

A.A.D.T. - 2022 = 923  
A.A.D.T. - 2042 = 1,200  
D.H.V. = 10%  
T = 5%  
V = 35 M.P.H.  
D = 50%/ 50%

**MO - 6**

A.A.D.T. - 2022 = 765

A.A.D.T. - 2042 = 1,033

D.H.V. = 10%

T = 10%

V = 60 M.P.H.

D = 50%/ 50%

## NO RIGHT OF WAY ACQUISITION

	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
GUARD CABLE		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
UTILITIES		
FIBER OPTICS	- FO -	- FO -
OVERHEAD CABLE TV	- OTV -	- OTV -
UNDERGROUND CABLE TV	- UTV -	- UTV -
OVERHEAD TELEPHONE	- OT -	- OT -
UNDERGROUND TELEPHONE	- UT -	- UT -
OVERHEAD POWER	- OE -	- OE -
UNDERGROUND POWER	- UE -	- UE -
SANITARY SEWER	- S -	- S -
STORM SEWER	- SS -	- SS -
GAS	- G -	- G -
WATER	- W -	- W -

NOTE: DASHED OR OPEN SYMBOLS INDICATE  
EXISTING FEATURES

**ROUTE N BRIDGE REDECK**

**BEGIN**  
STA. 39+60.31  
LOG MI. 0.604

**END**  
STA. 42+39.69  
LOG MI. 0.657

**ROUTE N BRIDGE REDECK**

**BEGIN**  
STA. 642+34.00  
LOG MI. 43.646

A1589

MQ-59 BRIDGE REDECK

0.062 MILES

BEGIN  
STA. 642+34.00  
LOG MI. 43.646

END  
STA. 645+63.00  
LOG MI. 43.708



DESCRIPTION	NUMBER
TITLE SHEET -----	1
TYPICAL SECTIONS (TS) (1 SHEET)--	2
QUANTITIES (QU) (2 SHEETS)-----	3
RTE 6	
PLAN-PROFILE (PP)-----	4
TRAFFIC CONTROL SHEETS (TC)-----	5-10
EROSION CONTROL SHEETS (EC)-----	11
PAVEMENT MARKING (PM)-----	12
CROSS SECTIONS (XS)-----	1-5
RTE N	
PLAN-PROFILE (PP)-----	13
TRAFFIC CONTROL SHEETS (TC)-----	14-19
EROSION CONTROL SHEETS (EC)-----	20
PAVEMENT MARKING (PM)-----	21
CROSS SECTIONS (XS)-----	1-4
BRIDGE DRAWINGS (B)	
A1589-----	1-9
A2291-----	1-15


BEGINNING	STA.	39+60.31
END	STA.	42+39.69
APPARENT LENGTH		279.38 FEET
EQUATIONS AND EXCEPTIONS:		
NONE		
TOTAL CORRECTIONS		0.0 FEET
MO-6		
BEGINNING	STA.	642+34.00
END	STA.	645+63.00
APPARENT LENGTH		329.00 FEET
EQUATIONS AND EXCEPTIONS:		
NONE		
TOTAL CORRECTIONS		0.0 FEET

NET LENGTH OF PROJECT	608.38	FEET
STATE LENGTH	0.115	MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES	0.29	ACRES



DATE PREPARED	
8/20/2024	
ROUTE	STATE
6/N	MO
DISTRICT	SHEET NO.
NW	1
COUNTY	
DAVIESS & HARR	
JOB NO.	
JNW0112	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

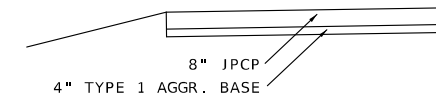
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MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

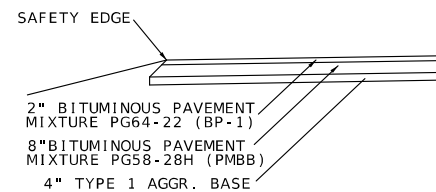
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

**benesch**  
4435 MAIN STREET, SUITE 1150  
SAN FRANCISCO, CALIFORNIA 94133/415-774-1468  
CERTIFICATE OF AUTHORITY NUMBER F00970024

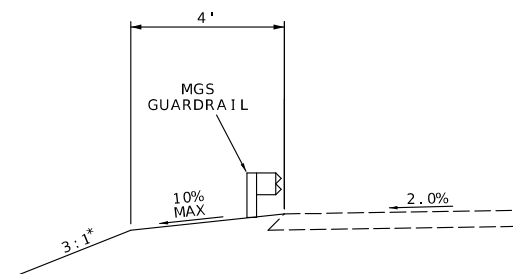
THESE RESULTS HAVE BEEN USED TO DEVELOP A METHOD FOR ESTIMATING THE EFFECT OF VIBRATION ON THE STRESS IN A STRUCTURE.



OPTIONAL PAVEMENT DESIGN  
8" JPCP @ 15' JOINTS W/ 1.25" DOWELS  
ON 4" TYPE 1 AGGR. FOR BASE  
RTE. N & RTE. 6  
J.P.C.P.DESIGN

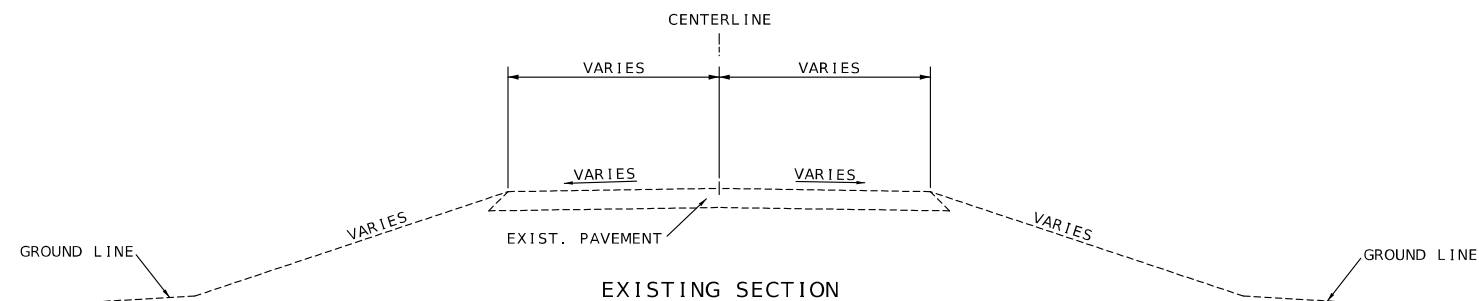
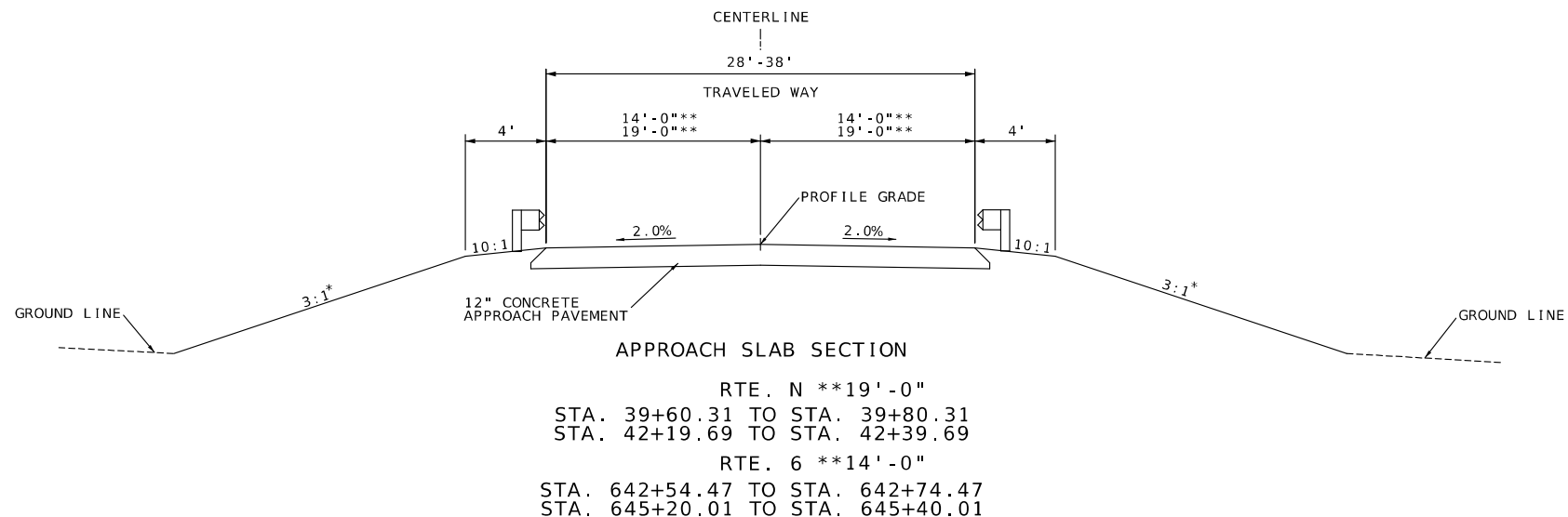
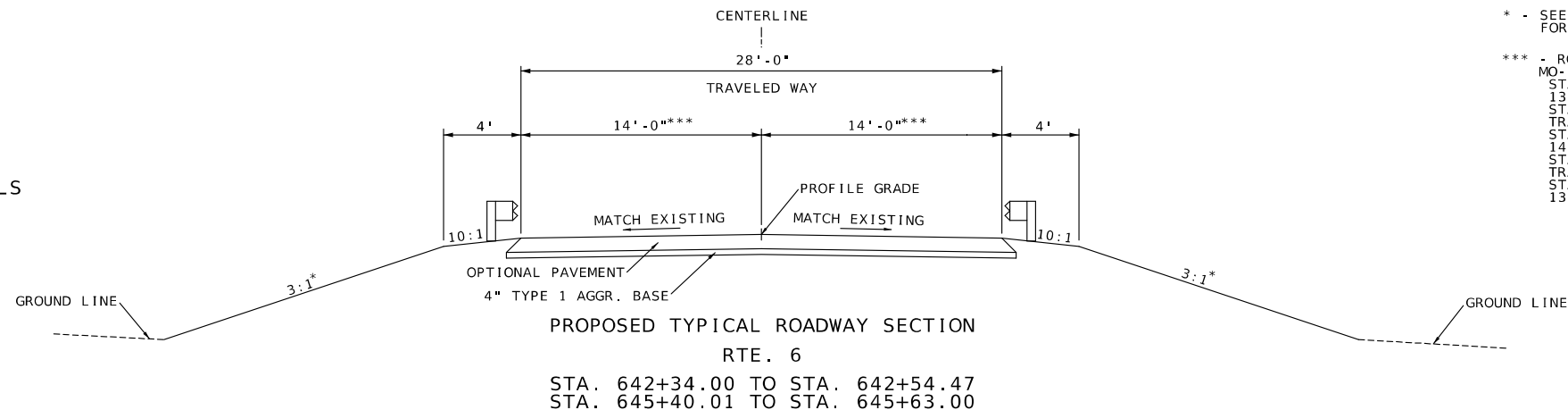


OPTIONAL PAVEMENT DESIGN  
10" HMA  
ON 4" TYPE 1 AGGR. FOR BASE  
RTE. N & RTE. 6  
HMA DESIGN



GUARDRAIL DESIGN

RTE. N  
STA. 38+91.19 TO STA. 39+60.31 RT  
STA. 38+91.41 TO STA. 39+60.31 LT  
STA. 42+28.98 TO STA. 42+39.69 RT  
STA. 42+29.10 TO STA. 42+39.69 LT  
RTE. 6  
STA. 641+53.38 TO STA. 642+34.43 RT  
STA. 642+00.91 TO STA. 642+34.43 LT  
STA. 645+63.63 TO STA. 645+93.57 RT  
STA. 645+63.63 TO STA. 646+41.05 LT



\* - SEE INDIVIDUAL CROSS SECTIONS  
FOR VARIATIONS  
\*\*\* - ROADWAY WIDTH:  
MO-6  
STA. 642+34.00 MATCH EXISTING  
13.5' LT & 13.8' RT  
STA. 642+34.00 TO STA. 642+54.47  
TRANSITION LT & RT  
STA. 642+54.47 TO STA. 645+40.01  
14' LT & 14' RT  
STA. 645+40.01 TO STA. 645+63.00  
TRANSITION LT & RT  
STA. 645+63.00 MATCH EXISTING  
13.6' LT & 13.6' RT

STATE OF MISSOURI  
MICHELE R. KAL  
NUMBER  
PE-2005000711  
PROFESSIONAL ENGINEER

DATE PREPARED  
8/7/2024

ROUTE  
6/N

DISTRICT  
NW

COUNTY  
DAVIESS & HARR

JOB NO.  
JNW0112

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

benesch

4435 MAIN STREET, SUITE 1150  
KANSAS CITY, MO 64111  
913/441-1100, FAX 913/441-1468  
CERTIFICATE OF AUTHORITY NUMBER FO09T0024

REMOVAL OF IMPROVEMENTS					
STATION	STATION	SIDE	DESCRIPTION	QUANTITY	UNITS
RTE 6					
641+54.49	642+63.71	RT	GUARDRAIL	109.2	LF
642+04.08	642+73.89	LT	GUARDRAIL	69.8	LF
642+34.00	642+74.47	CL	PAVEMENT	121.0	SY
642+42.15		LT	SIGN	1	EA
642+49.77		RT	SIGN	1	EA
645+20.01	645+63.00	CL	PAVEMENT	129.3	SY
645+21.27	645+90.77	RT	GUARDRAIL	69.5	LF
645+30.81	646+38.04	LT	GUARDRAIL	107.2	LF
645+46.00		RT	SIGN	1	EA
SUBTOTAL				1	LS
RTE N					
38+99.14	39+68.93	RT	GUARDRAIL	69.8	LF
38+99.61	39+68.88	LT	GUARDRAIL	69.3	LF
39+60.31	39+80.31	CL	PAVEMENT	83.7	SY
42+19.69	42+39.69	CL	PAVEMENT	83.7	SY
42+30.85	43+13.50	LT	GUARDRAIL	82.6	LF
42+30.96	43+00.46	RT	GUARDRAIL	69.5	LF
SUBTOTAL				1	LS
PAY TOTAL				1	LS

OPTIONAL PAVEMENT			
BEGIN STATION	END STATION	OPTIONAL PAVEMENT (SY)	TYPE 1 AGGREGATE BASE (4") (SY)
RTE 6			
642+34.00	642+54.47	62.8	62.8
645+40.01	645+63.00	70.5	70.5
SUBTOTALS		133.3	133.3
PAY TOTALS		133	133

GUARDRAIL					
BEGIN STATION	END STATION	SIDE	MGS GUARDRAIL (LF)	TYPE A CRASHWORTHY END TERMINAL (FLEAT) (EA)	MGS BRIDGE APPROACH TRANSITION (EA)
RTE 6					
641+53.38	642+69.43	RT	37.5	1	1
642+00.91	642+79.51	LT		1	1
645+14.97	645+93.57	RT		1	1
645+25.06	646+41.05	LT	37.5	1	1
SUBTOTALS			75.0	4	4
RTE N					
38+91.19	39+70.98	RT		1	1
38+91.41	39+71.20	LT		1	1
42+28.98	43+08.77	RT		1	1
42+29.10	43+08.89	LT		1	1
SUBTOTALS				4	4
PAY TOTALS			75	8	8

CLEARING AND GRUBBING		
BEGIN STATION	END STATION	(AC)
RTE 6		
641+39.65	646+52.25	0.1
SUBTOTAL		0.1
RTE N		
38+87.70	43+12.90	0.1
SUBTOTAL		0.1
PAY TOTAL		1.0

EARTHWORK				
BEGIN STATION	END STATION	CLASS A EXCAVATION (CY)	COMPACTING EMBANKMENT (CY)	EMBANKMENT IN PLACE (CY)
ROUTE 6				
641+57.07	646+34.38	38	16	0
TOTAL		38	16	0
ROUTE N				
38+80.39	43+20.63	0	0	18
TOTAL		0	0	18
PROJECT PAY TOTAL		38	16	18

PERMANENT PAVEMENT MARKING					
BEGIN STATION	END STATION	SIDE	WATERBORNE PAVEMENT MARKING PAINT TYPE P BEADS		REMARKS
			4" WHITE (LF)	4" YELLOW (LF)	
RTE 6					
642+34.00	645+63.00	LT	329.0		EDGE LINE
642+34.00	645+63.00	RT	329.0		EDGE LINE
642+34.00	645+63.00	CL		329.0	SOLID CENTERLINE
642+34.00	645+63.00	CL		82.3	INTERMITTENT CENTERLINE
SUBTOTALS			658	411	
RTE N					
39+60.31	42+39.69	LT	279.4		EDGE LINE
39+60.31	42+39.69	RT	279.4		EDGE LINE
39+60.31	42+39.69	CL		69.8	INTERMITTENT CENTERLINE
SUBTOTALS			559	70	
PAY TOTALS			1,217	481	

TEMPORARY EROSION CONTROL				
BEGIN STATION	END STATION	SIDE	SILT FENCE (LF)	SEDIMENT REMOVAL (CY)
RTE 6				
641+44.78	642+60.38	RT	115.6	1
641+90.85	642+71.60	LT	80.75	1
645+24.63	646+04.64	RT	80.01	1
645+34.97	646+52.84	LT	117.87	1
SUBTOTALS			394.2	4
RTE N				
38+88.55	39+70.31	LT	81.76	1
38+88.92	39+70.42	RT	81.5	1
42+29.57	43+12.53	LT	82.96	1
42+28.97	43+10.92	RT	81.95	1
SUBTOTALS			328.2	4
PAY TOTALS			722	8

MOBILIZATION
1 LUMP SUM

CONTRACTOR FURNISHED SURVEYING & STAKING
1 LUMP SUM

SEEDING AND MULCHING			
BEGIN STATION	END STATION	COOL SEASON MIXTURES (AC)	MULCHING (AC)
RTE 6			
641+39.65	646+52.25	0.1	0.1
SUBTOTALS		0.1	0.1
RTE N			
38+87.70	43+12.90	0.1	0.1
SUBTOTALS		0.1	0.1
PAY TOTALS		0.2	0.2

SUMMARY OF QUANTITIES  
SHEET 1 OF 2

STATE OF MISSOURI

MICHELE R. KCAL

NUMBER PE-2025000711

PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED  
8/20/2024

ROUTE  
6 / N

DISTRICT  
NW

STATE  
MO

SHEET NO.  
3

COUNTY  
DAVIESS & HARR

JOB NO.  
JNW0112

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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

MoDOT

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

benesch

4435 MAIN STREET, SUITE 1150  
KANSAS CITY, MO 64111  
913/441-1100 • FAX 913/441-1468  
CERTIFICATE OF AUTHORITY NUMBER FO09T0024

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

EFFECTIVE: 04-01-2023															
SIGN	SIZE	AREA	QTY	TOTAL	QTY	TOTAL	SIGN								
IN.	SQ. FT.	EACH	SQ. FT.	EACH	SQ. FT.	NUM.									
WARNING SIGNS							DESCRIPTION								
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	4	64.00			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	4	64.00			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	12	192.00			ROAD/BRIDGE/RAMP WORK AHEAD								
WO20-2	48X48	16.00	4	64.00			DETOUR AHEAD								
WO20-3	48X48	16.00	12	192.00			ROAD CLOSED AHEAD								
WO20-4	48X48	16.00					ONE LANE ROAD AHEAD								
WO20-5	48X48	16.00	8	128.00			RIGHT/CENTER/LEFT LANE CLOSED AHEAD								
WO20-5a	48X48	16.00					2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD								
WO20-6a	48X48	16.00	4	64.00			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	8	128.00			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								
WO24-1	48X48	16.00					DOUBLE REVERSE CURVE								
SIGN	SIZE	AREA	QTY	TOTAL	QTY	TOTAL	SIGN								
IN.	SQ. FT.	EACH	SQ. FT.	EACH	SQ. FT.	NUM.									
WARNING SIGNS							DESCRIPTION								
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)								





DETOUR

WEST

50A

DETOUR

EAST

50B

DETOUR

WEST

50C

DETOUR

EAST

50D

DETOUR

WEST

50E

DETOUR

EAST

50F

DETOUR

WEST

50G

DETOUR

EAST

50H

END  
DETOUR

MO4-8a

51

ROAD  
CLOSED

R11-2

63

DETOUR  
AHEAD

WO20-2

52



WO20-3

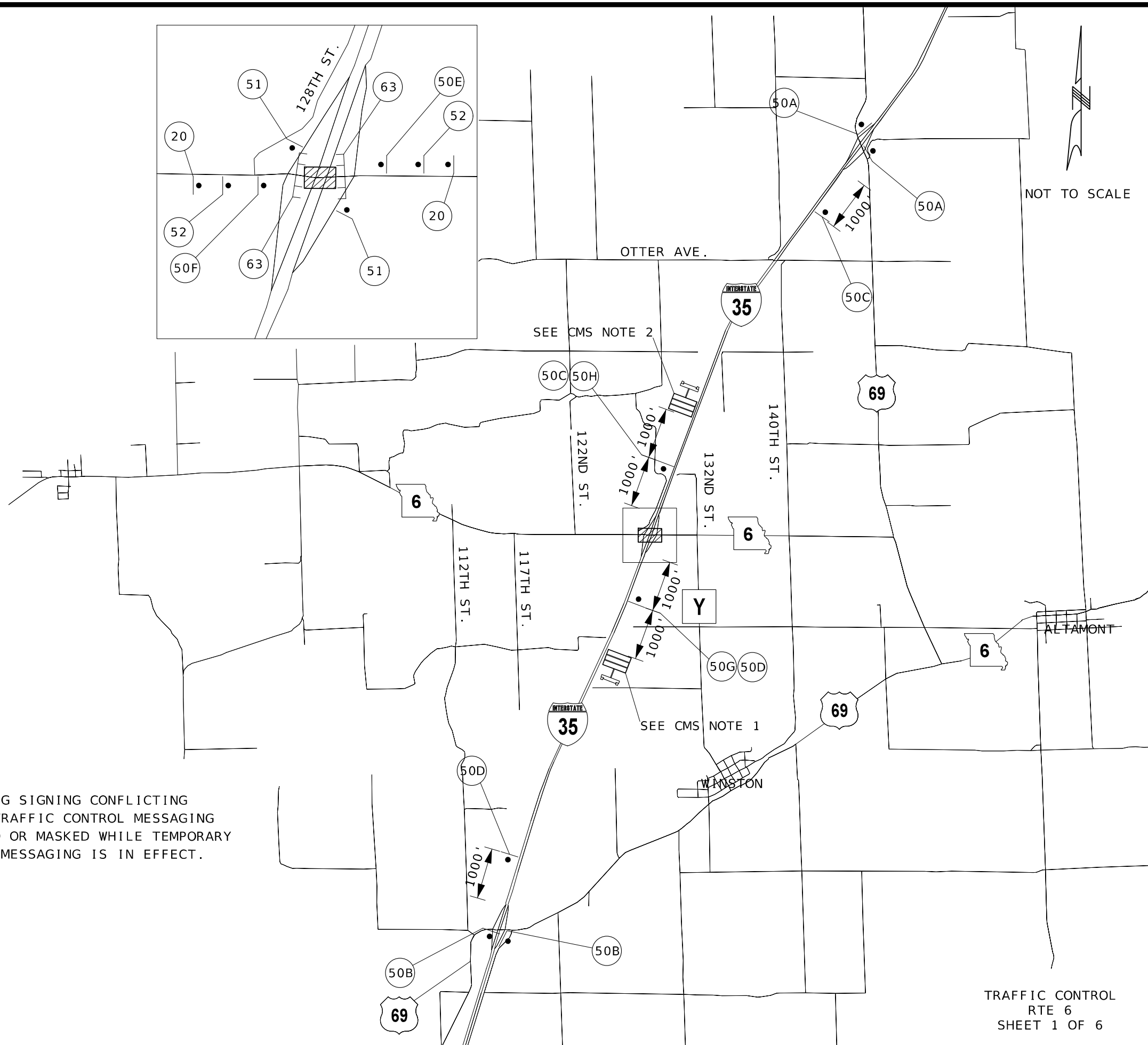
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- CMS NOTES
1. RTE 6 WEST  
CLOSED  
FOLLOW DETOUR
  2. RTE 6 EAST  
CLOSED  
FOLLOW DETOUR

NOTE:ALL EXISTING SIGNING CONFLICTING  
WITH TEMPORARY TRAFFIC CONTROL MESSAGING  
SHALL BE COVERED OR MASKED WHILE TEMPORARY  
TRAFFIC CONTROL MESSAGING IS IN EFFECT.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- BARRICADE
- WORK ZONE
- CHANGEABLE MESSAGE BOARD



TRAFFIC CONTROL  
RTE 6  
SHEET 1 OF 6

STATE OF MISSOURI  
MICHELE R. KEAL  
NUMBER  
PE-2005000711  
PROFESSIONAL ENGINEER  
THIS SHEET HAS BEEN SIGNED,  
SEALED AND DATED ELECTRONICALLY.

DATE PREPARED  
8/7/2024

ROUTE  
6

STATE  
MO

DISTRICT  
NW

SHEET NO.  
5

COUNTY  
DAVIESS

JOB NO.  
JNW0112

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

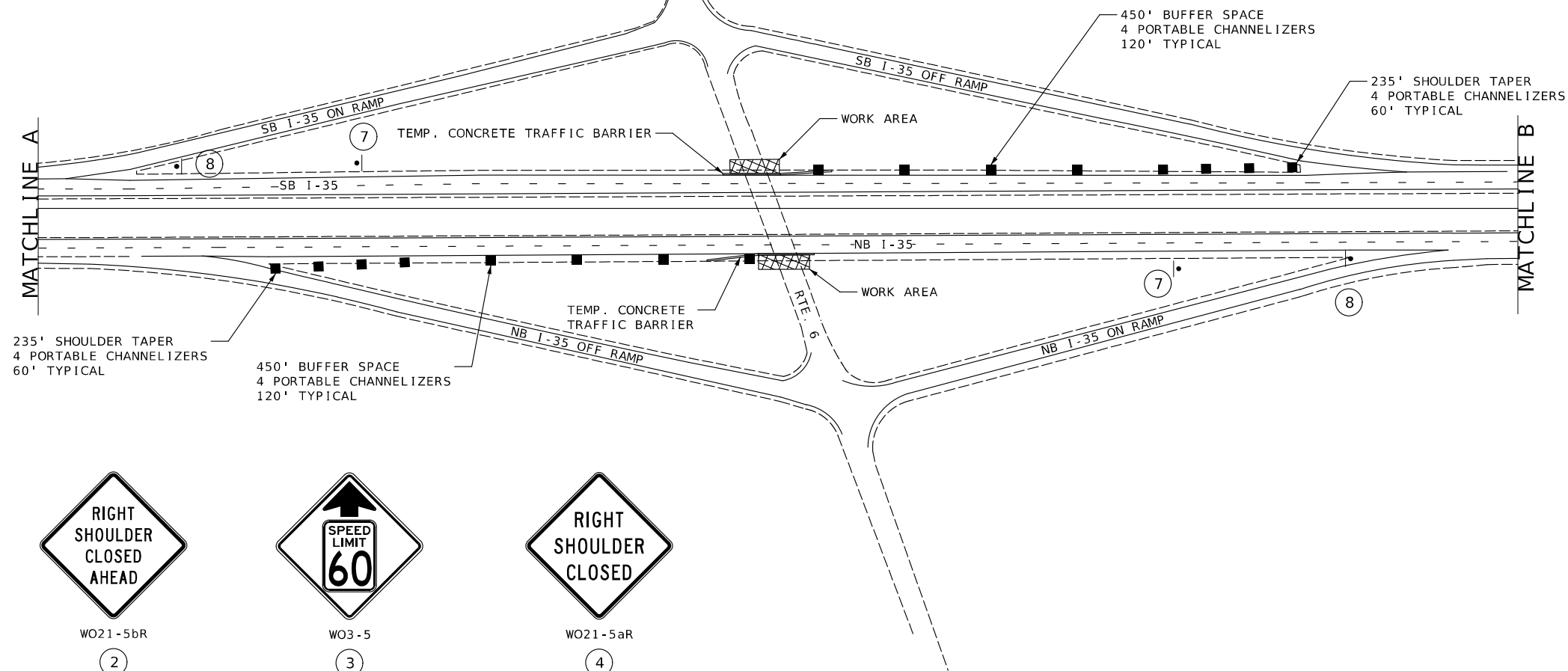
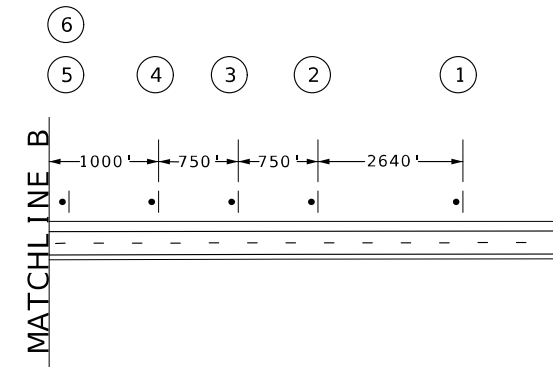
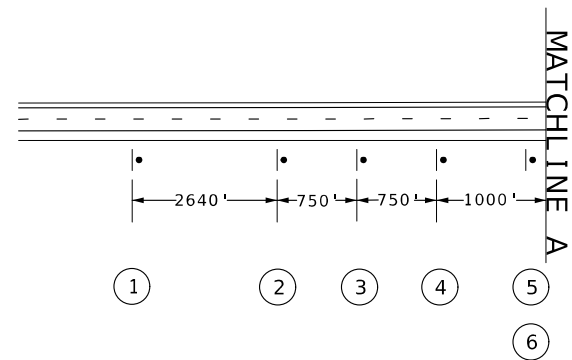
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

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

4435 MAIN STREET, SUITE 1150  
KANSAS CITY, MO 64111  
913/441-1100, FAX 913/441-1468  
CERTIFICATE OF AUTHORITY NUMBER FO09T0024



WO20-1

①



WO21-5bR

2



WO3 - 5

③



WO21 - 5aR

4



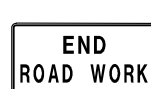
R2 - 1

5



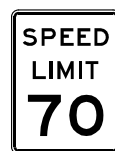
GO20 - 5aP

(6)



GO20-2



7



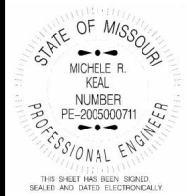
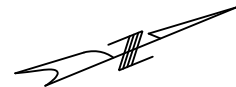
R2 - 1

8

### TRAFFIC CONTROL LEGEND

- |   |                               |
|---|-------------------------------|
|  | SIGN (SINGLE SIDED)           |
|  | TYPE III BARRICADE            |
|  | CHANNELIZER                   |
|  | CHANGEABLE MESSAGE SIGN (CMS) |

TRAFFIC CONTROL  
RTE 6  
SHEET 2 OF 6



DATE PREPARED

ROUTE	STATE
-------	-------

DISTRICT	SHEET NO.
----------	-----------

10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473
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JOB NO.

CONTRACT ID.

PROJECT NO. \_\_\_\_\_

BRIDGE NO.

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

**benesch**  
4435 MAIN STREET, SUITE 1150  
KANSAS CITY, MO 64111  
TEL 913/741-1100, FAX 913/741-1468  
CERTIFICATE OF AUTHORITY NUMBER FC0970024



WO20-6a

1



WO4 - 1 aR

(2)

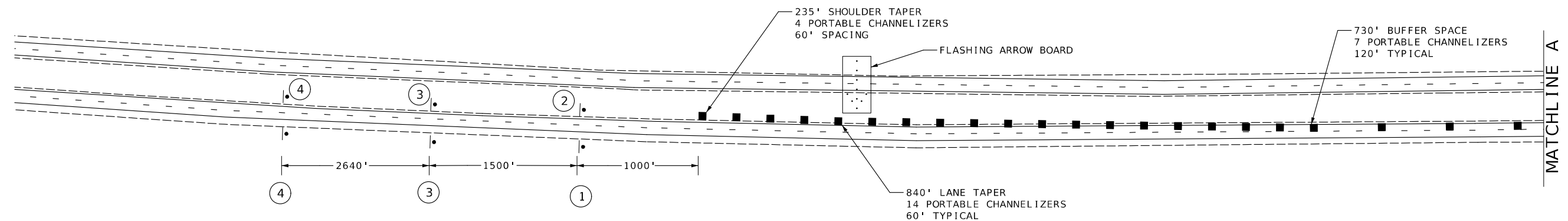


WO20-5

(3)



WO20 - 1

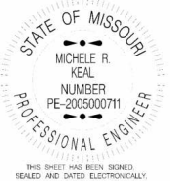
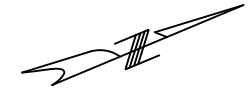
 $(\Delta$ 

### TRAFFIC CONTROL LEGEND

- |   |                                 |
|---|---------------------------------|
|  | SIGN ( SINGLE SIDED )           |
|  | TYPE III BARRICADE              |
|  | CHANNELIZER                     |
|  | CHANGEABLE MESSAGE SIGN ( CMS ) |

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

TRAFFIC CONTROL  
RTE 6  
SHEET 3 OF 6



DATE PREPARED  
8/8/2024

ROUTE	STATE
6	MO

DISTRICT	SHEET NO.
NW	7

COUNTY  
DAVIESS

JOB NO.  
JNW0112

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

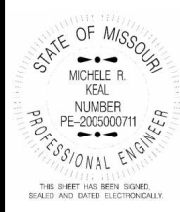
[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

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



435 MAIN STREET, SUITE 1150  
KANSAS CITY, MO 64111  
913/441-1100, FAX 913/441-1468  
CERTIFICATE OF AUTHORITY NUMBER F009T0024

IT IS THE POLICY OF THE UNITED STATES GOVERNMENT TO PRINT ON THIS SHEET 11 HAS BEEN ELECTRONICALLY SEPALED AND DATED



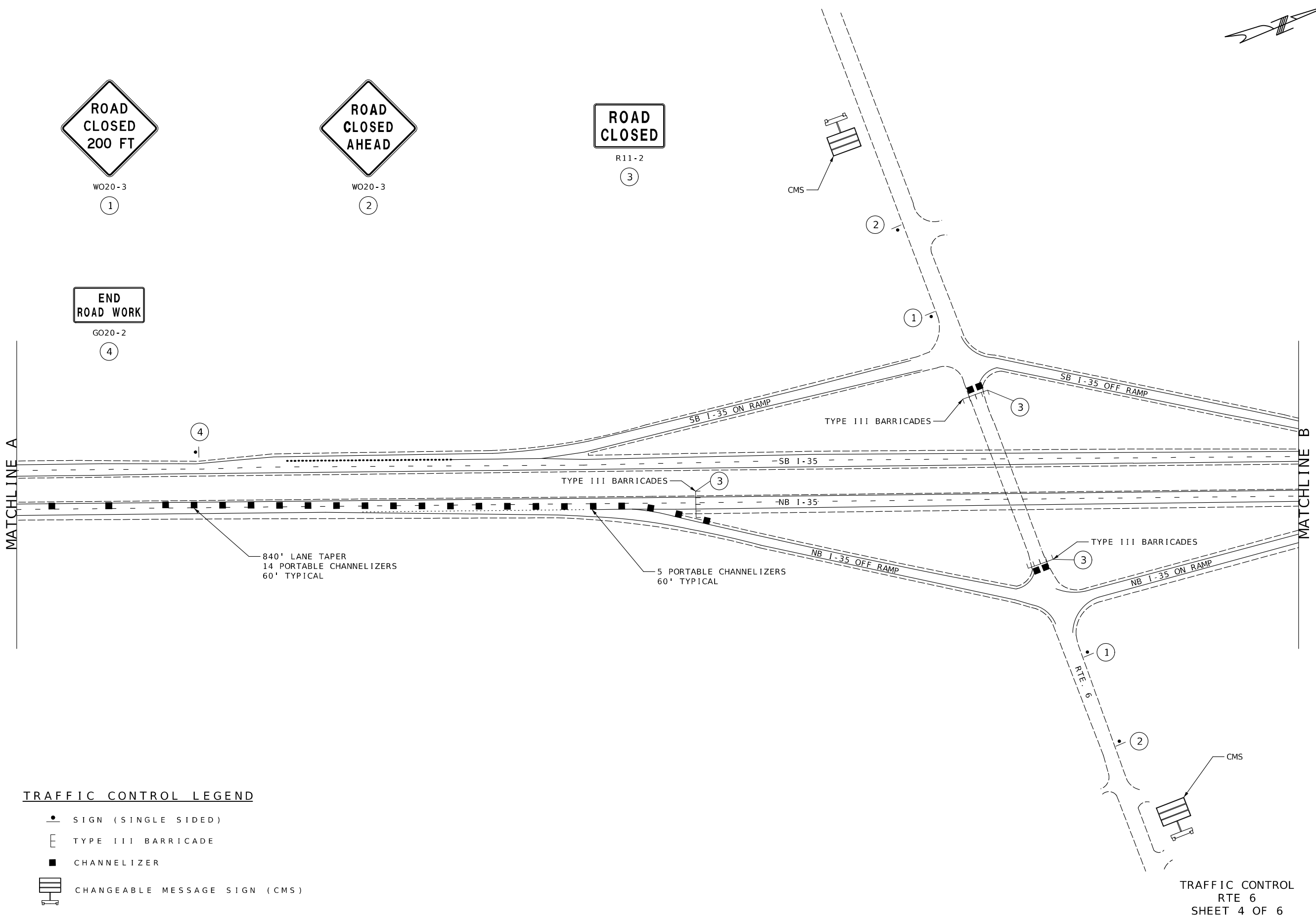
DATE PREPARED 8/8/2024	
ROUTE 6	STATE MO
DISTRICT NW	SHEET NO. 8
COUNTY DAVIESS	
JOB NO. JNW0112	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

4435 MAIN STREET, SUITE 1150  
KANSAS CITY, MO 64111  
913/441-1100, FAX 913/441-1468  
CERTIFICATE OF AUTHORITY NUMBER F009T0024



TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- ⌈ TYPE III BARRICADE
- CHANNELIZER
- ⌈ CHANGEABLE MESSAGE SIGN (CMS)

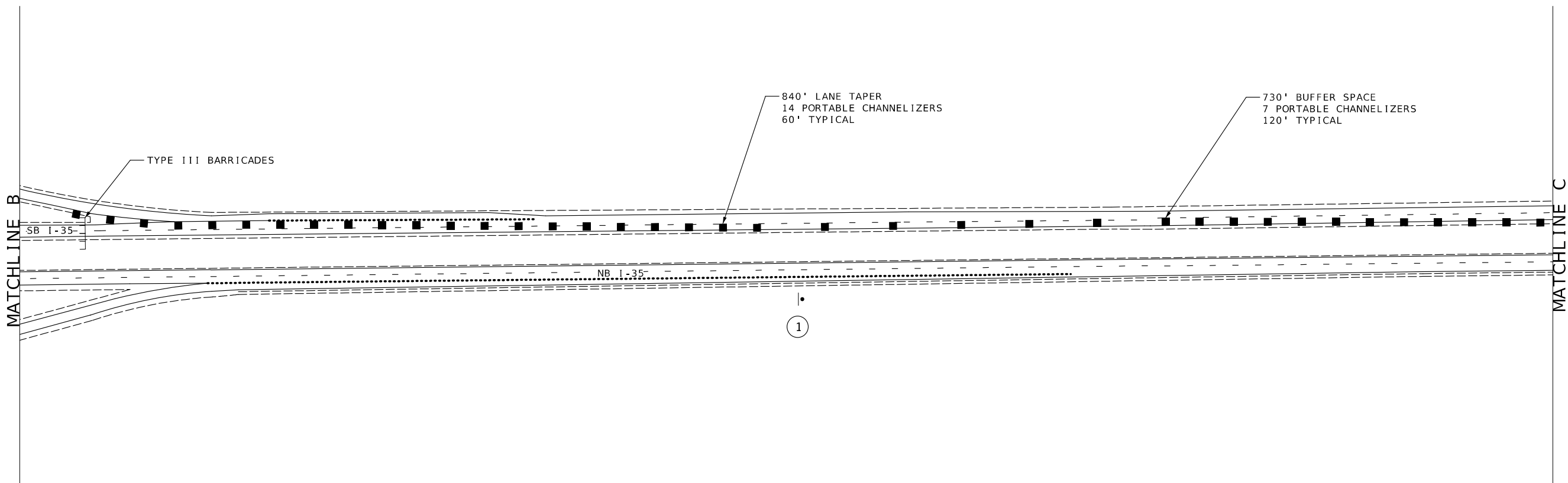
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

TRAFFIC CONTROL  
RTE 6  
SHEET 4 OF 6





END  
ROAD WORK

GO20-2

1

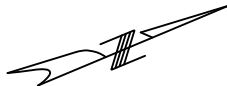


TRAFFIC CONTROL LEGEND

-  SIGN (SINGLE SIDED)
-  TYPE III BARRICADE
-  CHANNELIZER
-  CHANGEABLE MESSAGE SIGN (CMS)

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

TRAFFIC CONTROL  
RTE 6  
SHEET 5 OF 6



DATE PREPARED  
8/8/2024

ROUTE 6	STATE MO
DISTRICT NW	SHEET NO. 9
COUNTY	
DAVIESS	
JOB NO. JNW0112	
CONTRACT ID.	

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION



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



4435 MAIN STREET, SUITE 1150  
KANSAS CITY, MO 64111  
913/441-1100, FAX 913/441-1468  
CERTIFICATE OF AUTHORITY NUMBER F009T0024

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



WO20-6a

1



WO4-1aR

2



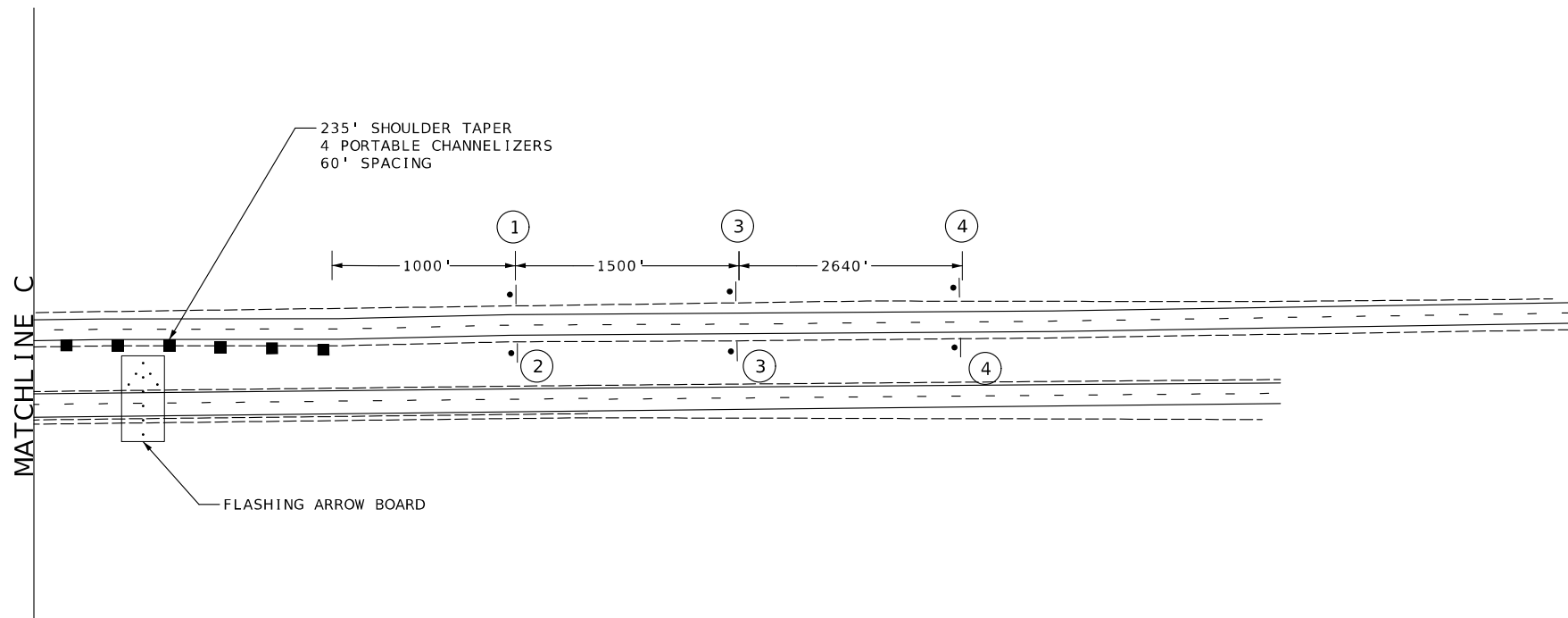
WO20-5

3



WO20-1

4

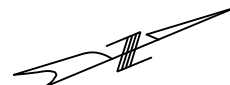


#### TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- [ TYPE III BARRICADE
- CHANNELIZER
- CHANGEABLE MESSAGE SIGN (CMS)

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

TRAFFIC CONTROL  
RTE 6  
SHEET 6 OF 6



DATE PREPARED  
8/8/2024

ROUTE 6 STATE MO

DISTRICT NW SHEET NO. 10

COUNTY DAVIESS

JOB NO. JNW0112

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

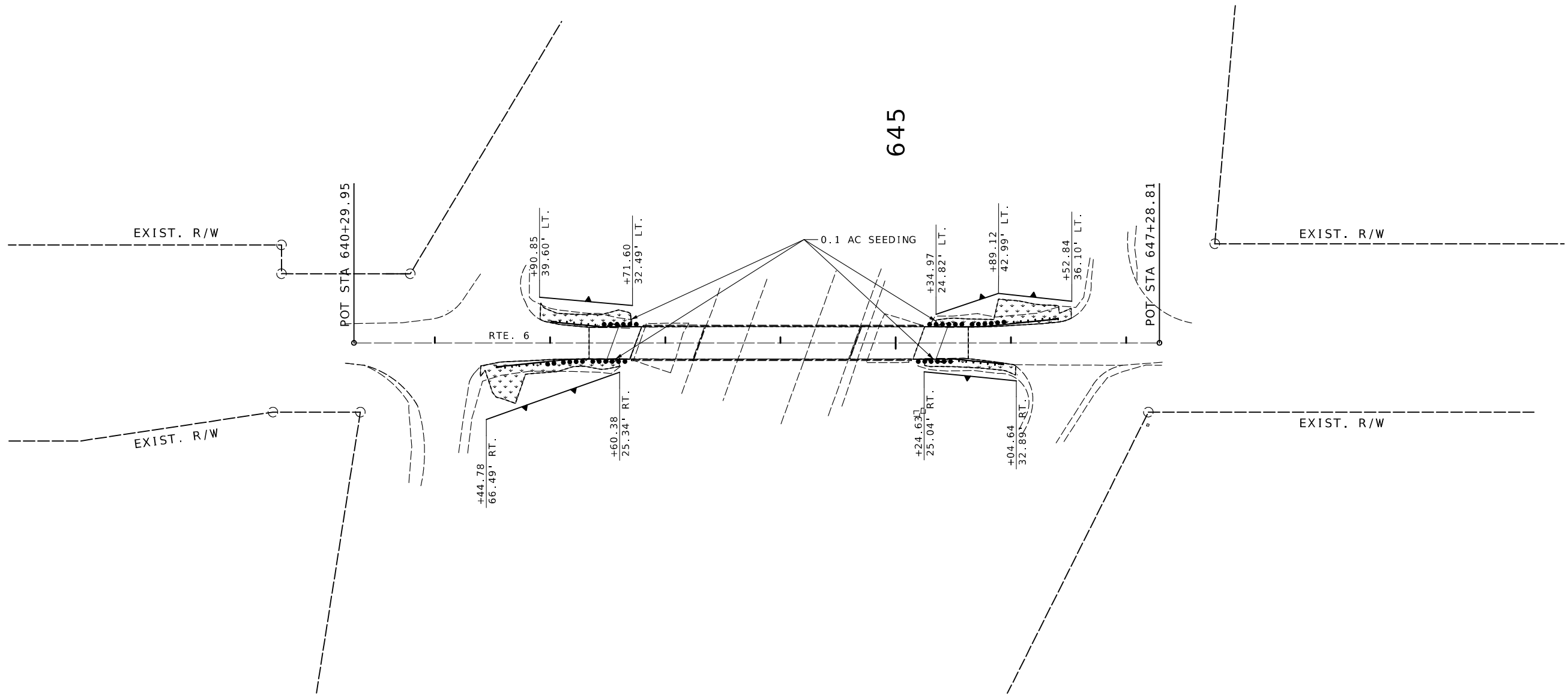


105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-273-6636)



4435 MAIN STREET, SUITE 1150  
KANSAS CITY, MO 64111  
913/441-1100, FAX 913/441-1468  
CERTIFICATE OF AUTHORITY NUMBER FO09T0024

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



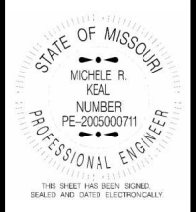
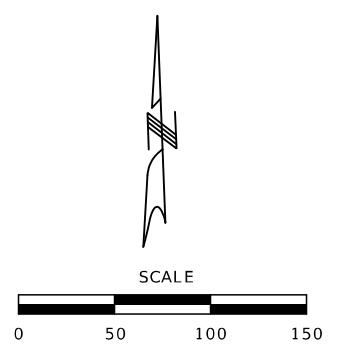
TEMPORARY EROSION CONTROL LEGEND

—▲— SILT FENCE

PERMANENT EROSION CONTROL LEGEND

▨ PERMANENT SEEDING AND MULCHING

EROSION CONTROL  
RTE 6  
SHEET 1 OF 1



DATE PREPARED 8/7/2024	
ROUTE 6	STATE MO
DISTRICT NW	SHEET NO. 11
COUNTY DAVIESS	
JOB NO. JNW0112	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

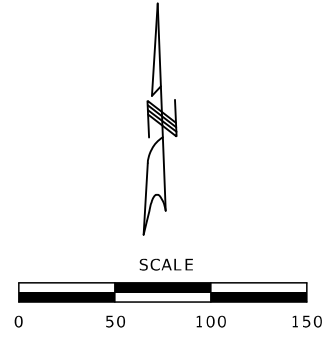
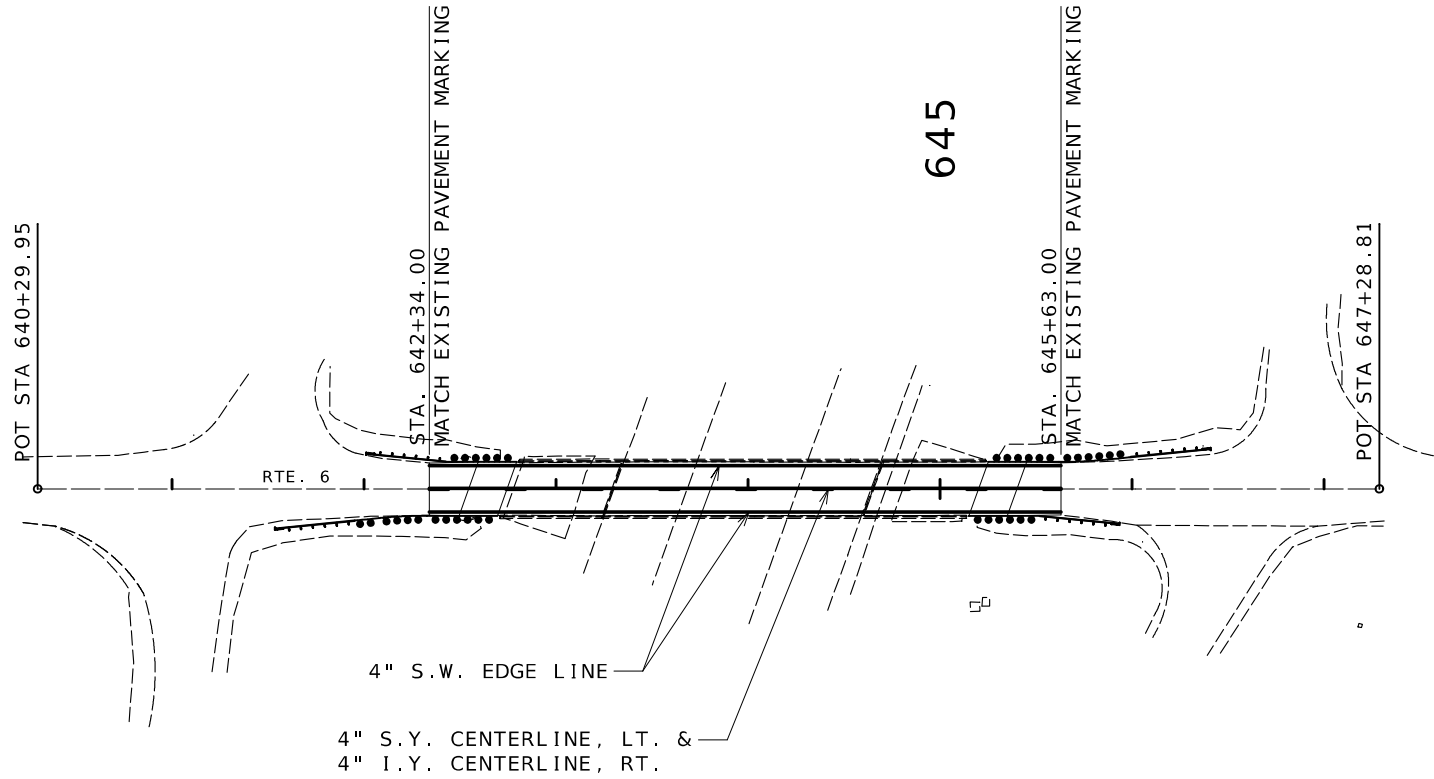
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

**benesch**

4435 MAIN STREET, SUITE 1150  
KANSAS CITY, MO 64111  
913/441-1100, FAX 913/441-1468  
CERTIFICATE OF AUTHORITY NUMBER FO09T0024

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





PAVEMENT MARKING  
RTE 6  
SHEET 1 OF 1

**benesch**  
4435 MAIN STREET, SUITE 1150  
KANSAS CITY, MO 64111  
913/441-1100 FAX 913/441-1468  
CERTIFICATE OF AUTHORITY NUMBER F009T0024

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

DATE	DESCRIPTION

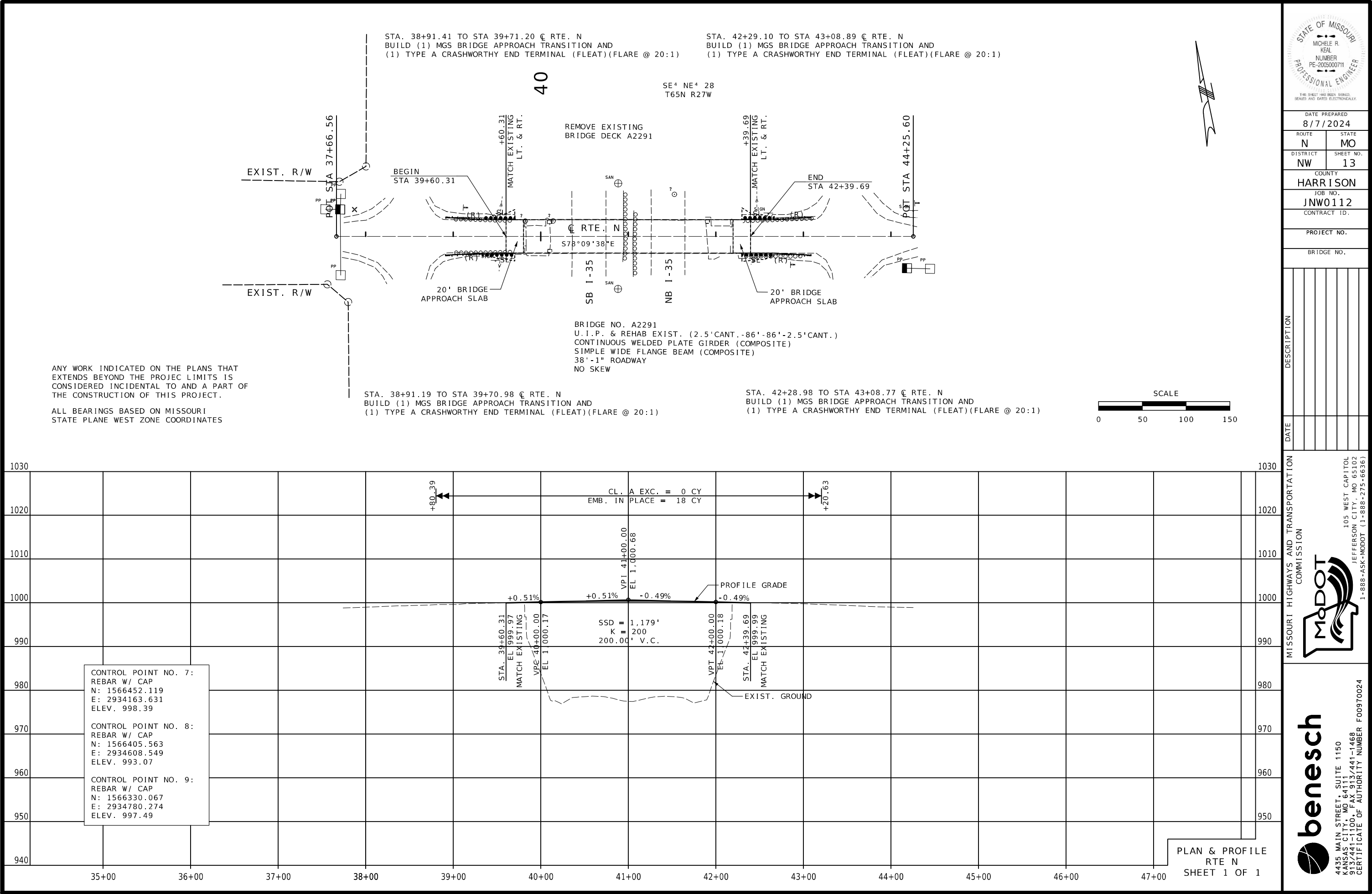
COUNTY	
DAVIESS	
JOB NO.	
JNW0112	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

STATE OF MISSOURI  
MICHELE R. KRAL  
NUMBER  
PE-2005000711  
PROFESSIONAL ENGINEER  
THIS SHEET HAS BEEN SIGNED,  
SEALED AND DATED ELECTRONICALLY

DATE PREPARED  
8/7/2024

ROUTE	STATE
6	MO
DISTRICT	SHEET NO.
NW	12

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



DETOUR

WEST

N

←

50I

DETOUR

EAST

N

←

50J

DETOUR

WEST

N

↗

50K

DETOUR

EAST

N

↗

50L

DETOUR

WEST

N

→

50M

DETOUR

EAST

N

→

50N

DETOUR

WEST

N

↑

50P

DETOUR

EAST

N

↑

50Q

END  
DETOUR

51

ROAD  
CLOSED

63

DETOUR  
AHEAD

52

ROAD  
CLOSED  
AHEAD

WO20-3

20

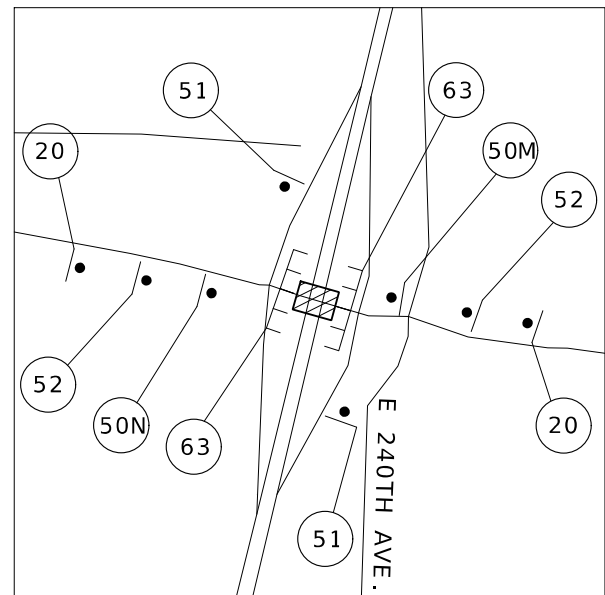
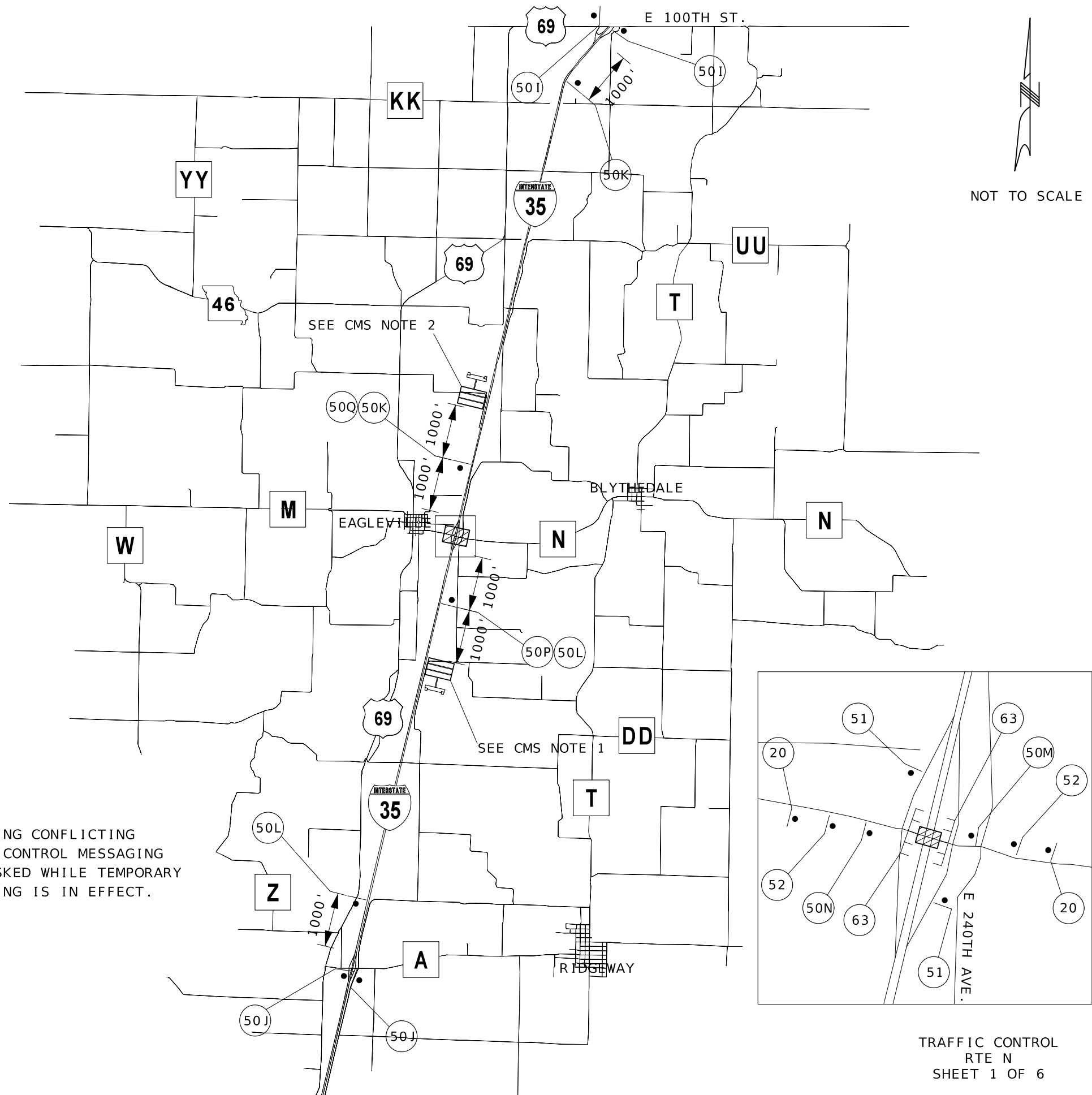
- CMS NOTES
1. RTE N WEST  
CLOSED  
FOLLOW DETOUR
  2. RTE N EAST  
CLOSED  
FOLLOW DETOUR

NOTE:ALL EXISTING SIGNING CONFLICTING  
WITH TEMPORARY TRAFFIC CONTROL MESSAGING  
SHALL BE COVERED OR MASKED WHILE TEMPORARY  
TRAFFIC CONTROL MESSAGING IS IN EFFECT.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- E

 BARRICADE
- WORK ZONE
- CHANGEABLE MESSAGE BOARD



TRAFFIC CONTROL  
RTE N  
SHEET 1 OF 6



DATE PREPARED 8/7/2024	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. 14
COUNTY HARRISON	
JOB NO. JNW0112	
CONTRACT ID.	

PROJECT NO.  
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

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

4435 MAIN STREET, SUITE 1150  
KANSAS CITY, MO 64111  
913/441-1100 FAX 913/441-1468  
CERTIFICATE OF AUTHORITY NUMBER FO09T0024





WO20-6a

1



WO4-1aR

2



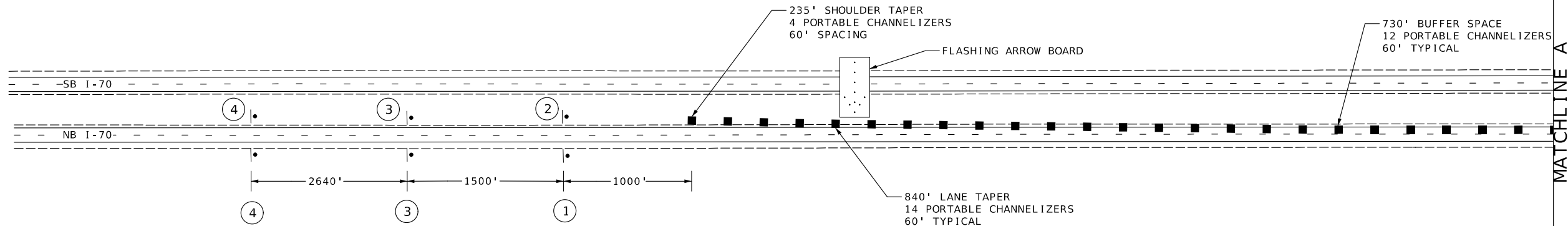
WO20-5

3



WO20-1

4



#### TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- TYPE III BARRICADE
- CHANNELIZER
- CHANGEABLE MESSAGE SIGN (CMS)

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

TRAFFIC CONTROL  
RTE N  
SHEET 3 OF 6



DATE PREPARED  
8/8/2024  
ROUTE N STATE MO  
DISTRICT NW SHEET NO. 16  
COUNTY HARRISON  
JOB NO. JNW0112  
CONTRACT ID.

PROJECT NO.  
BRIDGE NO.

DESCRIPTION	DATE

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



**benesch**  
4435 MAIN STREET, SUITE 1150  
KANSAS CITY, MO 64111  
913/441-1100 FAX 913/441-1468  
CERTIFICATE OF AUTHORITY NUMBER F009T0024

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



WO20-3

1



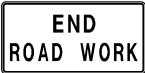
WO20-3

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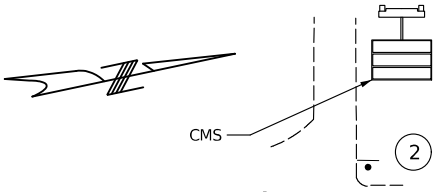
R11-2

3



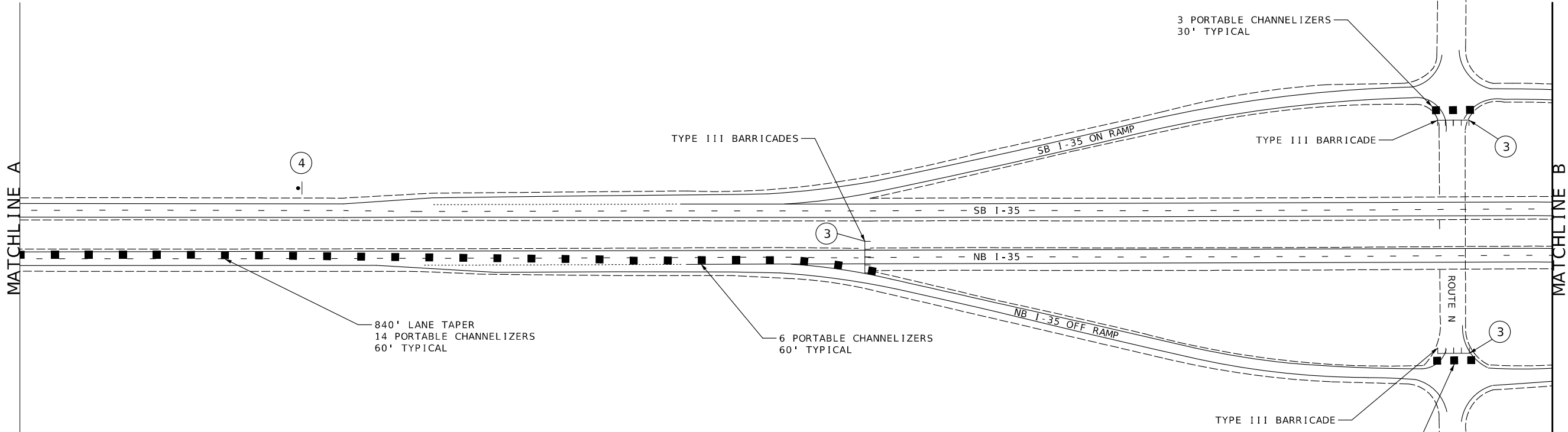
GO20-2

4



2

1

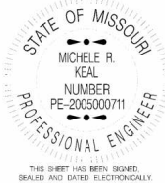


TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- TYPE III BARRICADE
- CHANNELIZER
- CHANGEABLE MESSAGE SIGN (CMS)

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

TRAFFIC CONTROL  
RTE N  
SHEET 4 OF 6



DATE PREPARED		8/8/2024	
ROUTE	N	STATE	MO
DISTRICT	NW	SHEET NO.	17
COUNTY			
HARRISON			
JOB NO.			
JNW0112			
CONTRACT ID.			
PROJECT NO.			
BRIDGE NO.			

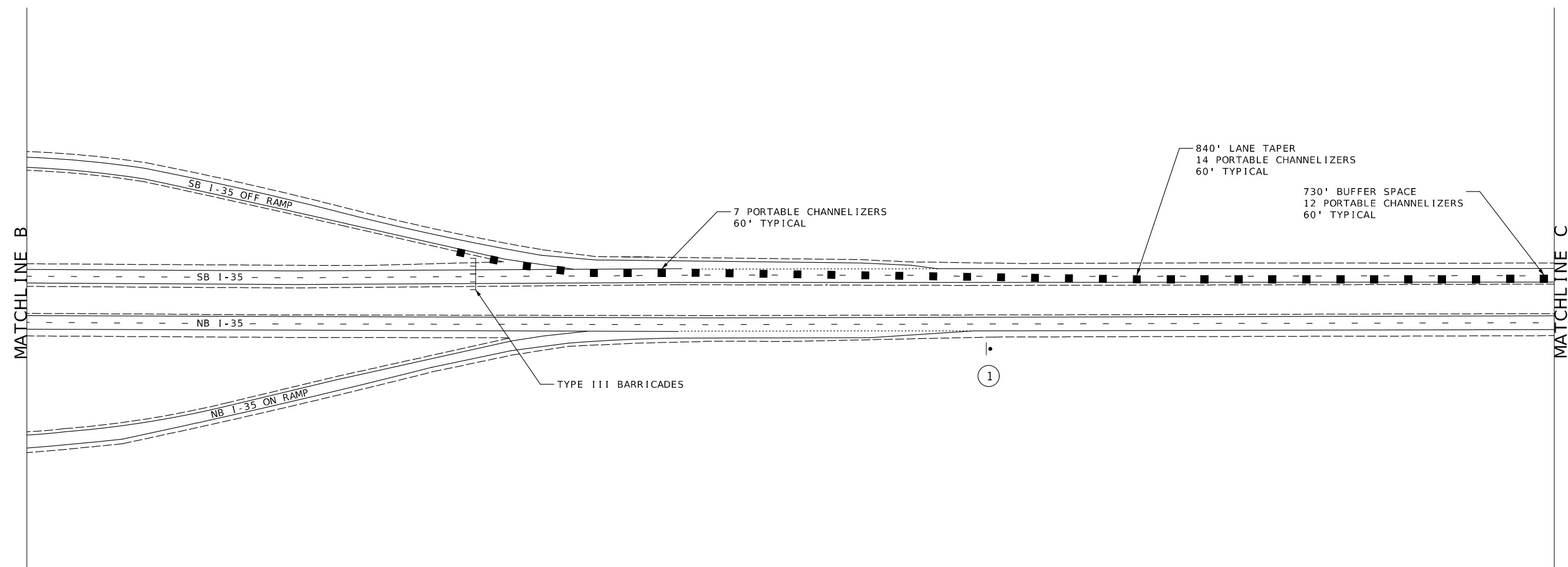
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

4435 MAIN STREET, SUITE 1150  
KANSAS CITY, MO 64111  
913/441-1100 FAX 913/441-1468  
CERTIFICATE OF AUTHORITY NUMBER F009T0024

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



DATE PREPARED  
8/8/2024

ROUTE	STATION
N	MO

DISTRICT	SHEET
NW	18

COUNTY  
HARRISON

JOB NO.  
INW0112

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

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



4435 MAIN STREET, SUITE 1150  
KANSAS CITY, MO 64111  
913/441-1100, FAX 913/441-1468  
CERTIFICATE OF AUTHORITY NUMBER F00970024



WO20-6a

1



WO4-1aR

2



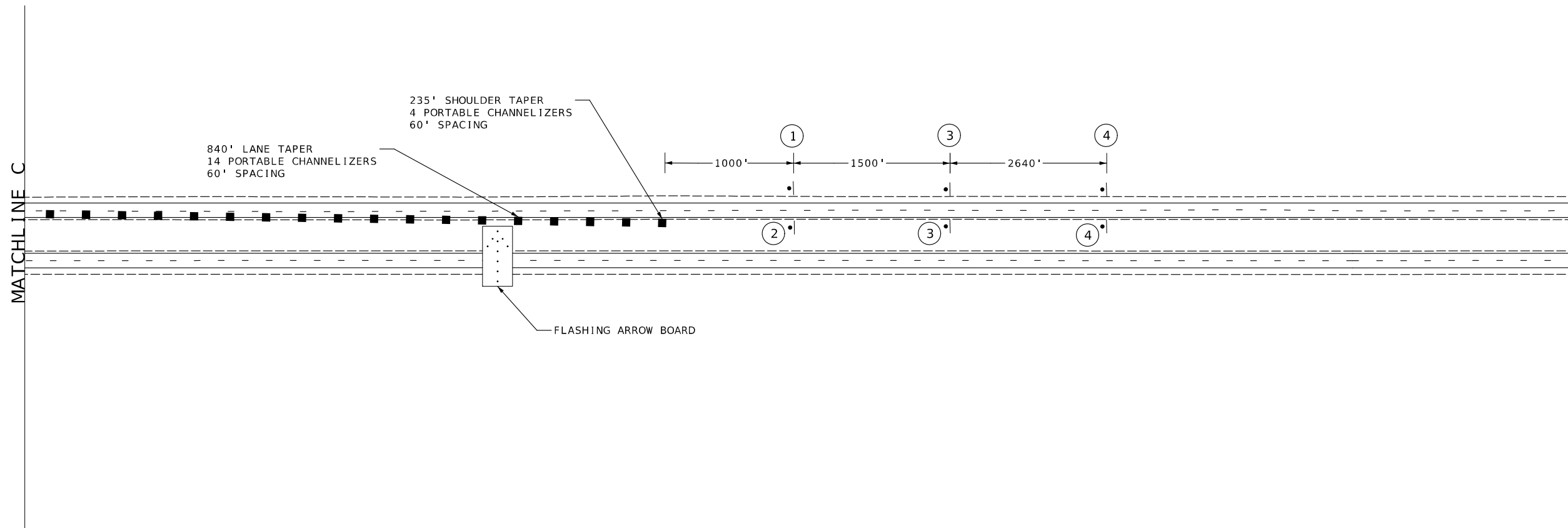
WO20-5

3



WO20-1

4



#### TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- TYPE III BARRICADE
- CHANNELIZER
- CHANGEABLE MESSAGE SIGN (CMS)

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

TRAFFIC CONTROL  
RTE N  
SHEET 6 OF 6



DATE PREPARED  
8/8/2024

ROUTE N STATE MO

DISTRICT NW SHEET NO. 19

COUNTY

HARRISON

JOB NO.

JNW0112

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

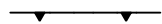
DESCRIPTION	DATE



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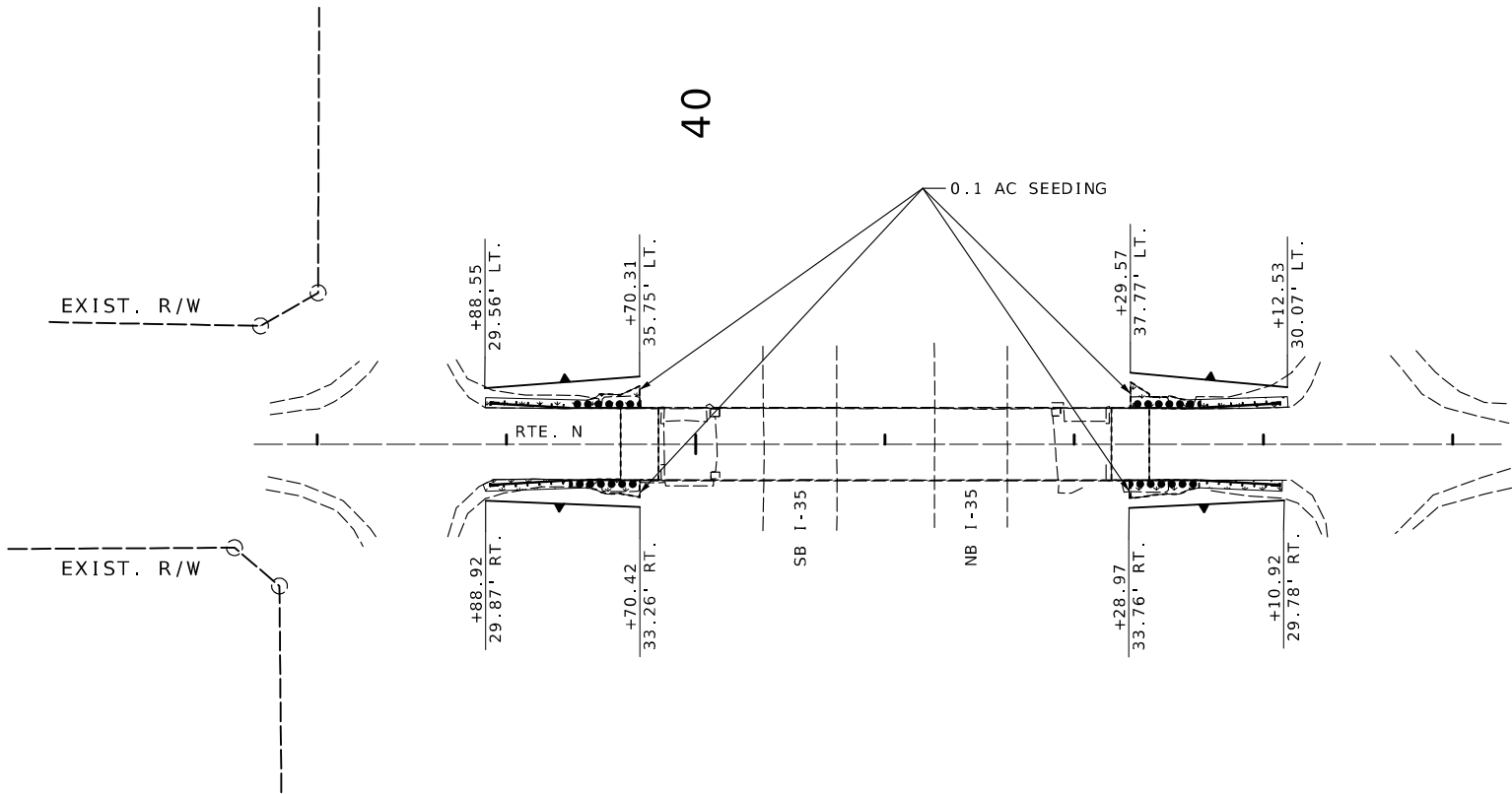


TEMPORARY EROSION CONTROL LEGEND

 SILT FENCE

PERMANENT EROSION CONTROL LEGEND

 PERMANENT SEEDING AND MULCHING



EROSION CONTROL  
RTE N  
SHEET 1 OF 1



4435 MAIN STREET, SUITE 1150  
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CERTIFICATE OF AUTHORITY NUMBER F009T0024

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION



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

DESCRIPTION

DATE


BRIDGE NO.

PROJECT NO.

CONTRACT ID.

JNW0112

HARRISON

DISTRICT  
NW

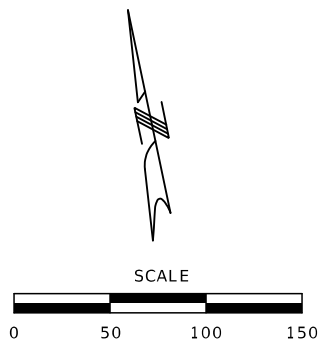
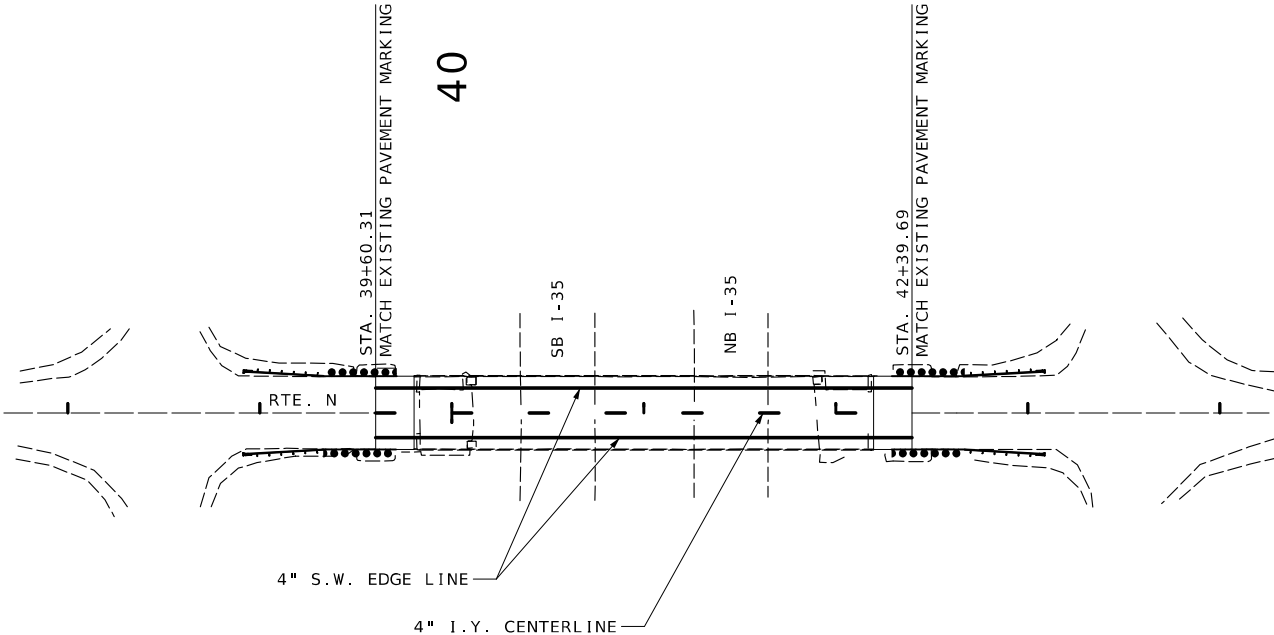
ROUTE  
N

STATE  
MO

DATE PREPARED  
8/12/2024



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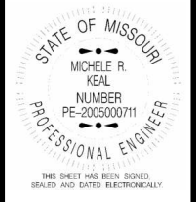
PAVEMENT MARKING  
RTE N  
SHEET 1 OF 1

**benesch**  
4435 MAIN STREET, SUITE 1150  
KANSAS CITY, MO 64111  
913/441-1100 FAX 913/441-1468  
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MISSOURI HIGHWAYS AND TRANSPORTATION  
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105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
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DATE	DESCRIPTION

DATE PREPARED 8/12/2024	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. 21
COUNTY HARRISON	
JOB NO. JNW0112	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	



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PLOT CONFIGURATION:MoDOT PDF Sheet.pltcfq

PLOTTED BY:RLESTER

LOCHNER JOB: 21679 MoDOT NW District 11 Bridges

U.I.P. AND REDECK EXISTING (51'- 70'- 70'- 51') CONTINUOUS COMPOSITE WIDE FLANGE BEAM SPANS (SKEW 19°49' L.A.)

SEC/SUR 28 TWP 59N RGE 29W

Table Showing S2 and S3 Bar Lengths					
Int. Bent No. 2		Int. Bent No. 3		Int. Bent No. 4	
Span 1	Span 2	Span 2	Span 3	Span 3	Span 4
16'-9"	19'-6"	19'-6"	19'-6"	19'-6"	16'-9"

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

\*\* Unless otherwise shown.

General Notes:

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

Design Loading:  
H15-44 (1961) (Existing)  
HS20-44 (New Construction)  
35 lb/sf Future Wearing Surface  
Earth - 120 lb/cf, Equivalent Fluid Pressure 45 lb/cf  
Fatigue Stress - Case III

Design Unit Stresses:  
Class B-1 Concrete (Barrier) f'c = 4,000 psi  
Class B-2 Concrete (End Bents & Superstructure, except Barrier) f'c = 4,000 psi  
Reinforcing Steel (Grade 60) fy = 60,000 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. #4-S6 to be placed at 12" cts. where haunch exceeds 2 inches in shear stud regions.

Miscellaneous:  
Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for plain bars and 30 diameters for deformed bars, unless otherwise noted.

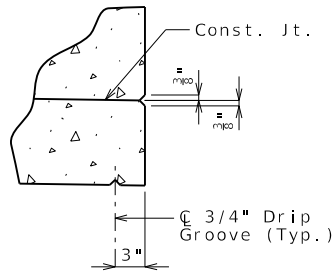
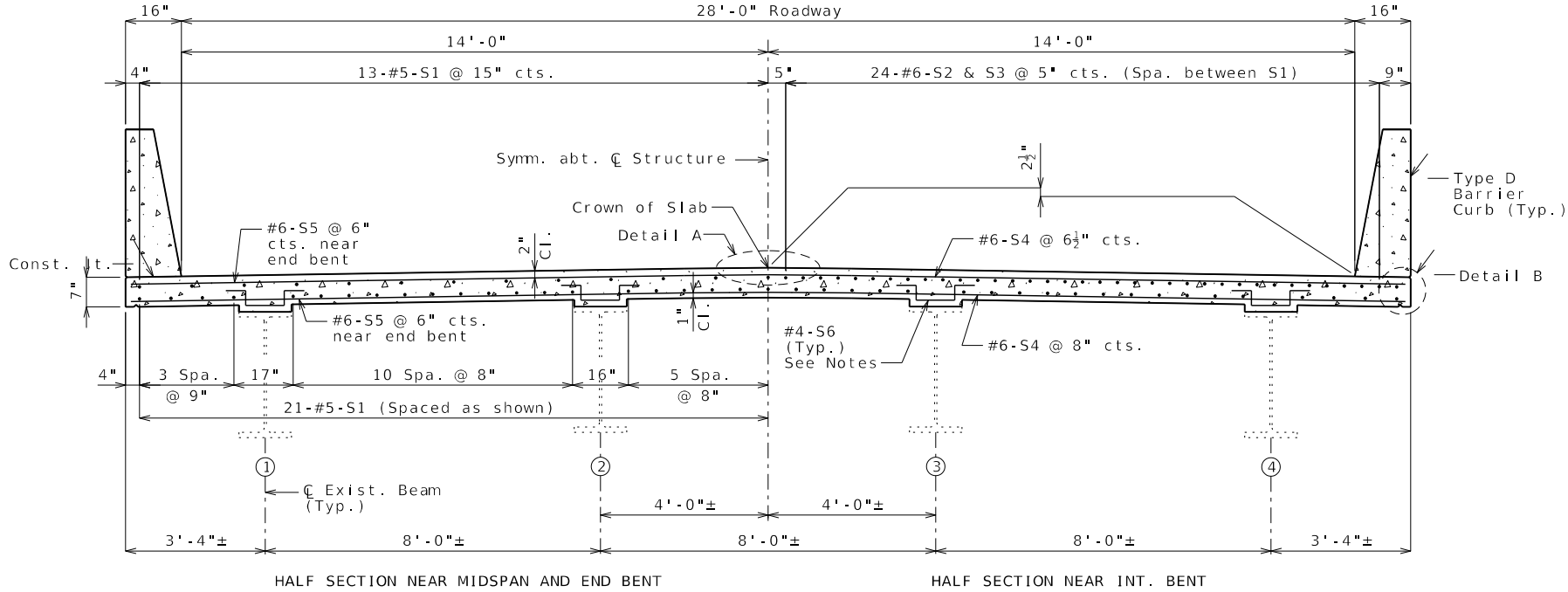
Roadway surfacing adjacent to bridge ends shall match new bridge slab surface. (Roadway item)

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

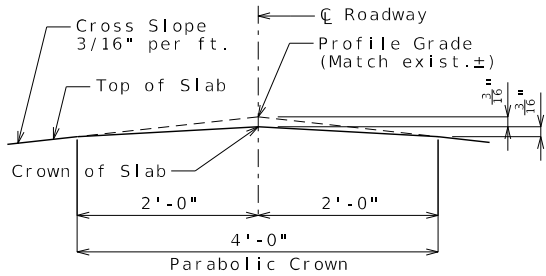
Contractor shall verify all dimensions in field before ordering new material.

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

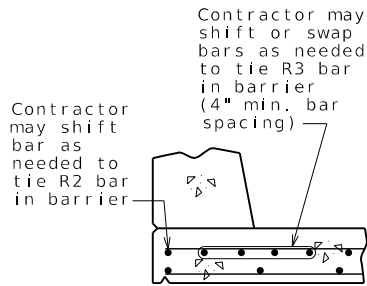
Traffic Handling:  
Structure to be closed during construction. Traffic to be maintained on other routes during construction. See roadway plans for traffic control.



DETAIL B



DETAIL A



OPTIONAL SHIFTING  
TOP BARS AT BARRIER

TYPICAL SECTION THRU SLAB

Estimated Quantities		
Item		Total
Removal of Miscellaneous ACM (Non-Friable)	sq. foot	23
Removal of Existing Bridge Deck	sq. foot	7,551
Partial Removal of Substructure Concrete	lump sum	1
Bridge Approach Slab (Minor)	sq. yard	127
Slab on Steel	sq. yard	837
Type D Barrier	linear foot	527
Substructure Repair (Unformed)	sq. foot	15
Slab Drain	each	20
Non-Destructive Testing	linear foot	74
Vertical Drain at End Bents	each	2
Open Cell Foam Joint Seal	linear foot	57

Cost of any required excavation for bridge will be considered completely covered by the contract unit price for other items.

Estimated Quantities for Slab on Steel		
Item		Total
Class B-2 Concrete	cu. yard	190
Reinforcing Steel (Epoxy Coated)	pound	66,490

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

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

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

Bridge deck surface may be finished with a vibratory screed.

For Optional Stay-In-Place Form Details, see Sheet No. 2.

REPAIRS TO BRIDGE:  
ROUTE 6 OVER ROUTE 1-35

ROUTE 6 FROM FROM ROUTE EE TO ROUTE Y  
ABOUT 3.0 MILES EAST OF ROUTE EE  
BEGINNING STATION 642+74.50± (MATCH EXISTING)

DESIGNED BY: K LW MAR 2024  
DETAILED BY: J TC MAR 2024  
CHECKED BY: D MA APR 2024

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

Sheet No. 1 of 9

B\_A15892\_001\_JNW0112\_FRONT SHEET.dgn 8:43:59 AM 9/27/2024



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9/27/2024

ROUTE STATE

6 MO

DISTRICT SHEET NO.

BR 1

COUNTY

DAVIESS

JOB NO.

JNW0112

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A15892

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

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

Lochner

15717 College Boulevard | Lenexa, Kansas 66219  
Certificate of Authority #F00727076

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REV.

LOCHNER JOB: 21679 MoDOT NW District 11 Bridges  
PLOTTED BY: RLESTER  
PLOT CONFIGURATION: MoDOT PDF Sheet.plt.ctb

### General Notes:

#### Stay-In-Place Forms:

Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

Form sheets shall not rest directly on the top of beam flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Welding on or drilling holes in the beam flanges will not be permitted. All steel fabrication and construction shall be in accordance with Sec 1080 and 712. Certified field welders will not be required for welding of the form supports.

The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for beam loading.

The contractor shall provide a method of preventing the direct contact of the stay-in-place forms and connection components with uncoated weathering steel members that is approved by the engineer.

#### Pouring and Finishing Slab:

The contractor shall provide bracing necessary for lateral and torsional stability of the beams during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not weld on or drill holes in the beams. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Slab on Steel.

Slab shall be poured upgrade from end to end at a minimum rate of 25 cubic yards per hour.

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

#### Haunching:

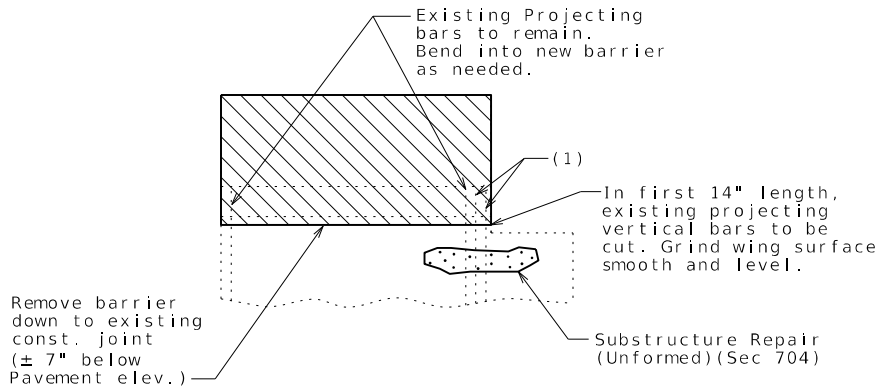
(2) Slab is to be considered a uniform thickness as shown on the plans. Haunching will vary. See front sheet for slab thickness. For adjusted beam deflection due to weight of new deck and barriers, see Bridge Electronic Deliverables.

#### Resin Anchor Systems:

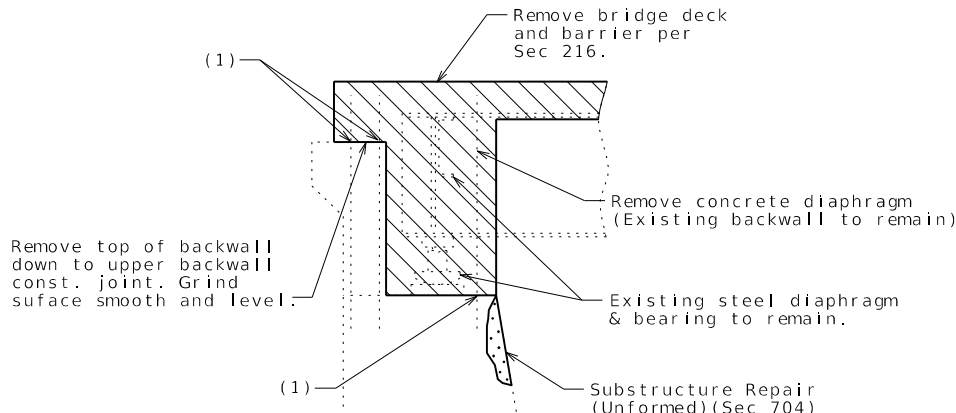
The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

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

The minimum embedment depth in concrete with f'c = 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 inches, unless noted otherwise.



TYPICAL WING BARRIER REMOVAL



END BENTS NO. 1 & 5 SECTION

### DETAILS OF CONCRETE REMOVAL

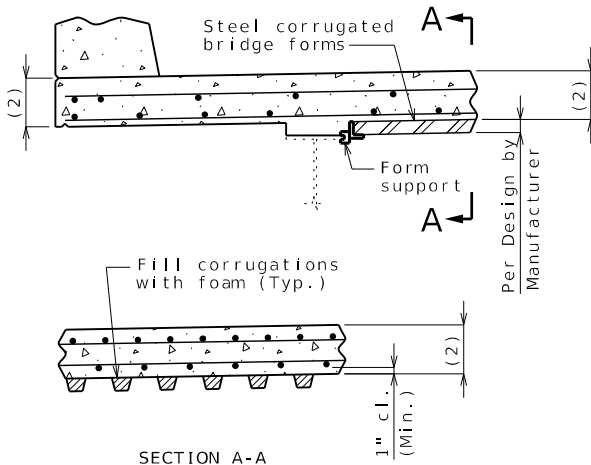
Prior to deck removal, profile grade along bridge shall be recorded at tenth points of each span.

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

The cost of removal of end bent diaphragms as shown will be considered completely covered by the contract lump sum price for Partial Removal of Substructure Concrete.

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

A smooth, level surface shall be provided at top of backwall removal lines.



SECTION A-A

### OPTIONAL STAY-IN-PLACE FORM DETAILS

DESIGNED BY: K LW MAR 2024
DETAILED BY: J TC MAR 2024
CHECKED BY: D MA APR 2024

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

Sheet No. 2 of 9



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ROUTE 6 STATE MO

DISTRICT BR SHEET NO. 2

COUNTY  
DAVIESS

JOB NO.  
JNW0112

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
A15892

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

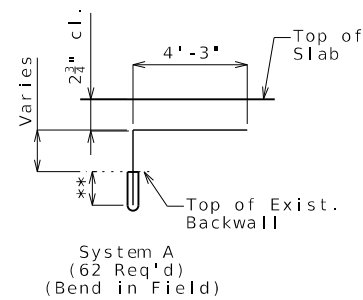
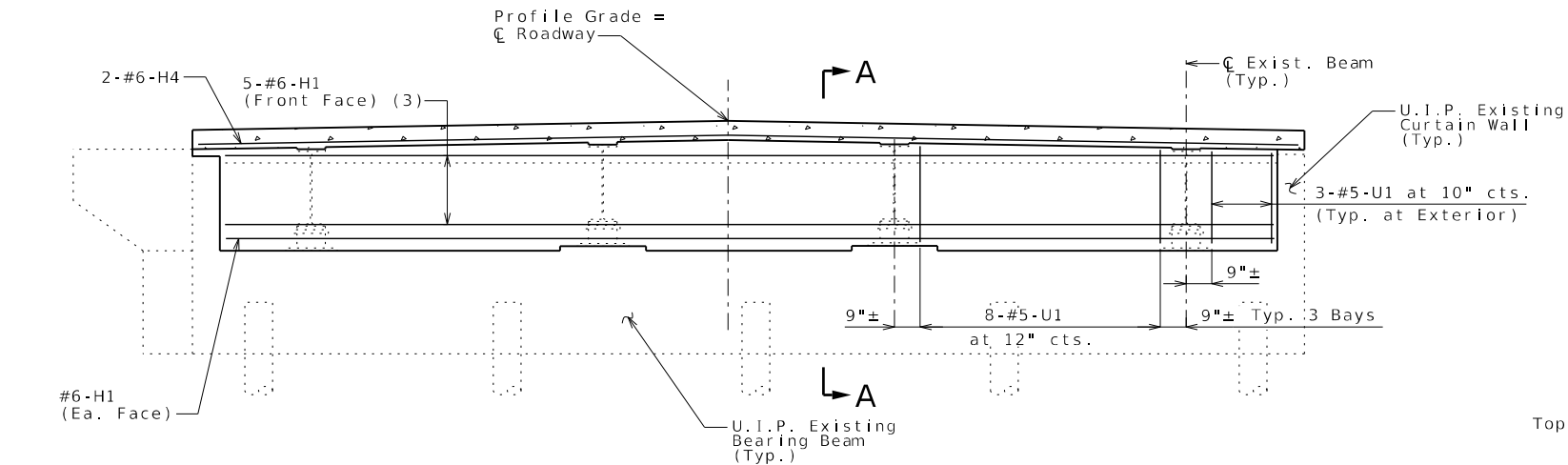
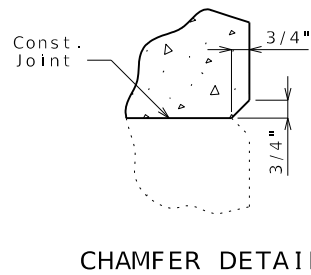
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

**Lochner**

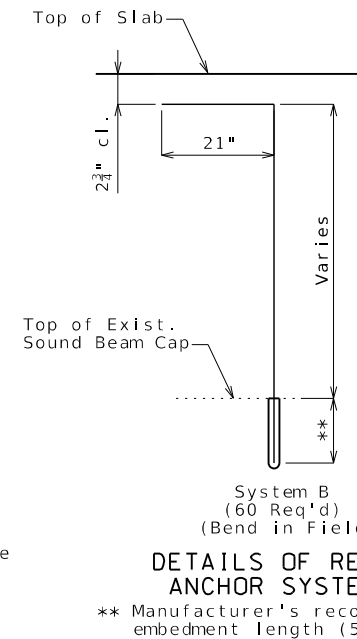
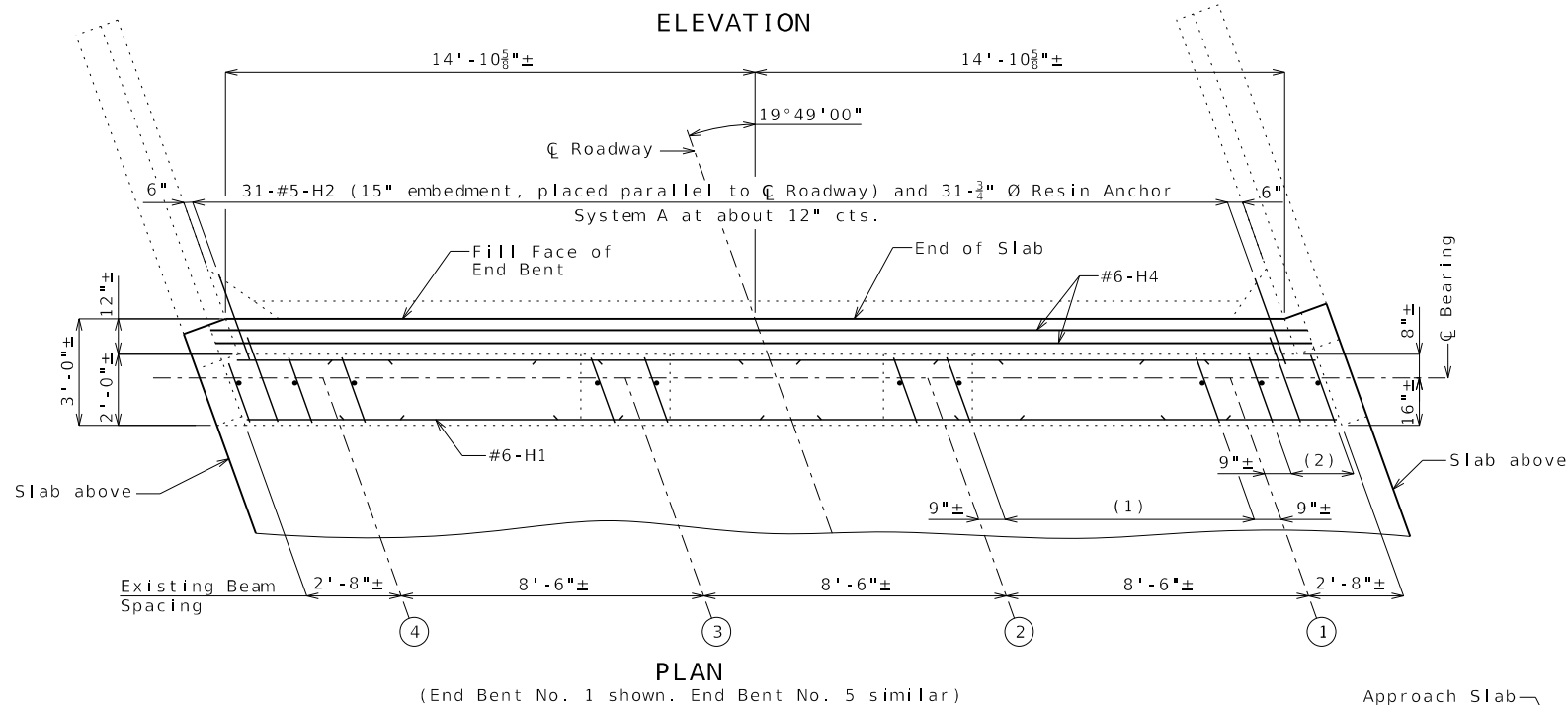
15717 College Boulevard | Lenexa, Kansas 66219  
Certificate of Authority #FO0727076

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LOCHNER JOB: 21679 MoDOT NW District 11 Bridges PLOTTED BY: RLESTER PLOT CONFIGURATION: MoDOT PDF Sheet.pltcfq



- (1) 8-#5-U1 with 8- $\frac{3}{4}$ "  $\varnothing$  Resin Anchor System B (Typ. 3 bays)
- (2) 3-#5-U1 with 3- $\frac{3}{4}$ "  $\varnothing$  Resin Anchor System B (Typ. at Exterior)
- (3) The H1 bars are segmented for ease of placement through girder web holes. The total bar length for H1 bars shown in Bill of Reinforcing Steel allows for one lap splice with a length of 3'-10". Actual bar segment lengths to be determined by contractor for ease of installing bars. The contractor may use a mechanical bar splice in lieu of a lap splice. When a mechanical bar splice is used, the actual bar segment length will be determined by the contractor to accommodate manufacturer's recommendations for installation and ease of construction. The cost of furnishing and installing the bar splices will be considered completely covered by the contract unit price for Reinforcing Steel. No adjustment of the quantity of reinforcing steel will be allowed for the use of mechanical bar splices.



Notes:

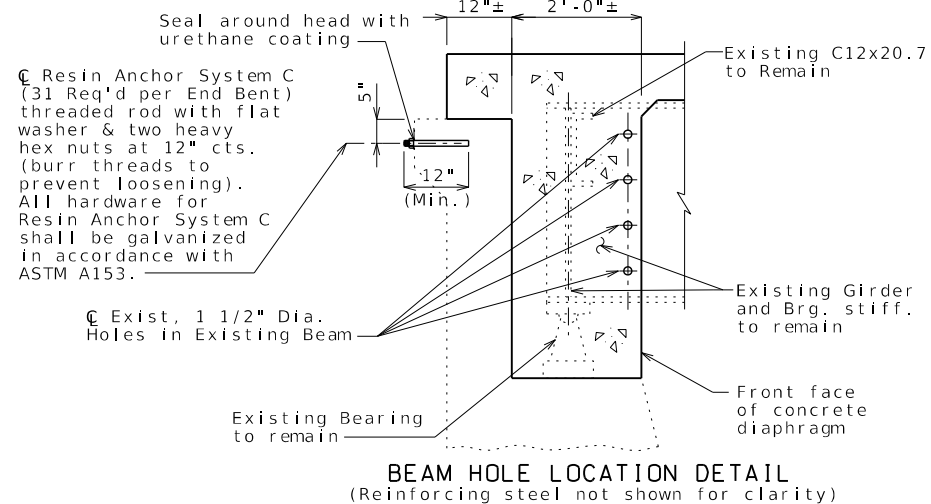
The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

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

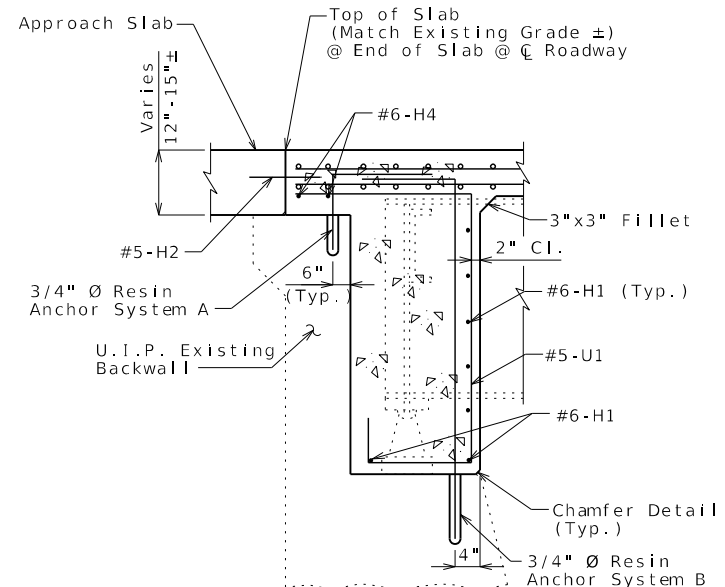
The minimum embedment depth in concrete with  $f'c = 4,000$  psi for the resin anchor systems shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

An epoxy coated #6 Grade 60 reinforcing bar shall be substituted for the  $\frac{3}{4}$ "  $\varnothing$  threaded rod.

The exposed and accessible surfaces of the existing structural steel and bearings that will be encased in concrete shall be cleaned with a minimum of SSPC-SP-3 surface preparation and coated with a minimum of one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce a dry film thickness of not less than 3 mils before concrete is poured. The surface preparation and coating for beams shall extend a minimum of one foot outside the face of the beam encasement. Payment for cleaning and coating steel to be encased in concrete will be considered completely covered by the contract unit price for Slab on Steel.



## END BENTS NO. 1 & 5



DESIGNED BY: K LW MAR 2024  
DETAILED BY: J TC MAR 2024  
CHECKED BY: D MA APR 2024

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Sheet No. 3 of 9

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ROUTE STATE

6 MO

DISTRICT SHEET NO.

BR 3

COUNTY

DAVIESS

JOB NO.

JNW0112

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A15892

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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

Certificate of Authority #F00727076

Lenexa, Kansas 66219

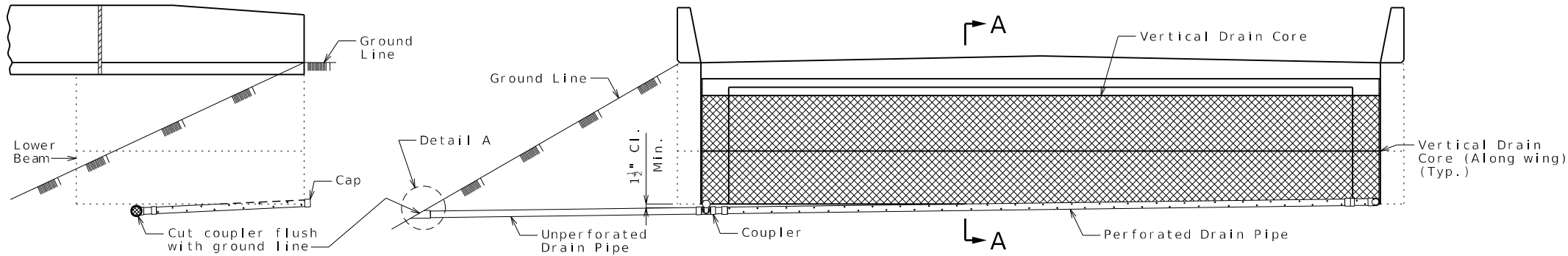
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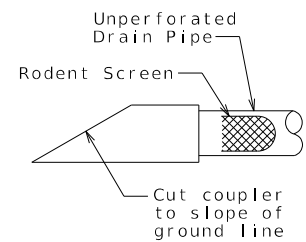
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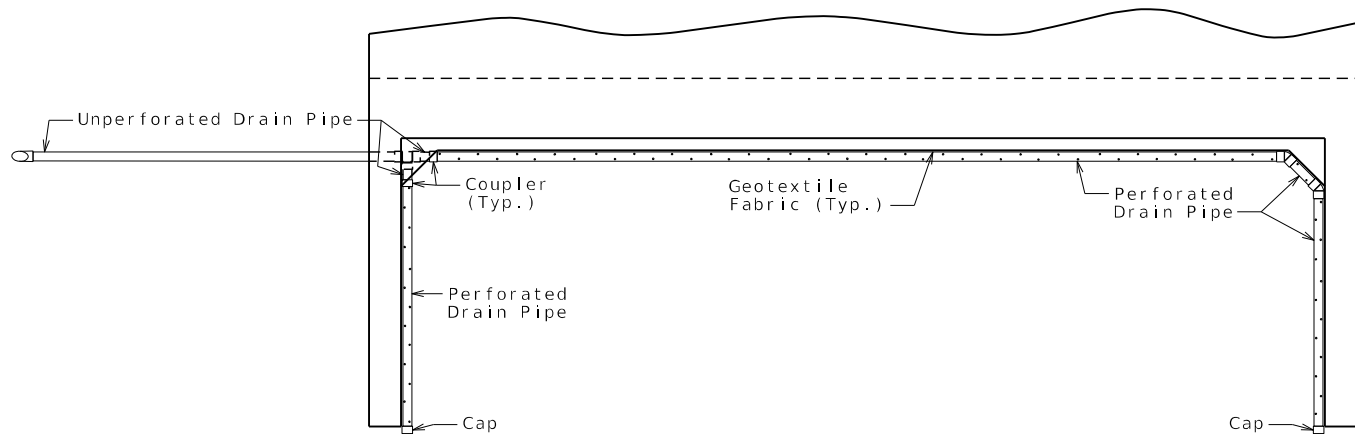


ELEVATION OF WING

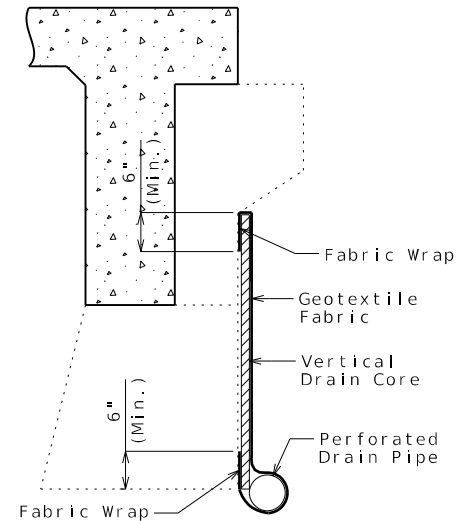
ELEVATION OF END BENT



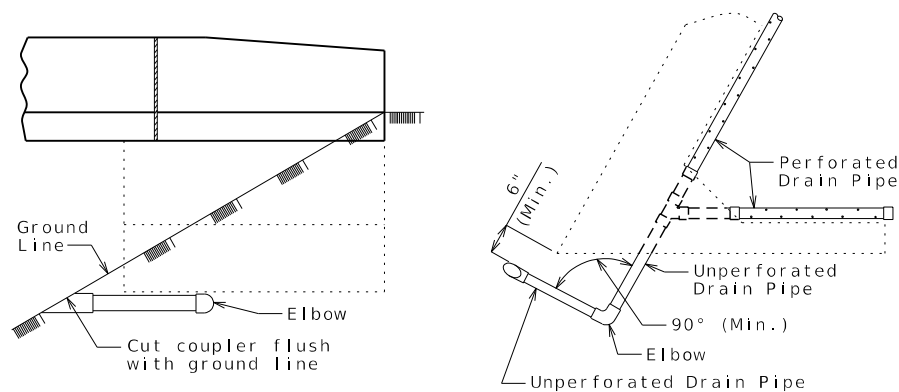
DETAIL A



PLAN OF END BENT



PART SECTION A-A  
(Section thru wing similar)



ELEVATION OF WING

PART PLAN

OPTIONAL TURNED DRAIN

(Use only when straight drain is not practical.)

## VERTICAL DRAIN AT END BENTS

(Squared end bent shown, skewed end bent similar)

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

Sheet No. 4 of 9

### General Notes:

All drain pipe shall be sloped 1 to 2 percent.

Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.

Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.



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9/27/2024

ROUTE STATE

6 MO

DISTRICT SHEET NO.

BR 4

COUNTY

DAVIESS

JOB NO.

JNW0112

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A15892

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

MoDOT

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

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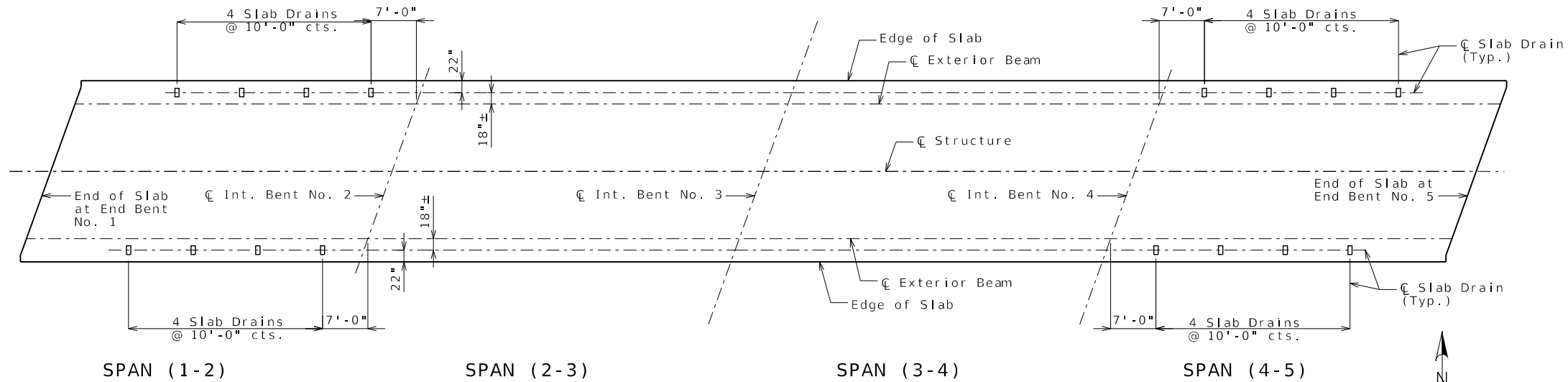
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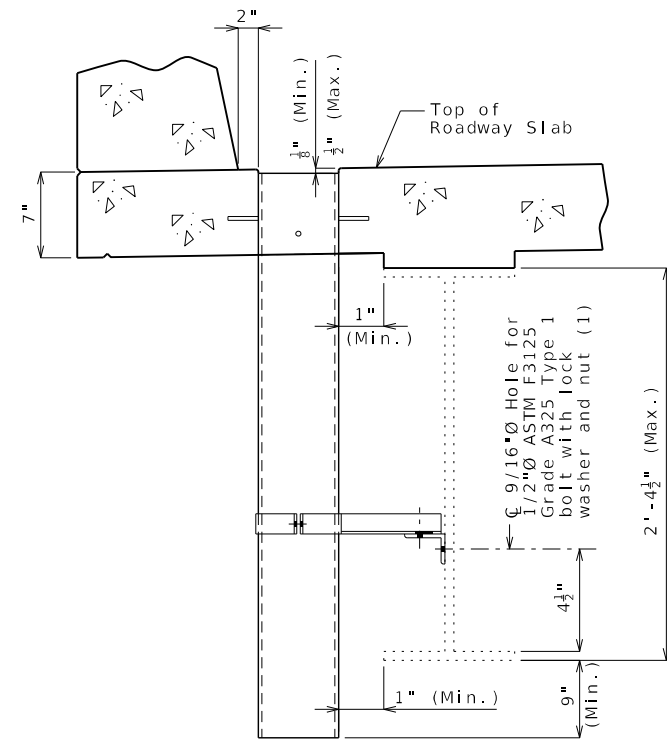
PLOTTED BY:RLESTER

LOCHNER JOB: 21679 MoDOT NW District 11 Bridges

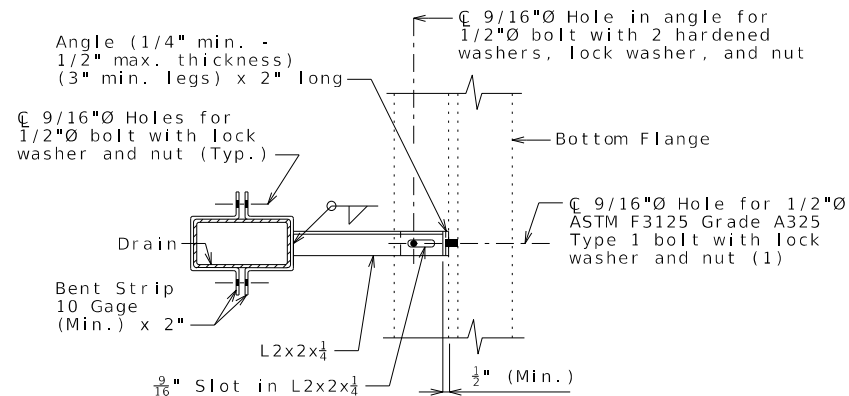
DESIGNED BY: K LW MAR 2024  
DETAILED BY: J TC MAR 2024  
CHECKED BY: D MA APR 2024



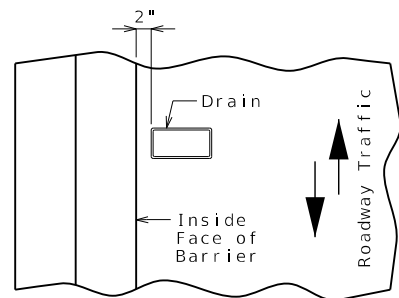
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



PART SECTION NEAR DRAIN

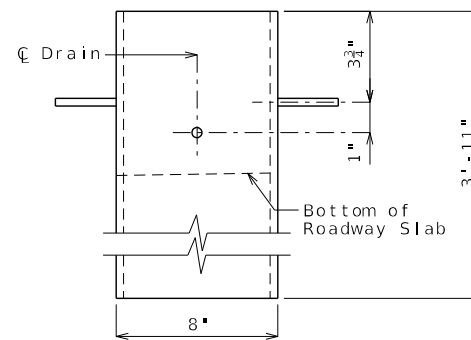


PART SECTION SHOWING BRACKET ASSEMBLY  
(1) Field drill in existing web.

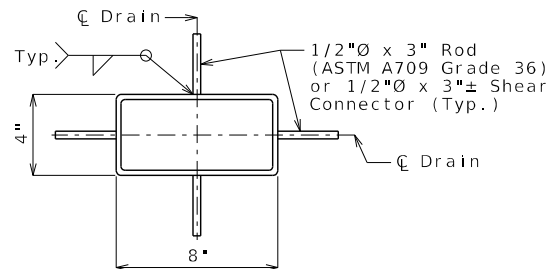


PART PLAN OF SLAB AT DRAIN

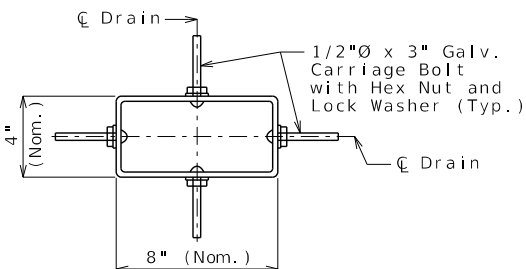
## SLAB DRAINS



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

## General Notes:

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

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

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

Reinforcing steel shall be shifted to clear drains.

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

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

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

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

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

## Notes for Steel Drain:

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

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

## Notes for FRP Drain:

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

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

Minimum reinforced wall thickness shall be 1/4 inch.

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

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

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

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



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DATE PREPARED  
10/2/2024

ROUTE  
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STATE  
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DISTRICT  
BR

SHEET NO.  
5

COUNTY  
DAVIES

JOB NO.  
JNW0112

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
A15892

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

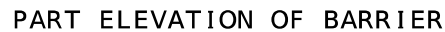
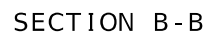
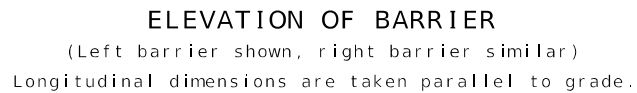
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SECTION A-A

### R-BAR PERMISSIBLE ALTERNATE SHAPE

## WATERSTOP DETAIL

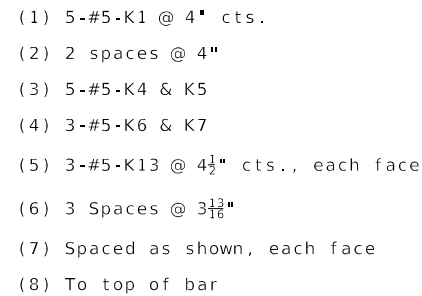
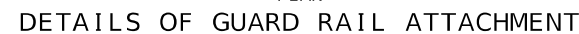
Cost of plastic waterstop, complete in place, will be considered completely covered by the contract unit price for Type D Barrier.

General Notes:

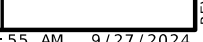
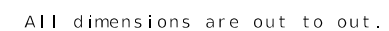
Plastic waterstop shall not be used with saw cut joints.







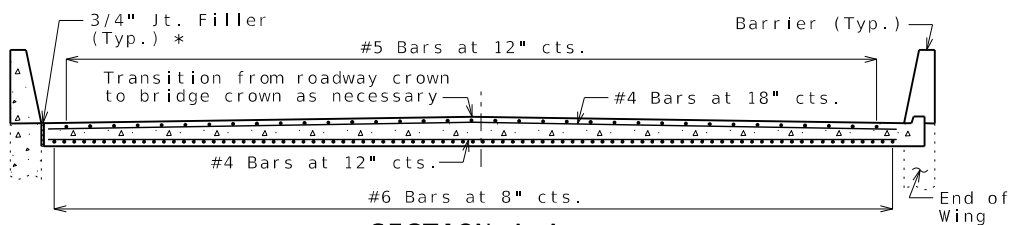
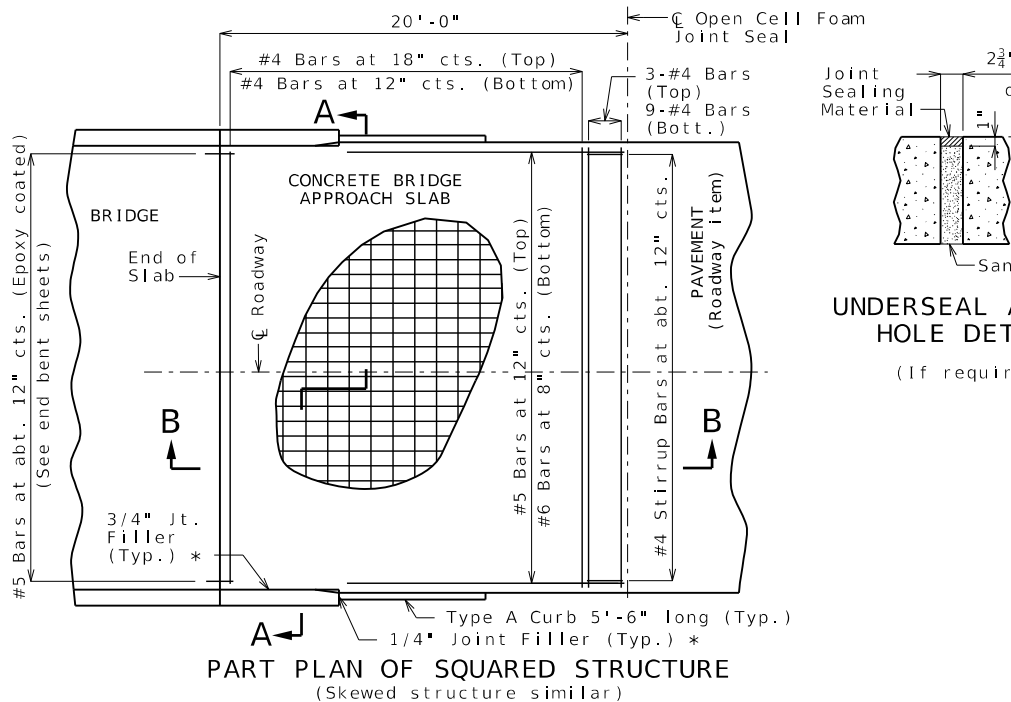
Sheet No. 7 of 9



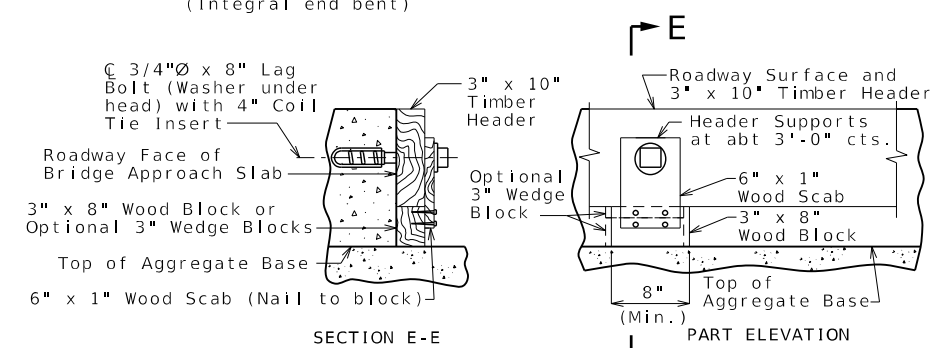
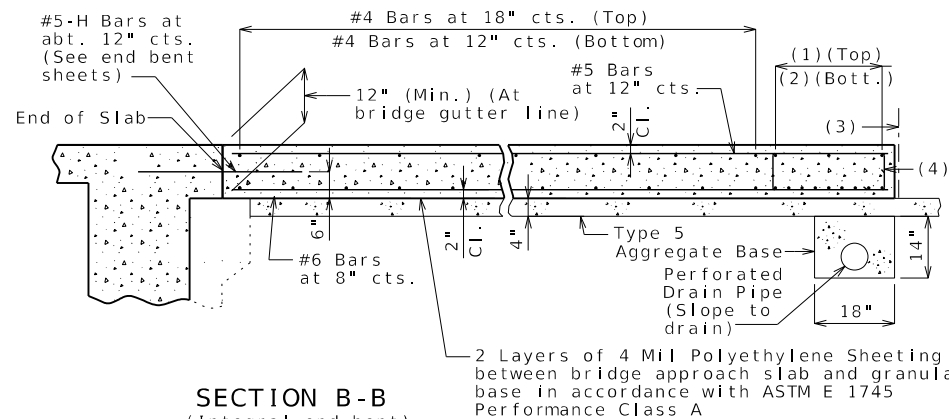
PLOT CONFIGURATION:MoDOT PDF Sheet.pltcfq

PLOTTED BY:RLESTER

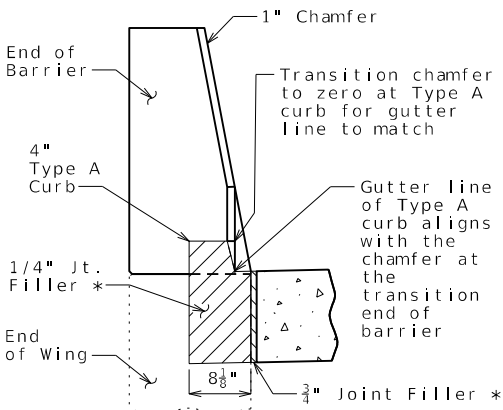
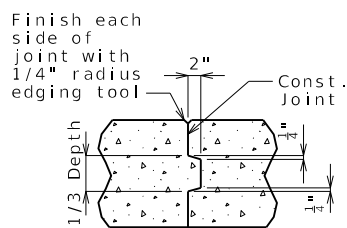
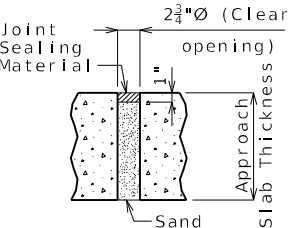
LOCHNER JOB: 21679 MoDOT NW District 11 Bridges



With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.

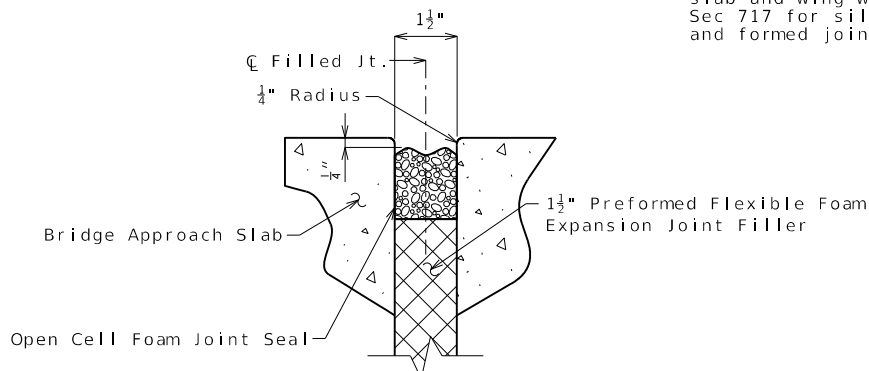


Remove timber header when concrete pavement is placed.



SECTION BETWEEN CURB AND BARRIER

- (1) 3-#4 Bars
- (2) 9-#4 Bars
- (3) See Detail F.
- (4) #4 Stirrup Bars at abt. 12" cts.; 2'-0" x 8" (Min.) out to out; Actual length = 5'-10" (Min.); 90° stirrup hook at bottom; Stirrup height (8") and actual length vary due to crown.



DETAIL F

Movement Parallel to Rdwy	Movement Normal to Joint	Min. Jt. Width (Normal to Joint)	Max. Jt. Width (Normal to Joint)	(1) Allowed Installation Gap (±) Normal to Joint at Roadway Surface at Air/Surface Temperature				Manufacturer	Seal Name
				@ 40°F	@ 50°F	@ 60°F	@ 70°F		
1 1/16"	1 9/16"	1 3/8"	2 1/8"	2 3/16"	2 1/8"	2"	1 7/8"		

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

## BRIDGE APPROACH SLAB (MINOR)

Integral end bents shown.

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

Sheet No. 8 of 9

## General Notes:

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

All concrete for the bridge approach slab shall be in accordance with Sec 503 (f'c = 4,000 psi).

The reinforcing steel in the bridge approach slab shall be epoxy coated Grade 60 with fy = 60,000 psi.

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

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 23 inches for #4 bars, or by mechanical bar splice.

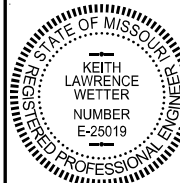
All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

Payment for furnishing all materials, labor and excavation necessary to construct the concrete bridge approach slab, including the timber header, underdrain, Type 5 aggregate base, joint filler and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor) per square yard.

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

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

\* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.



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COUNTY

DAVIES

JOB NO.

JNW0112

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A15892

DESCRIPTION

DATE

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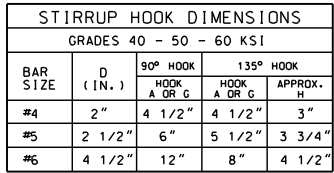
105 WEST CAPITOL  
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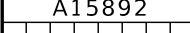
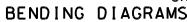
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**NOTE :**

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)  $F_y = 60,000$  PSI.

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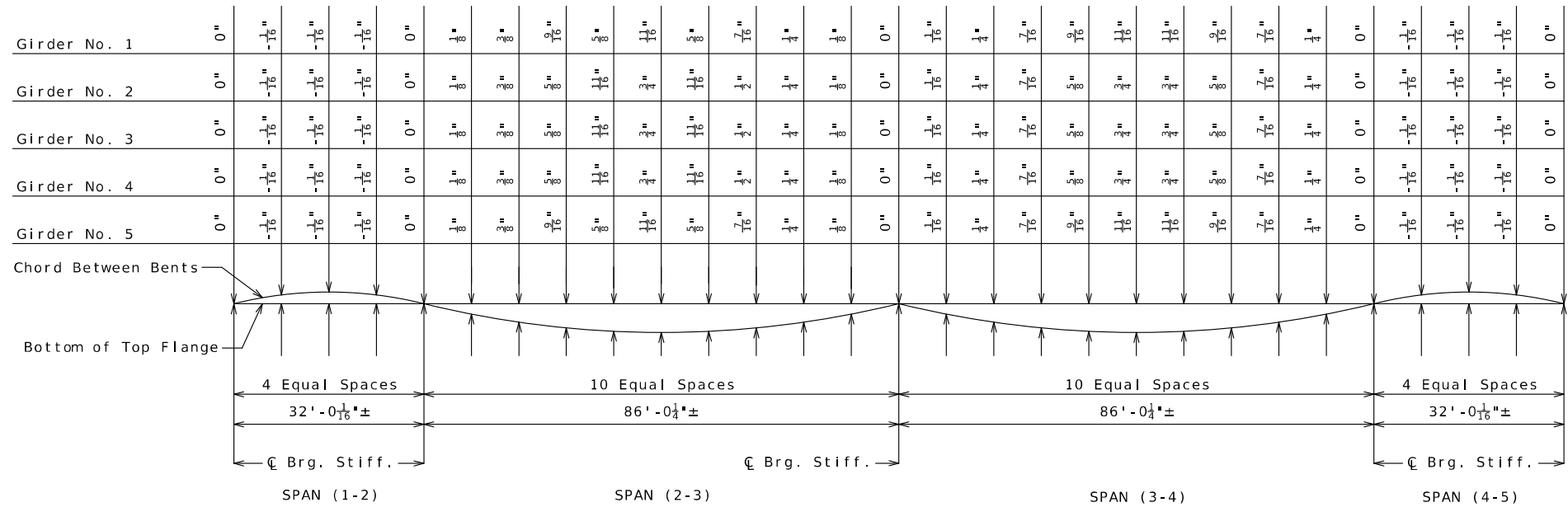
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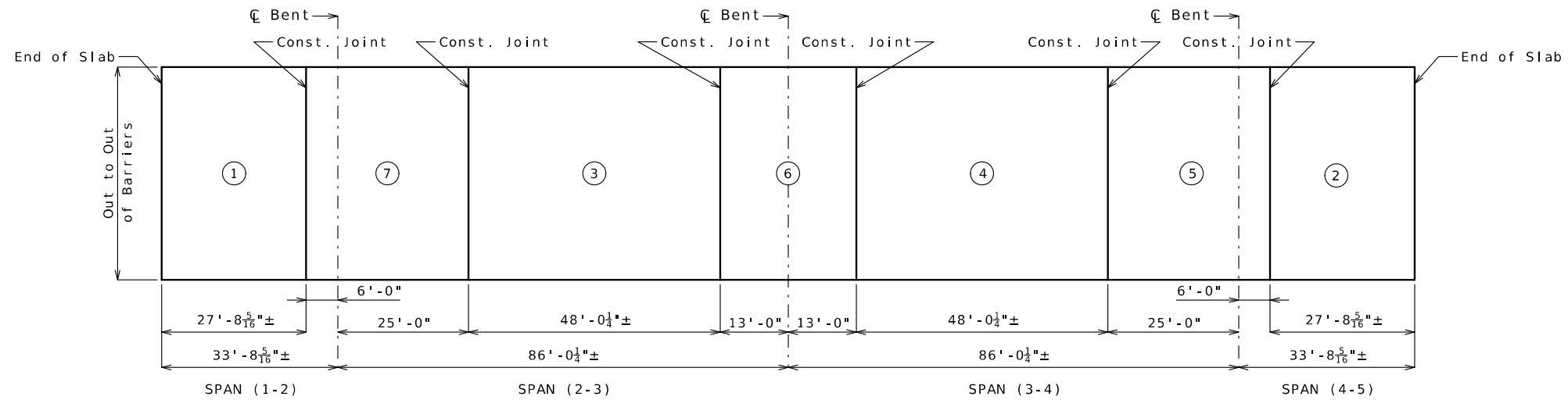




#### DEAD LOAD DEFLECTION

13% of dead load deflection is due to the weight of structural steel.

Dead load deflection includes weight of structural steel, concrete slab, and barrier.



#### Notes:

The contractor shall provide bracing necessary for lateral and torsional stability of the beams during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not weld on or drill holes in the beams. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Slab on Steel.

Slab shall be poured upgrade from end to end at a minimum rate of 25 cubic yards per hour.

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

	Sequence of Pours							Min. Rate of Pour Cu. Yds./Hr.	
	Direction							With Retarder	No Retarder
Basic Sequence	1	2	3	4	5	6	7	25	25
	Either Direction								
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.									
Alternate A Pours	1 & 2		7 + 3 + 6 + 4 + 5					25	41
	End to 7	End to 5	1 to 2						

The contractor shall pour and satisfactorily finish the slab pours at the rate given. Retarder, if used, shall be an approved type and retard the set of concrete to 2.5 hours.

#### SLAB POURING SEQUENCE

### MISCELLANEOUS DETAILS

Designed By: CEA 04/24  
Detailed By: CEA 04/24  
Checked By: CWT 05/24

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

Sheet No. 3 of 15

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10/01/2024  
DATE PREPARED  
9/30/2024  
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SHEET NO.  
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COUNTY  
HARRISON  
JOB NO.  
JNW0112  
CONTRACT ID.

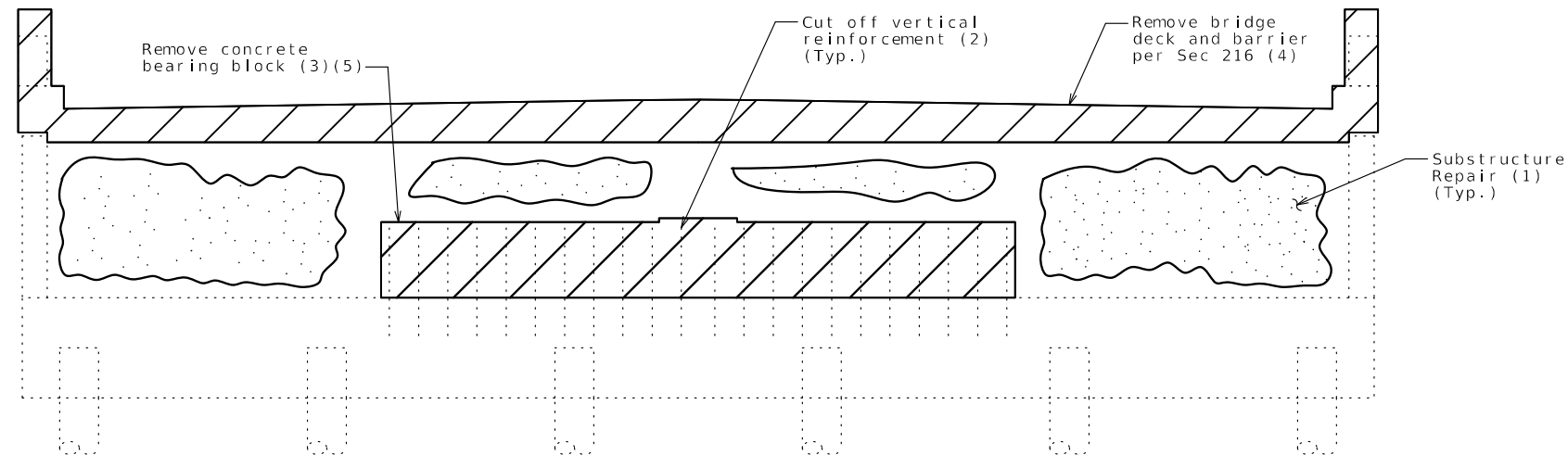
PROJECT NO.  
BRIDGE NO.  
A22912

DESCRIPTION	DATE

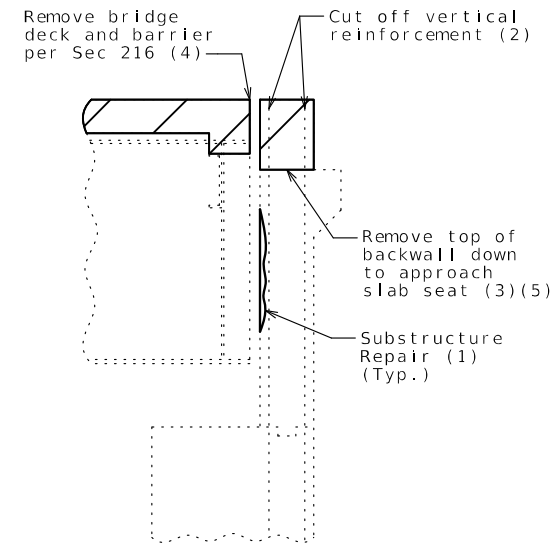
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Kansas City, MO 64111/441-1468  
816/221-4222, FAX 816/221-4222  
CERTIFICATE OF AUTHORITY NUMBER F00970024

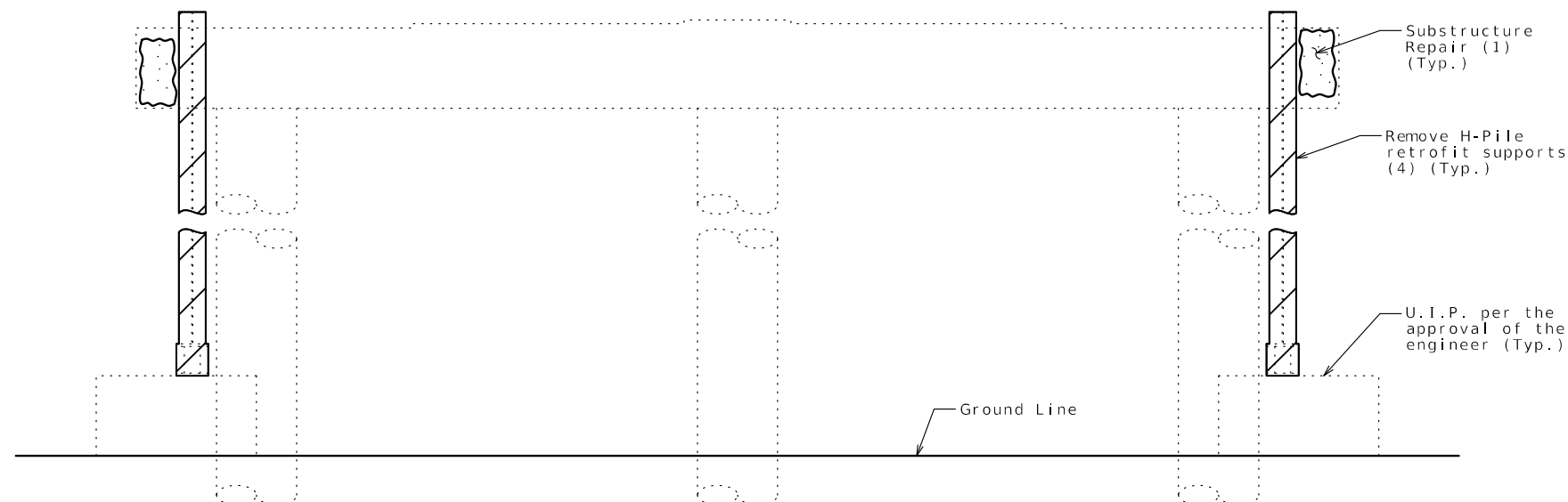
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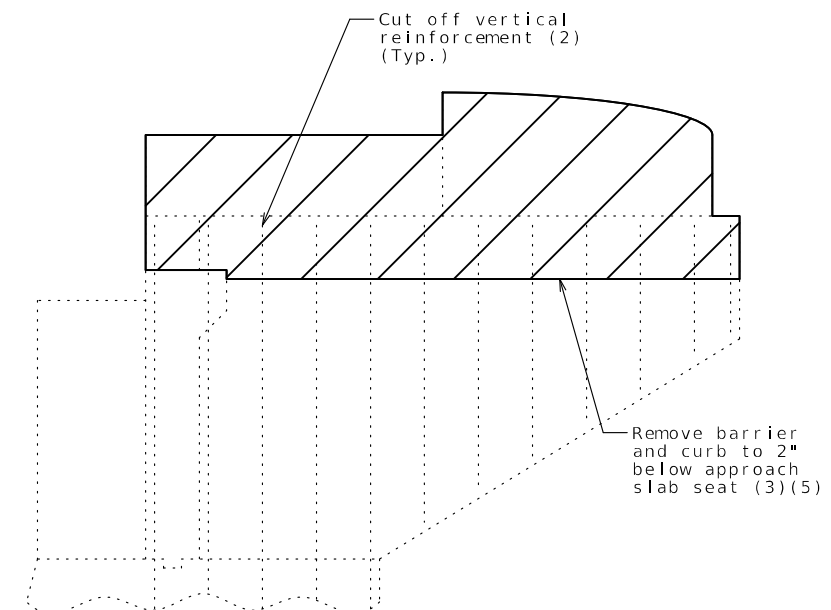
**ELEVATION OF END BENT**  
(End Bent No. 1 shown, End Bent No. 5 similar)



**TYPICAL SECTION OF REMOVAL AT END BENT**



**ELEVATION OF INTERMEDIATE BENT**  
(Int. Bent No. 4 shown, Int. Bent No. 2 similar.)  
(Looking Upstation)



**TYPICAL WING BARRIER REMOVAL**

**Notes:**

- (1) See Sec. 704 for Substructure Repair (Unformed).  
Estimated Quantities:  
End Bent No. 1 140 sq. foot  
Int. Bent No. 4 6 sq. foot  
End Bent No. 5 110 sq. foot
- (2) Vertical reinforcement to be cut off one inch below concrete removal surface. The resulting holes shall be filled with a qualified special mortar.
- (3) A smooth, level surface shall be provided at removal lines.
- (4) The cost of concrete and H-Pile retrofit support removal shall be considered completely covered by the contract unit price for Removal of Existing Bridge Deck.
- (5) The cost of concrete removal shall be considered completely covered by the contract unit price for Partial Removal of Substructure Concrete.

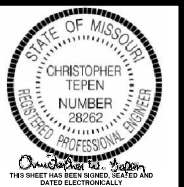
**CONCRETE REMOVAL AND SUBSTRUCTURE REPAIR**

Designed By: CEA 04/24  
Detailed By: CEA 04/24  
Checked By: CWT 05/24

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

Sheet No. 4 of 15

Y:\Kansas\130900S\130991.03\_NW\_Bundle\_NW0112\Eng\_Docs\Bridge\A2291\B\_A22912\_004\_JNW0112\_Removal & Repair.dgn (Default)



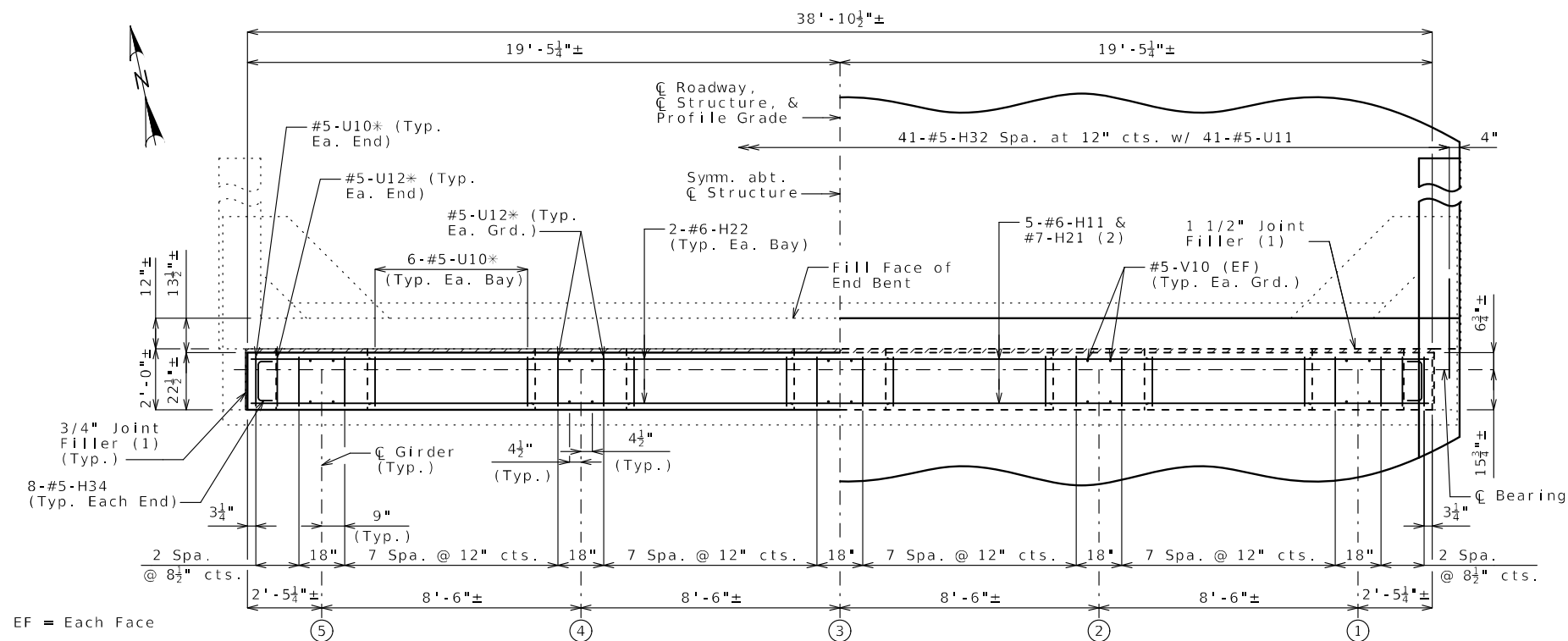
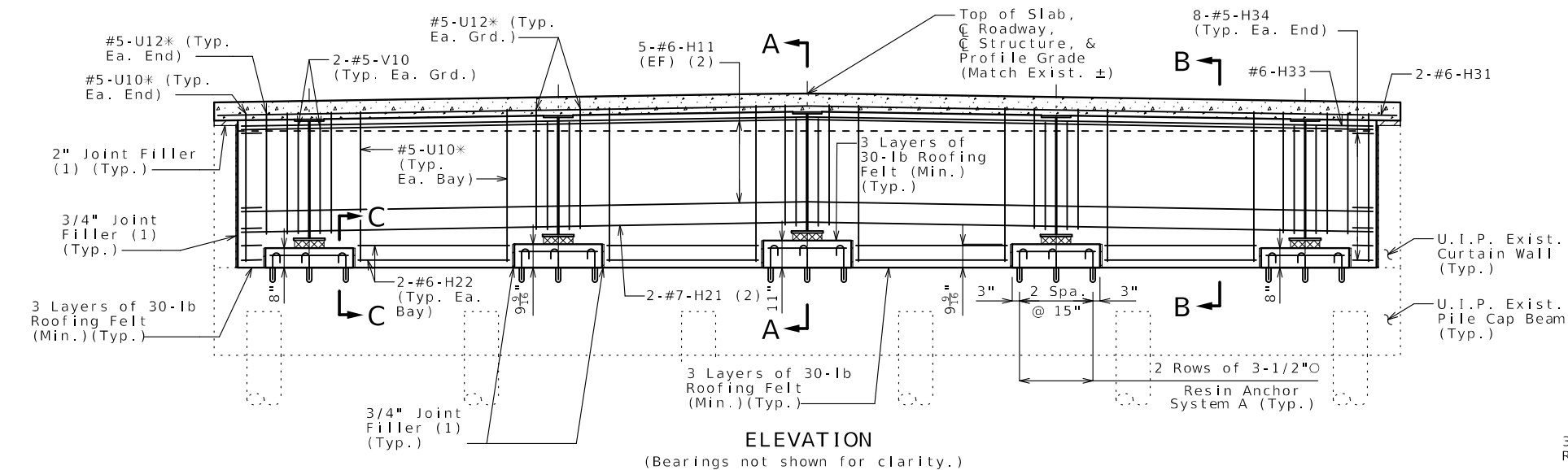
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9/30/2024  
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COUNTY  
HARRISON  
JOB NO.  
JNW0112  
CONTRACT ID.

PROJECT NO.  
BRIDGE NO.  
A22912

DESCRIPTION	DATE

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EF = Each Face

Notes:

All concrete and reinforcement is included in the Table of Estimated Quantities for Slab on Steel and will be considered completely covered by the contract unit price for Slab on Steel. (1) Preformed Flexible Foam Expansion Joint Filler, See Special Provisions.

All concrete in diaphragm shall be Class B-2.

Bearing block concrete shall attain compressive strength of 3,000 psi prior to setting girders.

Contractor shall prevent uplift at girder ends prior to slab pour. Possible methods include utilizing anchor bolts or pour diaphragms and let set before final deck pour.

The cost of bearing blocks, complete in place, shall be considered completely covered by the contract unit price for Slab on Steel.

The cost of drilling holes in existing plate girders shall be considered completely covered by the contract unit price for Fabricated Structural Carbon Steel (Plate Girder).

For details and reinforcement of Type D Barrier not shown, see Sheet No. 13.

For Details of Resin Anchor Systems not shown, see Sheet No. 2.

\* Contractor has the option to use a pair of U-shaped stirrups lapped at 2'-5" min. in lieu of closed stirrups at no additional cost.

Designed By: CEA 04/24

Detailed By: CEA 04/24

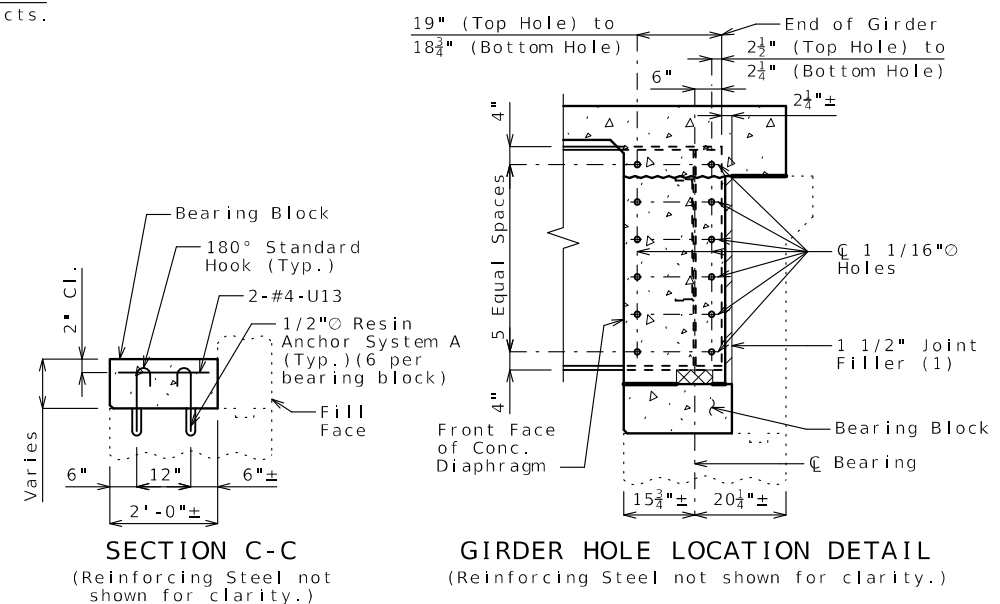
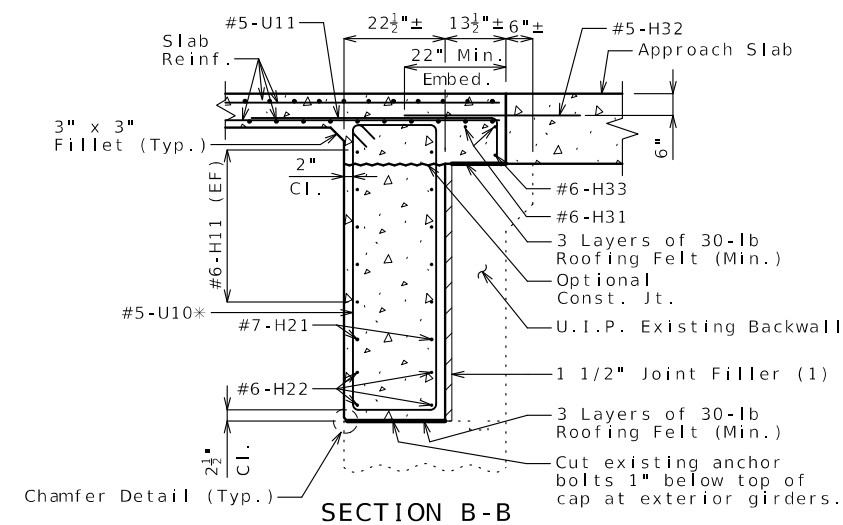
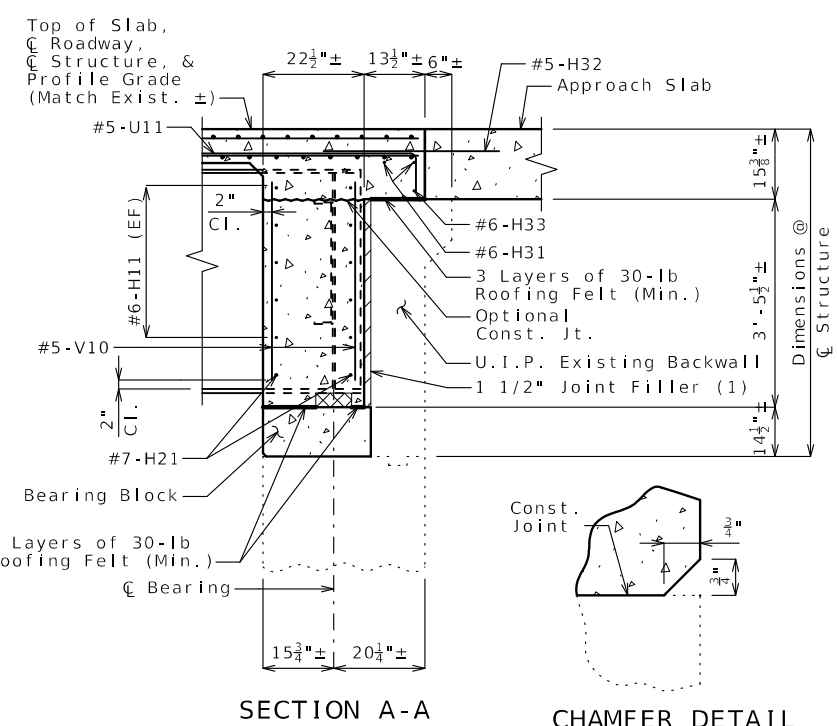
Checked By: CWT 05/24

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

Sheet No. 5 of 15

END BENTS NO. 1 AND 5

(End Bent No.1 shown, End Bent No. 5 similar)



DATE  
10/01/2024

DATE PREPARED \_\_\_\_\_

ROUTE	STATE
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<div style="text-align: center;"> <b>HARRY JOINT</b>  <b>JOB NO.</b> </div>
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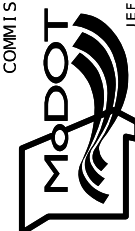
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CONTRACT ID:

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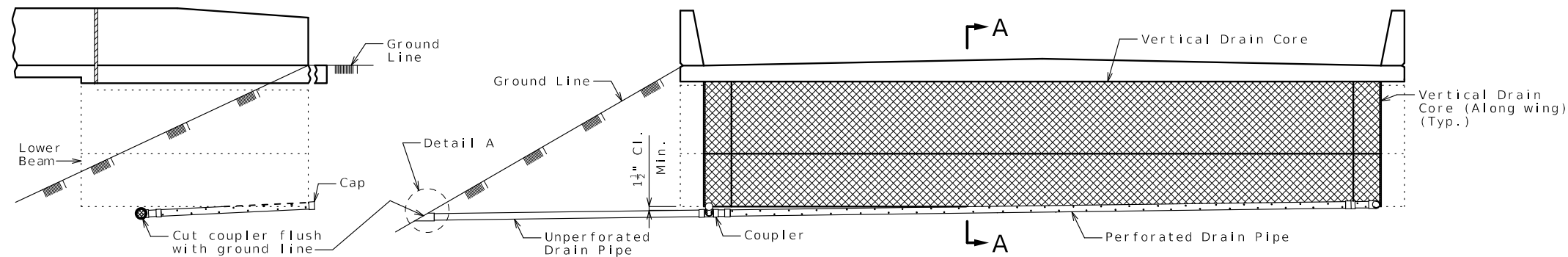
105 WEST CAPITOL  
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316/221-4222, FAX 913/441-1468

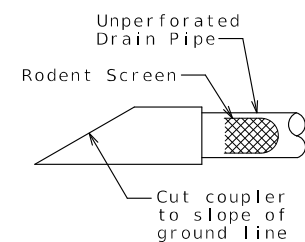
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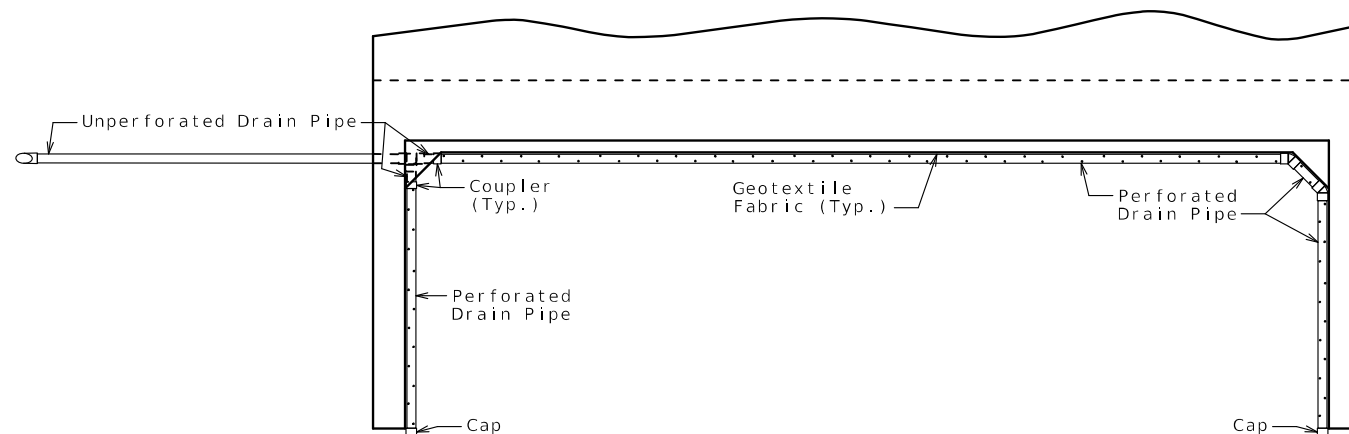


ELEVATION OF WING

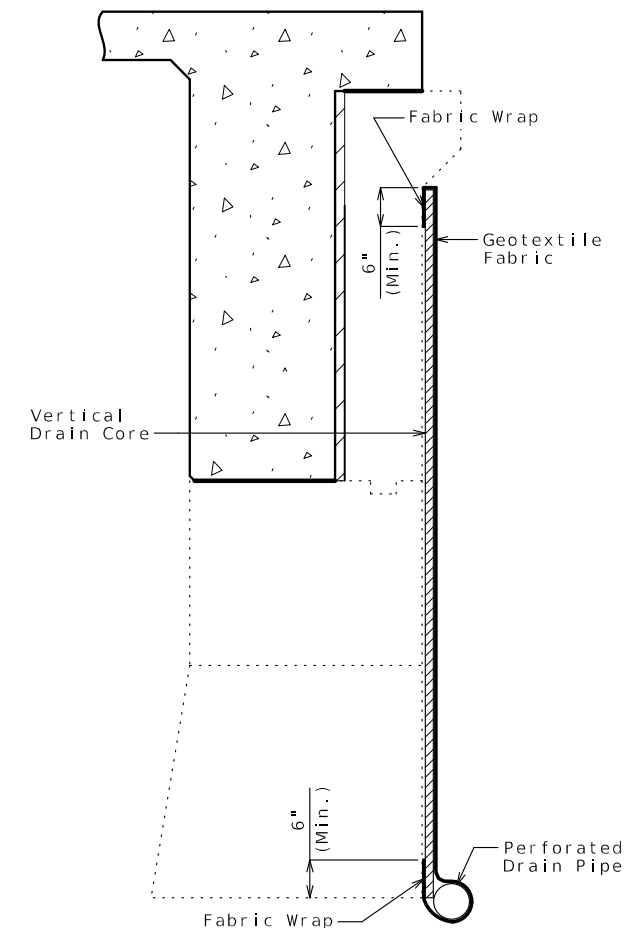
ELEVATION OF END BENT



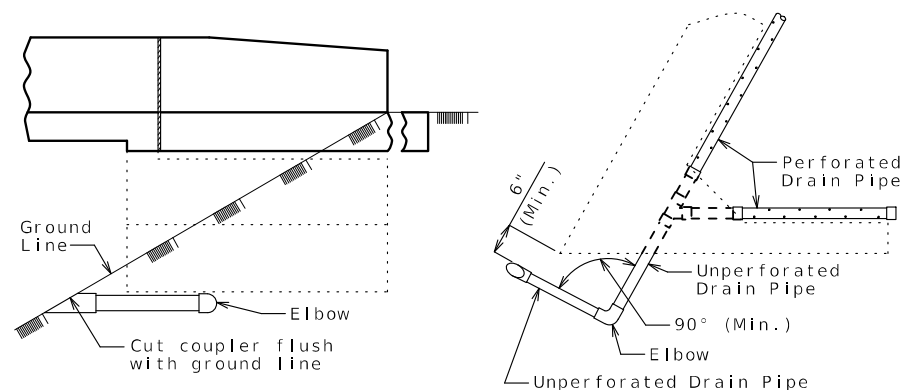
DETAIL A



PLAN OF END BENT



PART SECTION A-A  
(Section thru wing similar)



ELEVATION OF WING

PART PLAN

OPTIONAL TURNED DRAIN

(Use only when straight drain is not practical.)

### General Notes:

All drain pipe shall be sloped 1 to 2 percent.

Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.

Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.

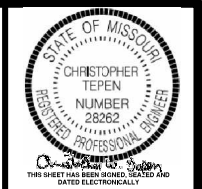
## VERTICAL DRAIN AT END BENTS

Designed By: CEA 04/24  
Detailed By: CEA 04/24  
Checked By: CWT 05/24

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

Sheet No. 6 of 15

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DATE  
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HARRISON

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CONTRACT ID.

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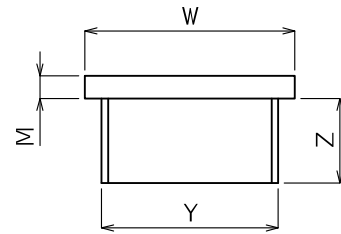
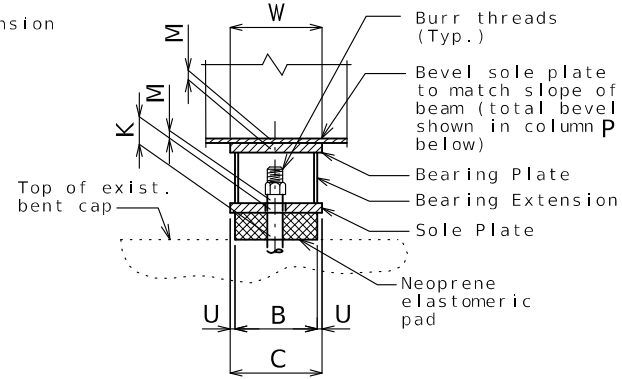
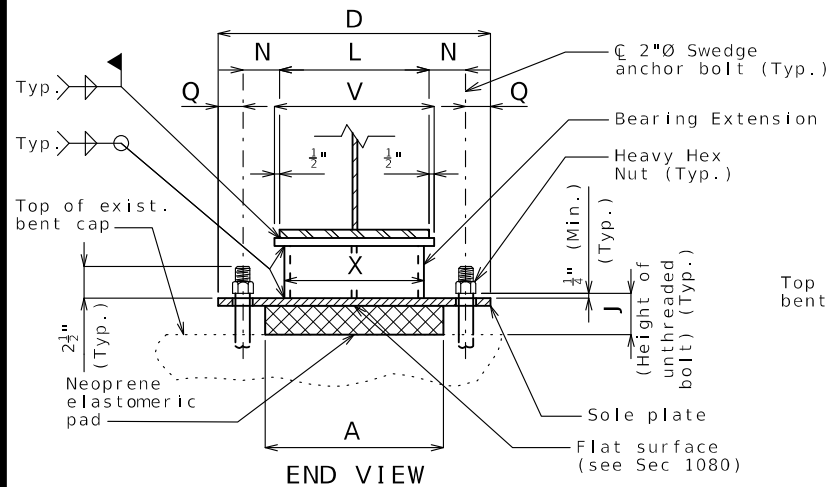


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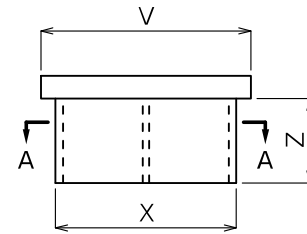
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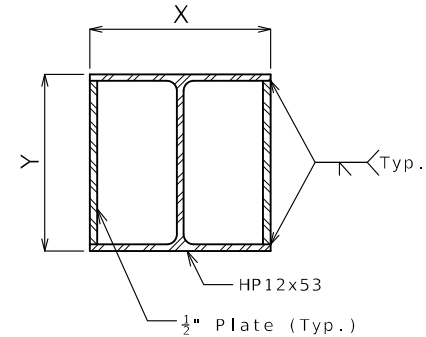
17:24 9/30/2024



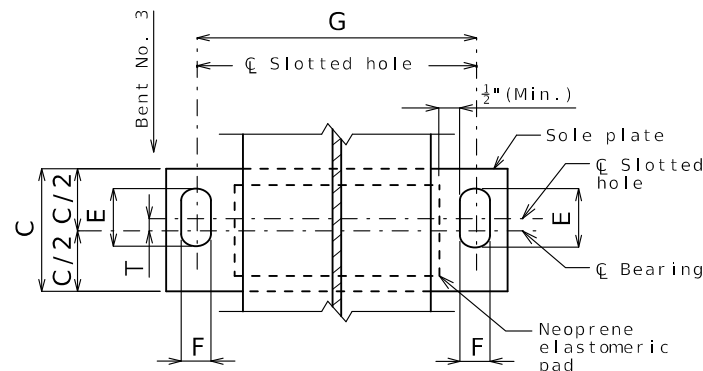
SIDE ELEVATION OF BEARING EXTENSION AND BEARING PLATE



END ELEVATION OF BEARING EXTENSION AND BEARING PLATE

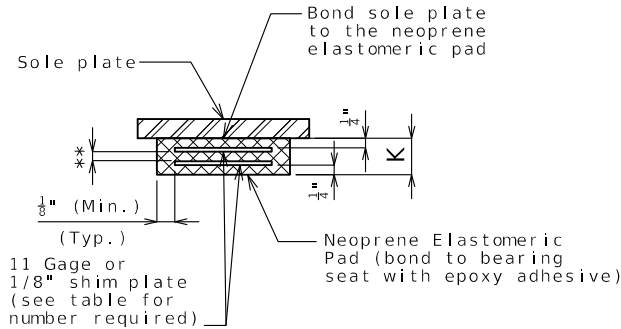


SECTION A-A



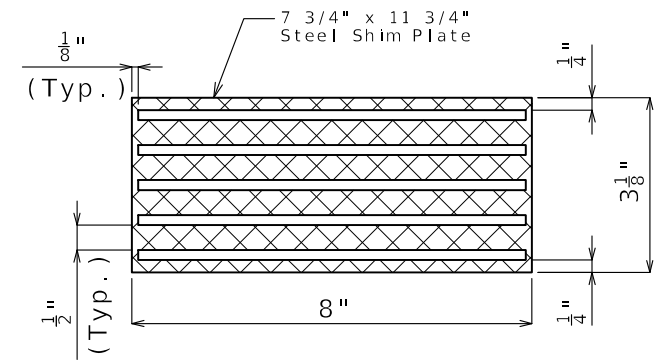
PART PLAN

(Brg. Plate & Brg. Extension not shown for clarity.)



NEOPRENE ELASTOMERIC PAD

\*\* Layers of 1/2" elastomer alternating with 11 gauge or 1/8" shim plate

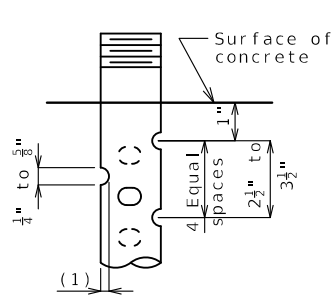


TYPICAL SECTION THRU 8" x 12" x 3 1/8" LAMINATED NEOPRENE BEARING PAD

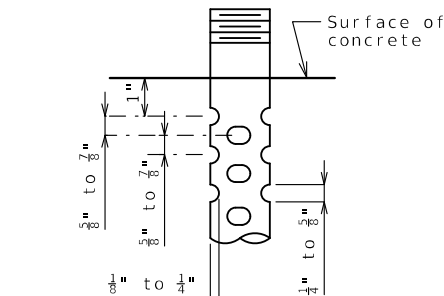
DETAIL OF BEARINGS FOR END BENTS NO. 1 & 5

EXPANSION BEARINGS																								
BENT NO.	A	B	C	D	E	F	G	J	K	L	M	N	P	Q	R	T	U	V	W	X	Y	Z	NUMBER OF SHIM PLATES *	NUMBER REQUIRED
2	20"	10"	13"	24"	5 <sup>1</sup> / <sub>4</sub> "	2 <sup>3</sup> / <sub>8</sub> "	18"	4 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>2</sub> "	13"	1 <sup>1</sup> / <sub>2</sub> "	2 <sup>1</sup> / <sub>2</sub> "	0"	3"	1 <sup>1</sup> / <sub>16</sub> "	0"	1 <sup>1</sup> / <sub>2</sub> "	14"	13"	12"	11 <sup>3</sup> / <sub>4</sub> "	5 <sup>5</sup> / <sub>8</sub> "	4	5
4	20"	10"	13"	24"	5 <sup>1</sup> / <sub>4</sub> "	2 <sup>3</sup> / <sub>8</sub> "	18"	4 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>2</sub> "	13"	1 <sup>1</sup> / <sub>2</sub> "	2 <sup>1</sup> / <sub>2</sub> "	0"	3"	1 <sup>1</sup> / <sub>16</sub> "	0"	1 <sup>1</sup> / <sub>2</sub> "	14"	13"	12"	11 <sup>3</sup> / <sub>4</sub> "	5 <sup>5</sup> / <sub>8</sub> "	4	5

\* The required shim plate shall be placed between layers of elastomer and molded together to form an integral unit.



DETAIL OF 3/4" THRU 2 1/2" ANCHOR BOLTS

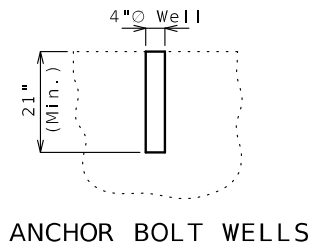


OPTIONAL DETAIL OF 1 3/8" THRU 2 1/2" ANCHOR BOLTS

SWEDGE ANCHOR BOLT DETAILS

(1) 1/8" for 3/4" thru 1 1/4" anchor bolts

1/8" to 1/4" for 1 3/8" thru 2 1/2" anchor bolts



ANCHOR BOLT WELLS

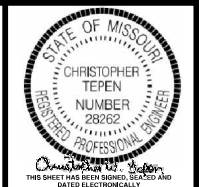
## LAMINATED NEOPRENE BEARING PAD ASSEMBLY

Designed By: CEA 04/24  
Detailed By: CEA 04/24  
Checked By: CWT 05/24

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

Sheet No. 7 of 15

Y:\Kansas\130900S\130991.03\_NW\_Bundle\_NW0112\Eng\_Docs\Bridge\A2291\B\_A22912\_007\_JNW0112\_Exp Bearing.dgn (Default)



10/01/2024

DATE PREPARED

9/30/2024

ROUTE N STATE MO

DISTRICT BR SHEET NO. 7

COUNTY HARRISON

JOB NO. JNW0112

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A22912

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

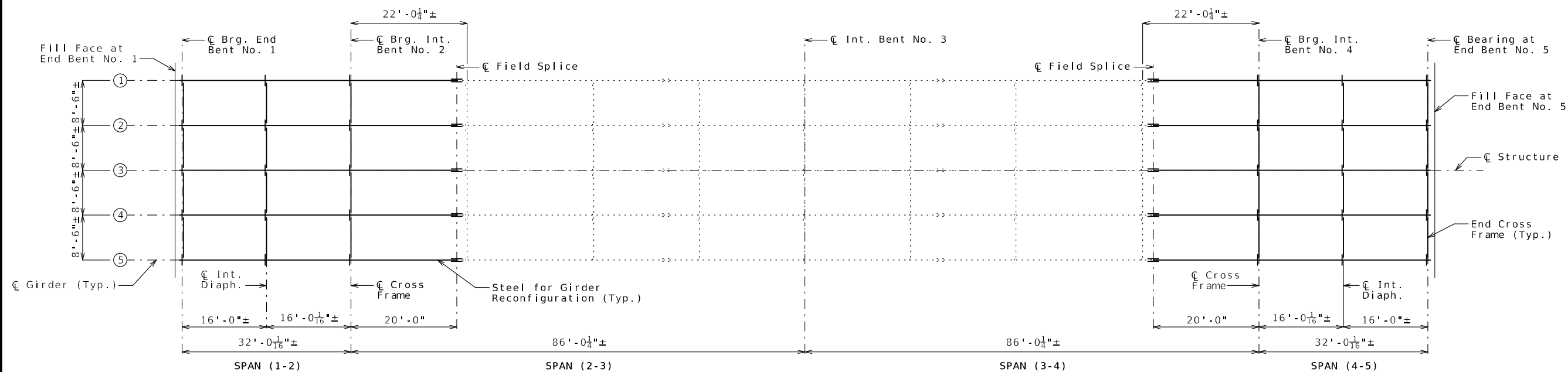
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)



benesch

One Main Plaza, 4435 Main St., Suite 1150,  
Kansas City, MO 64111  
816/721-4222 FAX 913/441-1468  
CERTIFICATE OF AUTHORITY NUMBER F00970024

17:24 9/30/2024



PLAN OF STRUCTURAL STEEL

Notes:

Longitudinal dimensions are horizontal.

Fabricated structural steel shall be ASTM A709, Grade 36.

At the Contractor's option, holes in the diaphragm plate of non slab bearing diaphragms may be made 3/16" larger than the nominal diameter of the bolt. A hardened washer shall be used under the bolt head and nut when this option is used. Holes in the girder diaphragm connection plate or transverse web stiffener shall be standard size.

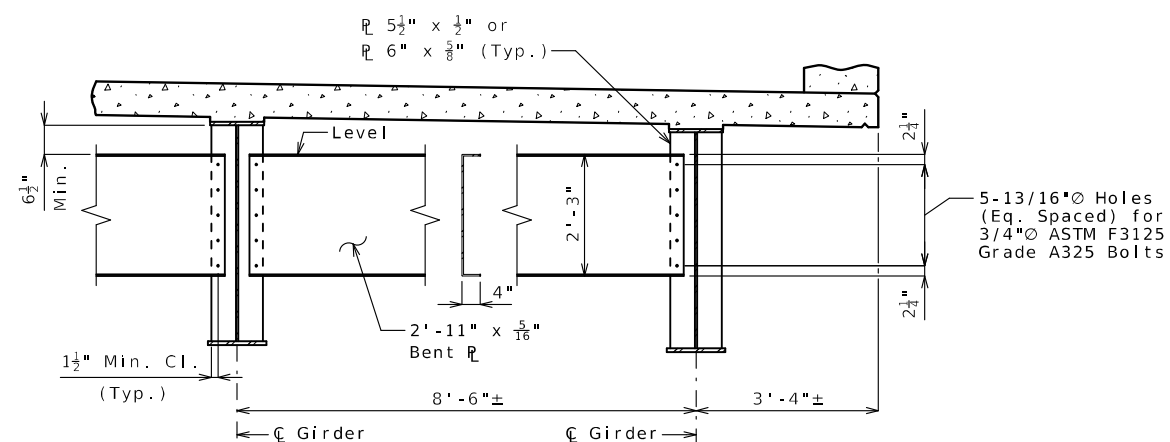
For details of Girders, see Sheet No. 9.

For details of Stiffeners, see Sheet No. 9.

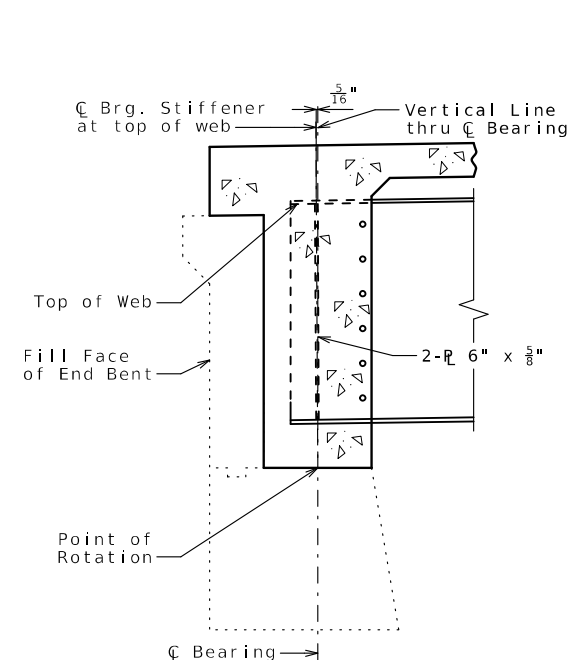
For details and spacing of Shear Connectors, see Sheet No. 9.

For details of Bolted Field Splices, see Sheet No. 10.

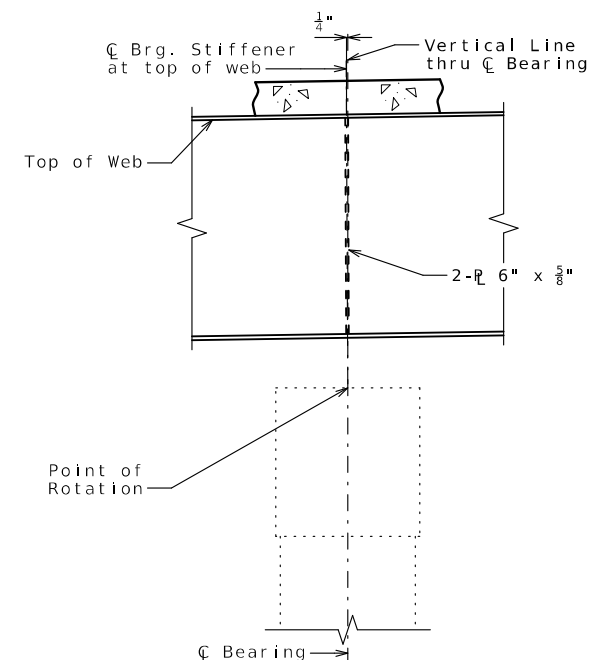
For location of Slab Drain attachment holes, see Sheet No. 11.



TYPICAL PART SECTION SHOWING  
CROSS FRAMES AND  
INTERMEDIATE DIAPHRAGMS



Exp.  
END BENTS  
(End Bent No. 1 shown, End Bent No. 5 similar)



Exp.  
INTERMEDIATE BENTS  
(Int. Bent No. 2 shown, Int. Bent No. 4 similar)

PART LONGITUDINAL SECTIONS

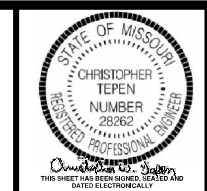
RECONFIGURATION OF EXISTING GIRDERS

Designed By: CEA 04/24  
Detailed By: CEA 04/24  
Checked By: CWT 05/24

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

Sheet No. 8 of 15

Y:\Kansas\1309005\130991.03\_NW\_Bundle\_NW0112\Eng\_Docs\Bridge\A2291\B\_A22912\_008\_JNW0112\_Girder Reconfig.dgn (Default)



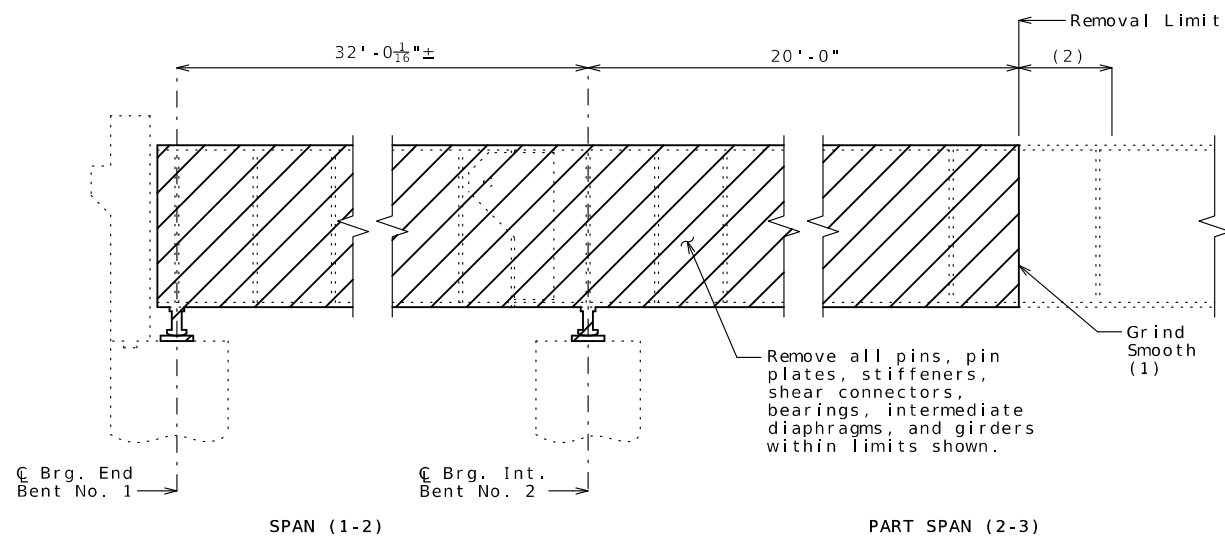
DATE	10/01/2024
DATE PREPARED	9/30/2024
ROUTE	N
STATE	MO
DISTRICT	BR
SHEET NO.	8
COUNTY	HARRISON
JOB NO.	JNW0112
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A22912

DESCRIPTION	DATE

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

benesch  
One Main Plaza, 4435 Main St., Suite 1150,  
Kansas City, MO 64111  
816/221-4222 FAX 816/221-441-1468  
CERTIFICATE OF AUTHORITY NUMBER F00970024

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**PART ELEVATION OF GIRDER NEAR BENTS NO. 1 AND 2  
SHOWING STRUCTURAL STEEL REMOVAL**  
(Similar at Bents No. 4 and 5)

**Notes:**

Payment for removal of pins, pin plates, intermediate diaphragms, end diaphragms, bearings, shear connectors, and any other incidental material included in the girder section being removed, and any coating repair will be considered completely covered by the contract lump sum price for Reconfigure Existing Structural Steel.

Any weld material remaining after removal shall be ground flush.

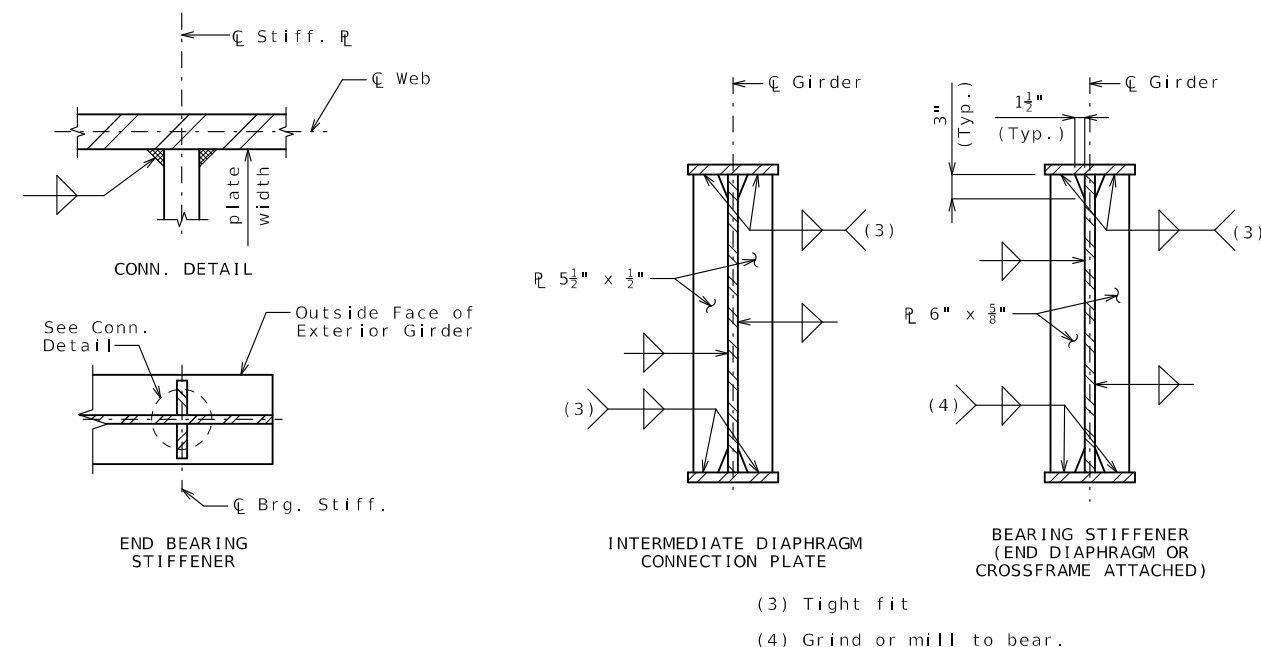
The cost of supplying and installing shear connectors will be considered completely covered by the contract unit price for Fabricated Structural Carbon Steel (Plate Girder).

Shear Connectors shall be in accordance with Sec 712, 1037, & 1080.

Required temporary support load of 17 kips per girder right of Int. Bent No. 2 (Span 2-3) and left of Int. Bent No. 4 (Span 3-4) is a service dead load without a factor of safety. It includes existing girder weight (existing or proposed deck weight not included) and a construction load of 50 psf. See Special Provisions.

For location of Temporary Shoring, see Sheet No. 2.

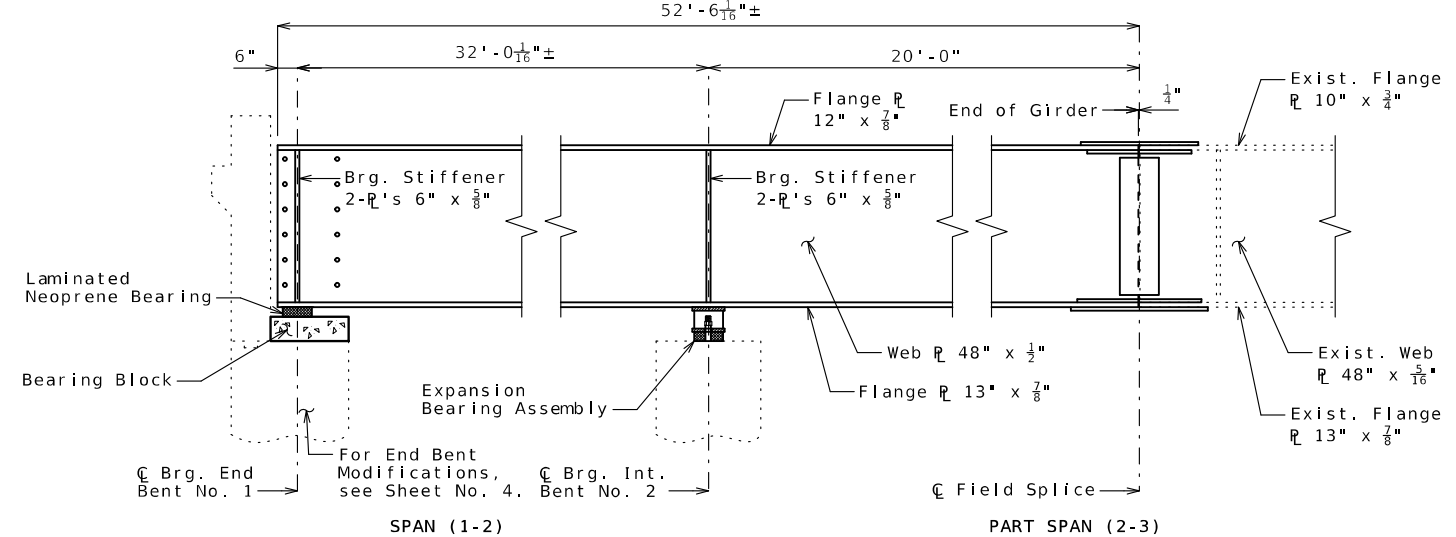
- (1) The cut end of existing girders and any damaged areas of existing paint shall be coated with Gray Epoxy-Mastic Primer.
- (2) Any Shear Connectors interfering with splice plate installation shall be removed and flange surface ground smooth.



**WELDING DETAILS**

Designed By: CEA 04/24  
Detailed By: CEA 04/24  
Checked By: CWT 05/24

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



**PART ELEVATION OF GIRDER NEAR BENTS NO. 1 AND 2  
SHOWING STRUCTURAL STEEL RECONFIGURATION**  
(Similar at Bents No. 4 and 5)

**Notes:**

Longitudinal dimensions are horizontal.

All Flange and Web Plates shall be subject to notch toughness requirements.

All Fabricated Structural Steel, shall be ASTM A709, Grade 36.

For details of Laminated Neoprene Bearing Pad Assembly, see Sheet No. 7.

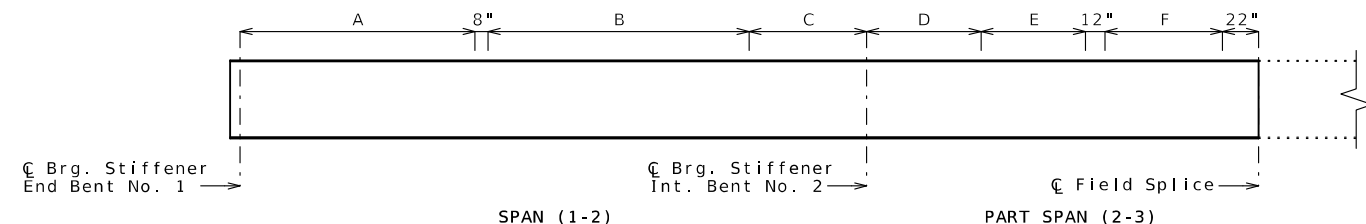
For details of Cross Frames, see Sheet No. 8.

For Part Plan of Structural Steel, see Sheet No. 8.

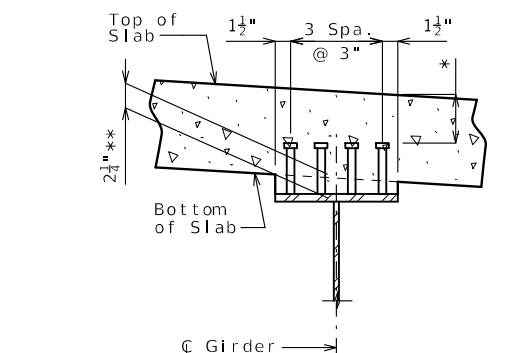
For Part Longitudinal Section at Bents No. 1, 2, 4, and 5, see Sheet No. 8.

For details of Bolted Field Splices, see Sheet No. 10.

For Slab Drain attachment hole locations, see Sheet No. 11.



**ELEVATION SHOWING SHEAR CONNECTOR SPACING FOR GIRDER  
(4 Shear Connectors per Unit) (Similar at Part Span (3-4) and Span (4-5))**



\* 3" Min.  
\*\* Dimension (bottom of slab to top of web) may vary if girder camber after erection differs from plan camber by more 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.

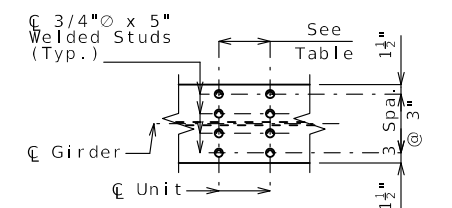
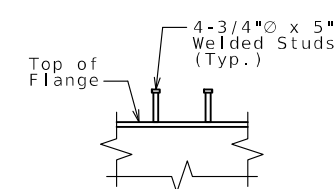


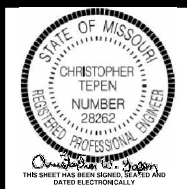
TABLE SHOWING SHEAR CONNECTOR UNIT SPACING	
A	12 Spa. @ 12"
B	20 Spa. @ 8"
C	6'-0 1/16"±
D	5'-10"
E	8 Spa. @ 8"
F	6 Spa. @ 12"

**SHEAR CONNECTOR DETAILS**

**GIRDERS**

Sheet No. 9 of 15

Y:\Kansas\1309005\130991.03\_NW\_Bundle\_NW0112\Eng\_Docs\Bridge\A2291\B\_A22912\_009\_JNW0112\_Girder Details.dgn (Default)



DATE 10/01/2024  
DATE PREPARED 9/30/2024  
ROUTE N STATE MO  
DISTRICT BR SHEET NO. 9  
COUNTY HARRISON  
JOB NO. JNW0112  
CONTRACT ID.  
PROJECT NO.  
BRIDGE NO. A22912

**DESCRIPTION**

**DATE**

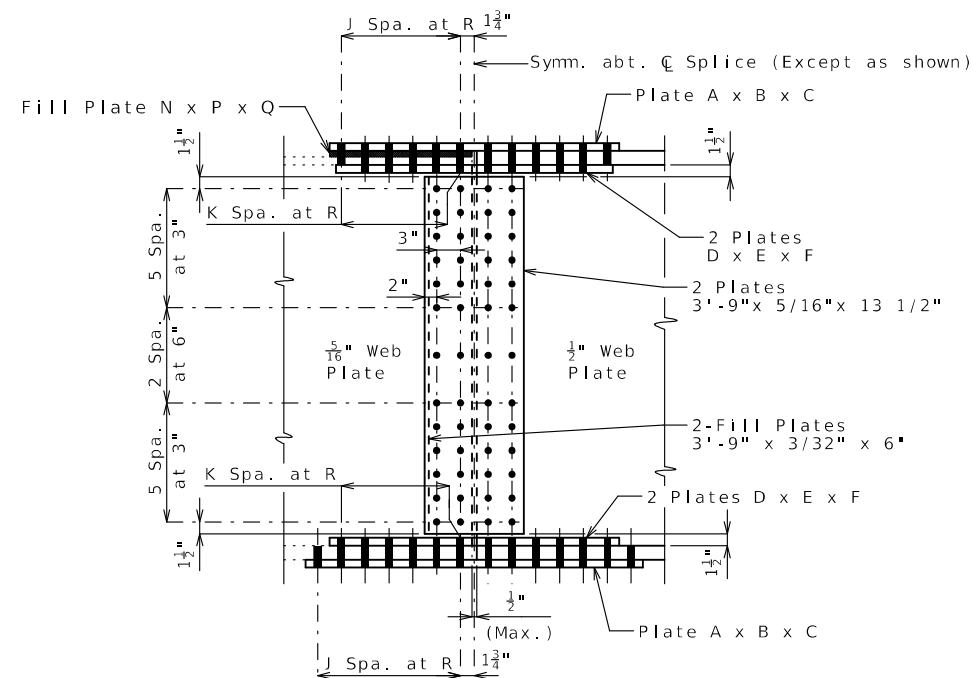
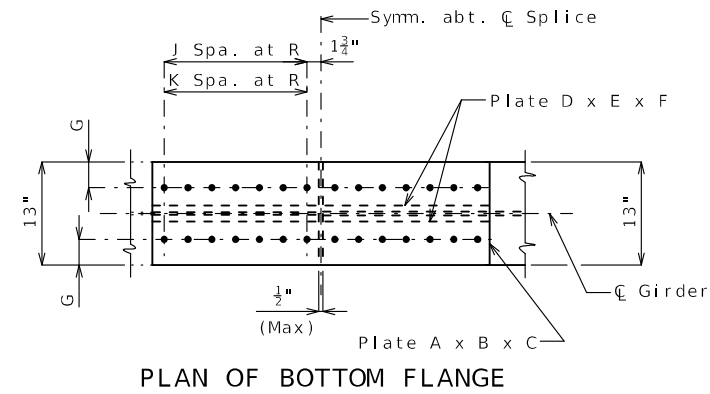
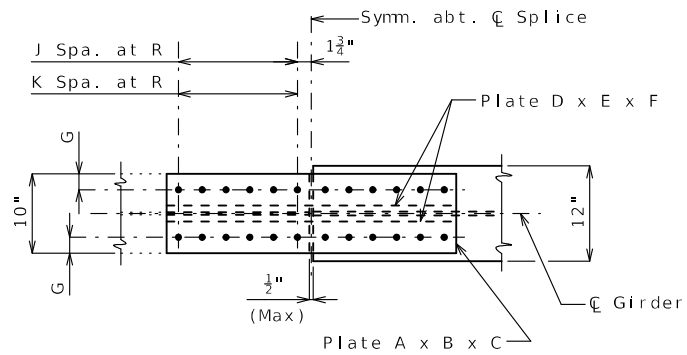
**MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION**

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

**benesch**  
One Main Plaza, 4435 Main St., Suite 1150,  
Kansas City, MO 64111/441-1468  
816/221-4222  
CERTIFICATE OF AUTHORITY NUMBER F00970024

17:25 9/30/2024

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



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

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

[illegible]

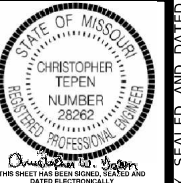
## BOLTED FIELD SPLICE

Designed By: CEA 04/24  
Detailed By: CEA 04/24  
Checked By: CWT 05/24

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

Sheet No. 10 of 15

Y:\Kansas\130900S\130991.03 NW Bundle NW0112\Eng Docs\Bridge\A2291\B\_A22912\_010\_JNW0112 Bolted Splice.dgn (Default)



10/01/2024

DATE PREPARED

9/30/2024

ROUTE	STATE
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N	MO
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DISTRICT	SHEET NO
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BR	10
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COUNTY

HARRISON

JOB NO.

JNW0112

CONTRACT ID.

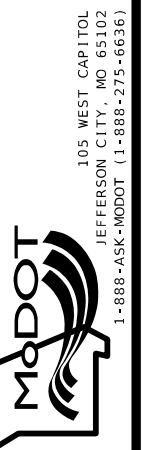
PROJECT NO.

BRIDGE NO.

A22912

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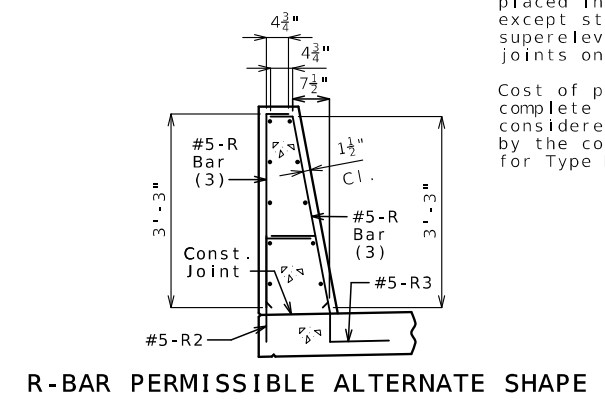
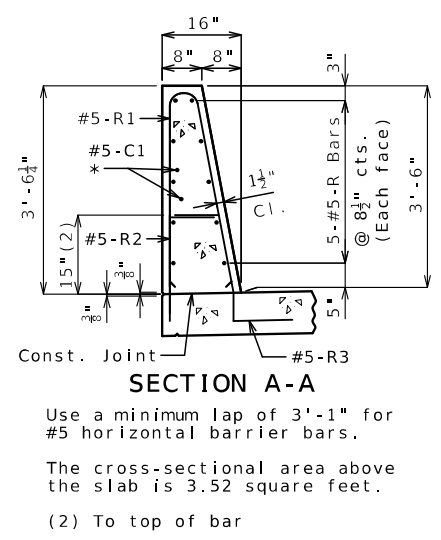
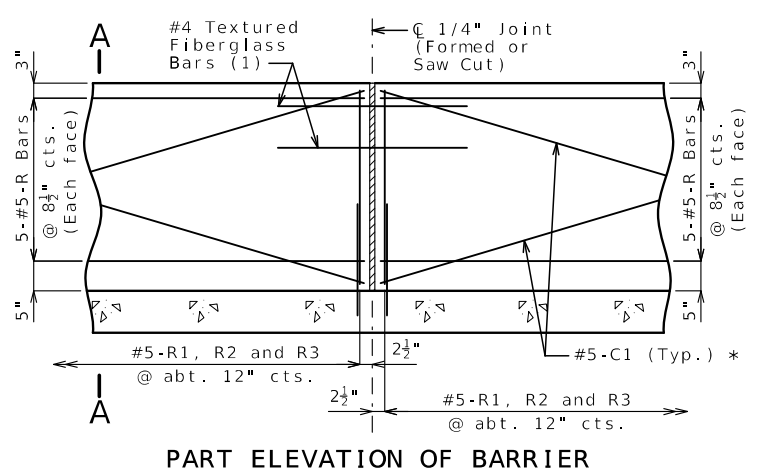
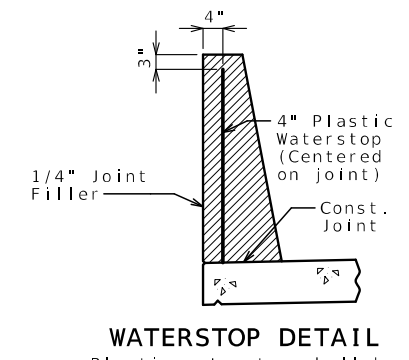
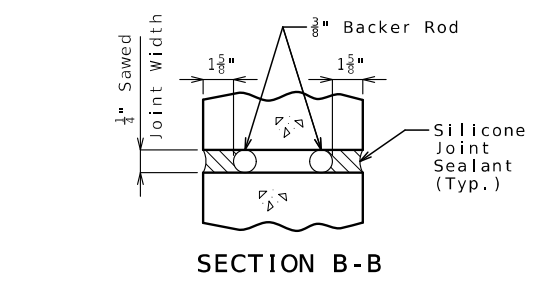
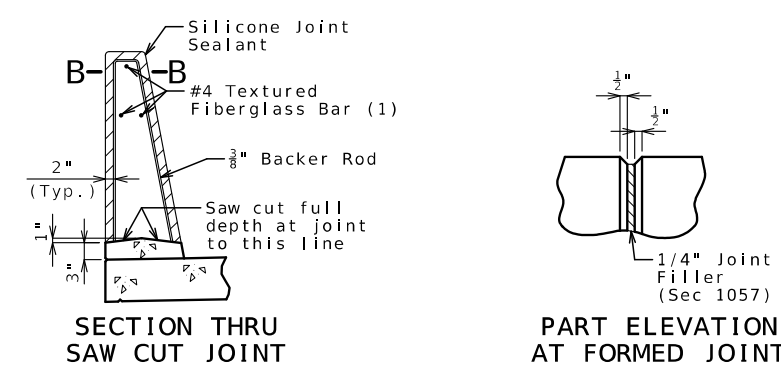
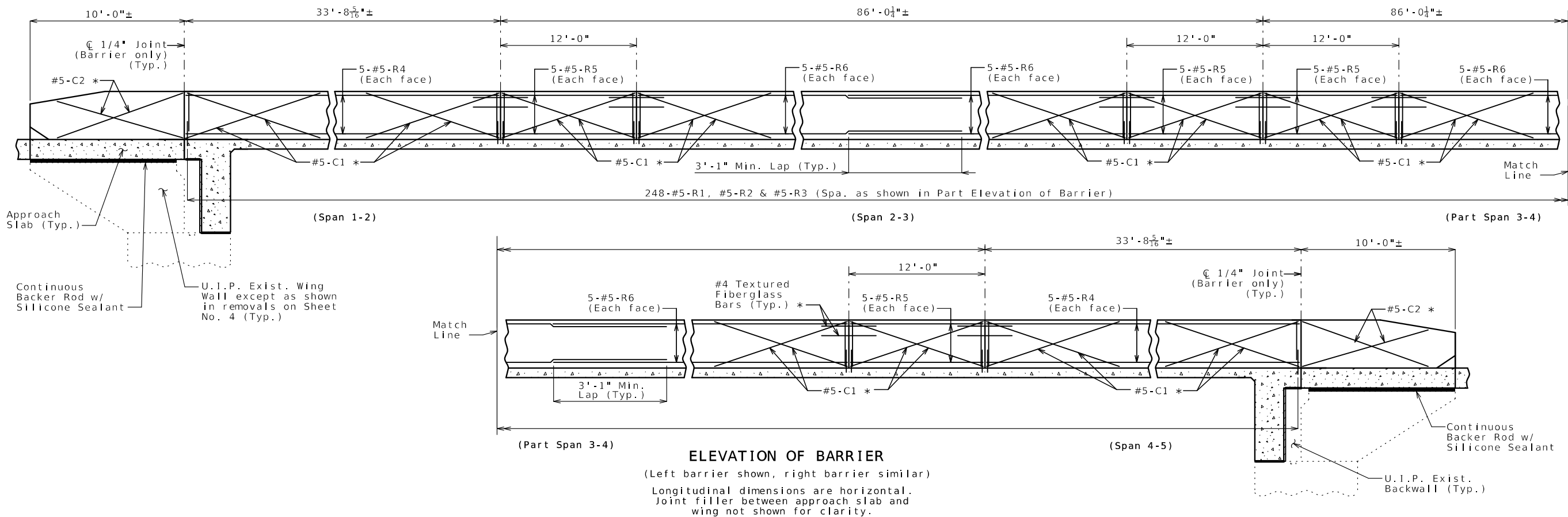
COMMISSION



7:25 9/30/2024

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





Designed By: CEA 04/24  
Detailed By: CEA 04/24  
Checked By: CWT 05/24

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

**TYPE D BARRIER**

Sheet No. 12 of 15

**General Notes:**  
\* Slip-formed option only.  
Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.  
Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.  
All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.  
Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type D Barrier per linear foot.  
Concrete in barrier shall be Class B-1.  
Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.  
Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.  
Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.  
For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.  
Plastic waterstop shall not be used with saw cut joints.

STATE OF MISSOURI  
CHRISTOPHER TEPEP  
NUMBER 28262  
REGISTERED PROFESSIONAL ENGINEER  
THIS SHEET HAS BEEN ELECTRONICALLY SIGNED AND DATED  
DATE: 10/01/2024

DATE PREPARED 9/30/2024	
ROUTE N	STATE MO
DISTRICT BR	SHEET NO. 12
COUNTY HARRISON	
JOB NO. JNW0112	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A22912	

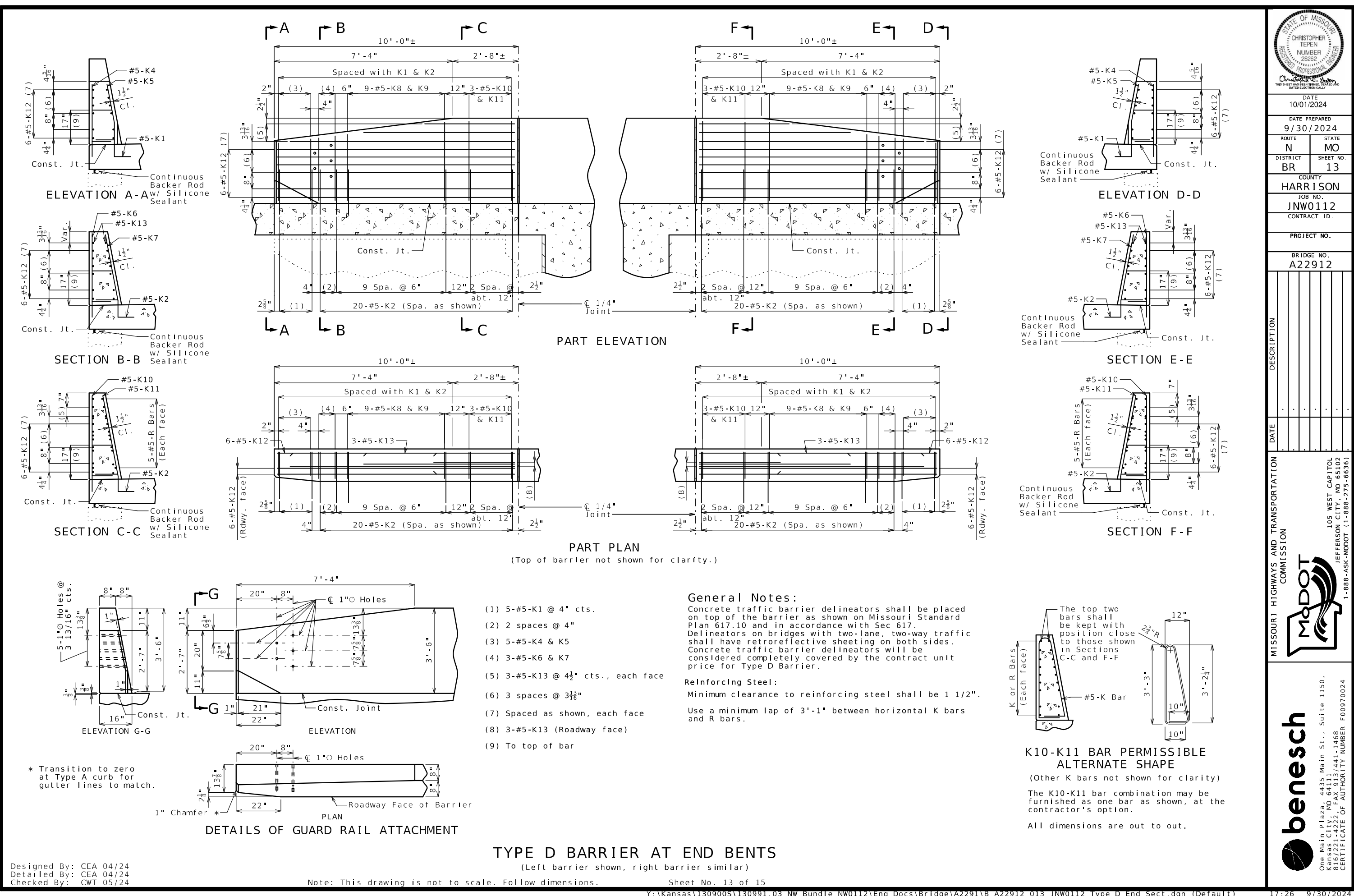
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

One Main Plaza, 4435 Main St., Suite 1150,  
Kansas City, MO 64111  
816/721-4222, FAX 816/721-4222  
CERTIFICATE OF AUTHORITY NUMBER F00970024

17:25 9/30/2024



Designed By: CEA 04/24  
Detailed By: CEA 04/24  
Checked By: CWT 05/24

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

Sheet No. 13 of 15

Y:\Kansas\1309005\130991.03\_NW\_Bundle\_NW0112\Eng\_Docs\Bridge\A2291\B\_A22912\_013\_JNW0112\_Type D End Sect.dgn (Default)

STATE OF MISSOURI  
CHRISTOPHER  
TEPEN  
NUMBER  
28262  
REGISTERED PROFESSIONAL ENGINEER  
THIS SHEET HAS BEEN ELECTRONICALLY SEALED AND  
DATED ELECTRONICALLY

DATE  
10/01/2024

DATE PREPARED  
9/30/2024

ROUTE  
N

DISTRICT  
BR

STATE  
MO

SHEET NO.  
13

COUNTY  
HARRISON

JOB NO.  
JNW0112

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
A22912

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION  
COMMISSION

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

MoDOT

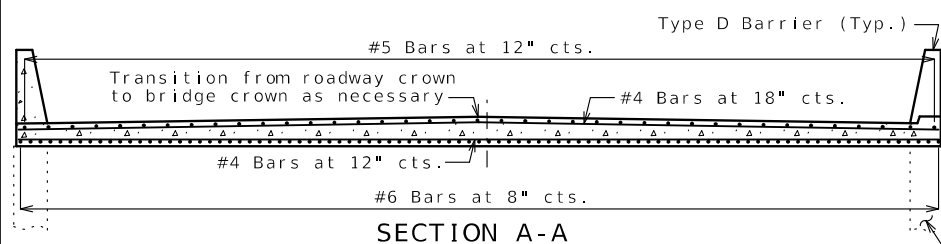
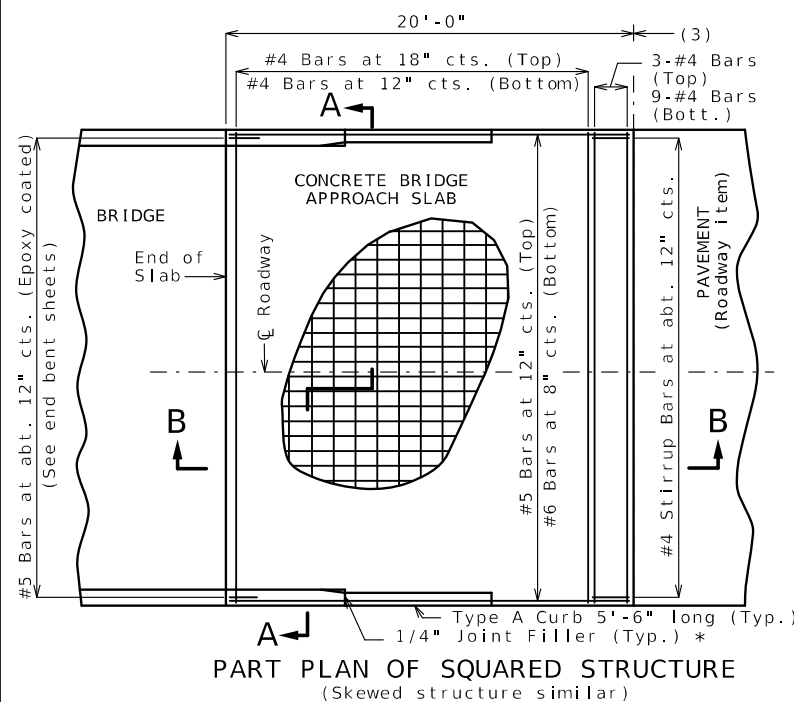
benesch

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Kansas City, MO 64111/441-1468  
816/221-4222, FAX 913/441-1468  
CERTIFICATE OF AUTHORITY NUMBER F00970024

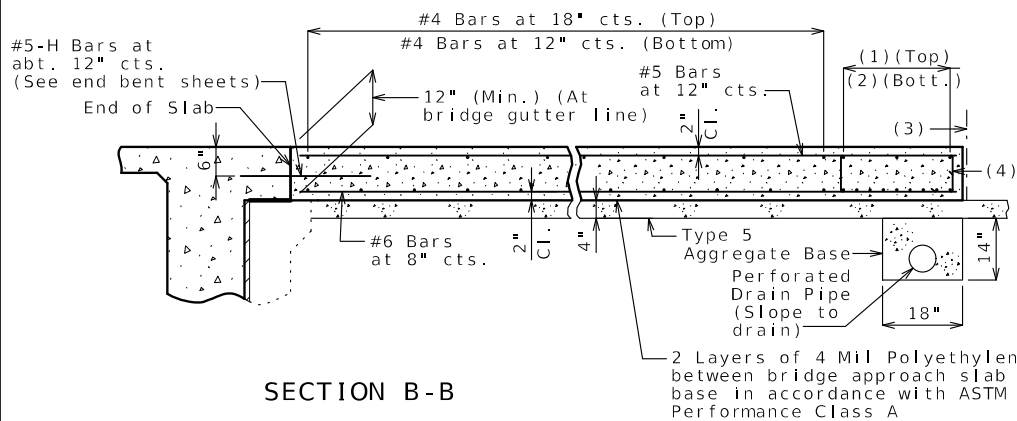
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

17:26 9/30/2024

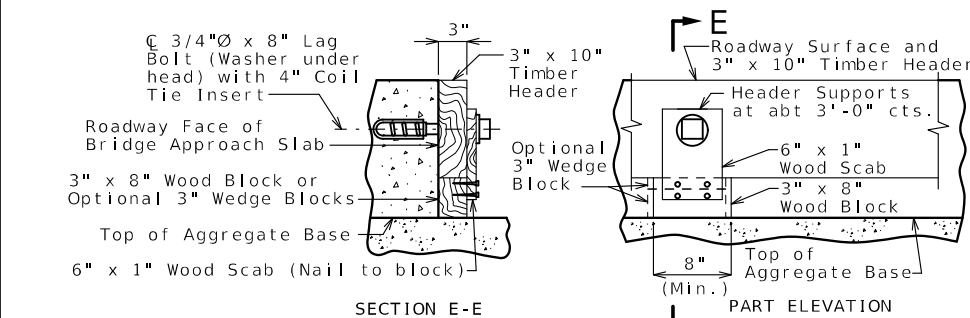




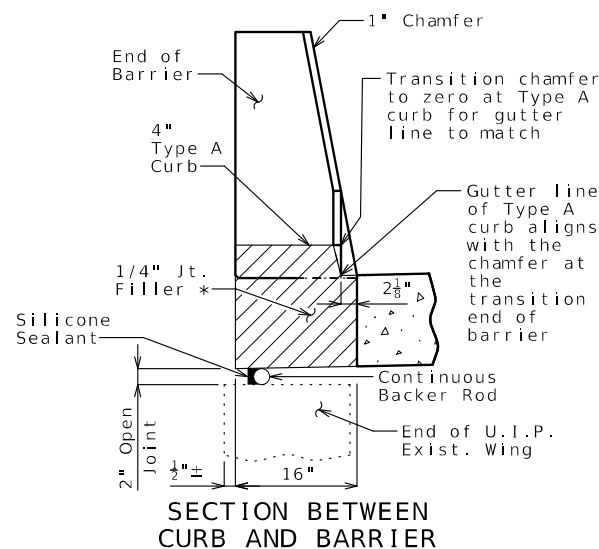
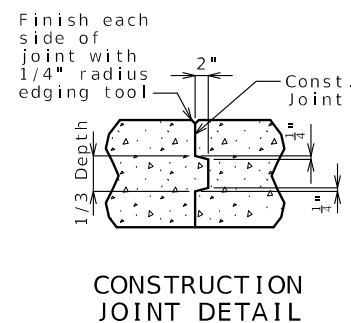
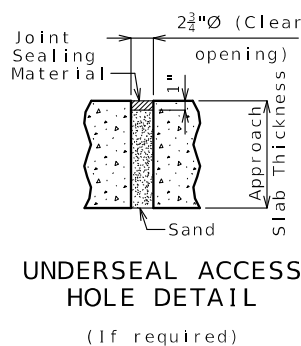
With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



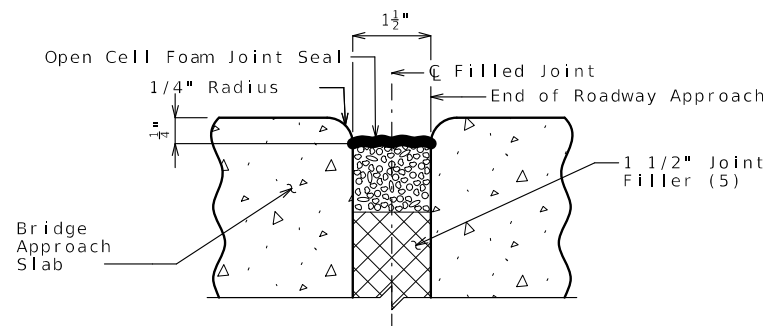
- (1) 3-#4 Bars
- (2) 9-#4 Bars
- (3)  $\emptyset$  Open Cell Joint Seal
- (4) #4 Stirrup Bars at abt. 12" cts.; 2'-0" x 8" (Min.) out to out; Actual length = 5'-10" (Min.); 90° stirrup hook at bottom; Stirrup height (8") and actual length vary due to crown.
- (5) Preformed Flexible Foam Expansion Joint Filler, See Special Provisions.



Remove timber header when concrete pavement is placed.



SECTION BETWEEN CURB AND BARRIER



DETAIL OF OPEN CELL JOINT SEAL

## BRIDGE APPROACH SLAB (MINOR)

### General Notes:

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

All concrete for the bridge approach slab shall be in accordance with Sec 503 ( $f'c = 4,000$  psi).

The reinforcing steel in the bridge approach slab shall be epoxy coated Grade 60 with  $f_y = 60,000$  psi.

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

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 23 inches for #4 bars, or by mechanical bar splice.

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

Payment for furnishing all materials, labor and excavation necessary to construct the concrete bridge approach slab, including the timber header, underdrain, Type 5 aggregate base, joint filler, and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor) per square yard.

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

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

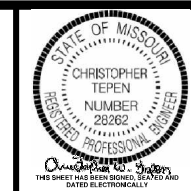
\* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

Designed By: CEA 04/24  
Detailed By: CEA 04/24  
Checked By: CWT 05/24

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

Sheet No. 14 of 15

Y:\Kansas\1309005\130991.03\_NW\_Bundle\_NW0112\Eng\_Docs\Bridge\A2291\B\_A22912\_014\_JNW0112\_Appr\_Slab (Minor).dgn (Default)



DATE  
10/01/2024

DATE PREPARED  
9/30/2024

ROUTE  
N MO

DISTRICT  
BR 14

COUNTY  
HARRISON

JOB NO.  
JNW0112

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
A22912

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

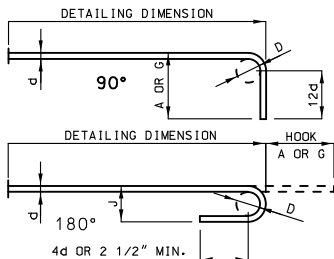
1-888-ASK-MODOT (1-888-275-6636)

benesch

One Main Plaza, 4435 Main St., Suite 1150,  
Kansas City, MO 64111-1468  
816/221-4222, FAX 816/221-4222  
CERTIFICATE OF AUTHORITY NUMBER F00970024

9/30/2024

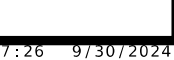
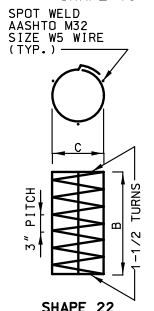
NO.	REQ'D.		MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS							NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT					
	SIZE	MARK									B	C	D	E	F	H	K								
																					FT.	IN.	FT.	IN.	FT.
SUPERSTRUCTURE																									
END BENT NO. 1																									
10	6	H11	Diaph. P1	E	20						42	5.00							42	5	42	5	637		
2	7	H21	Diaph. P1	E	20						43	6.00							43	6	43	6	178		
16	6	H22	Diaph. P1	E	20						5	2.00							5	2	5	2	124		
2	6	H31	Diaph. P2	E	20						40	3.00							40	3	40	3	121		
41	5	H32	Diaph. P2	E	20						3	3.00							3	3	3	3	139		
1	6	H33	Diaph. P2	E	20						38	6.00							38	6	38	6	58		
16	5	H34	Diaph. P1	E	10	S							0	8.00	0	17.50			2	10	2	7	43		
26	5	U10	Diaph. P1	E	13	S					0	18.50	4	11.00	0	18.50	4	11.00	13	10	13	6	366		
41	5	U11	Diaph. P2	E	6	S					4	9.00	0	8.00					5	5	5	4	228		
12	5	U12	Diaph. P1	E	13	S					0	18.50	3	9.00	0	18.50	3	9.00	11	6	11	2	140		
10	4	U13	Brg. Block	E	10	S							2	9.00	0	20.00			7	2	7	0	47		
20	5	V10	Diaph. P1	E	20						3	8.00							3	8	3	8	76		
SUPERSTRUCTURE																									
END BENT NO. 5																									
10	6	H11	Diaph. P1	E	20						42	5.00							42	5	42	5	637		
2	7	H21	Diaph. P1	E	20						43	6.00							43	6	43	6	178		
16	6	H22	Diaph. P1	E	20						5	2.00							5	2	5	2	124		
2	6	H31	Diaph. P2	E	20						40	3.00							40	3	40	3	121		
41	5	H32	Diaph. P2	E	20						3	3.00							3	3	3	3	139		
1	6	H33	Diaph. P2	E	20						38	6.00							38	6	38	6	58		
16	5	H34	Diaph. P1	E	10	S							0	8.00	0	17.50			2	10	2	7	43		
26	5	U10	Diaph. P1	E	13	S					0	18.50	4	11.00	0	18.50	4	11.00	13	10	13	6	366		
41	5	U11	Diaph. P2	E	6	S					4	9.00	0	8.00					5	5	5	4	228		
12	5	U12	Diaph. P1	E	13	S					0	18.50	3	9.00	0	18.50	3	9.00	11	6	11	2	140		
10	4	U13	Brg. Block	E	10	S							2	9.00	0	20.00			7	2	7	0	47		
20	5	V10	Diaph. P1	E	20						3	8.00							3	8	3				



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

Y:\Kansas\1309005\130991.03 NW Bundle\_NW0112\Eng\_Docs\Bridge\A2291\B A22912 015\_JNW0112\_Bill of Reinf.dgn (Default)

BILL OF REINFORCING STEEL																																		
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT															
									B		C		D		E					F		H		K										
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	LBS.						
TYPE D BARRIER																																		
496	5	R1	Barrier	E 26					3	3.00	0	5.50	3	1.25			0	5.50	3	0.75	0	6.75	6	10	6	10	353							
496	5	R2	Barrier	E 19	S				0	19.50	0	9.50					0	9.50	0	15.25	0	4.00	0	12.00	0	15.00	0	3.00	3	5	3	2	1638	
496	5	R3	Barrier	E 27	S																											1394		
40	5	R4	Barrier	E 20					33	5.00																							973	
80	5	R5	Barrier	E 20					11	8.00																							2705	
80	5	R6	Barrier	E 20					32	5.00																								
20	5	K1	End Post	E 27	S				2	1.00	0	9.25	0	5.25	0	19.25	0	12.00	0	5.25	0	1.00	5	11	5	7							116	
80	5	K2	End Post	E 27	S				2	1.00	0	9.25	0	17.25	0	7.50	0	12.00	0	17.00	0	3.25	5	11	5	7								466
20	5	K4	End Post	E 19	S		V	4	2	4.25	0	10.00																					60	
			Incr. = 0.5000"						2	6.25	0	10.00																						
20	5	K5	End Post	E 29	S		V	4			0	8.25	0	9.50	0	18.50			0	18.00	0	4.00	3	0	2	11								63
			Incr. = 0.5000"								0	8.25	0	9.50	0	20.50			0	20.00	0	4.50	3	2	3	1								
12	5	K6	End Post	E 19	S				2	6.75	0	10.00																					47	
12	5	K7	End Post	E 21	S				2	6.75			0	10.00					2	6.00	0	6.25	3	5	3	3							47	
36	5	K8	End Post	E 19	S		V	4	2	8.50	0	10.00																					138	
			Incr. = 0.7500"						3	2.50	0	10.00																						
36	5	K9	End Post	E 21	S		V	4	2	8.50			0	10.00					2	7.75	0	6.75	3	7	3	5							138	
			Incr. = 0.7500"						3	2.50			0	10.00					3	1.75	0	7.75	4	1	3	11								
12	5	K10	End Post	E 19	S				3	3.00	0	10.00																					50	
12	5	K11	End Post	E 21	S				3	3.00			0	10.00					3	2.25	0	7.75	4	1	4	0							5	



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