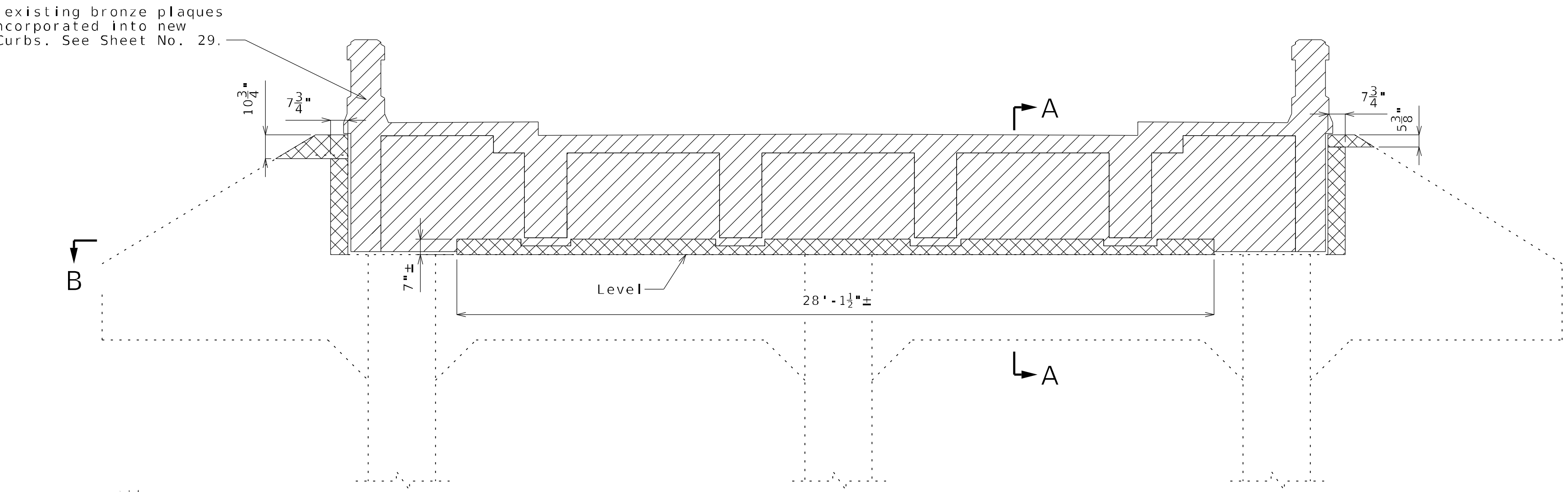
6220 Oakland Avenue
St Louis, MO 63110
314.863.5570

CIVIL DESIGN, INC.
Missouri State Certificate of Authority #2000005804

REV.

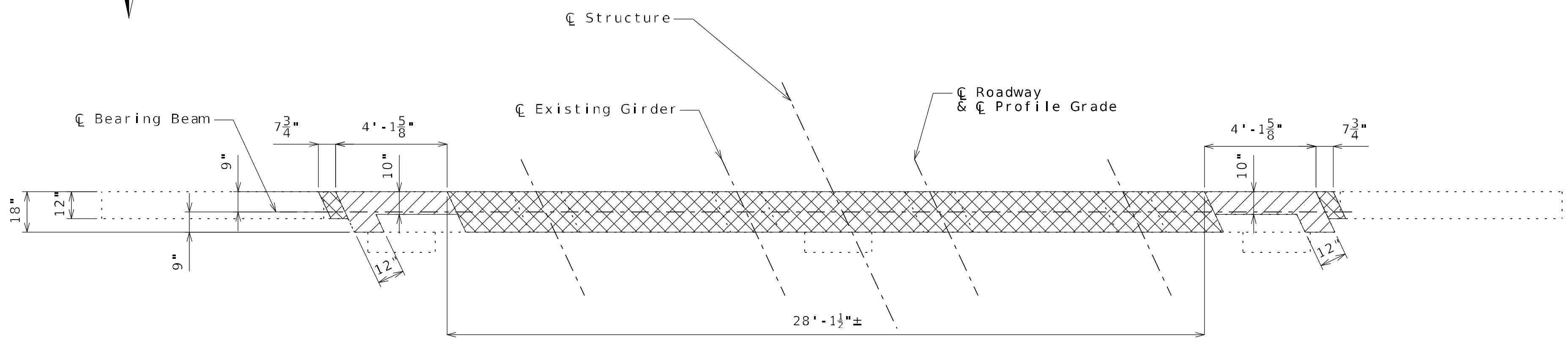
Detailed MAY 2023
Checked MAY 2023

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

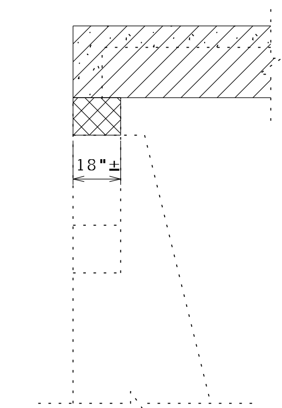


ELEVATION

Elevation from Existing Plans (1930)



SECTION B-B



SECTION A-A

Removal of Superstructure

Partial Removal of Substructure Concrete

Notes:

Sawcut a horizontal line and scarify the existing tops at abutments and piers to a maximum depth of 2". Cost for removing concrete to a roughened surface will be considered completely covered by the contract lump sum price for Partial Removal of Substructure Concrete.

For additional dimensions of existing bridge, see existing bridge drawings.

END BENT NO. 4
REMOVAL DETAILS

DATE PREPARED	8/14/2023
ROUTE	19
STATE	MO
DISTRICT	BR
SHEET NO.	14
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION

DATE

STATE OF MISSOURI
DENNIS W. HECKMAN
NUMBER E-27141
PROFESSIONAL ENGINEER

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

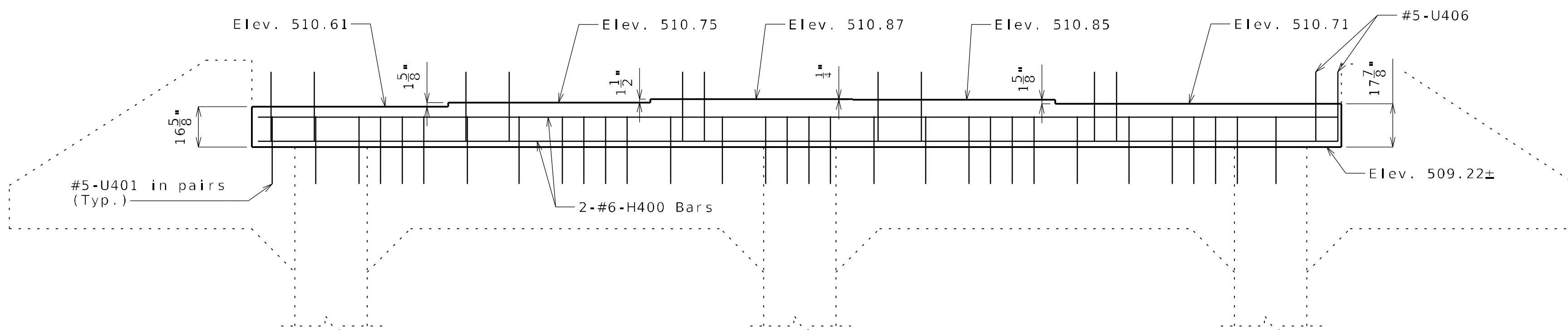
CDI
CIVIL DESIGN, INC.
5220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
Missouri State Certificate of Authority #2000000804

Detailed MAY 2023
Checked MAY 2023

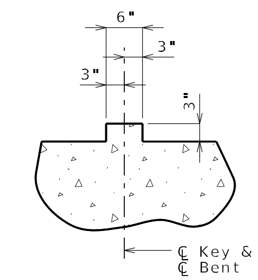
Note: This drawing is not to scale. Follow dimensions.

REV.

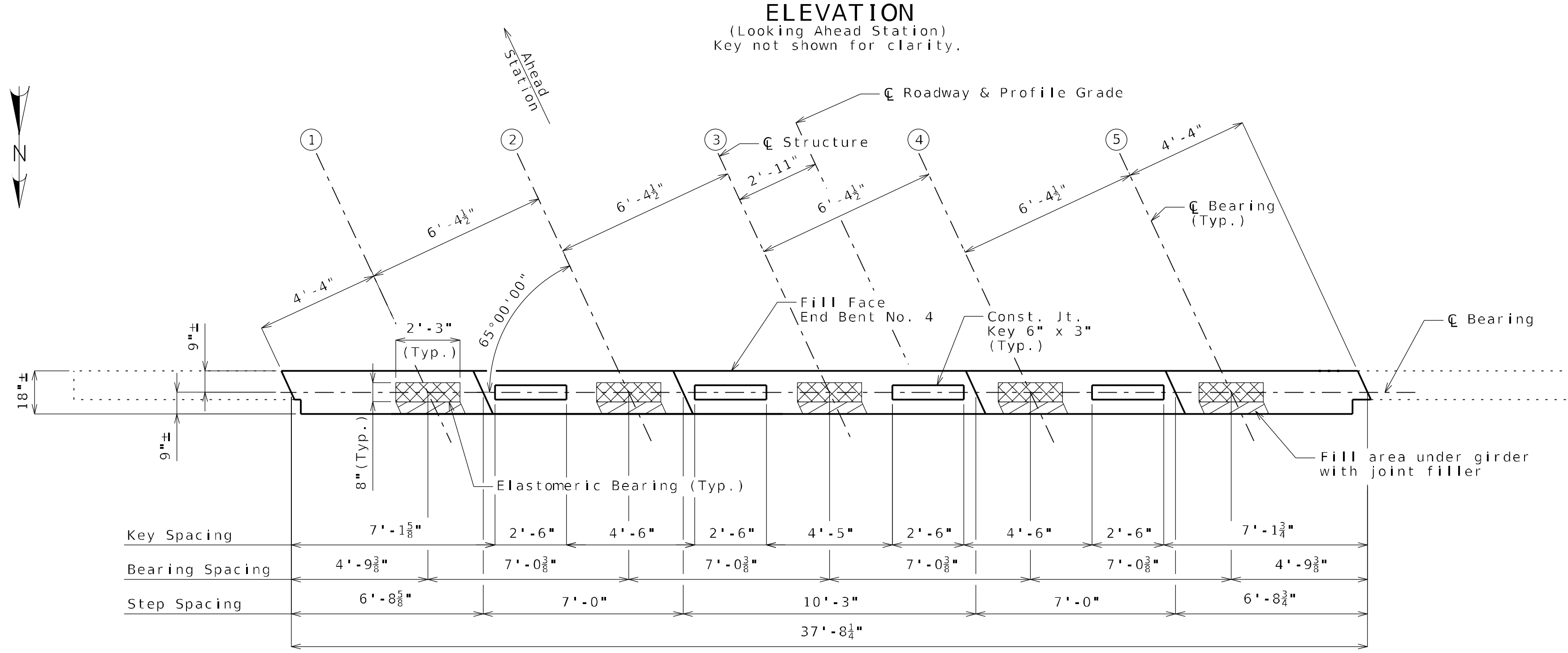
P:\5XXX\56XX-57XX\5784 - MoDOT Hermann Bridge\24-Structures\CAD\B_J00092_014_J5P3542_EB4_Rem.dgn 7:33:37 AM 8/14/2023



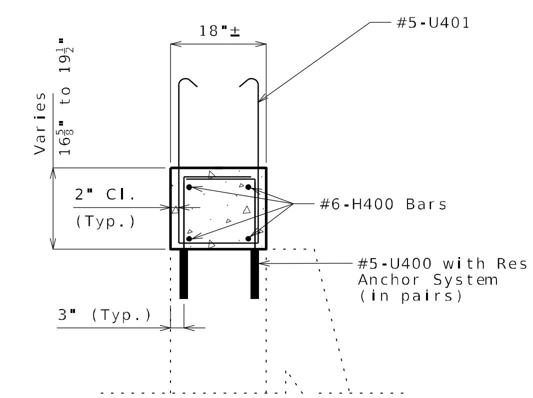
ELEVATION
(Looking Ahead Station)
Key not shown for clarity.



SECTION THRU KEY



PLAN



SECTION SHOWING NEW BEARING BEAM

Notes:

For details of End Bent No. 4, see Sheets No. 14 & 16.

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

For details of bridge approach slab, see Sheet No. 31.

For bearing details, see Sheet No. 22.

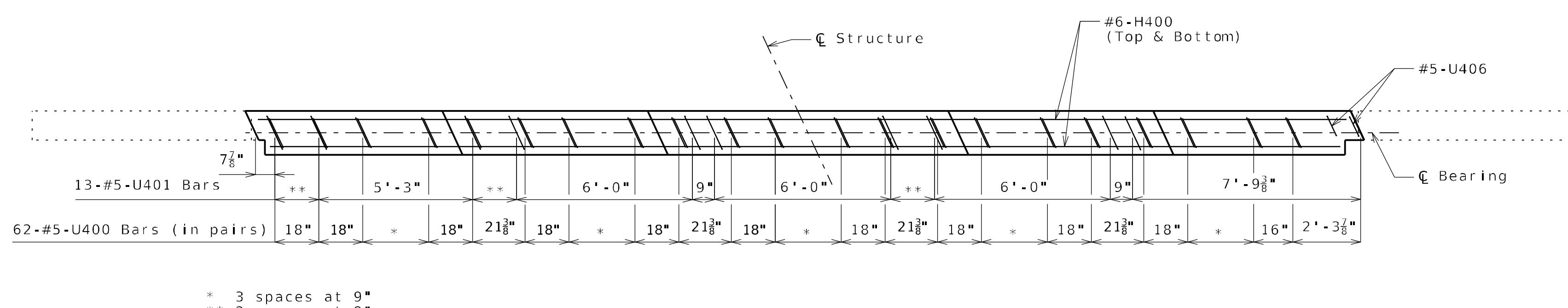
All U bars shall be placed parallel to ℄ Roadway.

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

The minimum embedment depth in concrete with f'c = 4,000 psi for 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 #5 Grade 60 reinforcing bar, shall be substituted for the 5/8" ∅ threaded rod.

Cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for Class B Concrete (Substructure).



PLAN SHOWING REINFORCEMENT

Substructure Quantity Table for End Bent No. 4		
Item		Quantity
Class 1 Excavation	cu. yard	15
Class B Concrete (Substructure)	cu. yard	3.2
Reinforcing Steel (Epoxy Coated)	pound	820

These quantities are included in the Estimated Quantities table on Sheet No. 2.

END BENT NO. 4 SUBSTRUCTURE DETAILS

DATE PREPARED 8/14/2023
ROUTE 19 | STATE MO
DISTRICT BR | SHEET NO. 15
COUNTY GASCONADE
JOB NO. J5P3542
CONTRACT ID.
PROJECT NO.
BRIDGE NO. J00092

DESCRIPTION | DATE

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

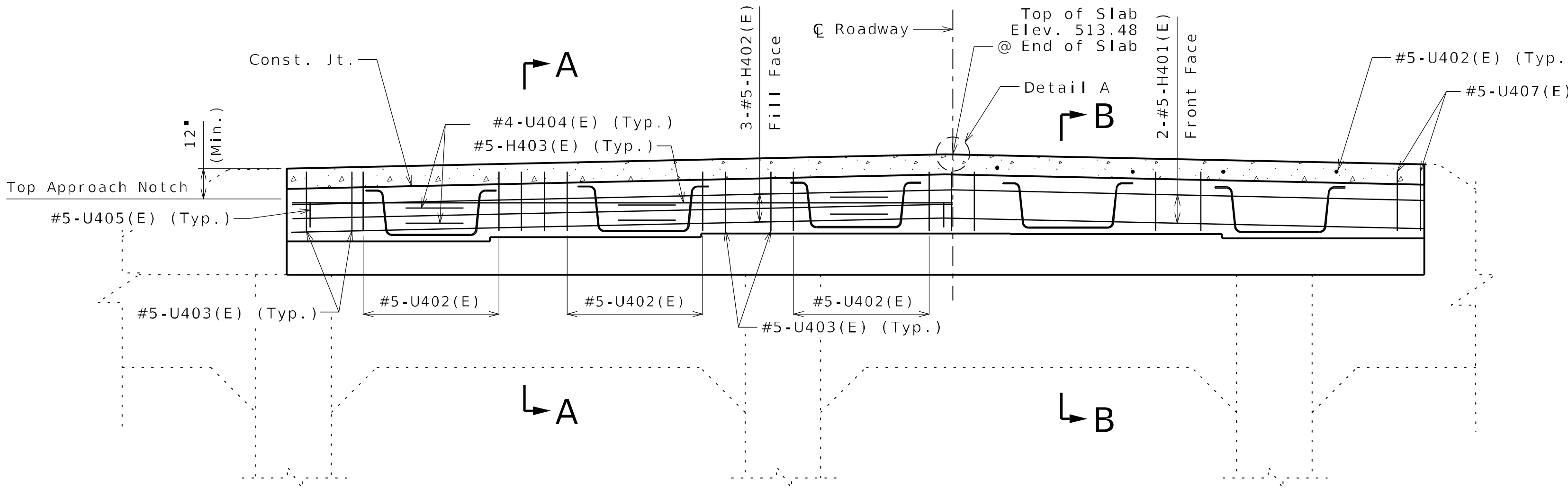
CIVIL DESIGN, INC.
6220 Oakland Avenue
St. Louis, MO 63139
314.863.5570
Missouri State Certificate of Authority #2000000804

REV.

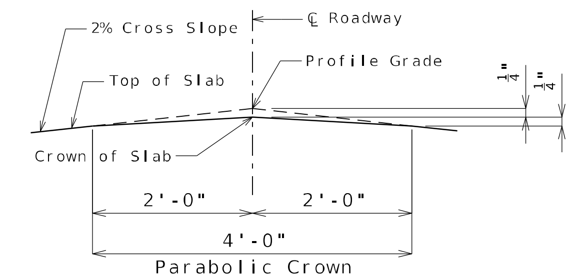
Detailed MAY 2023
Checked MAY 2023

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

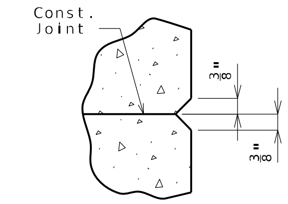
P:\5XXX\56XX-57XX\5784 - MoDOT Hermann Bridge\24-Structures\CAD\B_J00092_015_J5P3542_EB4_Conc.dgn 7:33:41 AM 8/14/2023



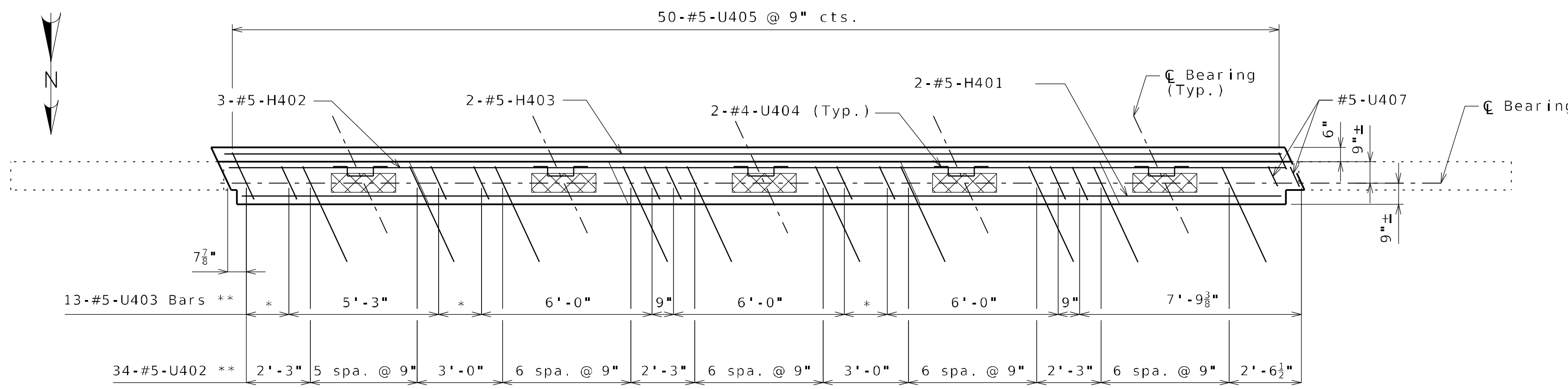
ELEVATION



DETAIL A

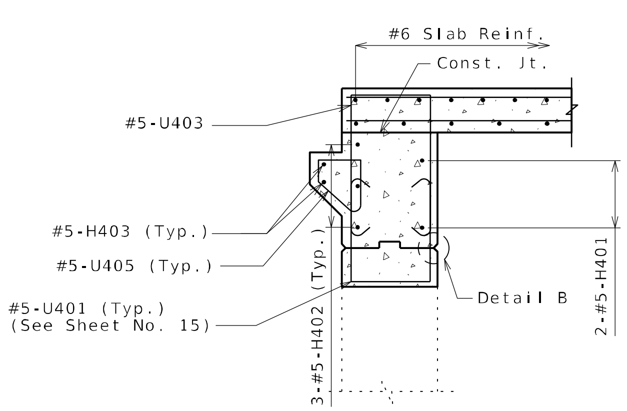


DETAIL B

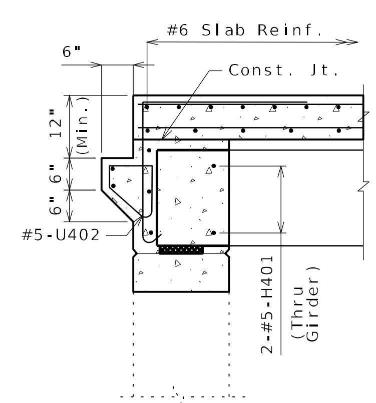


* 2 spaces at 9"
** Lap with #5-U401 from substructure

PLAN



SECTION A-A



SECTION B-B

General Notes:

For details of End Bent No. 4 not shown, see Sheets No. 14 & 15.

All U-bars and shall be placed parallel to ℄ Roadway.

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

END BENT NO. 4
DIAPHRAGM DETAILS

Detailed MAY 2023
Checked MAY 2023

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

Sheet No. 16 of 32

P:\5XXX\56XX-57XX\5784 - MoDOT Hermann Bridge\24-Structures\CAD\B_J00092_016_J5P3542_EB4_Diaph.dgn 7:33:46 AM 8/14/2023

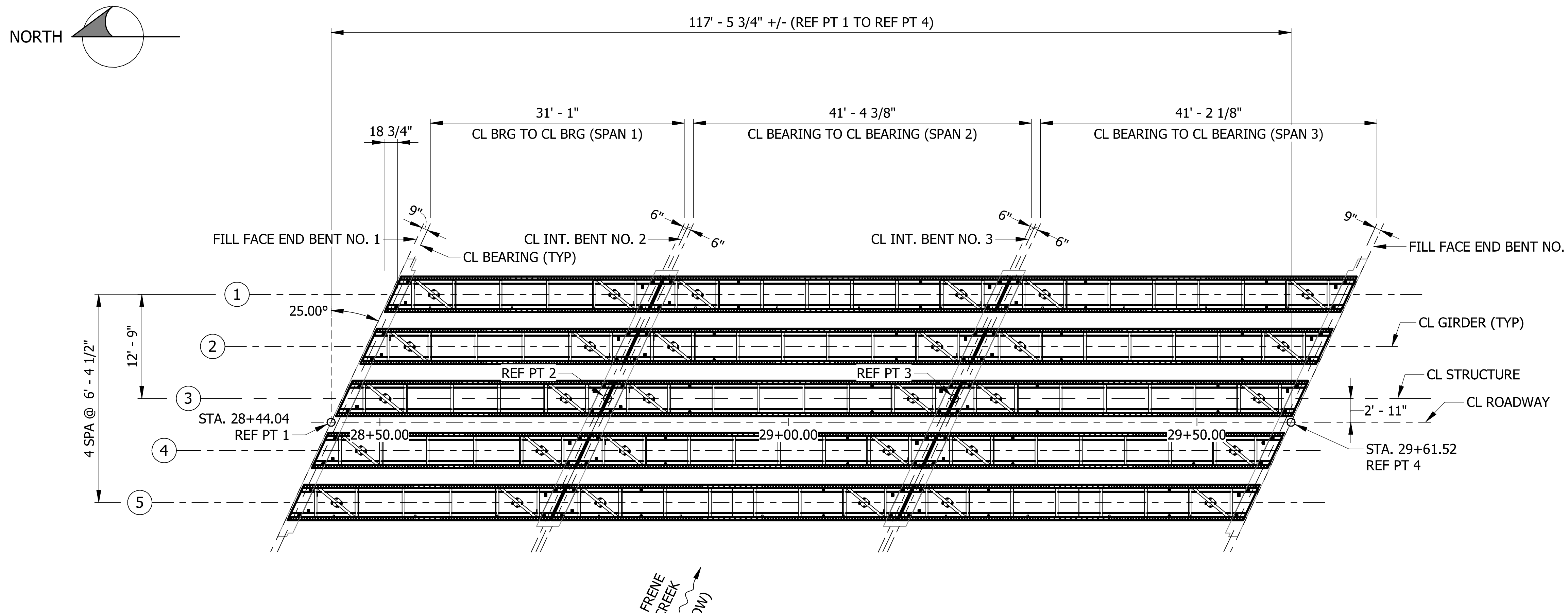
DATE PREPARED	8/14/2023
ROUTE 19	STATE MO
DISTRICT BR	SHEET NO. 16
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION | DATE

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

CIVIL DESIGN, INC.
6220 Oakland Avenue
St. Louis, MO 63139
314.863.5570
Missouri State Certificate of Authority #2000005804

REV.



FRAMING PLAN

These drawings have been sealed on Aug 02, 2023

STATE OF MISSOURI
OZAN RIDVANOGLU
NUMBER PE-2020014887
PROFESSIONAL ENGINEER

DATE PREPARED	
5/19/2023	
ROUTE 19	STATE MO
DISTRICT BR	SHEET NO. 17
COUNTY GASCONADE	
JOB NO. J5P3542	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. J00092	

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

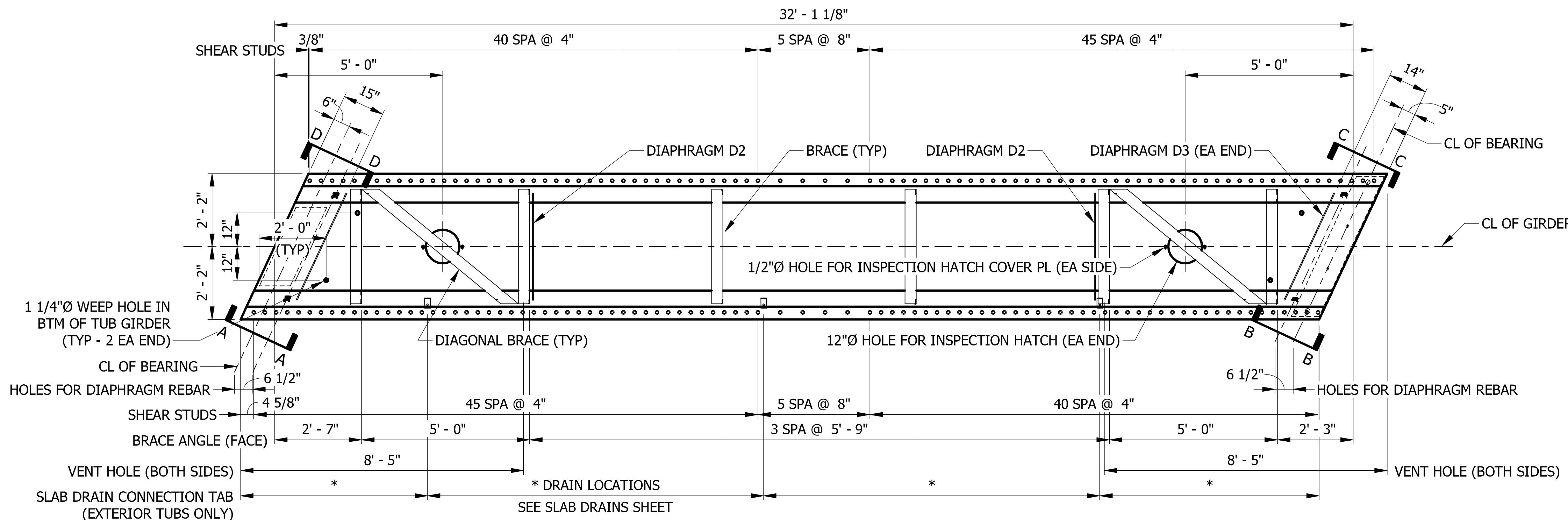
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TEGcivil
1505 44TH STREET, SUITE B
WYOMING, MI 49509
PH. (616) 261-8630

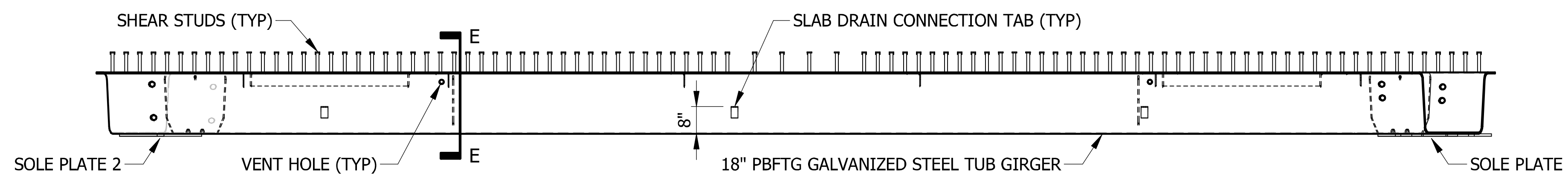
REV.

Detailed MAY 2023
Checked MAY 2023

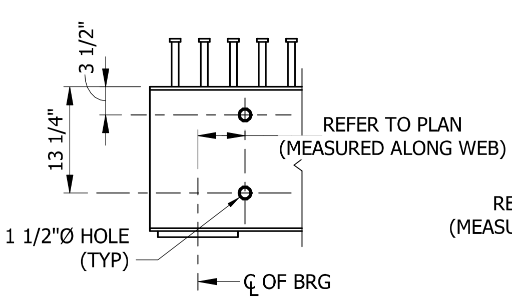
Note: This drawing is not to scale. Follow dimensions.



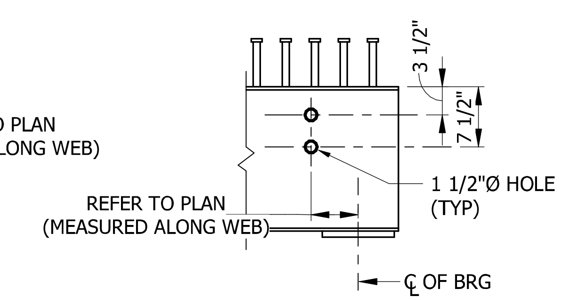
GIRDER PLAN - SPAN 1



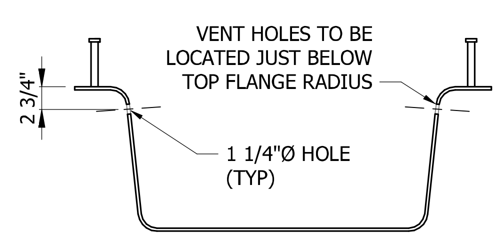
GIRDER ELEVATION - SPAN 1



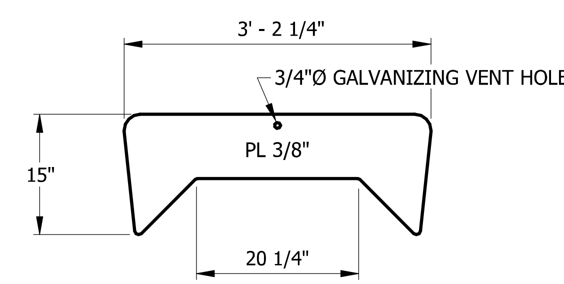
DETAIL A-A



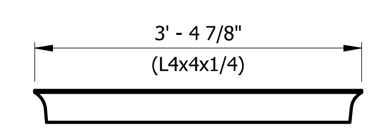
DETAIL B-B



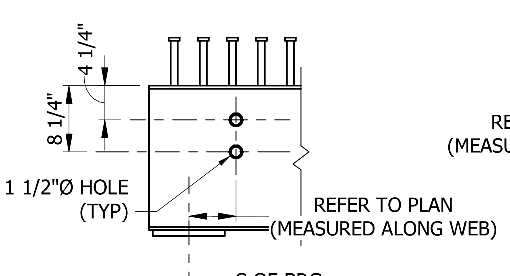
SECTION E-E



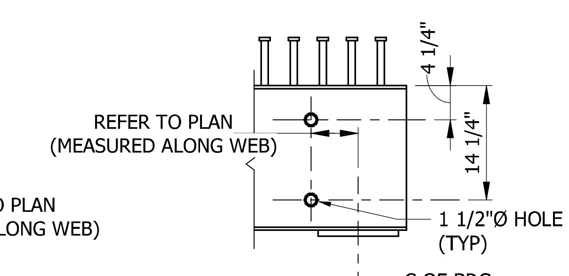
DIAPHRAGM D2 DETAIL



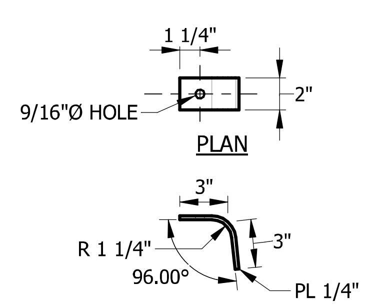
BRACE DETAIL



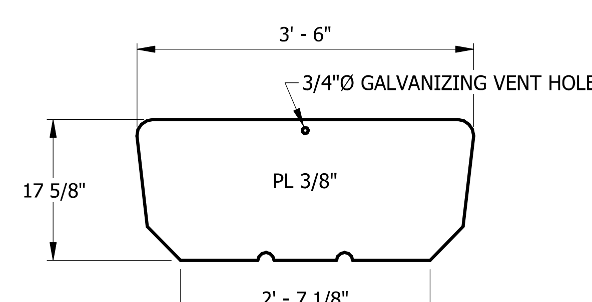
DETAIL C-C



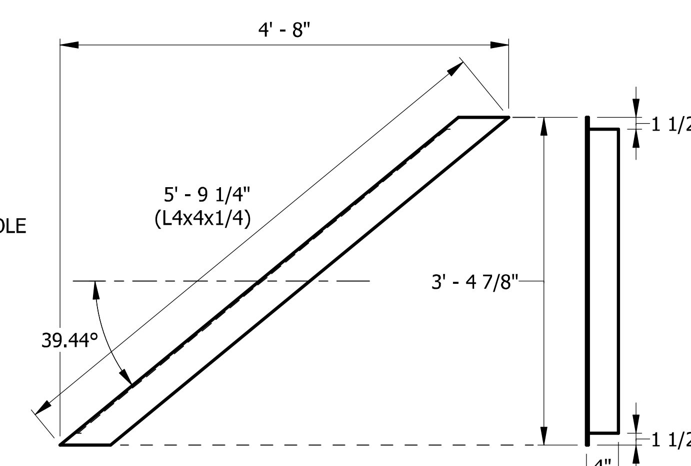
DETAIL D-D



SLAB DRAIN CONNECTION TAB



DIAPHRAGM D3 DETAIL



DIAGONAL BRACE DETAIL

These drawings have been sealed on Aug 02, 2023

STATE OF MISSOURI
OZAN RIDVANOGLU
NUMBER PE-2020014887
PROFESSIONAL ENGINEER

DATE PREPARED	5/19/2023
ROUTE 19	STATE MO
DISTRICT BR	SHEET NO. 18
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

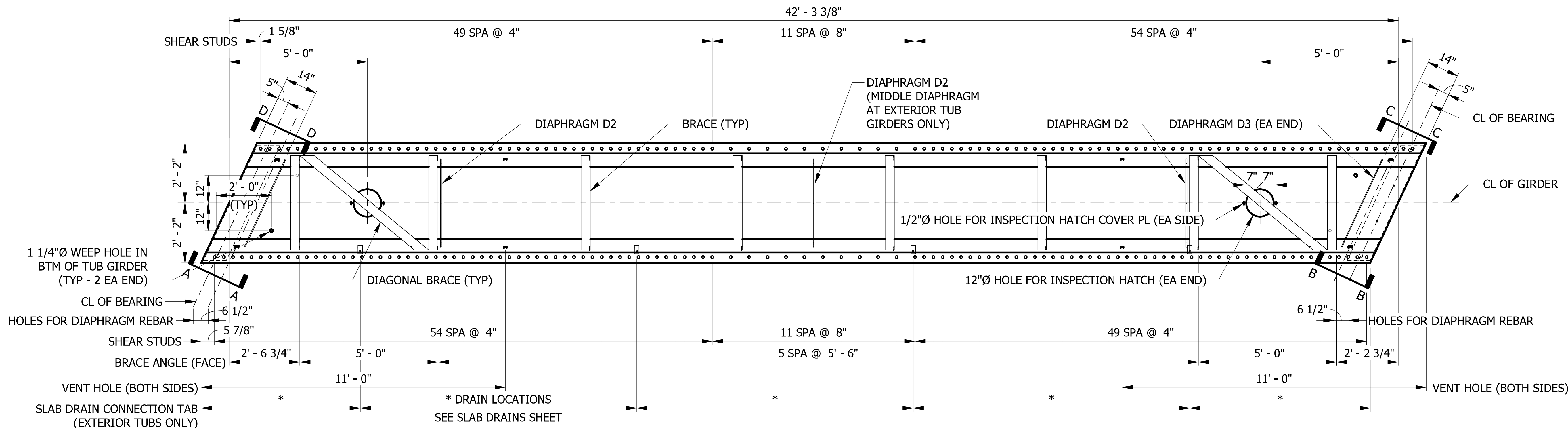
TEGcivil

1505 44TH STREET, SUITE B
WYOMING, MI 49509
PH. (616) 261-8630

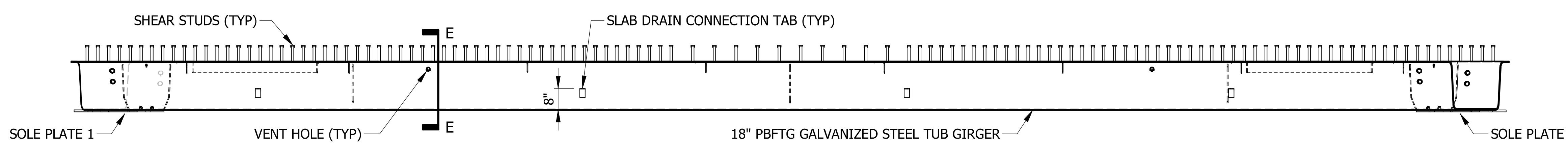
REV.

Detailed MAY 2023
Checked MAY 2023

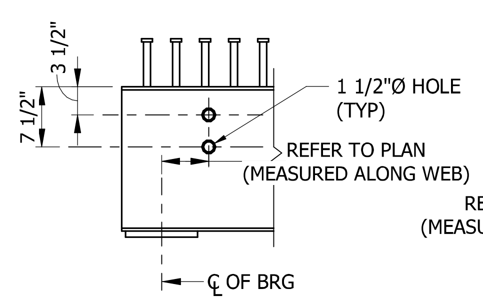
Note: This drawing is not to scale. Follow dimensions.



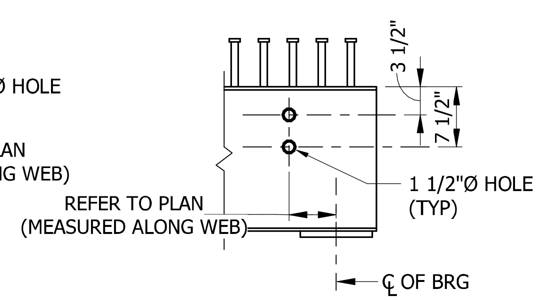
GIRDER PLAN - SPAN 2



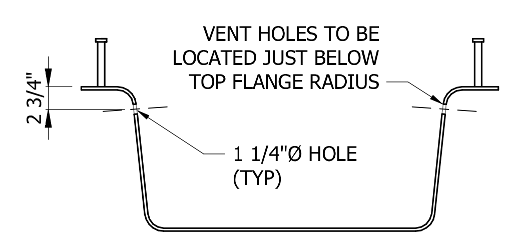
GIRDER ELEVATION - SPAN 2



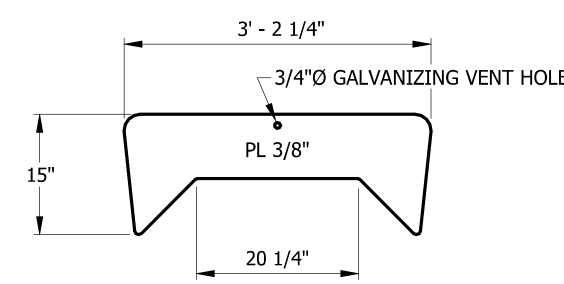
DETAIL A-A



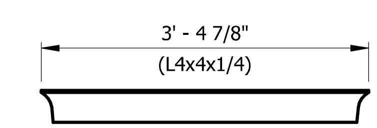
DETAIL B-B



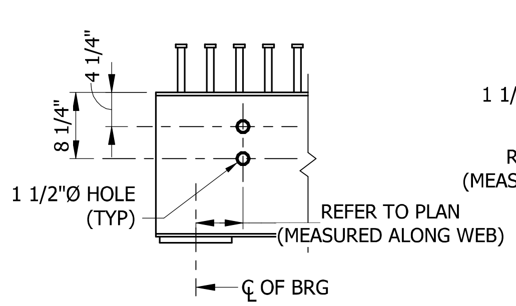
SECTION E-E



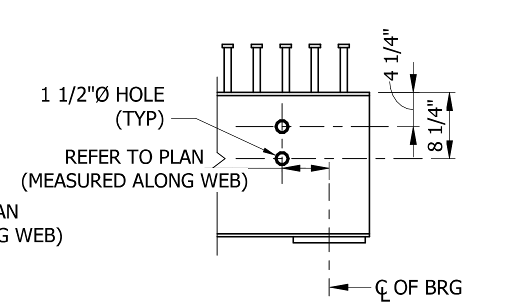
DIAPHRAGM D2 DETAIL



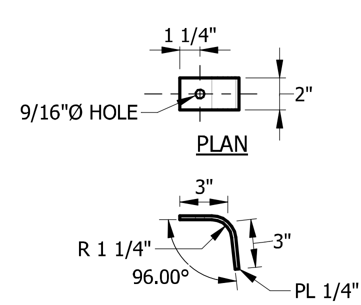
BRACE DETAIL



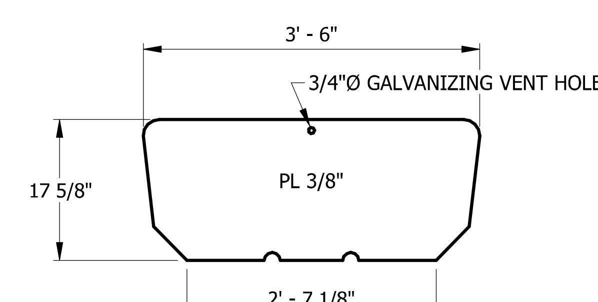
DETAIL C-C



DETAIL D-D



SLAB DRAIN CONNECTION TAB



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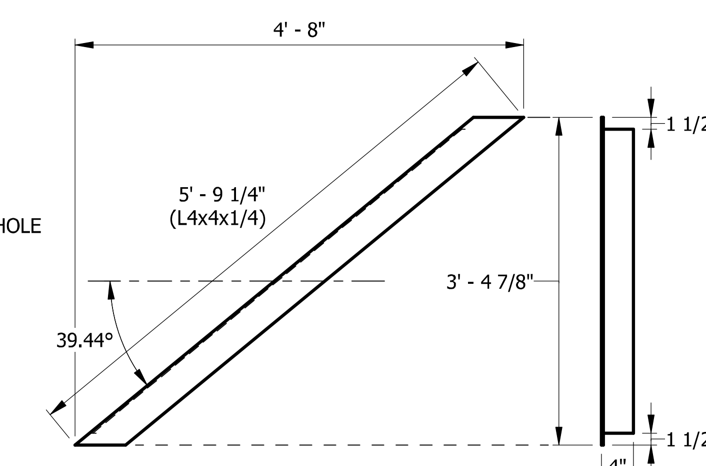

DIAGONAL BRACE DETAIL

DATE PREPARED	
5/19/2023	
ROUTE	STATE
19	MO
DISTRICT	SHEET NO.
BR	19
COUNTY	
GASCONADE	
JOB NO.	
J5P3542	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
J00092	

DESCRIPTION

DATE

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

MoDOT

TEGcivil
1505 44TH STREET, SUITE B
WYOMING, MI 49509
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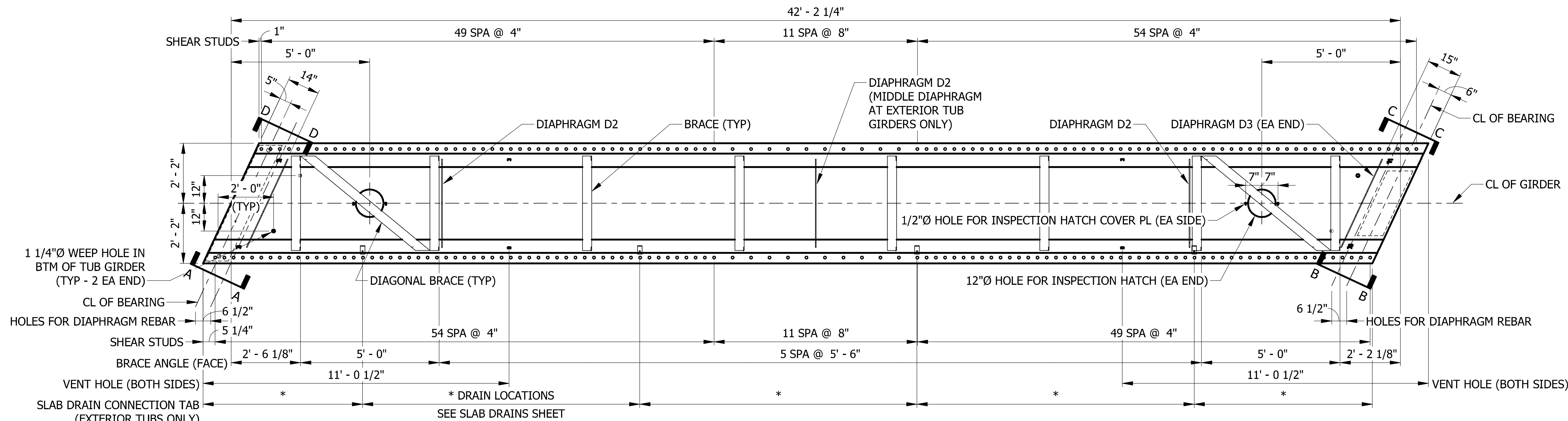
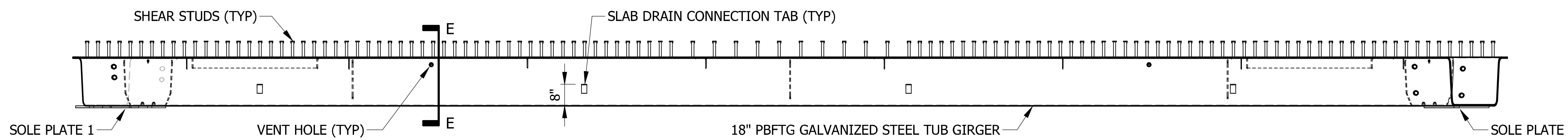
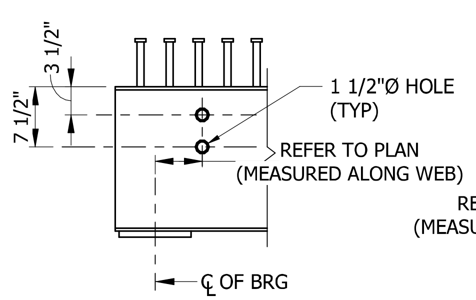
REV.



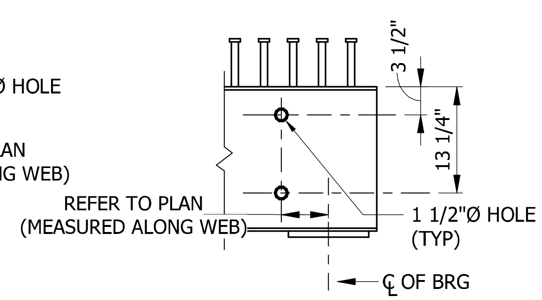
GIRDER PLAN - SPAN 3



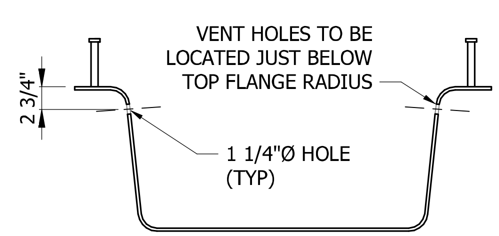
GIRDER ELEVATION - SPAN 3



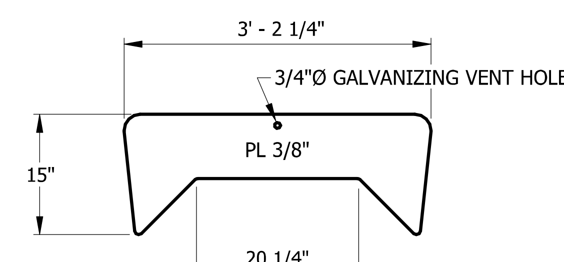
DETAIL A-A



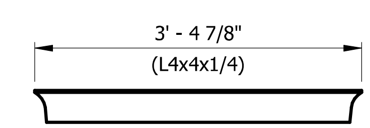
DETAIL B-B



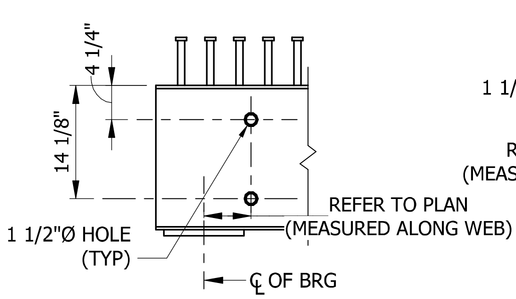
SECTION E-E



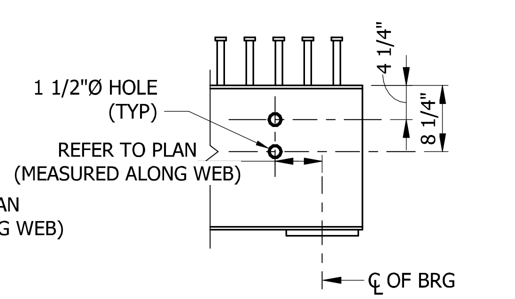
DIAPHRAGM D2 DETAIL



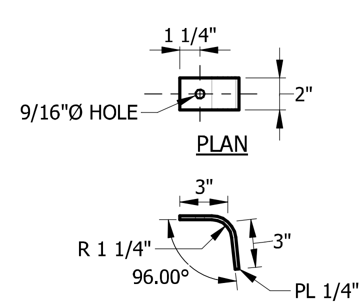
BRACE DETAIL



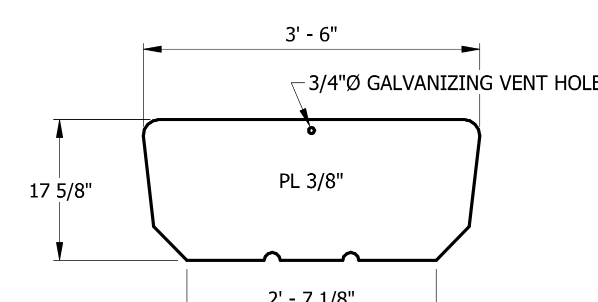
DETAIL C-C



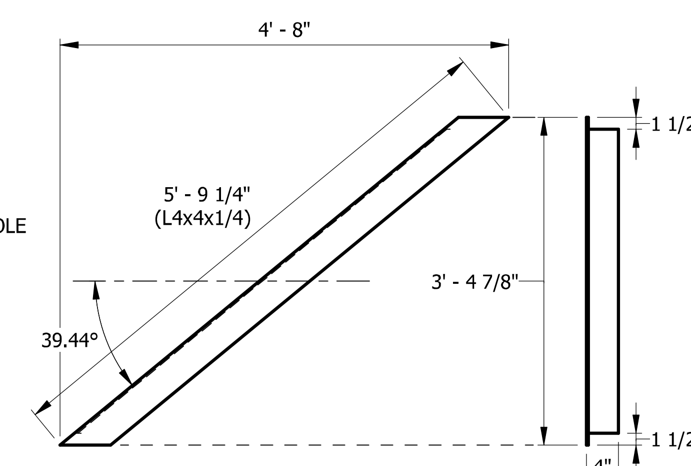
DETAIL D-D



SLAB DRAIN CONNECTION TAB



DIAPHRAGM D3 DETAIL



DIAGONAL BRACE DETAIL

Detailed MAY 2023
Checked MAY 2023

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Sheet No. 20 of 32

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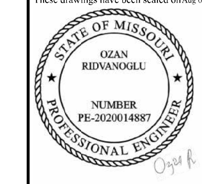


DATE PREPARED	5/19/2023
ROUTE 19	STATE MO
DISTRICT BR	SHEET NO. 20
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION

DATE

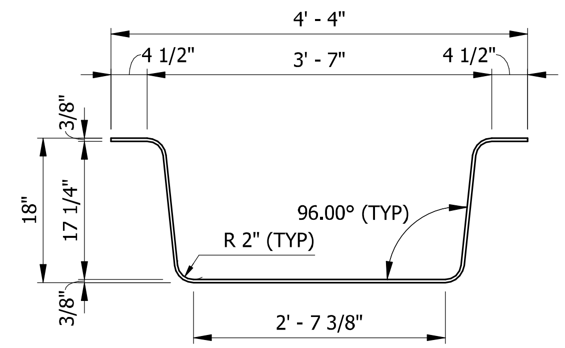
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

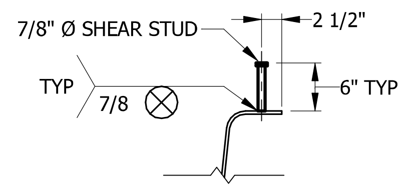
TEGcivil
1505 44TH STREET, SUITE B
WYOMING, MI 49509
PH: (616) 261-8630

REV.

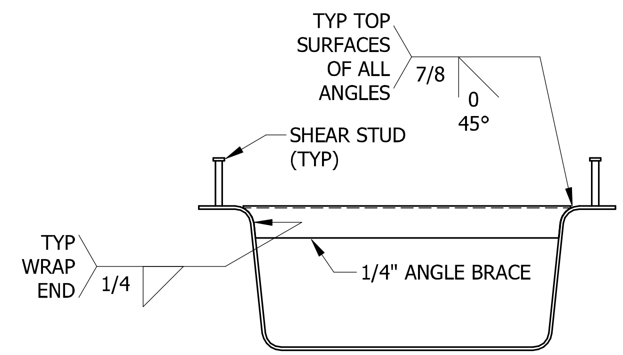
G:\2310102 U-Beam Indefinite Service Delivery\05 May\05 - Gasconade Co, City of Hermann MO, MO Bridge 571583\CAD\Gasconade Co City of Hermann MO Bridge 571583 - Construction Set 2.rvt 05/19/23



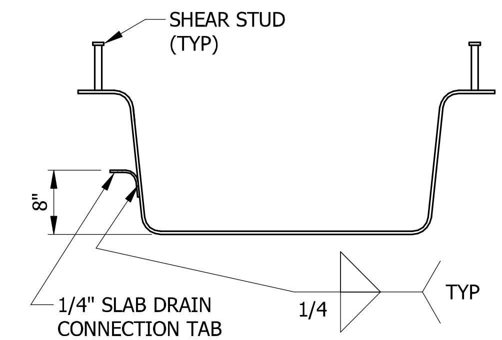
SECTION THRU STEEL GIRDER
(AASHTO M270, ASTM A709 GR50 T2)



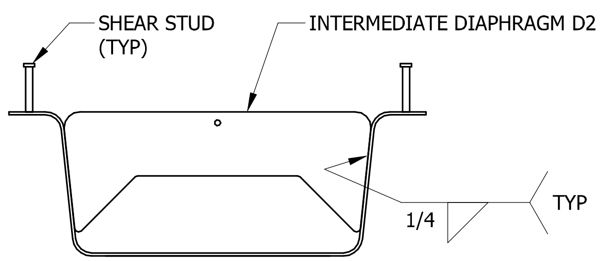
SHEAR STUD DETAIL



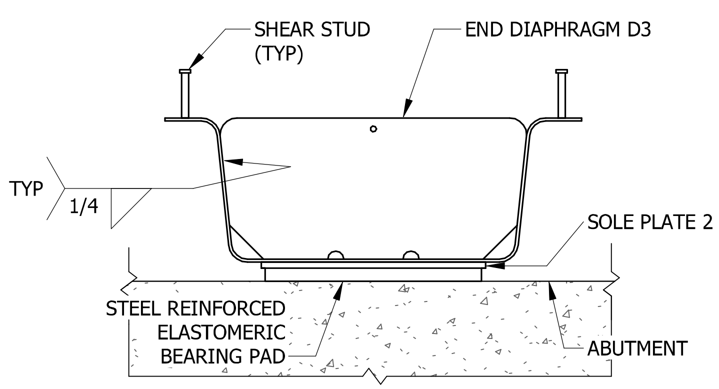
ANGLE BRACE DETAIL



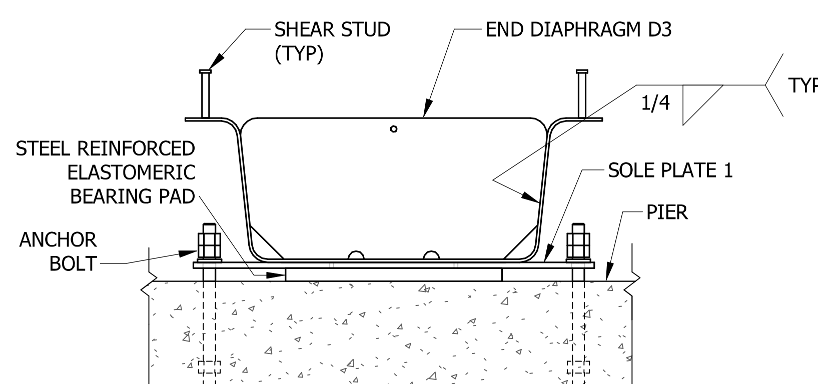
SLAB DRAIN CONNECTION DETAIL



INTERMEDIATE DIAPHRAGM DETAIL



END ELEVATION @ END BENT



END ELEVATION @ INTERMEDIATE BENT

TOLERANCES		
TYPE OF PART	DIMENSIONS	ALLOWABLE DEVIATION FROM NOMINAL
PLASMA CUT PBFTG PLATE (PRIOR TO BENDING)	1. WIDTH	+/- 0.13"
	2. LENGTH (0' - 144")	+/- 0.06"
	3. LENGTH (GREATER THAN 144")	+/- 0.13"
	4. SQUARENESS (0' - 144")	+/- 0.13"
	5. SQUARENESS (GREATER THAN 144")	+/- 0.25"
	6. LAYOUT LINES FOR BENDING	+/- 0.13" IN THE FLAT
PRESS BRAKE BENDING	7. FLAT PATTERN	
	8. LAYOUT LINE VERIFICATION	+/- 0.13" IN THE FLAT
	9. BEND LOCATION	+/- 0.13" AFTER FORMING
	10. FORMED ANGLES	+/- 1.00°
COMPONENT PARTS	11. WIDTH OR LENGTH	+/- 0.13" IN THE FLAT
	12. LENGTH	+/- 0.13" IN THE FLAT
	13. HOLE LOCATION	+/- 0.03"
	14. BOLT HOLE SPACING	+/- 0.03"
	15. DRILL HOLE SIZE	+ 0.03", - 0"
	16. THERMAL CUT HOLE SIZE	+ 0.03" LONG, + 0.06" WIDE
	17. INSPECTION ACCESS PORTAL	+/- 0.25"
	18. SOLE PLATE FLATNESS AFTER WELDING	+/- 0.06"
PBFTG ASSEMBLY	19. LINEAR DIMENSIONS AND ASSEMBLY COMPONENTS (UNLESS NOTED OTHERWISE ON THE DRAWING)	+/- 0.06"
	20. HOLE LOCATION	+/- 0.03"
	21. BOLT HOLE SPACING	+/- 0.03"
	22. DRILL HOLE SIZE	+ 0.03", - 0"
	23. THERMAL CUT HOLE SIZE	+ 0.03" LONG, + 0.06" WIDE
	24. SLOTTED HOLE SIZE	+ 0.13"
	25. BOLTED SPLICE GAP AT ENDS	+ 0.13", - 0.19"
	26. STUD START LOCATION	+/- 0.06"
	27. CAMBER (LENGTH 0" TO 600")	+ 0.25"
	28. CAMBER (FOR EVERY 120" IN EXCESS OF 600")	ADDITIONAL + 0.13"
	29. ANGLE FROM SQUARE	+/- 1°
	30. STUD TO STUD SPACING	
	LONGITUDINAL	+/- 0.13"
	ACROSS	+/- 0.25"
	31. STUD ANGULARITY	+/- 2°

These drawings have been sealed on Aug 02, 2023

STATE OF MISSOURI
OZAN
RIDVANOGLU
NUMBER
PE-2020014887
PROFESSIONAL ENGINEER

DATE PREPARED	
5/19/2023	
ROUTE	STATE
19	MO
DISTRICT	SHEET NO.
BR	21
COUNTY	
GASCONADE	
JOB NO.	
J5P3542	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
J00092	

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

1505 44TH STREET, SUITE B
WYOMING, MI 49509
PH. (616) 261-8630

REV.

Detailed MAY 2023
Checked MAY 2023

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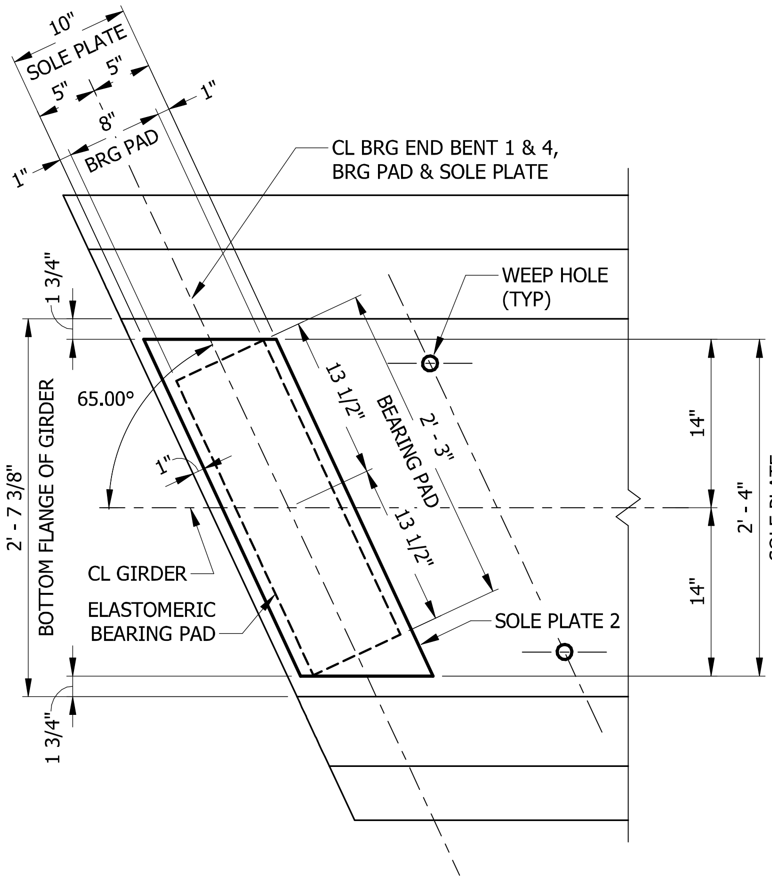
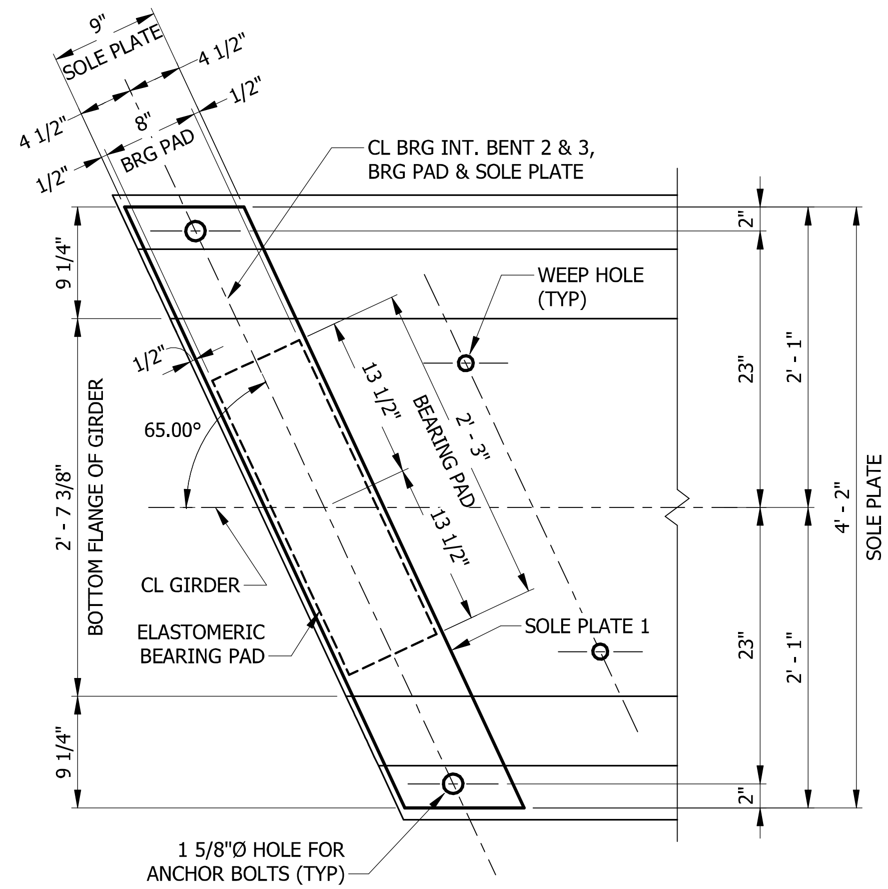
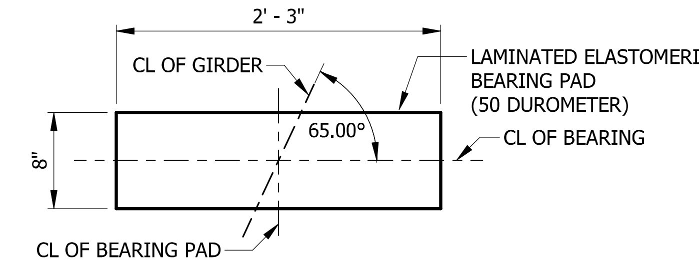
G:\2310102 U-Beam Indefinite Service Delivery\05 May\05 - Gasconade Co, City of Hermann MO, MO Bridge 571583\CAD\Gasconade Co City of Hermann MO Bridge 571583 - Construction Set 2.rvt 05/19/23



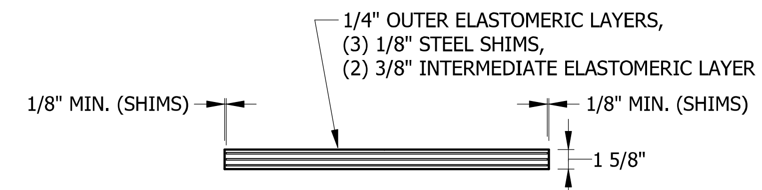
BEARING PLAN - END BENT (TYP)



BEARING PLAN - INTERMEDIATE BENT (TYP)

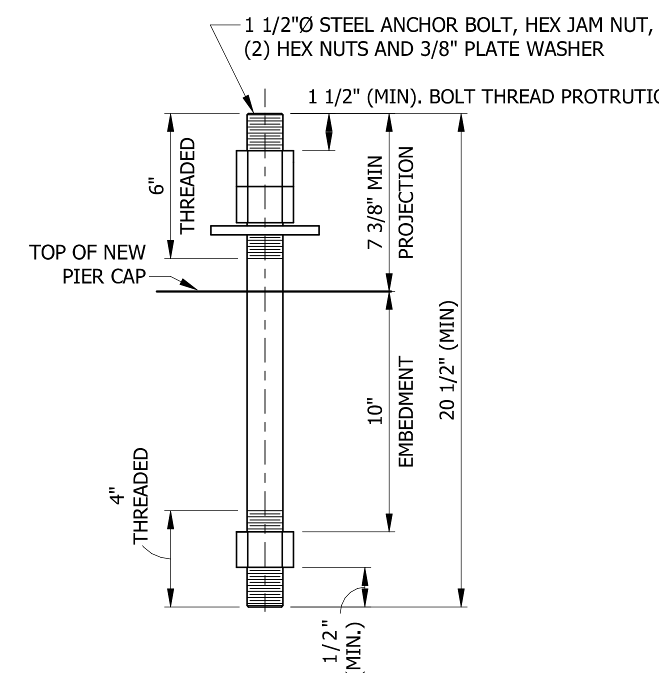


PLAN OF ELASTOMERIC PAD



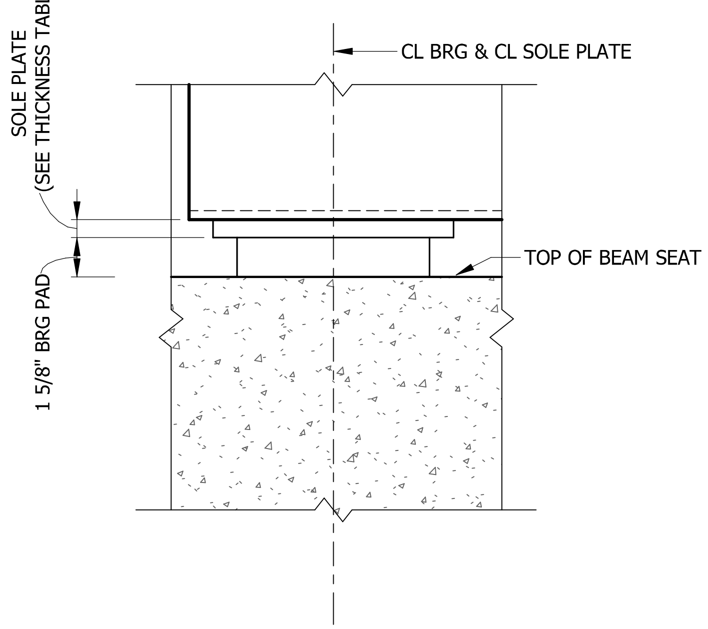
ELEVATION

BEARING PAD DETAIL

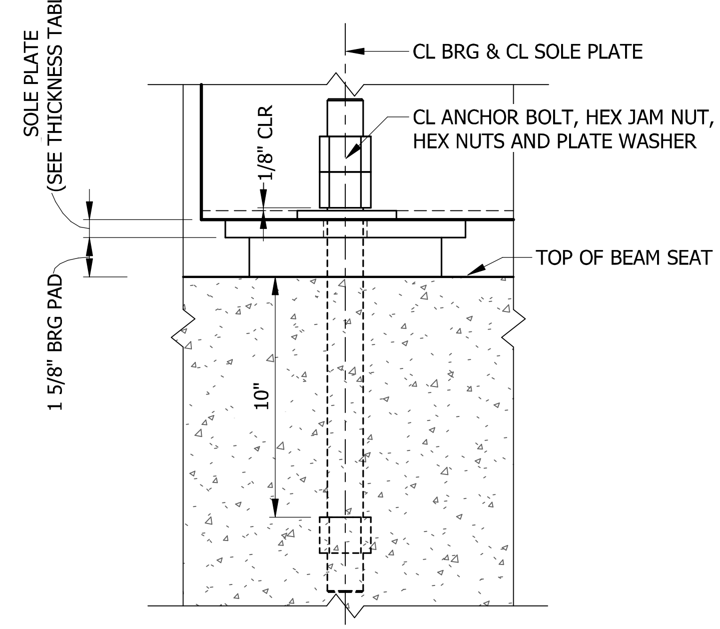


ANCHOR BOLT DETAIL

ANCHOR BOLTS TO BE ASTM F1554 GRADE 105



BEARING ELEVATION - END BENT



BEARING ELEVATION - INTERMEDIATE BENT

SOLE PLATE THICKNESSES

LOCATION	G1	G2	G3	G4	G5
END BENT 1	3/4"	3/4"	3/4"	3/4"	3/4"
INT BENT 2	3/4"	3/4"	3/4"	3/4"	3/4"
INT BENT 3	3/4"	3/4"	3/4"	3/4"	3/4"
END BENT 4	3/4"	3/4"	3/4"	3/4"	3/4"

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STATE OF MISSOURI
OZAN RIDVANOGLU
NUMBER PE-2020014887
PROFESSIONAL ENGINEER

DATE PREPARED	
5/19/2023	
ROUTE 19	STATE MO
DISTRICT BR	SHEET NO. 22
COUNTY GASCONADE	
JOB NO. J5P3542	
CONTRACT ID.	
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BRIDGE NO. J00092	

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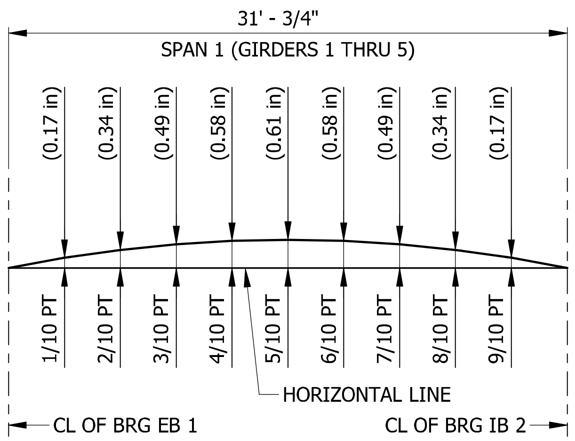
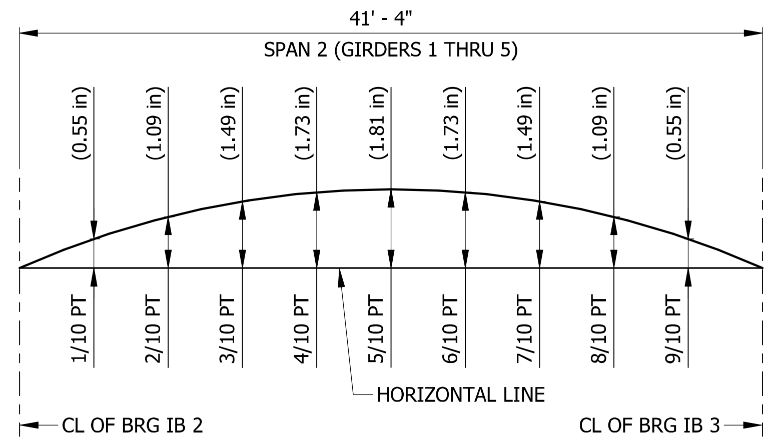


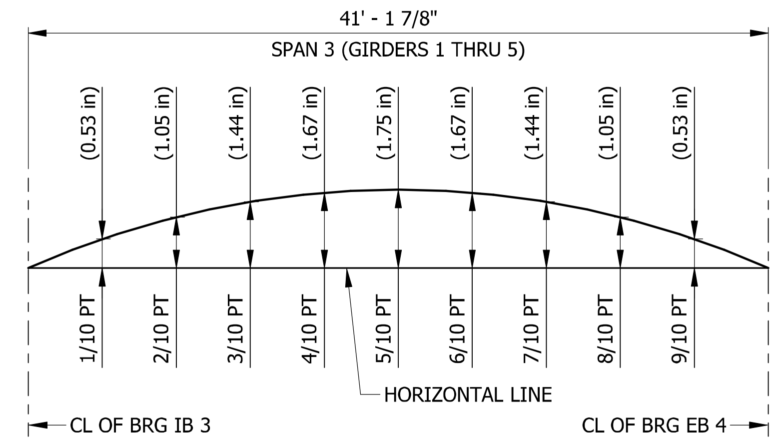
CAMBER DIAGRAM

CAMBER INCLUDES ALLOWANCE FOR VERTICAL CURVE AND DEAD LOAD DEFLECTION DUE TO CONCRETE SLAB, BARRIER, AND STRUCTURAL STEEL.



CAMBER DIAGRAM

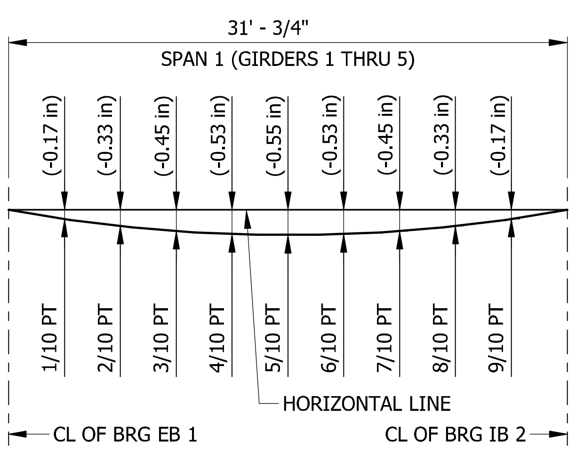
CAMBER INCLUDES ALLOWANCE FOR VERTICAL CURVE AND DEAD LOAD DEFLECTION DUE TO CONCRETE SLAB, BARRIER, AND STRUCTURAL STEEL.



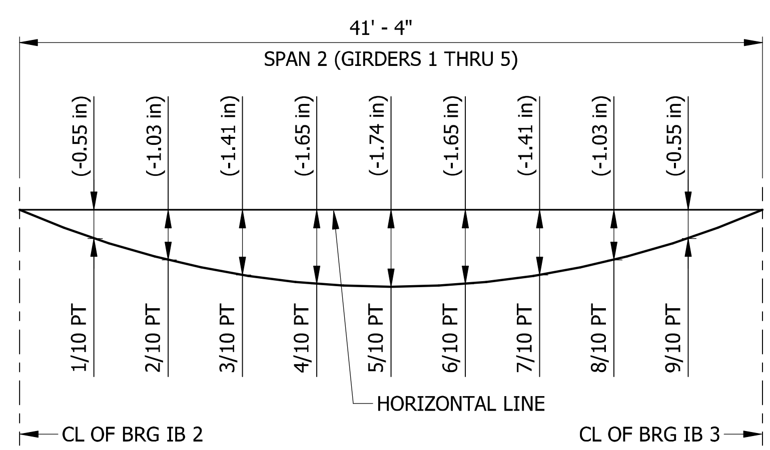
CAMBER DIAGRAM

CAMBER INCLUDES ALLOWANCE FOR VERTICAL CURVE AND DEAD LOAD DEFLECTION DUE TO CONCRETE SLAB, BARRIER, AND STRUCTURAL STEEL.

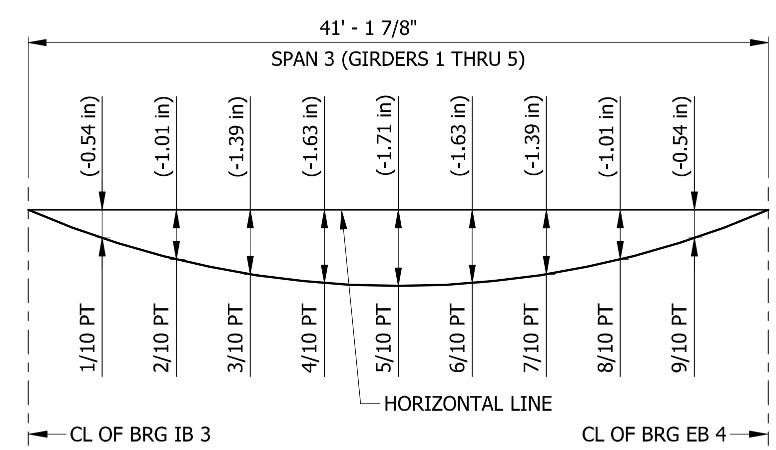
NOTE: BOTTOM OF SLAB TO TOP OF WEB MAY VARY IF THE GIRDER CAMBER AFTER ERECTION DIFFERS FROM PLAN CAMBER BY MORE OR LESS THAN THE % OF DEAD LOAD DEFLECTION DUE TO WEIGHT OF STRUCTURAL STEEL. NO PAYMENT WILL BE MADE FOR ANY ADJUSTMENT IN FORMING OR ADDITIONAL CONCRETE REQUIRED FOR VARIATION IN HAUNCHING.



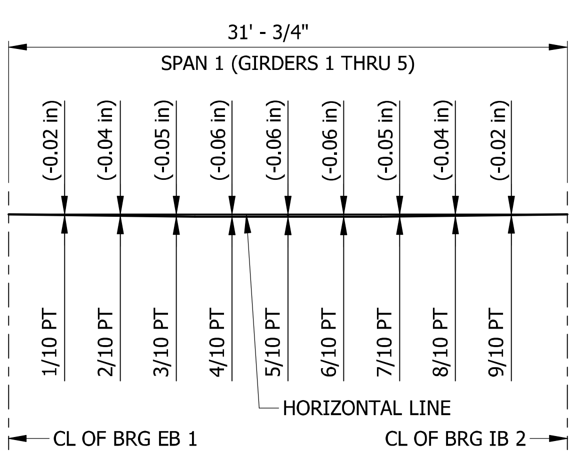
DEAD LOAD DEFLECTION DIAGRAM



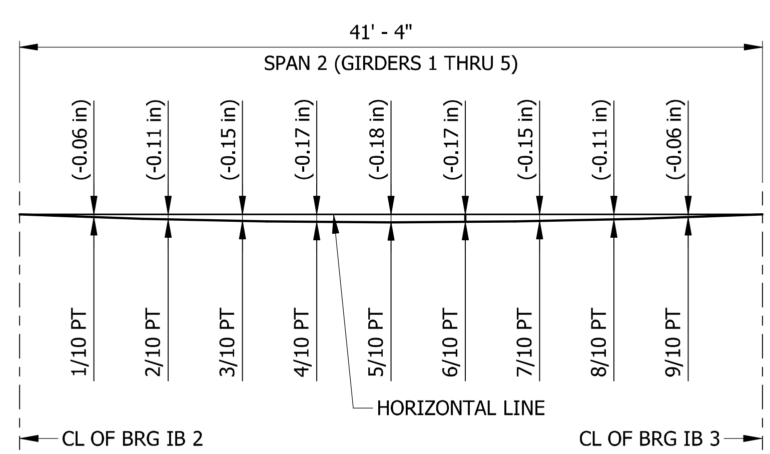
DEAD LOAD DEFLECTION DIAGRAM



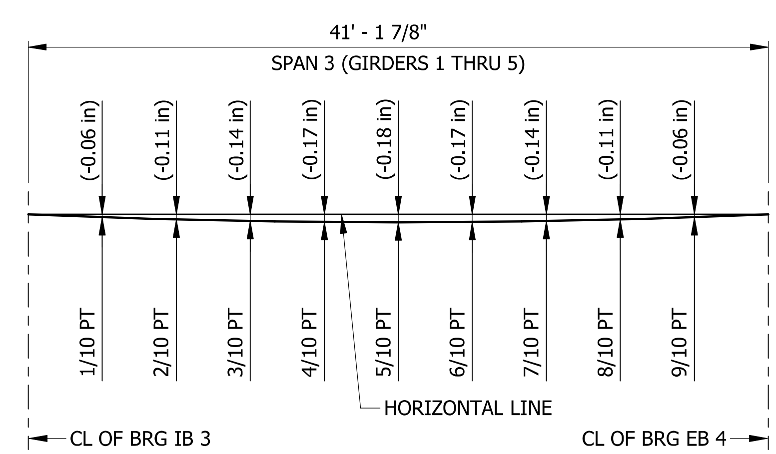
DEAD LOAD DEFLECTION DIAGRAM



STEEL DEFLECTION DIAGRAM



STEEL DEFLECTION DIAGRAM



STEEL DEFLECTION DIAGRAM

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STATE OF MISSOURI
OZAN RIDVANOGLU
NUMBER PE-2020014887
PROFESSIONAL ENGINEER

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COUNTY GASCONADE	
JOB NO. J5P3542	
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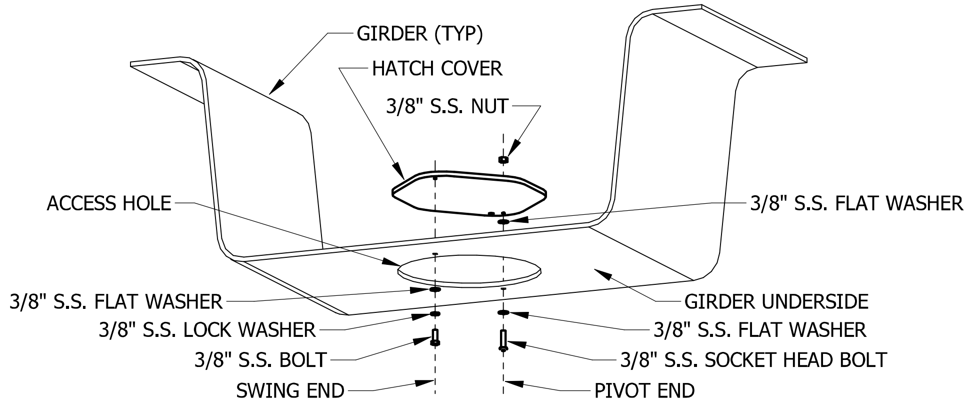
Checked MAY 2023

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

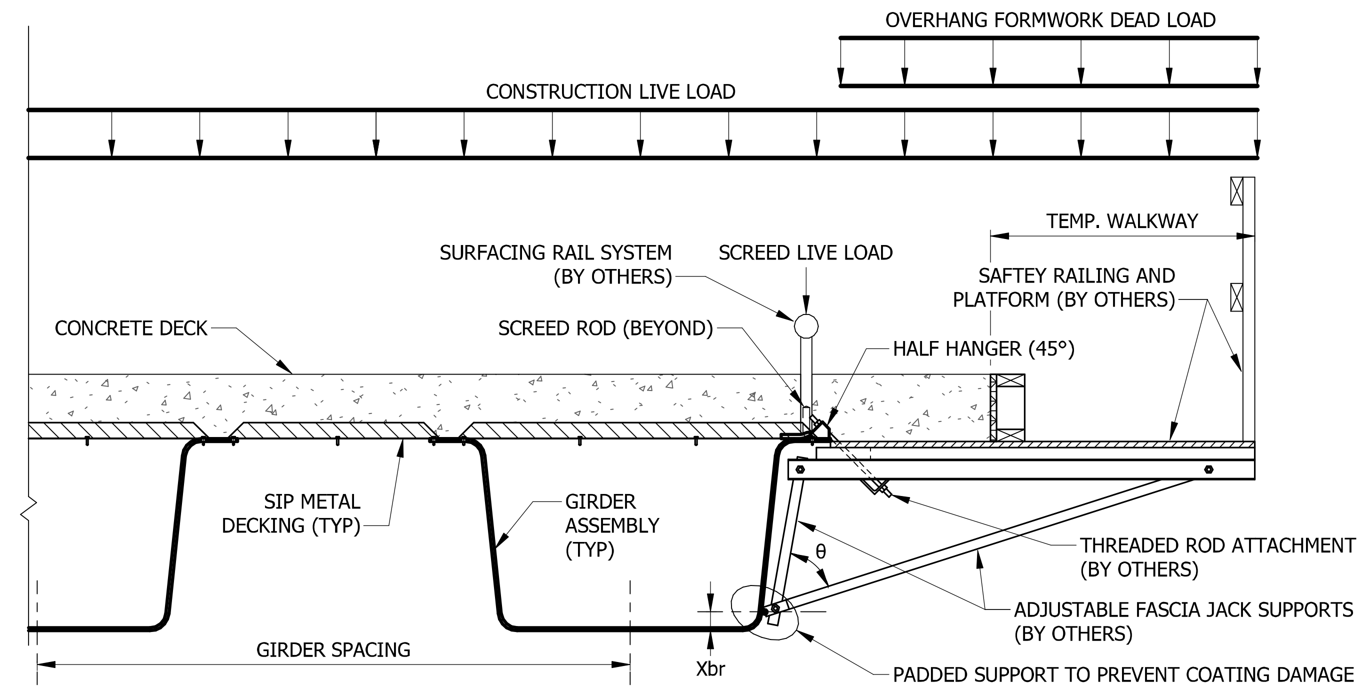
G:\2310102 U-Beam Indefinite Service Delivery\05 May\05 - Gasconade Co, City of Hermann MO, MO Bridge 571583\CAD\Gasconade Co City of Hermann MO Bridge 571583 - Construction Set 2.rvt 05/19/23



FIELD INSTALLATION INSTRUCTIONS:

- WORKING FROM THE UNDERSIDE OF THE GIRDER, ORIENTATE HATCH COVER SUCH THAT THE COVER FITS THROUGH THE OPENING ON LOWER FLANGE OF GIRDER. INSERT COVER THROUGH HOLE & SET OUT OF THE WAY OF SMALL MOUNTING HOLES.
- PLACE (1) WASHER ON THE INSIDE OF THE GIRDER FLANGE ALIGNING WITH HOLE AS SHOWN ON PIVOT END.
- ALIGN PIVOT END HOLE OF HATCH COVER WITH WASHER & LOWER FLANGE HOLE (WASHER SANDWICHED BETWEEN HATCH COVER & BOTTOM FLANGE OF GIRDER).
- WITH HOLES ALIGNED, & THE COVER RESTING ON THE WASHER, FROM THE UNDERSIDE, INSERT A 3/8" x 1-1/2" BUTTON HEAD BOLT & FLAT WASHER, THROUGH GIRDER & THE INSIDE WASHER, & THREAD INTO HATCH COVER HOLE.
- TIGHTEN BOLT SUCH THAT THE HATCH COVER CAN FREELY ROTATE ABOUT BOLT.
- PLACE NUT ON PROTRUDING END OF BOLT & TIGHTEN WHILE PREVENTING BOLT FROM TURNING, TO SECURE BOLT TO HATCH COVER, CREATING A PIVOT POINT FOR THE HATCH COVER. THERE SHOULD BE A SLIGHT GAP BETWEEN HATCH COVER, WASHER, & GIRDER. THE HATCH COVER SHOULD ROTATE & PIVOT FREELY.
- ROTATE HATCH COVER TO ALIGN WITH OTHER HOLE IN GIRDER WITH OTHER SIDE OF COVER PLATE.
- FROM THE UNDERSIDE, INSERT 3/8" HEX HEAD BOLT WITH FLAT WASHER AND LOCK WASHER & THREAD INTO HOLE ON COVER PLATE.
- TIGHTEN BOLT TO SECURE HATCH COVER TO GIRDER.

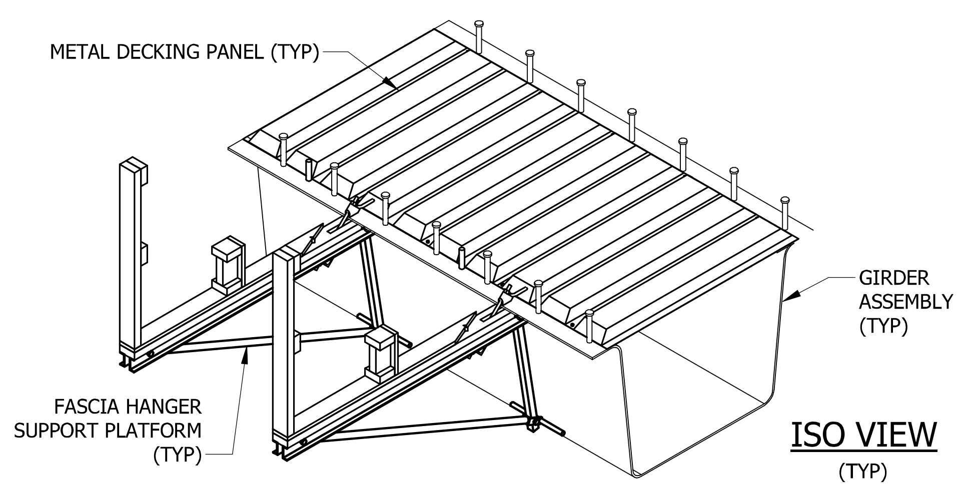
ACCESS HATCH COVER ASSEMBLY DETAIL



NOTES:

- "TEE" BOTTOM SUPPORT TO BE MAX 3" FROM BOTTOM OF GIRDER ASSEMBLY (Xbr).
- ALTERNATE SCREED RAIL SYSTEMS WHERE SCREED IS SUPPORTED BY THE FASCIA SUPPORT INSTEAD OF GIRDER TOP FLANGE CAN BE USED.
- OVERHANG FORMWORK DEAD LOAD IS TAKEN AS 25 PSF AND APPLIED TO FULL SPAN LENGTH.
- SCREED LIVE LOAD IS TAKEN AS 300 PLF AND APPLIED AS 10 FT LONG DISTRIBUTED MOVING LOAD ALONG THE SPAN.
- CONSTRUCTION LIVE LOAD IS TAKEN AS 20 PSF AND APPLIED AS A 20 FT LONG DISTRIBUTED MOVING LOAD CENTERED ON SCREED LIVE LOAD.
- TEMPORARY WALKWAY WIDTH IS TAKEN AS 2' - 6".

CONSTRUCTION FRAMING & LOADS DIAGRAM (SIP FORMS BETWEEN BEAMS)



ISO VIEW
(TYP)

NOTES:

1) SIP METAL DECKING PANELS SHALL BE FASTENED TO TOP FLANGES PRIOR TO APPLYING ANY KIND OF CONSTRUCTION LOADS.

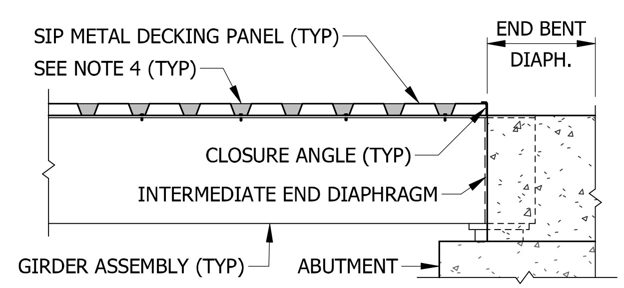
2) ALL HARDWARE TO BE GALVANIZED PER ASTM A-924/A924M, COATING G210.

3) SIP METAL DECKING PANELS SHALL BEAR A MINIMUM 1" ON ALL SUPPORTS.

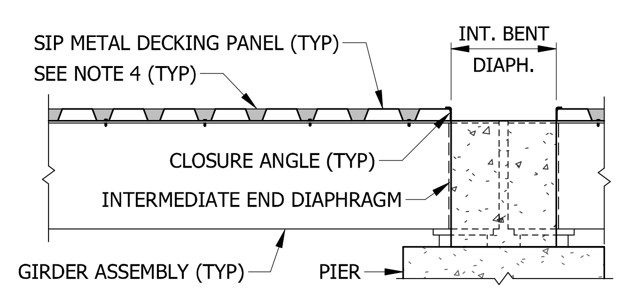
4) STYROFOAM SHALL BE PLACED IN CORRUGATIONS.

5) SIP METAL DECKING FORMWORK AND CLOSURE ANGLE THICKNESS IS 0.03 in. (22 GA.).

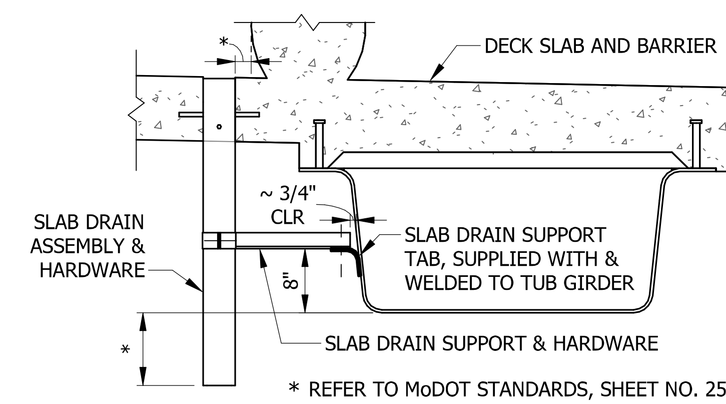
METAL DECKING



ELEVATION AT END BENT

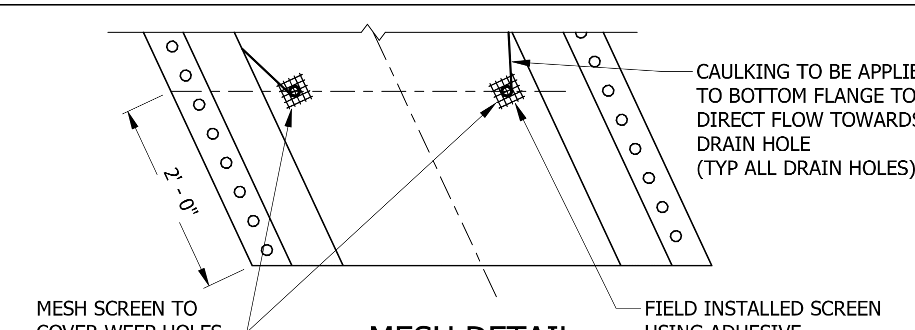


ELEVATION AT INT. BENT



* REFER TO MoDOT STANDARDS, SHEET NO. 25

SLAB DRAIN SUPPORT



MESH DETAIL

These drawings have been sealed on Aug 07, 2023

STATE OF MISSOURI
OZAN RIDVANOGLU
NUMBER PE-2020014887
PROFESSIONAL ENGINEER

DATE PREPARED: 5/19/2023

ROUTE	STATE
19	MO
DISTRICT	SHEET NO.
BR	24

COUNTY: GASCONADE

JOB NO.: J5P3542

CONTRACT ID.

PROJECT NO.

BRIDGE NO.: J00092

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

TEGcivil

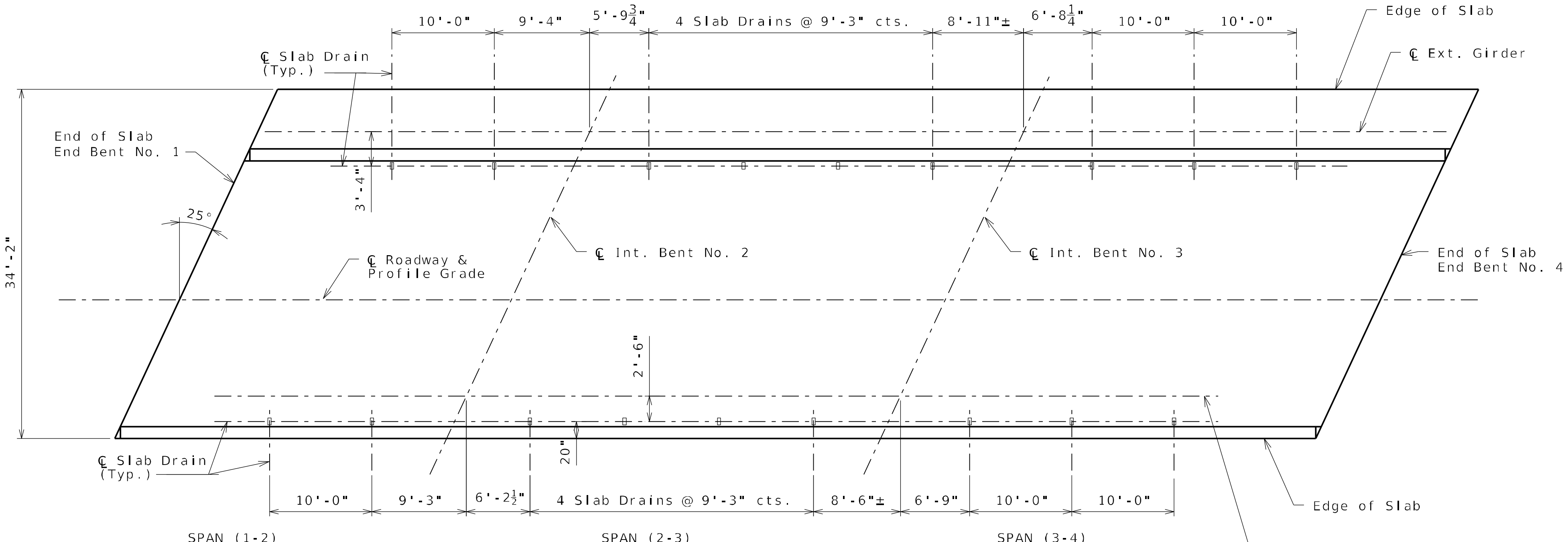
1505 44TH STREET, SUITE B
WYOMING, MI 49509
PH. (616) 261-8630

REV.

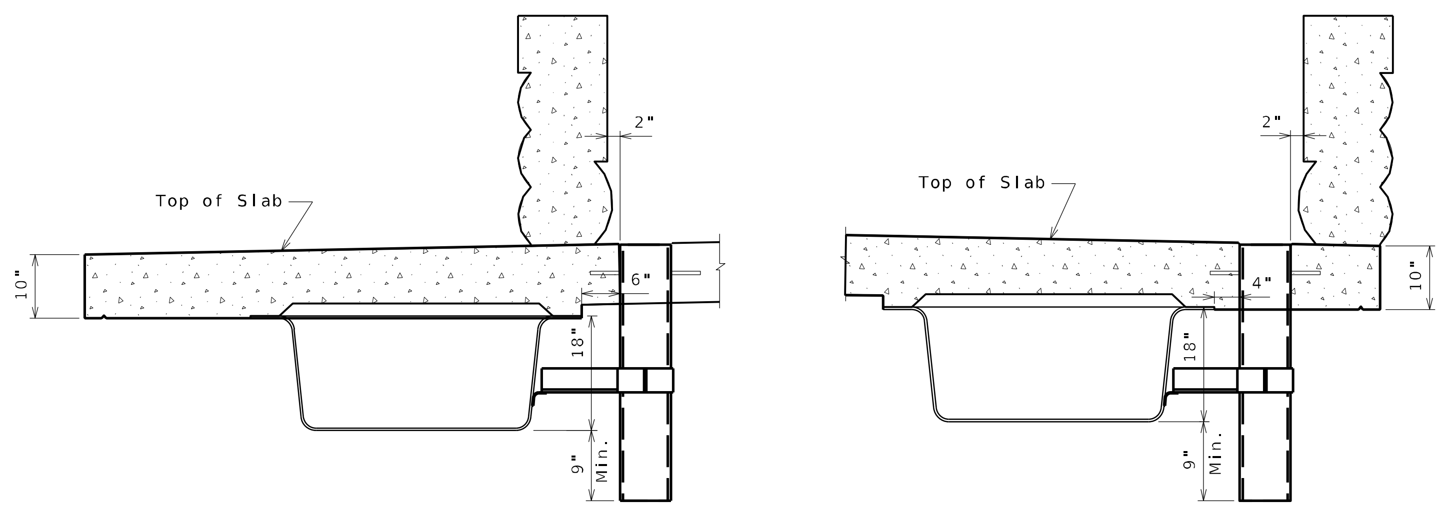
Detailed MAY 2023
Checked MAY 2023

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

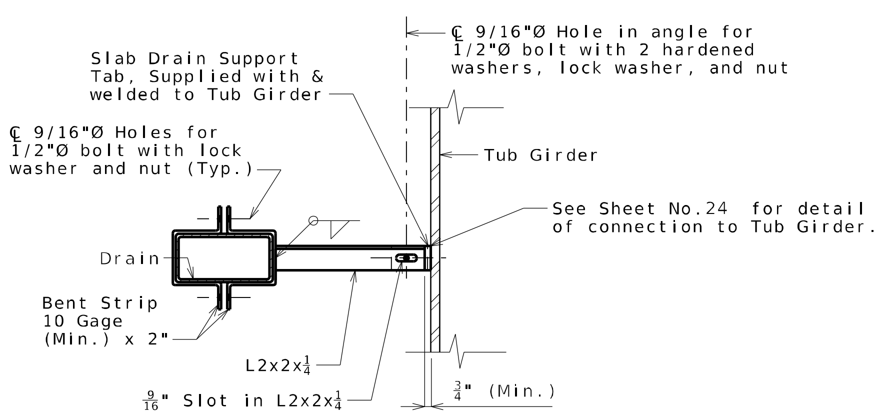
G:\2310102 U-Beam Indefinite Service Delivery\05 May\05 - Gasconade Co, City of Hermann MO, MO Bridge 571583\CAD\Gasconade Co City of Hermann MO Bridge 571583 - Construction Set 2.rvt   05/19/23



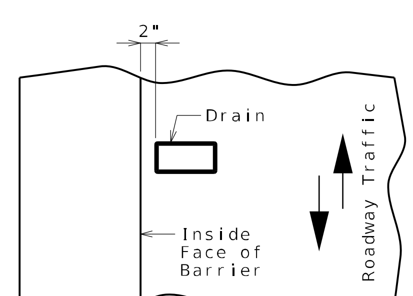
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



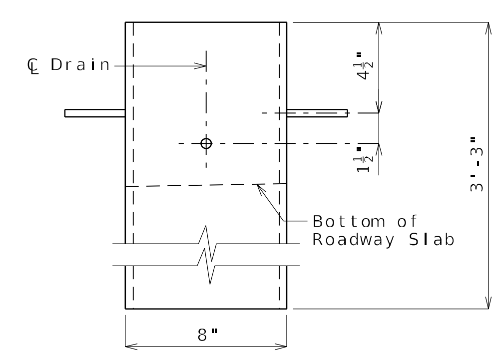
PART SECTION NEAR DRAIN



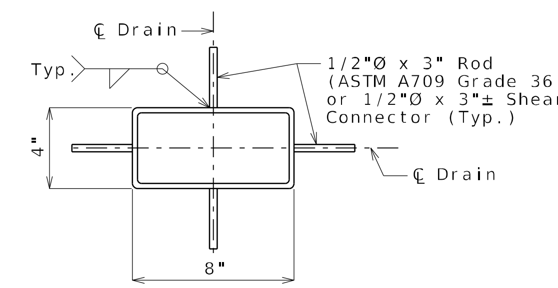
PART SECTION SHOWING BRACKET ASSEMBLY



PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION

General Notes:

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-inch diameter 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 located on the plate girder shop drawings.

Notes for Steel Drain:

Slab drains may be fabricated of either 1/4-inch welded sheets of ASTM A709 Grade 36 steel or from 1/4-inch 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.

SLAB DRAINS

STATE OF MISSOURI DENNIS W. HECKMAN NUMBER E-27141

DATE PREPARED	8/14/2023
ROUTE	19
STATE	MO
DISTRICT	BR
SHEET NO.	25
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

6220 Oakland Avenue
St. Louis, MO 63110
314.863.5570

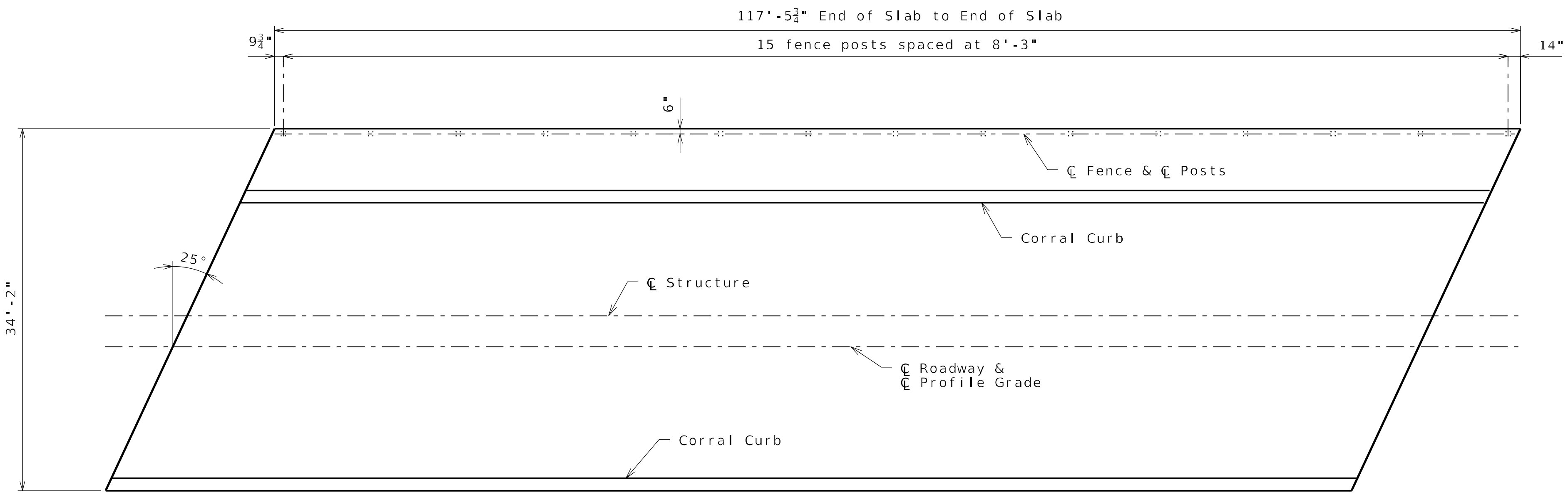
CIVIL DESIGN, INC.
Missouri State Certificate of Authority #2000004804

REV.

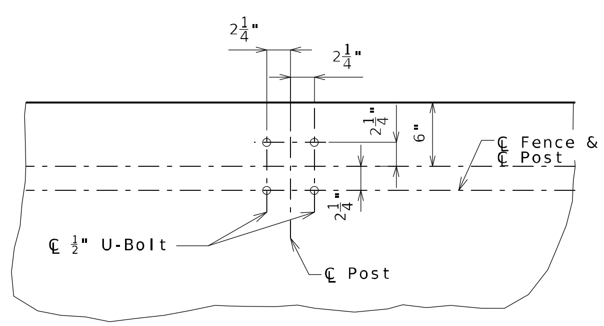
Detailed MAY 2023
Checked MAY 2023

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

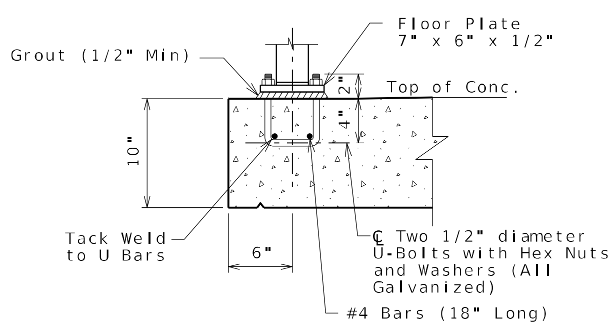
P:\5XXX\56XX-57XX\5784 - MoDOT Hermann Bridge\24-Structures\CAD\B_J00092_025_J5P3542_Slab_Drains.dgn 7:33:51 AM 8/14/2023



PLAN OF FENCE POST ANCHOR LOCATIONS



DETAIL OF BOLT LAYOUT



RAIL-POST CONNECTION

Notes:

Decorative pedestrian fencing shall be in accordance with 2010 AASHTO LRFD Bridge Design Specifications and 2010 Interim Revisions. The design line load for pedestrian railings will not require a 50 lb/ft and 200 lb load be applied simultaneously. The posts of pedestrian railing will require both loadings applied simultaneously.

Fence shall have a gloss black finish (Federal Standard #17038) System G in accordance with Sec 1081.

Base plate shall be ASTM A709, Grade 36.

Dimensions of pedestrian fence are measured horizontally.

Measurement of pedestrian fence will be made to the nearest linear foot along centerline fence.

Payment for furnishing and erecting the fence, complete in place, with U-bolts, washers and #4 bars will be considered completely covered by the contract unit price for 60 in. Decorative Pedestrian Fence (Structures).

All fence posts shall be vertical.

Substitution for the U-bolts on the decorative pedestrian fence will not be permitted.

Mortar shall be placed under the post base plates in accordance with Sec 1066.

Contractor shall submit complete detailed shop drawings in accordance with Sec 1080.

The contractor shall have the decorative pedestrian fencing manufacturer submit structural design computations signed and sealed by a registered professional engineer in the State of Missouri.

All materials used in fabrication and construction of the decorative pedestrian fencing shall be in accordance with the manufacturer's specifications, except as modified in the contract documents.

For details of Decorative Pedestrian Fence, see Sheet No. 30.

The contractor shall field verify the location of the post anchoring system prior to construction of the pedestrian fence.

PEDESTRIAN FENCE BOLT LAYOUT

Detailed MAY 2023
Checked MAY 2023

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

STATE OF MISSOURI
DENNIS W. HECKMAN
NUMBER
E-27141

DATE PREPARED	8/14/2023
ROUTE 19	STATE MO
DISTRICT BR	SHEET NO. 26
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION
DATE

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

6220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
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Missouri State Certificate
of Authority #2000000804

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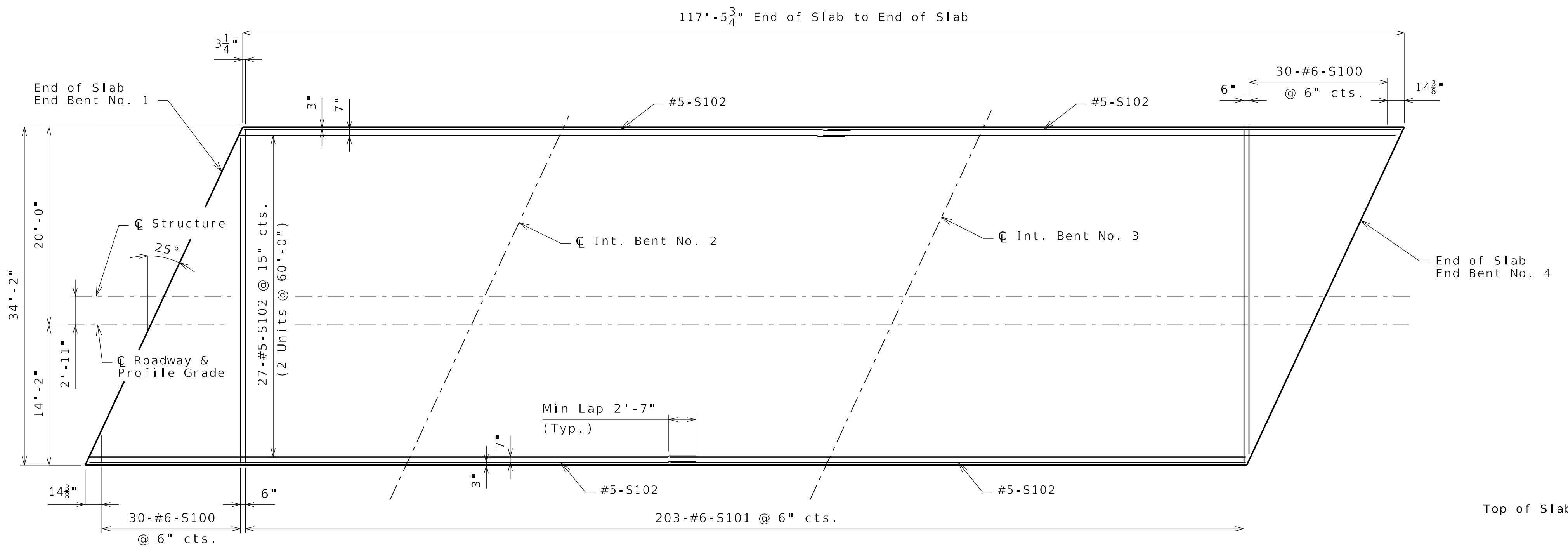
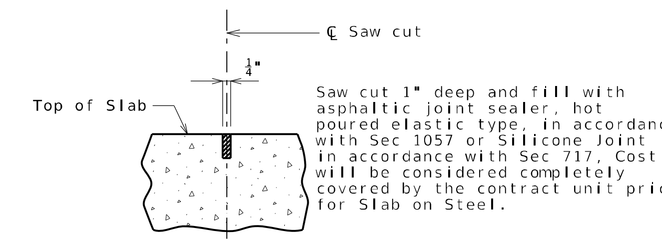
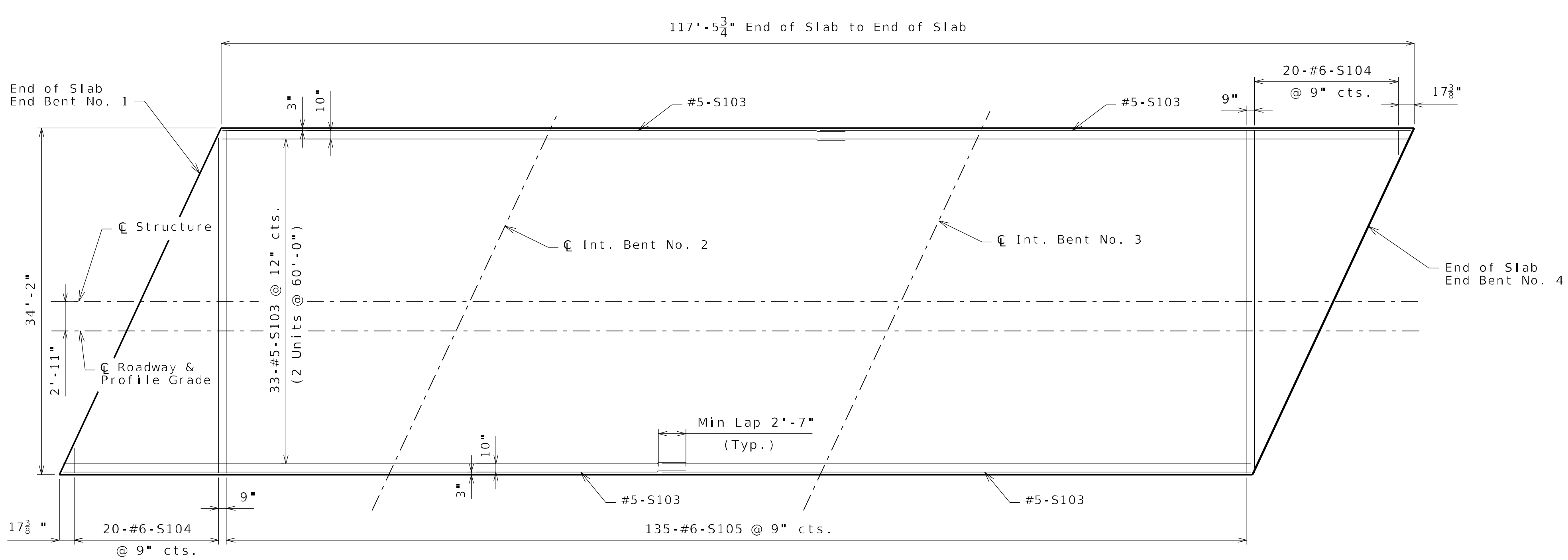


SLAB PLAN SHOWING TOP REINFORCEMENT



TYPICAL SECTION THRU SAW CUT
AT ℄ INTERMEDIATE BENTS



SLAB PLAN SHOWING BOTTOM REINFORCEMENT

Notes:

Longitudinal Dimensions shown are horizontal.

For Section Thru Slab see Sheet No. 28.

For Details and Reinforcement at Corral Curb not shown, see Sheet No. 29.

For Details of Stay-In-Place Forms, see Sheet No. 21.

For details of locations of Slab Drains, see Sheet No. 25.

PLAN OF SLAB
SHOWING REINFORCEMENT

Detailed MAY 2023
Checked MAY 2023

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

STATE OF MISSOURI
DENNIS W. HECKMAN
NUMBER E-27141
PROFESSIONAL ENGINEER

DATE PREPARED	8/14/2023
ROUTE	19
STATE	MO
DISTRICT	BR
SHEET NO.	27
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION
DATE

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

6220 Oakland Avenue
St. Louis, MO 63110
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CIVIL DESIGN, INC.
Missouri State Certificate of Authority #2000004804

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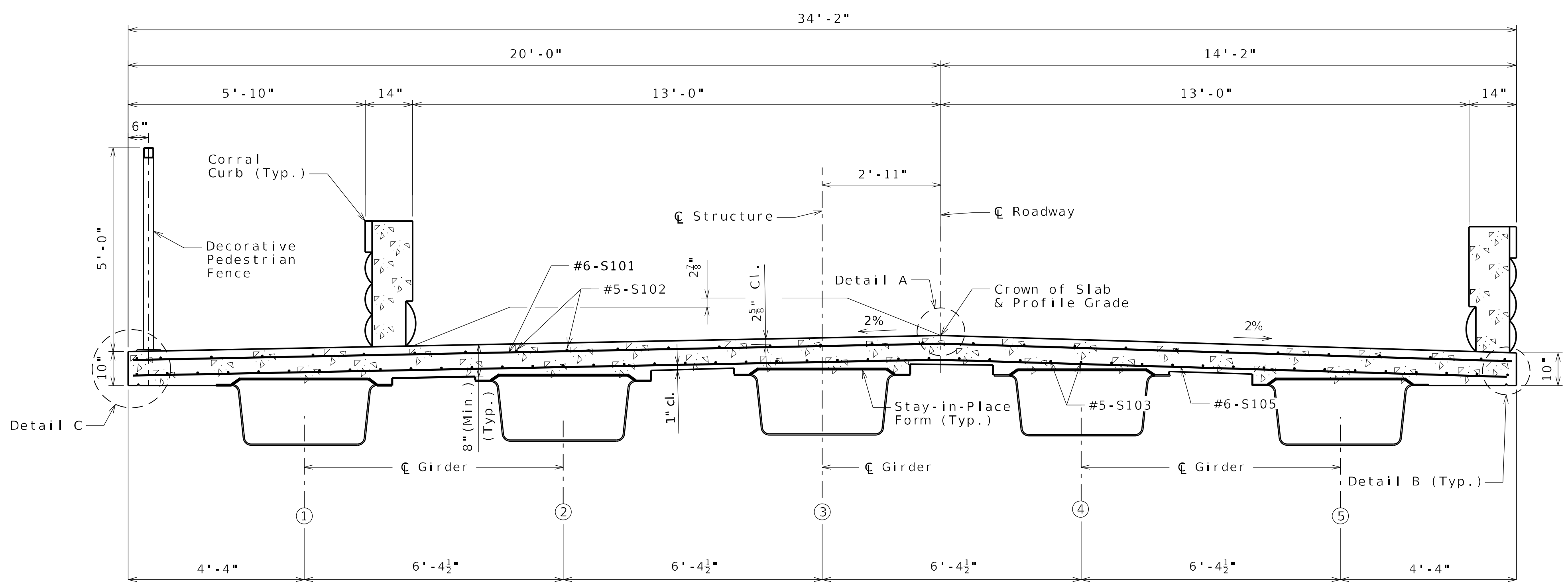


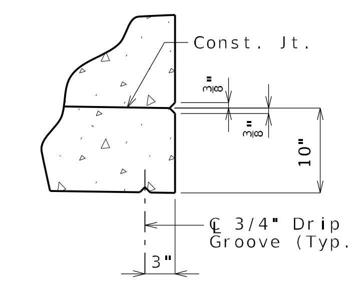
SECTION THRU SLAB
(Looking Upstation)

Notes:

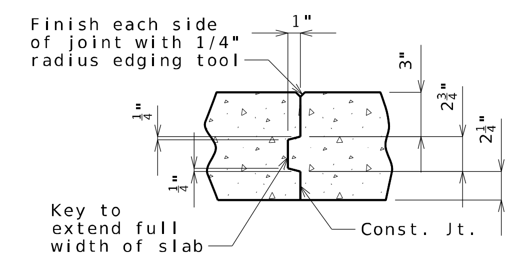
The contractor shall pour upgrade and satisfactorily finish the slab at a rate of no less than 25 cubic yards per hour.

The slab shall not be poured until the concrete diaphragms at the intermediate bents and integral end bents have achieved a minimum compressive strength of 2800 psi, but no later than two weeks from such time.

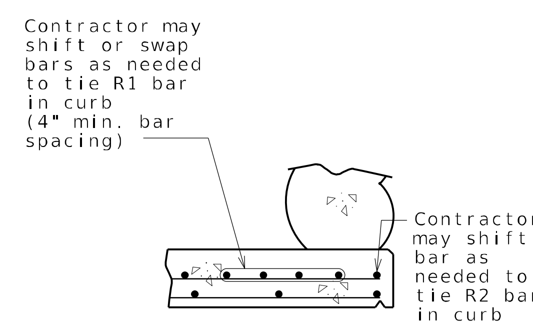
Alternate pour sequences may be submitted to the engineer for approval. Keyed consruction joints shall be provided between pours.



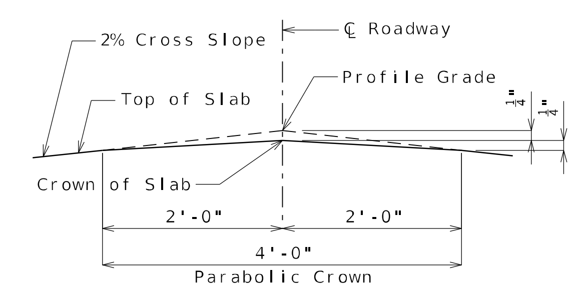
DETAIL B



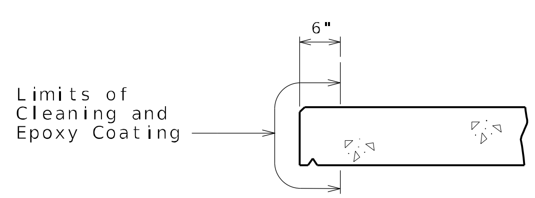
SLAB CONSTRUCTION JOINT



OPTIONAL SHIFTING TOP BARS AT CURB



DETAIL A



DETAIL C

Note:

Cost of epoxy coating slab edge will be considered completely covered by the contract unit price for Cleaning and Epoxy Coating.

Notes:

For details of stay-in-place forms, see Sheet No. 21.

For reinforcement of Corral Curb not shown, see Sheet No. 29.

For Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 24.

For Plan of Slab Showing Reinforcement, see Sheet No. 27.

SLAB DETAILS

DATE PREPARED	8/14/2023
ROUTE	19
STATE	MO
DISTRICT	BR
SHEET NO.	28
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION | DATE

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

6220 Oakland Avenue
St. Louis, MO 63110
314.863.5570
CIVIL DESIGN, INC.
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Detailed MAY 2023
Checked MAY 2023

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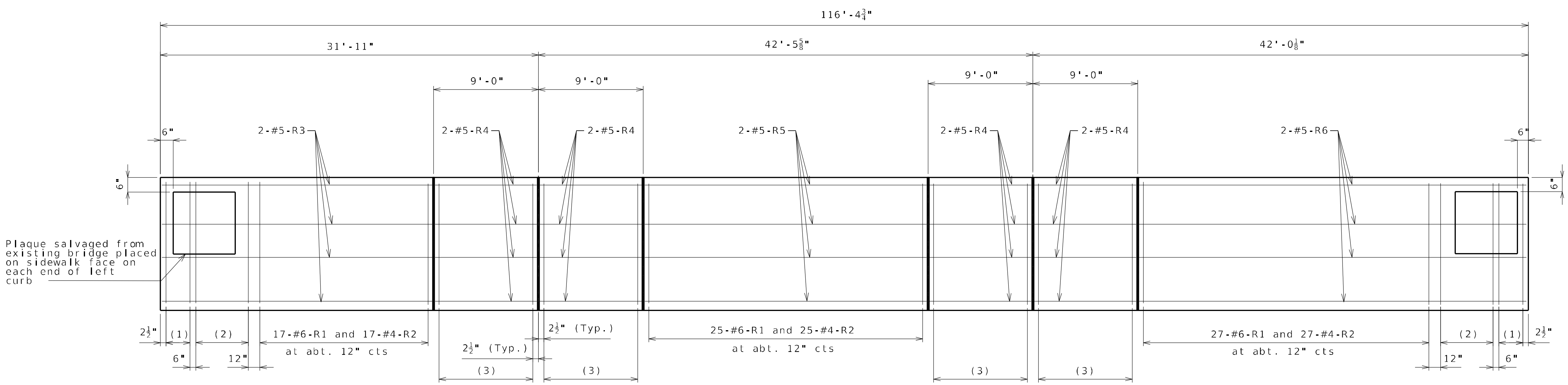
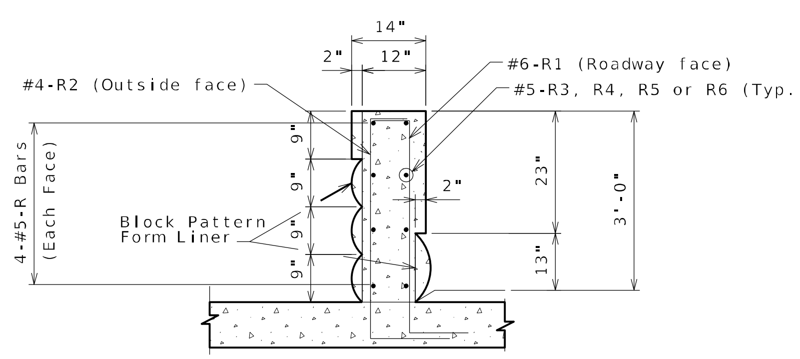


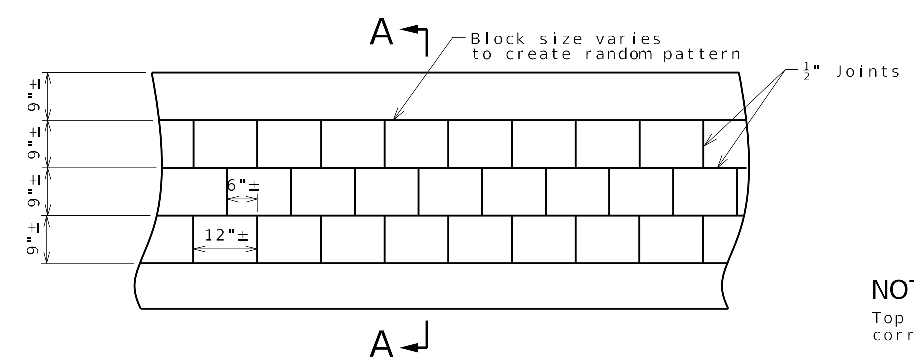
(1) 5-#6-R1 & 5-#4-R2 @ 4" cts.
(2) 9-#6-R1 & 9-#4-R2 @ 6" cts.
(3) 10-#6-R1 & 10-#4-R2 @ abt. 12" cts.

ELEVATION OF CORRAL CURB

(Left Corral Curb shown, right Corral Curb similar by 180 degree rotation.)
Longitudinal dimensions are horizontal.

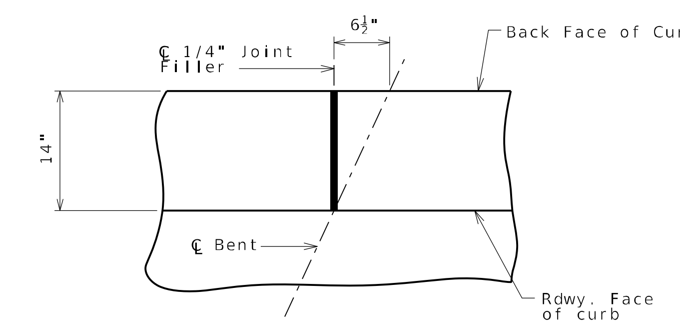


PART SECTION A-A



FORM LINER DETAIL

(Looking at outside face, traffic face similar)



PART PLAN SHOWING SAFETY BARRIER CURB JOINT

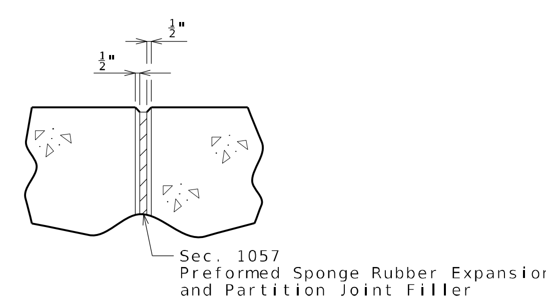
Notes:

The form liner used for the corral curb shall be an "Ashlar Stone Form Liner" and have a cut limestone block appearance with a random pattern.

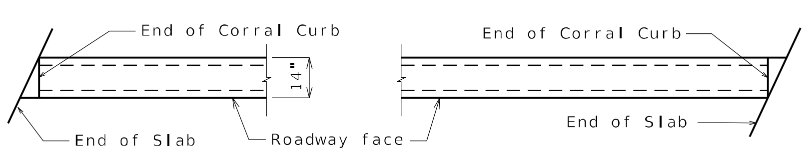
Maximum thickness/depth of form liner shall not exceed 1 ½" so as to allow for a minimum of 1½" of cover over the reinforcing steel.

Contractor shall select a form liner from one of the following acceptable manufacturers:

Scott System, Inc.:	Form liner pattern #167 "Ashlar Stone"
Fitzgerald Formliners:	Form liner pattern #16986 "Ashlar Stone"
Dayton Superior/Symons:	Form liner pattern #1515 "Ashlar Stone"



FILLED JOINT DETAIL



PART PLAN - END OF CORRAL CURB

NOTES:

Top of corral curb shall be built parallel to grade with corral curb joints normal to grade.

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

Payment for all concrete between faces of form liner and all reinforcement, complete in place, will be considered completely covered by the contract unit price for Corral Curb per linear foot.

Payment for all concrete necessary to fill form liners, complete in place, will be considered completely covered by the contract unit price for Form Liners per square yard.

Concrete in the corral curb shall be Class B-1.

Measurement of corral curb is to the nearest linear foot, measured along the outside top of slab from end of curb to end of curb.

Concrete traffic barrier delineators shall be placed on top of the corral curb as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Corral Curb.

Payment for salvage and re-installation of bridge plaques, complete in place, will be considered completely covered by the contract unit price for Corral Curb.

CORRAL CURB DETAILS

Detailed MAY 2023
Checked MAY 2023

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

DATE PREPARED	8/14/2023
ROUTE	19
STATE	MO
DISTRICT	BR
SHEET NO.	29
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION | DATE

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

6220 Oakland Avenue
St. Louis, MO 63139
314.863.5570
CIVIL DESIGN, INC.
Missouri State Certificate of Authority #2000006804

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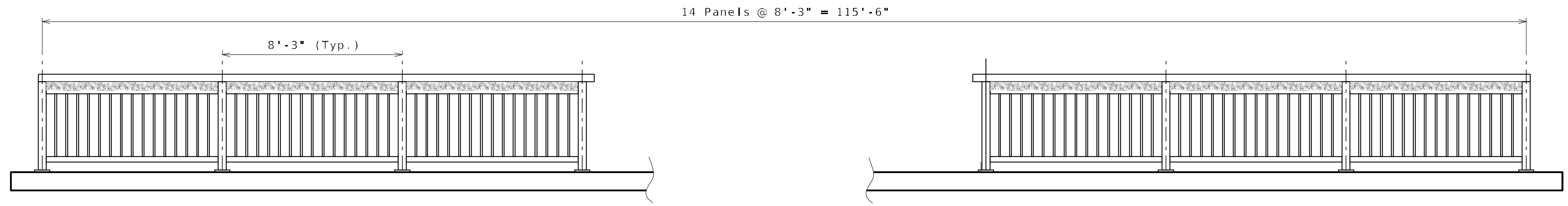


ELEVATION

NOTES:

Grout of 1/2" minimum thickness shall be placed under floor plates to provide for vertical alignment of rail posts.

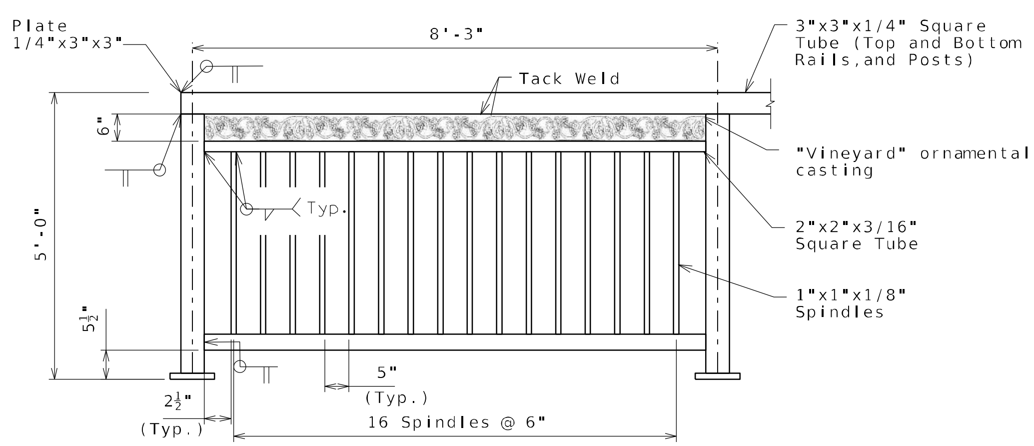
See Sheet No26 for the anchor bolt layout. Prior to the installation of the anchor bolts, the contractor shall take all necessary measurements of the pedestrian fence on site and revise the anchor bolt layout plan as necessary to ensure the successful installation of the fence.

Hollow structural steel tubing shall conform to the requirements of ASTM designation A500, Grade B, structural steel tubing.

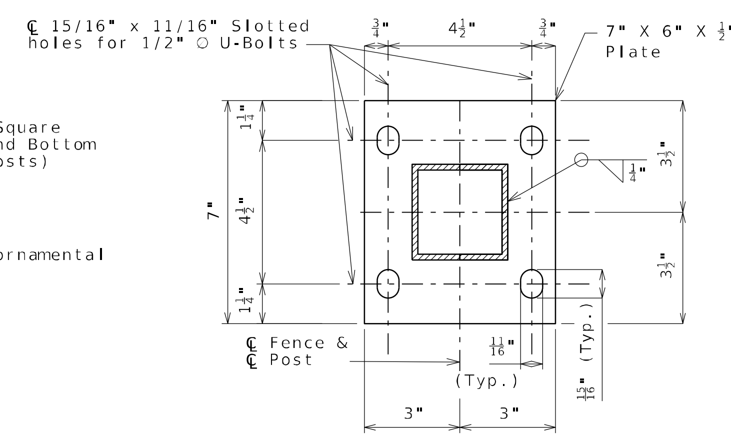
All other steel shapes and plates shall conform to the requirements of ASTM A 709 Grade 36.

NOTES FOR ORNAMENTAL CASTING:

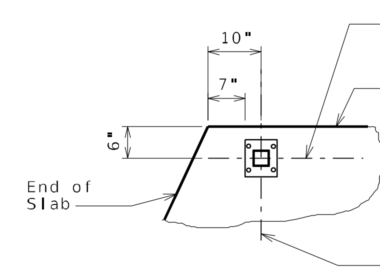
Ornamental casting shall be Lawlor #15-A or approved equal.



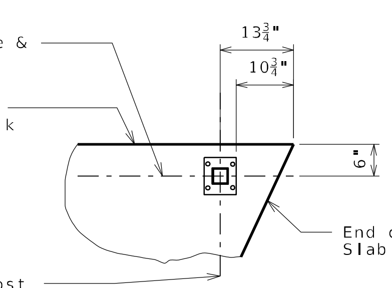
TYPICAL PANEL



PLAN OF FLOOR PLATE



NE FLOOR PLATE DETAIL



SE FLOOR PLATE DETAIL

DECORATIVE PEDESTRIAN FENCE

DATE PREPARED	8/14/2023
ROUTE	19
STATE	MO
DISTRICT	BR
SHEET NO.	30
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

6220 Oakland Avenue
St. Louis, MO 63110
314.863.5570

CIVIL DESIGN, INC.
Missouri State Certificate of Authority #2000006804

REV.

Detailed MAY 2023
Checked MAY 2023

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

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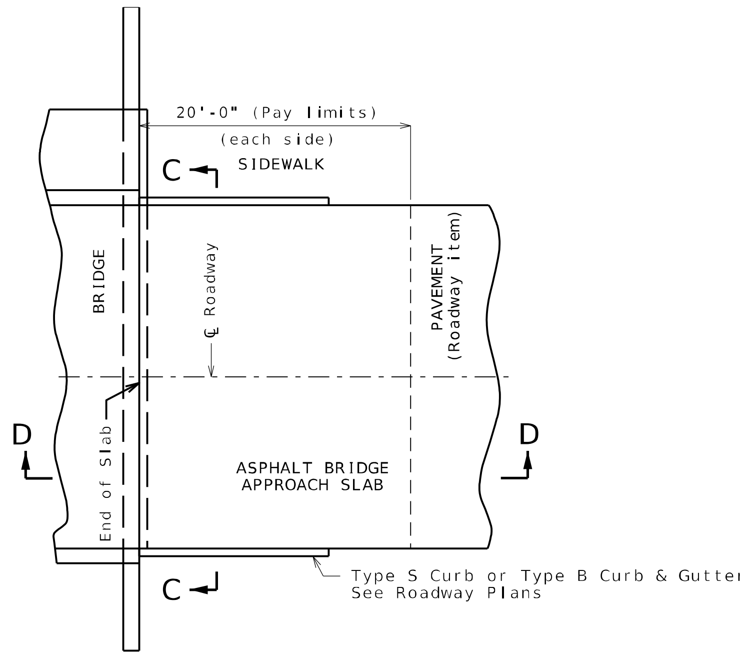
Notes:
The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

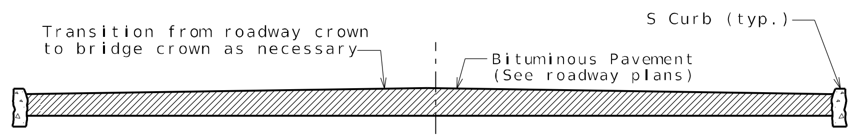
Payment for furnishing all materials, labor and excavation necessary to construct the asphalt bridge approach slab, including tack, curb, and Type 5 aggregate base within the pay limits shown, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor) per square yard.

Application of tack is required between lifts per Sec 403.



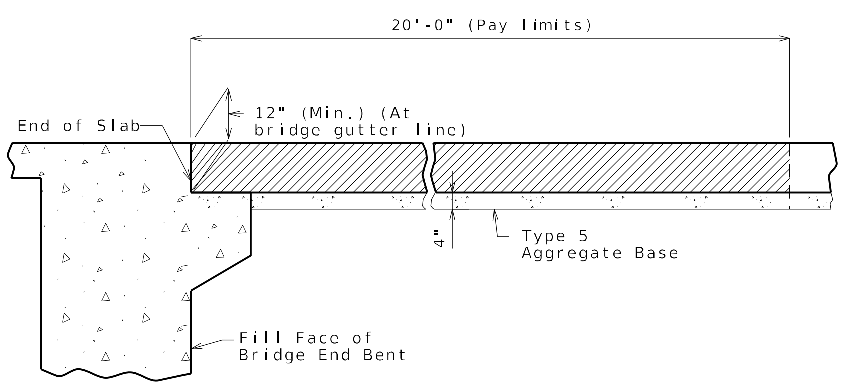
PART PLAN

(Squared structure shown, skewed structure similar)

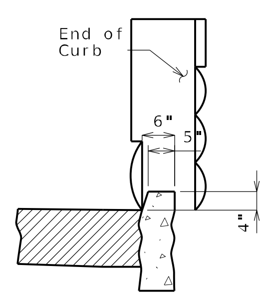


SECTION C-C

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 D-D



4" TYPE S CURB

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

BRIDGE APPROACH SLAB (MINOR)

DATE PREPARED	8/14/2023
ROUTE	19
STATE	MO
DISTRICT	BR
SHEET NO.	31
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

6220 Oakland Avenue
St. Louis, MO 63110
314.863.5570

CIVIL DESIGN, INC.
Missouri State Certificate of Authority #2000000804

STATE OF MISSOURI
DENNIS W. HECKMAN
NUMBER
E-27141
PROFESSIONAL ENGINEER

Detailed MAY 2023
Checked MAY 2023

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

REV.

P:\5XXX\56XX-57XX\5784 - MoDOT Hermann Bridge\24-Structures\CAD\B_J00092_031_J5P3542_Appr_Slab.dgn 7:34:19 AM 8/14/2023

BILL OF REINFORCING STEEL

SUBSTRUCTURE

NO. REQ'D.	SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
			END BENT NO. 1																
4	6	H100	BEAM	E	20		X			37 4.000							37 4	37 4	224
2	5	H103	APPR NOTCH	E	20		X			37 4.000							37 4	37 4	78
62	5	U100	BEAM	E	19	S	X			23.000	14.000						3 1	3 0	194
13	5	U101	BEAM	E	31	S	X			2 7.500	15.375	2 7.500					7 7	7 5	101
50	5	U105	APPR NOTCH	E	13	S	X			4.500	12.000	13.125	20.625				4 1	3 9	196
2	5	U106	BEAM	E	31	S	X			2 7.500	8.750	2 7.500					6 11	6 9	14
			INT. BENT NO. 2																
16	6	D201	BEAM/CAP	E	20		X			2 6.000							2 6	2 6	60
4	6	H200	BEAM	E	20		X			37 0.000							37 0	37 0	222
72	5	U200	BEAM	E	19	S	X			2 2.000	2 2.000						4 4	4 2	313
			INT. BENT NO. 3																
16	6	D301	BEAM/CAP	E	20		X			2 6.000							2 6	2 6	60
4	6	H300	BEAM	E	20		X			37 0.000							37 0	37 0	222
72	5	U300	BEAM	E	19	S	X			2 2.000	2 2.000						4 4	4 2	313
			END BENT NO. 4																
4	6	H400	BEAM	E	20		X			37 4.000							37 4	37 4	224
2	5	H403	APPR NOTCH	E	20		X			37 4.000							37 4	37 4	78
62	5	U400	BEAM	E	19	S	X			23.000	14.000						3 1	3 0	194
13	5	U401	BEAM	E	31	S	X			2 11.500	15.375	2 11.500					8 3	8 1	110
50	5	U405	APPR NOTCH	E	13	S	X			4.500	12.000	13.125	20.625				4 1	3 9	196
2	5	U406	BEAM	E	31	S	X			2 11.500	8.750	2 11.500					7 7	7 5	15

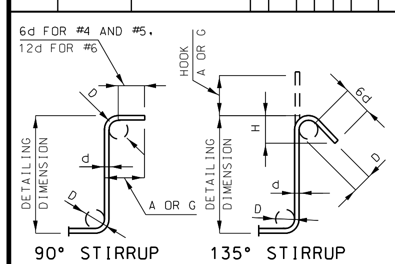
BILL OF REINFORCING STEEL

SUPERSTRUCTURE

NO. REQ'D.	SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
			END BENT NO. 1																
2	5	H101	DIAPHRAGM	E	20					36 1.000							36 1	36 1	75
3	5	H102	DIAPHRAGM	E	20					37 4.000							37 4	37 4	117
34	5	U102	DIAPHRAGM	E	12	S				2 1.000	3 8.000						6 3	6 2	219
13	5	U103	DIAPHRAGM	E	31	S				2 1.000	15.375	2 1.000					6 4	6 3	85
10	4	U104	DIAPHRAGM	E	10	S				6.000	2.000	11.000	6.000				2 3	1 11	13
2	5	U107	DIAPHRAGM	E	31	S				2 1.000	8.750	2 1.000					5 11	5 9	12
			INT. BENT NO. 2																
4	5	H201	DIAPHRAGM	E	20					36 11.000							36 11	36 11	154
12	5	H202	DIAPHRAGM	E	20					23.000							1 11	1 11	24
4	5	U201	DIAPHRAGM	E	21	S				2 4.500	23.000	23.000			2 2.000	12.000	6 3	6 3	26
52	6	U202	DIAPH/SLAB	E	10					23.000	2 0.000	23.000					5 10	5 8	442
			INT. BENT NO. 3																
4	5	H301	DIAPHRAGM	E	20					36 11.000							36 11	36 11	154
12	5	H302	DIAPHRAGM	E	20					23.000							2 0	2 0	25
4	5	U301	DIAPHRAGM	E	21	S				4.500	23.000	23.000			2 2.000	12.000	6 3	6 3	26
52	6	U302	DIAPH/SLAB	E	10					23.000	2 0.000	23.000					5 10	5 8	442
			END BENT NO. 4																
2	5	H401	DIAPHRAGM	E	20					36 1.000							36 1	36 1	75
3	5	H402	DIAPHRAGM	E	20					37 4.000							37 4	37 4	117
34	5	U402	DIAPHRAGM	E	12	S				2 1.000	3 8.000						6 3	6 2	219
15	5	U403	DIAPHRAGM	E	31	S				2 1.000	15.375	2 1.000					6 4	6 3	98
10	4	U404	DIAPHRAGM	E	10	S				6.000	2.000	11.000	6.000				2 3	1 11	13
2	5	U407	DIAPHRAGM	E	31	S				2 1.000	8.750	2 1.000					5 11	5 9	12
			SLAB																
60	6	S100	SLAB	E	20			V	2	33 1.375							33 1	33 1	1582
			INCR=12.875"							2 0.000							2 0	2 0	
203	6	S101	SLAB	E	20					33 10.000							33 10	33 10	10315
58	5	S102	SLAB	E	20					60 0.000							60 0	60 0	3632
70	5	S103	SLAB	E	20					60 0.000							60 0	60 0	4384
40	6	S104	SLAB	E	20			V	2	33 1.375							33 1	33 1	1075
			INCR=19.25"							2 7.625							2 8	2 8	
135	6	S105	SLAB	E	20					33 10.000							33 10	33 10	6860
			CORRAL CURB																
274	6	R1	CURB	E	28	S					7.000	3 2.500	12.000				4 10	4 8	1922
274	4	R2	CURB	E	6	S				7.000	3 2.500	12.000					4 10	4 8	854
16	5	R3	CURB	E	20					22 7.000							22 7	22 7	377
64	5	R4	CURB	E	20					8 8.000							8 8	8 8	579
16	5	R5	CURB	E	20					24 2.000							24 2	24 2	403
16	5	R6	CURB	E	20					32 8.000							32 8	32 8	545

SUMMARY

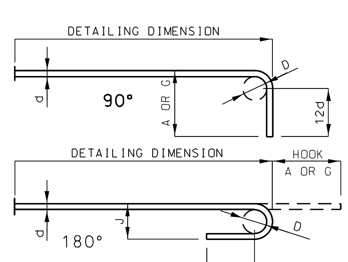
NO. REQ'D.	SIZE	MARK	LOCATION	EPOXY (E)	WEIGHT LBS.
			TOTALS		
	4			E	880
	5			E	13159
	6			E	23635
			TOTAL	E	37674



STIRRUP HOOK DIMENSIONS

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

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



END HOOK DIMENSIONS

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

NOTE:

ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.

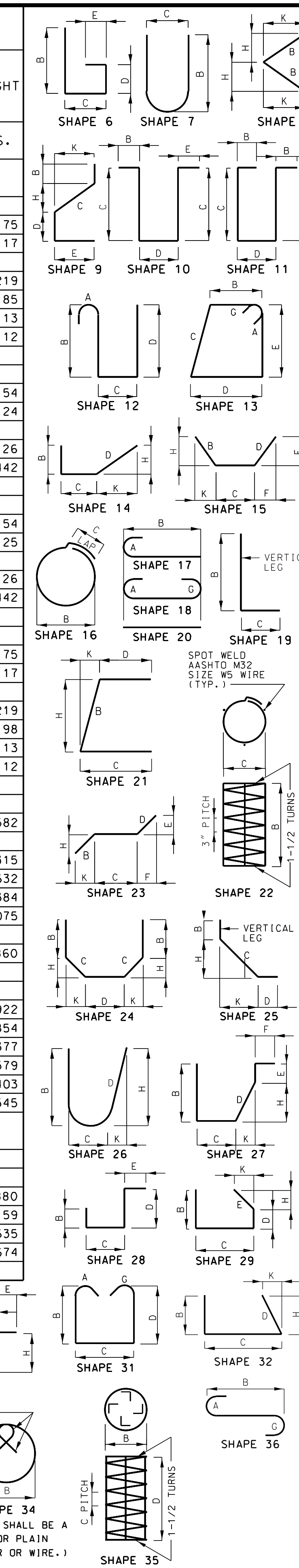
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)

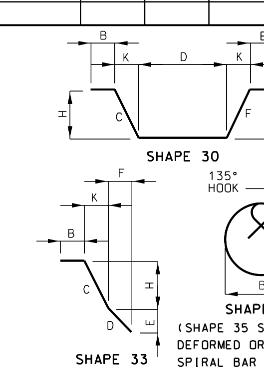
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.

PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.

FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.

REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.





BENDING DIAGRAMS

STATE OF MISSOURI
DENNIS W. HECKMAN
NUMBER E-27141

DATE PREPARED	8/14/2023
ROUTE	19
STATE	MO
DISTRICT	BR
SHEET NO.	32
COUNTY	GASCONADE
JOB NO.	J5P3542
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	J00092

DESCRIPTION

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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CDI
CIVIL DESIGN, INC.
Missouri State Certificate of Authority #2000000804

REV.

Detailed MAY 2023
Checked MAY 2023

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