

DESIGN DESIGNATION
A.A.D.T. - 2021 = VARIES SEE SUB-PROJECT
A.A.D.T. - 2041 = VARIES SEE SUB-PROJECT
DHV = VARIES SEE SUB-PROJECT
D = VARIES SEE SUB-PROJECT
T = VARIES SEE SUB-PROJECT
V = VARIES SEE SUB-PROJECT

FUNCTIONAL CLASSIFICATION - VARIES SEE SUB-PROJECT

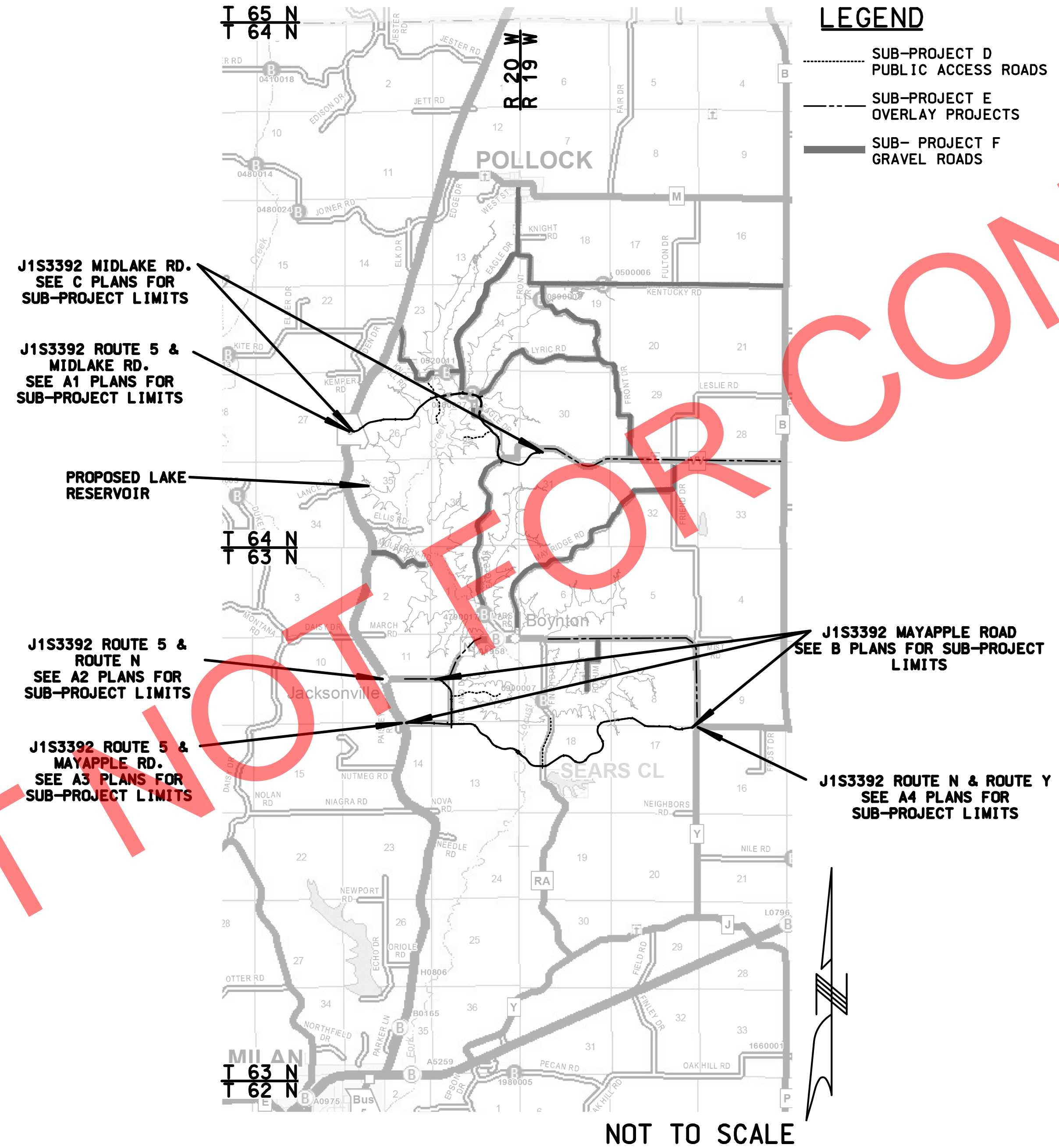
NORMAL RIGHT OF WAY
TO BE ACQUIRED

CONVENTIONAL SYMBOLS
(USED IN PLANS)

EXISTING	NEW
BUILDINGS AND STRUCTURES	
GUARD RAIL	
GUARD CABLE	
CONCRETE RIGHT-OF-WAY MARKER	
STEEL RIGHT-OF-WAY MARKER	
LOCATION SURVEY MARKER	
UTILITIES	
FIBER OPTICS	
OVERHEAD CABLE TV	
UNDERGROUND CABLE TV	
OVERHEAD TELEPHONE	
UNDERGROUND TELEPHONE	
OVERHEAD POWER	
UNDERGROUND POWER	
SANITARY SEWER	
STORM SEWER	
GAS	
WATER	
MANHOLE	
FIRE HYDRANT	
WATER VALVE	
WATER METER	
DROP INLET	
DITCH BLOCK	
GROUND MOUNTED SIGN	
LIGHT POLE	
H-FRAME POWER POLE	
TELEPHONE PEDESTAL	
FENCE	
CHAIN LINK	
WOVEN WIRE	
GATE POST	
BENCHMARK	

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
STATE HIGHWAY
SULLIVAN COUNTY



NOT TO SCALE

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

LENGTH OF SUB-PROJECT A1 ROUTE 5 & MIDLAKE RD.	
ROUTE 5	
APPARENT LENGTH	645.52 FEET
MIDLAKE ROAD	
APPARENT LENGTH	113.61 FEET
NET LENGTH OF SUB-PROJECT	759.13 FEET
STATE LENGTH	0.144 MILES

LENGTH OF SUB-PROJECT A2 ROUTE 5 & ROUTE N	
ROUTE 5	
APPARENT LENGTH	1437.00 FEET
ROUTE N	
APPARENT LENGTH	387.39 FEET
NET LENGTH OF SUB-PROJECT	1824.39 FEET
STATE LENGTH	0.346 MILES

LENGTH OF SUB-PROJECT A3 ROUTE 5 & MAYAPPLE RD.	
ROUTE 5	
APPARENT LENGTH	1947.84 FEET
MAYAPPLE ROAD	
APPARENT LENGTH	191.60 FEET
NET LENGTH OF SUB-PROJECT	2139.44 FEET
STATE LENGTH	0.405 MILES

LENGTH OF SUB-PROJECT A4 ROUTE N & ROUTE Y	
ROUTE N & Y	
APPARENT LENGTH	1,399.38 FEET
MAYAPPLE RD. & ROUTE N	
APPARENT LENGTH	690.00 FEET
NET LENGTH OF SUB-PROJECT	2,089.38 FEET
STATE LENGTH	0.396 MILES

LENGTH OF SUB-PROJECT B MAYAPPLE ROAD	
WEST MAYAPPLE ROAD	
APPARENT LENGTH	9,226.64 FEET
EAST MAYAPPLE ROAD	
APPARENT LENGTH	11,787.89 FEET
ENGLAND DRIVE	
APPARENT LENGTH	3,550.00 FEET
ROUTE N	
APPARENT LENGTH	183.56 FEET
FINCH DR.	
APPARENT LENGTH	184.07 FEET
NET LENGTH OF SUB-PROJECT	24,932.16 FEET
STATE LENGTH	4.722 MILES

LENGTH OF SUB-PROJECT C MIDLAKE	
MIDLAKE	
APPARENT LENGTH	15,885.67 FEET
NET LENGTH OF SUB-PROJECT	15,885.67 FEET
STATE LENGTH	3.009 MILES

LENGTH OF SUB-PROJECT D ACCESS ROADS	
MARINA ROAD	
APPARENT LENGTH	3,158.00 FEET
NOB HILL CONNECTOR	
APPARENT LENGTH	1,056.93 FEET
WEST ACCESS ROAD	
APPARENT LENGTH	1,711.49 FEET
EAST ACCESS ROAD	
APPARENT LENGTH	1,783.00 FEET
FINCH DRIVE	
APPARENT LENGTH	2,940.12 FEET
NET LENGTH OF SUB-PROJECT	10,649.54 FEET
STATE LENGTH	2.017 MILES

LENGTH OF SUB-PROJECT E ROUTE N	
ROUTE N	
APPARENT LENGTH	4.474 MILES
TOTAL CORRECTIONS	-0.826 MILES
ROUTE VV	
APPARENT LENGTH	2.824 MILES
NET LENGTH OF SUB-PROJECT	6.472 MILES
STATE LENGTH	6.472 MILES

LENGTH OF SUB-PROJECT F GRAVEL ROADS	
NORTH EAGLE DR.	
APPARENT LENGTH	2.657 MILE
SOUTH EAGLE DR.	
APPARENT LENGTH	1.994 MILE
KENTUCKY RD.	
APPARENT LENGTH	3.382 MILE
LYRIC RD.	
APPARENT LENGTH	2.259 MILE
FRONT DR.	
APPARENT LENGTH	2.740 MILE
NOB HILL RD.	
APPARENT LENGTH	1.319 MILE
MULBERRY RD.	
APPARENT LENGTH	0.680 MILE
MAY RIDGE RD.	
APPARENT LENGTH	3.310 MILE
FORUM DR.	
APPARENT LENGTH	0.704 MILE
NET LENGTH OF SUB-PROJECT	19.045 MILES

TOTAL LENGTH OF PROJECT	
NET LENGTH OF PROJECT	193,017.28 FEET
STATE LENGTH	36.556 MILES

DATE PREPARED 2/7/2022	
ROUTE VARIES	STATE MO
DISTRICT NW	SHEET NO. 1
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

DRAFT

J1S3392
INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	1
INDEX OF SHEETS-----	2
QUANTITIES (QU) (5 SHEETS)-----	3

SUB-PROJECT A1
INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	A1.1
TYPICAL SECTIONS (TS) (2 SHEETS)---	A1.2
QUANTITIES (QU) (3 SHEETS)-----	A1.3
PLAN-PROFILE (PP)-----	A1.4-A1.6
COORDINATE POINTS SHEET (CP)-----	A1.7
SPECIAL SHEETS (SS)-----	A1.8-A1.9
TRAFFIC CONTROL SHEETS (TC)-----	A1.10-A1.14
EROSION CONTROL SHEETS (EC)-----	A1.15-A1.17
PAVEMENT MARKING & SIGNING (PM)---	A1.18-A1.19
CROSS SECTIONS (XS)-----	A1.1-A1.13

SUB-PROJECT A2
INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	A2.1
TYPICAL SECTIONS (TS) (2 SHEET)---	A2.2
QUANTITIES (QU) (5 SHEET)-----	A2.3
PLAN-PROFILE (PP)-----	A2.4-A2.7
COORDINATE POINTS (CP)-----	A2.8
SPECIAL SHEET (SS)-----	A2.9-A2.11
TRAFFIC CONTROL SHEETS (TC)-----	A2.12-A2.17
EROSION CONTROL SHEETS (EC)-----	A2.18-A2.23
PAVEMENT MARKING & SIGNING (PM)---	A2.24-A2.25
CULVERT SECTIONS (CS)-----	A2.26-A2.27
CROSS SECTIONS (XS)-----	A2.1-A2.34

SUB-PROJECT A3
INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	A3.1
TYPICAL SECTIONS (TS) (2 SHEETS)---	A3.2
QUANTITIES (QU) (5 SHEETS)-----	A3.3
PLAN-PROFILE (PP)-----	A3.4-A3.8
COORDINATE POINTS SHEET (CP)-----	A3.9
SPECIAL SHEETS (SS)-----	A3.10-A3.11
TRAFFIC CONTROL SHEETS (TC)-----	A3.12-A3.16
EROSION CONTROL SHEETS (EC)-----	A3.17-A3.22
PAVEMENT MARKING & SIGNING (PM)---	A3.23-A3.25
CULVERT SECTIONS (CS)-----	A3.26-A3.31
CROSS SECTIONS (XS)-----	A3.1-A3.32

SUB-PROJECT A4
INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	A4.1
TYPICAL SECTIONS (TS) (1 SHEET)---	A4.2
QUANTITIES (QU) (4 SHEETS)-----	A4.3
PLAN-PROFILE (PP)-----	A4.4-A4.8
COORDINATE POINTS SHEET (CP)-----	A4.9
SPECIAL SHEETS (SS)-----	A4.10
TRAFFIC CONTROL SHEETS (TC)-----	A4.11-A4.16
EROSION CONTROL SHEETS (EC)-----	A4.17-A4.25
PAVEMENT MARKING & SIGNING (PM)---	A4.26-A4.27
CULVERT SECTIONS (CS)-----	A4.28-A4.30
CROSS SECTIONS (XS)-----	A4.1-A4.34

SUB-PROJECT B
INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	B.1
TYPICAL SECTIONS (TS) (11 SHEETS)---	B.2
QUANTITIES (QU) (4 SHEETS)-----	B.3
PLAN-PROFILE (PP)-----	B.4-B.25
COORDINATE POINTS SHEET (CP)-----	B.26-B.28
TRAFFIC CONTROL SHEETS (TC)-----	B.29-B.35
PAVEMENT MARKING & SIGNING (PM)---	B.36-B.42
BRIDGE DRAWINGS (B) A9135 (BRIDGE)-----	B.1-B.26

SUB-PROJECT C
INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	C.1
TYPICAL SECTIONS (TS) (11 SHEETS)---	C.2
QUANTITIES (QU) (5 SHEETS)-----	C.3
PLAN-PROFILE (PP)-----	C.4-C.19
COORDINATE POINTS SHEET (CP)-----	C.20-C.21
TRAFFIC CONTROL SHEETS (TC)-----	C.22-C.28
PAVEMENT MARKING/SIGNING SHEETS (PM)	C.29-C.34
BRIDGE DRAWINGS (B) A9132 (BRIDGE)----- A9133 (BRIDGE)----- A9134 (BRIDGE)-----	1-49 1-51 1-43

SUB-PROJECT D
INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	D.1
TYPICAL SECTIONS (TS) (10 SHEETS)---	D.2
QUANTITIES (QU) (3 SHEETS)-----	D.3
PLAN-PROFILE (PP)-----	D.4-D.14
COORDINATE POINTS (CP)-----	D.15-D.17
TRAFFIC CONTROL SHEETS (TC)-----	D.18-D.19
PAVEMENT MARKING & SIGNING (PM)---	D.20-D.22

SUB-PROJECT E
INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	E.1
TYPICAL SECTIONS (TS) (1 SHEET)---	E.2
QUANTITIES (QU) (2 SHEET)-----	E.3
SPECIAL SHEET (SS)-----	E.4-E.6
TRAFFIC CONTROL SHEETS (TC)-----	E.7-E.10

SUB-PROJECT F
INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	F.1
TYPICAL SECTIONS (TS) (1 SHEET)---	F.2
QUANTITIES (QU) (2 SHEET)-----	F.3
SPECIAL SHEETS (SS)-----	F.4
TRAFFIC CONTROL SHEETS (TC)-----	F.5-F.7

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

DATE PREPARED
2/7/2022

ROUTE VARIES	STATE MO
DISTRICT NW	SHEET NO. 2

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

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JEFFERSON CITY, MO 65102
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105 WEST CAPITAL
JEFFERSON CITY, MO 65102
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INDEX OF SHEETS
SHEET 1 OF 1

DESIGN DESIGNATION
A.A.D.T. - 2021 = 1260
A.A.D.T. - 2041 = 3260
D = 50%
T = 13%
V = 55 M.P.H.
FUNCTIONAL CLASSIFICATION - RTE 5 - MINOR ARTERIAL

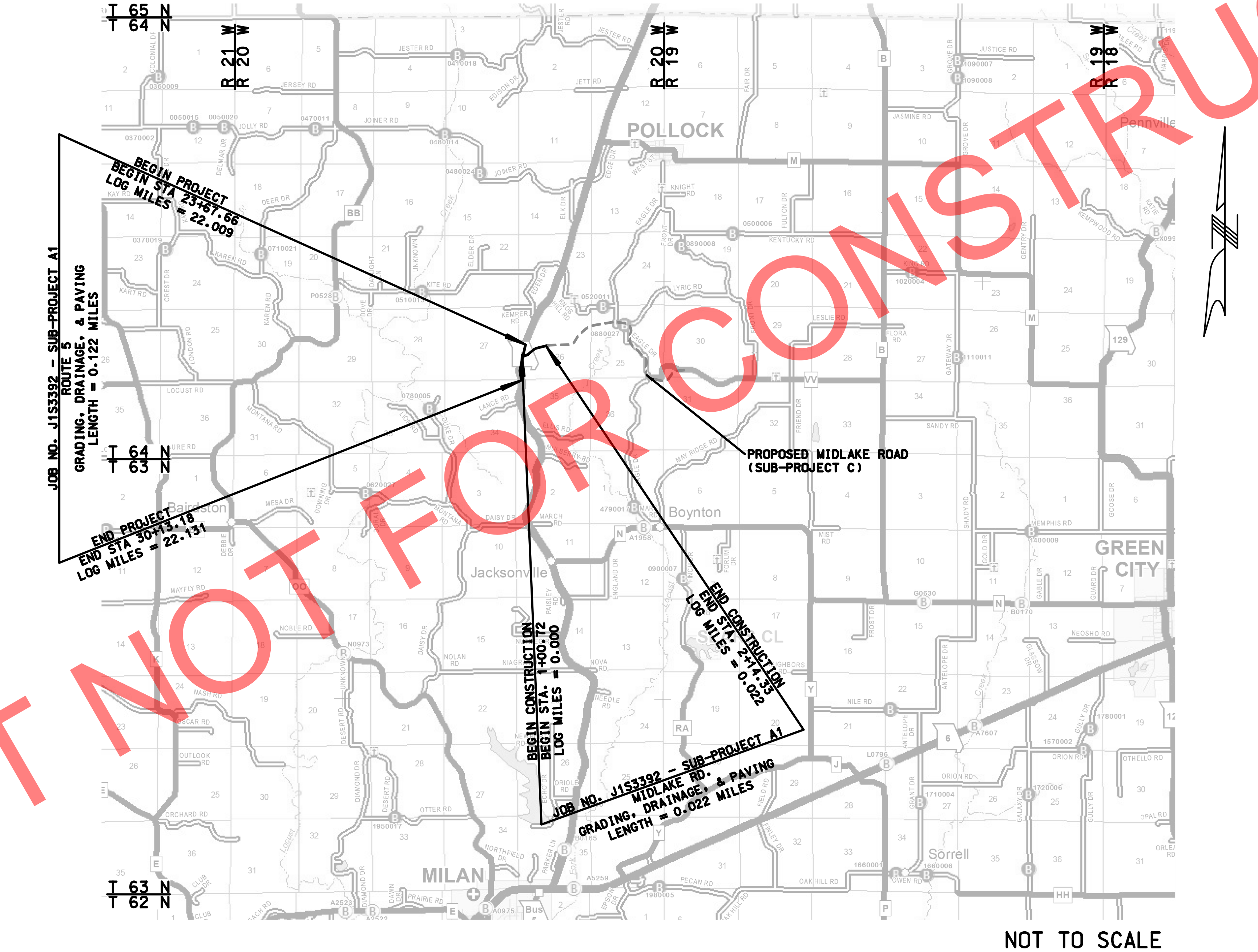
NORMAL RIGHT OF WAY
TO BE ACQUIRED

CONVENTIONAL SYMBOLS
(USED IN PLANS)

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

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
STATE HIGHWAY
SULLIVAN COUNTY
SEC. 26, T64N, R20W



INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	A1.1
TYPICAL SECTIONS (TS) (2 SHEETS)	A1.2
QUANTITIES (QU) (3 SHEETS)	A1.3
PLAN-PROFILE (PP)	A1.4-A1.6
COORDINATE POINTS SHEET (CP)	A1.7
SPECIAL SHEETS (SS)	A1.8-A1.9
TRAFFIC CONTROL SHEETS (TC)	A1.10-A1.14
EROSION CONTROL SHEETS (EC)	A1.15-A1.17
PAVEMENT MARKING & SIGNING (PM)	A1.18-A1.19
CROSS SECTIONS (XS)	A1.1-A1.13

LENGTH OF SUB-PROJECT

ROUTE 5	
BEGINNING OF PROJECT	STA. 23+67.66
END OF PROJECT	STA. 30+13.18
APPARENT LENGTH	645.52 FEET
MIDLAKE ROAD	
BEGINNING OF CONSTRUCTION	STA. 1+00.72
END OF CONSTRUCTION	STA. 2+14.33
APPARENT LENGTH	113.61 FEET
EQUATIONS AND EXCEPTIONS:	
NONE	0.00 FEET
TOTAL CORRECTIONS	
NET LENGTH OF PROJECT	759.13 FEET
STATE LENGTH	0.144 MILES
FOR INFORMATION ONLY	
ESTIMATED DISTURBED ACRES	1.96 ACRES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

DATE PREPARED: 2/7/2022

ROUTE: 5, STATE: MO, DISTRICT: NW, SHEET NO.: A1.1

COUNTY: SULLIVAN

JOB NO.: J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

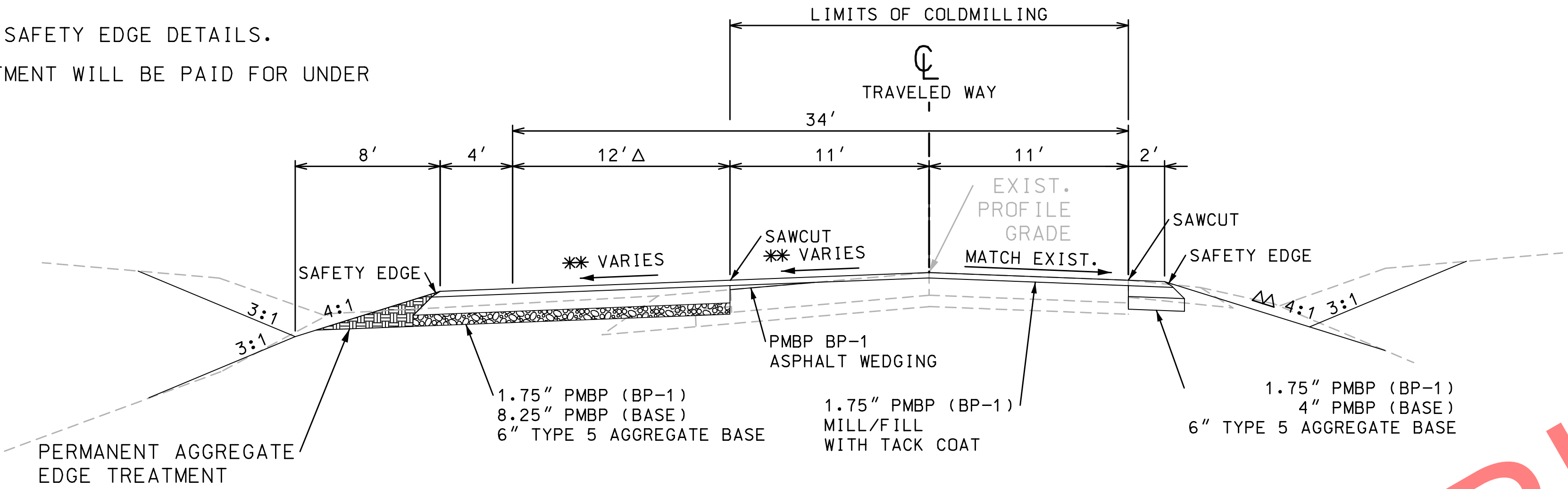
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

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1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592

NOTES:

1. SEE STANDARD PLAN 401.00C FOR SAFETY EDGE DETAILS.
2. PERMANENT AGGREGATE EDGE TREATMENT WILL BE PAID FOR UNDER PAY ITEM 3049910 PER TON.



PROPOSED TYPICAL SECTION ROUTE 5

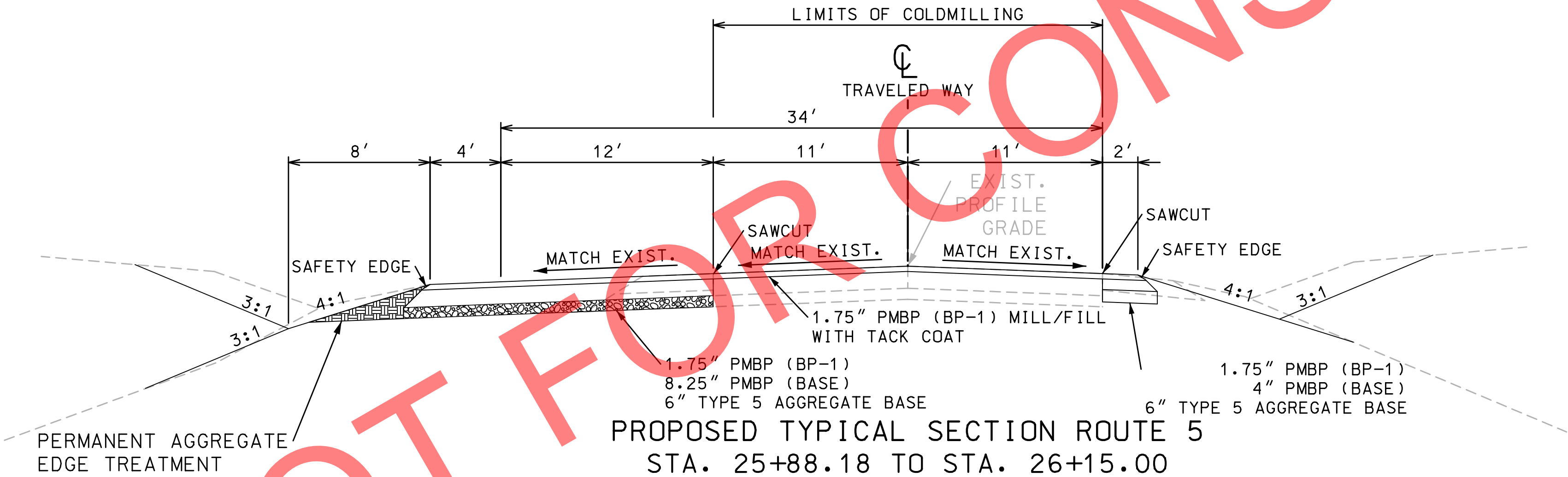
STA. 26+15.00 TO STA. 30+13.18

Δ TAPER 12' TO 0' FROM STA. 28+33.18 TO STA. 30+13.18
ΔΔ TRANSITION 4:1 TO 3:1, STA. 29+63.18 TO STA. 30+13.18
** SEE SUPERELEVATION TABLE ON THIS SHEET AND CROSS SECTIONS

ESTIMATE FACTORS FOR ASPHALTIC MIXTURES	
PMBP (BP-1) PG64-22	1.948 TONS/CY
PMBP (BASE) PG64-22	1.943 TONS/CY
TACK COAT	0.10 GAL/SY

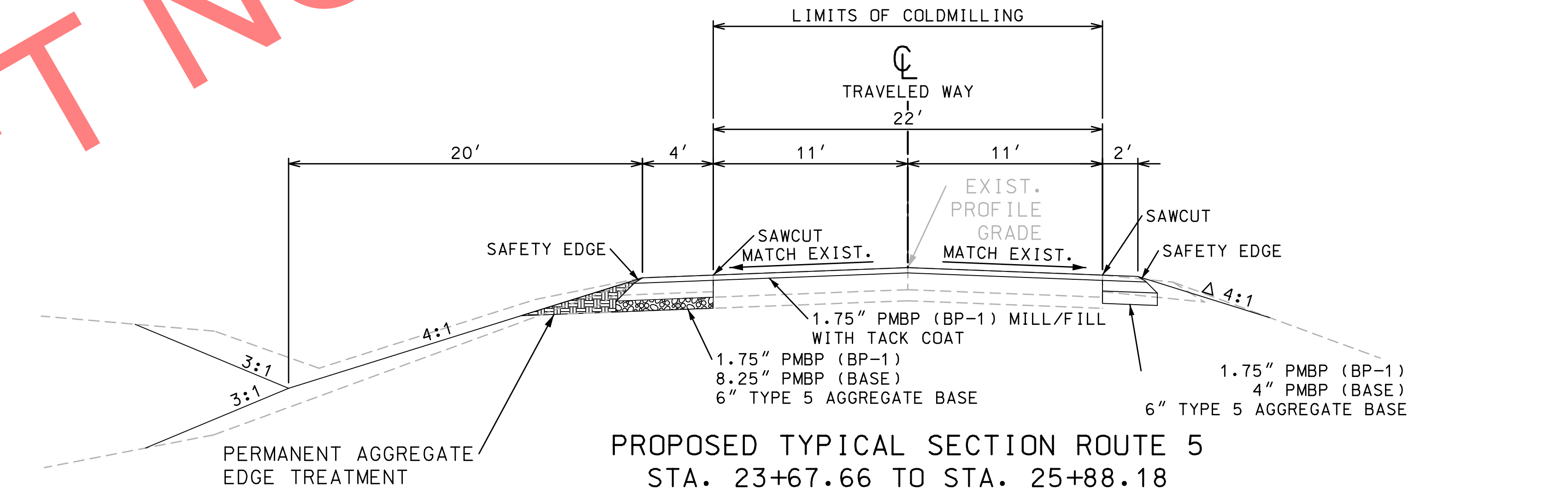
FOR INFORMATIONAL PURPOSES ONLY
PMBP= PLANT MIX BITUMINOUS PAVEMENT

ROUTE 5 SUPERELEVATION %	
LT.	STA.
-5.40	26+15.00
-5.40	27+34.48
-2.00	28+21.48
-2.00	30+08.18
-1.78	30+13.18



PROPOSED TYPICAL SECTION ROUTE 5

STA. 25+88.18 TO STA. 26+15.00



PROPOSED TYPICAL SECTION ROUTE 5

STA. 23+67.66 TO STA. 25+88.18

Δ TRANSITION 2.5:1 TO 4:1, STA. 23+67.66 TO STA. 24+17.65

TYPICAL SECTION
SHEET 1 OF 2

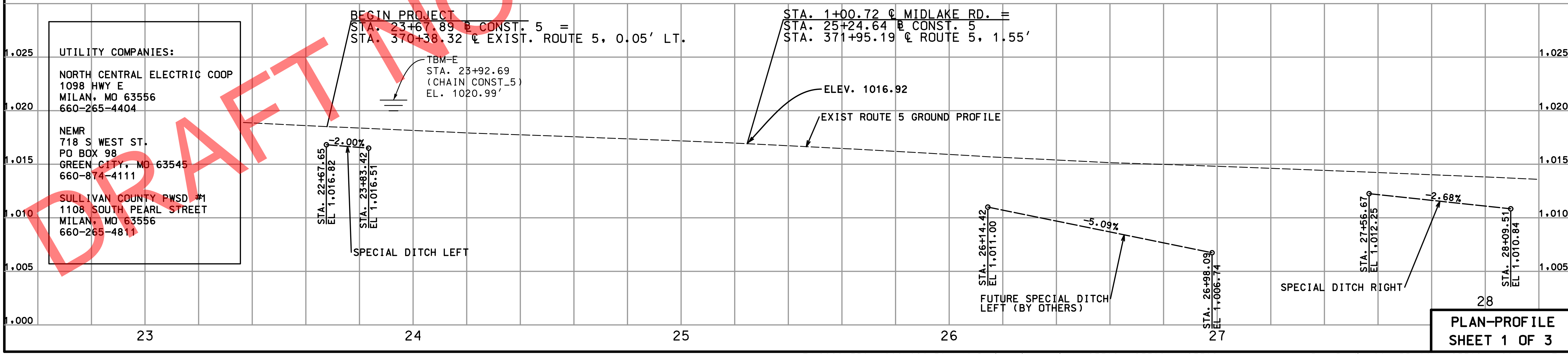
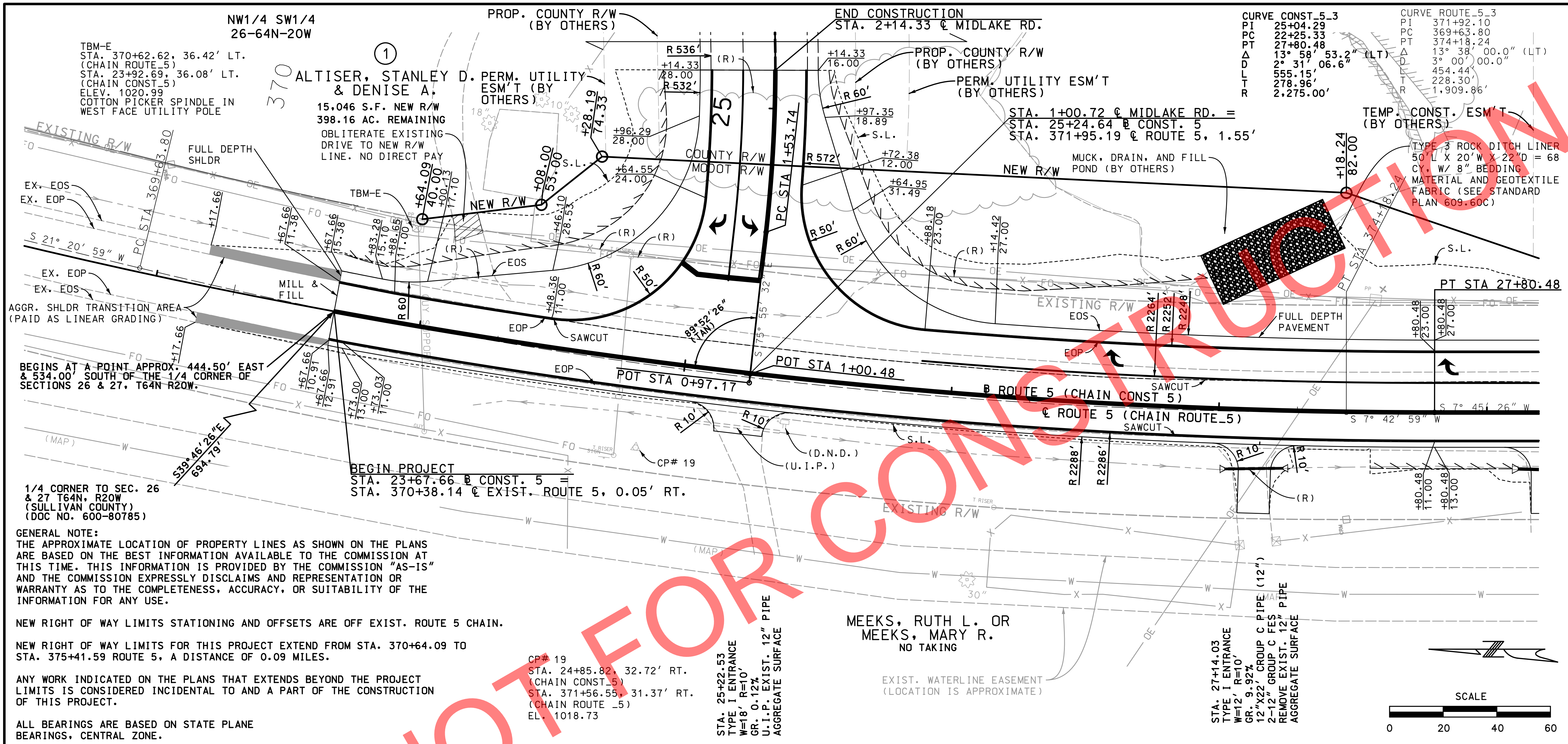
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A1.2
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

1. SEE STANDARD PLAN 401.00C FOR SAFETY EDGE DETAILS.
2. PERMANENT AGGREGATE EDGE TREATMENT WILL BE PAID FOR UNDER PAY ITEM 3049910 PER TON.

FOR INFORMATIONAL PURPOSES ONLY
PMBP= PLANT MIX BITUMINOUS PAVEMENT



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CERTIFICATE OF
AUTHORITY NO. 001592



DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A1.4
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

MEEKS, RUTH L.
OR MEEKS, MARY
/ NO TAKING /

EX. EOP

BEGIN PROJECT
STA. 23+67.66 @ CONST. 5' =
STA. 370+38.14 @ EXIST. ROUTE 5, 0.05' RT.

NW1/4 SW1/4
26-64N-20W

ALTISER, STANLEY D.
& DENISE A.
SEE SHEET A1.4

CURVE MIDLAKE_RD_5

PI	4+22.33	
PC	1+53.74	
PT	6+54.62	
Δ	51° 14'	48.3" (LT)
D	10° 13'	53.0"
L	500.88'	
T	268.59'	
R	560.00'	

STA. 25+22.53
TYPE I ENTRANCE
W=18' R=10'
GR. 0.12%
U.I.P. EXIST. 12" PIPE
AGGREGATE SURFACE

(U.I.P)

R 228

R 228

CP# 19
STA. 24+85.82, 32.72' RT.
(CHAIN CONST_5)
STA. 371+56.55, 31.37' RT.
(CHAIN ROUTE _5)
EL. 1018.73

~~STA. 1+00.72 @ MIDLAKE RD. =~~
~~STA. 25+24.64 @ CONST. 5~~
~~STA. 371+95.20 @ ROUTE 5, 1.55'~~

PROP. COUNTY R/W
(BY OTHERS)

CURVE	CONST_5_3
PI	25+04.29
PC	22+25.33
PT	27+80.48
Δ	13° 58' 53.2" (LT)
D	2° 31' 06.6"
L	555.15'
T	278.96'
R	2,275.00'

CURVE ROUTE_5_3
PI 371+92.10
PC 369+63.80
PT 374+18.24
 Δ 13° 38' 00.0" (LT)
D 3° 00' 00.0"
L 454.44'
T 228.30'
R 1,909.86'

— CONSTRUCTED UNDER
SUB-PROJECT C

✓-PERM. UTILITY ESM'T
(BY OTHERS)


SCALE

DATE PREPARED	
2/7/2022	
ROUTE	STATE
5	MO
DISTRICT	SHEET NO.
NW	A1.6
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

DESCRIPTION

DATE _____

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

MDOT
JEFF
1-888-ASK-MD

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

REV.

F:\2020\3501-4000\020-3611\40-Design\Microstation\J1S3392\J1S3392A\J1S3392A1\plan_sheets\4 Plan Profile\006_PP_003-J1S3392A1_I20.dgn 7:14:39 AM 2/7/2022

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

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	MODIFIED MISSOURI STATE PLANE
HORIZONTAL DATUM	NAD 83 (2011) (EPOCH 2010)
VERTICAL DATUM	NAVD 88: GNSS DERIVED
GEOID MODEL	12B
ELEVATIONS DETERMINED BY	GPS DERIVED
PROJECT PROJECTION FACTOR	1.00007728

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MO COORDINATE SYSTEM OF 1983
CONTROL STATION	MISSOURI CORS
DESIGNATION	MODOT MILAN CORS ARP
CORS ID	MOML
PID	DN6087
LATITUDE	10°12'37.76062" (N)
LONGITUDE	093°06'57.87622" (W)
NORTHING (M)	486,000.913
EASTING (M)	447,556.050
ZONE	CENTRAL
PROJECT AVERAGE GRID FACTOR	0.99996781

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

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

EXAMPLE: CONTROL POINT #8
N 1619096.411 X 0.999922725 = N 1618971.295
E 1469538.057 X 0.999922725 = E 146526.733

LINEAR UNIT CONVERSION
1 METER = 3.280833333 US SURVEY FEET (USFT)


COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND)			DESCRIPTION	GPK POINT ID
				NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)		
PROJECT BENCHMARKS								
	370+62.62	LT	36.42	1634156.3820	1467589.3200	1,020.99	TBM "3" COTTON PICKER SPINDLE IN UTILITY POLE	TBM1
PROJECT CONTROL POINTS								
A1.4	364+76.46	LT	36.21	1634701.5160	1467799.4870	1,023.63	SET IRON ROD W/ CAP	13
	371+56.55	RT	31.37	1634086.4620	1467497.1160	1,018.73	SET IRON ROD W/ CAP	19
	381+58.60	LT	38.94	1633083.0510	1467413.7480	1,012.35	SET IRON ROD W/ CAP	20
ALIGNMENTS								
CONST 5 (CONSTRUCTION BASELINE)								
	17+17.63	BL		1634796.4400	1467799.1600		BEGIN CHAIN CONST 5	
	22+25.33	BL		1634324.8435	1467611.1264		PC CURVE CONST 5 3	
	25+04.29	RT	17.0393	1634065.7214	1467507.8070		PI CURVE CONST 5 3	
	27+80.48	BL		1633789.3133	1467470.1544		PT CURVE CONST 5 3	
	32+74.01	BL		1633300.2983	1467403.5404		END CHAIN CONST 5	
ROUTE 5								
	354+63.80	CL		1635657.8647	1468134.4267		BEGIN CHAIN ROUTE 5	
	369+63.80	CL		1634260.8002	1467588.3398		PC CURVE ROUTE 5 3	
	371+92.10	RT	13.5969	1634048.1665	1467505.2252		PI CURVE ROUTE 5 3	
	374+18.24	CL		1633821.9333	1467474.5717		PT CURVE ROUTE 5 3	
	384+25.44	CL		1632823.8534	1467339.3372		PC CURVE ROUTE 5 6	
	387+15.41	RT	36.1167	1632536.5167	1467300.4046		PI CURVE ROUTE 5 6	
	389+93.45	CL		1632265.2440	1467402.8218		PT CURVE ROUTE 5 6	
	392+55.95	CL		1632019.6636	1467495.5392		END CHAIN ROUTE 5	
MIDLAKE RD								
	0+97.17	CL		1634041.1974	1467515.4130		BEGIN CHAIN MIDLAKE RD	
	1+00.48	CL		1634040.3925	1467518.6236		PI CHAIN MIDLAKE RD	
	1+53.74	CL		1634027.4404	1467570.2860		PC CHAIN MIDLAKE RD	
	4+22.33	RT	61.0793	1633962.1247	1467830.8112		PI CURVE MIDLAKE RD 5	
	6+54.62	CL		1634124.4095	1468044.8280		PT CURVE MIDLAKE RD 5	
	11+71.50	CL		1634436.7194	1468456.6935		PC CURVE MIDLAKE RD 8	
	13+44.79	LT	19.5050	1634541.4214	1468594.7716		PI CURVE MIDLAKE RD 8	
	15+12.25	CL		1634575.9209	1468764.5887		PT CURVE MIDLAKE RD 8	

DATE PREPARED		2/7/2022	
ROUTE	5	STATE	MO
DISTRICT	NW	SHEET NO.	A1.7
COUNTY			
SULLIVAN			
JOB NO.			
J1S3392			
CONTRACT ID.			
PROJECT NO.			
BRIDGE NO.			

DESCRIPTION									
DATE									

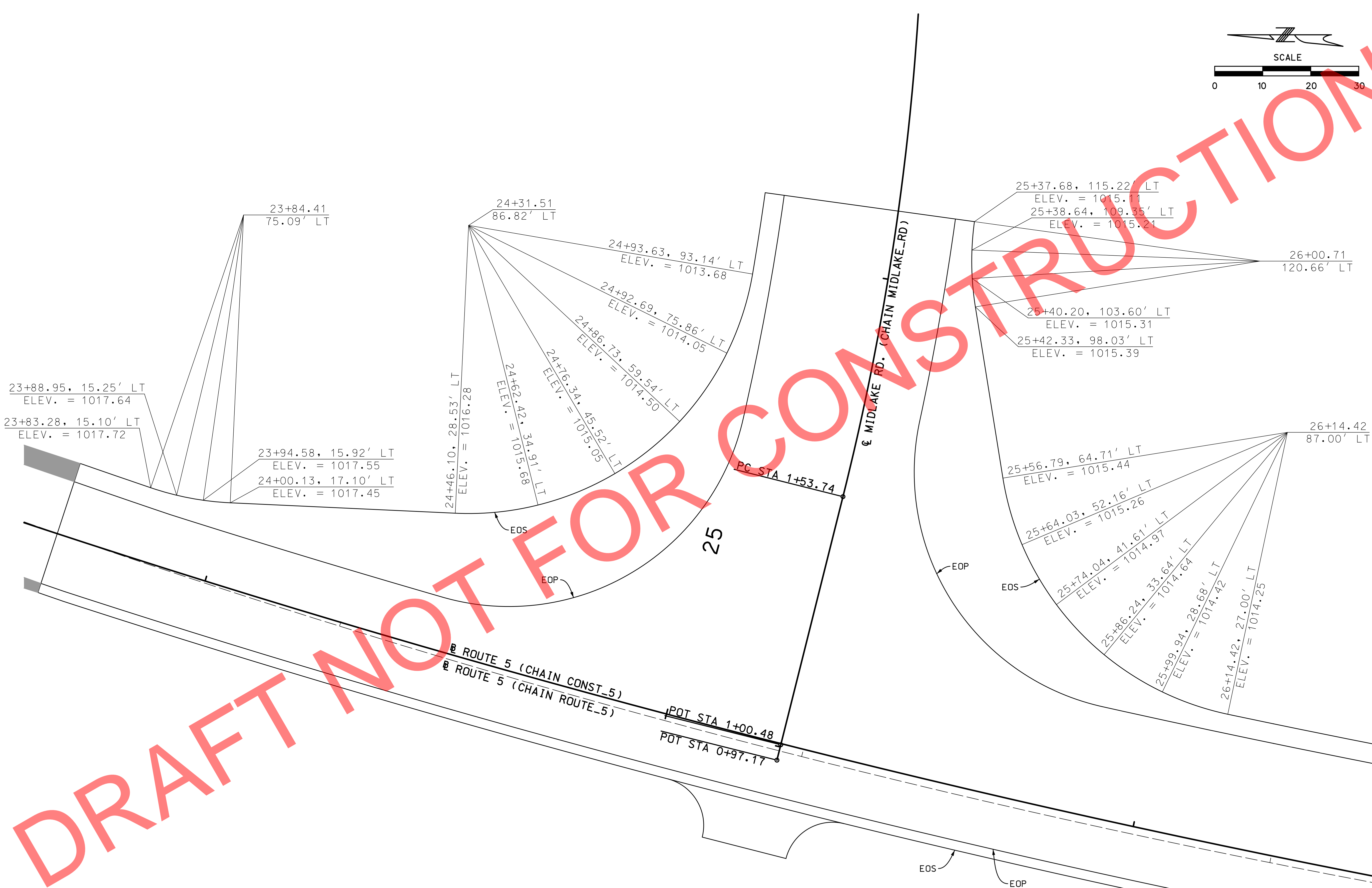
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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



1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592



DRAFT NOT FOR CONSTRUCTION

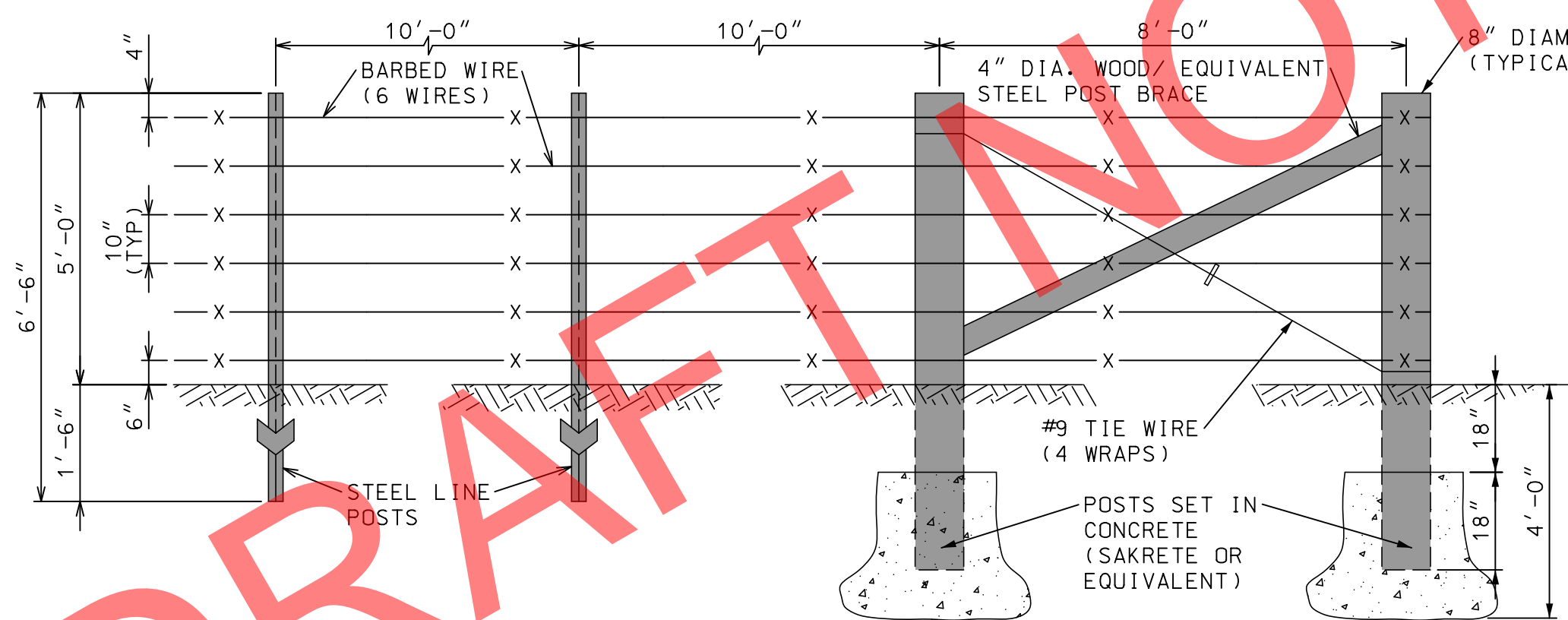
NOTE: ALL STATION OFF CONST_5 CHAIN

**SPECIAL SHEET
RADIUS POINTS
SHEET 1 OF 2**

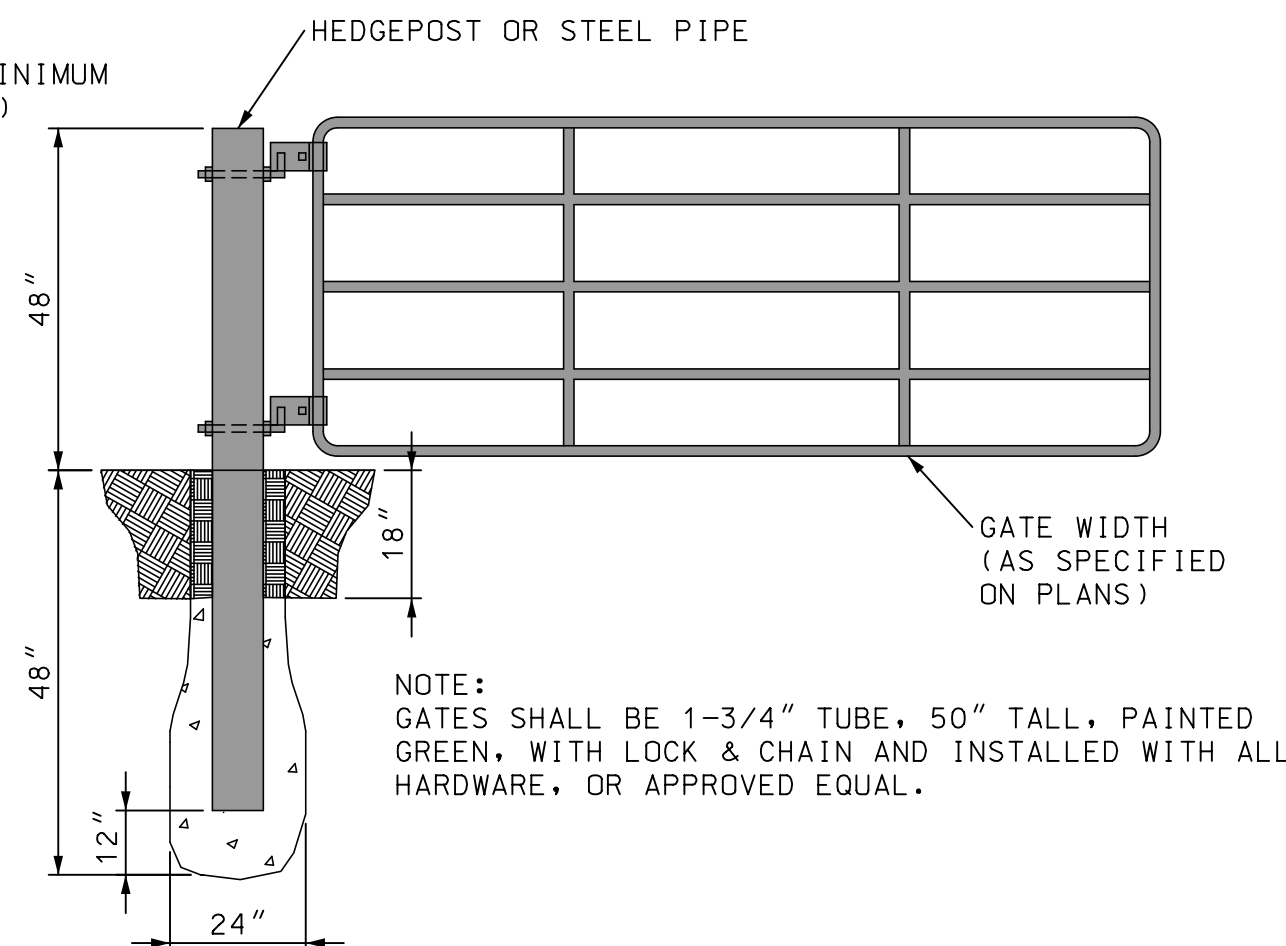
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A1.8
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
olsson 1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	REV.

FENCING NOTES:

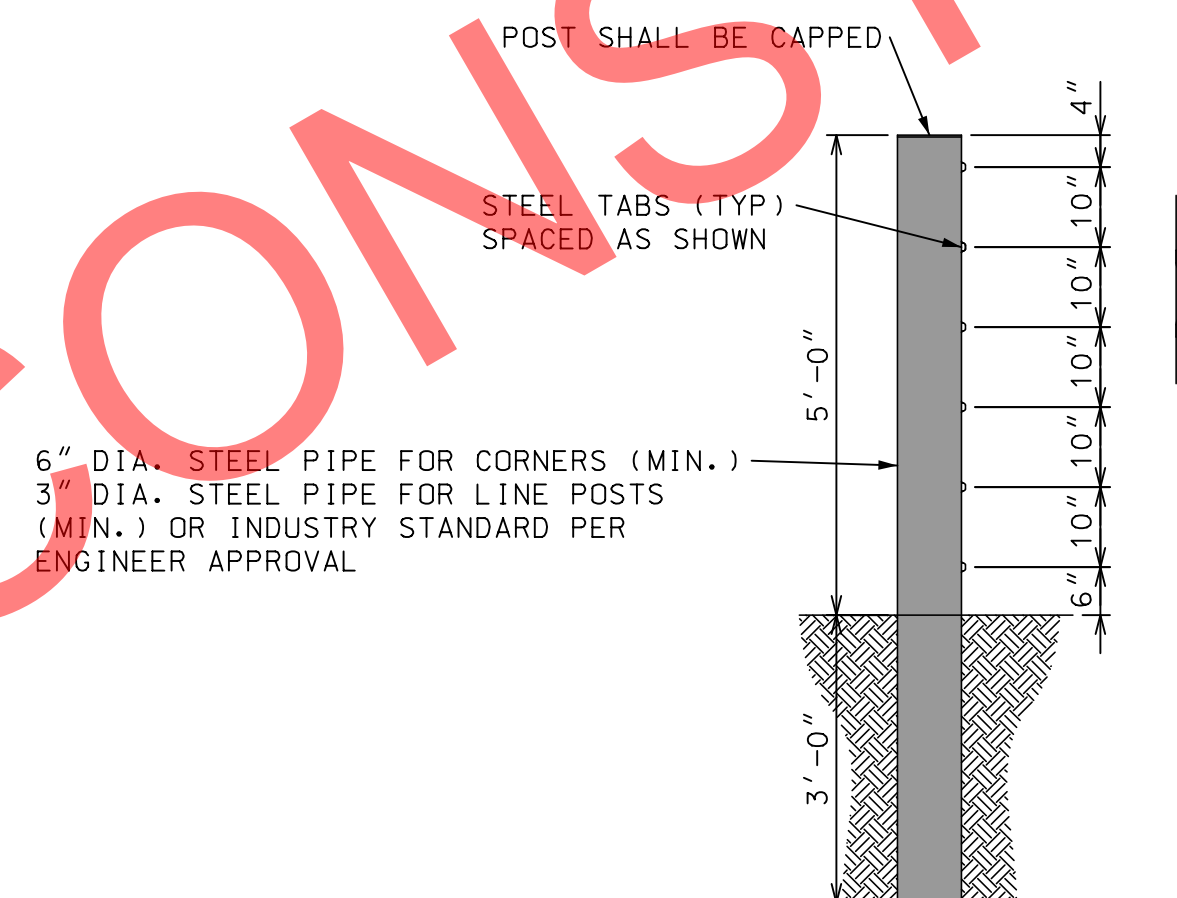
1. BARBED WIRE SHALL BE RED BRAND 4 POINT, 12.5 GAUGE WITH CLASS 1 ZINC COATING OR APPROVED EQUAL.
2. STEEL T-POSTS SHALL BE FRANKLIN INDUSTRIES 6.5 FOOT, 1.25 LBS/FT, GREEN STUDDED, WITH ANCHOR PLATE AND ENAMEL FINISH OR APPROVED EQUAL.
3. IF HEDGE POSTS ARE USED THEY SHALL BE 8'-0" MINIMUM LENGTH, WITH 8" DIAMETER ON CORNERS, 4" MINIMUM DIAMETER ON LINE POSTS.
4. IF STEEL PIPES ARE USED THEN INDUSTRY STANDARDS SHALL BE PROPOSED IN BID.
5. LINE POSTS SHALL BE SET AT EVERY 60 FOOT AVERAGE OR AT LOW POINTS OR WATER GAPS.



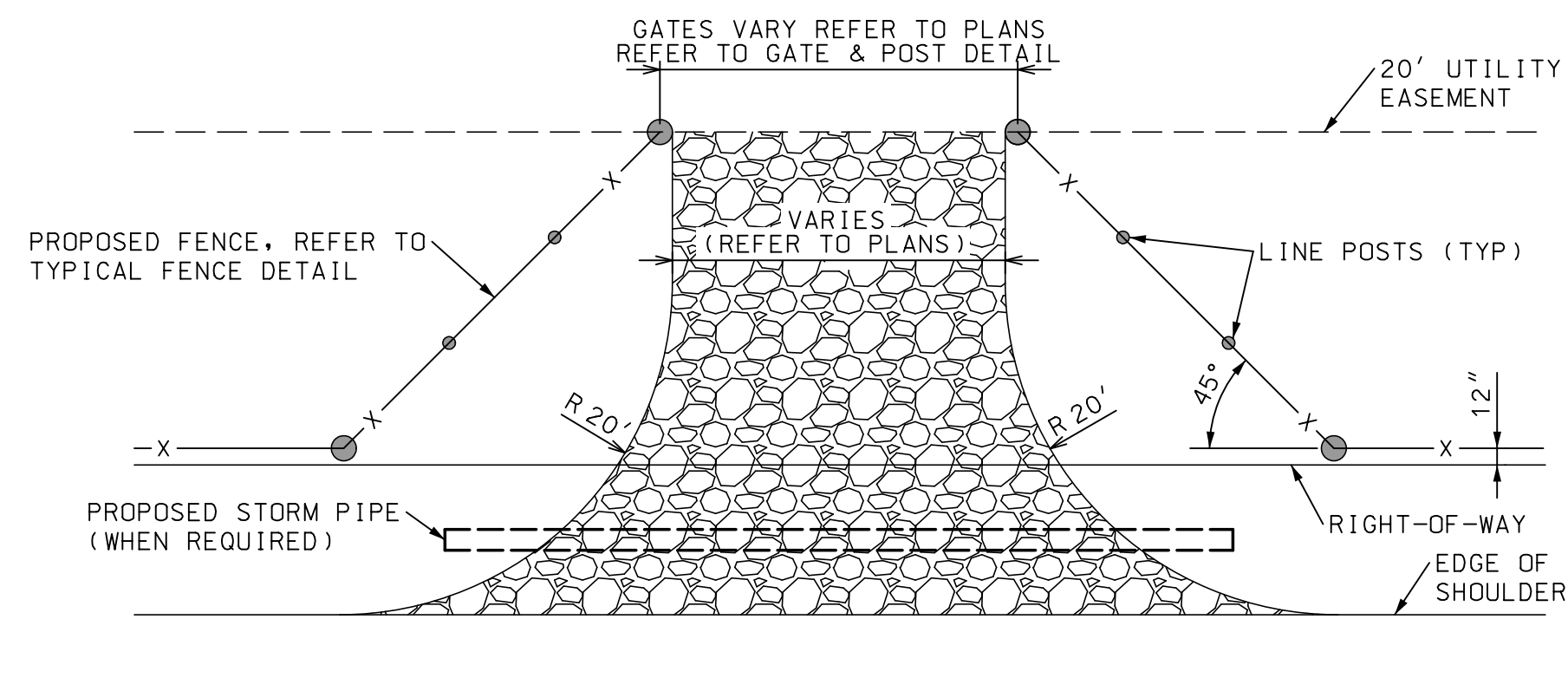
TYPICAL FENCE DETAIL
(NOT TO SCALE)



GATE AND POST DETAIL
(NOT TO SCALE)

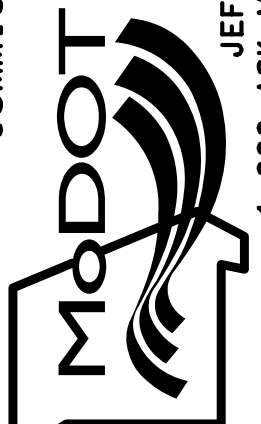



STEEL LINE POST DETAIL
(NOT TO SCALE)



TYPICAL FIELD ENTRANCE
(NOT TO SCALE)

SPECIAL SHEET
FENCE DETAILS
SHEET 2 OF 2

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A1.9
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

SIGN SPACING FOR ADVANCE SIGN SERIES (1)		
PERMANENT POSTED SPEED MPH	UNDIVIDED HIGHWAYS	DIVIDED HIGHWAYS
0-35	200'	200'
40-45	350'	500'
50-55	500'	1000'
60-70	1000'	SA - 1000' SB - 1500' SC - 2640'

TAPER LENGTHS AND END TREATMENTS FOR CONCRETE BARRIER				
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (2)			END TREATMENT (3)
	T1	10'	11'	12'
<40	160'	168'	176'	BARRIER HEIGHT TRANSITION
>40	160'	168'	176'	APPROVED CRASH CUSHION

TAPER LENGTHS AND SPACING FOR CHANNELIZERS							
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (T1)			MINIMUM SHOULDER TAPER LENGTH BASED ON 10' SHOULDER	BUFFER LENGTH FT.	MAXIMUM CHANNELIZER SPACING	
	10'	11'	12'			THROUGH TAPER	THROUGH WORK AREA
0-35	205'	225'	245'	70'	280'	35'	40'
40-45	450'	495'	540'	150'	400'	40'	80'
50-55	550'	605'	660'	185'	560'	50'	80'
60-70	700'	770'	840'	235'	840'	60'	120'

NOTES:

- (1) SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS AND VIABILITY.
- (2) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER.
- (3) CONCRETE BARRIER MAY BE INSTALLED AT AN 8:1 FLARE RATE FROM THE SHOULDER POINT TO THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER. CONTRACTOR MAY PROVIDE CONCRETE BARRIER, INCIDENTAL TO PROJECT.

GENERAL NOTES:

1. AS WITH ALL CONSTRUCTION ACTIVITIES TRAFFIC SITUATIONS ARE SUBJECT TO CHANGE. THE CONTRACTOR SHALL BE AWARE THAT ALL TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE STANDARDS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) THE MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION, SECTION 600 AND SHALL FOLLOW THE GUIDELINES IN THE MODOT 'TRAFFIC CONTROL FOR FIELD OPERATIONS MANUAL'.
2. PLACE A 'ROAD WORK AHEAD' SIGN ON THE APPROACH TO ALL INTERSECTIONS WHERE THE ADVANCE SIGNING FOR THE TEMPORARY TRAFFIC CONTROL EXTENDS PAST THAT INTERSECTION.
3. NOTIFY MODOT RESIDENT ENGINEER 48-HOURS IN ADVANCE OF ANY LANE CLOSURE OR ROADWAY CLOSURE.
4. ALL EXISTING SIGNS SHALL BE USED IN PLACE, ADJUSTED, AND/OR COVERED AS CONDITIONS REQUIRE (NO DIRECT PAY).
5. ALL STATIONING, DISTANCES, AND SPACING OF WORK ZONES DEVICES ARE APPROXIMATE AND MAY BE REVISED AS APPROVED BY ENGINEER.
6. FIRST ORDER OF WORK ON ALL PHASES SHALL BE PLACEMENT OF ALL WORK ZONE WARNING DEVICES AND SIGNS AS NOTED.
7. SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED OR AS APPROVED BY THE ENGINEER.
8. SIGNS LEFT IN PLACE OVERNIGHT MUST BE MOUNTED AT 5' MINIMUM HEIGHT.
9. ALTERNATE TRAFFIC CONTROL MAY BE USED AS NEEDED AT THE APPROVAL OF THE ENGINEER.
10. NO DIRECT PAYMENT WILL BE MADE FOR RELOCATION OF CHANNELIZERS, CONSTRUCTION SIGNS, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES, UNLESS OTHERWISE SHOWN ON THE PLANS.
11. FLAG ASSEMBLIES SHALL BE USED DURING ALL DAYTIME OPERATIONS. THEY ARE REQUIRED ON ALL FLAGGER SIGNS AND TRUCK CROSSING SIGNS WITHIN THE WORK ZONE. THEY WILL BE REQUIRED ON THE FIRST OCCURRENCE OF THE ROAD/RAMP/BRIDGE WORK AHEAD SIGN, BUT ONLY IF THE WORK DURATION IS 30 MINUTES OR MORE. IF PROVIDED, THE COST OF THE FLAG ASSEMBLES AS SHOWN IN THE PLANS.

TRAFFIC CONTROL
SHEET 1 OF 5

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A CERTIFIED
DOCUMENT."

DATE PREPARED
2/6/2022

ROUTE 5 STATE MO
DISTRICT NW SHEET NO. A1.10

COUNTY
SULLIVAN

JOB NO.
J1S3392

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)

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

Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

TRAFFIC CONTROL LEGEND

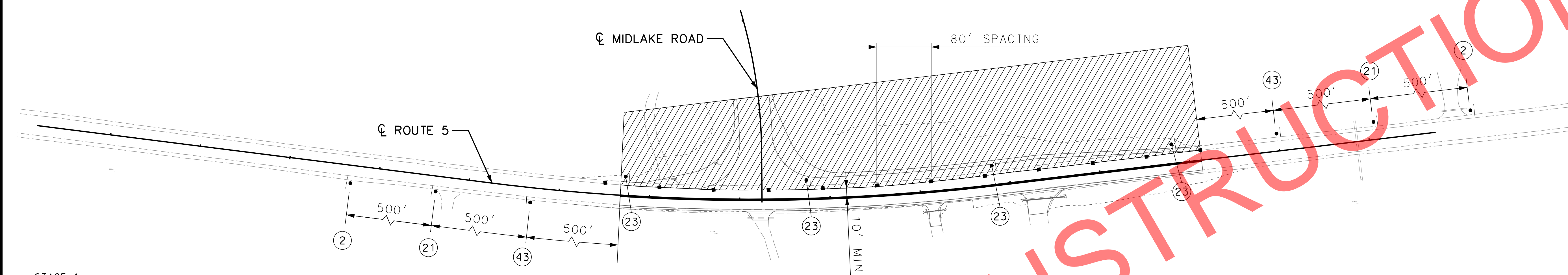
- SIGN (SINGLE SIDED)

CHANNELIZER (TRIMLINE)

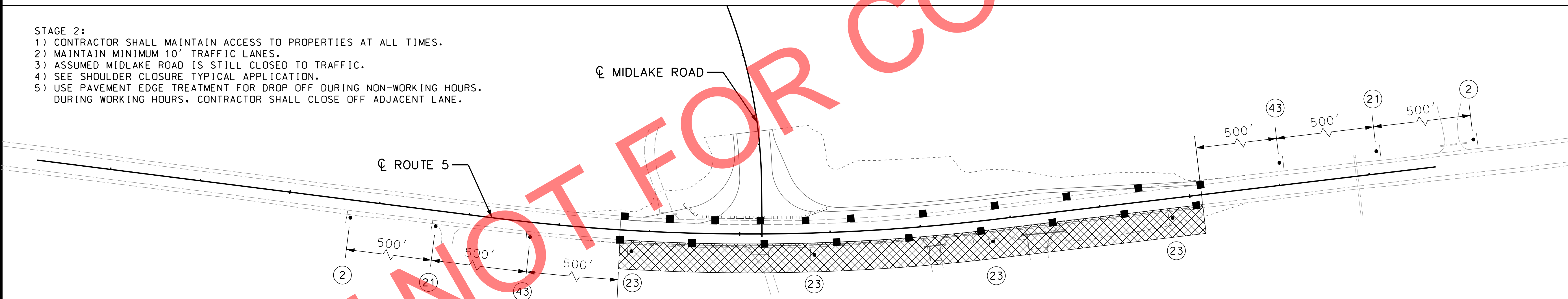
TYPE III MOVEABLE BARRICADE
- STAGE 1 - WIDEN NB ROUTE 5 AND CONSTRUCT MIDLAKE ROAD.

STAGE 2 - REPLACE SB ROUTE 5 SHOULDER.

STAGE 3 - RESURFACE ROUTE 5 TRAVEL LANES AND APPLY PAVEMENT MARKING. (NOT SHOWN)



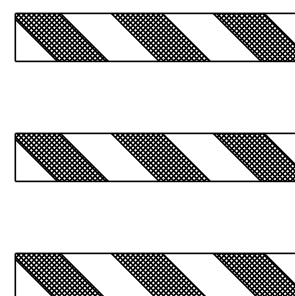
- STAGE 1:
- 1) CONTRACTOR SHALL MAINTAIN ACCESS TO PROPERTIES AT ALL TIMES.
 - 2) MAINTAIN MINIMUM 10' TRAFFIC LANES.
 - 3) SEE SHOULDER CLOSURE TYPICAL APPLICATION.
 - 4) USE PAVEMENT EDGE TREATMENT FOR DROP OFF DURING NON-WORKING HOURS. DURING WORKING HOURS, CONTRACTOR SHALL CLOSE OFF ADJACENT LANE.



- STAGE 2:
- 1) CONTRACTOR SHALL MAINTAIN ACCESS TO PROPERTIES AT ALL TIMES.
 - 2) MAINTAIN MINIMUM 10' TRAFFIC LANES.
 - 3) ASSUMED MIDLAKE ROAD IS STILL CLOSED TO TRAFFIC.
 - 4) SEE SHOULDER CLOSURE TYPICAL APPLICATION.
 - 5) USE PAVEMENT EDGE TREATMENT FOR DROP OFF DURING NON-WORKING HOURS. DURING WORKING HOURS, CONTRACTOR SHALL CLOSE OFF ADJACENT LANE.



BRIDGE
OR
RAMP



W20-1
(2)



W21-5
(21)



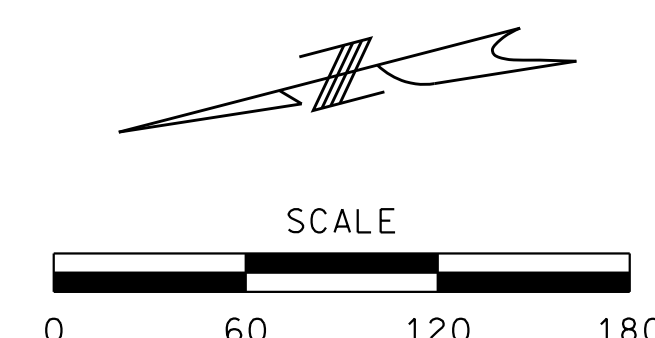
W05-1
(43)



W08-17

SHOULDER
DROP-OFF

W08-17P
(23)



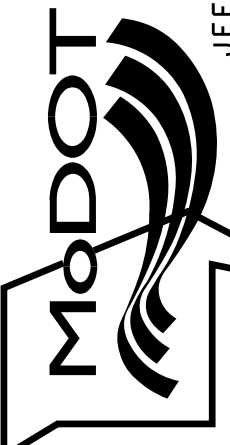
TRAFFIC CONTROL
J1S3392A1 STAGING
SHEET 2 OF 5

EFK Moen

Civil Engineering Design
13523 Barrett Parkway Dr
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St. Louis, MO 63021
Phone 314-394-3100
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MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



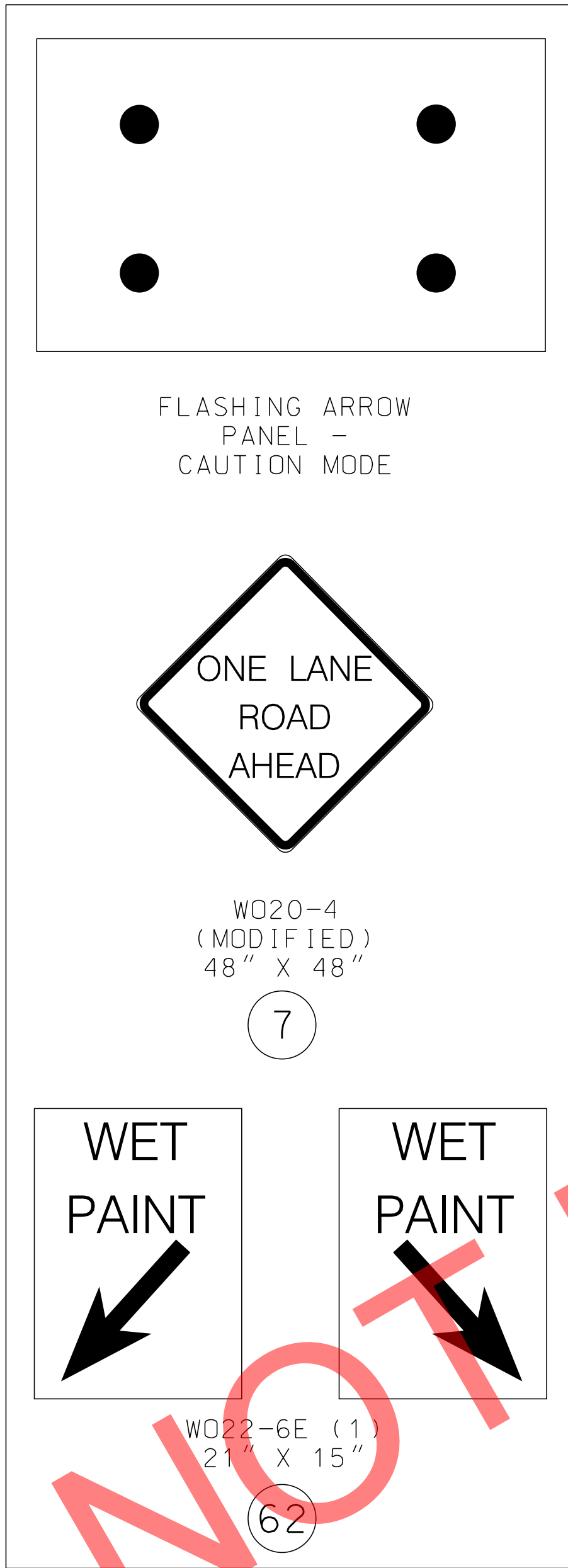
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JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

DATE PREPARED 2/6/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A1.11
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

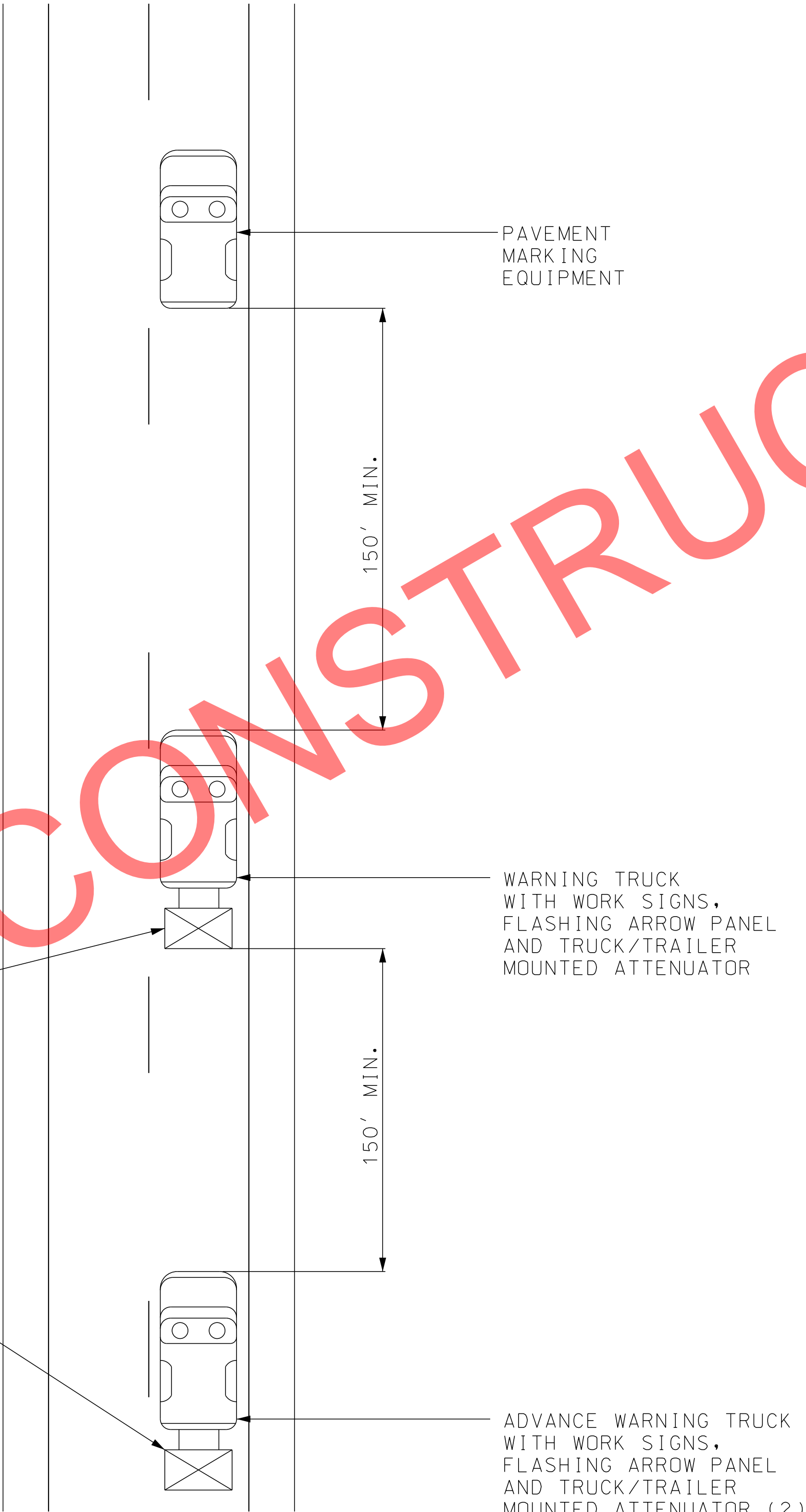
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- NOTES:
- ALL SIGNS HAVE FLUORESCENT ORANGE RETROREFLECTIVE.
- (1) WET PAINT SIGNS ARE INSTALLED TO INDICATE THE SIDE WHICH THE PAVEMENT MARKING MATERIAL IS BEING APPLIED. AT THE CONTRACTOR'S OPTION, A FRONT FACING WET PAINT SIGN MAY BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT MARKING EQUIPMENT.
- (2) ADVANCE WARNING TRUCK IS POSITIONED AT THE NO TRACK POINT OF THE PAVEMENT MARKING MATERIAL OR SPACING SHOWN, WHICHEVER IS GREATER.

CENTERLINE/EDGE LINE STRIPING ON TWO-LANE HIGHWAYS



EFK Moen
Civil Engineering Design
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Suite 250
St. Louis, MO 63021
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MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION
MoDOT
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

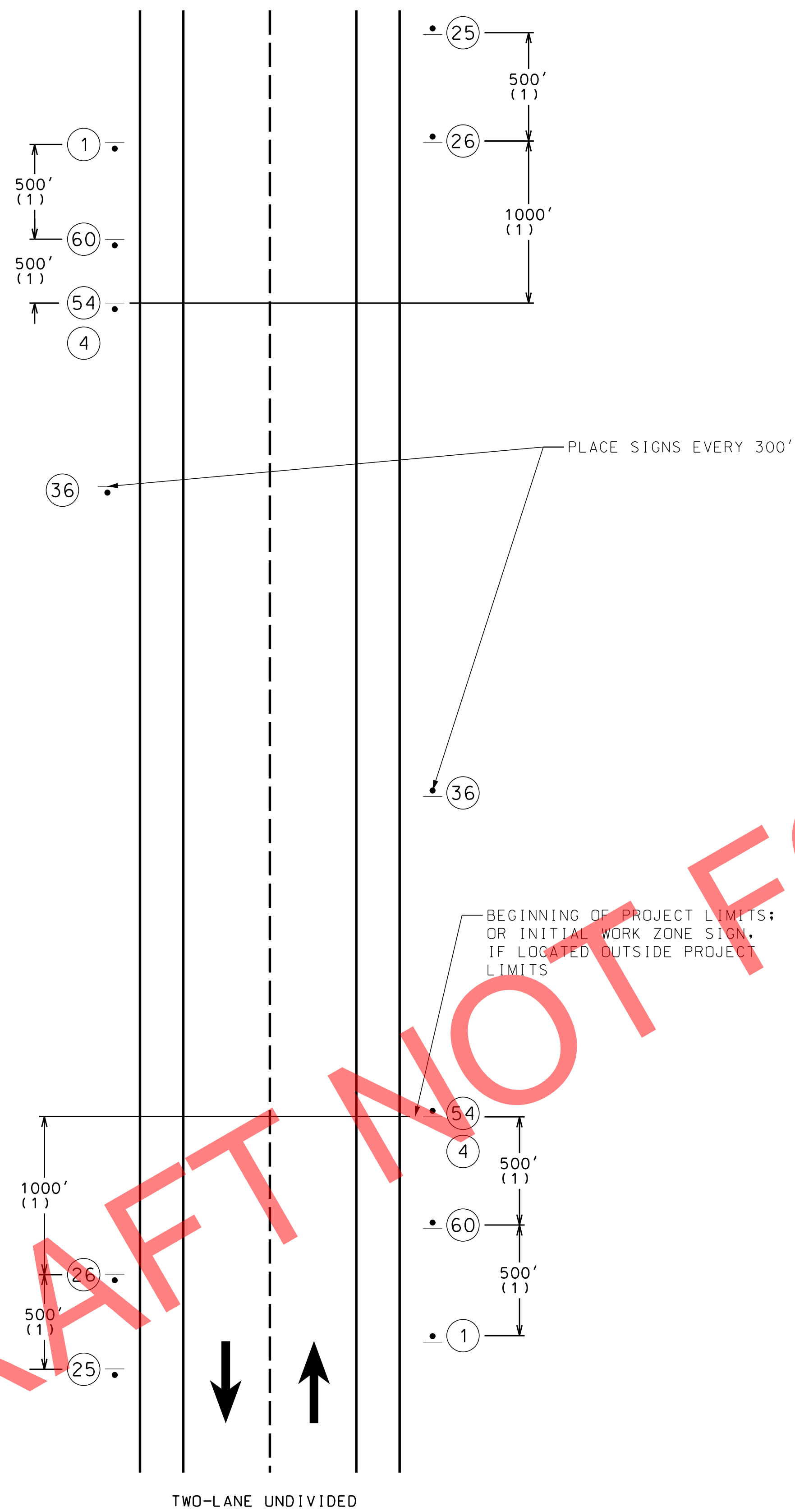
DATE	DESCRIPTION

DATE PREPARED 2/6/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A1.13
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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DOCUMENT."

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BEGIN/END OF PROJECT SIGNING



ROAD WORK
NEXT 650 FEET

G020-1
(1)

WORK ZONE
NO PHONE
ZONE

CONST-8
(60)
(2)

WORK
ZONE

G020-5aP
(54)

SPEED
LIMIT
45

R2-1
(4)

UNEVEN
LANES

W08-11
(36)

BUMP

W08-1
(61)

END
ROAD WORK

G020-2
(26)

SPEED
LIMIT
55

R2-1
(25)

NOTES:

SIGN G020-1 IS REQUIRED PER EPG 616.6.56.

SIGN G020-2 IS USED ON ALL PROJECTS WHERE SIGN G020-1 IS USED.

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

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

WHEN APPROPRIATE, THE BUMP SIGN SHALL BE PLACED AT EVERY SIDE STREET APPROACH.

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

(2) THE "WORK ZONE NO PHONE ZONE" SIGN IS PLACED A MINIMUM OF 500 FEET BEFORE THE ROAD WORK AHEAD SIGN

"THIS MEDIA SHOULD
NOT BE CONSIDERED
A CERTIFIED
DOCUMENT."

DATE PREPARED
2/6/2022

ROUTE 5 STATE MO
DISTRICT NW SHEET NO. A1.14

COUNTY

SULLIVAN

JOB NO.

J1S3392

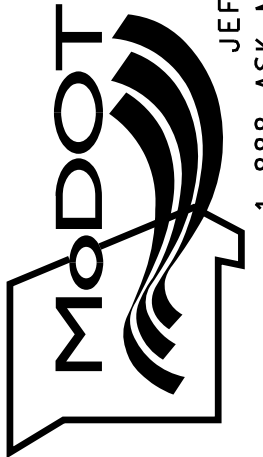
CONTRACT ID.

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)

EFFK Moen

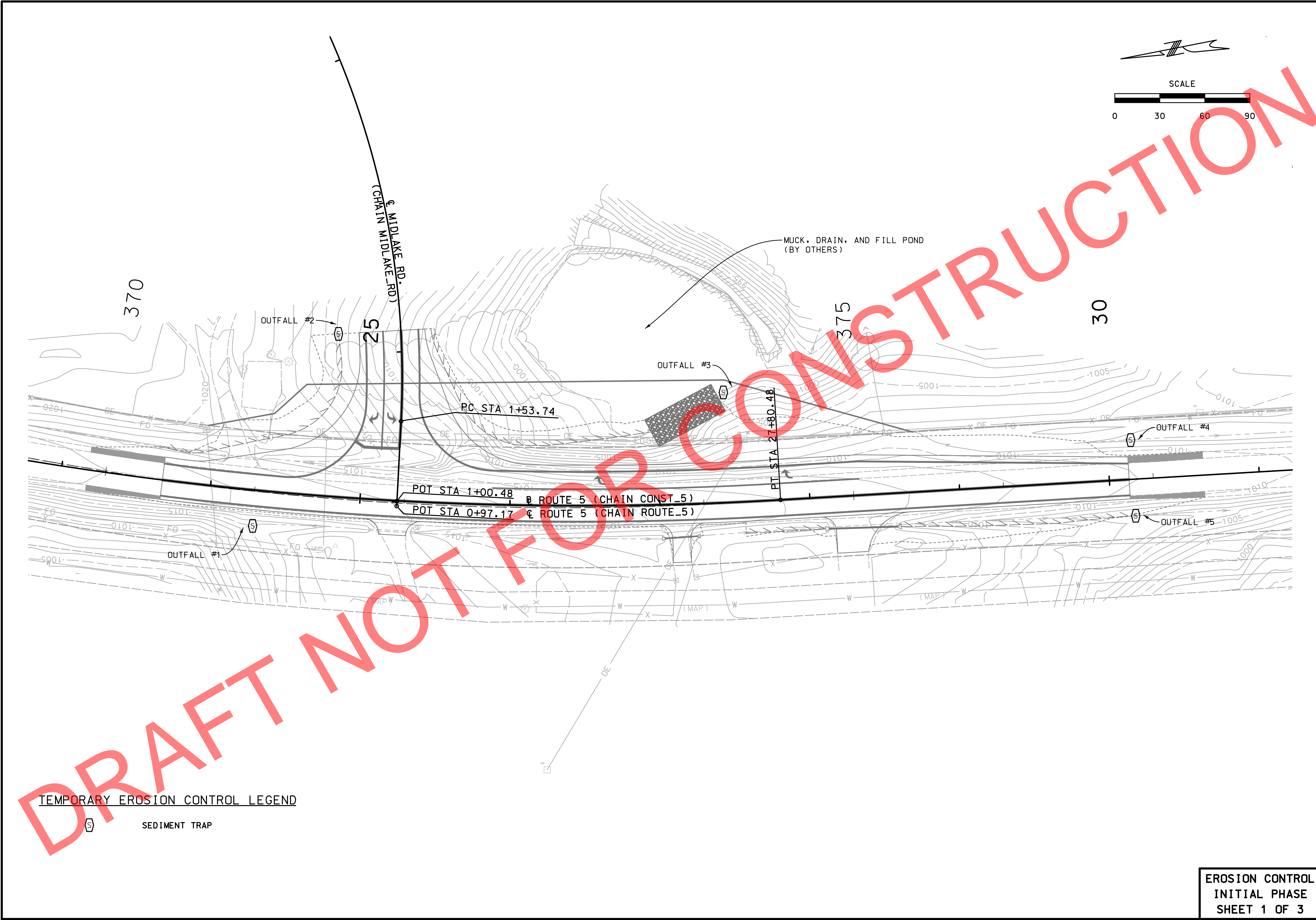
Civil Engineering Design

13523 Barrett Parkway Dr Phone 314-394-3100
Suite 250 St. Louis, MO 63021 Fax 314-394-3199

Missouri Certificate of Authority: 001578

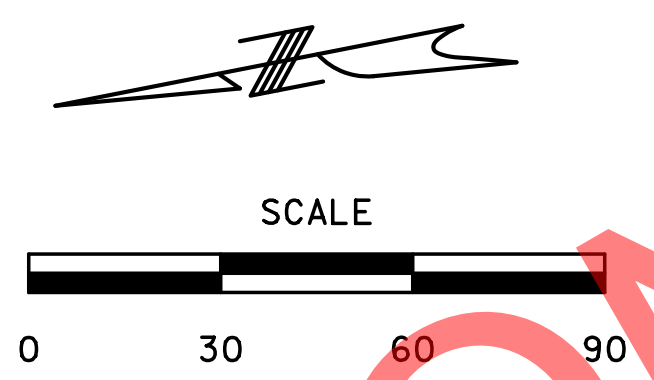
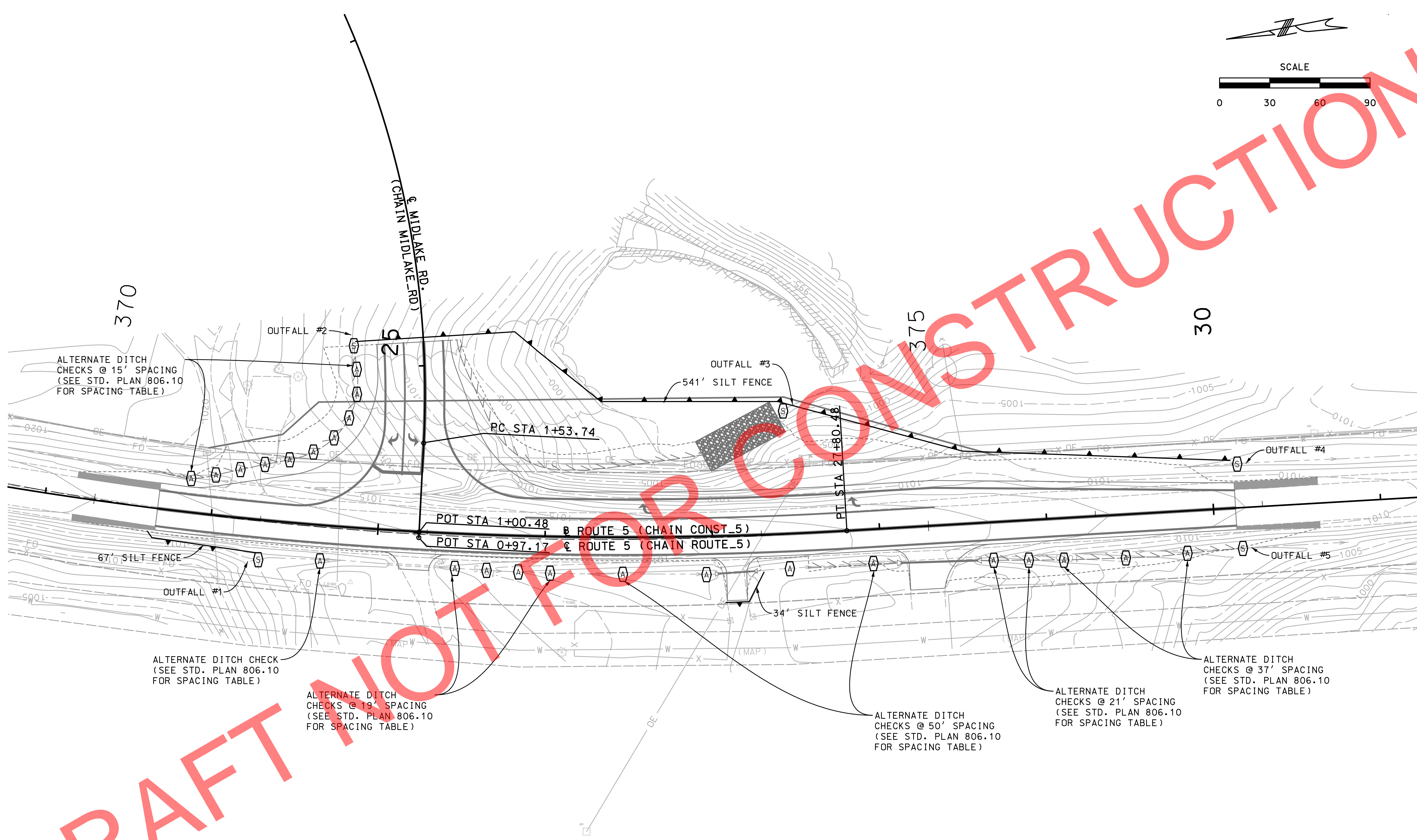
TRAFFIC CONTROL
SHEET 5 OF 5

NOT TO SCALE



DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A1.15
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
olsson 1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

EROSION CONTROL
INITIAL PHASE
SHEET 1 OF 3

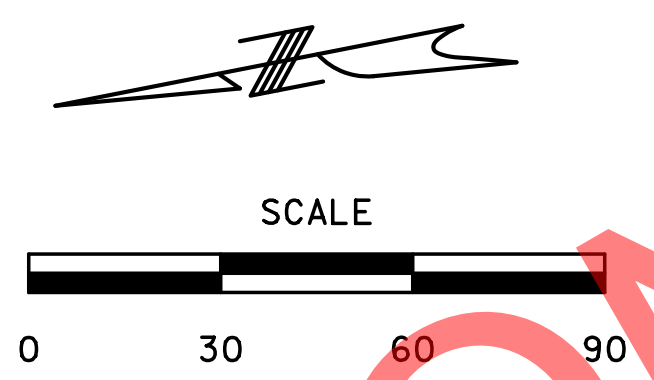
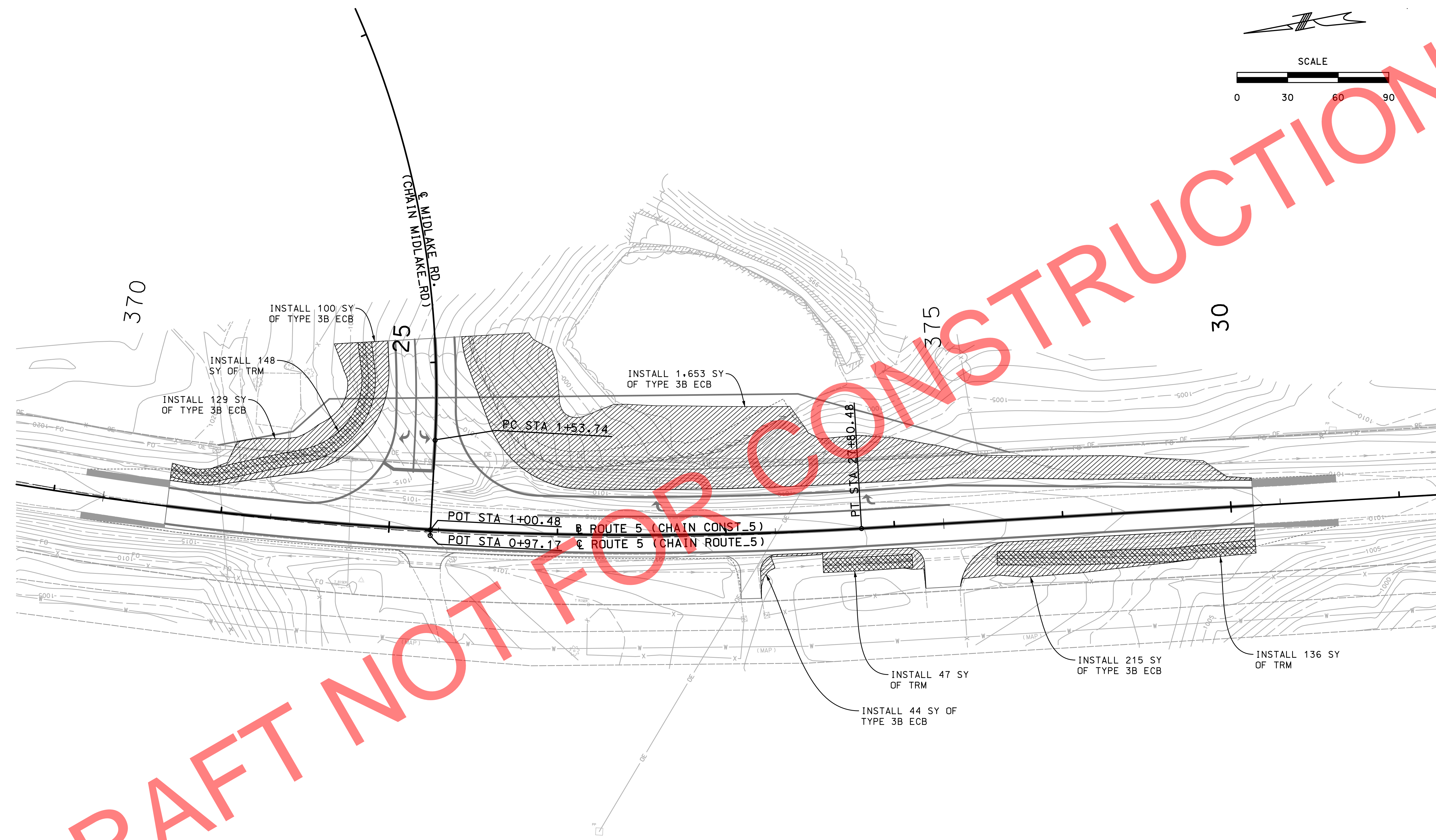


TEMPORARY EROSION CONTROL LEGEND

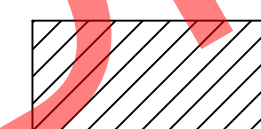
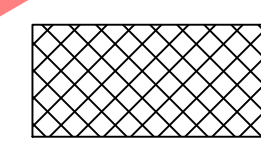
	ALTERNATE DITCH CHECK
	SEDIMENT TRAP
	SILT FENCE

**EROSION CONTROL
CONSTRUCTION PHASE
SHEET 2 OF 3**

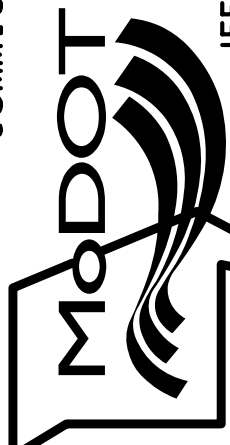
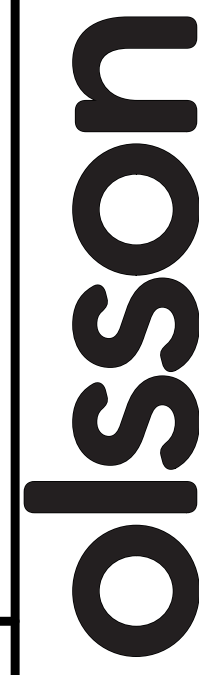
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A1.16
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

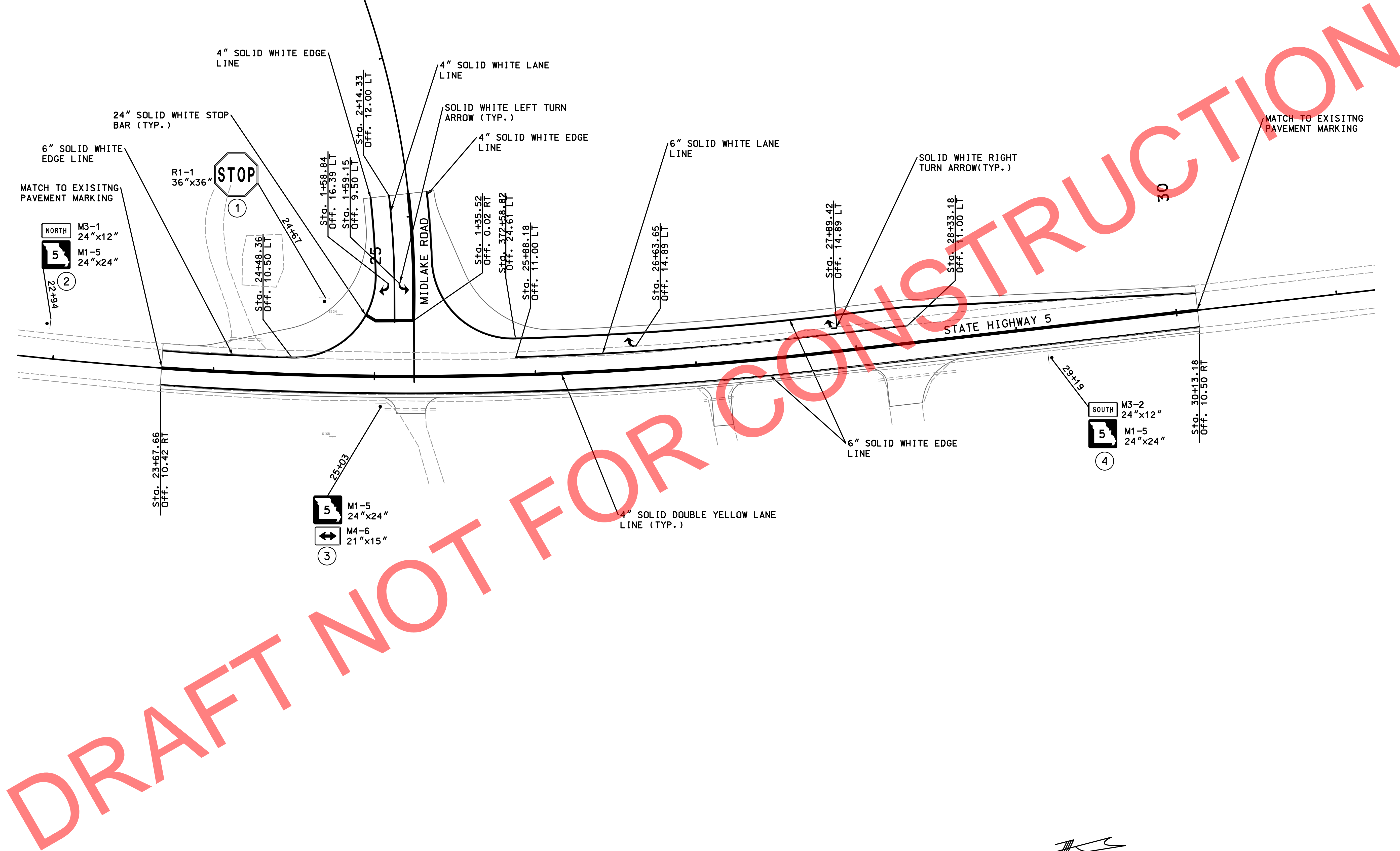


TEMPORARY EROSION CONTROL LEGEND

-  EROSION CONTROL BLANKET
-  TURF REINFORCEMENT MAT





EROSION CONTROL
FINAL PHASE
SHEET 3 OF 3

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A1.17
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
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DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A1.18
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson 1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

SIGNS					PERF. SQUARE STEEL POST					CONC. FTG'S	HORZ
SIGN NO.	STATION	SIGN DTL. SHT. NO.	LOCATION	SIGN SIZE	2.0" POST	2" ANCHOR SLEEVE	2.5" POST	2.5" ANCHOR SLEEVE	BREAKAWAY ASSEMBLY	EMBD	CLEAR
					ITEM NO. 9031270A LIN FT	ITEM NO. 9031271 LIN FT	ITEM NO. 9031280 LIN FT	ITEM NO. 9031282 LIN FT	ITEM NO. 9031241 EACH	ITEM NO. 9031010 CY	IF NOT STD
1	24+67.00	17	MIDLAKE ROAD	36"x36"	16.00	3					
2	22+94.00	17	STATE HIGHWAY 5	ASSY	16.00	3					
3	25+03.00	17	STATE HIGHWAY 5	ASSY	16.00	3					
4	29+19.00	17	STATE HIGHWAY 5	ASSY	16.00	3					
TOTAL					64.00	12.00					

STANDARD SIGN ASSEMBLIES						
SIGN NO.	STATION	LOCATION	TYPE	TYPE	TYPE	TYPE
			SHR2L-1	SHR2L-1	SHR2L-1	SHR2L-1
			SIGN DESCRIPTION, SIZES & NUMBER OF EACH			
			 36"x36" R1-1	 24"x24" M1-5a	 24"x12" M3-1	 24"x12" M3-3
1	24+67.00	MIDLAKE ROAD	1			
2	22+94.00	STATE HIGHWAY 5			1	
2	22+94.00	STATE HIGHWAY 5		1		
3	25+03.00	STATE HIGHWAY 5				1
3	25+03.00	STATE HIGHWAY 5		1		
4	29+19.00	STATE HIGHWAY 5			1	
4	29+19.00	STATE HIGHWAY 5		1		
TOTAL			1	3	1	1

SIGN SUMMARY					
STANDARD SIGN OR SPECIAL SIGN NO.	SIGN DETAIL SHEET NO.	NO. EACH	SIZE, TYPE & SQUARE FEET		
			SIZE	FLAT SHEET SH 9035004A	FLAT SHEET SHF 9035069A
R1-1 (STOP SIGN)	17	1	36"x36"	9.00	
M1-5a (ROUTE 5)	17	3	24"x24"	12.00	
M3-1 (NORTH)	17	1	24"x12"	2.00	
M3-3 (SOUTH)	17	1	24"x12"	2.00	
m6-4 (DOUBLE ARROW)	17	1	21"x15"	2.19	
TOTAL				28.00	0

DATE PREPARED
2/7/2022

ROUTE
5

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

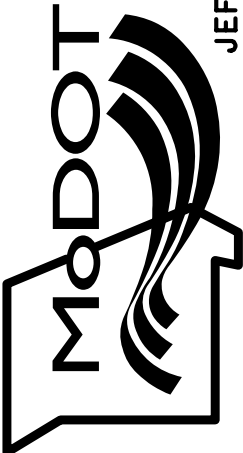
PROJECT NO.

BRIDGE NO.

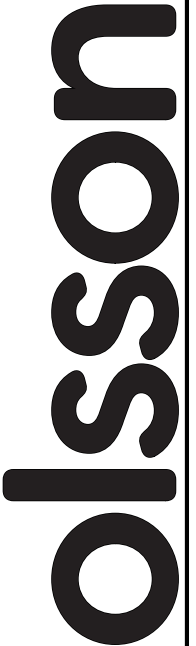
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

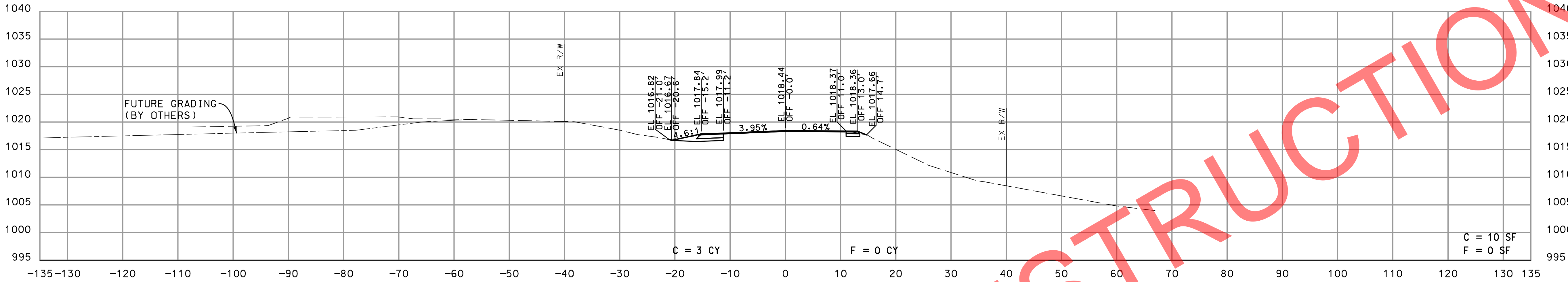


105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

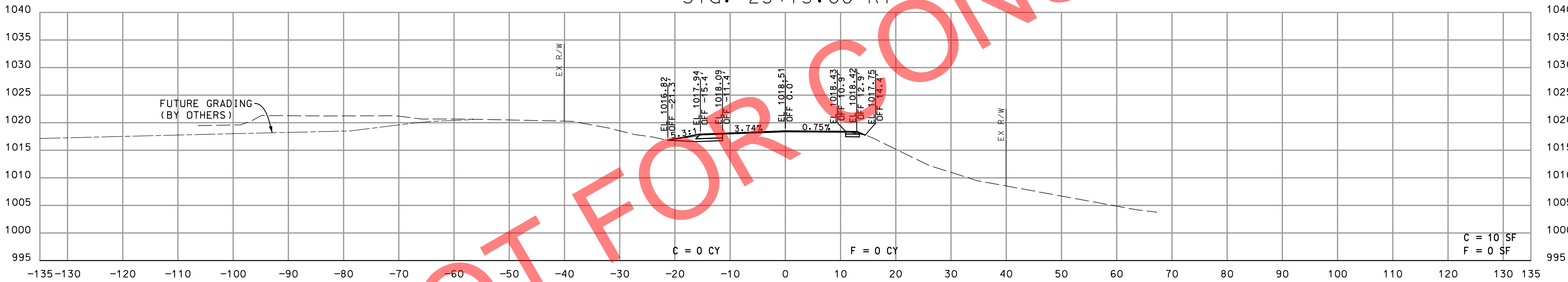


1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

- NOTES:
- 1. PAVEMENT, SHOULDER, CURB, & SIDEWALK ELEVATIONS ARE APPROXIMATE. CONTRACTOR SHALL ADJUST TO MATCH EXISTING CONDITIONS AND MAINTAIN DESIGNED CROSS SLOPES.
 - 2. TIE-DOWN POINT OFFSETS & ELEVATIONS ARE APPROXIMATE. CONTRACTOR SHALL ADJUST TO MATCH EXISTING CONDITIONS AND MAINTAIN DESIGNED CUT OR FILL SLOPES AND DITCH ELEVATIONS.



Sta. 23+75.00 R1



Sta. 23+67.66 R1

DATE PREPARED
2/7/2022

ROUTE
5

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

PROJECT NO.

BRIDGE NO.

STATE
MO

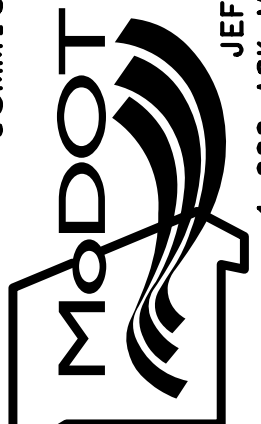
SHEET NO.
A1.1

CONTRACT ID.


DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

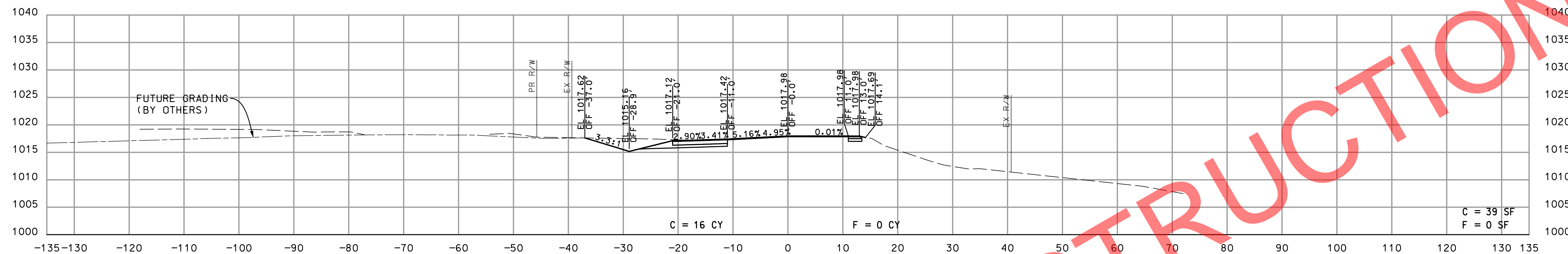


105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

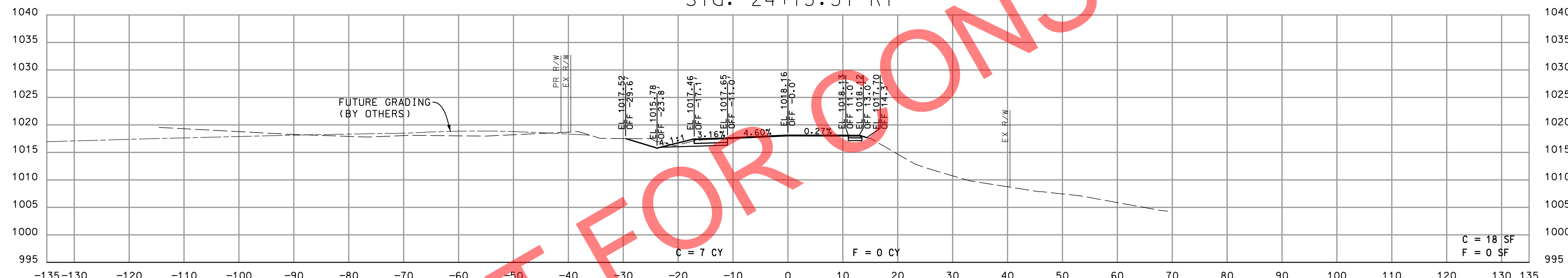


1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

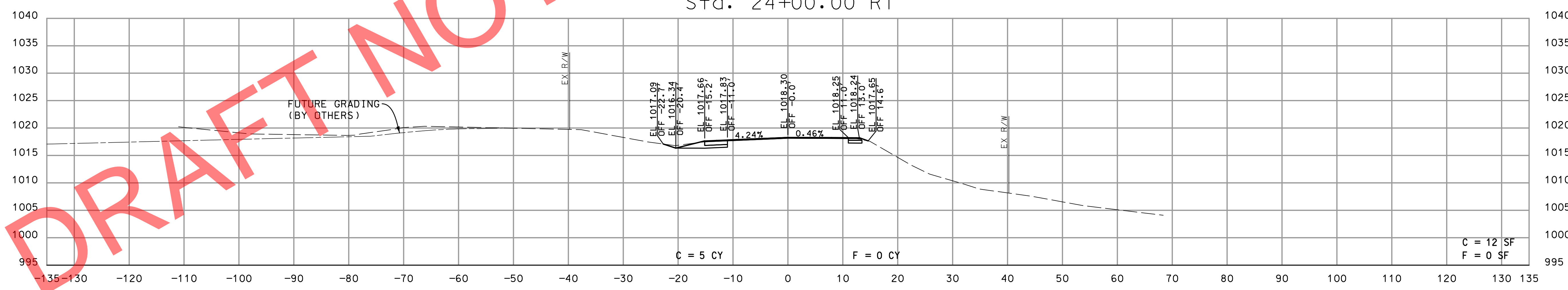
ROUTE 5



Sta. 24+15.31 R1

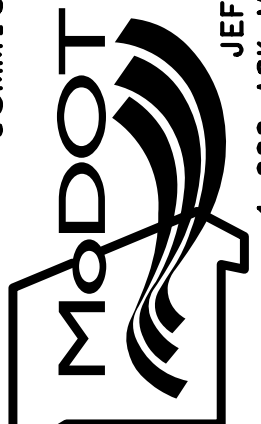



Sta. 24+00.00 R1

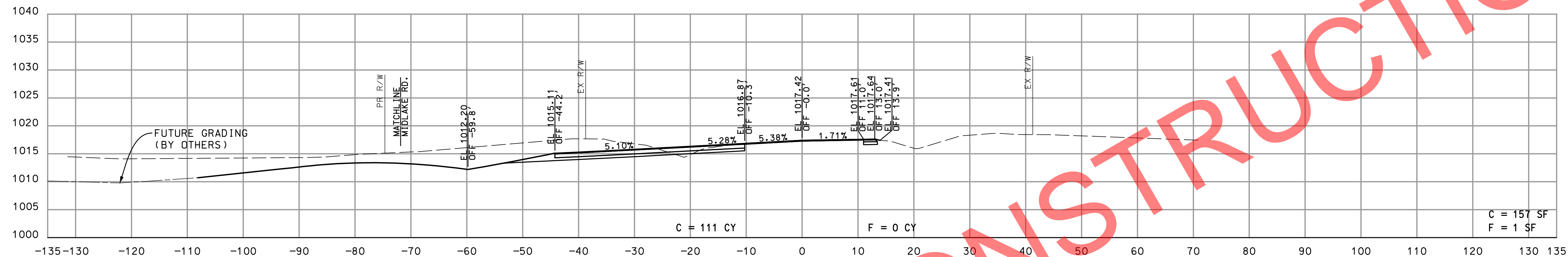


Sta. 23+87.31 R1

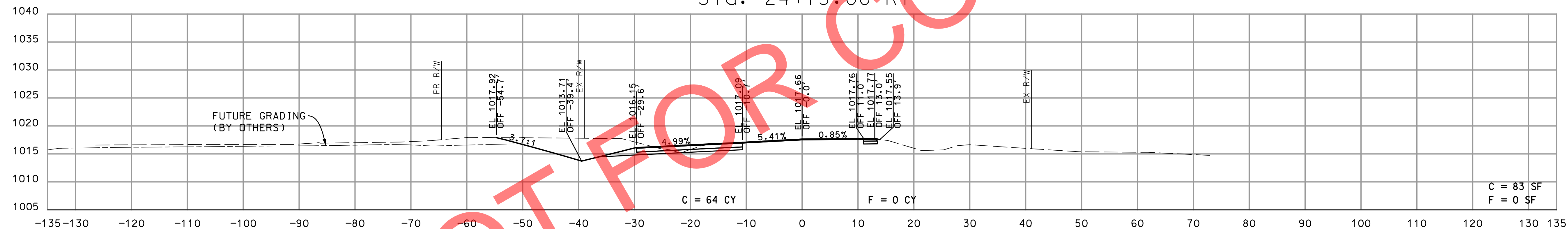
ROUTE 5

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A1.2
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

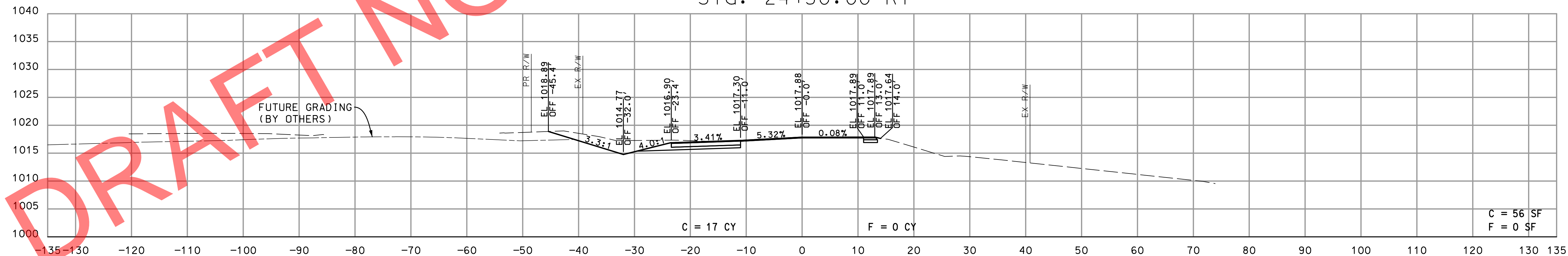
DRAFT NOT FOR CONSTRUCTION



Sta. 24+75.00 R1

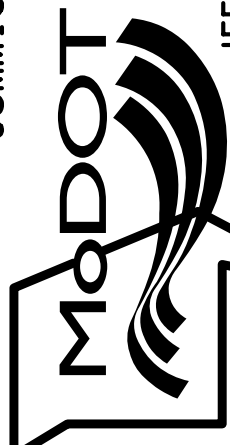



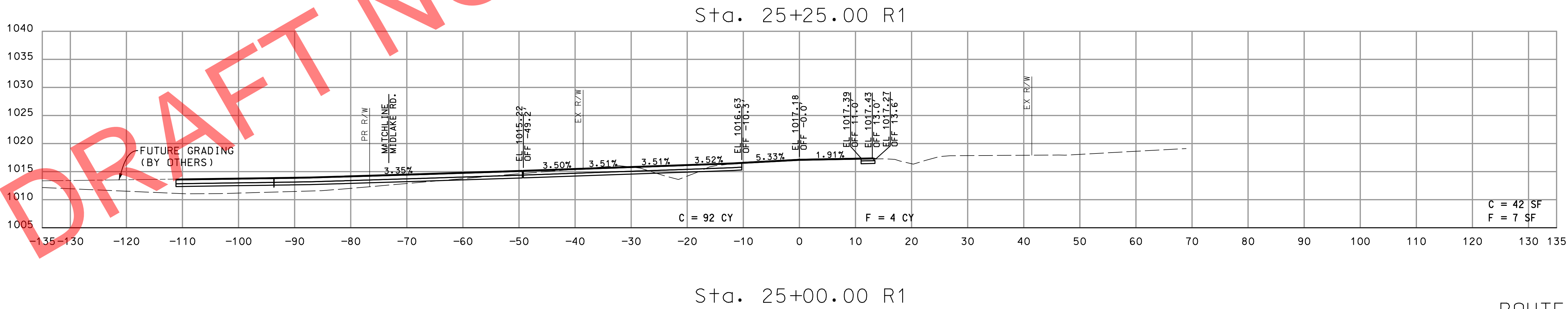
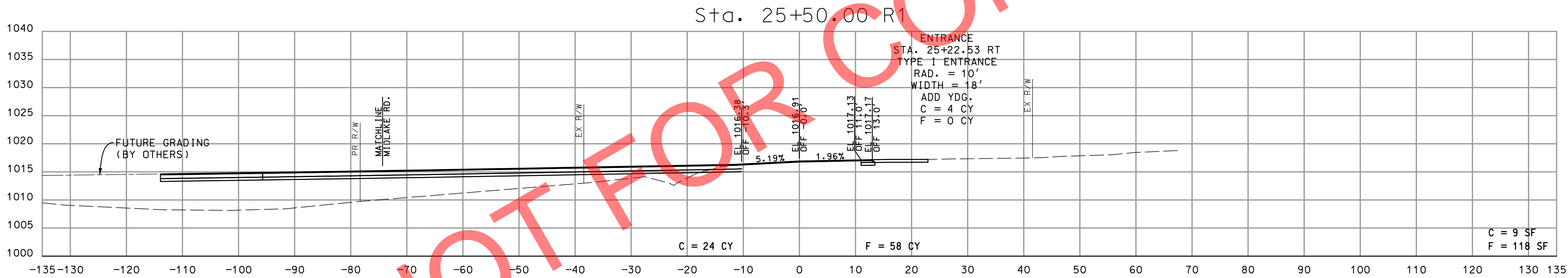
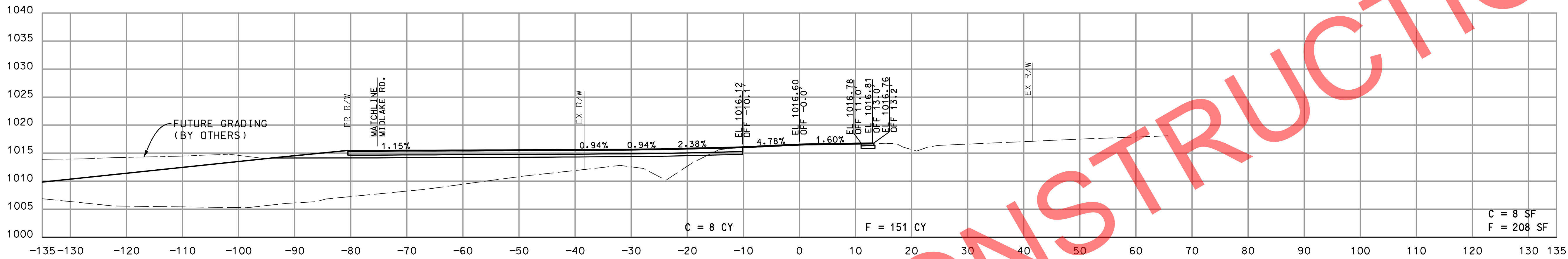
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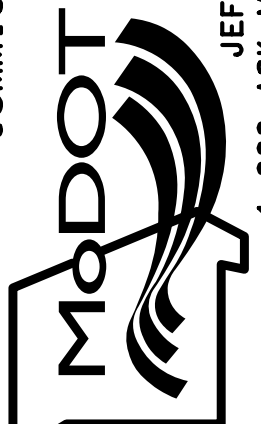


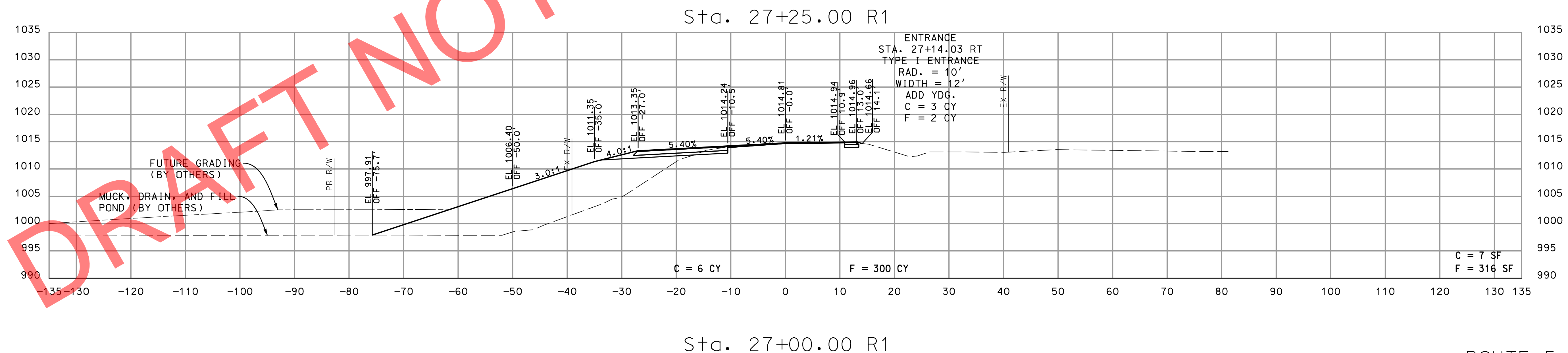
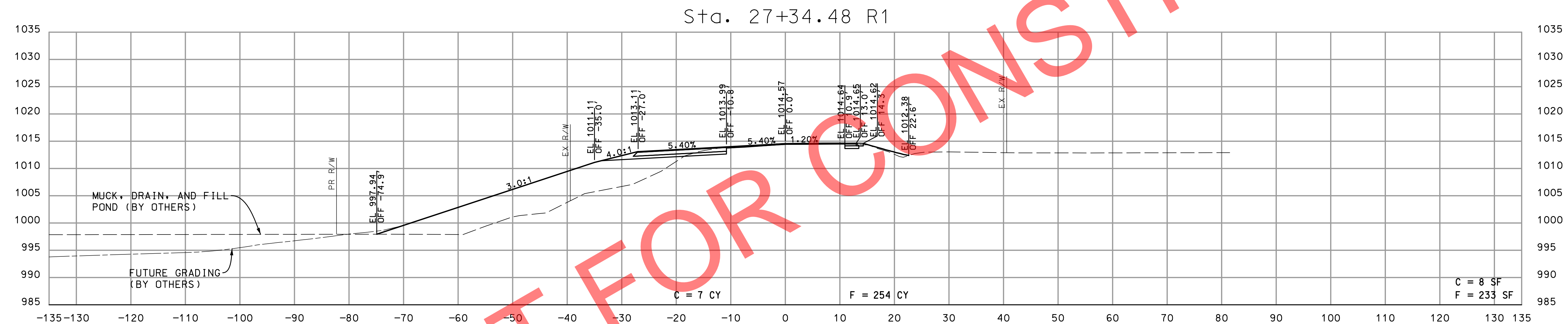
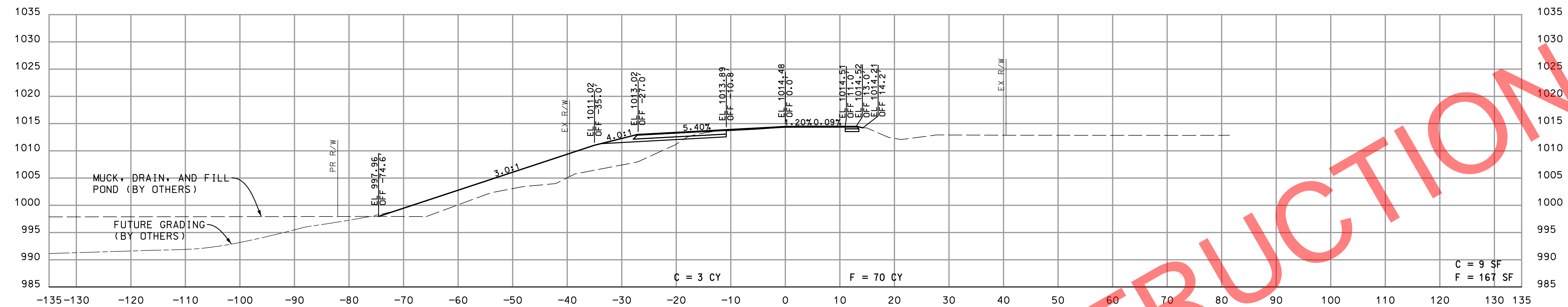
Sta. 24+25.00 R1

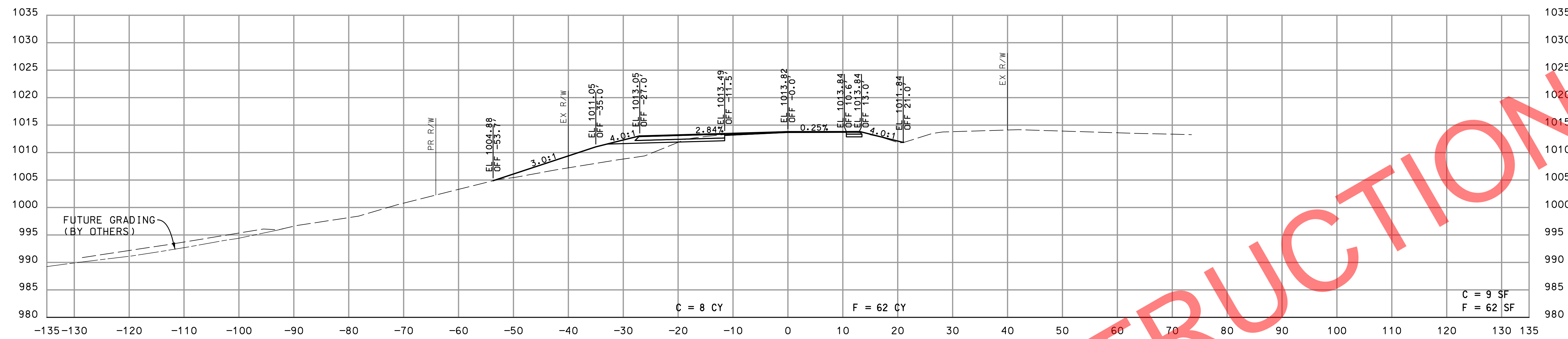
ROUTE 5

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A1.3
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

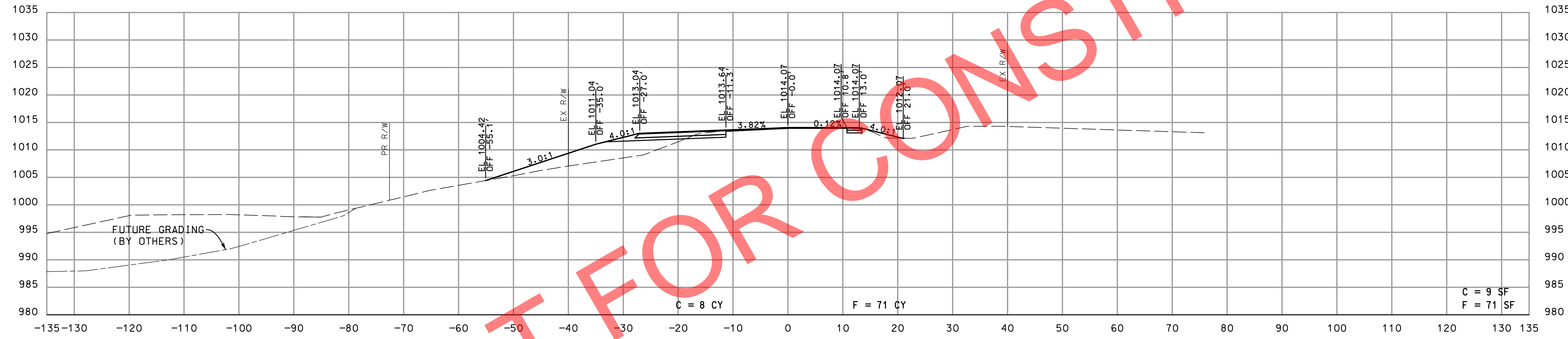


DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A1.4
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

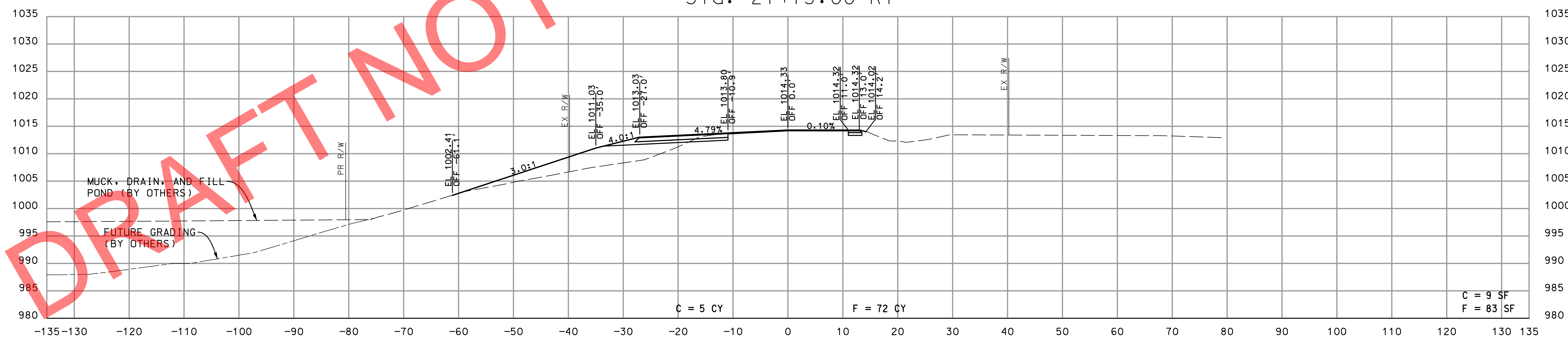




Sta. 28+00.00 R1



Sta. 27+75.00 R1



Sta. 27+50.00 R1

ROUTE 5

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A1.8
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

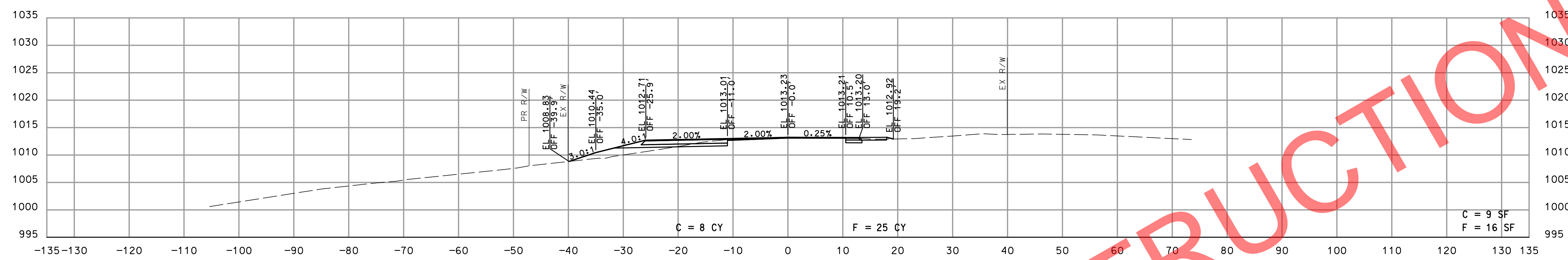
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

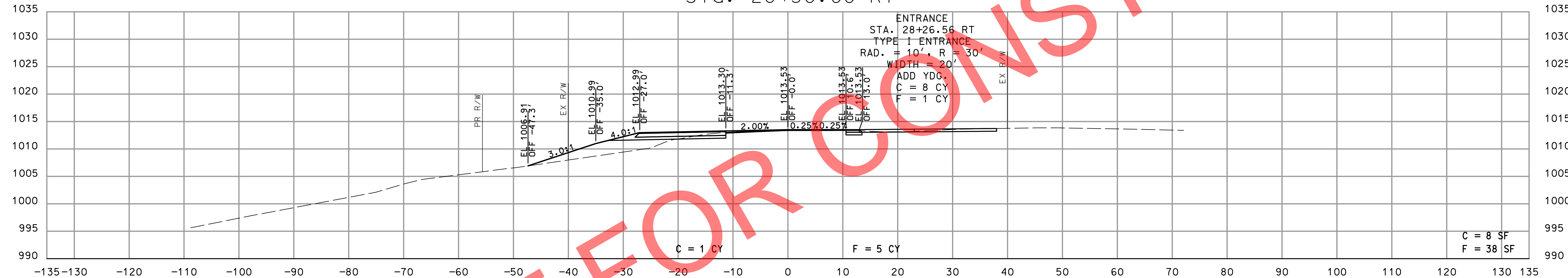
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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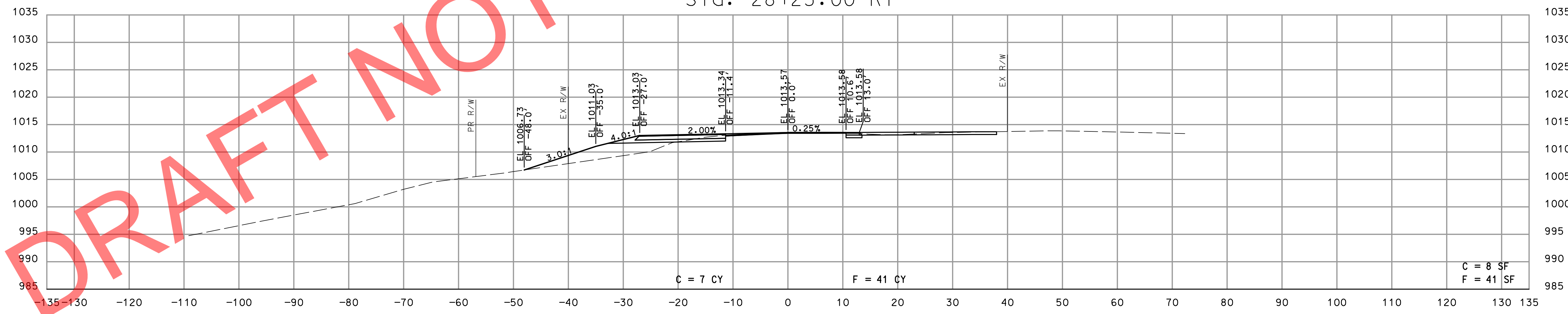
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592



Sta. 28+50.00 R1

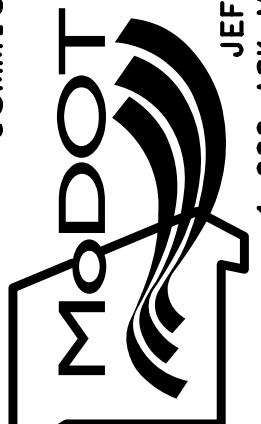


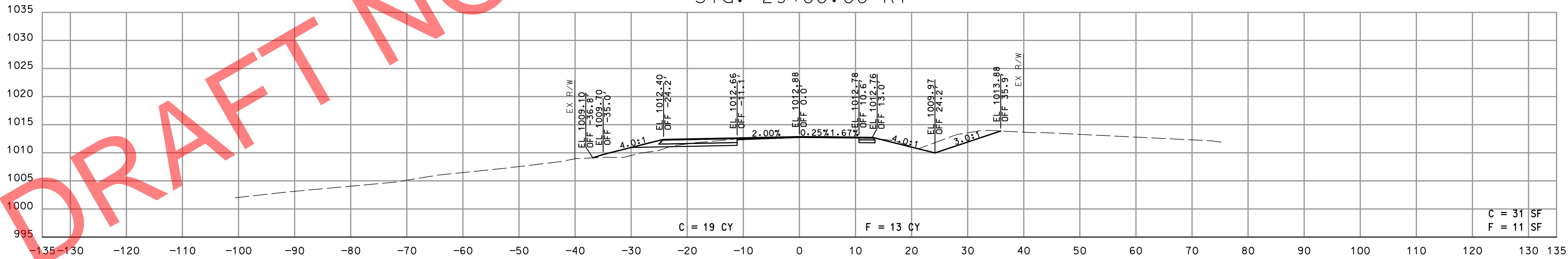
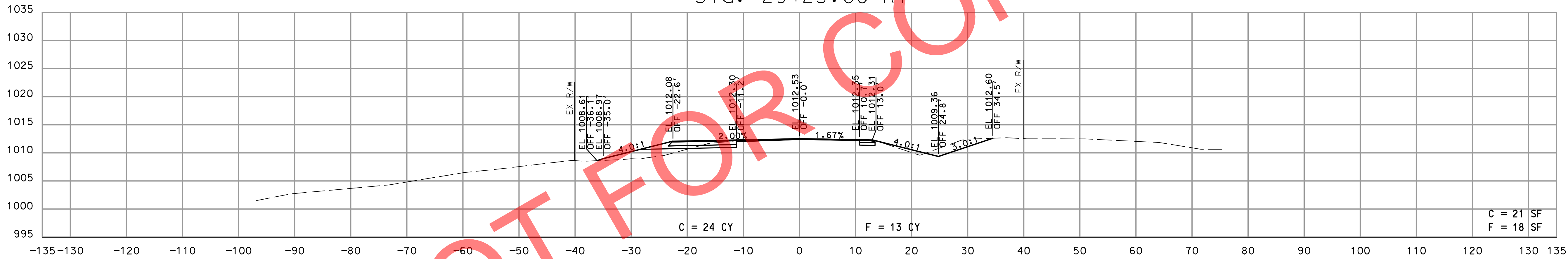
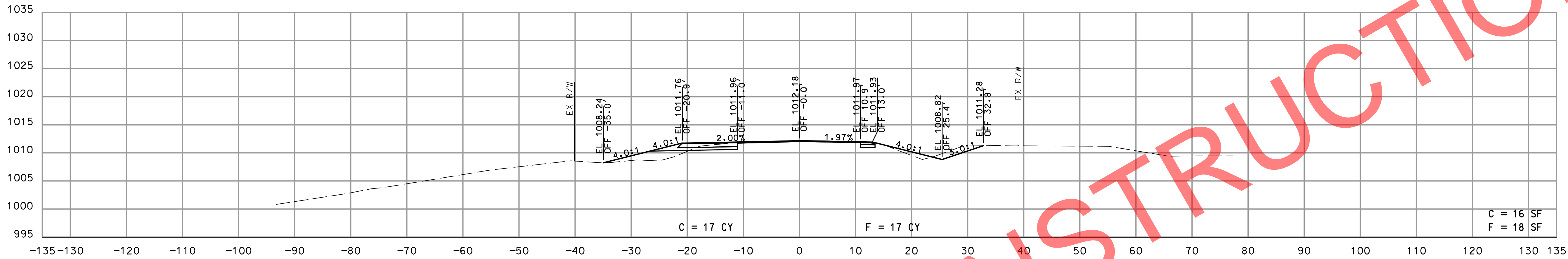
Sta. 28+25.00 R1



Sta. 28+21.48 R1

ROUTE 5

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A1.9
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



Sta. 28+75.00 R1

ROUTE 5

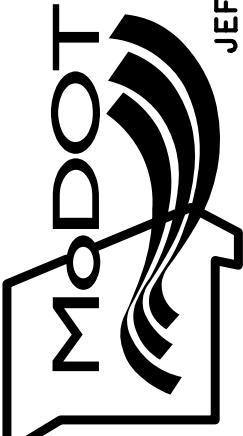
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DISTRICT NW	SHEET NO. A1.10
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

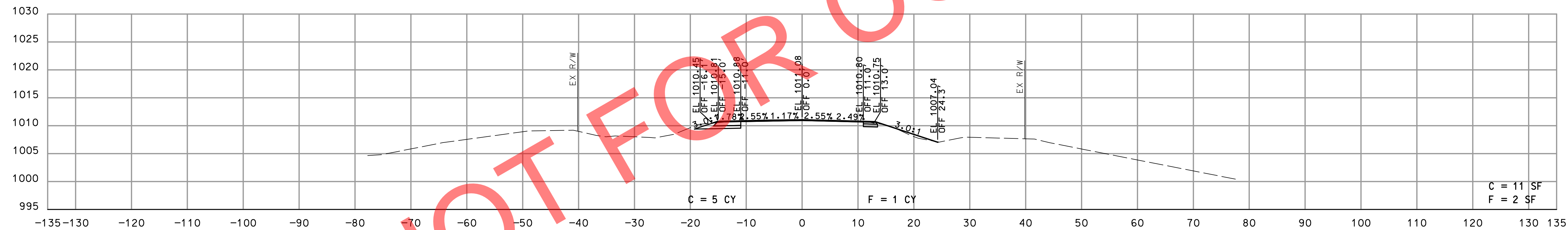


105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

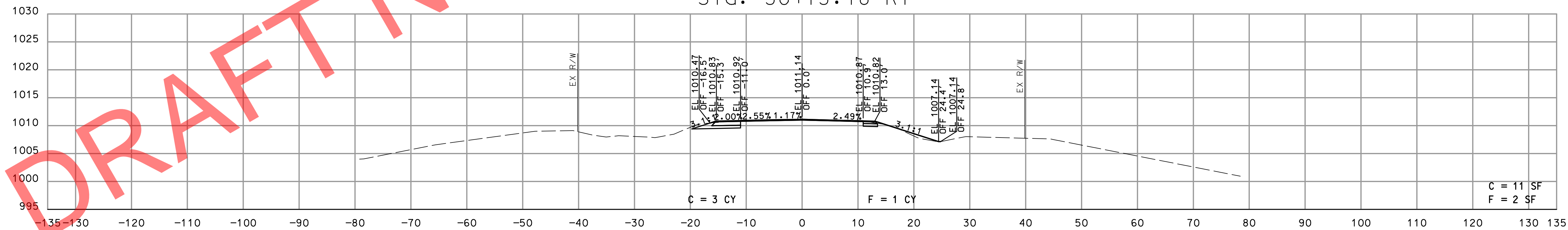


1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

DRAFT NOT FOR CONSTRUCTION



Sta. 30+13.18 R1



Sta. 30+08.18 R1

ROUTE 5

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A1.12
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



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

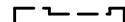
























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1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

	ROUTE 5	ROUTE N
A.A.D.T. - 2021 =	1260	86
A.A.D.T. - 2041 =	3920	2370
DHV =	392	237
D =	50%	50%
T =	13%	4%
V =	55 M.P.H.	40 M.P.H.
UNCTIONAL CLASSIFICATION -	ROUTE 5 - MINOR ARTERIAL	
	ROUTE N - MAJOR COLLECTOR	

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
STATE HIGHWAY
SULLIVAN COUNTY
SEC. 11, T63N, R20W
RIGHT OF WAY PLANS

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	A2.1
TYPICAL SECTIONS (TS) (2 SHEET)-----	A2.2
QUANTITIES (QU) (5 SHEET)-----	A2.3
PLAN-PROFILE (PP)-----	A2.4 - A2.7
COORDINATE POINTS (CP)-----	A2.8
SPECIAL SHEET (SS)-----	A2.9 - A2.11
TRAFFIC CONTROL SHEETS (TC)-----	A2.12 - A2.17
EROSION CONTROL SHEETS (EC)-----	A2.18 - A2.23
PAVEMENT MARKING & SIGNING (PM)-----	A2.24 - A2.25
CULVERT SECTIONS (CS)-----	A2.26 - A2.27
CROSS SECTIONS (XS)-----	A2.1 - A2.34

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

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

ROUTE 5	
BEGINNING OF PROJECT	STA. 528+00.00
END OF PROJECT	STA. 542+37.00
APPARENT LENGTH	1437.00 FEET

BEGINNING OF CONSTRUCTION	STA. 0+20.91
END OF CONSTRUCTION	STA. 4+08.30
APPARENT LENGTH	387.39 FEET

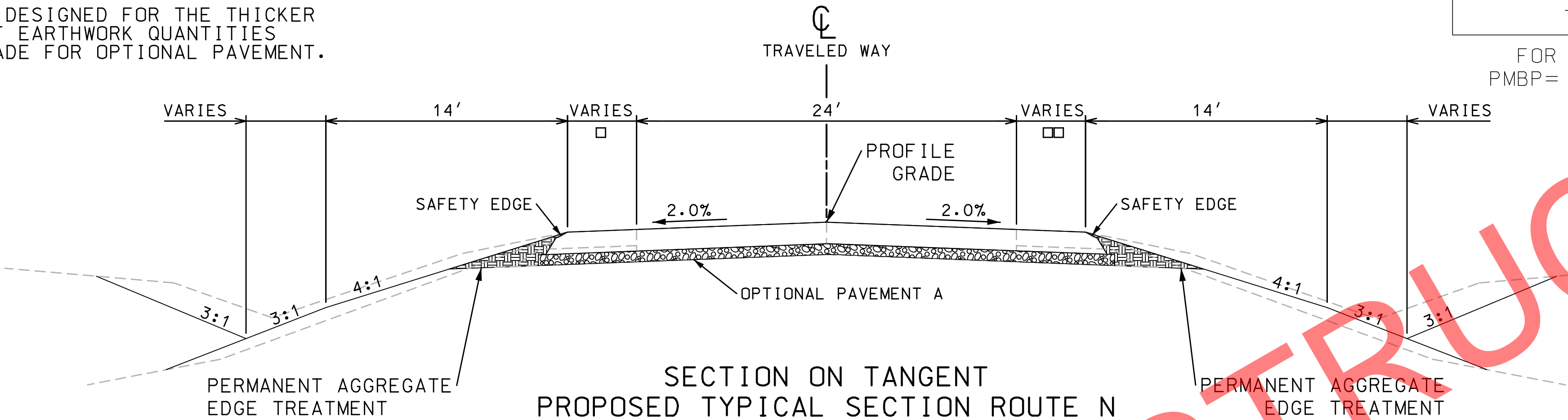
EQUATIONS AND EXCEPTIONS:
NONE 0.00 FEET

TOTAL CORRECTIONS	0.00	FEET
NET LENGTH OF PROJECT	1824.39	FEET
STATE LENGTH	0.346	MILES
FOR INFORMATION ONLY		
ESTIMATED DISTURBED ACRES	4.65	ACRES

[illegible]

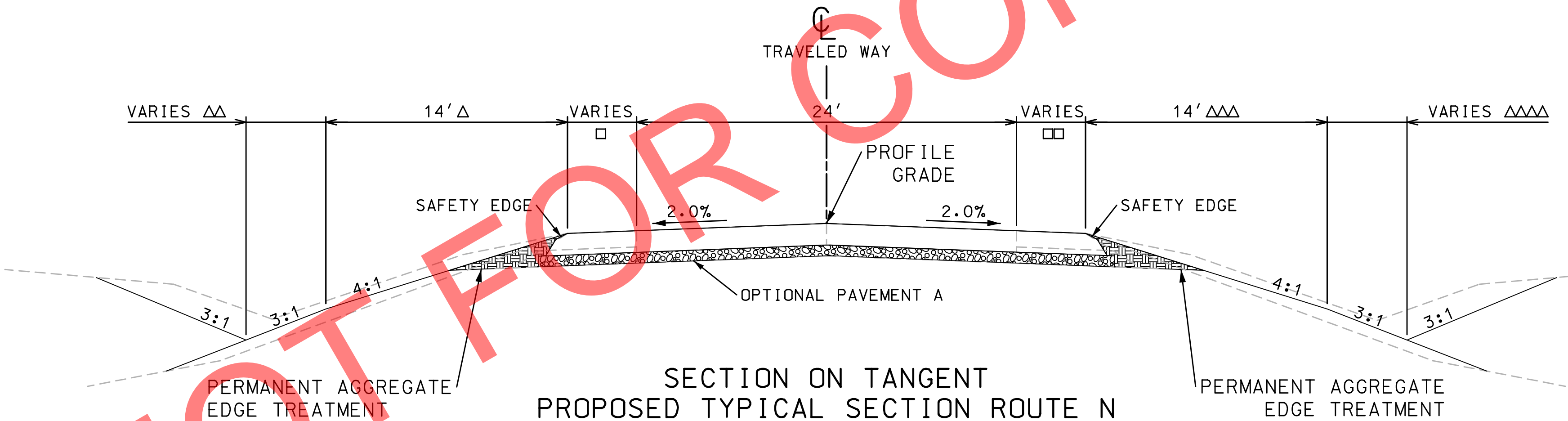
- NOTES:
1. SEE STANDARD PLAN 401.00C FOR SAFETY EDGE DETAILS.
 2. PERMANENT AGGREGATE EDGE TREATMENT WILL BE PAID FOR UNDER PAY ITEM 3049910 PER TON.
 3. THE GRADING SHOWN ON THE PLANS WAS DESIGNED FOR THE THICKER OPTIONAL PAVEMENT. NO ADJUSTMENT OF EARTHWORK QUANTITIES DUE TO ADJUSTING THE ROADWAY SUBGRADE FOR OPTIONAL PAVEMENT.

ESTIMATE FACTORS FOR ASPHALTIC MIXTURES	
PMBP (BP-1) PG64-22	1.948 TONS/CY
PMBP (BASE) PG64-22	1.943 TONS/CY
TACK COAT	0.10 GAL/SY
FOR INFORMATIONAL PURPOSES ONLY PMBP= PLANT MIX BITUMINOUS PAVEMENT	



SECTION ON TANGENT
PROPOSED TYPICAL SECTION ROUTE N

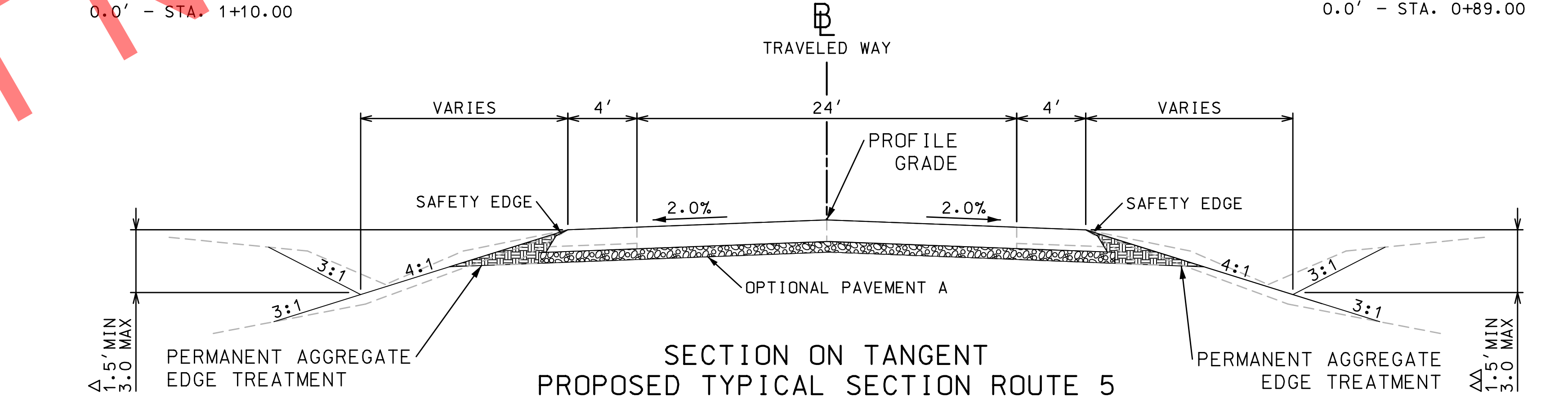
STA. 1+49.64 TO STA. 4+08.30
□ STA. 0+20.91 TO STA. 1+40.22 LT.
□□ STA. 0+20.91 TO STA. 1+89.63 RT.



SECTION ON TANGENT
PROPOSED TYPICAL SECTION ROUTE N

Δ 9.9' - STA. 0+20.91 TO
14.0' - STA. 0+67.00
ΔΔ 0.0' - STA. 0+20.91 TO
0.0' - STA. 1+10.00

ΔΔΔ 8.0' - STA. 0+20.91 TO
14.0' - STA. 0+89.00
ΔΔΔΔ 0.0' - STA. 0+20.91 TO
0.0' - STA. 0+89.00



SECTION ON TANGENT
PROPOSED TYPICAL SECTION ROUTE 5

Δ 3.0' - STA. 528+00.00 TO
3.0' - STA. 532+19.30
1.5' - STA. 537+50.21 TO
2.0' - STA. 539+73.00

ΔΔ 3.0' - STA. 528+00.00 TO
3.0' - STA. 531+50.92
1.5' - STA. 535+91.00 TO
3.0' - STA. 542+37.00

ROUTE 5 SUPERELEVATION %		
LT.	STA.	RT.
-1.48	528+00.00	-5.34
-1.48	528+40.46	-5.34
0.00	528+78.46	-5.34
4.78	530+68.78	-5.34
5.00	530+77.46	-5.00
5.00	536+87.79	-5.00
2.00	538+35.79	-2.00
0.00	538+86.79	-2.00
-2.00	539+37.79	-2.00
-2.00	541+87.00	-2.00
-2.00	542+01.00	-1.45
-3.42	542+37.00	0.05

TYPICAL SECTION
SHEET 1 OF 2

DATE PREPARED
2/7/2022

ROUTE
5

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

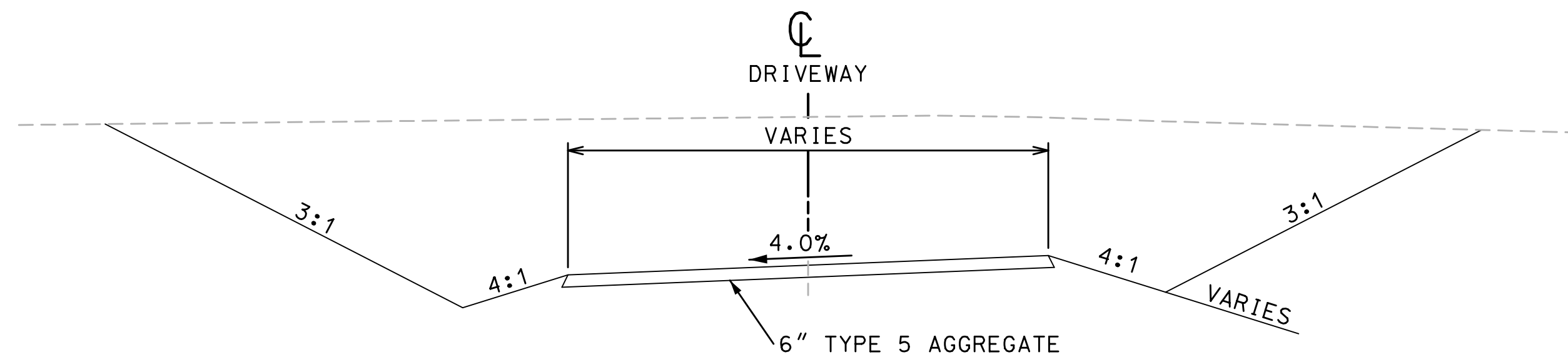
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

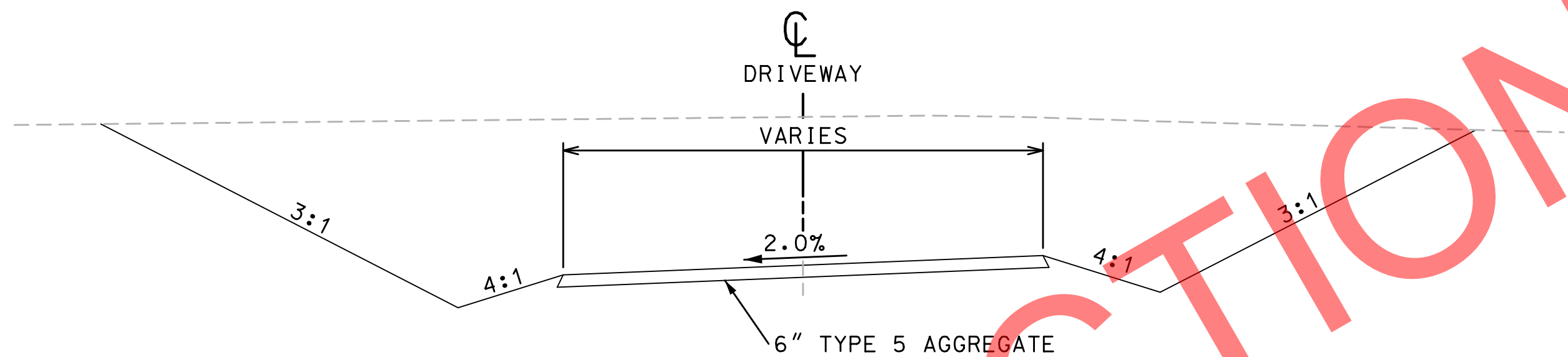
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NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

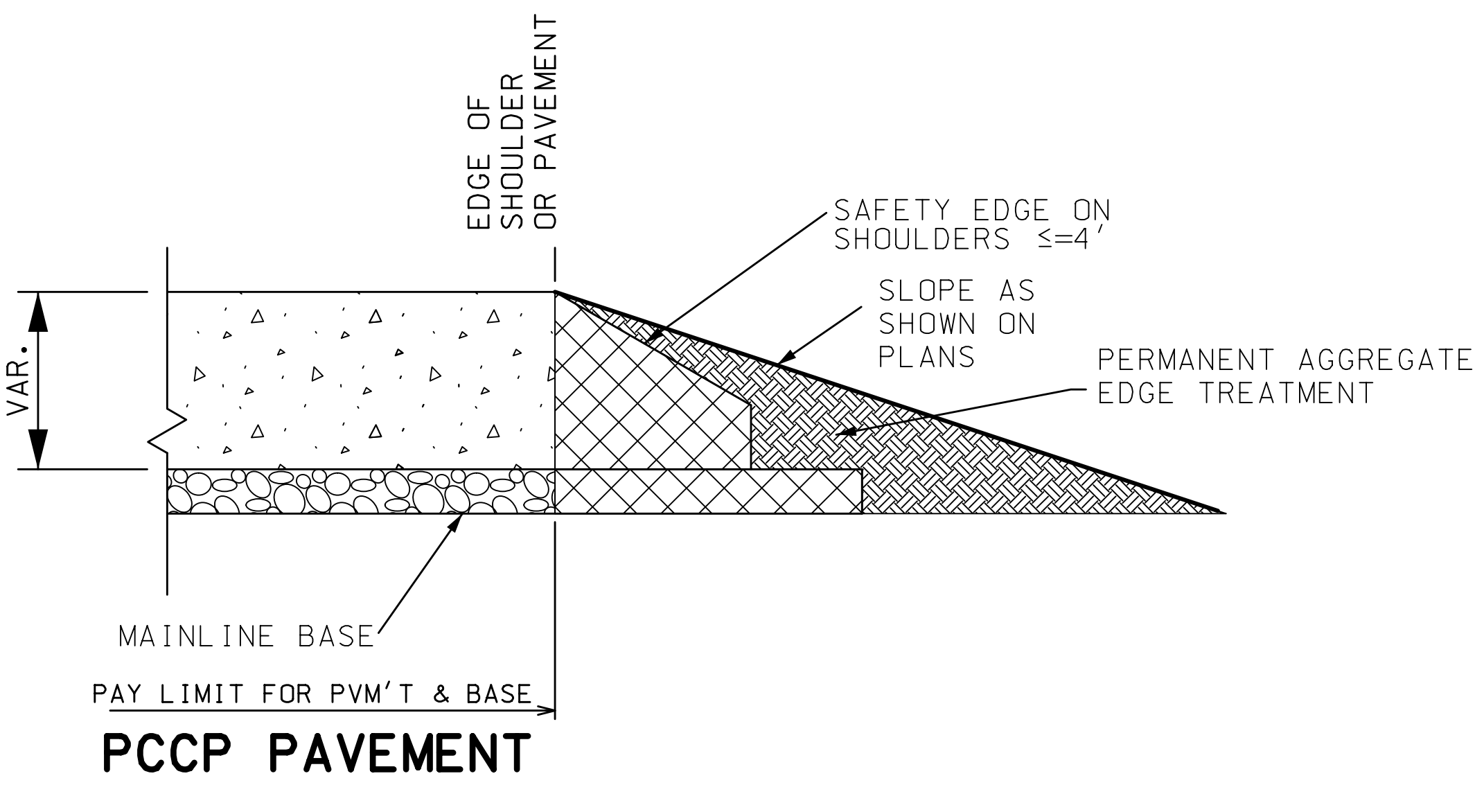
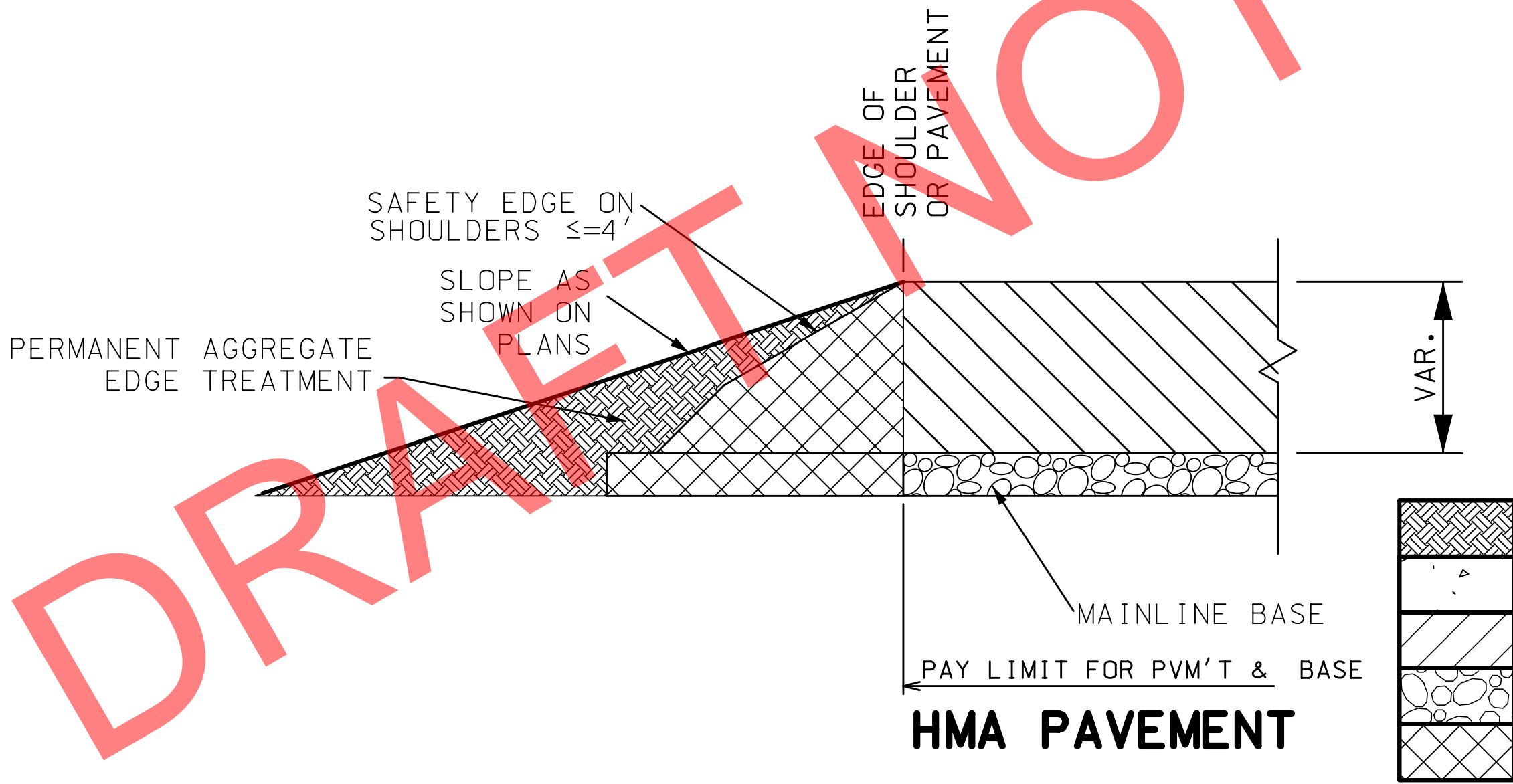
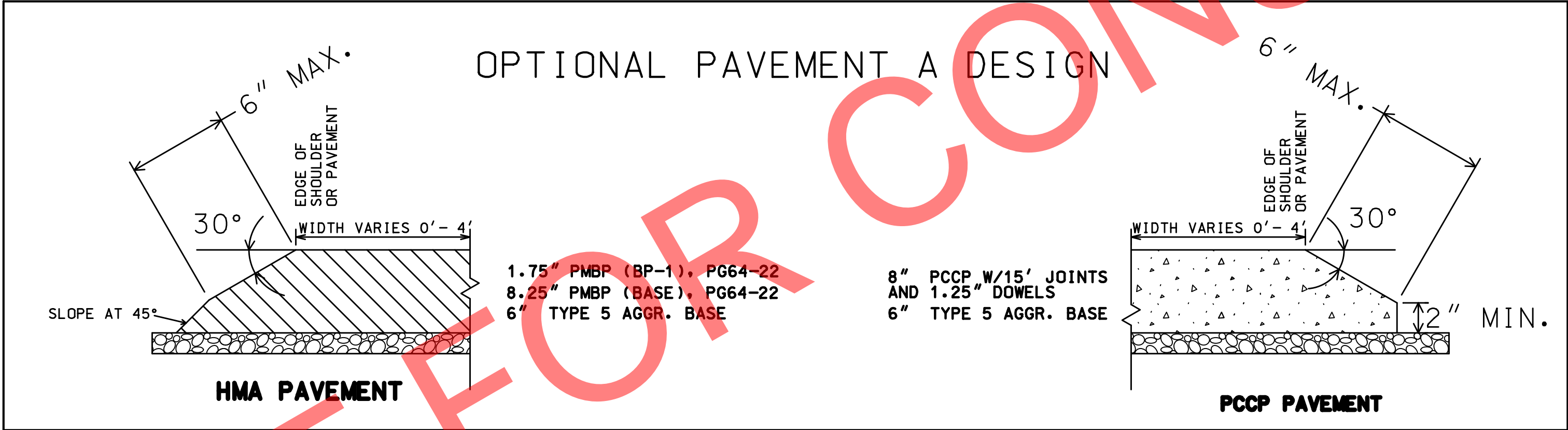
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SECTION ON TANGENT
PROPOSED TYPICAL SECTION DRIVEWAY 1
STA. 0+16.00 TO STA. 1+72.65



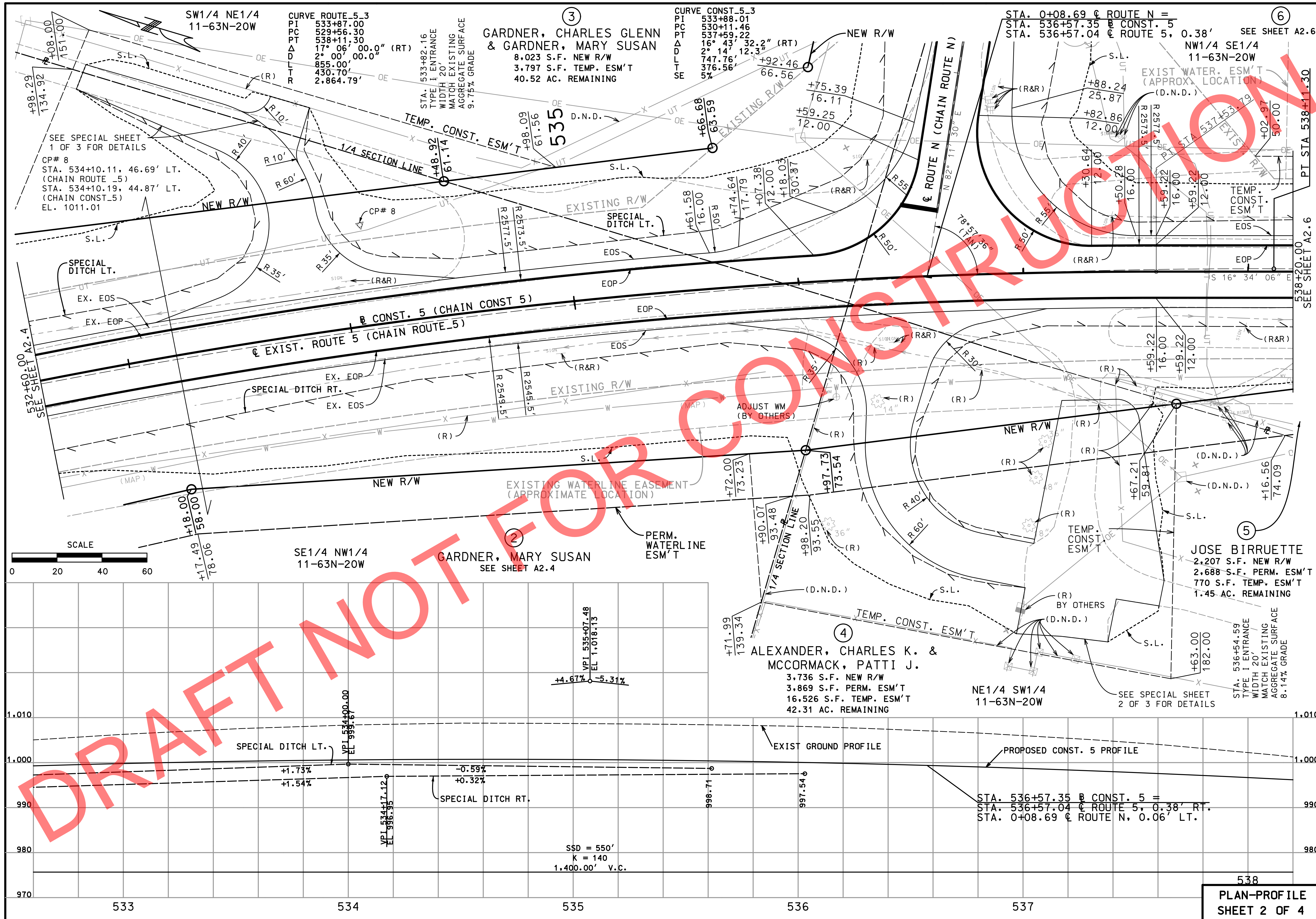
SECTION ON TANGENT
PROPOSED TYPICAL SECTION DRIVEWAY 2
STA. 0+18.02 TO STA. 2+30.00

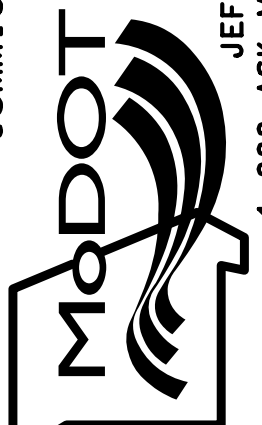


PERMANENT AGGREGATE EDGE TREATMENT

- NOTES:
- SEE STANDARD PLAN 401.00C FOR SAFETY EDGE DETAILS.
 - PERMANENT AGGREGATE EDGE TREATMENT WILL BE PAID FOR UNDER PAY ITEM 3049910 PER TON.

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.2
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.5
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

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

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	MODIFIED MISSOURI STATE PLANE
HORIZONTAL DATUM	NAD 83 (2011) (EPOCH 2010)
VERTICAL DATUM	NAVD 88: GNSS DERIVED
GEOID MODEL	12B
ELEVATIONS DETERMINED BY	GPS DERIVED

PROJECT PROJECTION FACTOR 1.00007728

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MO COORDIANTE SYSTEM OF 1983
CONTROL STATION	MISSOURI CORS
DESIGNATION	MODOT MILAN CORS ARP
CORS ID	MOML
PID	DN6087
LATITUDE	10*12'37.76062" (N)
LONGITUDE	093*06'57.87622" (W)
NORTHING (M)	486,000.913
EASTING (M)	447,556.050
ZONE	CENTRAL

PROJECT AVERAGE GRID FACTOR 0.99996781

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

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

EXAMPLE: CONTROL POINT #8
N 1619096.411 X 0.999922725 = N 1618971.295
E 1469538.057 X 0.999922725 = E 146526.733

LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND)			DESCRIPTION	GPK POINT ID
				NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)		
PROJECT BENCH MARKS								
A2.6	538+49.06	RT	67.25	1,618,646.1700	1,469,581.4000	999.78	TBM-C CUT "L" NW CORNER CONC. PAD	TBM1
PROJECT CONTROL POINTS								
A2.6	539+31.97	LT	34.71	1,618,595.4100	1,469,702.6100	995.40	SET IRON ROD W/CAP	CP7
A2.5	534+10.11	LT	46.69	1,619,096.4100	1,469,538.0600	1,011.01	SET IRON ROD W/CAP	CP8
A2.4	528+80.67	LT	32.53	1,619,554.7900	1,469,261.4500	986.56	SET IRON ROD W/CAP	CP9
ALIGNMENTS								
CONST 5 (CONSTRUCTION BASELINE)								
	527+05.43	℄		1,619,682.6200	1,469,137.0600		BEGIN CHIAN CONST 5	
	530+11.46	℄		1,619,426.8200	1,469,305.0500		PC CURVE CONST 5 3	
	533+88.01	LT	27.5298	1,619,112.0700	1,469,511.7500		PI CURVE CONST 5 3	
	537+59.22	℄		1,618,751.1466	1,469,619.1295		PT CURVE CONST 5 3	
	545+15.32	℄		1,618,026.4400	1,469,834.7381		END CHAIN CONST 5	
ROUTE 5								
	509+00.00	℄		1,621,188.6597	1,468,141.3663		BEGIN CHAIN ROUTE 5	
	529+56.30	℄		1,619,473.7666	1,469,276.0520		PC CURVE ROUTE 5 3	
	533+87.00	LT	32.1957	1,619,114.5741	1,469,513.7173		PI CURVE ROUTE 5 3	
	538+11.30	℄		1,618,701.3771	1,466,886.9023		PT CURVE ROUTE 5 3	
	552+55.00	℄		1,617,316.3532	1,470,042.6636		PC CURVE ROUTE 5 6	
	555+31.92	RT	19.9711	1,617,050.6913	1,470,120.8079		PI CURVE ROUTE 5 6	
	558+05.00	℄		1,616,818.1637	1,470,271.1863		PT CURVE ROUTE 5 6	
	565+59.20	℄		1,616,184.8597	1,470,680.7516		PC CURVE ROUTE 5 9	
	570+66.40	LT	107.2314	1,615,758.9592	1,470,956.1866		PI CURVE ROUTE 5 9	
	575+14.20	℄		1,615,268.7159	1,470,826.1207		PT CURVE ROUTE 5 9	
	596+59.60	℄		1,613,195.0561	1,470,275.9601		END CHAIN ROUTE 5	
ROUTE N								
	0+08.30	℄		1,618,848.1280	1,469,587.7641		BEGIN CHAIN ROUTE N	
	1+23.05	℄		1,618,863.7178	1,469,701.4501		PC CURVE ROUTE N 3	
	2+22.98	LT	3.3076	1,618,877.2937	1,469,800.4500		PI CURVE ROUTE N 3	
	3+22.61	℄		1,618,877.6860	1,469,906.2956		PT CURVE ROUTE N 3	
	34+49.29	℄		1,618,889.9623	1,473,027.0315		PC CURVE ROUTE N 6	
	38+78.02	RT	130.9062	1,618,891.6456	1,473,455.7605		PI CURVE ROUTE N 6	
	42+03.92	℄		1,619,526.5774	1,473,024.5319		END CHAIN ROUTE N	

DATE PREPARED
2/7/2022

ROUTE
5

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

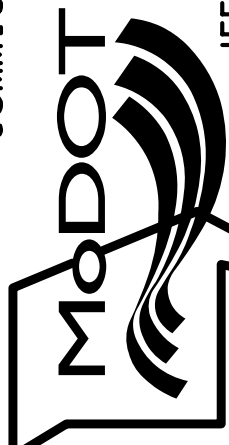
STATE
MO

SHEET NO.
A2.8


DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

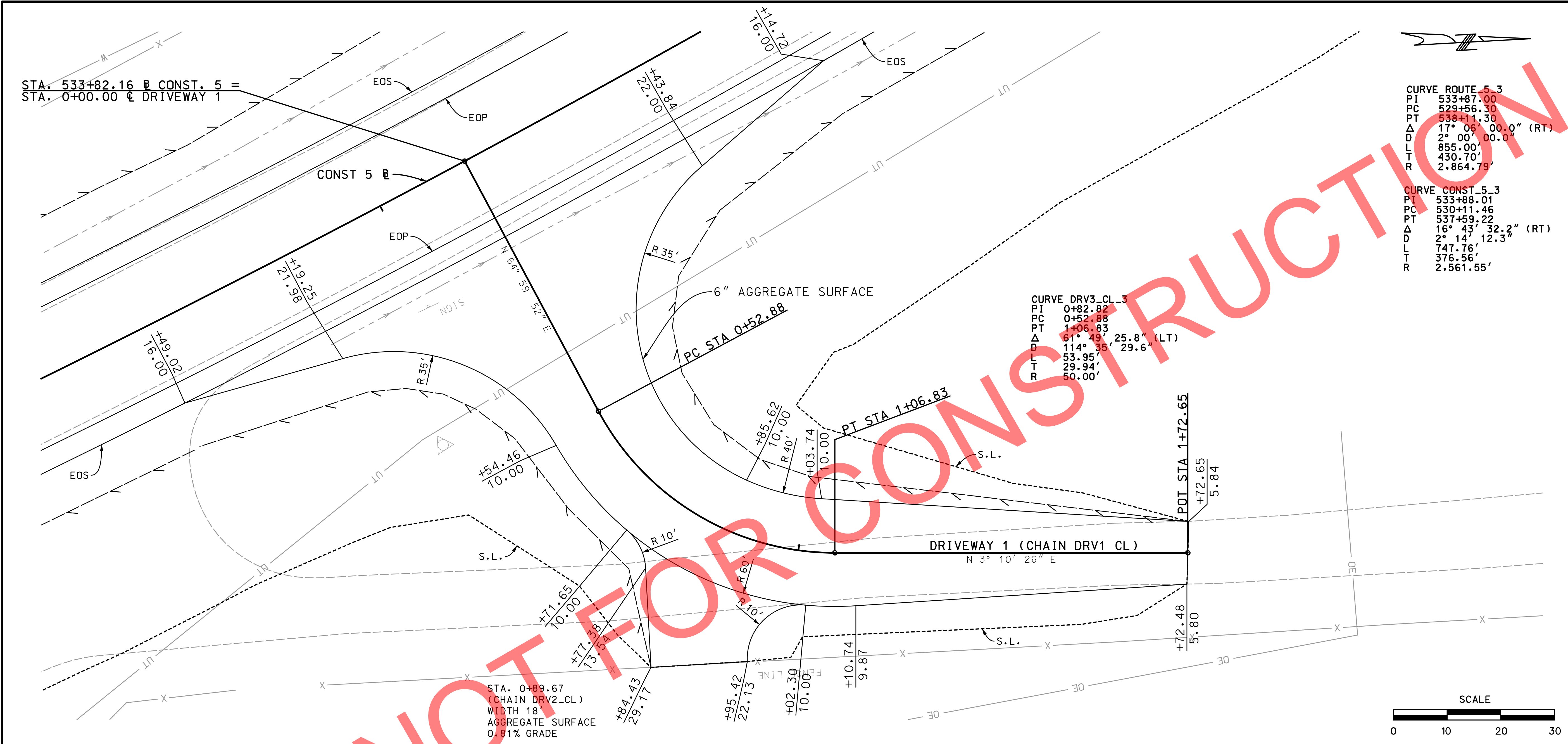


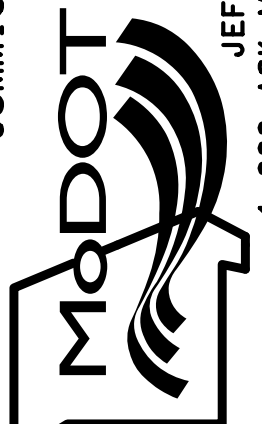

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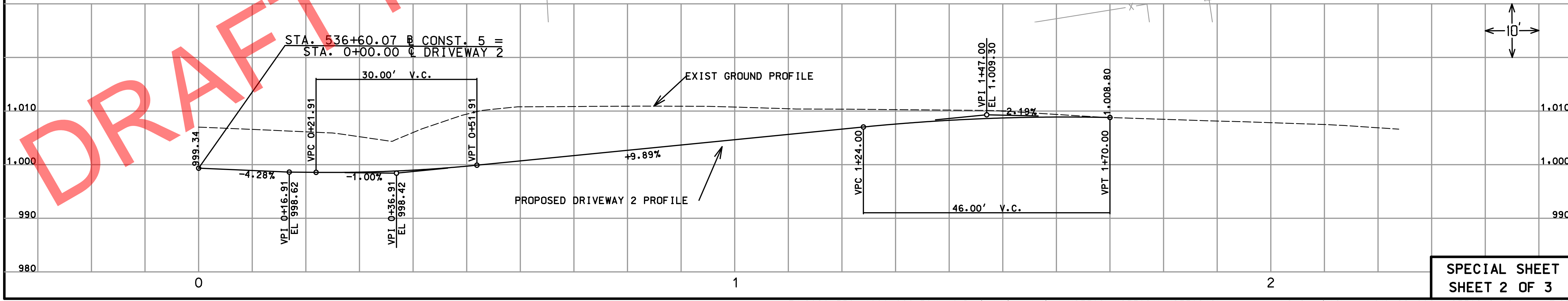
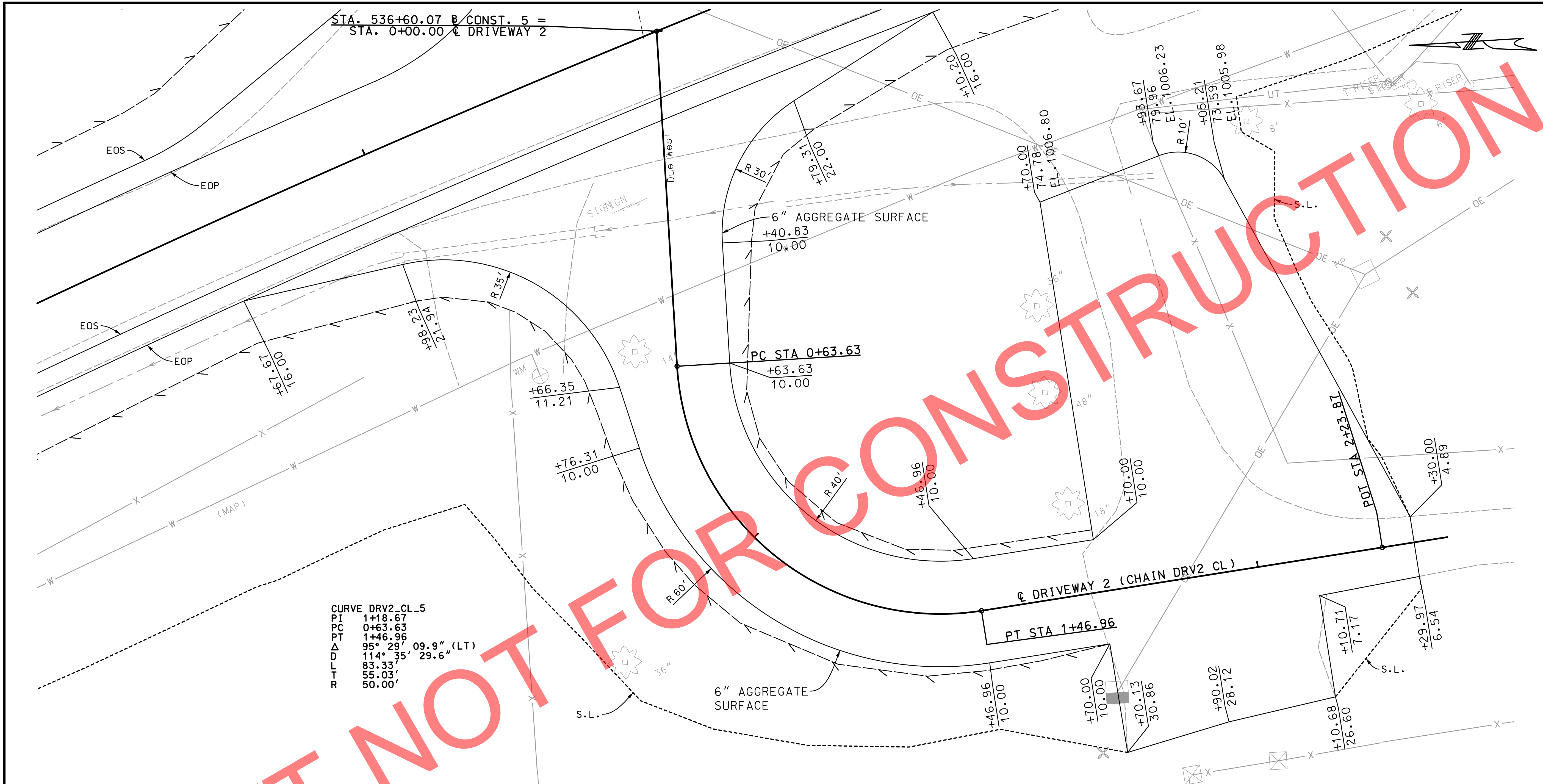
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NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

REV.



DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.9
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
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SPECIAL SHEET
SHEET 1 OF 3



DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.10
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

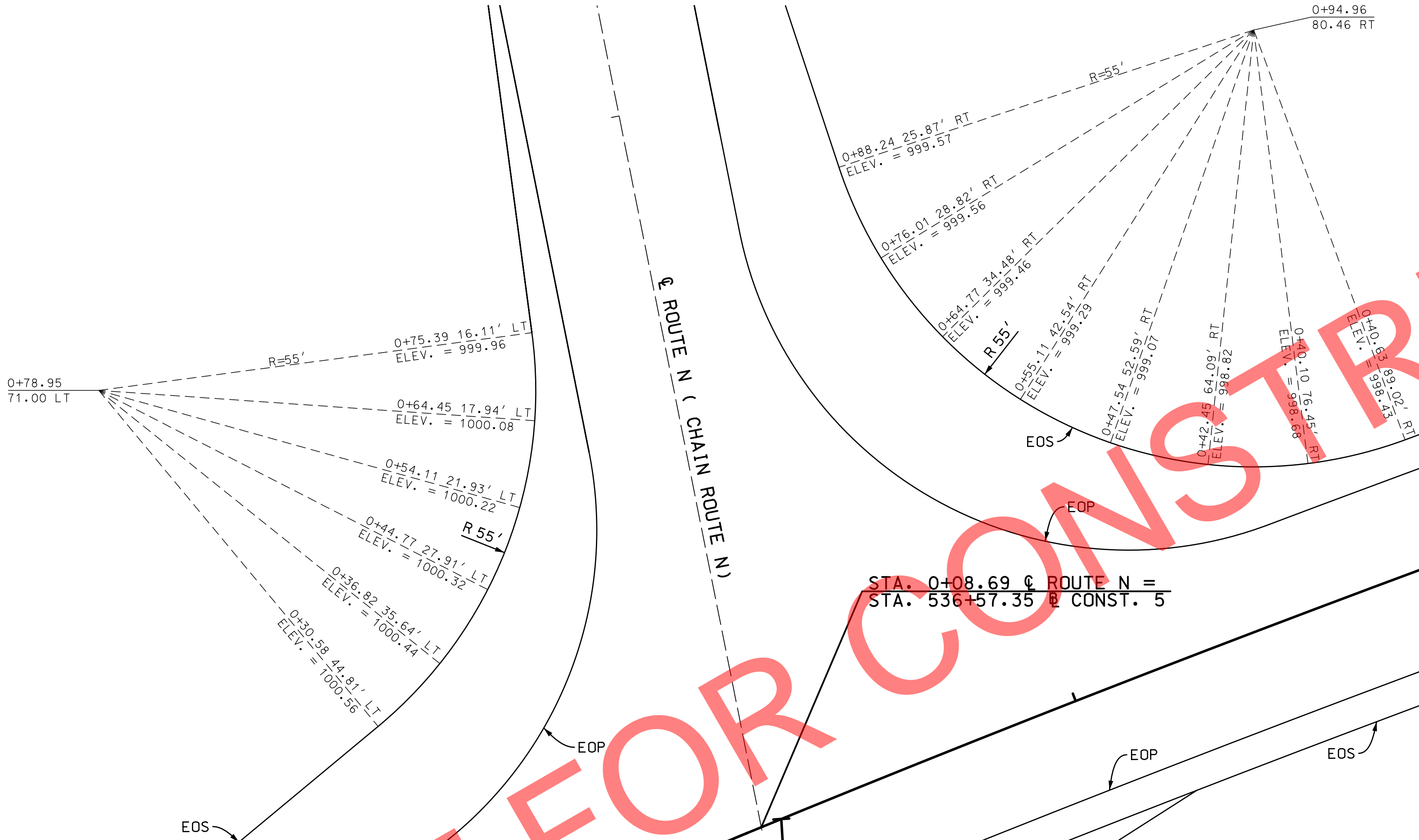
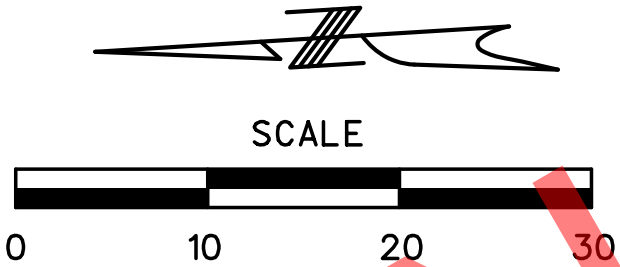
MoDOT

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1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

NOTE:
ALL STATIONING AND OFFSETS
ARE OFF ROUTE N CHAIN.



STA. 0+08.69 ϕ ROUTE N =
STA. 536+57.35 ϕ CONST. 5

SPECIAL SHEET
SHEET 3 OF 3

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

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CERTIFICATE OF
AUTHORITY NO. 001592

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.11
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

SIGN SPACING FOR ADVANCE SIGN SERIES (1)		
PERMANENT POSTED SPEED MPH	UNDIVIDED HIGHWAYS	DIVIDED HIGHWAYS
0-35	200'	200'
40-45	350'	500'
50-55	500'	1000'
60-70	1000'	SA - 1000' SB - 1500' SC - 2640'

TAPER LENGTHS AND END TREATMENTS FOR CONCRETE BARRIER				
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (2)			END TREATMENT (3)
	T1	10'	11'	12'
<40	160'	168'	176'	BARRIER HEIGHT TRANSITION
>40	160'	168'	176'	APPROVED CRASH CUSHION

TAPER LENGTHS AND SPACING FOR CHANNELIZERS							
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (T1)			MINIMUM SHOULDER TAPER LENGTH BASED ON 10' SHOULDER	BUFFER LENGTH FT.	MAXIMUM CHANNELIZER SPACING	
	10'	11'	12'			THROUGH TAPER	THROUGH WORK AREA
0-35	205'	225'	245'	70'	280'	35'	40'
40-45	450'	495'	540'	150'	400'	40'	80'
50-55	550'	605'	660'	185'	560'	50'	80'
60-70	700'	770'	840'	235'	840'	60'	120'

NOTES:

- (1) SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS AND VIABILITY.
- (2) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER.
- (3) CONCRETE BARRIER MAY BE INSTALLED AT AN 8:1 FLARE RATE FROM THE SHOULDER POINT TO THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER. CONTRACTOR MAY PROVIDE CONCRETE BARRIER, INCIDENTAL TO PROJECT.

GENERAL NOTES:

1. AS WITH ALL CONSTRUCTION ACTIVITIES TRAFFIC SITUATIONS ARE SUBJECT TO CHANGE. THE CONTRACTOR SHALL BE AWARE THAT ALL TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE STANDARDS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) THE MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION, SECTION 600 AND SHALL FOLLOW THE GUIDELINES IN THE MODOT 'TRAFFIC CONTROL FOR FIELD OPERATIONS MANUAL'.
2. PLACE A 'ROAD WORK AHEAD' SIGN ON THE APPROACH TO ALL INTERSECTIONS WHERE THE ADVANCE SIGNING FOR THE TEMPORARY TRAFFIC CONTROL EXTENDS PAST THAT INTERSECTION.
3. NOTIFY MODOT RESIDENT ENGINEER 48-HOURS IN ADVANCE OF ANY LANE CLOSURE OR ROADWAY CLOSURE.
4. ALL EXISTING SIGNS SHALL BE USED IN PLACE, ADJUSTED, AND/OR COVERED AS CONDITIONS REQUIRE (NO DIRECT PAY).
5. ALL STATIONING, DISTANCES, AND SPACING OF WORK ZONES DEVICES ARE APPROXIMATE AND MAY BE REVISED AS APPROVED BY ENGINEER.
6. FIRST ORDER OF WORK ON ALL PHASES SHALL BE PLACEMENT OF ALL WORK ZONE WARNING DEVICES AND SIGNS AS NOTED.
7. SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED OR AS APPROVED BY THE ENGINEER.
8. SIGNS LEFT IN PLACE OVERNIGHT MUST BE MOUNTED AT 5' MINIMUM HEIGHT.
9. ALTERNATE TRAFFIC CONTROL MAY BE USED AS NEEDED AT THE APPROVAL OF THE ENGINEER.
10. NO DIRECT PAYMENT WILL BE MADE FOR RELOCATION OF CHANNELIZERS, CONSTRUCTION SIGNS, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES, UNLESS OTHERWISE SHOWN ON THE PLANS.
11. FLAG ASSEMBLIES SHALL BE USED DURING ALL DAYTIME OPERATIONS. THEY ARE REQUIRED ON ALL FLAGGER SIGNS AND TRUCK CROSSING SIGNS WITHIN THE WORK ZONE. THEY WILL BE REQUIRED ON THE FIRST OCCURRENCE OF THE ROAD/RAMP/BRIDGE WORK AHEAD SIGN, BUT ONLY IF THE WORK DURATION IS 30 MINUTES OR MORE. IF PROVIDED, THE COST OF THE FLAG ASSEMBLES AS SHOWN IN THE PLANS.

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/6/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.12
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

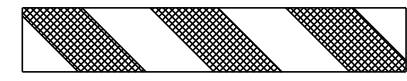
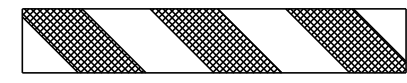
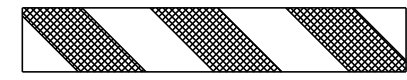
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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

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



W020-3
20



W020-3
65



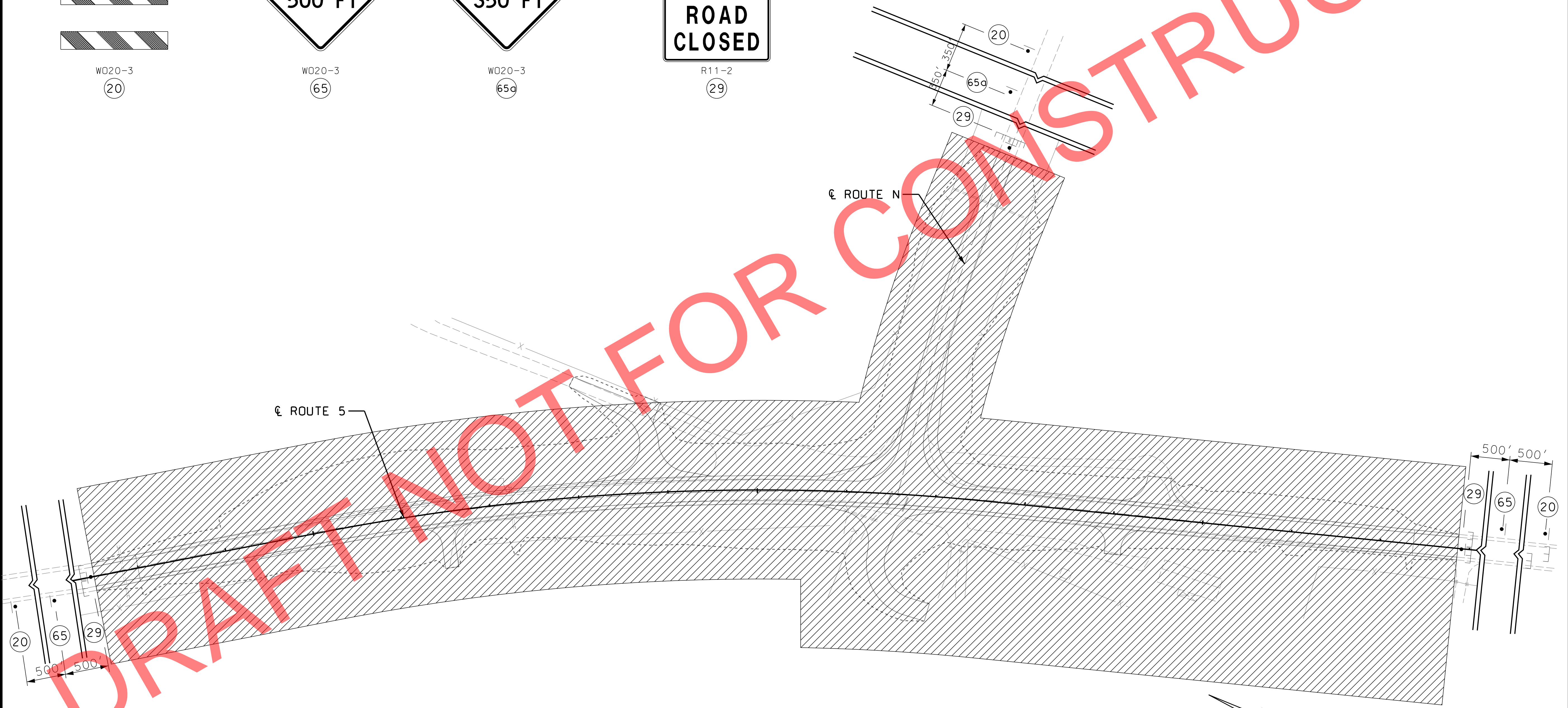
W020-3
65g



R11-2
29

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER (TRIMLINE)
- E TYPE III MOVEABLE BARRICADE
- ADVANCE WARNING RAIL SYSTEM
- WORK AREA



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DATE PREPARED 2/6/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.13
COUNTY SULLIVAN	
JOB NO. J1S3392	
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)

EFK Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
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TRAFFIC CONTROL
J1S3392A2 STAGING
SHEET 2 OF 7

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DATE PREPARED

2/6/2022

ROUTE 5 STATE MO

DISTRICT NW SHEET NO. A2.14

COUNTY SULLIVAN

JOB NO. J1S3392

CONTRACT ID.

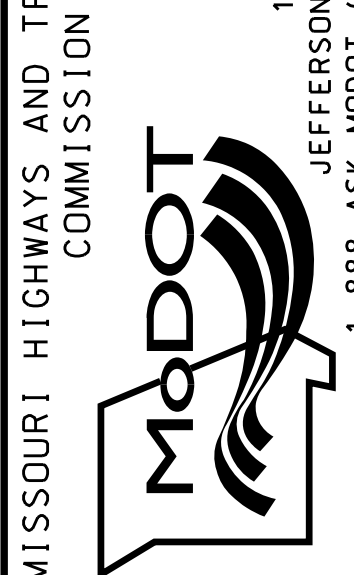
PROJECT NO.

BRIDGE NO.

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

REV.

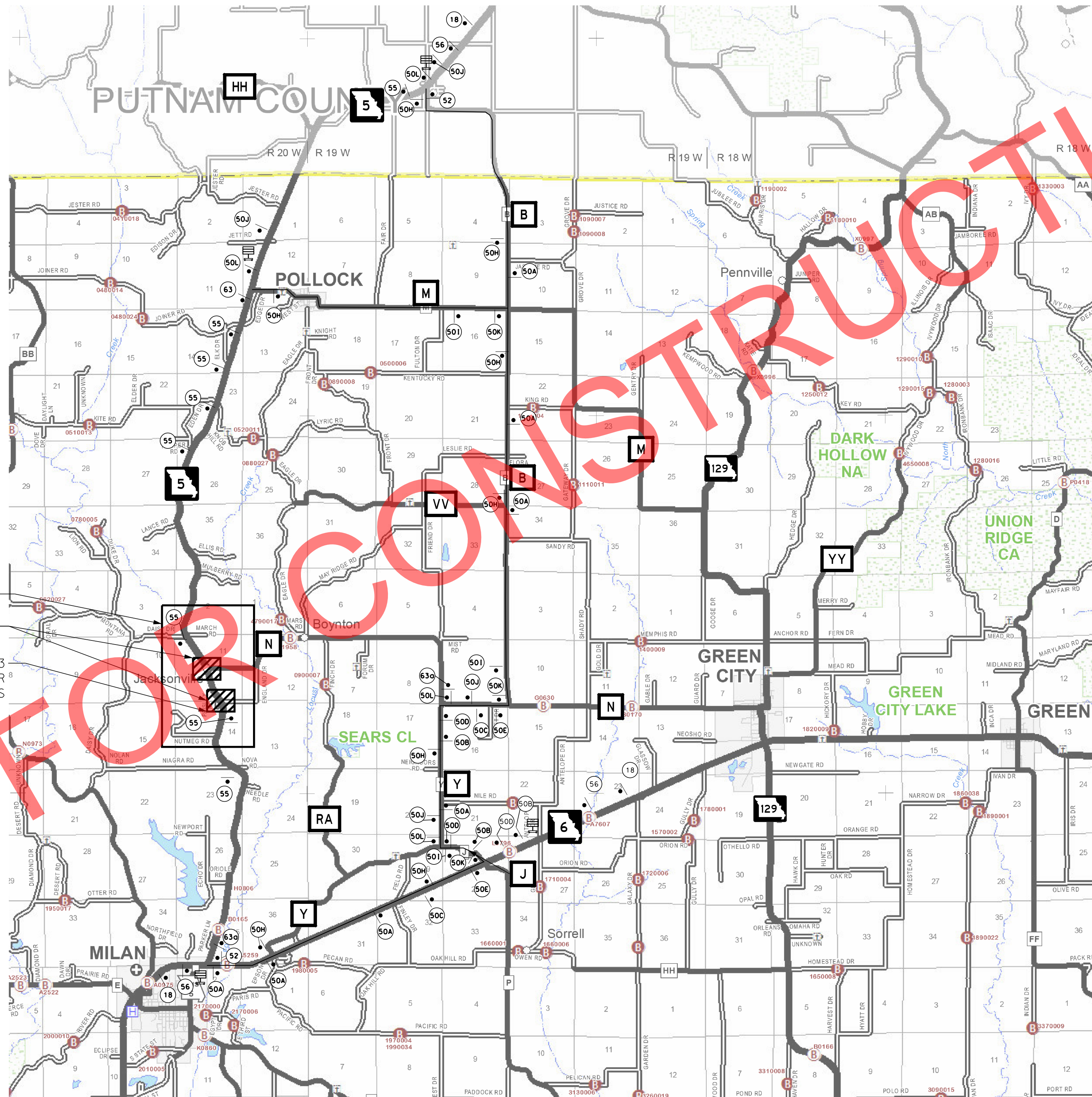
EFK Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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NOT TO SCALE

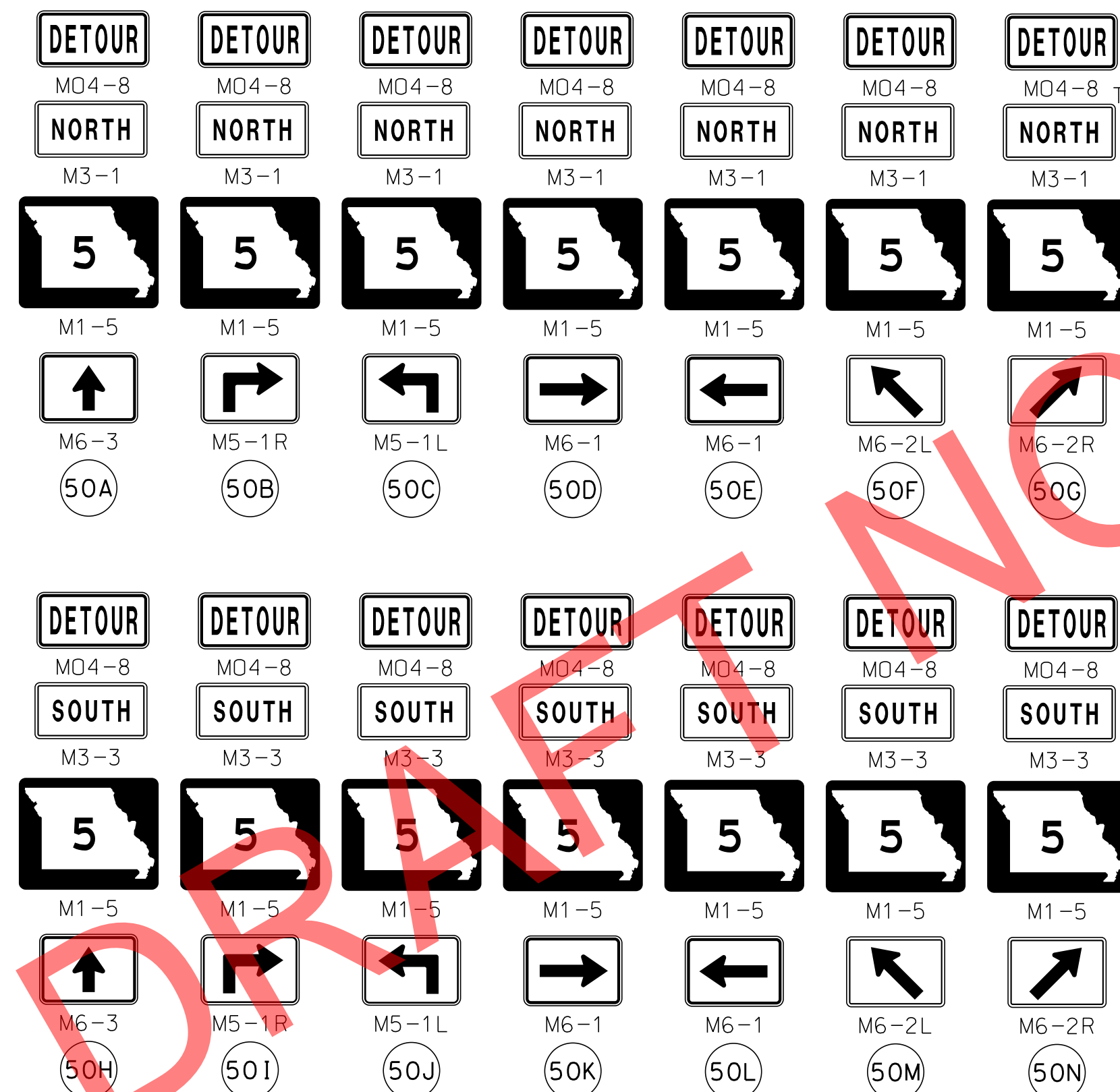
TRAFFIC CONTROL
J1S3392A2 DETOUR
SHEET 3 OF 7



TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- SIGN (DOUBLE SIDED)
- △ FLAGGER
- E BARRICADE
- CHANGEABLE MESSAGE BOARD (CMS)

GENERAL NOTES:
- EACH CMS HAS 5 CHANNELIZERS AT 20' SPACING IN FRONT OF IT. NO DIRECT PAY.



ROAD CLOSED
6.3 MILE AHEAD
LOCAL TRAFFIC ONLY

R11-3a
(63)

ROAD CLOSED
5 MILES AHEAD
LOCAL TRAFFIC ONLY

R11-3a
(63a)

DETOUR
AHEAD

WO20-2
(18)

END
DETOUR

MO4-8a
(52)

ROAD CLOSED
TO
THRU TRAFFIC

R11-4
(55)

5 CLOSED
X MILES
AHEAD

(56)

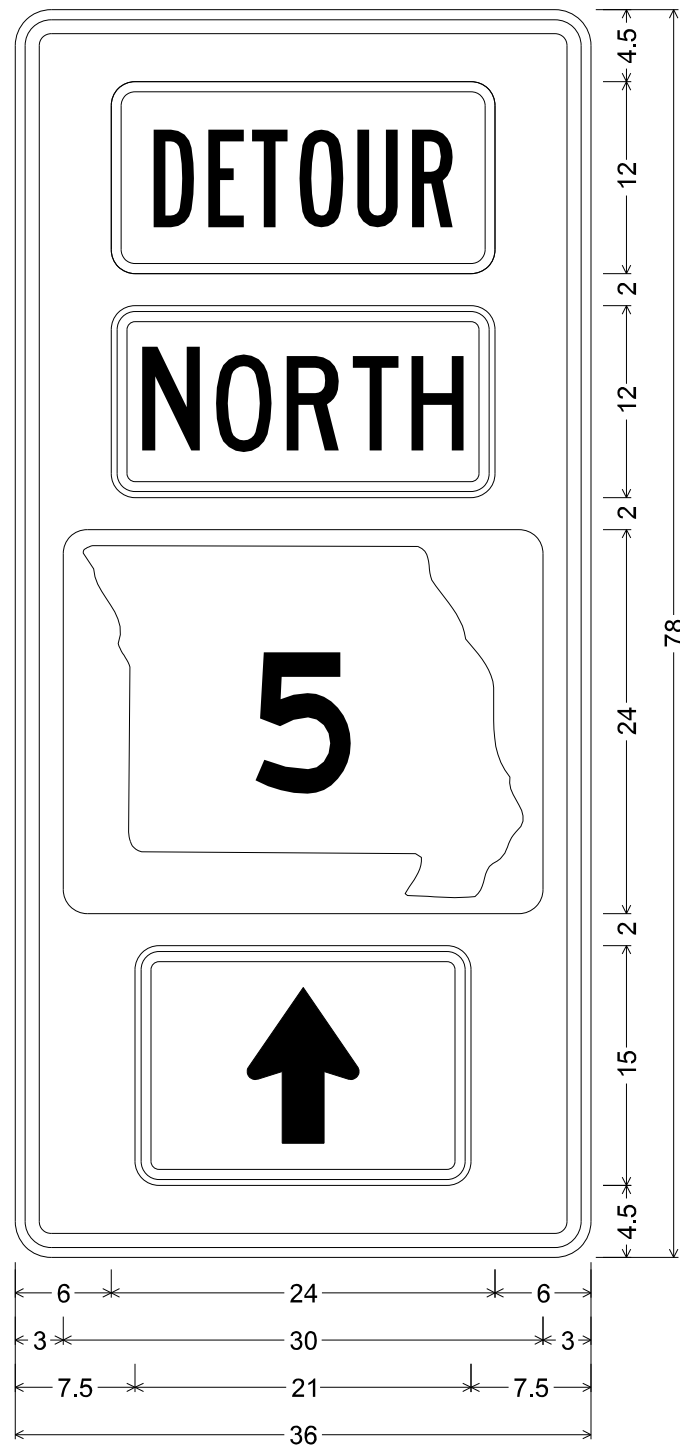
"X" EQUALS
MILES NOTED
NEXT TO SIGN
NUMBER

SEE TC SHEET 2 OF 7
FOR SIGNING DETAILS
WORK AREA
ROAD CLOSED
SEE SUB-PROJECT A3
TC SHEET 2 OF 5 FOR
STAGING DETAILS

NOT FOR CONSTRUCTION

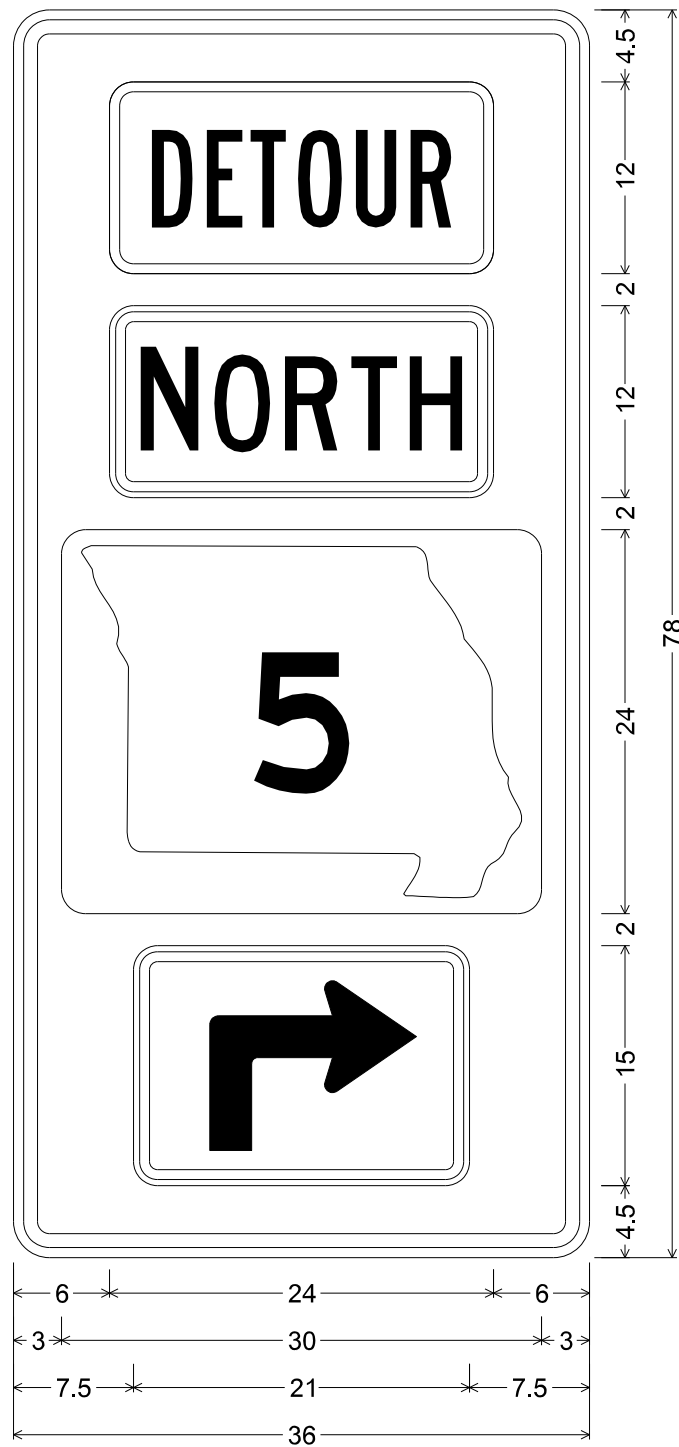
NOT FOR CONSTRUCTION

NOT FOR CONSTRUCTION



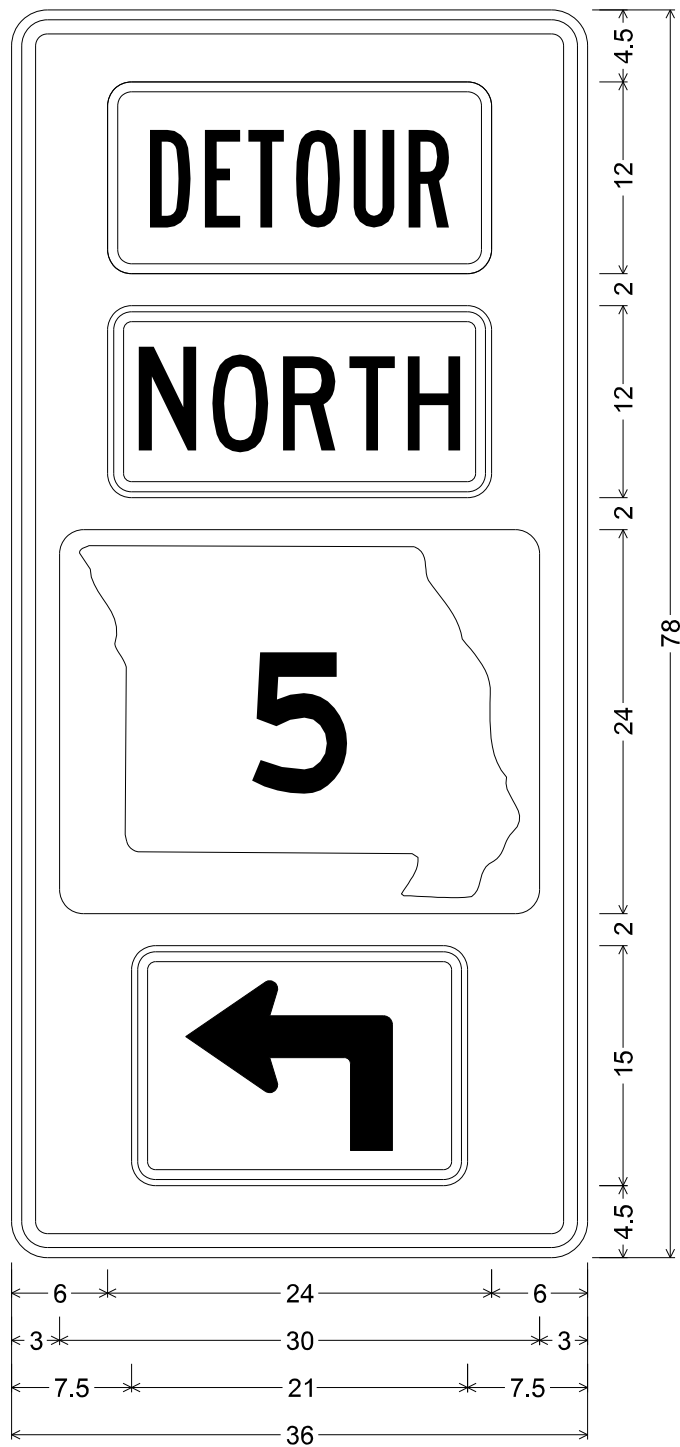
MO4-11 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000	50A
6.000	
3.000	
7.500	



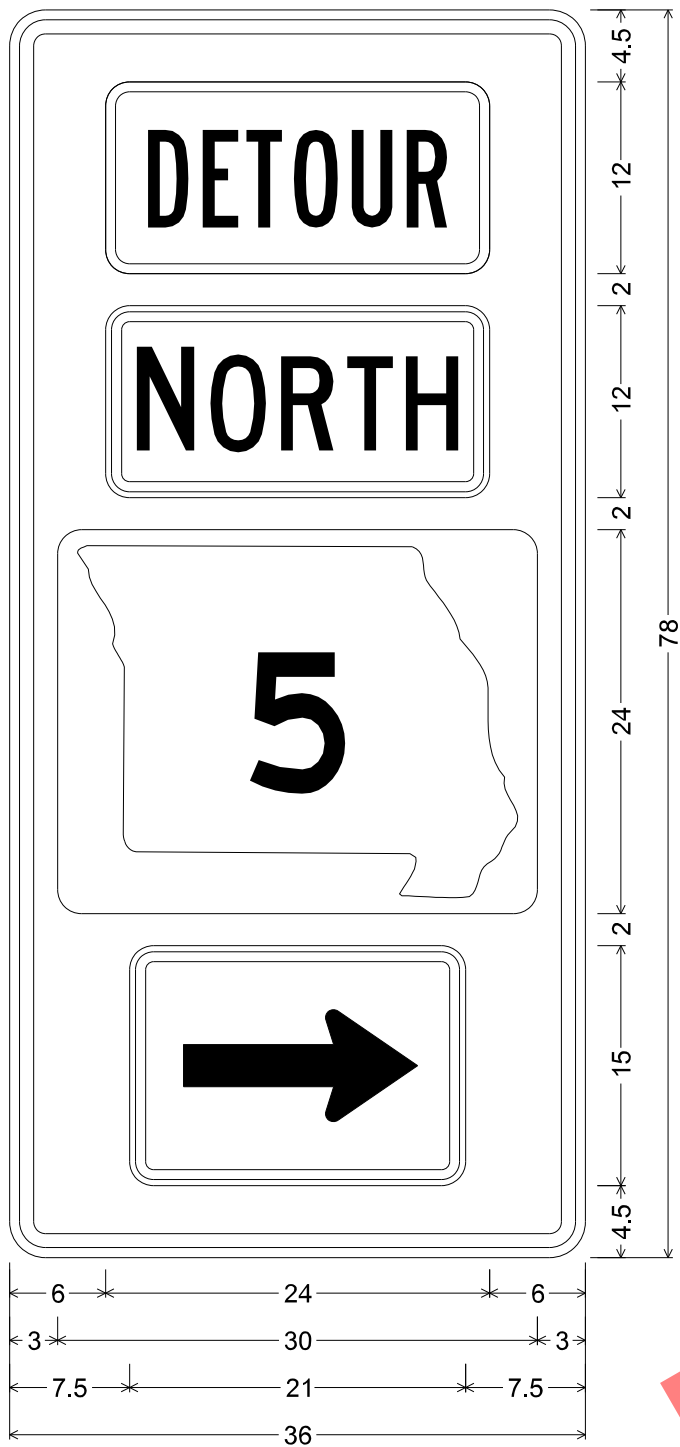
MO4-11 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000	50B
6.000	
3.000	
7.500	



MO4-11 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000	50C
6.000	
3.000	
7.500	



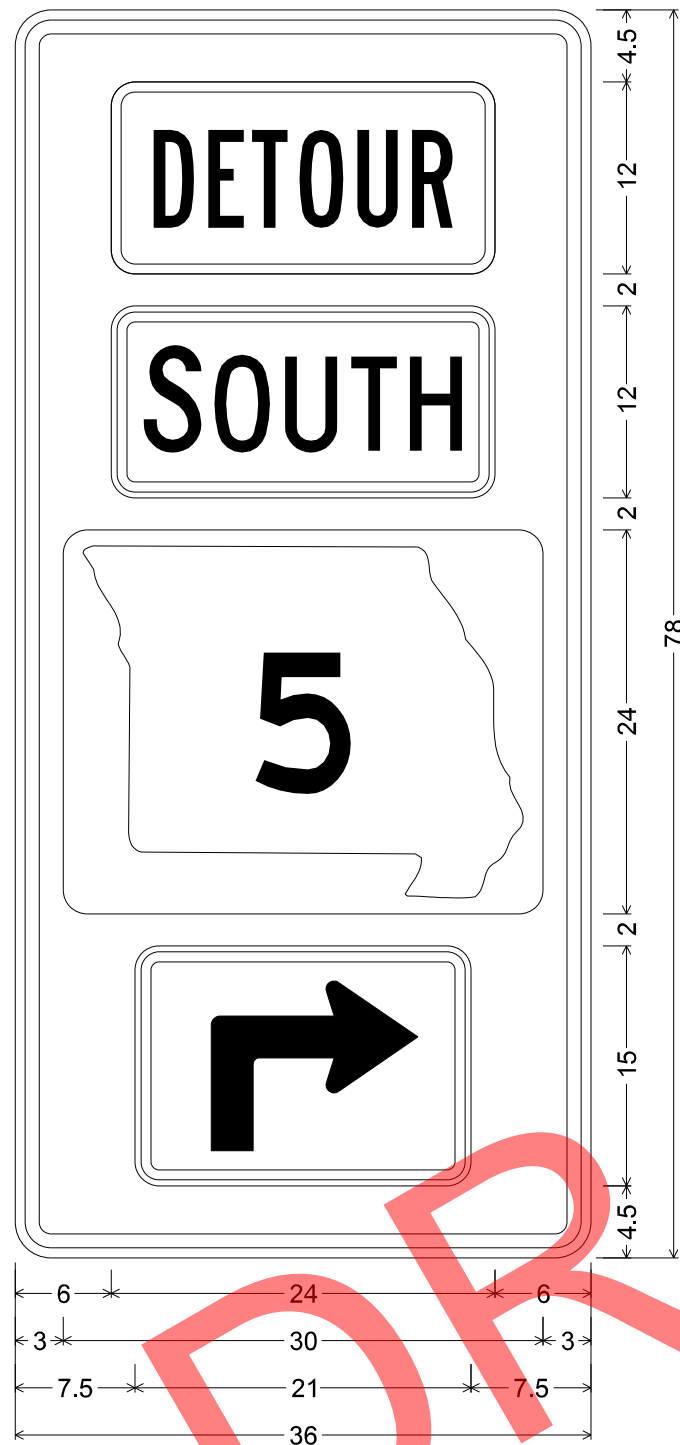
MO4-11 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000	50D
6.000	
3.000	
7.500	



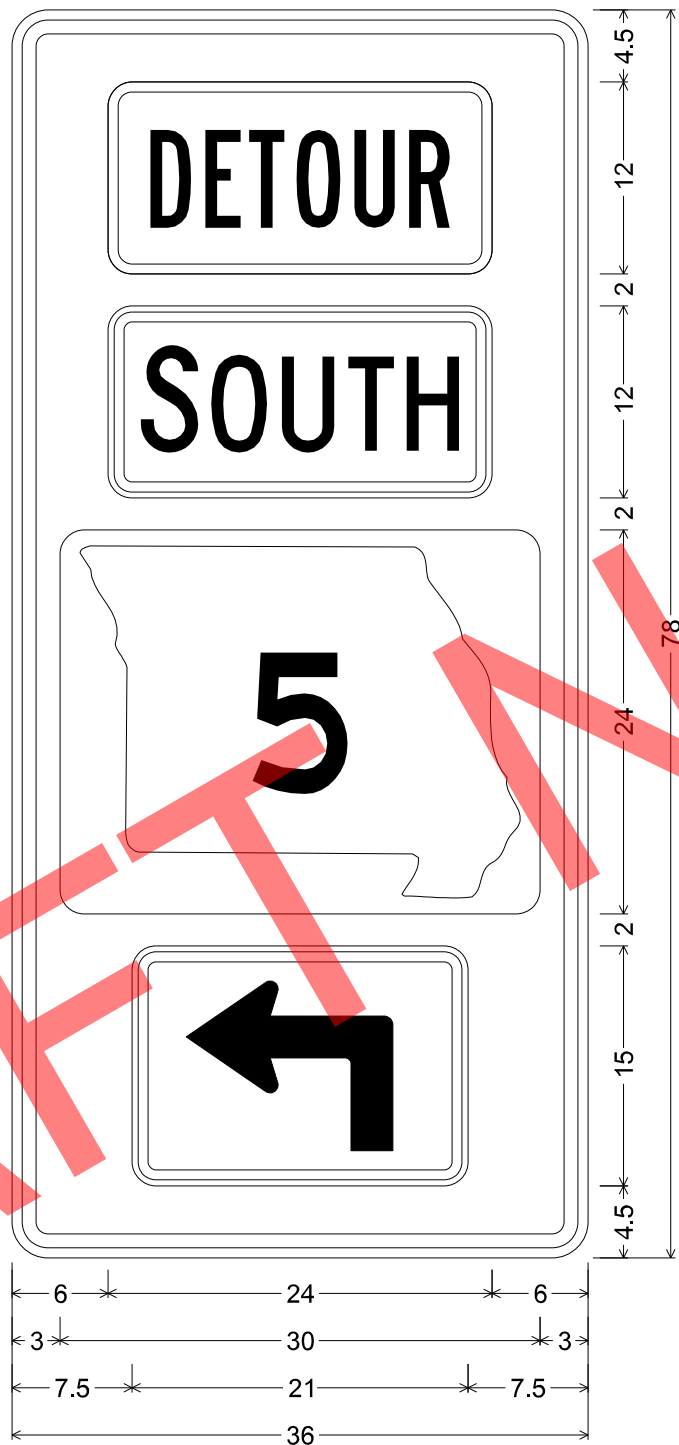
MO4-11 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000	50E
6.000	
3.000	
7.500	



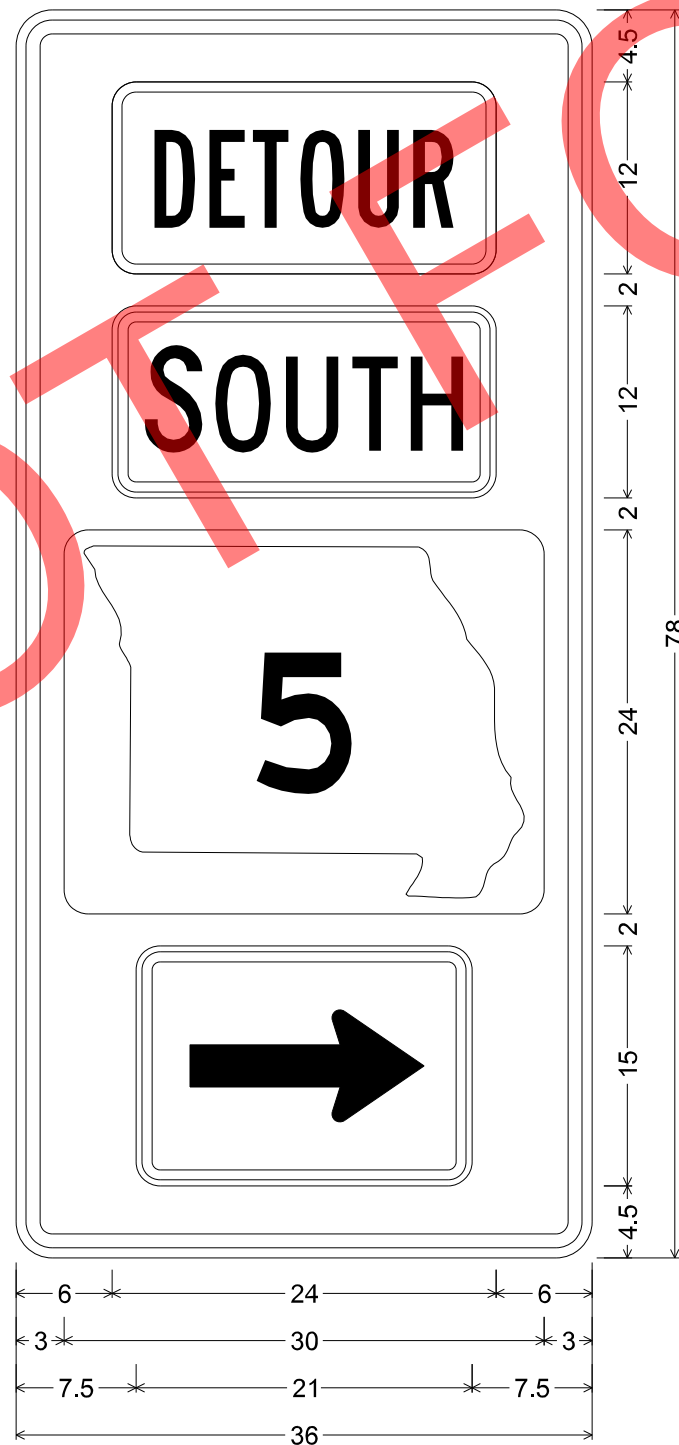
MO4-11 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000	50H
6.000	
3.000	
7.500	



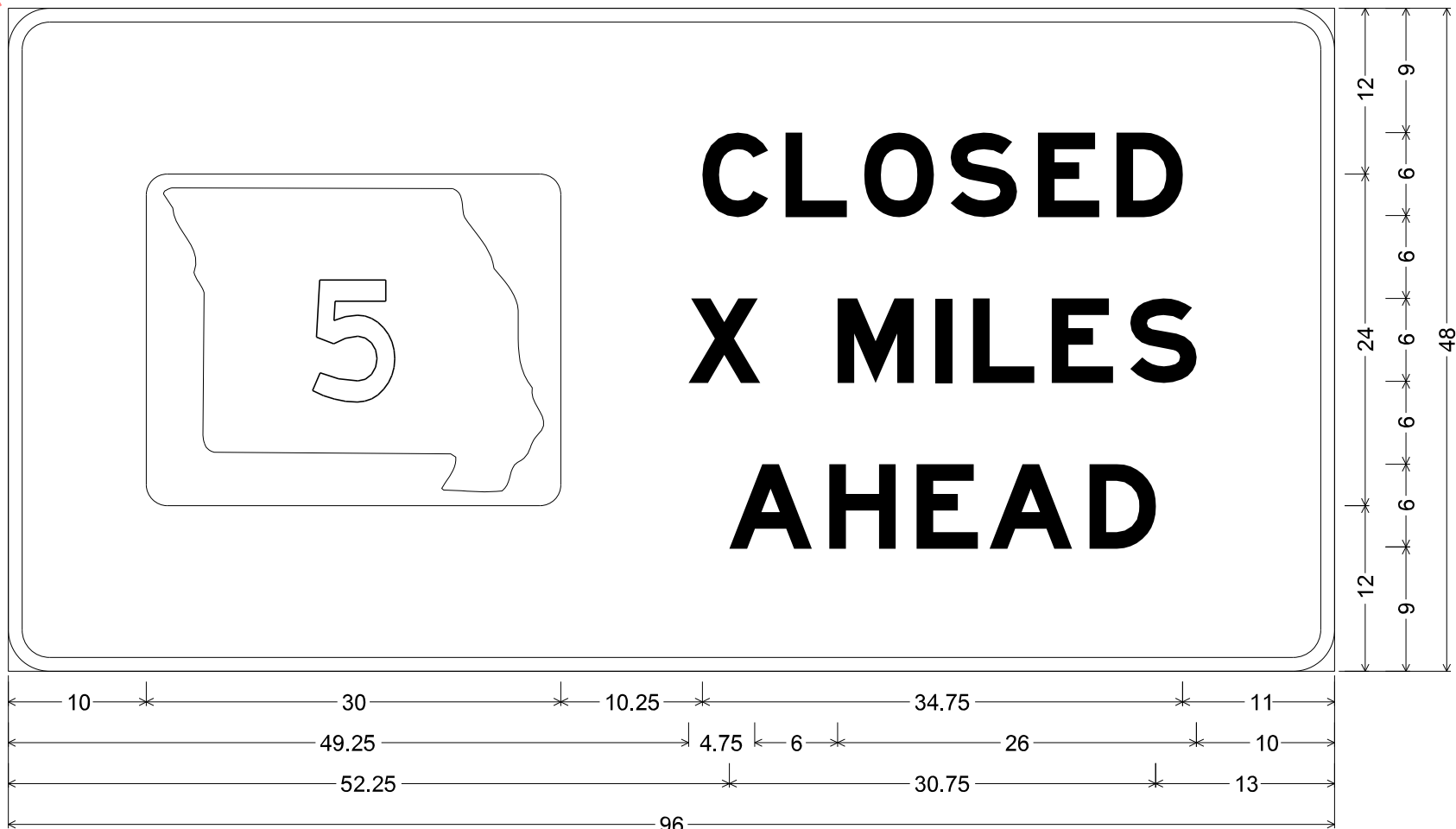
MO4-11 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000	50I
6.000	
3.000	
7.500	



MO4-11 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000	50J
6.000	
3.000	
7.500	



MO4-13-96 SHF-FLAT SHEET FLUORESCENT; 3.000" Radius, 1.000" Border, Black on Orange;
[CLOSED] E Mod; [2 MILES] E Mod; [AHEAD] E Mod;
Table of letter and object lefts.

10.000	C	50.250	L	56.250	O	62.000	S	68.250	E	74.500	D	80.250
49.250	M	60.000	I	67.125	L	69.875	E	75.500	S	81.250		
52.250	H	59.375	E	65.750	A	71.000	D	78.250				

SIGN NO.	
STATION	
ROADWAY	

NOTE: "X" SHOULD
MATCH THE MILES
INDICATED IN PLANS
(1/2, 1,2,3)

TRAFFIC CONTROL
SHEET 4 OF 7

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

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

DATE	DESCRIPTION

DATE PREPARED
2/6/2022
ROUTE
5
DISTRICT
NW
STATE
MO
SHEET NO.
A2.15
COUNTY
SULLIVAN
JOB NO.
J1S3392
CONTRACT ID.

PROJECT NO.
BRIDGE NO.

"THIS MEDIA SHOULD
NOT BE CONSIDERED
A CERTIFIED
DOCUMENT."

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



 WORK AREA

35' TAPER MAX.

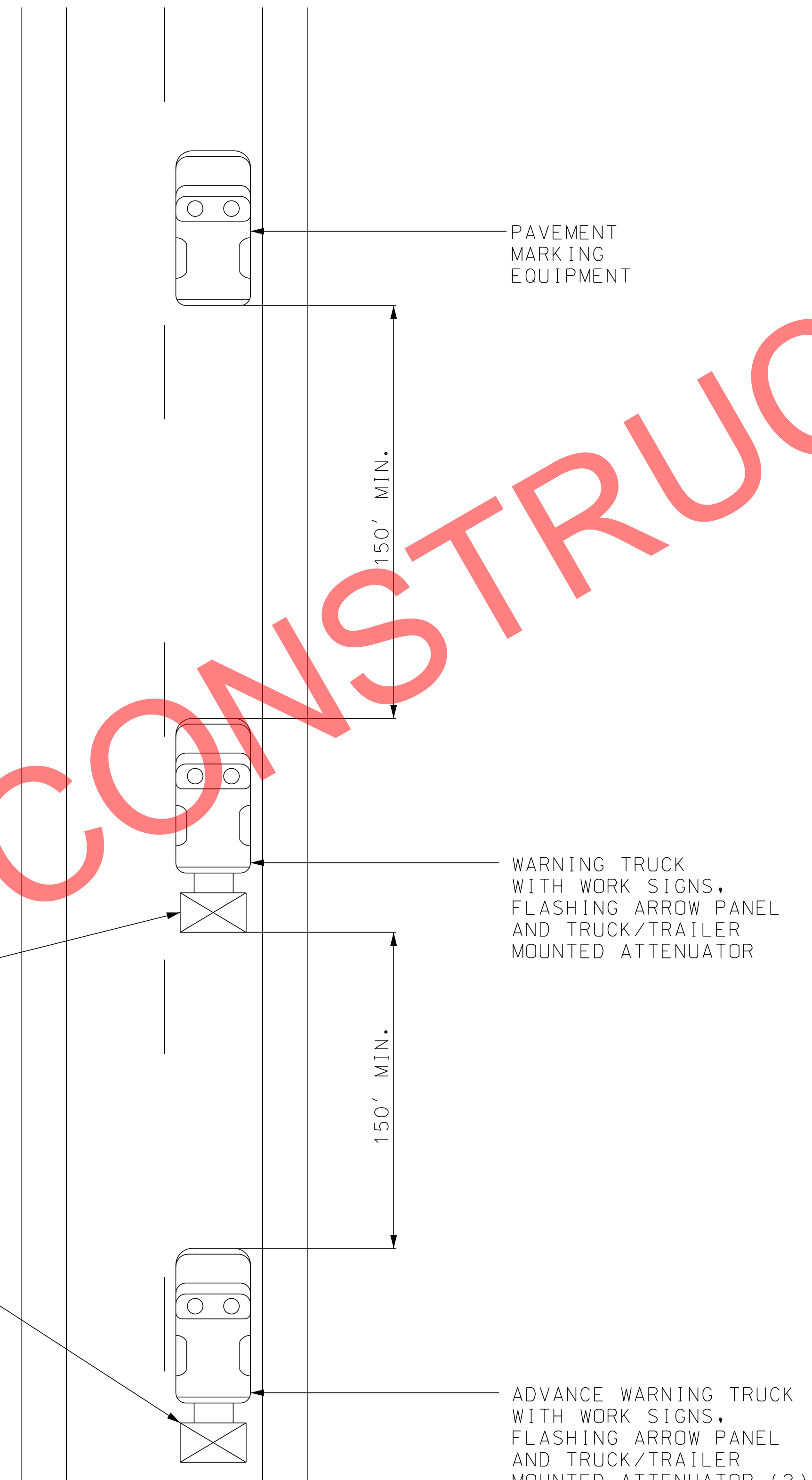
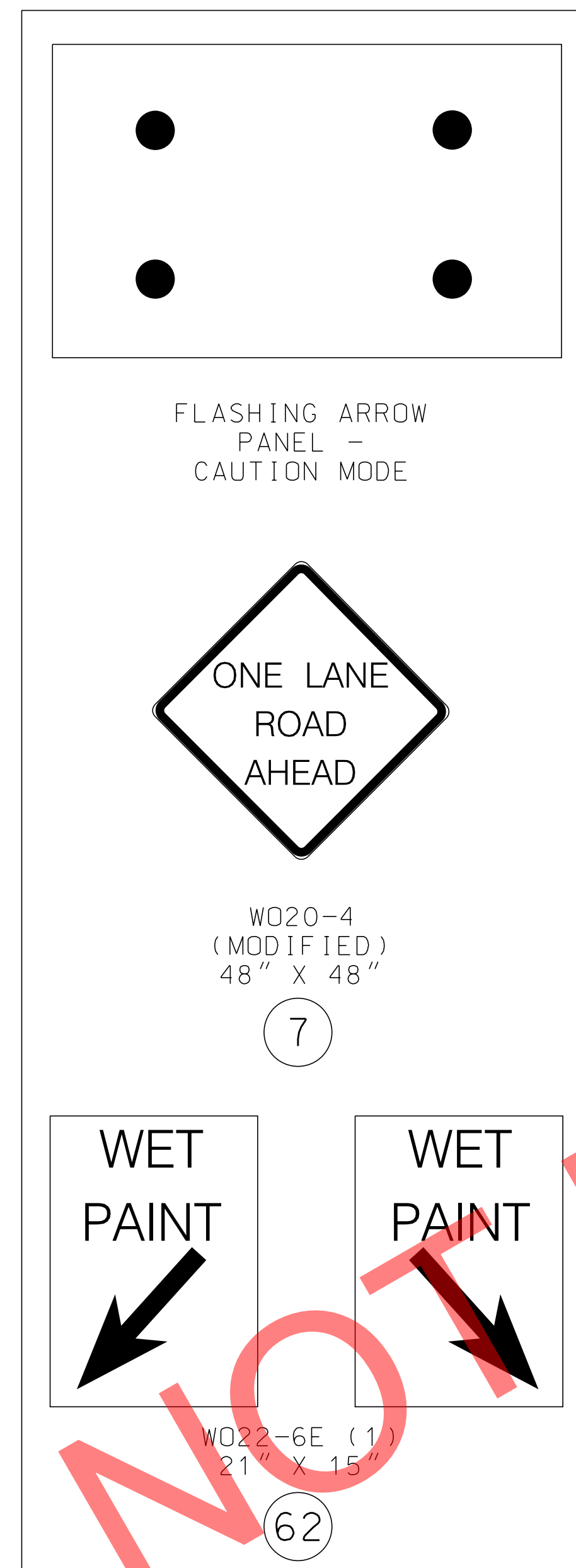


TRAFFIC CONTROL
SHEET 5 OF 7

3 PM 2/6/2022

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

REV.



NOTES:

~~ALL SIGNS HAVE FLUORESCENT ORANGE RETROREFLECTIVE.~~

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

(2) ADVANCE WARNING TRUCK IS POSITIONED AT THE NO TRACK POINT OF THE PAVEMENT MARKING MATERIAL OR SPACING SHOWN, WHICHEVER IS GREATER.

CENTERLINE/EDGE LINE STRIPING ON TWO-LANE HIGHWAYS

TRAFFIC CONTROL
SHEET 6 OF 7

"THIS MEDIA SHOULD
NOT BE CONSIDERED
A CERTIFIED
DOCUMENT."

DATE PREPARED
 7-1-80

2/6/2022

DATE	STATE
5	MO

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

W	A2.1
---	------

COUNTY
GULLIVAN

SULLIVAN
JOB NO.

JOB NO.
J1S3392

CONTRACT ID.

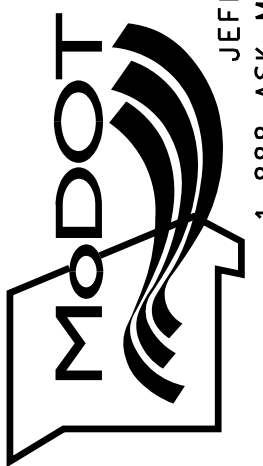
PROJECT NO.

© 2000 Blackwell Science Ltd *Journal of Internal Medicine* 247: 395–402

BRIDGE NO.

DESCRIPTION

DATE _____

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

JEKMOEN

Civil Engineering Design
5523 Barrett Parkway Dr
Baltimore, MD 21206
Phone: 410-528-2443

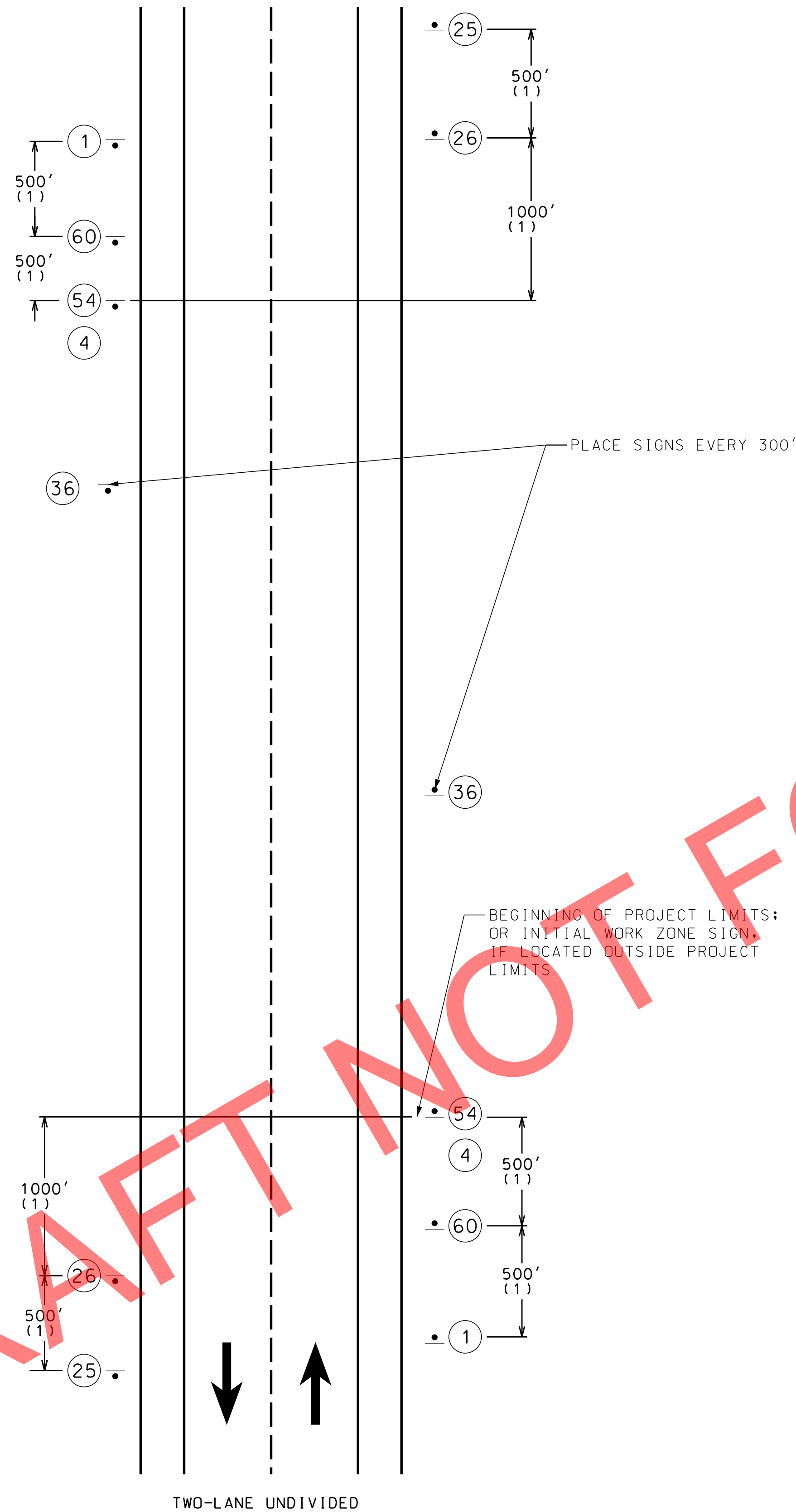
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199

Missouri Certificate of Authority: 001578

REV.

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

BEGIN/END OF PROJECT SIGNING



NOTES:

SIGN GO20-1 IS REQUIRED PER EPG 616.6.56.

SIGN G020-2 IS USED ON ALL PROJECTS WHERE SIGN G020-1 IS USED.

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

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

WHEN APPROPRIATE, THE BUMP SIGN SHALL BE PLACED AT EVERY SIDE STREET APPROACH.

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

(2) THE "WORK ZONE NO PHONE ZONE" SIGN IS PLACED A MINIMUM OF 500 FEET BEFORE THE ROAD WORK AHEAD SIGN

-BEGINNING OF PROJECT LIMITS;
OR INITIAL WORK ZONE SIGN,
IF LOCATED OUTSIDE PROJECT
LIMITS

TWO-LANE UNDIVIDED

NOT TO SCALE

TRAFFIC CONTROL
SHEET 7 OF 7

"THIS MEDIA SHOULD
NOT BE CONSIDERED
A CERTIFIED
DOCUMENT."

DATE PREPARED
8-6-79

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

5	MO
DISTRICT NW	SHEET NO. A2.18

COUNTY

SULLIVAN

J1S3392


CONTRACT ID.

PROJECT NO.

BRIDGE NO.

[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

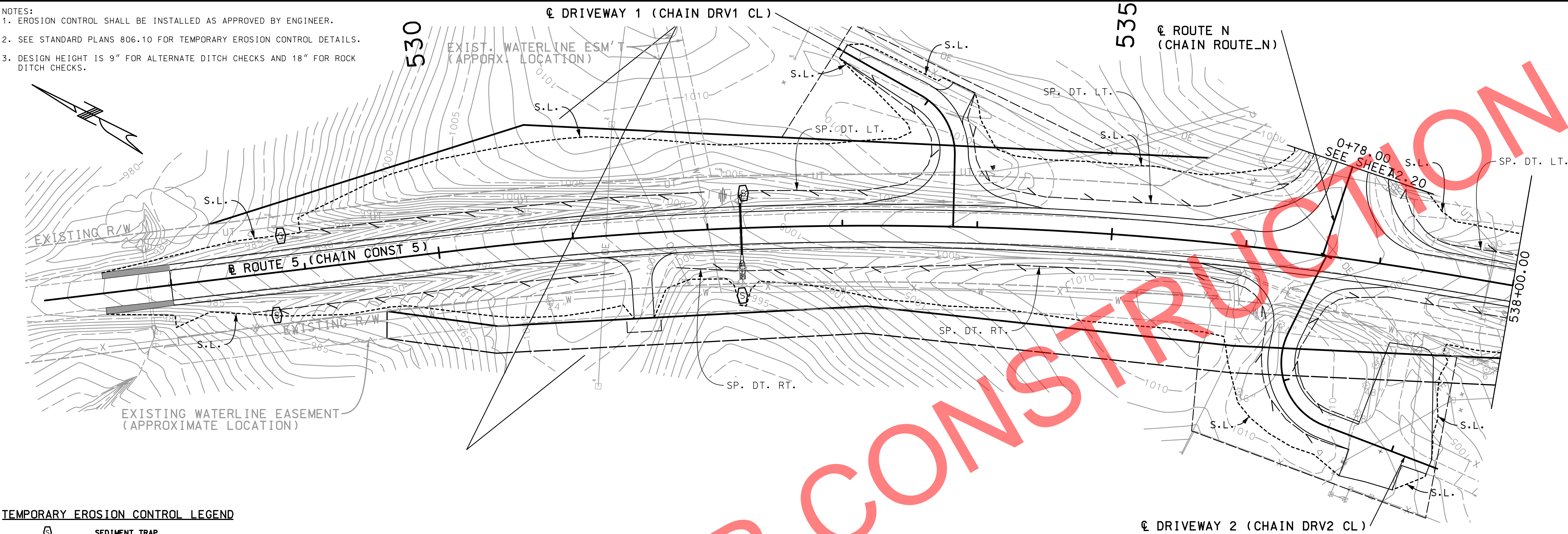


105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EKF♦Moen
Civil Engineering Design
3523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

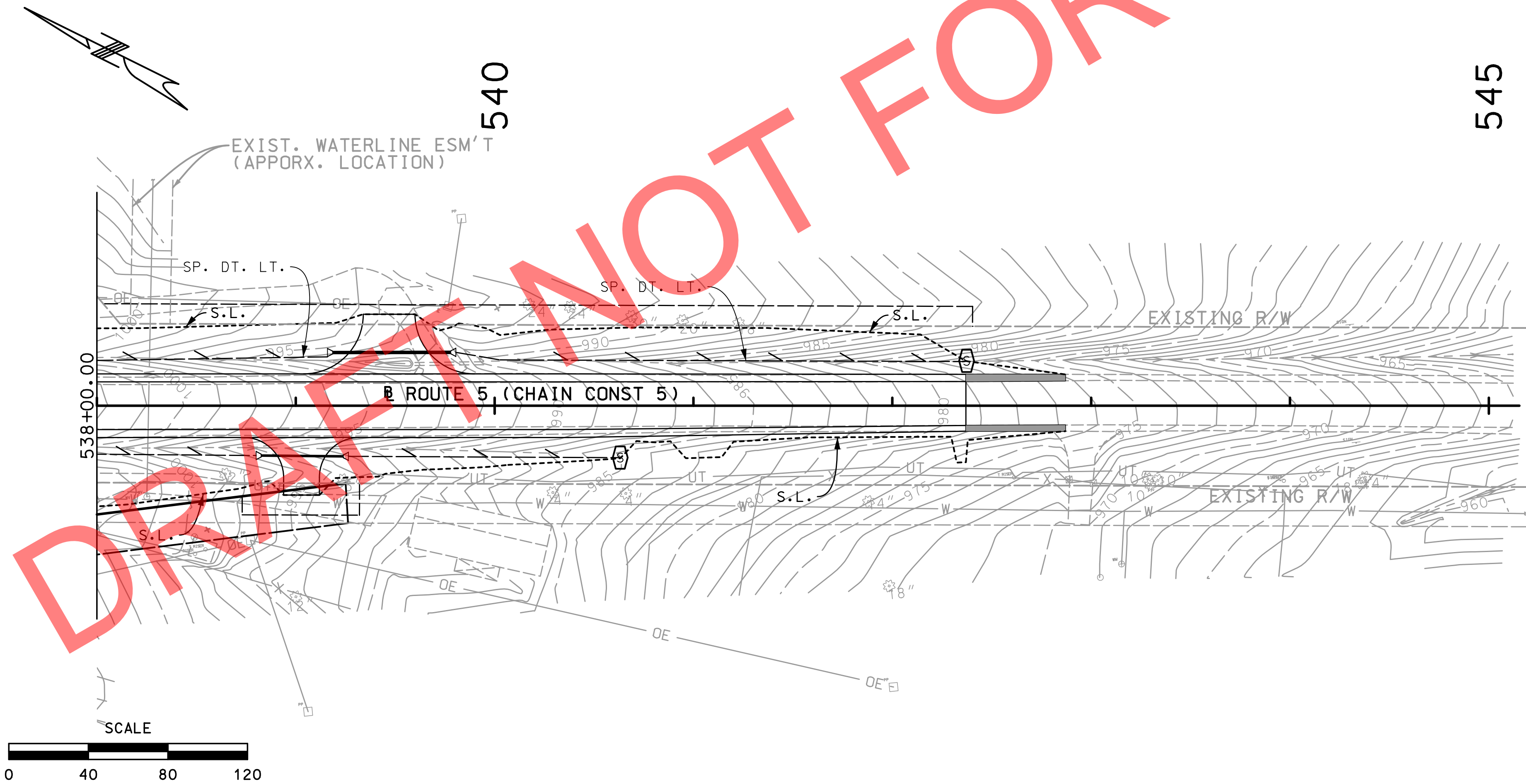
REV. IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

- NOTES:
1. EROSION CONTROL SHALL BE INSTALLED AS APPROVED BY ENGINEER.
 2. SEE STANDARD PLANS 806.10 FOR TEMPORARY EROSION CONTROL DETAILS.
 3. DESIGN HEIGHT IS 9" FOR ALTERNATE DITCH CHECKS AND 18" FOR ROCK DITCH CHECKS.

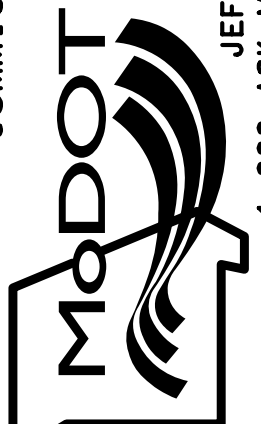



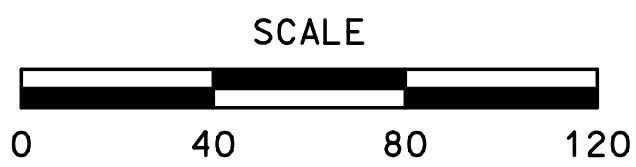
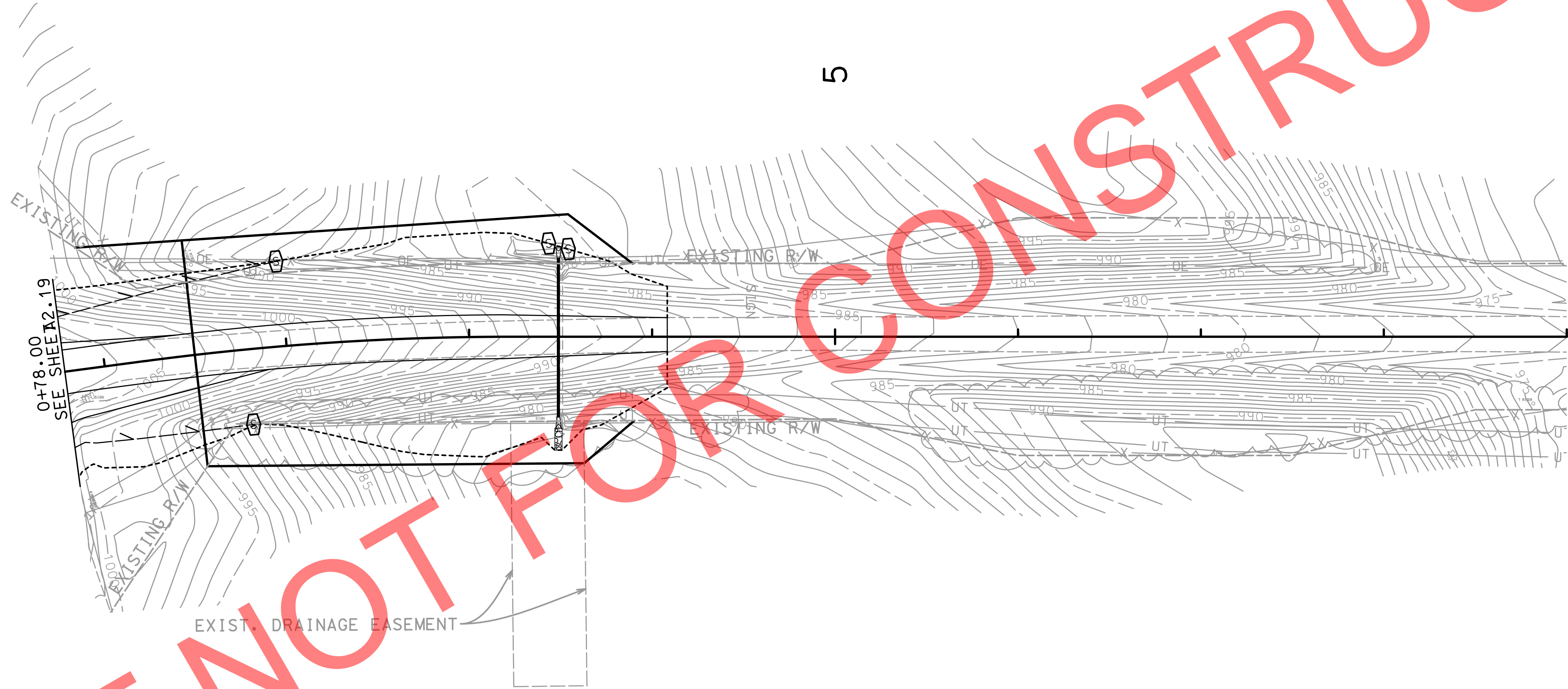
TEMPORARY EROSION CONTROL LEGEND

SEDIMENT TRAP



EROSION CONTROL
INITIAL PHASE
SHEET 1 OF 6

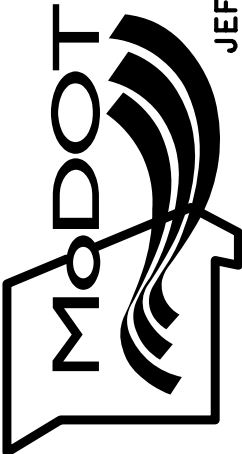
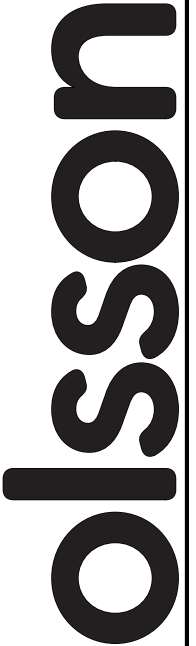
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.19
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



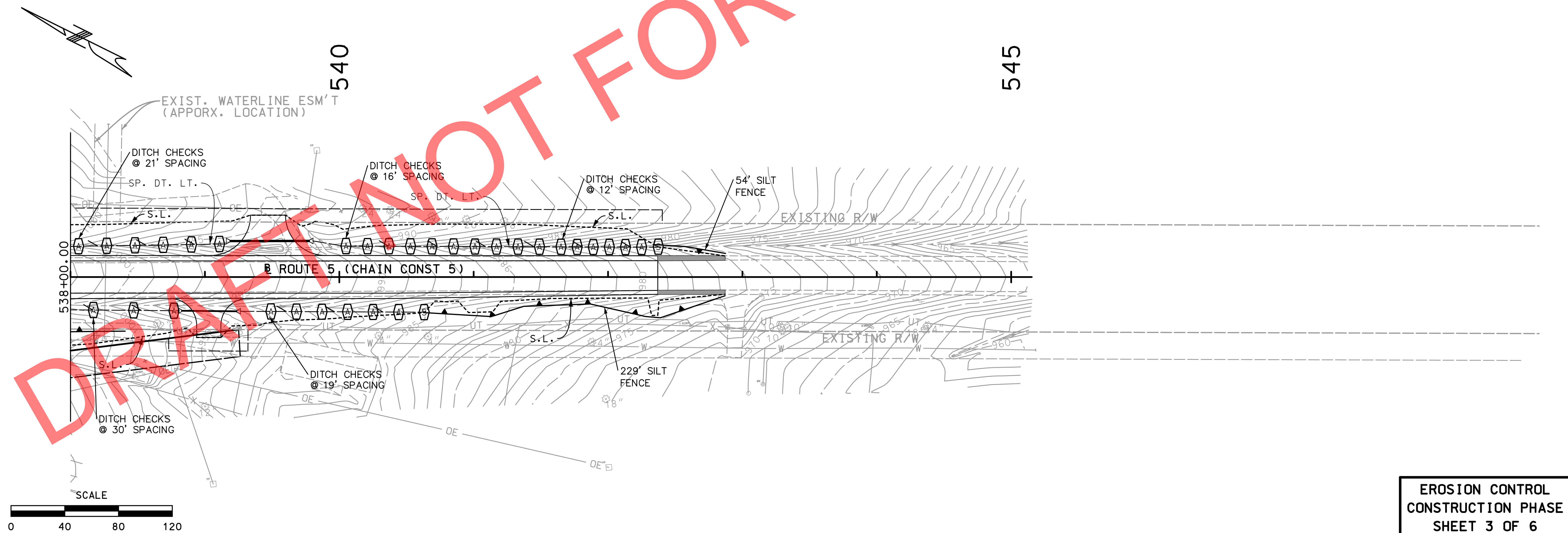
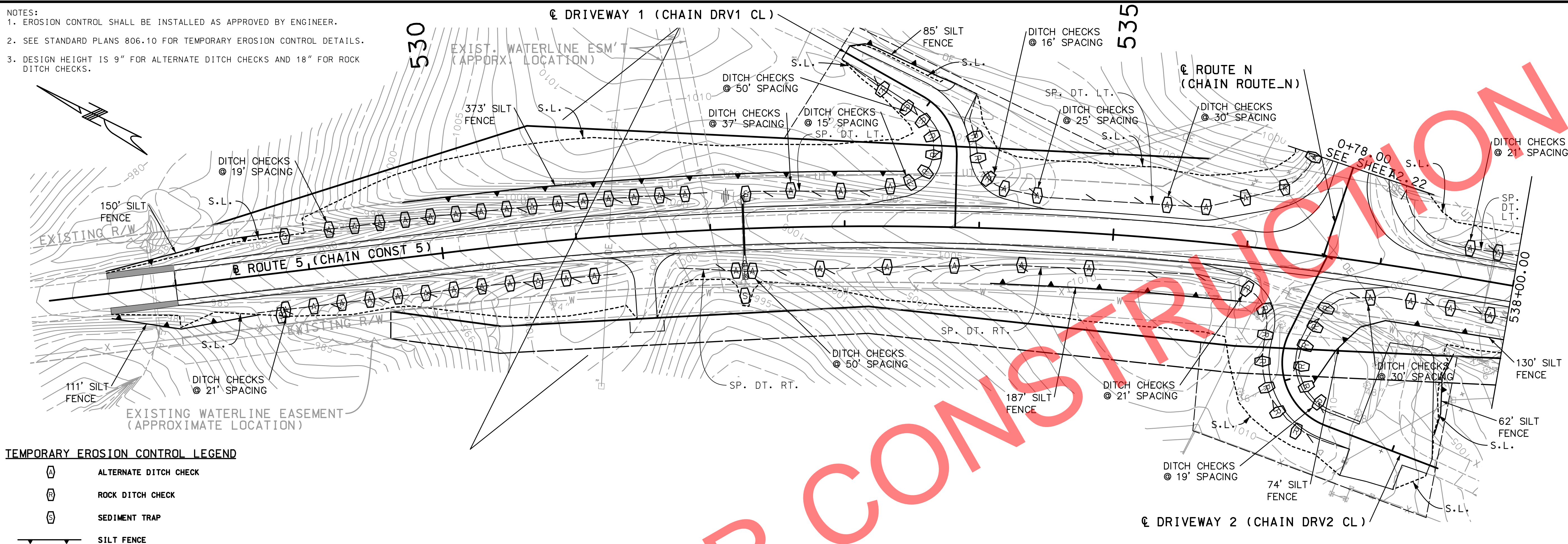
TEMPORARY EROSION CONTROL LEGEND

⑤ SEDIMENT TRAP

EROSION CONTROL
INITIAL PHASE
SHEET 2 OF 6

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.20
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DATE	DESCRIPTION
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

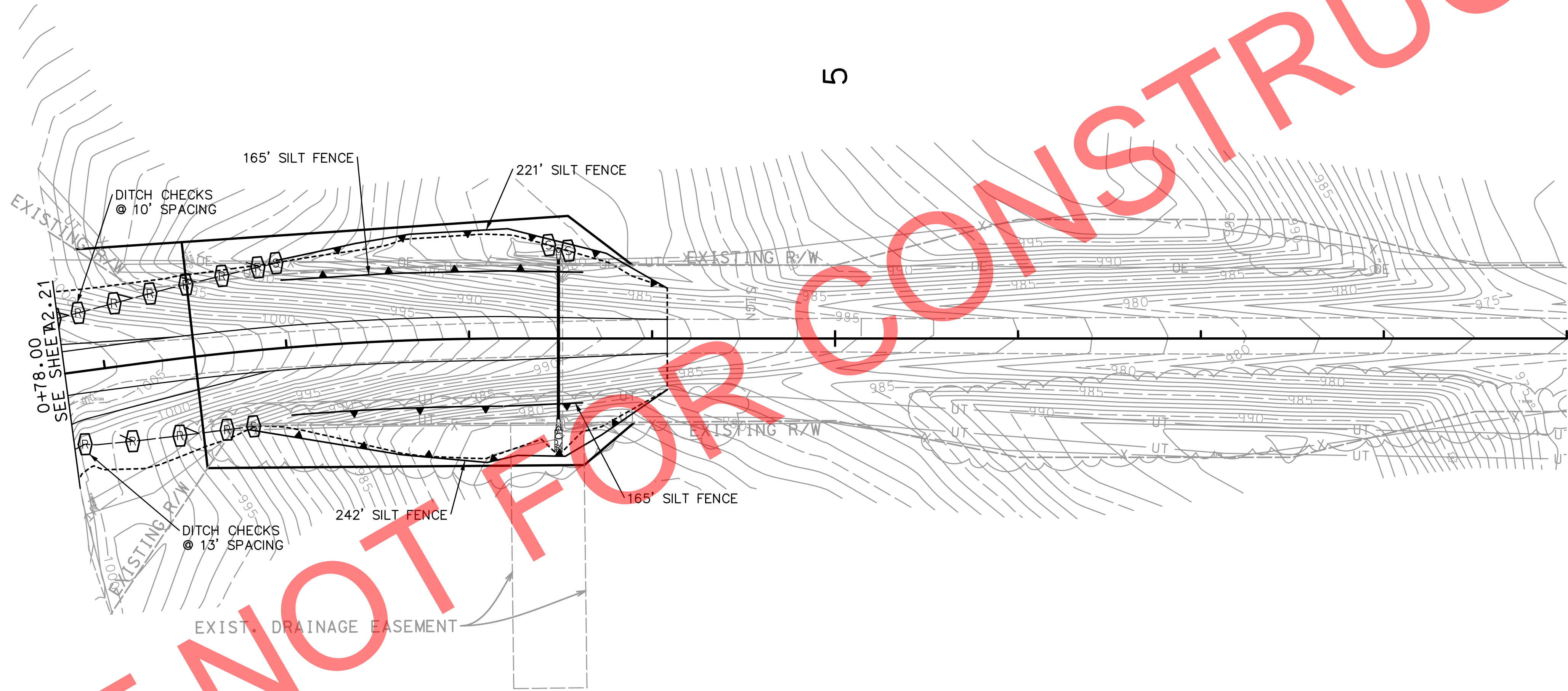
- NOTES:
1. EROSION CONTROL SHALL BE INSTALLED AS APPROVED BY ENGINEER.
 2. SEE STANDARD PLANS 806.10 FOR TEMPORARY EROSION CONTROL DETAILS.
 3. DESIGN HEIGHT IS 9" FOR ALTERNATE DITCH CHECKS AND 18" FOR ROCK DITCH CHECKS.






DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.21
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
EROSION CONTROL CONSTRUCTION PHASE SHEET 3 OF 6	

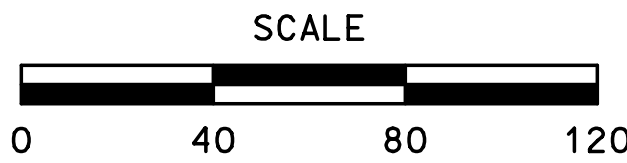


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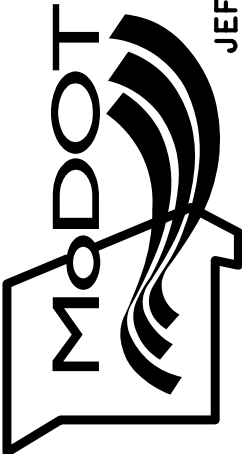
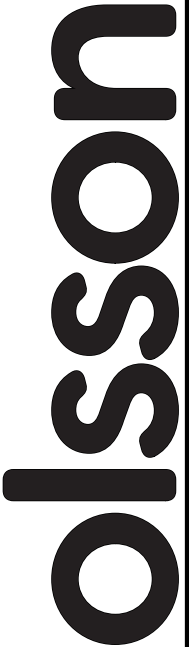


TEMPORARY EROSION CONTROL LEGEND

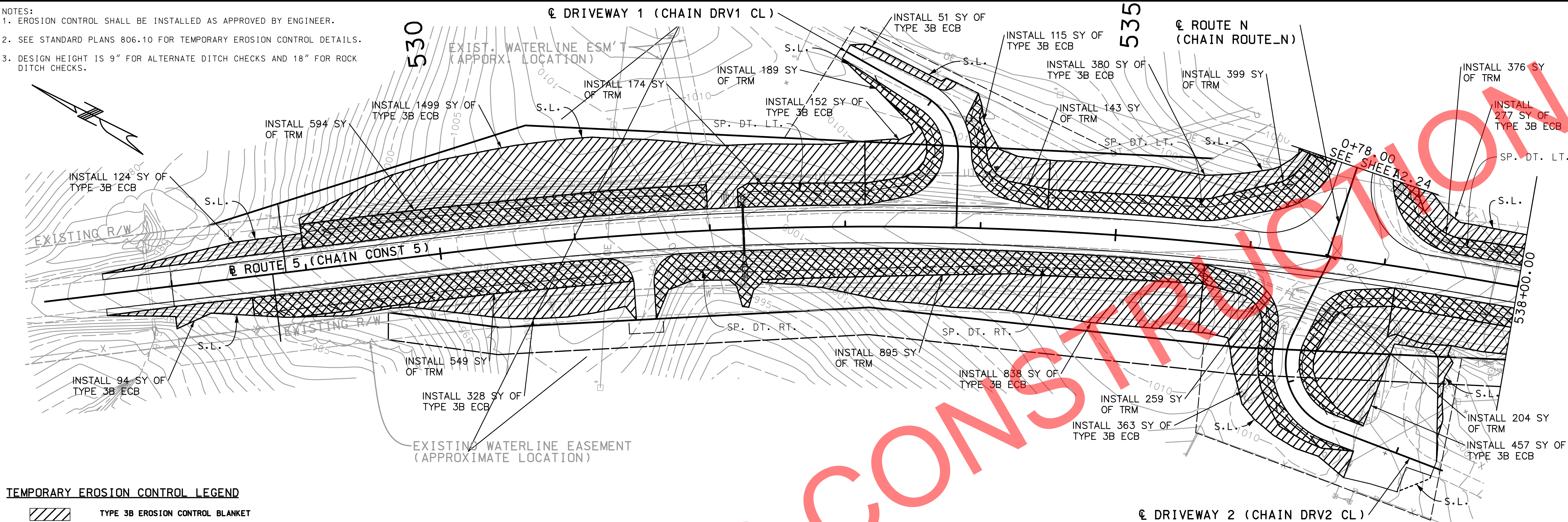
-  ROCK DITCH CHECK
-  SEDIMENT TRAP
-  SILT FENCE



EROSION CONTROL
CONSTRUCTION PHASE
SHEET 4 OF 6

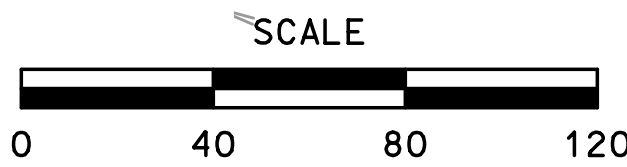
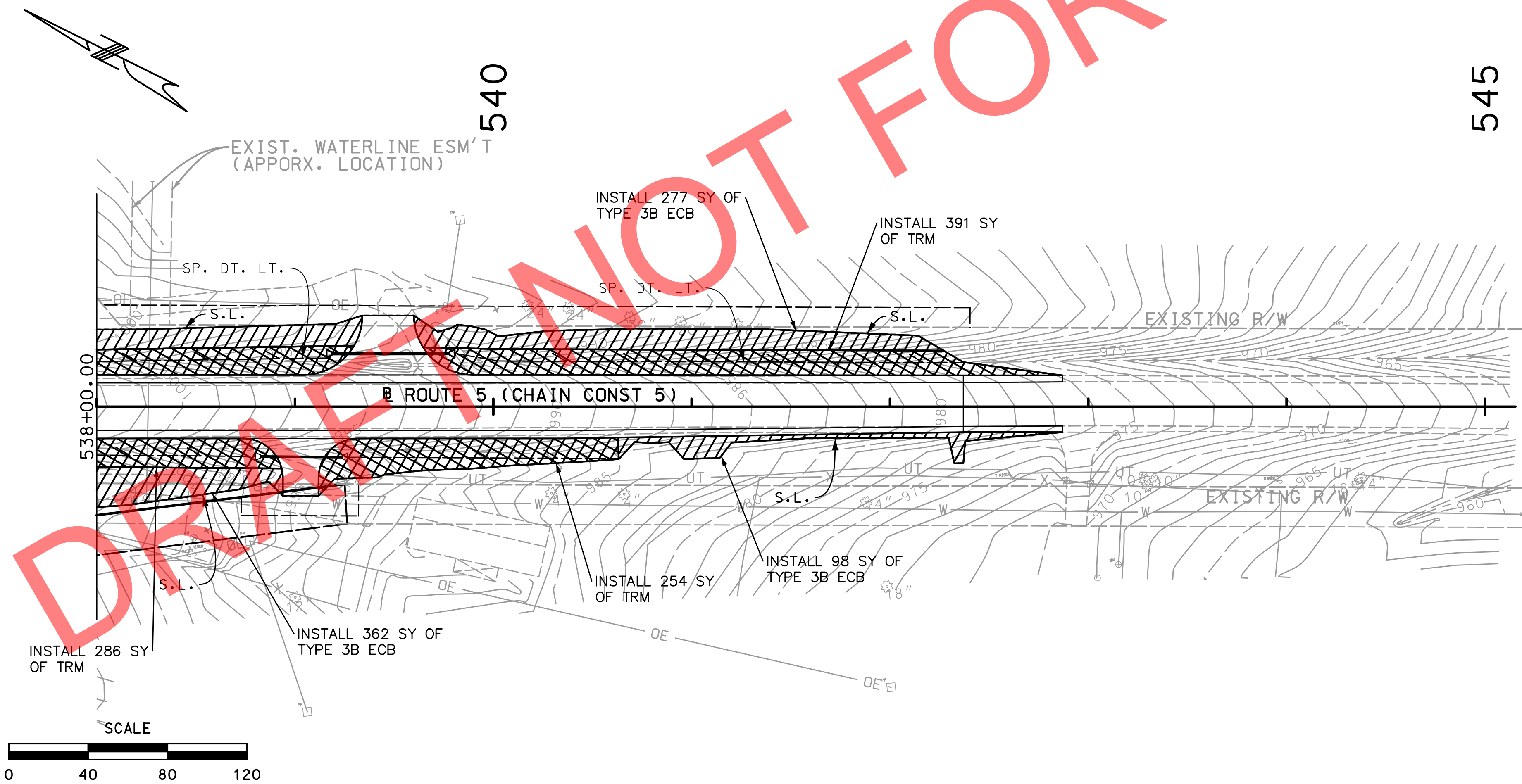
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.22
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

- NOTES:
1. EROSION CONTROL SHALL BE INSTALLED AS APPROVED BY ENGINEER.
 2. SEE STANDARD PLANS 806.10 FOR TEMPORARY EROSION CONTROL DETAILS.
 3. DESIGN HEIGHT IS 9" FOR ALTERNATE DITCH CHECKS AND 18" FOR ROCK DITCH CHECKS.



TEMPORARY EROSION CONTROL LEGEND

- TYPE 3B EROSION CONTROL BLANKET
- TURF REINFORCEMENT MAT

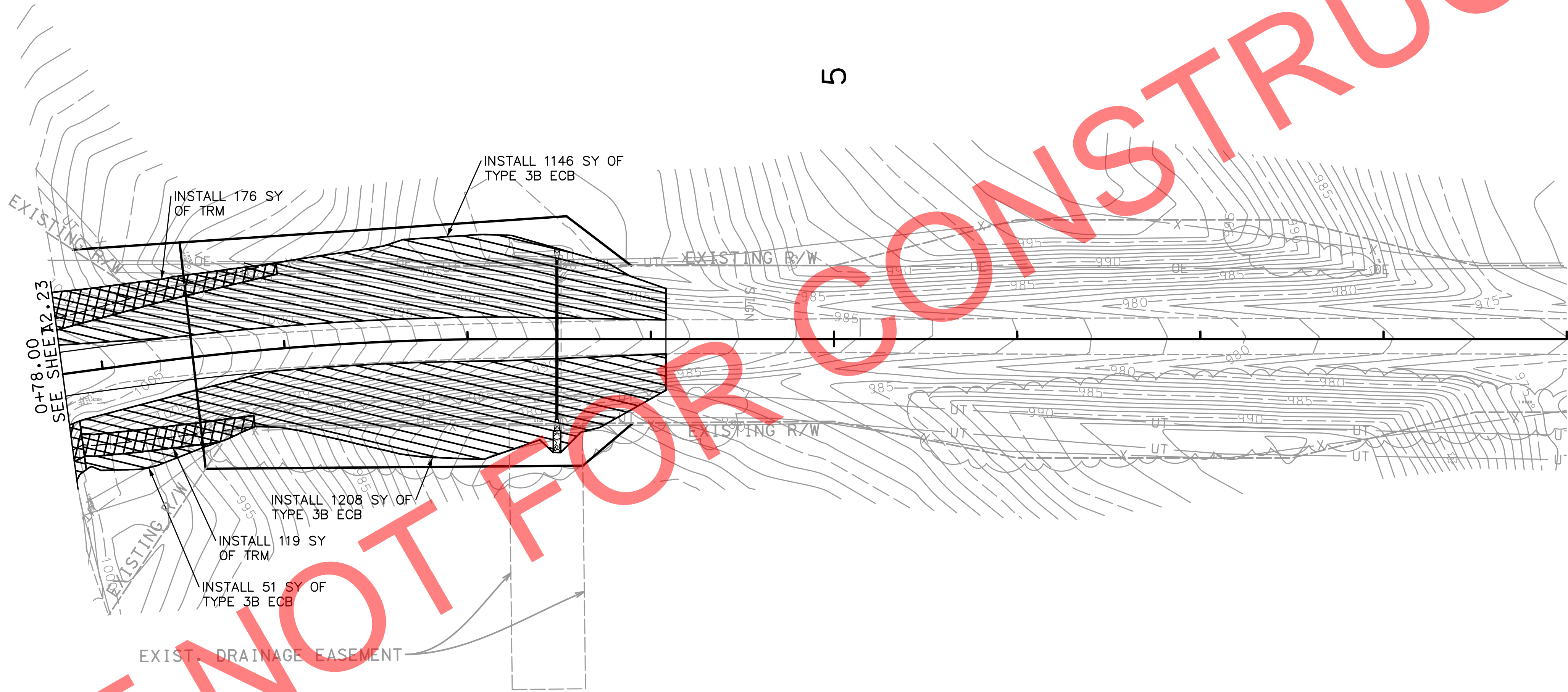


EROSION CONTROL
FINAL PHASE
SHEET 5 OF 6



DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.23
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



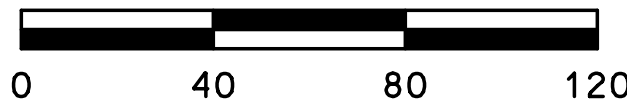
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TEMPORARY EROSION CONTROL LEGEND

-  TYPE 3B EROSION CONTROL BLANKET
-  TURF REINFORCEMENT MAT

SCALE

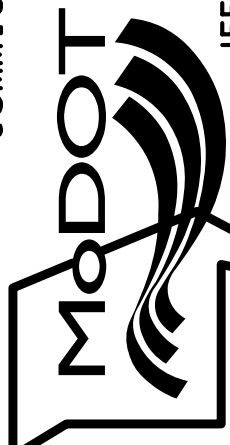


EROSION CONTROL
FINAL PHASE
SHEET 6 OF 6

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.24
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

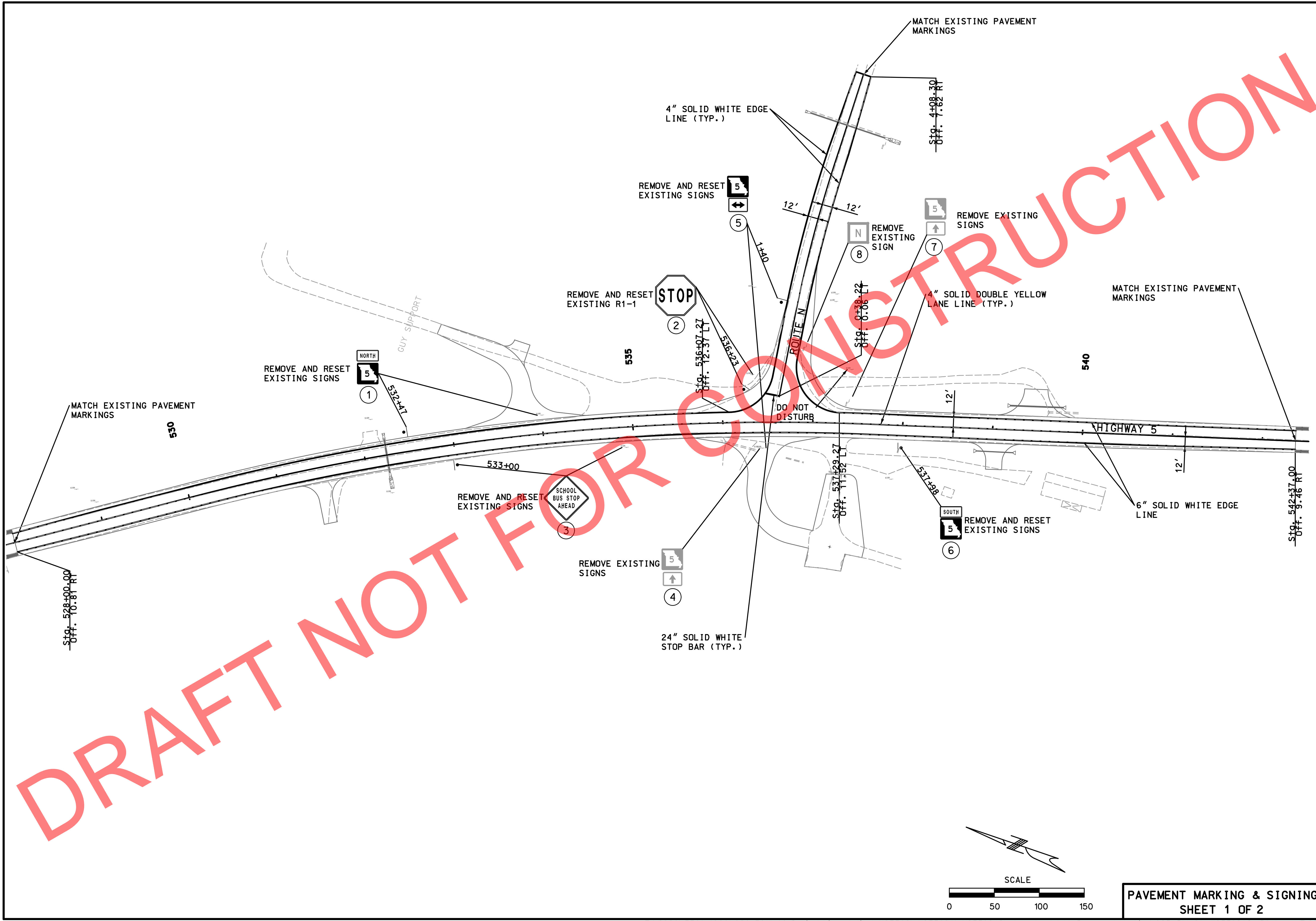
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



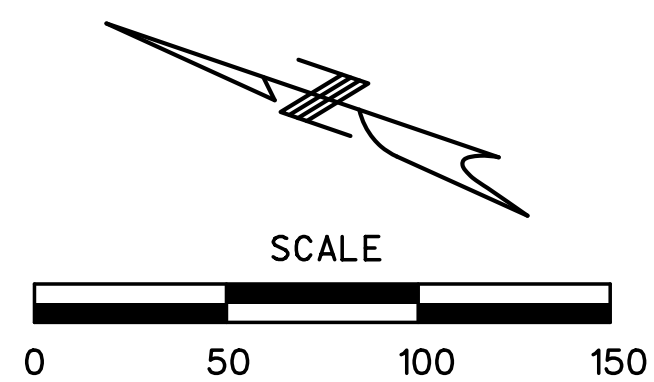
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

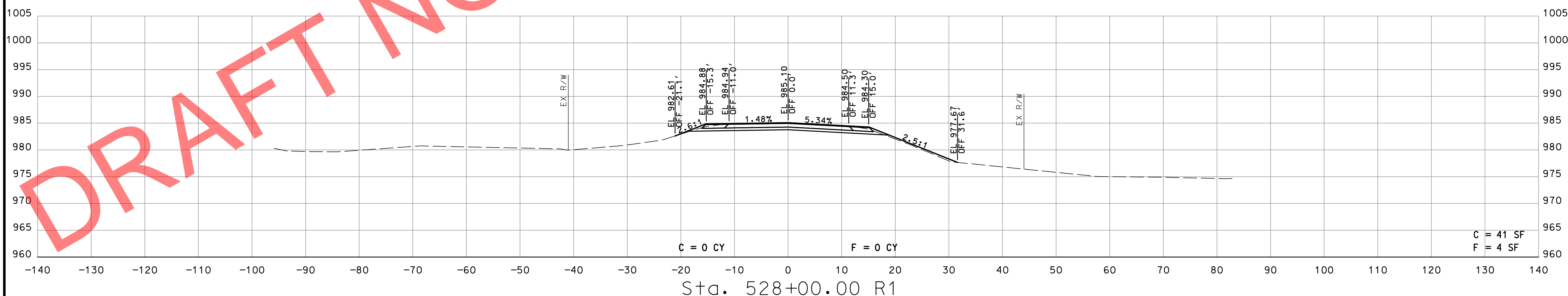
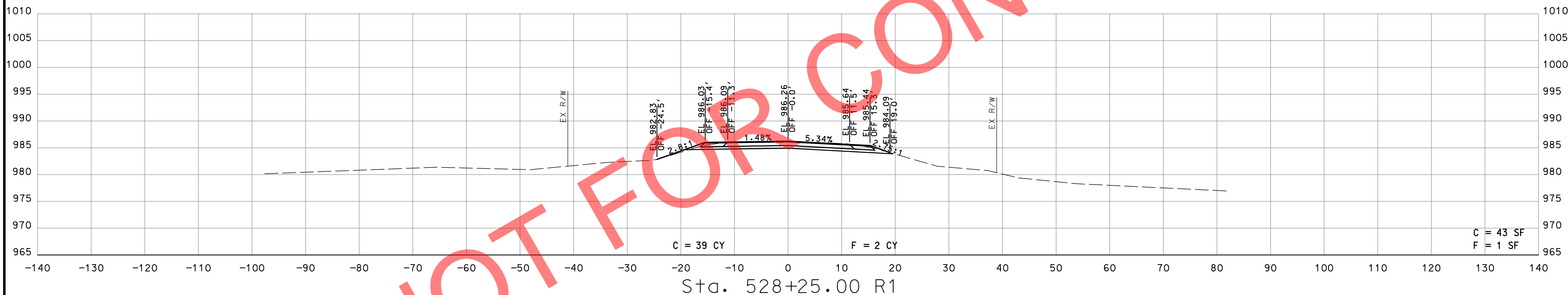
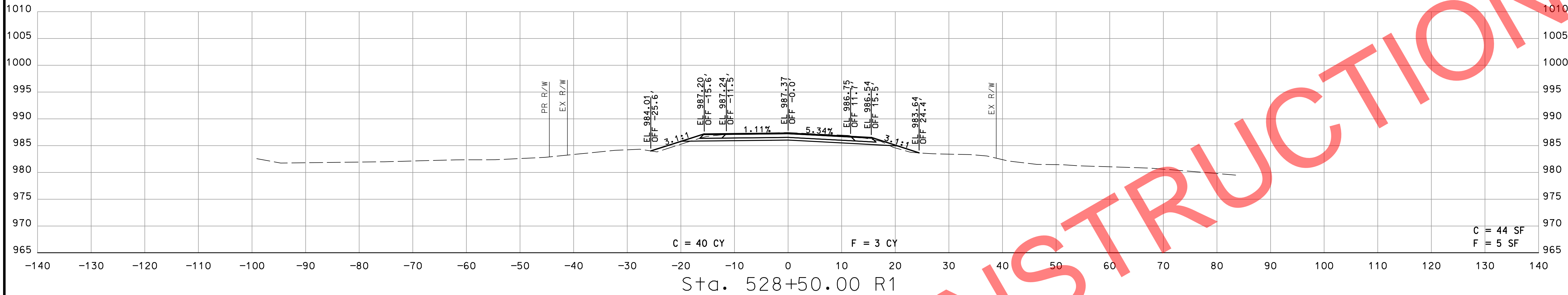


DRAFT NOT FOR CONSTRUCTION



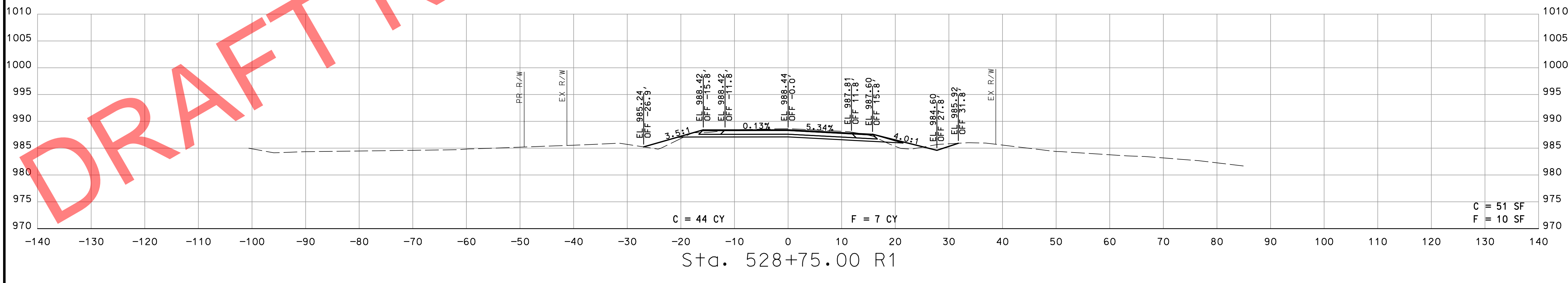
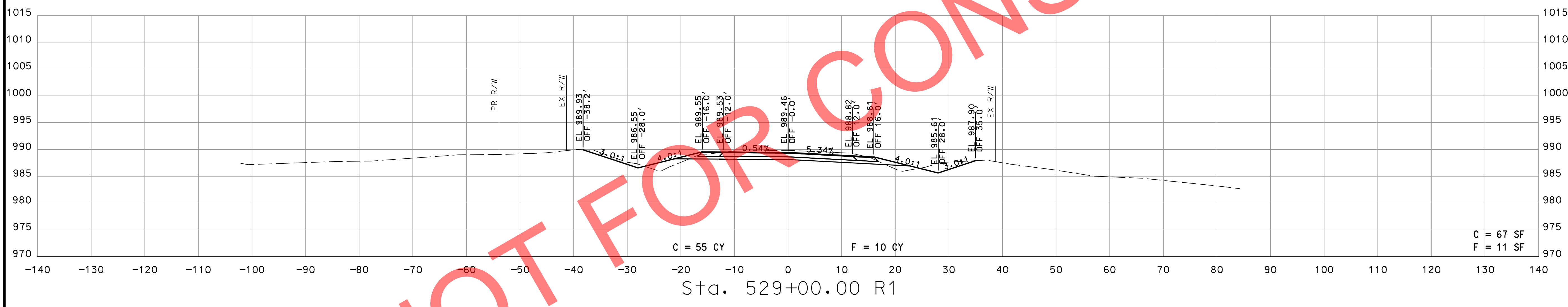
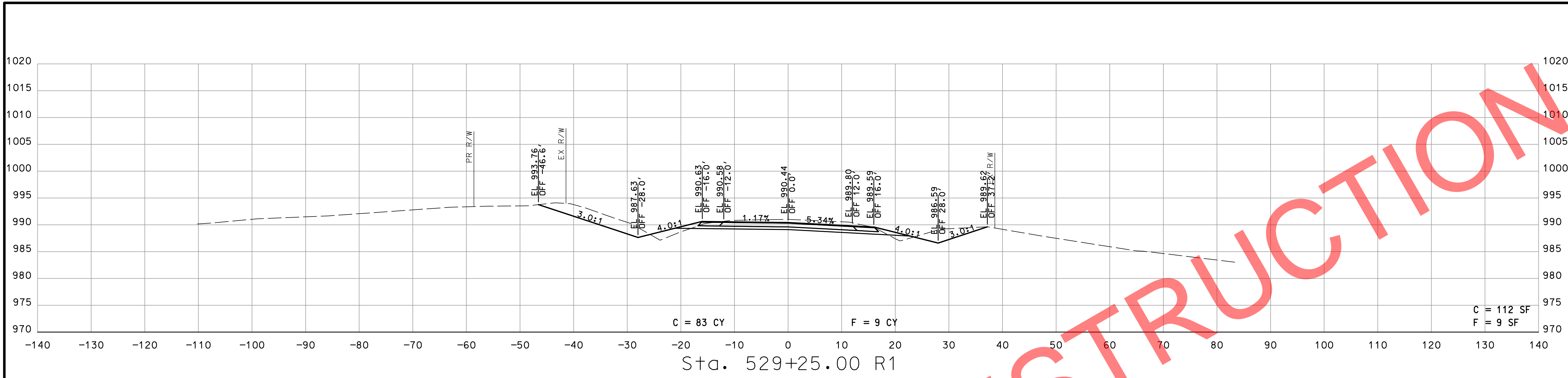
PAVEMENT MARKING & SIGNING
SHEET 1 OF 2

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.25
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DATE	DESCRIPTION
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
olsson 1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	REV.



ROUTE 5
STA. 528+00.00 R1 TO STA. 528+50.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.1
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MoDOT	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



STA. 528+75.00 R1 TO STA. 529+50.00 R1

DATE PREPARED
2/7/2022

ROUTE
5

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

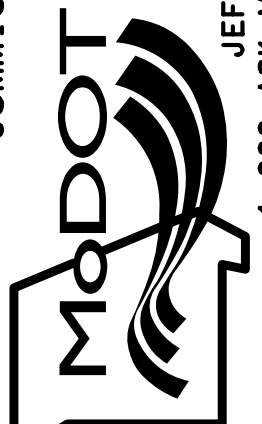
STATE
MO


SHEET NO.
A2.2

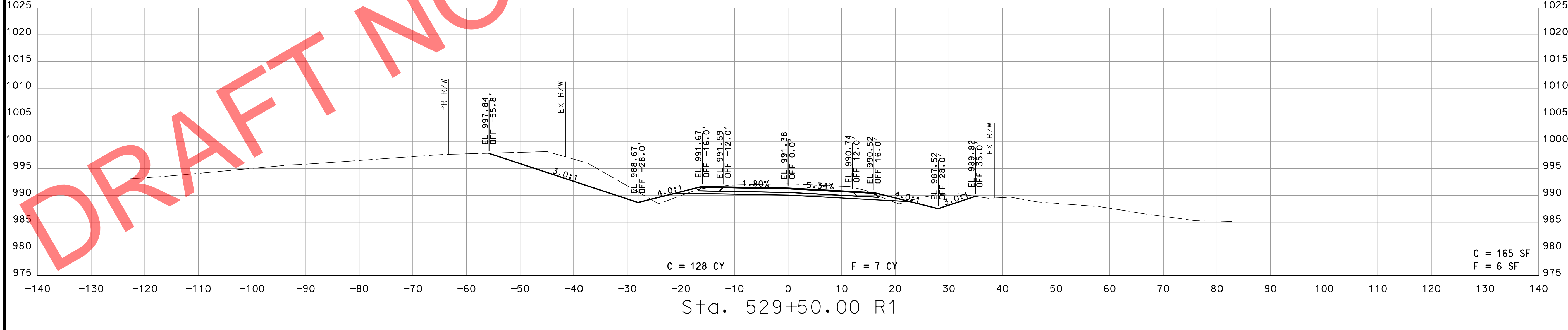
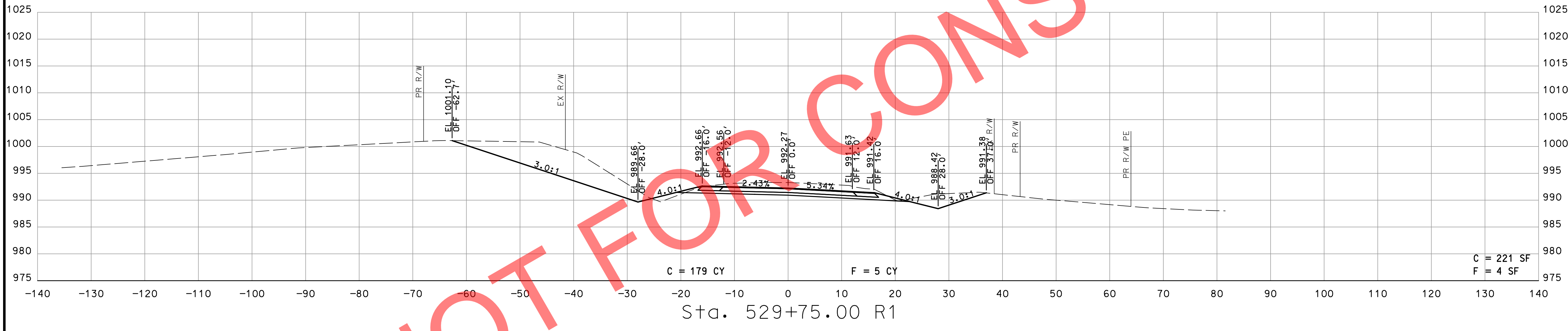
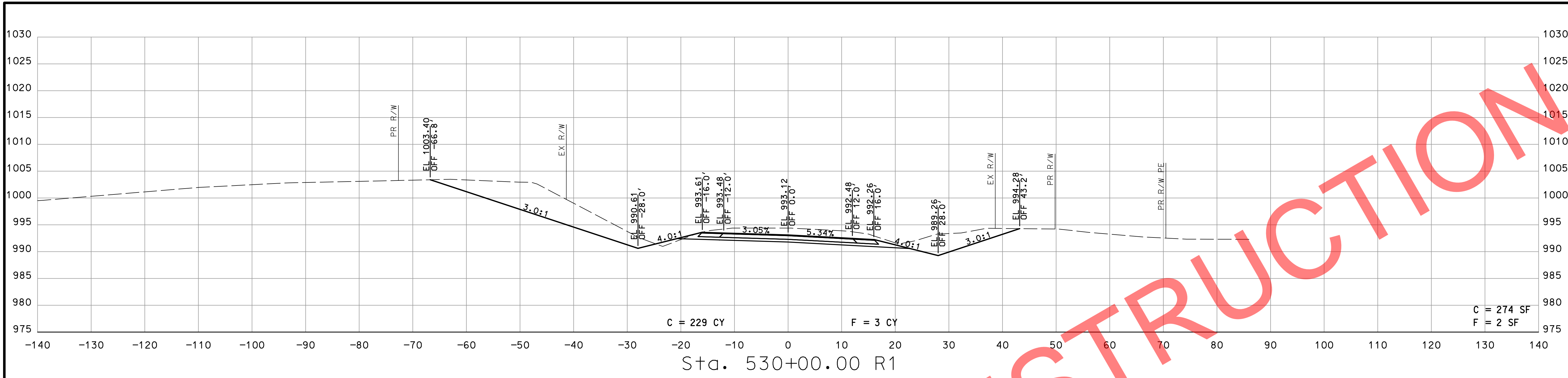
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

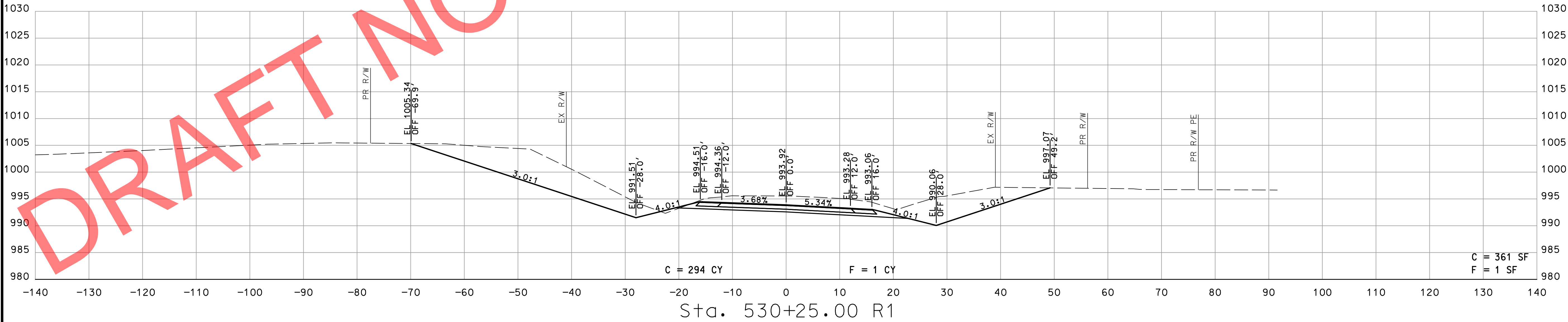
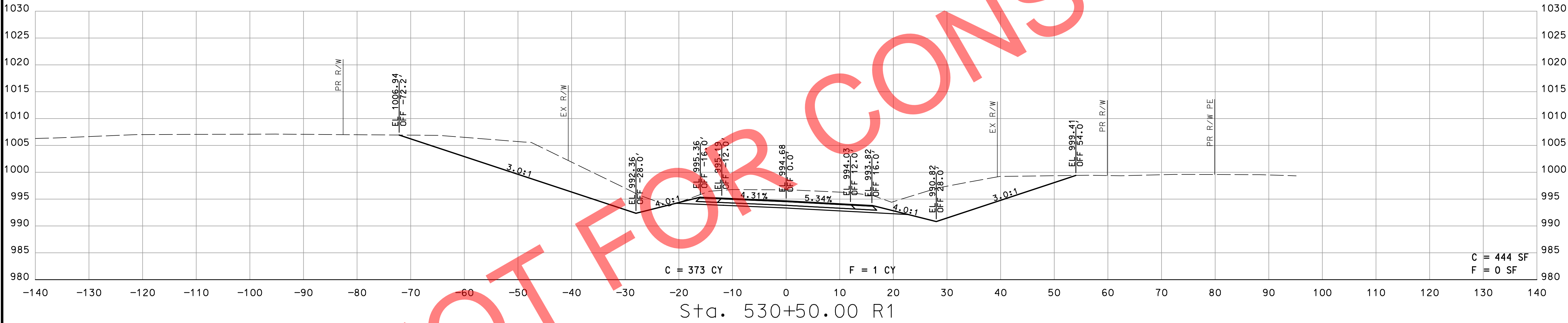
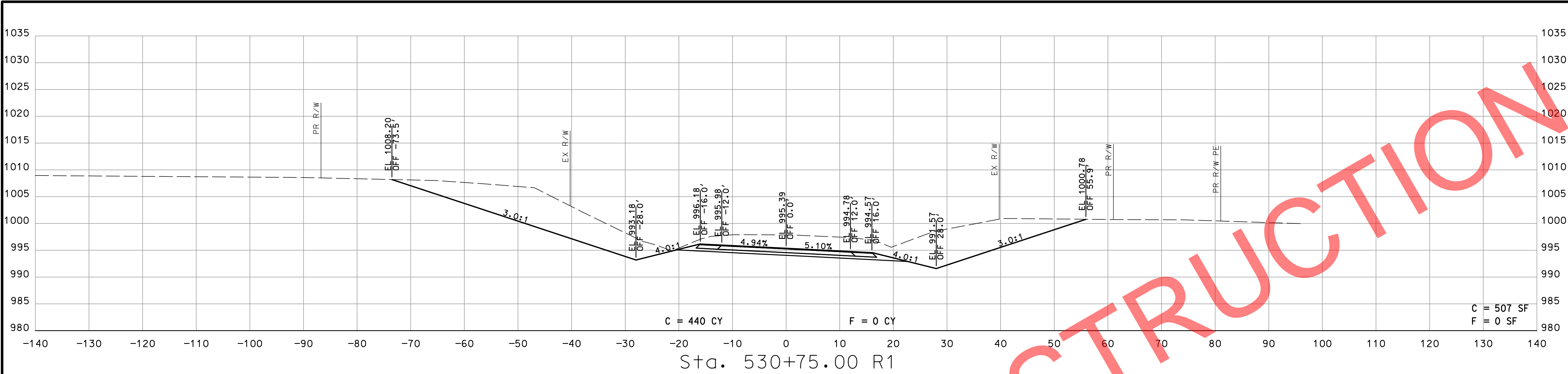

105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)


1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

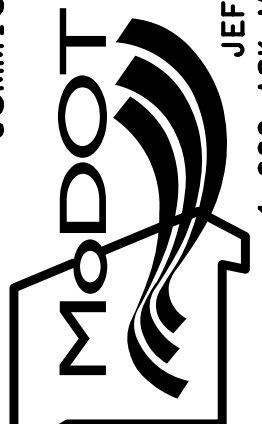



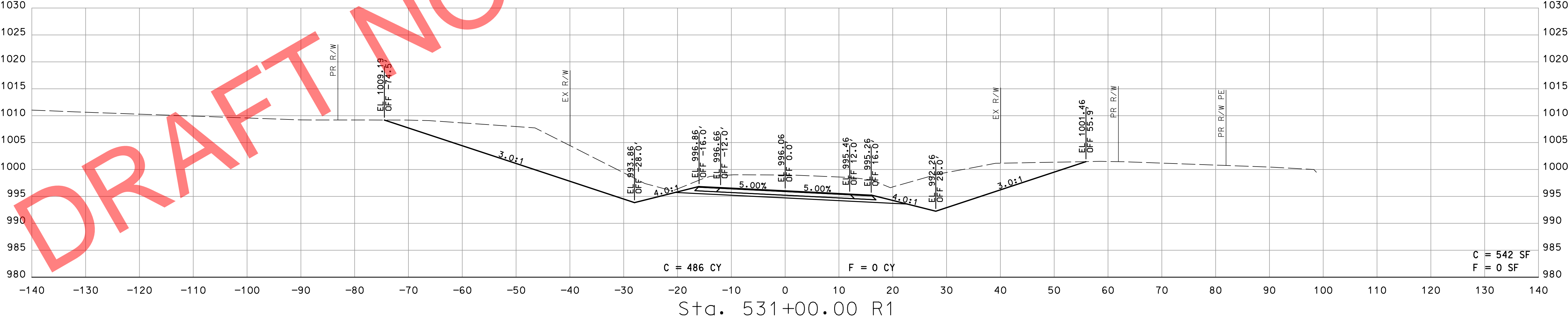
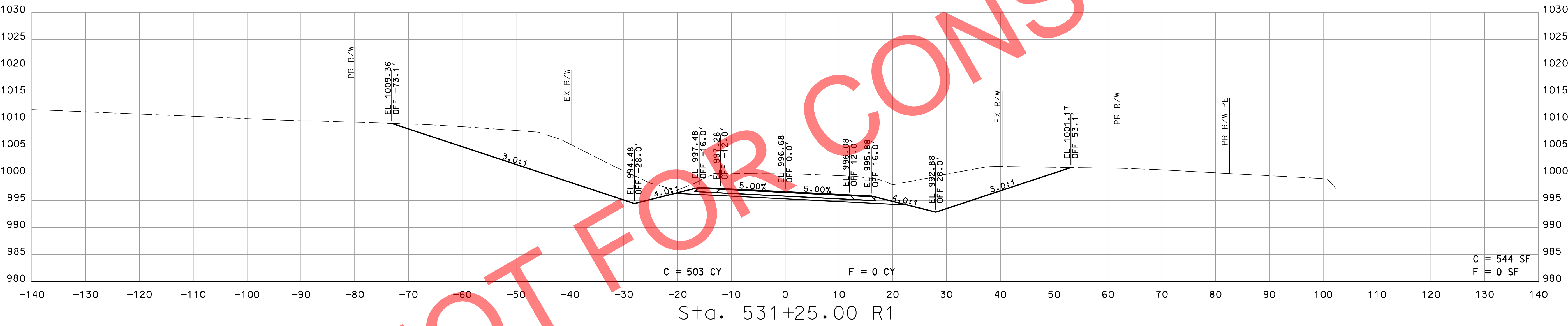
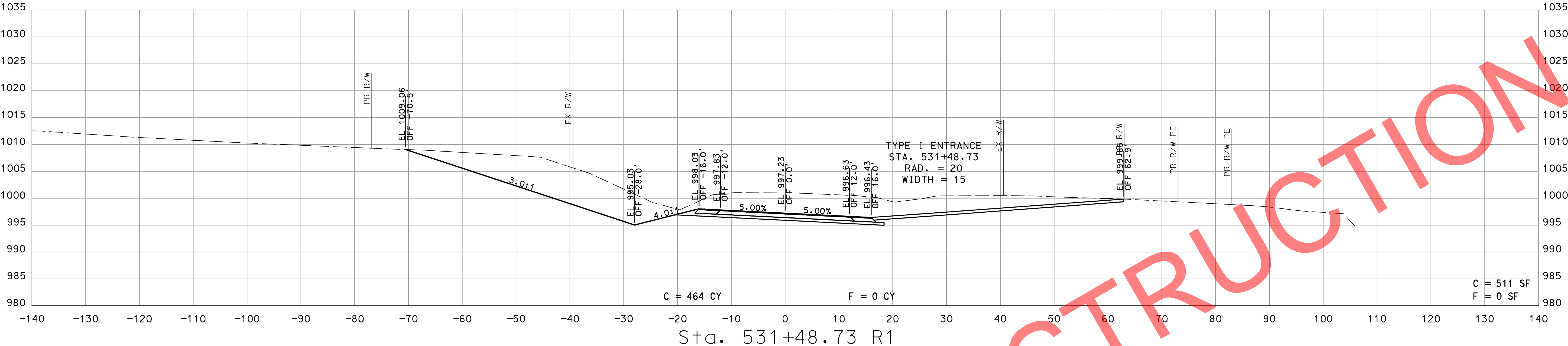
ROUTE 5
STA. 529+75.00 R1 TO STA. 530+25.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.3
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MoDOT	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

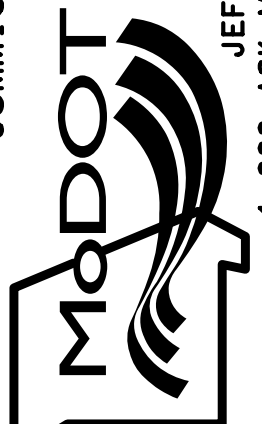



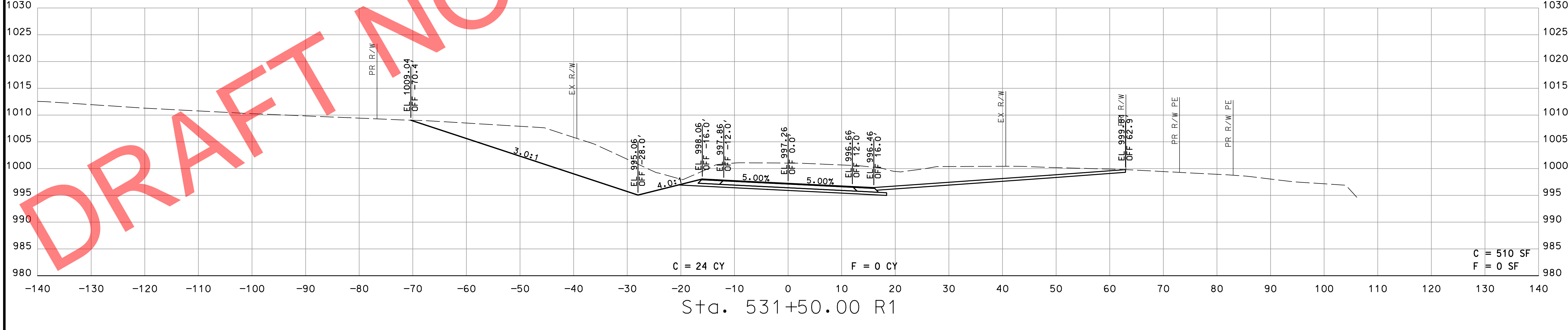
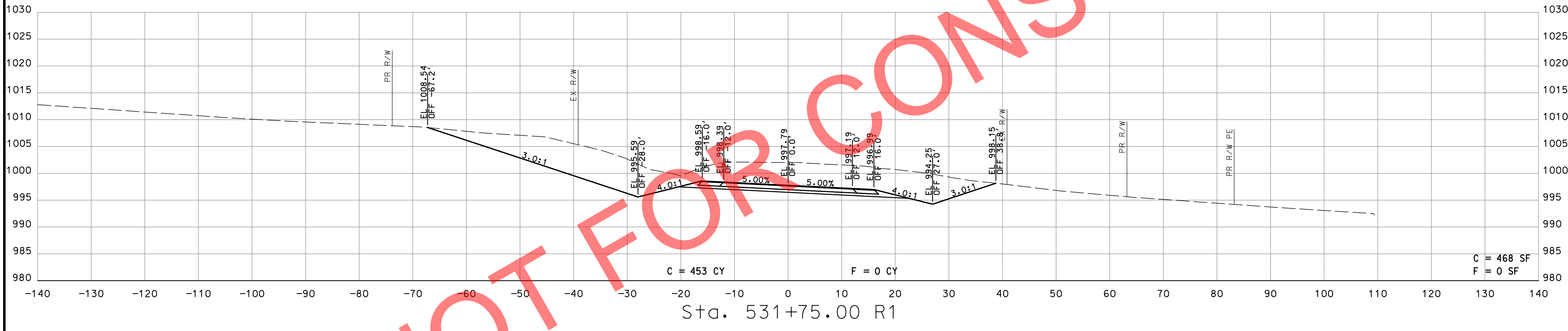
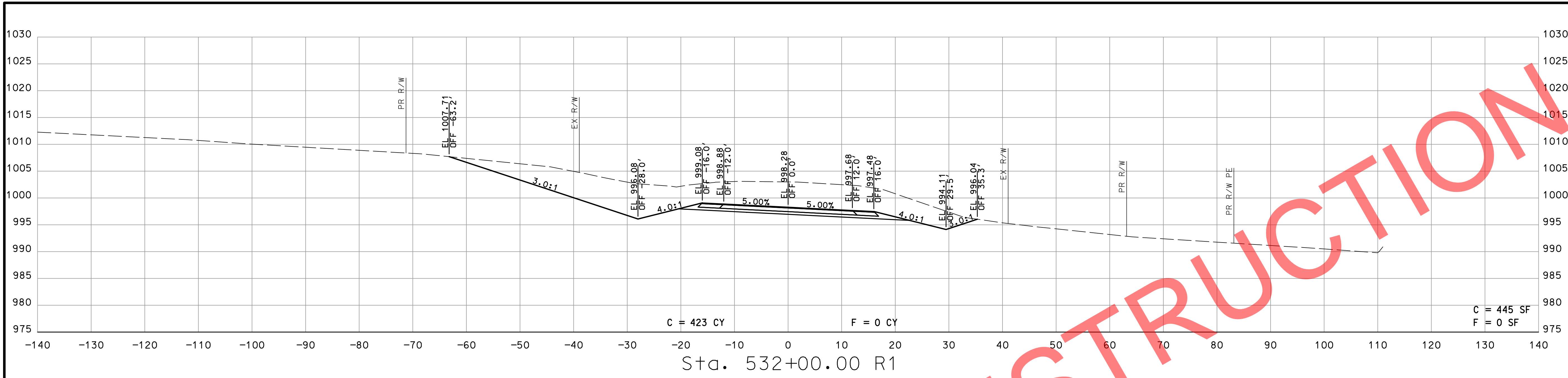
ROUTE 5
STA. 530+50.00 R1 TO STA. 531+00.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.4
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

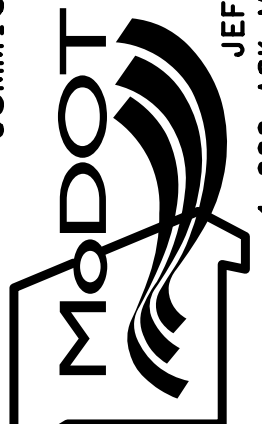



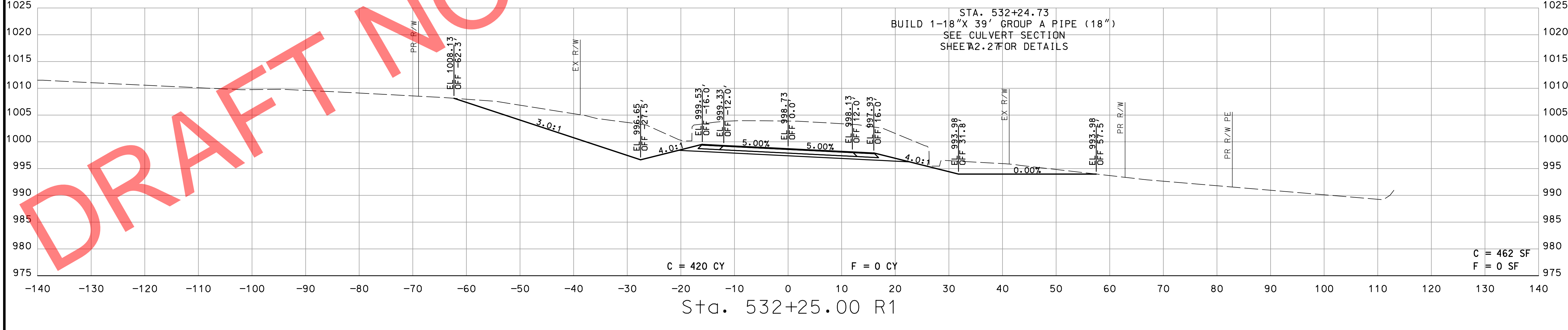
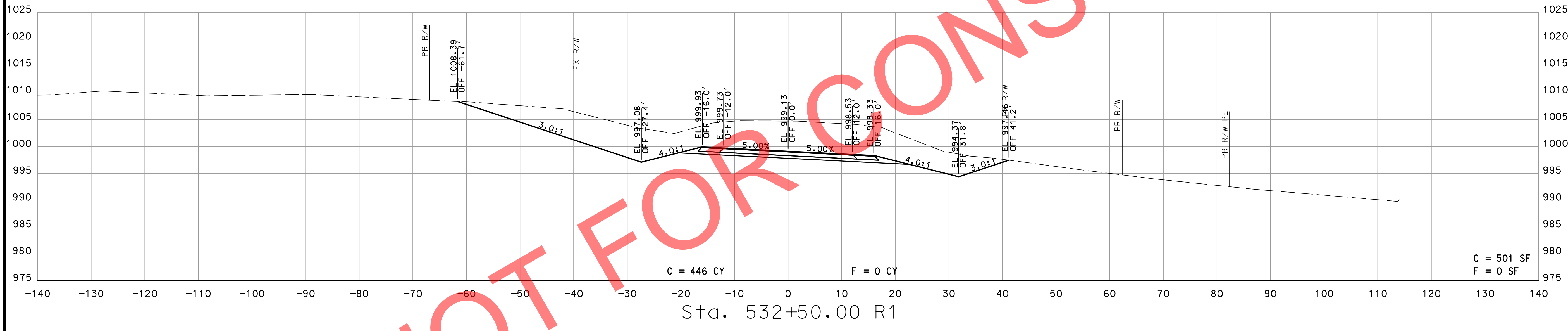
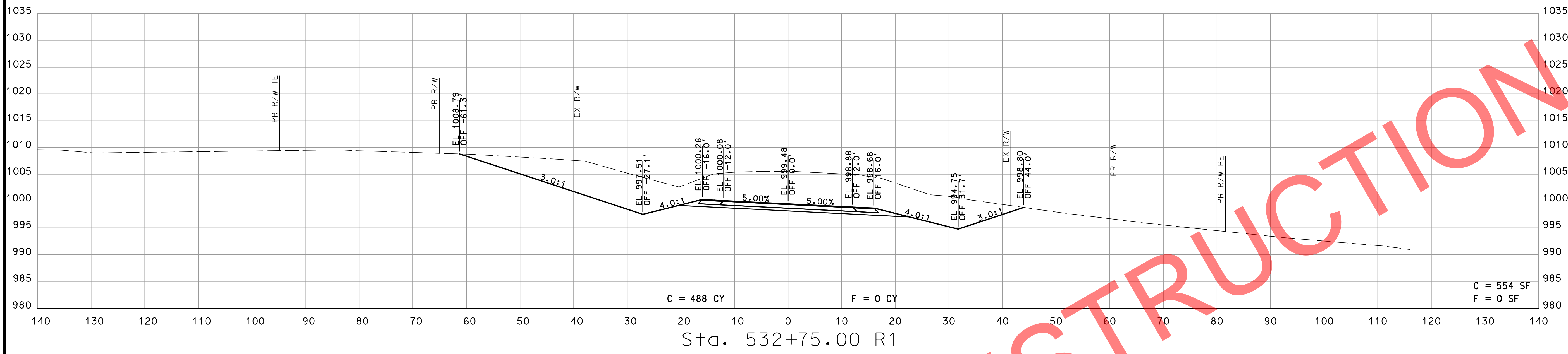
ROUTE 5
STA. 531+25.00 R1 TO STA. 531+50.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.5
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

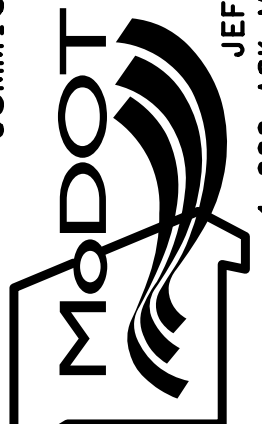


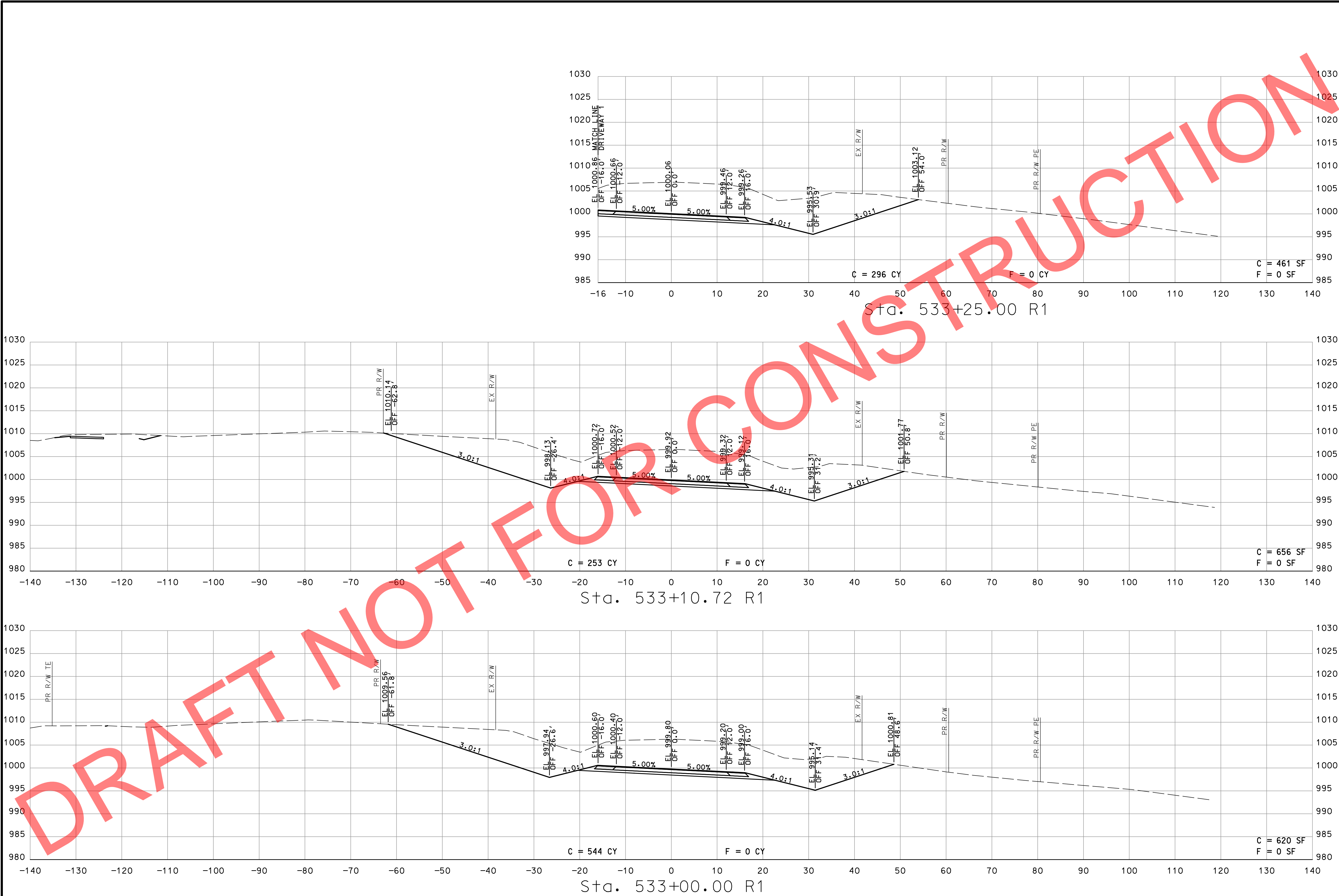
ROUTE 5
STA. 531+75.00 R1 TO STA. 532+25.00 R1

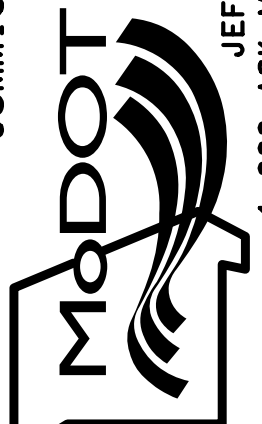

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.6
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

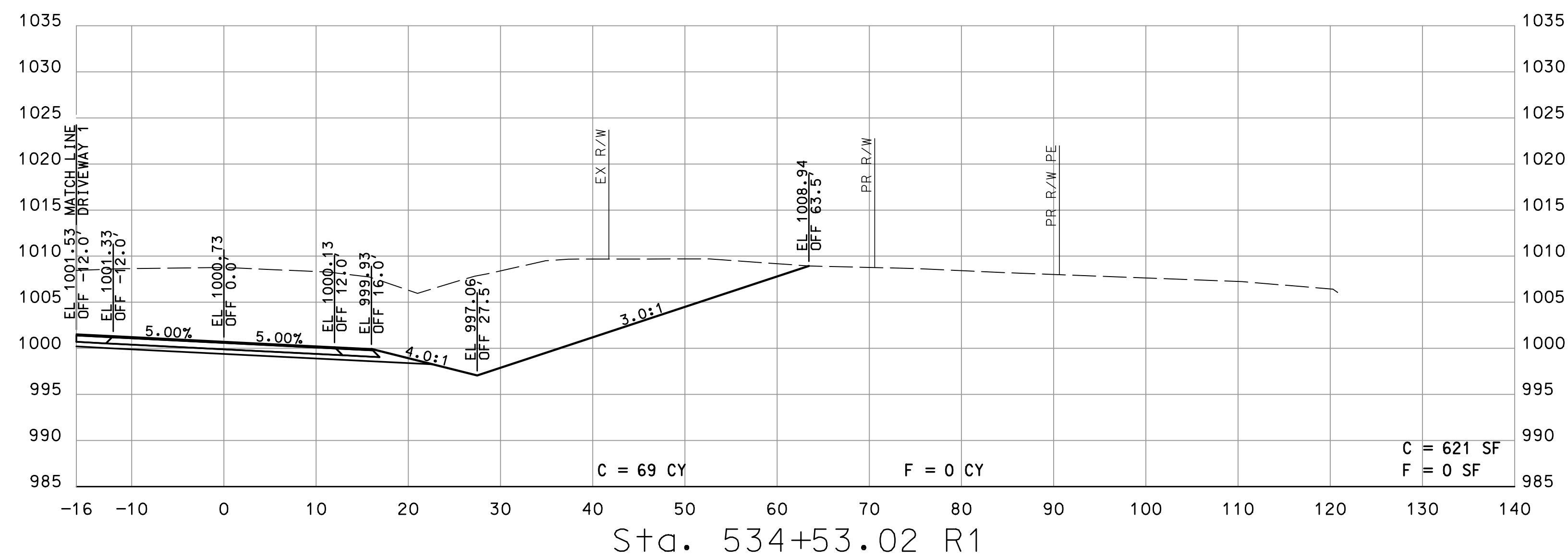
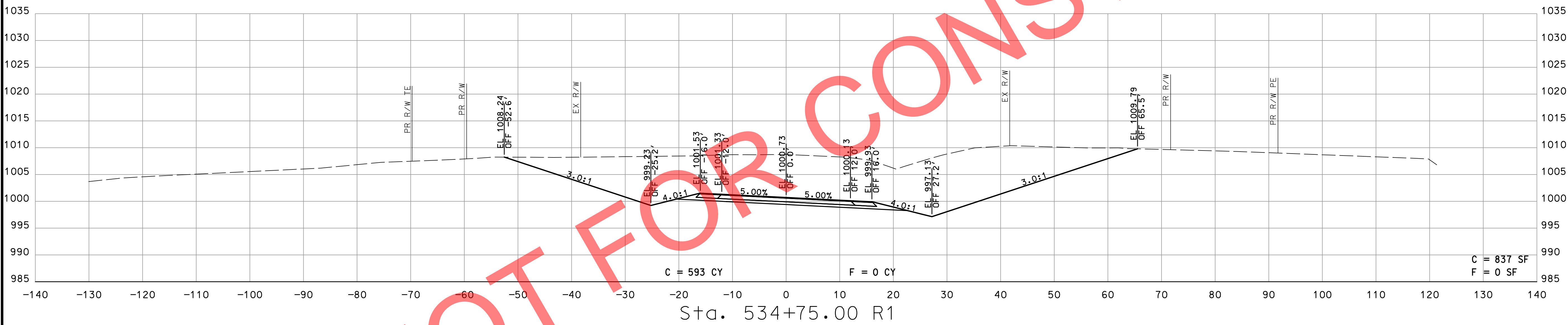
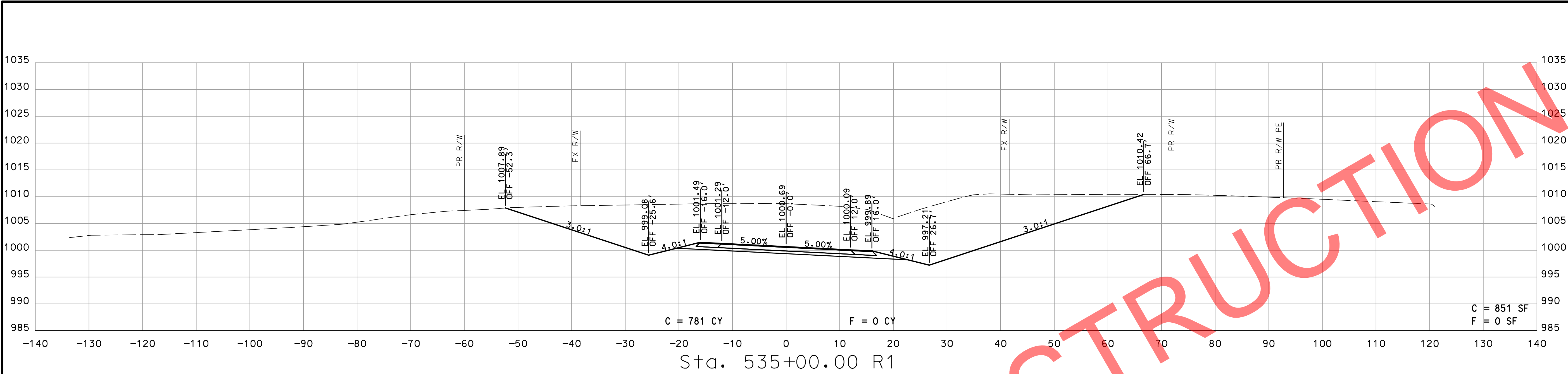


ROUTE 5
STA. 532+50.00 R1 TO STA. 533+00.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.7
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

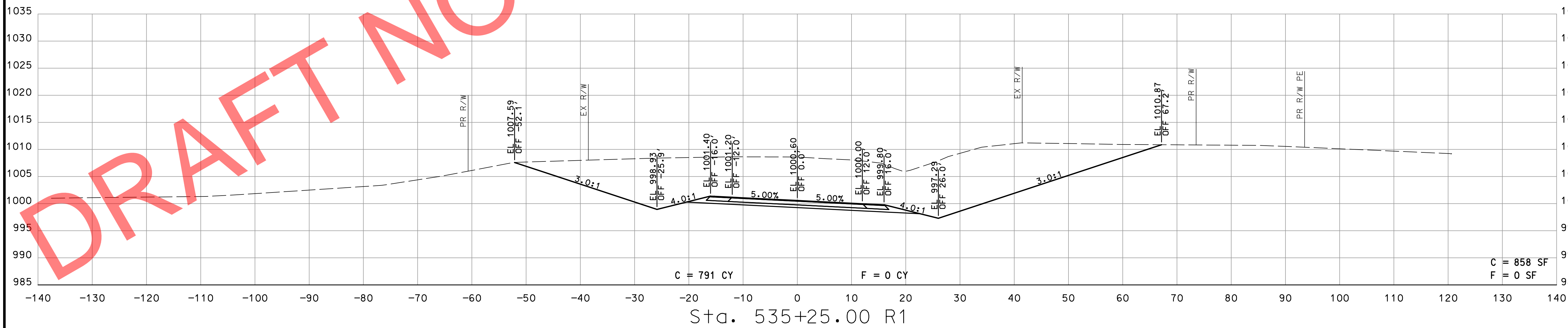
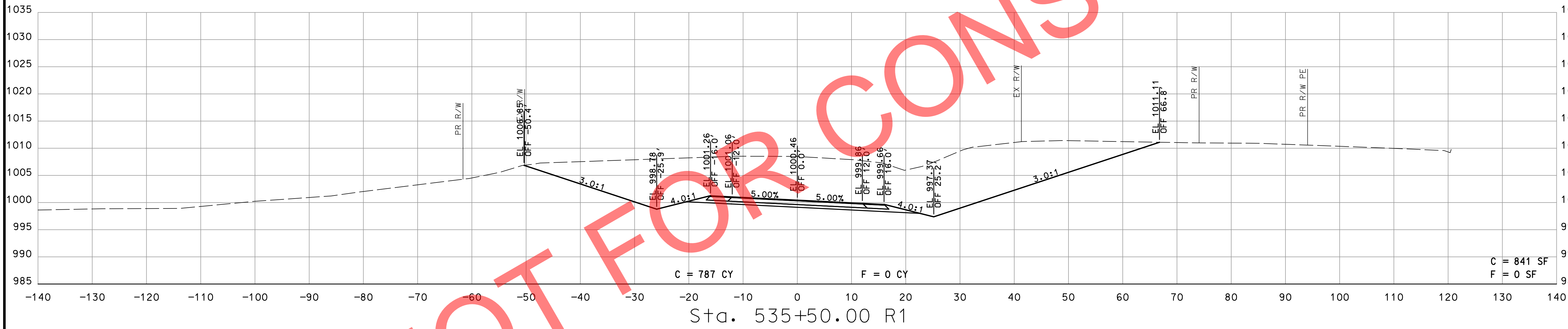
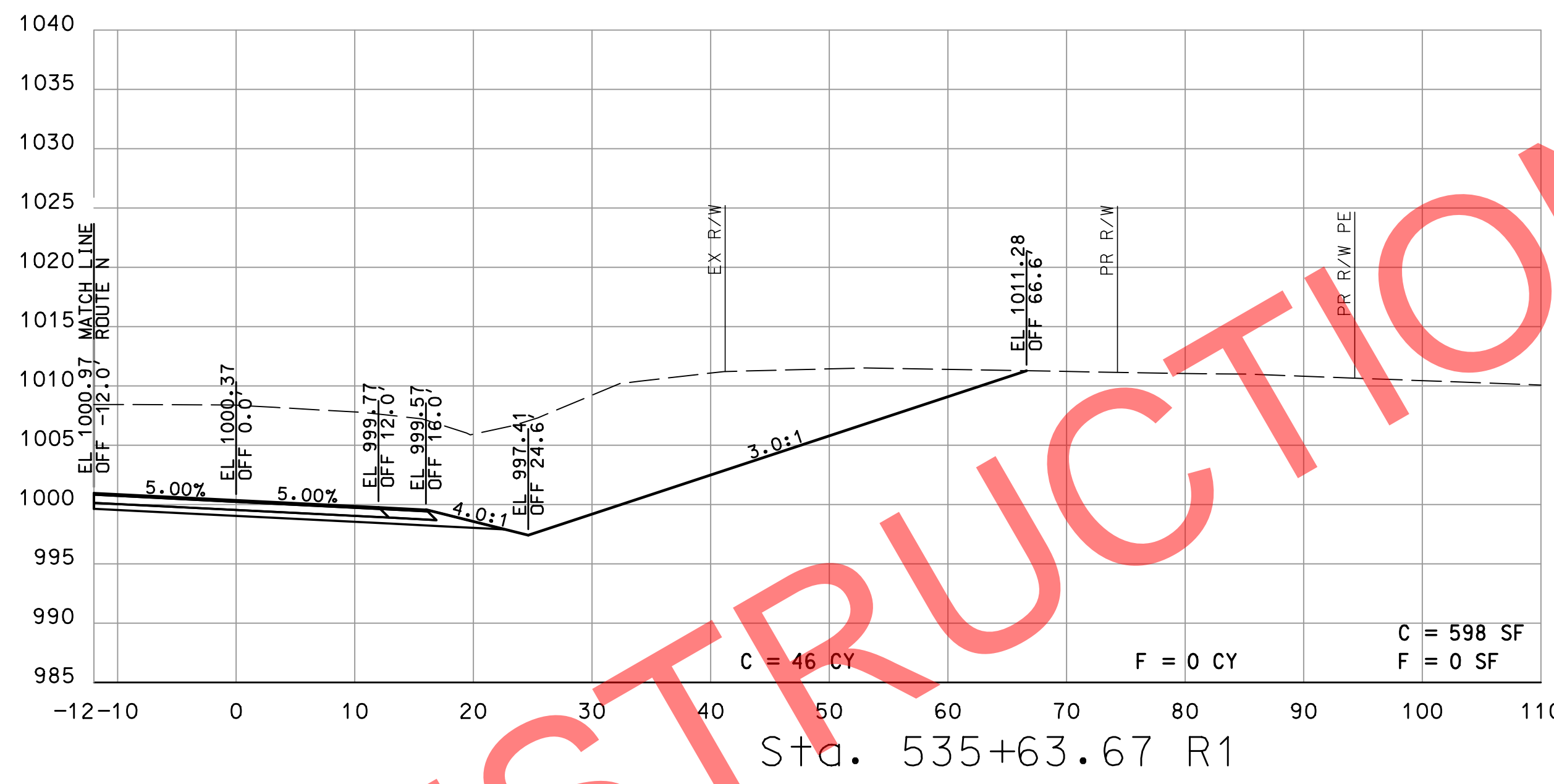
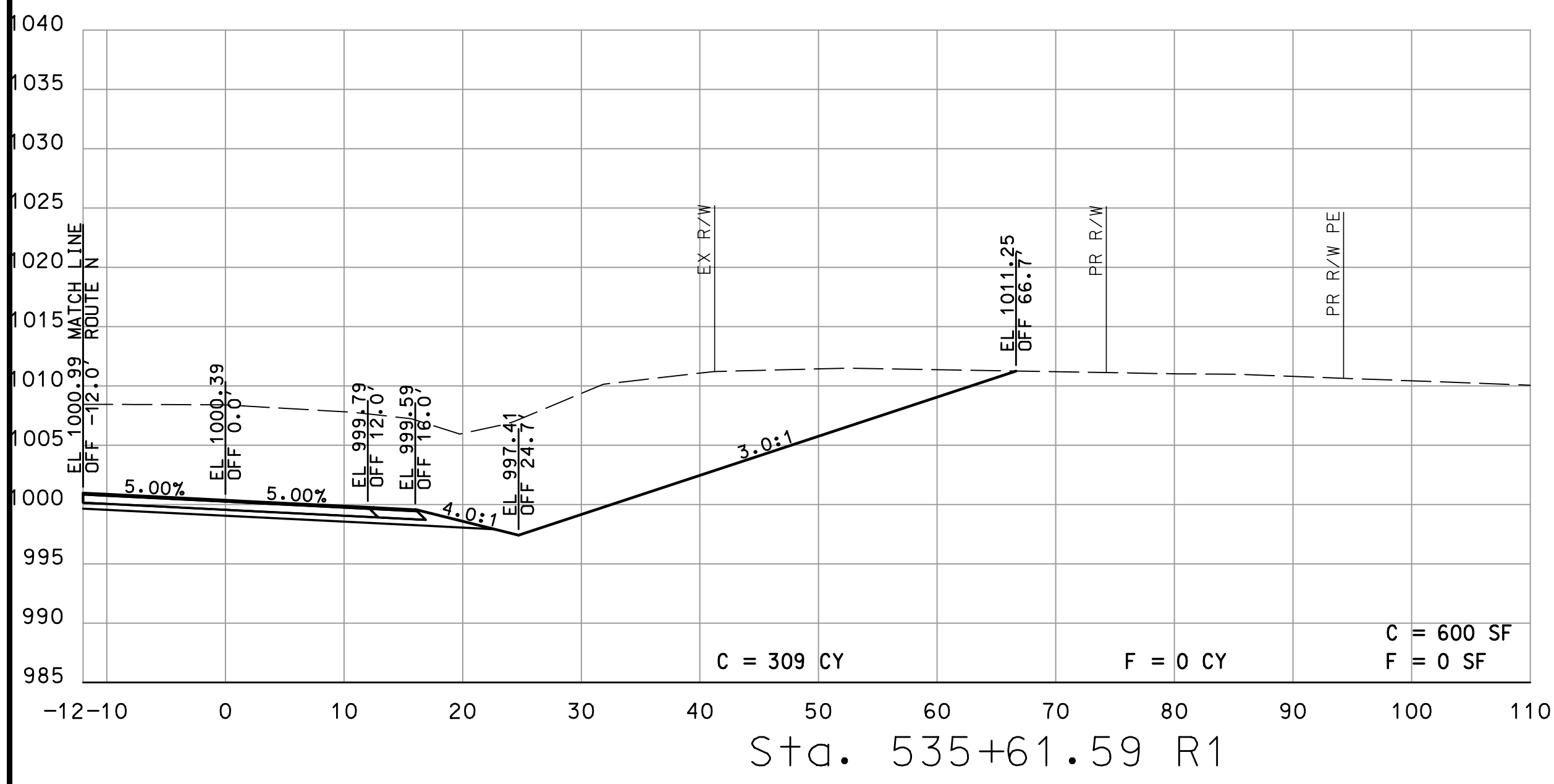


DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.8
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



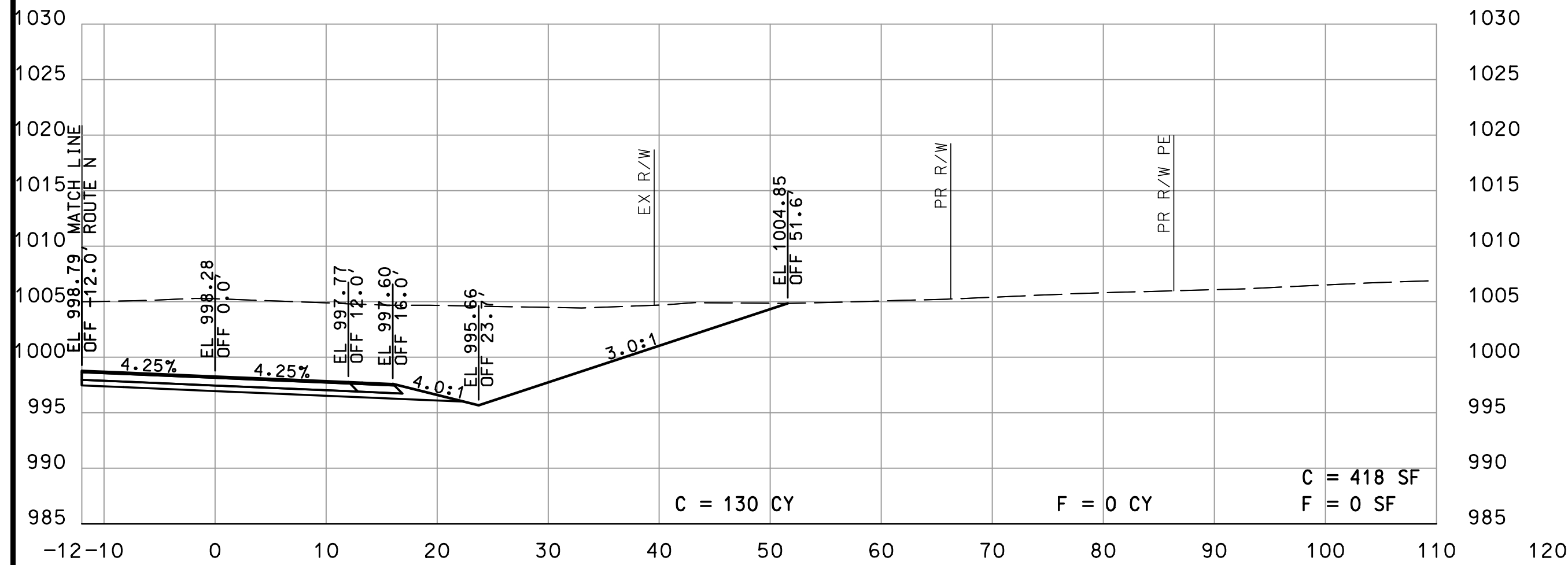
ROUTE 5
STA. 534+50.00 R1 TO STA. 535+00.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.10
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MoDOT	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

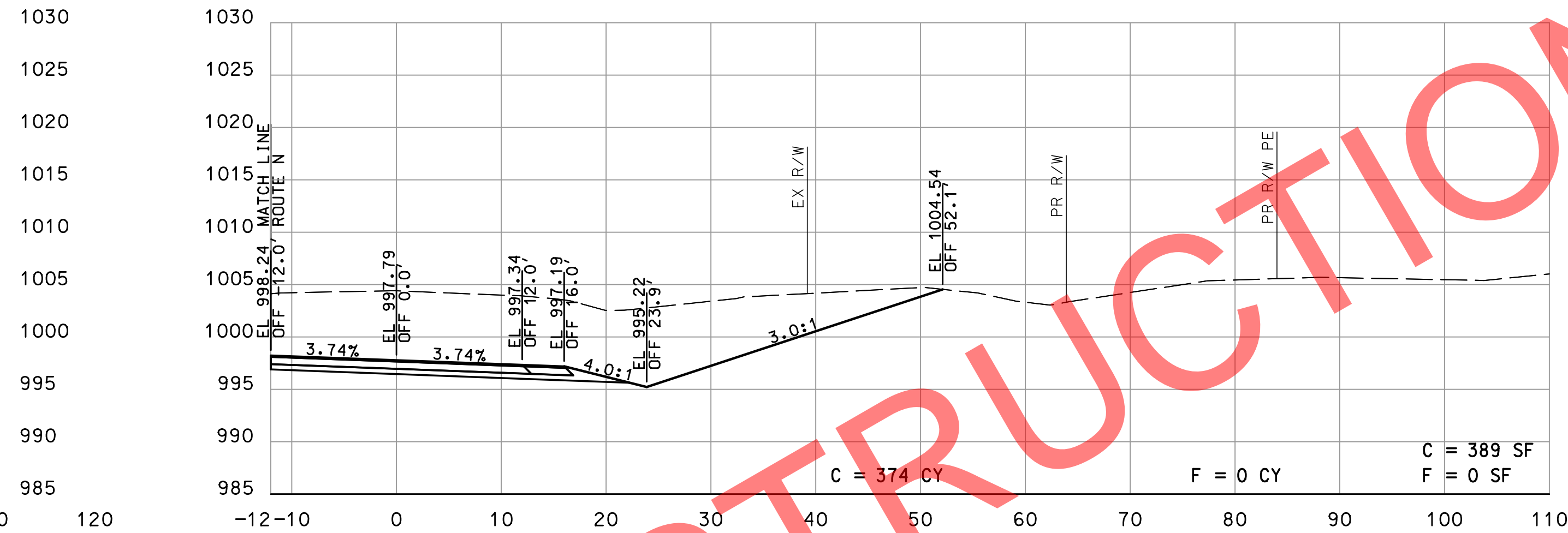


ROUTE 5
STA. 535+25.00 R1 TO STA. 535+75.00 R1

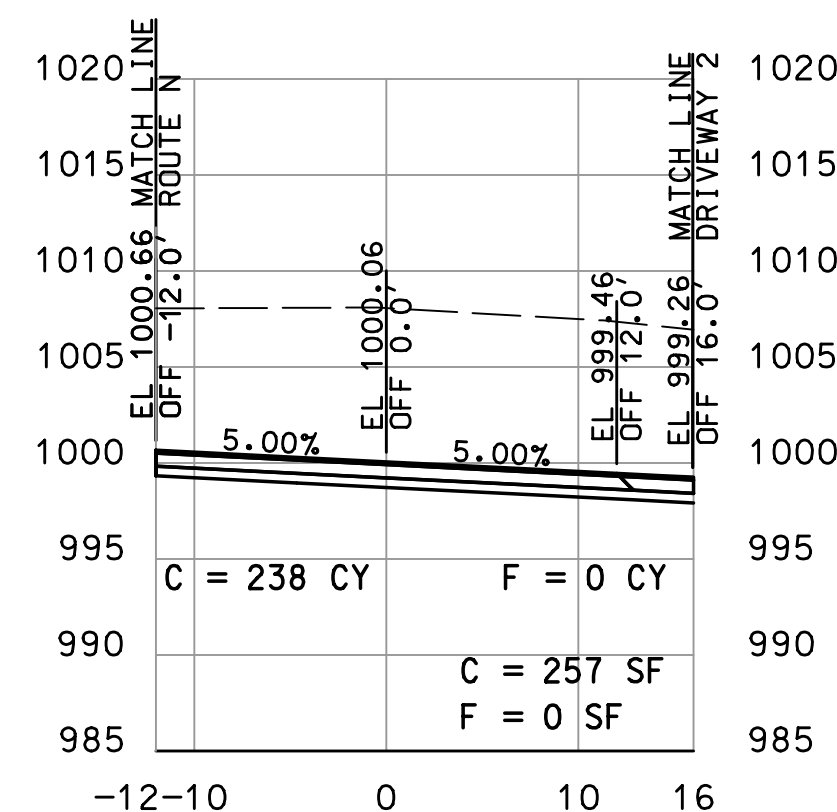
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.11
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MoDOT	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



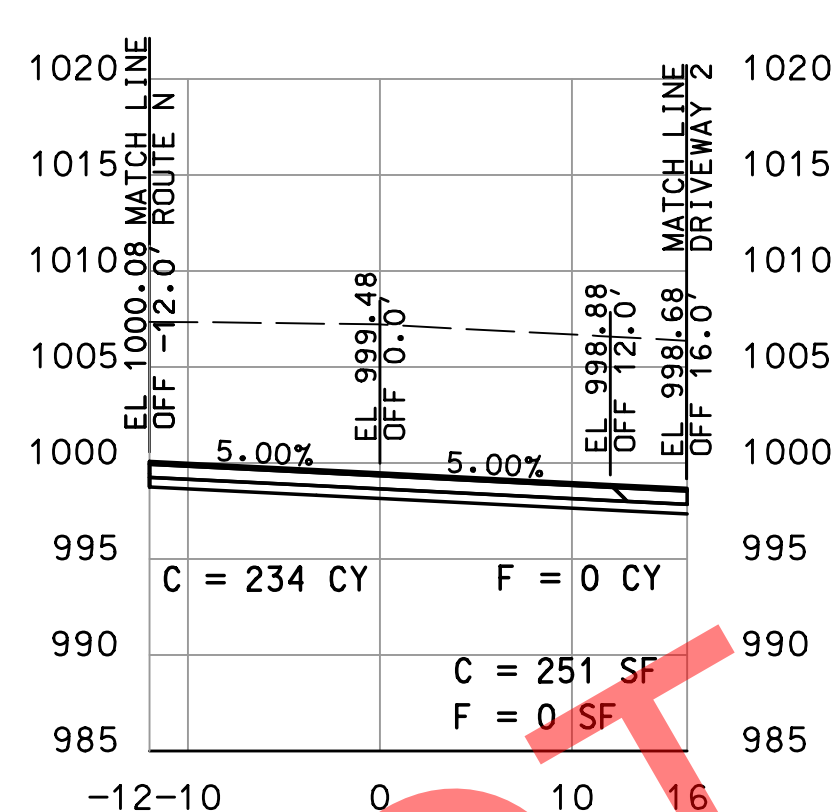
Sta. 537+25.00 R1



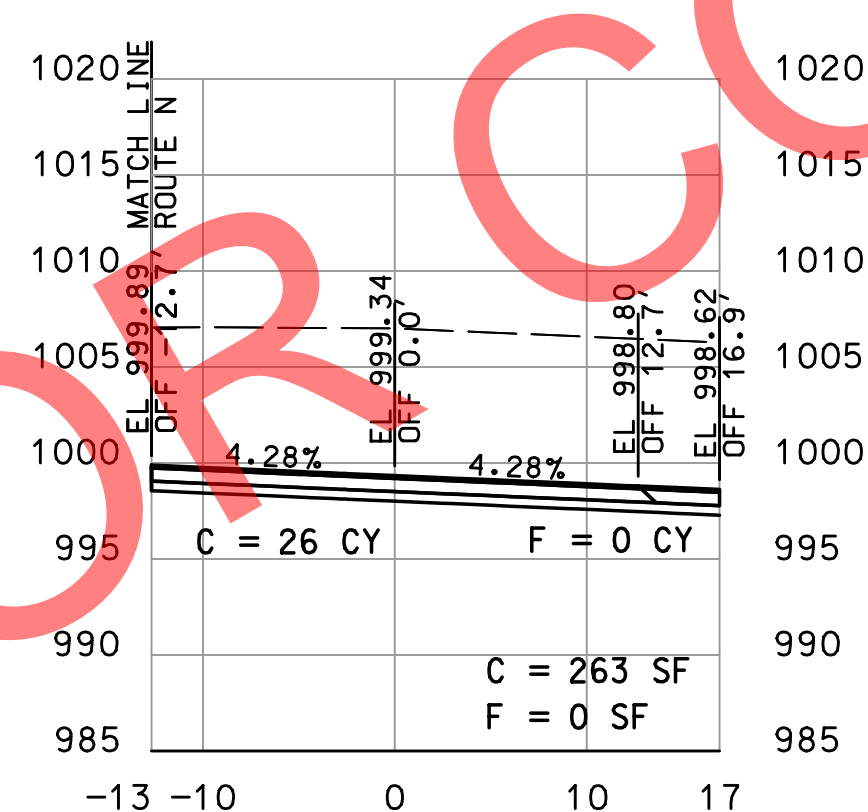
Sta. 537+50.00 R1



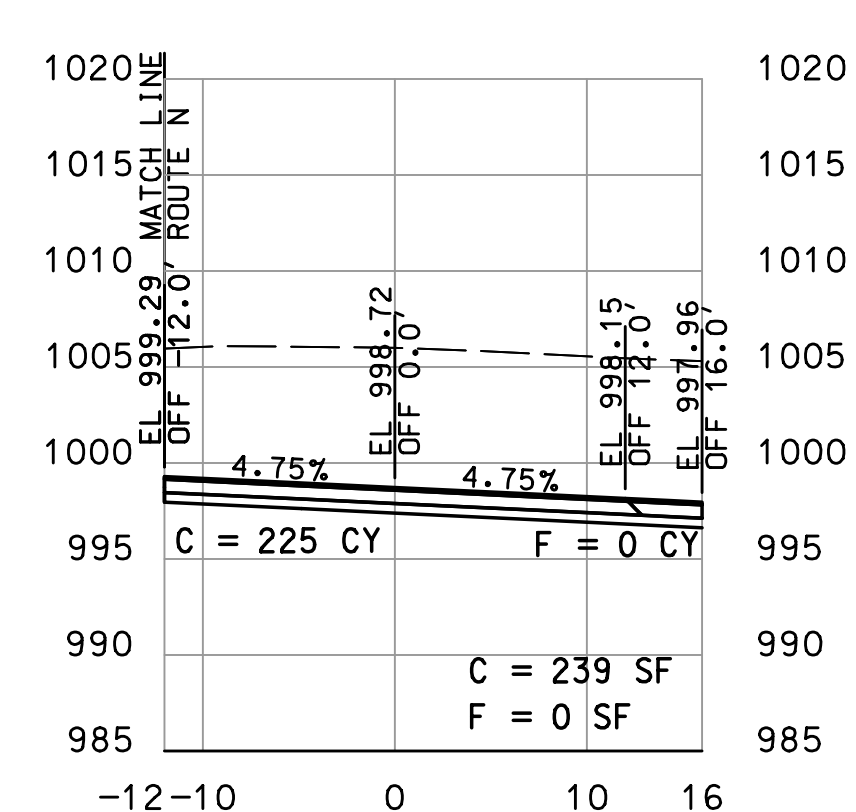
Sta. 536+00.00 R1



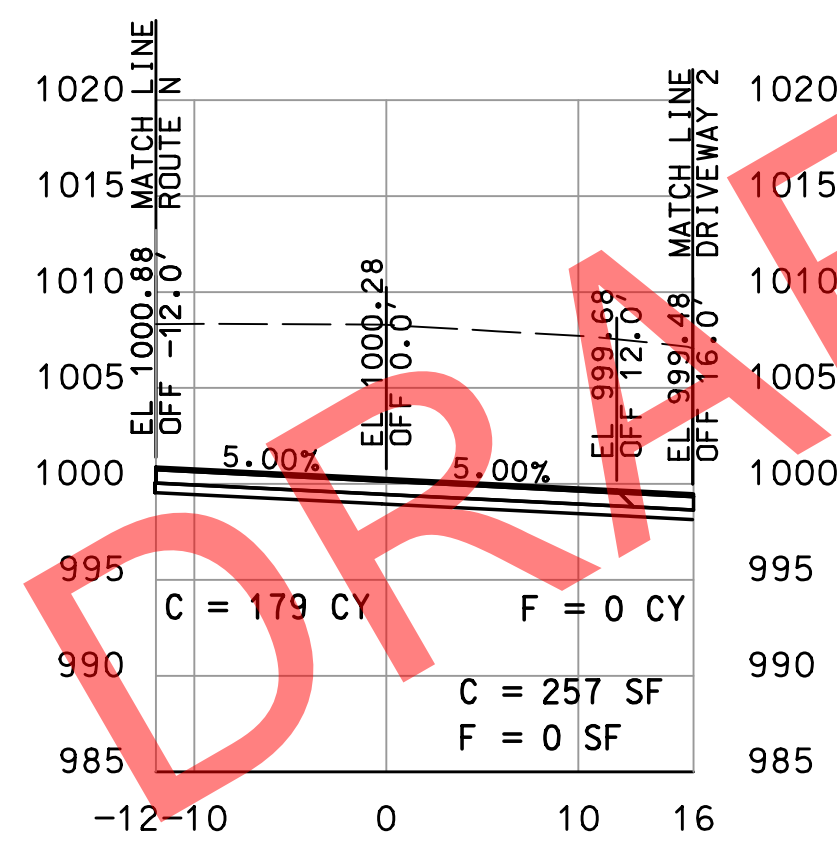
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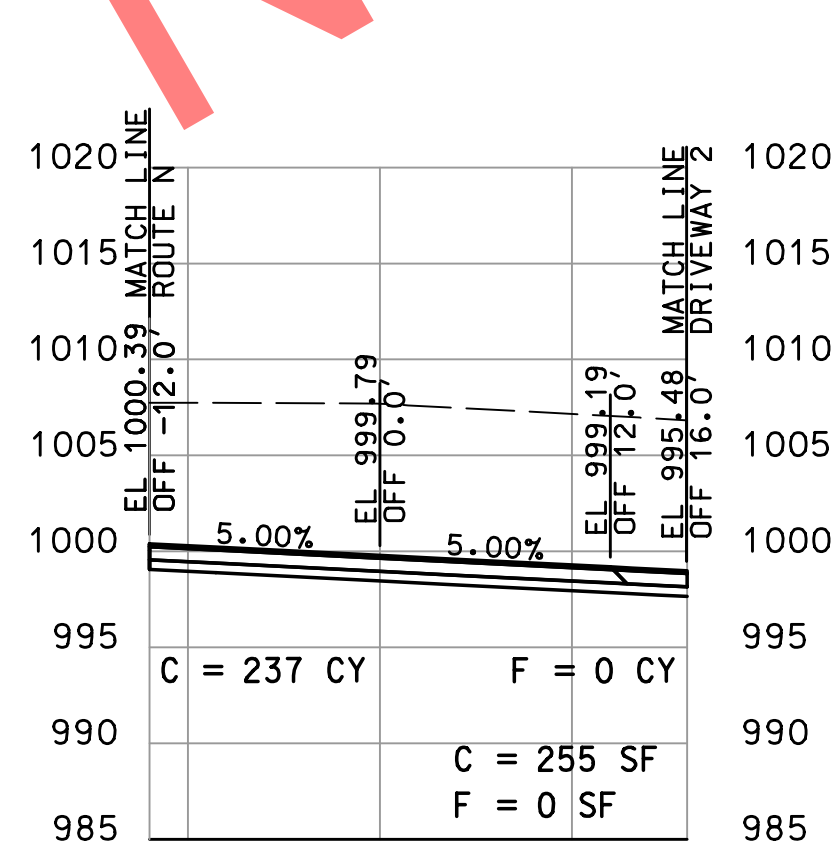
Sta. 536+60.07 R1
SKEW 18°47'09" LA.



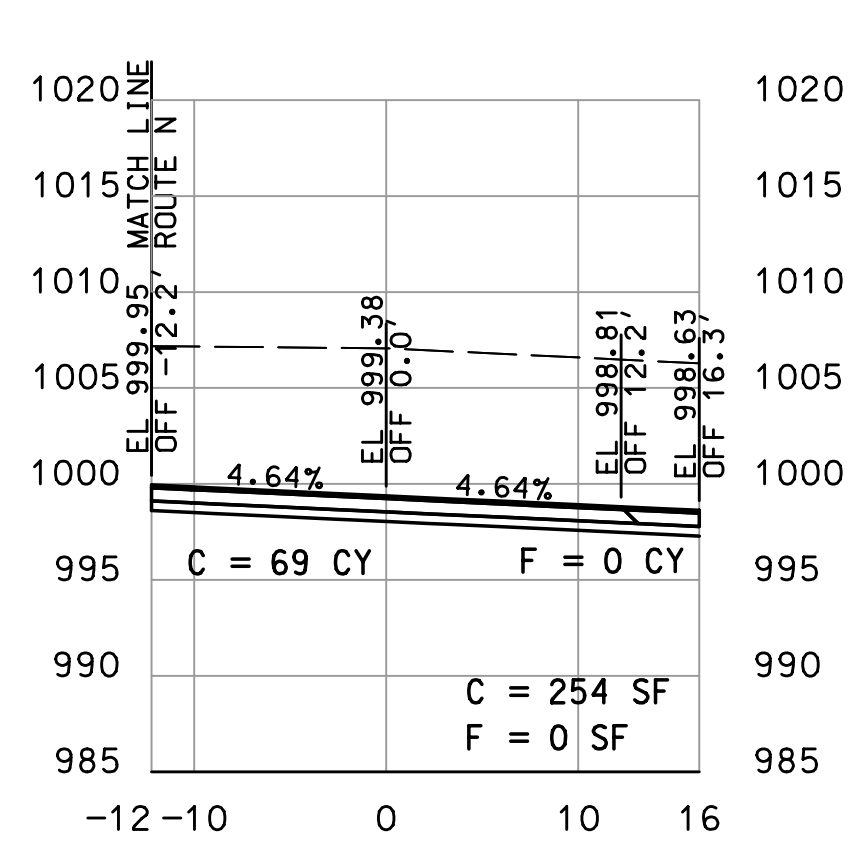
Sta. 537+00.00 R1



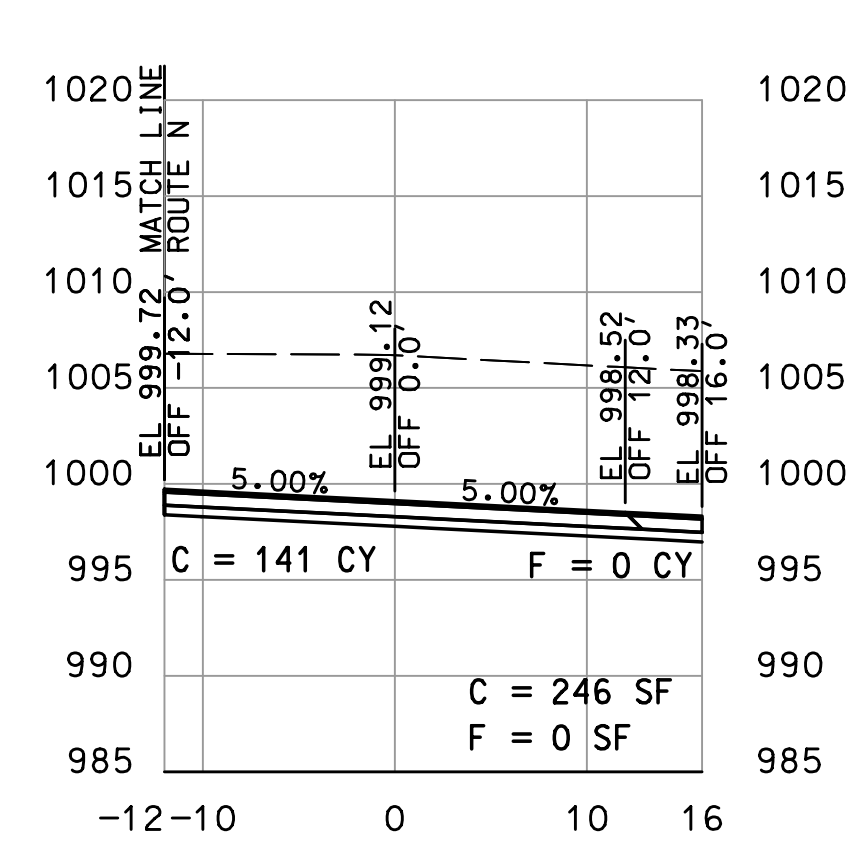
Sta. 535+75.00 R1



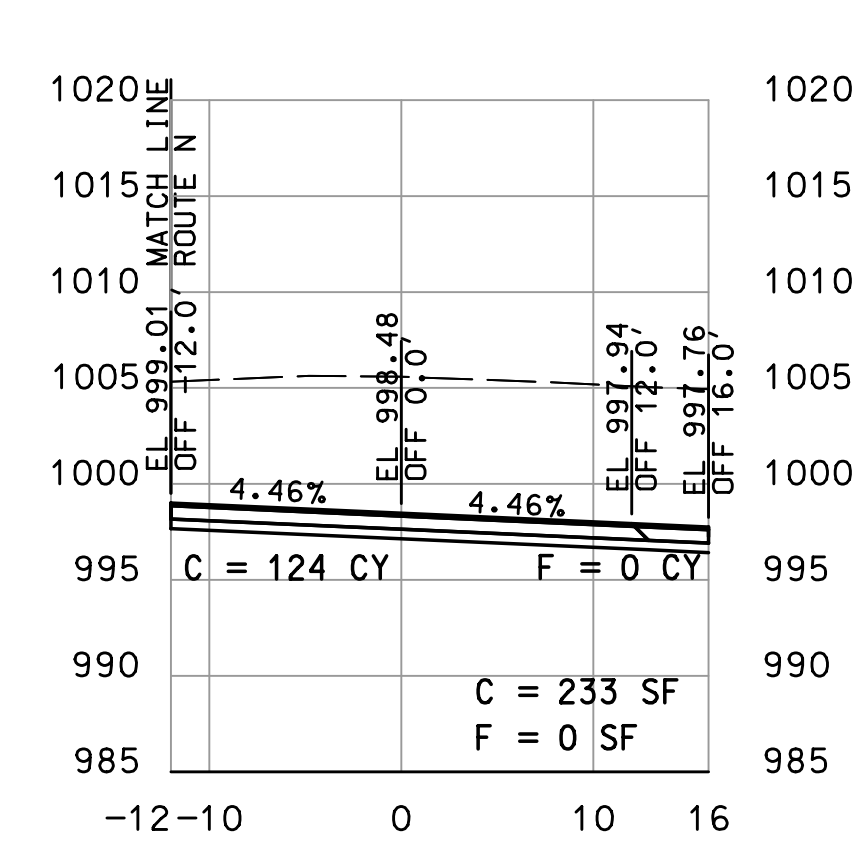
Sta. 536+25.00 R1



Sta. 536+57.35 R1
SKEW 11°02'19" LA.



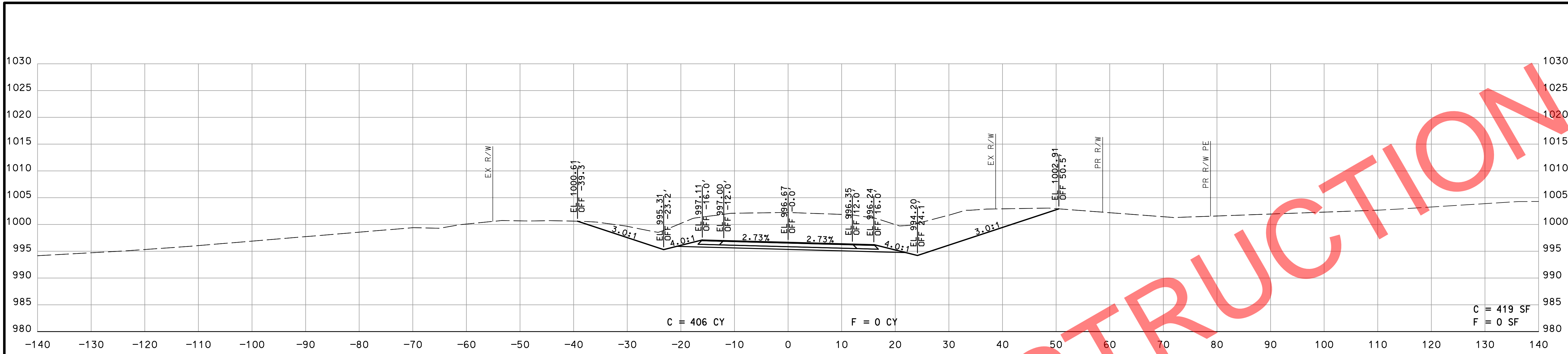
Sta. 536+75.00 R1



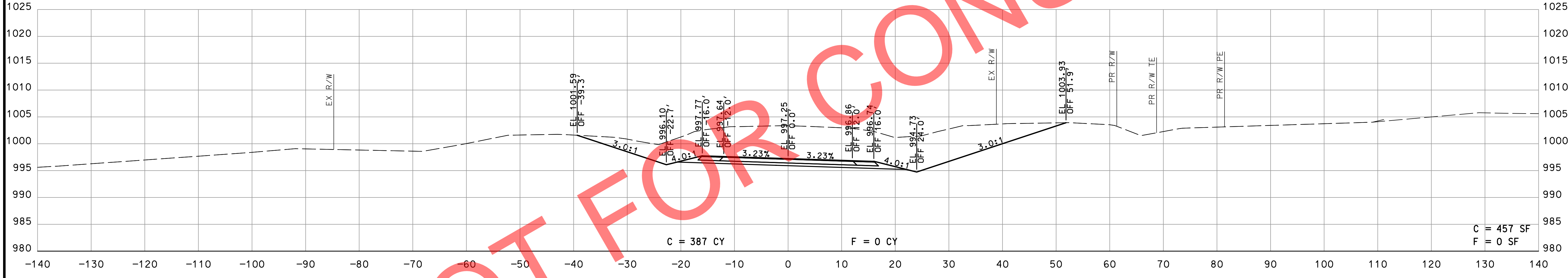
Sta. 537+14.20 R1

ROUTE 5
STA. 536+00.00 R1 TO STA. 536+50.00 R1

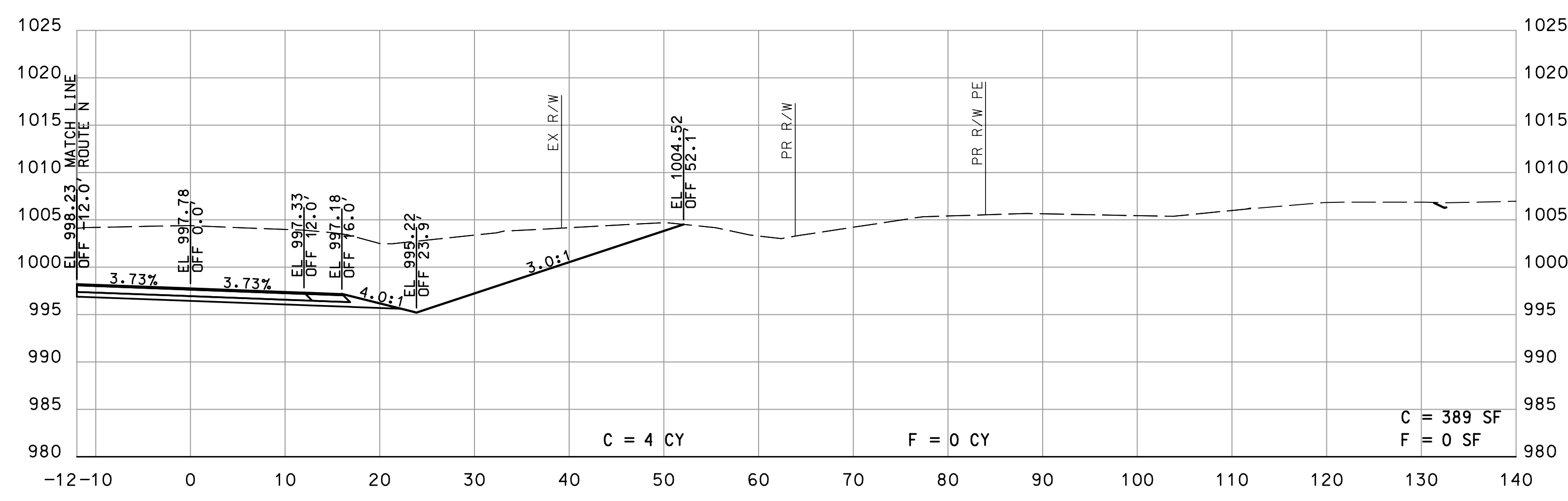
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.12
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MoDOT	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



Sta. 538+00.00 R1



Sta. 537+75.00 R1



Sta. 537+50.28 R1

ROUTE 5
STA. 536+75.00 R1 TO STA. 537+25.00 R1

DATE PREPARED
2/7/2022

ROUTE
5

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

STATE
MO

SHEET NO.
A2.13

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

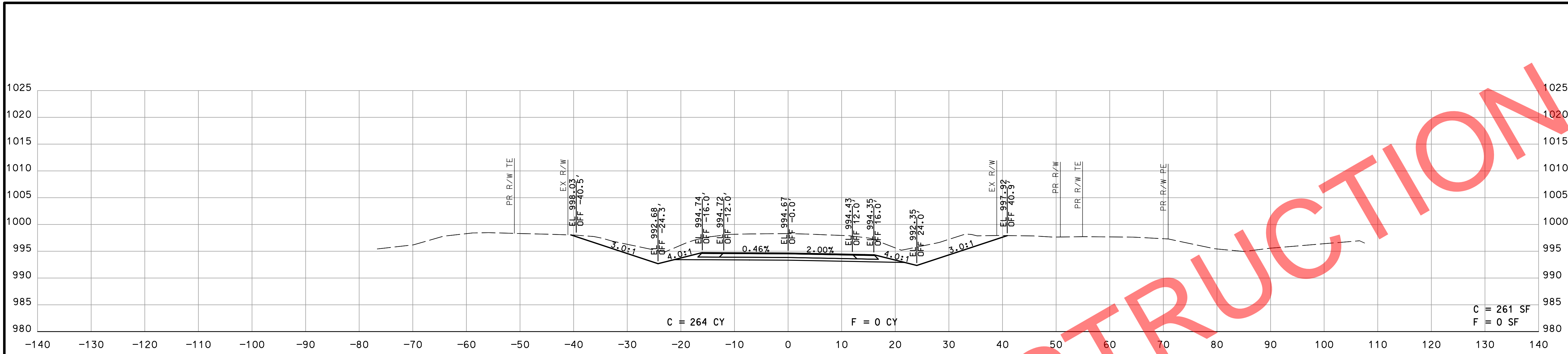
MoDOT

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

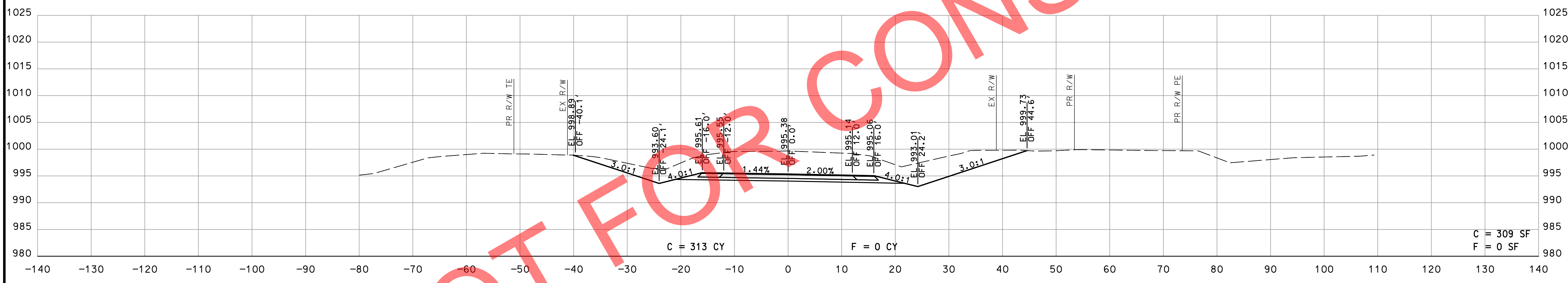
olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

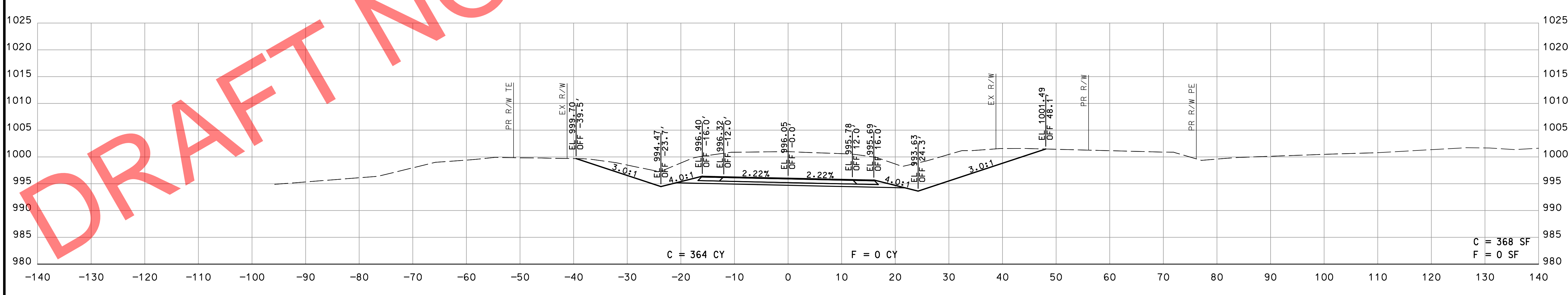
DRAFT NOT FOR CONSTRUCTION



Sta. 538+75.00 R1

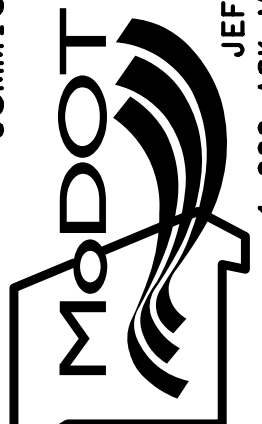



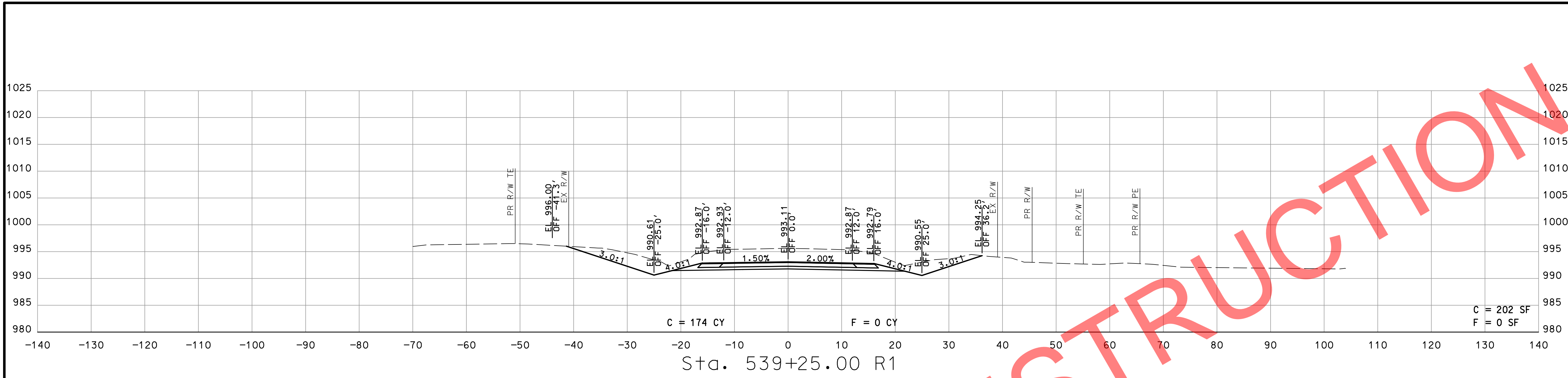
Sta. 538+50.00 R1



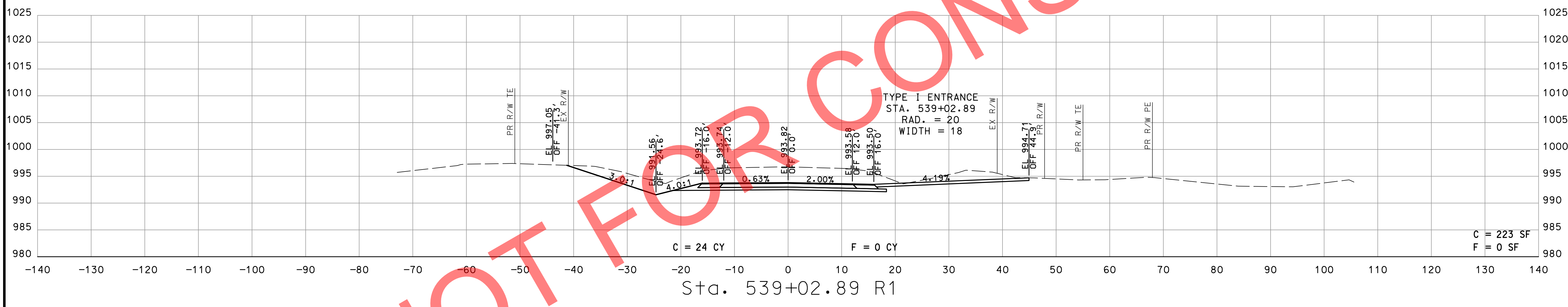
Sta. 538+25.00 R1

ROUTE 5
STA. 537+50.00 R1 TO STA. 538+00.00 R1

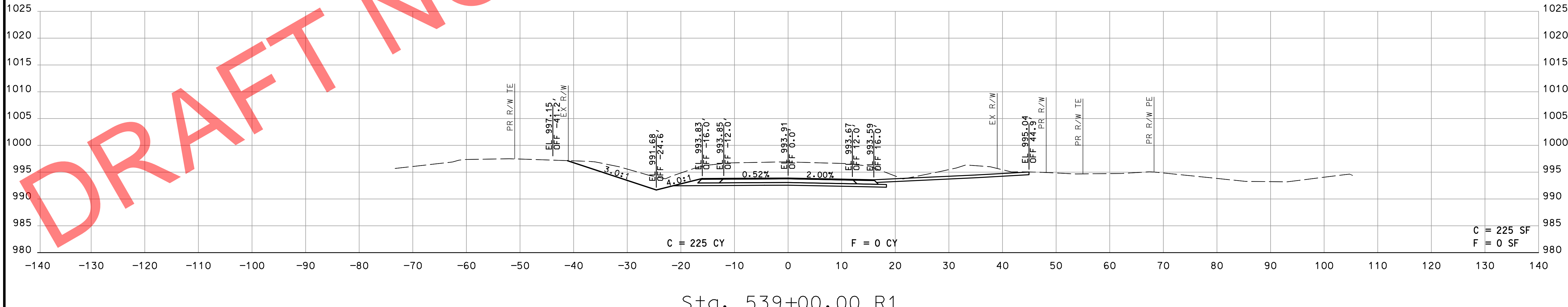
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.14
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



Sta. 539+25.00 R1

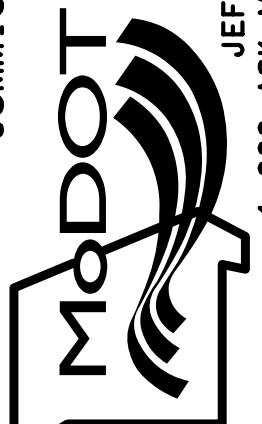



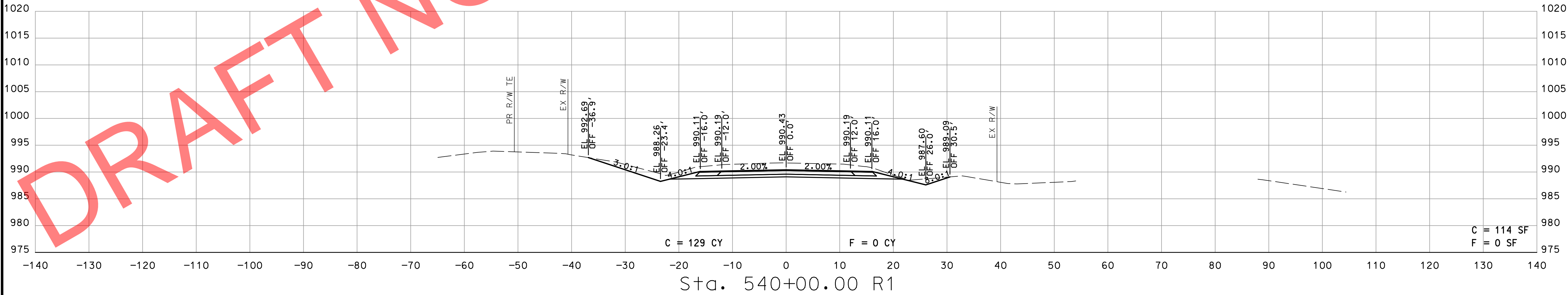
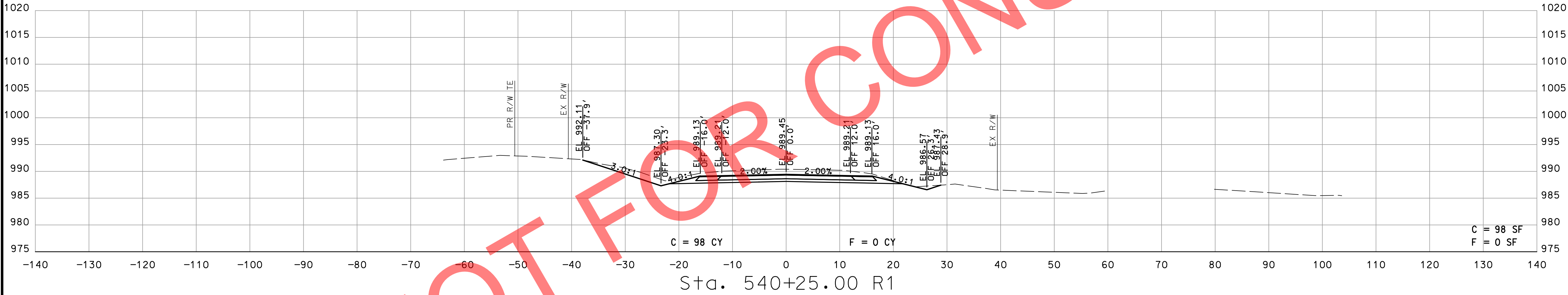
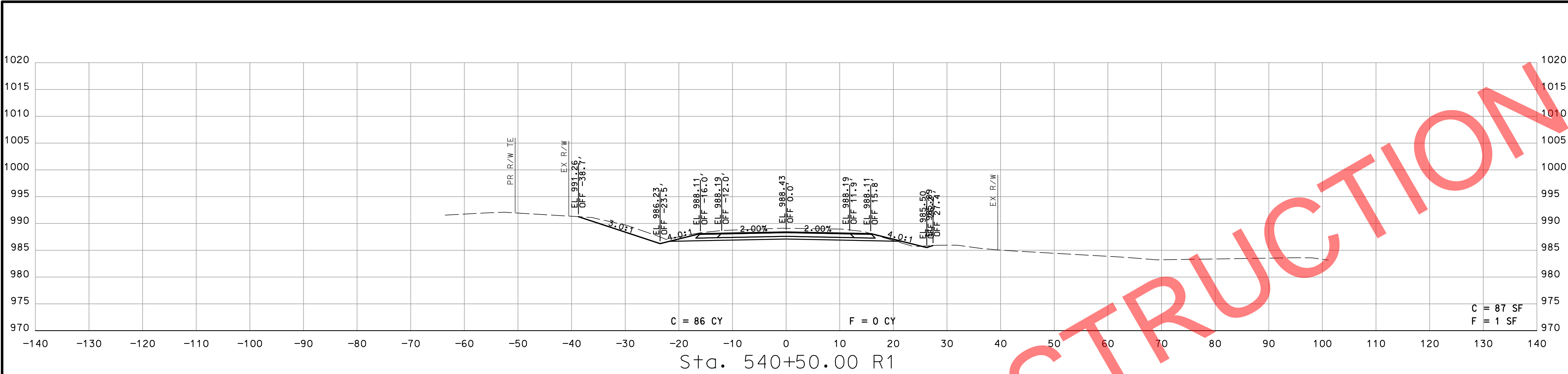
Sta. 539+02.89 R1



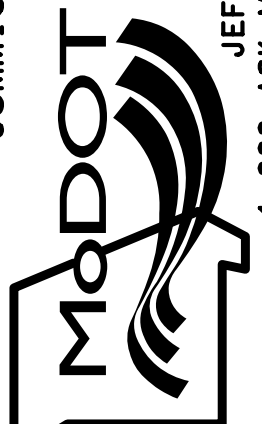

Sta. 539+00.00 R1

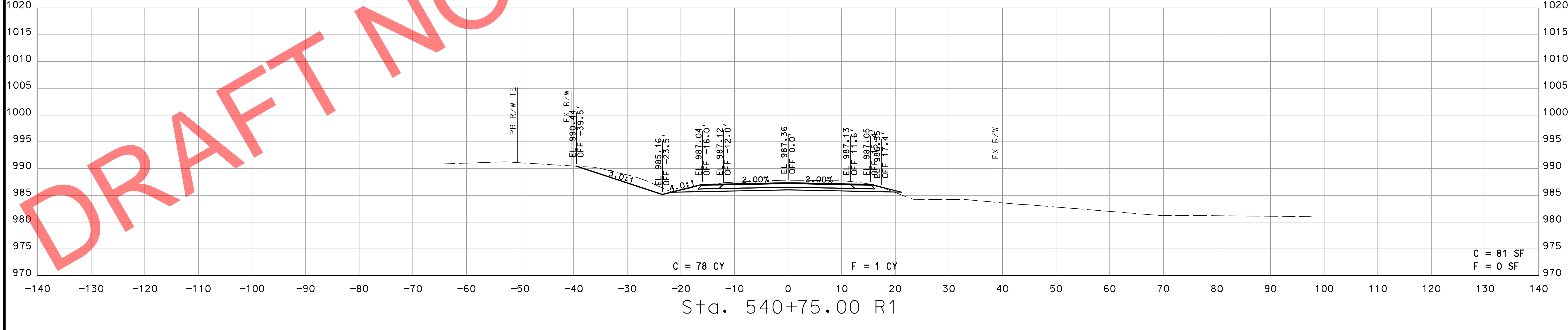
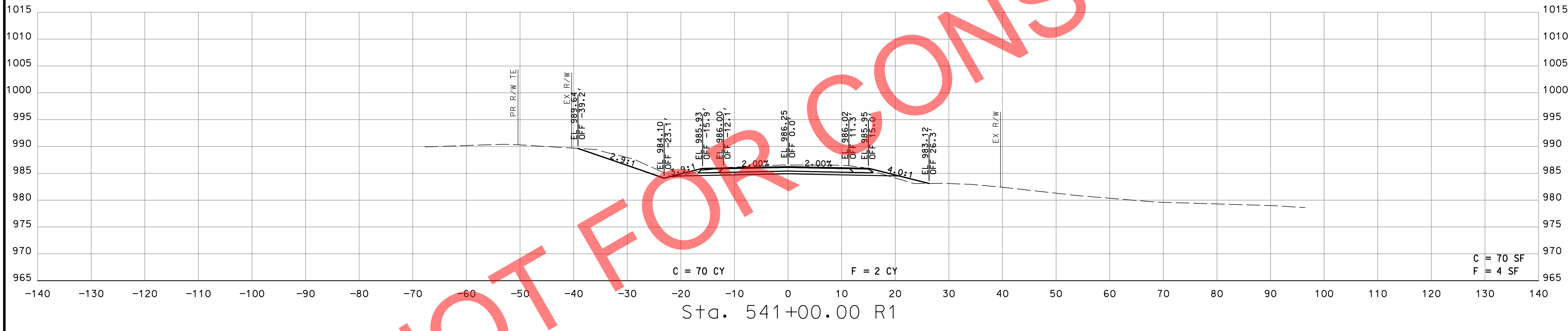
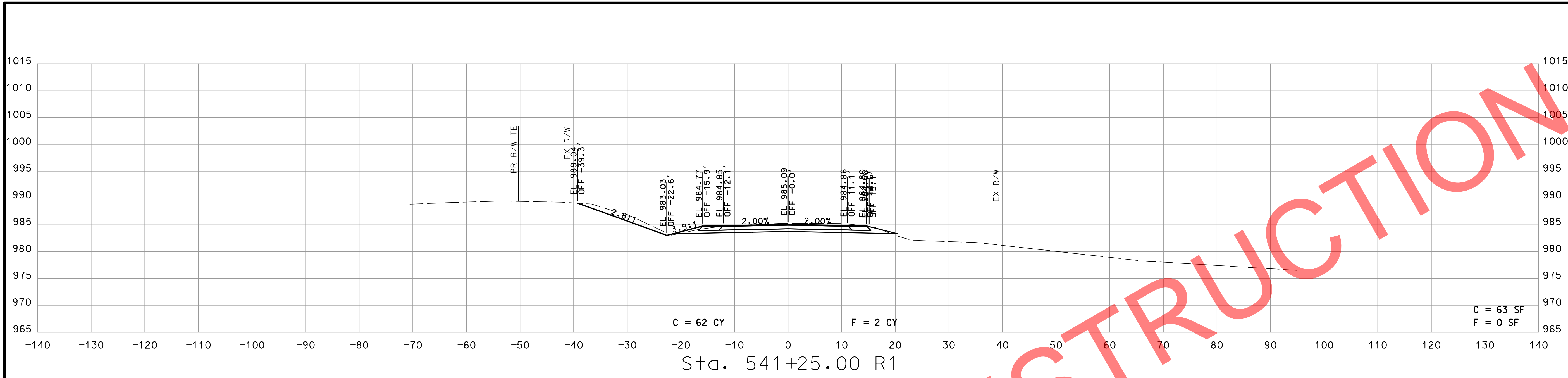
ROUTE 5
STA. 538+25.00 R1 TO STA. 539+00.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.15
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

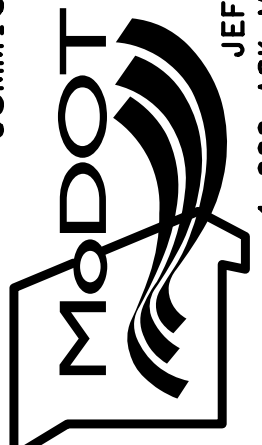
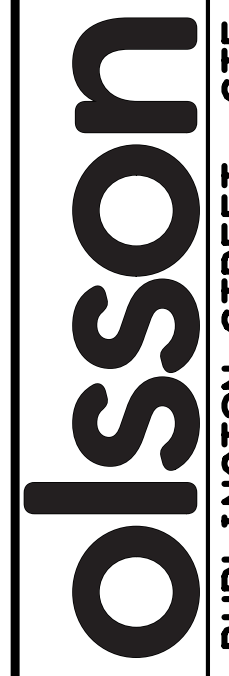


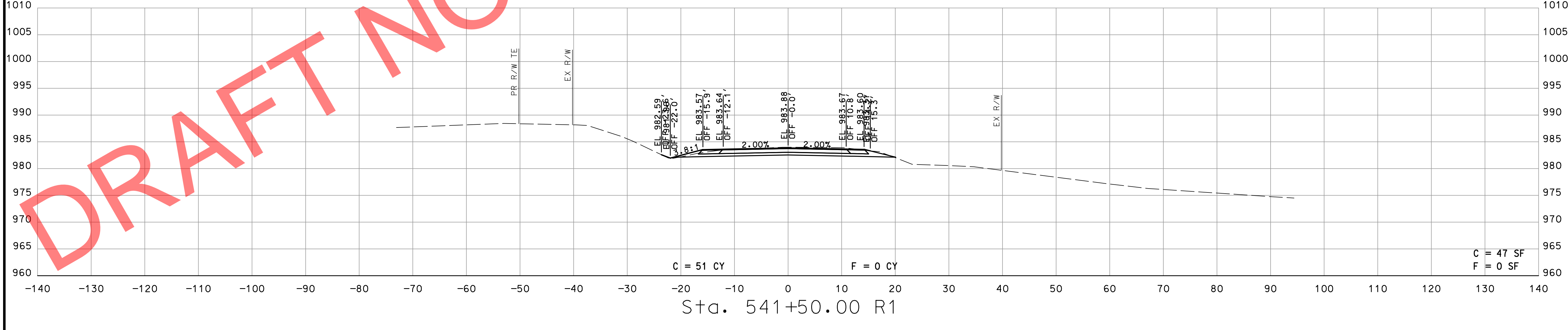
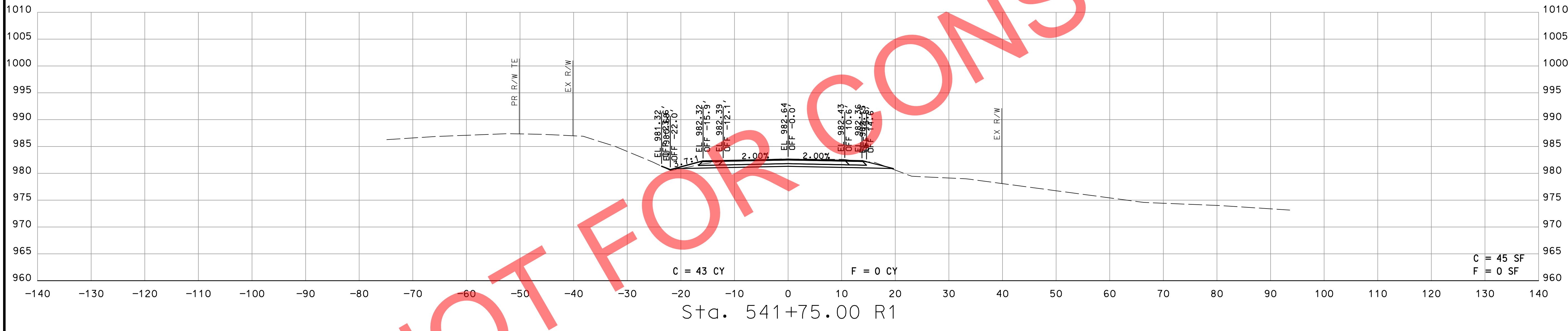
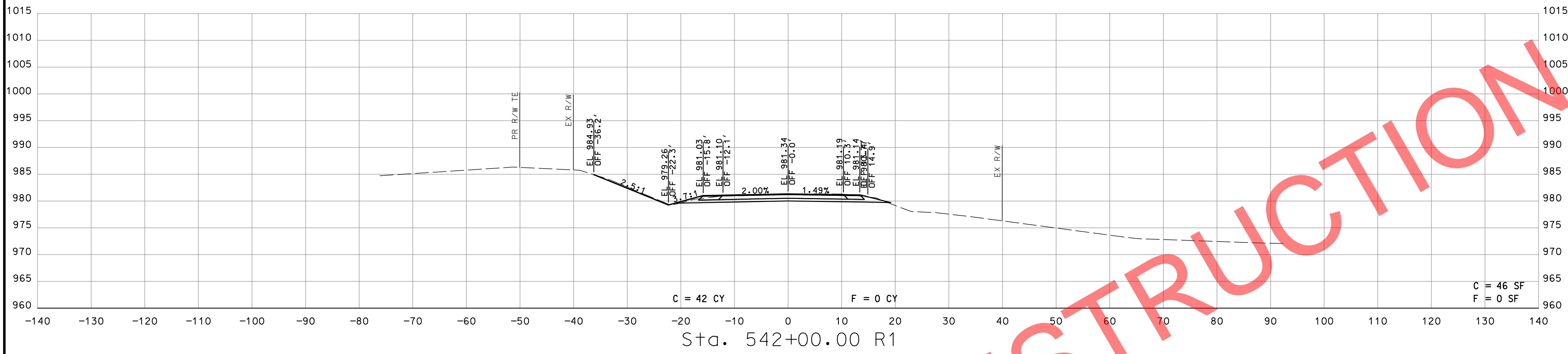
ROUTE 5
STA. 539+75.00 R1 TO STA. 540+50.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.17
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



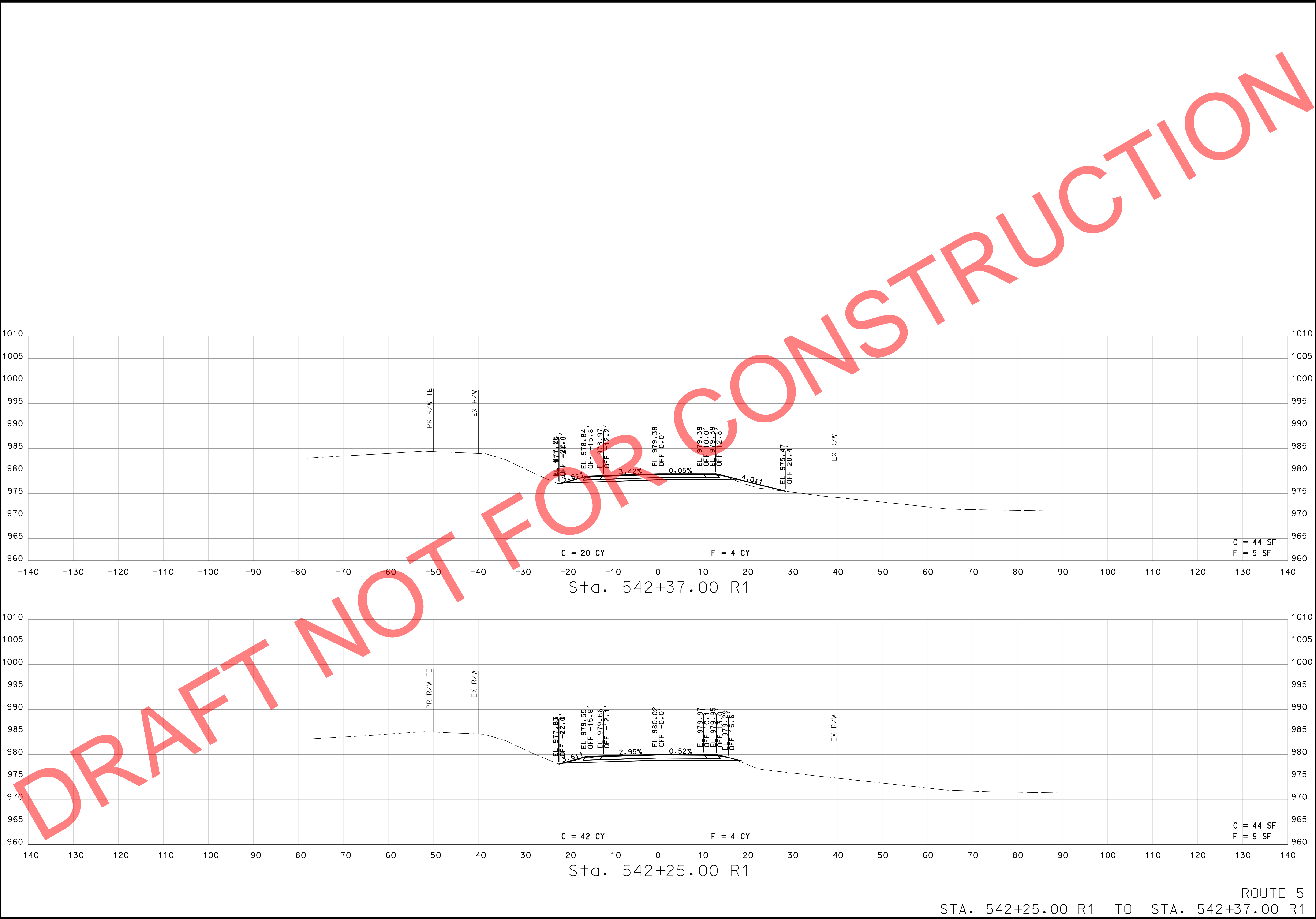
ROUTE 5
STA. 540+75.00 R1 TO STA. 541+25.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.18
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



ROUTE 5
STA. 541+50.00 R1 TO STA. 542+00.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.19
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MoDOT	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



DATE PREPARED
2/7/2022

ROUTE
5

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

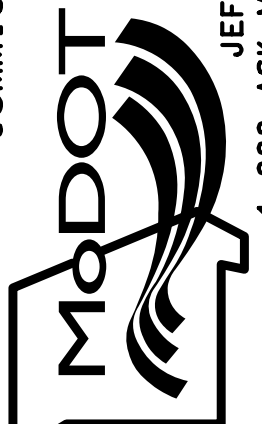
STATE
MO

SHEET NO.
A2.20


DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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



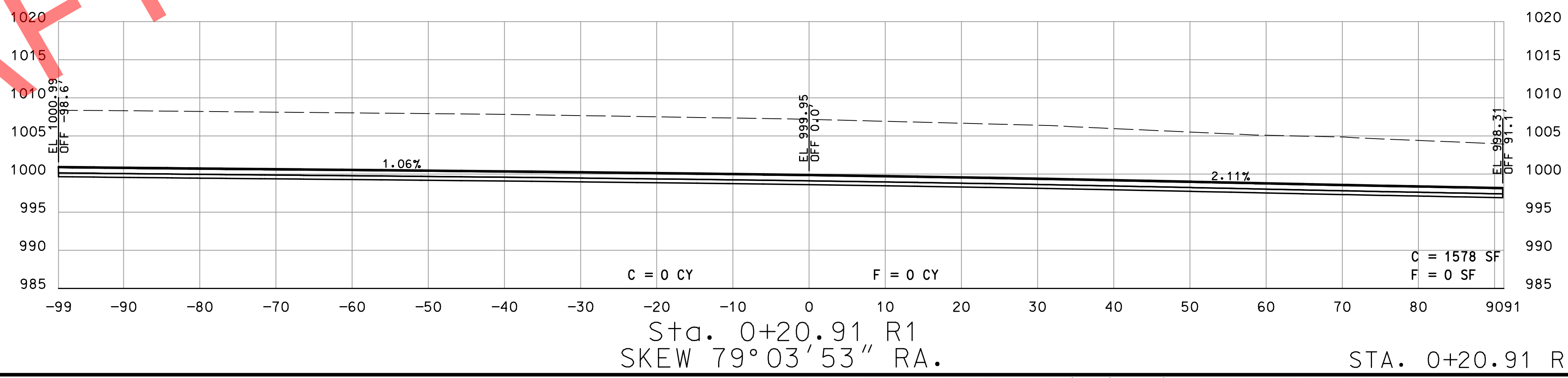
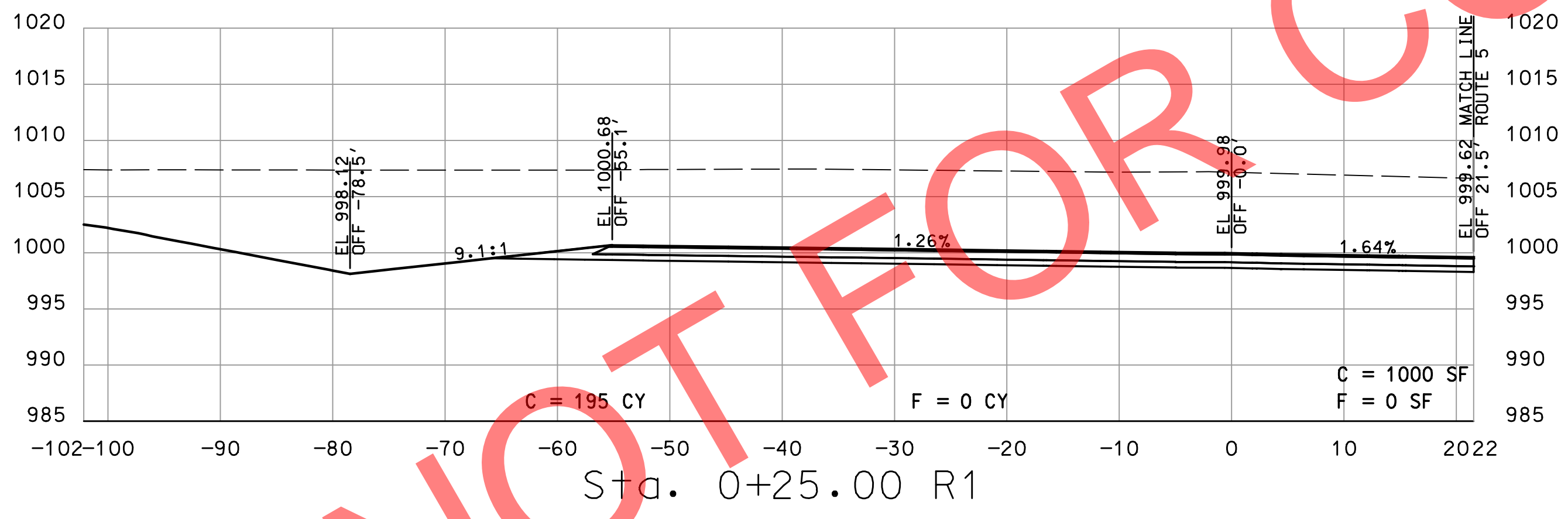
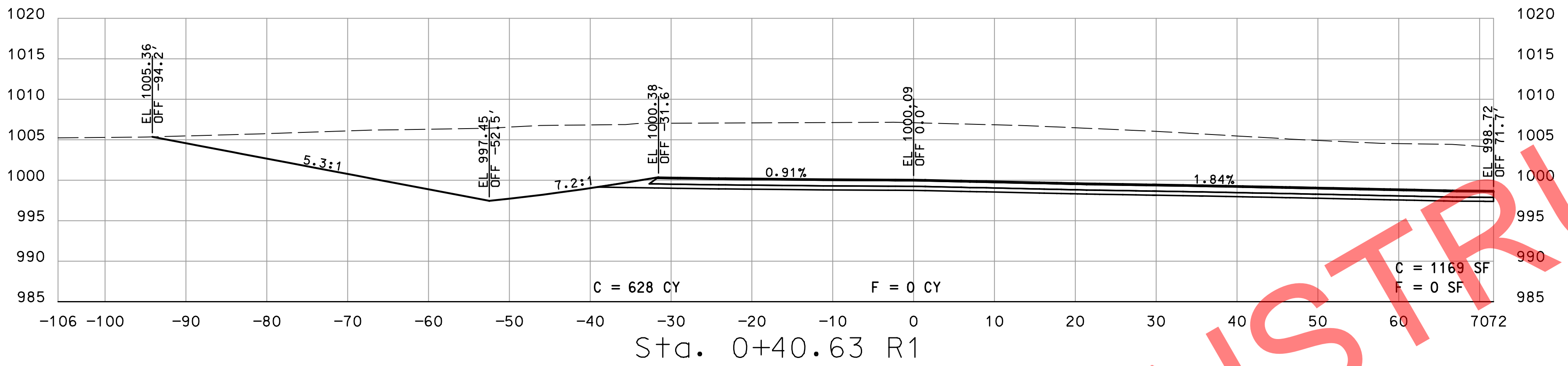
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

STA. 542+25.00 R1 TO STA. 542+37.00 R1

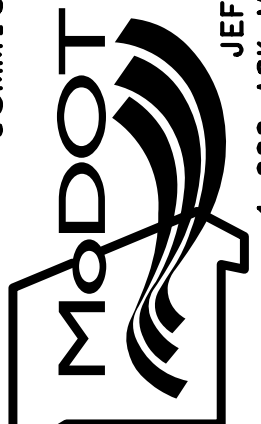

ROUTE 5

F:\2020\3501-4000\020-3611\40-Design\Microstation\J1S3392\J1S3392A2\plan_sheets\17 Cross Sections\XS_001-034_J1S3392A2_110.dgn 7:23:47 AM 2/7/2022

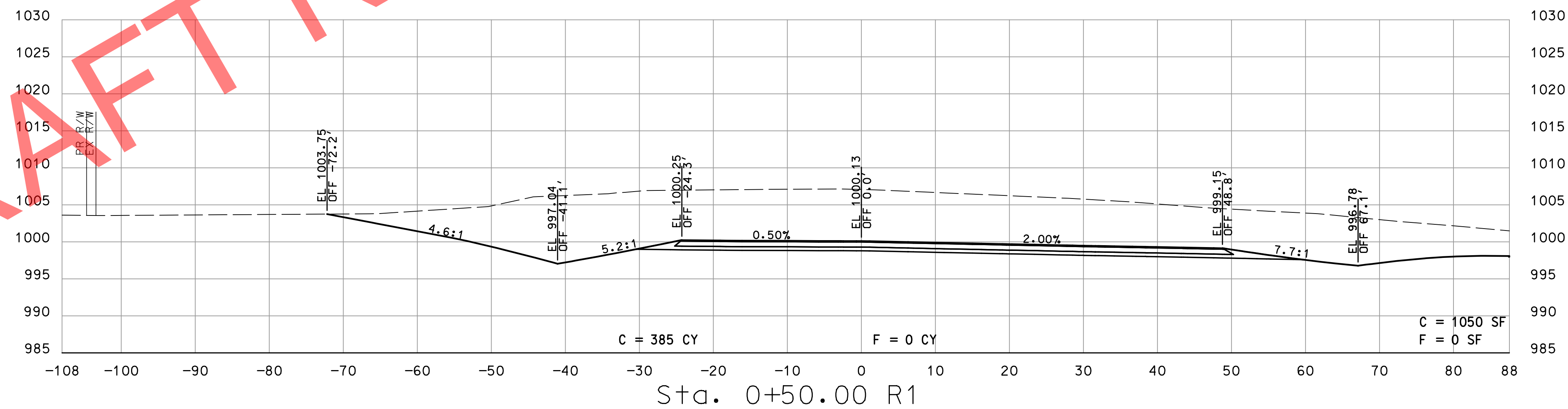
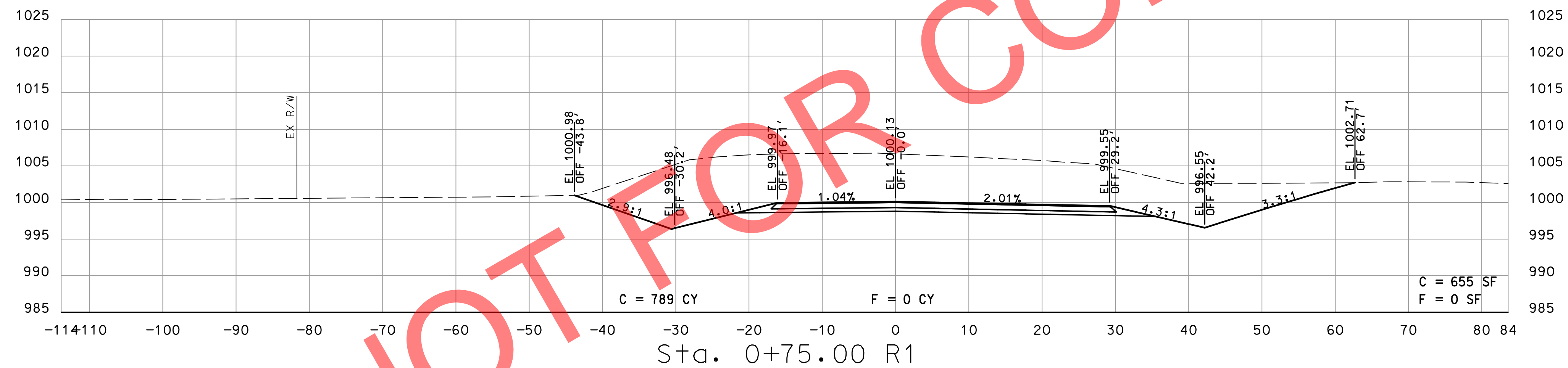
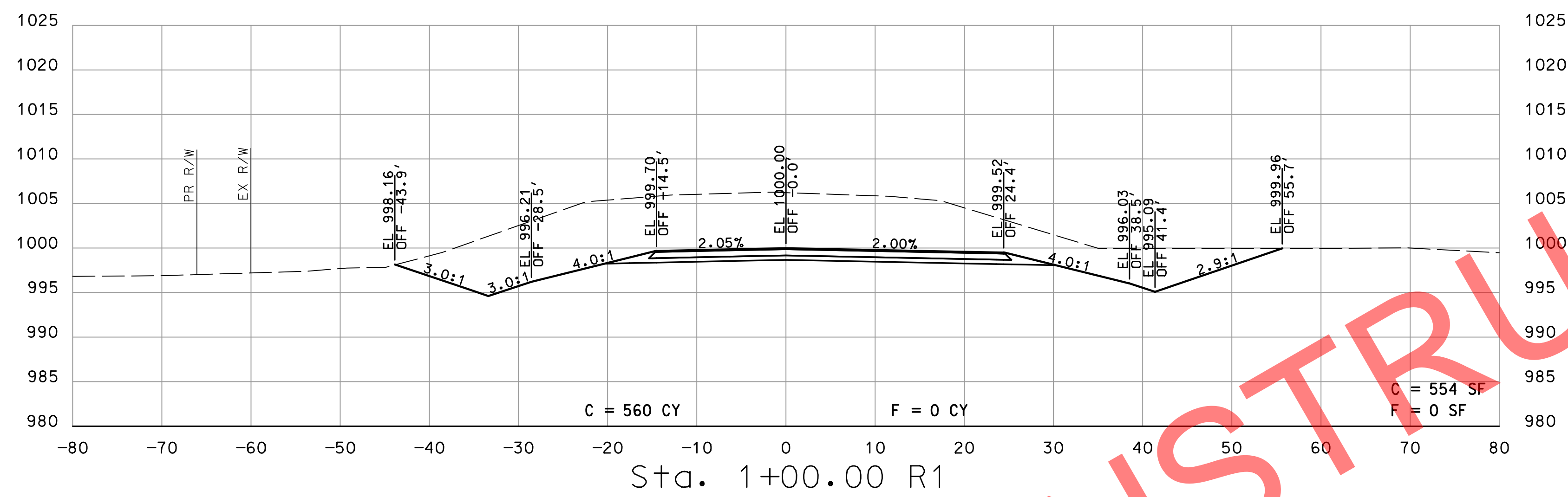
REV.



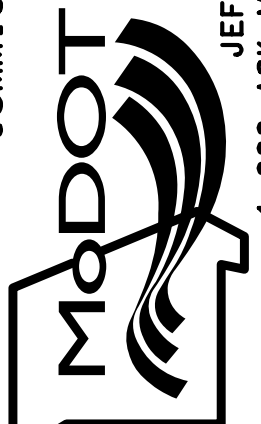

Sta. 0+20.91 R1
SKEW 79°03'53" RA.
STA. 0+20.91 R1 TO STA. 0+40.63 R1
ROUTE N

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.21
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

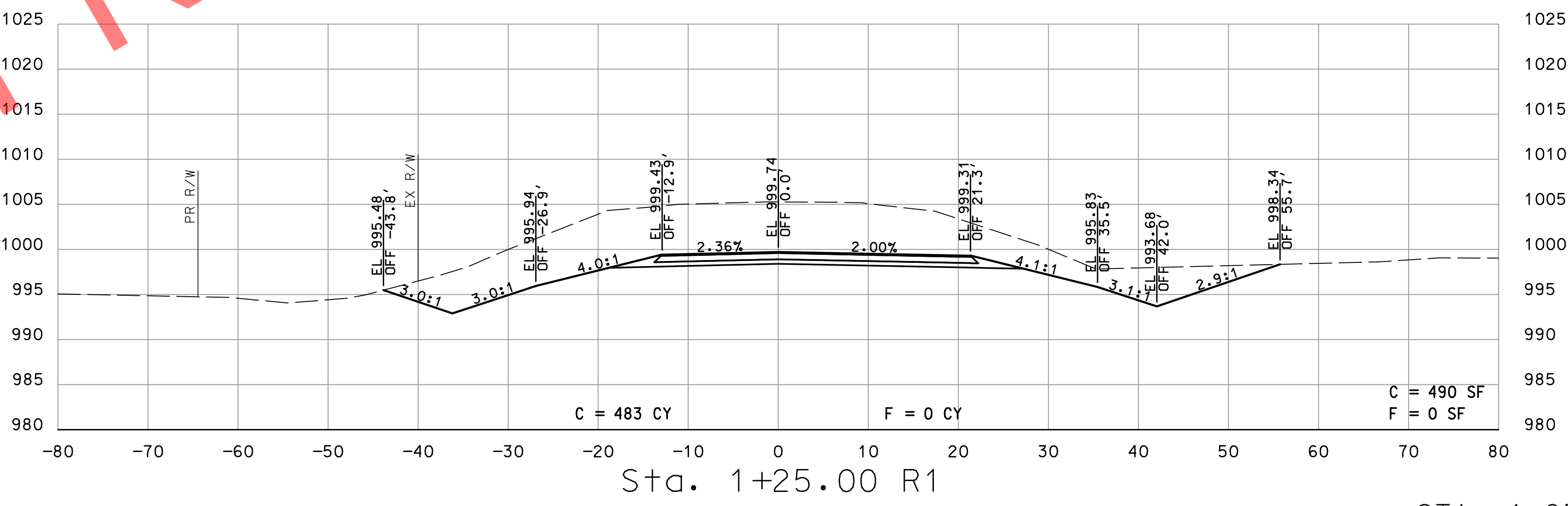
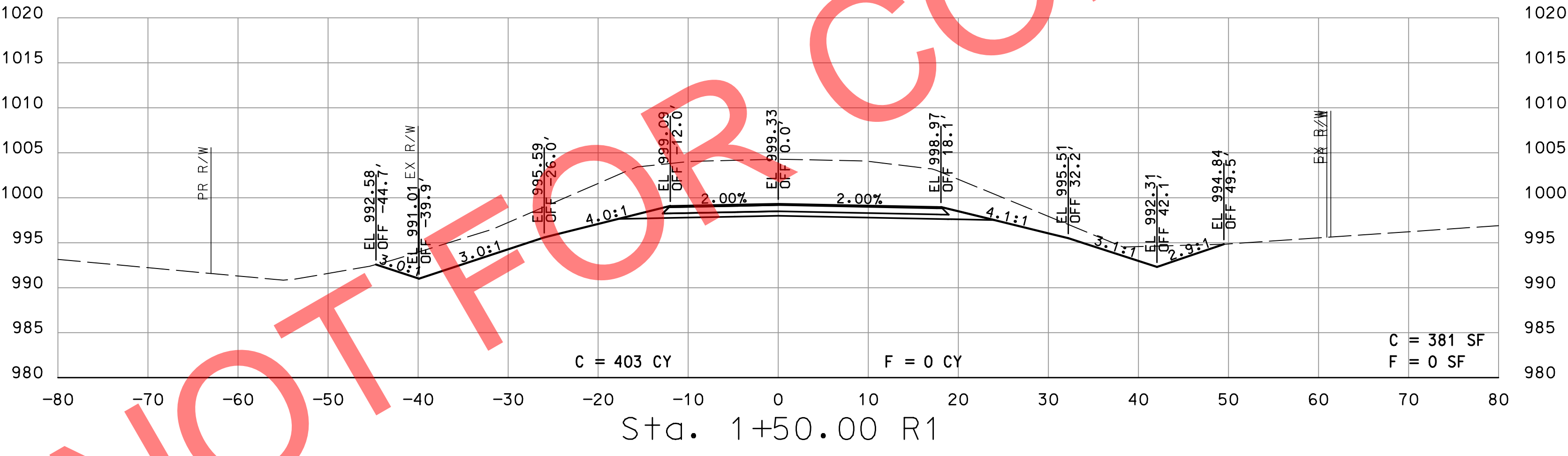
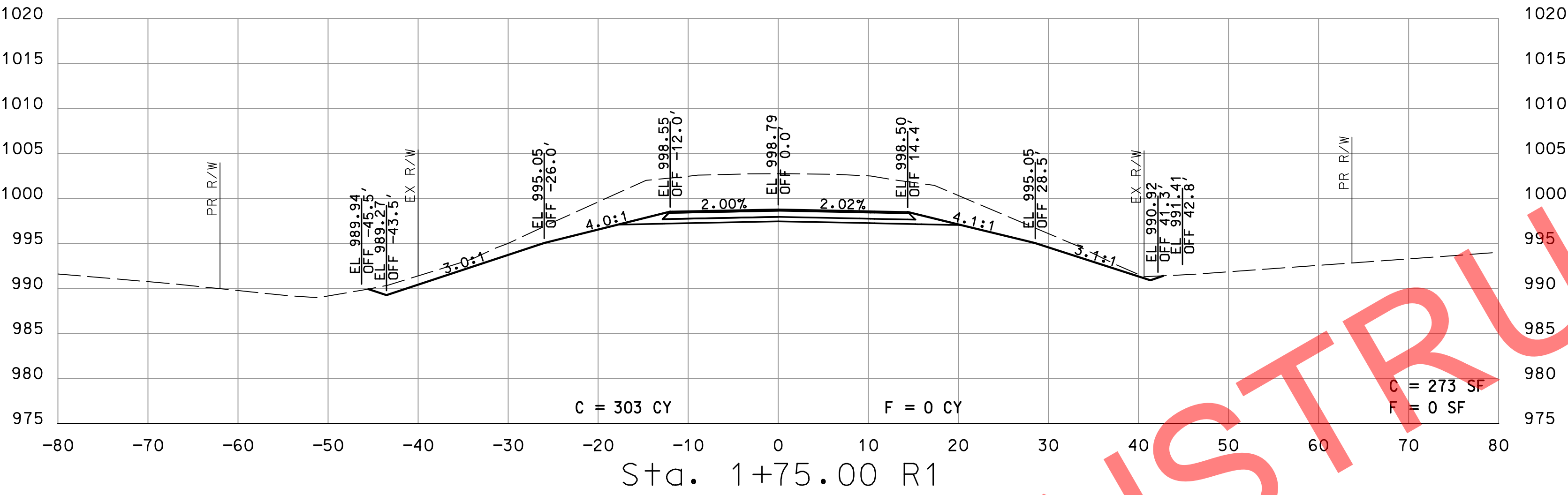
DRAFT NOT FOR CONSTRUCTION





ROUTE N
STA. 0+50.00 R1 TO STA. 1+00.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.22
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
 105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
 1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

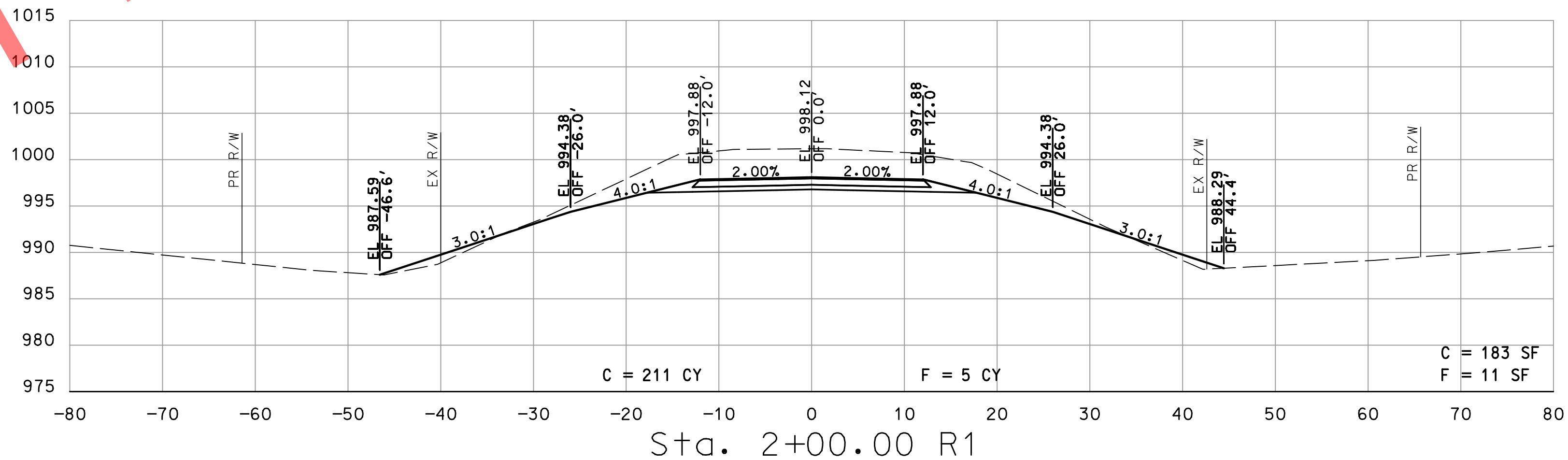
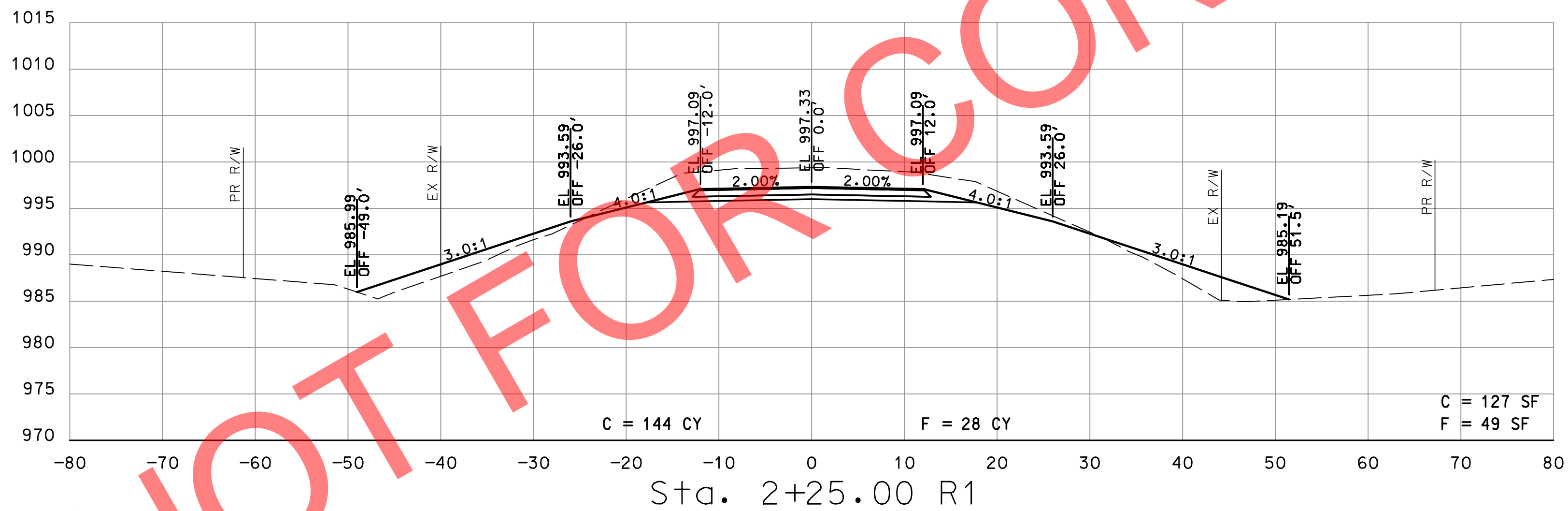
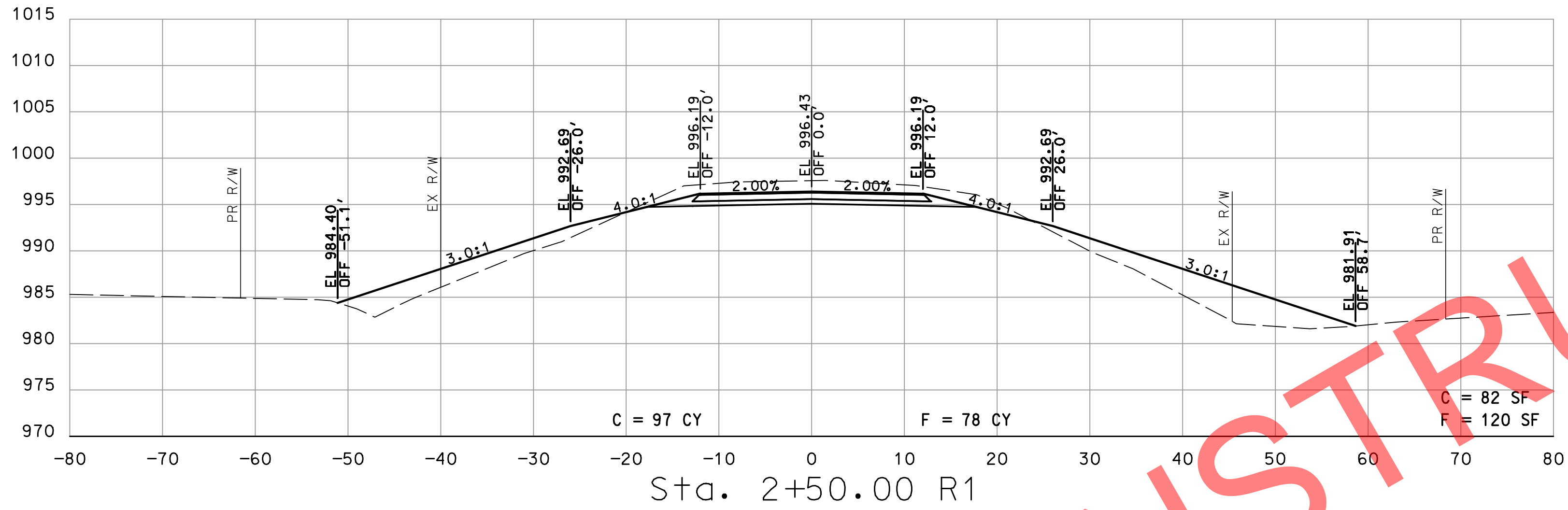
DRAFT NOT FOR CONSTRUCTION



ROUTE N
STA. 1+25.00 R1 TO STA. 1+75.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.23
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

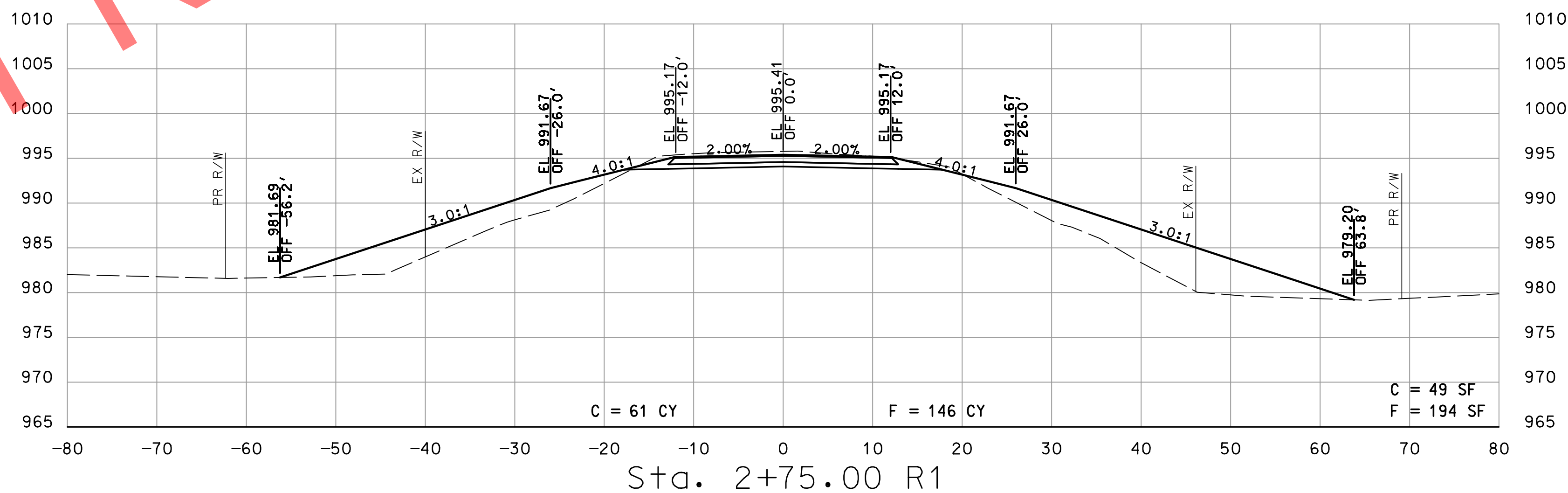
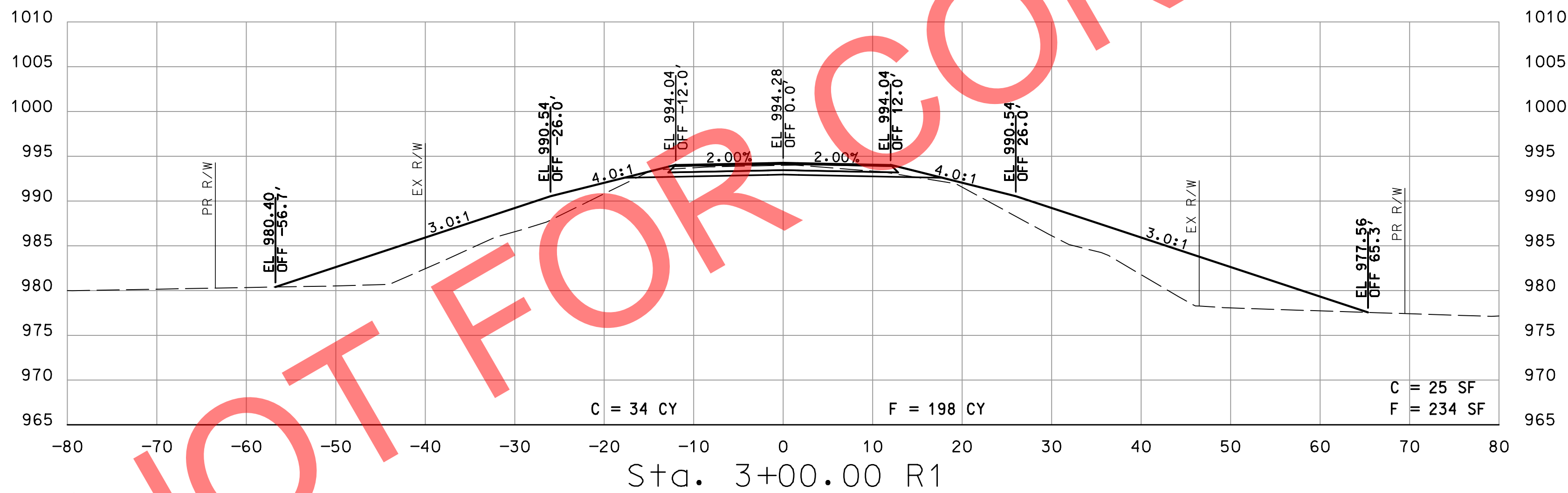
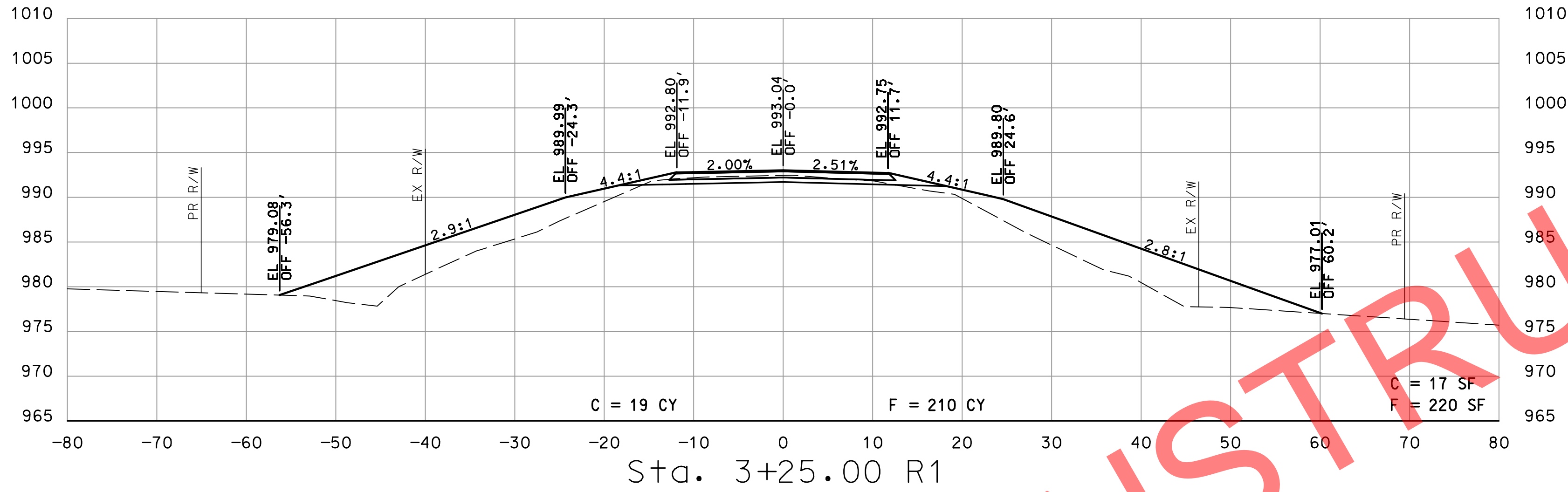
DRAFT NOT FOR CONSTRUCTION



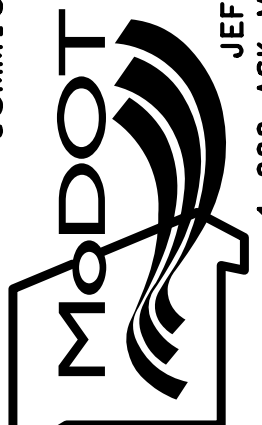

ROUTE N
STA. 2+00.00 R1 TO STA. 2+50.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.24
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

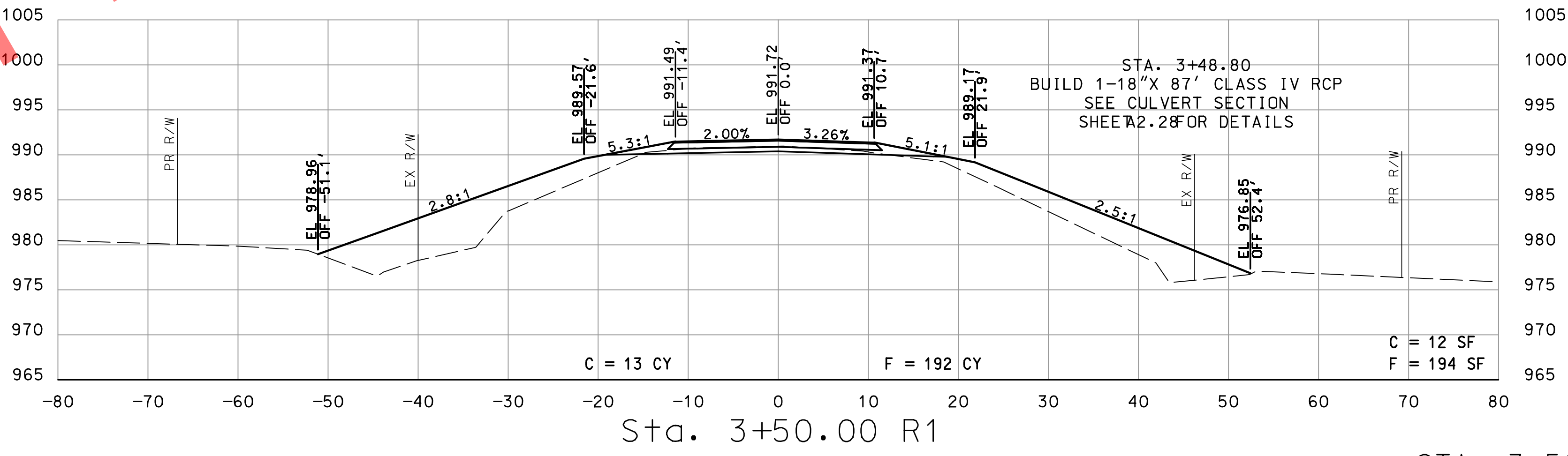
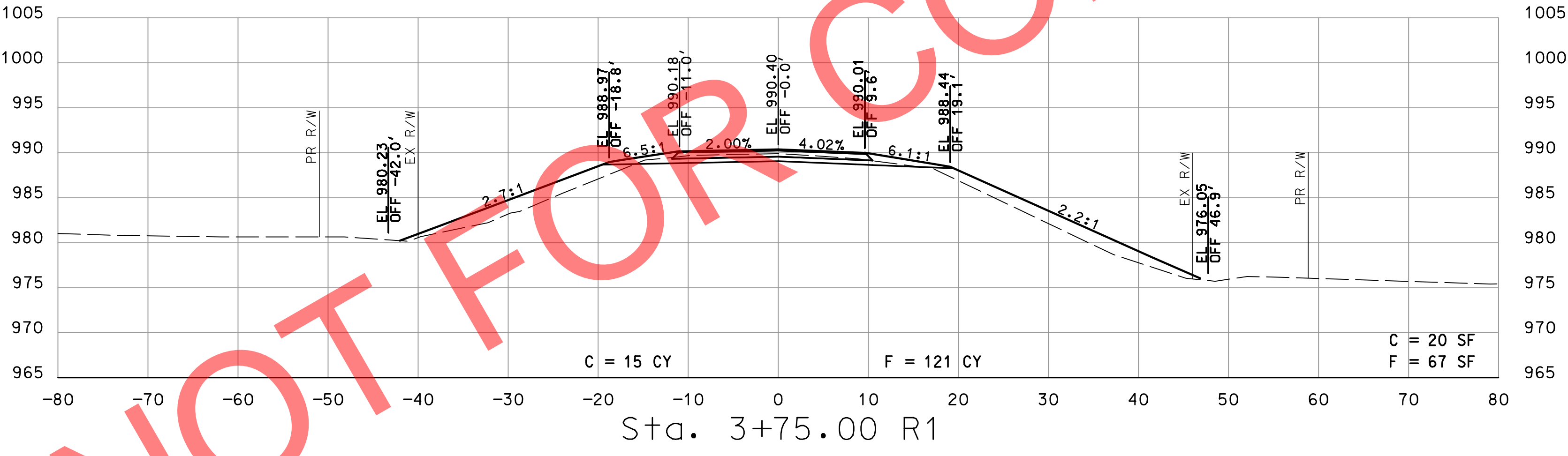
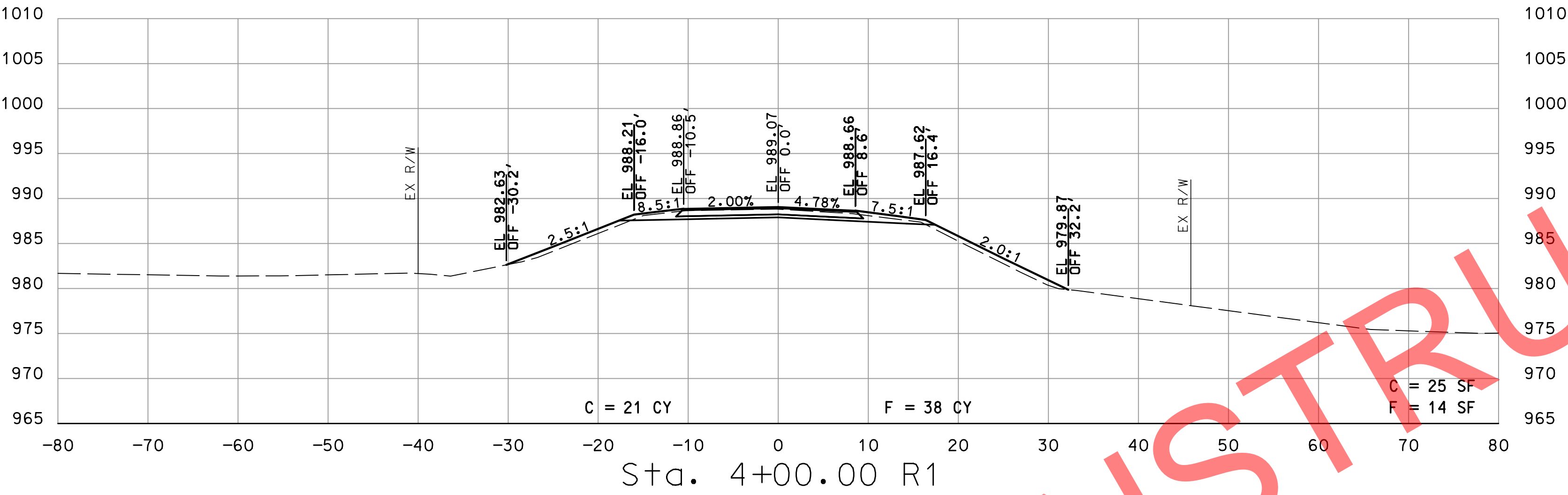
DRAFT NOT FOR CONSTRUCTION



ROUTE N
STA. 2+75.00 R1 TO STA. 3+25.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.25
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

DRAFT NOT FOR CONSTRUCTION



ROUTE N
STA. 3+50.00 R1 TO STA. 4+00.00 R1

DATE PREPARED
2/7/2022

ROUTE
5

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

STATE
MO

SHEET NO.
A2.26

JOB NO.
J1S3392

CONTRACT ID.


PROJECT NO.

BRIDGE NO.


DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



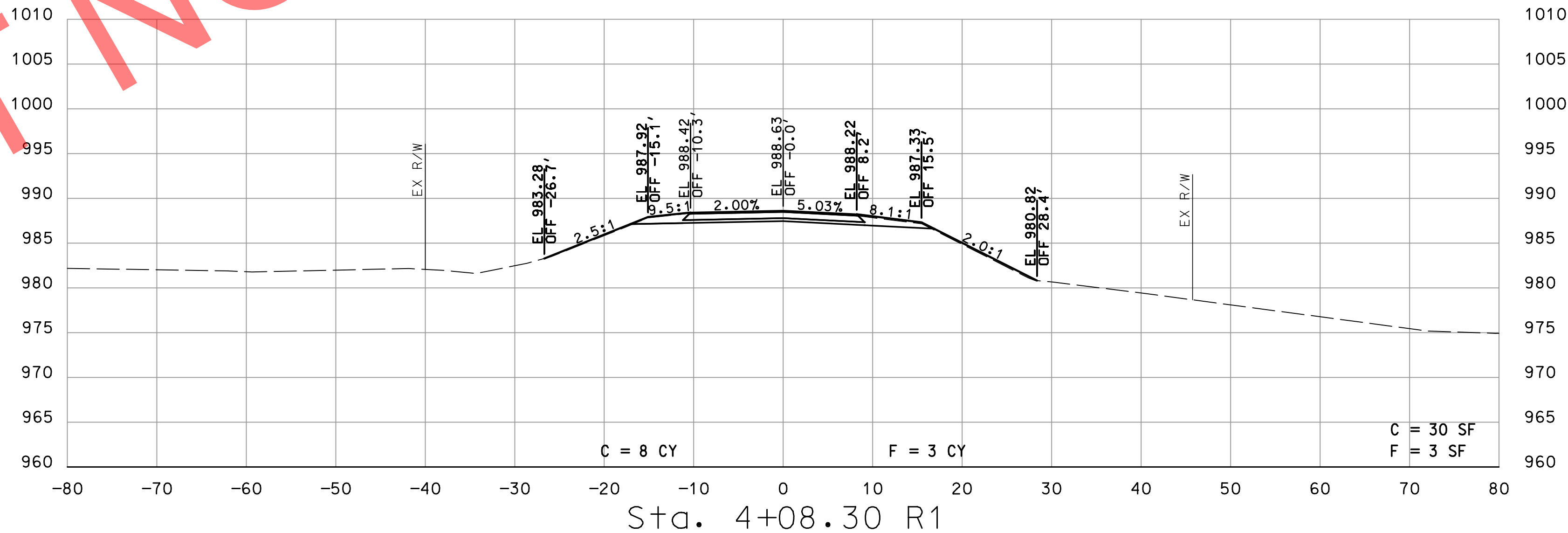
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



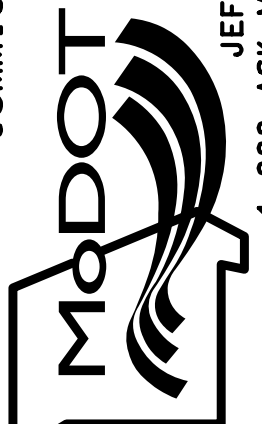

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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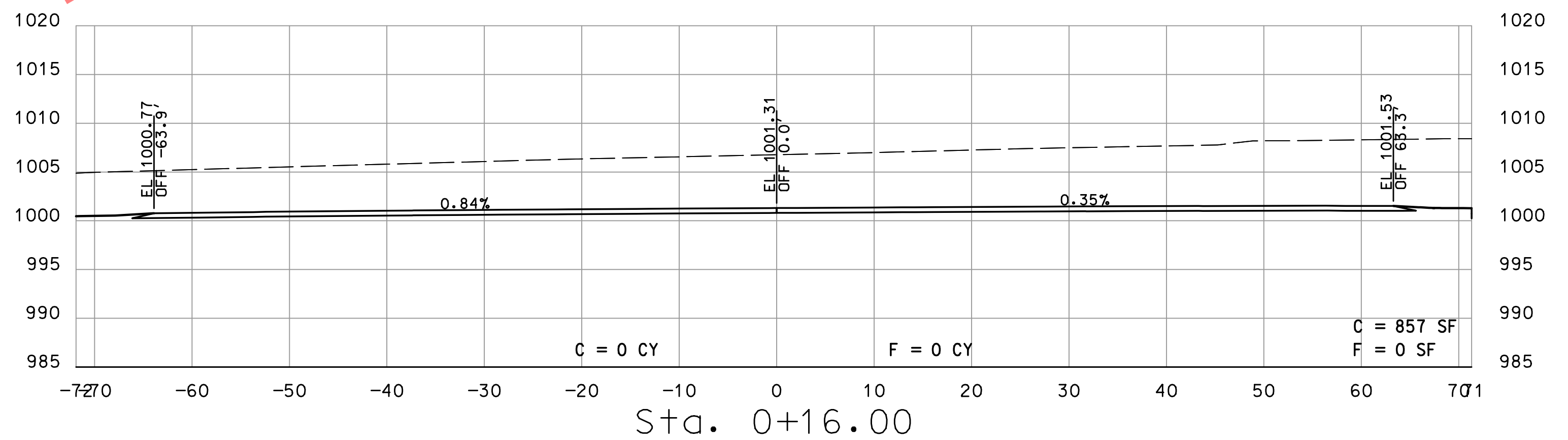
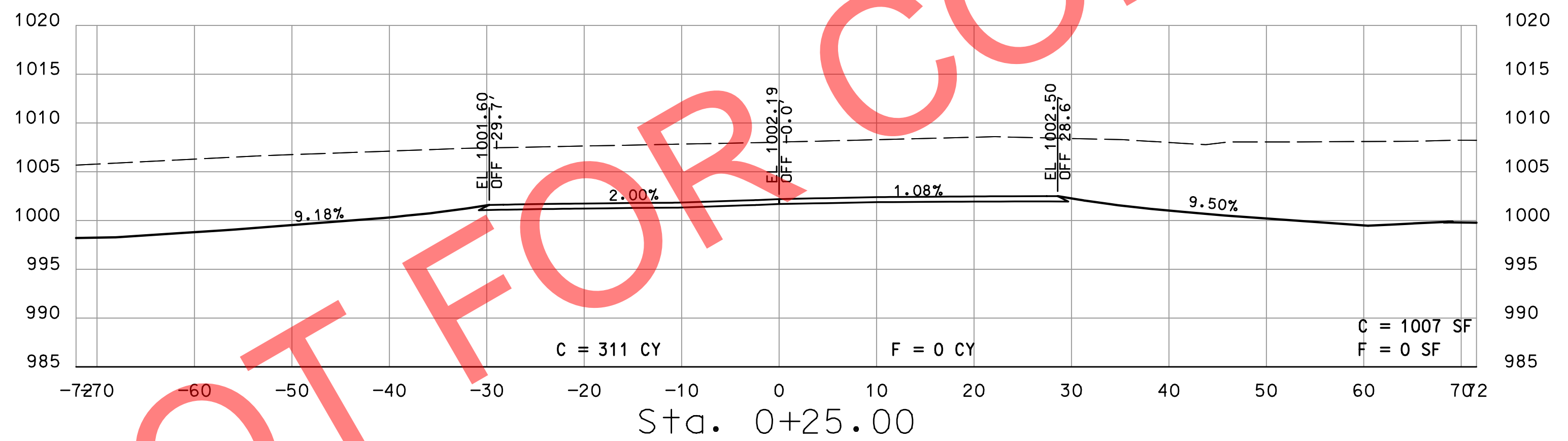
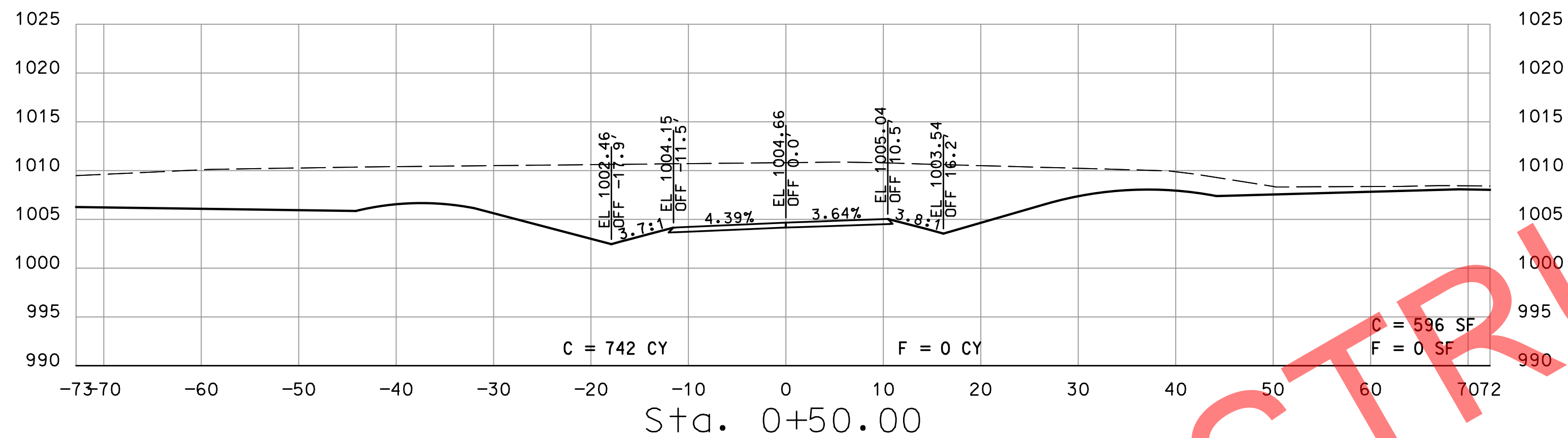
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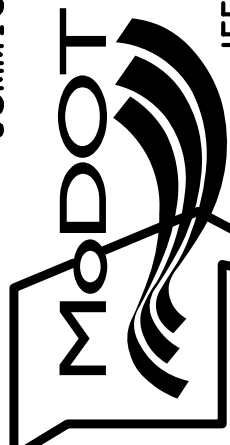
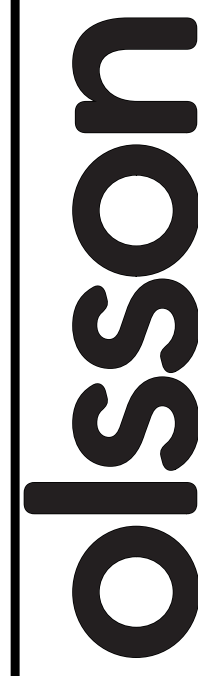
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STA. 4+08.30 R1

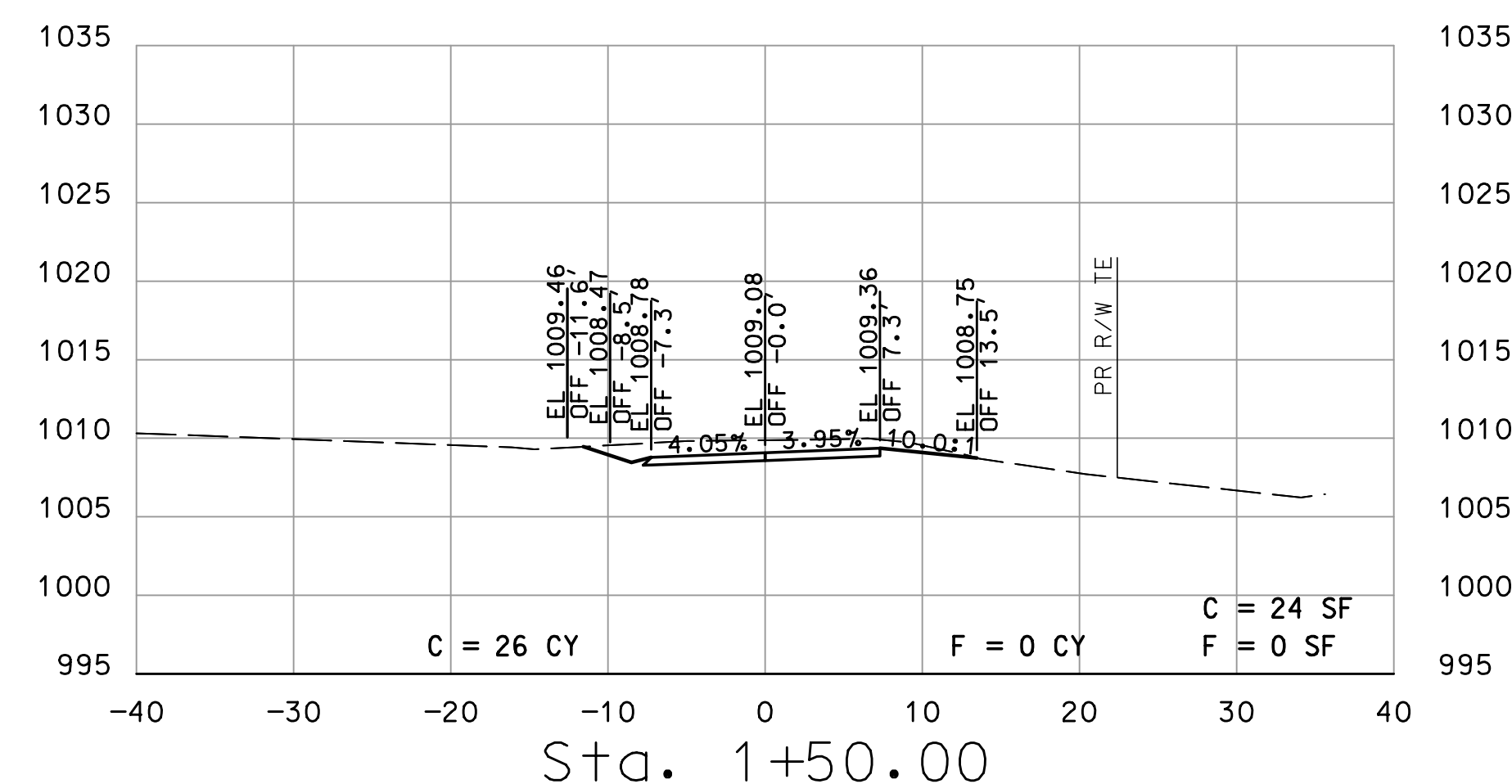
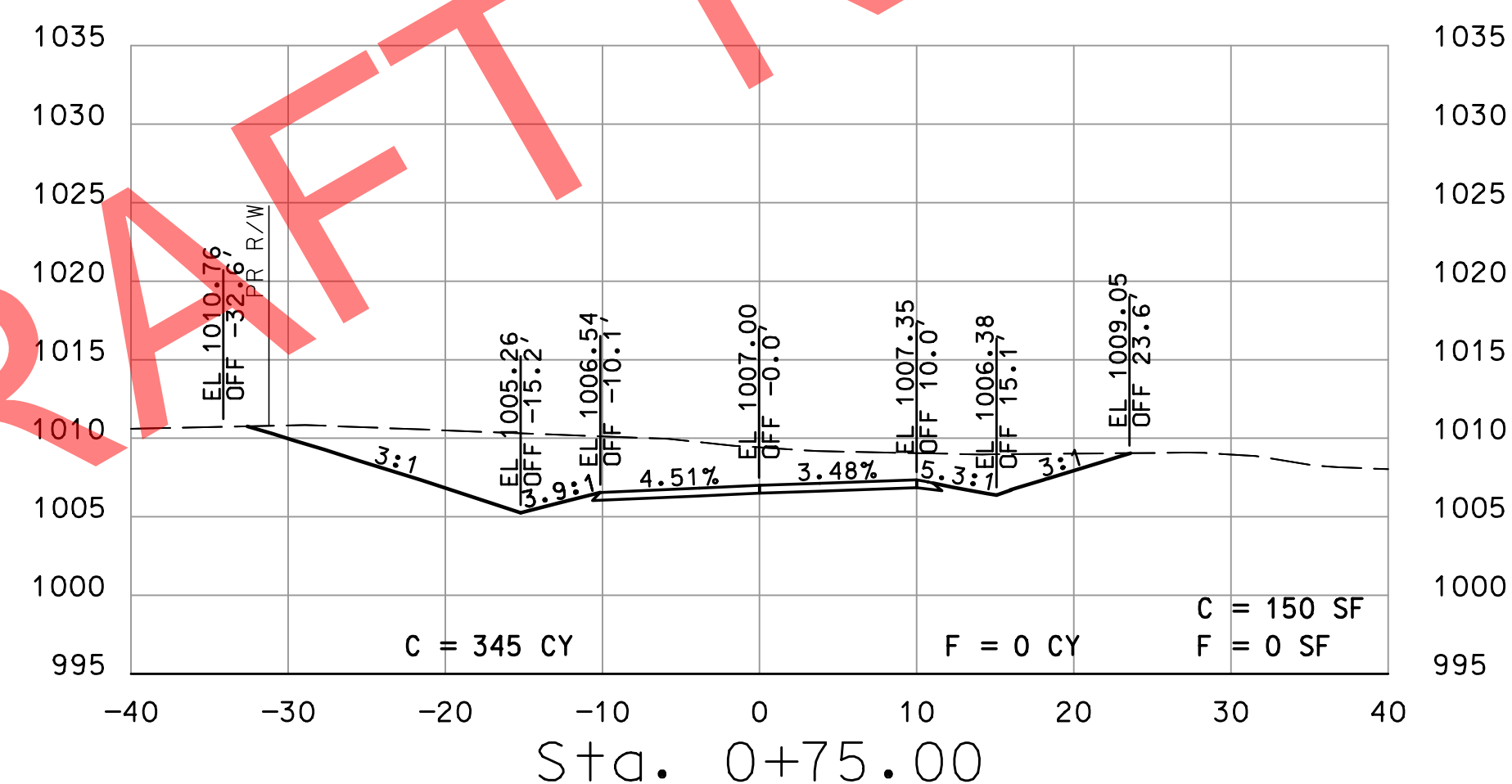
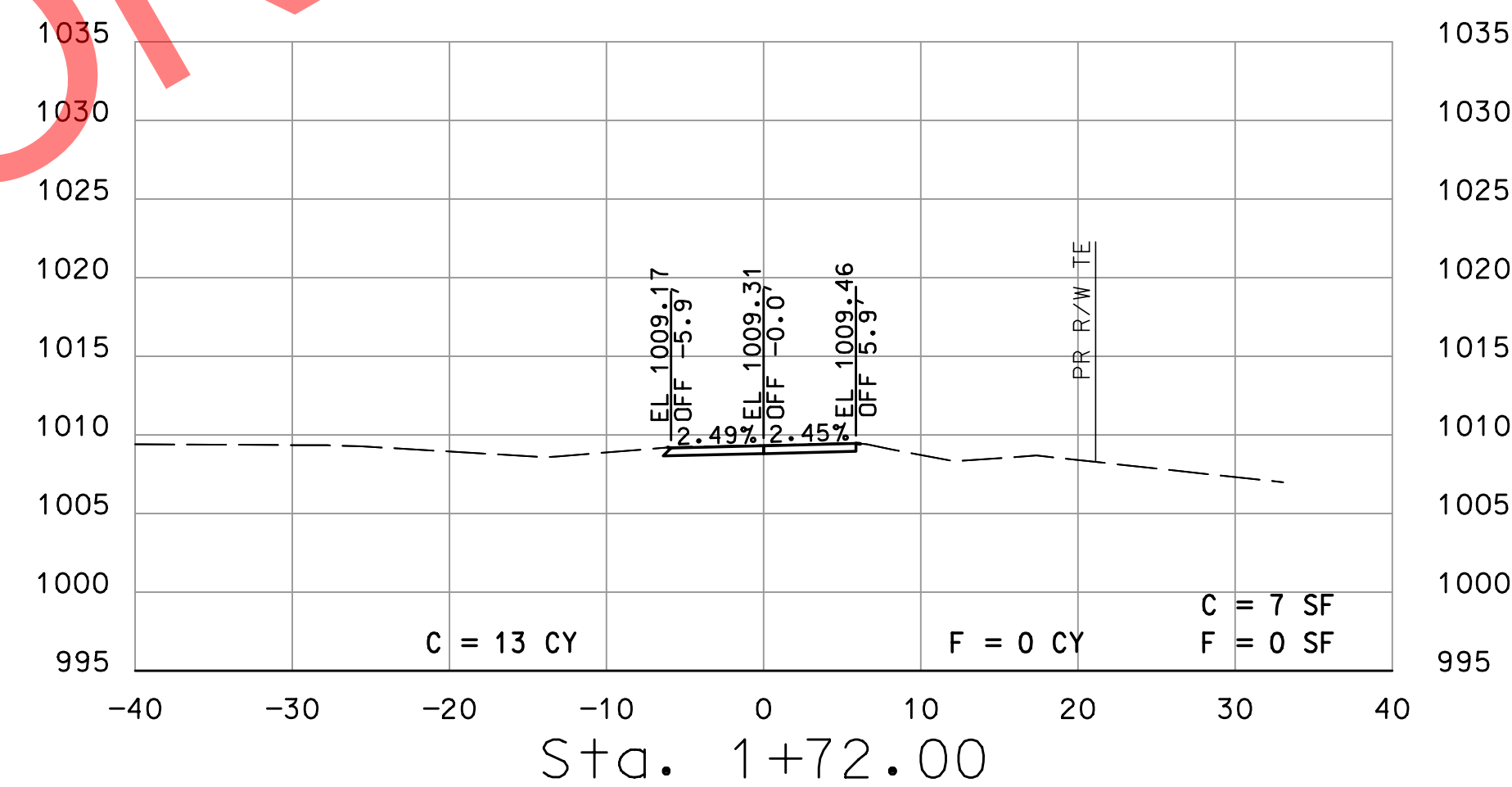
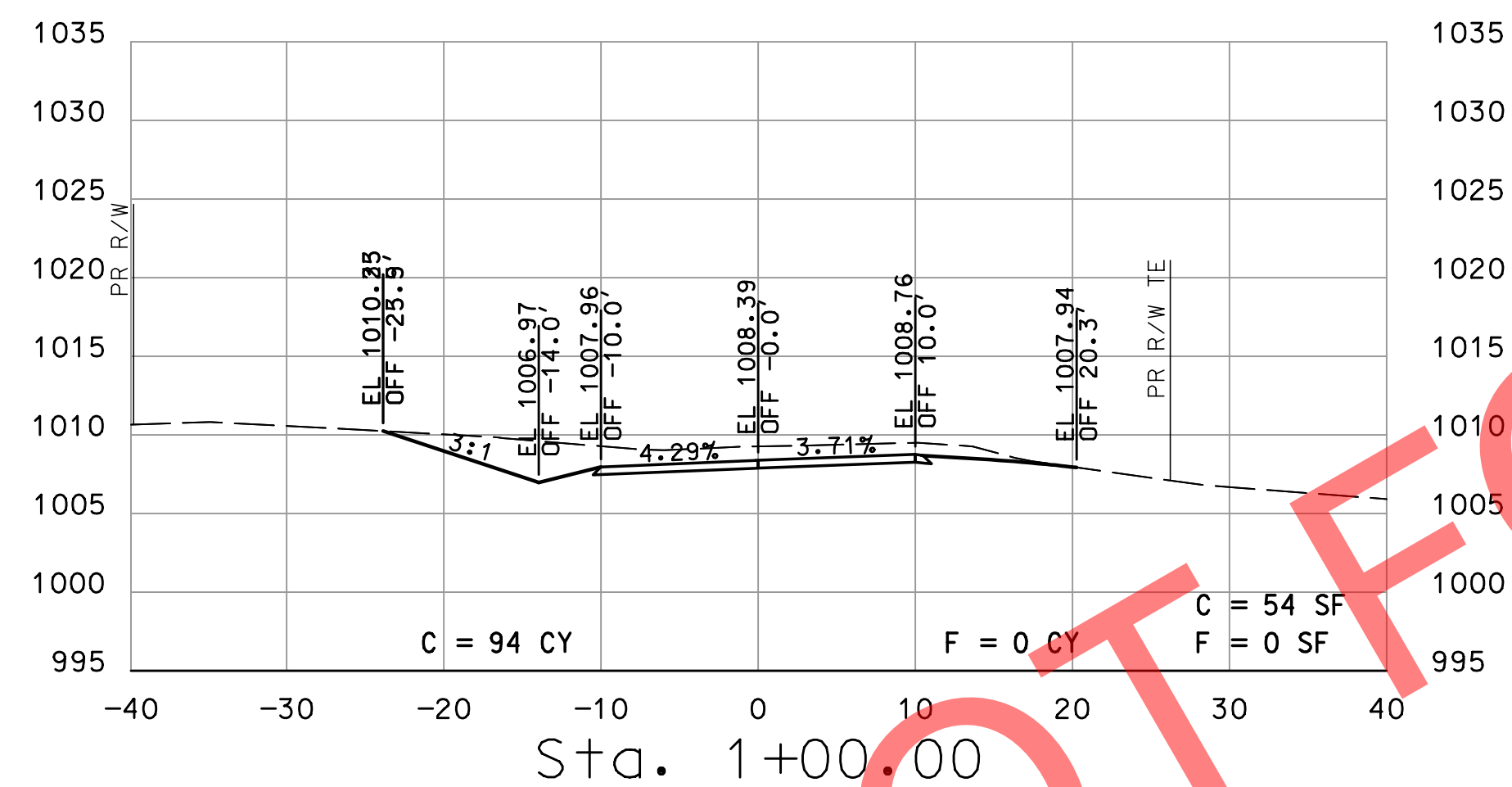
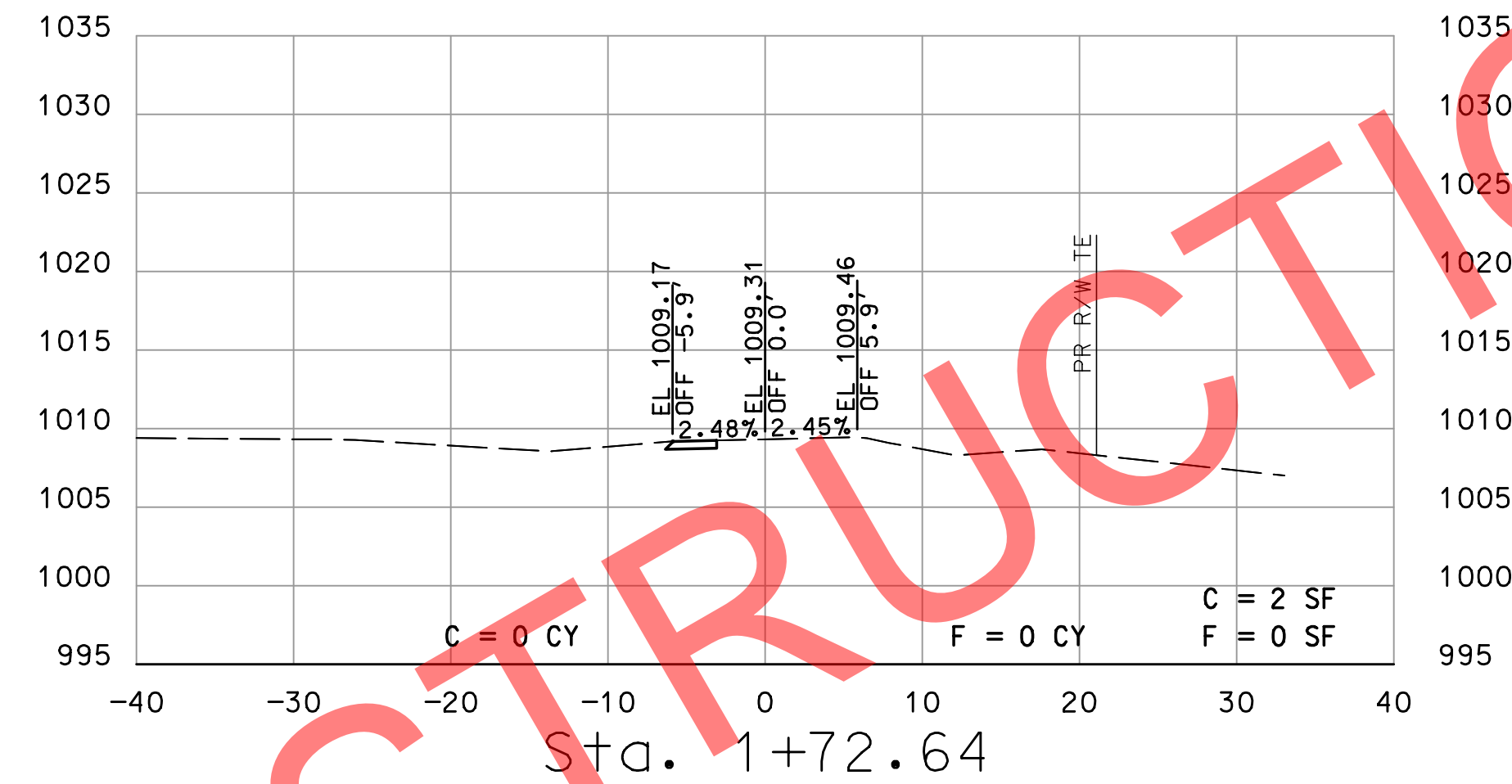
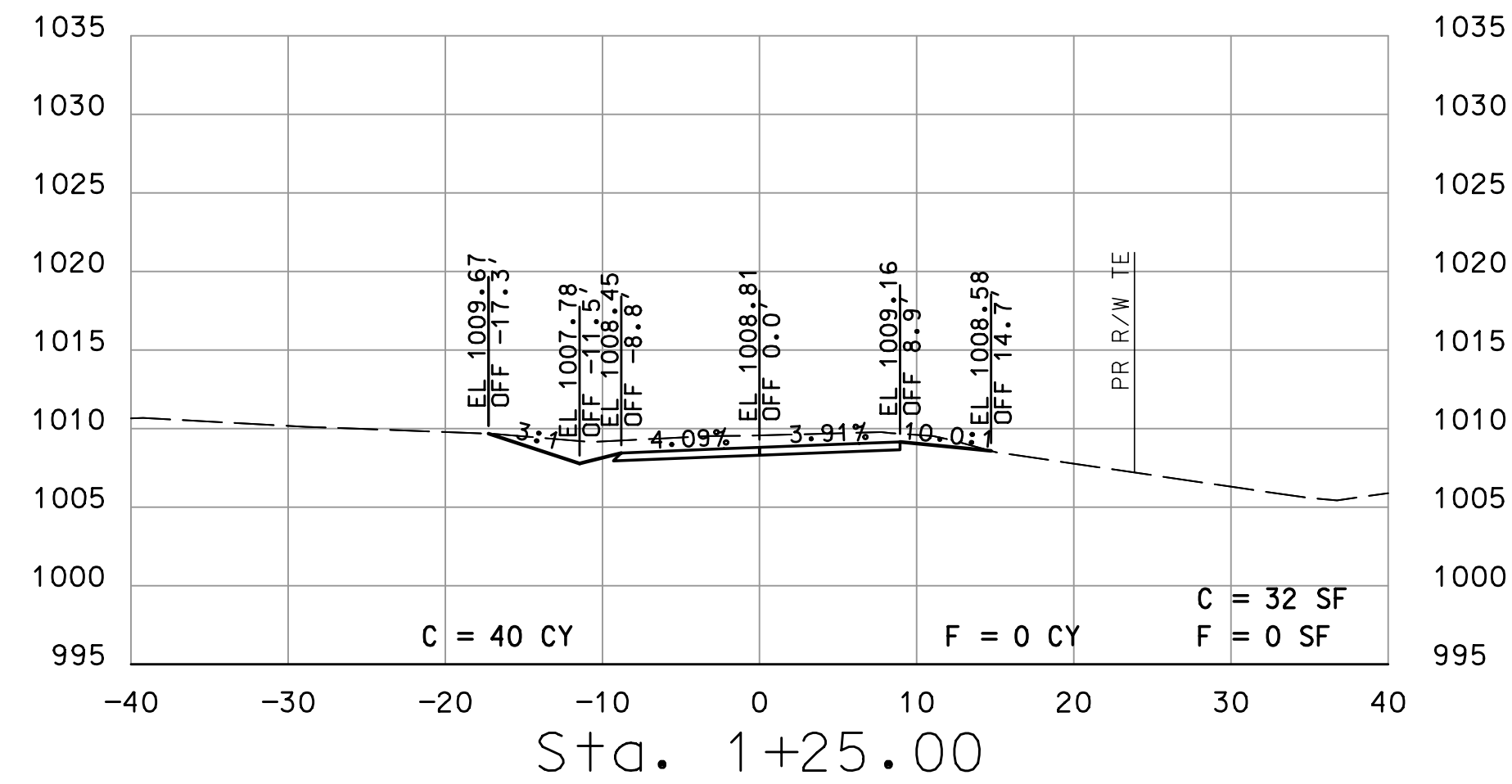
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.27
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

DRAFT NOT FOR CONSTRUCTION



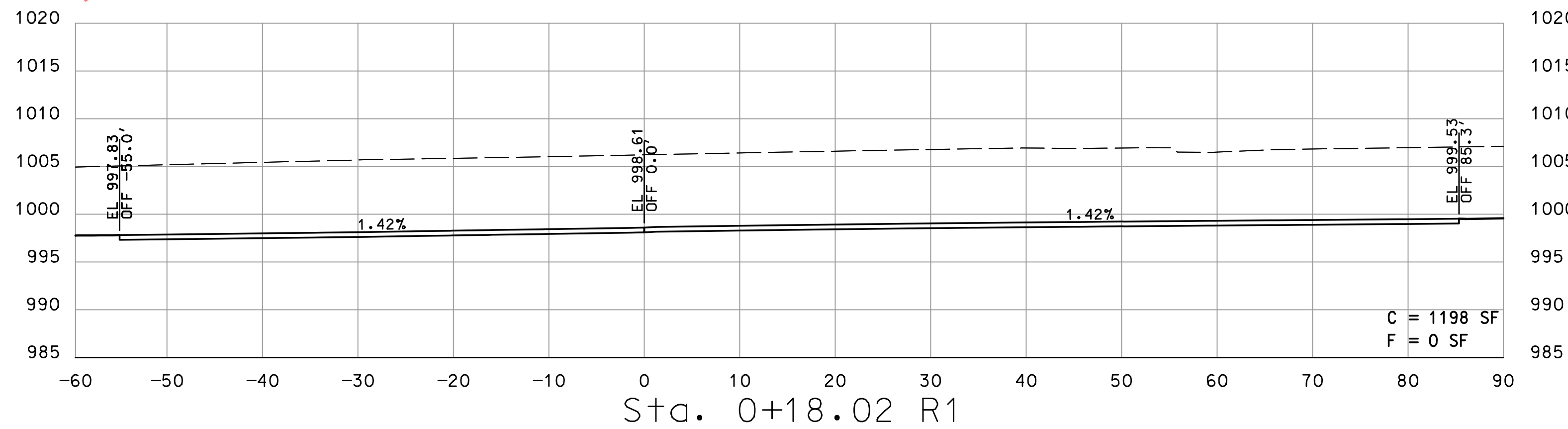
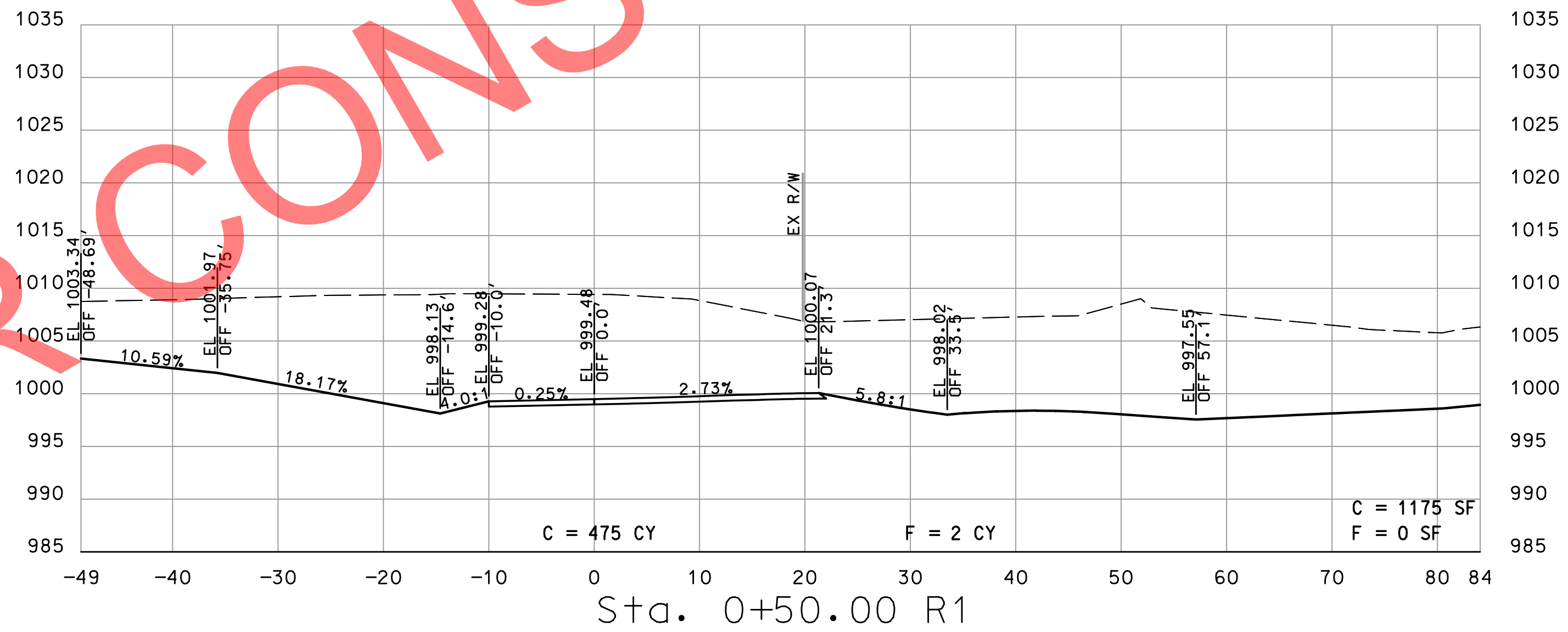
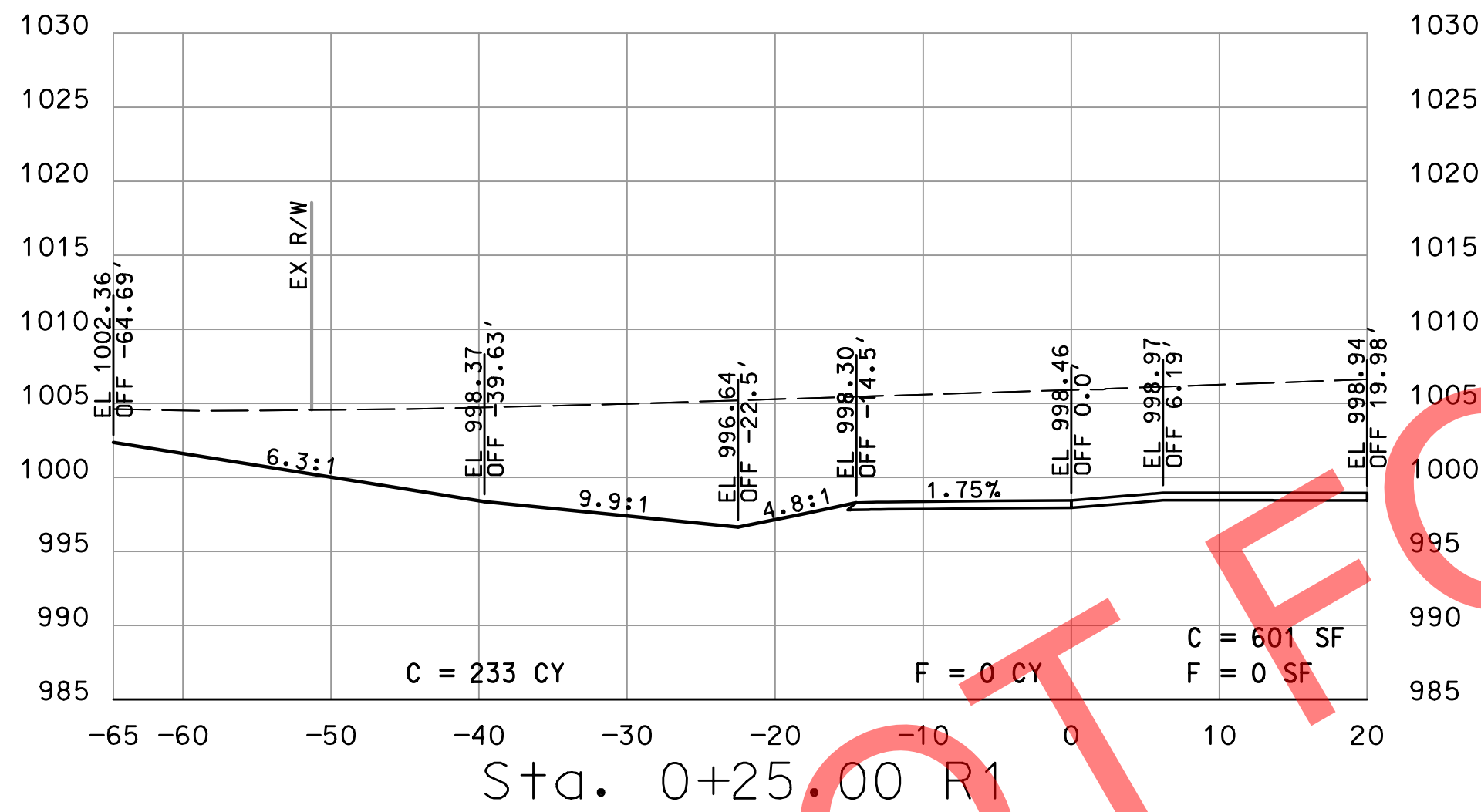
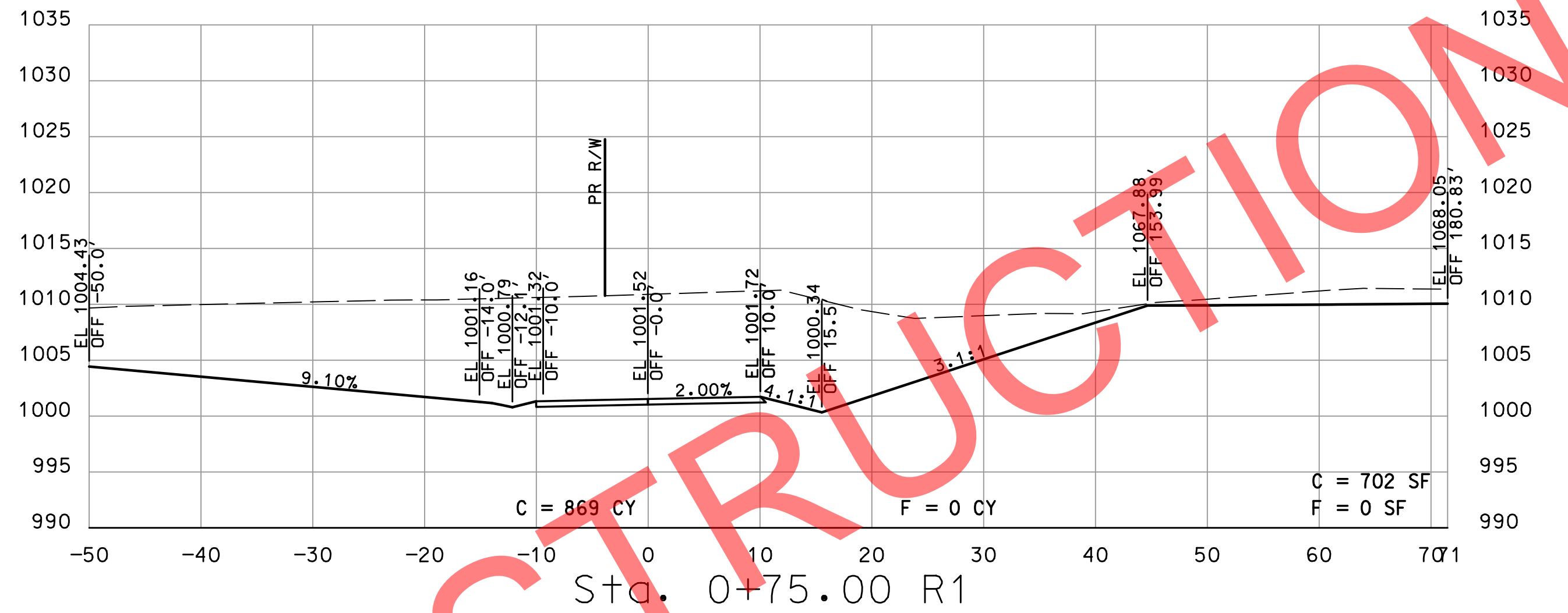
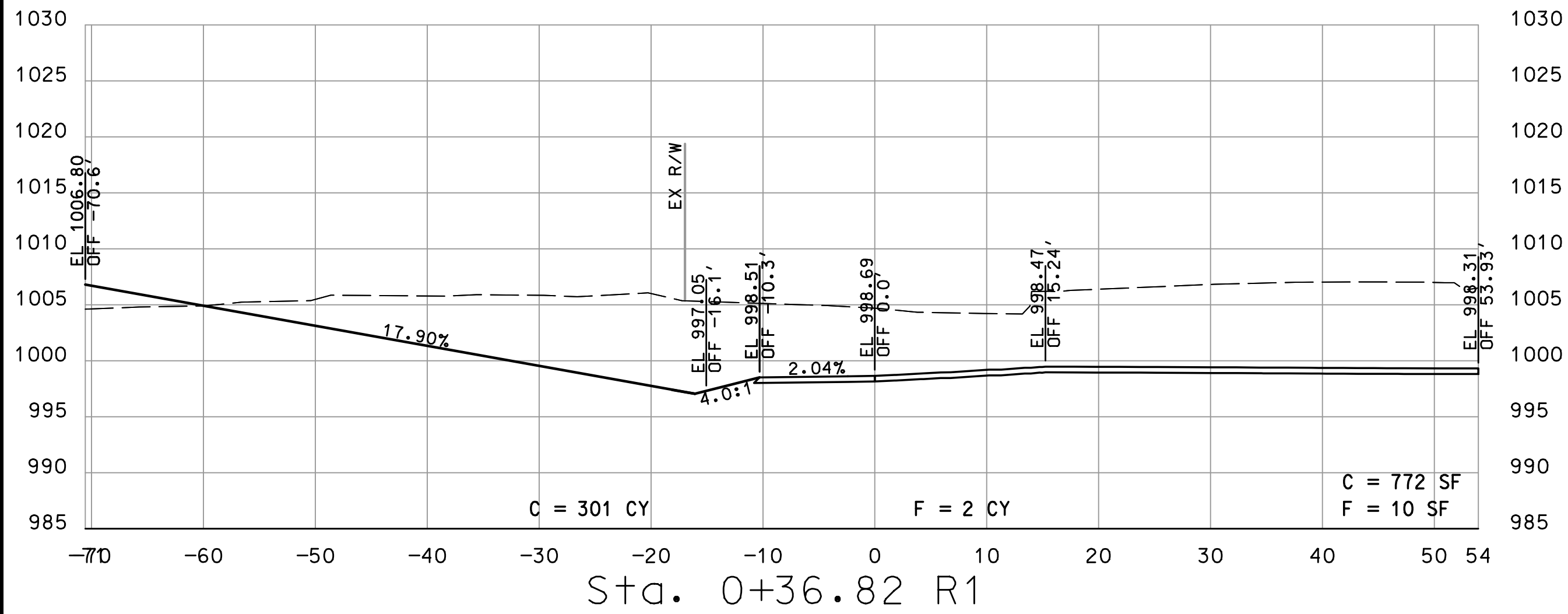
DRIVEWAY 1
STA. 0+16.00 R1 TO STA. 0+50.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.28
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



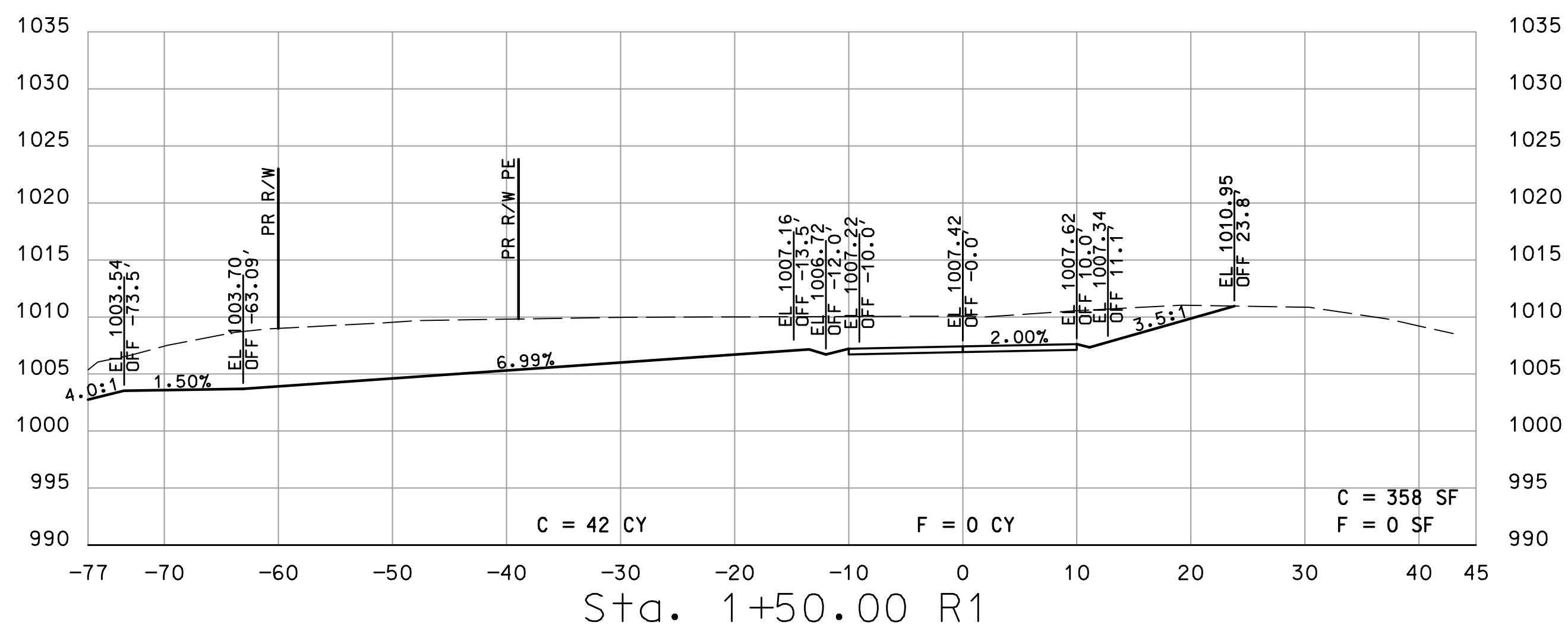
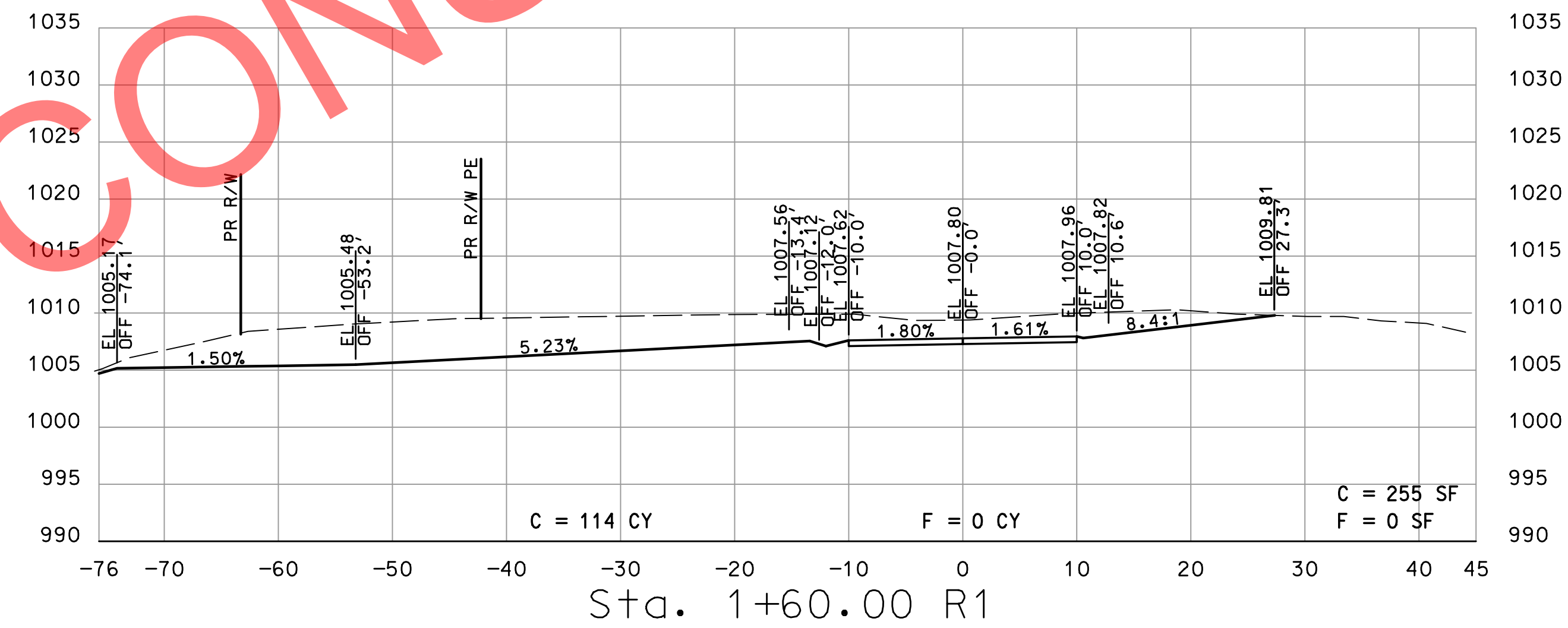
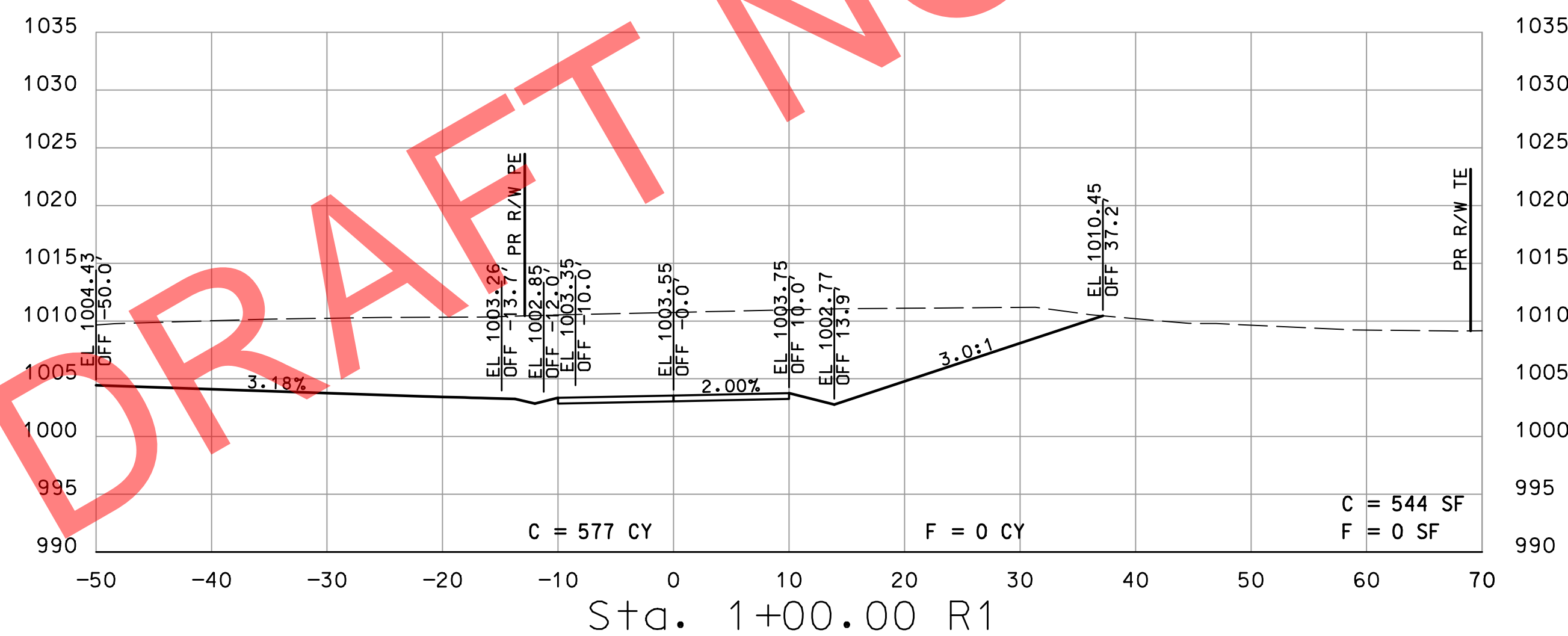
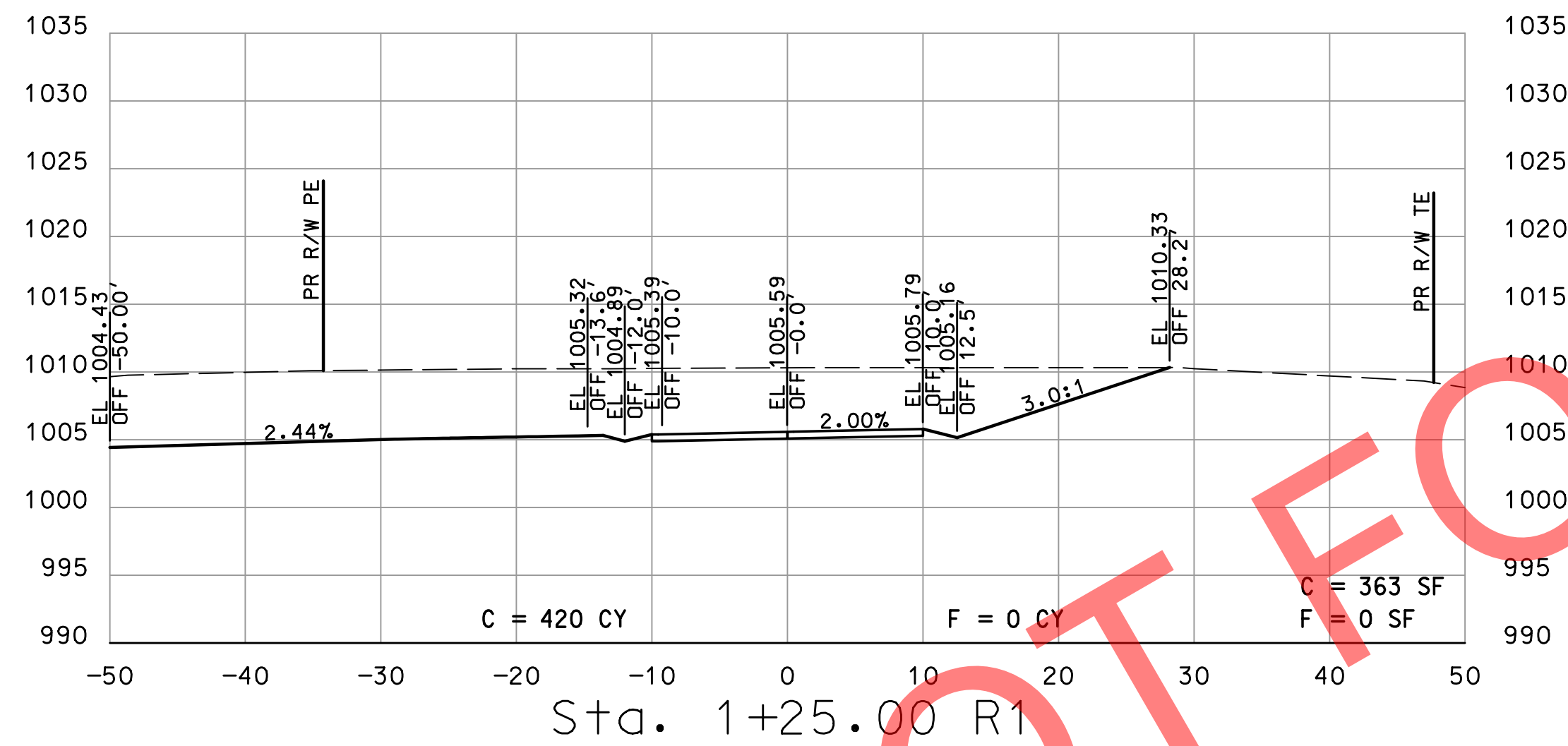
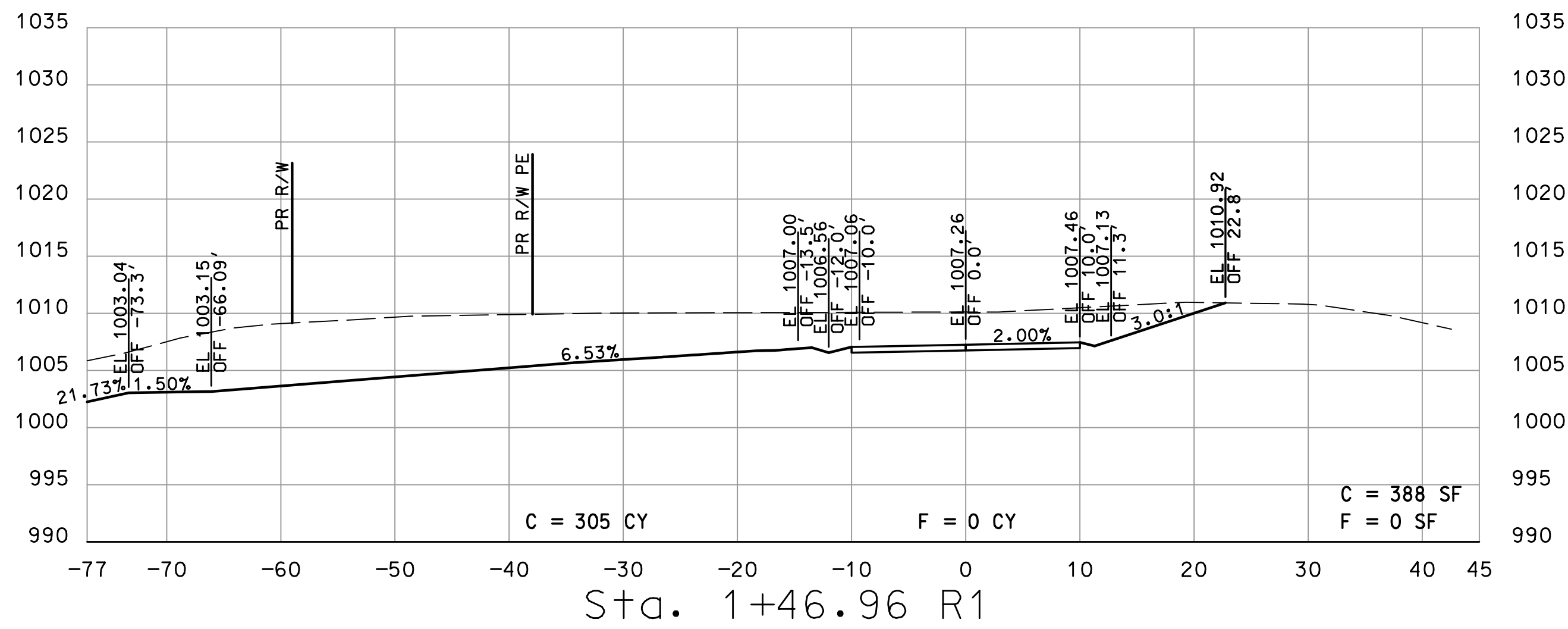
DRIVEWAY 1
STA. 0+75.00 R1 TO STA. 1+72.64 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.29
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MoDOT	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



DRIVEWAY 2
STA. 0+18.02 R1 TO STA. 0+75.00 R1

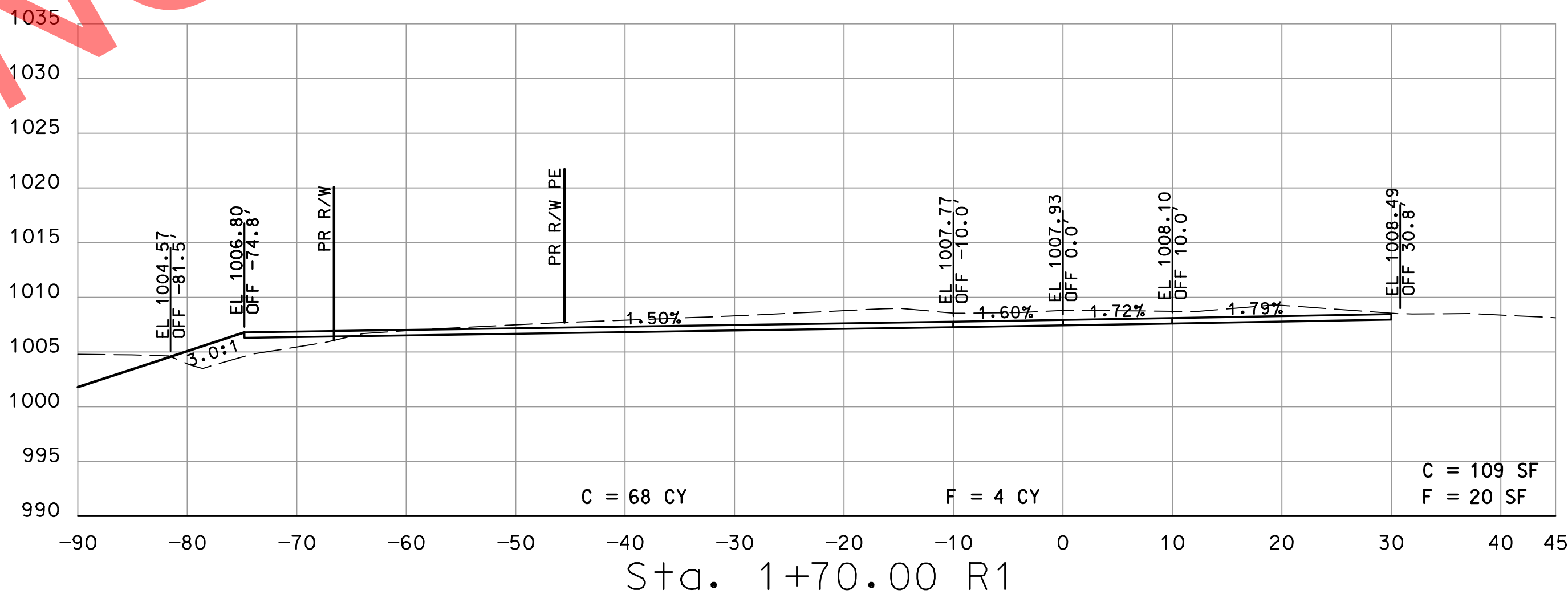
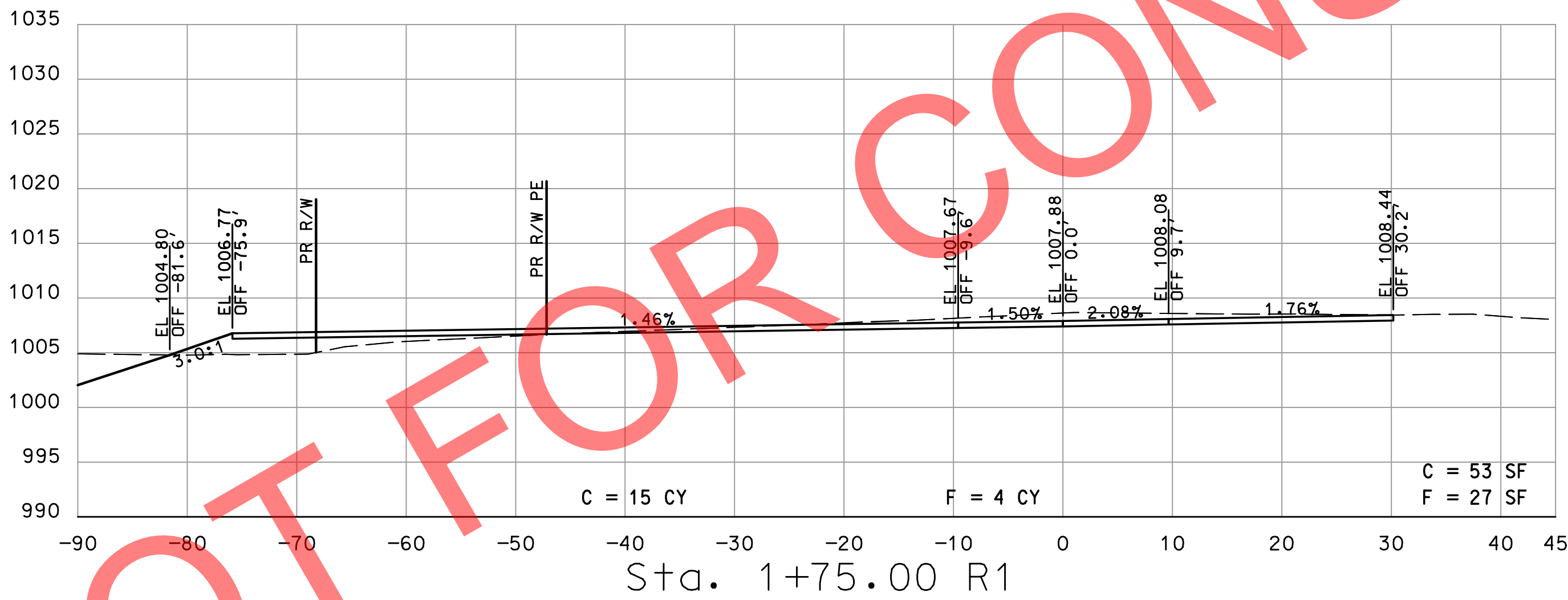
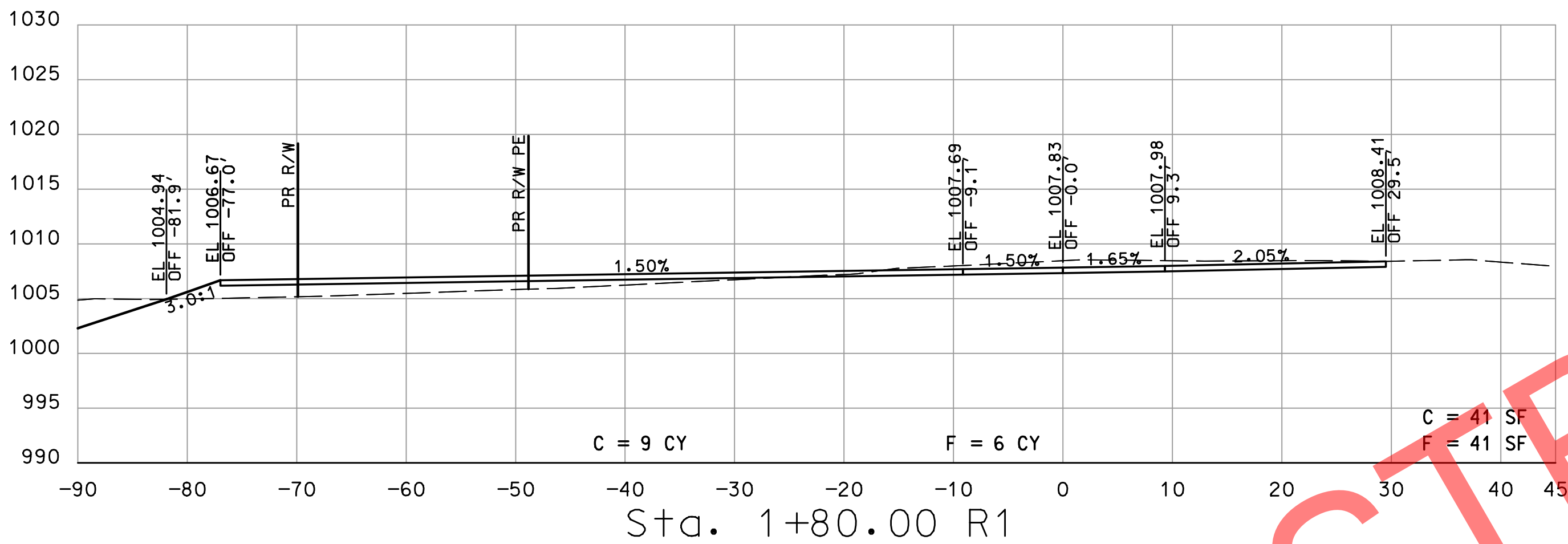
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.30
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MoDOT	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



DRIVEWAY 2
STA. 1+00.00 R1 TO STA. 1+60.00 R1

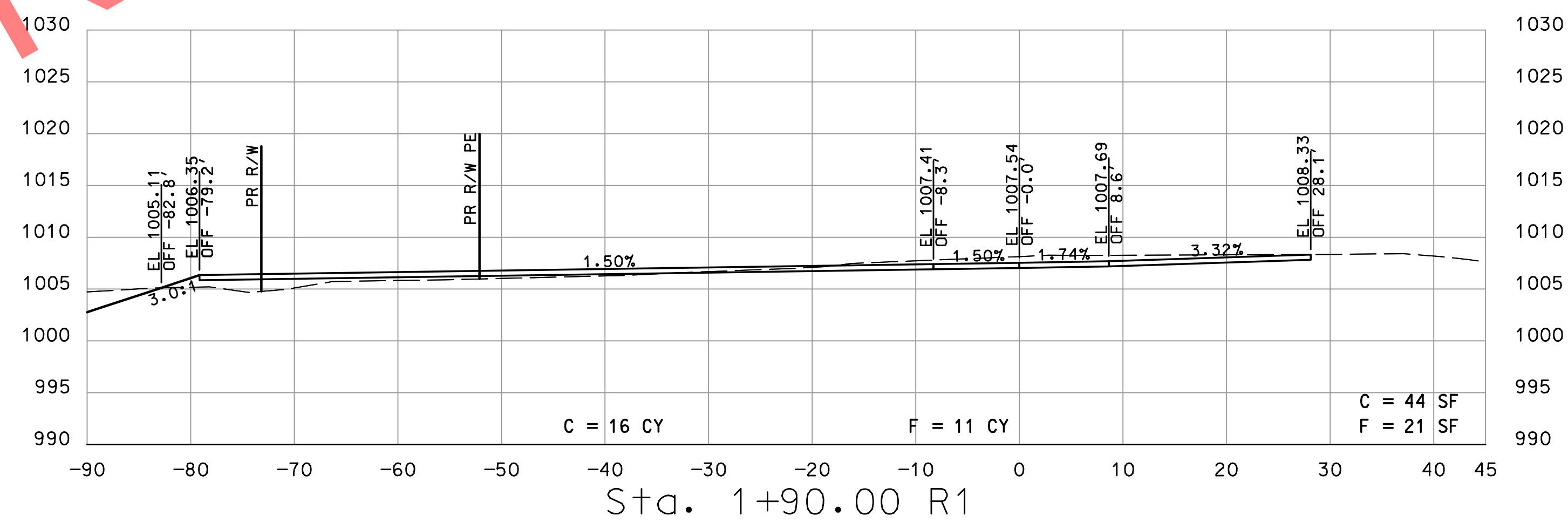
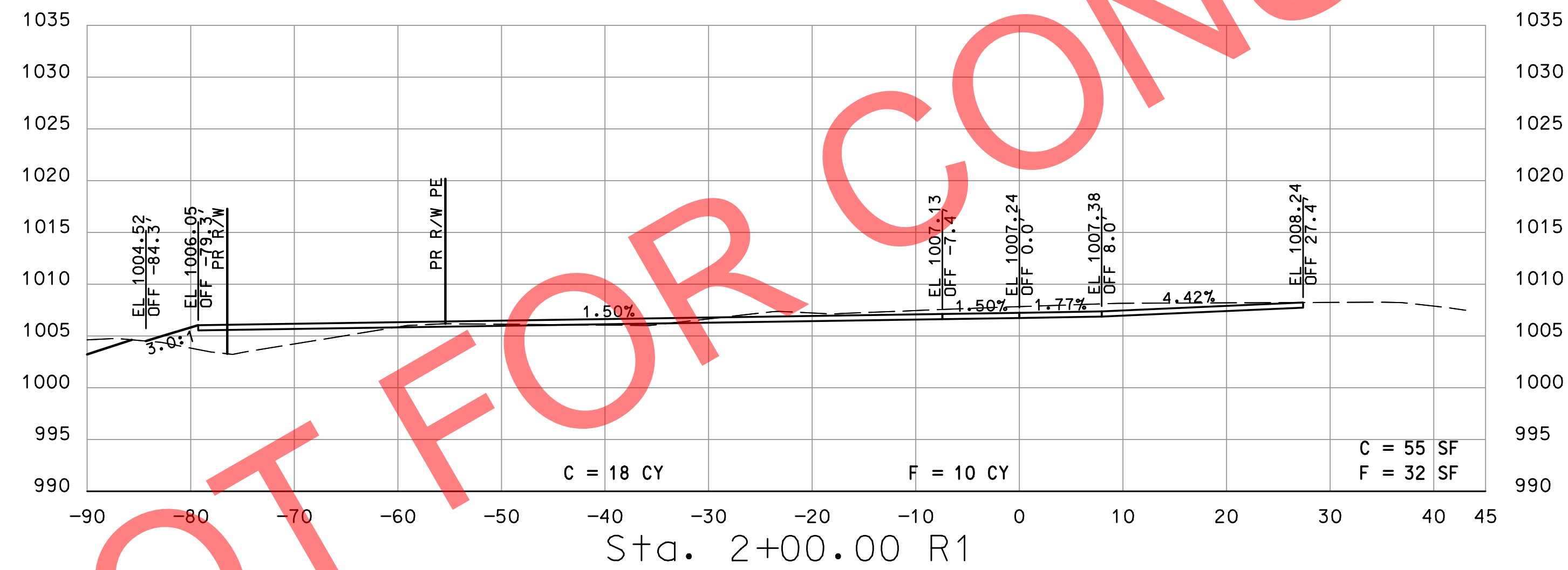
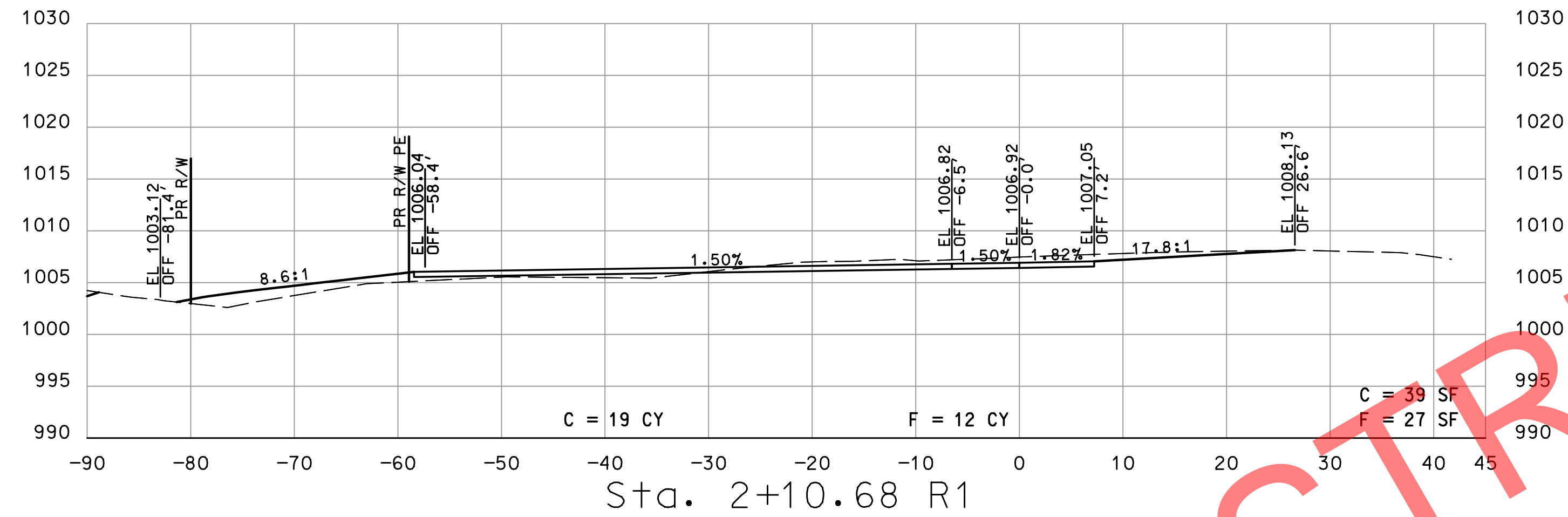
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.31
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MoDOT	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

DRAFT NOT FOR CONSTRUCTION



DRIVEWAY 2
STA. 1+70.00 R1 TO STA. 1+80.00 R1

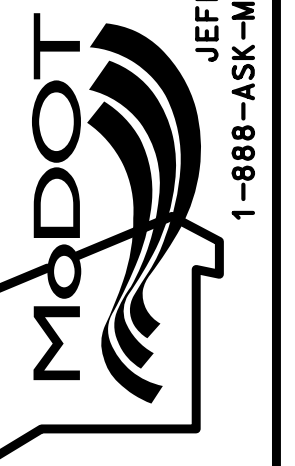
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.32
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



STA. 1+90.00 R1 TO STA. 2+10.68 R1

DATE PREPARED	
2/7/2022	
ROUTE	STATE
5	MO
DISTRICT	SHEET NO.
NW	A2.33
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

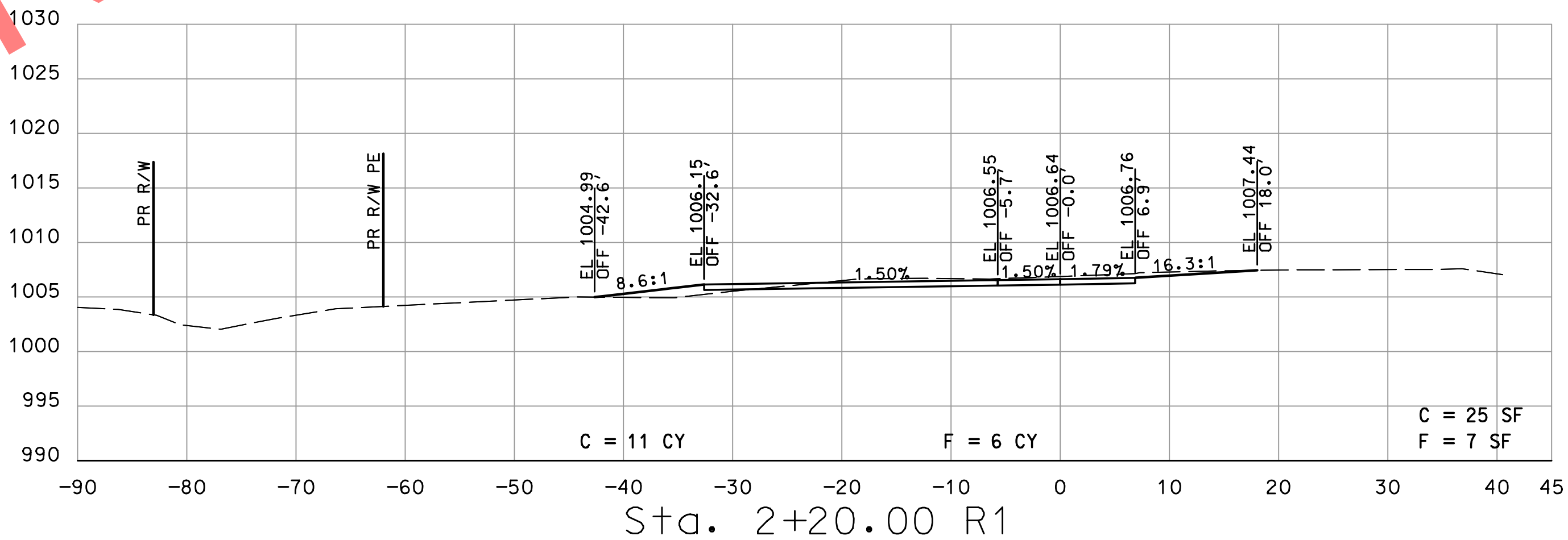
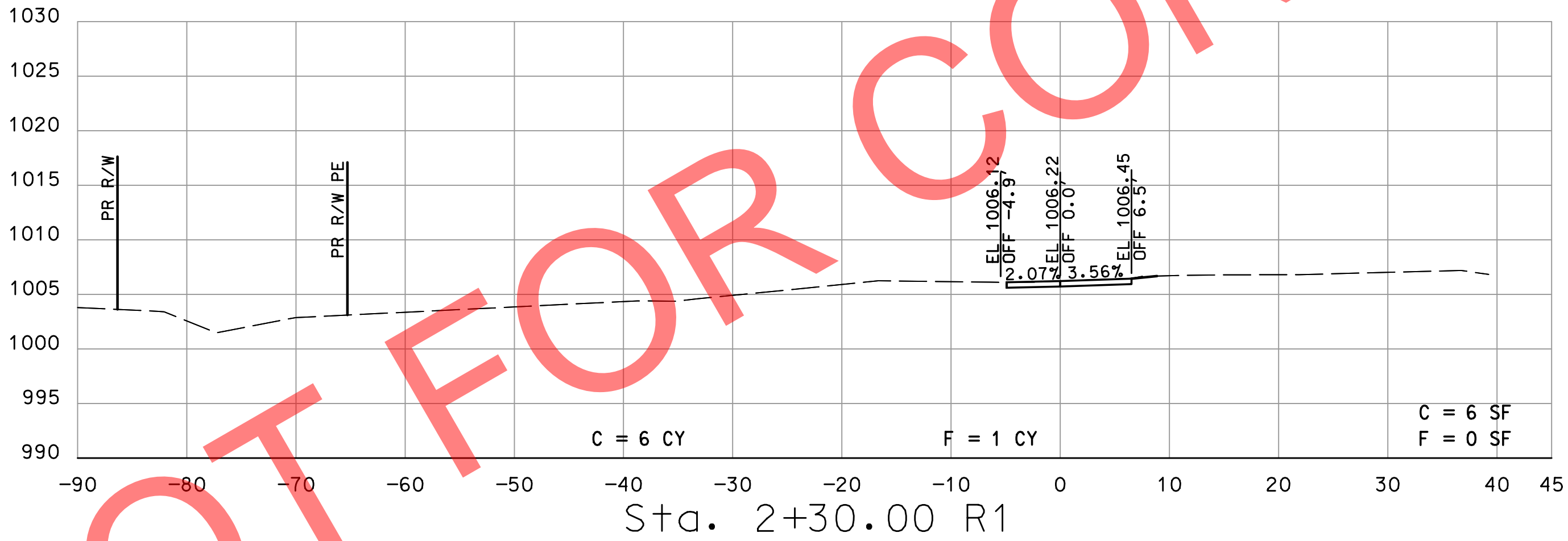
[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

olson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

DRAFT NOT FOR CONSTRUCTION



DRIVEWAY 2
STA. 2+20.00 R1 TO STA. 2+30.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A2.34
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

DESIGN DESIGNATION
A.A.D.T. - 2021 = 1260
A.A.D.T. - 2041 = 3920
DHV = 392
D = 50%
T = 13%
V = 55 M.P.H.
FUNCTIONAL CLASSIFICATION - ROUTE 5 - MINOR ARTERIAL

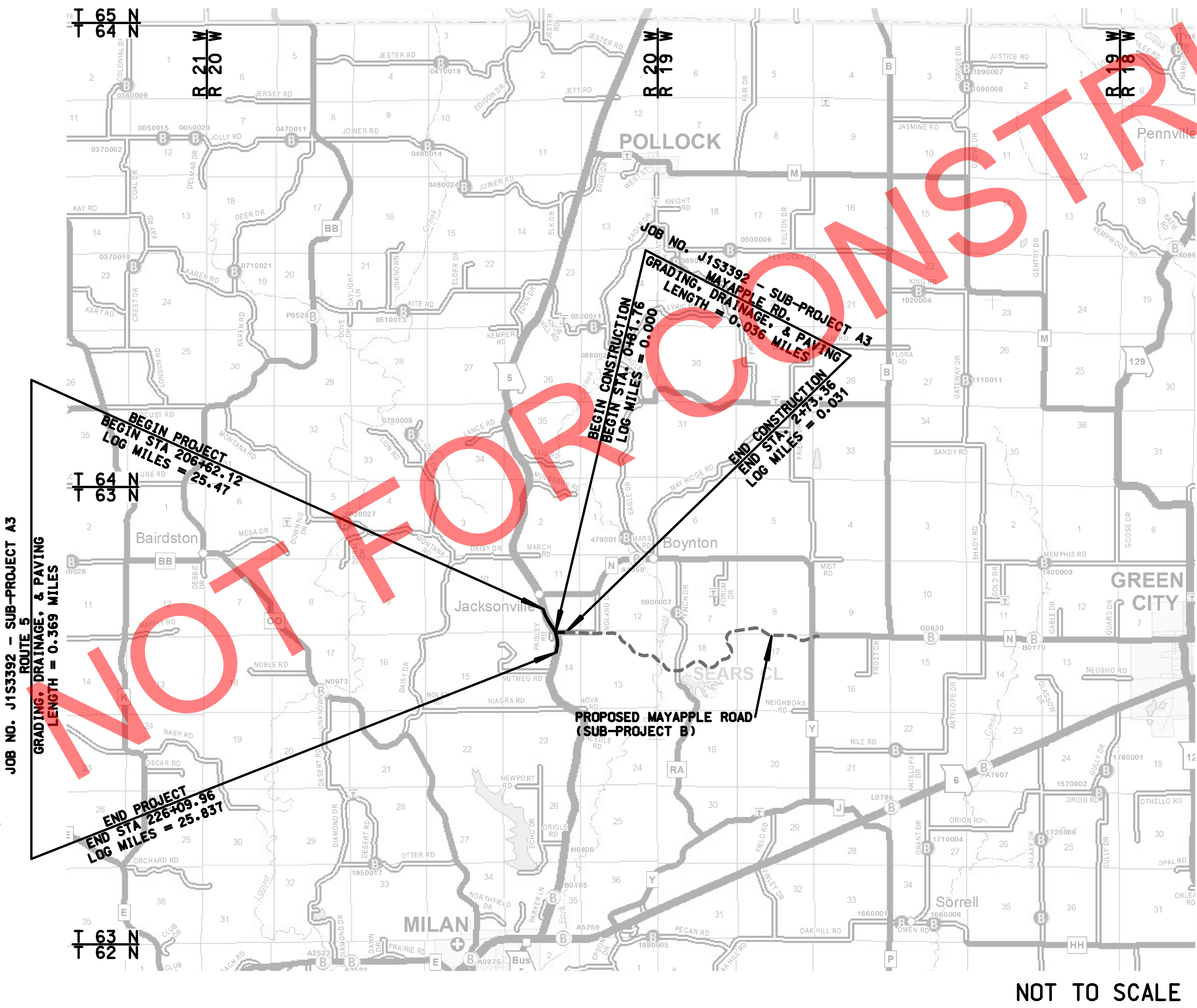
NORMAL RIGHT OF WAY
TO BE ACQUIRED

CONVENTIONAL SYMBOLS
(USED IN PLANS)

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

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
STATE HIGHWAY
SULLIVAN COUNTY
SEC. 11 & 14, T63N, R20W



INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	A3.1
TYPICAL SECTIONS (TS) (2 SHEETS)	A3.2
QUANTITIES (QU) (5 SHEETS)	A3.3
PLAN-PROFILE (PP)	A3.4 - A3.8
COORDINATE POINTS SHEET (CP)	A3.9
SPECIAL SHEETS (SS)	A3.10 - A3.11
TRAFFIC CONTROL SHEETS (TC)	A3.12 - A3.16
EROSION CONTROL SHEETS (EC)	A3.17 - A3.22
PAVEMENT MARKING & SIGNING (PM)	A3.23 - A3.25
CULVERT SECTIONS (CS)	A3.26 - A3.31
CROSS SECTIONS (XS)	A3.1 - A3.32

LENGTH OF SUB-PROJECT

ROUTE 5	
BEGINNING OF PROJECT	STA. 206+62.12
END OF PROJECT	STA. 226+09.96
APPARENT LENGTH	1947.84 FEET
MAYAPPLE ROAD	
BEGINNING OF CONSTRUCTION	0+81.76
END OF CONSTRUCTION	2+73.36
APPARENT LENGTH	191.60 FEET
EQUATIONS AND EXCEPTIONS:	
NONE	0.00 FEET
TOTAL CORRECTIONS	
NET LENGTH OF PROJECT	2139.44 FEET
STATE LENGTH	0.405 MILES
FOR INFORMATION ONLY	
ESTIMATED DISTURBED ACRES	0.35 ACRES

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

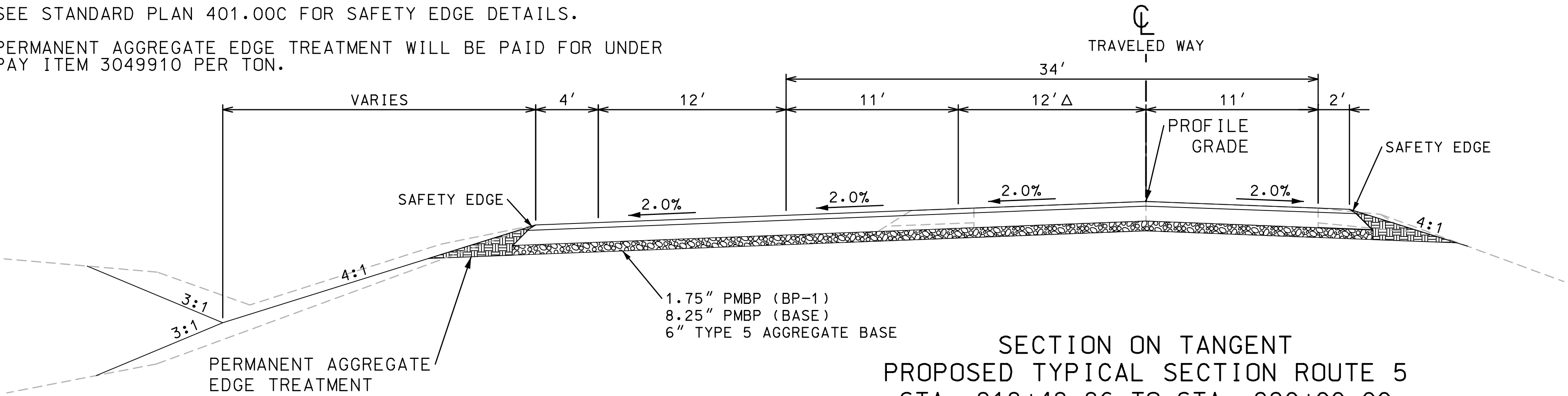
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.1
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

- NOTES:
- 1. SEE STANDARD PLAN 401.00C FOR SAFETY EDGE DETAILS.
 - 2. PERMANENT AGGREGATE EDGE TREATMENT WILL BE PAID FOR UNDER PAY ITEM 3049910 PER TON.

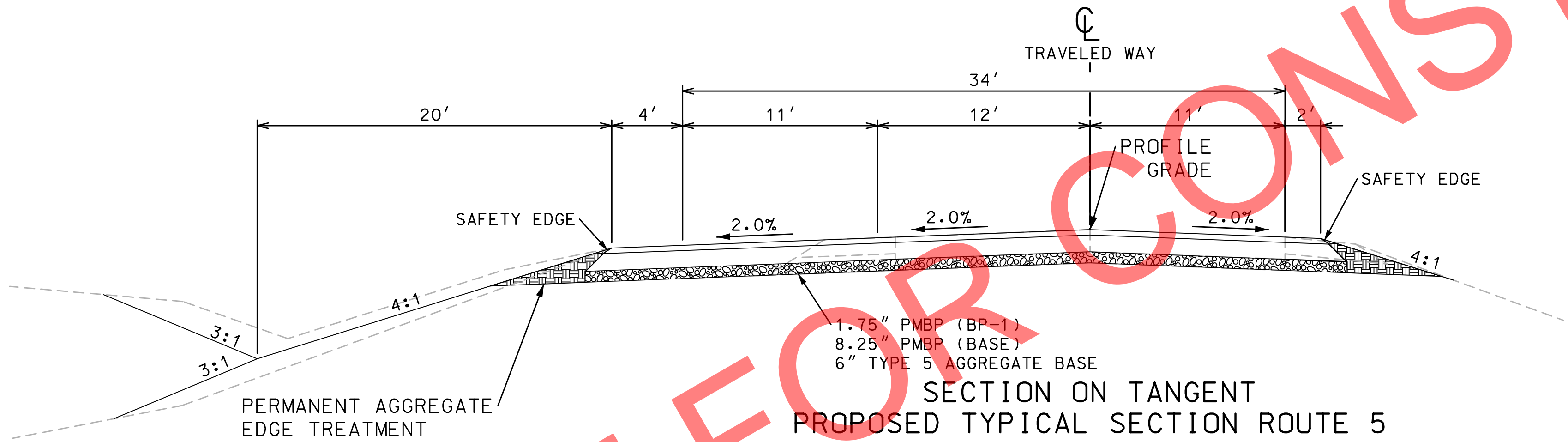
ESTIMATE FACTORS FOR ASPHALTIC MIXTURES	
PMBP (BP-1) PG64-22	1.948 TONS/CY
PMBP (BASE) PG64-22	1.943 TONS/CY
TACK COAT	0.10 GAL/SY

FOR INFORMATIONAL PURPOSES ONLY
PMBP= PLANT MIX BITUMINOUS PAVEMENT

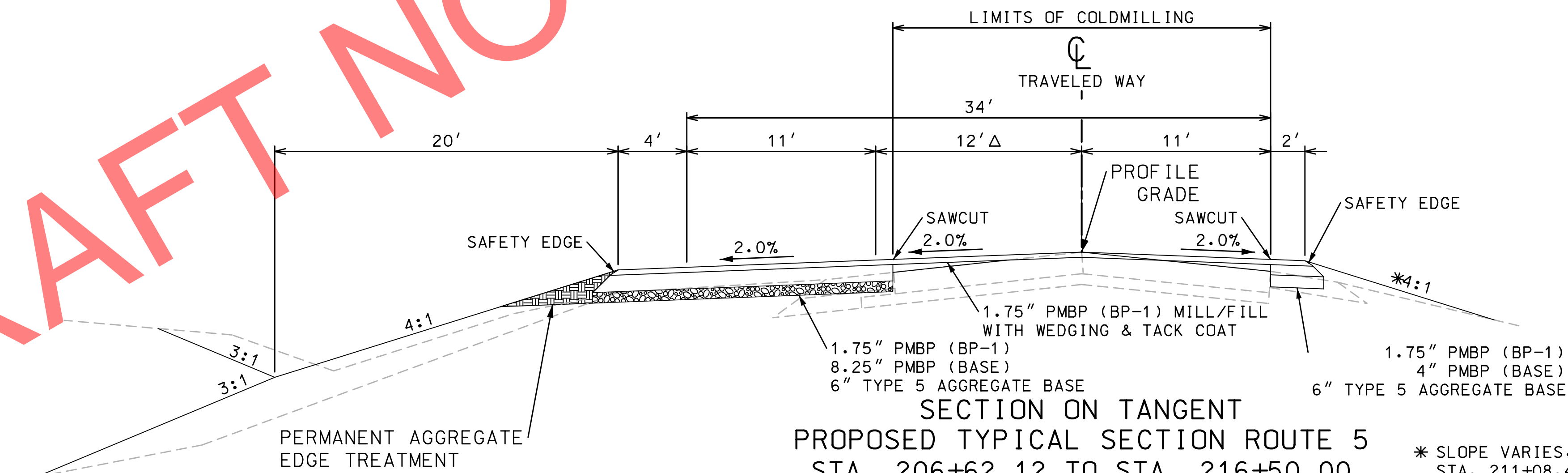
ROUTE 5 SUPERELEVATION %		
LT.	STA.	RT.
MATCH EXIST. (-6.67)	206+62.12	MATCH EXIST. (3.02)
-6.40	206+72.12	3.28
-6.40	207+91.12	6.40
-6.40	211+28.23	6.40
-2.00	212+97.23	MATCH EXIST.
-2.00	215+47.92	MATCH EXIST.
-1.68	215+59.92	1.68
0.00	216+24.92	0.00
2.00	217+01.92	-2.00
6.00	218+54.92	-6.00
6.00	220+99.90	-6.00
8.00	221+76.90	-8.00
8.00	222+35.00	MATCH EXIST. (-8.00)
8.00	224+70.96	MATCH EXIST. (-7.17)
MATCH EXIST. (4.38)	226+09.96	MATCH EXIST. (-5.88)



SECTION ON TANGENT
PROPOSED TYPICAL SECTION ROUTE 5
STA. 219+49.96 TO STA. 220+00.00
Δ TAPER 12' TO 4.4' FROM STA. 219+49.96 TO STA. 223+69.96



SECTION ON TANGENT
PROPOSED TYPICAL SECTION ROUTE 5
STA. 216+50.00 TO STA. 219+49.96



SECTION ON TANGENT
PROPOSED TYPICAL SECTION ROUTE 5
STA. 206+62.12 TO STA. 216+50.00
STA. 223+69.96 TO STA. 226+09.96
Δ TAPER 0' TO 12' FROM STA. 206+62.12 TO STA. 213+22.12
Δ TAPER 4.4' TO 0' FROM STA. 223+69.96 TO STA. 226+09.96

- * SLOPE VARIES, SEE CROSS SECTIONS (3:1 MAX.)
STA. 211+08.40 TO STA. 211+11.04, STA. 212+32.93 TO 213+03.29
- * TRANSITION 4:1 TO 3:1, STA. 212+40.00 TO STA. 212+50.00
SLOPE = 3:1, STA. 212+50.00 TO STA. 212+70.00
TRANSITION 3:1 TO 4:1, STA. 212+70.00 TO STA. 212+80.00

TYPICAL SECTION
SHEET 1 OF 3

DATE PREPARED
2/7/2022

ROUTE
5

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

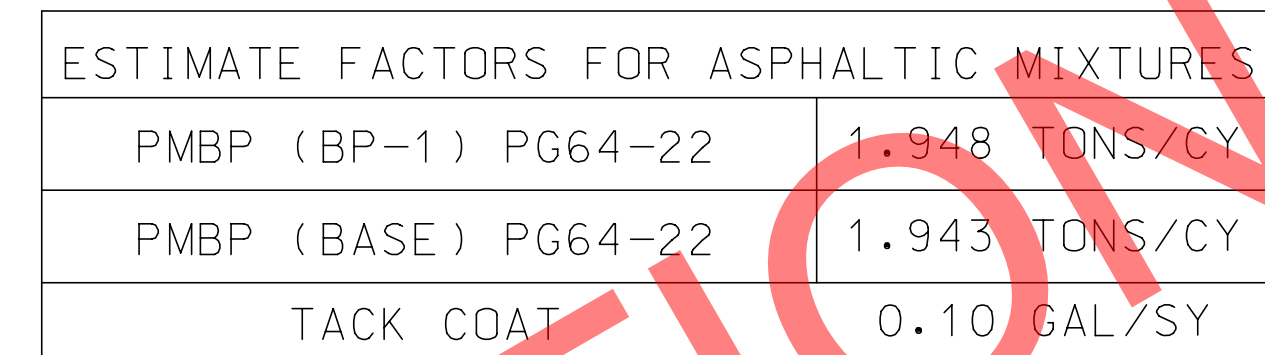
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

MODOT

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

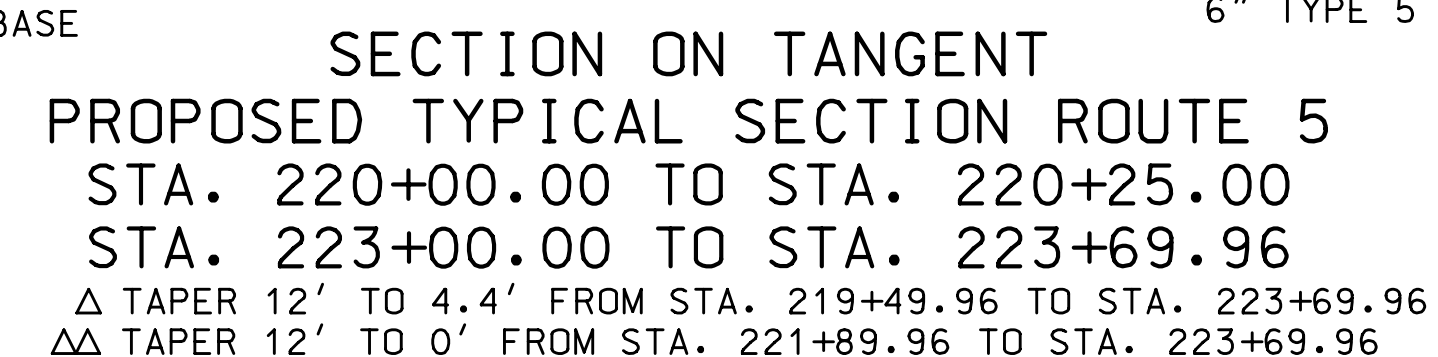
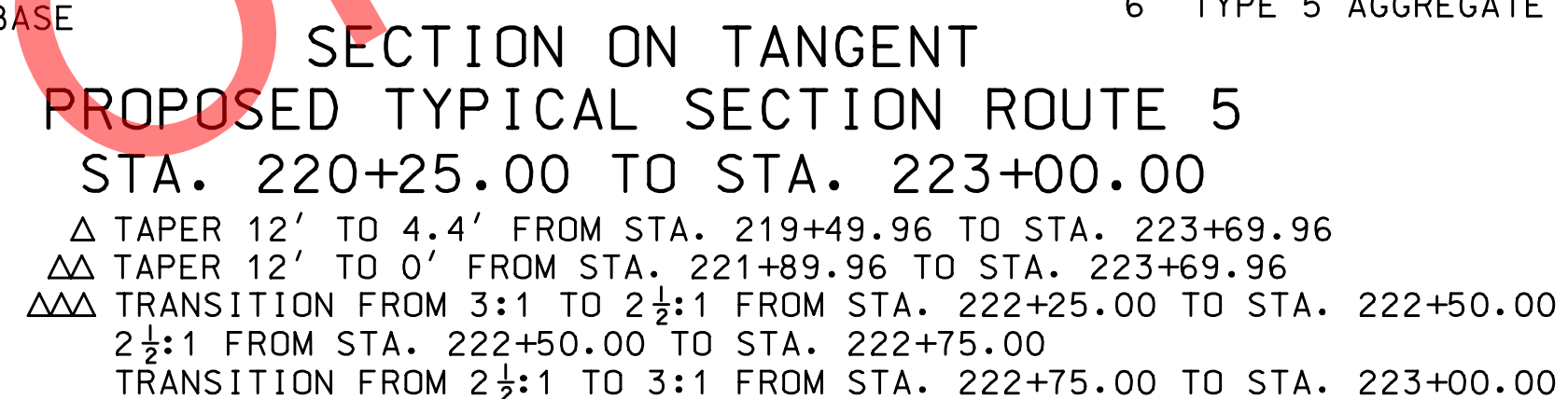
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1. SEE STANDARD PLAN 401.00C FOR SAFETY EDGE DETAILS.
2. PERMANENT AGGREGATE EDGE TREATMENT WILL BE PAID FOR UNDER PAY ITEM 3049910 PER TON.



FOR INFORMATIONAL PURPOSES ONLY
PMBP= PLANT MIX BITUMINOUS PAVEMENT

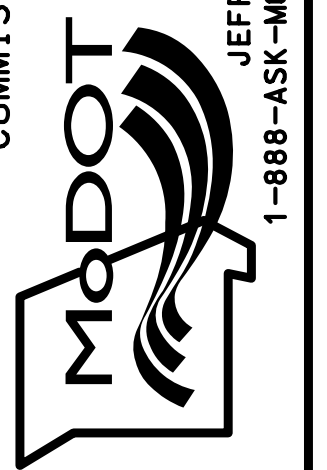
MAYAPPLE RD. SUPERELEVATION %		
LT.	STA.	RT.
-0.28	0+91.48	0.51
-0.94	1+18.31	0.51
-2.00	1+61.65	-0.19
-2.00	2+73.40	-2.00



DATE PREPARED	
2/7/2022	
ROUTE	STATE
5	MO
DISTRICT	SHEET NO.
NW	A3.2
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



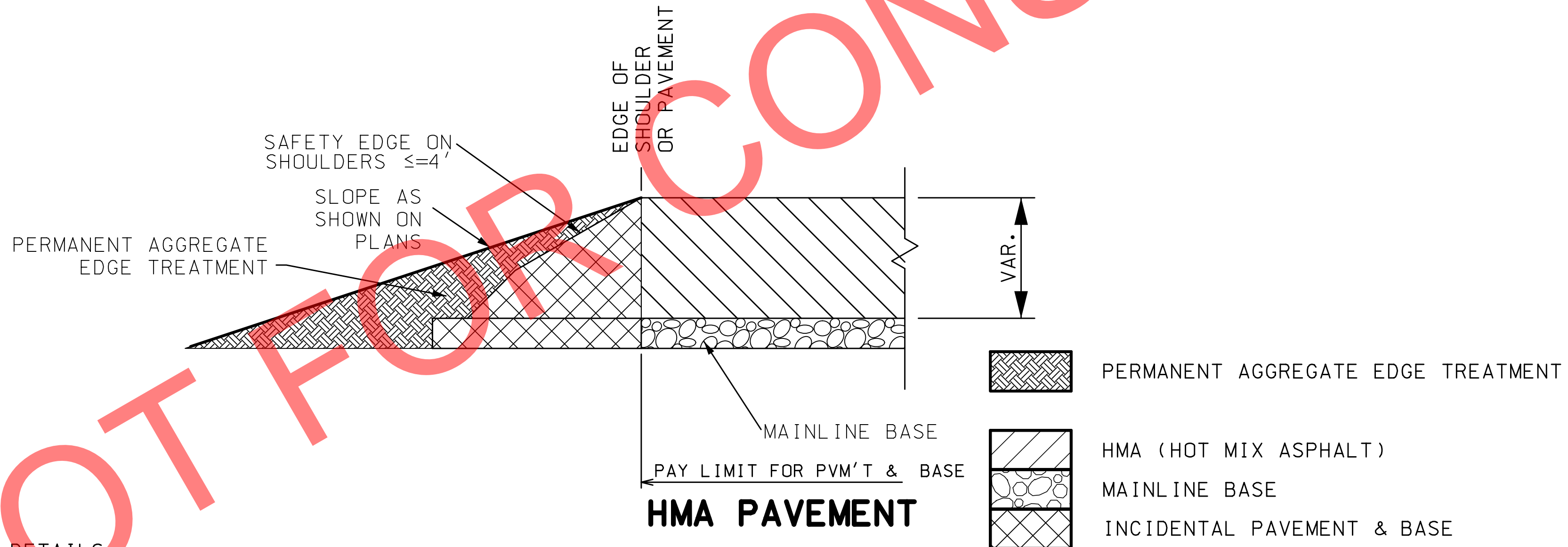
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

Olsson
 1000 WURLINGTON STREET, STE.
 1000 NORTH KANSAS CITY, MO 641
 CERTIFICATE OF
 AUTHORITY NO. 001592

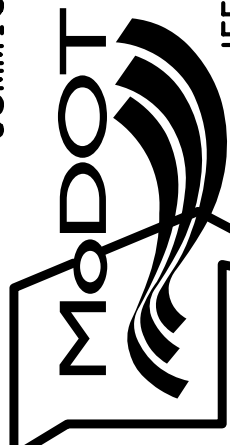

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

TYPICAL SECTION
SHEET 2 OF 3

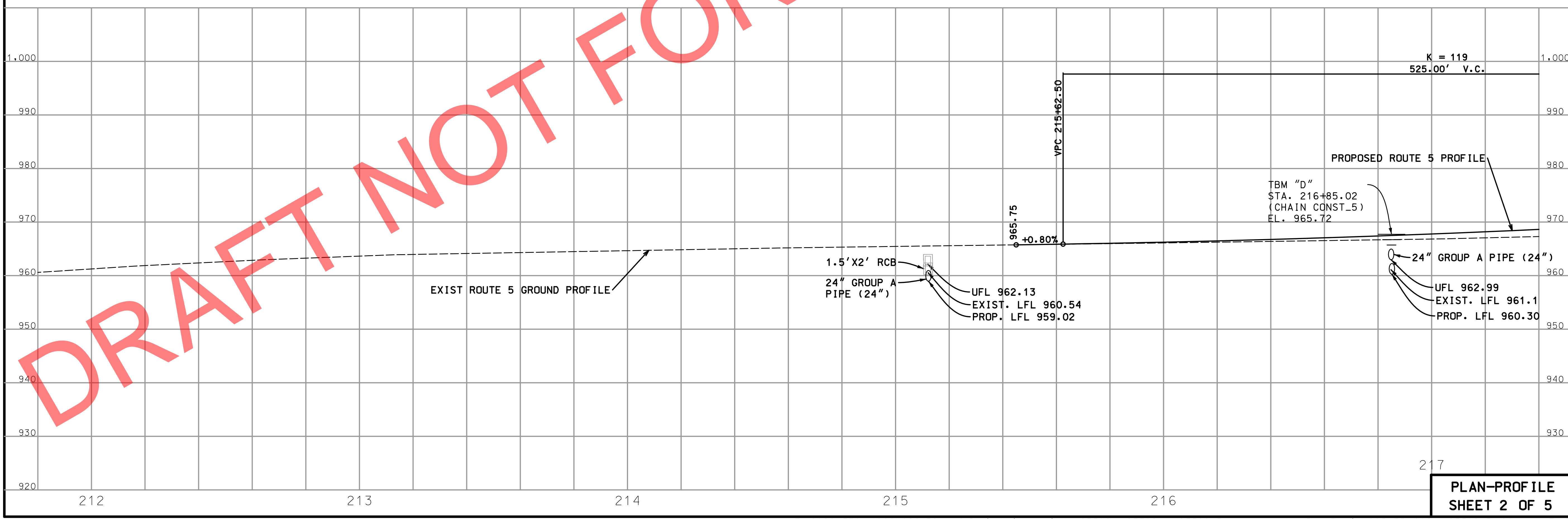
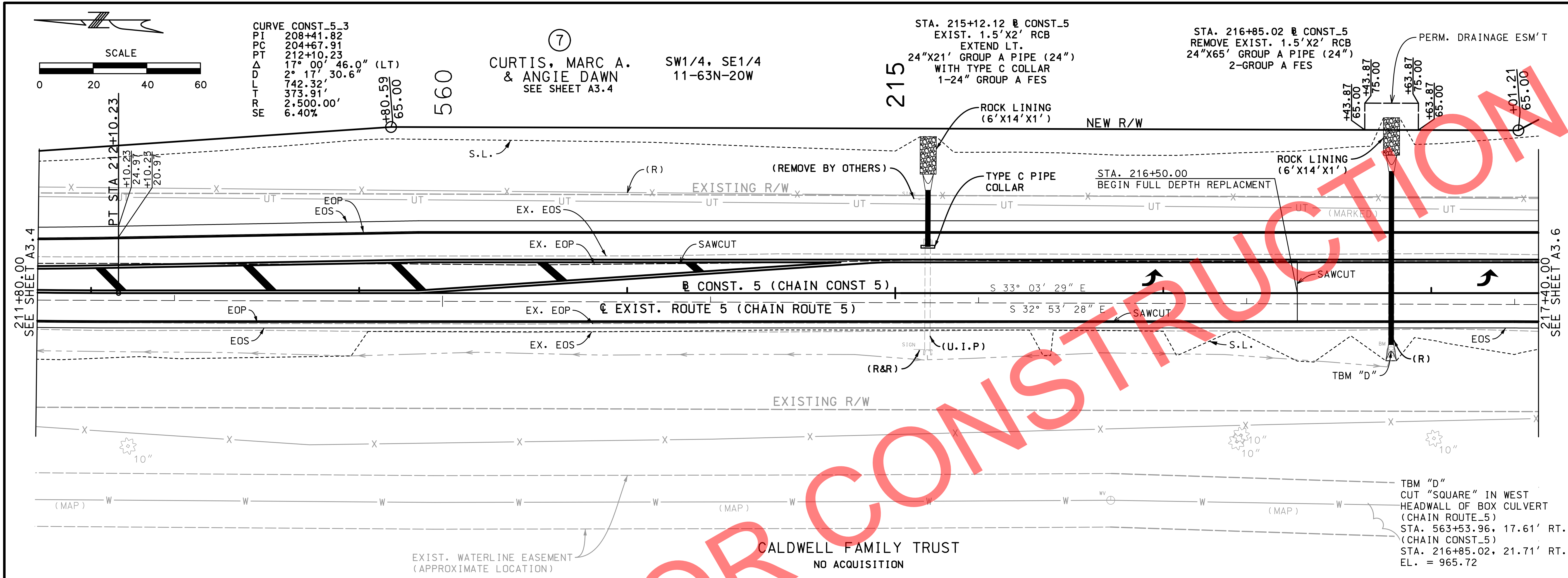
DRAFT NOT FOR CONSTRUCTION



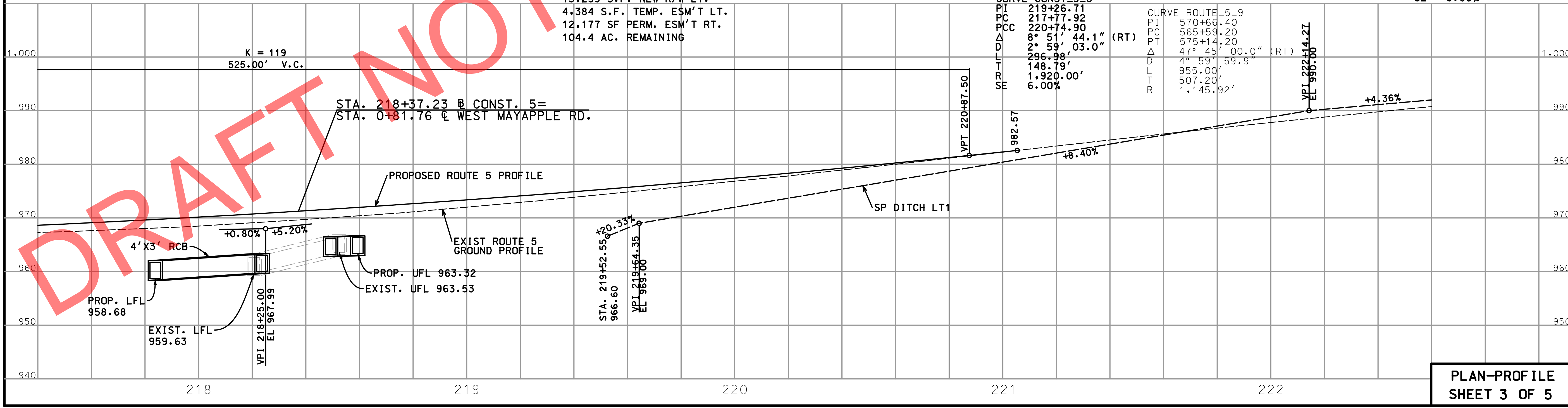
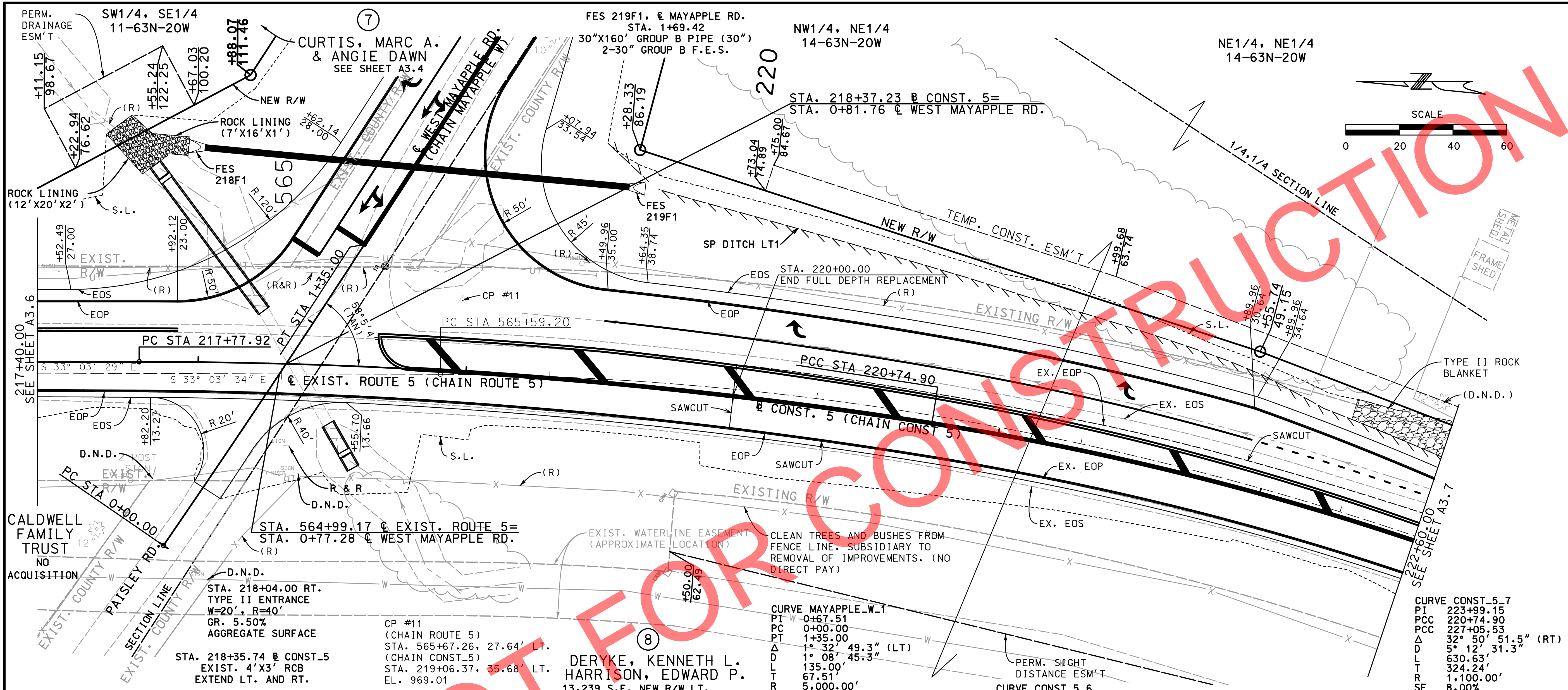
- NOTES:
1. SEE STANDARD PLAN 401.00C FOR SAFETY EDGE DETAILS.
 2. PERMANENT AGGREGATE EDGE TREATMENT WILL BE PAID FOR UNDER PAY ITEM 3049910 PER TON.

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.2
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

TYPICAL SECTION
SHEET 3 OF 3

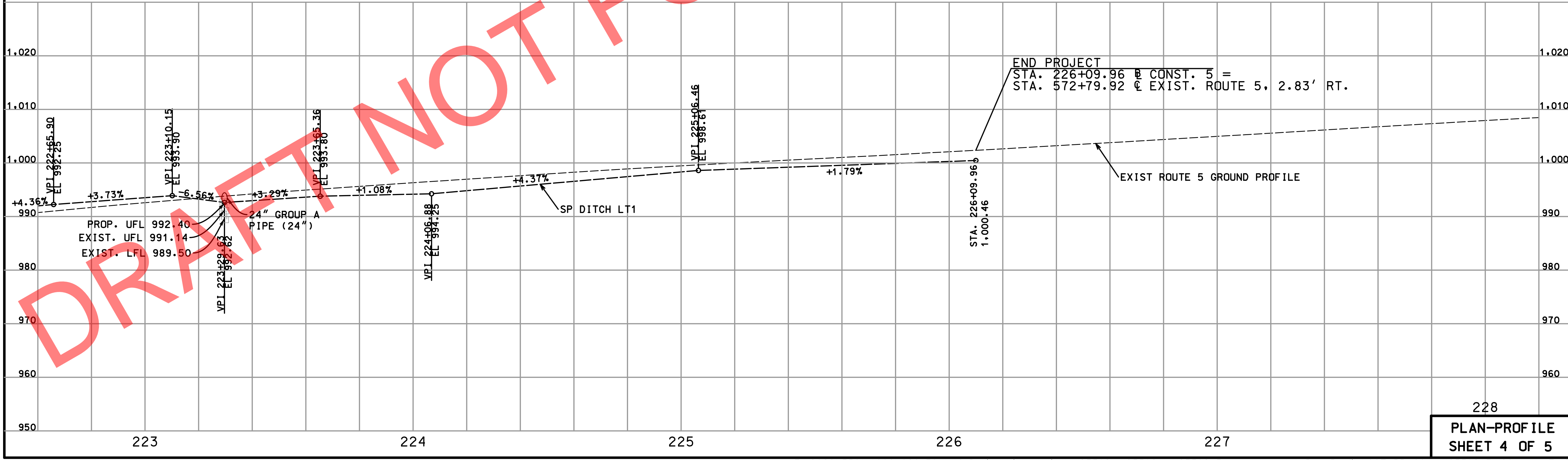
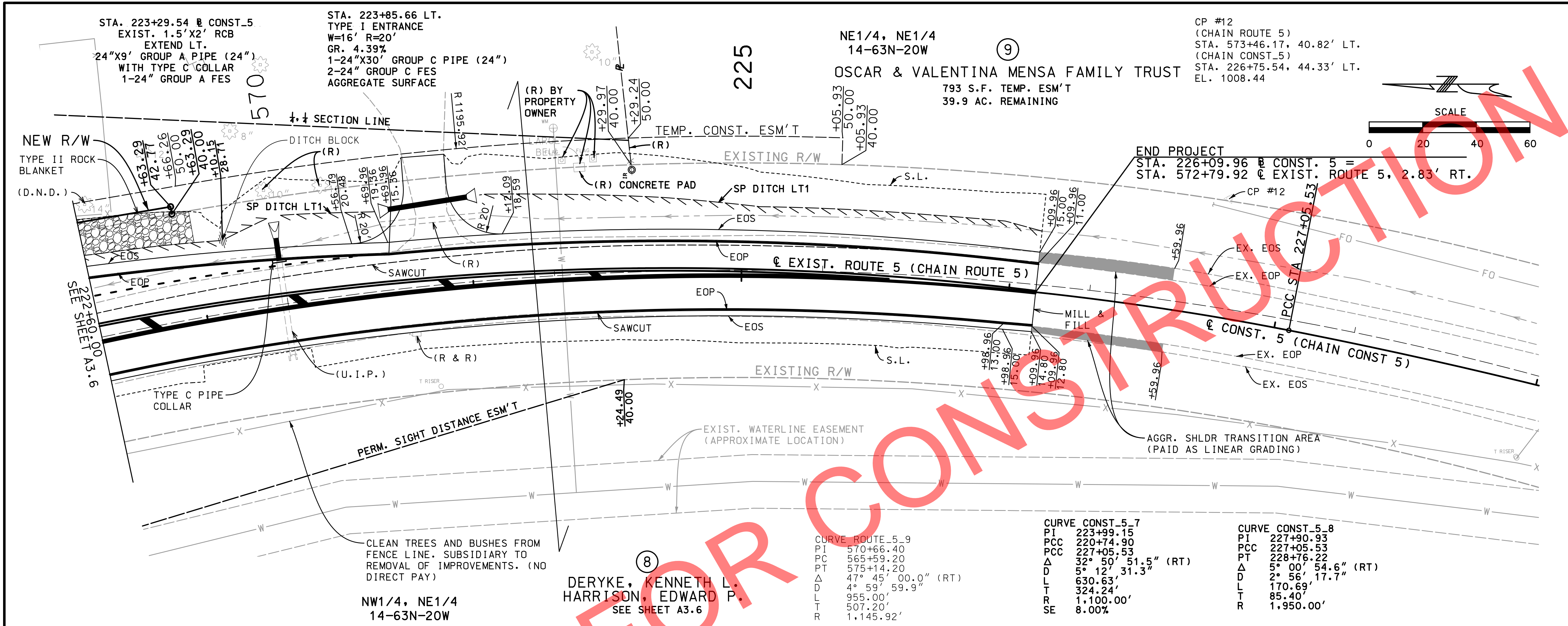


DATE PREPARED	
2/7/2022	
ROUTE	STATE
5	MO
DISTRICT	SHEET NO.
NW	A3.5
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
4301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

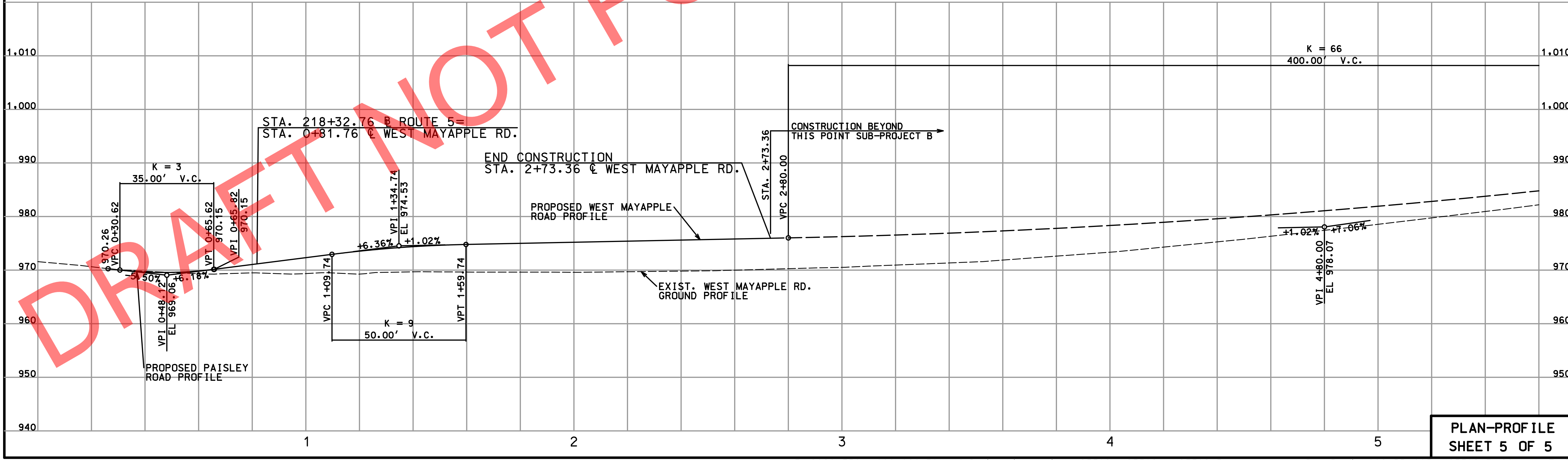
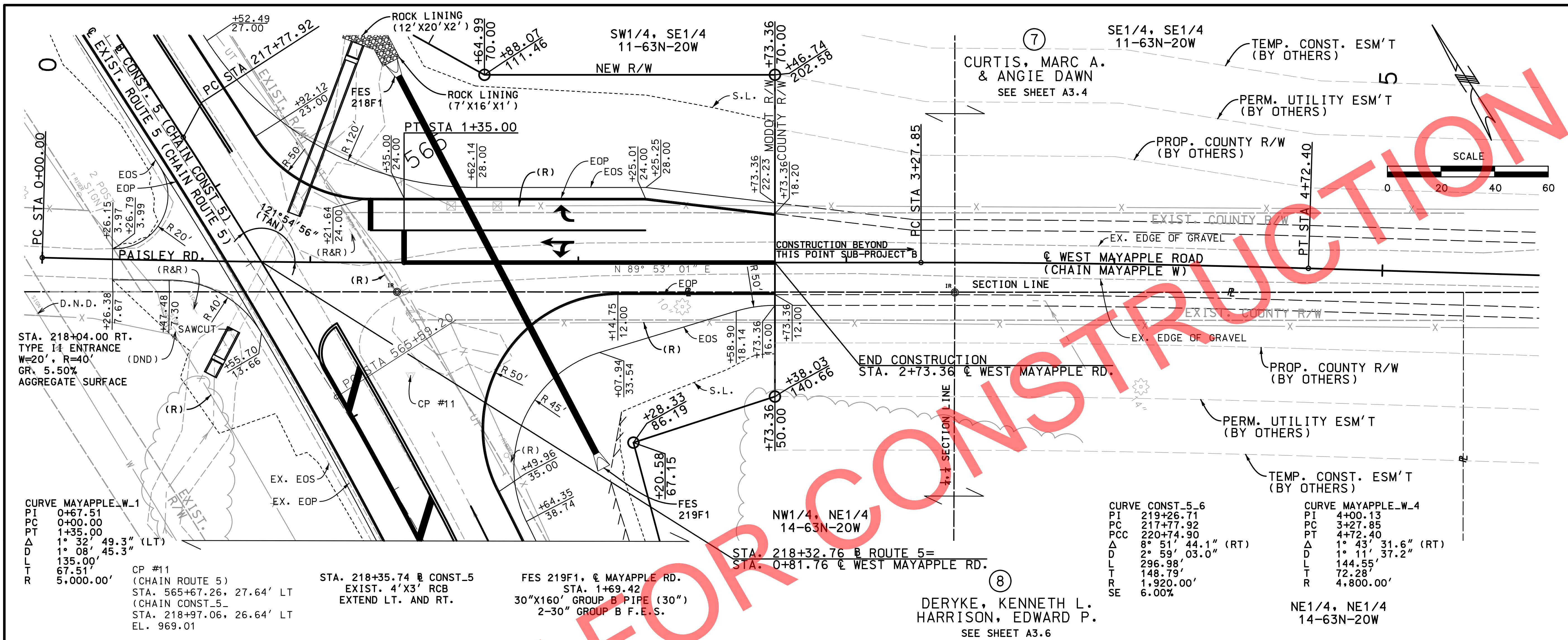


PLAN-PROFILE
SHEET 3 OF 5

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.6
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636) REV.	



DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.7
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



PLAN-PROFILE
SHEET 5 OF 5

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.8
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

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

PROJECT COORDINATE INFORMATION	
COORDINATE SYSTEM	MODIFIED MISSOURI STATE PLANE
HORIZONTAL DATUM	NAD 83 (2011) (EPOCH 2010)
VERTICAL DATUM	NAVD 88: GNSS DERIVED
GEOID MODEL	12B
ELEVATIONS DETERMINED BY	GPS DERIVED
PROJECT PROJECTION FACTOR	1.00007728
REFERENCE CONTROL INFORMATION	
COORDINATE SYSTEM	MO COORDINATE SYSTEM OF 1983
CONTROL STATION	MISSOURI CORS
DESIGNATION	MODOT MILAN CORS ARP
CORS ID	MOML
PID	DN6087
LATITUDE	10° 12' 37.76062" (N)
LONGITUDE	093° 06' 57.87622" (W)
NORTHING (M)	486,000.913
EASTING (M)	447,556.050
ZONE	CENTRAL
PROJECT AVERAGE GRID FACTOR	0.99996781
EXAMPLE OF PROJECT COORDINATE TO S.P.C.	
PROJECT NORTHING X AVERAGE GRID FACTOR = STATE PLANE NORTHING	
PROJECT EASTING X AVERAGE GRID FACTOR = STATE PLANE EASTING	
EXAMPLE: CONTROL POINT #8 N 1619096.411 X 0.999922725 = N 1618971.295 E 1469538.057 X 0.999922725 = E 146526.733	
LINEAR UNIT CONVERSION	
1 METER = 3.280833333 US SURVEY FEET (USFT)	

COORDINATE POINT LISTING								
SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND)			DESCRIPTION	GPK POINT ID
				NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)		
BENCHMARKS								
A3.5	563+53.96	RT	17.61	1616347.6350	1470554.5060	965.72	TBM "D" - CUT "SQUARE" IN 6 INCH HEADWALL	TBM1
PROJECT CONTROL POINTS								
A3.4	557+65.84	RT	17.43	1616842.1050	1470235.4340	957.13	SET IRON ROD W/ CAP	10
A3.6	565+67.26	LT	27.64	1616192.9230	1470708.4140	969.01	SET IRON ROD W/ CAP	11
A3.7	573+46.17	LT	40.82	1615429.1090	1470897.7310	1,008.44	SET IRON ROD W/ CAP	12
ALIGNMENTS								
ROUTE 5								
	509+00.00	CL		1621188.6597	1468141.3663		BEGIN CHAIN ROUTE 5	
	529+56.30	CL		1619473.7666	1469276.0520		PC CURVE ROUTE 5 3	
	533+87.00	LT	32.1957	1619114.5741	1469513.7173		PI CURVE ROUTE 5 3	
	538+11.30	CL		1618701.3771	1469635.2591		PT CURVE ROUTE 5 3	
	552+55.00	CL		1617316.3532	1470042.6636		PC CURVE ROUTE 5 6	
	555+31.92	RT	19.9711	1617050.6913	1470120.8079		PI CURVE ROUTE 5 6	
	558+05.00	CL		1616818.1637	1470271.1863		PT CURVE ROUTE 5 6	
	565+59.20	CL		1616184.8597	1470680.7516		PC CURVE ROUTE 5 9	
	570+66.40	LT	107.2314	1615758.9592	1470956.1866		PI CURVE ROUTE 5 9	
	575+14.20	CL		1615268.7159	1470826.1207		PT CURVE ROUTE 5 9	
	596+59.60	CL		1613195.0561	1470275.9601		END CHAIN ROUTE 5	
CONST 5 (CONSTRUCTION BASELINE)								
	204+00.00	BL		1617495.3939	1469987.6281		BEGIN CHAIN CONST 5	
	204+67.91	BL		1617430.1290	1470006.3982		PC CURVE CONST 5 3	
	208+41.82	RT	27.8075	1617070.7826	1470109.7460		PI CURVE CONST 5 3	
	212+10.23	BL		1616757.3995	1470313.7105		PT CURVE CONST 5 3	
	217+77.92	BL		1616281.6072	1470623.3786		PC CURVE CONST 5 6	
	219+26.71	LT	5.7562	1616156.9074	1470704.5391		PI CURVE CONST 5 6	
	220+74.90	BL		1616021.1927	1470765.5195		PT CURVE CONST 5 6	
	220+74.90	BL		1616021.1927	1470765.5195		PC CURVE CONST 5 7	
	223+99.15	LT	46.7932	1615725.4327	1470898.4127		PI CURVE CONST 5 7	
	227+05.53	BL		1615404.8777	1470765.5195		PT CURVE CONST 5 7	
	227+05.53	BL		1615404.8777	1470849.6361		PC CURVE CONST 5 8	
	227+90.93	LT	1.869	1615320.4523	1470836.7897		PI CURVE CONST 5 8	
	228+76.22	BL		1615237.4732	1470816.6120		PT CURVE CONST 5 8	
MAYAPPLE W								
	0+00.00	CL		1616236.6012	1470570.8822		PC CURVE MAYAPPLE W 1	
	0+67.51	RT	0.4557	1616234.9157	1470638.3674		PI CURVE MAYAPPLE W 1	
	1+35.00	CL		1616235.0527	1470705.8736		PT CURVE MAYAPPLE W 1	
	3+27.85	CL		1616235.4441	1470898.7185		PC CURVE MAYAPPLE W 4	
	4+00.13	LT	0.5442	1616235.5908	1470970.9986		PI CURVE MAYAPPLE W 4	
	4+72.40	CL		1616233.5611	1471043.2504		PT CURVE MAYAPPLE W 4	
	8+57.75	CL		1616222.7400	1471428.4496		PC CURVE MAYAPPLE W 7	
	9+45.28	RT	0.7979	1616220.2822	1471515.9398		PI CURVE MAYAPPLE W 7	
	10+32.78	CL		1616221.0156	1471603.4613		PT CURVE MAYAPPLE W 7	
	15+31.77	CL		1616225.1969	1472102.4292		PC CURVE MAYAPPLE W 10	
	16+92.16	LT	2.6792	1616226.5410	1472262.8210		PI CURVE MAYAPPLE W 10	
	18+52.44	CL		1616217.1747	1472422.9447		PT CURVE MAYAPPLE W 10	
WALL PRBL								
	0+00.00	BL		1615905.2808	1470856.9115		BEGIN CHAIN WALL PRBL	
	0+57.49	BL		1615849.0690	1470868.9755		PI	
	0+86.30	BL		1615820.9056	1470875.0198		END CHAIN WALL PRBL	

DATE PREPARED
2/7/2022

ROUTE
5

STATE
MO

DISTRICT
NW

SHEET NO.
A3.9

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

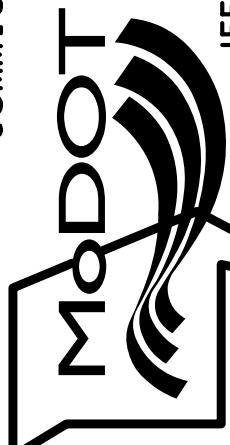
PROJECT NO.

BRIDGE NO.


DESCRIPTION

DATE

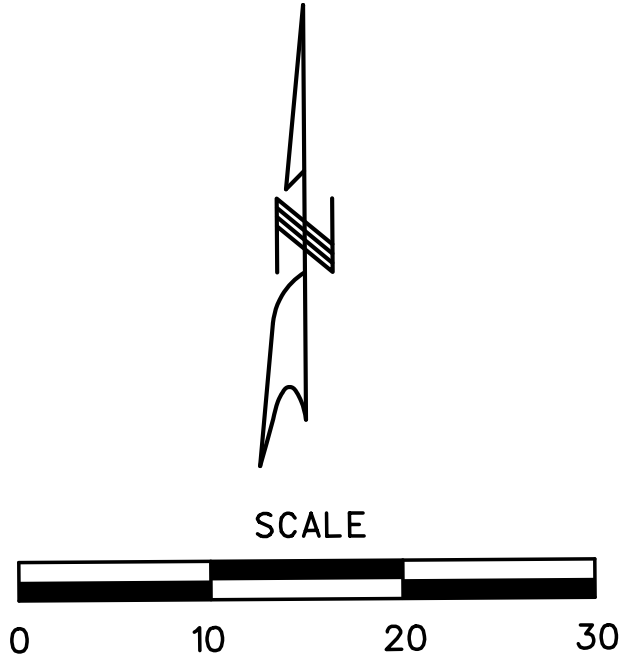
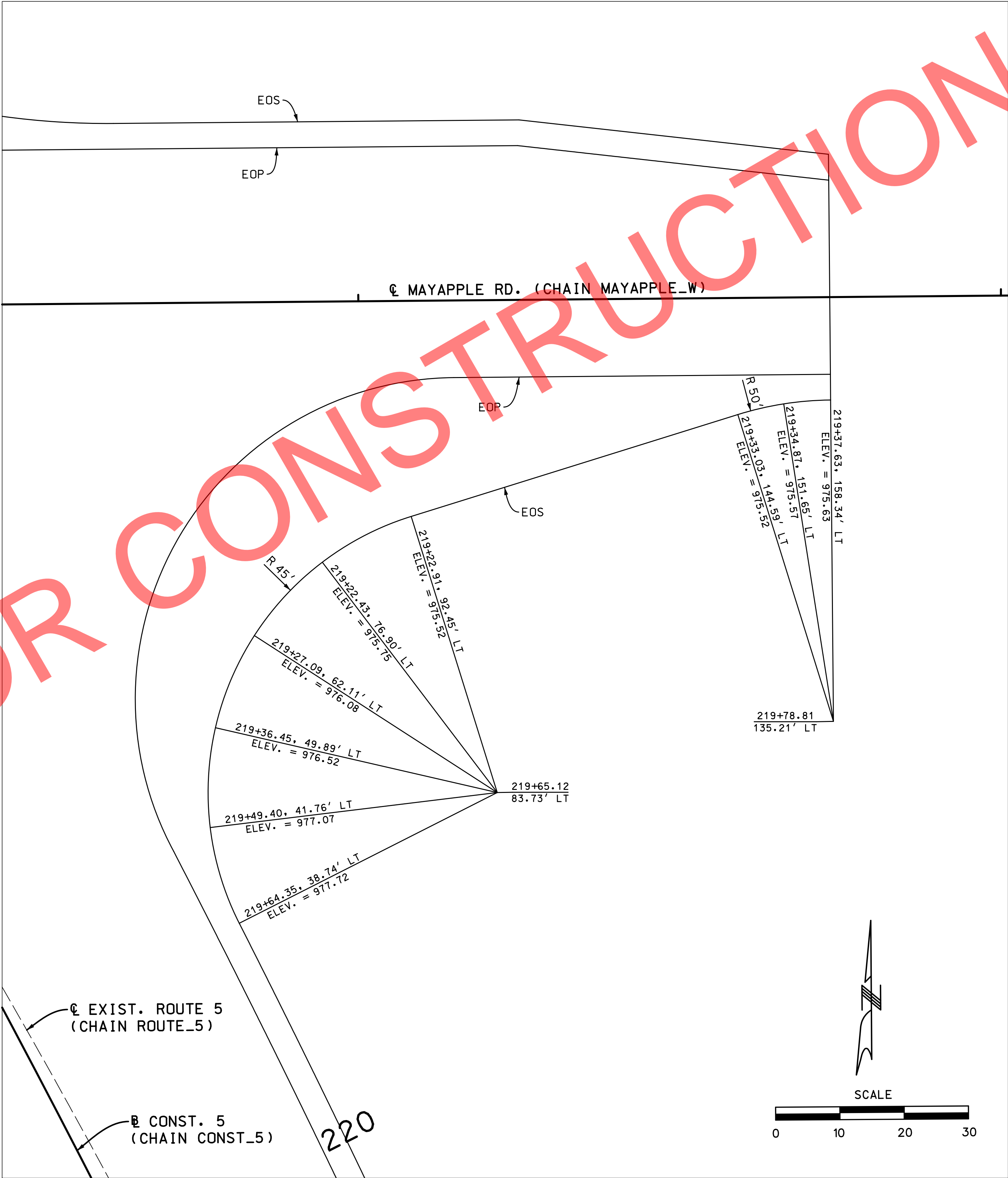
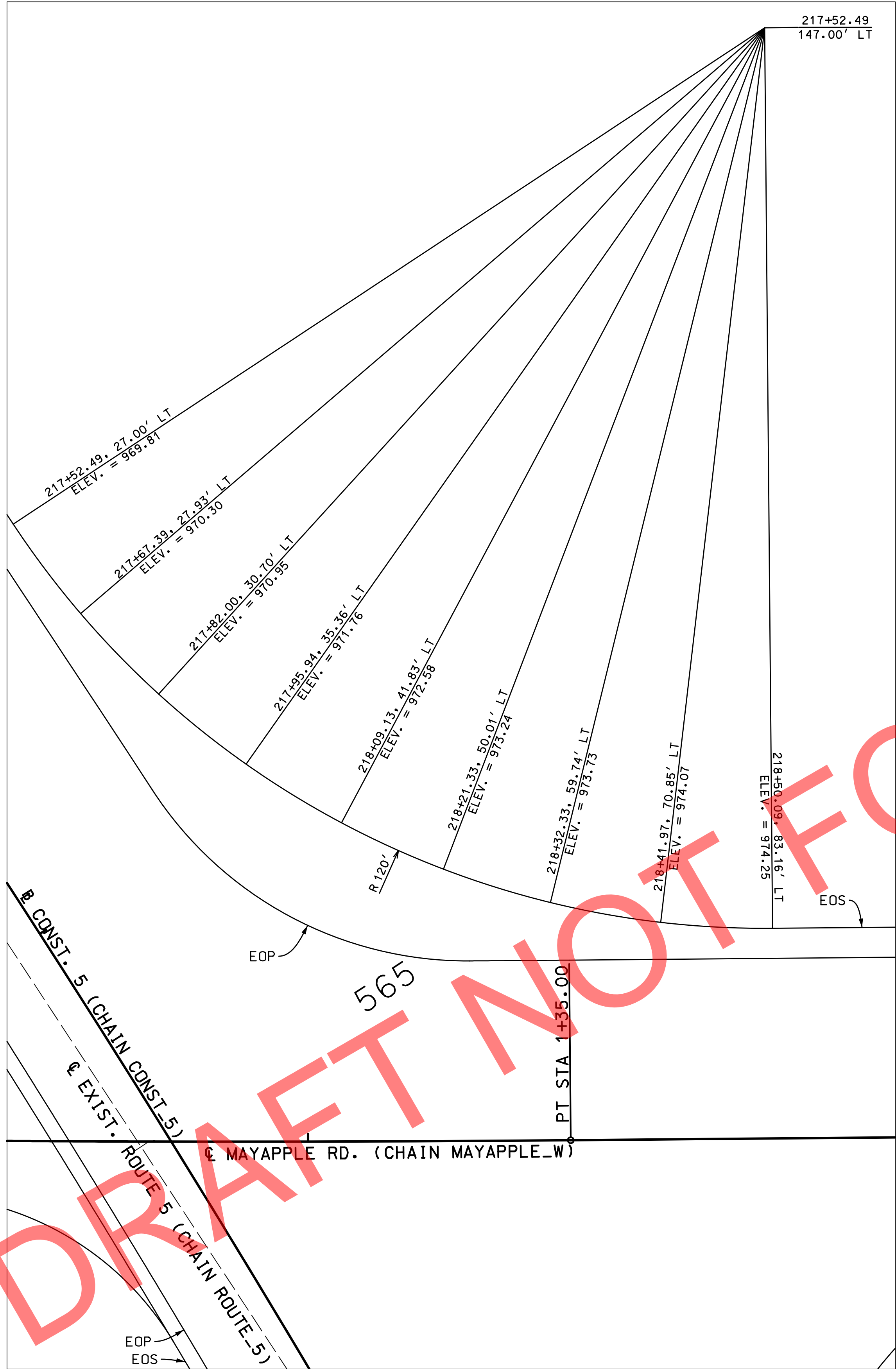
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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

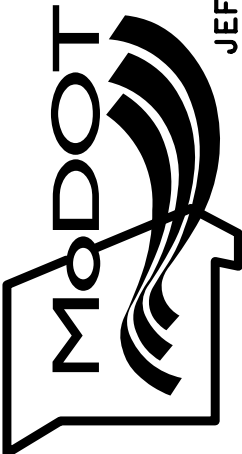
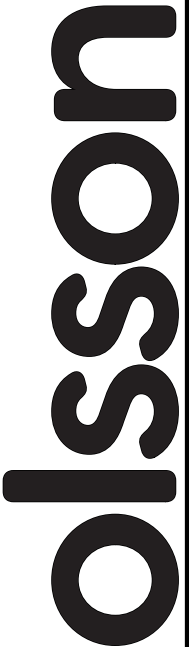


1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592



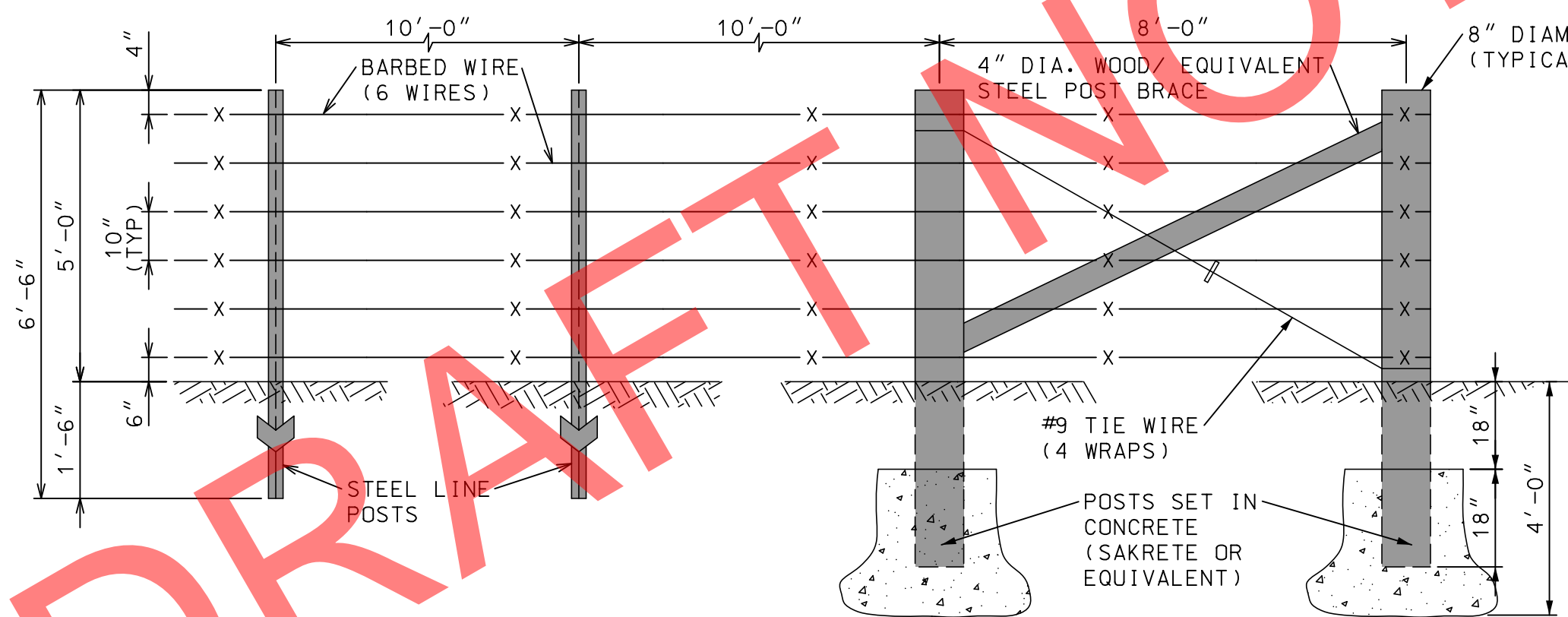
NOTE: ALL STATIONS OFF CONST_5 CHAIN.

SPECIAL SHEET
RADIUS POINTS
SHEET 1 OF 2

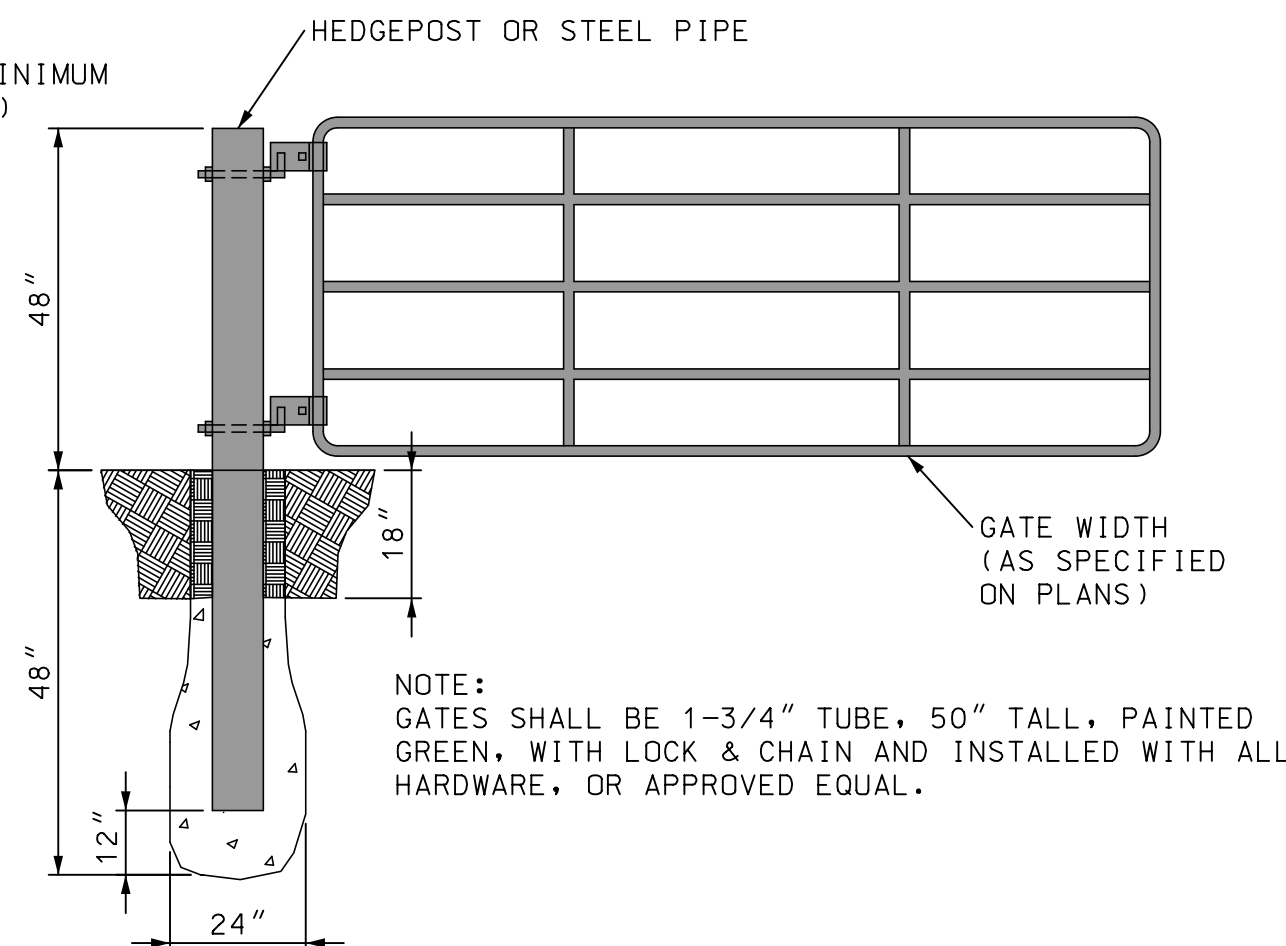
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.10
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

FENCING NOTES:

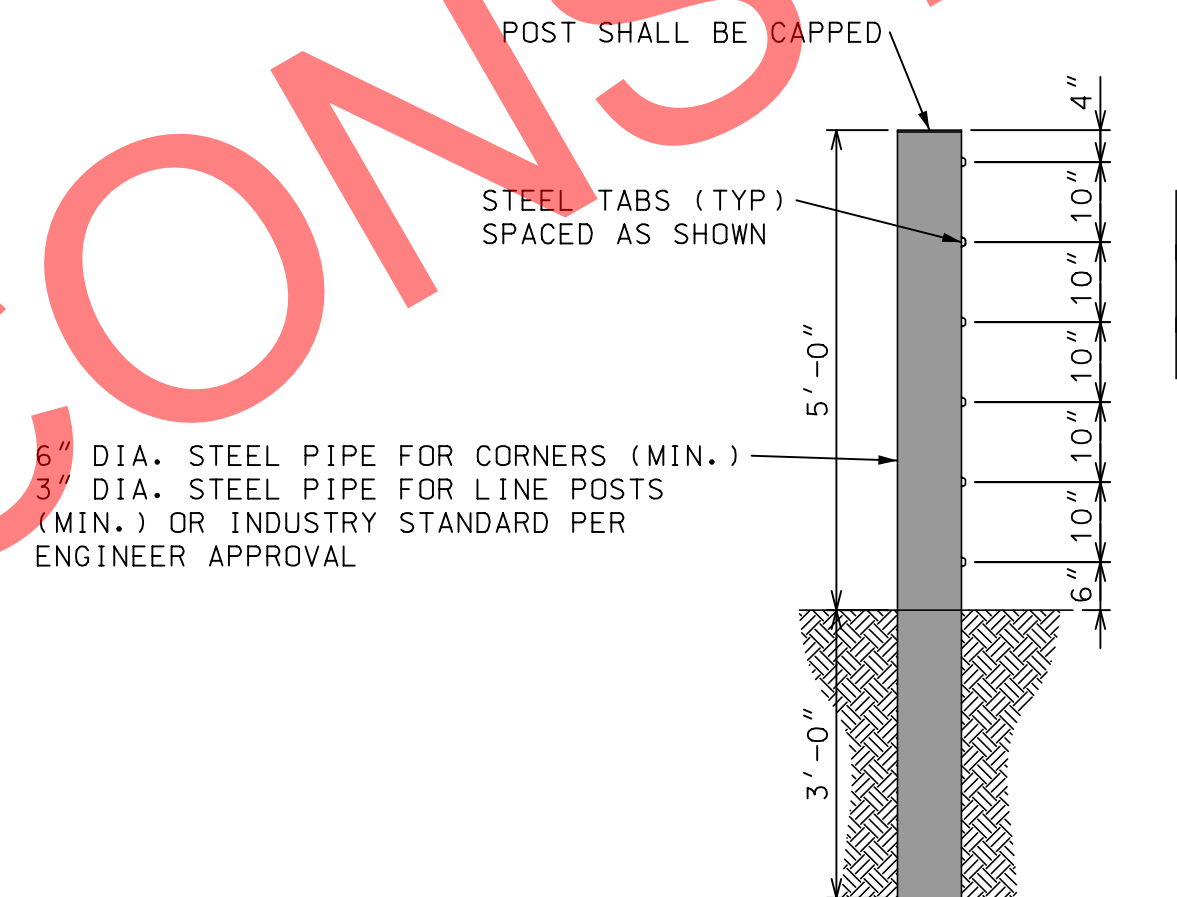
1. BARBED WIRE SHALL BE RED BRAND 4 POINT, 12.5 GAUGE WITH CLASS 1 ZINC COATING OR APPROVED EQUAL.
2. STEEL T-POSTS SHALL BE FRANKLIN INDUSTRIES 6.5 FOOT, 1.25 LBS/FT, GREEN STUDDED, WITH ANCHOR PLATE AND ENAMEL FINISH OR APPROVED EQUAL.
3. IF HEDGE POSTS ARE USED THEY SHALL BE 8'-0" MINIMUM LENGTH, WITH 8" DIAMETER ON CORNERS, 4" MINIMUM DIAMETER ON LINE POSTS.
4. IF STEEL PIPES ARE USED THEN INDUSTRY STANDARDS SHALL BE PROPOSED IN BID.
5. LINE POSTS SHALL BE SET AT EVERY 60 FOOT AVERAGE OR AT LOW POINTS OR WATER GAPS.



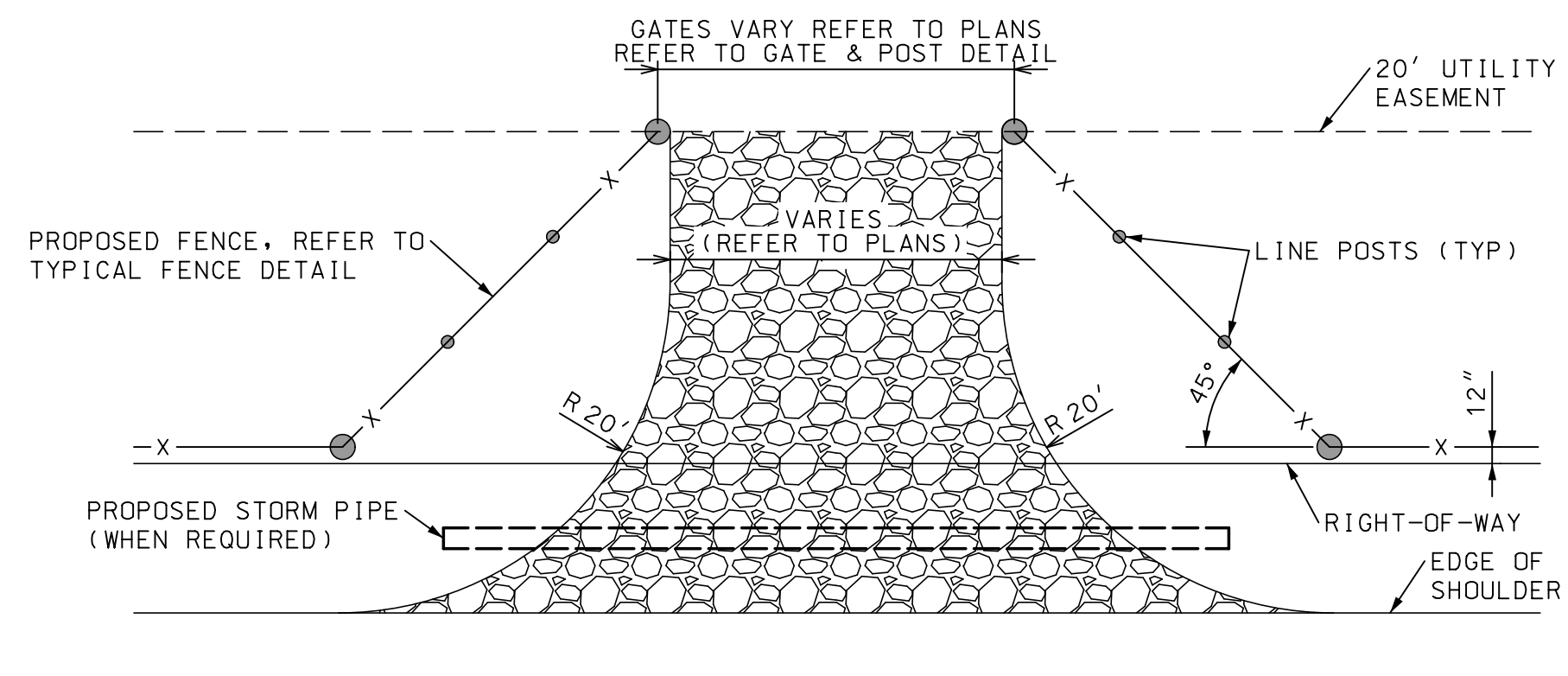
TYPICAL FENCE DETAIL
(NOT TO SCALE)



GATE AND POST DETAIL
(NOT TO SCALE)



STEEL LINE POST DETAIL
(NOT TO SCALE)



TYPICAL FIELD ENTRANCE
(NOT TO SCALE)

SPECIAL SHEET
FENCE DETAILS
SHEET 2 OF 2

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.11
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MoDOT	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

SIGN SPACING FOR ADVANCE SIGN SERIES (1)		
PERMANENT POSTED SPEED MPH	UNDIVIDED HIGHWAYS	DIVIDED HIGHWAYS
0-35	200'	200'
40-45	350'	500'
50-55	500'	1000'
60-70	1000'	SA - 1000' SB - 1500' SC - 2640'

TAPER LENGTHS AND END TREATMENTS FOR CONCRETE BARRIER				
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (2)			END TREATMENT (3)
	T1	10'	11'	12'
<40	160'	168'	176'	BARRIER HEIGHT TRANSITION
>40	160'	168'	176'	APPROVED CRASH CUSHION

TAPER LENGTHS AND SPACING FOR CHANNELIZERS							
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (T1)			MINIMUM SHOULDER TAPER LENGTH BASED ON 10' SHOULDER	BUFFER LENGTH FT.	MAXIMUM CHANNELIZER SPACING	
	10'	11'	12'			THROUGH TAPER	THROUGH WORK AREA
0-35	205'	225'	245'	70'	280'	35'	40'
40-45	450'	495'	540'	150'	400'	40'	80'
50-55	550'	605'	660'	185'	560'	50'	80'
60-70	700'	770'	840'	235'	840'	60'	120'

NOTES:

- (1) SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS AND VIABILITY.
- (2) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER.
- (3) CONCRETE BARRIER MAY BE INSTALLED AT AN 8:1 FLARE RATE FROM THE SHOULDER POINT TO THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER. CONTRACTOR MAY PROVIDE CONCRETE BARRIER, INCIDENTAL TO PROJECT.

GENERAL NOTES:

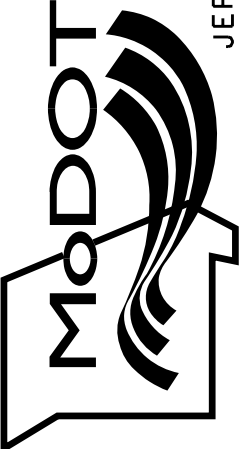
1. AS WITH ALL CONSTRUCTION ACTIVITIES TRAFFIC SITUATIONS ARE SUBJECT TO CHANGE. THE CONTRACTOR SHALL BE AWARE THAT ALL TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE STANDARDS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) THE MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION, SECTION 600 AND SHALL FOLLOW THE GUIDELINES IN THE MODOT 'TRAFFIC CONTROL FOR FIELD OPERATIONS MANUAL'.
2. PLACE A 'ROAD WORK AHEAD' SIGN ON THE APPROACH TO ALL INTERSECTIONS WHERE THE ADVANCE SIGNING FOR THE TEMPORARY TRAFFIC CONTROL EXTENDS PAST THAT INTERSECTION.
3. NOTIFY MODOT RESIDENT ENGINEER 48-HOURS IN ADVANCE OF ANY LANE CLOSURE OR ROADWAY CLOSURE.
4. ALL EXISTING SIGNS SHALL BE USED IN PLACE, ADJUSTED, AND/OR COVERED AS CONDITIONS REQUIRE (NO DIRECT PAY).
5. ALL STATIONING, DISTANCES, AND SPACING OF WORK ZONES DEVICES ARE APPROXIMATE AND MAY BE REVISED AS APPROVED BY ENGINEER.
6. FIRST ORDER OF WORK ON ALL PHASES SHALL BE PLACEMENT OF ALL WORK ZONE WARNING DEVICES AND SIGNS AS NOTED.
7. SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED OR AS APPROVED BY THE ENGINEER.
8. SIGNS LEFT IN PLACE OVERNIGHT MUST BE MOUNTED AT 5' MINIMUM HEIGHT.
9. ALTERNATE TRAFFIC CONTROL MAY BE USED AS NEEDED AT THE APPROVAL OF THE ENGINEER.
10. NO DIRECT PAYMENT WILL BE MADE FOR RELOCATION OF CHANNELIZERS, CONSTRUCTION SIGNS, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES, UNLESS OTHERWISE SHOWN ON THE PLANS.
11. FLAG ASSEMBLIES SHALL BE USED DURING ALL DAYTIME OPERATIONS. THEY ARE REQUIRED ON ALL FLAGGER SIGNS AND TRUCK CROSSING SIGNS WITHIN THE WORK ZONE. THEY WILL BE REQUIRED ON THE FIRST OCCURRENCE OF THE ROAD/RAMP/BRIDGE WORK AHEAD SIGN, BUT ONLY IF THE WORK DURATION IS 30 MINUTES OR MORE. IF PROVIDED, THE COST OF THE FLAG ASSEMBLES AS SHOWN IN THE PLANS.

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED	
2/6/2022	
ROUTE	STATE
5	MO
DISTRICT	SHEET NO.
NW	A3.12
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
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)

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

Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)

■

CHANNELIZER (TRIMLINE)

⌈

TYPE III MOVEABLE BARRICADE
- ▨

STAGE 1 - WIDEN NB ROUTE 5 AND CONSTRUCT MAYAPPLE ROAD.

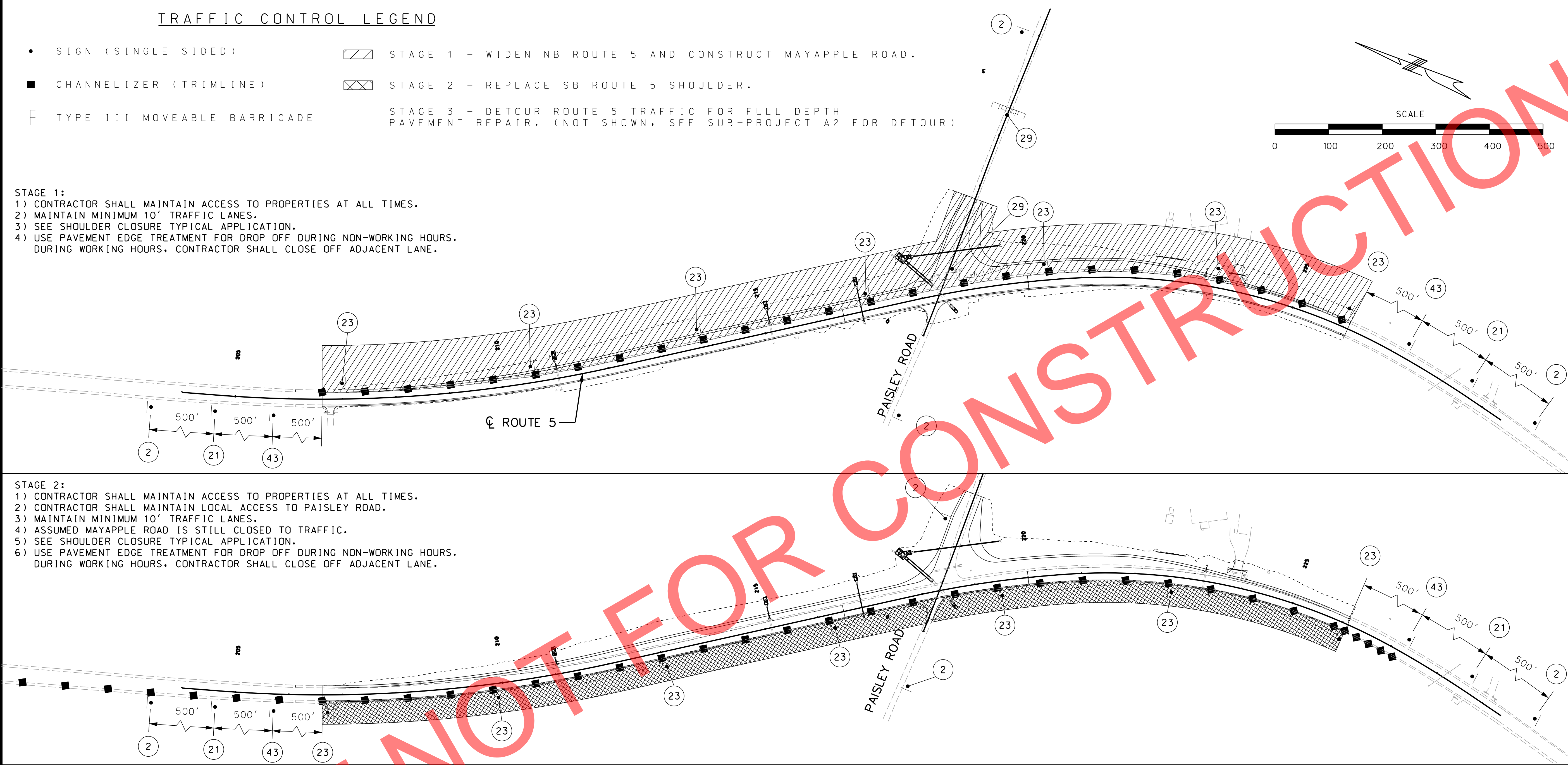
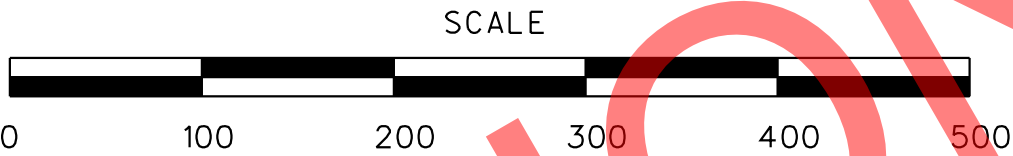
▩

STAGE 2 - REPLACE SB ROUTE 5 SHOULDER.

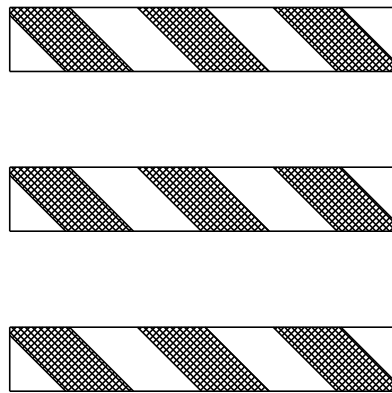
STAGE 3 - DETOUR ROUTE 5 TRAFFIC FOR FULL DEPTH PAVEMENT REPAIR. (NOT SHOWN, SEE SUB-PROJECT A2 FOR DETOUR)

- STAGE 1:
- 1) CONTRACTOR SHALL MAINTAIN ACCESS TO PROPERTIES AT ALL TIMES.
 - 2) MAINTAIN MINIMUM 10' TRAFFIC LANES.
 - 3) SEE SHOULDER CLOSURE TYPICAL APPLICATION.
 - 4) USE PAVEMENT EDGE TREATMENT FOR DROP OFF DURING NON-WORKING HOURS. DURING WORKING HOURS, CONTRACTOR SHALL CLOSE OFF ADJACENT LANE.

- STAGE 2:
- 1) CONTRACTOR SHALL MAINTAIN ACCESS TO PROPERTIES AT ALL TIMES.
 - 2) CONTRACTOR SHALL MAINTAIN LOCAL ACCESS TO PAISLEY ROAD.
 - 3) MAINTAIN MINIMUM 10' TRAFFIC LANES.
 - 4) ASSUMED MAYAPPLE ROAD IS STILL CLOSED TO TRAFFIC.
 - 5) SEE SHOULDER CLOSURE TYPICAL APPLICATION.
 - 6) USE PAVEMENT EDGE TREATMENT FOR DROP OFF DURING NON-WORKING HOURS. DURING WORKING HOURS, CONTRACTOR SHALL CLOSE OFF ADJACENT LANE.



BRIDGE
OR
RAMP



W020-1
(2)



W021-5
(21)



W05-1
(43)

BRIDGE
OR
RAMP



W08-17

SHOULDER
DROP-OFF

W08-17P
(23)

ROAD
CLOSED

R11-2
(29)

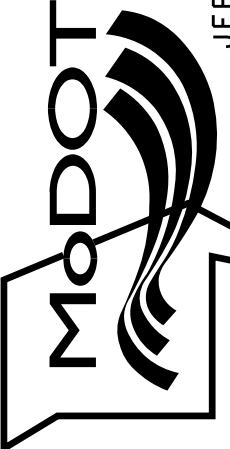
TRAFFIC CONTROL
J1S3392A3 STAGING
SHEET 2 OF 5

EFK Moen

Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199

Missouri Certificate of Authority: 001578

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



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

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NOT BE CONSIDERED
A CERTIFIED
DOCUMENT."

DATE PREPARED
2/6/2022

ROUTE	STATE
5	MO
DISTRICT	SHEET NO.
NW	A3.13

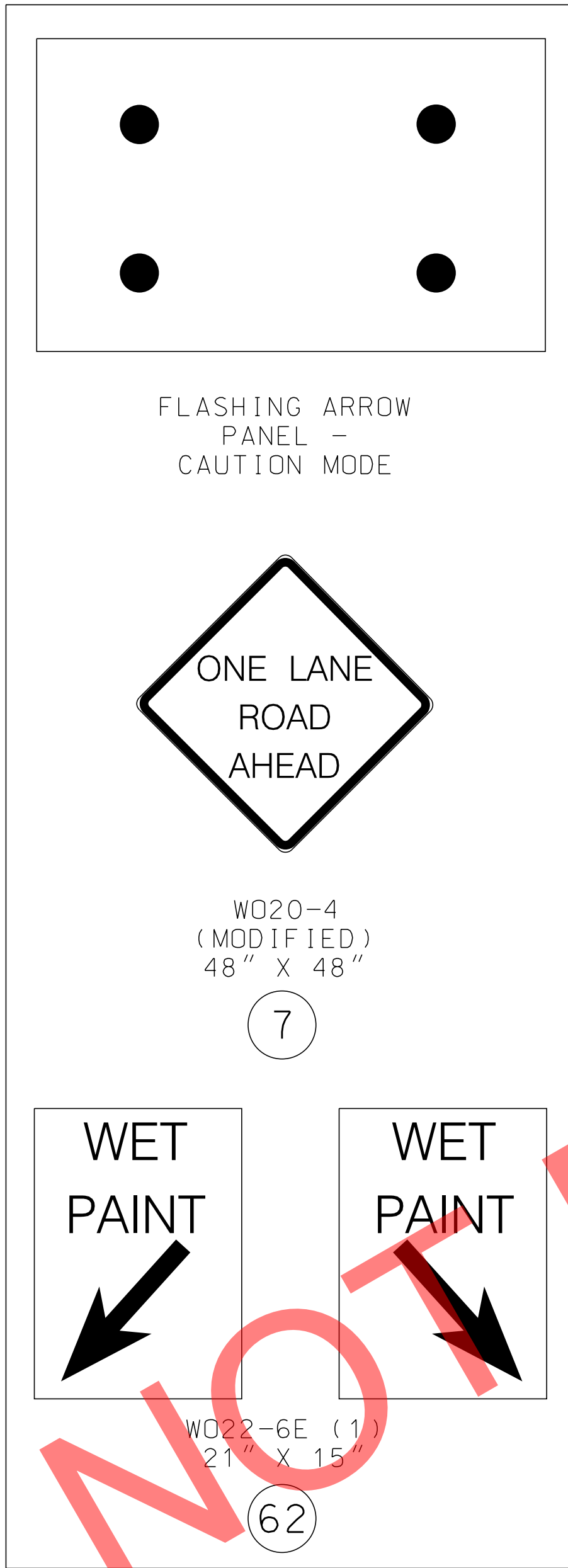
COUNTY
SULLIVAN
JOB NO.
J1S3392
CONTRACT ID.

PROJECT NO.

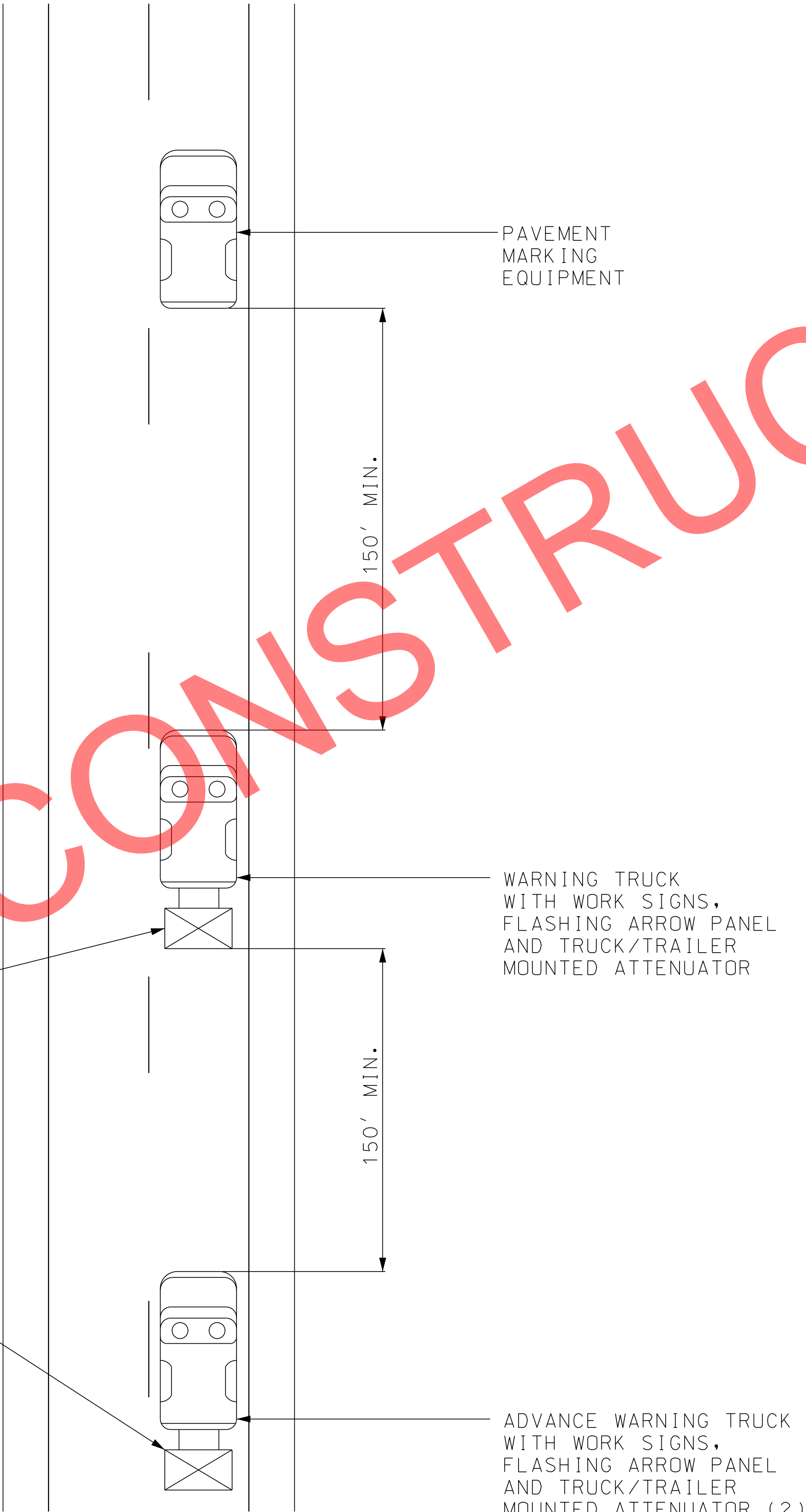
BRIDGE NO.

DESCRIPTION	DATE

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



- NOTES:
- ALL SIGNS HAVE FLUORESCENT ORANGE RETROREFLECTIVE.
- (1) WET PAINT SIGNS ARE INSTALLED TO INDICATE THE SIDE WHICH THE PAVEMENT MARKING MATERIAL IS BEING APPLIED. AT THE CONTRACTOR'S OPTION, A FRONT FACING WET PAINT SIGN MAY BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT MARKING EQUIPMENT.
- (2) ADVANCE WARNING TRUCK IS POSITIONED AT THE NO TRACK POINT OF THE PAVEMENT MARKING MATERIAL OR SPACING SHOWN, WHICHEVER IS GREATER.



CENTERLINE/EDGE LINE STRIPING ON TWO-LANE HIGHWAYS


TRAFFIC CONTROL
SHEET 4 OF 5

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/6/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.15
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



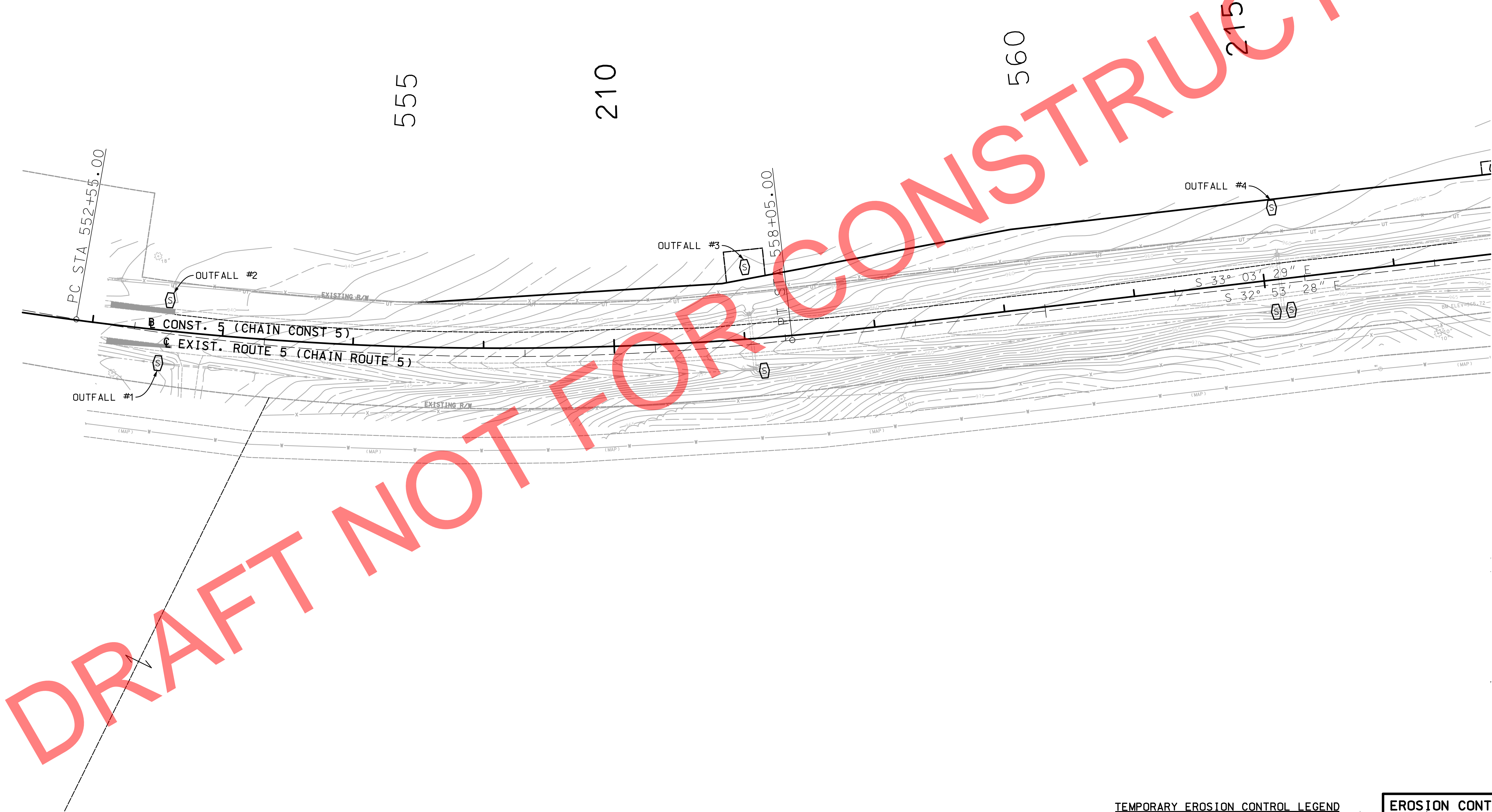
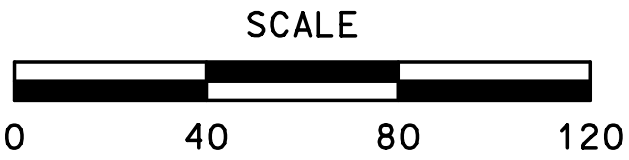
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

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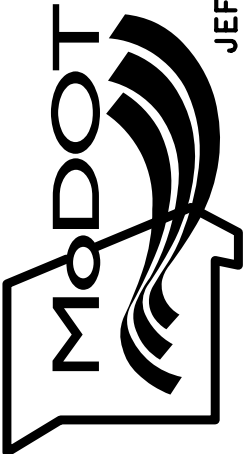
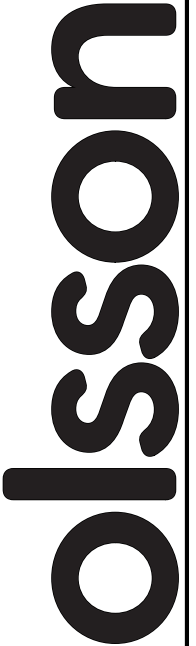
- NOTES:
1. EROSION CONTROL SHALL BE INSTALLED AS APPROVED BY ENGINEER.
 2. SEE STANDARD PLANS 806.10 FOR TEMPORARY EROSION CONTROL DETAILS.
 3. DESIGN HEIGHT IS 9" FOR ALTERNATE DITCH CHECKS AND 18" FOR ROCK DITCH CHECKS.

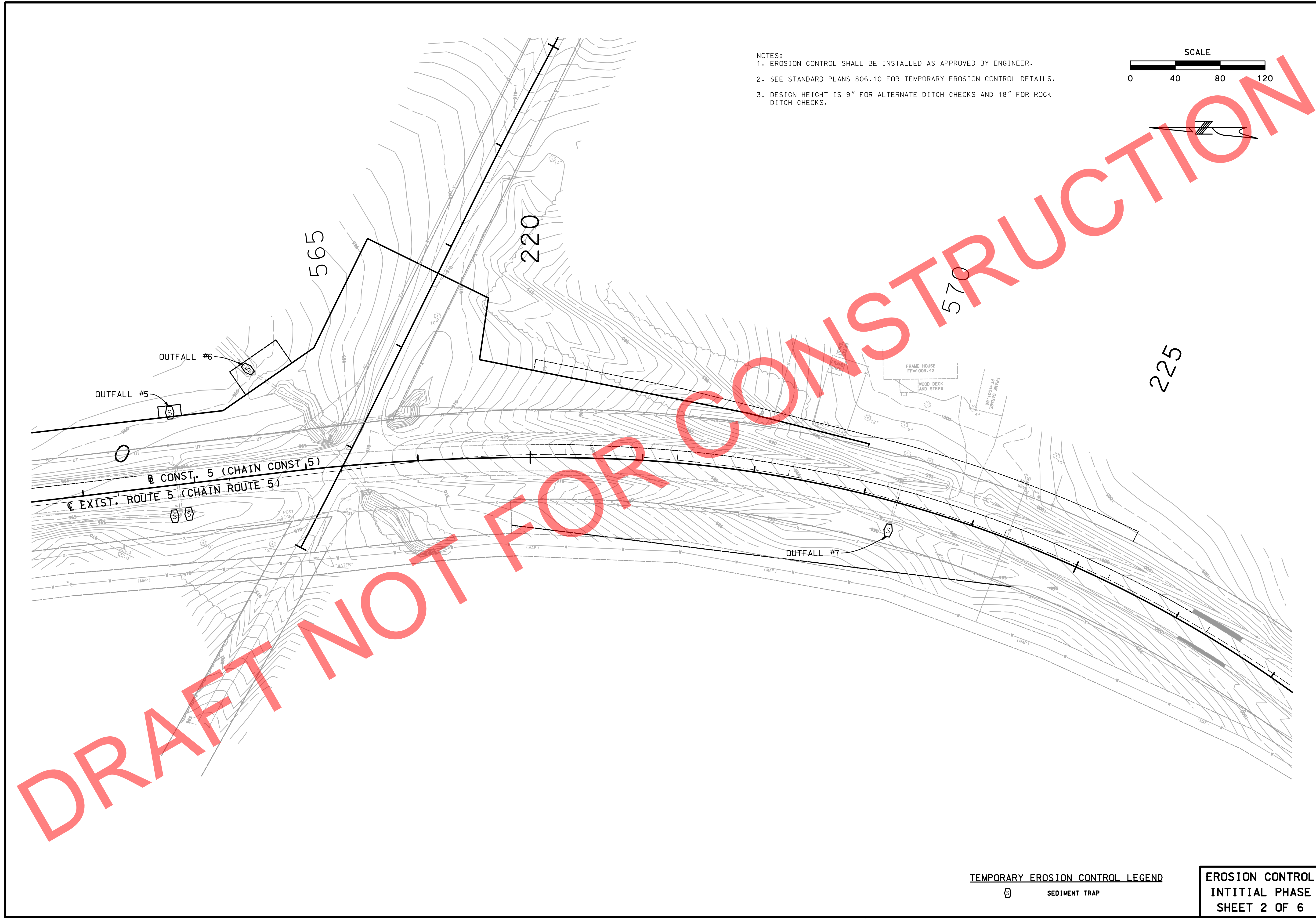


TEMPORARY EROSION CONTROL LEGEND

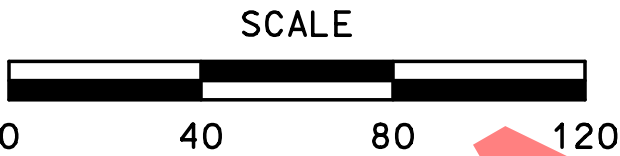
 SEDIMENT TRAP

EROSION CONTROL
INITIAL PHASE
SHEET 1 OF 6

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.17
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	 105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
 1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	REV.



- NOTES:
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 - 2. SEE STANDARD PLANS 806.10 FOR TEMPORARY EROSION CONTROL DETAILS.
 - 3. DESIGN HEIGHT IS 9" FOR ALTERNATE DITCH CHECKS AND 18" FOR ROCK DITCH CHECKS.



DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.18
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

TEMPORARY EROSION CONTROL LEGEND

SEDIMENT TRAP

EROSION CONTROL
INITIAL PHASE
SHEET 2 OF 6

SCALE

0 40 80 120



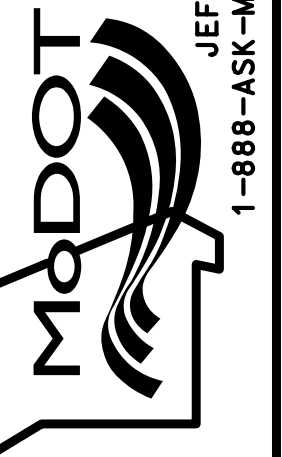
ROUTE 5	STATE MO
TRACT NW	SHEET NO. A3.19

JOB NO.
J1S3392
CONTRACT ID.

BRIDGE NO.

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COMMISSION



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

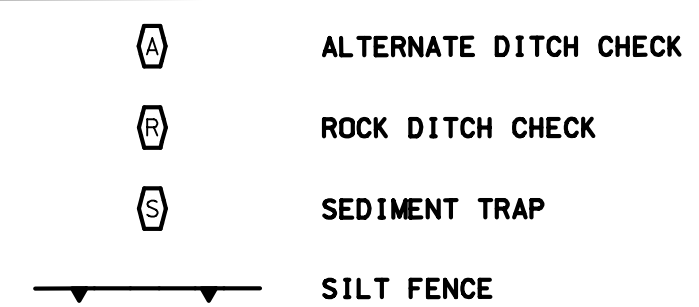
Olson
BURLINGTON STREET, STE. 200

NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

REV.

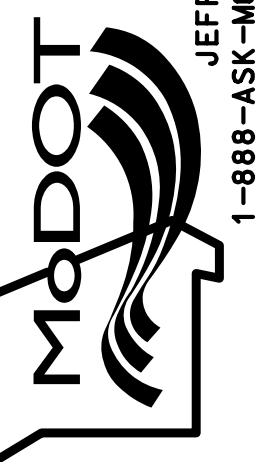
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A horizontal number line labeled "SCALE" with markings at 0, 40, 80, and 120. A red arrow points to the 100 mark.



olson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

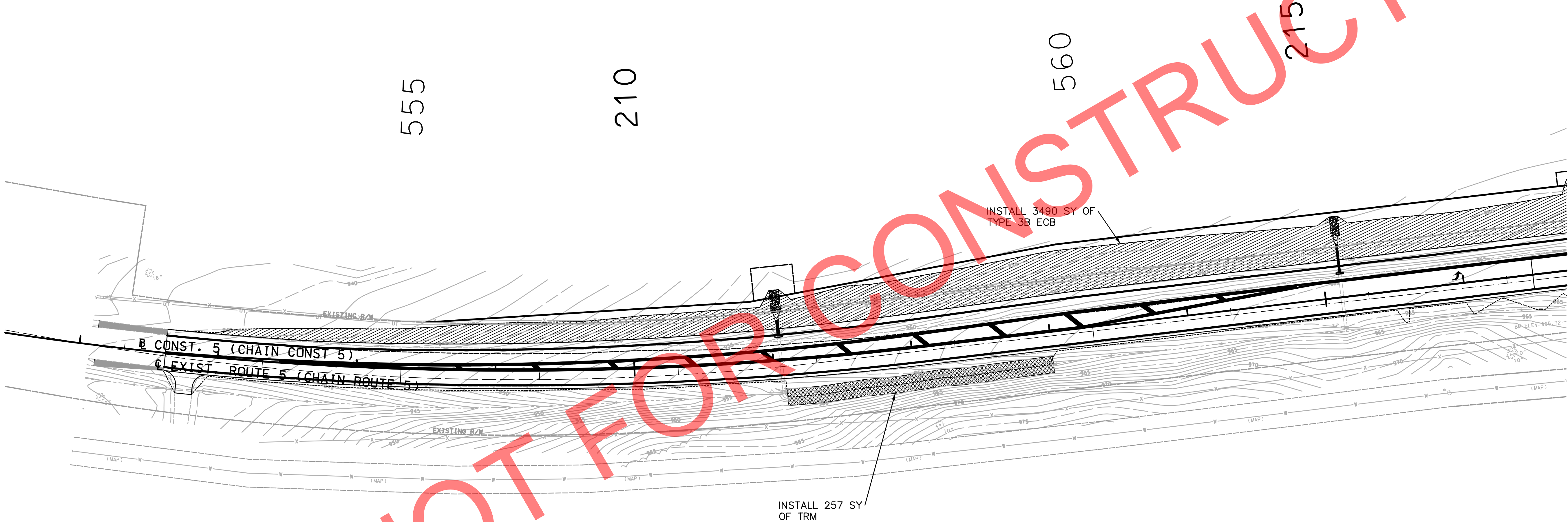
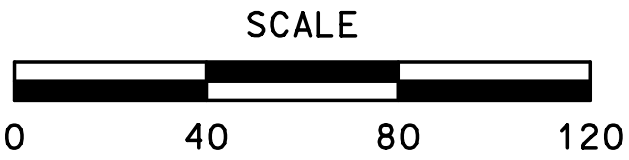
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

DATE PREPARED	
2/7/2022	
ROUTE	STATE
5	MO
DISTRICT	SHEET NO.
NW	A3.20
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

[illegible]

- NOTES:
- 1. EROSION CONTROL SHALL BE INSTALLED AS APPROVED BY ENGINEER.
 - 2. SEE STANDARD PLANS 806.10 FOR TEMPORARY EROSION CONTROL DETAILS.
 - 3. DESIGN HEIGHT IS 9" FOR ALTERNATE DITCH CHECKS AND 18" FOR ROCK DITCH CHECKS.



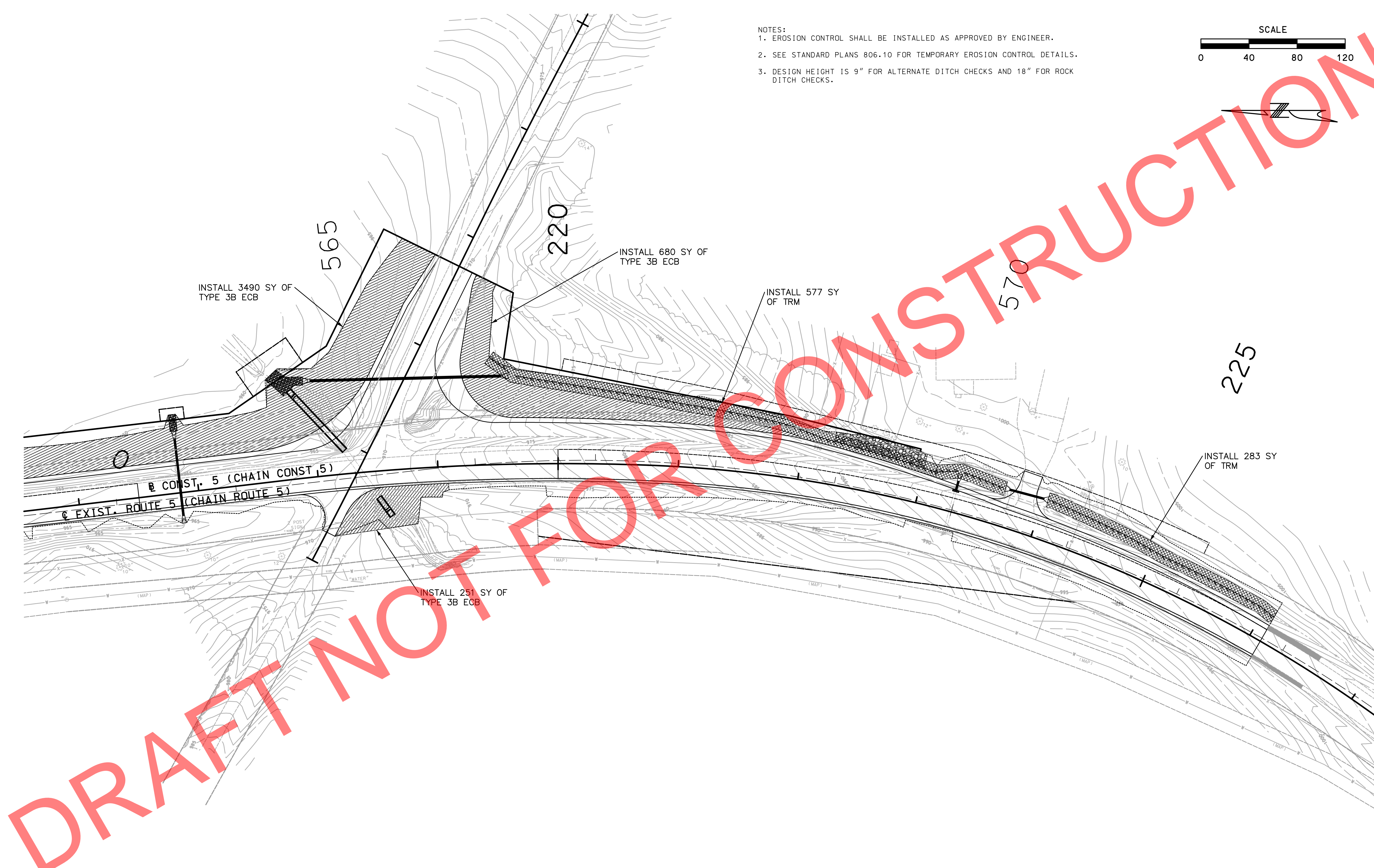
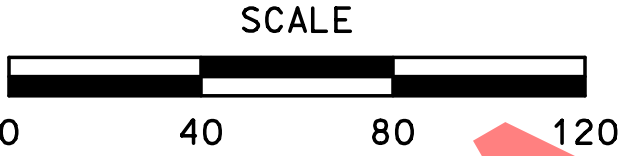
TEMPORARY EROSION CONTROL LEGEND

- | | |
|--|---------------------------------|
| | TYPE 3B EROSION CONTROL BLANKET |
| | TURF REINFORCEMENT MAT |

EROSION CONTROL
FINAL PHASE
SHEET 5 OF 6

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.21
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

- NOTES:
- 1. EROSION CONTROL SHALL BE INSTALLED AS APPROVED BY ENGINEER.
 - 2. SEE STANDARD PLANS 806.10 FOR TEMPORARY EROSION CONTROL DETAILS.
 - 3. DESIGN HEIGHT IS 9" FOR ALTERNATE DITCH CHECKS AND 18" FOR ROCK DITCH CHECKS.



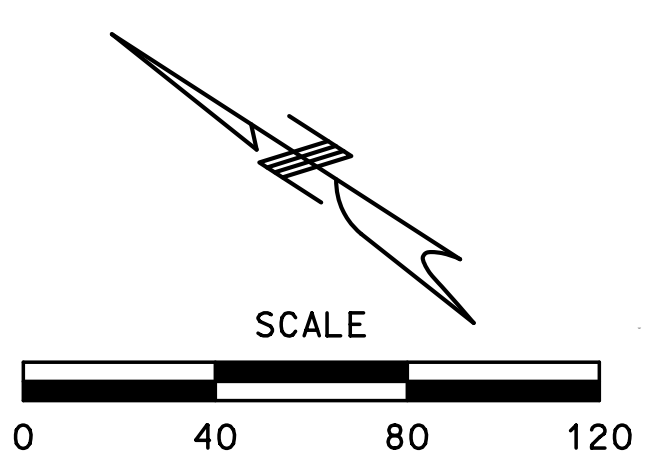
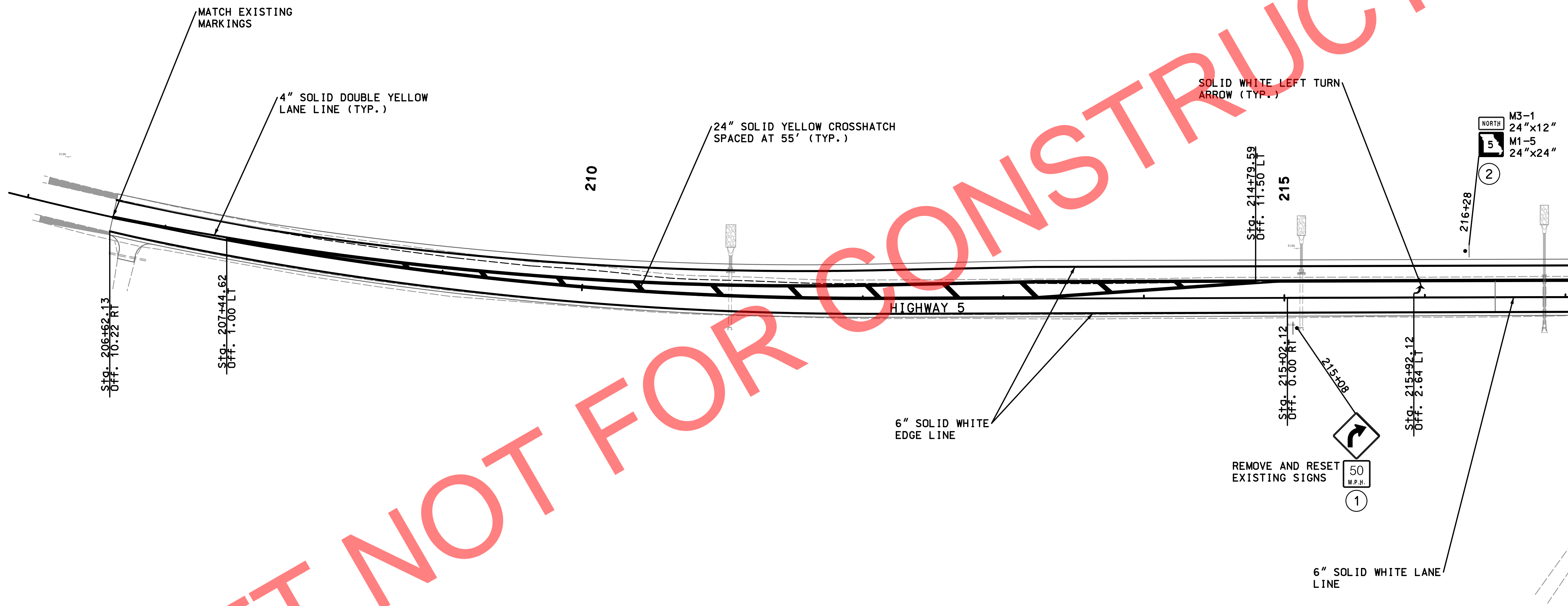
TEMPORARY EROSION CONTROL LEGEND

- TYPE 3B EROSION CONTROL BLANKET
- TURF REINFORCEMENT MAT

EROSION CONTROL
FINAL PHASE
SHEET 6 OF 6

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.22
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	







DRAFT NOT FOR CONSTRUCTION



PAVEMENT MARKING & SIGNING
SHEET 1 OF 3

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.23
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DATE	DESCRIPTION
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
olsson 1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

SIGNS					PERF. SQUARE STEEL POST					CONC. FTG'S	HORZ
SIGN NO.	STATION	SIGN DTL. SHT. NO.	LOCATION	SIGN SIZE						EMBD	CLEAR
					ITEM NO. 9031270A LIN FT	2" ANCHOR SLEEVE ITEM NO. 9031271 LIN FT	2.5" POST ITEM NO. 9031280 LIN FT	2.5" ANCHOR SLEEVE ITEM NO. 9031282 LIN FT	BREAKAWAY ASSEMBLY ITEM NO. 9031241 EACH	ITEM NO. 9031010 CY	IF NOT STD
1	215+08.00	26	STATE HIGHWAY 5	EXISTING	16.00	3					
2	216+28.00	26	STATE HIGHWAY 5	ASSY	16.00	3					
3	218+21.00	27	MAYAPPLE ROAD	EXISTING	16.00	3					
4	218+34.00	27	MAYAPPLE ROAD	EXISTING	16.00	3					
5	221+47.00	27	STATE HIGHWAY 5	ASSY	16.00	3					
6	223+33.00	27	STATE HIGHWAY 5	12"x36"	16.00	3					
7	2+73.00	27	MAYAPPLE ROAD	ASSY	16.00	3					
8	0+18.00	27	MAYAPPLE ROAD	36"x36"	16.00	3					
TOTAL					112.00	24.00					

STANDARD SIGN ASSEMBLIES							
SIGN NO.	STATION	LOCATION	TYPE				
			SHR2L-1	SHR2L-1	SHR2L-1	SHR2L-1	SHR2L-1
			SIGN DESCRIPTION, SIZES & NUMBER OF EACH				
			 24"x24" M1-5a	 24"x12" M3-1	 24"x12" M3-3	 21"x15" M6-4	 12"x36" OM3-R
							 36"x36" W14-2
2	216+28.00	STATE HIGHWAY 5	1				
2	216+28.00	STATE HIGHWAY 5		1			
5	221+47.00	STATE HIGHWAY 5	1				
5	221+47.00	STATE HIGHWAY 5			1		
6	223+26.00	STATE HIGHWAY 5					1
7	2+73.00	MAYAPPLE ROAD	1				
7	2+73.00	MAYAPPLE ROAD				1	
8	0+18.00	MAYAPPLE ROAD					1
TOTAL			3	1	1	1	1

SIGN SUMMARY					
STANDARD SIGN OR SPECIAL SIGN NO.	SIGN DETAIL SHEET NO.	NO. EACH	SIZE, TYPE & SQUARE FEET		
			SIZE	FLAT SHEET SH 9035004A	FLAT SHEET SHF 9035069A
M1-5a (ROUTE 5)	26-27	3	24"x24"	12.00	
M3-1 (NORTH)	26	1	24"x12"	2.00	
M3-3 (SOUTH)	27	1	24"x12"	2.00	
M6-4 (DOUBLE ARROW)	27	1	21"x15"	2.19	
OM3-R	27	1	12"x36"	3.00	
W14-2 (NO OUTLET)	27	1	36"x36"	9.00	
TOTAL				31.00	

DATE PREPARED
2/7/2022

ROUTE
5

STATE
MO

DISTRICT
NW

SHEET NO.
A3.25

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

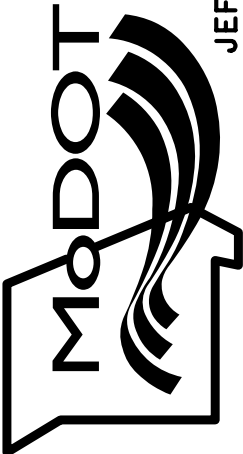
PROJECT NO.

BRIDGE NO.


DESCRIPTION

DATE

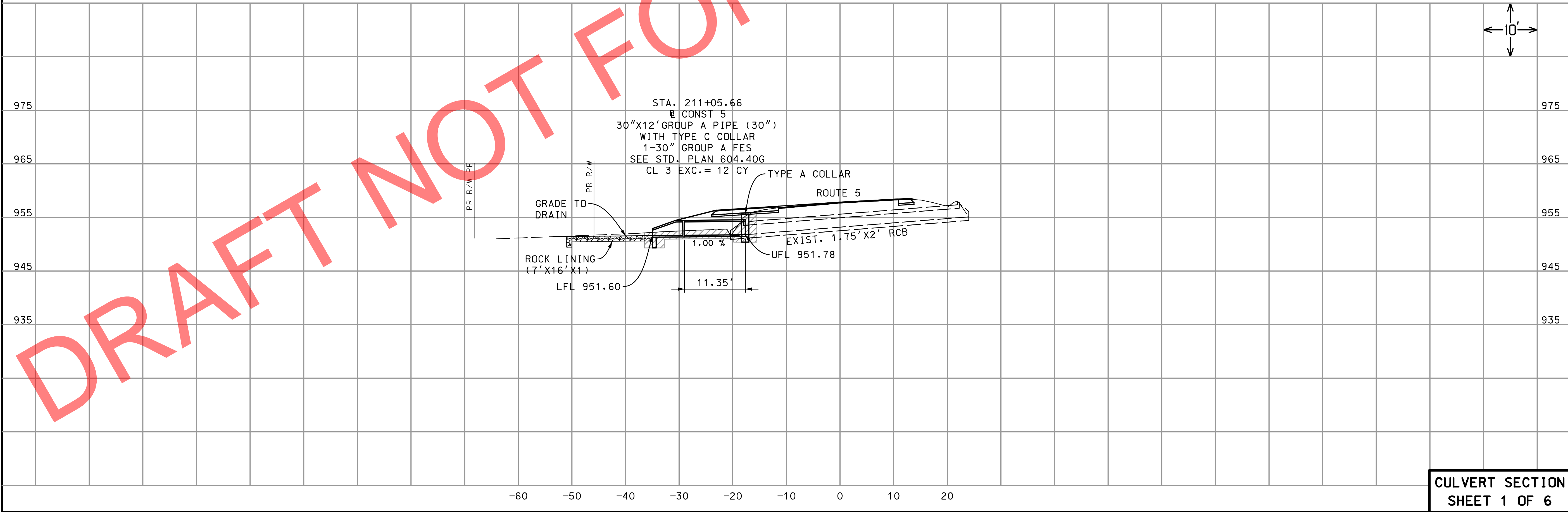
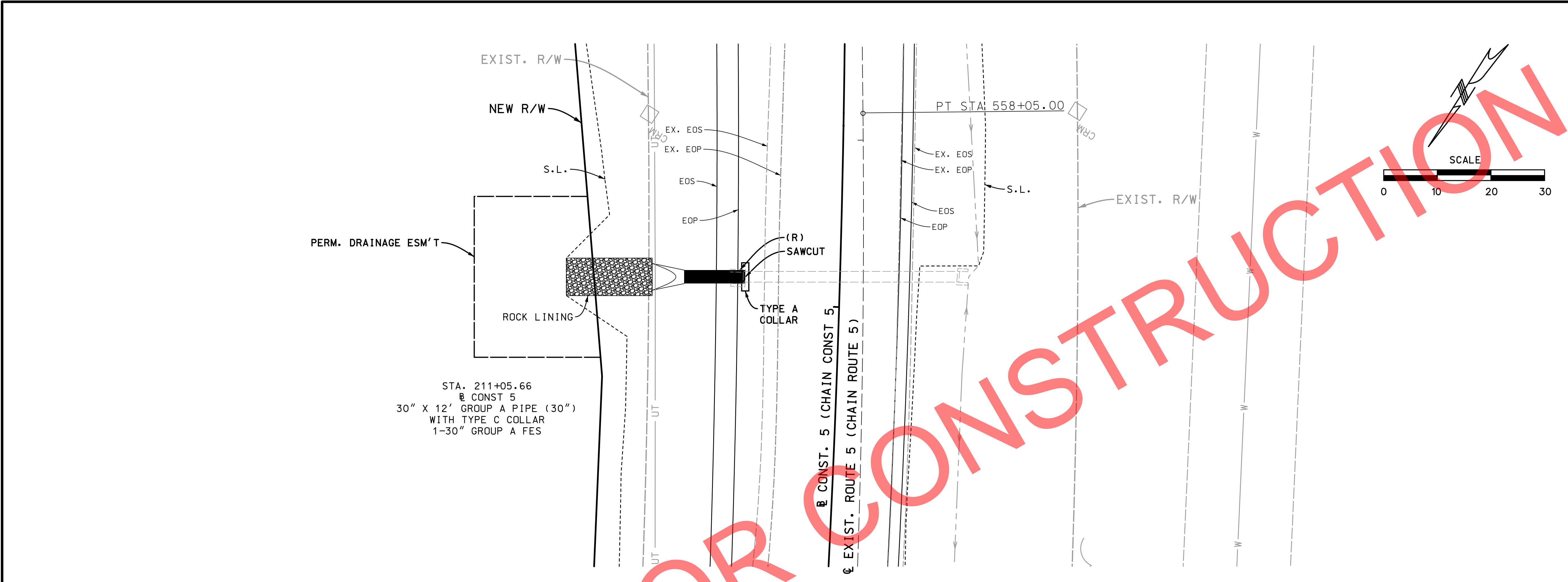
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



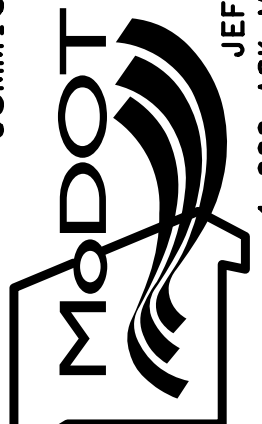

105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

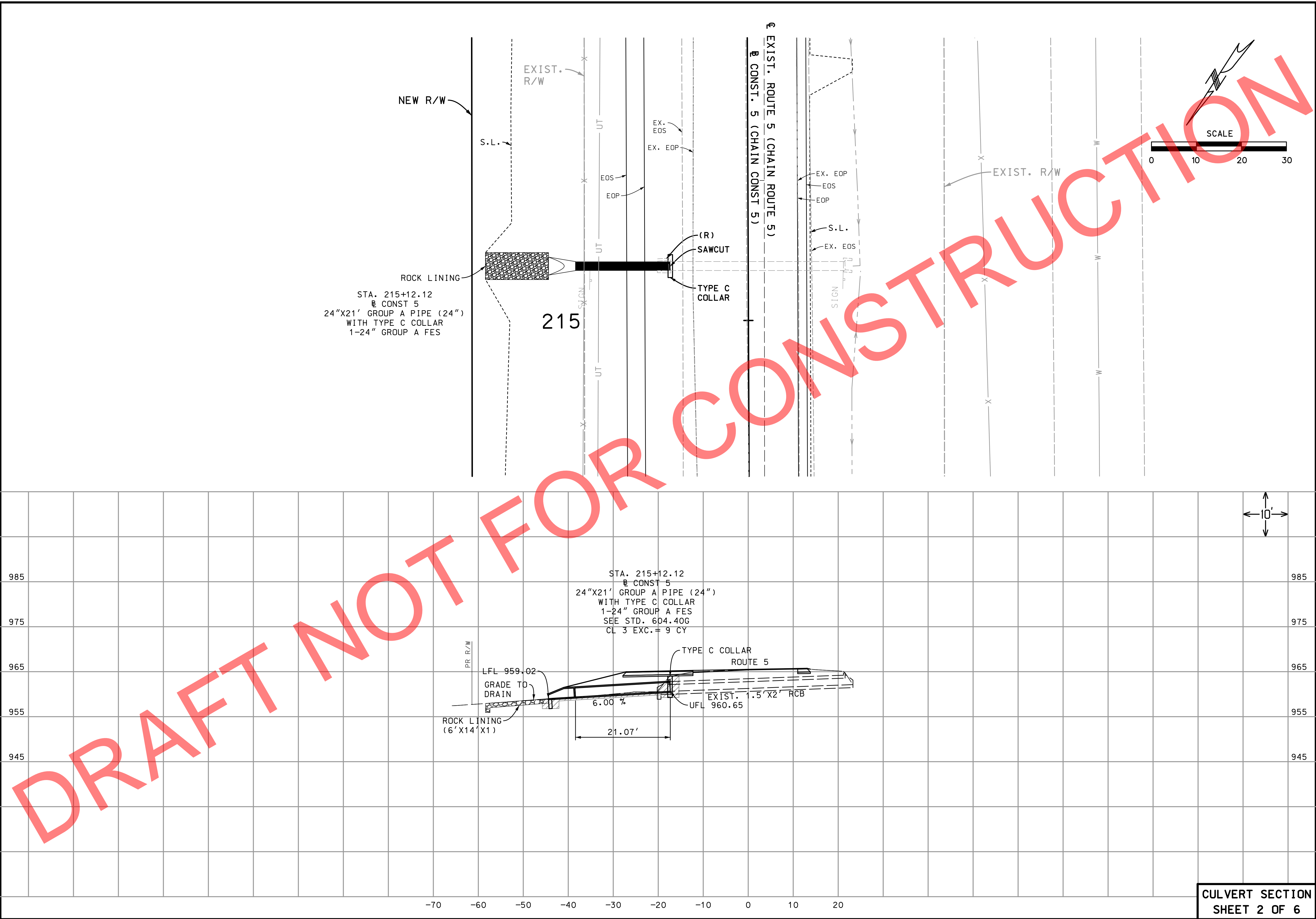


1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592



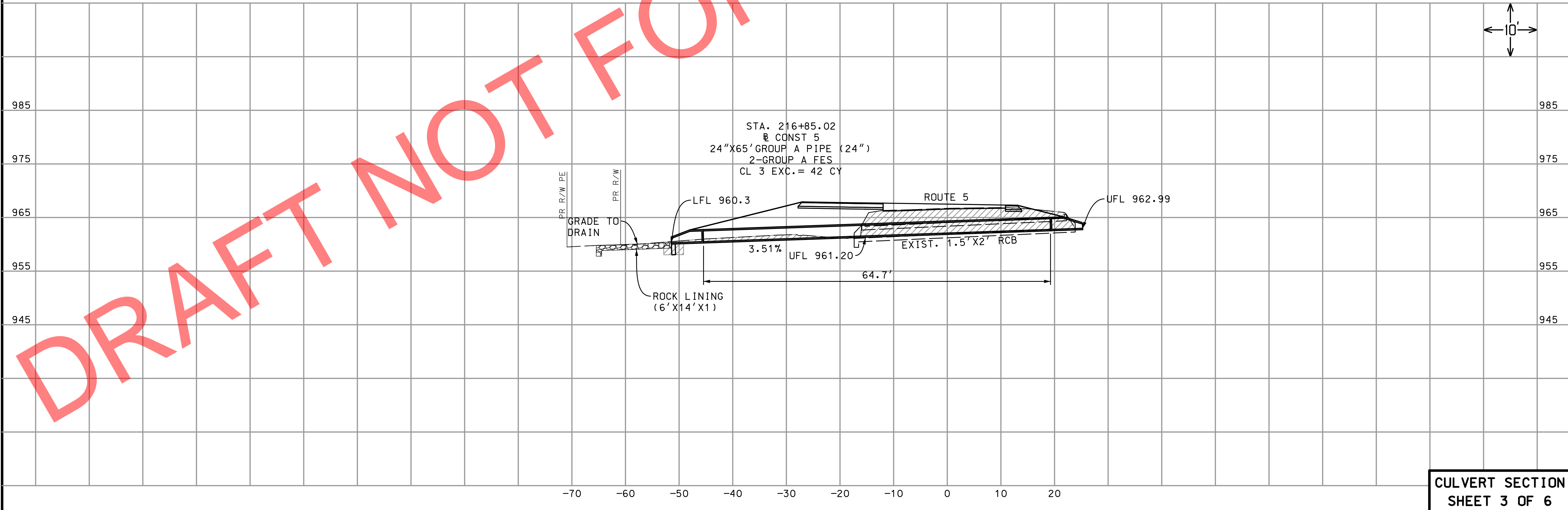
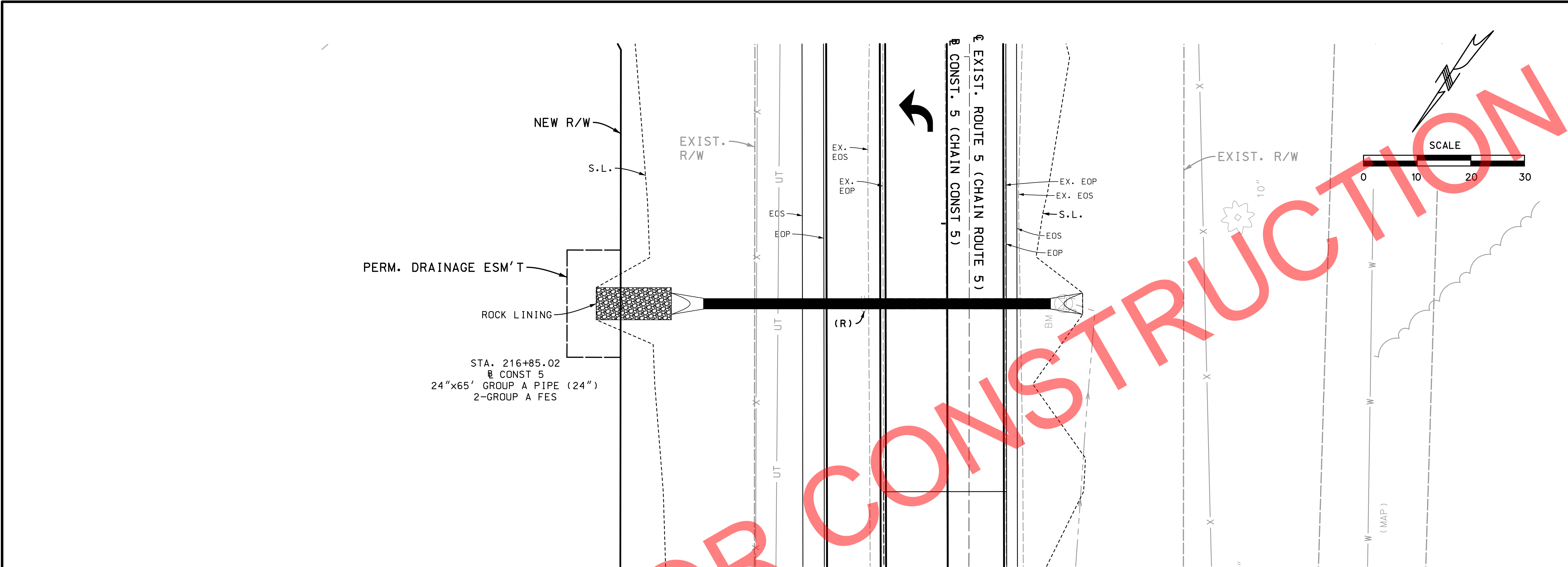
CULVERT SECTION
SHEET 1 OF 6

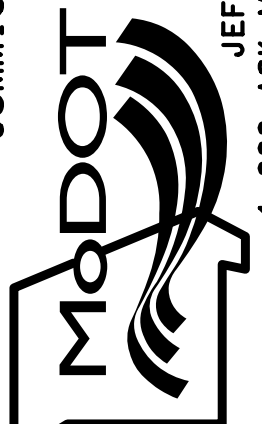

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.26
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



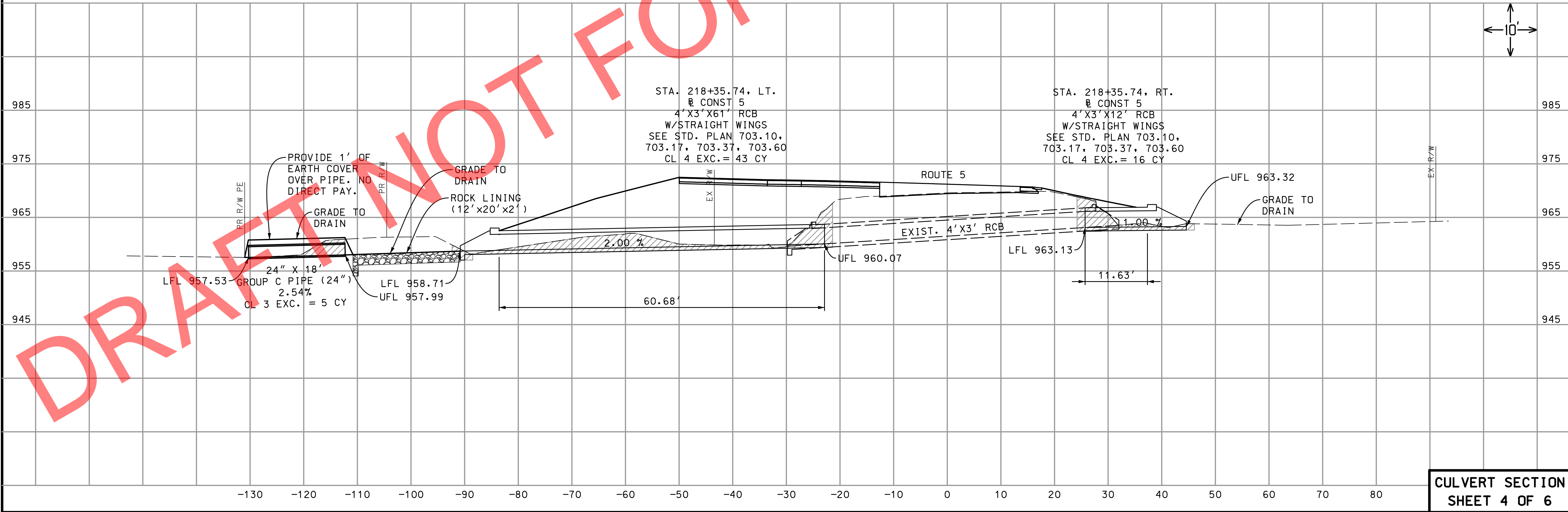
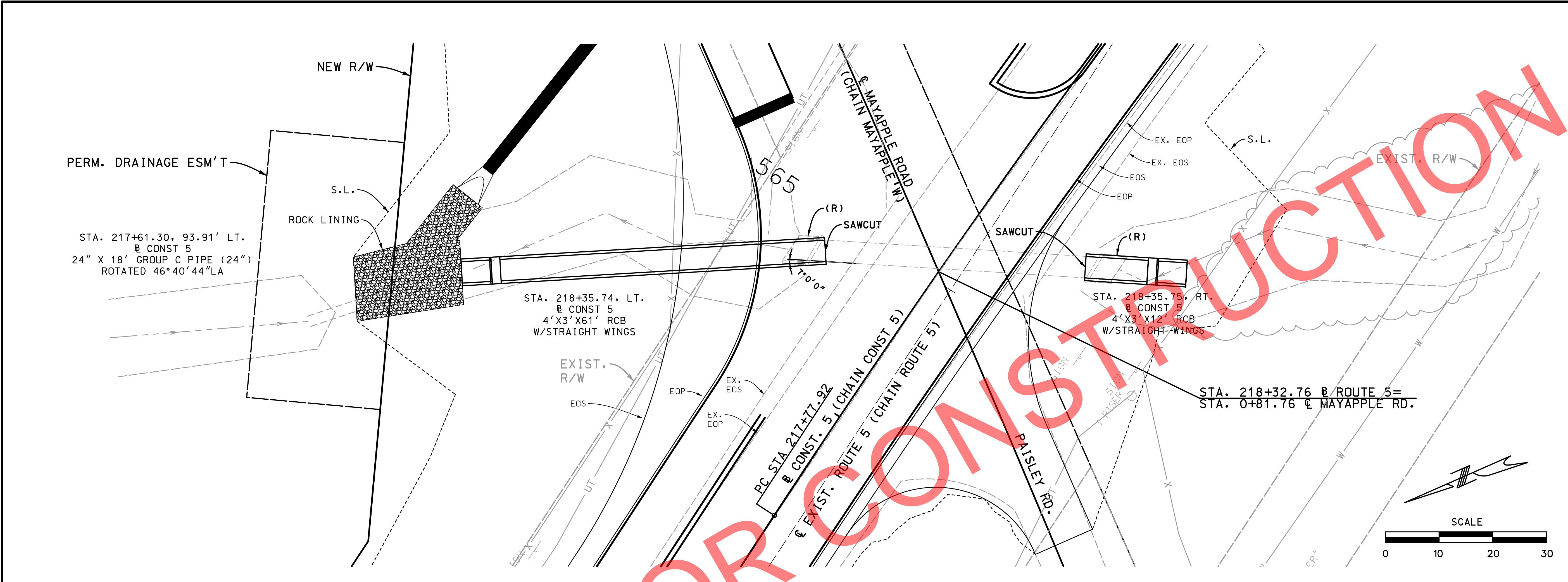
CULVERT SECTION
SHEET 2 OF 6

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.27
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
olsson	1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592

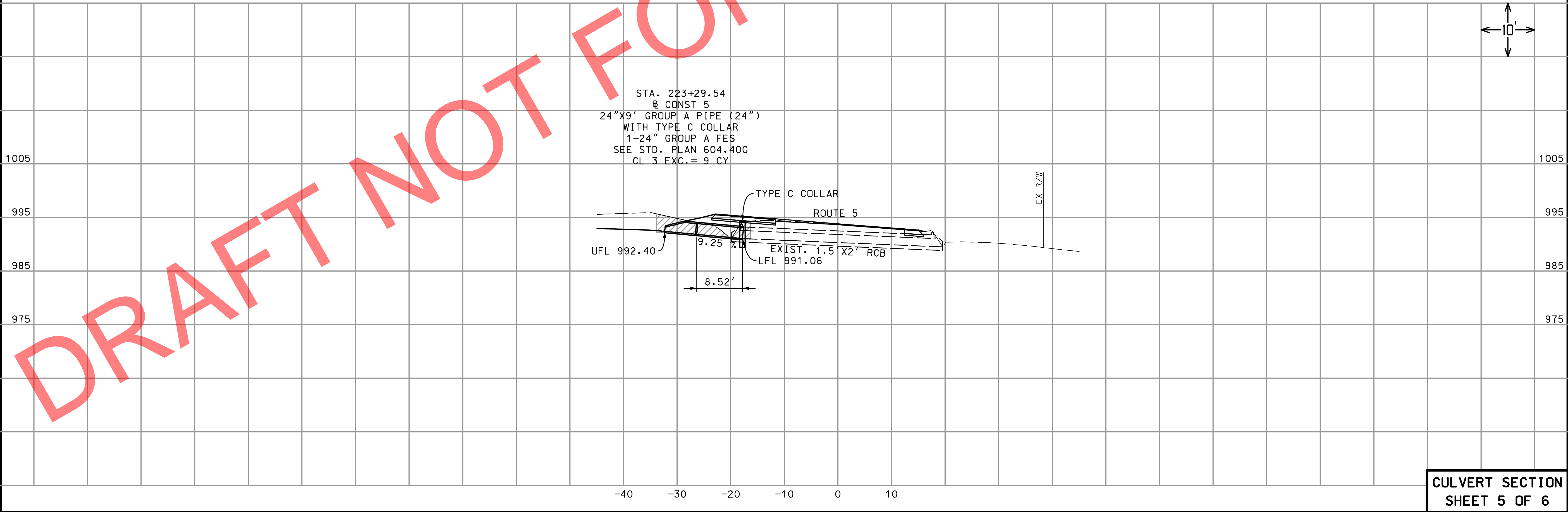
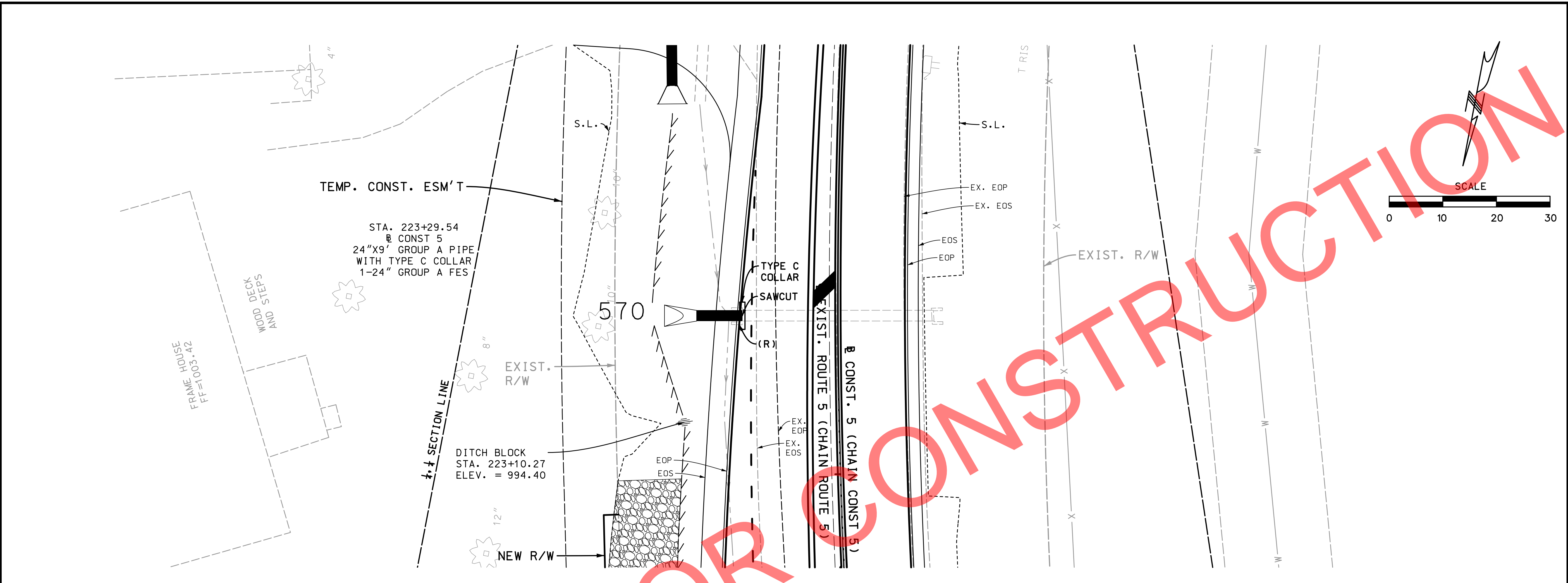


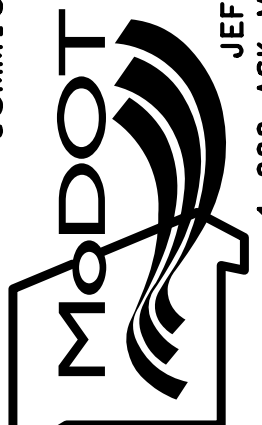

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.28
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

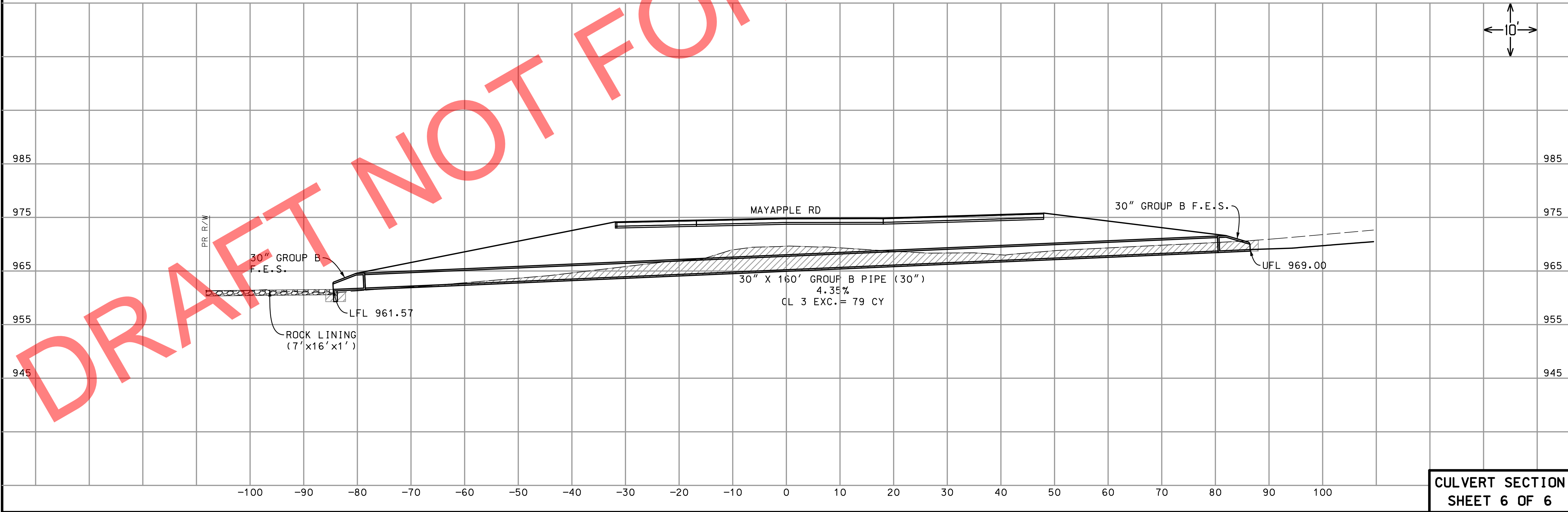
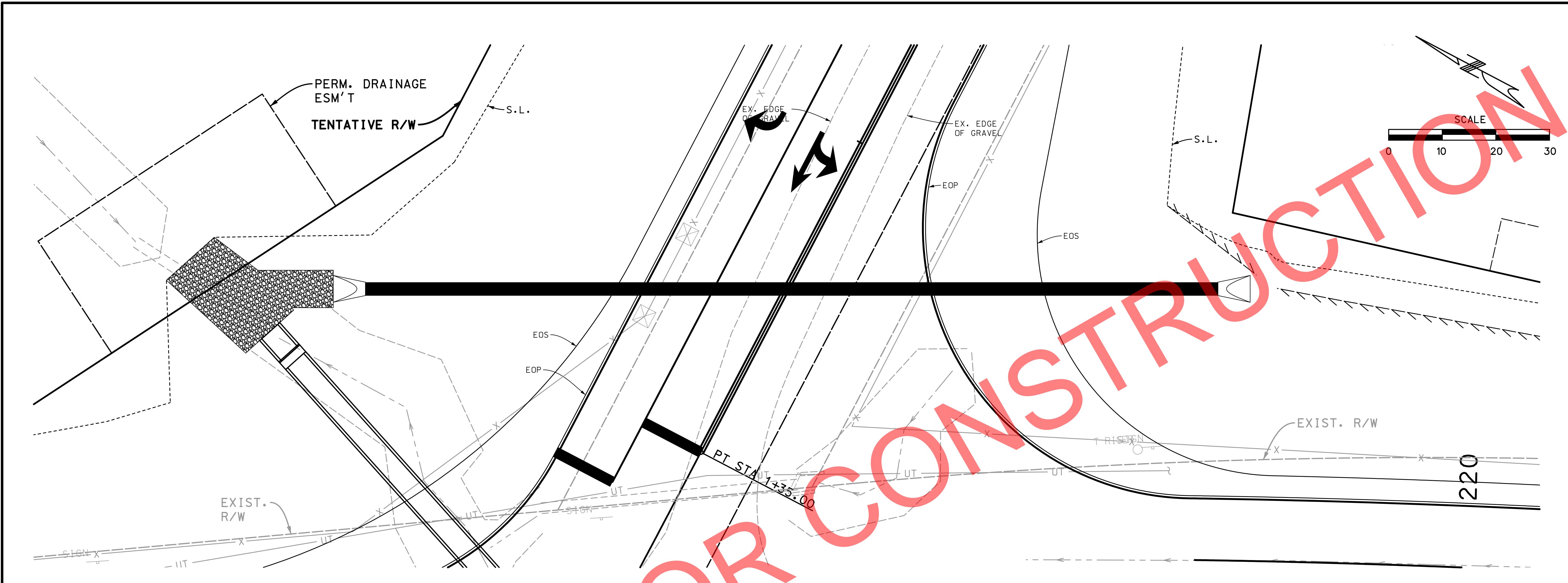
CULVERT SECTION
SHEET 3 OF 6



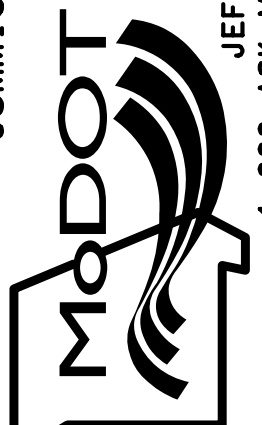
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.29
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

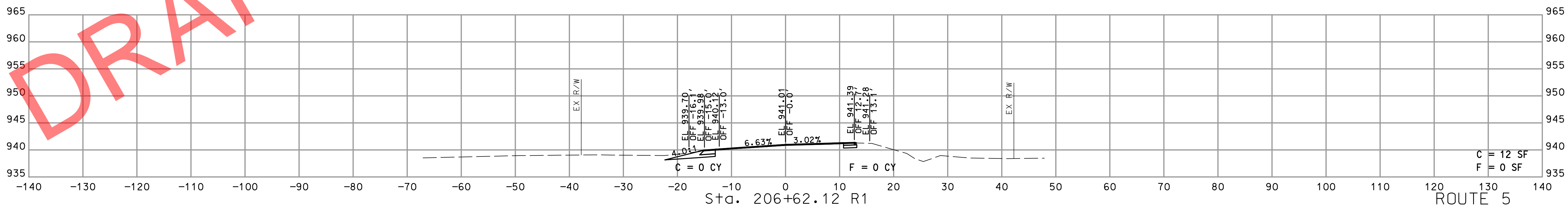
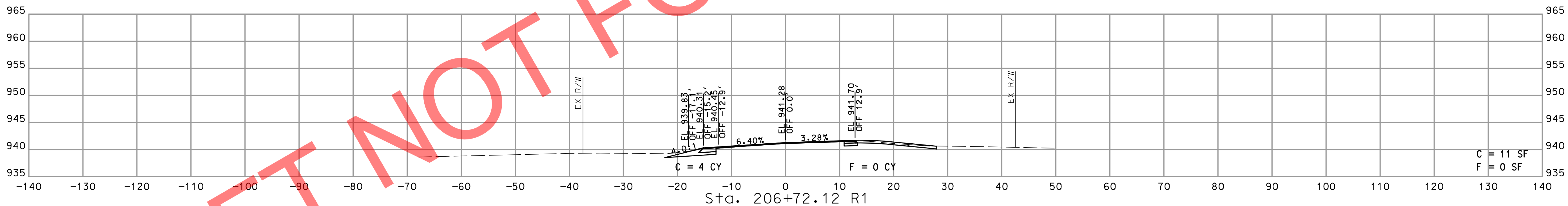
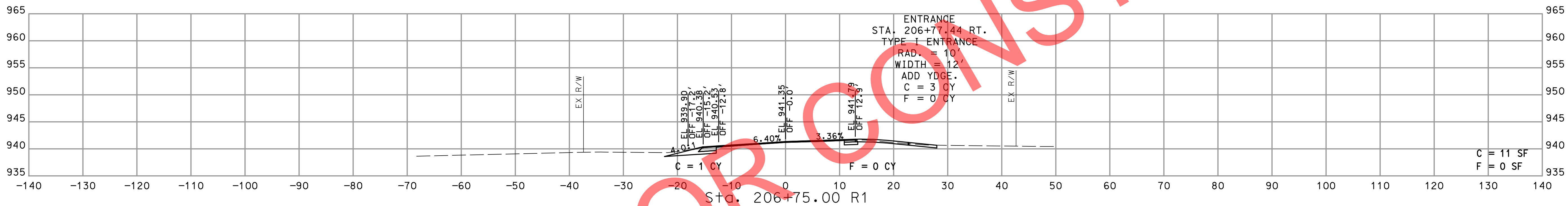
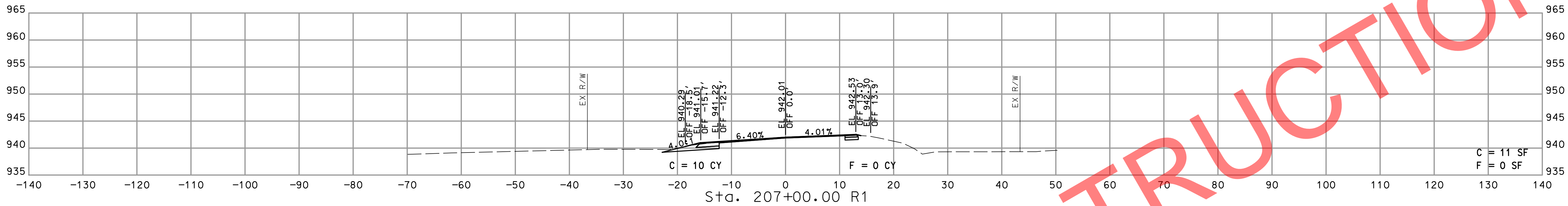


DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.30
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



CULVERT SECTION
SHEET 6 OF 6

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.31
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson 1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



ROUTE 5
STA. 206+62.12 R1 TO STA. 207+00.00 R1

DATE PREPARED
2/7/2022

ROUTE
5

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

STATE
MO

SHEET NO.
A3.1

ENTRANCE
STA. 206+77.44 RT.
TYPE I ENTRANCE
RAD. = 10'
WIDTH = 12'
ADD YDGE.
C = 3 CY
F = 0 CY

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

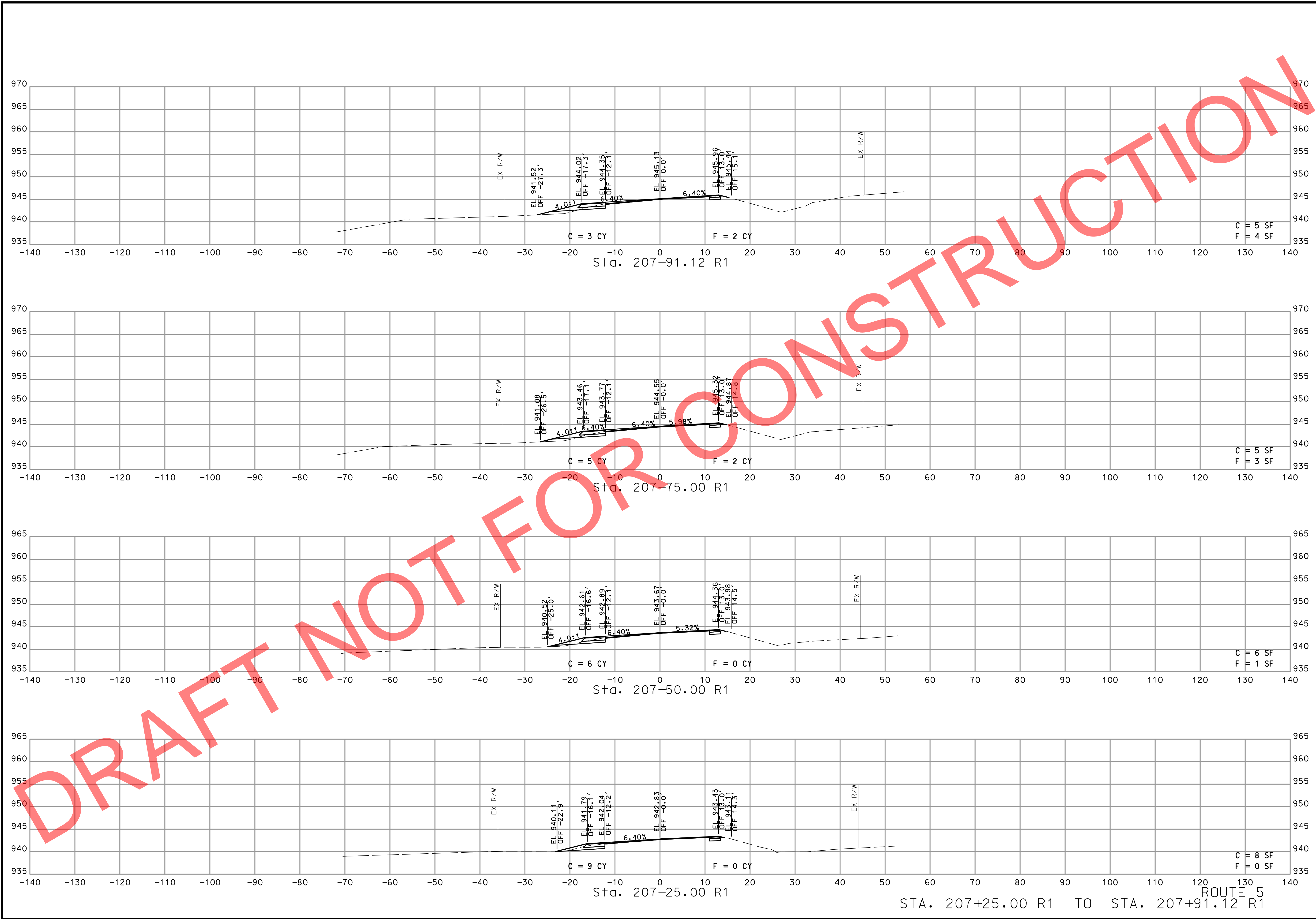
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



MoDOT

olsson

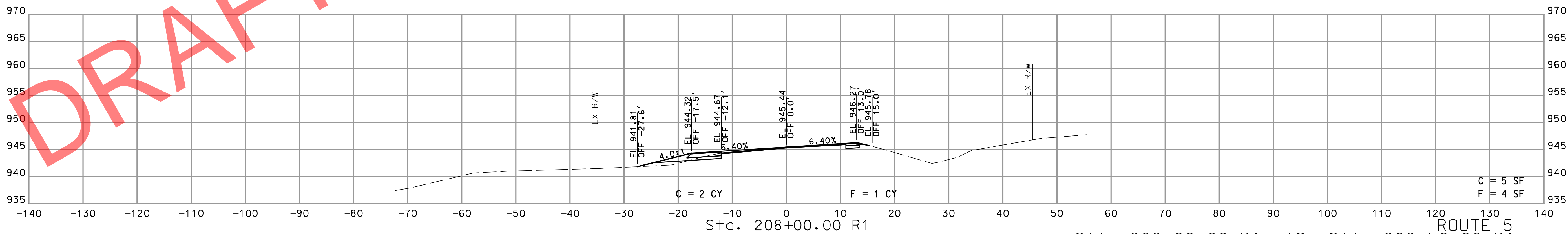
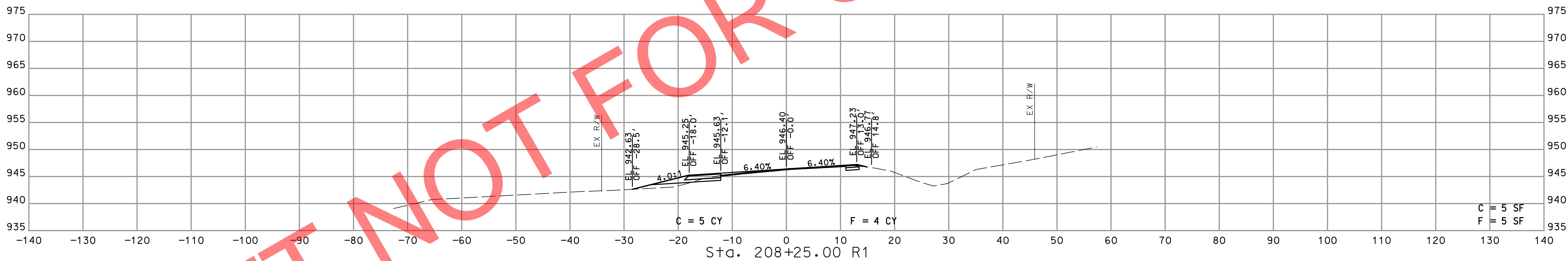
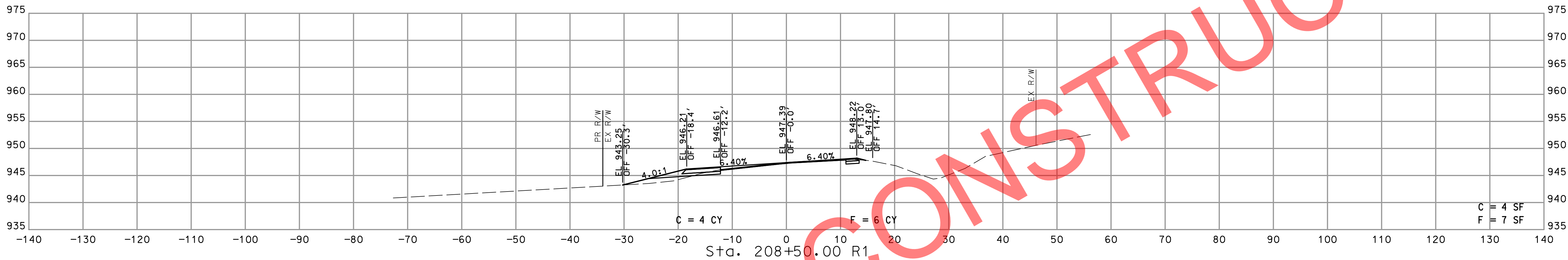
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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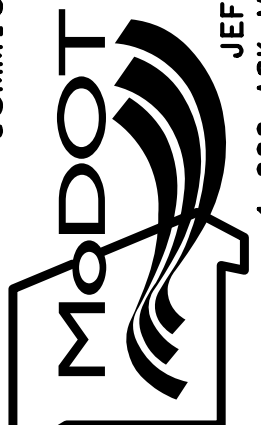



DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.2
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

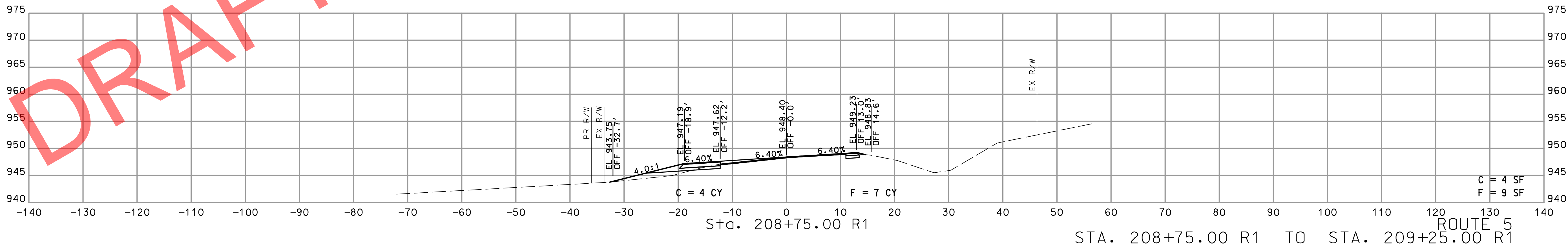
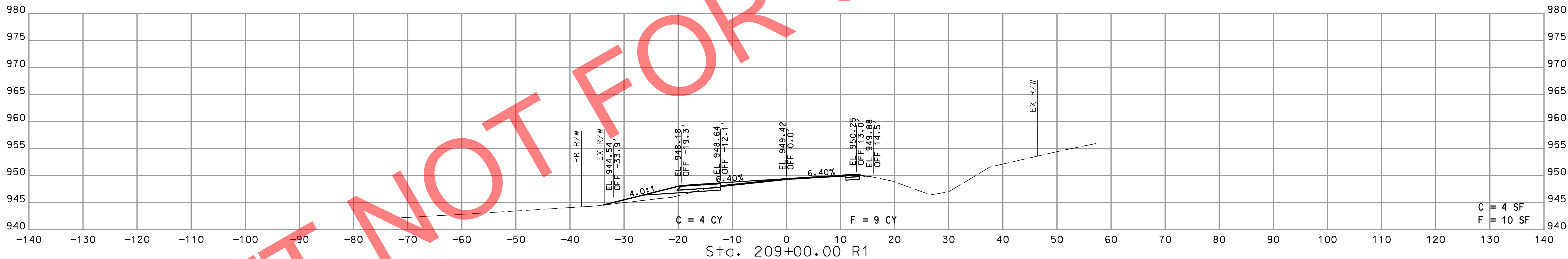
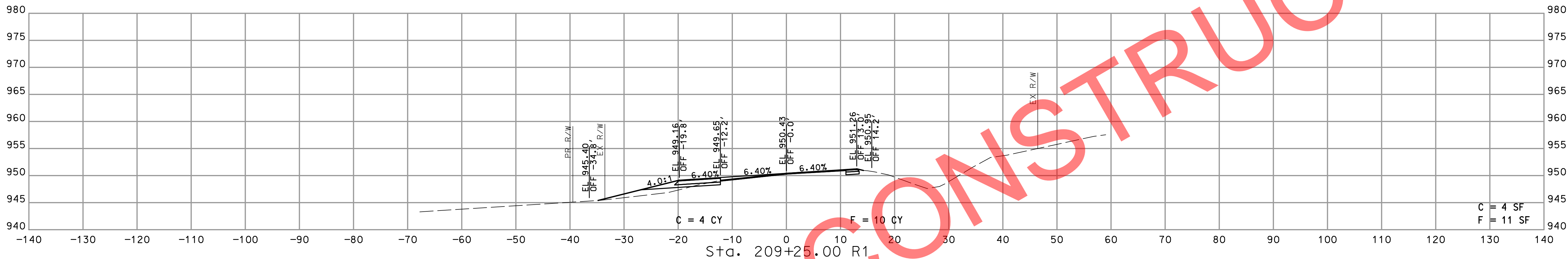
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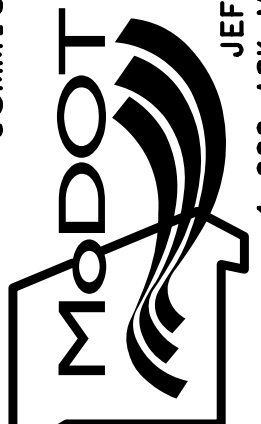

ROUTE 5
STA. 208+00.00 R1 TO STA. 208+50.00 R1

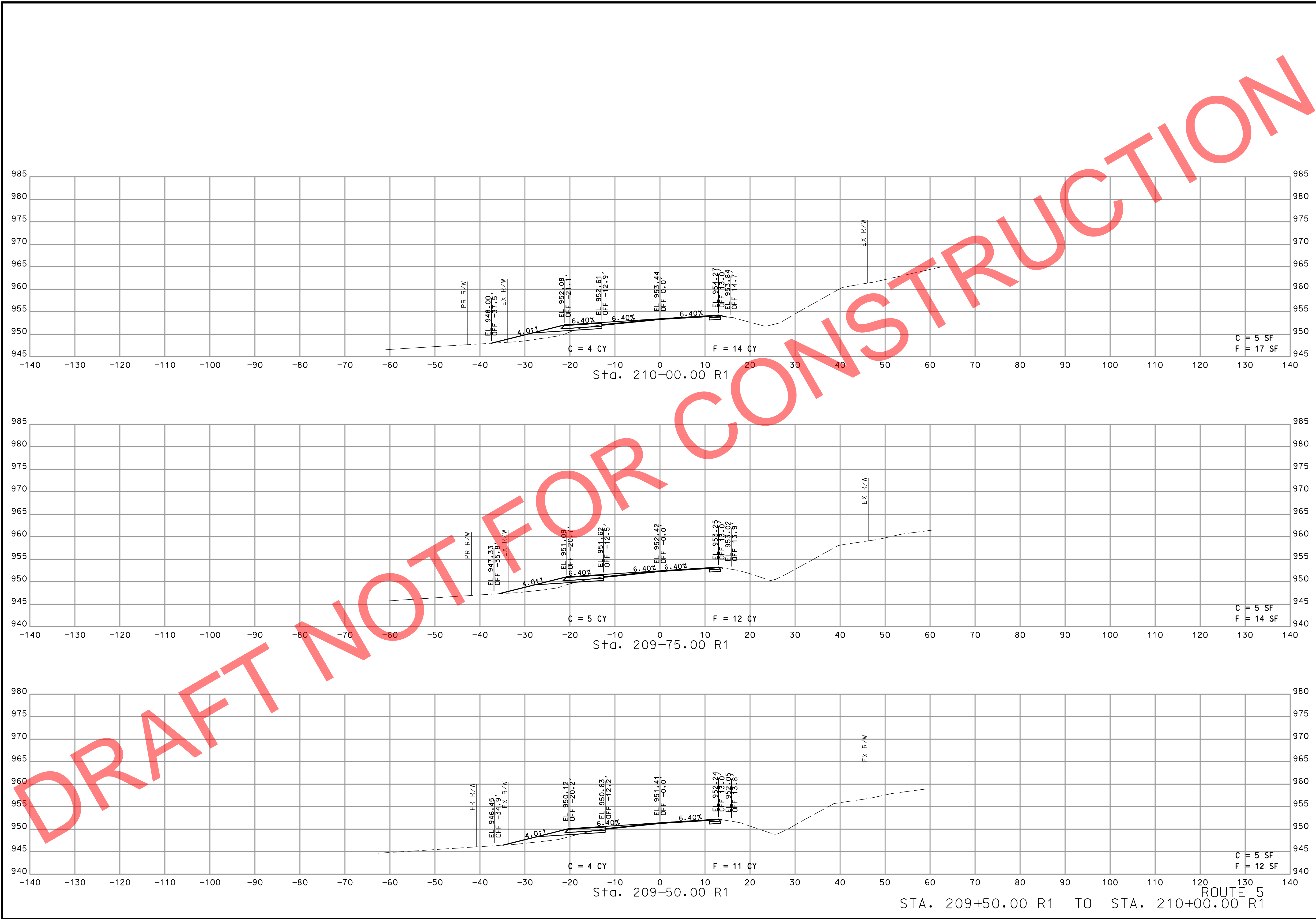
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.3
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

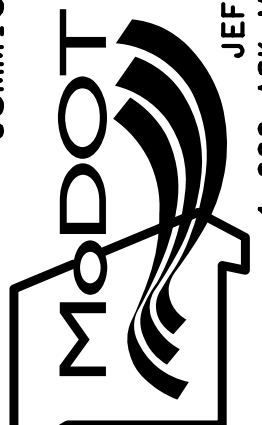
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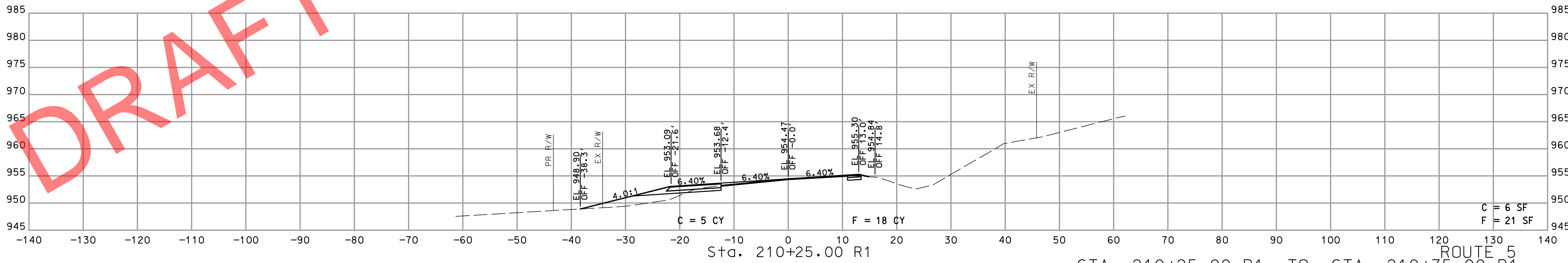
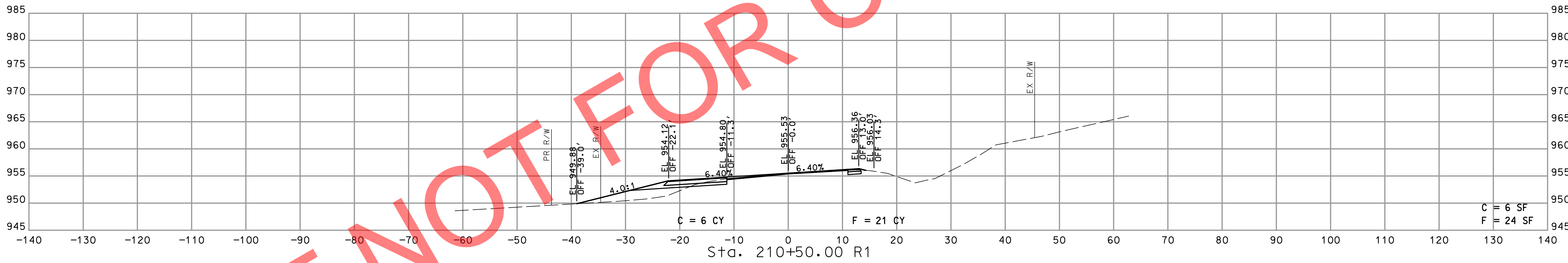
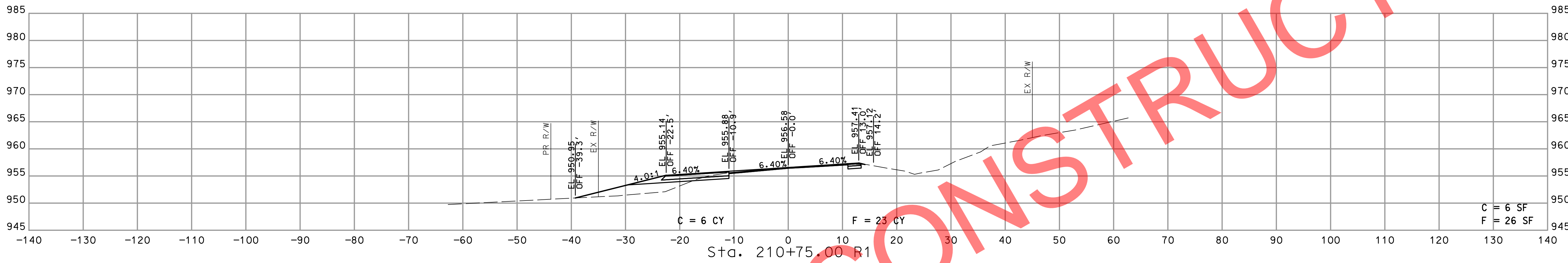


ROUTE 5
STA. 208+75.00 R1 TO STA. 209+25.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.4
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.5
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson 1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



STA. 210+25.00 R1 TO STA. 210+75.00 R1

DATE PREPARED
2/7/2022

ROUTE
5

DISTRICT
NW

STATE
MO

SHEET NO.
A3.6

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

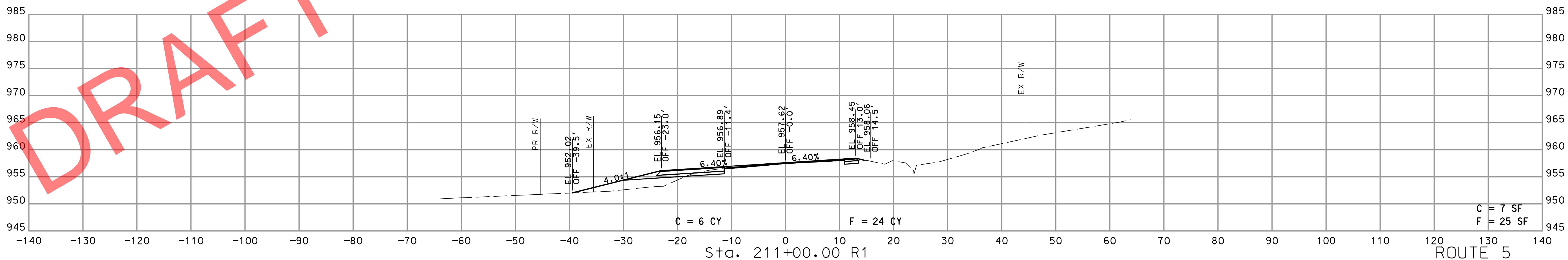
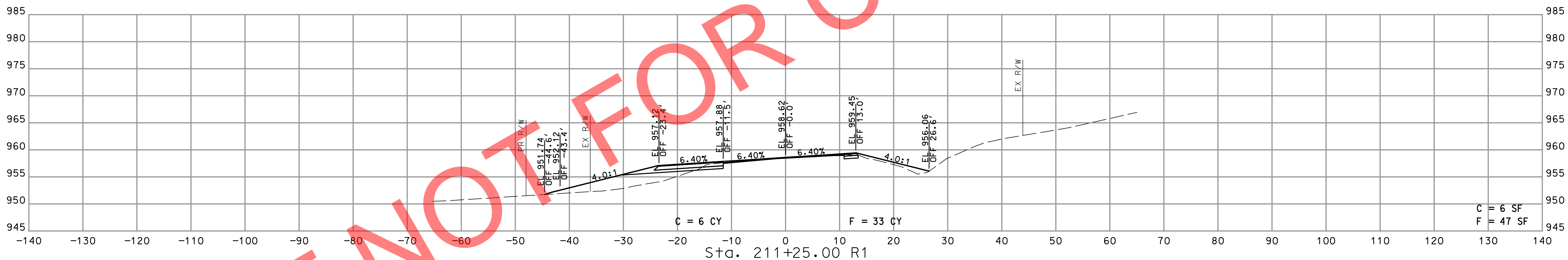
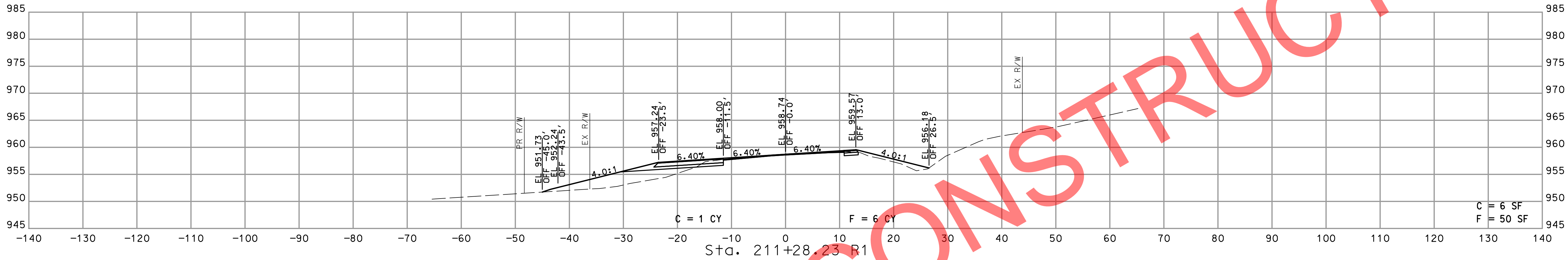
MoDOT

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

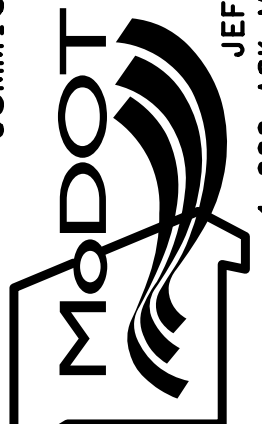

olsson

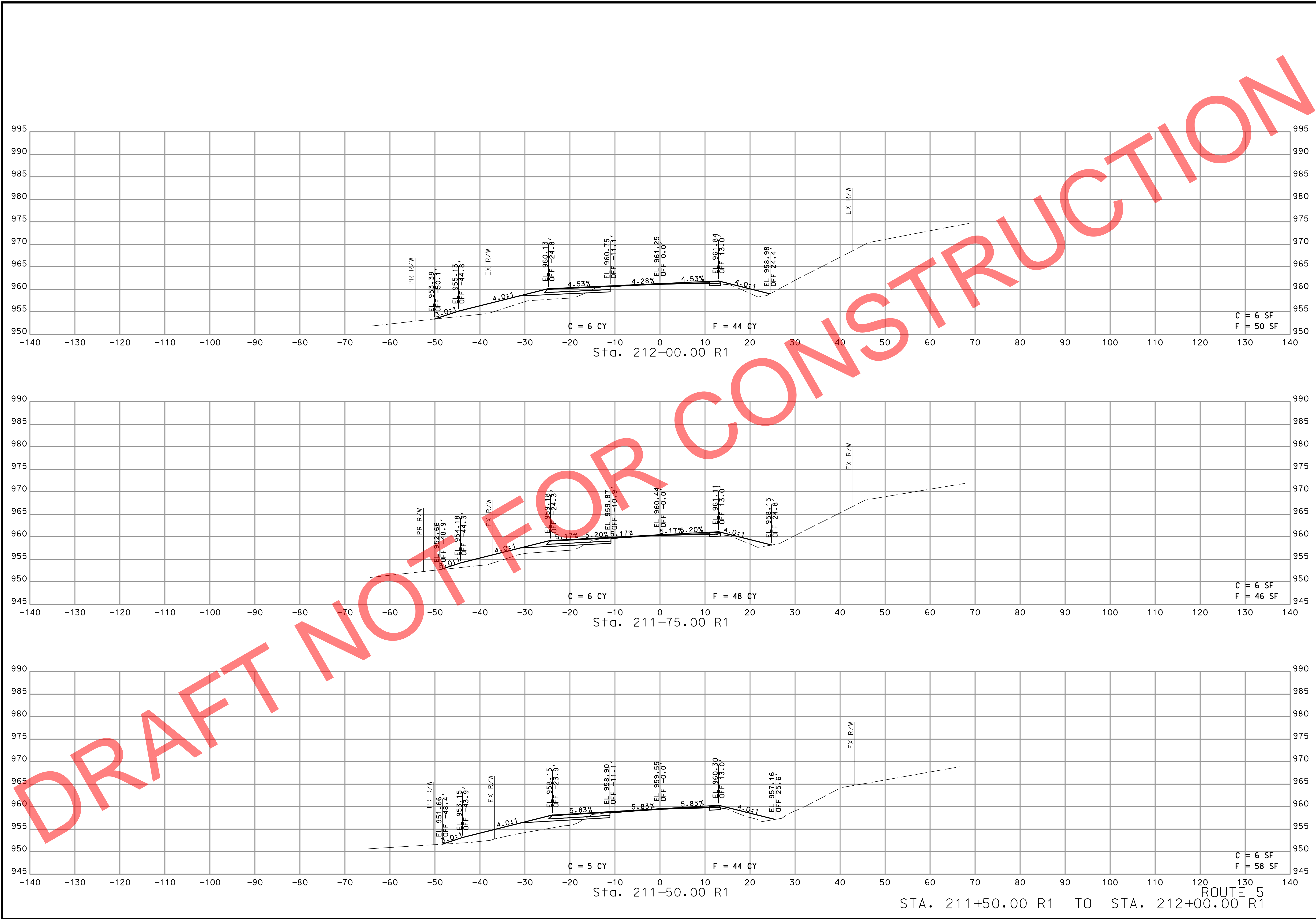
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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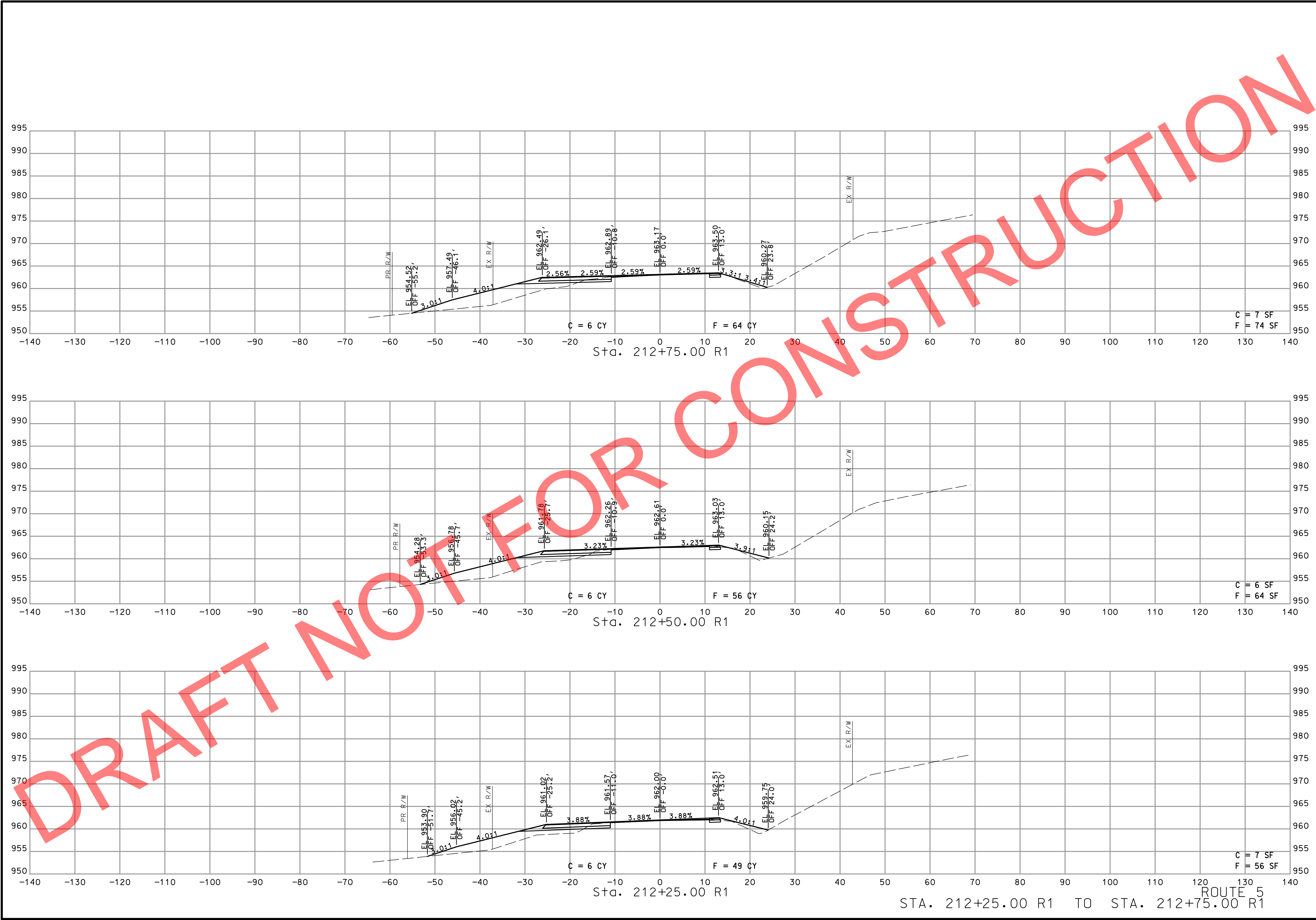


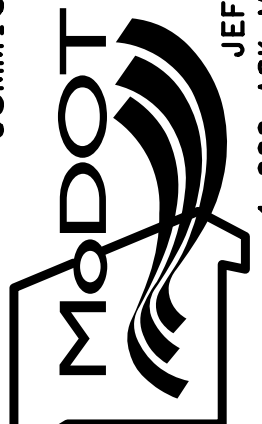
ROUTE 5
STA. 211+00.00 R1 TO STA. 211+28.23 R1

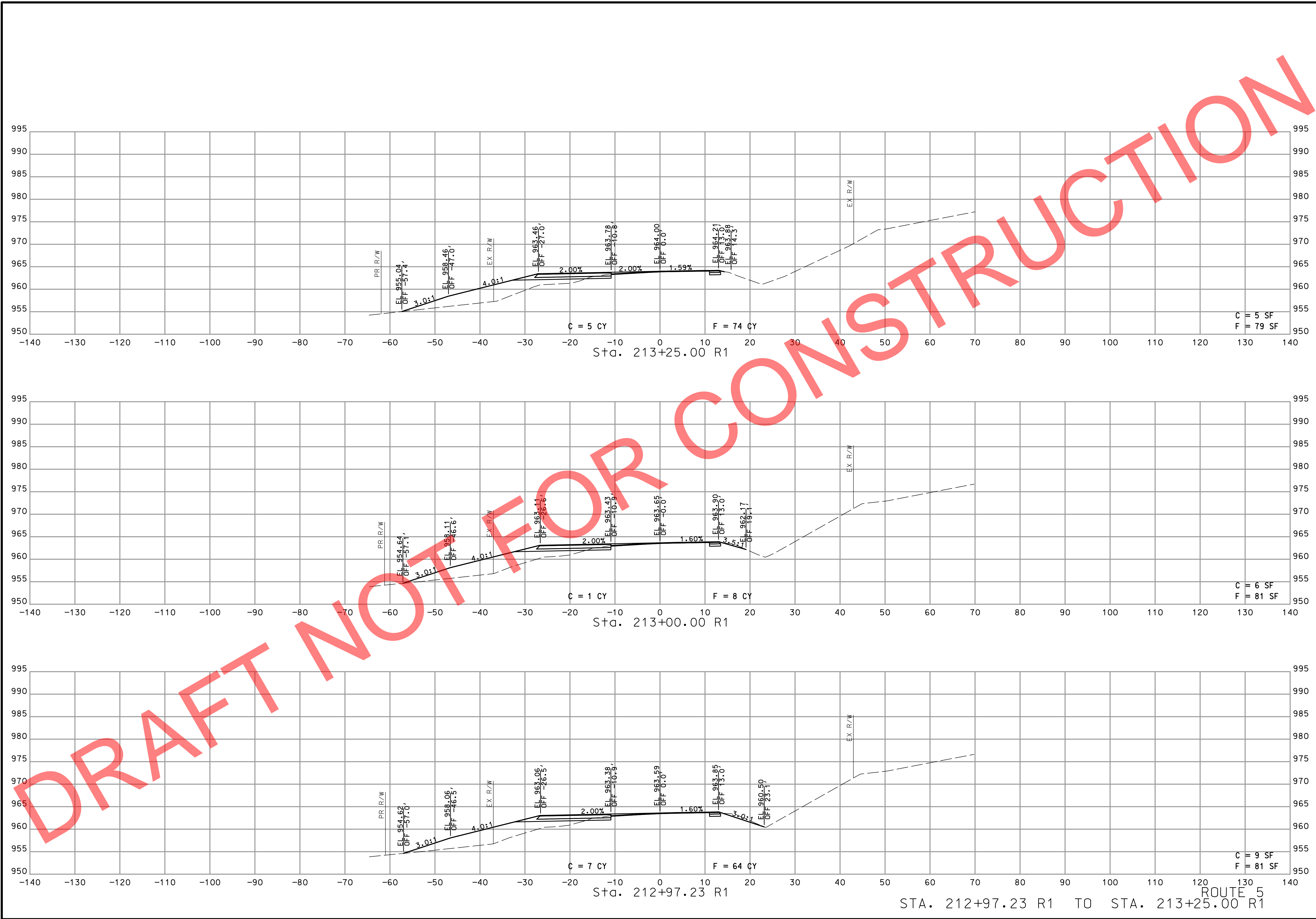
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.7
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

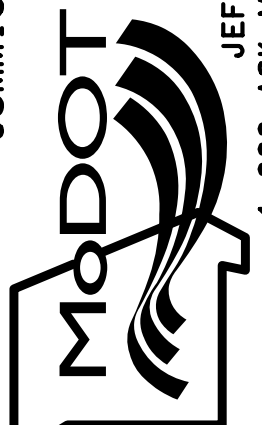


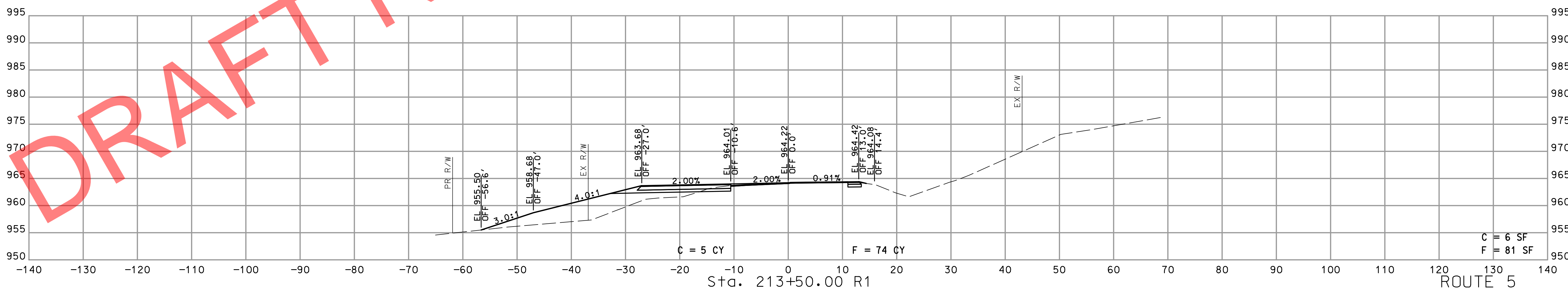
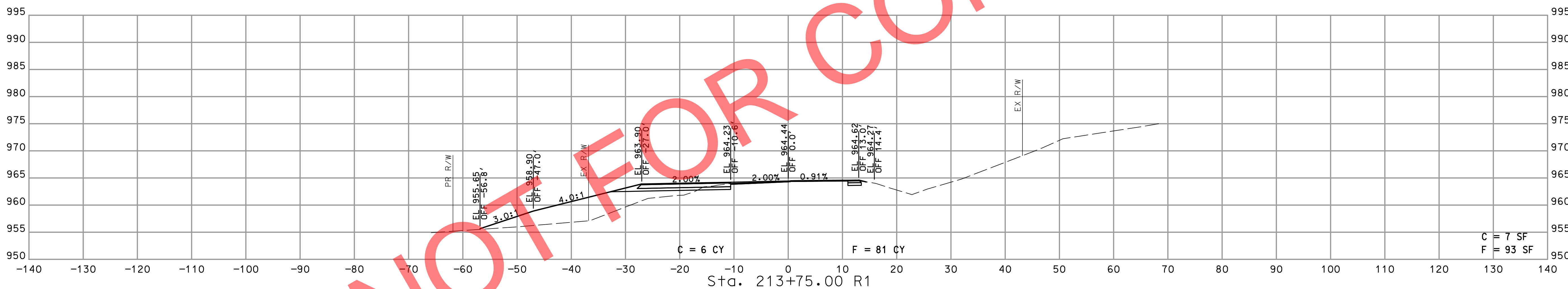
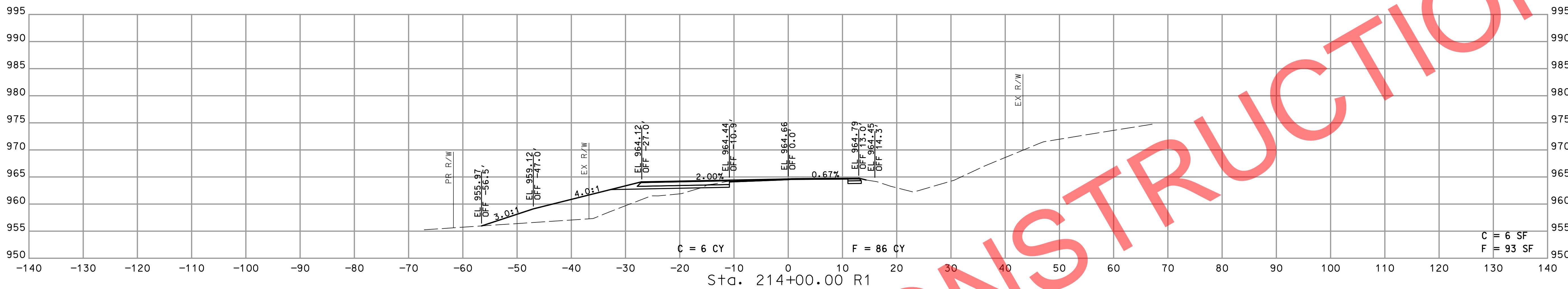
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.8
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MoDOT	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.9
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.10
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



STA. 213+50.00 R1 TO STA. 214+00.00 R1

DATE PREPARED
2/7/2022

ROUTE
5

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

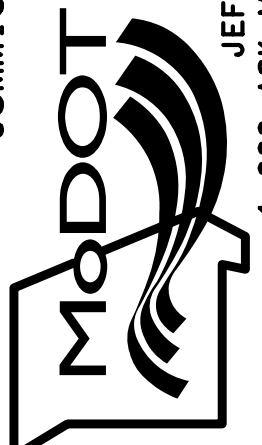
STATE
MO

SHEET NO.
A3.11


DESCRIPTION

DATE

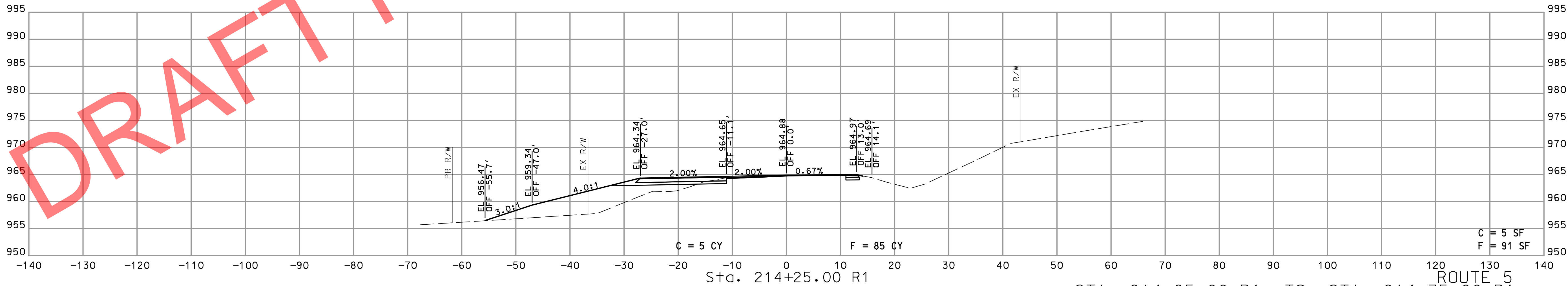
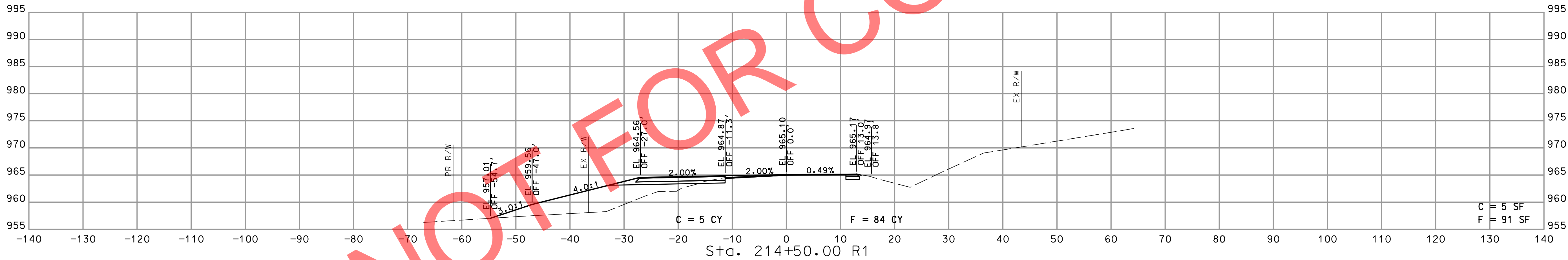
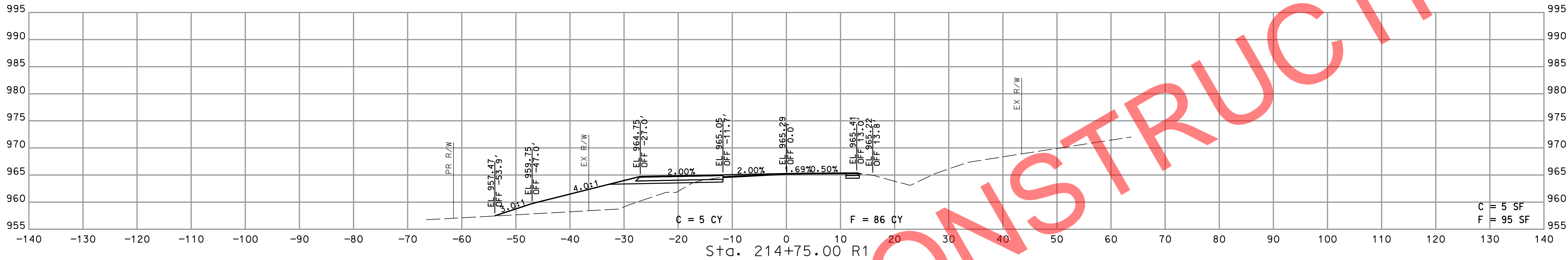
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



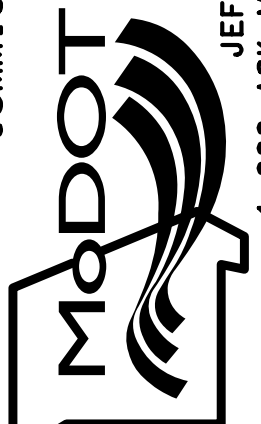

105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

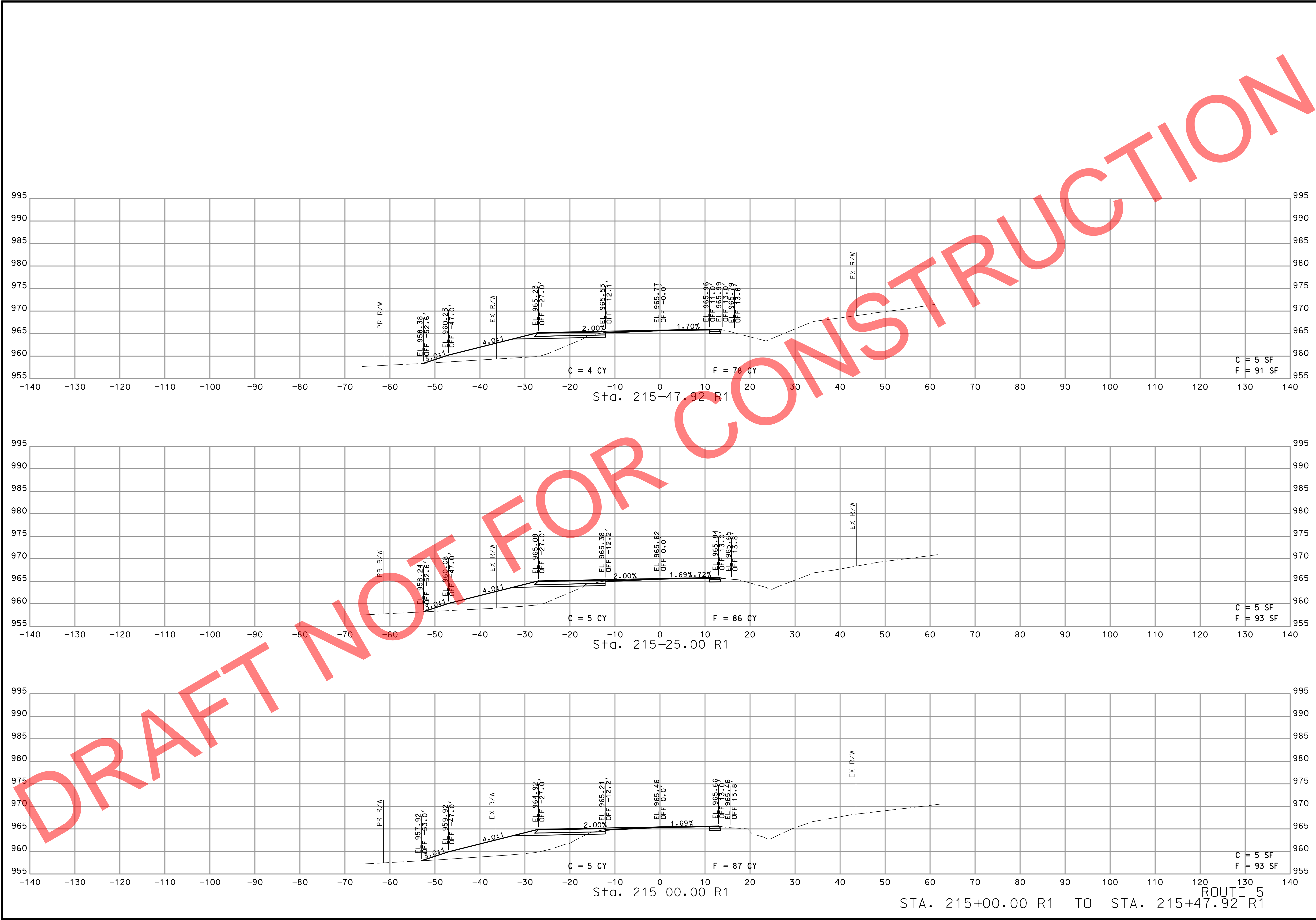


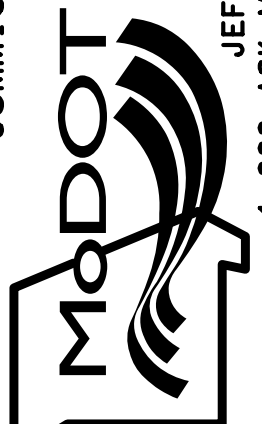

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592



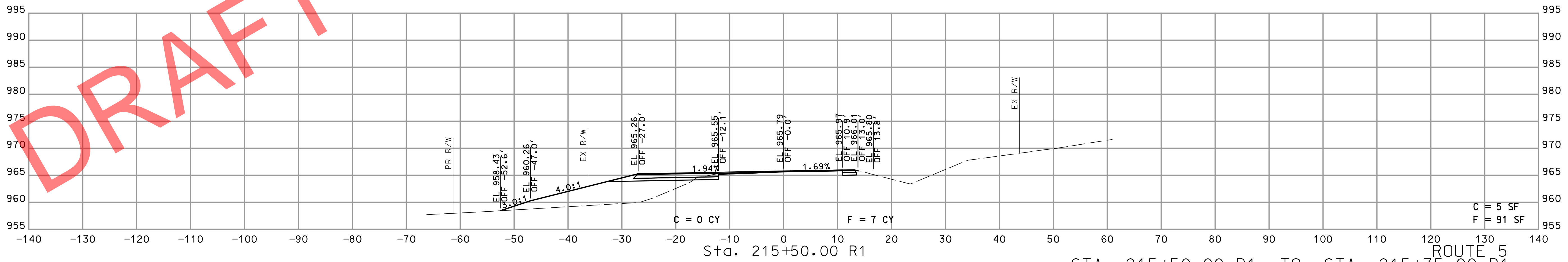
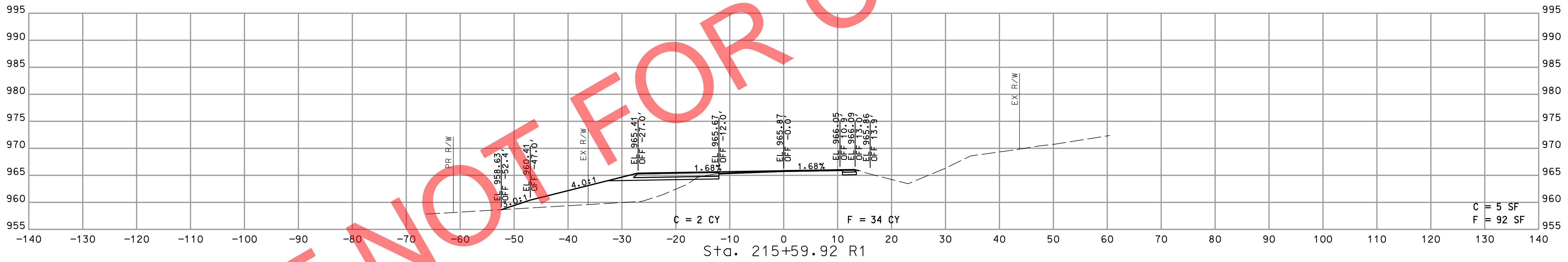
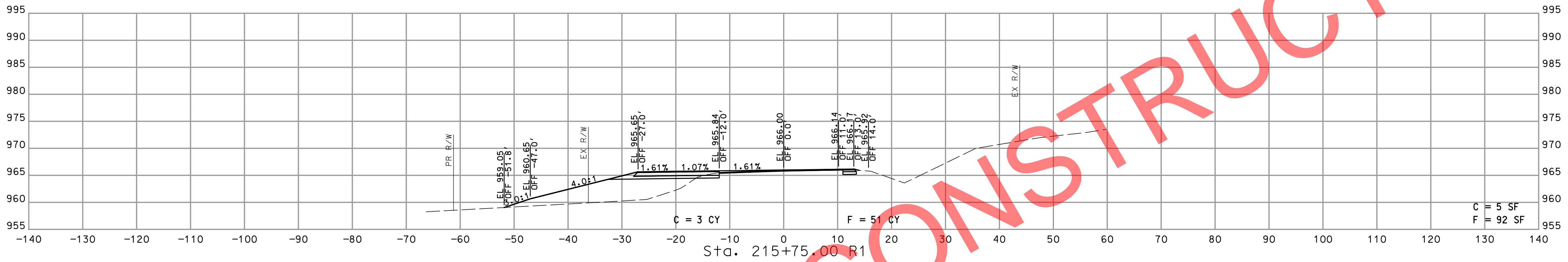
STA. 214+25.00 R1 TO STA. 214+75.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.12
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

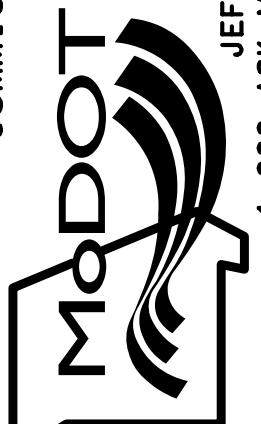



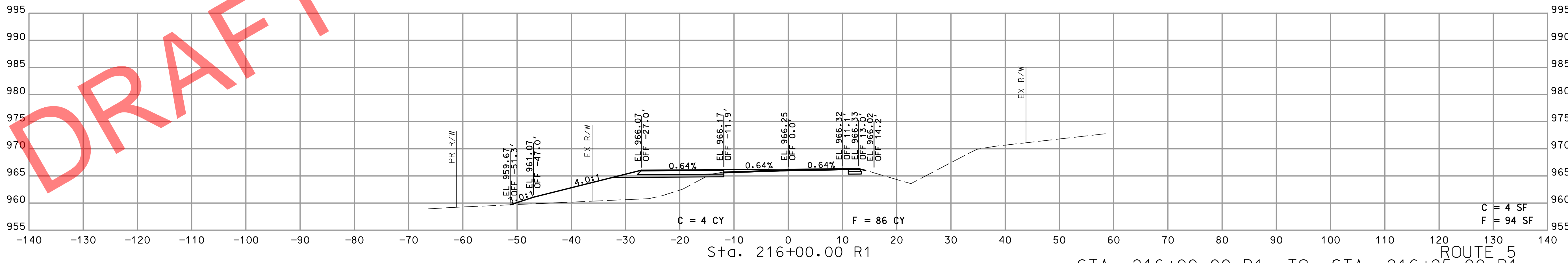
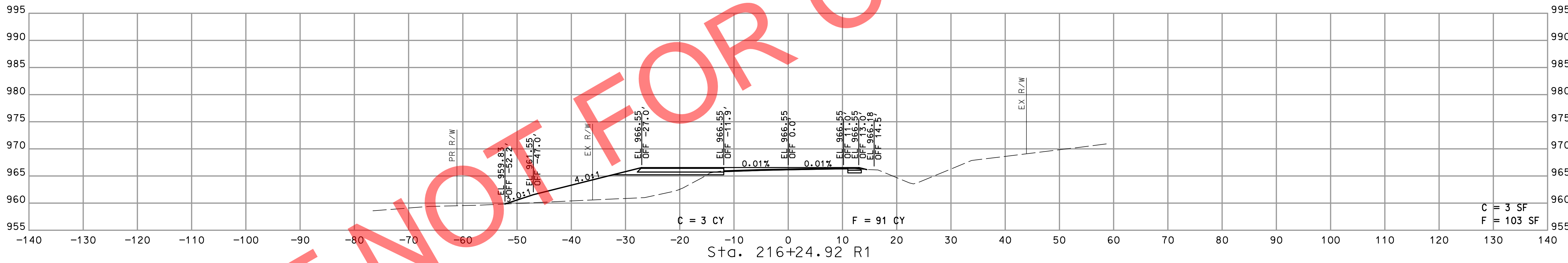
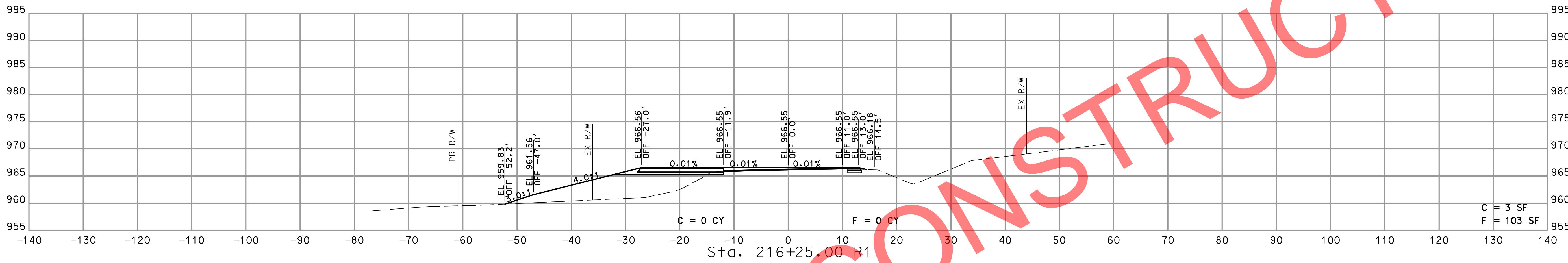
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.13
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

DRAFT NOT FOR CONSTRUCTION

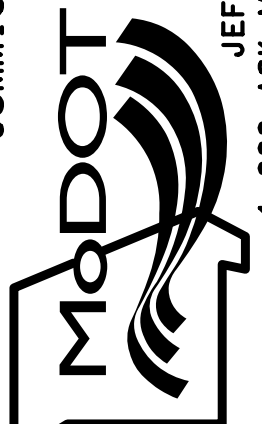


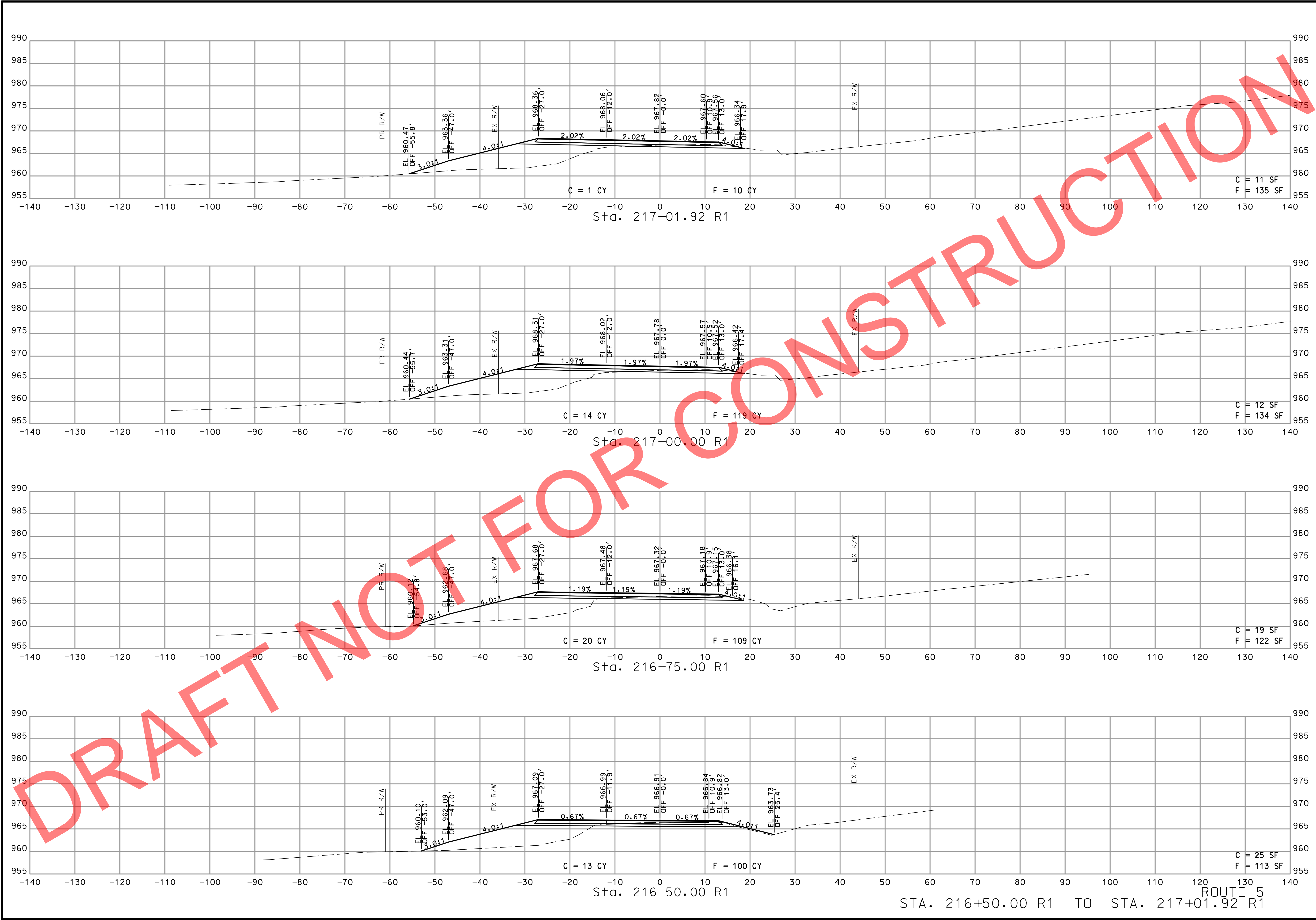
STA. 215+50.00 R1 TO STA. 215+75.00 R1

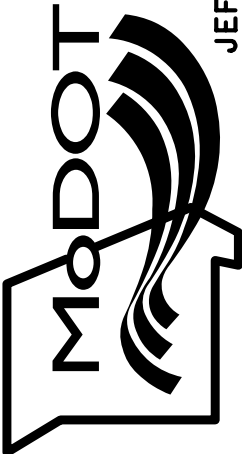
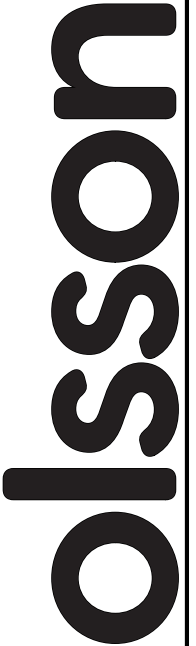
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.14
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

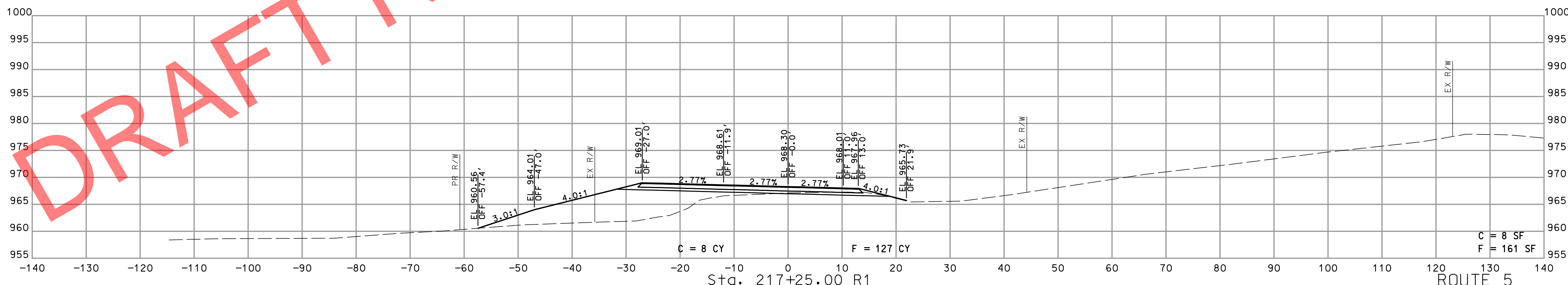
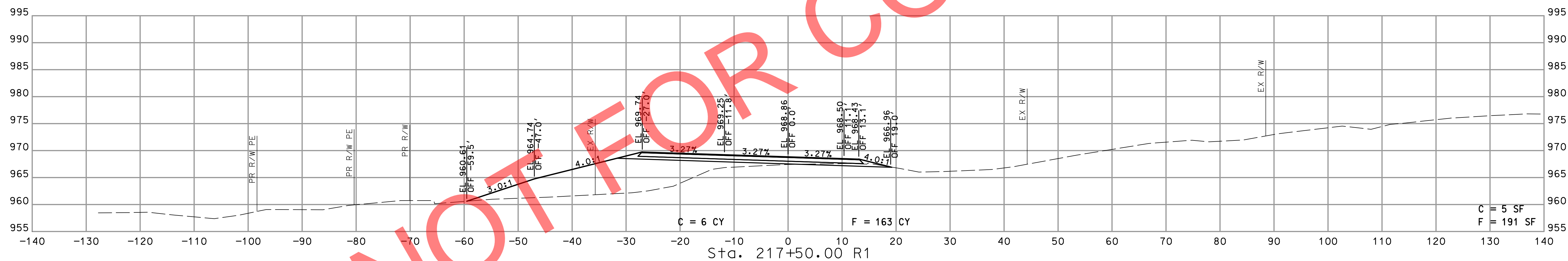
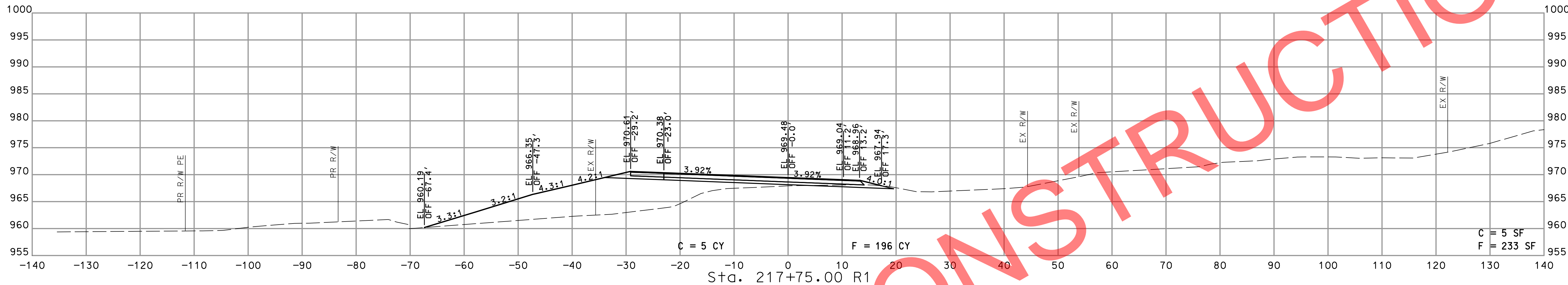


STA. 216+00.00 R1 TO STA. 216+25.00 R1

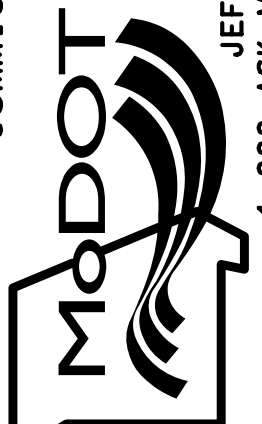
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.15
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

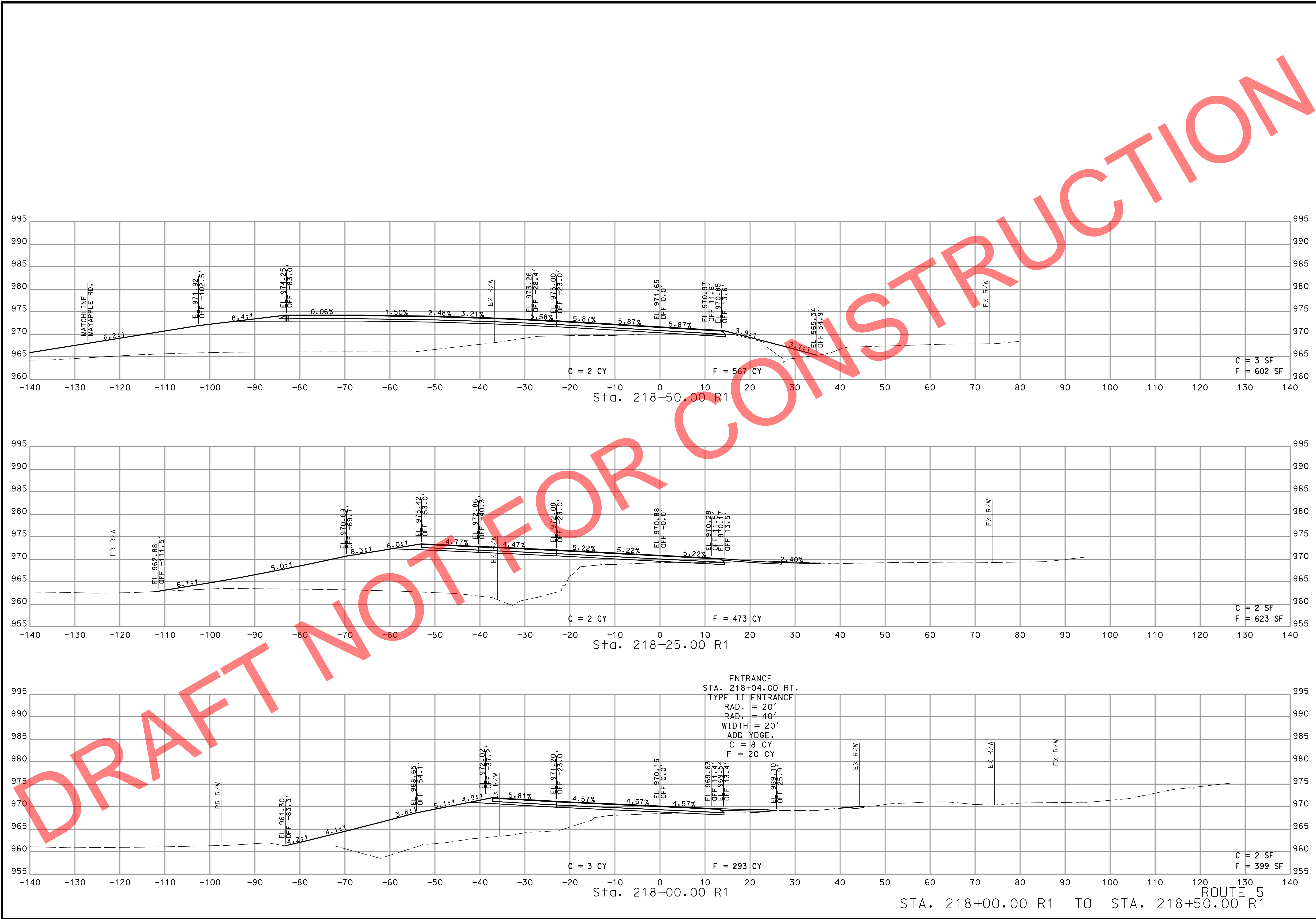


DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.16
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

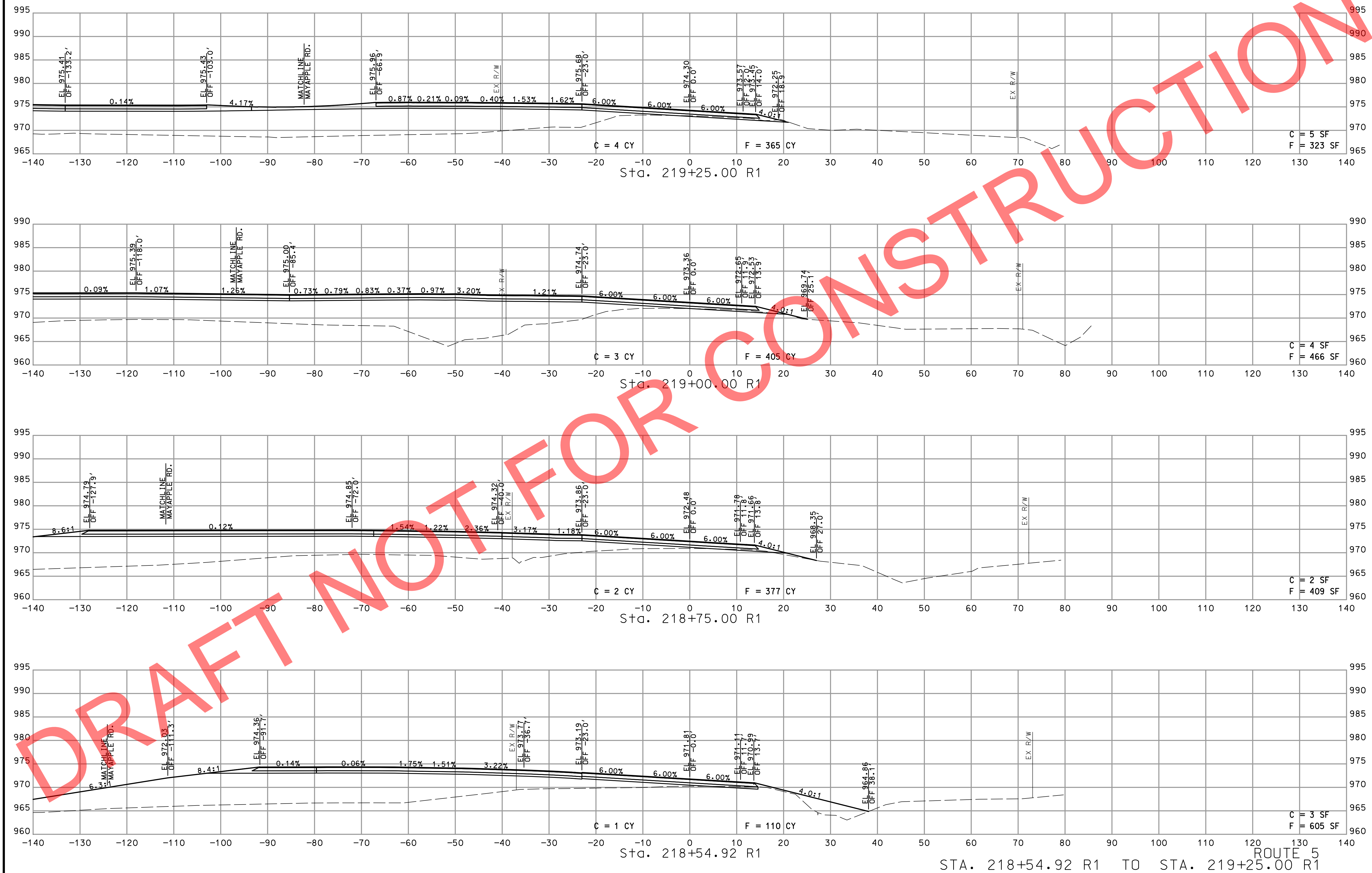


STA. 217+25.00 R1 TO STA. 217+75.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.17
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.18
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



DATE PREPARED
2/7/2022

ROUTE
5

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

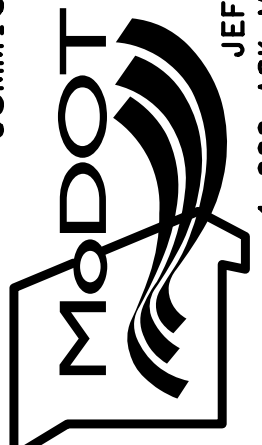
STATE
MO

SHEET NO.
A3.19

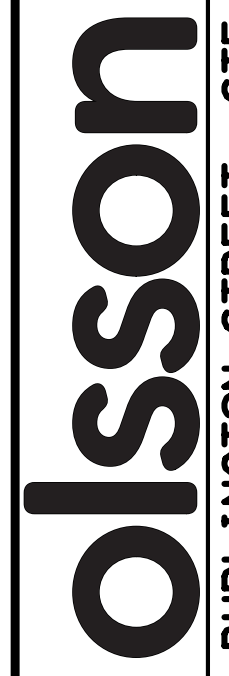
DESCRIPTION

DATE

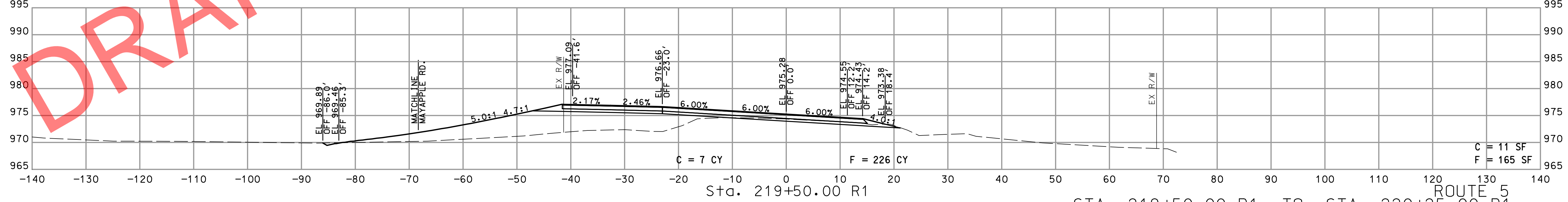
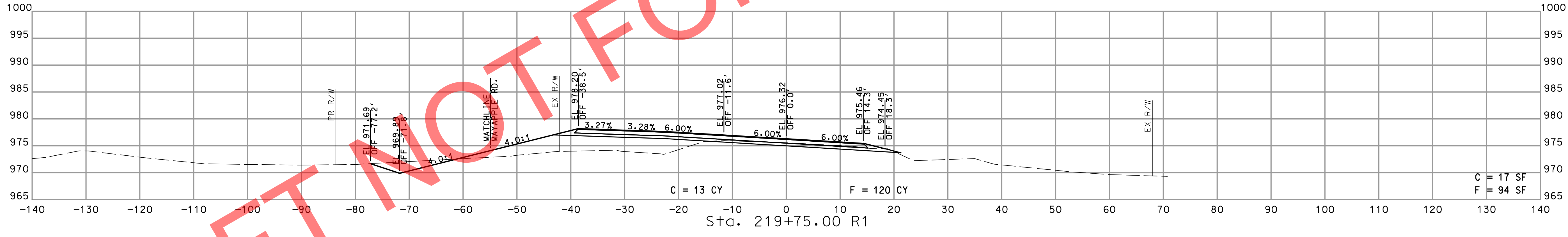
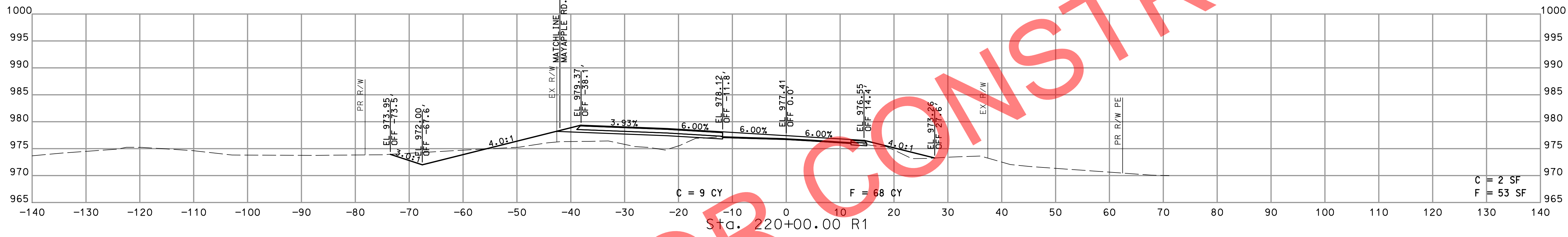
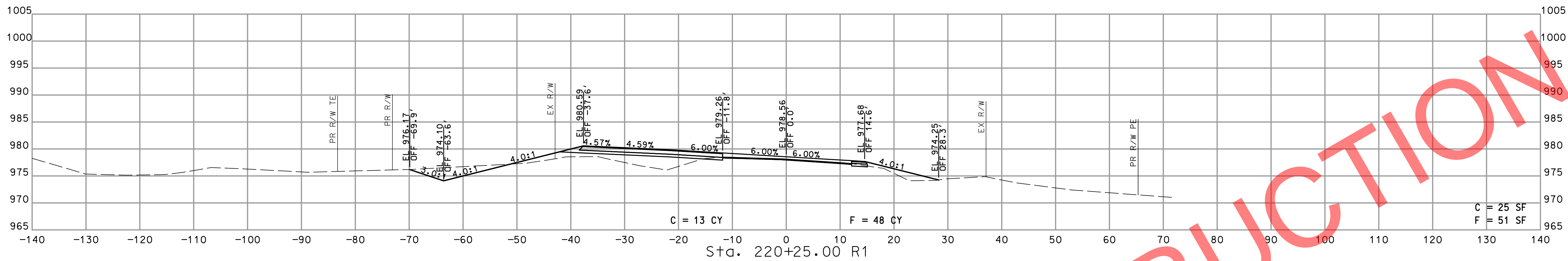
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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



1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592



STA. 219+50.00 R1 TO STA. 220+25.00 R1

DATE PREPARED		2/7/2022
ROUTE	5	STATE
DISTRICT	NW	SHEET NO.
COUNTY		SULLIVAN
JOB NO.		J1S3392
CONTRACT ID.		

PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

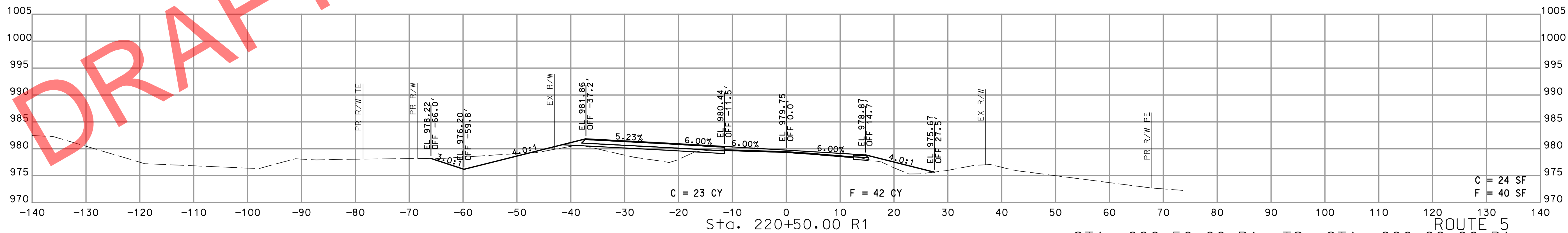
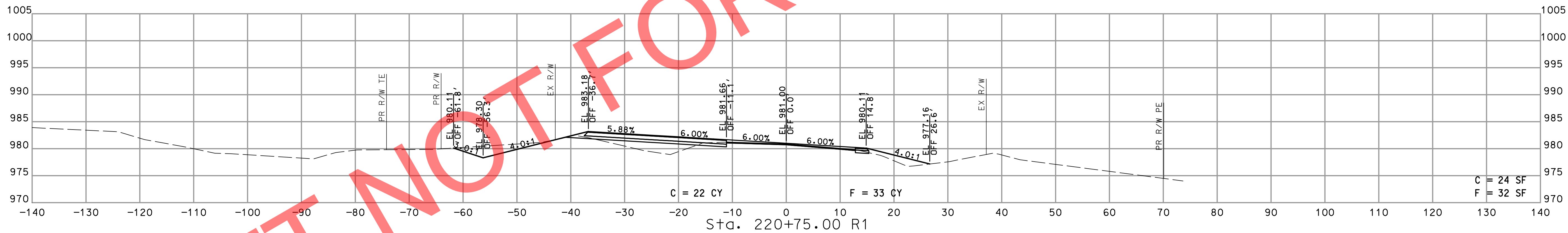
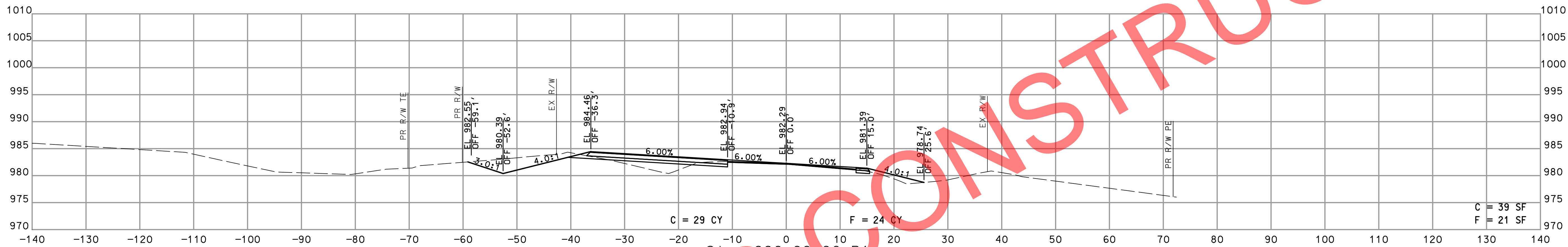
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



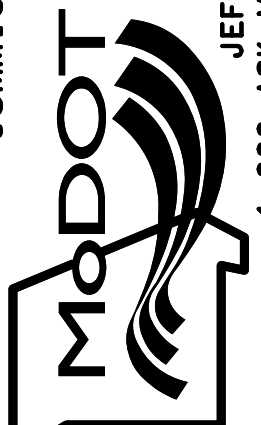
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

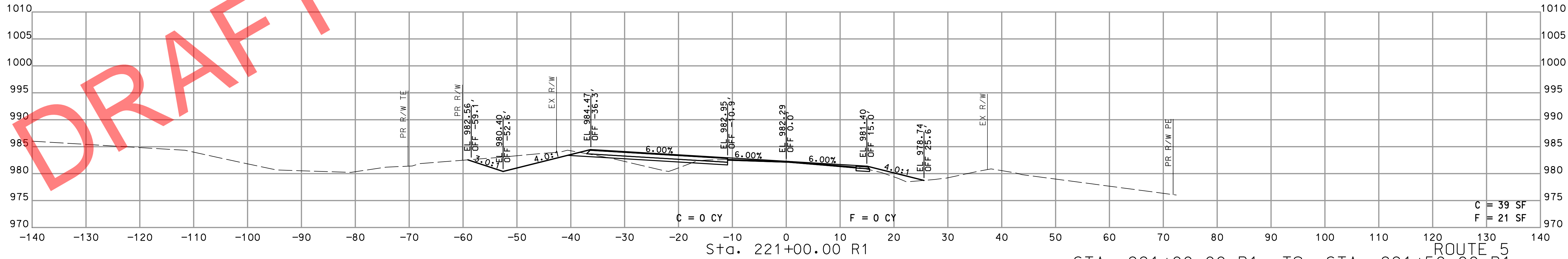
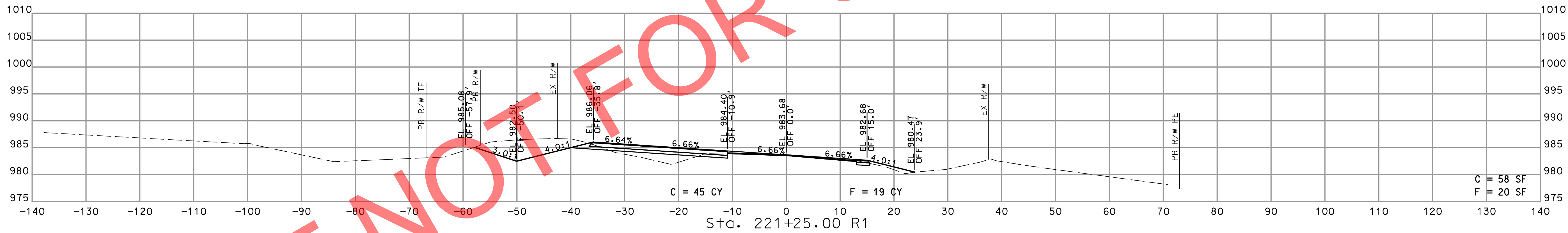
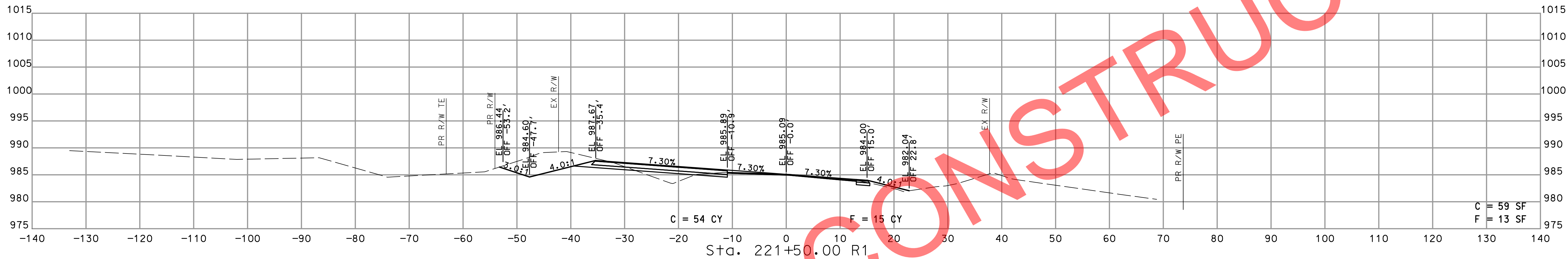


1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592



ROUTE 5
STA. 220+50.00 R1 TO STA. 220+99.90 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.21
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



ROUTE 5
STA. 221+00.00 R1 TO STA. 221+50.00 R1

DATE PREPARED
2/7/2022

ROUTE
5

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

STATE
MO

SHEET NO.
A3.22

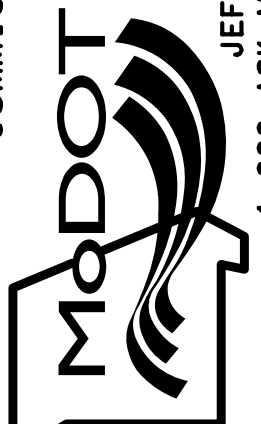
PROJECT NO.

BRIDGE NO.


DESCRIPTION

DATE

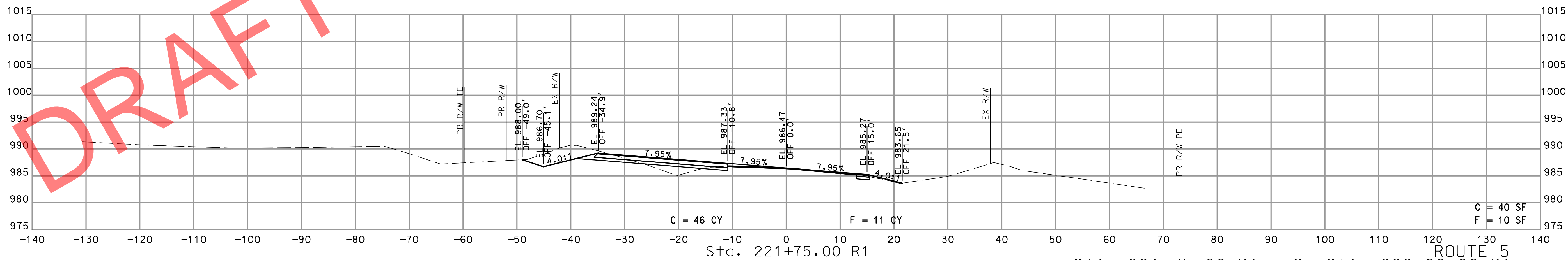
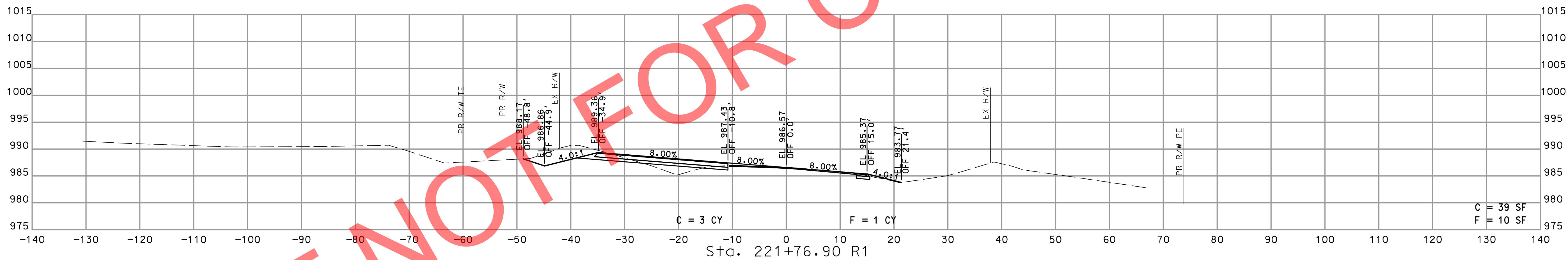
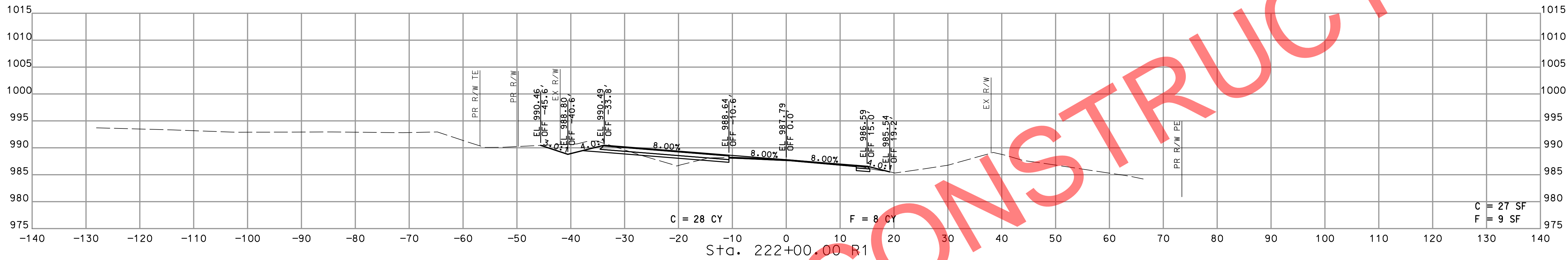
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



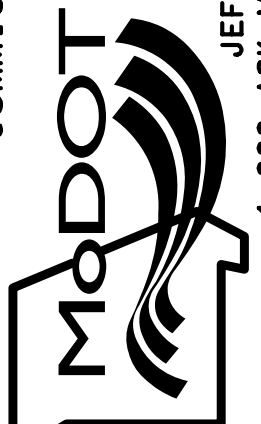

105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

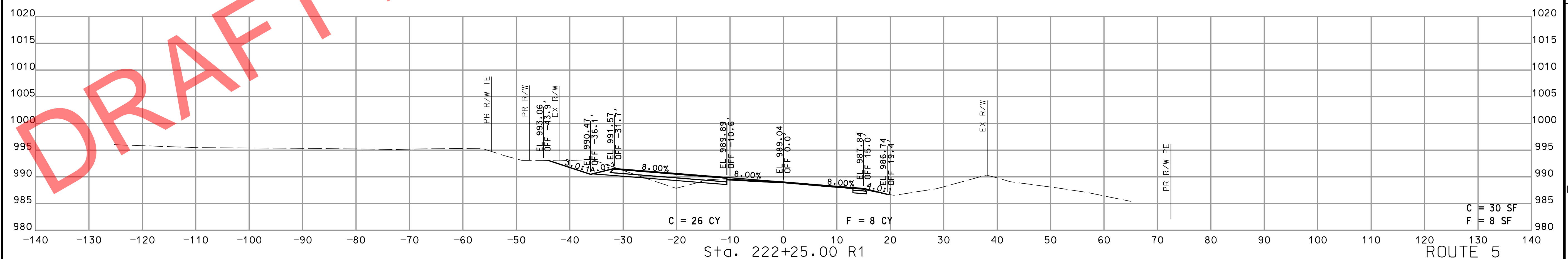
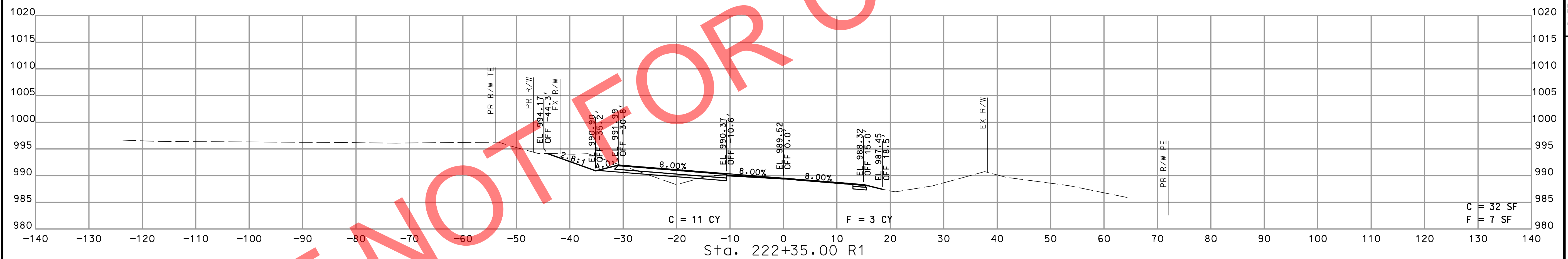
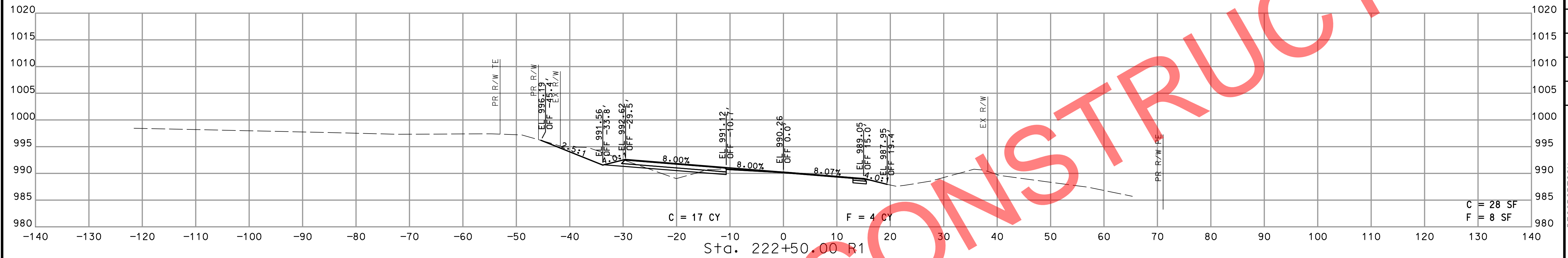


1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592



ROUTE 5
STA. 221+75.00 R1 TO STA. 222+00.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.23
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



STA. 222+25.00 R1 TO STA. 222+50.00 R1

ROUTE 5

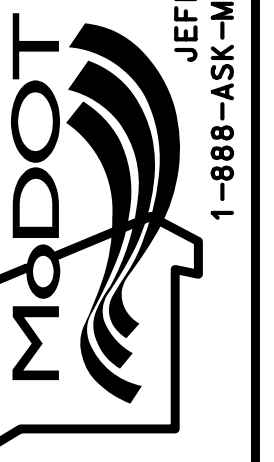
DATE PREPARED	
2/7/2022	
ROUTE	STATE
5	MO
DISTRICT	SHEET NO.
NW	A3.24
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	

PROJECT NO.

RIDGE NO.

[illegible]

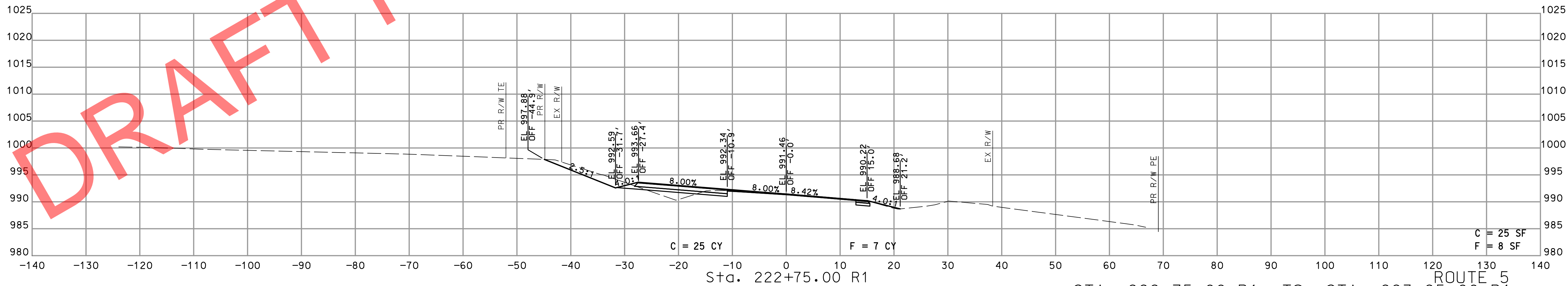
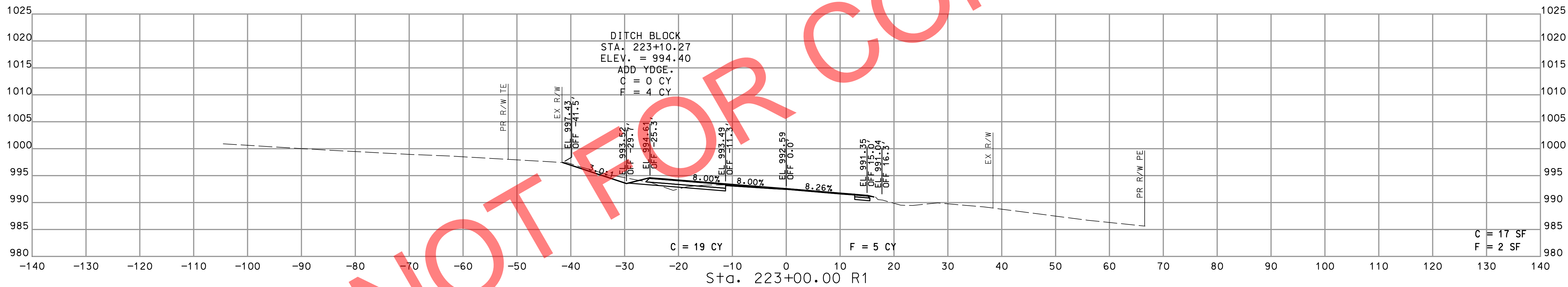
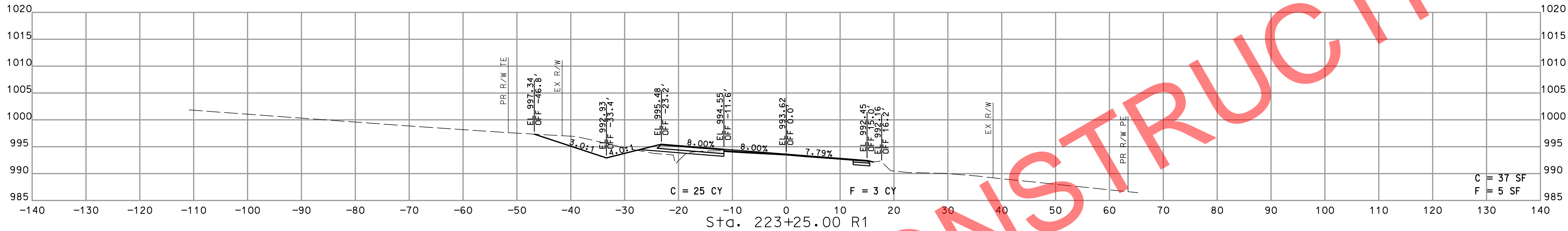
COMMISSION



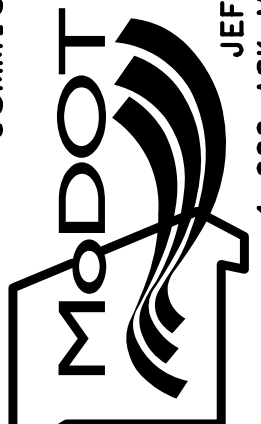
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

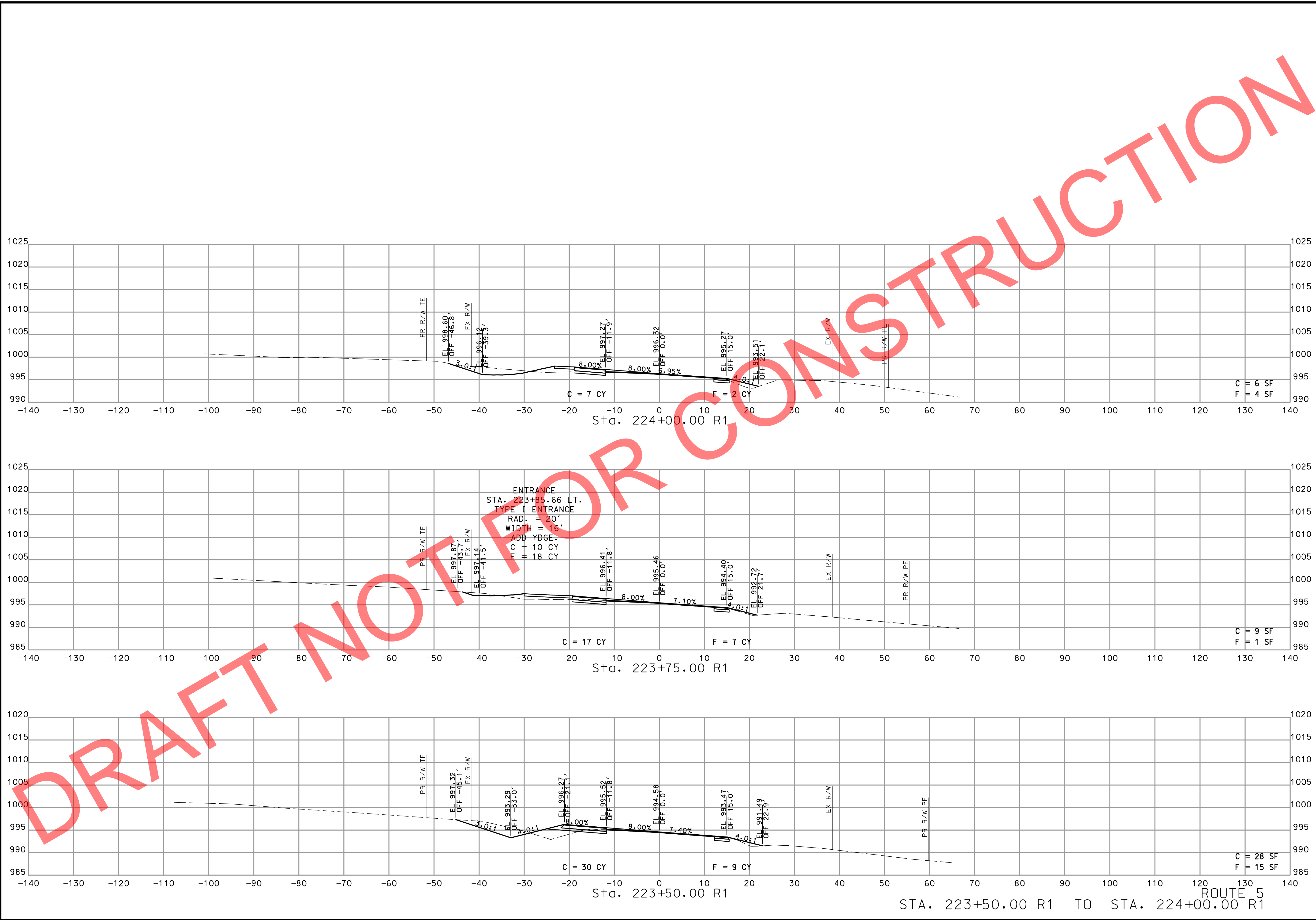
Olson

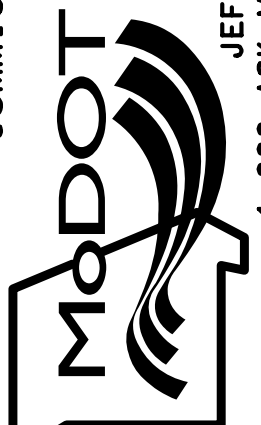

1301 BURLINGTON STREET, S.E., #100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

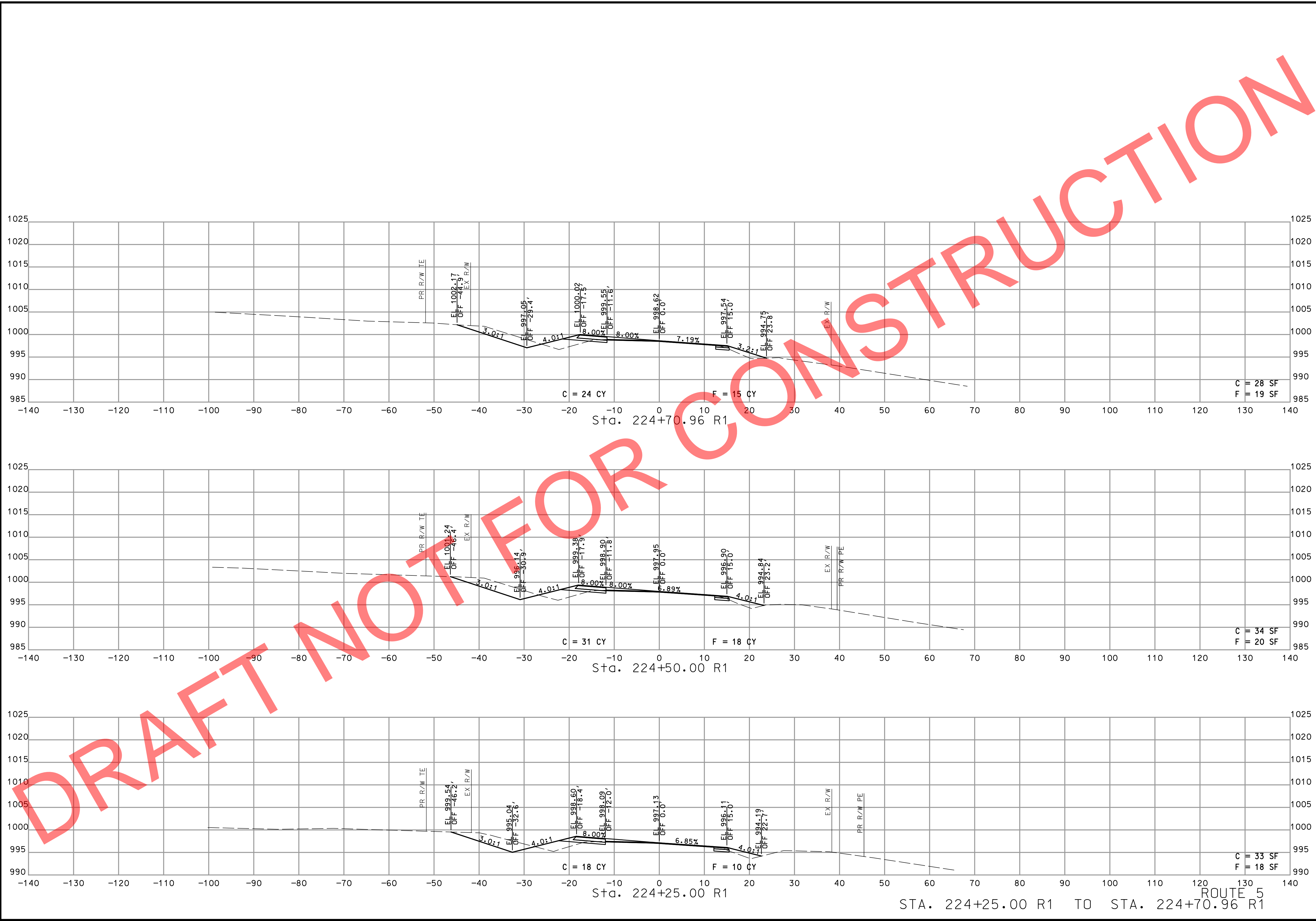


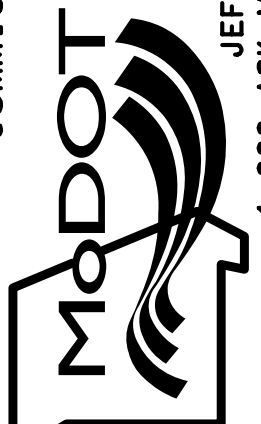

STA. 222+75.00 R1 TO STA. 223+25.00 R1

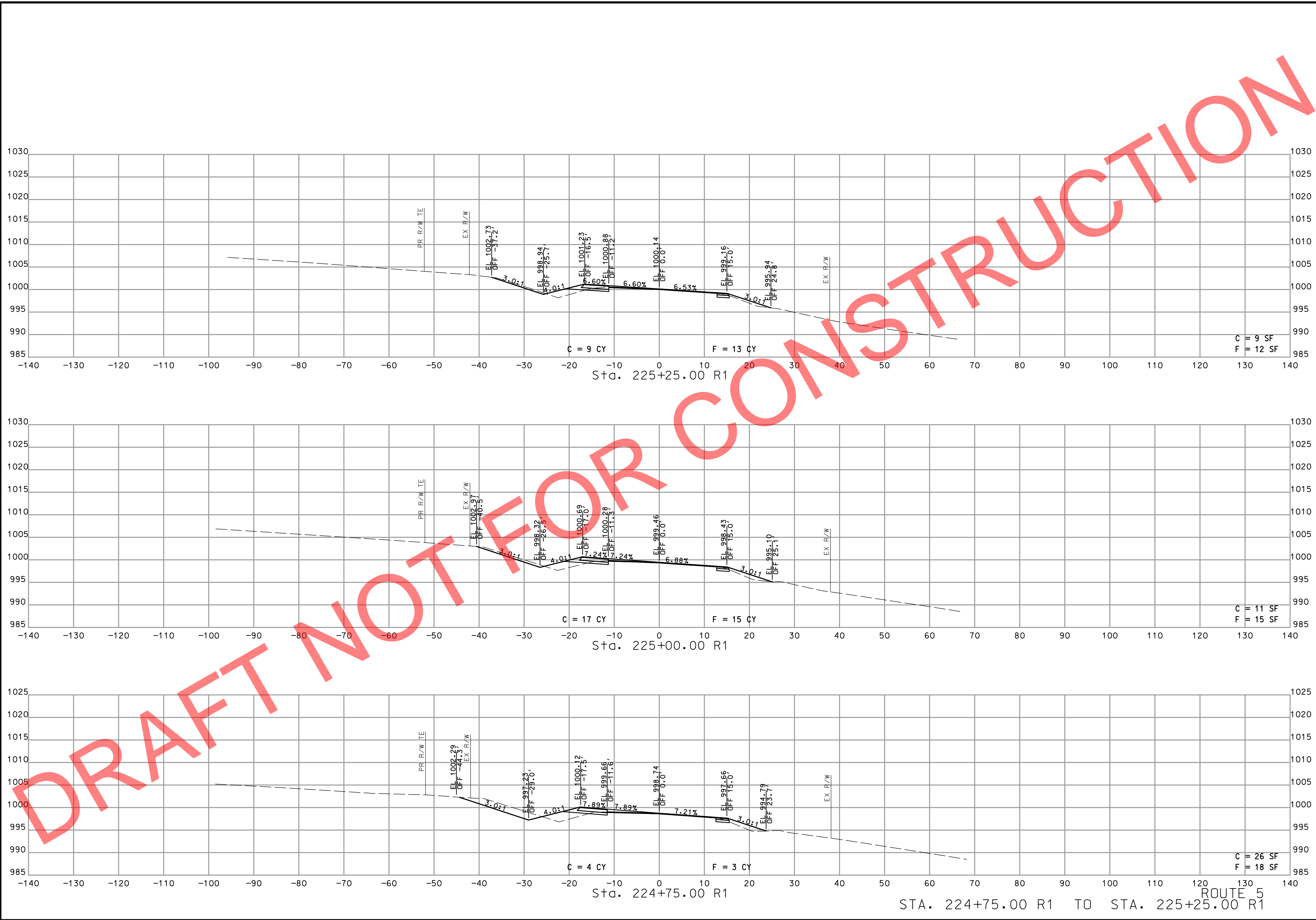
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.25
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

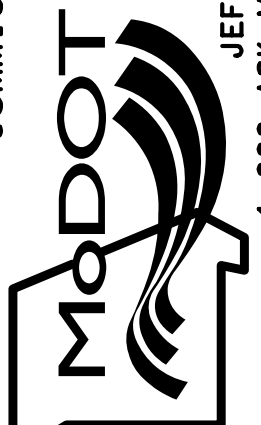


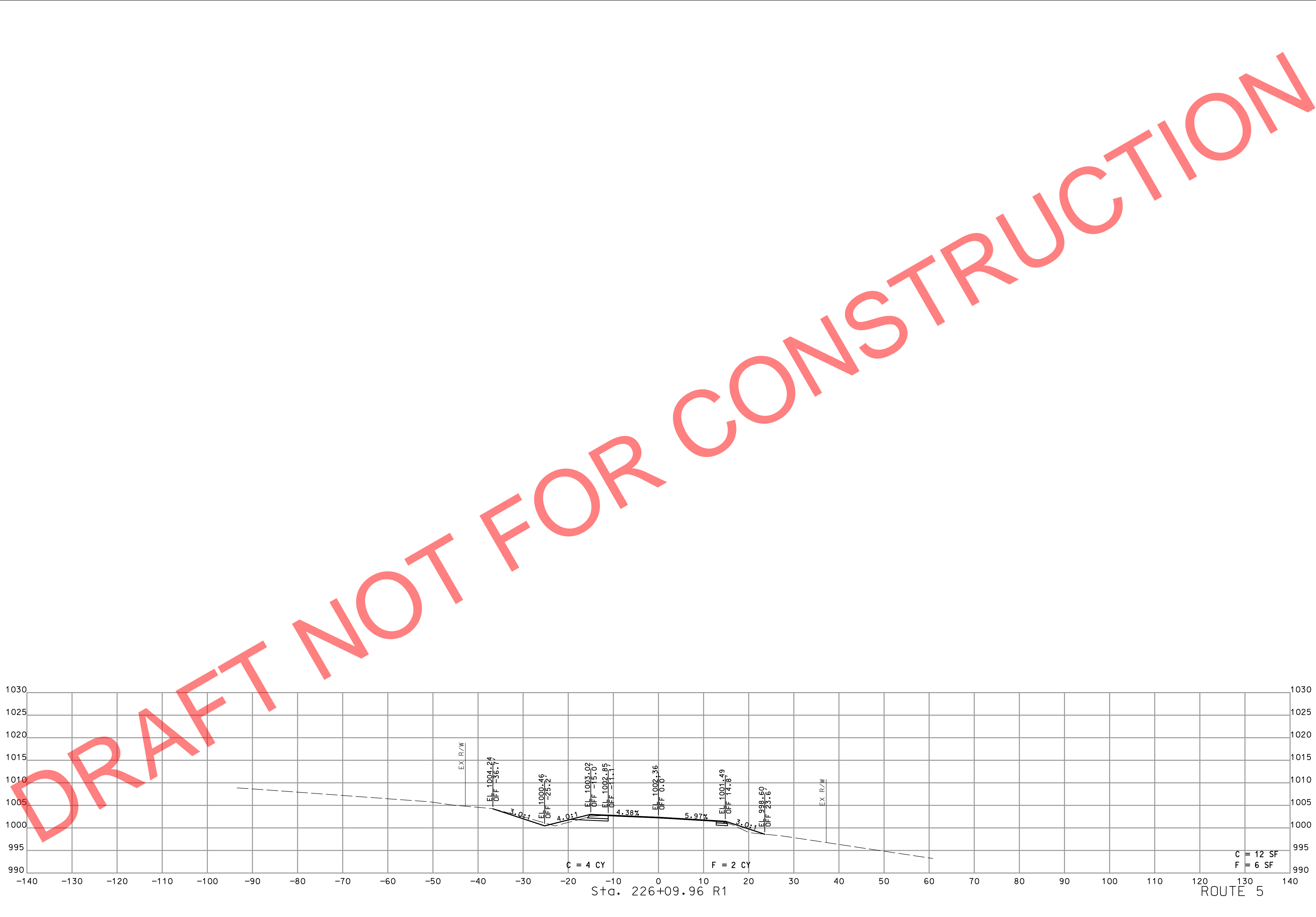
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.26
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

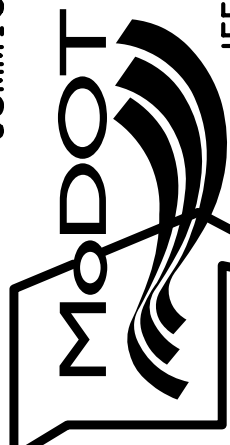



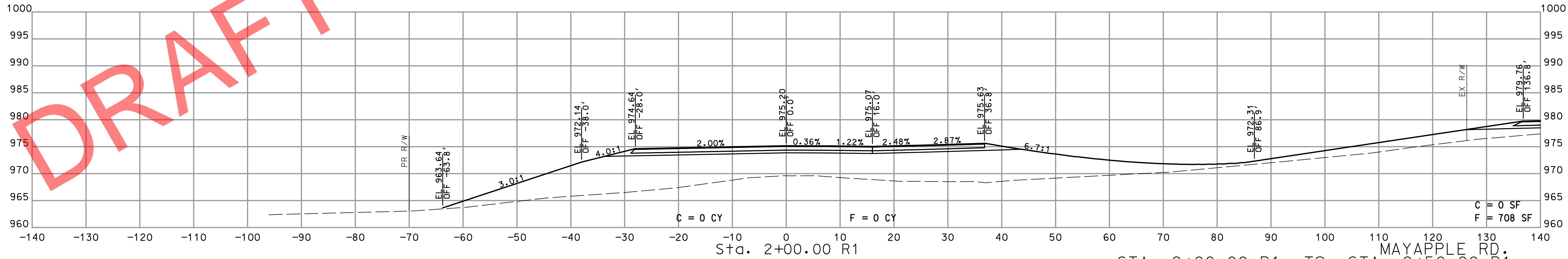
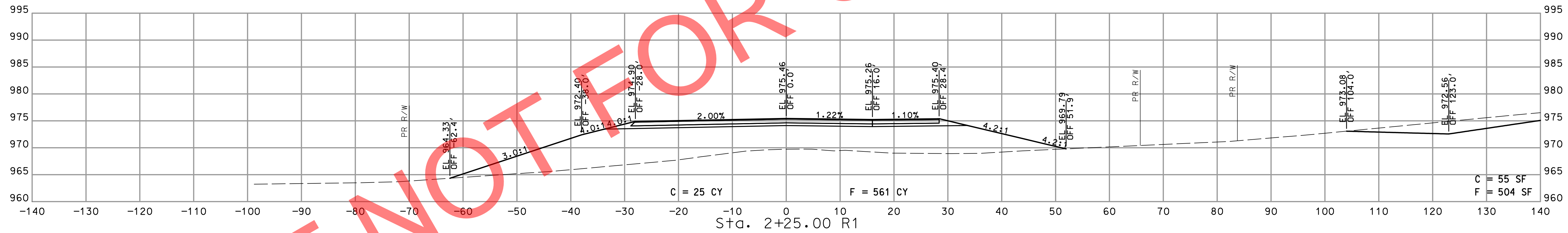
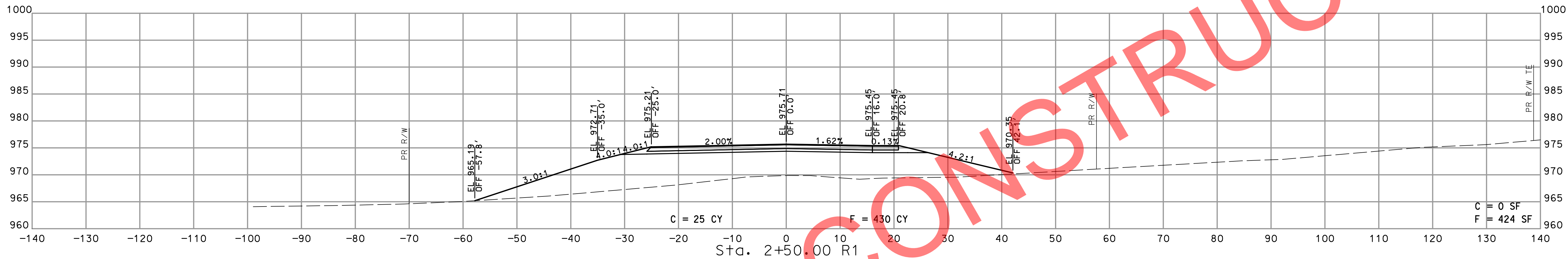
DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.27
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.28
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.30
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



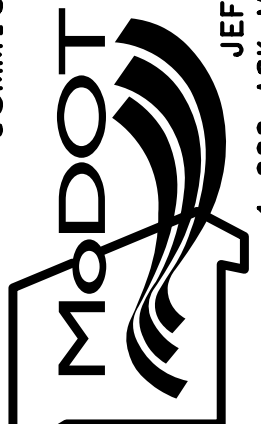
STA. 2+00.00 R1 TO STA. 2+50.00 R1

DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.31
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

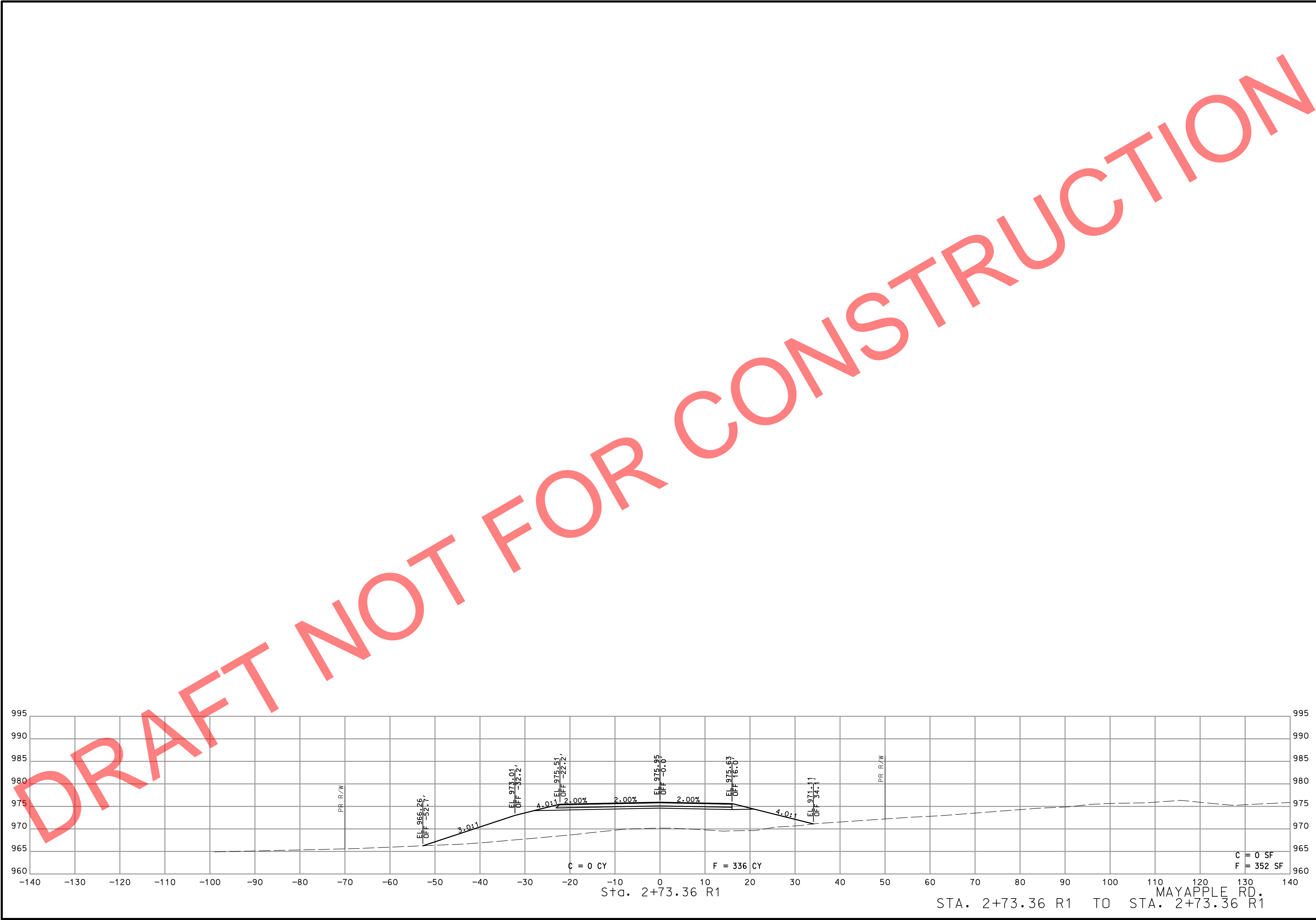
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

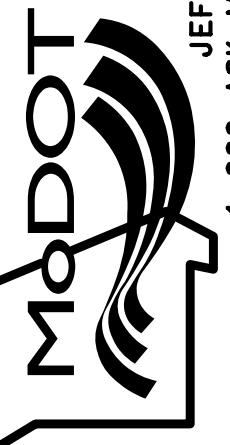
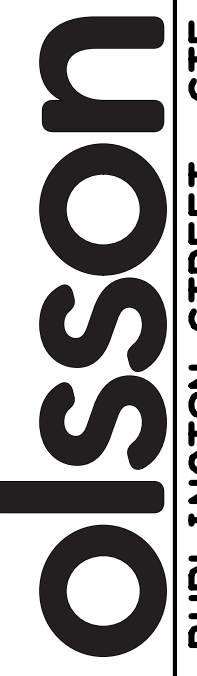


105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592



DATE PREPARED 2/7/2022	
ROUTE 5	STATE MO
DISTRICT NW	SHEET NO. A3.32
COUNTY SULLIVAN	
JOB NO. J1S3392	
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)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

DESIGN DESIGNATION
A.A.D.T. - 2021 = 187
A.A.D.T. - 2041 = 1120
DHV = 112
D = 50%
T = 6%
V = 55 M.P.H.

FUNCTIONAL CLASSIFICATION - ROUTE N - MAJOR COLLECTOR
ROUTE Y - MAJOR COLLECTOR

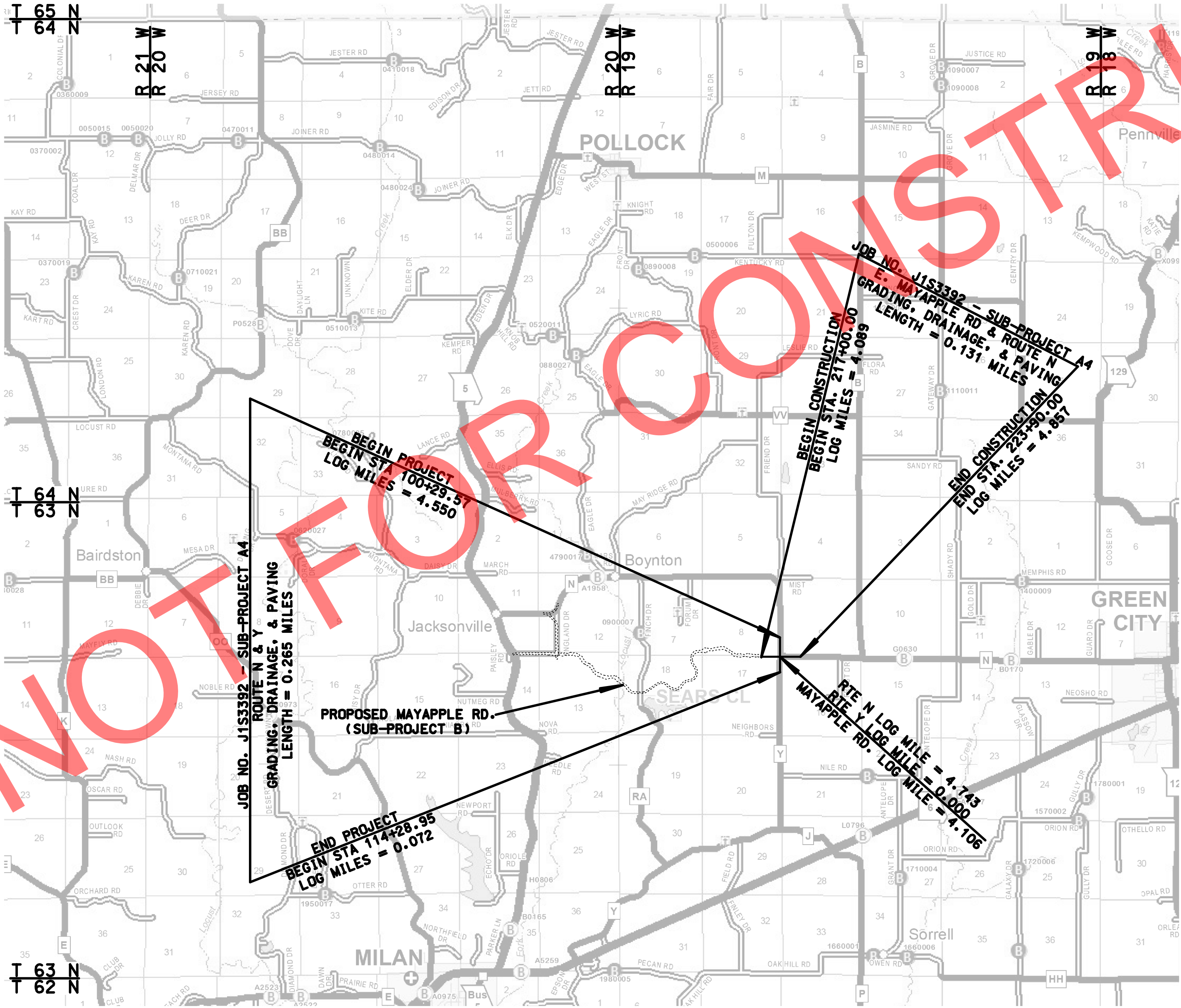
NORMAL RIGHT OF WAY
TO BE ACQUIRED

CONVENTIONAL SYMBOLS
(USED IN PLANS)

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

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
STATE HIGHWAY
SULLIVAN COUNTY
SEC. 8, 9, 16, & 17, T63N, R19W



NOT TO SCALE

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

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	A4.1
TYPICAL SECTIONS (TS) (1 SHEET)	A4.2
QUANTITIES (QU) (4 SHEETS)	A4.3
PLAN-PROFILE (PP)	A4.4 - A4.8
COORDINATE POINTS SHEET (CP)	A4.9
SPECIAL SHEETS (SS)	A4.10
TRAFFIC CONTROL SHEETS (TC)	A4.11-A4.16
EROSION CONTROL SHEETS (EC)	A4.17-A4.25
PAVEMENT MARKING & SIGNING (PM)	A4.26-A4.27
CULVERT SECTIONS (CS)	A4.28-A4.30
CROSS SECTIONS (XS)	A4.1-A4.34

LENGTH OF SUB-PROJECT

ROUTE N & Y	
BEGINNING OF PROJECT	STA. 100+29.57
END OF PROJECT	STA. 114+28.95
APPARENT LENGTH	1,399.38 FEET
EAST MAYAPPLE RD. & ROUTE N	
BEGINNING OF CONST.	STA. 217+00.00
END OF CONST.	STA. 223+90.00
APPARENT LENGTH	690.00 FEET
EQUATIONS AND EXCEPTIONS:	
NONE	0.00 FEET
TOTAL CORRECTIONS	0.00 FEET
NET LENGTH OF PROJECT	2,089.38 FEET
STATE LENGTH	0.396 MILES
FOR INFORMATION ONLY	
ESTIMATED DISTURBED ACRES	3.51 ACRES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

DATE PREPARED: 2/7/2022

ROUTE: N, STATE: MO, DISTRICT: NW, SHEET NO.: A4.1

COUNTY: SULLIVAN

JOB NO.: J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

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

olsson

1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592

NOTES:

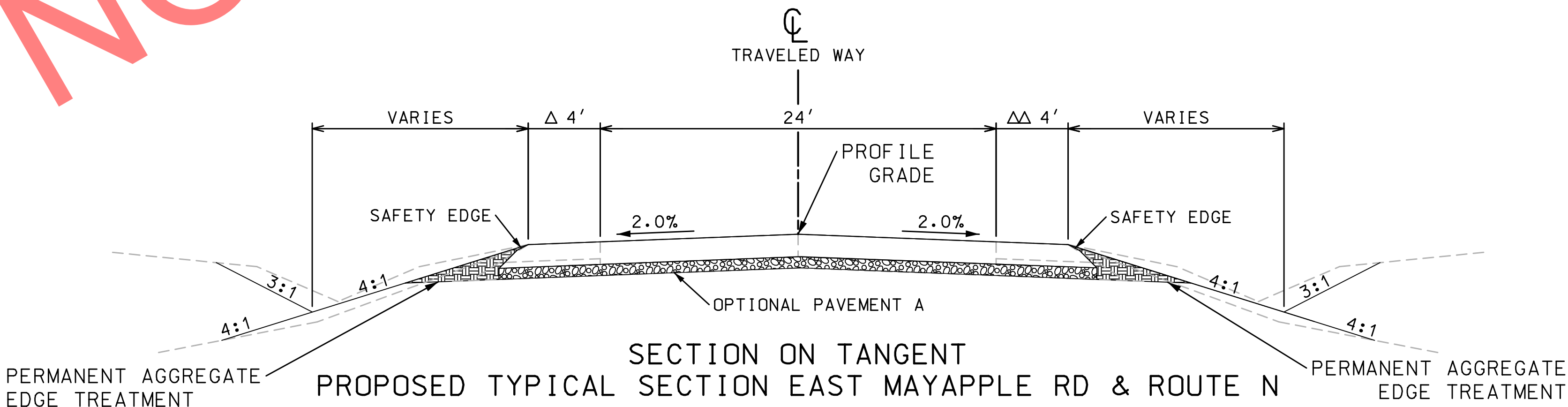
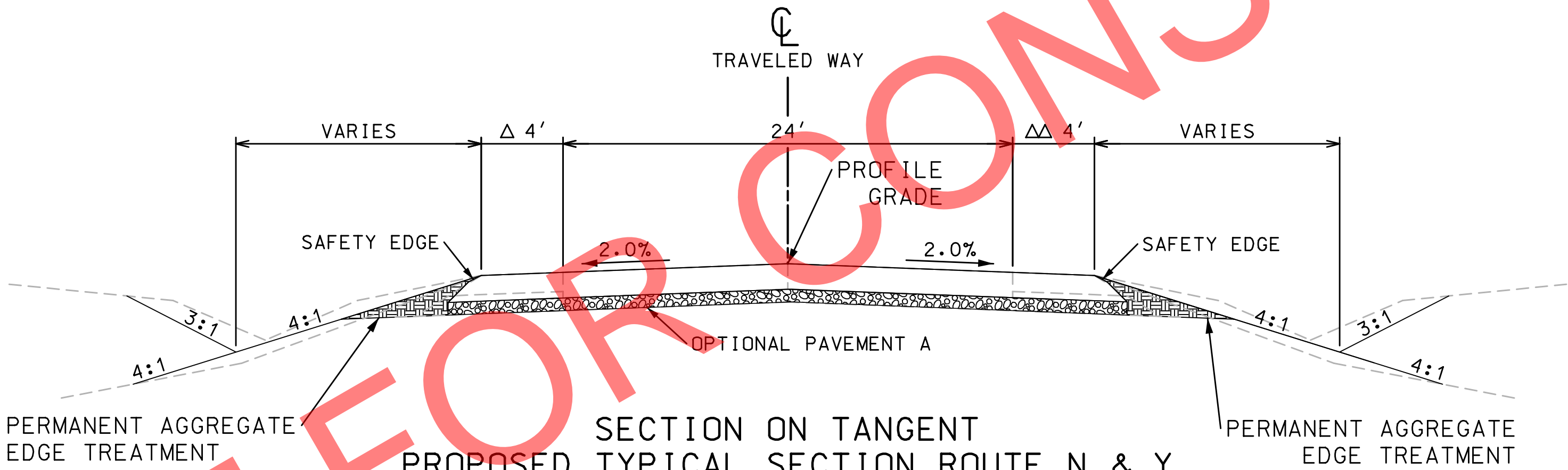
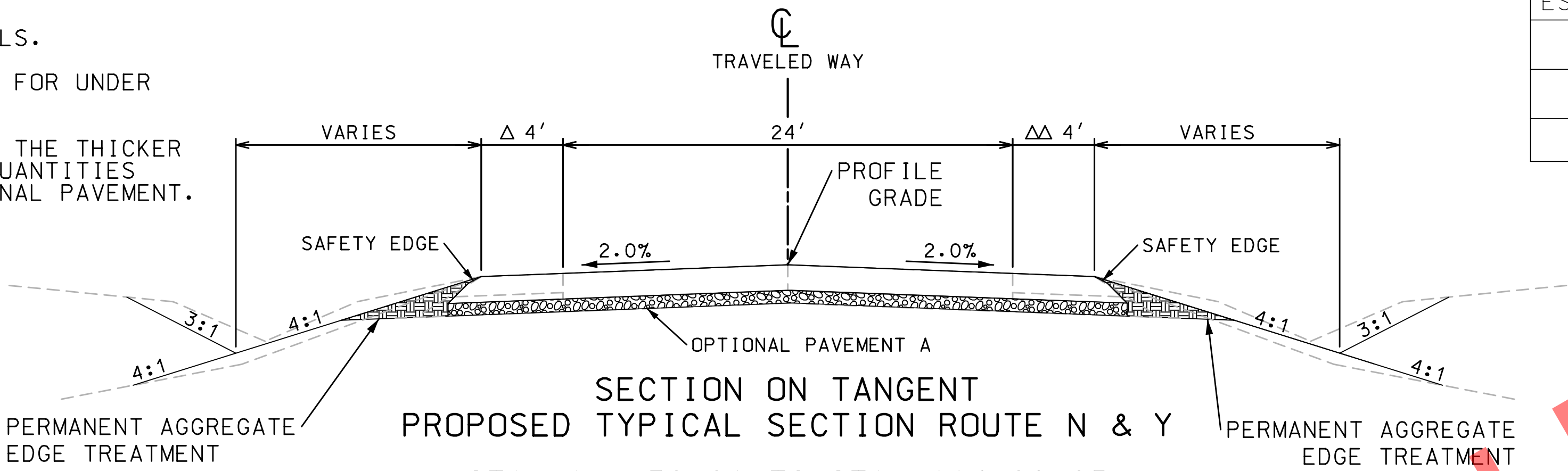
1. SEE STANDARD PLAN 401.00C FOR SAFETY EDGE DETAILS.
2. PERMANENT AGGREGATE EDGE TREATMENT WILL BE PAID FOR UNDER PAY ITEM 3049910 PER TON.
3. THE GRADING SHOWN ON THE PLANS WAS DESIGNED FOR THE THICKER OPTIONAL PAVEMENT. NO ADJUSTMENT OF EARTHWORK QUANTITIES DUE TO ADJUSTING THE ROADWAY SUBGRADE FOR OPTIONAL PAVEMENT.

ESTIMATE FACTORS FOR ASPHALTIC MIXTURES

PMBP (BP-1) PG64-22	1.948 TONS/CY
PMBP (BASE) PG64-22	1.943 TONS/CY
TACK COAT	0.10 GAL/SY

FOR INFORMATIONAL PURPOSES ONLY
PMBP= PLANT MIX BITUMINOUS PAVEMENT

ROUTE N & Y SUPERELEVATION %		
LT.	STA.	RT.
-2.43	100+29.57	0.62
0.00	100+87.57	-1.79
0.20	100+92.57	-2.00
2.00	101+35.57	-2.00
3.80	101+78.57	-3.80
3.80	103+77.47	-3.80
2.00	104+20.47	-2.00
-2.00	105+16.47	-2.00
-2.00	105+32.06	-2.00
-2.00	105+56.65	-2.00
-2.00	106+00.65	0.00
-2.00	106+44.65	2.00
-3.80	106+84.65	3.80
-3.80	108+50.48	3.80
-2.00	108+90.48	2.00
-2.00	109+34.48	0.00
-2.00	109+78.48	-2.00
-2.00	109+88.98	-2.00
-1.69	109+96.00	-2.00
-0.04	110+32.98	-0.32
-0.04	110+35.00	-0.23
-0.04	110+65.04	-0.23
-0.13	110+67.05	-0.23
-1.87	111+06.05	-2.00
-2.00	111+09.04	-2.00
-2.00	113+81.95	-2.00
-2.00	114+20.95	-0.23
-2.35	114+28.95	0.13



MAYAPPLE RD. & ROUTE N SUPERELEVATION %		
LT.	STA.	RT.
3.00	217+00.00	-3.00
3.00	222+34.73	-3.00
2.00	222+58.73	-2.00
0.00	223+06.73	-2.00
-2.00	223+54.73	-2.00
-2.00	223+55.00	-2.00
-2.00	223+62.00	-1.69
-3.18	223+90.00	-0.47

TYPICAL SECTION
SHEET 1 OF 2

DATE PREPARED
2/7/2022

ROUTE
N

STATE
MO

DISTRICT
NW

SHEET NO.
A4.2

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

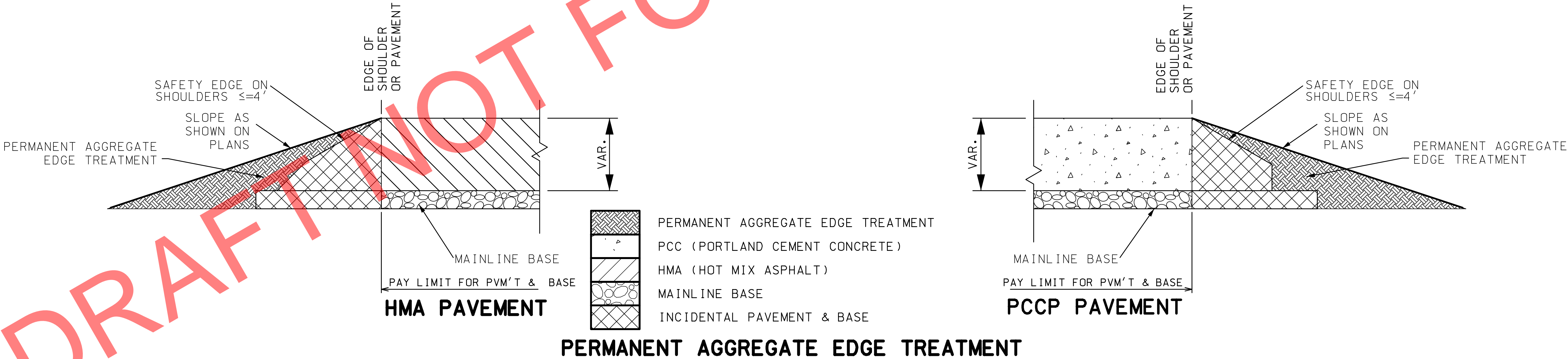
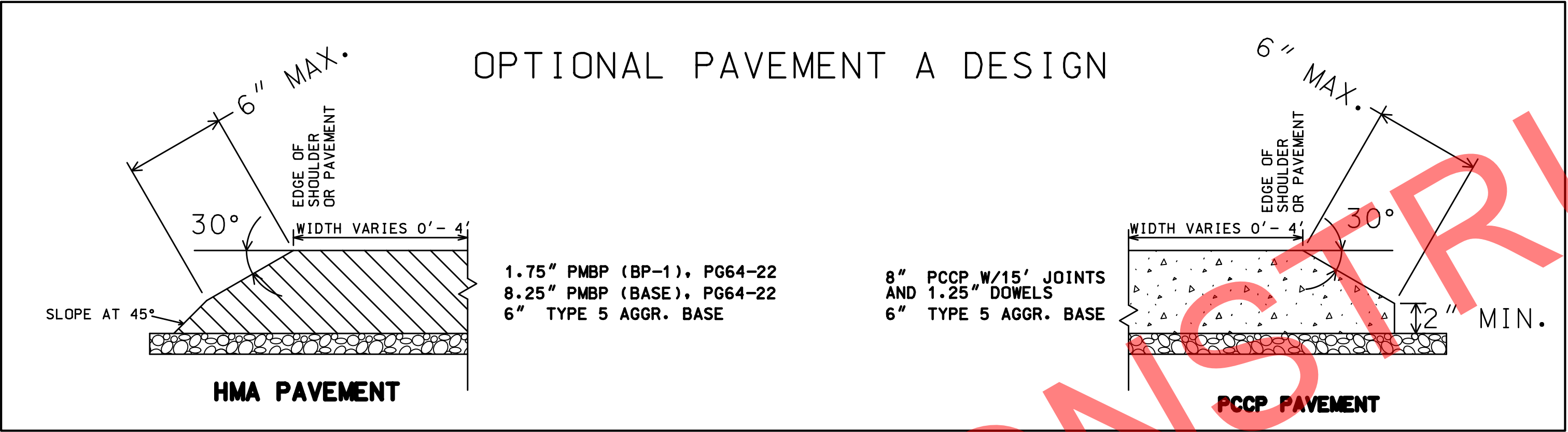
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

MoDOT

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

F:\2020\3501-4000\020-3611\40-Design\Microstation\J1S3392\J1S3392A\J1S3392A4\plan_sheets\2 Typicals\002_TS_01_J1S3392A4_L15.dgn 7:48:51 AM 2/7/2022



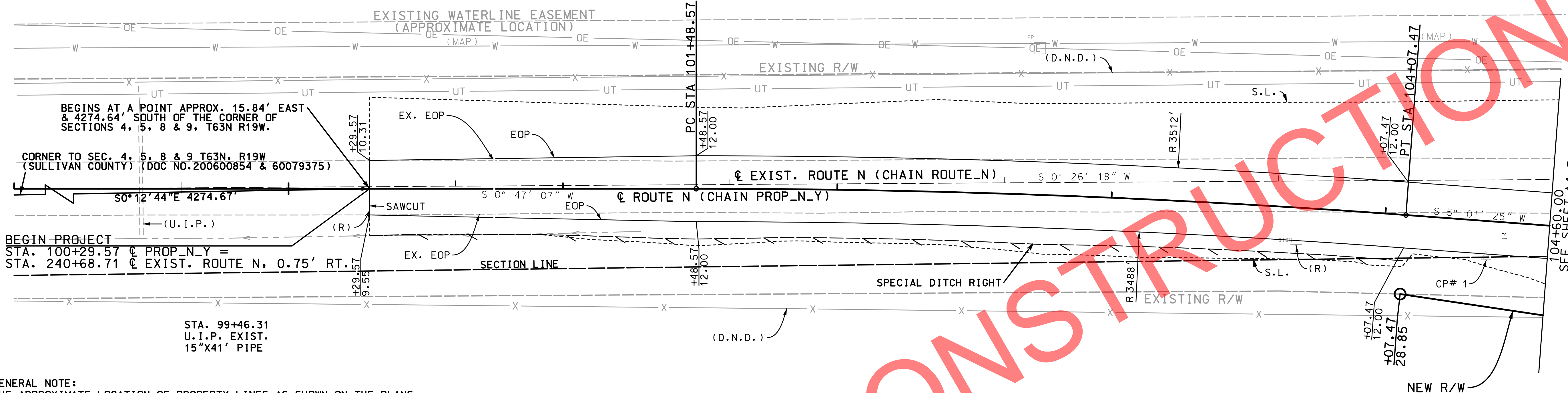
- NOTES:
- SEE STANDARD PLAN 401.00C FOR SAFETY EDGE DETAILS.
 - PERMANENT AGGREGATE EDGE TREATMENT WILL BE PAID FOR UNDER PAY ITEM 3049910 PER TON.

TYPICAL SECTION
SHEET 2 OF 2

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.2
COUNTY SULLIVAN	
JOB NO. J1S3392	
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)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

HALTER, R. WAYNE
& ELIZABETH S.
NO ACQUISITION

SW1/4 SW1/4
9-63N-19W



GENERAL NOTE:
THE APPROXIMATE LOCATION OF PROPERTY LINES AS SHOWN ON THE PLANS ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS AND REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE.

NEW RIGHT OF WAY STATIONS AND OFFSETS ARE OFF PROPOSED ROUTE N & Y CHAINS.

NEW RIGHT OF WAY LIMITS FOR THIS PROJECT EXTEND FROM STA. 104+07.12, ROUTE N TO STA. 114+12.85 ROUTE Y, A DISTANCE OF 0.19 MILES.

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

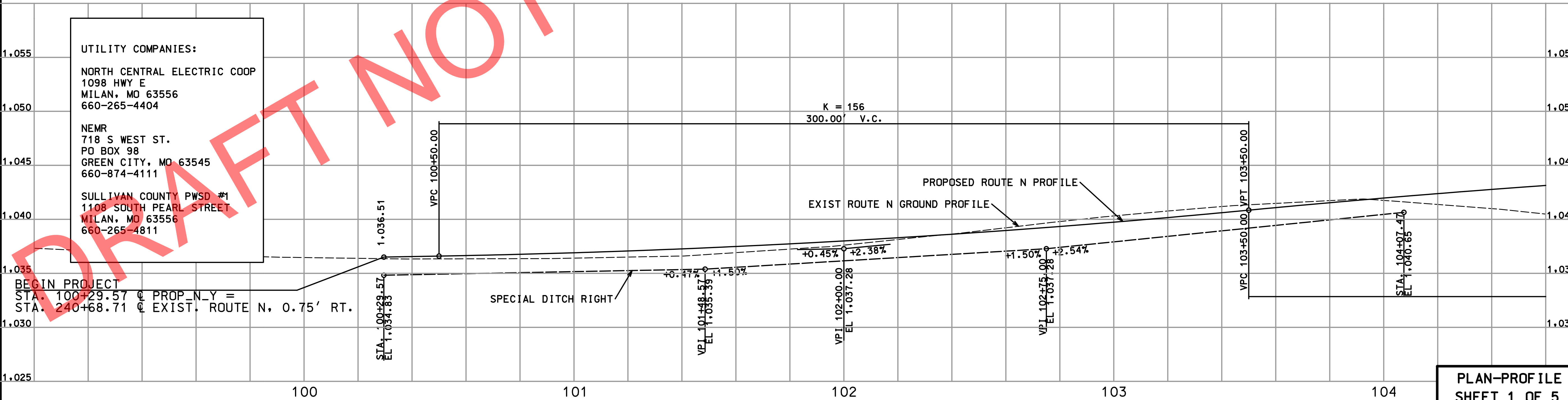
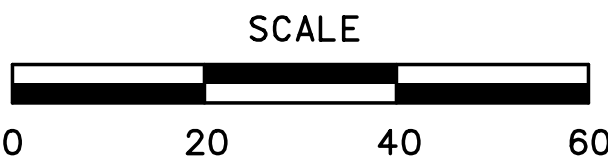
ALL BEARINGS ARE BASED ON STATE PLANE BEARINGS, CENTRAL ZONE.

SE1/4 SE1/4
8-63N-19W

WILLARD DEAN PAGE &
JANICE GAIL PAGE
REVOCABLE TRUST AND
JAMES & ALICE SCOTT TRUST
33,823 S.F. NEW R/W
278.62 AC. REMAINING

CURVE PROP_N_Y_3
PI 102+78.08
PC 101+48.57
PT 104+07.47
 Δ 4° 14' 17.8" (RT)
D 38' 13.3"
L 258.90'
T 129.51'
R 3,500.00'

CP# 1
STA. 244+75.34, 28.02' RT.
(CHAIN ROUTE_N)
STA. 104+37.64, 13.03' RT.
(CHAIN PROP_N_Y)
EL. 1040.59



UTILITY COMPANIES:

NORTH CENTRAL ELECTRIC COOP
1098 HWY E
MILAN, MO 63556
660-265-4404

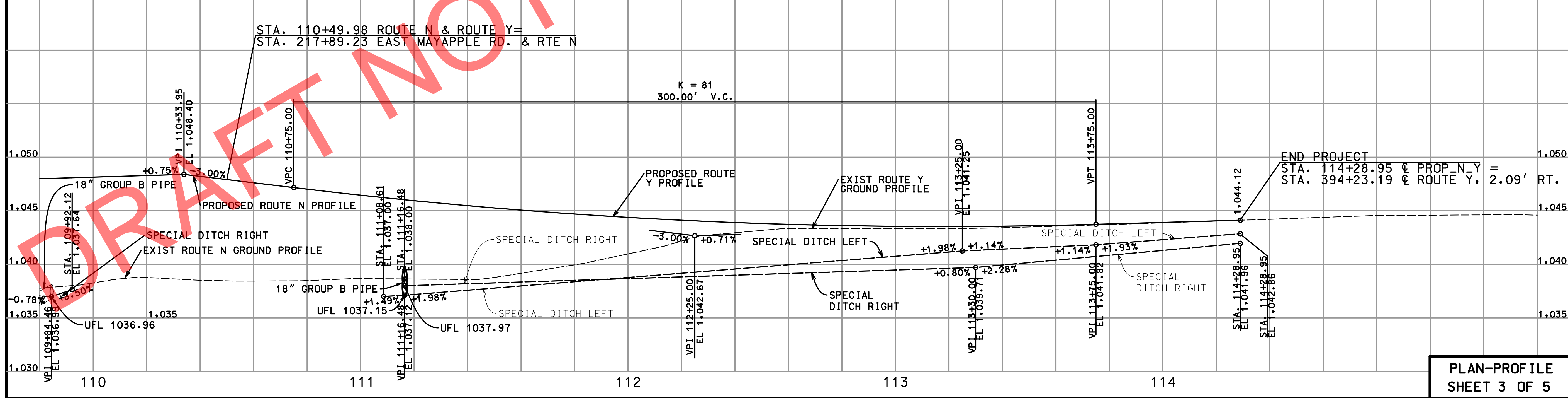
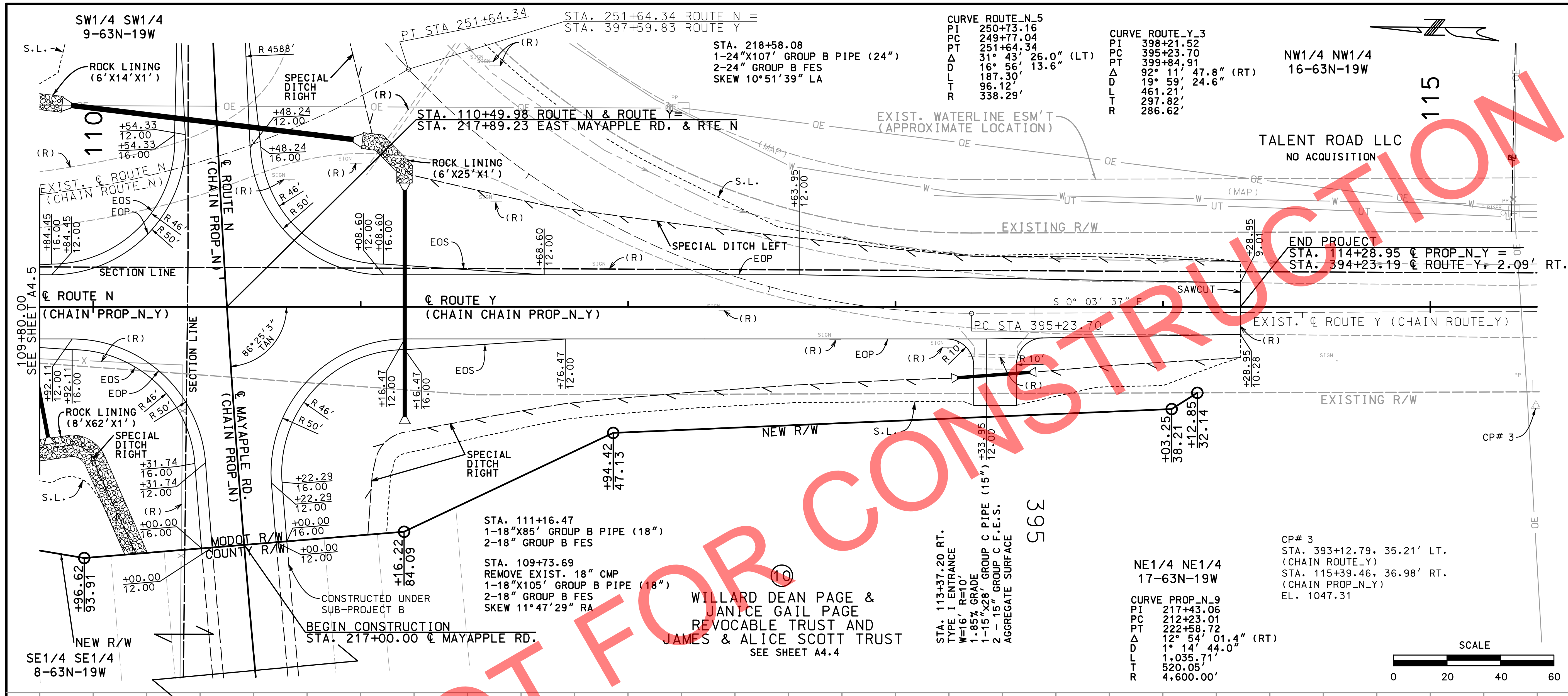
NEMR
718 S WEST ST.
PO BOX 98
GREEN CITY, MO 63545
660-874-4111

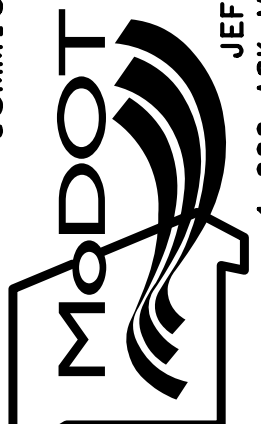
SULLIVAN COUNTY PSD #1
1108 SOUTH PEARL STREET
MILAN, MO 63556
660-265-4811

BEGIN PROJECT
STA. 100+29.57 @ PROP_N_Y =
STA. 240+68.71 @ EXIST. ROUTE N, 0.75' RT.

PLAN-PROFILE
SHEET 1 OF 5

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.4
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 ON CERTIFICATE OF AUTHORITY NO. 001592	



DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.6
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

DRAFT

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

PROJECT COORDINATE INFORMATION	
COORDINATE SYSTEM	MODIFIED MISSOURI STATE PLANE
HORIZONTAL DATUM	NAD 83 (2011) (EPOCH 2010)
VERTICAL DATUM	NAVD 88: GNSS DERIVED
GEOID MODEL	12B
ELEVATIONS DETERMINED BY	GPS DERIVED
PROJECT PROJECTION FACTOR	1.00007728
REFERENCE CONTROL INFORMATION	
COORDINATE SYSTEM	MO COORDINATE SYSTEM OF 1983
CONTROL STATION	MISSOURI CORS
DESIGNATION	MODOT MILAN CORS ARP
CORS ID	MOML
PID	DN6087
LATITUDE	10° 12' 37.76062" (N)
LONGITUDE	093° 06' 57.87622" (W)
NORTHING (M)	486,000.913
EASTING (M)	447,556.050
ZONE	CENTRAL
PROJECT AVERAGE GRID FACTOR	0.99996781
EXAMPLE OF PROJECT COORDINATE TO S.P.C.	
PROJECT NORTHING X AVERAGE GRID FACTOR = STATE PLANE NORTHING	
PROJECT EASTING X AVERAGE GRID FACTOR = STATE PLANE EASTING	
EXAMPLE: CONTROL POINT #8	
N 1619096.411 X 0.999922725 = N 1618971.295	
E 1469538.057 X 0.999922725 = E 146526.733	
LINEAR UNIT CONVERSION	
1 METER = 3.280833333 US SURVEY FEET (USFT)	

COORDINATE POINT LISTING								
SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND)			DESCRIPTION	GPK POINT ID
				NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)		
BENCHMARKS								
A4.5	109+45.21	75.72	LT	1,616,061.61	1,488,432.69	1,036.76	TBM "A" - COTTON PICKER SPINDLE IN POLE	TBM1
PROJECT CONTROL POINTS								
A4.4	104+37.64	13.03	RT	1,616,569.12	1,488,372.70	1,040.59	SET IRON ROD W/ CAP	CP1
A4.8	220+74.22	38.54	RT	1,615,927.51	1,488,641.94	1,048.32	SET IRON ROD W/CAP	CP2
A4.6	115+39.46	36.99	RT	1,615,467.25	1,488,320.62	1,047.31	SET IRON ROD W/CAP	CP3
ALIGNMENTS								
PROP_N								
	200+00.00	BL		1616015.0557	1486607.4945		BEGIN CHAIN PROP N	
	202+30.76	BL		1616012.7961	1486838.2393		PC CURVE PROP N 3	
	203+60.10	LT	13.7825	1616011.5296	1486967.5735		PI CURVE PROP N 3	
	204+85.54	BL		1615957.0912	1487084.8996		PT CURVE PROP N 3	
	206+39.44	BL		1615892.3137	1487224.5086		PC CURVE PROP N 6	
	208+32.00	RT	30.1421	1615811.2669	1487399.1813		PI CURVE PROP N 6	
	210+12.10	BL		1615847.0031	1487588.3955		PT CURVE PROP N 6	
	212+23.01	BL		1615886.1447	1487795.6397		PC CURVE PROP N 9	
	217+43.06	LT	29.3040	1615982.6591	1488306.6587		PI CURVE PROP N 9	
	222+58.72	BL		1615962.6491	1488826.3269		PT CURVE PROP N 9	
	225+47.18	BL		1615951.5500	1489114.5767		END CHAIN PROP N	
PROP_N_Y								
	99+00.00	BL		1617105.0938	1488404.8445		BEGIN CHAIN PROP N Y	
	101+48.57	BL		1616856.5492	1488401.4373		PC CURVE PROP N Y 3	
	102+78.08	LT	2.3953	1616727.0518	1488399.6621		PI CURVE PROP N Y 3	
	104+07.47	BL		1616598.0397	1488388.3213		PT CURVE PROP N Y 3	
	106+56.64	BL		1616349.8225	1488366.5018		PC CURVE PROP N Y 6	
	107+67.63	RT	2.4624	1616239.2622	1488356.7830		PI CURVE PROP N Y 6	
	108+78.47	BL		1616128.2757	1488356.8997		PT CURVE PROP N Y 6	
	119+26.17	BL		1615080.5806	1488358.0014		END CHAIN PROP N Y	
ROUTE_N								
	218+98.50	CL		1619145.2450	1488364.8399		BEGIN CHAIN ROUTE N	
	237+00.00	CL		1617344.2300	1488406.6400		PI CHAIN ROUTE N	
	249+77.04	CL		1616067.2310	1488396.8720		PC CURVE ROUTE N 5	
	250+73.16	RT	13.3908	1615971.1135	1488396.1368		PI CURVE ROUTE N 5	
	251+64.34	CL		1615888.9702	1488446.0525		PT CURVE ROUTE N 5	
ROUTE_Y								
	377+00.00	CL		1613854.6120	1488362.1787		BEGIN CHAIN ROUTE Y	
	295+23.70	CL		1615678.2977	1488354.9922		PC CURVE ROUTE Y 3	
	398+21.52	LT	126.7207	1615976.1200	1488353.8186		PI CURVE ROUTE Y 3	
	399+84.91	CL		1615965.8776	1488651.4671		PT CURVE ROUTE Y 3	
							STA 399+84.91 (BK) = STA 399+89.20 (AH)	
	399+89.20	CL		1615965.8776	1488651.4671		PI CHAIN ROUTE Y	
	409+40.00	CL		1615933.1758	1489601.7046		END CHAIN ROUTE Y	

DATE PREPARED
2/7/2022

ROUTE
N

STATE
MO

DISTRICT
NW

SHEET NO.
A4.9

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

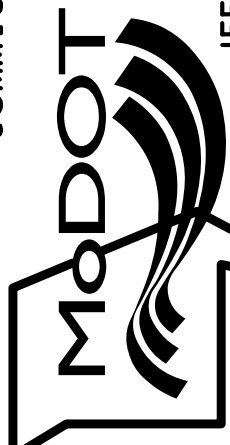
PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

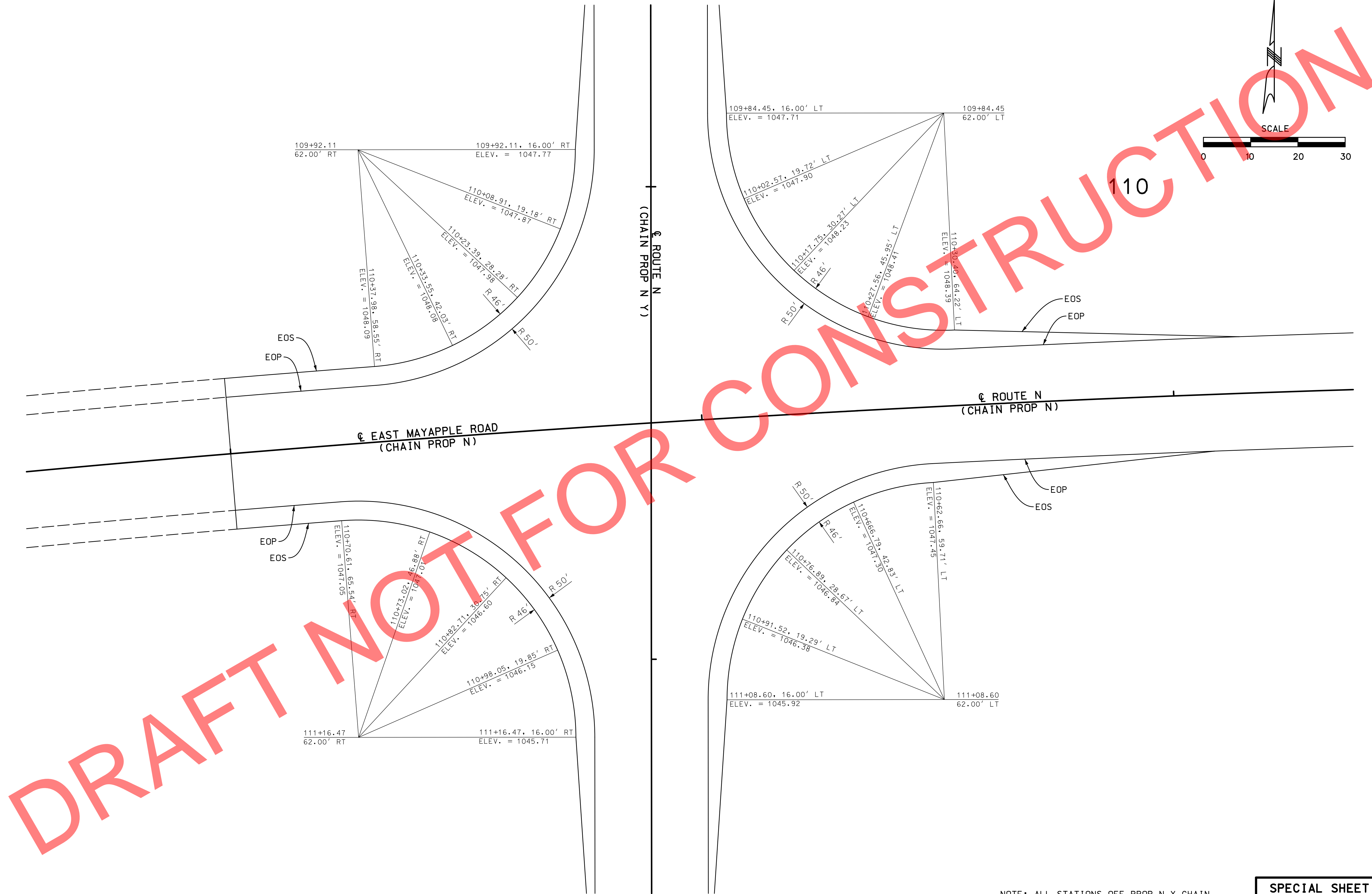
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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

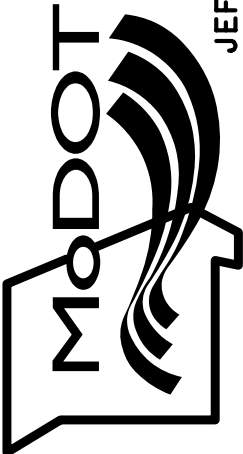
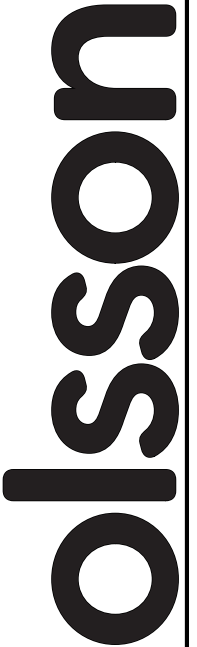
olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592



NOTE: ALL STATIONS OFF PROP N Y CHAIN

SPECIAL SHEET
RADIUS POINTS
SHEET 1 OF 1

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.10
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

SIGN SPACING FOR ADVANCE SIGN SERIES (1)		
PERMANENT POSTED SPEED MPH	UNDIVIDED HIGHWAYS	DIVIDED HIGHWAYS
0-35	200'	200'
40-45	350'	500'
50-55	500'	1000'
60-70	1000'	SA - 1000' SB - 1500' SC - 2640'

TAPER LENGTHS AND END TREATMENTS FOR CONCRETE BARRIER				
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (2)			END TREATMENT (3)
	T1	10'	11'	12'
<40	160'	168'	176'	BARRIER HEIGHT TRANSITION
>40	160'	168'	176'	APPROVED CRASH CUSHION

TAPER LENGTHS AND SPACING FOR CHANNELIZERS							
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (T1)			MINIMUM SHOULDER TAPER LENGTH BASED ON 10' SHOULDER	BUFFER LENGTH FT.	MAXIMUM CHANNELIZER SPACING	
	10'	11'	12'			THROUGH TAPER	THROUGH WORK AREA
0-35	205'	225'	245'	70'	280'	35'	40'
40-45	450'	495'	540'	150'	400'	40'	80'
50-55	550'	605'	660'	185'	560'	50'	80'
60-70	700'	770'	840'	235'	840'	60'	120'

NOTES:

- (1) SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS AND VIABILITY.
- (2) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER.
- (3) CONCRETE BARRIER MAY BE INSTALLED AT AN 8:1 FLARE RATE FROM THE SHOULDER POINT TO THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER. CONTRACTOR MAY PROVIDE CONCRETE BARRIER, INCIDENTAL TO PROJECT.

GENERAL NOTES:

1. AS WITH ALL CONSTRUCTION ACTIVITIES TRAFFIC SITUATIONS ARE SUBJECT TO CHANGE. THE CONTRACTOR SHALL BE AWARE THAT ALL TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE STANDARDS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) THE MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION, SECTION 600 AND SHALL FOLLOW THE GUIDELINES IN THE MODOT 'TRAFFIC CONTROL FOR FIELD OPERATIONS MANUAL'.
2. PLACE A 'ROAD WORK AHEAD' SIGN ON THE APPROACH TO ALL INTERSECTIONS WHERE THE ADVANCE SIGNING FOR THE TEMPORARY TRAFFIC CONTROL EXTENDS PAST THAT INTERSECTION.
3. NOTIFY MODOT RESIDENT ENGINEER 48-HOURS IN ADVANCE OF ANY LANE CLOSURE OR ROADWAY CLOSURE.
4. ALL EXISTING SIGNS SHALL BE USED IN PLACE, ADJUSTED, AND/OR COVERED AS CONDITIONS REQUIRE (NO DIRECT PAY).
5. ALL STATIONING, DISTANCES, AND SPACING OF WORK ZONES DEVICES ARE APPROXIMATE AND MAY BE REVISED AS APPROVED BY ENGINEER.
6. FIRST ORDER OF WORK ON ALL PHASES SHALL BE PLACEMENT OF ALL WORK ZONE WARNING DEVICES AND SIGNS AS NOTED.
7. SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED OR AS APPROVED BY THE ENGINEER.
8. SIGNS LEFT IN PLACE OVERNIGHT MUST BE MOUNTED AT 5' MINIMUM HEIGHT.
9. ALTERNATE TRAFFIC CONTROL MAY BE USED AS NEEDED AT THE APPROVAL OF THE ENGINEER.
10. NO DIRECT PAYMENT WILL BE MADE FOR RELOCATION OF CHANNELIZERS, CONSTRUCTION SIGNS, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES, UNLESS OTHERWISE SHOWN ON THE PLANS.
11. FLAG ASSEMBLIES SHALL BE USED DURING ALL DAYTIME OPERATIONS. THEY ARE REQUIRED ON ALL FLAGGER SIGNS AND TRUCK CROSSING SIGNS WITHIN THE WORK ZONE. THEY WILL BE REQUIRED ON THE FIRST OCCURRENCE OF THE ROAD/RAMP/BRIDGE WORK AHEAD SIGN, BUT ONLY IF THE WORK DURATION IS 30 MINUTES OR MORE. IF PROVIDED, THE COST OF THE FLAG ASSEMBLES AS SHOWN IN THE PLANS.

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/6/2022

ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.11

COUNTY
SULLIVAN

JOB NO.
J1S3392

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)

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

Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

TRAFFIC CONTROL LEGEND


- SIGN (SINGLE SIDED)


■

CHANNELIZER


E

BARRICADE



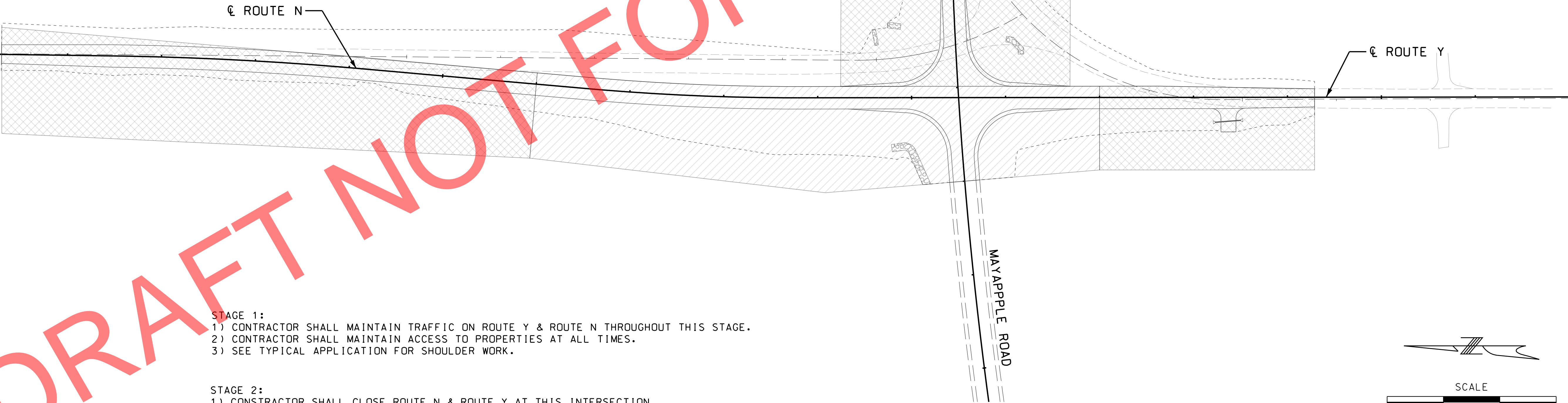
CHANGEABLE MESSAGE BOARD
- 

STAGE 1 - CONSTRUCT NEW PAVEMENT OUTSIDE OF EXISTING ROUTE N & ROUTE Y.



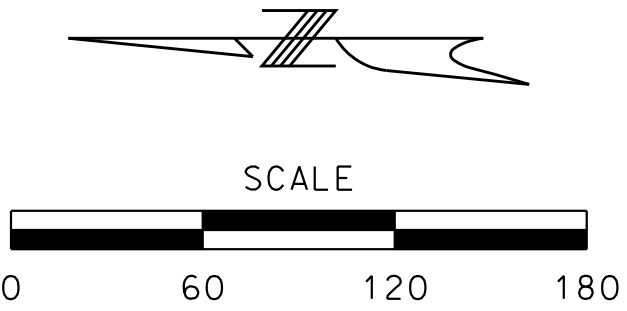
STAGE 2 - CONSTRUCT TIE-IN BETWEEN EXISTING ROAD AND NEW PAVEMENT.

STAGE 3 - REMOVE EXISTING PAVEMENT. (NOT SHOWN)



- STAGE 1:
- 1) CONTRACTOR SHALL MAINTAIN TRAFFIC ON ROUTE Y & ROUTE N THROUGHOUT THIS STAGE.
 - 2) CONTRACTOR SHALL MAINTAIN ACCESS TO PROPERTIES AT ALL TIMES.
 - 3) SEE TYPICAL APPLICATION FOR SHOULDER WORK.

- STAGE 2:
- 1) CONTRACTOR SHALL CLOSE ROUTE N & ROUTE Y AT THIS INTERSECTION.
 - 2) ASSUMED MAYAPPLE IS STILL UNDER CONSTRUCTION & NOT OPEN TO TRAFFIC DURING THIS STAGE.
 - 3) CONTRACTOR SHALL CONTINUE TO MAINTAIN ACCESS TO PROPERTIES WITHIN THE CLOSED SECTION AT ALL TIMES.
 - 4) SEE TYPICAL APPLICATIONS FOR HIGHWAY CLOSURES AND MOBILE STRIPING OPERATIONS.



TRAFFIC CONTROL
J1S3392A4 STAGING
SHEET 2 OF 6

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/6/2022

ROUTE	STATE
N	MO
DISTRICT	SHEET NO.
NW	A4.12

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

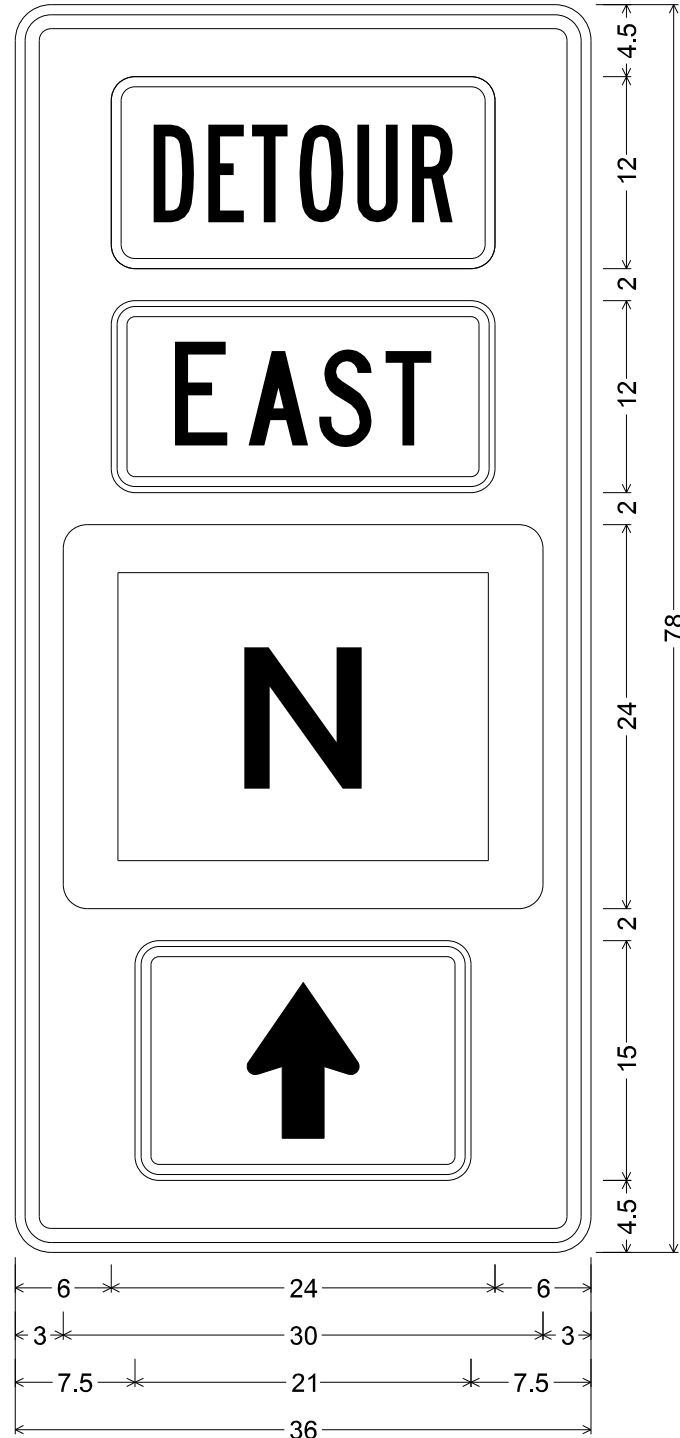
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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

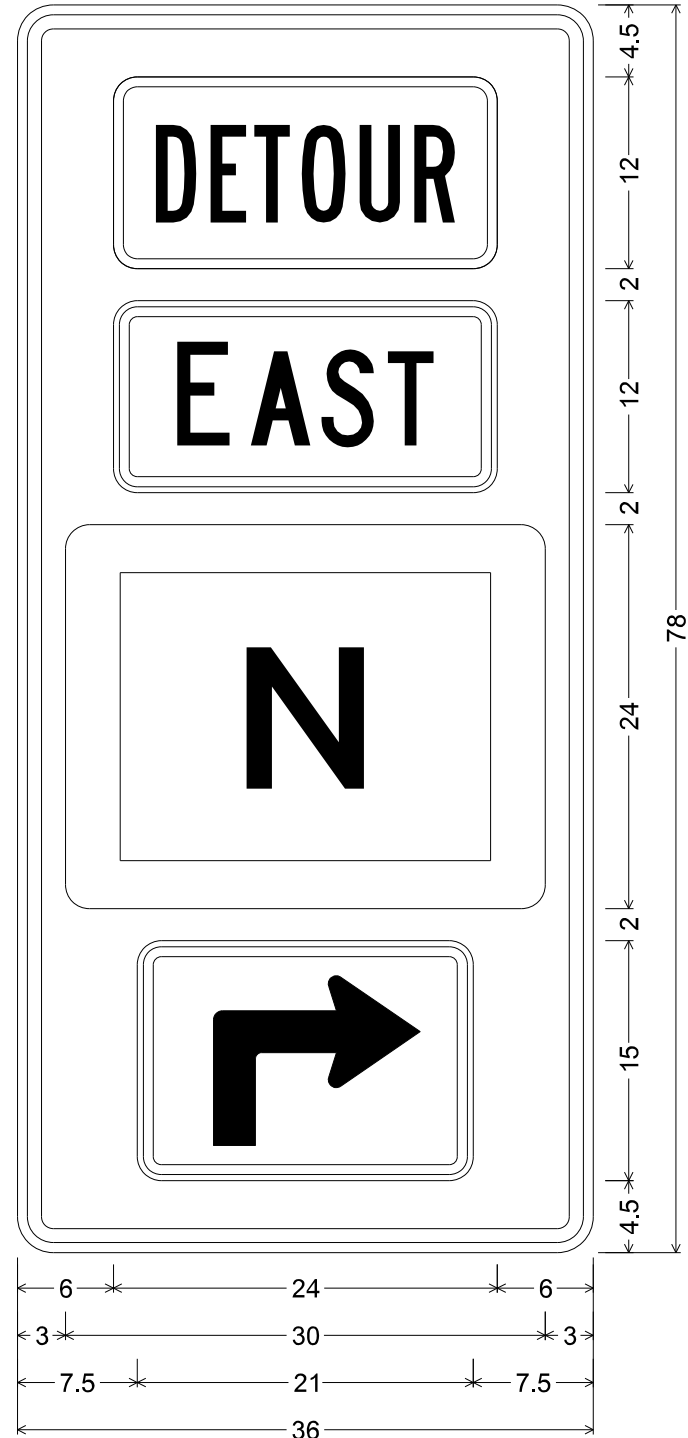
EFK Moen
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578



MO4-11 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000
6.000
3.000
7.500

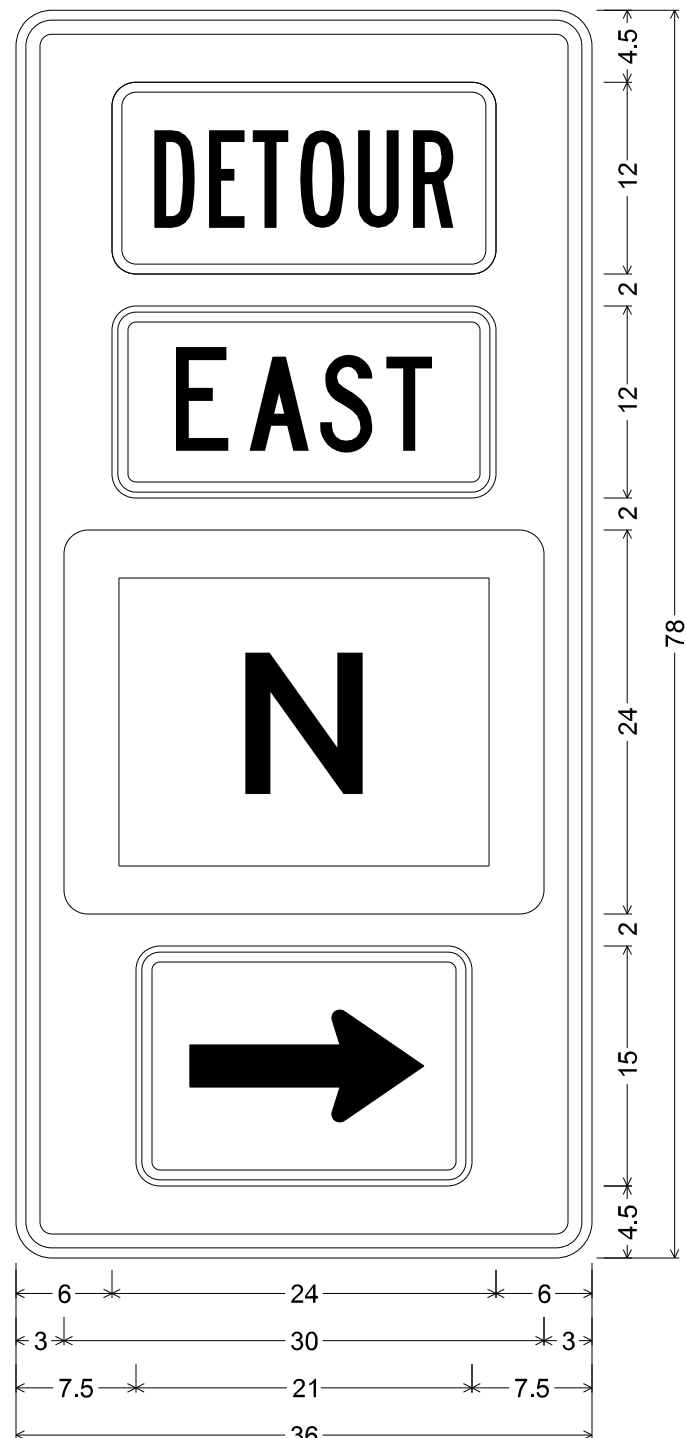
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MO4-11 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000
6.000
3.000
7.500

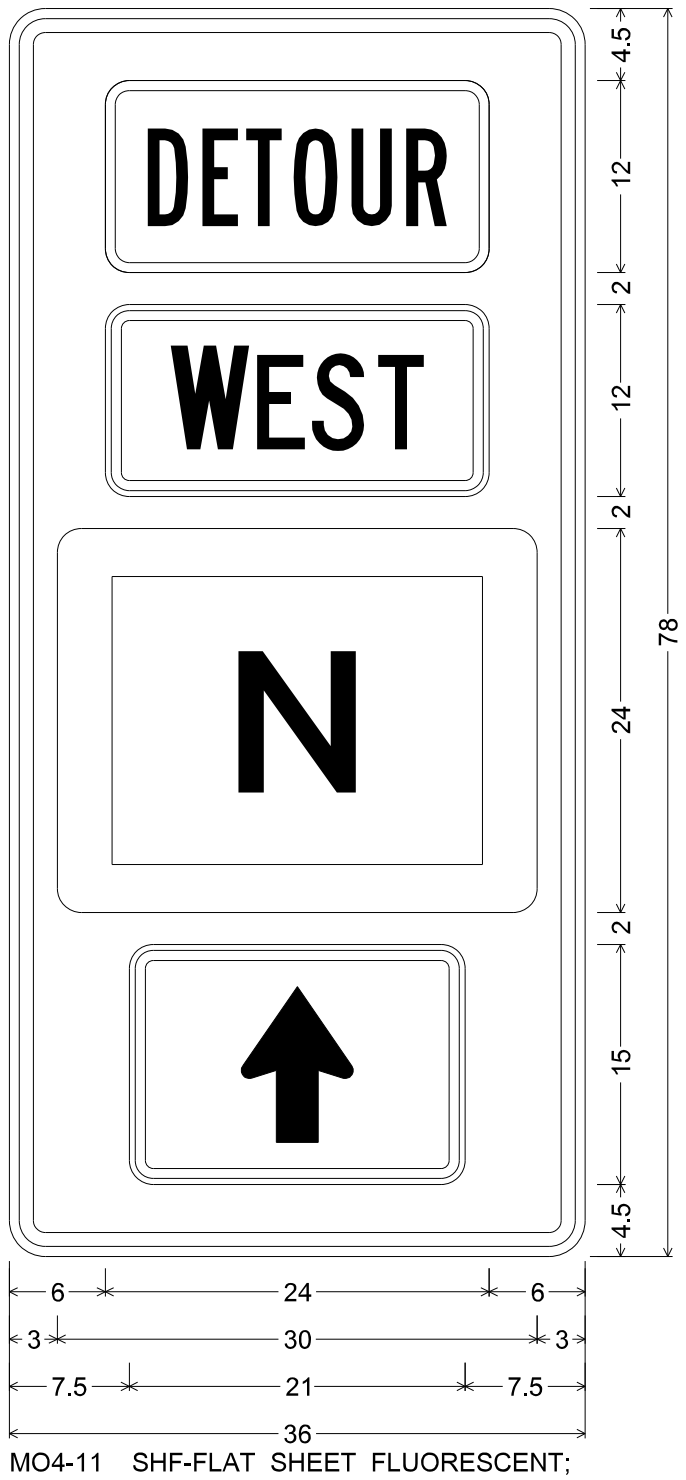
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MO4-11 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

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6.000
3.000
7.500

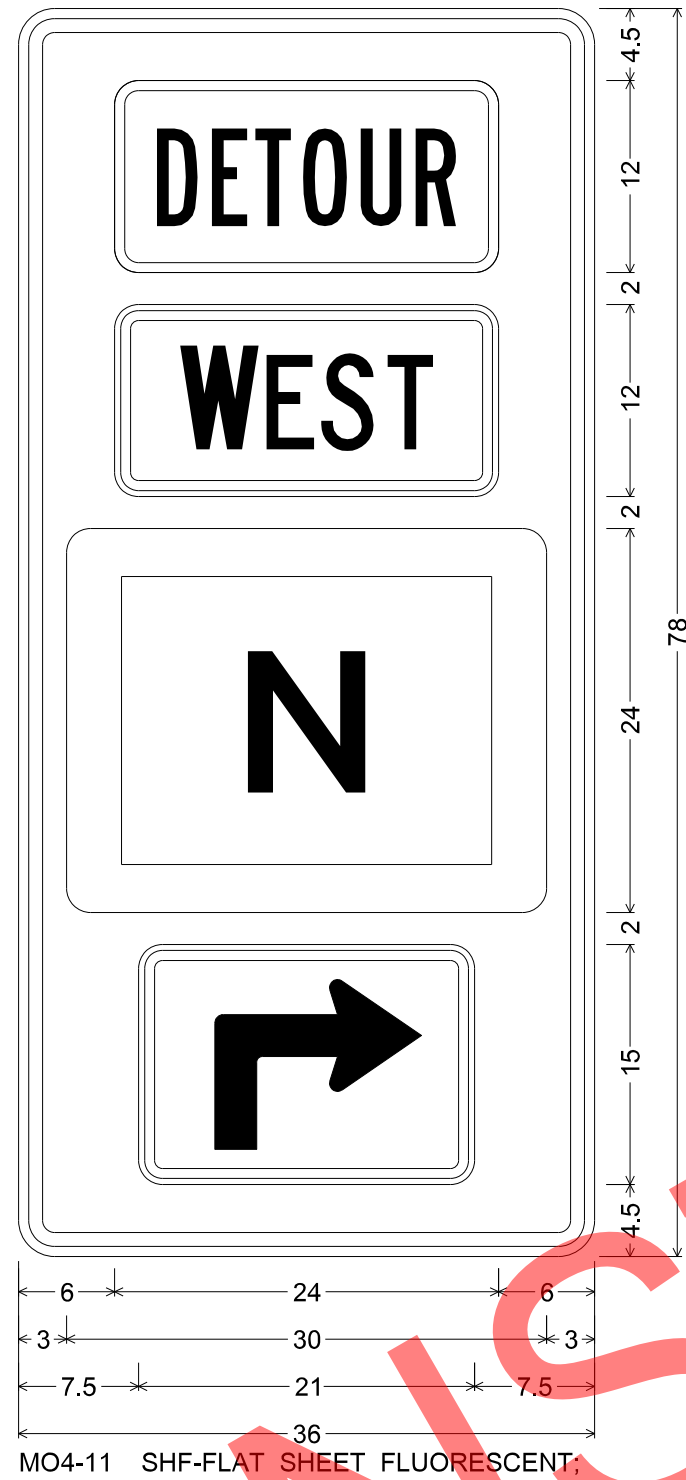
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MO4-11 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

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6.000
3.000
7.500

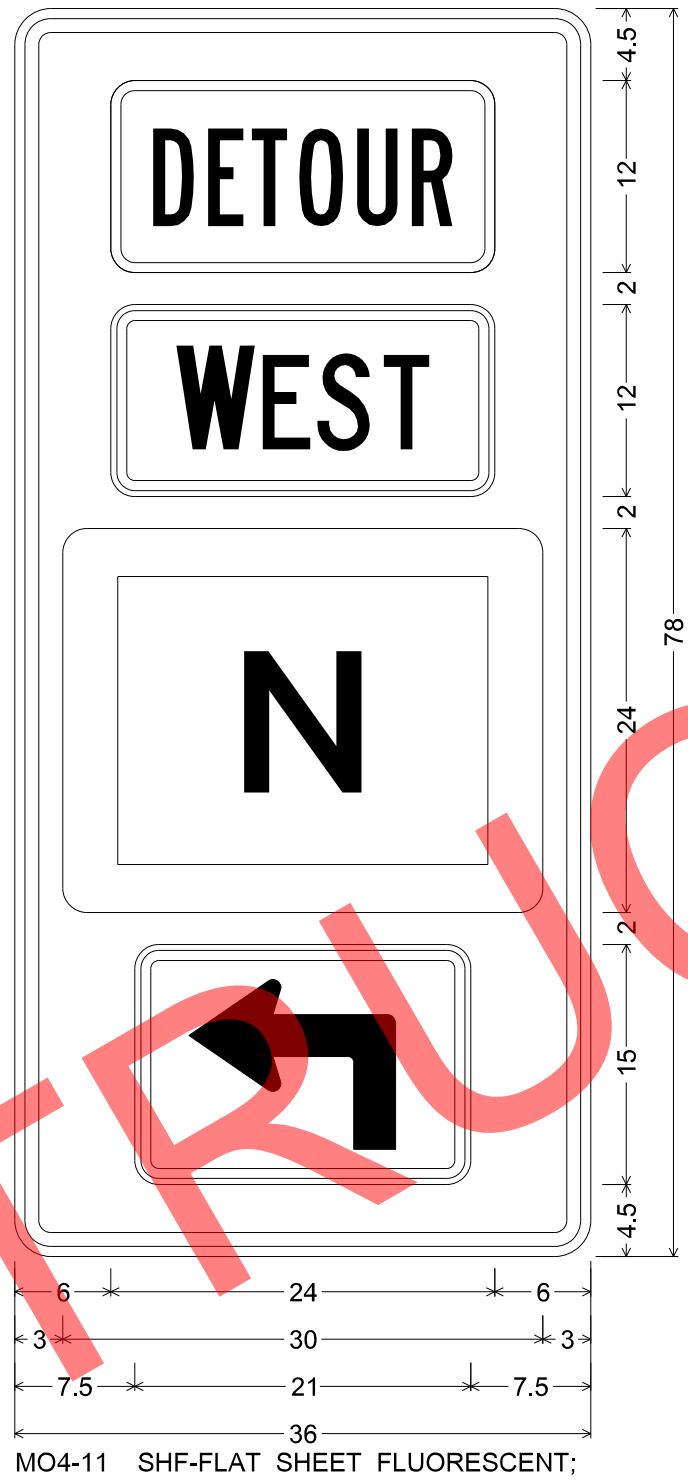
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MO4-11 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

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6.000
3.000
7.500

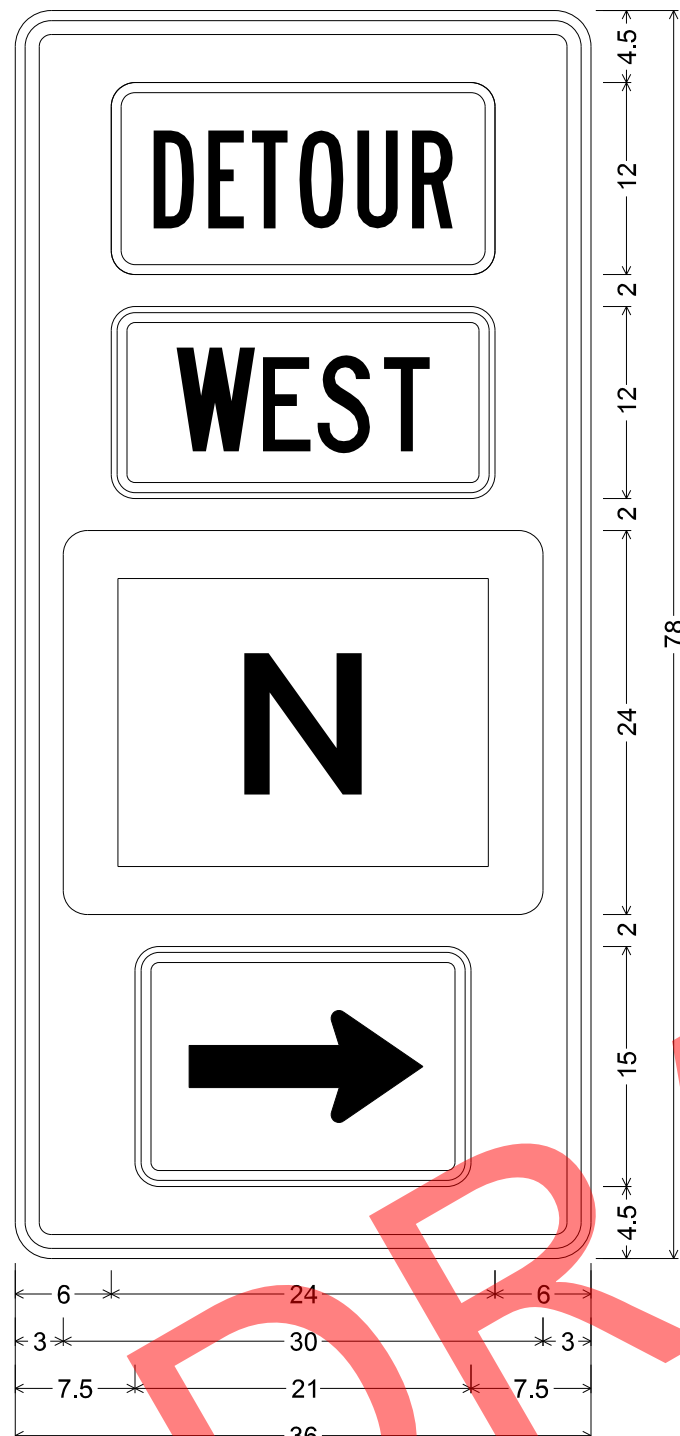
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MO4-11 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000
6.000
3.000
7.500

50J



MO4-11 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000
6.000
3.000
7.500

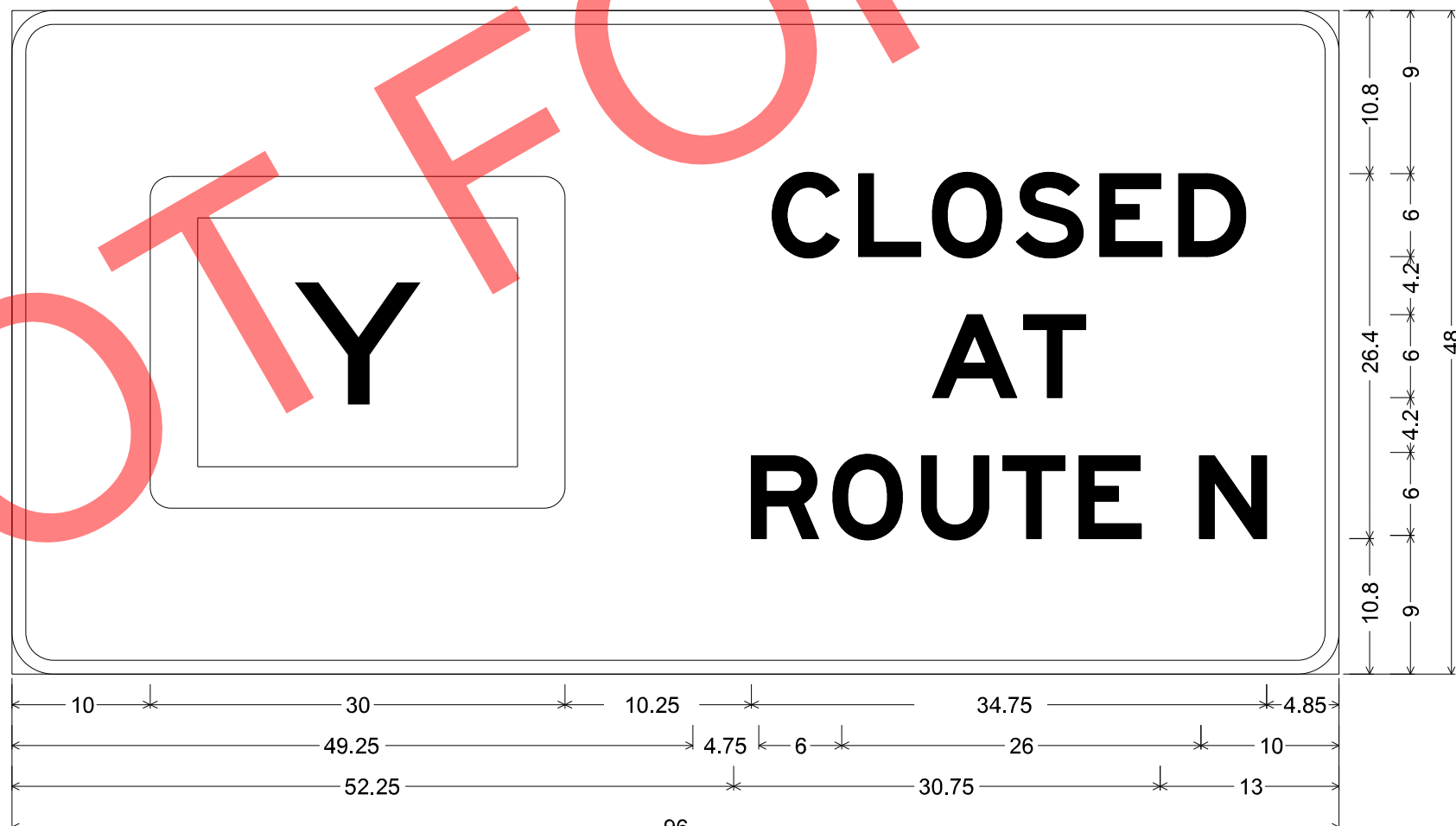
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MO4-11 SHF-FLAT SHEET FLUORESCENT;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

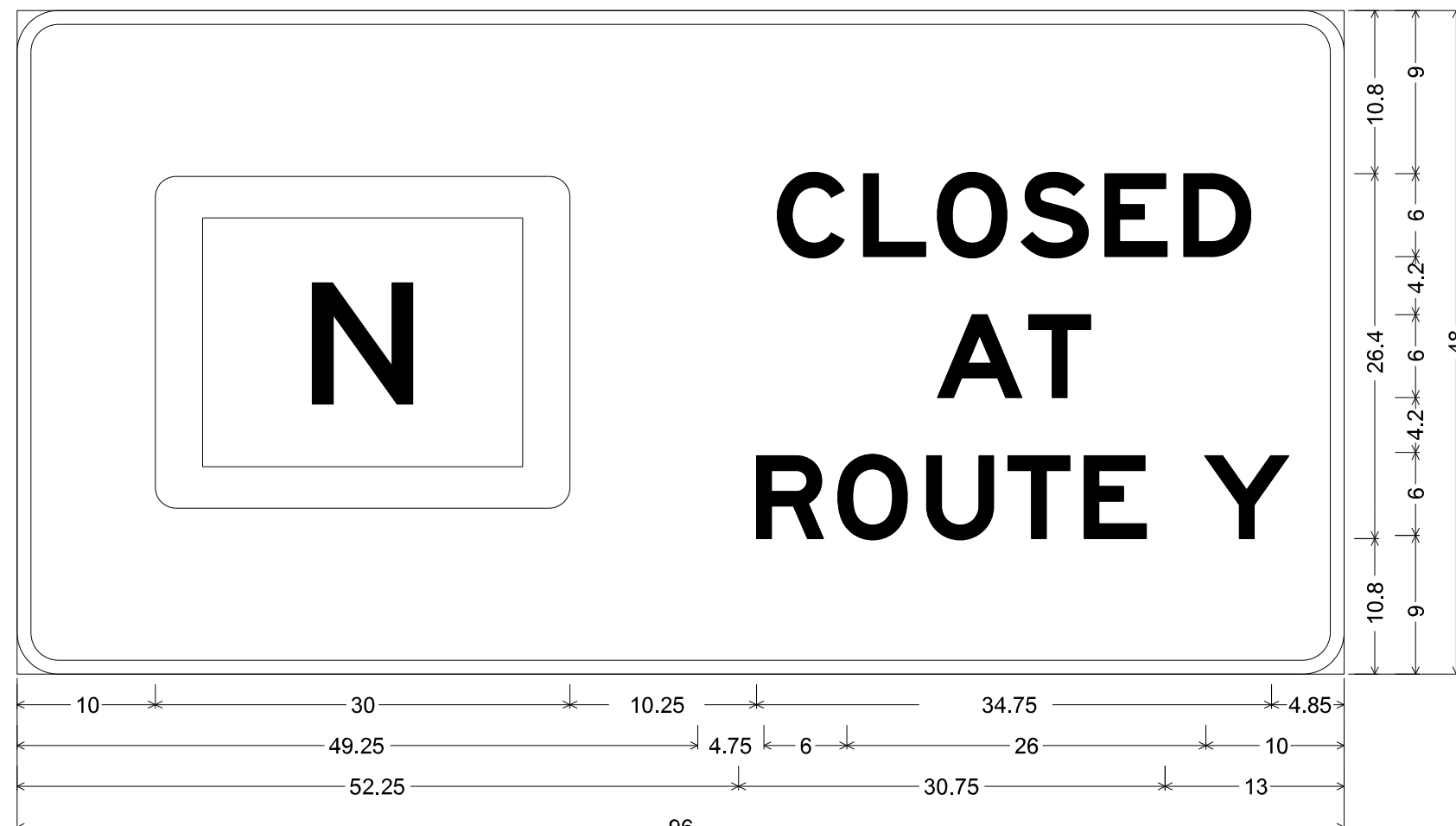
6.000
6.000
3.000
7.500

50L



MO4-13-96 SHF-FLAT SHEET FLUORESCENT; 3.000" Radius, 1.000" Border, Black on Orange;
[CLOSED] E Mod; [2 MILES] E Mod; [AHEAD] E Mod;
Table of letter and object lefts.

C	L	O	S	E	D
10.000	42.400	48.700	54.000	60.100	66.100
A	T	U	T	E	Y
54.000	60.600	53.200	59.100	64.600	69.100



MO4-13-96 SHF-FLAT SHEET FLUORESCENT; 3.000" Radius, 1.000" Border, Black on Orange;
[CLOSED] E Mod; [2 MILES] E Mod; [AHEAD] E Mod;
Table of letter and object lefts.

C	L	O	S	E	D
10.000	43.400	49.600	54.900	61.000	67.100
A	T	U	T	E	Y
54.900	61.500	54.200	60.000	65.600	70.100

TRAFFIC CONTROL
SHEET 4 OF 6

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

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

"THIS MEDIA SHOULD
NOT BE CONSIDERED
A CERTIFIED
DOCUMENT."

DATE PREPARED
2/6/2022
ROUTE
N
STATE
MO
DISTRICT
NW
SHEET NO.
A4.14
COUNTY
SULLIVAN
JOB NO.
J1S3392
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

DESCRIPTION

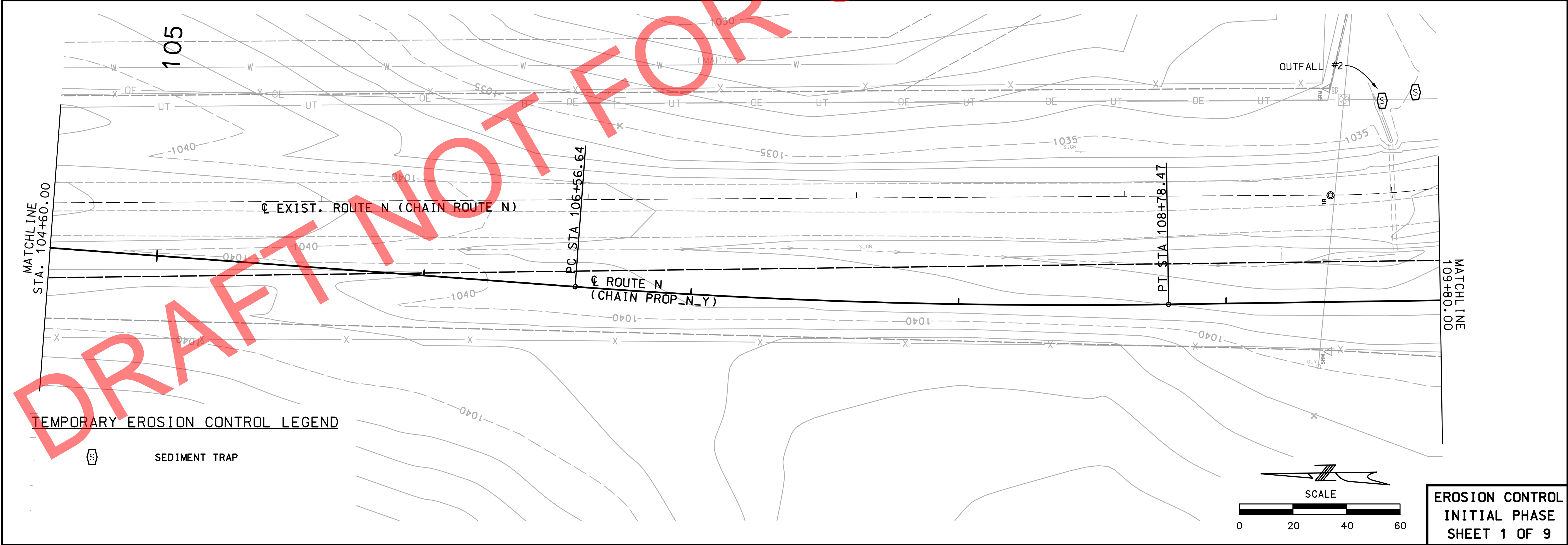
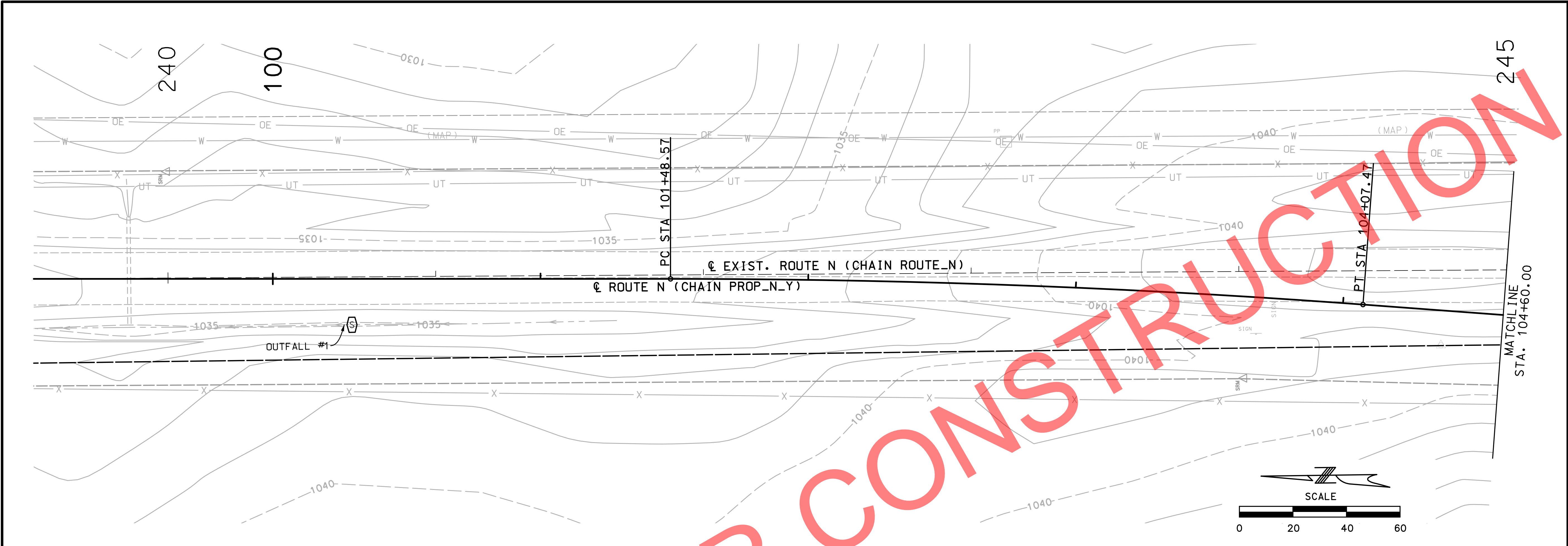
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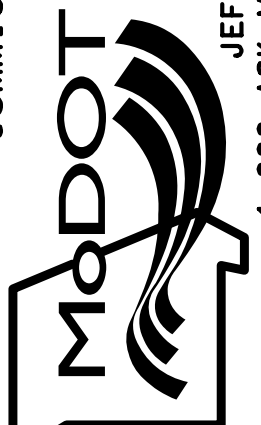

DATE

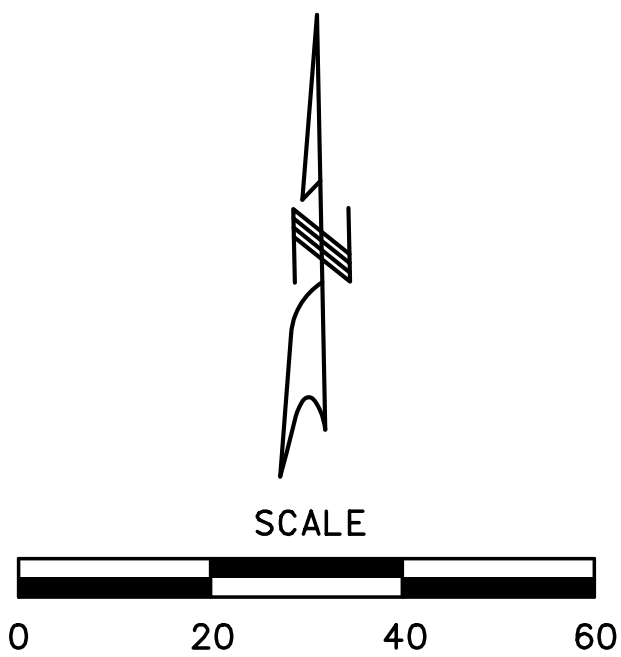
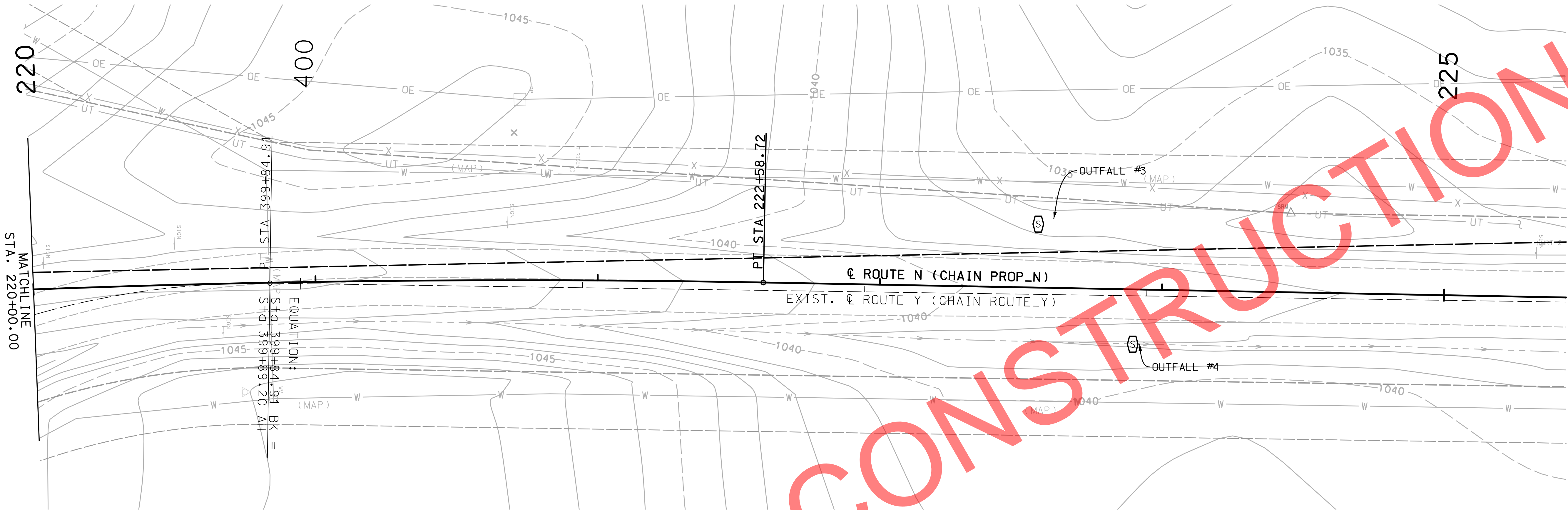
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REV.





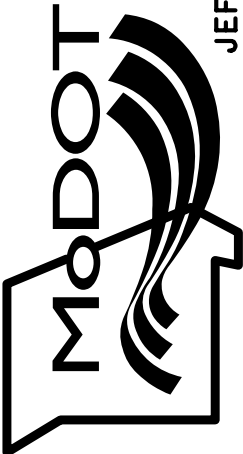
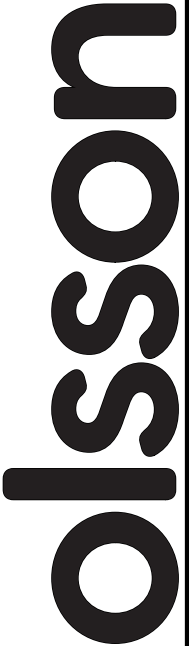
DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.17
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DATE	DESCRIPTION
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

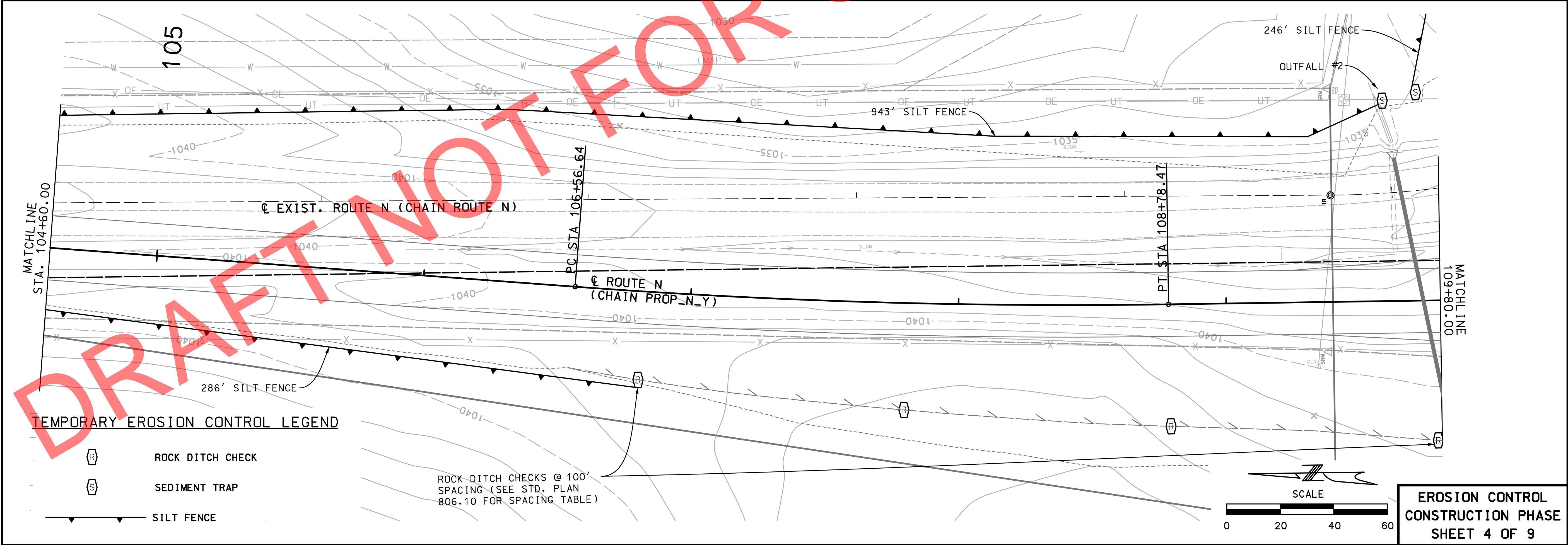
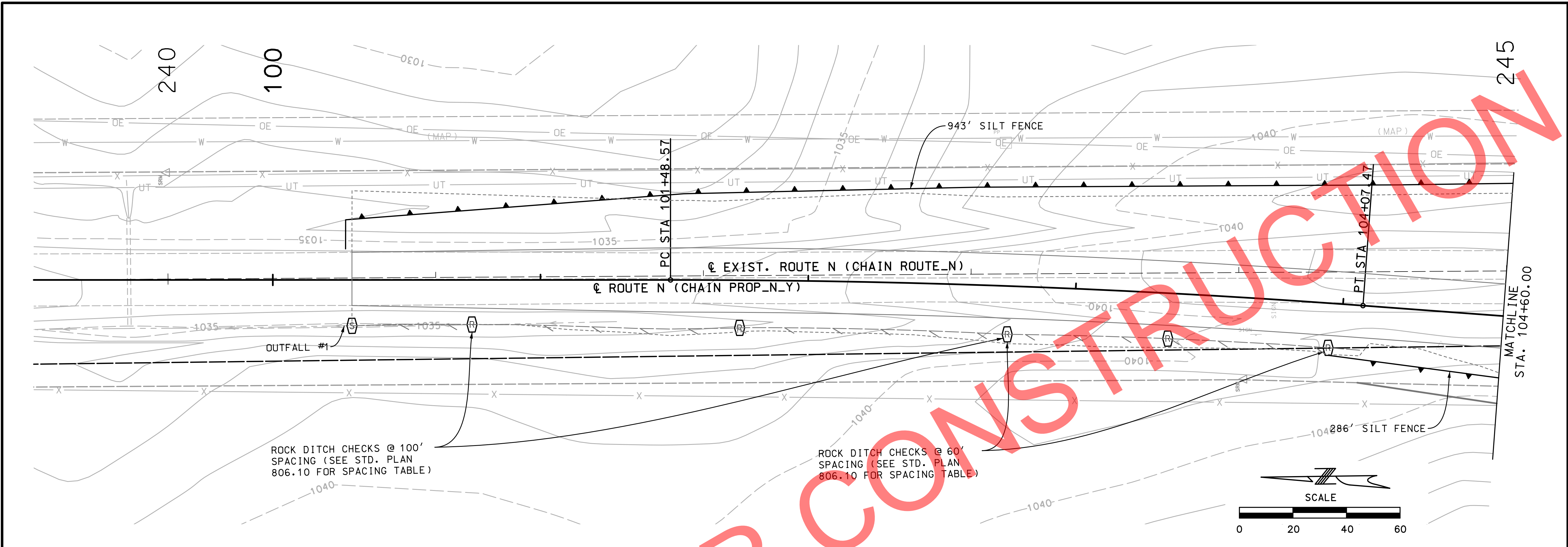


TEMPORARY EROSION CONTROL LEGEND

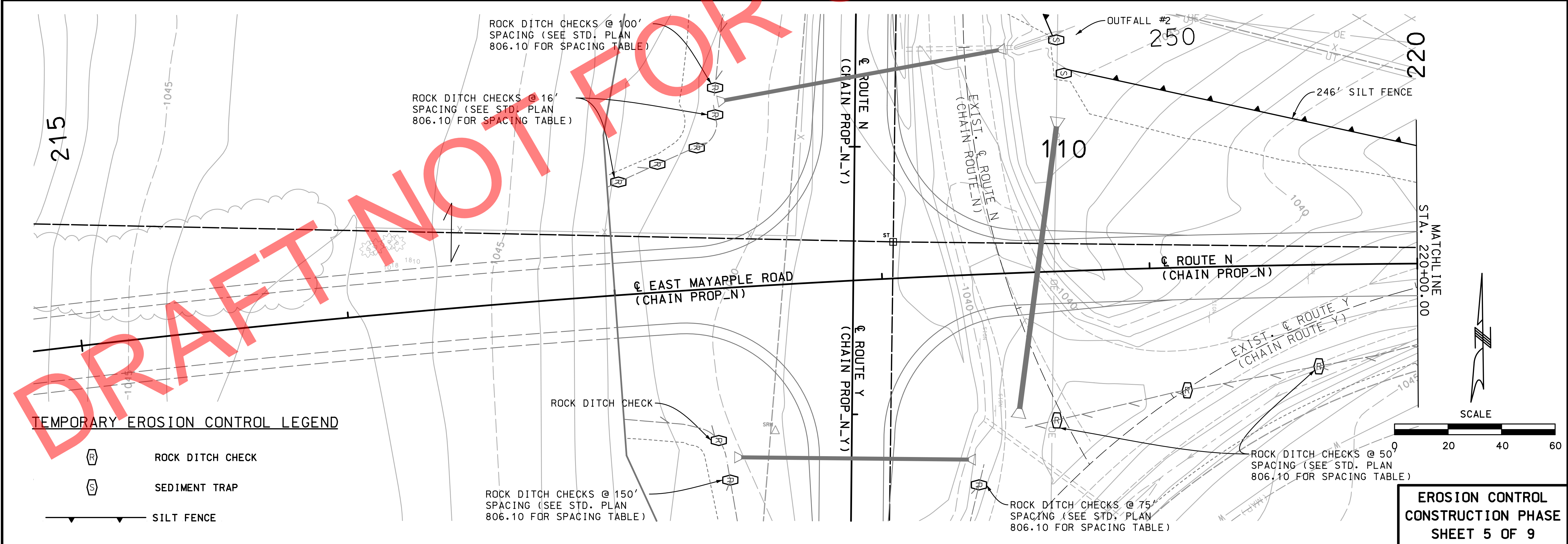
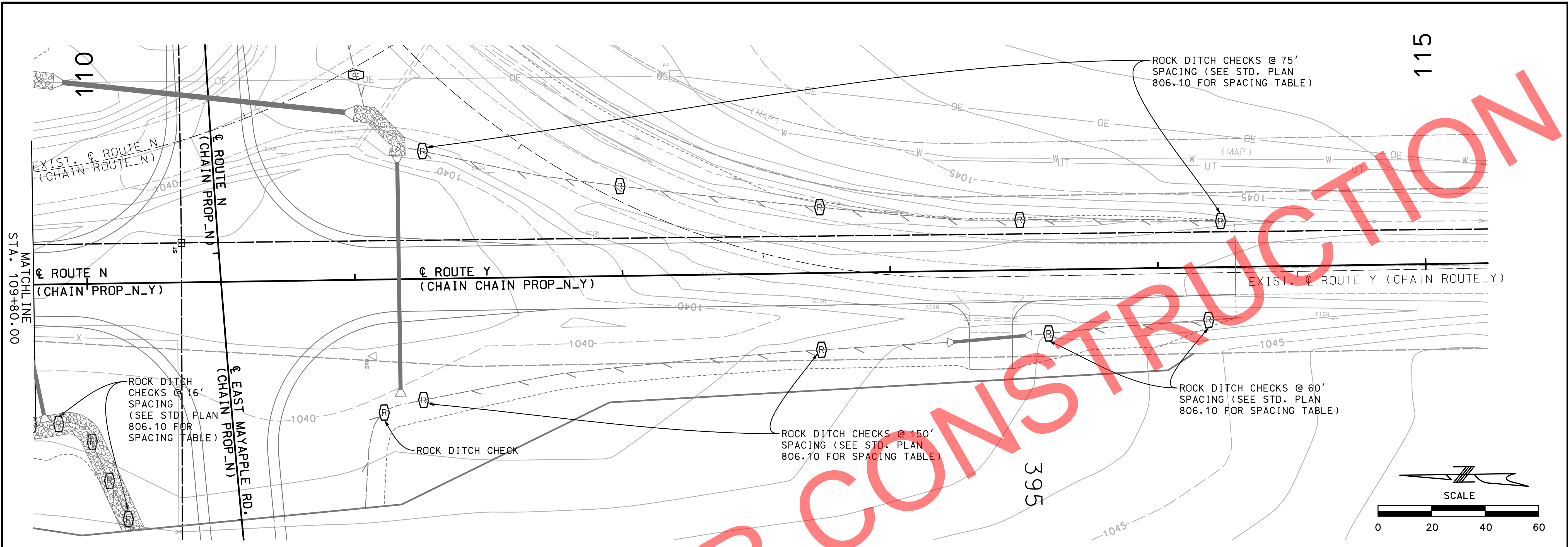
 SEDIMENT TRAP

EROSION CONTROL
INITIAL PHASE
SHEET 3 OF 9

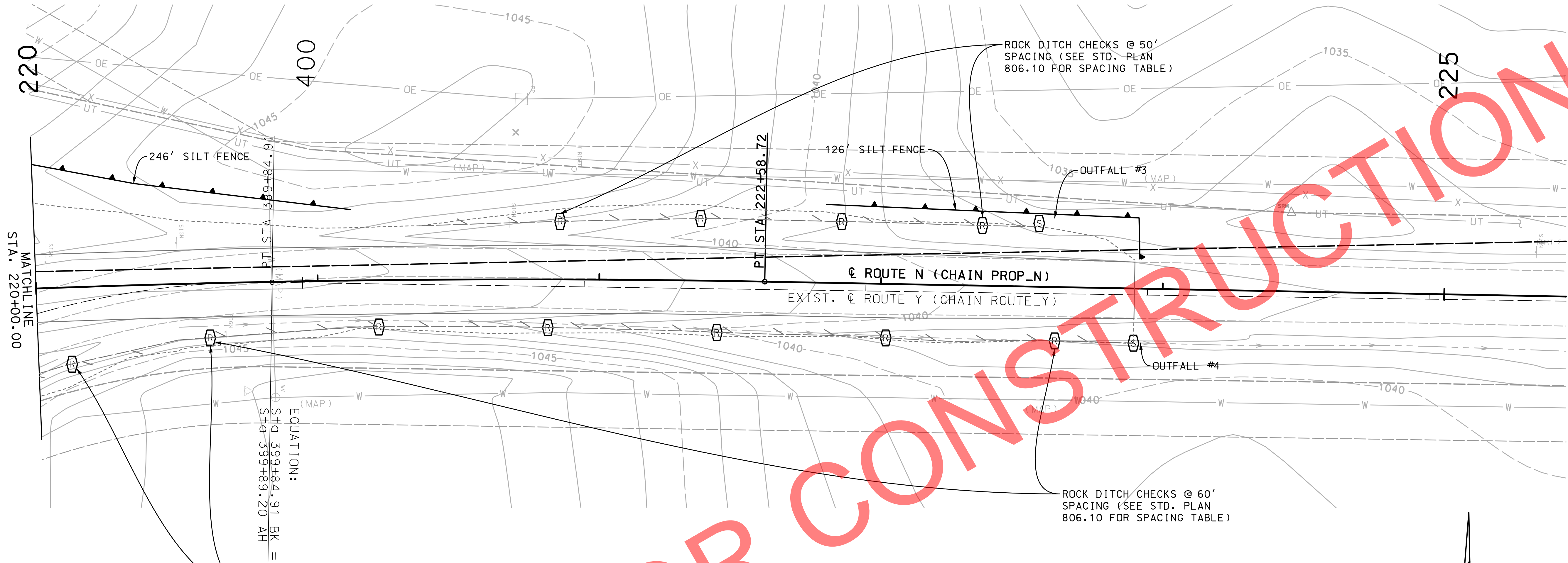
DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.19
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.20
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DATE	DESCRIPTION
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
olsson 1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	EROSION CONTROL CONSTRUCTION PHASE SHEET 4 OF 9



DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.21
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



MATCH LINE
STA. 220+00.00

EQUATION:
PT STA 222+58.72
HY 02+88+66.91 BK =
STG 399+84.91
STG 399+89.20 AH

ROCK DITCH CHECKS @ 50'
SPACING (SEE STD. PLAN
806.10 FOR SPACING TABLE)

ROCK DITCH CHECKS @ 50'
SPACING (SEE STD. PLAN
806.10 FOR SPACING TABLE)

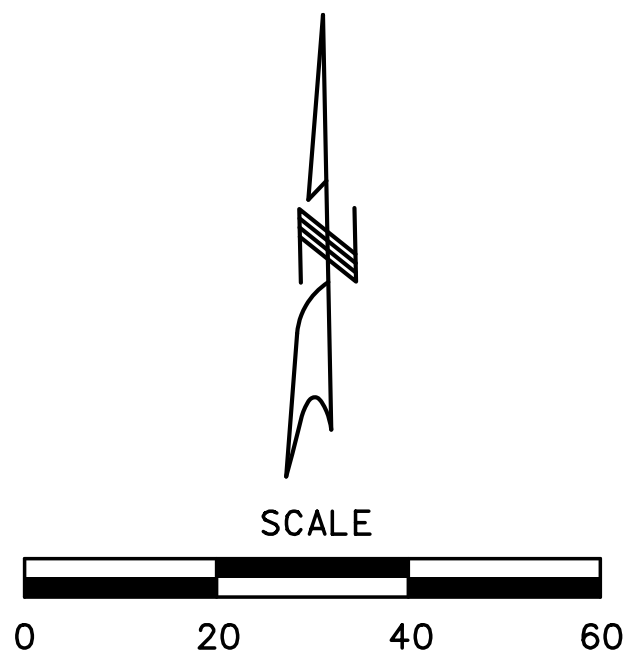
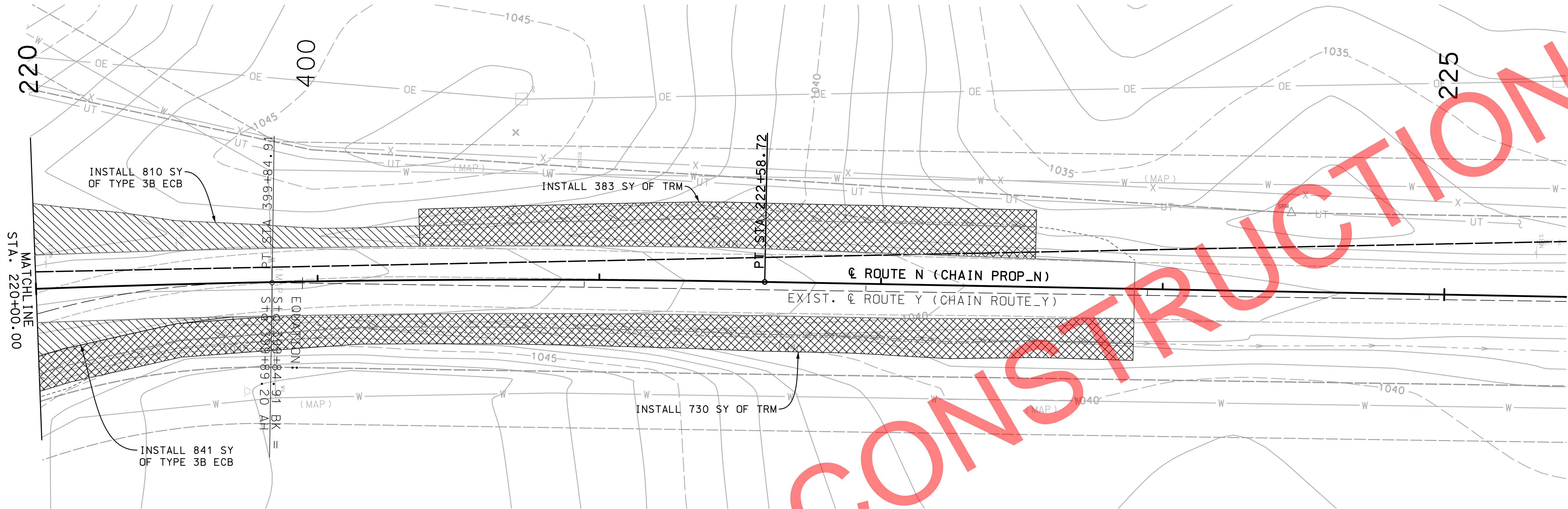
ROCK DITCH CHECKS @ 60'
SPACING (SEE STD. PLAN
806.10 FOR SPACING TABLE)

TEMPORARY EROSION CONTROL LEGEND

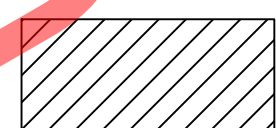
- ROCK DITCH CHECK
- SEDIMENT TRAP
- SILT FENCE

EROSION CONTROL
CONSTRUCTION PHASE
SHEET 6 OF 9

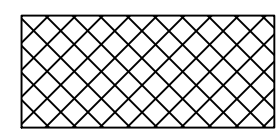
DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.22
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



TEMPORARY EROSION CONTROL LEGEND

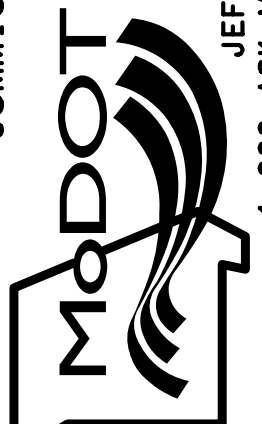



EROSION CONTROL BLANKET



TURF REINFORCEMENT MAT

EROSION CONTROL
FINAL PHASE
SHEET 9 OF 9

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.25
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

SIGNS						PIPE POST *					STRUCTURAL STEEL										U CHANNEL POST	PERFORATED SQUARE STEEL TUBE POST (BASE CONTRACT)														FOOTINGS		REMARKS AND OTHER REQUIRED ITEMS.	EFFECTIVE 12-01-2017	"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."														
902 SIGNAL SIGNS TABULATED ON D-37A SHEET											POSTS *					BACKING BARS 2" X 3/8" BARS @ 2.55 LBS PER LIN FT					TOTAL															BREAK-AWAY ASSEMBLY	EMBD				BOLT DOWN													
SIGN NO.	SIGN SIZE	STATION	HORZ CLEAR IF NOT STD	LOCATION	SIGN DTL. SHT. NO.	PIPE SIZE	POST NO.1	POST NO.2	LBS PER FT	TOTAL ITEM NO. 9031220	POST DES NO.	POST NO.1	POST NO.2	POST NO.3	LBS PER FT	TOTAL	NO. EACH	LGTH IN.	LGTH LF	TOTAL LBS	ITEM NO. 9031210	ITEM NO. 9031250	POST NO.1	POST NO.2	TOTAL ITEM NO. 9031270A	ANCHOR 7 GA. ITEM NO. 9031273	OMNI 7 GA. ITEM NO. 9031279	ANCHOR 12 GA. ITEM NO. 9031271	OMNI 12 GA. ITEM NO. 9031278	POST NO.1	POST NO.2	TOTAL ITEM NO. 9031280	2.25" INSERT ITEM NO. 9031272	ANCHOR 7 GA. ITEM NO. 9031281	OMNI 7 GA. ITEM NO. 9031282	ITEM NO. 9031241	ITEM NO. 9031010				ITEM NO. 9031020													
						IN.	LF	LF				LF	LF	LF								LF		LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF				LF	LF												
1	ASSY	107+97		RTE N RT																			16		16				3																									
2	ASSY	109+97		RTE N RT																			16		16				3																									
3	ASSY	217+35		RTE N RT																			16		16				3																									
4	24"x24"	112+00		RTE Y RT																			16		16				3																									
5	24"x36"	114+00		RTE Y RT																			16		16				3																									
6	24"x36"	107+00		RTE N LT																			16		16				3																									
7	ASSY	218+42		RTE N LT																			16		16				3																									
8	ASSY	220+42		RTE N LT																			16		16				3																									
9	36"x36"	105+97		RTE N RT																			16		16				3																									
10	24"x36"	222+00		RTE N RT																			16		16				3																									
11	24"x24"	212+00		RTE N RT																			16		16				3																									
12	ASSY	110+97		RTE Y LT																			16		16				3																									
13	ASSY	113+00		RTE Y LT																			16		16				3																									
14	36"x36"	222+42		RTE N LT																			16		16				3																									
15	36"x36"	115+00		RTE Y LT																			16		16				3																									
SUBTOTAL																							240																45															
TOTAL																							240																45															
* BREAKAWAY ASSEMBLY IS INCIDENTAL FOR PIPE AND STRUCTURAL STEEL POSTS																																																						

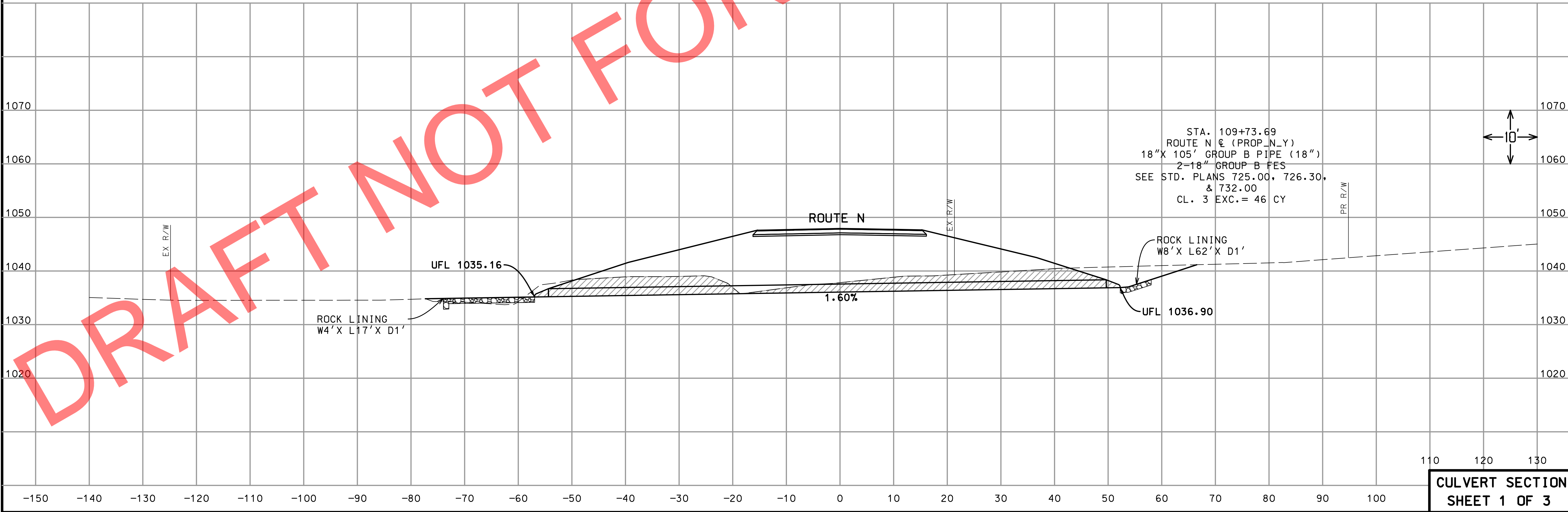
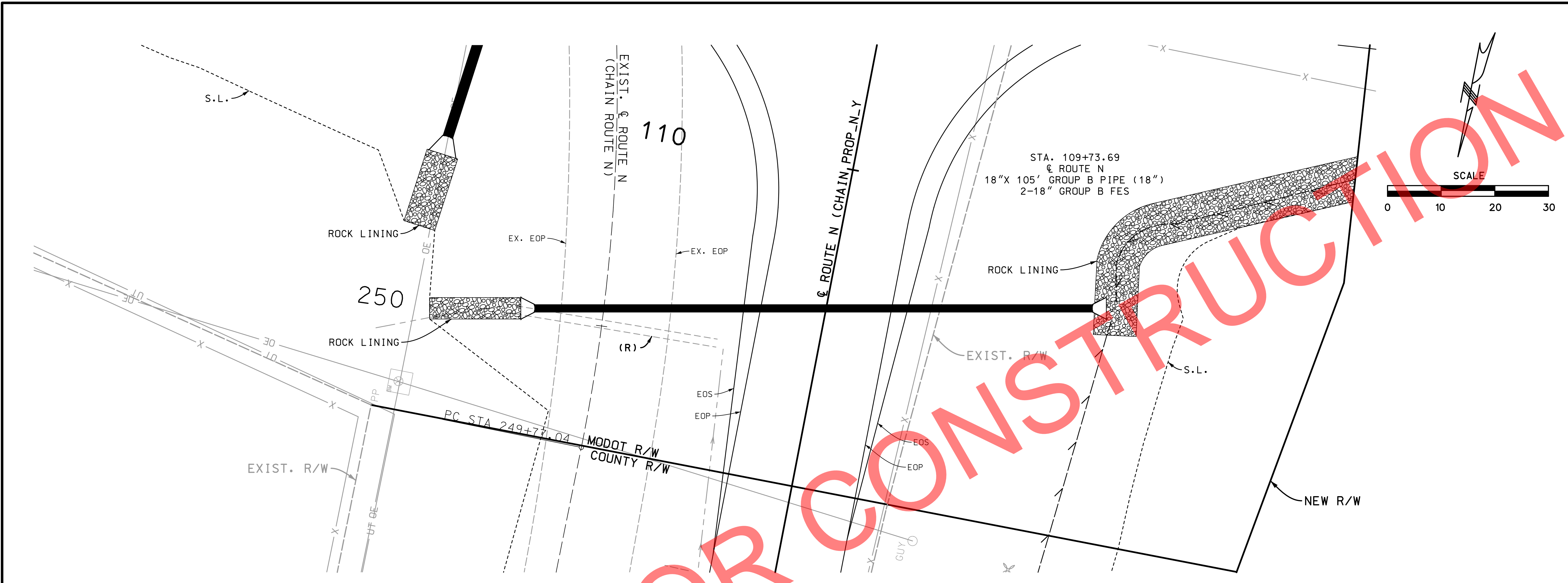
ROUND PIPE POST AND FOOTING DATA TABLE									
NOM. SIZE		WEIGHT		STUB LENGTH		FOOTING		CONCRETE	
(IN.)	LBS/FT	LBS/IN		DIA.	DEPTH		C.Y.		C.Y.
2 1/2	5.79	0.48	4'- 3 1/2"	12"	4'-6"		0.13		
3	7.58	0.63	4'- 3 1/2"	12"	4'-6"		0.13		
4	10.79	0.90	5'- 3 1/2"	18"	5'-6"		0.36		

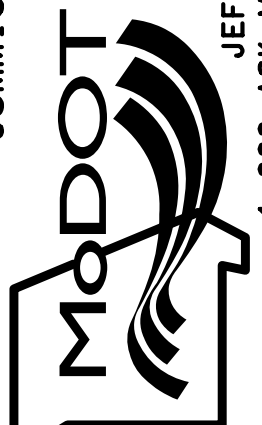

POST AND FOOTING DATA TABLE											
POST		WEIGHT		STUB LENGTH		DIA.		LEVEL GROUND		FOOTING	
POST DES. NO.	NOM. SIZE	LBS/FT	LBS/IN					DEPTH	C.Y.	6:1 GRADE	4:1 GRADE
1	W6	9.0	0.75	3'-0"	15"	3'-0"	0.14	3'-2"	0.15	3'-3"	0.16
2	W6	15.0	1.25	4'-0"	24"	4'-0"	0.47	4'-2"	0.50	4'-3"	0.51
3	W8	18.0	1.50	4'-6"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

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

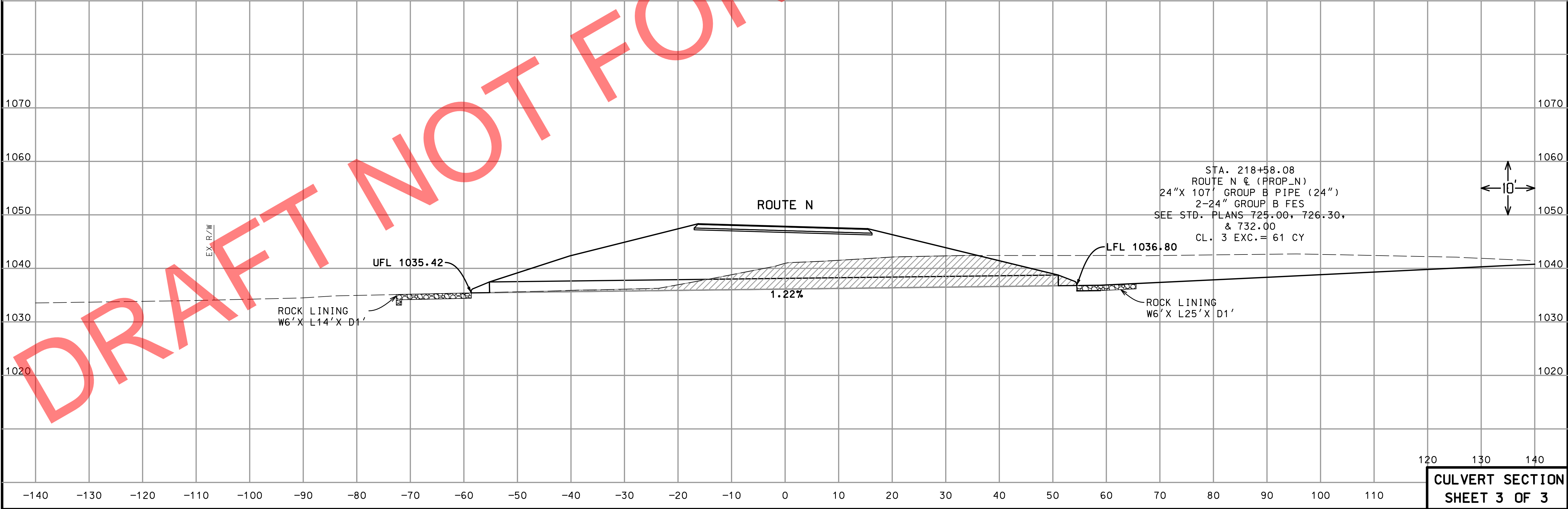
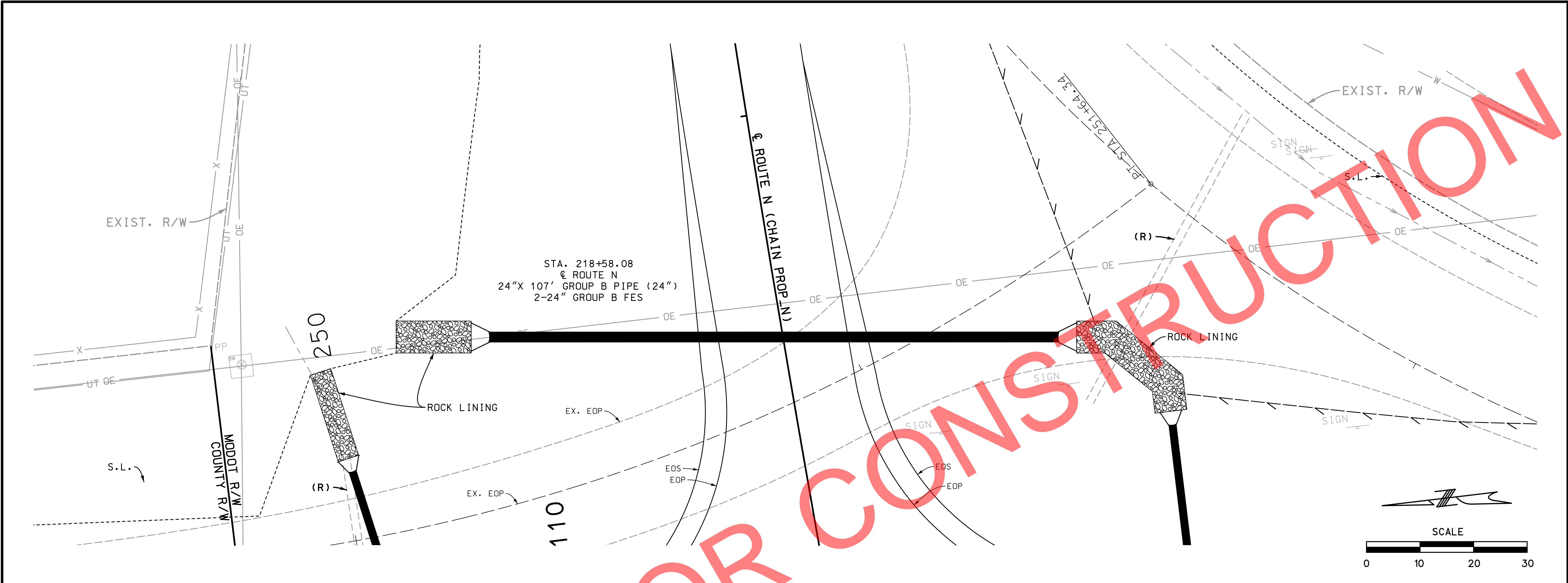
D-29

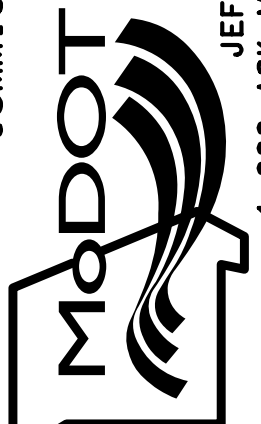

STANDARD SIGN ASSEMBLIES														SIGN SUMMARY (BASE CONTRACT)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
SIGN NUMBER	STATION	LOCATION	TYPE											STANDARD SIGN OR SPECIAL SIGN NUMBER	SIGN DETAIL SHEET NO.	NO. EACH	SIZE, TYPE & SQUARE FEET																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			R1-1 36"	R2-1 24"x36"	R2-1 24"x36"	M6-1 21"x15"	M6-6L 21"x15"	M1-5g 24"x24"	R1-3P 30"x12"	W3-1 36"x36"							SIZE	FLAT SHEET SH ITEM NO. 9035004A	FLAT SHEET FLUORESCENT SHF * ITEM NO. 9035069A	STRUCTURAL ST ITEM NO. 9035011A	STRUCTURAL FLUORESCENT STF * ITEM NO. 9035071A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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			STOP	SPEED LIMIT 40	SPEED LIMIT 55	←	→	N	ALL WAY	↑																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.28
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

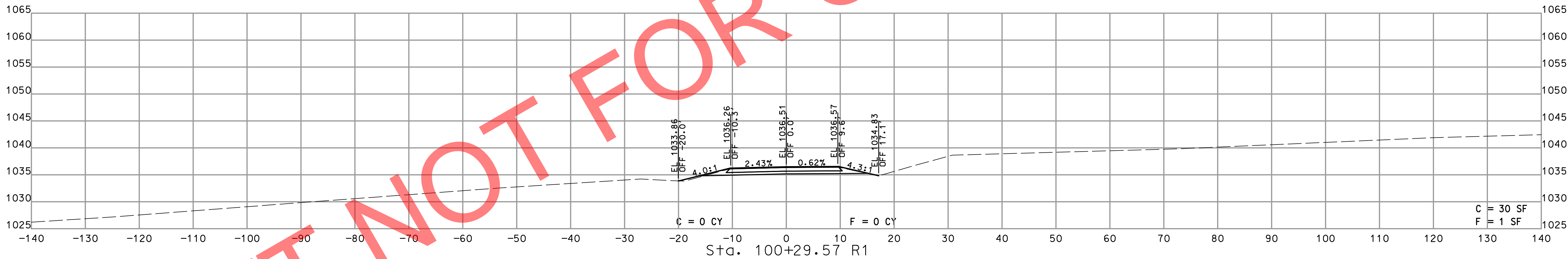
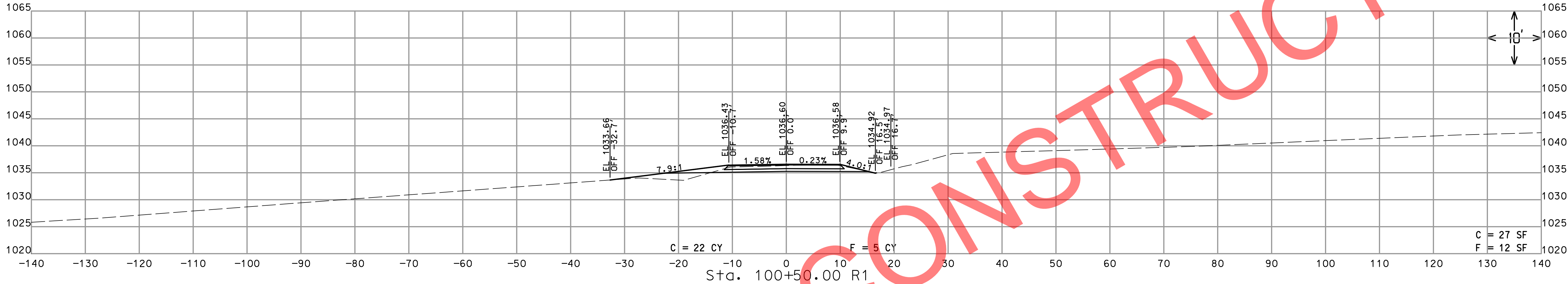
CULVERT SECTION
SHEET 1 OF 3



DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.30
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

NOTES:

1. PAVEMENT, SHOULDER, CURB, & SIDEWALK ELEVATIONS ARE APPROXIMATE. CONTRACTOR SHALL ADJUST TO MATCH EXISTING CONDITIONS AND MAINTAIN DESIGNED CROSS SLOPES.
2. TIE-DOWN POINT OFFSETS & ELEVATIONS ARE APPROXIMATE. CONTRACTOR SHALL ADJUST TO MATCH EXISTING CONDITIONS AND MAINTAIN DESIGNED CUT OR FILL SLOPES AND DITCH ELEVATIONS.



STA. 100+29.57 R1 TO STA. 100+50.00 R1

DATE PREPARED
2/7/2022

ROUTE
N

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

STATE
MO

SHEET NO.
A4.1

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

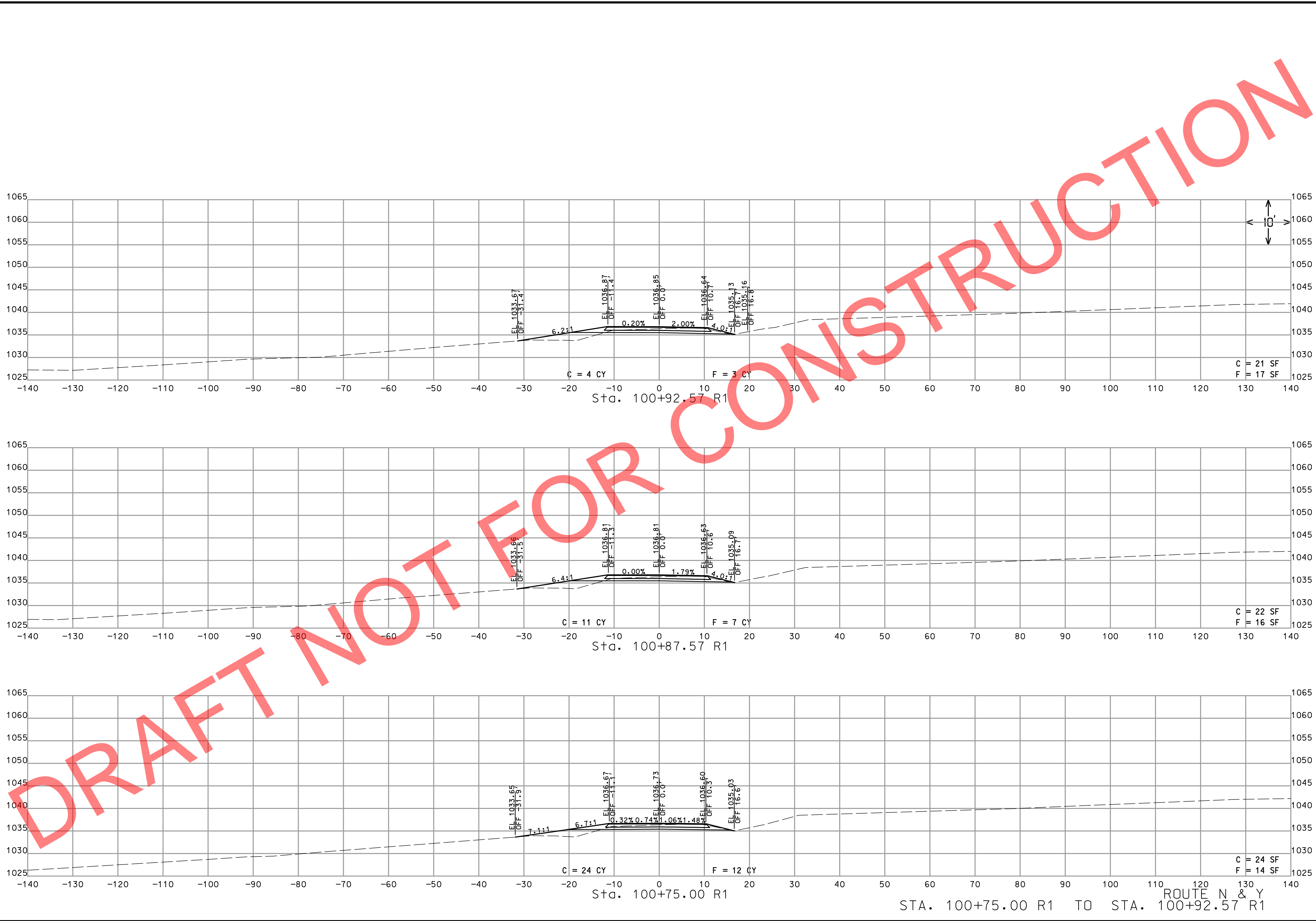
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

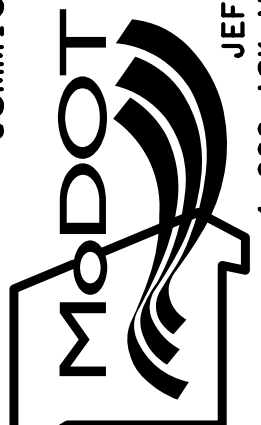

105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

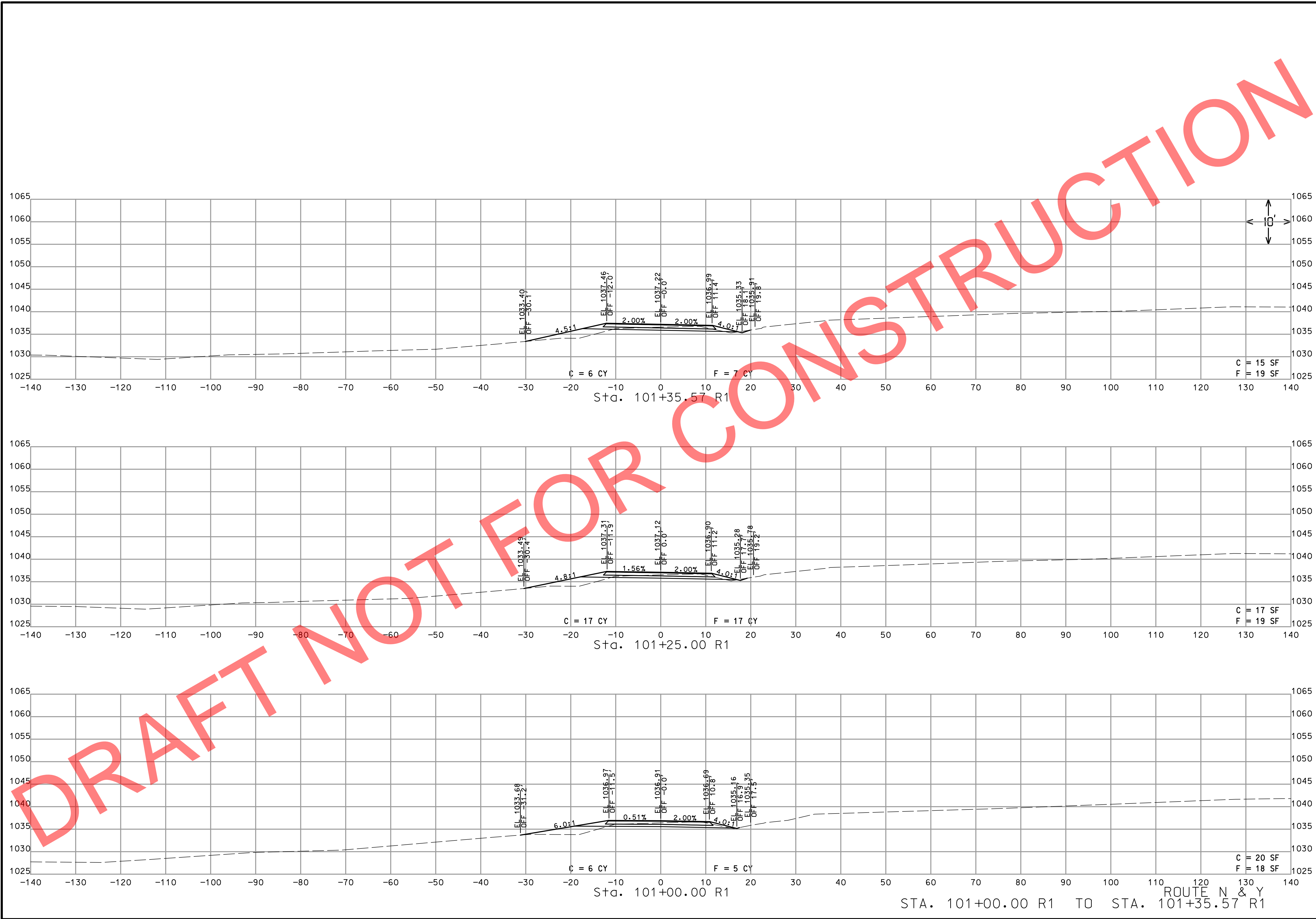
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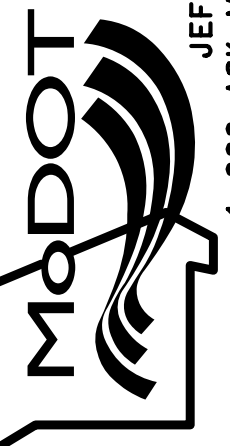
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

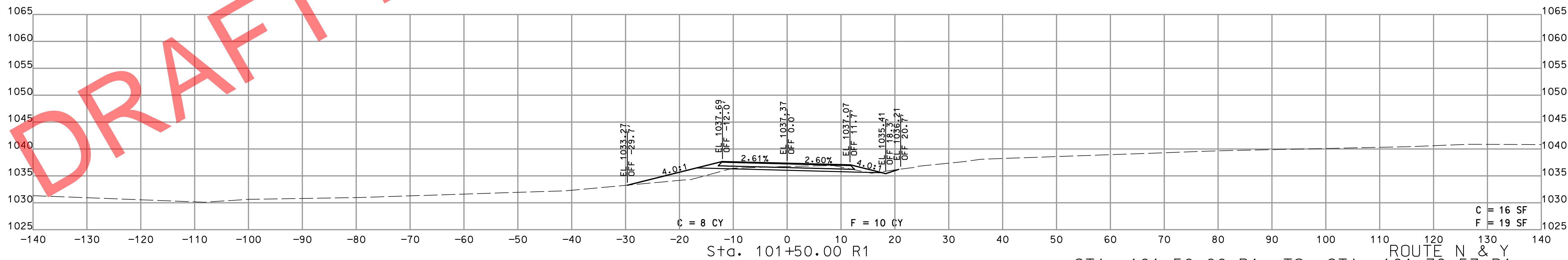
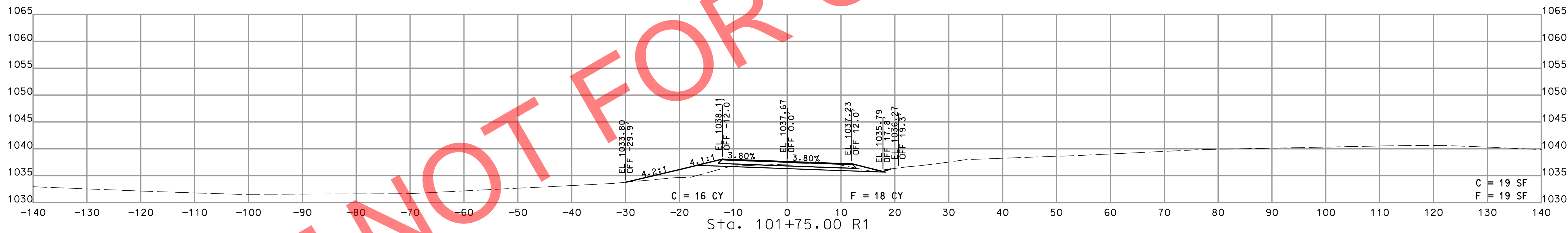
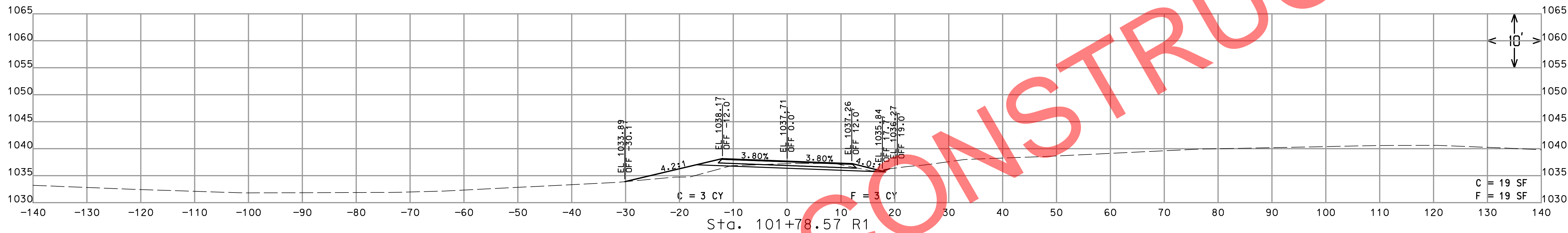
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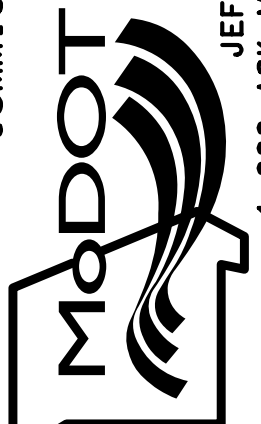

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.2
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

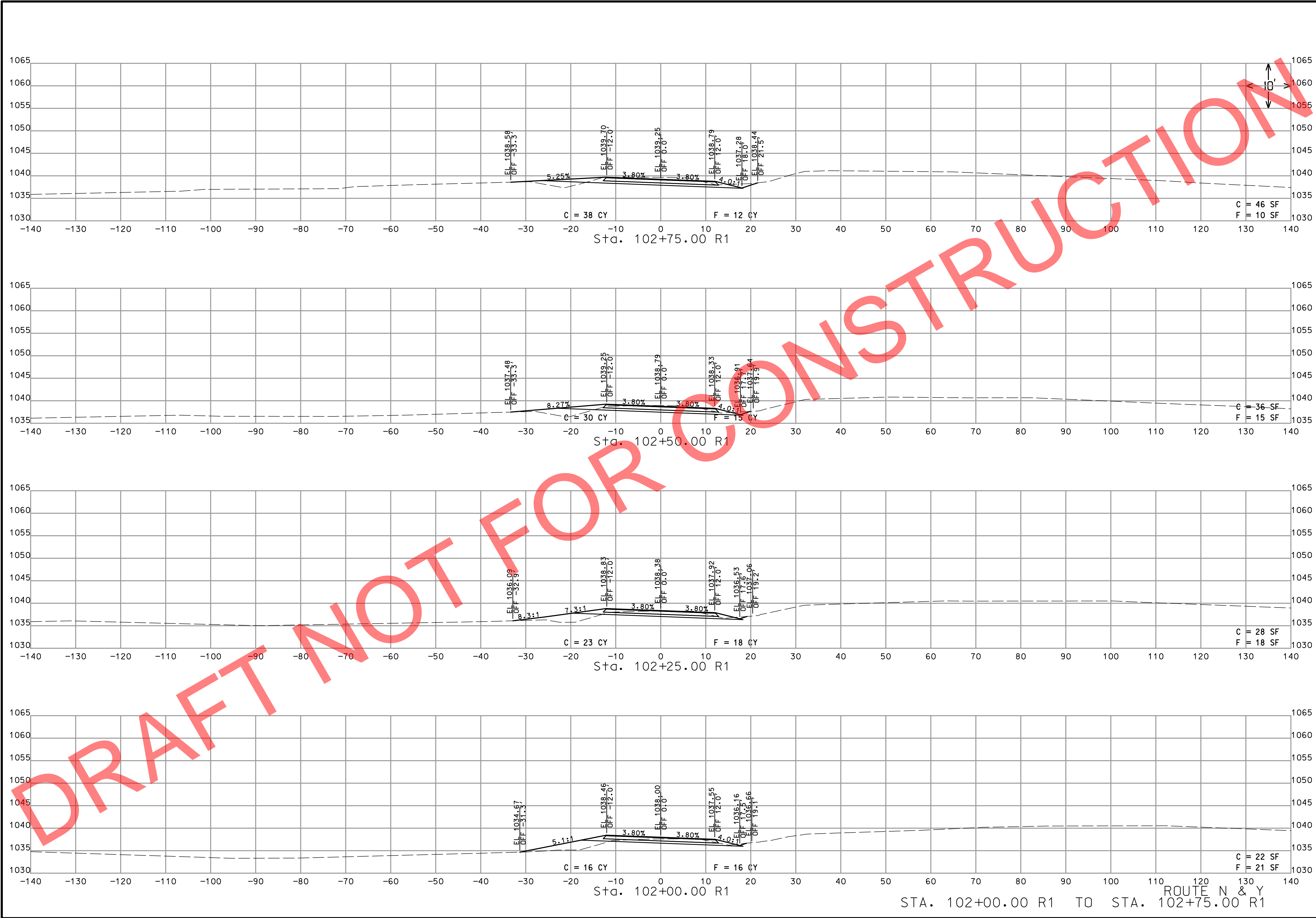


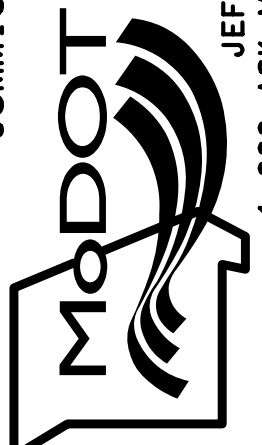
DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.3
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

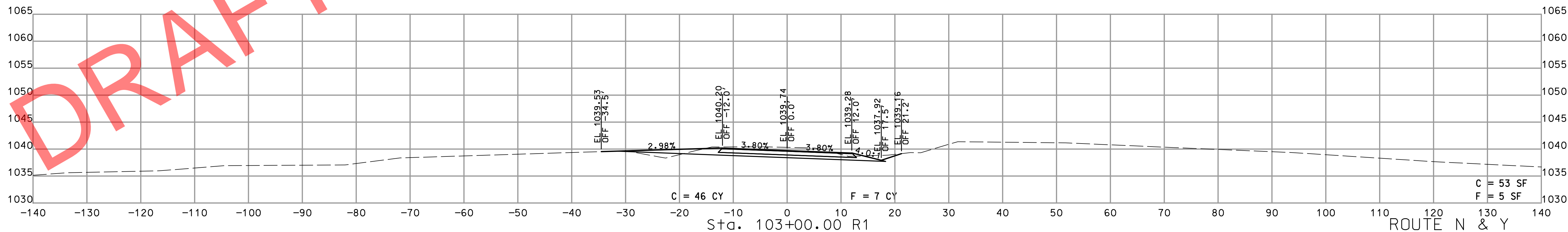
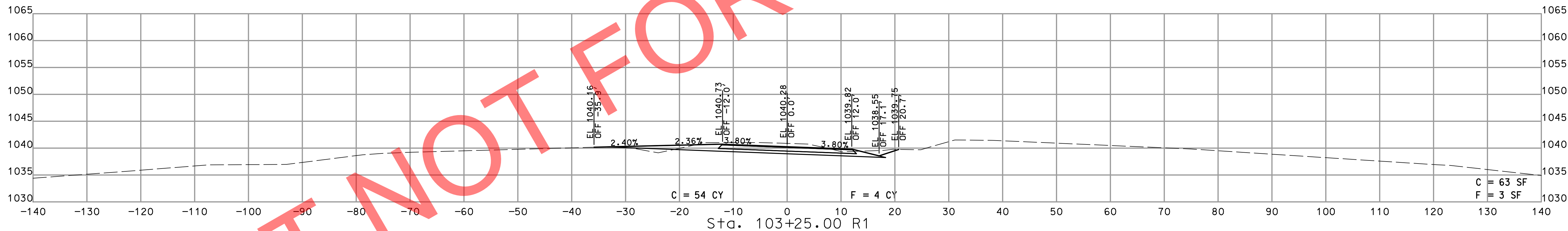
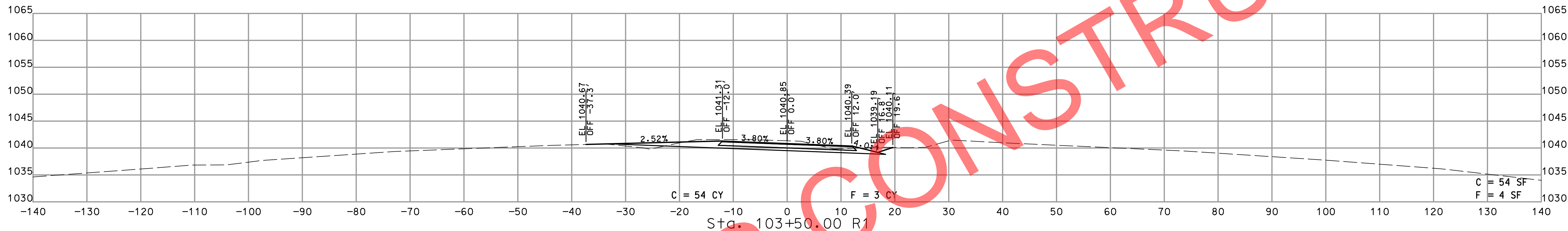
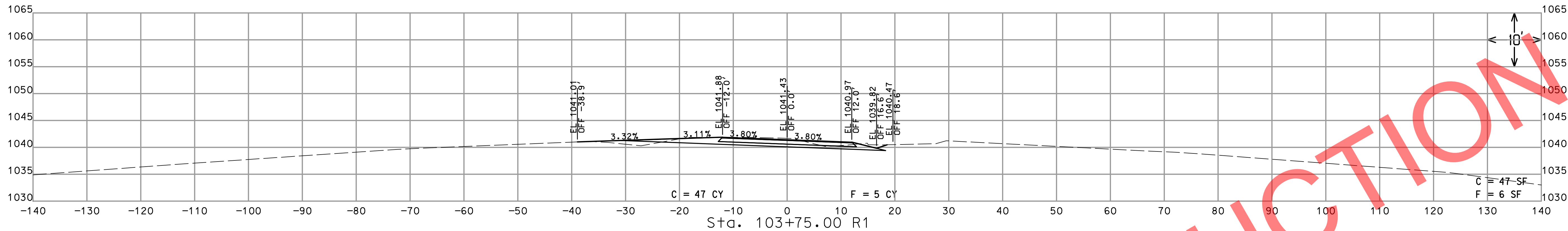


STA. 101+50.00 R1 TO STA. 101+78.57 R1

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.4
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

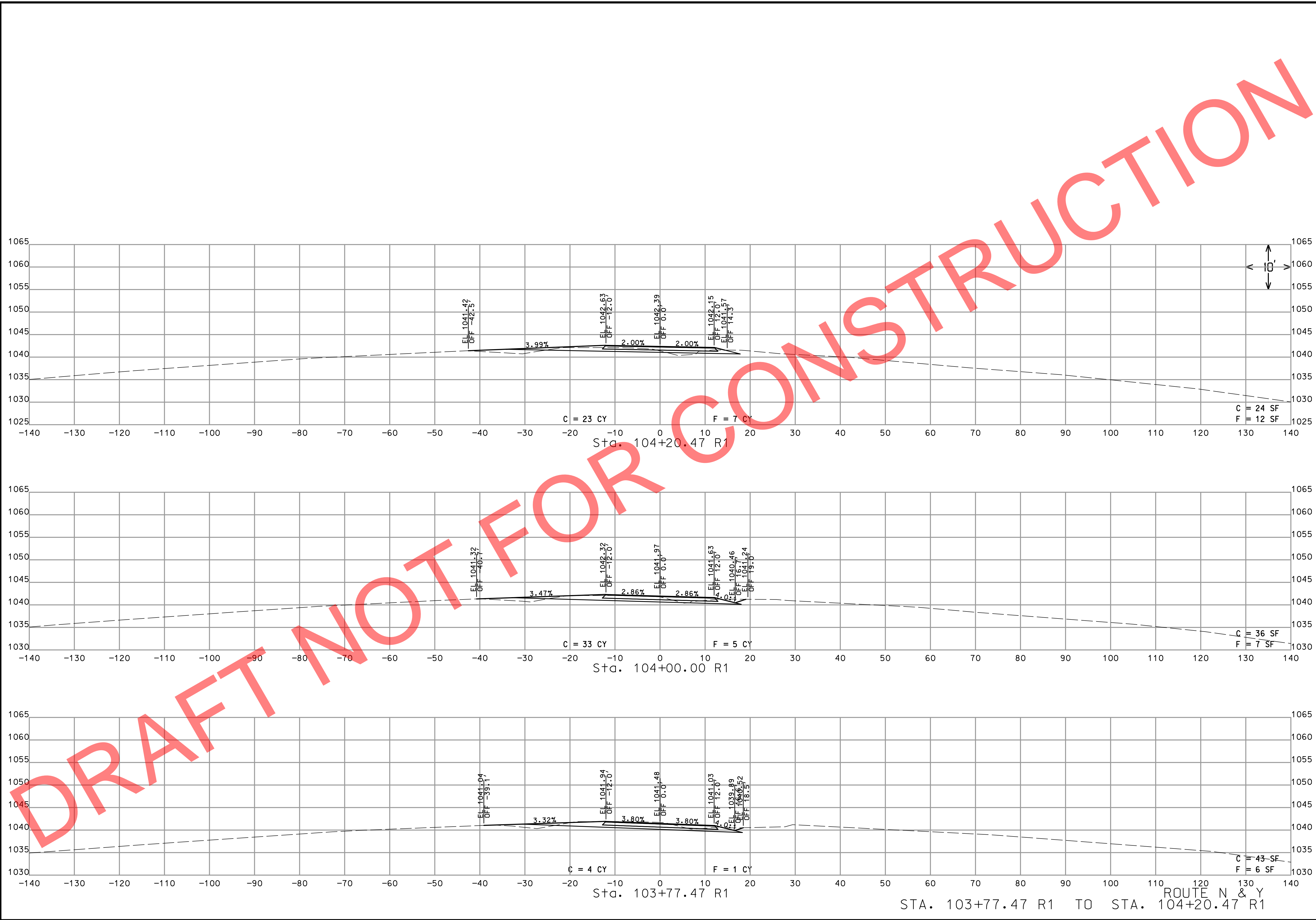


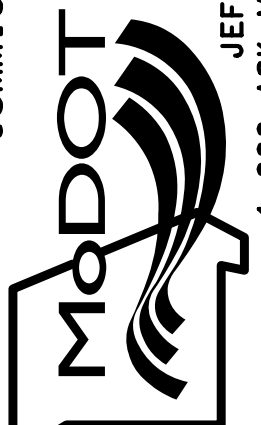

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.5
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

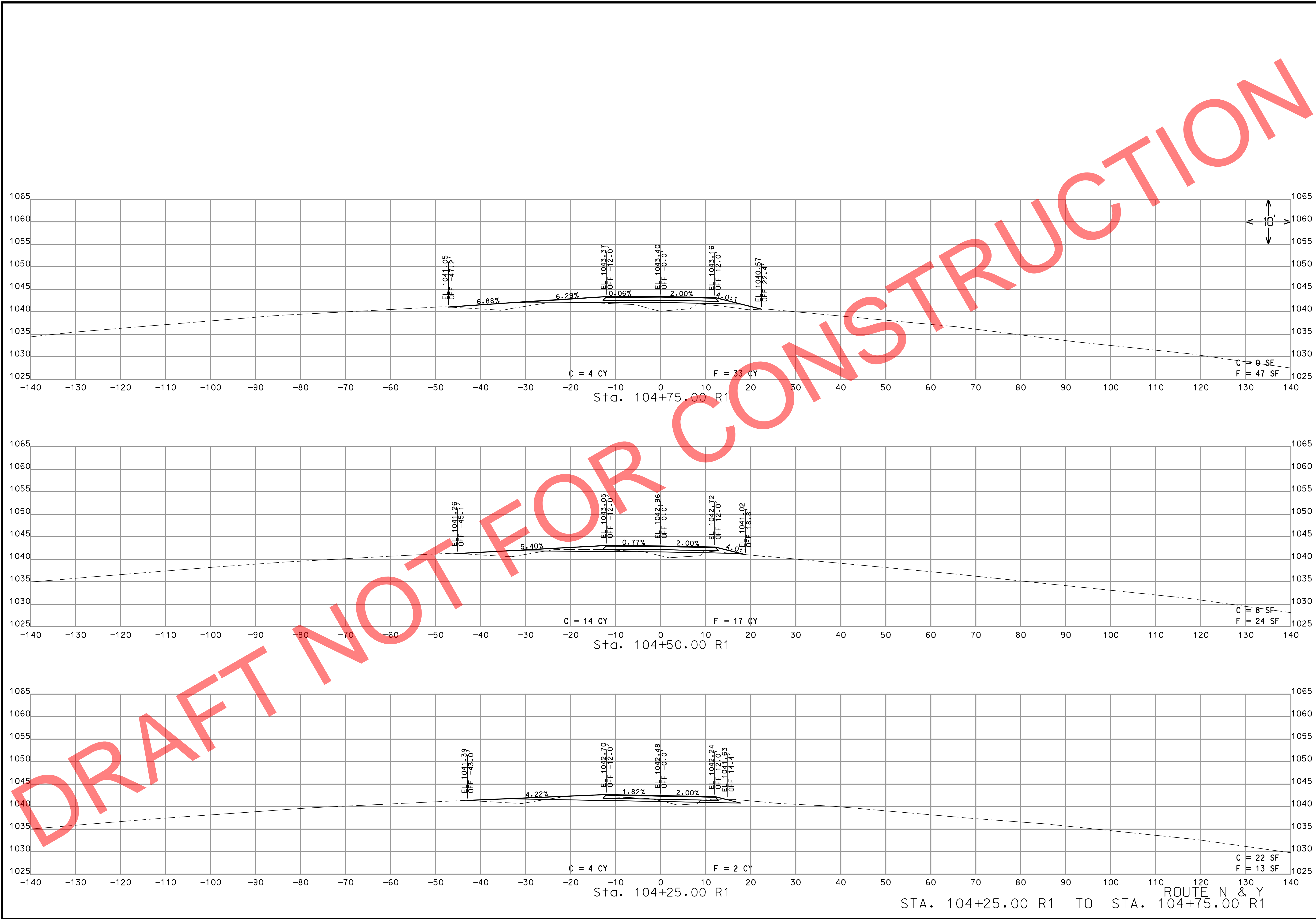


STA. 103+00.00 R1 TO STA. 103+75.00 R1

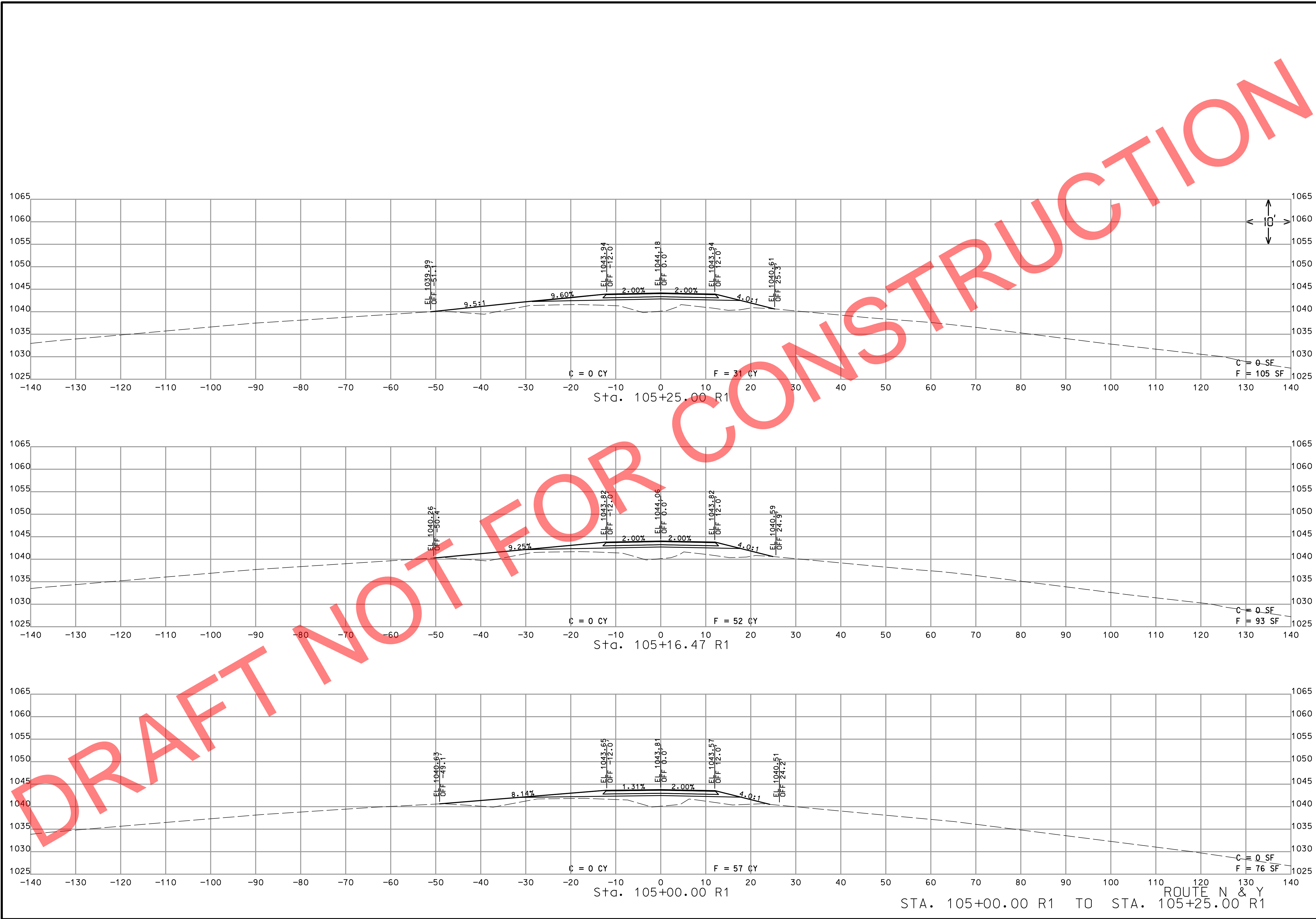
DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.6
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

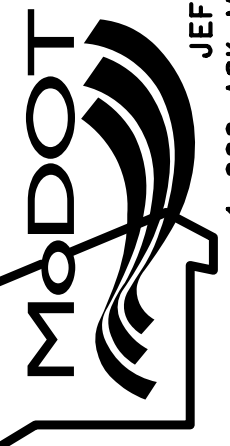


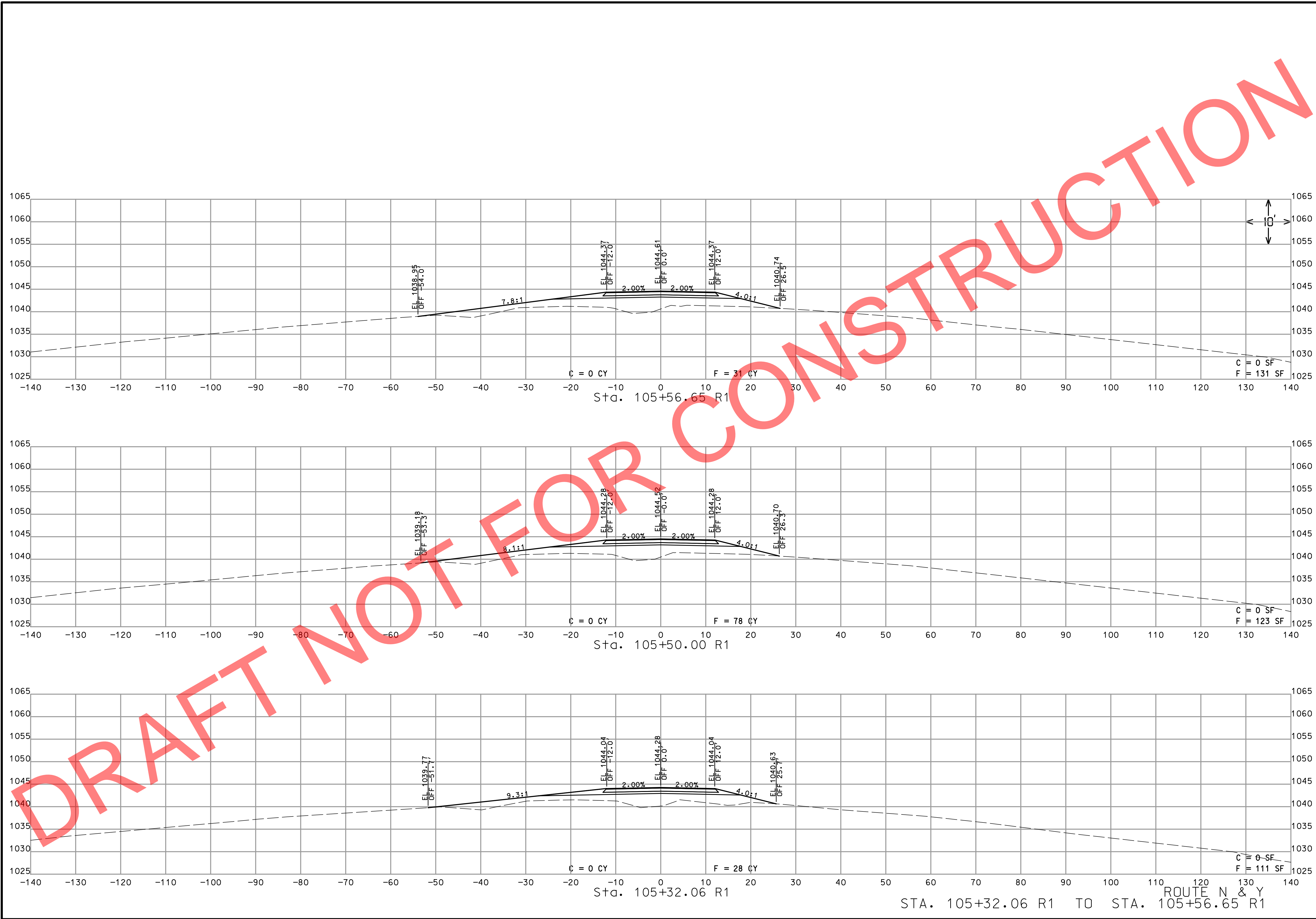
DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.7
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



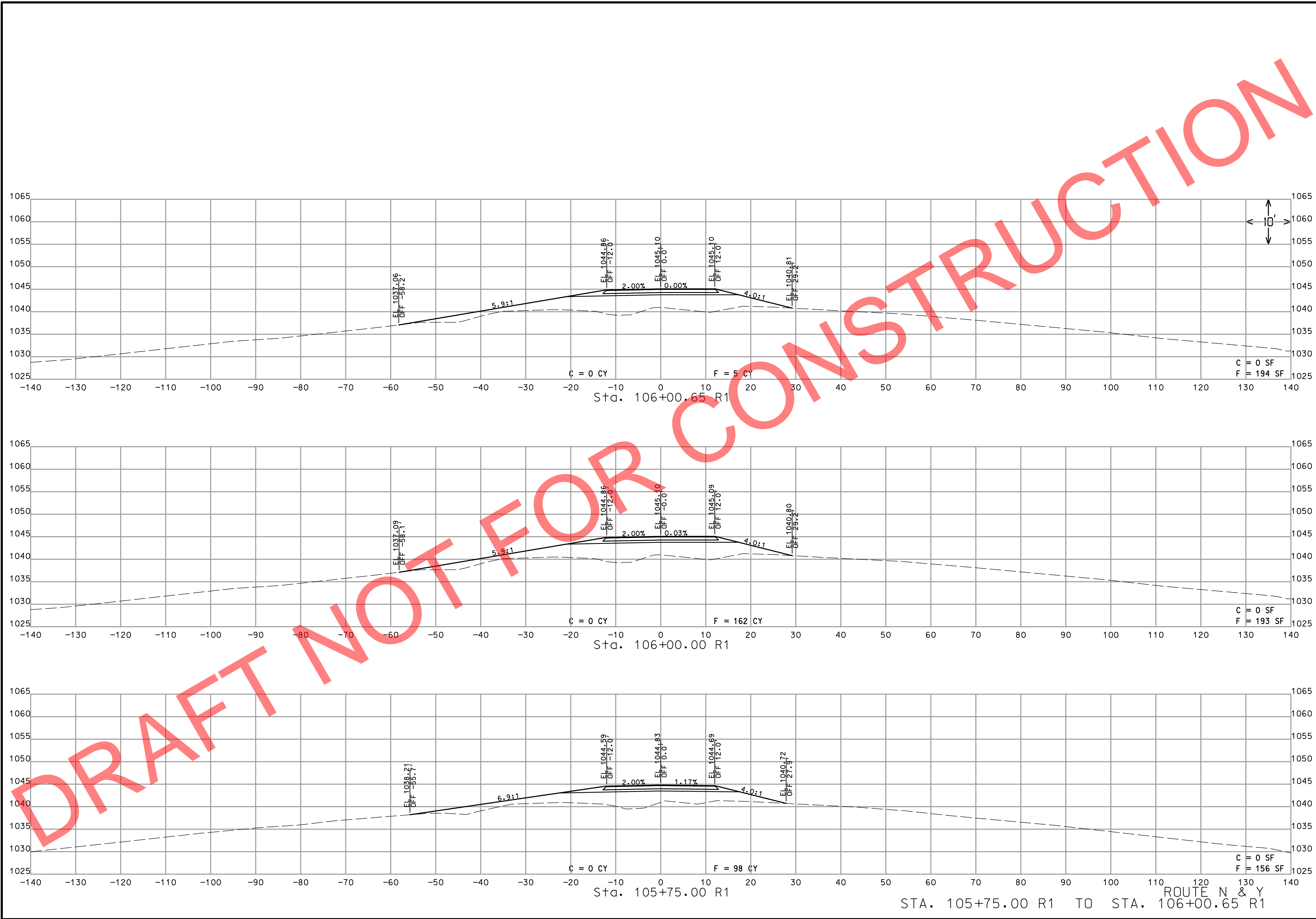
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ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.8
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

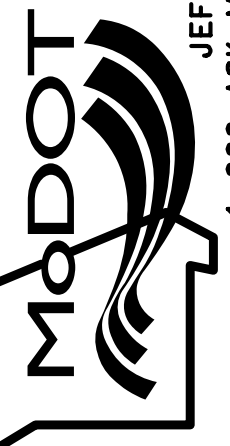


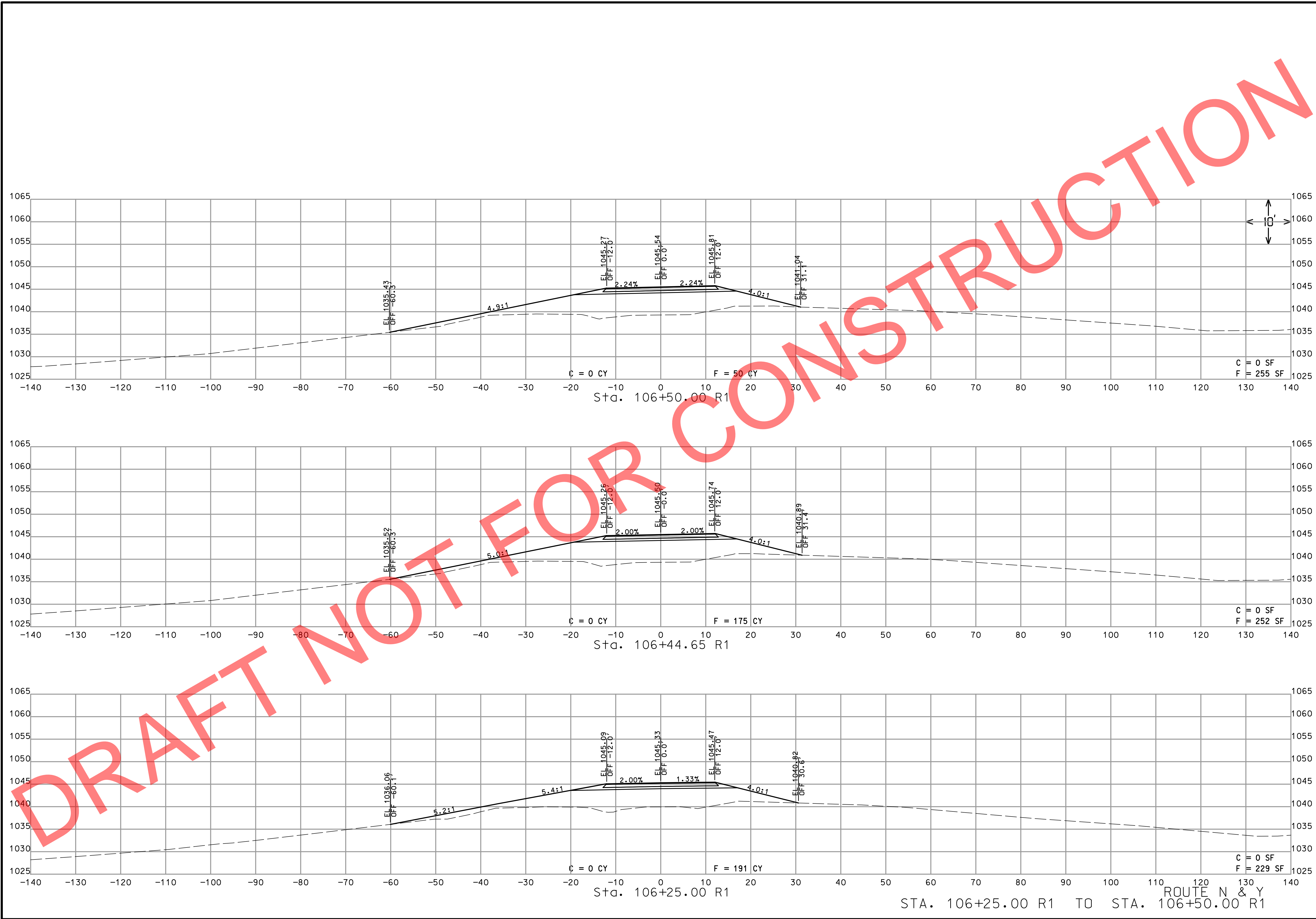
DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.9
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



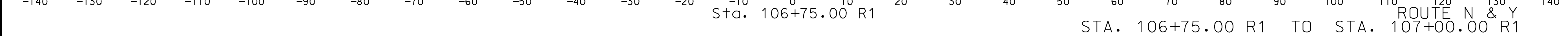
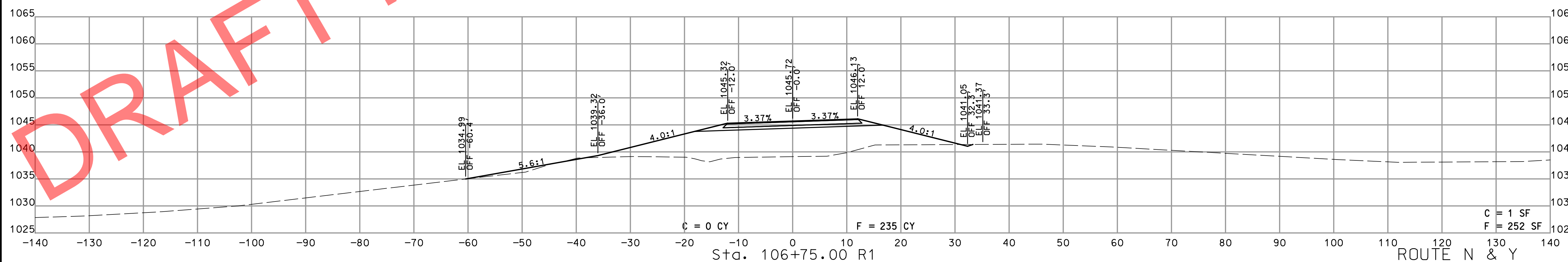
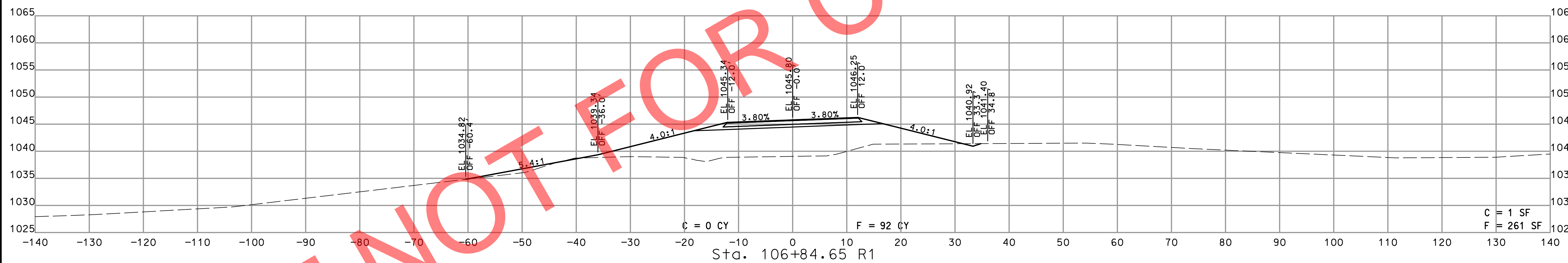
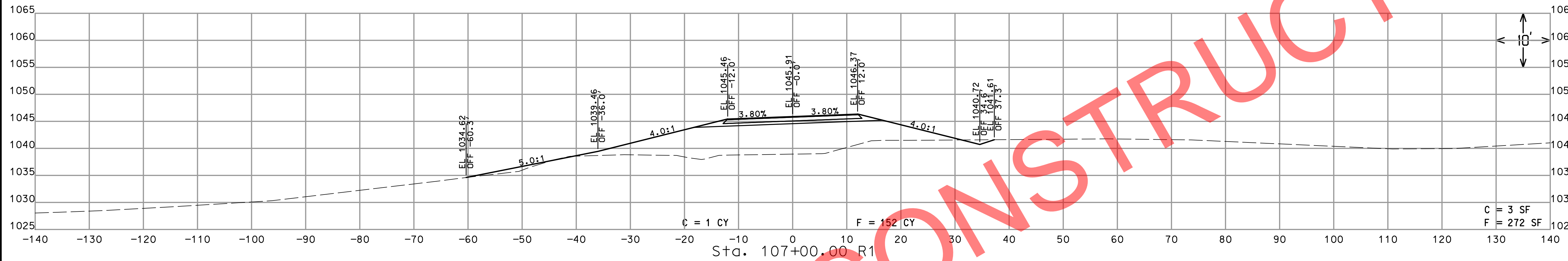
DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.10
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.11
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.12
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

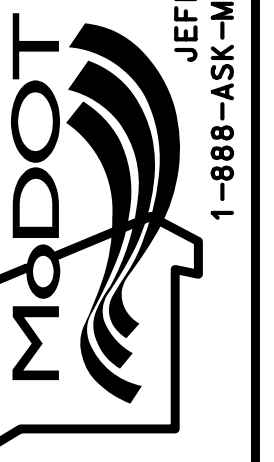


STA. 106+75.00 R1 TO STA. 107+00.00 R1

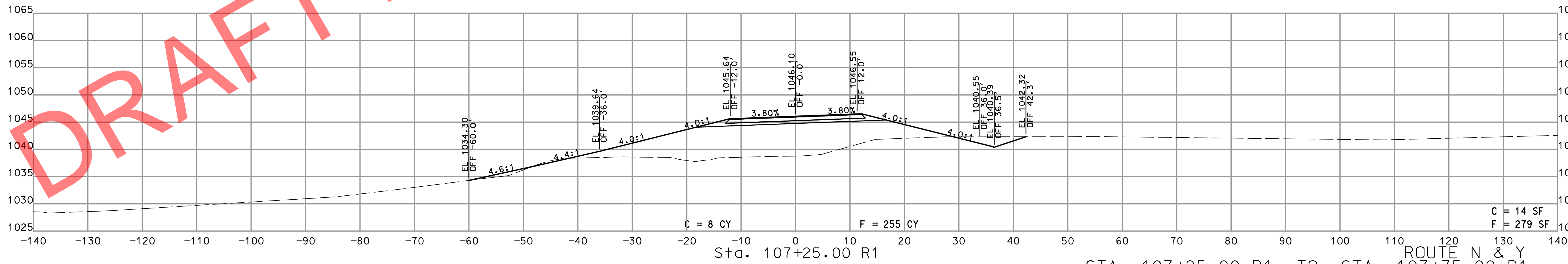
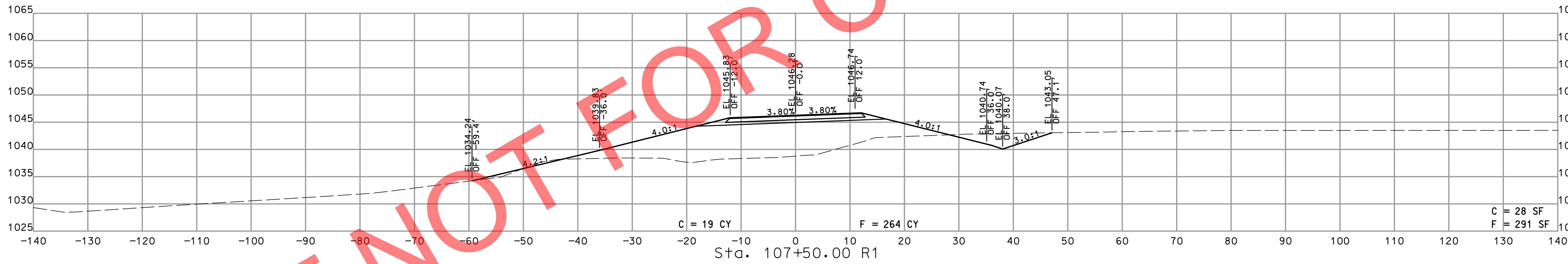
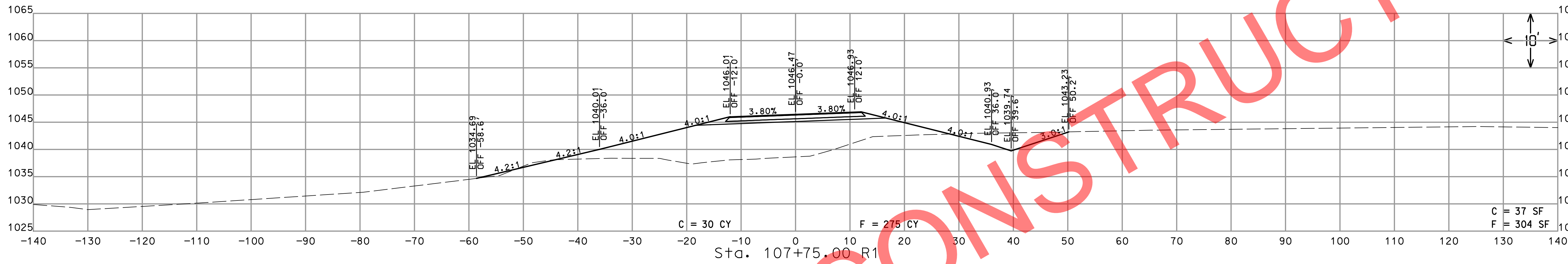
DATE PREPARED	
2/7/2022	
ROUTE	STATE
N	MO
DISTRICT	SHEET NO.
NW	A4.13
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	

PROJECT NO.

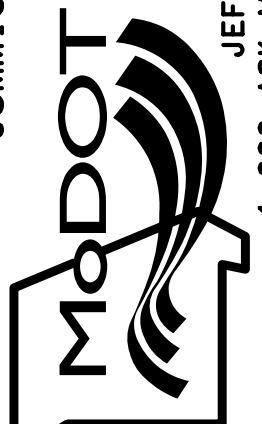
BRIDGE NO.

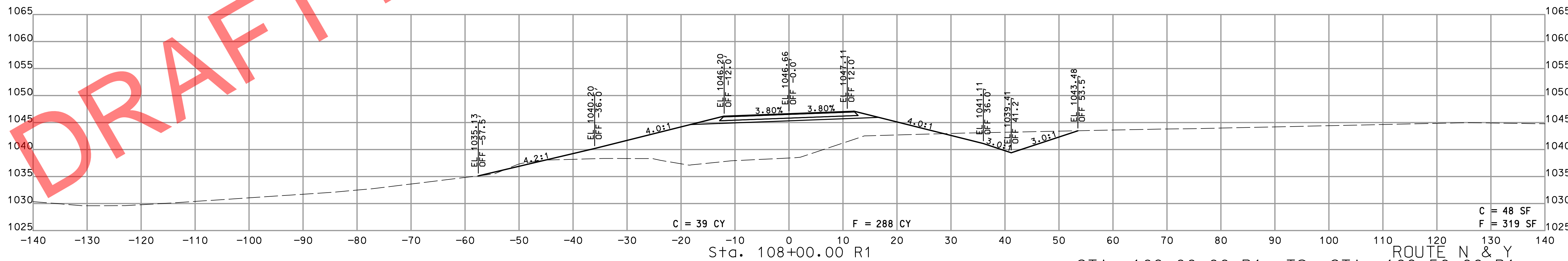
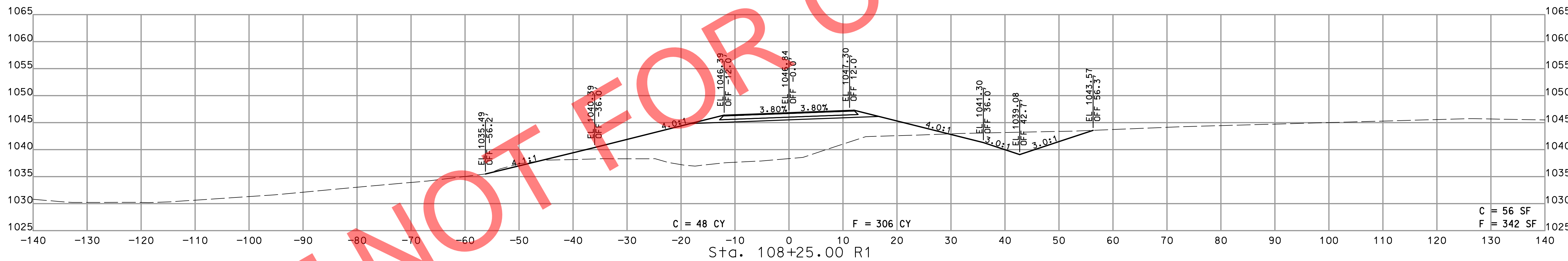
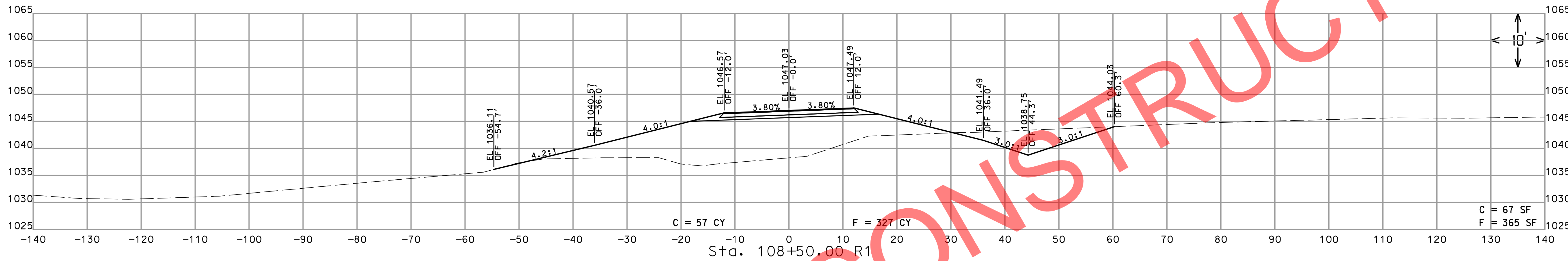
[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

Olsson
 1400 WASHINGTON STREET, STE.
 1000, KANSAS CITY, MO 64101
 CERTIFICATE OF
 AUTHORITY NO. 001592

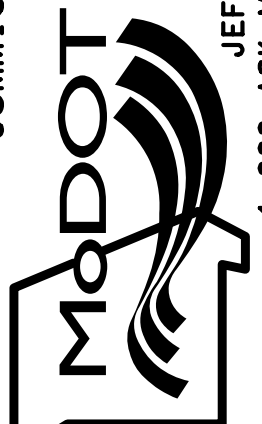


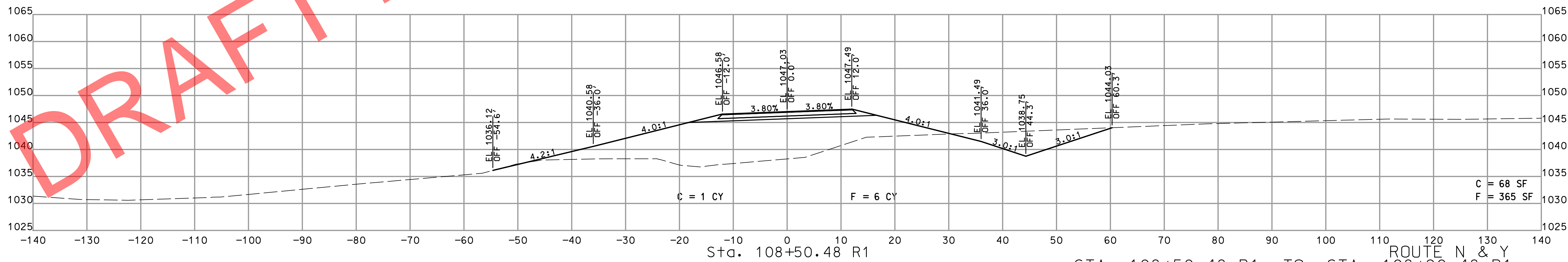
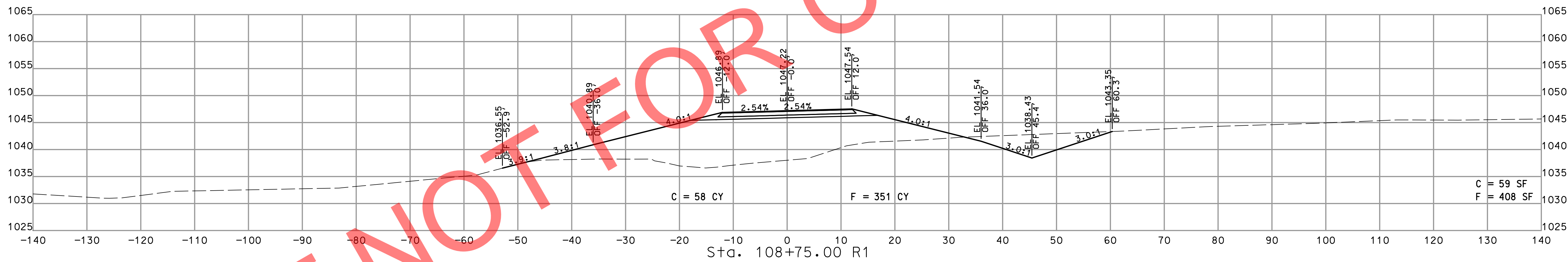
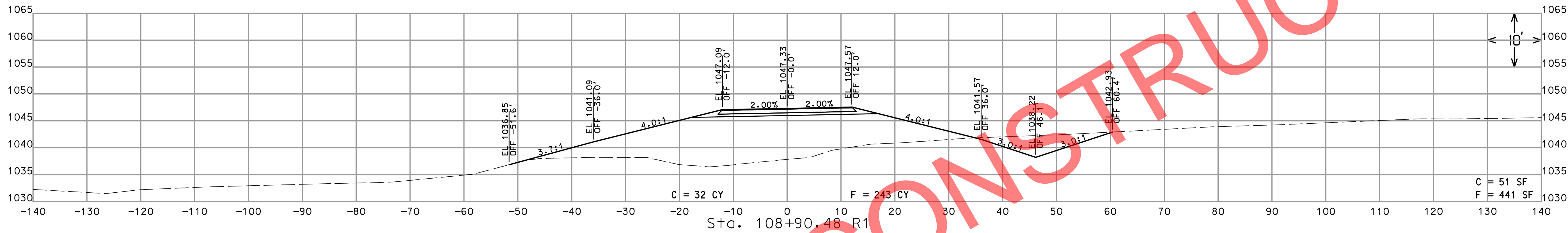
STA. 107+25.00 R1 TO STA. 107+75.00 R1

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.14
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

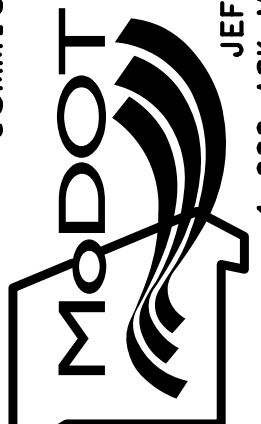



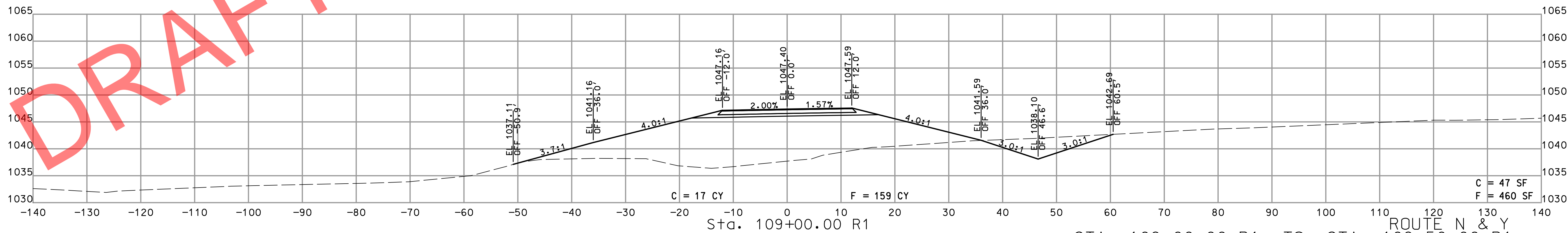
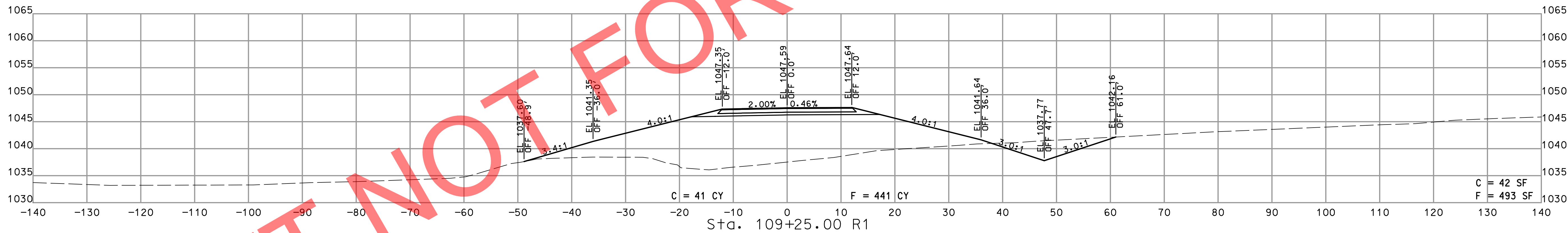
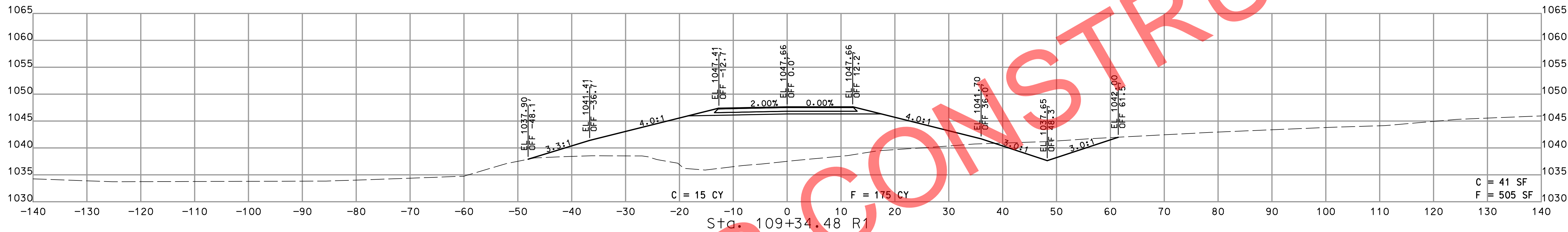
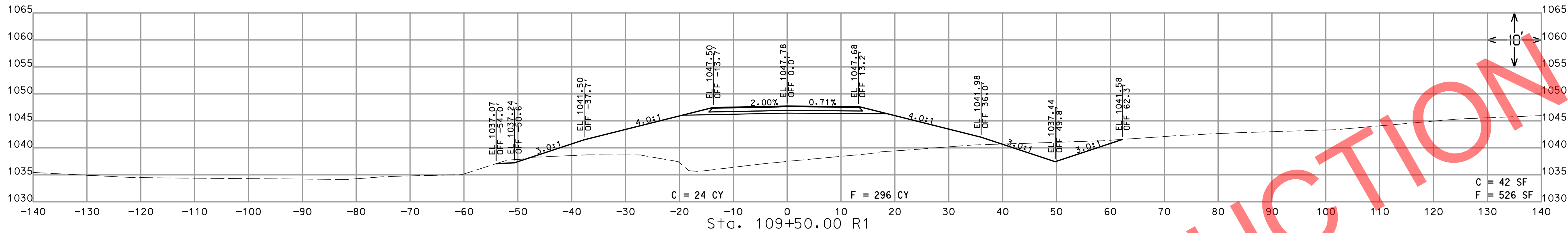
ROUTE N & Y
STA. 108+00.00 R1 TO STA. 108+50.00 R1

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.15
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

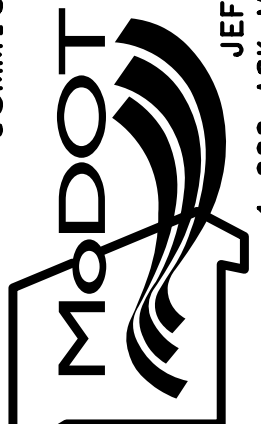


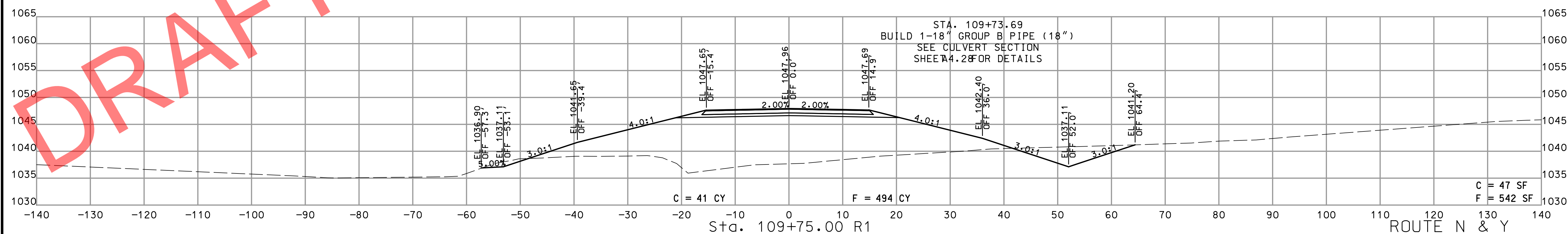
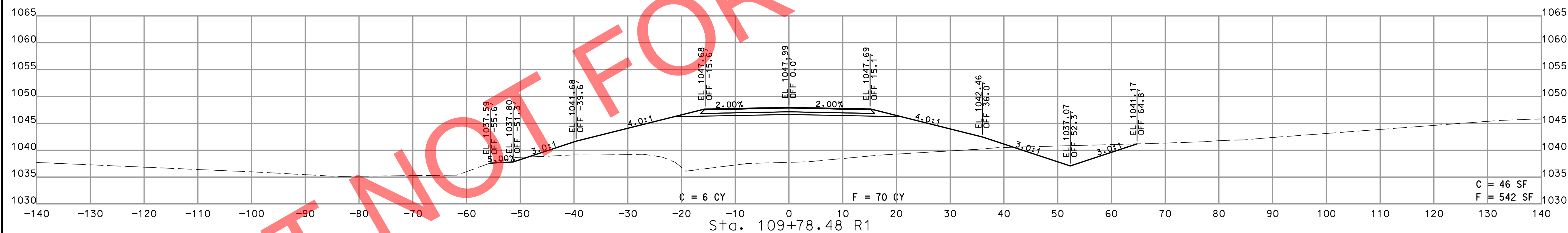
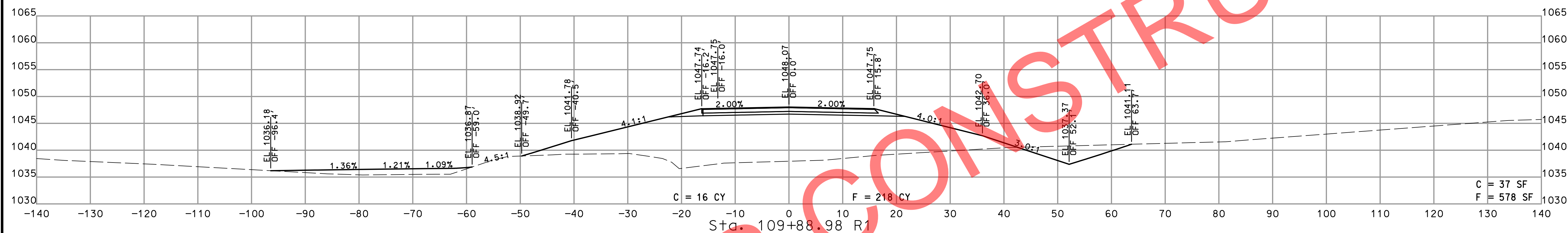
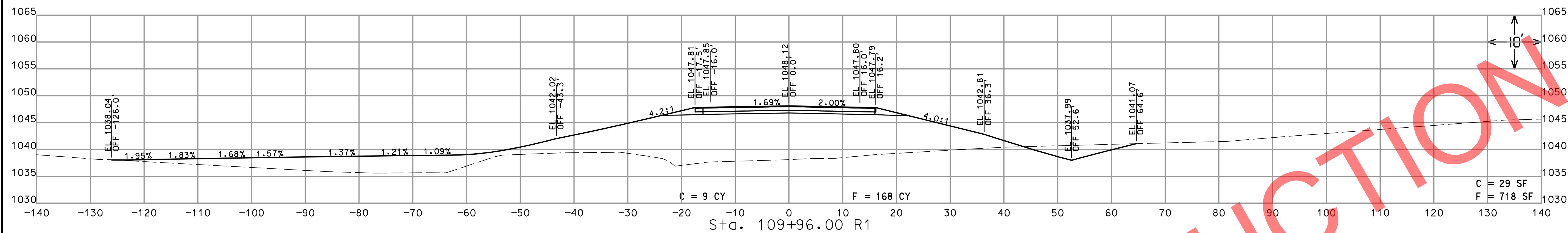
ROUTE N & Y
STA. 108+50.48 R1 TO STA. 108+90.48 R1

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.16
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



STA. 109+00.00 R1 TO STA. 109+50.00 R1

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.17
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



DATE PREPARED	
2/7/2022	
ROUTE	STATE
N	MO
DISTRICT	SHEET NO.
NW	A4.18
COUNTY	
SULL IVAN	
JOB NO.	
J1S3392	
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)

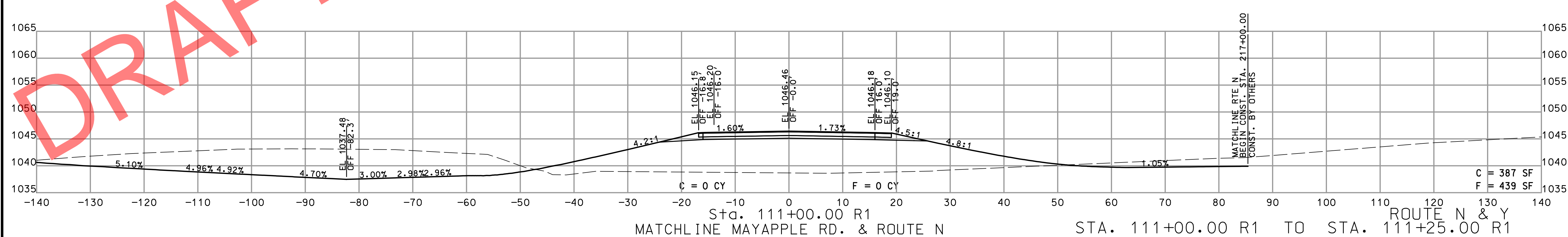
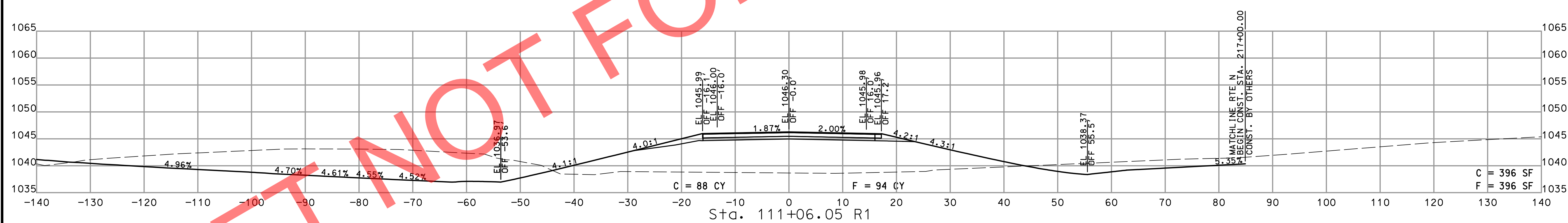
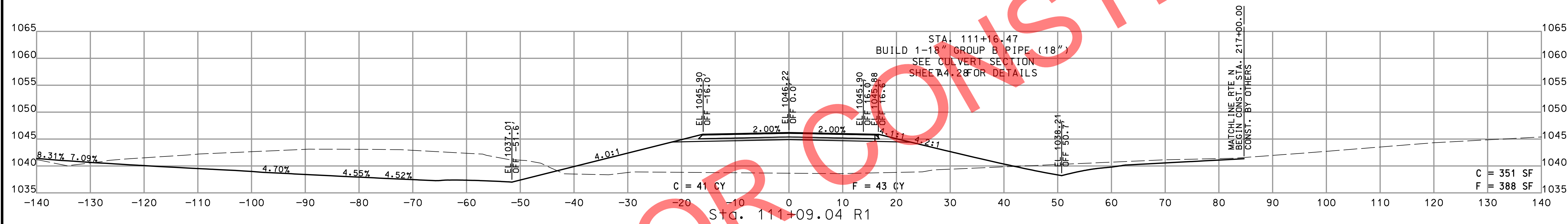
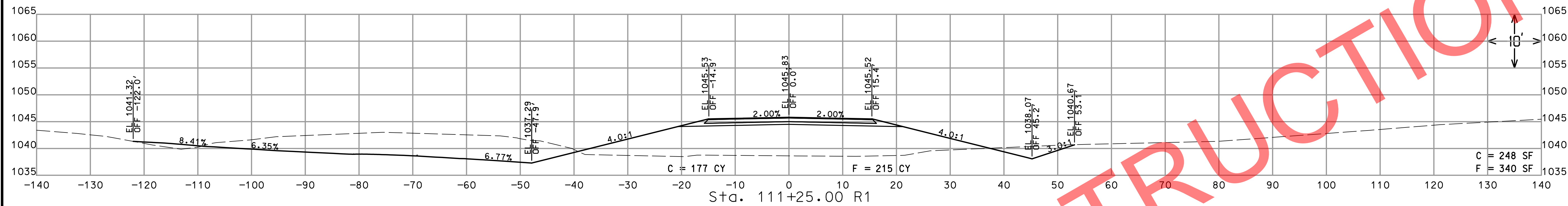
Olsson
WURLINGTON STREET, STE.
111 KANSAS CITY, MO 641
CERTIFICATE OF
AUTHORITY NO. 001592

The drawing is a technical cross-section of a road. The top portion shows the profile view with a solid line representing the road surface and a dashed line representing the ground level. Key data points are labeled with their elevation (EL) and offset (OFF) from the centerline. The bottom portion shows the plan view with stationing and grades. A 10-foot scale bar is located on the right side.

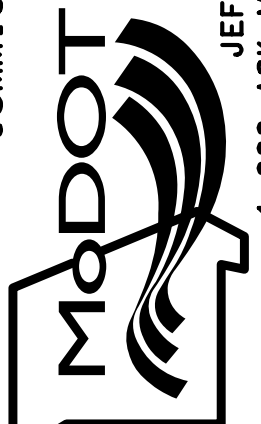
Station	EL	OFF	Grade
1042.22	1042.22	46.5	0.24%
1047.86	1047.86	16.0	1.51%
1048.15	1048.15	0.0	1.82%
1047.86	1047.86	16.0	4.1:1
1042.86	1042.86	31.2	
1038.48	1038.48	56.4	
1041.12	1041.12	68.4	

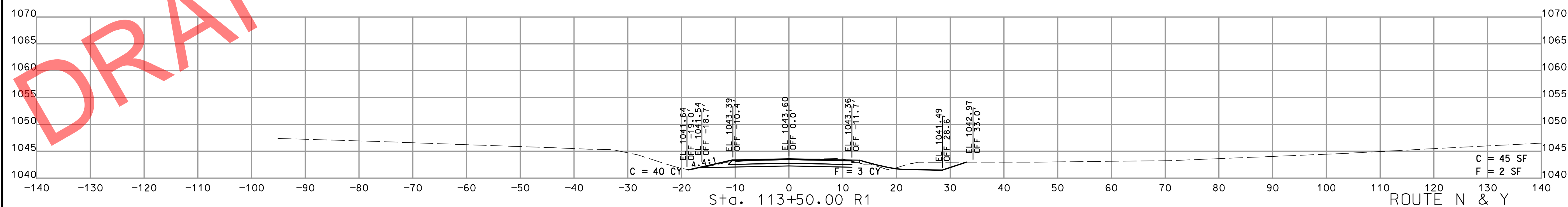
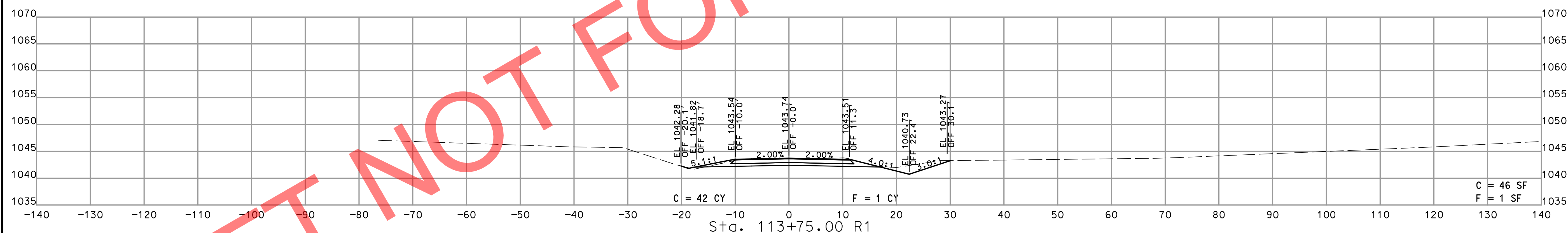
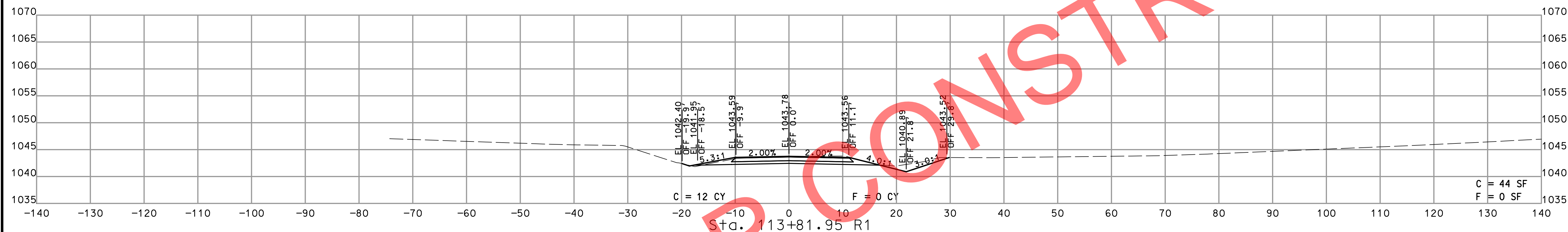
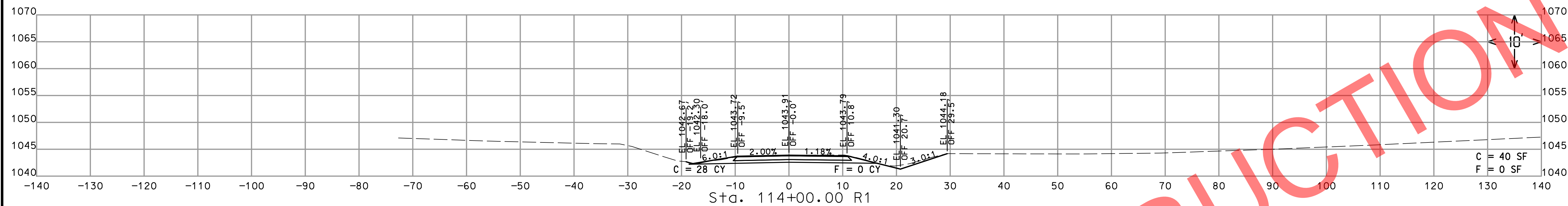
[illegible]

olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592




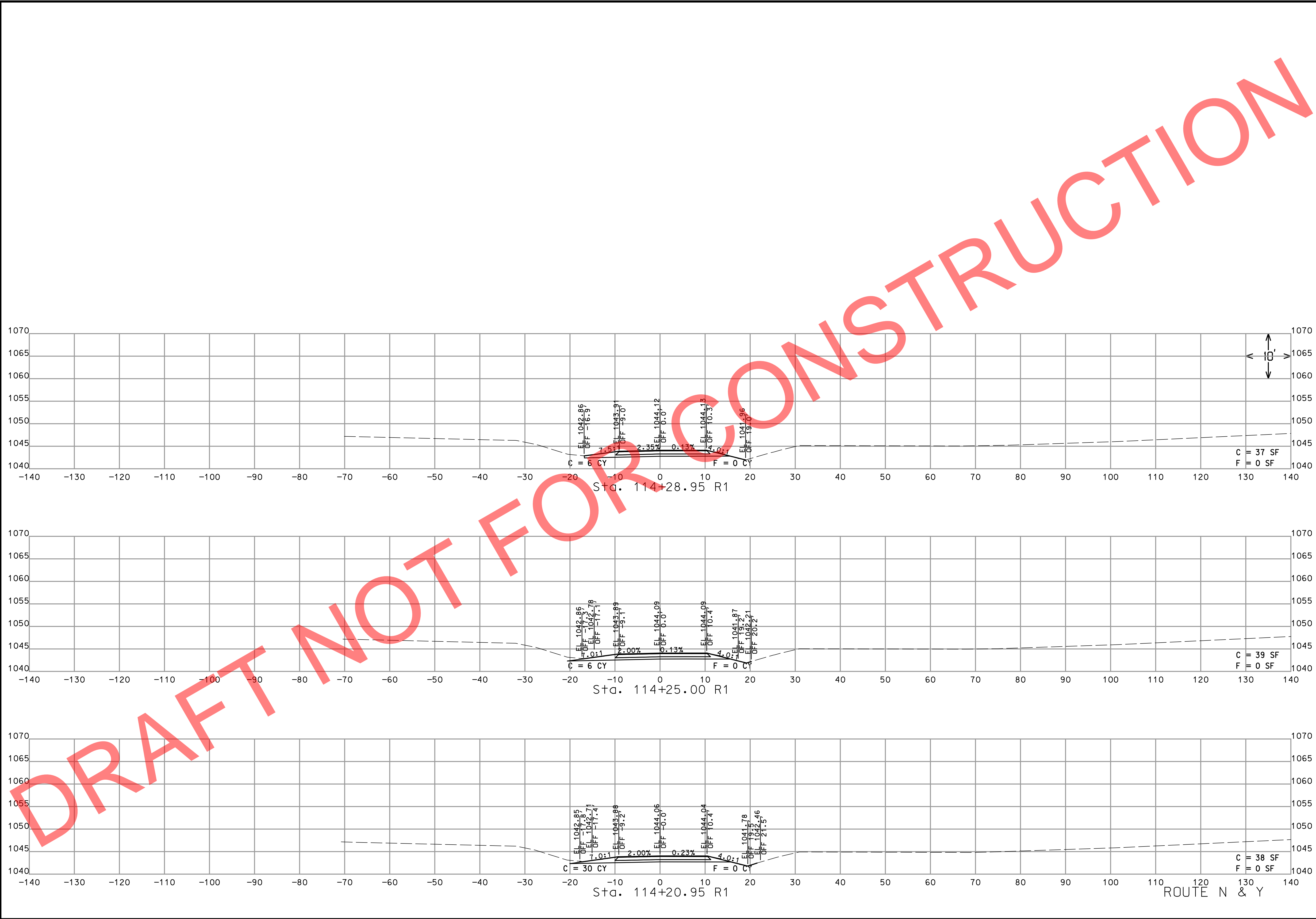
Sta. 111+00.00 R1
MATCHLINE MAYAPPLE RD. & ROUTE N
ROUTE N & Y
STA. 111+00.00 R1 TO STA. 111+25.00 R1

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.20
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

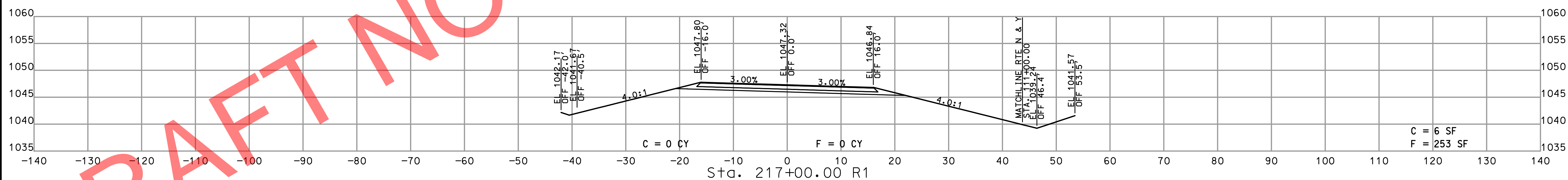
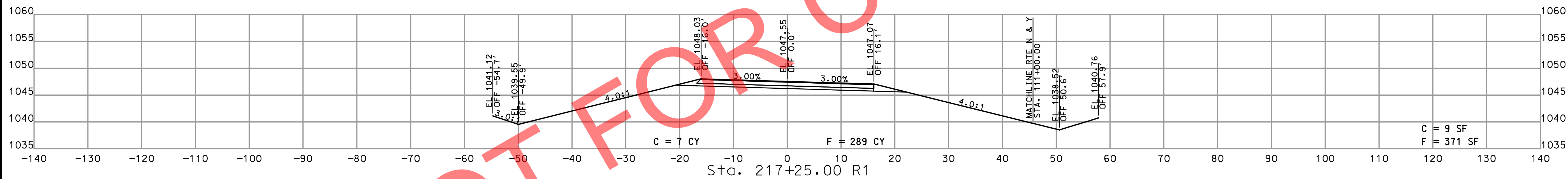
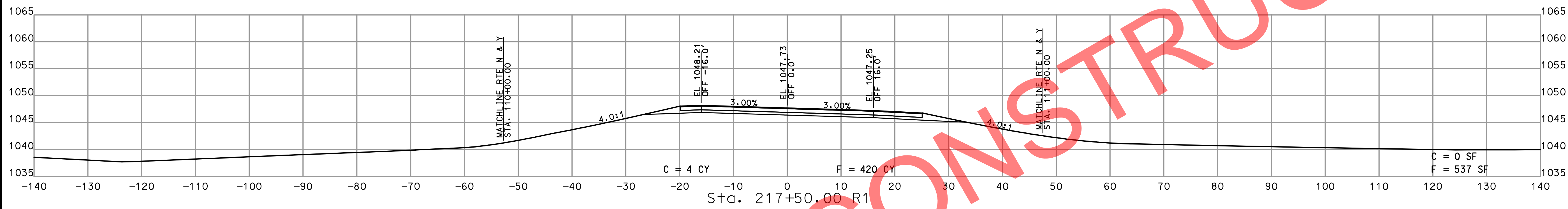
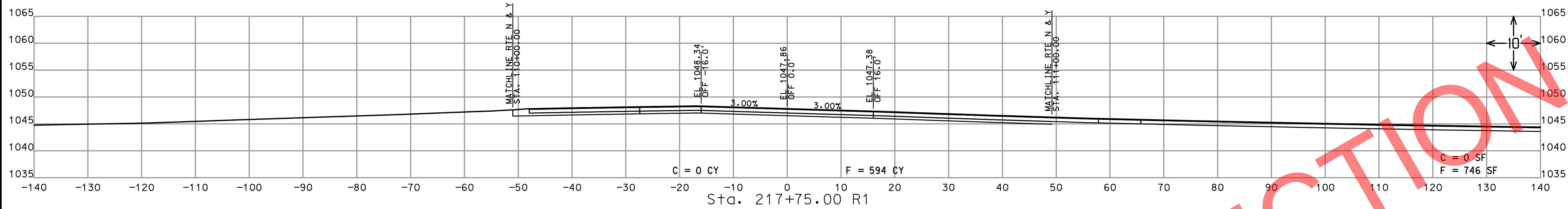


STA. 113+50.00 R1 TO STA. 114+00.00 R1

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.23
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

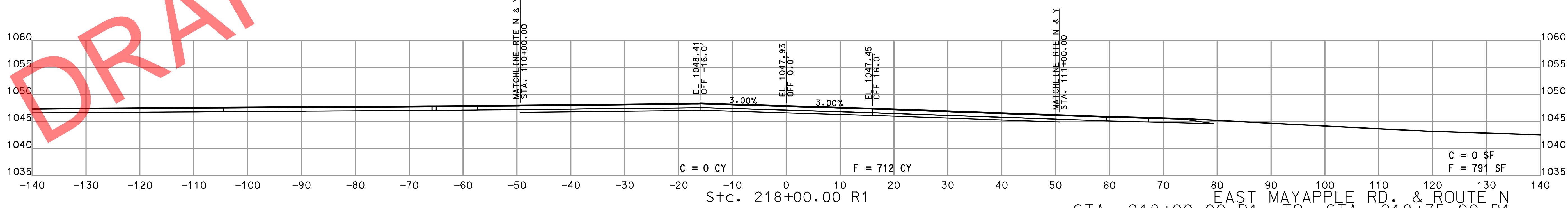
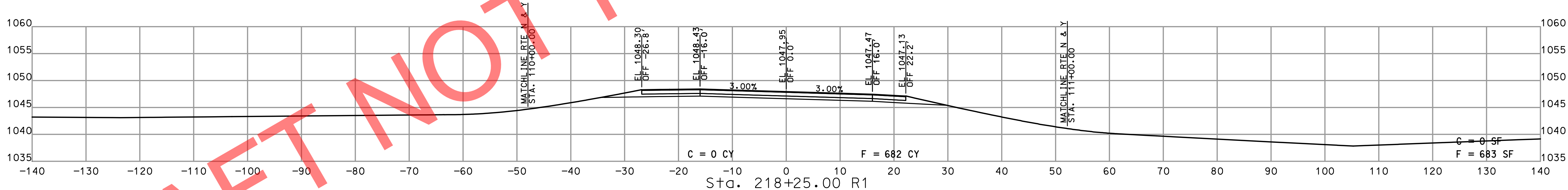
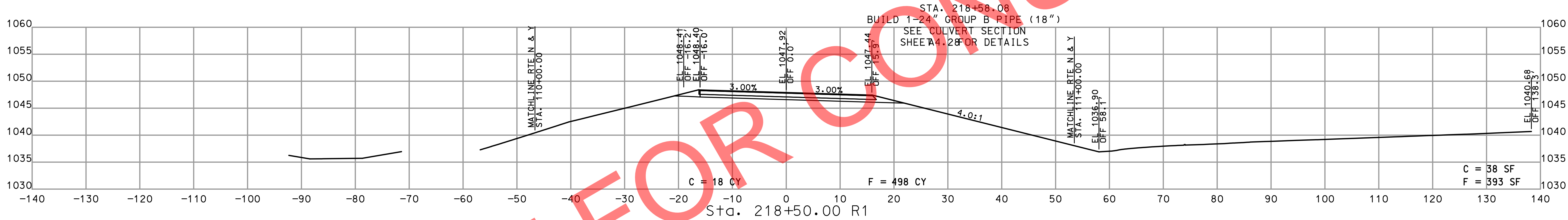
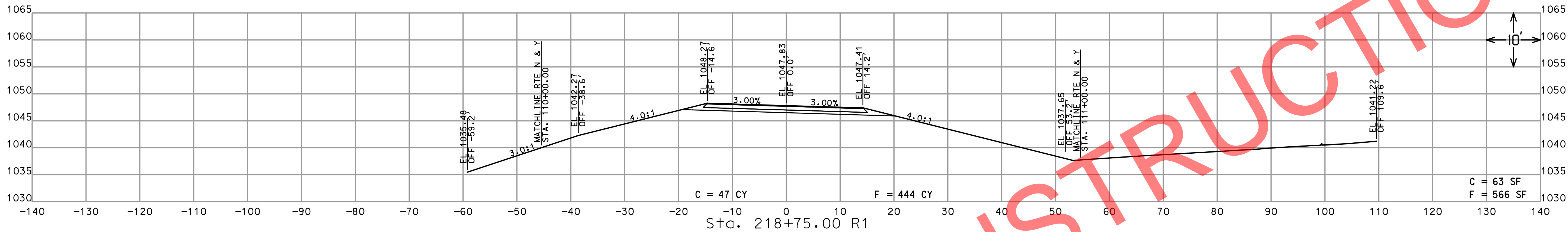


DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.24
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson 1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

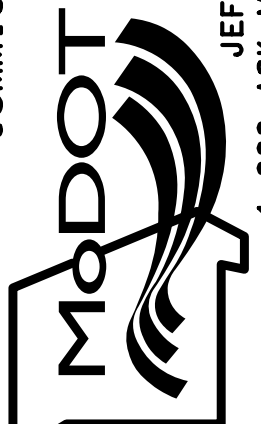


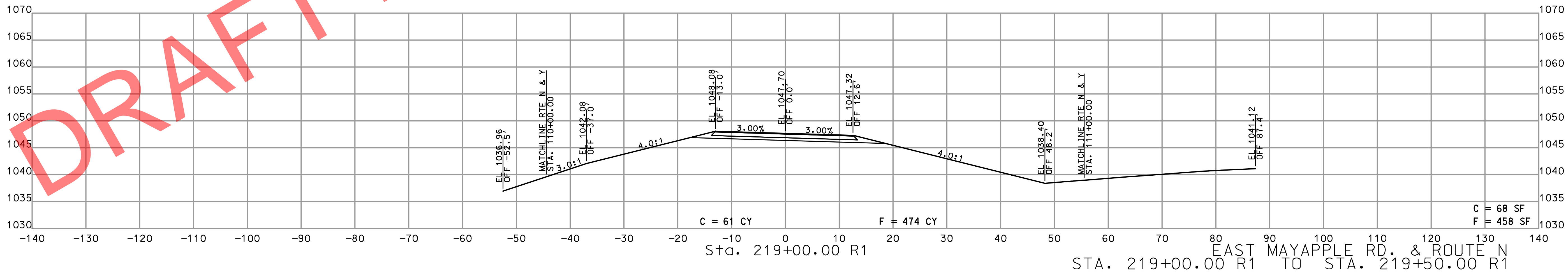
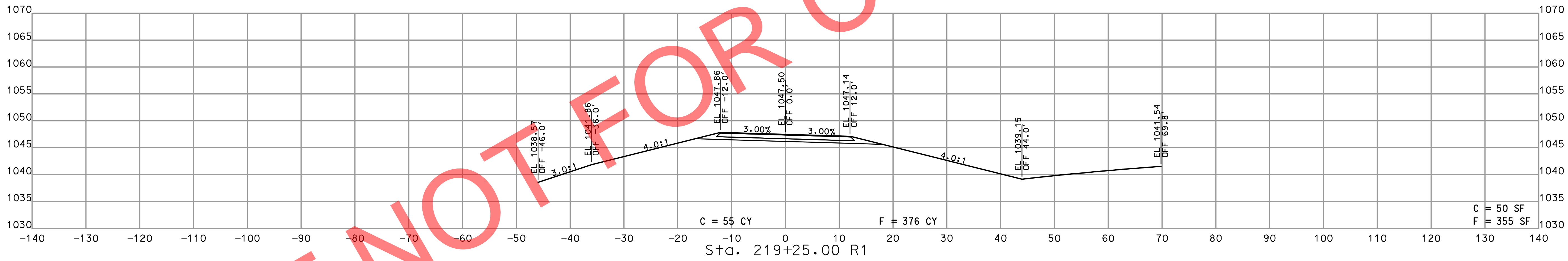
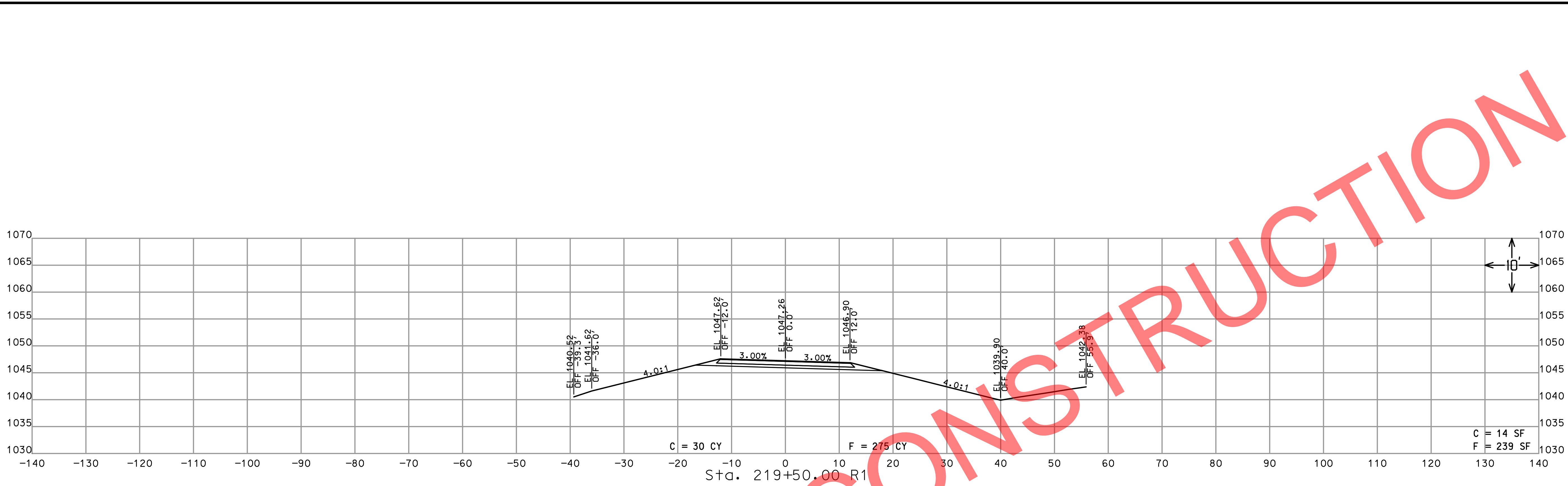
EAST MAYAPPLE RD. & ROUTE N
STA. 217+00.00 R1 TO STA. 217+75.00 R1

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.25
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

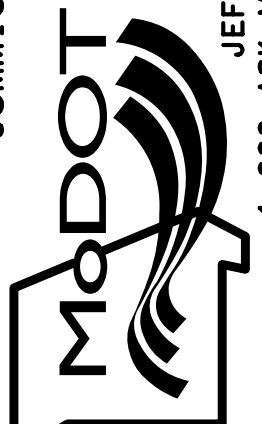


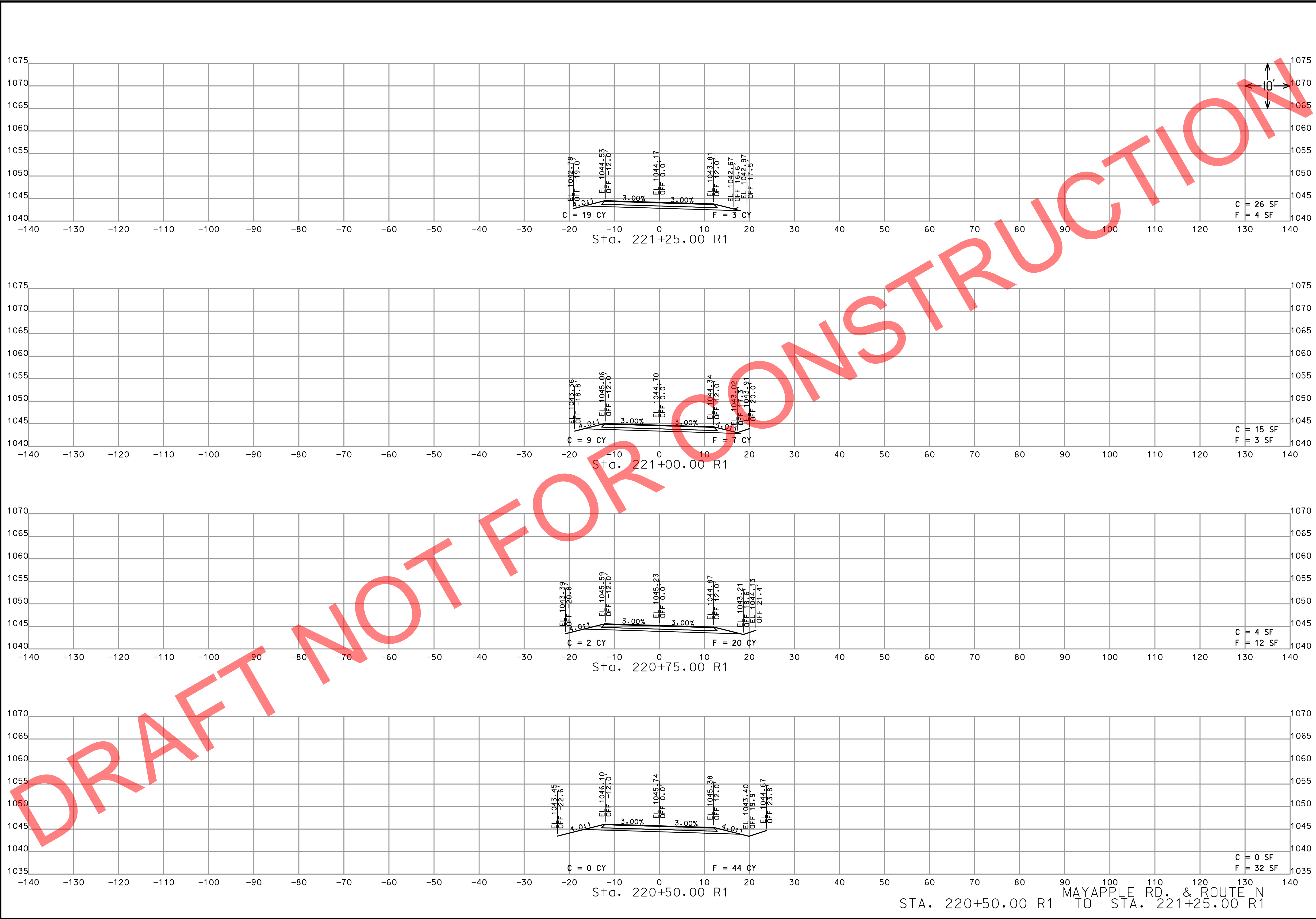
EAST MAYAPPLE RD. & ROUTE N
STA. 218+00.00 R1 TO STA. 218+75.00 R1

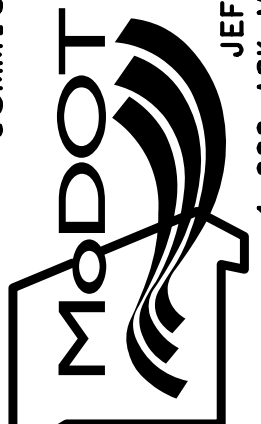

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.26
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

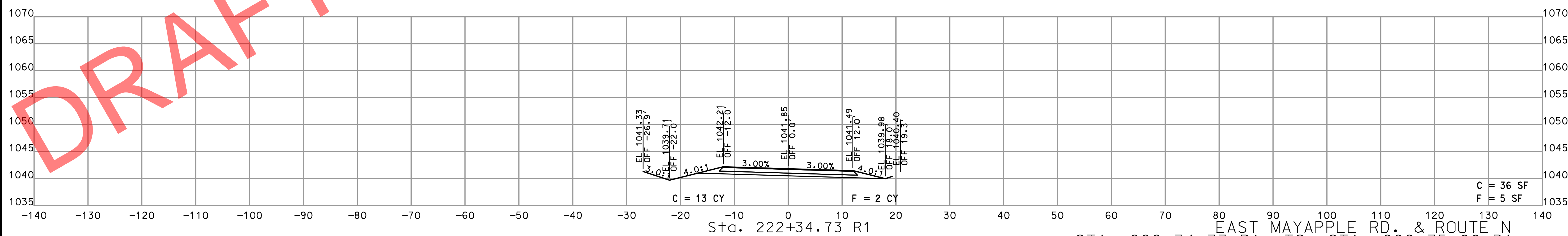
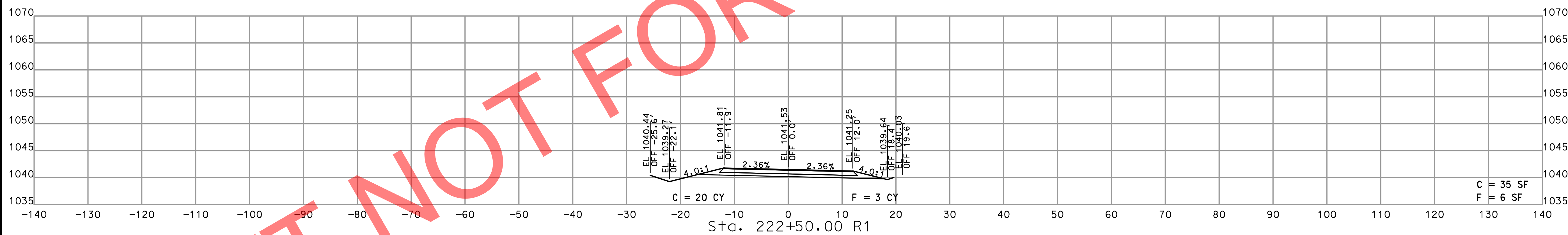
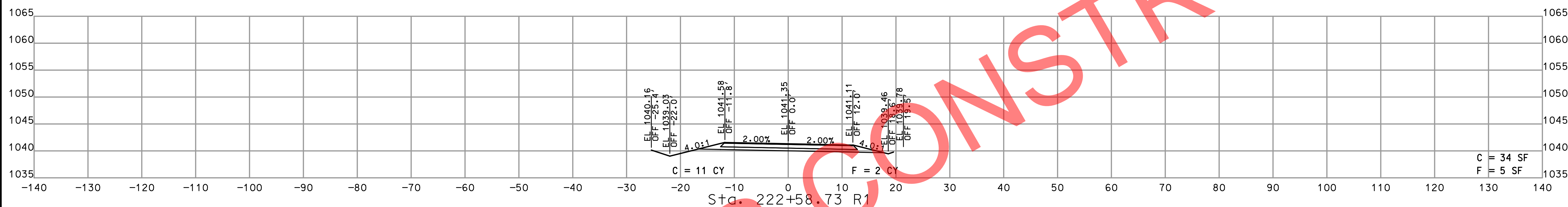
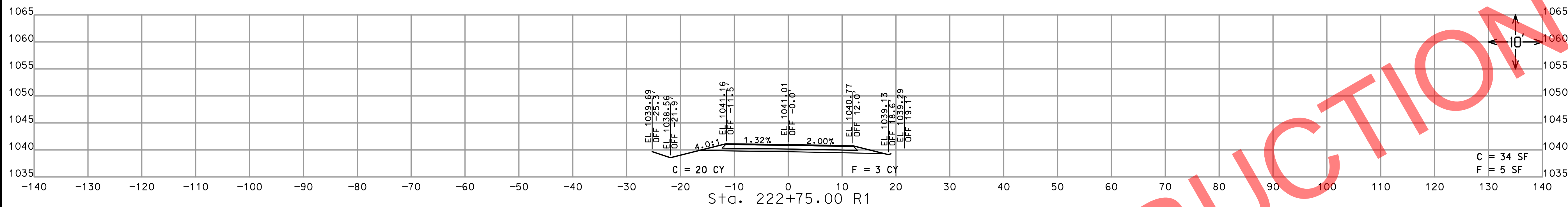


EAST MAYAPPLE RD. & ROUTE N
STA. 219+00.00 R1 TO STA. 219+50.00 R1

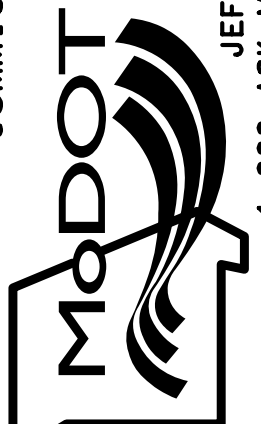

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.27
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

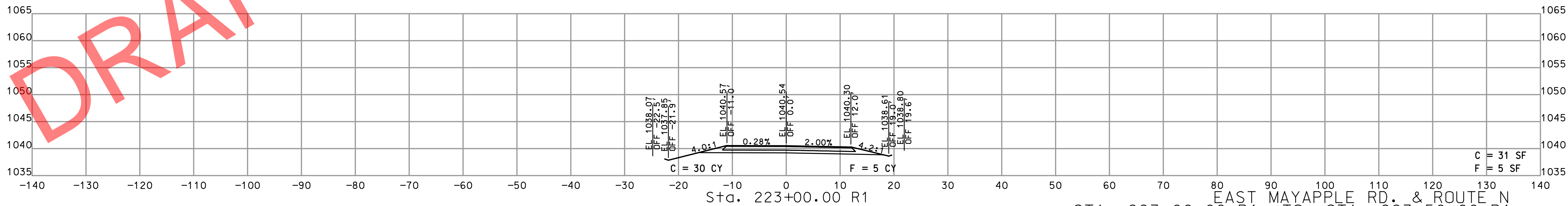
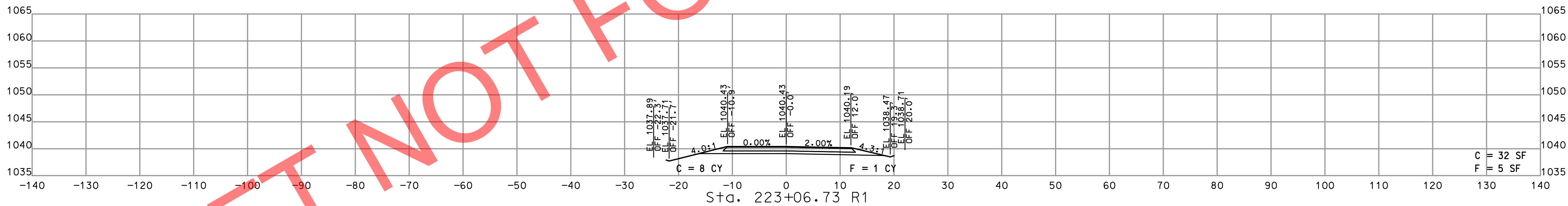
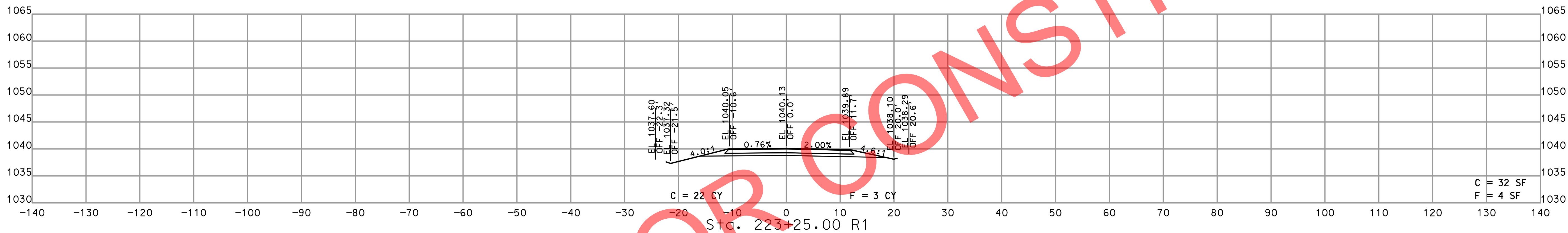
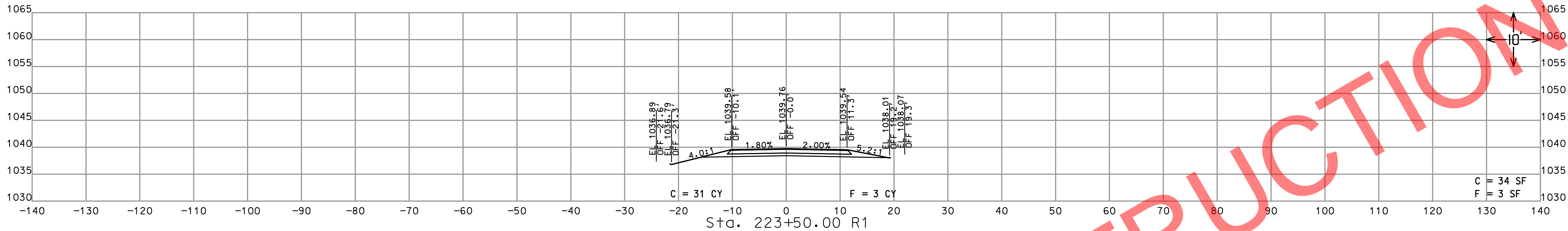


DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.29
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

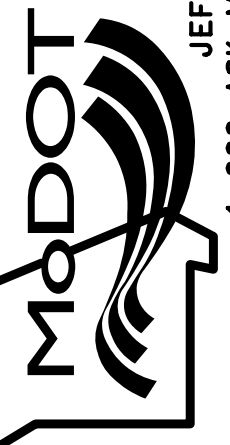



EAST MAYAPPLE RD. & ROUTE N
STA. 222+34.73 R1 TO STA. 222+75.00 R1

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.31
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



EAST MAYAPPLE RD. & ROUTE N
STA. 223+00.00 R1 TO STA. 223+50.00 R1


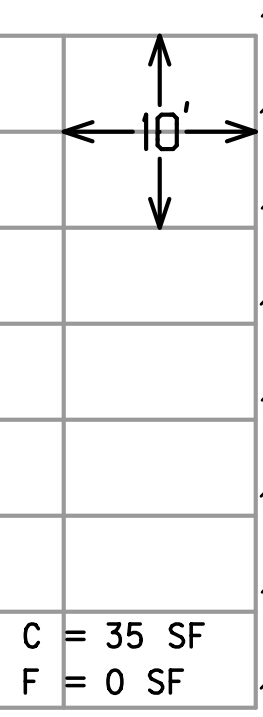
DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. A4.32
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

DRAFT NOT FOR CONSTRUCTION

Side	Feature	Elevation (EL)	Offset (OFF)
Left	Top of Road	1038.76	-
	Centerline	1038.00	-
	Bottom of Road	1037.47	-
Center	Top of Road	1039.30	0.0
	Centerline	1038.25	10.6
	Bottom of Road	1037.87	13.7
Right	Top of Road	1037.90	19.5
	Centerline	1037.47	-
	Bottom of Road	1037.00	-

Grades: 3.18%, 0.47%, 6.4:1

North Arrow: Located in the bottom right corner, pointing upwards.



MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

DATE PREPARED	
2/7/2022	
ROUTE	STATE
N	MO
DISTRICT	SHEET NO.
NW	A4.34
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESIGN DESIGNATION
A.A.D.T. - 2021 = 87
A.A.D.T. - 2041 = 2,620
V = 40 M.P.H.

FUNC. CLASSIFICATION - MAYAPPLE RD - MINOR ARTERIAL

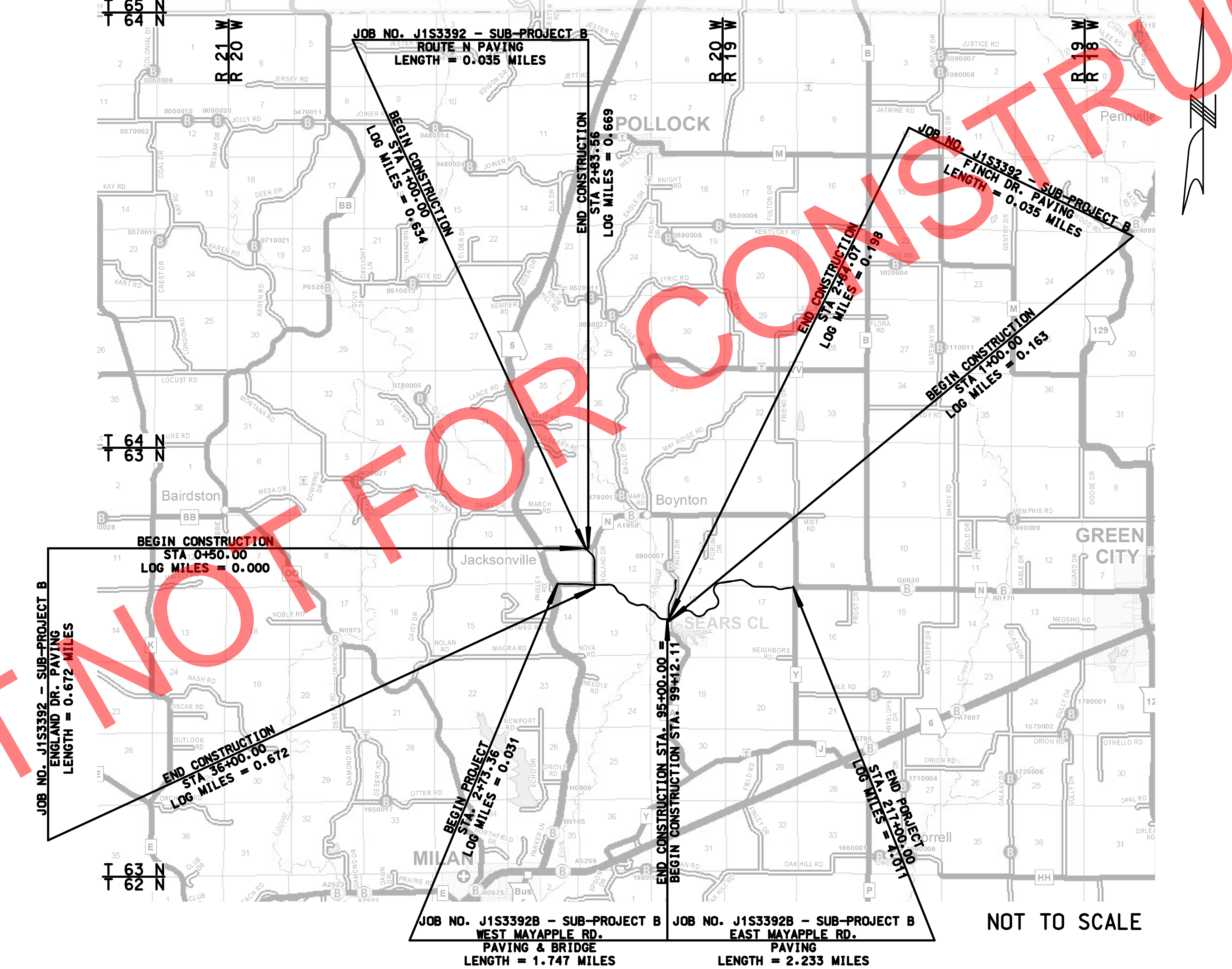
NO RIGHT OF WAY
TO BE ACQUIRED

CONVENTIONAL SYMBOLS
(USED IN PLANS)

EXISTING	NEW
BUILDINGS AND STRUCTURES	
GUARD RAIL	
GUARD CABLE	
CONCRETE RIGHT-OF-WAY MARKER	
STEEL RIGHT-OF-WAY MARKER	
LOCATION SURVEY MARKER	
UTILITIES	
FIBER OPTICS	
OVERHEAD CABLE TV	
UNDERGROUND CABLE TV	
OVERHEAD TELEPHONE	
UNDERGROUND TELEPHONE	
OVERHEAD POWER	
UNDERGROUND POWER	
SANITARY SEWER	
STORM SEWER	
GAS	
WATER	
MANHOLE	
FIRE HYDRANT	
WATER VALVE	
WATER METER	
DROP INLET	
DITCH BLOCK	
GROUND MOUNTED SIGN	
LIGHT POLE	
H-FRAME POWER POLE	
TELEPHONE PEDESTAL	
FENCE	
CHAIN LINK	
WOVEN WIRE	
GATE POST	
BENCHMARK	

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
STATE HIGHWAY
SULLIVAN COUNTY
SEC. 11, 12, 13, & 14, T63N, R20W
SEC. 18, T63N, R19W



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

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	B.1
TYPICAL SECTIONS (TS) (11 SHEETS)	B.2
QUANTITIES (QU) (5 SHEETS)	B.3
PLAN-PROFILE (PP)	B.4 - B.25
COORDINATE POINTS SHEET (CP)	B.26 - B.28
TRAFFIC CONTROL SHEETS (TC)	B.29 - B.35
PAVEMENT MARKING & SIGNING (PM)	B.36 - B.42
BRIDGE DRAWINGS (B)	
A9135 (BRIDGE)	B.1 - B.26

LENGTH OF SUB-PROJECT

WEST MAYAPPLE ROAD	
BEGINNING OF PROJECT	STA. 2+73.36
END OF CONSTRUCTION	STA. 95+00.00
APPARENT LENGTH	9,226.64 FEET

EAST MAYAPPLE ROAD	
BEGINNING OF CONSTRUCTION	STA. 99+12.11
END OF PROJECT	STA. 217+00.00
APPARENT LENGTH	11,787.89 FEET

ENGLAND DRIVE	
BEGINNING OF CONSTRUCTION	STA. 0+50.00
END OF CONSTRUCTION	STA. 36+00.00
APPARENT LENGTH	3,550.00 FEET

ROUTE N	
BEGINNING OF CONSTRUCTION	STA. 1+00.00
END OF CONSTRUCTION	STA. 2+83.56
APPARENT LENGTH	183.56 FEET

FINCH DR.	
BEGINNING OF CONSTRUCTION	STA. 1+00.00
END OF CONSTRUCTION	STA. 2+84.07
APPARENT LENGTH	184.07 FEET

EQUATIONS AND EXCEPTIONS:	
NONE	0.00 FEET

TOTAL CORRECTIONS	
	0.00 FEET

NET LENGTH OF PROJECT	
	24,932.16 FEET

STATE LENGTH	
	4.722 MILES

FOR INFORMATION ONLY	
ESTIMATED DISTURBED ACRES	26.68 ACRES

DATE PREPARED
2/7/2022

ROUTE
MAY

STATE
MO

DISTRICT
NW

SHEET NO.
B.1

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

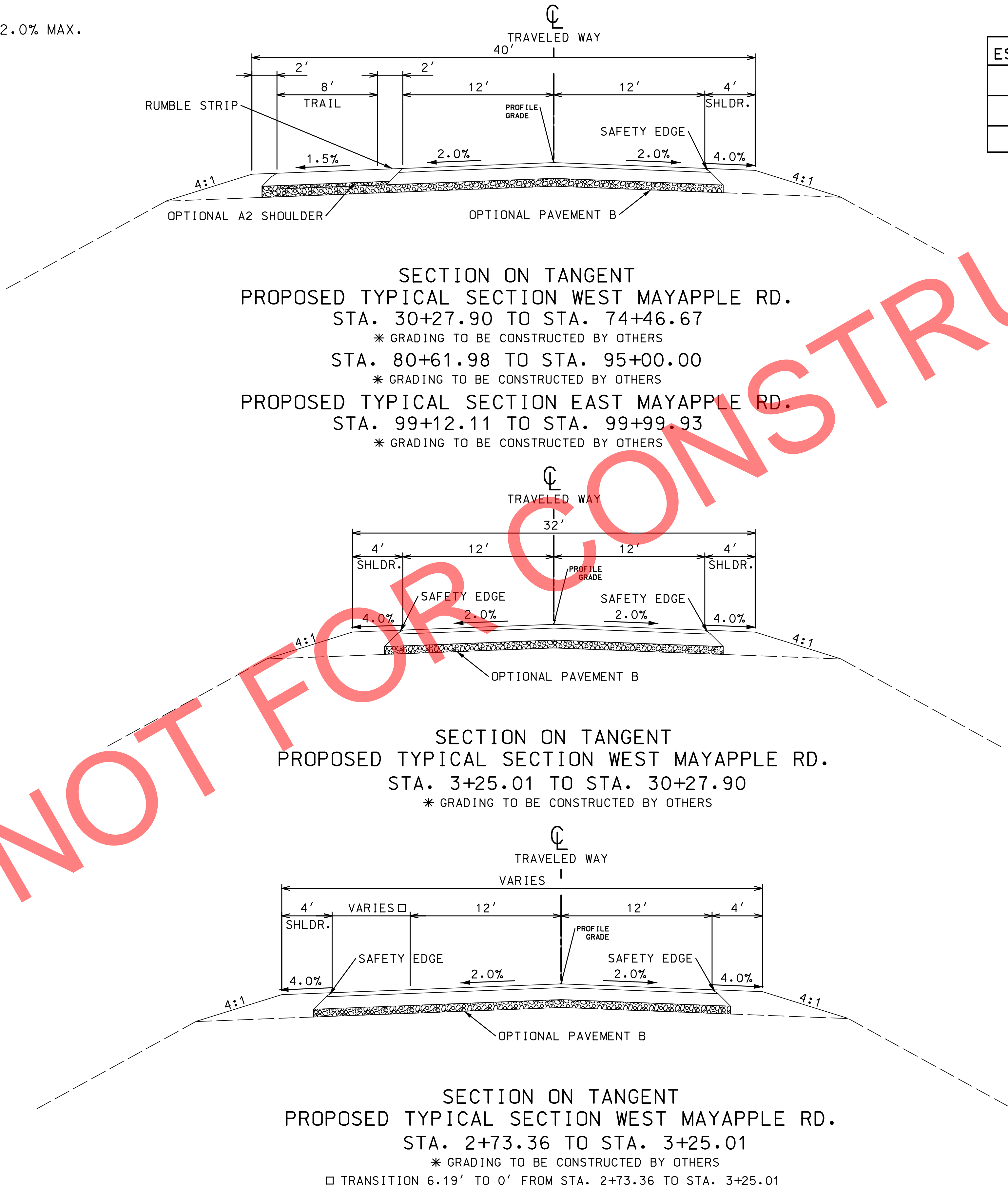
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

REV.

- NOTES:
1. SEE STANDARD PLAN 401.00C FOR A2 SHOULDERS & SAFETY EDGE DETAILS.
 2. SEE THIS SHEET FOR SUPERELEVATION TABLES.
 3. DESIREABLE CROSS SLOPE OF TRAIL IS 1.5%, 2.0% MAX.

WEST MAYAPPLE SUPERELEVATION %		
LT.	STA.	RT.
-2.00%	2+73.36	-2.00%
-2.00%	27+58.26	-2.00%
-2.00%	27+99.76	0.00%
-2.00%	28+41.26	2.00%
-4.00%	28+73.05	4.00%
-4.00%	28+82.76	4.00%
-2.00%	29+14.55	2.00%
-2.00%	29+56.05	0.00%
-2.00%	29+97.55	-2.00%
-2.00%	40+39.06	-2.00%
0.00%	40+80.56	-2.00%
2.00%	41+22.06	-2.00%
4.00%	41+63.56	-4.00%
4.00%	46+74.83	-4.00%
2.00%	47+16.33	-2.00%
0.00%	47+57.83	-2.00%
-2.00%	47+99.33	-2.00%
-2.00%	48+10.05	-2.00%
-2.00%	48+51.55	0.00%
-2.00%	48+93.05	2.00%
-4.00%	49+34.55	4.00%
-4.00%	51+74.66	4.00%
-2.00%	52+16.16	2.00%
-2.00%	52+57.66	0.00%
-2.00%	52+99.16	-2.00%
-2.00%	53+21.26	-2.00%
0.00%	53+62.76	-2.00%
2.00%	54+04.26	-2.00%
4.00%	54+45.76	-4.00%
4.00%	56+54.97	-4.00%
2.00%	56+96.47	-2.00%
0.00%	57+37.97	-2.00%
-2.00%	57+79.47	-2.00%
-2.00%	58+87.62	-2.00%
-2.00%	59+29.12	0.00%
-2.00%	59+70.62	2.00%
-4.00%	60+12.12	4.00%
-4.00%	62+68.36	4.00%
-2.00%	63+09.86	2.00%
-2.00%	63+51.36	0.00%
-2.00%	63+92.86	-2.00%
-2.00%	65+68.95	-2.00%
-2.00%	66+10.45	0.00%
-2.00%	66+51.95	2.00%
-4.00%	66+93.45	4.00%
-4.00%	69+41.92	4.00%
4.00%	71+65.78	-4.00%
4.00%	75+60.50	-4.00%
0.00%	76+43.50	-2.00%
2.00%	76+47.29	-2.00%
-2.00%	76+85.00	-2.00%
-2.00%	79+11.82	-2.00%
-2.00%	79+53.32	0.00%
-2.00%	79+94.82	2.00%
-4.00%	80+36.32	4.00%
-4.00%	80+60.24	4.00%
-2.00%	81+01.74	2.00%
-2.00%	81+43.24	0.00%
-2.00%	81+84.74	-2.00%
-2.00%	81+99.78	-2.00%
0.00%	82+41.28	-2.00%
2.00%	82+82.78	-2.00%
4.00%	83+24.28	-4.00%
4.00%	84+51.90	-4.00%
2.00%	84+93.40	-2.00%
0.00%	85+34.90	-2.00%
-2.00%	85+76.40	-2.00%
-2.00%	85+83.63	-2.00%
-2.00%	86+25.13	0.00%
-2.00%	86+66.63	2.00%
-4.00%	87+08.13	4.00%
-4.00%	91+49.51	4.00%
-2.00%	91+91.01	2.00%
-2.00%	92+32.51	0.00%
-2.00%	92+74.01	-2.00%
-2.00%	95+00.00	-2.00%

EAST MAYAPPLE SUPERELEVATION %		
LT.	STA.	RT.
-2.00%	99+12.11	-2.00%
-2.00%	99+17.90	-2.00%
-2.00%	99+59.40	-2.00%
-2.00%	100+00.90	0.00%
-2.00%	100+42.40	2.00%
-4.00%	100+83.90	4.00%
-4.00%	103+52.39	4.00%
-2.00%	103+93.89	2.00%
-2.00%	104+35.39	0.00%
-2.00%	104+76.89	-2.00%
-2.00%	105+18.39	-2.00%
-2.00%	110+88.07	-2.00%
-2.00%	111+29.57	-2.00%
0.00%	111+71.07	-2.00%
2.00%	112+12.57	-2.00%
4.00%	112+54.07	-4.00%
4.00%	119+29.69	-4.00%
2.00%	119+71.19	-2.00%
0.00%	120+12.69	-2.00%
-2.00%	121+03.20	0.00%
-2.00%	121+44.70	2.00%
-4.00%	121+86.20	4.00%
-4.00%	130+17.65	4.00%
4.00%	132+60.61	-4.00%
4.00%	135+62.37	-4.00%
2.00%	136+03.87	-2.00%
0.00%	136+45.37	-2.00%
-2.00%	137+39.47	0.00%
-2.00%	137+80.97	2.00%
-4.00%	138+22.47	4.00%
-4.00%	147+81.23	4.00%
-2.00%	148+22.73	2.00%
-2.00%	148+64.23	0.00%
-2.00%	149+05.73	-2.00%
-2.00%	149+47.23	-2.00%
-2.00%	150+02.27	-2.00%
-2.00%	150+43.77	-2.00%
0.00%	150+85.27	-2.00%
2.00%	151+26.77	-2.00%
4.00%	151+68.27	-4.00%
4.00%	161+76.82	-4.00%
2.00%	162+18.32	-2.00%
0.00%	162+59.82	-2.00%
-2.00%	163+01.32	-2.00%
-2.00%	163+42.82	-2.00%
-2.00%	175+56.70	-2.00%
-2.00%	175+98.20	-2.00%
0.00%	176+39.70	-2.00%
2.00%	176+81.20	-2.00%
4.00%	177+22.70	-4.00%
4.00%	180+52.72	-4.00%
2.00%	180+94.22	-2.00%
0.00%	181+35.72	-2.00%
-2.00%	181+77.22	-2.00%
-2.00%	182+18.72	-2.00%
-2.00%	185+41.78	-2.00%
-2.00%	185+83.28	-2.00%
-2.00%	186+24.78	0.00%
-2.00%	186+66.28	2.00%
-4.00%	187+07.78	4.00%
-4.00%	189+63.84	4.00%
-2.00%	190+05.34	2.00%
-2.00%	190+46.84	0.00%
-2.00%	190+88.34	-2.00%
-2.00%	191+29.84	-2.00%
-2.00%	200+92.42	-2.00%
-2.00%	201+33.92	-2.00%
0.00%	201+75.42	-2.00%
2.00%	202+16.92	-2.00%
4.00%	202+58.42	-4.00%
4.00%	204+57.87	-4.00%
2.00%	204+99.37	-2.00%
0.00%	205+40.87	-2.00%
-2.00%	205+82.37	-2.00%
-2.00%	206+23.87	-2.00%
-2.00%	205+01.11	-2.00%
-2.00%	205+42.61	-2.00%
-2.00%	205+84.11	0.00%
-2.00%	206+25.61	2.00%
-4.00%	206+67.11	4.00%
-4.00%	209+84.43	4.00%
-2.00%	210+25.93	2.00%
-2.00%	210+67.43	0.00%
-2.00%	211+08.93	-2.00%
-2.00%	211+50.43	-2.00%
-2.00%	225+47.18	-2.00%



ESTIMATE FACTORS FOR ASPHALTIC MIXTURES	
PMBP (BP-1) PG64-22	1.948 TONS/CY
PMBP (BASE) PG64-22	1.943 TONS/CY
TACK COAT	0.10 GAL/SY

FOR INFORMATIONAL PURPOSES ONLY
PMBP= PLANT MIX BITUMINOUS PAVEMENT

ENGLAND DRIVE SUPERELEVATION %		
LT.	STA.	RT.
-2.00%	0+93.98	-2.00%
0.00%	1+35.39	-2.00%
2.00%	1+76.89	-2.00%
4.00%	2+18.39	-4.00%
4.00%	5+99.68	-4.00%
2.00%	6+41.18	-2.00%
0.00%	6+82.68	-2.00%
-2.00%	7+24.18	-2.00%
-2.00%	7+65.68	-2.00%
-2.00%	9+55.57	-2.00%
-2.00%	9+97.07	-2.00%
0.00%	10+38.57	-2.00%
2.00%	10+80.07	-2.00%
4.00%	11+21.57	-4.00%
4.00%	15+07.58	-4.00%
2.00%	15+49.08	-2.00%
0.00%	15+90.58	-2.00%
-2.00%	16+32.08	-2.00%
-2.00%	36+00	-2.00%

DATE PREPARED
2/7/2022

ROUTE
MAY
DISTRICT
NW

STATE
MO
SHEET NO.
B.2

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

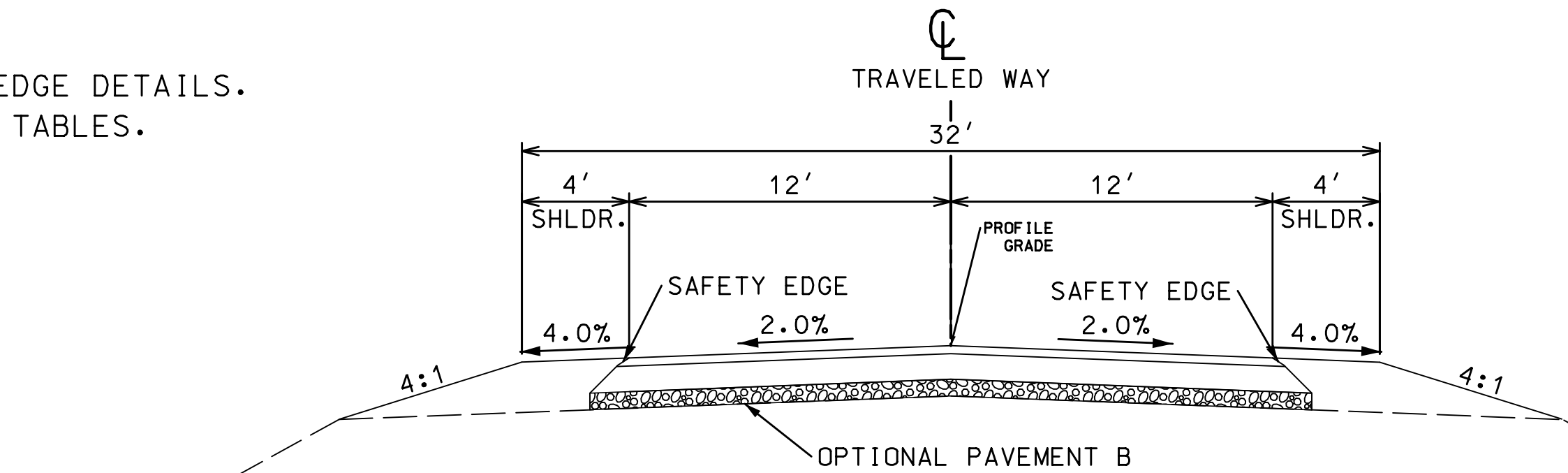
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

TYPICAL SECTION
SHEET 1 OF 11

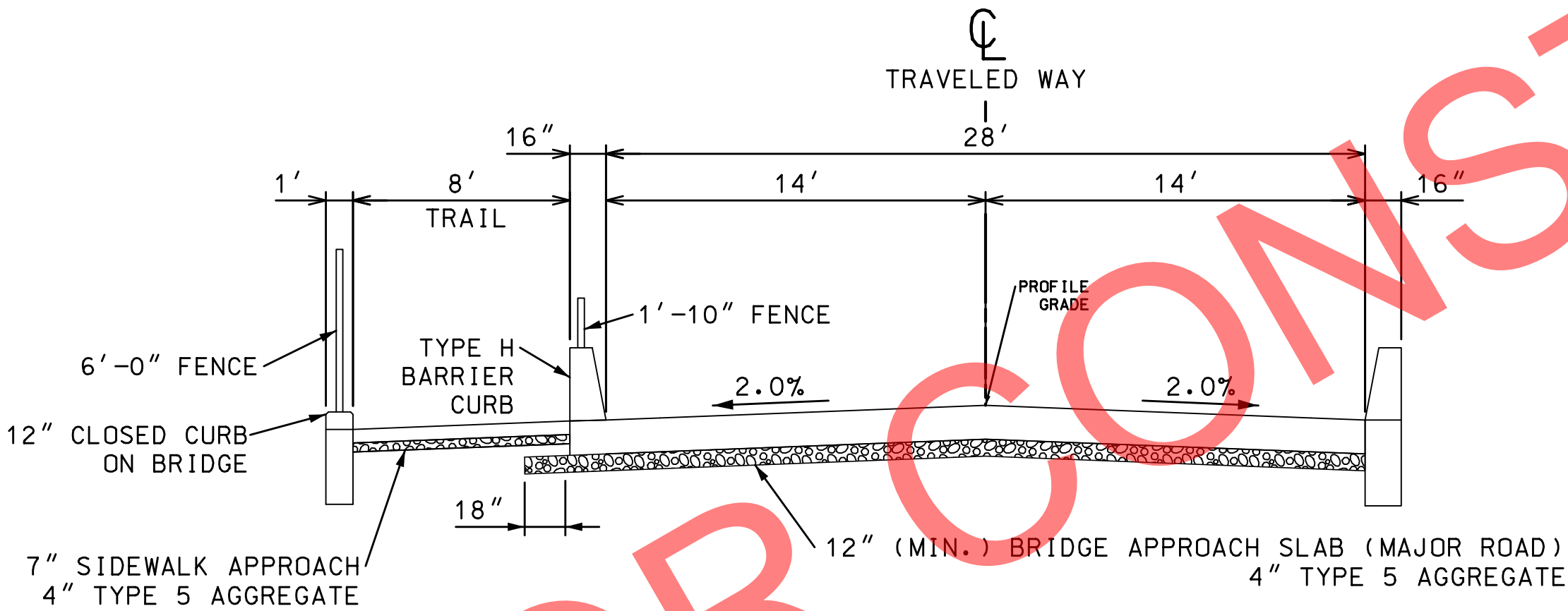
- NOTES:
- 1. SEE STANDARD PLAN 401.00C FOR A2 SHOULDERS & SAFETY EDGE DETAILS.
 - 2. SEE TYPICAL SECTION SHEET 1 OF 11 FOR SUPERELEVATION TABLES.
 - 3. DESIREABLE CROSS SLOPE OF TRAIL IS 1.5%, 2.0% MAX.



ESTIMATE FACTORS FOR ASPHALTIC MIXTURES	
PMBP (BP-1) PG64-22	1.948 TONS/CY
PMBP (BASE) PG64-22	1.943 TONS/CY
TACK COAT	0.10 GAL/SY

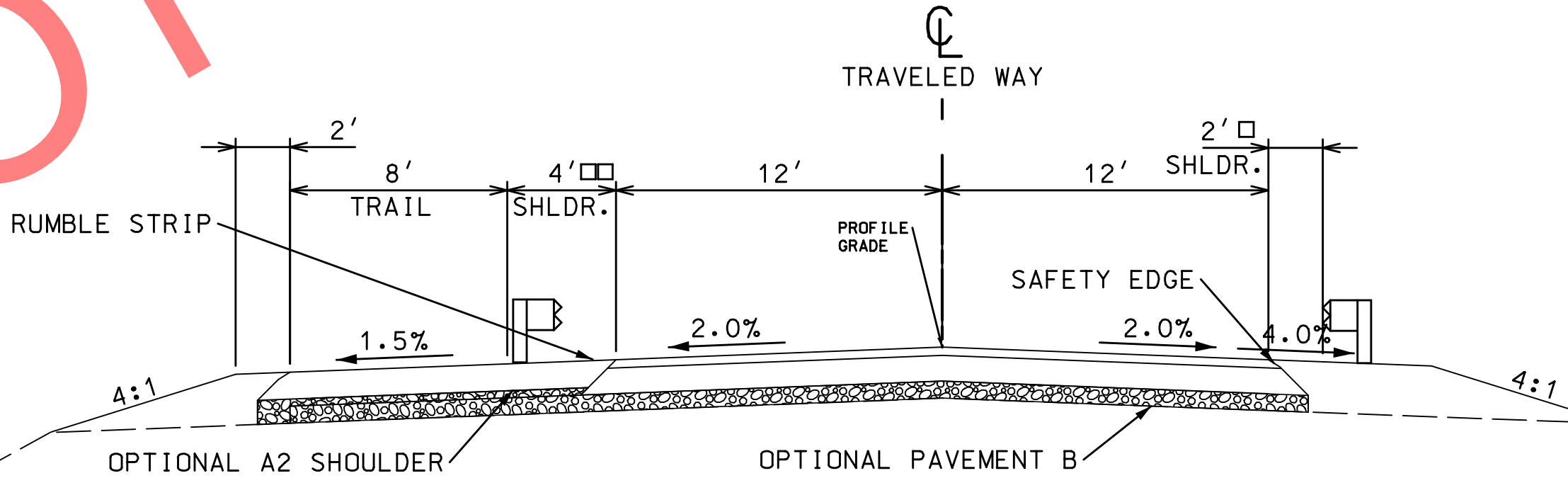
FOR INFORMATIONAL PURPOSES ONLY
PMBP= PLANT MIX BITUMINOUS PAVEMENT

SECTION ON TANGENT
PROPOSED TYPICAL SECTION EAST MAYAPPLE RD.
STA. 99+99.93 TO STA. 217+00.00
* GRADING TO BE CONSTRUCTED BY OTHERS



SECTION ON TANGENT
PROPOSED TYPICAL SECTION MIDLAKE ROAD

BRIDGE APPROACH SLAB
BRIDGE ITEM
SEE BRIDGE PLANS
STA. 76+89.01 TO STA. 76+89.51
STA. 78+12.01 TO STA. 78+33.51
(BRIDGE STA. 76+89.51 TO STA. 78+12.01)



SECTION ON TANGENT
PROPOSED TYPICAL SECTION WEST MAYAPPLE RD.
STA. 74+46.67 TO STA. 76+67.01
* GRADING TO BE CONSTRUCTED BY OTHERS
STA. 78+33.51 TO STA. 80+61.98
* GRADING TO BE CONSTRUCTED BY OTHERS

- TRANSITION 4' TO 2' FROM STA. 74+46.67 TO STA. 75+00.00
- TRANSITION 2' TO 4' FROM STA. 80+08.65 TO STA. 80+61.98
- TRANSITION 2' TO 4' FROM STA. 74+46.67 TO STA. 75+00.00
- TRANSITION 4' TO 2' FROM STA. 80+08.65 TO STA. 80+61.98

DATE PREPARED
2/7/2022

ROUTE
MAY

STATE
MO

DISTRICT
NW

SHEET NO.
B.2

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

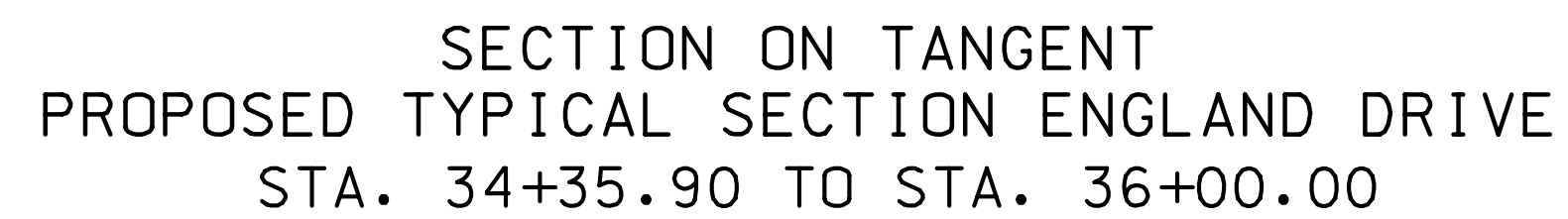
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITAL
JEFFERSON CITY, MO 65102
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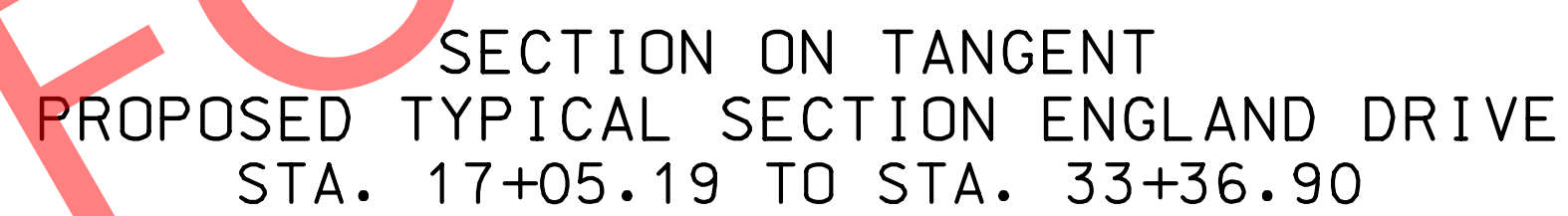
1. SEE STANDARD PLAN 401.00C FOR A2 SHOULDERS & SAFETY EDGE DETAILS.
2. SEE TYPICAL SECTION SHEET 1 OF 11 FOR SUPERELEVATION TABLES.
3. DESIREABLE CROSS SLOPE OF TRAIL IS 1.5%, 2.0% MAX.



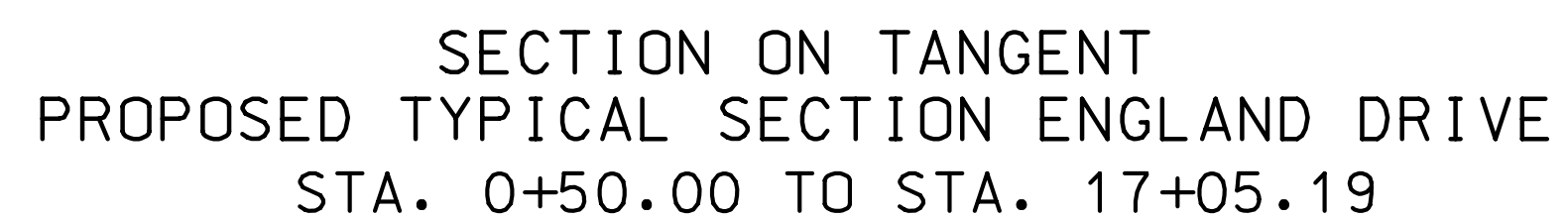
* GRADING TO BE CONSTRUCTED BY OTHERS

☐ TRANSITION 2' TO 0' FROM STA. 34+35.90 TO STA. 34+85.27
0' WIDE FROM STA. 34+85.27 TO STA. 36+00.00

☒ TRANSITION 12' TO 6' FROM STA. 34+35.90 TO STA. 34+85.27
6' WIDE FROM STA. 34+85.27 TO STA. 36+00.00



* GRADING TO BE CONSTRUCTED BY OTHERS



* GRADING TO BE CONSTRUCTED BY OTHERS

☐ TRANSITION 2' TO 2.8' FROM STA. 0+50.00 TO STA. 1+50.00

☐ TRANSITION 2.8' TO 4' FROM STA. 1+50.00 TO STA. 1+90.73

☒ TRANSITION 10' TO 12' FROM STA. 0+50.00 TO STA. 1+50.00

STA. 33+90.90 TO STA. 34+35.90

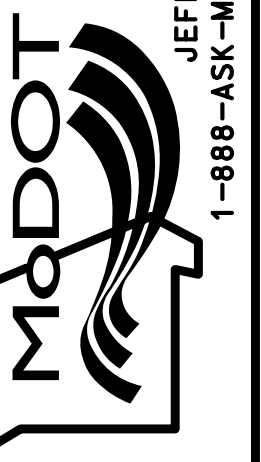
* GRADING TO BE CONSTRUCTED BY OTHERS

FOR INFORMATIONAL PURPOSES ONLY
PMBP= PLANT MIX BITUMINOUS PAVEMENT

DATE PREPARED	
2/7/2022	
ROUTE	STATE
MAY	MO
DISTRICT	SHEET NO.
NW	B. 2
COUNTY	
SULL IVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	

PROJECT NO.BRIDGE NO.[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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

olson

1301 BURLINGTON STREET, STE. 100
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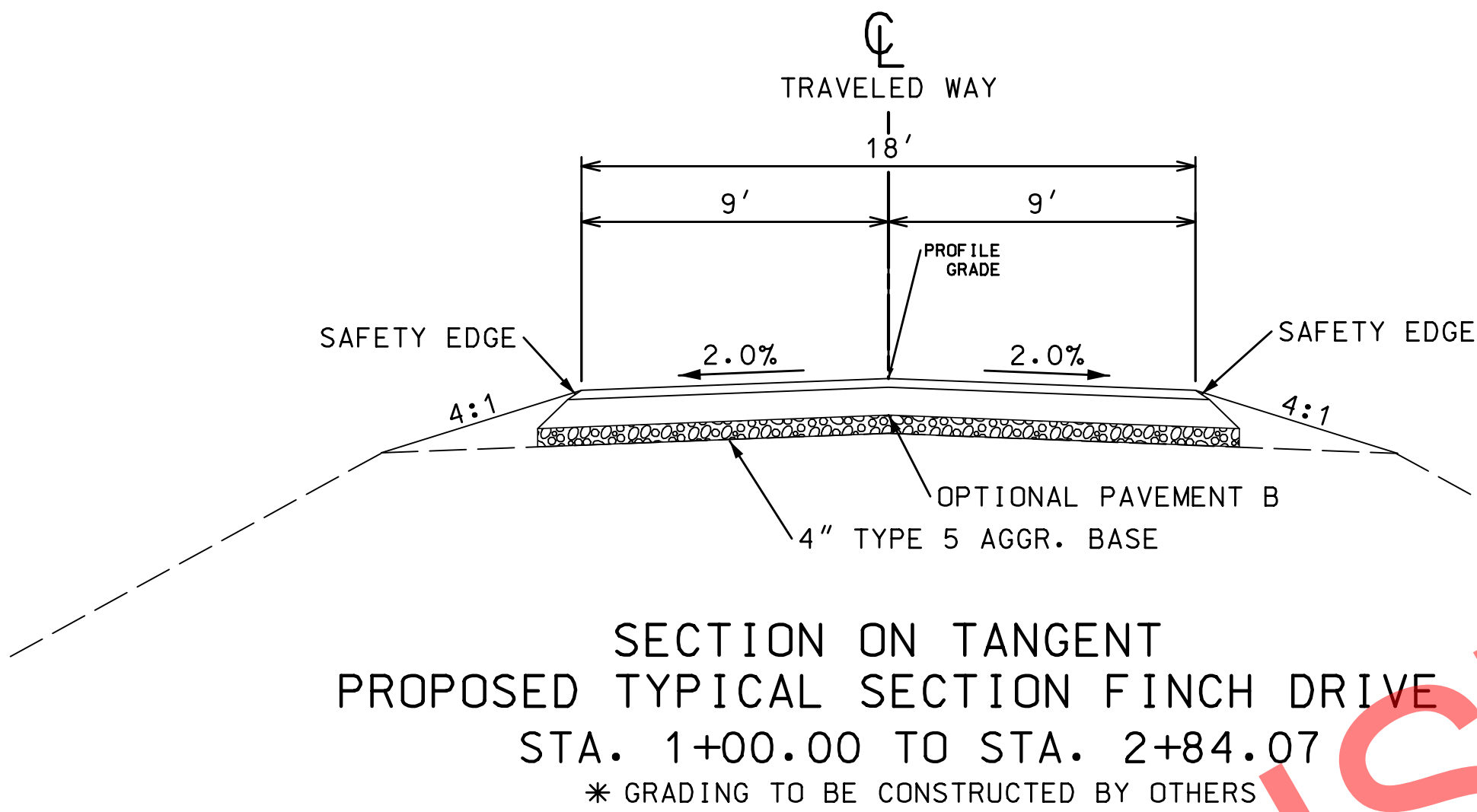
TYPICAL SECTION
SHEET 3 OF 11

NOTES:

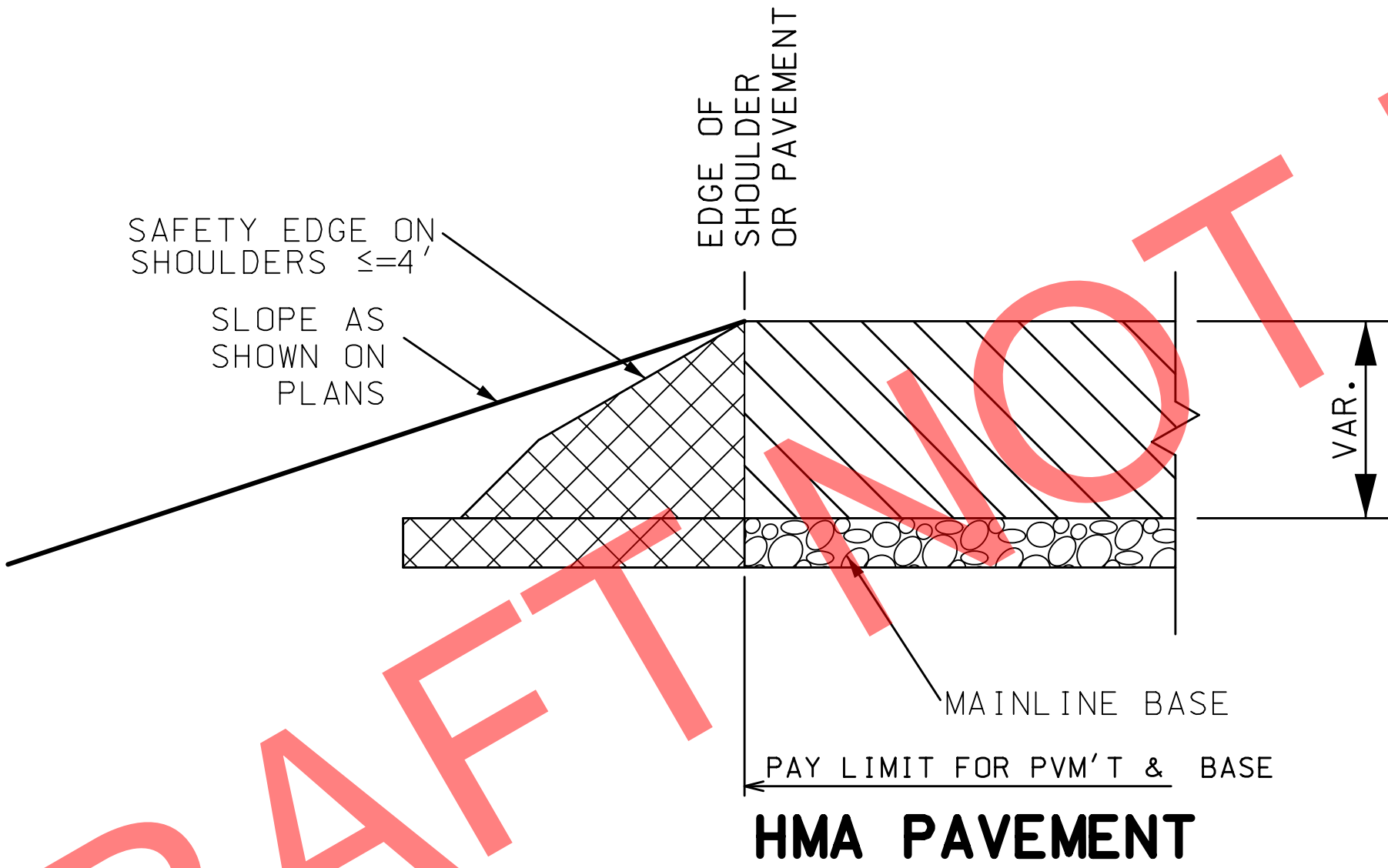
1. SEE STANDARD PLAN 401.00C FOR A2 SHOULDERS & SAFETY EDGE DETAILS.
2. SEE TYPICAL SECTION SHEET 1 OF 11 FOR SUPERELEVATION TABLES.
3. DESIREABLE CROSS SLOPE OF TRAIL IS 1.5%, 2.0% MAX.

ESTIMATE FACTORS FOR ASPHALTIC MIXTURES	
PMBP (BP-1) PG64-22	1.948 TONS/CY
PMBP (BASE) PG64-22	1.943 TONS/CY
TACK COAT	0.10 GAL/SY

FOR INFORMATIONAL PURPOSES ONLY
PMBP= PLANT MIX BITUMINOUS PAVEMENT



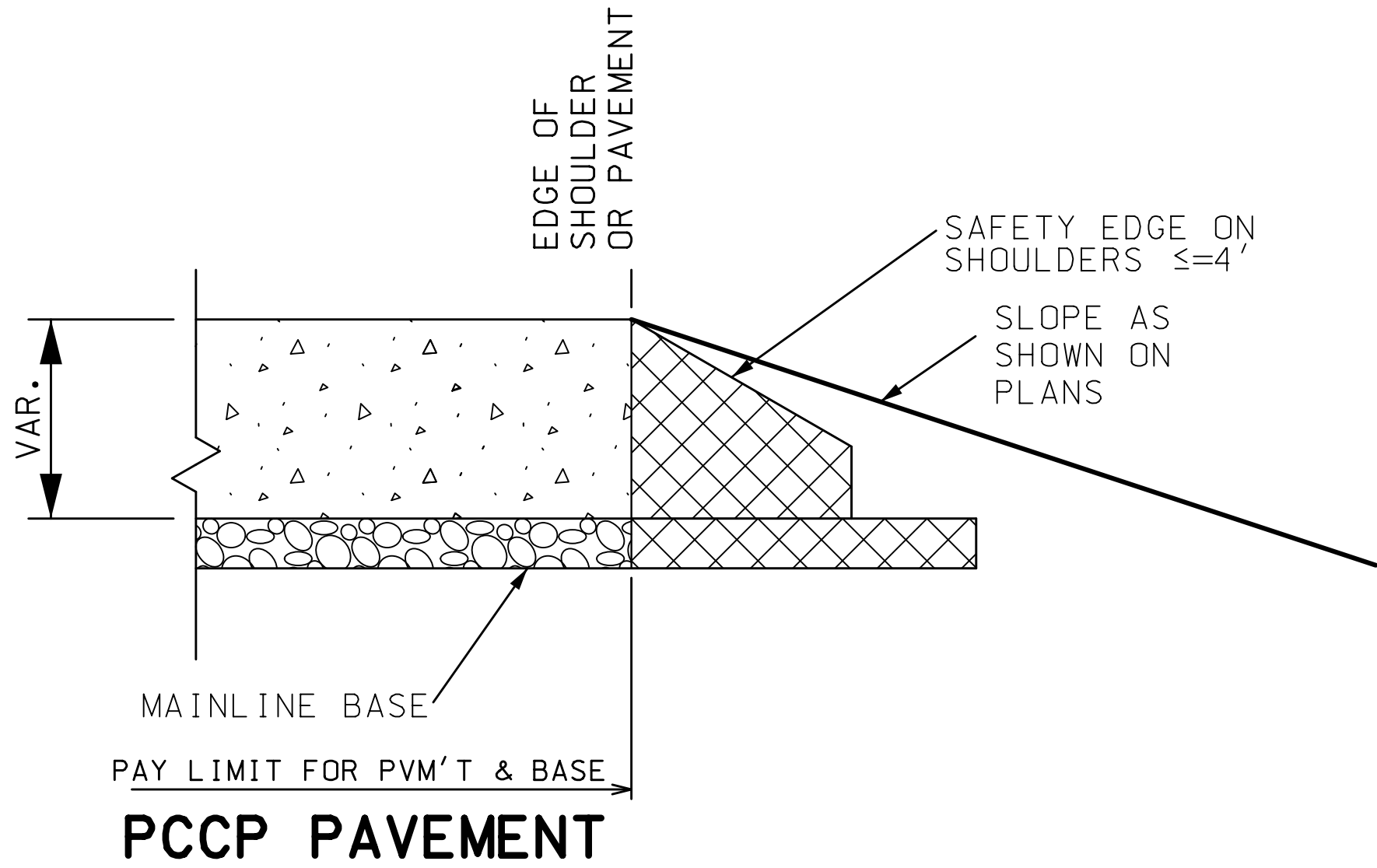
OPTIONAL PAVEMENT B DESIGN



2.00" PMBP (BP-1), PG64-22
6.00" PMBP (BASE), PG64-22
4" TYPE 5 AGGR. BASE

7" PCCP W/15' JOINTS
AND 1.25" DOWELS
4" TYPE 5 AGGR. BASE

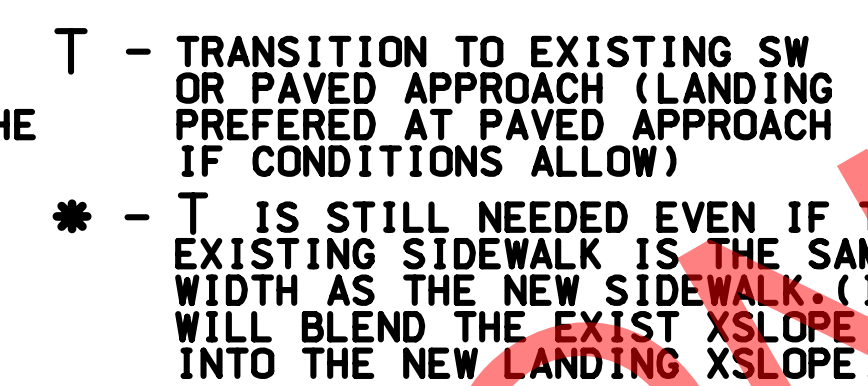
	PCC (PORTLAND CEMENT CONCRETE)
	HMA (HOT MIX ASPHALT)
	MAINLINE BASE
	INCIDENTAL PAVEMENT & BASE



DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.2
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

The diagram illustrates a cross-section of a building labeled "TYPE 1-D". The layout includes several rooms and structural features:

- Rooms:**
 - T (Top Left):** A room with a star symbol, located at the top left corner.
 - L (Top Middle):** A room located below the top-left T room.
 - R (Top Right):** A room located to the right of the top-middle L room.
 - L (Bottom Left):** A room located below the top-middle L room.
 - R (Bottom Middle):** A room located below the top-right R room.
 - T (Bottom Right):** A room with a star symbol, located at the bottom right corner.
- Structural Elements:**
 - Walls:** Indicated by lines with arrows pointing outwards, showing the building's footprint.
 - Roof/Structure:** A curved structure on the right side, possibly a dome or a curved wall, with a dotted pattern.
 - Foundation/Support:** A dashed line at the bottom left, indicating a foundation or support structure.



R - RAMP

R - RAMP

 - CURB RAMP PAY LIMITS

↓ ↓ - SOD ~~SLOPE~~ 6:1 MIN.

 - TRUNCATED DOME LOCATION,
IF DIST. IS < 5' OR > 5'

**TRUNCATED DOMES ARE USED ONLY
AT STREETS & ENTRANCES UTILIZING
YIELD / STOP SIGNS OR SIGNALS**

NOTE:
QUANTITIES ARE CALCULATED BY AREA AND
MAY NOT MATCH EXACT FIELD CONDITIONS.



TYPE 1
PERPENDICULAR CURB RAMPS
TYPICAL SECTION SHEET 6 OF 11

PARALLEL - TYPE 2											
TYPE 2-A											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	9.1	10.6	-	11.8	13.7	-	14.4	16.8	
CONC. SIDEWALK	SY	-	5.6	6.4	-	4.9	5.7	-	4.9	5.7	
TYPE 1 AGGREGATE	SY	-	14.7	17.0	-	16.7	19.4	-	19.3	22.5	
ADA LINEAR GRADING	LF	-	26.0	26.0	-	29.0	29.0	-	33.0	33.0	
SODDING	SY	-	8.0	8.3	-	8.6	8.8	-	9.6	9.8	
TYPE 2-B											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	11.8	13.3	-	14.5	16.4	-	17.2	19.5	
CONC. SIDEWALK	SY	-	5.6	6.4	-	4.9	5.7	-	4.9	5.7	
TYPE 1 AGGREGATE	SY	-	17.4	19.7	-	19.4	22.1	-	22.1	25.2	
ADA LINEAR GRADING	LF	-	26.0	26.0	-	29.0	29.0	-	33.0	33.0	
SODDING	SY	-	13.8	14.1	-	15.1	15.5	-	17.1	17.5	
TYPE 2-C											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	16.4	18.7	-	21.7	24.9	-	27.0	31.2	
CONC. SIDEWALK	SY	-	11.2	12.8	-	9.8	11.4	-	9.8	11.4	
TYPE 1 AGGREGATE	SY	-	27.6	31.5	-	31.5	36.3	-	36.8	42.6	
ADA LINEAR GRADING	LF	-	41.0	41.0	-	47.0	47.0	-	55.0	55.0	
SODDING	SY	-	12.3	12.5	-	13.6	13.9	-	15.6	15.9	
TYPE 2-D											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	16.8	19.2	-	22.2	25.4	-	27.5	31.6	
CONC. SIDEWALK	SY	-	11.2	12.8	-	9.8	11.4	-	9.8	11.4	
TYPE 1 AGGREGATE	SY	-	28.0	32.0	-	32.0	36.8	-	37.3	43.0	
ADA LINEAR GRADING	LF	-	41.0	41.0	-	47.0	47.0	-	55.0	55.0	
SODDING	SY	-	20.2	20.3	-	22.4	23.2	-	26.4	27.2	
TYPE 2-E											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	10.8	11.5	-	13.2	14.4	-	15.7	17.3	
CONC. SIDEWALK	SY	-	5.6	6.7	-	5.0	6.0	-	5.0	6.0	
TYPE 1 AGGREGATE	SY	-	16.4	18.2	-	18.2	20.4	-	20.7	23.3	
ADA LINEAR GRADING	LF	-	22.5	22.5	-	26.5	26.5	-	30.5	30.5	
SODDING	SY	-	-	-	-	-	-	-	-	-	
HANDRAIL	LF	-	-	-	-	-	-	-	-	-	SEE STANDARDS FOR LENGTH
TYPE 2-F											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	15.5	17.1	-	20.4	23.1	-	25.5	28.9	
CONC. SIDEWALK	SY	-	11.2	13.4	-	10.0	12.0	-	10.0	12.0	
TYPE 1 AGGREGATE	SY	-	26.7	30.5	-	30.4	35.1	-	35.5	40.9	
ADA LINEAR GRADING	LF	-	39.0	39.0	-	47.0	47.0	-	55.0	55.0	
SODDING	SY	-	-	-	-	-	-	-	-	-	
HANDRAIL	LF	-	-	-	-	-	-	-	-	-	SEE STANDARDS FOR LENGTH

NOTE:
QUANTITIES ARE CALCULATED BY AREA AND
MAY NOT MATCH EXACT FIELD CONDITIONS.

*** 3.5' LANDING EXTENSION REQ'D.
FOR INSTALLATION OF FUTURE OR NEW
PED. PUSH BUTTON

NOTE: SEE STANDARDS FOR ALL PED.
PUSH BUTTON LOCATIONS

----- TRUNCATED DOME

TRUNCATED DOMES ARE USED ONLY
AT STREETS & ENTRANCES UTILIZING
YIELD / STOP SIGNS OR SIGNALS

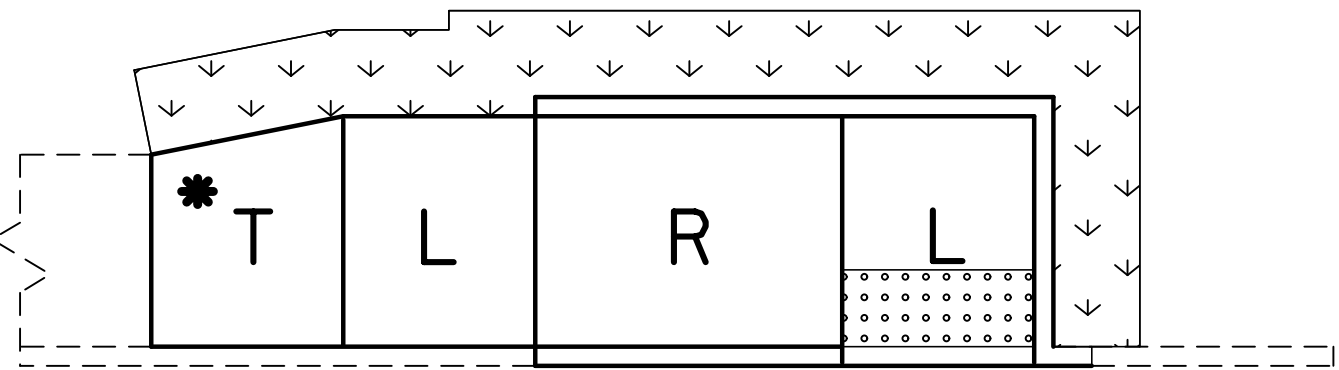
T - TRANSITION TO EXISTING SW
* - T IS STILL NEEDED EVEN IF THE
EXISTING SIDEWALK IS THE SAME
WIDTH AS THE NEW SIDEWALK. (IT
WILL BLEND THE EXIST XSLOPE
INTO THE NEW LANDING XSLOPE)

L - LANDING

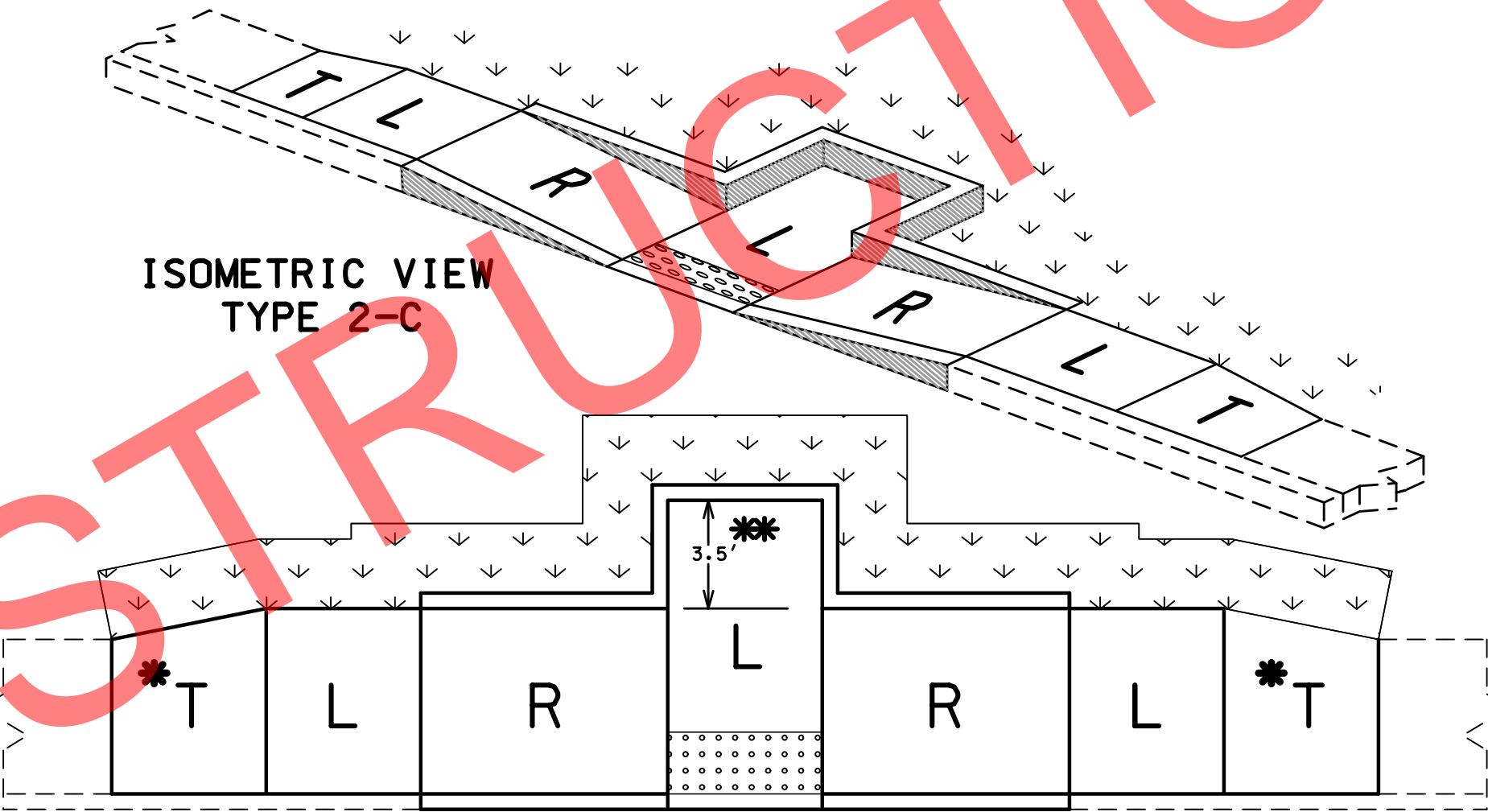
R - RAMP

----- SOD SLOPE 6:1 MIN.

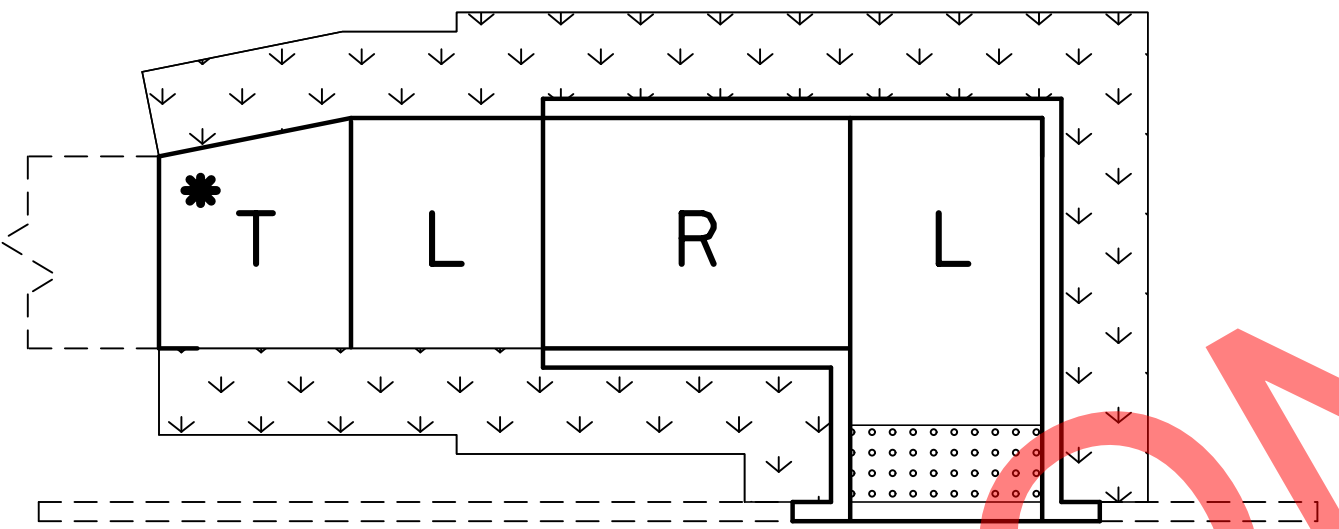
----- CURB RAMP PAY LIMITS



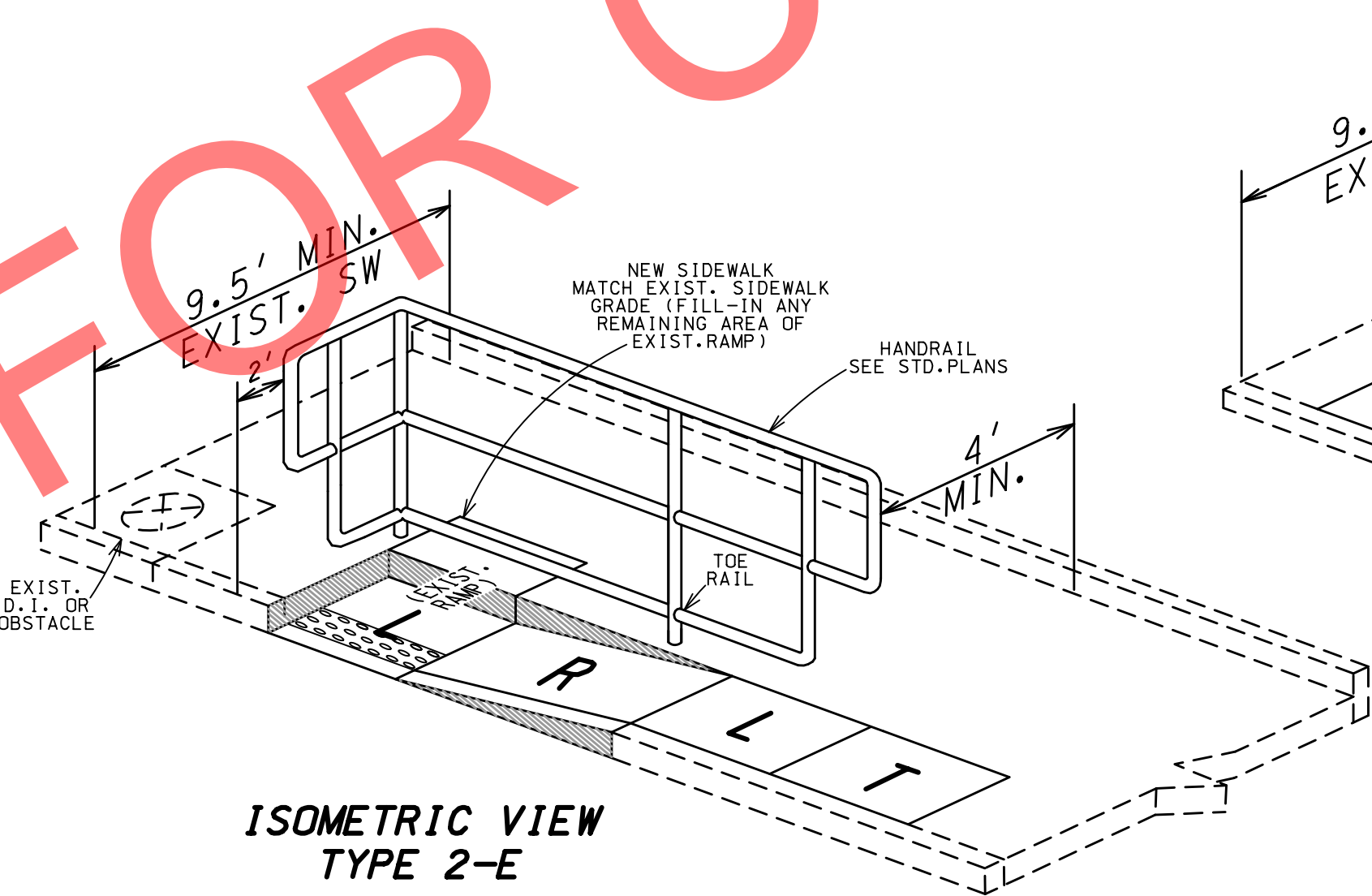
TYPE 2-A



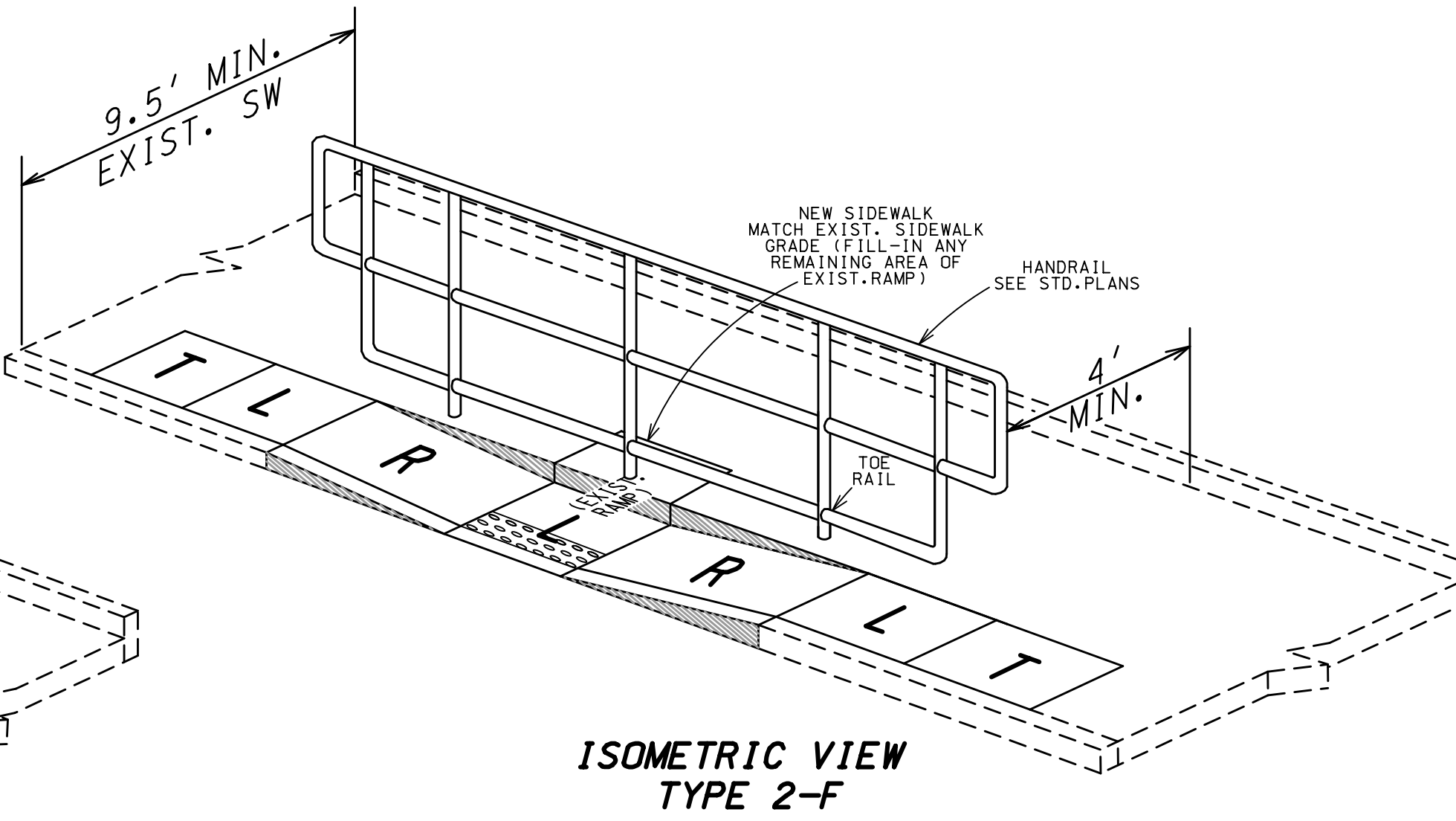
TYPE 2-C



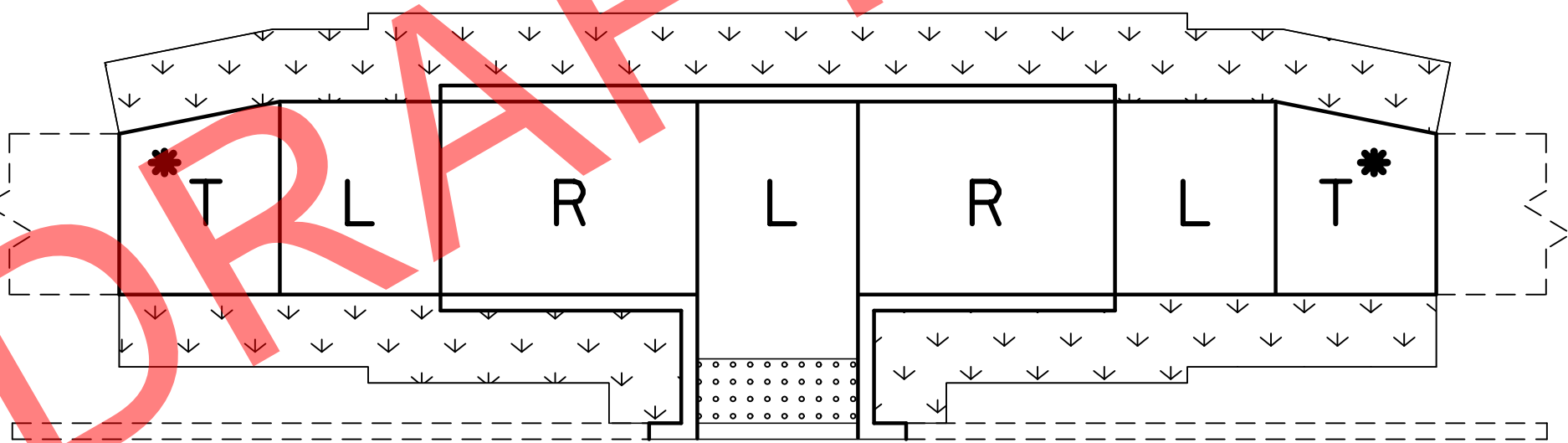
TYPE 2-B



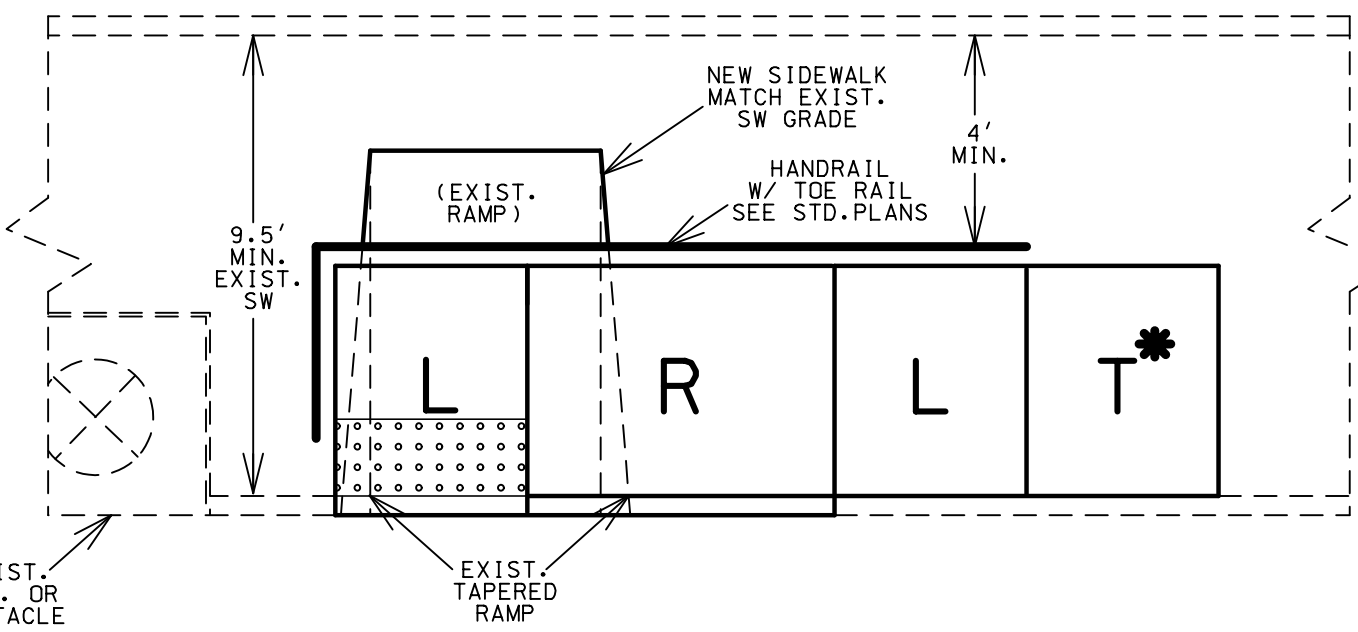
TYPE 2-E



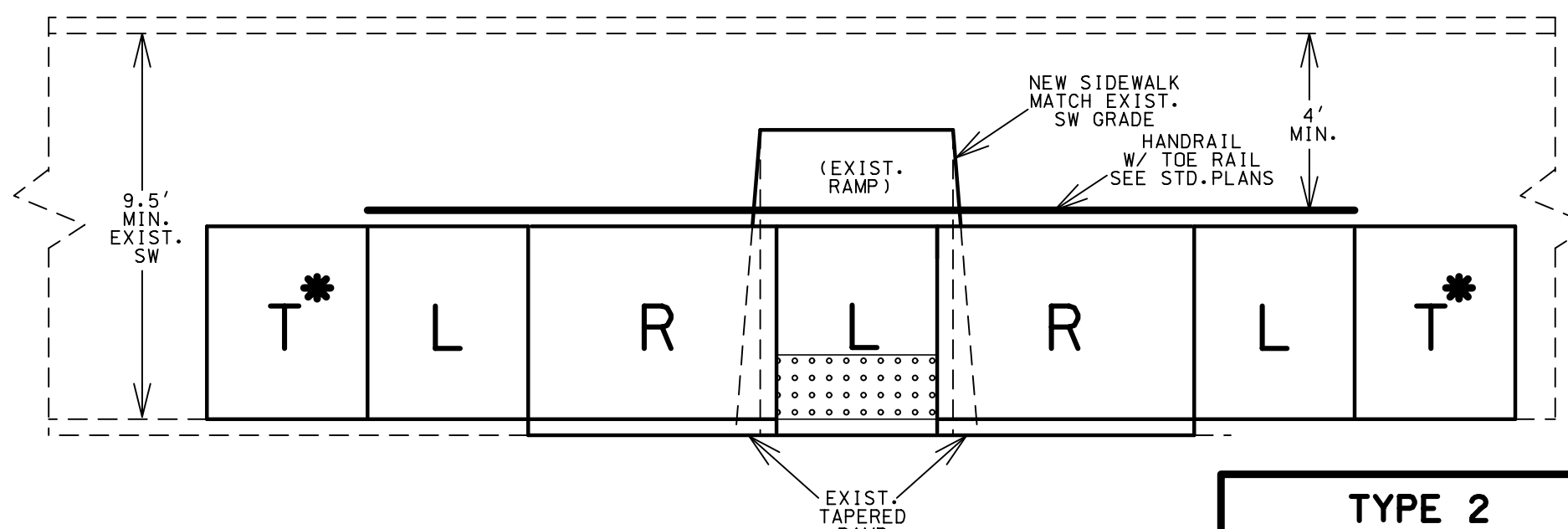
TYPE 2-F



TYPE 2-D



USE ONLY WHEN TYPE 2-F IS UNABLE TO BE CONSTRUCTED DUE TO AN
EXIST. D.I. OR OTHER OBSTACLE
SEE STANDARDS FOR HANDRAIL SPECS



SEE STANDARDS FOR HANDRAIL SPECS

TYPE 2
PARALLEL
CURB RAMPS
TYPICAL SECTION
SHEET 7 OF 11

DATE PREPARED
2/7/2022

ROUTE
MAY

STATE
MO

DISTRICT
NW

SHEET NO.
B.2

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

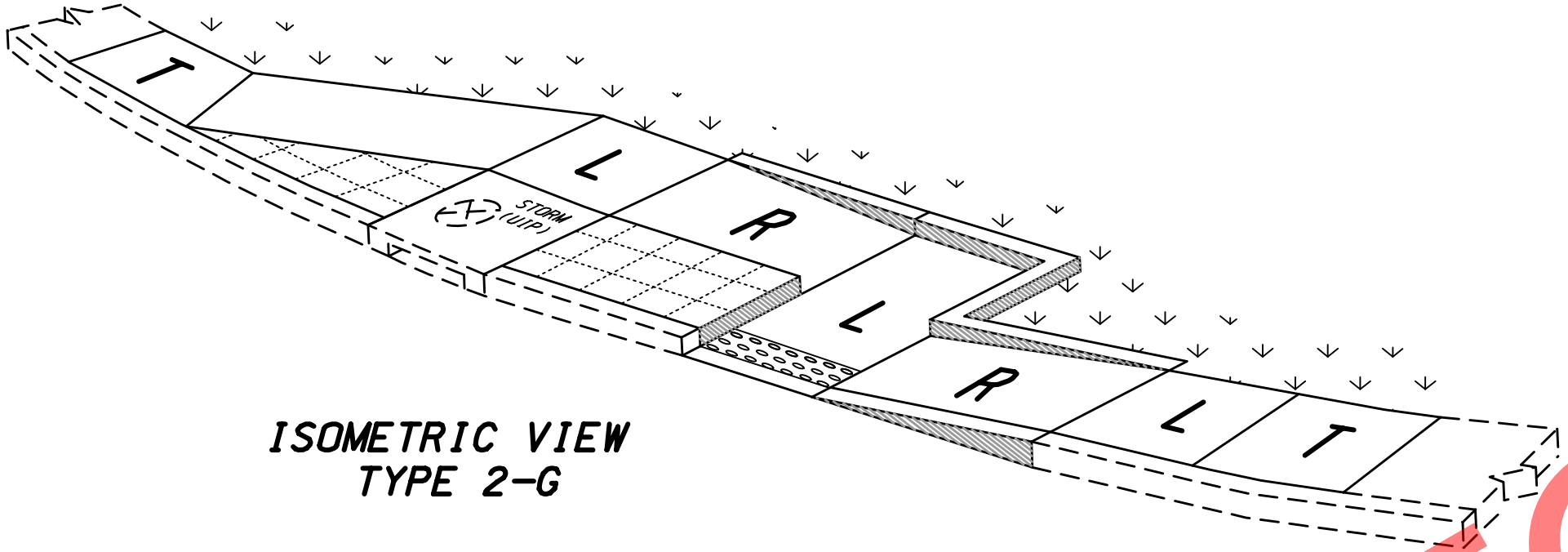
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

olsson

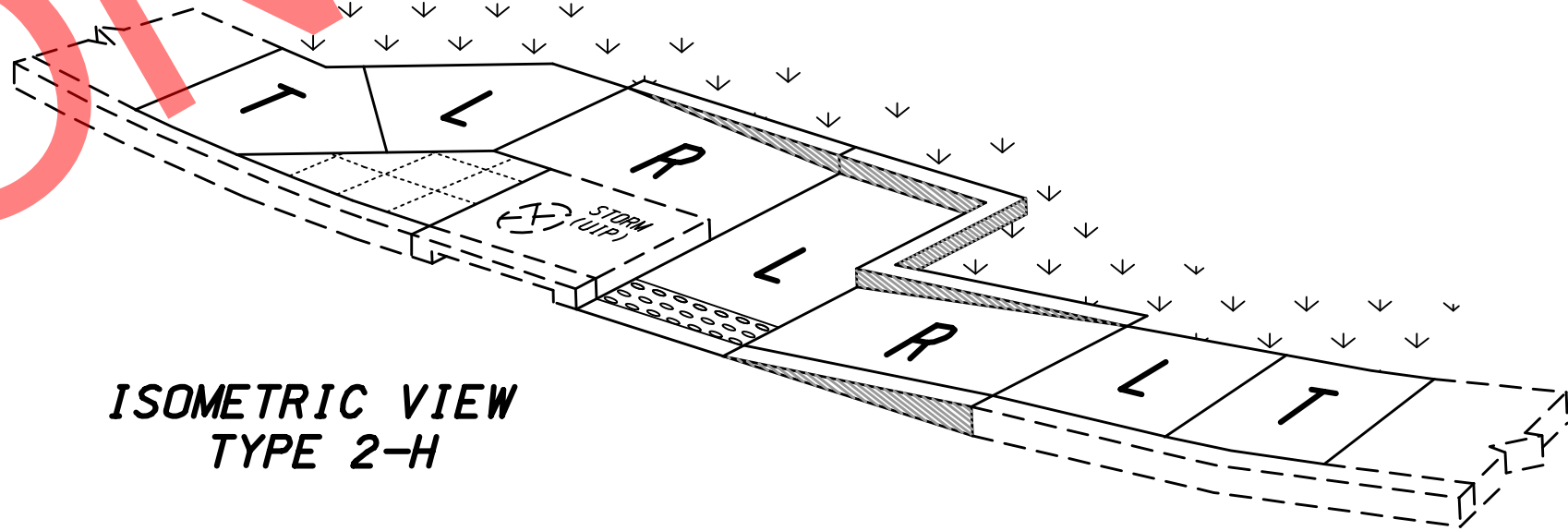
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

PARALLEL - TYPE 2 (cont'd.)										
TYPE 2-G										
LENGTH (LF)	WIDTH (LF)	8			12			16		
		4	5	6	4	5	6	4	5	6
TRUNCATED DOMES	SF	-	12.0	12.0	-	10.0	10.0	-	10.0	10.0
CURB RAMP	SY	-	15.7	18.0	-	20.8	23.7	-	25.8	30.2
CONC. SIDEWALK	SY	-	21.4	25.0	-	17.6	20.3	-	15.2	17.5
TYPE 1 AGGREGATE	SY	-	37.1	43.0	-	38.4	44.0	-	41.0	47.7
ADA LINEAR GRADING	LF	-	52.0	52.0	-	54.0	54.0	-	58.0	58.0
SODDING	SY	-	13.6	13.6	-	13.7	13.5	-	14.5	14.9
REMARKS										
TYPE 2-H										
LENGTH (LF)	WIDTH (LF)	8			12			16		
		4	5	6	4	5	6	4	5	6
TRUNCATED DOMES	SF	-	12.0	12.0	-	10.0	10.0	-	10.0	10.0
CURB RAMP	SY	-	15.7	18.0	-	21.0	24.5	-	26.9	31.4
CONC. SIDEWALK	SY	-	13.2	16.0	-	12.0	14.2	-	12.0	14.4
TYPE 1 AGGREGATE	SY	-	28.9	34.0	-	33.0	38.6	-	38.9	45.8
ADA LINEAR GRADING	LF	-	42.0	42.0	-	49.0	49.0	-	55.0	55.0
SODDING	SY	-	11.1	11.2	-	12.5	12.5	-	14.5	14.9
REMARKS										



PATTERN IN CONC. SW
2'x2' SQUARES
(NO DIRECT PAY)

TYPE 2-G



PATTERN IN CONC. SW
2'x2' SQUARES
(NO DIRECT PAY)

TYPE 2-H

T* - IS STILL NEEDED EVEN IF THE EXISTING SIDEWALK IS THE SAME WIDTH AS THE NEW SIDEWALK. (IT WILL BLEND THE EXIST XSLOPE INTO THE NEW LANDING XSLOPE)

- T - TRANSITION TO EXISTING SW
- L - LANDING
- R - RAMP
- ↓ ↓ - SOD SLOPE 6:1 MIN.
- - TRUNCATED DOME LOCATION, IF DIST. IS <5' OR >5'
- TRUNCATED DOMES ARE USED ONLY AT STREETS & ENTRANCES UTILIZING YIELD / STOP SIGNS OR SIGNALS
- ▨ - CURB RAMP PAY LIMITS
- ▤ - INCLUDED IN 4" CONC. SIDEWALK PAY LIMIT

NOTE:
QUANTITIES ARE CALCULATED BY AREA AND MAY NOT MATCH EXACT FIELD CONDITIONS.

DATE PREPARED
2/7/2022

ROUTE
MAY

STATE
MO

DISTRICT
NW

SHEET NO.
B.2

COUNTY
SULLIVAN

JOB NO.
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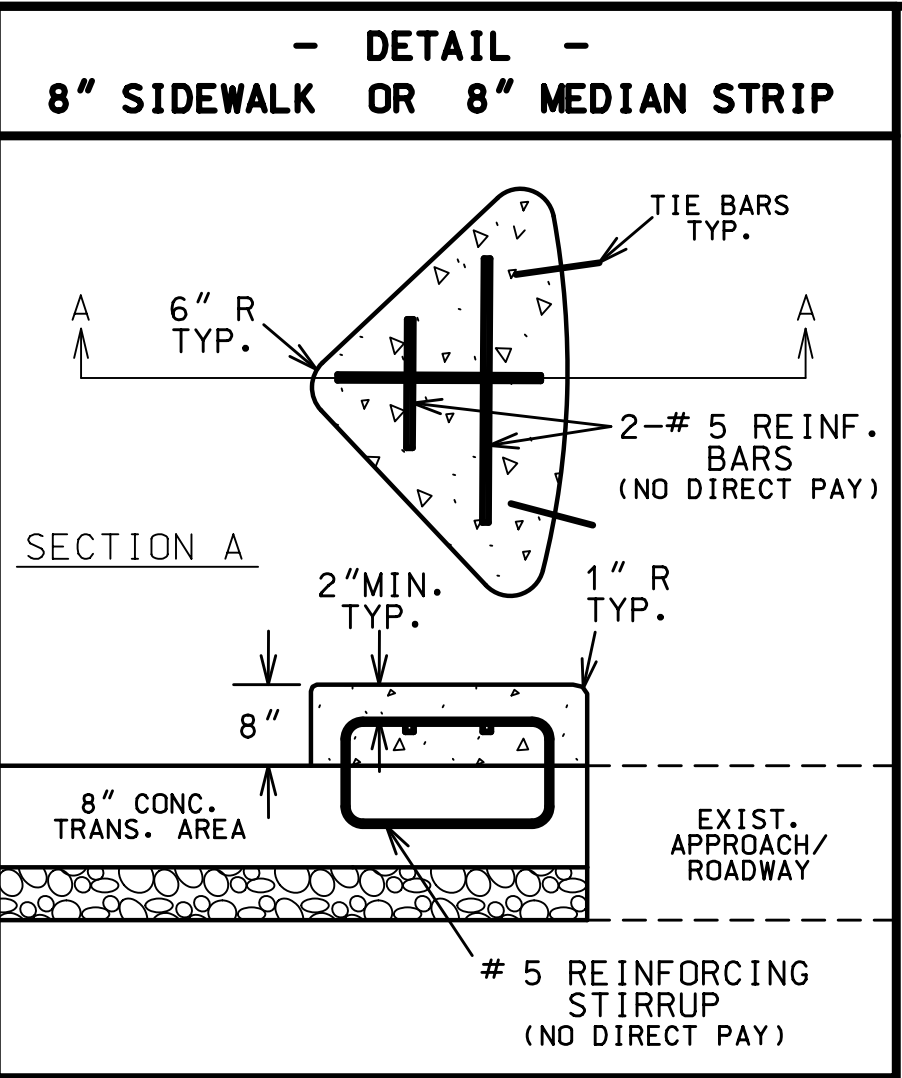
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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1301 BURLINGTON STREET, STE. 100
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CERTIFICATE OF
AUTHORITY NO. 001592

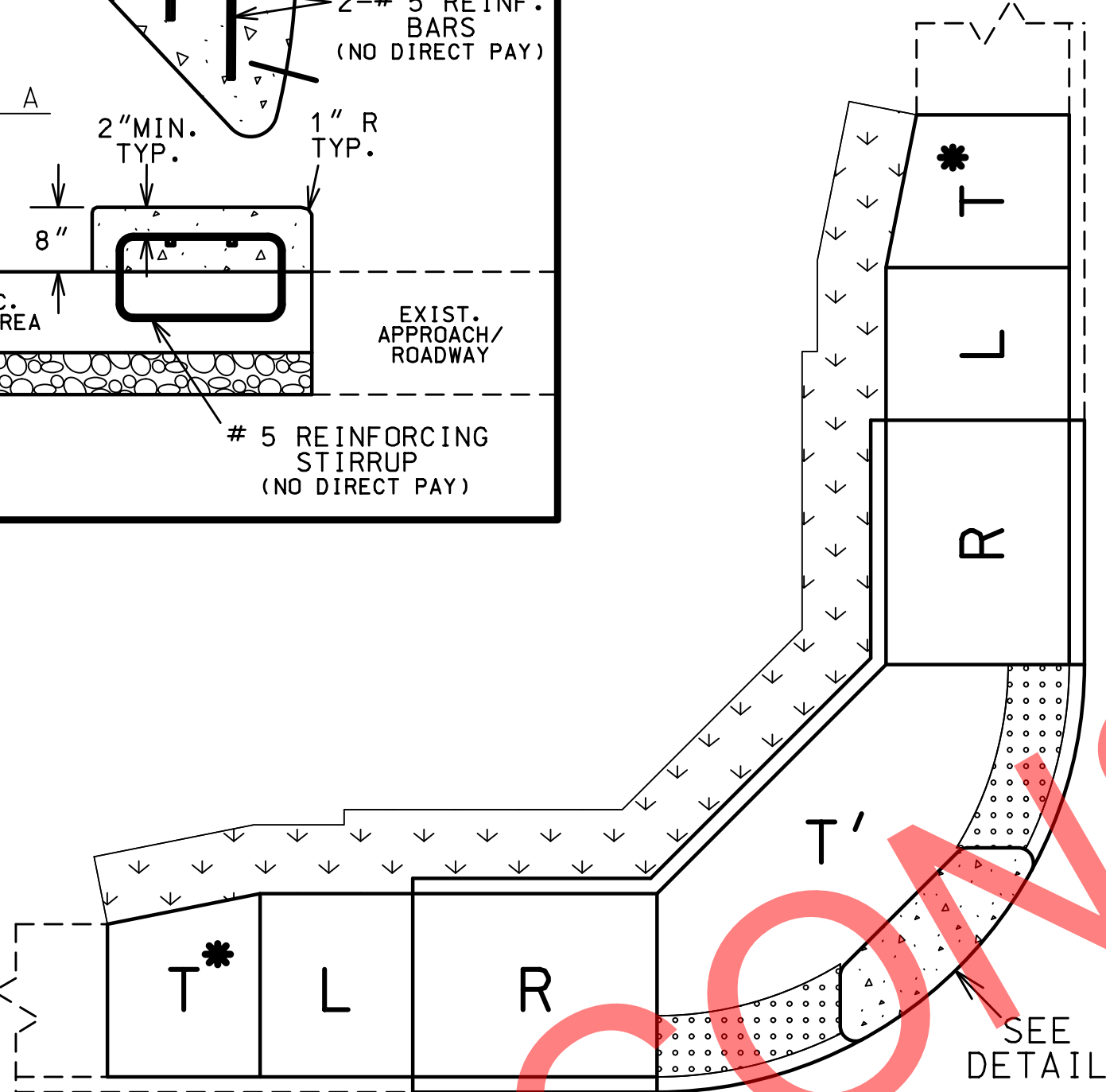
DIAGONAL – TYPE 3											
TYPE 3-A											
LENGTH (LF)	WIDTH (LF)	8			12			16			REMARKS
		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	–	24.0	28.0	–	20.6	25.0	–	20.6	25.0	
CURB RAMP	SY	–	24.4	27.0	–	26.9	31.2	–	32.2	37.4	
CONC. SIDEWALK	SY	–	11.2	12.8	–	9.8	11.4	–	9.8	11.4	
TYPE 1 AGGREGATE	SY	–	35.6	39.8	–	36.7	42.6	–	42.0	48.8	
ADA LINEAR GRADING	LF	–	51.0	51.0	–	59.0	59.0	–	67.0	67.0	
SODDING	SY	–	11.6	11.4	–	12.9	12.9	–	14.9	14.9	
8"SW OR MED STRIP	SY	–	3.0	2.2	–	3.0	2.2	–	3.0	2.2	
TYPE 3-B											
LENGTH (LF)	WIDTH (LF)	8			12			16			REMARKS
		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	–	24.0	28.0	–	20.6	25.0	–	20.6	25.0	
CURB RAMP	SY	–	22.0	26.3	–	25.9	31.2	–	31.2	37.4	
CONC. SIDEWALK	SY	–	11.2	12.8	–	9.8	11.4	–	9.8	11.4	
TYPE 1 AGGREGATE	SY	–	33.2	39.1	–	35.7	42.6	–	41.0	48.8	
ADA LINEAR GRADING	LF	–	51.0	51.0	–	59.0	59.0	–	67.0	67.0	
SODDING	SY	–	15.2	15.3	–	17.1	17.5	–	20.1	20.5	
8"SW OR MED STRIP	SY	–	1.5	1.5	–	1.5	1.5	–	1.5	1.5	
TYPE 3-C											
LENGTH (LF)	WIDTH (LF)	8			12			16			REMARKS
		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	–	20.0	24.0	–	20.0	24.0	–	20.0	24.0	
CURB RAMP	SY	–	20.7	26.8	–	25.1	31.5	–	30.4	37.7	
CONC. SIDEWALK	SY	–	11.2	12.8	–	9.8	11.4	–	9.8	11.4	
TYPE 1 AGGREGATE	SY	–	31.9	39.6	–	34.9	42.9	–	40.2	49.1	
ADA LINEAR GRADING	LF	–	51.0	51.0	–	58.0	58.0	–	67.0	67.0	
SODDING	SY	–	18.8	19.3	–	21.3	22.1	–	25.3	26.1	
8"SW OR MED STRIP	SY	–	1.0	1.6	–	1.0	1.6	–	1.0	1.6	
TYPE 3-D											
LENGTH (LF)	WIDTH (LF)	8			12			16			REMARKS
		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	–	24.0	28.0	–	22.4	26.5	–	22.4	26.5	
CURB RAMP	SY	–	15.9	19.1	–	17.7	21.4	–	20.4	24.5	
CONC. SIDEWALK	SY	–	5.6	6.4	–	4.9	5.7	–	4.9	5.7	
TYPE 1 AGGREGATE	SY	–	21.5	25.5	–	22.6	27.1	–	25.3	30.2	
ADA LINEAR GRADING	LF	–	31.0	31.0	–	34.0	34.0	–	38.0	38.0	
SODDING	SY	–	12.6	12.9	–	13.5	14.0	–	15.5	16.0	
8"SW OR MED STRIP	SY	–	1.0	0.8	–	1.0	0.8	–	1.0	0.8	
TYPE 3-E											
LENGTH (LF)	WIDTH (LF)	8			12			16			REMARKS
		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	–	20.0	24.0	–	20.0	24.0	–	20.0	24.0	
CURB RAMP	SY	–	17.2	19.8	–	17.7	21.4	–	20.4	24.5	
CONC. SIDEWALK	SY	–	8.4	10.7	–	7.3	9.4	–	7.3	9.4	
TYPE 1 AGGREGATE	SY	–	25.6	30.5	–	25.0	30.8	–	27.7	33.9	
ADA LINEAR GRADING	LF	–	30.0	30.0	–	35.5	35.5	–	39.5	39.5	
SODDING	SY	–	12.4	12.4	–	12.9	13.3	–	14.9	15.3	
8"SW OR MED STRIP	SY	–	1.6	1.6	–	1.6	1.6	–	1.6	1.6	



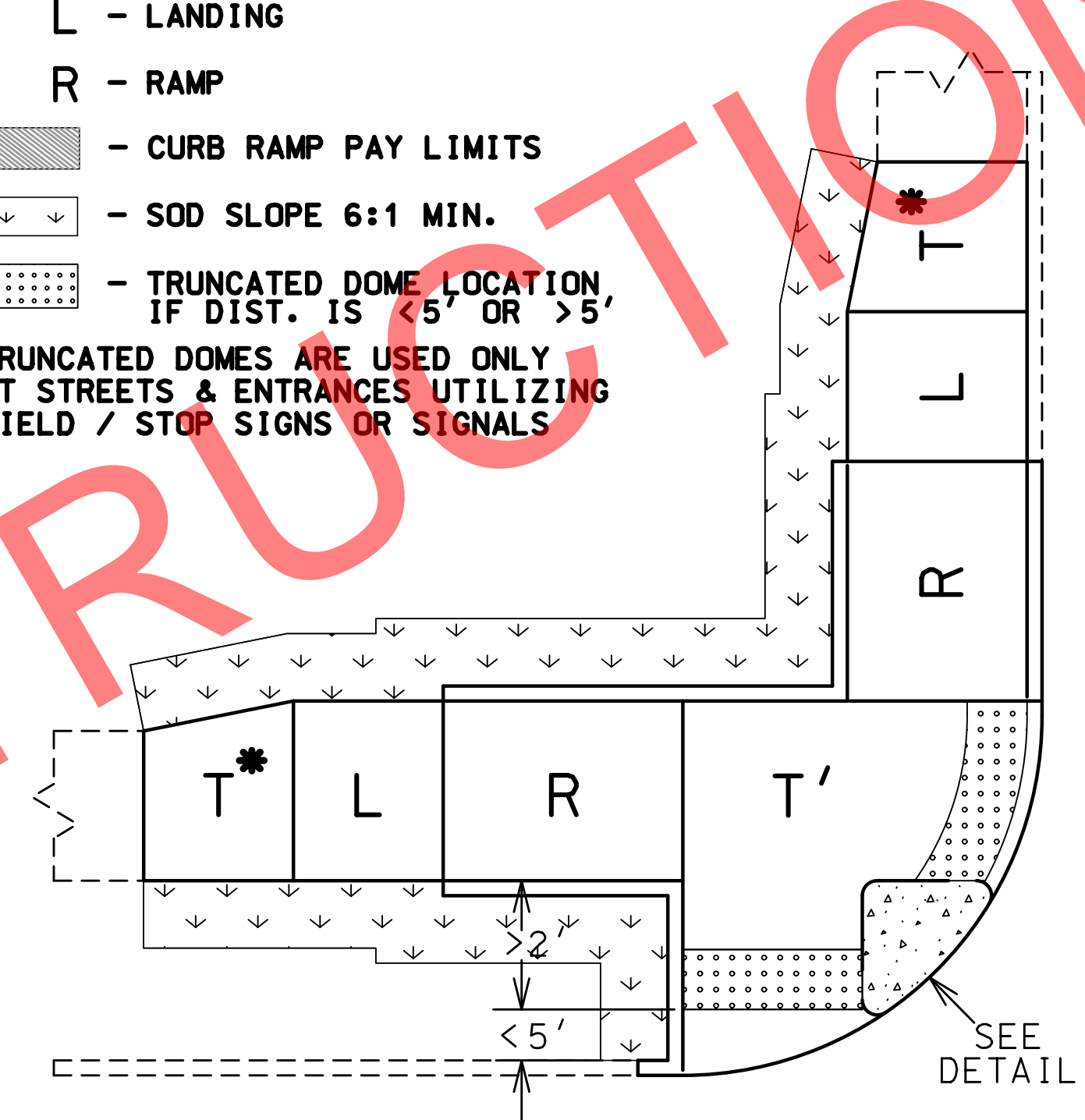
T'- IS TO BE 8" THICK AT ALL PAVED APPROACHES AND STREETS IF WITHIN THE RADIUS. PAID FOR AS CONCRETE CURB RAMP

NOTE: QUANTITIES ARE CALCULATED BY AREA AND MAY NOT MATCH EXACT FIELD CONDITIONS.

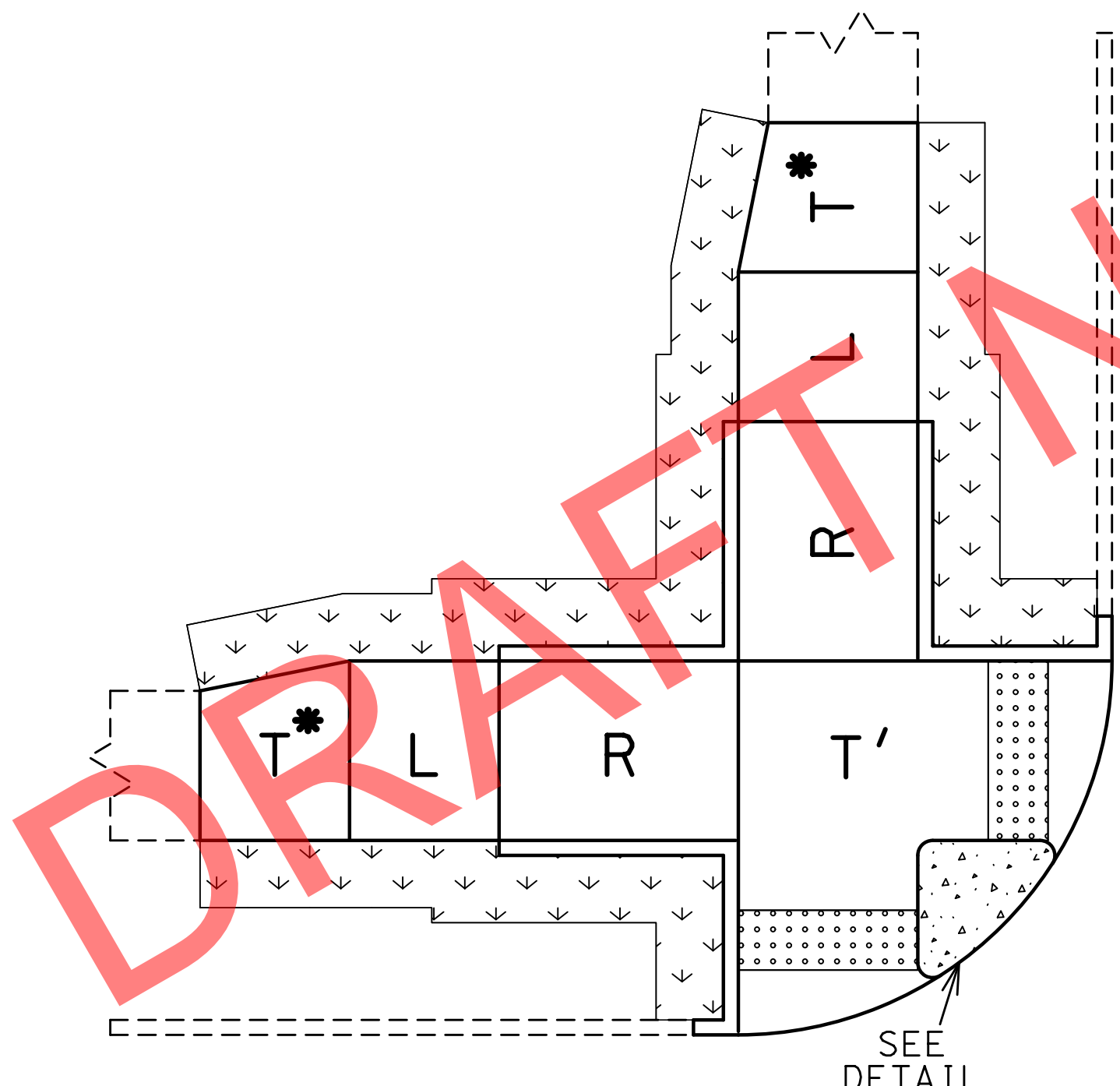
- T - TRANSITION TO EXISTING SW OR PAVED APPROACH (LANDING PREFERRED IF CONDITIONS ALLOW)
- T* - IS STILL NEEDED EVEN IF THE EXISTING SIDEWALK IS THE SAME WIDTH AS THE NEW SIDEWALK. (IT WILL BLEND THE EXIST XSLOPE WITH THE NEW LANDING XSLOPE)
- L - LANDING
- R - RAMP
- CURB RAMP PAY LIMITS
- SOD SLOPE 6:1 MIN.
- TRUNCATED DOME LOCATION, IF DIST. IS <5' OR >5'
- TRUNCATED DOMES ARE USED ONLY AT STREETS & ENTRANCES UTILIZING YIELD / STOP SIGNS OR SIGNALS



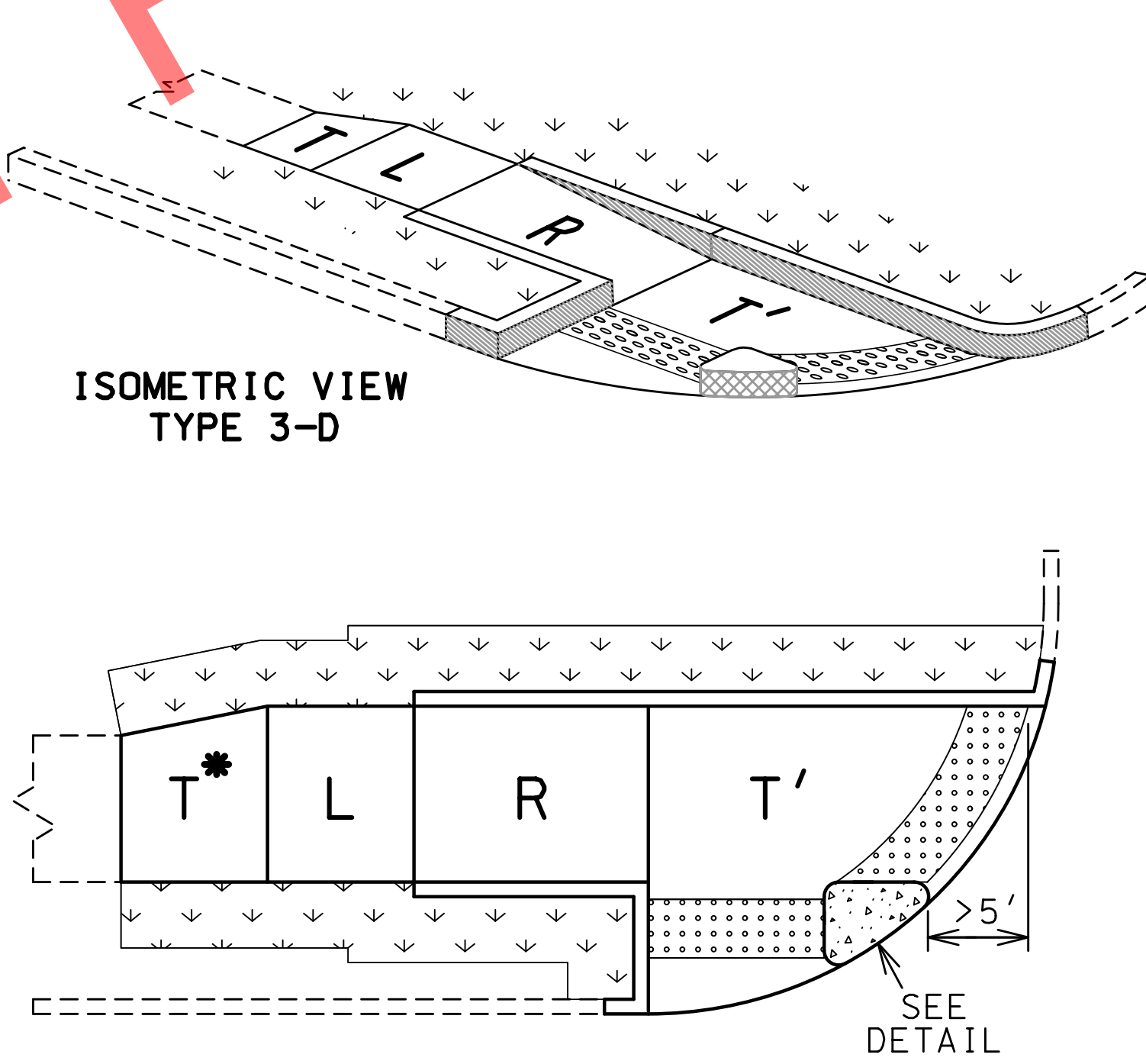
TYPE 3-A



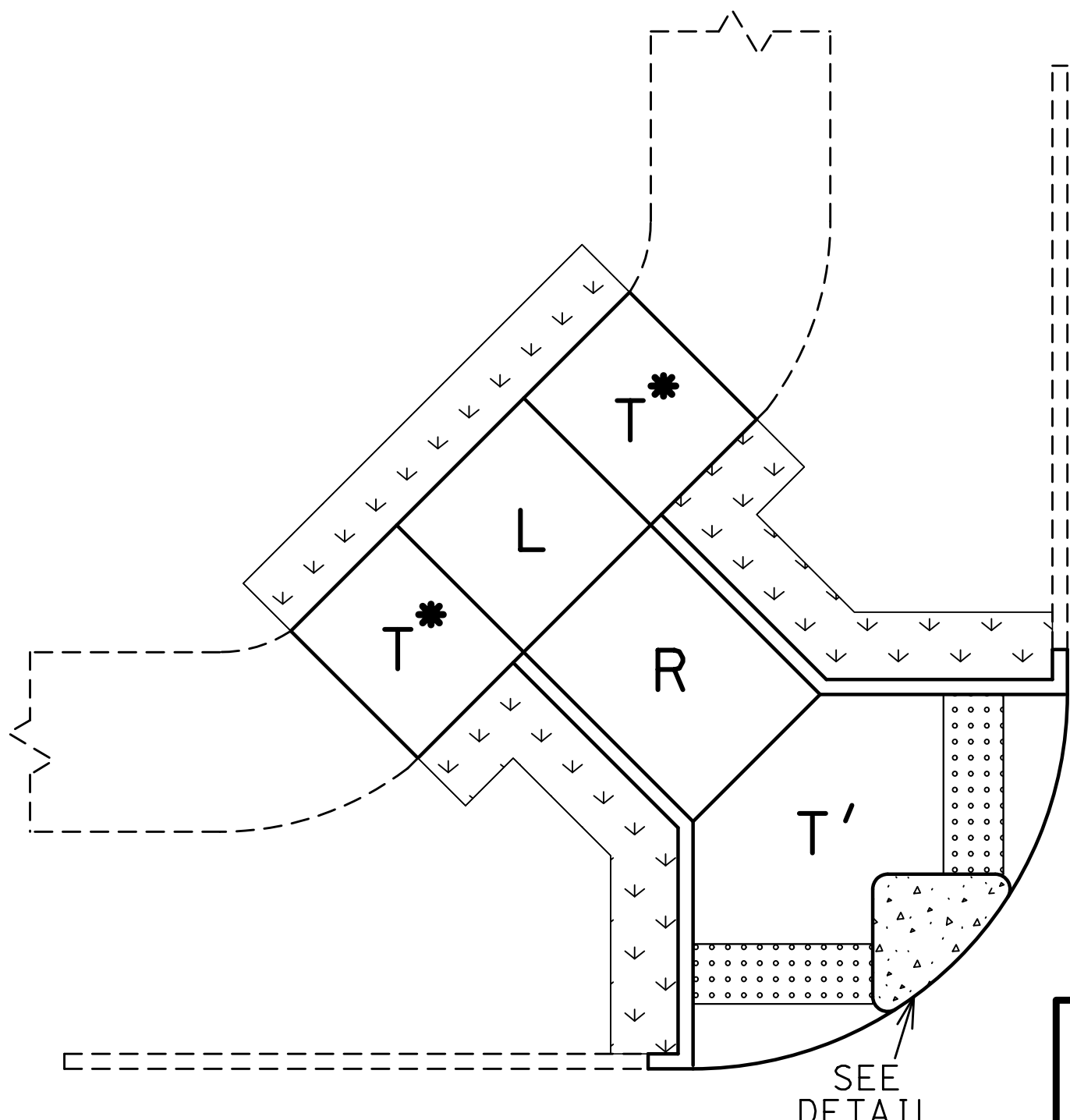
TYPE 3-B



TYPE 3-C



TYPE 3-D



TYPE 3-E

TYPE 3
DIAGONAL
CURB RAMPS
TYPICAL SECTION
SHEET 9 OF 11

DATE PREPARED
2/7/2022

ROUTE
MAY

STATE
MO

DISTRICT
NW

SHEET NO.
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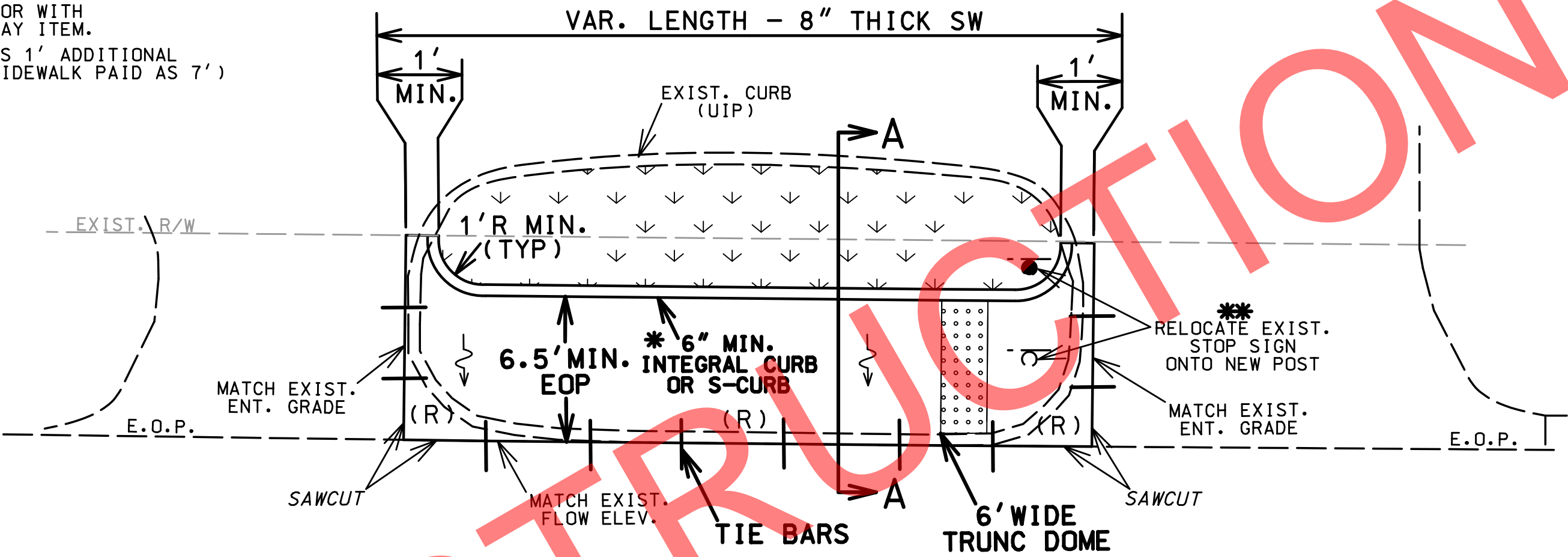
NOTES FOR MODIFIED SIDEWALK:

1. REMOVE EXIST. CURB & RAISED ISLAND WITHIN LIMITS SHOWN.
2. AREA INSIDE FINAL CURB TO BE REPAIRED OR REPLACED WITH EXISTING SURFACE MATERIAL. GRADE TO DRAIN.
3. CONSTRUCT 8" THICK CONC. SIDEWALK FLUSH WITH EXIST. CONC. PAVED APPROACH.
4. CONSTRUCT CURB ADJACENT TO MODIFIED SIDEWALK.
5. MODIFIED SIDEWALK PAID FOR AS 8" SIDEWALK.
6. 6' MINIMUM WIDTH.
7. NO DIRECT PAY FOR SAW CUTS AND TIE BARS (ON 12" CENTERS MAX.)
8. TRUNCATED DOMES ARE USED ONLY AT STREETS & ENTRANCES UTILIZING STOP SIGNS OR SIGNALS.
9. X-SLOPE 1% PREFERRED (2% MAX.)
10. USE S-CURB IF CONSTRUCTING CURB ON R/W LINE.

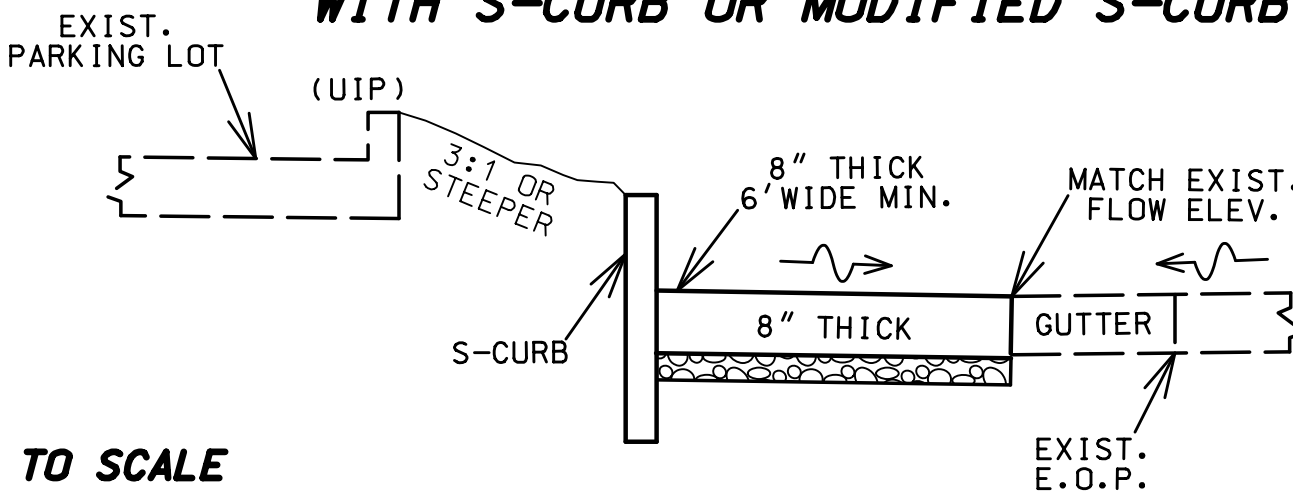
* INTEGRAL CURB IS PAID FOR WITH THE 8" CONC. SIDEWALK PAY ITEM.
INTEGRAL CURB IS PAID AS 1' ADDITIONAL SIDEWALK WIDTH (EX. 6' SIDEWALK PAID AS 7')
(0.11 SY/LF OF CURB)

TYPICAL
MODIFIED SIDEWALK
8" THICK

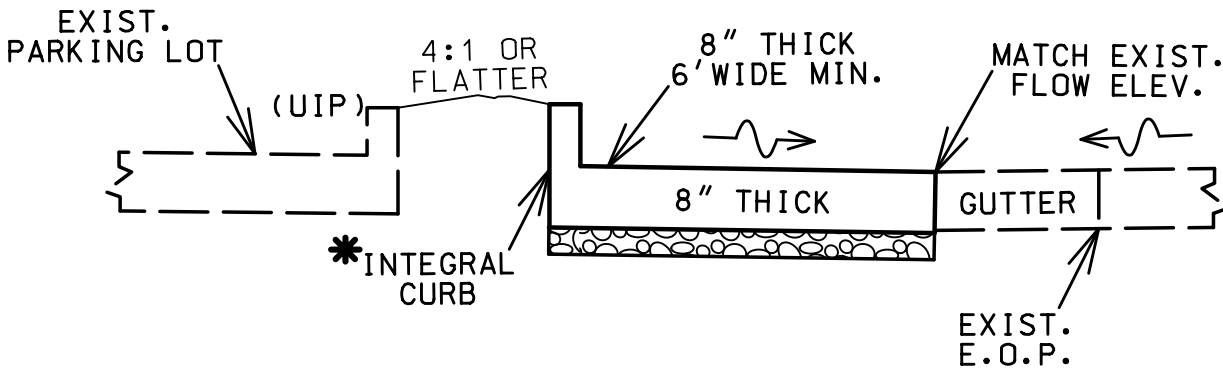
** TRUNCATED DOMES ARE USED ONLY AT STREETS & ENTRANCES UTILIZING STOP/YIELD SIGNS OR SIGNALS.



SECTION A-A
WITH S-CURB OR MODIFIED S-CURB



SECTION A-A
WITH INTEGRAL CURB



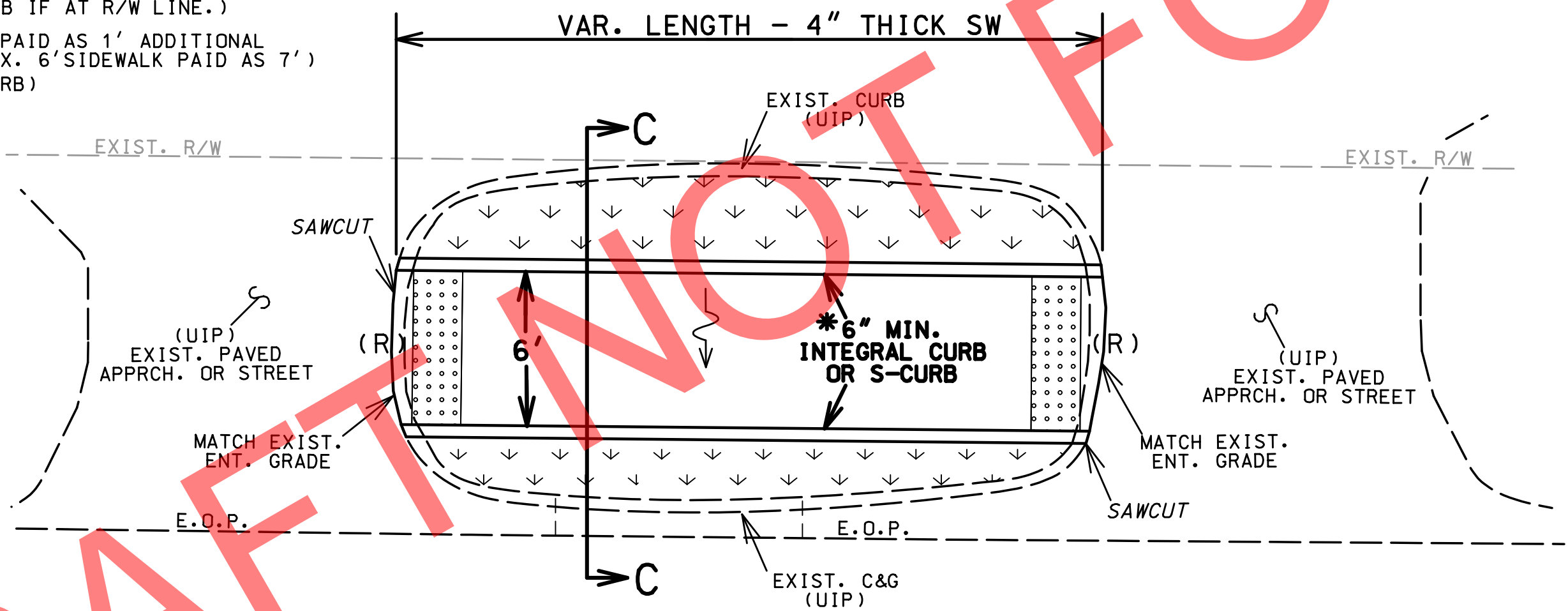
NOT TO SCALE

NOTES FOR CUT-THRU SIDEWALK:

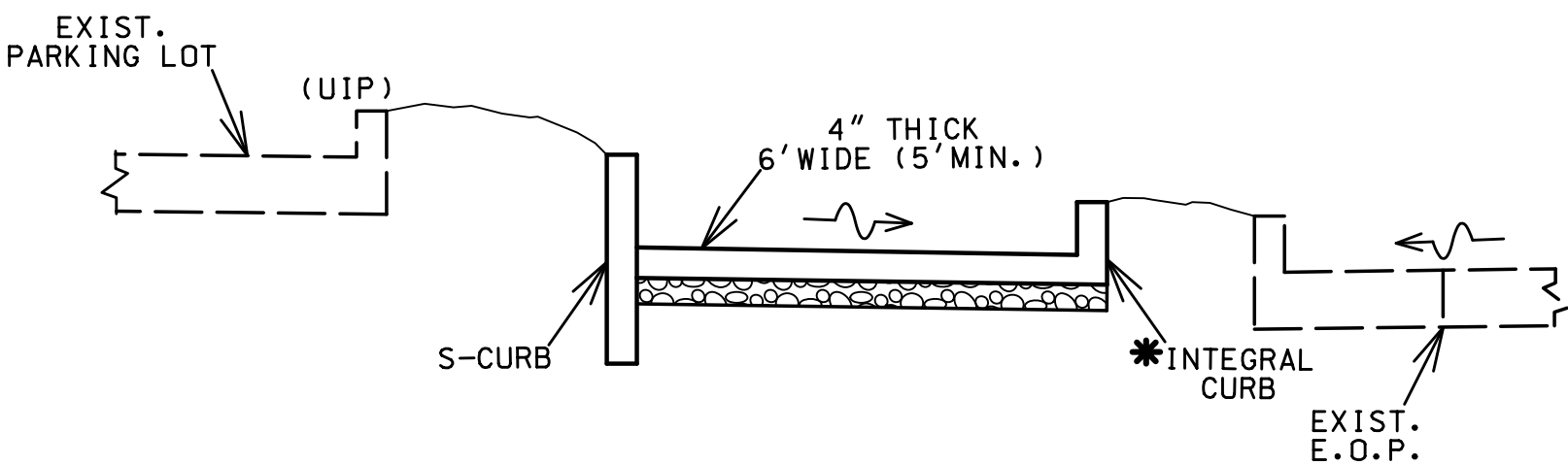
1. REMOVE EXIST. CURB & RAISED ISLAND WITHIN LIMITS SHOWN.
2. AREA INSIDE FINAL CURB TO BE REPAIRED OR REPLACED WITH EXISTING SURFACE MATERIAL. GRADE TO DRAIN.
3. CONSTRUCT 4" THICK CONC. SIDEWALK FLUSH WITH EXIST. CONC. PAVED APPROACH.
4. CONSTRUCT CURB ON BOTH SIDES ADJACENT TO SIDEWALK.
5. CUT-THRU SIDEWALK PAID FOR AS 4" SIDEWALK.
6. 6' PREFERRED WIDTH (5' MIN.)
7. SAW CUTS (NO DIRECT PAY).
8. TRUNCATED DOMES ARE USED ONLY AT STREETS & ENTRANCES UTILIZING STOP SIGNS OR SIGNALS.
9. X-SLOPE 1% PREFERRED (2% MAX.)
10. USE S-CURB IF CONSTRUCTING CURB ON R/W LINE.

* INTEGRAL CURB IS PAID FOR AS 4" CONC. SIDEWALK PAY ITEM. S-CURB IS PAID FOR AS ITS OWN PAY ITEM.
(ALWAYS USE S-CURB IF AT R/W LINE.)
INTEGRAL CURB IS PAID AS 1' ADDITIONAL SIDEWALK WIDTH (EX. 6' SIDEWALK PAID AS 7')
(0.11 SY/LF OF CURB)

TYPICAL
CUT-THRU SIDEWALK

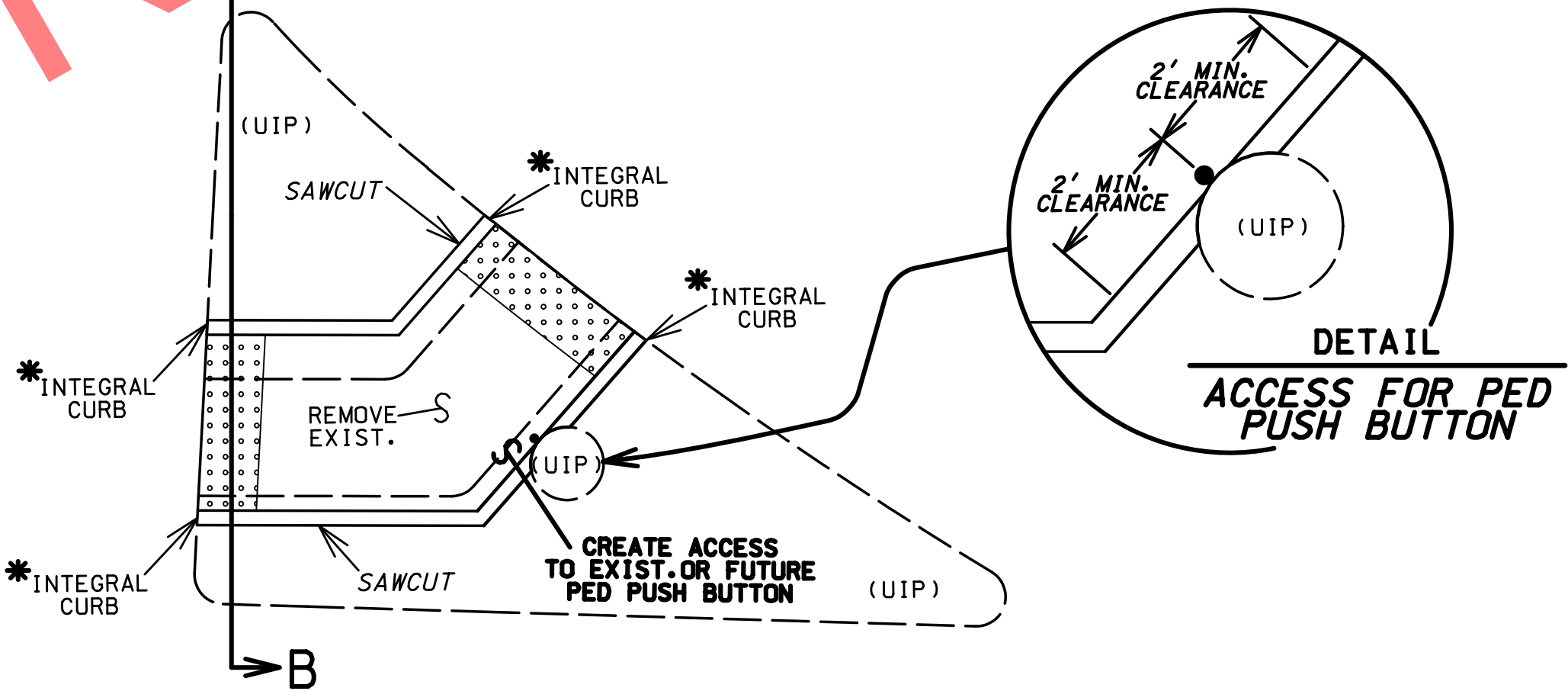


SECTION C-C
WITH S-CURB OR INTEGRAL

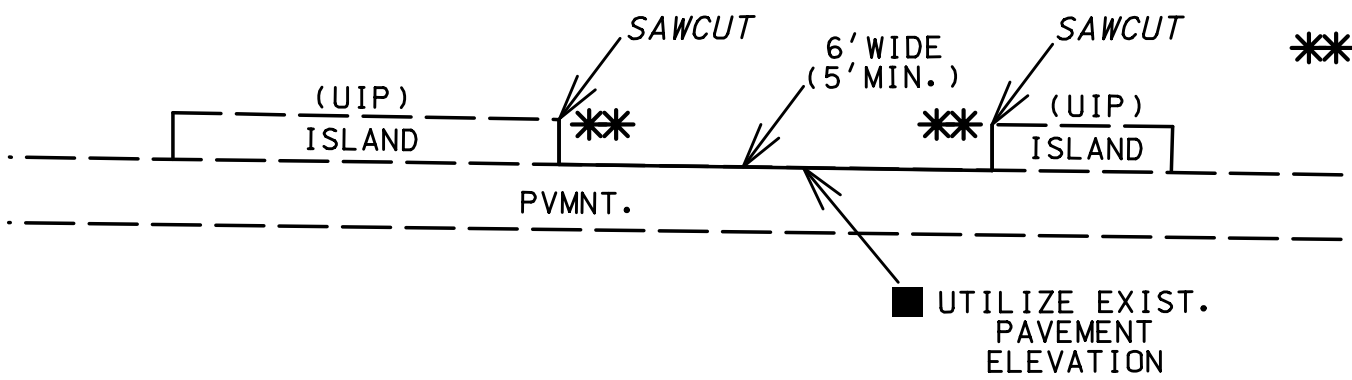


NOT TO SCALE

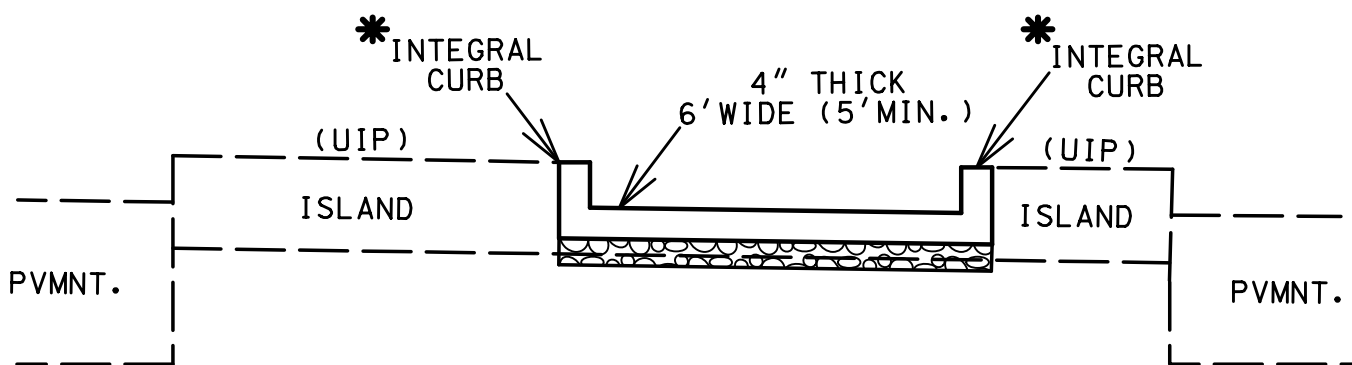
TYPICAL
ISLAND CUT-THRU SIDEWALK
X-SLOPE 2% MAX. CONSTRUCT TO DRAIN



SECTION B-B
ISLAND CUT-THRU SIDEWALK
FOR EXISTING 'PINNED-ON' ISLAND



SECTION B-B
ISLAND CUT-THRU SIDEWALK

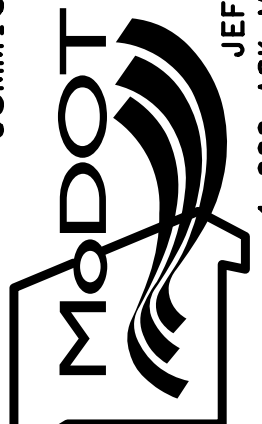


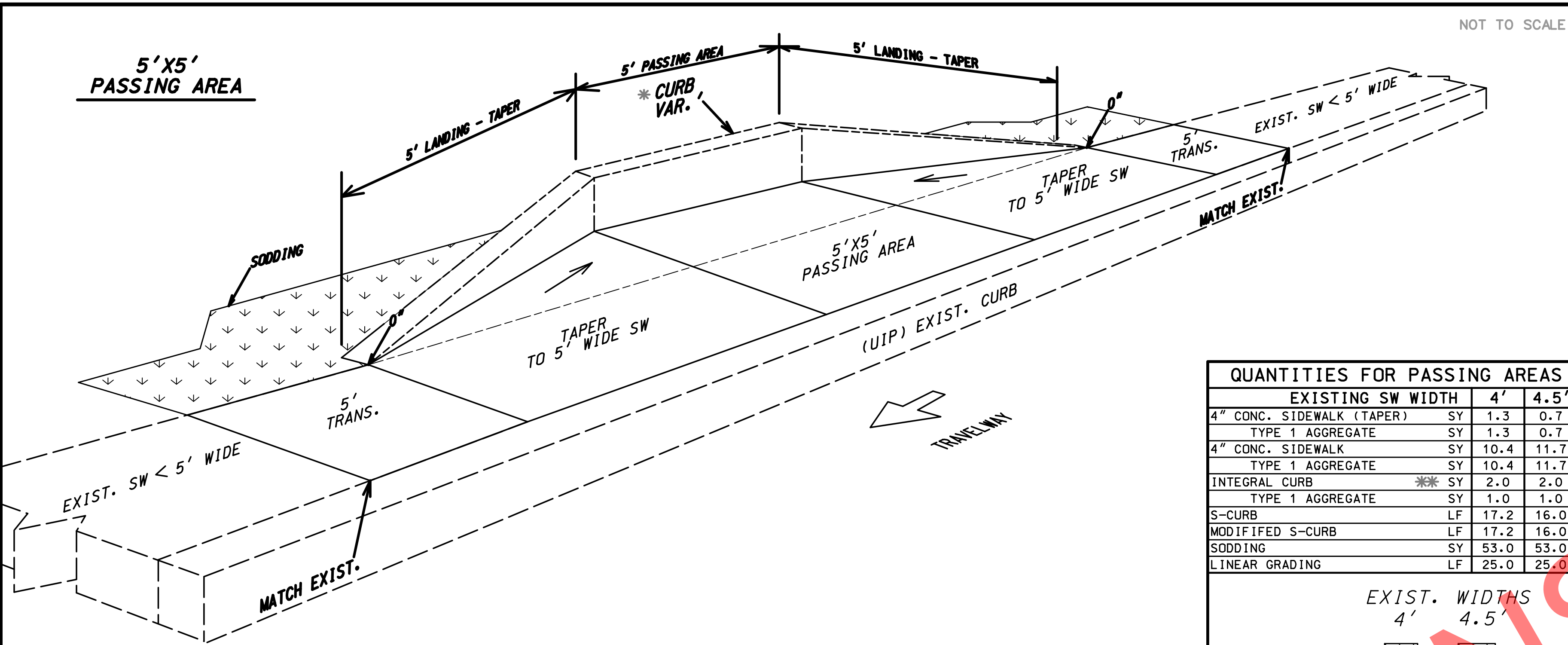
■ SMALL QTY. HAS BEEN INCLUDED FOR 8" THICK SIDEWALK TO ADDRESS ANY UNFORSEEN PVMNT. REPAIRS OR DIFFERENCES IN ELEVATION. (UNDERRUN IF FIELD CONDITIONS DO NOT WARRANT)

** NO INTEGRAL CURB, AGGR. OR LIN. GRADING REQUIRED IF THE ISLAND IS 'PINNED-ON'

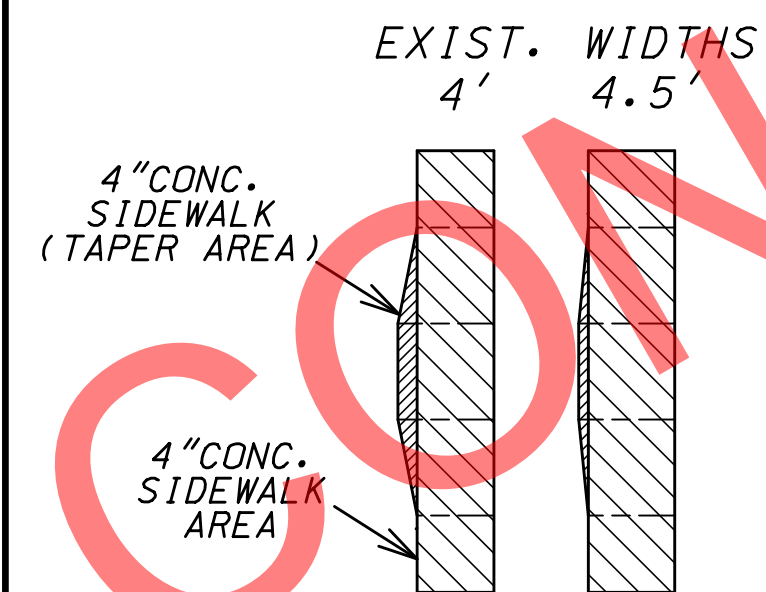
* INTEGRAL CURB IS PAID FOR WITH THE 4" CONC. SIDEWALK PAY ITEM.
INTEGRAL CURB IS PAID AS 1' ADDITIONAL SIDEWALK WIDTH (EX. 6' SIDEWALK PAID AS 7')
(0.11 SY/LF OF CURB)

MODIFIED SIDEWALK
AND
SIDEWALK CUT-THRU'S
TYPICAL SECTION
SHEET 10 OF 11

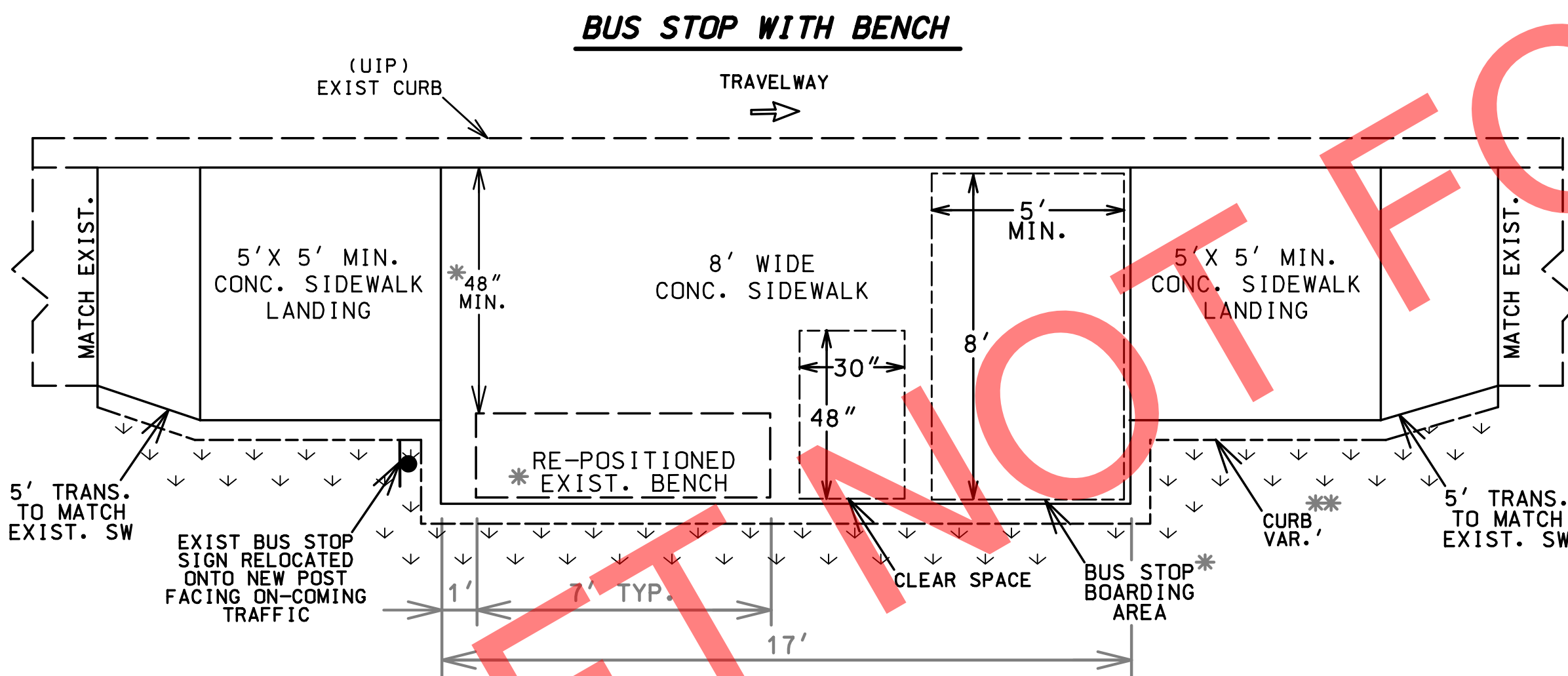
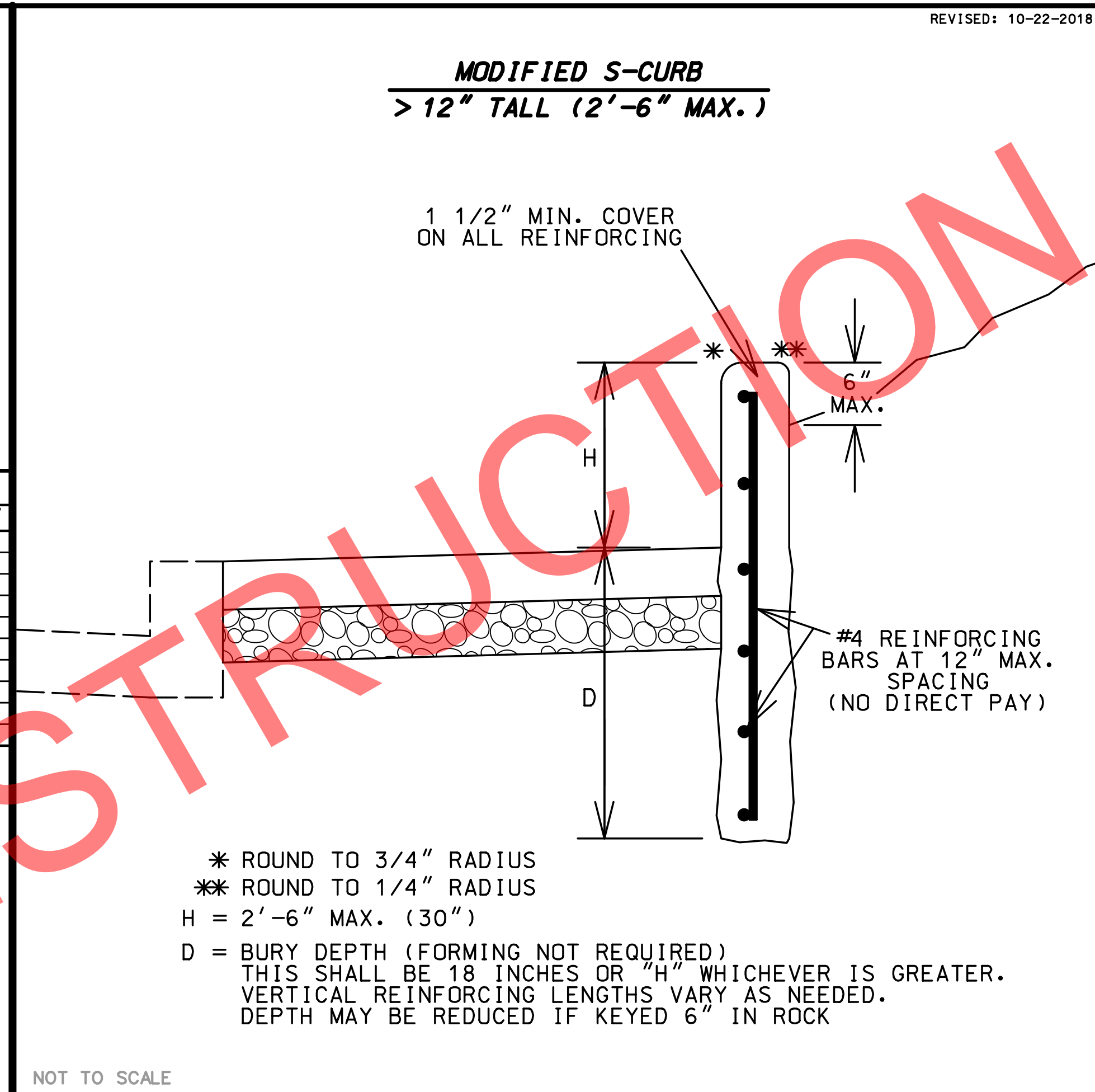
DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.2
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



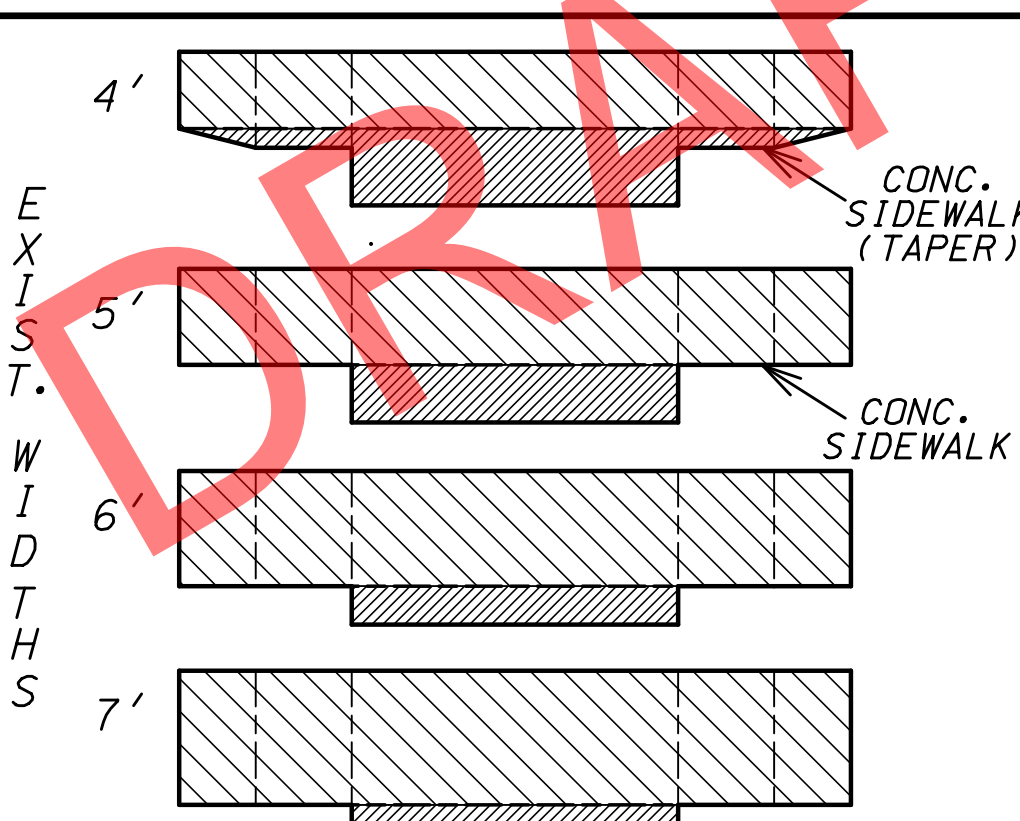
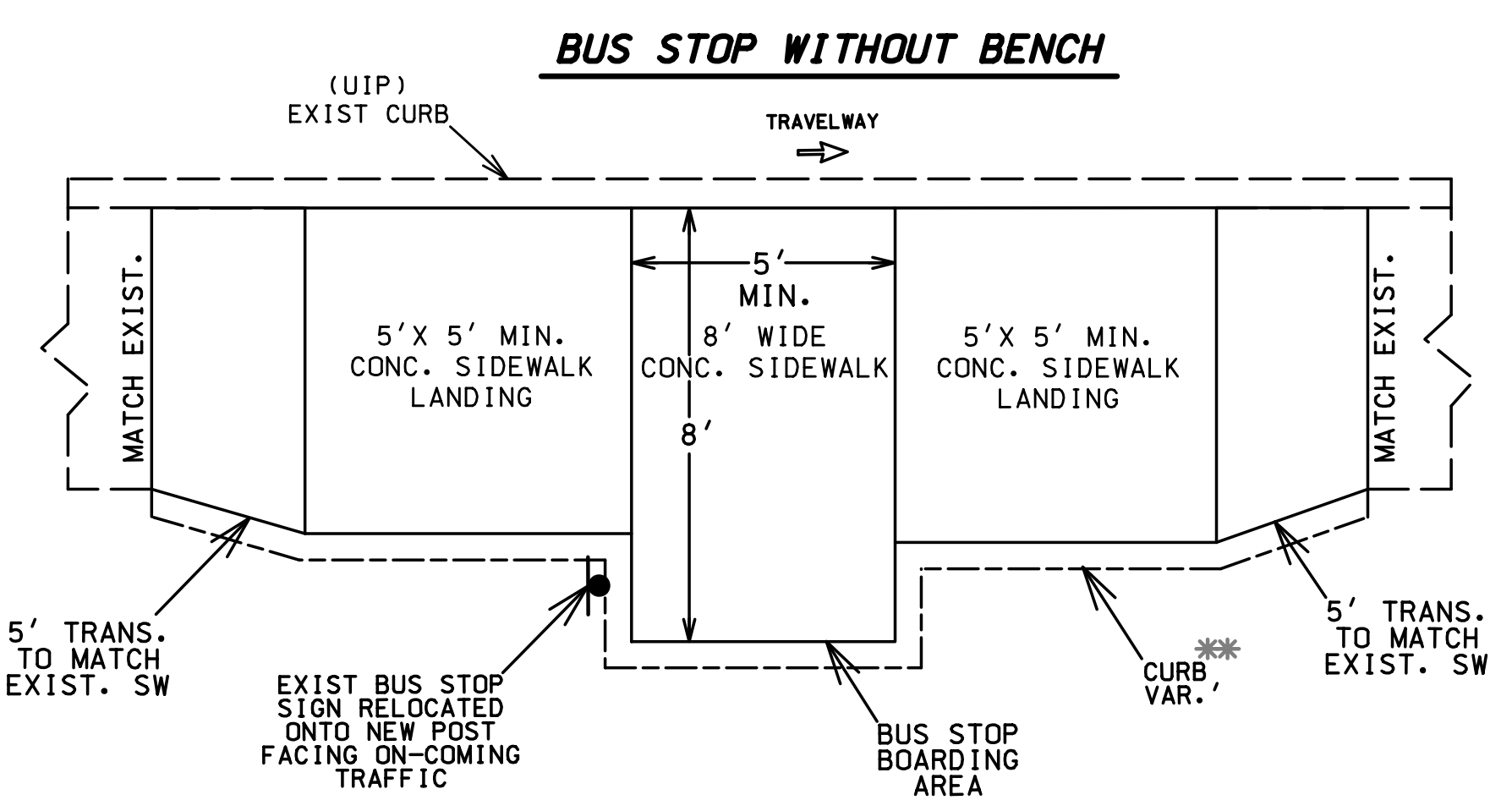
QUANTITIES FOR PASSING AREAS			
EXISTING SW WIDTH		4'	4.5'
4" CONC. SIDEWALK (TAPER)	SY	1.3	0.7
TYPE 1 AGGREGATE	SY	1.3	0.7
4" CONC. SIDEWALK	SY	10.4	11.7
TYPE 1 AGGREGATE	SY	10.4	11.7
INTEGRAL CURB	SY	2.0	2.0
TYPE 1 AGGREGATE	SY	1.0	1.0
S-CURB	LF	17.2	16.0
MODIFIED S-CURB	LF	17.2	16.0
SODDING	SY	53.0	53.0
LINEAR GRADING	LF	25.0	25.0



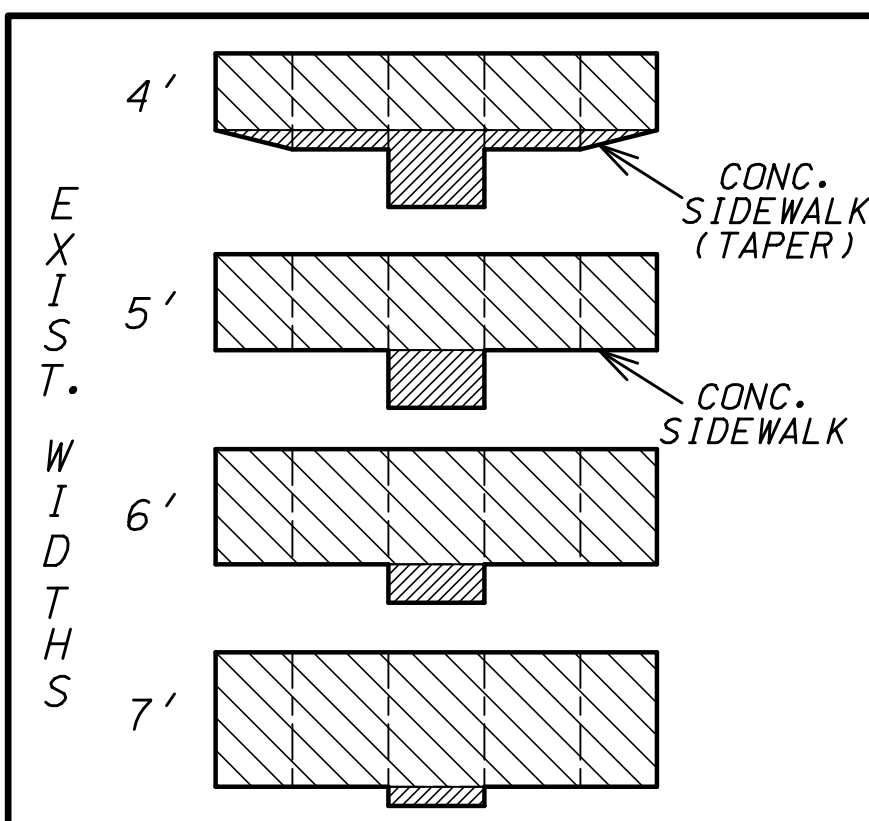
- NOTES:**
- PASSING AREA REQUIRED EVERY 200' ON SIDEWALK THAT IS LESS THAN 5' WIDE.
 - CURB MAY OR MAY NOT BE NEEDED DEPENDING ON FIELD CONDITIONS. IF CURB IS NEEDED, THE CURB HEIGHT WILL VARY DEPENDING ON FIELD CONDITIONS. (INTEGRAL CURB, S-CURB OR MOD. S-CURB).
 - S-CURB OVER 12" TALL IS PAID FOR AS 'MODIFIED S-CURB' AND REQUIRES REINFORCEMENT (NO DIRECT PAY). SEE DETAIL THIS SHEET.
 - INTEGRAL CURB IS PAID FOR IN THE 4" CONC. SIDEWALK PAY ITEM. PAID AS 1' ADDITIONAL SIDEWALK WIDTH. (EX. 6" SW PAID AS 7") (0.11 SY/LF OF CURB)



- NOTES:**
- THE RE-POSITIONED BENCH SHALL NOT BE PLACED ON THE 5'x8' BUS STOP BOARDING AREA. PLACE THE BACK OF THE BENCH AT THE BACK EDGE OF THE CONC. PAD TO PROVIDE MAX. CLEARANCE.
 - CURB USAGE DEPENDS ON FIELD CONDITIONS. IF CURB IS NEEDED DUE TO CUT, THE CURB HEIGHT WILL VARY DEPENDING ON FIELD CONDITIONS. (INTEGRAL CURB, S-CURB OR MOD. S-CURB).
 - S-CURB OVER 12" TALL IS PAID FOR AS 'MODIFIED S-CURB' AND REQUIRES REINFORCEMENT (NO DIRECT PAY). SEE DETAIL THIS SHEET.
 - INTEGRAL CURB IS PAID FOR IN THE 4" CONC. SIDEWALK PAY ITEM. INTEGRAL CURB PAID AS 1' ADDITIONAL SIDEWALK WIDTH. (EX. 6" SW PAID AS 7") (0.11 SY/LF OF CURB)



QUANTITIES FOR BUS STOPS WITH BENCH				
EXISTING SW WIDTH		4'	5'	6'
4" CONC. SIDEWALK (TAPER)	SY	9.3	5.8	3.9
TYPE 1 AGGREGATE	SY	9.3	5.8	3.9
4" CONC. SIDEWALK	SY	16.5	20.4	24.3
TYPE 1 AGGREGATE	SY	16.5	20.4	24.3
INTEGRAL CURB	SY	5.4	3.4	3.2
TYPE 1 AGGREGATE	SY	2.7	1.7	1.6
S-CURB	LF	43.5	27.0	25.0
MODIFIED S-CURB	LF	43.5	27.0	25.0
SODDING	SY	10.6	10.4	9.8
LINEAR GRADING	LF	37.0	37.0	37.0



QUANTITIES FOR BUS STOPS - NO BENCH				
EXISTING SW WIDTH		4'	5'	6'
4" CONC. SIDEWALK (TAPER)	SY	3.9	1.8	1.3
TYPE 1 AGGREGATE	SY	3.9	1.8	1.3
4" CONC. SIDEWALK	SY	10.4	12.9	15.5
TYPE 1 AGGREGATE	SY	10.4	12.9	15.5
INTEGRAL CURB	SY	3.8	2.0	1.8
TYPE 1 AGGREGATE	SY	1.9	1.0	0.9
S-CURB	LF	31.0	15.0	13.0
MODIFIED S-CURB	LF	31.0	15.0	13.0
SODDING	SY	7.6	7.4	6.8
LINEAR GRADING	LF	25.0	25.0	25.0

PASSING AREAS,
BUS STOPS, AND
MODIFIED S-CURB
TYPICAL SECTION
SHEET 11 OF 11

DATE PREPARED
2/7/2022

ROUTE
MAY

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

STATE
MO

SHEET NO.
B.2

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITAL

JEFFERSON CITY, MO 65102

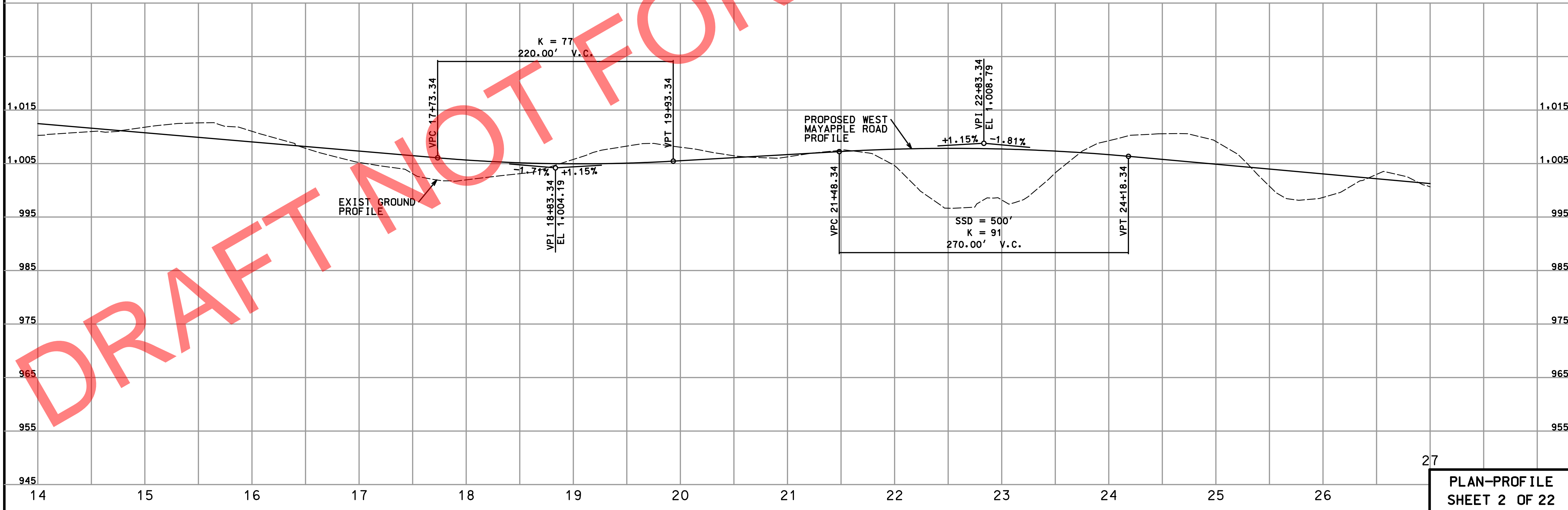
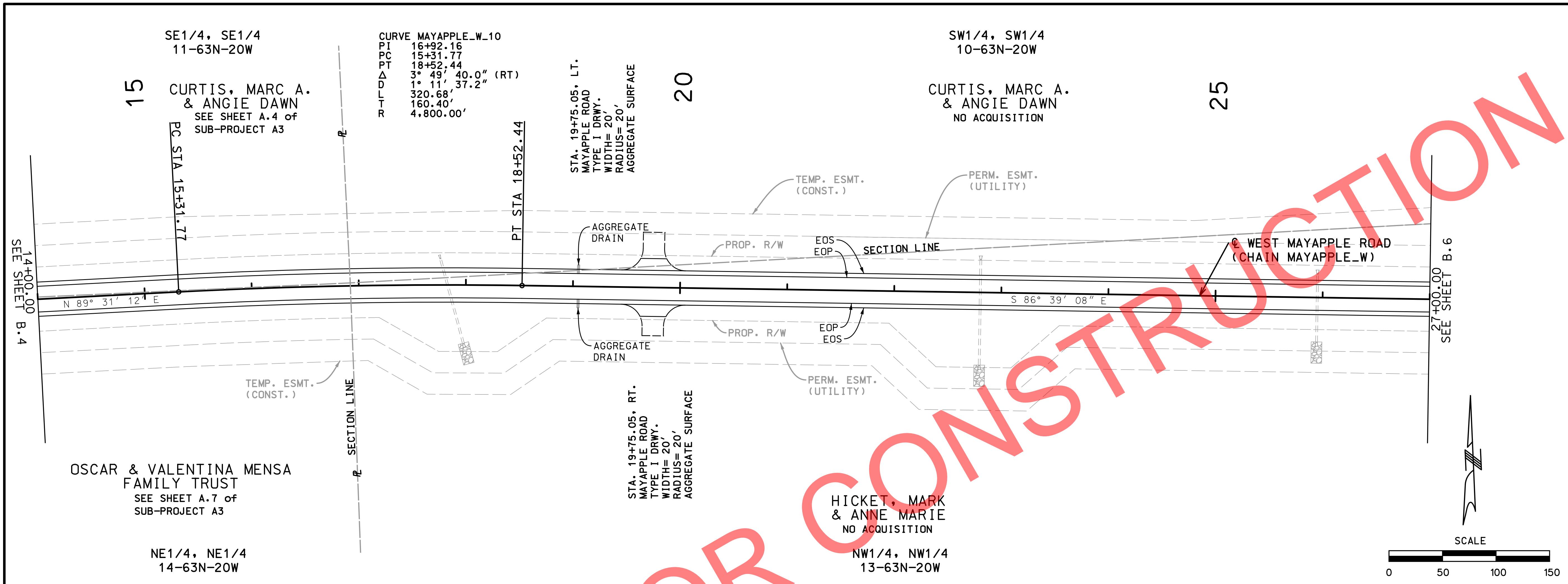
1-888-ASK-MODOT (1-888-275-6636)

olsson

1301 BURLINGTON STREET, STE. 100

NORTH KANSAS CITY, MO 64116

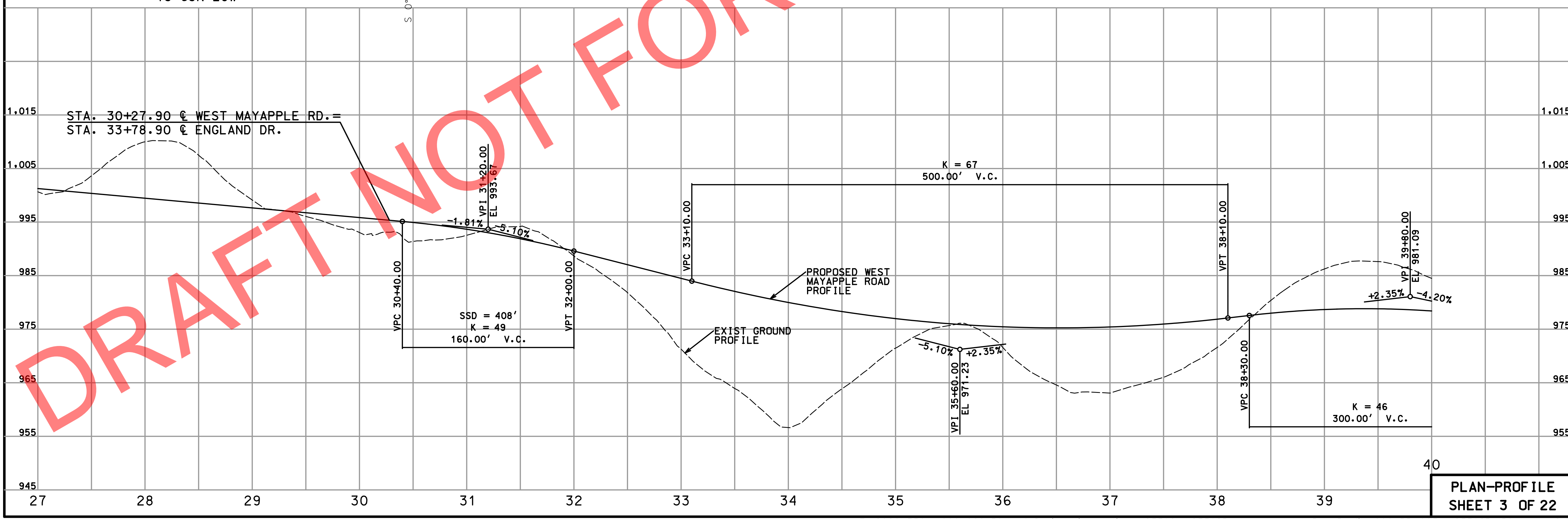
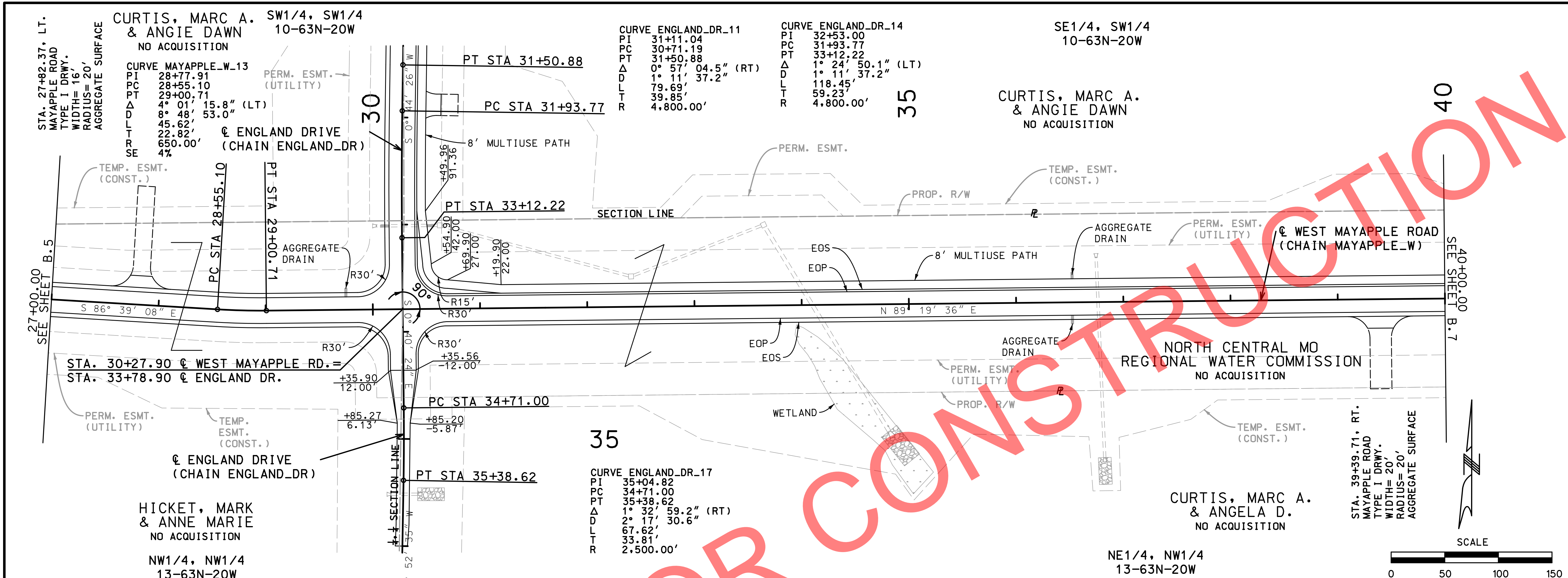
CERTIFICATE OF AUTHORITY NO. 001592



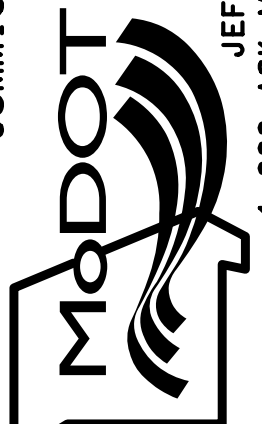
DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.5
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
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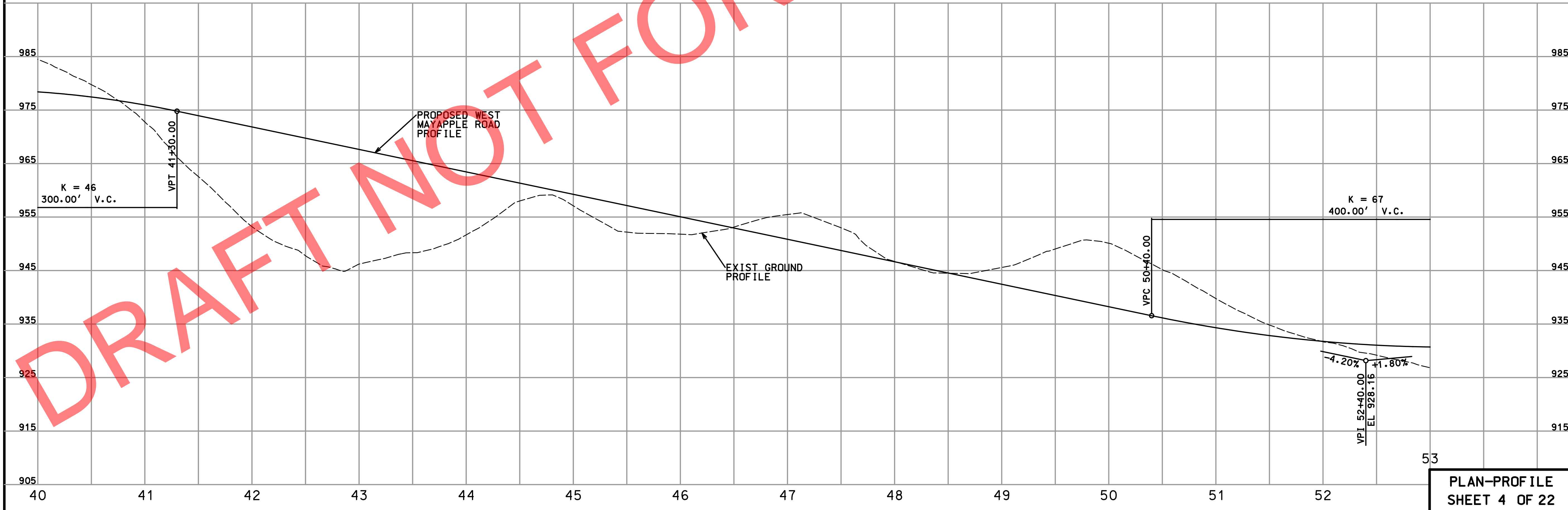
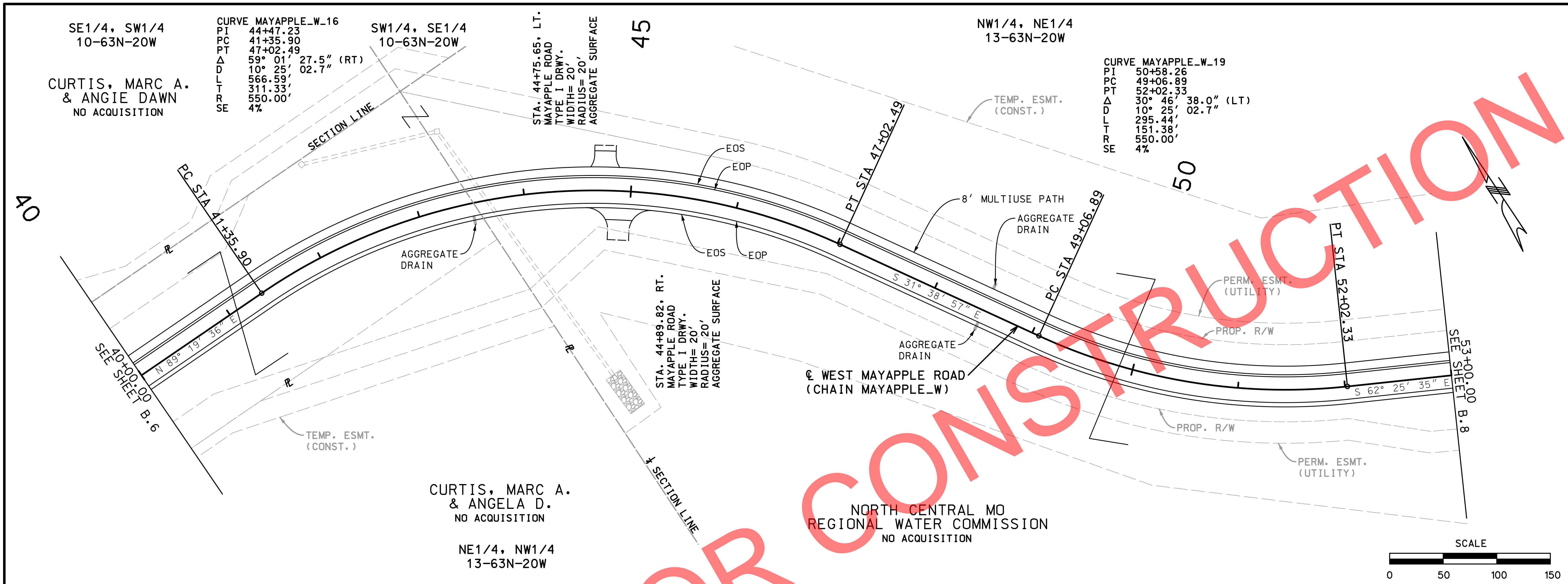
olsson


1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

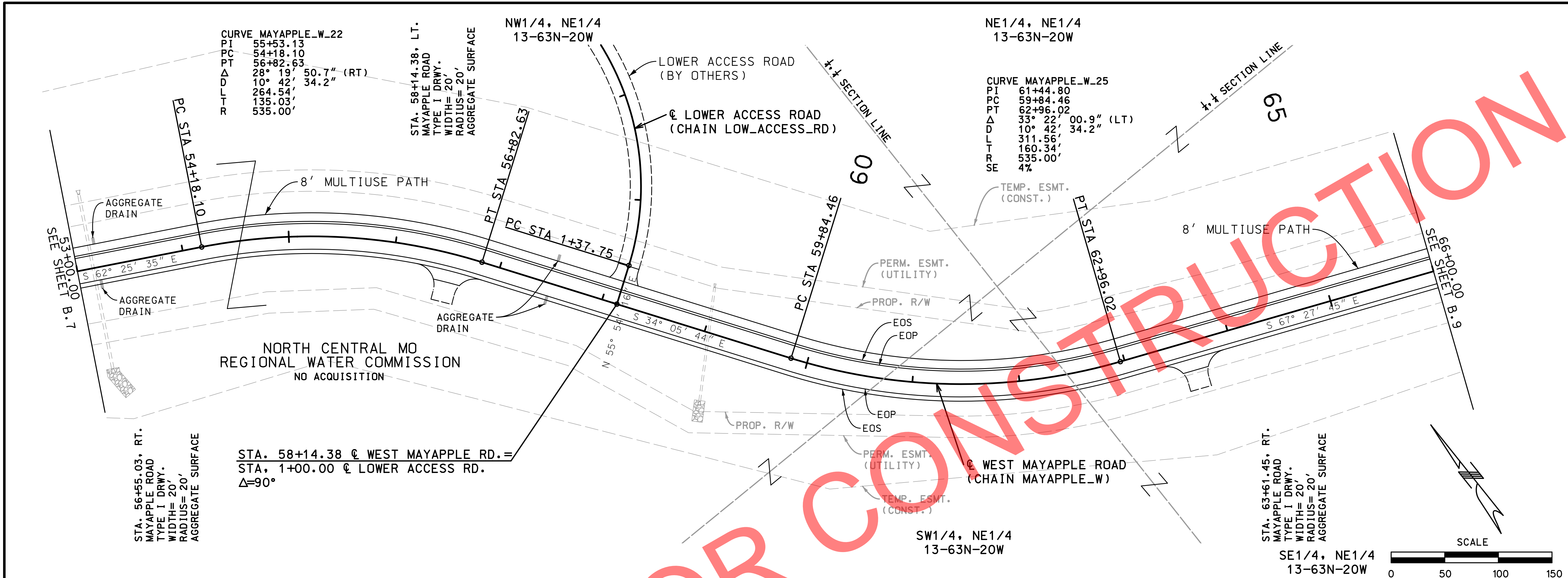


PLAN-PROFILE
SHEET 3 OF 22

DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.6
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

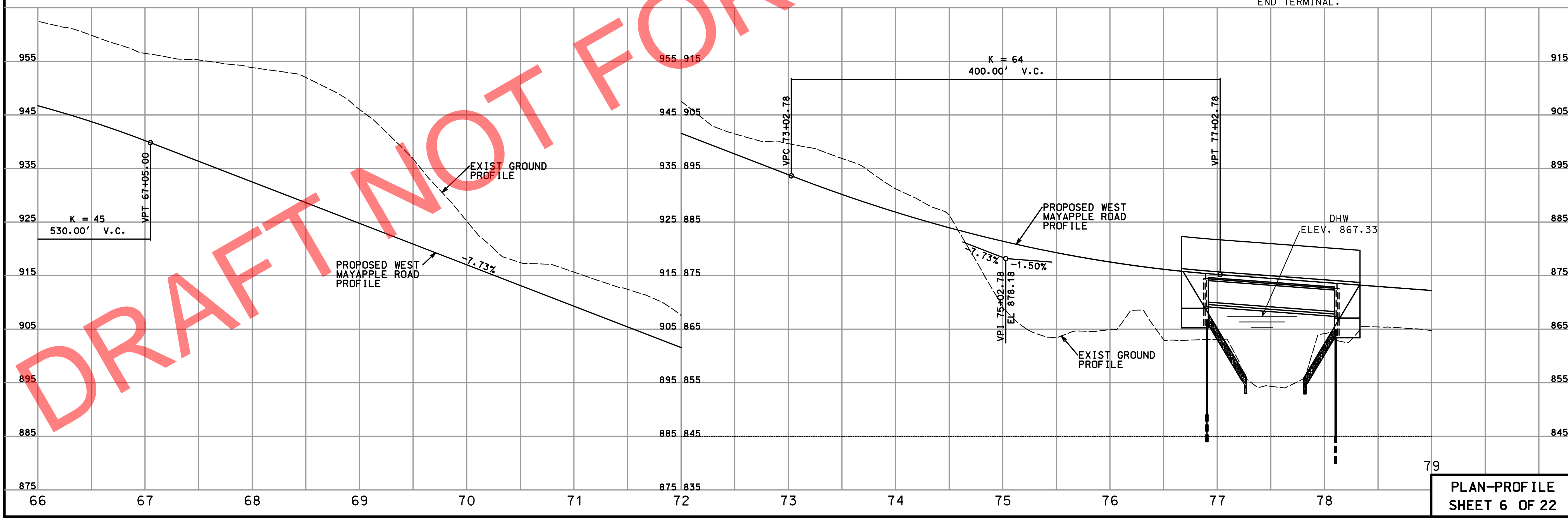
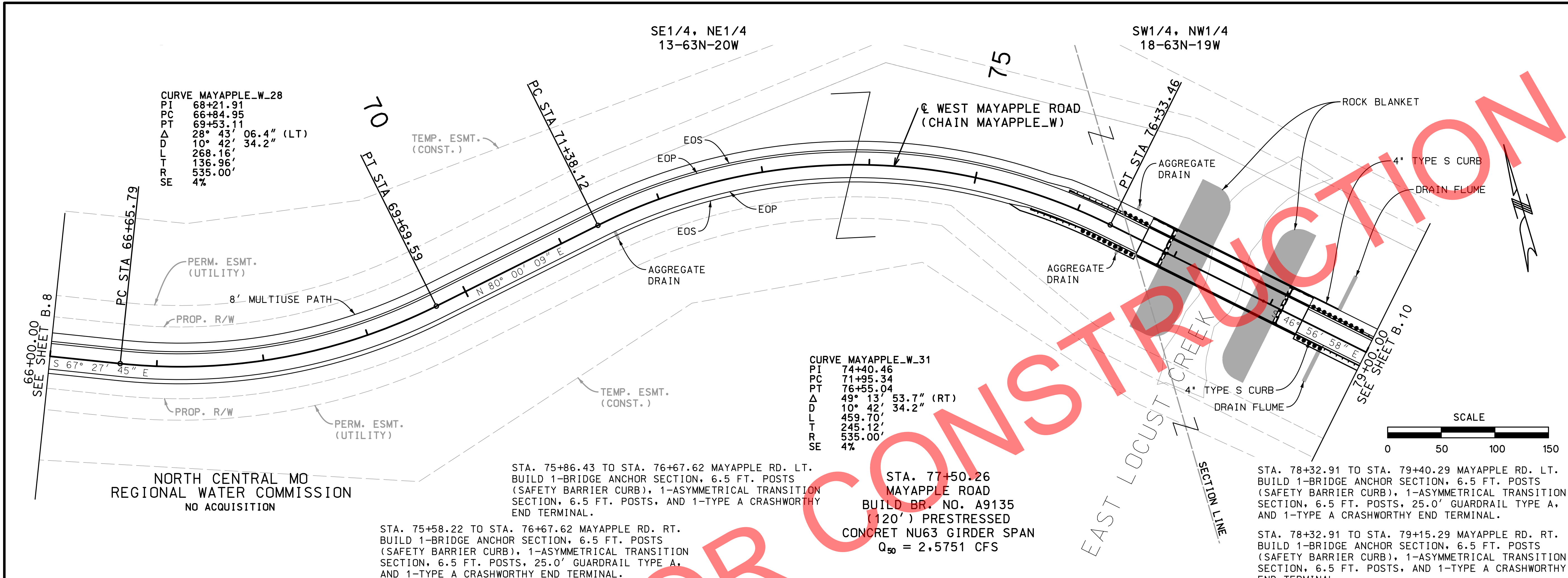


DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.7
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

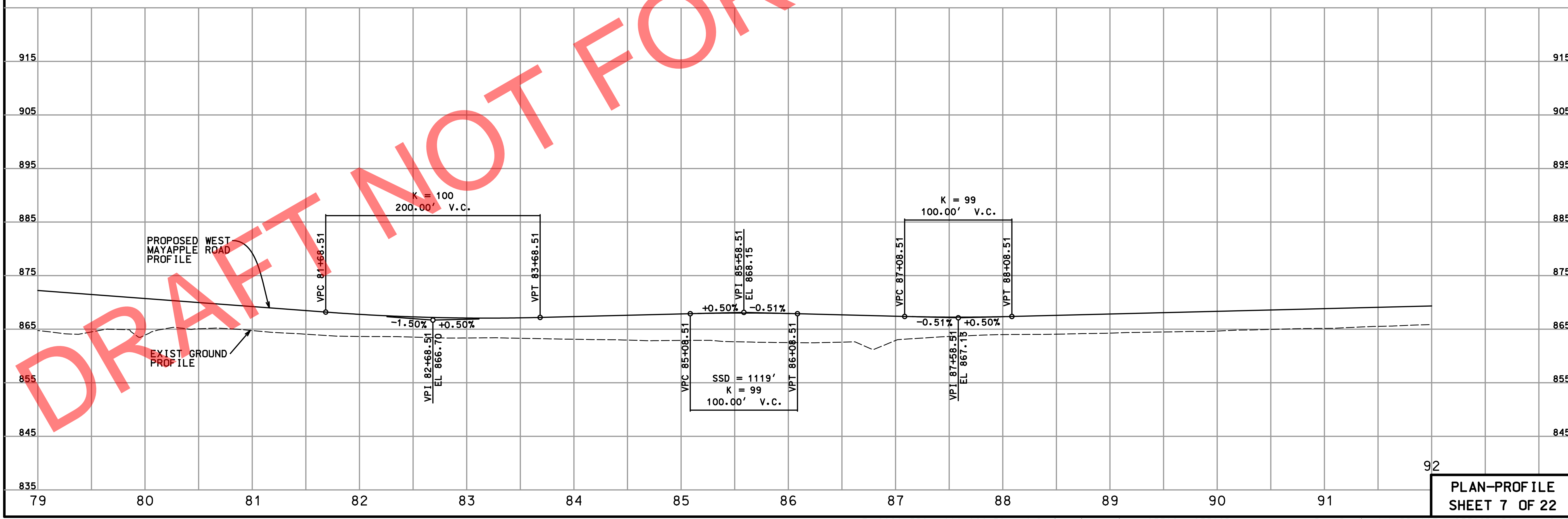
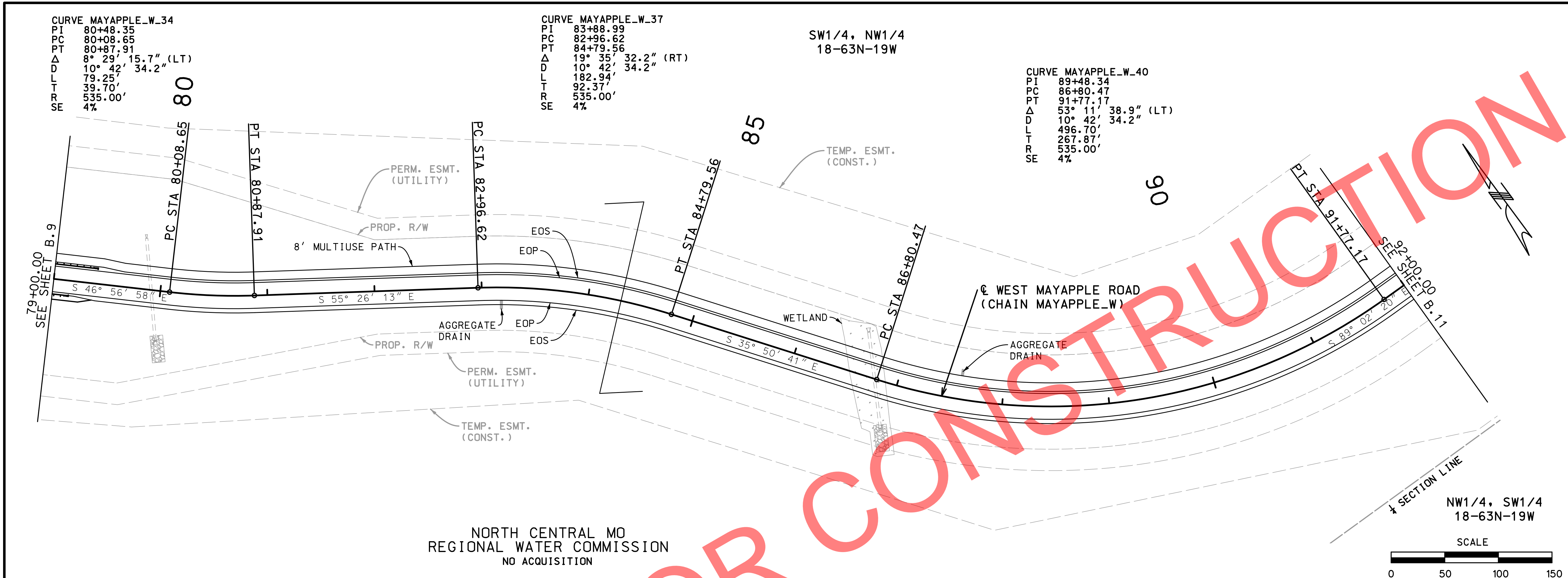


DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.8
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

PLAN-PROFILE SHEET 5 OF 22

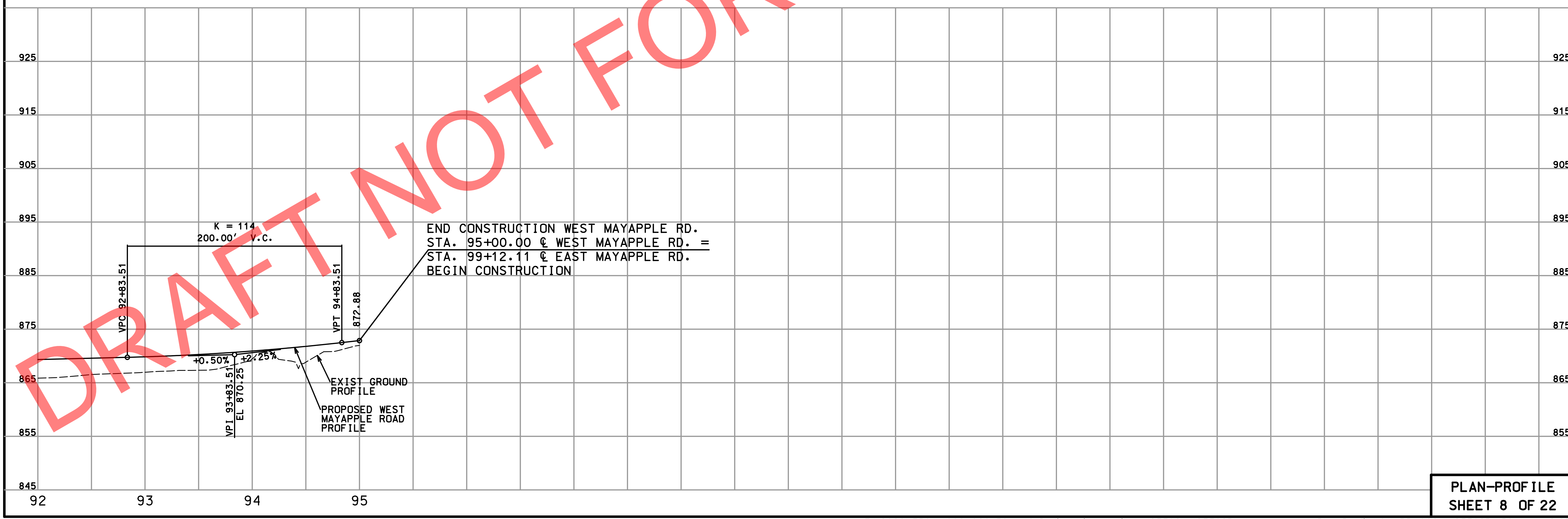
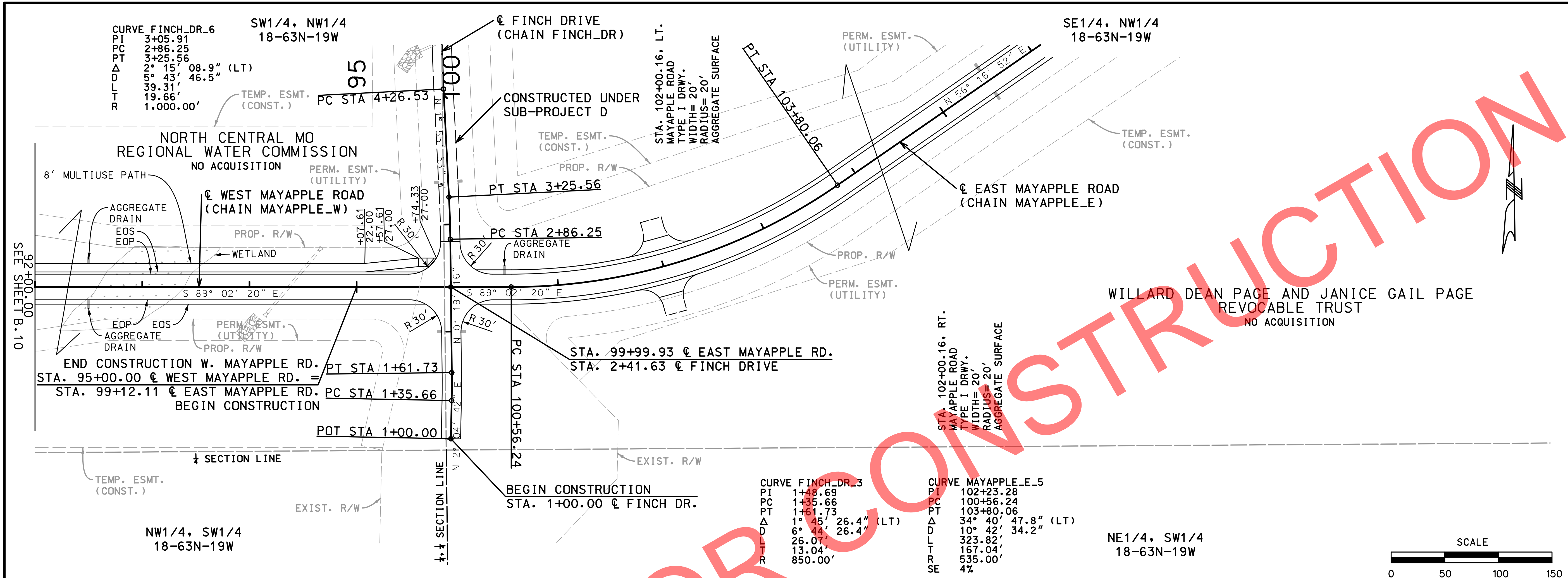


DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.9
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

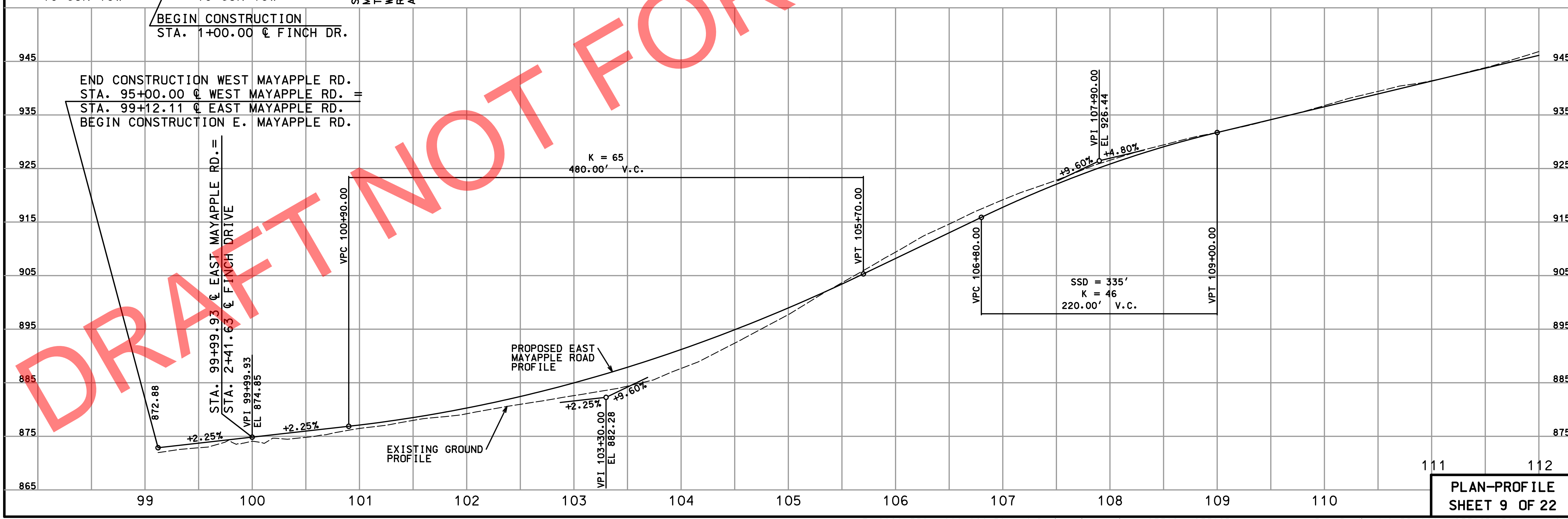
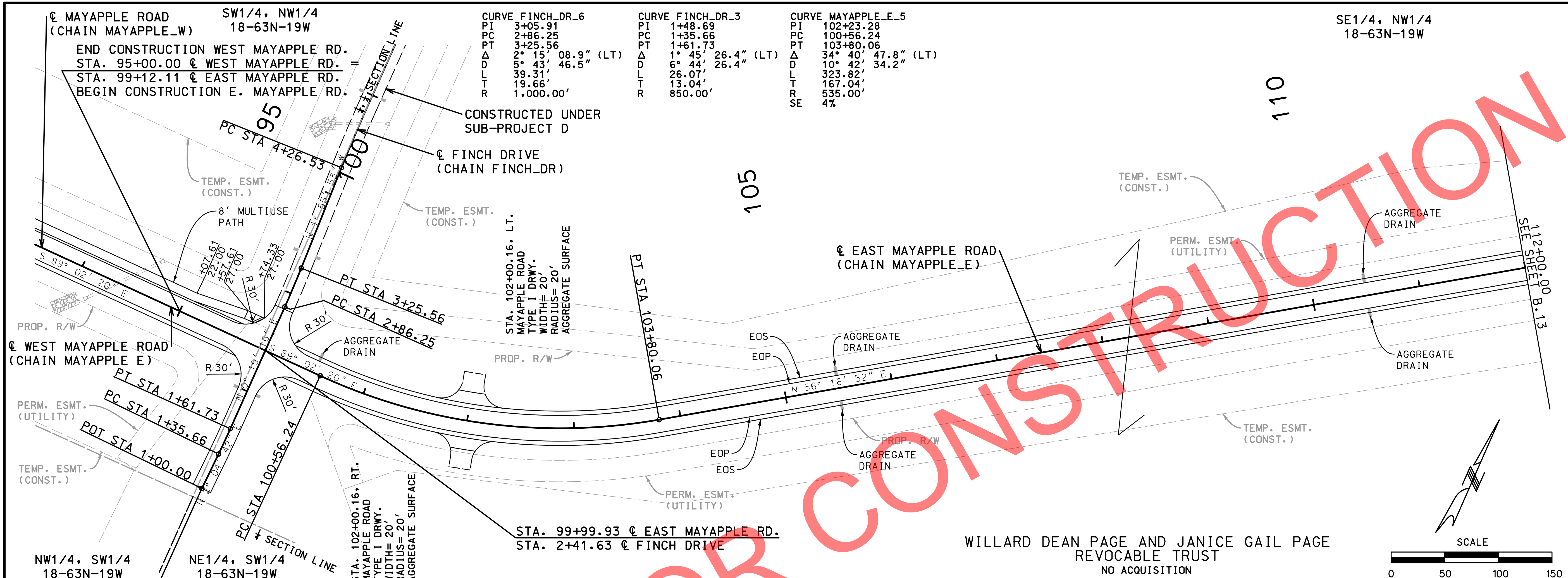


PLAN-PROFILE
SHEET 7 OF 22

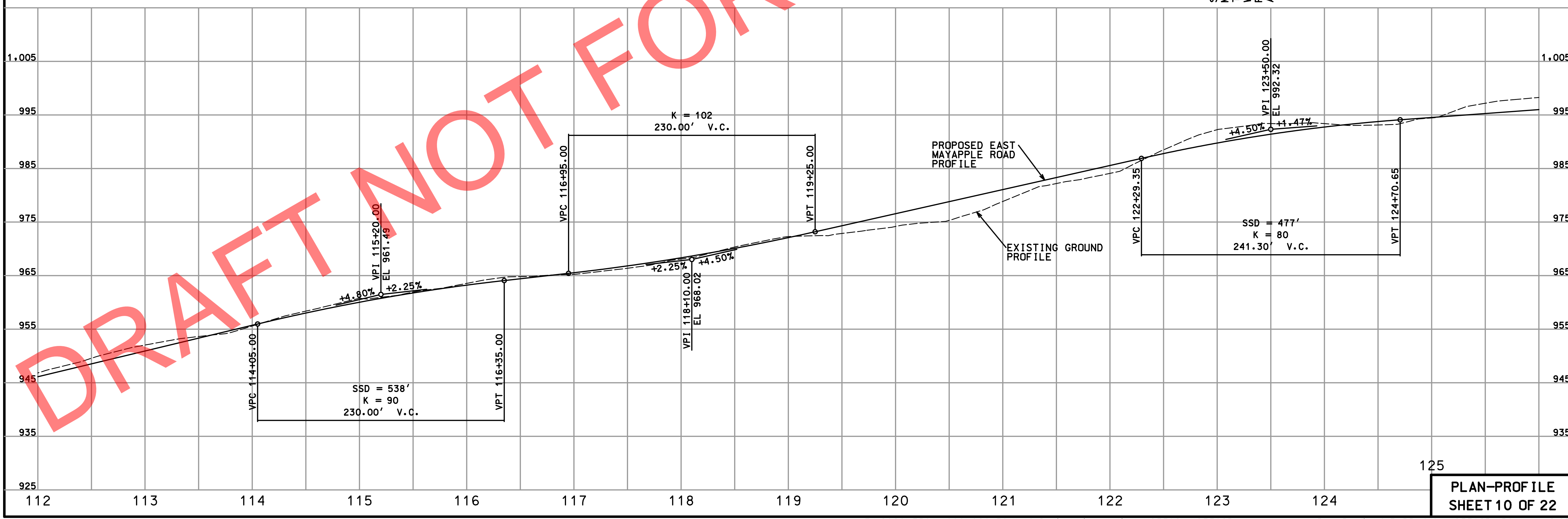
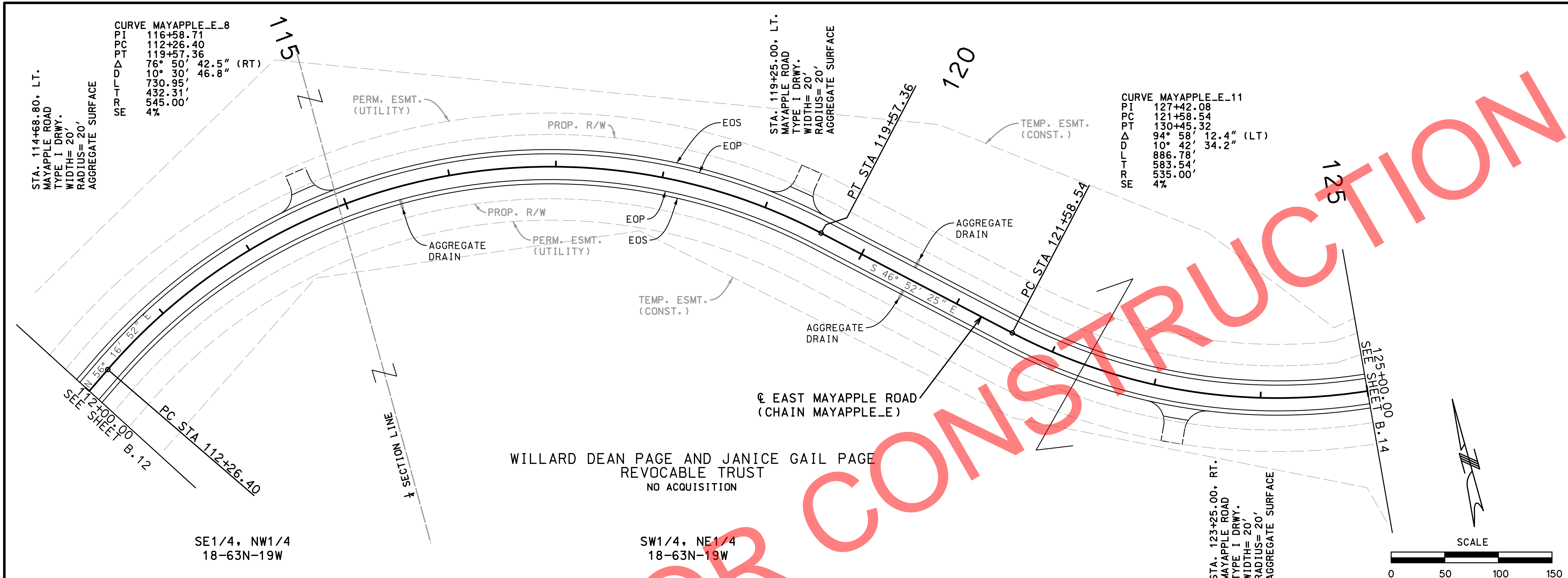
DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.10
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.11
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

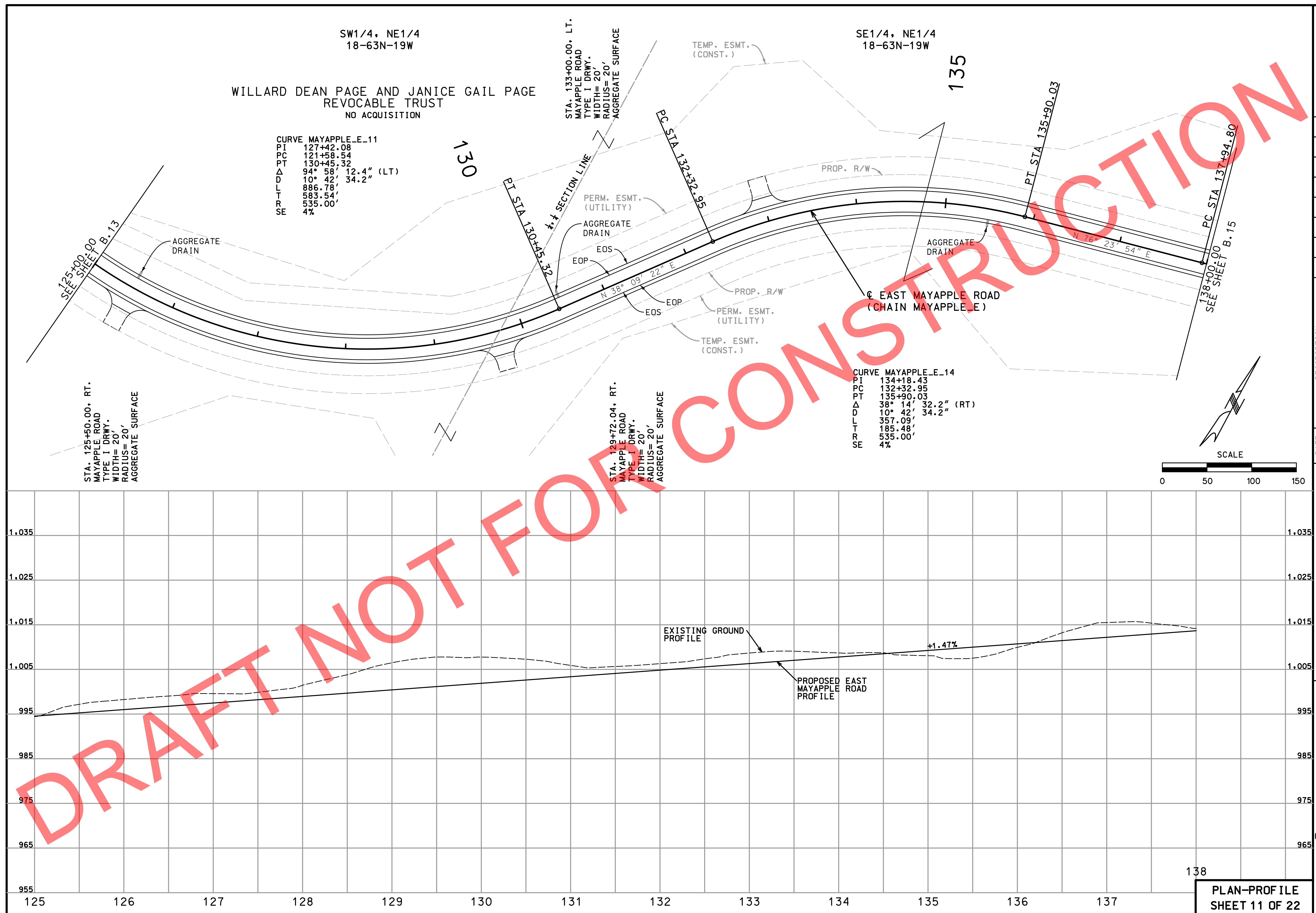


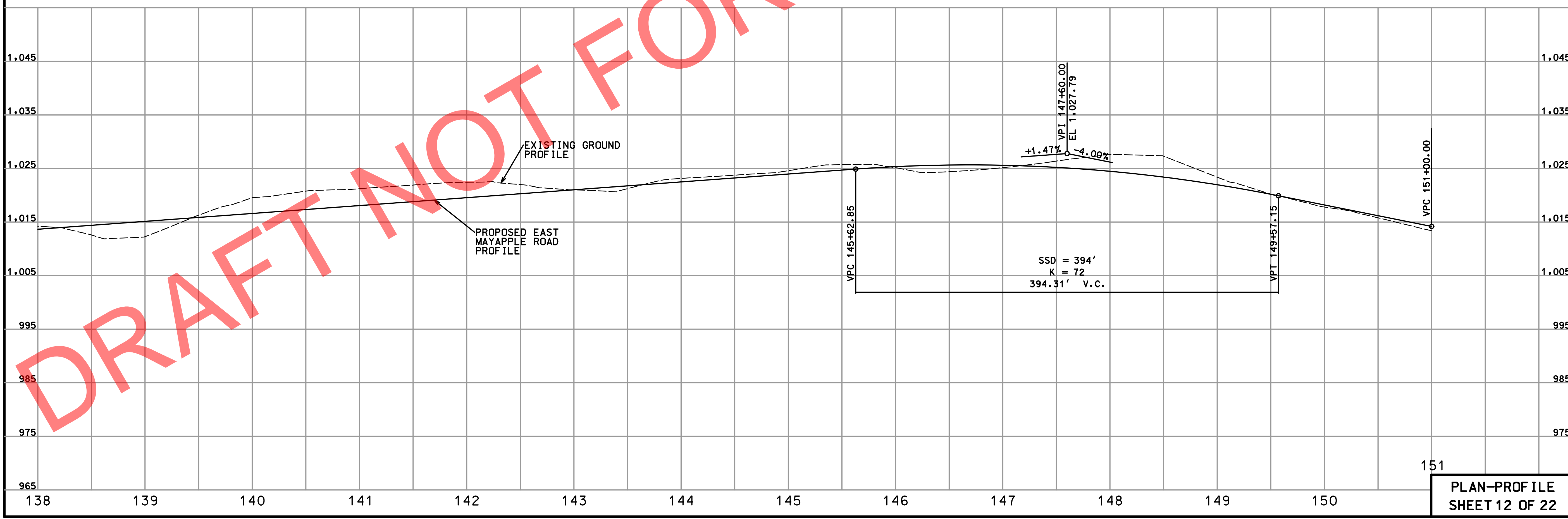
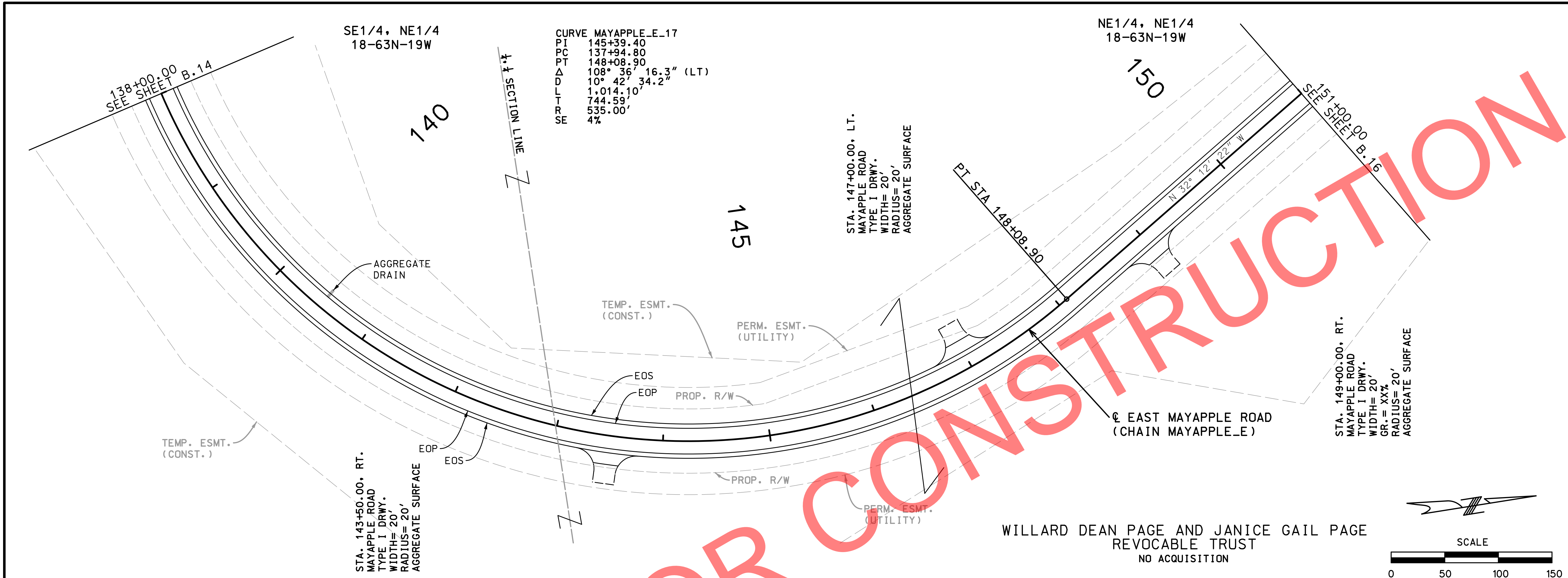
DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.12
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MoDOT	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



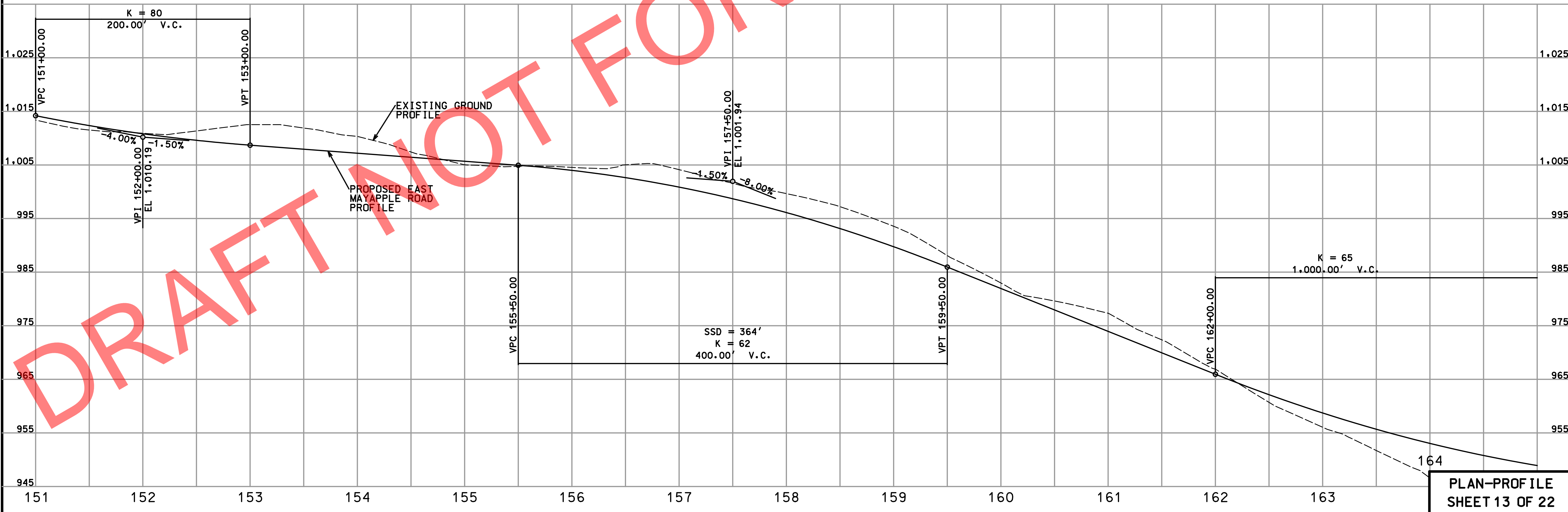
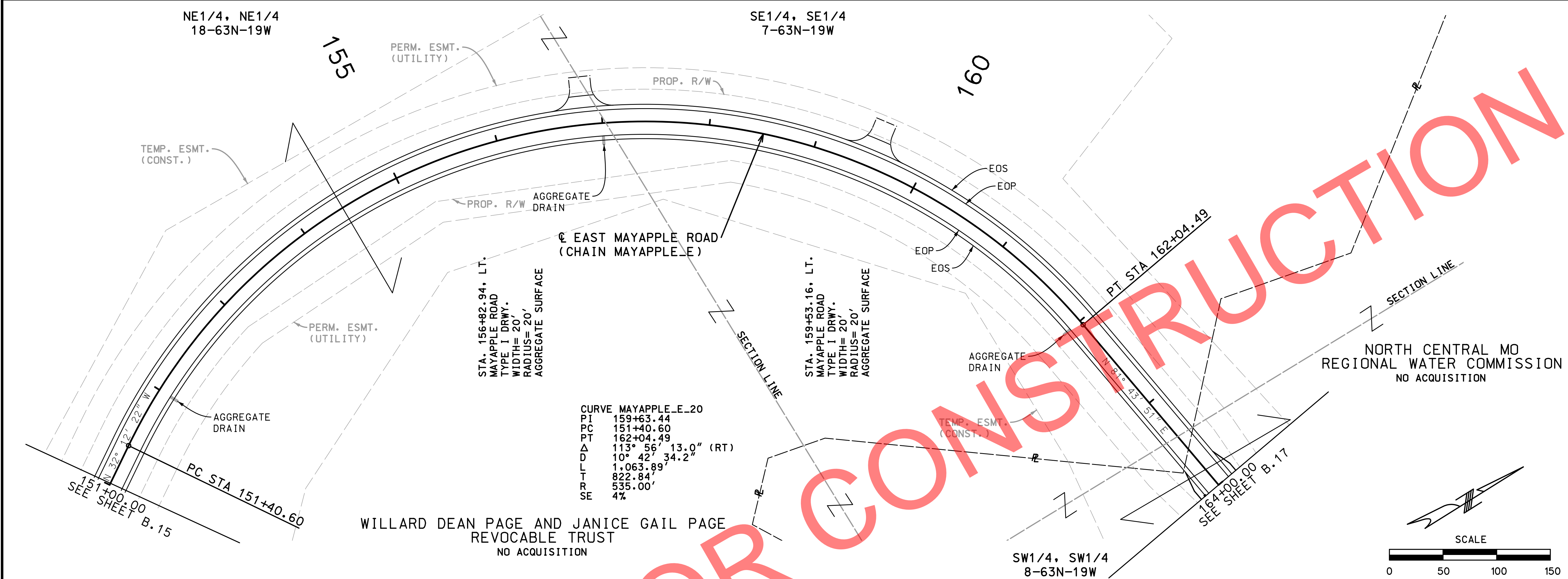
PLAN-PROFILE
SHEET 10 OF 22

DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.13
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

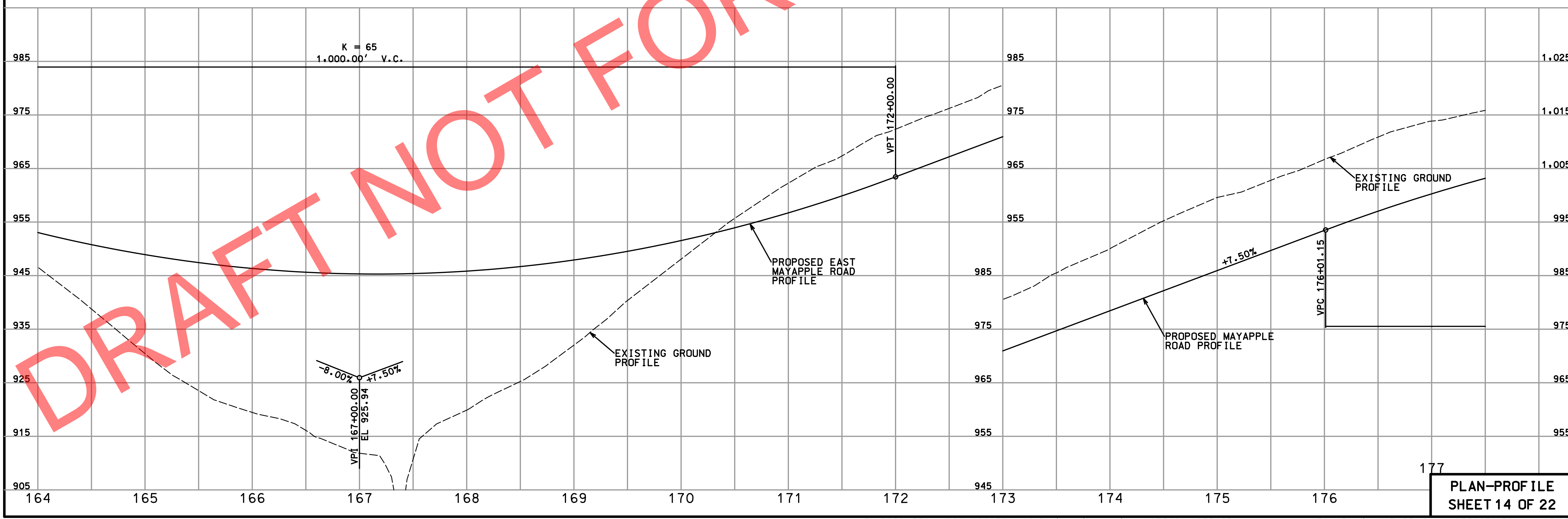
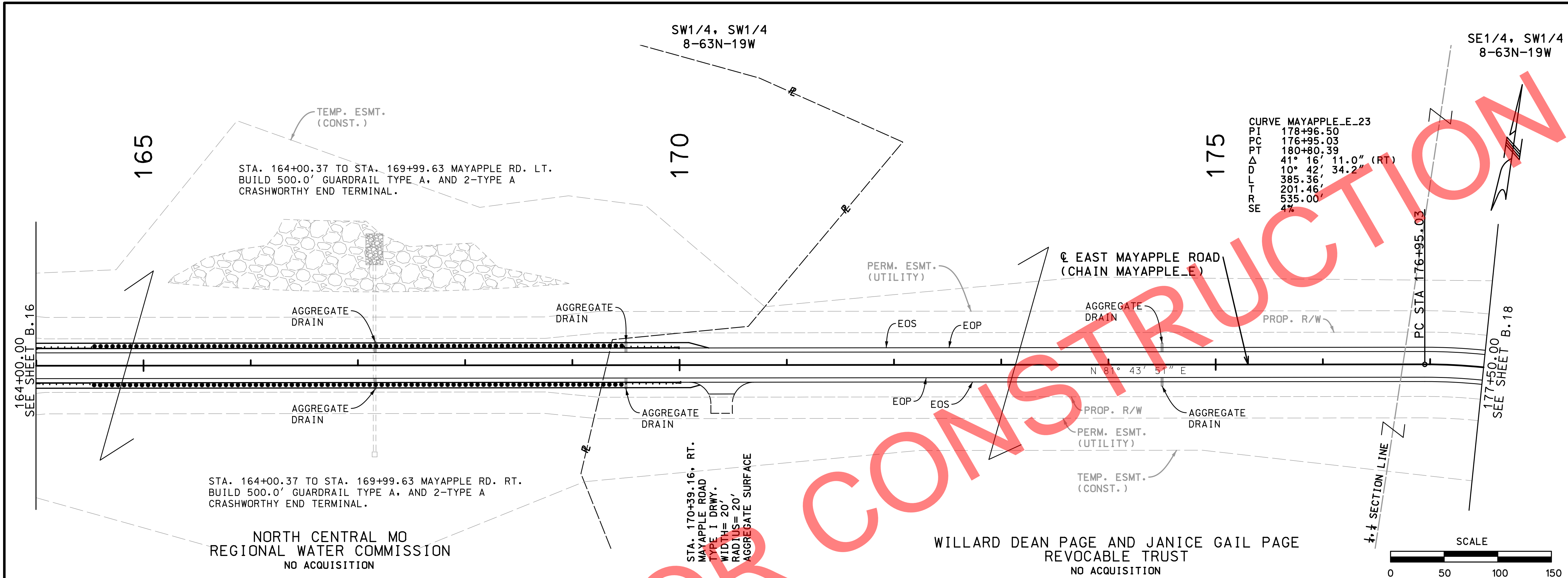
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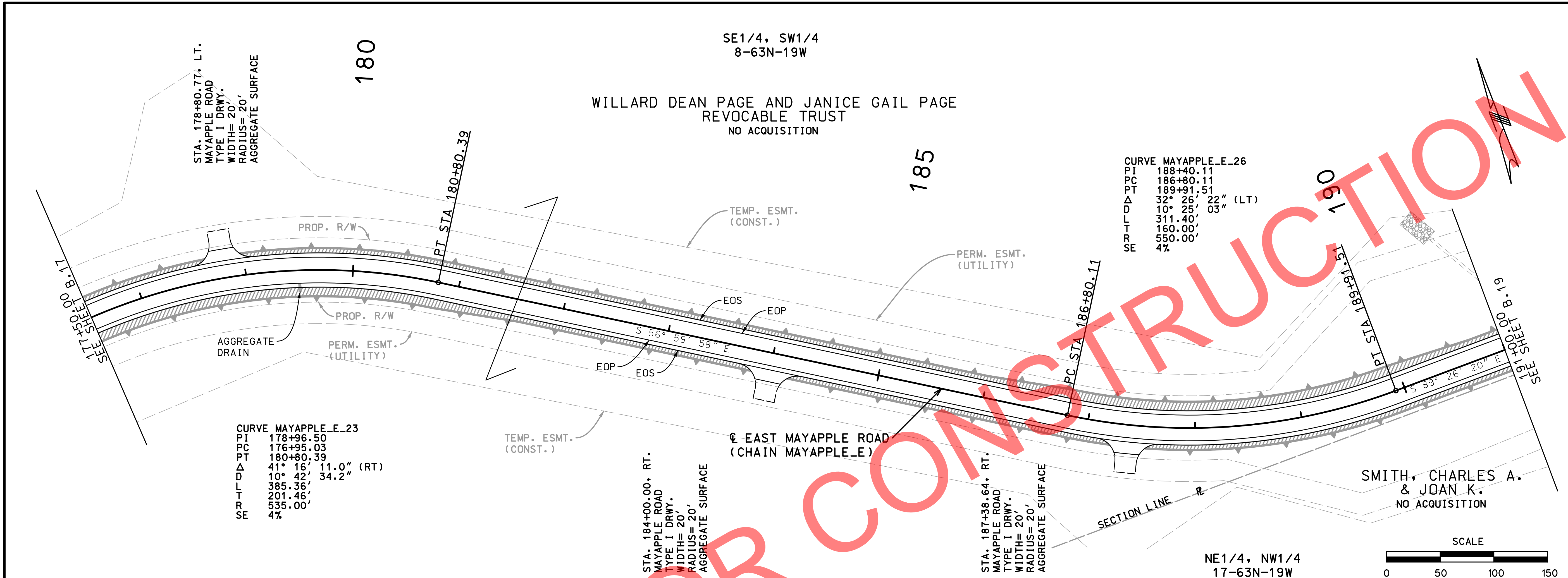
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DISTRICT NW	SHEET NO. B.15
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

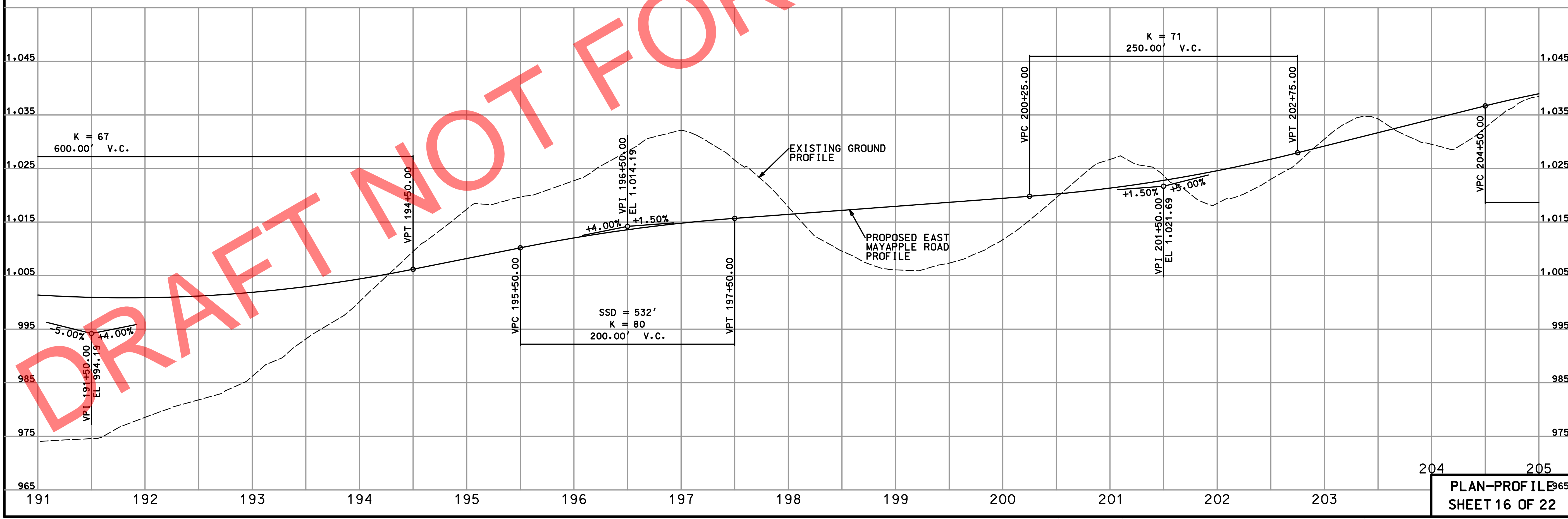
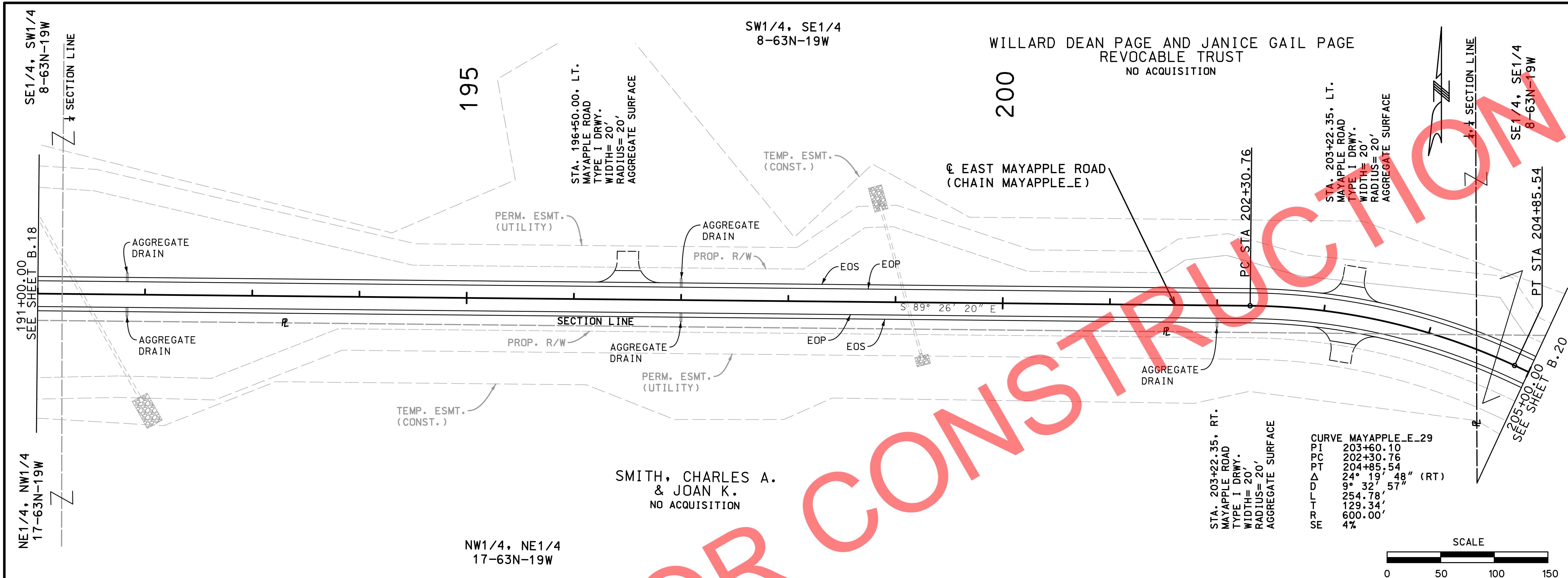


DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.16
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



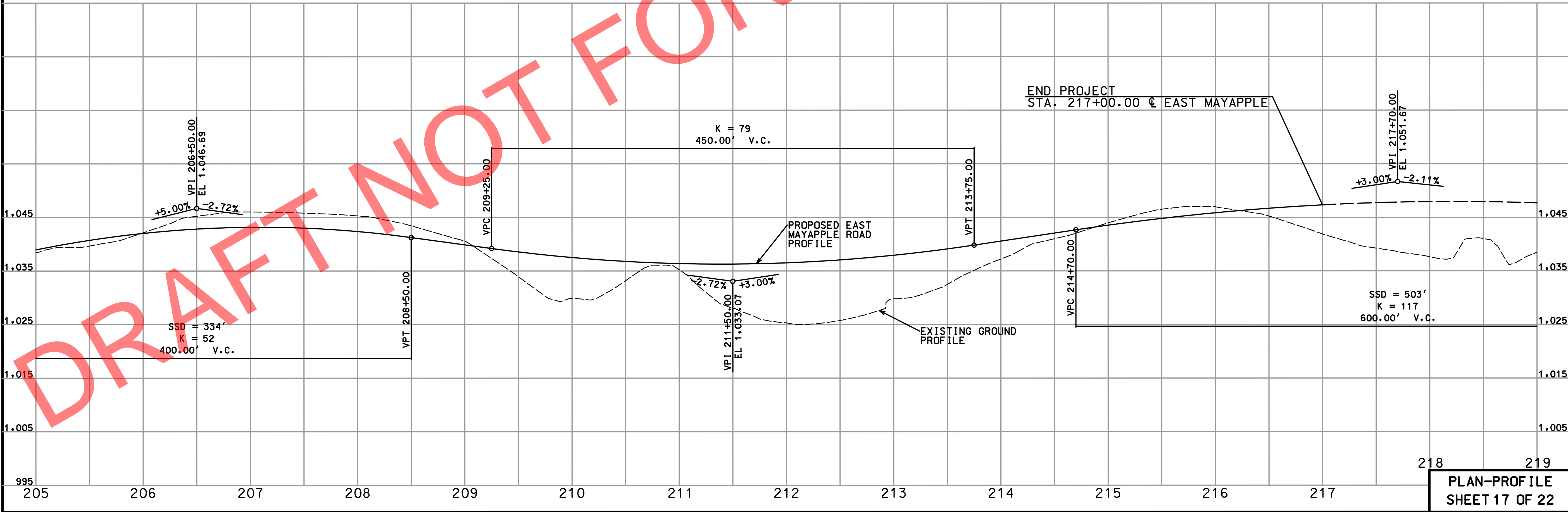
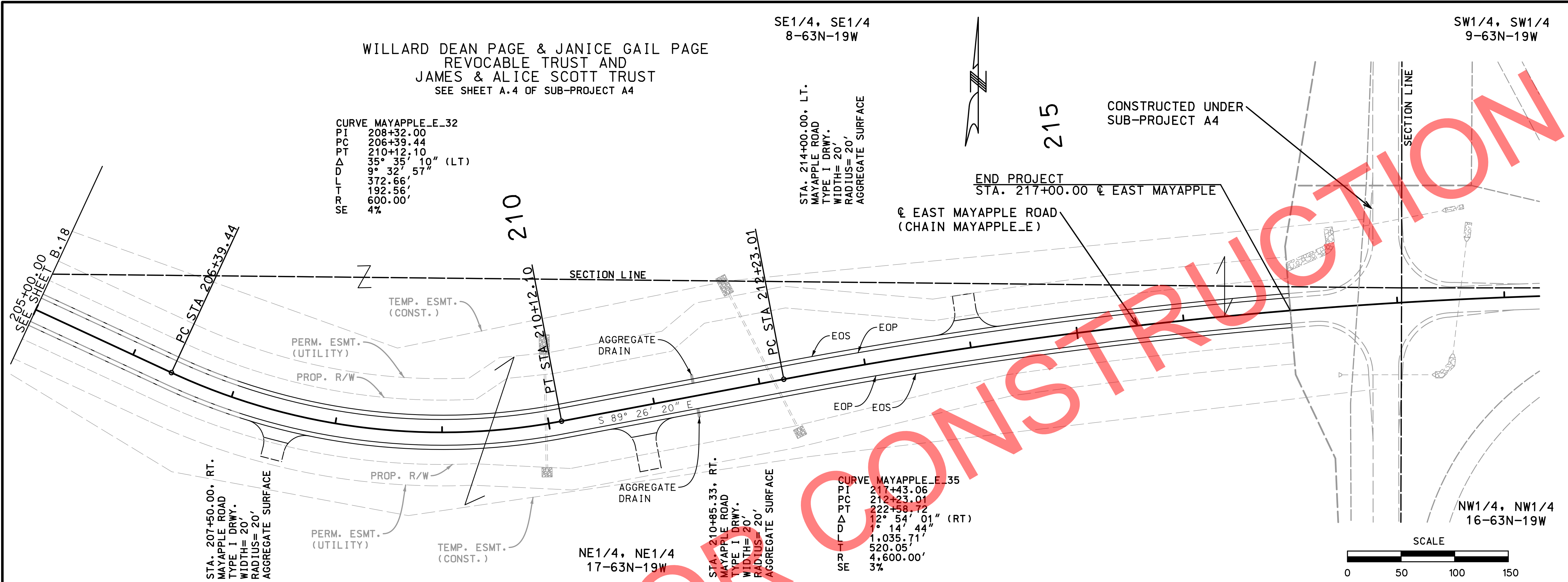
DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.17
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



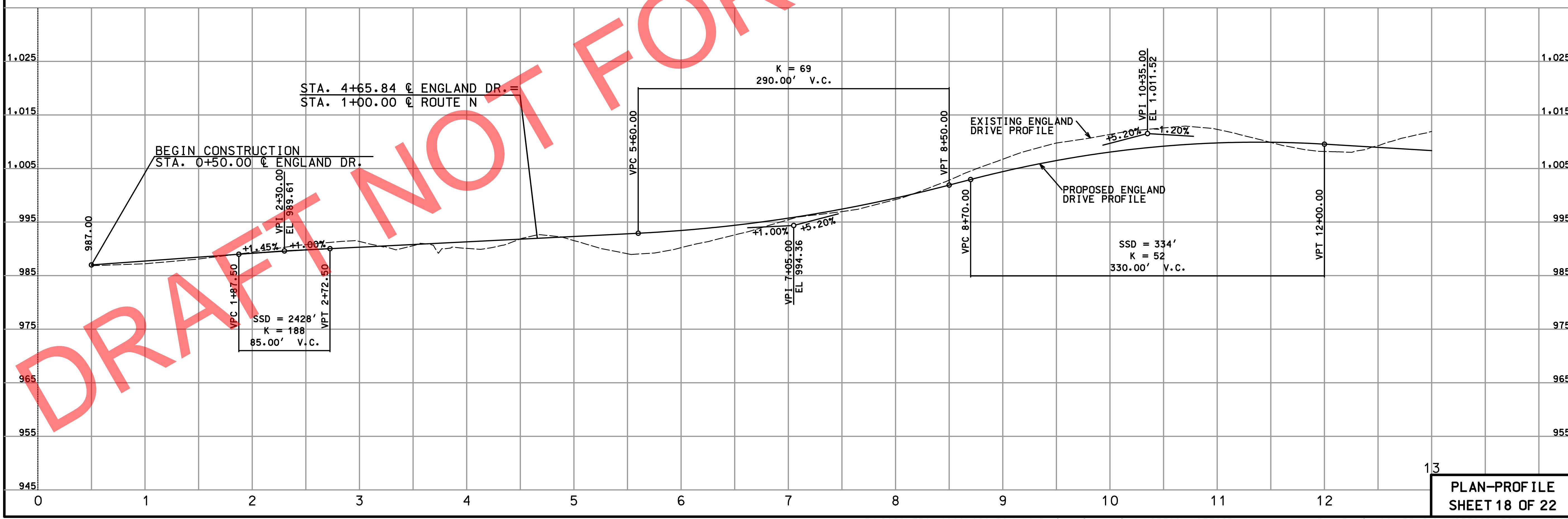
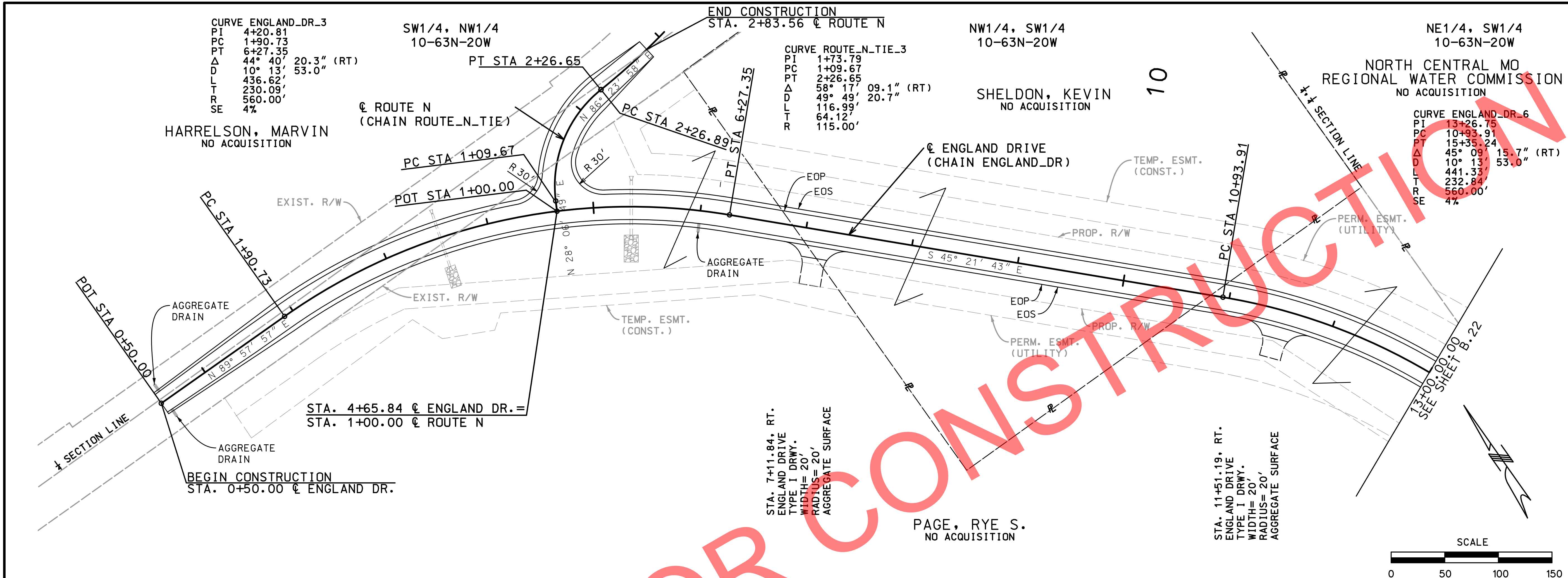


PLAN-PROFILE SHEET 16 OF 22

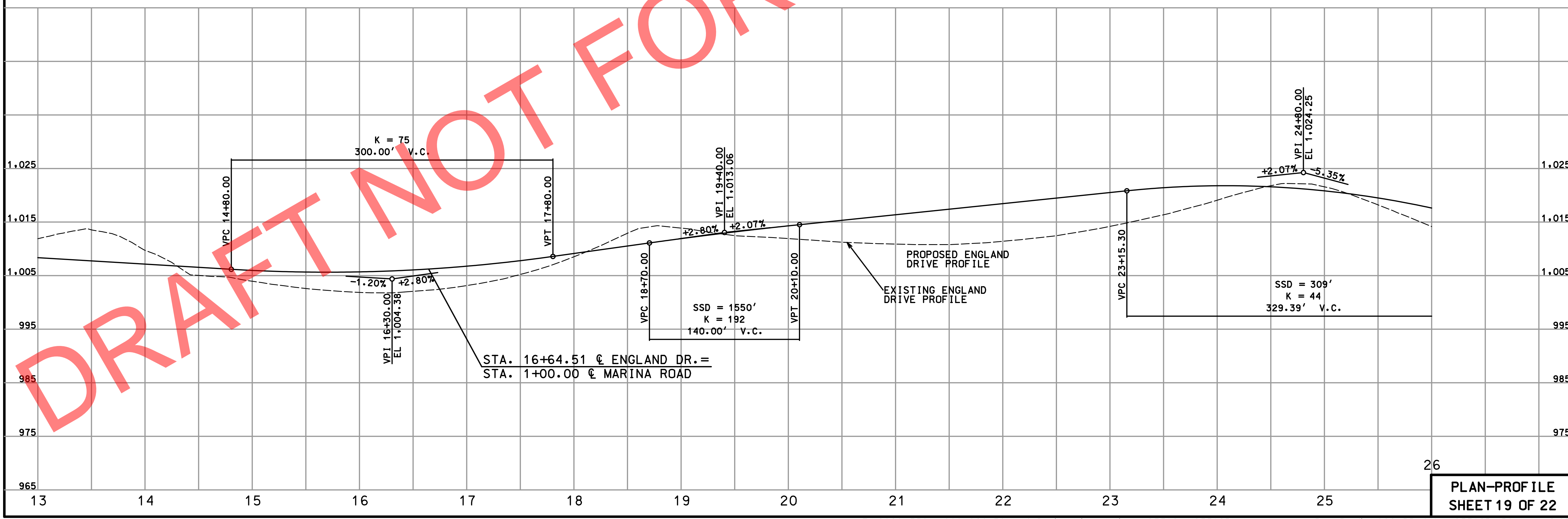
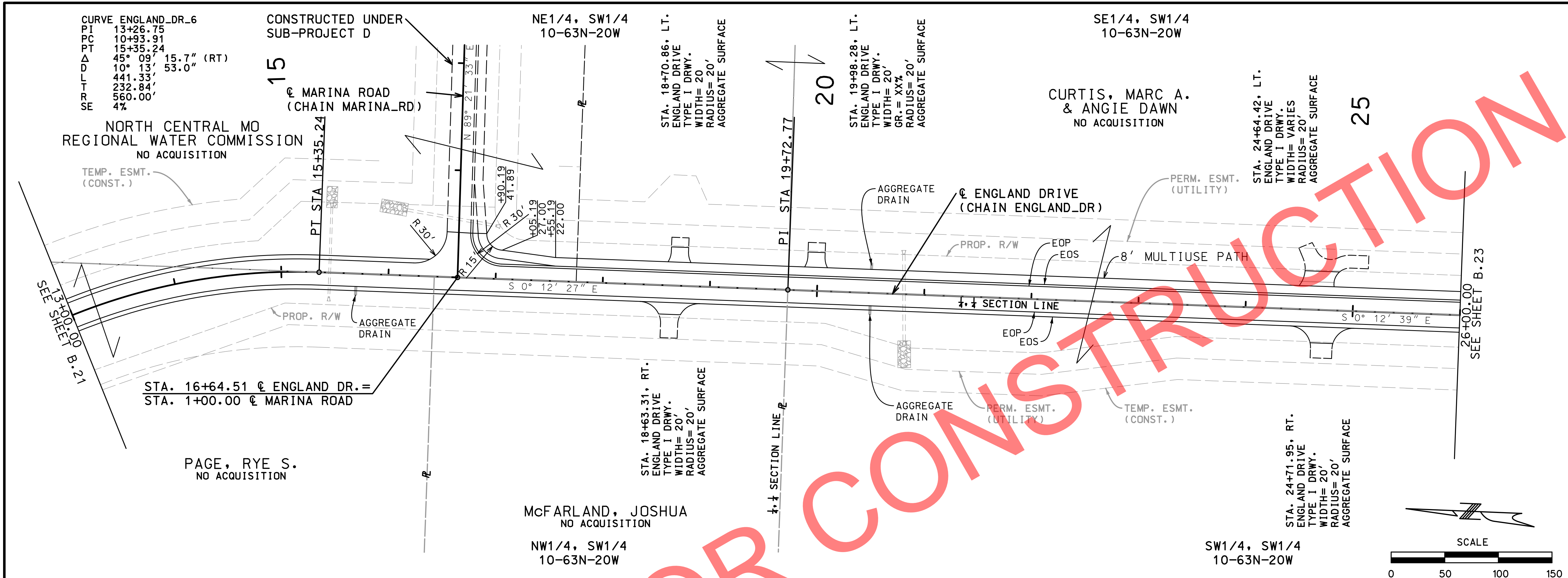
DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.19
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 olsson CERTIFICATE OF AUTHORITY NO. 001592	



DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.20
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MODOT	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

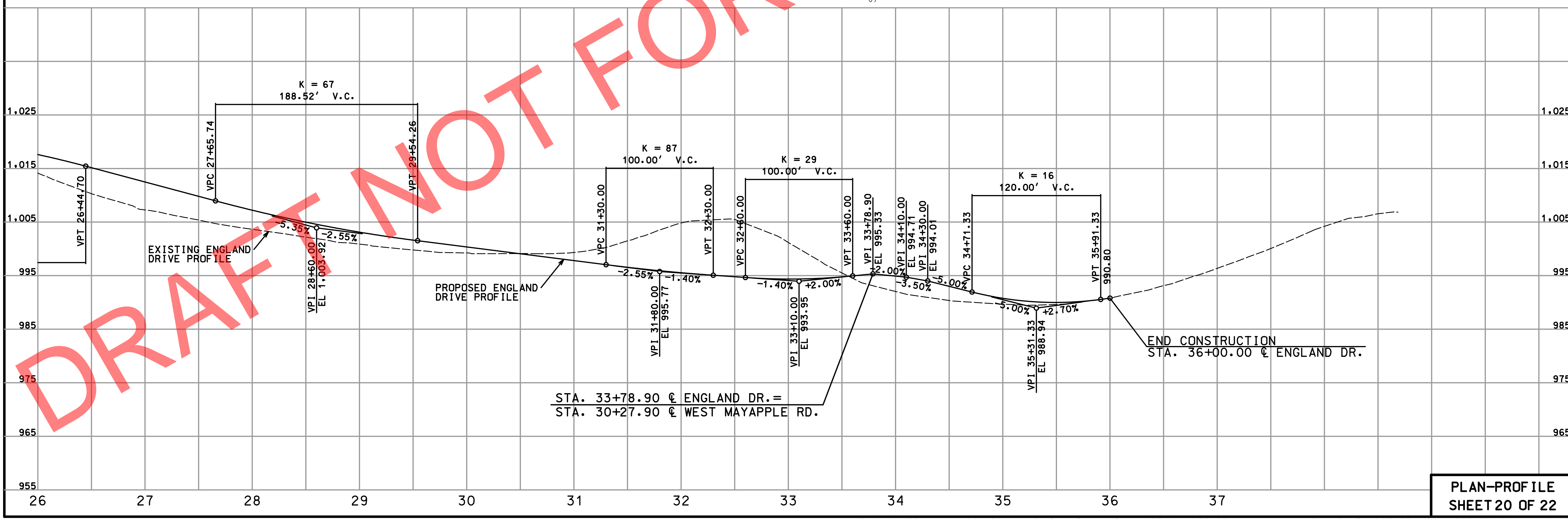
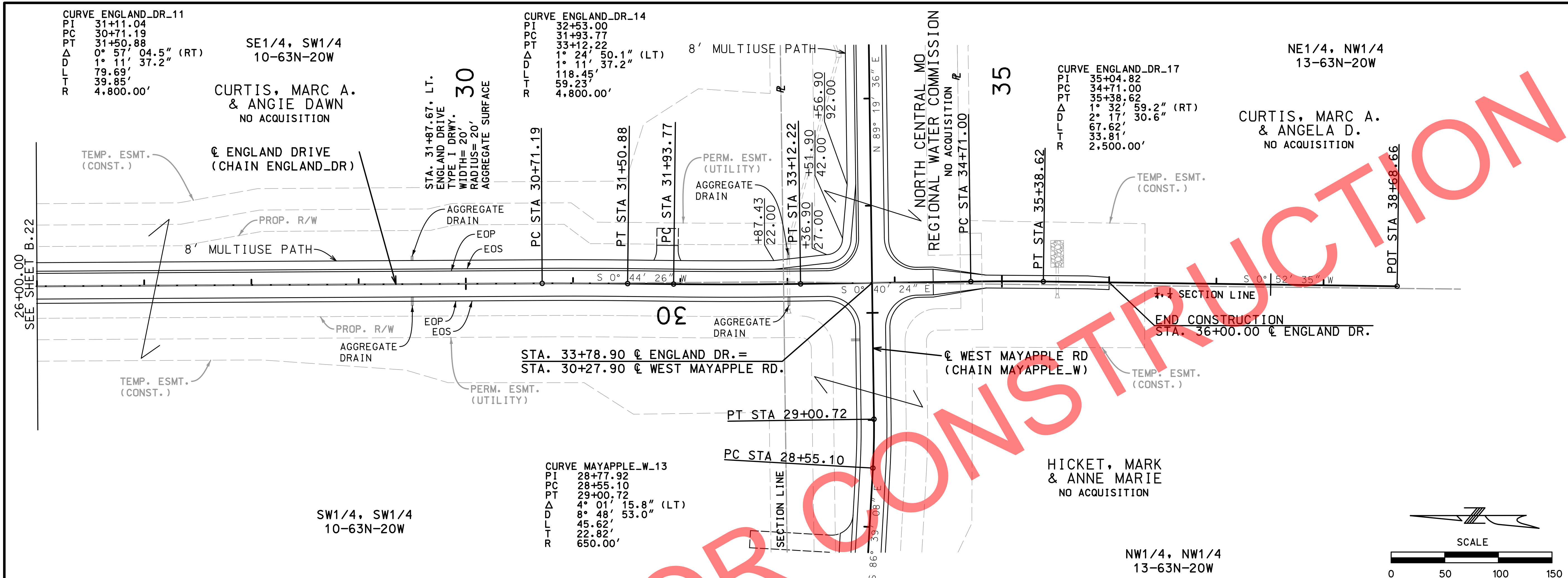


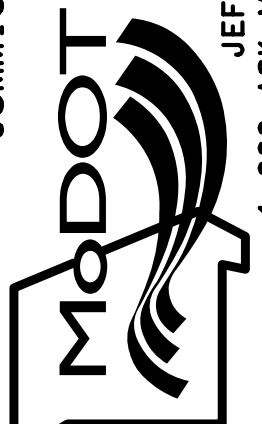
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DISTRICT NW	SHEET NO. B.21
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

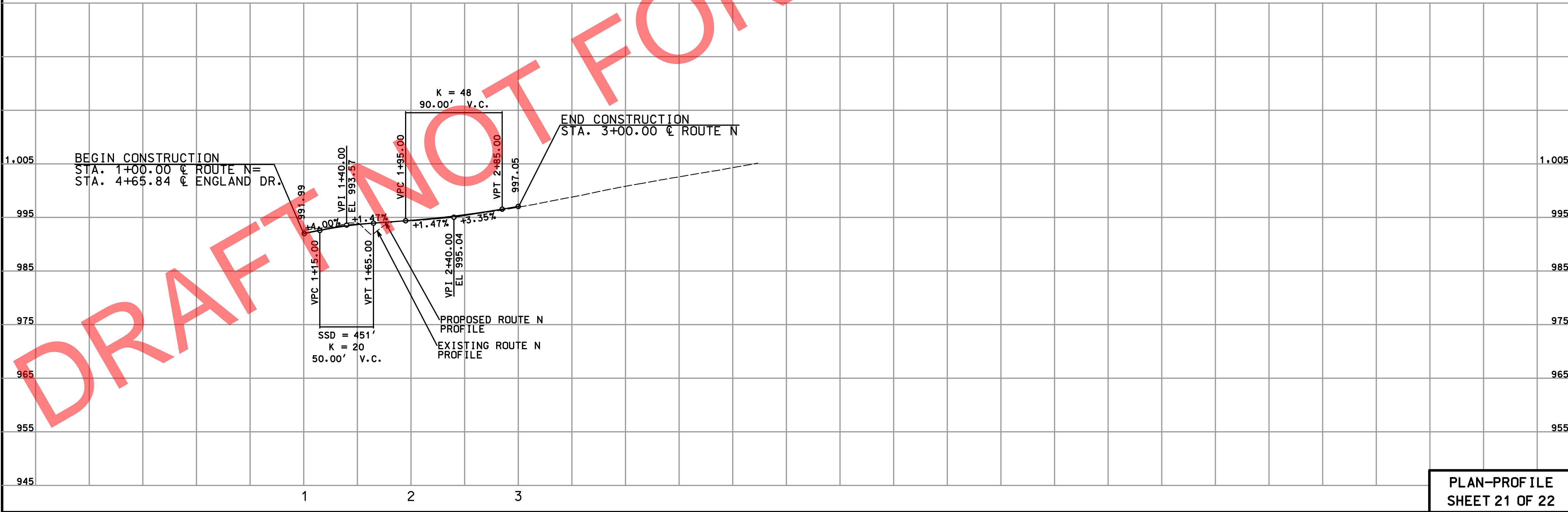
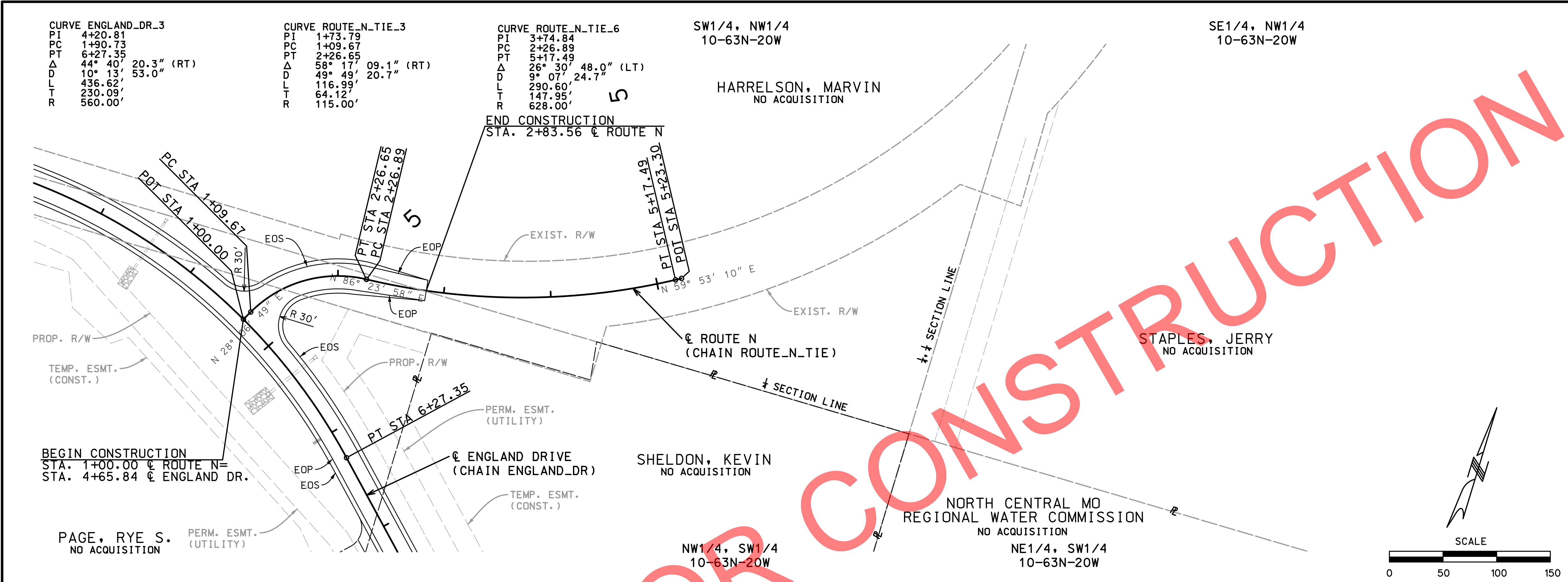


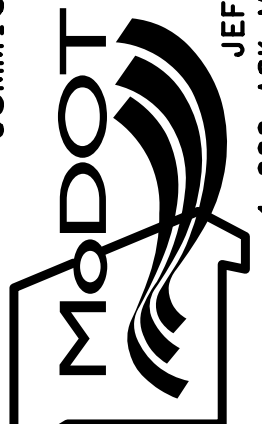

DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.22
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

PLAN-PROFILE
SHEET 19 OF 22

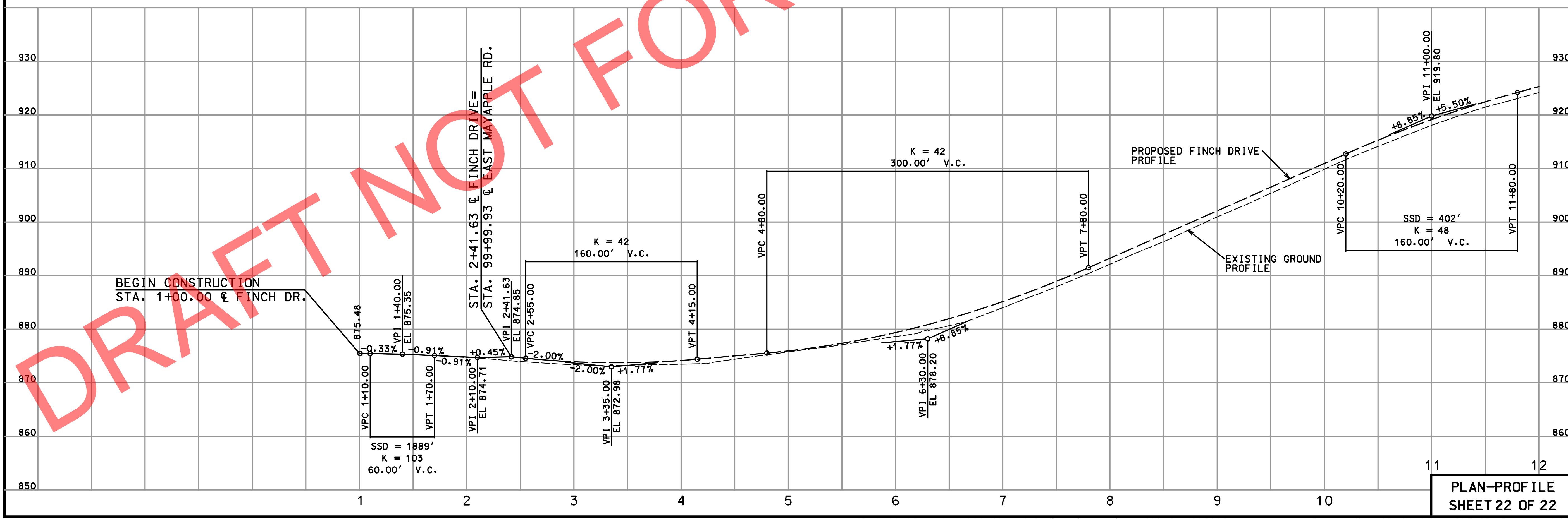
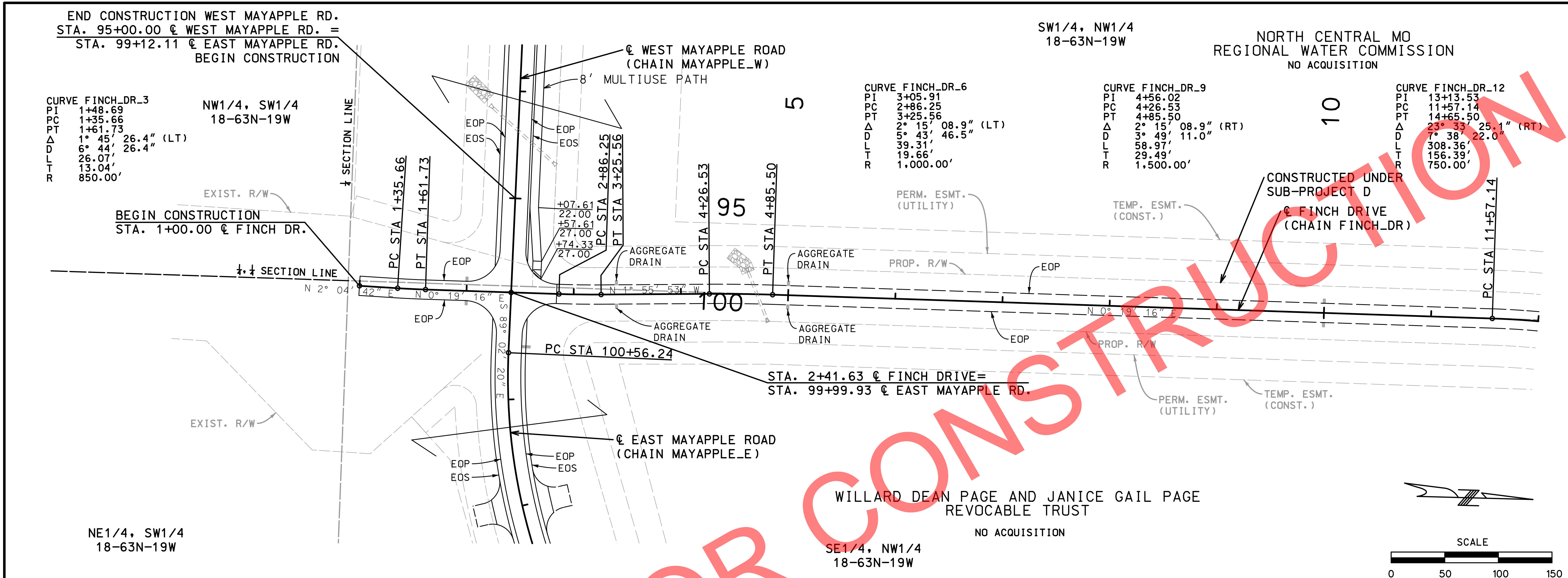


DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.23
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.24
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

PLAN-PROFILE
SHEET 21 OF 22



DATE PREPARED 2/7/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B.25
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

DRAFT

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

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	MODIFIED MISSOURI STATE PLANE
HORIZONTAL DATUM	NAD 83 (2011) (EPOCH 2010)
VERTICAL DATUM	NAVD 88: GNSS DERIVED
GEOID MODEL	12B
ELEVATIONS DETERMINED BY	GPS DERIVED
PROJECT PROJECTION FACTOR	1.00007728

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MO COORDINATE SYSTEM OF 1983
CONTROL STATION	MISSOURI CORS
DESIGNATION	MODOT MILAN CORS ARP
CORS ID	MOML
PID	DN6087
LATITUDE	10°12'37.76062" (N)
LONGITUDE	093°06'57.87622" (W)
NORTHING (M)	486,000.913
EASTING (M)	447,556.050
ZONE	CENTRAL
PROJECT AVERAGE GRID FACTOR	0.99996781

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

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

EXAMPLE: CONTROL POINT #8
N 1619096.411 X 0.999922725 = N 1618971.295
E 1469538.057 X 0.999922725 = E 146526.733

LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND)			DESCRIPTION	GPK POINT ID
				NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)		
ALIGNMENTS								
MAYAPPLE W								
	0+00.00	CL		1,616,236.6012	1,470,570.8822		P.C. CURVE MAYAPPLE W 1	
	0+67.51	RT		1,616,234.9157	1,470,638.3674		P.I. CURVE MAYAPPLE W 1	
	1+35.00	CL		1,616,235.0527	1,470,705.8736		P.T. CURVE MAYAPPLE W 1	
	3+27.85	CL		1,616,235.4441	1,470,898.7185		P.C. CURVE MAYAPPLE W 4	
	4+00.13	LT		1,616,235.5908	1,470,970.9986		P.I. CURVE MAYAPPLE W 4	
	4+72.40	CL		1,616,233.5611	1,471,043.2504		P.T. CURVE MAYAPPLE W 4	
	8+57.75	CL		1,616,222.7400	1,471,428.4496		P.C. CURVE MAYAPPLE W 7	
	9+45.28	RT		1,616,220.2822	1,471,515.9398		P.I. CURVE MAYAPPLE W 7	
	10+32.78	CL		1,616,221.0156	1,471,603.4613		P.T. CURVE MAYAPPLE W 7	
	15+31.77	CL		1,616,225.1969	1,472,102.4292		P.C. CURVE MAYAPPLE W 10	
	16+92.16	LT		1,616,226.5410	1,472,262.8210		P.I. CURVE MAYAPPLE W 10	
	18+52.44	CL		1,616,217.1747	1,472,422.9447		P.T. CURVE MAYAPPLE W 10	
	28+55.10	CL		1,616,158.6253	1,473,423.8877		P.C. CURVE MAYAPPLE W 13	
	28+77.91	RT		1,616,157.2928	1,473,446.6669		P.I. CURVE MAYAPPLE W 13	
	29+00.71	CL		1,616,157.5610	1,473,469.4834		P.T. CURVE MAYAPPLE W 13	
	41+35.90	CL		1,616,172.0780	1,474,704.5834		P.C. CURVE MAYAPPLE W 16	
	44+47.23	LT		1,616,175.7370	1,475,015.8909		P.I. CURVE MAYAPPLE W 16	
	47+02.49	CL		1,615,910.7096	1,475,179.2501		P.T. CURVE MAYAPPLE W 16	
	49+06.89	CL		1,615,736.7128	1,475,286.4993		P.C. CURVE MAYAPPLE W 19	
	50+58.26	RT		1,615,607.8484	1,475,365.9295		P.I. CURVE MAYAPPLE W 19	
	52+02.33	CL		1,615,537.7775	1,475,500.1131		P.T. CURVE MAYAPPLE W 19	
	54+18.10	CL		1,615,437.9002	1,475,691.3747		P.C. CURVE MAYAPPLE W 22	
	55+53.13	LT		1,615,375.3955	1,475,811.0691		P.I. CURVE MAYAPPLE W 22	
	56+82.63	CL		1,615,263.5751	1,475,886.7646		P.T. CURVE MAYAPPLE W 22	
	59+84.46	CL		1,615,013.6318	1,476,055.9608		P.C. CURVE MAYAPPLE W 25	
	61+44.80	RT		1,614,880.8542	1,476,145.8430		P.I. CURVE MAYAPPLE W 25	
	62+96.02	CL		1,614,819.3980	1,476,293.9371		P.T. CURVE MAYAPPLE W 25	
	66+65.79	CL		1,614,677.6708	1,476,635.4647		P.C. CURVE MAYAPPLE W 28	
	68+21.91	RT		1,614,617.8336	1,476,779.6574		P.I. CURVE MAYAPPLE W 28	
	69+69.59	CL		1,614,644.9360	1,476,933.4023		P.T. CURVE MAYAPPLE W 28	
	71+38.12	CL		1,614,674.1939	1,477,099.3748		P.C. CURVE MAYAPPLE W 31	
	74+05.14	LT		1,614,720.5501	1,477,362.3418		P.I. CURVE MAYAPPLE W 31	
	76+33.46	CL		1,614,538.2693	1,477,557.4681		P.T. CURVE MAYAPPLE W 31	
	80+08.65	CL		1,614,282.1419	1,477,831.6449		P.C. CURVE MAYAPPLE W 34	
	80+48.35	RT		1,614,255.0411	1,477,860.6555		P.I. CURVE MAYAPPLE W 34	
	80+87.91	CL		1,614,232.5191	1,477,893.3483		P.T. CURVE MAYAPPLE W 34	
	82+96.62	CL		1,614,114.1168	1,478,065.2200		P.C. CURVE MAYAPPLE W 37	
	83+88.99	LT		1,614,061.7123	1,478,141.2898		P.I. CURVE MAYAPPLE W 37	
	84+79.56	CL		1,613,986.8338	1,478,195.3829		P.T. CURVE MAYAPPLE W 37	
	86+80.47	CL		1,613,823.9740	1,478,313.0348		P.C. CURVE MAYAPPLE W 40	
	89+48.34	RT		1,613,606.8339	1,478,469.8994		P.I. CURVE MAYAPPLE W 40	
	91+77.17	CL		1,613,602.3408	1,478,737.7354		P.T. CURVE MAYAPPLE W 40	
	95+87.89	CL		1,613,595.4517	1,479,148.3936		END CHAIN MAYAPPLE W	

DATE PREPARED
2/7/2022

ROUTE
MAY

STATE
MO

DISTRICT
NW

SHEET NO.
B.26

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

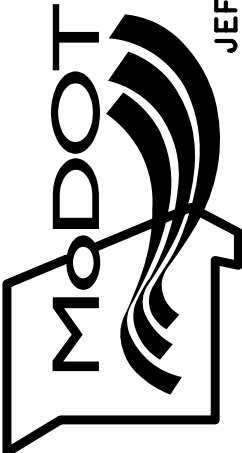
PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-5636)

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

DRAFT

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

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	MODIFIED MISSOURI STATE PLANE
HORIZONTAL DATUM	NAD 83 (2011) (EPOCH 2010)
VERTICAL DATUM	NAVD 88: GNSS DERIVED
GEOID MODEL	12B

ELEVATIONS
DETERMINED BY

GPS DERIVED

PROJECT PROJECTION FACTOR

1.00007728

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MO COORDINATE SYSTEM OF 1983
CONTROL STATION	MISSOURI CORS

DESIGNATION

MODOT MILAN CORS ARP

CORS ID

MOML

PID

DN6087

LATITUDE

10°12'37.76062" (N)

LONGITUDE

093°06'57.87622" (W)

NORTHING (M)

486,000.913

EASTING (M)

447,556.050

ZONE

CENTRAL

PROJECT AVERAGE GRID FACTOR

0.99996781

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

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

EXAMPLE: CONTROL POINT #8

N 1619096.411 X 0.999922725 = N 1618971.295

E 1469538.057 X 0.999922725 = E 146526.733

LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

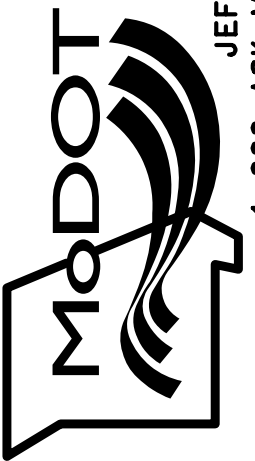
SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND)			DESCRIPTION	GPK POINT ID
				NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)		
ALIGNMENTS								
MAYAPPLE E								
	99+00.00	CL		1,613,597.1291	1,479,048.4076		BEGIN CHAIN MAYAPPLE E	
	100+00.00	CL		1,613,595.4517	1,479,148.3936		POT MAYAPPLE E	
	100+56.24	CL		1,613,594.5085	1,479,204.6226		P.C. CURVE MAYAPPLE E 5	
	102+23.28	RT		1,613,591.7066	1,479,371.6426		P.I. CURVE MAYAPPLE E 5	
	103+80.06	CL		1,613,684.4355	1,479,510.5846		P.T. CURVE MAYAPPLE E 5	
	112+26.40	CL		1,614,154.2544	1,480,214.5460		P.C. CURVE MAYAPPLE E 8	
	116+58.71	LT		1,614,394.2383	1,480,574.1302		P.I. CURVE MAYAPPLE E 8	
	119+57.36	CL		1,614,098.7067	1,480,889.6521		P.T. CURVE MAYAPPLE E 8	
	121+58.54	CL		1,613,961.1783	1,481,036.4831		P.C. CURVE MAYAPPLE E 11	
	127+42.08	RT		1,613,562.2625	1,481,462.3823		P.I. CURVE MAYAPPLE E 11	
	130+45.32	CL		1,614,021.1207	1,481,822.9000		P.T. CURVE MAYAPPLE E 11	
	132+32.95	CL		1,614,168.6567	1,481,938.8168		P.C. CURVE MAYAPPLE E 14	
	134+18.43	LT		1,614,314.5063	1,482,053.4085		P.I. CURVE MAYAPPLE E 14	
	135+90.03	CL		1,614,358.1257	1,482,233.6880		P.T. CURVE MAYAPPLE E 14	
	137+94.80	CL		1,614,406.2808	1,482,432.7139		P.C. CURVE MAYAPPLE E 17	
	145+39.40	RT		1,614,581.3857	1,483,156.4248		P.I. CURVE MAYAPPLE E 17	
	148+08.90	CL		1,615,211.4134	1,482,759.5818		P.T. CURVE MAYAPPLE E 17	
	151+40.60	CL		1,615,492.0779	1,482,582.7963		P.C. CURVE MAYAPPLE E 20	
	159+63.44	LT		1,616,188.3099	1,482,144.2524		P.I. CURVE MAYAPPLE E 20	
	162+04.49	CL		1,616,306.6526	1,482,958.5341		P.T. CURVE MAYAPPLE E 20	
	176+95.03	CL		1,616,521.0276	1,484,433.5848		P.C. CURVE MAYAPPLE E 23	
	178+96.50	LT		1,616,550.0028	1,484,632.9549		P.I. CURVE MAYAPPLE E 23	
	180+80.39	CL		1,616,440.2756	1,484,801.9164		P.T. CURVE MAYAPPLE E 23	
	186+80.11	CL		1,616,113.6387	1,485,304.8823		P.C. CURVE MAYAPPLE E 26	
	188+40.11	RT		1,616,026.4976	1,485,439.0649		P.I. CURVE MAYAPPLE E 26	
	189+91.51	CL		1,616,024.9309	1,485,599.0527		P.T. CURVE MAYAPPLE E 26	
	202+30.76	CL		1,616,012.7961	1,486,838.2393		P.C. CURVE MAYAPPLE E 29	
	203+60.10	LT		1,616,011.5296	1,486,967.5735		P.I. CURVE MAYAPPLE E 29	
	204+85.54	CL		1,615,957.0912	1,487,084.8996		P.T. CURVE MAYAPPLE E 29	
	206+39.44	CL		1,615,892.3137	1,487,224.5086		P.C. CURVE MAYAPPLE E 32	
	208+32.00	RT		1,615,811.2669	1,487,399.1813		P.I. CURVE MAYAPPLE E 32	
	210+12.10	CL		1,615,847.0031	1,487,588.3955		P.T. CURVE MAYAPPLE E 32	
	212+23.01	CL		1,615,886.1447	1,487,795.6397		P.C. CURVE MAYAPPLE E 35	
	217+43.06	LT		1,615,982.6591	1,488,306.6587		P.I. CURVE MAYAPPLE E 35	
	222+58.72	CL		1,615,962.6491	1,488,826.3269		P.T. CURVE MAYAPPLE E 35	
	225+47.18	CL		1,615,951.5500	1,489,114.5767		END CHAIN MAYAPPLE E	
ENGLAND DR								
	0+50.00	CL		1,618,888.3997	1,472,558.1969		BEGIN CHAIN ENGLAND DR	
	1+90.73	CL		1,618,888.4839	1,472,698.9228		P.C. CURVE ENGLAND DR 3	
	4+20.81	LT		1,618,888.6214	1,472,929.0084		P.I. CURVE ENGLAND DR 3	
	6+27.35	CL		1,618,726.9573	1,473,092.7280		P.T. CURVE ENGLAND DR 3	
	10+93.91	CL		1,618,399.1368	1,473,424.7167		P.C. CURVE ENGLAND DR 6	
	13+26.75	LT		1,618,235.5347	1,473,590.3990		P.I. CURVE ENGLAND DR 6	
	15+35.24	CL		1,618,002.6923	1,473,591.2427		P.T. CURVE ENGLAND DR 6	
	19+72.77	CL		1,617,565.1630	1,473,592.8279		PI ENGLAND DR	
	30+71.19	CL		1,616,466.7549	1,473,596.8679		P.C. CURVE ENGLAND DR 11	
	31+11.04	LT		1,616,426.9085	1,473,597.0145		P.I. CURVE ENGLAND DR 11	
	31+50.88	CL		1,616,387.0651	1,473,596.4995		P.T. CURVE ENGLAND DR 11	
	31+93.77	CL		1,616,344.1838	1,473,595.9453		P.C. CURVE ENGLAND DR 14	
	32+53.00	RT		1,616,284.9598	1,473,595.1798		P.I. CURVE ENGLAND DR 14	
	33+12.22	CL		1,616,225.7349	1,473,595.8759		P.T. CURVE ENGLAND DR 14	
	34+71.00	CL		1,616,066.9626	1,473,597.7420		P.C. CURVE ENGLAND DR 17	
	35+04.82	LT		1,616,033.1518	1,473,598.1394		P.I. CURVE ENGLAND DR 17	
	35+38.62	CL		1,615,999.3426	1,473,597.6223		P.T. CURVE ENGLAND DR 17	
	38+68.66	CL		1,615,669.3488	1,473,592.5744		END CHAIN ENGLAND DR	

COORDINATE POINTS
SHEET 2 OF 3

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-5636)

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

1 METER = 3.280833333 US SURVEY FEET (USFT)

DATE PREPARED
2/7/2022

SIGN SPACING FOR ADVANCE SIGN SERIES (1)		
PERMANENT POSTED SPEED MPH	UNDIVIDED HIGHWAYS	DIVIDED HIGHWAYS
0-35	200'	200'
40-45	350'	500'
50-55	500'	1000'
60-70	1000'	SA - 1000' SB - 1500' SC - 2640'

TAPER LENGTHS AND END TREATMENTS FOR CONCRETE BARRIER				
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (2)			END TREATMENT (3)
	T1	10'	11'	12'
<40	160'	168'	176'	BARRIER HEIGHT TRANSITION
>40	160'	168'	176'	APPROVED CRASH CUSHION

TAPER LENGTHS AND SPACING FOR CHANNELIZERS							
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (T1)			MINIMUM SHOULDER TAPER LENGTH BASED ON 10' SHOULDER	BUFFER LENGTH FT.	MAXIMUM CHANNELIZER SPACING	
	10'	11'	12'			THROUGH TAPER	THROUGH WORK AREA
0-35	205'	225'	245'	70'	280'	35'	40'
40-45	450'	495'	540'	150'	400'	40'	80'
50-55	550'	605'	660'	185'	560'	50'	80'
60-70	700'	770'	840'	235'	840'	60'	120'

NOTES:

- (1) SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS AND VIABILITY.
- (2) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER.
- (3) CONCRETE BARRIER MAY BE INSTALLED AT AN 8:1 FLARE RATE FROM THE SHOULDER POINT TO THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER. CONTRACTOR MAY PROVIDE CONCRETE BARRIER, INCIDENTAL TO PROJECT.

GENERAL NOTES:

1. AS WITH ALL CONSTRUCTION ACTIVITIES TRAFFIC SITUATIONS ARE SUBJECT TO CHANGE. THE CONTRACTOR SHALL BE AWARE THAT ALL TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE STANDARDS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) THE MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION, SECTION 600 AND SHALL FOLLOW THE GUIDELINES IN THE MODOT 'TRAFFIC CONTROL FOR FIELD OPERATIONS MANUAL'.
2. PLACE A 'ROAD WORK AHEAD' SIGN ON THE APPROACH TO ALL INTERSECTIONS WHERE THE ADVANCE SIGNING FOR THE TEMPORARY TRAFFIC CONTROL EXTENDS PAST THAT INTERSECTION.
3. NOTIFY MODOT RESIDENT ENGINEER 48-HOURS IN ADVANCE OF ANY LANE CLOSURE OR ROADWAY CLOSURE.
4. ALL EXISTING SIGNS SHALL BE USED IN PLACE, ADJUSTED, AND/OR COVERED AS CONDITIONS REQUIRE (NO DIRECT PAY).
5. ALL STATIONING, DISTANCES, AND SPACING OF WORK ZONES DEVICES ARE APPROXIMATE AND MAY BE REVISED AS APPROVED BY ENGINEER.
6. FIRST ORDER OF WORK ON ALL PHASES SHALL BE PLACEMENT OF ALL WORK ZONE WARNING DEVICES AND SIGNS AS NOTED.
7. SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED OR AS APPROVED BY THE ENGINEER.
8. SIGNS LEFT IN PLACE OVERNIGHT MUST BE MOUNTED AT 5' MINIMUM HEIGHT.
9. ALTERNATE TRAFFIC CONTROL MAY BE USED AS NEEDED AT THE APPROVAL OF THE ENGINEER.
10. NO DIRECT PAYMENT WILL BE MADE FOR RELOCATION OF CHANNELIZERS, CONSTRUCTION SIGNS, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES, UNLESS OTHERWISE SHOWN ON THE PLANS.
11. FLAG ASSEMBLIES SHALL BE USED DURING ALL DAYTIME OPERATIONS. THEY ARE REQUIRED ON ALL FLAGGER SIGNS AND TRUCK CROSSING SIGNS WITHIN THE WORK ZONE. THEY WILL BE REQUIRED ON THE FIRST OCCURRENCE OF THE ROAD/RAMP/BRIDGE WORK AHEAD SIGN, BUT ONLY IF THE WORK DURATION IS 30 MINUTES OR MORE. IF PROVIDED, THE COST OF THE FLAG ASSEMBLES AS SHOWN IN THE PLANS.

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2/6/2022

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NW

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B.29

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SULLIVAN

JOB NO.
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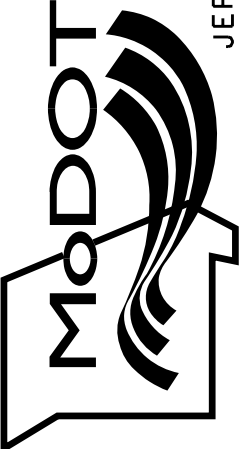
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



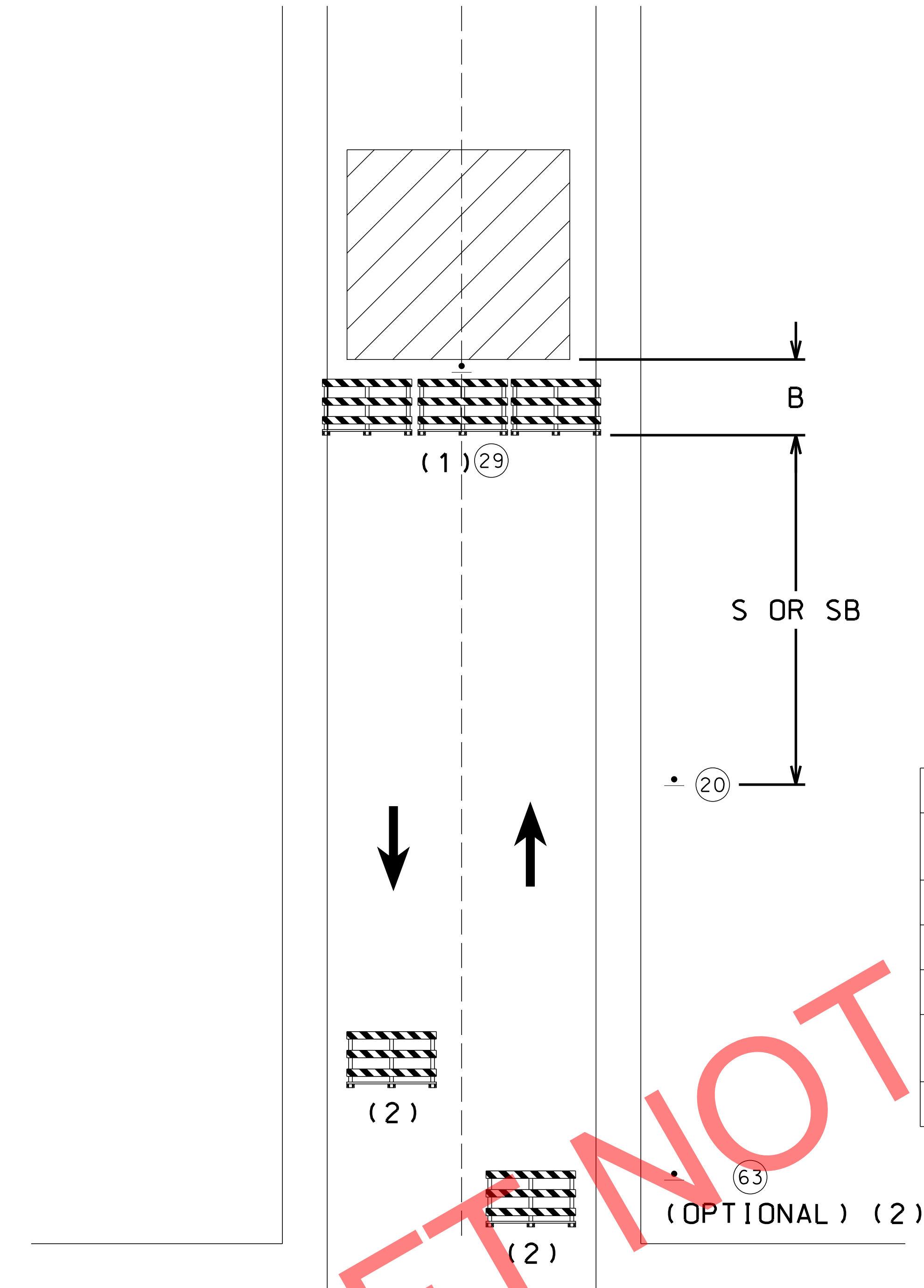
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TA-8 - HIGHWAY CLOSURE

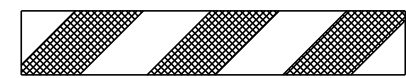
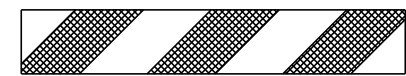
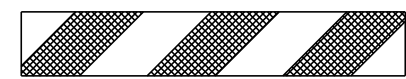


ROAD CLOSED
XX MILES AHEAD
LOCAL TRAFFIC ONLY

R11-3a
(63)

ROAD
CLOSED

R11-2
(29)



W020-3
(20)

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- TYPE III MOVEABLE BARRICADE
- WORK AREA
- ADVANCED WARNING RAIL SYSTEM (AWRS)

TYPE OF ROADWAY	SIGN HEIGHT	MAXIMUM WORK ZONE LENGTH (L)
RURAL, UNDIVIDED	1' PORTABLE 5' POST	3MI.

SPEED	SIGN SPACING (FT.)		TAPER LENGTH (FT.)		OPTIONAL	CHANNELIZER SPACING (FT.)	
NORMAL POSTED (MPH)	UNDIVIDED (S)	DIVIDED (S)	SHOULDER (1) (T1)	LANE (2) (T2)	BUFFER LENGTH (FT.) (B)	TAPERS	BUFFER/ WORK AREAS
0-35	200	200	-	-	250	-	-
40-45	350	500	-	-	360	-	-
50-55	500	1000	-	-	495	-	-
60-70	1000	SA - 1000 SB - 1500 SC - 2640	-	-	730	-	-

1. SHOULDER TAPER LENGTH BASED ON 10 FT. (STANDARD SHOULDER WIDTH) OFFSET. 2. LANE TAPER LENGTH BASED ON 12 FT. (STANDARD LANE WIDTH) OFFSET.

NOTES:

- ROAD CLOSED SIGN MAY BE PLACED 7-10 FEET BEHIND THE BARRICADES AND AT A SIGN HEIGHT APPROPRIATE TO THE TYPE OF ROADWAY. ONE BARRICADE SHOULD BE REQUIRED TO COMPLETELY CLOSE EACH 8-FEET OF PAVEMENT. PAVED SHOULDERS SHALL BE INCLUDED IN THE AREA TO BE CLOSED.
- IF USED, THE ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY OR ROAD CLOSED TO THRU TRAFFIC SIGN SHOULD BE LOCATED AT THE FIRST STATE ROUTE OR, AT THE DISCRETION OF THE ENGINEER, ANY OTHER INTERSECTION IN ADVANCE OF THE CLOSURE. ADDITIONAL BARRICADES MAY BE USED AND OFFSET TO FACILITATE ACCESS FOR WORK VEHICLES, LOCAL TRAFFIC, ETC.

TRAFFIC CONTROL SHOULD BE REMOVED AS SOON AS PRACTICAL AFTER CONDITION FOR THE CLOSURE NO LONGER EXISTS.

FOR LONG-TERM OPERATIONS, REFER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM (AWRS).

ADDITIONAL WARNING SIGNS SHOULD BE ERECTED AT EACH INTERSECTION WITHIN THE WORK ZONE.

SEE STANDARD PLAN 616.10 FOR USE OF BARRICADES AND SIGNS.

FOR LONG-TERM CLOSURE, DETOUR SIGNING SHOULD BE CONSIDERED.

FOR DETOUR SIGNING, REVIEW EPG 616.8.9 ROAD CLOSED BEYOND JUNCTION DETOUR.

NOT TO SCALE

TRAFFIC CONTROL
SHEET 3 OF 7

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2/6/2022

ROUTE

MAY

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NW

SHEET NO.

B.31

COUNTY

SULLIVAN

JOB NO.

J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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

Missouri Certificate of Authority: 001578

13523 Barrett Parkway Dr

Suite 250

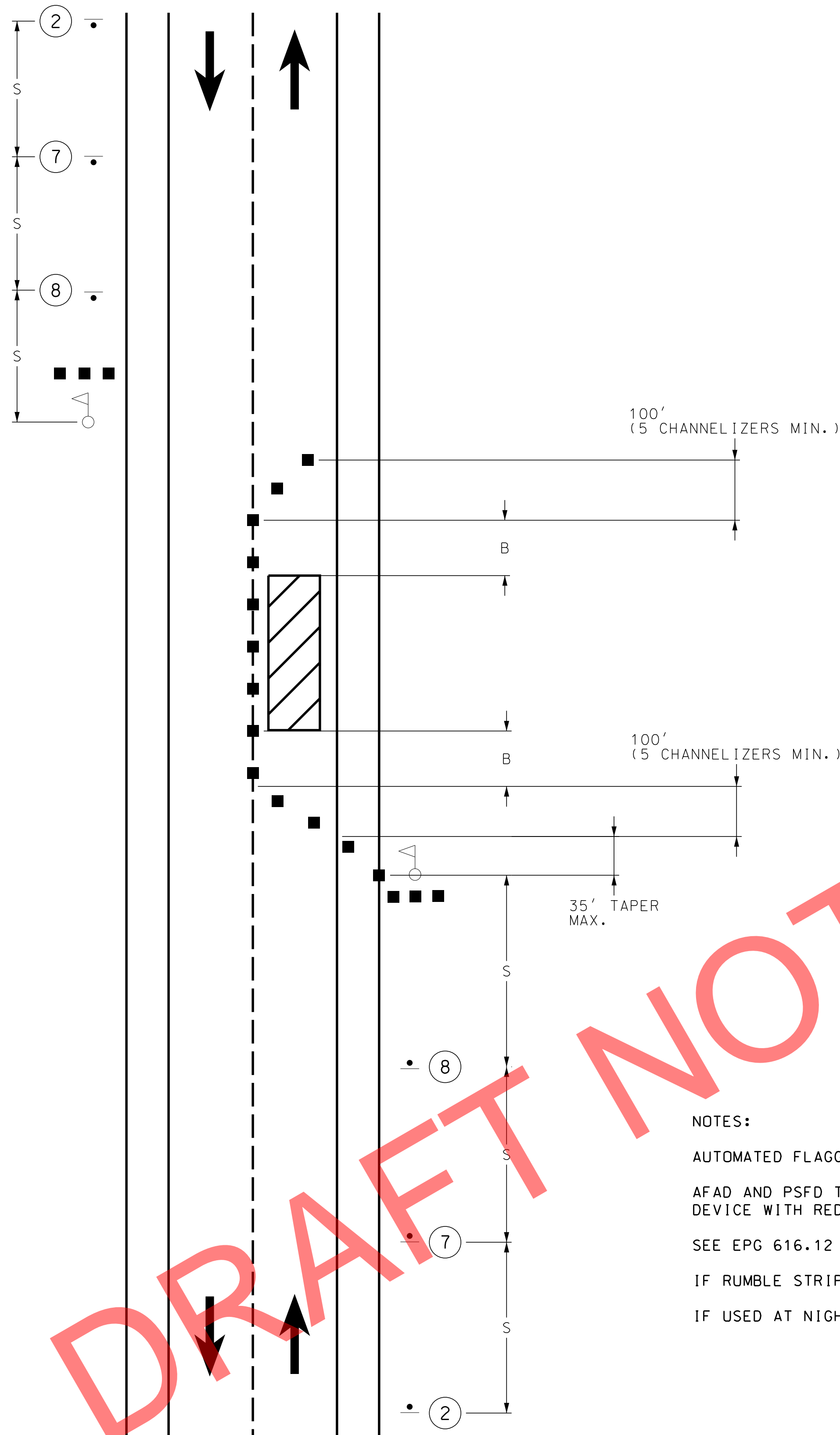
St. Louis, MO 63021

Phone 314-394-3100

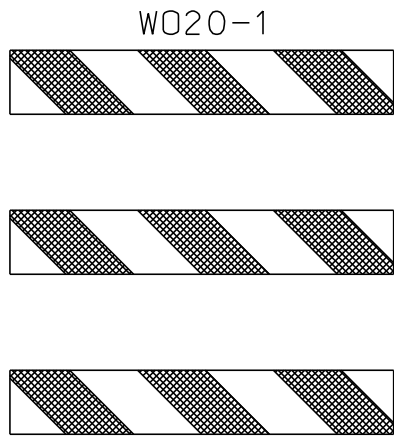
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REV.

TA-10 - LANE CLOSURE ON TWO-LANE ROAD USING FLAGGERS



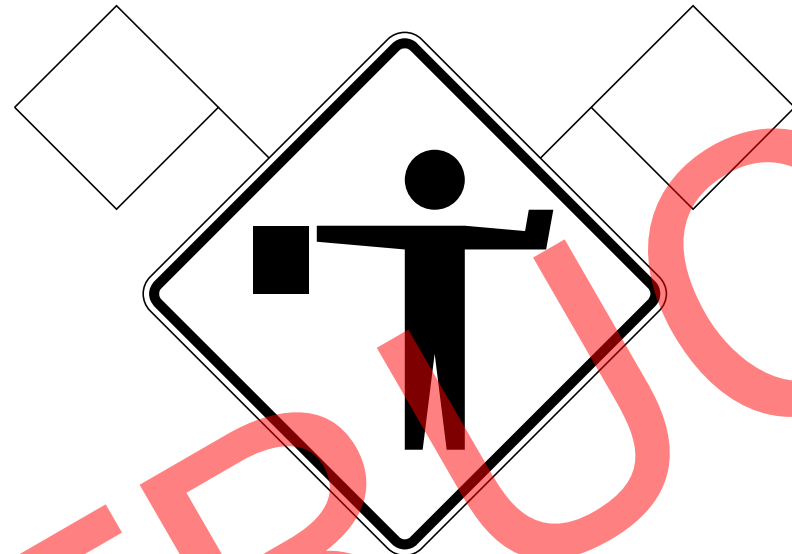
BRIDGE
OR
RAMP



2



7



8

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- △ FLAGGER
- ▨ WORK AREA
- ▨ ADVANCED WARNING RAIL SYSTEM (AWRS)

SPEED PERMANENT POSTED (MPH)	SIGN SPACING (FT.)		TAPER LENGTH (FT.)		OPTIONAL BUFFER LENGTH (FT.) (B)	CHANNELIZER SPACING (FT.)	
	UNDIVIDED (S)	DIVIDED (S)	SHOULDER (1) (T1)	LANE (2) (T2)		TAPERS	BUFFER/WORK AREA
0-35	200	-	-	-	280	-	40
40-45	350	-	-	-	400	-	80
50-55	500	-	-	-	560	-	80
60-70	1000	-	-	-	840	-	120

1. SHOULDER TAPER LENGTH BASED ON 10 FT. (STANDARD SHOULDER WIDTH) OFFSET. 2. LANE TAPER LENGTH BASED ON 12 FT. (STANDARD LANE WIDTH) OFFSET.

NOTES:

- AUTOMATED FLAGGER ASSISTANCE DEVICES (AFAD) AND PORTABLE SIGNAL FLAGGING DEVICES (PSFD) MAY BE USED AS AN ALTERNATIVE FLAGGING OPERATION.
- AFAD AND PSFD TYPICAL APPLICATIONS AND CRITERIA ARE LOCATED AT THE FOLLOWING: EPG 616.8.10A (TA-10A) LANE CLOSURE ON TWO-LANE HIGHWAYS USING AUTOMATED FLAGGER ASSISTANCE DEVICE WITH RED AND AMBER SIGNAL SYSTEM & EPG 616.8.10C (TA-10C) LANE CLOSURE ON TWO-LANE HIGHWAYS USING PORTABLE SIGNAL FLAGGING DEVICE.
- SEE EPG 616.12 WORK ZONE SPEED LIMITS FOR SPEED LIMIT GUIDELINES.
- IF RUMBLE STRIPS ARE USED, REVIEW 616.6.87 RUMBLE STRIPS.
- IF USED AT NIGHT, THE FLAGGER STATIONS SHALL BE ILLUMINATED WITH AN AVERAGE MAINTAINED INTENSITY OF 0.6 FOOTCANDLES (6.5 LUX).

NOT TO SCALE

TRAFFIC CONTROL
SHEET 4 OF 7

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DISTRICT NW	SHEET NO. B.32
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

MoDOT

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

EFK Moen

Civil Engineering Design

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St. Louis, MO 63021

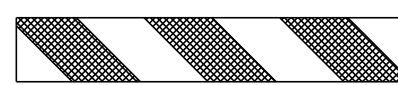
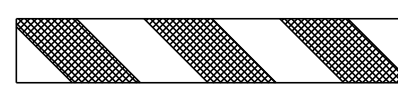
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TA-10g - SIDE ROADS ENTERING WORK ZONES



BRIDGE
OR
RAMP

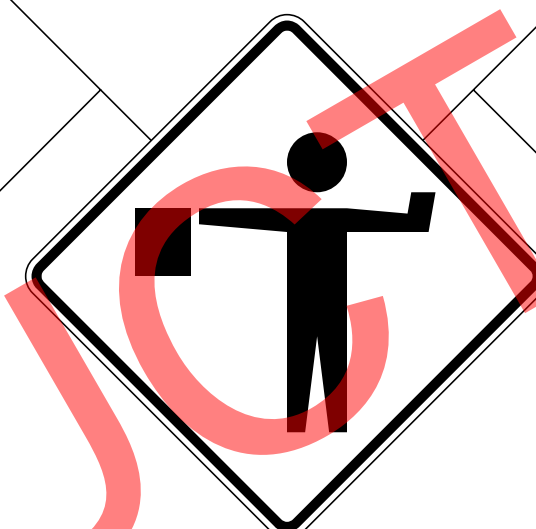


2



W03-4

11



W020-7a

8

STATE

ROUTE

TAPERS CONSISTS OF 5 CHANNELIZERS SPACED 20-FT. APART FOR LENGTH OF 100-FT.

CHANNELIZERS SPACED APPROXIMATELY 5 FT. APART. CHANNELIZERS EXTEND APPROXIMATELY 20 FT. PAST THE ENTRANCE WIDTH

TRAFFIC CONTROL LEGEND

• SIGN (SINGLE SIDED)

■ CHANNELIZER

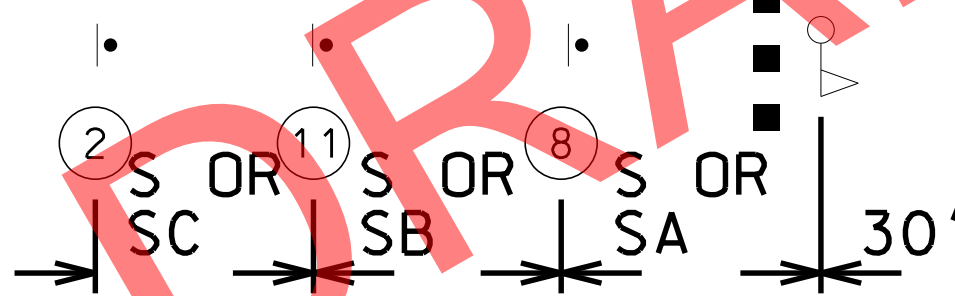
△ FLAGGER

▨ ADVANCE WARNING RAIL SYSTEM (AWRS)

SPEED PERMANENT POSTED (MPH)	SIGN SPACING (FT.)	
	UNDIVIDED (S)	DIVIDED (S)
0-35	200	200
40-45	350	500
50-55	500	1000
60-70	1000	SA - 1000 SB - 1500 SC - 2640

STATE

ROUTE



NOT TO SCALE

TRAFFIC CONTROL
SHEET 5 OF 7

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ROUTE

MAY MO

DISTRICT

NW B.33

COUNTY

SULLIVAN

JOB NO.

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CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
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105 WEST CAPITOL
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Civil Engineering Design

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Suite 250 Fax 314-394-3199

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DRAFT NOT FOR CONSTRUCTION

Diagram Labels:

- PAVEMENT MARKING EQUIPMENT
- 150' MIN.
- WARNING TRUCK WITH WORK SIGNS, FLASHING ARROW PANEL AND OPTIONAL TRUCK OR TRAILER MOUNTED ATTENUATOR. (1)
- 150' MIN.
- ADVANCE WARNING TRUCK WITH WORK SIGNS, FLASHING ARROW PANEL AND TRUCK OR TRAILER MOUNTED ATTENUATOR. (3)

Sign Panel Details:

- FLASHING ARROW PANEL - CAUTION MODE
- ONE LANE ROAD AHEAD
- WD20-4 48"X48"
- 7
- WET PAINT (2)
- G022-1 (2)
- 62

NOTES:

- UPON APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY PROVIDE ADDITIONAL PROTECTIVE TRUCKS EQUIPPED WITH PROPER WARNING DEVICES.
- PROTECTIVE TRUCK AND WORK VEHICLES SHALL DISPLAY HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.
- VEHICLE HAZARD WARNING SIGNALS SHALL NOT BE USED INSTEAD OF THE VEHICLE'S HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.
- (1) TRUCK IS OPTIONAL ON TWO-LANE UNDIVIDED HIGHWAYS IF SIGNING AND ARROW BOARD IS MOUNTED ON THE PAVEMENT MARKING EQUIPMENT.
- (2) WET PAINT SIGNS ARE INSTALLED TO INDICATE THE SIDE IN WHICH THE PAVEMENT MARKING MATERIAL IS BEING APPLIED. AT THE CONTRACTOR'S OPTION, A FRONT FACING WET PAINT SIGN MAY BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT MARKING EQUIPMENT.
- (3) ADVANCE WARNING TRUCK IS POSITIONED AT THE NO TRACK POINT OF THE PAVEMENT MARKING MATERIAL OR SPACING SHOWN, WHICH EVER IS GREATER.

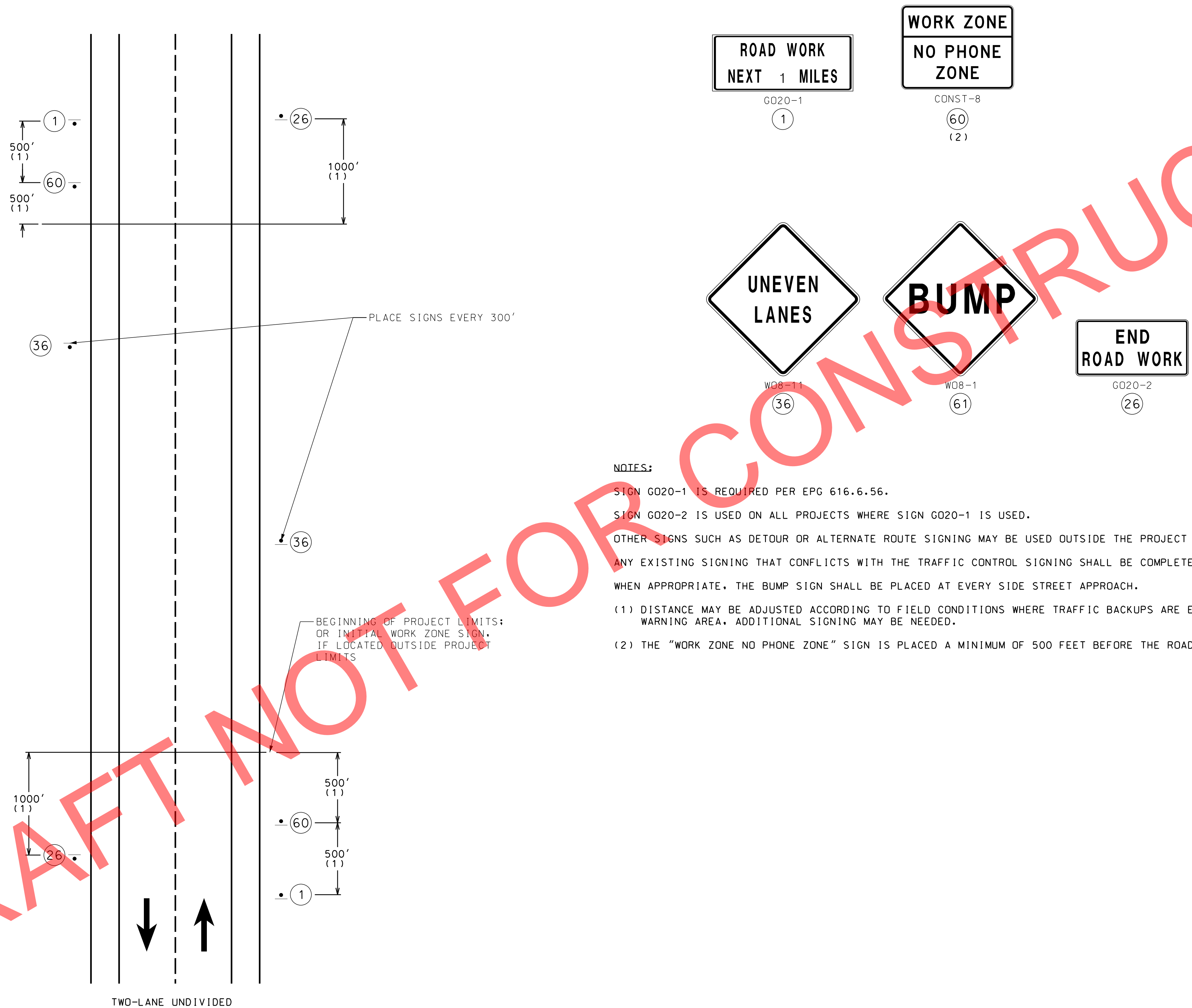
DATE PREPARED	2/6/202
ROUTE	MAY
DISTRICT	NW
COUNTY	SULLIVAN
JOB NO.	J1S339
CONTRACT	
PROJECT	
BRIDGE	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MoDOT	

FK Moen
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Phone 314-394-3100

TRAFFIC CONTROL
SHEET 6 OF 7

EFFK Moen
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135253 Barrett Parkway Dr
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St. Louis, MO 63021
Phone 314-399-
Fax 314-399-
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BEGIN/END OF PROJECT SIGNING



NOTES:

- SIGN G020-1 IS REQUIRED PER EPG 616.6.56.
- SIGN G020-2 IS USED ON ALL PROJECTS WHERE SIGN G020-1 IS USED.
- OTHER SIGNS SUCH AS DETOUR OR ALTERNATE ROUTE SIGNING MAY BE USED OUTSIDE THE PROJECT LIMITS.
- ANY EXISTING SIGNING THAT CONFLICTS WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED.
- WHEN APPROPRIATE, THE BUMP SIGN SHALL BE PLACED AT EVERY SIDE STREET APPROACH.
- (1) DISTANCE MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS WHERE TRAFFIC BACKUPS ARE EXPECTED BEYOND THE ADVANCE WARNING AREA. ADDITIONAL SIGNING MAY BE NEEDED.
- (2) THE "WORK ZONE NO PHONE ZONE" SIGN IS PLACED A MINIMUM OF 500 FEET BEFORE THE ROAD WORK AHEAD SIGN

NOT TO SCALE

TRAFFIC CONTROL
SHEET 7 OF 7

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ROUTE MAY STATE MO
DISTRICT NW SHEET NO. B.35

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

EFK Moen
Civil Engineering Design
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PAVEMENT MARKING LEGEND	
DSY	4" DOUBLE SOLID YELLOW CENTERLINE (WP, P BEADS)
SW	4" SOLID WHITE LINE (WP, P BEADS)
IW	4" INTERMITTENT WHITE LINE (WP, P BEADS)
SY	4" SOLID YELLOW LINE (WP, P BEADS)
24" SW/SY	24" SOLID WHITE OR YELLOW HATCHING (WP, P BEADS)
24" WSB	24" SOLID WHITE STOP BAR (PERFORMED THERMOPLASTIC)
	TURN ARROW PAVEMENT MARKING (PERFORMED THERMOPLASTIC)
	COMBINATION ARROW PAVEMENT MARKING (PERFORMED THERMOPLASTIC)
NOTES: 1. WP: WATERBORNE PAINT	

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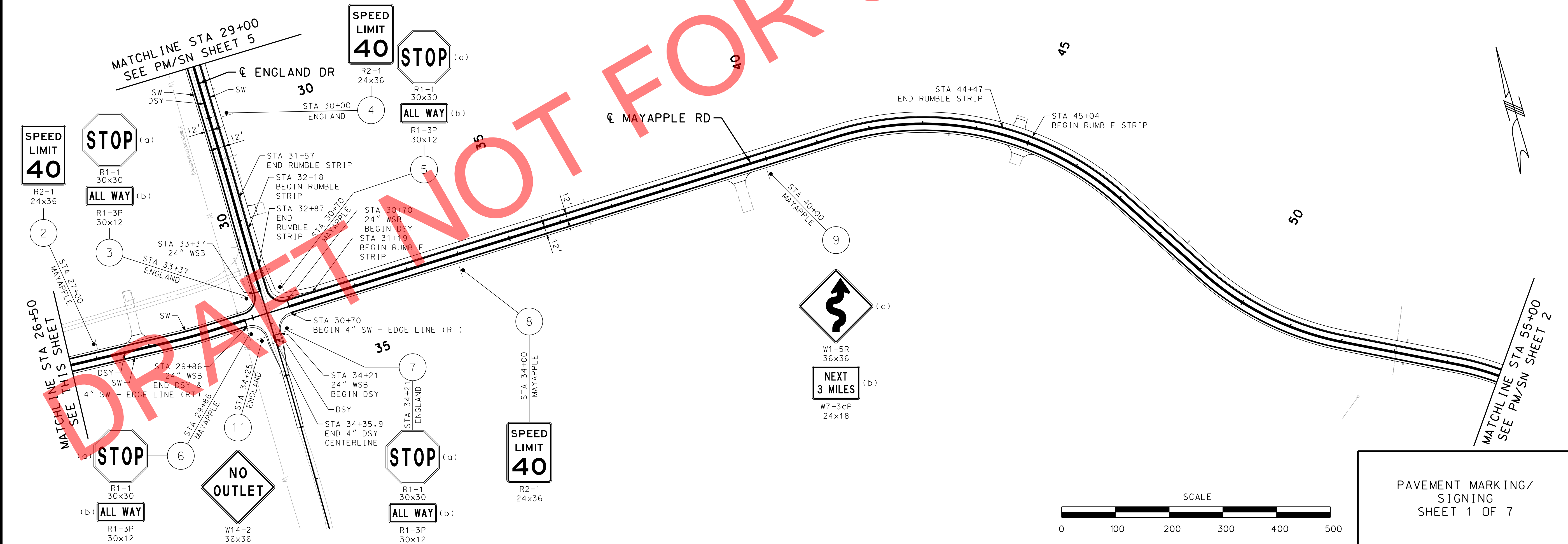
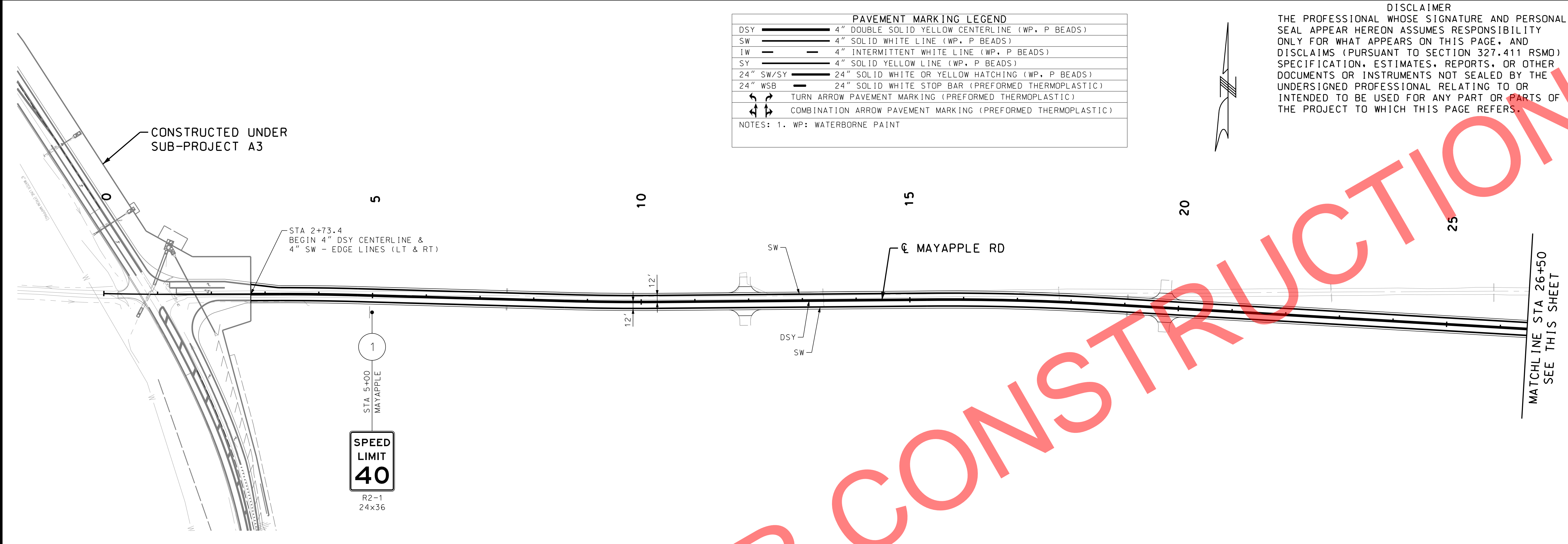
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COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

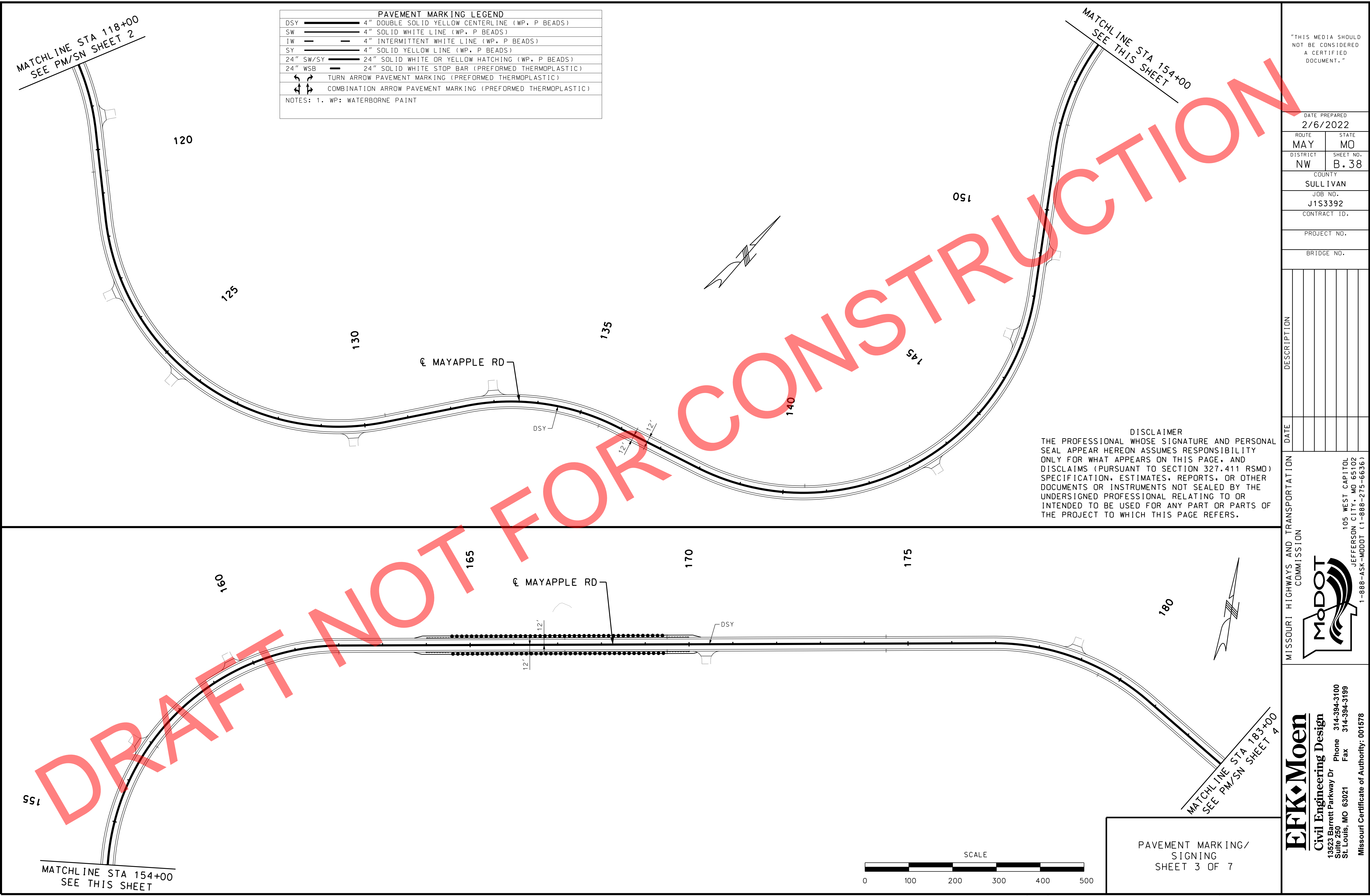
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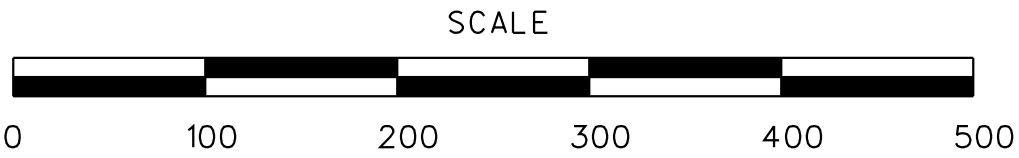
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Civil Engineering Design
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St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
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PAVEMENT MARKING LEGEND	
DSY	4" DOUBLE SOLID YELLOW CENTERLINE (WP, P BEADS)
SW	4" SOLID WHITE LINE (WP, P BEADS)
IW	4" INTERMITTENT WHITE LINE (WP, P BEADS)
SY	4" SOLID YELLOW LINE (WP, P BEADS)
24" SW/SY	24" SOLID WHITE OR YELLOW HATCHING (WP, P BEADS)
24" WSB	24" SOLID WHITE STOP BAR (PERFORMED THERMOPLASTIC)
	TURN ARROW PAVEMENT MARKING (PERFORMED THERMOPLASTIC)
	COMBINATION ARROW PAVEMENT MARKING (PERFORMED THERMOPLASTIC)
NOTES: 1. WP: WATERBORNE PAINT	

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PAVEMENT MARKING/
SIGNING
SHEET 3 OF 7

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COUNTY SULLIVAN	
JOB NO. J1S3392	
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)

EFK Moen
Civil Engineering Design
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Suite 250
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Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

PAVEMENT MARKING LEGEND	
DSY	4" DOUBLE SOLID YELLOW CENTERLINE (WP, P BEADS)
SW	4" SOLID WHITE LINE (WP, P BEADS)
IW	4" INTERMITTENT WHITE LINE (WP, P BEADS)
SY	4" SOLID YELLOW LINE (WP, P BEADS)
24" SW/SY	24" SOLID WHITE OR YELLOW HATCHING (WP, P BEADS)
24" WSB	24" SOLID WHITE STOP BAR (PERFORMED THERMOPLASTIC)
	TURN ARROW PAVEMENT MARKING (PERFORMED THERMOPLASTIC)
	COMBINATION ARROW PAVEMENT MARKING (PERFORMED THERMOPLASTIC)
NOTES: 1. WP: WATERBORNE PAINT	

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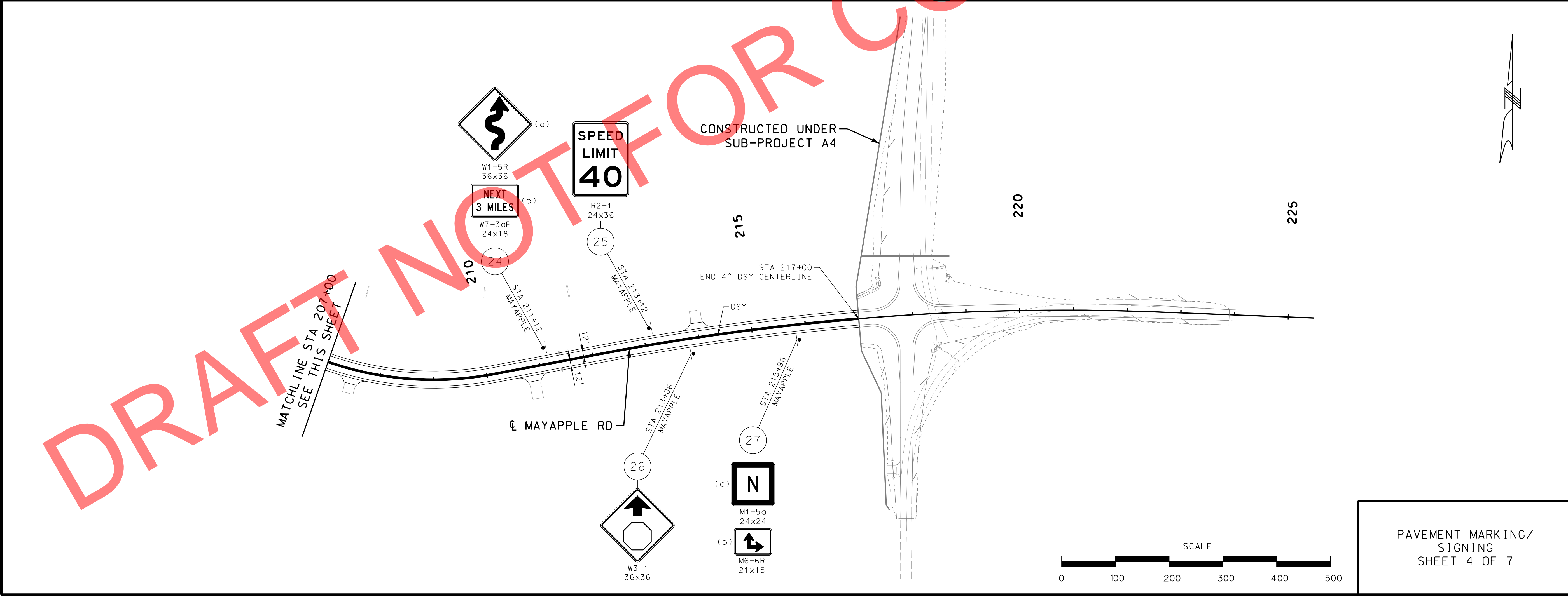
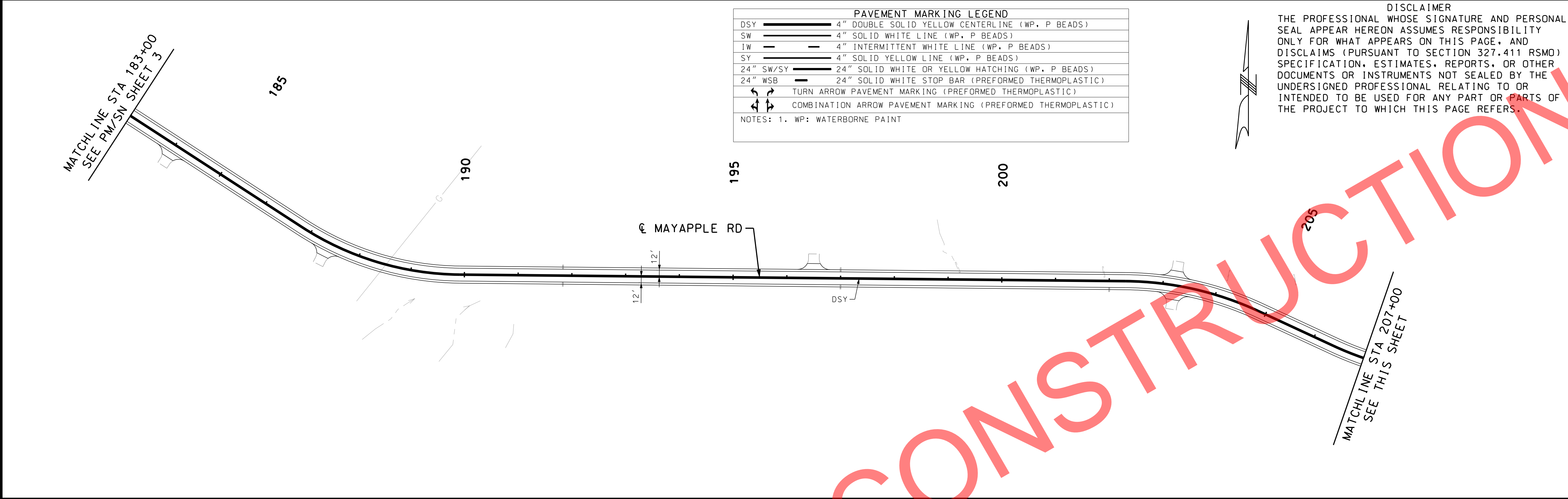
DATE PREPARED 2/6/2022	
ROUTE MAY	STATE MO
DISTRICT NW	SHEET NO. B. 39
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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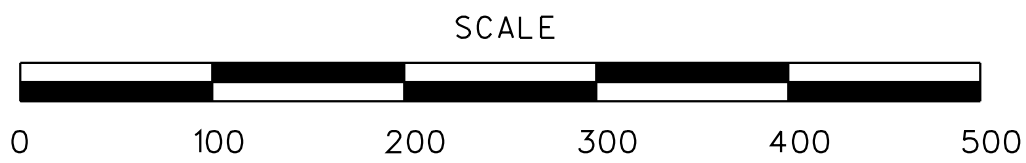
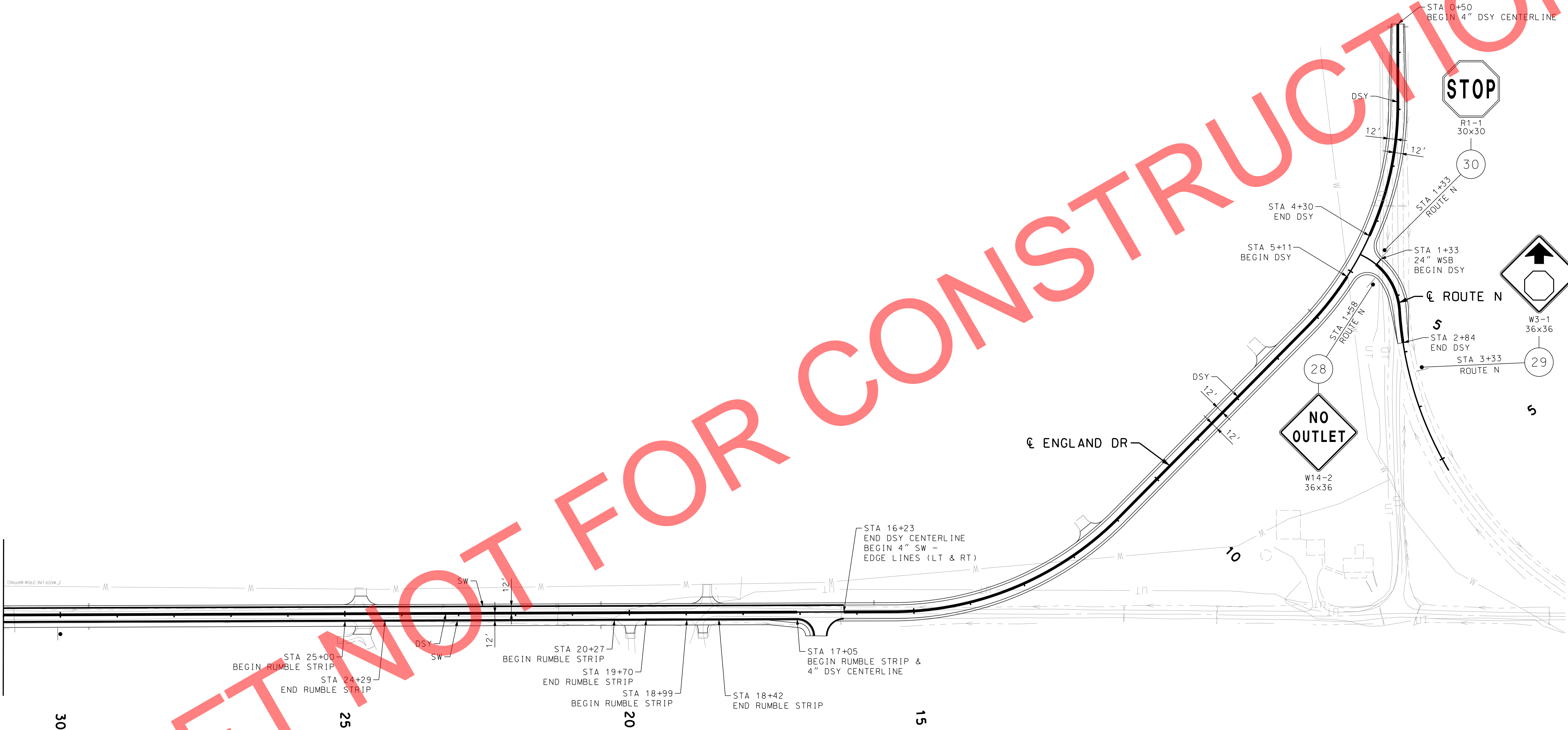
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NOTES: 1. WP: WATERBORNE PAINT	

MATCHLINE STA 29+00
SEE PM/SN SHEET 1



PAVEMENT MARKING/
SIGNING
SHEET 5 OF 7

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SEC/SUR	18	TWP	63N	RGE	19W
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REV. •

Estimated Quantities					
Item		Substr.	Superstr.	Total	
Class 1 Excavation		cu. yard	155		155
Bridge Approach Slab (Major)		sq. yard		144	144
(72 in.) Pedestrian Fence (Structures)		linear foot		165	165
(22 in.) Pedestrian Fence (Structures)		linear foot		165	165
Galvanized Structural Steel Piles (14 in.)		linear foot	336		336
Pile Wave Analysis		each	2		2
Pile Point Reinforcement		each	14		14
Class B Concrete (Substructure)		cu. yard	48.4		48.4
*	Type H Barrier	linear foot		333	333
	Slab on Concrete NU-Girder	sq. yard		540	540
	Concrete Curb (Bridge Rail)	linear foot		167	167
	NU63, Prestressed Concrete NU-Girder	linear foot		484	484
	Steel Intermediate Diaphragm for P/S Concrete Girders	each		6	6
	Vertical Drain at End Bents	each			2
	Laminated Neoprene Bearing Pad	each		4	4
	Laminated Neoprene Bearing Pad (Tapered)	each		4	4

* Type H Barrier shall be cast-in-place option or slip form option.

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

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

Foundation Data			
Type	Design Data	Bent Number	
		1	2
Load Bearing Pile	Pile Type and Size	HP 14X73	HP 14X73
	Number	ea 7	7
	Approximate Length per Each	ft 25	23
	Pile Point Reinforcement	ea 7	7
	Minimum Galvanized Penetration (Elev.)	ft Full Length	Full Length
	Pile Driving Verification Method	WEAP	WEAP
	Minimum Nominal Axial Compressive Resistance	kip 586	586
	Resistance Factor	0.5	0.5

Load Bearing Pile:

WEAP = Wave Equation Analysis of Piles

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

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

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

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

HP piles are anticipated to be driven to refusal on rock. Review all borings for depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with sec 702.

General Notes:

Design Specifications:

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

Seismic Design Category = A

Design Loading:

Vehicular = HL-93

Future Wearing Surface = 35 lb/sf

Earth = 120 lb/cf

Equivalent Fluid Pressure = 45 lb/cf

Superstructure: Simply-supported, non-composite for dead load.

Continuous composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure) $f'c = 3,000 \text{ psi}$

Class B-2 Concrete (Superstructure, except Prestressed Girders & Barrier) $f'c = 4,000 \text{ psi}$

Class B-1 Concrete (Barrier) $f'c = 4,000 \text{ psi}$

Reinforcing Steel (Grade 60) $fy = 60,000 \text{ psi}$

Steel Pile (ASTM A709 Grade 50) $fy = 50,000 \text{ psi}$

For prestressed girder stresses, see Sheets No. 10 and 11.

Neoprene Pads:

Neoprene Bearing Pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:

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

Traffic Handling:

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

Hydrologic Data (Post-Dam Flows)
Drainage Area = 33.0 mi ²
Design Flood Frequency = 50 years
Design Flood Discharge = 2,751 cfs
Design Flood (D.F.) Elevation = 865.90
Base Flood (100-year)
Base Flood Elevation = 866.36
Base Flood Discharge = 3,582 cfs
Estimated Backwater = 0.00 ft
Average Velocity thru Opening = 4.09 ft/s
Freeboard (50-year)
Freeboard = 1.48 ft
Roadway Overtopping
Overtopping Flood Discharge = > 3,582 cfs
Overtopping Flood Frequency = 100-500 years
Overtopping Flood Elevation = 867.12

Hydrologic Data (Pre-Dam Flows)
Drainage Area = 33.0 mi ²
Design Flood Frequency = 50 years
Design Flood Discharge = 7,110 cfs
Design Flood (D.F.) Elevation = 867.33
Base Flood (100-year)
Base Flood Elevation = 868.04
Base Flood Discharge = 8,490 cfs
Estimated Backwater = 0.71 ft
Average Velocity thru Opening = 9.10 ft/s
Freeboard (50-year)
Freeboard = 0.05 ft
Roadway Overtopping
Overtopping Flood Discharge = > 6,030 cfs
Overtopping Flood Frequency = 25-50 years
Overtopping Flood Elevation = 867.12

Estimated Quantities for Slab on Concrete NU-Girder		
Item		Total
Class B-2 Concrete	cu. yard	210.6
Reinforcing Steel (Epoxy Coated)	pound	50,590

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

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

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

Stay-in Place Forms:

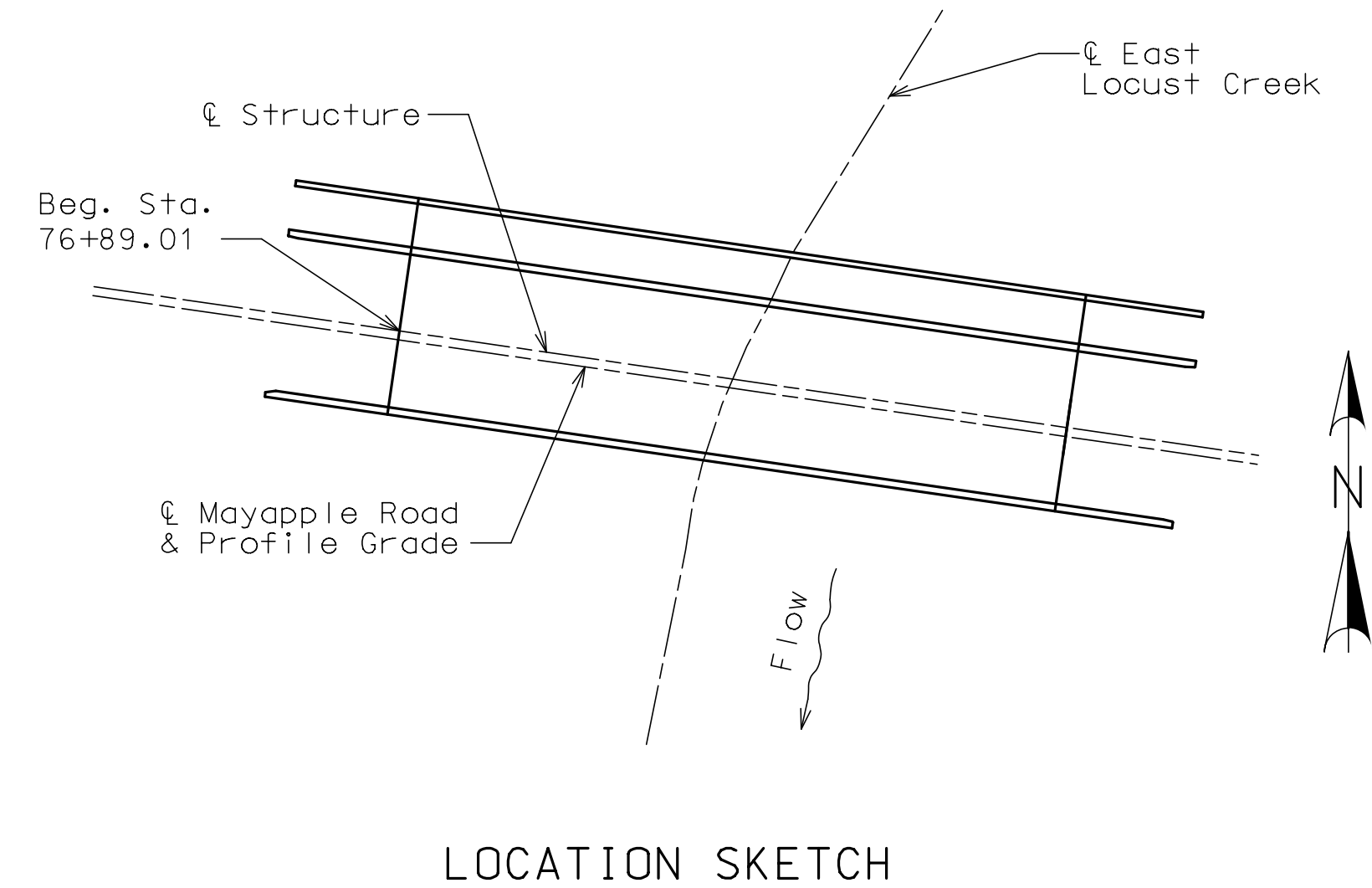
Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

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

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

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.



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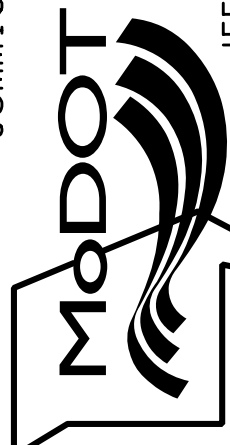
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BRIDGE NO.
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DESCRIPTION

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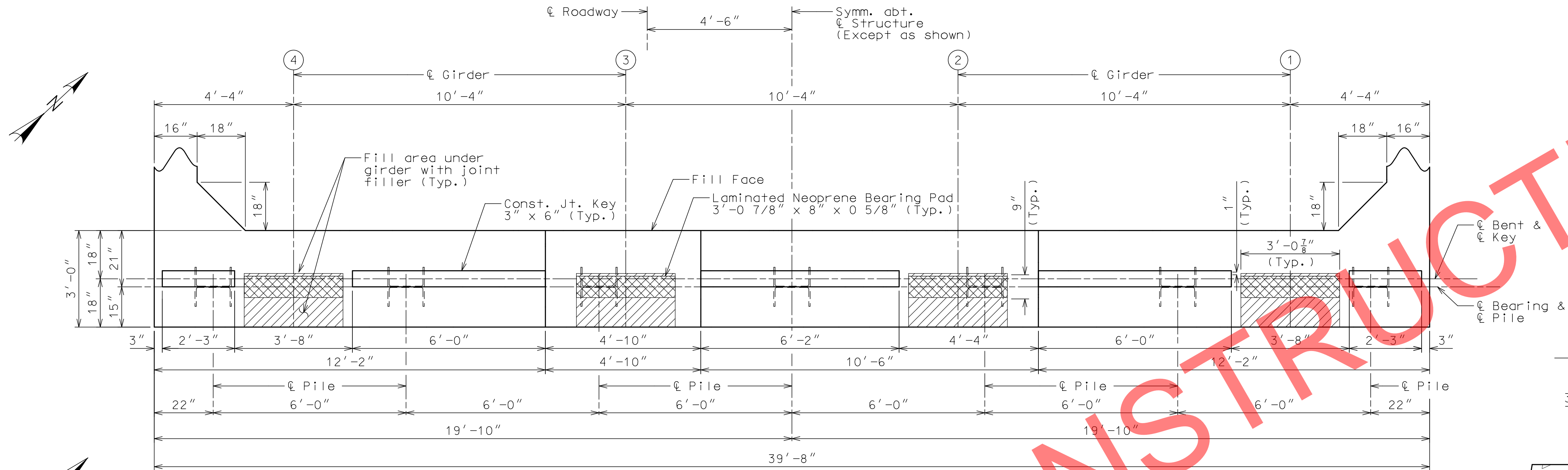
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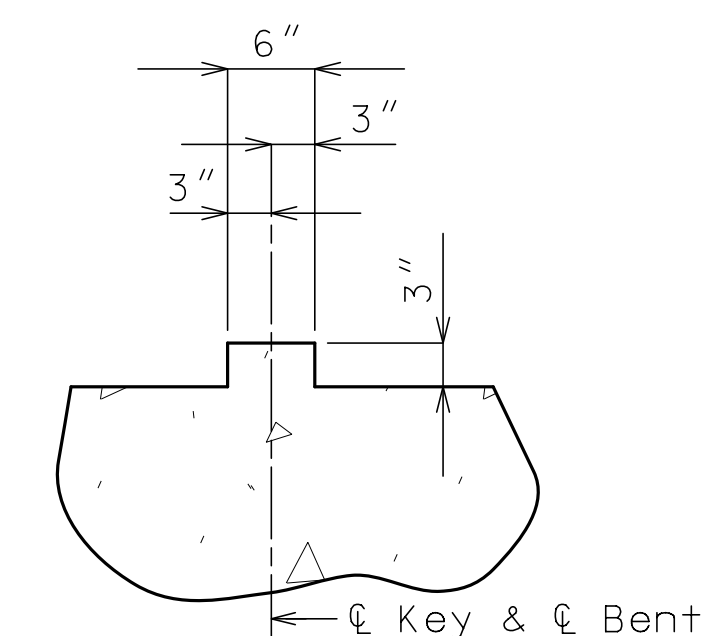
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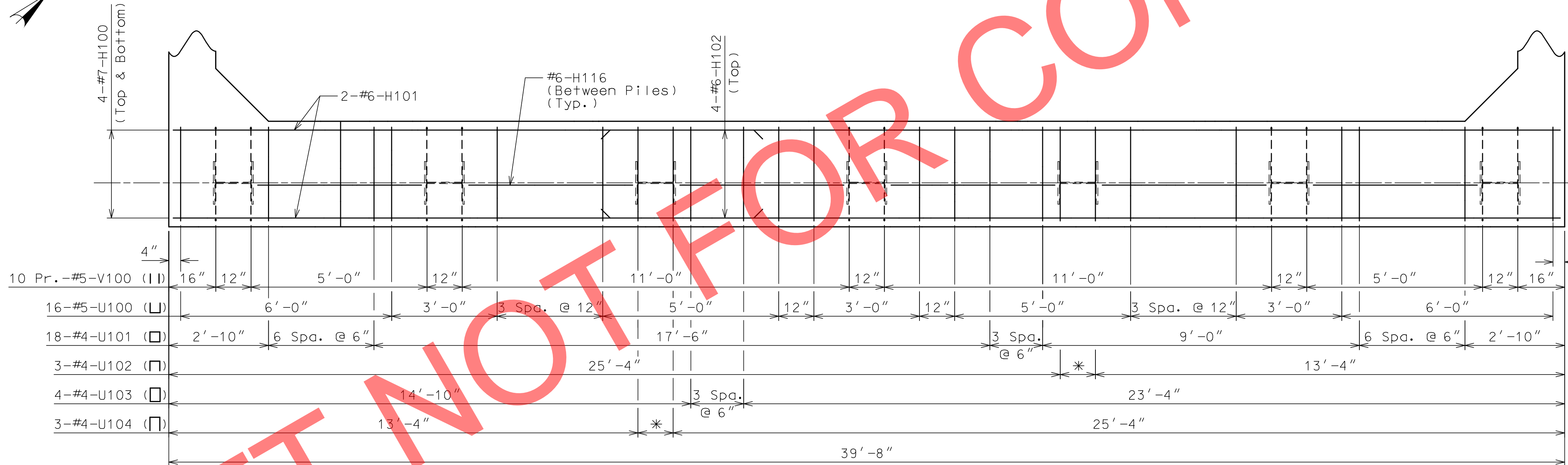
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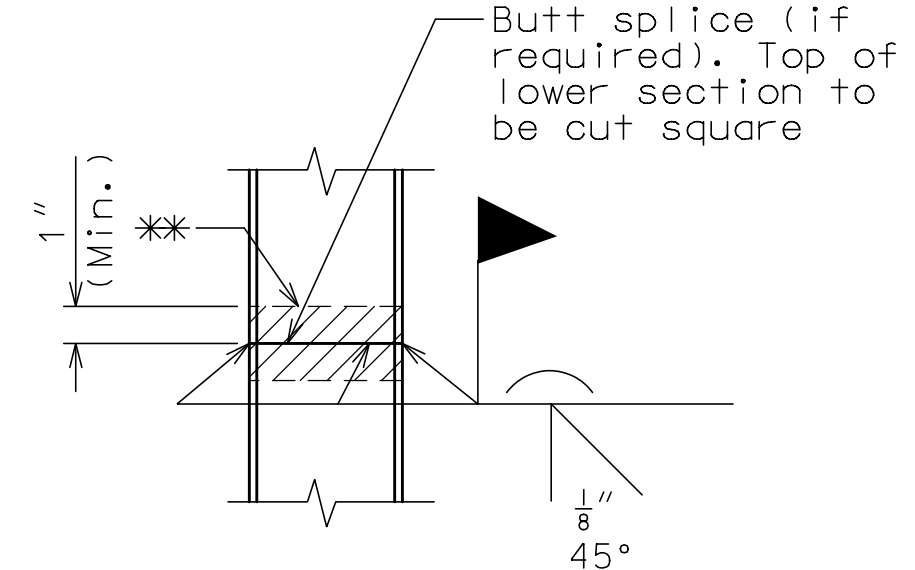
PLAN OF BEAM



TYPICAL SECTION THRU KEY



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

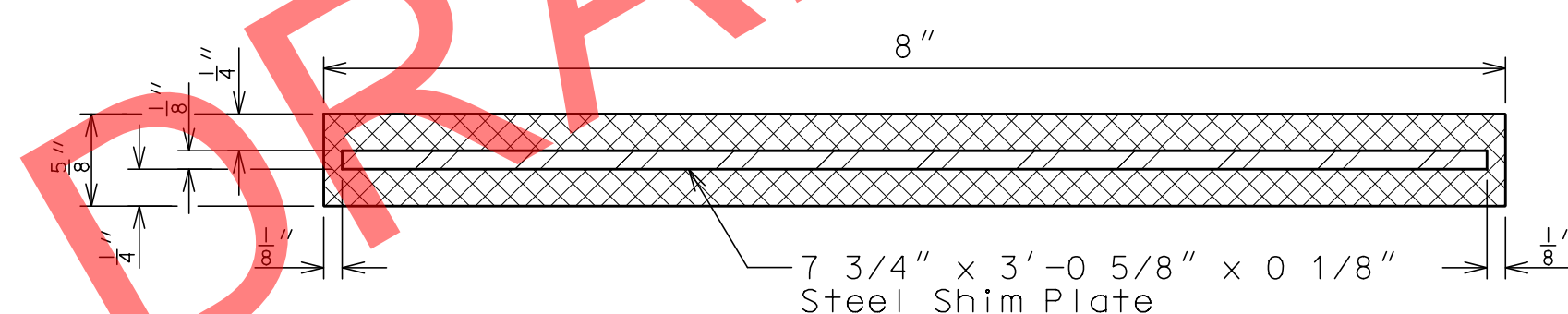


STEEL PILE SPLICE
(If required)

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

Notes:

- For details of End Bent No. 1 not shown, see Sheets No. 4 & 5.
- For details of Vertical Drain at End Bents, see Sheet No. 6.
- Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".
- All concrete in the end bent above top of beam and below top of slab shall be Class B-2.



LAMINATED NEOPRENE BEARING PAD

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	85
Galvanized Structural Steel Piles (14 in.)	linear foot	175
Pile Point Reinforcement	each	7
Class B Concrete (Substructure)	cu. yard	24.4

Note: These quantities are included in the Estimated Quantities Table on Sheet No. 2.

DETAILS OF END BENT NO. 1

Detailed March 2021
Checked May 2021

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

Sheet No. 3 of 26

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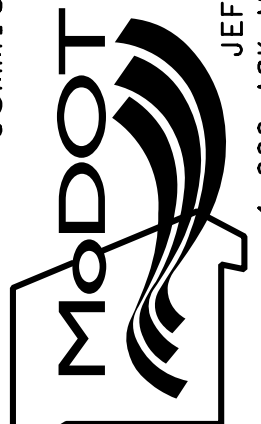
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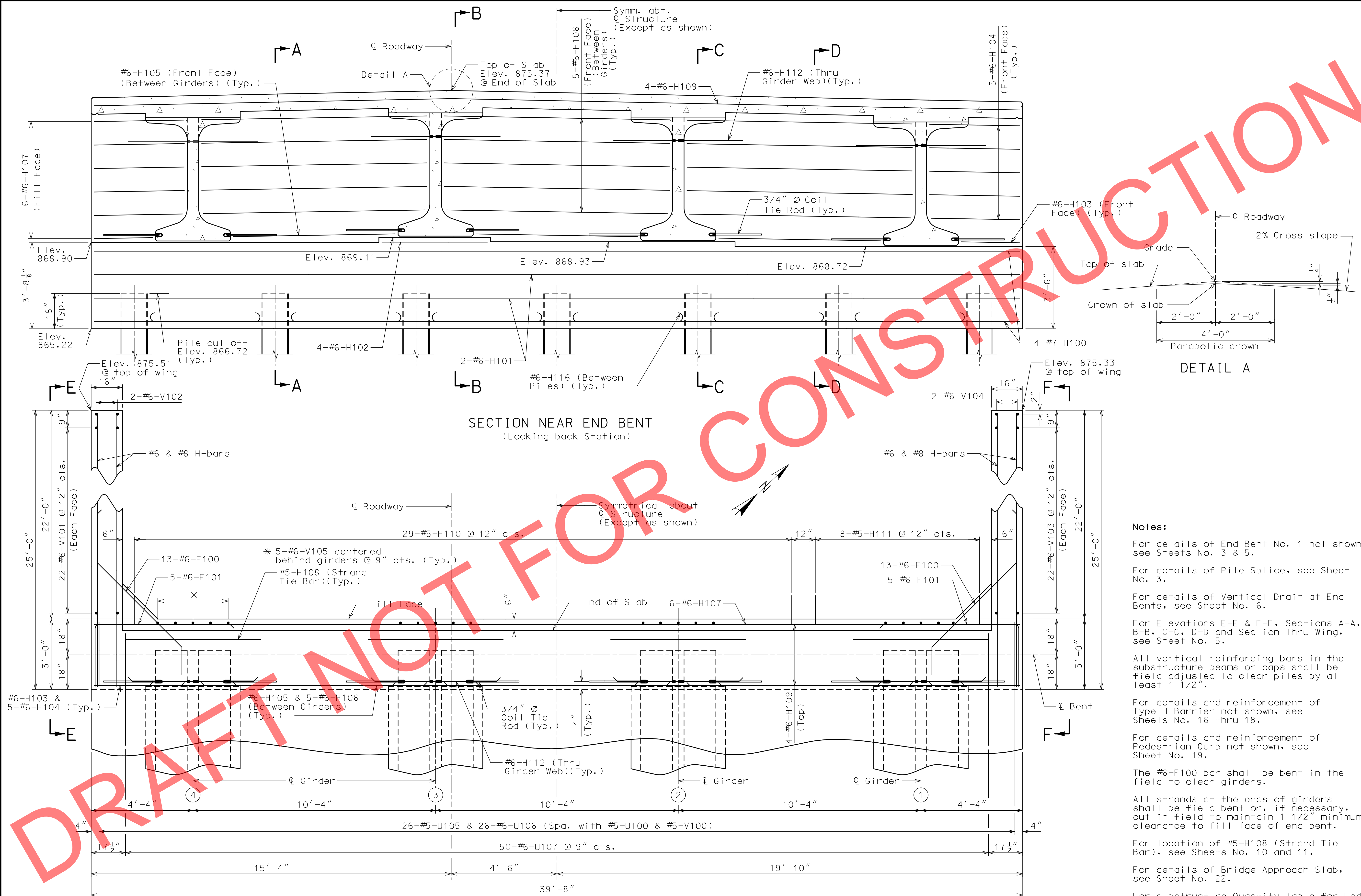
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REV.



Notes:

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

For details of Pile Splice, see Sheet
No. 3.

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

For Elevations E-E & F-F, Sections A-A,
B-B, C-C, D-D and Section Thru Wing,
see Sheet No. 5.

All vertical reinforcing bars in the substructure beams or caps shall be field adjusted to clear piles by at least 1 1/2".

For details and reinforcement of
Type H Barrier not shown, see
Sheets No. 16 thru 18.

For details and reinforcement of
Pedestrian Curb not shown, see
Sheet No. 19.

The #6-F100 bar shall be bent in the field to clear girders.

All strands at the ends of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2" minimum clearance to fill face of end bent.

For location of #5-H108 (Strand Tie Bar), see Sheets No. 10 and 11.

For details of Bridge Approach Slab,
see Sheet No. 22.

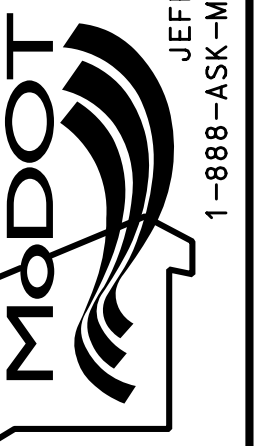
For substructure Quantity Table for End Bent No. 1, see Sheet No. 3.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

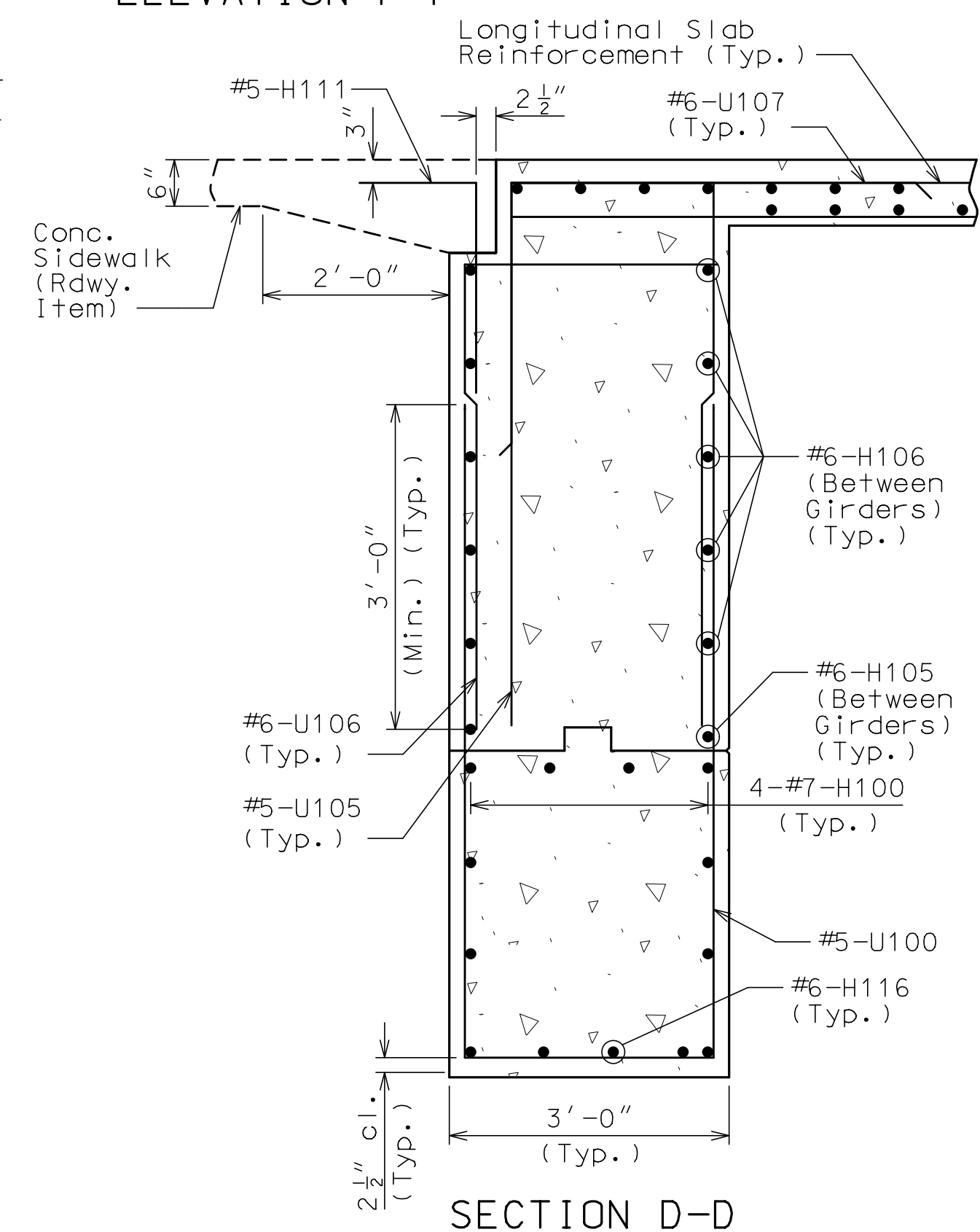
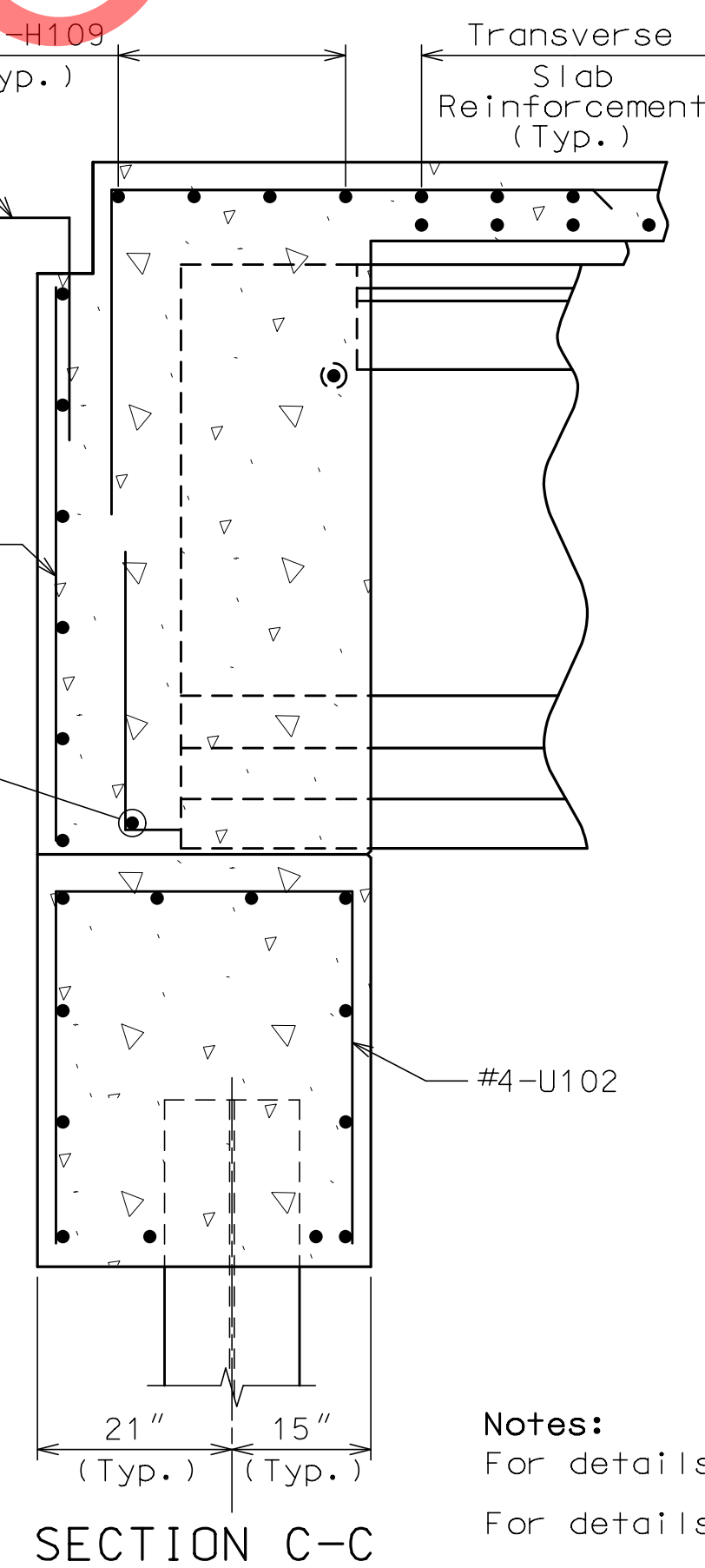
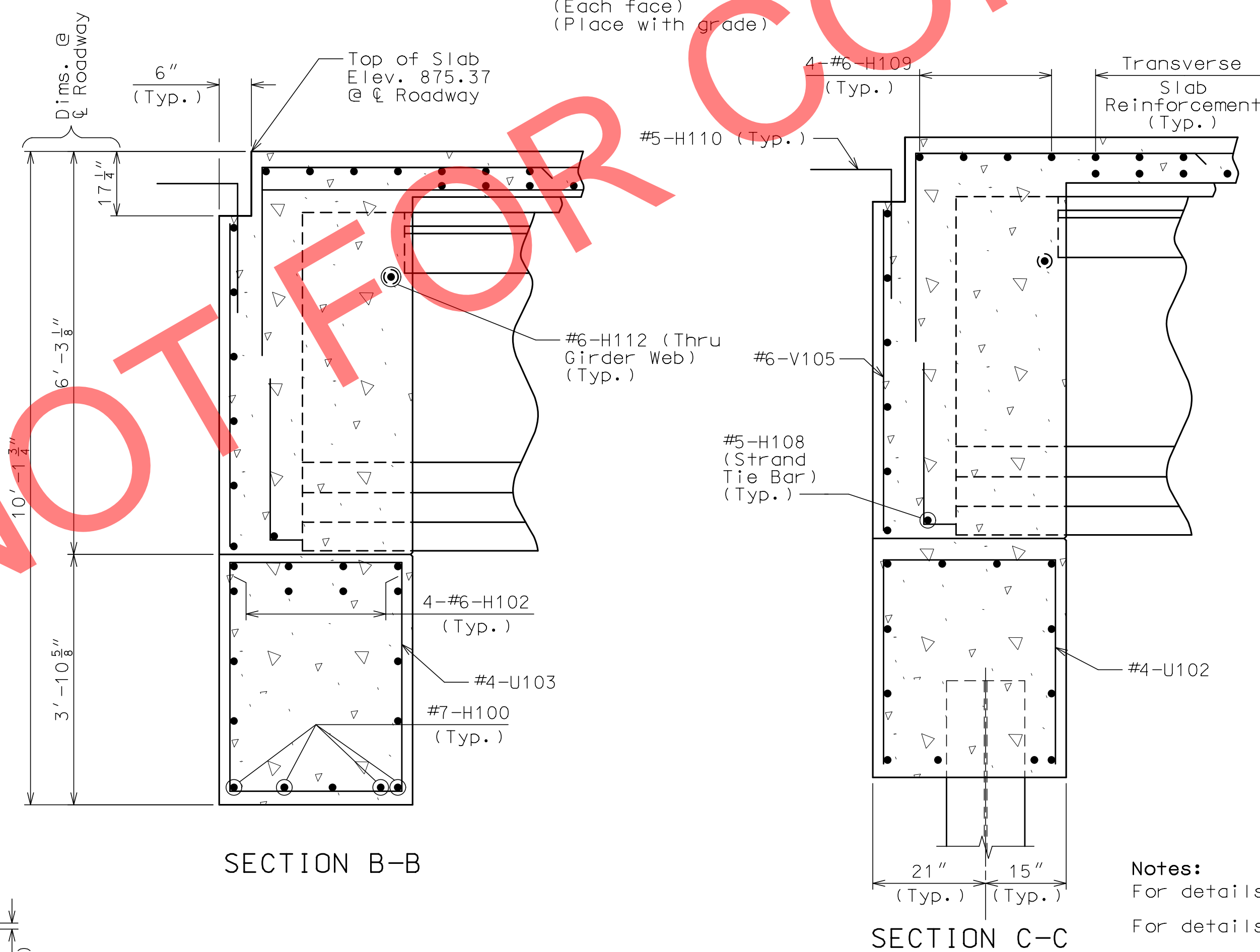
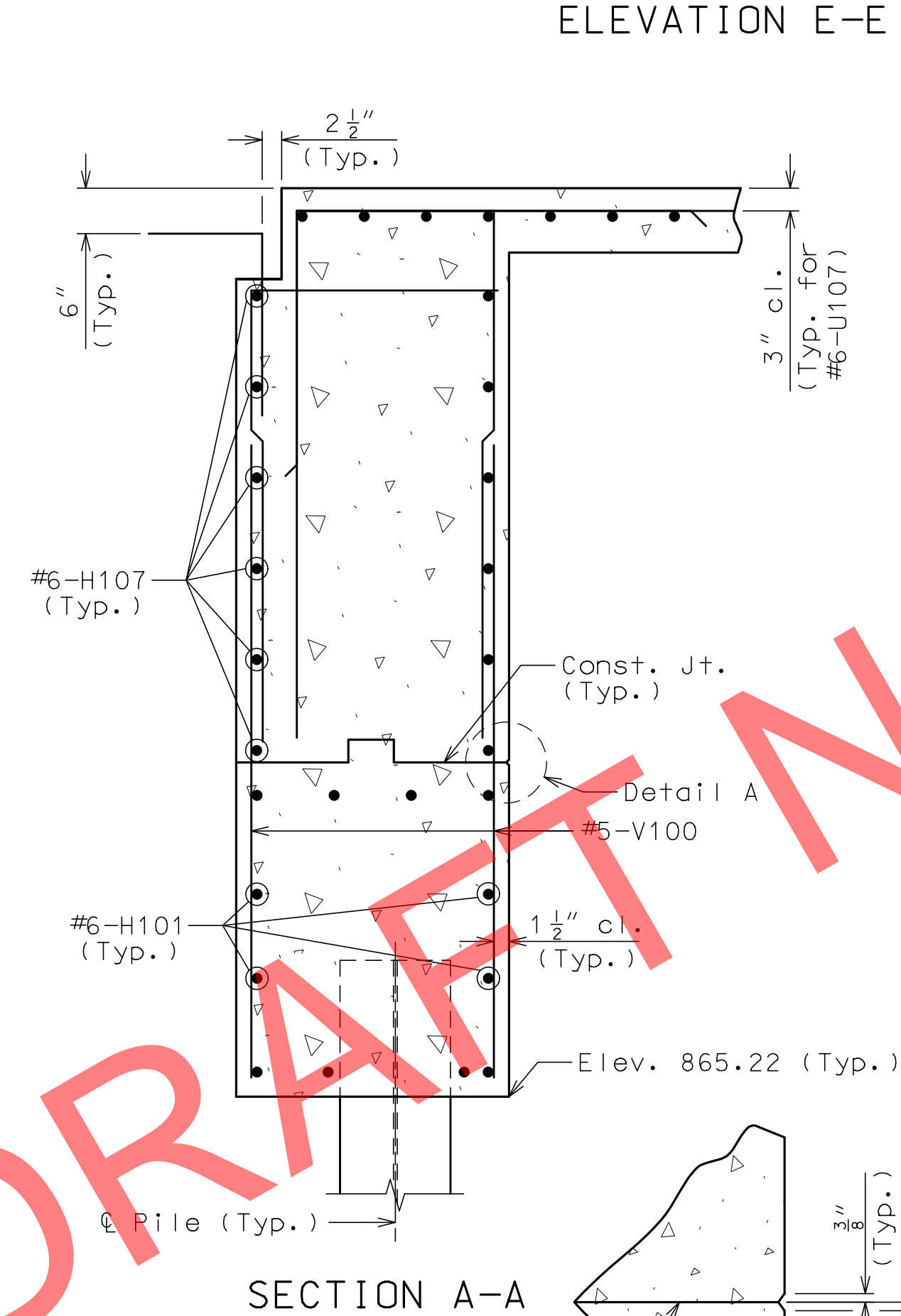
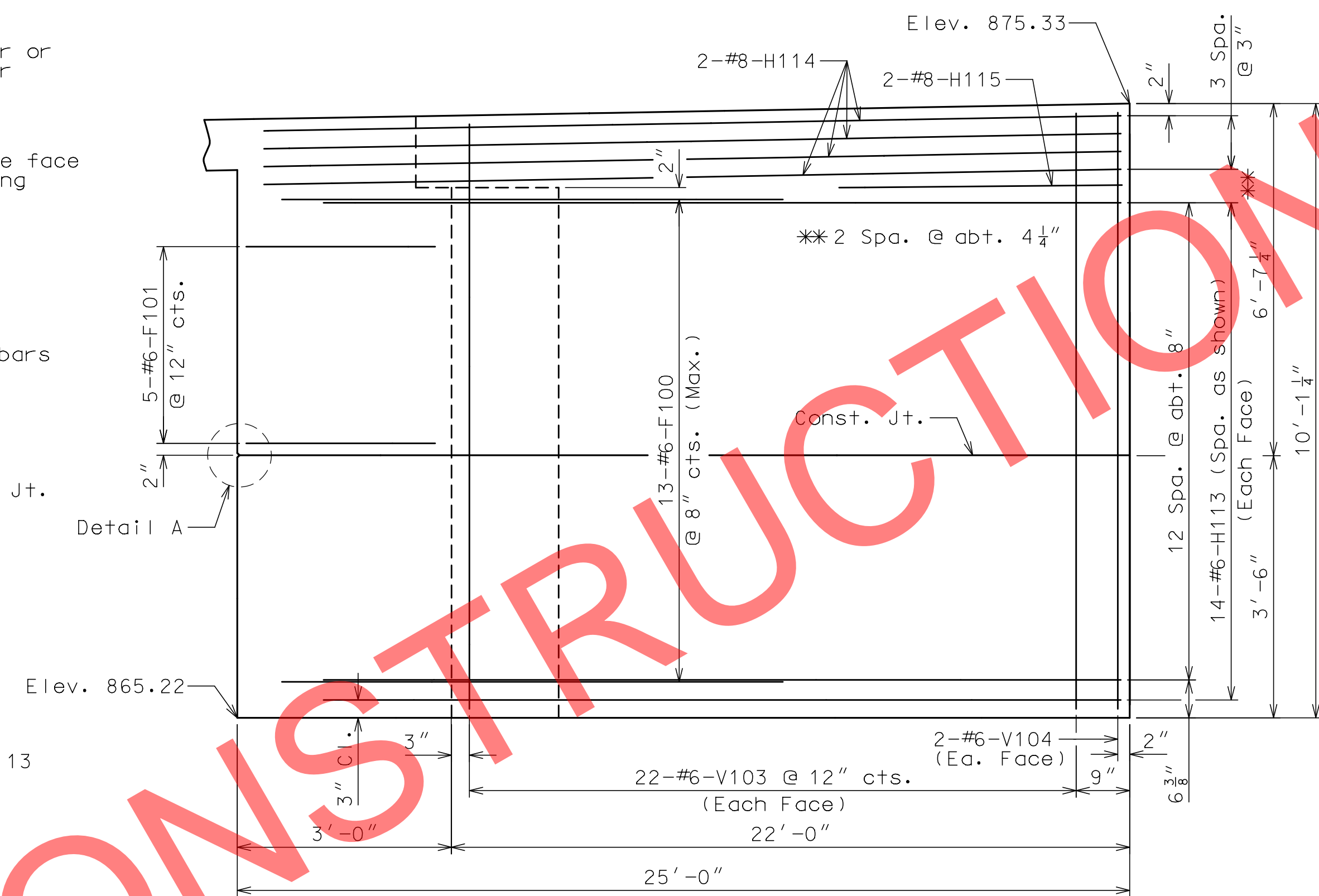
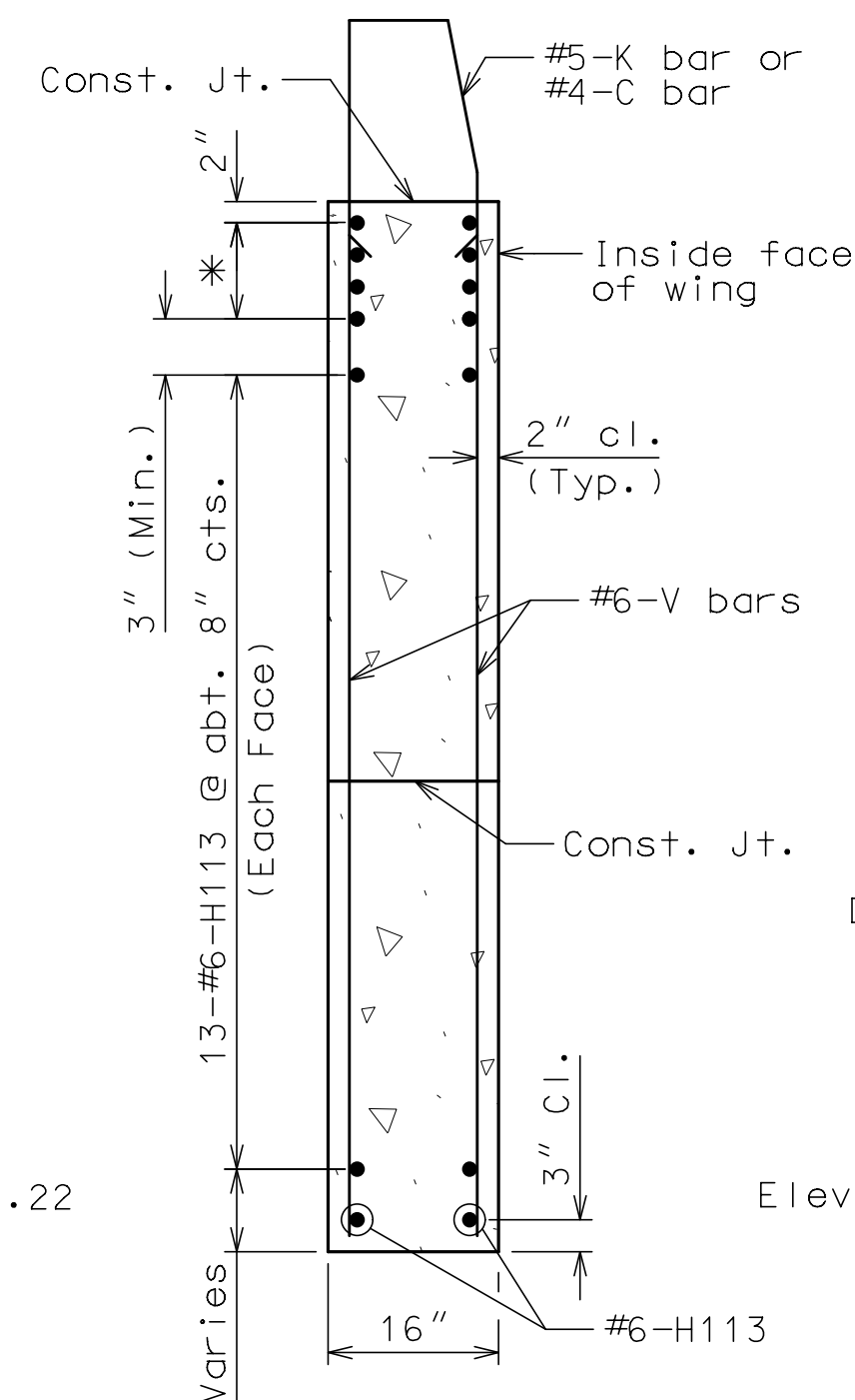
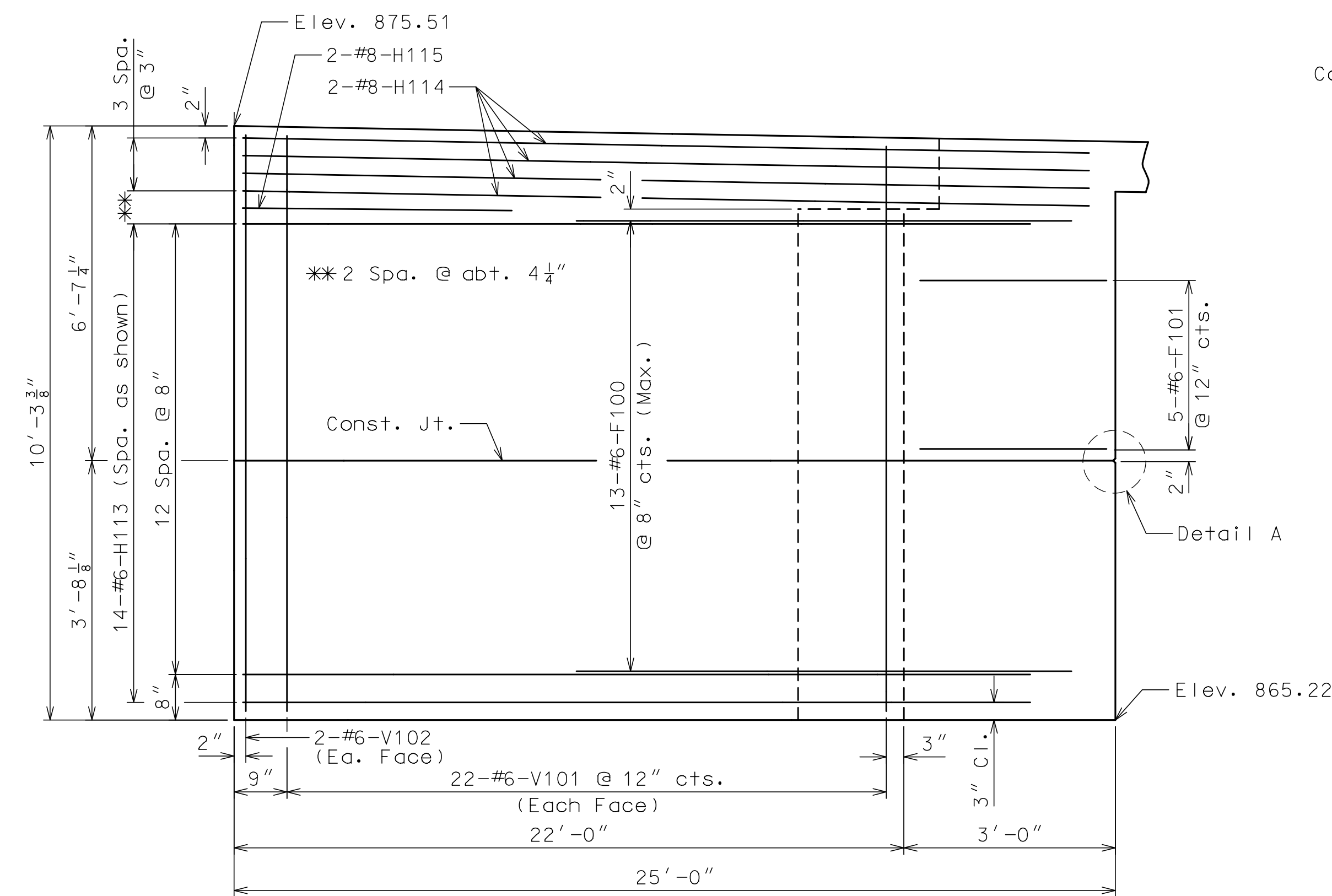
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Notes:

For details of End Bent No. 1 not shown, see Sheets No. 3 & 4.

For details of Pile Splice, see Sheet No. 3.

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

For location of Elevations E-E & F-F and Sections A-A, B-B, C-C and D-D, see Sheet No. 4.

For details and Reinforcement of the Type H Barrier not shown, see
Sheets No. 16 thru 18.

For details and reinforcement of Pedestrian Curb not shown, see Sheet No. 19.

Detailed March 2021
Checked May 2021


Checked May 2021

DETAIL A

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

DETAILS OF END BENT NO. 1

Sheet No. 5 of 26

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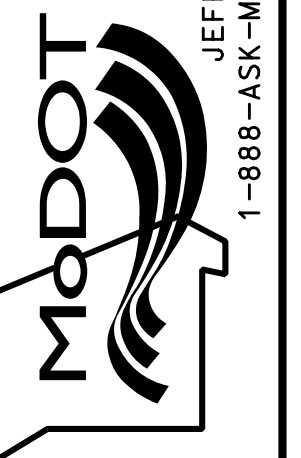
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SULL IVAN			
JOB NO.			
J1S3392			
CONTRACT ID.			
PROJECT NO.			
BRIDGE NO.			
A9135			

DATE PREPARED		2/1/2022	
ROUTE		STATE	
MAYAPPLE		MO	
DISTRICT		SHEET NO.	
BR		5	
COUNTY			
SULL IVAN			
JOB NO.			
J1S3392			
CONTRACT ID.			
PROJECT NO.			
BRIDGE NO.			
A9135			

DESCRIPTION

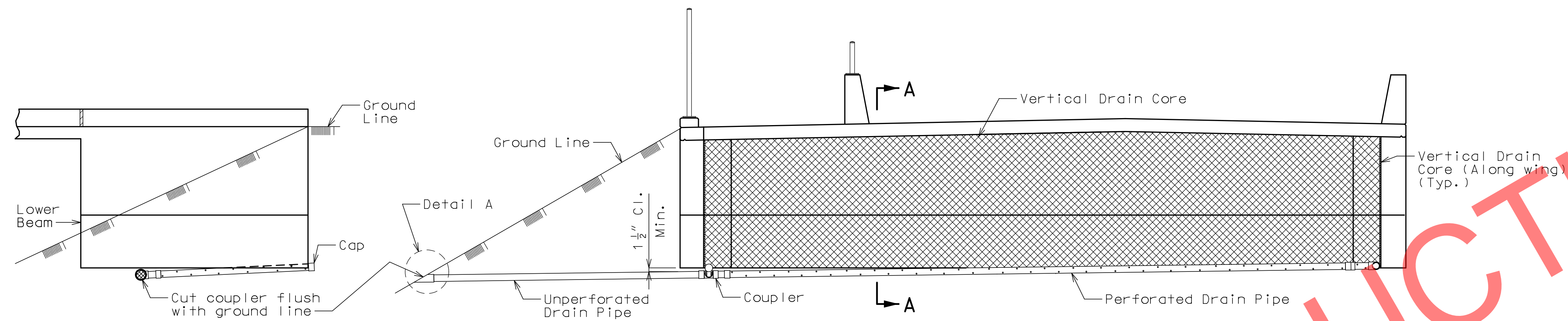
DATE _____

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

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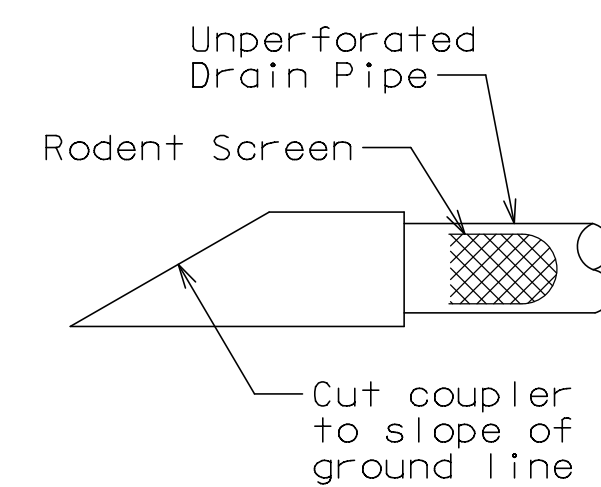
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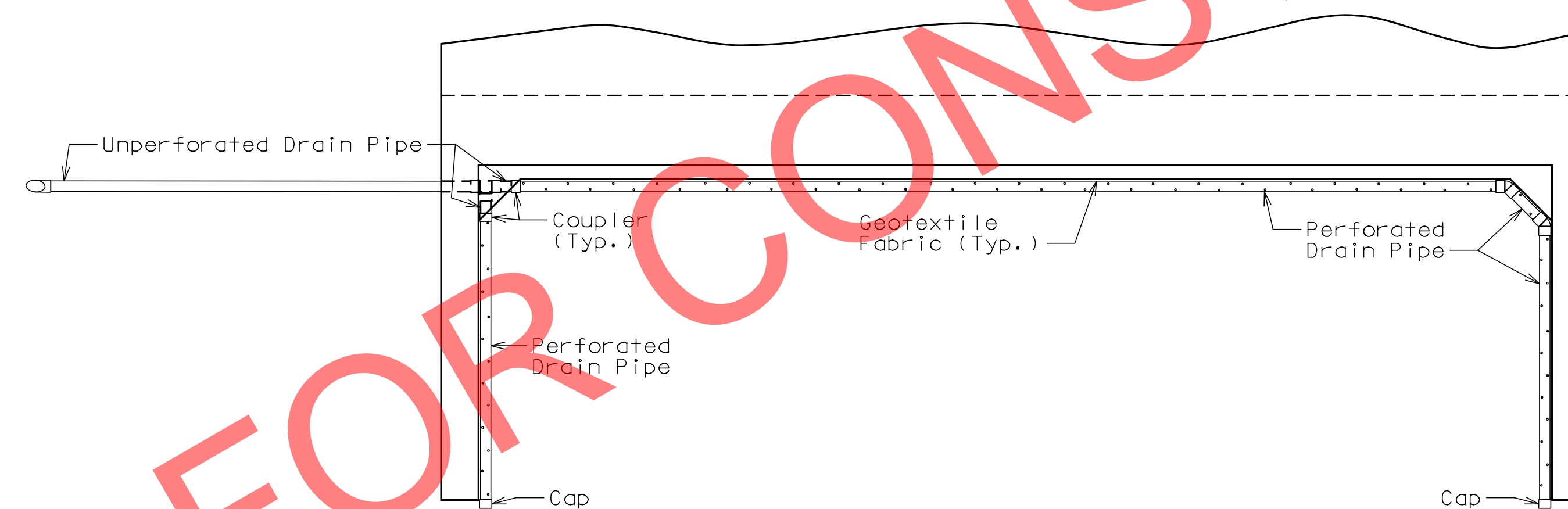


ELEVATION OF WING

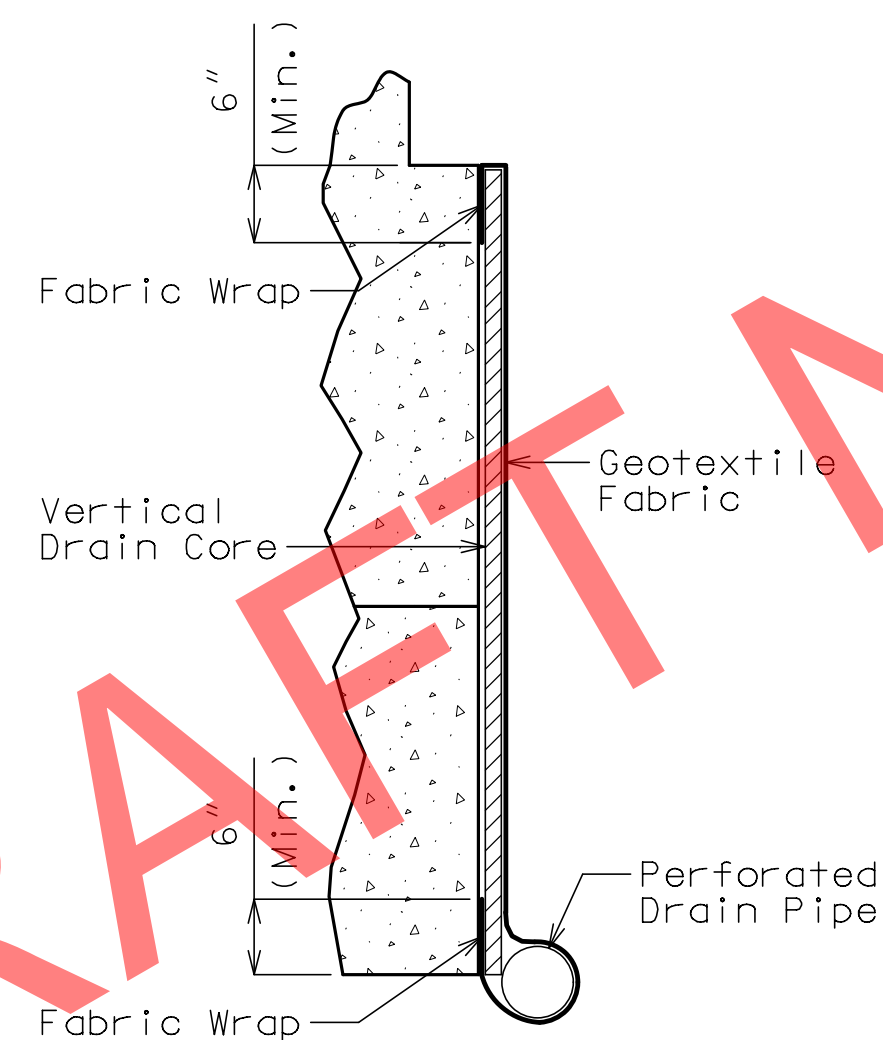
ELEVATION OF END BENT



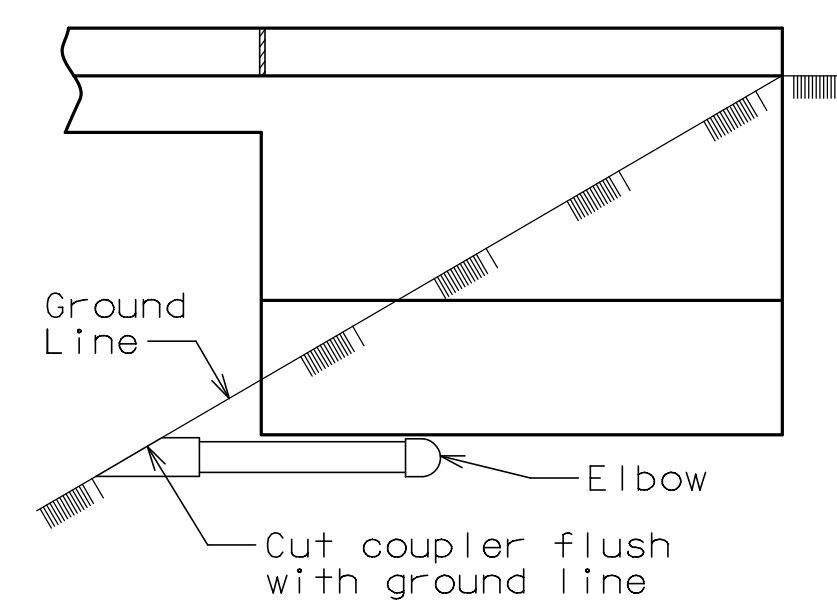
DETAIL A



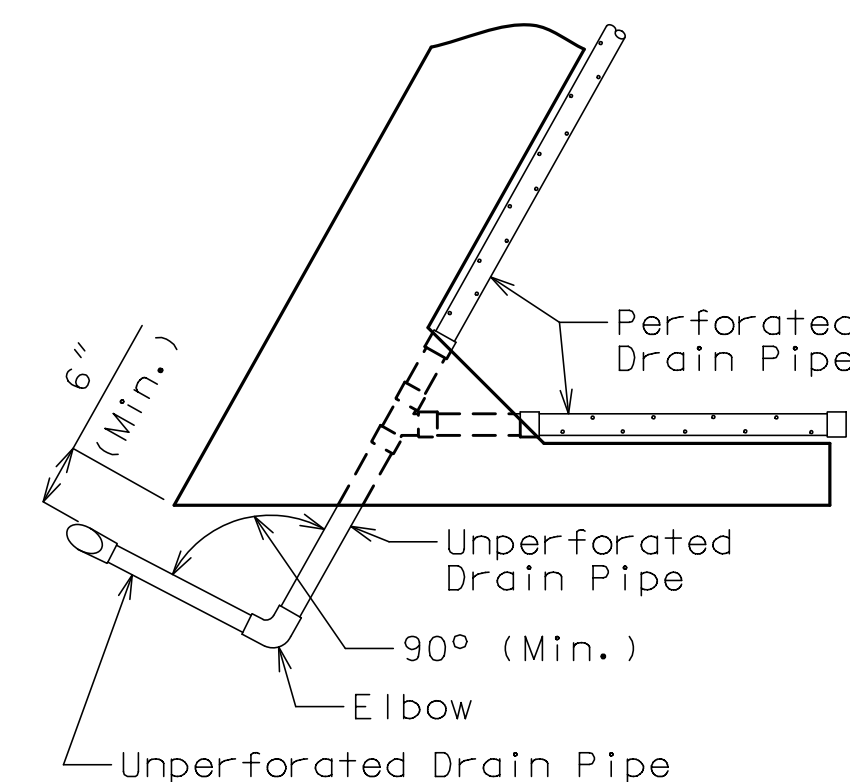
PLAN OF END BENT



PART SECTION A-A
(Section thru wing similar)



ELEVATION OF WING



PART PLAN

OPTIONAL TURNED DRAIN

OPTIONAL TURNED BRAIN
(Only if rock is encountered outside of wing)

VERTICAL DRAIN AT END BENTS

General Notes:

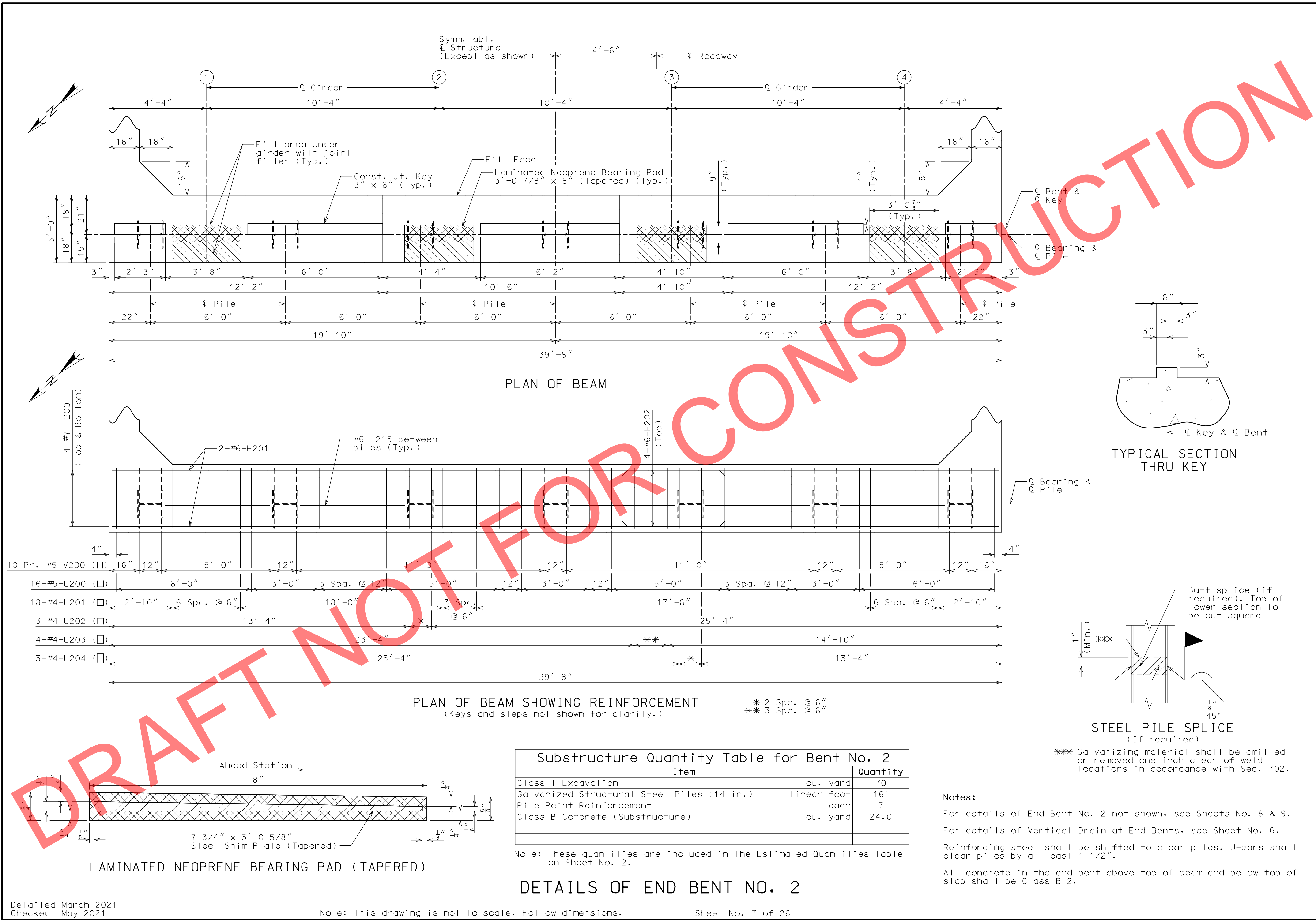
All drain pipe shall be sloped 1 to 2 percent.

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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J1S3392

CONTRACT ID.

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BRIDGE NO.
A9135

STATE
MO

SHEET NO.
7

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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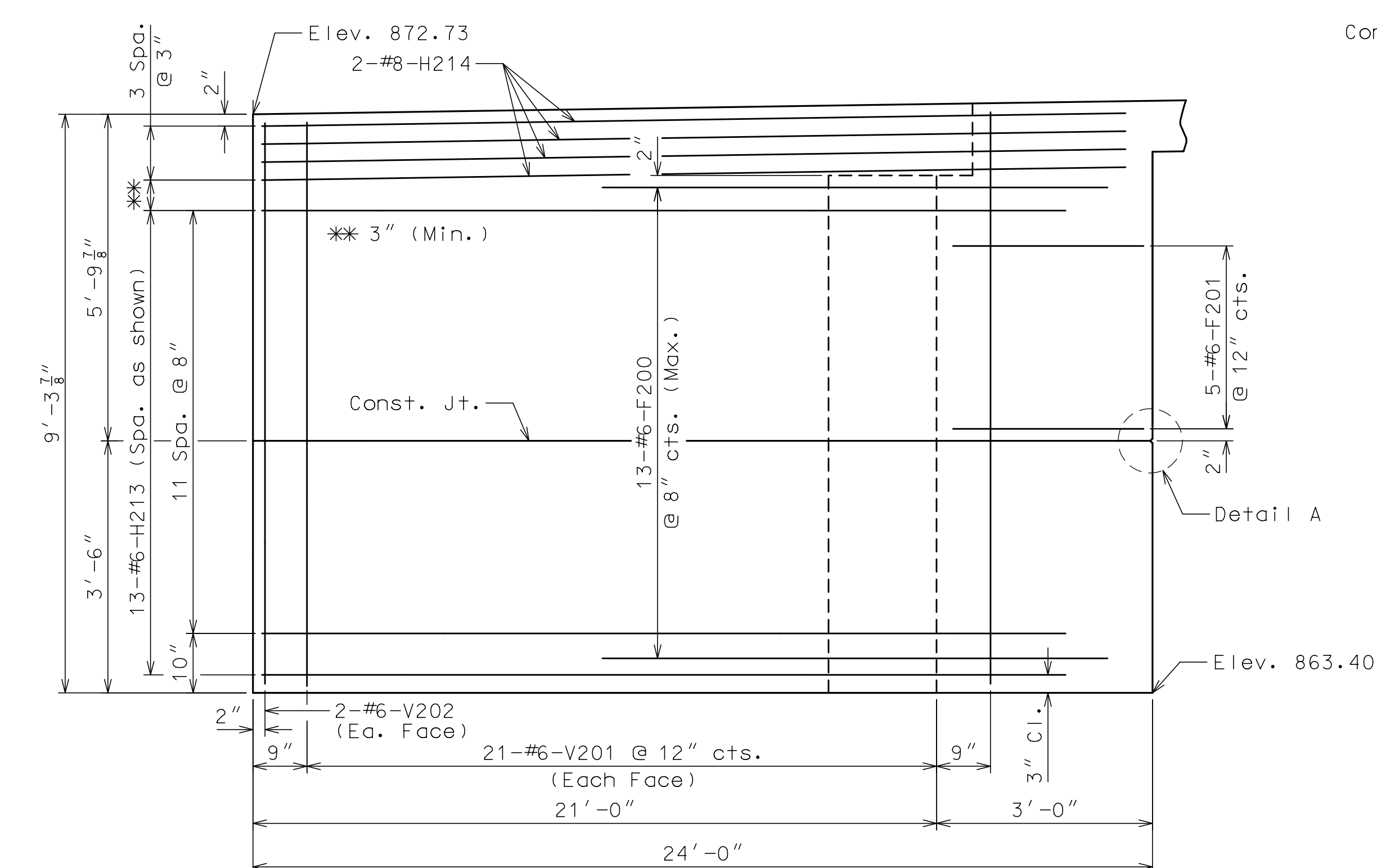
105 WEST CAPITAL
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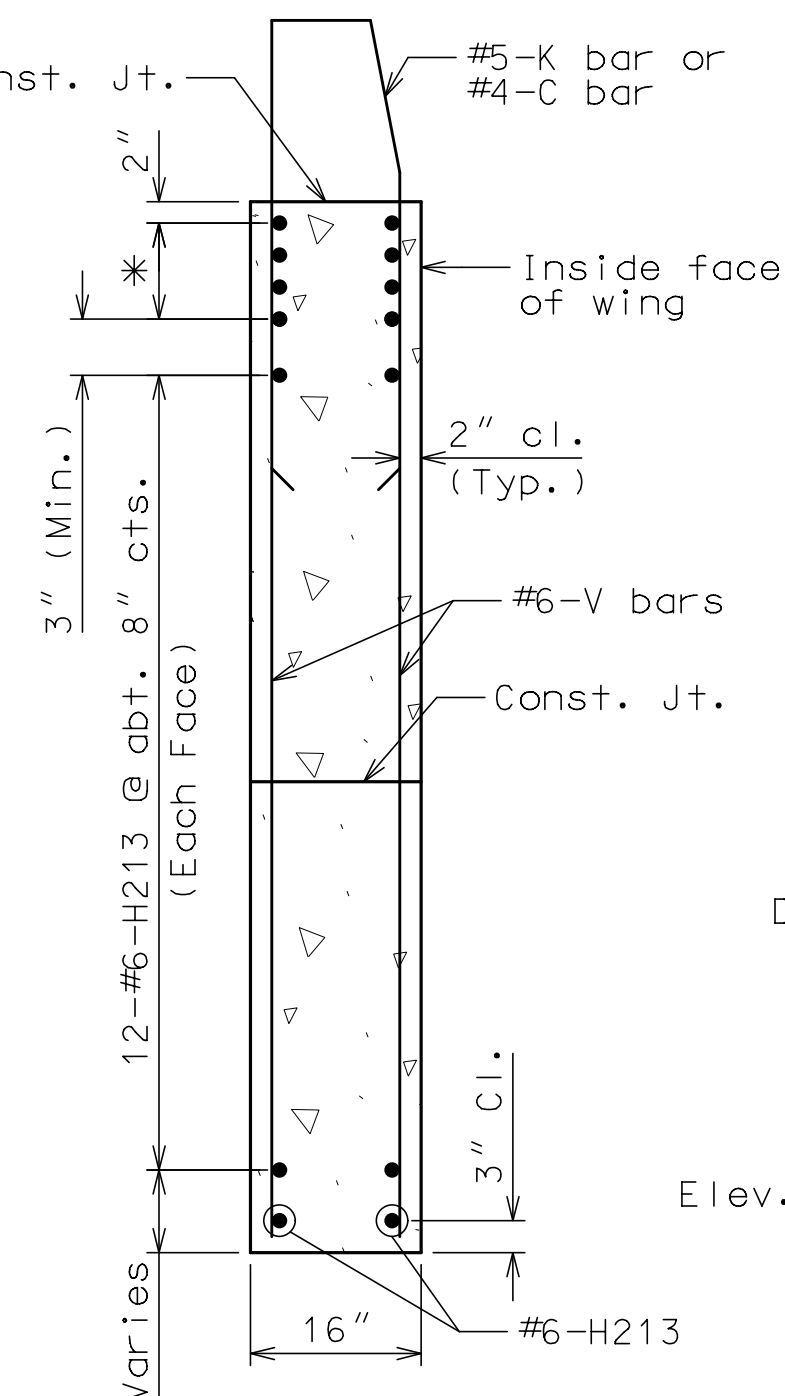
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CERTIFICATE OF
AUTHORITY NO. 001592

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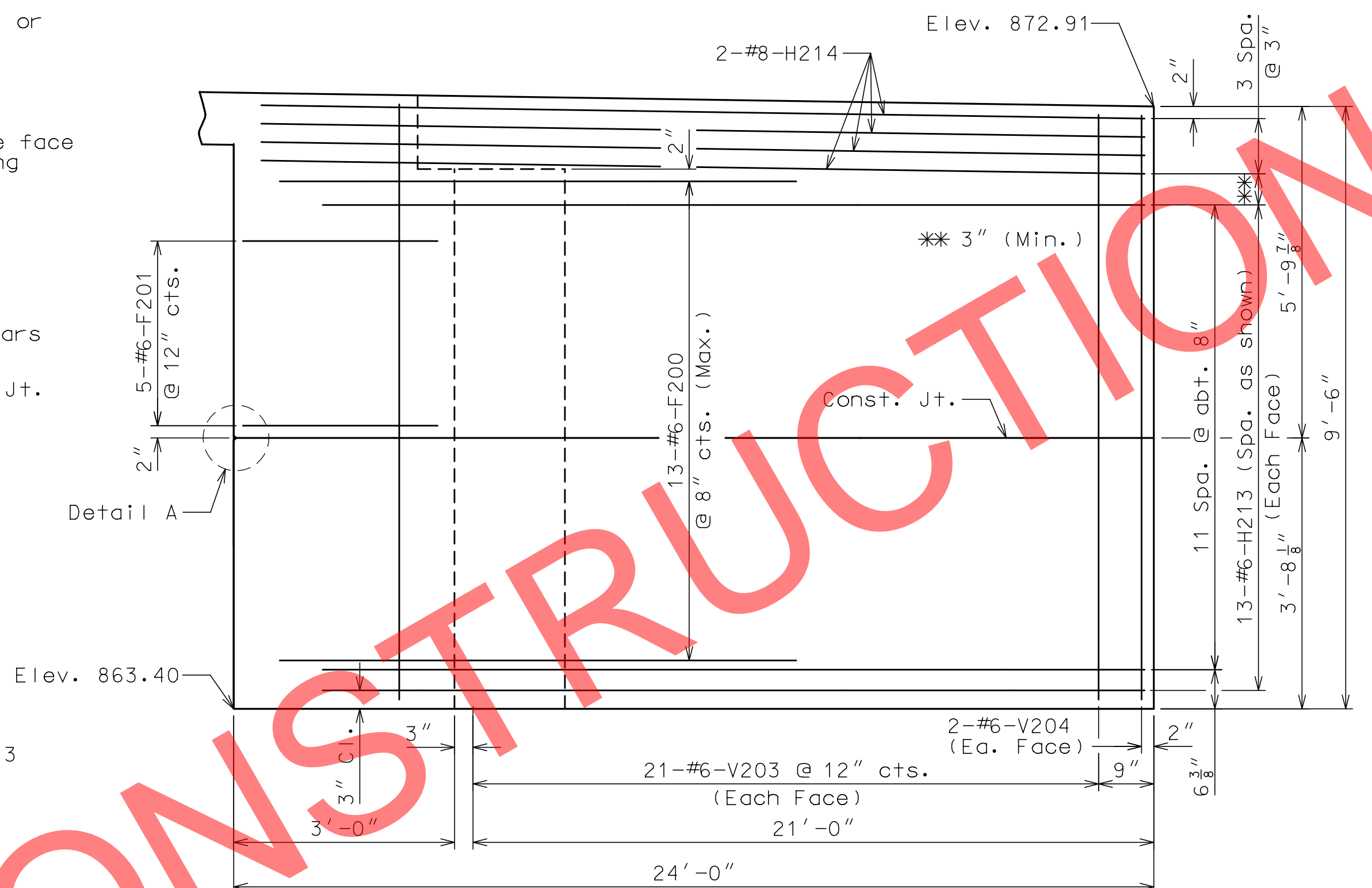
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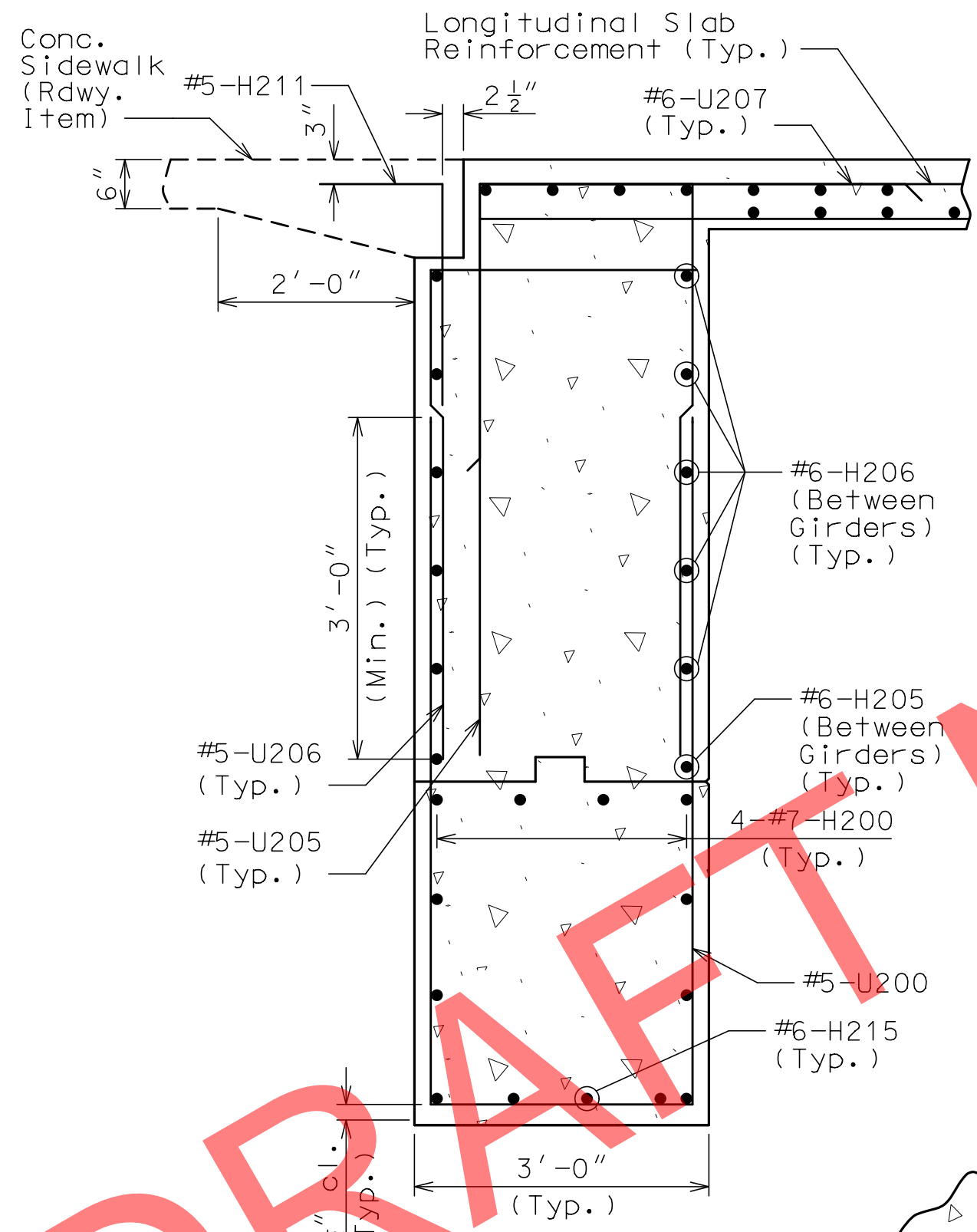
ELEVATION E-E



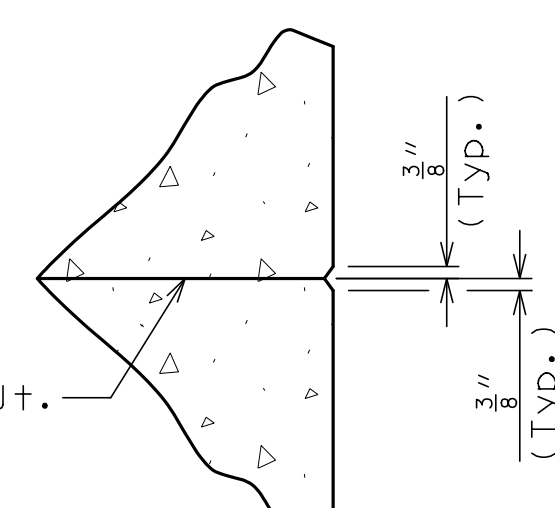
TYPICAL SECTION THRU WING
* #8-H Bars @ 3" cts. (Each face) (Place with grade)



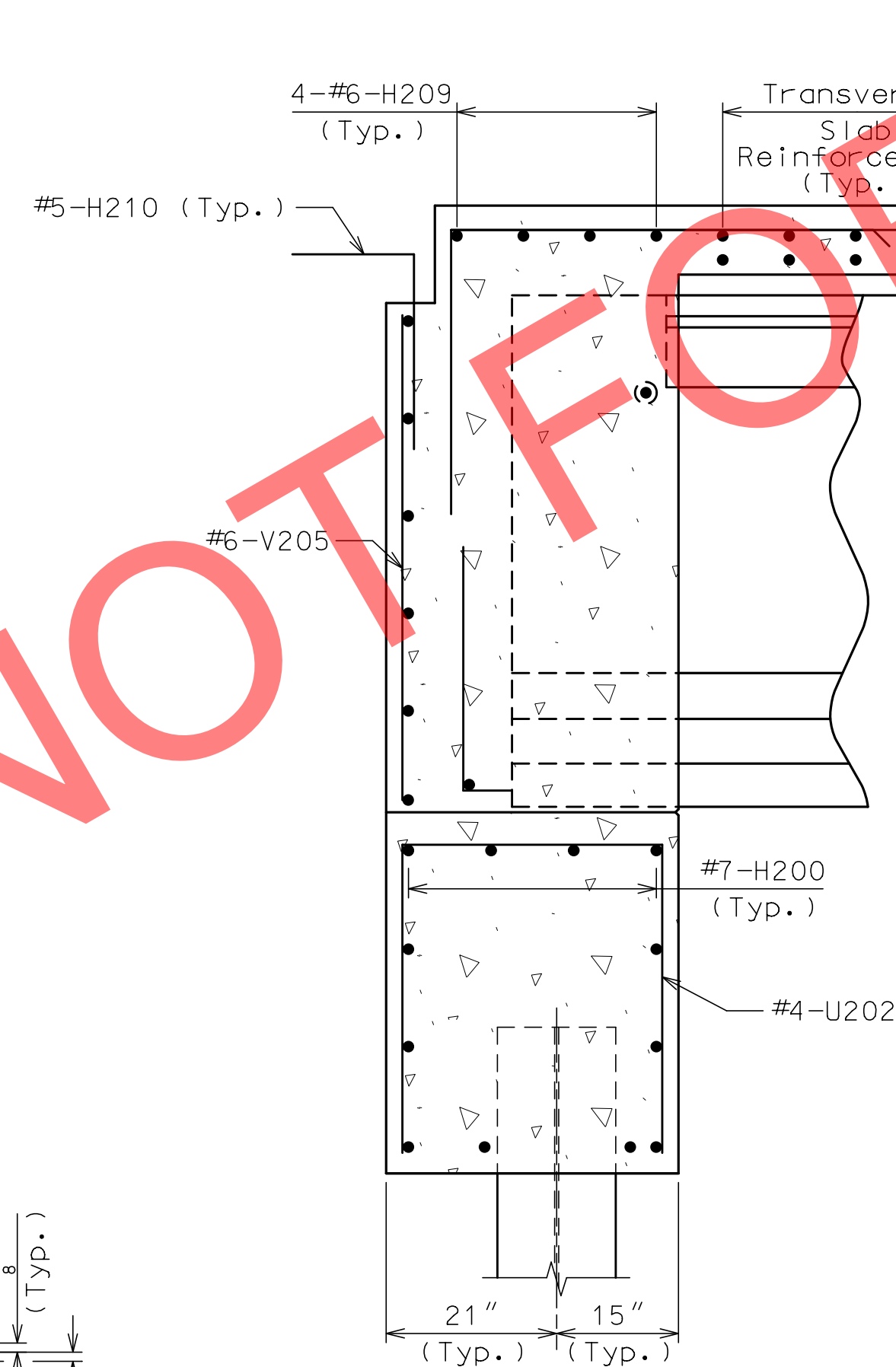
ELEVATION F-F



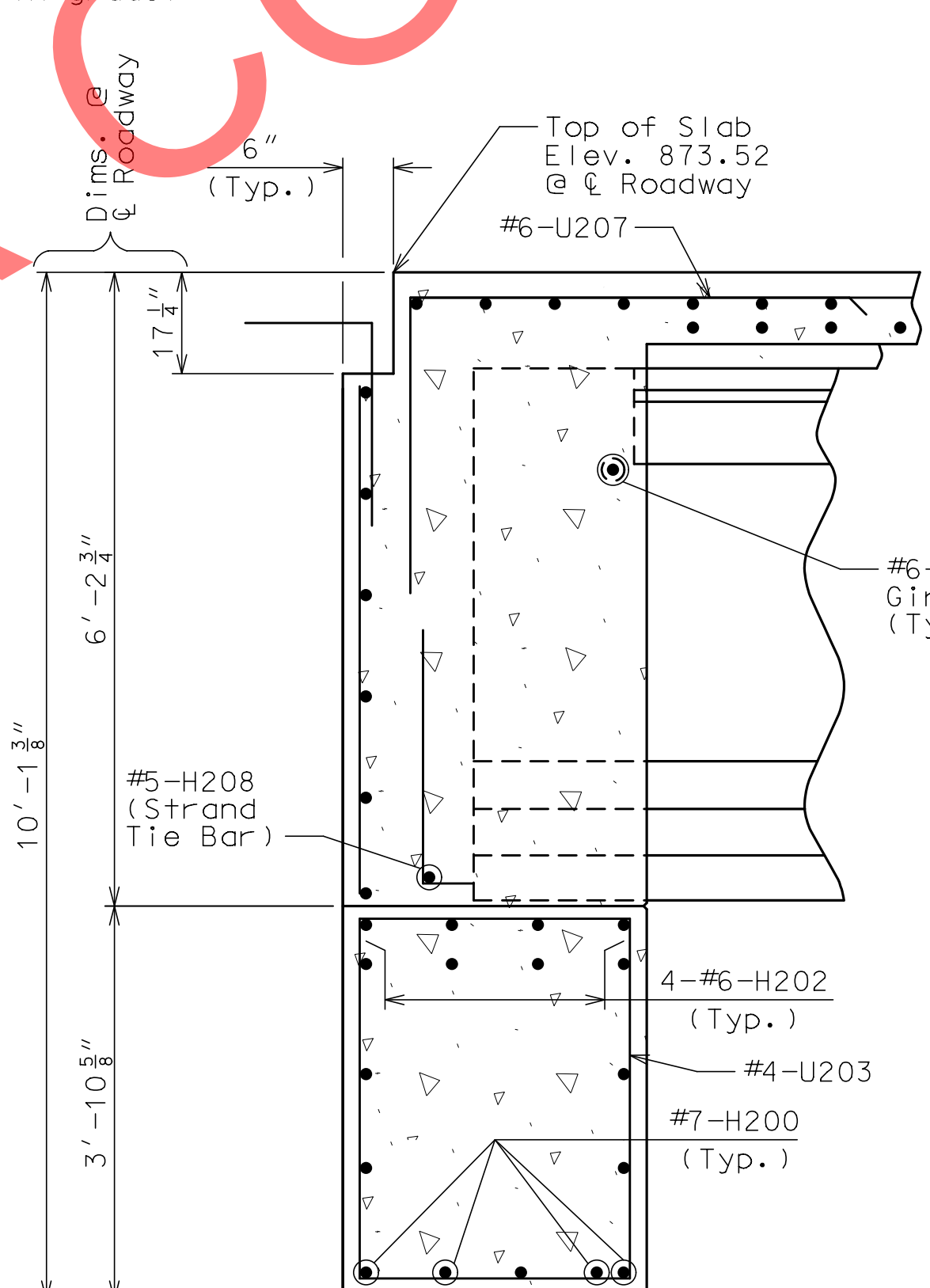
SECTION A-A



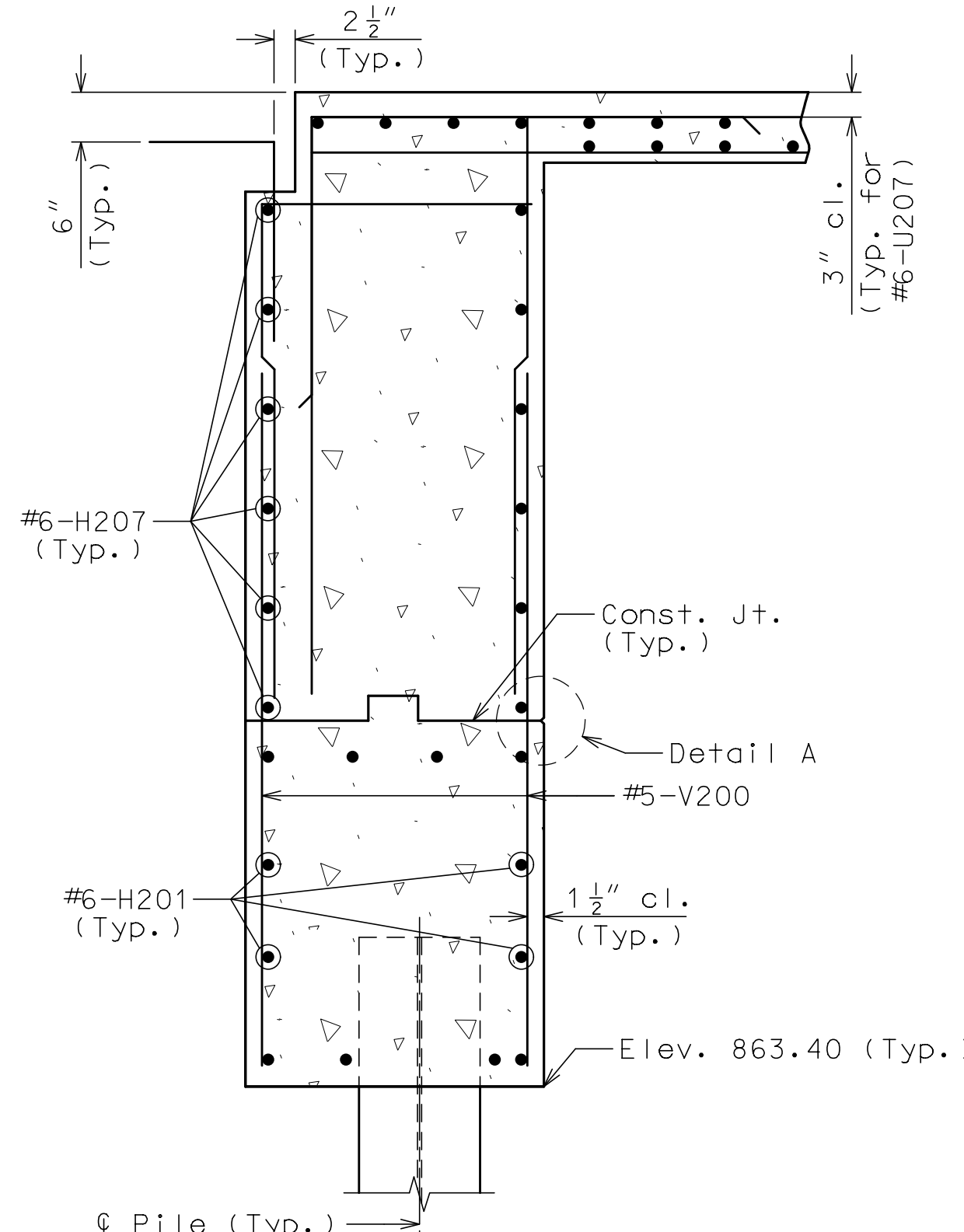
DETAIL A



SECTION B-B



SECTION C-C



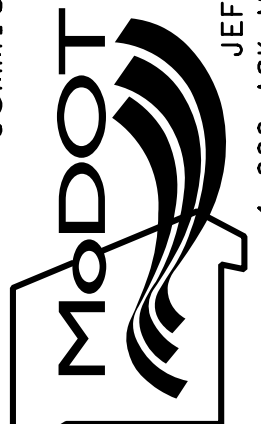

SECTION D-D

Notes:
For details of End Bent No. 2 not shown, see Sheets No. 7 & 8.
For details of Pile Splice, see Sheet No. 7.
For details of Vertical Drain at End Bents, see Sheet No. 6.
For location of Elevations E-E & F-F and Sections A-A, B-B, C-C and D-D, see Sheet No. 8.
For details and Reinforcement of the Type H Barrier not shown, see Sheets No. 16 thru 18.
For details and reinforcement of Pedestrian Curb not shown, see Sheet No. 19.

Detailed March 2021
Checked May 2021

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

Sheet No. 9 of 26

DATE PREPARED 2/1/2022	
ROUTE MAYAPPLE	STATE MO
DISTRICT BR	SHEET NO. 9
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9135	
DESCRIPTION	DATE
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Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

※ At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	
226	5 B1	6'-8"	11	<p>SHAPE 20</p>
16	6 B2	5'-11"	11	
242	4 D1	4'-0"	9	
2	4 G3	3'-10 1/4"	20	
				<p>SHAPE 9</p>
				<p>SHAPE 11</p>

WELDED WIRE REINFORCEMENT - EACH GIRDER

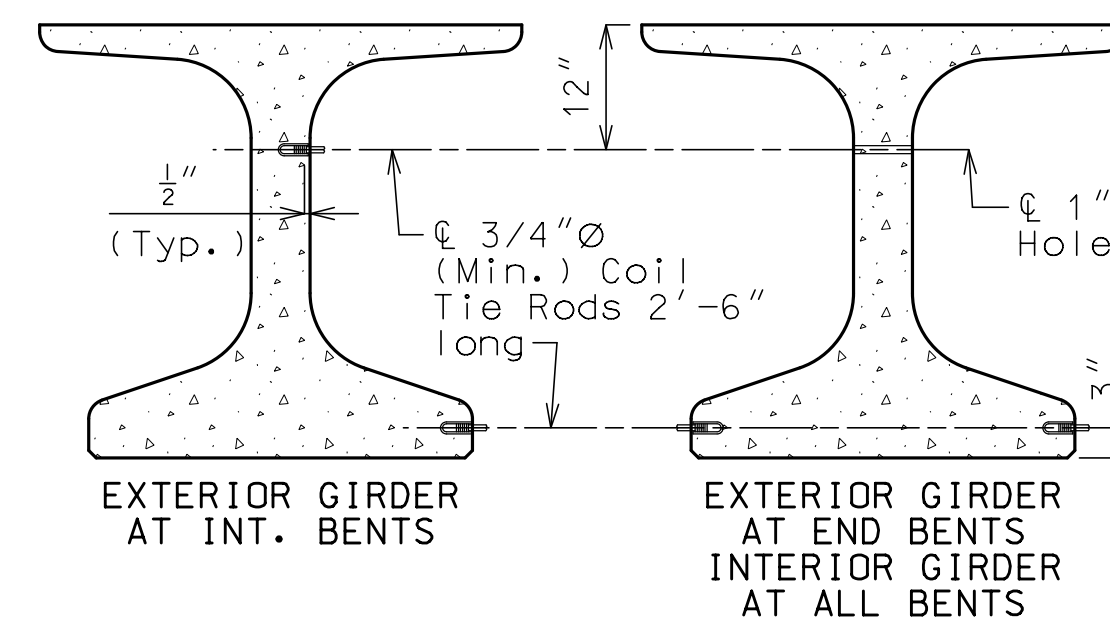
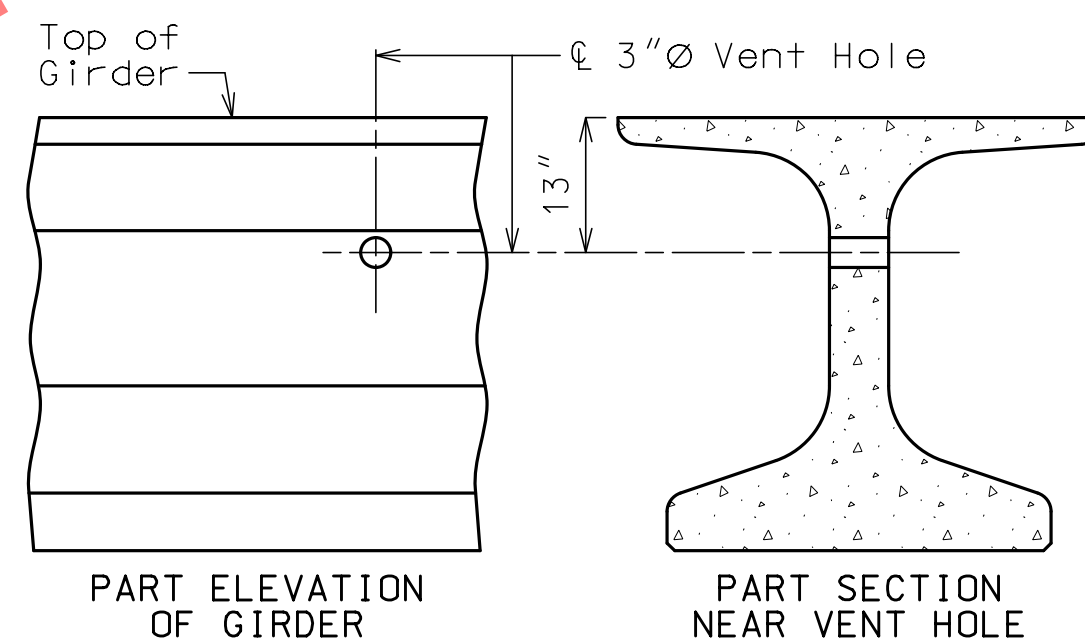
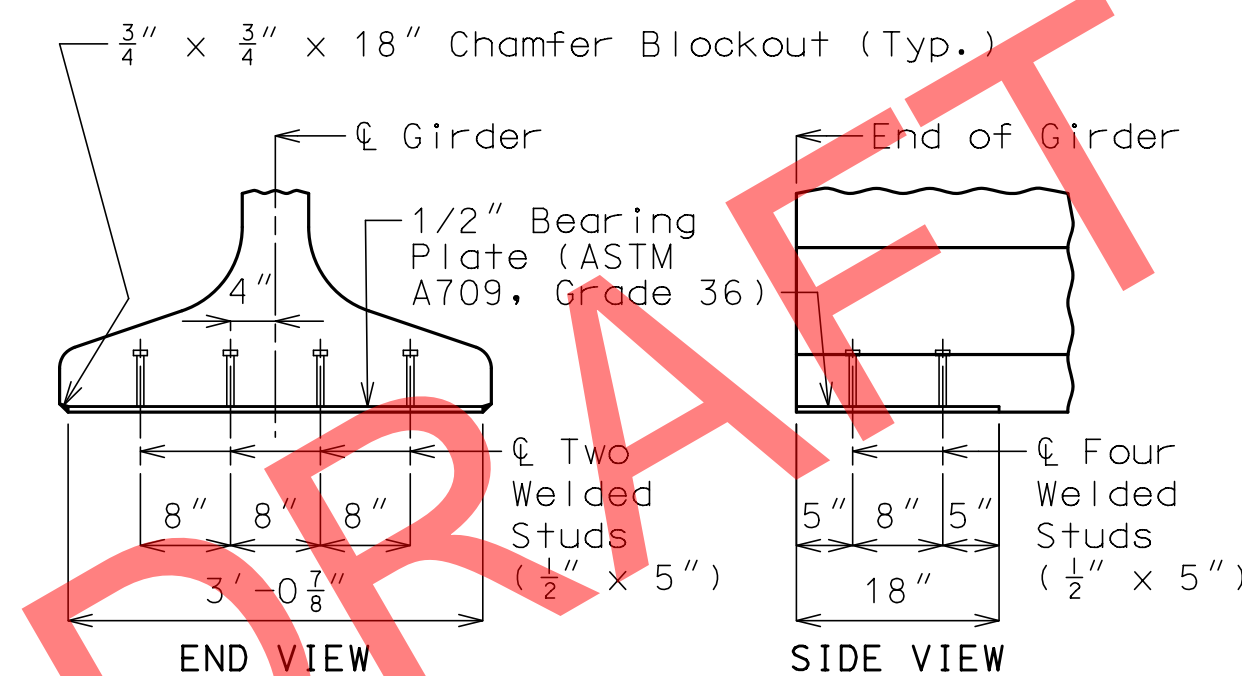
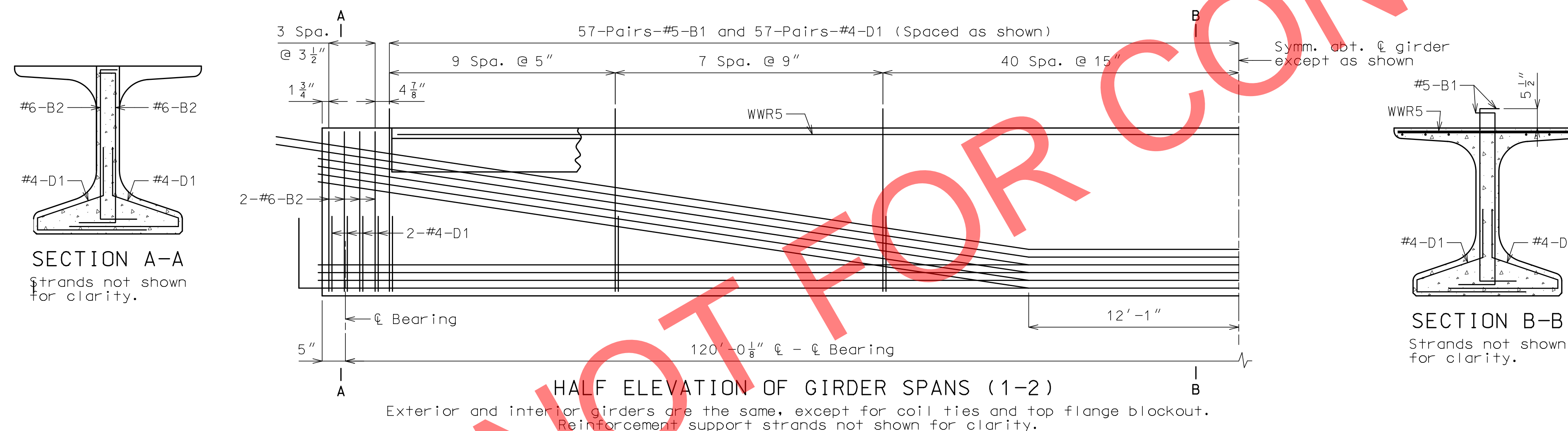
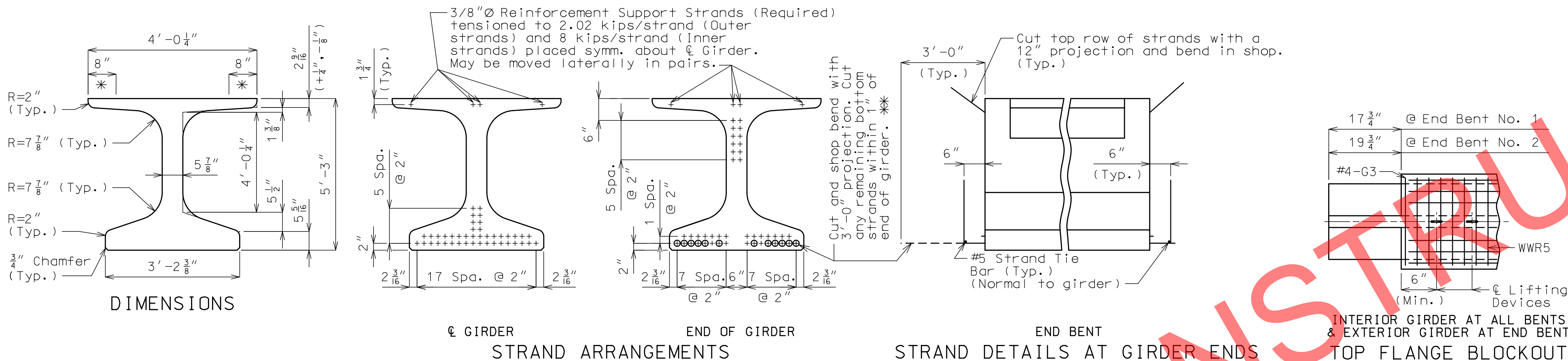
D20 @ 6"

W8 (Typ.)

6" 6" 20" 6" 6"

3' - 10 $\frac{1}{4}$ "

WWR5



Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

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Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel on strands by 1 1/2" minimum.

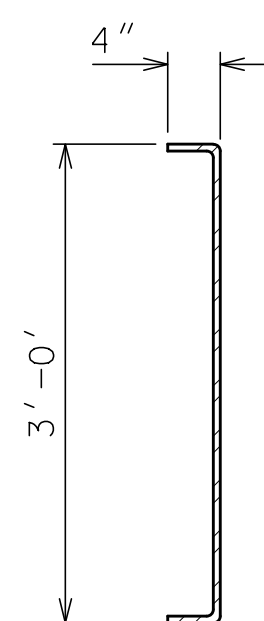
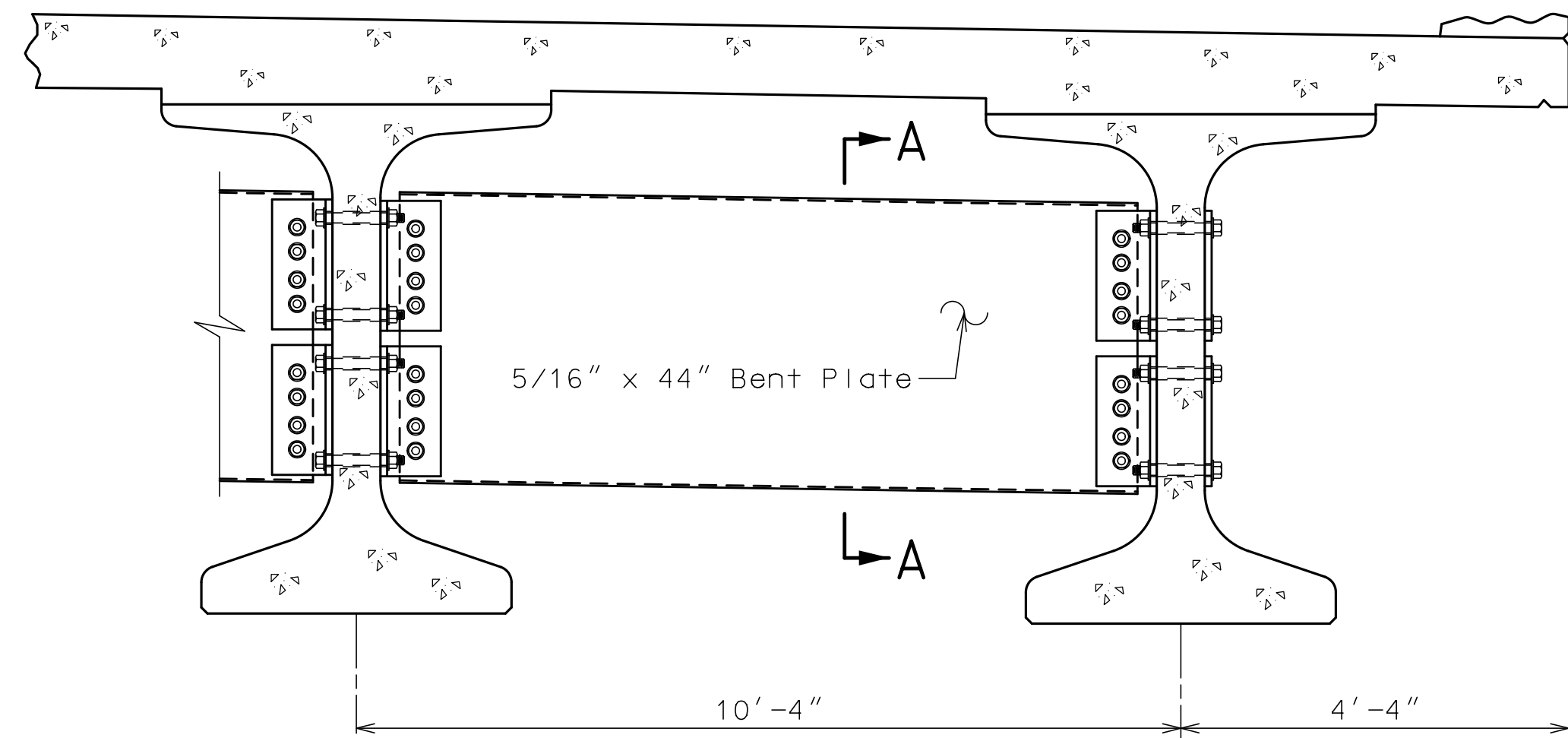
ALTERNATE BAR REINFORCING DETAILS SPAN (1-2)

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Checked May 2021

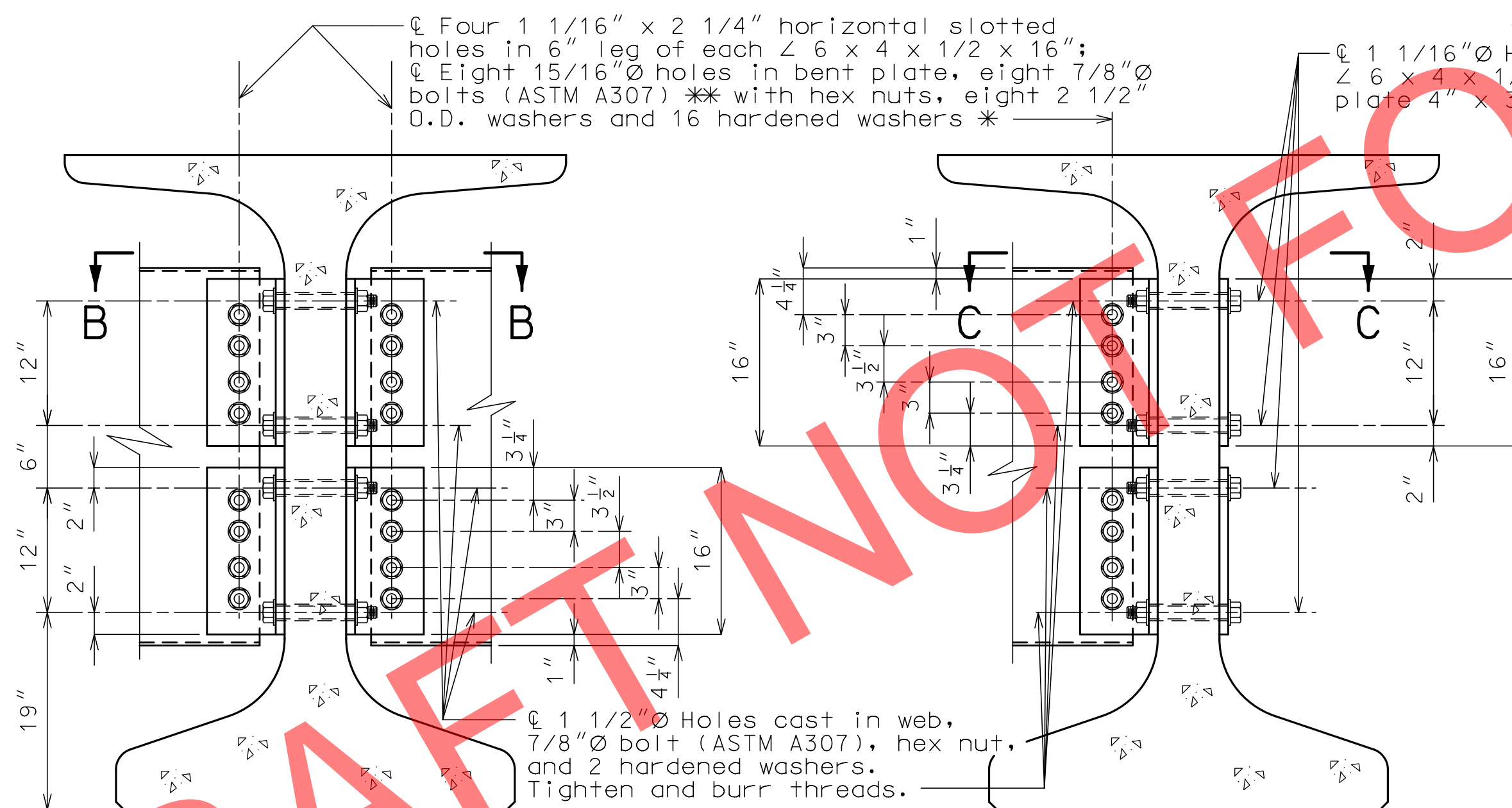
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 11 of 26

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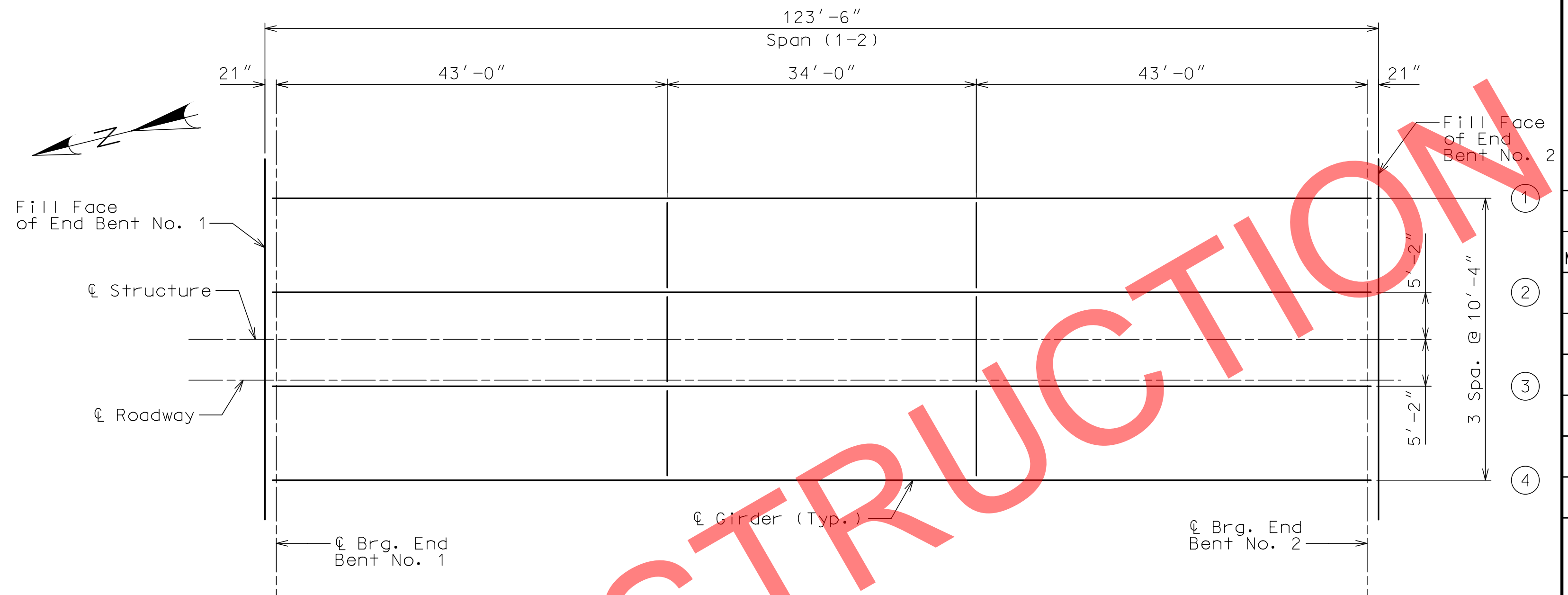
SECTION A-A



SECTION THRU INT. GIRDER
AT DIAPHRAGM

SECTION THRU EXT. GIRDER
AT DIAPHRAGM

STEEL INTERMEDIATE DIAPHRAGMS

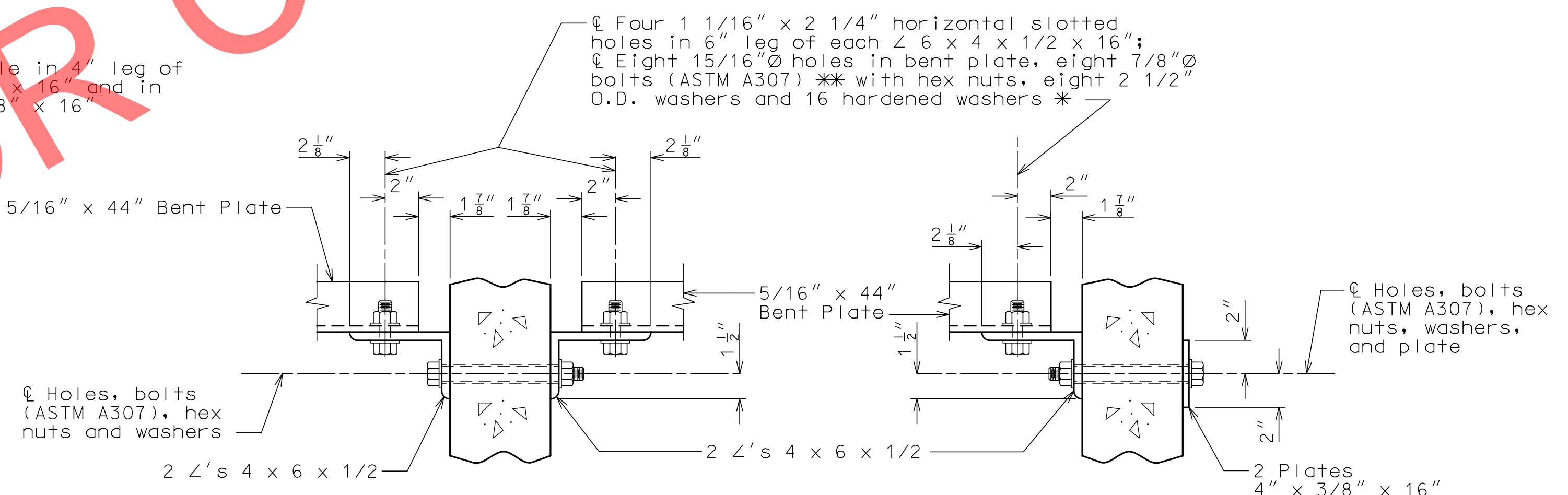


PLAN SHOWING LOCATION OF STEEL INTERMEDIATE DIAPHRAGMS

Note: Longitudinal dimensions are horizontal.

Notes:

All girders are parallel.
① - indicates girder number.



SECTION B-B

SECTION C-C

STEEL DIAPHRAGM NOTES:

* In lieu of 2 1/2" outside diameter washers, contractor may substitute a 3/16" (Min. thickness) plate with four 15/16" Ø holes and one hardened washer per bolt.

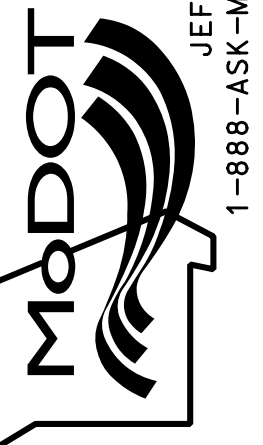

** Bolts shall be tightened to provide a tension of one-half that specified in Sec 712 for high strength bolt installation. A325 bolts may be substituted for and installed in accordance with the requirements for the specified A307 bolts.

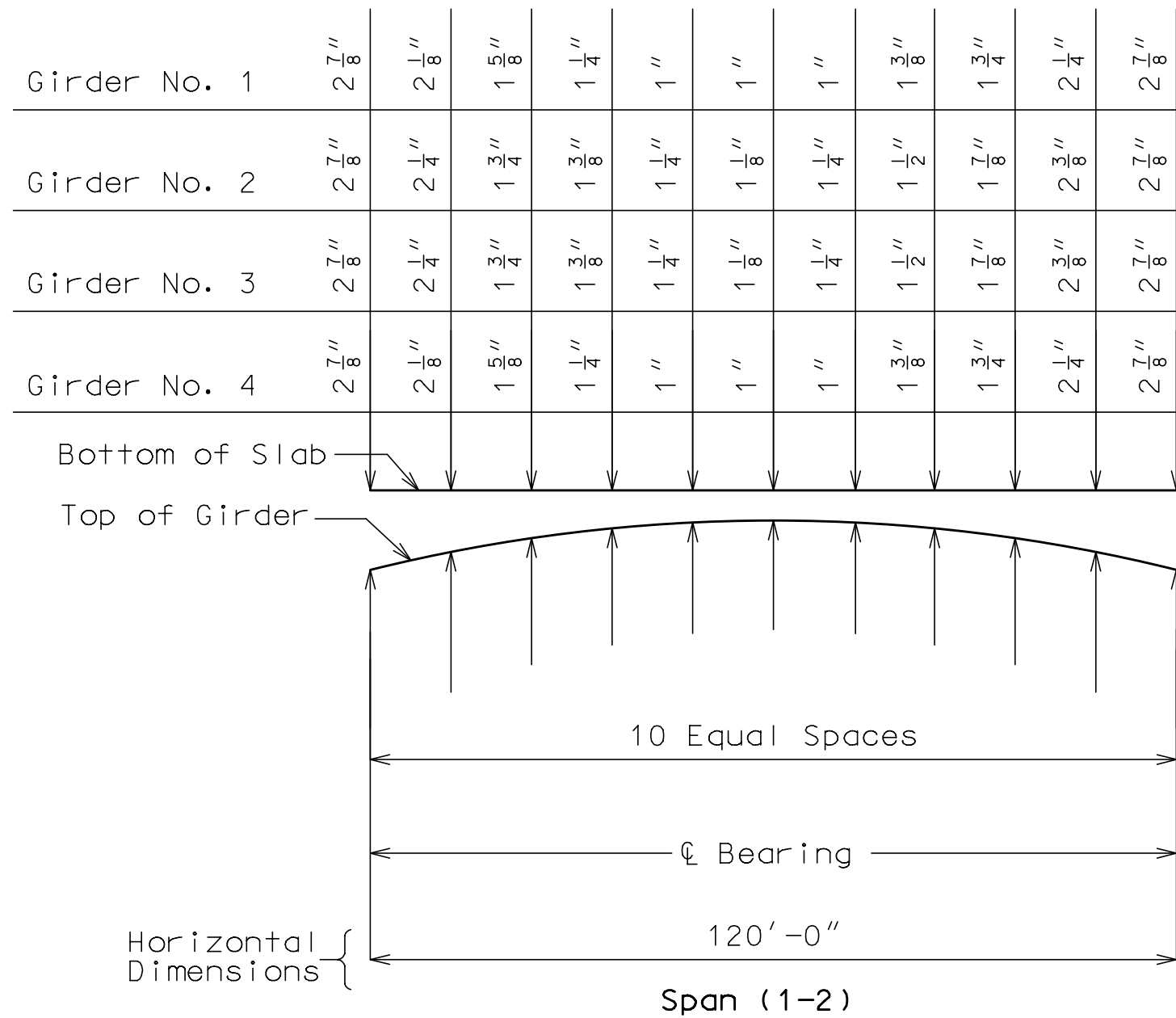
All diaphragm materials including bolts, nuts, and washers shall be galvanized.

Fabricated structural steel shall be ASTM A709 Grade 36 except as noted.

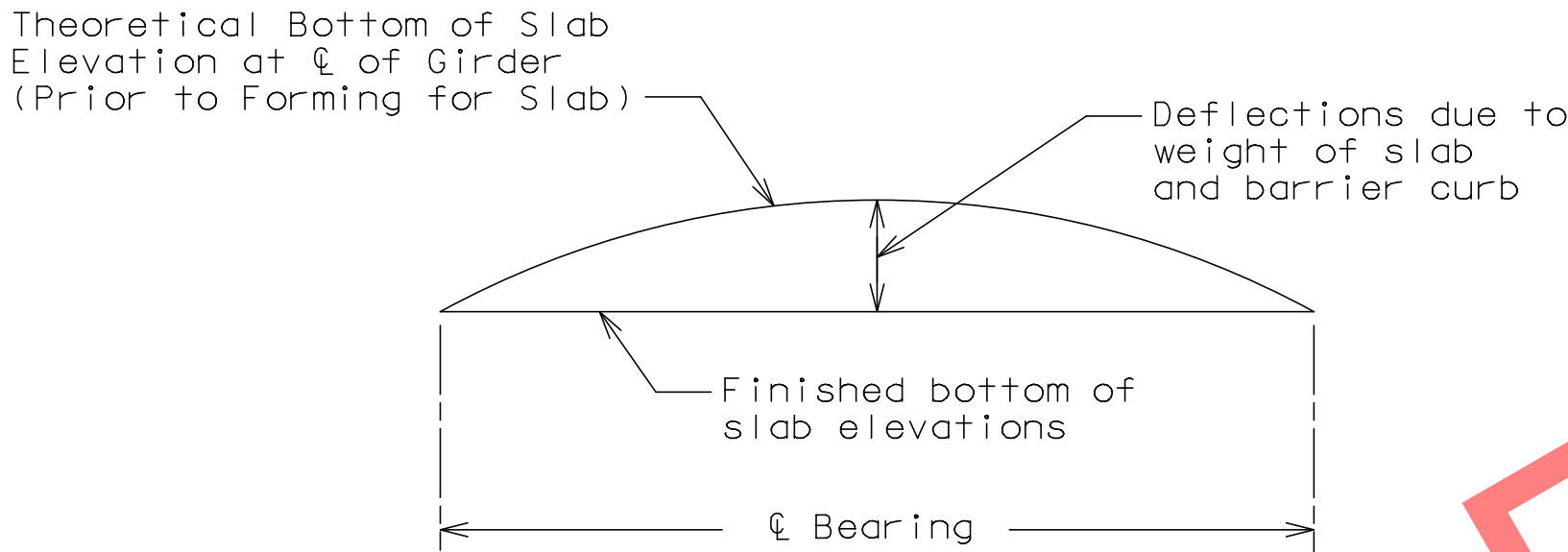
Payment for furnishing and installing steel intermediate diaphragms will be considered completely covered by the contract unit price for Steel Intermediate Diaphragm for P/S Concrete Girders.

Shop drawings will not be required for steel intermediate diaphragms and angle connections.

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BRIDGE NO. A9135	
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THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

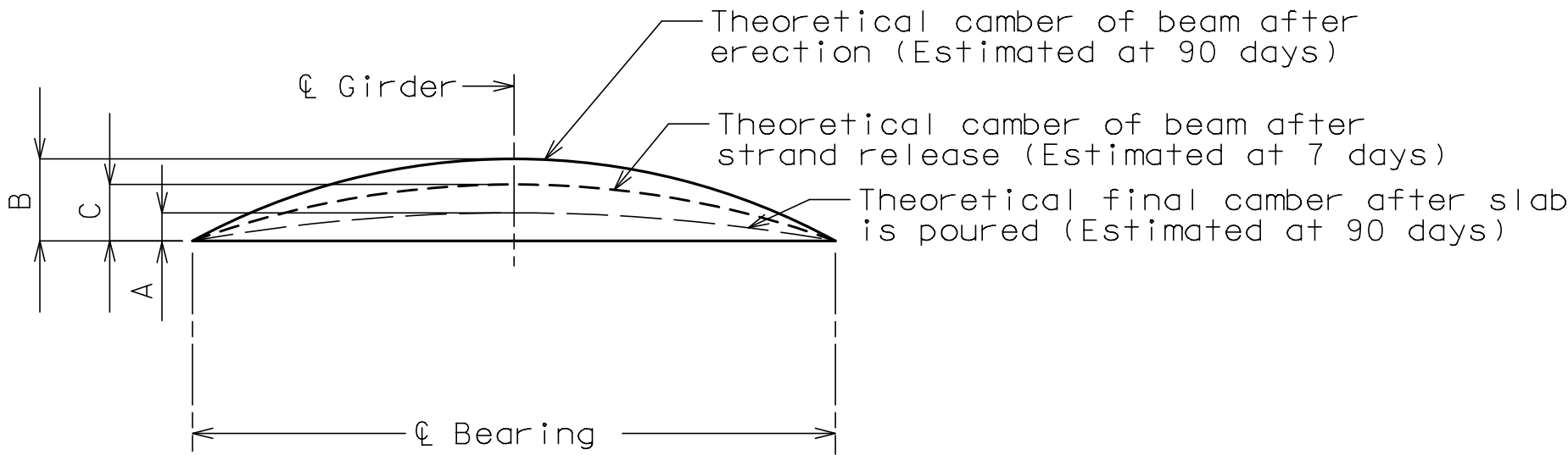


TYPICAL SLAB ELEVATIONS DIAGRAM

Theoretical Bottom of Slab Elevations at CL of Girder (Prior to Forming for Slab)(Estimated at 90 days)											
Girder Number	Span (1-2) (120'-0" @ brg - @ brg.)										
	@ brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	@ brg.
1	874.26	874.13	874.01	873.88	873.72	873.55	873.36	873.16	872.93	872.69	872.45
2	874.47	874.35	874.23	874.09	873.94	873.77	873.58	873.37	873.15	872.91	872.66
3	874.65	874.53	874.41	874.27	874.12	873.95	873.76	873.55	873.33	873.09	872.84
4	874.44	874.31	874.19	874.06	873.90	873.73	873.54	873.34	873.11	872.87	872.63

Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab and barrier curb.

Longitudinal dimensions are horizontal.



GIRDER CAMBER DIAGRAM

	Span (1-2)		
	A	B	C
Ext. Girder	1 7/8"	4 1/4"	2 3/8"
Int. Girder	1 3/4"		

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

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

Conversion factors for beam camber (estimated at 90 days)

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

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2/1/2022

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CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9135

STATE
MO

SHEET NO.
13

DESCRIPTION

DATE

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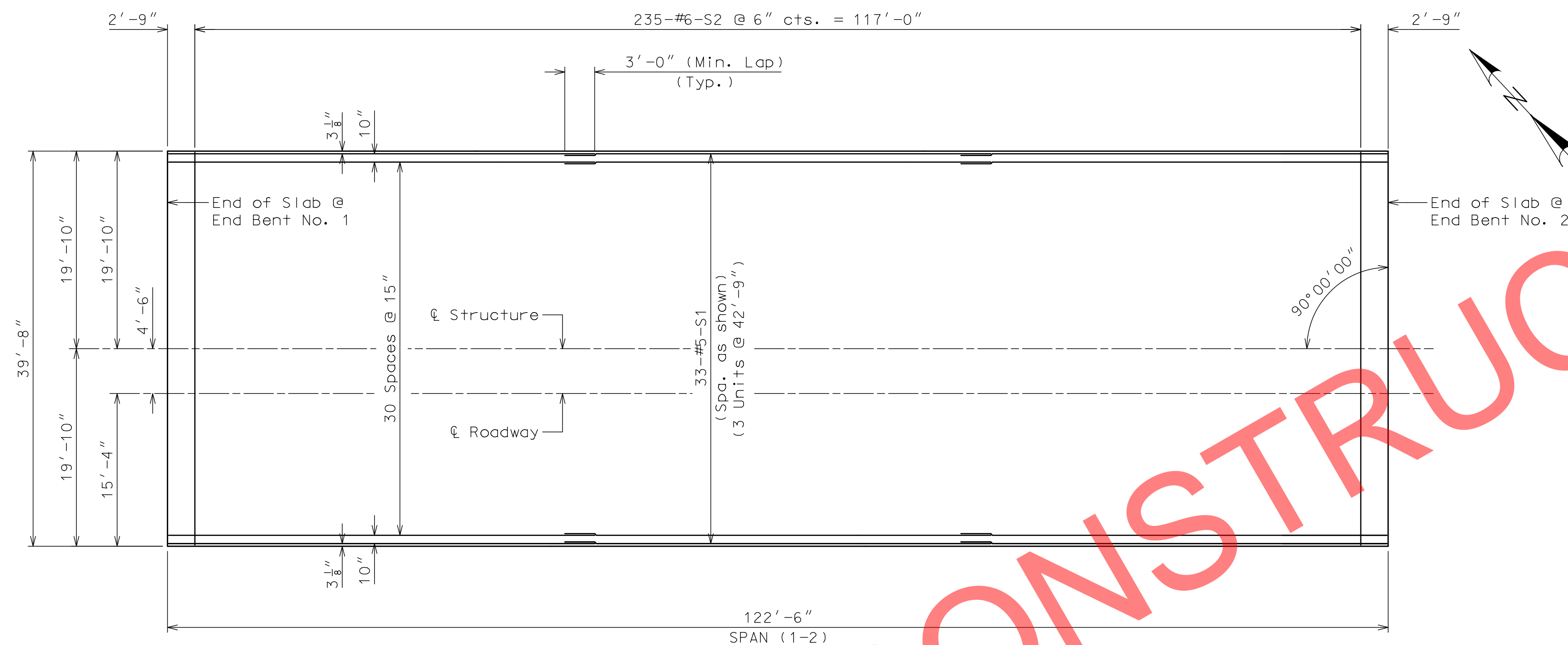
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Detailed March 2021
Checked May 2021

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

Sheet No. 13 of 26



Notes:

Longitudinal dimensions shown are measured horizontally.

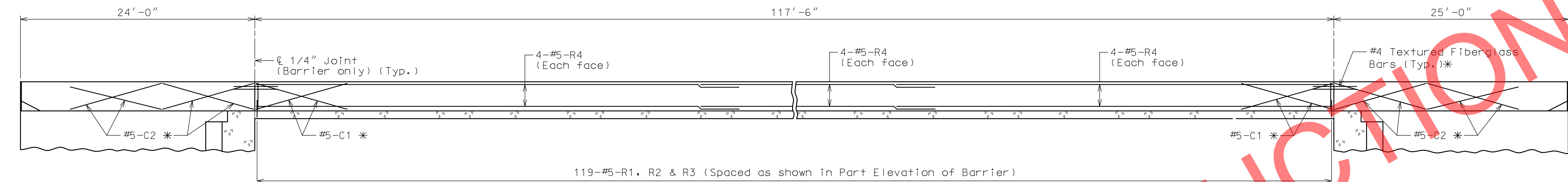
For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 15.

For Details of Type H Barrier
not shown, see Sheets No. 16 thru 18.

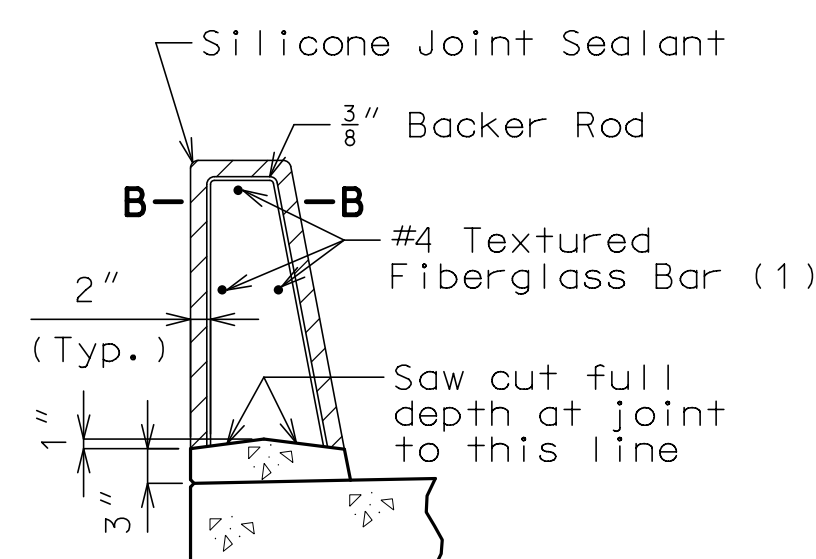
For details of Pedestrian Curb not shown,
see Sheet No. 19.

For Theoretical Slab Haunching Diagram, Girder
Camber Diagram & Theoretical Bottom of Slab
Elevations, see Sheet No. 13.

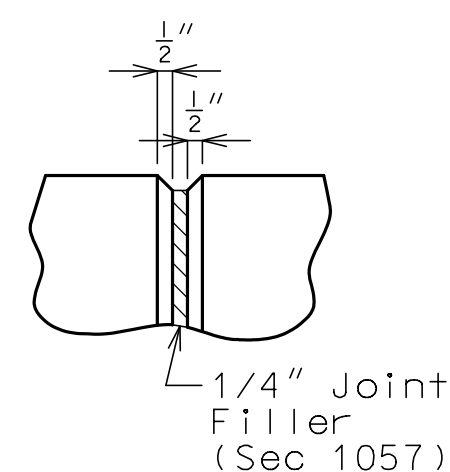
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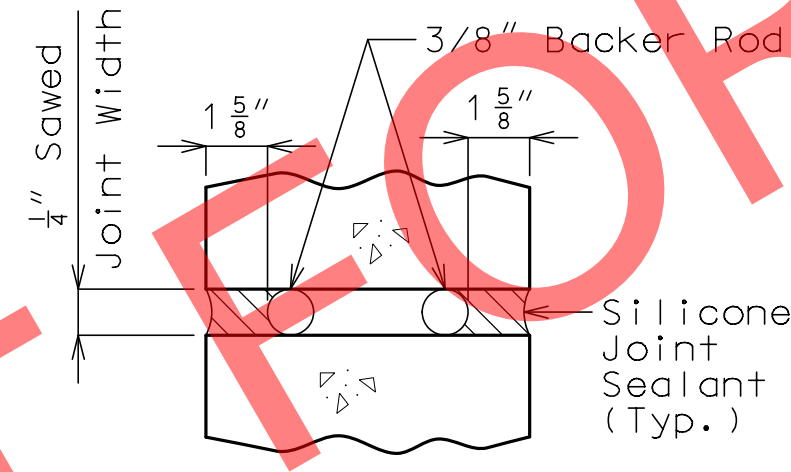
ELEVATION OF BARRIER
(Right barrier shown, left barrier similar)
Longitudinal dimensions are horizontal.



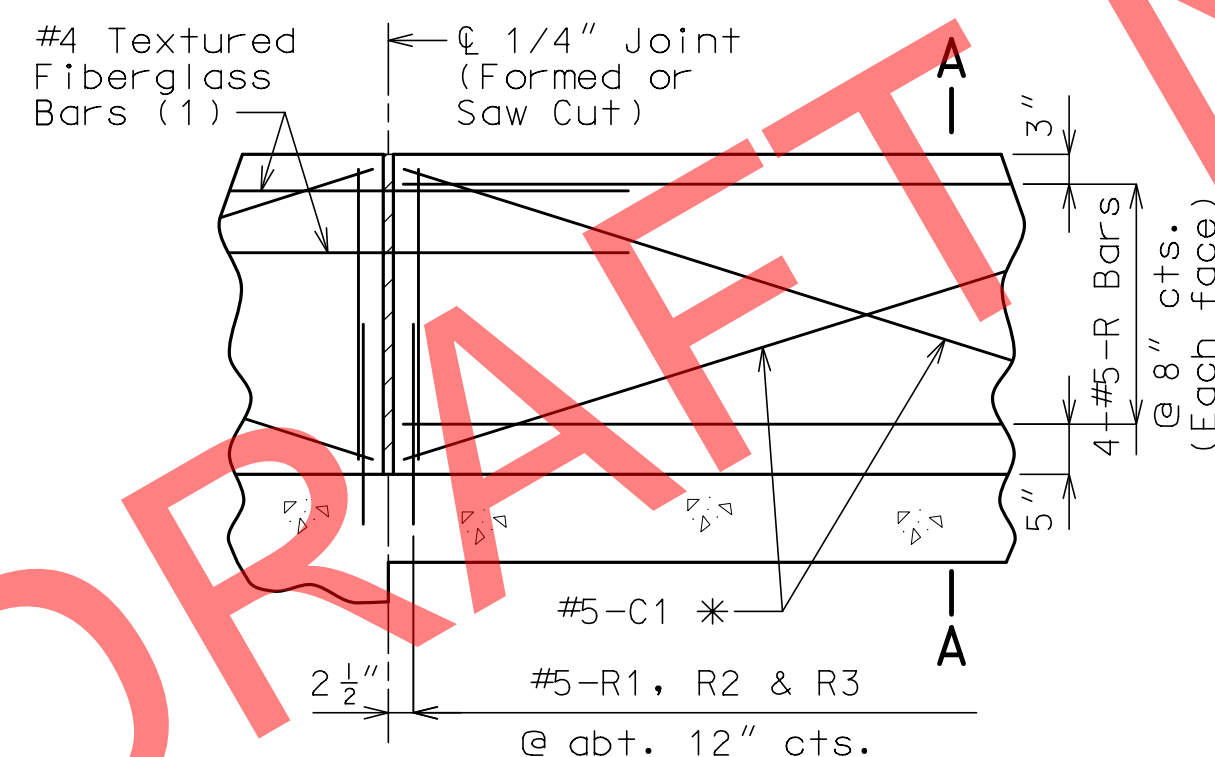
SECTION THRU
SAW CUT JOINT



PART ELEVATION
AT FORMED JOINT

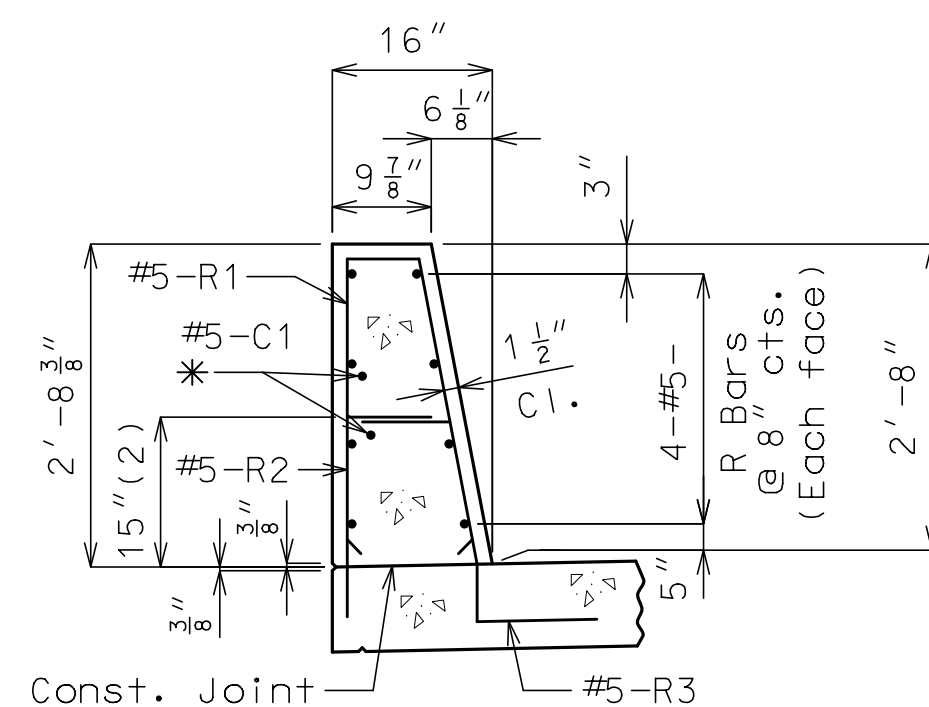


SECTION B-B



PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

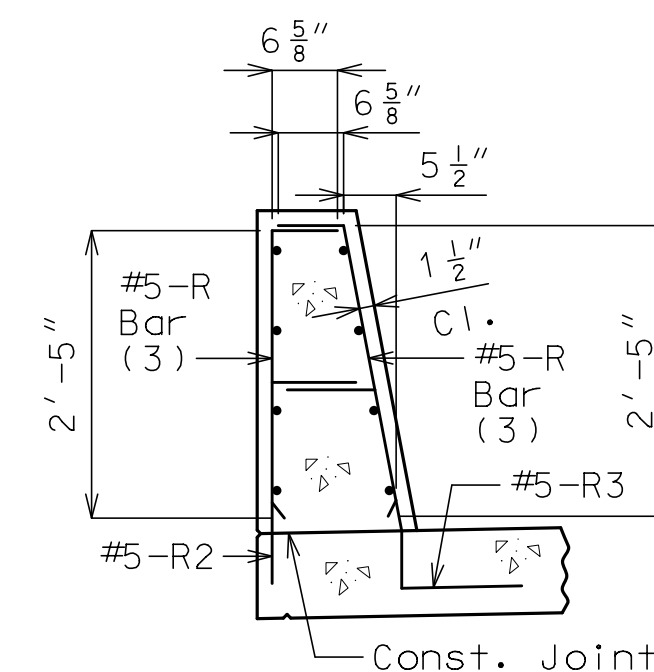


SECTION A-A

Use a minimum lap of 3'-1" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 2.89 square feet.

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

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

TYPE H BARRIER

GENERAL NOTES:

* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except 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 H Barrier per linear foot.

Concrete in barrier shall be Class B-1.

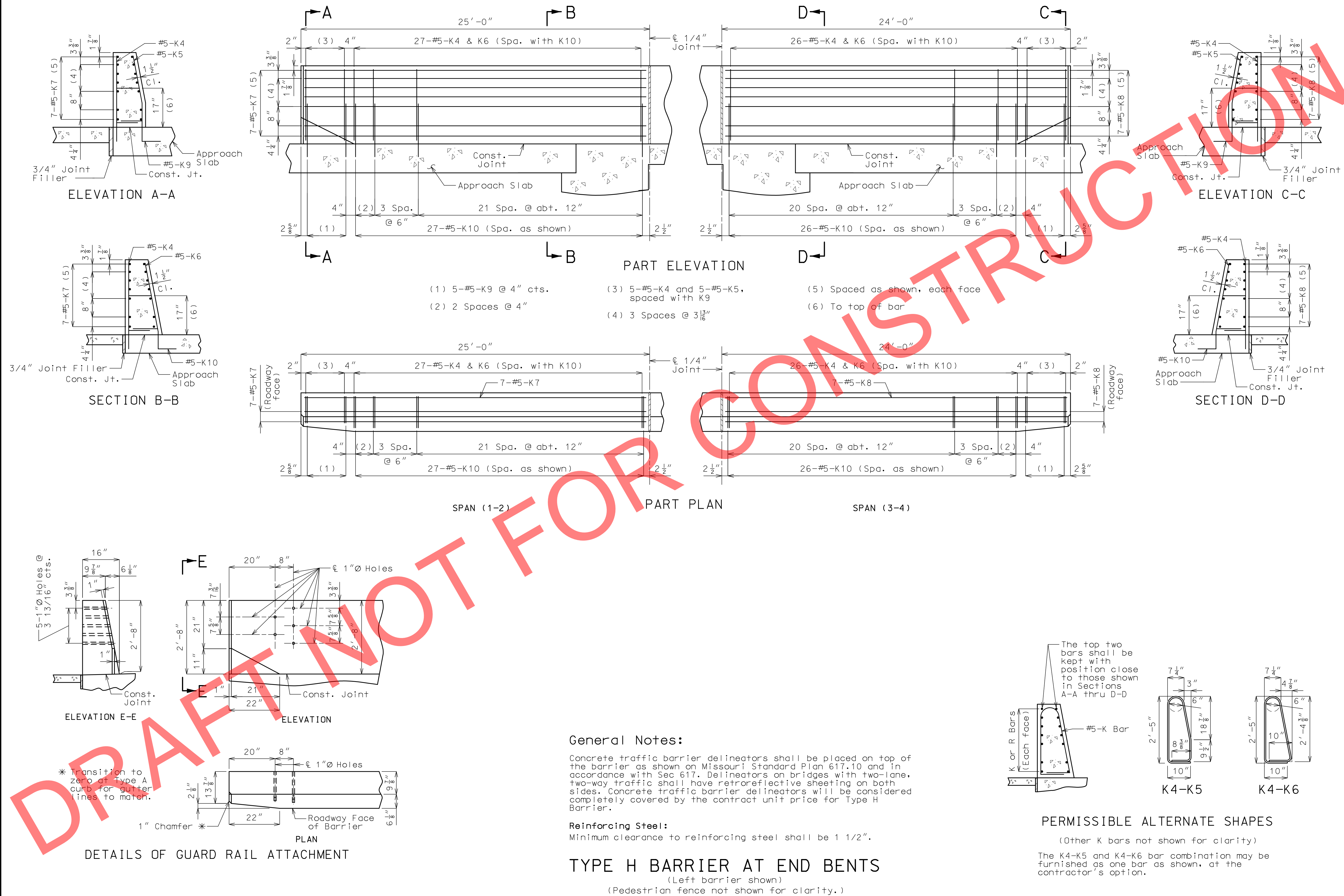
Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

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 H 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.

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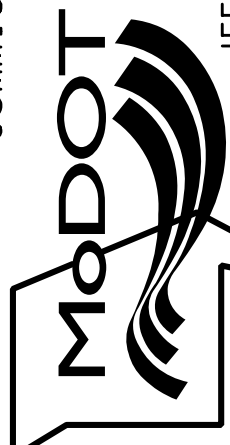
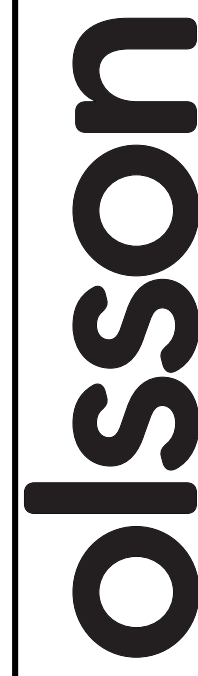


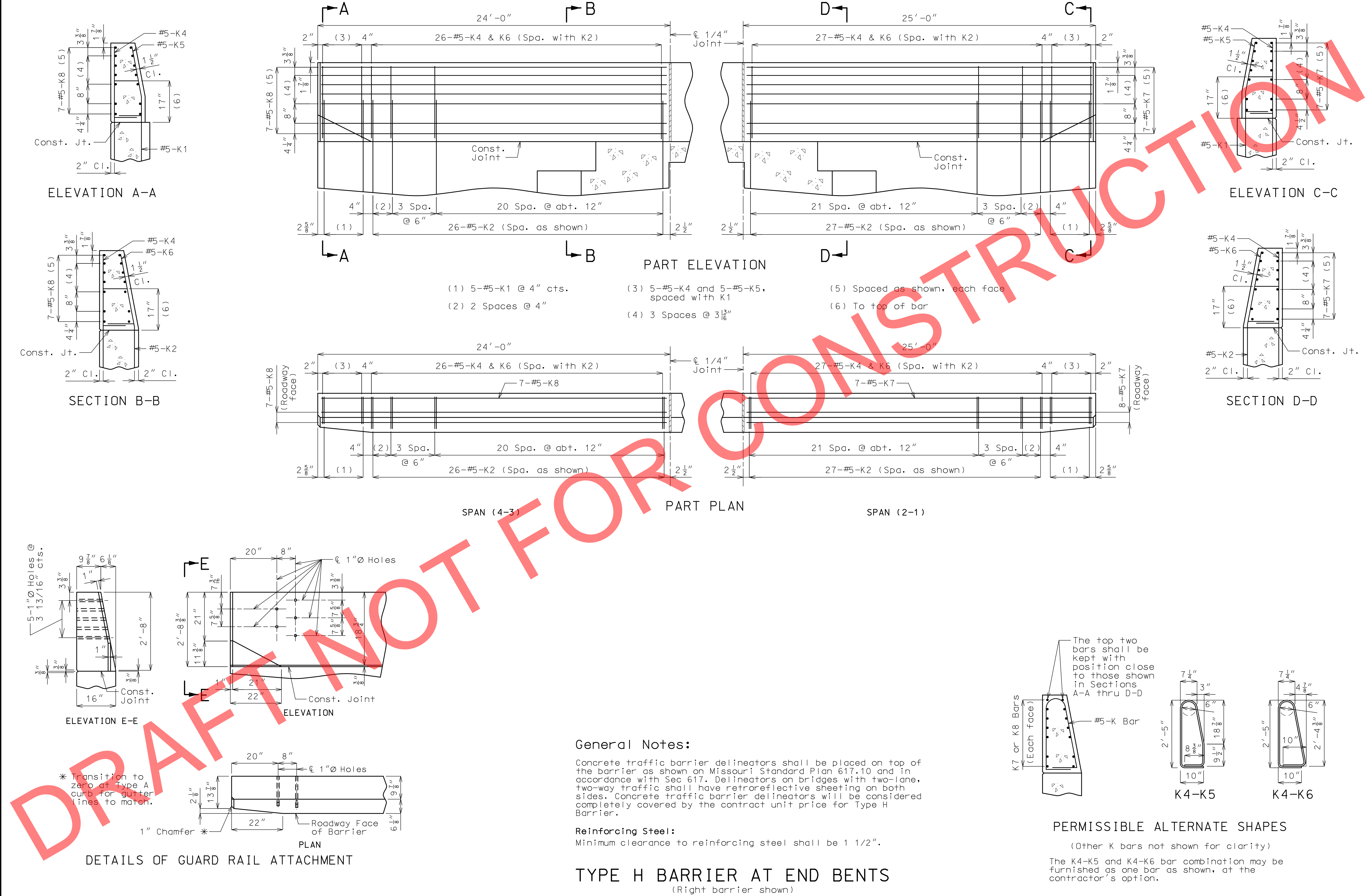
General Notes:
Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type H Barrier.

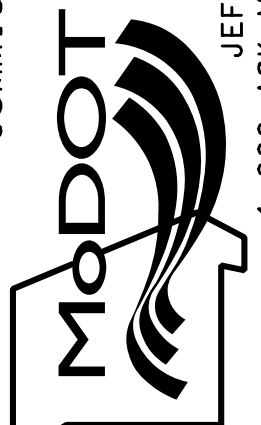

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1 1/2".

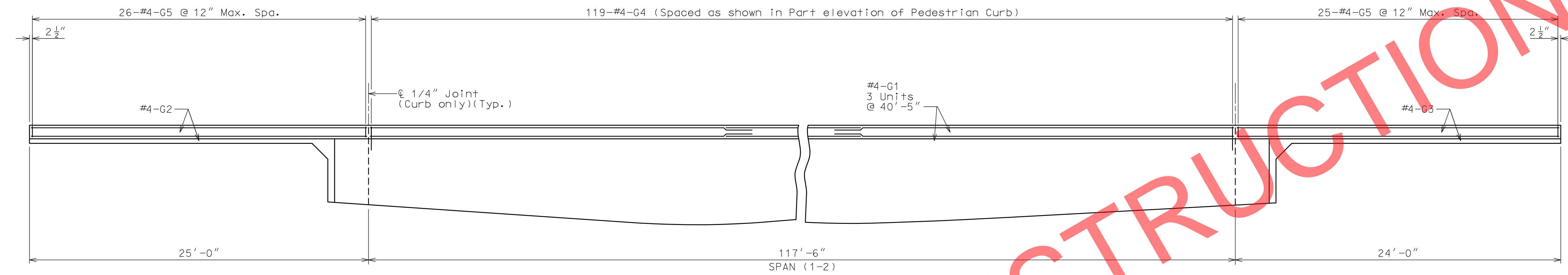
TYPE H BARRIER AT END BENTS
(Left barrier shown)
(Pedestrian fence not shown for clarity.)

PERMISSIBLE ALTERNATE SHAPES
(Other K bars not shown for clarity)
The K4-K5 and K4-K6 bar combination may be furnished as one bar as shown, at the contractor's option.

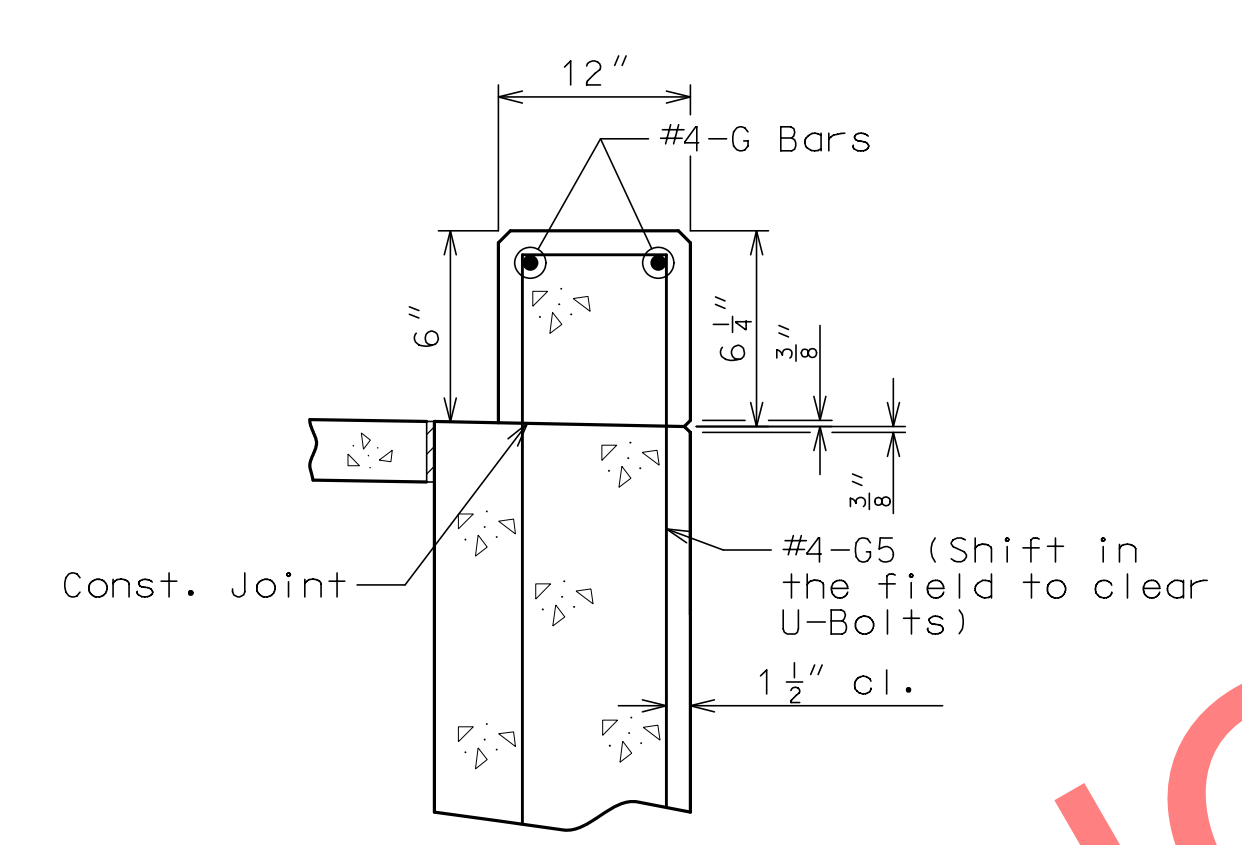
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DISTRICT BR	SHEET NO. 17
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9135	
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	DATE
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 7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	DATE



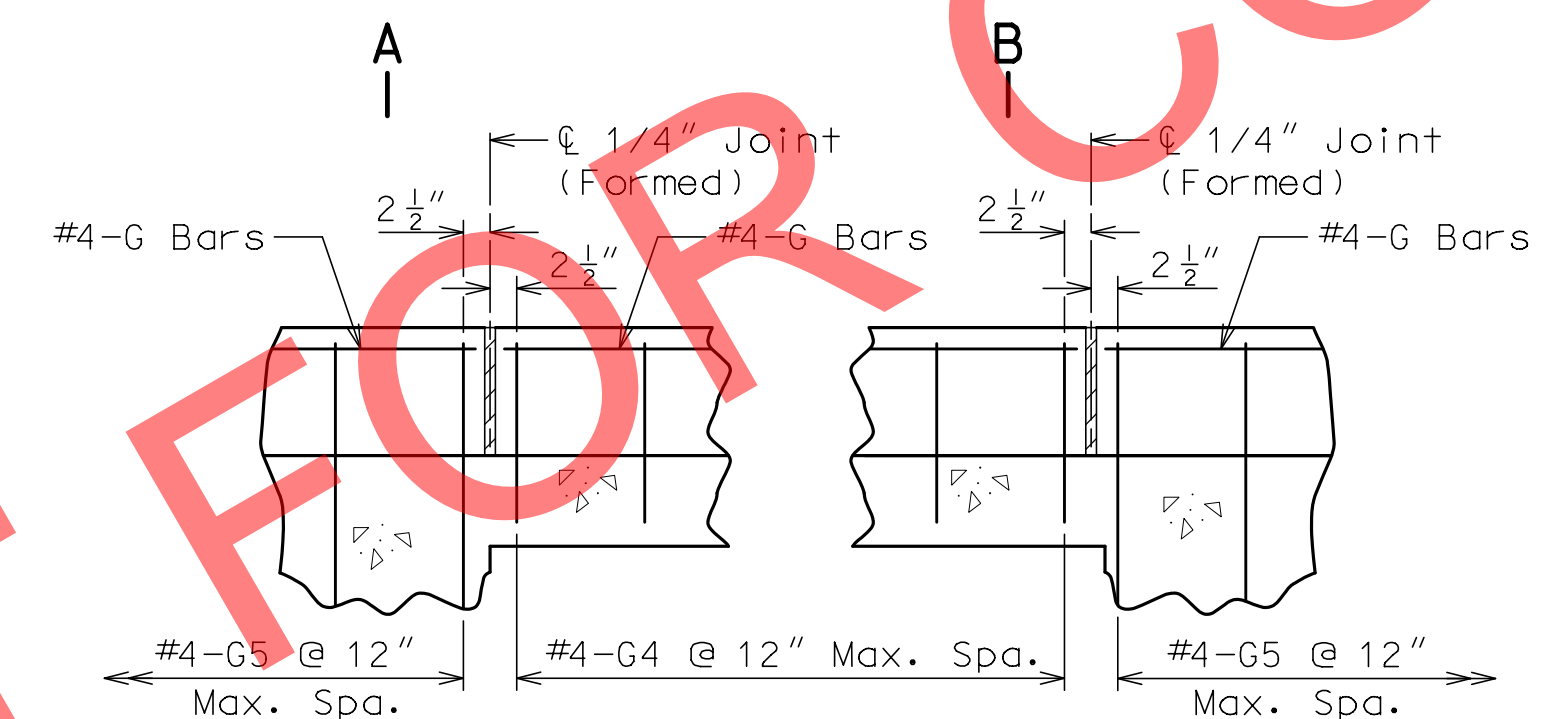
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ROUTE MAYAPPLE	STATE MO
DISTRICT BR	SHEET NO. 18
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
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BRIDGE NO. A9135	
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 105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
 7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	



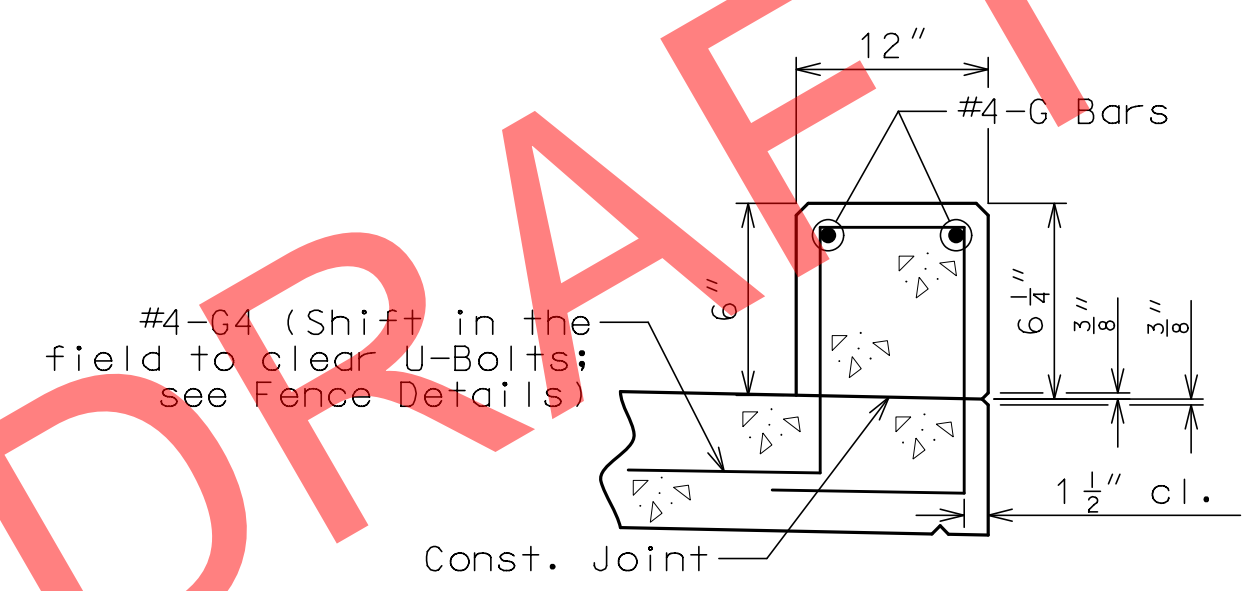
PLAN OF PEDESTRIAN CURB SHOWING REINFORCEMENT



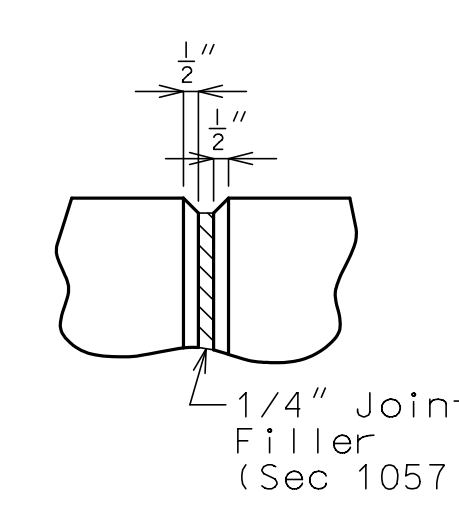
SECTION A-A



PART ELEVATION OF PEDESTRIAN CURB



SECTION B-B



PART ELEVATION AT FORMED JOINT

DETAILS OF PEDESTRIAN CURB
(Pedestrian fence not shown for clarity)

General Notes:

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

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

Payment for all concrete and reinforcement complete-in-place, will be considered completely covered by the contract unit price for Concrete Curb (Bridge Rail) per linear foot.

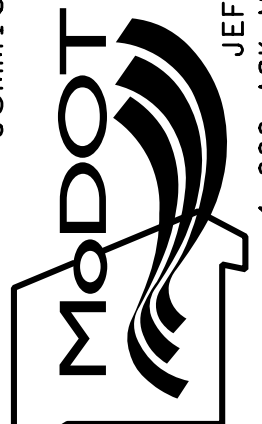

Concrete in the concrete curb shall be Class B-1.

Measurement of the concrete curb is to the nearest linear foot for each structure, measured along the outside top of slab.

Use a minimum lap of 1'-11" for #4 horizontal concrete curb bars.

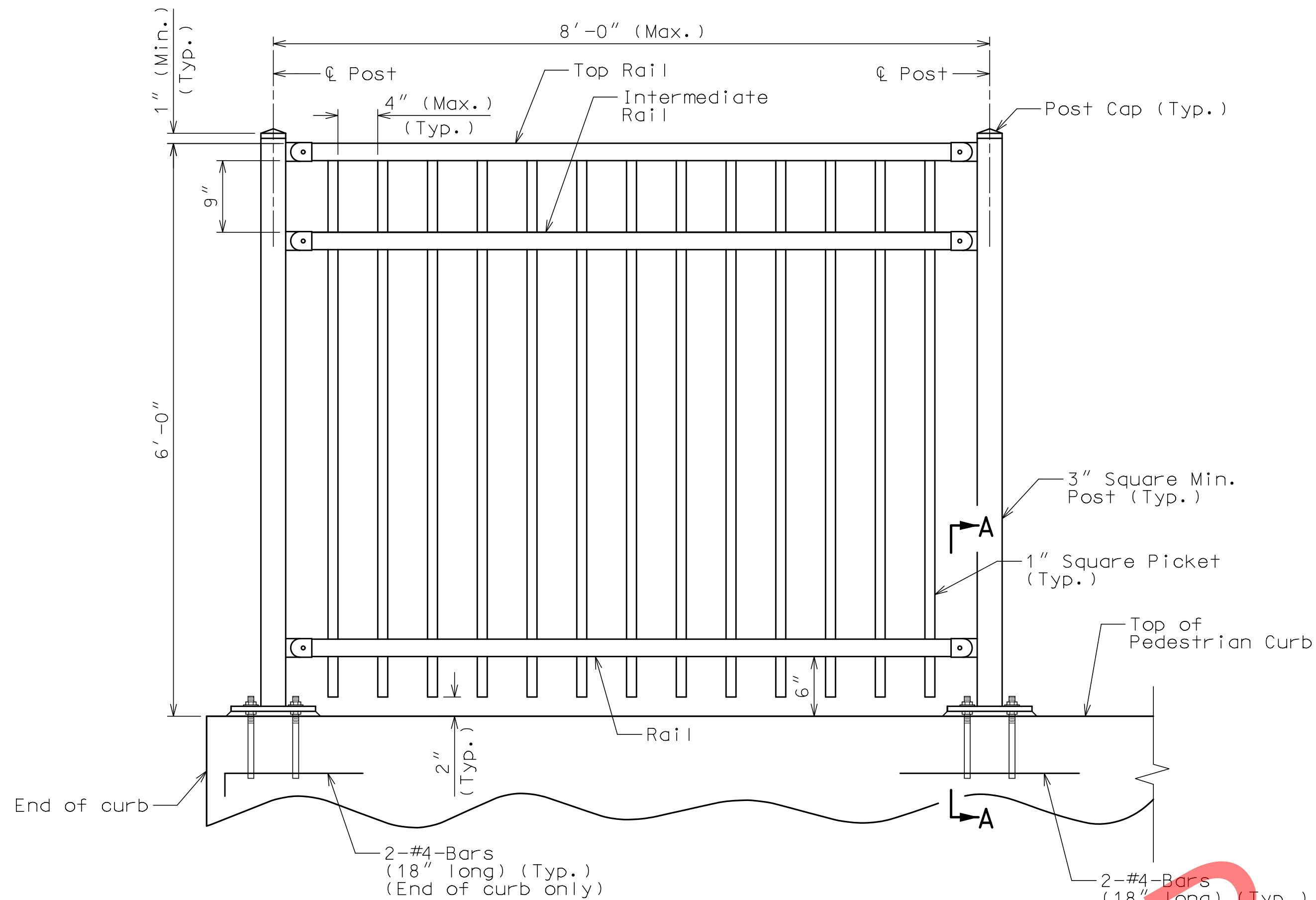
The cross-sectional area of the curb above the slab = 0.50 sq. ft.

Detailed March 2021
Checked May 2021

DATE PREPARED 2/1/2022	
ROUTE MAYAPPLE	STATE MO
DISTRICT BR	SHEET NO. 19
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9135	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592

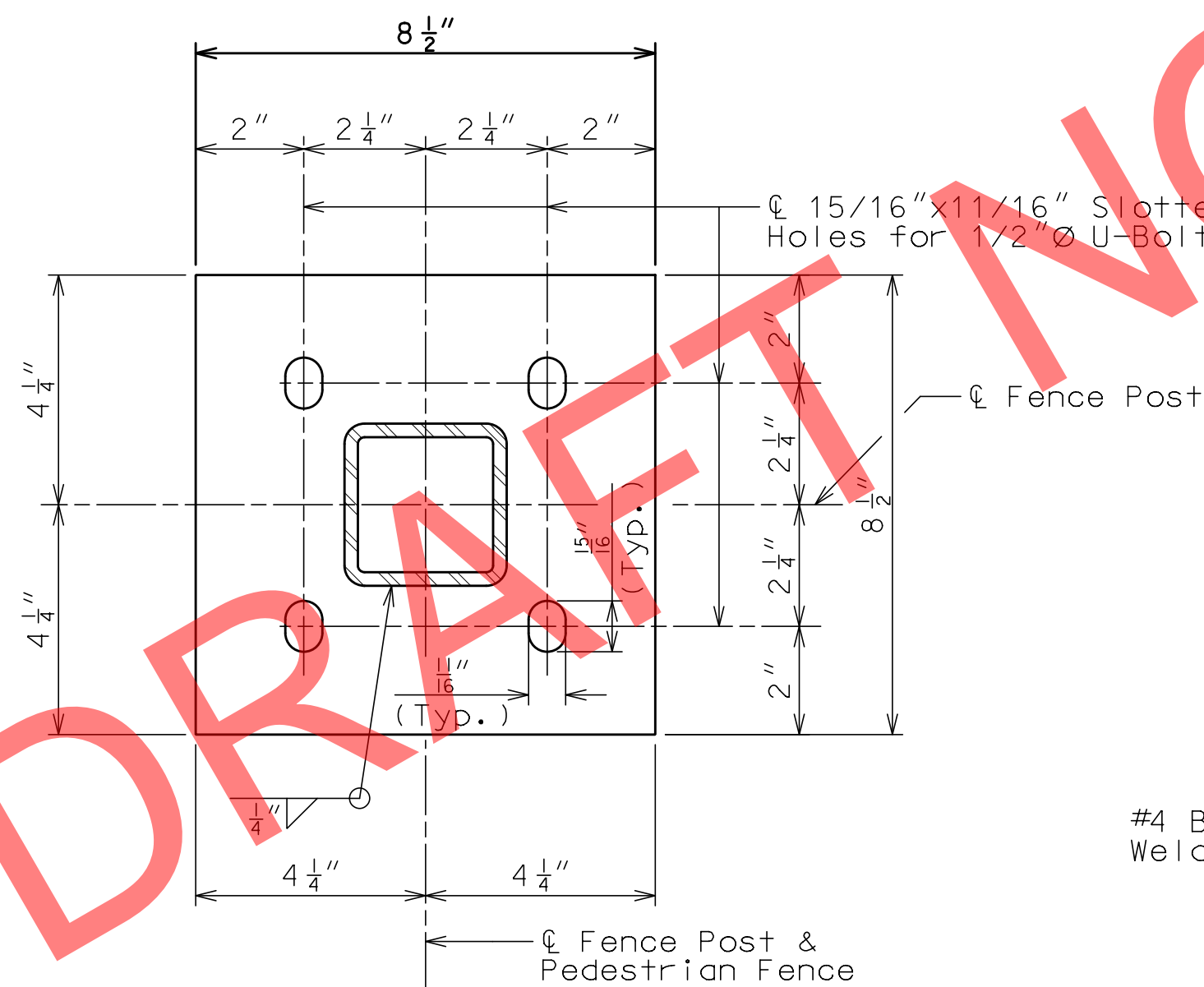
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.

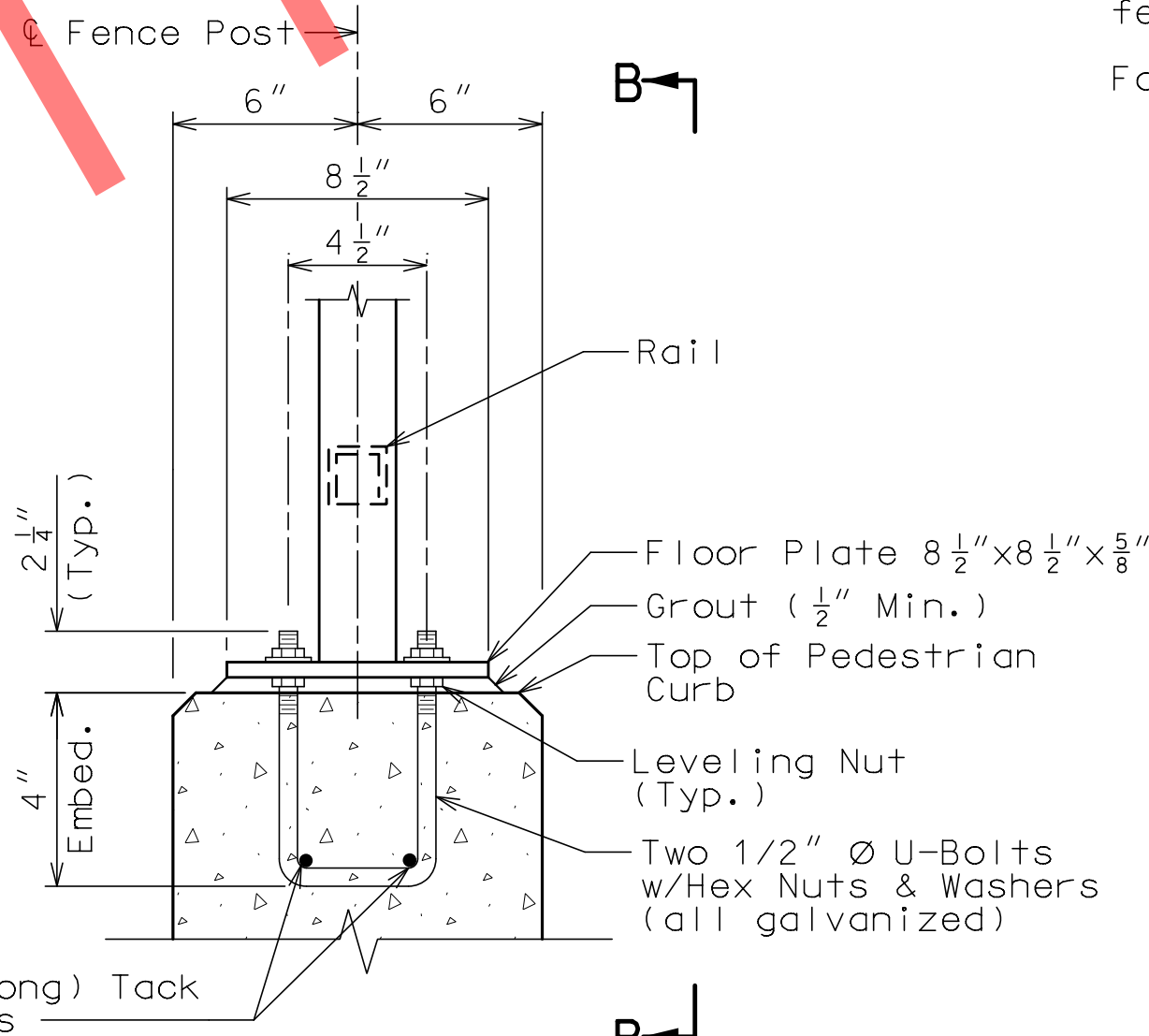


TYPICAL PART ELEVATION

Adjacent panels and bridge slab not shown for clarity.



PLAN OF FLOOR PLATE



SECTION A-A
AT FENCE SUPPORT
Reinforcement not shown for clarity.

Notes:

(72 in.) pedestrian fencing shall be installed to the top the Pedestrian Curb for the full length of the Pedestrian Curb.

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

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

Base Plate shall be ASTM A709, Grade 36.

Dimensions of pedestrian fence are measured horizontally.

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

Payment for furnishing and erecting the fence, complete in place, with U-Bolts, washers and reinforcing bars will be considered completely covered by the contract unit price for (72 in.) Pedestrian Fence (Structures).

All fence posts shall be vertical.

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

Floor plates shall have at least 6" of clearance to joint in Pedestrian Curb.

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

Rail splices to be provided per manufacturer's fabrication and shipping requirements. Rail splice detail and location shall be shown on detailed shop drawings.

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

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

(72 in.) pedestrian fencing system & (22 in.) pedestrian fencing system shall be supplied by only one of the manufacturers. Fencing system shall include all components except the anchor bolts and #4 bars welded to the anchor bolts. The assembly of the pickets to the rails and the rails to the posts shall be the same as the style mentioned for the manufacturer.

For details of (22 in.) Pedestrian Fence, see Sheet No. 21.

Ameristar Fence Products, Inc.
1555 N. Mingo
Tulsa, OK, 74116
(800) 321-8724
www.ameristarfence.com

Style: AEGIS 11 Majestic

Betafence USA
3309 S.W. Interstate 45
Ennis, TX, 75119
(888) 650-4766
www.betafenceusa.com

Style: Upgrade-I Landmark

Iron Eagle Industries, Inc.
1256 Cardiff Blvd.
Mississauga, Ontario Canada L5S1R1
(905) 670-2558
www.ironagleind.com

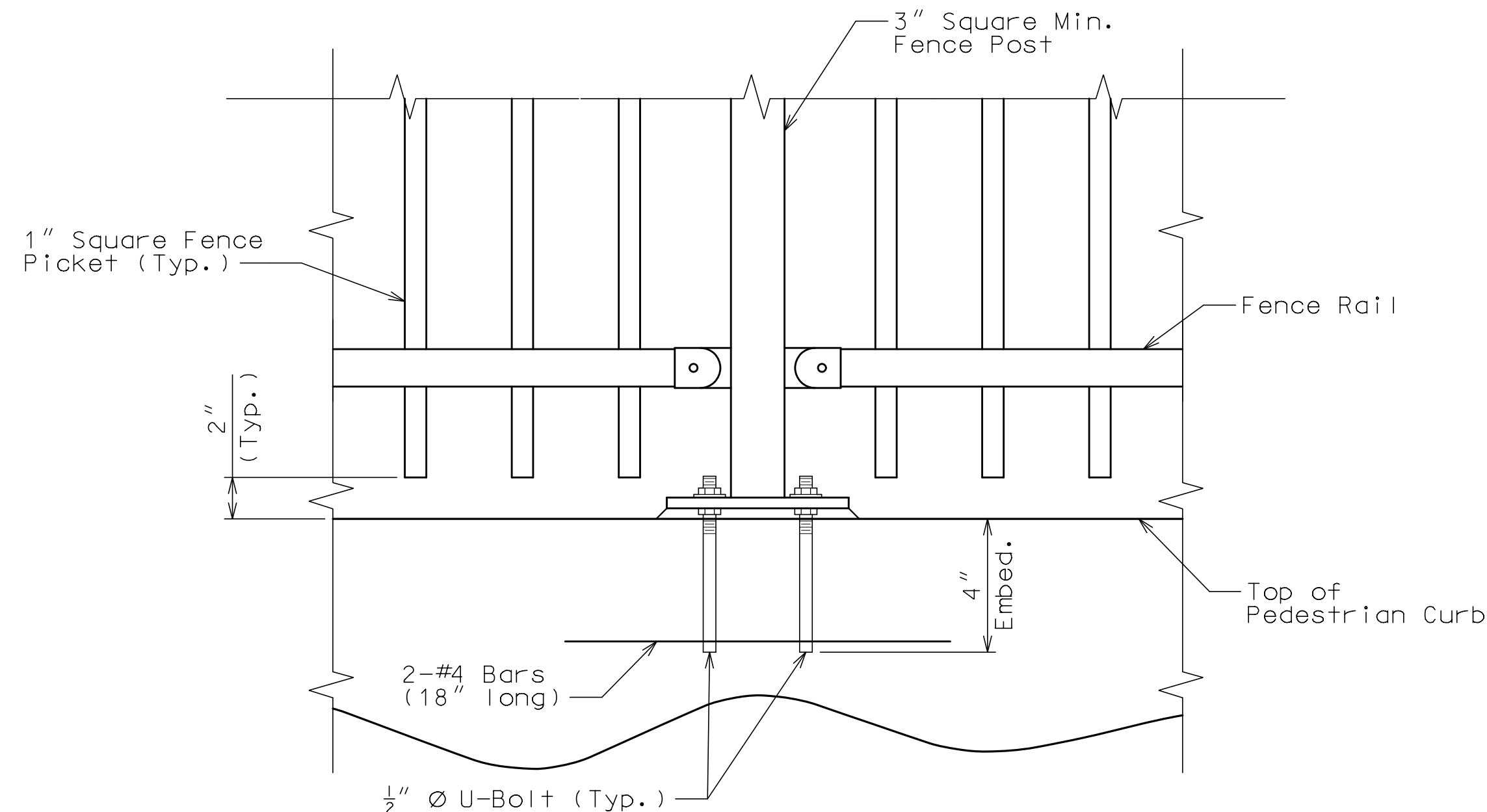
Style: Silver Eagle II

Merchants Metals
6575 Romiss Court
St. Louis, MO 63134
(800) 293-3363
www.merchantsmetals.com

Style: Guardsman Monroe

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

For details of Pedestrian Curb, see Sheet No. 19.



VIEW B-B

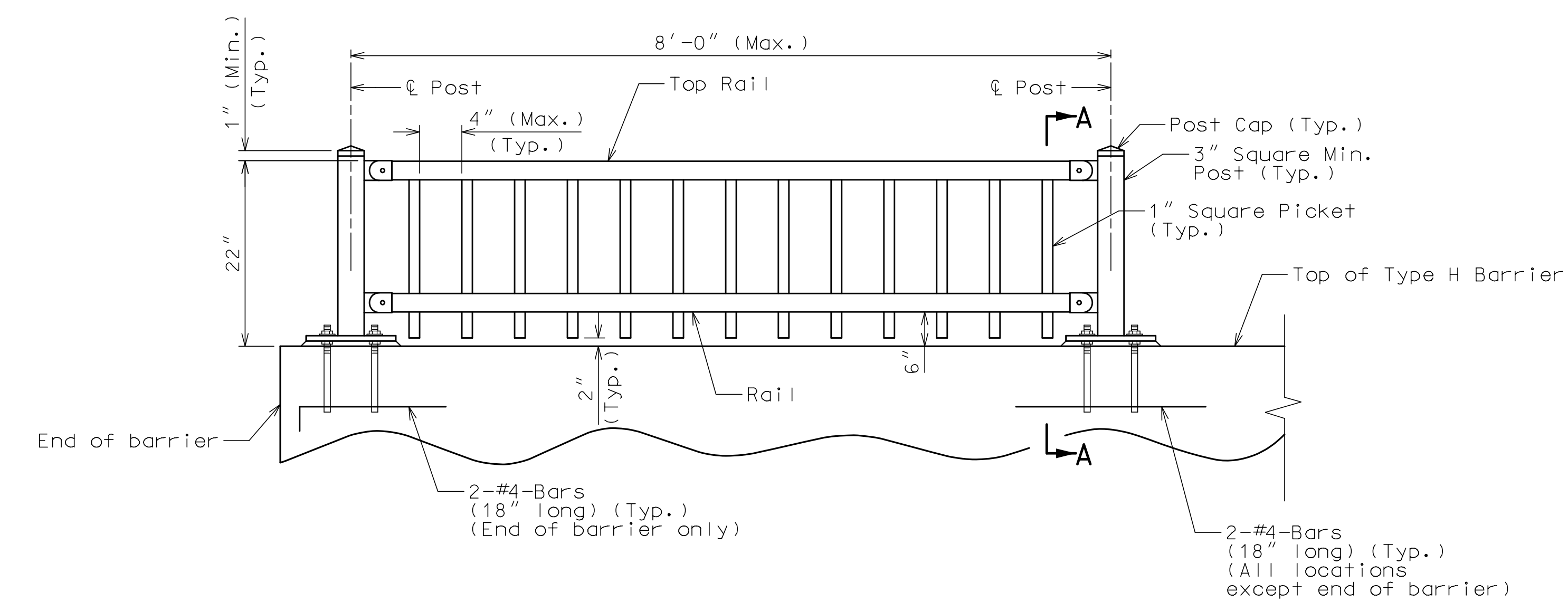
(72 in.) PEDESTRIAN FENCE DETAILS

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

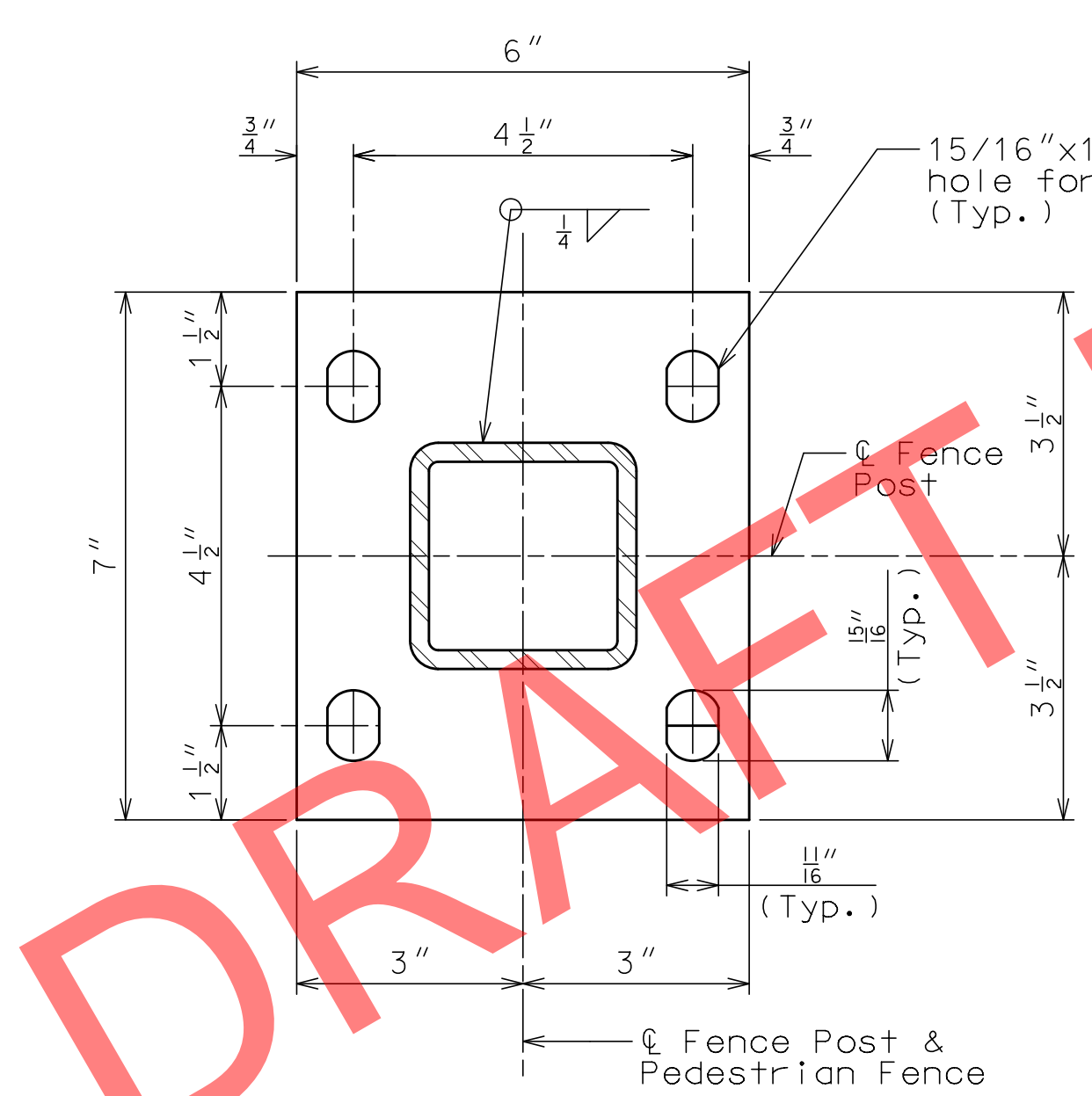
Sheet No. 20 of 26

Detailed March 2021
Checked May 2021

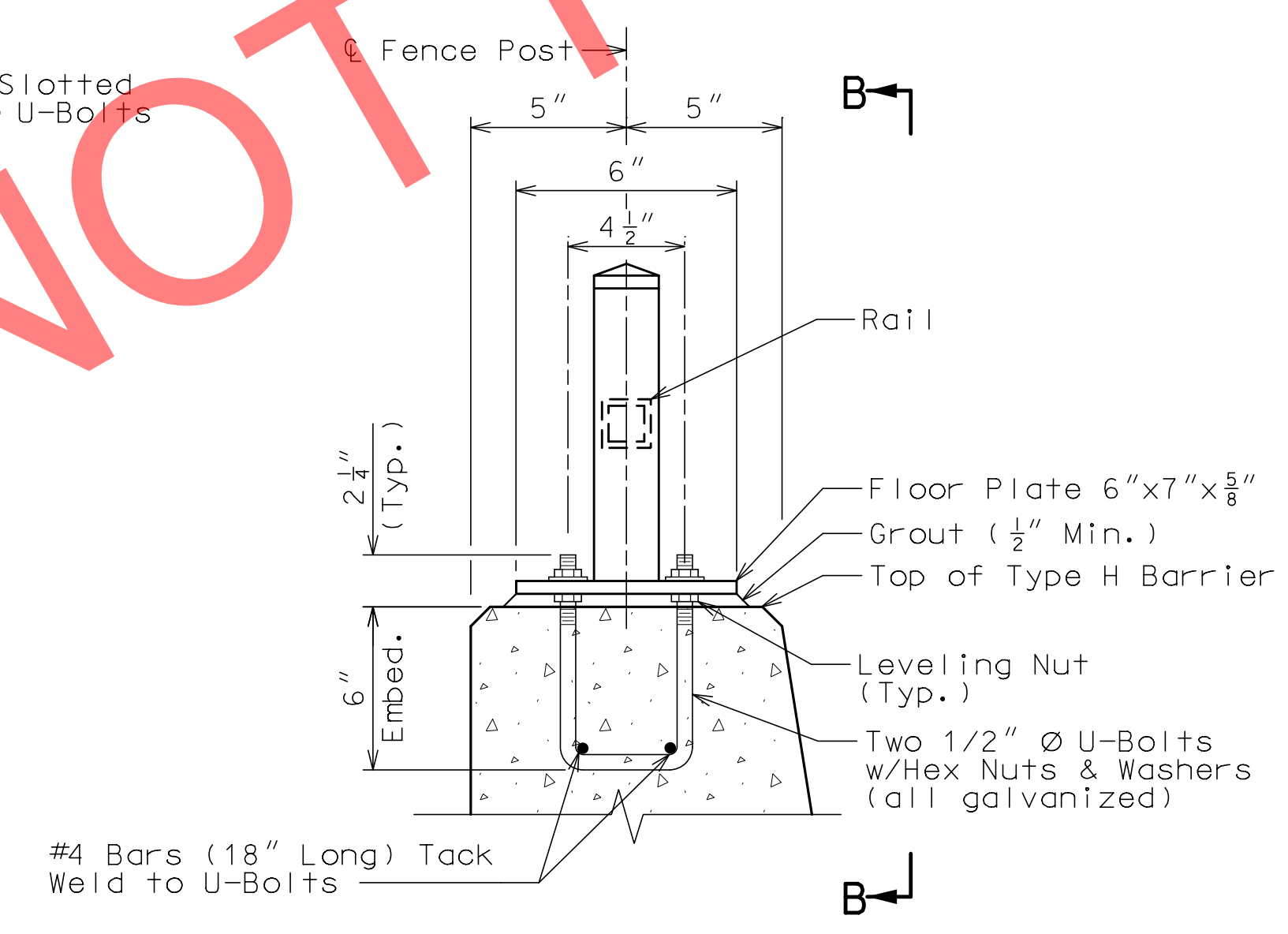
DATE PREPARED 2/1/2022	
ROUTE MAYAPPLE	STATE MO
DISTRICT BR	SHEET NO. 20
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9135	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
olsson	7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592



TYPICAL PART ELEVATION
Adjacent panels not shown for clarity.



PLAN OF FLOOR PLATE



SECTION A-A
AT FENCE SUPPORT
Reinforcement not shown for clarity.

Notes:

- (22 in.) pedestrian fencing shall be installed to the top of the right Type H Barrier for the full length of the Type H Barrier.
- Pedestrian fencing shall be in accordance with 2010 AASHTO LRFD Bridge Design Specifications and 2010 Interim Revisions. The design line load for pedestrian railings will not require a 50lb/ft and 200lb load be applied simultaneously. The posts of pedestrian railing will require both loadings applied simultaneously.
- Fence shall have a black gloss finish (Federal Standard #17038) System G in accordance with Sec 1081.
- Base Plate shall be ASTM A709, Grade 36.
- Dimensions of pedestrian fence are measured horizontally.
- Measurement of pedestrian fence will be made to the nearest linear foot along centerline fence.
- Payment for furnishing and erecting the fence, complete in place, with U-Bolts, washers and reinforcing bars will be considered completely covered by the contract unit price for (22 in.) Pedestrian Fence (Structures).
- All fence posts shall be vertical.
- Mortar shall be placed under the floor plates in accordance with Sec 1066.
- Floor plates shall have at least 6" of clearance to joints in the Type H Barrier.
- Contractor shall submit complete detailed shop drawings in accordance with Sec 1080.
- Rail splices to be provided per manufacturer's fabrication and shipping requirements. Rail splice detail and location shall be shown on detailed shop drawings.
- The contractor shall have the decorative pedestrian fencing manufacturer submit structural design computations signed and sealed by a registered professional engineer in the State of Missouri.
- All material used in fabrication and construction of the decorative pedestrian fencing shall be in accordance with the manufacturer's specifications, except as modified in the contract documents.
- (72 in.) pedestrian fencing system & (22 in.) pedestrian fencing system shall be supplied by only one of the manufacturers. Fencing system shall include all components except the anchor bolts and #4 bars welded to the anchor bolts. The assembly of the pickets to the rails and the rails to the posts shall be the same as the style mentioned for the manufacturer.
- For details of (72 in.) Pedestrian Fence, see Sheet No. 20.

Ameristar Fence Products, Inc.
1555 N. Mingo
Tulsa, OK 74116
(800) 321-8724
www.ameristarfence.com

Style: AEGIS 11 Majestic

Betafence USA
3309 S.W. Interstate 45
Ennis, TX, 75119
(888) 650-4766
www.betafenceusa.com

Style: Upgrade-I Landmark

Iron Eagle Industries, Inc.
1256 Cardiff Blvd.
Mississauga, Ontario Canada L5S1R1
(905) 670-2558
www.ironagleind.com

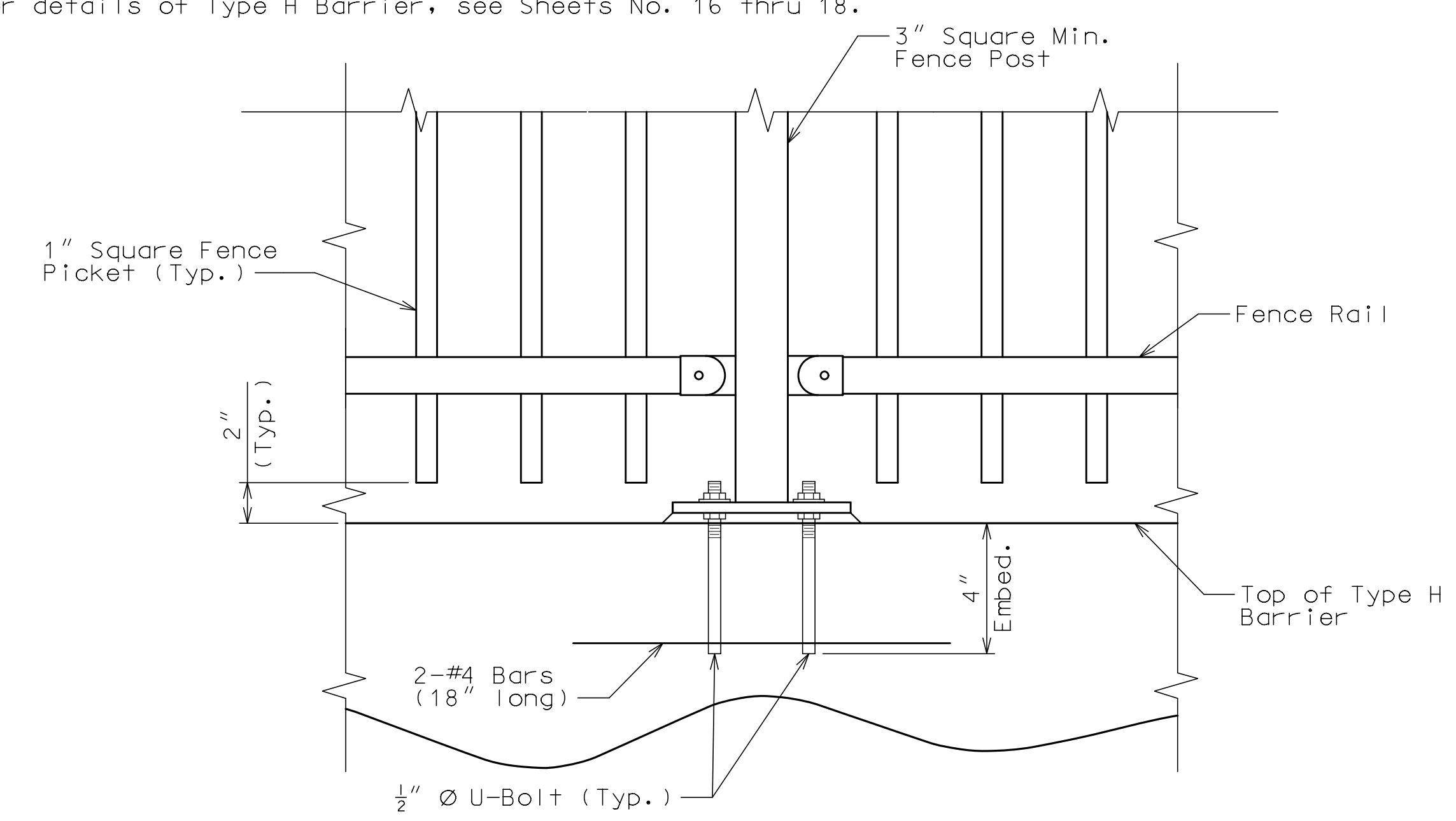
Style: Silver Eagle II

Merchants Metals
6575 Romiss Court
St. Louis, MO 63134
(800) 293-3363
www.merchantsmetals.com

Style: Guardsman Monroe

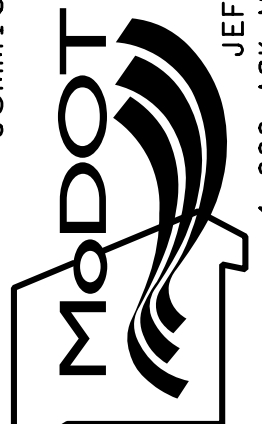

Substitution for the U-bolt cages on the decorative pedestrian fence will not be permitted.

For details of Type H Barrier, see Sheets No. 16 thru 18.



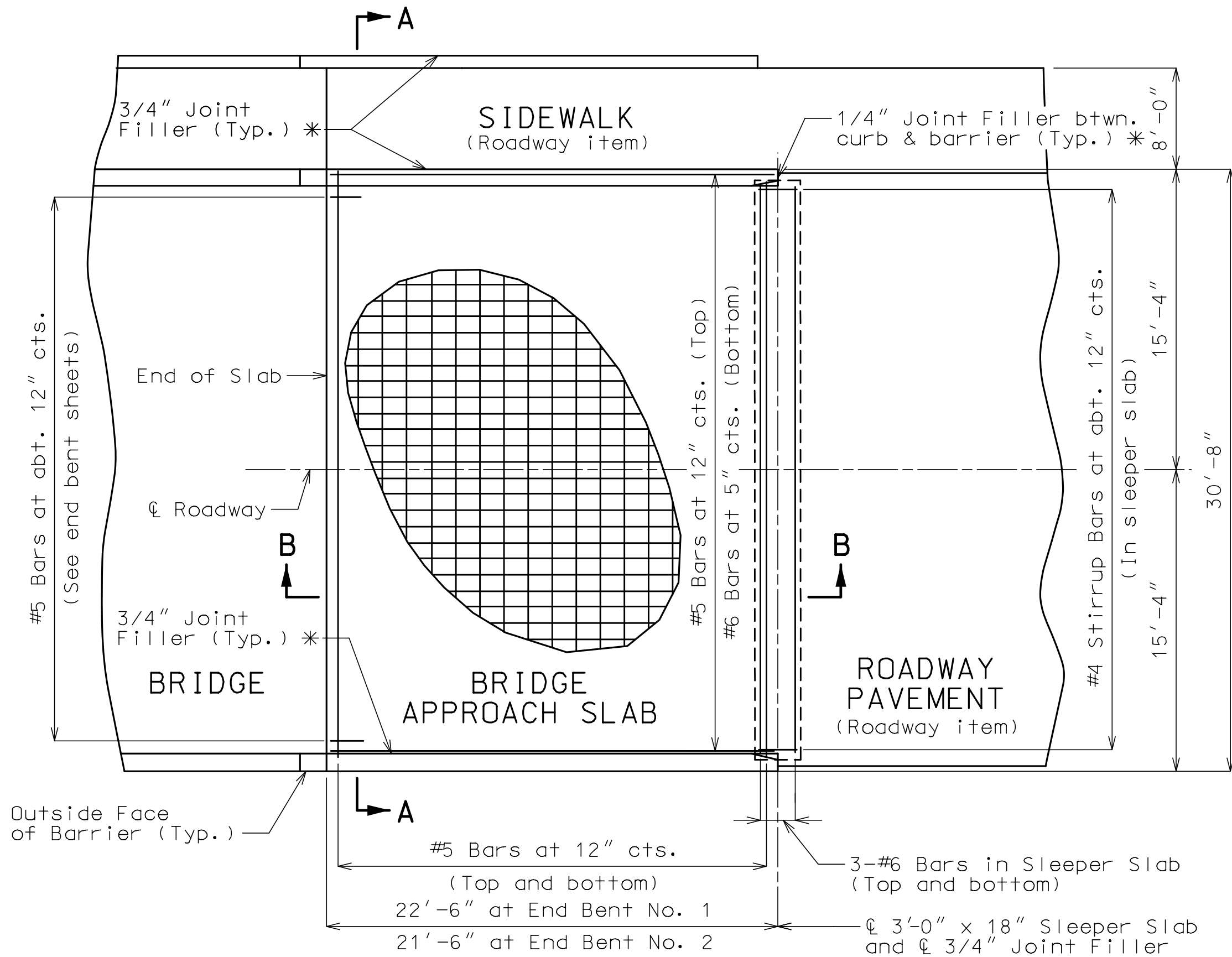
VIEW B-B

(22in.) PEDESTRIAN FENCE DETAILS

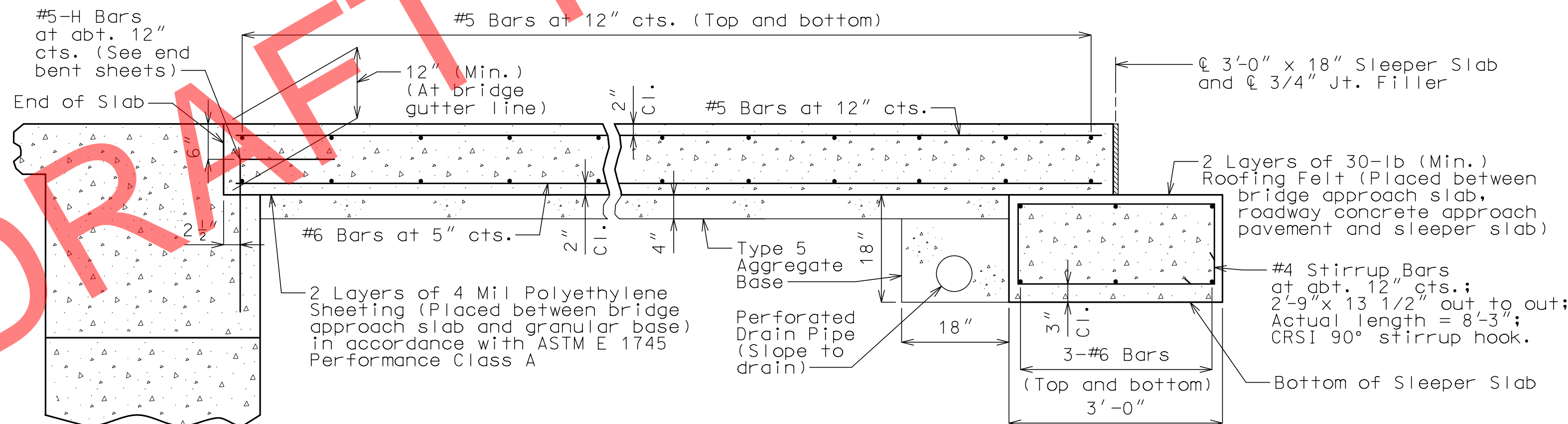
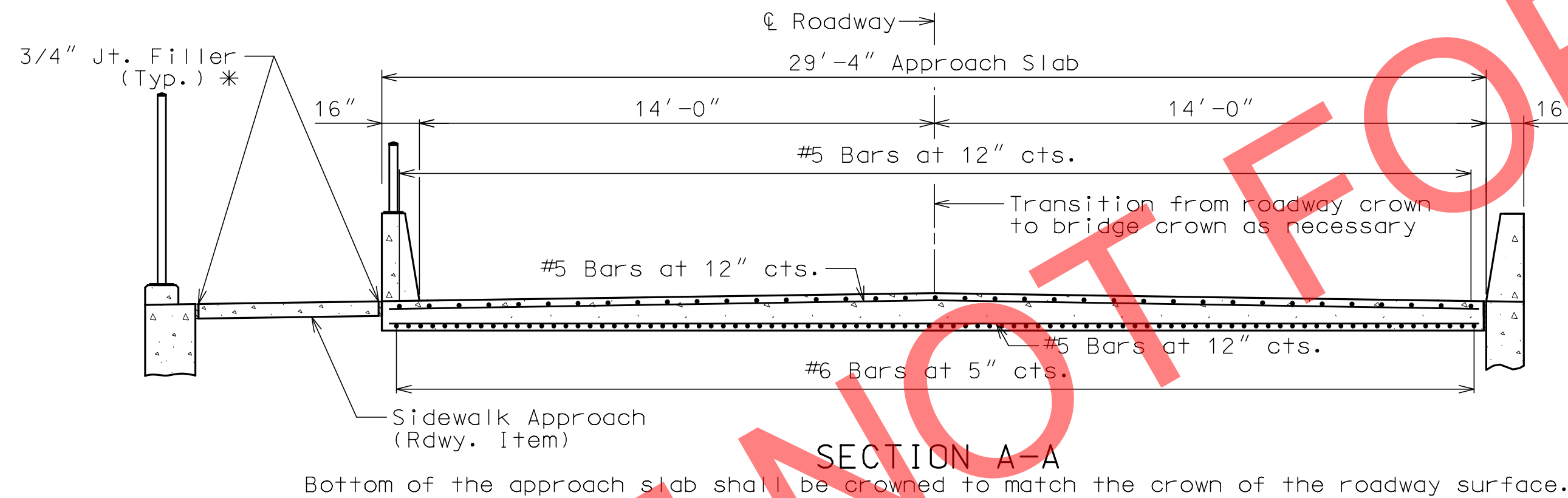
DATE PREPARED 2/1/2022	
ROUTE MAYAPPLE	STATE MO
DISTRICT BR	SHEET NO. 21
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9135	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
	7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592

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

REV.

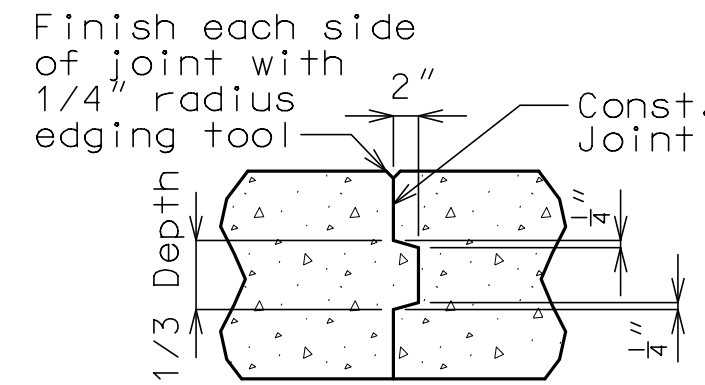


PART PLAN SHOWING REINFORCEMENT



SECTION B-B

DETAILS OF BRIDGE APPROACH SLAB (MAJOR)



CONST. JOINT DETAIL

General Notes:

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

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

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

Minimum clearance to reinforcing steel shall be $1\frac{1}{2}$ ", unless otherwise shown.

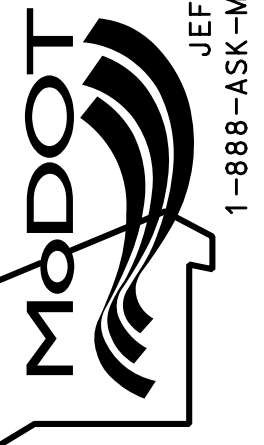

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #5 bars 29" or by mechanical bar splice.

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

For Concrete Approach Pavement details, see roadway plans.

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

* Seal joint between vertical face of sidewalk and wing, and vertical face of approach slab and sidewalk with "Silicone Joint Sealant for Saw Cut and Formed Joints" in accordance with Sec 717.

DATE PREPARED 2/1/2022	
ROUTE MAYAPPLE	STATE MO
DISTRICT BR	SHEET NO. 22
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9135	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
	7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592

BILL OF REINFORCING STEEL																									
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (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.
		SUPER- STRUCTURE																							
		END BENT 1																							
26	6	F100	WING BRACE	E	23	S			14.000	5	1.000	2	3.000	19.125	19.125	9.875	9.875	8	6	8	5	329			
10	6	F101	DIAPHRAGM	E	19	S			2	8.000	6	0.000						8	8	8	6	128			
8	7	H100	BEAM	E	20				39	5.000								39	5	39	5	645			
4	6	H101	BEAM	E	20				39	5.000								39	5	39	5	237			
4	6	H102	BEAM	E	20				4	7.000								4	7	4	7	28			
2	6	H103	BEAM	E	20				2	5.000								2	5	2	5	7			
10	6	H104	DIAPHRAGM	E	20				3	9.000								3	9	3	9	56			
3	6	H105	DIAPHRAGM	E	20				6	10.000								6	10	6	10	31			
15	6	H106	DIAPHRAGM	E	20				9	5.000								9	5	9	5	212			
6	6	H107	DIAPHRAGM	E	20				39	5.000								39	5	39	5	355			
4	5	H108	STRAND TIE	E	20				5	9.000								5	9	5	9	24			
4	6	H109	DIAPHRAGM	E	20				39	5.000								39	5	39	5	237			
29	5	H110	DIAPHRAGM	E	19	S			2	0.000	15.000							3	3	3	2	96			
8	5	H111	DIAPHRAGM	E	19	S			2	3.000	15.000							3	6	3	5	29			
4	6	H112	DIAPHRAGM	E	20				5	6.000								5	6	5	6	33			
56	6	H113	WING	E	20				23	8.000								23	8	23	8	1991			
16	8	H114	WING	E	20				24	6.000								24	6	24	6	1047			
4	8	H115	WING	E	20				10	4.000								10	4	10	4	110			
6	6	H116	BEAM	E	18				4	7.000								5	11	5	11	53			
16	5	U100	BEAM	E	10	S					7	1.000	2	9.000				16	11	16	9	280			
18	4	U101	BEAM	E	13	S			2	9.000	3	2.000	2	9.000	3	2.000		12	7	12	4	148			
3	4	U102	BEAM	E	10	S					3	2.000	2	9.000				9	18		11	18			
4	4	U103	BEAM	E	13	S			2	9.000	3	6.625	2	9.000	3	6.625		13	4	13	1	35			
3	4	U104	BEAM	E	10	S					3	6.625	2	9.000				9	10	9	8	19			
26	5	U105	DIAPHRAGM	E	10	S					5	9.500	2	3.000				13	9	13	7	368			
26	6	U106	DIAPHRAGM	E	19	S			4</																

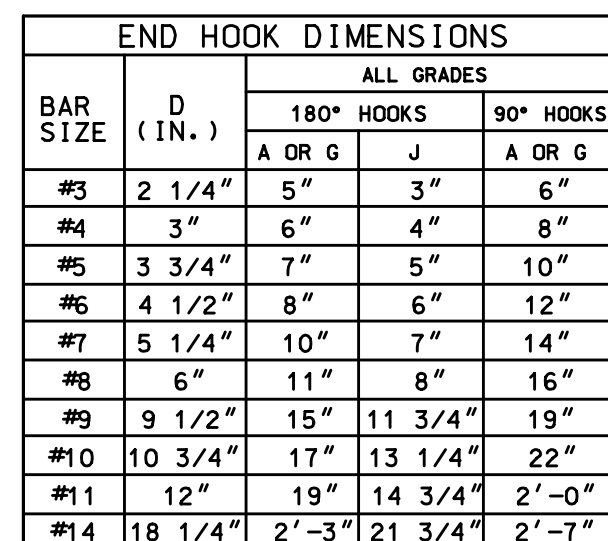
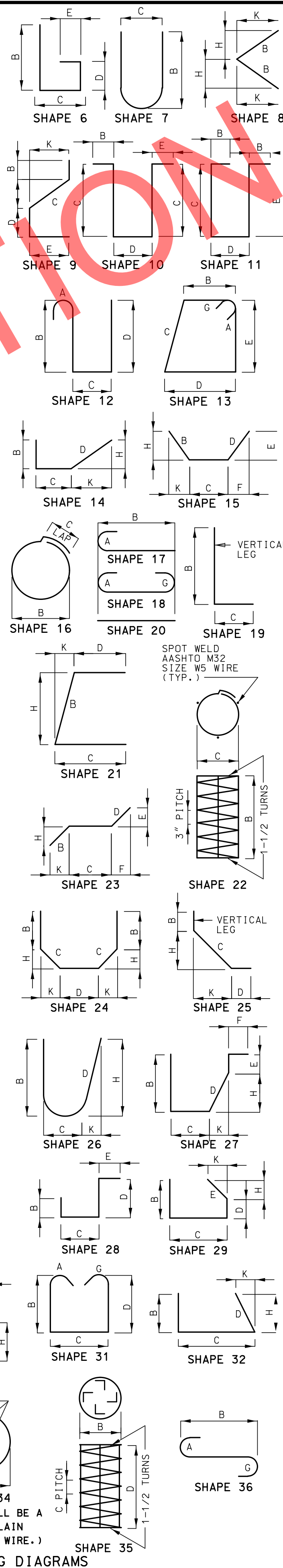


Figure 10 displays 11 different bending diagrams, labeled SHAPE 30 through SHAPE 36, showing various cross-sectional shapes and dimensions. The diagrams are arranged in three rows:

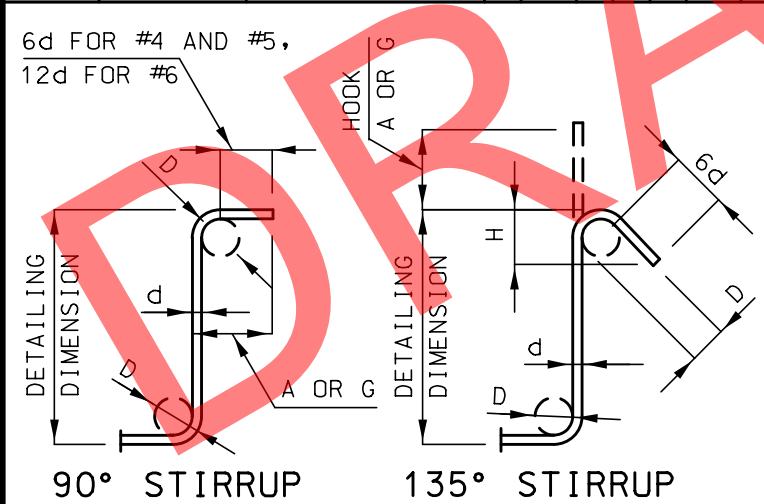
- SHAPE 30:** A U-shaped cross-section with dimensions B, K, D, K, F, H, C, and E.
- SHAPE 31:** A U-shaped cross-section with dimensions B, C, D, and F.
- SHAPE 32:** A U-shaped cross-section with dimensions B, C, D, H, K, and F.
- SHAPE 33:** A U-shaped cross-section with dimensions B, K, F, H, C, D, and E.
- SHAPE 34:** A circular cross-section with a 135° hook and dimensions B and F.
- SHAPE 35:** A cross-section showing a spiral bar or wire with dimensions B, C, D, and F. The spiral is labeled "C PITCH" and "1-1/2 TURNS".
- SHAPE 36:** A U-shaped cross-section with dimensions B, C, D, H, K, and F.

The diagrams are labeled "SHAPE 30" through "SHAPE 36" below each respective diagram. The text "SHAPE 35 SHALL BE A DEFORMED OR PLAIN SPIRAL BAR OR WIRE." is located below SHAPE 34. The text "BENDING DIAGRAMS" is located at the bottom of the figure.

[illegible][illegible]

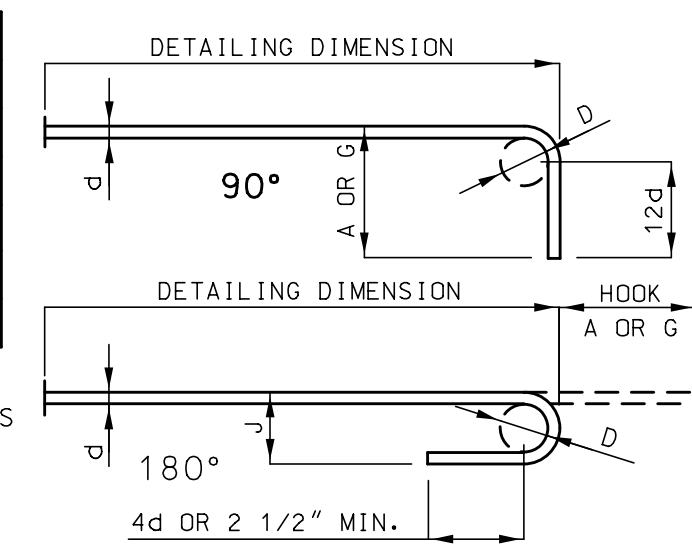
REV. IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

BILL OF REINFORCING STEEL																										
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (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.
			PEDESTRIAN CURB																							
6	4	G1	PED. CURB	E	20					40	5.000							40	5	40	5	162				
2	4	G2	PED. CURB	E	20					24	9.000							24	9	24	9	33				
2	4	G3	PED. CURB	E	20					23	9.000							23	9	23	9	32				
119	4	G4	PED. CURB	E	11	S				12.000		10.250		9.000		9.750		4	5	4	1	325				
51	4	G5	PED. CURB	E	10	S					2	2.500		9.000				5	2	5	0	170				
			SLIP FORM																							
8	5	C1	SLIP FORM	E	20					12	0.000							12	0	12	0	100				
16	5	C2	SLIP FORM	E	20					8	0.000							8	0	8	0	134				



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

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



END HOOK DIMENSIONS				
ALL GRADES				
BAR SIZE	D (IN.)	180° HOOKS		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"

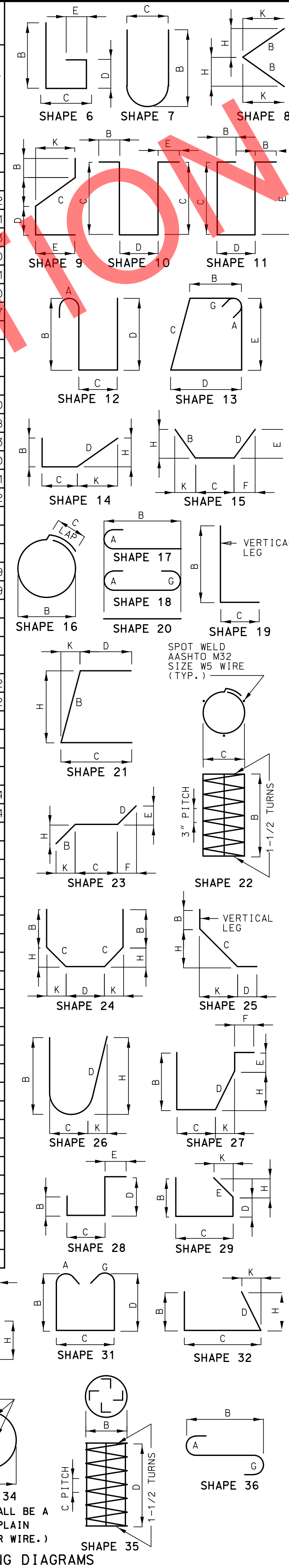
NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EACH = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) F_y = 60,000 PSI.

Detailed March 2021
Checked May 2021

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

Sheet No.24 of 26

BILL OF REINFORCING STEEL																								
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
										B		C		D		E		F		H				
										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.
			TOTALS																					
	4			E																	1162			
	5			E																	2917			
	6			E																	2565			
	7			E																	1290			
	8			E																	216			
			TOTAL																					
			TOTAL	E																	5943			
			Slab on Girder																					
	4			E																	440			
	5			E																	21048			
	6			E																	2565			
	7			E																	1290			
	8			E																	216			
			TOTAL																		50592			
			Barrier																					
	5			E																	7889			
			TOTAL																		7889			
			Pedestrian Curb																					
	4			E																	722			
			TOTAL																		722			
			Slip Form Option																					
	5			E																	234			
			TOTAL																		234			



DATE PREPARED
2/1/2022

ROUTE
MAYAPPLE

DISTRICT
BR

STATE
MO

SHEET NO.
24

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9135

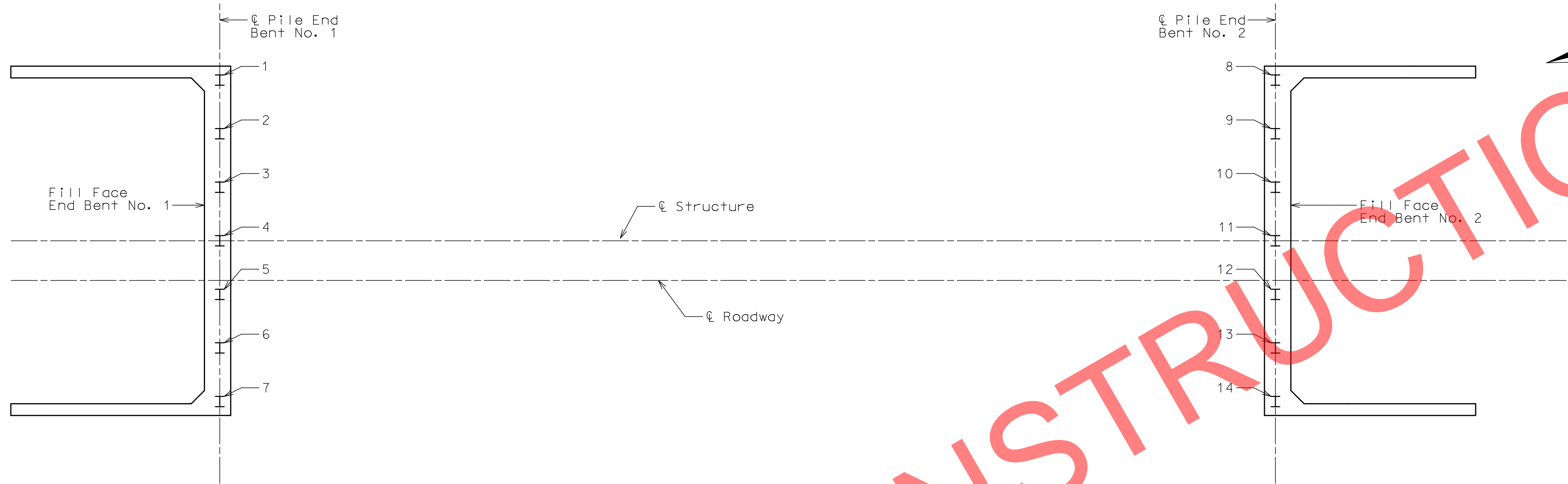
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592



PART PLAN SHOWING PILE & DRILLED SHAFT
NUMBERING FOR RECORDING AS-BUILT PILE DATA
& AS-BUILT DRILLED SHAFT DATA

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 1
1			
2			
3			
4			
5			
6			
7			
			End Bent No. 2
8			
9			
10			
11			
12			
13			
14			

Note:
Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal
This sheet to be completed by owner.

DATE PREPARED
2/1/2022

ROUTE
MAYAPPLE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9135

STATE
MO

SHEET NO.
25

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

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

TEST BORING LOG BORING NO. 20												
PROJECT: EAST LOCUST CREEK RESERVOIR - MAYAPPLE ROAD EXT.						CLIENT: NCMO REGIONAL WATER COMMISSION						
SITE LOCATION: NEAR MILAN, MISSOURI - SULLIVAN COUNTY						PROJECT NO: 15046.02						
DEPTH (feet)	SAMPLES			USCS SYMBOL	GRAPHICAL SYMBOL	MATERIAL DESCRIPTION	SPT BLOW COUNTS (Blows/6")	PLASTIC LIMIT PL	FIELD WATER CONTENT	LIQUID LIMIT LL	DRY UNIT WEIGHT pcf	UNCONFINED COMPRESSIVE STRENGTH psf
	NUMBER	TYPE	RECOVERY (inches)									
						Approx. Surface Elevation: 863.6						
						4" TOPSOIL						
5	1	SS	3	CL ML		SILTY LEAN CLAY, Trace Sand, Tan, Soft, CL-ML	1/1/1					
	2	SS	12	CL ML		With Sand, Brown, Medium	2/1/2		● 24.4			*1500
	3	SS	3	CL ML		Grading Soft to Medium	WOH-12"/1					*1000
	4	SS	10	CL ML		Grading Gray Mottled Yellow Brown, Very Soft	WOH-18"		● 29.2			*0
10	5	SS	18	SC		CLAYEY SAND, Trace Organics, Gray, Very Loose, SC	WOH-18"		● 27.4			
	6	SS	18	CL ML		SILTY LEAN CLAY, Trace Sand, Gray Mottled Reddish Brown, 2" Silty Sand Lens, Soft, CL-ML	WOH/2/2		● 25.8			*500
15	7	SS	15	CL ML			5/21/26	● 14.8				*9000+
	8	SS	17			HIGHLY WEATHERED SHALE, Gray to Maroon, Soft	14/22/28	● 18.7				*9000+
20	9	SS	15			Grading Olive Gray	12/24/30	● 17.0				*9000+
	10	SS	15			SLIGHTLY WEATHERED SHALE, Dark Gray, Fossiliferous, Soft	19/27/50-4"	● 13.1				*9000+
						BOTTOM OF BORING AT 20.8 FT						
25												
30												
35												
Note: Stratification lines represent approximate boundaries between soil and rock types. In-situ, the transition between strata may be gradual. Rock types based on visual classification. Petrographic analysis may indicate other rock types. * Based on Calibrated Hand Penetrometer.												
DRILLING CONTRACTOR: PALMERTON & PARRISH, Inc.							BORING ALLSTATE CONSULTANTS, LLC					
DRILLING METHOD: CME 550 WITH 4.25" ID HOLLOW STEM AUGERS							STARTED: 4/20/2020 COLUMBIA, MISSOURI					
DEPTH WATER FIRST ENCOUNTERED: 13 FT							COMPLETED: 4/20/2020					
DEPTH TO WATER AFTER BORING COMPLETION (AB):							LOG COMPLETED BY: CRC BORING NO. 20					
DEPTH TO WATER HOURS AFTER BORING COMPLETION:							LOG APPROVED BY: CCM PAGE 1 OF 1					

TEST BORING LOG BORING NO. 21												
PROJECT: EAST LOCUST CREEK RESERVOIR - MAYAPPLE ROAD EXT.						CLIENT: NCMO REGIONAL WATER COMMISSION						
SITE LOCATION: NEAR MILAN, MISSOURI - SULLIVAN COUNTY						PROJECT NO: 15046.02						
DEPTH (feet)	SAMPLES			USCS SYMBOL	GRAPHICAL SYMBOL	MATERIAL DESCRIPTION	SPT BLOW COUNTS (Blows/6")	PLASTIC LIMIT PL	FIELD WATER CONTENT	LIQUID LIMIT LL	DRY UNIT WEIGHT pcf	UNCONFINED COMPRESSIVE STRENGTH psi
	NUMBER	TYPE	RECOVERY (inches)									
						Approx. Surface Elevation: 864.0						
						LEAN CLAY, With Sand, Brown, CL						
	1	SS	7	SM		SILTY SAND, Fine Grained, Tan, Very Loose to Loose, SM	1/1/3		● 24.8			
	2	SS	10	SM		Grading Very Loose	2/1/2		● 15.7			
	3	SS	11	ML		SILT, With Sand, Gray Mottled Brown, Soft to Medium, ML	1/2/1		● 23.2			*1000
	4	SS	12	SM		SILTY SAND, Trace Gravel, Medium to Fine Grained, Reddish Brown, Very Loose to Loose, SM	1/2/2		● 23.2			
	5	SS	13	SM		Grading Gray	2/2/1		● 23.1			
	6	SS	18	SM			1/1/2		● 26.4			
	7	SS	14	CL		LEAN CLAY, With Reworked Shale, Trace Gravel, Yellow Brown to Maroon, Stiff, CL	1/4/6		● 24.0			*3500
	8	SS	12	CL		Grading Very Stiff (GLACIAL DRIFT)	3/5/9		● 24.5			*4500
	9	SS	15	CL			4/4/8		● 21.2			*7500
	10	SS	15			HIGHLY WEATHERED SHALE, 21.1 Gray, Silty, Soft	4/10/19		● 17.8			*9000+
	11	SS	1			BOTTOM OF BORING AT 21.1 FT	50-1"					
Note: Stratification lines represent approximate boundaries between soil and rock types. In-situ, the transition between strata may be gradual. Rock types based on visual classification. Petrographic analysis may indicate other rock types. * Based on Calibrated Hand Penetrometer.												
DRILLING CONTRACTOR: PALMERTON & PARRISH, Inc.						BORING ALLSTATE CONSULTANTS, LLC						
DRILLING METHOD: CME 550 WITH 4.25" ID HOLLOW STEM AUGERS						STARTED: 4/23/2020 COLUMBIA, MISSOURI						
DEPTH WATER FIRST ENCOUNTERED: 9 FT						COMPLETED: 4/23/2020						
DEPTH TO WATER AFTER BORING COMPLETION (AB): 11 FT						LOG COMPLETED BY: CRC BORING NO. 21						
DEPTH TO WATER HOURS AFTER BORING COMPLETION:						LOG APPROVED BY: CCM PAGE 1 OF 1						

DATE PREPARED
2/1/2022

ROUTE
MAYAPPLE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9135

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

DRAFT

BORING DATA

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

DESIGN DESIGNATION
A.A.D.T. - 2021 = 0
A.A.D.T. - 2041 = 1,490
V = 40 M.P.H.

FUNC. CLASSIFICATION - MIDLAKE RD - MINOR ARTERIAL

NO RIGHT OF WAY
TO BE ACQUIRED

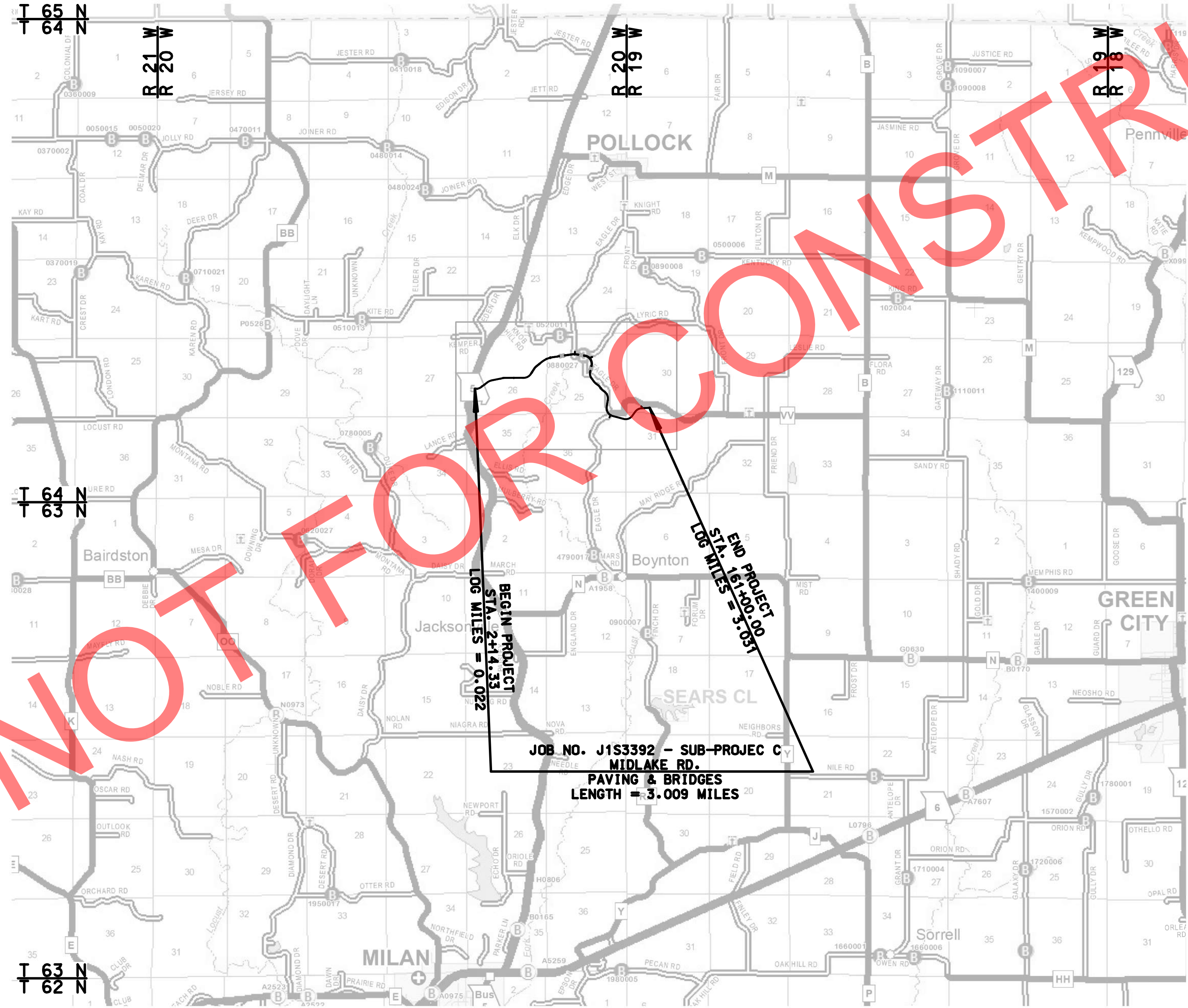
CONVENTIONAL SYMBOLS
(USED IN PLANS)

EXISTING	NEW
BUILDINGS AND STRUCTURES	
GUARD RAIL	
GUARD CABLE	
CONCRETE RIGHT-OF-WAY MARKER	
STEEL RIGHT-OF-WAY MARKER	
LOCATION SURVEY MARKER	
UTILITIES	
FIBER OPTICS	
OVERHEAD CABLE TV	
UNDERGROUND CABLE TV	
OVERHEAD TELEPHONE	
UNDERGROUND TELEPHONE	
OVERHEAD POWER	
UNDERGROUND POWER	
SANITARY SEWER	
STORM SEWER	
GAS	
WATER	
MANHOLE	
FIRE HYDRANT	
WATER VALVE	
WATER METER	
DROP INLET	
DITCH BLOCK	
GROUND MOUNTED SIGN	
LIGHT POLE	
H-FRAME POWER POLE	
TELEPHONE PEDESTAL	
FENCE	
CHAIN LINK	
WOVEN WIRE	
GATE POST	
BENCHMARK	

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
STATE HIGHWAY
SULLIVAN COUNTY

SEC. 25, 26, & 36, T64N, R20W
SEC. 30, & 31, T64N, R19W



NOT TO SCALE

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	C.1
TYPICAL SECTIONS (TS) (11 SHEETS)	C.2
QUANTITIES (QU) (5 SHEETS)	C.3
PLAN-PROFILE (PP)	C.4 - C.19
COORDINATE POINTS SHEET (CP)	C.20 - C.21
TRAFFIC CONTROL SHEETS (TC)	C.22 - C.28
PAVEMENT MARKING/SIGNING SHEETS (PM)	C.29 - C.34
BRIDGE DRAWINGS (B)	
A9132 (BRIDGE)	1 - 49
A9133 (BRIDGE)	1 - 51
A9134 (BRIDGE)	1 - 43

LENGTH OF SUB-PROJECT

MIDLAKE	
BEGINNING OF PROJECT	STA. 2+14.33
END OF PROJECT	STA. 161+00.00
APPARENT LENGTH	15,885.67 FEET

TOTAL CORRECTIONS	0.00 FEET
NET LENGTH OF PROJECT	15,885.67 FEET
STATE LENGTH	3.009 MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES	6.60 ACRES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

DATE PREPARED: 2/7/2022

ROUTE: MID DISTRICT: NW STATE: MO SHEET NO.: C.1

COUNTY: SULLIVAN

JOB NO.: J1S3392

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION:

DATE:

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

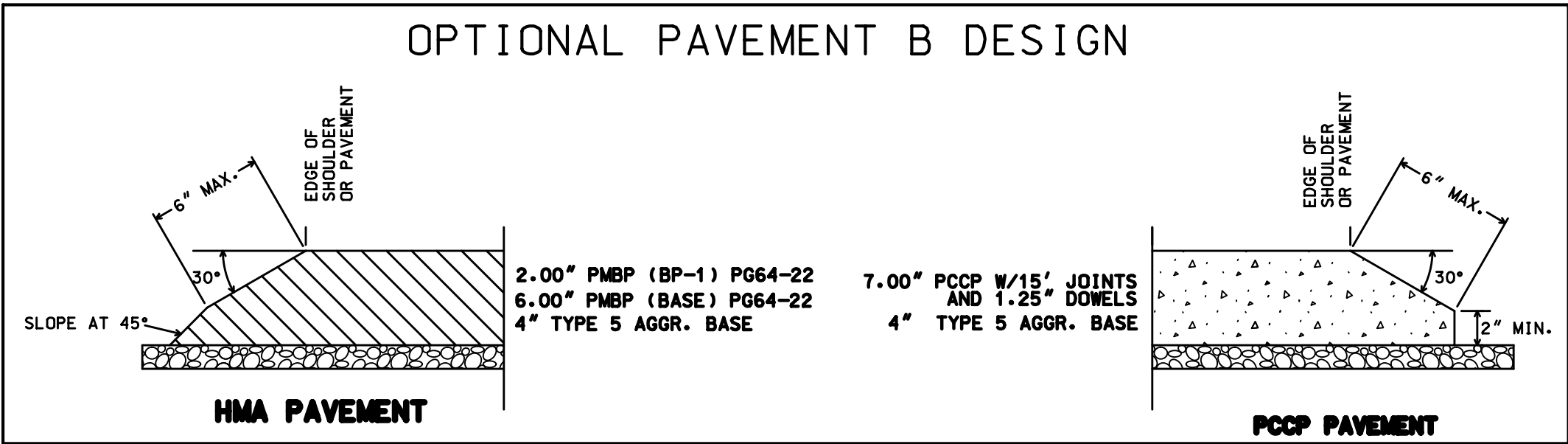
olsson

1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592

- NOTES:
1. SEE STANDARD PLAN 401.00C FOR A2 SHOULDERS & SAFETY EDGE DETAILS.
 2. DESIRABLE CROSS SLOPE OF TRAIL IS 1.5%, 2.0% MAX.
 3. THE GRADING SHOWN ON THE PLANS WAS DESIGNED FOR THE THICKER PAVEMENT OPTION. NO ADJUSTMENT OF THE EARTHWORK QUANTITIES DUE TO ADJUSTING THE ROADWAY SUBGRADE FOR OPTIONAL PAVEMENTS.

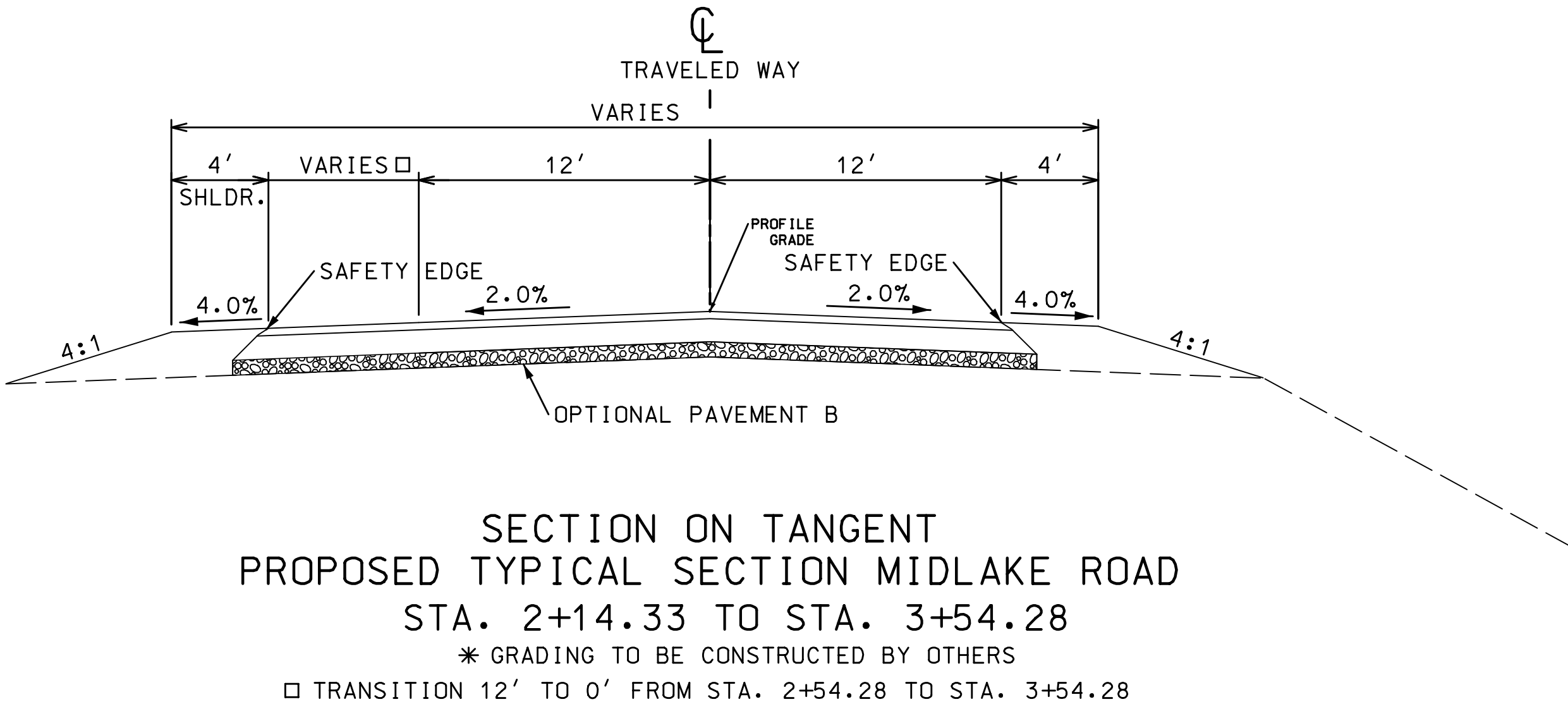
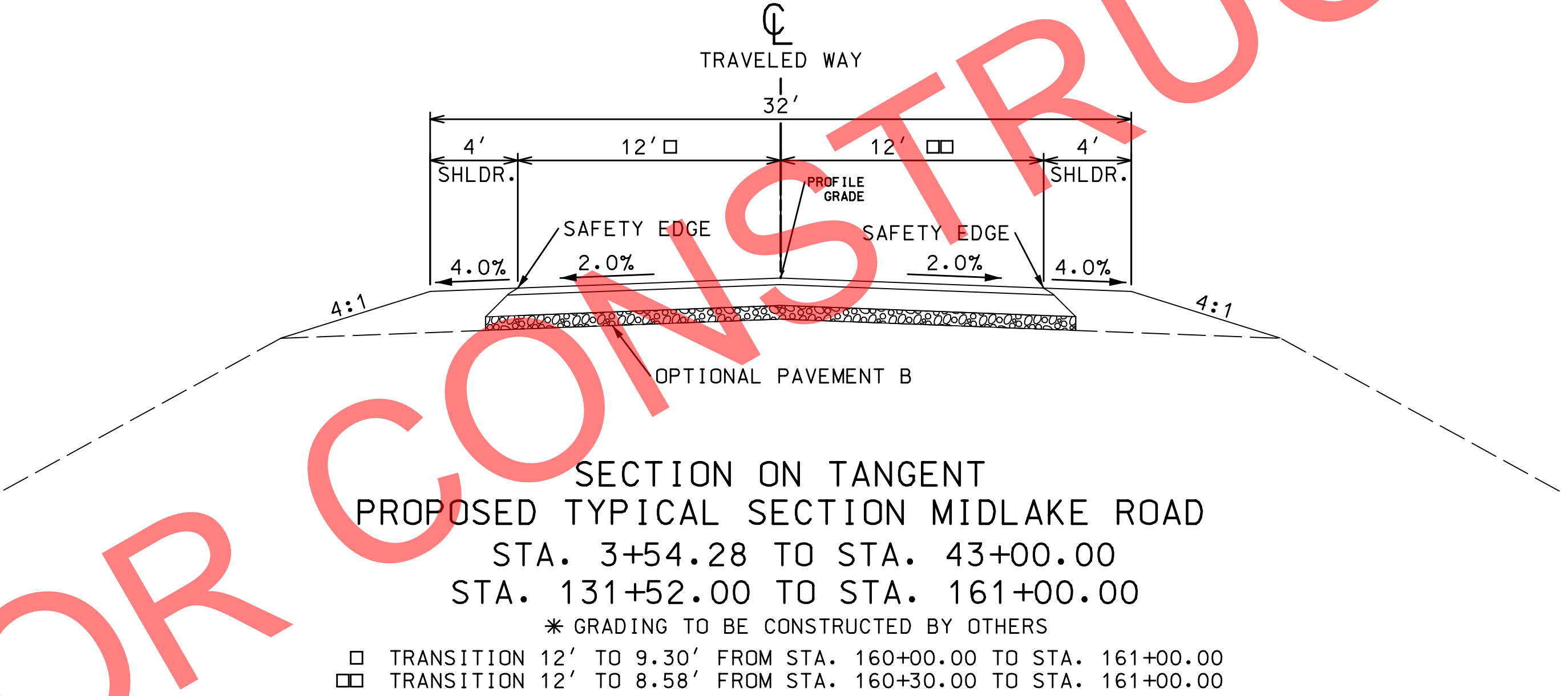
MIDLAKE SUPERELEVATION %		
LT.	STA.	RT.
-4.00%	2+14.33	4.00%
-4.00%	6+26.96	4.00%
-2.00%	6+68.46	2.00%
-2.00%	7+09.96	0.00%
-2.00%	7+51.46	-2.00%
-2.00%	10+77.26	-2.00%
0.00%	11+18.84	-2.00%
2.00%	11+60.41	-2.00%
3.80%	11+97.84	-3.80%
3.80%	14+85.92	-3.80%
2.00%	15+23.34	-2.00%
0.00%	15+64.92	-2.00%
-2.00%	16+06.50	-2.00%
-2.00%	21+80.01	-2.00%
0.00%	22+21.51	-2.00%
2.00%	22+63.01	-2.00%
4.00%	23+04.51	-4.00%
4.00%	23+58.25	-4.00%
2.00%	23+99.75	-2.00%
0.00%	24+41.25	-2.00%
-2.00%	24+82.75	-2.00%
-2.00%	35+80.28	-2.00%
-2.00%	36+21.78	0.00%
-2.00%	36+63.28	2.00%
-4.00%	37+04.78	4.00%
-4.00%	42+04.50	4.00%
-2.00%	42+46.00	2.00%
-2.00%	42+87.50	0.00%
-2.00%	43+29.00	-2.00%
-2.00%	45+73.00	-2.00%
0.00%	46+14.50	-2.00%
2.00%	46+56.00	-2.00%
4.00%	46+97.50	-4.00%
4.00%	48+10.68	-4.00%
2.00%	48+52.18	-2.00%
0.00%	48+93.68	-2.00%
-2.00%	49+35.18	-2.00%
-2.00%	52+43.20	-2.00%
0.00%	52+84.54	-2.00%
2.00%	53+25.87	-2.00%
3.00%	53+46.54	-3.00%
3.00%	61+25.15	-3.00%
2.00%	61+45.82	-2.00%
0.00%	61+87.15	-2.00%
-2.00%	62+28.49	-2.00%
-2.00%	74+24.18	-2.00%
0.00%	74+65.68	-2.00%
2.00%	75+07.18	2.00%
4.00%	75+48.68	-4.00%
4.00%	76+51.55	-4.00%
2.00%	76+93.05	-2.00%
0.00%	77+34.55	-2.00%
-2.00%	77+76.05	-2.00%
-2.00%	82+36.97	-2.00%
0.00%	82+78.47	-2.00%
2.00%	83+19.97	-2.00%
4.00%	83+61.47	-4.00%
4.00%	92+24.41	-4.00%
2.00%	92+65.91	-2.00%
0.00%	93+07.41	-2.00%

MIDLAKE SUPERELEVATION %		
LT.	STA.	RT.
-2.00%	93+48.91	-2.00%
-2.00%	95+48.99	-2.00%
-2.00%	95+90.49	0.00%
-2.00%	96+31.99	2.00%
-4.00%	96+73.49	4.00%
-4.00%	100+99.15	4.00%
-2.00%	101+40.65	2.00%
-2.00%	101+82.15	0.00%
-2.00%	102+23.65	-2.00%
-2.00%	103+22.80	-2.00%
-2.00%	103+64.30	0.00%
-2.00%	104+05.80	2.00%
-4.00%	104+47.30	4.00%
-4.00%	105+50.57	4.00%
-2.00%	105+92.07	2.00%
-2.00%	106+33.57	0.00%
0.00%	107+30.94	-2.00%
2.00%	107+72.44	-2.00%
4.00%	108+13.94	-4.00%
4.00%	108+94.86	-4.00%
2.00%	109+36.36	-2.00%
0.00%	109+77.86	-2.00%
-2.00%	110+61.07	0.00%
-2.00%	111+02.57	2.00%
-4.00%	111+44.07	4.00%
-4.00%	112+04.68	4.00%
-2.00%	112+46.18	2.00%
-2.00%	112+87.68	0.00%
0.00%	113+75.78	-2.00%
2.00%	114+17.28	-2.00%
4.00%	114+58.78	-4.00%
4.00%	119+72.96	-4.00%
2.00%	120+14.46	-2.00%
0.00%	120+55.96	-2.00%
-2.00%	120+97.46	-2.00%
-2.00%	123+98.17	-2.00%
-2.00%	124+39.67	0.00%
-2.00%	124+81.17	2.00%
-4.00%	125+22.67	4.00%
-4.00%	132+72.48	4.00%
-2.00%	133+13.98	2.00%
-2.00%	133+55.48	0.00%
-2.00%	133+96.98	-2.00%
-2.00%	139+57.81	-2.00%
-2.00%	139+99.31	0.00%
-2.00%	140+40.81	2.00%
-4.00%	140+82.31	4.00%
-4.00%	146+89.87	4.00%
-2.00%	147+31.37	2.00%
-2.00%	147+72.87	0.00%
-2.00%	148+14.37	-2.00%
-2.00%	149+59.66	-2.00%
0.00%	150+01.16	-2.00%
2.00%	150+42.66	-2.00%
4.00%	150+84.16	-4.00%
4.00%	155+12.94	-4.00%
2.00%	155+54.44	-2.00%
0.00%	155+95.94	-2.00%
-2.00%	156+37.44	-2.00%



ESTIMATE FACTORS FOR ASPHALTIC MIXTURES	
PMBP (BP-1) PG64-22	1.948 TONS/CY
PMBP (BASE) PG64-22	1.943 TONS/CY
TACK COAT	0.10 GAL/SY

FOR INFORMATIONAL PURPOSES ONLY
PMBP= PLANT MIX BITUMINOUS PAVEMENT



NOT TO SCALE

TYPICAL SECTION
SHEET 1 OF 11

DATE PREPARED
2/7/2022

ROUTE
MID
DISTRICT
NW

STATE
MO
SHEET NO.
C.2

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

MODOT

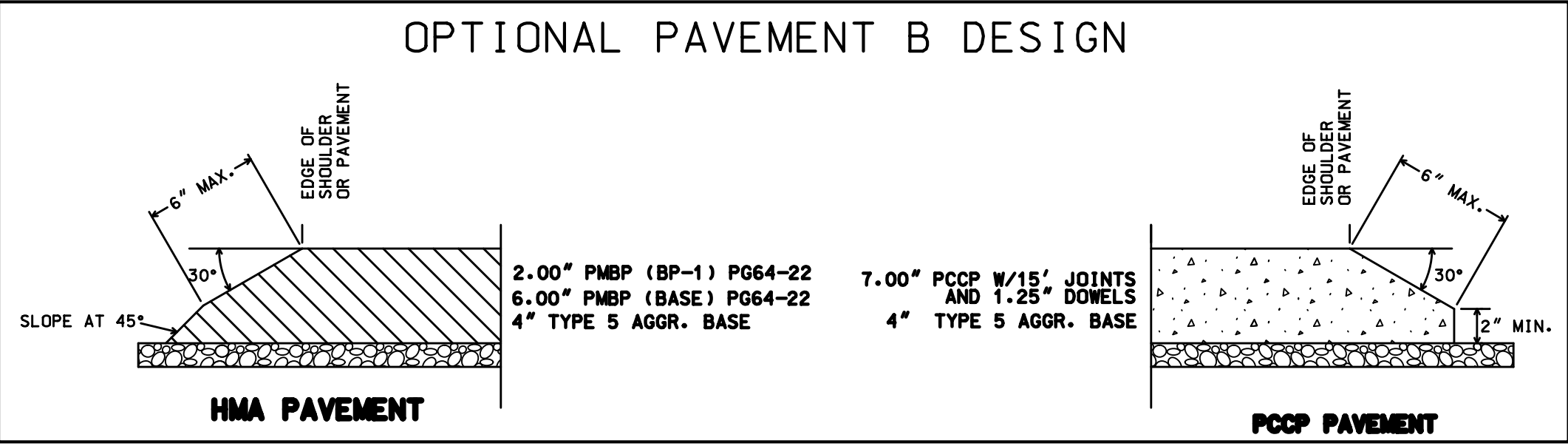
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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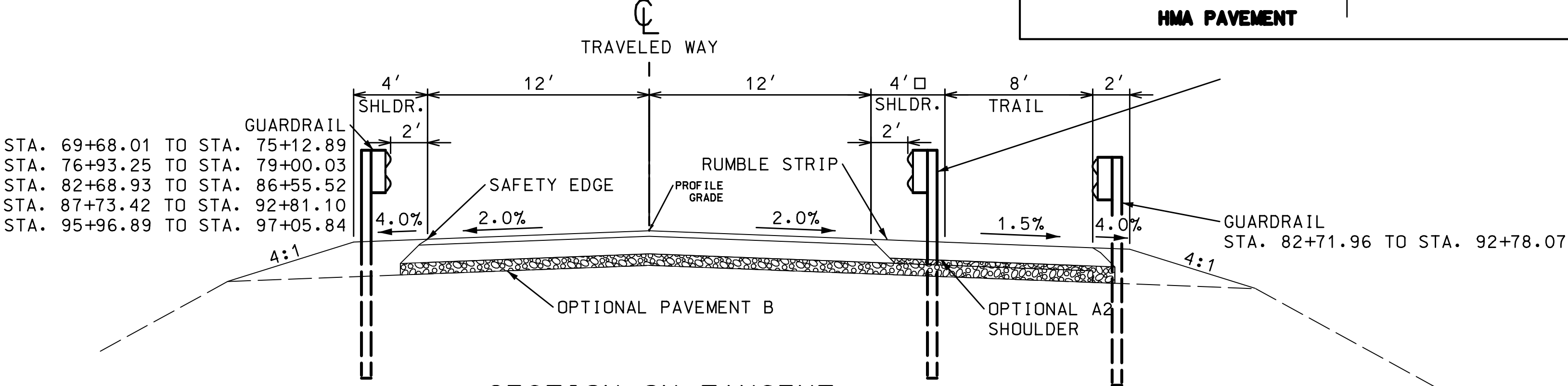
2/7/2022

- NOTES:
1. SEE STANDARD PLAN 401.00C FOR A2 SHOULDERS & SAFETY EDGE DETAILS.
 2. DESIRABLE CROSS SLOPE OF TRAIL IS 1.5%, 2.0% MAX.
 3. THE GRADING SHOWN ON THE PLANS WAS DESIGNED FOR THE THICKER PAVEMENT OPTION. NO ADJUSTMENT OF THE EARTHWORK QUANTITIES DUE TO ADJUSTING THE ROADWAY SUBGRADE FOR OPTIONAL PAVEMENTS.

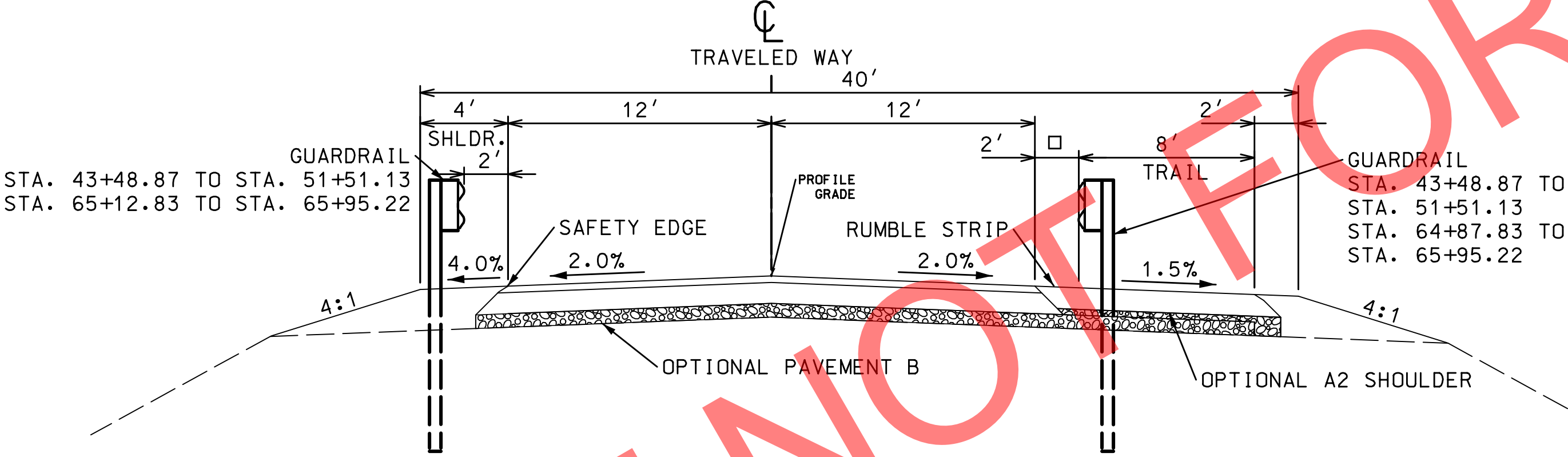


ESTIMATE FACTORS FOR ASPHALTIC MIXTURES	
PMBP (BP-1) PG64-22	1.948 TONS/CY
PMBP (BASE) PG64-22	1.943 TONS/CY
TACK COAT	0.10 GAL/SY

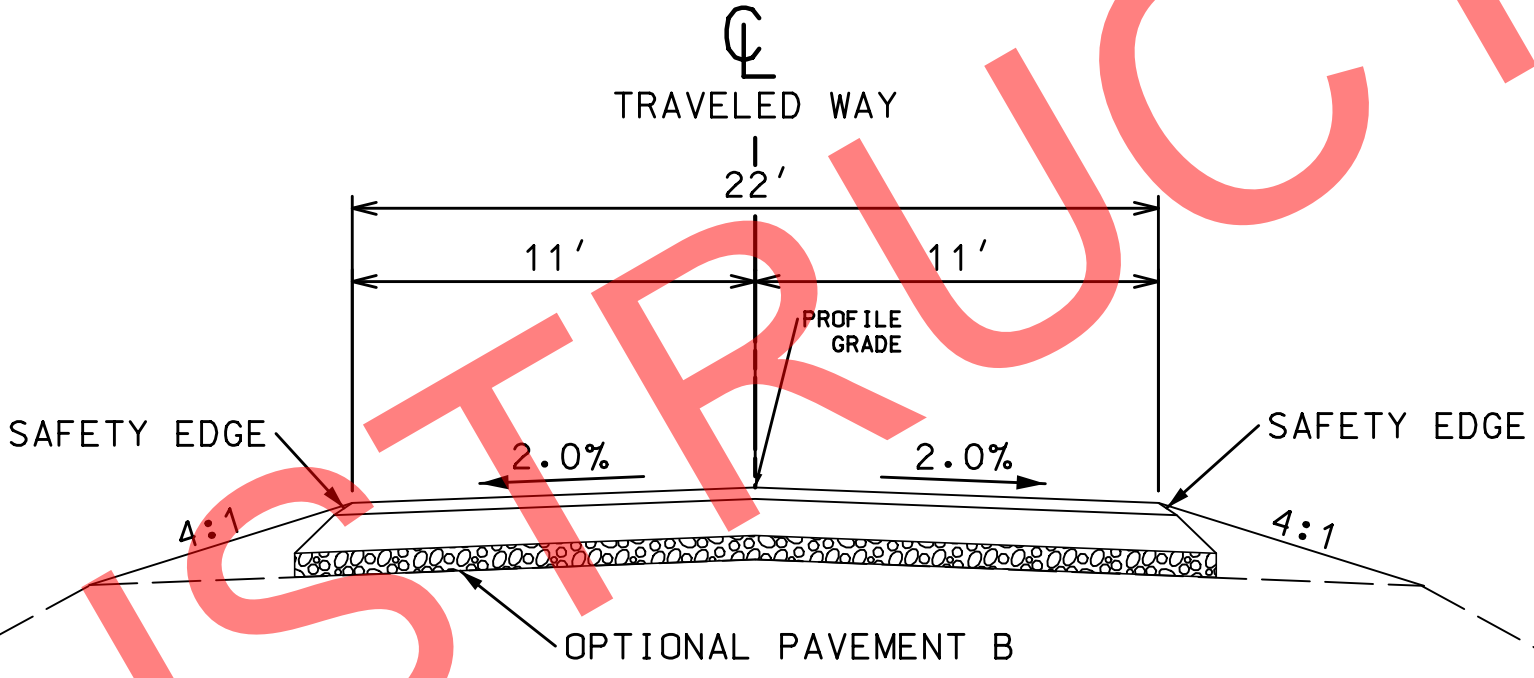
FOR INFORMATIONAL PURPOSES ONLY
PMBP= PLANT MIX BITUMINOUS PAVEMENT



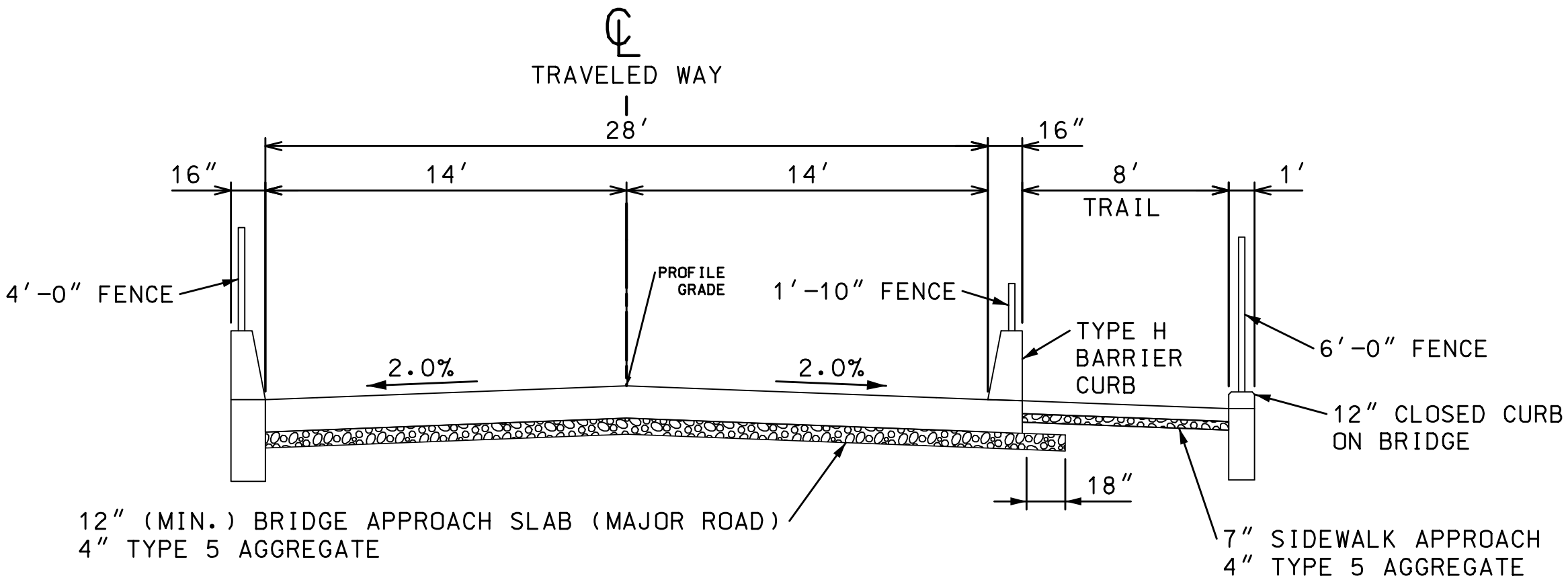
SECTION ON TANGENT
PROPOSED TYPICAL SECTION MIDLAKE ROAD
STA. 69+68.61 TO STA. 79+00.03
STA. 82+69.53 TO STA. 92+80.50
STA. 95+97.50 TO STA. 97+10.00
* GRADING TO BE CONSTRUCTED BY OTHERS
□ TRANSITION 4' TO 2' FROM STA. 96+85.00 TO STA. 97+10.00



SECTION ON TANGENT
PROPOSED TYPICAL SECTION MIDLAKE ROAD
STA. 43+00.00 TO STA. 65+94.61
STA. 97+10.00 TO STA. 131+52.00
* GRADING TO BE CONSTRUCTED BY OTHERS
□ TRANSITION 2' TO 4' FROM STA. 43+30.00 TO STA. 43+50.00
4' SHOULDER TO STA. 51+50.00
TRANSITION 4' TO 2' FROM STA. 51+50.00 TO STA. 51+70.00
TRANSITION 2' TO 4' FROM STA. 64+60.00 TO STA. 64+80.00
4' SHOULDER TO STA. 65+94.61
GUARDRAIL TO BE CONSTRUCTED FROM STA. 43+48.87 TO STA. 51+51.13 LEFT AND RIGHT



SECTION ON TANGENT
PROPOSED TYPICAL SECTION ROUTE VV
STA. 1+12.00 TO STA. 2+50.00
* GRADING TO BE CONSTRUCTED BY OTHERS



SECTION ON TANGENT
PROPOSED TYPICAL SECTION MIDLAKE ROAD
STA. 65+94.61 TO STA. 66+17.12
STA. 69+46.12 TO STA. 69+68.61
STA. 79+00.03 TO STA. 79+19.04
STA. 82+50.54 TO STA. 82+69.53
STA. 92+80.50 TO STA. 93+03.00
STA. 95+75.00 TO STA. 95+97.50
(BRIDGE STA. 66+17.12 TO STA. 69+46.12)
(BRIDGE STA. 79+19.04 TO STA. 82+50.54)
(BRIDGE STA. 93+03.00 TO STA. 95+75.00)

BRIDGE APPROACH SLAB
BRIDGE ITEM
SEE BRIDGE PLANS

NOT TO SCALE

DATE PREPARED
2/7/2022

ROUTE
MID
DISTRICT
NW

STATE
MO
SHEET NO.
C.2

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

THE GRADING SHOWN ON THE PLANS WAS DESIGNED FOR THE THICKER PAVEMENT OPTION. NO ADJUSTMENT OF THE EARTHWORK QUANTITIES DUE TO ADJUSTING THE ROADWAY SUBGRADE FOR OPTIONAL PAVEMENTS.

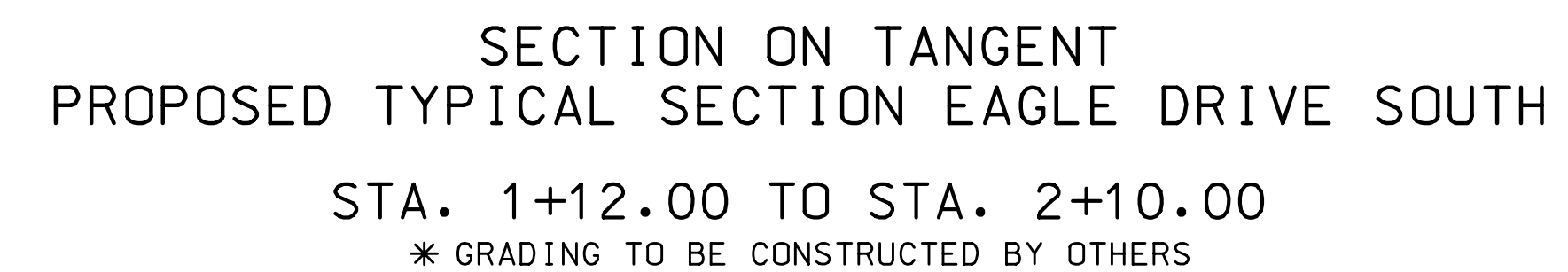
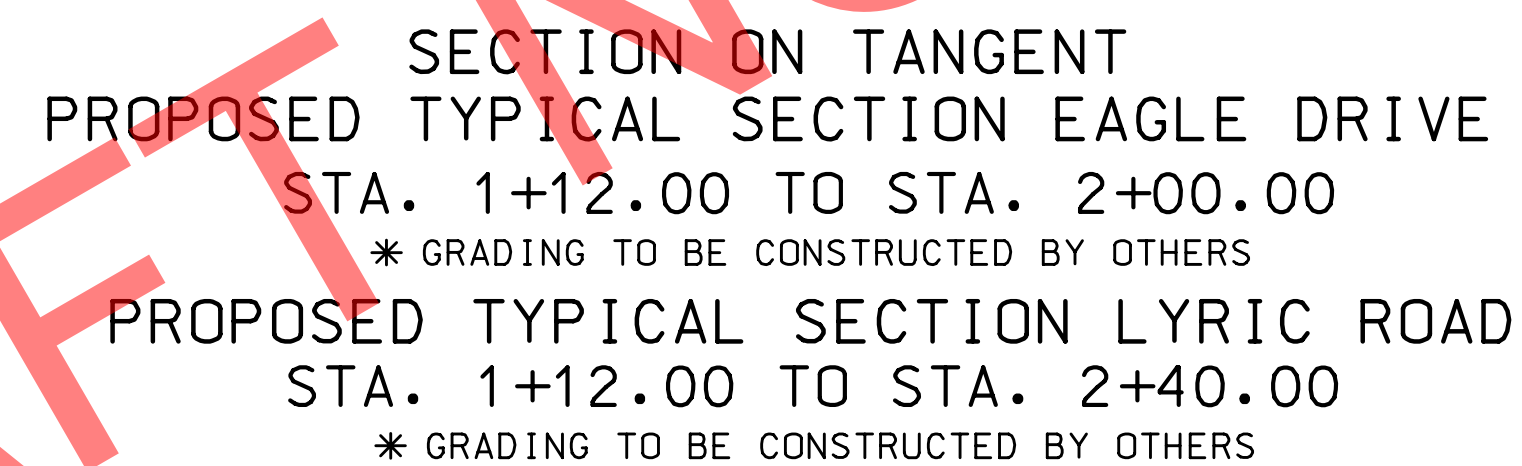
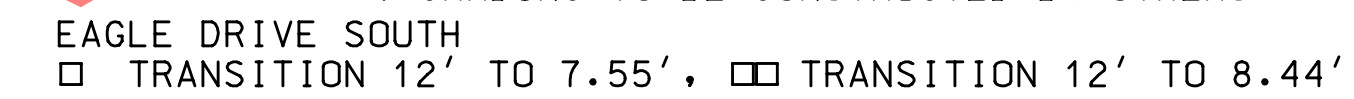
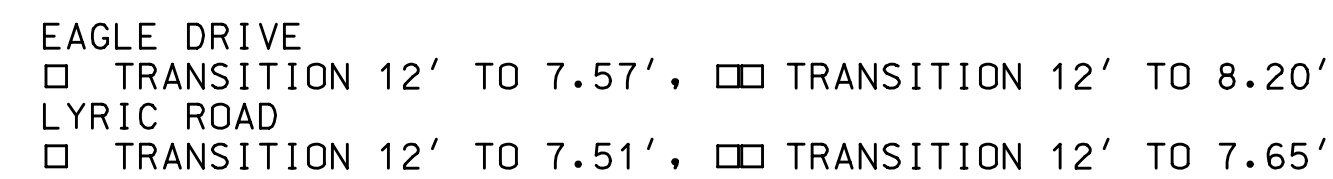
OPTIONAL PAVEMENT B DESIGN

HMA PAVEMENT

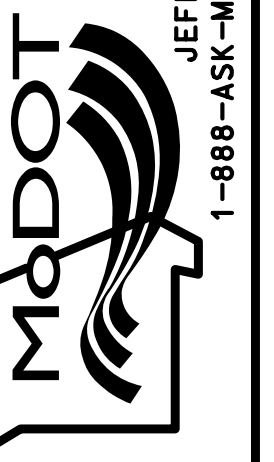
2.00" PMBP (BP-1) PG64-22
6.00" PMBP (BASE) PG64-22
4" TYPE 5 AGGR. BASE

PCCP PAVEMENT

FOR INFORMATIONAL PURPOSES ONLY
PMBP= PLANT MIX BITUMINOUS PAVEMENT

[illegible]

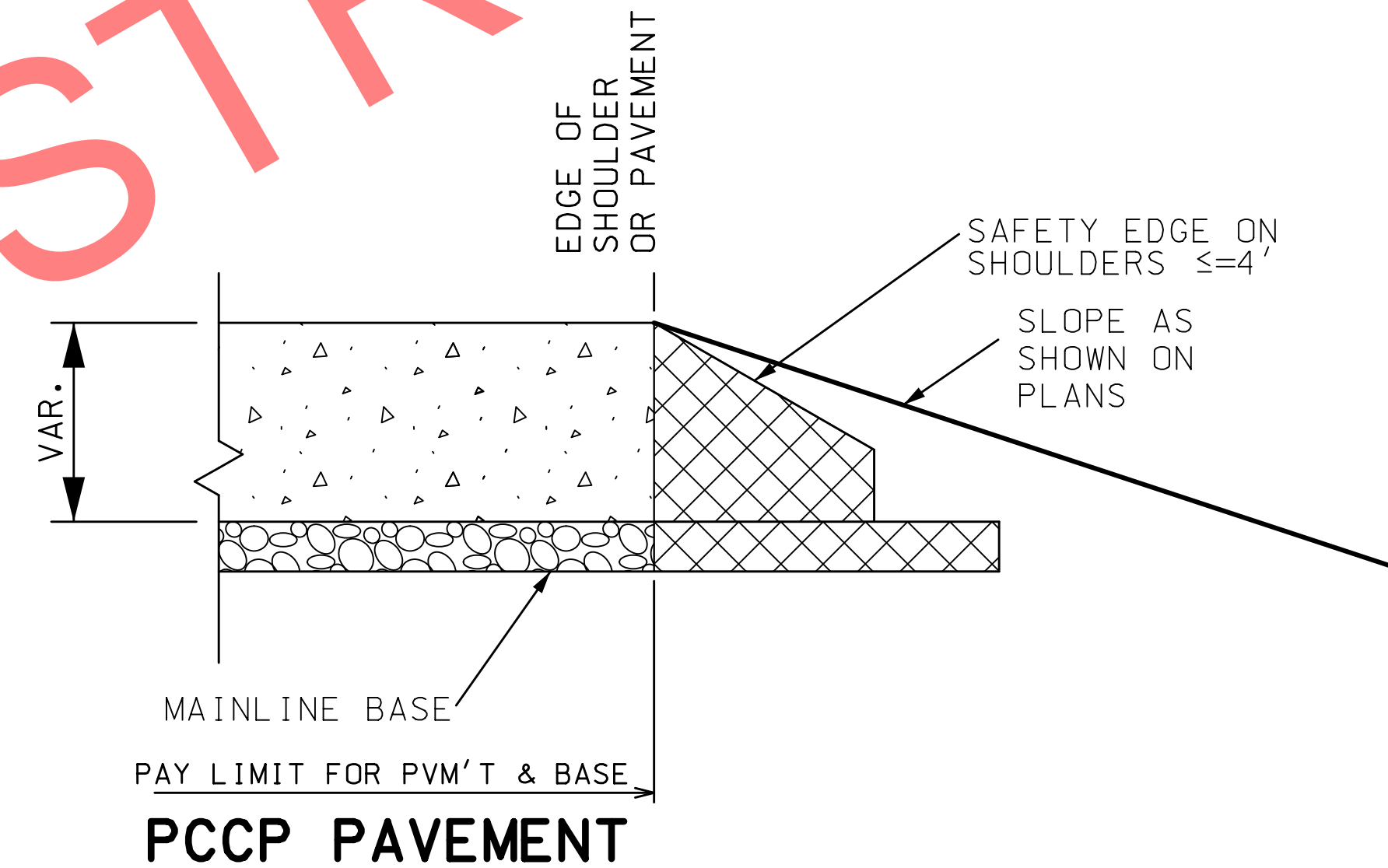
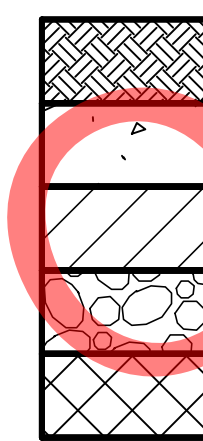
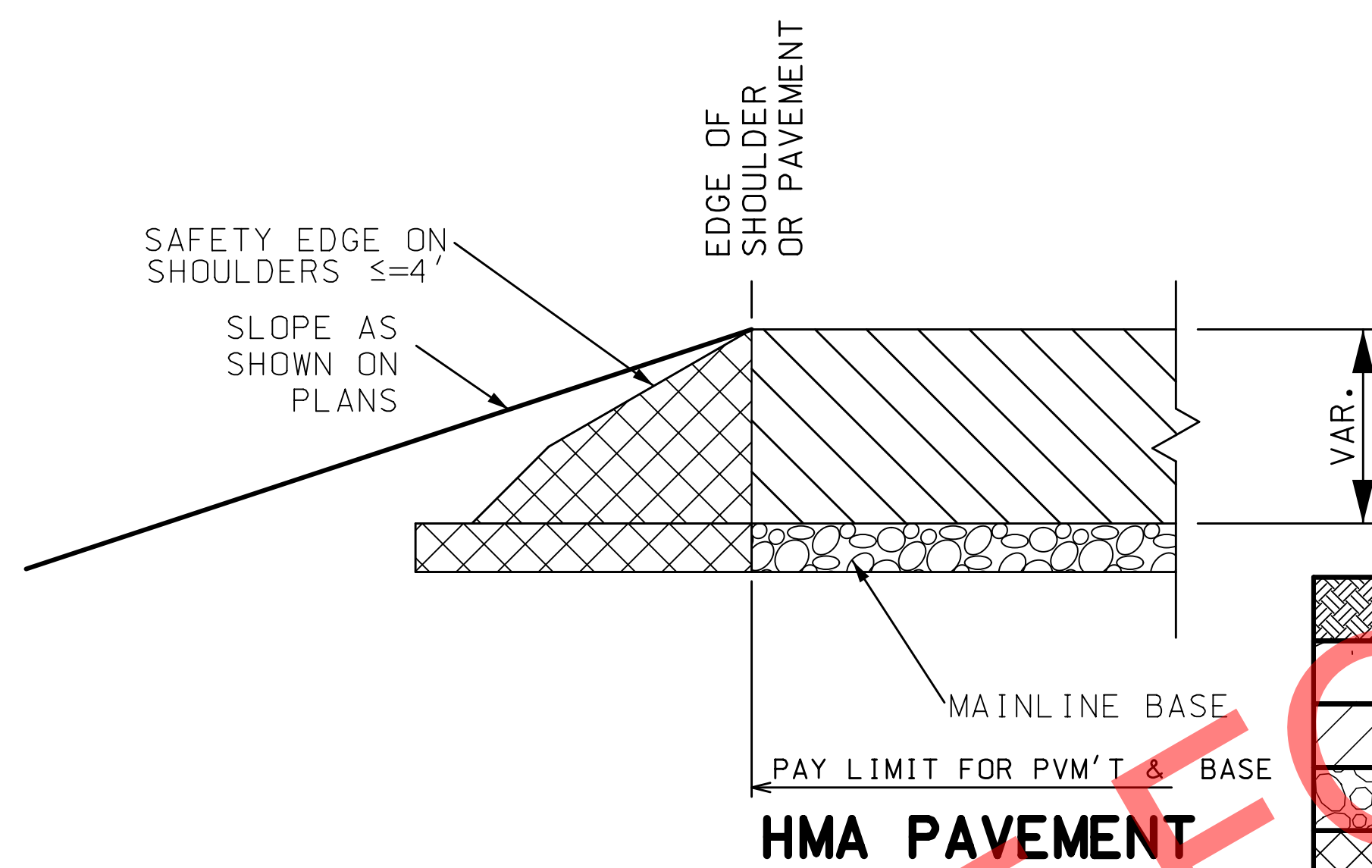
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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

olsson
1301 BURLINGTON STREET, STE. 641
NORTH KANSAS CITY, MO 641
CERTIFICATE OF
AUTHORITY NO. 001592

TYPICAL SECTION
SHEET 3 OF 11



NOTES:

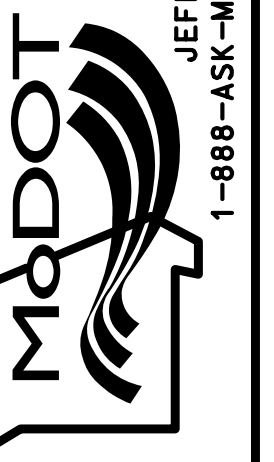
1. SEE STANDARD PLAN 401.00C FOR SAFETY EDGE DETAILS.
2. PERMANENT AGGREGATE EDGE TREATMENT WILL BE PAID FOR UNDER PAY ITEM 3049910 PER TON.

INCIDENTAL PAVEMENT & BASE

DATE PREPARED	
2/7/2022	
ROUTE	STATE
MID	MO
DISTRICT	SHEET NO.
NW	C.2
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

[illegible]

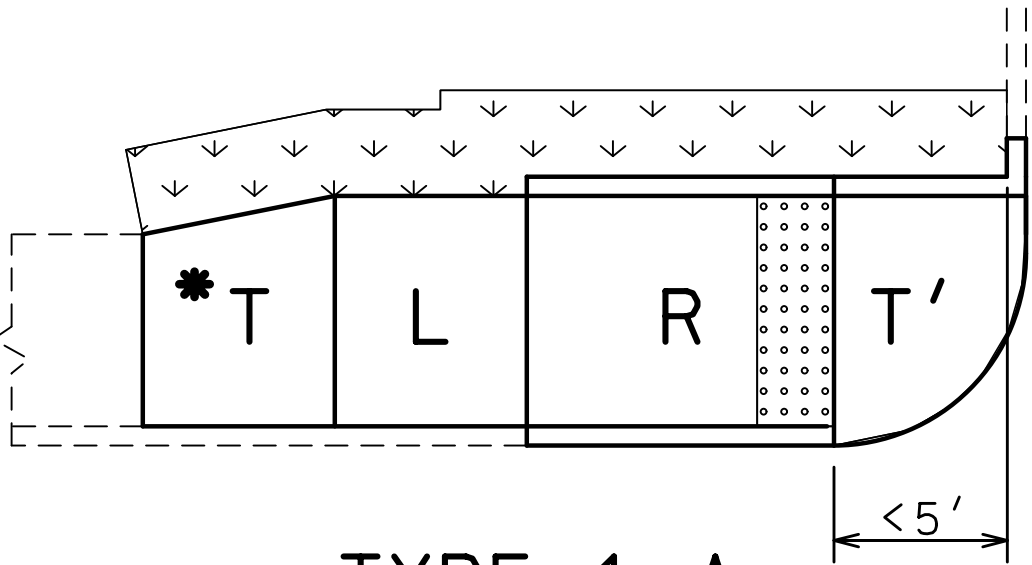
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



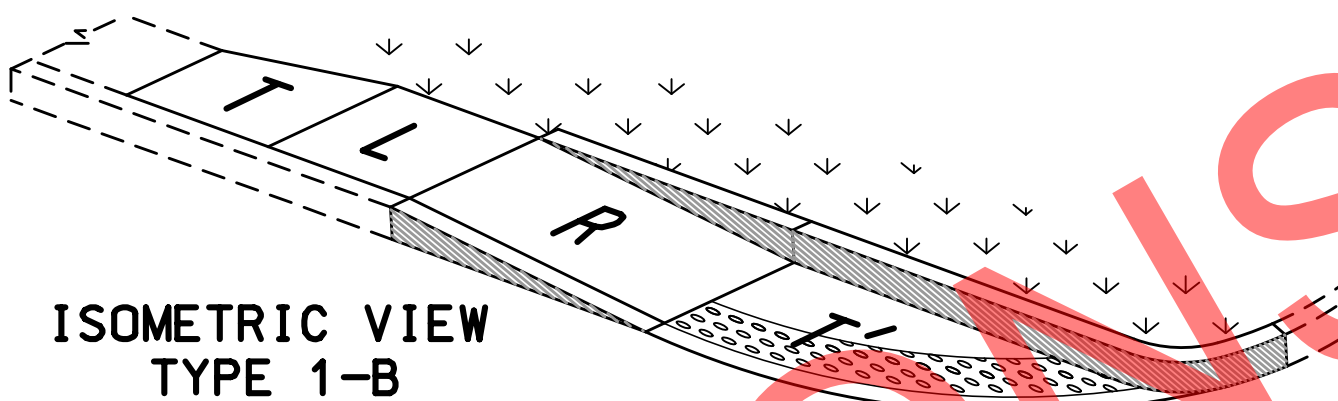
Olsson
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

TYPICAL SECTION
SHEET 4 OF 11

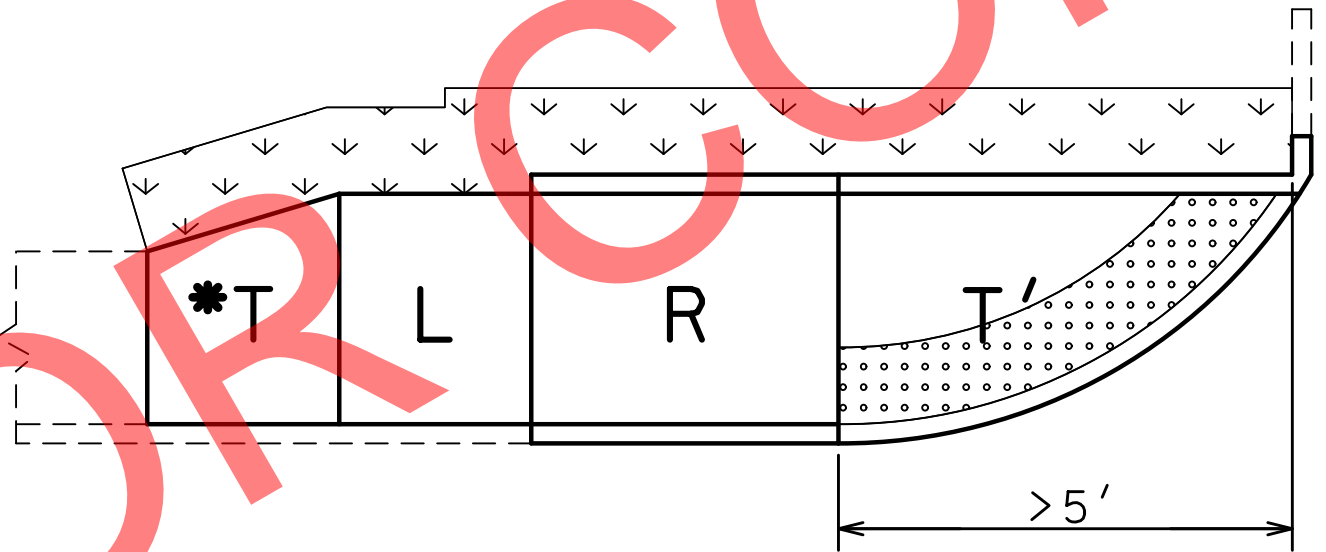
PERPENDICULAR - TYPE 1												
TYPE 1-A												
LENGTH (LF)		8			12			16			REMARKS	
WIDTH (LF)		4	5	6	4	5	6	4	5	6		
TRUNCATED DOMES	SF	-	10.0	12.0	-	10.0	12.0	-	10.0	12.0		
CURB RAMP	SY	-	8.2	12.8	-	10.8	12.7	-	13.5	15.8		
CONC. SIDEWALK	SY	-	5.6	6.4	-	5.6	6.4	-	4.9	6.4		
TYPE 1 AGGREGATE	SY	-	13.8	16.0	-	16.4	19.1	-	18.3	22.2		
ADA LINEAR GRADING	LF	-	22.0	22.0	-	27.5	27.5	-	30.0	30.5		
SODDING	SY	-	5.8	5.7	-	6.8	6.9	-	7.5	7.9		
TYPE 1-B												
LENGTH (LF)		8			12			16			REMARKS	
WIDTH (LF)		4	5	6	4	5	6	4	5	6		
TRUNCATED DOMES	SF	-	22.0	24.0	-	22.0	24.0	-	22.0	24.0		
CURB RAMP	SY	-	10.9	13.1	-	13.6	16.3	-	16.2	19.3		
CONC. SIDEWALK	SY	-	5.6	6.3	-	5.6	6.4	-	4.9	5.7		
TYPE 1 AGGREGATE	SY	-	16.5	19.4	-	19.2	22.7	-	21.1	25.0		
ADA LINEAR GRADING	LF	-	28.0	28.0	-	34.5	34.5	-	38.0	38.0		
SODDING	SY	-	7.4	7.8	-	8.4	8.7	-	9.1	9.5		
TYPE 1-C												
LENGTH (LF)		8			12			16			REMARKS	
WIDTH (LF)		4	5	6	4	5	6	4	5	6		
TRUNCATED DOMES	SF	-	10.0	12.0	-	10.0	12.0	-	10.0	12.0		
CURB RAMP	SY	-	8.8	10.3	-	11.5	13.4	-	14.1	16.5		
CONC. SIDEWALK	SY	-	5.6	6.4	-	5.6	6.4	-	4.9	5.7		
TYPE 1 AGGREGATE	SY	-	14.4	16.7	-	17.1	19.8	-	19.0	22.1		
ADA LINEAR GRADING	LF	-	22.0	22.0	-	26.5	26.5	-	30.0	30.0		
SODDING	SY	-	11.5	11.7	-	13.5	13.5	-	15.0	15.2		
TYPE 1-D												
LENGTH (LF)		8			12			16			REMARKS	
WIDTH (LF)		4	5	6	4	5	6	4	5	6		
TRUNCATED DOMES	SF	-	18.0	24.0	-	18.0	24.0	-	18.0	24.0		
CURB RAMP	SY	-	18.6	22.8	-	24.0	29.0	-	29.3	35.3		
CONC. SIDEWALK	SY	-	11.2	12.8	-	11.2	12.8	-	9.8	11.4		
TYPE 1 AGGREGATE	SY	-	29.8	35.6	-	35.2	41.8	-	39.1	46.7		
ADA LINEAR GRADING	LF	-	42.0	50.0	-	57.0	61.0	-	67.0	72.0		
SODDING	SY	-	11.0	11.3	-	13.0	13.3	-	14.5	14.9		
TYPE 1-E												
LENGTH (LF)		8			12			16			REMARKS	
WIDTH (LF)		4	5	6	4	5	6	4	5	6		
TRUNCATED DOMES	SF	-	18.0	24.0	-	18.0	24.0	-	18.0	24.0		
CURB RAMP	SY	-	14.8	19.0	-	20.1	25.2	-	25.5	31.4		
CONC. SIDEWALK	SY	-	11.2	12.8	-	11.2	12.8	-	9.8	11.4		
TYPE 1 AGGREGATE	SY	-	26.0	31.8	-	31.3	38.0	-	35.3	42.8		
ADA LINEAR GRADING	LF	-	43.0	46.0	-	52.0	55.0	-	59.0	62.0		
SODDING	SY	-	13.3	13.6	-	16.0	16.9	-	18.6	19.3		
TYPE 1-F												
LENGTH (LF)		8			12			16			REMARKS	
WIDTH (LF)		4	5	6	4	5	6	4	5	6		
TRUNCATED DOMES	SF	-	14.0	16.0	-	14.0	16.0	-	14.0	16.0		
CURB RAMP	SY	-	15.5	19.0	-	20.8	25.2	-	26.2	31.4		
CONC. SIDEWALK	SY	-	11.2	12.8	-	11.2	12.8	-	9.8	11.4		
TYPE 1 AGGREGATE	SY	-	26.7	31.8	-	32.0	38.0	-	36.0	42.8		
ADA LINEAR GRADING	LF	-	43.0	46.0	-	52.0	55.0	-	59.0	62.0		
SODDING	SY	-	18.4	18.8	-	22.4	22.8	-	25.6	25.9		



TYPE 1-A



ISOMETRIC VIEW
TYPE 1-B



TYPE 1-B

T' - IS TO BE 8" THICK
AT ALL PAVED APPROACHES
AND STREETS IF WITHIN THE
RADIUS. PAID FOR AS
CONCRETE CURB RAMP

T - TRANSITION TO EXISTING SW
OR PAVED APPROACH (LANDING
PREFERRED AT PAVED APPROACH
IF CONDITIONS ALLOW)

* - T IS STILL NEEDED EVEN IF THE
EXISTING SIDEWALK IS THE SAME
WIDTH AS THE NEW SIDEWALK. (IT
WILL BLEND THE EXIST XSLOPE
INTO THE NEW LANDING XSLOPE)

L - LANDING

R - RAMP

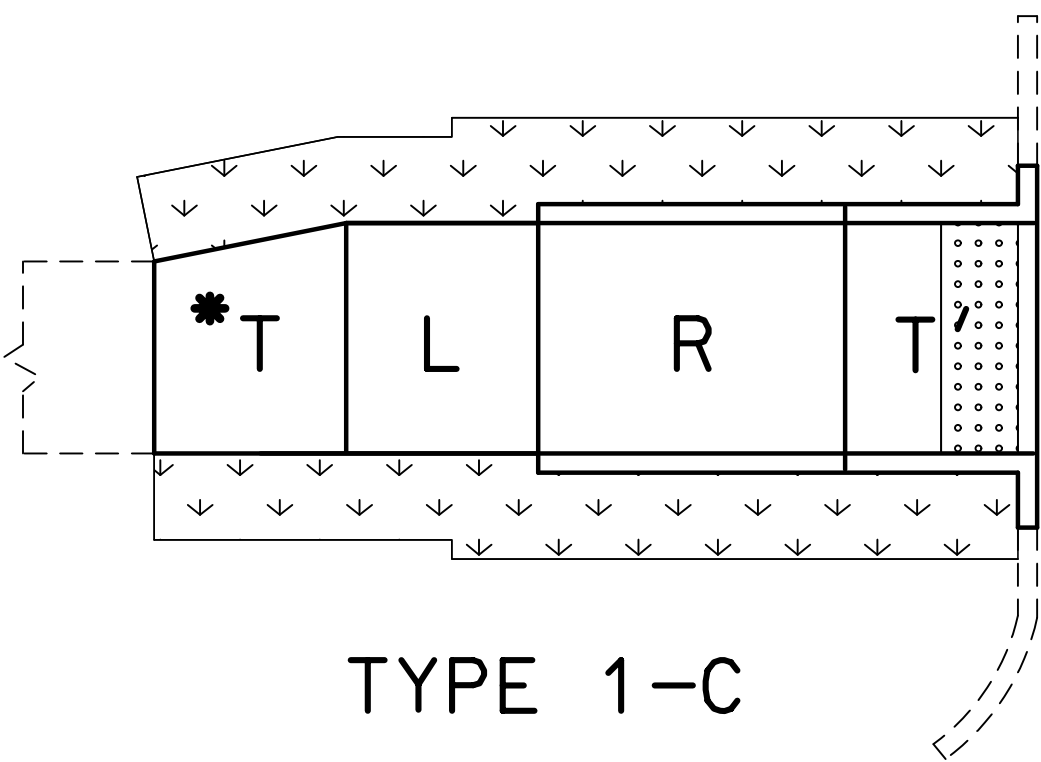
- CURB RAMP PAY LIMITS

- SOD SLOPE 6:1 MIN.

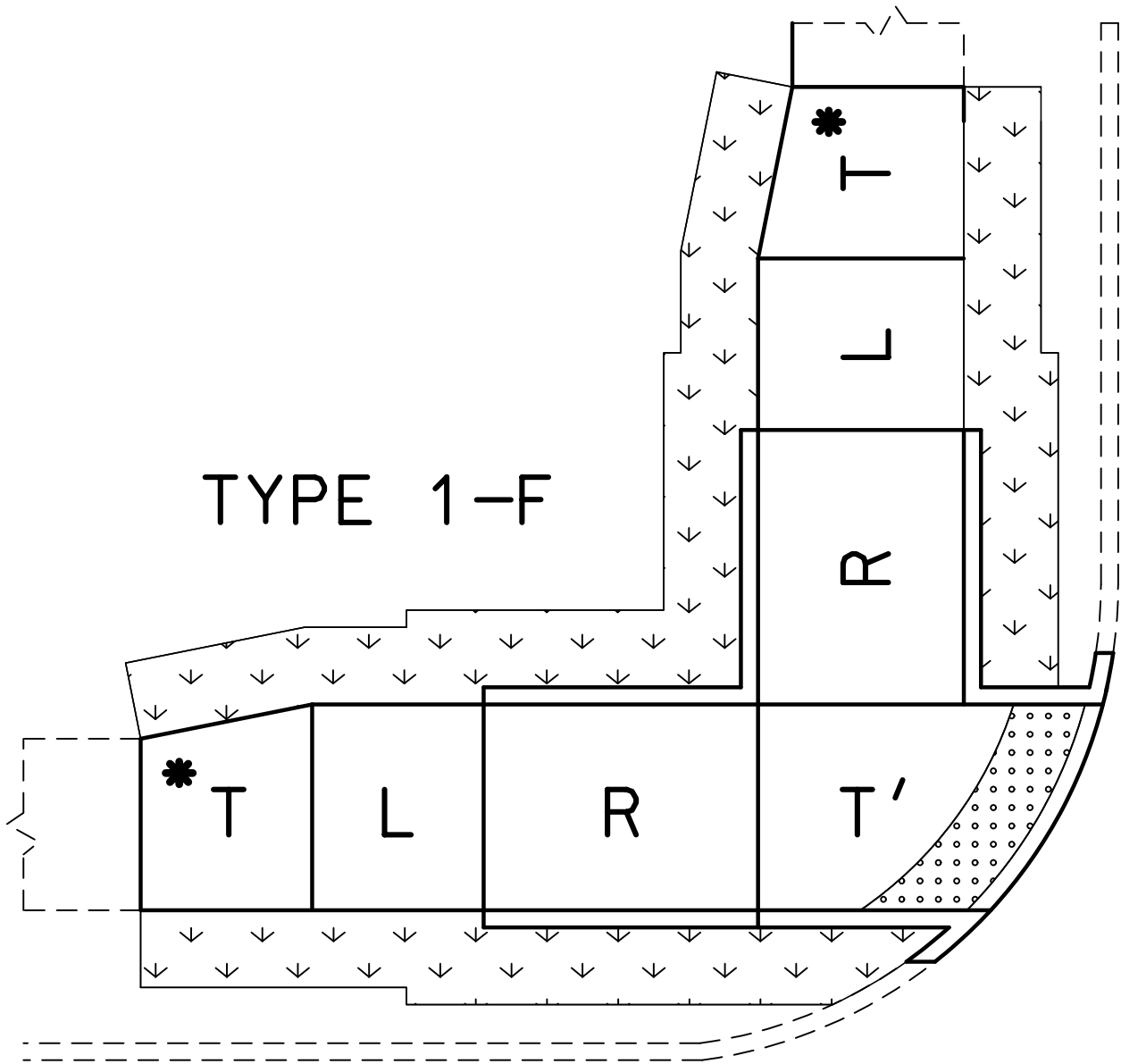
- TRUNCATED DOME LOCATION,
IF DIST. IS <5' OR >5'

TRUNCATED DOMES ARE USED ONLY
AT STREETS & ENTRANCES UTILIZING
YIELD / STOP SIGNS OR SIGNALS

NOTE:
QUANTITIES ARE CALCULATED BY AREA AND
MAY NOT MATCH EXACT FIELD CONDITIONS.



TYPE 1-C



TYPE 1-F

ADA LIBRARY TYPICAL

TYPE 1

PERPENDICULAR
CURB RAMPS

TYPICAL SECTION
SHEET 6 OF 11

DATE PREPARED 2/7/2022	
ROUTE MID	STATE MO
DISTRICT NW	SHEET NO. 2
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

PARALLEL - TYPE 2											
TYPE 2-A											
LENGTH (LF)	WIDTH (LF)	8			12			16			REMARKS
		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	9.1	10.6	-	11.8	13.7	-	14.4	16.8	
CONC. SIDEWALK	SY	-	5.6	6.4	-	4.9	5.7	-	4.9	5.7	
TYPE 1 AGGREGATE	SY	-	14.7	17.0	-	16.7	19.4	-	19.3	22.5	
ADA LINEAR GRADING	LF	-	26.0	26.0	-	29.0	29.0	-	33.0	33.0	
SODDING	SY	-	8.0	8.3	-	8.6	8.8	-	9.6	9.8	
TYPE 2-B											
LENGTH (LF)	WIDTH (LF)	8			12			16			REMARKS
		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	11.8	13.3	-	14.5	16.4	-	17.2	19.5	
CONC. SIDEWALK	SY	-	5.6	6.4	-	4.9	5.7	-	4.9	5.7	
TYPE 1 AGGREGATE	SY	-	17.4	19.7	-	19.4	22.1	-	22.1	25.2	
ADA LINEAR GRADING	LF	-	26.0	26.0	-	29.0	29.0	-	33.0	33.0	
SODDING	SY	-	13.8	14.1	-	15.1	15.5	-	17.1	17.5	
TYPE 2-C											
LENGTH (LF)	WIDTH (LF)	8			12			16			REMARKS
		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	16.4	18.7	-	21.7	24.9	-	27.0	31.2	
CONC. SIDEWALK	SY	-	11.2	12.8	-	9.8	11.4	-	9.8	11.4	
TYPE 1 AGGREGATE	SY	-	27.6	31.5	-	31.5	36.3	-	36.8	42.6	
ADA LINEAR GRADING	LF	-	41.0	41.0	-	47.0	47.0	-	55.0	55.0	
SODDING	SY	-	12.3	12.5	-	13.6	13.9	-	15.6	15.9	
TYPE 2-D											
LENGTH (LF)	WIDTH (LF)	8			12			16			REMARKS
		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	16.8	19.2	-	22.2	25.4	-	27.5	31.6	
CONC. SIDEWALK	SY	-	11.2	12.8	-	9.8	11.4	-	9.8	11.4	
TYPE 1 AGGREGATE	SY	-	28.0	32.0	-	32.0	36.8	-	37.3	43.0	
ADA LINEAR GRADING	LF	-	41.0	41.0	-	47.0	47.0	-	55.0	55.0	
SODDING	SY	-	20.2	20.3	-	22.4	23.2	-	26.4	27.2	
TYPE 2-E											
LENGTH (LF)	WIDTH (LF)	8			12			16			REMARKS
		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	10.8	11.5	-	13.2	14.4	-	15.7	17.3	
CONC. SIDEWALK	SY	-	5.6	6.7	-	5.0	6.0	-	5.0	6.0	
TYPE 1 AGGREGATE	SY	-	16.4	18.2	-	18.2	20.4	-	20.7	23.3	
ADA LINEAR GRADING	LF	-	22.5	22.5	-	26.5	26.5	-	30.5	30.5	
SODDING	SY	-	-	-	-	-	-	-	-	-	
HANDRAIL	LF	-	-	-	-	-	-	-	-	-	SEE STANDARDS FOR LENGTH
TYPE 2-F											
LENGTH (LF)	WIDTH (LF)	8			12			16			REMARKS
		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	15.5	17.1	-	20.4	23.1	-	25.5	28.9	
CONC. SIDEWALK	SY	-	11.2	13.4	-	10.0	12.0	-	10.0	12.0	
TYPE 1 AGGREGATE	SY	-	26.7	30.5	-	30.4	35.1	-	35.5	40.9	
ADA LINEAR GRADING	LF	-	39.0	39.0	-	47.0	47.0	-	55.0	55.0	
SODDING	SY	-	-	-	-	-	-	-	-	-	
HANDRAIL	LF	-	-	-	-	-	-	-	-	-	SEE STANDARDS FOR LENGTH

NOTE:
QUANTITIES ARE CALCULATED BY AREA AND
MAY NOT MATCH EXACT FIELD CONDITIONS.

** 3.5' LANDING EXTENSION REQ'D.
FOR INSTALLATION OF FUTURE OR NEW
PED. PUSH BUTTON

NOTE: SEE STANDARDS FOR ALL PED.
PUSH BUTTON LOCATIONS

----- TRUNCATED DOME

TRUNCATED DOMES ARE USED ONLY
AT STREETS & ENTRANCES UTILIZING
YIELD / STOP SIGNS OR SIGNALS

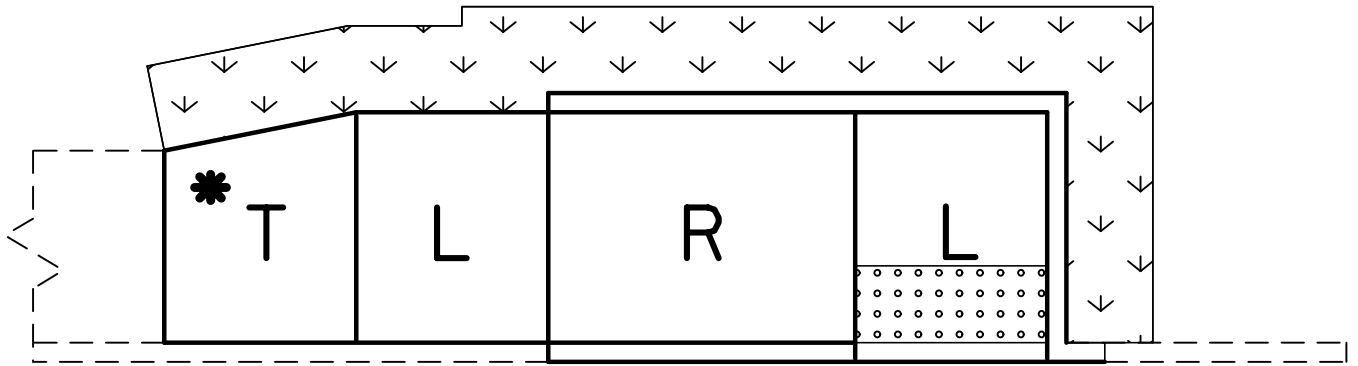
T - TRANSITION TO EXISTING SW
* - T IS STILL NEEDED EVEN IF THE
EXISTING SIDEWALK IS THE SAME
WIDTH AS THE NEW SIDEWALK (IT
WILL BLEND THE EXIST XSLOPE
INTO THE NEW LANDING XSLOPE)

L - LANDING

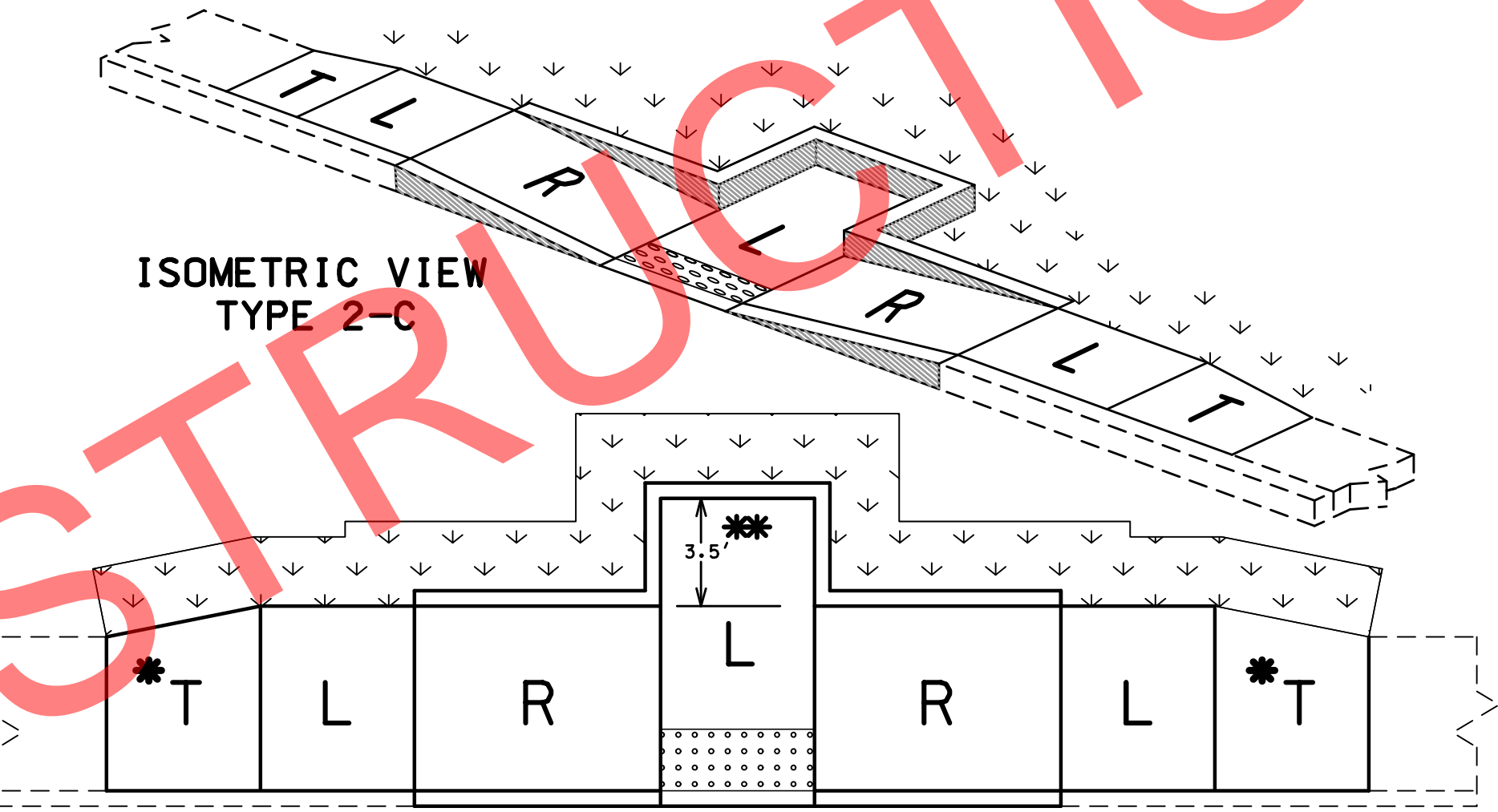
R - RAMP

----- SOD SLOPE 6:1 MIN.

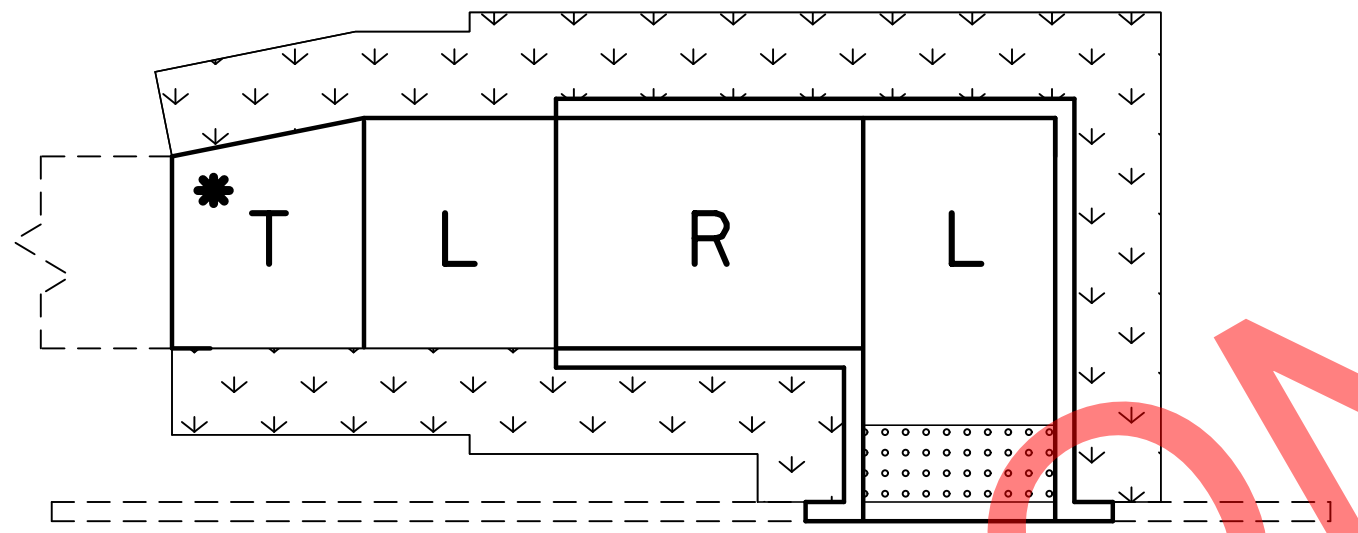
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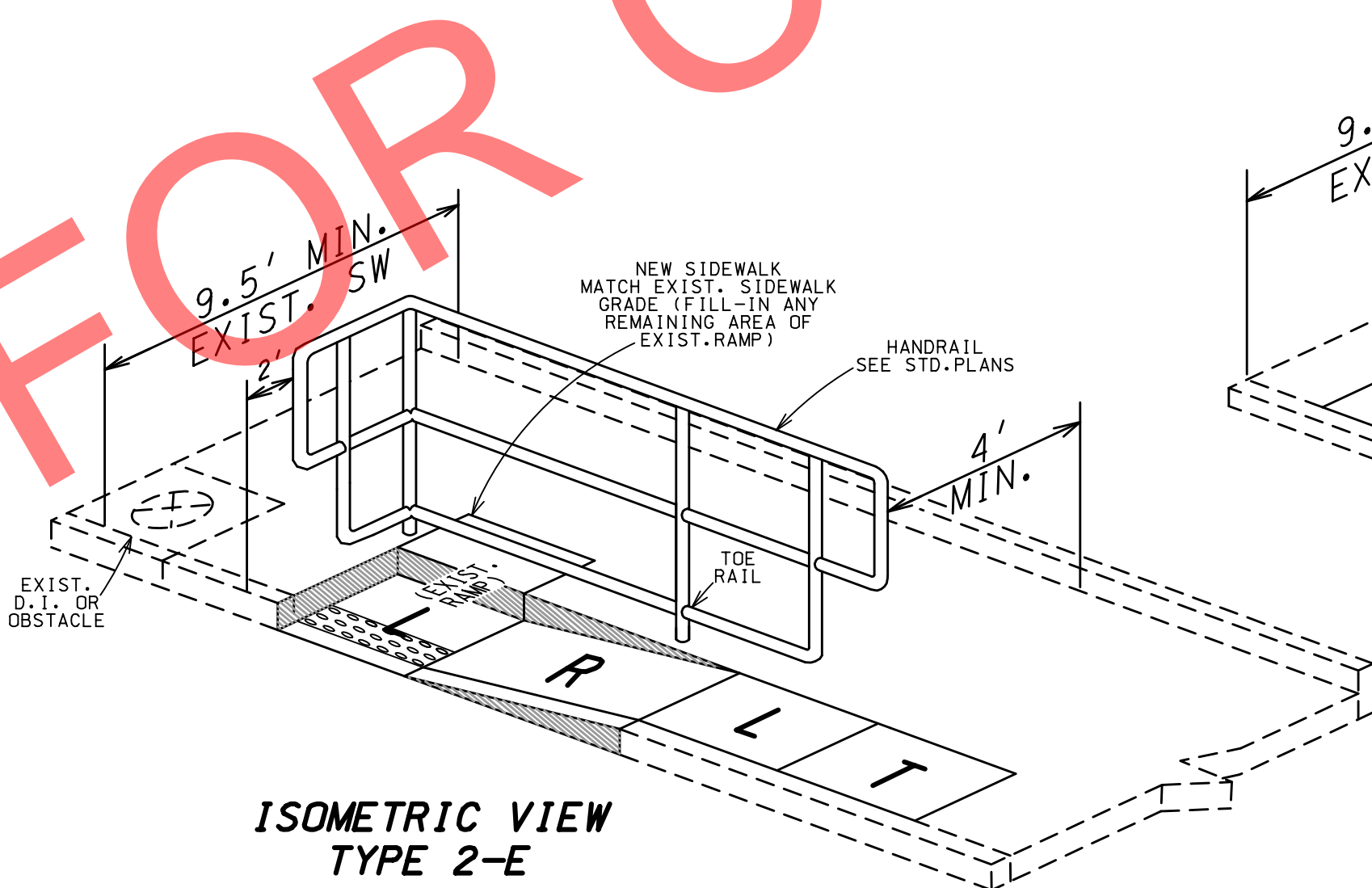
TYPE 2-A



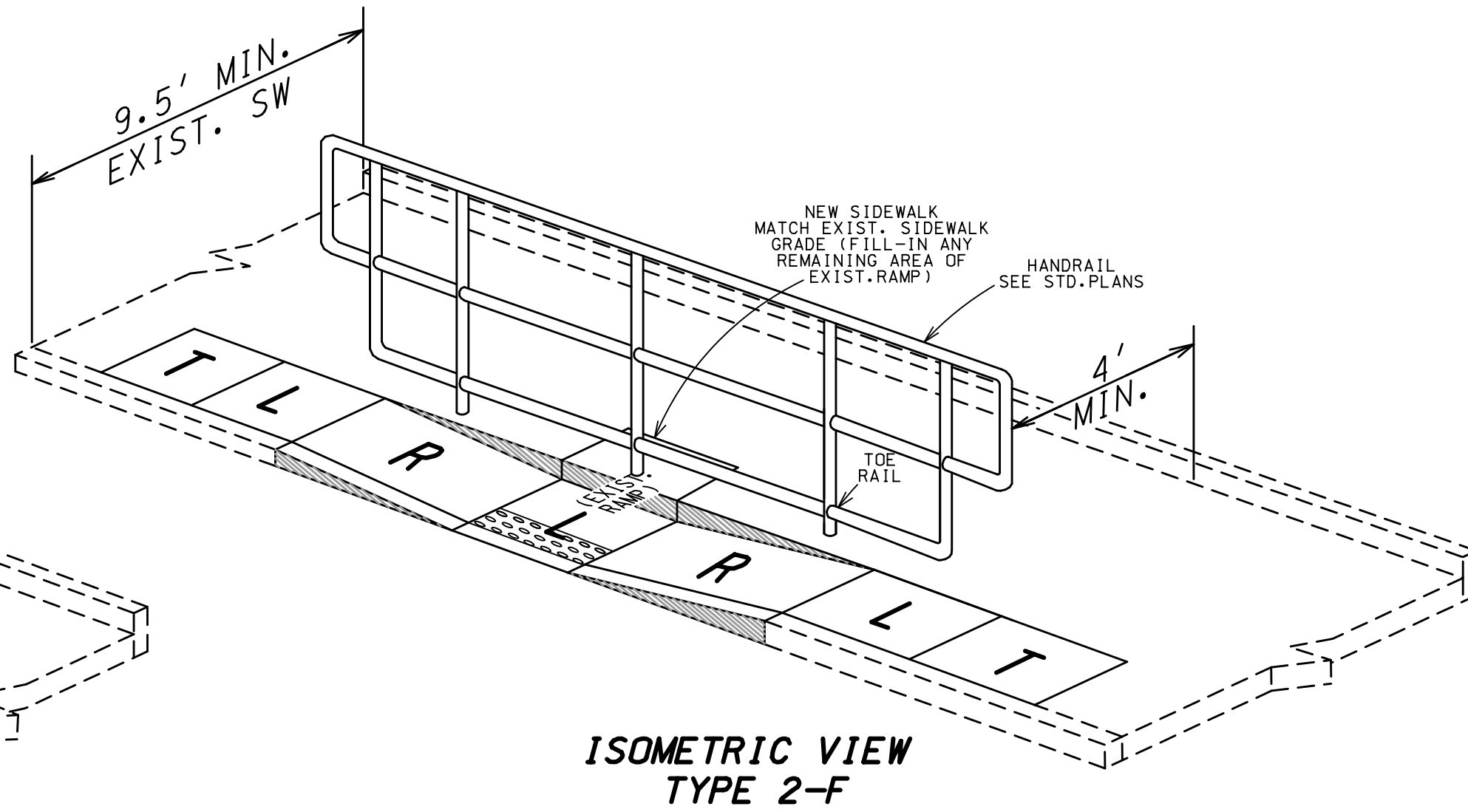
TYPE 2-C



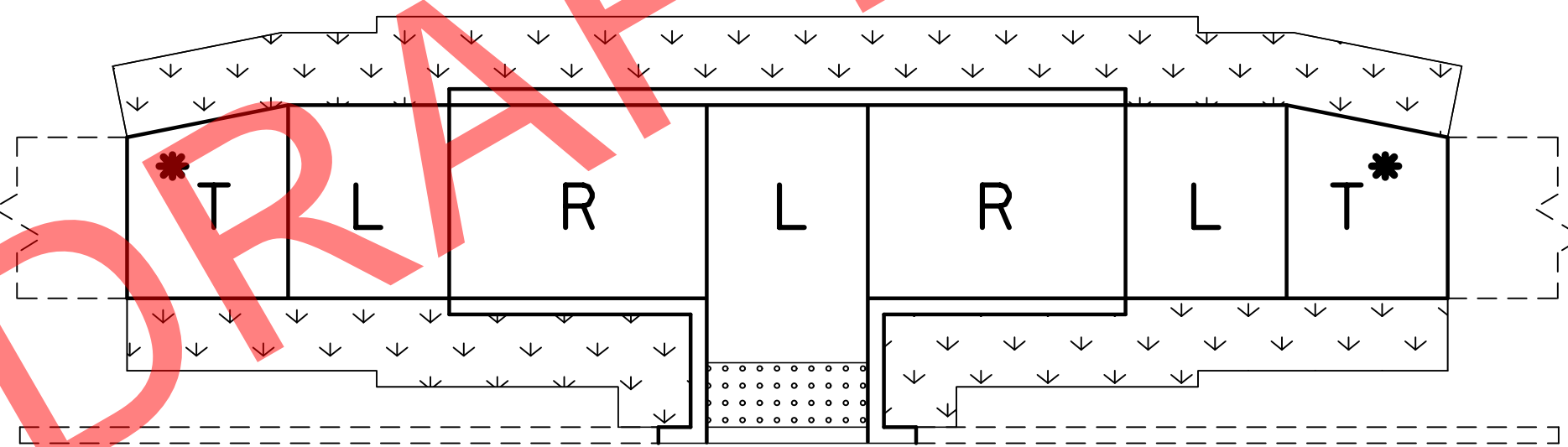
TYPE 2-B



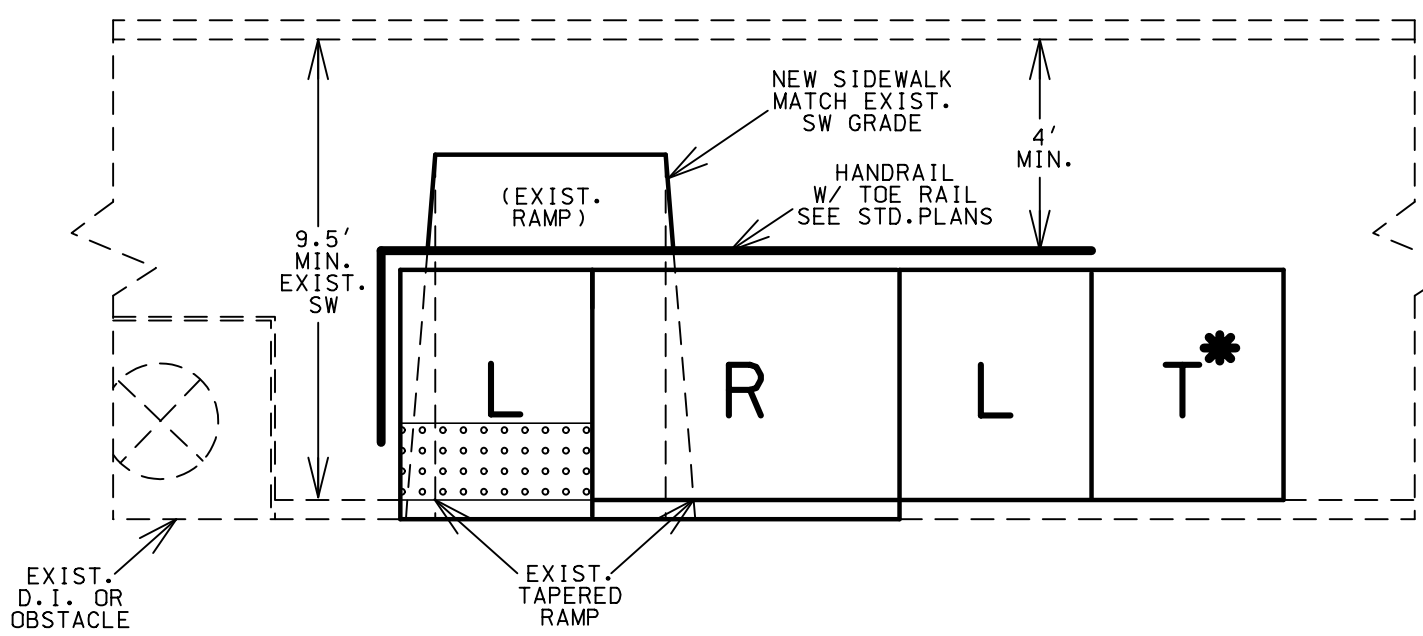
ISOMETRIC VIEW
TYPE 2-E



ISOMETRIC VIEW
TYPE 2-F

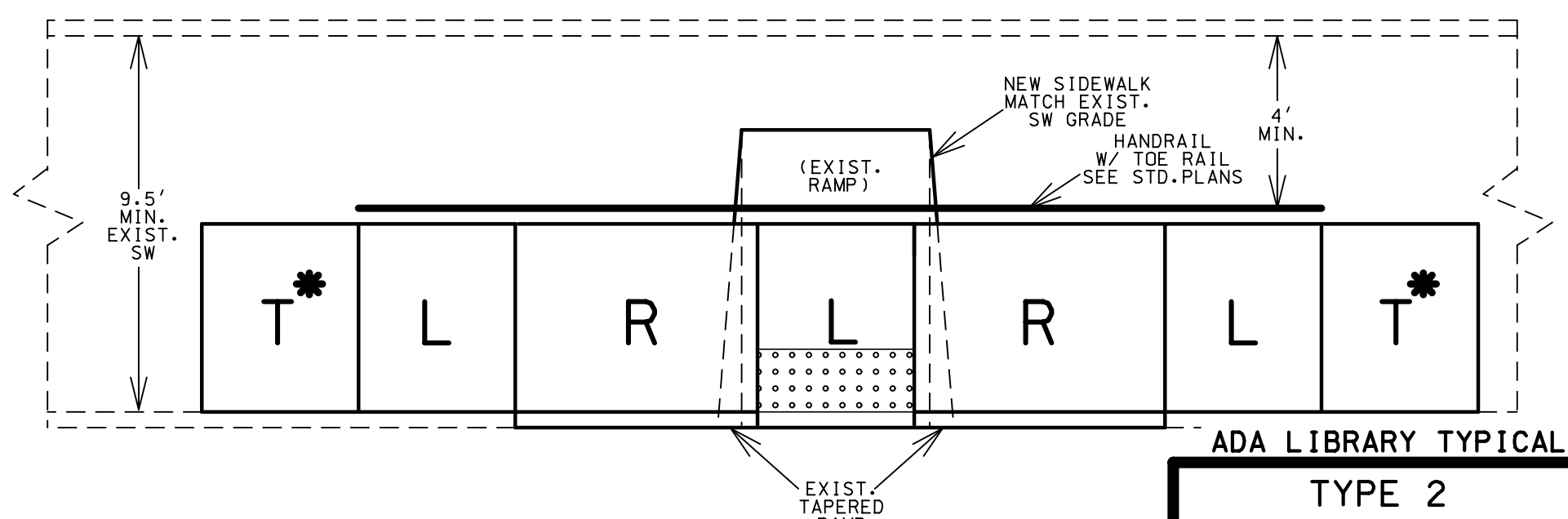


TYPE 2-D



TYPE 2-E

USE ONLY WHEN TYPE 2-F IS UNABLE TO BE CONSTRUCTED DUE TO AN
EXIST. D.I. OR OTHER OBSTACLE
SEE STANDARDS FOR HANDRAIL SPECS



TYPE 2-F

SEE STANDARDS FOR HANDRAIL SPECS

ADA LIBRARY TYPICAL

TYPE 2
PARALLEL
CURB RAMPS

TYPICAL SECTION
SHEET 7 OF 11

DATE PREPARED
2/7/2022

ROUTE
MID

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

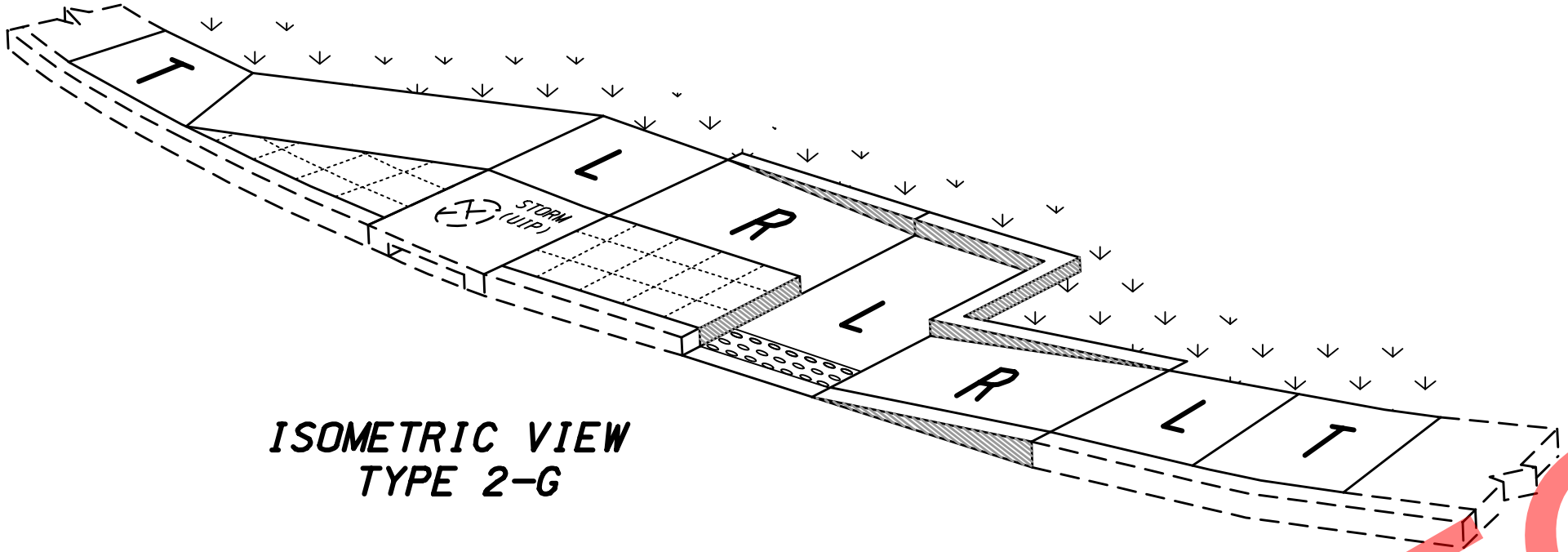
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

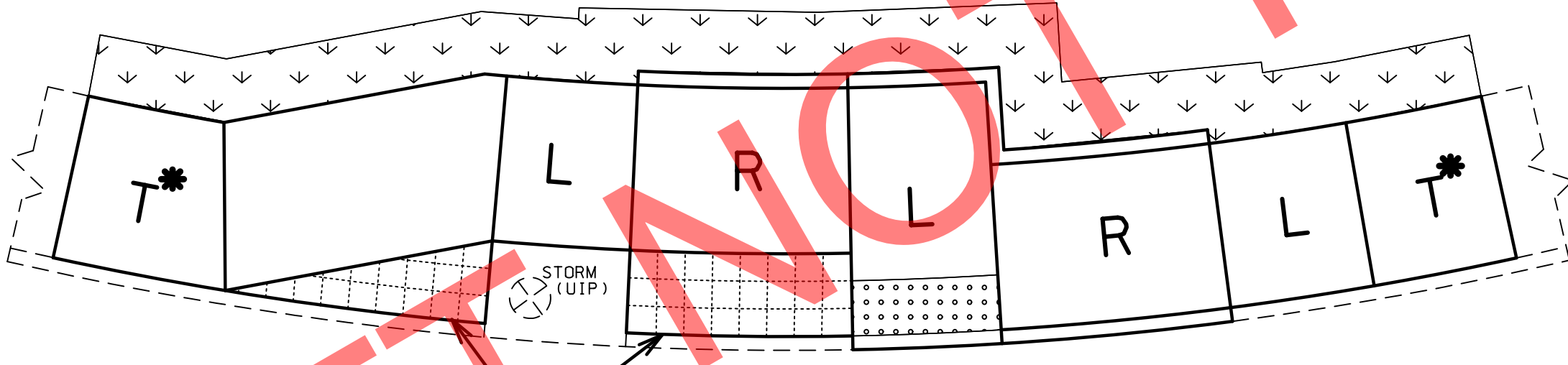
olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

PARALLEL - TYPE 2 (cont'd.)										
TYPE 2-G										
LENGTH (LF)	WIDTH (LF)	8			12			16		
		4	5	6	4	5	6	4	5	6
TRUNCATED DOMES	SF	-	12.0	12.0	-	10.0	10.0	-	10.0	10.0
CURB RAMP	SY	-	15.7	18.0	-	20.8	23.7	-	25.8	30.2
CONC. SIDEWALK	SY	-	21.4	25.0	-	17.6	20.3	-	15.2	17.5
TYPE 1 AGGREGATE	SY	-	37.1	43.0	-	38.4	44.0	-	41.0	47.7
ADA LINEAR GRADING	LF	-	52.0	52.0	-	54.0	54.0	-	58.0	58.0
SODDING	SY	-	13.6	13.6	-	13.7	13.5	-	14.5	14.9
REMARKS										
TYPE 2-H										
LENGTH (LF)	WIDTH (LF)	8			12			16		
		4	5	6	4	5	6	4	5	6
TRUNCATED DOMES	SF	-	12.0	12.0	-	10.0	10.0	-	10.0	10.0
CURB RAMP	SY	-	15.7	18.0	-	21.0	24.5	-	26.9	31.4
CONC. SIDEWALK	SY	-	13.2	16.0	-	12.0	14.2	-	12.0	14.4
TYPE 1 AGGREGATE	SY	-	28.9	34.0	-	33.0	38.6	-	38.9	45.8
ADA LINEAR GRADING	LF	-	42.0	42.0	-	49.0	49.0	-	55.0	55.0
SODDING	SY	-	11.1	11.2	-	12.5	12.5	-	14.5	14.9
REMARKS										

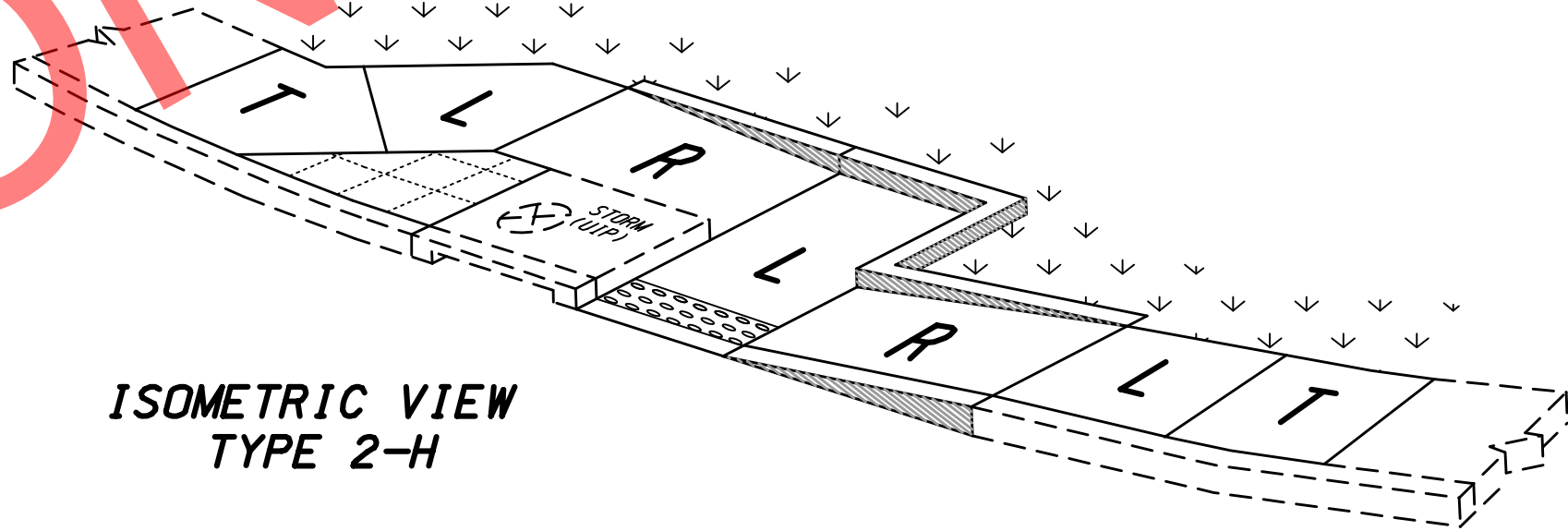


ISOMETRIC VIEW
TYPE 2-G

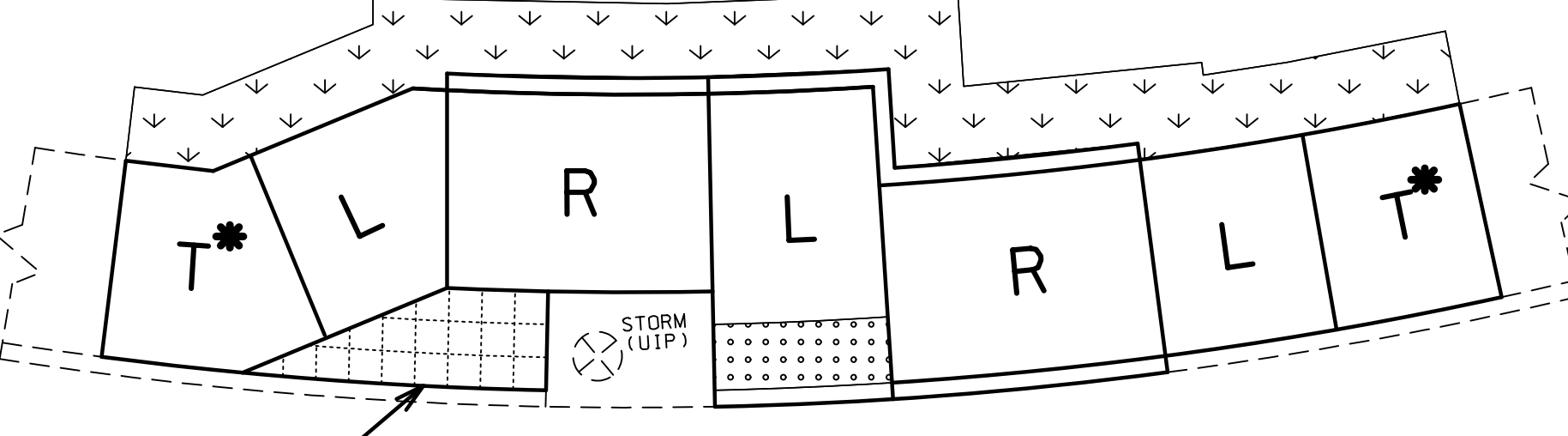


PATTERN IN CONC. SW
2'x2' SQUARES
(NO DIRECT PAY)

TYPE 2-G



ISOMETRIC VIEW
TYPE 2-H



PATTERN IN CONC. SW
2'x2' SQUARES
(NO DIRECT PAY)

TYPE 2-H

T* - IS STILL NEEDED EVEN IF THE EXISTING SIDEWALK IS THE SAME WIDTH AS THE NEW SIDEWALK. (IT WILL BLEND THE EXIST XSLOPE INTO THE NEW LANDING XSLOPE)

- T - TRANSITION TO EXISTING SW
- L - LANDING
- R - RAMP
- ↓ ↓ - SOD SLOPE 6:1 MIN.
- - TRUNCATED DOME LOCATION, IF DIST. IS <5' OR >5'
- TRUNCATED DOMES ARE USED ONLY AT STREETS & ENTRANCES UTILIZING YIELD / STOP SIGNS OR SIGNALS
- ▨ - CURB RAMP PAY LIMITS
- ▤ - INCLUDED IN 4" CONC. SIDEWALK PAY LIMIT

NOTE:
QUANTITIES ARE CALCULATED BY AREA AND MAY NOT MATCH EXACT FIELD CONDITIONS.

DATE PREPARED
2/7/2022

ROUTE
MID

STATE
MO

DISTRICT
NW

SHEET NO.
2

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

ADA LIBRARY TYPICAL
TYPE 2
PARALLEL
CURB RAMPS
TYPICAL SECTION
SHEET 8 OF 11

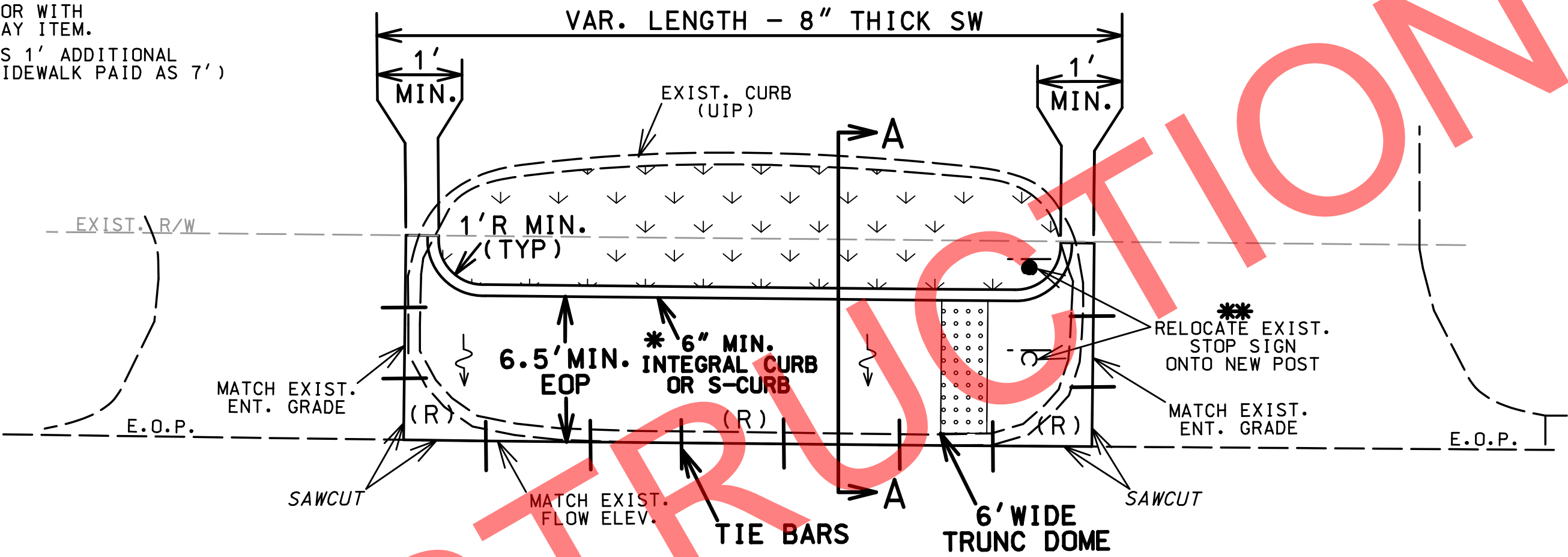
NOTES FOR MODIFIED SIDEWALK:

1. REMOVE EXIST. CURB & RAISED ISLAND WITHIN LIMITS SHOWN.
2. AREA INSIDE FINAL CURB TO BE REPAIRED OR REPLACED WITH EXISTING SURFACE MATERIAL. GRADE TO DRAIN.
3. CONSTRUCT 8" THICK CONC. SIDEWALK FLUSH WITH EXIST. CONC. PAVED APPROACH.
4. CONSTRUCT CURB ADJACENT TO MODIFIED SIDEWALK.
5. MODIFIED SIDEWALK PAID FOR AS 8" SIDEWALK.
6. 6' MINIMUM WIDTH.
7. NO DIRECT PAY FOR SAW CUTS AND TIE BARS (ON 12" CENTERS MAX.)
8. TRUNCATED DOMES ARE USED ONLY AT STREETS & ENTRANCES UTILIZING STOP SIGNS OR SIGNALS.
9. X-SLOPE 1% PREFERRED (2% MAX.)
10. USE S-CURB IF CONSTRUCTING CURB ON R/W LINE.

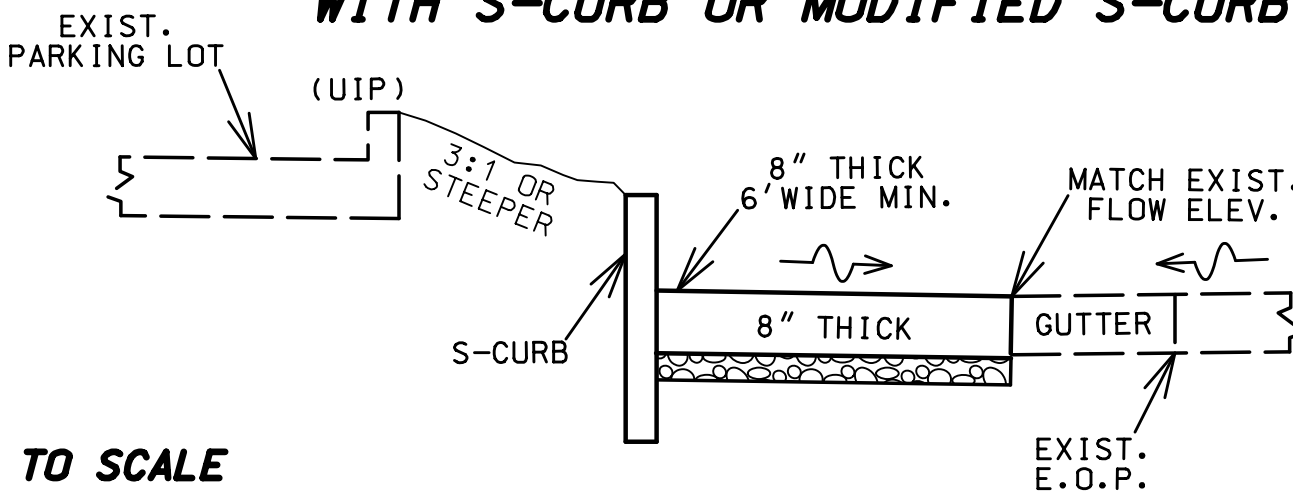
* INTEGRAL CURB IS PAID FOR WITH THE 8" CONC. SIDEWALK PAY ITEM.
INTEGRAL CURB IS PAID AS 1' ADDITIONAL SIDEWALK WIDTH (EX. 6' SIDEWALK PAID AS 7')
(0.11 SY/LF OF CURB)

TYPICAL
MODIFIED SIDEWALK
8" THICK

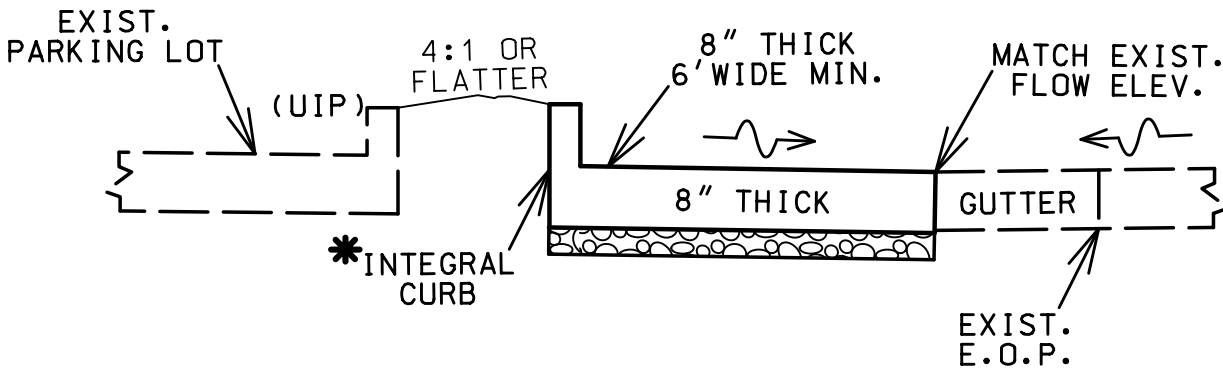
** TRUNCATED DOMES ARE USED ONLY AT STREETS & ENTRANCES UTILIZING STOP/YIELD SIGNS OR SIGNALS.



SECTION A-A
WITH S-CURB OR MODIFIED S-CURB



SECTION A-A
WITH INTEGRAL CURB



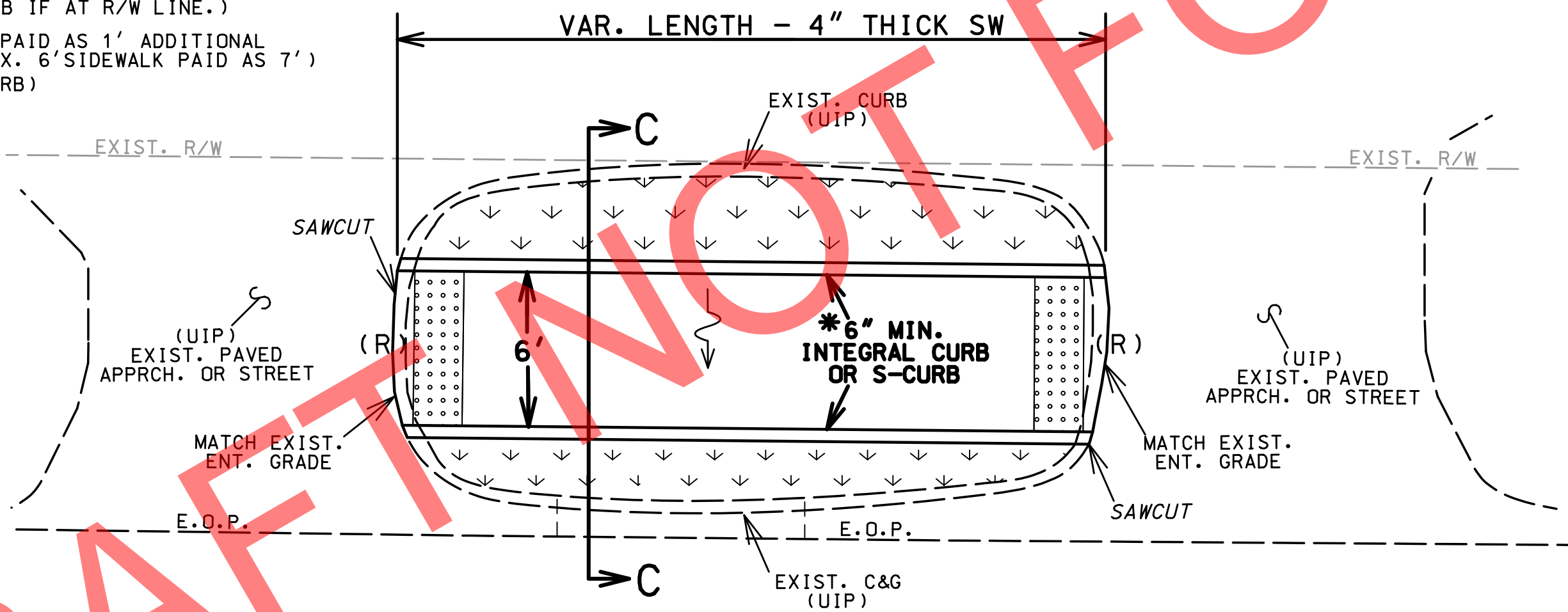
NOT TO SCALE

NOTES FOR CUT-THRU SIDEWALK:

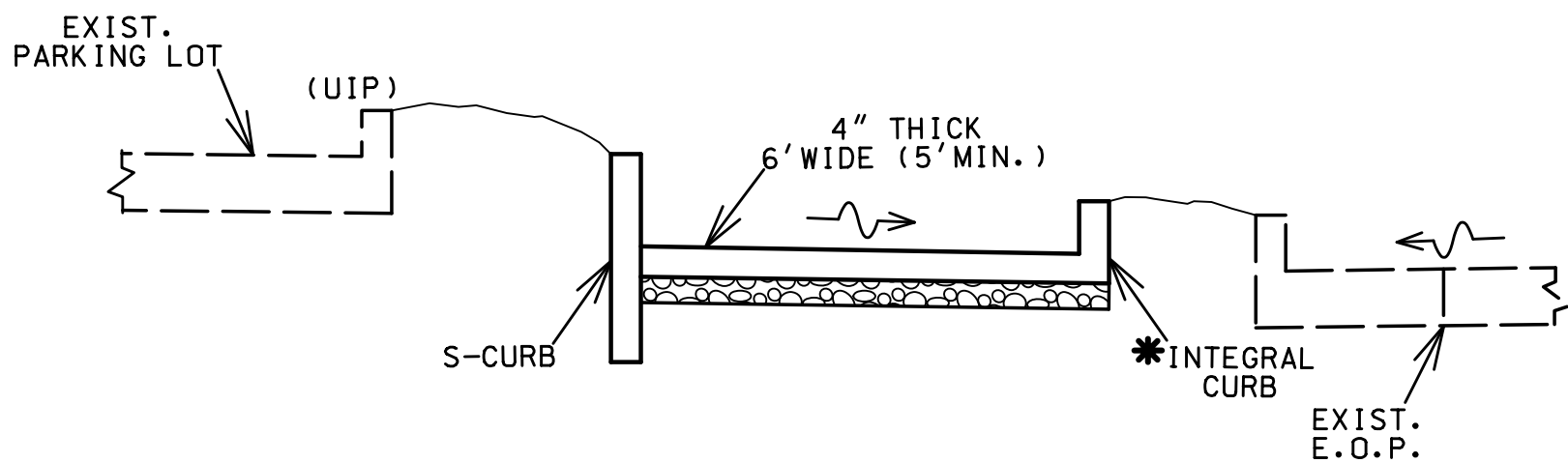
1. REMOVE EXIST. CURB & RAISED ISLAND WITHIN LIMITS SHOWN.
2. AREA INSIDE FINAL CURB TO BE REPAIRED OR REPLACED WITH EXISTING SURFACE MATERIAL. GRADE TO DRAIN.
3. CONSTRUCT 4" THICK CONC. SIDEWALK FLUSH WITH EXIST. CONC. PAVED APPROACH.
4. CONSTRUCT CURB ON BOTH SIDES ADJACENT TO SIDEWALK.
5. CUT-THRU SIDEWALK PAID FOR AS 4" SIDEWALK.
6. 6' PREFERRED WIDTH (5' MIN.)
7. SAW CUTS (NO DIRECT PAY).
8. TRUNCATED DOMES ARE USED ONLY AT STREETS & ENTRANCES UTILIZING STOP SIGNS OR SIGNALS.
9. X-SLOPE 1% PREFERRED (2% MAX.)
10. USE S-CURB IF CONSTRUCTING CURB ON R/W LINE.

* INTEGRAL CURB IS PAID FOR AS 4" CONC. SIDEWALK PAY ITEM. S-CURB IS PAID FOR AS ITS OWN PAY ITEM.
(ALWAYS USE S-CURB IF AT R/W LINE.)
INTEGRAL CURB IS PAID AS 1' ADDITIONAL SIDEWALK WIDTH (EX. 6' SIDEWALK PAID AS 7')
(0.11 SY/LF OF CURB)

TYPICAL
CUT-THRU SIDEWALK

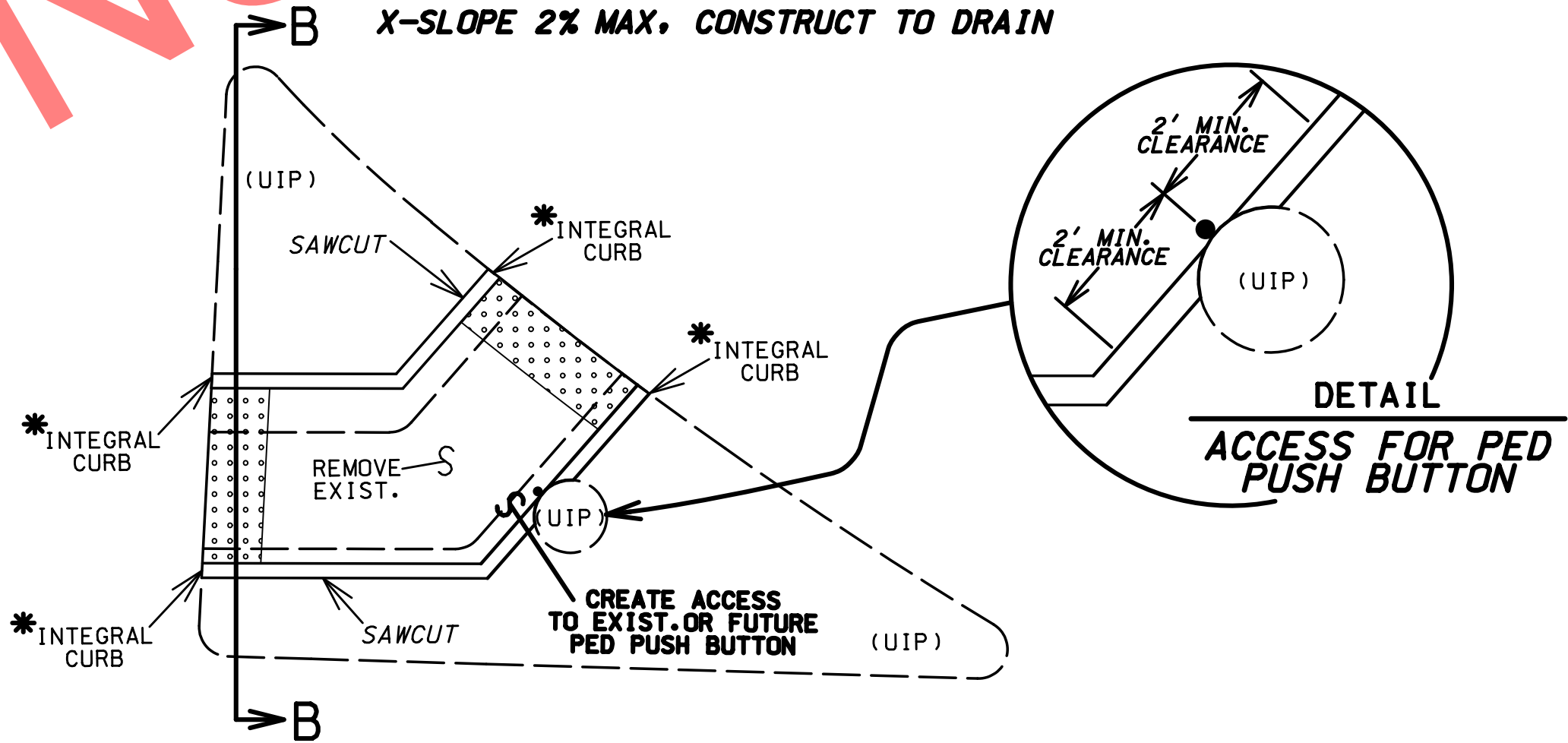


SECTION C-C
WITH S-CURB OR INTEGRAL

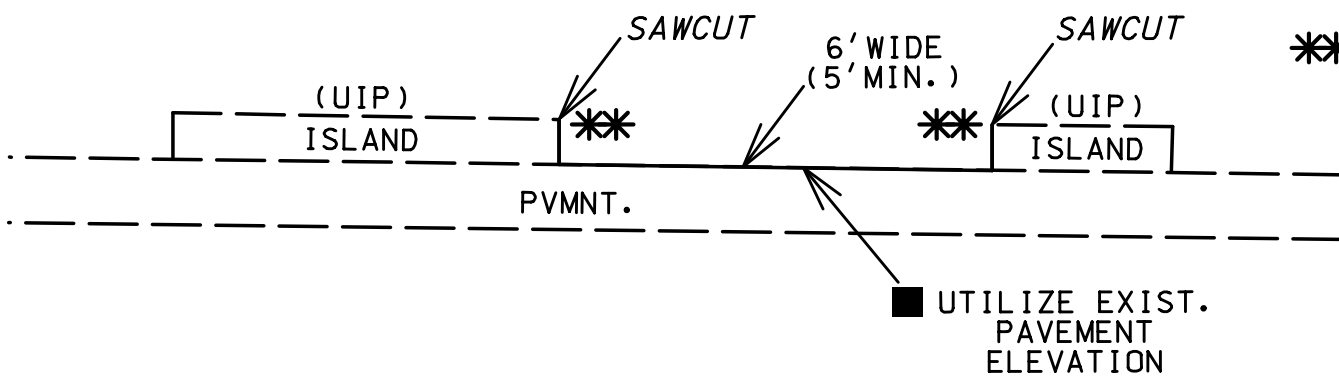


NOT TO SCALE

TYPICAL
ISLAND CUT-THRU SIDEWALK
X-SLOPE 2% MAX. CONSTRUCT TO DRAIN



SECTION B-B
ISLAND CUT-THRU SIDEWALK
FOR EXISTING 'PINNED-ON' ISLAND

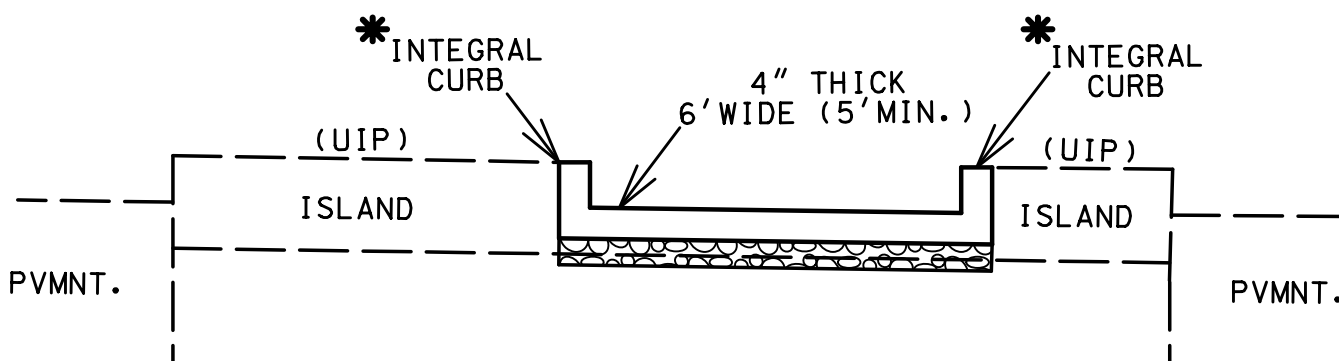


■ SMALL QTY. HAS BEEN INCLUDED FOR 8" THICK SIDEWALK TO ADDRESS ANY UNFORSEEN PVMNT. REPAIRS OR DIFFERENCES IN ELEVATION. (UNDERRUN IF FIELD CONDITIONS DO NOT WARRANT)

** NO INTEGRAL CURB, AGGR. OR LIN. GRADING REQUIRED IF THE ISLAND IS 'PINNED-ON'

* INTEGRAL CURB IS PAID FOR WITH THE 4" CONC. SIDEWALK PAY ITEM.
INTEGRAL CURB IS PAID AS 1' ADDITIONAL SIDEWALK WIDTH (EX. 6' SIDEWALK PAID AS 7')
(0.11 SY/LF OF CURB)

SECTION B-B
ISLAND CUT-THRU SIDEWALK

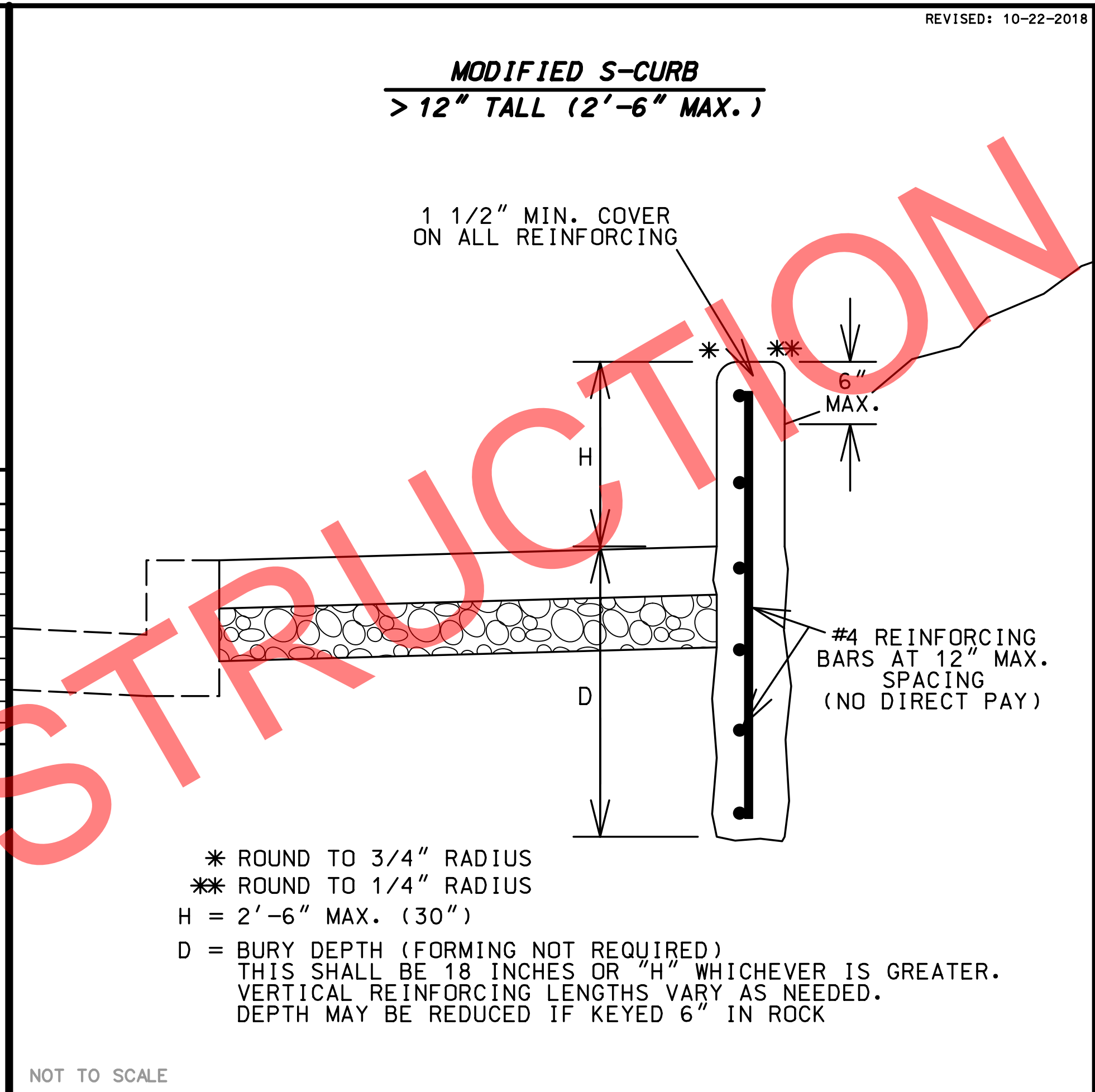
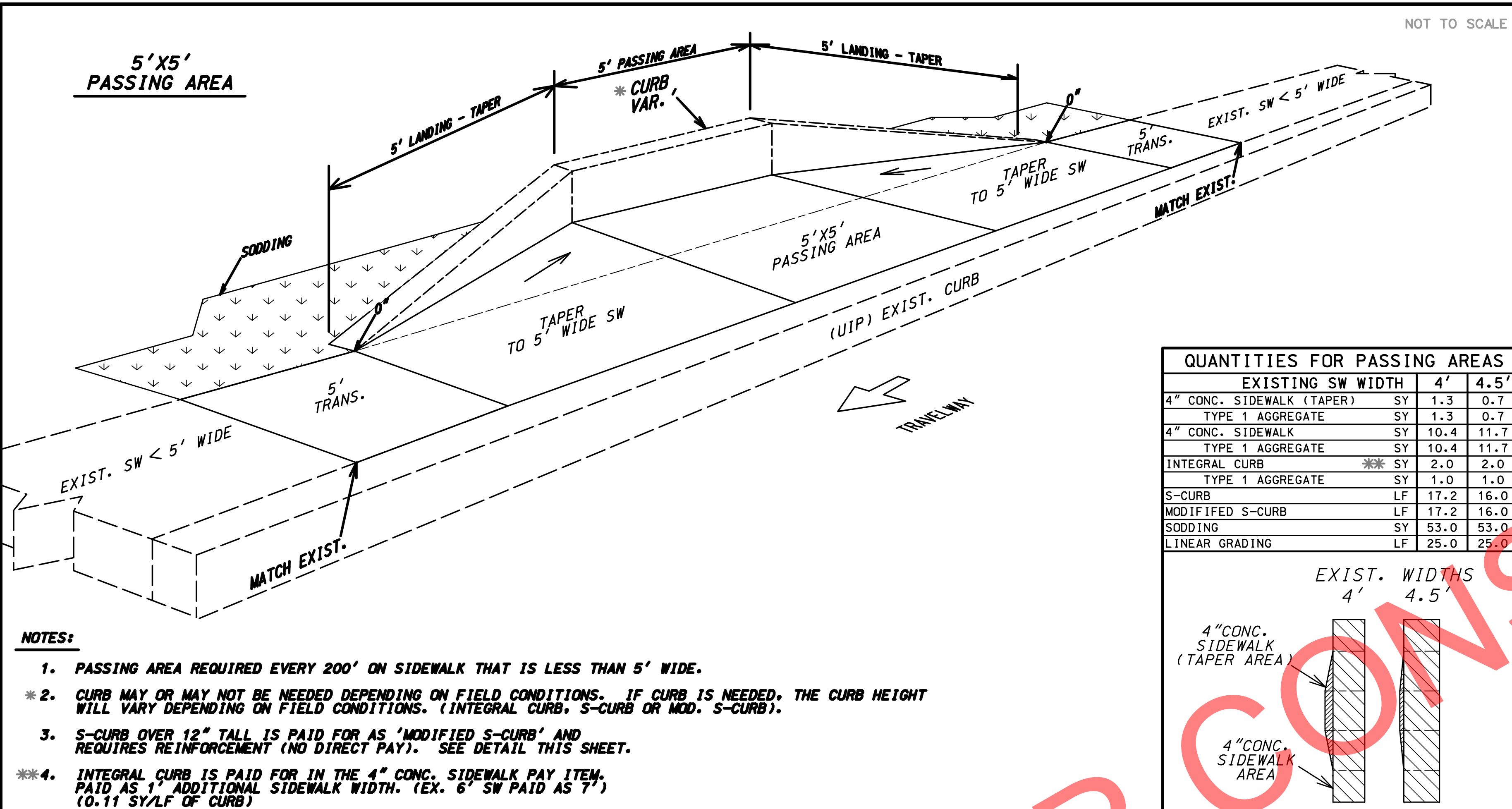


ADA LIBRARY TYPICAL

MODIFIED SIDEWALK
AND
SIDEWALK CUT-THRU'S

TYPICAL SECTION
SHEET 10 OF 11

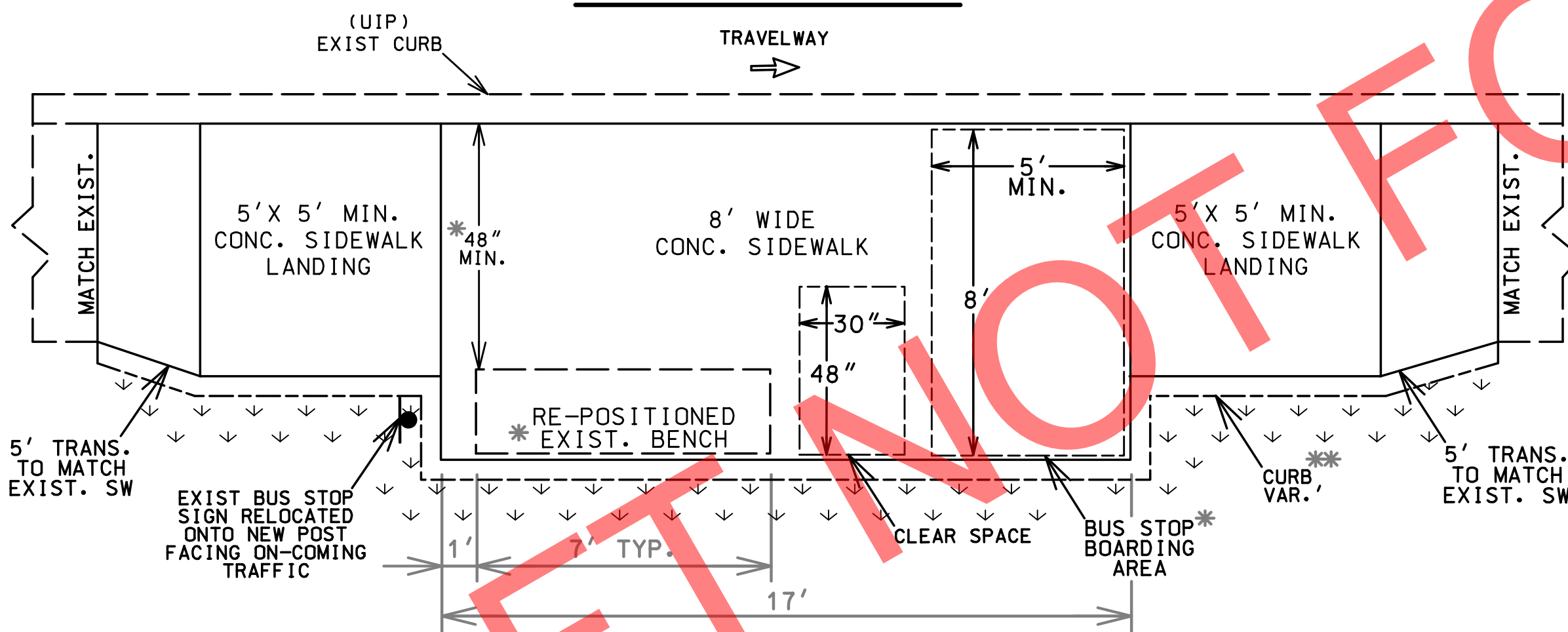
DATE PREPARED 2/7/2022	
ROUTE MID	STATE MO
DISTRICT NW	SHEET NO. 2
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



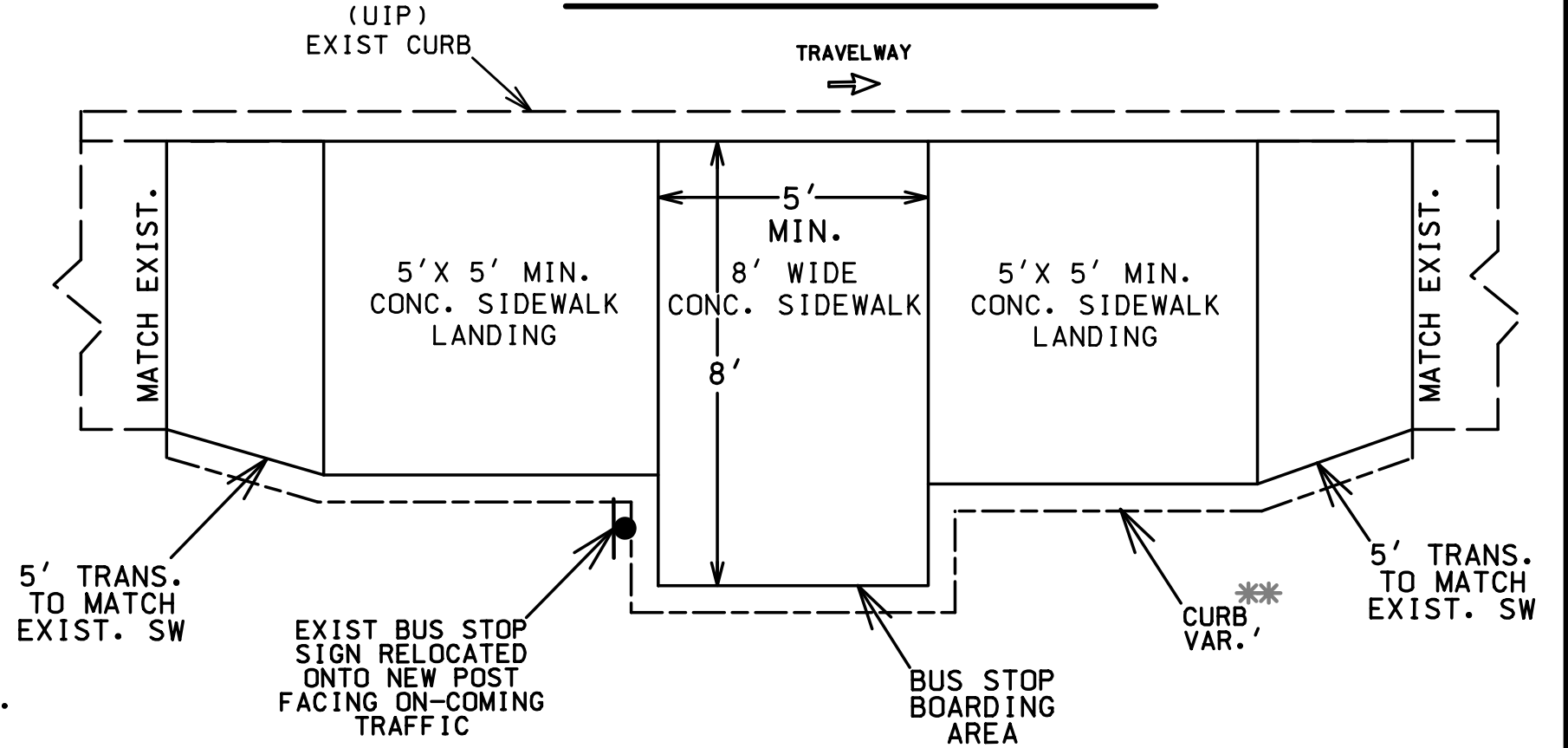
NOTES:

- PASSING AREA REQUIRED EVERY 200' ON SIDEWALK THAT IS LESS THAN 5' WIDE.
- CURB MAY OR MAY NOT BE NEEDED DEPENDING ON FIELD CONDITIONS. IF CURB IS NEEDED, THE CURB HEIGHT WILL VARY DEPENDING ON FIELD CONDITIONS. (INTEGRAL CURB, S-CURB OR MOD. S-CURB).
- S-CURB OVER 12" TALL IS PAID FOR AS 'MODIFIED S-CURB' AND REQUIRES REINFORCEMENT (NO DIRECT PAY). SEE DETAIL THIS SHEET.
- INTEGRAL CURB IS PAID FOR IN THE 4" CONC. SIDEWALK PAY ITEM, PAID AS 1' ADDITIONAL SIDEWALK WIDTH. (EX. 6" SW PAID AS 7") (0.11 SY/LF OF CURB)

BUS STOP WITH BENCH



BUS STOP WITHOUT BENCH



QUANTITIES FOR BUS STOPS WITH BENCH

EXISTING SW WIDTH	4'	5'	6'	7'
4" CONC. SIDEWALK (TAPER)	SY 9.3	5.8	3.9	1.9
TYPE 1 AGGREGATE	SY 9.3	5.8	3.9	1.9
4" CONC. SIDEWALK	SY 16.5	20.4	24.3	28.2
TYPE 1 AGGREGATE	SY 16.5	20.4	24.3	28.2
INTEGRAL CURB ***	SY 5.4	3.4	3.2	2.9
TYPE 1 AGGREGATE	SY 2.7	1.7	1.6	1.5
S-CURB	LF 43.5	27.0	25.0	23.0
MODIFIED S-CURB	LF 43.5	27.0	25.0	23.0
SODDING	SY 10.6	10.4	9.8	9.4
LINEAR GRADING	LF 37.0	37.0	37.0	37.0

QUANTITIES FOR BUS STOPS - NO BENCH

EXISTING SW WIDTH	4'	5'	6'	7'
4" CONC. SIDEWALK (TAPER)	SY 3.9	1.8	1.3	0.7
TYPE 1 AGGREGATE	SY 3.9	1.8	1.3	0.7
4" CONC. SIDEWALK	SY 10.4	12.9	15.5	18.0
TYPE 1 AGGREGATE	SY 10.4	12.9	15.5	18.0
INTEGRAL CURB ***	SY 3.8	2.0	1.8	1.6
TYPE 1 AGGREGATE	SY 1.9	1.0	0.9	0.8
S-CURB	LF 31.0	15.0	13.0	11.0
MODIFIED S-CURB	LF 31.0	15.0	13.0	11.0
SODDING	SY 7.6	7.4	6.8	6.4
LINEAR GRADING	LF 25.0	25.0	25.0	25.0

ADA LIBRARY TYPICAL

PASSING AREAS, BUS STOPS, AND MODIFIED S-CURB

TYPICAL SECTION SHEET 11 OF 11

DATE PREPARED 2/7/2022

ROUTE MID MO

DISTRICT NW SHEET NO. 2

COUNTY SULLIVAN

JOB NO. J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

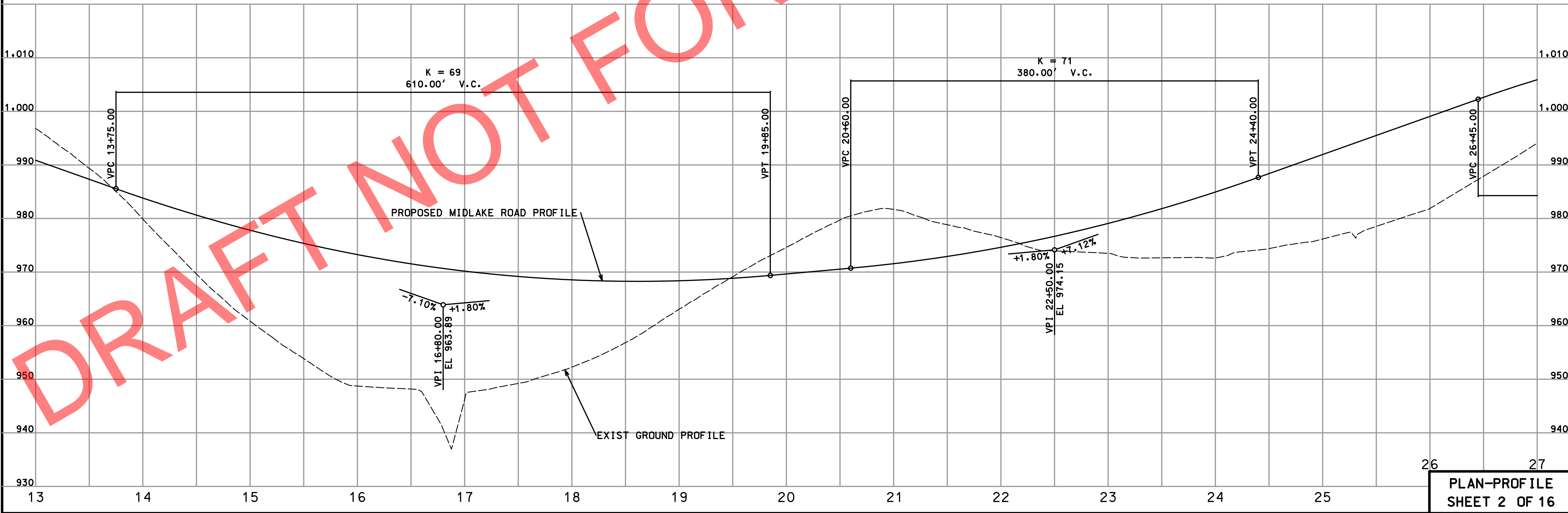
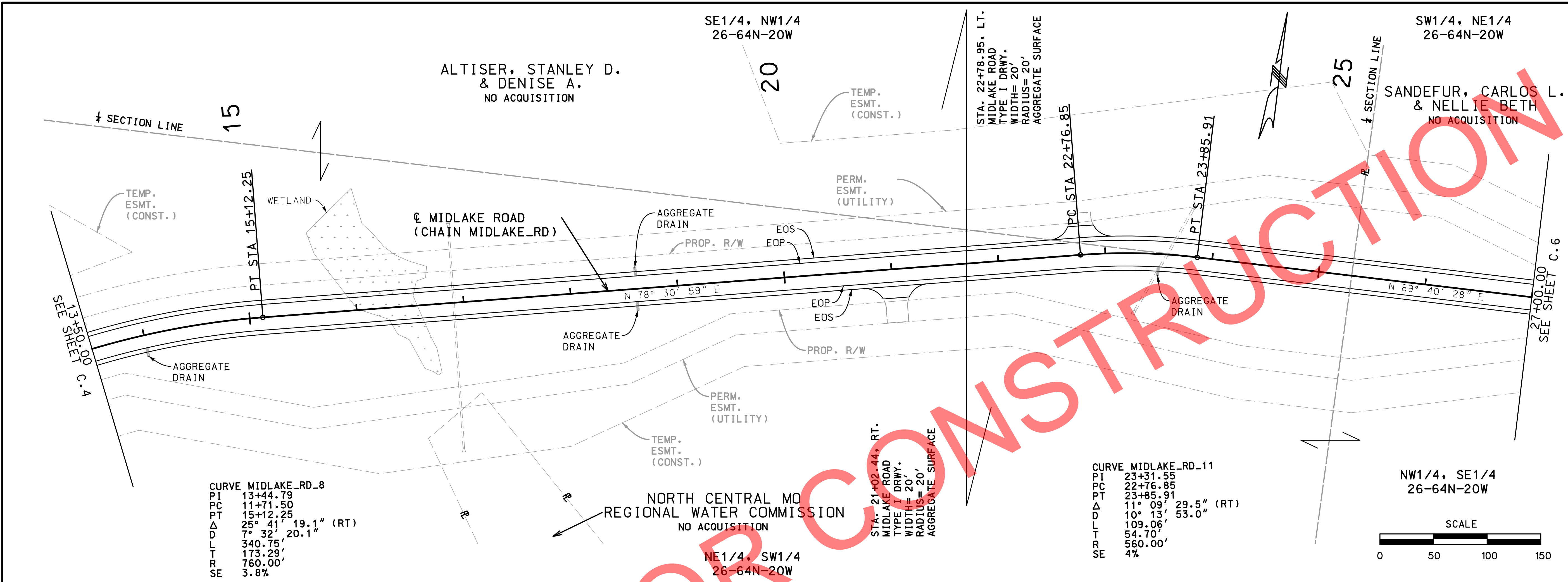
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

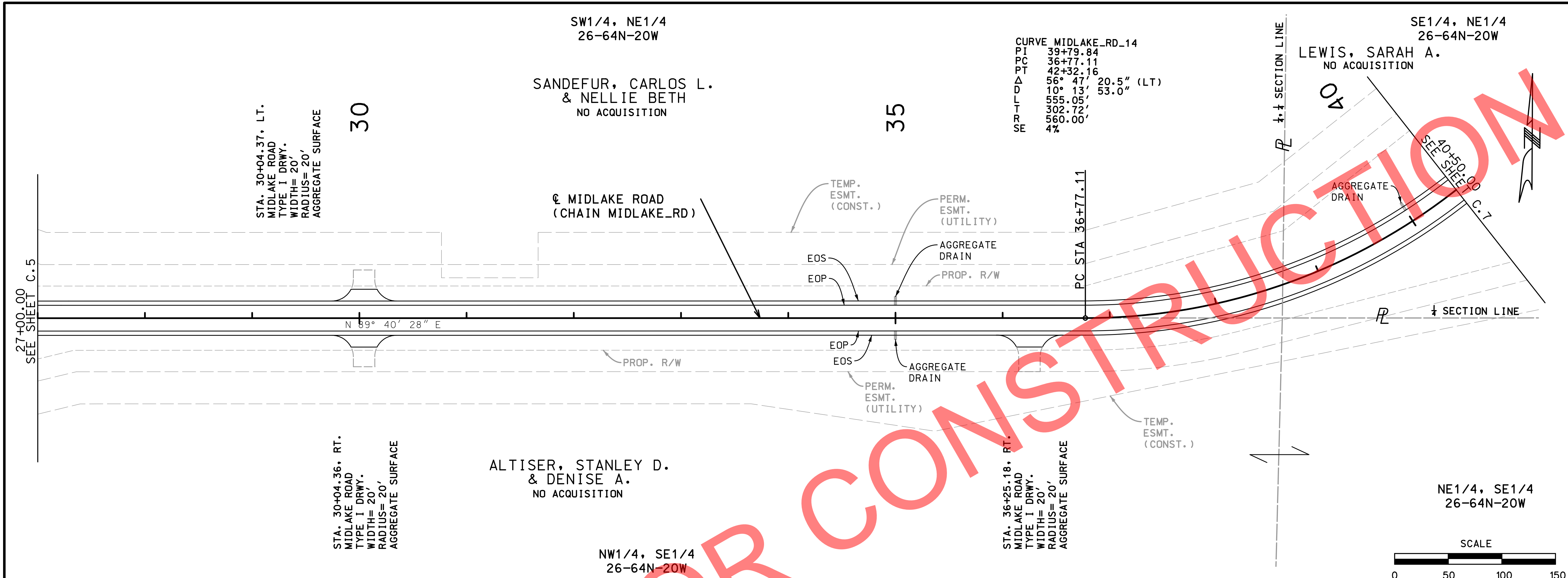
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592

REV.



PLAN-PROFILE
SHEET 2 OF 16

DATE PREPARED 2/7/2022	
ROUTE MID	STATE MO
DISTRICT NW	SHEET NO. C.5
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
olsson 1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



DATE PREPARED 2/7/2022	
ROUTE MID	STATE MO
DISTRICT NW	SHEET NO. C.6
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

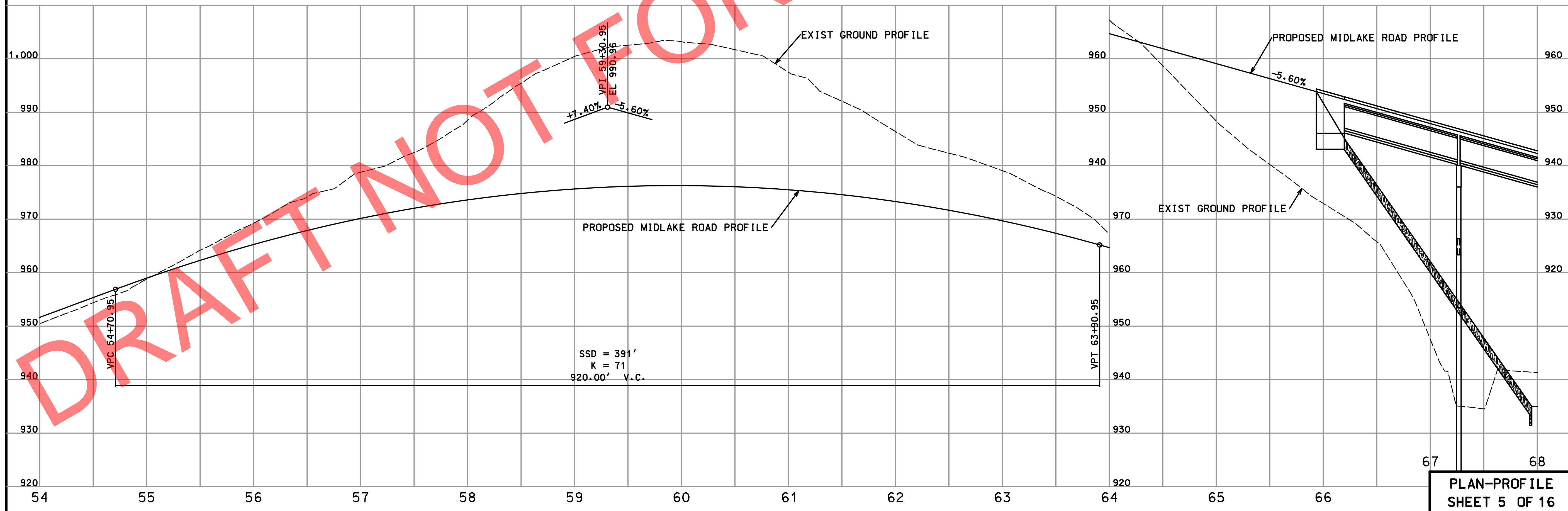
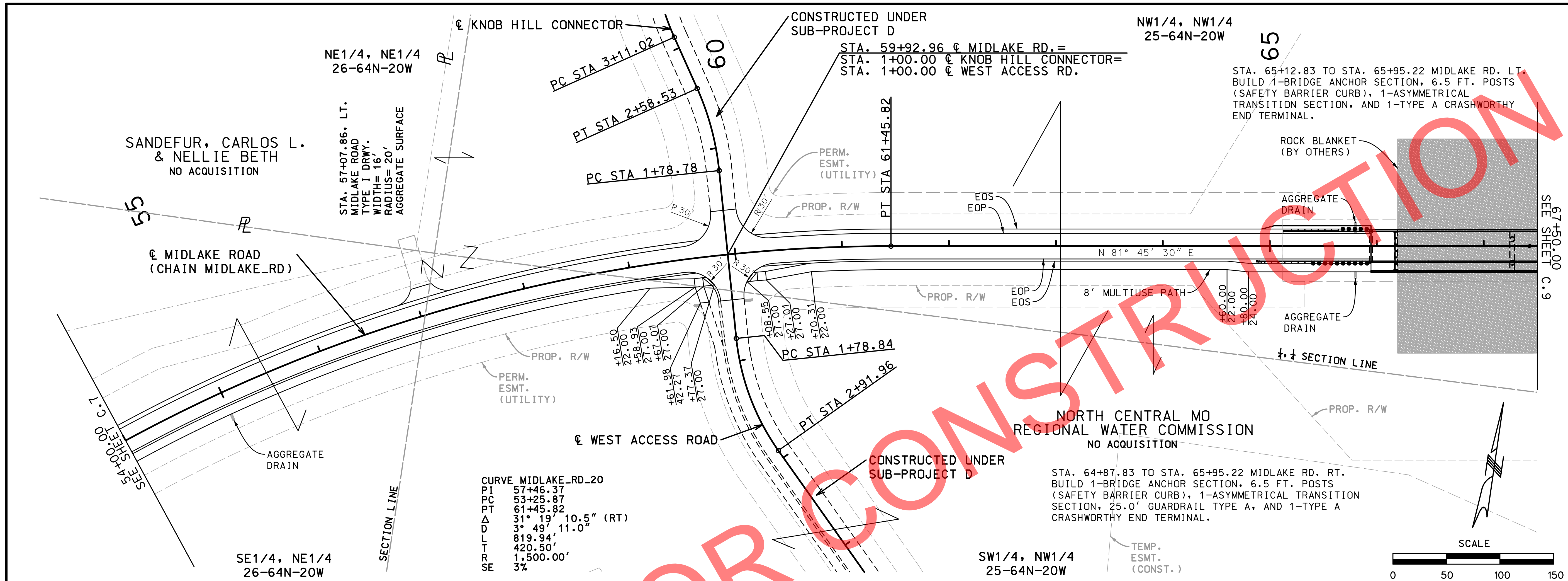
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

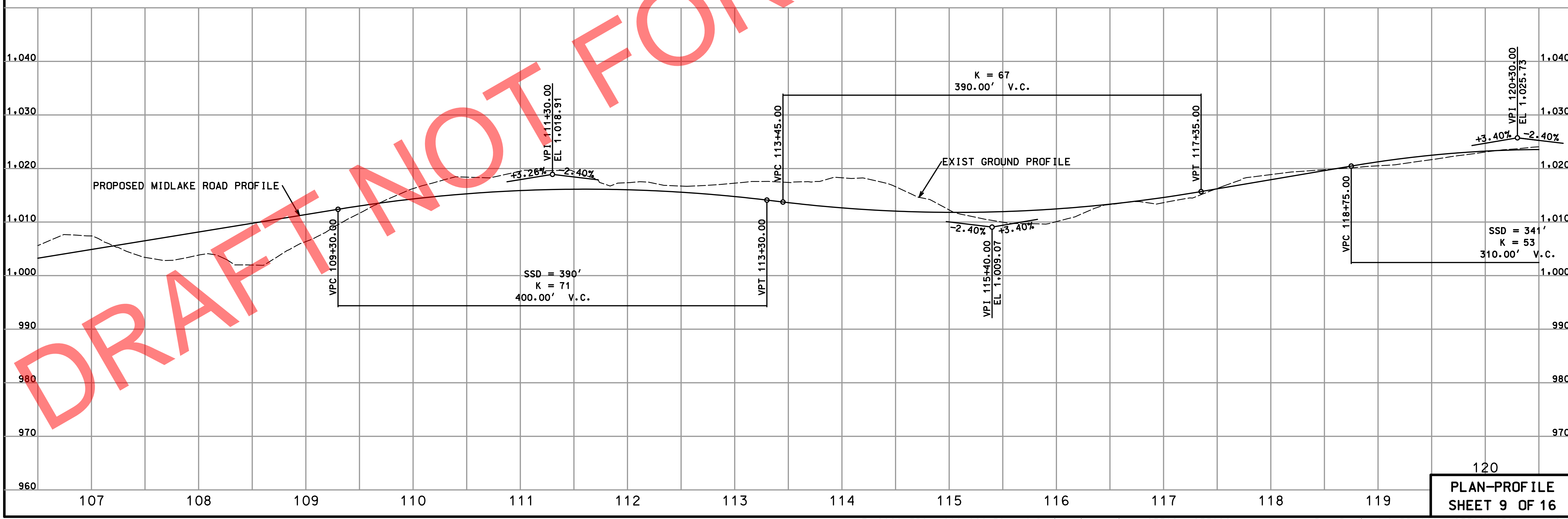
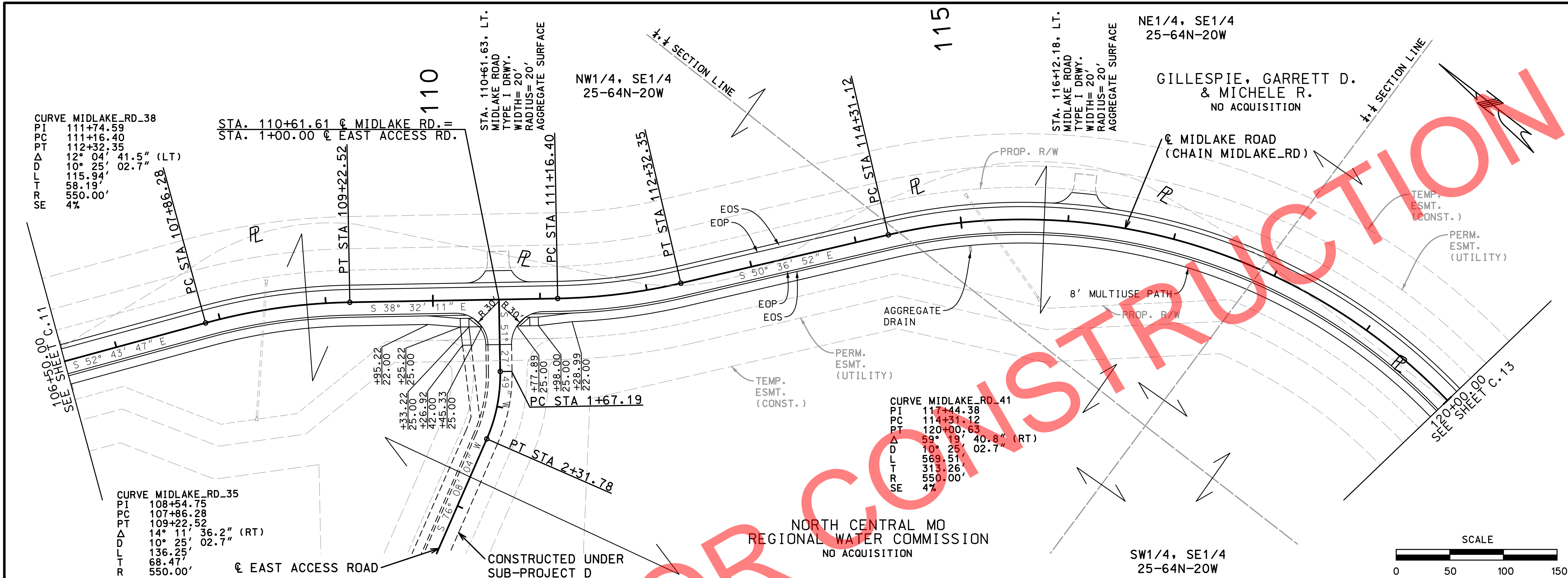
olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

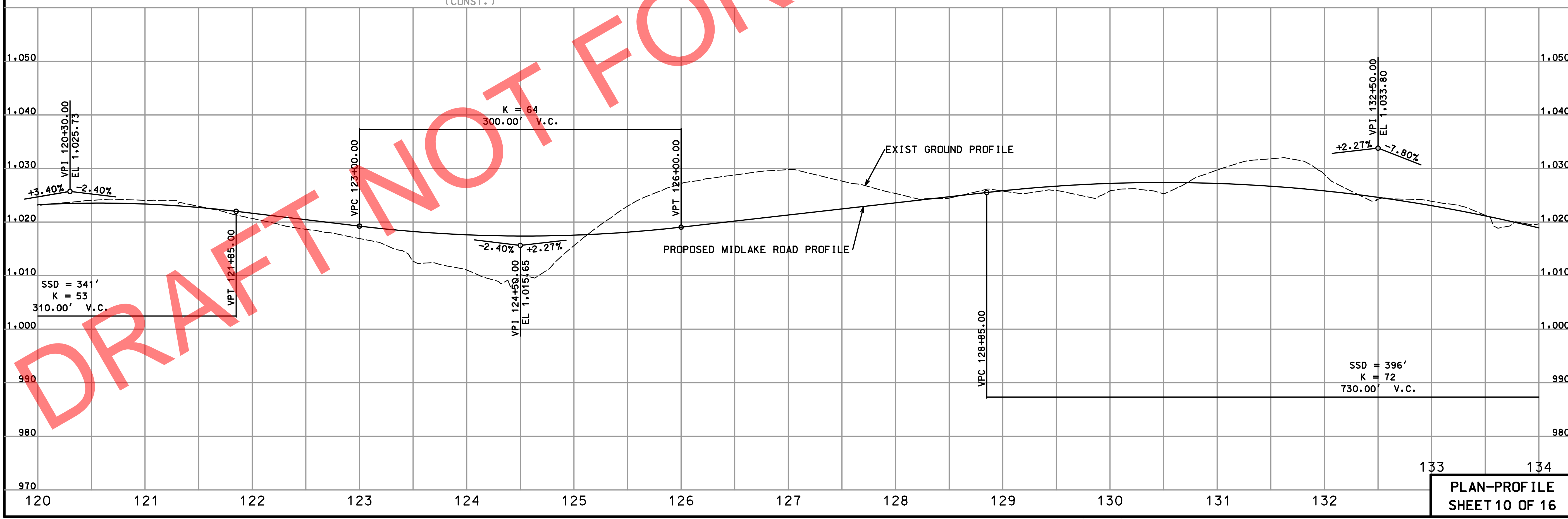
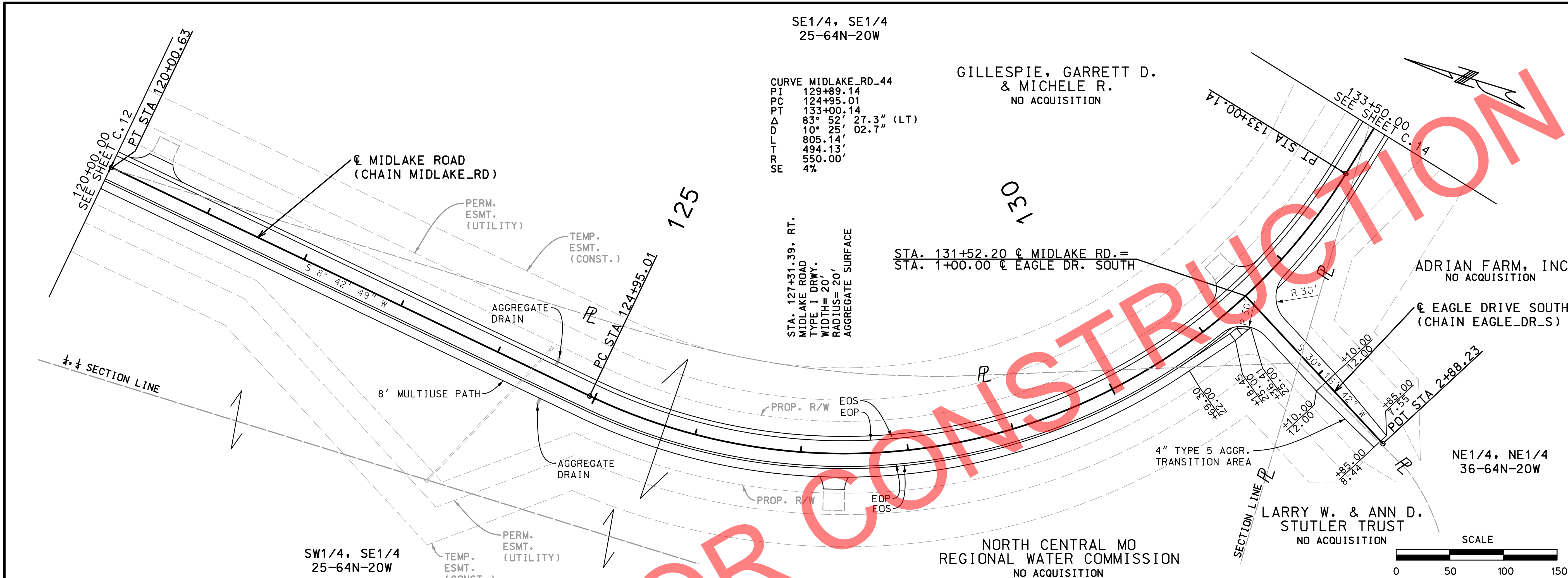


DATE PREPARED 2/7/2022	
ROUTE MID	STATE MO
DISTRICT NW	SHEET NO. C.8
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson 1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

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DATE PREPARED 2/7/2022	
ROUTE MID	STATE MO
DISTRICT NW	SHEET NO. C.12
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



CURVE MIDLAKE_RD_44
PI 129+89.14
PC 124+95.01
PT 133+00.14
Δ 83° 52' 27.3" (LT)
D 10' 25' 02.7"
L 805.14'
T 494.13'
SE 550.00'
4%

GILLESPIE, GARRETT D.
& MICHELE R.
NO ACQUISITION

STA. 131+52.20 & MIDLAKE RD. =
STA. 1+00.00 & EAGLE DR. SOUTH

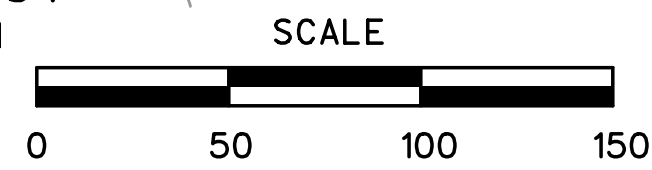
ADRIAN FARM, INC
NO ACQUISITION

& EAGLE DRIVE SOUTH
(CHAIN EAGLE_DR_S)

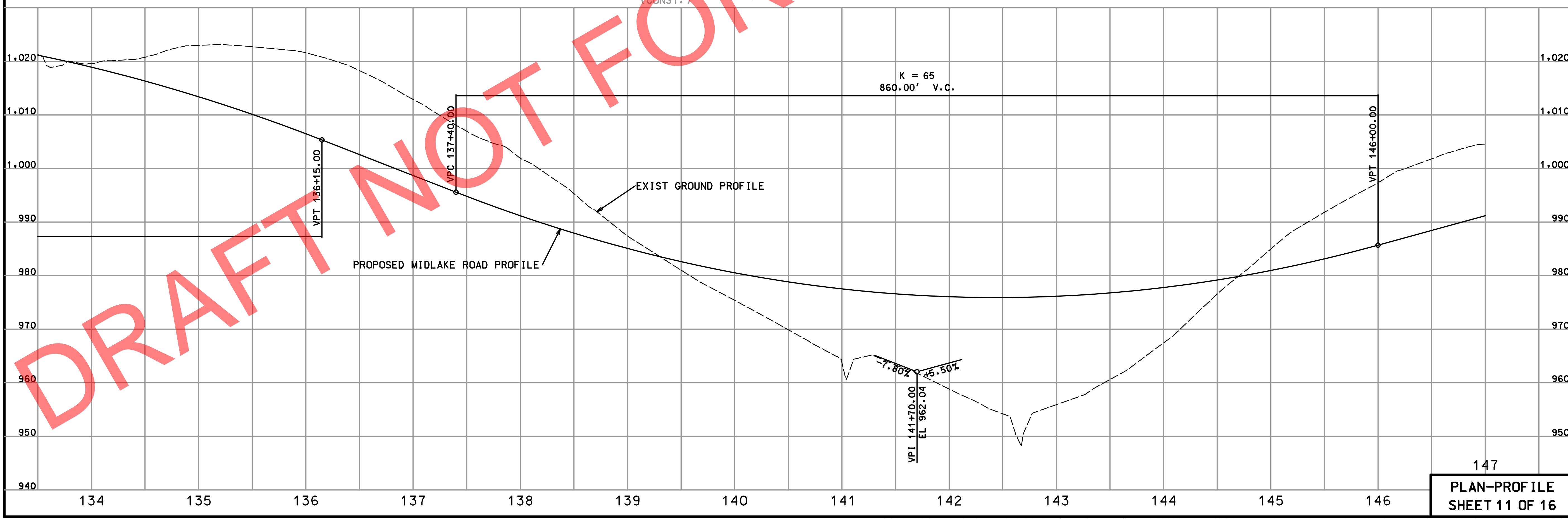
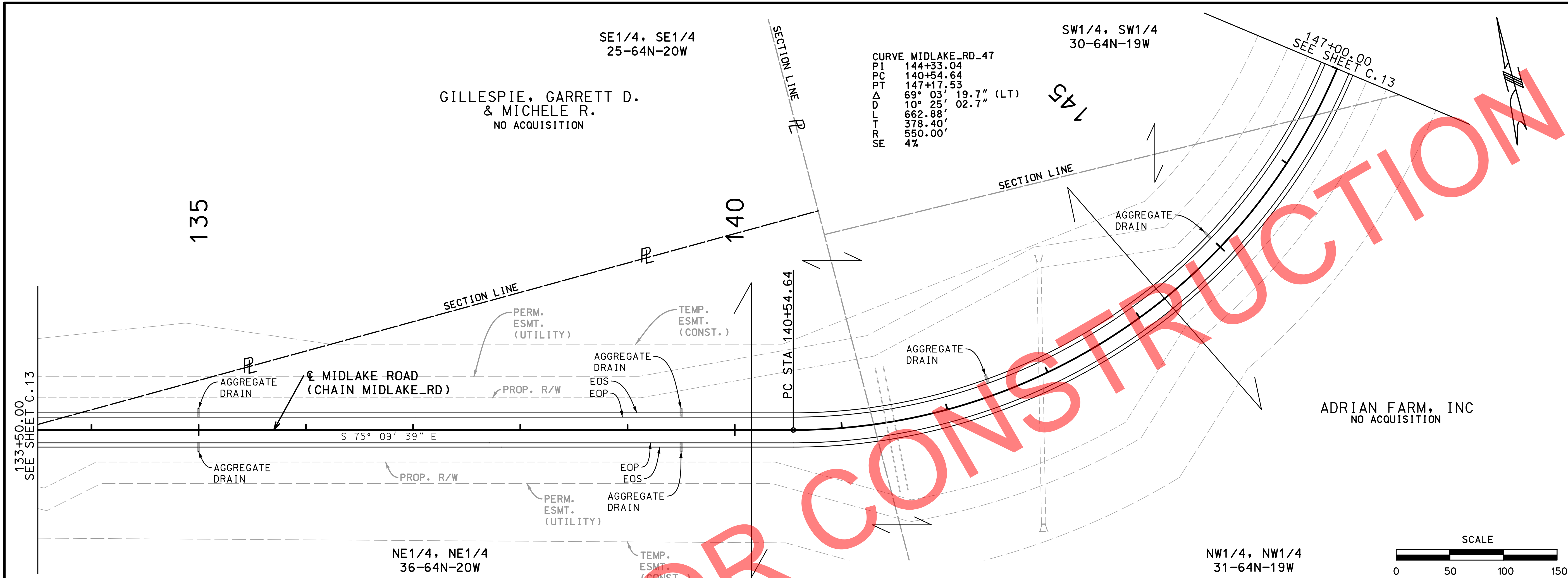
NE1/4, NE1/4
36-64N-20W

LARRY W. & ANN D.
STUTLER TRUST
NO ACQUISITION

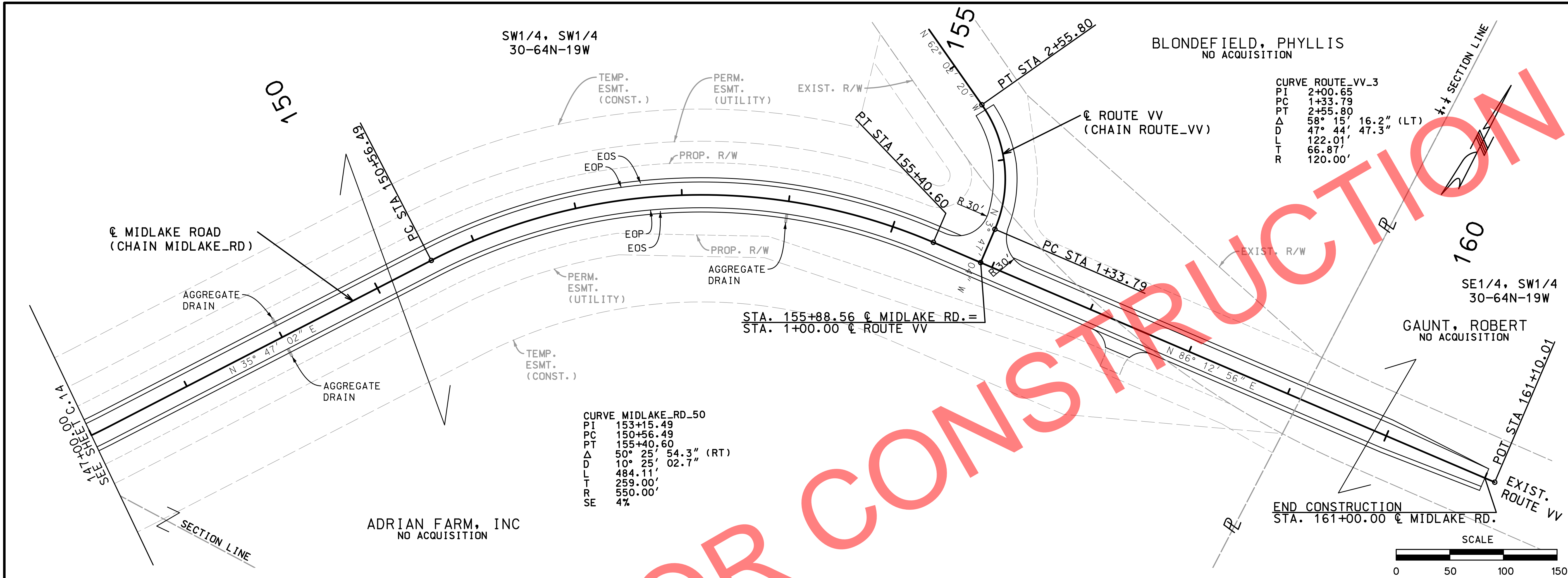
NORTH CENTRAL MO
REGIONAL WATER COMMISSION
NO ACQUISITION



DATE PREPARED 2/7/2022	
ROUTE MID	STATE MO
DISTRICT NW	SHEET NO. C.13
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



DATE PREPARED 2/7/2022	
ROUTE MID	STATE MO
DISTRICT NW	SHEET NO. C.14
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson 1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

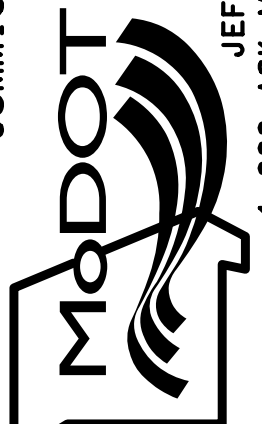
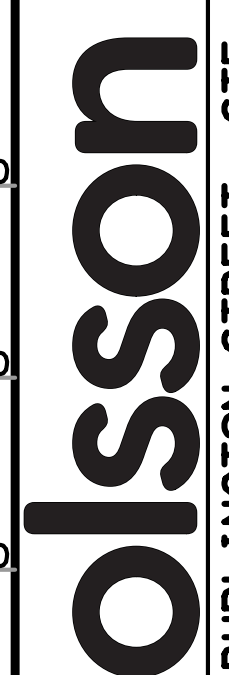


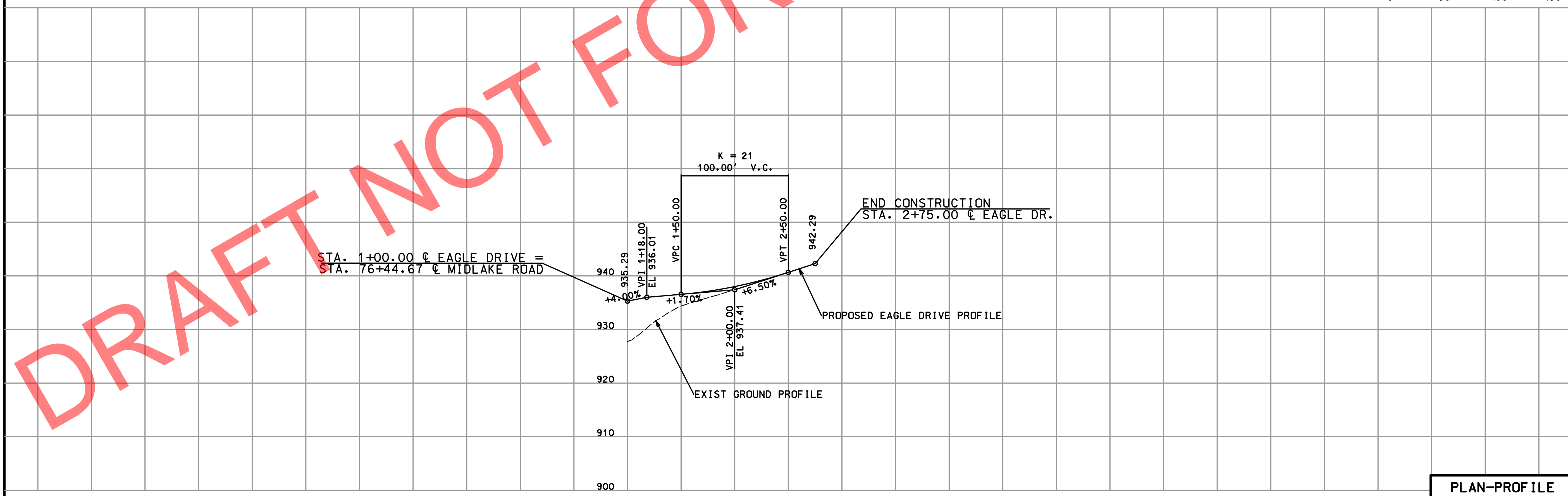
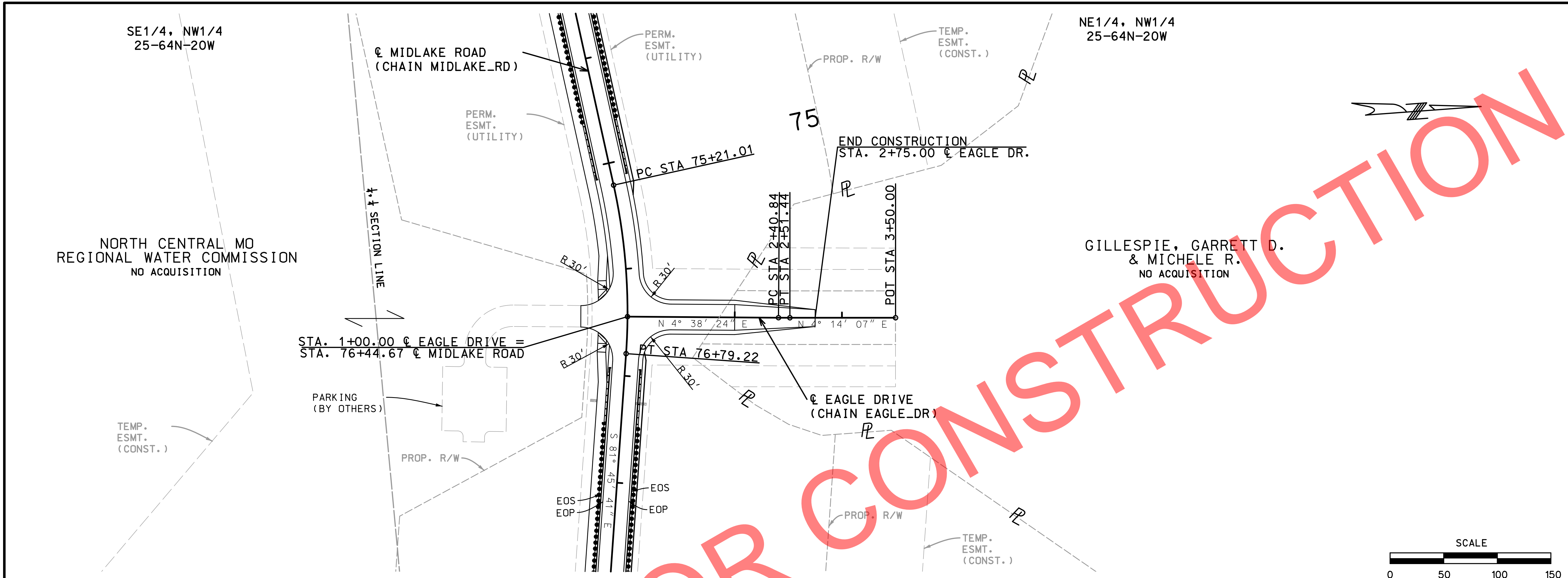
CURVE ROUTE_VV_3

PI	2+00.65
PC	1+33.79
PT	2+55.80
Δ	58° 15' 16.2" (LT)
D	47° 44' 47.3"
L	122.01'
R	66.87'
T	120.00'

CURVE MIDLAKE_RD_50

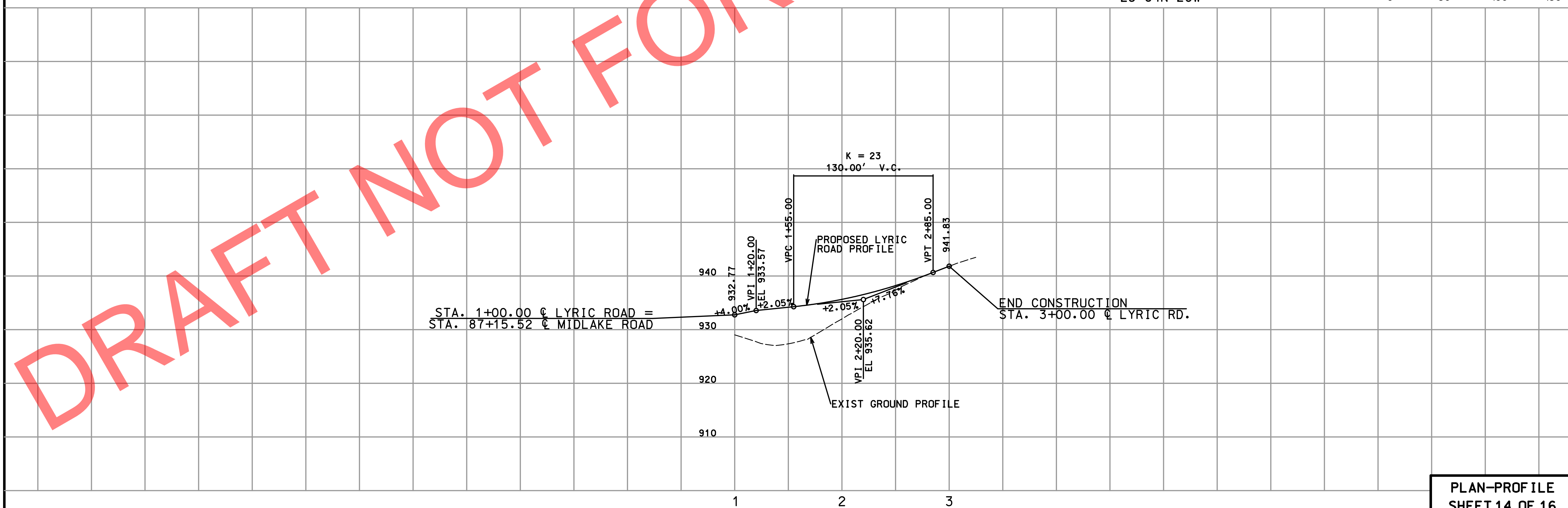
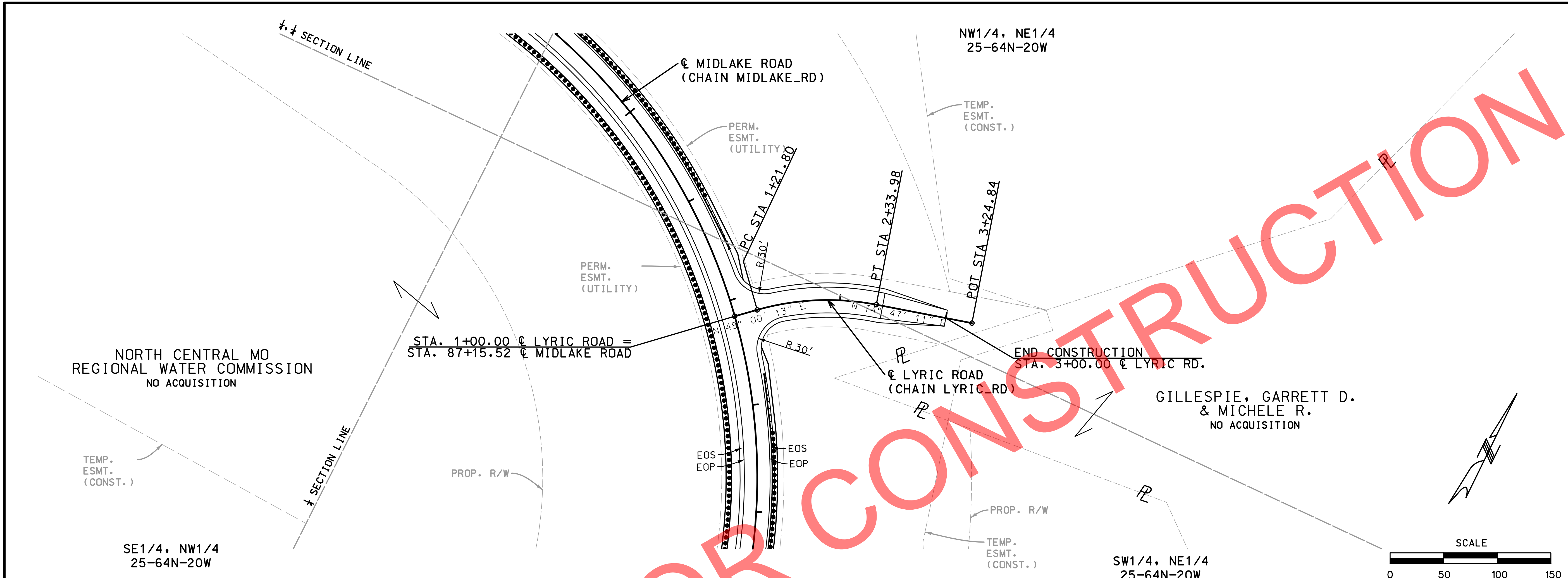
PI	153+15.49
PC	150+56.49
PT	155+40.60
Δ	50° 25' 54.3" (RT)
D	10° 25' 02.7"
L	484.11'
T	259.00'
R	550.00'
SE	4%

DATE PREPARED 2/7/2022	
ROUTE MID	STATE MO
DISTRICT NW	SHEET NO. C.15
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

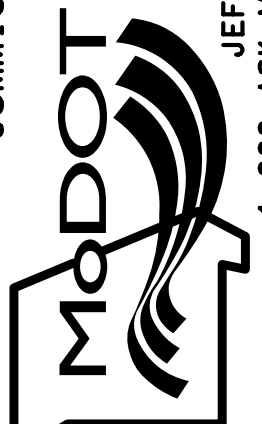


PLAN-PROFILE
SHEET 13 OF 16

DATE PREPARED 2/7/2022	
ROUTE MID	STATE MO
DISTRICT NW	SHEET NO. C.16
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



PLAN-PROFILE
SHEET 14 OF 16

DATE PREPARED 2/7/2022	
ROUTE MID	STATE MO
DISTRICT NW	SHEET NO. C.17
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

SE1/4, SE1/4
25-64N-20W

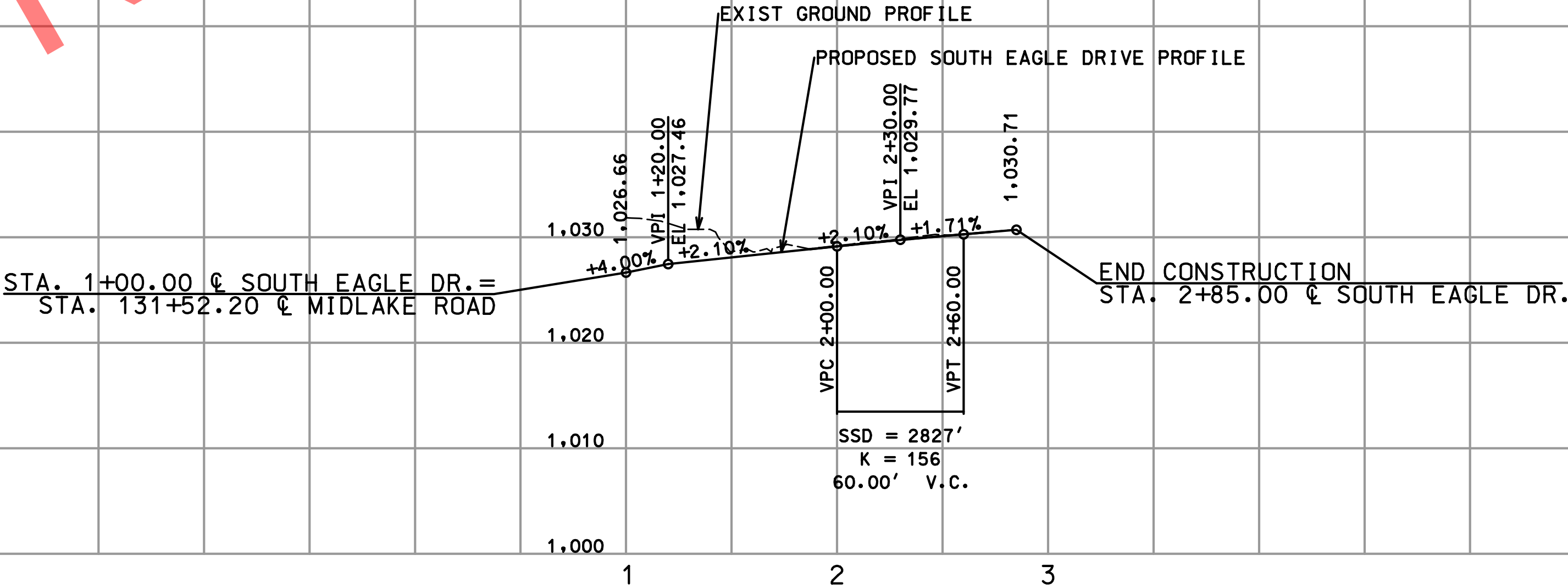
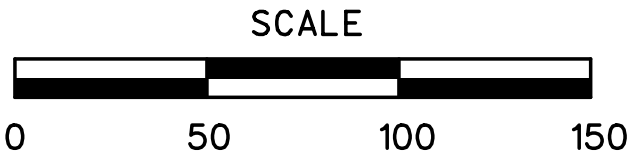
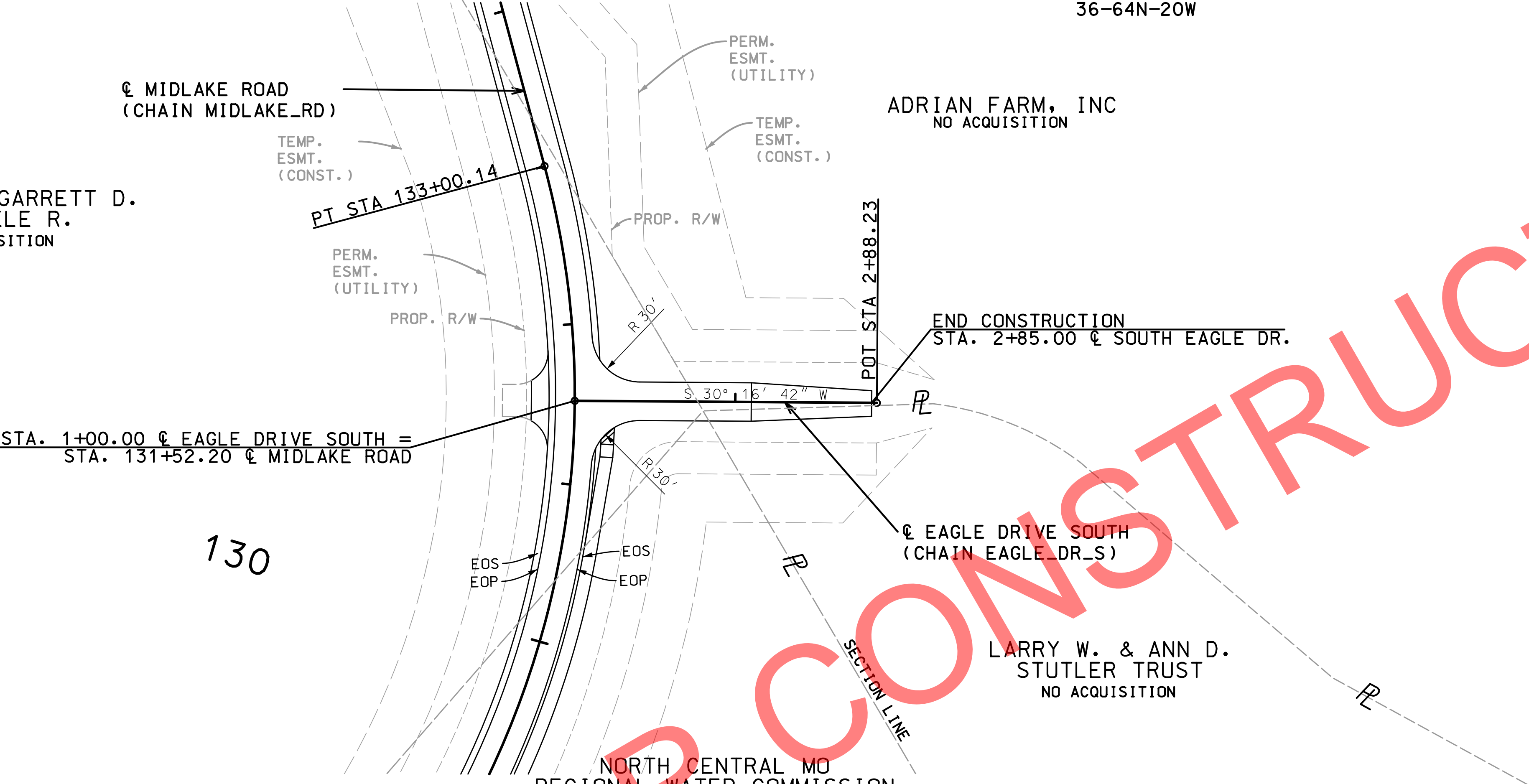
NE1/4, NE1/4
36-64N-20W

GILLESPIE, GARRETT D.
& MICHELE R.
NO ACQUISITION

ADRIAN FARM, INC
NO ACQUISITION

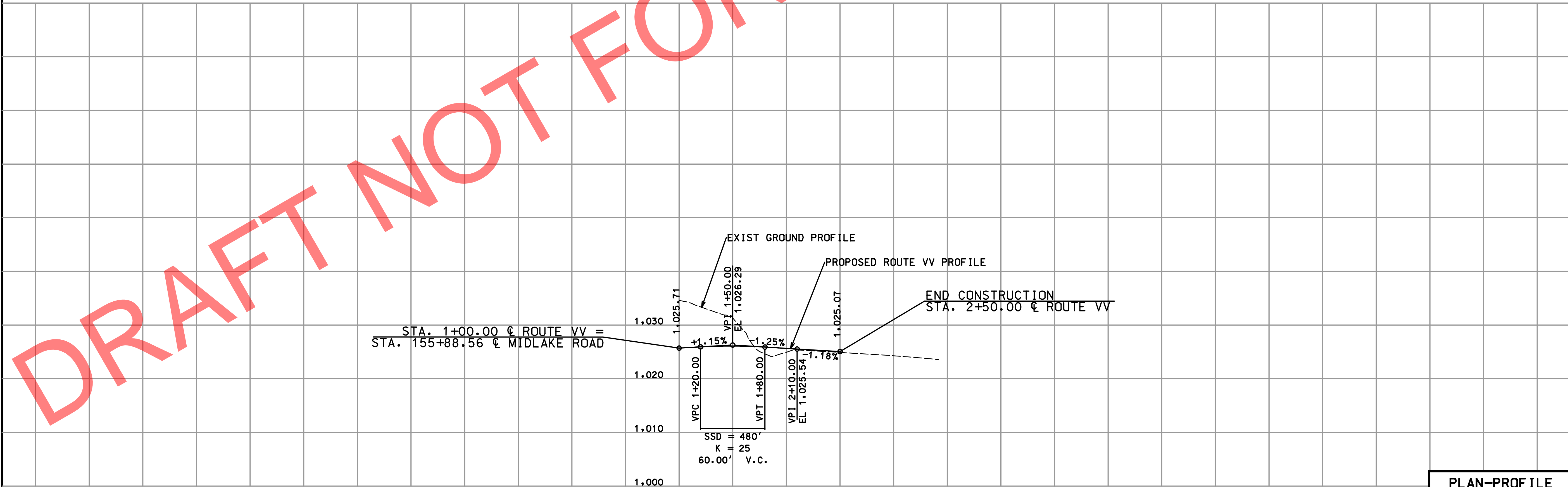
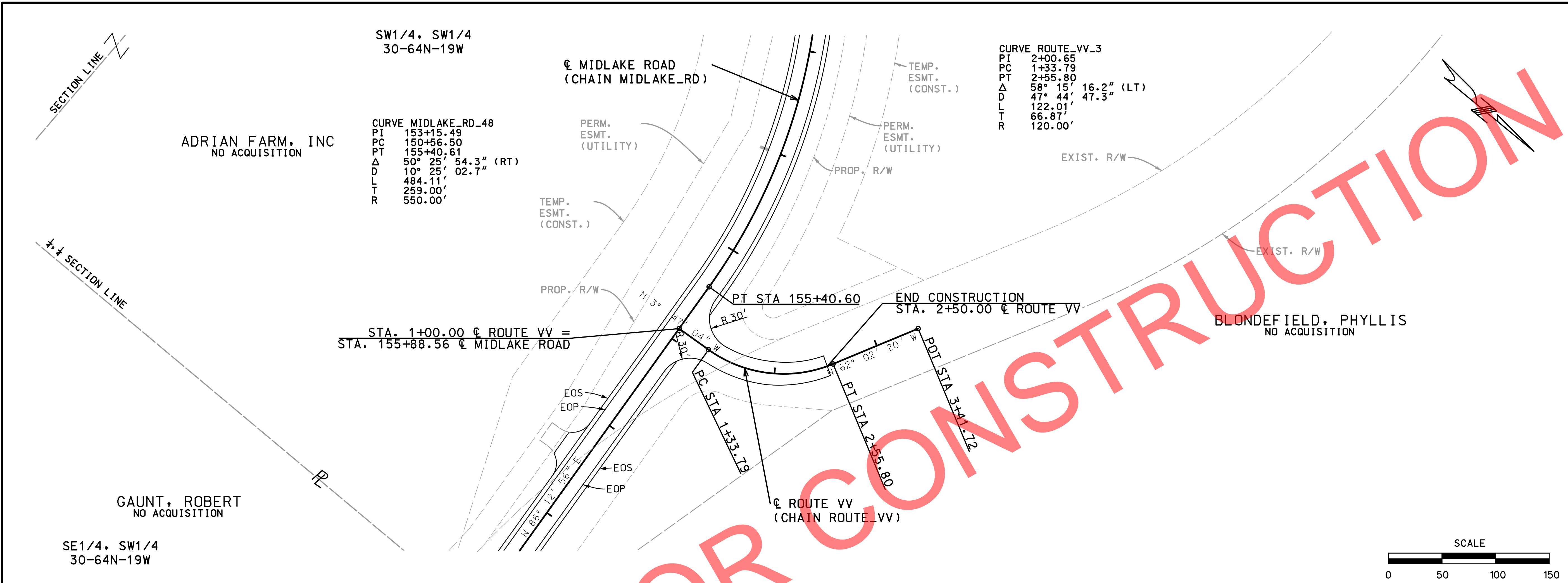
LARRY W. & ANN D.
STUTLER TRUST
NO ACQUISITION

NORTH CENTRAL MO
REGIONAL WATER COMMISSION
NO ACQUISITION

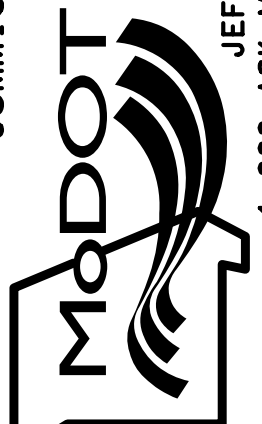



PLAN-PROFILE
SHEET 15 OF 16

DATE PREPARED 2/7/2022	
ROUTE MID	STATE MO
DISTRICT NW	SHEET NO. C.18
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



PLAN-PROFILE
SHEET 16 OF 16

DATE PREPARED 2/7/2022	
ROUTE MID	STATE MO
DISTRICT NW	SHEET NO. C.19
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

DRAFT

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

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	MODIFIED MISSOURI STATE PLANE
HORIZONTAL DATUM	NAD 83 (2011) (EPOCH 2010)
VERTICAL DATUM	NAVD 88: GNSS DERIVED
GEOID MODEL	12B
ELEVATIONS DETERMINED BY	GPS DERIVED
PROJECT PROJECTION FACTOR	1.00007728

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MO COORDINATE SYSTEM OF 1983
CONTROL STATION	MISSOURI CORS
DESIGNATION	MODOT MILAN CORS ARP
CORS ID	MOML
PID	DN6087
LATITUDE	10°12'37.76062" (N)
LONGITUDE	093°06'57.87622" (W)
NORTHING (M)	486,000.913
EASTING (M)	447,556.050
ZONE	CENTRAL
PROJECT AVERAGE GRID FACTOR	0.99996781

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

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

EXAMPLE: CONTROL POINT #8
N 1619096.411 X 0.999922725 = N 1618971.295
E 1469538.057 X 0.999922725 = E 146526.733

LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND)			DESCRIPTION	GPK POINT ID
				NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)		
ALIGNMENTS								
CHAIN MIDLAKE RD								
	0+97.17	CL		1,634,041.1974	1,467,515.4130		BEGIN CHAIN MIDLAKE RD	
	1+53.74	CL		1,634,027.4404	1,467,570.2860		P.C. CURVE MIDLAKE RD 5	
	4+22.33	RT		1,633,962.1247	1,467,830.8112		P.I. CURVE MIDLAKE RD 5	
	6+54.62	CL		1,634,124.4095	1,468,044.8280		P.T. CURVE MIDLAKE RD 5	
	11+71.50	CL		1,634,436.7194	1,468,456.6935		P.C. CURVE MIDLAKE RD 8	
	13+44.79	LT		1,634,541.4214	1,468,594.7716		P.I. CURVE MIDLAKE RD 8	
	15+12.25	CL		1,634,575.9209	1,468,764.5887		P.T. CURVE MIDLAKE RD 8	
	22+76.85	CL		1,634,728.1445	1,469,513.8817		P.C. CURVE MIDLAKE RD 11	
	23+31.55	LT		1,634,739.0351	1,469,567.4889		P.I. CURVE MIDLAKE RD 11	
	23+85.91	CL		1,634,739.3459	1,469,622.1902		P.T. CURVE MIDLAKE RD 11	
	36+77.11	CL		1,634,746.6819	1,470,913.3746		P.C. CURVE MIDLAKE RD 14	
	39+79.84	RT		1,634,748.4018	1,471,216.0913		P.I. CURVE MIDLAKE RD 14	
	42+32.16	CL		1,635,002.6147	1,471,380.4574		P.T. CURVE MIDLAKE RD 14	
	46+69.84	CL		1,635,370.1591	1,471,618.1001		P.C. CURVE MIDLAKE RD 17	
	47+54.76	LT		1,635,441.4668	1,471,664.2054		P.I. CURVE MIDLAKE RD 17	
	48+38.34	CL		1,635,495.5492	1,471,729.6696		P.T. CURVE MIDLAKE RD 17	
	53+25.87	CL		1,635,806.0614	1,472,105.5302		P.C. CURVE MIDLAKE RD 20	
	57+46.37	LT		1,636,073.8767	1,472,429.7082		P.I. CURVE MIDLAKE RD 20	
	61+45.82	CL		1,636,134.1549	1,472,845.8607		P.T. CURVE MIDLAKE RD 20	
	75+21.01	CL		1,636,331.2900	1,474,206.8546		P.C. CURVE MIDLAKE RD 23	
	76+00.67	LT		1,636,342.7080	1,474,285.6825		P.I. CURVE MIDLAKE RD 23	
	76+79.22	CL		1,636,331.2942	1,474,364.5111		P.T. CURVE MIDLAKE RD 23	
	83+33.81	CL		1,636,237.4931	1,475,012.3444		P.C. CURVE MIDLAKE RD 26	
	89+41.01	LT		1,636,150.4818	1,475,613.2843		P.I. CURVE MIDLAKE RD 26	
	92+52.08	CL		1,635,561.0538	1,475,467.4272		P.T. CURVE MIDLAKE RD 26	
	96+45.83	CL		1,635,178.8295	1,475,372.8438		P.C. CURVE MIDLAKE RD 29	
	99+02.92	RT		1,634,929.2649	1,475,311.0877		P.I. CURVE MIDLAKE RD 29	
	101+26.82	CL		1,634,721.8220	1,475,462.9553		P.T. CURVE MIDLAKE RD 29	
	104+19.64	CL		1,634,485.5522	1,475,635.9268		P.C. CURVE MIDLAKE RD 32	
	104+99.49	RT		1,634,421.1192	1,475,683.0977		P.I. CURVE MIDLAKE RD 32	
	105+78.24	CL		1,634,372.7613	1,475,746.6448		P.T. CURVE MIDLAKE RD 32	
	107+86.28	CL		1,634,246.7784	1,475,912.1987		P.C. CURVE MIDLAKE RD 35	
	108+54.75	LT		1,634,205.3123	1,475,966.6893		P.I. CURVE MIDLAKE RD 35	
	109+22.52	CL		1,634,151.7511	1,476,009.3492		P.T. CURVE MIDLAKE RD 35	
	111+16.40	CL		1,634,000.0935	1,476,130.1401		P.C. CURVE MIDLAKE RD 38	
	111+74.59	RT		1,633,954.5790	1,476,166.3911		P.I. CURVE MIDLAKE RD 38	
	112+32.35	CL		1,633,917.6574	1,476,211.3633		P.T. CURVE MIDLAKE RD 38	
	114+31.12	CL		1,633,791.5297	1,476,364.9929		P.C. CURVE MIDLAKE RD 41	
	117+44.38	LT		1,633,592.7574	1,476,607.1071		P.I. CURVE MIDLAKE RD 41	
	120+00.63	CL		1,633,283.1164	1,476,559.6507		P.T. CURVE MIDLAKE RD 41	
	124+95.01	CL		1,632,794.4408	1,476,484.7550		P.C. CURVE MIDLAKE RD 44	
	129+89.14	RT		1,632,306.0134	1,476,409.8974		P.I. CURVE MIDLAKE RD 44	
	133+00.14	CL		1,632,179.4627	1,476,887.5478		P.T. CURVE MIDLAKE RD 44	
	140+54.64	CL		1,631,986.2290	1,477,616.8853		P.C. CURVE MIDLAKE RD 47	
	144+33.04	RT		1,631,889.3188	1,477,982.6618		P.I. CURVE MIDLAKE RD 47	
	147+17.53	CL		1,632,196.2852	1,478,203.9208		P.T. CURVE MIDLAKE RD 47	
	150+56.49	CL		1,632,471.2626	1,478,402.1224		P.C. CURVE MIDLAKE RD 50	
	153+15.49	LT		1,632,681.3682	1,478,553.5648		P.I. CURVE MIDLAKE RD 50	
	155+40.60	CL		1,632,698.4629	1,478,811.9965		P.T. CURVE MIDLAKE RD 50	
	161+10.01	CL		1,632,736.0457	1,479,380.1582		END CHAIN MIDLAKE RD	

DATE PREPARED
2/7/2022

ROUTE
MID
DISTRICT
NW

STATE
MO
SHEET NO.
C.20

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

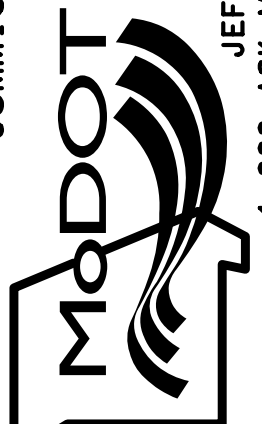
PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-5636)

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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EXAMPLE OF PROJECT COORDINATE TO S.P.C.

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= STATE PLANE NORTHING
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E 1469538.057 X 0.999922725 = E 146526.733

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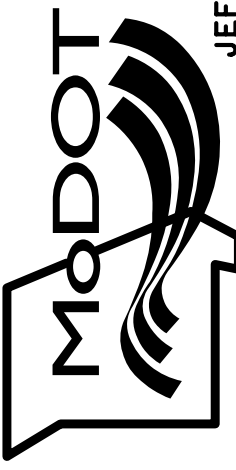
COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND)			DESCRIPTION	GPK POINT ID
				NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)		
ALIGNMENTS								
EAGLE DR								
	1+00.00	CL		1,636,335.1679	1,474,330.1899		BEGIN CHAIN EAGLE DR	
	2+40.84	CL		1,636,475.5483	1,474,341.5834		P.C. CURVE EAGLE DR 3	
	2+46.14	RT		1,636,480.8297	1,474,342.0120		P.I. CURVE EAGLE DR 3	
	2+51.44	CL		1,636,486.1139	1,474,342.4033		P.T. CURVE EAGLE DR 3	
	3+50.00	CL		1,636,584.4053	1,474,349.6822		END CHAIN EAGLE DR	
LYRIC RD								
	1+00.00	CL		1,636,061.1661	1,475,342.2829		BEGIN CHAIN LYRIC RD	
	1+21.80	CL		1,636,075.7490	1,475,358.4808		P.C. CURVE LYRIC RD 3	
	1+78.93	LT		1,636,113.9791	1,475,400.9449		P.I. CURVE LYRIC RD 3	
	2+33.98	CL		1,636,128.9733	1,475,456.0804		P.T. CURVE LYRIC RD 3	
	3+24.84	CL		1,636,152.8170	1,475,543.7570		END CHAIN LYRIC RD	
EAGLE DR S								
	1+00.00	CL		1,632,236.0154	1,476,751.3216		BEGIN CHAIN EAGLE DR S	
	2+88.23	CL		1,632,073.4605	1,476,656.4151		END CHAIN EAGLE DR S	
ROUTE VV								
	1+00.00	CL		1,632,701.6283	1,478,859.8491		BEGIN CHAIN ROUTE VV	
	1+33.79	CL		1,632,735.3423	1,478,857.6190		P.C. CURVE ROUTE VV 3	
	2+00.65	RT		1,632,802.0625	1,478,853.2056		P.I. CURVE ROUTE VV 3	
	2+55.80	CL		1,632,833.4139	1,478,794.1451		P.T. CURVE ROUTE VV 3	
	3+41.72	CL		1,632,873.7019	1,478,718.2498		END CHAIN ROUTE VV	

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-5636)

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

SIGN SPACING FOR ADVANCE SIGN SERIES (1)		
PERMANENT POSTED SPEED MPH	UNDIVIDED HIGHWAYS	DIVIDED HIGHWAYS
0-35	200'	200'
40-45	350'	500'
50-55	500'	1000'
60-70	1000'	SA - 1000' SB - 1500' SC - 2640'

TAPER LENGTHS AND END TREATMENTS FOR CONCRETE BARRIER				
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (2)			END TREATMENT (3)
	T1	10'	11'	12'
<40	160'	168'	176'	BARRIER HEIGHT TRANSITION
>40	160'	168'	176'	APPROVED CRASH CUSHION

TAPER LENGTHS AND SPACING FOR CHANNELIZERS							
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (T1)			MINIMUM SHOULDER TAPER LENGTH BASED ON 10' SHOULDER	BUFFER LENGTH FT.	MAXIMUM CHANNELIZER SPACING	
	10'	11'	12'			THROUGH TAPER	THROUGH WORK AREA
0-35	205'	225'	245'	70'	280'	35'	40'
40-45	450'	495'	540'	150'	400'	40'	80'
50-55	550'	605'	660'	185'	560'	50'	80'
60-70	700'	770'	840'	235'	840'	60'	120'

NOTES:

- (1) SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS AND VIABILITY.
- (2) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER.
- (3) CONCRETE BARRIER MAY BE INSTALLED AT AN 8:1 FLARE RATE FROM THE SHOULDER POINT TO THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER. CONTRACTOR MAY PROVIDE CONCRETE BARRIER, INCIDENTAL TO PROJECT.

GENERAL NOTES:

1. AS WITH ALL CONSTRUCTION ACTIVITIES TRAFFIC SITUATIONS ARE SUBJECT TO CHANGE. THE CONTRACTOR SHALL BE AWARE THAT ALL TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE STANDARDS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) THE MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION, SECTION 600 AND SHALL FOLLOW THE GUIDELINES IN THE MODOT 'TRAFFIC CONTROL FOR FIELD OPERATIONS MANUAL'.
2. PLACE A 'ROAD WORK AHEAD' SIGN ON THE APPROACH TO ALL INTERSECTIONS WHERE THE ADVANCE SIGNING FOR THE TEMPORARY TRAFFIC CONTROL EXTENDS PAST THAT INTERSECTION.
3. NOTIFY MODOT RESIDENT ENGINEER 48-HOURS IN ADVANCE OF ANY LANE CLOSURE OR ROADWAY CLOSURE.
4. ALL EXISTING SIGNS SHALL BE USED IN PLACE, ADJUSTED, AND/OR COVERED AS CONDITIONS REQUIRE (NO DIRECT PAY).
5. ALL STATIONING, DISTANCES, AND SPACING OF WORK ZONES DEVICES ARE APPROXIMATE AND MAY BE REVISED AS APPROVED BY ENGINEER.
6. FIRST ORDER OF WORK ON ALL PHASES SHALL BE PLACEMENT OF ALL WORK ZONE WARNING DEVICES AND SIGNS AS NOTED.
7. SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED OR AS APPROVED BY THE ENGINEER.
8. SIGNS LEFT IN PLACE OVERNIGHT MUST BE MOUNTED AT 5' MINIMUM HEIGHT.
9. ALTERNATE TRAFFIC CONTROL MAY BE USED AS NEEDED AT THE APPROVAL OF THE ENGINEER.
10. NO DIRECT PAYMENT WILL BE MADE FOR RELOCATION OF CHANNELIZERS, CONSTRUCTION SIGNS, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES, UNLESS OTHERWISE SHOWN ON THE PLANS.
11. FLAG ASSEMBLIES SHALL BE USED DURING ALL DAYTIME OPERATIONS. THEY ARE REQUIRED ON ALL FLAGGER SIGNS AND TRUCK CROSSING SIGNS WITHIN THE WORK ZONE. THEY WILL BE REQUIRED ON THE FIRST OCCURRENCE OF THE ROAD/RAMP/BRIDGE WORK AHEAD SIGN, BUT ONLY IF THE WORK DURATION IS 30 MINUTES OR MORE. IF PROVIDED, THE COST OF THE FLAG ASSEMBLES AS SHOWN IN THE PLANS.

TRAFFIC CONTROL
SHEET 1 OF 7

"THIS MEDIA SHOULD
NOT BE CONSIDERED
A CERTIFIED
DOCUMENT."

DATE PREPARED
2/6/2022

ROUTE MID	STATE MO
DISTRICT NW	SHEET NO. C.22

COUNTY
SULLIVAN

JOB NO.
J1S3392

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)

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

Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

STAGE 1
STAGE 2

"THIS MEDIA SHOULD
NOT BE CONSIDERED
A CERTIFIED
DOCUMENT."

DATE PREPARED
2/6/2022

MID	MO
-----	----

DISTRICT	SHEET NO.
NW	C. 23

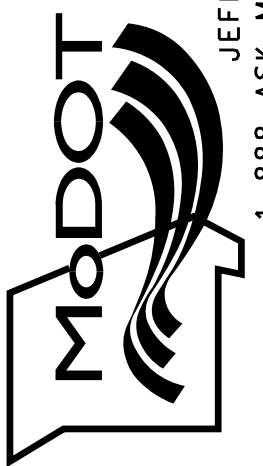
COUNTY

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

 105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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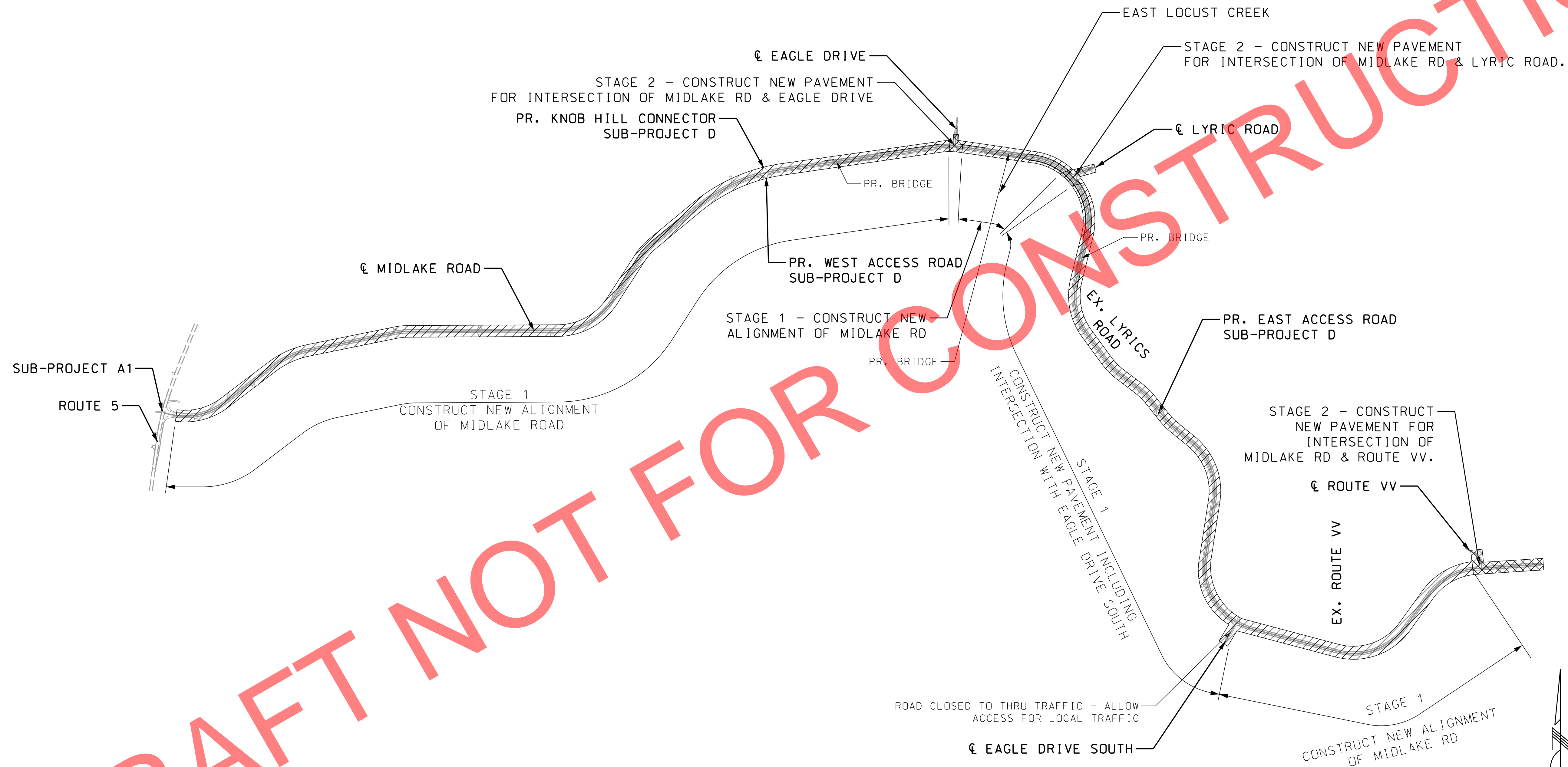
JEFF K. MOEN

Civil Engineering Design
523 Barrett Parkway Dr
Baltimore, MD 21204

Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199

Missouri Certificate of Authority: 001578

REV.



STAGE 1:

- 1) CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES AT ALL TIMES , INCLUDING FIELD ENTRANCES ALONG THIS CLOSURE.
- 2) SEE TYPICALS FOR ROADWAY CLOSURES & TRUCK ENTERING AND LEAVING ROADWAY.

STAGE 2:

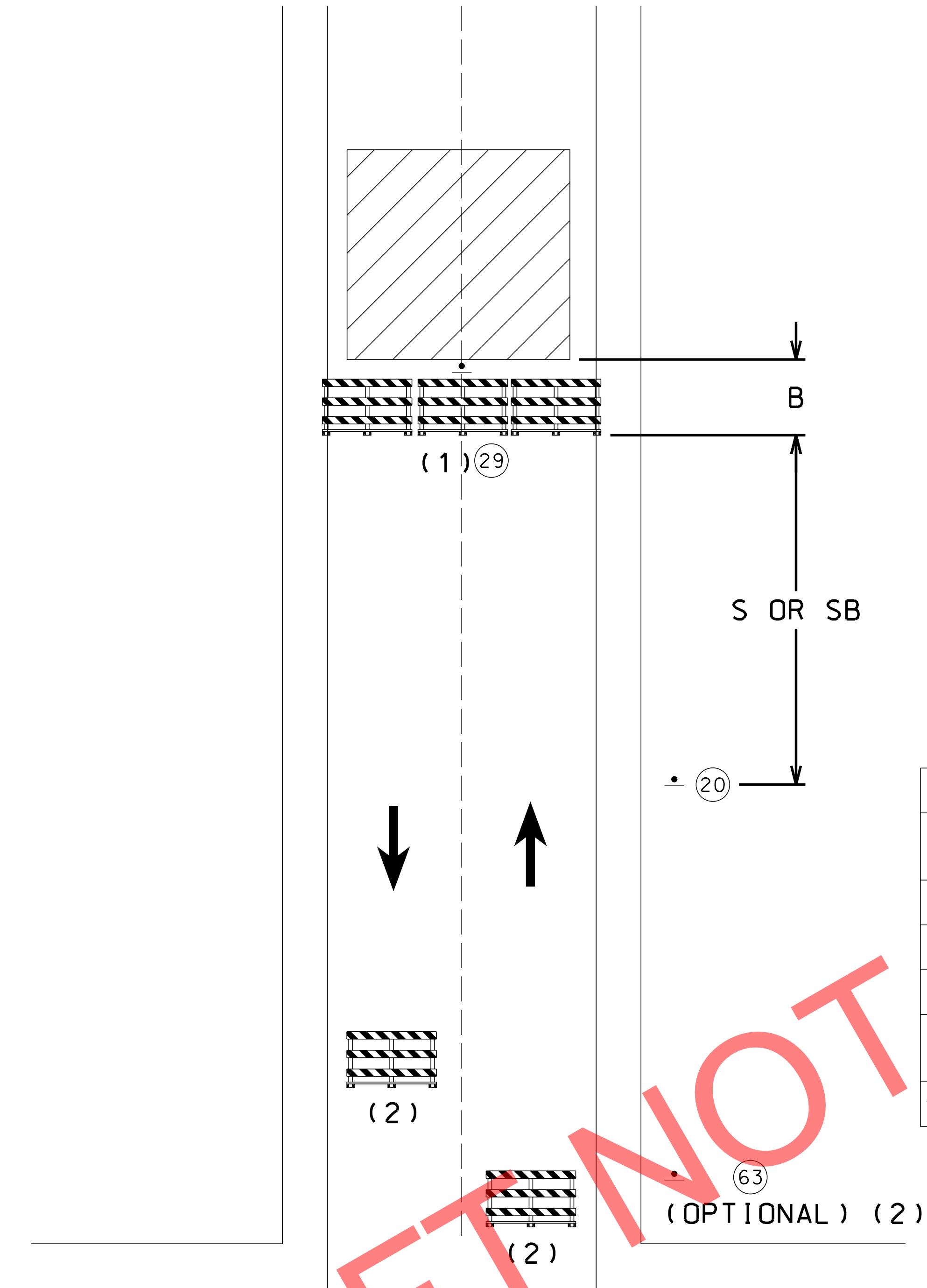
- 1) CONTRACTOR SHALL CONSTRUCT THE MIDLAKE INTERSECTIONS WITH EAGLE DRIVE, LYRIC ROAD & ROUTE VV.
- 2) CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES AT ALL TIMES.
- 3) SEE TYPICAL APPLICATION FOR ROAD CLOSED.

SCALE



TRAFFIC CONTROL
J1S3392C STAGING
SHEET 2 OF 7

TA-8 - HIGHWAY CLOSURE

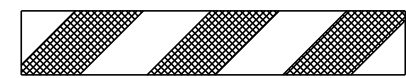
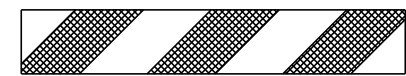
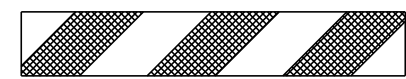


ROAD CLOSED
0.5 MILES AHEAD
LOCAL TRAFFIC ONLY

R11-3a
(63)

ROAD
CLOSED

R11-2
(29)



W020-3
(20)

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- TYPE III MOVEABLE BARRICADE
- WORK AREA
- ADVANCED WARNING RAIL SYSTEM (AWRS)

TYPE OF ROADWAY	SIGN HEIGHT	MAXIMUM WORK ZONE LENGTH (L)
RURAL, UNDIVIDED	1' PORTABLE 5' POST	3MI.

SPEED	SIGN SPACING (FT.)		TAPER LENGTH (FT.)		OPTIONAL	CHANNELIZER SPACING (FT.)	
NORMAL POSTED (MPH)	UNDIVIDED (S)	DIVIDED (S)	SHOULDER (1) (T1)	LANE (2) (T2)	BUFFER LENGTH (FT.) (B)	TAPERS	BUFFER/ WORK AREAS
0-35	200	200	-	-	250	-	-
40-45	350	500	-	-	360	-	-
50-55	500	1000	-	-	495	-	-
60-70	1000	SA - 1000 SB - 1500 SC - 2640	-	-	730	-	-

1. SHOULDER TAPER LENGTH BASED ON 10 FT. (STANDARD SHOULDER WIDTH) OFFSET. 2. LANE TAPER LENGTH BASED ON 12 FT. (STANDARD LANE WIDTH) OFFSET.

NOTES:

- ROAD CLOSED SIGN MAY BE PLACED 7-10 FEET BEHIND THE BARRICADES AND AT A SIGN HEIGHT APPROPRIATE TO THE TYPE OF ROADWAY. ONE BARRICADE SHOULD BE REQUIRED TO COMPLETELY CLOSE EACH 8-FEET OF PAVEMENT. PAVED SHOULDERS SHALL BE INCLUDED IN THE AREA TO BE CLOSED.
- IF USED, THE ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY OR ROAD CLOSED TO THRU TRAFFIC SIGN SHOULD BE LOCATED AT THE FIRST STATE ROUTE OR, AT THE DISCRETION OF THE ENGINEER, ANY OTHER INTERSECTION IN ADVANCE OF THE CLOSURE. ADDITIONAL BARRICADES MAY BE USED AND OFFSET TO FACILITATE ACCESS FOR WORK VEHICLES, LOCAL TRAFFIC, ETC.

TRAFFIC CONTROL SHOULD BE REMOVED AS SOON AS PRACTICAL AFTER CONDITION FOR THE CLOSURE NO LONGER EXISTS.

FOR LONG-TERM OPERATIONS, REFER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM (AWRS).

ADDITIONAL WARNING SIGNS SHOULD BE ERECTED AT EACH INTERSECTION WITHIN THE WORK ZONE.

SEE STANDARD PLAN 616.10 FOR USE OF BARRICADES AND SIGNS.

FOR LONG-TERM CLOSURE, DETOUR SIGNING SHOULD BE CONSIDERED.

FOR DETOUR SIGNING, REVIEW EPG 616.8.9 ROAD CLOSED BEYOND JUNCTION DETOUR.

NOT TO SCALE

TRAFFIC CONTROL
SHEET 3 OF 7

"THIS MEDIA SHOULD
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DATE PREPARED

2/6/2022

ROUTE STATE

MID MO

DISTRICT SHEET NO.

NW C.24

COUNTY

SULLIVAN

JOB NO.

J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

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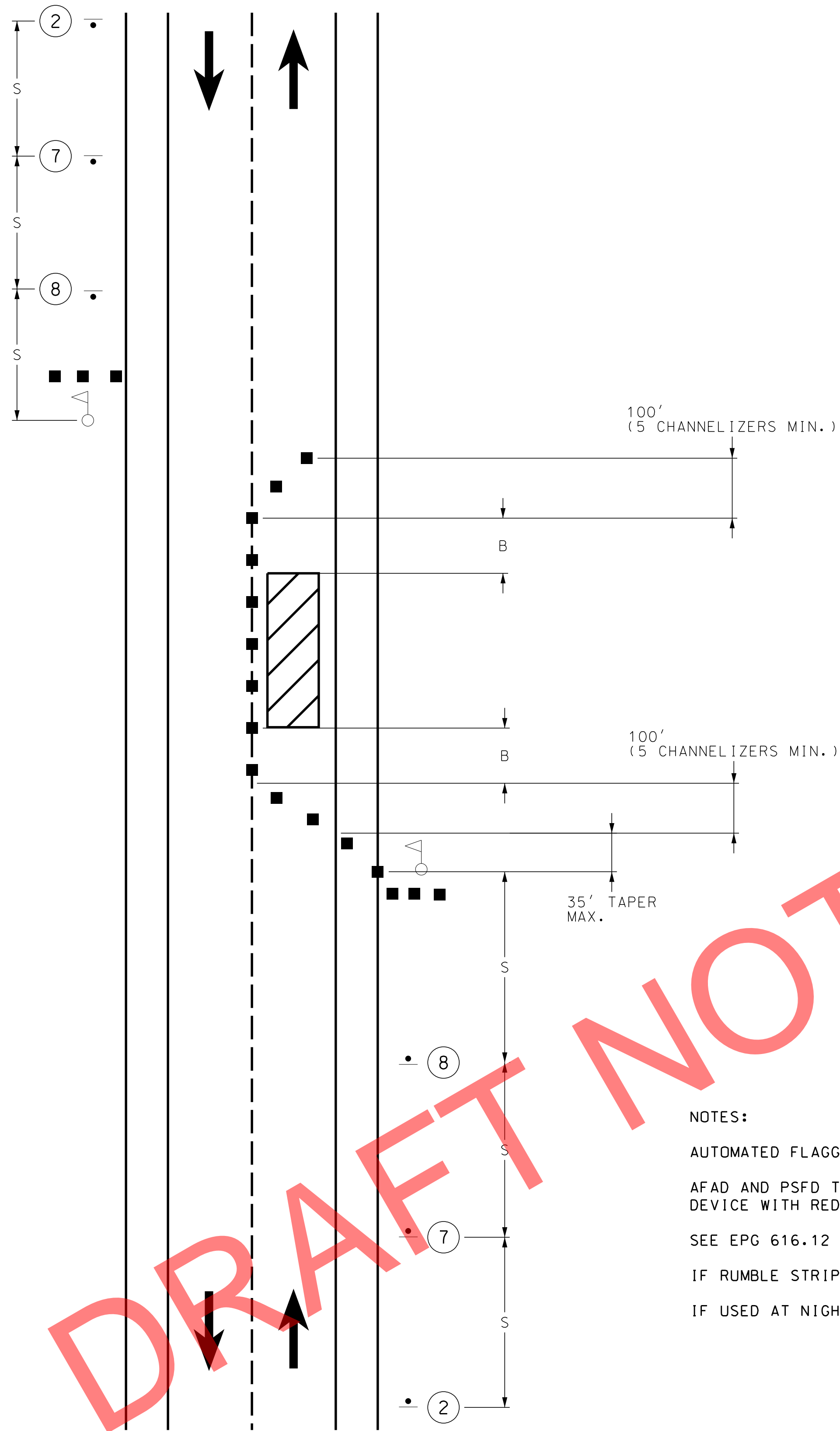
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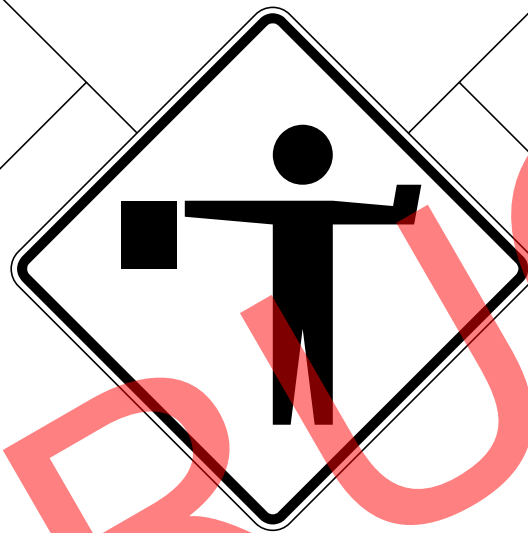
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TA-10 - LANE CLOSURE ON TWO-LANE ROAD USING FLAGGERS



BRIDGE
OR
RAMP



SPEED PERMANENT POSTED (MPH)	SIGN SPACING (FT.)		TAPER LENGTH (FT.)		OPTIONAL BUFFER LENGTH (FT.) (B)	CHANNELIZER SPACING (FT.)	
	UNDIVIDED (S)	DIVIDED (S)	SHOULDER (1) (T1)	LANE (2) (T2)		TAPERS	BUFFER/WORK AREA
0-35	200	-	-	-	280	-	40
40-45	350	-	-	-	400	-	80
50-55	500	-	-	-	560	-	80
60-70	1000	-	-	-	840	-	120

1. SHOULDER TAPER LENGTH BASED ON 10 FT. (STANDARD SHOULDER WIDTH) OFFSET. 2. LANE TAPER LENGTH BASED ON 12 FT. (STANDARD LANE WIDTH) OFFSET.

NOTES:

AUTOMATED FLAGGER ASSISTANCE DEVICES (AFAD) AND PORTABLE SIGNAL FLAGGING DEVICES (PSFD) MAY BE USED AS AN ALTERNATIVE FLAGGING OPERATION.

AFAD AND PSFD TYPICAL APPLICATIONS AND CRITERIA ARE LOCATED AT THE FOLLOWING: EPG 616.8.10A (TA-10A) LANE CLOSURE ON TWO-LANE HIGHWAYS USING AUTOMATED FLAGGER ASSISTANCE DEVICE WITH RED AND AMBER SIGNAL SYSTEM & EPG 616.8.10C (TA-10C) LANE CLOSURE ON TWO-LANE HIGHWAYS USING PORTABLE SIGNAL FLAGGING DEVICE.

SEE EPG 616.12 WORK ZONE SPEED LIMITS FOR SPEED LIMIT GUIDELINES.

IF RUMBLE STRIPS ARE USED, REVIEW 616.6.87 RUMBLE STRIPS.

IF USED AT NIGHT, THE FLAGGER STATIONS SHALL BE ILLUMINATED WITH AN AVERAGE MAINTAINED INTENSITY OF 0.6 FOOTCANDLES (6.5 LUX).

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- FLAGGER
- WORK AREA
- ADVANCED WARNING RAIL SYSTEM (AWRS)

NOT TO SCALE

TRAFFIC CONTROL
SHEET 4 OF 7

"THIS MEDIA SHOULD
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DATE PREPARED 2/6/2022	
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DISTRICT NW	SHEET NO. C.25
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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COMMISSION

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JEFFERSON CITY, MO 65102
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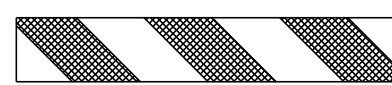
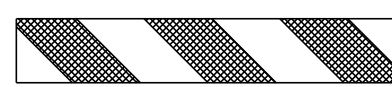
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TA-10g - SIDE ROADS ENTERING WORK ZONES



BRIDGE
OR
RAMP



2



W03-4

11



W020-7a

8

STATE

ROUTE

TAPERS CONSISTS OF 5 CHANNELIZERS SPACED 20-FT. APART FOR LENGTH OF 100-FT.

CHANNELIZERS SPACED APPROXIMATELY 5 FT. APART. CHANNELIZERS EXTEND APPROXIMATELY 20 FT. PAST THE ENTRANCE WIDTH

SPEED PERMANENT POSTED (MPH)	SIGN SPACING (FT.)	
	UNDIVIDED (S)	DIVIDED (S)
0-35	200	200
40-45	350	500
50-55	500	1000
60-70	1000	SA - 1000 SB - 1500 SC - 2640

TRAFFIC CONTROL LEGEND

• SIGN (SINGLE SIDED)

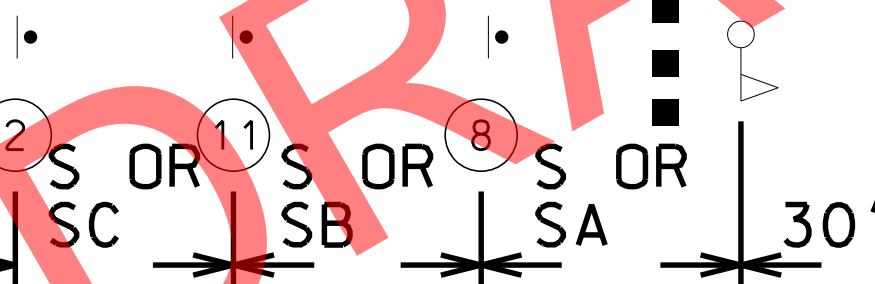
■ CHANNELIZER

△ FLAGGER

▨ ADVANCE WARNING
RAIL SYSTEM (AWRS)

STATE

ROUTE



NOT TO SCALE

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ROUTE
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NW

STATE
MO
SHEET NO.
C.26

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

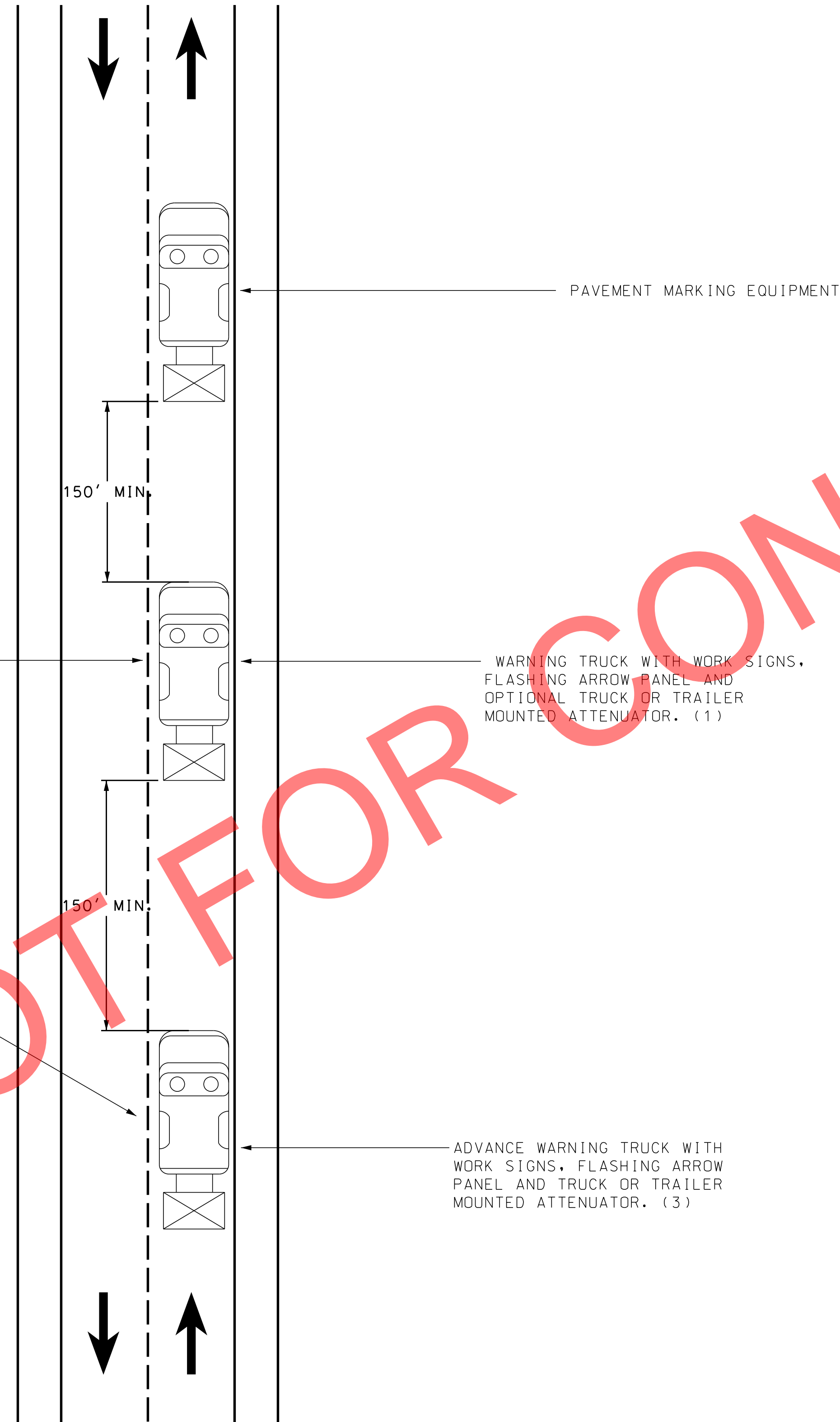
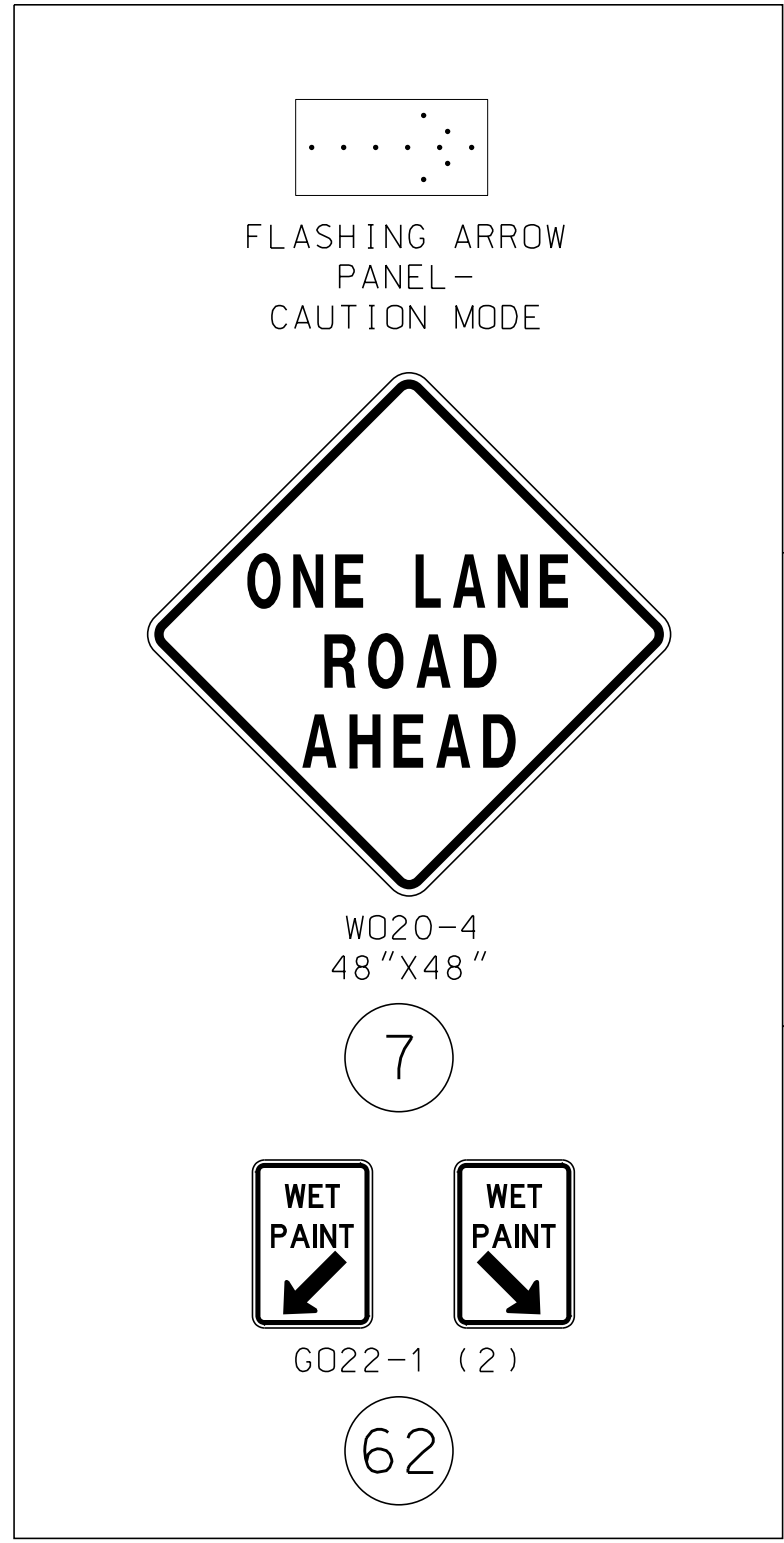
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TRAFFIC CONTROL
SHEET 5 OF 7

TA-17a - CENTER LINE/EDGE LINE STRIPING ON TWO-LANE HIGHWAYS



NOTES:

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

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

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

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

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

(3) ADVANCE WARNING TRUCK IS POSITIONED AT THE NO TRACK POINT OF THE PAVEMENT MARKING MATERIAL OR SPACING SHOWN, WHICH EVER IS GREATER.

DRAFT NOT FOR CONSTRUCTION

NOT TO SCALE

TRAFFIC CONTROL
SHEET 6 OF 7

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DATE PREPARED 2/6/2022	
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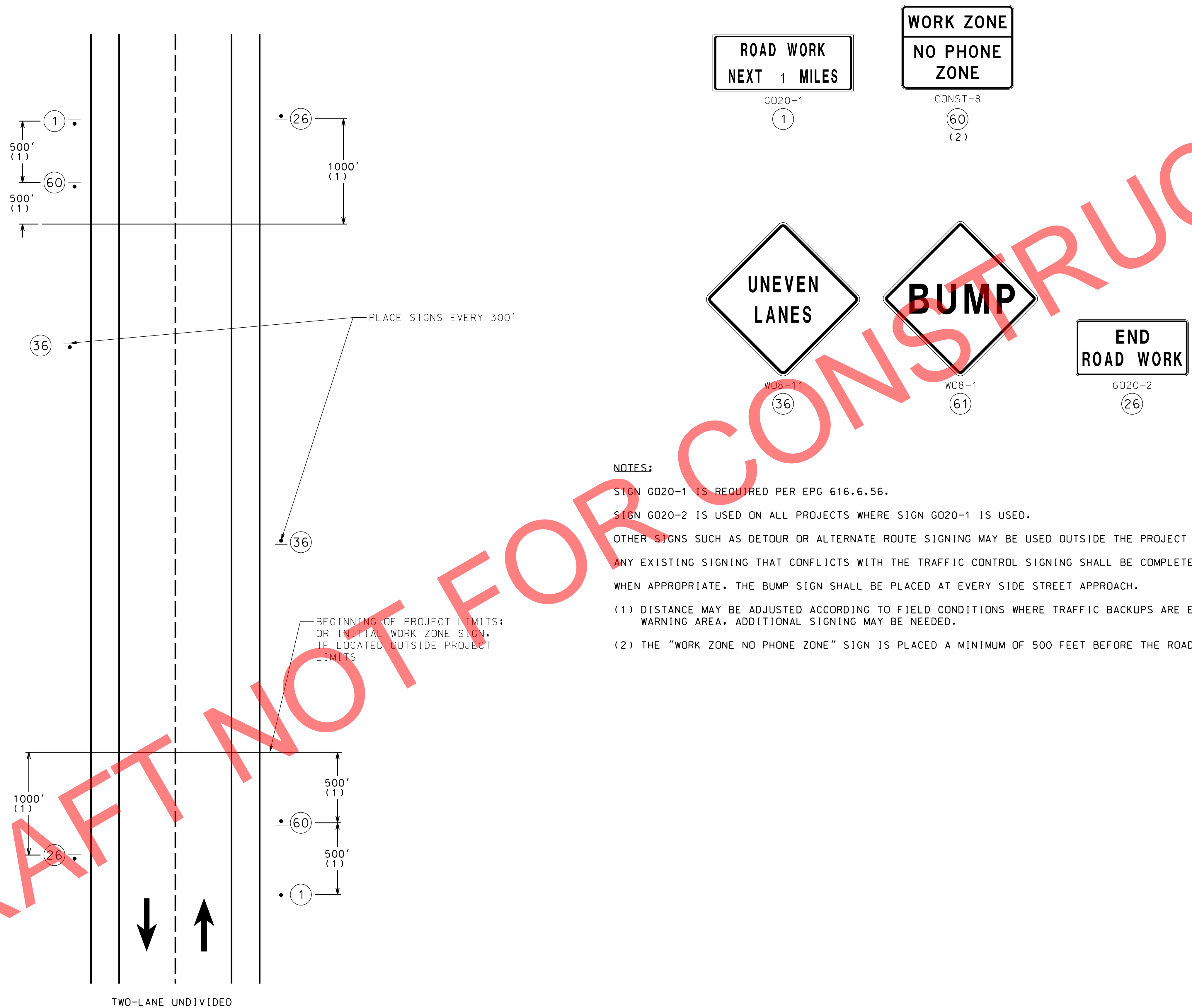
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BEGIN/END OF PROJECT SIGNING



- NOTES:
- SIGN G020-1 IS REQUIRED PER EPG 616.6.56.
 - SIGN G020-2 IS USED ON ALL PROJECTS WHERE SIGN G020-1 IS USED.
 - OTHER SIGNS SUCH AS DETOUR OR ALTERNATE ROUTE SIGNING MAY BE USED OUTSIDE THE PROJECT LIMITS.
 - ANY EXISTING SIGNING THAT CONFLICTS WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED.
 - WHEN APPROPRIATE, THE BUMP SIGN SHALL BE PLACED AT EVERY SIDE STREET APPROACH.
 - (1) DISTANCE MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS WHERE TRAFFIC BACKUPS ARE EXPECTED BEYOND THE ADVANCE WARNING AREA. ADDITIONAL SIGNING MAY BE NEEDED.
 - (2) THE "WORK ZONE NO PHONE ZONE" SIGN IS PLACED A MINIMUM OF 500 FEET BEFORE THE ROAD WORK AHEAD SIGN

NOT TO SCALE

TRAFFIC CONTROL
SHEET 7 OF 7

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ROUTE MID	STATE MO
DISTRICT NW	SHEET NO. C.28

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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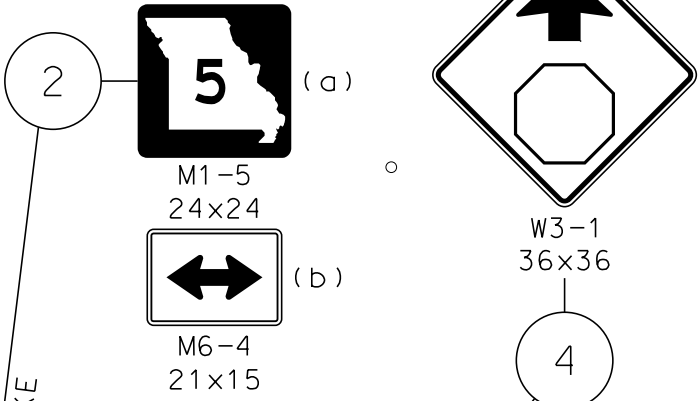
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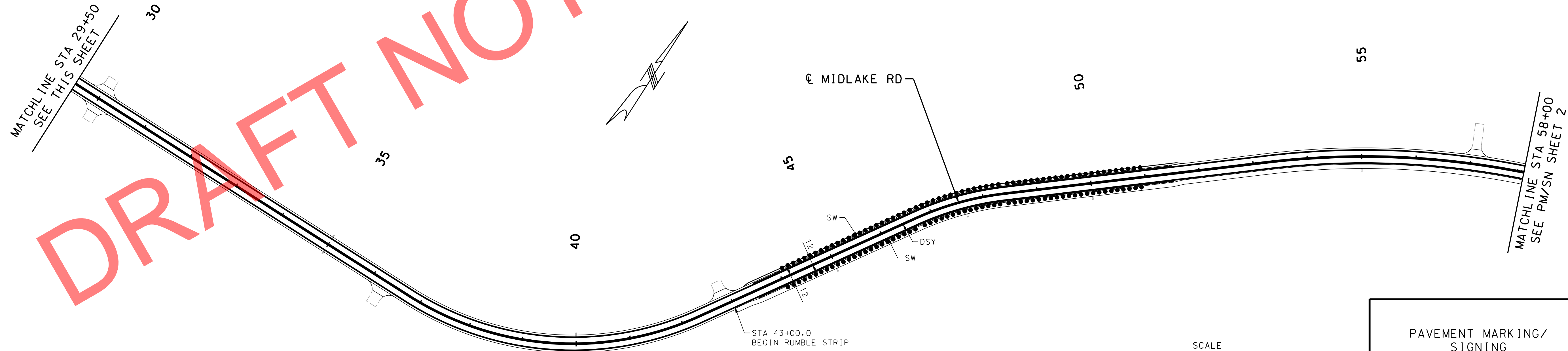
CONSTRUCTED UNDER
SUB-PROJECT A1

STA 2+14.33
BEGIN 4" DSY CENTERLINE &
4" SW - EDGE LINES (LT & RT)
BEGIN 4" SW LANE LINE 12' RT

STA 2+54
END 4" SW - LANE LINE 12' RT
LEFT ARROW/RIGHT ARROW



PAVEMENT MARKING LEGEND	
DSY	4" DOUBLE SOLID YELLOW CENTERLINE (WP, P BEADS)
SW	6" SOLID WHITE LINE (WP, P BEADS)
FW	6" INTERMITTENT WHITE LINE (WP, P BEADS)
SY	6" SOLID YELLOW LINE (WP, P BEADS)
24" SW/SY	24" SOLID WHITE OR YELLOW HATCHING (WP, P BEADS)
24" WSB	24" SOLID WHITE STOP BAR (PREFORMED THERMOPLASTIC)
TURN ARROW	TURN ARROW PAVEMENT MARKING (PREFORMED THERMOPLASTIC)
COMBINATION ARROW	COMBINATION ARROW PAVEMENT MARKING (PREFORMED THERMOPLASTIC)
NOTES: 1. WP: WATERBORNE PAINT	



PAVEMENT MARKING/
SIGNING
SHEET 1 OF 6

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ROUTE
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DISTRICT
NW

STATE
MO
SHEET NO.
C.29

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

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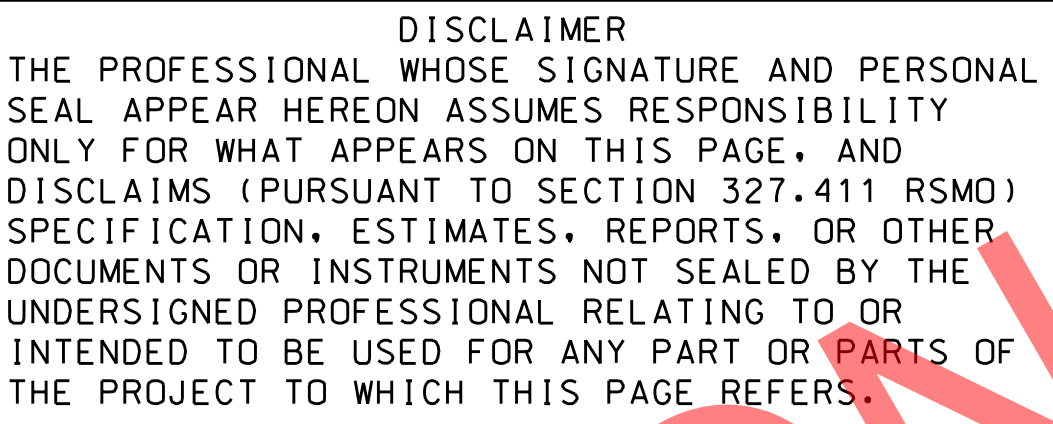
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Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199
Missouri Certificate of Authority: 001578

PAVEMENT MARKING LEGEND	
	4" DOUBLE SOLID YELLOW CENTERLINE (WP, P BEADS)
	6" SOLID WHITE LINE (WP, P BEADS)
	6" INTERMITTENT WHITE LINE (WP, P BEADS)
	6" SOLID YELLOW LINE (WP, P BEADS)
	24" SOLID WHITE OR YELLOW HATCHING (WP, P BEADS)
	24" SOLID WHITE STOP BAR (PREFORMED THERMOPLASTIC)
	TURN ARROW PAVEMENT MARKING (PREFORMED THERMOPLASTIC)
	COMBINATION ARROW PAVEMENT MARKING (PREFORMED THERMOPLASTIC)
NOTES: 1. WP: WATERBORNE PAINT 2. PAVEMENT EDGE LINES SHALL BE OMITTED BETWEEN CROSSWALK MARKINGS	


PAVEMENT MARKING LEGEND	
DSY 	4" DOUBLE SOLID YELLOW CENTERLINE (WP, P BEADS)
SW 	6" SOLID WHITE LINE (WP, P BEADS)
IW 	6" INTERMITTENT WHITE LINE (WP, P BEADS)
SY 	6" SOLID YELLOW LINE (WP, P BEADS)
24" SW/SY 	24" SOLID WHITE OR YELLOW HATCHING (WP, P BEADS)
24" WSB 	24" SOLID WHITE STOP BAR (PREFORMED THERMOPLASTIC)
	TURN ARROW PAVEMENT MARKING (PREFORMED THERMOPLASTIC)
	COMBINATION ARROW PAVEMENT MARKING (PREFORMED THERMOPLASTIC)
NOTES: 1. WP: WATERBORNE PAINT	
2. PAVEMENT EDGE LINES SHALL BE OMITTED BETWEEN CROSSWALK MARKINGS	

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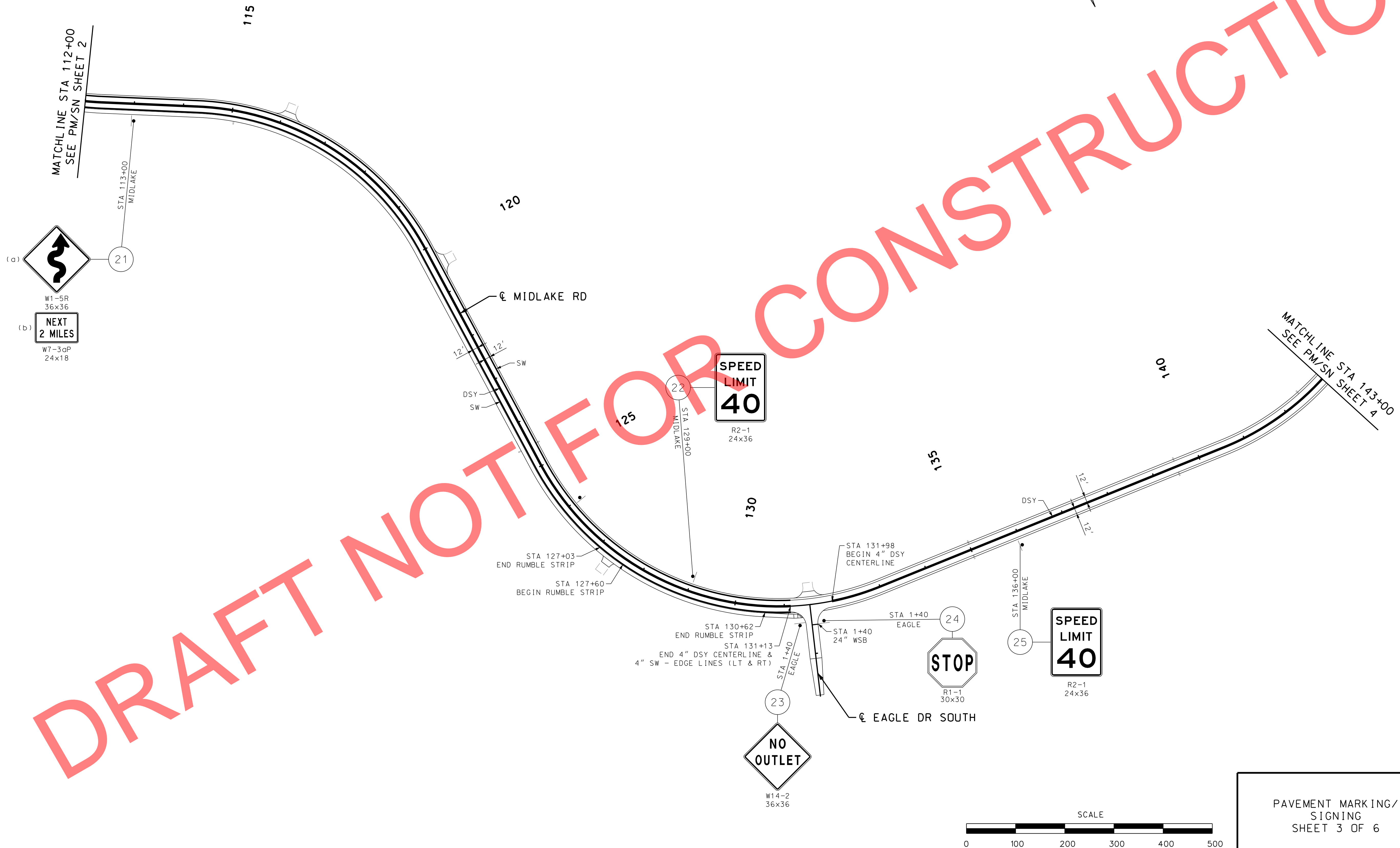
DATE PREPARED	
2/6/2022	
ROUTE	STATE
MID	MO
DISTRICT	SHEET NO.
NW	C. 31
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
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PROJECT NO.	
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PAVEMENT MARKING LEGEND	
DSY	4" DOUBLE SOLID YELLOW CENTERLINE (WP, P BEADS)
SW	6" SOLID WHITE LINE (WP, P BEADS)
IW	6" INTERMITTENT WHITE LINE (WP, P BEADS)
SY	6" SOLID YELLOW LINE (WP, P BEADS)
24" SW/SY	24" SOLID WHITE OR YELLOW HATCHING (WP, P BEADS)
24" WSB	24" SOLID WHITE STOP BAR (PERFORMED THERMOPLASTIC)
TURN ARROW	TURN ARROW PAVEMENT MARKING (PERFORMED THERMOPLASTIC)
COMBINATION ARROW	COMBINATION ARROW PAVEMENT MARKING (PERFORMED THERMOPLASTIC)
NOTES: 1. WP: WATERBORNE PAINT 2. PAVEMENT EDGE LINES SHALL BE OMITTED BETWEEN CROSSWALK MARKINGS	

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DISTRICT NW	SHEET NO. C.32
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

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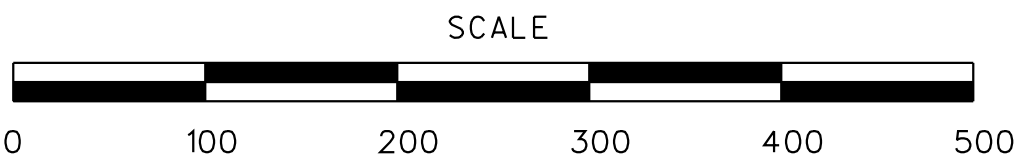
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PAVEMENT MARKING/
SIGNING
SHEET 4 OF 6

SIGNS						PIPE POST *					STRUCTURAL STEEL										U CHANNEL POST	PERFORATED SQUARE STEEL TUBE POST (BASE CONTRACT)														FOOTINGS		REMARKS AND OTHER REQUIRED ITEMS.	EFFECTIVE 12-01-2017	"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."
											POSTS *					BACKING BARS 2" X 3/8" BARS @ 2.55 LBS PER LIN FT						TOTAL ITEM NO. 9031210	2 IN							2.5 IN							BREAK- AWAY ASSEMBLY ITEM NO. 9031241			
SIGN NO.	SIGN SIZE	STATION	HORZ CLEAR IF NOT STD	LOCATION	SIGN DTL. SHT. NO.	PIPE SIZE	POST NO.1	POST NO.2	LBS PER FT	TOTAL ITEM NO. 9031220 LBS	POST DES NO.	POST NO.1	POST NO.2	POST NO.3	LBS PER FT	TOTAL LBS	NO. EACH	LGTH IN.	TOTAL LBS	ITEM NO.			ITEM NO. 9031250 LF	POST NO.1	POST NO.2	TOTAL ITEM NO. 9031270A LF	ANCHOR 7 GA. ITEM NO. 9031273 LF	OMNI 7 GA. ITEM NO. 9031279 LF	ANCHOR 12 GA. ITEM NO. 9031271 LF	OMNI 12 GA. ITEM NO. 9031278 LF	POST NO.1	POST NO.2	TOTAL ITEM NO. 9031280 LF	2.25" INSERT ITEM NO. 9031272 LF	ANCHOR 7 GA. ITEM NO. 9031281 LF	OMNI 7 GA. ITEM NO. 9031282 LF				
902 SIGNAL SIGNS TABULATED ON D-37A SHEET																																								
1	ASSY	2+50		MIDLAKE RT																																				
2	ASSY	3+00		MIDLAKE LT																			16		16				3											
3	24"x36"	5+00		MIDLAKE RT																			16		16				3											
4	36"x36"	5+00		MIDLAKE LT																			16		16				3											
5	30"	60+16		MIDLAKE RT																			16		16				3											
6	30"	60+69		MIDLAKE LT																			16		16				3											
7	ASSY	58+50		MIDLAKE LT																																				
8	24"x36"	73+00		MIDLAKE LT																			16		16				3											
9	ASSY	1+41		EAGLE LT																			16		16				3											
10	ASSY	76+84		MIDLAKE LT																			16		16				3											
11	ASSY	75+99		MIDLAKE RT																			16		16				3											
12	ASSY	76+68		MIDLAKE RT																			16		16				3											
13	ASSY	78+00		MIDLAKE RT																			16		16				3											
14	30"	1+38		LYRIC LT																			16		16				3											
15	24"x36"	90+00		MIDLAKE RT																			16		16				3											
16	ASSY	107+00		MIDLAKE LT																			16		16				3											
17	ASSY	110+37		MIDLAKE LT																			16		16				3											
18	ASSY	111+04		MIDLAKE LT																			16		16				3											
19	ASSY	110+20		MIDLAKE RT																			16		16				3											
20	ASSY	110+85		MIDLAKE RT																			16		16				3											
21	ASSY	113+00		MIDLAKE RT																			16		16				3											
22	24"x36"	129+00		MIDLAKE LT																			16		16				3											
23	36"x36"	1+40		EAGLE RT																			16		16				3											
24	30"	1+40		EAGLE LT																			16		16				3											
25	24"x36"	136+00		MIDLAKE RT																			16		16				3											
26	36"x36"	3+46		RTE VV LT																			16		16				3											
27	30"	1+46		RTE VV LT																			16		16				3											
28	ASSY	156+50		MIDLAKE LT																			16		16				3											
29	36"x36"	1+40		RTE VV RT																			16		16				3											

DATE PREPARED
2/6/2022

ROUTE MID	STATE MO
DISTRICT NW	SHEET NO. C.34

WV	53
COUNTY	

SULLIVAN

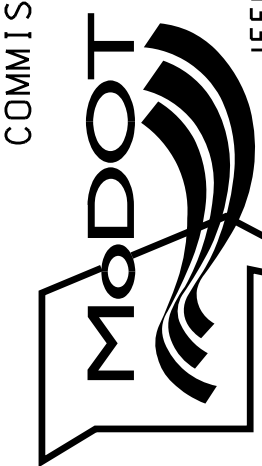
JOB NO.

J1S3392

CONTRACT ID

PROJECT NO.

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[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102

JEKKMOEN

Civil Engineering Design

Civil Engineering Design
3523 Barrett Parkway Dr
Suite 250
St Louis, MO 63021
Phone 314-394-3100
Fax 314-394-3199

Microarray Certificate of Authenticity: 001E78

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Estimated Quantities			
Item		Substr.	Superstr. Total
Class 1 Excavation	cu. yard	140	140
Bridge Approach Slab (Major)	sq. yard		140
(72 in.) Pedestrian Fence (Structures)	linear foot		370
(48 in.) Pedestrian Fence (Structures)	linear foot		370
(22 in.) Pedestrian Fence (Structures)	linear foot		370
Drilled Shafts (5 ft. 6 in. Dia.)	linear foot	214.4	214.4
Rock Sockets (5 ft. 0 in. Dia.)	linear foot	58.0	58.0
Video Camera Inspection	each	4	4
Foundation Inspection Holes	linear foot	98.0	98.0
Sonic Logging Testing	each	4	4
Galvanized Structural Steel Piles (14 in.)	linear foot	1,106	1,106
Pile Wave Analysis	each	2	2
Pre-bore for Piling	linear foot	1,092	1,092
Pile Point Reinforcement	each	14	14
Class B Concrete (Substructure)	cu. yard	154.6	154.6
* Type H Barrier	linear foot		744
Slab on Concrete NU-Girder	sq. yard		1,450
Concrete Curb (Bridge Rail)	linear foot		372
NU63, Prestressed Concrete NU-Girder	linear foot		1,307
Reinforcing Steel (Bridges)	pound	60,460	60,460
Conduit System on Structure	lump sum		1
Steel Intermediate Diaphragm for P/S Concrete Girders	each		27
Vertical Drain at End Bents	each		2
Laminated Neoprene Bearing Pad (Tapered)	each		24

* Type H Barrier shall be cast-in-place option or slip form option.

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

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

All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

Foundation Data					
Type	Design Data	Bent Number			
		1	2	3	4
Load Bearing Pile	Pile Type and Size	HP 14X73	-	-	HP 14X73
	Number	7	-	-	7
	Approximate Length per Each	ft 92	-	-	66
	Pile Point Reinforcement	ea 7	-	-	7
	Minimum Galvanized Penetration (Elev.)	ft 921	-	-	902
	Pile Driving Verification Method	WEAP **	-	-	WEAP **
	Minimum Nominal Axial Compressive Resistance	kip 523	-	-	523
Rock Socket	Resistance Factor	0.5	-	-	0.5
	Number	ea -	2	2	-
	Foundation Material	-	Weak Rock	Weak Rock	-
	Elevation Range	ft -	848-832	856-845	-
	Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf -	8.0	8.0	-
	Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf -	233.0	231.3	-

Load Bearing Pile:

WEAP = Wave Equation Analysis of Piles

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

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

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

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

Load Bearing Pile (Cont.):

** Pre-bore for piles at End Bents No. 1 and 4, sound rock (estimated elevations 852.3 and 861.0 respectively). If good quality rock is encountered, piles shall be inserted into the pre-bored holes. Ensure the piles are seated on bedrock and not rubble in the bottom of the hole. The piles shall be seated with the pile hammer to ensure refusal on hard rock and verification of the pile driving is not required. If shale is encountered, the pile driving verification methods in the above table shall be used. The annular space of the pre-bored hole shall be backfilled with loose sand. If rock is not encountered, fill the pre-bored hole with loose sand prior to pile driving in accordance with Sec 702. Temporary casing of pre-bored holes may be required. No special payment shall be made for temporary casing of pre-bored holes.

Rock Socket (Drilled Shafts):

Minimum Nominal Axial Compressive Resistance (Side Resistance & Tip Resistance) = $\frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
Seismic Design Category = A

Design Loading:

Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf
Superstructure: Simply-supported, non-composite for dead load.
Continuous composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure, except Drilled Shafts & Rock Sockets) $f'c = 3,000$ psi
Class B-2 Concrete (Drilled Shafts & Rock Sockets) $f'c = 4,000$ psi
Class B-2 Concrete (Superstructure, except Prestressed Girders & Barrier) $f'c = 4,000$ psi
Class B-1 Concrete (Barrier) $f'c = 4,000$ psi
Reinforcing Steel (Grade 60) $fy = 60,000$ psi
Steel Pile (ASTM A709 Grade 50) $fy = 50,000$ psi
For prestressed girder stresses, see Sheets No. 13 thru 18.

Neoprene Pads:

Neoprene Bearing Pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:

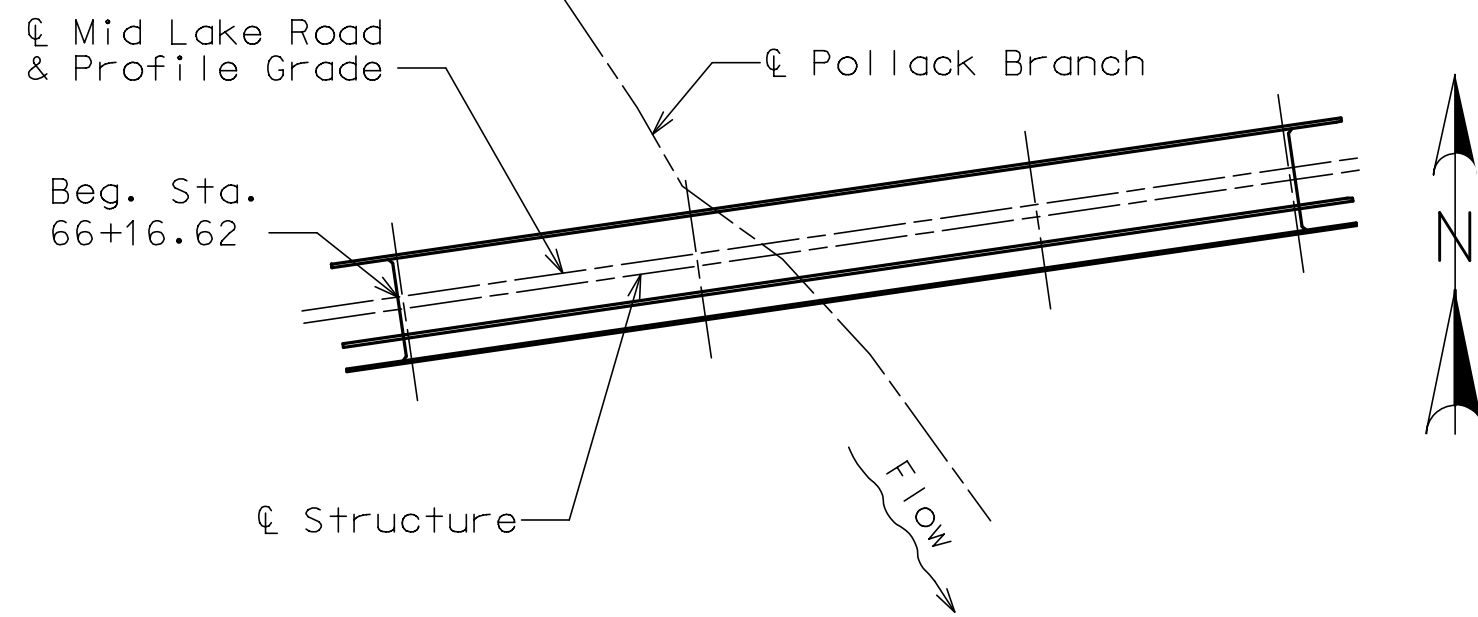
Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

Traffic Handling:

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

Utilities:

10 in. Carrier Pipe and 16 in. Carrier Pipe shall be constructed to a minimum distance of 50 feet beyond the fill face of each end bent (By Others).



LOCATION SKETCH

Estimated Quantities for Slab on Concrete NU-Girder	
Item	Total
Class B-2 Concrete	cu. yard 488.7
Reinforcing Steel (Epoxy Coated)	pound 122,210

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

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

Slabs shall be cast-in-place with conventional forms. Precast panels will not be permitted.

Hydrologic Data (No Tailwater from Lake)	
Drainage Area = 7.11 mi ²	
Design Flood Frequency = 50 years	
Design Flood Discharge = 6,235 cfs	
Design Flood (D.F.) Elevation = 907.7	
Base Flood (100-year)	
Base Flood Elevation = 908.6	
Base Flood Discharge = 7,483 cfs	
Estimated Backwater = 1.7 ft	
Average Velocity thru Opening = 8.9 ft/s	
Freeboard (50-year)	
Freeboard = 25.6 ft.	
Roadway Overtopping	
Overtopping Flood Discharge = > 10,796 cfs	
Overtopping Flood Frequency = > 500 years	
Overtopping Flood Elevation = 928.9	

Hydrologic Data (Tailwater from Lake)	
Drainage Area = 7.11 mi ²	
Design (Normal Pool) Elevation = 922.3	
Design (50 Year) Elevation = 925.7	
Base Flood (100-year)	
Base Flood Elevation = 926.1	

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

STATE
MO

SHEET NO.
2

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9132

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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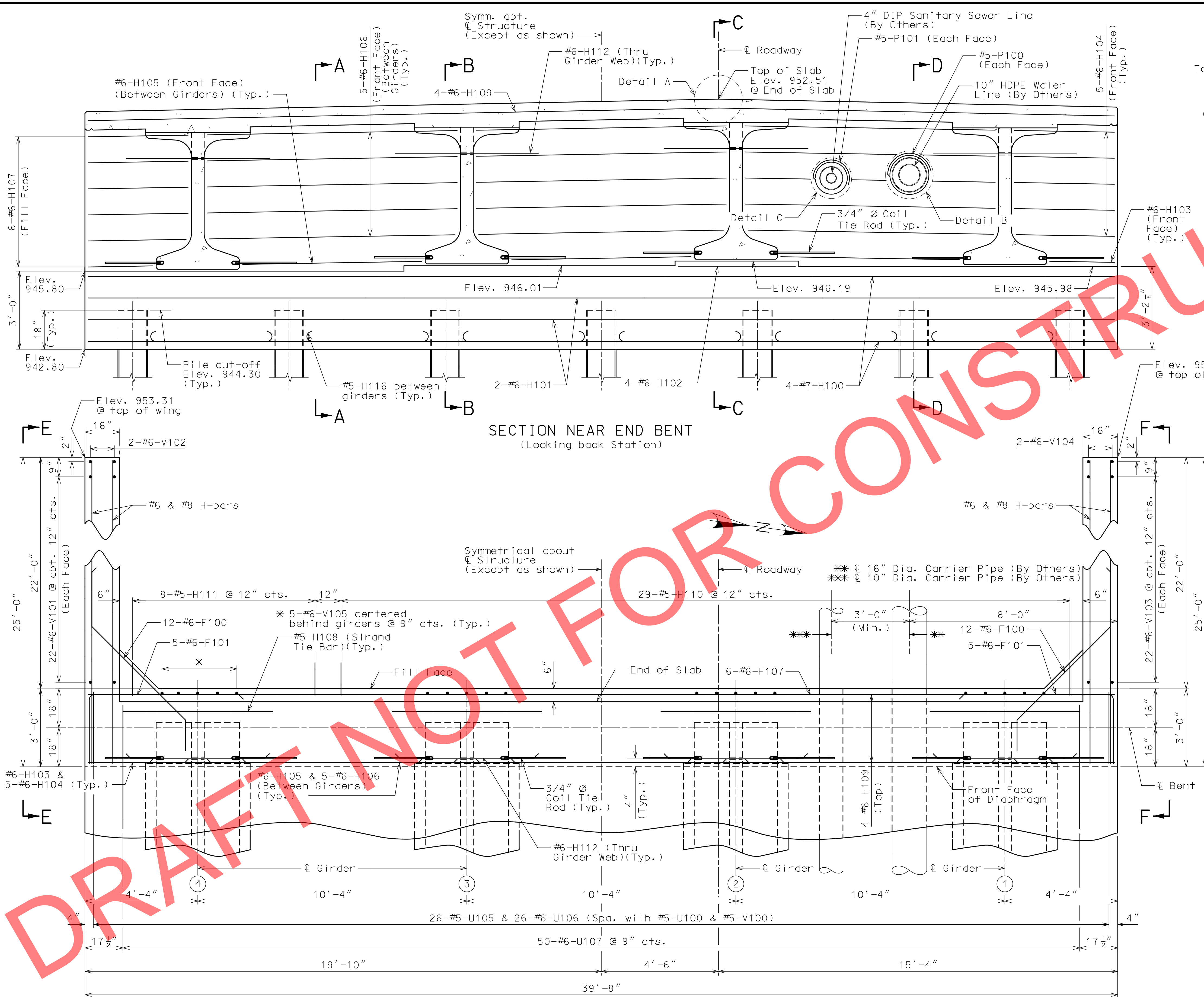
olsson

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OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

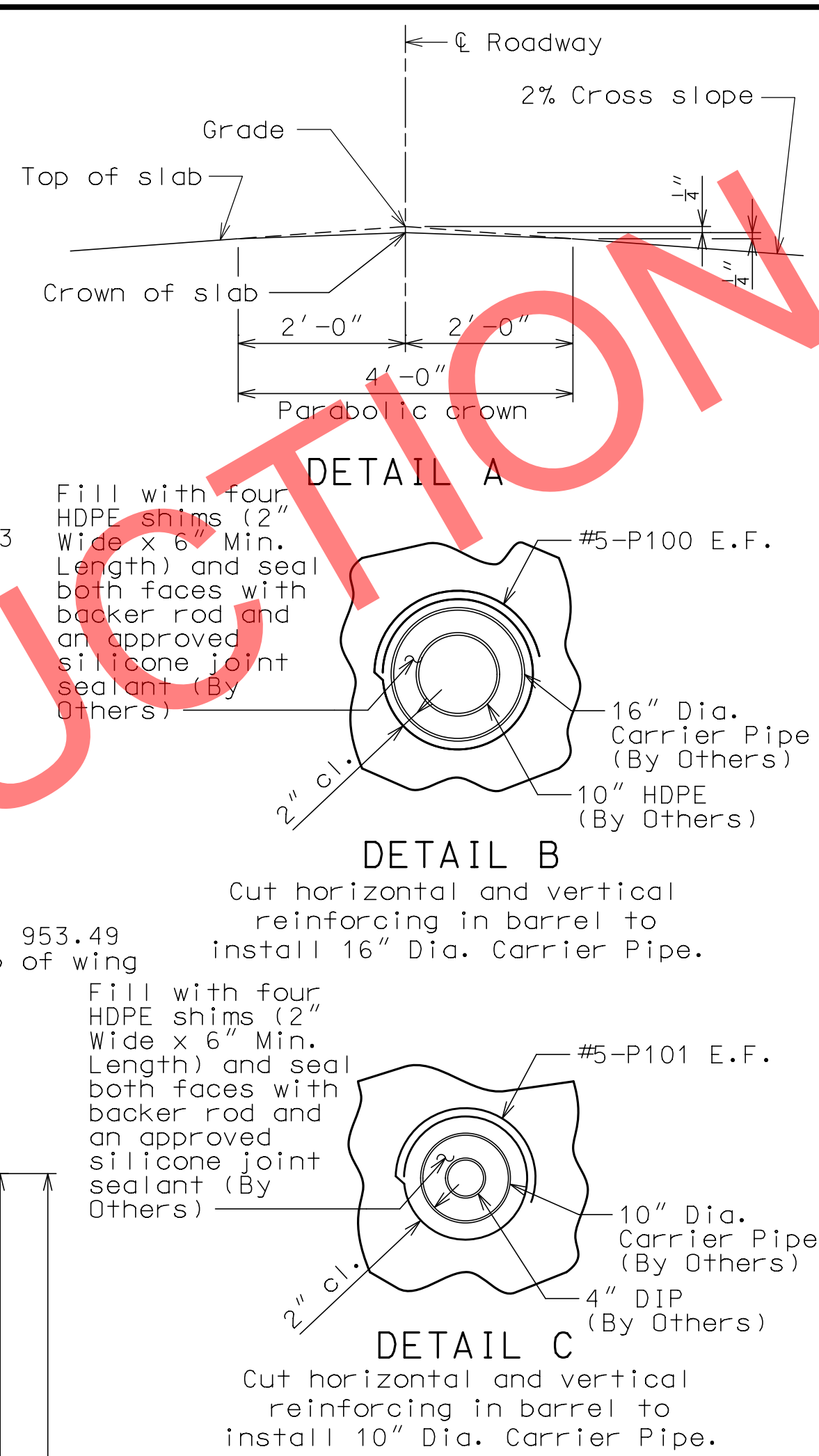
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2/1/2022

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PART PLAN
DETAILS OF END BENT NO. 1



Notes:

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

For details of Pile Splice, see Sheet No. 3.

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

For Elevations E-E & F-F, Sections A-A, B-B, C-C, D-D and Section Thru Wing, see Sheet No. 5.

All vertical reinforcing bars in the substructure beams or caps shall be field adjusted to clear piles by at least 1 1/2".

For details and reinforcement of Type H Barrier not shown, see Sheets No. 26 thru 28.

For details and reinforcement of Pedestrian Curb not shown, see Sheet No. 30.

The #6-F100 bar shall be bent in the field to clear girders.

All strands at the ends of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2" minimum clearance to fill face of end bent.

For location of #5-H108 (Strand Tie Bar), see Sheets No. 13 thru 14.

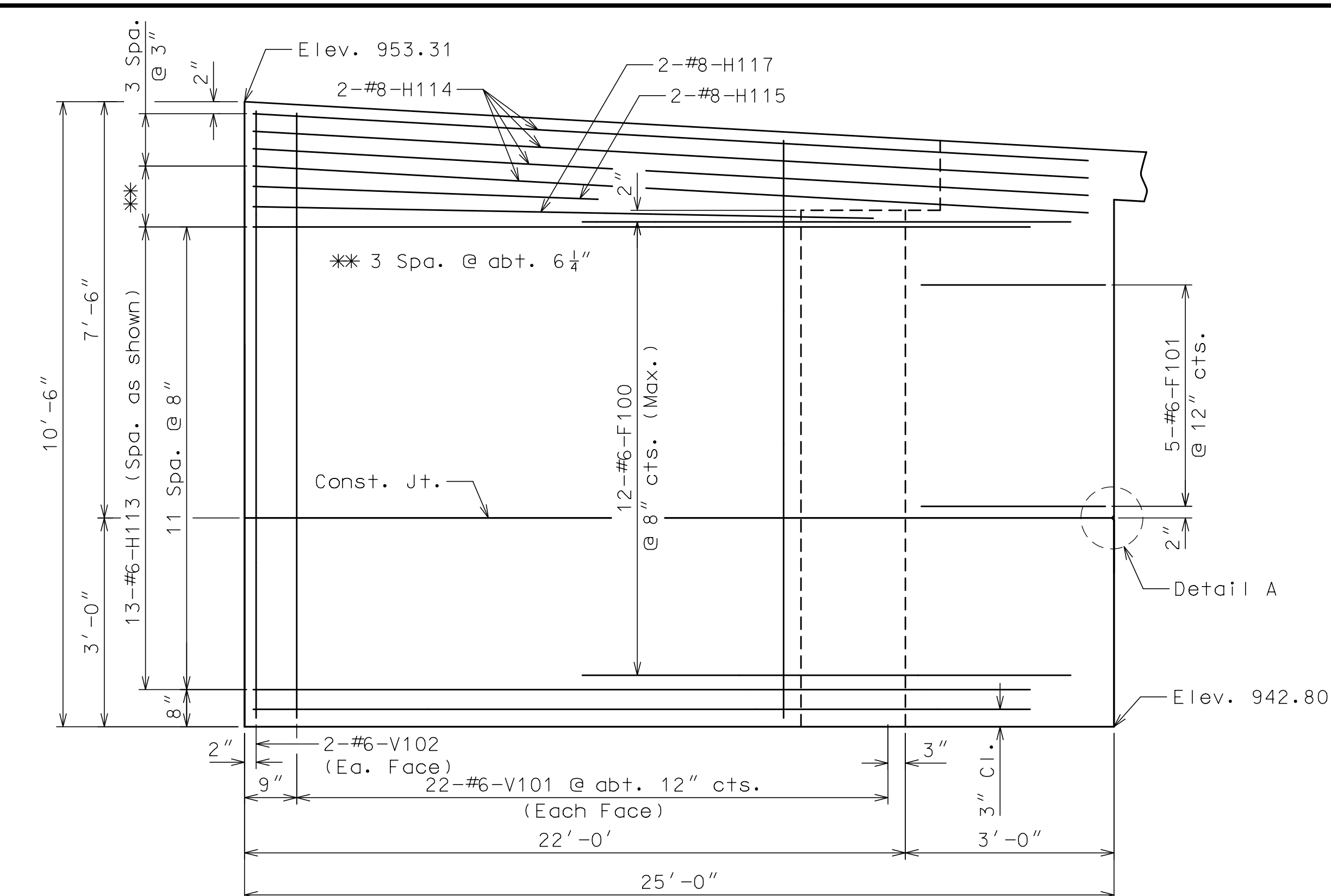
For details of Bridge Approach Slab, see Sheet No. 34.

For substructure Quantity Table for End Bent No. 1, see Sheet No. 3.

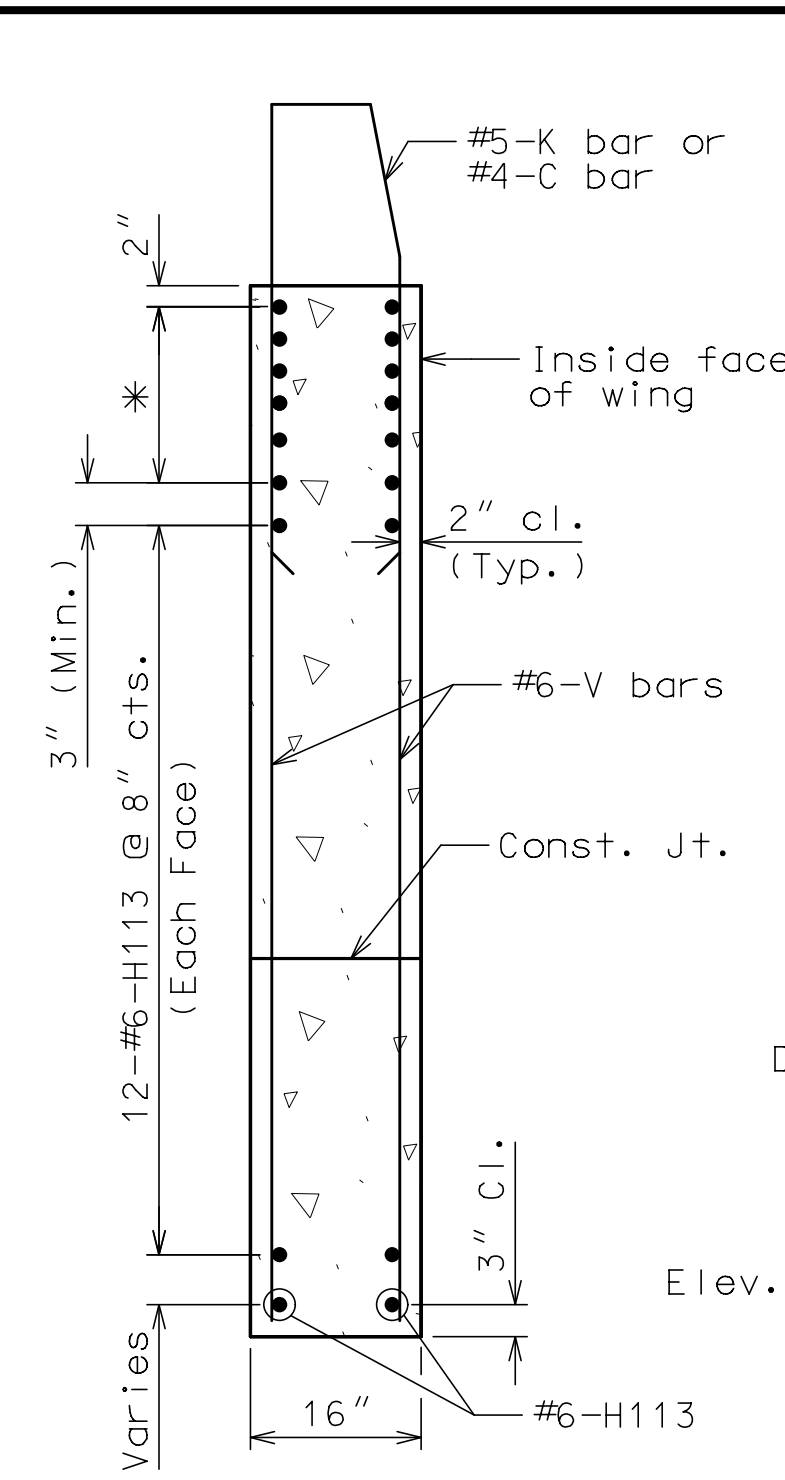
All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 4
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9132	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
	7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592

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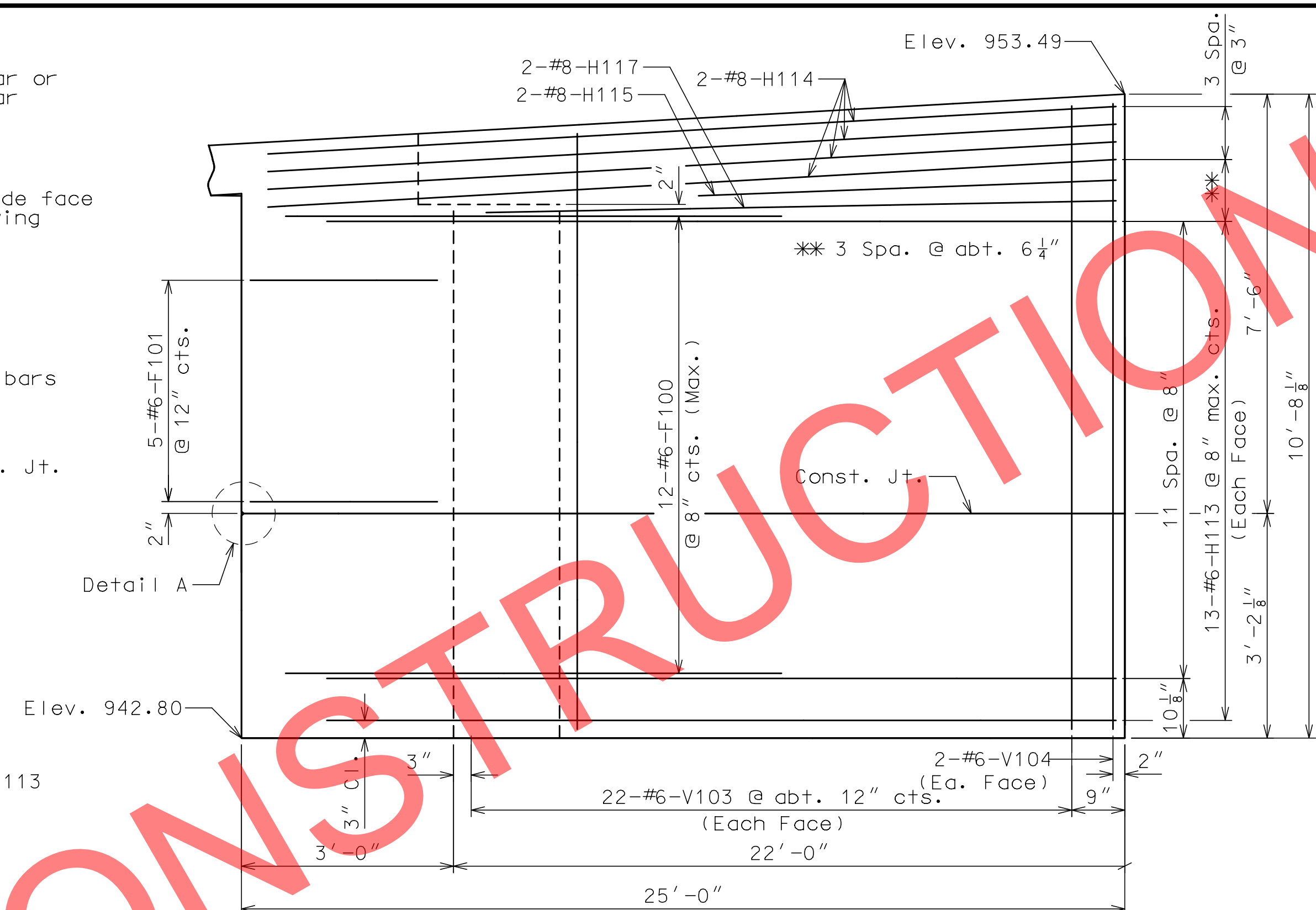


ELEVATION E-E

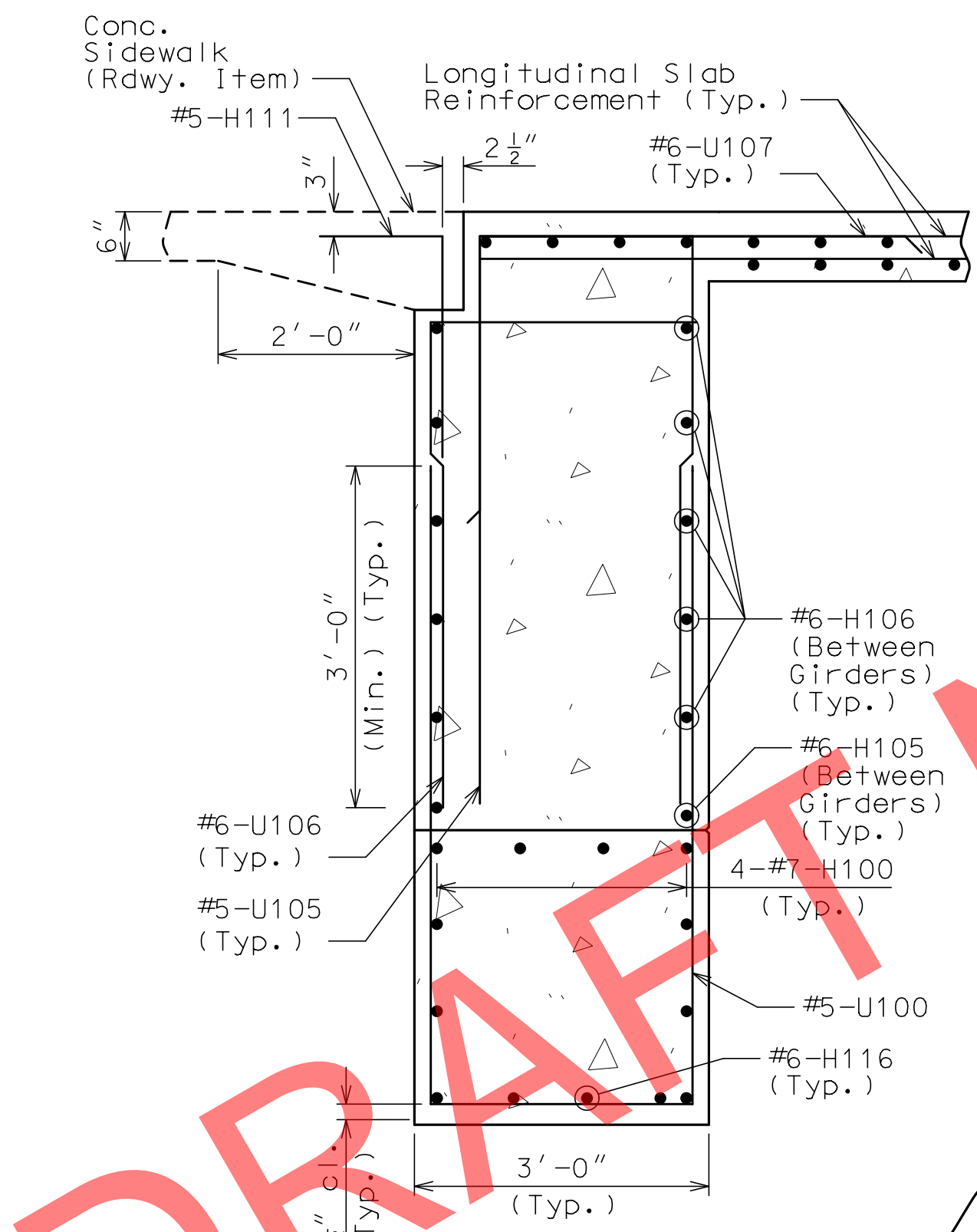


TYPICAL SECTION THRU WING

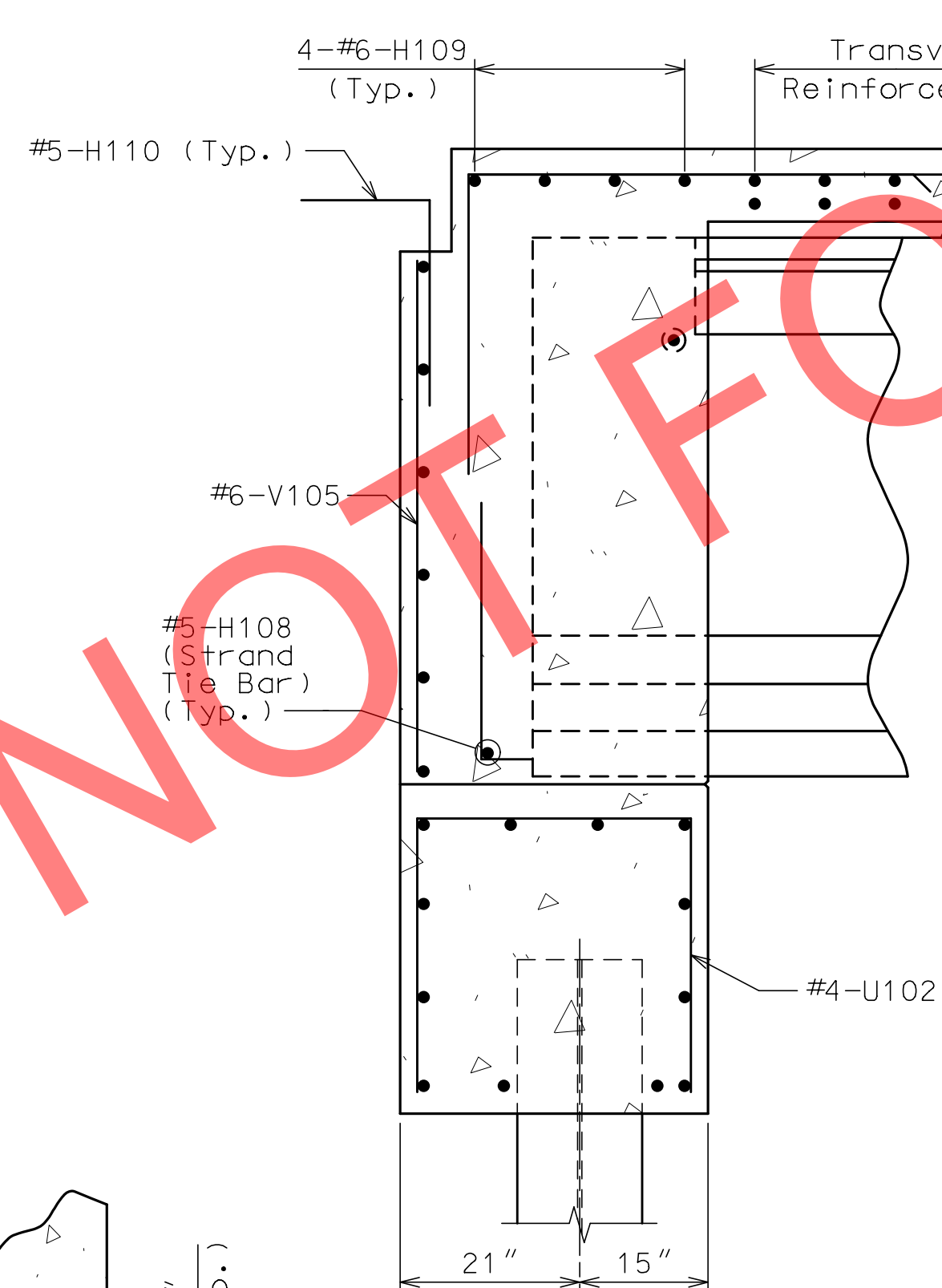
* #8-H Bars @ 3" cts. (Each face) (Place with grade)



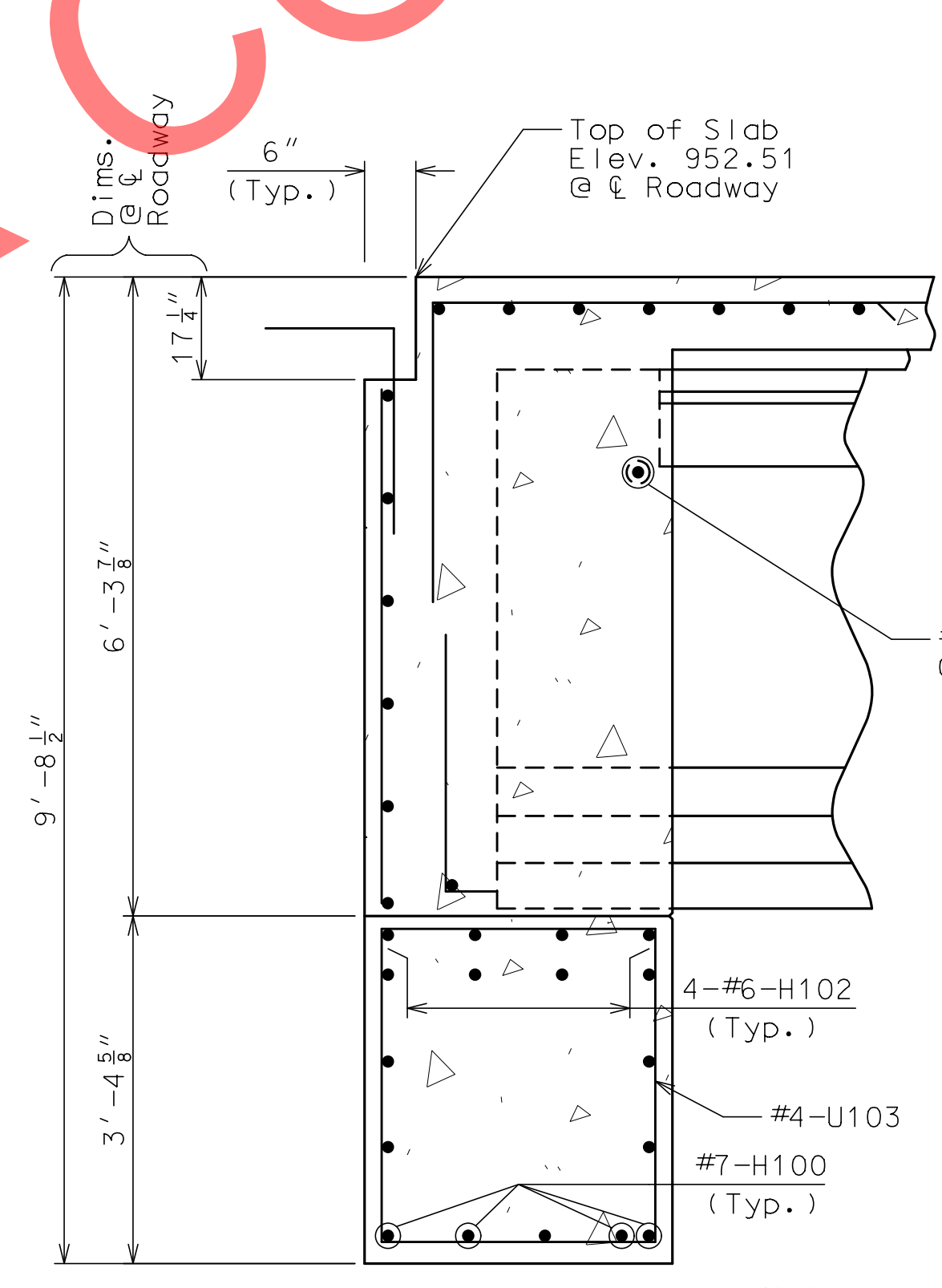
ELEVATION F-F



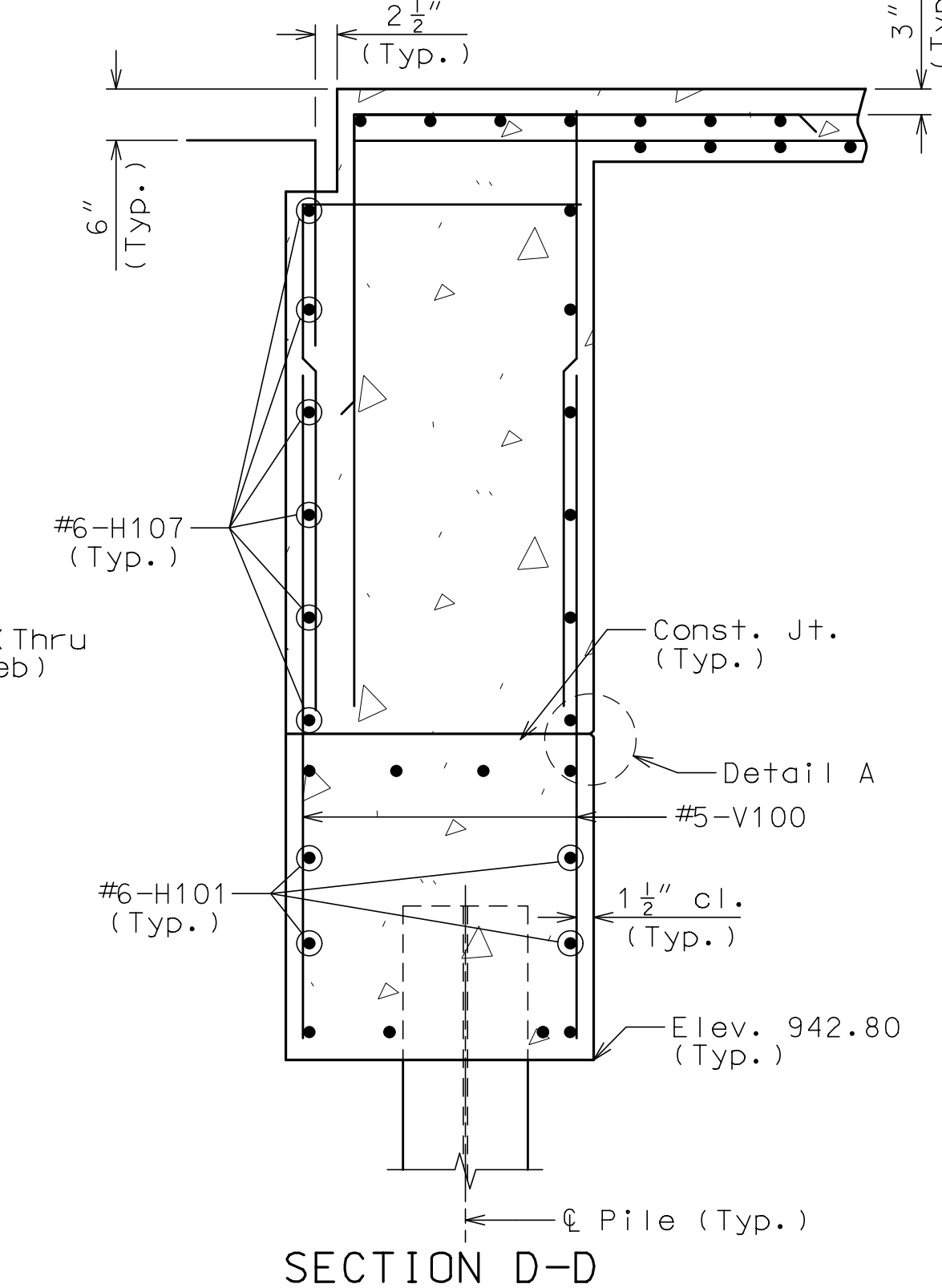
SECTION A-A



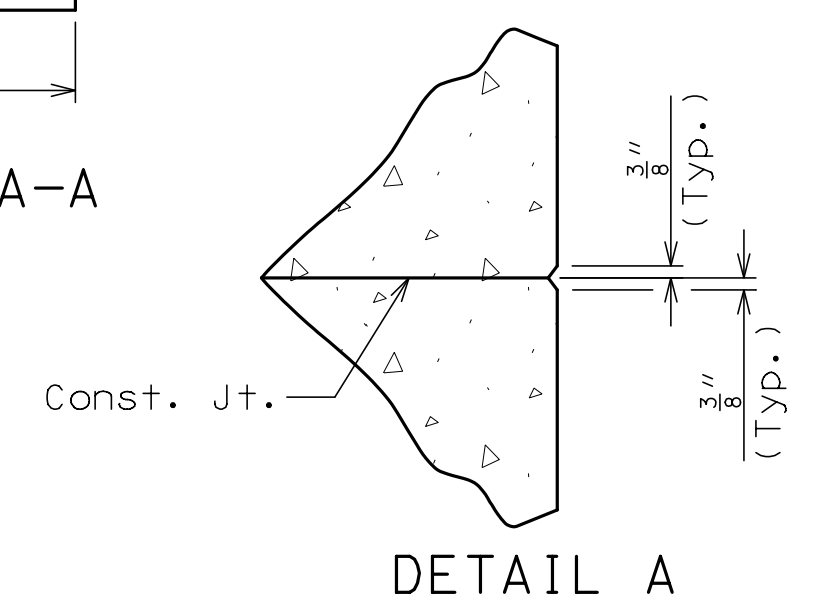
SECTION B-B



SECTION C-C



SECTION D-D



DETAIL A

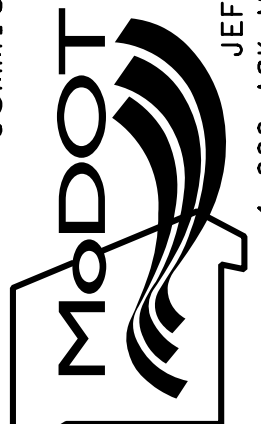

DETAILS OF END BENT NO. 1

- Notes:**
- For details of End Bent No. 1 not shown, see Sheets No. 3 & 4.
 - For details of Pile Splice, see Sheet No. 3.
 - For details of Vertical Drain at End Bents, see Sheet No. 6.
 - For location of Elevations E-E & F-F and Sections A-A, B-B, C-C, and D-D, see Sheet No. 4.
 - For details and Reinforcement of the Type H Barrier not shown, see Sheets No. 26 thru 28.
 - For details and reinforcement of Pedestrian Curb not shown, see Sheet No. 30.

Detailed March 2021
Checked May 2021

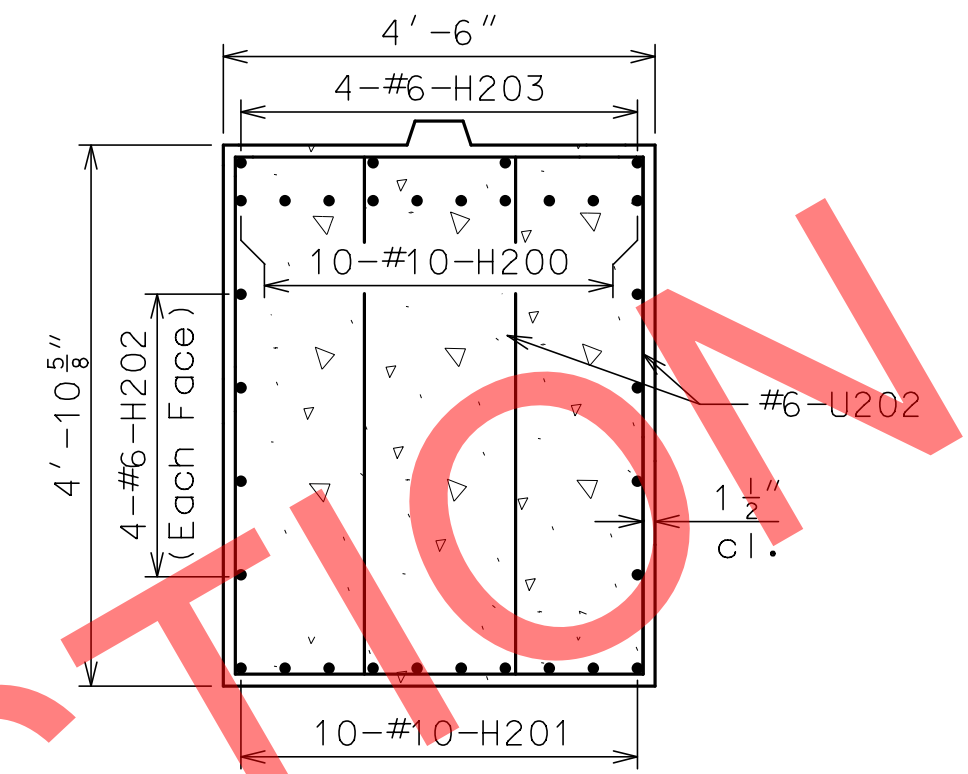
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 5 of 49

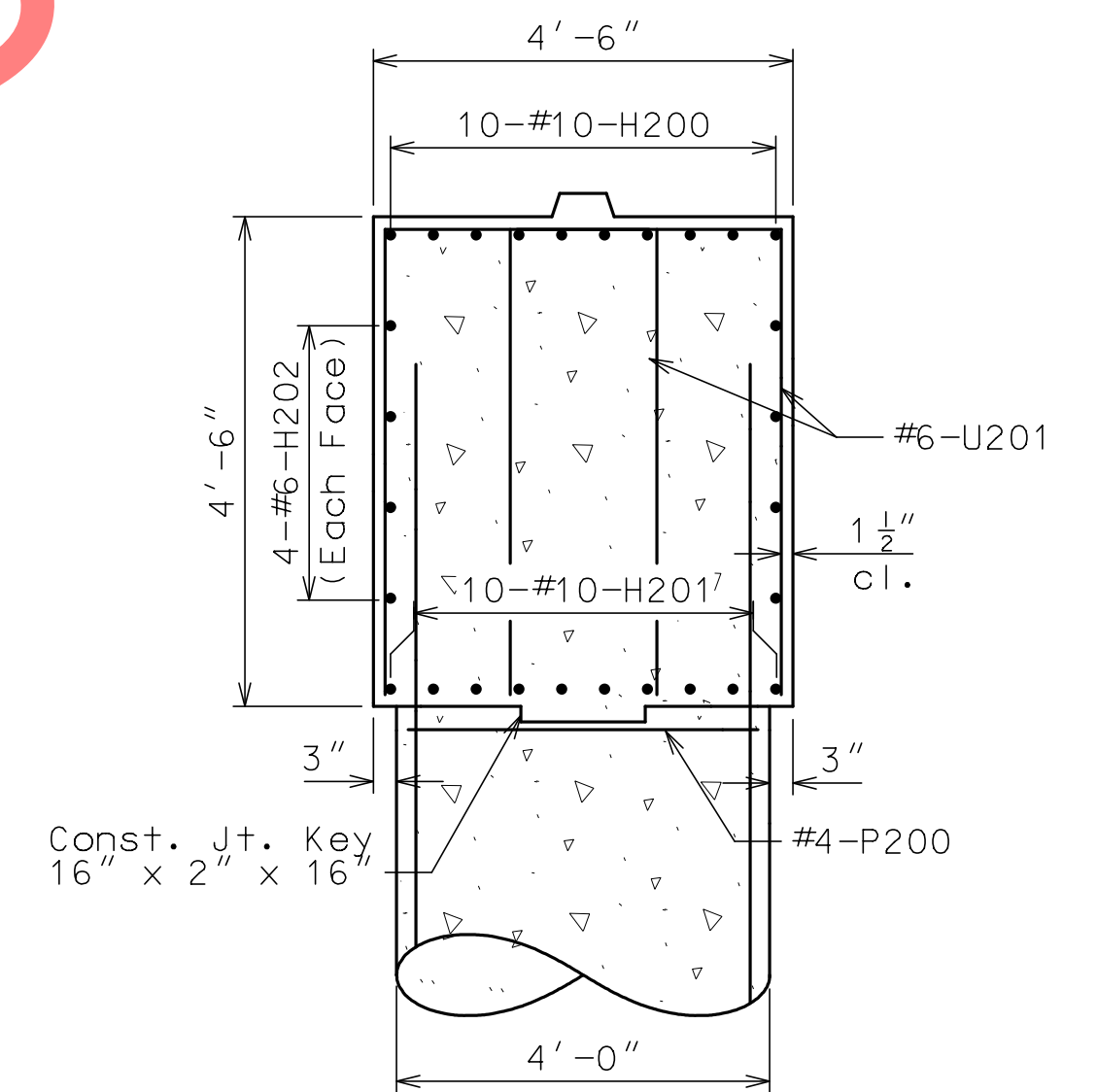
DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 5
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9132	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
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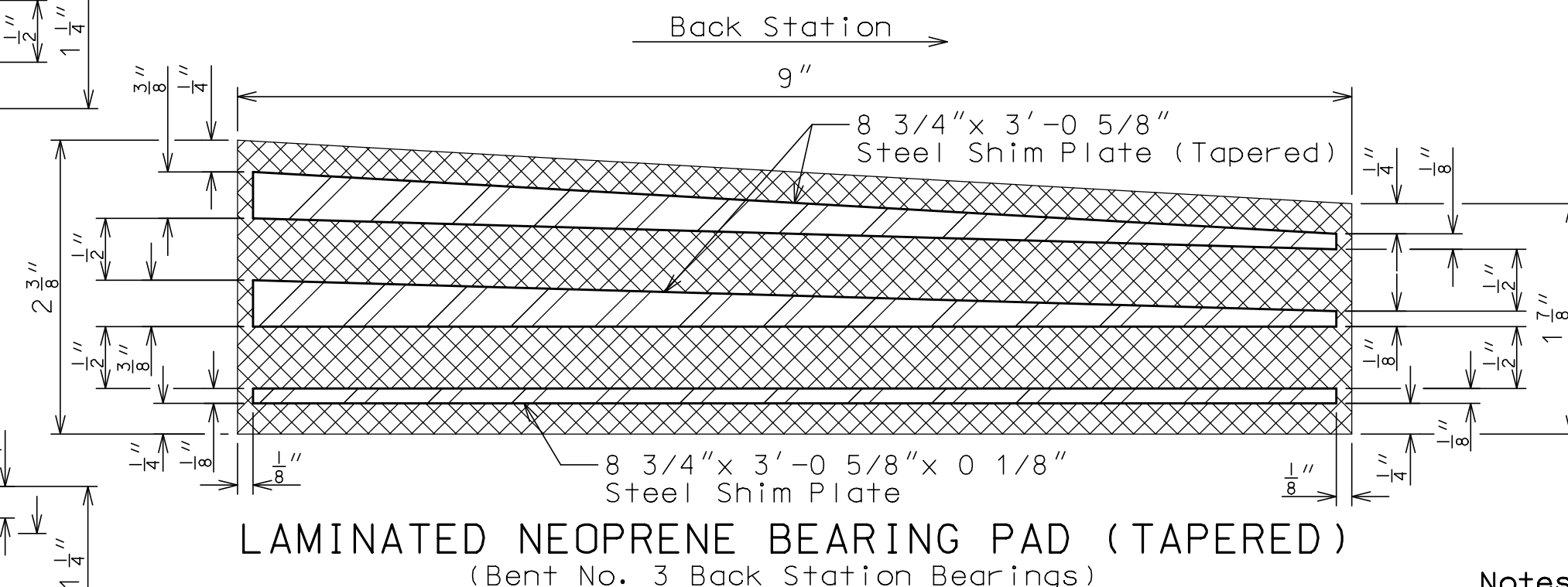
REV.



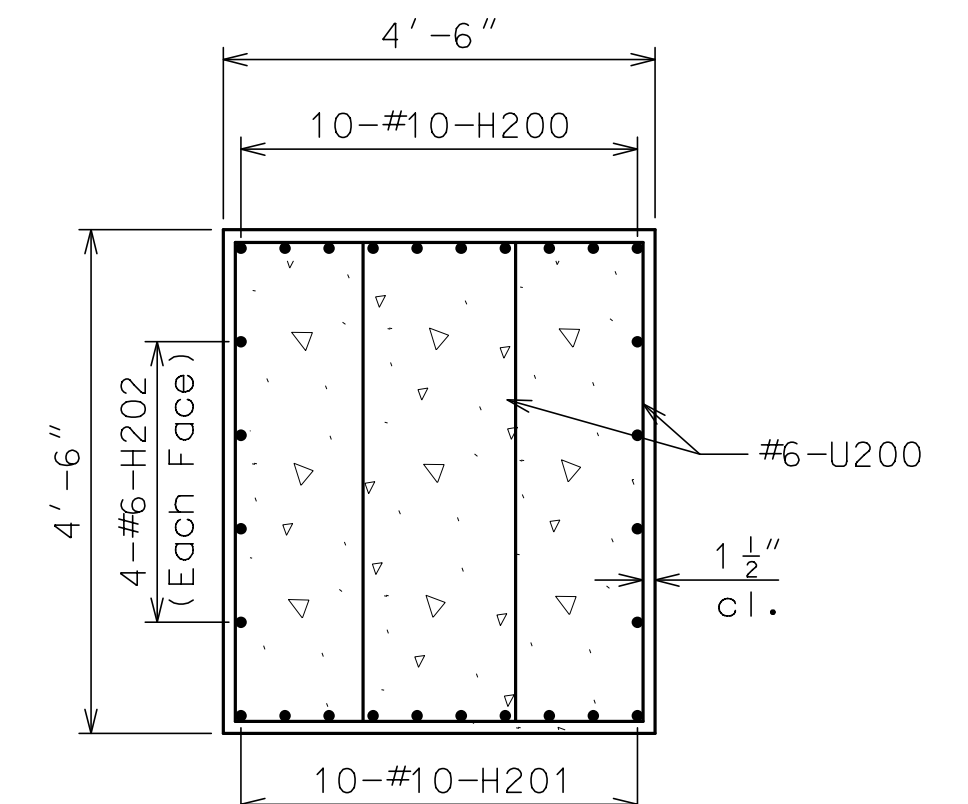
PLAN OF BEAM SHOWING REINFORCEMENT



PLAN OF BEAM



LAMINATED NEOPRENE BEARING PAD (TAPERED)
(Bent No. 3 Back Station Bearings)



SECTION C-C

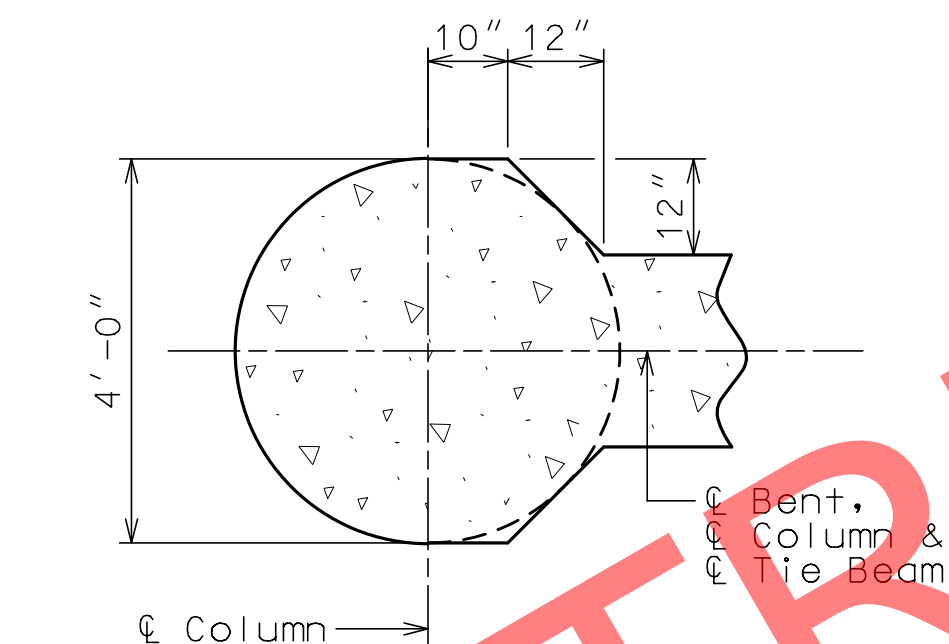
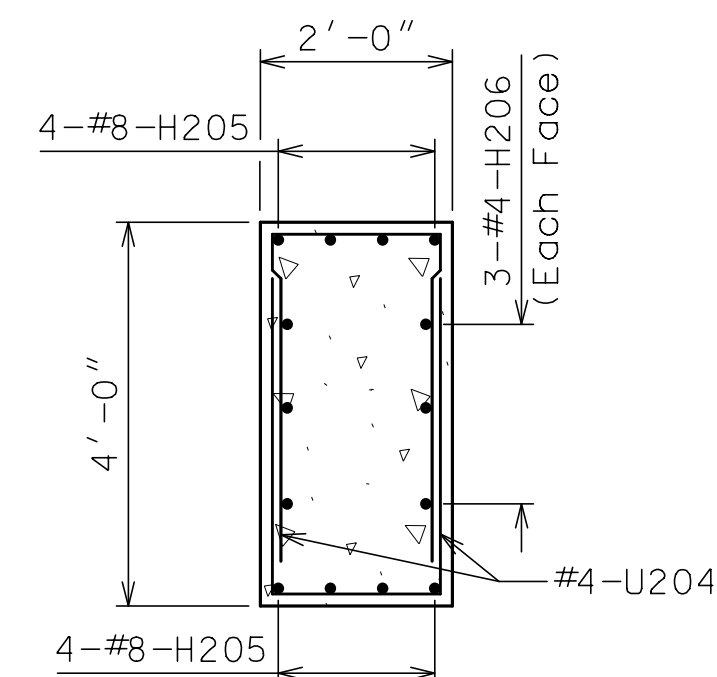
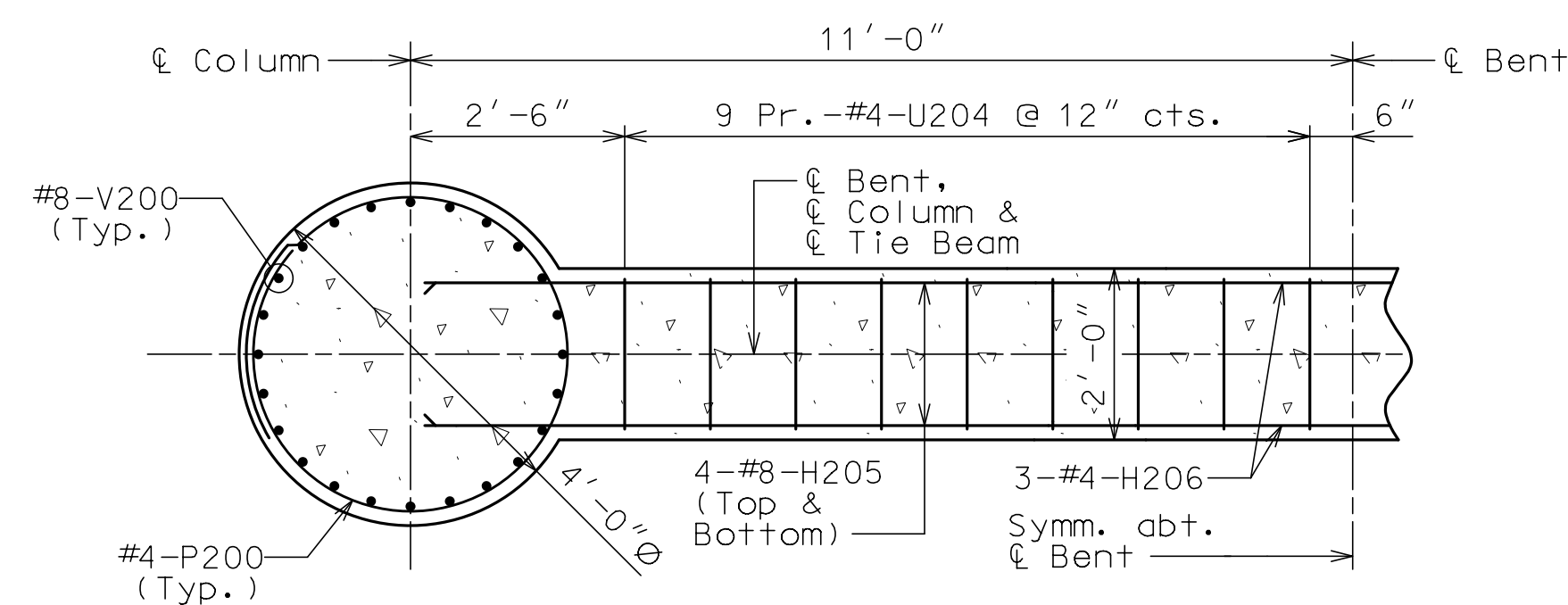
Work this sheet with Sheets No. 7 & 9.

olsson

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CERTIFICATE OF
AUTHORITY NO. 001592

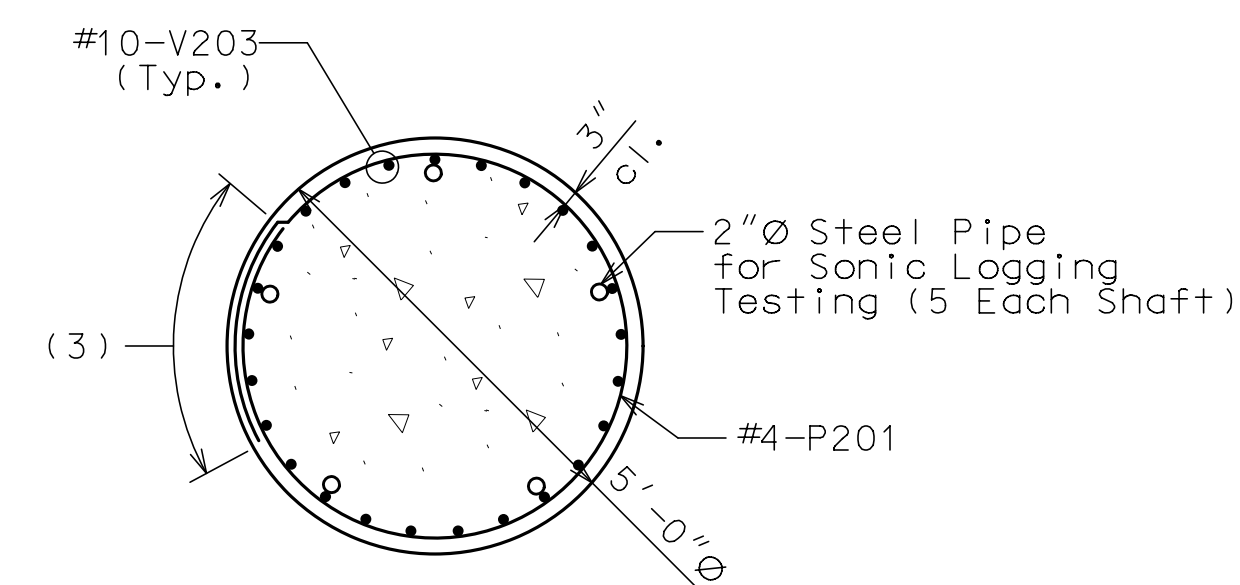
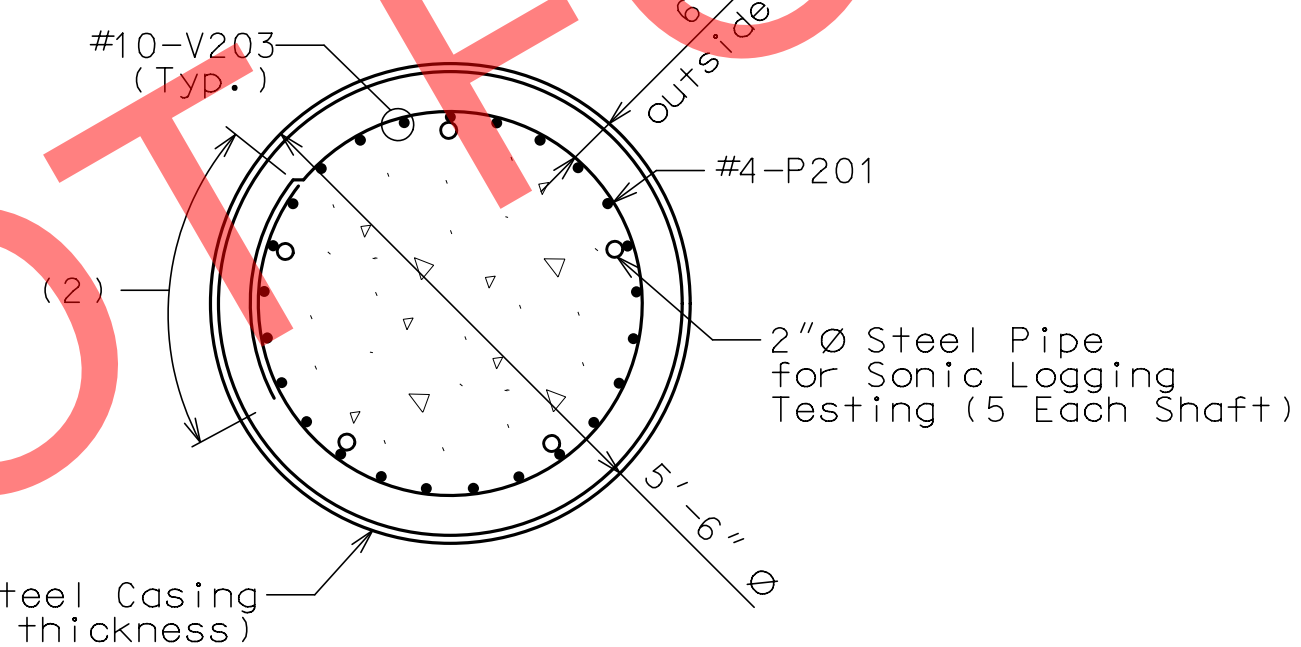
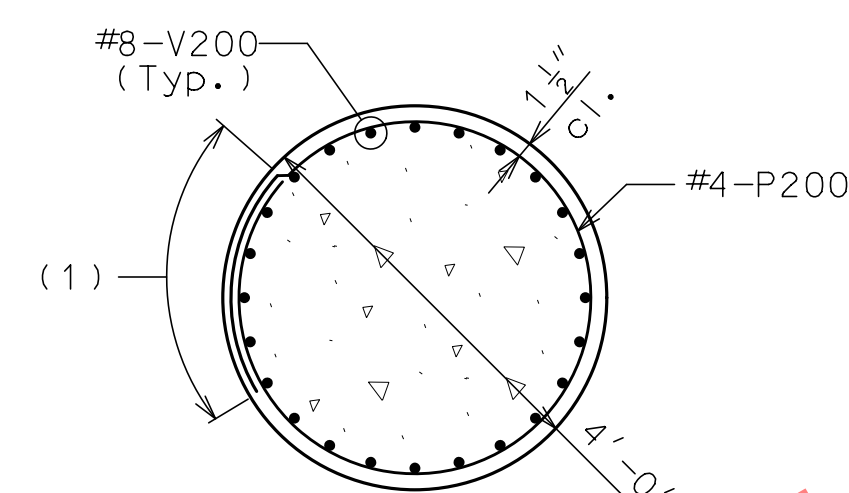
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED:

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Note:

At the contractor's option, the details shown in Optional Part Section E-E may be used for Column-Tie Beam at Intermediate Bents No. 2 & 3. No additional payment will be made for this substitution.

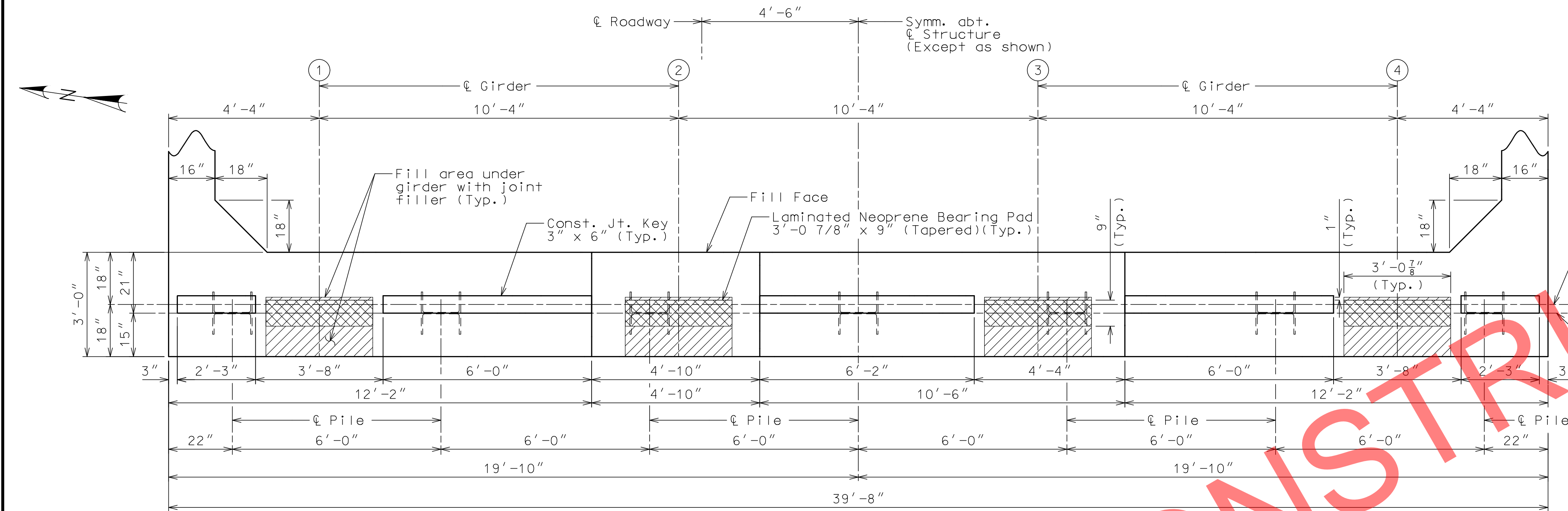


Notes:

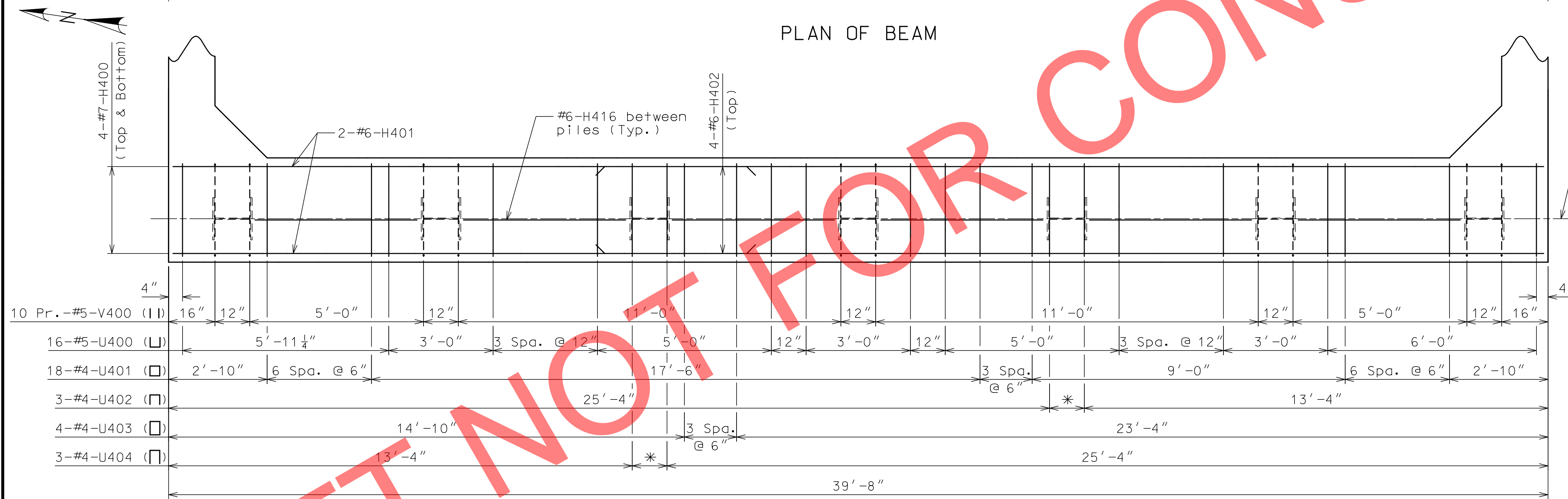
This sheet shall be used as a template for Bents No. 2 & 3. Bar marks shown are applicable for Bent No. 2. The Bill of Reinforcing Steel will use separate bar marks for each bent. The first number in the bar mark will match the corresponding Bent No.

Work this sheet with Sheets No. 7 & 8.

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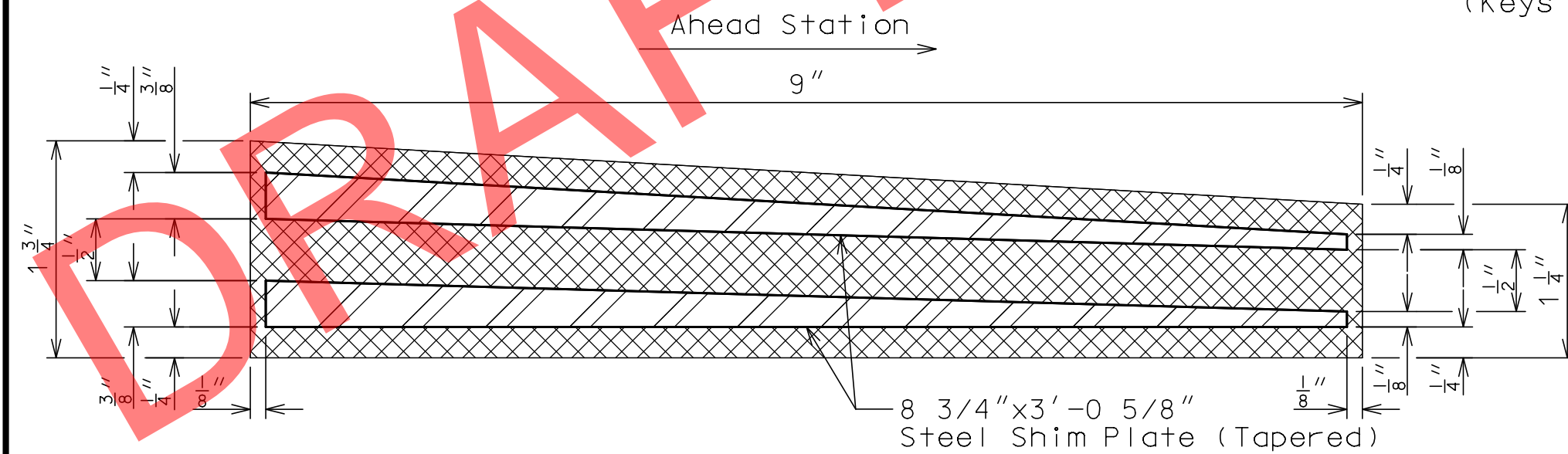


PLAN OF BEAM



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

* 2 Spa. @ 6"



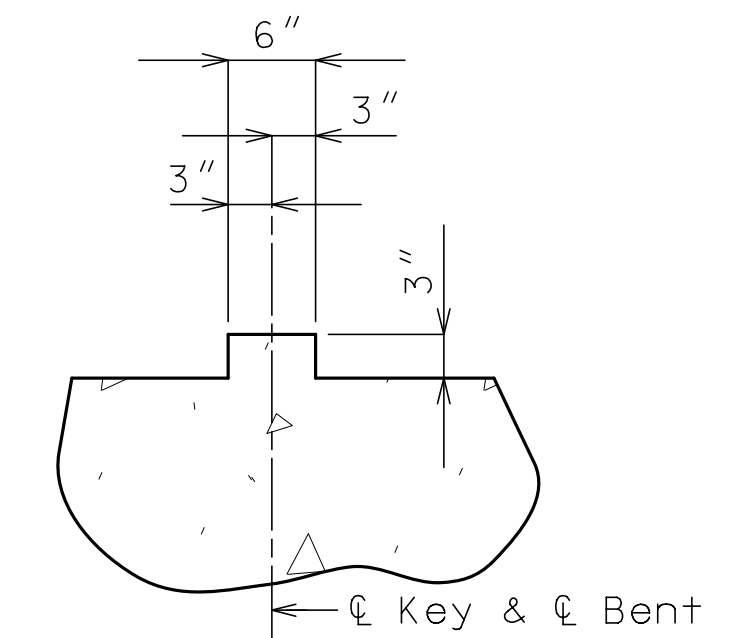
LAMINATED NEOPRENE BEARING PAD (TAPERED)

Substructure Quantity Table for Bent No. 4		
Item		Quantity
Class 1 Excavation	cu. yard	60
Galvanized Structural Steel Piles (14 in.)	linear foot	462
Pre-bore for Piling	linear foot	455
Pile Point Reinforcement	each	7
Class B Concrete (Substructure)	cu. yard	20.3

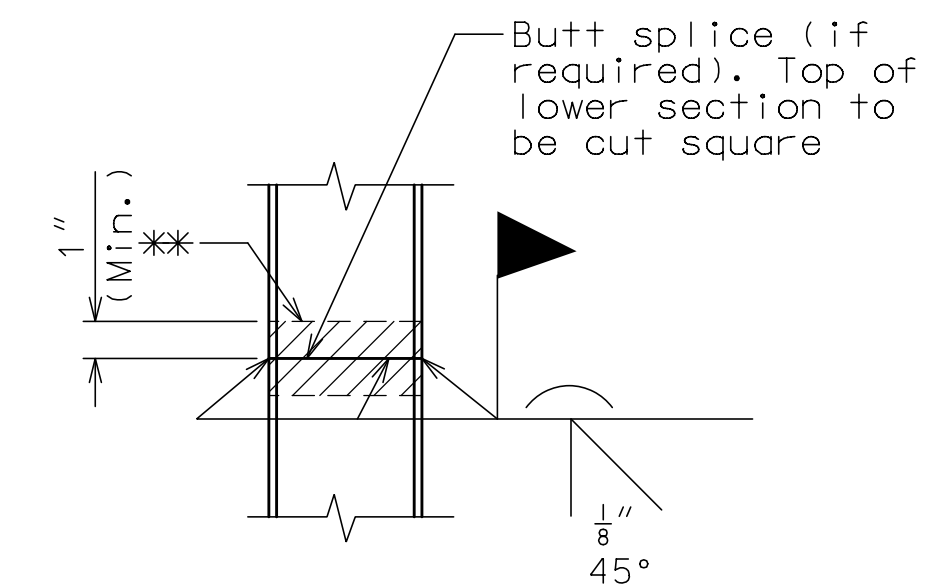
Note: These quantities are included in the Estimated Quantities Table on Sheet No. 2.

DETAILS OF END BENT NO. 4

Sheet No.10 of 49



TYPICAL SECTION THRU KEY



STEEL PILE SPLICE
(If required)

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

Notes:

For details of End Bent No. 4 not shown, see Sheets No. 11 & 12.

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

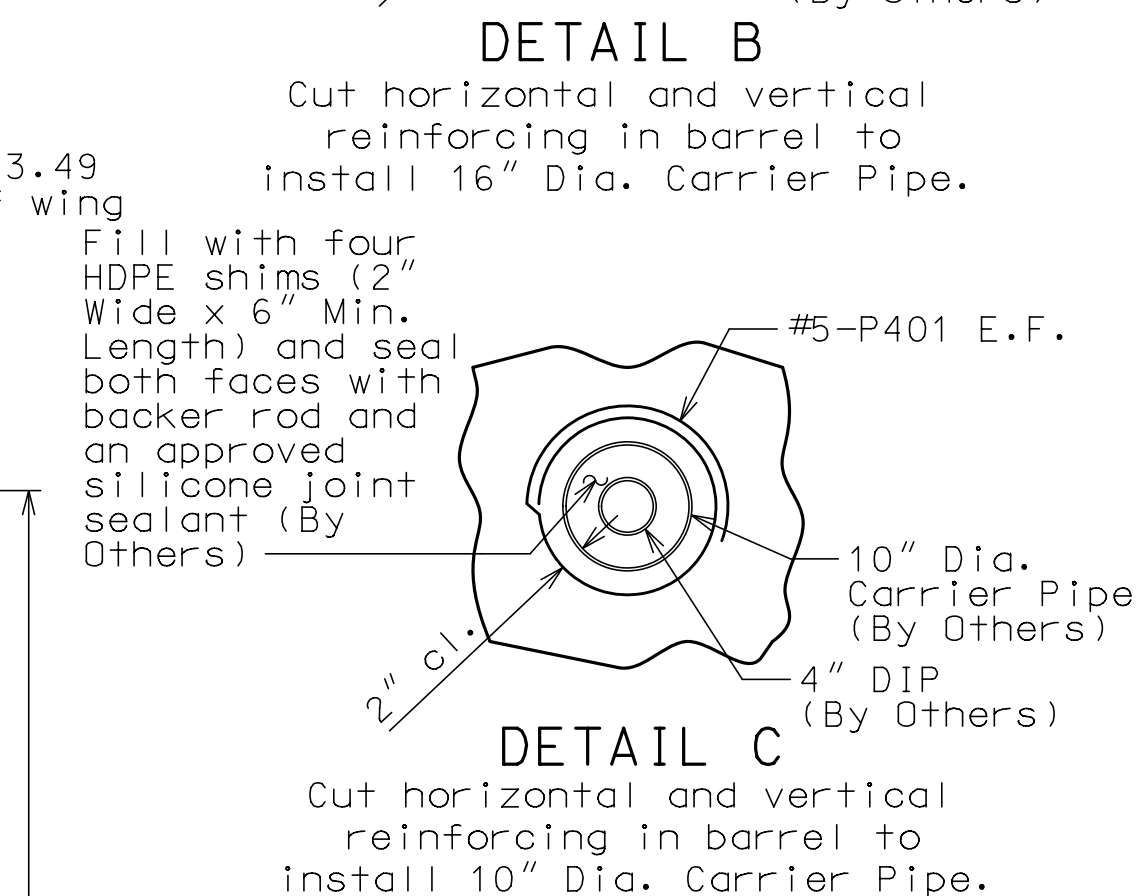
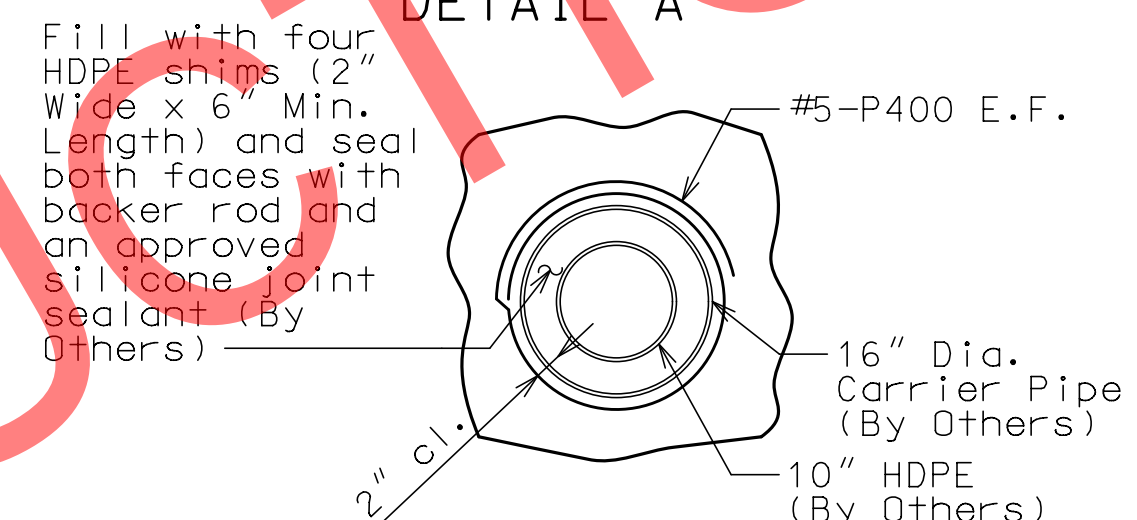
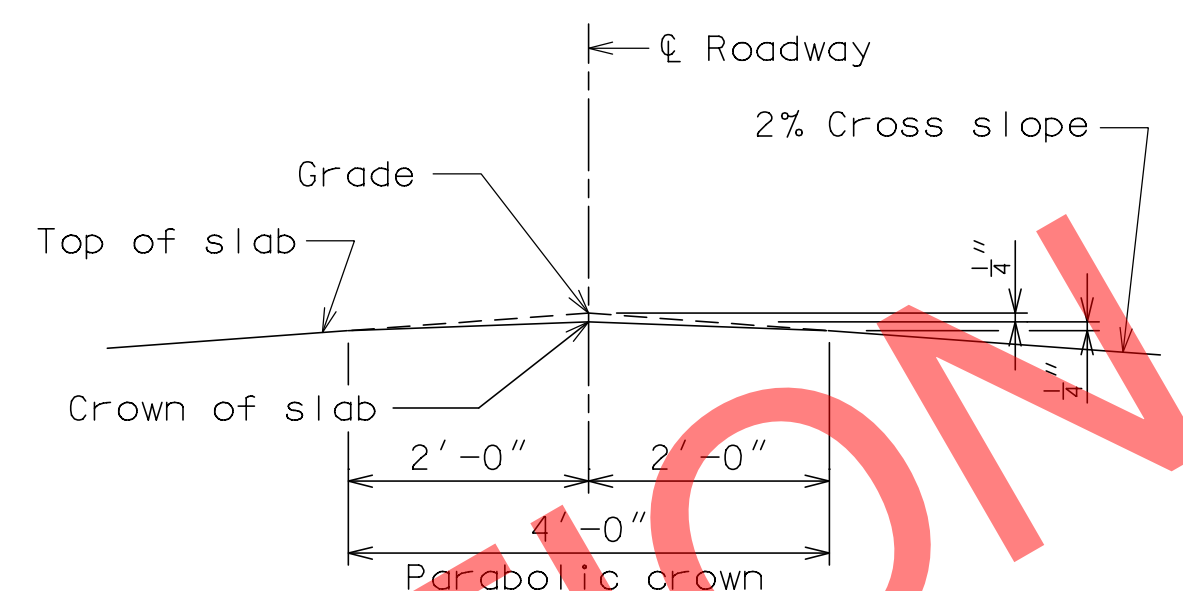
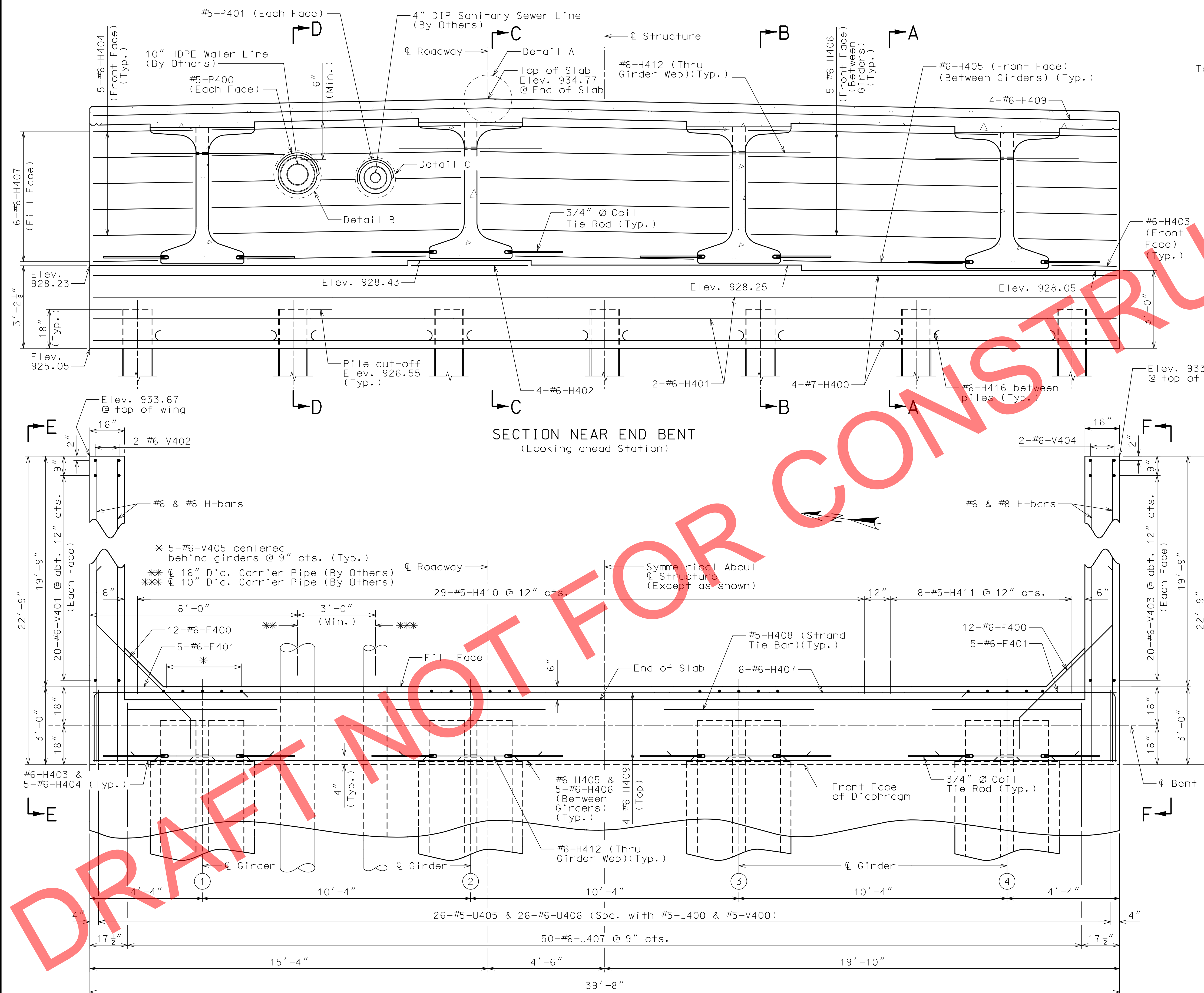
Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 10
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9132	
DESCRIPTION	DATE
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Notes:

For details of End Bent No. 4 not shown, see Sheets No. 10 & 12.

For details of Pile Splice, see Sheet No. 10.

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

For Elevations E-E & F-F, Sections A-A, B-B, C-C, D-D and Section Thru Wing, see Sheet No. 12.

All vertical reinforcing bars in the substructure beams or caps shall be field adjusted to clear piles by at least 1 1/2".

For details and reinforcement of Type H Barrier not shown, see Sheets No. 26 thru 28.

For details and reinforcement of Pedestrian Curb not shown, see Sheet No. 30.

The #6-F400 bar shall be bent in the field to clear girders.

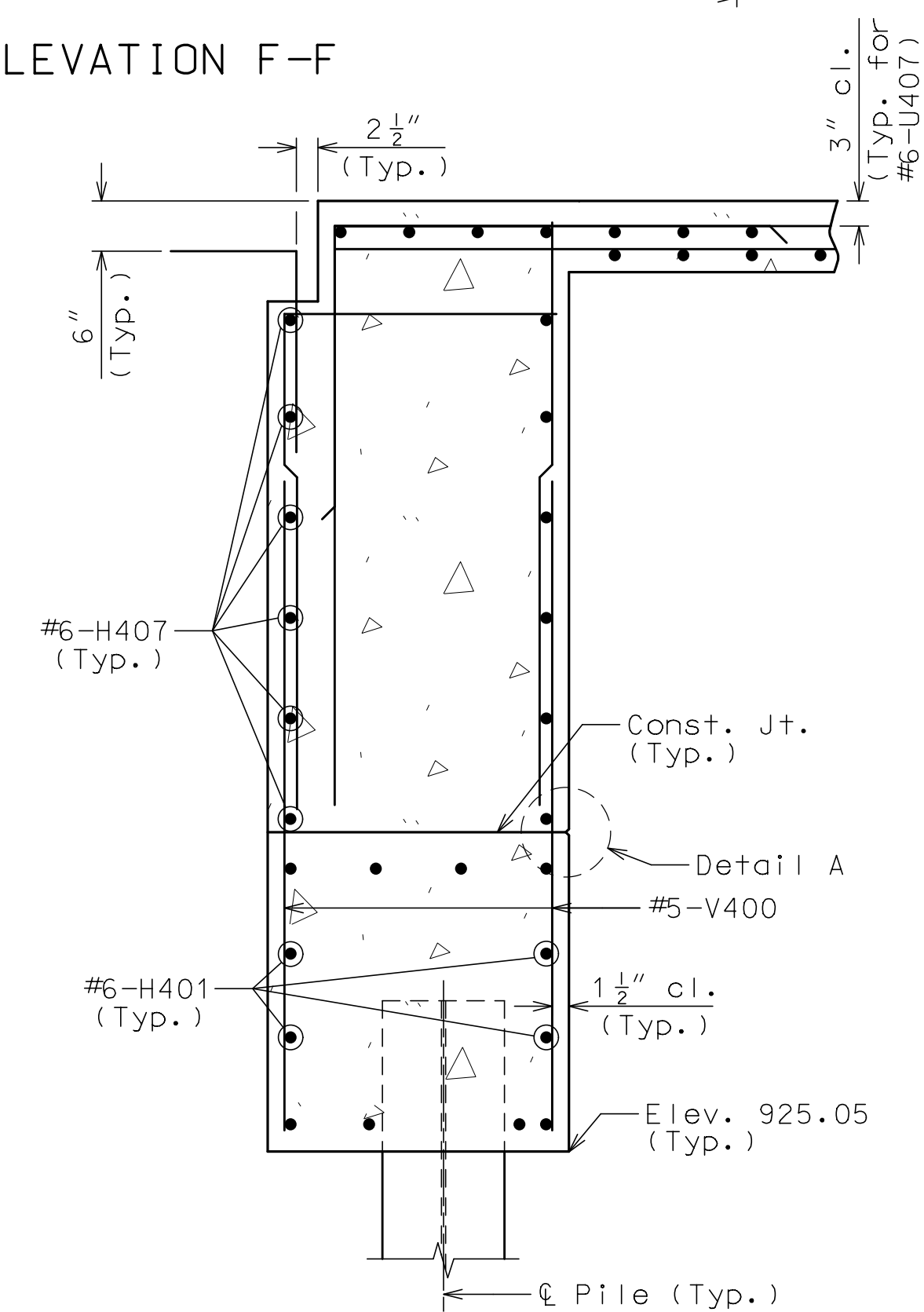
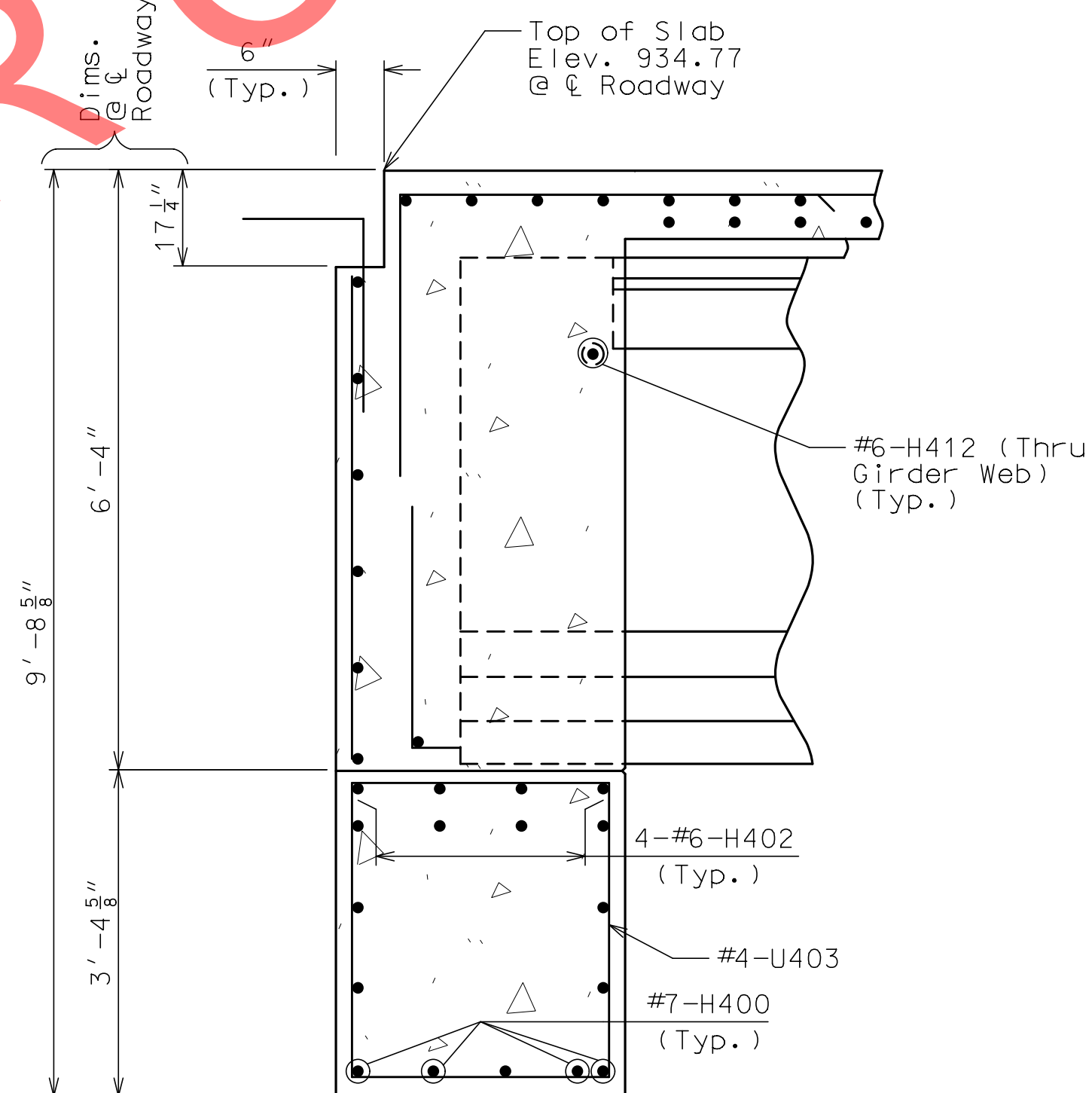
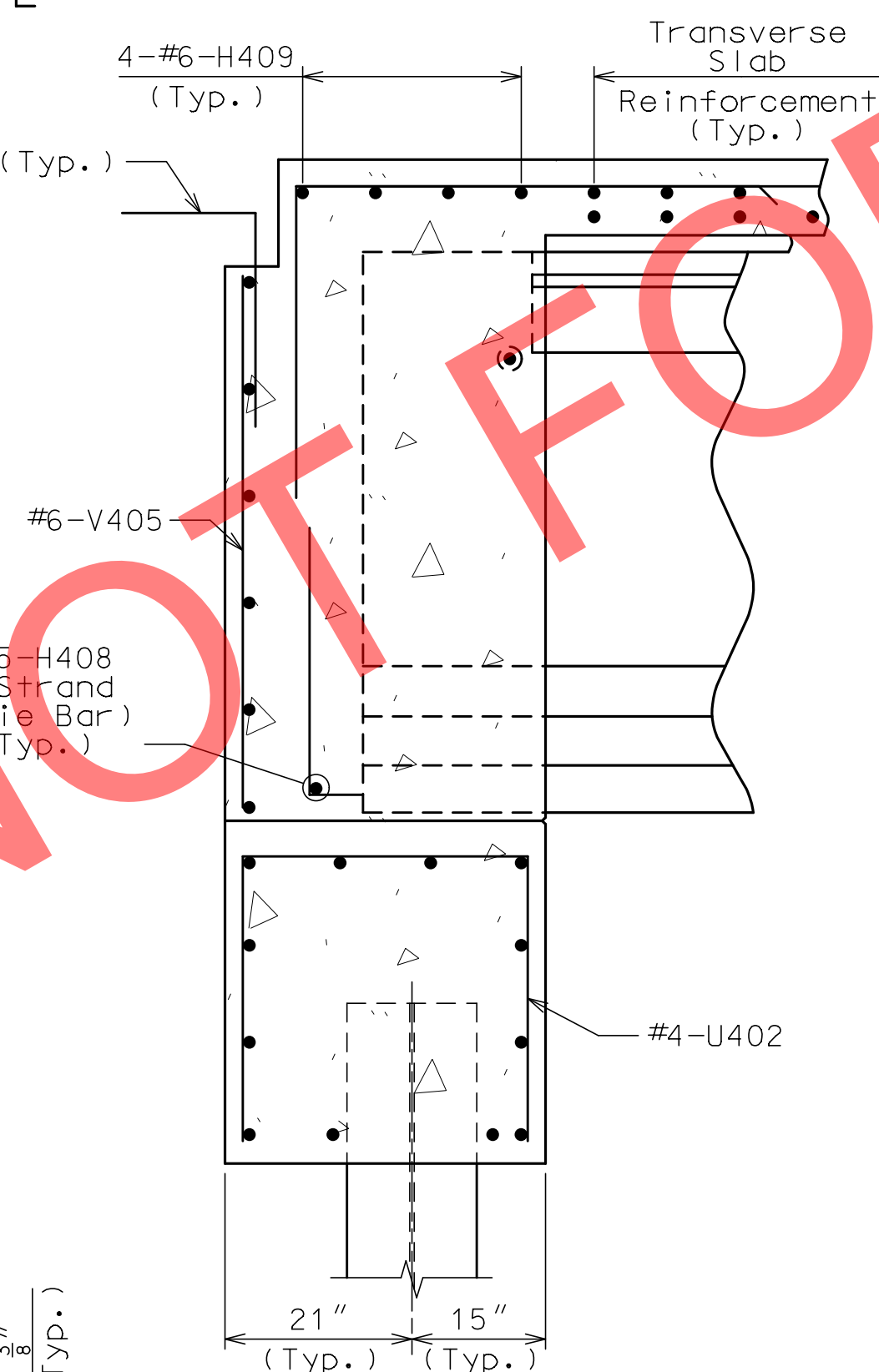
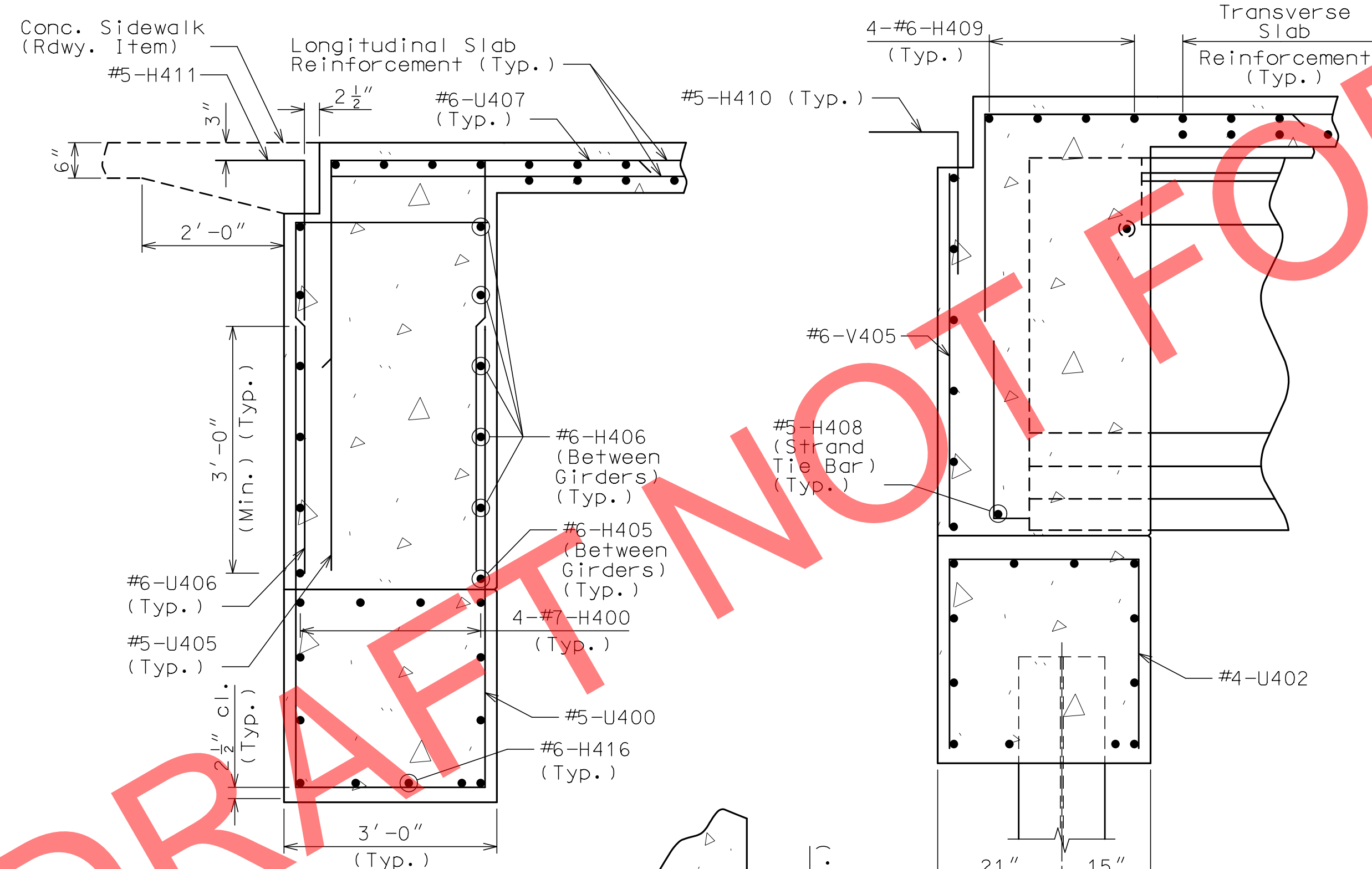
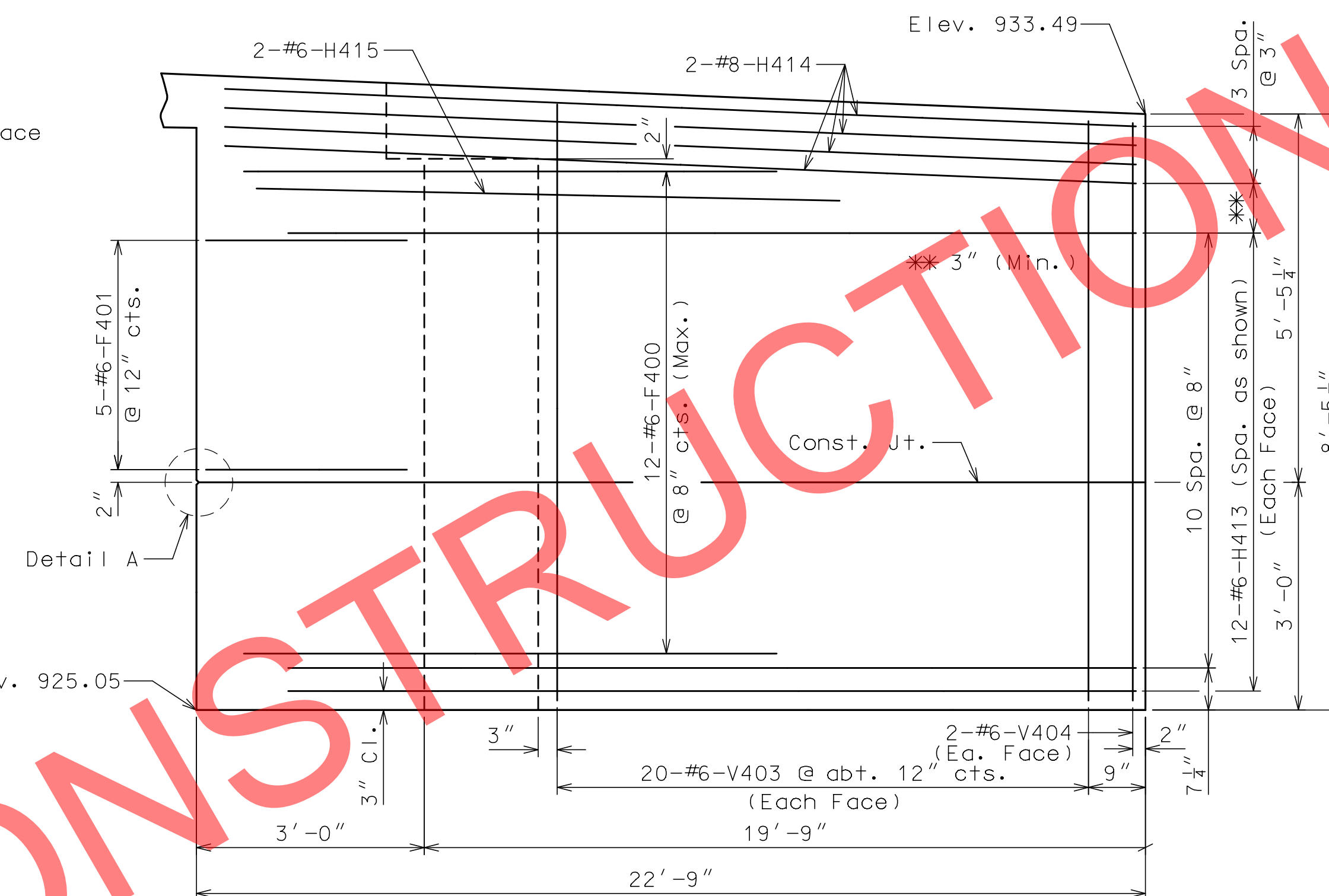
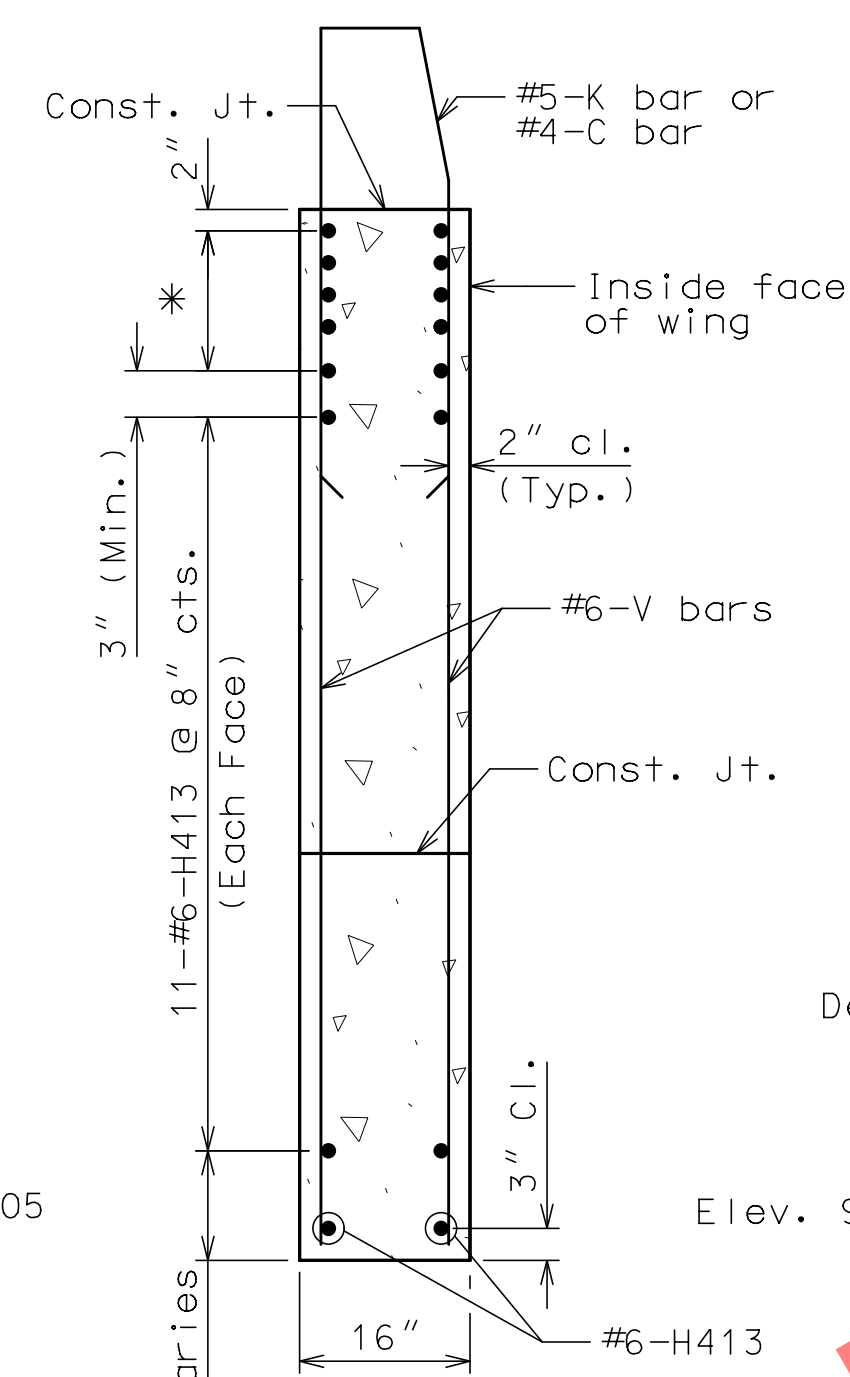
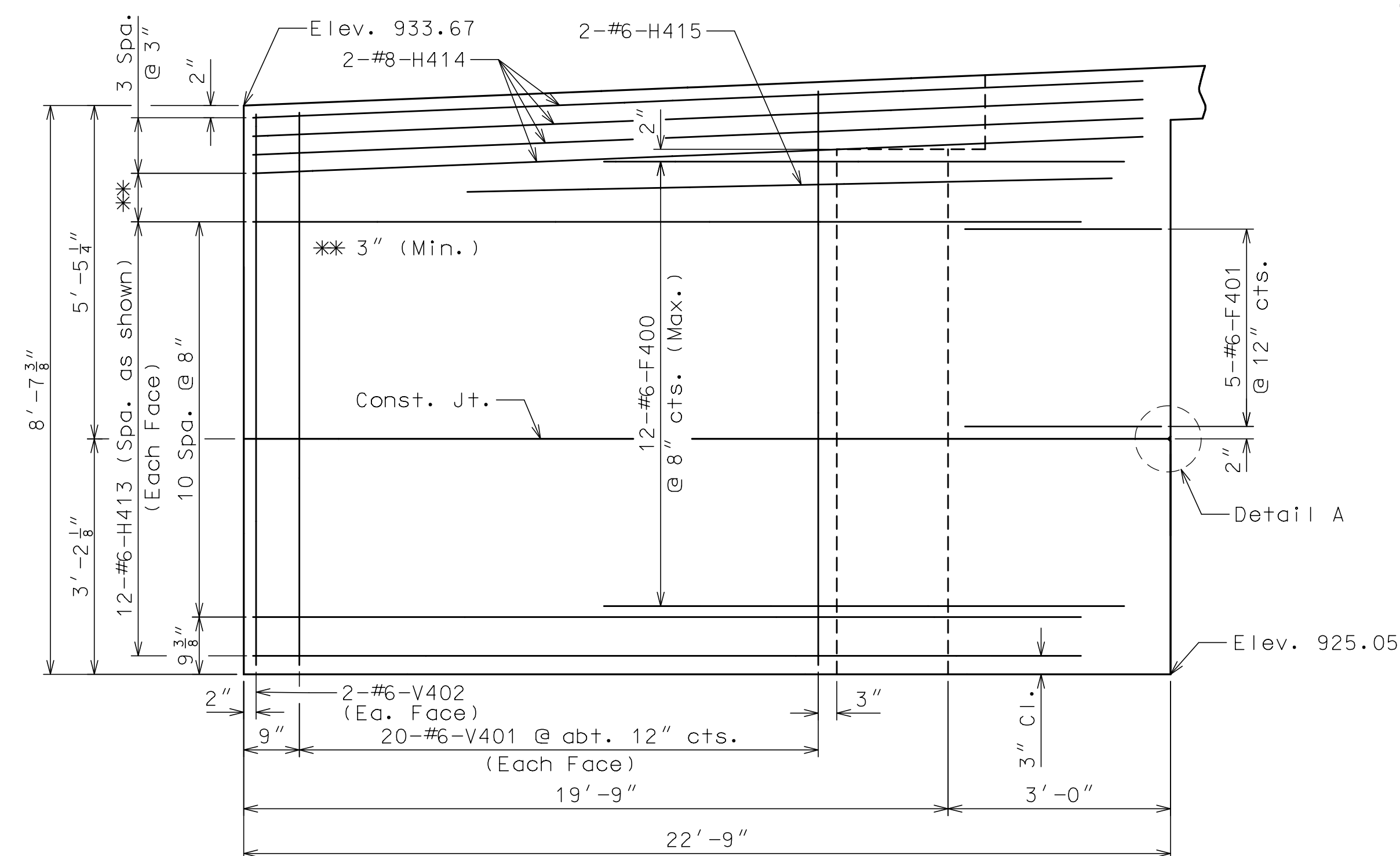
All strands at the ends of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2" minimum clearance to fill face of end bent.

For location of #5-H408 (Strand Tie Bar), see Sheets No. 17 and 18.

For details of Bridge Approach Slab, see Sheet No. 34.

For substructure Quantity Table for End Bent No. 4, see Sheet No. 10.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.



Notes:

For details of End Bent No. 4 not shown, see Sheets No. 10 & 11.


For details of Pile Splice, see Sheet No. 10.

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

For location of Elevations E-E & F-F and Sections A-A, B-B, C-C, and D-D, see Sheet No. 11.

For details and Reinforcement of the Type H Barrier not shown, see
Sheets No. 26 thru 28.

For details and reinforcement of Pedestrian Curb not shown, see Sheet No. 30.

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 12
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9132	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITOL JEFFERSON CITY, MO 65102	
Olsson	
7301 WEST 133RD STREET OVERLAND PARK, KS 66213	
CERTIFICATE OF QUALITY	

Concrete for prestressed girders shall be Class A-1 with $f'c = 8000$ psi and $f'ci = 6500$ psi.

(+) indicates prestressing strand.

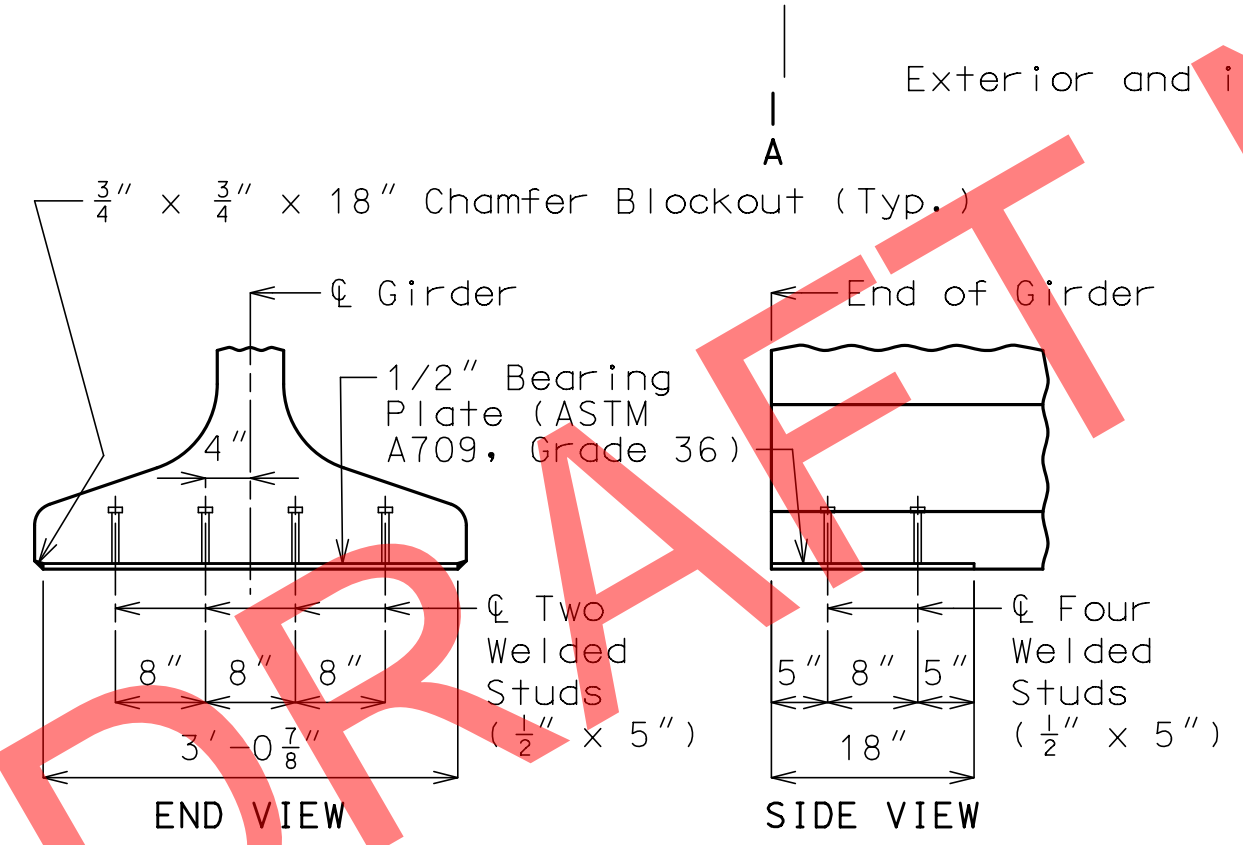
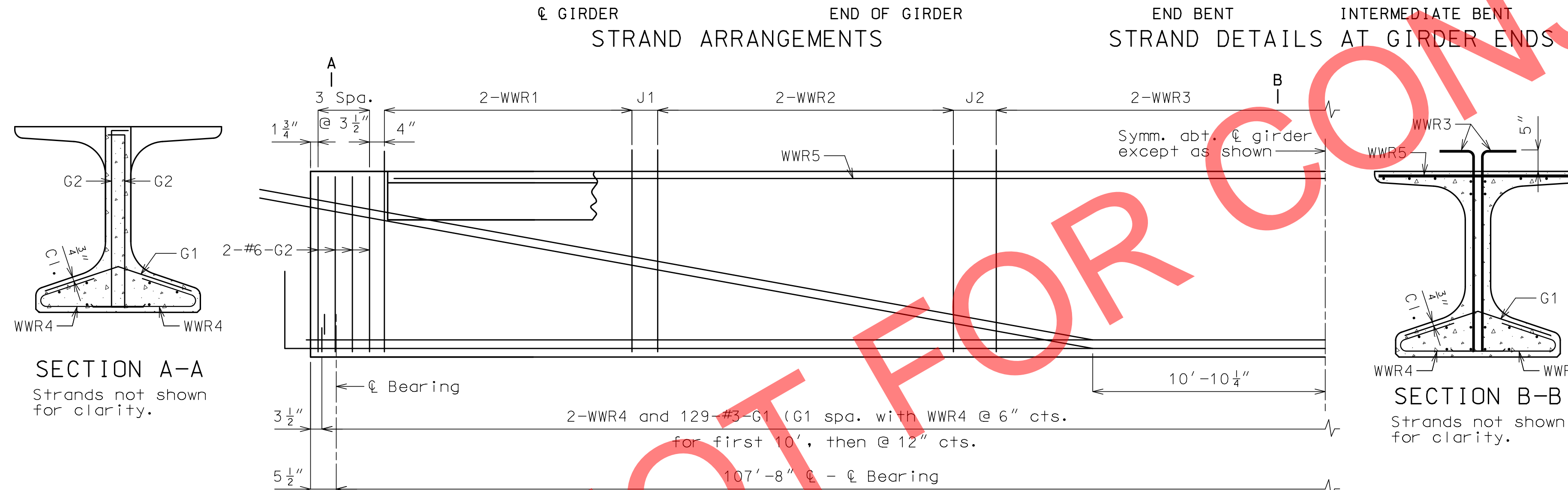
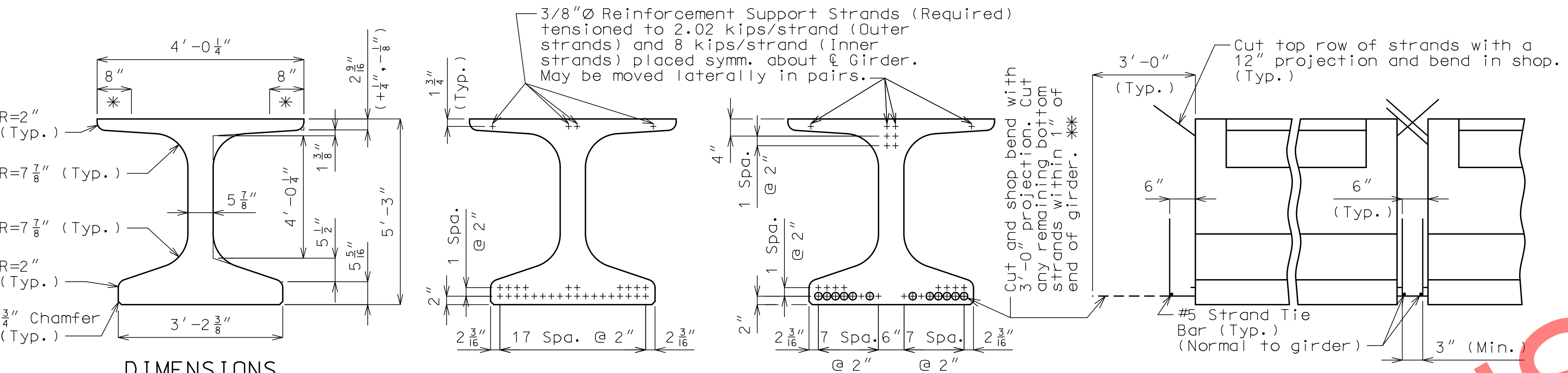
Use 28 strands with an initial prestress force of 1230 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

* Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

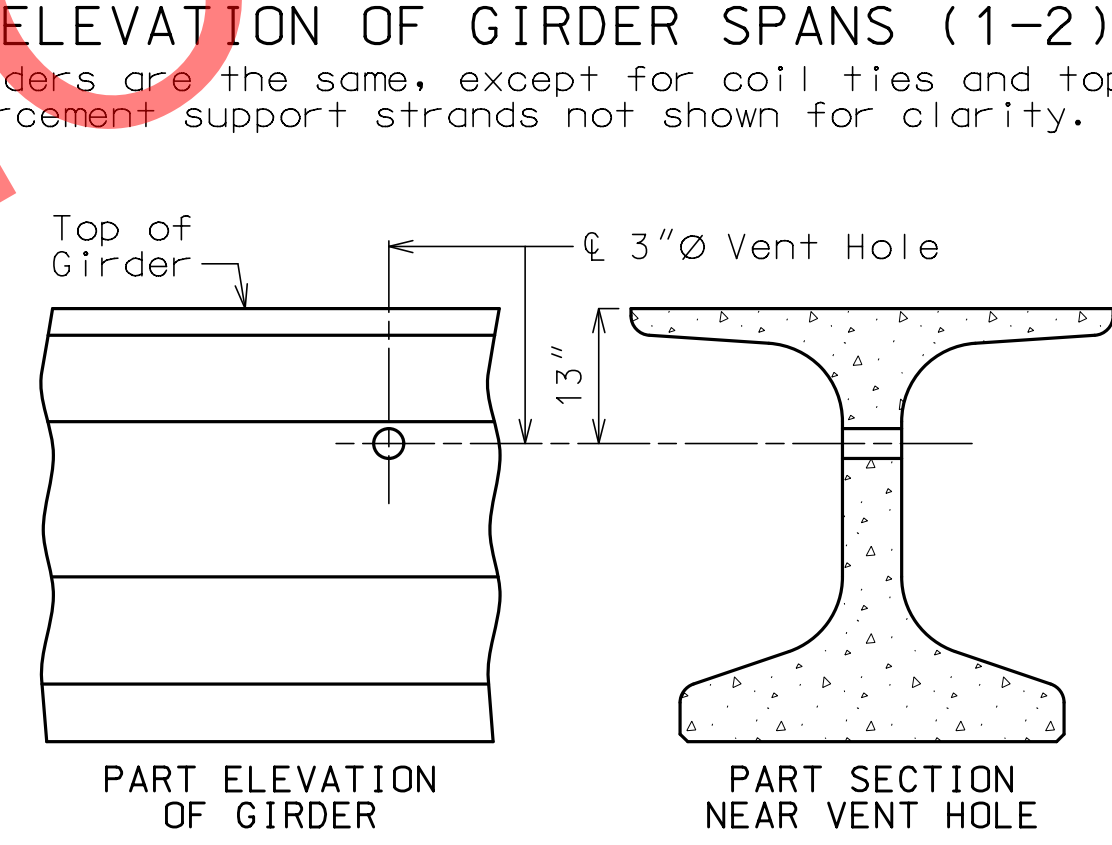
* At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.



BEARING PLATE DETAILS

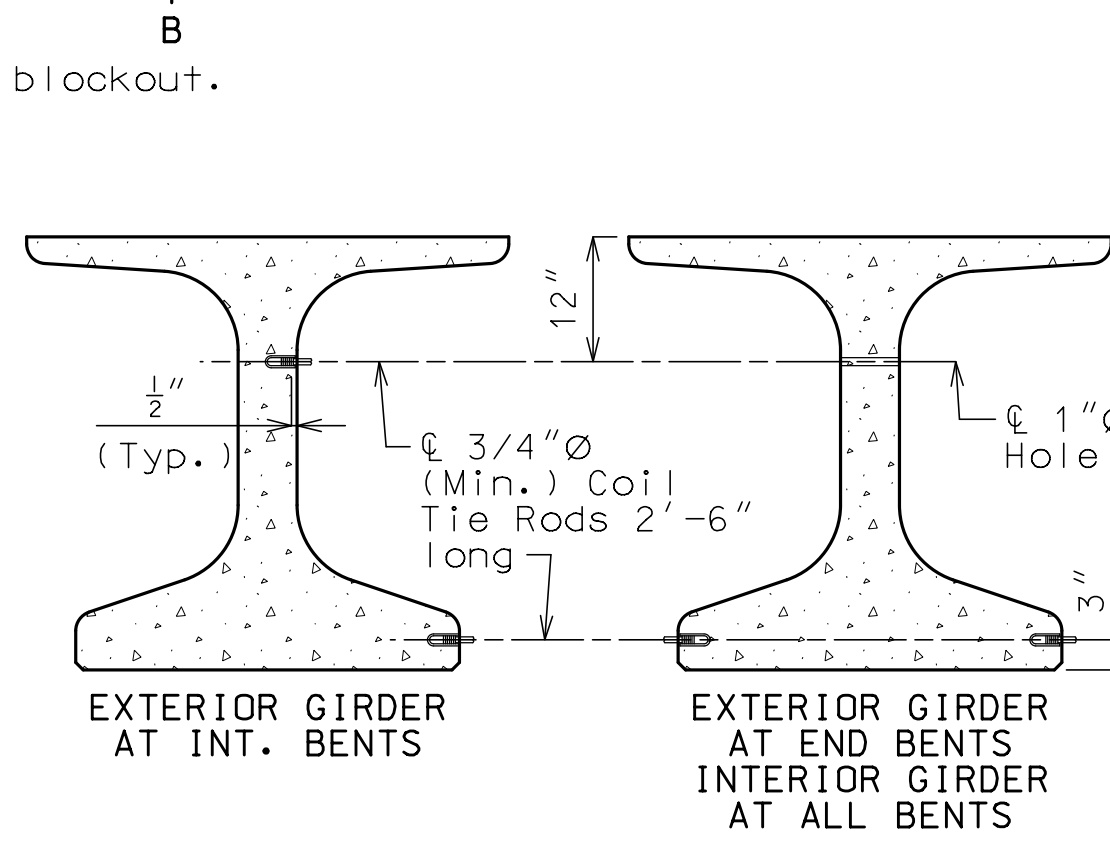
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



DETAILS OF VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel interm. diaphragm bolt connections by 6" minimum.



DETAILS OF COIL TIES

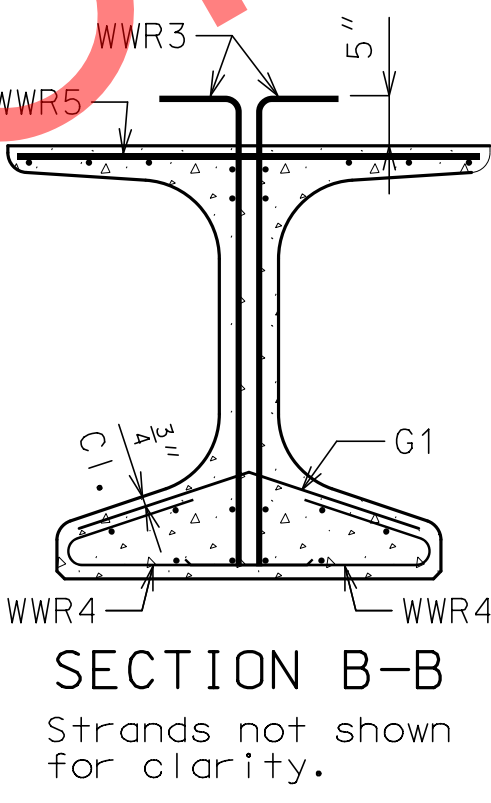
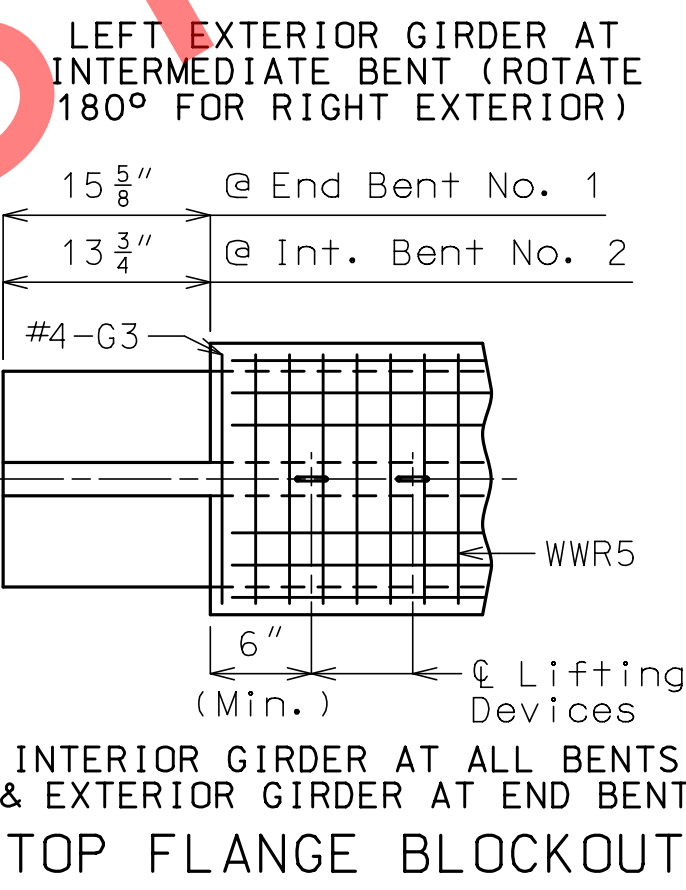
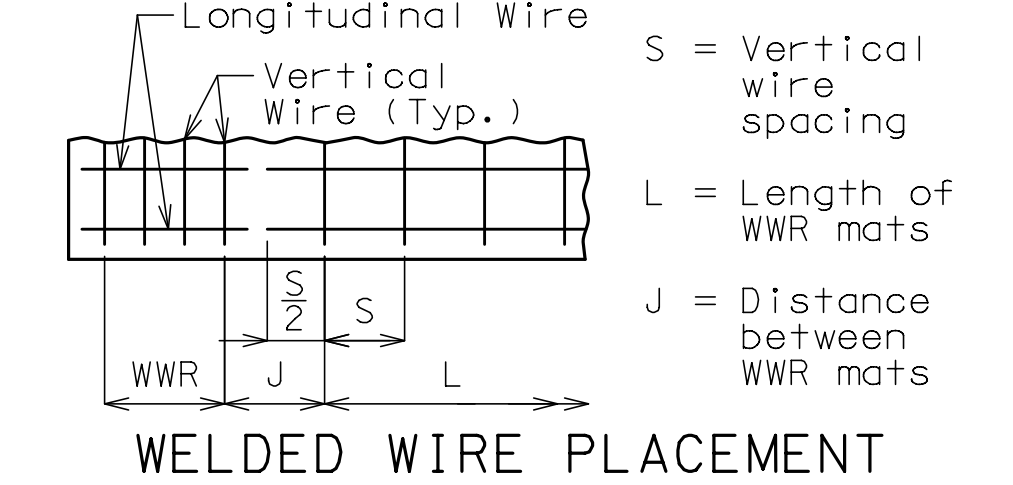
Cast 1" diameter hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
129	3 G1	2'-10"	8	
16	6 G2	5'-11"	11	
2	4 G3	3'-10 1/4"	20	
1	4 G4	2'-1"	20	
1	4 G5	2'-8 1/8"	20	SHAPE 20

G4 and G5 not required for interior girders. Half no. of G3 not required for ext. girders.

WELDED WIRE REINFORCEMENT - EACH GIRDER				
MARK	WIRE SIZE	S	L	J
WWR1	D31	4"	2'-4"	8"
WWR2	D31	8"	6'-0"	11 1/4"
WWR3	D31	12"	86'-0"	-

BENDING DIAGRAMS				



General Notes:

Reinforcing Steel:

All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

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

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221. WWR shall not be epoxy coated.

Miscellaneous:

Cost of 3/4" coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For location of coil ties and #6 bars at concrete bent diaphragms, see Sheets No. 4 and 21.

The 1 1/2" holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 20.

For Girder Camber Diagram, see Sheet No. 22.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

GIRDER DETAILS SPAN (1-2)

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
13

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9132

DESCRIPTION

DATE

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

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

REV.

Concrete for prestressed girders shall be Class A-1 with $f'c = 8000$ psi and $f'ci = 6500$ psi.

(+) indicates prestressing strand.

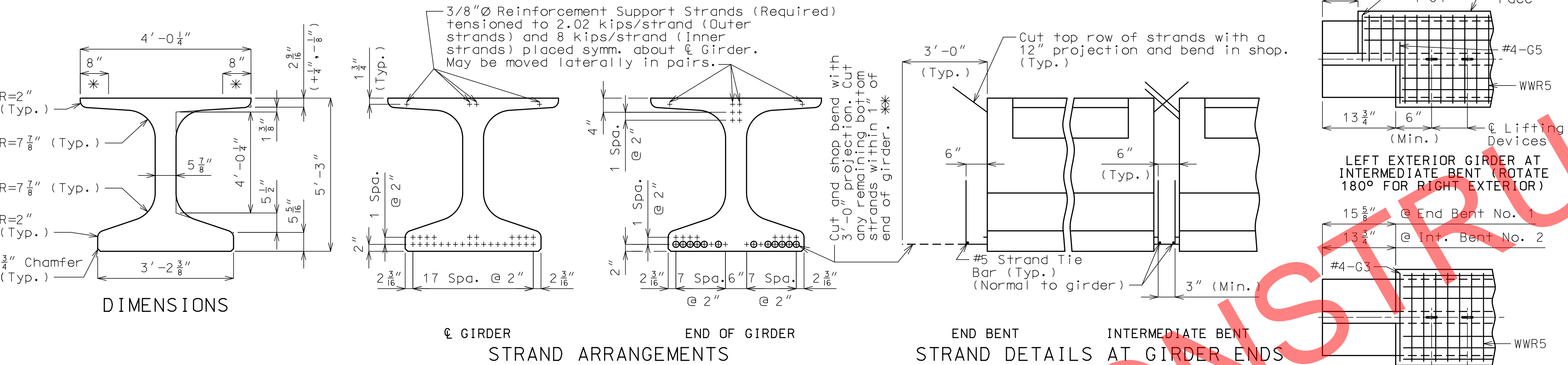
Use 28 strands with an initial prestress force of 1230 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

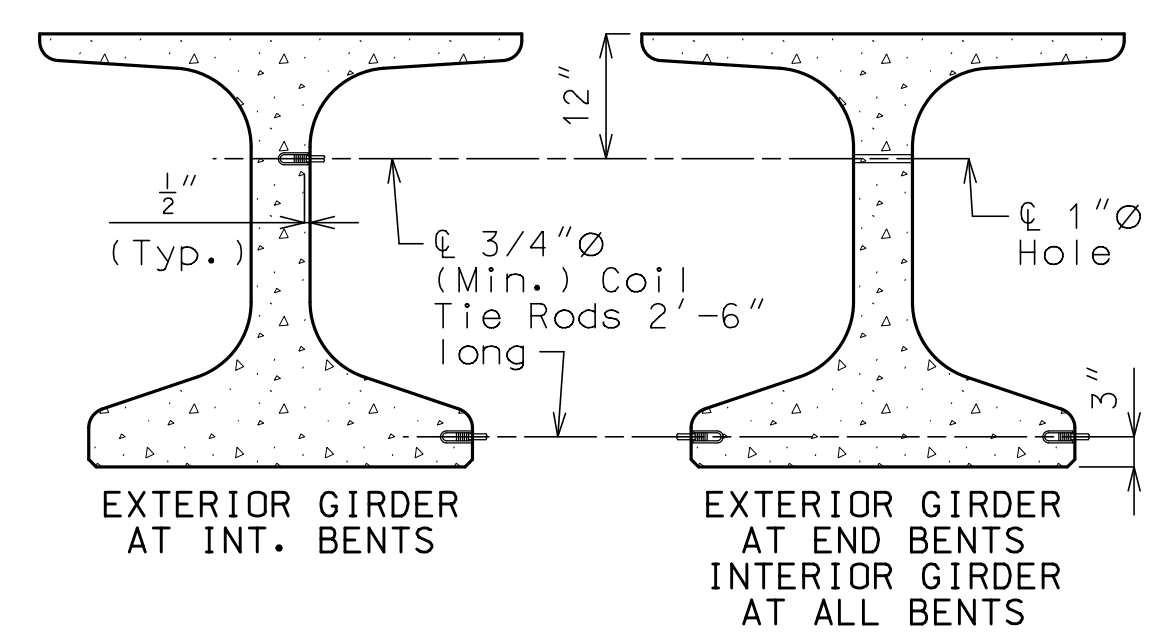
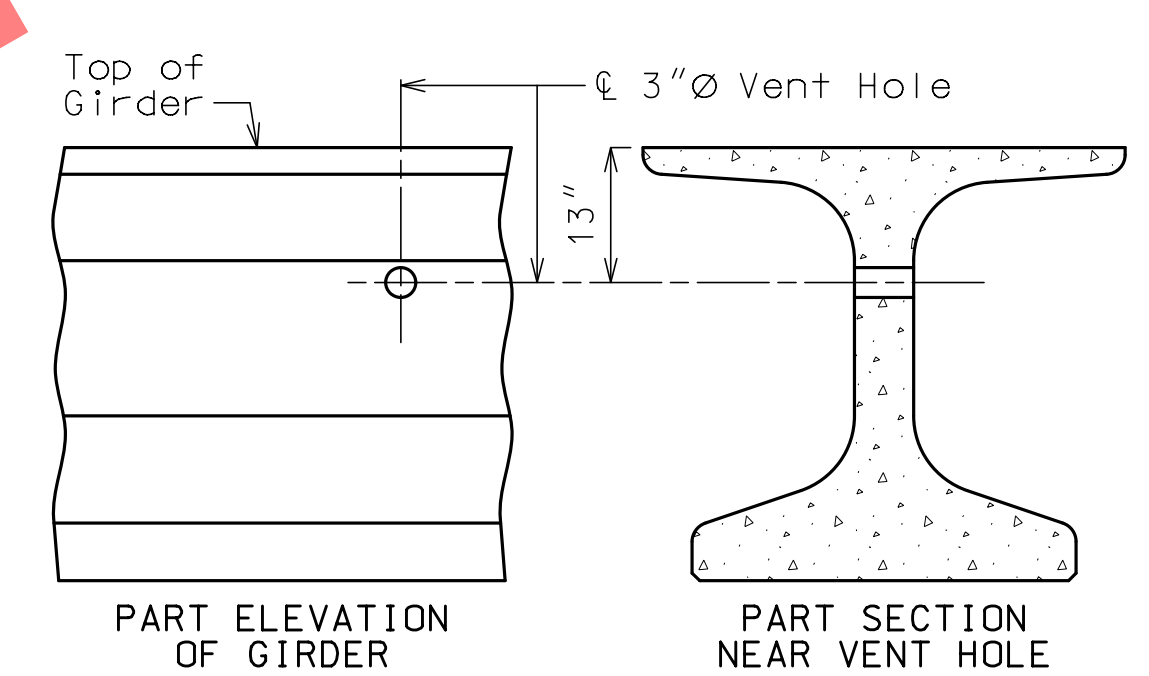
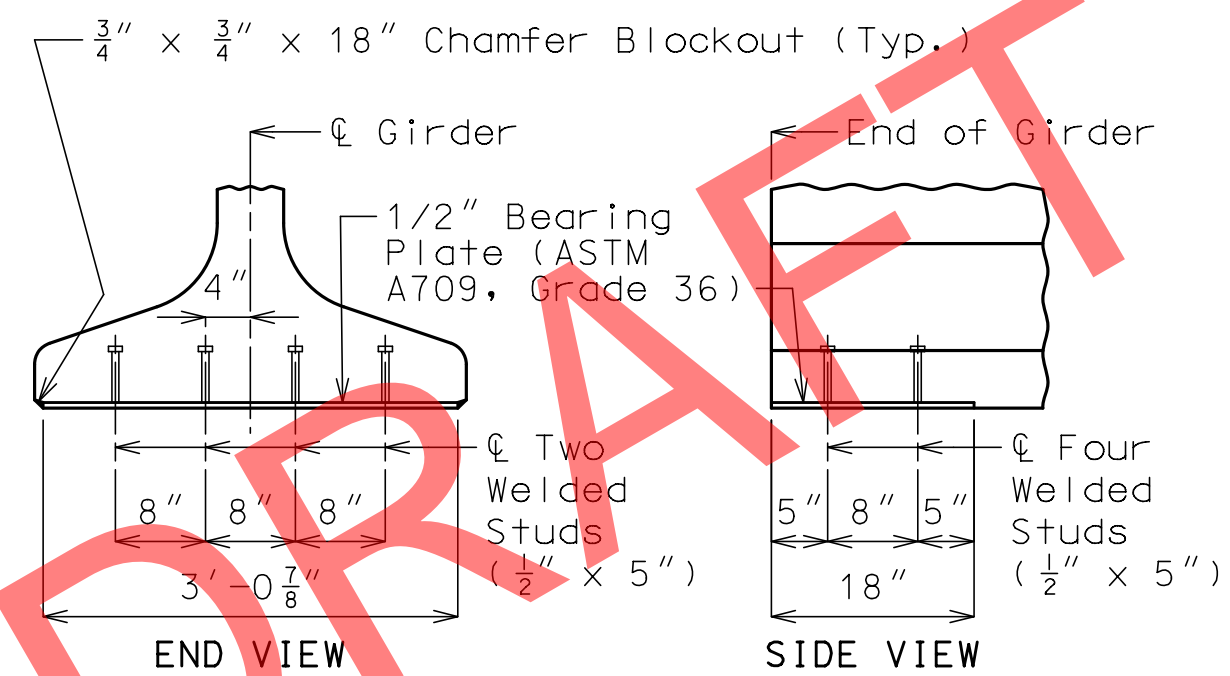
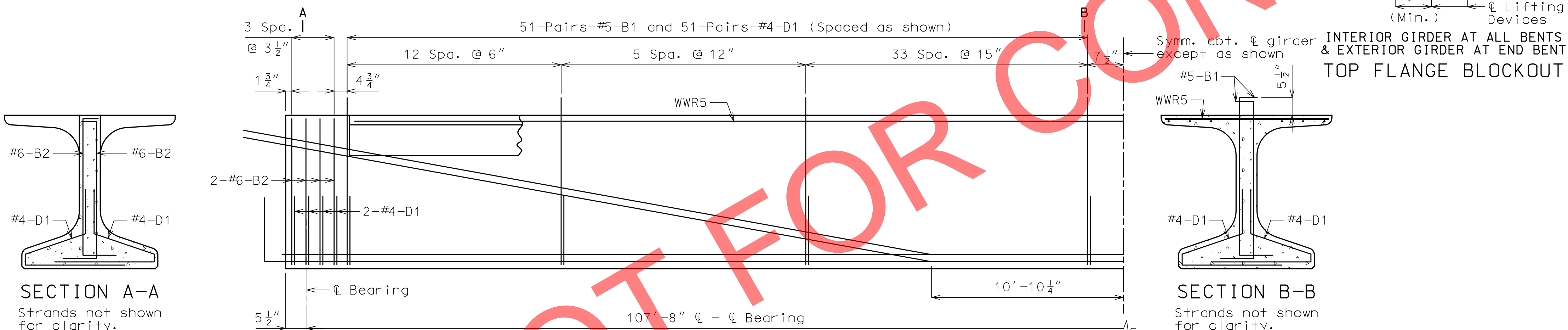
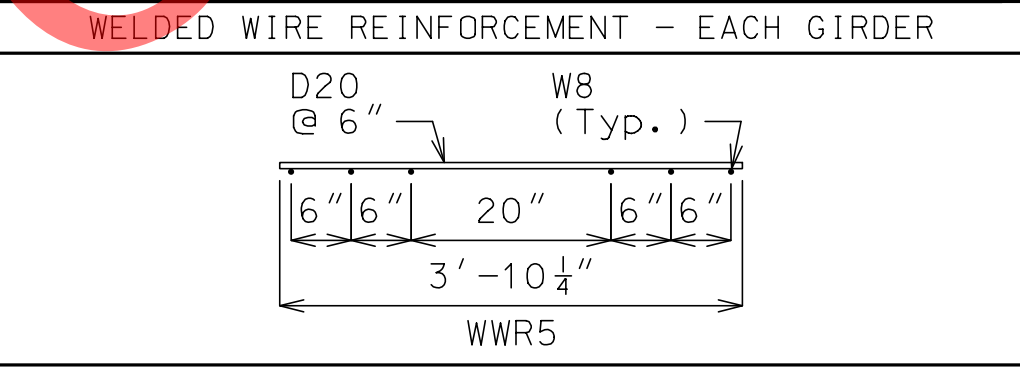
Fabricator shall be responsible for location and design of lifting devices.

* Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

** At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	
204	5 B1	6'-8"	11	
16	6 B2	5'-11"	11	
220	4 D1	4'-0"	9	
2	4 G3	3'-10 1/4"	20	
1	4 G4	2'-1"	20	
1	4 G5	2'-8 1/8"	20	



Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel interm. diaphragm bolt connections by 6" minimum.

Cast 1" hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

General Notes:

Reinforcing Steel:

All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

Miscellaneous:

Cost of 3/4" coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For location of coil ties and #6 bars at concrete bent diaphragms, see Sheets No. 4 and 21.

The 1 1/2" holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 20.

For Girder Camber Diagram, see Sheet No. 22.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

[illegible]

Concrete for prestressed girders shall be Class A-1 with $f'c = 8000$ psi and $f'ci = 6500$ psi.

(+) indicates prestressing strand.

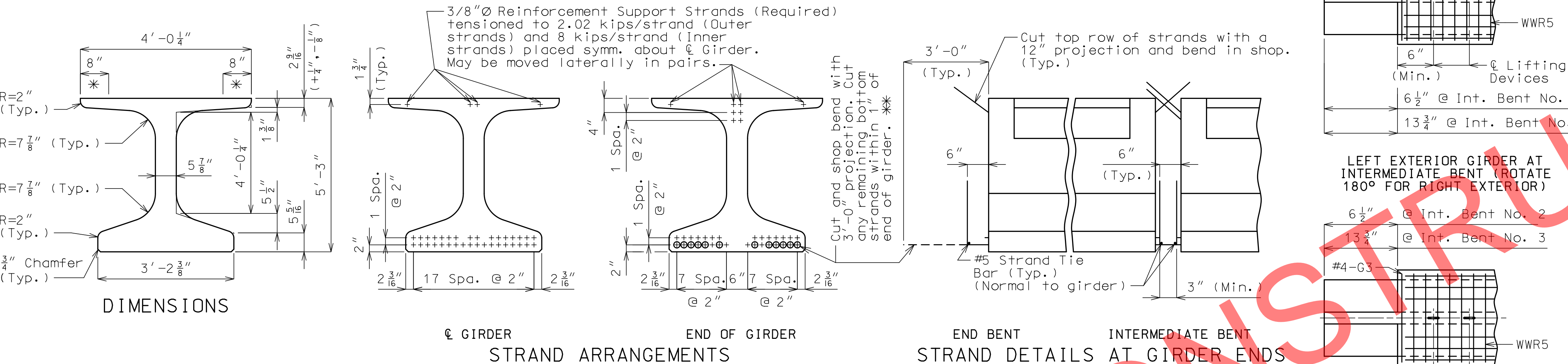
Use 34 strands with an initial prestress force of 1494 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

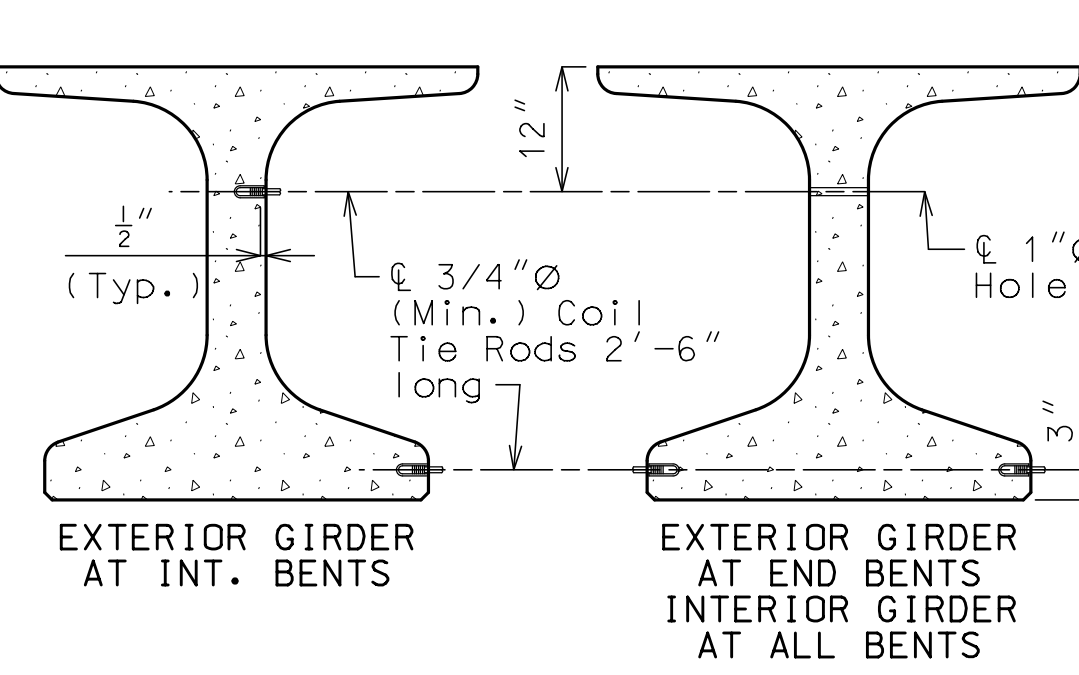
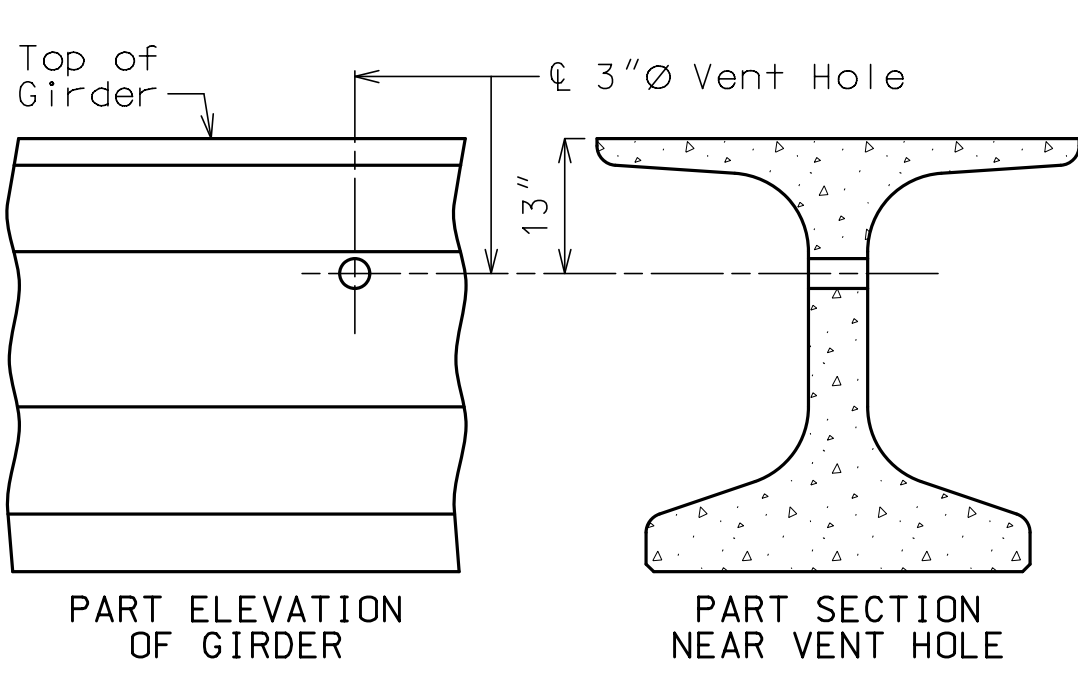
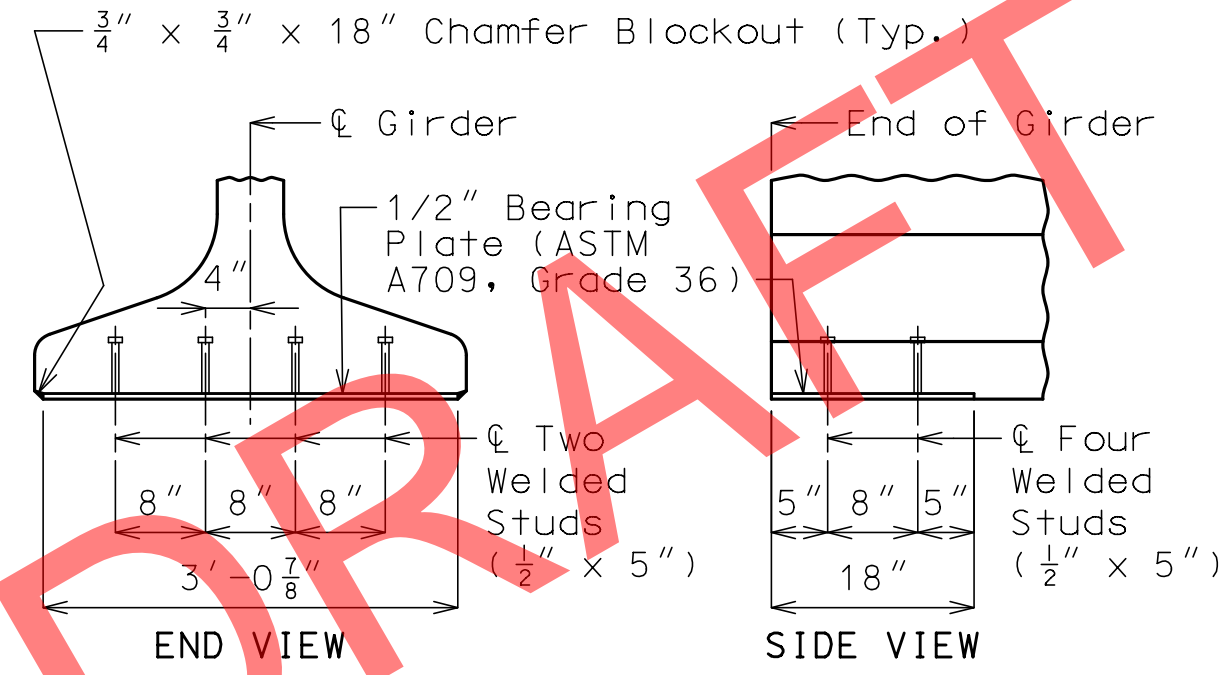
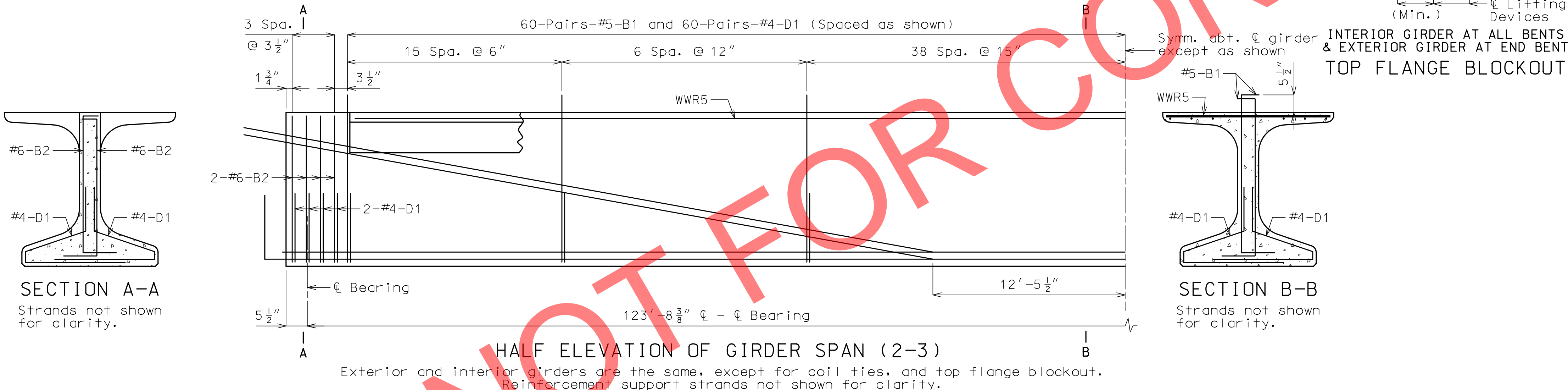
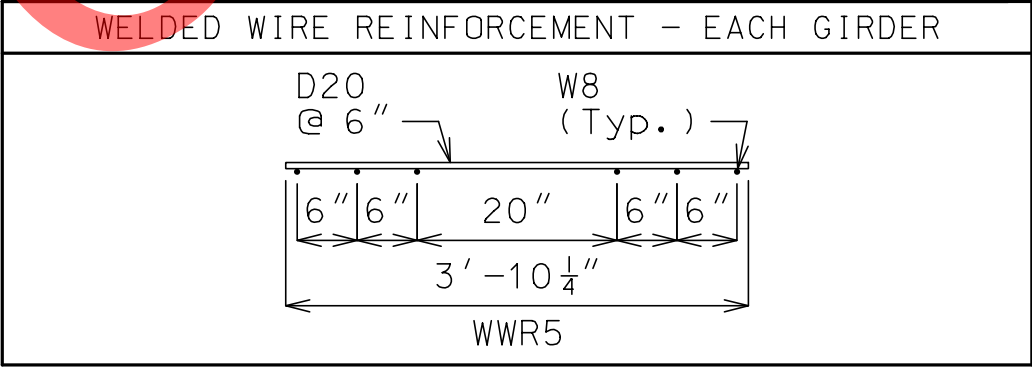
Fabricator shall be responsible for location and design of lifting devices.

* Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

** At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	
238	5 B1	6'-8"	11	BENDING DIAGRAMS
16	6 B2	5'-11"	11	
254	4 D1	4'-0"	9	
2	4 G3	3'-10 1/4"	20	
2	4 G4	2'-1"	20	
2	4 G5	2'-8 1/8"	20	



General Notes:

Reinforcing Steel:

All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

Miscellaneous:

Cost of 3/4" coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For location of coil ties and #6 bars at concrete bent diaphragms, see Sheet No. 21.

The 1 1/2" holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 20.

For Girder Camber Diagram, see Sheet No. 22.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Detailed March 2021
Checked May 2021

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel interm. diaphragm bolt connections by 6" minimum.

ALTERNATE BAR REINFORCING DETAILS SPAN (2-3)

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9132

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

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

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

* At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

G4 and G5 not required for interior
girders. Half no. of G3 not required for
ext. girders.

Diagram illustrating the dimensions and components of a welded wire mat:

- Longitudinal Wire**: The horizontal wire running through the center of the mat.
- Vertical Wire (Typ.)**: The vertical wire connecting the longitudinal wire to the bottom reinforcement.
- S**: Vertical wire spacing (the distance between vertical wires).
- L**: Length of WWR mats (the total length of the mat).
- J**: Distance between WWR mats (the gap between individual mats).
- WWR**: Welded Wire Reinforcement (the entire assembly).

WELDED WIRE PLACEMENT

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.



Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel interm. diaphragm bolt connections by 6" minimum.

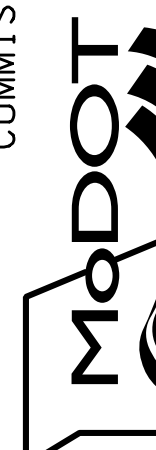


Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

Detailed March 2021
Checked May 2021

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

Sheet No. 17 of 49

<div><div><div>olsson</div><div>7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592</div></div><div><div><div><div>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION</div><div><div>105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)</div></div></div></div></div></div>		DATE PREPARED 2/1/2022	
		ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 17	COUNTY SULLIVAN	
JOB NO. J1S3392		CONTRACT ID.	
PROJECT NO.		BRIDGE NO. A9132	
DATE	DESCRIPTION		

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

* At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

G4 and G5 not required for interior girders. Half no. of G3 not required for ext. girders.

WELDED WIRE REINFORCEMENT - EACH GIRDER

D20 @ 6"

W8 (Typ.)

6" 6" 20" 6"

3' - 10 $\frac{1}{4}$ "

WWR5

DATE PREPARED	
2/1/2022	
ROUTE	STATE
MIDLAKE	MO
DISTRICT	SHEET NO.
BR	18
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	

PROJECT NO.

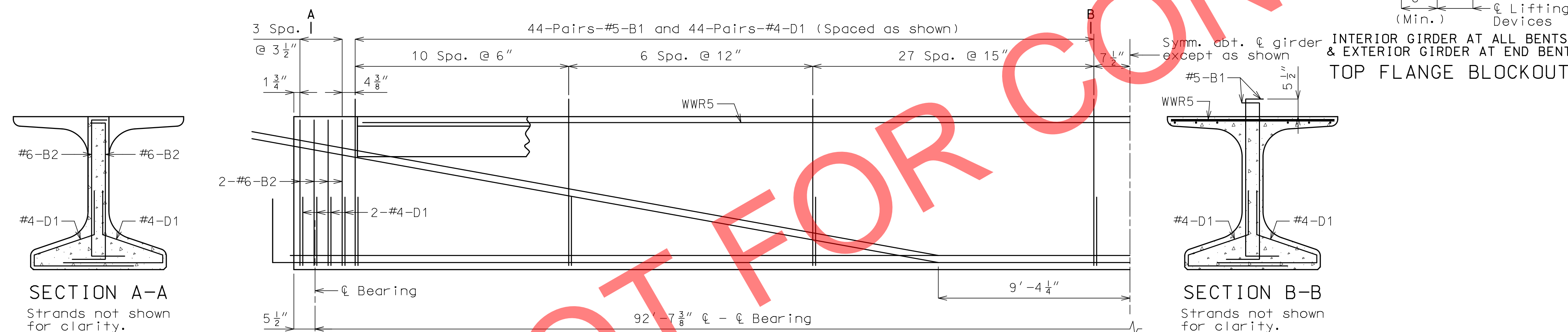
BRIDGE NO.

A9132

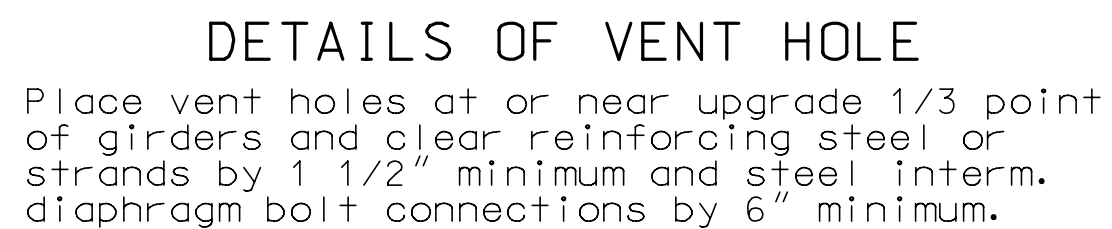
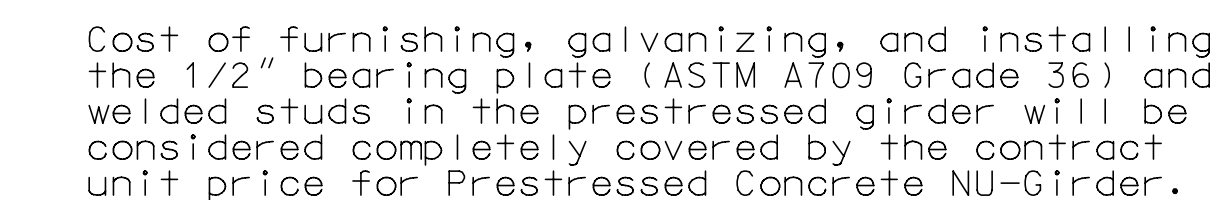
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Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

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



Exterior and interior girders are the same, except for coil ties and top flange blackout.
Reinforcement support strands not shown for clarity.



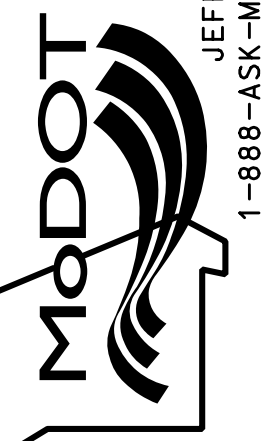
Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

ALTERNATE BAR REINFORCING DETAILS SPAN (3-4)

Detailed March 2021
Checked May 2021

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

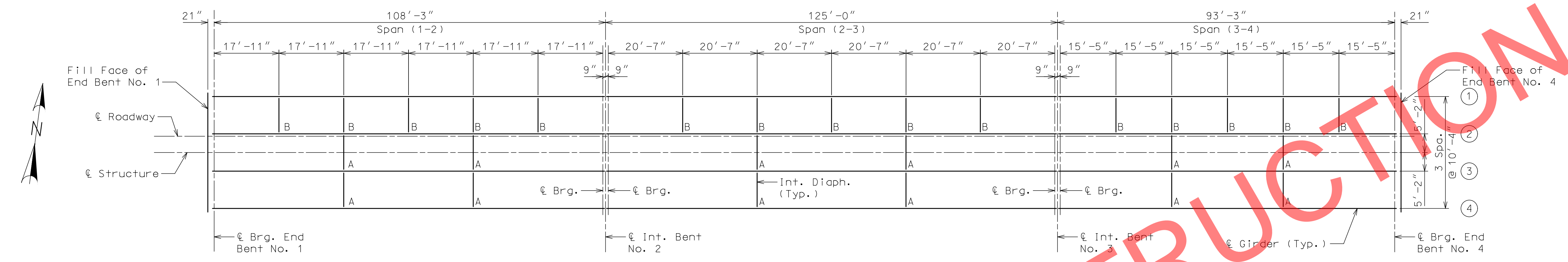
Sheet No. 18 of 49

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

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7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

REV.



Notes:

All girders are parallel.
① - indicates girder number.

PLAN SHOWING LOCATION OF STEEL INTERMEDIATE DIAPHRAGMS

Note: Longitudinal dimensions are horizontal.

STEEL DIAPHRAGM NOTES:

All diaphragm materials including bolts, nuts, and washers shall be galvanized.

Fabricated structural steel shall be ASTM A709 Grade 36 except as noted.

Payment for furnishing and installing steel intermediate diaphragms will be considered completely covered by the contract unit price for Steel Intermediate Diaphragm for P/S Concrete Girders.

Structural steel for carrier pipes and pipe saddles shall be ASTM A709 Grade 36 or Grade 50 and galvanized in accordance with ASTM A123, or approved equivalent. Carrier pipes shall be schedule 40. The welds shall have corrosion resistance and weathering characteristics compatible with the base materials. Welds shall be in conformance with AWS D1.1 and ground flush to provide a smooth surface.

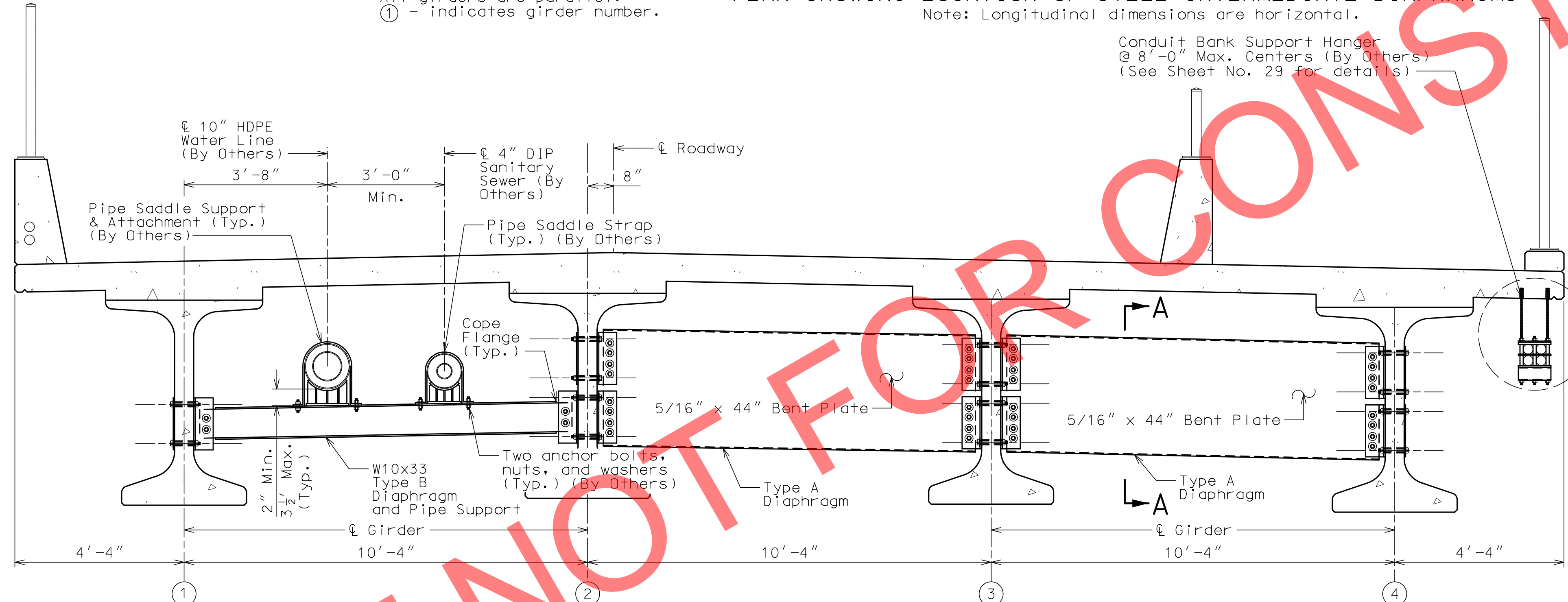
All labor and materials to provide and install carrier pipes, saddles, water main and sanitary sewer lines inside of carrier pipes, associated appurtenances, and insulation while erecting the carrier pipes will be completed by Others.

Product catalog cuts or detailed shop drawings, if custom pipe saddles are desired to be used, shall be submitted to the Engineer for review and approval a minimum of three (3) weeks prior to ordering materials. Dimensions shown are approximate. Contractor and Utility Contractor (Others) to coordinate elevation of steel diaphragm connection points to the prestressed beams with the required height of the pipe saddles and ensure a minimum of 1 1/2" clear is provided to any prestressing strands for the diaphragm bolt holes. Contractor shall coordinate location of diaphragm bolt holes with the precaster and provide their location on the precast beam shop drawings. Pipe saddles and hardware shall be installed in accordance with the Manufacturer's requirements.

Shop drawings will not be required for steel intermediate diaphragms and angle connections.

For additional steel diaphragm details, see Sheet No. 20.

Contractor to coordinate and cooperate with third party utility contractor to ensure access is provided so that they can coordinate location of pipe penetration with pre-approved pipe saddles and attachment requirements, and install the utilities on the bridge prior to installation of the deck.



SECTION SHOWING LOCATION OF STEEL INTERMEDIATE DIAPHRAGMS

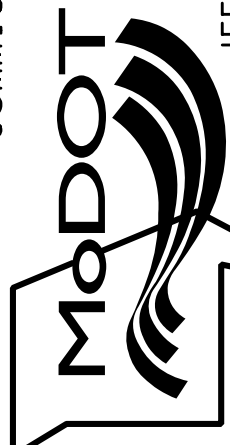

SECTION A-A

STEEL INTERMEDIATE DIAPHRAGM DETAILS

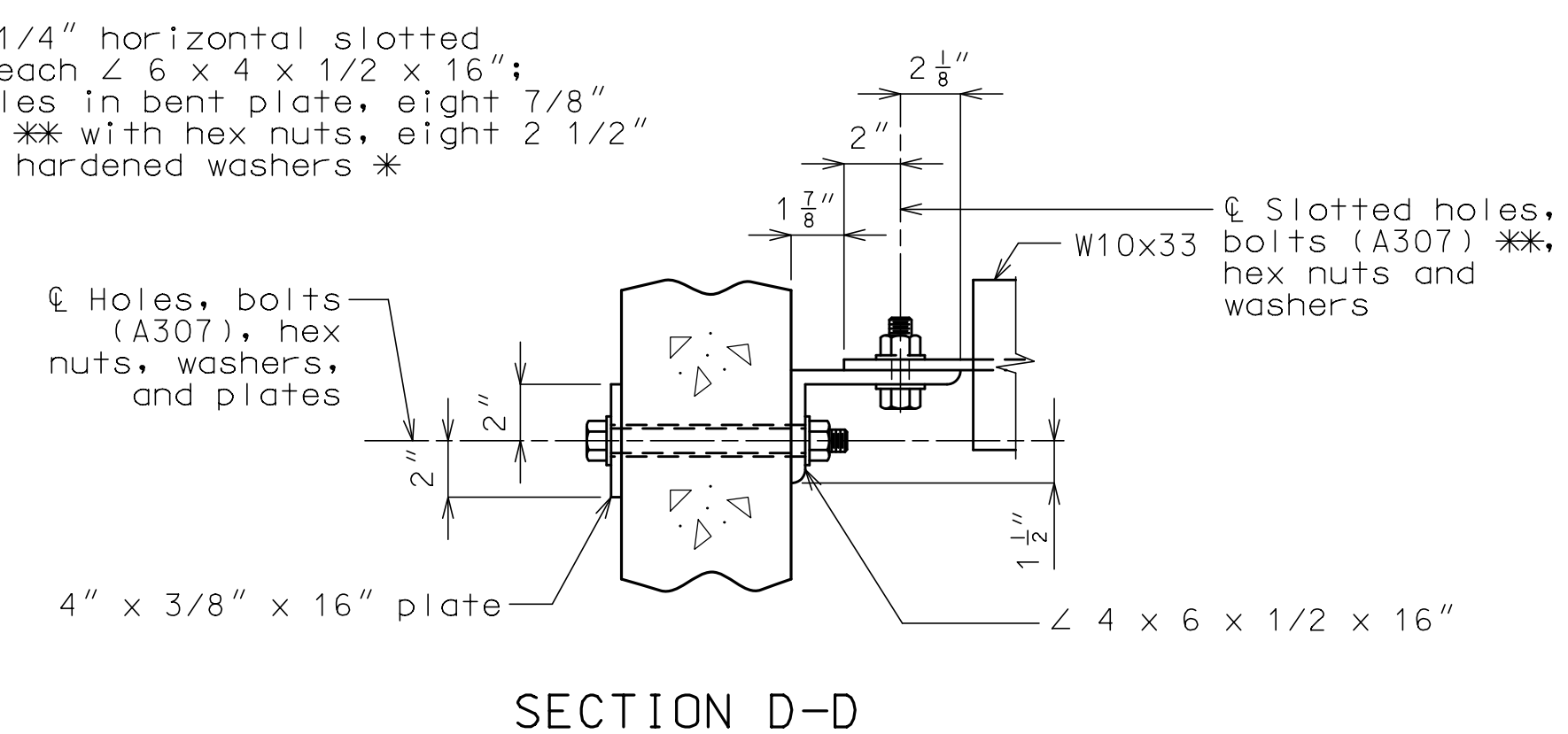
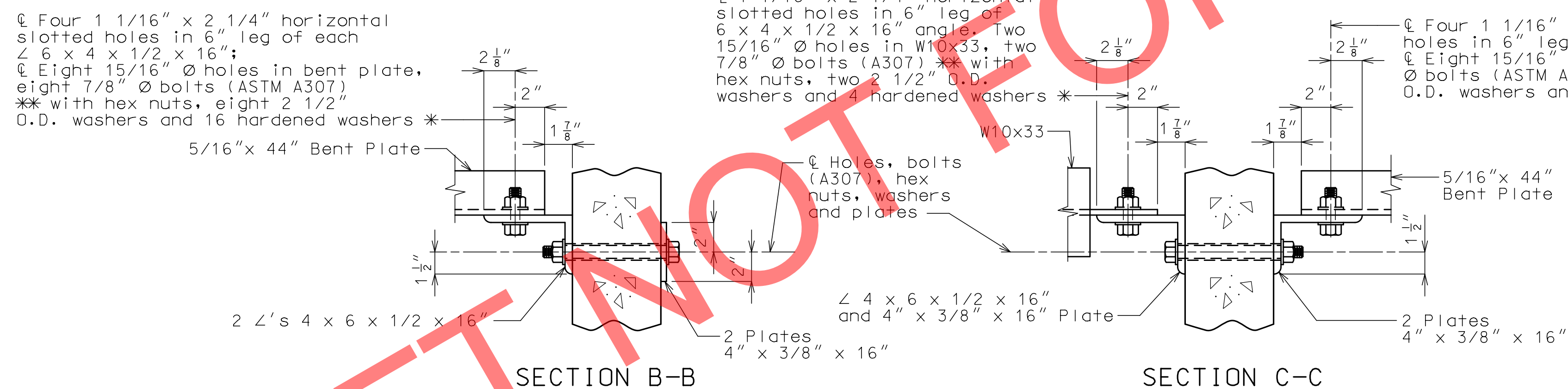
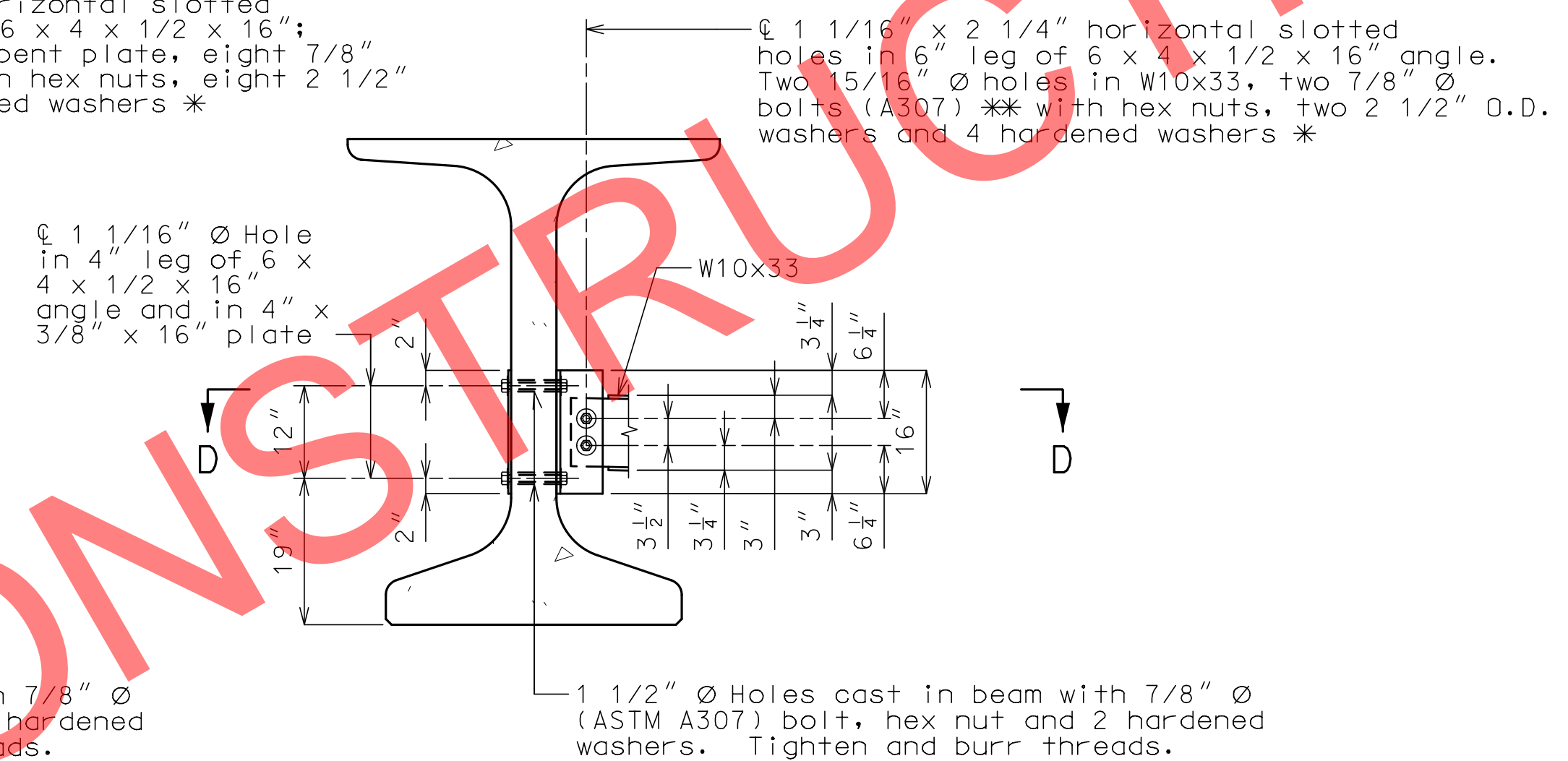
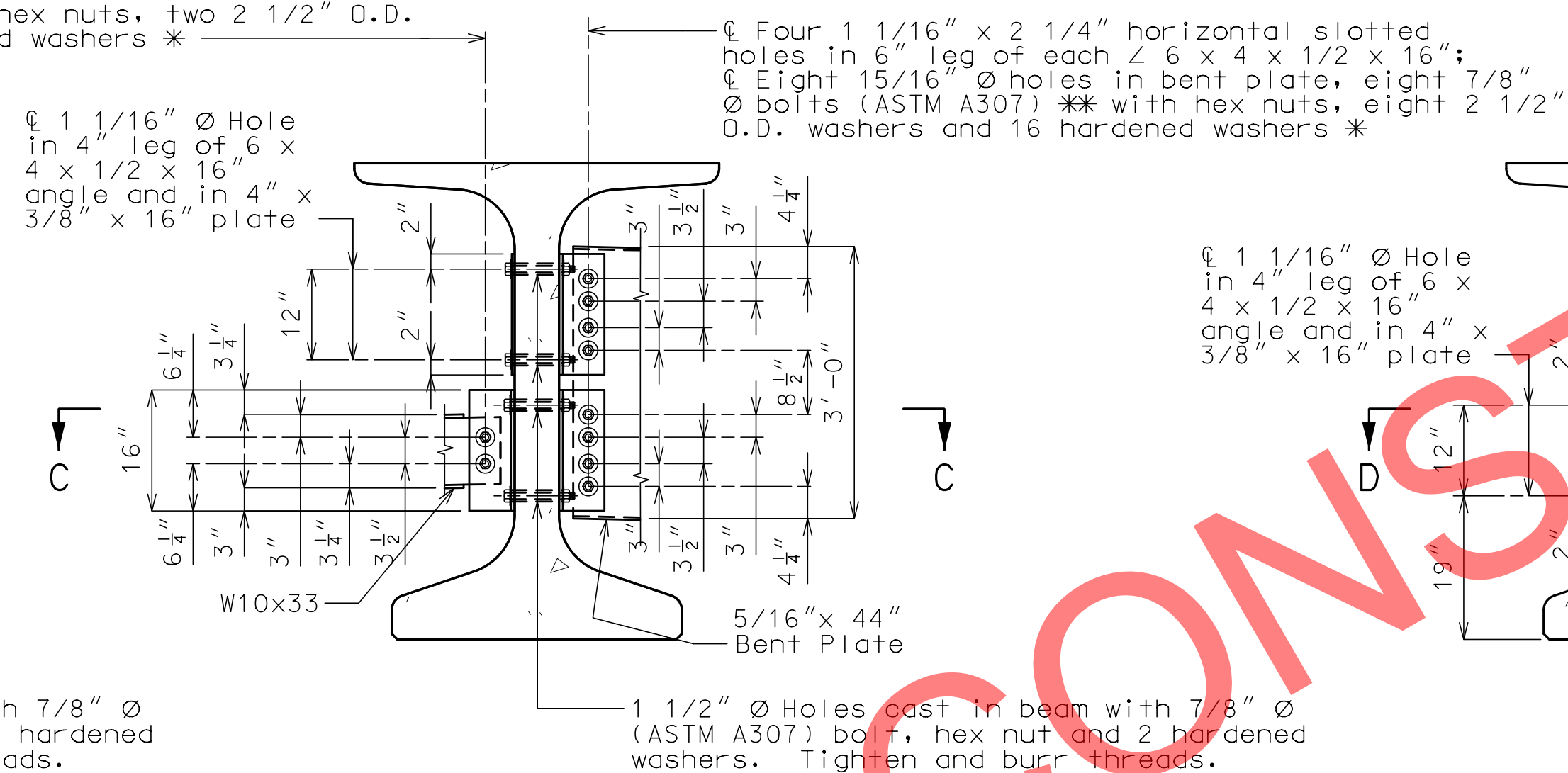
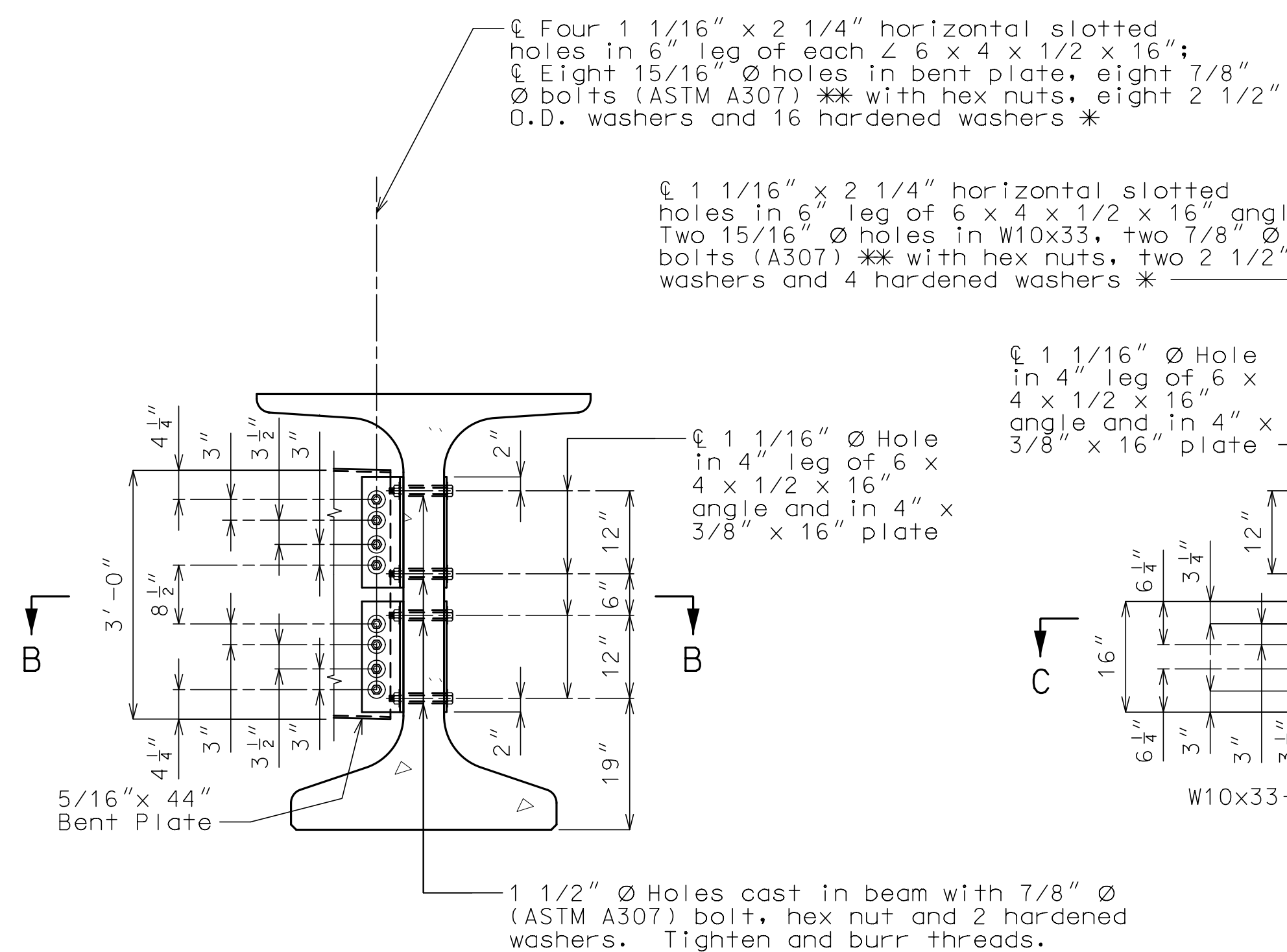
Detailed March 2021
Checked May 2021

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

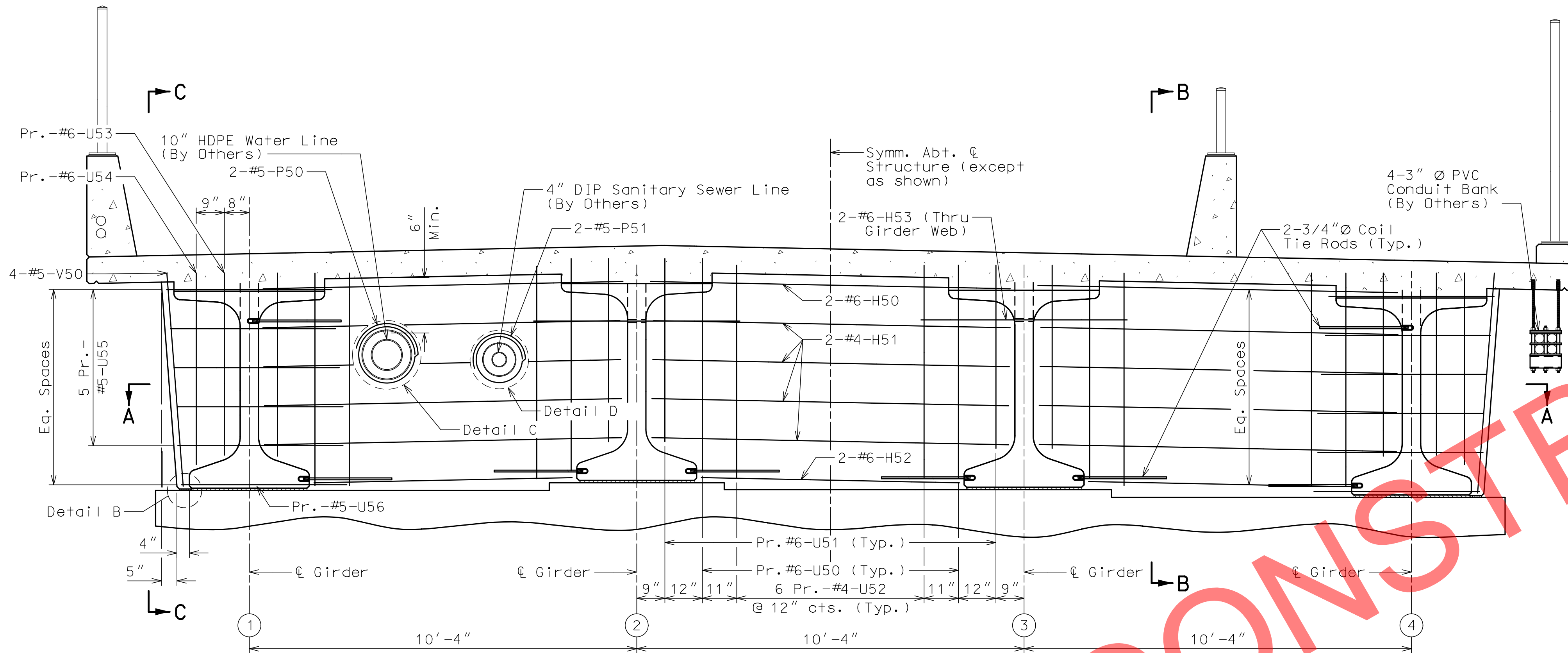
Sheet No.19 of 49

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 19
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9132	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	

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

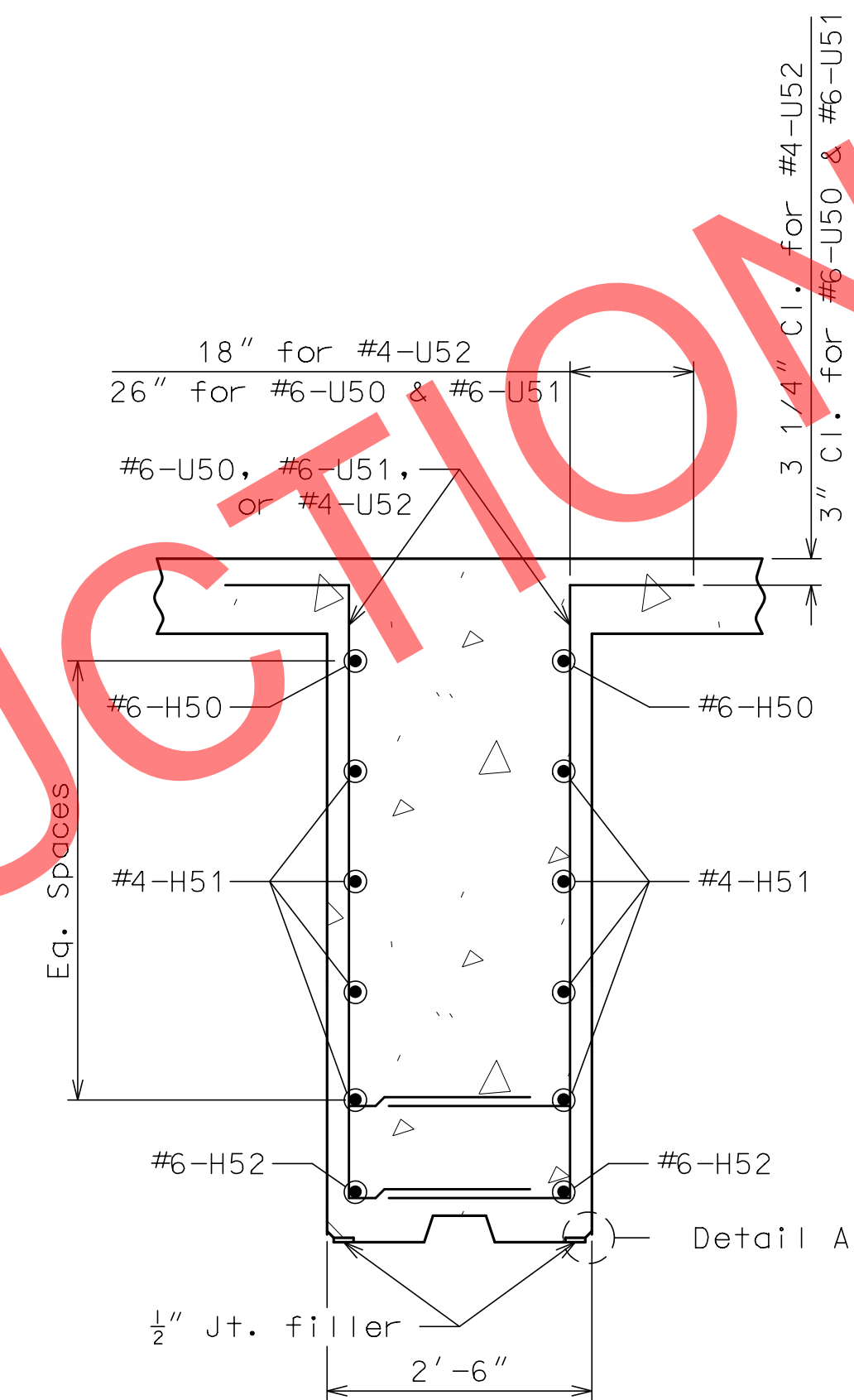


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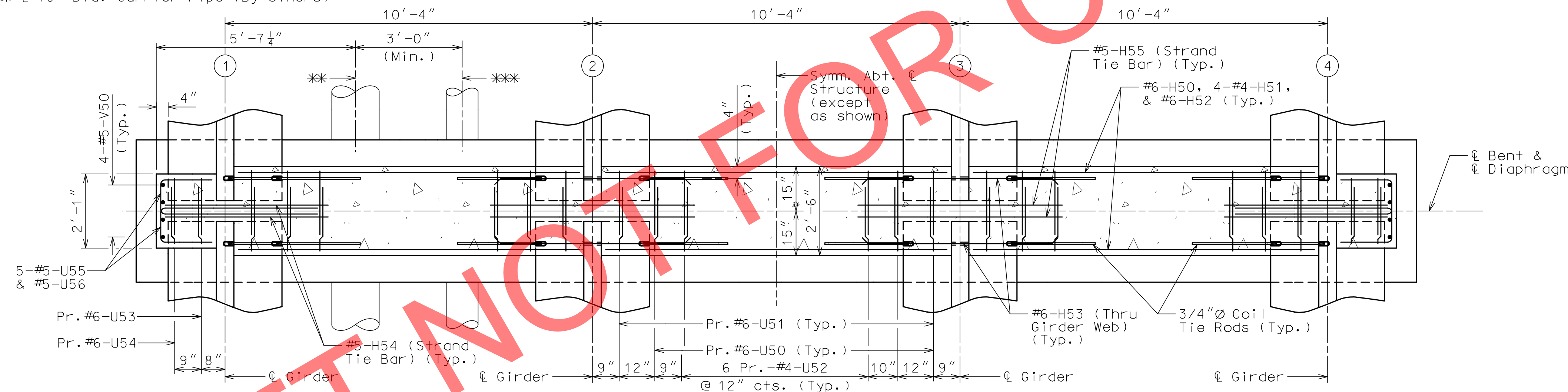


** 16" Dia. Carrier Pipe (By Others)
 *** 10" Dia. Carrier Pipe (By Others)

SECTION NEAR INTERMEDIATE BENT NO. 2
 (Int. Bent No. 3 Similar)



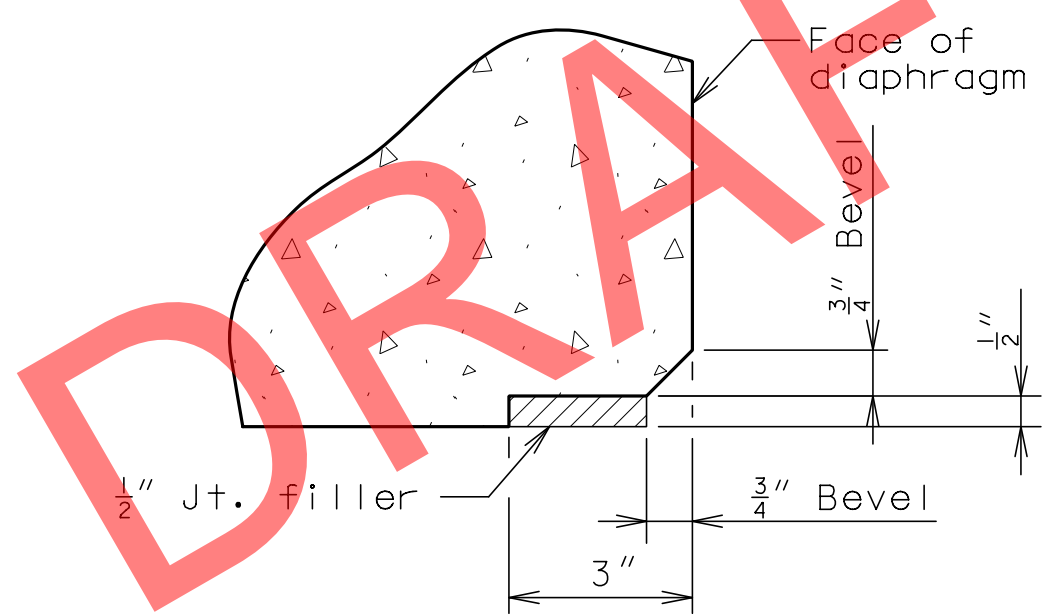
SECTION B-B



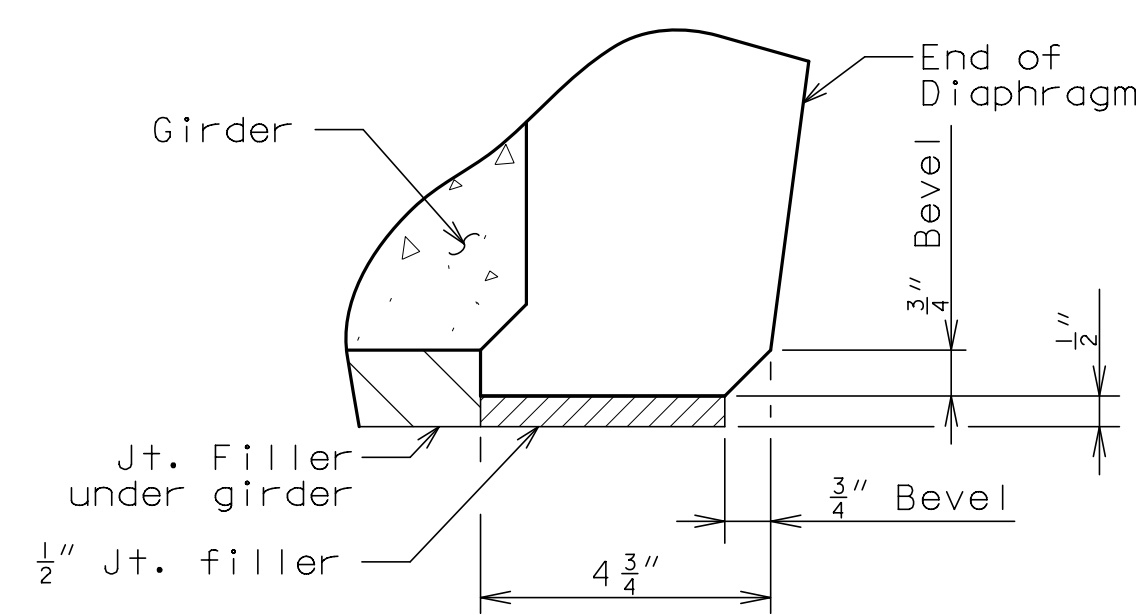
SECTION A-A

Fill with four HDPE shims (2" Wide x 6" Min. Length) and seal both faces with backer rod and an approved silicone joint sealant (By Others)

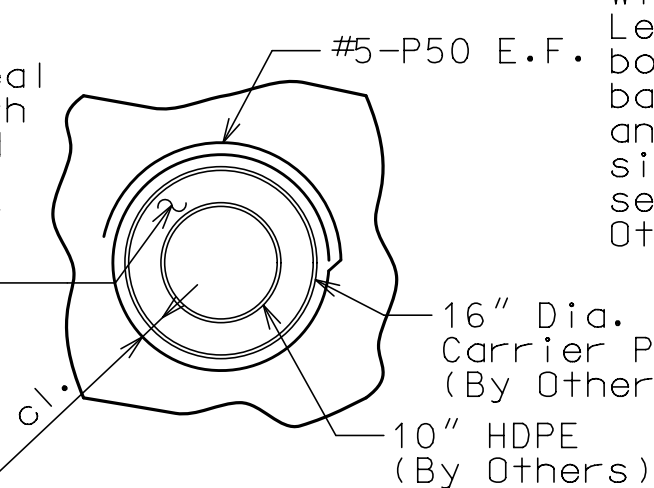
Fill with four HDPE shims (2" Wide x 6" Min. Length) and seal both faces with backer rod and an approved silicone joint sealant (By Others)



DETAIL A

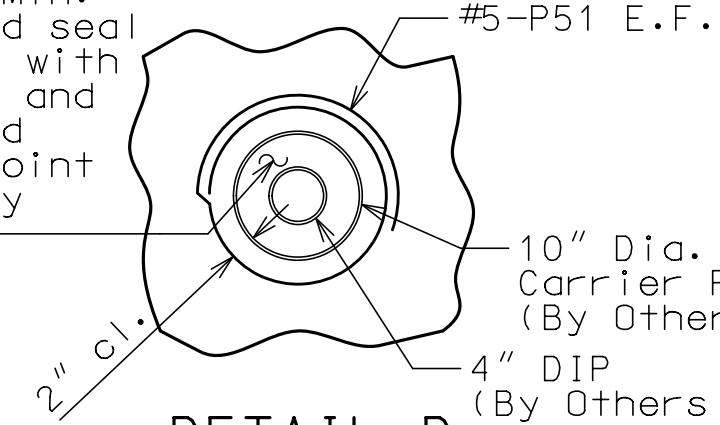


DETAIL B



DETAIL C

Cut horizontal and vertical reinforcing in barrel to install 16" Dia. Carrier Pipe.

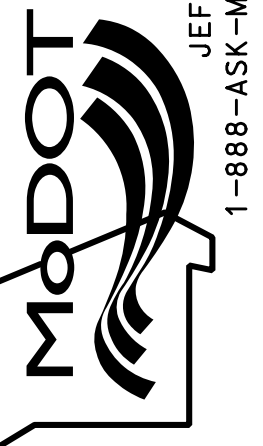


DETAIL D

Cut horizontal and vertical reinforcing in barrel to install 10" Dia. Carrier Pipe.

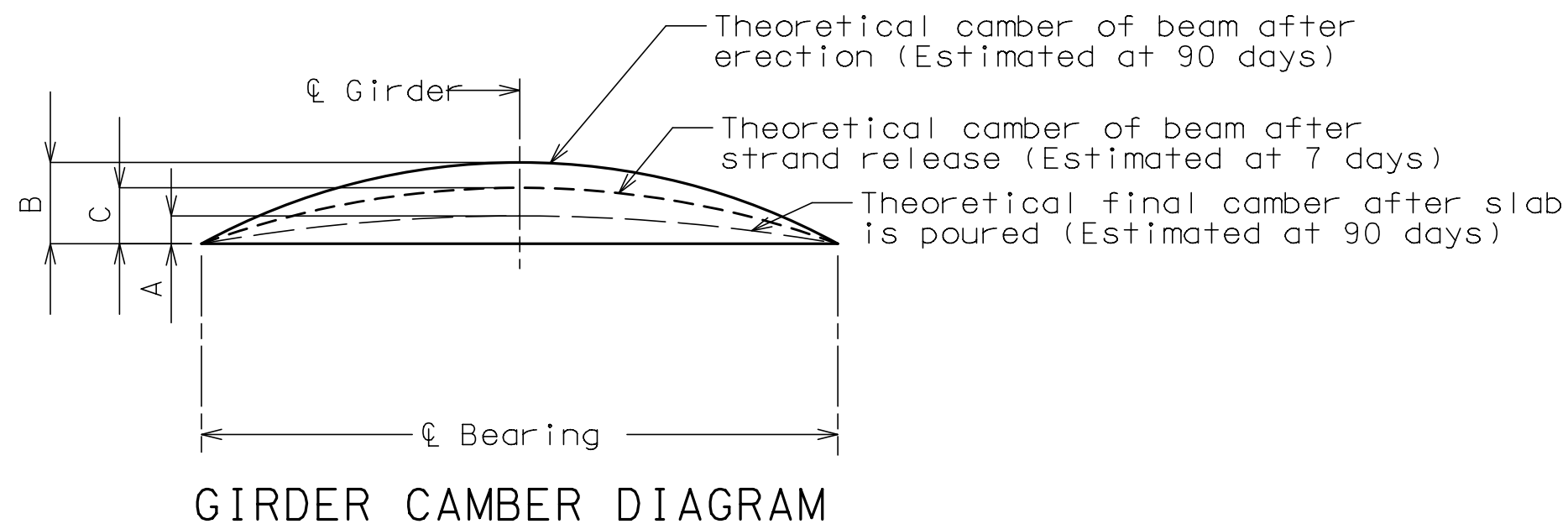
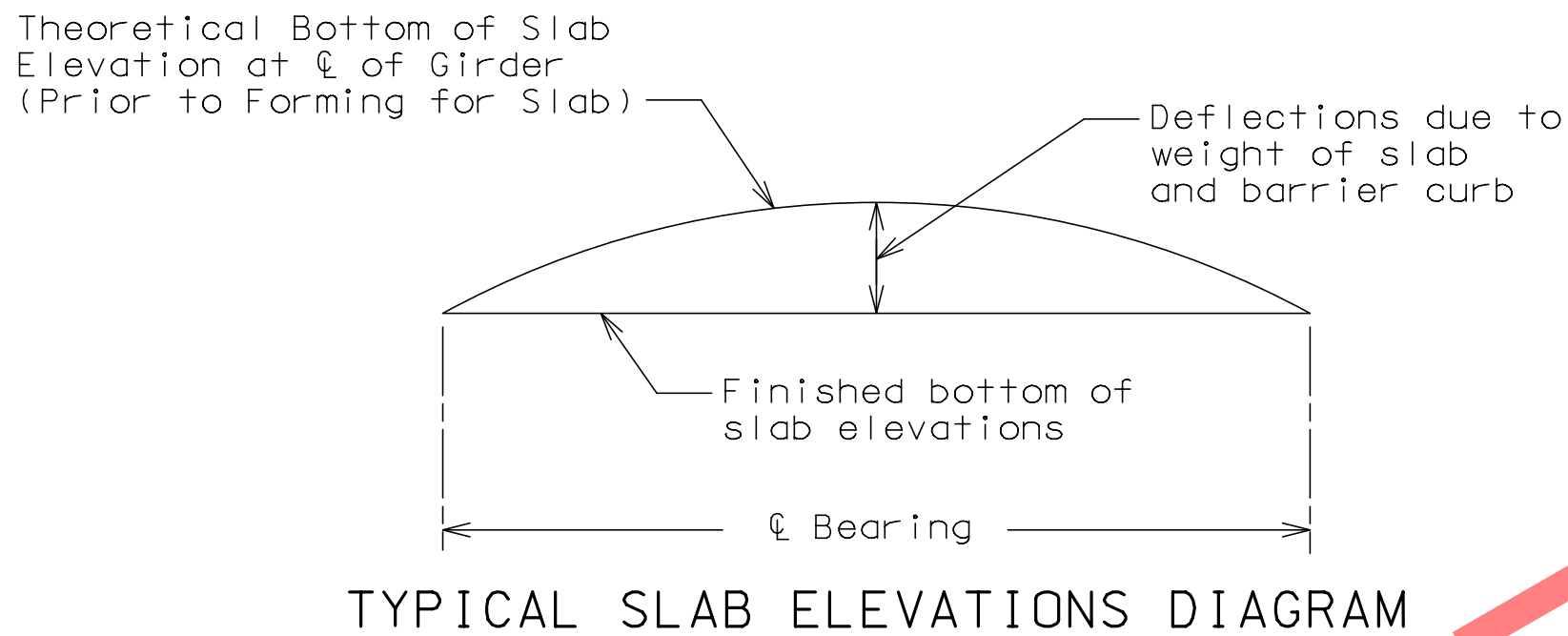
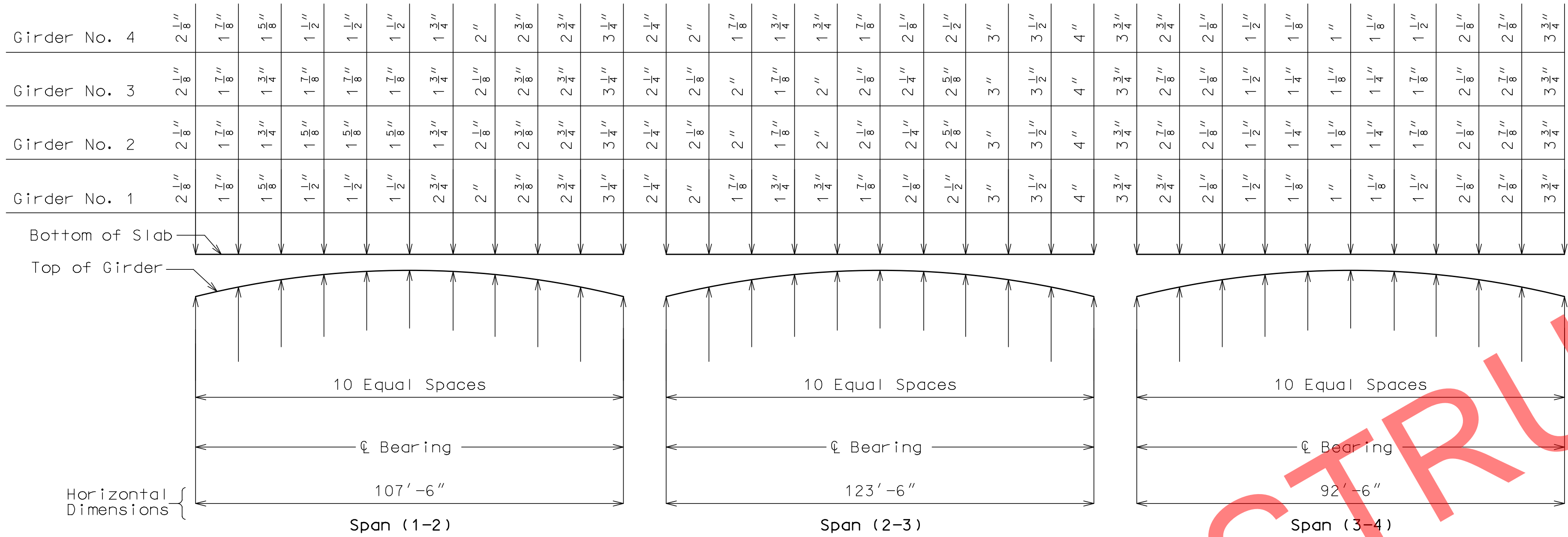
Notes:

- For locations of Strand Tie Bars, see Sheets No. 13 thru 18.
- For locations and details of Coil Tie Rods, see Sheets No. 13 thru 18.
- Diaphragms at intermediate bents shall be built vertical.

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE DISTRICT BR	STATE MO SHEET NO. 21
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9132	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
olsson 7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	

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Theoretical Bottom of Slab Elevations at CL of Girder (Prior to Forming for Slab)(Estimated at 90 days)											
Girder Number	Span (1-2) (107'-6" CL brg - CL brg.)										
	CL brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	CL brg.
1	951.53	950.97	950.40	949.82	949.23	948.64	948.03	947.41	946.78	946.15	945.51
2	951.74	951.18	950.61	950.03	949.45	948.85	948.24	947.63	947.00	946.36	945.72
3	951.56	951.00	950.43	949.85	949.27	948.67	948.06	947.45	946.82	946.18	945.54
4	951.35	950.79	950.22	949.64	949.05	948.46	947.85	947.23	946.60	945.97	945.33
Girder Number	Span (2-3) (123'-6" CL brg - CL brg.)										
	CL brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	CL brg.
1	945.43	944.80	944.17	943.52	942.85	942.17	941.47	940.75	940.02	939.27	938.51
2	945.64	945.01	944.38	943.74	943.08	942.39	941.69	940.97	940.23	939.48	938.72
3	945.46	944.83	944.20	943.56	942.90	942.21	941.51	940.79	940.05	939.30	938.54
4	945.25	944.62	943.99	943.34	942.67	941.99	941.29	940.57	939.84	939.09	938.33
Girder Number	Span (3-4) (92'-6" CL brg - CL brg.)										
	CL brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	CL brg.
1	938.43	937.94	937.46	936.99	936.53	936.08	935.63	935.19	934.75	934.33	933.91
2	938.64	938.15	937.67	937.20	936.74	936.29	935.84	935.40	934.96	934.54	934.12
3	938.46	937.97	937.49	937.02	936.56	936.11	935.66	935.22	934.78	934.36	933.94
4	938.25	937.76	937.28	936.81	936.35	935.90	935.45	935.01	934.57	934.15	933.73

Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab and barrier curb.
Longitudinal dimensions are horizontal.

	Span (1-2)			Span (2-3)			Span (3-4)		
	A	B	C	A	B	C	A	B	C
Ext. Girder	1 1/8"	2 1/2"	1 3/8"	1 1/4"	3 5/8"	2 1/8"	3/4"	1 1/2"	7/8"
Int. Girder	1"			1 1/8"			3/4"		

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

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

Conversion factors for beam camber (estimated at 90 days)

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

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9132

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

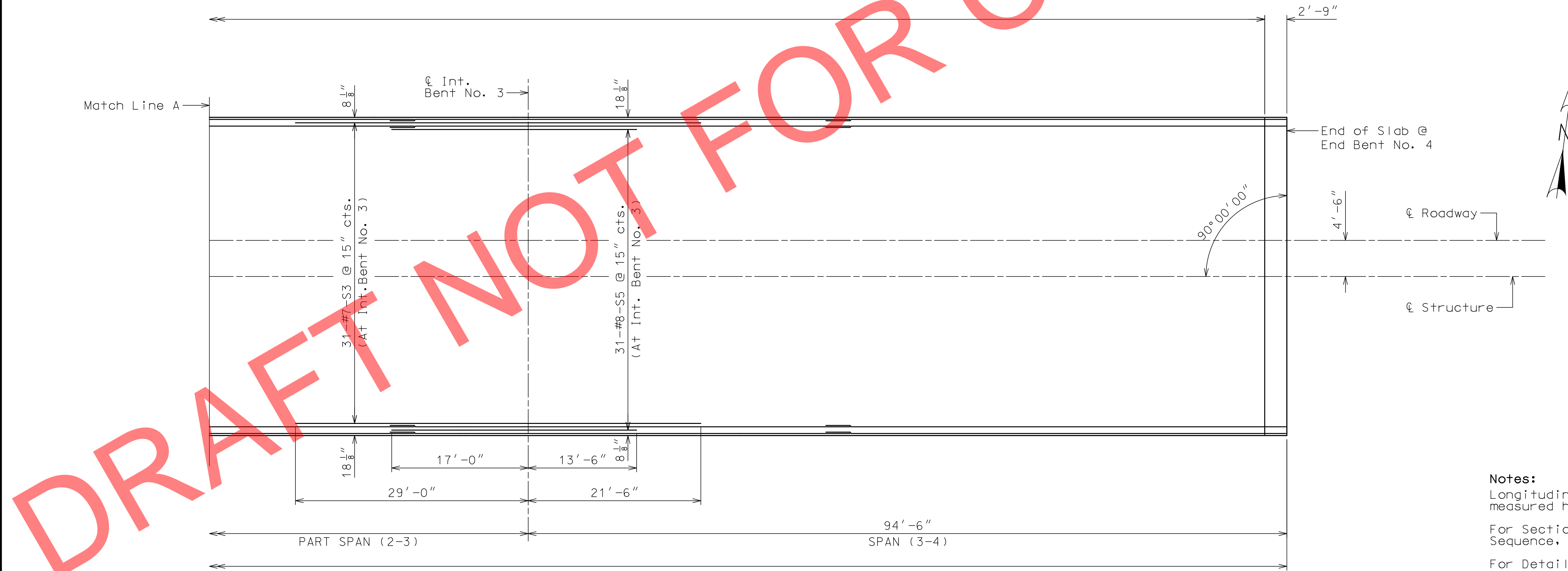
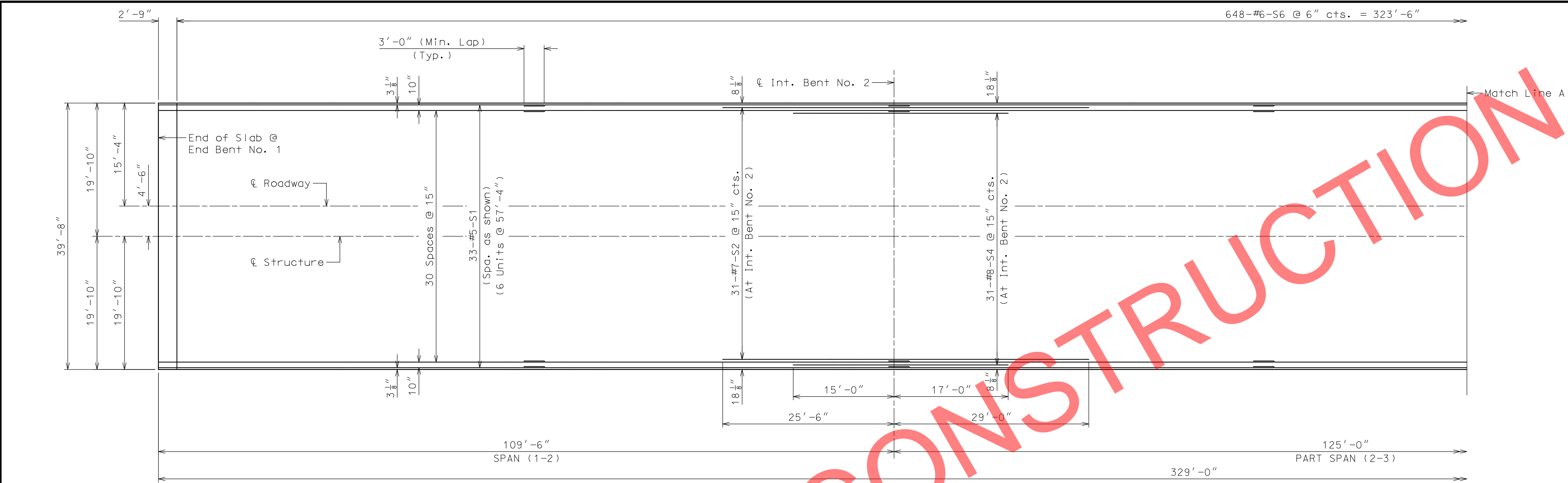
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
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CERTIFICATE OF
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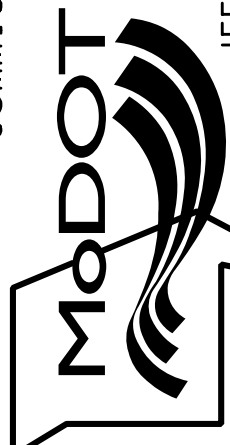

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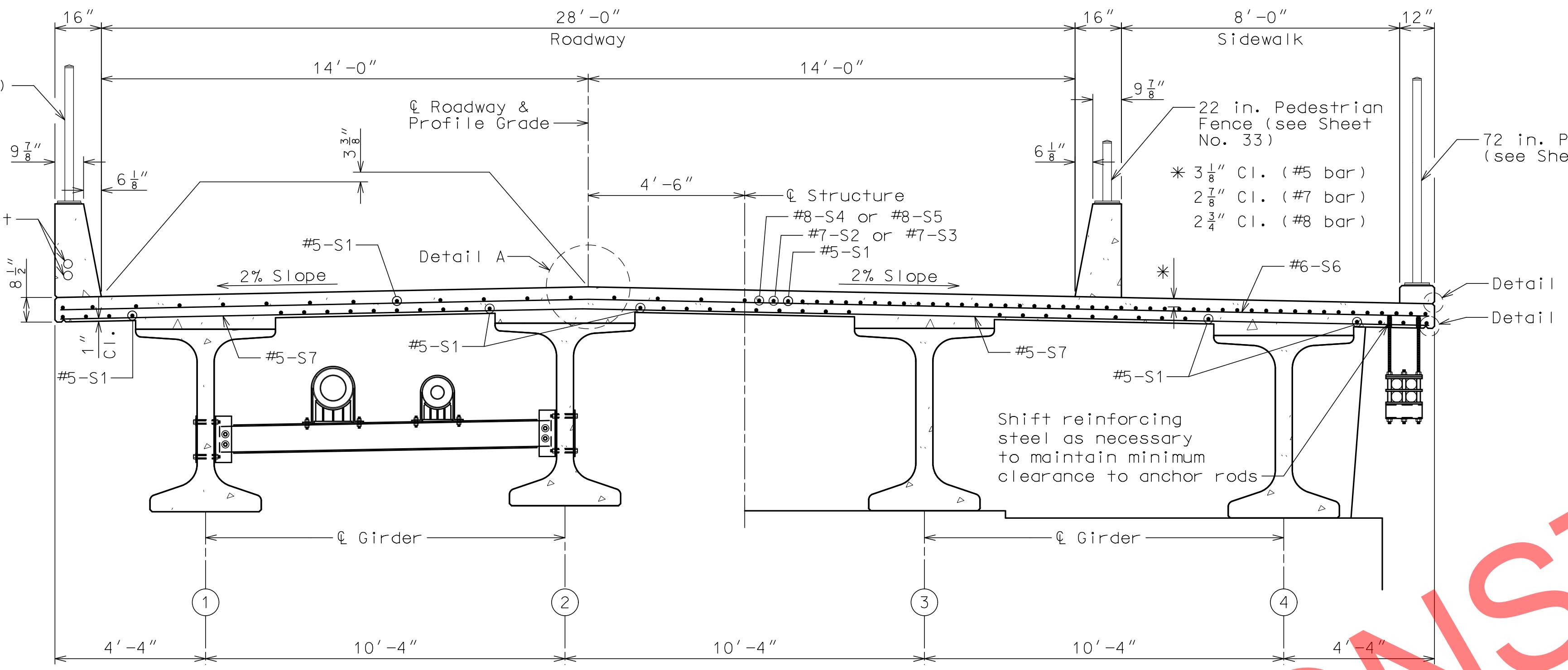
PLAN OF SLAB SHOWING TOP REINFORCEMENT
SLAB DETAILS

Notes:
Longitudinal dimensions shown are measured horizontally.
For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 25.
For Details of Type H Barrier not shown, see Sheets No. 26 thru 28.
For Details of Pedestrian Curb not shown, see Sheet No. 30.
For Theoretical Slab Haunching Diagram, Girder Camber Diagram & Theoretical Bottom of Slab Elevations, see Sheet No. 22.

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 23
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9132	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
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48 in. Pedestrian Fence (see Sheet No. 32)

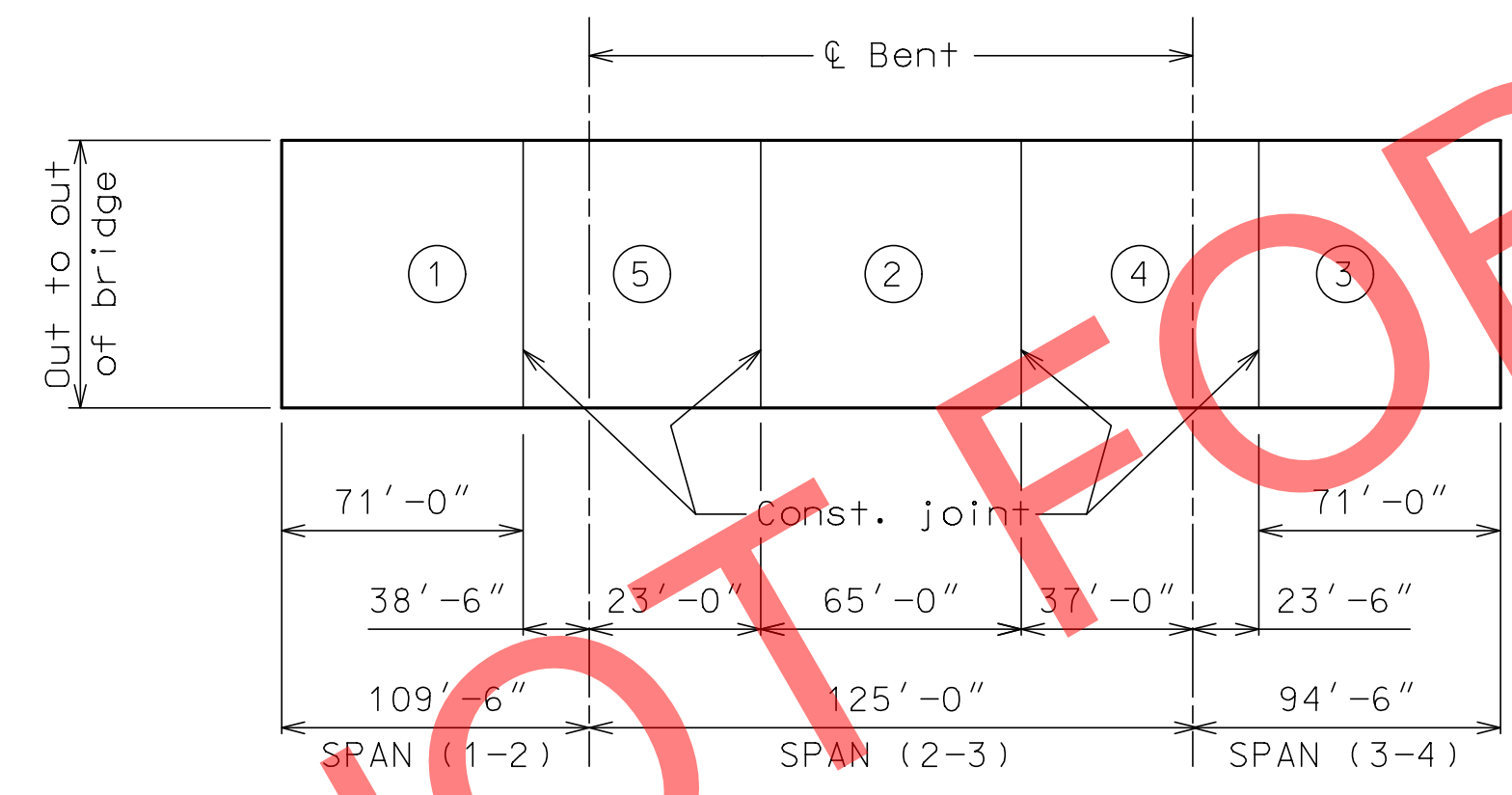
3" Ø Conduit



HALF SECTION NEAR MIDSPAN

HALF SECTION NEAR INTERMEDIATE BENT

TYPICAL SECTION THRU SLAB



	Sequence of Pours					Min. rate of pour cu. yds./hr.
	Direction					With retarder
Basic sequence	1	2	3	4	5	25
	Either Direction					
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.						
Alternate "A" pours	1 End to 5		5+2 1 to 4		4+3 2 to end	(2)
	1 + 5 + 2 End to 4		4 + 3 2 to End			
Alternate "B" pours	1 + 5 + 2 + 4 + 3					(2)
	End to end					

Note: The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

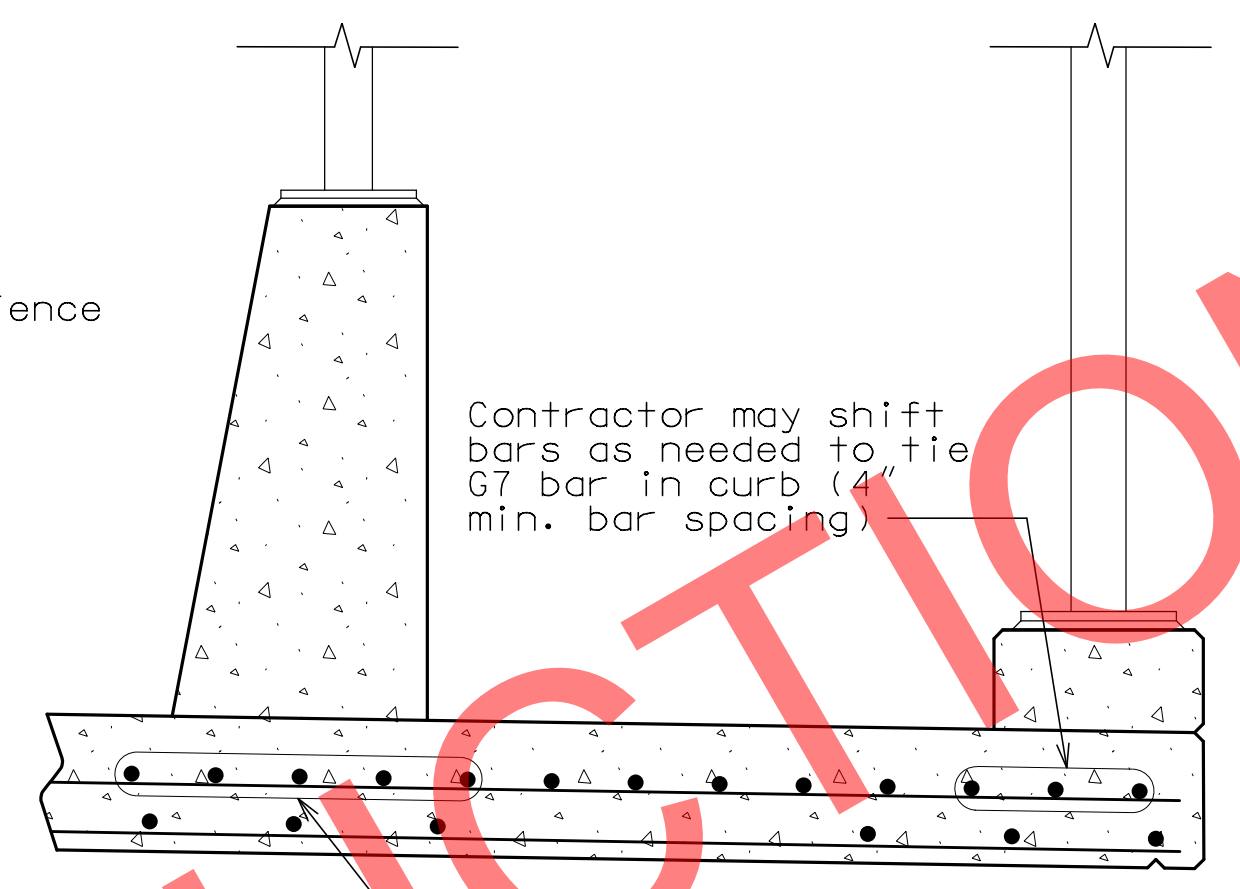
The concrete diaphragm at the intermediate bents and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

SLAB POURING SEQUENCE

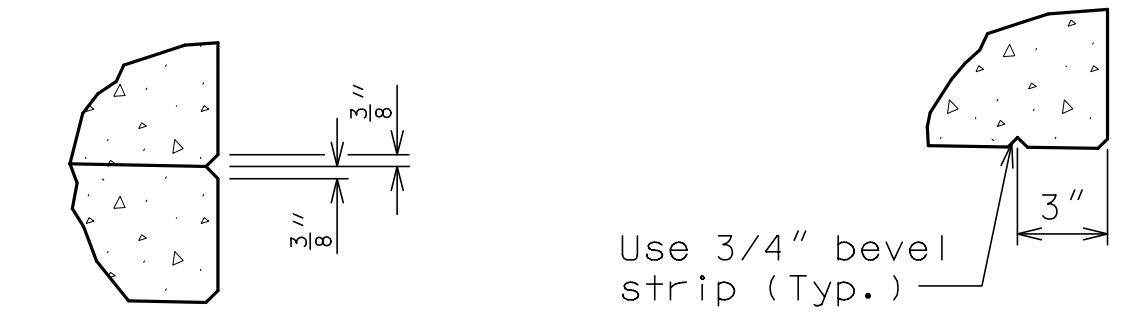
Detailed March 2021
Checked May 2021

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

Sheet No. 25 of 49

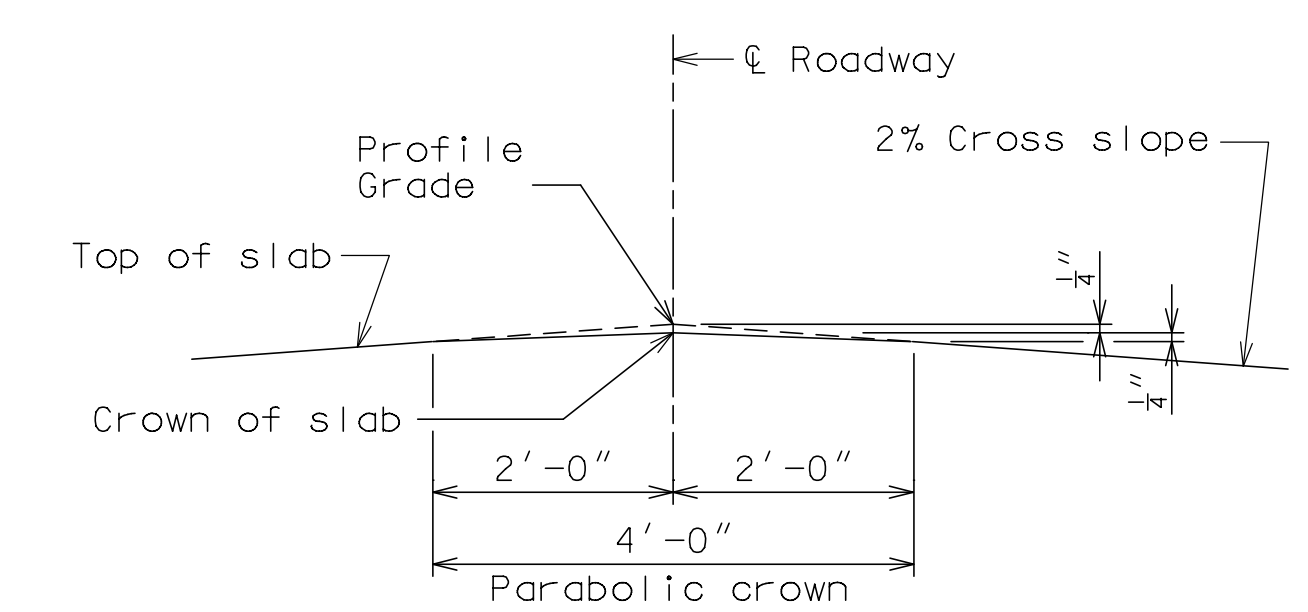


OPTIONAL SHIFTING TOP BARS AT BARRIER AND CURB

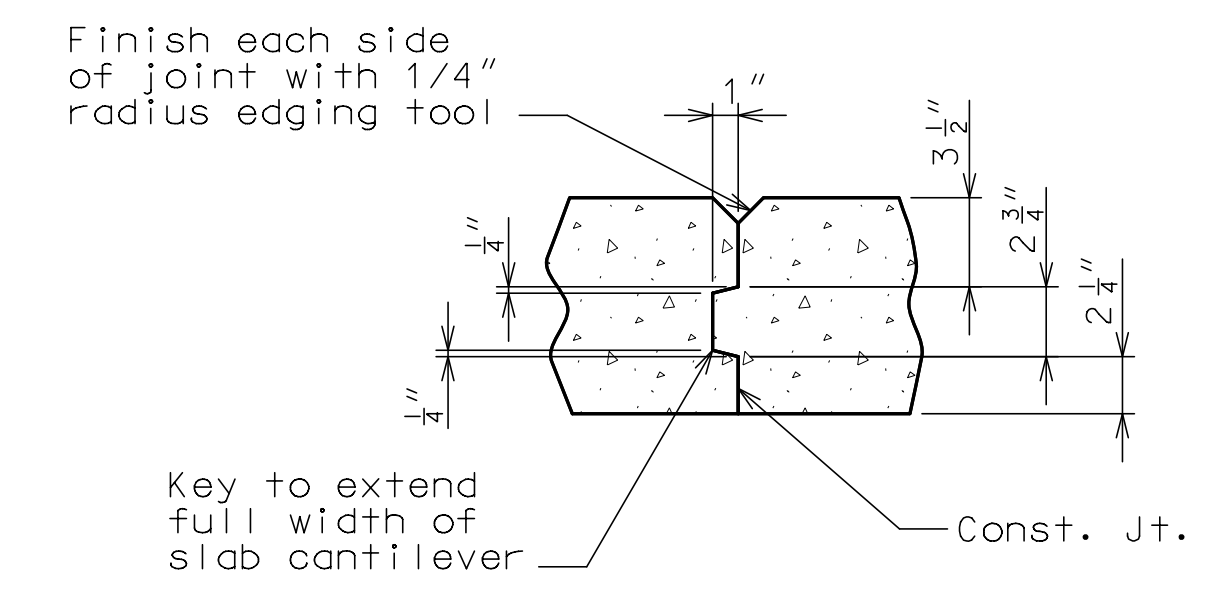


DETAIL B

DETAIL C



DETAIL A



SLAB CONSTRUCTION JOINT DETAILS

Notes:

For Plan of Slab Showing Reinforcement, see Sheets No. 23 and 24.

For Details and Reinforcement of Type H Barrier not shown, see Sheets No. 26 thru 28.

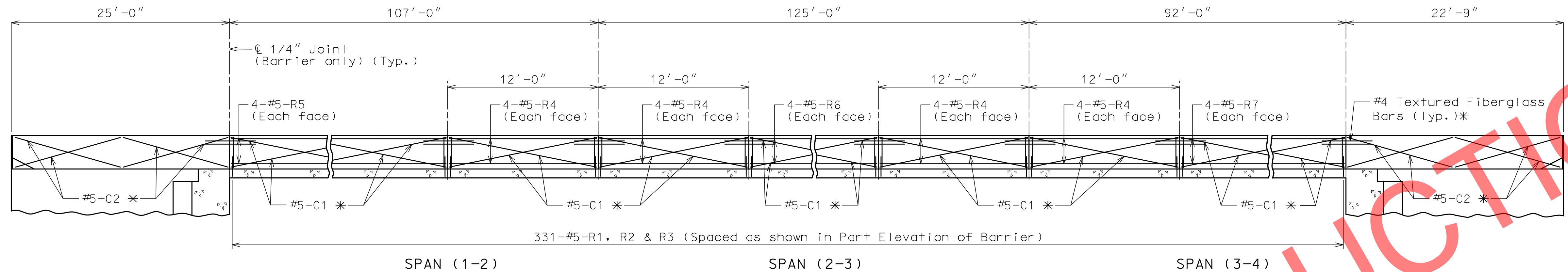
For Details of Pedestrian Curb not shown, see Sheet No. 30.

For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, see Sheet No. 22.

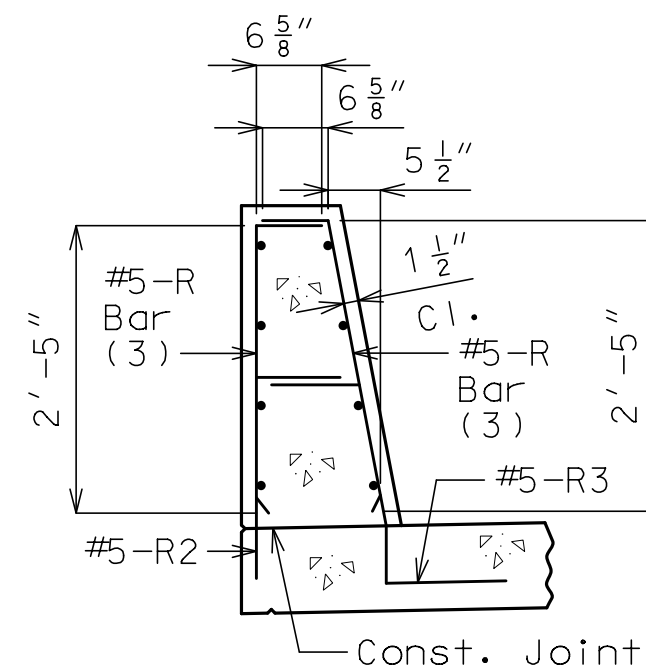
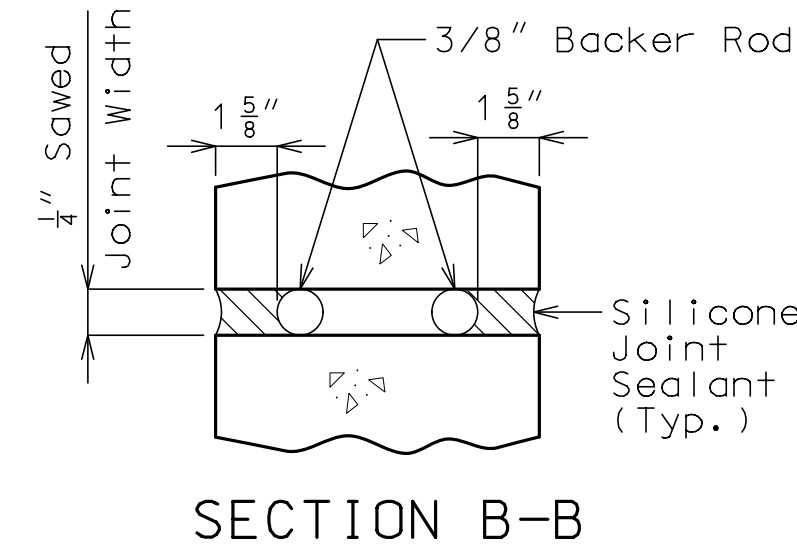
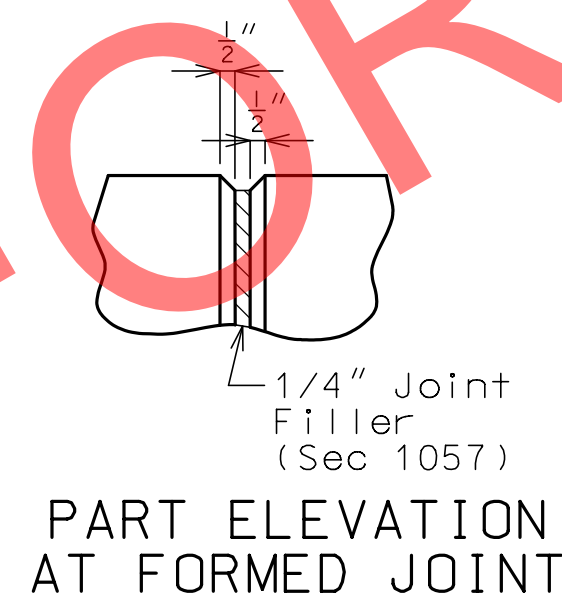
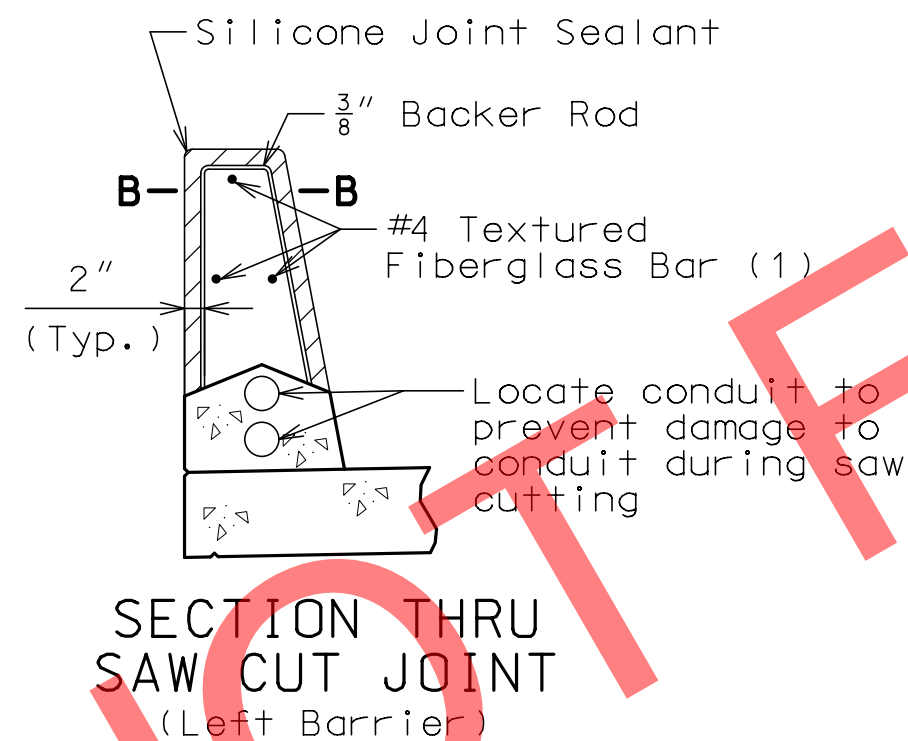
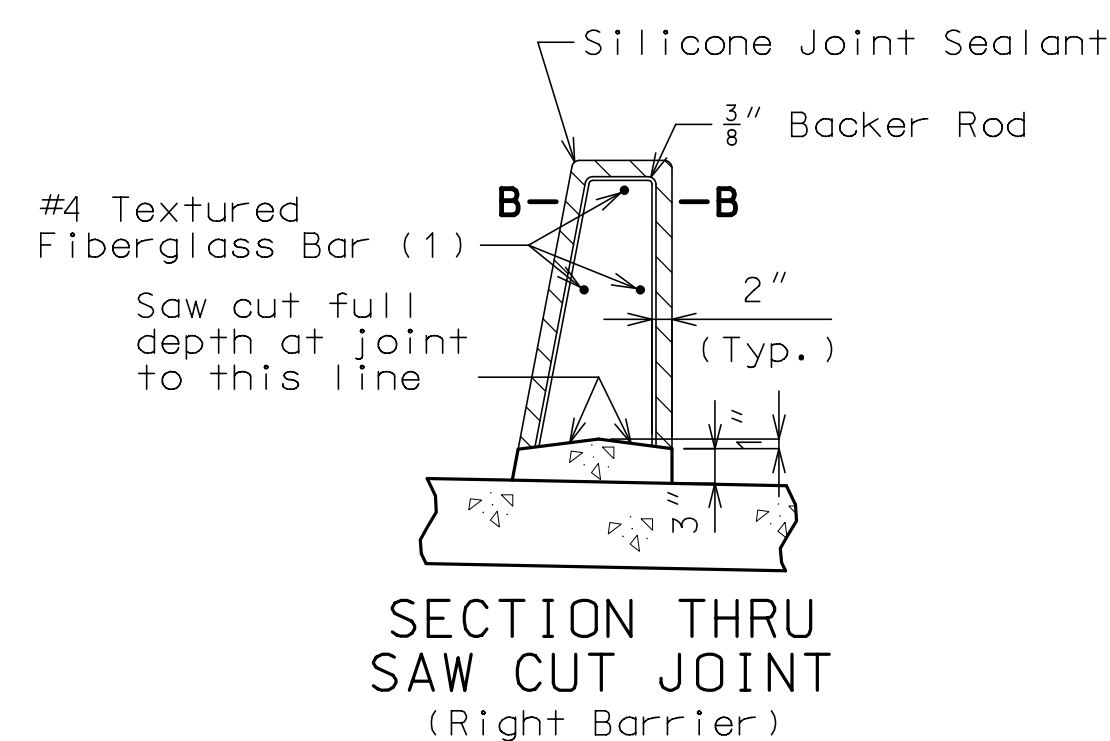
For Conduit Details, see Sheet No. 29.

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 25
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9132	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	

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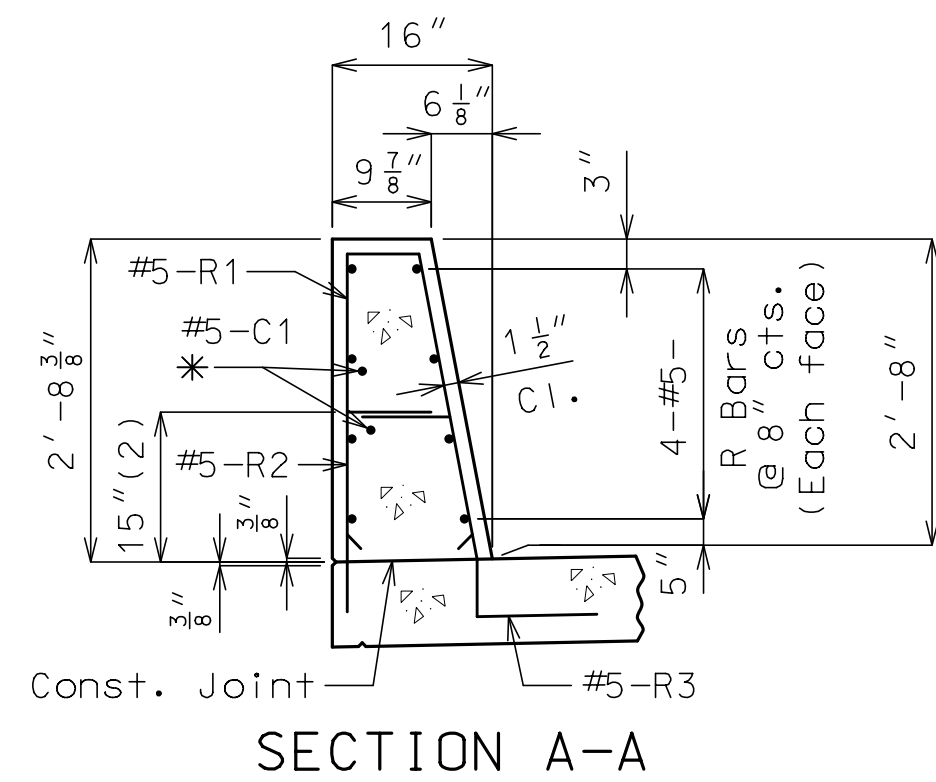
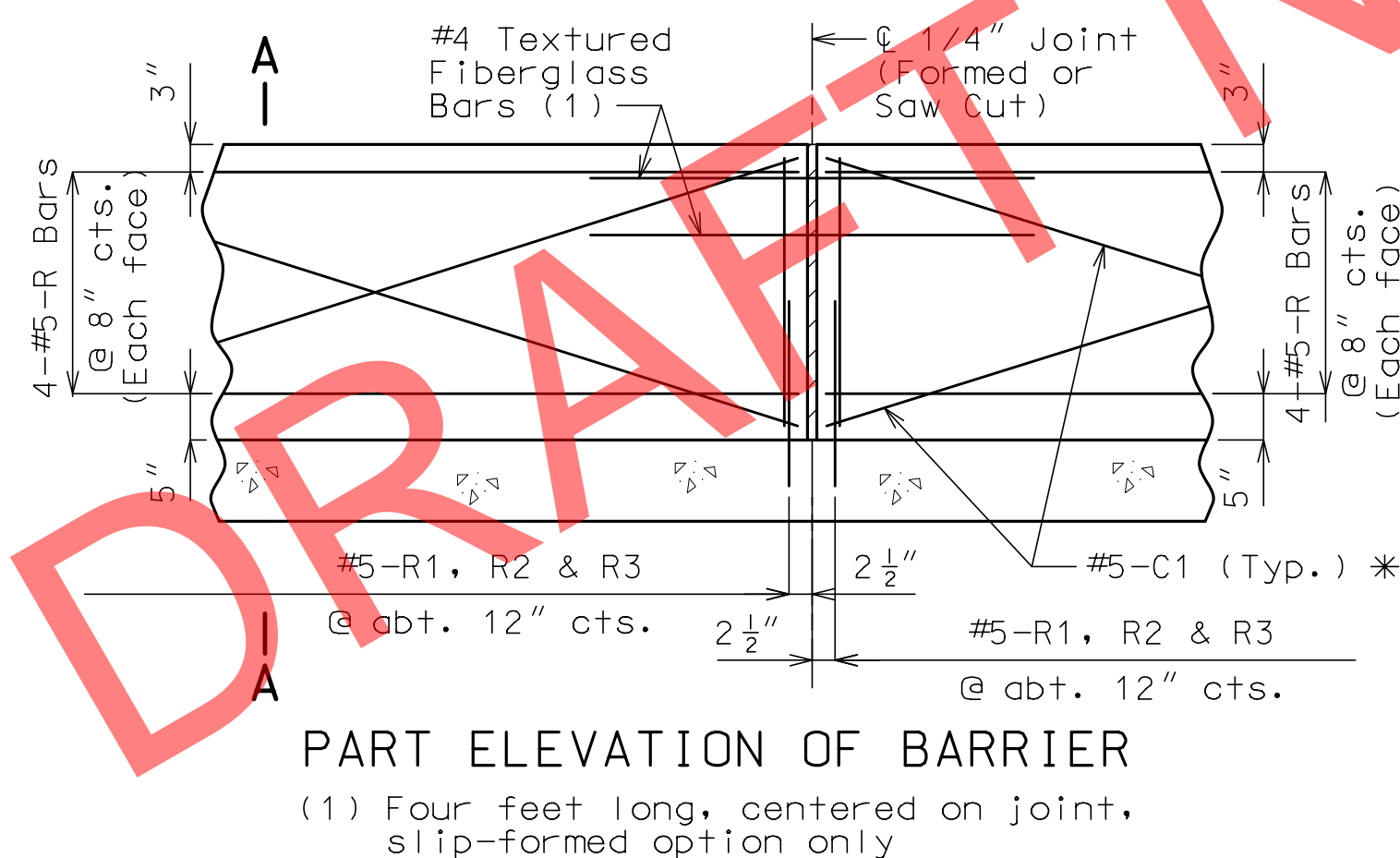


ELEVATION OF BARRIER
(Left barrier shown, right barrier similar)
Longitudinal dimensions are horizontal.



R-BAR PERMISSIBLE ALTERNATE SHAPE

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



Use a minimum lap of 3'-1" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 2.89 square feet.

(2) To top of bar

TYPE H BARRIER

(3" Ø conduits not shown for clarity.)
(Pedestrian fence not shown for clarity.)

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 H 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.

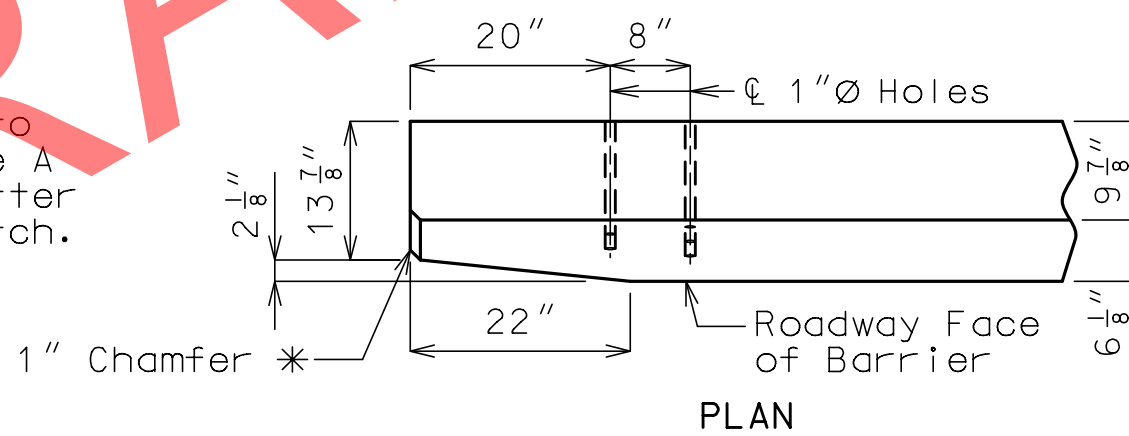
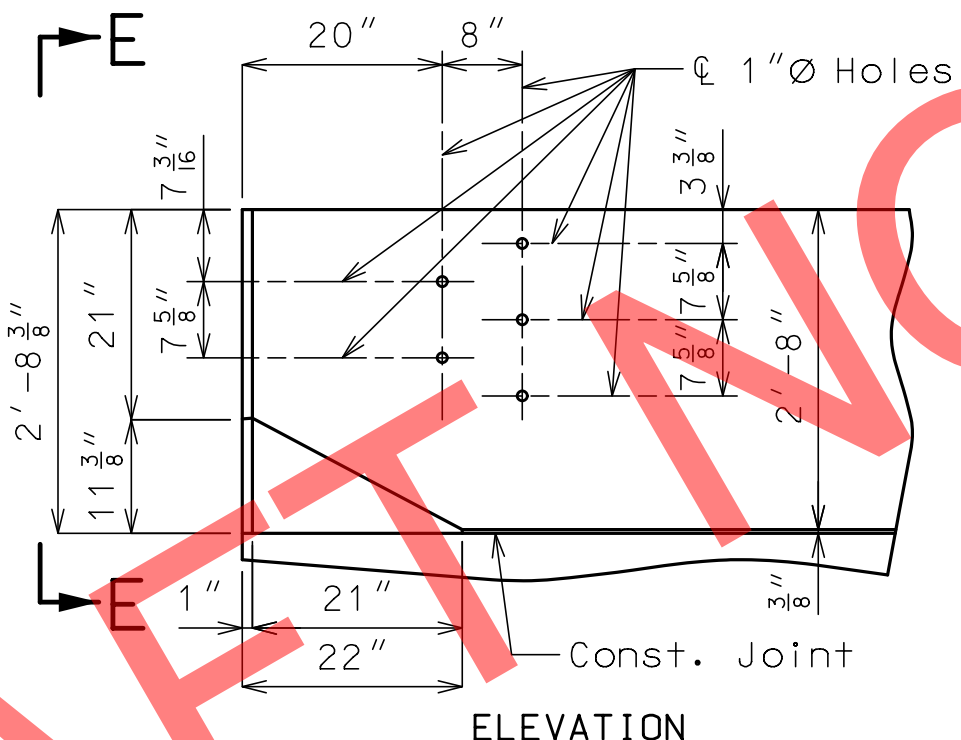
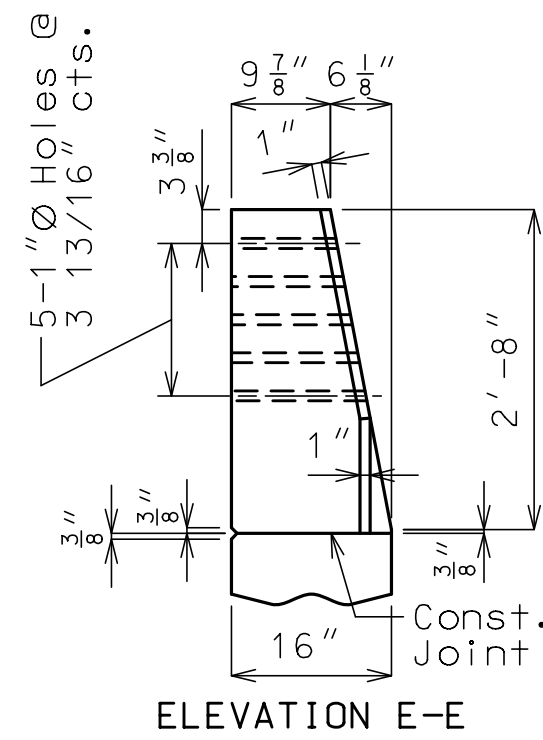
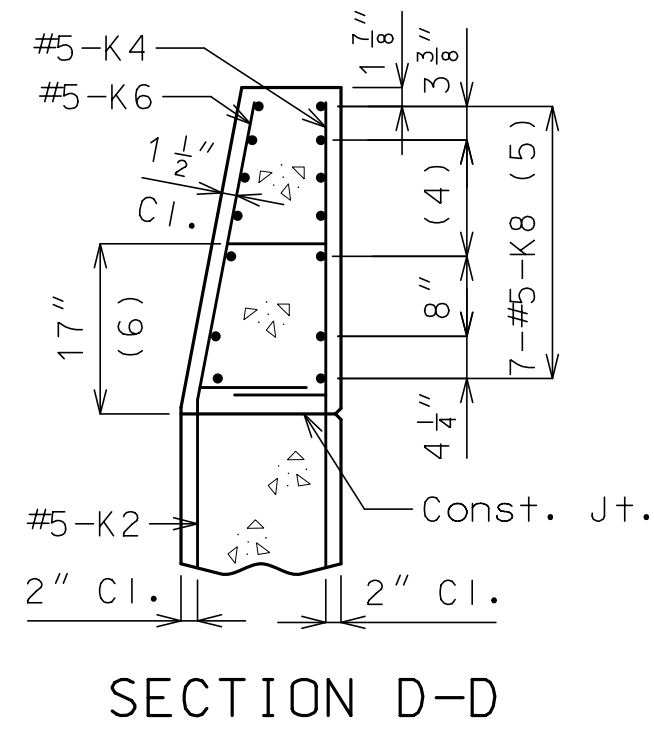
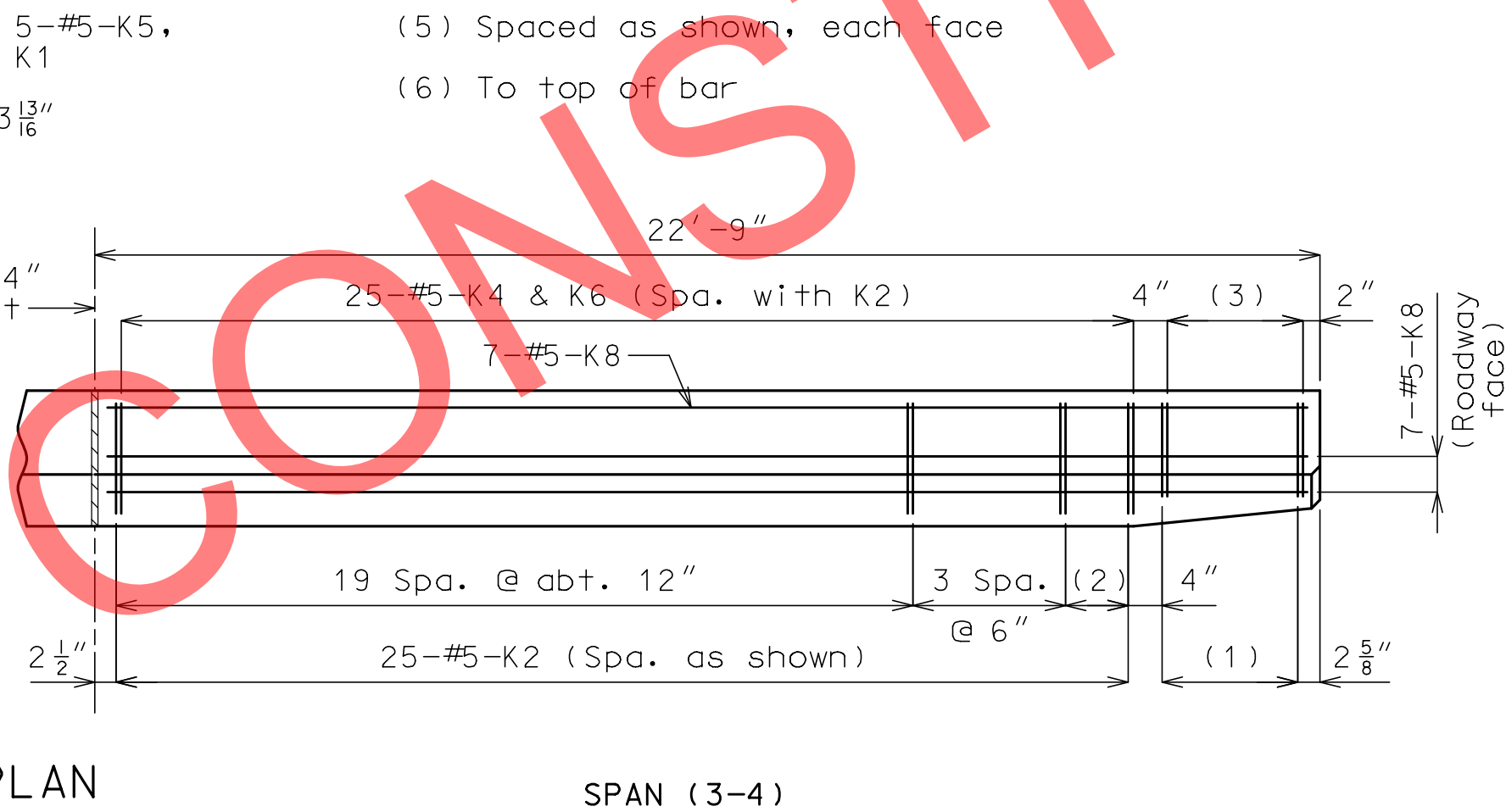
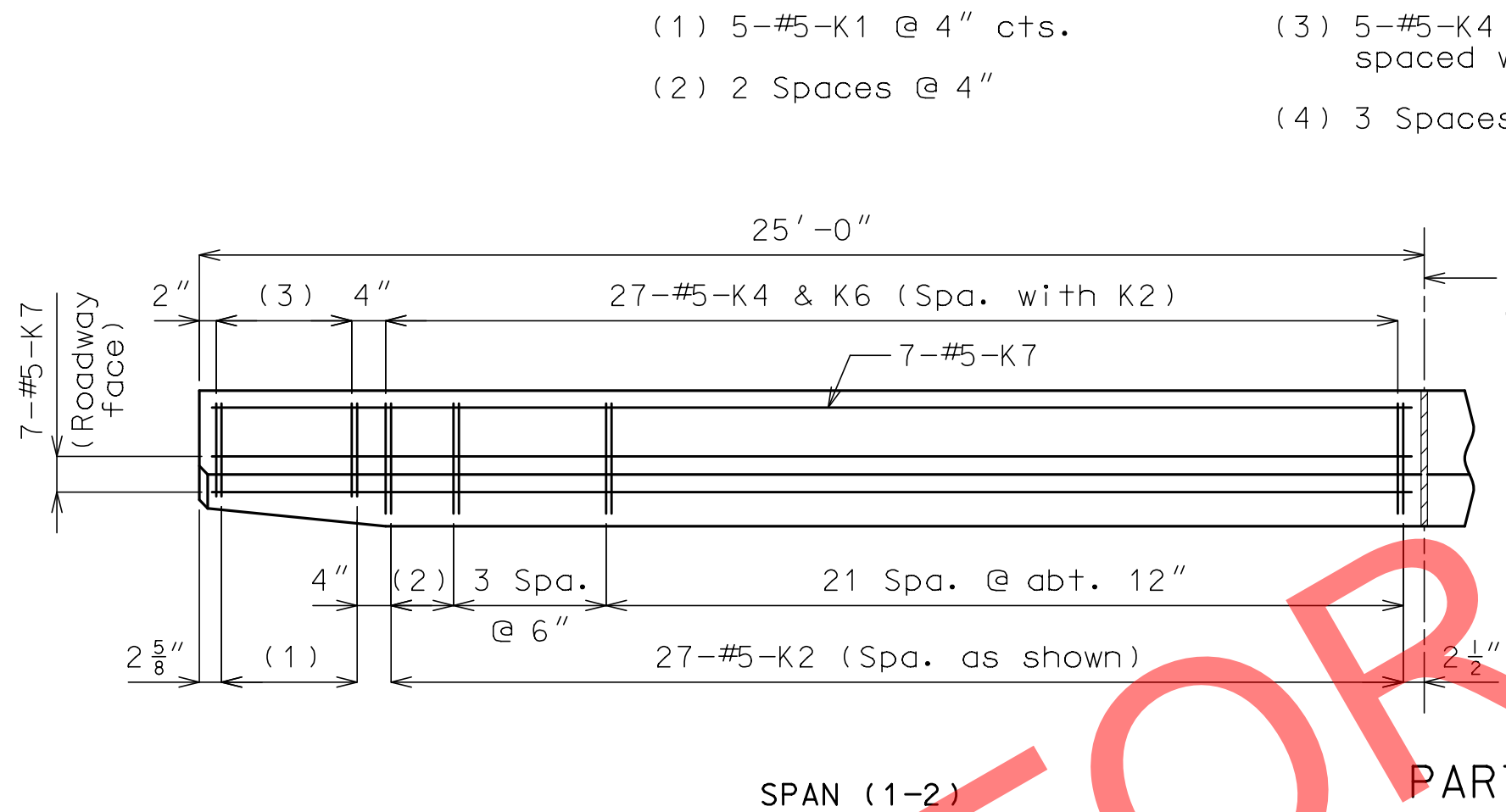
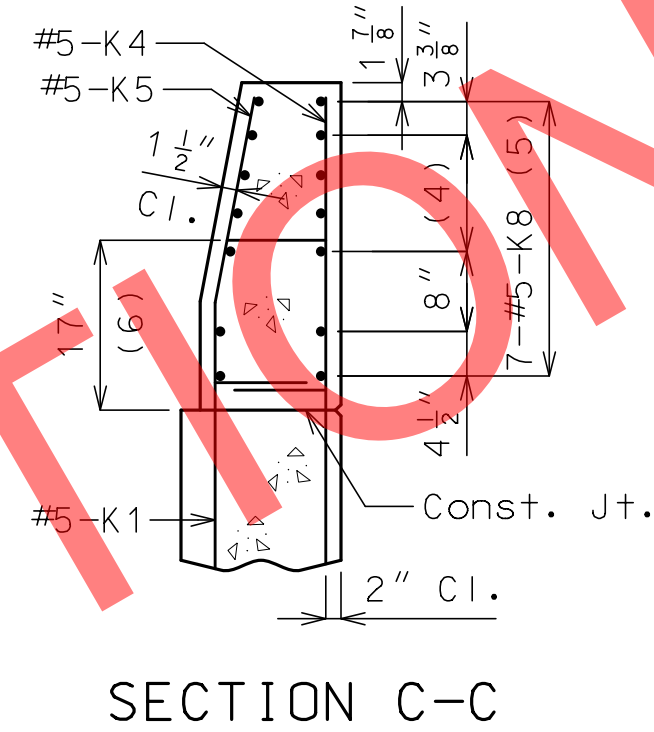
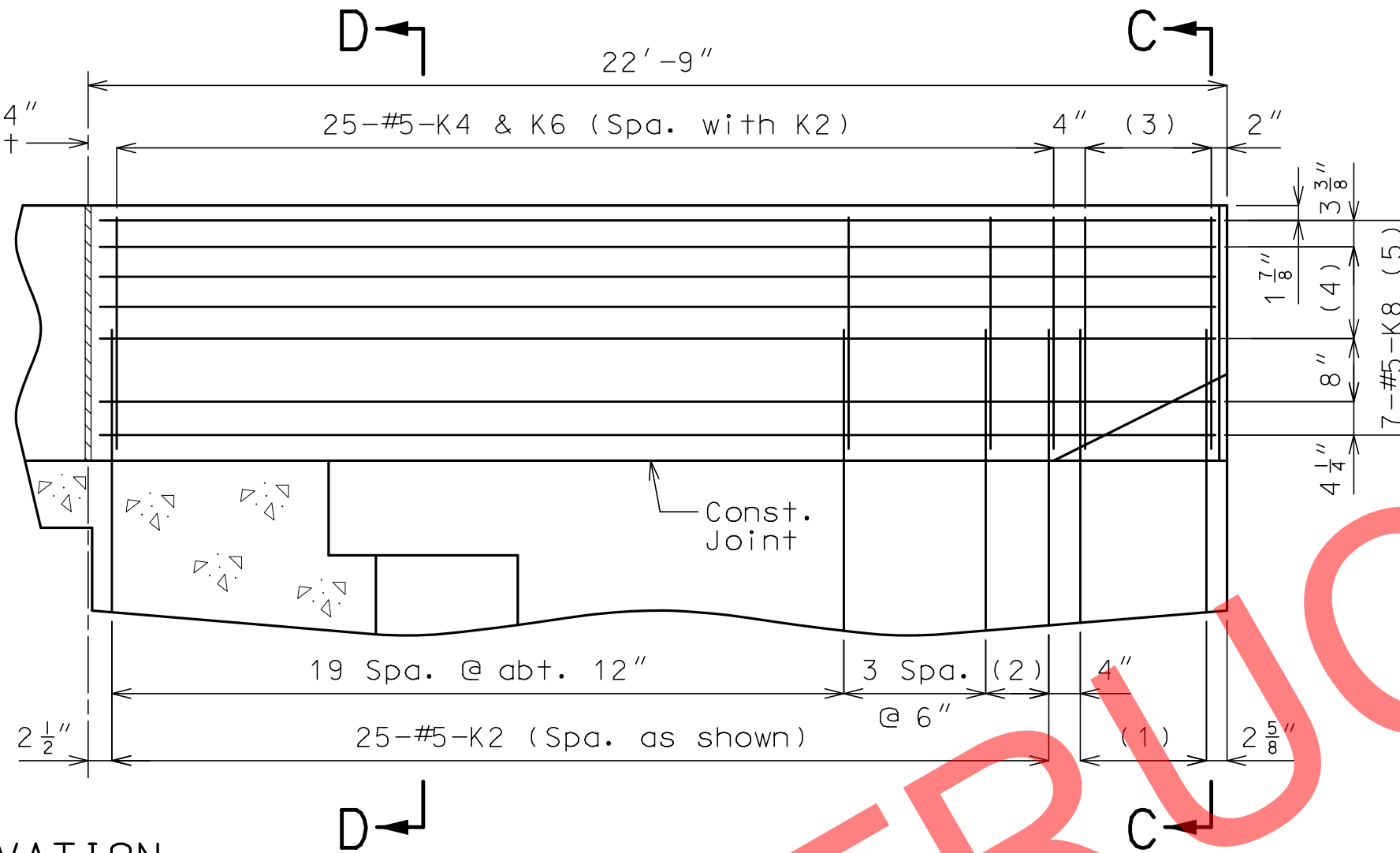
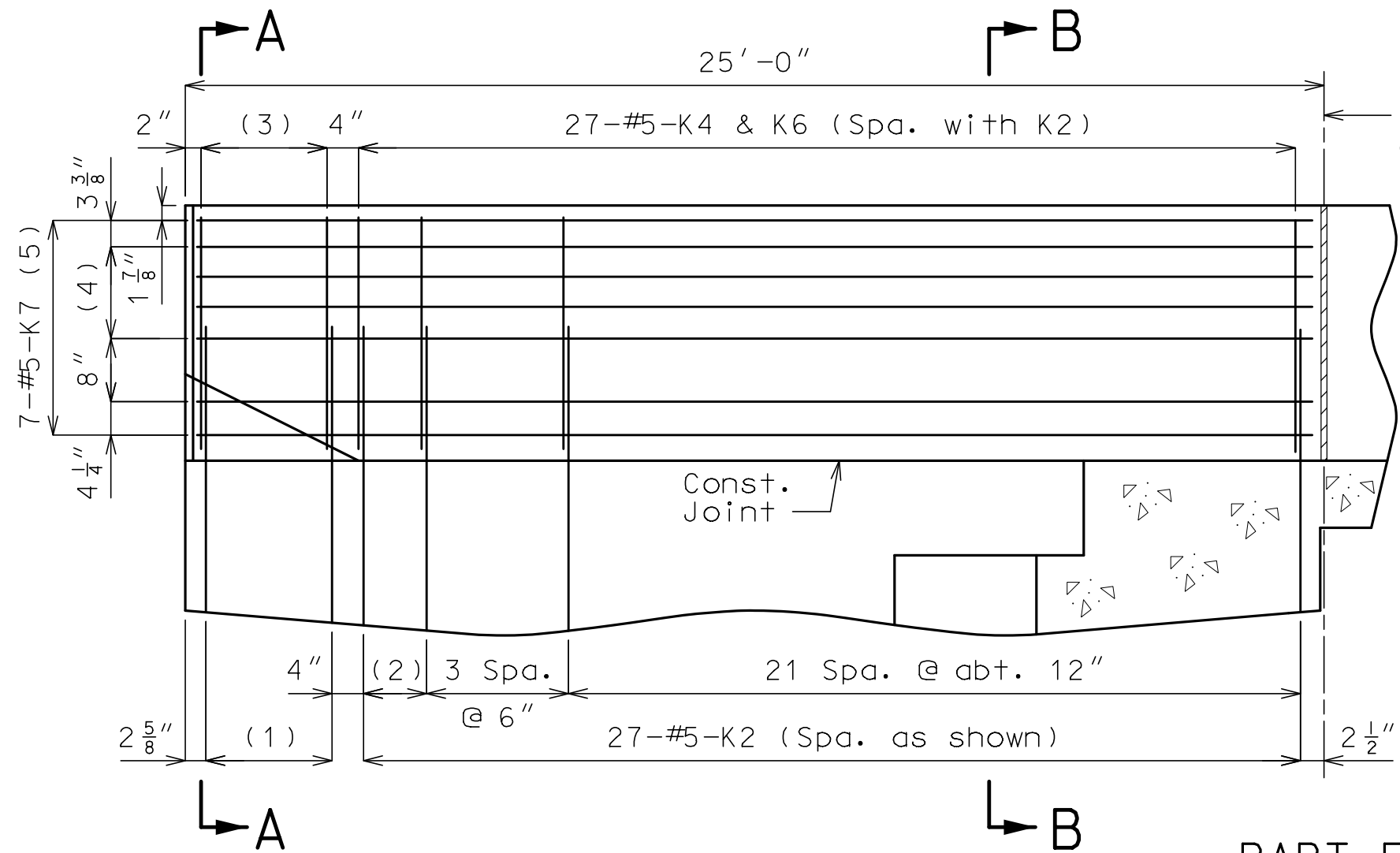
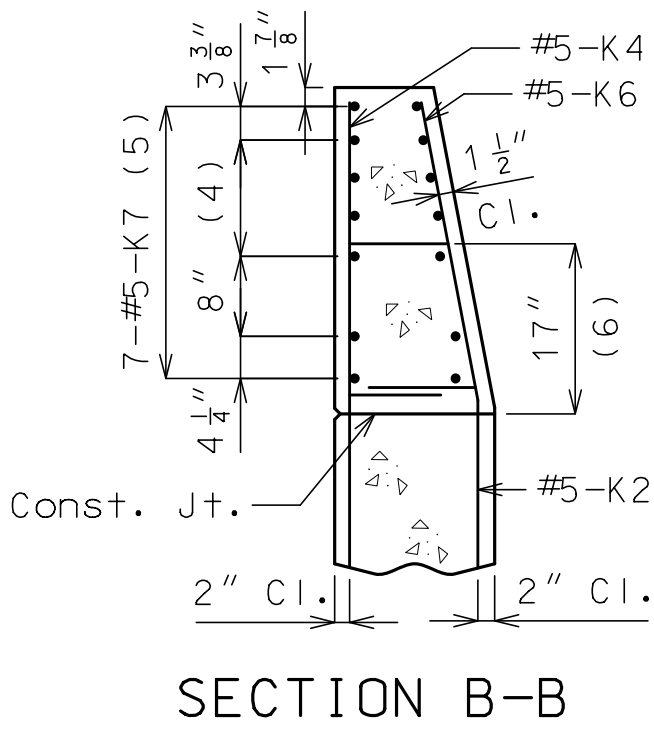
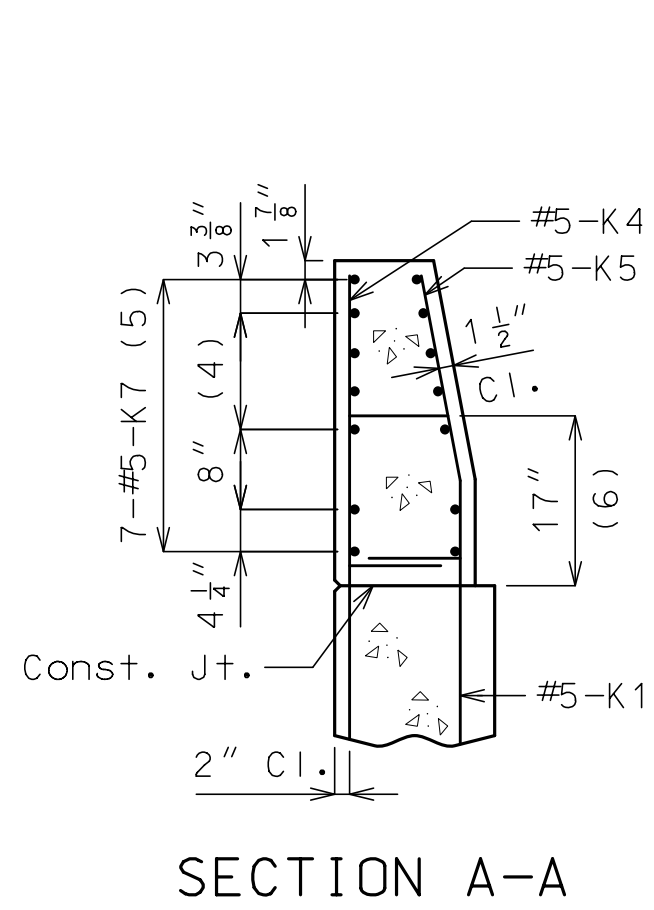
Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered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

For Conduit Details, see Sheet No. 29.

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 26
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9132	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592



General Notes:

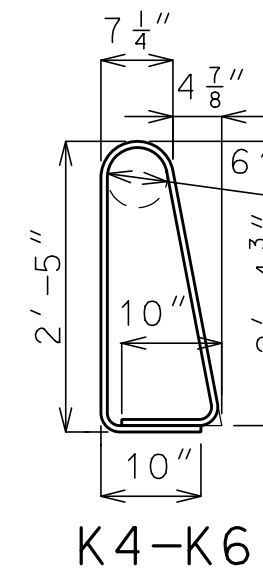
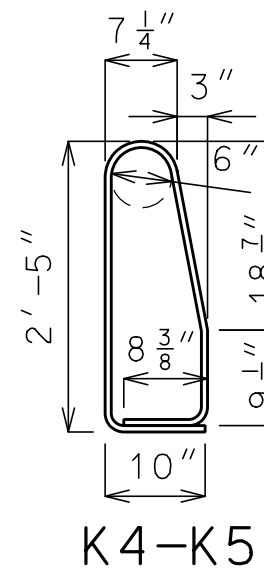
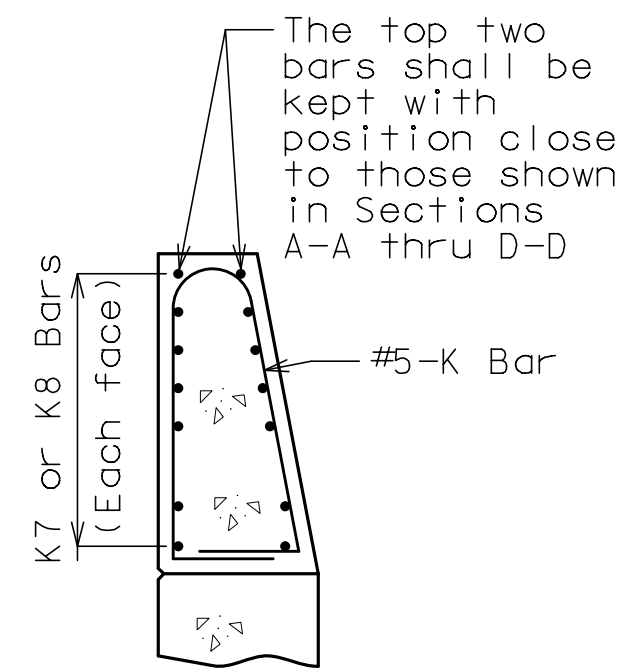
Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered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

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

TYPE H BARRIER AT END BENTS

(Left barrier shown)
(3" Ø conduits not shown for clarity.)
(Pedestrian fence not shown for clarity.)

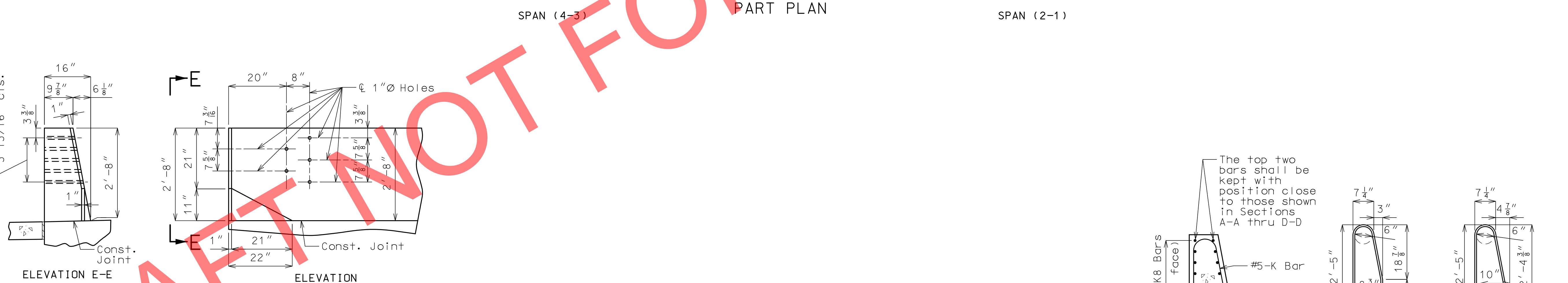
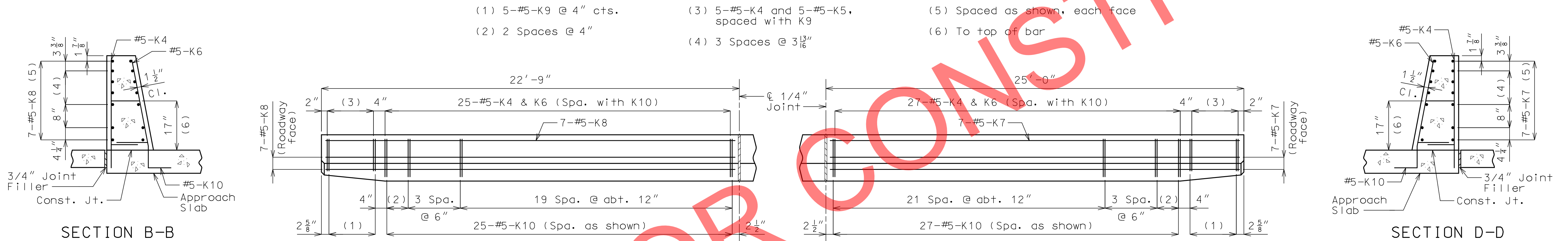
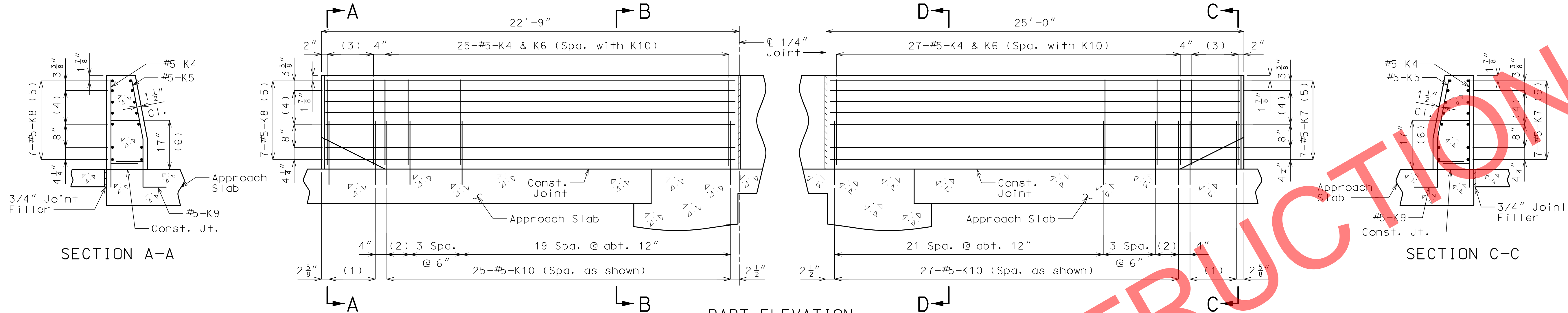


PERMISSIBLE ALTERNATE SHAPES

(Other K bars not shown for clarity)

The K4-K5 and K4-K6 bar combination may be furnished as one bar as shown, at the contractor's option.

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 27
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9132	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	



General Notes:

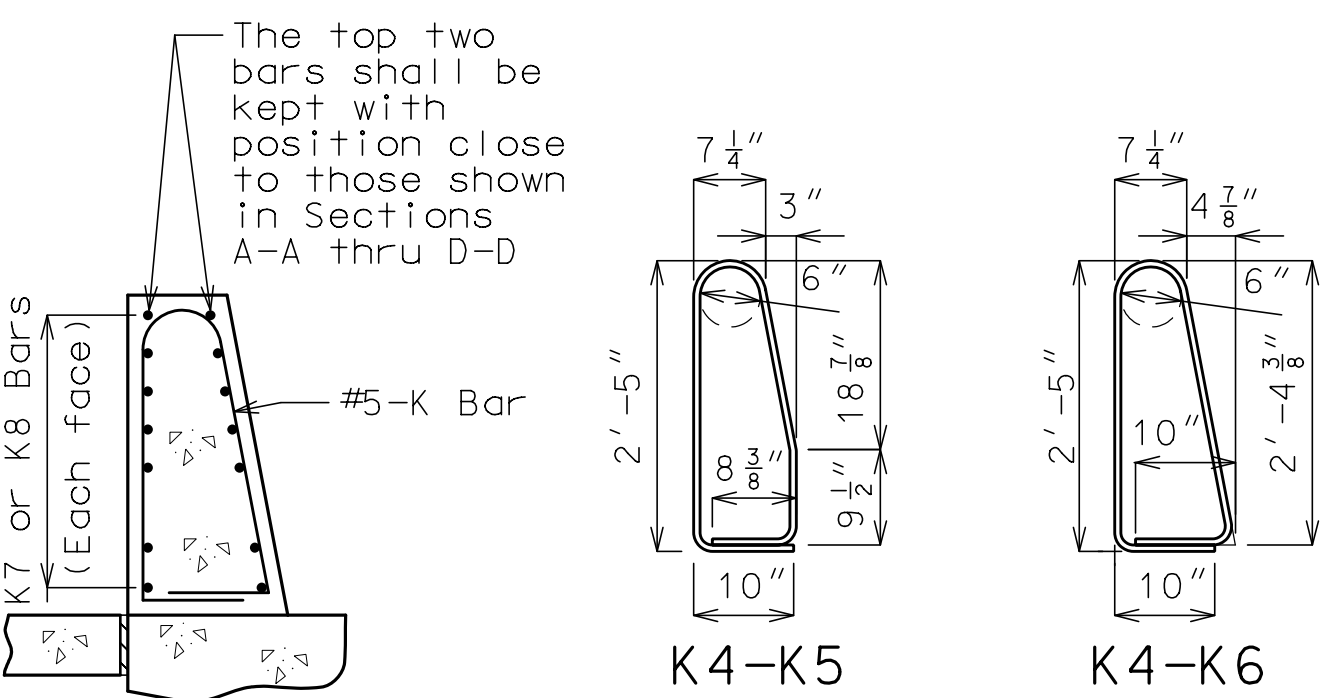
Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered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

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

TYPE H BARRIER AT END BENTS

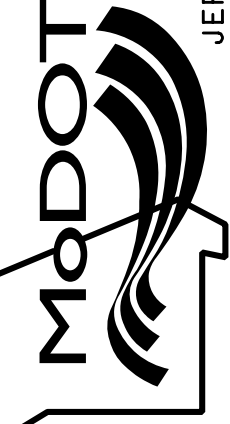
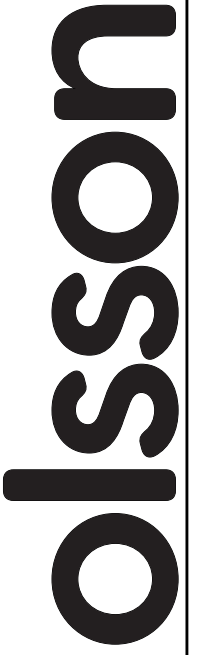
(Right barrier shown)
(Pedestrian fence not shown for clarity.)

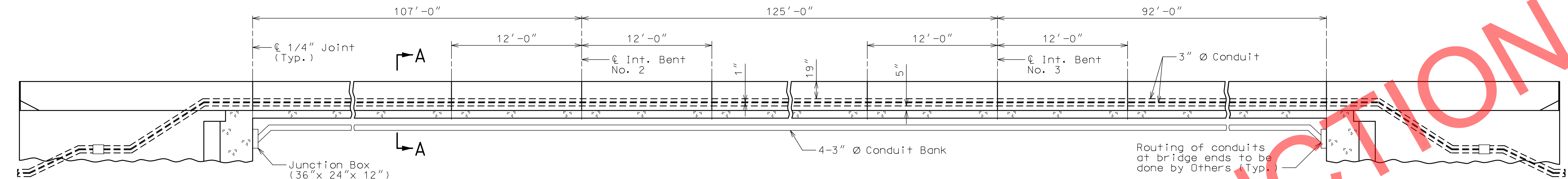


PERMISSIBLE ALTERNATE SHAPES

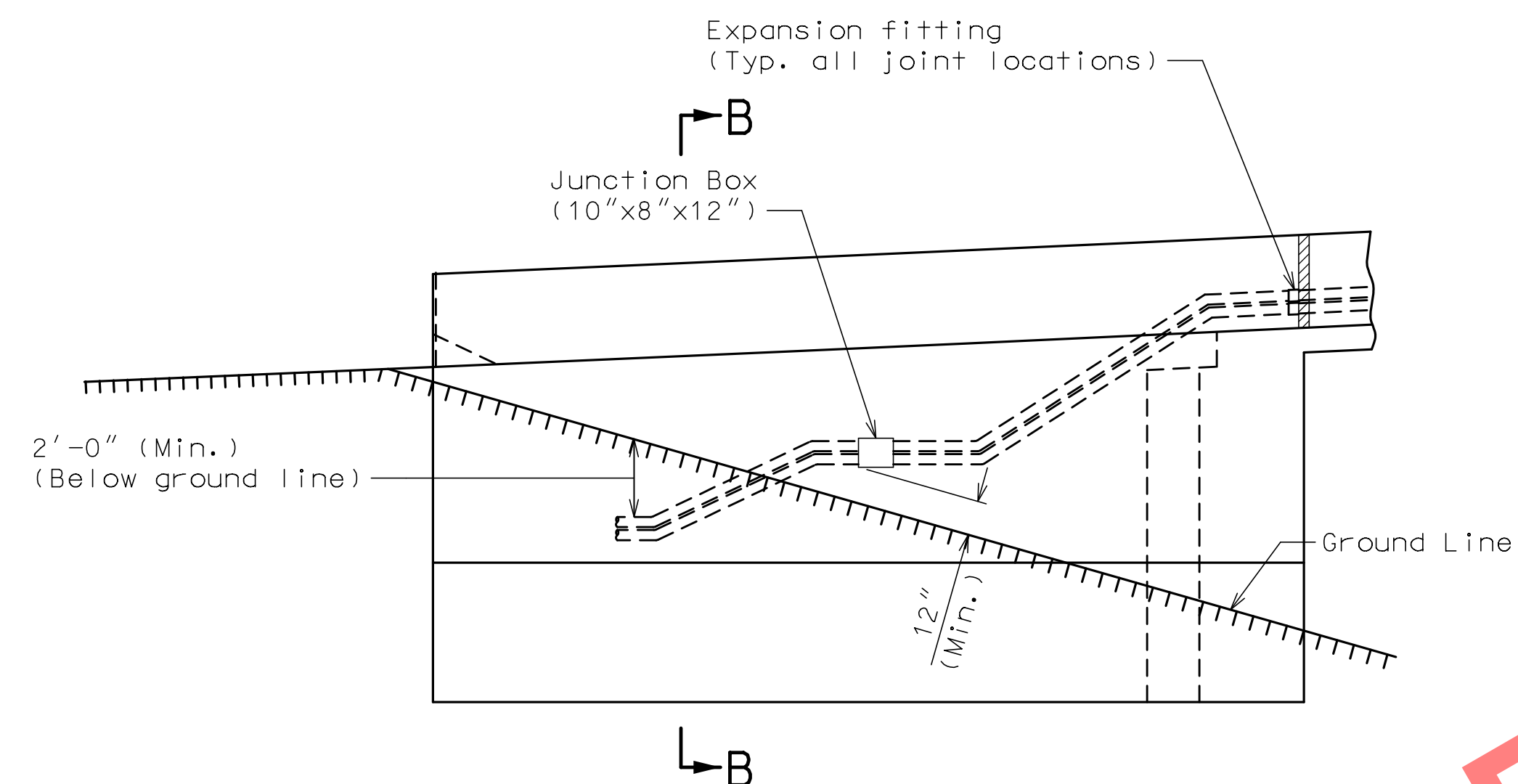
(Other K bars not shown for clarity)

The K4-K5 and K4-K6 bar combination may be furnished as one bar as shown, at the contractor's option.

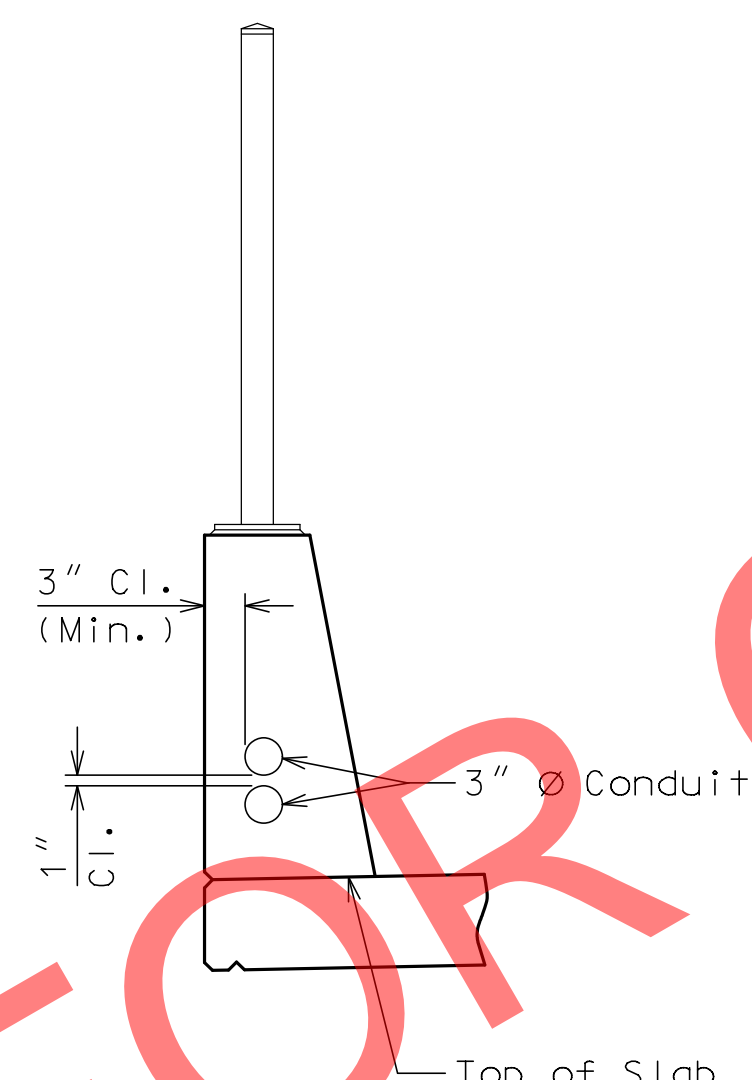
DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 28
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9132	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	



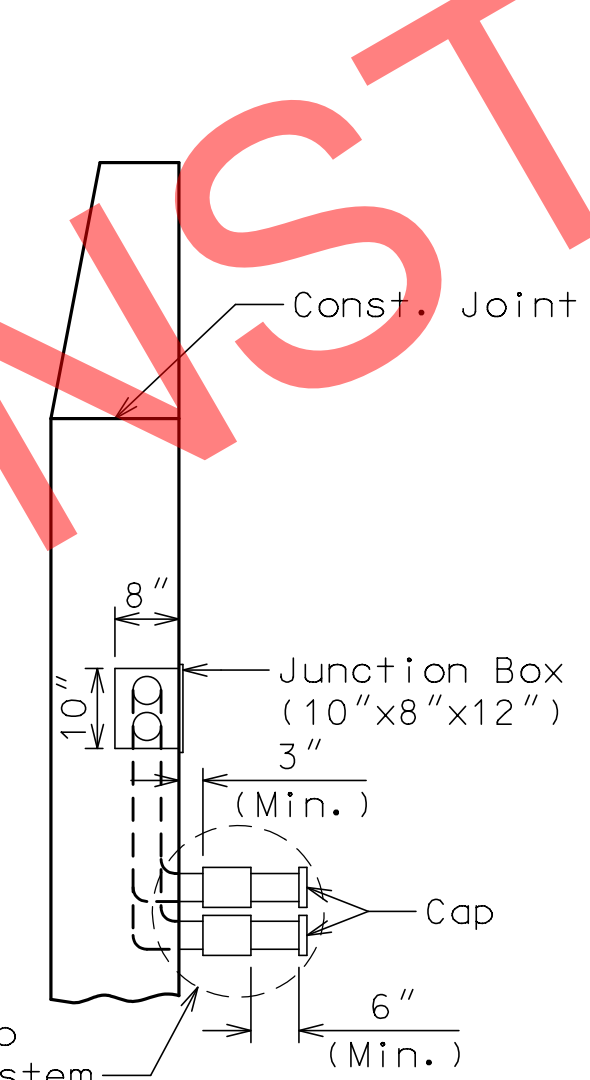
ELEVATION OF LEFT BARRIER SHOWING CONDUIT SYSTEM ON BRIDGE
(Pedestrian fence not shown for clarity.)
Longitudinal dimensions are horizontal.



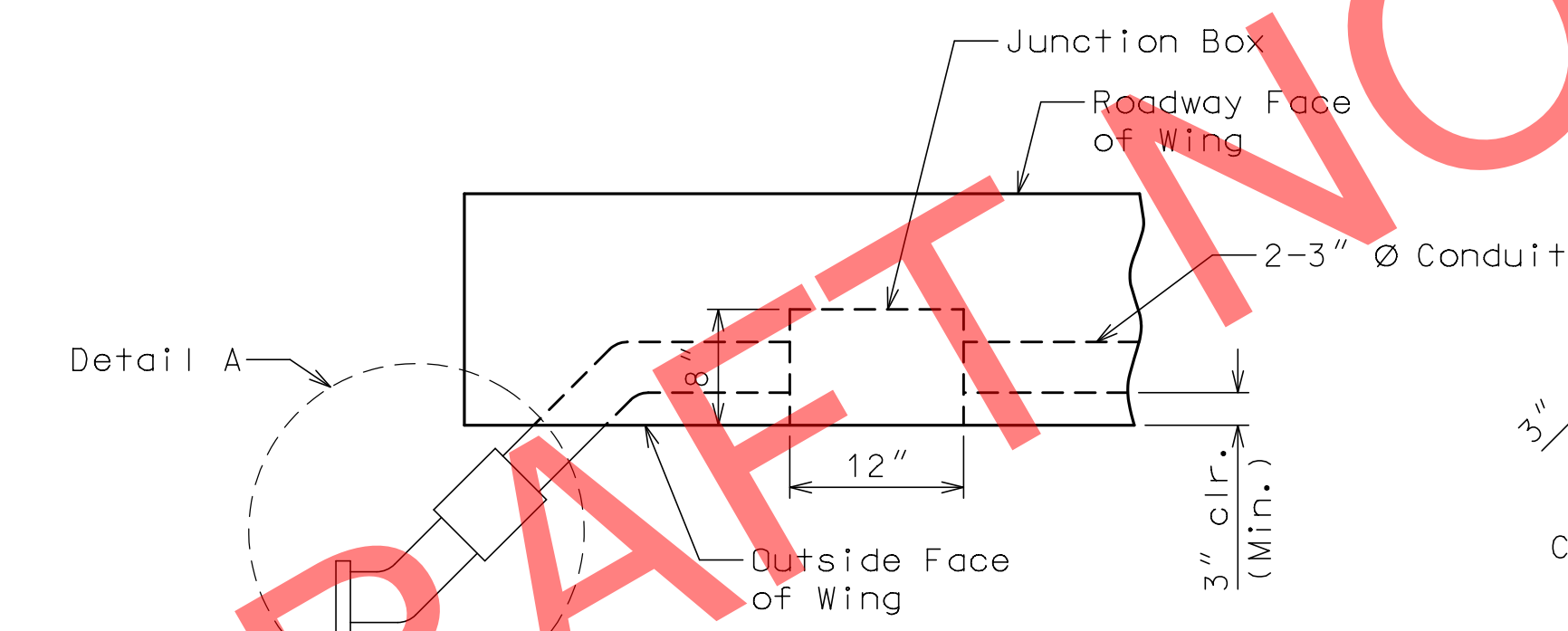
PART ELEVATION SHOWING
JUNCTION BOX IN WING
(Pedestrian fence not shown for clarity.)



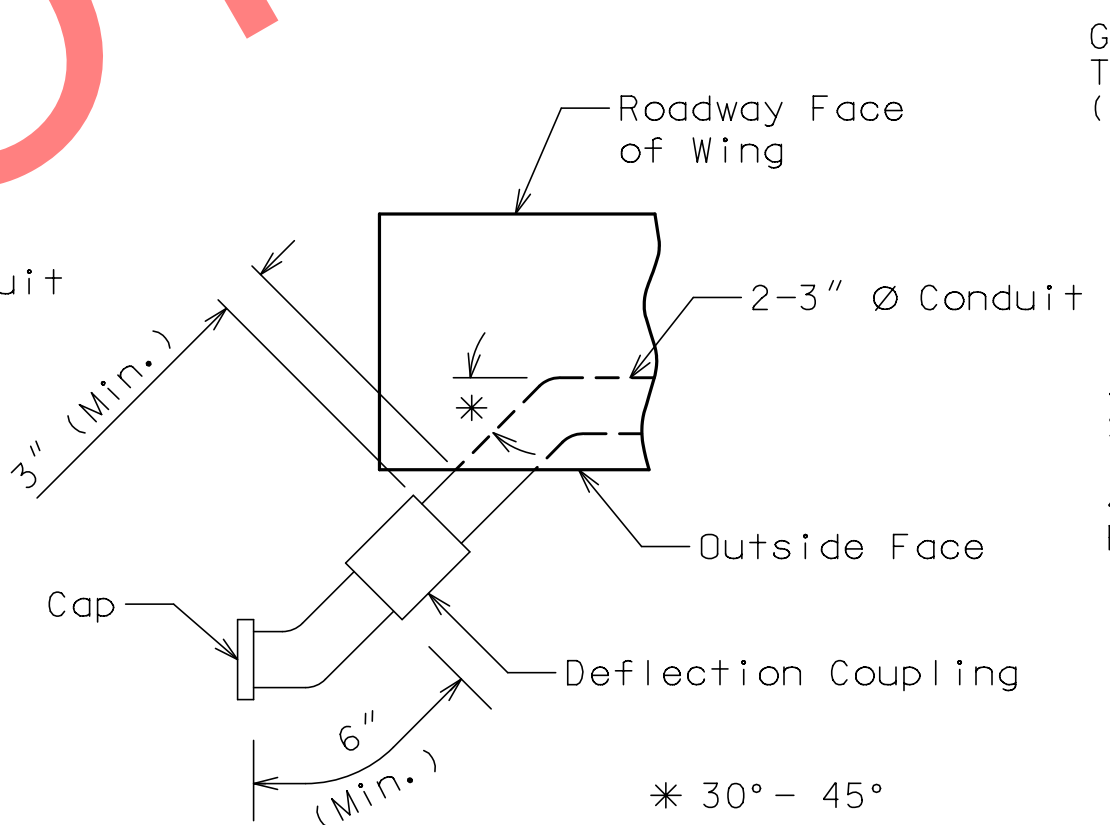
SECTION A-A



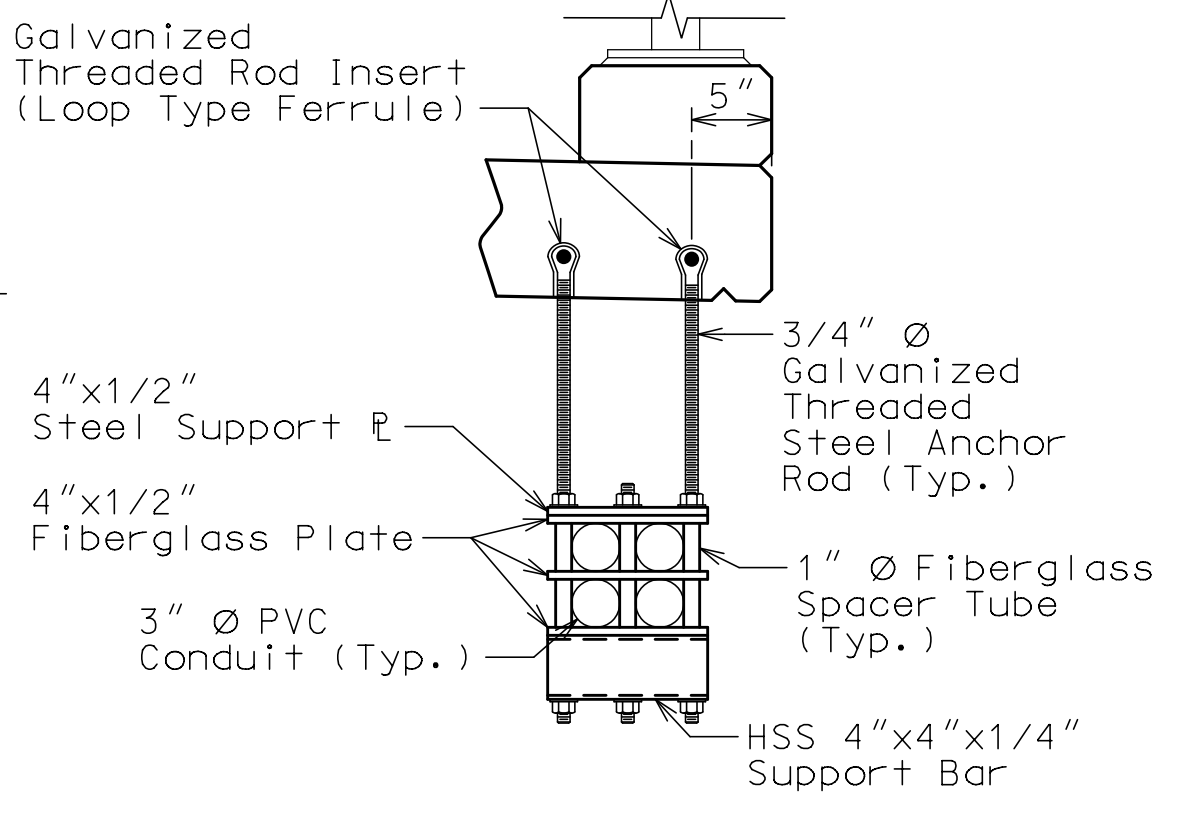
PART SECTION B-B



PART PLAN OF MODIFIED BARRIER CURB
CONDUIT PLACEMENT SYSTEM



DETAIL A

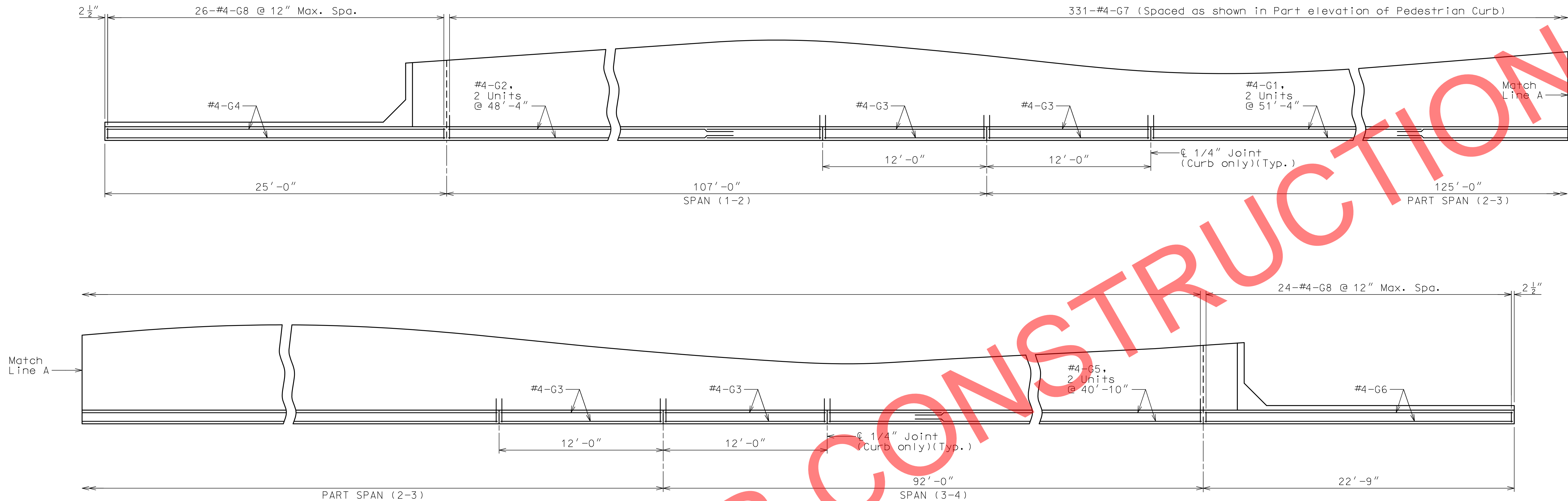


CONDUIT BANK
HANGER SUPPORT DETAIL
(BY OTHERS)

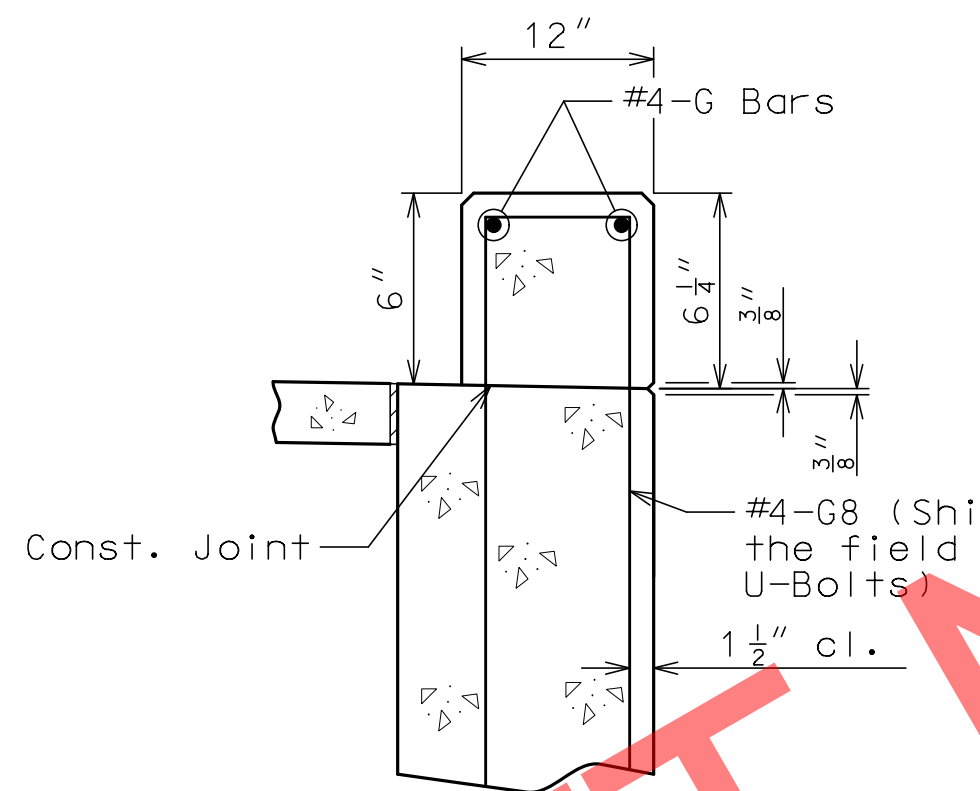
CONDUIT DETAILS

Notes:
All conduits shall be rigid nonmetallic schedule 40 heavy wall polyvinyl chloride (PVC) with 3 inch minimum cover in concrete. Each section of conduit shall bear the Underwriters Laboratory (UL) label.
Shift reinforcing steel in field where necessary to clear conduit and junction boxes.
Expansion fitting shall be placed as shown and set in accordance with the manufacturer's requirements and based on the air temperature at the time of setting given an estimated total expansion movement of 1 inch at filled joints using a maximum temperature range of 120° F and a maximum temperature of 110° F.
Drainage shall be provided at low joints or other critical locations of all conduits and all junction boxes in accordance with Sec. 707. All conduits shall be sloped to drain where possible.
Minimum clearance preferred between conduits placed in the Modified Barrier Curb shall be 1 inch.
All end bent junction boxes shall be PVC molded in accordance with Sec. 1062 and designed for surface mounting. The conduit terminations shall be permanent of separable. The terminations and covers shall be of watertight construction and shall meet requirements for NEMA 4 enclosure.
Junction box size shown on plan may require special order. No other size may be submitted.
Payment for furnishing and installing conduit system, complete in place, will be considered completely covered by the contract lump sum price for Conduit System on Structure.
For Barrier details, see Sheets No. 24 thru 26.
For Pedestrian Fence Details, see Sheet No. 30.
Additional expansion fittings beyond what is specified on the bridge plans shall be provided and placed in accordance with the conduit manufacturer's recommendations.
Weep holes shall be provided at low points or other critical locations to drain any moisture in the conduit system. Conduit shall be sloped to drain.
All nuts used with structural fasteners shall be ASTM A563, Grade C3 or DH3.
All washers used with structural fasteners shall be ASTM F436.
All threaded rods used with structural fasteners shall be ASTM F1554, Grade 55.
All labor and materials necessary to construct the conduit bank including, but not limited to, PVC pipe, anchor rods, plates, spacers, nuts, washers, junction boxes, and inserts shall be considered completely covered by Others.
Utility Contractor (Others) shall submit detailed shop drawings for conduit bank support hangers for review and approval by the Engineer a minimum of three (3) weeks prior to ordering materials. Contractor to coordinate and cooperate with third party utility contractor to ensure access is provided so that they can coordinate location of anchor rods in the deck and install the conduit bank on the bottom of the deck.

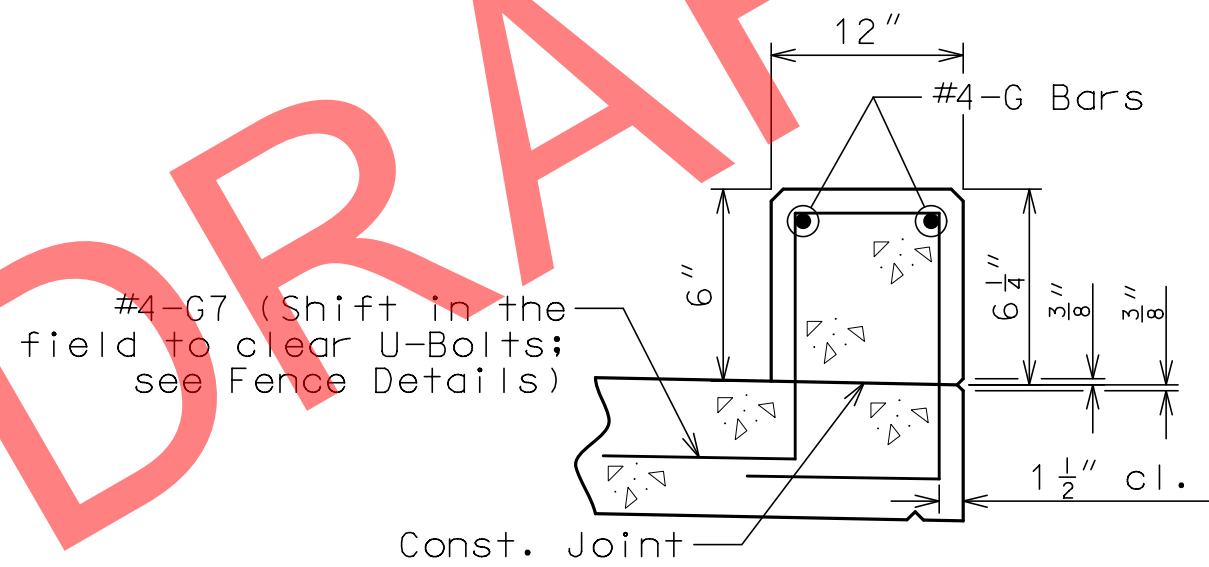
DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 29
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9132	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
olsson 7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	



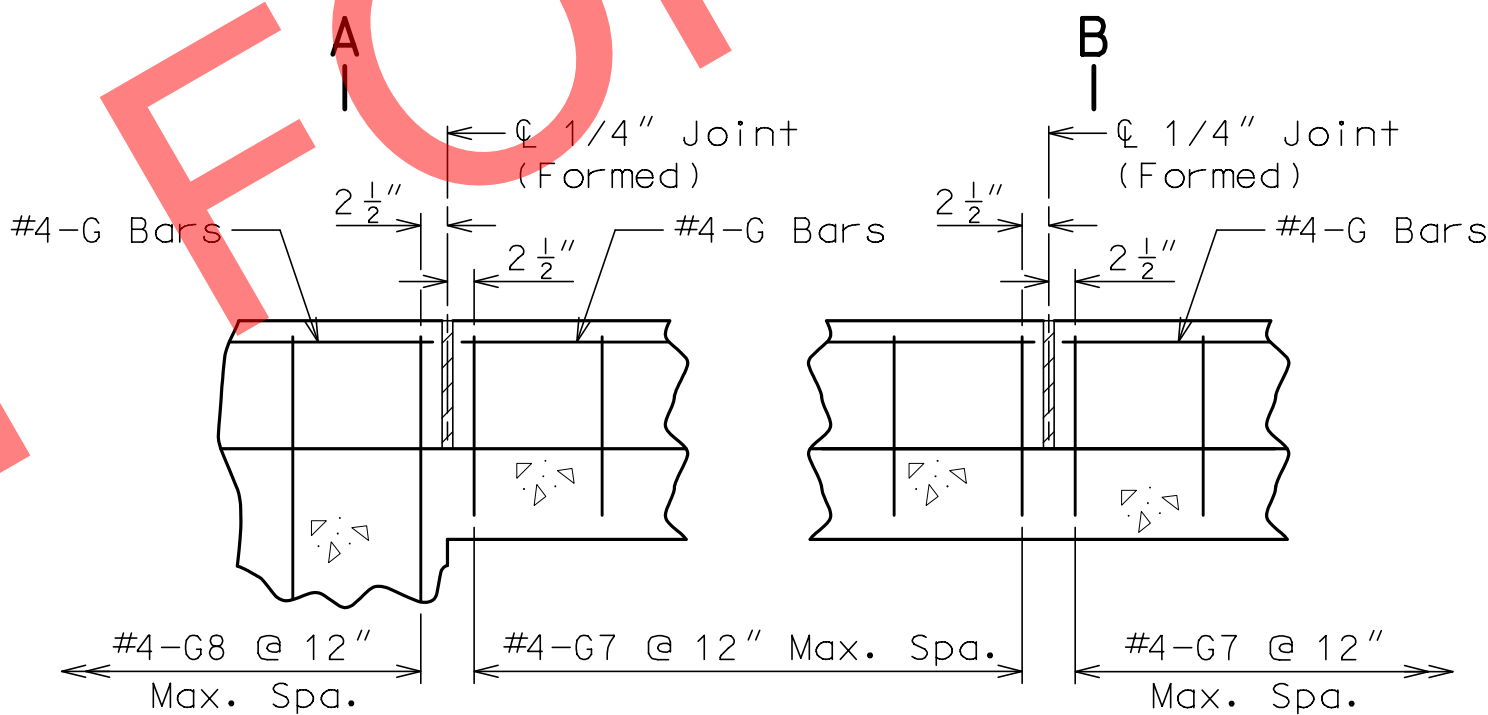
PLAN OF PEDESTRIAN CURB SHOWING REINFORCEMENT



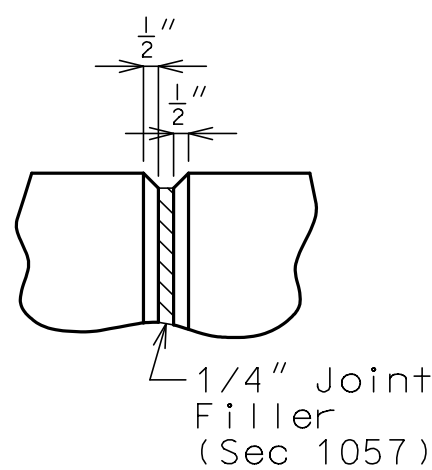
SECTION A-A



SECTION B-B



ON WINGS BETWEEN FORMED JOINTS
PART ELEVATION OF PEDESTRIAN CURB



PART ELEVATION
AT FORMED JOINT

DETAILS OF PEDESTRIAN CURB
(Pedestrian fence not shown for clarity)

General Notes:

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

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

Payment for all concrete and reinforcement complete-in-place, will be considered completely covered by the contract unit price for Concrete Curb (Bridge Rail) per linear foot.

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

Measurement of the concrete curb is to the nearest linear foot for each structure, measured along the outside top of slab.

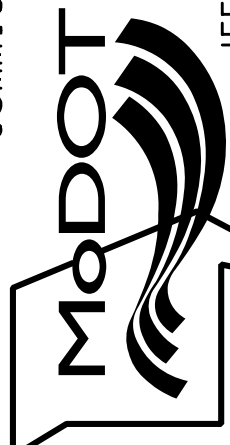

Use a minimum lap of 1'-11" for #4 horizontal concrete curb bars.

The cross-sectional area of the curb above the slab = 0.50 sq. ft.

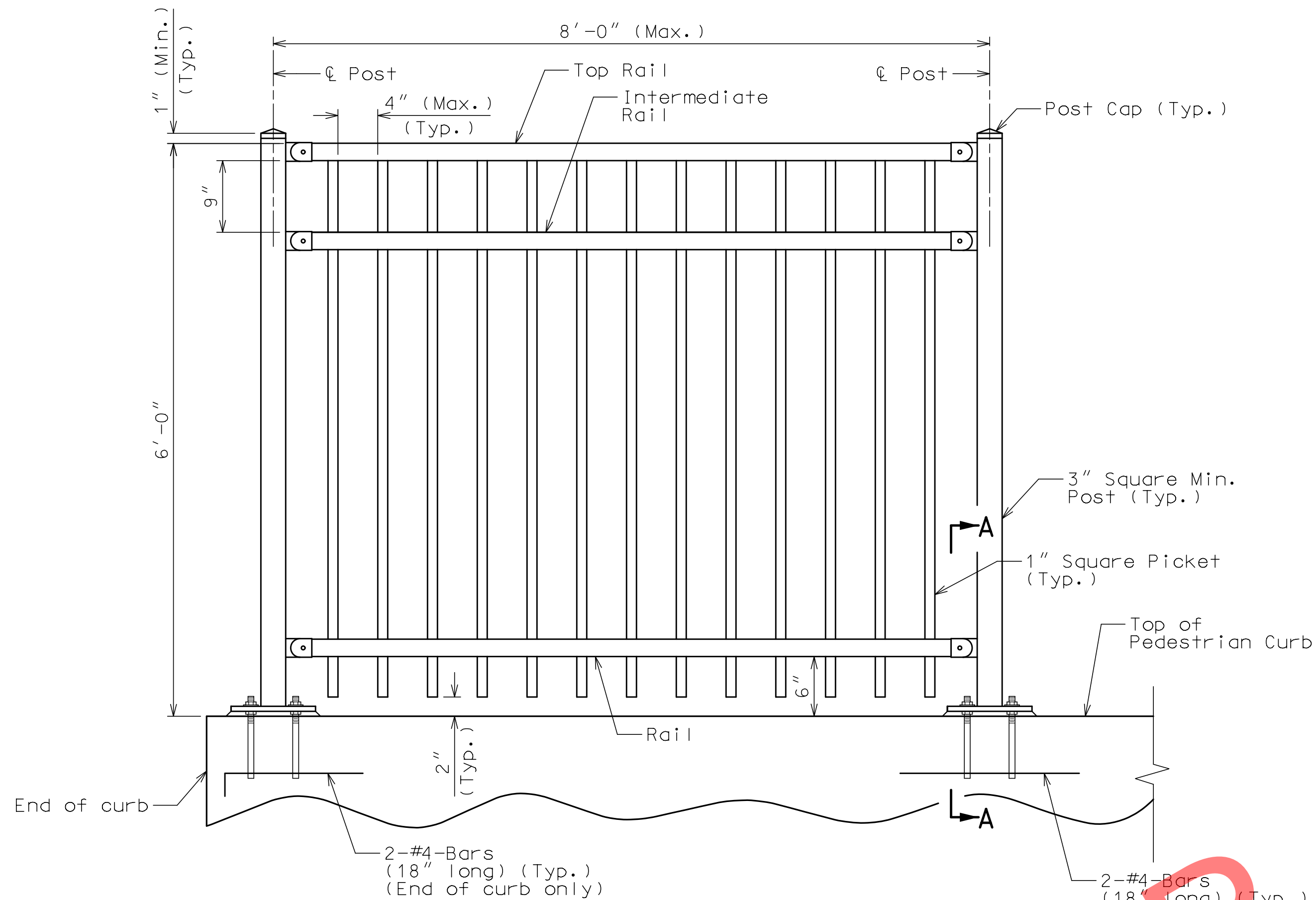
Detailed March 2021
Checked May 2021

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

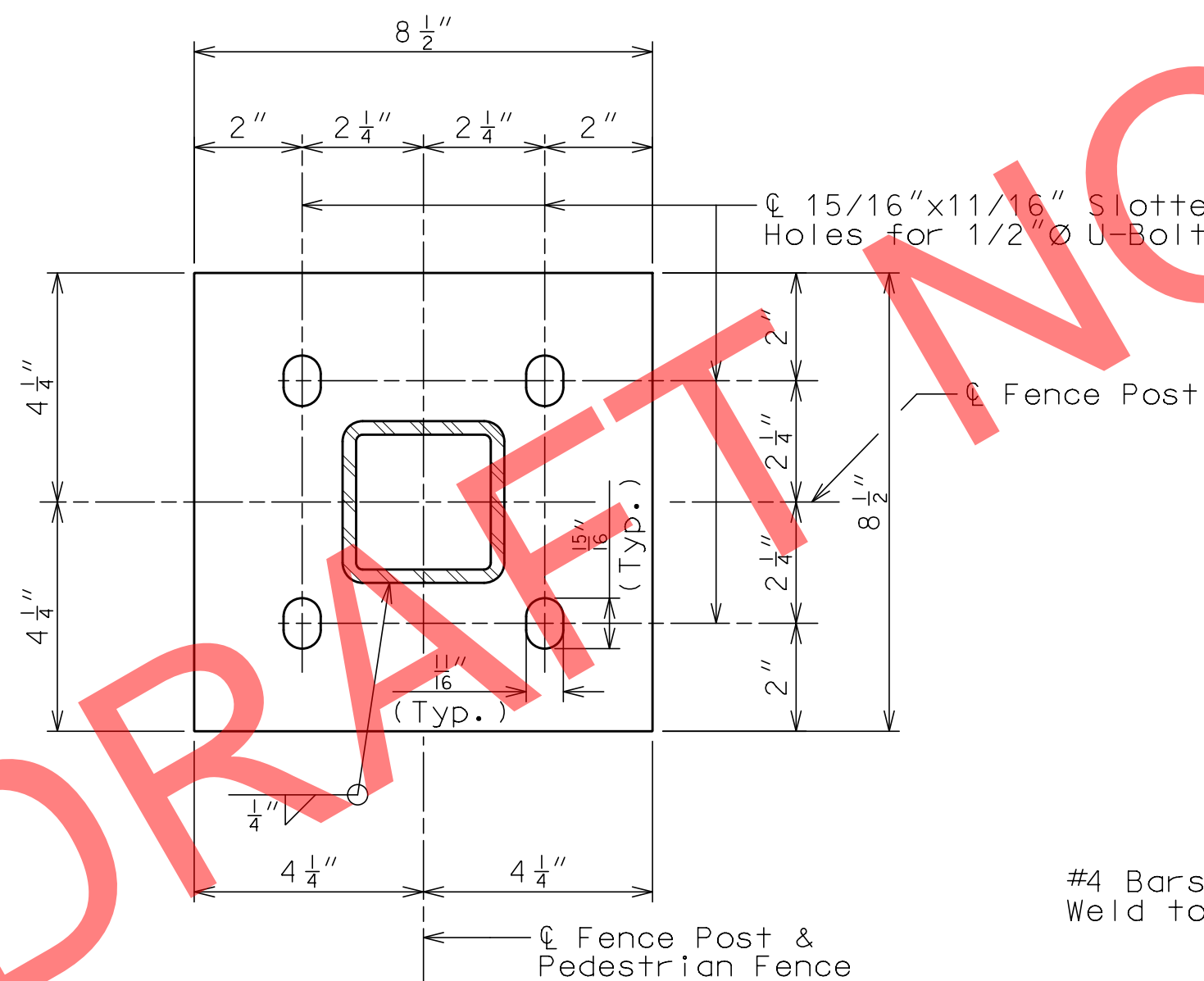
Sheet No.30 of 49

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 30
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9132	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
	7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592

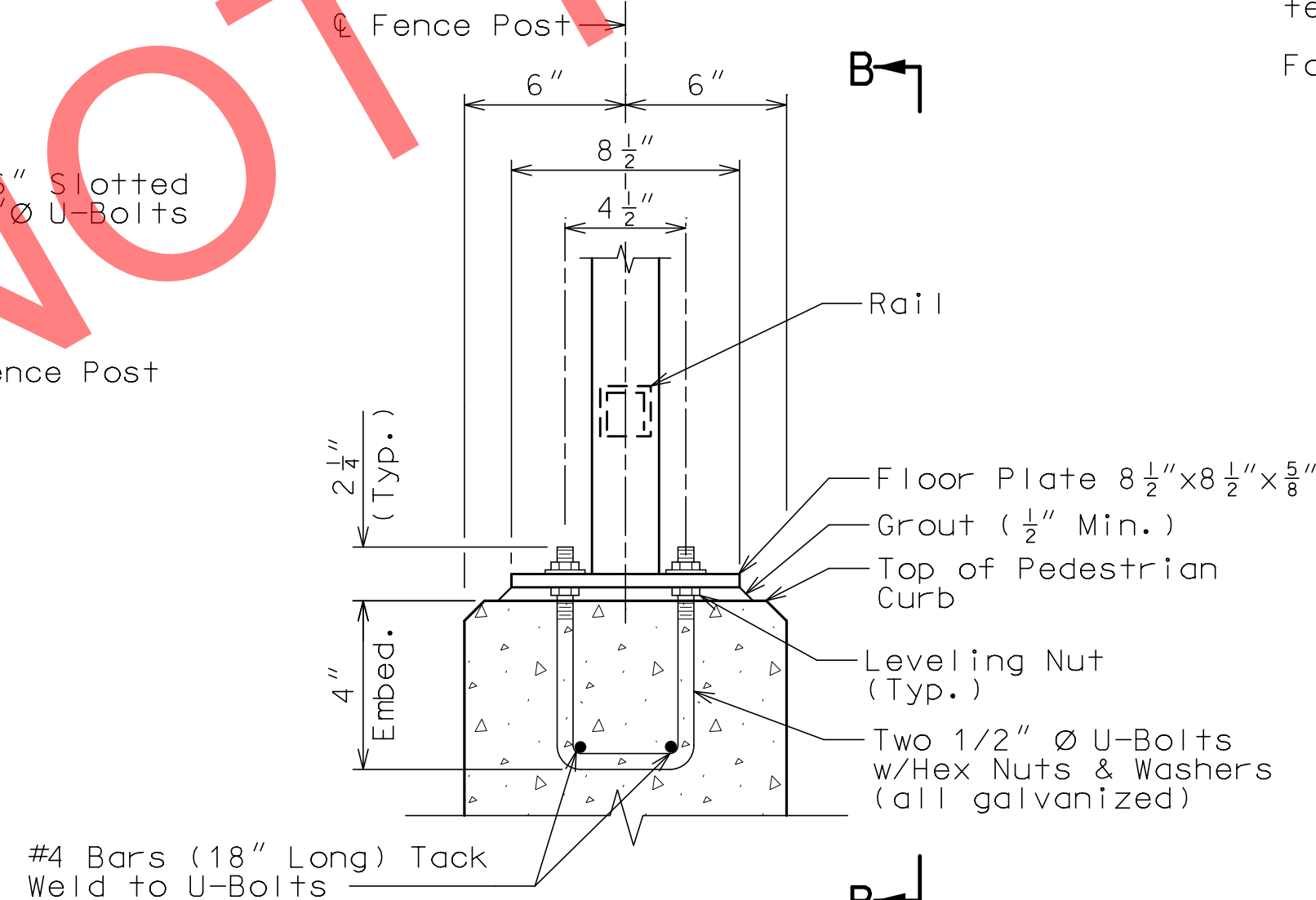
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



TYPICAL PART ELEVATION
Adjacent panels and bridge slab not shown for clarity.



PLAN OF FLOOR PLATE



SECTION A-A
AT FENCE SUPPORT
Reinforcement not shown for clarity.

Notes:

(72 in.) pedestrian fencing shall be installed to the top the Pedestrian Curb for the full length of the Pedestrian Curb.

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

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

Base Plate shall be ASTM A709, Grade 36.

Dimensions of pedestrian fence are measured horizontally.

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

Payment for furnishing and erecting the fence, complete in place, with U-Bolts, washers and reinforcing bars will be considered completely covered by the contract unit price for (72 in.) Pedestrian Fence (Structures).

All fence posts shall be vertical.

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

Floor plates shall have at least 6" of clearance to joint in Pedestrian Curb.

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

Rail splices to be provided per manufacturer's fabrication and shipping requirements. Rail splice detail and location shall be shown on detailed shop drawings.

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

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

(72 in.) pedestrian fencing system, (48 in.) pedestrian fencing system, & (22 in.) pedestrian fencing system shall be supplied by only one of the manufacturers. Fencing system shall include all components except the anchor bolts and #4 bars welded to the anchor bolts. The assembly of the pickets to the rails and the rails to the posts shall be the same as the style mentioned for the manufacturer.

For details of (48 in.) Pedestrian Fence, see Sheet No. 32.

For details of (22 in.) Pedestrian Fence, see Sheet No. 33.

Ameristar Fence Products, Inc.
1555 N. Mingo
Tulsa, OK, 74116
(800) 321-8724
www.ameristarfence.com

Style: AEGIS 11 Majestic

Betafence USA
3309 S.W. Interstate 45
Ennis, TX, 75119
(888) 650-4766
www.betafenceusa.com

Style: Upgrade-I Landmark

Iron Eagle Industries, Inc.
1256 Cardiff Blvd.
Mississauga, Ontario Canada L5S1R1
(905) 670-2558
www.ironagleind.com

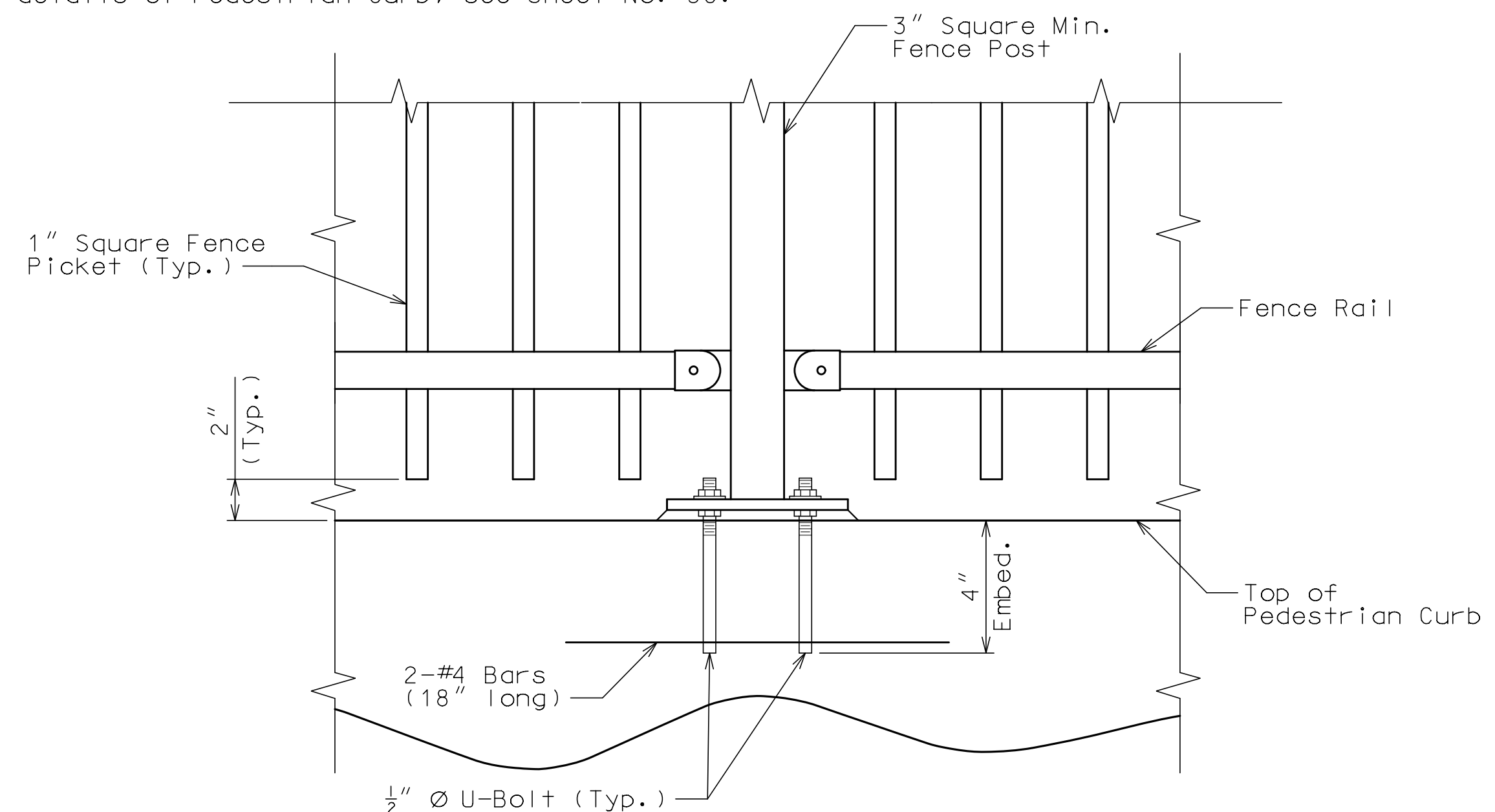
Style: Silver Eagle II

Merchants Metals
6575 Romiss Court
St. Louis, MO 63134
(800) 293-3363
www.merchantsmetals.com

Style: Guardsman Monroe

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

For details of Pedestrian Curb, see Sheet No. 30.



VIEW B-B

(72in.) PEDESTRIAN FENCE DETAILS

Detailed March 2021
Checked May 2021

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

Sheet No. 31 of 49

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 31
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9132	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MoDOT	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	



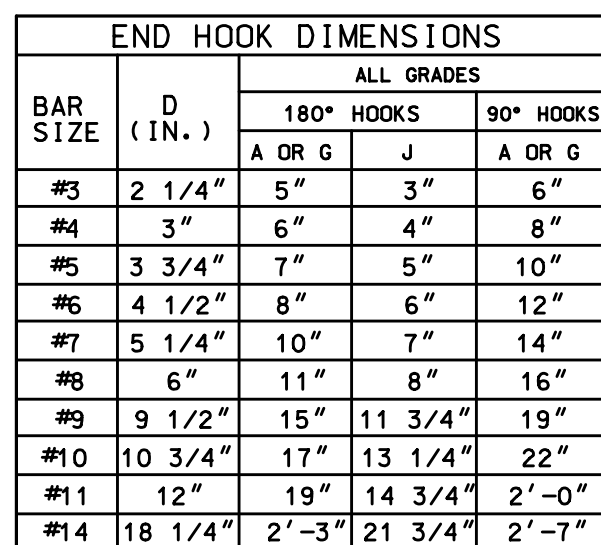
VIEW B-B



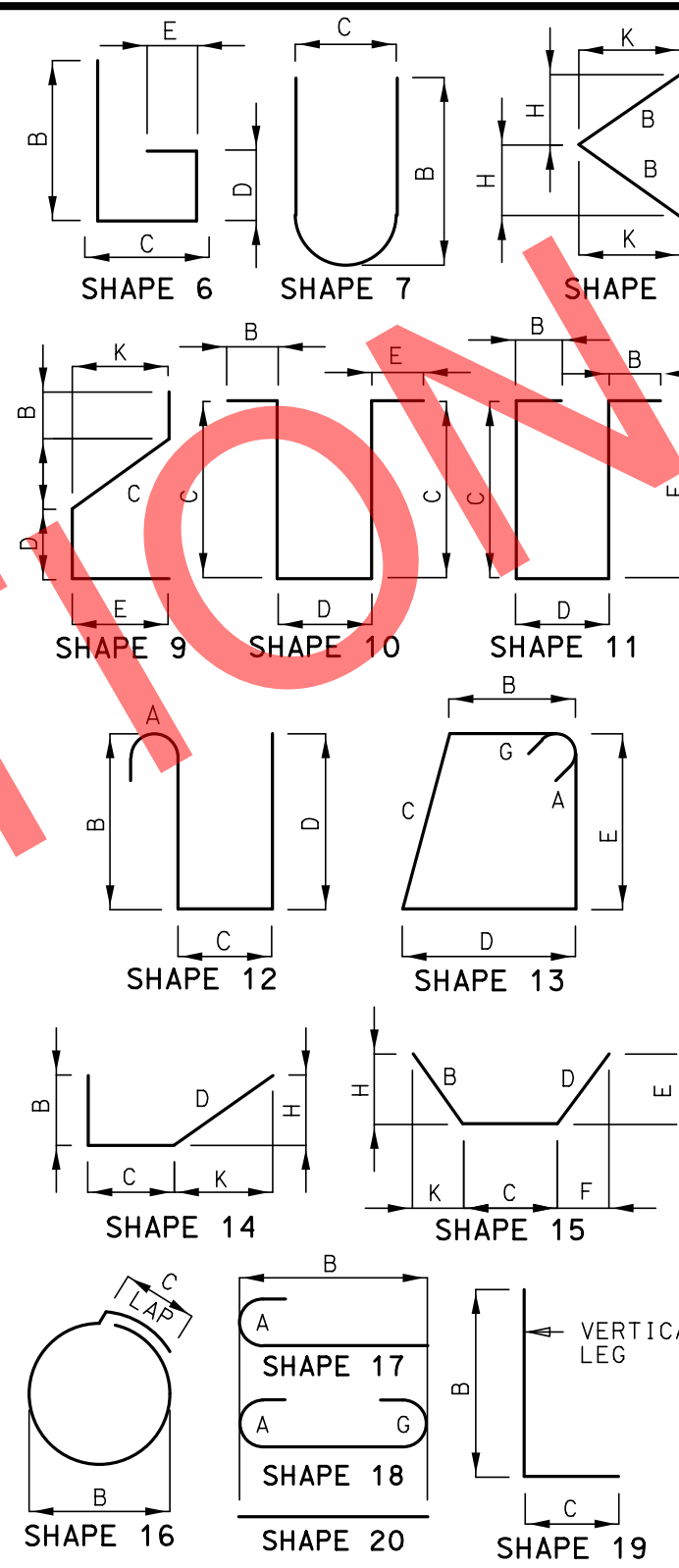
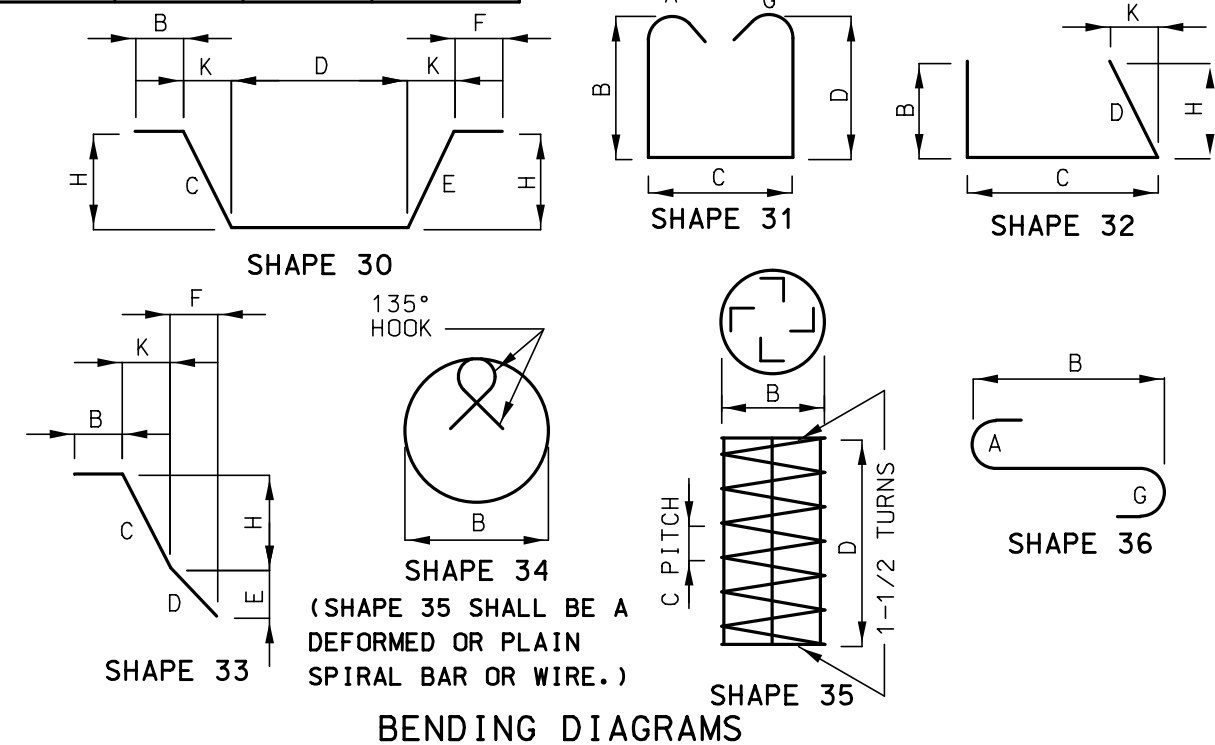
VIEW B-B

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

NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.					
										B		C		D		E					F		H		K
										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.	FT.	IN.	FT.
			SUBSTRUCTURE																						
			INT. BENT 2																						
36	6	D200	BEAM		20	X				2	6.000						2	6	2	6	135				
10	10	H200	BEAM		18	X				35	9.000						38	7	38	7	1660				
10	10	H201	BEAM		20	X				35	9.000						35	9	35	9	1538				
8	6	H202	BEAM		20	X				35	9.000						35	9	35	9	430				
4	6	H203	BEAM		20	X				4	5.000						4	5	4	5	27				
12	6	H204	BEAM		10	S	X					22.000	4	1.500			7	10	7	6	135				
8	8	H205	TIE BEAM		18	X				21	8.000						23	6	23	6	502				
6	4	H206	TIE BEAM		20	X				21	8.000						21	8	21	8	87				
46	4	P200	COLUMN		16	X				3	9.000	22.000					13	8	13	7	417				
172	4	P201	SHAFT		16	X				4	6.000	2	1.000				16	3	16	2	1857				
76	6	U200	BEAM		13	S	X			2	10.000	4	3.000	2	10.000	4	3.000					1712			
20	6	U201	BEAM		10	S	X					4	3.000	2	10.000							330			
16	6	U202	BEAM		13	S	X			2	10.000	4	7.625	2	10.000	4	7.625					379			
4	4	U203	BEAM		10	S	X					6.000	4	3.000			5	3	5	1	14				
36	4	U204	TIE BEAM		10	S	X					2	11.000	1	9.000			7	7	7	5	178			
48	8	V200	COLUMN		20	X				12	7.000						12	7	12	7	1613				
48	8	V201	COLUMN		20	X				16	7.000						16	7	16	7	2125				
48	8	V202	COLUMN		20	X				8	3.000						8	3	8	3	1057				
100	10	V203	SHAFT		20	X				44	7.000						44	7	44	7	19184				
			INT. BENT 3																						
36	6	D300	BEAM		20	X				2	6.000						2	6	2	6	135				
10	10	H300	BEAM		18	X				35	9.000						38	7	38	7	1660				
10	10	H301	BEAM		20	X				35	9.000						35	9	35	9	1538				
8	6	H302	BEAM		20	X				35	9.000						35	9	35	9	430				
4	6	H303	BEAM		20	X				4	5.000						4	5	4	5	27				
12	6	H304	BEAM		10	S	X					22.000	4	1.500			7	10	7	6	135				
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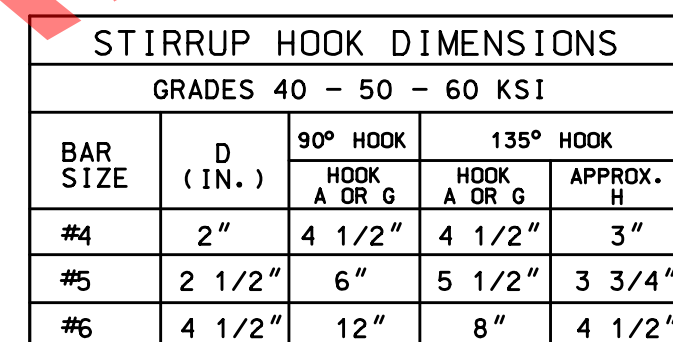


BILL OF REINFORCING STEEL																				
NO.	REQ'D.	MARK NO.	SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS							NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
											B	C	D	E	F	H	K			
											FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.			
				SUPER- STRUCTURE																
				END BENT 1																
24	6	F100	WING BRACE	E 23 S							14.000	5 1.000	2 3.000	19.125	19.125	9.875	9.875	8 6 8 5	303	
10	6	F101	DIAPHRAGM	E 19 S							2 8.000	6 0.000					8 8 8 6	128		
8	7	H100	BEAM	E 20							39 5.000						39 5 39 5	645		
4	6	H101	BEAM	E 20							39 5.000						39 5 39 5	237		
4	6	H102	BEAM	E 20							4 7.000						4 7 4 7	28		
2	6	H103	BEAM	E 20							2 5.000						2 5 2 5	7		
10	6	H104	DIAPHRAGM	E 20							3 9.000						3 9 3 9	56		
3	6	H105	DIAPHRAGM	E 20							6 10.000						6 10 6 10	31		
15	6	H106	DIAPHRAGM	E 20							9 5.000						9 5 9 5	212		
6	6	H107	DIAPHRAGM	E 20							39 5.000						39 5 39 5	355		
4	5	H108	STRAND TIE	E 20							5 9.000						5 9 5 9	24		
4	6	H109	DIAPHRAGM	E 20							39 5.000						39 5 39 5	237		
29	5	H110	DIAPHRAGM	E 19 S							2 0.000	15.000					3 3 3 2	96		
8	5	H111	DIAPHRAGM	E 19 S							2 3.000	15.000					3 6 3 5	29		
4	6	H112	DIAPHRAGM	E 20							5 6.000						5 6 5 6	33		
52	6	H113	WING	E 20							23 8.000						23 8 23 8	1848		
16	8	H114	WING	E 20							24 6.000						24 6 24 6	1047		
4	8	H115	WING	E 20							13 2.000						13 2 13 2	141		
6	6	H116	BEAM	E 18							4 7.000						5 11 5 11	53		
4	8	H117	WING	E 20							19 2.000						19 2 19 2	205		
16	5	U100	BEAM	E 10 S							6 7.000	2 9.000					15 11 15 9	263		
18	4	U101	BEAM	E 13 S							2 9.000	2 8.000	2 9.000	2 8.000			11 7 11 4	136		
3	4	U102	BEAM	E 10 S							2 8.000	2 9.000					8 1 7 11	16		
4	4	U103	BEAM	E 13 S							2 9.000	3 0.625	2 9.000	3 0.625			12 4 12 1	32		
3	4	U104	BEAM	E 10 S							3 0.625	2 9.000					8 10 8 8	17		
26	5	U105	DIAPHRAGM	E 10 S							5 9.625	2 3.000					13 10 13 8	371		
26	6	U106	DIAPHRAGM	E 19 S							4 6.625	2 9.000					7 4 7 1	277		
50	6	U107	DIAPHRAGM	E 19 S							3 5.000	4 7.000					8 0 7 10	588		
20	5	V100	BEAM	E 20							6 7.000						6 7			

[illegible]

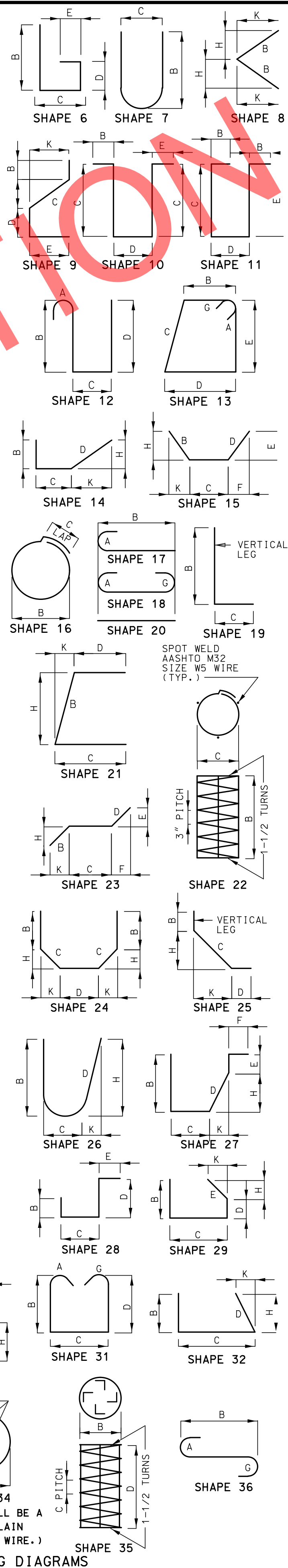
REV. _____ IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED: _____

BILL OF REINFORCING STEEL																												
NO.	REQ'D.	MARK NO.	MARK	LOCATION	EPOXY	(E)	SHAPE NO.	STIRRUP (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.
3	6	H405	DIAPHRAGM	E	20							6	10.000							6	10	6	10	31				
15	6	H406	DIAPHRAGM	E	20							9	5.000							9	5	9	5	212				
6	6	H407	DIAPHRAGM	E	20							39	5.000							39	5	39	5	355				
4	5	H408	STRAND TIE	E	20							5	9.000							5	9	5	9	2				
4	6	H409	DIAPHRAGM	E	20							39	5.000							39	5	39	5	237				
29	5	H410	DIAPHRAGM	E	19	S						2	0.000	15.000						3	3	3	2	96				
8	5	H411	DIAPHRAGM	E	19	S						2	3.000	15.000						3	6	3	5	29				
4	6	H412	DIAPHRAGM	E	20							5	6.000							5	6	5	6	33				
48	6	H413	WING	E	20							21	5.000							21	5	21	5	1544				
16	8	H414	WING	E	20							22	3.000							22	3	22	3	951				
4	8	H415	WING	E	20							16	1.000							16	1	16	1	172				
6	6	H416	BEAM	E	18							4	7.000							5	11	5	11	53				
16	5	U400	BEAM	E	10	S								6	7.000	2	9.000											
18	4	U401	BEAM	E	13	S						2	9.000	2	8.000	2	9.000	2	8.000									
3	4	U402	BEAM	E	10	S								2	8.000	2	9.000											
4	4	U403	BEAM	E	13	S						2	9.000	3	0.625	2	9.000	3	0.625									
3	4	U404	BEAM	E	10	S								3	0.625	2	9.000											
26	5	U405	DIAPHRAGM	E	10	S								5	11.250	2	3.000											
26	6	U406	DIAPHRAGM	E	19	S						4	8.250	2	9.000													
50	6	U407	DIAPHRAGM	E	19	S						3	5.000	4	7.000													
20	5	V400	BEAM	E	20							6	7.000															
40	6	V401	WING	E	20					V	4	8	4.000															
			INCREMENT =									9	0.000															
			0.889 INCH																									
2	6	V402	WING	E	20							8	4.000															
40	6	V403	WING	E																								

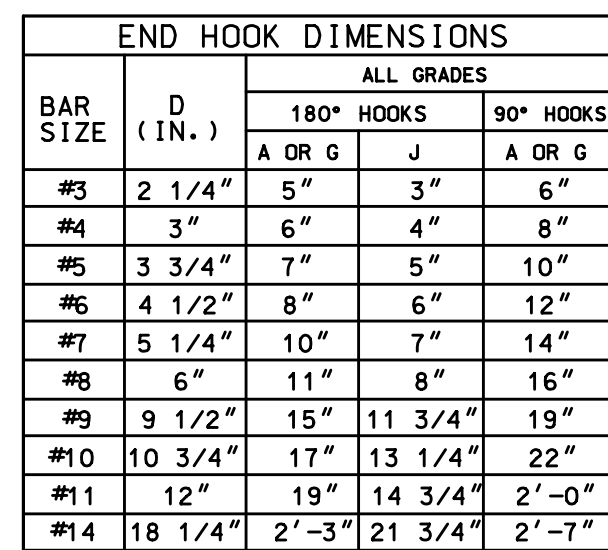


END HOOK DIMENSIONS					
BAR SIZE	D (IN.)	ALL GRADES			
		180° HOOKS		90° HOOKS	
		A	R	A	R
#3	2 1/4"	5"	3"	6"	
#4	3"	6"	4"	8"	
#5	3 3/4"	7"	5"	10"	
#6	4 1/2"	8"	6"	12"	
#7	5 1/4"	10"	7"	14"	
#8	6 1/2"	11"	8"	16"	
#9	9 1/2"	15"	11 3/4"	19"	
#10	10 3/4"	17"	13 1/4"	22"	
#11	12"	19"	14 3/4"	21'-0"	
#14	18 1/4"	27'-3"	21 3/4"	27'-7"	

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME
PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE
AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND
ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO
BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE
SPICES OR SPACERS.
REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.

[illegible][illegible]

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

[illegible]

SHAPE 30

SHAPE 31

SHAPE 32

SHAPE 33

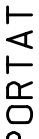
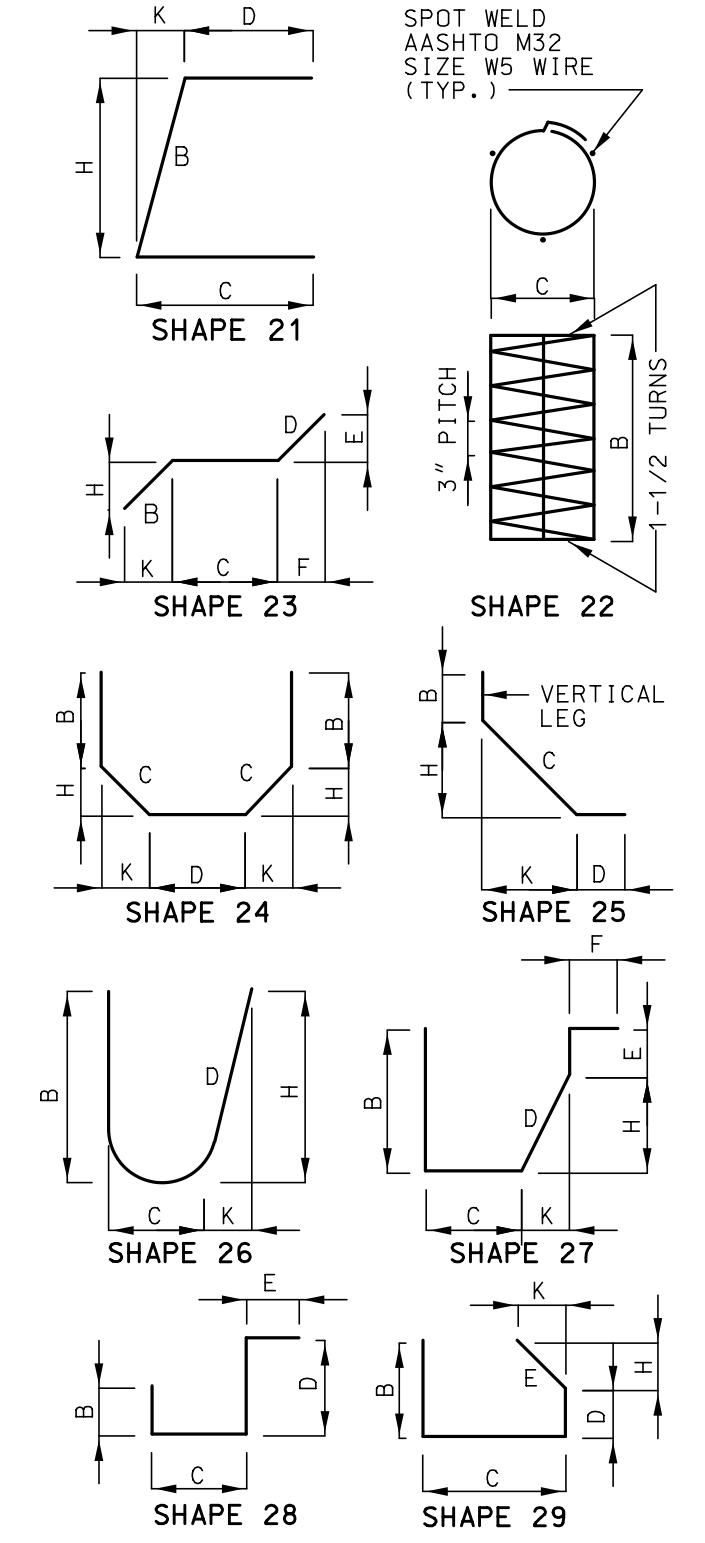
SHAPE 34

(SHAPE 35 SHALL BE A DEFORMED OR PLAIN SPIRAL BAR OR WIRE.)

SHAPE 35

SHAPE 36

BENDING DIAGRAMS

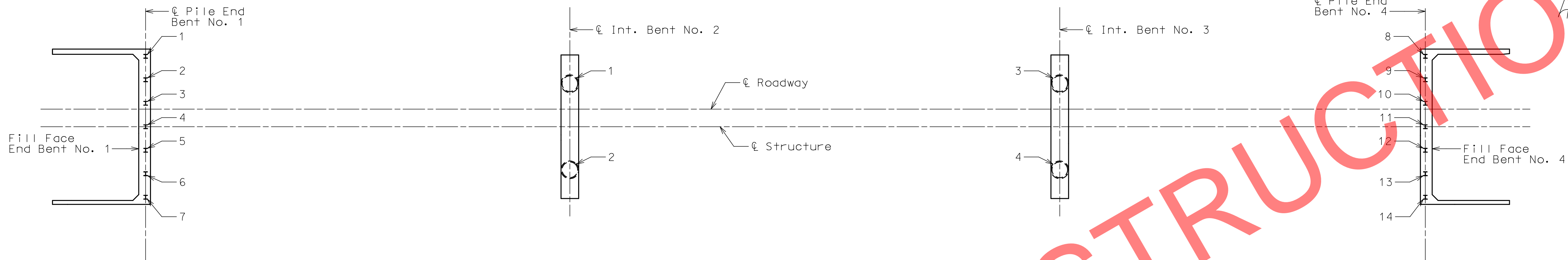
[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6836)

Olsson
7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

REV.



PART PLAN SHOWING PILE & DRILLED SHAFT
NUMBERING FOR RECORDING AS-BUILT PILE DATA
& AS-BUILT DRILLED SHAFT DATA

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 1
1			
2			
3			
4			
5			
6			
7			
			End Bent No. 4
8			
9			
10			
11			
12			
13			
14			

As-Built Drilled Shaft Data				
Shaft No.	Top of Sound Rock (Elev.)	Tip of Casing (Elev.)	Bottom of Rock Socket (Elev.)	Remarks
				Int. Bent No. 2
1				
2				
				Int. Bent No. 3
3				
4				

Note:
Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal
This sheet to be completed by owner.

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9132

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

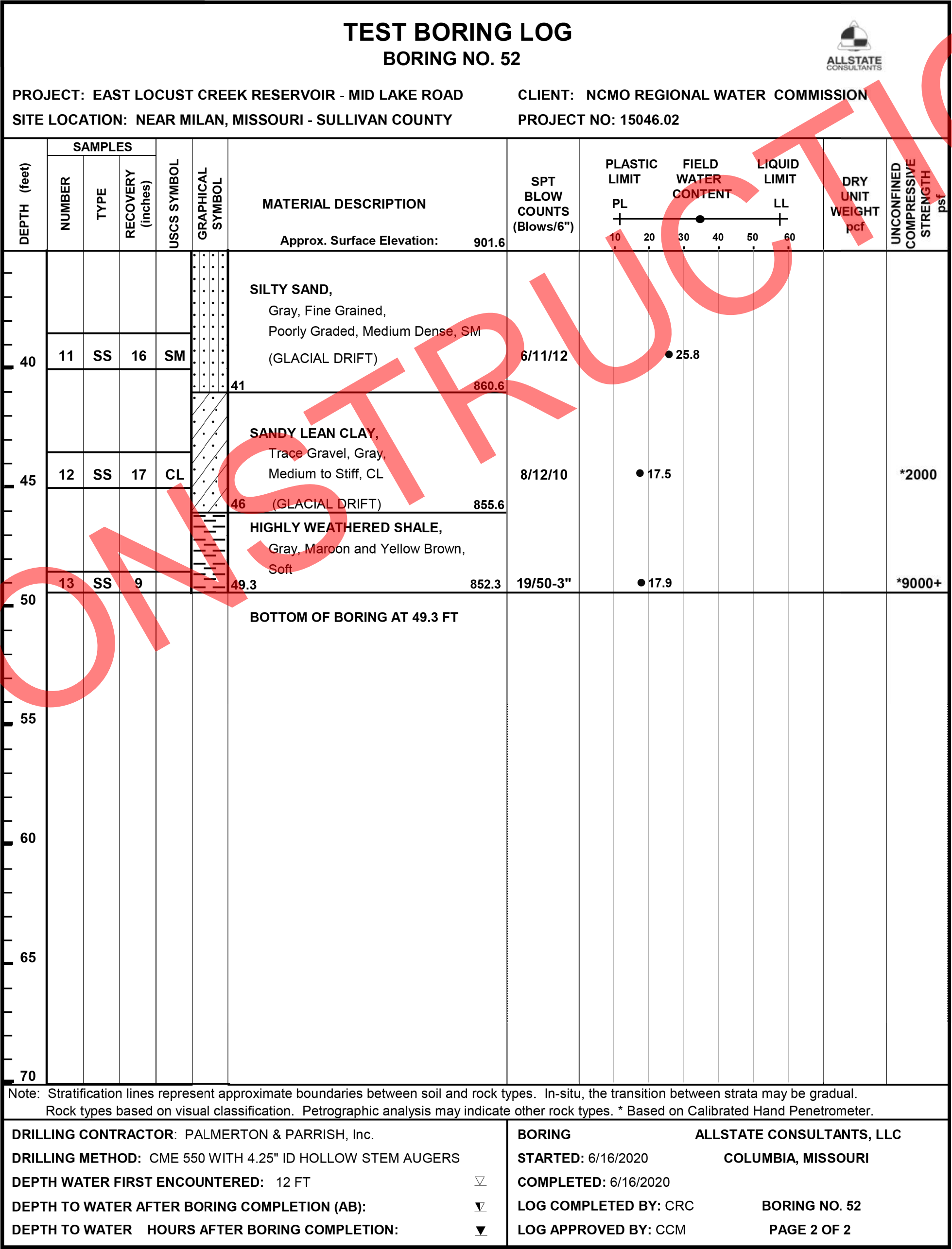
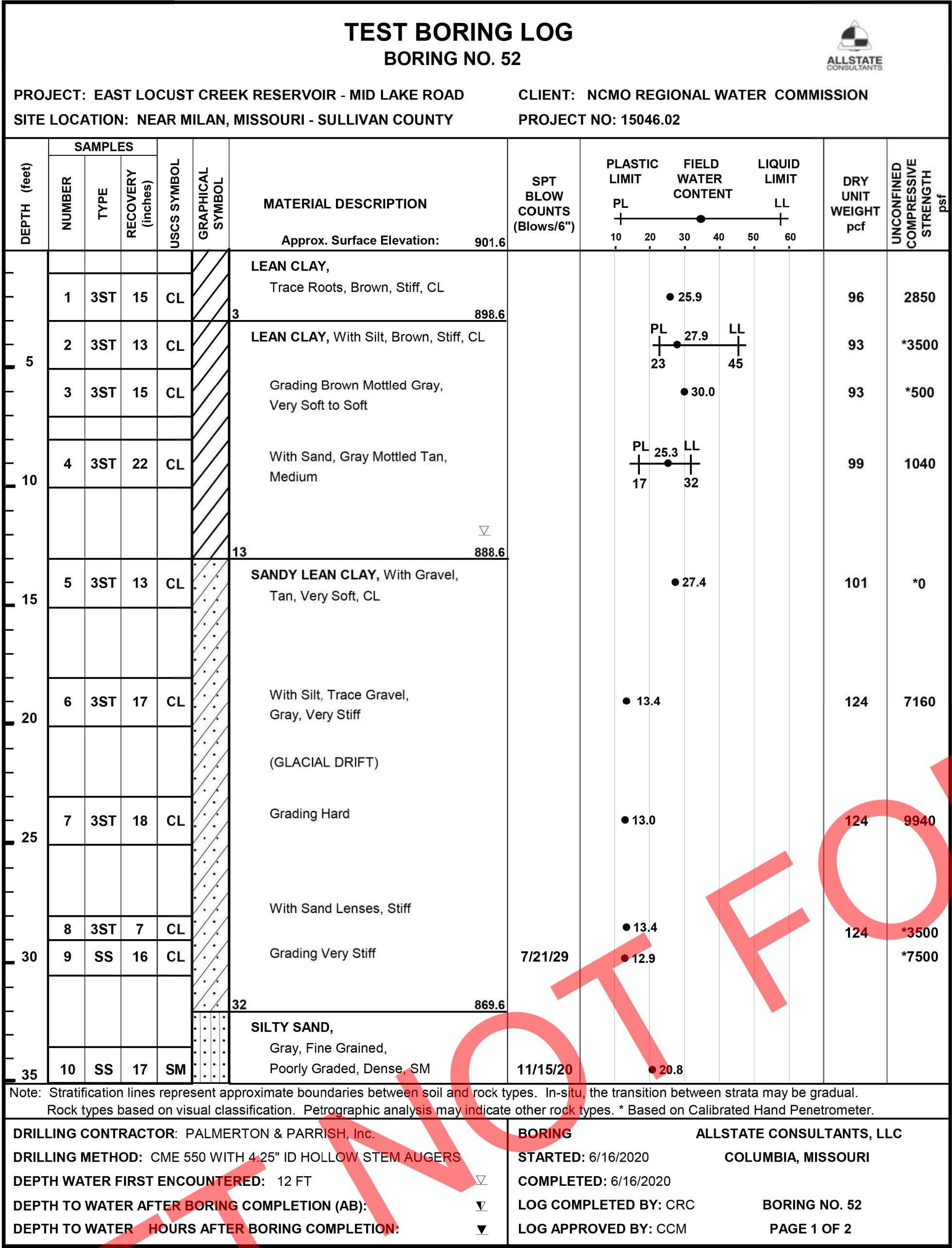
MoDOT

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7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

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

7:50:29 AM 2/1/2022



BORING DATA

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

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

PROJECT NO.

BRIDGE NO.
A9132

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MODOT

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

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

7:50:31 AM 2/1/2022

olsson

BOREHOLE REPORT NO. BR-02 ALT

Sheet 1 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

: X: 110 Y: 0

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

APPROX. SURFACE ELEV. (ft): 901.4

ROOT ZONE 0.5'

LEAN CLAY

Soft, brown with gray, silty, moist

U 1

34.5

85.4

P.P. = 0.5

U 2

0.3

28.6

97.5

P.P. = 0.25

GLACIAL TILL

Hard, brown with gray, sandy, silty, clayey

SS 3

15-23-10 N=33

14.4

Very stiff, brown with gray, gravel, sandy, clayey

SS 4

7-11-10 N=21

16.3

Hard, gray, sandy, silty, clayey

SS 5

9-13-30 N=43

10.6

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD ☐ Not Performed

IAD ☐ Not Performed

AD ☐ Not Performed

OLSSON, INC.
1700 E. 123RD STREET
OLATHE, KANSAS 66061

STARTED: 5/28/21
FINISHED: 6/1/21
DRILL C&SI Geotechnical
DRILL RIG: CME 550
DRILLER: RONNIE
LOGGED BY: FARHRENKRUG
METHOD: HOLLOW STEM AUGER

olsson

BOREHOLE REPORT NO. BR-02 ALT

Sheet 2 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

Hard, gray, sandy, silty, clayey (continued)

SS 6

6-9-20 N=29

11.9

POORLY GRADED SAND

Loose, gray, wet

SS 7

4-4-4 N=8

SS 8

3-4-5 N=9

Medium dense, gray, wet

SS 9

7-9-10 N=19

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD ☐ Not Performed

IAD ☐ Not Performed

AD ☐ Not Performed

OLSSON, INC.
1700 E. 123RD STREET
OLATHE, KANSAS 66061

STARTED: 5/28/21
FINISHED: 6/1/21
DRILL C&SI Geotechnical
DRILL RIG: CME 550
DRILLER: RONNIE
LOGGED BY: FARHRENKRUG
METHOD: HOLLOW STEM AUGER

BORING DATA

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9132

DESCRIPTION

DATE

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

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

olsson

BOREHOLE REPORT NO. BR-02 ALT

Sheet 3 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

ELEVATION (ft)

860

855

850

845

60.0'

GRAPHIC LOG

42.0'

59.0'

DEPTH (ft)

40

45

50

55

60

SAMPLE TYPE NUMBER

SS 10

SS 11

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

50/5"

34-50/3"

UNC. STR. (tsf)

MOISTURE (%)

14.7

12.3

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

Medium dense, gray, wet (continued)

SHALE

Red brown

LIMESTONE

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD ☐ Not Performed

IAD ☐ Not Performed

AD ☐ Not Performed

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/28/21

FINISHED: 6/1/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: FARHRENKRUG

METHOD: HOLLOW STEM AUGER

olsson

BOREHOLE REPORT NO. BR-02 ALT

Sheet 4 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

ELEVATION (ft)

840

835

830

825

80

GRAPHIC LOG

62.0'

64.5'

64.7'

66.0'

67.0'

69.3'

73.8'

74.6'

78.2'

78.5'

DEPTH (ft)

60

65

70

75

80

SAMPLE TYPE NUMBER

RC 1

RC 2

RC 3

RC 4

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

Light gray

Ligh gray with dark gray

SHALE

Dark gray

LIMESTONE

Dark gray

Light gray

SHALE

Dark gray, limestone interbedded

LIMESTONE

Gray

COAL

Black

SHALE

Olive gray, clayey

LIMESTONE

Light gray

SHALE

Dark gray

Recovery 76.5%

RQD 52.9%

Recovery 76.7%

RQD 25.0%

Recovery 96.7%

RQD 36.7%

Recovery 96.7%

RQD 21.7%

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD ☐ Not Performed

IAD ☐ Not Performed

AD ☐ Not Performed

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/28/21

FINISHED: 6/1/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: FARHRENKRUG

METHOD: HOLLOW STEM AUGER

BORING DATA

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

STATE
MO

SHEET NO.
41

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9132

DESCRIPTION

DATE

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

7:51:06 AM

2/1/2022

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

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BOREHOLE REPORT NO. BR-02 ALT

Sheet 5 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

ELEVATION
(ft)

820

815

Shelby Tube

Rock Core

Split Spoon

MATERIAL DESCRIPTION

GRAPHIC LOG

80

85

89.0'

DEPTH
(ft)

SAMPLE TYPE
NUMBER

RC 5

RC 6

CLASSIFICATION
(USCS)

BLOWS/6"
N-VALUE

UNC. STR.
(tsf)

MOISTURE
(%)

DRY DENSITY
(pcf)

LL/PI
(%)

ADDITIONAL
DATA/
REMARKS

Recovery
100.0%

RQD
81.7%

Recovery
87.0%

RQD
63.8%

SANDSTONE

Gray with dark gray (continued)

BASE OF BORING AT 89.0 FEET

WATER LEVEL OBSERVATIONS

WD

Not Performed

IAD

Not Performed

AD

Not Performed

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/28/21

FINISHED: 6/1/21

DRILL CO: SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: FARHRENKRUG

METHOD: HOLLOW STEM AUGER

BORING DATA

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

Detailed March 2021
Checked May 2021

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

Sheet No. 42 of 49

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

MoDOT

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

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
42

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9132

DESCRIPTION

DATE

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

REV.

olsson

BOREHOLE REPORT NO. BR-03

Sheet 1 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Rock Core

Split Spoon

ELEVATION (ft)

: X: 145 Y: 0

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

APPROX. SURFACE ELEV. (ft): 896.2

ROOT ZONE 0.5'

LEAN CLAY

Firm, dark gray, moist, trace organics and fine sand

2.5'

Stiff, dark gray, moist, trace fine sand

5

U 1

1.0

29.6

93.5

38/20

P.P. = 1.25

895

890

7.0'

Very soft, dark gray with reddish brown, sandy, moist

10

SS 2

2-1-1 N=2

20.2

885

13.0'

GLACIAL TILL

Very stiff, dark gray, clayey, yellow brown poorly graded sand, trace coarse sand

15

SS 3

7-11-19 N=30

15.6

880

17.0'

Hard, dark gray, silty, gravel

19.5'

SS 4

19-19-20 N=39

18.6

20

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 13.0 ft

IAD 13.0 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/4/21

FINISHED: 5/4/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: E. CRISP

METHOD: HOLLOW STEM AUGER

olsson

BOREHOLE REPORT NO. BR-03

Sheet 2 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Rock Core

Split Spoon

ELEVATION (ft)

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

20

Hard, dark gray, silty, sandy, gravel (continued)

875

27.0'

Hard, dark gray, sandy, gravel

30

SS 5

23-13-27 N=40

17.4

870

32.0'

POORLY GRADED SAND

Dark gray, moist, trace clay

35

SS 6

15-29-27 N=56

13.0

865

SS 7

5-7-16 N=23

20.8

P-200 = 4.3%

860

SS 8

6-9-14 N=23

17.0

P-200 = 13.7%

40

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 13.0 ft

IAD 13.0 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/4/21

FINISHED: 5/4/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: E. CRISP

METHOD: HOLLOW STEM AUGER

BORING DATA

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
43

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9132

DESCRIPTION

DATE

105 WEST CAPITAL

JEFFERSON CITY, MO 65102

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

olsson

7301 WEST 133RD STREET

OVERLAND PARK, KS 66213

CERTIFICATE OF

AUTHORITY NO. 001592

olsson

BOREHOLE REPORT NO. BR-03

Sheet 3 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

ELEVATION (ft)	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (USCS)	BLOWS/6" N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/ REMARKS
855	POORLY GRADED SAND Dark gray, moist, trace clay (continued)		40								
			44.5'	SS 9		6-8-10 N=18	13.5				
850	WEATHERED SHALE Olive and reddish brown		45								
			47.0'								
	SHALE Olive and reddish brown, moist			SS 10		50/5"					
845			50								
			55.0'	SS 11		50/5"	22.2				
840	LIMESTONE Gray with light gray		55								Recovery 96.9% RQD 96.9%
			57.7'								
	SHALE Olive and reddish brown		58.6'								
	LIMESTONE Gray		60								Recovery 81.7%
CONTINUED NEXT PAGE											
WATER LEVEL OBSERVATIONS			STARTED: 5/4/21			FINISHED: 5/4/21					
WD	13.0 ft	OLSSON, INC. 1700 E. 123RD STREET OLATHE, KANSAS 66061	DRILL C&SI Geotechnical			DRILL RIG: CME 550					
IAD	13.0 ft		DRILLER: RONNIE			LOGGED BY: E. CRISP					
AD	Not Encountered		METHOD: HOLLOW STEM AUGER								

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BOREHOLE REPORT NO. BR-03

Sheet 4 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

ELEVATION (ft)	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (USCS)	BLOWS/6" N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/ REMARKS
835	SHALE Red		60.3'	RC 2							RQD 58.3%
	LIMESTONE Gray		60.6'								
	SHALE Olive and reddish brown		62.7'								
			64.4'								
830	LIMESTONE Gray		65	RC 3			269.0				Recovery 83.3% RQD 40.0%
			66.7'								
	SHALE Gray		68.3'								
	LIMESTONE Light gray										
825	SHALE Dark gray		70.1'	RC 4							Recovery 80.0% RQD 23.3%
	COAL Black		70.4'								
			73.8'								
	SHALE Dark gray with gray			RC 5							Recovery 95.0% RQD 18.3%
820			77.0'								
	LIMESTONE Gray										
			80								Recovery 96.7%
CONTINUED NEXT PAGE											
WATER LEVEL OBSERVATIONS			STARTED: 5/4/21			FINISHED: 5/4/21					
WD	13.0 ft	OLSSON, INC. 1700 E. 123RD STREET OLATHE, KANSAS 66061	DRILL C&SI Geotechnical			DRILL RIG: CME 550					
IAD	13.0 ft		DRILLER: RONNIE			LOGGED BY: E. CRISP					
AD	Not Encountered		METHOD: HOLLOW STEM AUGER								

BORING DATA

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

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BOREHOLE REPORT NO. BR-03

Sheet 5 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

ELEVATION
(ft)

815

Shelby Tube

Rock Core

Split Spoon

MATERIAL DESCRIPTION

GRAPHIC LOG

80

82.5'

85

86.0'

RC 6

RC 7

DEPTH
(ft)

80

82.5'

85

86.0'

SAMPLE TYPE
NUMBER

RC 6

RC 7

CLASSIFICATION
(USCS)

BLOWS/6"
N-VALUE

UNC. STR.
(tsf)

213.0

MOISTURE
(%)

DRY DENSITY
(pcf)

LL/PI
(%)

ADDITIONAL
DATA/
REMARKS

RQD
88.3%

Recovery
100.0%
RQD
55.0%

BASE OF BORING AT 86.0 FEET

WATER LEVEL OBSERVATIONS

WD 13.0 ft

IAD 13.0 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/4/21

FINISHED: 5/4/21

DRILL CO: SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: E. CRISP

METHOD: HOLLOW STEM AUGER

BORING DATA

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
45

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9132

DESCRIPTION

DATE

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

REV.

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BOREHOLE REPORT NO. BR-04

Sheet 1 of 4

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Rock Core

Split Spoon

ELEVATION (ft)

: X: 245 Y: 0

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

APPROX. SURFACE ELEV. (ft): 900.8

ROOT ZONE

0.5'

900

LEAN CLAY

Soft, dark gray, sandy, very moist

U 1

0.5

32.0

91.0

32/19

P.P. = 0.50

895

7.0'

Very soft, dark gray, with poorly graded sand, moist

SS 2

1-1-2 N=3

27.4

890

12.0'

Firm, dark gray with brown, sandy, trace gravel

SS 3

1-3-4 N=7

18.4

885

18.0'

GLACIAL TILL

Hard, dark brown with dark gray, sandy, gravel, shaley

SS 4

9-13-23 N=36

11.1

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 17.5 ft

IAD 5.8 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/5/21

FINISHED: 5/6/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: E. CRISP

METHOD: HOLLOW STEM AUGER

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BOREHOLE REPORT NO. BR-04

Sheet 2 of 4

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Rock Core

Split Spoon

ELEVATION (ft)

: X: 245 Y: 0

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

880

GLACIAL TILL

Hard, dark brown with dark gray, sandy, gravel, shaley (continued)

SS 5

9-22-23 N=45

14.2

875

26.0'

POORLY GRADED SAND

Medium dense, dark gray

SS 6

4-8-21 N=29

16.5

P-200 = 4.9%

870

32.0'

Hard, dark gray, clayey

SS 7

15-21-32 N=53

11.2

P-200 = 34.9%

865

37.0'

Medium dense, dark gray, clayey

SS 8

4-6-15 N=21

10.1

P-200 = 45.6%

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 17.5 ft

IAD 5.8 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/5/21

FINISHED: 5/6/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: E. CRISP

METHOD: HOLLOW STEM AUGER

BORING DATA

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9132

DESCRIPTION

DATE

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

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AUTHORITY NO. 001592

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BOREHOLE REPORT NO. BR-04

Sheet 3 of 4

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

ELEVATION (ft)

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

860

Medium dense, dark gray, clayey (continued)

43.0'

43.7'

LIMESTONE

SHALE

Gray

45.3'

855

Olive with olive gray

48.8'

49.6'

LIMESTONE

SHALE

Gray

Red

53.0'

850

Gray

SHALE

Red

55.0'

55.3'

LIMESTONE

SHALE

Gray with dark gray

LIMESTONE

Gray with light gray

58.2'

58.8'

59.0'

SHALE

LIMESTONE

Dark gray

845

Continued next page

WATER LEVEL OBSERVATIONS

WD 17.5 ft

IAD 5.8 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/5/21

FINISHED: 5/6/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: E. CRISP

METHOD: HOLLOW STEM AUGER

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BOREHOLE REPORT NO. BR-04

Sheet 4 of 4

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

ELEVATION (ft)

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

840

Gray SHALE

61.0'

61.8'

Dark reddish brown (continued)

Gray with brown

Red

63.5'

Gray, fractured

65.0'

835

LIMESTONE

Light gray

SHALE

Gray

Dark gray

LIMESTONE

Gray

SHALE

Dark gray

LIMESTONE

Gray

COAL

Black

73.0'

BASE OF BORING AT 73.0 FEET

WATER LEVEL OBSERVATIONS

WD 17.5 ft

IAD 5.8 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/5/21

FINISHED: 5/6/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: E. CRISP

METHOD: HOLLOW STEM AUGER

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
47

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9132

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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JEFFERSON CITY, MO 65102
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AUTHORITY NO. 001592

BORING DATA

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

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BOREHOLE REPORT NO. BR-05

Sheet 1 of 4

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

: X: 340 Y: 0

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

900

APPROX. SURFACE ELEV. (ft): 900

0

895

0.5'

3

LEAN CLAY

Firm, dark gray with brown, moist, trace organics

3.0'

5

Firm, dark gray, moist

7.0'

10

Firm, dark gray, moist, trace sand

12.0'

15

Soft, gray, sandy, wet

14.5'

20

Soft, gray and brown, moist, trace sand

18.0'

25

Very soft, yellow brown and gray, sandy

880

20

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 18.5 ft

IAD 11.7 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/7/21

FINISHED: 5/7/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: J. PUTNAM

METHOD: HOLLOW STEM AUGER

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BOREHOLE REPORT NO. BR-05

Sheet 2 of 4

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

880

20

Very soft, yellow brown and gray, sandy (continued)

22.0'

25

POORLY GRADED SAND

Loose, gray and yellow brown

27.5'

30

Dense, gray with olive gray

34.5'

35

GLACIAL TILL

Very stiff, gray with dark brown, sandy, trace fine gravel

37.0'

40

WEATHERED SHALE

Dark gray, sandy

39.0'

45

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 18.5 ft

IAD 11.7 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/7/21

FINISHED: 5/7/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: J. PUTNAM

METHOD: HOLLOW STEM AUGER

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
48

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9132

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITAL
JEFFERSON CITY, MO 65102
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CERTIFICATE OF
AUTHORITY NO. 001592

BORING DATA

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

Estimated Quantities				
Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	120		120
Bridge Approach Slab (Major)	sq. yard		131	131
(72 in.) Pedestrian Fence (Structures)	linear foot		368	368
(48 in.) Pedestrian Fence (Structures)	linear foot		368	368
(22 in.) Pedestrian Fence (Structures)	linear foot		368	368
Drilled Shafts (5 ft. 0 in. Dia.)	linear foot	198.4		198.4
Rock Sockets (4 ft. 6 in. Dia.)	linear foot	44.0		44.0
Video Camera Inspection	each	4		4
Foundation Inspection Holes	linear foot	84.0		84.0
Sonic Logging Testing	each	4		4
Galvanized Structural Steel Piles (14 in.)	linear foot	1,127		1,127
Pile Wave Analysis	each	2		2
Pre-bore for Piling	linear foot	1,113		1,113
Pile Point Reinforcement	each	14		14
Class B Concrete (Substructure)	cu. yard	160.6		160.6
* Type H Barrier	linear foot		739	739
Slab on Concrete NU-Girder	sq. yard		1,461	1,461
Concrete Curb (Bridge Rail)	linear foot		370	370
NU53, Prestressed Concrete NU-Girder	linear foot		1,315	1,315
Reinforcing Steel (Bridges)	pound	62,580		62,580
Conduit System on Structure	lump sum		1	1
Steel Intermediate Diaphragm for P/S Concrete Girders	each		27	27
Slab Drain	each		32	32
Vertical Drain at End Bents	each			2
Laminated Neoprene Bearing Pad	each		16	16
Laminated Neoprene Bearing Pad (Tapered)	each		8	8

* Type H Barrier shall be cast-in-place option or slip form option.

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

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

All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

Foundation Data						
Type	Design Data		Bent Number			
			1	2	3	4
Load Bearing Pile	Pile Type and Size		HP 14X73	-	-	HP 14X73
	Number	ea	7	-	-	7
	Approximate Length per Each	ft	79	-	-	82
	Pile Point Reinforcement	ea	7	-	-	7
	Minimum Galvanized Penetration (Elev.)	ft	905	-	-	904
	Pile Driving Verification Method		WEAP **	-	-	WEAP **
	Minimum Nominal Axial Compressive Resistance	kip	499	-	-	499
Resistance Factor		0.5	-	-	0.5	
Rock Socket	Number		ea	2	2	-
	Layer 1	Foundation Material	-	Weak Rock	Weak Rock	-
		Elevation Range	ft	852-840	852-842	-
		Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	8.0	8.0	-
		Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf	173.7	180.0	-

Load Bearing Pile:

WEAP = Wave Equation Analysis of Piles

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

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

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

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

Load Bearing Pile (Cont.):

** Pre-bore for piles at End Bents No. 1 and 4, sound rock (estimated elevations 854.5 and 852.8 respectively). If good quality rock is encountered, piles shall be inserted into the pre-bored holes. Ensure the piles are seated on bedrock and not rubble in the bottom of the hole. The piles shall be seated with the pile hammer to ensure refusal on hard rock and verification of the pile driving is not required. If shale is encountered, the pile driving verification methods in the above table shall be used. The annular space of the pre-bored hole shall be backfilled with loose sand. If rock is not encountered, fill the pre-bored hole with loose sand prior to pile driving in accordance with Sec 702. Temporary casing of pre-bored holes may be required. No special payment shall be made for temporary casing of pre-bored holes.

Rock Socket (Drilled Shafts):

Minimum Nominal Axial Compressive Resistance (Side Resistance & Tip Resistance) = $\frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
Seismic Design Category = A

Design Loading:

Vehicle = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf
Superstructure: Simply-supported, non-composite for dead load.
Continuous composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure, except Drilled Shafts & Rock Sockets) $f'c = 3,000$ psi
Class B-2 Concrete (Drilled Shafts & Rock Sockets) $f'c = 4,000$ psi
Class B-2 Concrete (Superstructure, except Prestressed Girders & Barrier) $f'c = 4,000$ psi
Class B-1 Concrete (Barrier) $f'c = 4,000$ psi
Reinforcing Steel (Grade 60) $fy = 60,000$ psi
Steel Pile (ASTM A709 Grade 50) $fy = 50,000$ psi
For prestressed girder stresses, see Sheets No. 13 thru 18.

Neoprene Pads:

Neoprene Bearing Pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:

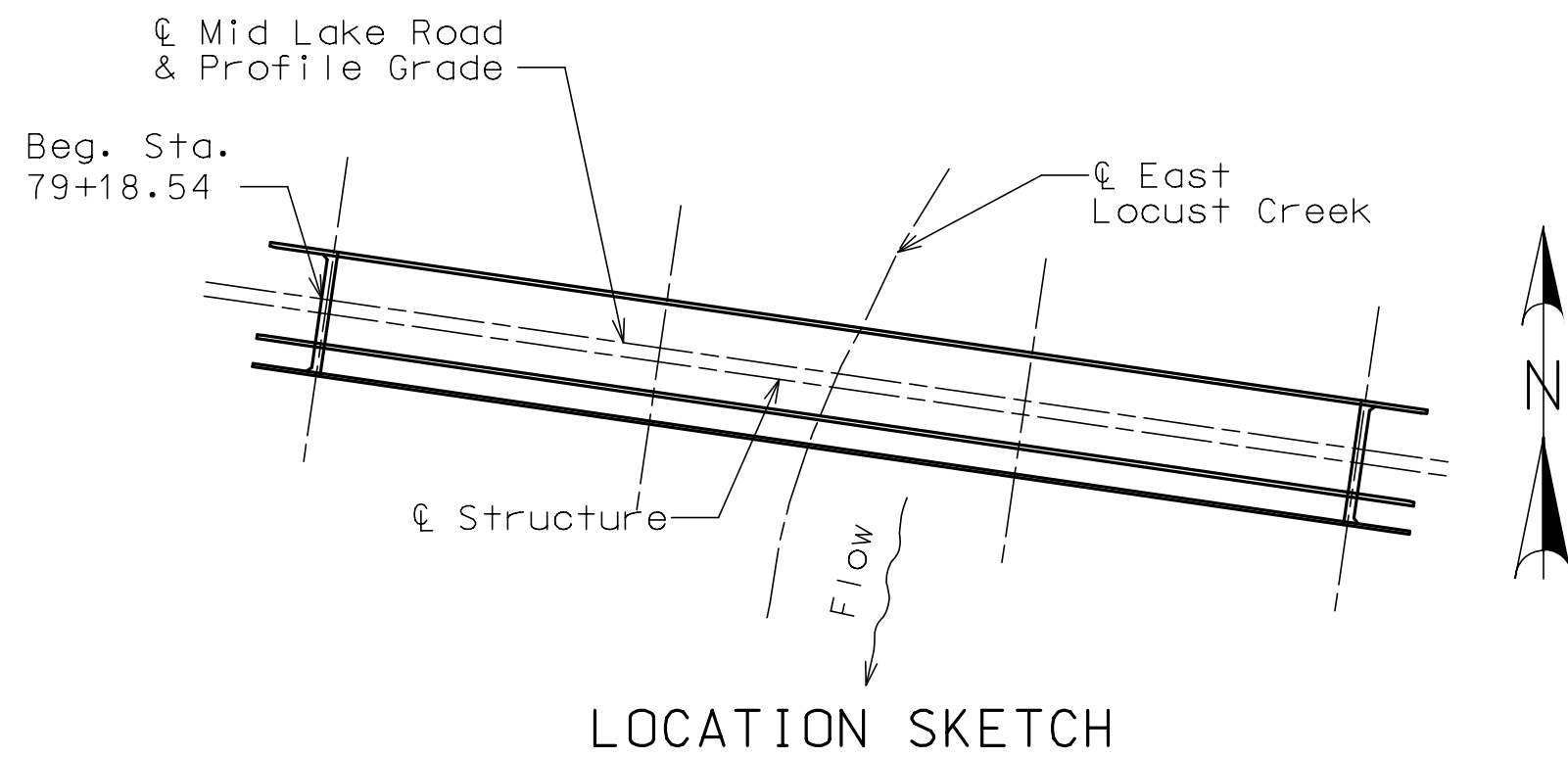
Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

Traffic Handling:

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

Utilities:

10 in. Carrier Pipe and 16 in. Carrier Pipe shall be constructed to a minimum distance of 50 feet beyond the fill face of each end bent (By Others).



LOCATION SKETCH

Estimated Quantities for Slab on Concrete NU-Girder		
Item		Total
Class B-2 Concrete	cu. yard	455.0
Reinforcing Steel (Epoxy Coated)	pound	134,710

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

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

Slabs shall be cast-in-place with conventional forms. Precast panels will not be permitted.

Hydrologic Data
(No Tailwater from Lake)

Drainage Area = 11.7 mi²
Design Flood Frequency = 50 years
Design Flood Discharge = 9,571 cfs
Design Flood (D.F.) Elevation = 908.5

Base Flood (100-year)

Base Flood Elevation = 909.5
Base Flood Discharge = 11,484 cfs
Estimated Backwater = 1.5 ft
Average Velocity thru Opening = 9.3 ft/s

Freeboard (50-year)

Freeboard = 26.9 ft.

Roadway Overtopping

Overtopping Flood Discharge = > 16,564 cfs
Overtopping Flood Frequency = > 500 years
Overtopping Flood Elevation = 931.7

Hydrologic Data
(Tailwater from Lake)

Drainage Area = 11.7 mi²
Design (Normal Pool) Elevation = 922.3
Design (50 Year) Elevation = 925.7

Base Flood (100-year)

Base Flood Elevation = 926.1

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

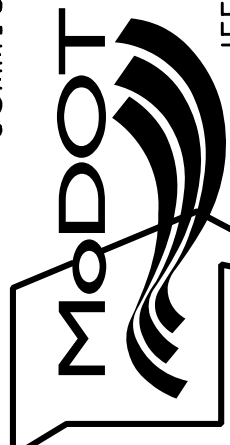
PROJECT NO.

BRIDGE NO.
A9133


DESCRIPTION

DATE

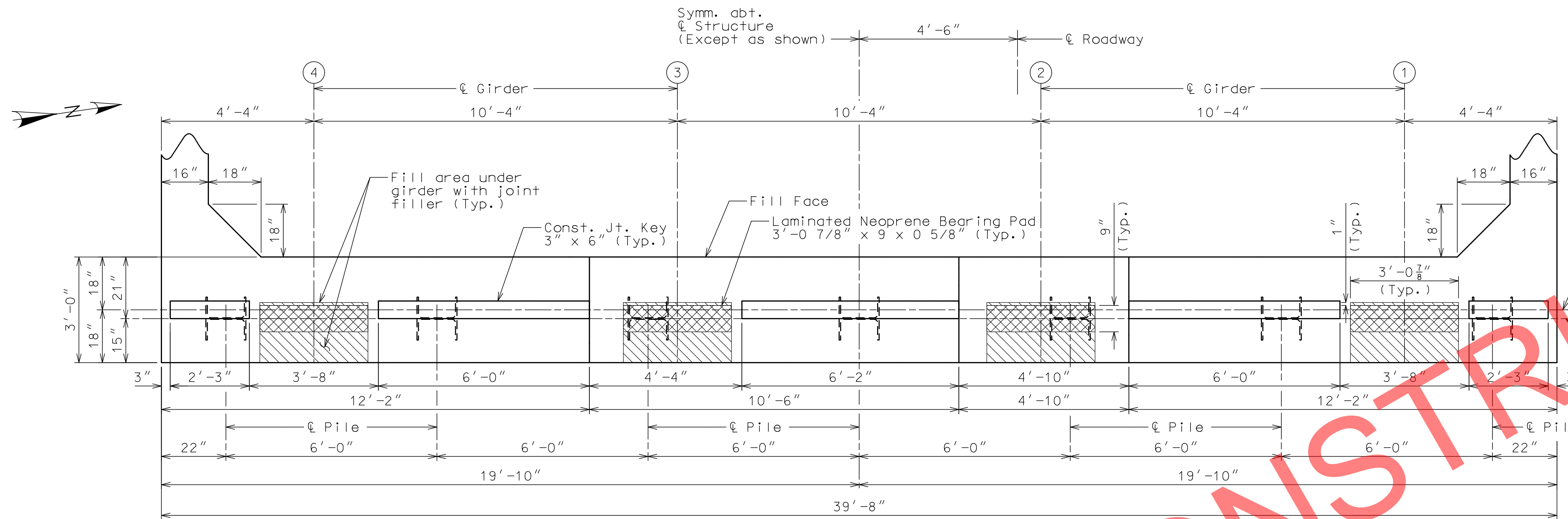
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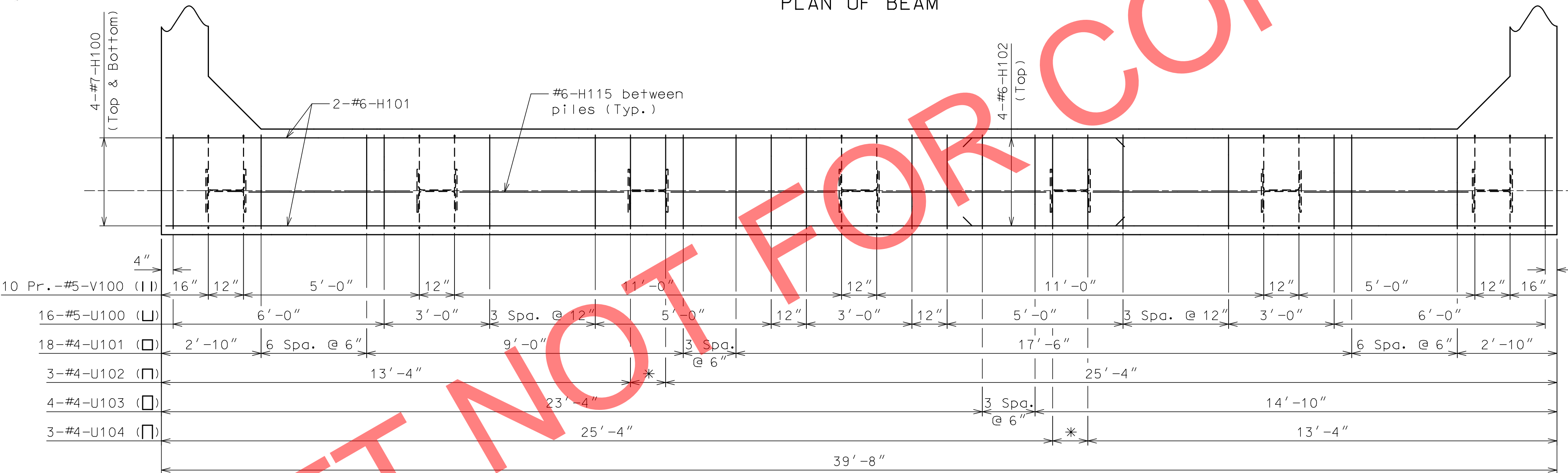
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JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



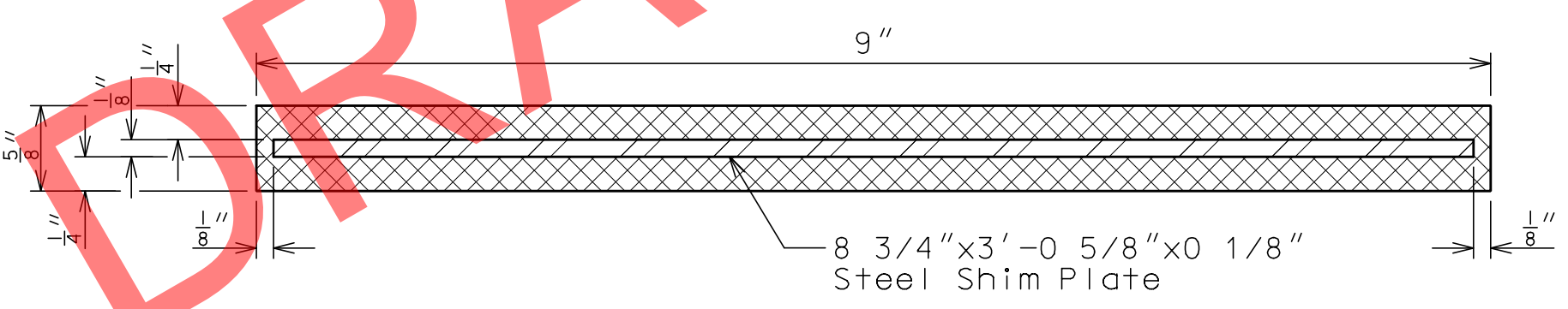
7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592



PLAN OF BEAM



PLAN OF BEAM SHOWING REINFORCEMENT
(Keys and steps not shown for clarity.) * 2 Spa. @ 6"

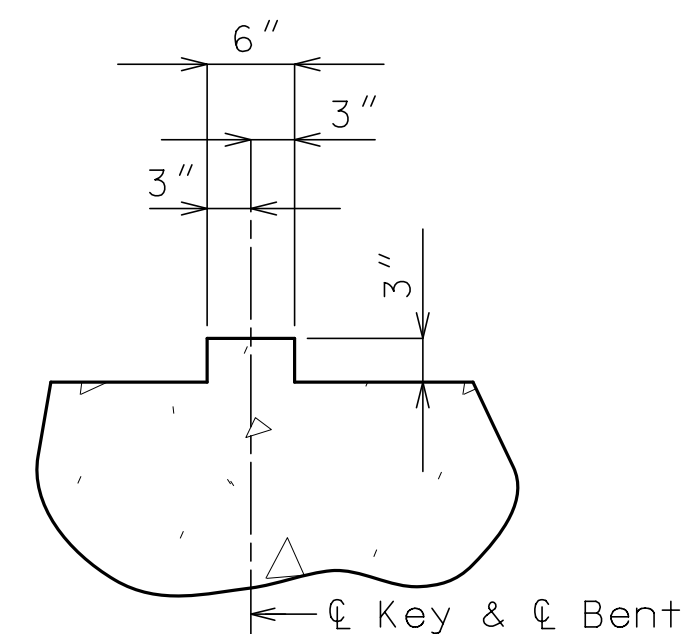


LAMINATED NEOPRENE BEARING PAD

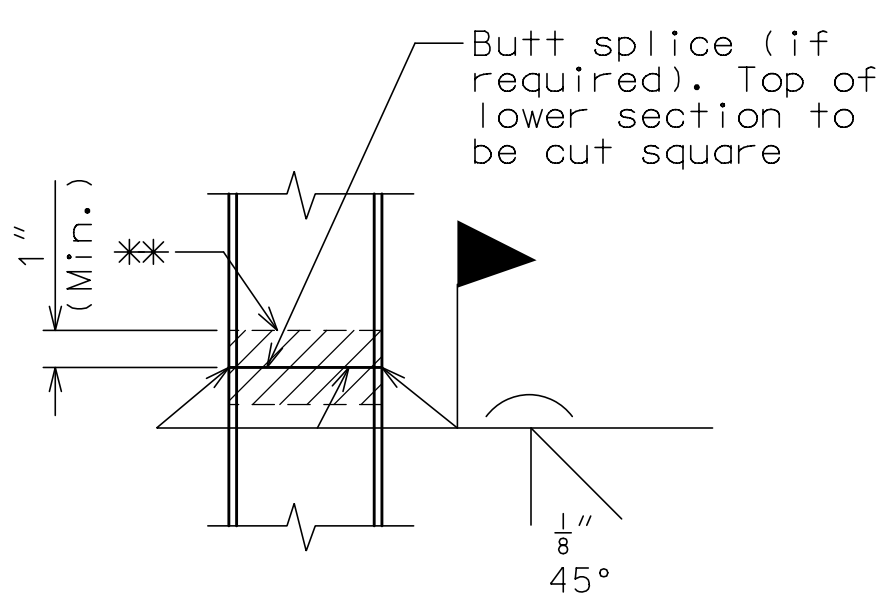
Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	60
Galvanized Structural Steel Piles (14 in.)	linear foot	553
Pre-bore for Piling	linear foot	546
Pile Point Reinforcement	each	7
Class B Concrete (Substructure)	cu. yard	20.0

Note: These quantities are included in the Estimated Quantities Table on Sheet No. 2.

DETAILS OF END BENT NO. 1



TYPICAL SECTION THRU KEY



STEEL PILE SPLICE
(If required)

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

- Notes:**
- For details of End Bent No. 1 not shown, see Sheets No. 4 & 5.
 - For details of Vertical Drain at End Bents, see Sheet No. 6.
 - Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".
 - All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

Detailed March 2021
Checked May 2021

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

Sheet No. 3 of 51

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

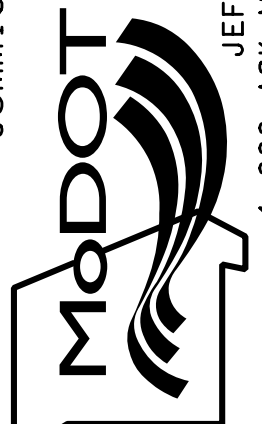
PROJECT NO.


BRIDGE NO.
A9133

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

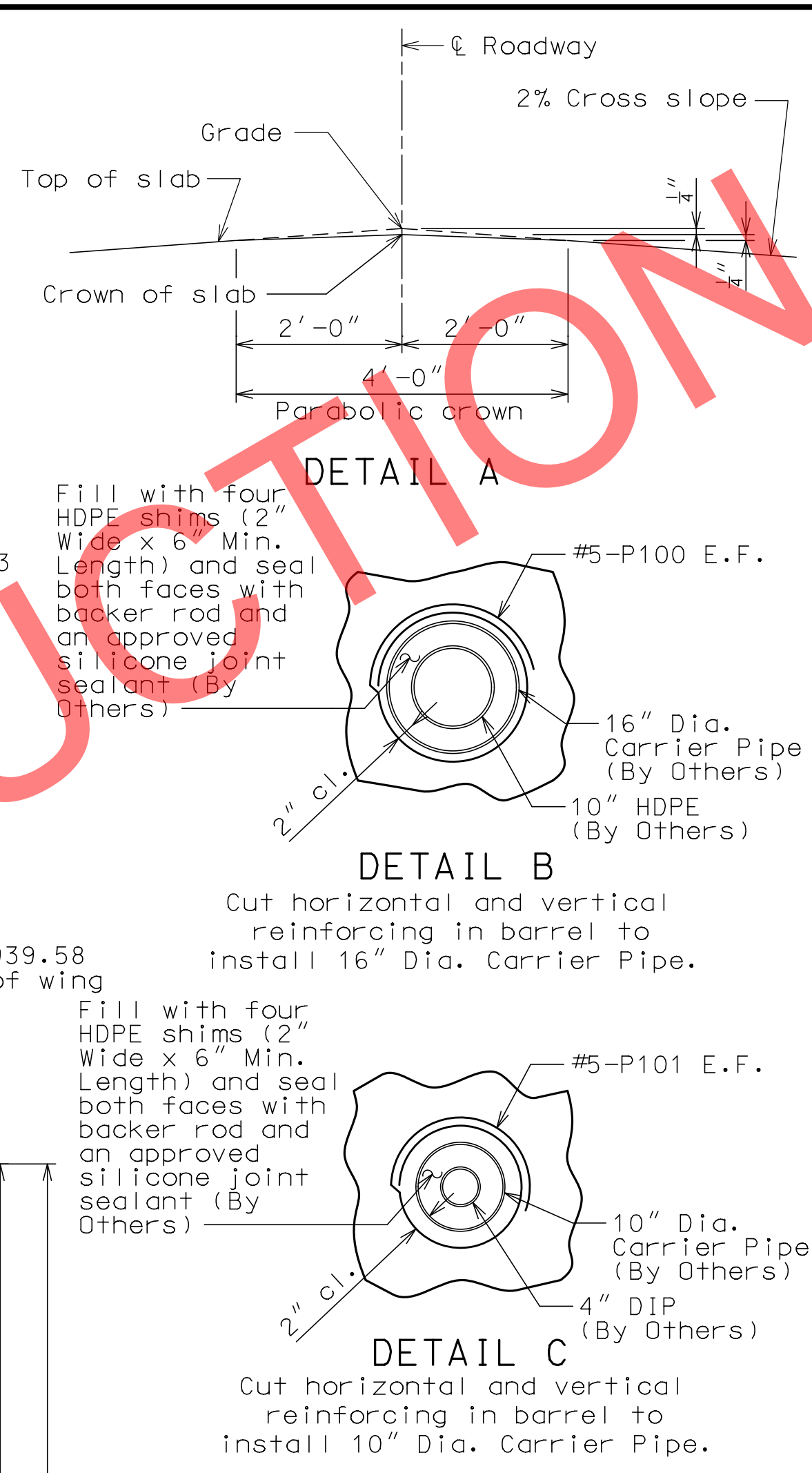
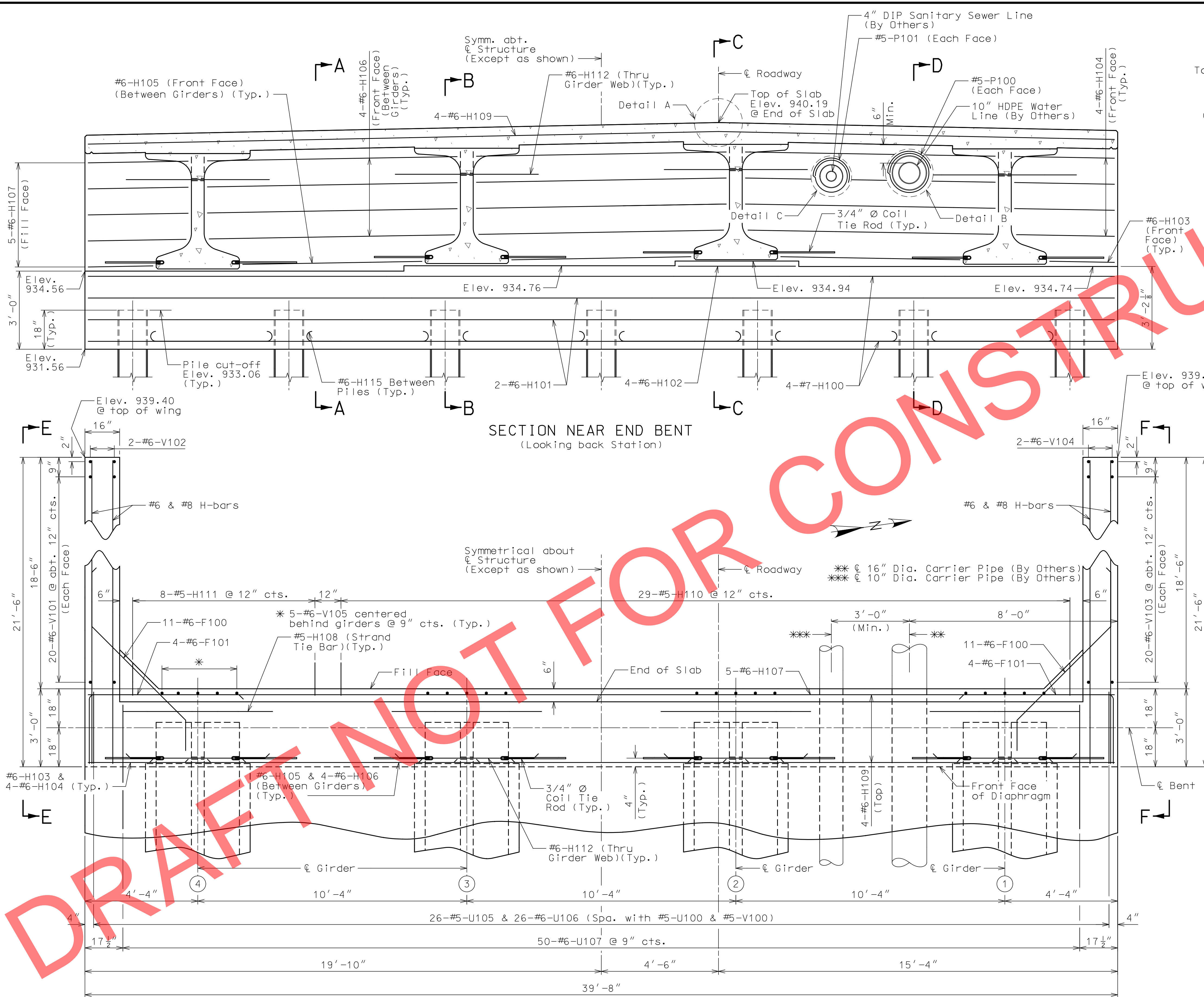

105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)


7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

REV.

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

8:06:03 AM 2/1/2022



Notes:

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

For details of Pile Splice, see Sheet No. 3.

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

For Elevations E-E & F-F, Sections A-A, B-B, C-C, D-D and Section Thru Wing, see Sheet No. 5.

All vertical reinforcing bars in the substructure beams or caps shall be field adjusted to clear piles by at least 1 1/2".

For details and reinforcement of Type H Barrier not shown, see Sheets No. 27 thru 29.

For details and reinforcement of Pedestrian Curb not shown, see Sheet No. 31.

The #6-F100 bar shall be bent in the field to clear girders.

All strands at the ends of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2" minimum clearance to fill face of end bent.

For location of #5-H108 (Strand Tie Bar), see Sheets No. 13 thru 14.

For details of Bridge Approach Slab, see Sheet No. 35.

For substructure Quantity Table for End Bent No. 1, see Sheet No. 3.

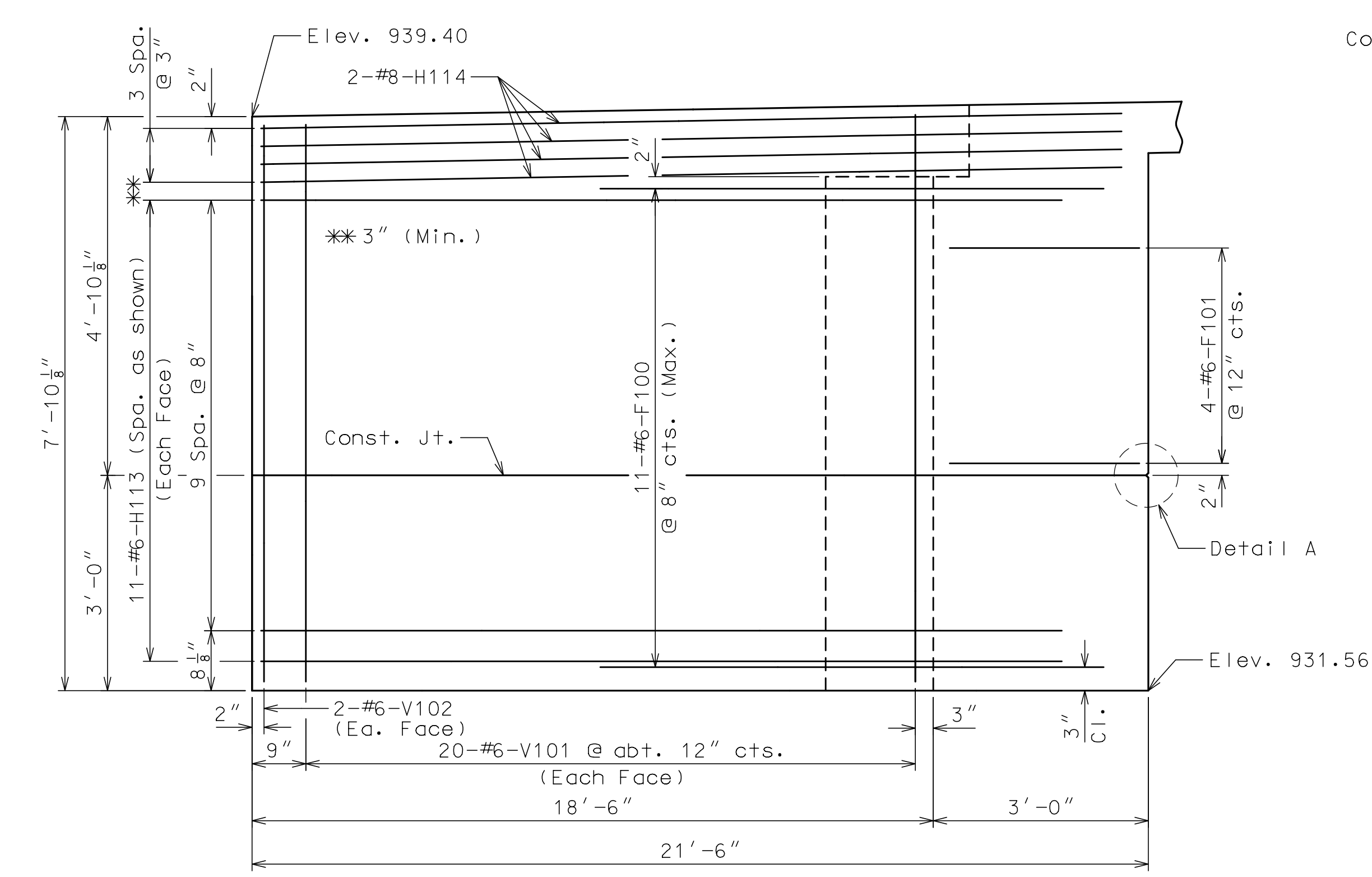
All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

PART PLAN
DETAILS OF END BENT NO. 1

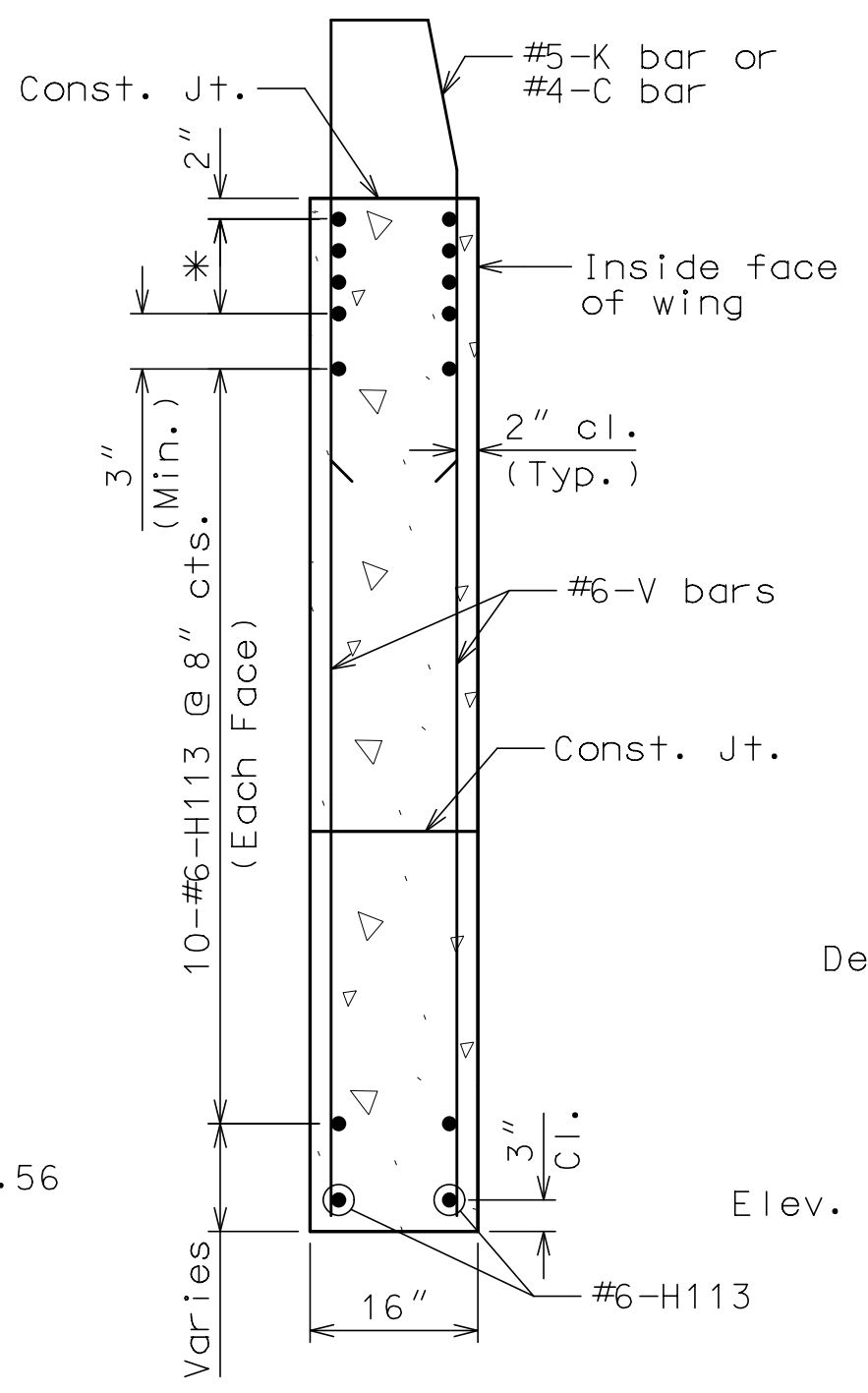
DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 4
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9133	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	

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

REV.

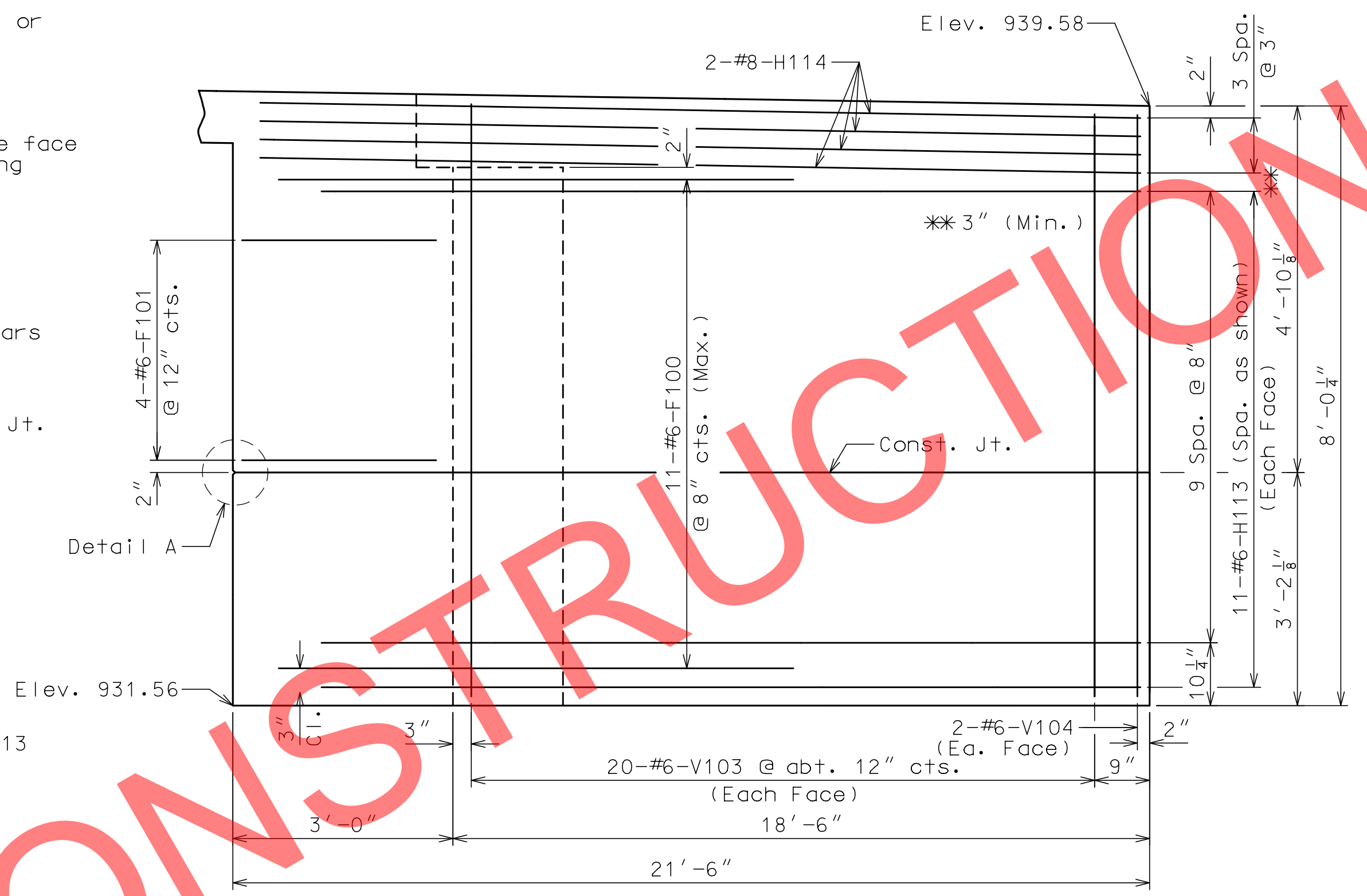


ELEVATION E-E

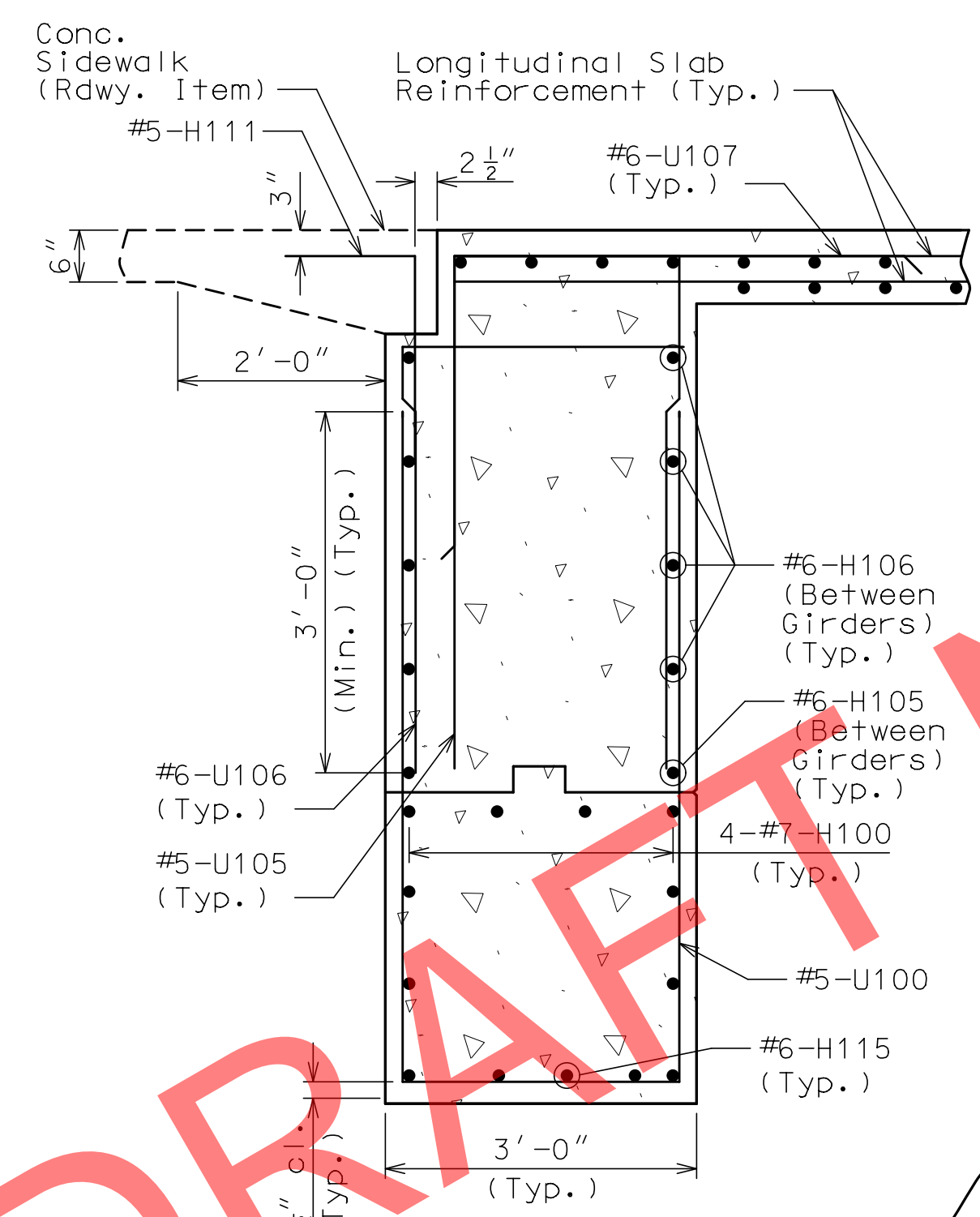


TYPICAL SECTION THRU WING

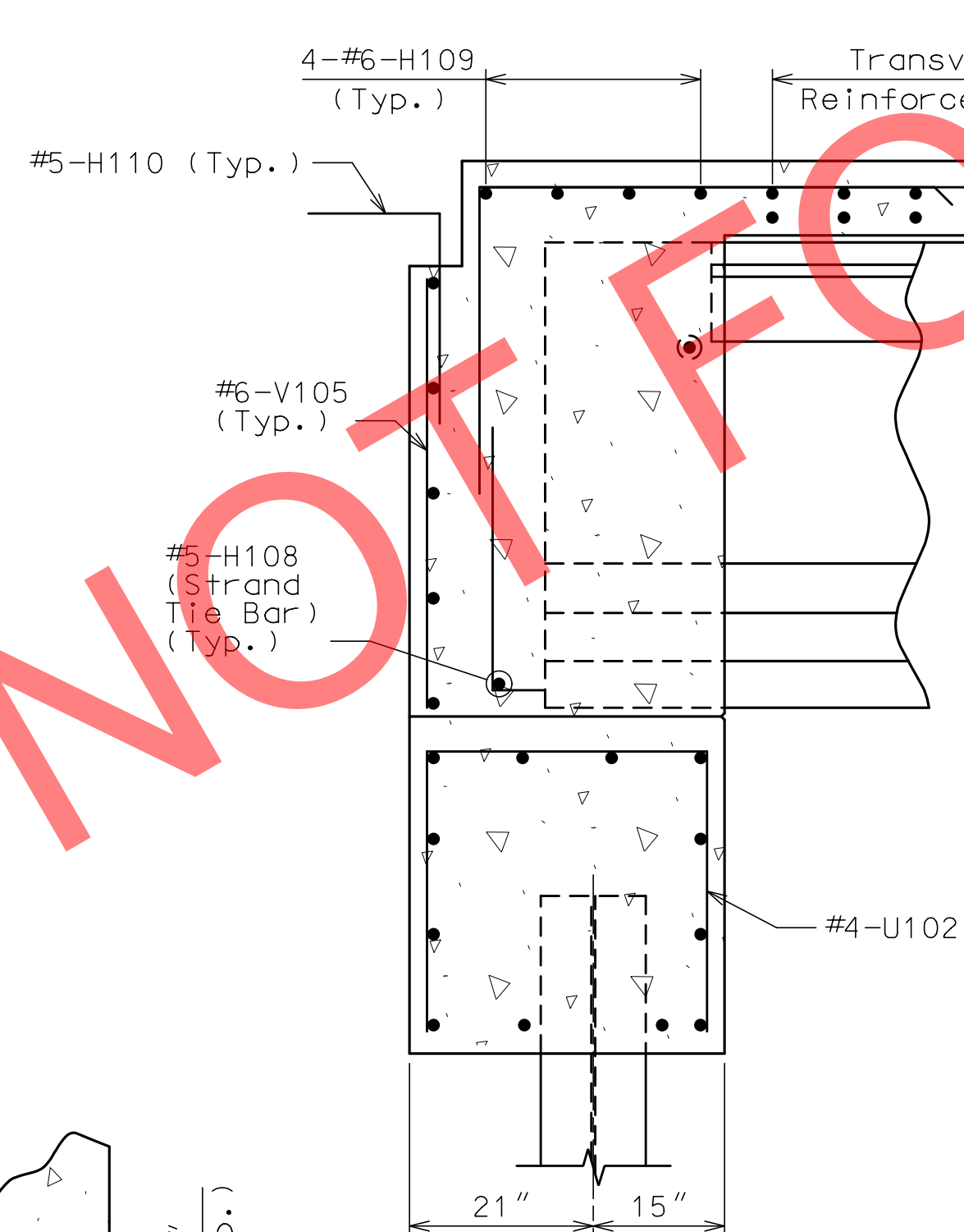
* #8-H Bars @ 3" cts. (Each face) (Place with grade)



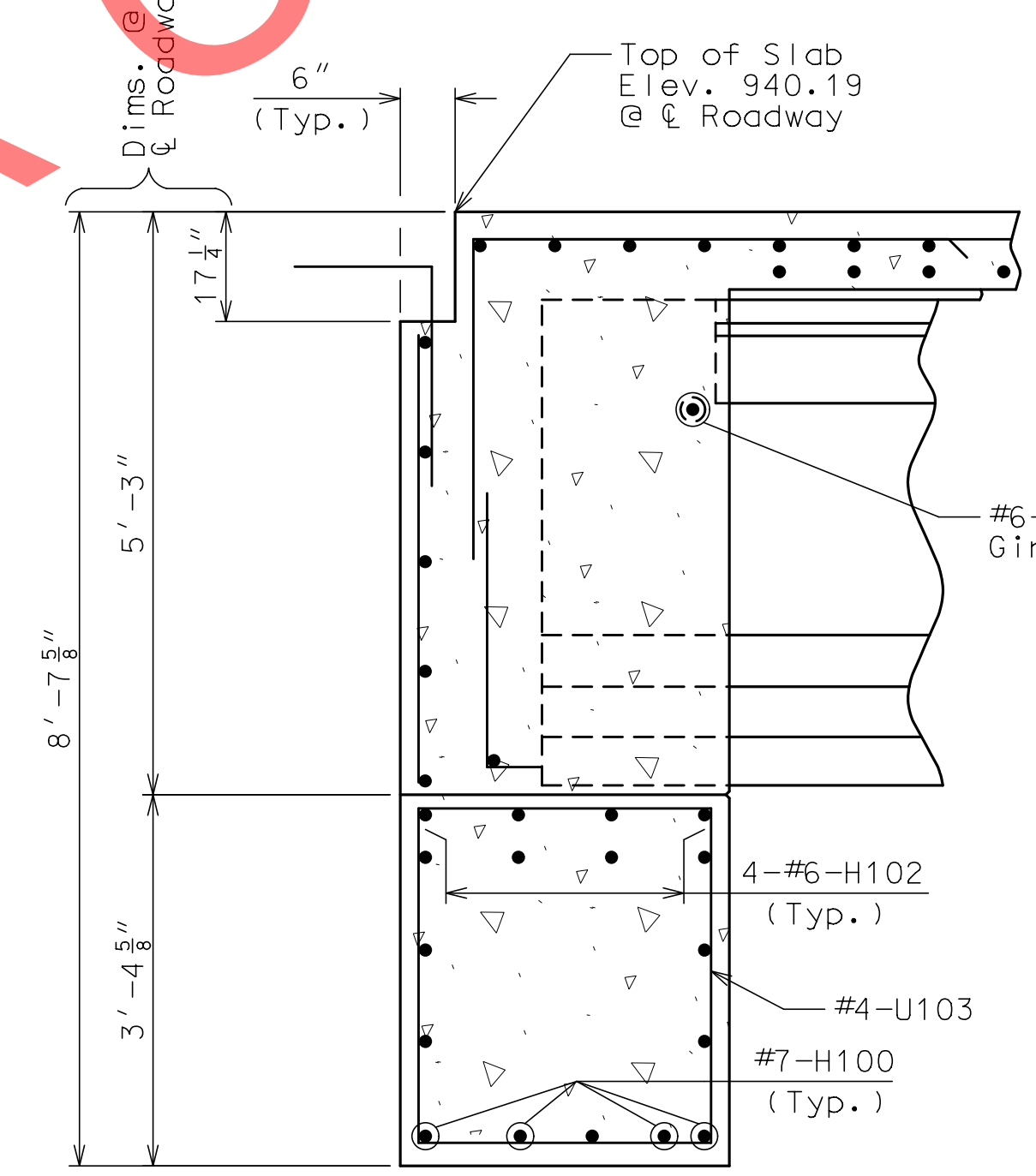
ELEVATION F-F



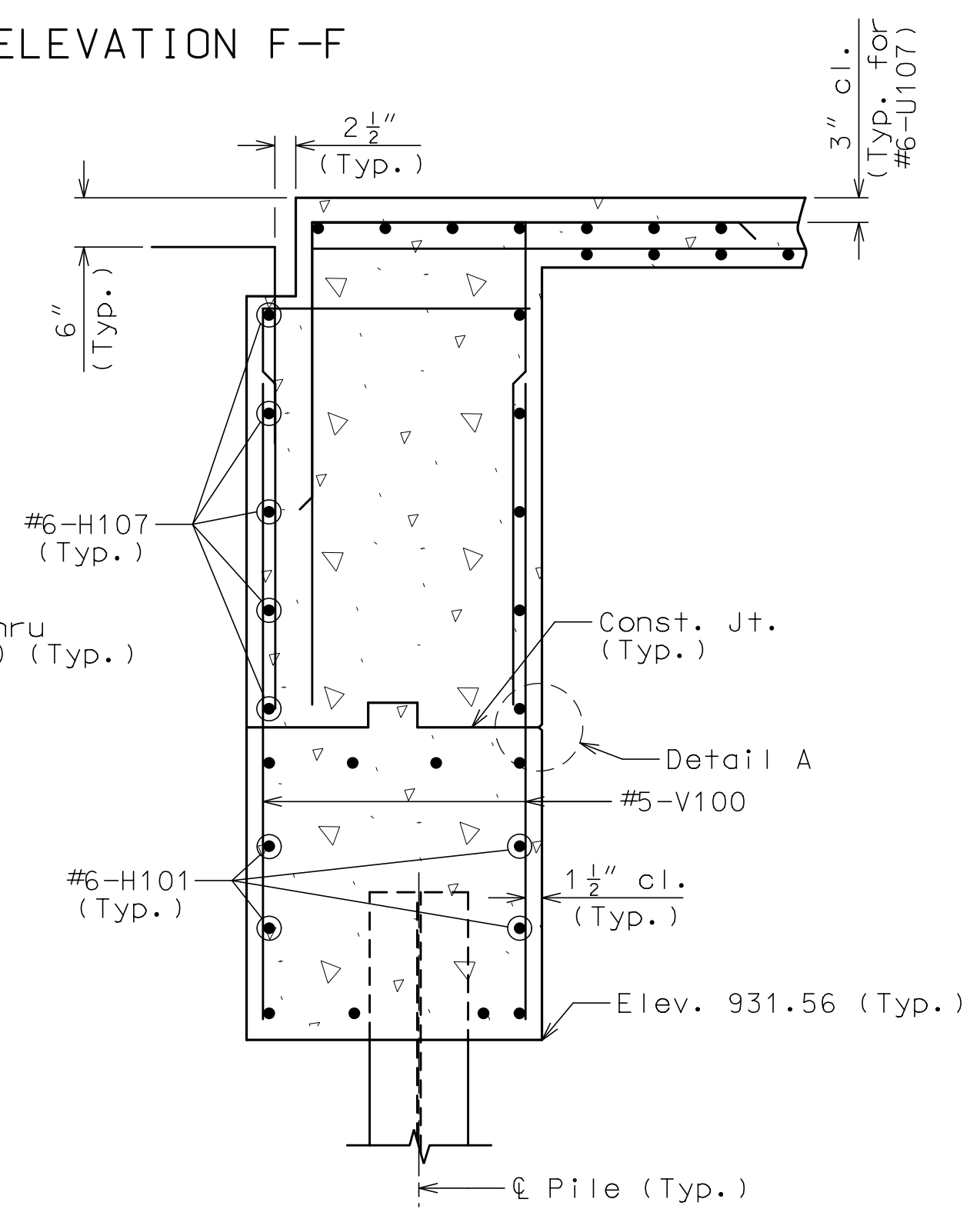
SECTION A-A



SECTION B-B

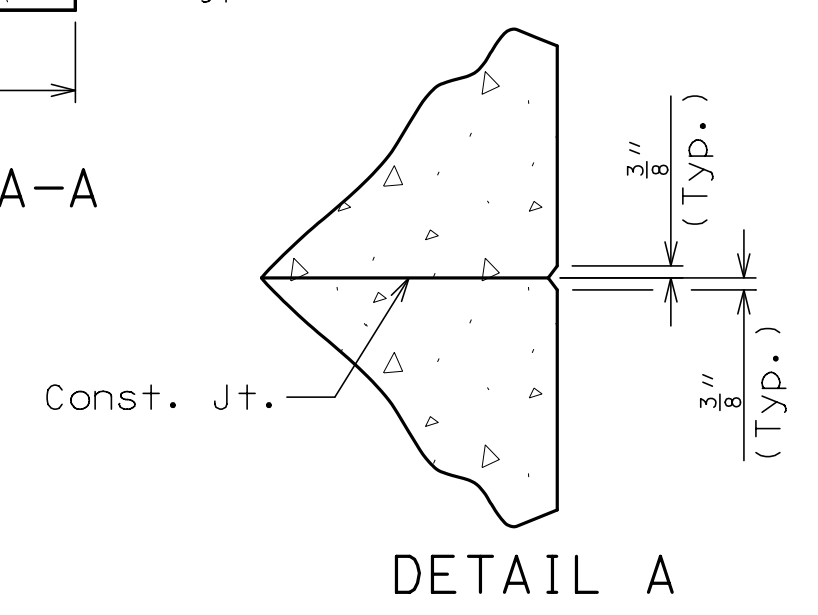


SECTION C-C



SECTION D-D

Notes:
For details of End Bent No. 1 not shown, see Sheets No. 3 & 4.
For details of Pile Splice, see Sheet No. 3.
For details of Vertical Drain at End Bents, see Sheet No. 6.
For location of Elevations E-E & F-F and Sections A-A, B-B, C-C, and D-D, see Sheet No. 4.
For details and Reinforcement of the Type H Barrier not shown, see Sheets No. 27 thru 29.
For details and reinforcement of Pedestrian Curb not shown, see Sheet No. 31.



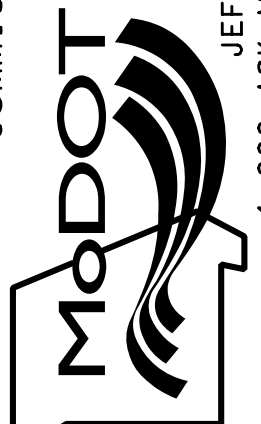

DETAIL A

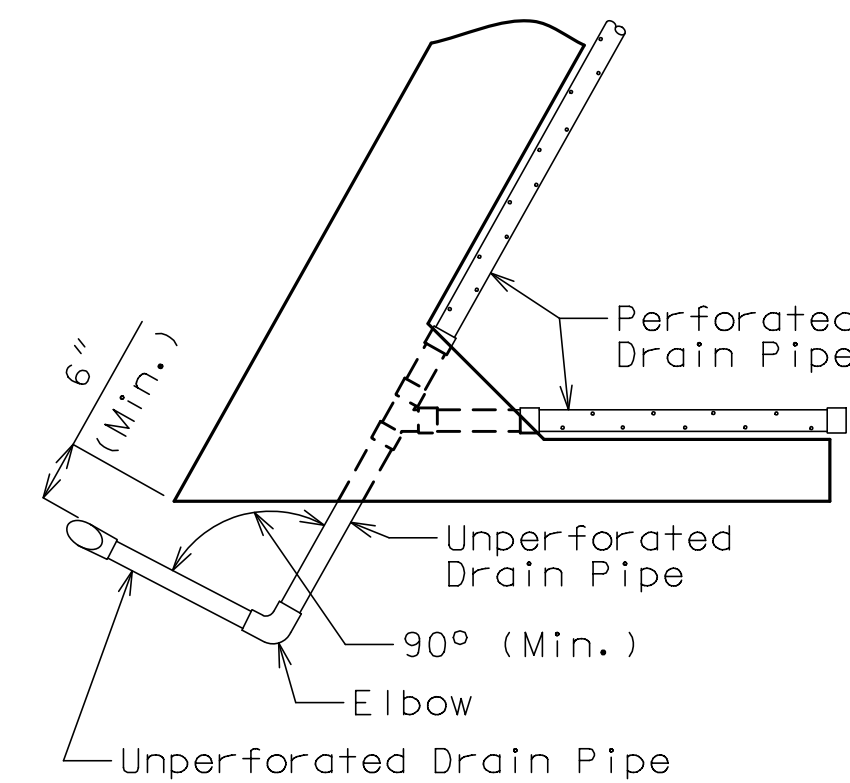
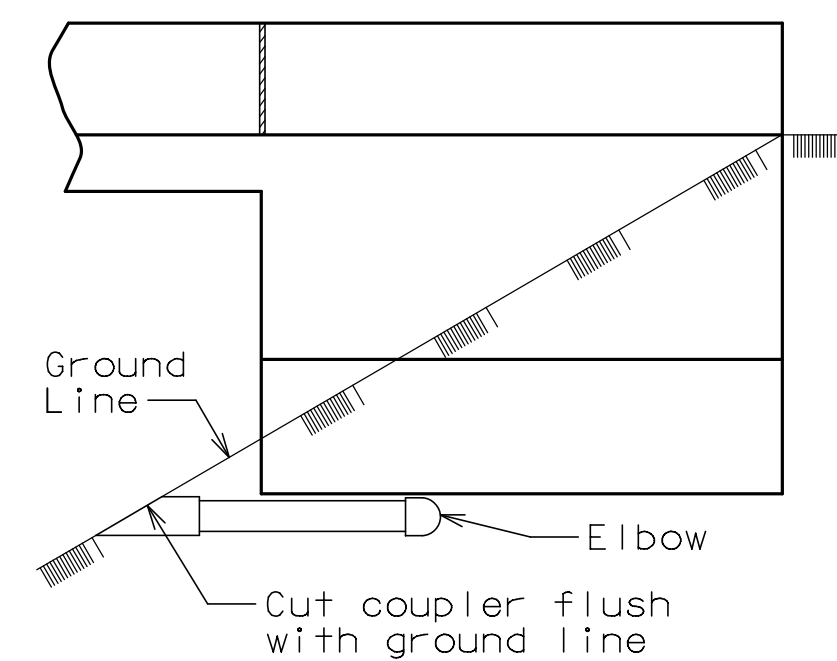
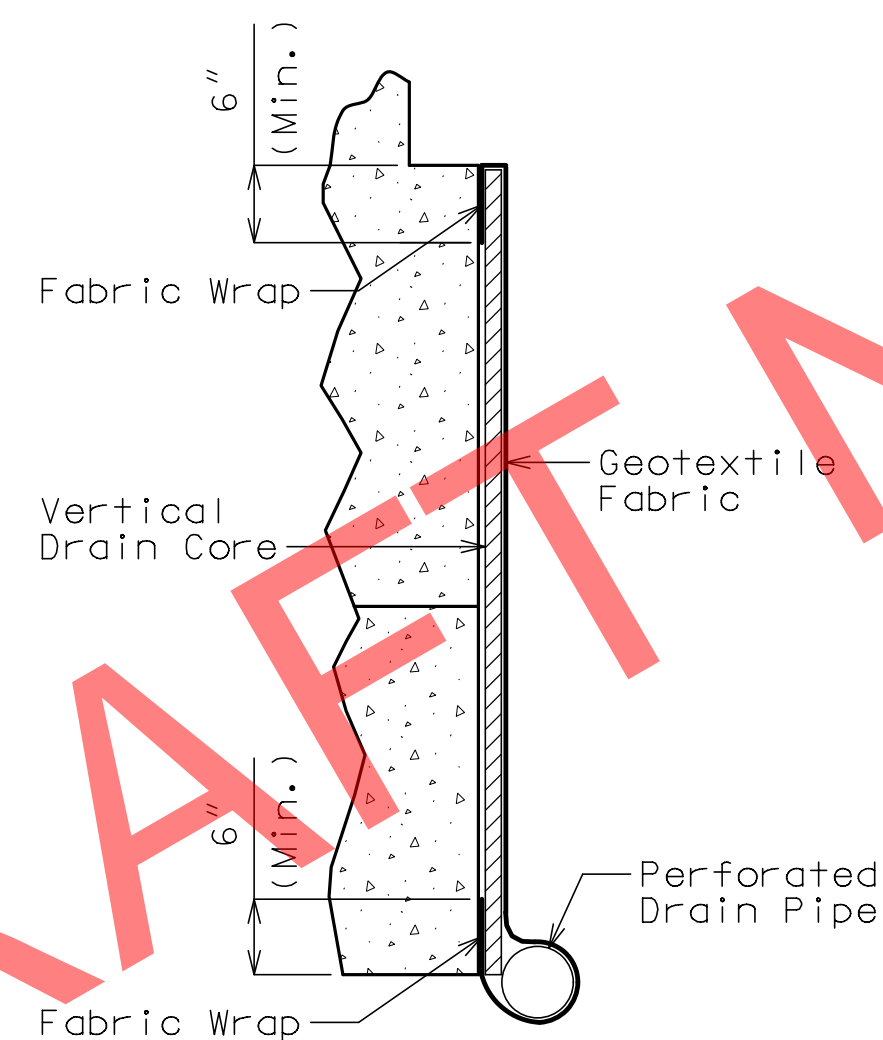
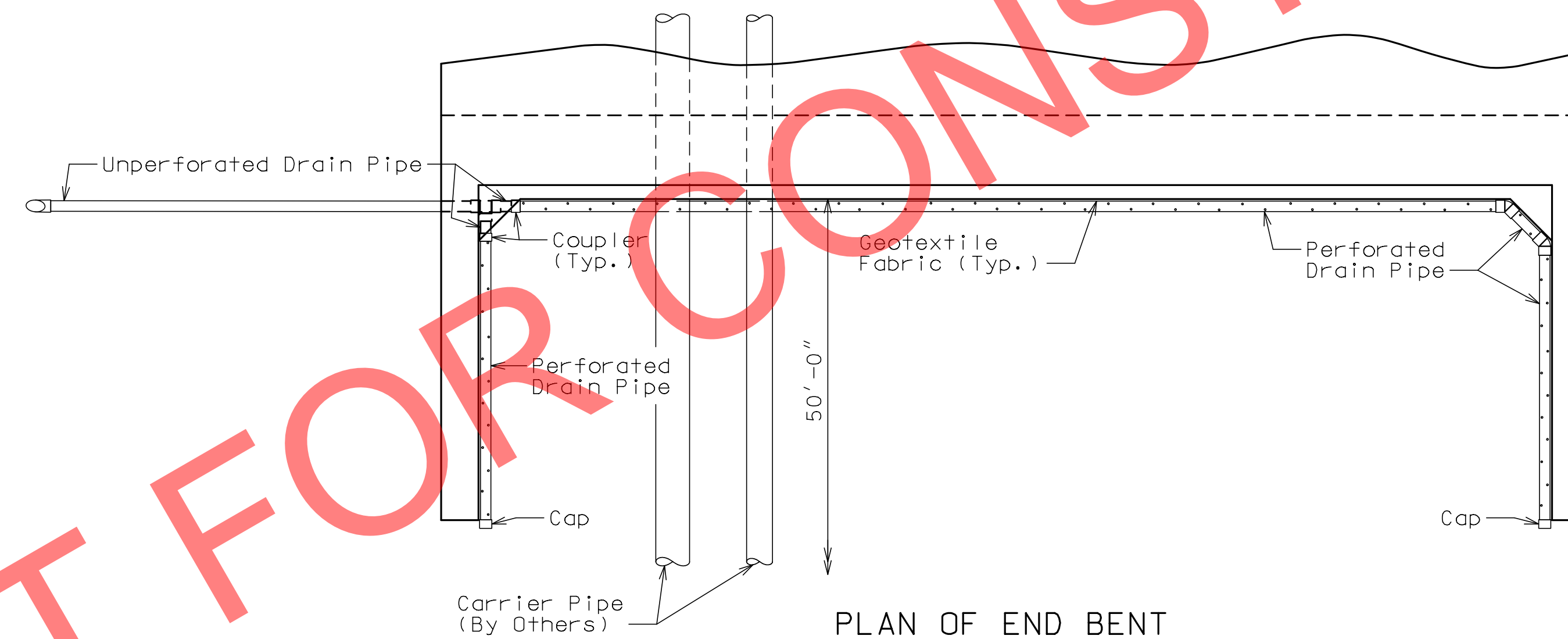
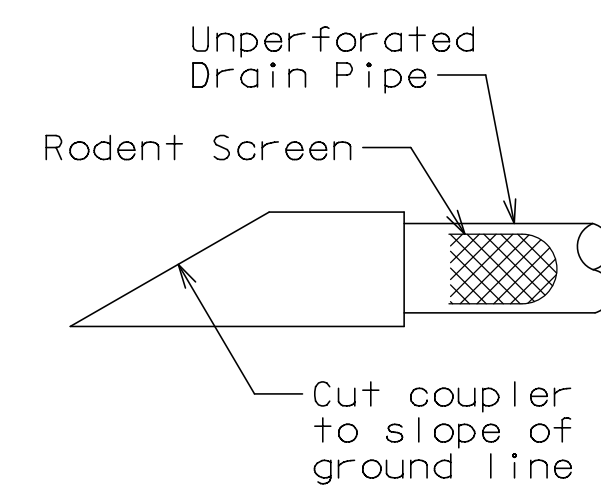
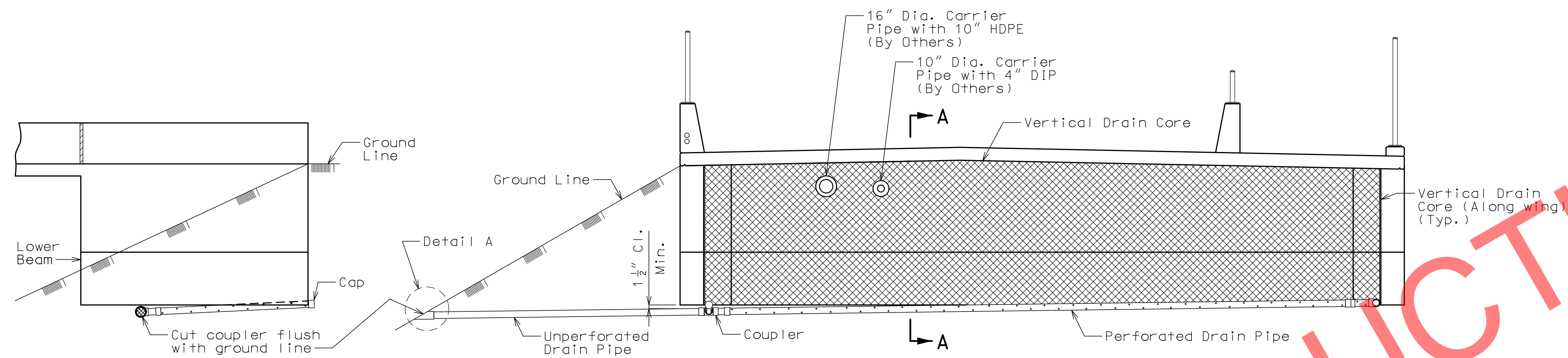
DETAILS OF END BENT NO. 1

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

Sheet No. 5 of 51

Detailed March 2021
Checked May 2021

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 5
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9133	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	



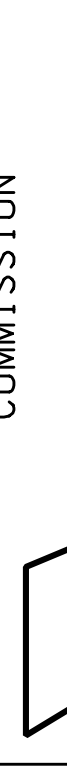
General Notes:

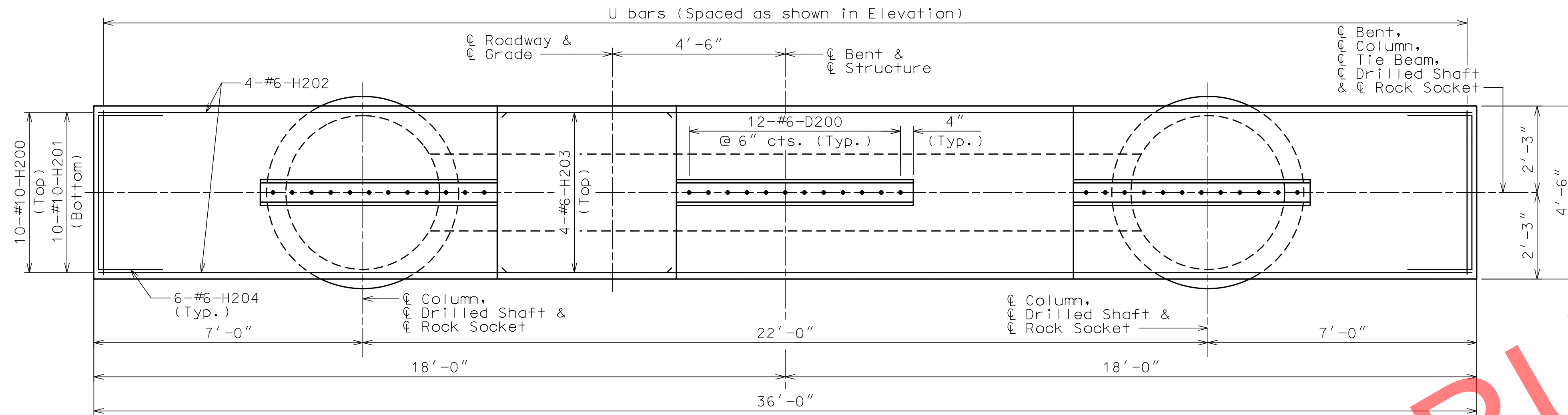
All drain pipe shall be sloped 1 to 2 percent.

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.

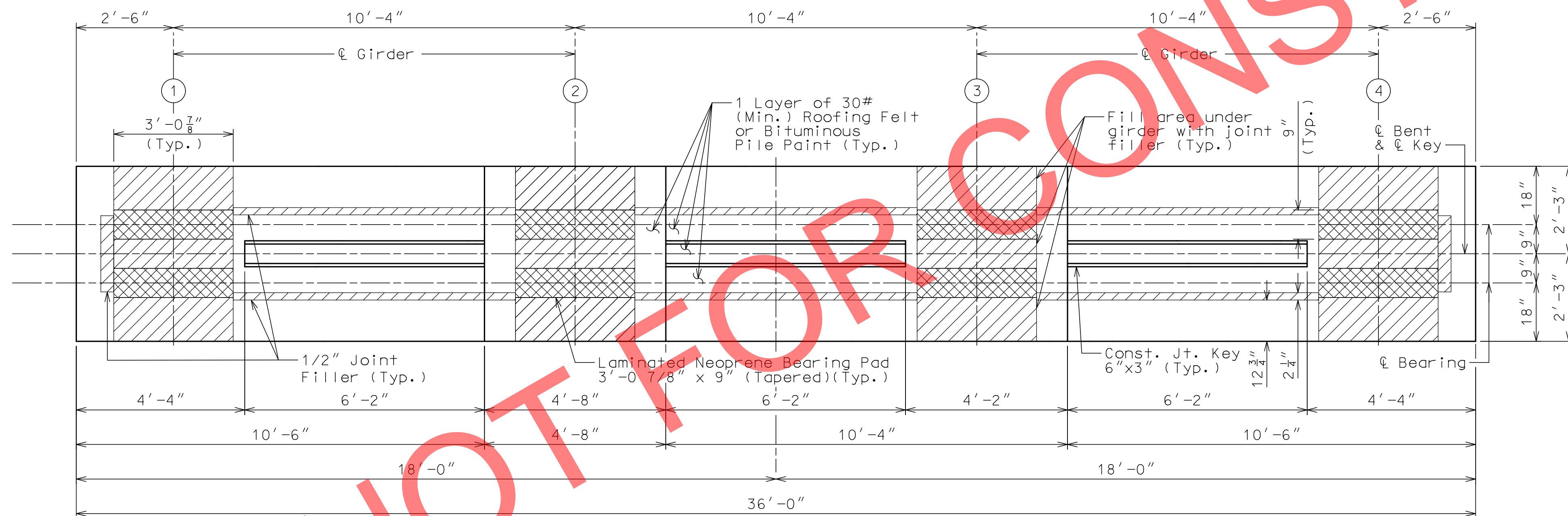
Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

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.

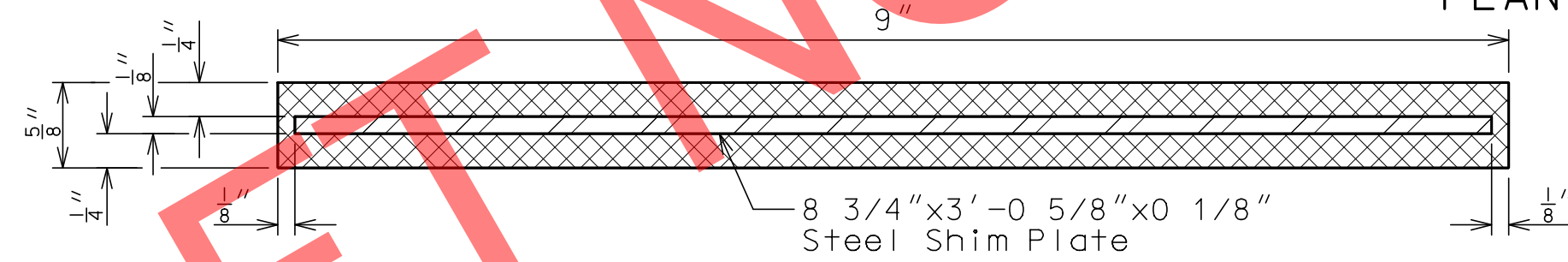
DATE PREPARED 2/17/2022					
ROUTE MIDLAKE			STATE MO		
DISTRICT BR			SHEET NO. 6		
COUNTY SULLIVAN					
JOB NO. J1S3392					
CONTRACT ID.					
PROJECT NO.					
BRIDGE NO. A9133					
DESCRIPTION	DATE				
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION		 <p>105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)</p>			
olsson					
7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592					



PLAN OF BEAM SHOWING REINFORCEMENT

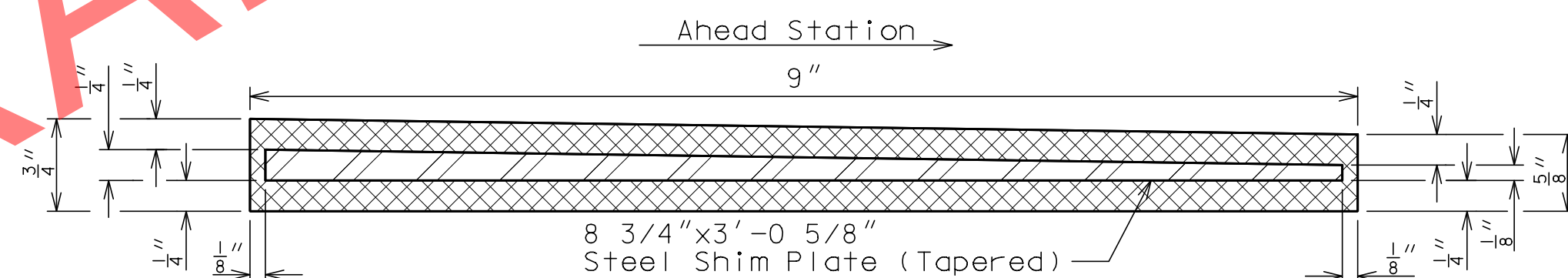


PLAN OF BEAM



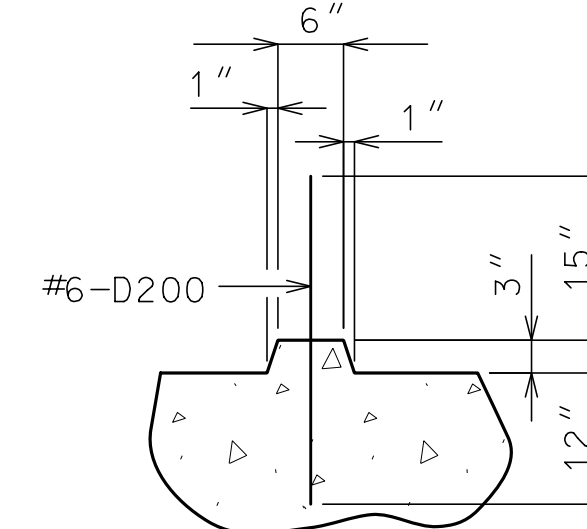
LAMINATED NEOPRENE BEARING PAD

(Bent No. 2 All Bearings and Bent No. 3 Back Station Bearings)

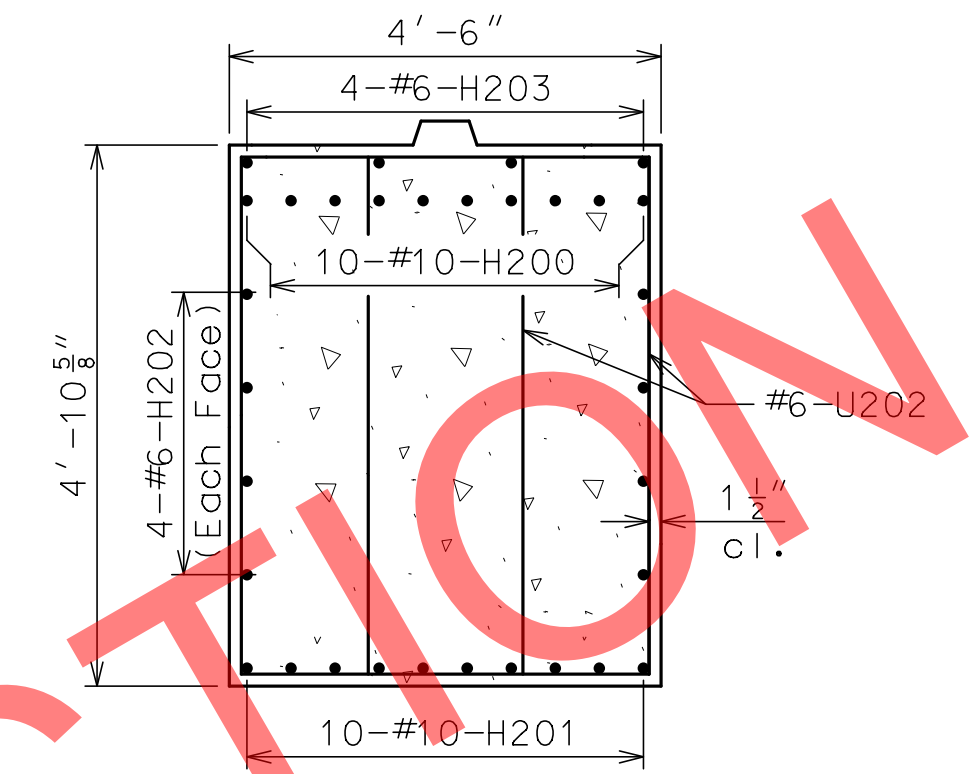


LAMINATED NEOPRENE BEARING PAD (TAPERED)

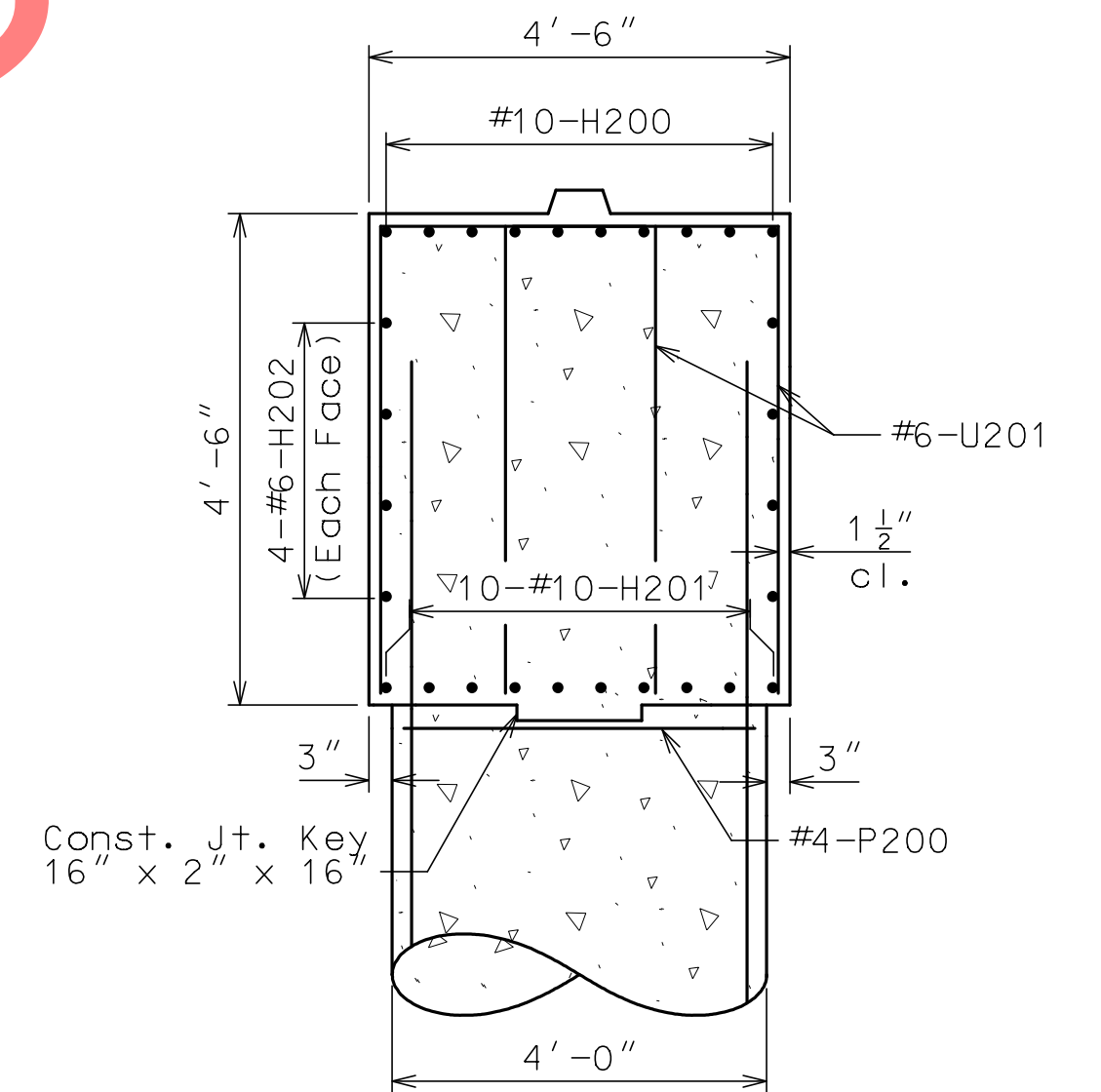
(Bent No. 3 Ahead Station Bearings)



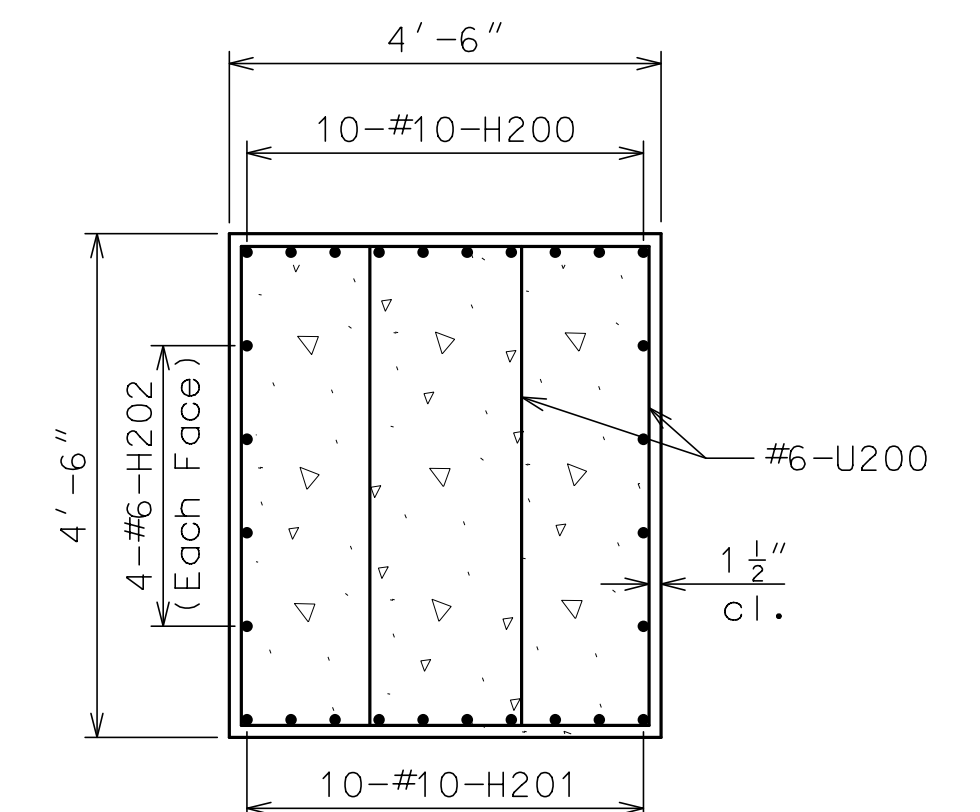
DETAIL OF KEY



SECTION A-A



SECTION B-B



SECTION C-C

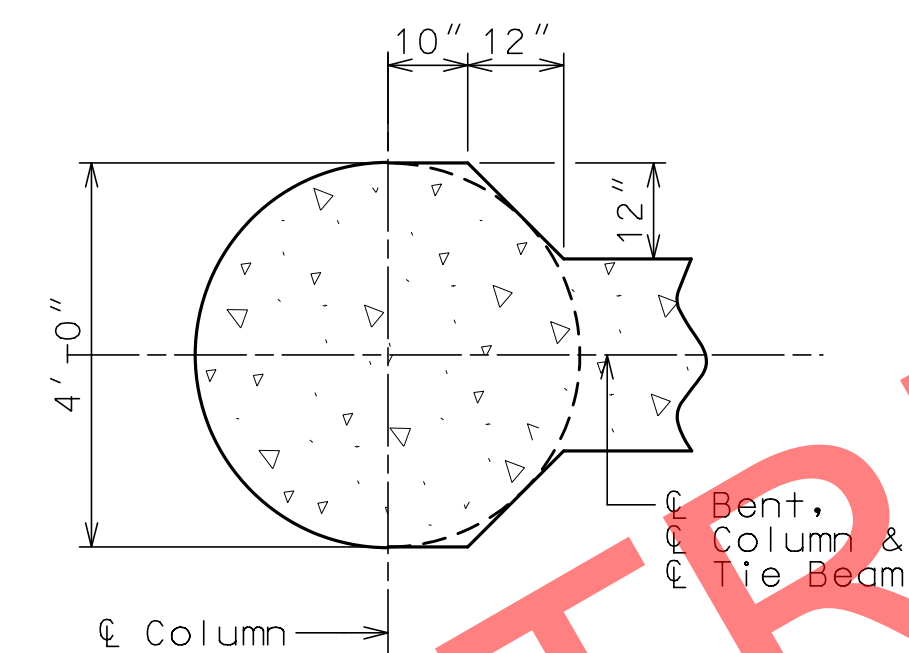
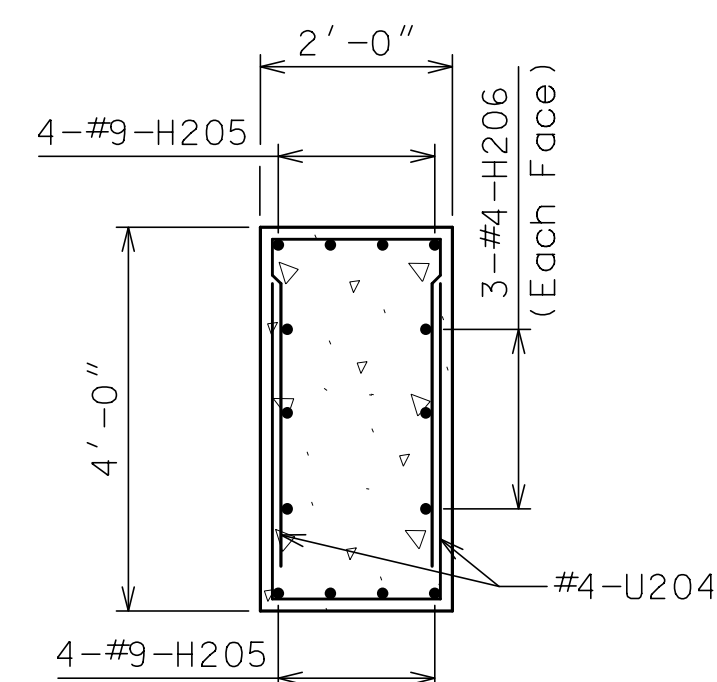
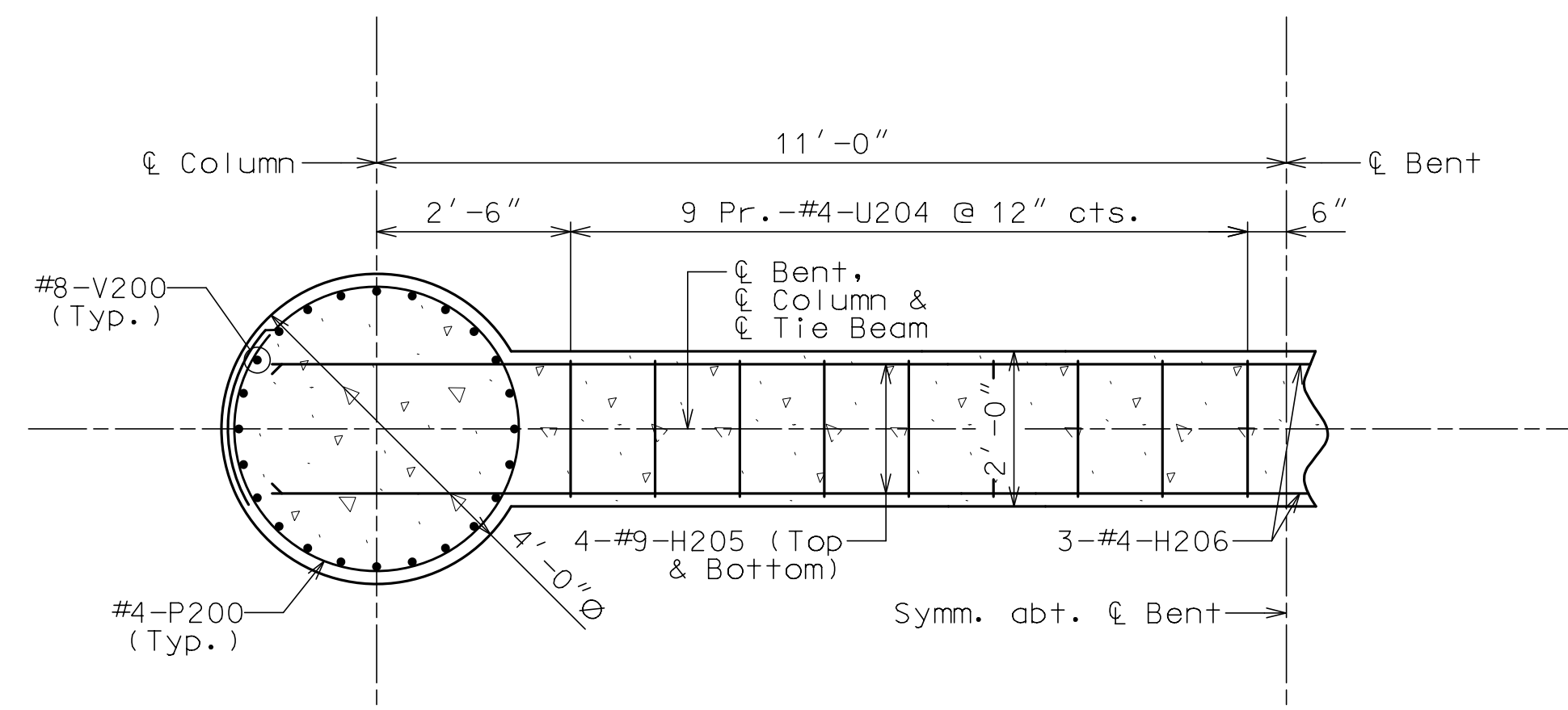
Notes:

For steps 2" or more, use 2 1/4" x 1/2" joint filler up vertical face.

This sheet shall be used as a template for Bents No. 2 & 3. Bar marks shown are applicable for Bent No. 2. The Bill of Reinforcing Steel will use separate bar marks for each Bent. The first number in the bar mark will match the corresponding Bent No.

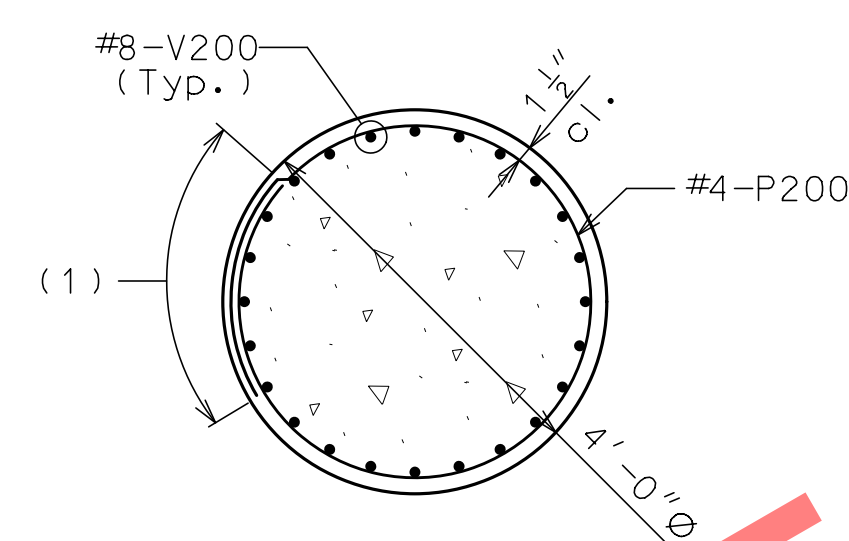
Work this sheet with Sheets No. 7 & 9.

DATE PREPARED 2/1/2022		ROUTE MIDLAKE		STATE MO	
DISTRICT BR		SHEET NO. 8		COUNTY SULLIVAN	
JOB NO. J1S3392		CONTRACT ID.		PROJECT NO.	
BRIDGE NO. A9133		DESCRIPTION		DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION		105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)		REV.	
olsson		7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592		8:06:08 AM	

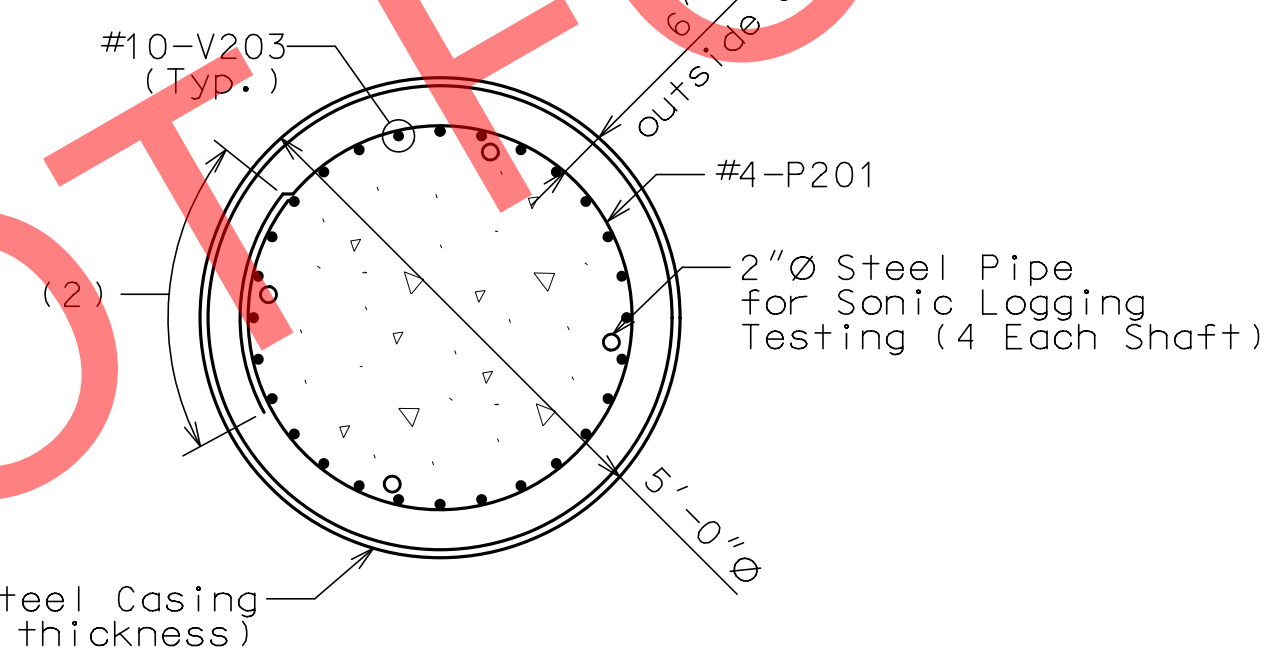


Note:

At the contractor's option, the details shown in Optional Part Section E-E may be used for Column-Tie Beam at Intermediate Bents No. 2 & 3. No additional payment will be made for this substitution.

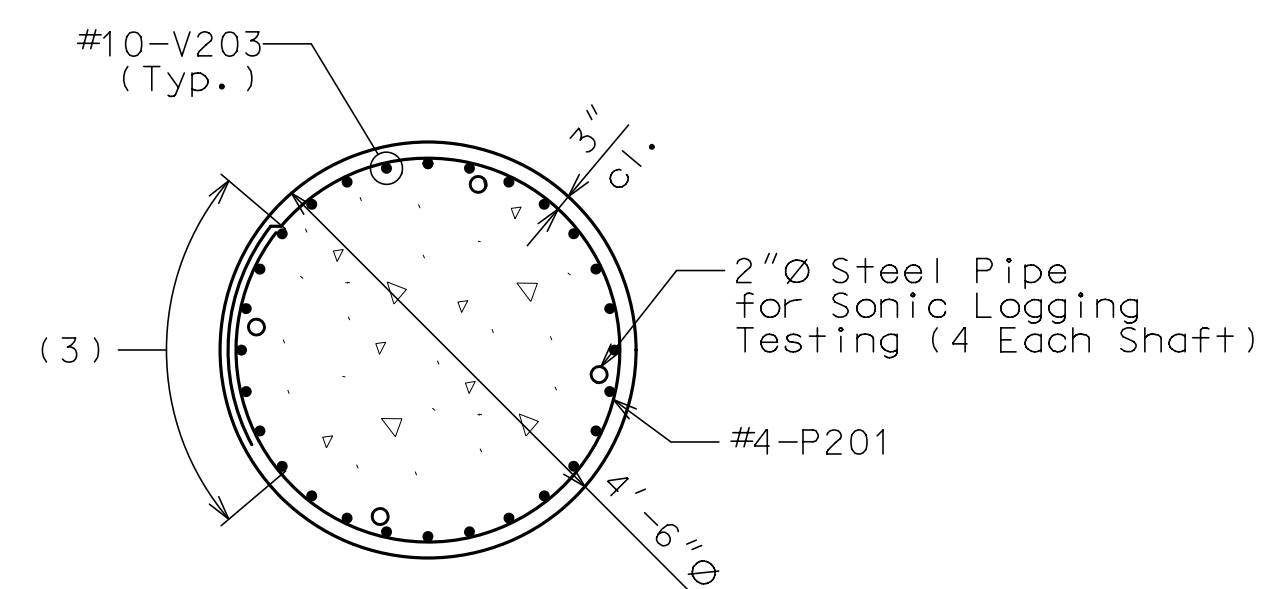


(1) Minimum lap 22" (Stagger adjacent bar splices)



(2) Minimum lap 2'-1" (Stagger adjacent bar splices)

SECTION F-F
(Drilled Shaft)




(3) Minimum lap 2'-1" (Stagger adjacent bar splices)

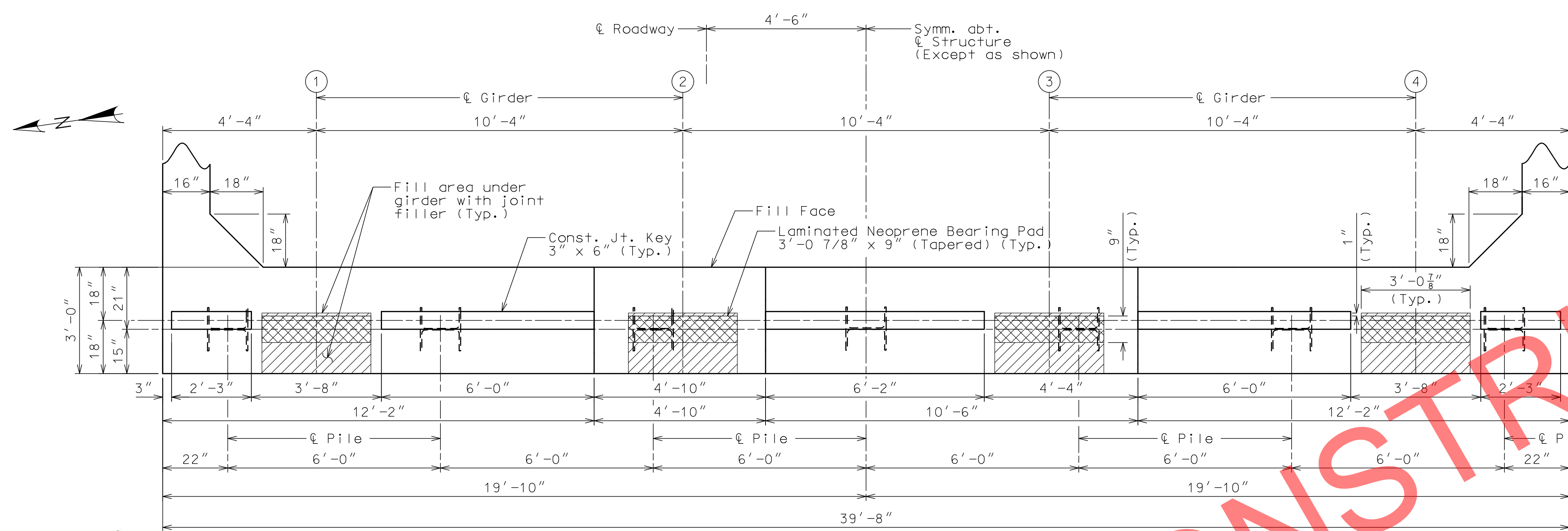
SECTION G-G
(Rock Socket)

Notes:

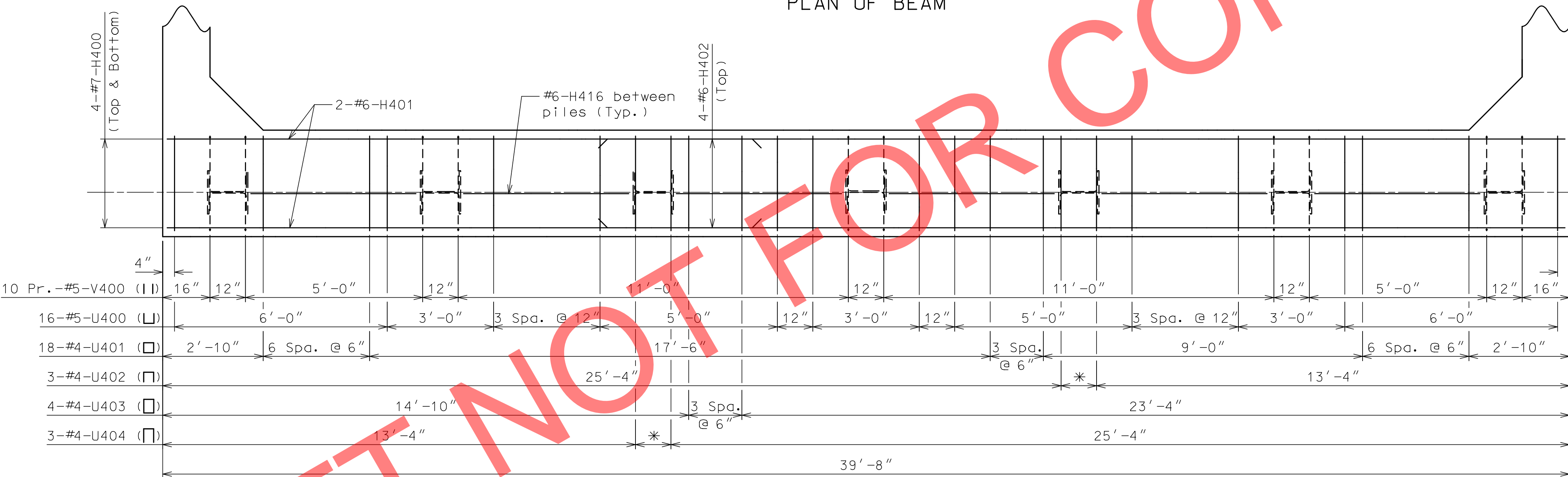
This sheet shall be used as a template for Bents No. 2 & 3. Bar marks shown are applicable for Bent No. 2. The Bill of Reinforcing Steel will use separate bar marks for each bent. The first number in the bar mark will match the corresponding Bent No.

Work this sheet with Sheets No. 7 & 8.

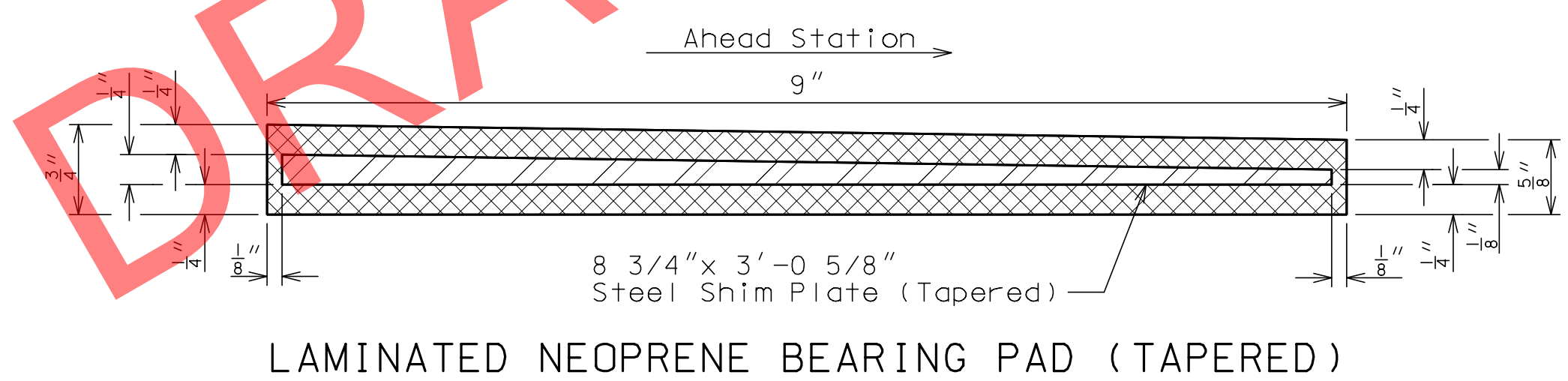
<div><div><div>olsson</div><div>7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592</div></div></div>		MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION		<div><div><div>MoDOT</div><div></div></div><div>105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)</div></div>	DATE	DESCRIPTION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							



PLAN OF BEAM



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

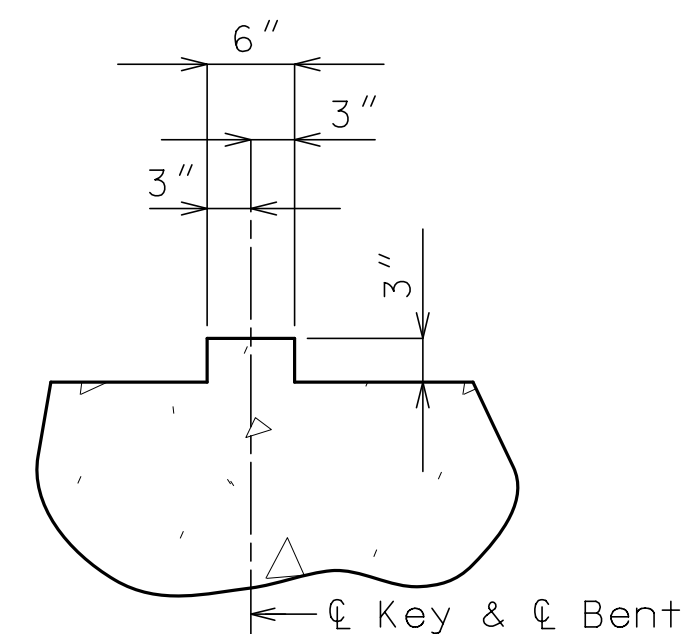


LAMINATED NEOPRENE BEARING PAD (TAPERED)

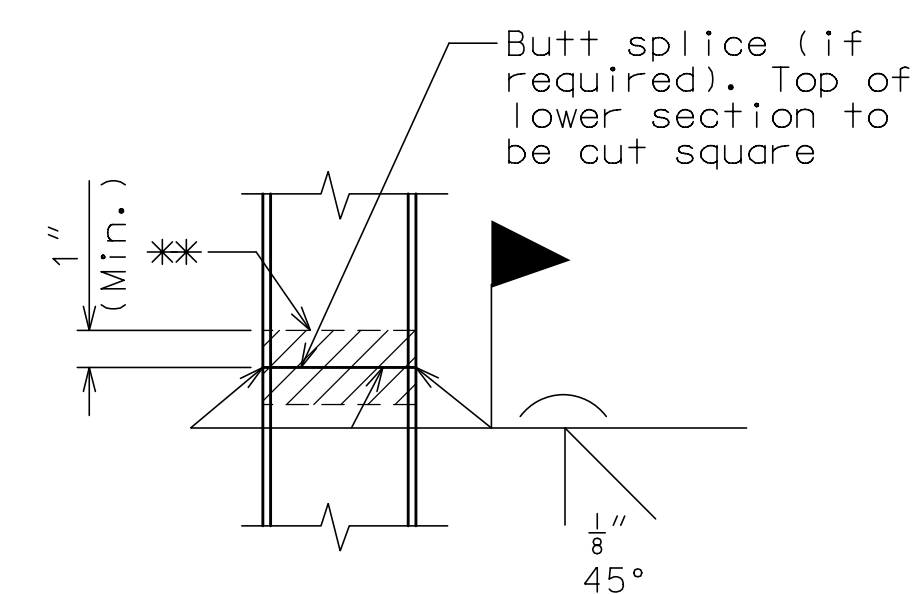
Substructure Quantity Table for Bent No. 4		
Item		Quantity
Class 1 Excavation	cu. yard	60
Galvanized Structural Steel Piles (14 in.)	linear foot	574
Pre-bore for Piling	linear foot	567
Pile Point Reinforcement	each	7
Class B Concrete (Substructure)	cu. yard	20.0

Note: These quantities are included in the Estimated Quantities Table on Sheet No. 2.

DETAILS OF END BENT NO. 4



TYPICAL SECTION THRU KEY



STEEL PILE SPLICE
(If required)

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

- Notes:**
- For details of End Bent No. 4 not shown, see Sheets No. 11 & 12.
 - For details of Vertical Drain at End Bents, see Sheet No. 6.
 - Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".
 - All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

Detailed March 2021
Checked May 2021

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

Sheet No.10 of 51

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

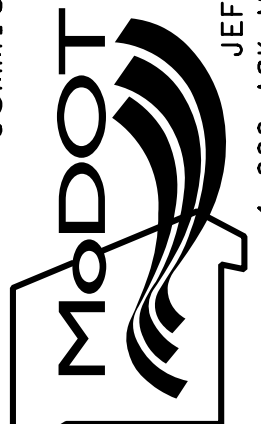
PROJECT NO.

BRIDGE NO.
A9133


DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



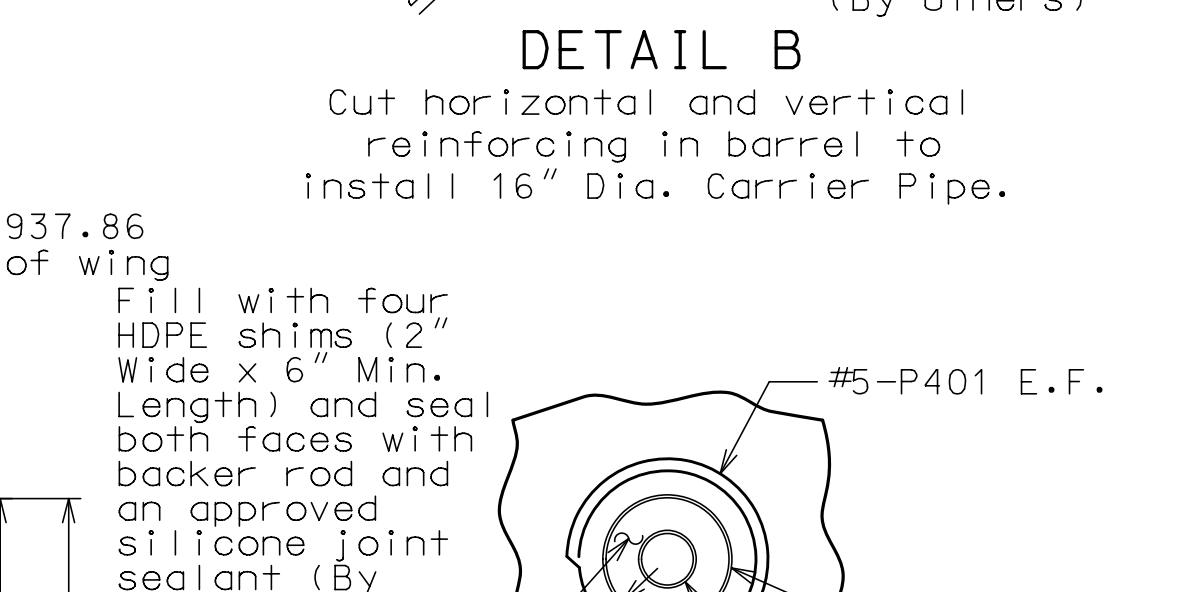
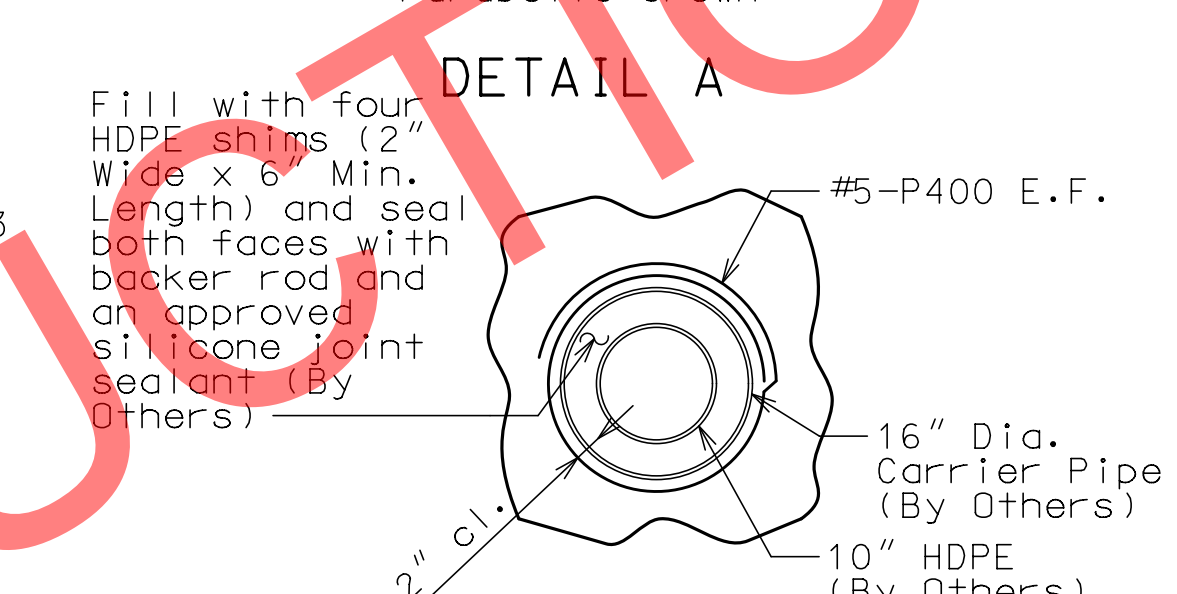
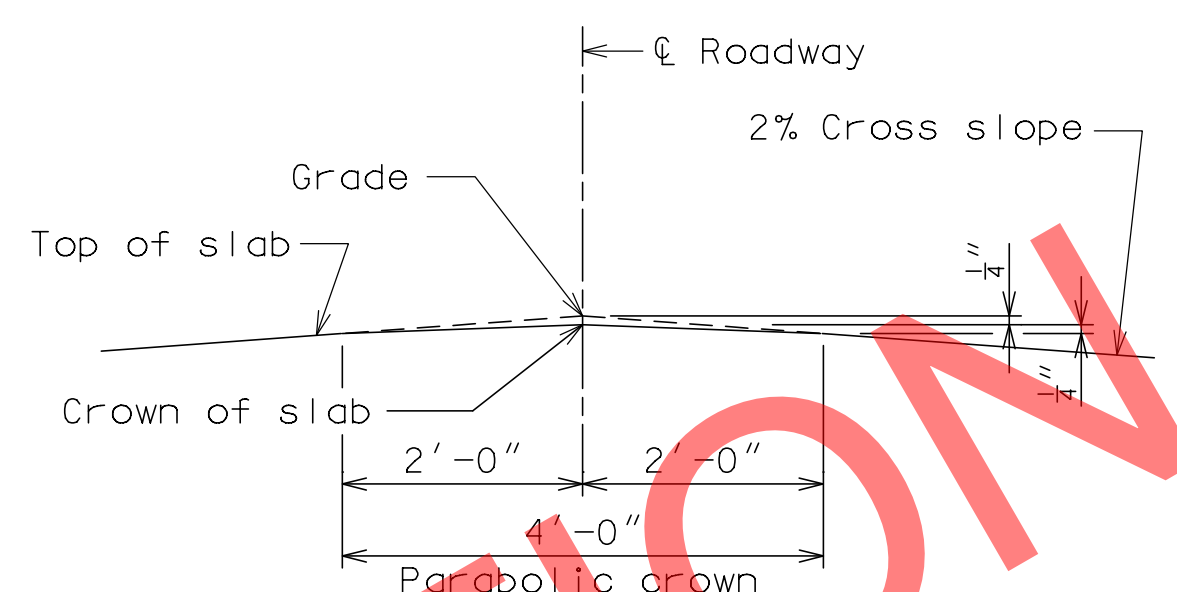
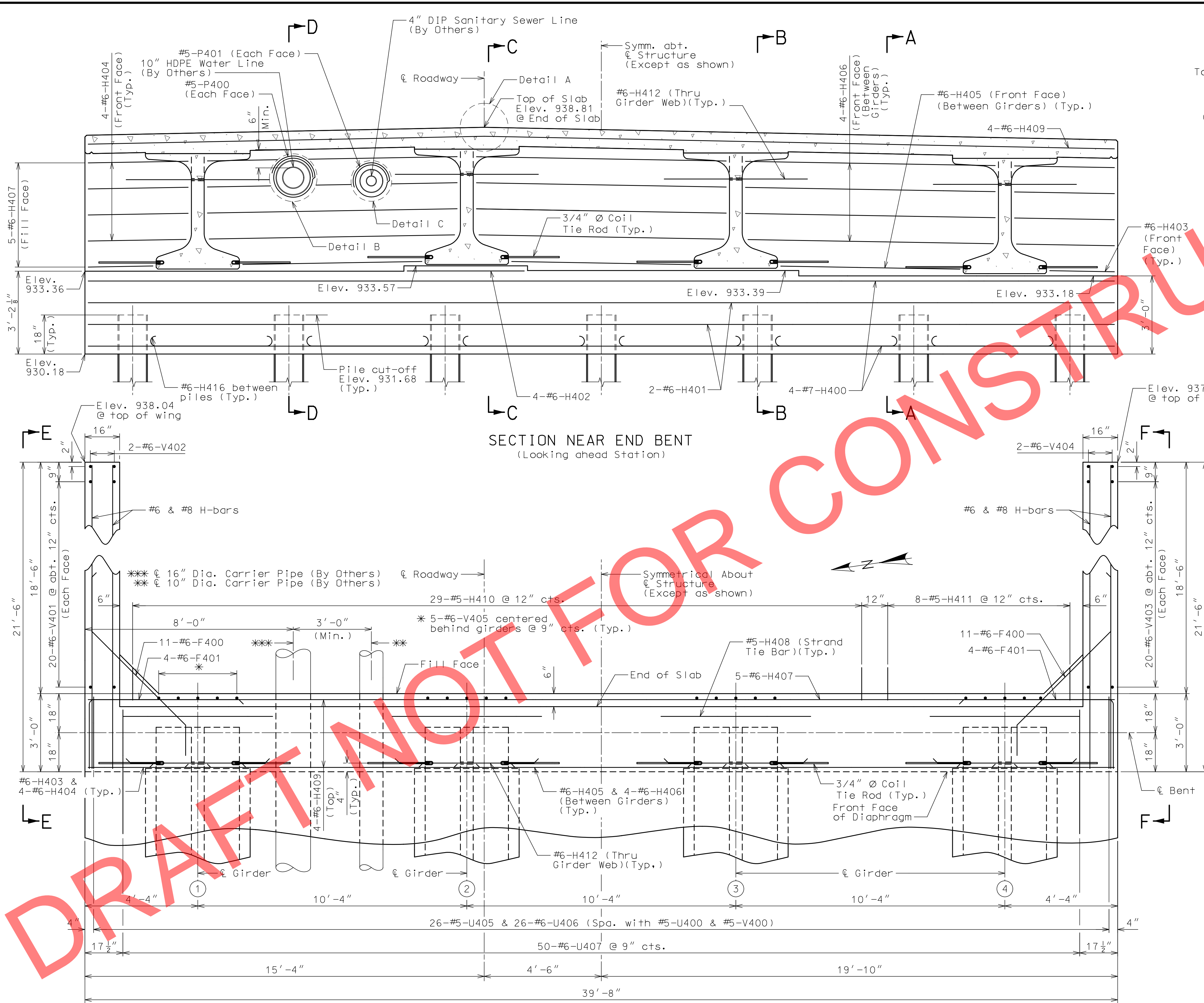
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

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

REV.



Notes:

For details of End Bent No. 4 not shown, see Sheets No. 10 & 12.

For details of Pile Splice, see Sheet No. 10.

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

For Elevations E-E & F-F, Sections A-A, B-B, C-C, D-D and Section Thru Wing, see Sheet No. 12.

All vertical reinforcing bars in the substructure beams or caps shall be field adjusted to clear piles by at least 1 1/2".

For details and reinforcement of Type H Barrier not shown, see Sheets No. 27 thru 29.

For details and reinforcement of Pedestrian Curb not shown, see Sheet No. 31.

The #6-F400 bar shall be bent in the field to clear girders.

All strands at the ends of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2" minimum clearance to fill face of end bent.

For location of #5-H408 (Strand Tie Bar), see Sheets No. 17 thru 18.

For details of Bridge Approach Slab, see Sheet No. 35.

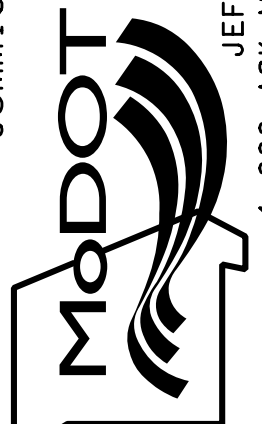

For substructure Quantity Table for End Bent No. 4, see Sheet No. 10.

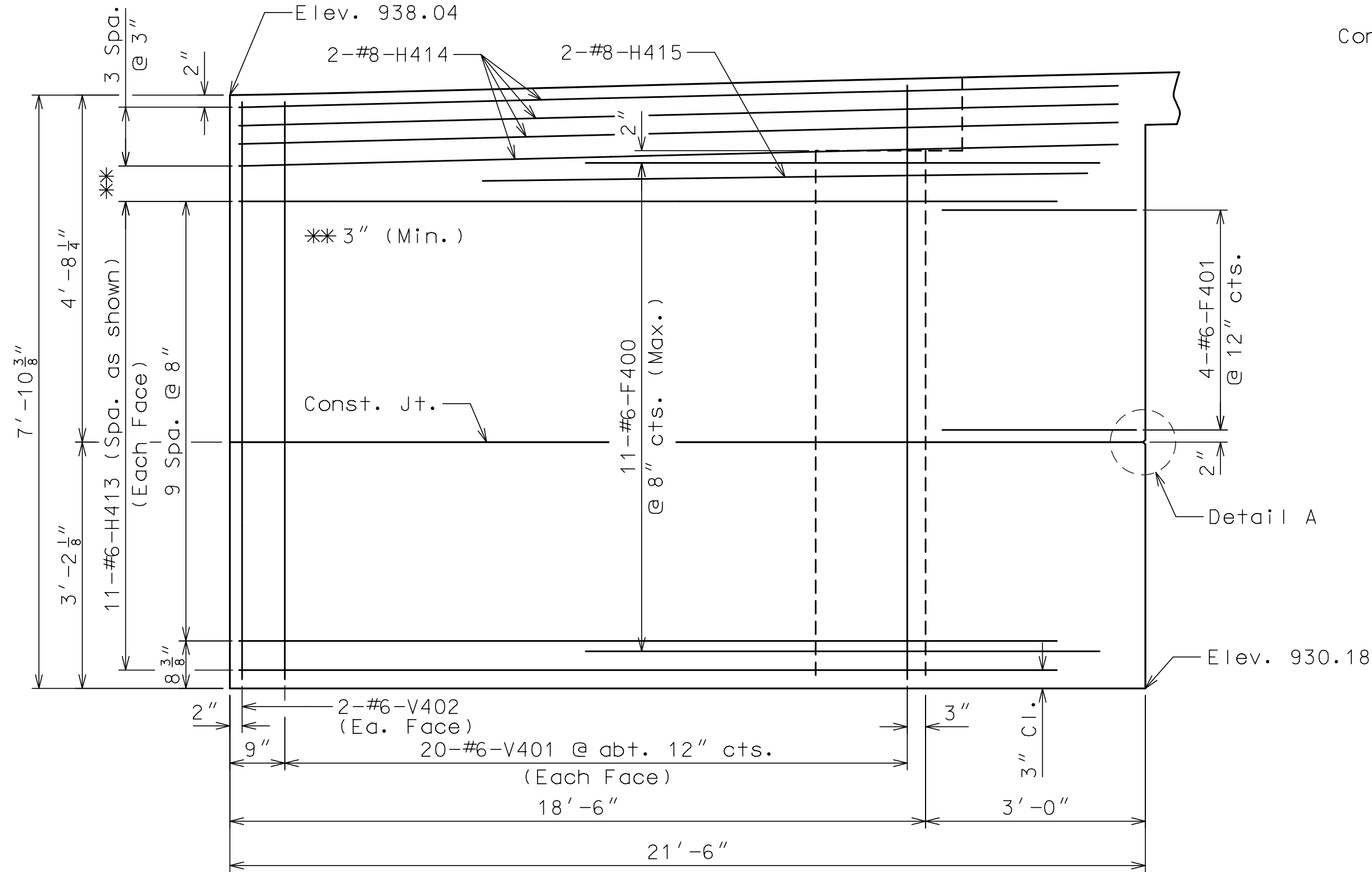
All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

PART PLAN DETAILS OF END BENT NO. 4

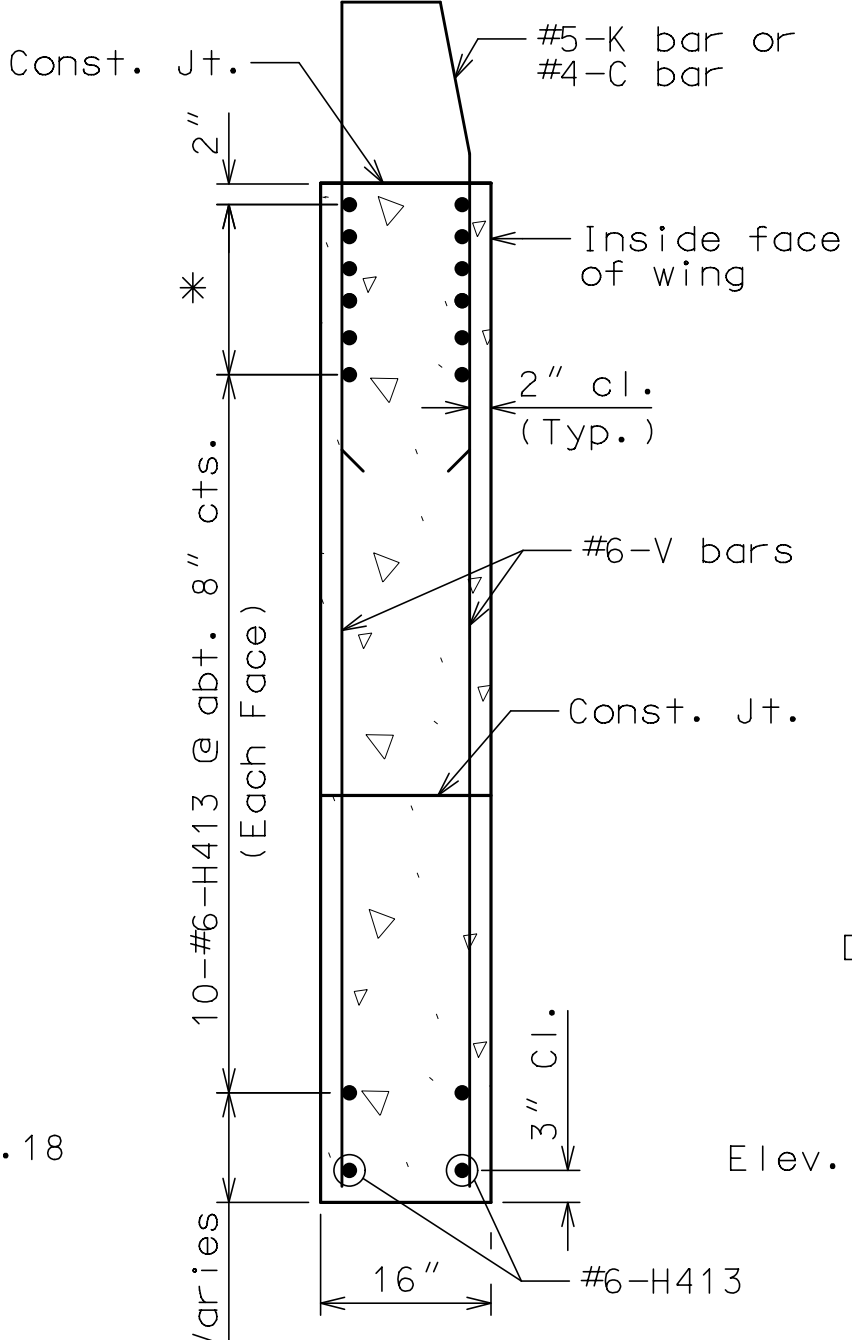
Detailed March 2021
Checked May 2021

Note: This drawing is not to scale. Follow dimensions. Sheet No. 11 of 51

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 11
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9133	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	

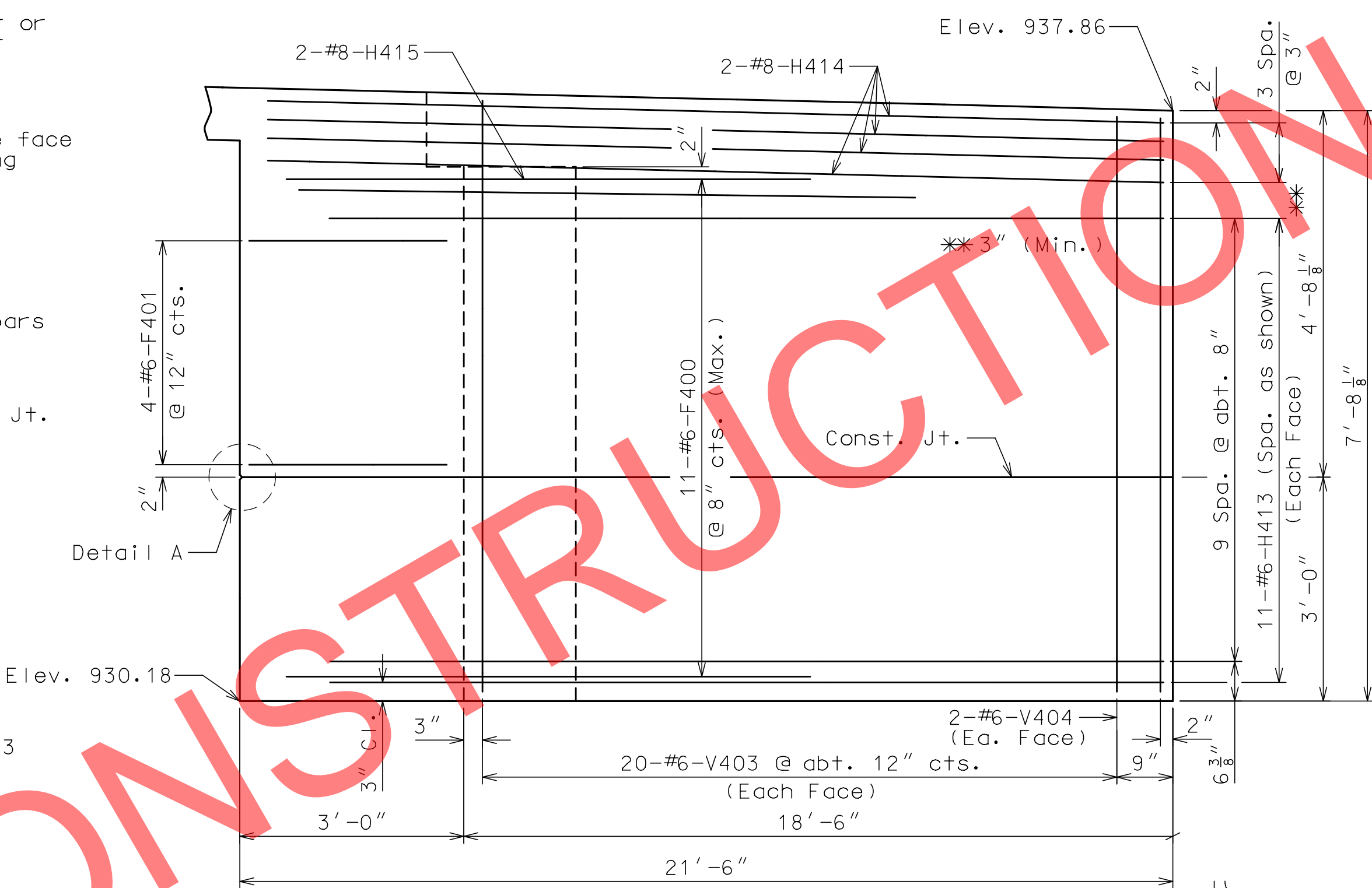


ELEVATION E-E

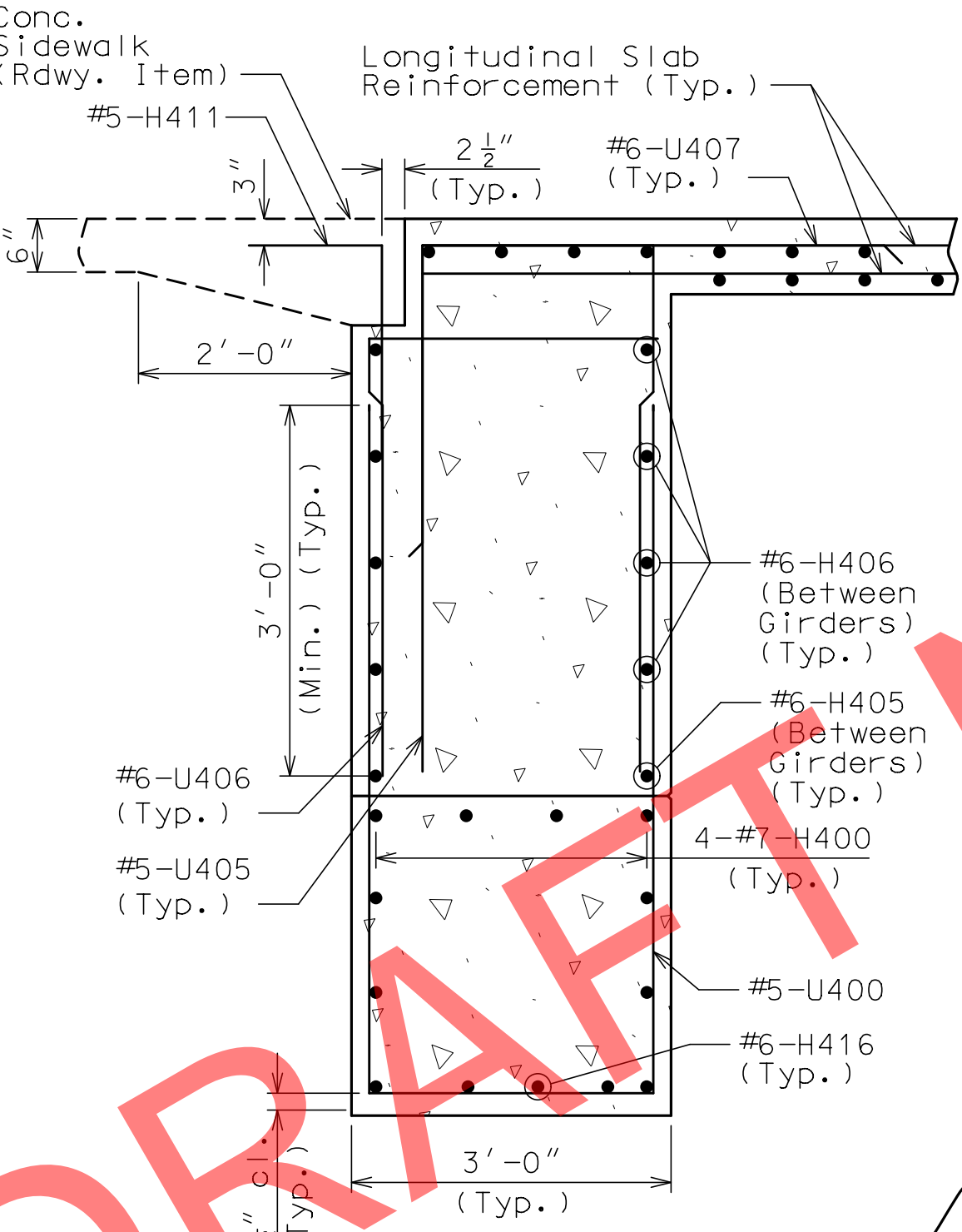


TYPICAL SECTION THRU WING

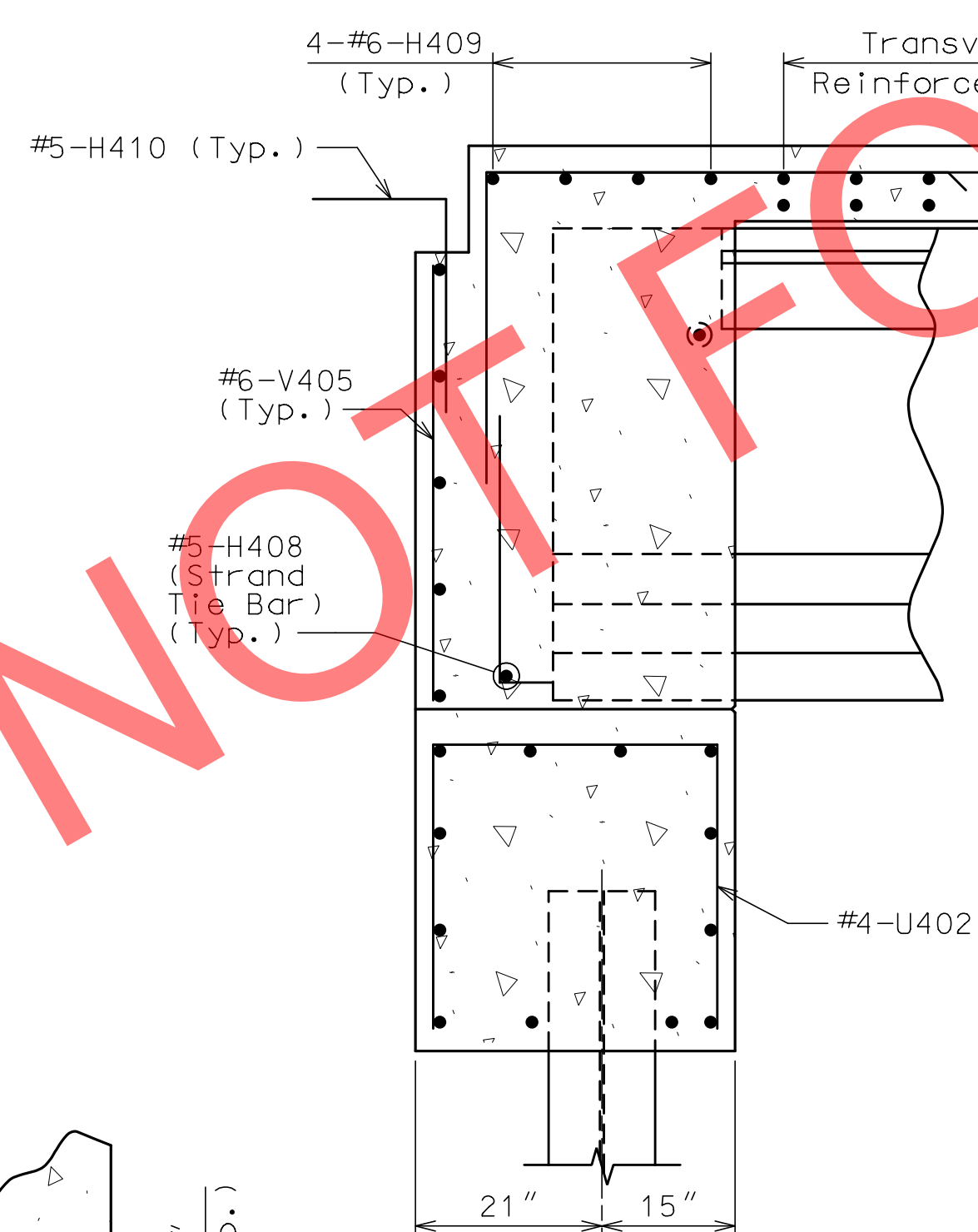
* #8-H Bars @ 3" cts. (Each face) (Place with grade)



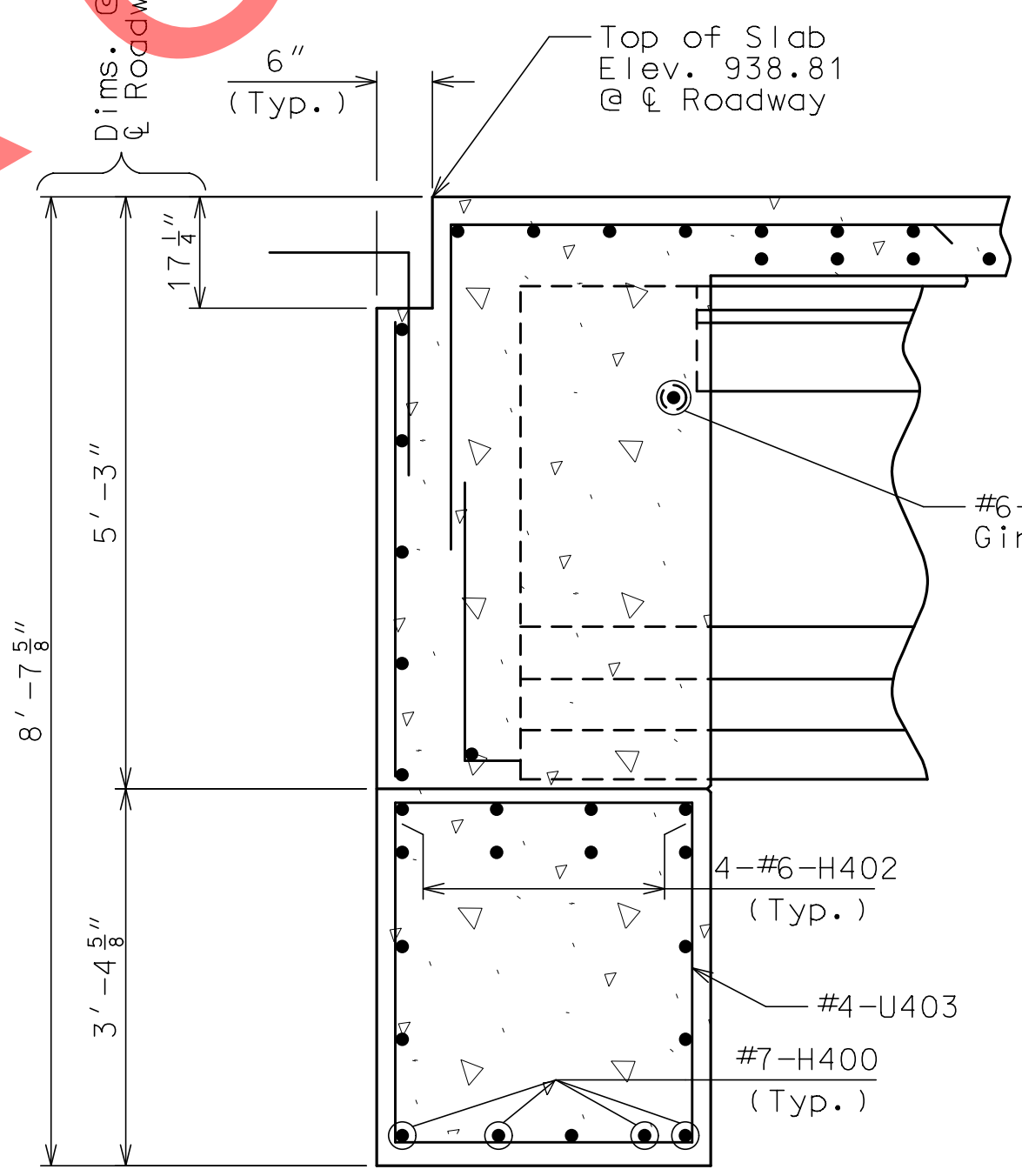
ELEVATION F-F



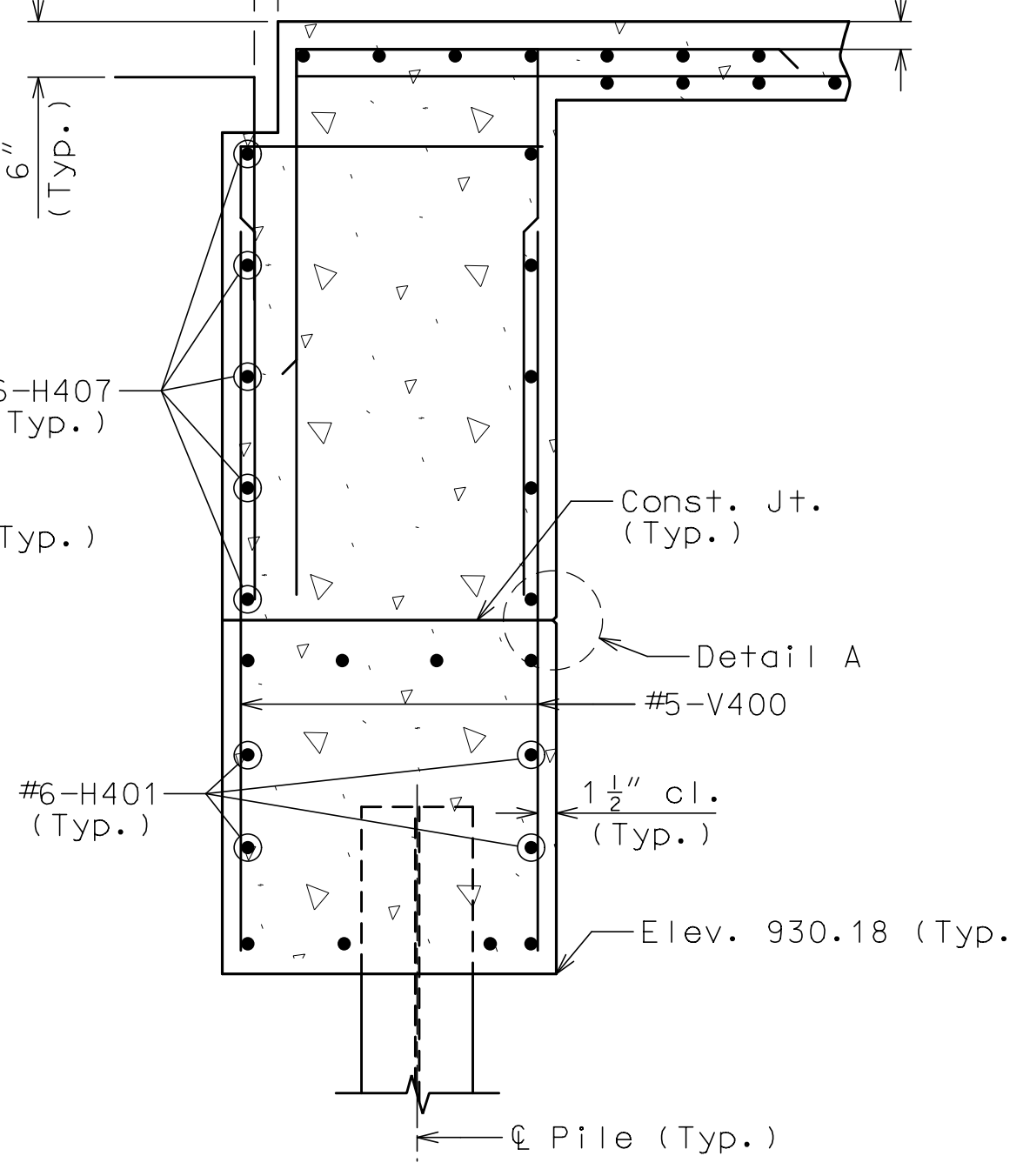
SECTION A-A



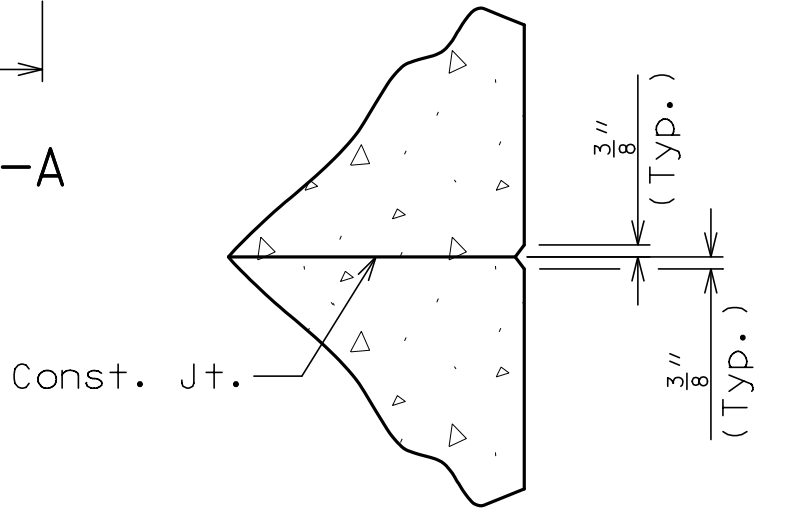
SECTION B-B



SECTION C-C



SECTION D-D



DETAIL A

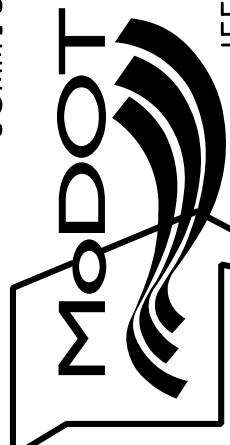

DETAILS OF END BENT NO. 4

- Notes:
- For details of End Bent No. 4 not shown, see Sheets No. 10 & 11.
 - For details of Pile Splice, see Sheet No. 10.
 - For details of Vertical Drain at End Bents, see Sheet No. 6.
 - For location of Elevations E-E & F-F and Sections A-A, B-B, C-C, and D-D, see Sheet No. 11.
 - For details and Reinforcement of the Type H Barrier not shown, see Sheets No. 27 thru 29.
 - For details and reinforcement of Pedestrian Curb not shown, see Sheet No. 31.

Detailed March 2021
Checked May 2021

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

Sheet No.12 of 51

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 12
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9133	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	

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

Concrete for prestressed girders shall be Class A-1 with $f'c = 8000$ psi and $f'ci = 6500$ psi.

(+) indicates prestressing strand.

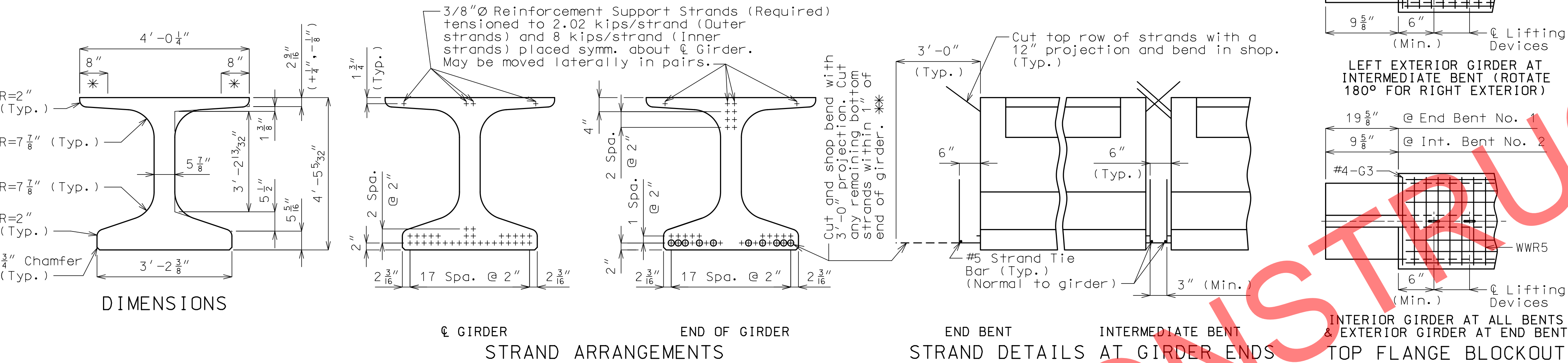
Use 32 strands with an initial prestress force of 1406 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

* Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

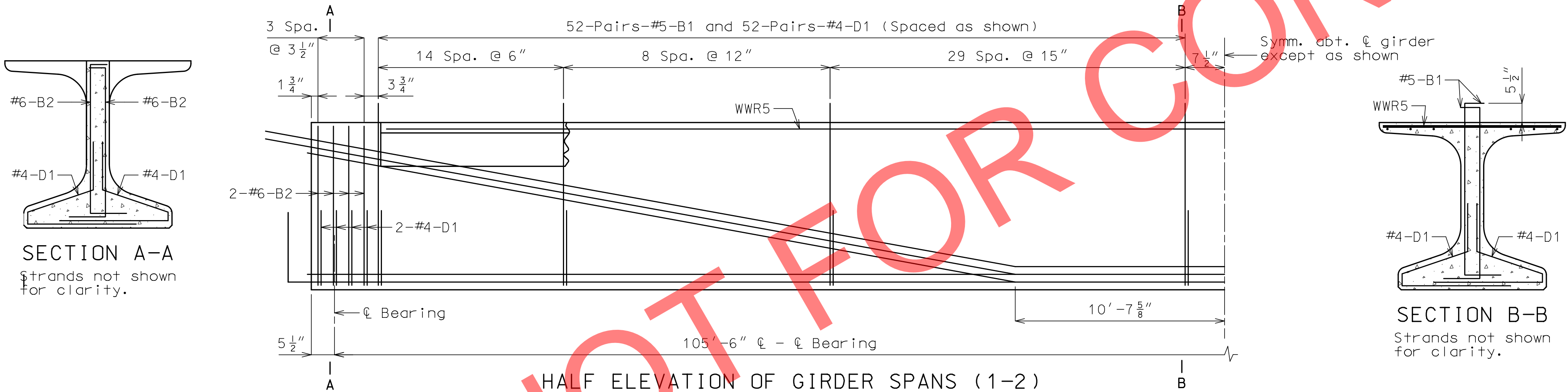
** At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	
208	5 B1	5'-10"	11	
16	6 B2	5'-1"	11	
224	4 D1	4'-0"	9	
2	4 G3	3'-10 1/4"	20	
1	4 G4	2'-1"	20	
1	4 G5	2'-8 1/8"	20	

G4 and G5 not required for interior girders. Half no. of G3 not required for ext. girders.

WELDED WIRE REINFORCEMENT - EACH GIRDER	
D20 @ 6"	W8 (Typ.)
6" 6"	20"
6" 6"	3'-10 1/4"
WWR5	



General Notes:

Reinforcing Steel:

All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

Miscellaneous:

Cost of 3/4" coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

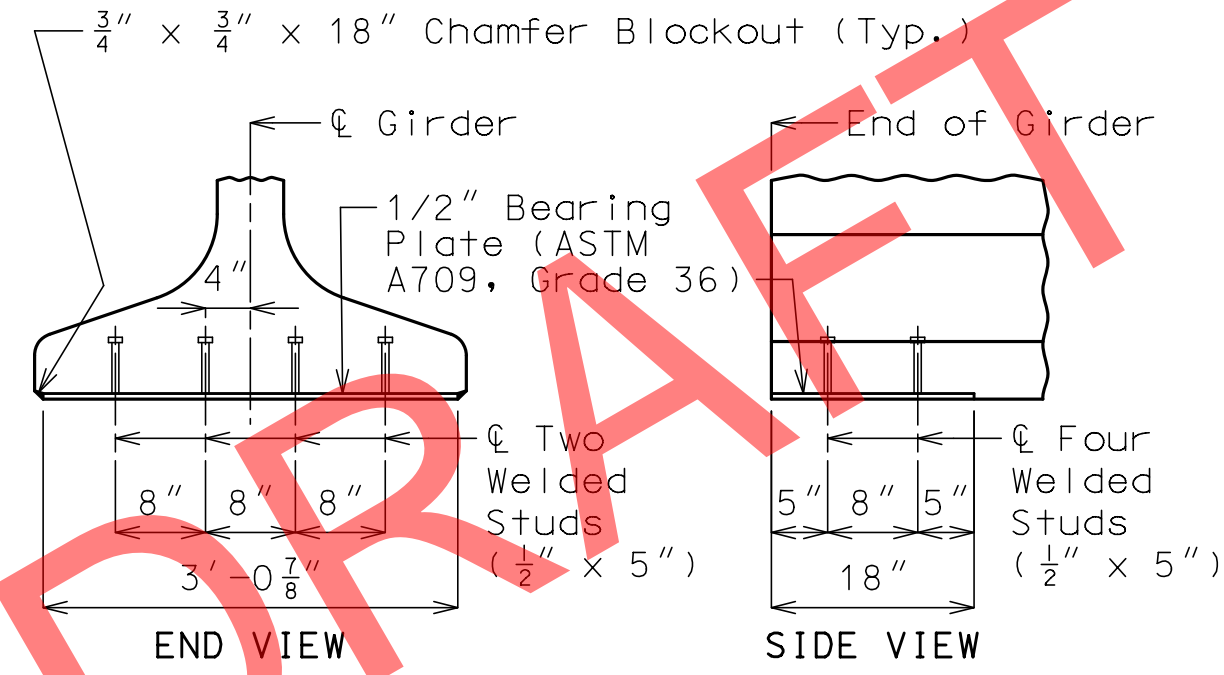
For location of coil inserts at slab drains, see Sheet No. 22.

For location of coil ties and #6 bars at concrete bent diaphragms, see Sheets No. 4 and 21.

The 1 1/2" holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 20.

For Girder Camber Diagram, see Sheet No. 23.

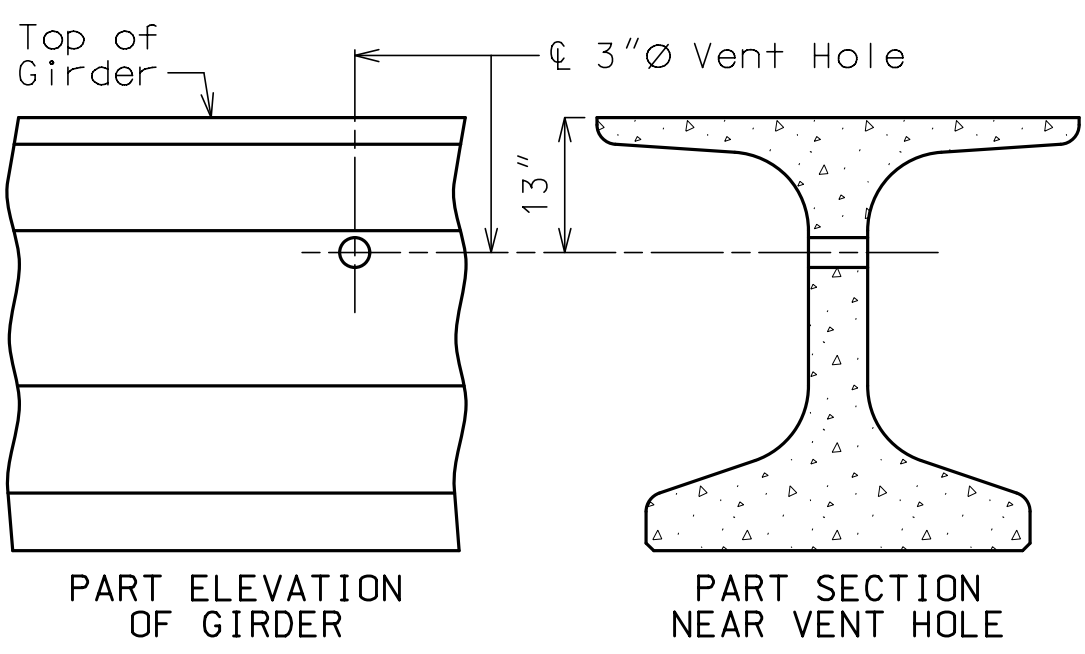
Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.



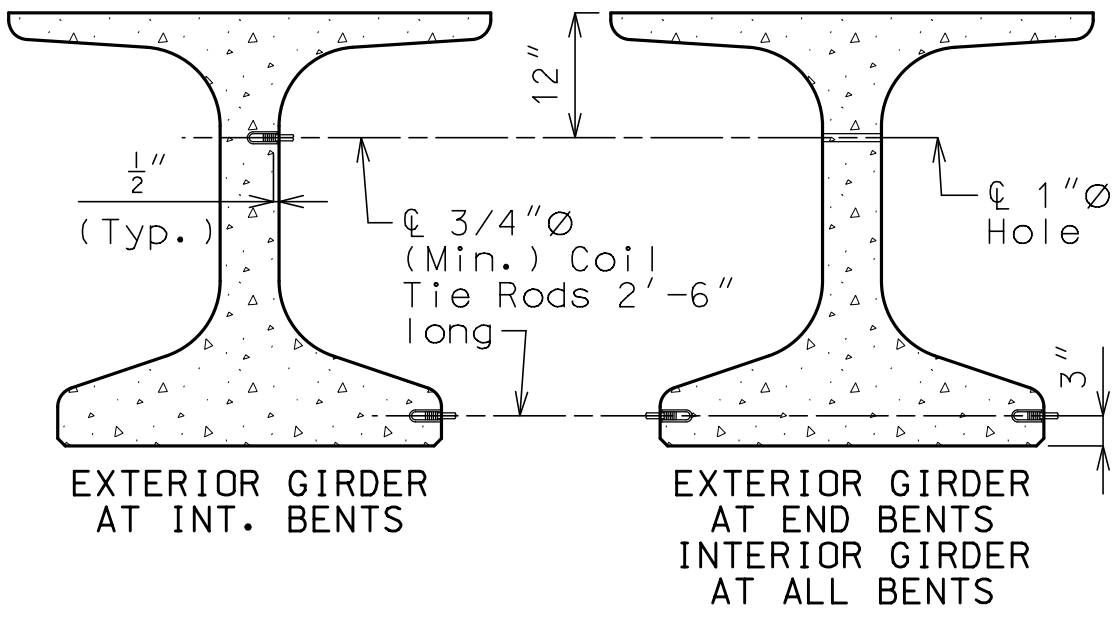
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Exterior and interior girders are the same, except for coil ties. Reinforcement support strands not shown for clarity.



Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel interm. diaphragm bolt connections by 6" minimum.



Cast 1" hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

ALTERNATE BAR REINFORCING DETAILS SPAN (1-2)

Detailed March 2021
Checked May 2021

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

Sheet No. 14 of 51

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9133

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

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

REV.

Concrete for prestressed girders shall be Class A-1 with $f'c = 8000$ psi and $f'ci = 6500$ psi.

(+) indicates prestressing strand.

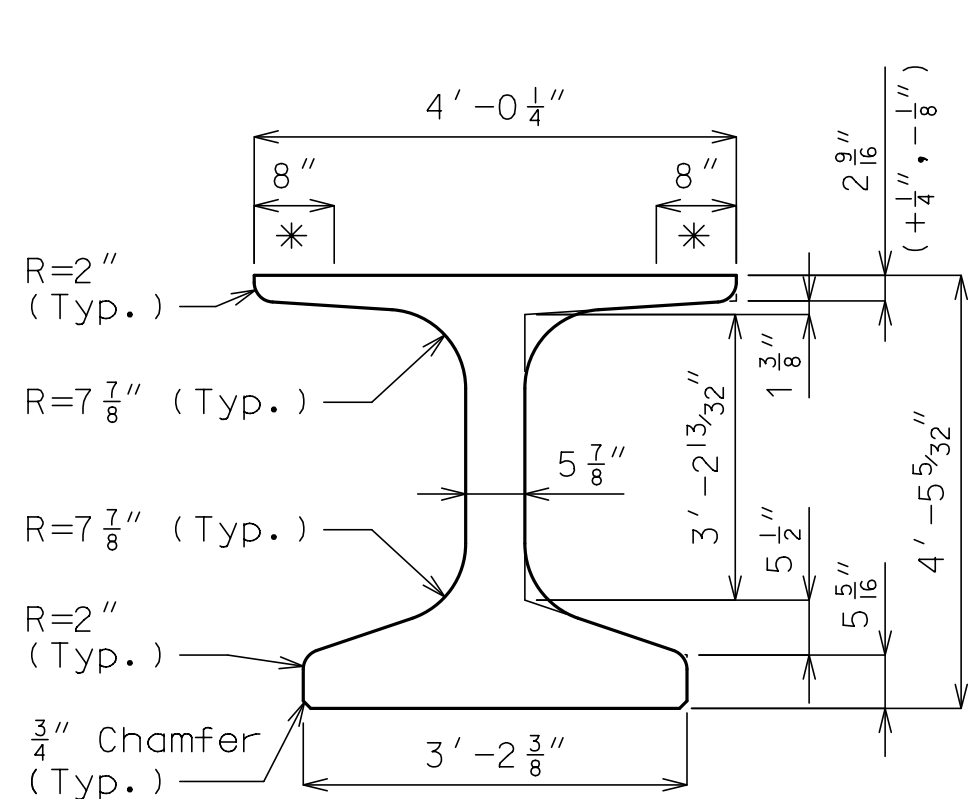
Use 34 strands with an initial prestress force of 1494 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

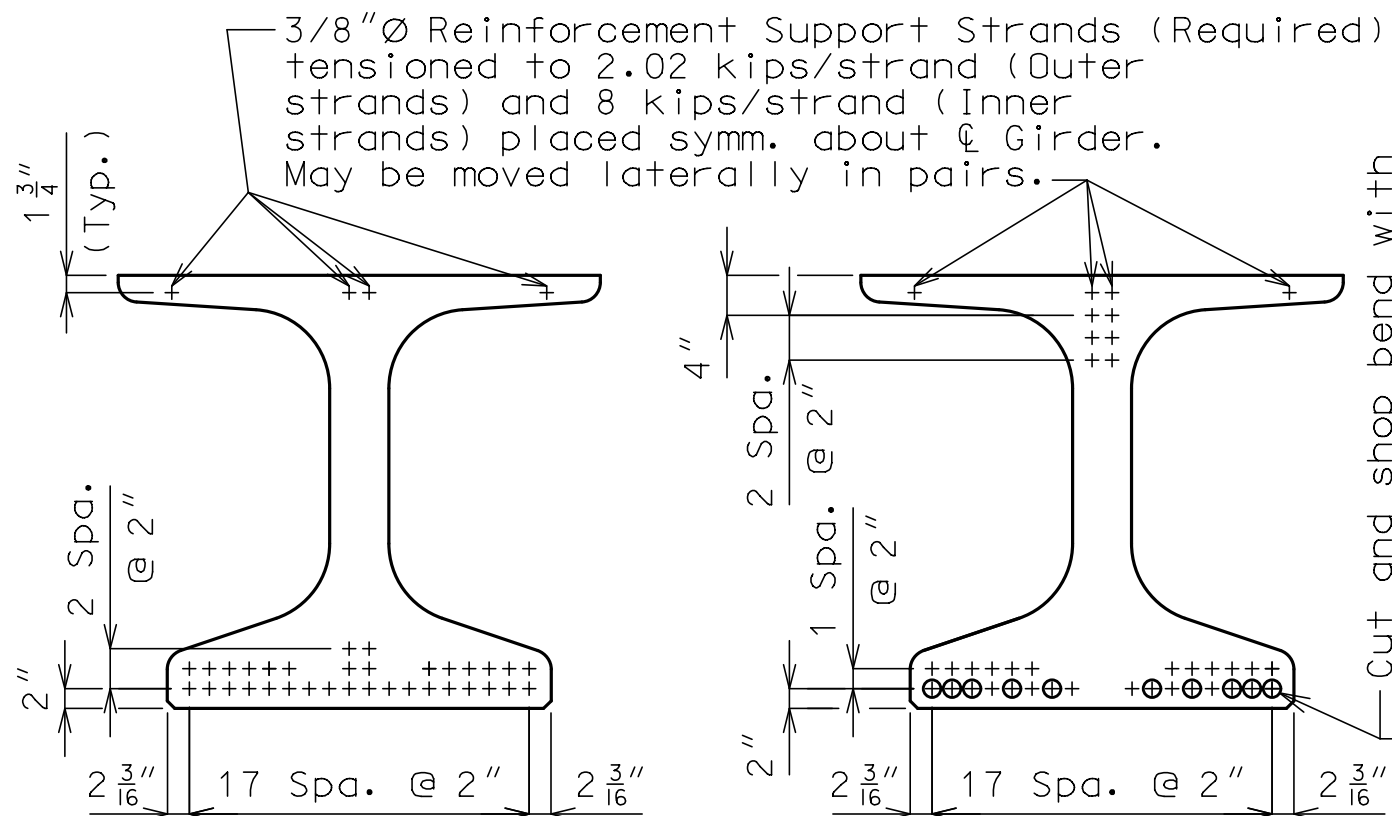
Fabricator shall be responsible for location and design of lifting devices.

* Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

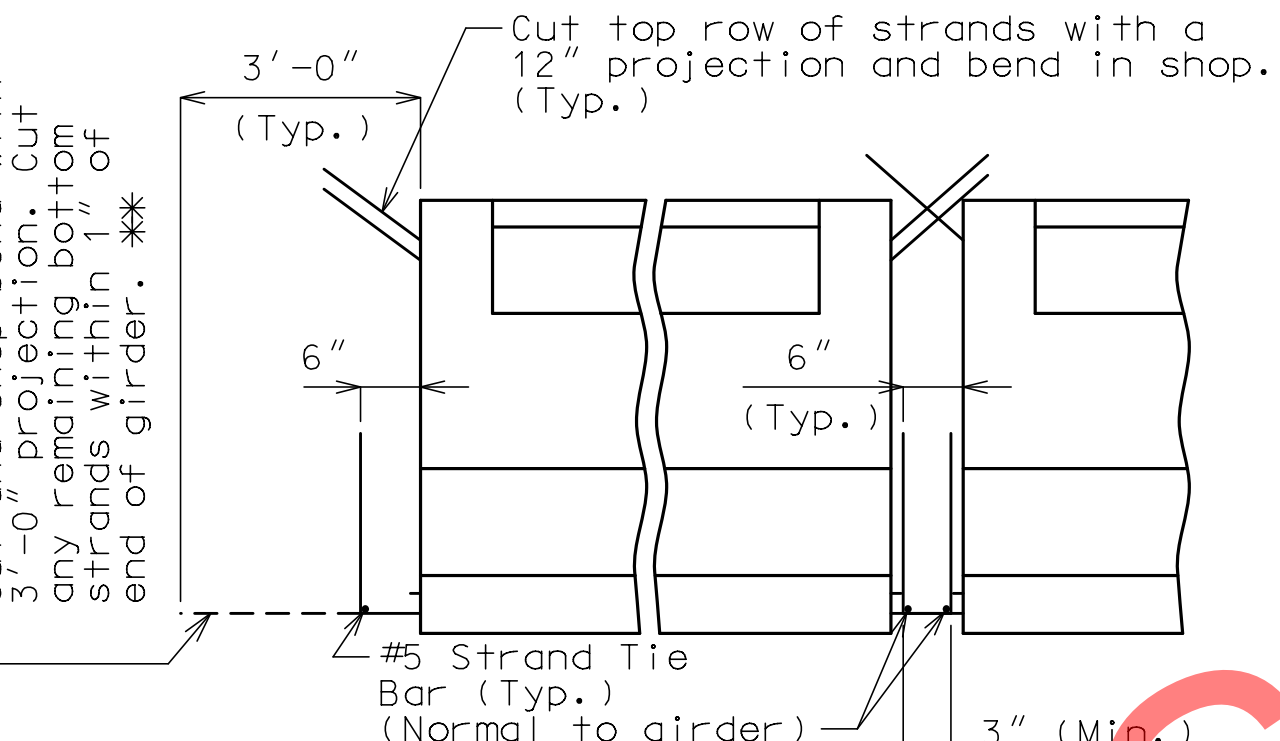
** At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.



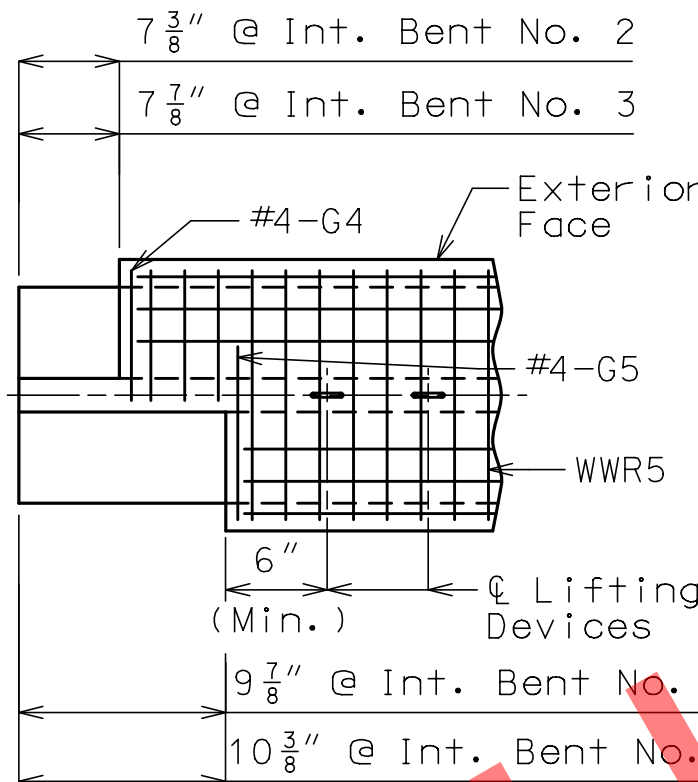
DIMENSIONS



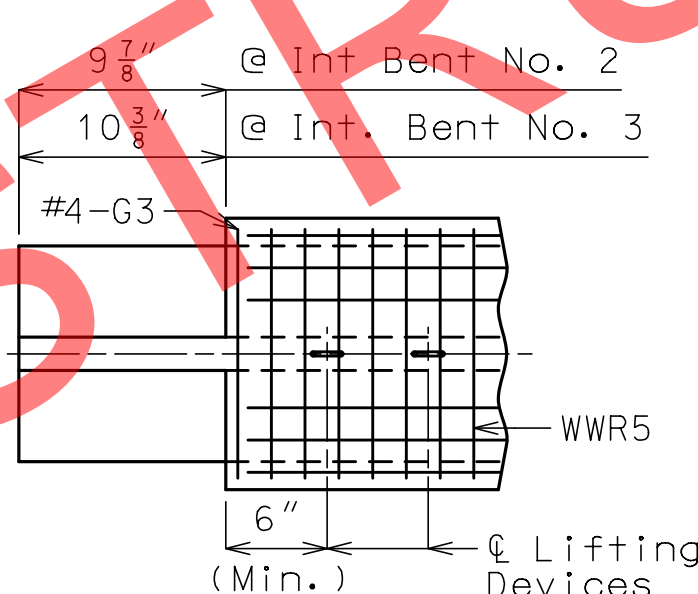
END OF GIRDER
STRAND ARRANGEMENTS



STRAND DETAILS AT GIRDER ENDS



LEFT EXTERIOR GIRDER AT
INTERMEDIATE BENT (ROTATE
180° FOR RIGHT EXTERIOR)

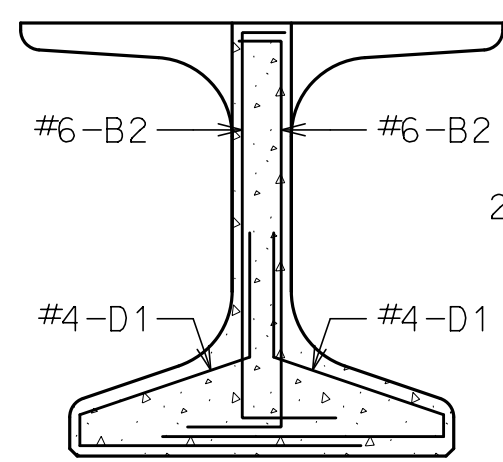


INTERIOR GIRDER AT ALL BENTS
& EXTERIOR GIRDER AT END BENT
TOP FLANGE BLOCKOUT

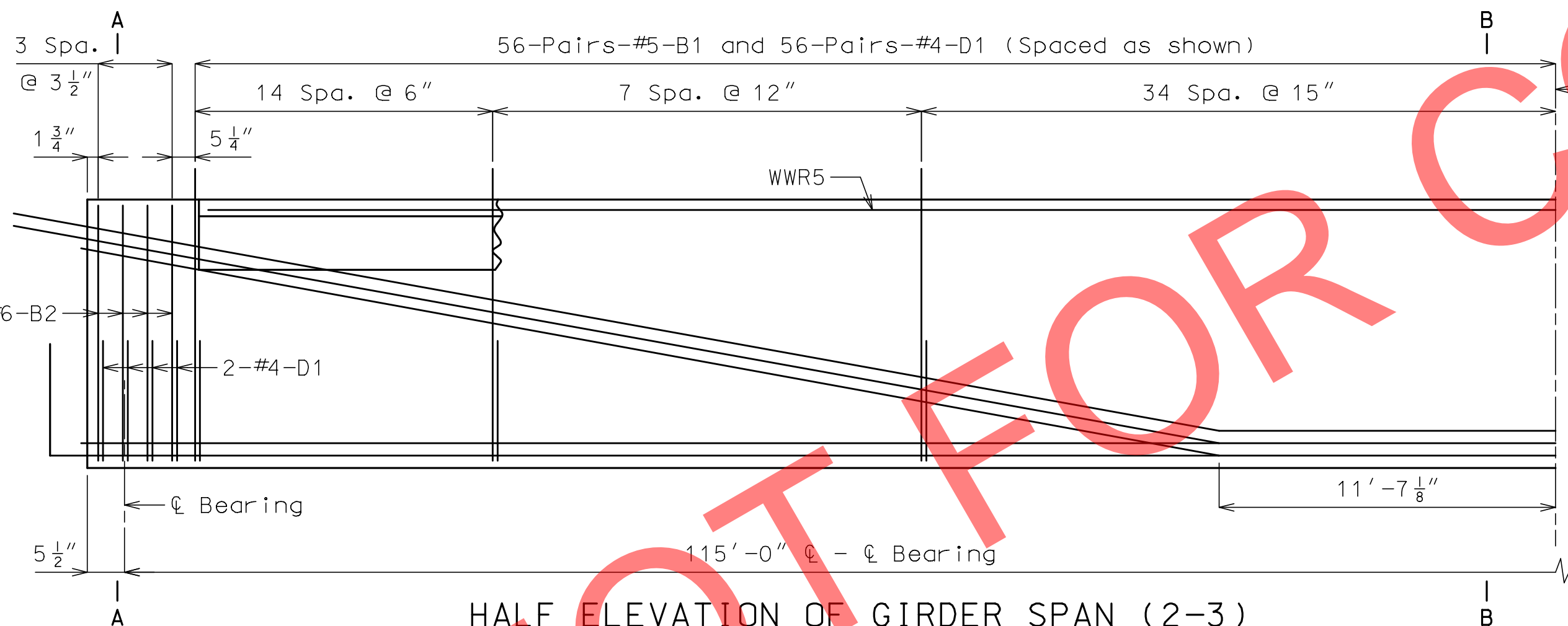
BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
222	5 B1	5'-10"	11	
16	6 B2	5'-10"	11	
238	4 D1	4'-0"	9	
2	4 G3	3'-10 1/4"	20	
2	4 G4	2'-1"	20	
2	4 G5	2'-8 1/8"	20	

G4 and G5 not required for interior girders. G3 not required for ext. girders.

WELDED WIRE REINFORCEMENT - EACH GIRDER				
D20 @ 6"	W8 (Typ.)	6"	20"	6"
WWR5				

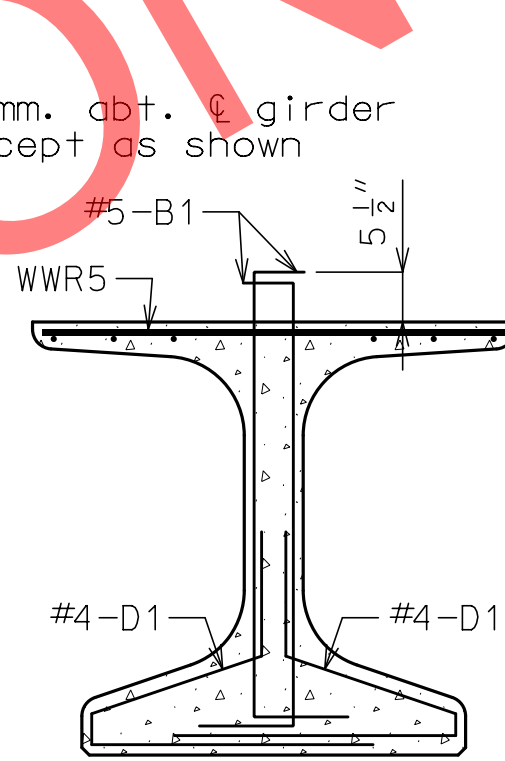


SECTION A-A
Strands not shown for clarity.

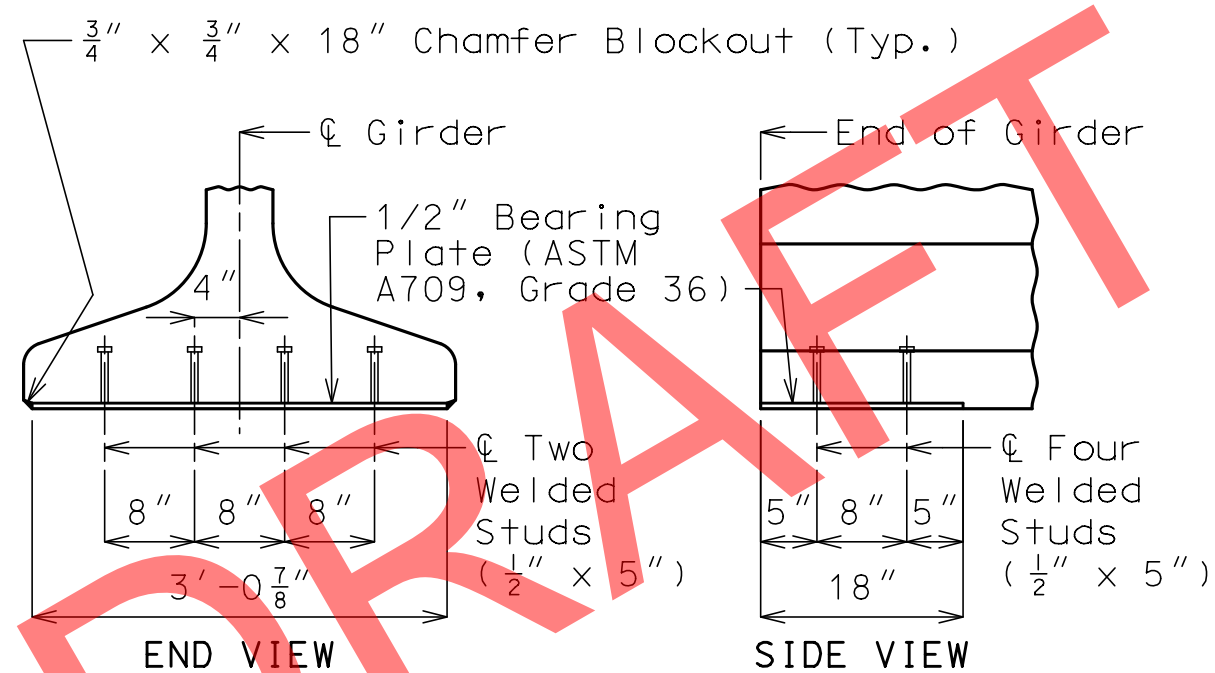


HALF ELEVATION OF GIRDER SPAN (2-3)

Exterior and interior girders are the same, except for coil ties. Reinforcement support strands not shown for clarity.



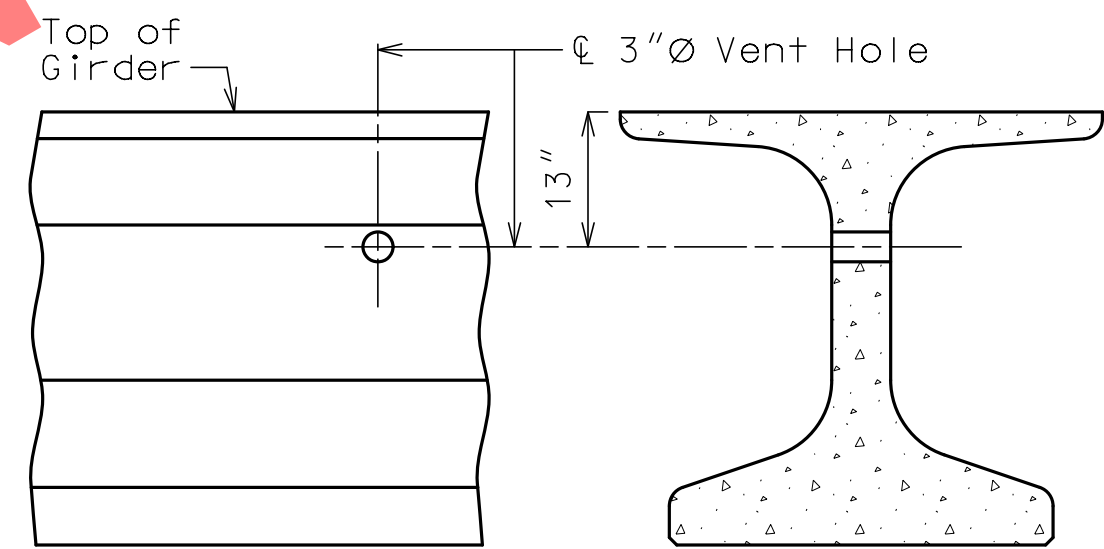
SECTION B-B
Strands not shown for clarity.



BEARING PLATE DETAILS

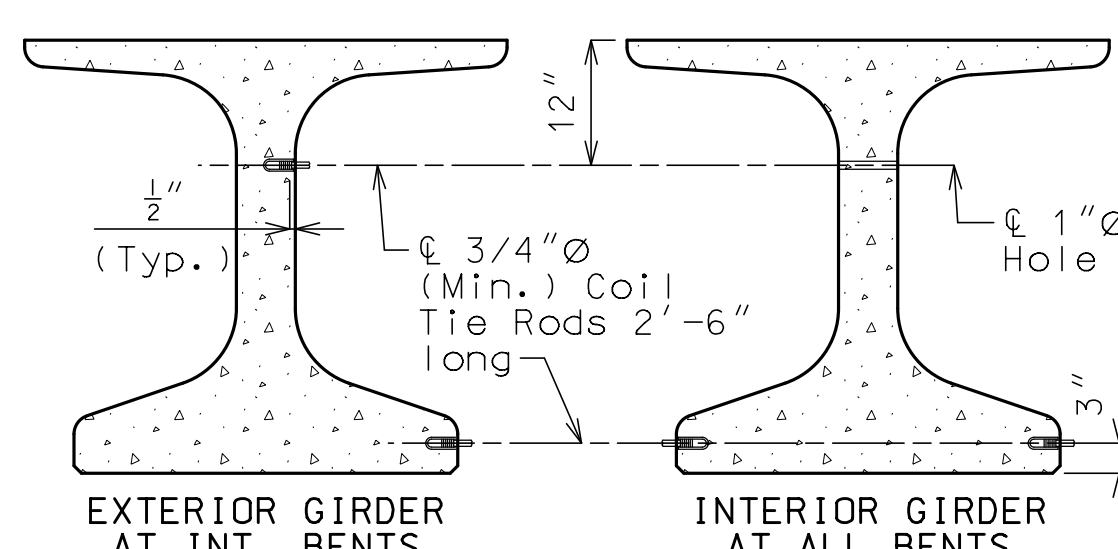
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



DETAILS OF VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel interm. diaphragm bolt connections by 6" minimum.



DETAILS OF COIL TIES

Cast 1" hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

General Notes:

Reinforcing Steel:

All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

Miscellaneous:

Cost of 3/4" coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For location of coil inserts at slab drains, see Sheet No. 22.

For location of coil ties and #6 bars at concrete bent diaphragms, see Sheet No. 21.

The 1 1/2" holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 20.

For Girder Camber Diagram, see Sheet No. 23.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

Detailed March 2021
Checked May 2021

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

Sheet No. 16 of 51

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 16
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9133	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
olsson	7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592

Concrete for prestressed girders shall be Class A-1 with $f'c = 8000$ psi and $f'ci = 6500$ psi.

(+) indicates prestressing strand.

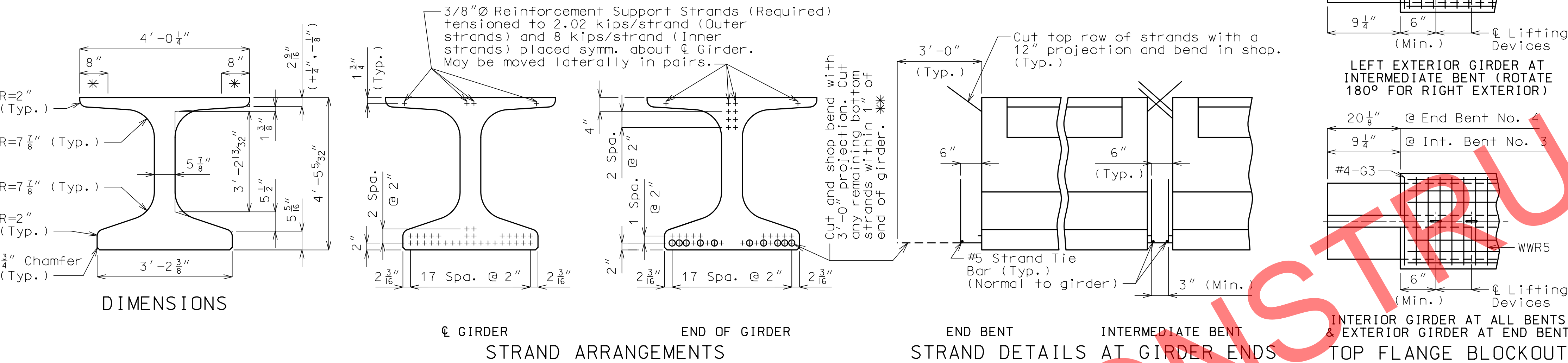
Use 32 strands with an initial prestress force of 1406 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

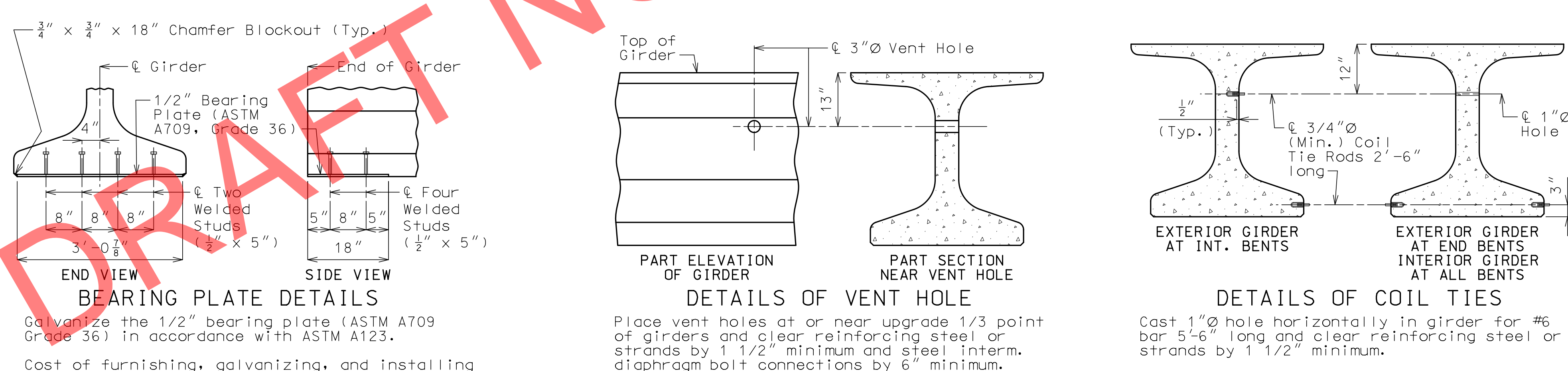
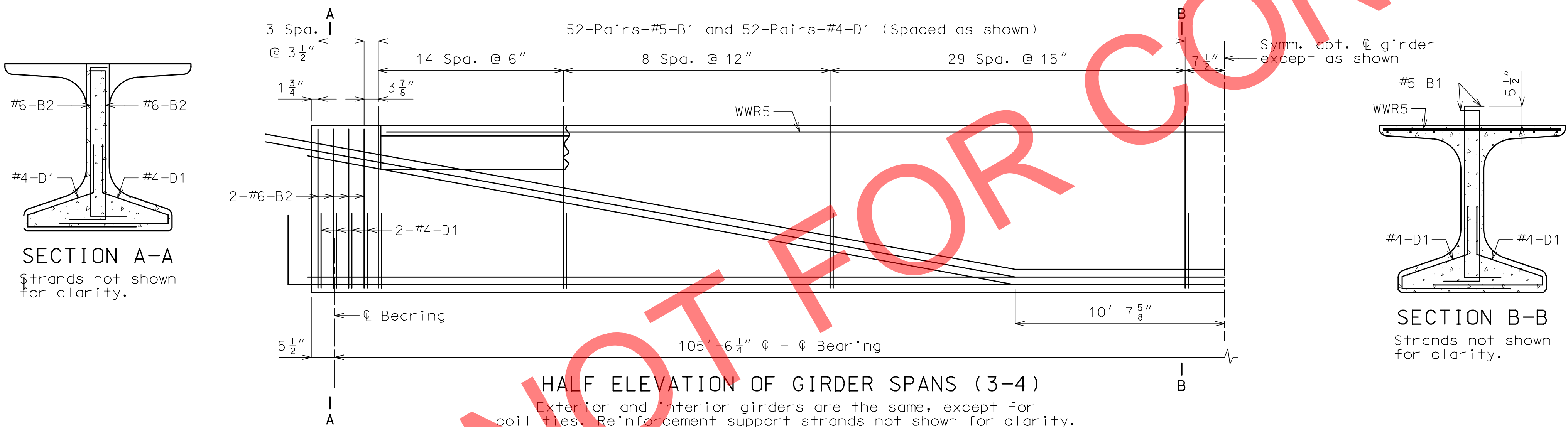
Fabricator shall be responsible for location and design of lifting devices.

* Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

** At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	
208	5 B1	5'-10"	11	
16	6 B2	5'-1"	11	
224	4 D1	4'-0"	9	
2	4 G3	3'-10 1/4"	20	
1	4 G4	2'-1"	20	
1	4 G5	2'-8 1/8"	20	



General Notes:

Reinforcing Steel:

All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

Miscellaneous:

Cost of 3/4" coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

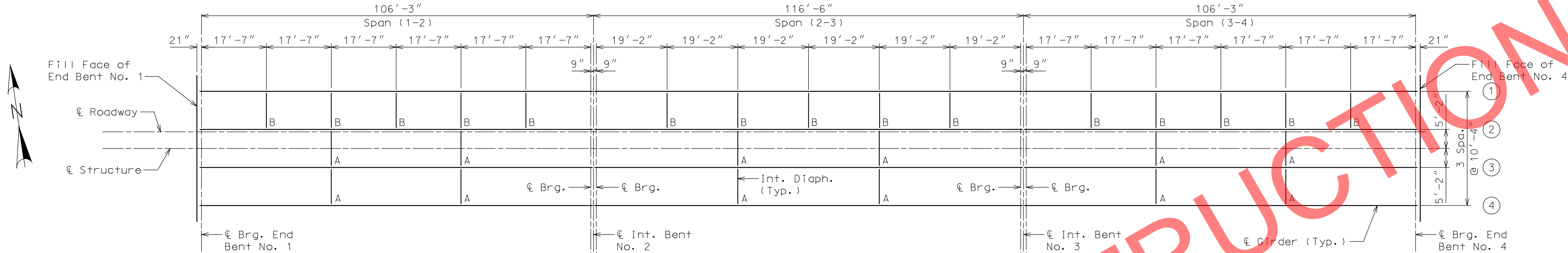
For location of coil inserts at slab drains, see Sheet No. 22.

For location of coil ties and #6 bars at concrete bent diaphragms, see Sheets No. 11 and 21.

The 1 1/2" holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 20.

For Girder Camber Diagram, see Sheet No. 23.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.



Notes:

All girders are parallel.
① - indicates girder number.

PLAN SHOWING LOCATION OF STEEL INTERMEDIATE DIAPHRAGMS

Note: Longitudinal dimensions are horizontal.

STEEL DIAPHRAGM NOTES:

All diaphragm materials including bolts, nuts, and washers shall be galvanized.

Fabricated structural steel shall be ASTM A709 Grade 36 except as noted.

Payment for furnishing and installing steel intermediate diaphragms will be considered completely covered by the contract unit price for Steel Intermediate Diaphragm for P/S Concrete Girders.

Structural steel for carrier pipes and pipe saddles shall be ASTM A709 Grade 36 or Grade 50 and galvanized in accordance with ASTM A123, or approved equivalent. Carrier pipes shall be schedule 40. The welds shall have corrosion resistance and weathering characteristics compatible with the base materials. Welds shall be in conformance with AWS D1.1 and ground flush to provide a smooth surface.

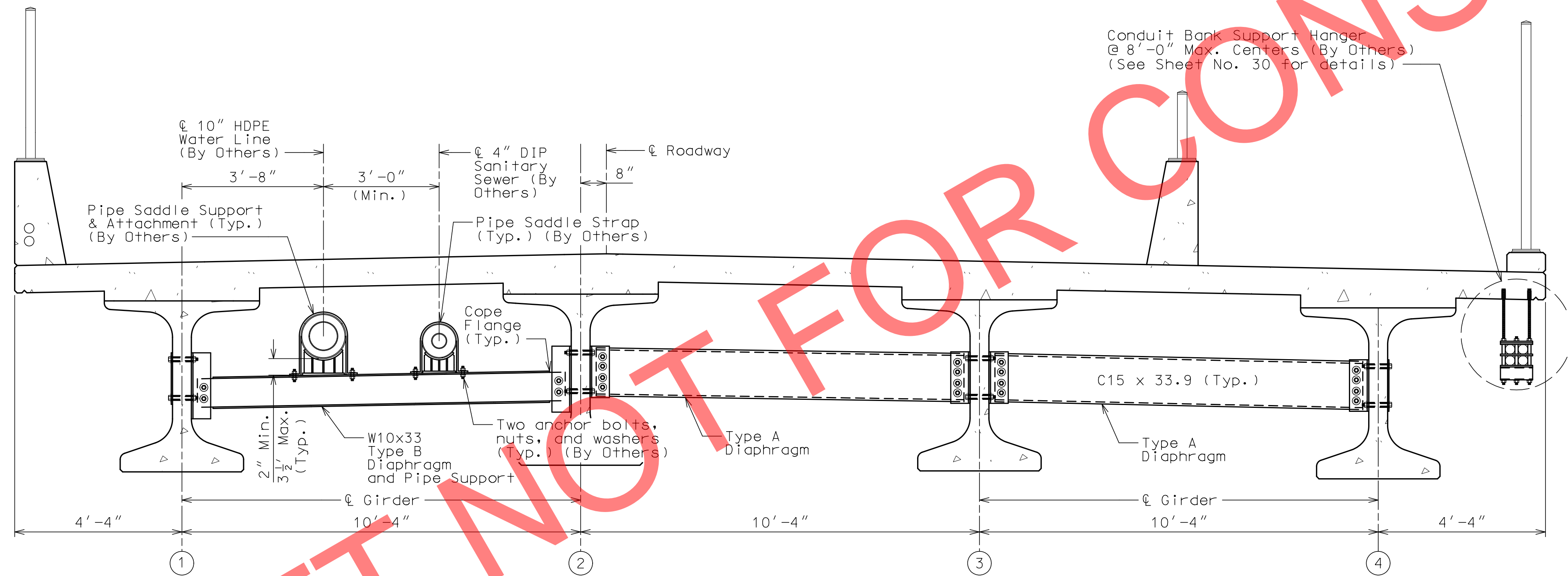
All labor and materials to provide and install carrier pipes, saddles, water main and sanitary sewer lines inside of carrier pipes, associated appurtenances, and insulation while erecting the carrier pipes will be completed by Others.

Product catalog cuts or detailed shop drawings, if custom pipe saddles are desired to be used, shall be submitted to the Engineer for review and approval a minimum of three (3) weeks prior to ordering materials. Dimensions shown are approximate. Contractor and Utility Contractor (Others) to coordinate elevation of steel diaphragm connection points to the prestressed beams with the required height of the pipe saddles and ensure a minimum of 1 1/2" clear is provided to any prestressing strands for the diaphragm bolt holes. Contractor shall coordinate location of diaphragm bolt holes with the precaster and provide their location on the precast beam shop drawings. Pipe saddles and hardware shall be installed in accordance with the Manufacturer's requirements.

Shop drawings will not be required for steel intermediate diaphragms and angle connections.



For additional steel diaphragm details, see Sheet No. 20.

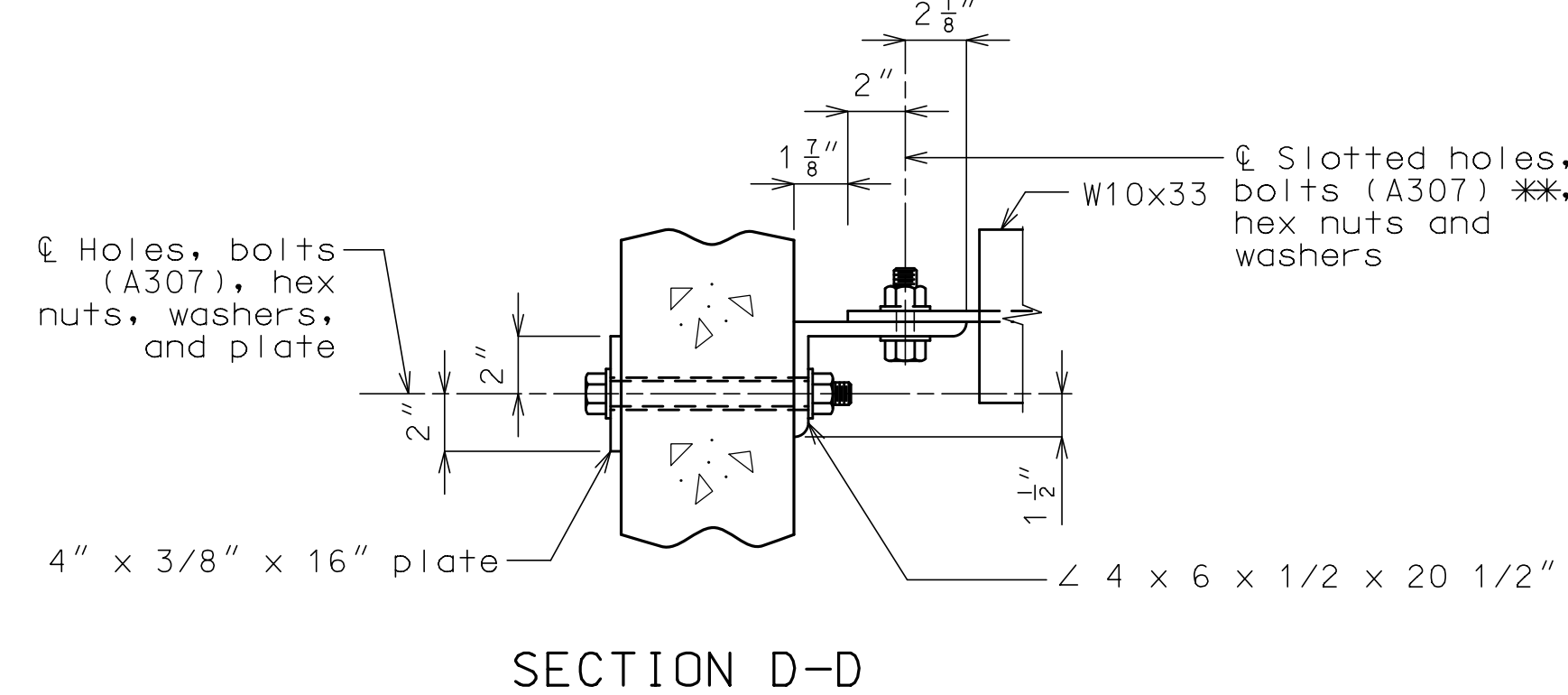
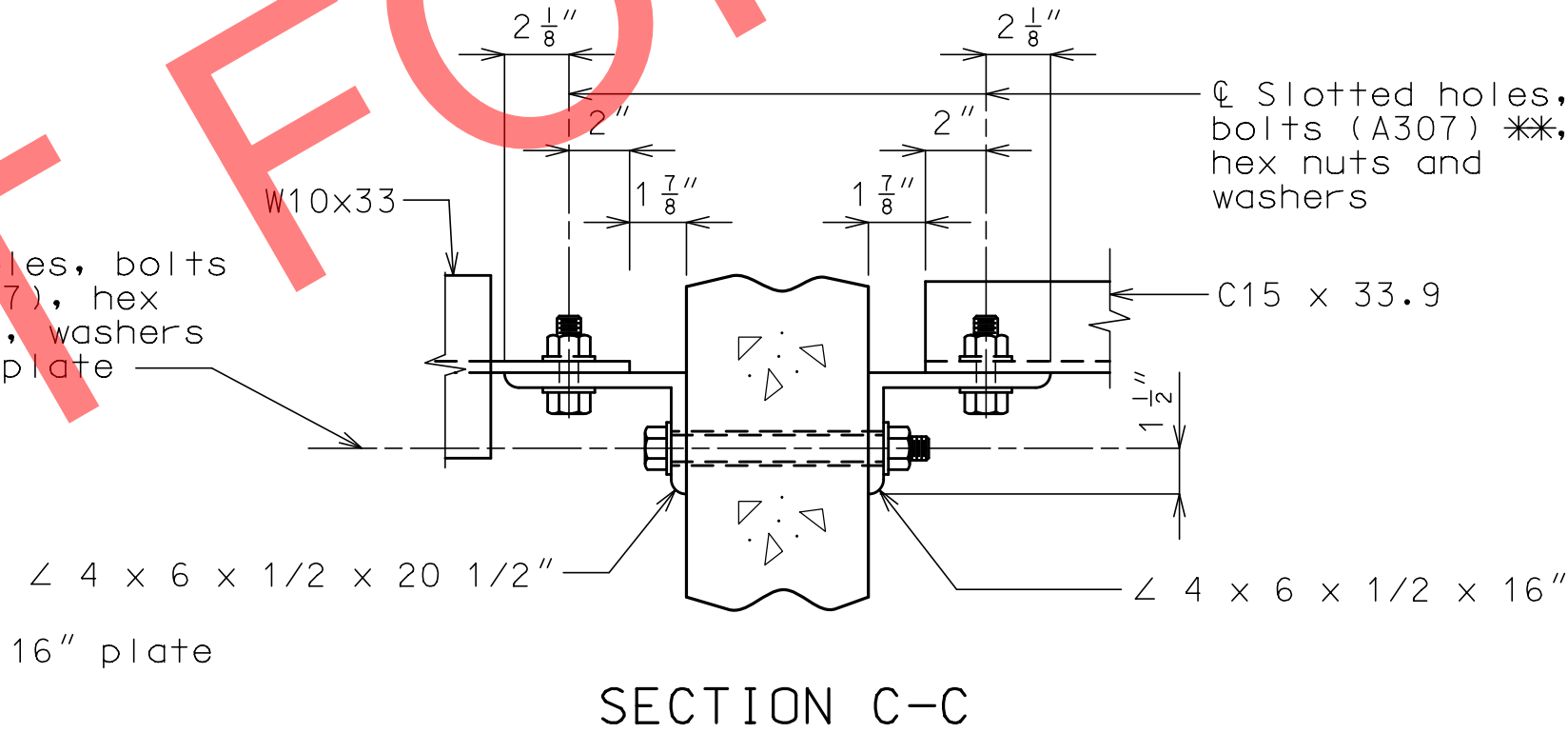
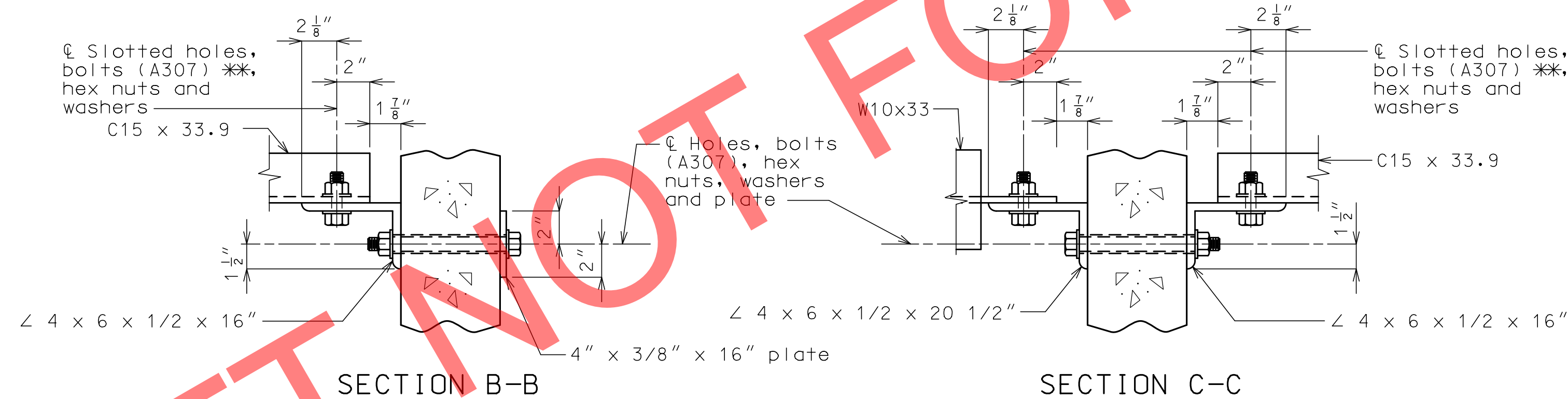
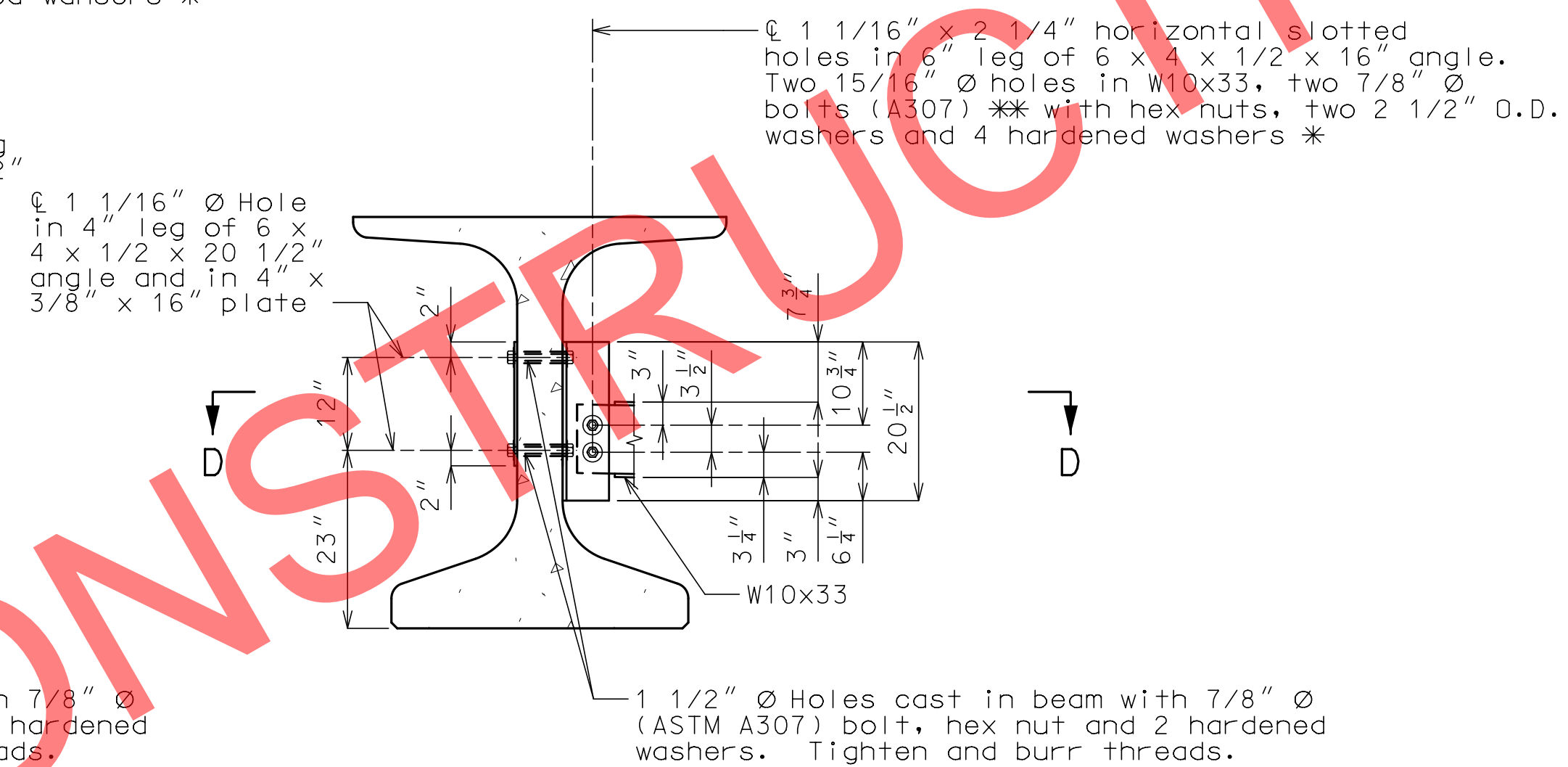
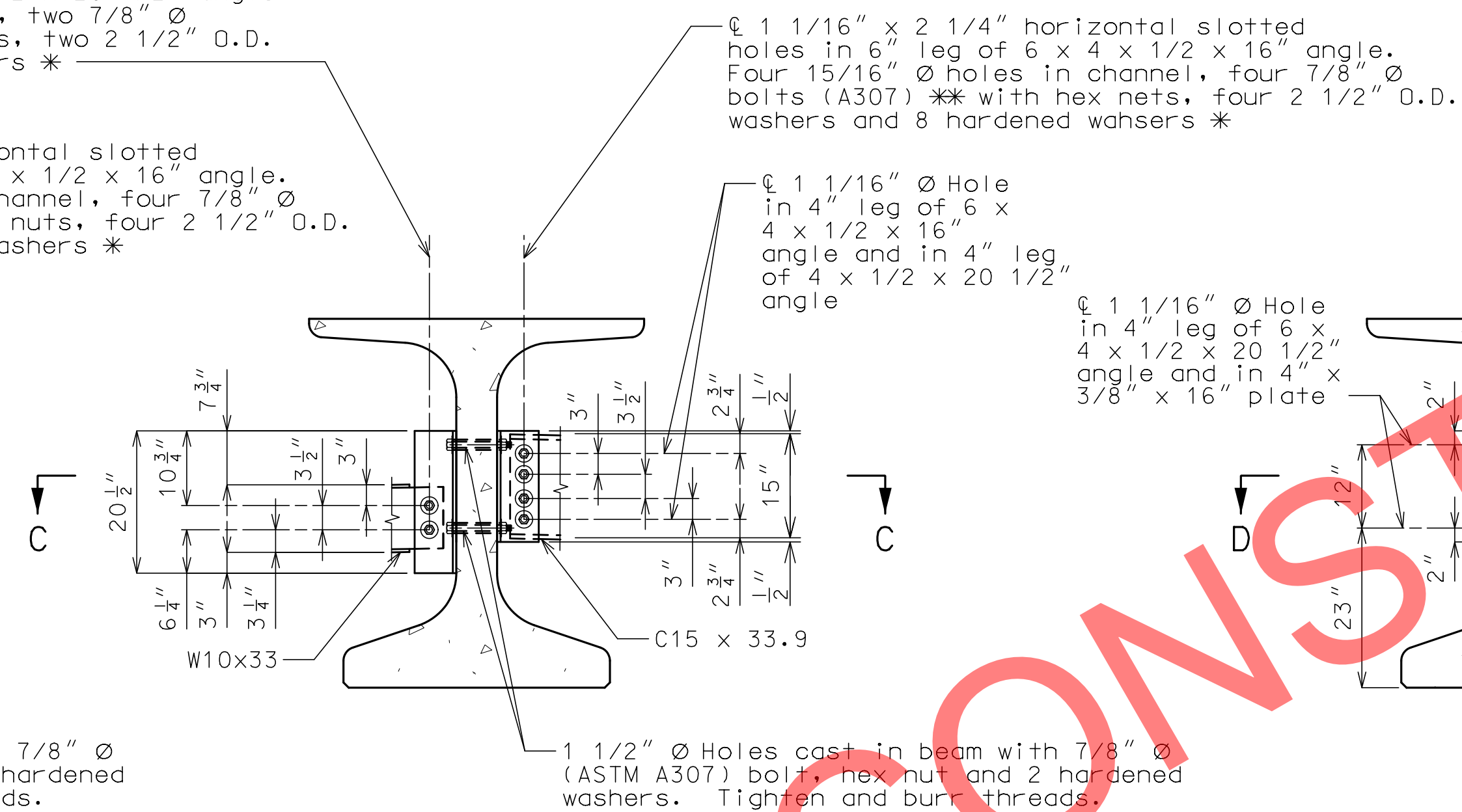
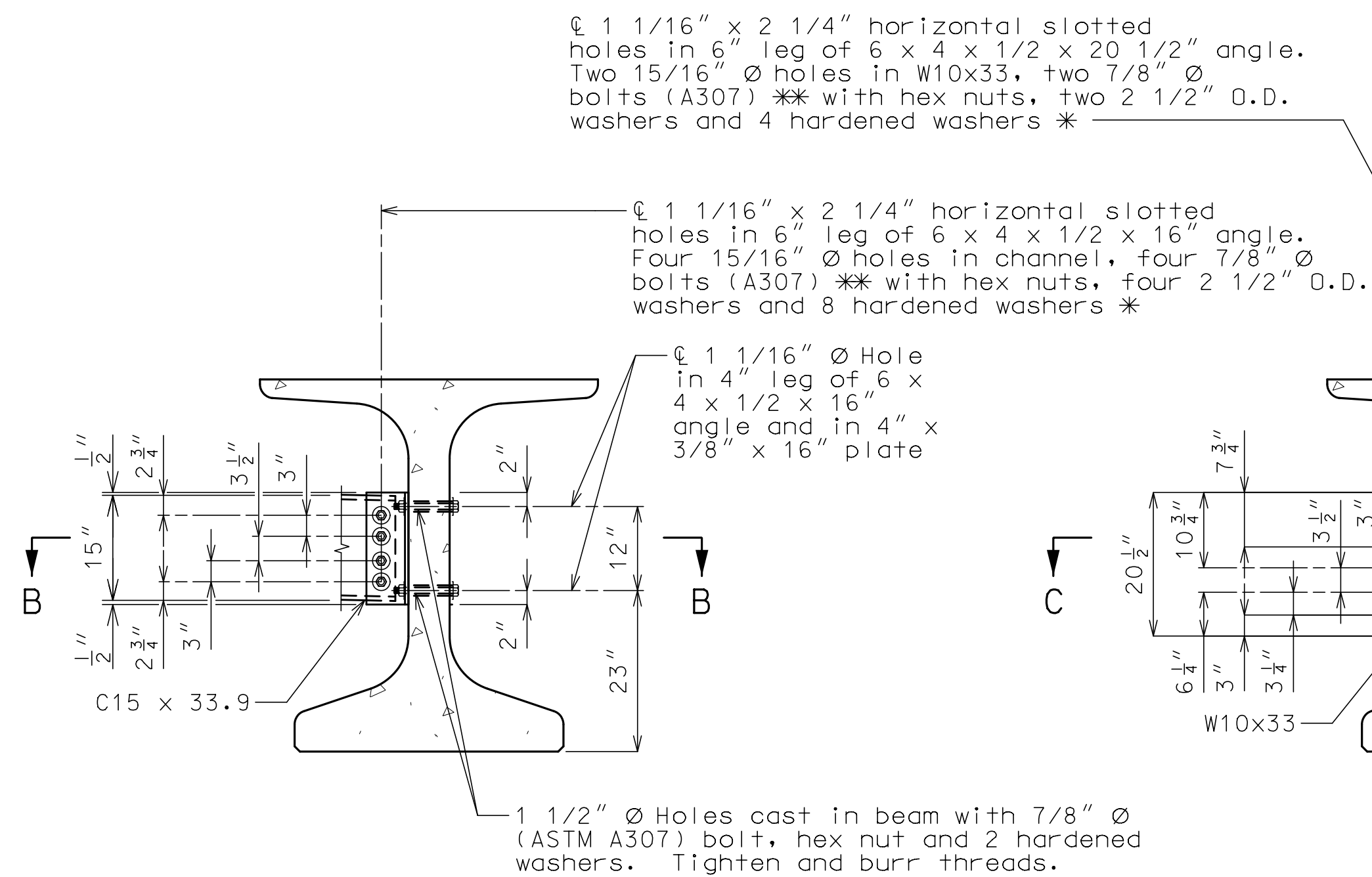
Contractor to coordinate and cooperate with third party utility contractor to ensure access is provided so that they can coordinate location of pipe penetration with pre-approved pipe saddles and attachment requirements, and install the utilities on the bridge prior to installation of the deck.



SECTION SHOWING LOCATION OF STEEL INTERMEDIATE DIAPHRAGMS

STEEL INTERMEDIATE DIAPHRAGM DETAILS

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 19
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9133	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	



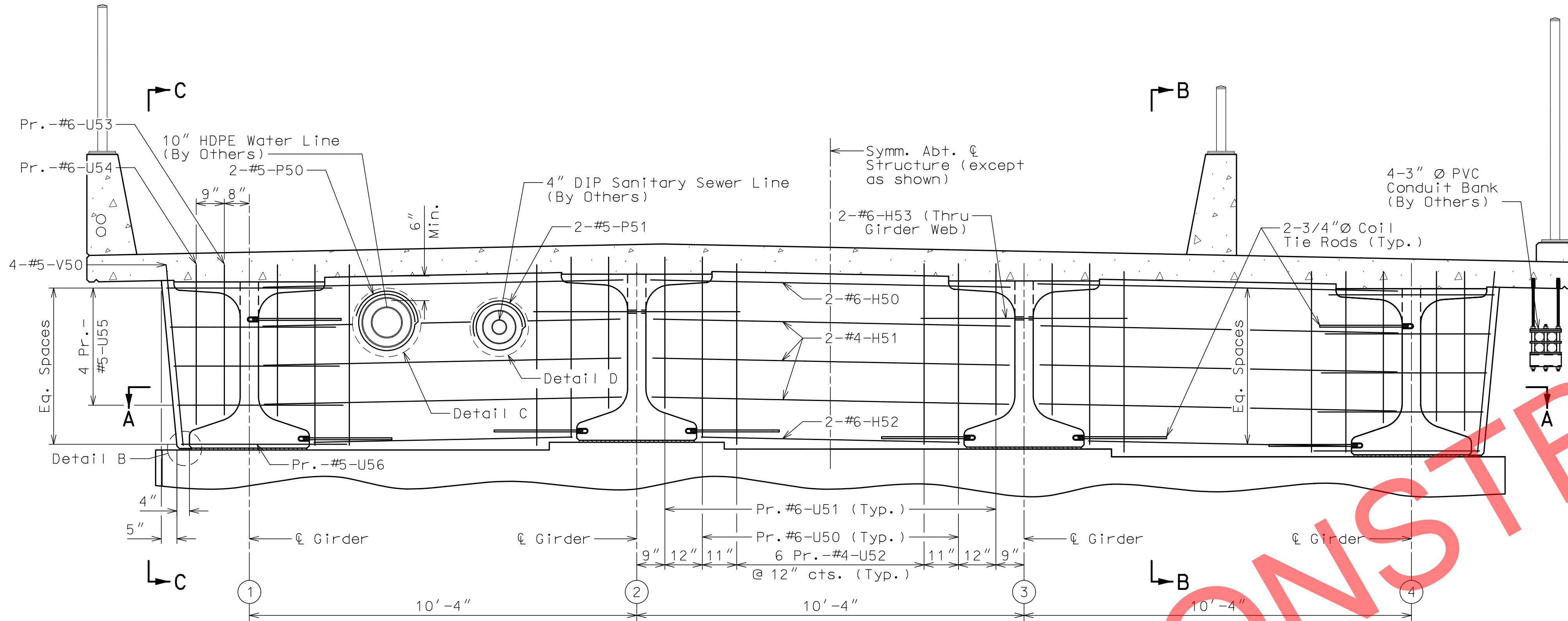
Note:

For location of Steel Int. Diaphragms, see Sheet No. 19.

* In lieu of 2 1/2" outside diameter washers, contractor may substitute a 3/16" (Min. thickness) plate with four 15/16" Ø holes and one hardened washer per bolt.

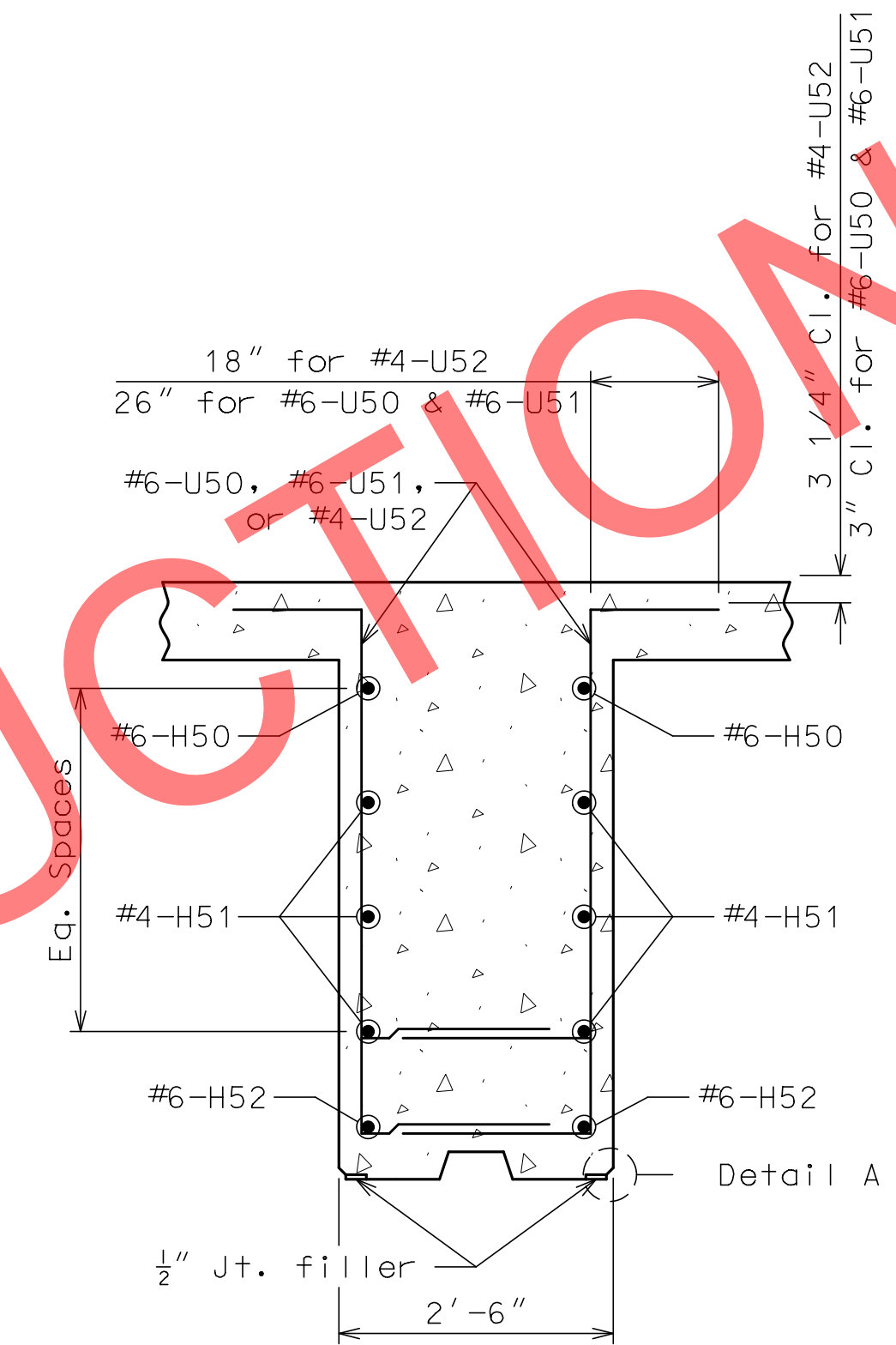
*** Bolts shall be tightened to provide a tension of one-half that specified in Sec 712 for high strength bolt installation. A325 bolts may be substituted for and installed in accordance with the requirements for the specified A307 bolts.

[illegible]

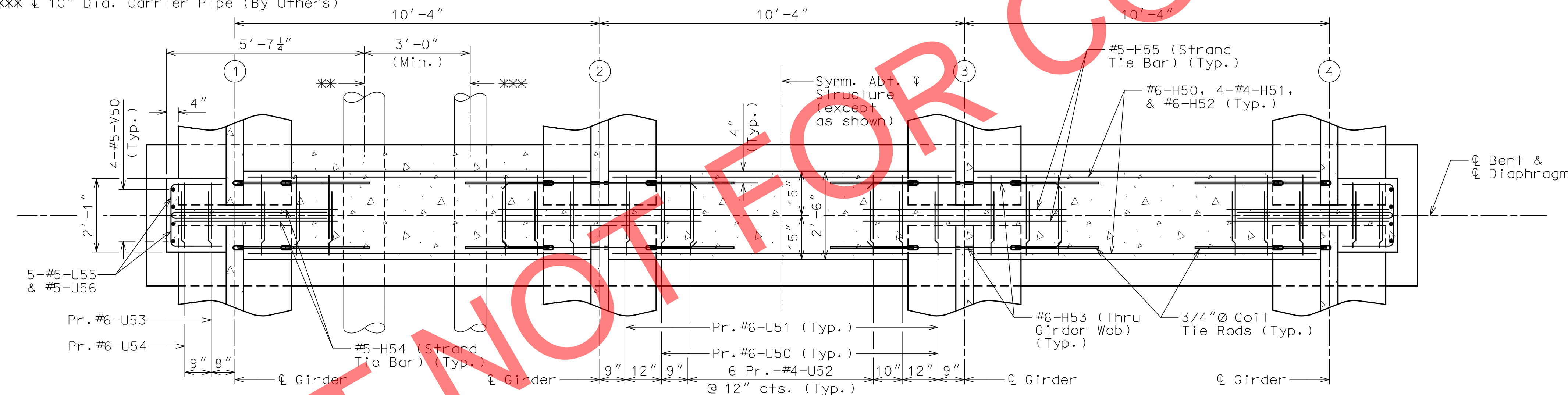


** 16" Dia. Carrier Pipe (By Others)
 *** 10" Dia. Carrier Pipe (By Others)

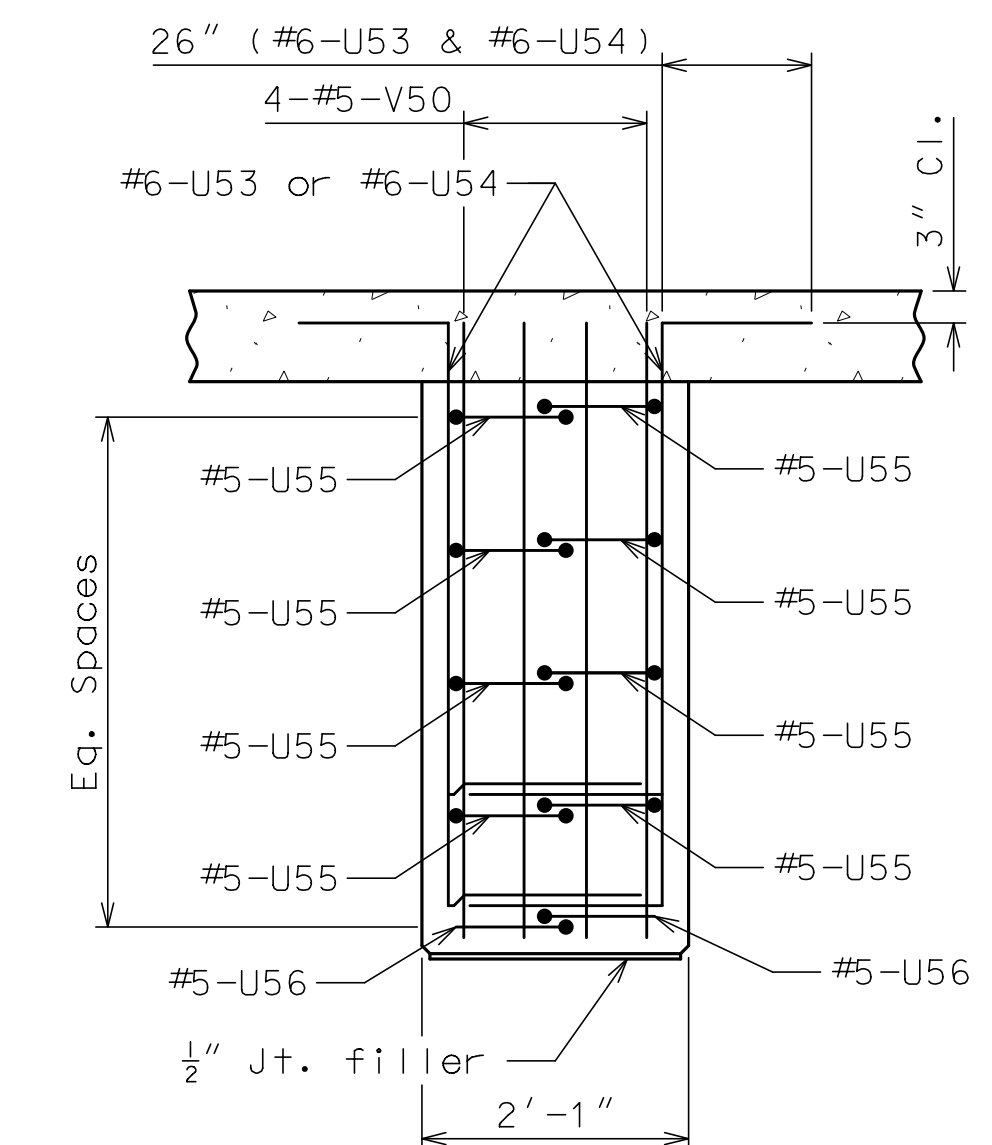
SECTION NEAR INTERMEDIATE BENT NO. 2
(Int. Bent No. 3 Similar)



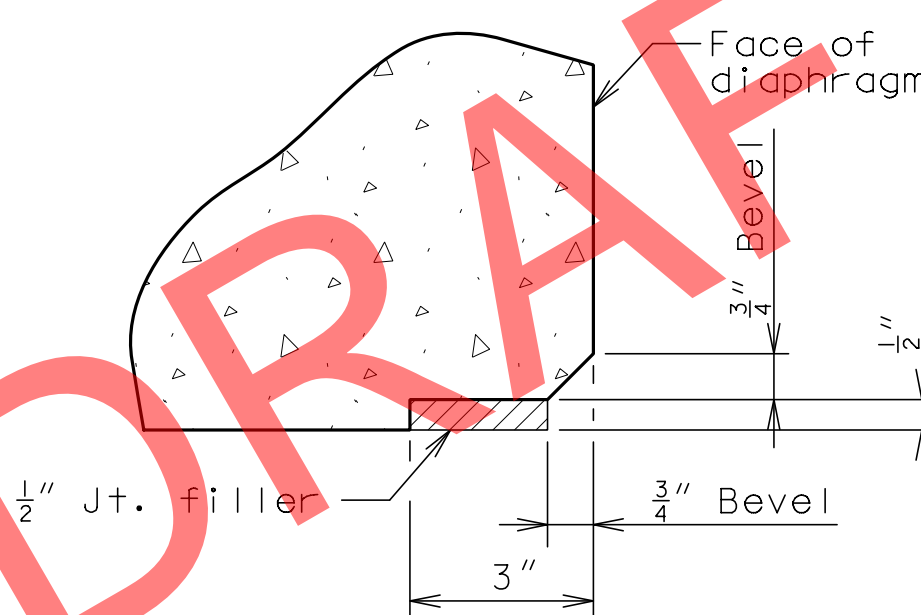
SECTION B-B



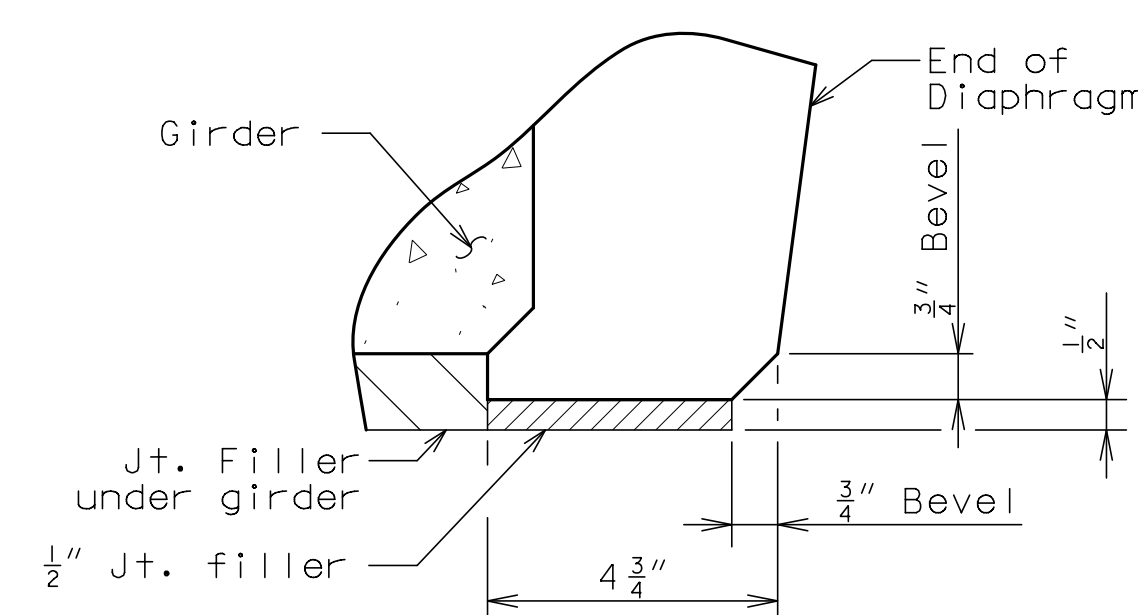
SECTION A-A



SECTION C-C

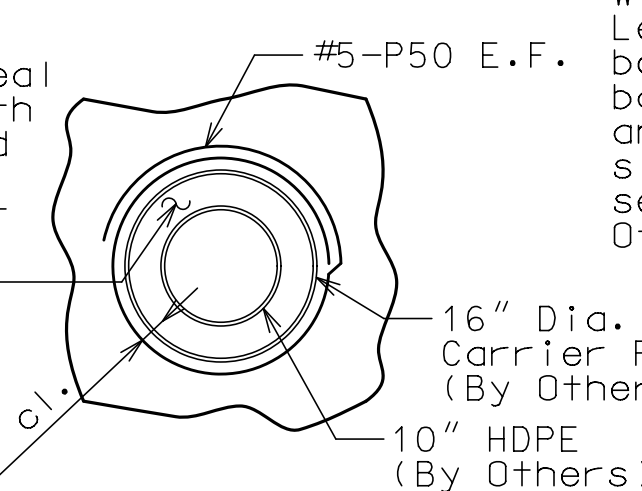


DETAIL A



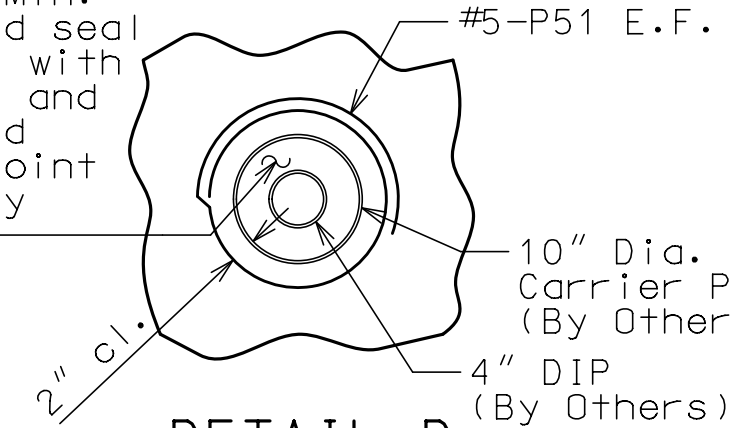
DETAIL B

Fill with four HDPE shims (2" Wide x 6" Min. Length) and seal both faces with backer rod and an approved silicone joint sealant (By Others)



DETAIL C
Cut horizontal and vertical reinforcing in barrel to install 16" Dia. Carrier Pipe.

Fill with four HDPE shims (2" Wide x 6" Min. Length) and seal both faces with backer rod and an approved silicone joint sealant (By Others)



DETAIL D
Cut horizontal and vertical reinforcing in barrel to install 10" Dia. Carrier Pipe.

Notes:

- For locations of Strand Tie Bars, see Sheets No. 13 thru 18.
- For locations and details of Coil Tie Rods, see Sheets No. 13 thru 18.
- Diaphragms at intermediate bents shall be built vertical.

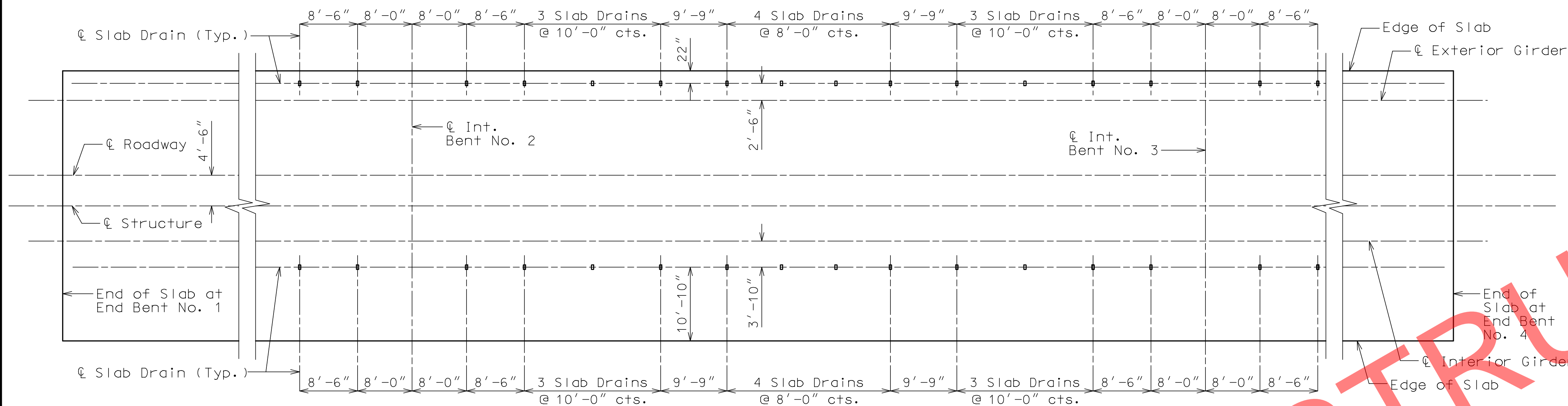
Detailed March 2021
 Checked May 2021

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

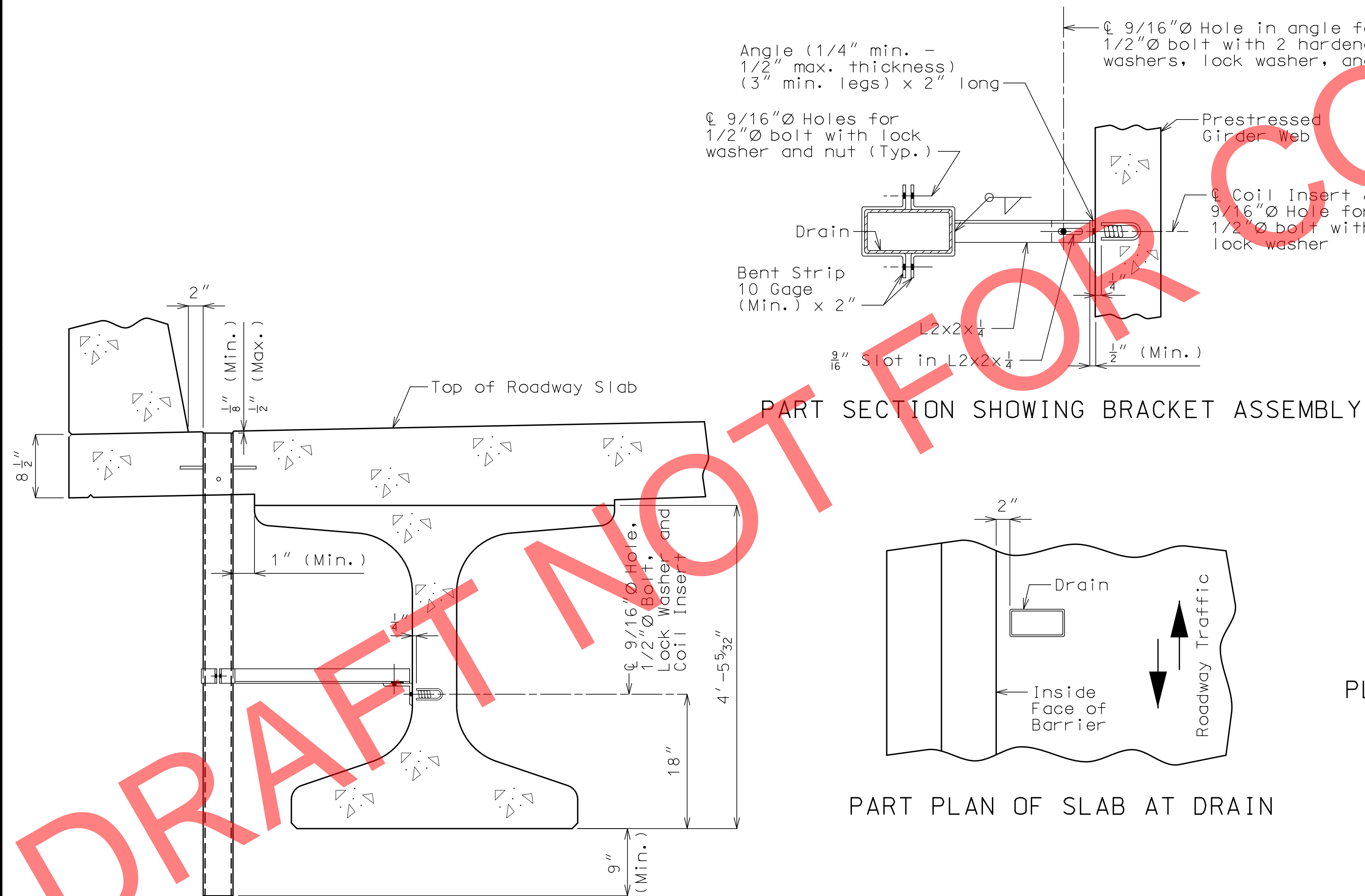
Sheet No. 21 of 51

DATE PREPARED 2/1/2022		ROUTE MIDLAKE		STATE MO	
DISTRICT BR		SHEET NO. 21		COUNTY SULLIVAN	
JOB NO. J1S3392		CONTRACT ID.		PROJECT NO.	
BRIDGE NO. A9133		DESCRIPTION		DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION		105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)		REV.	
olsson		7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592		8:06:26 AM	

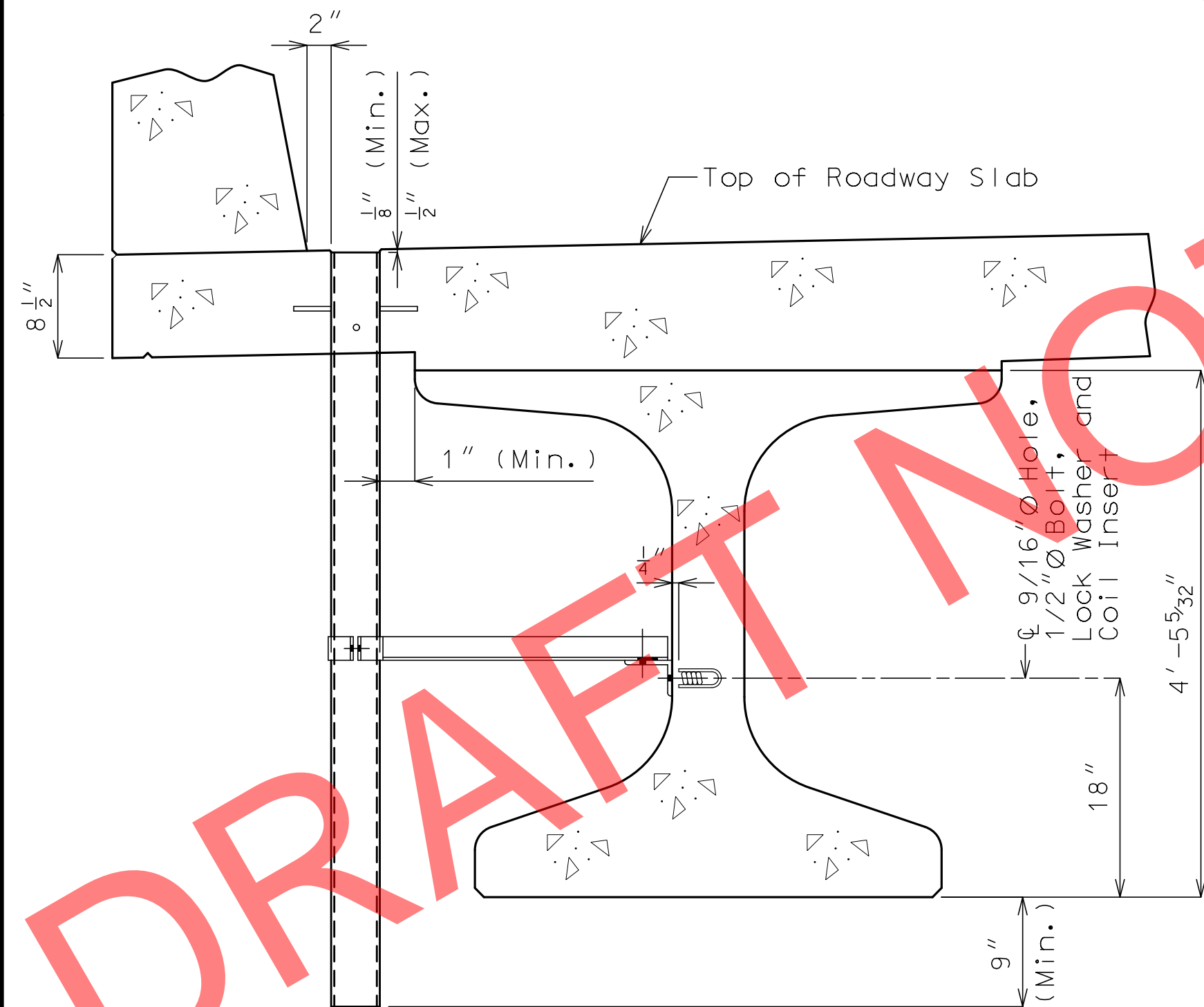
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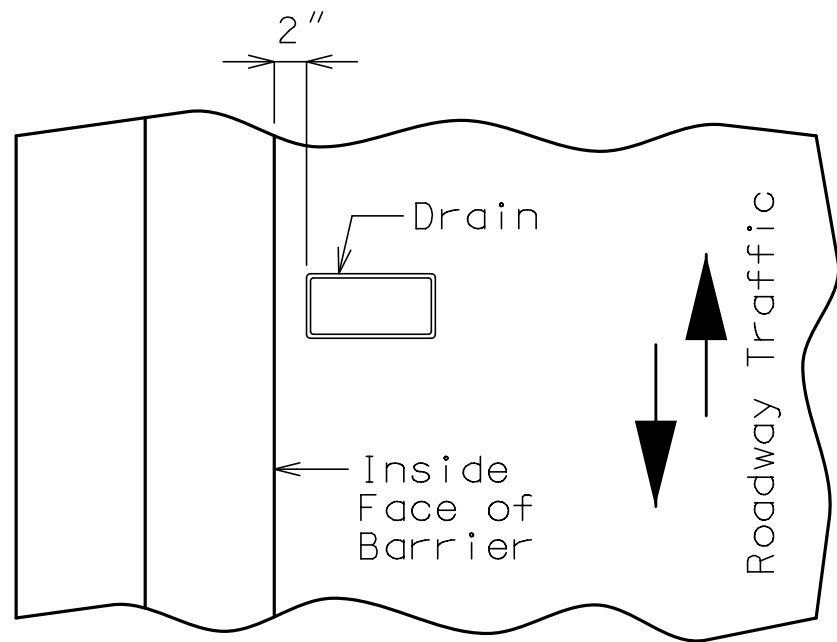
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



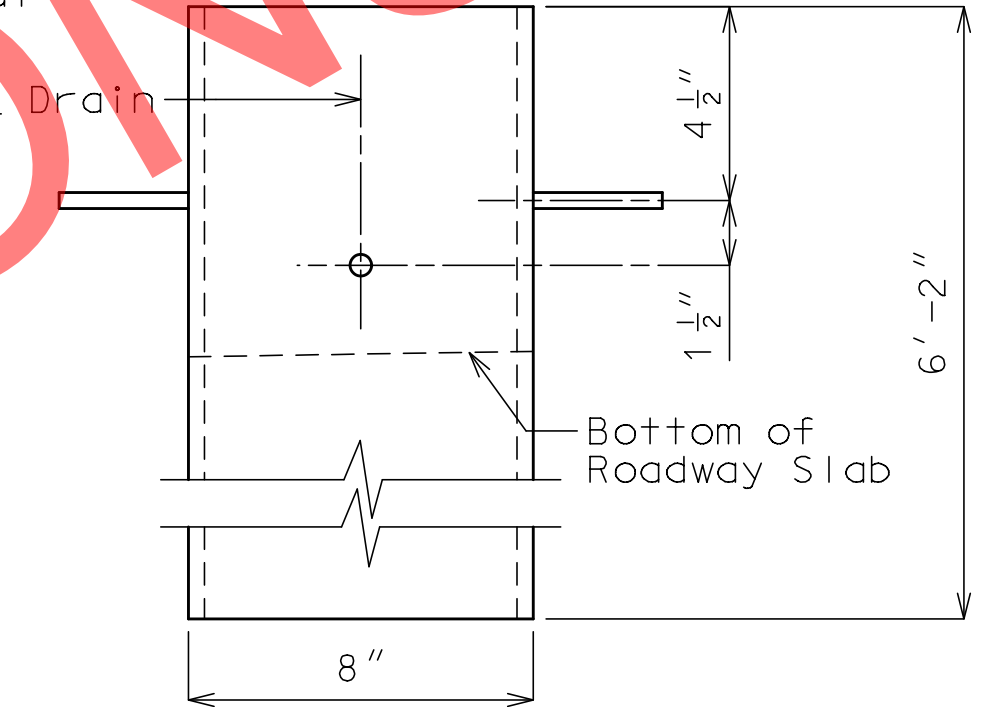
PART SECTION SHOWING BRACKET ASSEMBLY



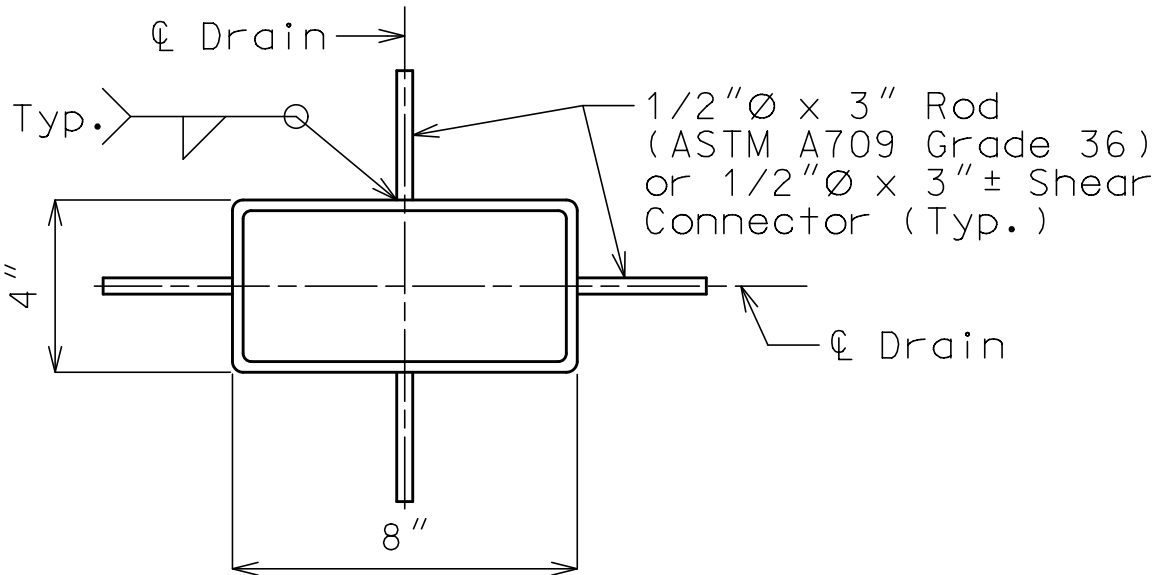
PART SECTION NEAR DRAIN



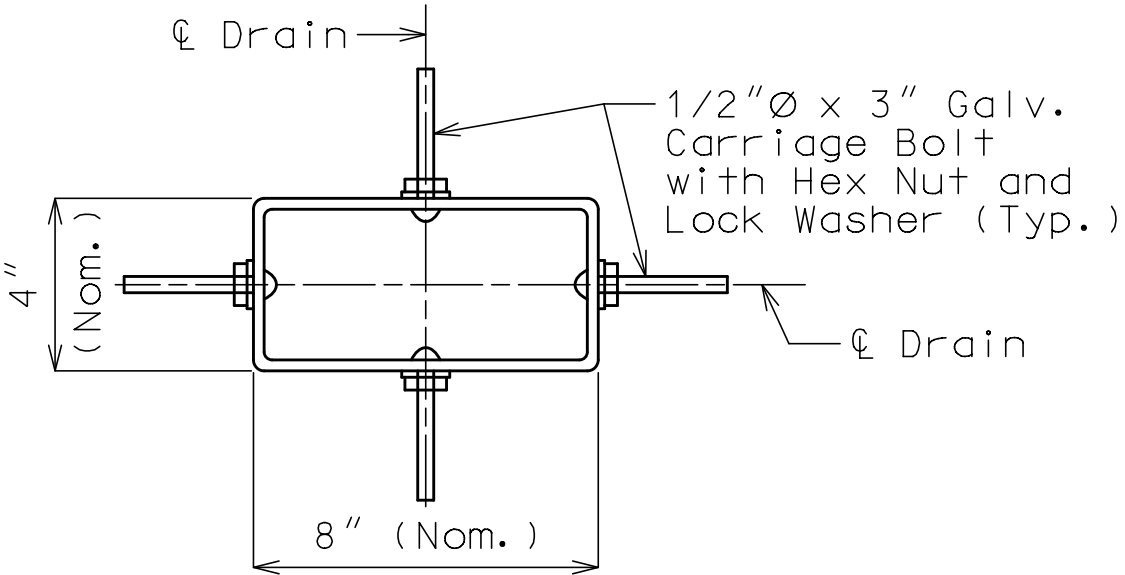
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

SLAB DRAINS

General Notes:

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

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

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

Reinforcing steel shall be shifted to clear drains.

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

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

All 1/2"Ø bolts shall be ASTM A307.

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

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

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

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

Notes for Steel Drain:

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

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

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

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

Minimum reinforced wall thickness shall be 1/4 inch.

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

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

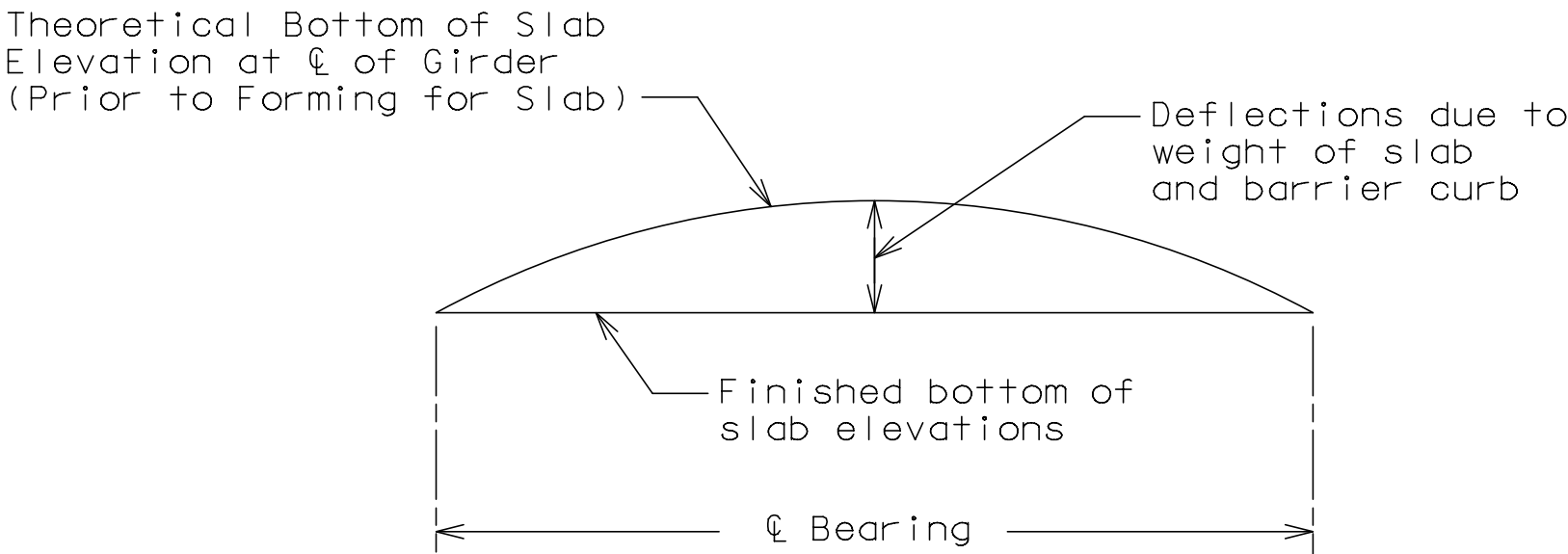
The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall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

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

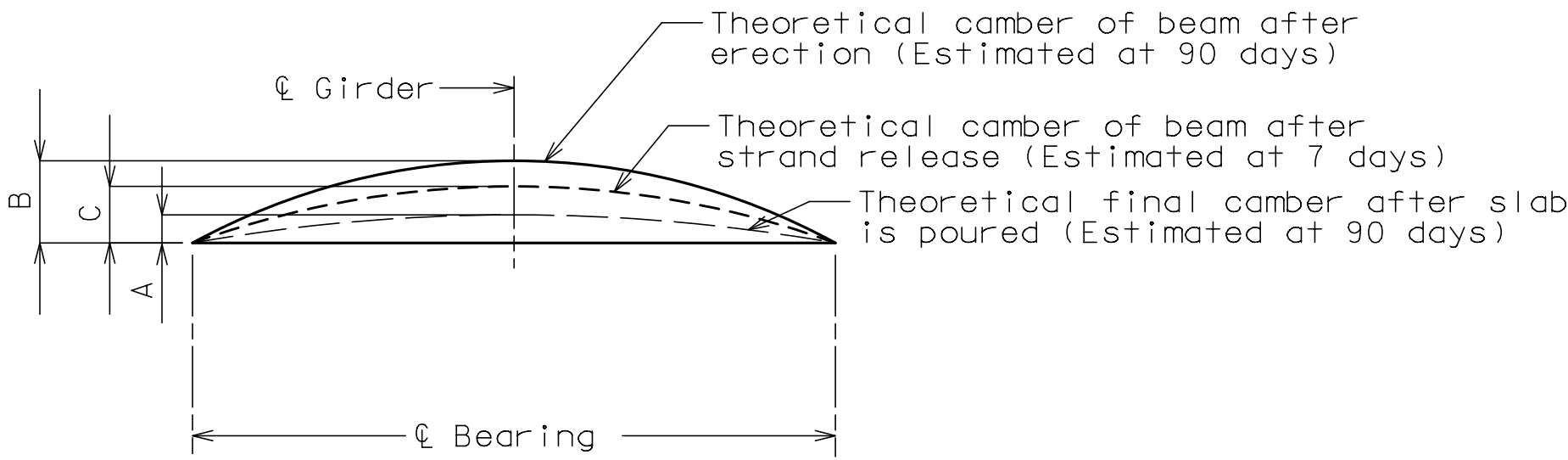
DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 22
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9133	
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THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)



TYPICAL SLAB ELEVATIONS DIAGRAM



GIRDER CAMBER DIAGRAM

Theoretical Bottom of Slab Elevations at CL of Girder (Prior to Forming for Slab)(Estimated at 90 days)											
Girder Number	Span (1-2) (105'-6" CL brg - CL brg.)										
	CL brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	CL brg.
1	939.30	939.51	939.70	939.87	940.01	940.12	940.21	940.26	940.29	940.29	940.28
2	939.51	939.72	939.92	940.09	940.23	940.34	940.42	940.48	940.50	940.50	940.48
3	939.33	939.54	939.74	939.91	940.05	940.16	940.24	940.30	940.32	940.32	940.30
4	939.12	939.33	939.52	939.69	939.83	939.94	940.02	940.08	940.11	940.11	940.10
Girder Number	Span (2-3) (115'-0" CL brg - CL brg.)										
	CL brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	CL brg.
1	940.28	940.38	940.45	940.49	940.50	940.47	940.40	940.30	940.16	939.99	939.80
2	940.49	940.59	940.67	940.71	940.72	940.69	940.63	940.52	940.38	940.20	940.01
3	940.31	940.41	940.49	940.53	940.54	940.51	940.45	940.34	940.20	940.02	939.83
4	940.10	940.20	940.27	940.31	940.32	940.29	940.22	940.12	939.98	939.81	939.62
Girder Number	Span (3-4) (105'-6" CL brg - CL brg.)										
	CL brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	CL brg.
1	939.78	939.71	939.62	939.50	939.36	939.19	938.99	938.76	938.51	938.23	937.93
2	939.99	939.92	939.83	939.72	939.58	939.41	939.21	938.98	938.72	938.44	938.14
3	939.81	939.74	939.65	939.54	939.40	939.23	939.03	939.80	938.54	938.26	937.96
4	939.60	939.53	939.44	939.32	939.18	939.01	938.81	938.58	938.32	938.05	937.75

Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab and barrier curb.
Longitudinal dimensions are horizontal.

	Span (1-2)			Span (2-3)			Span (3-4)		
	A	B	C	A	B	C	A	B	C
Ext. Girder	1 1/4"	3 3/8"	1 7/8"	1 1/8"	3 7/8"	2 1/4"	1 1/4"	3 3/8"	1 7/8"
Int. Girder	1 1/4"			7/8"			1 1/4"		

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

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

Conversion factors for beam camber (estimated at 90 days)

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

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9133

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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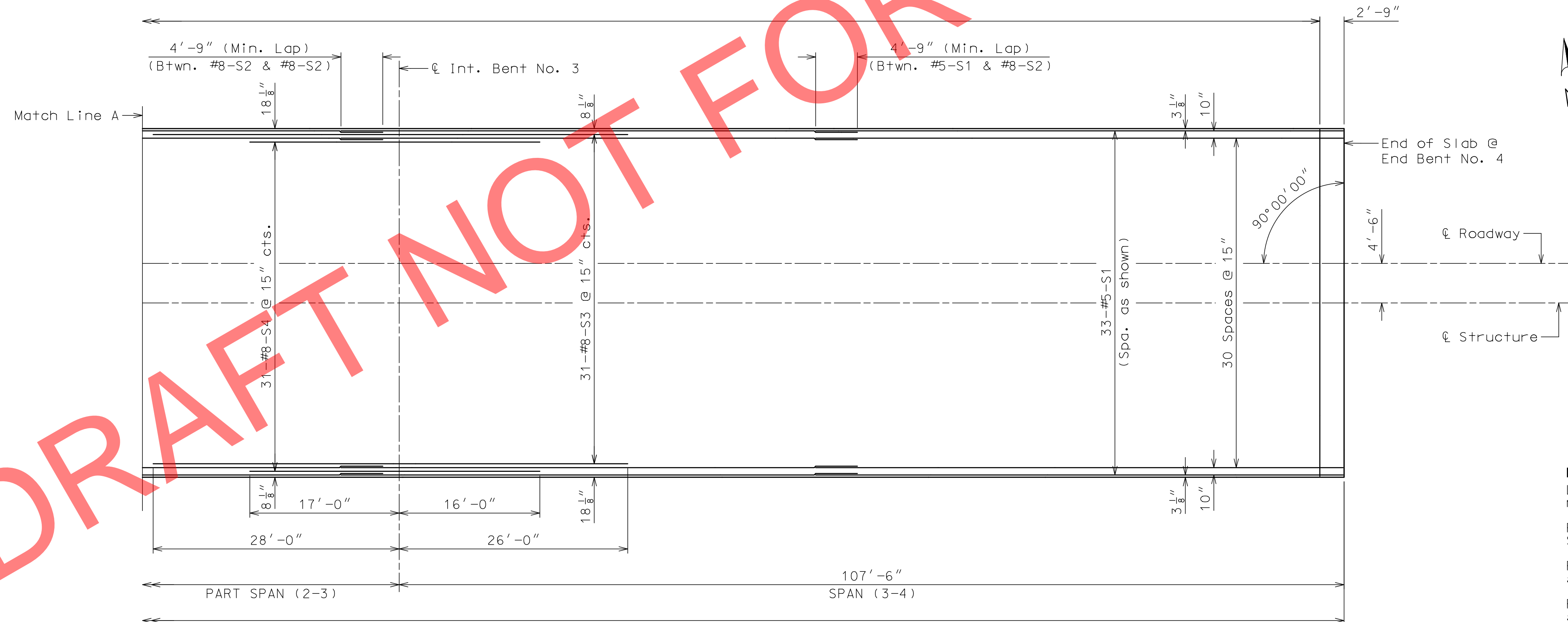
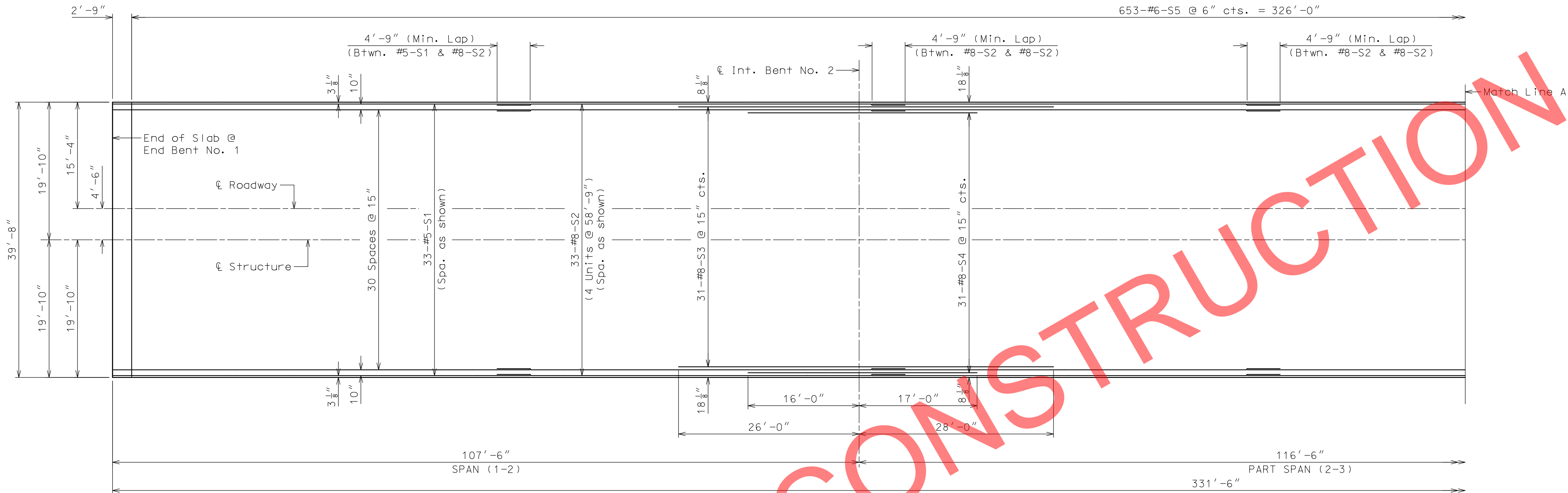
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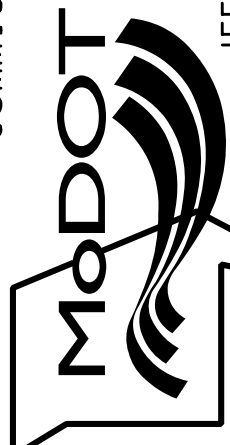

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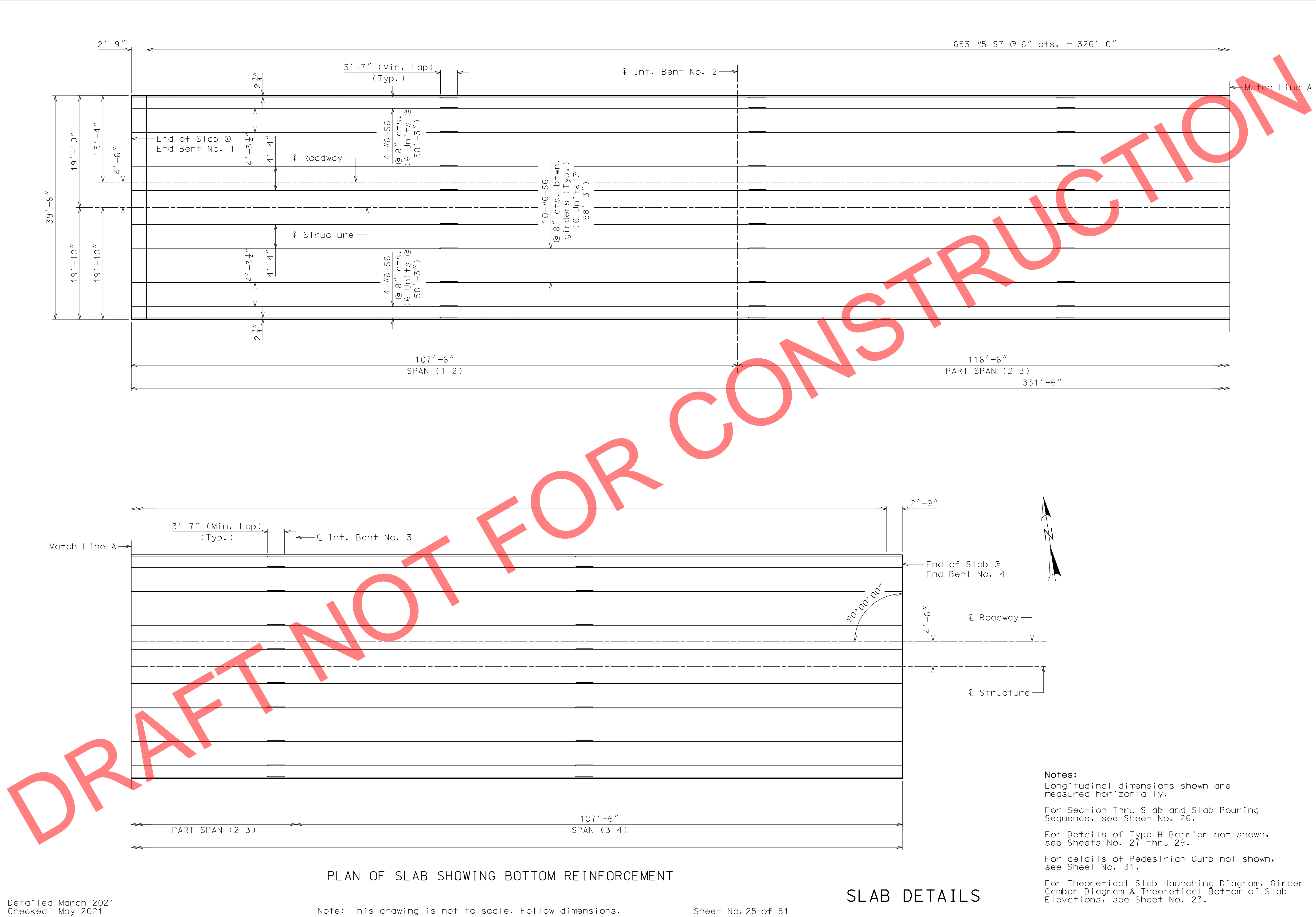
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.



Notes:
Longitudinal dimensions shown are measured horizontally.
For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 26.
For Details of Type H Barrier not shown, see Sheets No. 27 thru 29.
For details of Pedestrian Curb not shown, see Sheet No. 31.
For Theoretical Slab Haunching Diagram, Girder Camber Diagram & Theoretical Bottom of Slab Elevations, see Sheet No. 23.

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 24
COUNTY SULLIVAN	
JOB NO. J1S3392	
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PROJECT NO.	
BRIDGE NO. A9133	
DESCRIPTION	DATE
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PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT

SLAB DETAILS

Notes:
Longitudinal dimensions shown are measured horizontally.
For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 26.
For Details of Type H Barrier not shown, see Sheets No. 27 thru 29.
For details of Pedestrian Curb not shown, see Sheet No. 31.
For Theoretical Slab Haunching Diagram, Girder Camber Diagram & Theoretical Bottom of Slab Elevations, see Sheet No. 23.

ROUTE
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SHEET NO.
25

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SULLIVAN

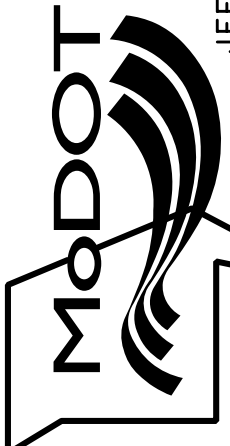
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J1S3392

CONTRACT ID.


PROJECT NO.

BRIDGE NO.
A9133

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

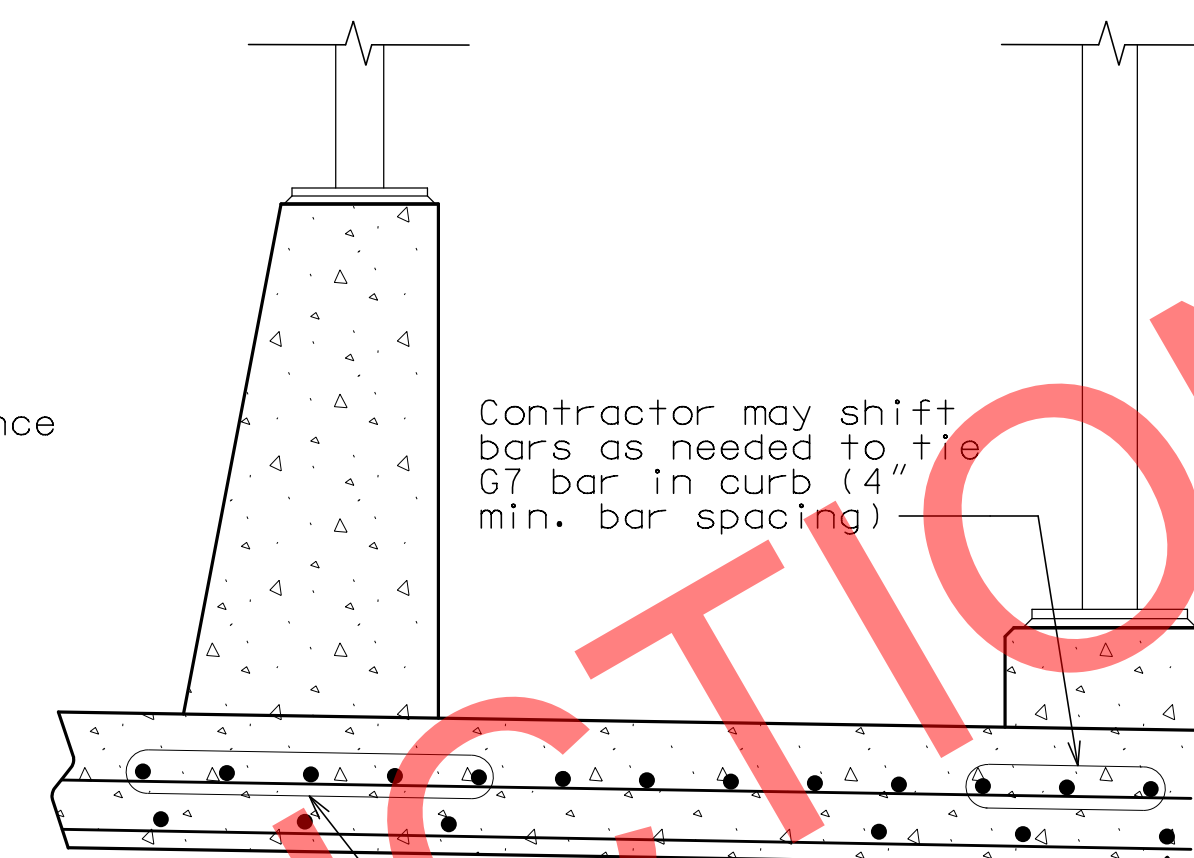


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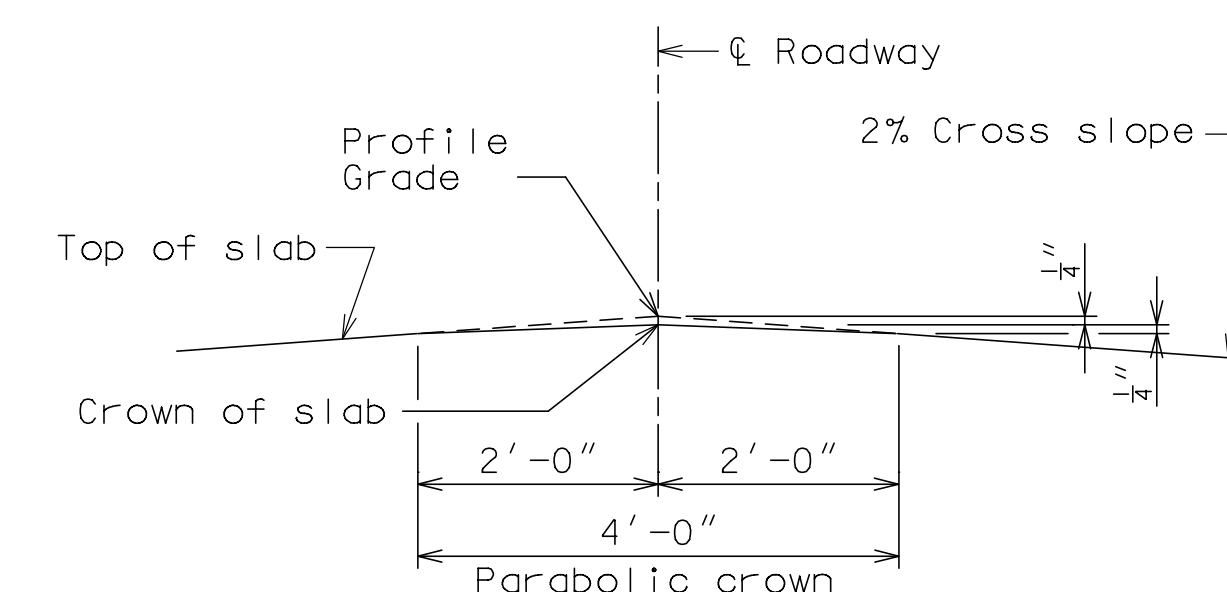
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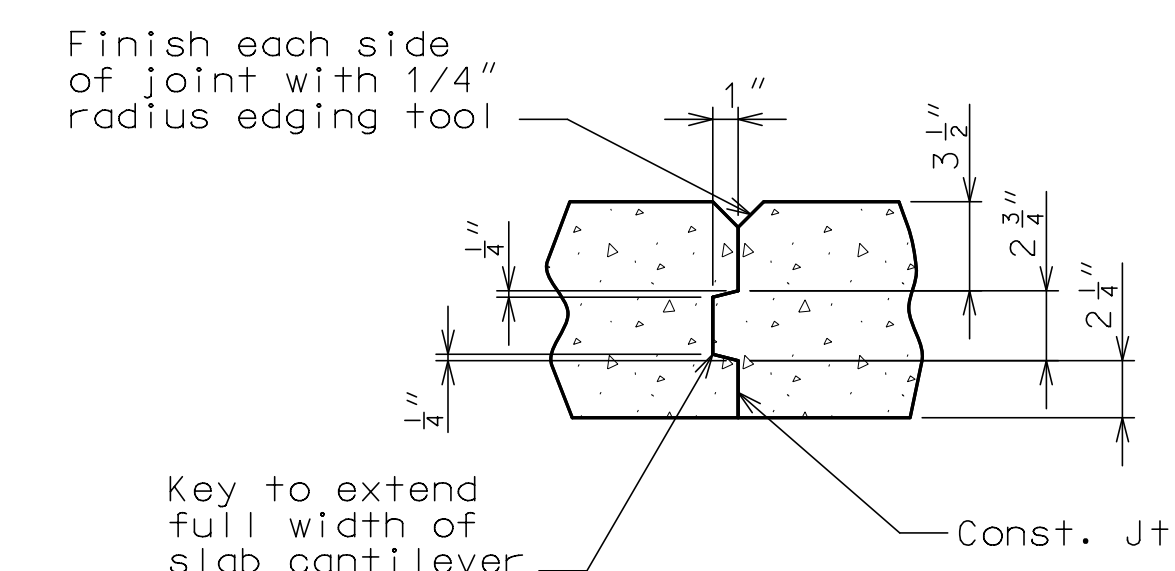
Use 3/4" bev
strip (Typ.)

DETAIL B

DETAIL C



DETAIL A



SLAB CONSTRUCTION JOINT DETAILS

Note: The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

The concrete diaphragm at the intermediate bents and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

SLAB POURING SEQUENCE

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

Sheet No. 26 of 51

Notes:

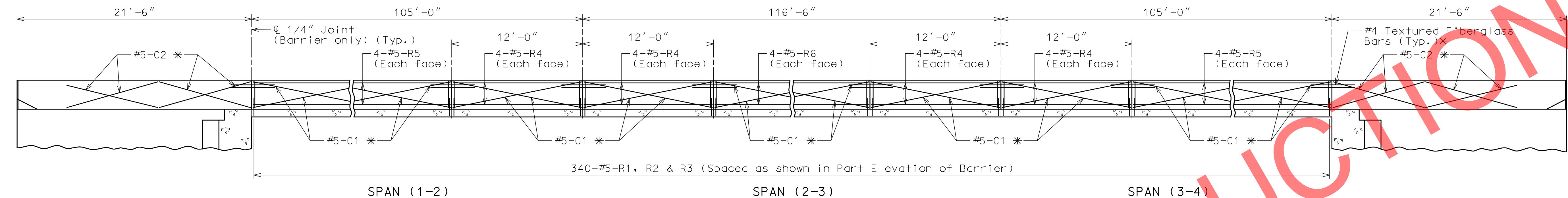
For Plan of Slab Showing Reinforcement, see Sheets No. 24 and 25.

For Details and Reinforcement of Type H Barrier not shown, see
Sheets No. 27 thru 29.

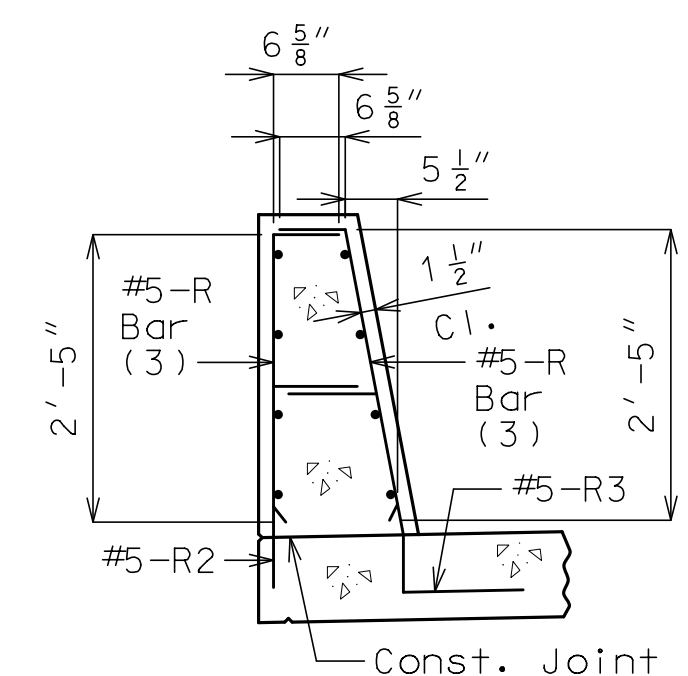
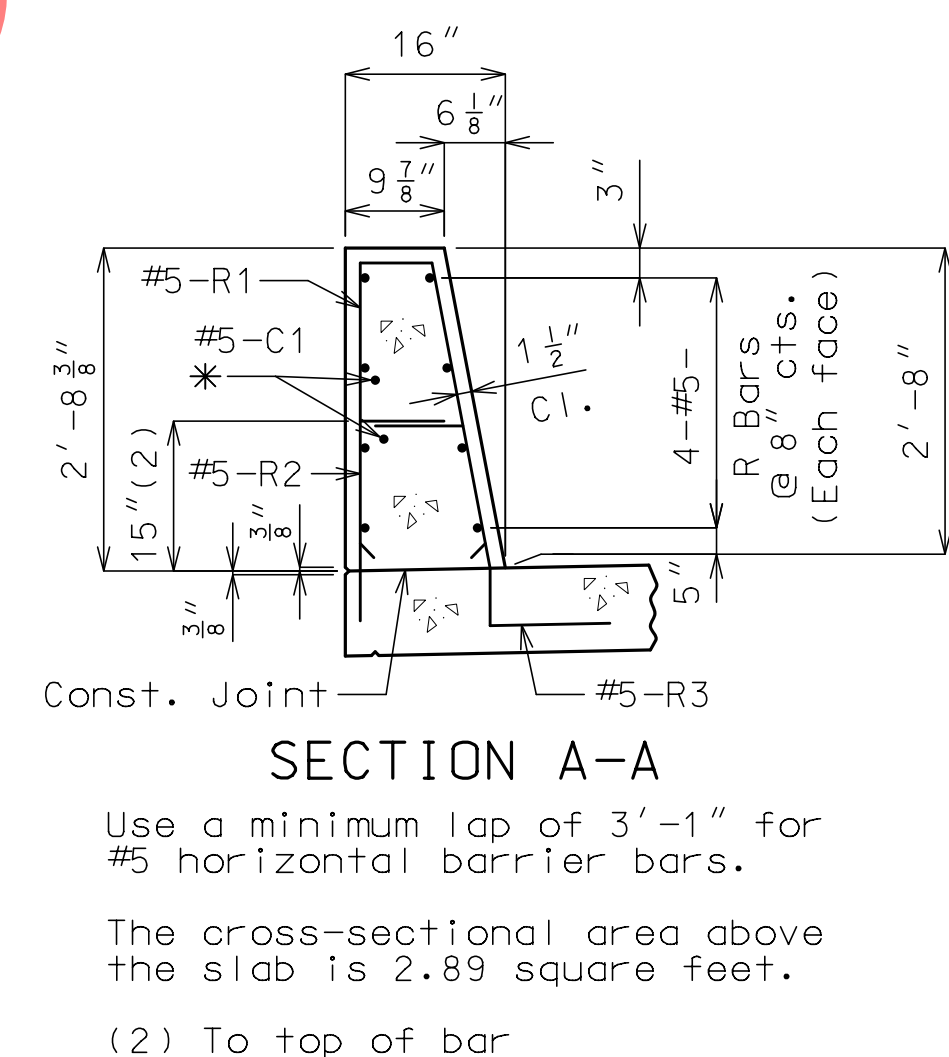
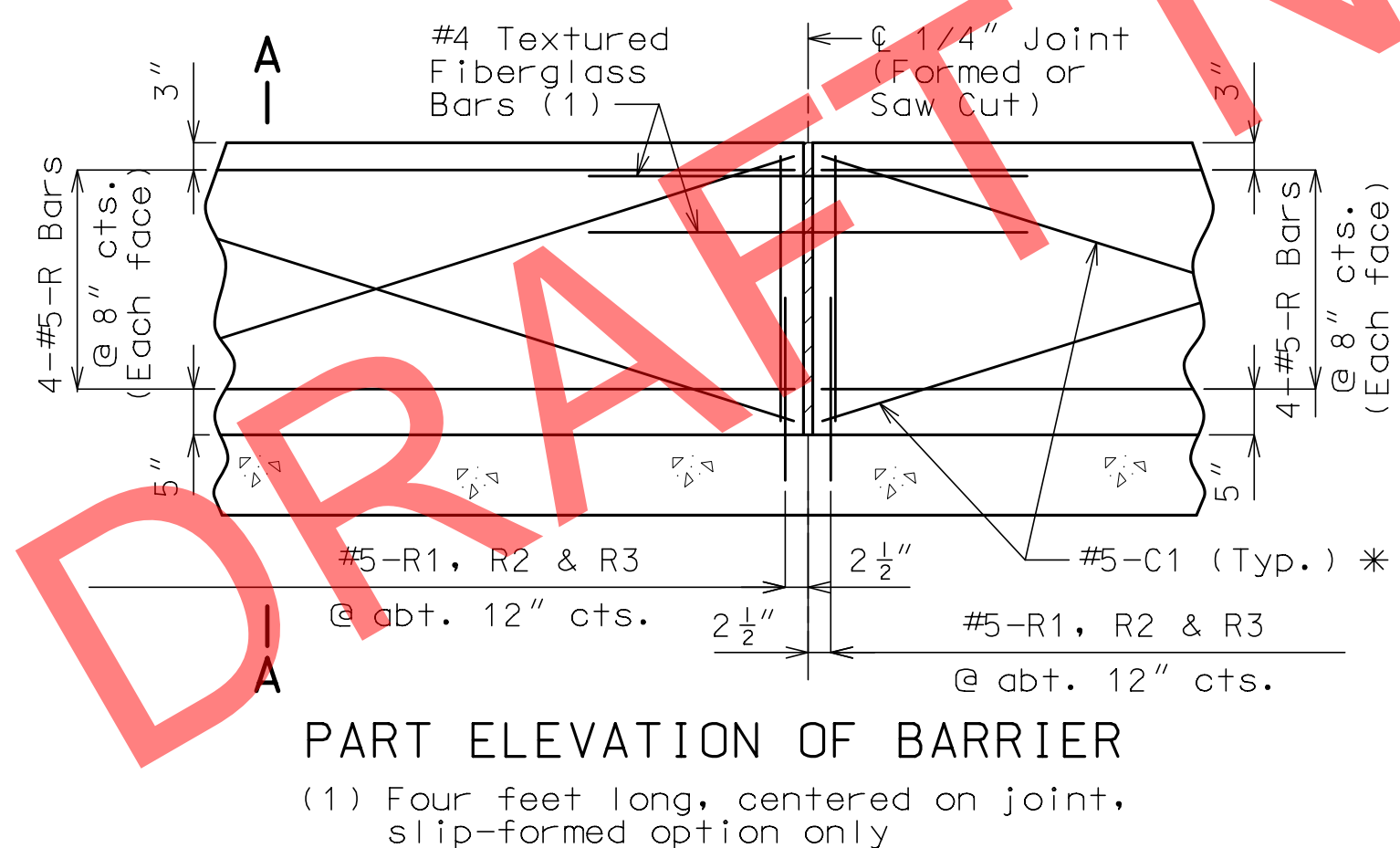
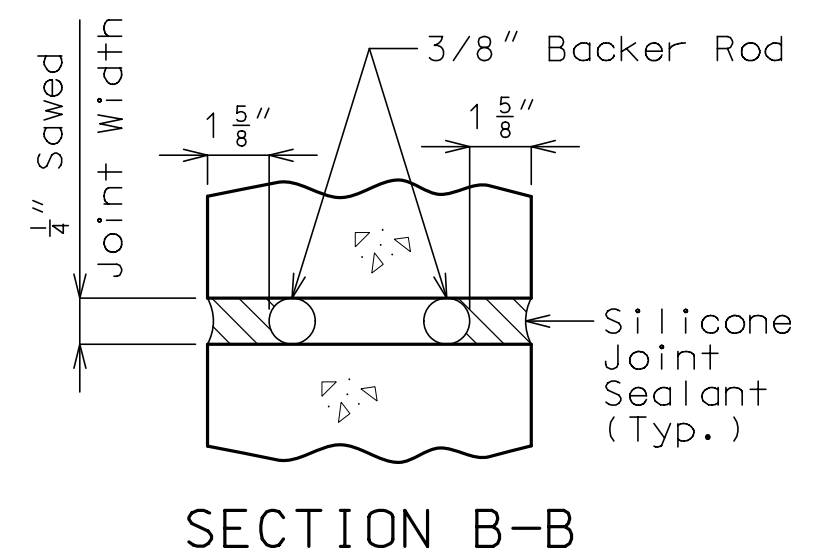
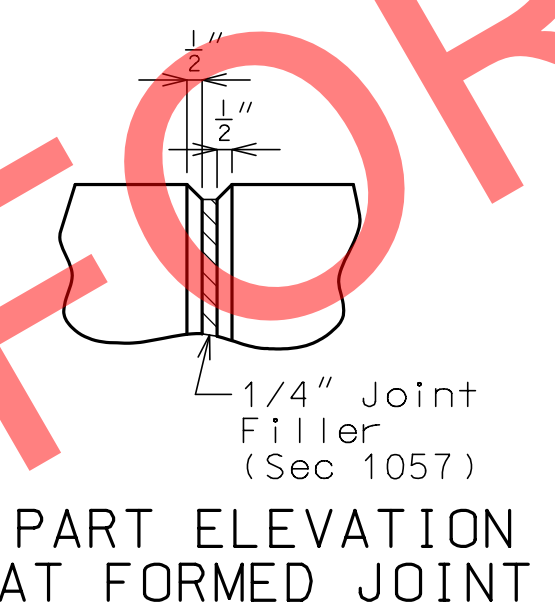
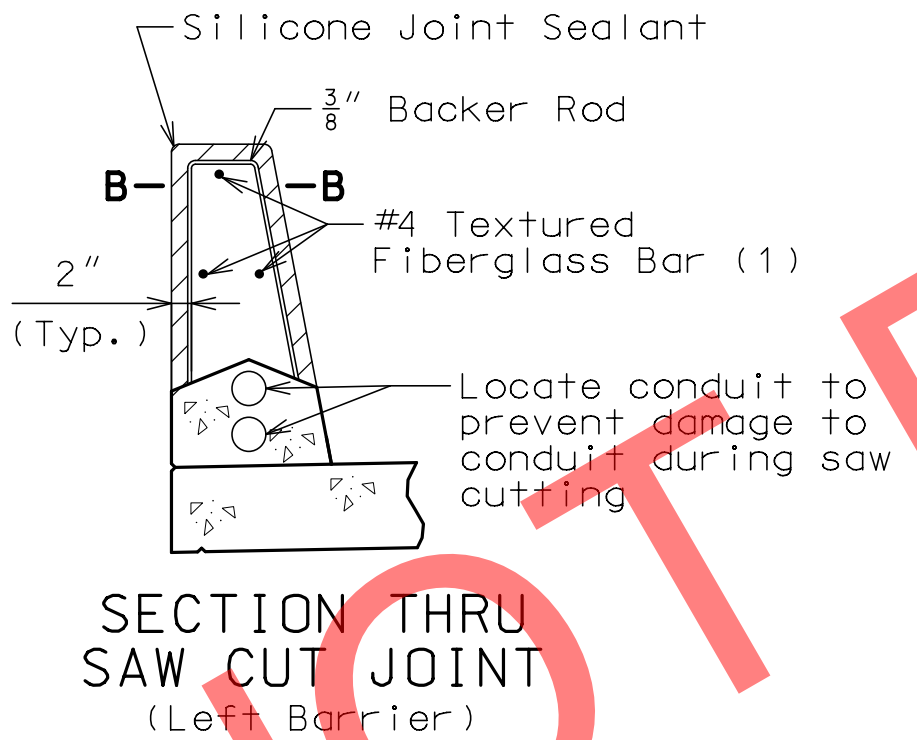
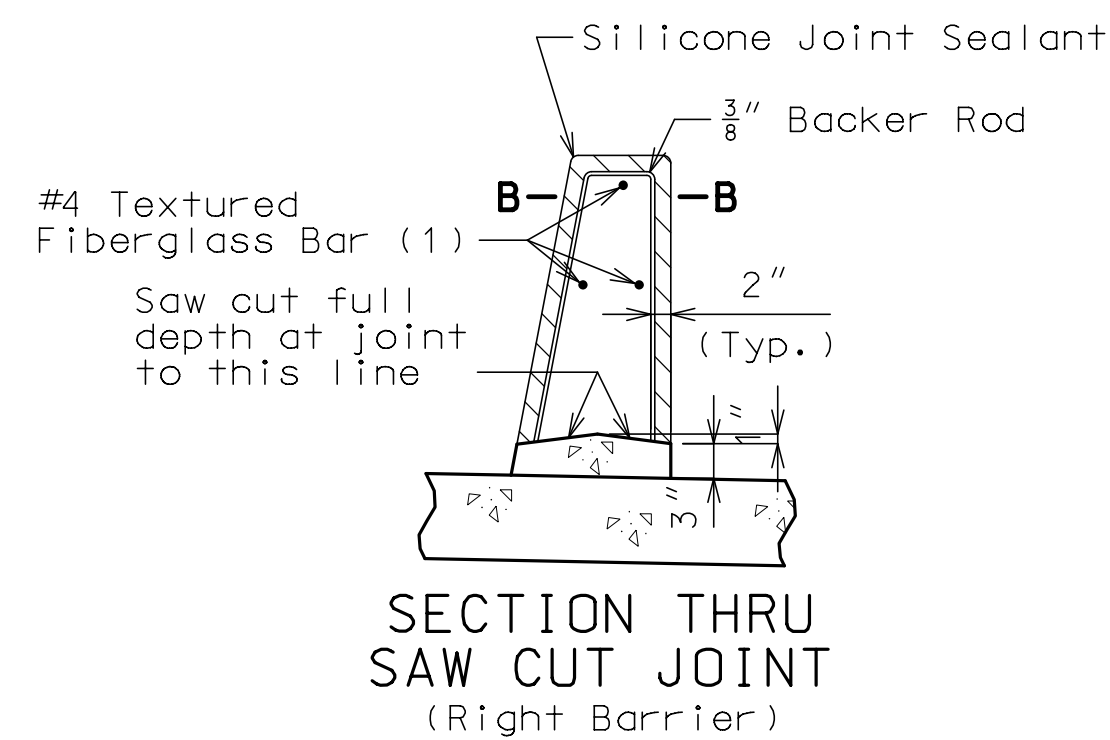
For details of Pedestrian Curb not shown, see Sheet No. 31.

For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, see Sheet No. 23.

For Conduit Details, see Sheet No. 30.



ELEVATION OF BARRIER
(Left barrier shown, right barrier similar)
Longitudinal dimensions are horizontal.



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

TYPE H BARRIER
(3" Ø conduits not shown for clarity.)
(Pedestrian fence not shown for clarity.)

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 H 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 H Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

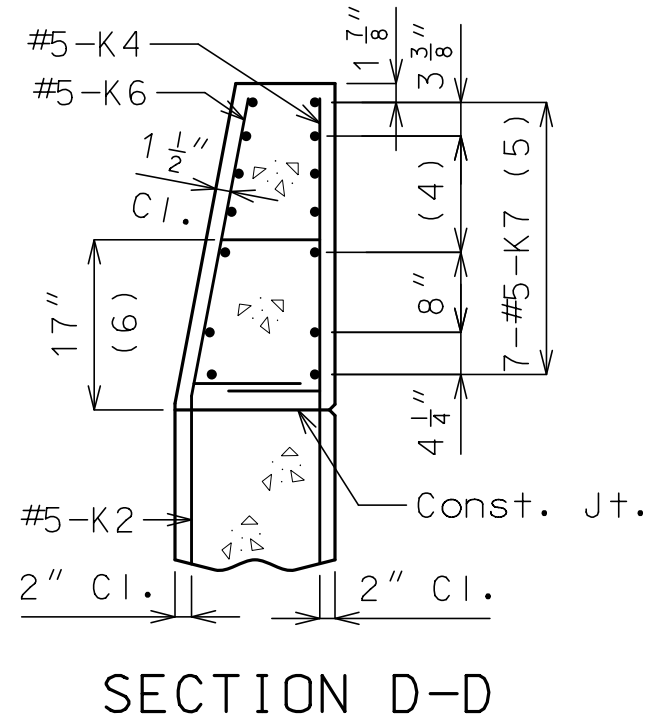
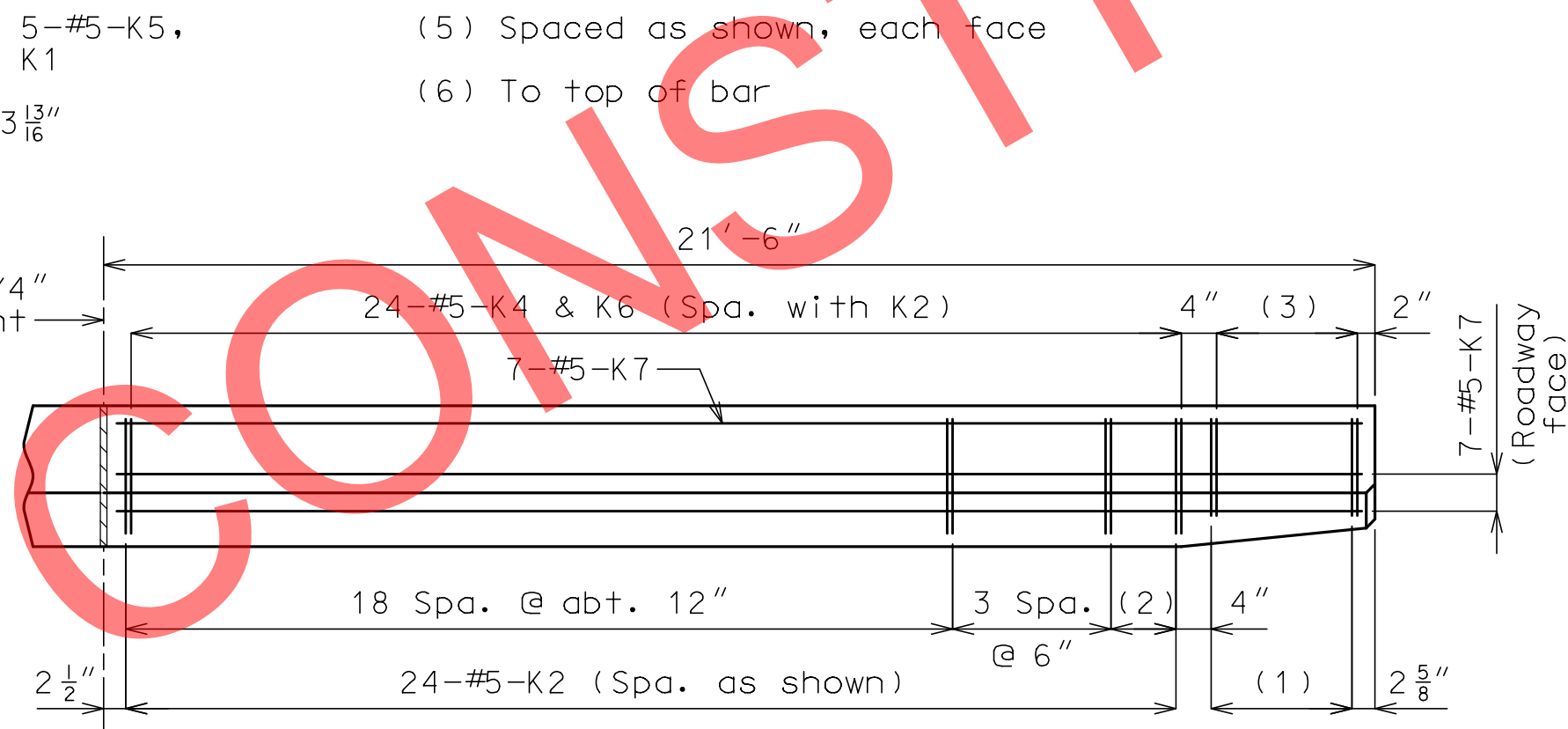
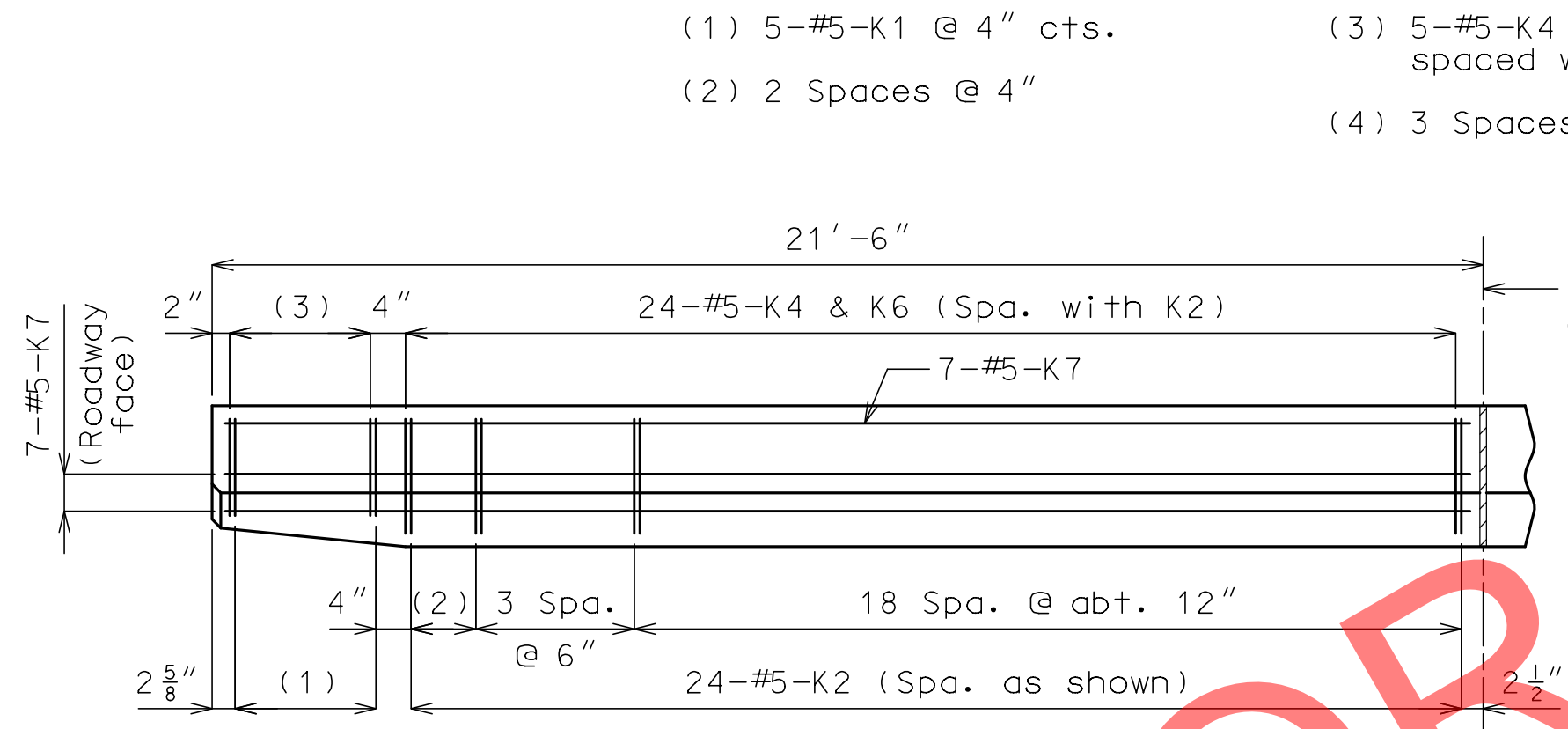
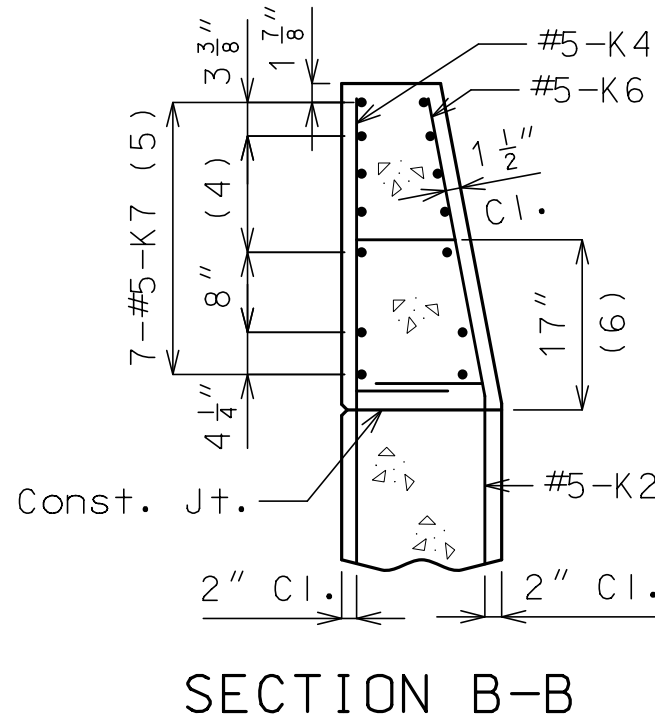
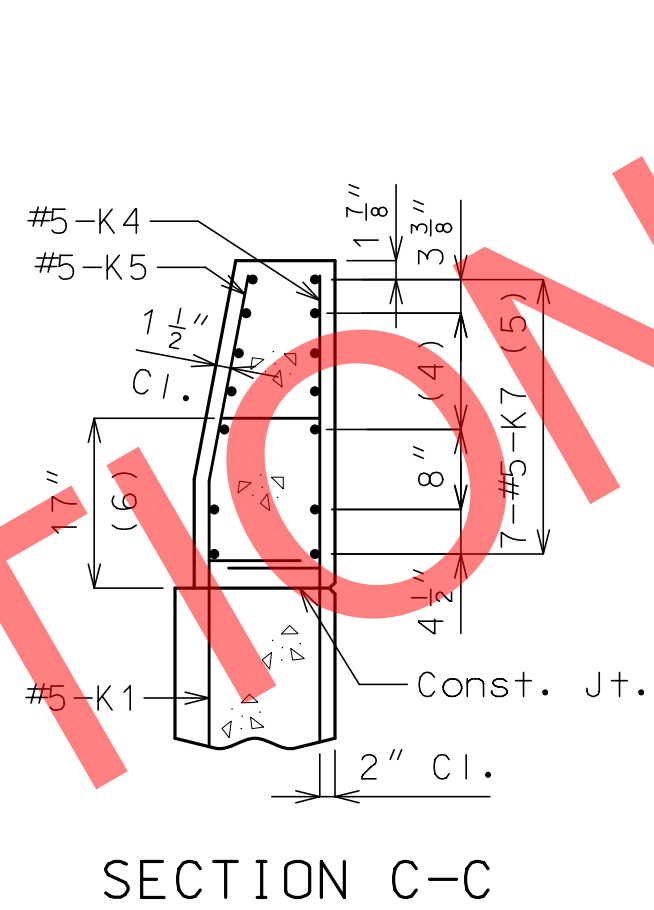
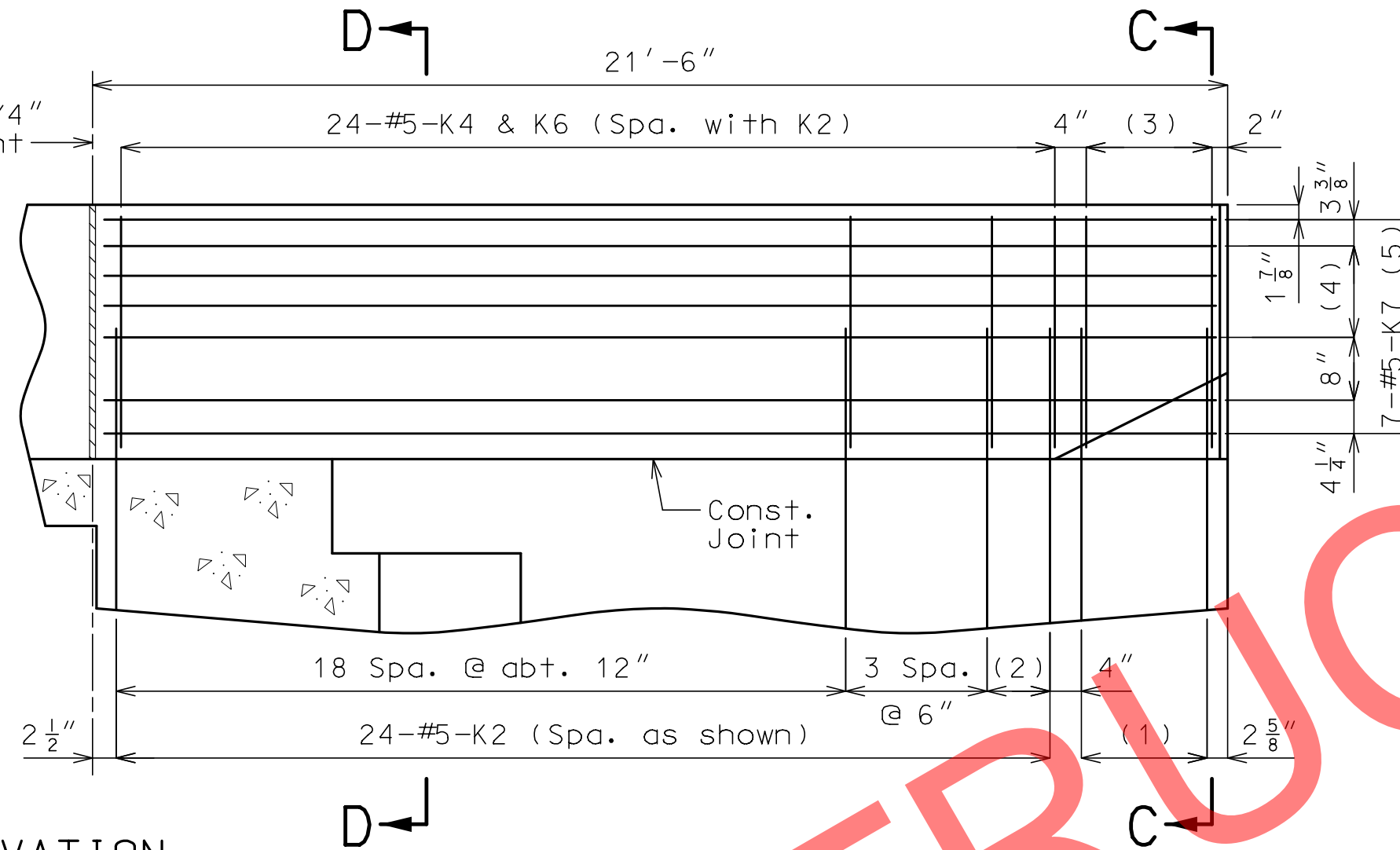
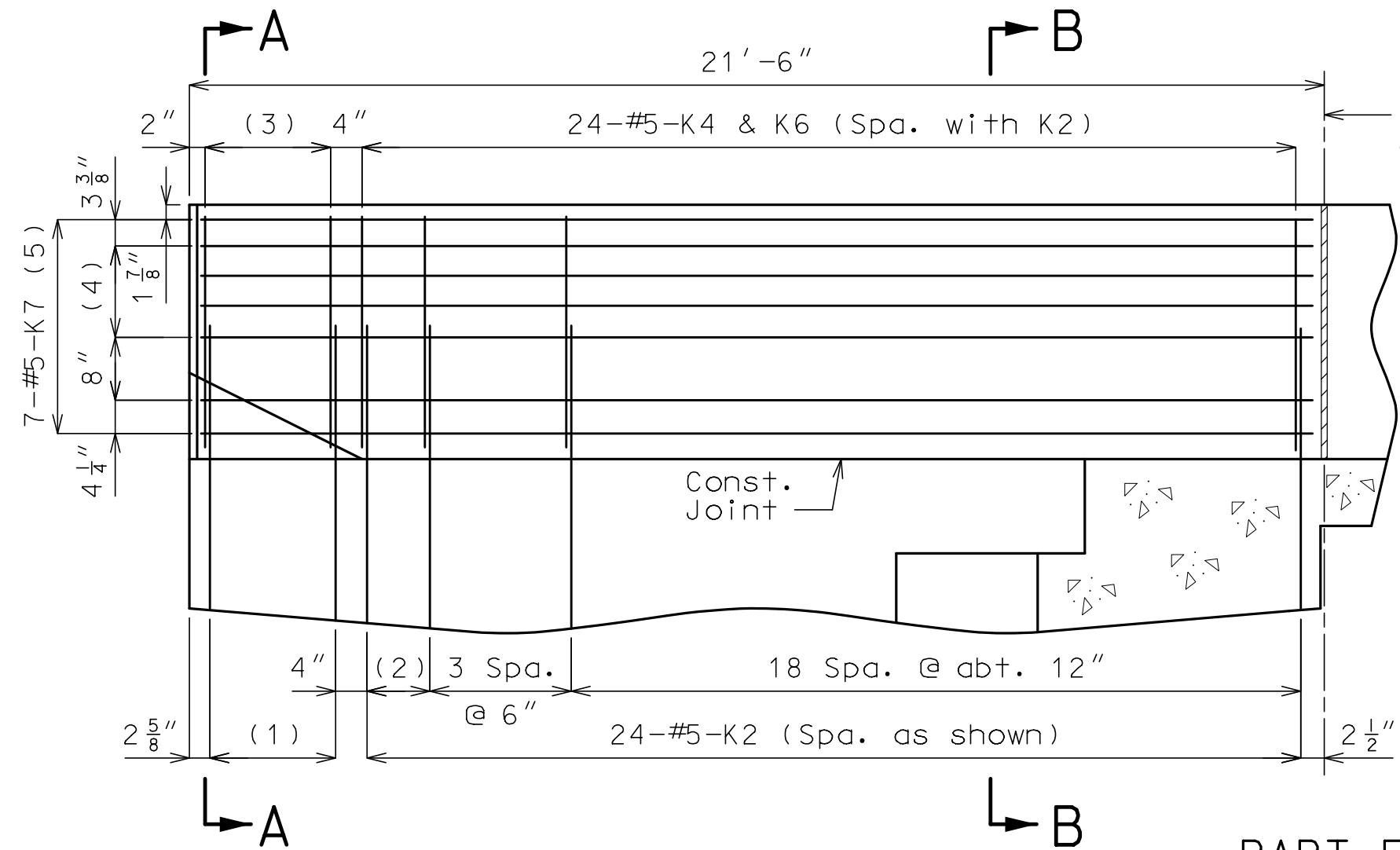
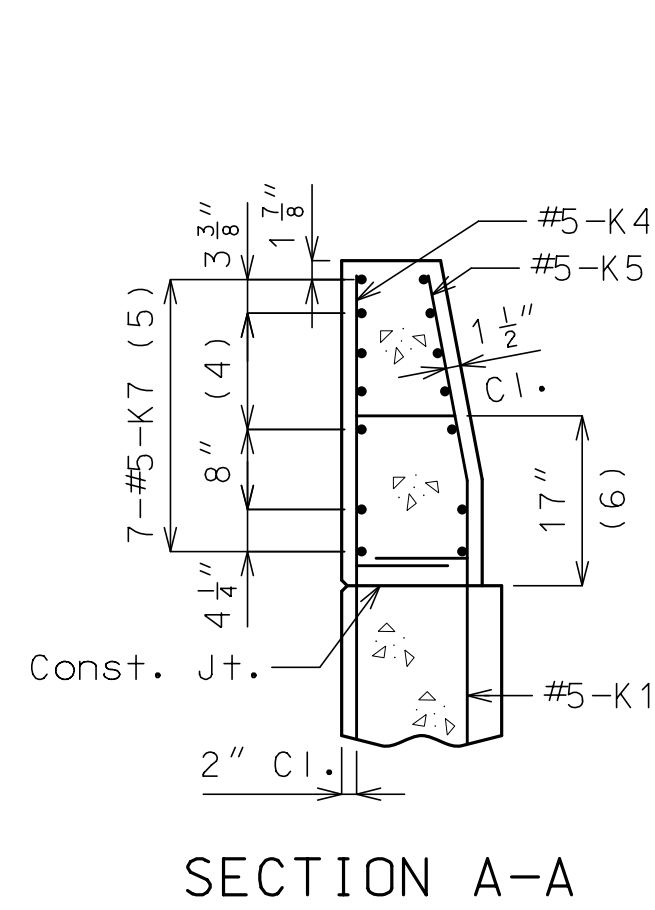
For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

For Conduit Details, see Sheet No. 30.

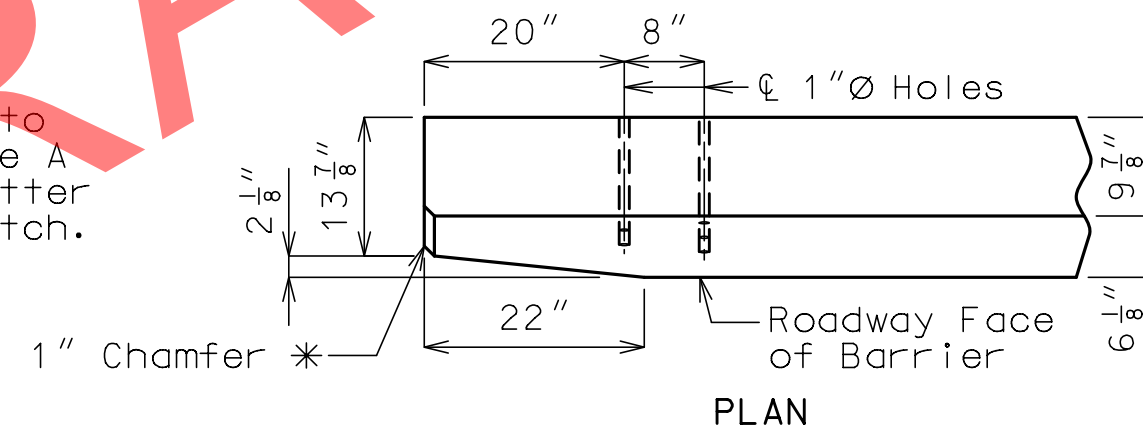
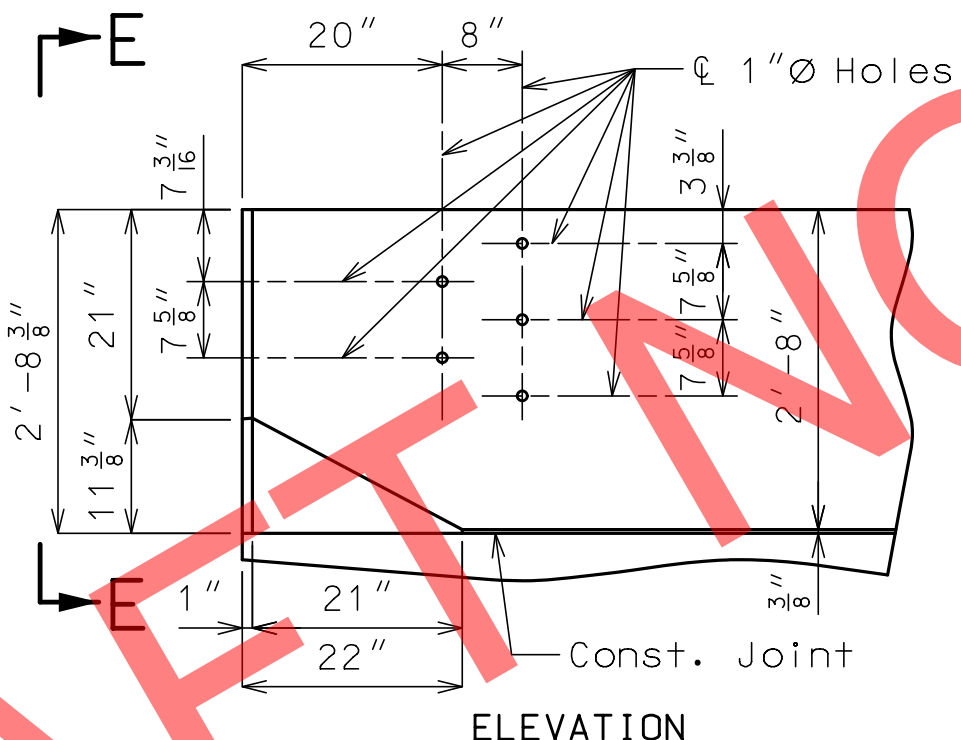
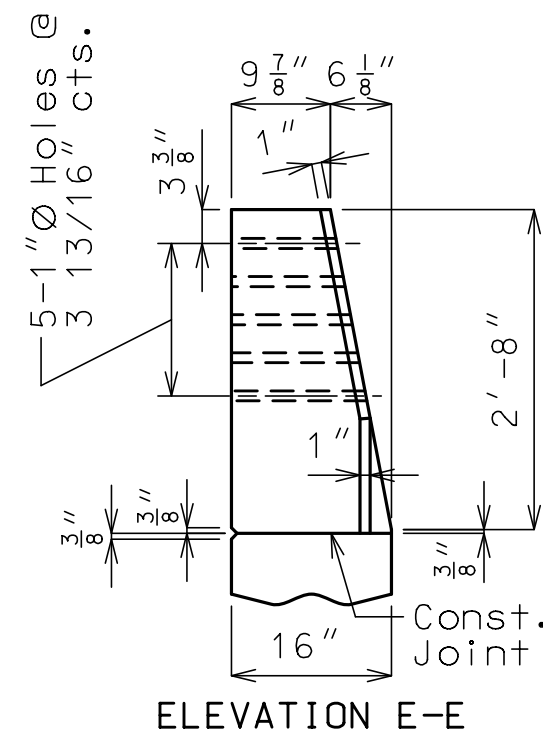
DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 27
COUNTY SULLIVAN	
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- (1) 5-#5-K1 @ 4" c+s.
(2) 2 Spaces @ 4"
(3) 5-#5-K4 and 5-#5-K5, spaced with K1
(4) 3 Spaces @ 3 13/16"
(5) Spaced as shown, each face
(6) To top of bar



General Notes:

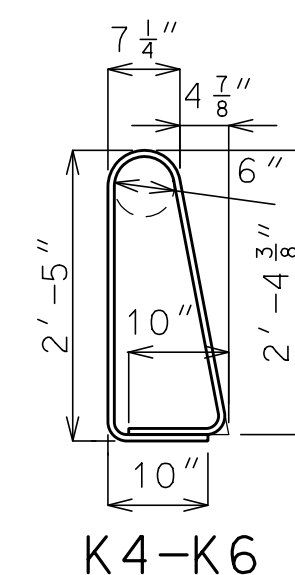
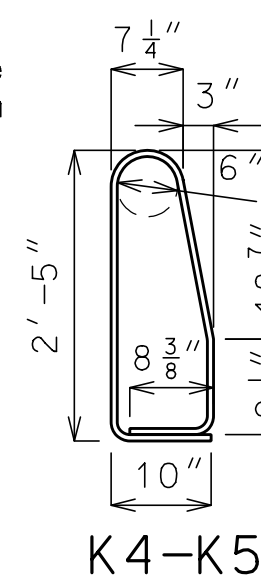
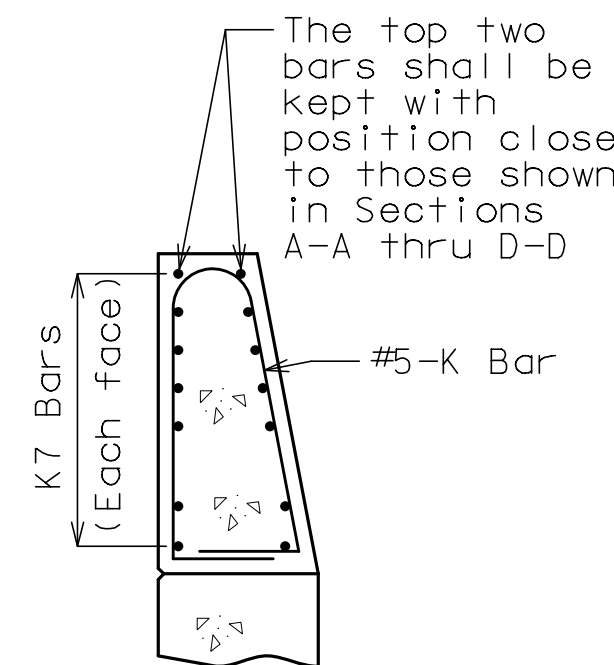
Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered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

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

TYPE H BARRIER AT END BENTS

(Left barrier shown)
(3" Ø conduits not shown for clarity.)
(Pedestrian fence not shown for clarity.)



PERMISSIBLE ALTERNATE SHAPES

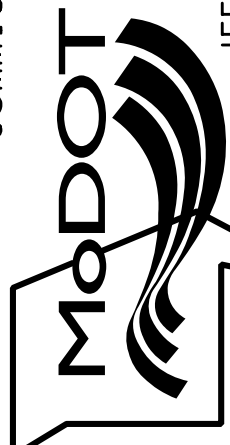

(Other K bars not shown for clarity)

The K4-K5 and K4-K6 bar combination may be furnished as one bar as shown, at the contractor's option.

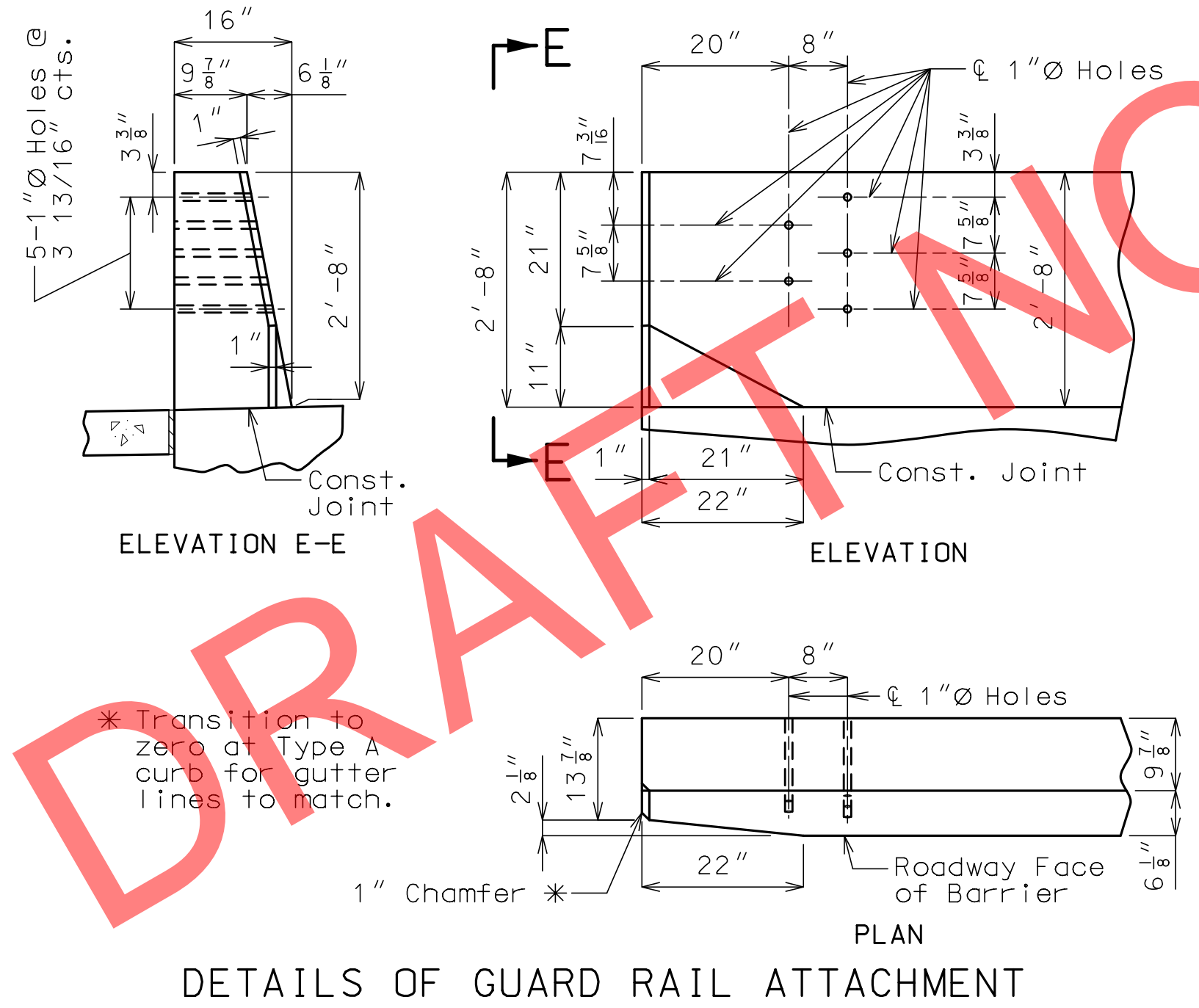
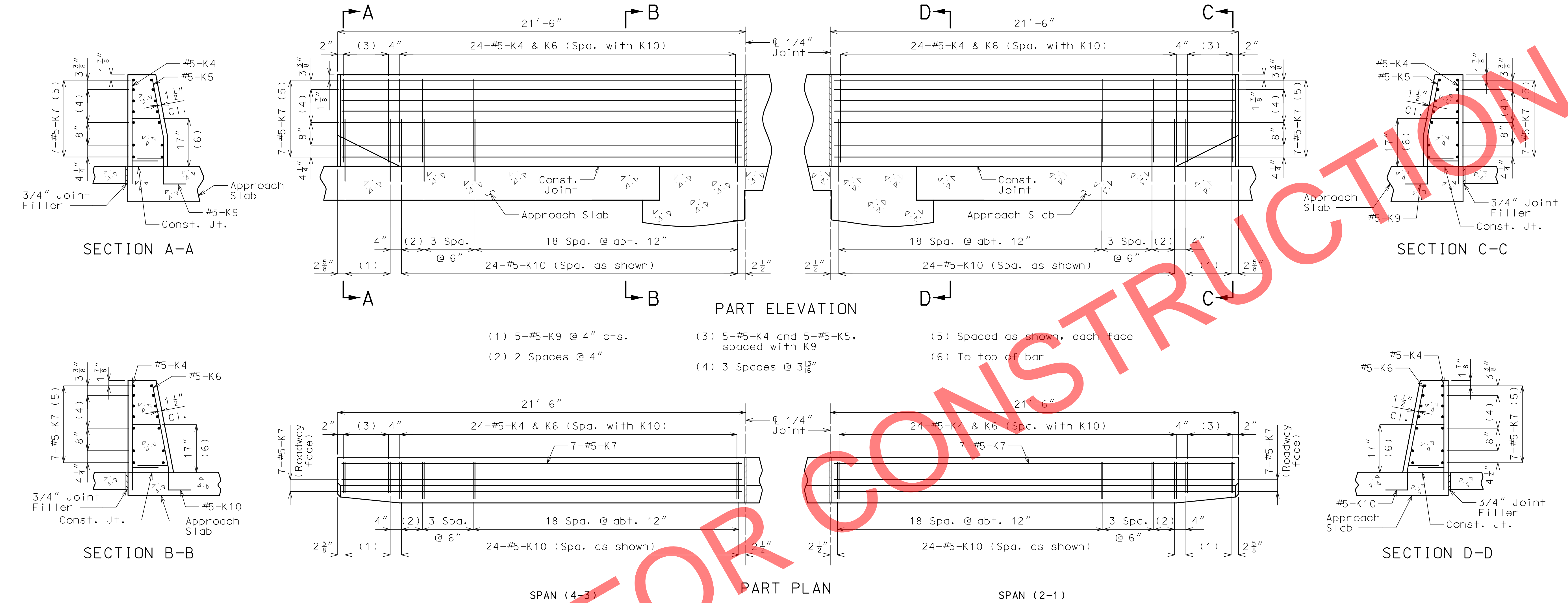
Detailed March 2021
Checked May 2021

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

Sheet No. 28 of 51

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 28
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9133	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
	7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592

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



General Notes:

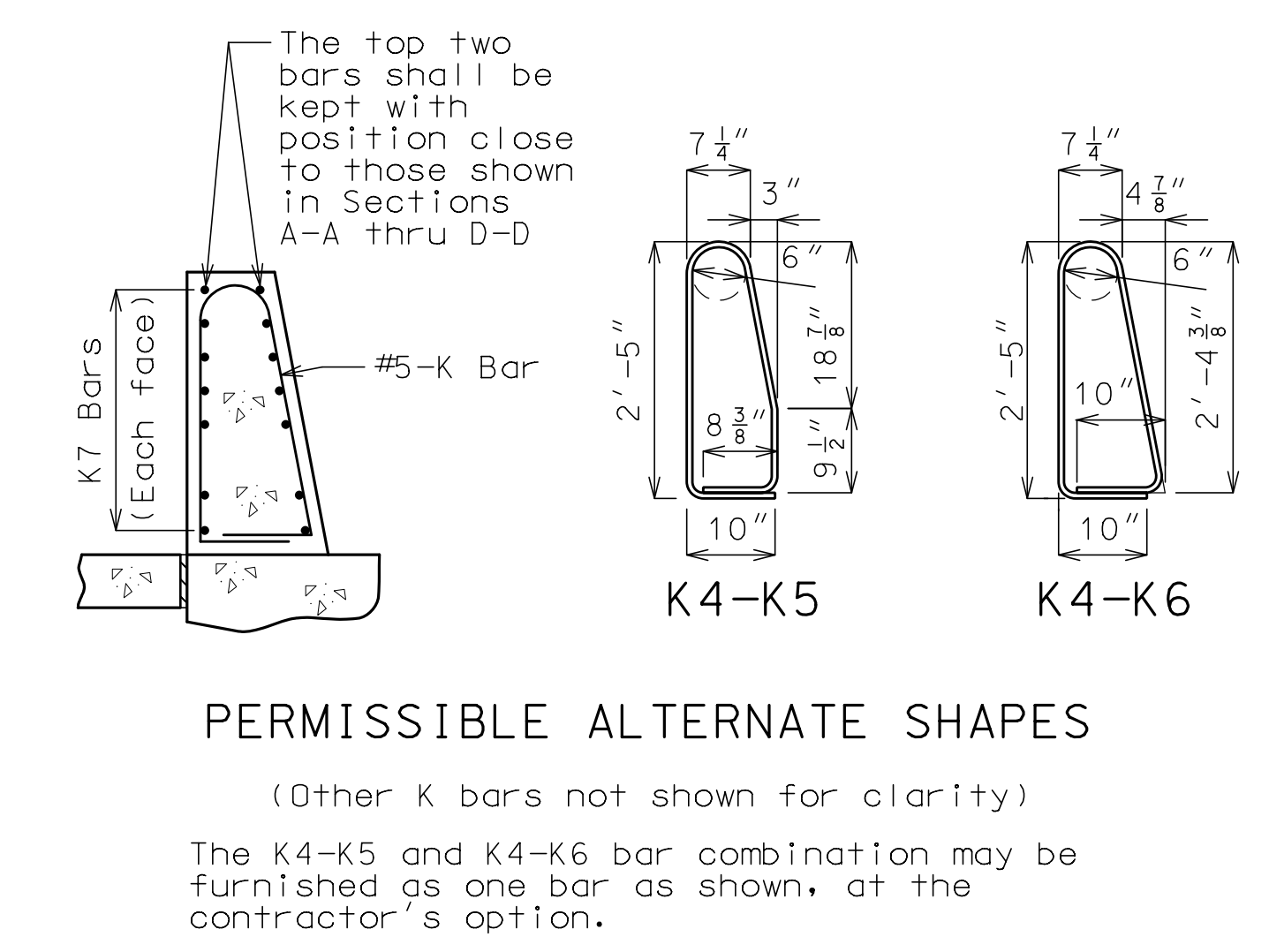
Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered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

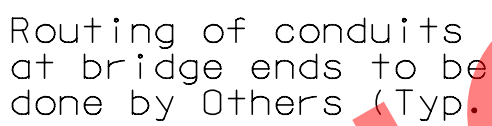
Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

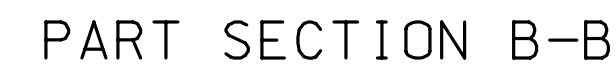
TYPE H BARRIER AT END BENTS

(Right barrier shown)
(Pedestrian fence not shown for clarity.)





Notes:
All conduits shall be rigid nonmetallic schedule 40 heavy wall polyvinyl chloride (PVC) with 3 inch minimum cover in concrete. Each section of conduit shall bear the Underwriters Laboratory (UL) label.
Shift reinforcing steel in field where necessary to clear conduit and junction boxes.



Detailed March 2021
Checked May 2021

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


Sheet No. 30 of 51

DATE PREPARED	
2/1/2022	
ROUTE	STATE
MIDLAKE	MO
DISTRICT	SHEET NO.
BR	30
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	

PROJECT NO.

BRIDGE NO.

A9133

[illegible]

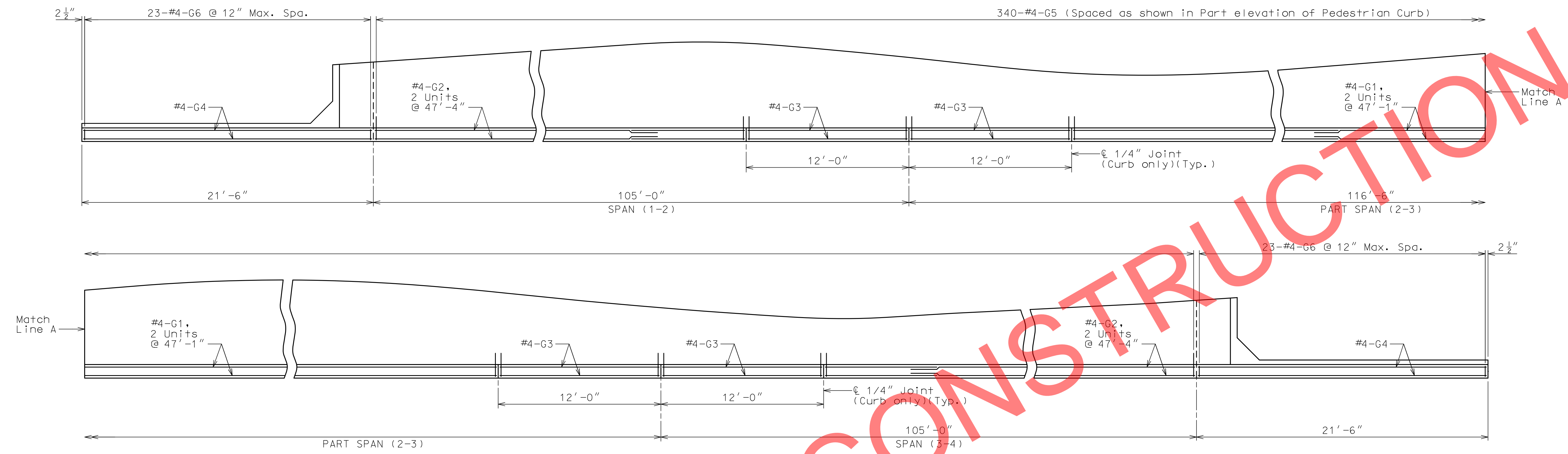
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

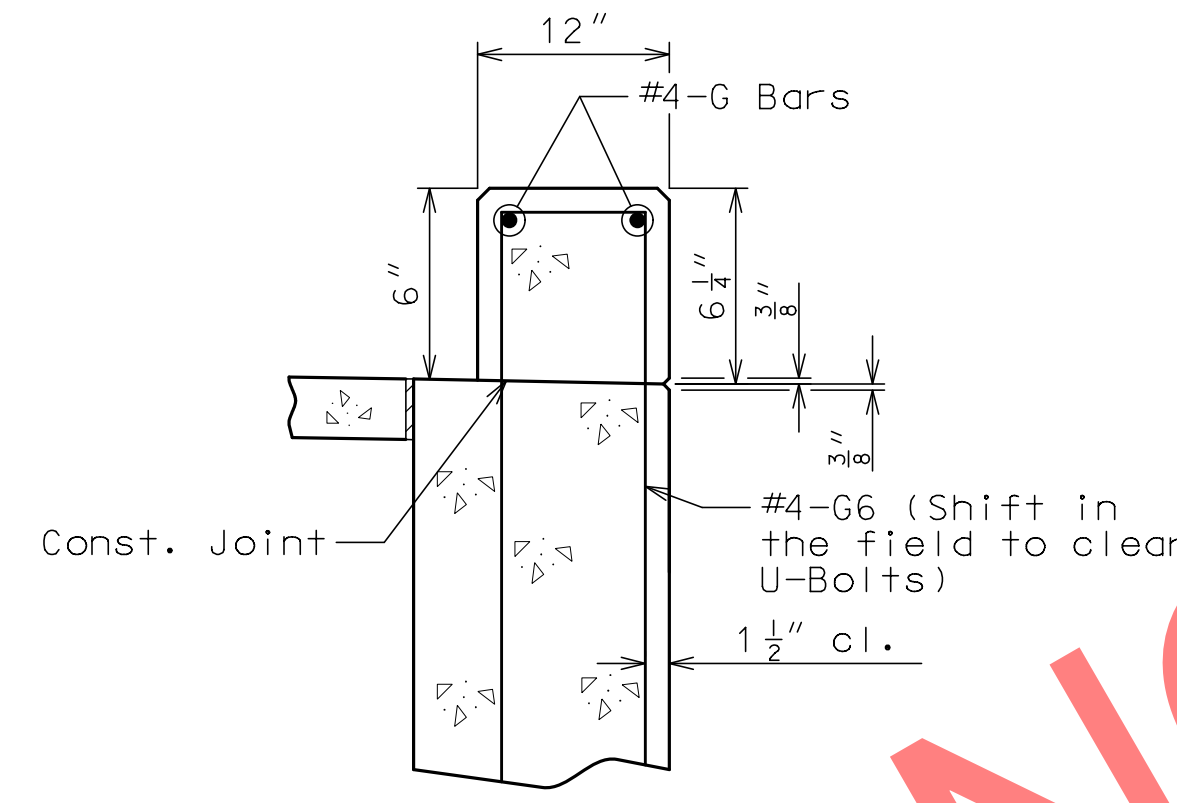
olsson
7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

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

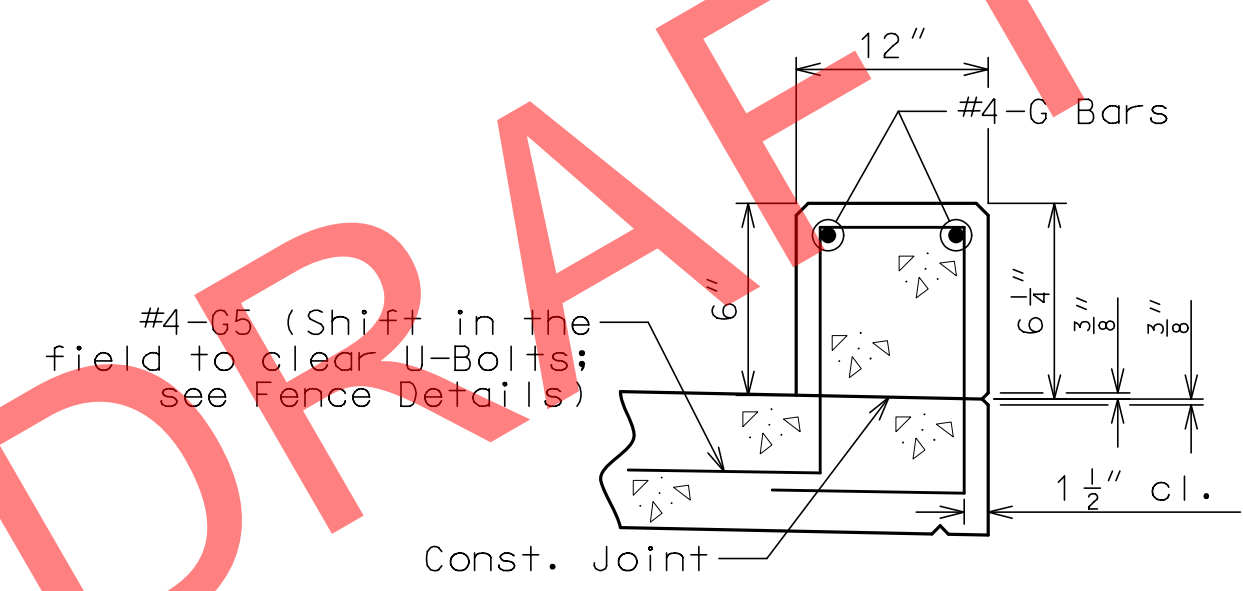
REV.



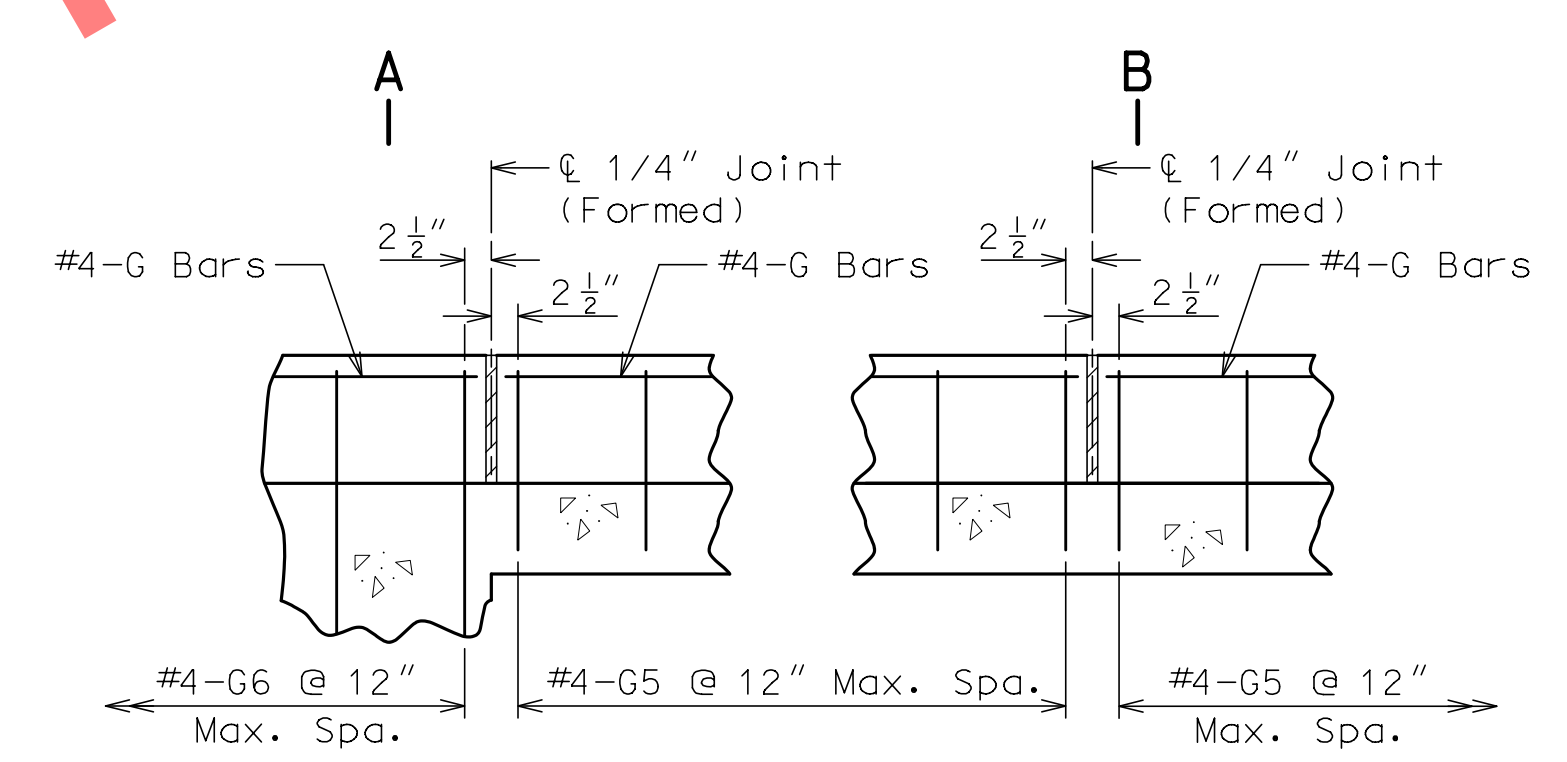
PLAN OF PEDESTRIAN CURB SHOWING REINFORCEMENT



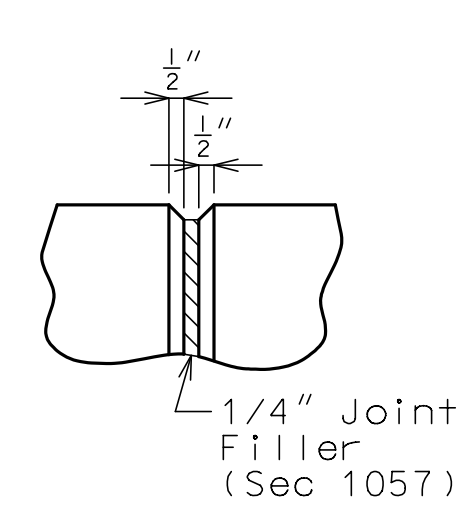
SECTION A-A



SECTION B-B



PART ELEVATION OF PEDESTRIAN CURB



PART ELEVATION AT FORMED JOINT

General Notes:

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

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

Payment for all concrete and reinforcement complete-in-place, will be considered completely covered by the contract unit price for Concrete Curb (Bridge Rail) per linear foot.

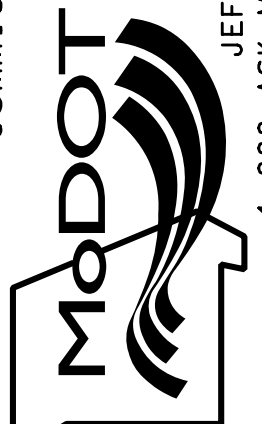

Concrete in the concrete curb shall be Class B-1.

Measurement of the concrete curb is to the nearest linear foot for each structure, measured along the outside top of slab.

Use a minimum lap of 1'-11" for #4 horizontal concrete curb bars.

The cross-sectional area of the curb above the slab = 0.50 sq. ft.

DETAILS OF PEDESTRIAN CURB
(Pedestrian fence not shown for clarity.)

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 31
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9133	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
	7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592

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

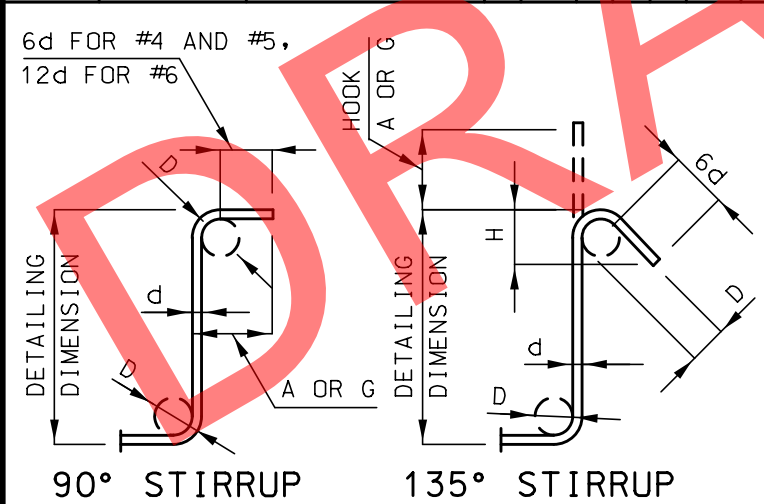
REV.



VIEW B-B

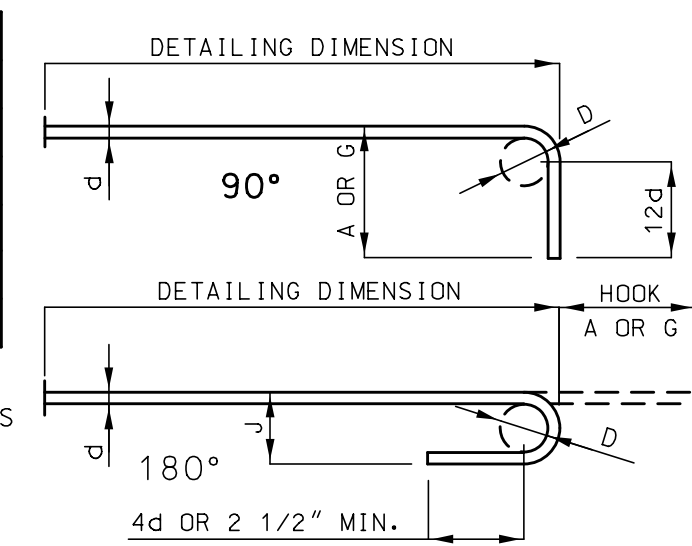
[illegible]

BILL OF REINFORCING STEEL																						
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (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.						
			SUBSTRUCTURE																			
			INT. BENT 2																			
36		6 D200	BEAM	20	X					2	6.000						2	6	2	6	135	
10		10 H200	BEAM	18	X					35	9.000						38	7	38	7	1660	
10		10 H201	BEAM	20	X					35	9.000						35	9	35	9	1538	
8		6 H202	BEAM	20	X					35	9.000						35	9	35	9	430	
4		6 H203	BEAM	20	X					4	5.000						4	5	4	5	27	
12		6 H204	BEAM	10	S	X						22.000	4	1.500			7	10	7	6	135	
8		9 H205	TIE BEAM	18	X					21	8.000						23	6	23	6	657	
6		4 H206	TIE BEAM	20	X					21	8.000						21	8	21	8	87	
60		4 P200	COLUMN	16	X					3	9.000		22.000				13	8	13	7	544	
134		4 P201	SHAFT	16	X					4	0.000	2	1.000				14	8	14	7	1305	
76		6 U200	BEAM	13	S	X				2	10.000	4	3.000	2	10.000	4	3.000	15	6	15	0	1712
20		6 U201	BEAM	10	S	X					4	3.000	2	10.000			11	4	11	0	330	
16		6 U202	BEAM	13	S	X				2	10.000	4	7.625	2	10.000	4	7.625	16	3	15	9	379
4		4 U203	BEAM	10	S	X						6.000	4	3.000			5	3	5	1	14	
36		4 U204	TIE BEAM	10	S	X				2	11.000	1	9.000				7	7	7	5	178	
48		8 V200	COLUMN	20	X					16	0.000						16	0	16	0	2051	
48		8 V201	COLUMN	20	X					20	0.000						20	0	20	0	2563	
48		8 V202	COLUMN	20	X					8	3.000						8	3	8	3	1057	
112		10 V203	SHAFT	20	X					34	11.000						34	11	34	11	16828	
			INT. BENT 3																			
36		6 D300	BEAM	20	X					2	6.000						2	6	2	6	135	
10		10 H300	BEAM	18	X					35	9.000						38	7	38	7	1660	
10		10 H301	BEAM	20	X					35	9.000						35	9	35	9	1538	
8		6 H302	BEAM	20	X					35	9.000						35	9	35	9	430	
4		6 H303	BEAM	20	X					4	5.000						4	5	4	5	27	
12		6 H304	BEAM	10	S	X						22.000	4	1.500			7	10	7	6	135	
8		9 H305	TIE BEAM	18	X					21	8.000						23	6	23	6	657	
6		4 H306	TIE BEAM	20	X					21	8.000						21	8	21	8	87	
60		4 P300	COLUMN	16	X					3	9.000		22.000				13	8	13	7	544	
128		4 P301	COLUMN	16	X					4	0.000		2	1.000			14	8	14	7	1247	
76		6 U300	BEAM	13	S	X				2	10.000	4	3.000	2	10.000	4	3.000	15	6	15	0	1712
20		6 U301	BEAM	10	S	X					4	3.000	2	10.000			11	4	11	0	330	
16		6 U302	BEAM	13	S	X				2	10.000	4	7.625	2	10.000	4	7.625	16	3	15	9	379
4		4 U303	BEAM	10	S	X						6.000	4	3.000			5	3	5	1	14	
36		4 U304	BEAM	10	S	X				2	11.000	1	9.000				7	7	7	5	178	
48		8 V300	COLUMN	20	X					16	3.000						16	3	16	3	2083	
48		8 V301	COLUMN	20	X					20	3.000						20	3	20	3	2595	
48		8 V302	COLUMN	20	X					8	3.000						8	3	8	3	1057	
112		10 V303	SHAFT	20	X					33	6.000						33	6	33	6	16145	



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

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



END HOOK DIMENSIONS				
ALL GRADES				
BAR SIZE	D (IN.)	180° HOOKS A OR G	90° HOOKS 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"

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. E.A. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS 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.

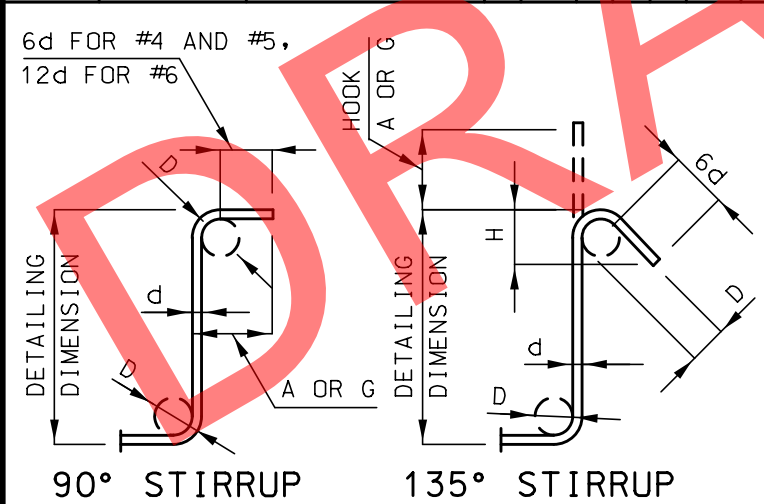
Detailed March 2021
Checked May 2021

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

Sheet No. 36 of 51

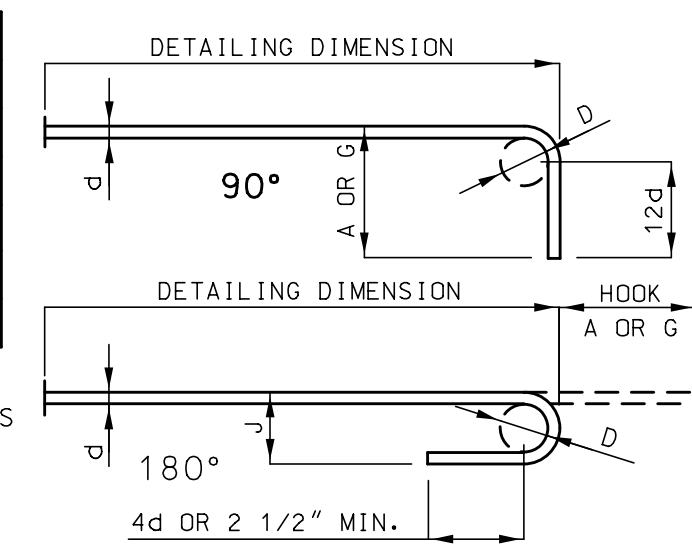
BILL OF REINFORCING STEEL																									
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS										NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT			
										B		C		D		E		F					H		K
										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.	FT.
			SUPER-STRUCTURE																						
			END BENT 1																						
22	6	F100	WING BRACE	E	23	S				14.000	5	1.000	2	3.000	19.125	19.125	9.875	9.875	8	6	8	5	278		
8	6	F101	DIAPHRAGM	E	19	S				2	8.000	6	0.000						8	8	8	6	102		
8	7	H100	BEAM	E	20					39	5.000								39	5	39	5	645		
4	6	H101	BEAM	E	20					39	5.000								39	5	39	5	237		
4	6	H102	BEAM	E	20					4	7.000								4	7	4	7	28		
2	6	H103	BEAM	E	20					2	5.000								2	5	2	5	7		
8	6	H104	DIAPHRAGM	E	20					3	9.000								3	9	3	9	45		
3	6	H105	DIAPHRAGM	E	20					6	10.000								6	10	6	10	31		
12	6	H106	DIAPHRAGM	E	20					9	5.000								9	5	9	5	170		
5	6	H107	DIAPHRAGM	E	20					39	5.000								39	5	39	5	296		
4	5	H108	STRAND TIE	E	20					5	9.000								5	9	5	9	24		
4	6	H109	DIAPHRAGM	E	20					39	5.000								39	5	39	5	237		
29	5	H110	DIAPHRAGM	E	19	S				2	0.000	15.000							3	3	3	2	96		
8	5	H111	DIAPHRAGM	E	19	S				2	3.000	15.000							3	6	3	5	29		
4	6	H112	DIAPHRAGM	E	20					5	6.000								5	6	5	6	33		
44	6	H113	WING	E	20					20	2.000								20	2	20	2	1333		
16	8	H114	WING	E	20					21	0.000								21	0	21	0	897		
6	6	H115	BEAM	E	18					4	7.000								5	11	5	11	53		
16	5	U100	BEAM	E	10	S				6	7.000	2	9.000						15	11	15	9	263		
18	4	U101	BEAM	E	13	S				2	9.000	2	8.000	2	9.000	2	8.000		11	7	11	4	136		
3	4	U102	BEAM	E	10	S				2	8.000	2	9.000						8	1	7	11	16		
4	4	U103	BEAM	E	13	S				2	9.000	3	0.625	2	9.000	3	0.625		12	4	12	1	32		
3	4	U104	BEAM	E	10	S				3	0.625	2	9.000						8	10	8	8	17		
26	5	U105	DIAPHRAGM	E	10	S				4	9.750	2	3.000						11	11	11	8	316		
26	6	U106	DIAPHRAGM	E	19	S				3	6.750	2	9.000						6	4	6	1	238		
50	6	U107	DIAPHRAGM	E	19	S				3	5.000	4	7.000						8	0	7	10	588		
20	5	V100	BEAM	E	20					6	7.000								6	7	6	7	137		
40	6	V101	WING	E	20		V	10		7	7.000								7	7	7	7			
			INCREMENT =							7	10.000								7	10	7	10	463		
			1.000 INCH																						
2	6	V102	WING	E	20					7	7.000								7	7	7	7	23		
40	6	V103	WING	E	20		V	10		7	9.000								7	9	7	9			
			INCREMENT =							8	0.000								8	0	8	0	473		
			1.000 INCH																						
2	6	V104	WING	E	20					7	9.000								7	9	7	9	23		
20	6	V105	DIAPHRAGM	E	20					3	6.000								3	6	3	6	105		
2	5	P100	DIAPHRAGM	E	16					20.000	2	5.000							7	9	7	7	16		
2	5	P101	DIAPHRAGM	E	16					14.000	2	5.000							6	2	6	0	13		
			END BENT 4																						
22	6	F400	WING BRACE	E	23	S				14.000	5	1.000	2	3.000	19.125	19.125	9.875	9.875	8	6	8	5	278		
8	6	F401	DIAPHRAGM	E	19	S				2	8.000	6	0.000						8	8	8	6	102		
8	7	H400	BEAM	E	20					39	5.000								39	5	39	5	645		
4	6	H401	BEAM	E	20					39	5.000								39	5	39	5	237		
4	6	H402	BEAM	E	20					4	7.000								4	7	4	7	28		
2	6	H403	BEAM	E	20					2	5.000								2	5	2	5	7		
8	6	H404	DIAPHRAGM	E	20					3	9.000								3	9	3	9	45		
3	6	H405	DIAPHRAGM	E	20					6	10.000								6	10	6	10	31		
12	6	H406	DIAPHRAGM	E	20					9	5.000								9	5	9	5	170		

BILL OF REINFORCING STEEL																										
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (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.
5	6	H407	DIAPHRAGM	E	20					39	5.000							39	5	39	5	296				
4	5	H408	STRAND TIE	E	20					5	9.000							5	9	5	9	24				
4	6	H409	DIAPHRAGM	E	20					39	5.000							39	5	39	5	237				
29	5	H410	DIAPHRAGM	E	19	S				2	0.000	15.000						3	3	3	2	96				
8	5	H411	DIAPHRAGM	E	19	S				2	3.000	15.000						3	6	3	5	29				
4	6	H412	DIAPHRAGM	E	20					5	6.000							5	6	5	6	33				
44	6	H413	WING	E	20					20	2.000							20	2	20	2	1333				
16	8	H414	WING	E	20					21	0.000							21	0	21	0	897				
4	8	H415	WING	E	20					11	1.000							11	1	11	1	118				
6	6	H416	BEAM	E	18					4	7.000							5	11	5	11	53				
16	5	U400	BEAM	E	10	S					6	7.000	2	9.000				15	11	15	9	263				
18	4	U401	BEAM	E	13	S				2	9.000	2	8.000	2	9.000	2	8.000	11	7	11	4	136				
3	4	U402	BEAM	E	10	S					2	8.000	2	9.000				8	1	7	11	16				
4	4	U403	BEAM	E	13	S				2	9.000	3	0.625	2	9.000	3	0.625	12	4	12	1	32				
3	4	U404	BEAM	E	10	S					3	0.625	2	9.000				8	10	8	8	17				
26	5	U405	DIAPHRAGM	E	10	S					4	9.750	2	3.000				11	11	11	8	316				
26	6	U406	DIAPHRAGM	E	19	S				3	6.875	2	9.000					6	4	6	2	241				
50	6	U407	DIAPHRAGM	E	19	S				3	5.000	4	7.000					8	0	7	10	588				
20	5	V400	BEAM	E	20					6	7.000							6	7	6	7	137				
40	6	V401	WING	E	20		V	8		7	7.000							7	7	7	7					
			INCREMENT =							7	11.000							7	11	7	11	466				
			1.000 INCH																							
2	6	V402	WING	E	20					7	7.000							7	7	7	7	23				
40	6	V403	WING	E	20		V	8		7	5.000							7	5	7	5					
			INCREMENT =							7	9.000							7	9	7	9	456				
			1.000 INCH																							
2	6	V404	WING	E	20					7	5.000							7	5	7	5	22				
20	6	V405	DIAPHRAGM	E	20					3	6.000							3	6	3	6	105				
2	5	P400	DIAPHRAGM	E	16					20.000	2	5.000						7	9	7	7	16				
2	5	P401	DIAPHRAGM	E	16					14.000	2	5.000						6	2	6	0	13				
			INT. BENT																							
			DIAPHRAGMS																							
12	6	H50	DIAPHRAGM	E	20					9	7.000							9	7	9	7	173				
36	4	H51	DIAPHRAGM	E	20					9	3.000							9	3	9	3	222				
12	6	H52	DIAPHRAGM	E	20					6	10.000							6	10	6	10	123				
8	6	H53	DIAPHRAGM	E	20					5	6.000							5	6	5	6	66				
8	5	H54	STRAND TIE	E	20					4	7.000							4	7	4	7	38				
12	5	H55	STRAND TIE	E	20					5	9.000							5	9	5	9	72				
24	6	U50	DIAPHRAGM	E	28	S					2	3.000	4	10.750	2	2.000		9	4	9	0	324				
24	6	U51	DIAPHRAGM	E	28	S					2	3.000	4	1.375	2	2.000		8	6	8	2	294				
72	4	U52	DIAPHRAGM	E	28	S					2	1.000	4	7.750		18.000		8	3	8	1	389				
8	6	U53	DIAPHRAGM	E	28	S					1	10.000	4	1.125	2	2.000		8	1	7	9	93				
8	6	U54	DIAPHRAGM	E	28	S					1	10.000	4	4.125	2	2.000		8	4	8	0	96				
32	5	U55	DIAPHRAGM	E	28	S	V	8		16.000	11.625	4	9.875					7	2	7	0					
			INCREMENT =							21.000	11.625	4	9.875					7	7	7	5	238				
			1.667 INCH																							
8	5	U56	DIAPHRAGM	E	19	S				4	4.875	11.625						5	5	5	4	45				
16	5	V50	DIAPHRAGM	E	20					4	10.000							4	10	4	10	81				
4	5	P50	DIAPHRAGM	E	16					20.000	2	5.000						7	9	7	7	32				
4	5	P51	DIAPHRAGM	E	16					14.000	2	5.000						6	2	6	0	25				



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

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



END HOOK DIMENSIONS				
ALL GRADES				
BAR SIZE	D (IN.)	180° HOOKS A OR G	90° HOOKS 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"

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. E.A. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) F_y = 60,000 PSI.

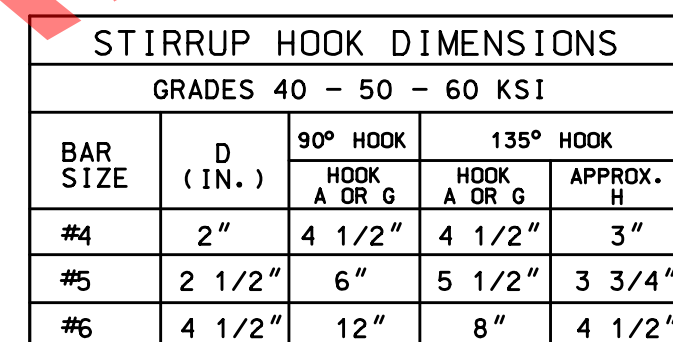
Detailed March 2021
Checked May 2021

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

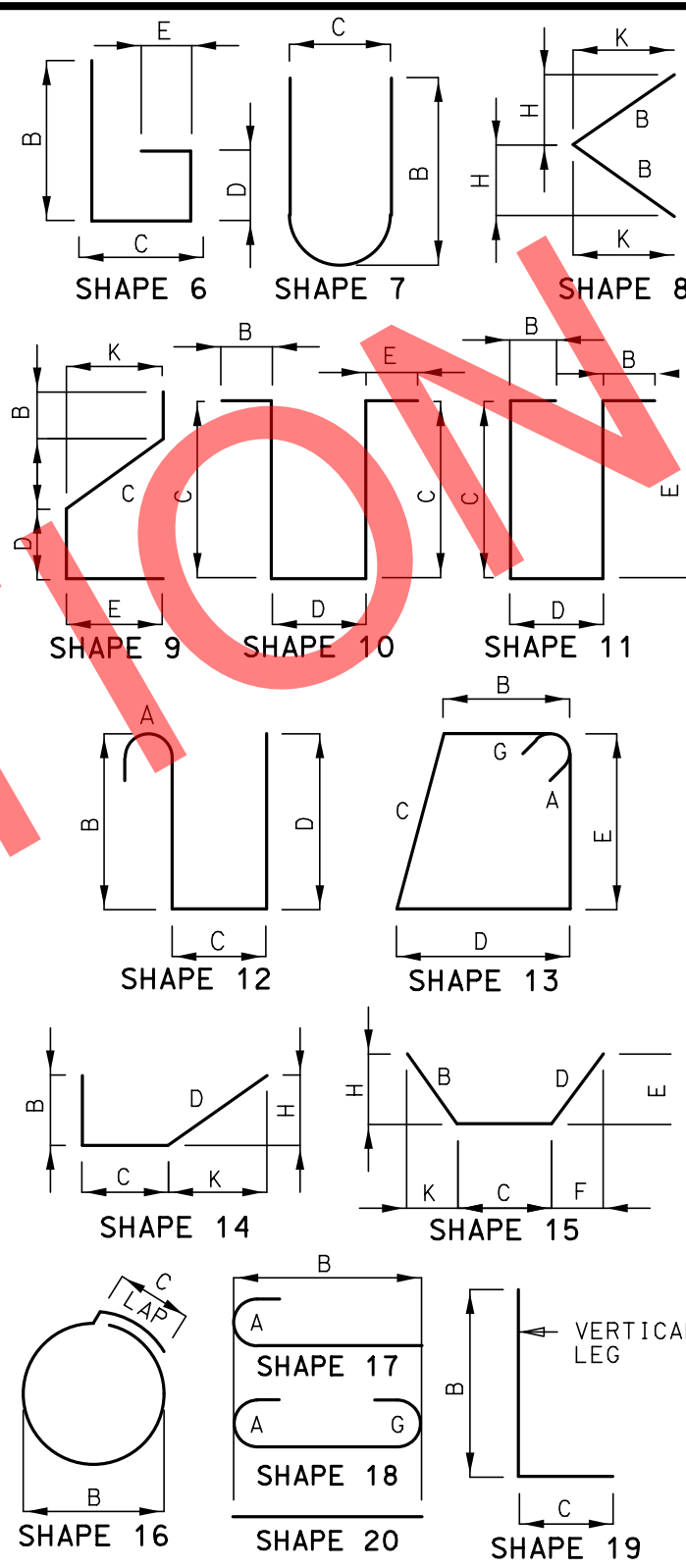
Sheet No. 37 of 51

BILL OF REINFORCING STEEL

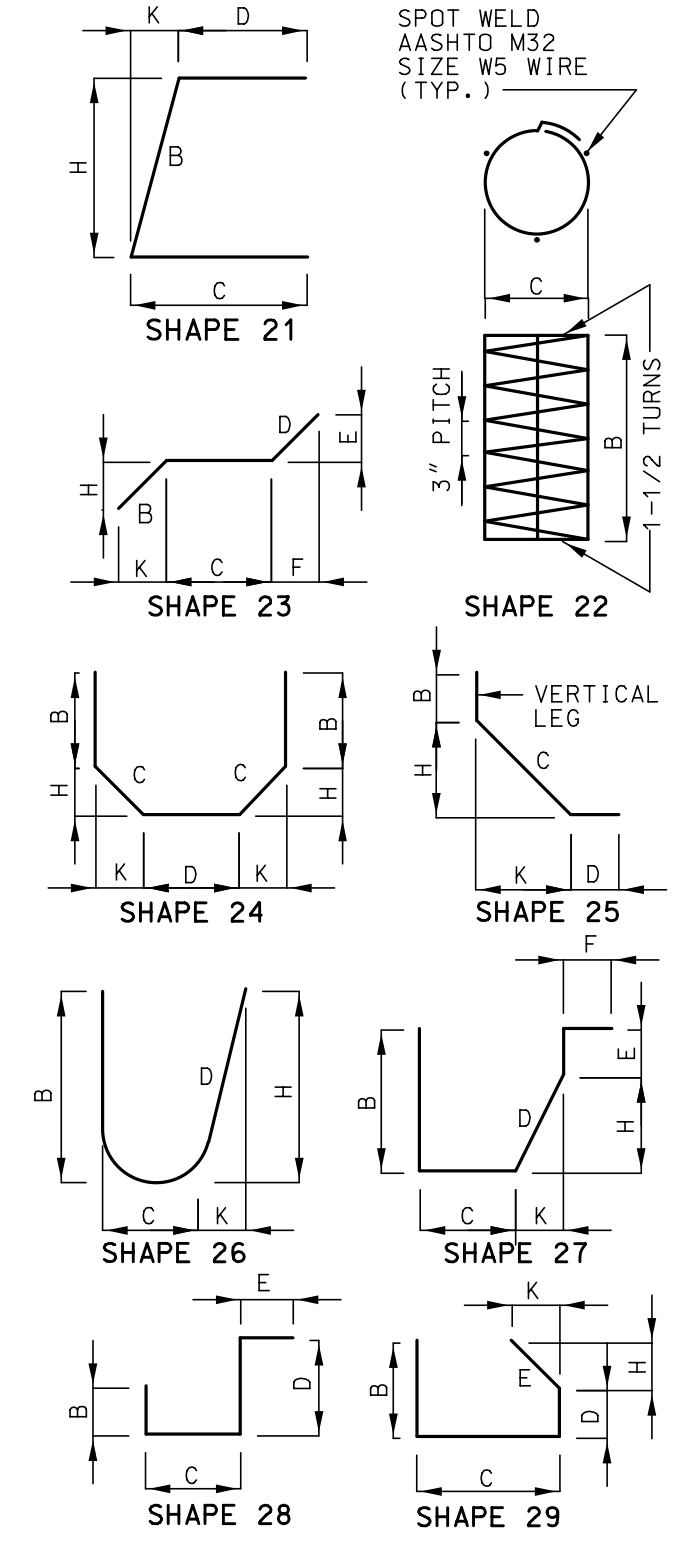
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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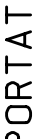
END HOOK DIMENSIONS					
BAR SIZE	D (IN.)	ALL GRADES			
		180° HOOKS		90° HOOKS	
		A	O R G	J	A O R G
#3	2 1/4"	5"	5"	3"	6"
#4	3"	6"	6"	4"	8"
#5	3 3/4"	7"	5"	5"	10"
#6	4 1/2"	8"	6"	6"	12"
#7	5 1/4"	10"	7"	7"	14"
#8	6"	11"	8"	8"	16"
#9	9 1/2"	15"	11"	3 3/4"	19"
#10	10 3/4"	17"	13"	1 3/4"	22"
#11	12"	19"	14"	3 3/4"	2'-0"
#14	18 1/4"	2'-3"	21"	3 3/4"	2'-7"

[illegible]

SPOT WELD
AASHTO M32
SIZE W5 WIRE
(TYP.) _____



DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 38
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9133	

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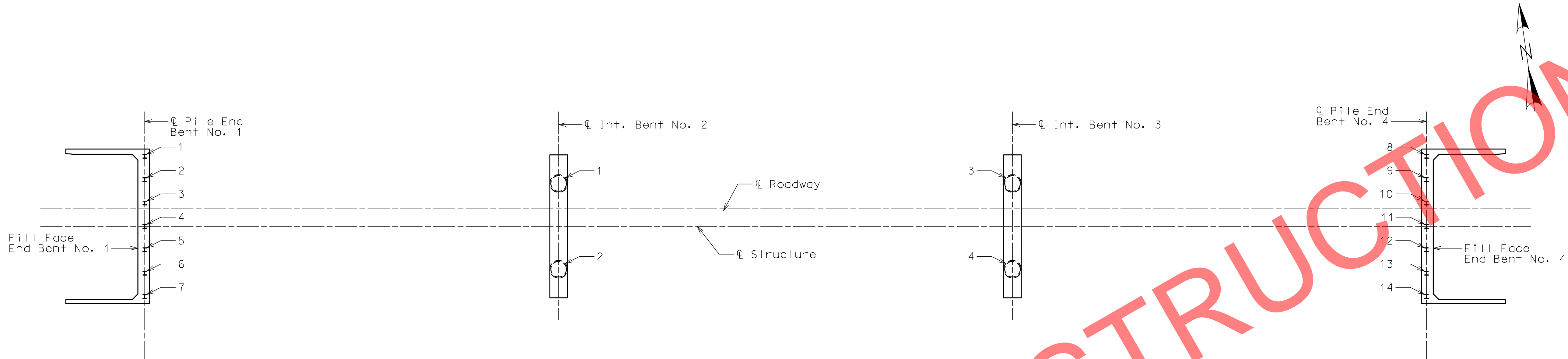
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6836)

olsson
7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

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

REV.



PART PLAN SHOWING PILE & DRILLED SHAFT
NUMBERING FOR RECORDING AS-BUILT PILE DATA
& AS-BUILT DRILLED SHAFT DATA

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 1
1			
2			
3			
4			
5			
6			
7			
			End Bent No. 4
8			
9			
10			
11			
12			
13			
14			

As-Built Drilled Shaft Data				
Shaft No.	Top of Sound Rock (Elev.)	Tip of Casing (Elev.)	Bottom of Rock Socket (Elev.)	Remarks
				Int. Bent No. 2
1				
2				
				Int. Bent No. 3
3				
4				

Note:
Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal
This sheet to be completed by owner.

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9133

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

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

REV.

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BOREHOLE REPORT NO. BR-11

Sheet 1 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Rock Core

Split Spoon

ELEVATION
(ft)

: X: 0 Y: 0

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH
(ft)

SAMPLE TYPE
NUMBER

CLASSIFICATION
(USCS)

BLOWS/6"
N-VALUE

UNC. STR.
(tsf)

MOISTURE
(%)

DRY DENSITY
(pcf)

LL/PI
(%)

ADDITIONAL
DATA/
REMARKS

APPROX. SURFACE ELEV. (ft): 902.5

ROOT ZONE
LEAN CLAY
Firm, light brown with dark brown, moist, trace sand and organics

0.5'

900

U 1

35/18

P.P. = 1.50

5

6.5'

895

Firm, light gray, oxidation, moist, trace sand

SS 2

2-3-4
N=7

24.4

10

12.0'

890

Firm, light gray, sandy, moist

SS 3

2-2-4
N=6

22.9

15

17.0'

885

Firm, light gray, sandy, oxidation, moist

SS 4

1-2-4
N=6

23.5

20

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 24.0 ft

IAD Not Performed

AD Not Encountered

OLSSON, INC.
1700 E. 123RD STREET
OLATHE, KANSAS 66061

STARTED: 5/11/21
FINISHED: 5/17/21
DRILL C&SI Geotechnical
DRILL RIG: CME 550
DRILLER: RONNIE
LOGGED BY: E. CRISP
METHOD: HOLLOW STEM AUGER

olsson

BOREHOLE REPORT NO. BR-11

Sheet 2 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Rock Core

Split Spoon

ELEVATION
(ft)

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH
(ft)

SAMPLE TYPE
NUMBER

CLASSIFICATION
(USCS)

BLOWS/6"
N-VALUE

UNC. STR.
(tsf)

MOISTURE
(%)

DRY DENSITY
(pcf)

LL/PI
(%)

ADDITIONAL
DATA/
REMARKS

20

Firm, light gray, sandy, oxidation, moist (continued)

23.0'

880

POORLY GRADED SAND

Loose, brown, moist, trace clay

24.5'

SS 5

4-6-7
N=13

26.6

25

GLACIAL TILL

Stiff, gray brown, with poorly graded sand, gravel, moist

29.0'

SS 6

14-22-26
N=48

14.4

30

32.0'

875

Hard, dark gray, silty, sandy, gravel

SS 7

14-20-27
N=47

13.6

35

870

Hard, dark gray, silty, with poorly graded sand, gravel

SS 8

11-20-34
N=54

11.2

40

865

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 24.0 ft

IAD Not Performed

AD Not Encountered

OLSSON, INC.
1700 E. 123RD STREET
OLATHE, KANSAS 66061

STARTED: 5/11/21
FINISHED: 5/17/21
DRILL C&SI Geotechnical
DRILL RIG: CME 550
DRILLER: RONNIE
LOGGED BY: E. CRISP
METHOD: HOLLOW STEM AUGER

BORING DATA

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

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9133

DESCRIPTION

DATE

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

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

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BOREHOLE REPORT NO. BR-11

Sheet 3 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

ELEVATION (ft)	<div><div>Shelby Tube</div><div>Rock Core</div></div>	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (USCS)	BLOWS/6" N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/ REMARKS
860		Hard, dark gray, silty, with poorly graded sand, gravel (continued)		42.0'								
		Hard, dark gray, silty										
				45	SS 9		12-20-28 N=48	10.3				
		WEATHERED SHALE		46.0'								
855		Olive gray, clayey										
		SHALE		48.0'								
		Olive gray		48.8'								
		LIMESTONE		50.0'	SS 10		50/3"	13.3				
		SHALE										Recovery 60.4%
850		Dark gray			RC 1							RQD 0.0%
				53.0'								
		Dark gray with gray, clayey										
				55.3'								Recovery 100.0%
		Dark reddish brown		56.0'	RC 2							RQD 0.0%
845		Olive brown										
				59.3'								
				60								Recovery
CONTINUED NEXT PAGE												
WATER LEVEL OBSERVATIONS			STARTED: 5/11/21			FINISHED: 5/17/21						
WD	24.0 ft	OLSSON, INC. 1700 E. 123RD STREET OLATHE, KANSAS 66061	DRILL C&SI Geotechnical			DRILL RIG: CME 550						
IAD	Not Performed		DRILLER: RONNIE			LOGGED BY: E. CRISP						
AD	Not Encountered		METHOD: HOLLOW STEM AUGER									

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BOREHOLE REPORT NO. BR-11

Sheet 4 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

ELEVATION (ft)	<div><div>Shelby Tube</div><div>Rock Core</div></div>	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (USCS)	BLOWS/6" N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/ REMARKS
		Dark reddish brown (continued)		60	RC 3							100.0% RQD 0.0%
840												
				65	RC 4			508.0				Recovery 100.0% RQD 40.0%
835		LIMESTONE		68.4'								
		Gray			RC 5							Recovery 96.7% RQD 76.7%
830		SHALE		72.6'								
		Red		73.3'								
		LIMESTONE										
		Light with dark gray		74.8'	RC 6							Recovery 80.0% RQD 0.0%
		SHALE										
		Dark gray with dark reddish brown, fractured										
825		LIMESTONE		78.8'	RC 7							Recovery 75.0% RQD 0.0%
		Light gray		79.0'								
CONTINUED NEXT PAGE												
WATER LEVEL OBSERVATIONS			STARTED: 5/11/21			FINISHED: 5/17/21						
WD	24.0 ft	OLSSON, INC. 1700 E. 123RD STREET OLATHE, KANSAS 66061	DRILL C&SI Geotechnical			DRILL RIG: CME 550						
IAD	Not Performed		DRILLER: RONNIE			LOGGED BY: E. CRISP						
AD	Not Encountered		METHOD: HOLLOW STEM AUGER									

BORING DATA

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

olsson

BOREHOLE REPORT NO. BR-11

Sheet 5 of 5

PROJECT NAME

East Locust Creek - Mid Lake Road Bridges

CLIENT

Missouri Department of Transportation

PROJECT NUMBER

020-3611

LOCATION

Sullivan County, Missouri

ELEVATION
(ft)

Shelby Tube

Rock Core

Split Spoon

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH
(ft)

SAMPLE TYPE NUMBER

CLASSIFICATION
(USCS)

BLOWS/6"
N-VALUE

UNC. STR.
(tsf)

MOISTURE
(%)

DRY DENSITY
(pcf)

LL/PI
(%)

ADDITIONAL DATA/
REMARKS

SHALE

Dark gray

BASE OF BORING AT 79.0 FEET

WATER LEVEL OBSERVATIONS

WD 24.0 ft

IAD Not Performed

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/11/21

FINISHED: 5/17/21

DRILL CCSI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: E. CRISP

METHOD: HOLLOW STEM AUGER

BORING DATA

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

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7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

MoDOT

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

DESCRIPTION

DATE

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
42

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9133

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

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BOREHOLE REPORT NO. BR-12

Sheet 1 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Rock Core

Split Spoon

ELEVATION
(ft)

: X: 115 Y: 0

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH
(ft)

SAMPLE TYPE
NUMBER

CLASSIFICATION
(USCS)

BLOWS/6"
N-VALUE

UNC. STR.
(tsf)

MOISTURE
(%)

DRY DENSITY
(pcf)

LL/PI
(%)

ADDITIONAL
DATA/
REMARKS

APPROX. SURFACE ELEV. (ft): 901.5

ROOT ZONE

0.5'

LEAN CLAY

Soft, gray with brown, moist, trace organics

2.5'

Soft, gray with brown, moist

7.0'

Firm, brown with gray, sandy, moist

12.5'

Firm, gray with brown, moist, trace sand

17.0'

Firm, gray, with poorly graded sand, moist

20'

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 13.0 ft

IAD 8.8 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/10/21

FINISHED: 5/10/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: E. CRISP

METHOD: HOLLOW STEM AUGER

U 1

38/20

P.P. = 0.75

SS 2

1-3-2
N=5

23.0

SS 3

3-3-4
N=7

24.7

SS 4

3-3-4
N=7

28.2

olsson

BOREHOLE REPORT NO. BR-12

Sheet 2 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Rock Core

Split Spoon

ELEVATION
(ft)

: X: 115 Y: 0

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH
(ft)

SAMPLE TYPE
NUMBER

CLASSIFICATION
(USCS)

BLOWS/6"
N-VALUE

UNC. STR.
(tsf)

MOISTURE
(%)

DRY DENSITY
(pcf)

LL/PI
(%)

ADDITIONAL
DATA/
REMARKS

20'

Firm, gray, with poorly graded sand, moist
(continued)

22.0'

Soft, gray with olive gray, wet, trace sand

25'

SS 5

1-2-2
N=4

90.0

27.5'

SS 6

1-2-1
N=3

27.8

32.0'

Soft, olive gray, sandy, moist

35'

SS 7

2-1-2
N=3

25.8

37.5'

GLACIAL TILL

Very stiff, gray, gravel, coarse sand

40'

SS 8

5-6-18
N=24

14.1

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 13.0 ft

IAD 8.8 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/10/21

FINISHED: 5/10/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: E. CRISP

METHOD: HOLLOW STEM AUGER

SS 5

1-2-2
N=4

90.0

SS 6

1-2-1
N=3

27.8

SS 7

2-1-2
N=3

25.8

SS 8

5-6-18
N=24

14.1

BORING DATA

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

olsson

BOREHOLE REPORT NO. BR-12

Sheet 3 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

ELEVATION (ft)

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

GLACIAL TILL

Very stiff, gray, gravel, coarse sand (continued)

44.5'

SS 9

9-11-37 N=48

12.0

WEATHERED SHALE

Yellow brown with gray

49.0'

SS 10

26-50/4"

16.1

SHALE

Olive gray with dark reddish brown

51.0'

348.0

Recovery 90.0%

RQD 73.3%

LIMESTONE

Gray

53.8'

SHALE

Dark reddish brown

55.8'

Recovery 95.0%

RQD 0.0%

SHALE

Olive brown with gray

58.8'

SHALE

Dark reddish brown

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 13.0 ft

IAD 8.8 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/10/21

FINISHED: 5/10/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: E. CRISP

METHOD: HOLLOW STEM AUGER

olsson

BOREHOLE REPORT NO. BR-12

Sheet 4 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

ELEVATION (ft)

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

Dark reddish brown (continued)

60.9'

RC 3

Recovery 100.0%

RQD 36.7%

LIMESTONE

Light gray with gray

64.9'

SHALE

Red

66.0'

Recovery 100.0%

RQD 63.3%

LIMESTONE

Light gray with dark gray

68.5'

SHALE

Dark gray with dark reddish brown, clayey

71.5'

Recovery 100.0%

RQD 23.3%

SHALE

Dark gray

72.5'

LIMESTONE

Light gray with gray

73.7'

SHALE

Dark gray

76.5'

Recovery 88.3%

RQD 38.3%

SHALE

Dark gray

77.5'

COAL

Black

80.0'

Recovery 76.7%

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 13.0 ft

IAD 8.8 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/10/21

FINISHED: 5/10/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: E. CRISP

METHOD: HOLLOW STEM AUGER

BORING DATA

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

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
44

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9133

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213

CERTIFICATE OF
AUTHORITY NO. 001592

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

olsson

BOREHOLE REPORT NO. BR-12

Sheet 5 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

ELEVATION
(ft)

Shelby Tube

Rock Core

Split Spoon

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH
(ft)

SAMPLE TYPE
NUMBER

CLASSIFICATION
(USCS)

BLOWS/6"
N-VALUE

UNC. STR.
(tsf)

MOISTURE
(%)

DRY DENSITY
(pcf)

LL/PI
(%)

ADDITIONAL
DATA/
REMARKS

SHALE

Dakr gray

81.0'

BASE OF BORING AT 81.0 FEET

RQD
0.0%

WATER LEVEL OBSERVATIONS

WD 13.0 ft

IAD 8.8 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/10/21

FINISHED: 5/10/21

DRILL CCSI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: E. CRISP

METHOD: HOLLOW STEM AUGER

BORING DATA

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

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

MoDOT

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

DESCRIPTION

DATE

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
45

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9133

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

olsson

BOREHOLE REPORT NO. BR-13

Sheet 1 of 5

PROJECT NAME

East Locust Creek - Mid Lake Road Bridges

CLIENT

Missouri Department of Transportation

PROJECT NUMBER

020-3611

LOCATION

Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

: X: 235 Y: 0

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

APPROX. SURFACE ELEV. (ft): 901.3

ROOT ZONE

0.5'

900

LEAN CLAY

Soft, brown with gray, silty, moist, trace sand and orgaincs

3.0'

Firm, brown with gray, silty, moist, trace sand and orgaincs

5

U 1

34/16

P.P. = 2.0

895

7.0'

Firm, brown with gray, silty, moist, trace sand

10

SS 2

1-3-4 N=7

22.3

890

13.0'

Soft, brownish gray, silty, moist, trace sand

15

SS 3

1-2-3 N=5

25.1

885

14.5'

POORLY GRADED SAND

Loose, brownish gray, moist, trace water

18.0'

LEAN CLAY

Firm, olive gray with brwon, sandy

19.5'

SS 4

2-4-3 N=7

29.6

20

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 21.0 ft

IAD 8.8 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/9/21

FINISHED: 5/9/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: J. PUTNAM

METHOD: HOLLOW STEM AUGER

olsson

BOREHOLE REPORT NO. BR-13

Sheet 2 of 5

PROJECT NAME

East Locust Creek - Mid Lake Road Bridges

CLIENT

Missouri Department of Transportation

PROJECT NUMBER

020-3611

LOCATION

Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

20

Firm, gray with brown, sandy (continued)

22.5'

Soft, gray, sandy, moist

24.5'

POORLY GRADED SAND

Very loose, gray, clayey

25

SS 5

2-2-2 N=4

28.5

875

29.5'

LEAN CLAY

Soft, gray, with poorly graded sand

30

SS 6

1-2-2 N=4

24.1

870

33.0'

Firm, gray with poorly graded sand

35

SS 7

3-4-2 N=6

18.4

865

37.0'

Medium dense, gray, trace gravel

40

SS 8

3-5-5 N=10

16.3

P-200 = 12.3%

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 21.0 ft

IAD 8.8 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/9/21

FINISHED: 5/9/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: J. PUTNAM

METHOD: HOLLOW STEM AUGER

BORING DATA

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

Detailed March 2021
Checked May 2021

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

Sheet No. 46 of 51

8:08:19 AM 2/1/2022

DATE PREPARED

2/1/2022

ROUTE

MIDLAKE

STATE

MO

DISTRICT

BR

SHEET NO.

46

COUNTY

SULLIVAN

JOB NO.

J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A9133

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITAL

JEFFERSON CITY, MO 65102

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

olsson

7301 WEST 133RD STREET

OVERLAND PARK, KS 66213

CERTIFICATE OF

AUTHORITY NO. 001592

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

REV.

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BOREHOLE REPORT NO. BR-13

Sheet 3 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

ELEVATION (ft)

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

860

Medium dense, gray, trace gravel (continued)

41.0'

855

Medium dense, gray, poorly graded, trace gravel

44.0'

GLACIAL TILL

Hard, brownish gray, gravel, sand

SS 9

18-43-50/5"

11.2

46.5'

Hard, gray brown, gravel, sandy

49.0'

SHALE

Light gray

SS 10

34-50/5"

13.9

53.0'

Gray

55

57.0'

Dark reddish brown

59.3'

60

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 21.0 ft

IAD 8.8 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/9/21

FINISHED: 5/9/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: J. PUTNAM

METHOD: HOLLOW STEM AUGER

olsson

BOREHOLE REPORT NO. BR-13

Sheet 4 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

ELEVATION (ft)

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

840

LIMESTONE

Dark gray (continued)

RC 1

Recovery 93.5%

RQD 87.0%

64.6'

SHALE

Dark reddish brown

RC 2

190.0

Recovery 86.7%

RQD 38.3%

66.6'

LIMESTONE

Gray

67.5'

SHALE

Dark reddish brown

69.8'

LIMESTONE

Dark gray

RC 3

Recovery 90.0%

RQD 45.0%

72.8'

SHALE

Dark gray, clayey

73.6'

LIMESTONE

Gray

RC 4

425.0

Recovery 90.0%

RQD 63.3%

76.8'

SHALE

Dark gray

77.8'

COAL

Black

78.3'

80

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 21.0 ft

IAD 8.8 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/9/21

FINISHED: 5/9/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: J. PUTNAM

METHOD: HOLLOW STEM AUGER

BORING DATA

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

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
47

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9133

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITAL

JEFFERSON CITY, MO 65102

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

olsson

7301 WEST 133RD STREET

OVERLAND PARK, KS 66213

CERTIFICATE OF AUTHORITY NO. 001592

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

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BOREHOLE REPORT NO. BR-13

Sheet 5 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

ELEVATION
(ft)

820

815

Shelby Tube

Rock Core

Split Spoon

MATERIAL DESCRIPTION

GRAPHIC LOG

80

81.8'

85

85.1'

87.1'

89.0'

RC 5

RC 6

RC 7

CLASSIFICATION
(USCS)

BLOWS/6"
N-VALUE

UNC. STR.
(tsf)

MOISTURE
(%)

DRY DENSITY
(pcf)

LL/PI
(%)

ADDITIONAL
DATA/
REMARKS

88.3%
RQD
15.0%

Recovery
100.0%
RQD
40.0%

Recovery
92.9%
RQD
64.3%

BASE OF BORING AT 89.0 FEET

WATER LEVEL OBSERVATIONS

WD 21.0 ft

IAD 8.8 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/9/21

FINISHED: 5/9/21

DRILL CO: SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: J. PUTNAM

METHOD: HOLLOW STEM AUGER

BORING DATA

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

Detailed March 2021
Checked May 2021

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

Sheet No. 48 of 51

8:08:54 AM 2/1/2022

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

MoDOT

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

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
48

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9133

DESCRIPTION

DATE

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

olsson

BOREHOLE REPORT NO. BR-14

Sheet 1 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

: X: 340 Y: 0

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

APPROX. SURFACE ELEV. (ft): 901.8

ROOT ZONE

0.5'

900

LEAN CLAY

Soft, brown with gray, moist, trace orgaincs and fine sand

3.0'

FAT CLAY

Soft, brownish gray, silty, moist, trace sand

6.5'

895

LEAN CLAY

Soft, brown, silty, moist

9.5'

Very soft, brown with gray, sandy, silty, moist

14.3'

890

Very soft, dark gray with brown, silty, sandy, moist

18.0'

885

Very soft, yellow brown with gray, sandy, moist

19.0'

Very soft, gray, sandy, wet

20

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 16.0 ft

IAD 7.0 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/8/21

FINISHED: 5/8/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: J. PUTNAM

METHOD: HOLLOW STEM AUGER

olsson

BOREHOLE REPORT NO. BR-14

Sheet 2 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

Very soft, gray, sandy, wet (continued)

20

24.5'

SS 5

1-1-1 N=2

19.9

POORLY GRADED SAND

Very loose, gray, trace clay

27.0'

875

Loose, gray with dark gray

31.0'

30

SS 6

2-2-2 N=4

15.6

31.0'

870

Medium dense, gray with dark gray

34.5'

35

SS 7

7-9-11 N=20

16.2

34.5'

Medium dense, gray with dark gray, trace gravel

39.0'

865

40

SS 8

4-6-10 N=16

17.1

P-200 = 44.3%

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 16.0 ft

IAD 7.0 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/8/21

FINISHED: 5/8/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: J. PUTNAM

METHOD: HOLLOW STEM AUGER

BORING DATA

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
49

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9133

DESCRIPTION

DATE

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

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

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BOREHOLE REPORT NO. BR-14

Sheet 3 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

ELEVATION (ft)

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

860

GLACIAL TILL

Hard, gray with dark gray, sandy, gravel (continued)

45.0'

SS 9

9-16-30 N=46

10.7

855

WEATHERED SHALE

Gray, trace sand

47.0'

850

SHALE

Gray

49.0'

SS 10

30-50/5"

16.4

845

LIMESTONE

Dark gray

52.0'

RC 1

50/1"

16.2

Recovery 44.4%

RQD 20.0%

56.0'

SHALE

Dark gray

58.6'

59.7'

Dark reddish brown

Recovery

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 16.0 ft

IAD 7.0 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/8/21

FINISHED: 5/8/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: J. PUTNAM

METHOD: HOLLOW STEM AUGER

olsson

BOREHOLE REPORT NO. BR-14

Sheet 4 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

ELEVATION (ft)

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

840

LIMESTONE

Gray (continued)

60

RC 2

100.0%

RQD 53.3%

835

SHALE

Dark gray with dark reddish brown

67.3'

RC 3

Recovery 80.0%

RQD 50.0%

830

LIMESTONE

Gray

70.3'

RC 4

71.6'

SHALE

Dark gray

72.8'

75.1'

LIMESTONE

Gray with dark gray

77.0'

SHALE

Dark gray

78.0'

COAL

Black

79.0'

SHALE

Dark gray

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 16.0 ft

IAD 7.0 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/8/21

FINISHED: 5/8/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: J. PUTNAM

METHOD: HOLLOW STEM AUGER

BORING DATA

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

Detailed March 2021
Checked May 2021

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

Sheet No. 50 of 51

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
50

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9133

DESCRIPTION

DATE

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

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BOREHOLE REPORT NO. BR-14

Sheet 5 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

ELEVATION (ft)

820

Shelby Tube

Rock Core

Split Spoon

MATERIAL DESCRIPTION

GRAPHIC LOG

81.8'

84.0'

DEPTH (ft)

80

SAMPLE TYPE NUMBER

RC 6

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

662.0

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

96.7%
RQD
0.0%

Gray (continued)

LIMESTONE

Light gray

BASE OF BORING AT 84.0 FEET

WATER LEVEL OBSERVATIONS

WD 16.0 ft

IAD 7.0 ft

AD Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/8/21

FINISHED: 5/8/21

DRILL CO/SSI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: J. PUTNAM

METHOD: HOLLOW STEM AUGER

BORING DATA

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

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2/1/2022

ROUTE
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51

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Estimated Quantities				
Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	160		160
Bridge Approach Slab (Major)	sq. yard		147	147
(72 in.) Pedestrian Fence (Structures)	linear foot		316	316
(48 in.) Pedestrian Fence (Structures)	linear foot		316	316
(22 in.) Pedestrian Fence (Structures)	linear foot		316	316
Drilled Shafts (6 ft. 0 in. Dia.)	linear foot	117		117
Rock Sockets (5 ft. 6 in. Dia.)	linear foot	36.0		36.0
Video Camera Inspection	each	2		2
Foundation Inspection Holes	linear foot	58.0		58.0
Sonic Logging Testing	each	2		2
Galvanized Structural Steel Piles (14 in.)	linear foot	1,295		1,295
Pile Wave Analysis	each	2		2
Pre-bore for Piling	linear foot	1,274		1,274
Pile Point Reinforcement	each	14		14
Class B Concrete (Substructure)	cu. yard	110.9		110.9
* Type H Barrier	linear foot		634	634
Slab on Concrete NU-Girder	sq. yard		1,199	1,199
Concrete Curb (Bridge Rail)	linear foot		317	317
NU65, Prestressed Concrete NU-Girder	linear foot		1,081	1,081
Reinforcing Steel (Bridges)	pound	38,660		38,660
Conduit System on Structure	lump sum		1	1
Steel Intermediate Diaphragm for P/S Concrete Girders	each		18	18
Vertical Drain at End Bents	each			2
Laminated Neoprene Bearing Pad (Tapered)	each		16	16

* Type H Barrier shall be cast-in-place option or slip form option.

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

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

All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

Foundation Data					
Type	Design Data		Bent Number		
			1	2	3
Load Bearing Pile	Pile Type and Size		HP 14X73	-	HP 14X73
	Number	ea	7	-	7
	Approximate Length per Each	ft	82	-	103
	Pile Point Reinforcement	ea	7	-	7
	Minimum Galvanized Penetration (Elev.)	ft	904	-	921
	Pile Driving Verification Method		WEAP **	-	WEAP **
	Minimum Nominal Axial Compressive Resistance	kip	613	-	613
	Resistance Factor		0.5	-	0.5
Rock Socket	Number	ea	-	2	-
	Layer 1	Foundation Material	-	Weak Rock	-
		Elevation Range	-	844-838 832-828	-
		Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	8.0	-
	Layer 2	Foundation Material	-	Strong Rock	-
		Elevation Range	-	838-835	-
		Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	25.0	-
		Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf	152.1	-

Load Bearing Pile:

WEAP = Wave Equation Analysis of Piles

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

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

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

Load Bearing Pile (Cont.):

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

** Pre-bore for piles at End Bents No. 1 and 3, to sound rock (estimated elevations 845.3 and 842.8 respectively). If good quality rock is encountered, piles shall be inserted into the pre-bored holes. Ensure the piles are seated on bedrock and not rubble in the bottom of the hole. The piles shall be seated with the pile hammer to ensure refusal on hard rock and verification of the pile driving is not required. If shale is encountered, the pile driving verification methods in the above table shall be used. The annular space of the pre-bored hole shall be backfilled with loose sand. If rock is not encountered, fill the pre-bored hole with loose sand prior to pile driving in accordance with Sec 702. Temporary casing of pre-bored holes may be required. No special payment shall be made for temporary casing of pre-bored holes.

Rock Socket (Drilled Shafts):

Minimum Nominal Axial Compressive Resistance (Side Resistance & Tip Resistance) = $\frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
Seismic Design Category = A

Design Loading:

Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/af
Equivalent Fluid Pressure = 45 lb/af
Superstructure: Simply-supported, non-composite for dead load.
Continuous composite for live load.

Design Unit Stresses:

Class B Concrete	(Substructure, except Drilled Shafts & Rock Sockets)	f'c = 3,000 psi
Class B-2 Concrete	(Drilled Shafts & Rock Sockets)	f'c = 4,000 psi
Class B-2 Concrete	(Superstructure, except Prestressed Girders & Barrier)	f'c = 4,000 psi
Class B-1 Concrete	(Barrier)	f'c = 4,000 psi
Reinforcing Steel	(Grade 60)	fy = 60,000 psi
Steel Pile	(ASTM A709 Grade 50)	fy = 50,000 psi

For prestressed girder stresses, see Sheets No. 13 thru 16.

Neoprene Pads:

Neoprene Bearing Pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:

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

Traffic Handling:

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

Utilities:

10 in. Carrier Pipe and 16 in. Carrier Pipe shall be constructed to a minimum distance of 50 feet beyond the fill face of each end bent (By Others).

Estimated Quantities for Slab on Concrete NU-Girder		
Item		Total
Class B-2 Concrete	cu. yard	417.1
Reinforcing Steel (Epoxy Coated)	pound	118,660

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

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

Slabs shall be cast-in-place with conventional forms. Precast panels will not be permitted.

Hydrologic Data (No Tailwater from Lake)

Drainage Area = 1.55 mi²
Design Flood Frequency = 50 years
Design Flood Discharge = 3,189 cfs
Design Flood (D.F.) Elevation = 909.9

Base Flood (100-year)

Base Flood Elevation = 910.6
Base Flood Discharge = 3,795 cfs
Estimated Backwater = 2.2 ft
Average Velocity thru Opening = 9.5 ft/s

Freeboard (50-year)

Freeboarding = 24.2 ft

Roadway Overtopping

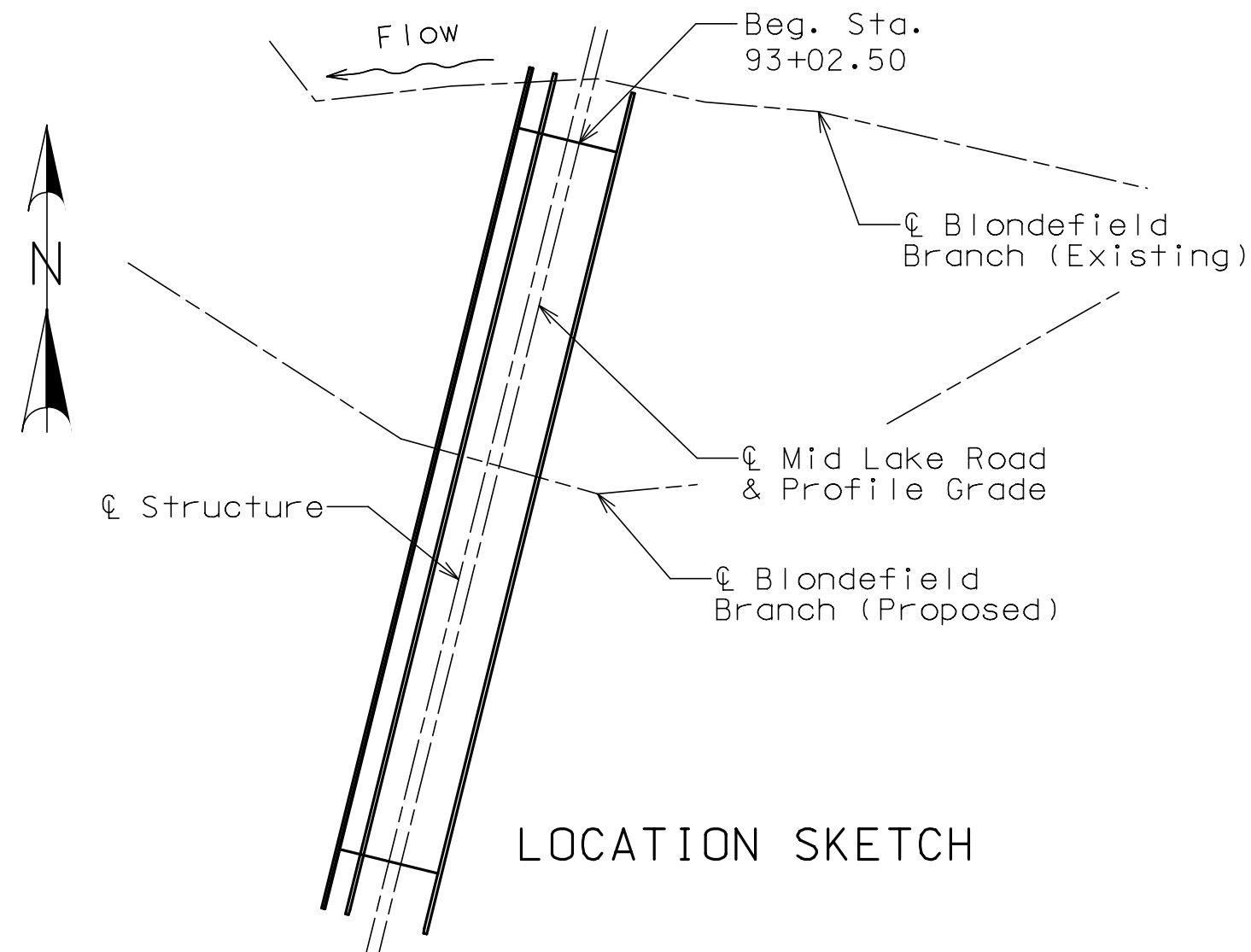
Overtopping Flood Discharge = > 5,394 cfs
Overtopping Flood Frequency = > 500 years
Overtopping Flood Elevation = 928.9

Hydrologic Data (Tailwater from Lake)

Drainage Area = 1.55 mi²
Design (Normal Pool) Elevation = 922.3
Design (50 Year) Elevation = 925.7

Base Flood (100-year)

Base Flood Elevation = 926.1



GENERAL NOTES AND SUMMARY OF ESTIMATED QUANTITIES

DATE PREPARED
2/1/2022

ROUTE
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DISTRICT
BR

STATE
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SHEET NO.
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J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9134

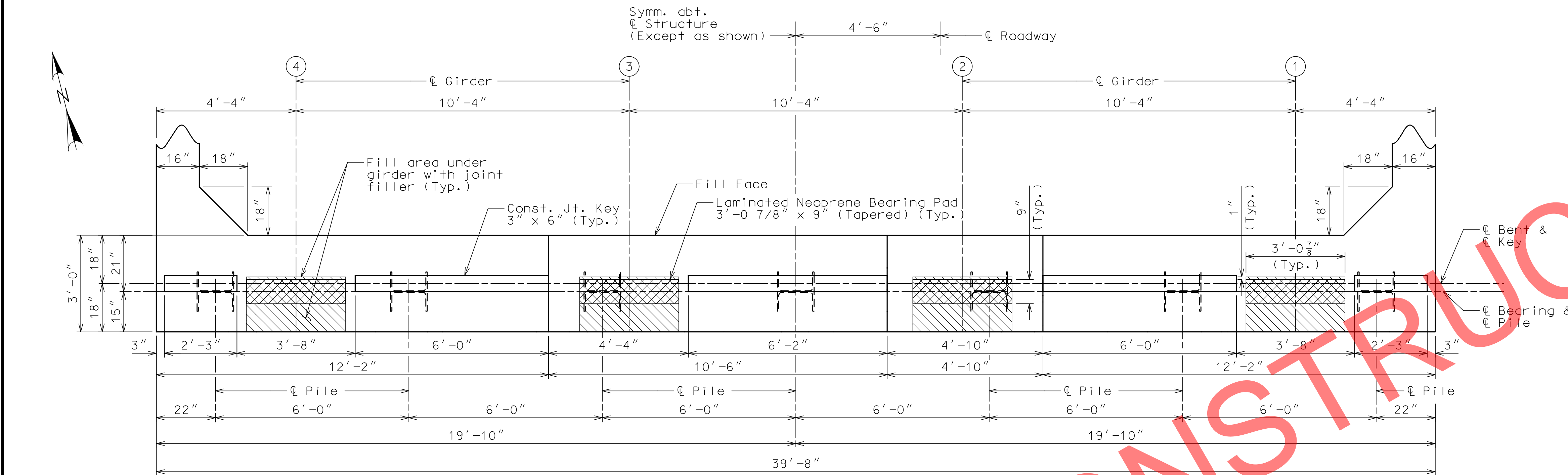
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DATE

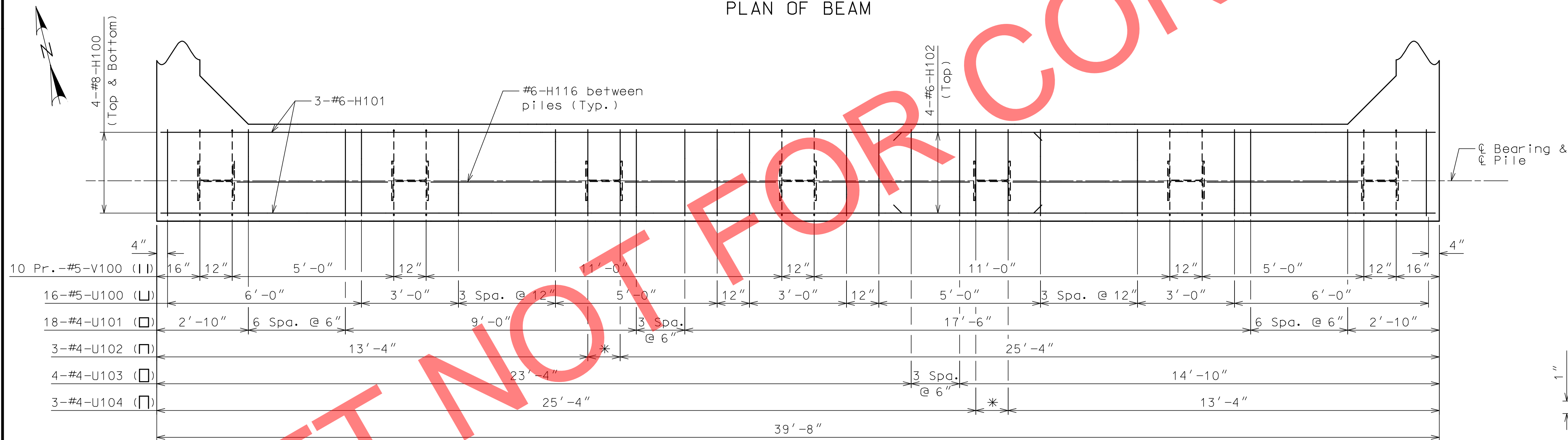
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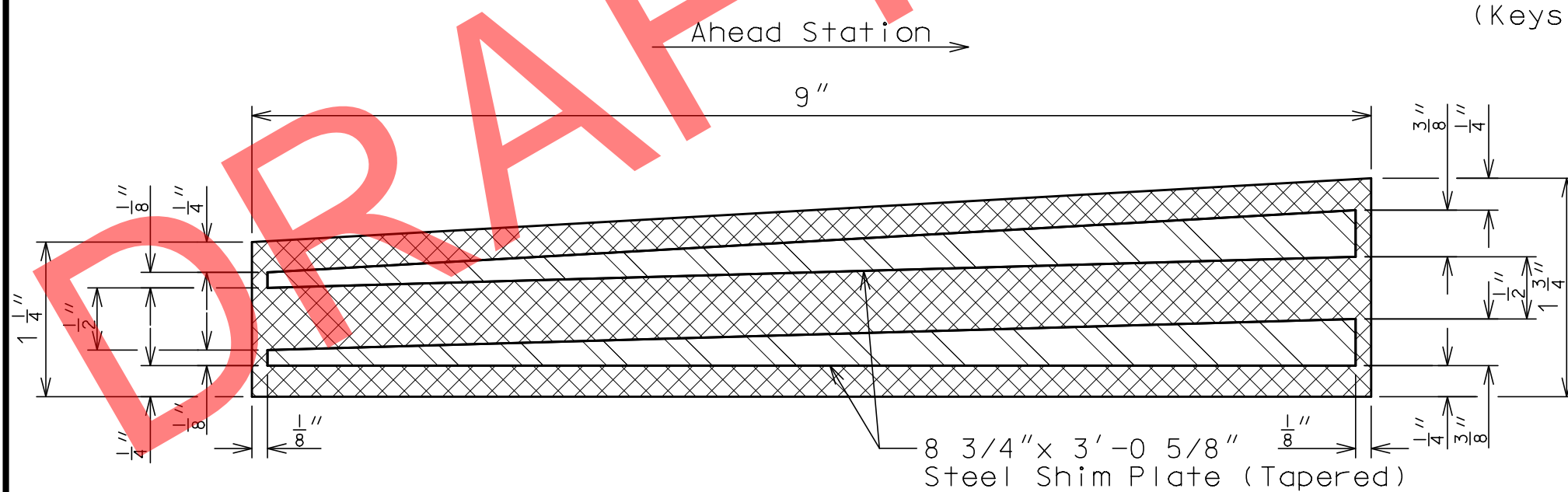
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PLAN OF BEAM



PLAN OF BEAM SHOWING REINFORCEMENT (Keys and steps not shown for clarity.) * 2 Spa. @ 6"

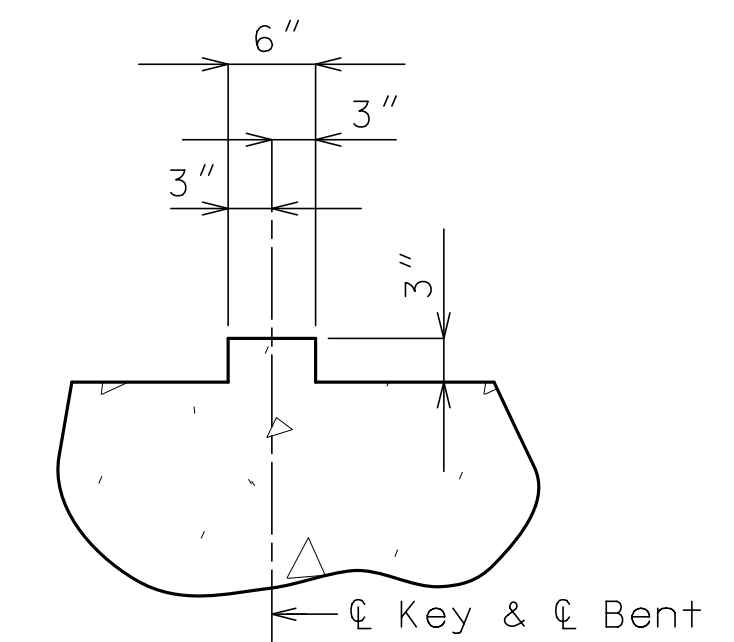


LAMINATED NEOPRENE BEARING PAD (TAPERED)

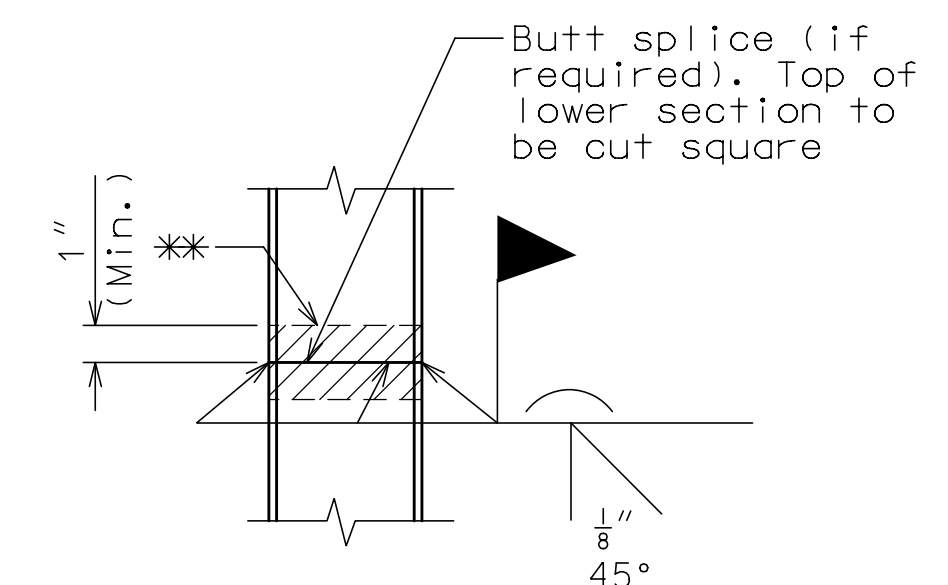
Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	80
Galvanized Structural Steel Piles (14 in.)	linear foot	574
Pre-bore for Piling	linear foot	560
Pile Point Reinforcement	each	7
Class B Concrete (Substructure)	cu. yard	27.7

Note: These quantities are included in the Estimated Quantities Table on Sheet No. 2.

DETAILS OF END BENT NO. 1



TYPICAL SECTION THRU KEY



STEEL PILE SPLICE (If required)

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

Notes:

- For details of End Bent No. 1 not shown, see Sheets No. 4 & 5.
- For details of Vertical Drain at End Bents, see Sheet No. 6.
- Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".
- All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

Detailed March 2021
Checked May 2021

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

Sheet No. 3 of 43

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

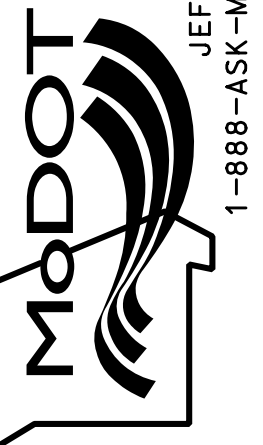
PROJECT NO.


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DESCRIPTION

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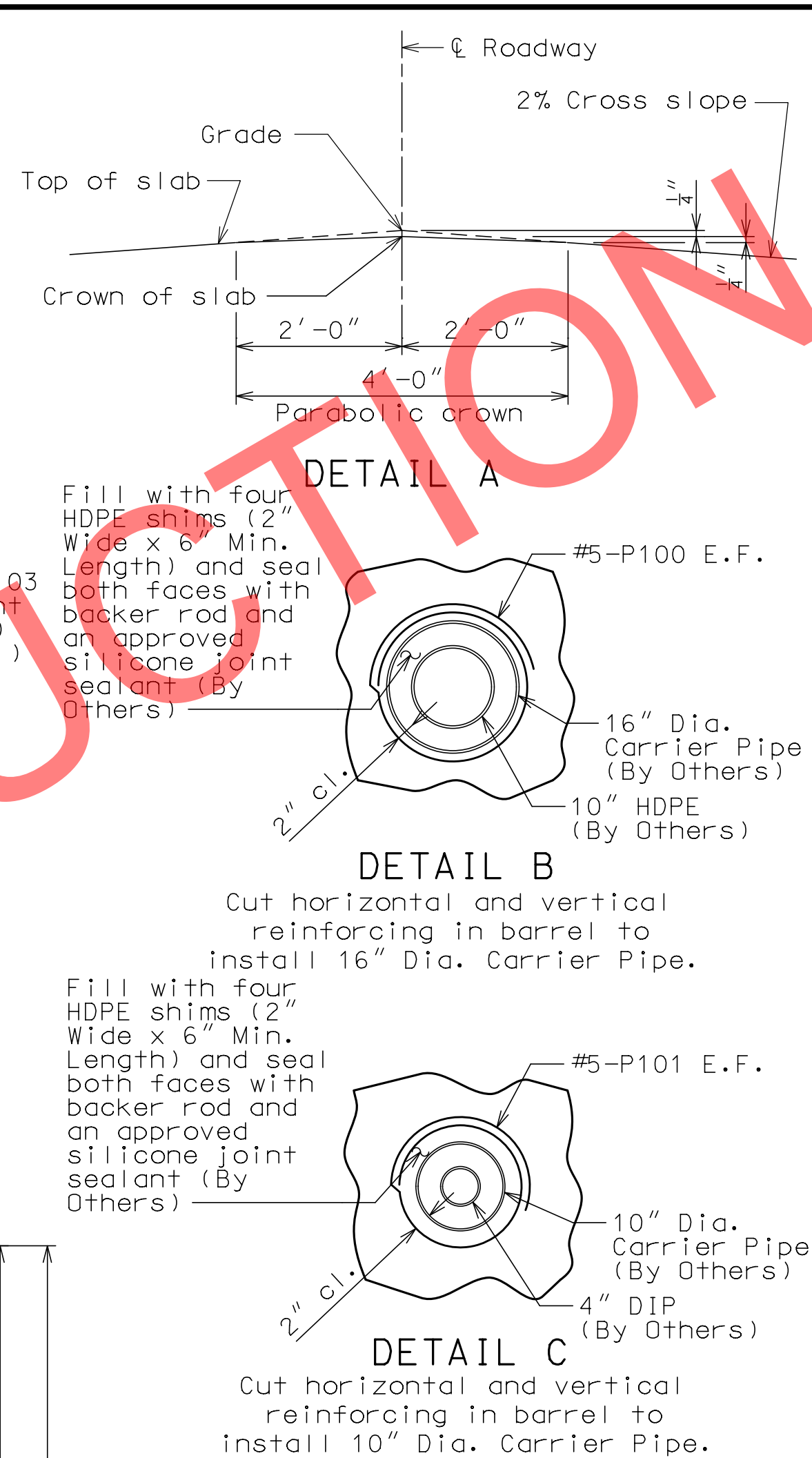
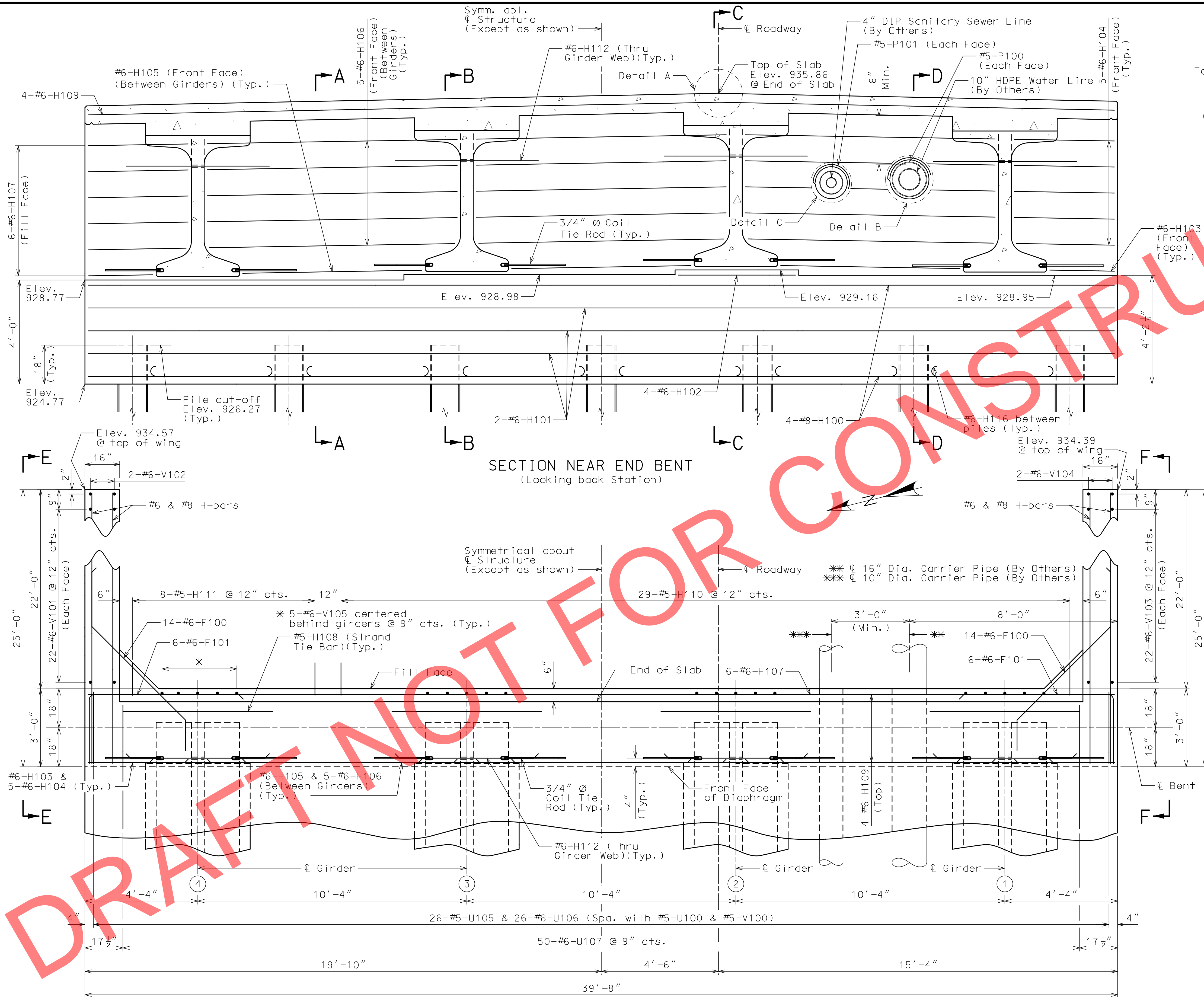

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Notes:

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

For details of Pile Splice, see Sheet No. 3.

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

For Elevations E-E & F-F, Sections A-A, B-B, C-C, D-D and Section Thru Wing, see Sheet No. 5.

All vertical reinforcing bars in the substructure beams or caps shall be field adjusted to clear piles by at least 1 1/2".

For details and reinforcement of Type H Barrier not shown, see Sheets No. 24 thru 26.

For details and reinforcement of Pedestrian Curb not shown, see Sheet No. 28.

The #6-F100 bar shall be bent in the field to clear girders.

All strands at the ends of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2" minimum clearance to fill face of end bent.

For location of #5-H108 (Strand Tie Bar), see Sheets No. 13 thru 14.

For details of Bridge Approach Slab, see Sheet No. 32.

For substructure Quantity Table for End Bent No. 1, see Sheet No. 3.

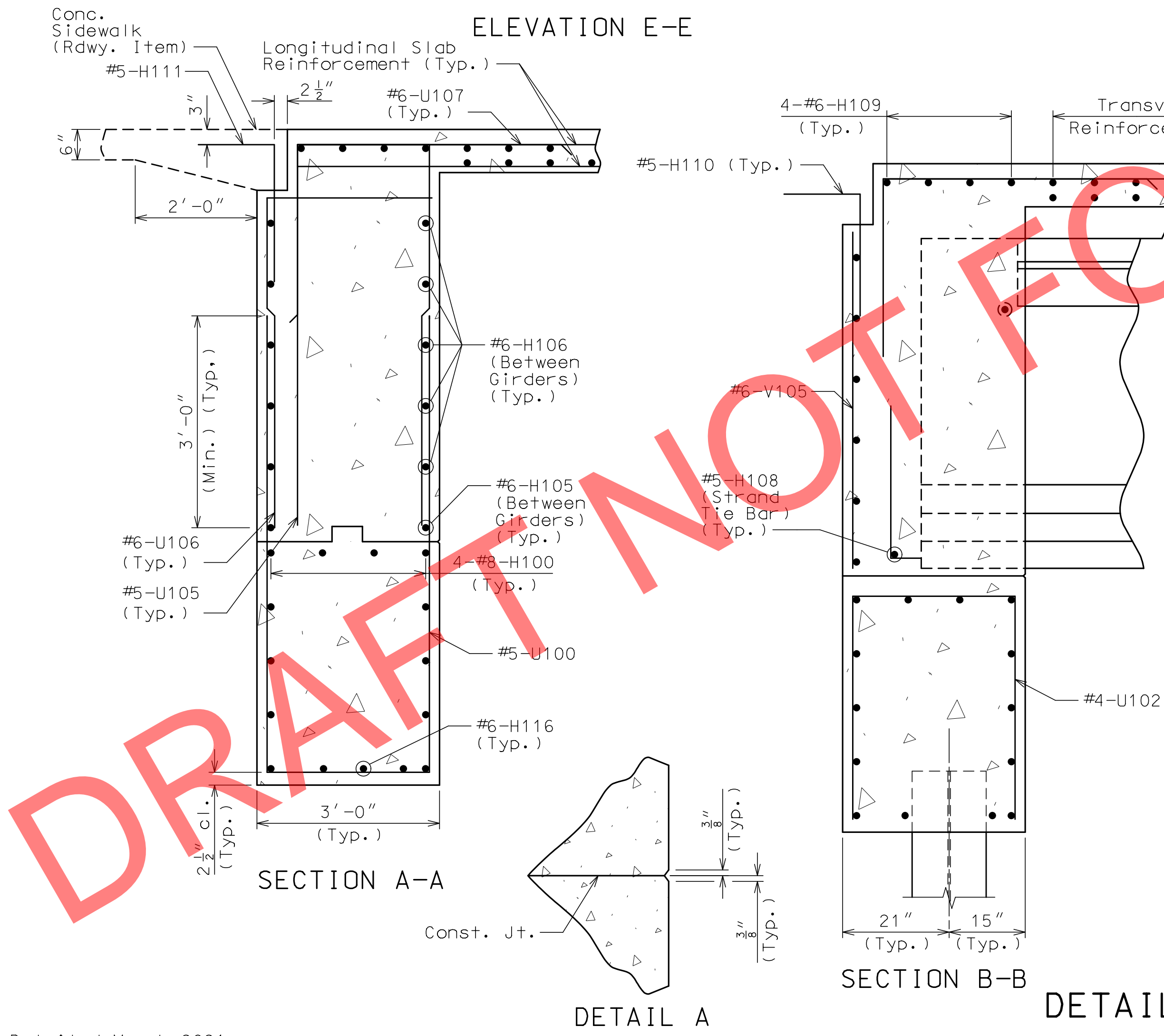
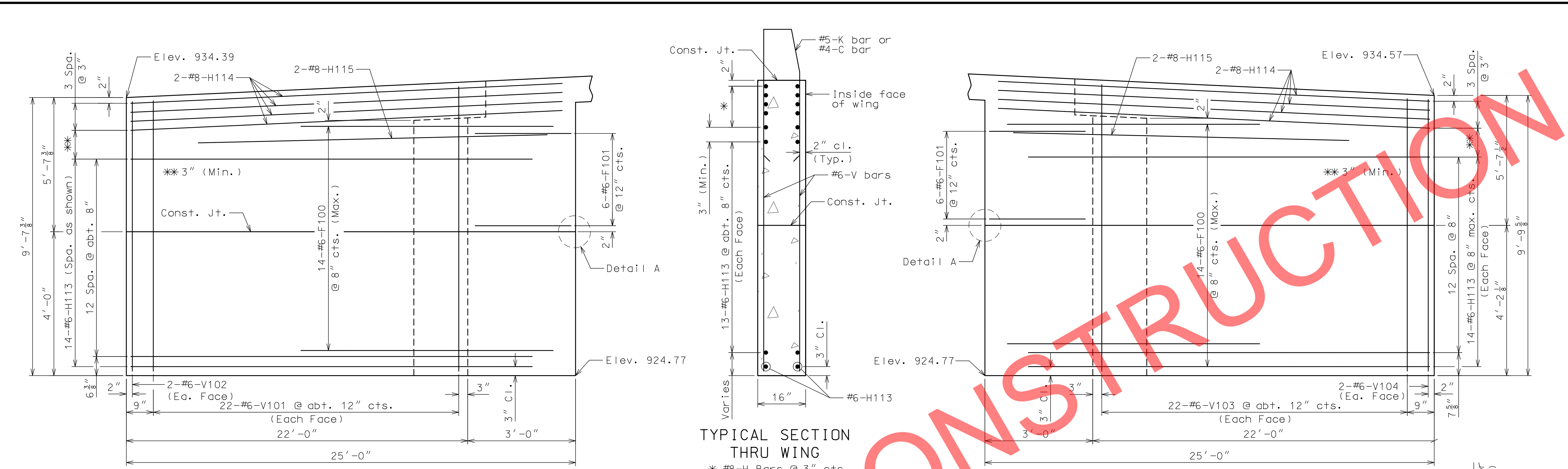
All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

PART PLAN
DETAILS OF END BENT NO. 1

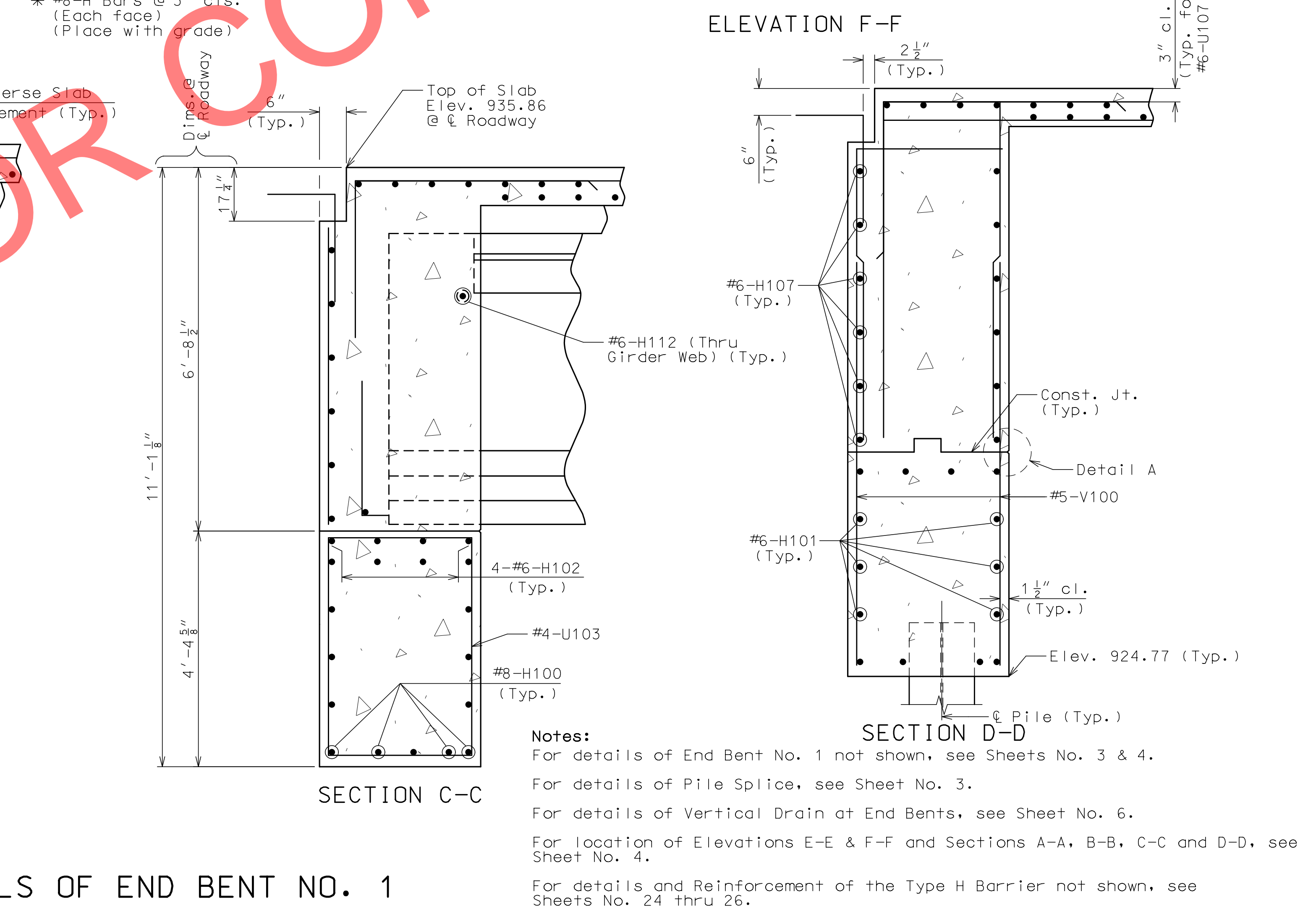
DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 4
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
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TYPICAL SECTION THRU WING
* #8-H Bars @ 3" cts. (Each face)
(Place with grade)

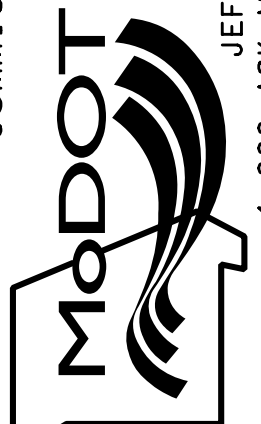



Notes:
For details of End Bent No. 1 not shown, see Sheets No. 3 & 4.
For details of Pile Splice, see Sheet No. 3.
For details of Vertical Drain at End Bents, see Sheet No. 6.
For location of Elevations E-E & F-F and Sections A-A, B-B, C-C and D-D, see Sheet No. 4.
For details and Reinforcement of the Type H Barrier not shown, see Sheets No. 24 thru 26.
For details and reinforcement of Pedestrian Curb not shown, see Sheet No. 28.

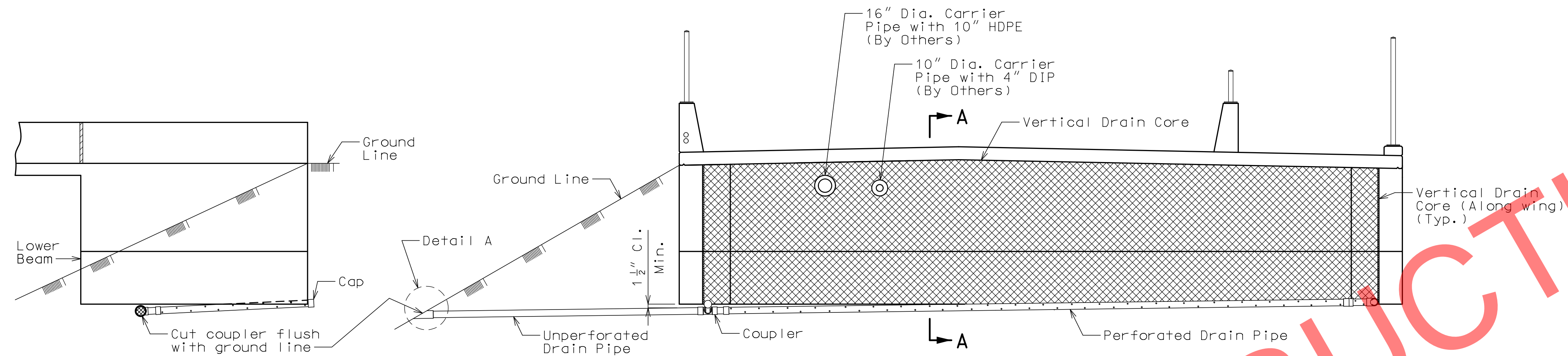
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Sheet No. 5 of 43

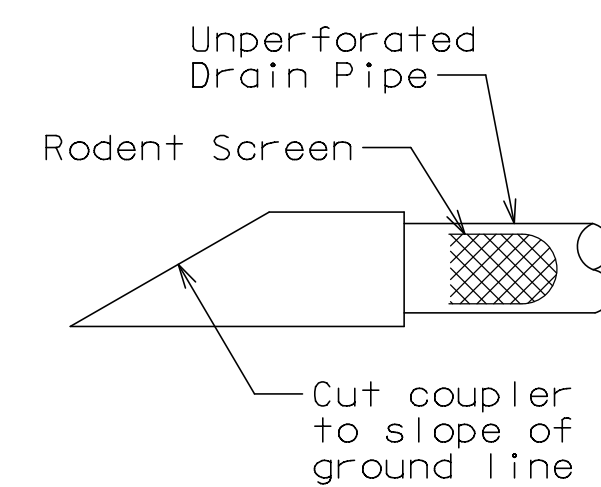
DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 5
COUNTY SULLIVAN	
JOB NO. J1S3392	
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BRIDGE NO. A9134	
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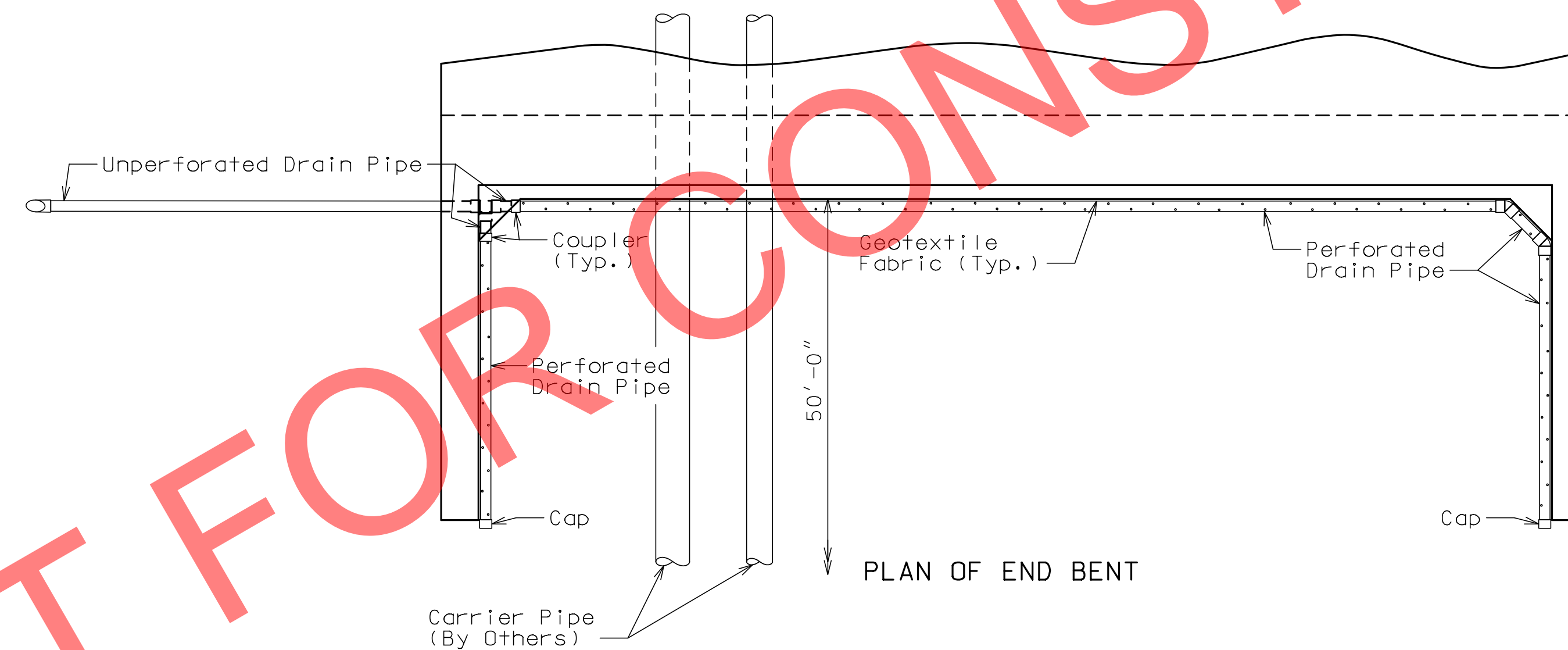


ELEVATION OF WING

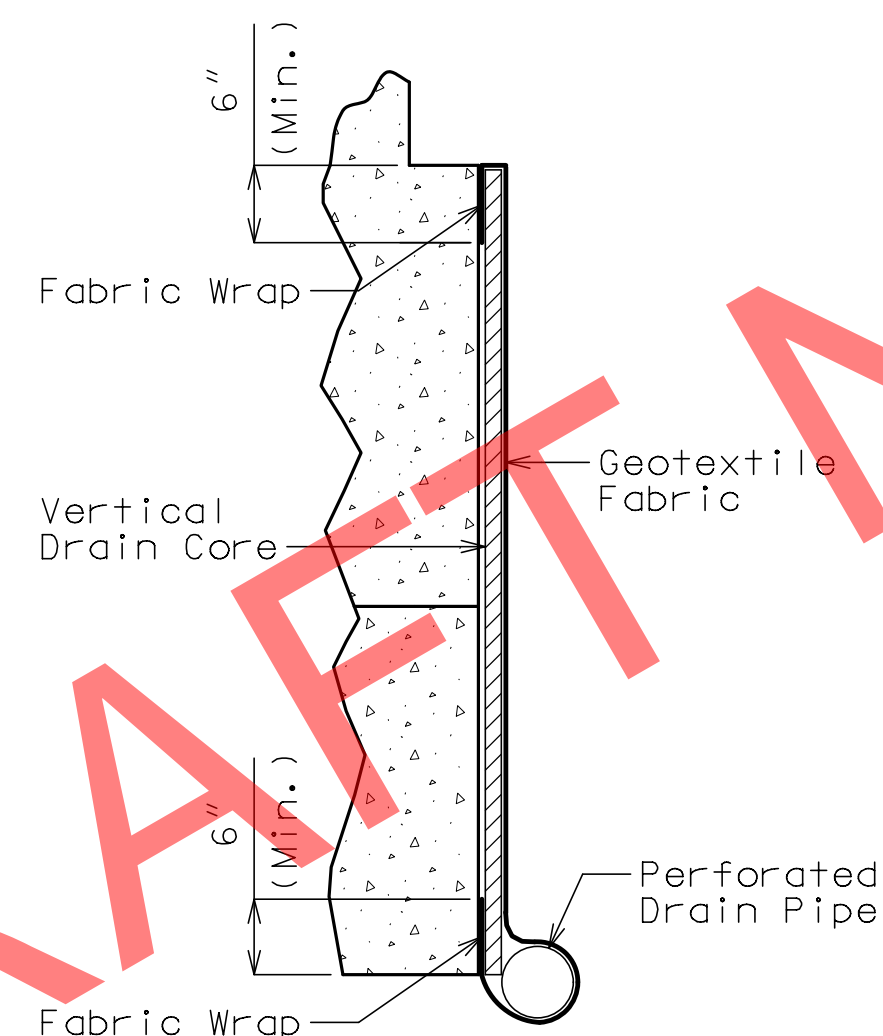
ELEVATION OF END BENT



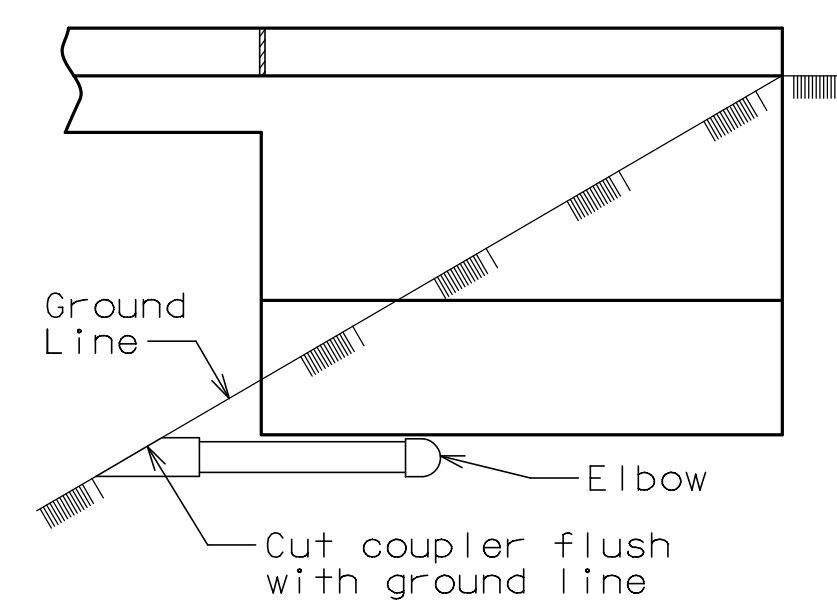
DETAIL A



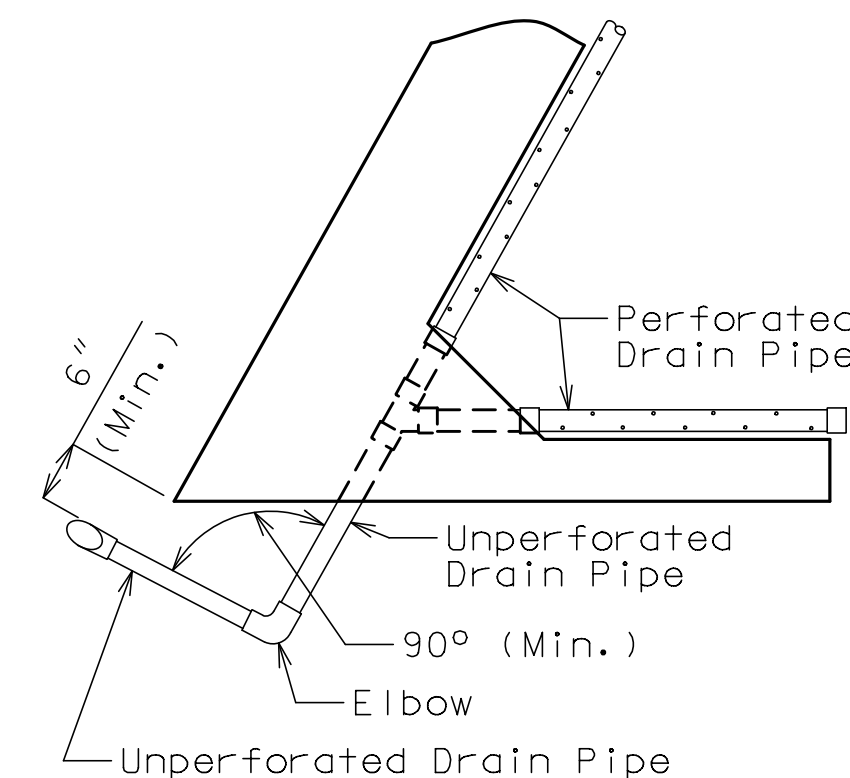
PLAN OF END BENT



PART SECTION A-A
(Section thru wing similar)



ELEVATION OF WING



PART PLAN

OPTIONAL TURNED DRAIN

(Only if rock is encountered outside of wing)

VERTICAL DRAIN AT END BENTS


General Notes:

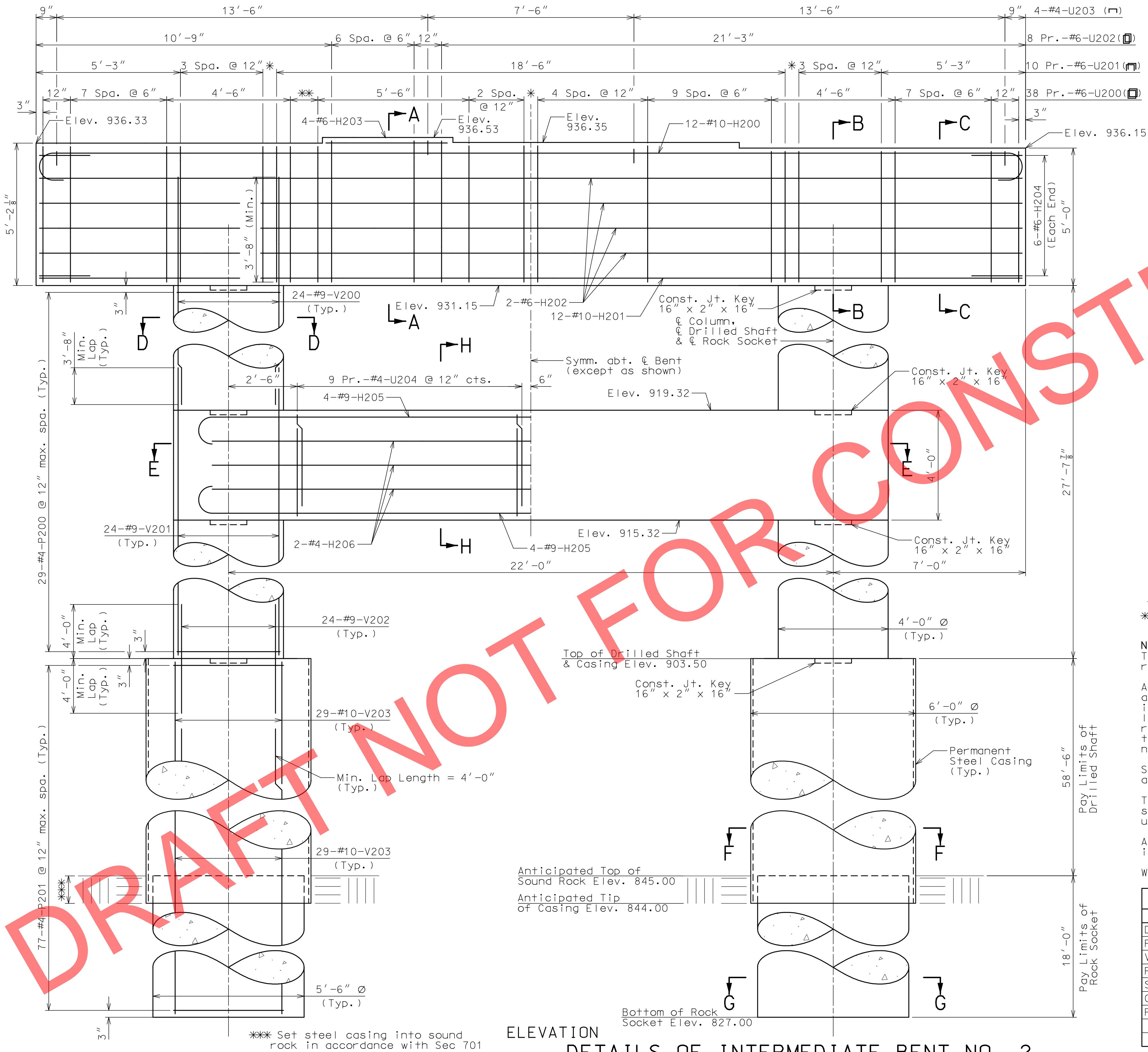
All drain pipe shall be sloped 1 to 2 percent.

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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DISTRICT BR	SHEET NO. 6
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<div style="float: left; width: 40%;"> <h1 style="margin: 0;">olson</h1> <p>7301 WEST 133RD STREET OVERLAND PARK, KS 66213</p> </div> <div style="float: right; width: 60%; text-align: center;"> <p>CERTIFICATE OF AUTHORITY NO. 001592</p> </div> <div style="clear: both;"></div>	



* 6"
** 2 Spa. @ 6"

Notes:
The thickness of the steel casing shall meet all the requirements of Sec 701 with the minimum thickness being 1/2".
An additional 4 feet has been added to #10-V203 bar lengths and an additional 8-#4-P201 bars have been added in the quantities, if required, for possible change in drilled shaft or rock socket length. The additional V-bar length shall be cut off if not required. The additional P-bars shall be spaced similarly to that shown in elevation, if required, or to a lesser spacing if not required, but not less than 6" cts.
Sonic logging testing shall be performed on all drilled shafts and rock sockets.
The cost of any required excavation to the top of the drilled shafts will be considered completely covered by the contract unit price for other items.
All reinforcement in drilled shafts and rock sockets is included in the Substructure Quantities.
Work this sheet with Sheets No. 8 & 9.

Substructure Quantity Table for Bent No. 2		
Item		Quantity
Drilled Shafts (6 ft. 0 in. Dia.)	linear foot	117.0
Rock Sockets (5 ft. 6 in. Dia.)	linear foot	36.0
Video Camera Inspection	each	2
Foundation Inspection Holes	linear foot	56.0
Sonic Logging Testing	each	2
Class B Concrete (Substructure)	cu. yard	62.2
Reinforcing Steel (Bridges)	pound	38,660

Note: These quantities are included in the Estimated Quantities Table on Sheet No. 2.

Detailed March 2021
Checked May 2021

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

Sheet No. 7 of 43

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
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PROJECT NO.

BRIDGE NO.
A9134

DESCRIPTION

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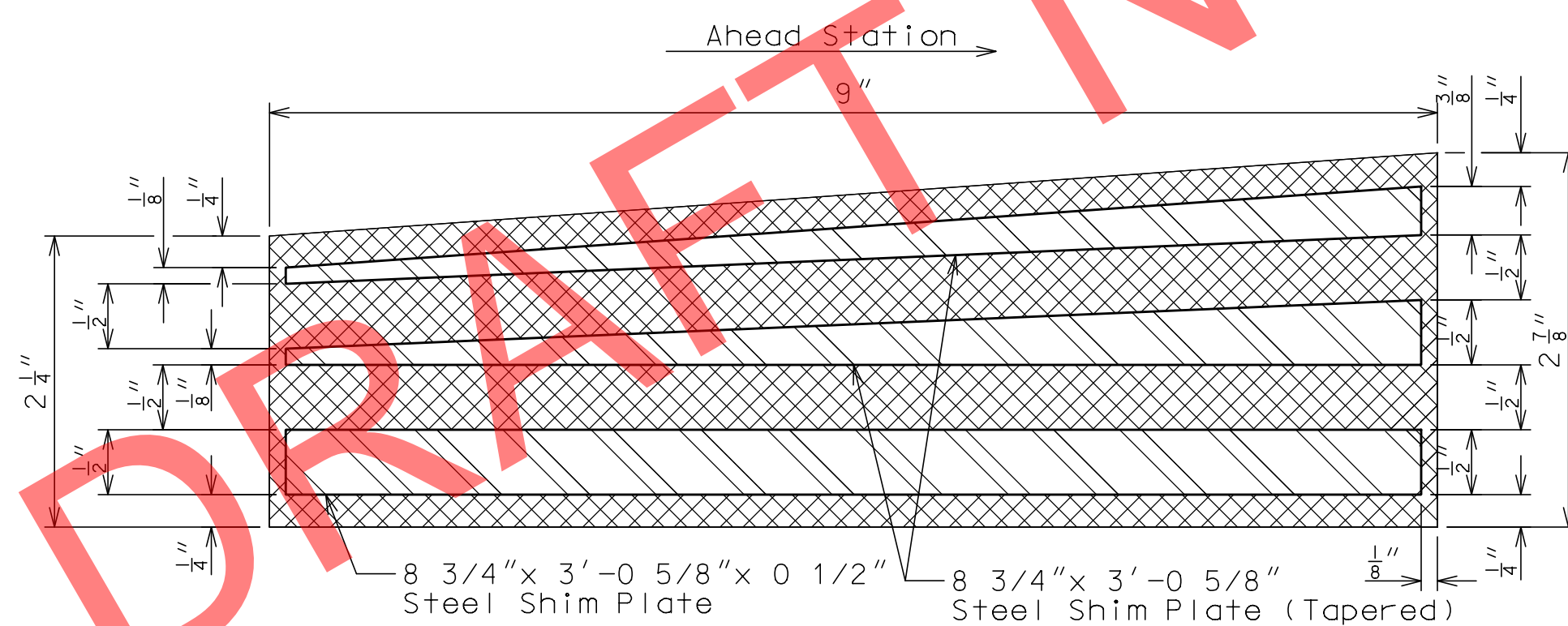
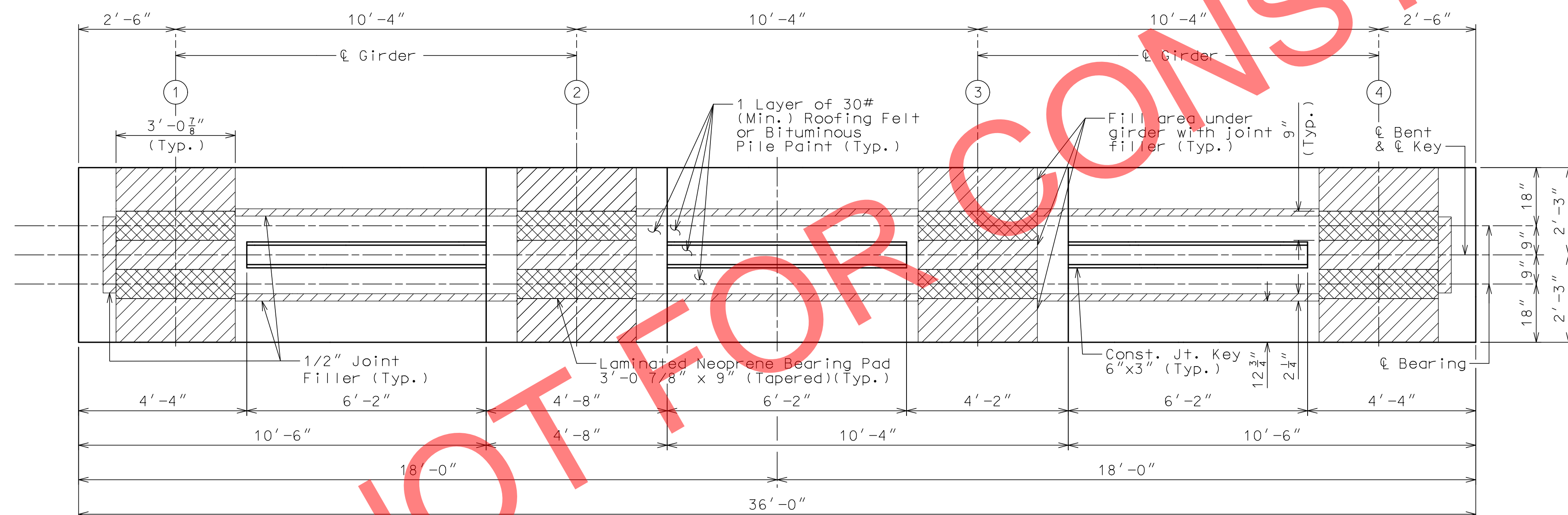
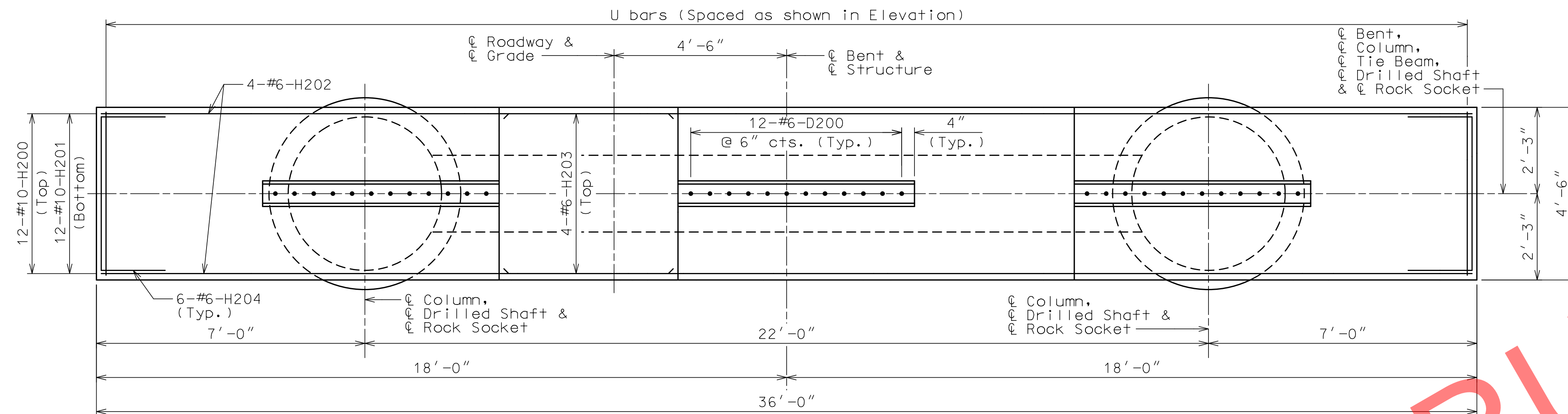
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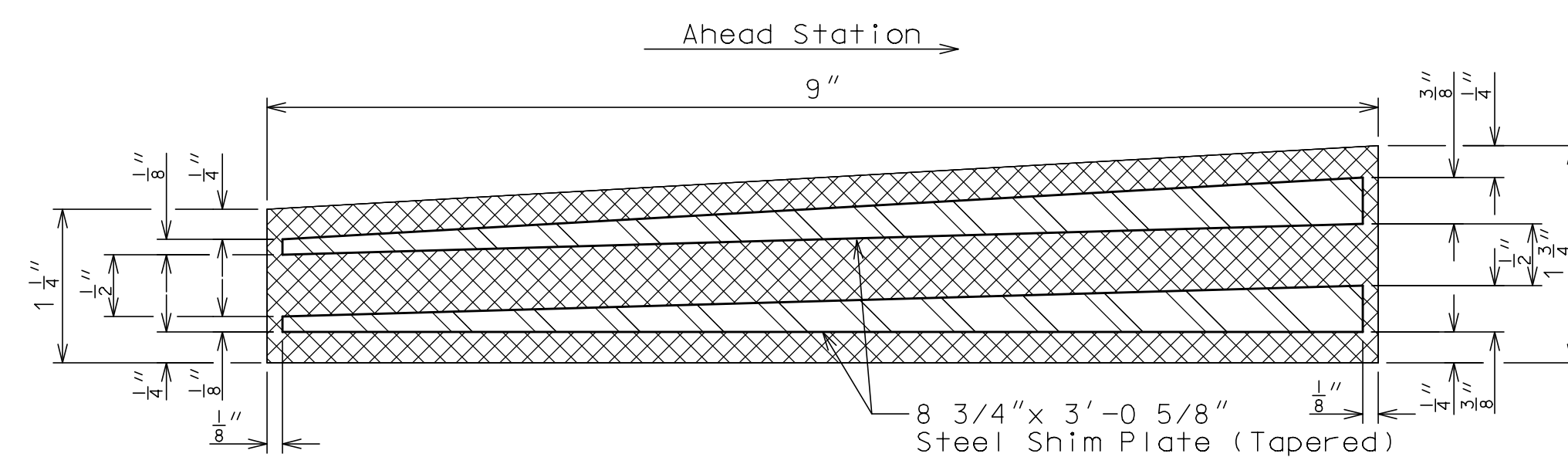
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OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

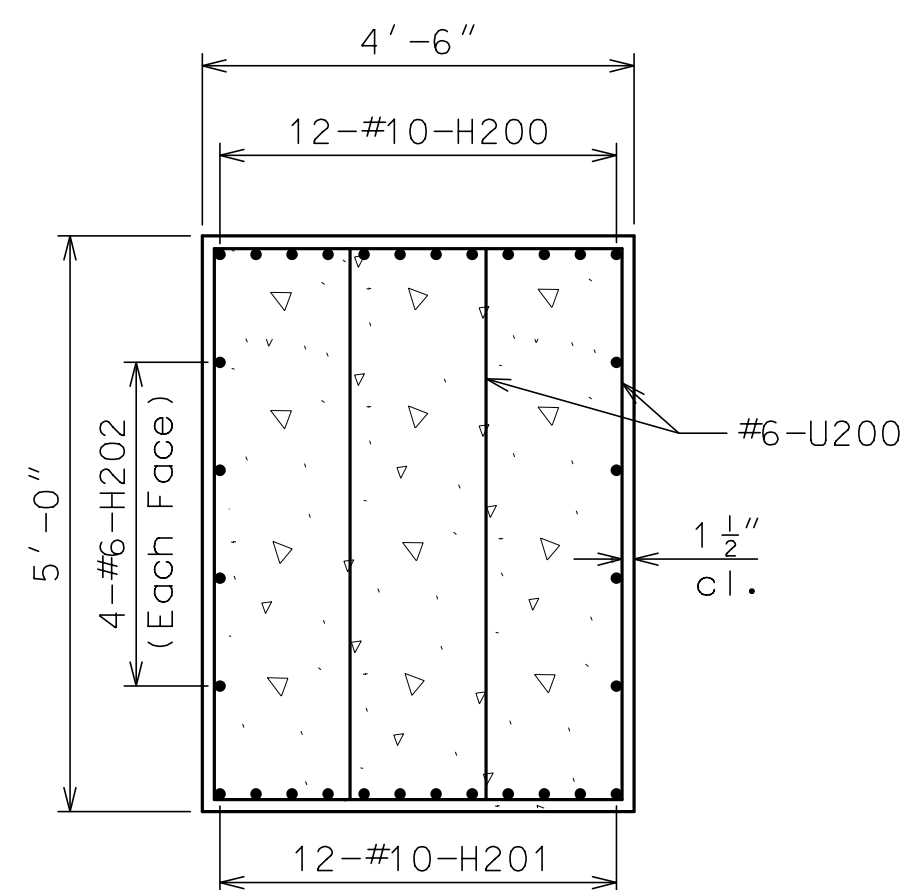
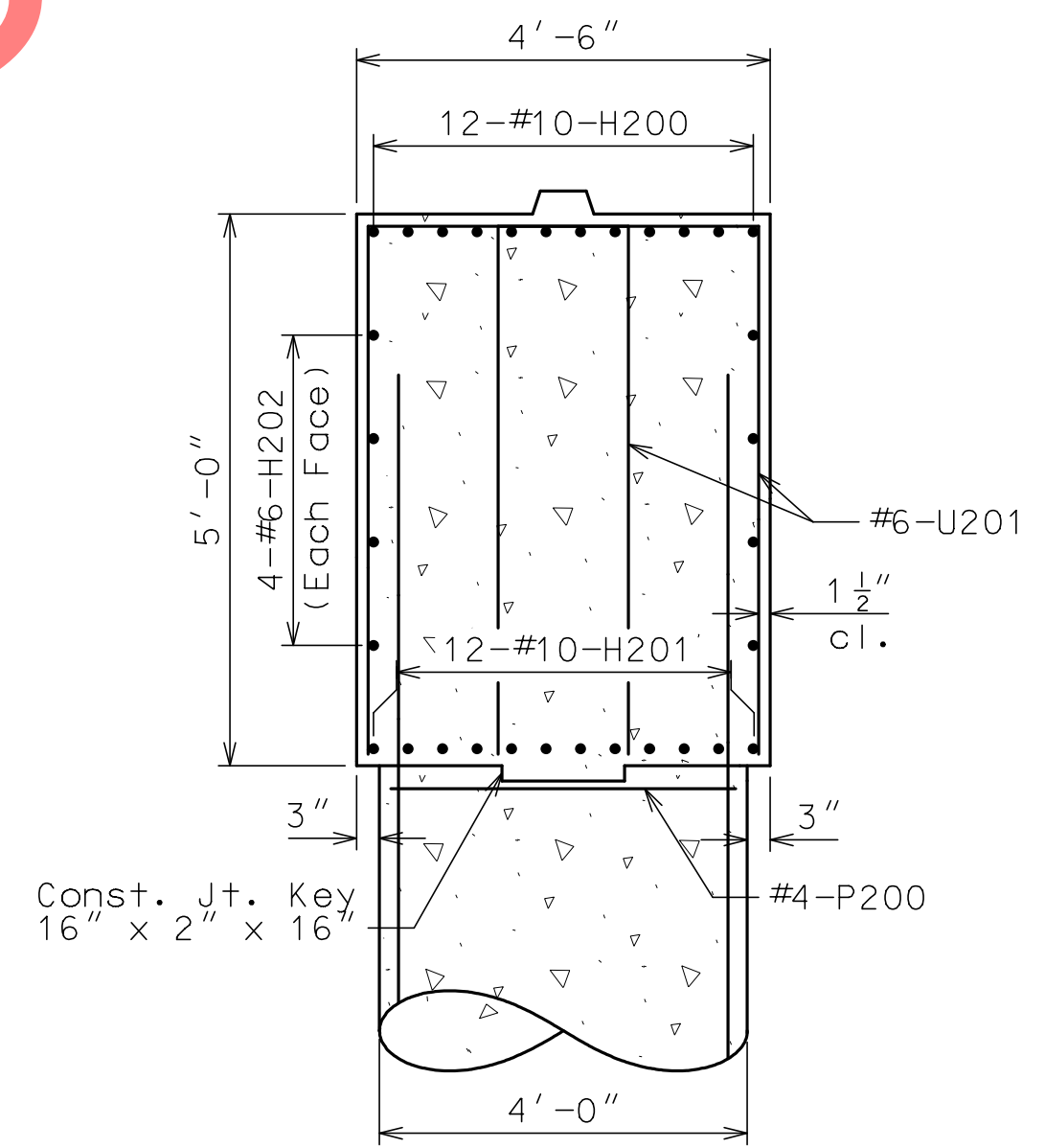
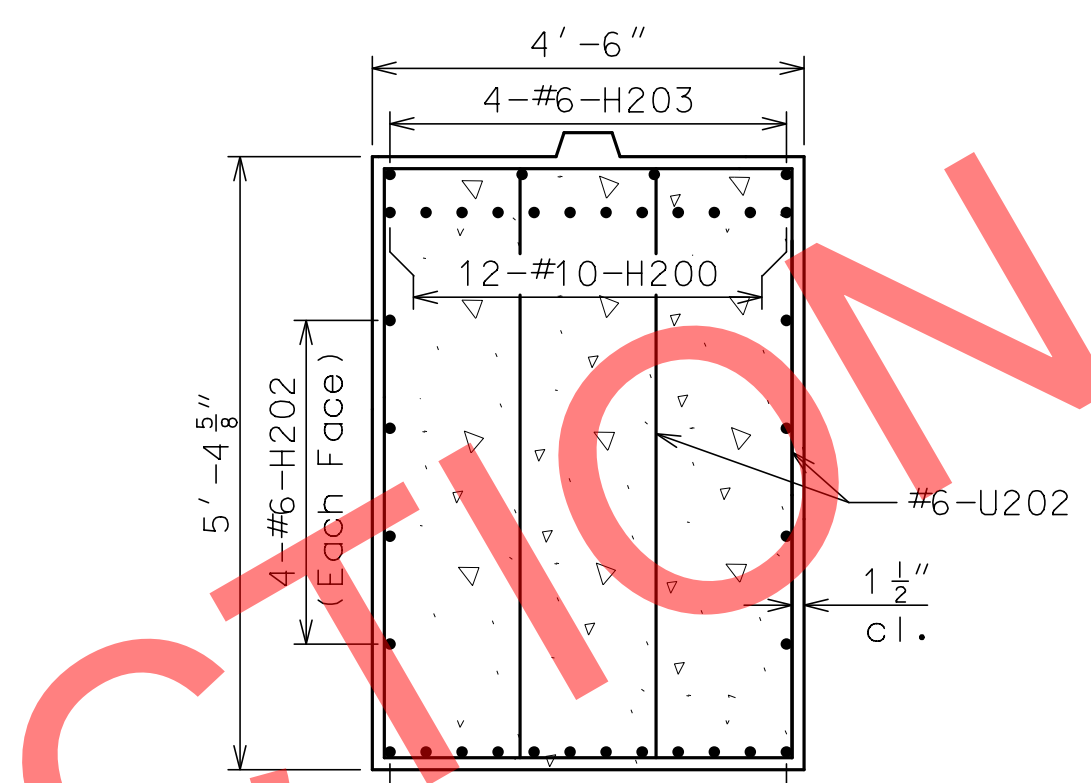
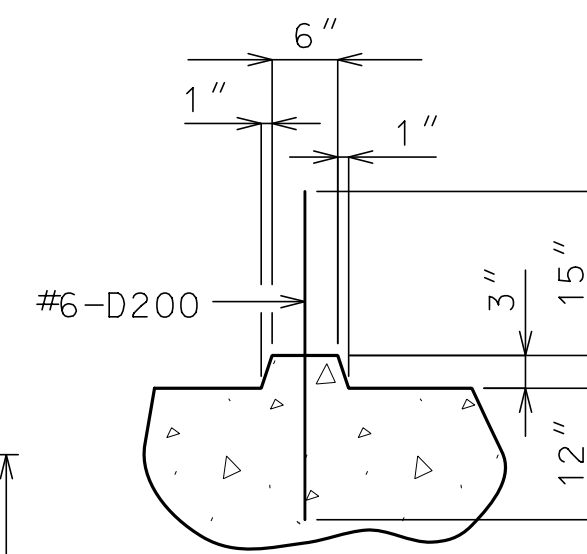
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LAMINATED NEOPRENE BEARING PAD (TAPERED)
(Bent No. 2 All Bearings and Bent No. 3 Back Station Bearings)



LAMINATED NEOPRENE BEARING PAD (TAPERED)
(Bent No. 3 Ahead Station Bearings)



Notes:

For steps 2" or more, use 2 1/4" x 1/2" joint filler up vertical face.
Work this sheet with Sheets No. 7 & 9.

DATE PREPARED	
2/1/2022	
ROUTE	STATE
MIDLAKE	MO
DISTRICT	SHEET NO.
BR	8
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	

PROJECT NO.	
BRIDGE NO.	A9134

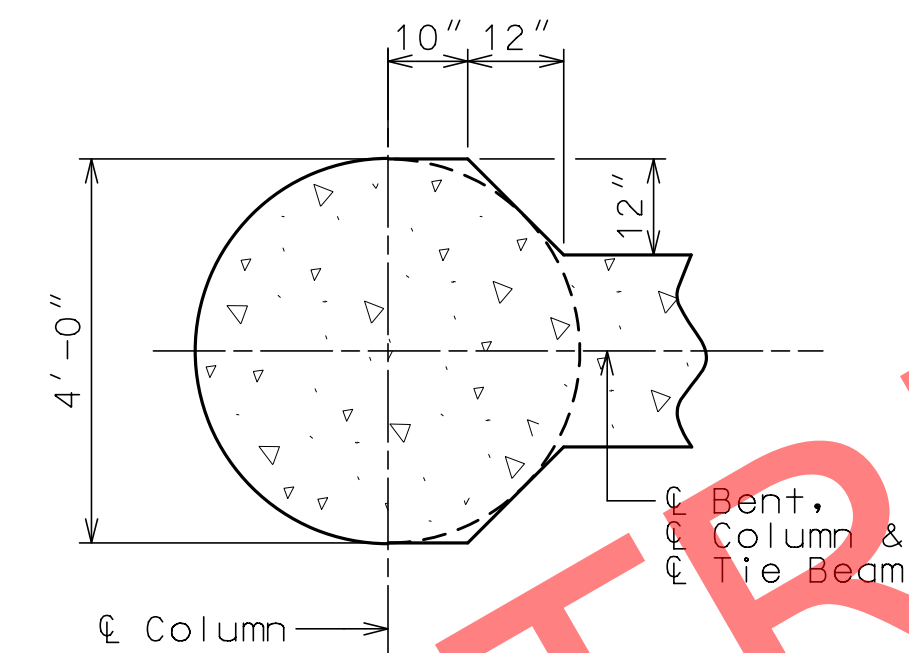
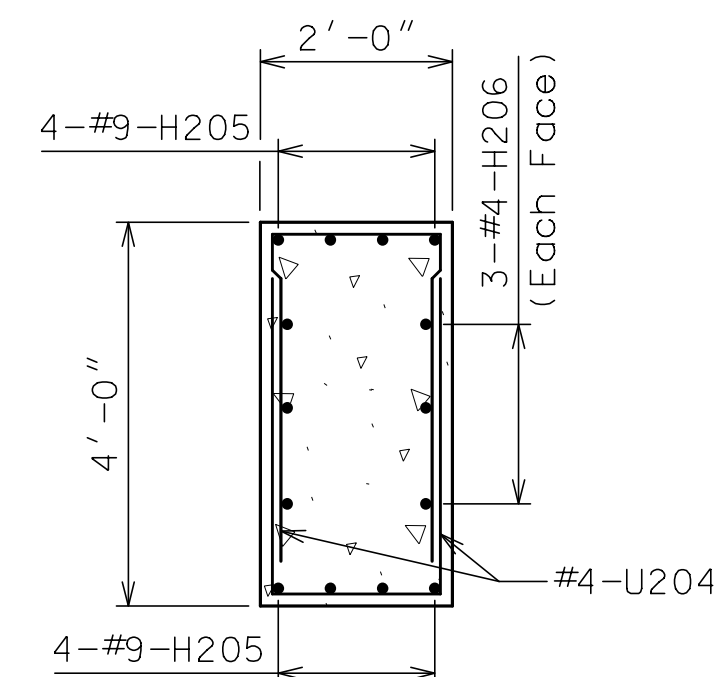
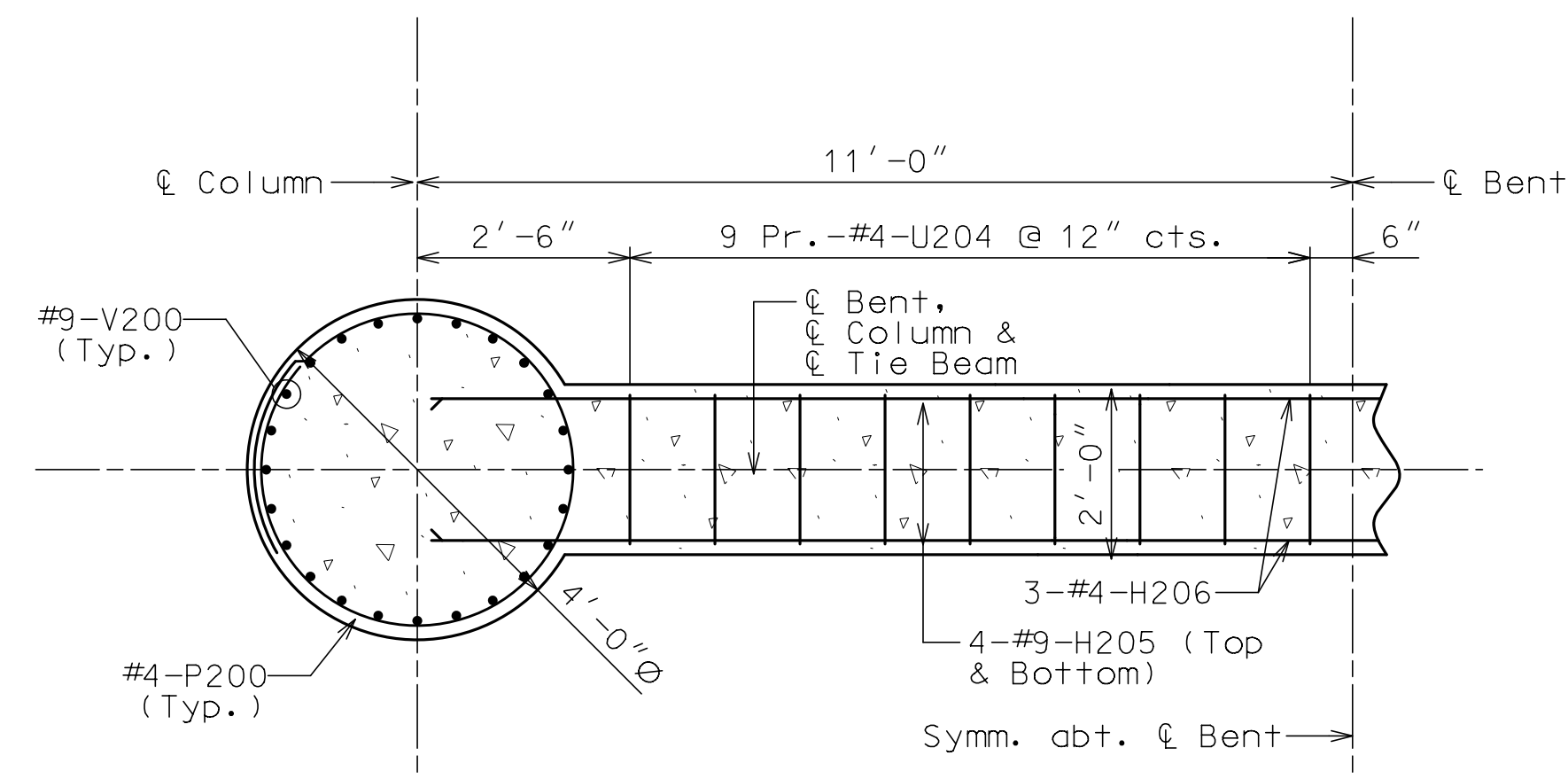
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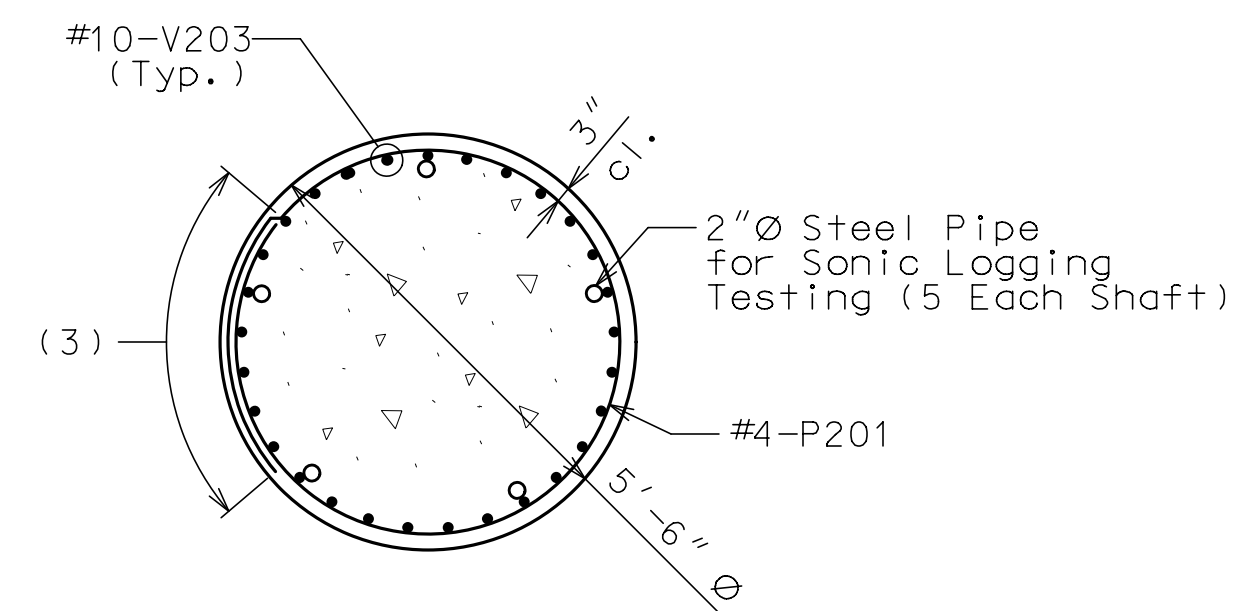
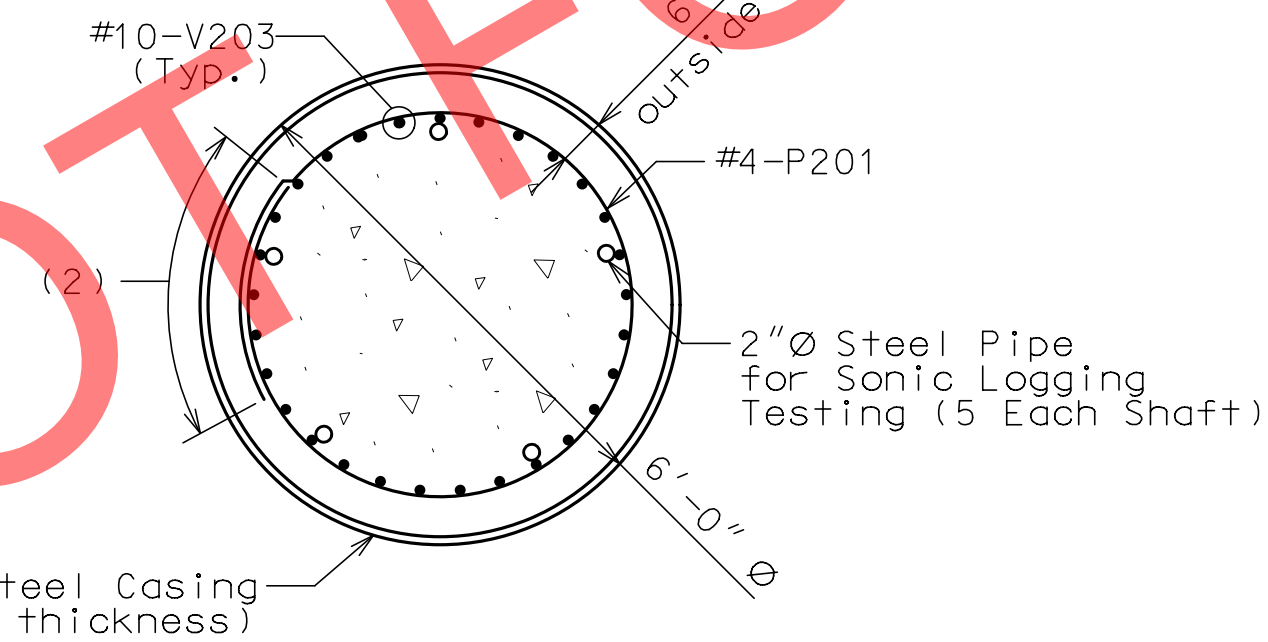
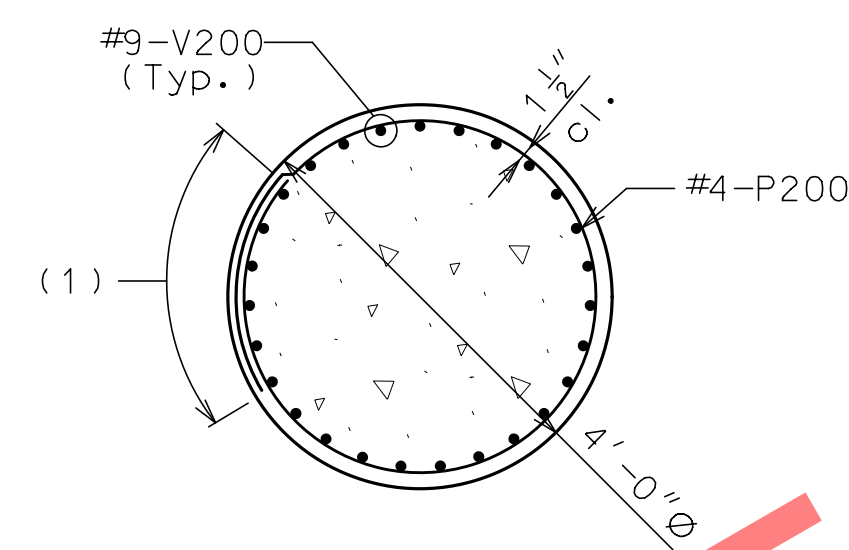
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Note:

At the contractor's option, the details shown in Optional Part Section E-E may be used for Column-Tie Beam at Intermediate Bent No. 2. No additional payment will be made for this substitution.



Notes:

Work this sheet with Sheets No. 7 & 8.


DETAILS OF INTERMEDIATE BENT NO. 2

Detailed March 2021
Checked May 2021

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

Sheet No. 9 of 43

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 9
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9134	
DESCRIPTION	DATE

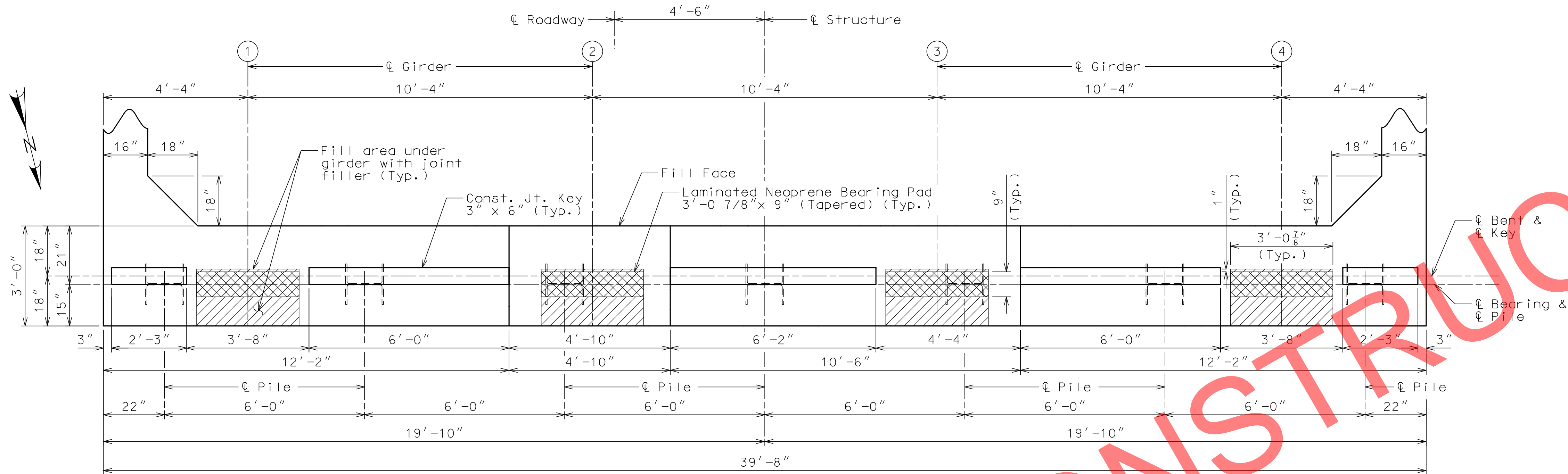


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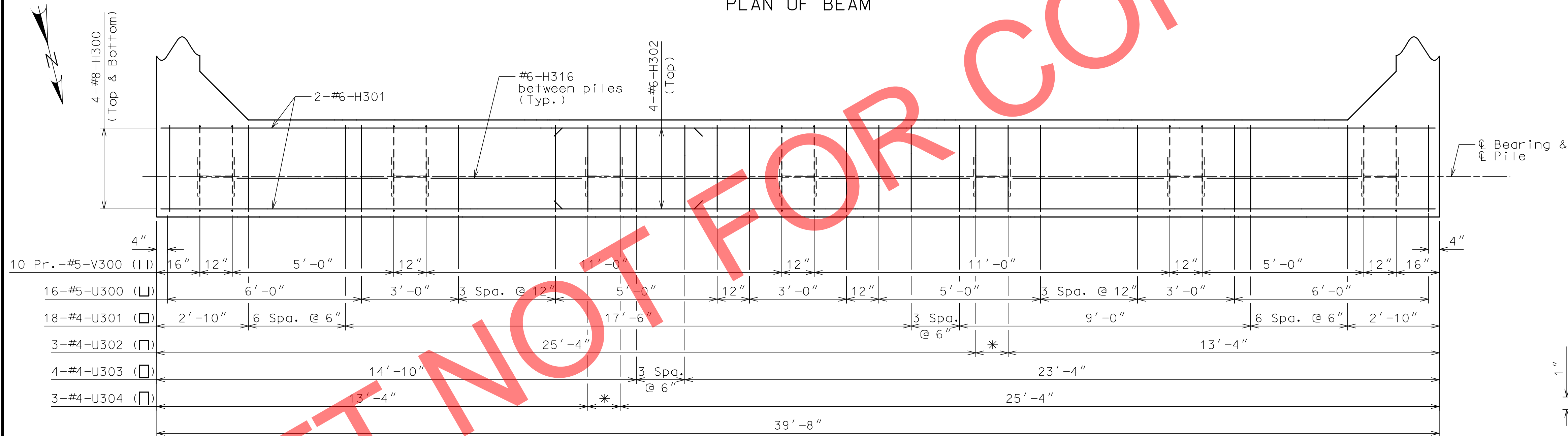
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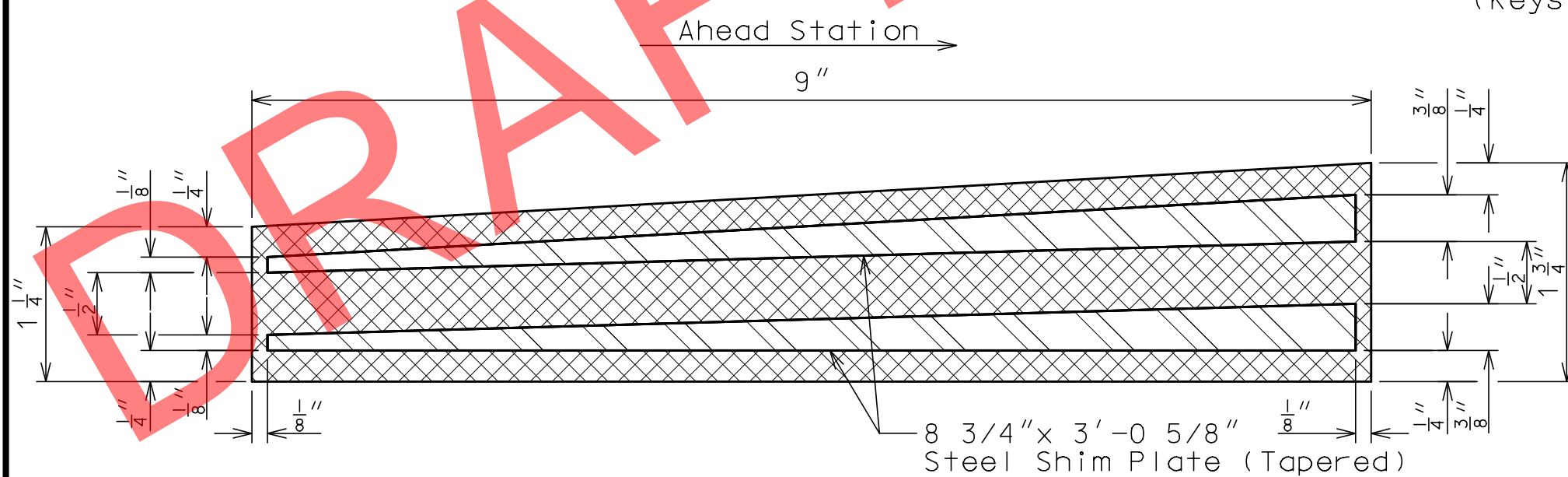


PLAN OF BEAM



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

* 2 Spa. @ 6"

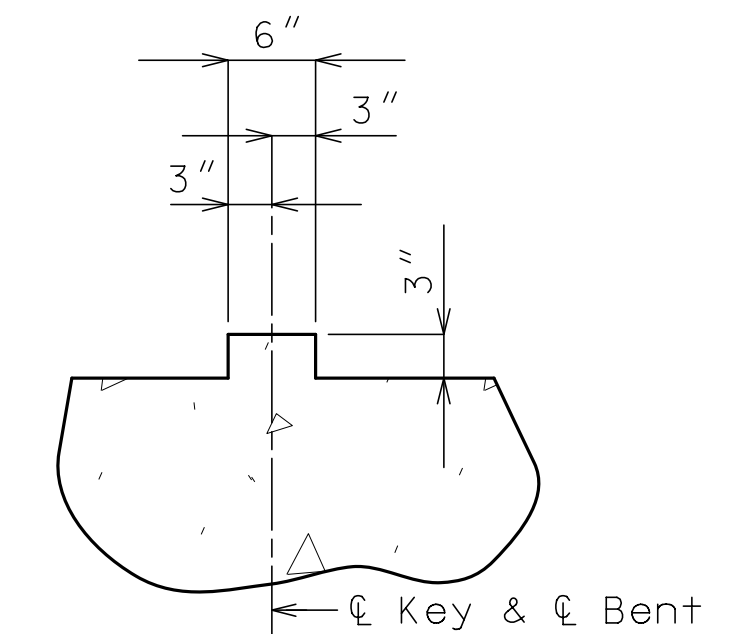


LAMINATED NEOPRENE BEARING PAD (TAPERED)

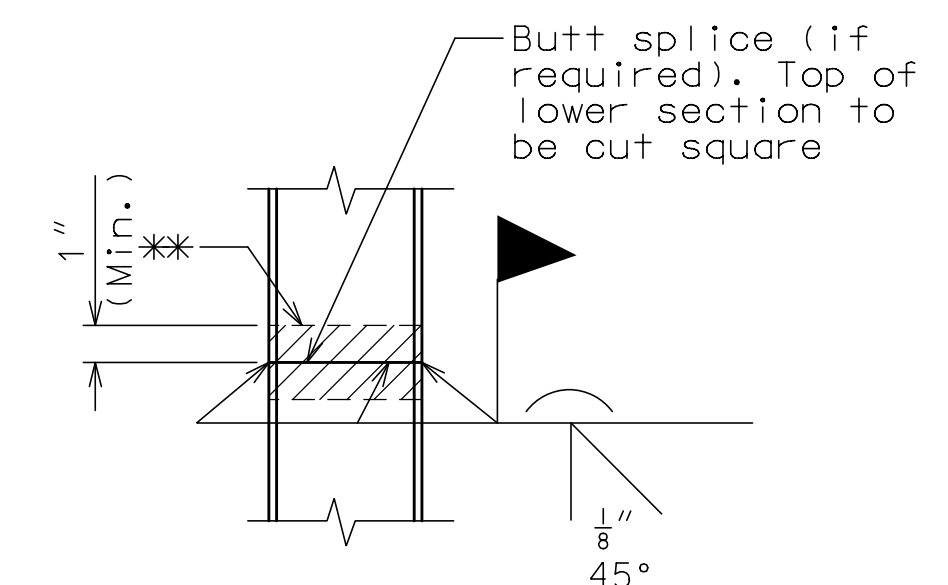
Substructure Quantity Table for Bent No. 3		
Item		Quantity
Class 1 Excavation	cu. yard	80
Galvanized Structural Steel Piles (14 in.)	linear foot	721
Pre-bore for Piling	linear foot	714
Pile Point Reinforcement	each	7
Class B Concrete (Substructure)	cu. yard	21.0

Note: These quantities are included in the Estimated Quantities Table on Sheet No. 2.

DETAILS OF END BENT NO. 3



TYPICAL SECTION THRU KEY



STEEL PILE SPLICE
(If required)

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

Notes:

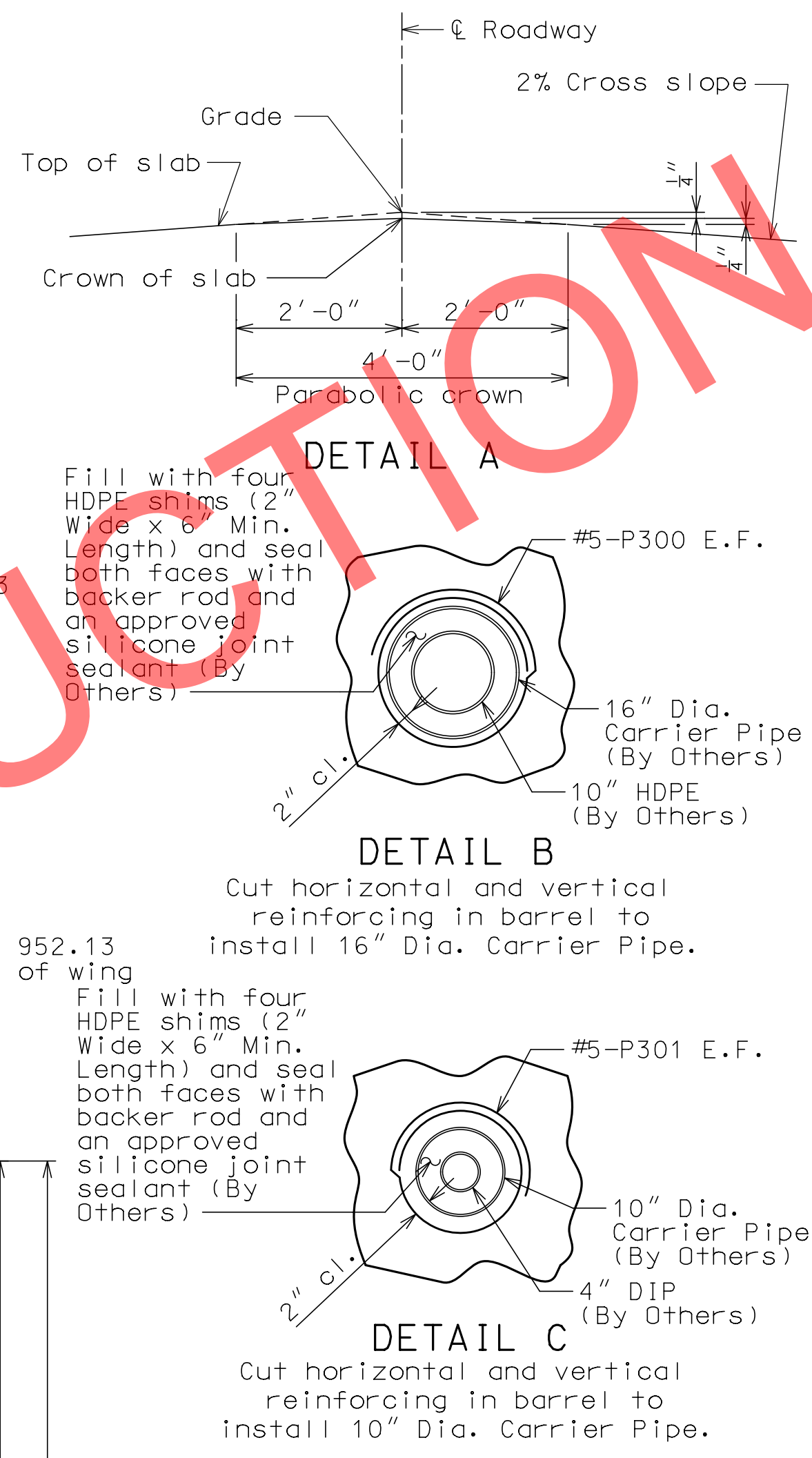
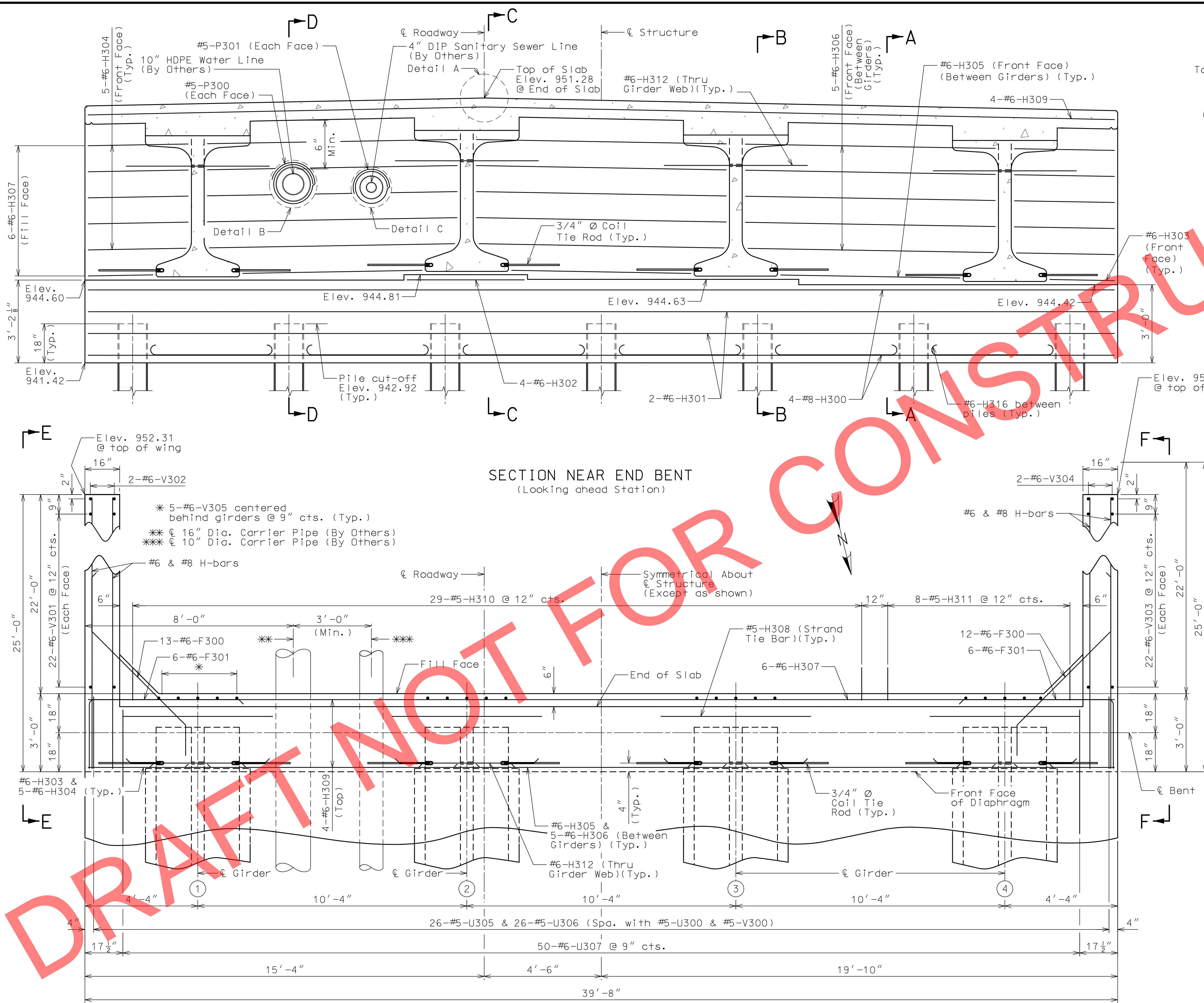
For details of End Bent No. 3 not shown, see Sheets No. 11 & 12.

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

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

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

DATE PREPARED 2/1/2022	
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DISTRICT BR	SHEET NO. 10
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9134	
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Notes:

For details of End Bent No. 3 not shown, see Sheets No. 10 & 12.

For details of Pile Splice, see Sheet No. 10.

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

For Elevations E-E & F-F, Sections A-A, B-B, C-C, D-D and Section Thru Wing, see Sheet No. 12.

All vertical reinforcing bars in the substructure beams or caps shall be field adjusted to clear piles by at least 1 1/2".

For details and reinforcement of Type H Barrier not shown, see Sheets No. 24 thru 26.

For details and reinforcement of Pedestrian Curb not shown, see Sheet No. 28.

The #6-F300 bar shall be bent in the field to clear girders.

All strands at the ends of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2" minimum clearance to fill face of end bent.

For location of #5-H308 (Strand Tie Bar), see Sheets No. 15 thru 16.

For details of Bridge Approach Slab, see Sheet No. 32.

For substructure Quantity Table for End Bent No. 3, see Sheet No. 10.

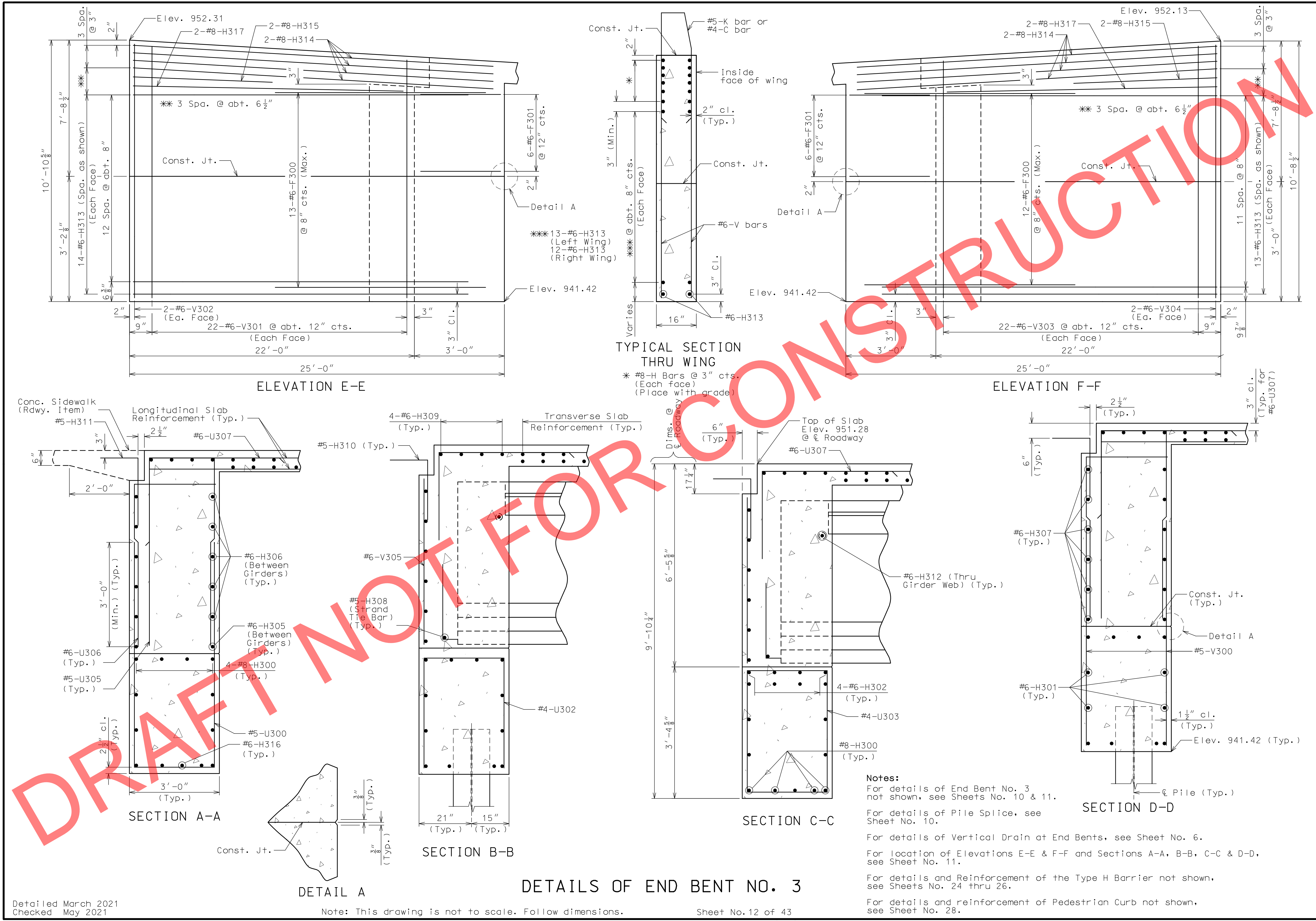
All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

PART PLAN DETAILS OF END BENT NO. 3

Detailed March 2021
Checked May 2021

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 11
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9134	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	

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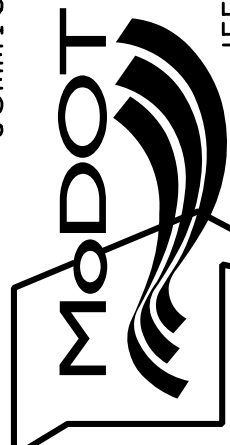
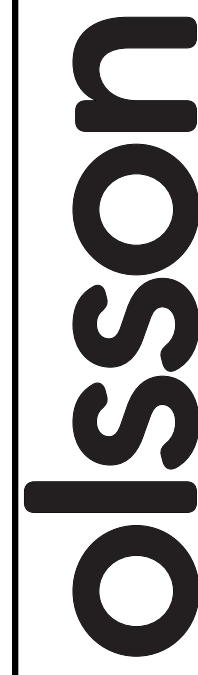


Detailed March 2021
Checked May 2021

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

Sheet No.12 of 43

- Notes:**
- For details of End Bent No. 3 not shown, see Sheets No. 10 & 11.
 - For details of Pile Splice, see Sheet No. 10.
 - For details of Vertical Drain at End Bents, see Sheet No. 6.
 - For location of Elevations E-E & F-F and Sections A-A, B-B, C-C & D-D, see Sheet No. 11.
 - For details and Reinforcement of the Type H Barrier not shown, see Sheets No. 24 thru 26.
 - For details and reinforcement of Pedestrian Curb not shown, see Sheet No. 28.

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 12
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9134	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
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3:13:24 AM 2/1/2022

Concrete for prestressed girders shall be Class A-1 with $f'c = 8000$ psi and $f'ci = 6500$ psi.

(+) indicates prestressing strand.

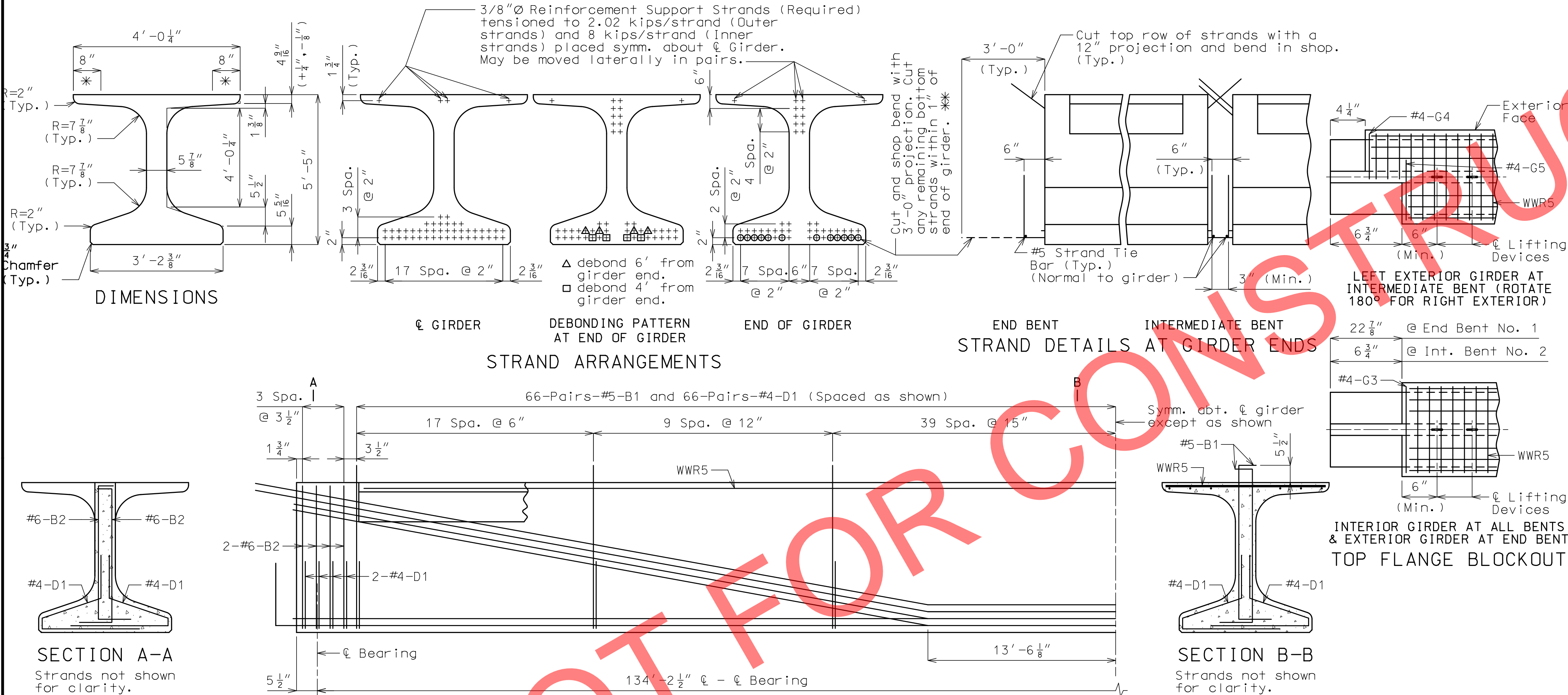
Use 44 strands with an initial prestress force of 1933 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

* Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

** At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
262	5 B1	6'-10"	11	
16	6 B2	6'-1"	11	
278	4 D1	4'-0"	9	
2	4 G3	3'-10 1/4"	20	
1	4 G4	2'-1"	20	
1	4 G5	2'-8 1/8"	20	

WELDED WIRE REINFORCEMENT - EACH GIRDER

D20 @ 6"	W8 (Typ.)
6" 6" 20" 6" 6"	
3'-10 1/4"	WWR5

General Notes:

Reinforcing Steel:

All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

Miscellaneous:

Cost of 3/4" coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

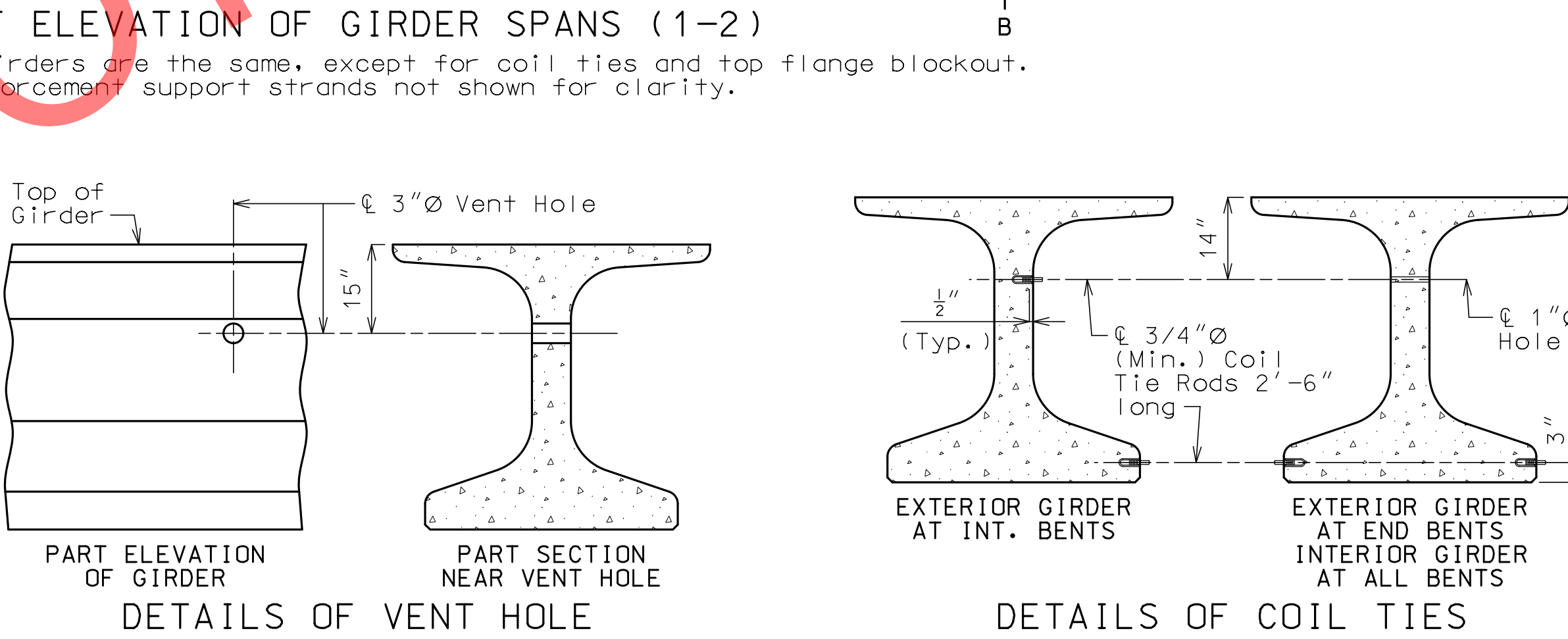
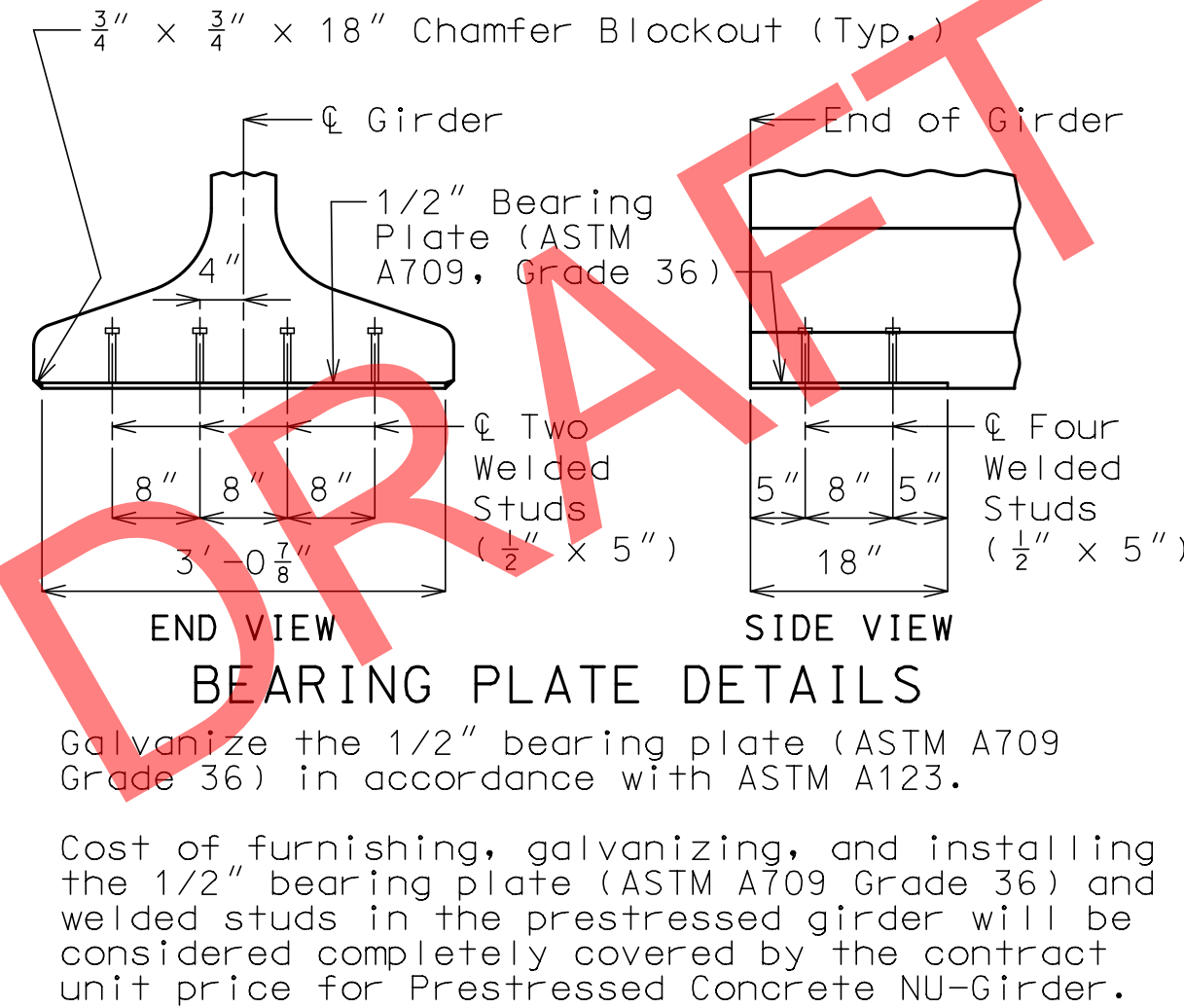
Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For location of coil ties and #6 bars at concrete bent diaphragms, see Sheets No. 4 and 19.

The 1 1/2" holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 18.

For Girder Camber Diagram, see Sheet No. 20.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.



ALTERNATE BAR REINFORCING STEEL DETAILS - SPAN (1-2)

3:13:26 AM 2/1/2022

Concrete for prestressed girders shall be Class A-1 with $f'c = 8000$ psi and $f'ci = 6500$ psi.

(+) indicates prestressing strand.

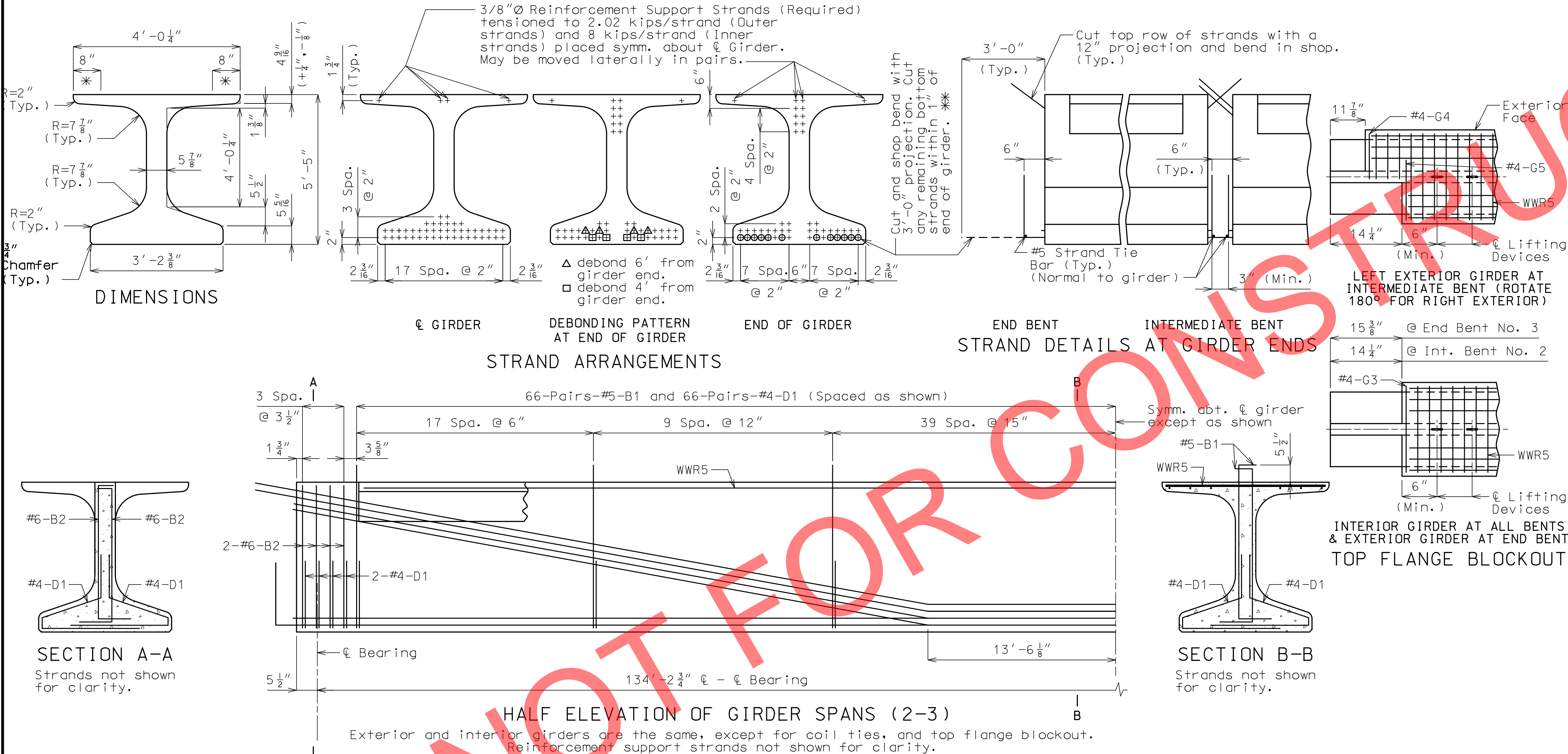
Use 44 strands with an initial prestress force of 1933 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

* Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

** At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.



BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	
262	5 B1	6'-10"	11	BENDING DIAGRAMS
16	6 B2	6'-1"	11	
278	4 D1	4'-0"	9	
2	4 G3	3'-10 1/4"	20	
1	4 G4	2'-1"	20	
1	4 G5	2'-8 1/8"	20	

WELDED WIRE REINFORCEMENT - EACH GIRDER

General Notes:

Reinforcing Steel:

All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

Miscellaneous:

Cost of 3/4" coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For location of coil ties and #6 bars at concrete bent diaphragms, see Sheets No. 11 and 19.

The 1 1/2" holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 18.

For Girder Camber Diagram, see Sheet No. 20.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

Detailed March 2021
Checked May 2021

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

Sheet No. 16 of 43

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9134

DESCRIPTION

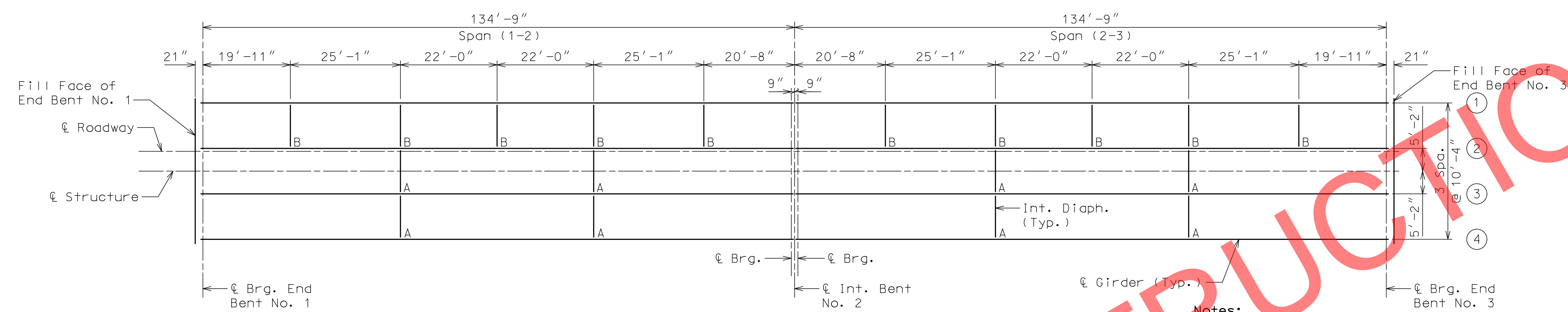
DATE

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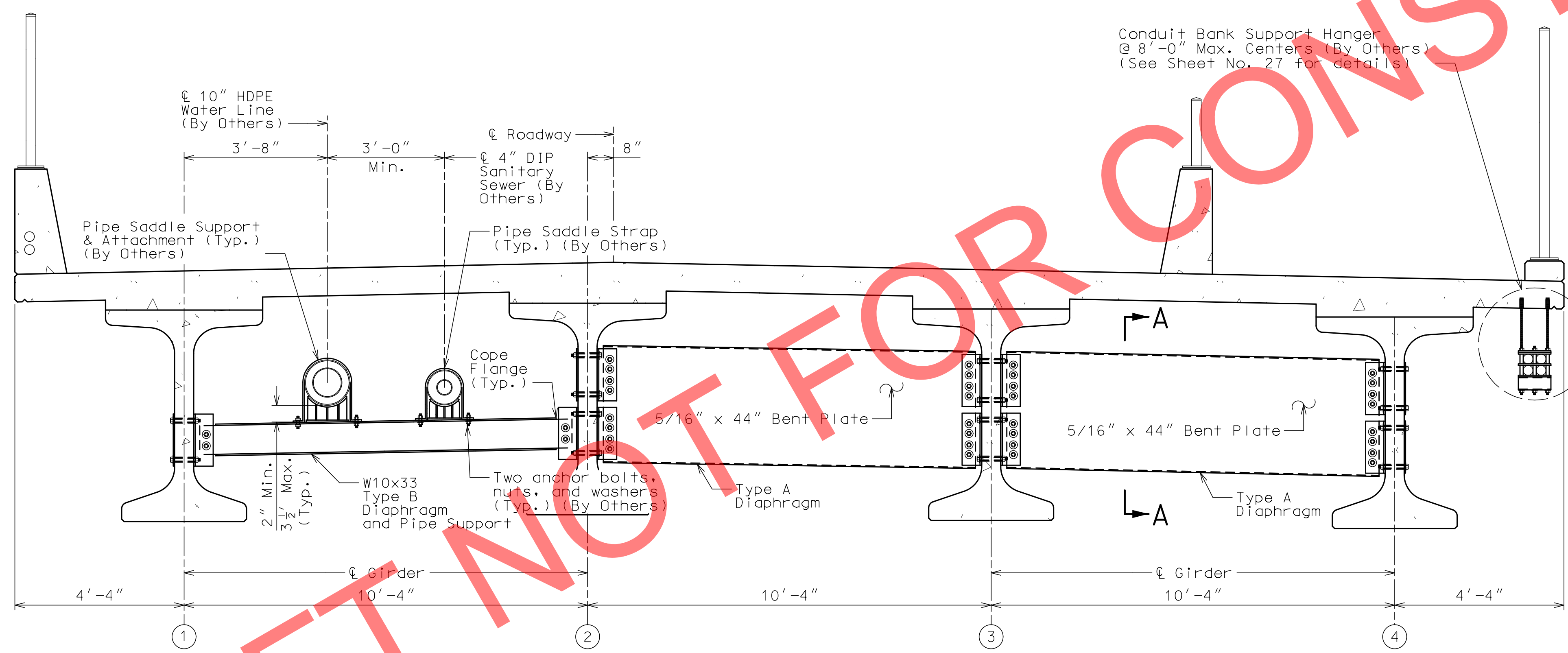
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PLAN SHOWING LOCATION OF STEEL INTERMEDIATE DIAPHRAGMS
Note: Longitudinal dimensions are horizontal.



SECTION A-A
SECTION SHOWING LOCATION OF STEEL INTERMEDIATE DIAPHRAGMS

STEEL INTERMEDIATE DIAPHRAGM DETAILS

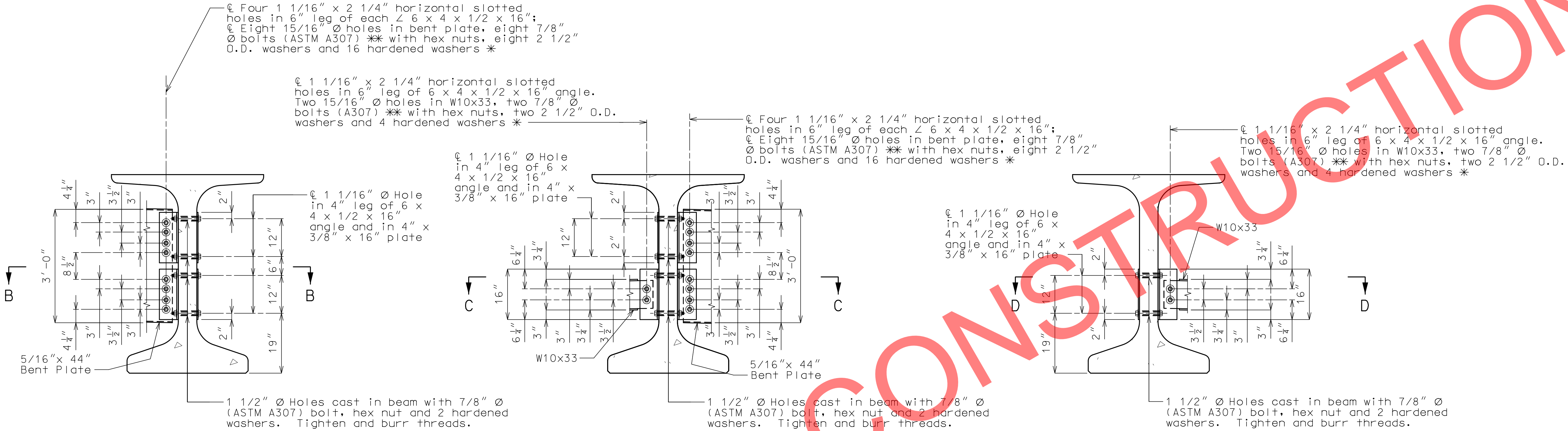
Notes:
All girders are parallel.
① - Indicates girder number.

STEEL DIAPHRAGM NOTES:
All diaphragm materials including bolts, nuts, and washers shall be galvanized.
Fabricated structural steel shall be ASTM A709 Grade 36 except as noted.
Payment for furnishing and installing steel intermediate diaphragms will be considered completely covered by the contract unit price for Steel Intermediate Diaphragm for P/S Concrete Girders.
Structural steel for carrier pipes and pipe saddles shall be ASTM A709 Grade 36 or Grade 50 and galvanized in accordance with ASTM A123, or approved equivalent. Carrier pipes shall be schedule 40. The welds shall have corrosion resistance and weathering characteristics compatible with the base materials. Welds shall be in conformance with AWS D1.1 and ground flush to provide a smooth surface.
All labor and materials to provide and install carrier pipes, saddles, water main and sanitary sewer lines inside of carrier pipes, associated appurtenances, and insulation while erecting the carrier pipes will be completed by Others.
Product catalog cuts or detailed shop drawings, if custom pipe saddles are desired to be used, shall be submitted to the Engineer for review and approval a minimum of three (3) weeks prior to ordering materials. Dimensions shown are approximate. Contractor and Utility Contractor (Others) to coordinate elevation of steel diaphragm connection points to the prestressed beams with the required height of the pipe saddles and ensure a minimum of 1 1/2" clear is provided to any prestressing strands for the diaphragm bolt holes. Contractor shall coordinate location of diaphragm bolt holes with the precaster and provide their location on the precast beam shop drawings. Pipe saddles and hardware shall be installed in accordance with the Manufacturer's requirements.
Shop drawings will not be required for steel intermediate diaphragms and angle connections.
For additional steel diaphragm details, see Sheet No. 20.
Contractor to coordinate and cooperate with third party utility contractor to ensure access is provided so that they can coordinate location of pipe penetration with pre-approved pipe saddles and attachment requirements, and install the utilities on the bridge prior to installation of the deck.

DRAFT

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 17
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9134	
DESCRIPTION	DATE
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7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	

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SECTION THRU EXT. GIRDER
AT TYPE A DIAPHRAGM

SECTION THRU INT. GIRDER AT
TYPE A & TYPE B DIAPHRAGMS

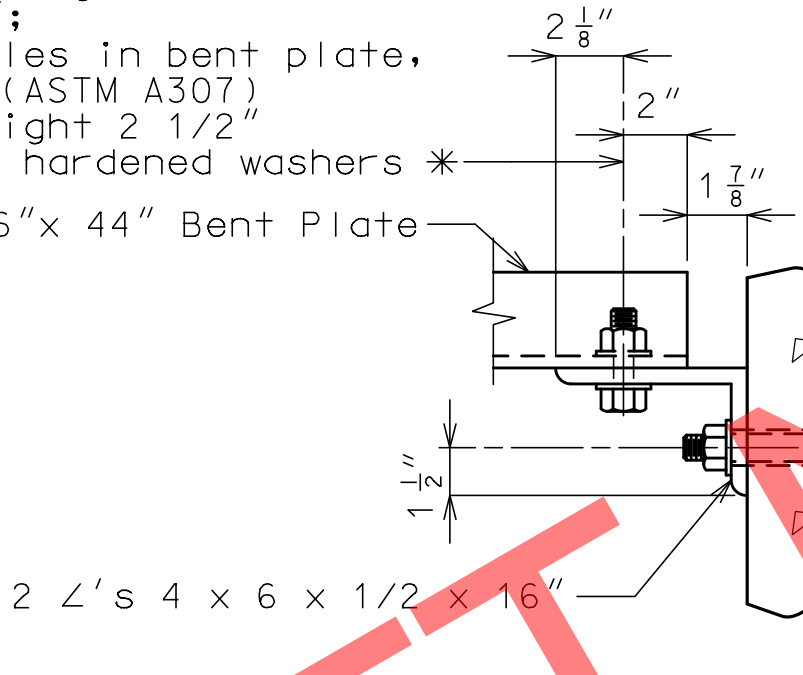
SECTION THRU EXT. GIRDER
AT TYPE B DIAPHRAGMS

Four 1 1/16" x 2 1/4" horizontal
slotted holes in 6" leg of each
6 x 4 x 1/2 x 16";
Eight 15/16" holes in bent plate,
eight 7/8" bolts (ASTM A307)
with hex nuts, eight 2 1/2"
O.D. washers and 16 hardened washers *

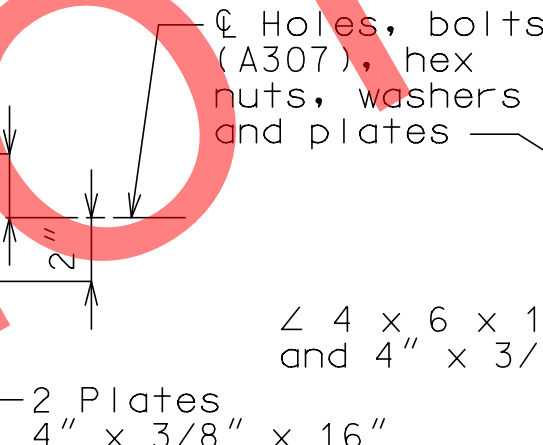
1 1/16" x 2 1/4" horizontal
slotted holes in 6" leg of
6 x 4 x 1/2 x 16" angle. Two
15/16" holes in W10x33, two
7/8" bolts (A307) with
hex nuts, two 2 1/2" O.D.
washers and 4 hardened washers *

Four 1 1/16" x 2 1/4" horizontal
slotted holes in 6" leg of each 6 x 4 x 1/2 x 16";
Eight 15/16" holes in bent plate, eight 7/8"
bolts (ASTM A307) with hex nuts, eight 2 1/2"
O.D. washers and 16 hardened washers *

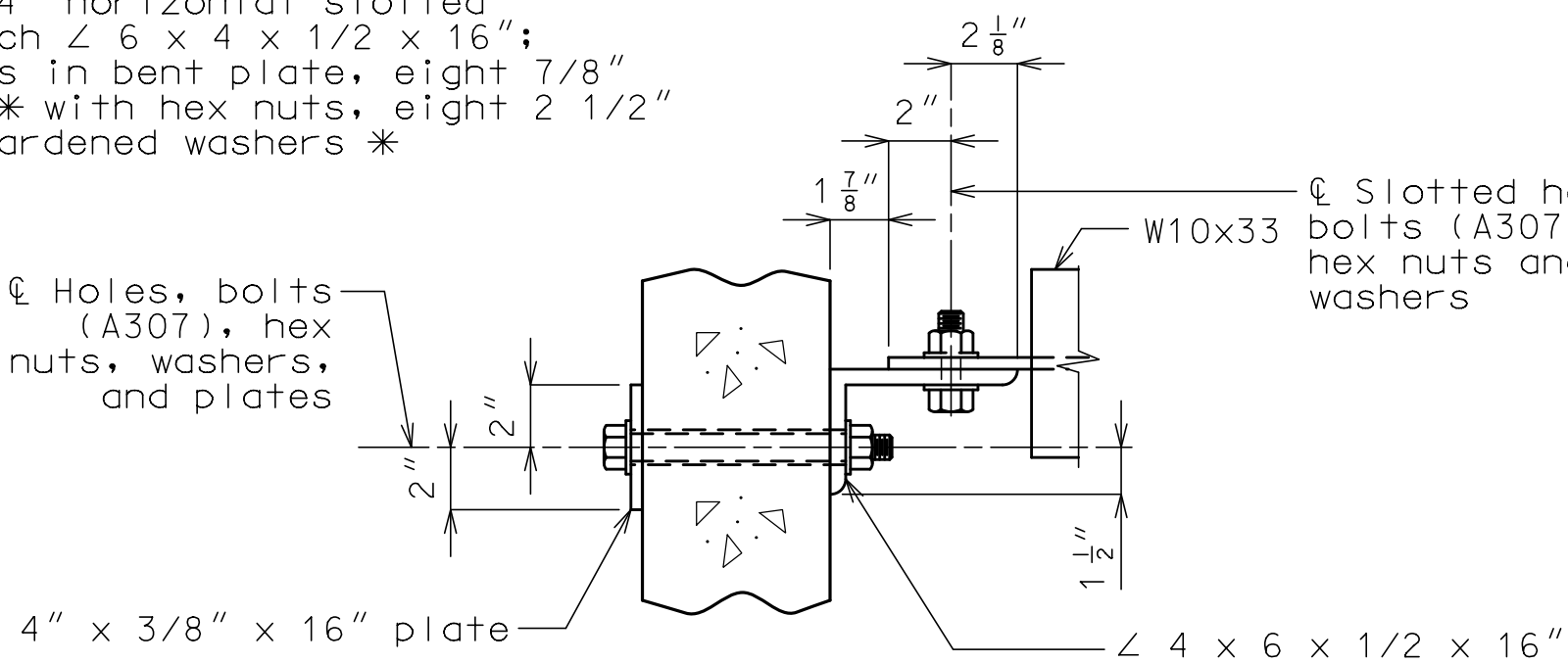
Slotted holes,
bolts (A307) with
hex nuts and
washers



SECTION B-B



SECTION C-C



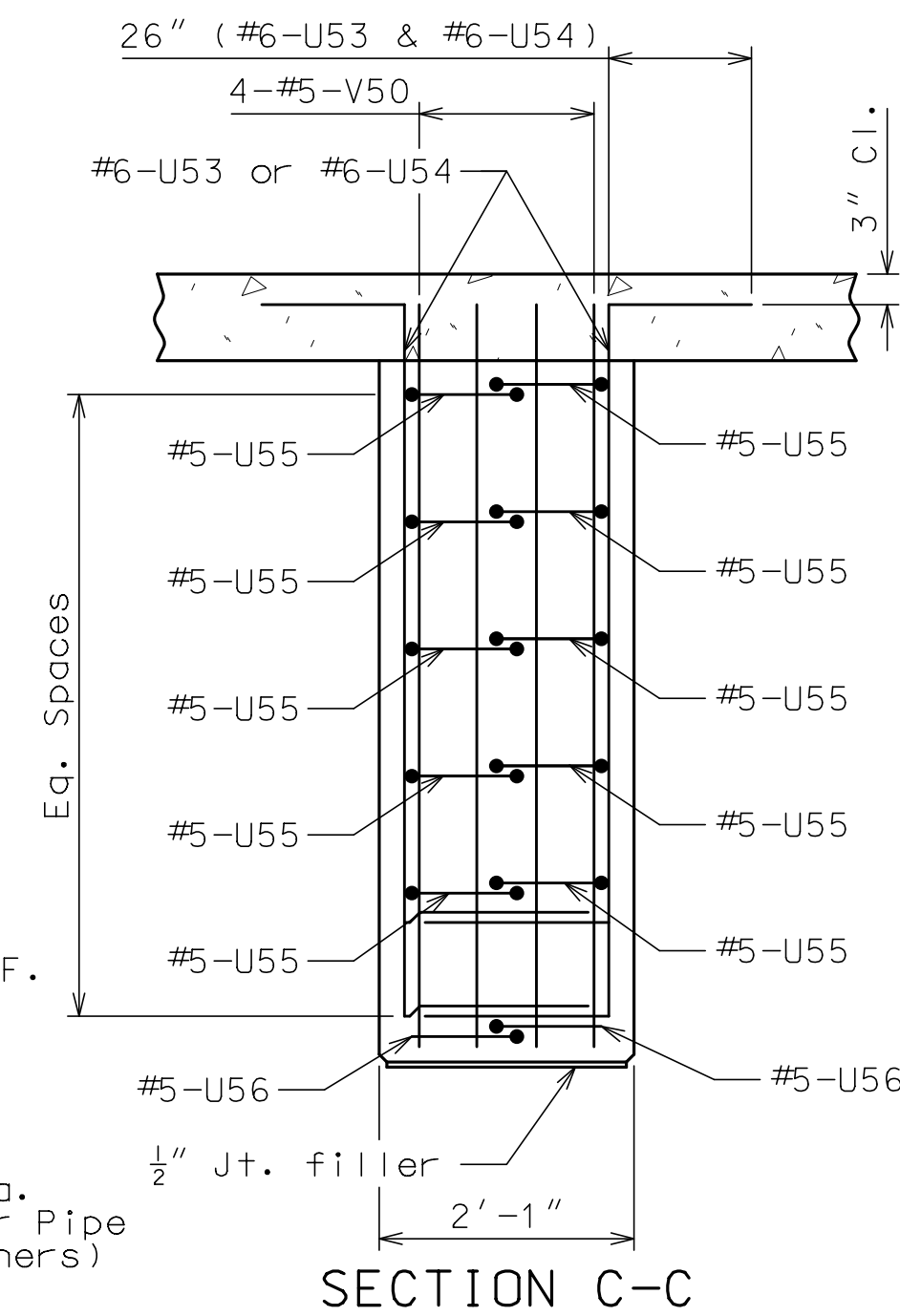
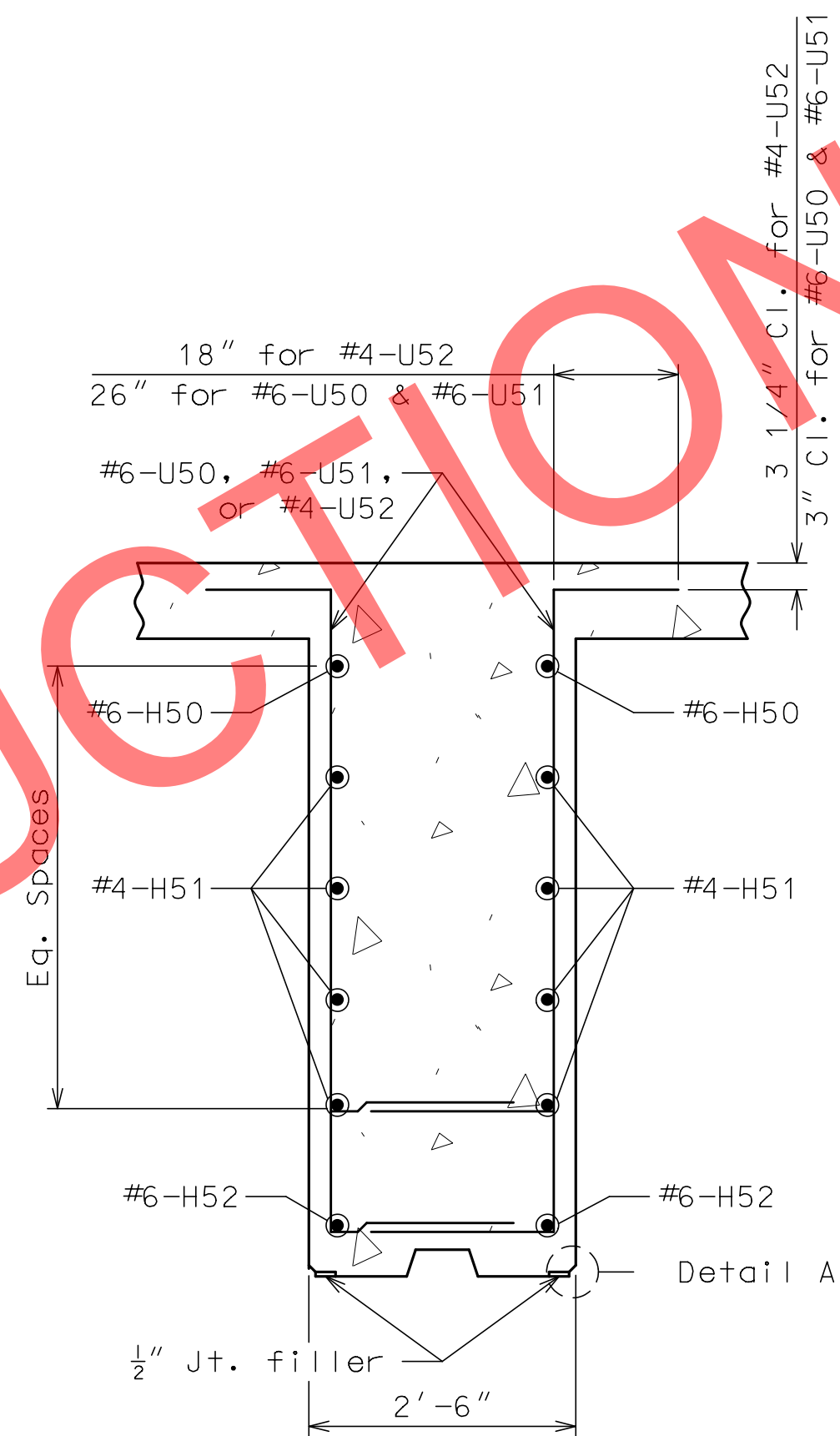
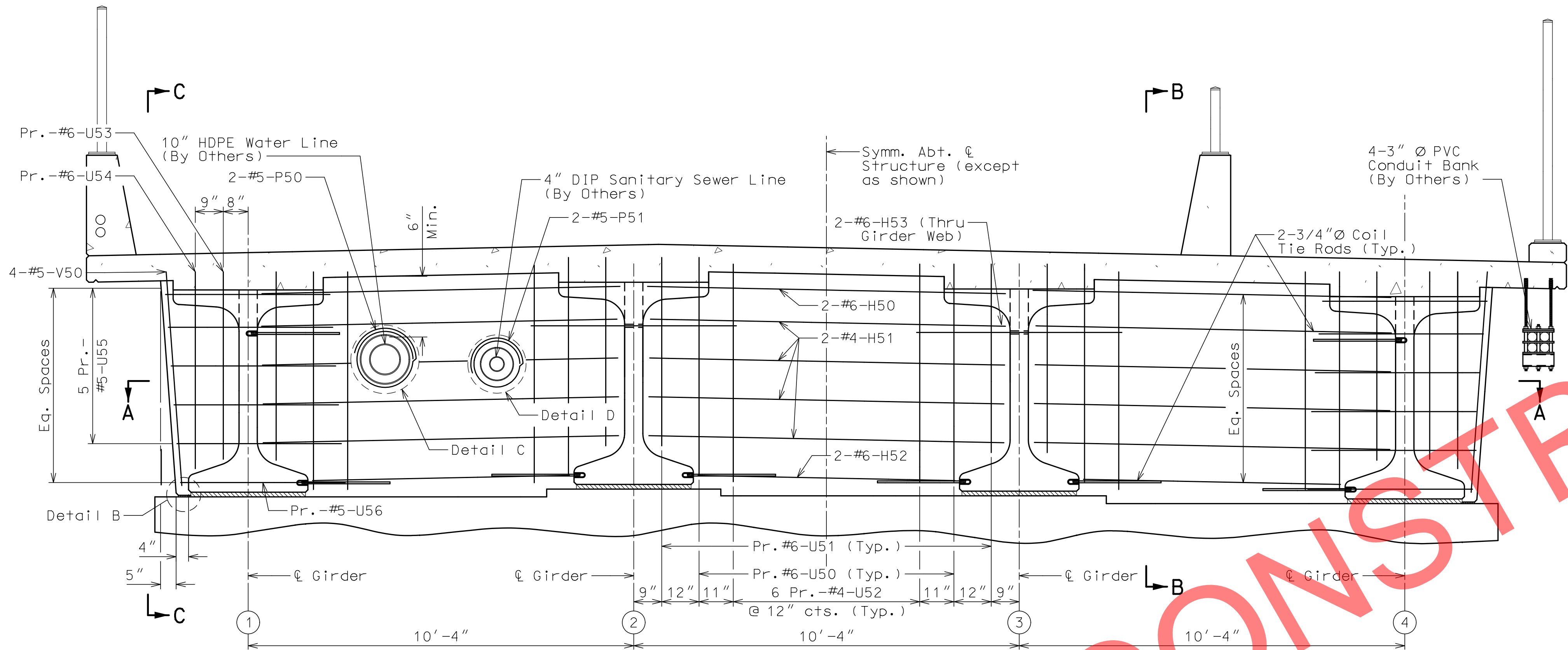
SECTION D-D

Note:
For location of Steel Int. Diaphragms, see Sheet No. 17.

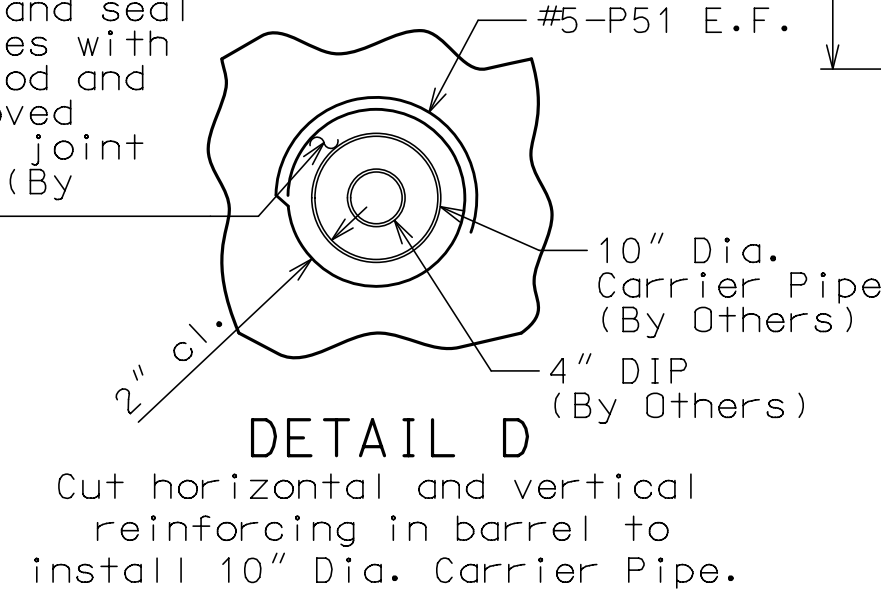
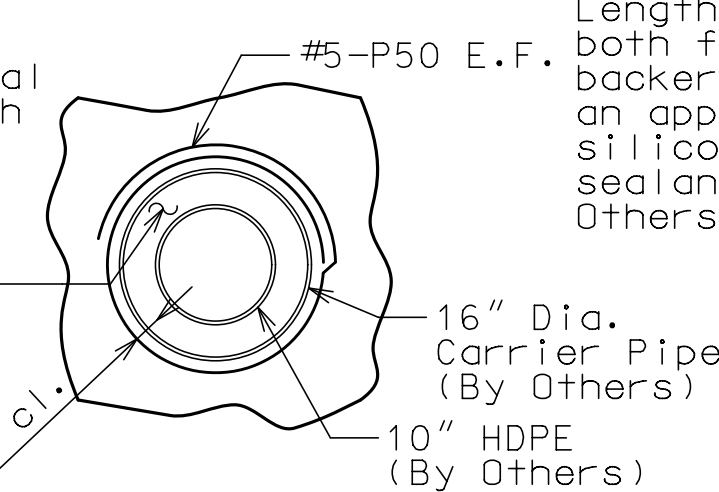
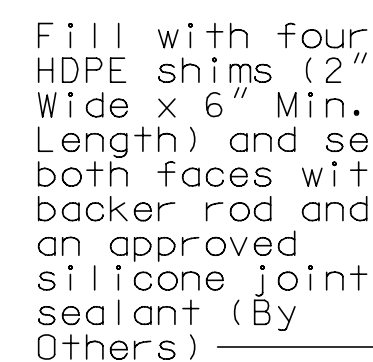
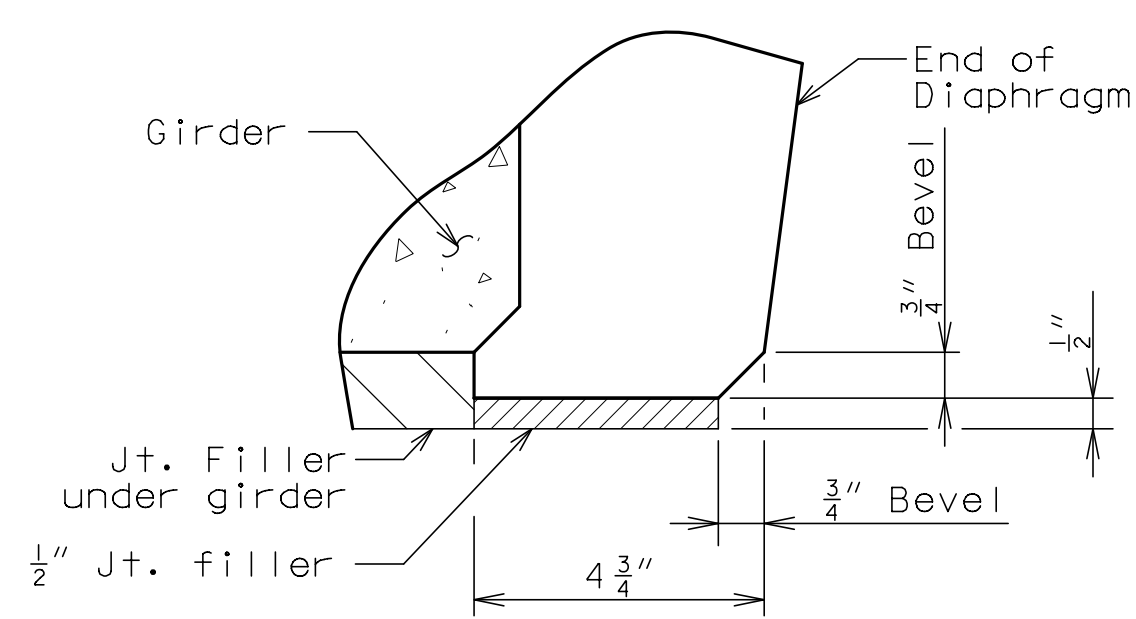
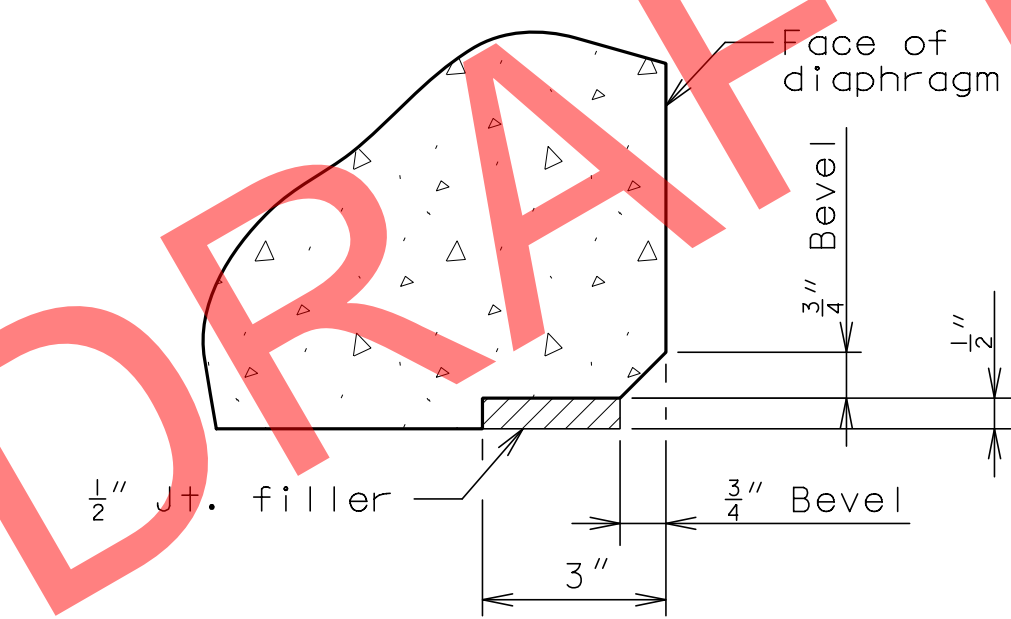
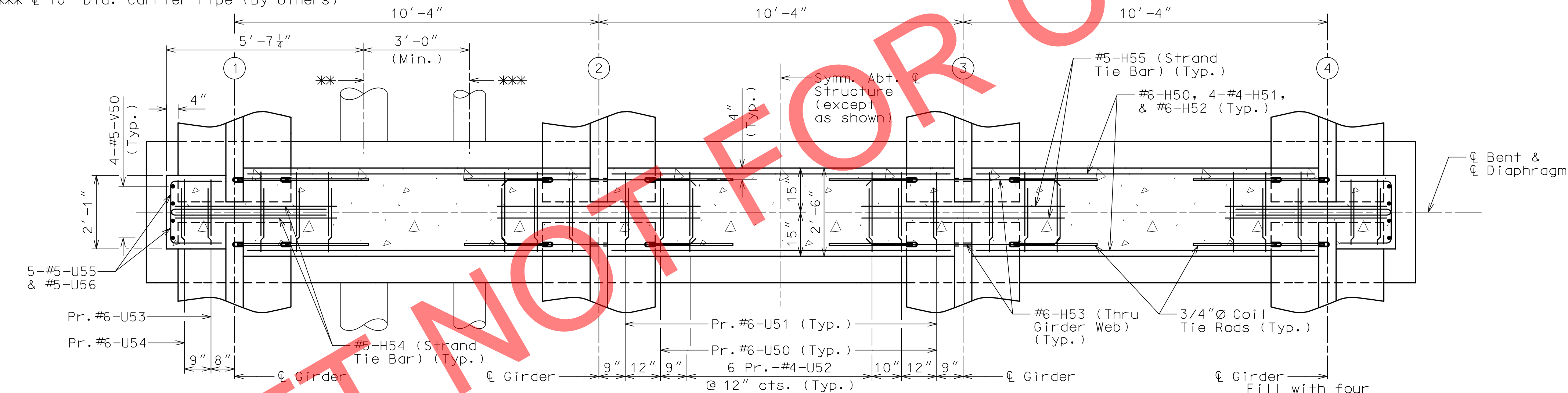
* In lieu of 2 1/2" outside diameter washers, contractor
may substitute a 3/16" (Min. thickness) plate with four
15/16" holes and one hardened washer per bolt.

** Bolts shall be tightened to provide a tension of
one-half that specified in Sec 712 for high strength bolt
installation. A325 bolts may be substituted for and
installed in accordance with the requirements for the
specified A307 bolts.

STEEL INTERMEDIATE DIAPHRAGM DETAILS



** 16" Dia. Carrier Pipe (By Others)
 *** 10" Dia. Carrier Pipe (By Others)



Notes:
 For locations of Strand Tie Bars, see Sheets No. 13 thru 16.
 For locations and details of Coil Tie Rods, see Sheets No. 13 thru 16.
 Diaphragms at intermediate bents shall be built vertical.

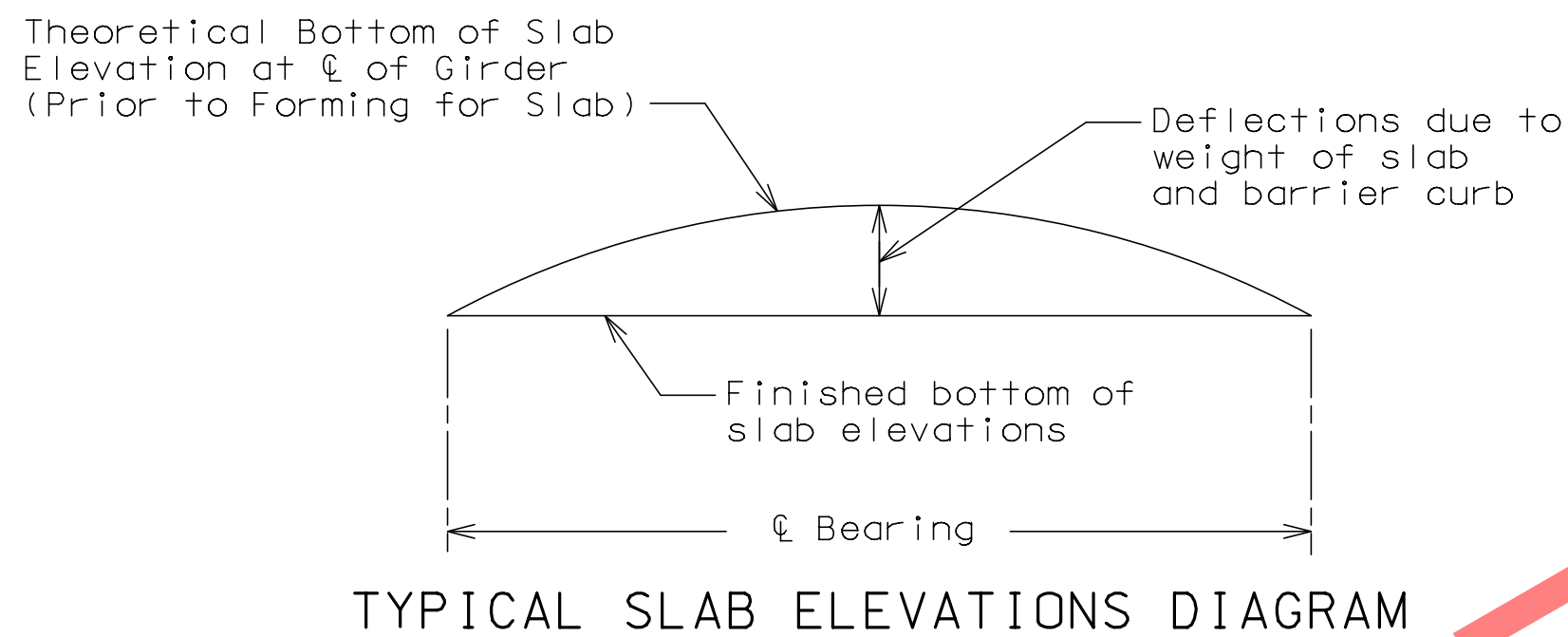
DIAPHRAGM DETAILS AT INTERMEDIATE BENT NO. 2

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

Sheet No. 19 of 43

Detailed March 2021
 Checked May 2021

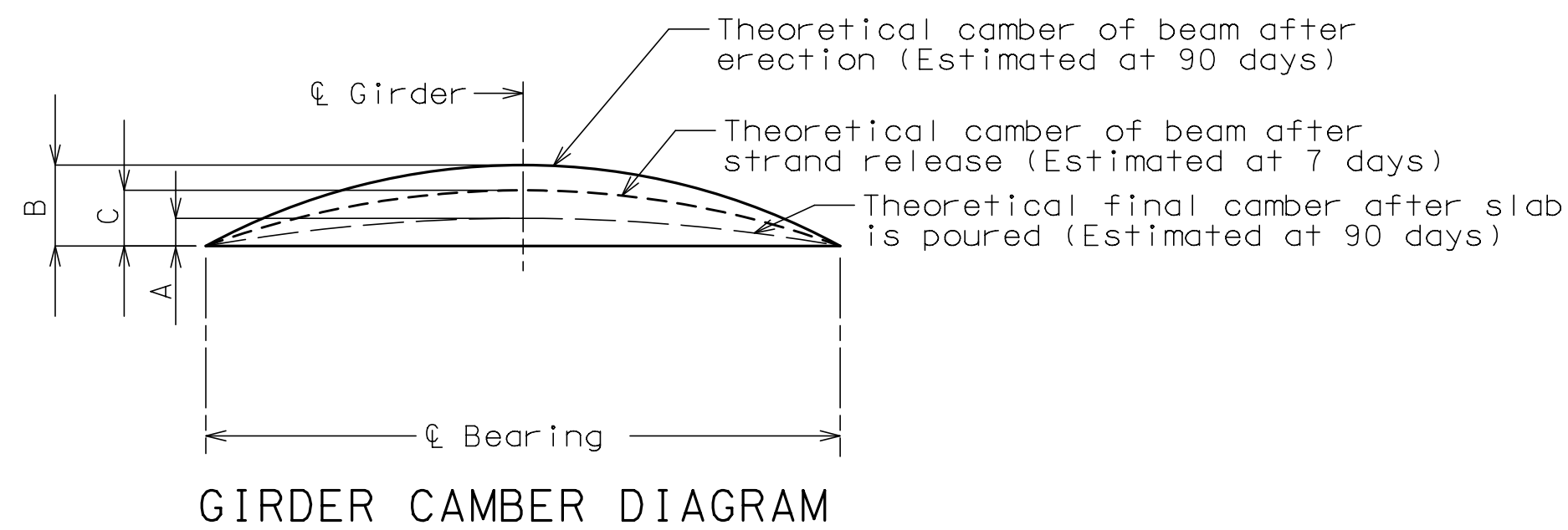
DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 19
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9134	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson 7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	



Theoretical Bottom of Slab Elevations at CL of Girder (Prior to Forming for Slab)(Estimated at 90 days)											
Girder Number	Span (1-2) (134'-0" CL brg - CL brg.)										
	CL brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	CL brg.
1	935.01	935.72	936.46	937.20	937.96	938.72	939.49	940.24	940.97	941.69	942.40
2	935.22	935.94	936.67	937.42	938.18	938.95	939.71	940.46	941.19	941.90	942.61
3	935.04	935.76	936.49	937.24	938.00	938.77	939.53	940.28	941.01	941.72	942.43
4	934.83	935.54	936.28	937.02	937.78	938.54	939.31	940.06	940.79	941.51	942.22
Girder Number	Span (2-3) (134'-0" CL brg - CL brg.)										
	CL brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	CL brg.
1	942.49	943.34	944.18	945.01	945.83	946.62	947.39	948.14	948.87	949.59	950.30
2	942.69	943.55	944.40	945.23	946.05	946.84	947.61	948.36	949.09	949.80	950.51
3	942.51	943.37	944.22	945.05	945.87	946.66	947.43	948.18	948.91	949.62	950.33
4	942.31	943.16	944.00	944.83	945.65	946.44	947.21	947.96	948.69	949.41	950.12

Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab and barrier curb.

Longitudinal dimensions are horizontal.



	Span (1-2)			Span (2-3)		
	A	B	C	A	B	C
Ext. Girder	2 3/4"	5 3/8"	3 1/8"	2 3/4"	5 3/8"	3 1/8"
Int. Girder	2 1/2"			2 1/2"		

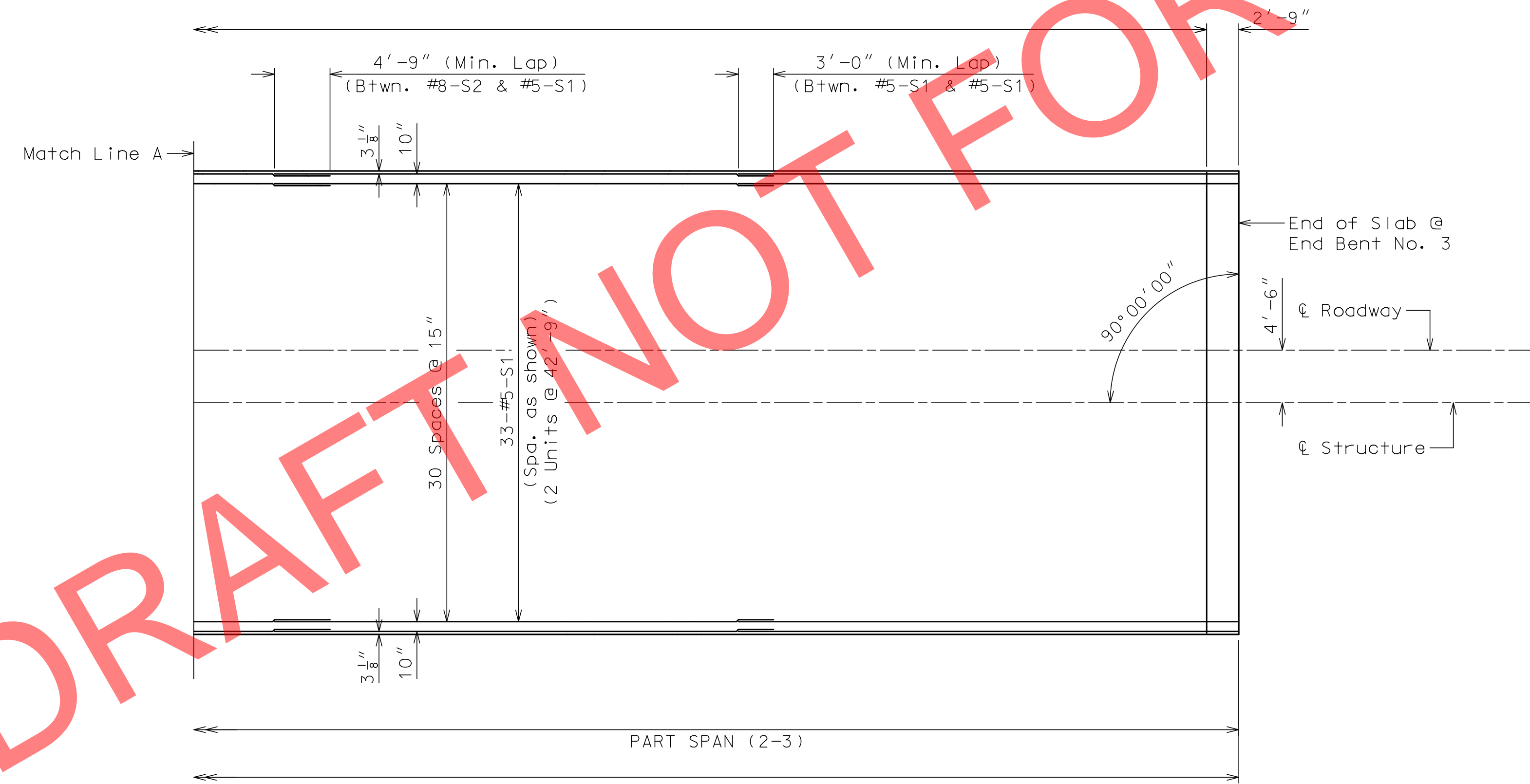
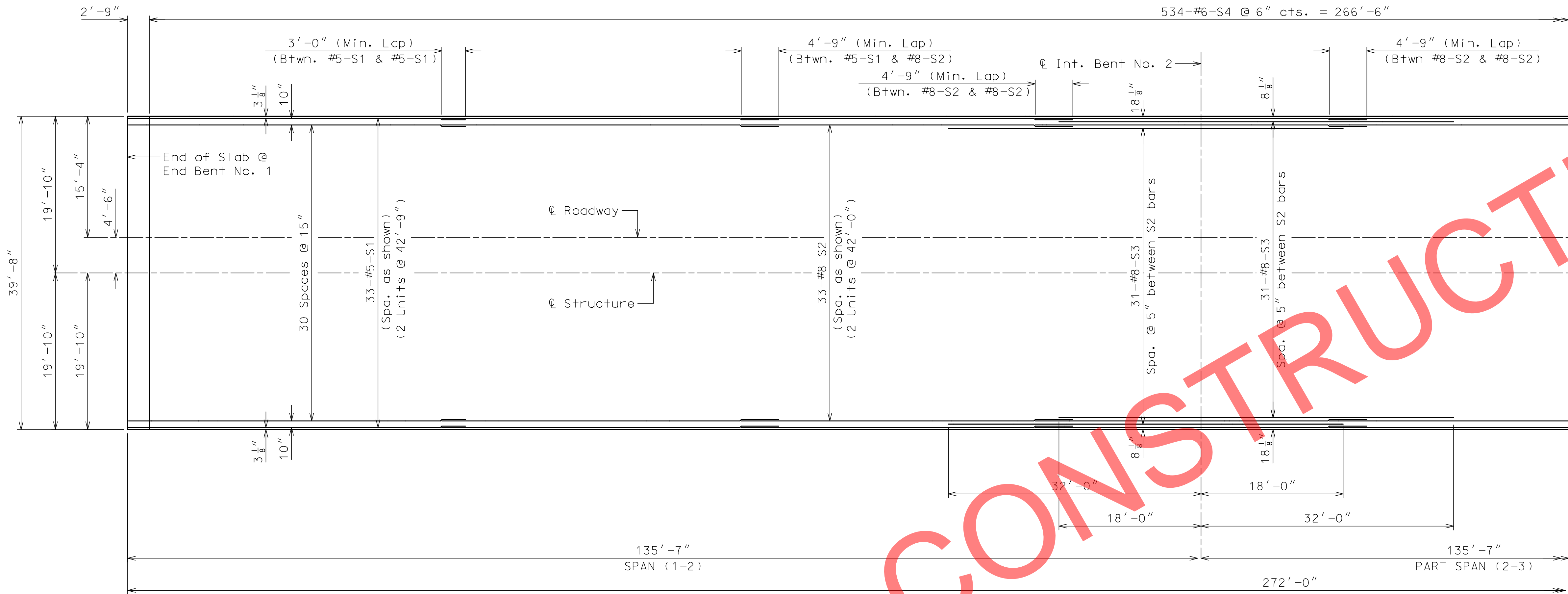
If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. No payment will be made for additional labor or materials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

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

Conversion factors for beam camber (estimated at 90 days)

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

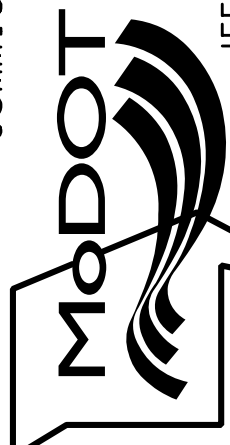

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 20
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9134	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MoDOT	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	

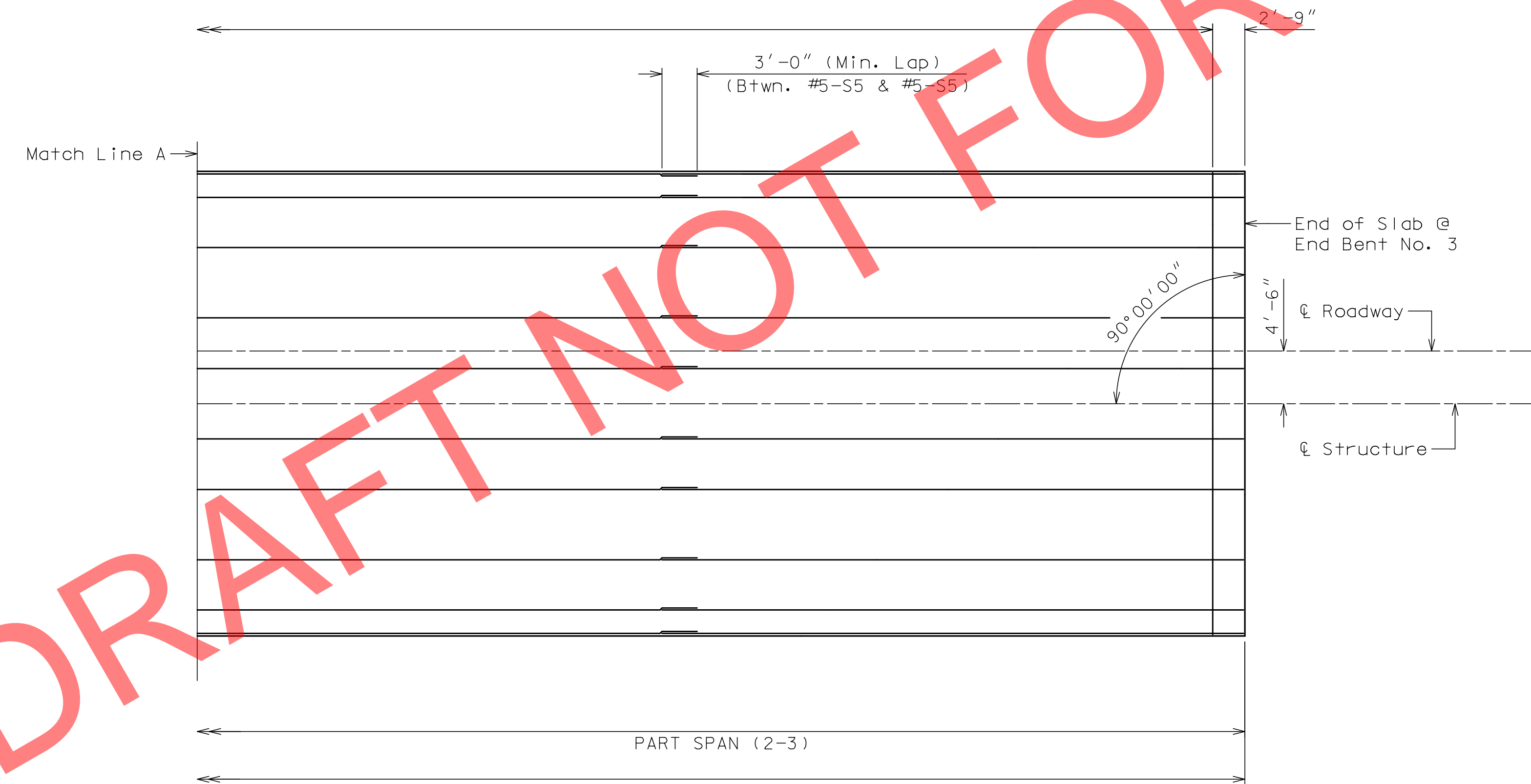
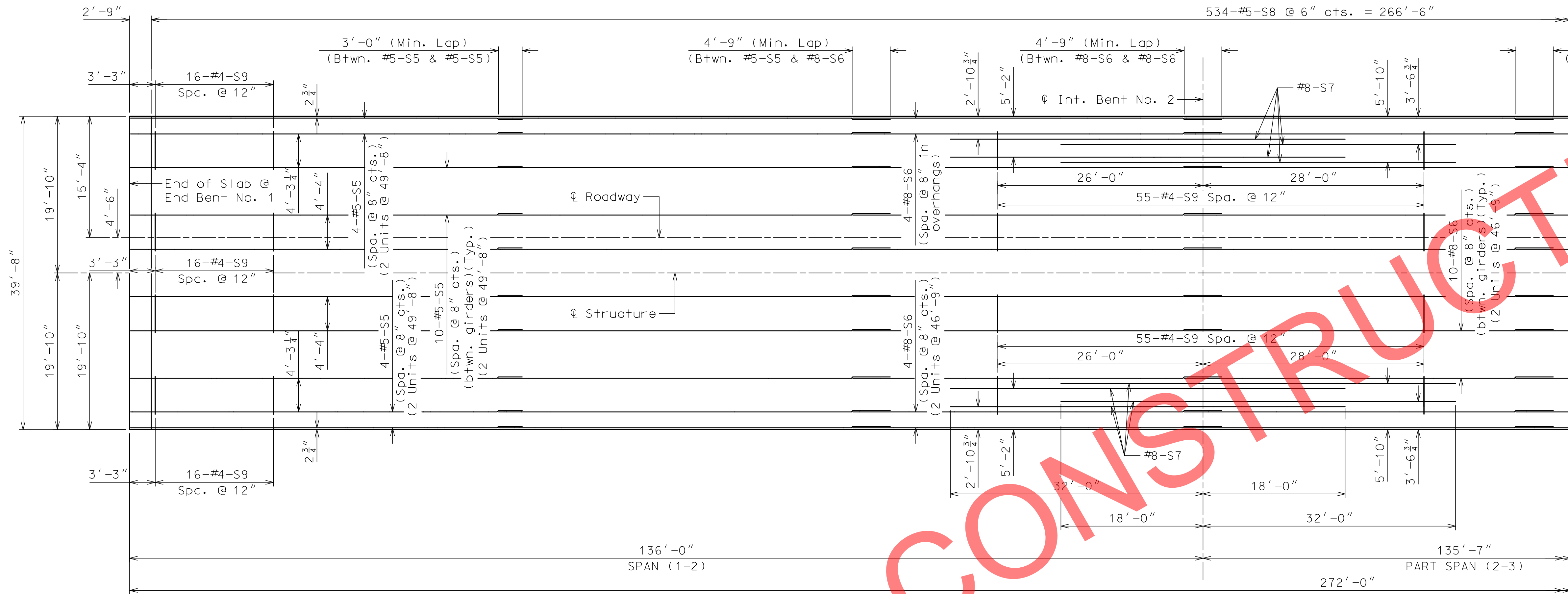


PLAN OF SLAB SHOWING TOP REINFORCEMENT

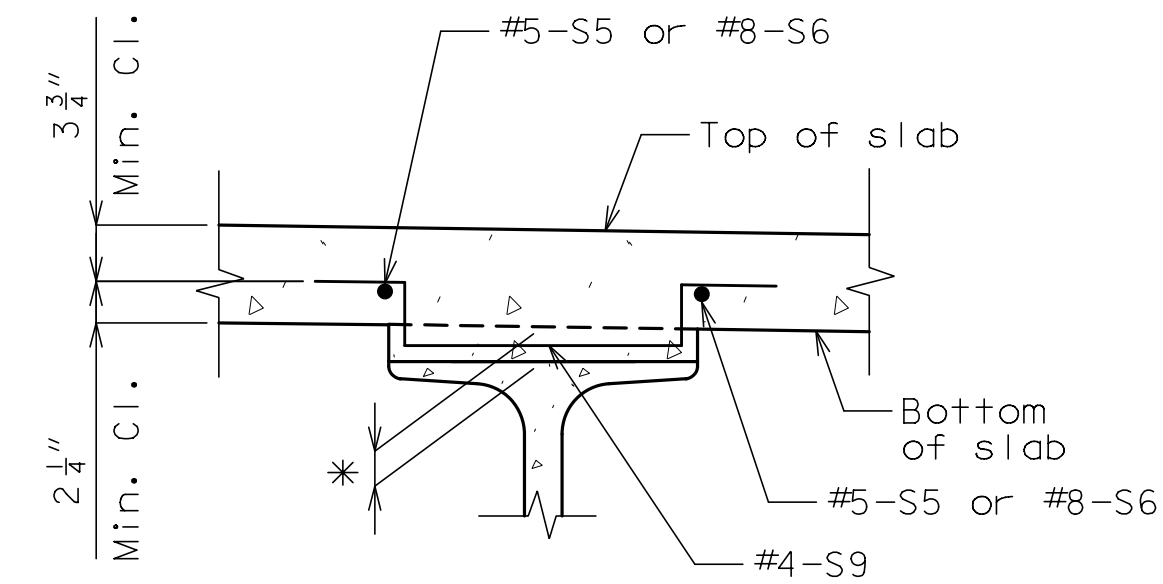
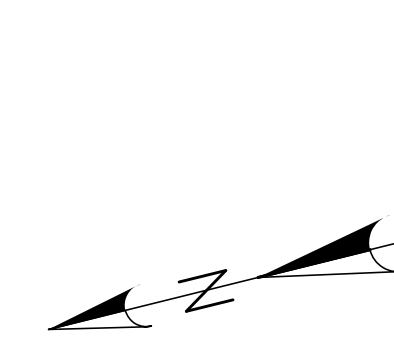
SLAB DETAILS

Notes:
Longitudinal dimensions shown are measured horizontally.
For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 23.
For Details of Type H Barrier not shown, see Sheets No. 24 thru 26.
For details of Pedestrian Curb not shown, see Sheet No. 28.
For Theoretical Slab Haunching Diagram, Girder Camber Diagram & Theoretical Bottom of Slab Elevations, see Sheet No. 20.

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 21
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9134	
DESCRIPTION	DATE
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PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT



SECTION THRU GIRDER
SHOWING HAIRPIN BARS

* Use hairpins for haunches greater than 4".

Note:
The horizontal spacing of the S5 and S6 bars in the bottom of the slab may be adjusted to a position next to the hairpin bars. The spacing between S5 and S6 bars shall not be less than 6".
S9 hairpin bars may be placed at an angle to meet clearances.

Notes:
Longitudinal dimensions shown are measured horizontally.
For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 23.
For Details of Type H Barrier not shown, see Sheets No. 24 thru 26.
For details of Pedestrian Curb not shown, see Sheet No. 28.
For Theoretical Slab Haunching Diagram, Girder Camber Diagram & Theoretical Bottom of Slab Elevations, see Sheet No. 20.

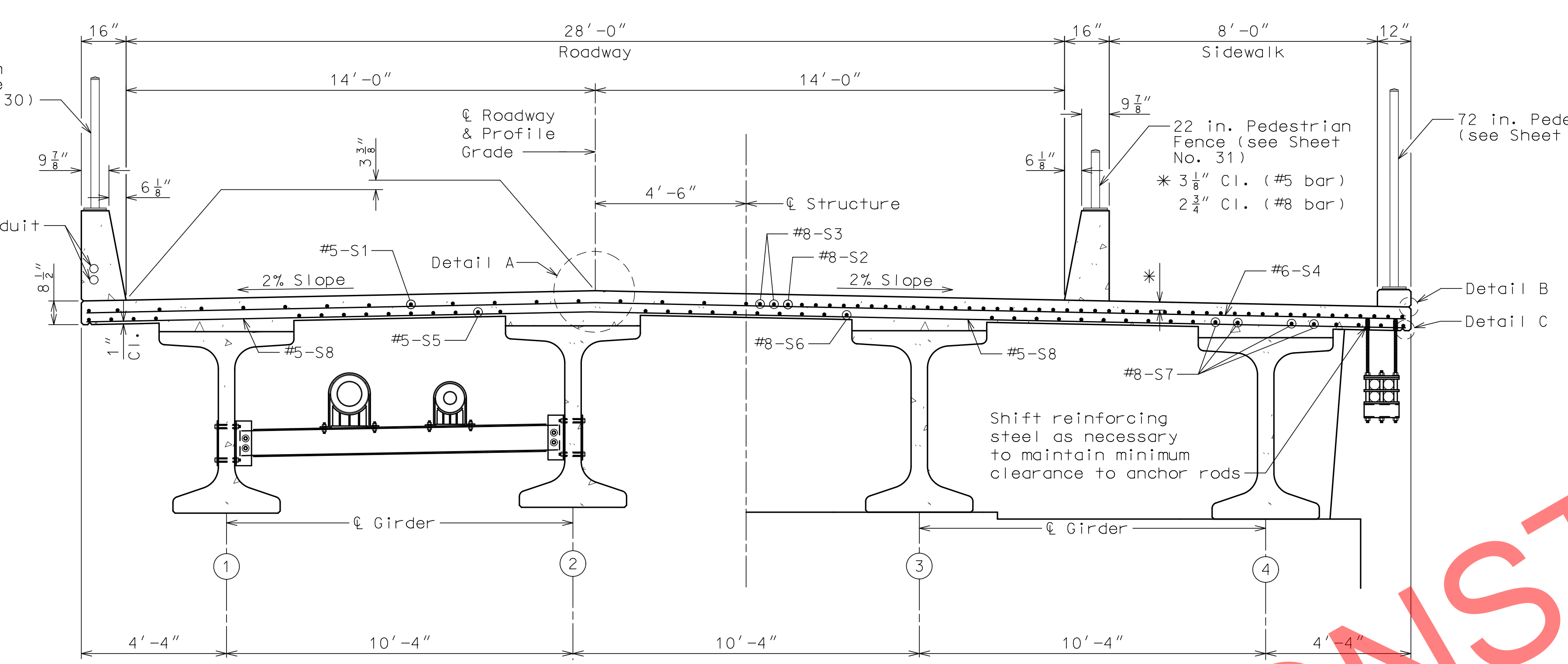
SLAB DETAILS

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 22
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9134	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
	7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592

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

48 in.
Pedestrian
Fence (see
Sheet No. 30)

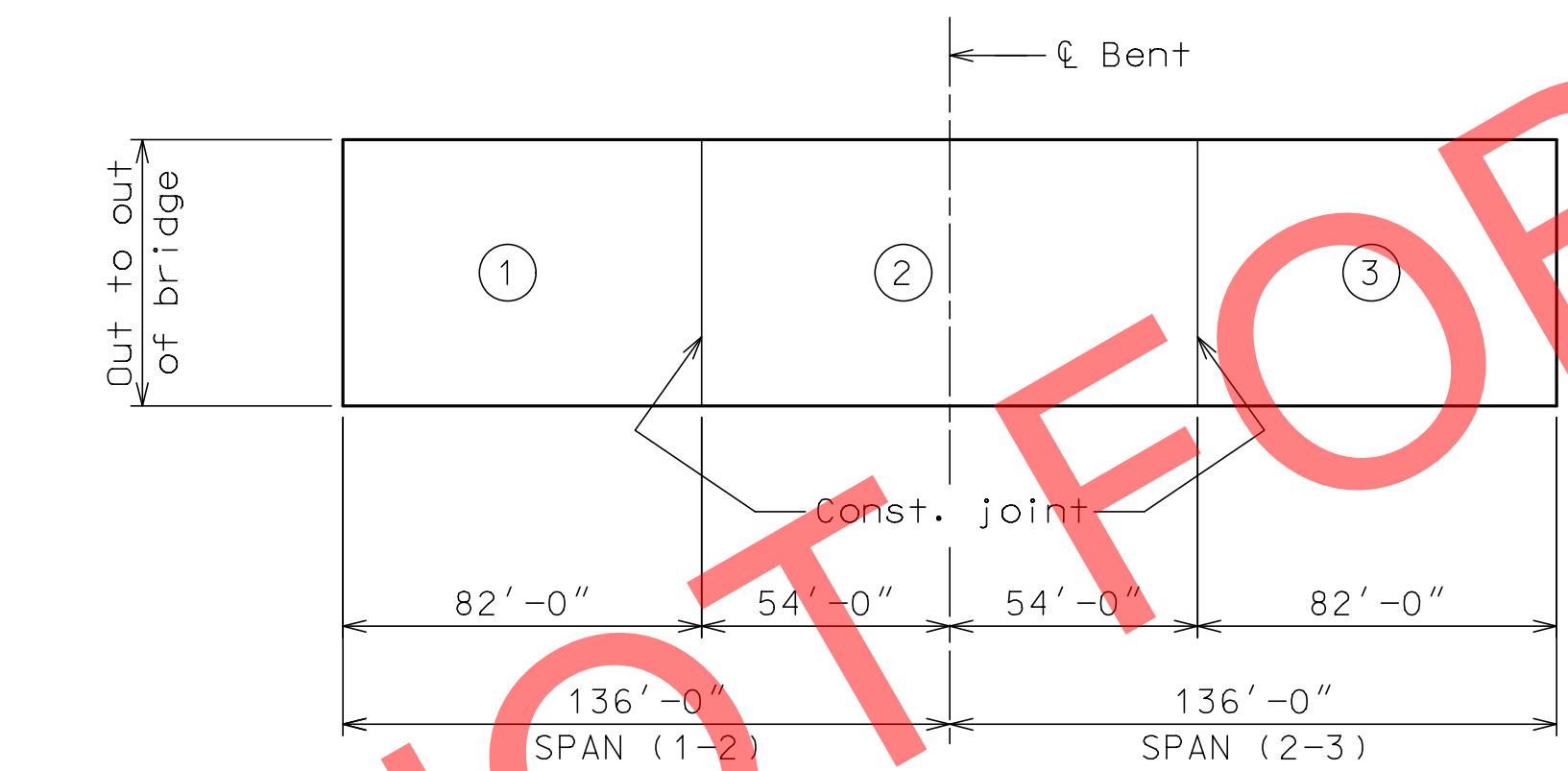
3" Ø Conduit



HALF SECTION NEAR MIDSPAN

HALF SECTION NEAR INTERMEDIATE BENT

TYPICAL SECTION THRU SLAB

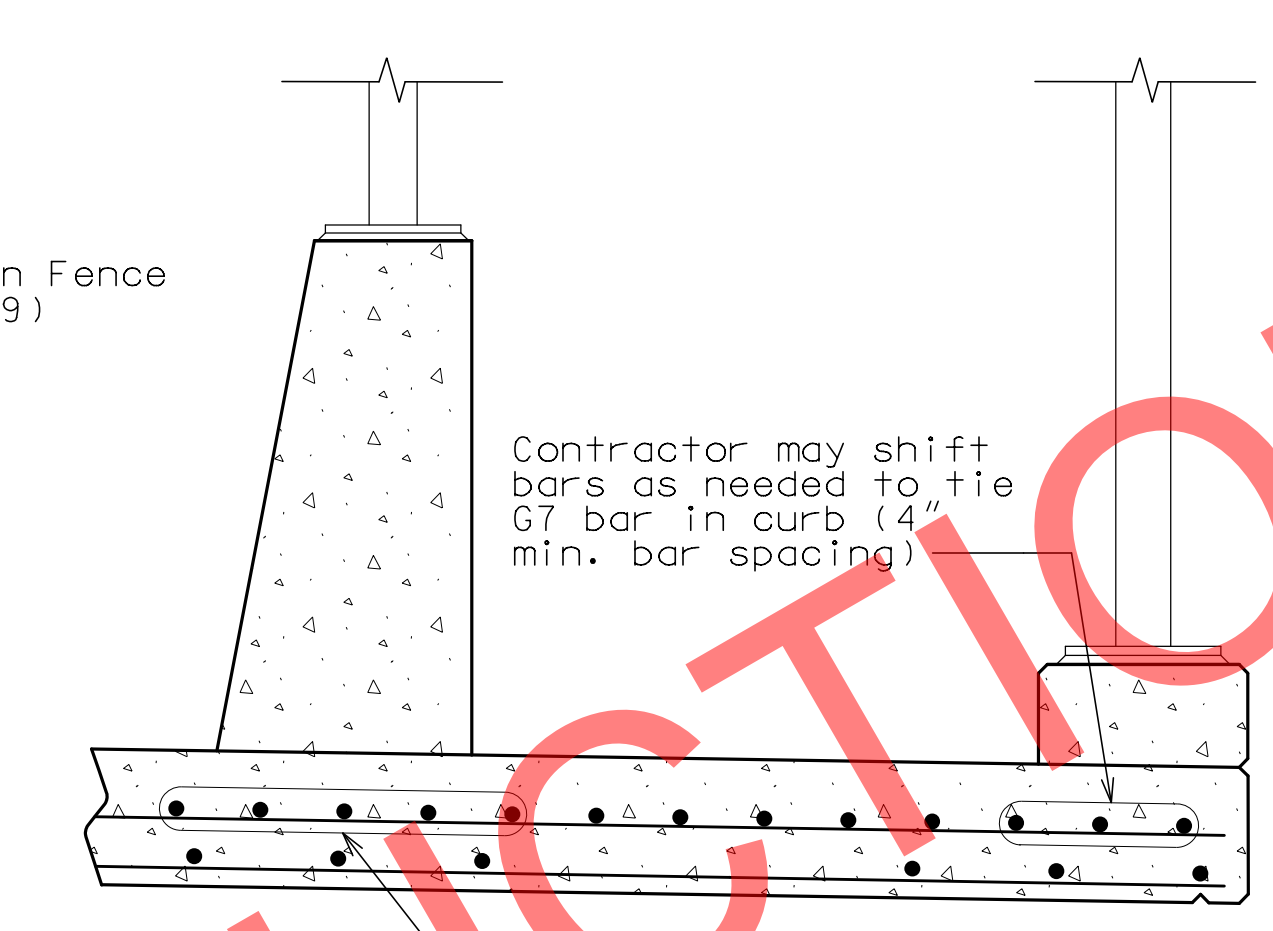


	Sequence of Pours			Min. rate of pour cu. yds./hr.
	Direction			With retarder
Basic sequence	1	2	3	25
	Either Direction			
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.				
Alternate "A" pours	1	3+2		25
	End to 3	1 to end		
Alternate "B" pours	1 + 3 + 2			25
	End to End			

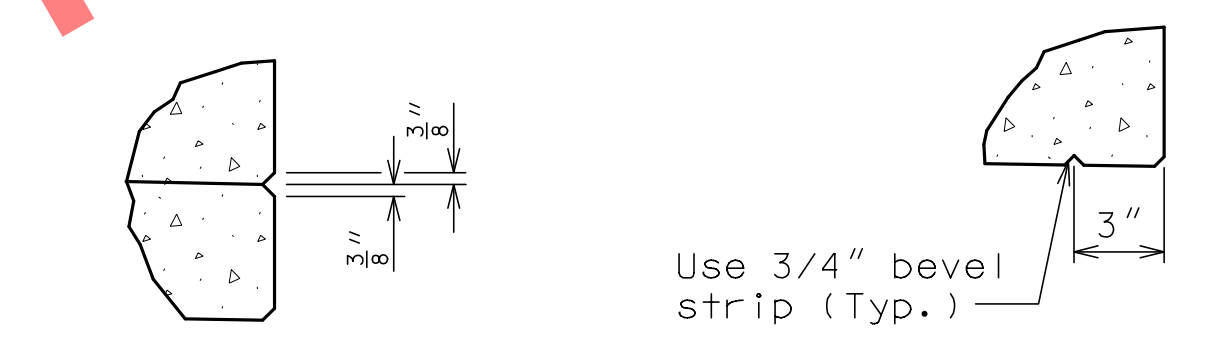
Note: The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

The concrete diaphragm at the intermediate bents and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

SLAB POURING SEQUENCE

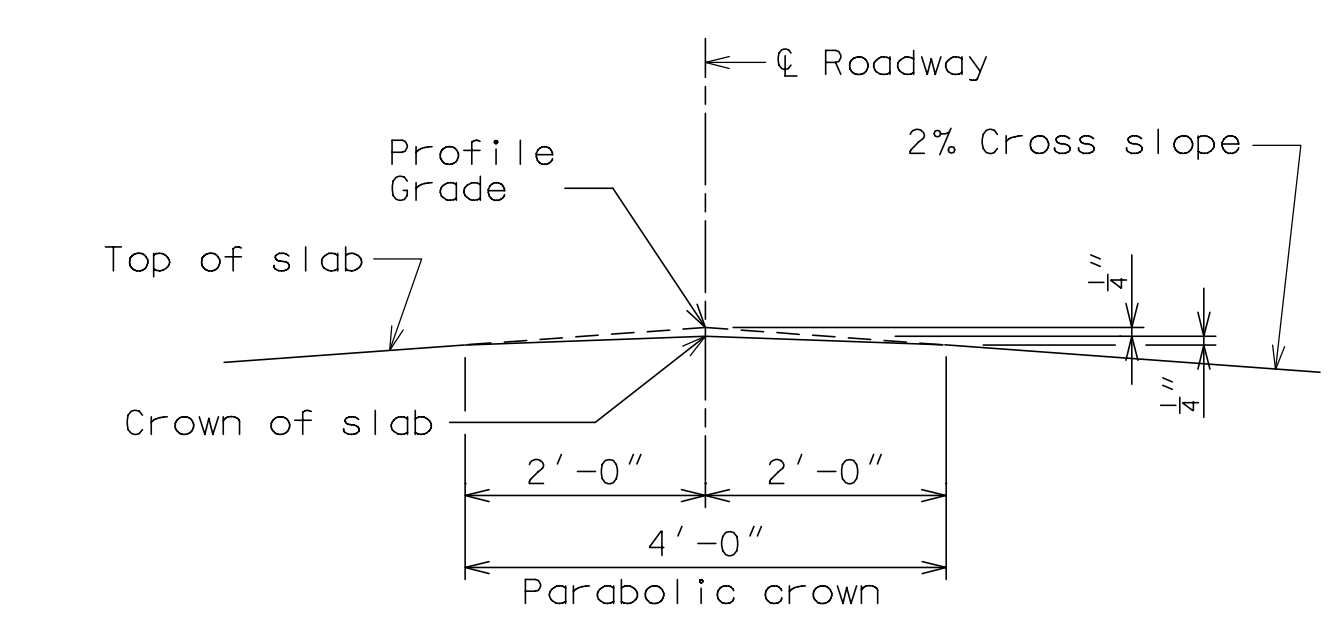


OPTIONAL SHIFTING TOP BARS AT BARRIER AND CURB

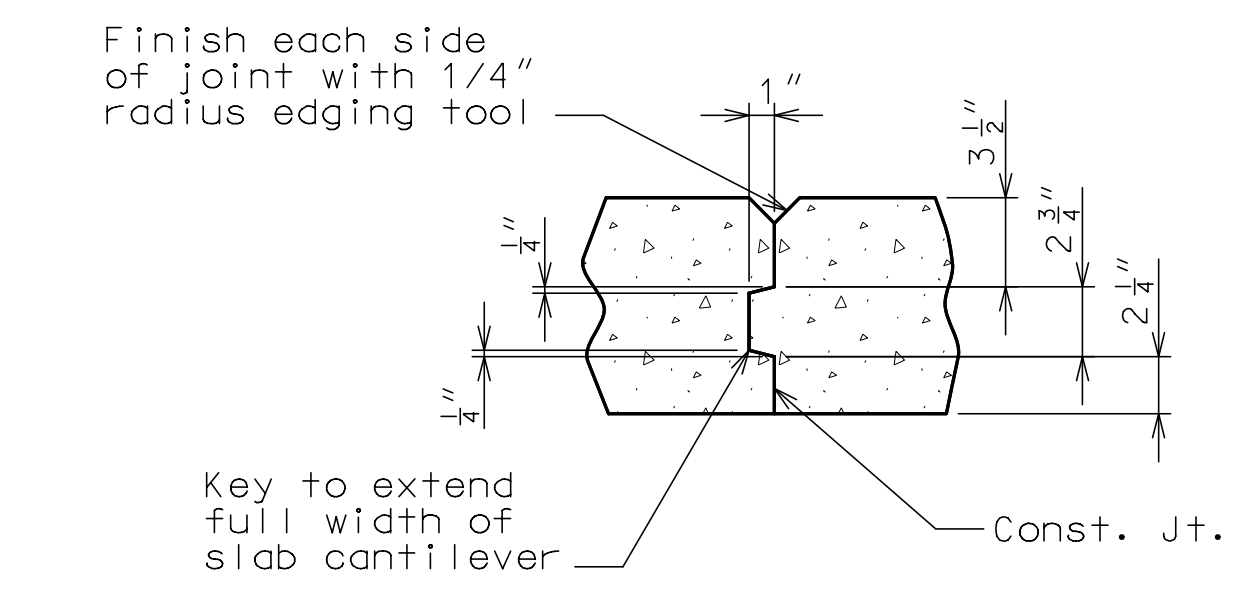


DETAIL B

DETAIL C



DETAIL A



SLAB CONSTRUCTION JOINT DETAILS

Notes:

For Plan of Slab Showing Reinforcement, see Sheets No. 21 thru 22.

For Details and Reinforcement of Type H Barrier not shown, see Sheets No. 24 thru 26.

For details of Pedestrian Curb not shown, see Sheet No. 28.

For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, see Sheet No. 20.

For Conduit Details, see Sheet No. 27.

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

STATE
MO

SHEET NO.
23

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9134

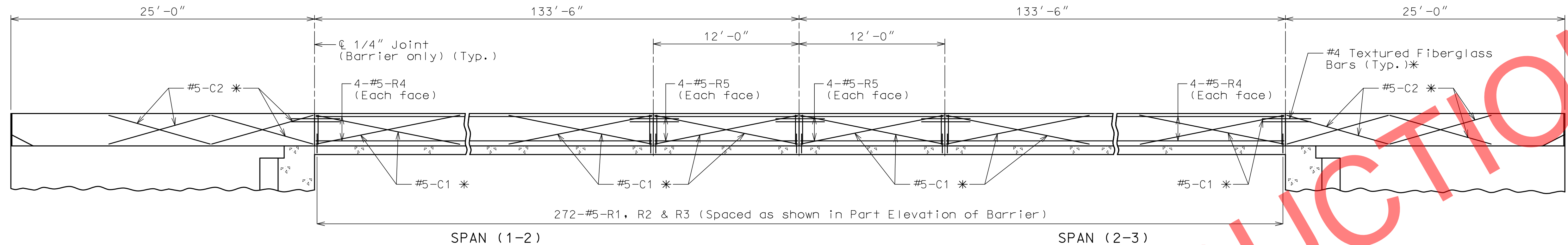
DESCRIPTION

DATE

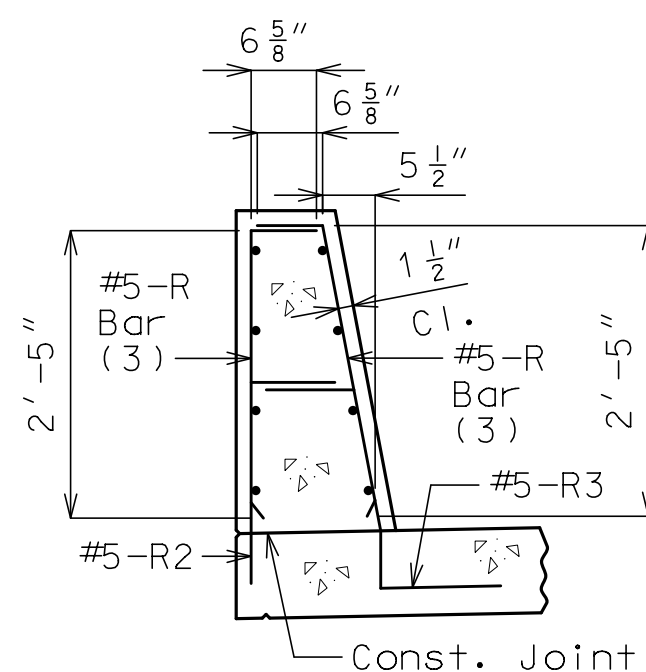
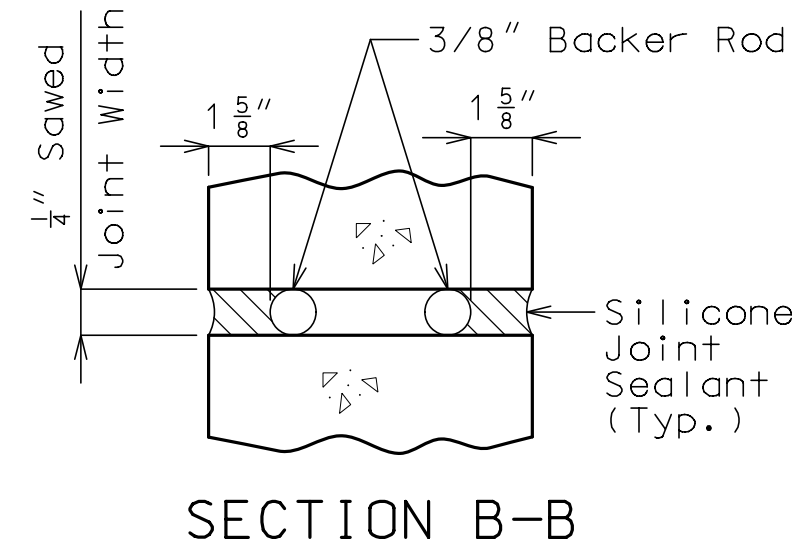
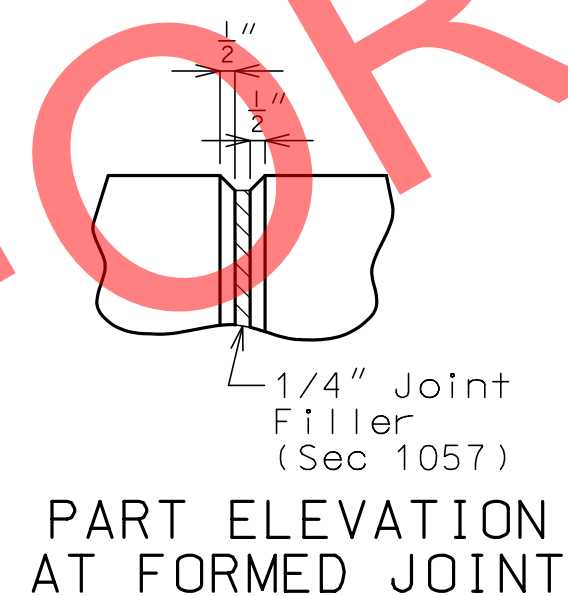
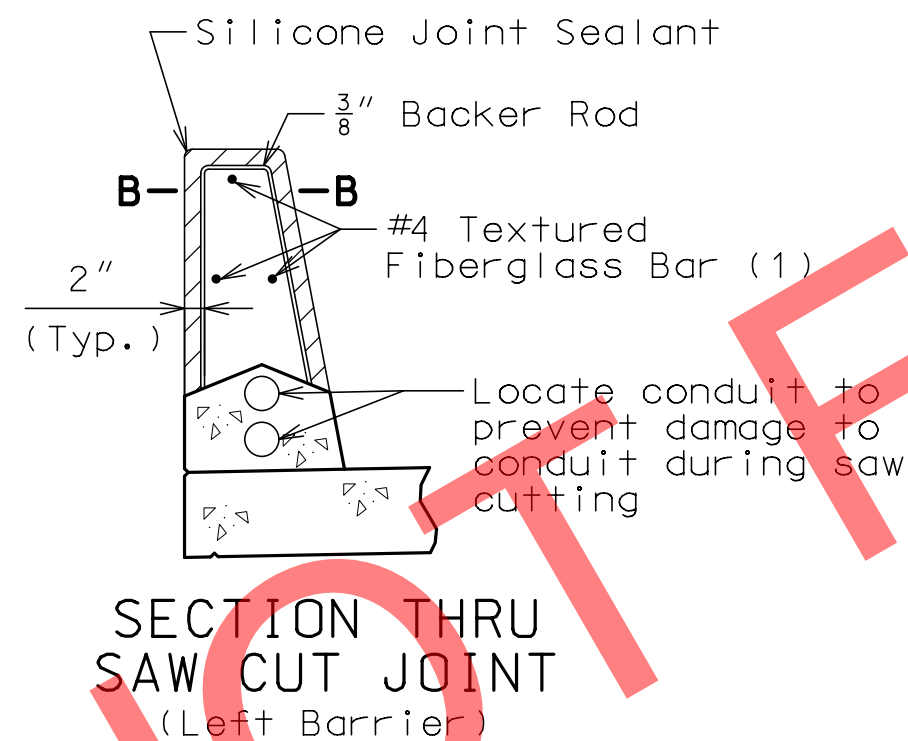
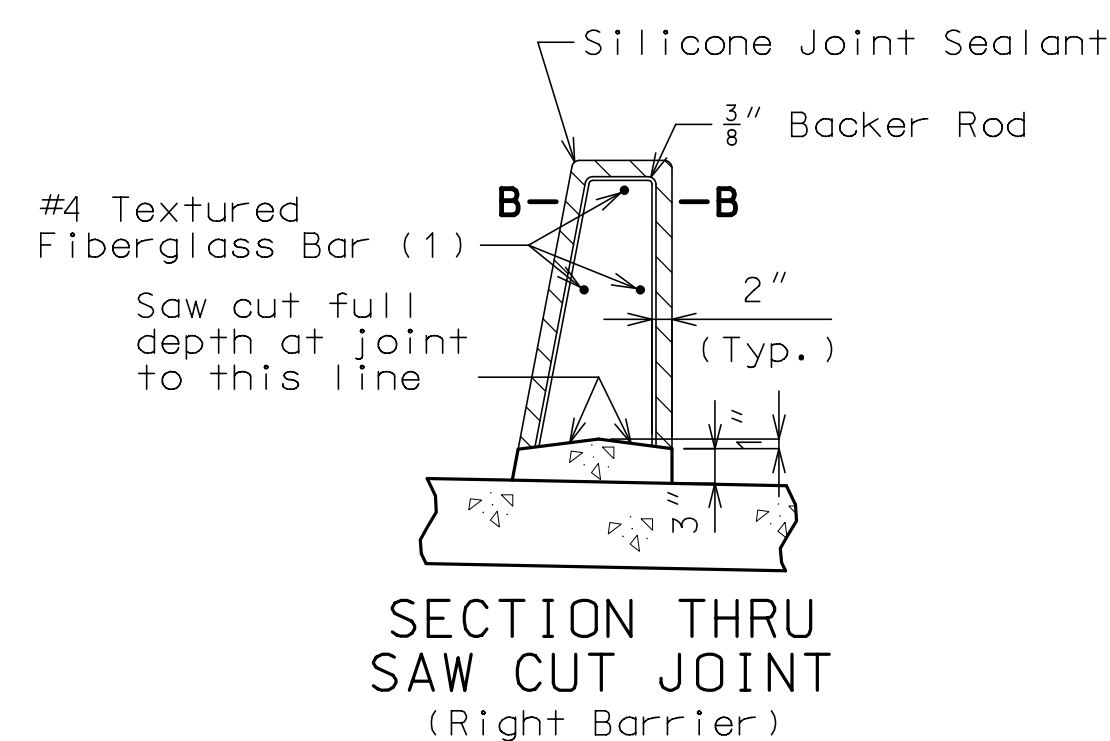
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

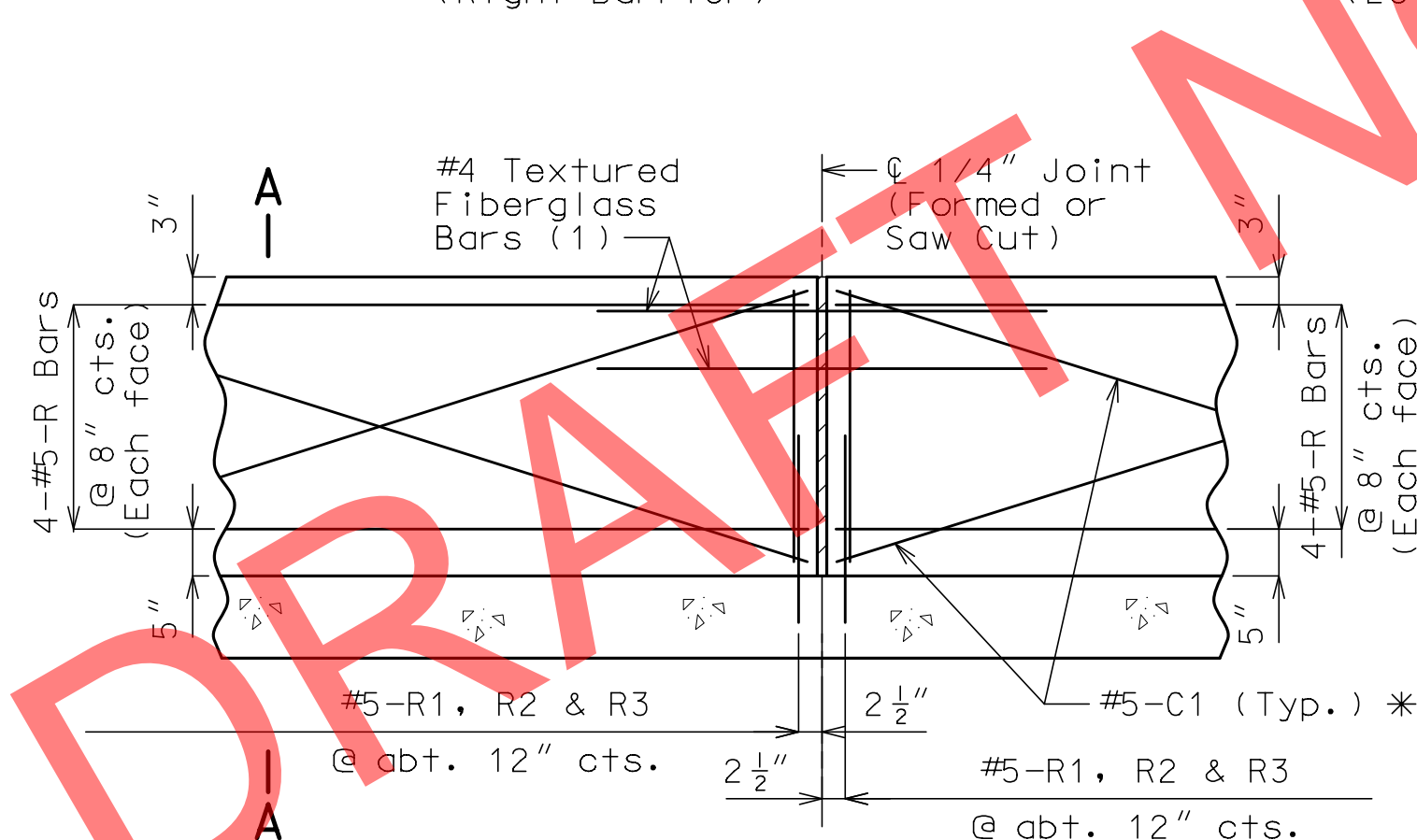


ELEVATION OF BARRIER
(Left barrier shown, right barrier similar)
Longitudinal dimensions are horizontal.

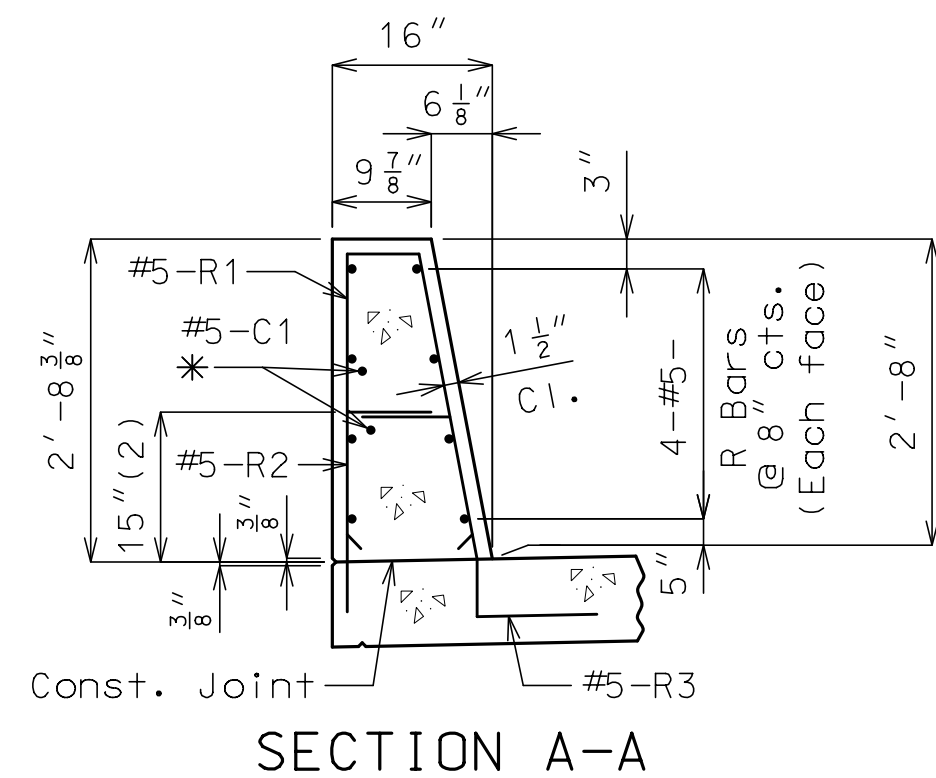


R-BAR PERMISSIBLE ALTERNATE SHAPE

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



(1) Four feet long, centered on joint, slip-formed option only



Use a minimum lap of 3'-1" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 2.89 square feet.

(2) To top of bar

TYPE H BARRIER

(3" Ø conduits not shown for clarity.)
(Pedestrian fence not shown for clarity.)

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 H 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.

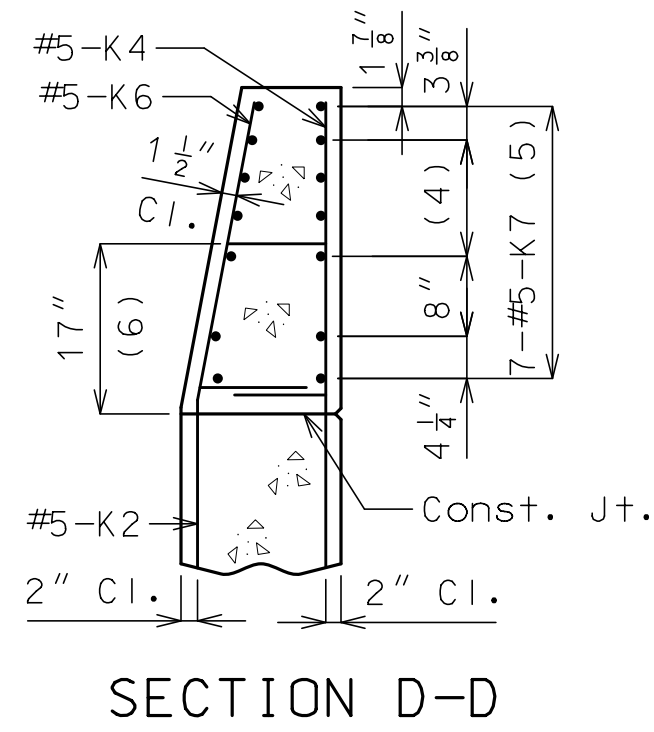
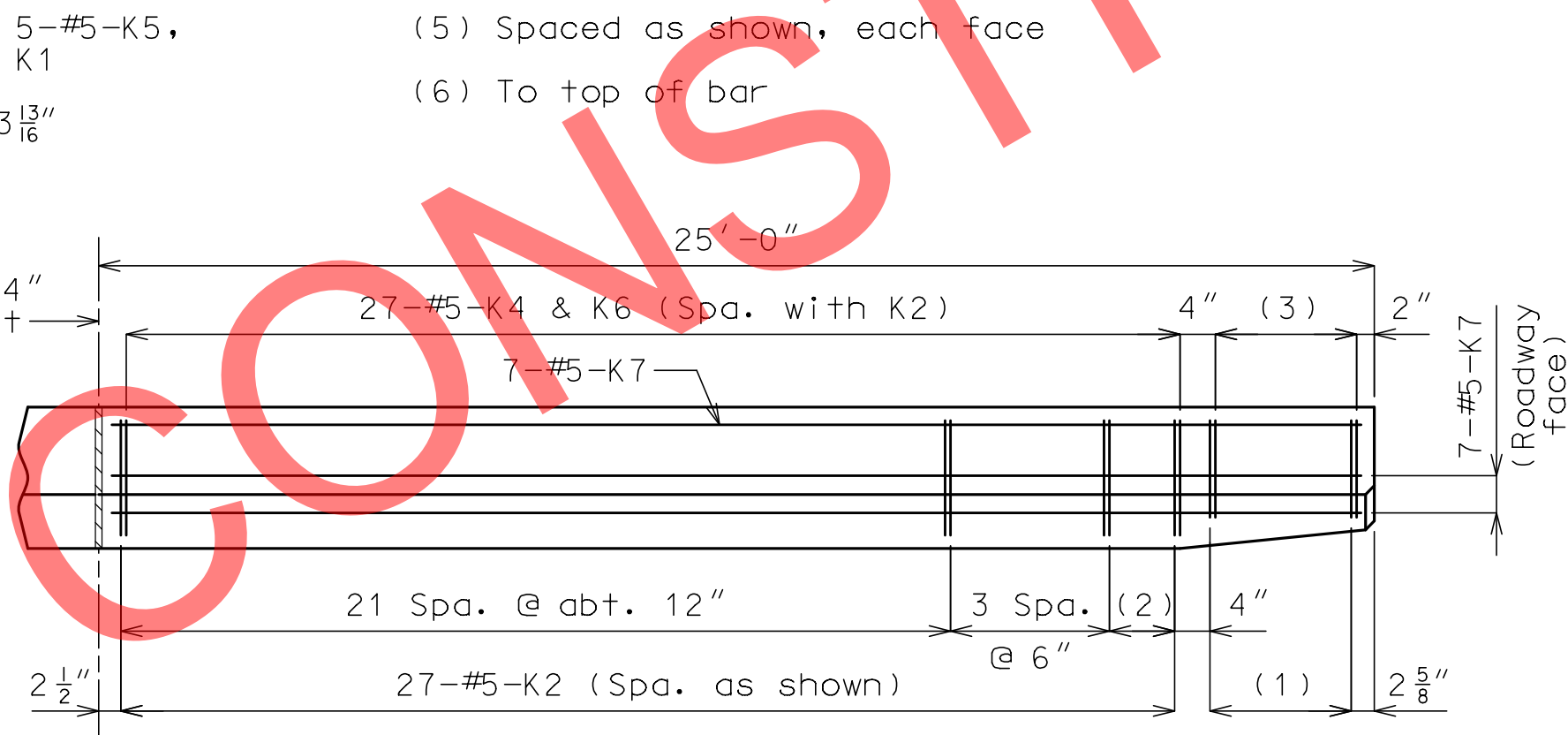
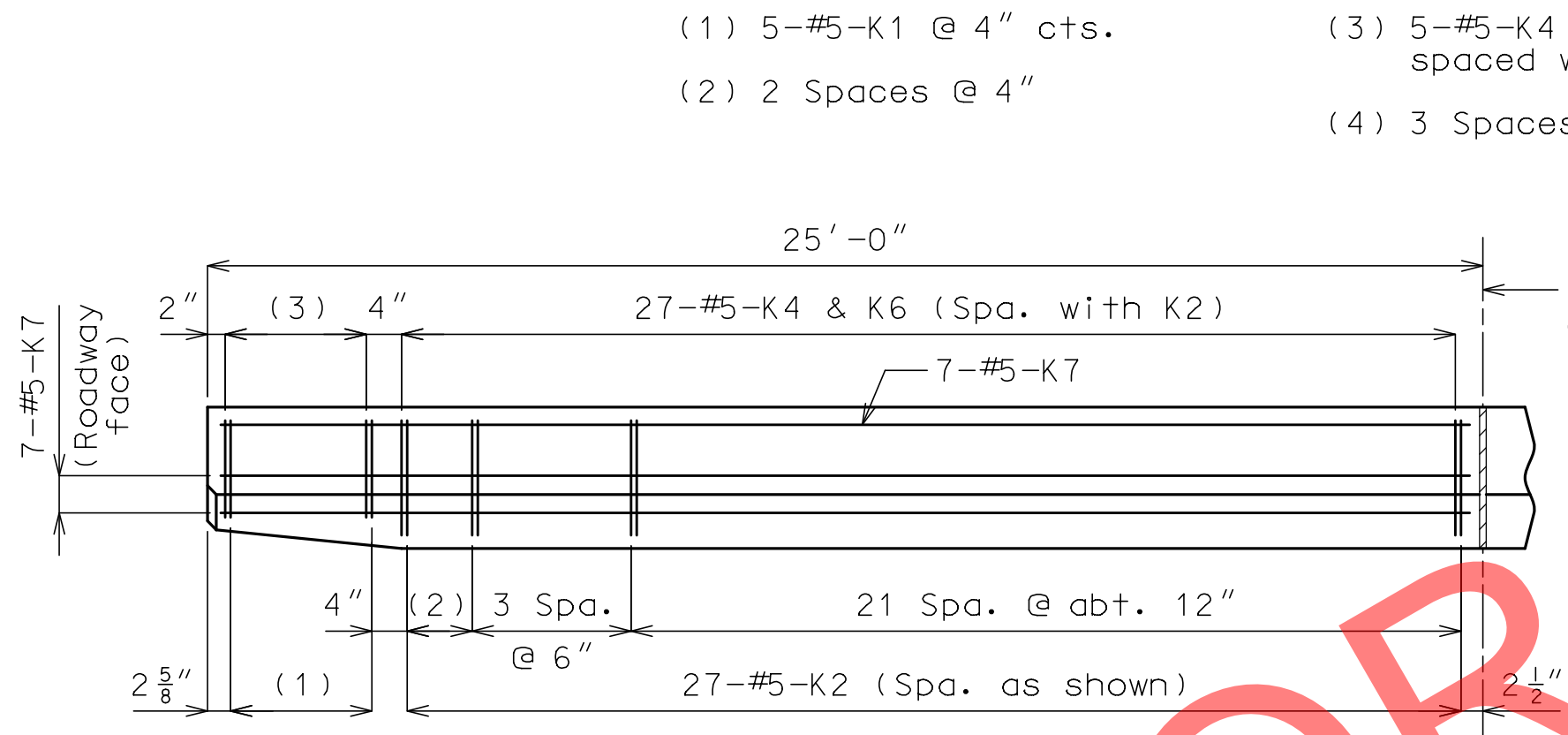
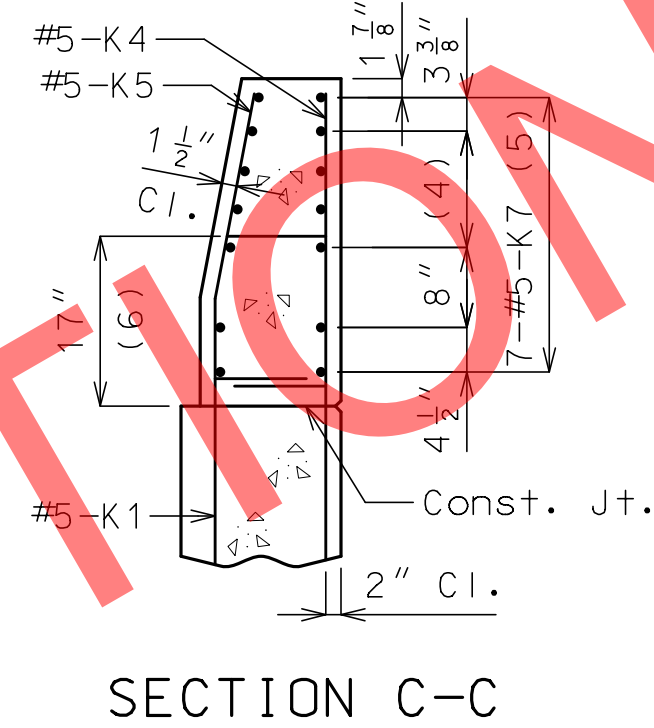
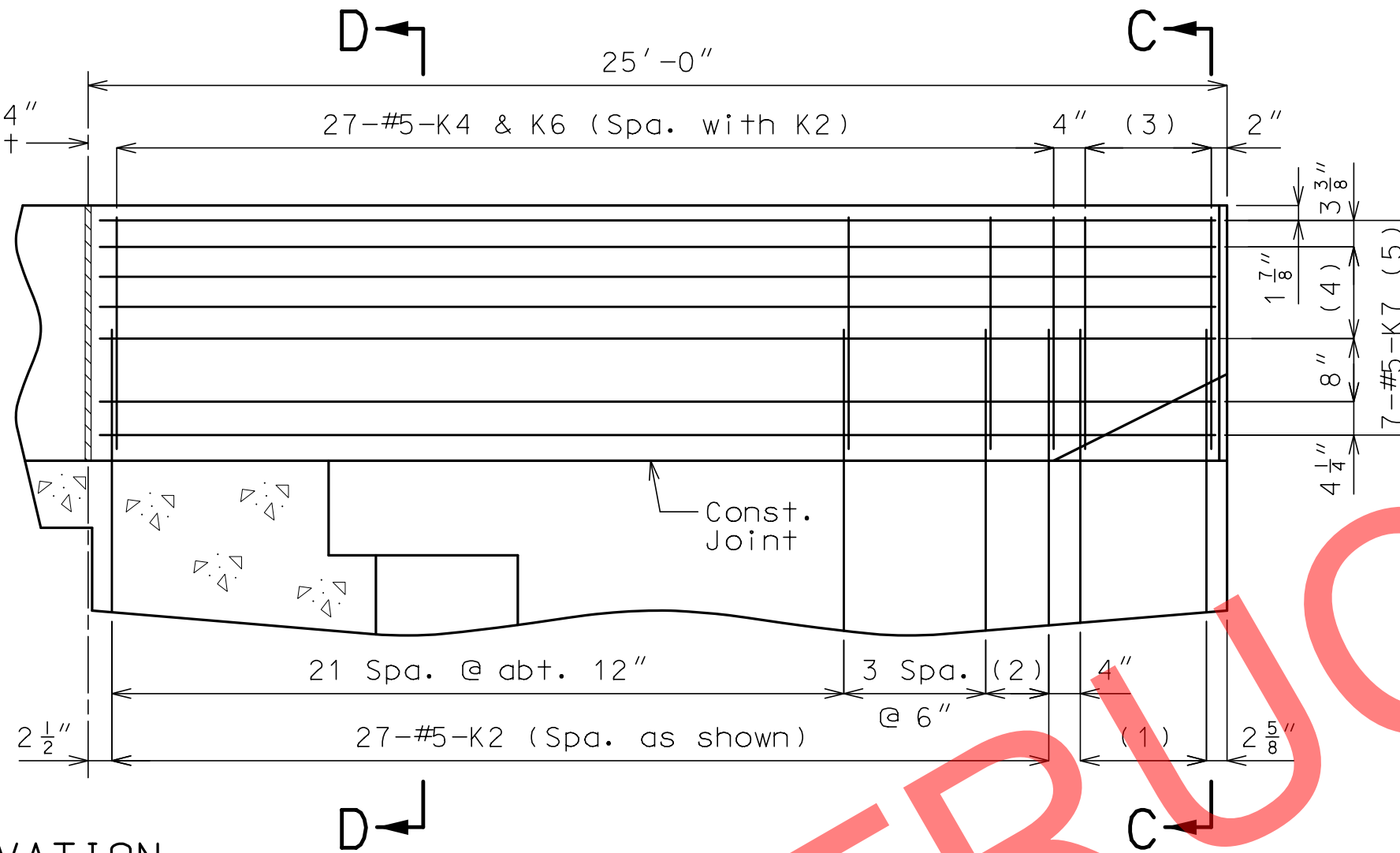
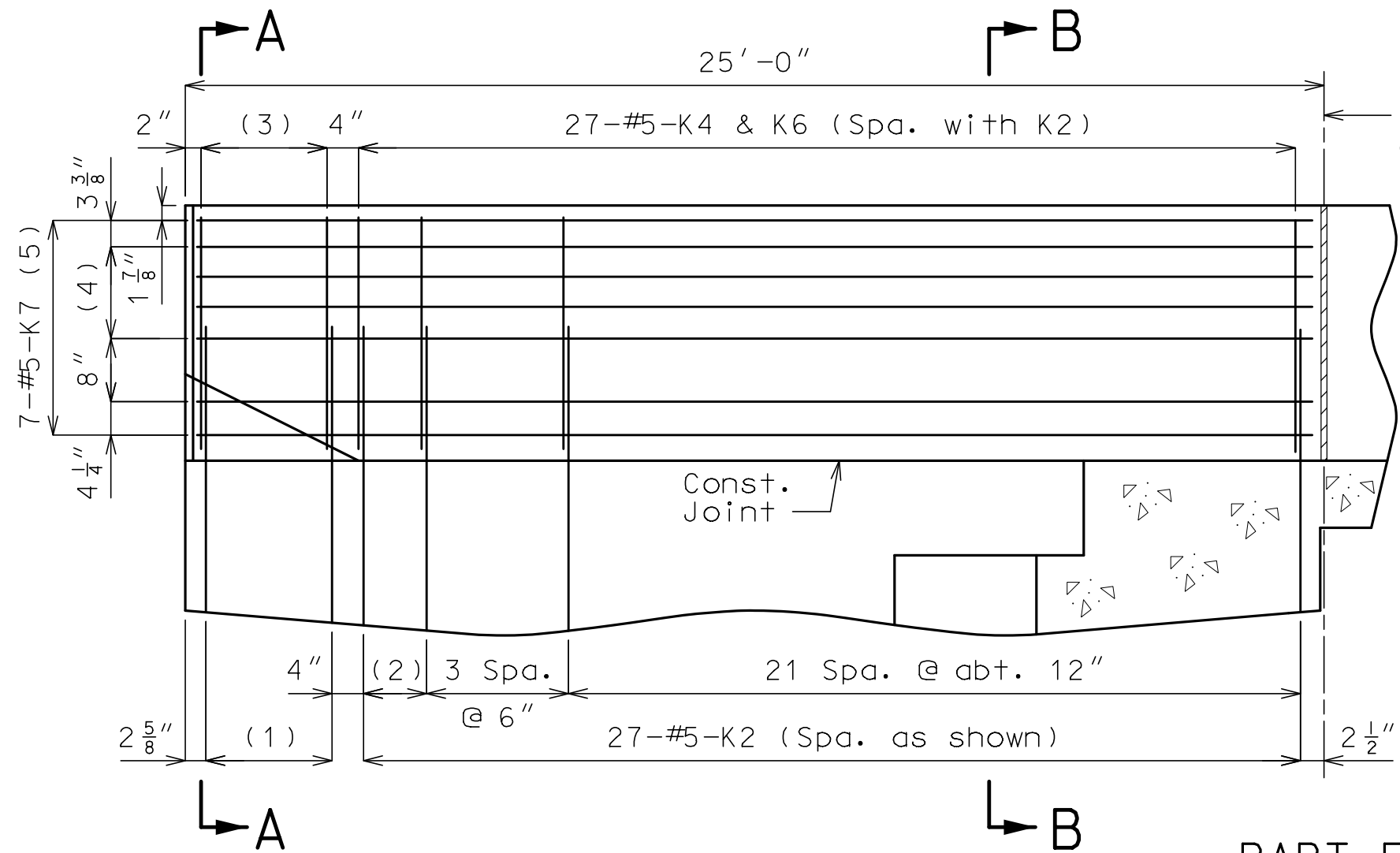
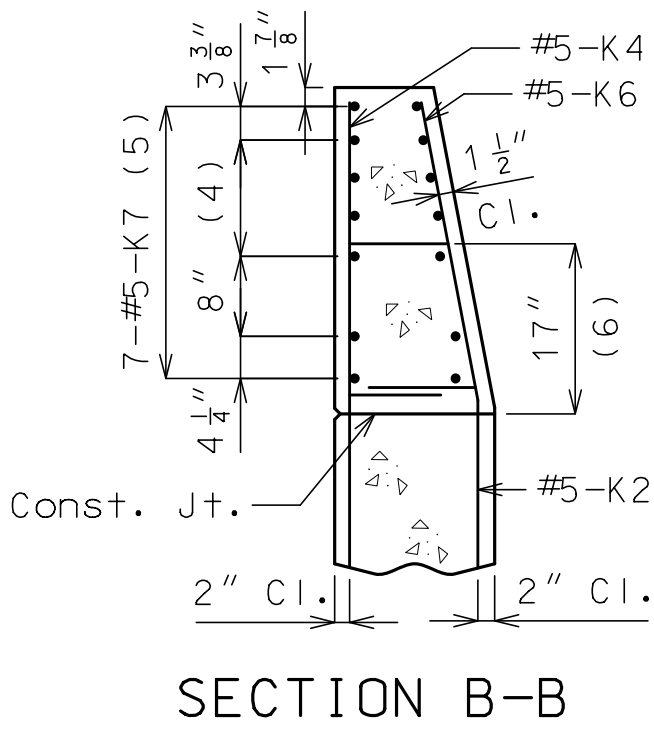
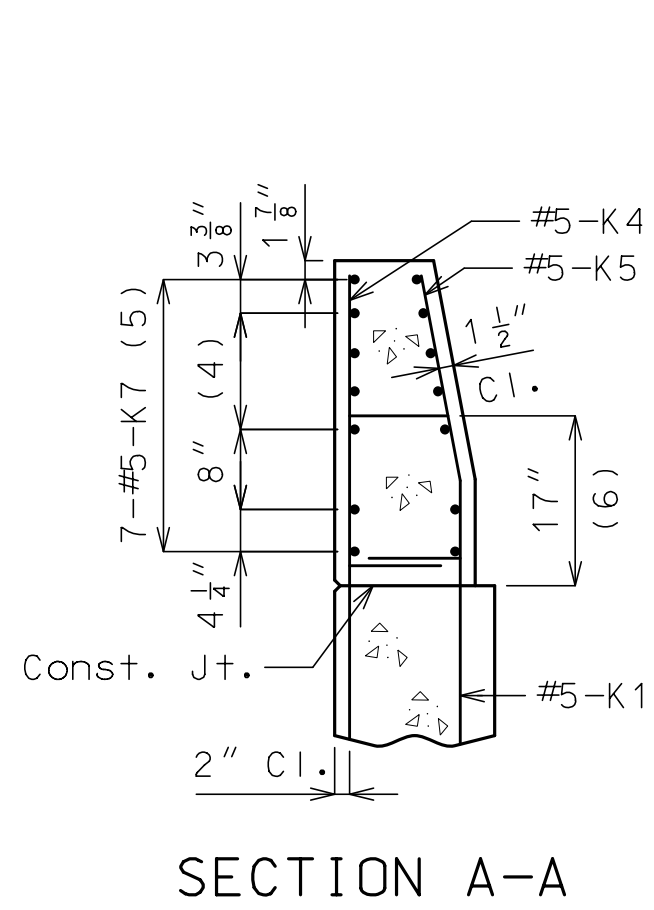
Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered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

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

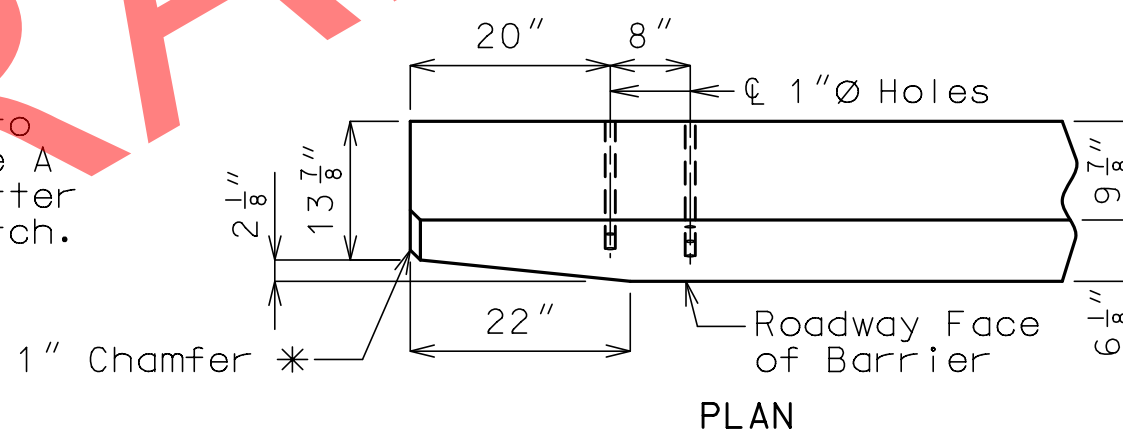
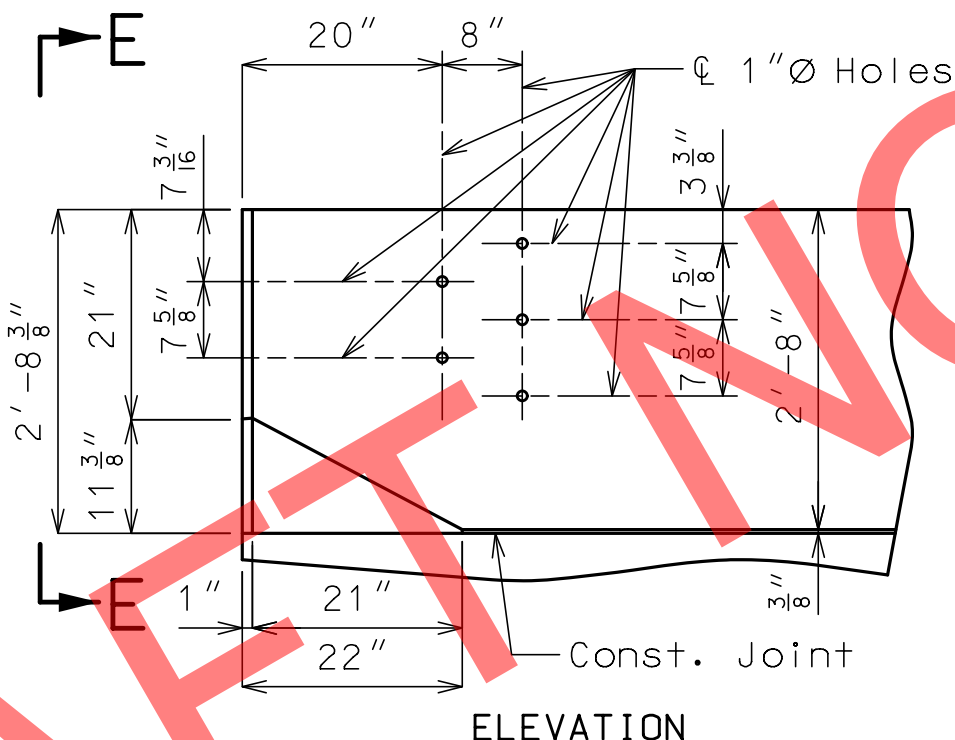
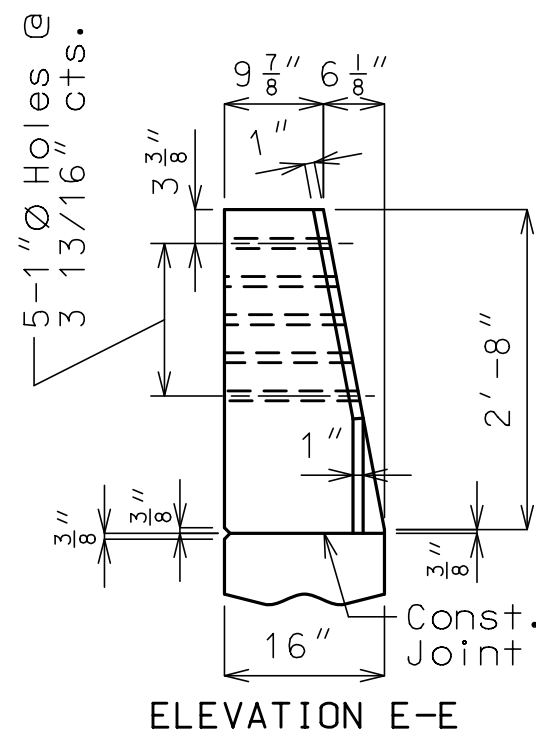
For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

For Conduit Details, see Sheet No. 27.

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 24
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9134	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	



- (1) 5-#5-K1 @ 4" c+s. (3) 5-#5-K4 and 5-#5-K5, spaced with K1 (5) Spaced as shown, each face
(2) 2 Spaces @ 4" (4) 3 Spaces @ 3 13/16" (6) To top of bar



DETAILS OF GUARD RAIL ATTACHMENT

General Notes:

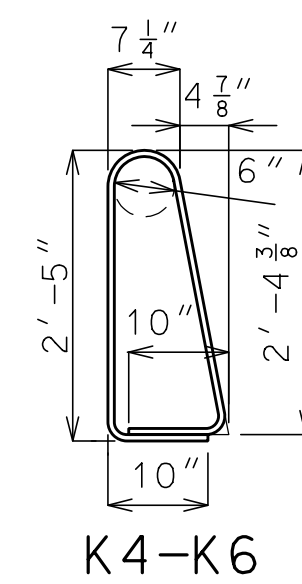
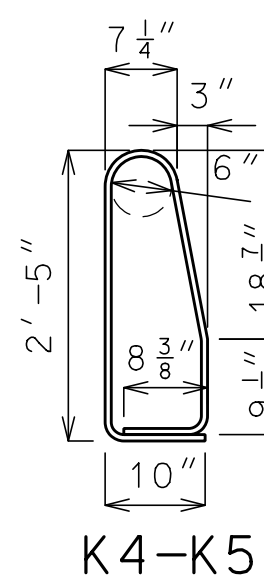
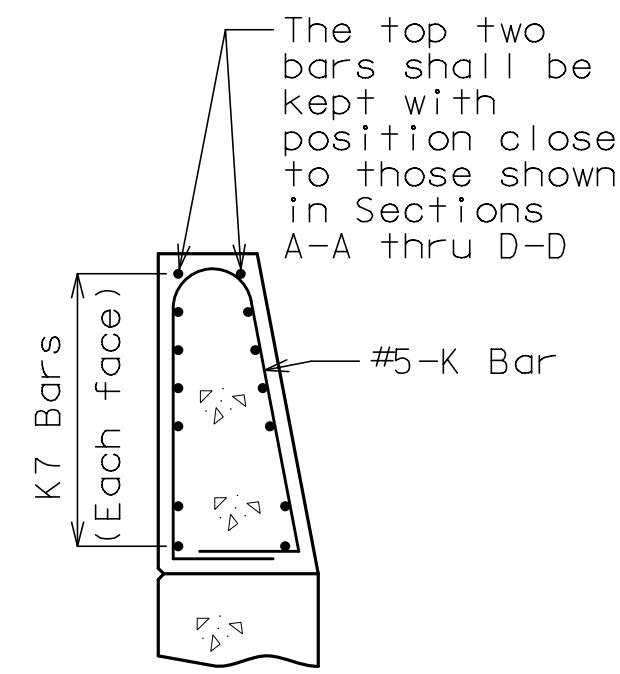
Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered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

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

TYPE H BARRIER AT END BENTS

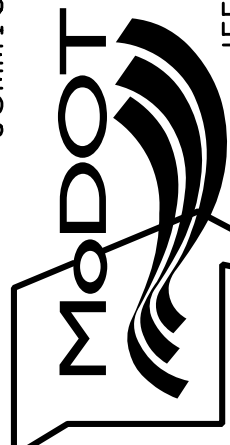

(Left barrier shown)
(3" Ø conduits not shown for clarity.)
(Pedestrian fence not shown for clarity.)

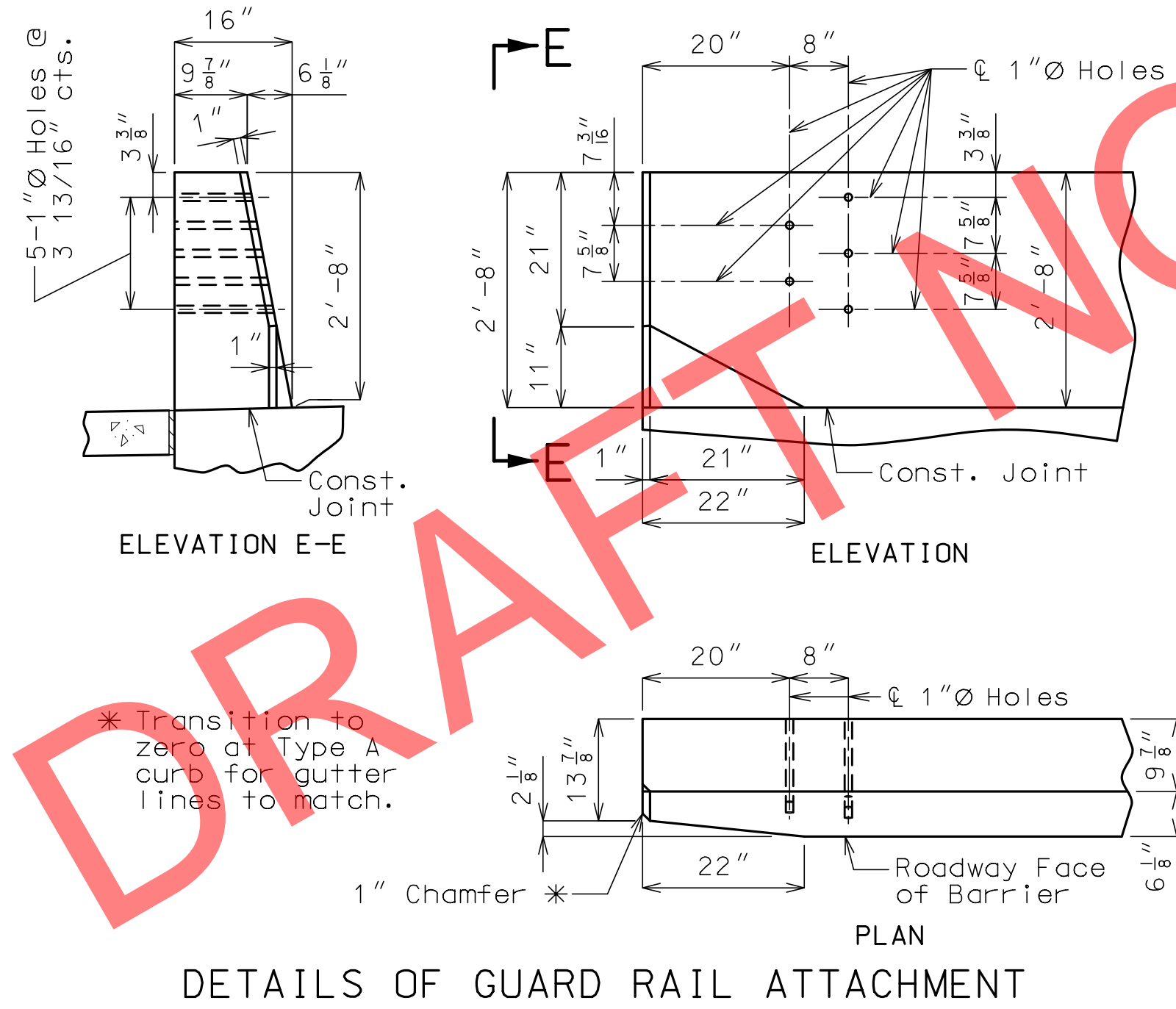
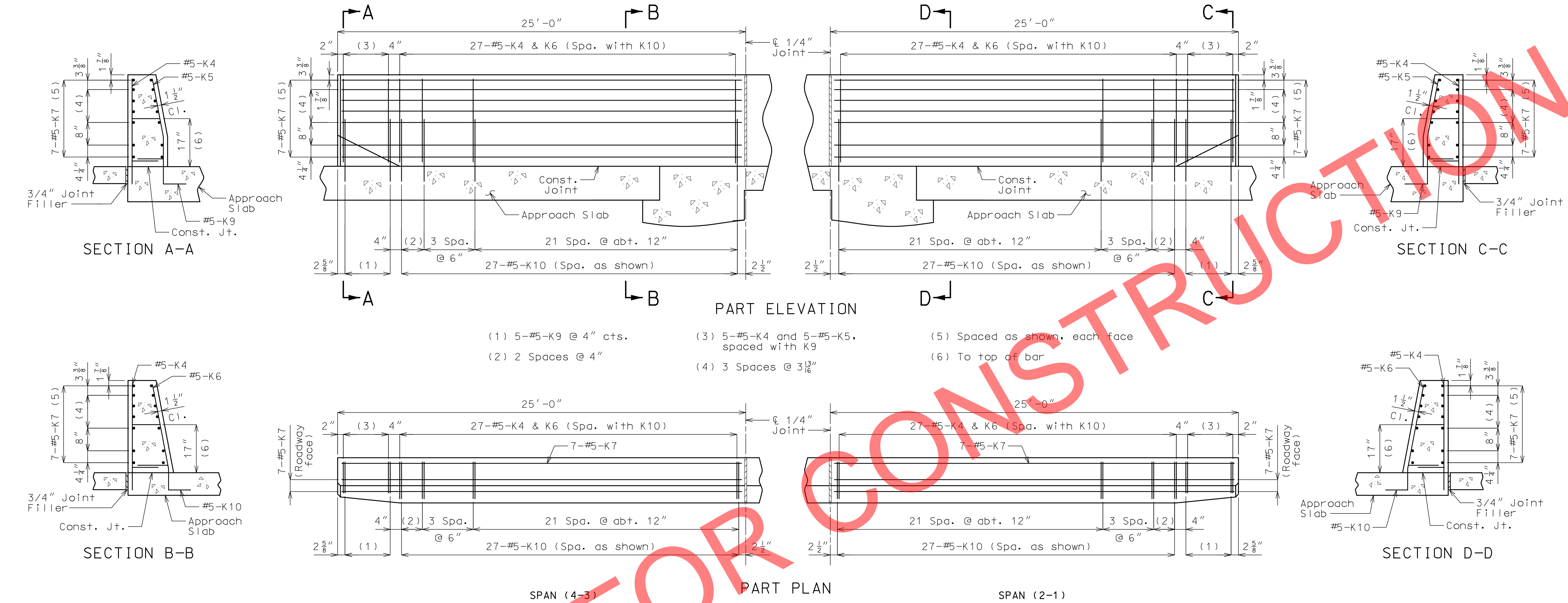


PERMISSIBLE ALTERNATE SHAPES

(Other K bars not shown for clarity)

The K4-K5 and K4-K6 bar combination may be furnished as one bar as shown, at the contractor's option.

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 25
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9134	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
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7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	



General Notes:

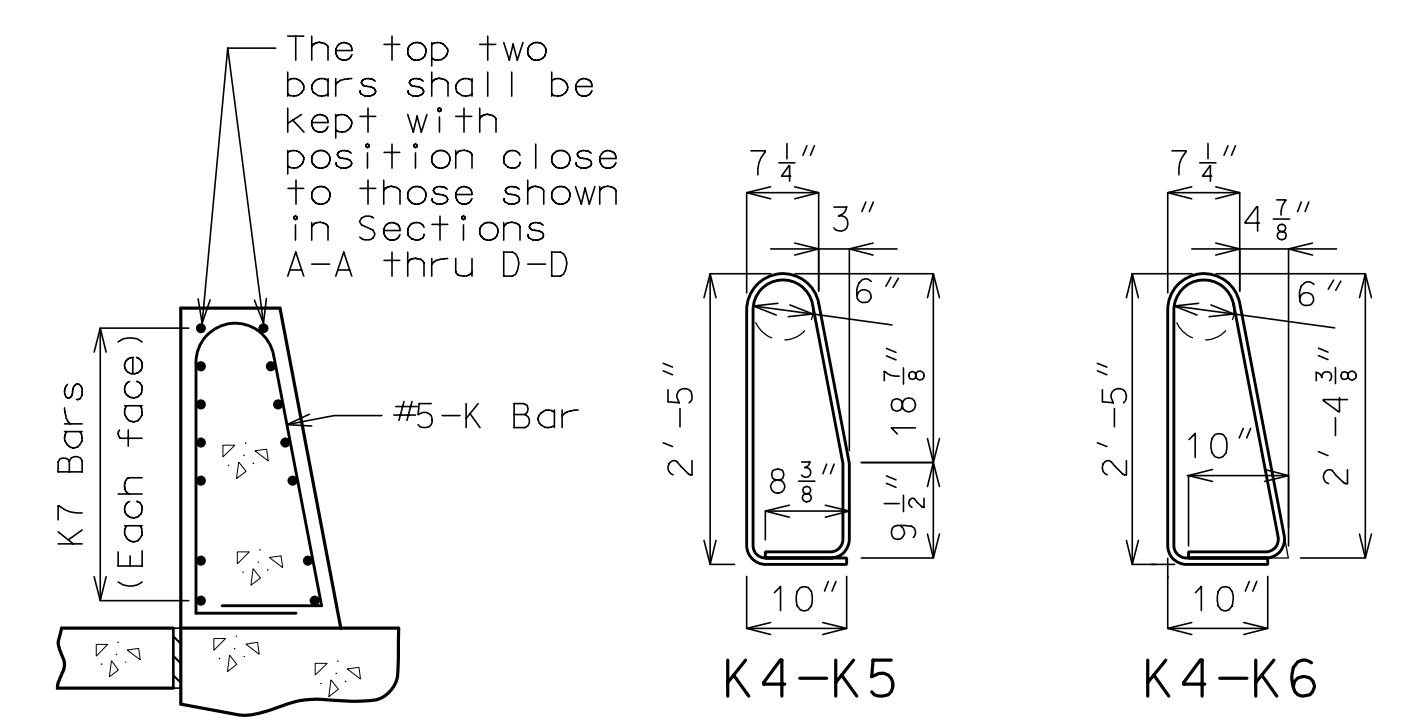
Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered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

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

TYPE H BARRIER AT END BENTS

(Right barrier shown)
(Pedestrian fence not shown for clarity.)



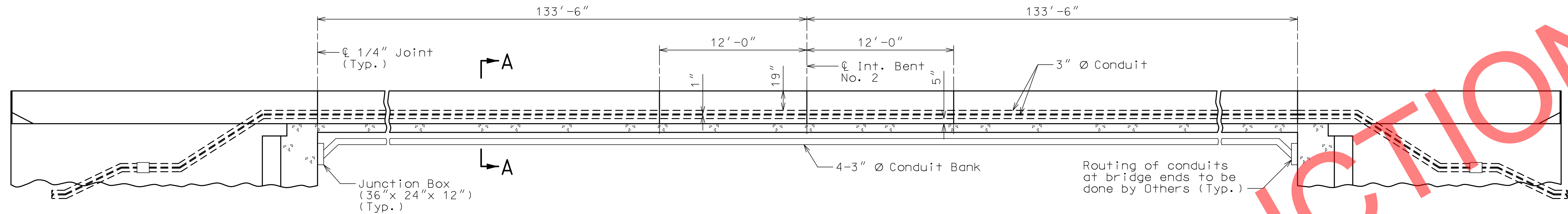
Detailed March 2021
Checked May 2021

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

Sheet No. 26 of 43

DATE PREPARED 2/1/2022		ROUTE MIDLAKE		STATE MO	
DISTRICT BR		SHEET NO. 26		COUNTY SULLIVAN	
JOB NO. J1S3392		CONTRACT ID.		PROJECT NO.	
BRIDGE NO. A9134		DESCRIPTION		DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION		105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)		olsson	
7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592		8:13:44 AM		2/1/2022	

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



ELEVATION OF LEFT BARRIER SHOWING CONDUIT SYSTEM ON BRIDGE

(Pedestrian fence not shown for clarity.)
Longitudinal dimensions are horizontal.

Notes:

All conduits shall be rigid nonmetallic schedule 40 heavy wall polyvinyl chloride (PVC) with 3 inch minimum cover in concrete. Each section of conduit shall bear the Underwriters Laboratory (UL) label.

Shift reinforcing steel in field where necessary to clear conduit and junction boxes.

Expansion fitting shall be placed as shown and set in accordance with the manufacturer's requirements and based on the air temperature at the time of setting given an estimated total expansion movement of 1 inch at filled joints using a maximum temperature range of 120° F and a maximum temperature of 110° F.

Drainage shall be provided at low joints or other critical locations of all conduits and all junction boxes in accordance with Sec. 707. All conduits shall be sloped to drain where possible.

Minimum clearance preferred between conduits placed in the Modified Barrier Curb shall be 1 inch.

All end bent junction boxes shall be PVC molded in accordance with Sec. 1062 and designed for surface mounting. The conduit terminations shall be permanent of separable. The terminations and covers shall be of watertight construction and shall meet requirements for NEMA 4 enclosure.

Junction box size shown on plan may require special order. No other size may be submitted.

Payment for furnishing and installing conduit system, complete in place, will be considered completely covered by the contract lump sum price for Conduit System on Structure.

For Barrier details, see Sheets No. 24 thru 26.

For Pedestrian Fence Details, see Sheet No. 30.

Additional expansion fittings beyond what is specified on the bridge plans shall be provided and placed in accordance with the conduit manufacturer's recommendations.

Weep holes shall be provided at low points or other critical locations to drain any moisture in the conduit system. Conduit shall be sloped to drain.

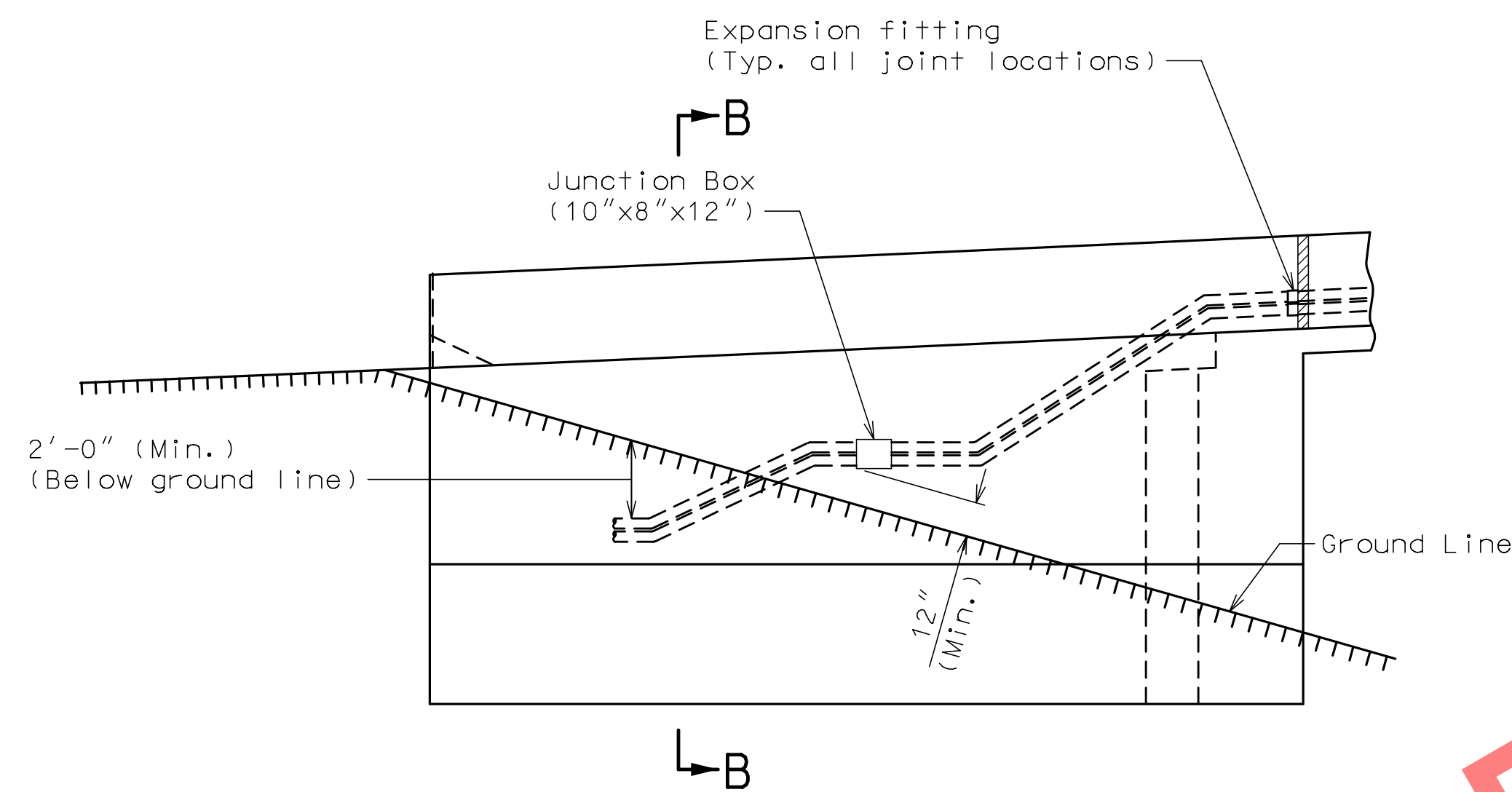
All nuts used with structural fasteners shall be ASTM A563, Grade C3 or DH3.

All washers used with structural fasteners shall be ASTM F436.

All threaded rods used with structural fasteners shall be ASTM F1554, Grade 55.

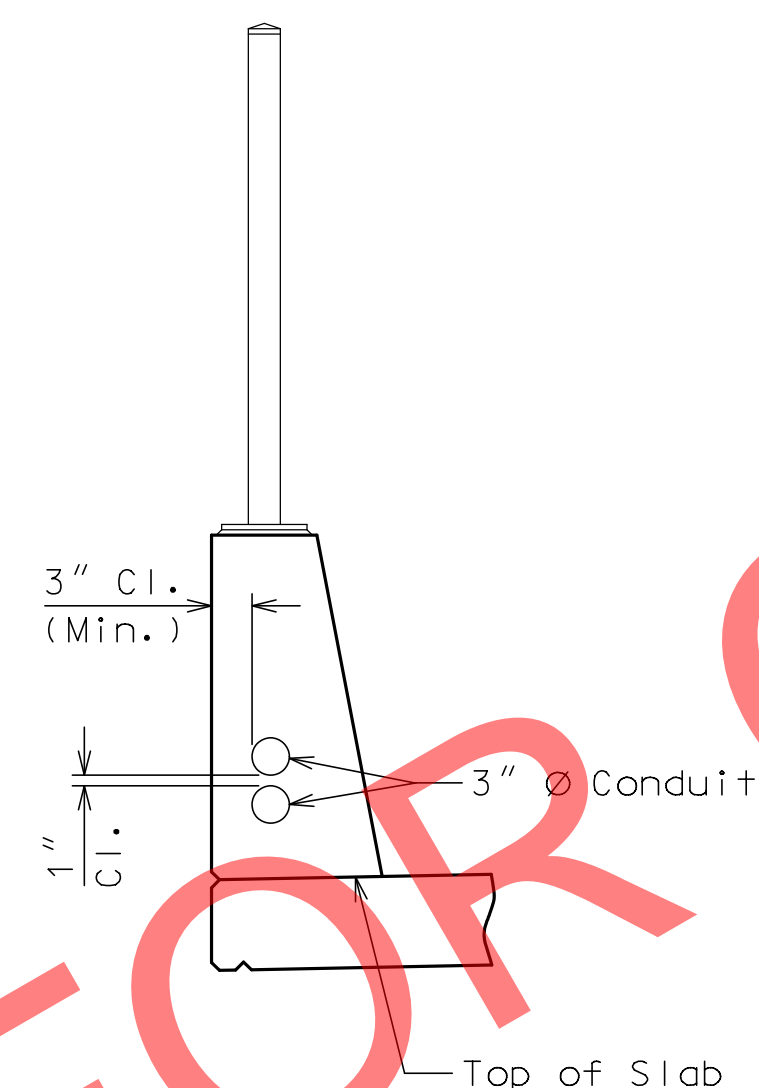
All labor and materials necessary to construct the conduit bank including, but not limited to, PVC pipe, anchor rods, plates, spacers, nuts, washers, junction boxes, and inserts shall be considered completely covered by Others.

Utility Contractor (Others) shall submit detailed shop drawings for conduit bank support hangers for review and approval by the Engineer a minimum of three (3) weeks prior to ordering materials. Contractor to coordinate and cooperate with third party utility contractor to ensure access is provided so that they can coordinate location of anchor rods in the deck and install the conduit bank on the bottom of the deck.

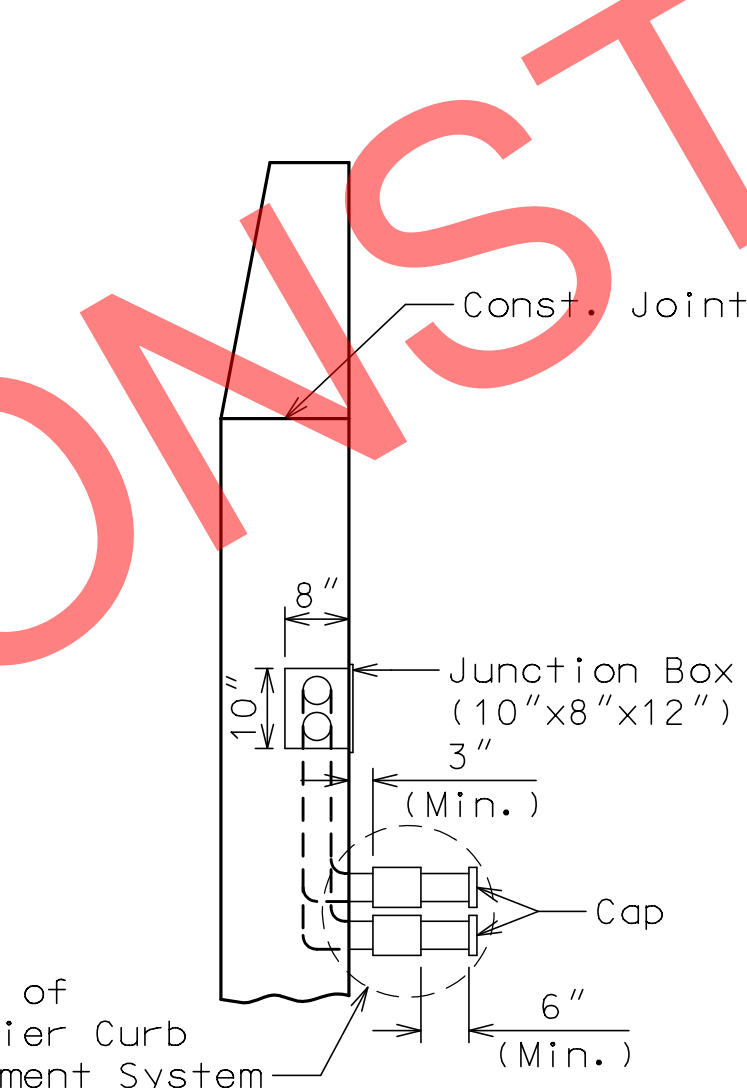


PART ELEVATION SHOWING JUNCTION BOX IN WING

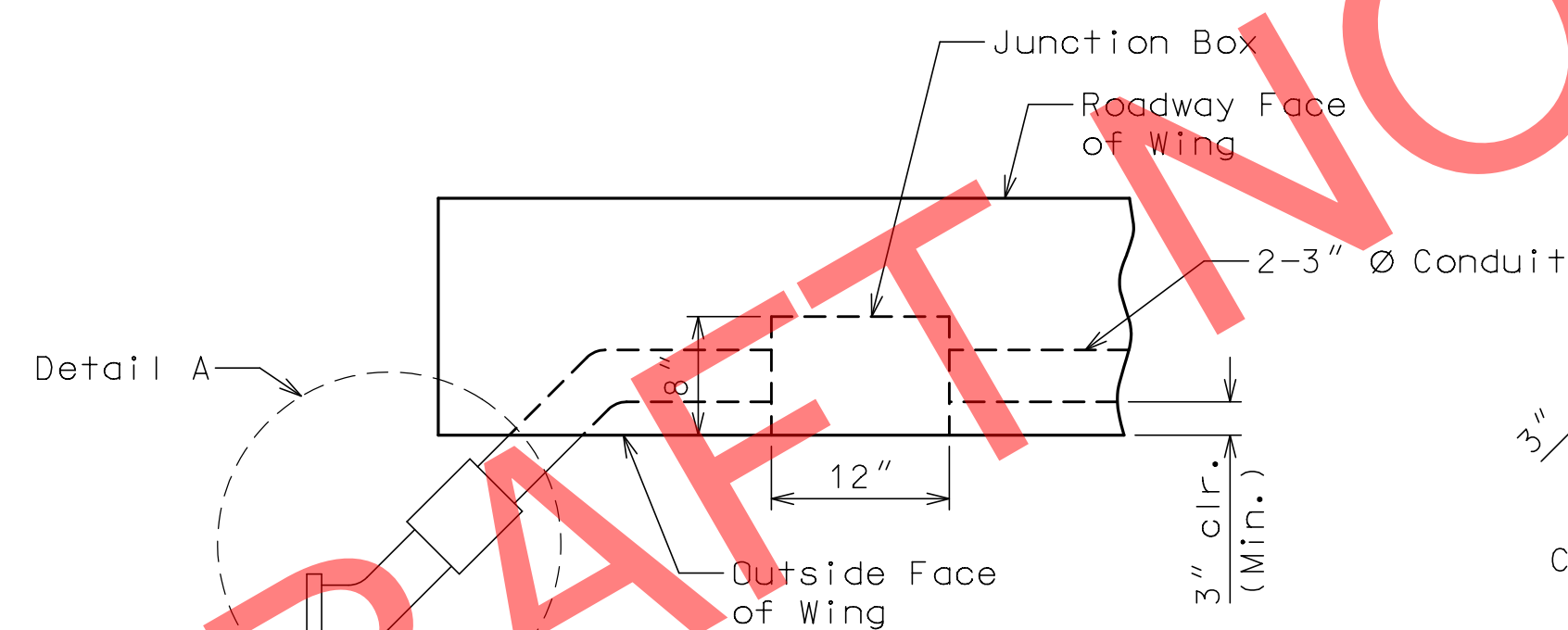
(Pedestrian fence not shown for clarity.)



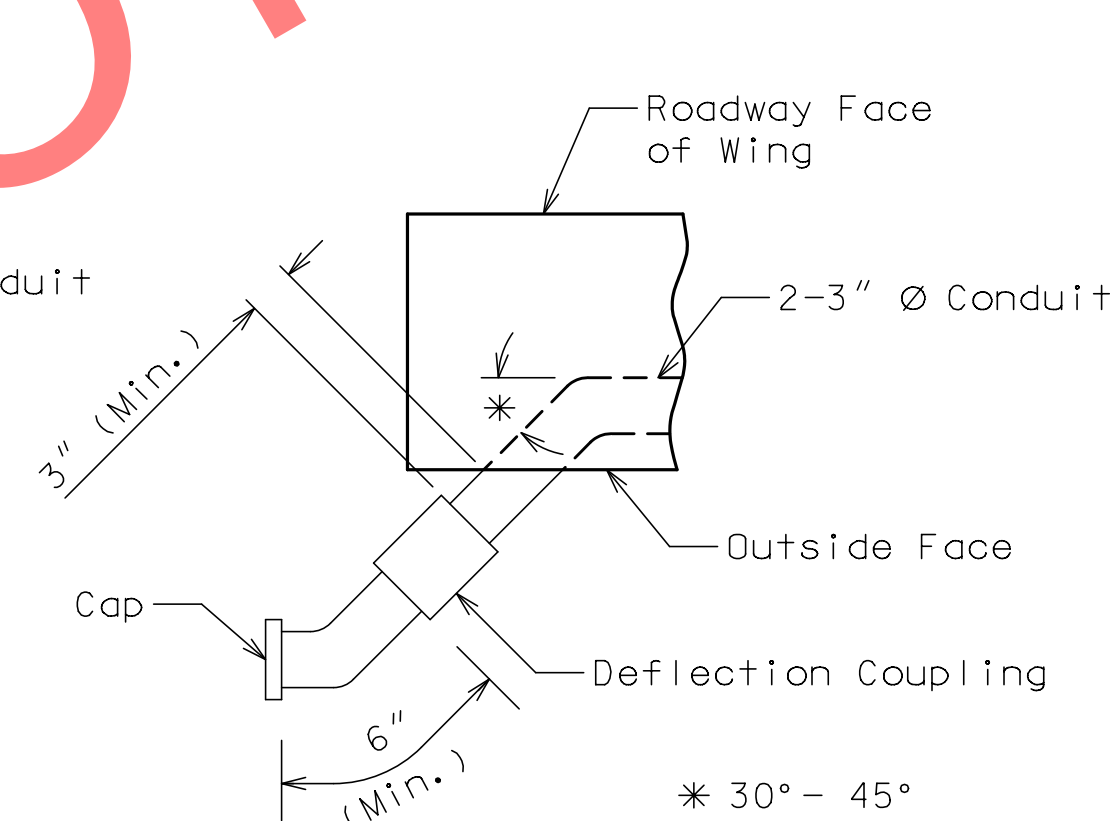
SECTION A-A



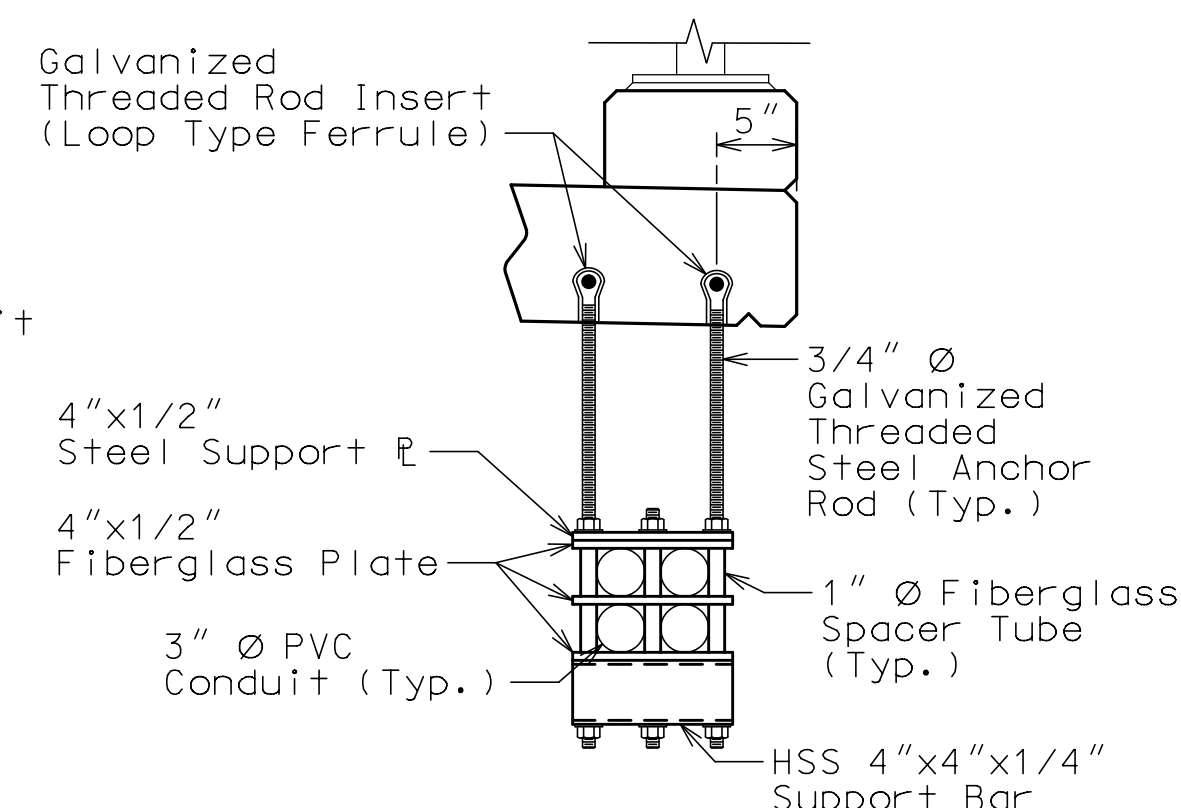
PART SECTION B-B



PART PLAN OF MODIFIED BARRIER CURB CONDUIT PLACEMENT SYSTEM



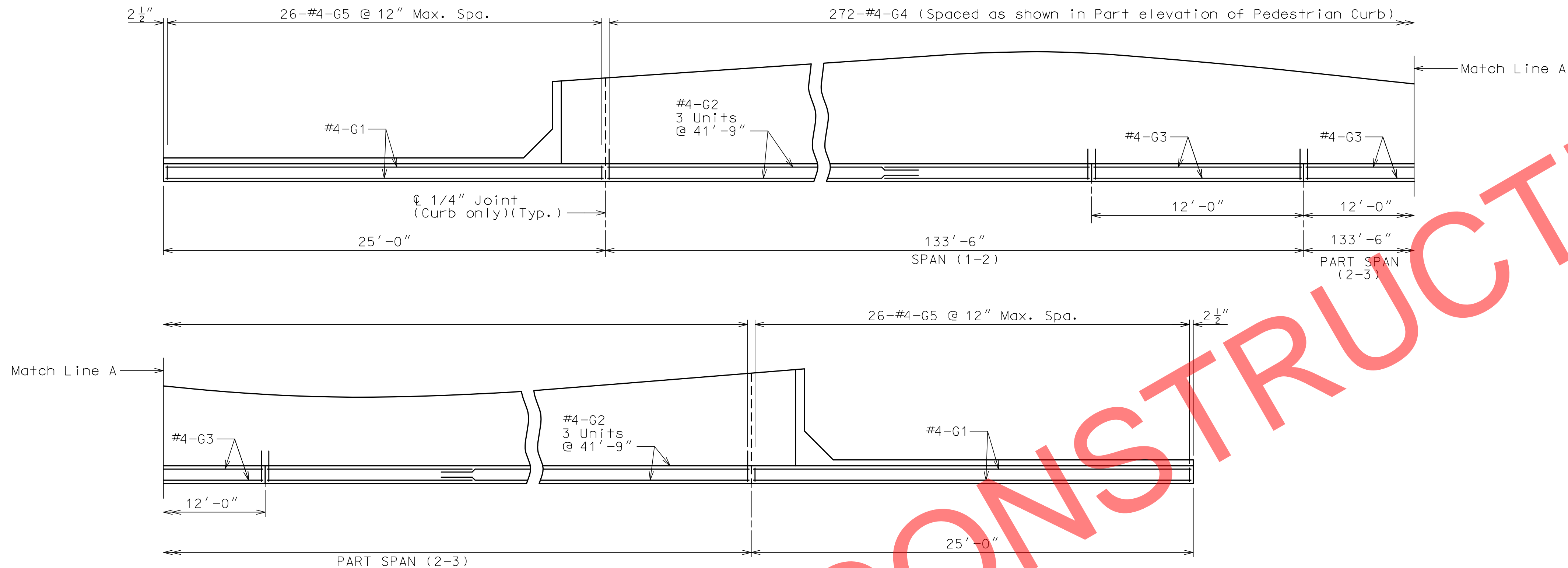
DETAIL A



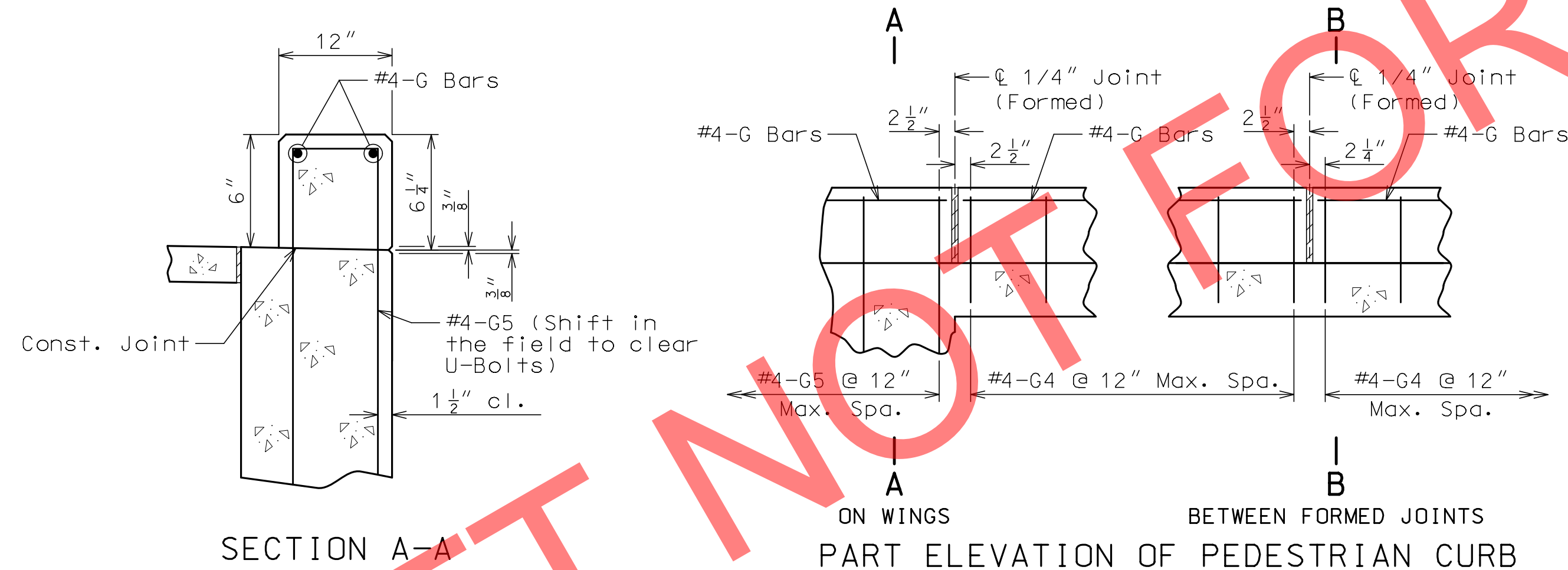
CONDUIT BANK HANGER SUPPORT DETAIL (BY OTHERS)

CONDUIT DETAILS

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 27
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9134	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
olsson 7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	



PLAN OF PEDESTRIAN CURB SHOWING REINFORCEMENT



SECTION A-A

SECTION B-B

PART ELEVATION OF PEDESTRIAN CURB

PART ELEVATION AT FORMED JOINT

DETAILS OF PEDESTRIAN CURB
(Pedestrian fence not shown for clarity)

General Notes:

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

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

Payment for all concrete and reinforcement complete-in-place, will be considered completely covered by the contract unit price for Concrete Curb (Bridge Rail) per linear foot.

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

Measurement of the concrete curb is to the nearest linear foot for each structure, measured along the outside top of slab.

Use a minimum lap of 1'-11" for #4 horizontal concrete curb bars.

The cross-sectional area of the curb above the slab = 0.50 sq. ft.

Detailed March 2021
Checked May 2021

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

Sheet No.28 of 43

DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 28
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9134	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MODOT	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson	
7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592	

8:13:46 AM 2/1/2022





VIEW B-B

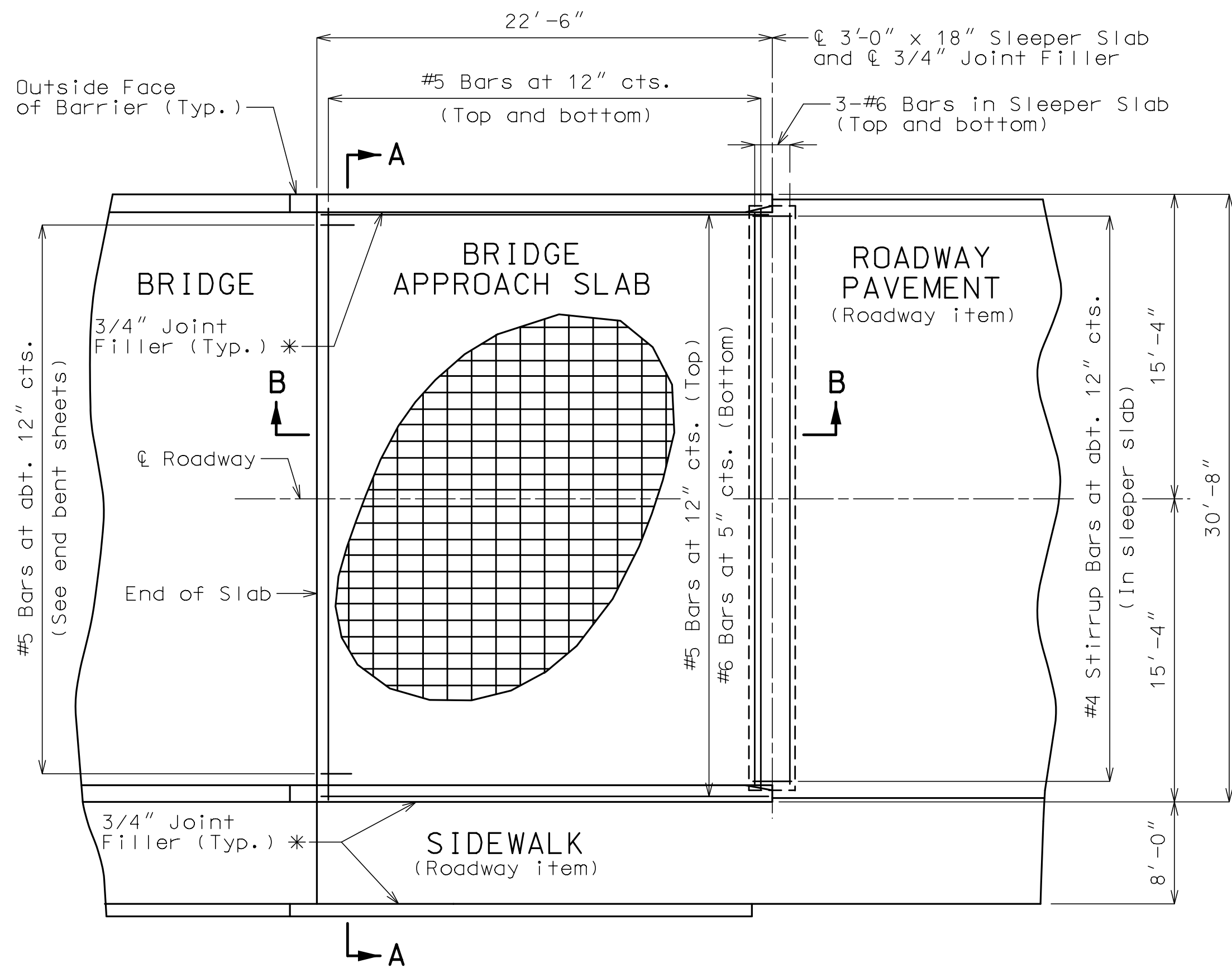


VIEW B-B

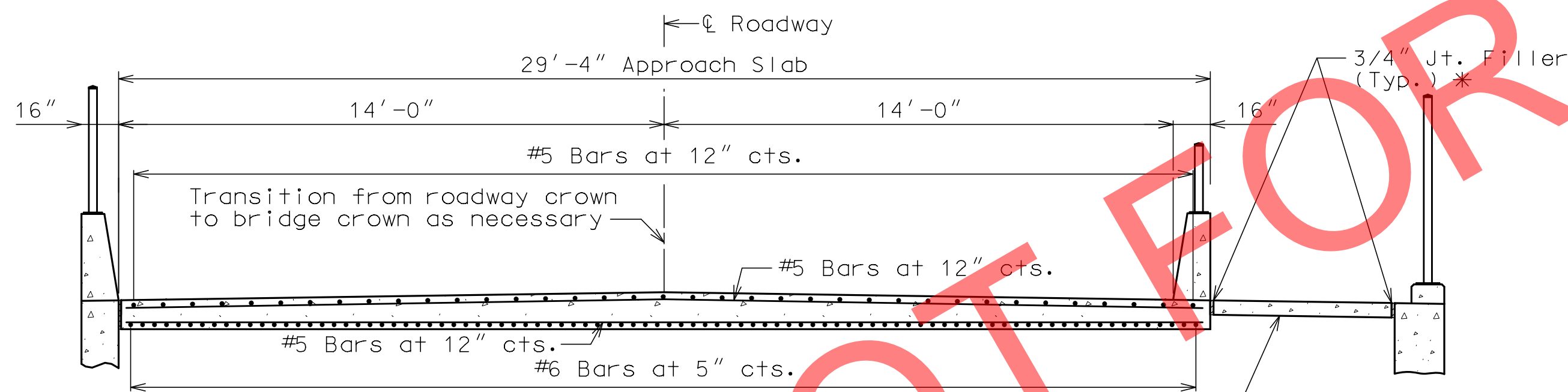
Technical drawing showing a cross-section of a Type H barrier. The drawing illustrates the assembly of the barrier, including the fence rail, pickets, and reinforcement details. Key components and dimensions are labeled:

- 3" Square Min. Fence Post**: The vertical post supporting the fence rail.
- 1" Square Fence Picket (Typ.)**: The vertical pickets attached to the fence rail.
- Fence Rail**: The horizontal rail of the barrier.
- 2" (Typ.)**: The height of the fence rail above the top of the barrier.
- 6" Embed.**: The embedment depth of the reinforcement bars into the concrete.
- Top of Type H Barrier**: The top surface of the barrier.
- 2-#4 Bars (18" long)**: The reinforcement bars embedded in the concrete.
- 1/2" Ø U-Bolt (Typ.)**: The U-bolts used to secure the fence rail to the reinforcement bars.

Olsson
7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

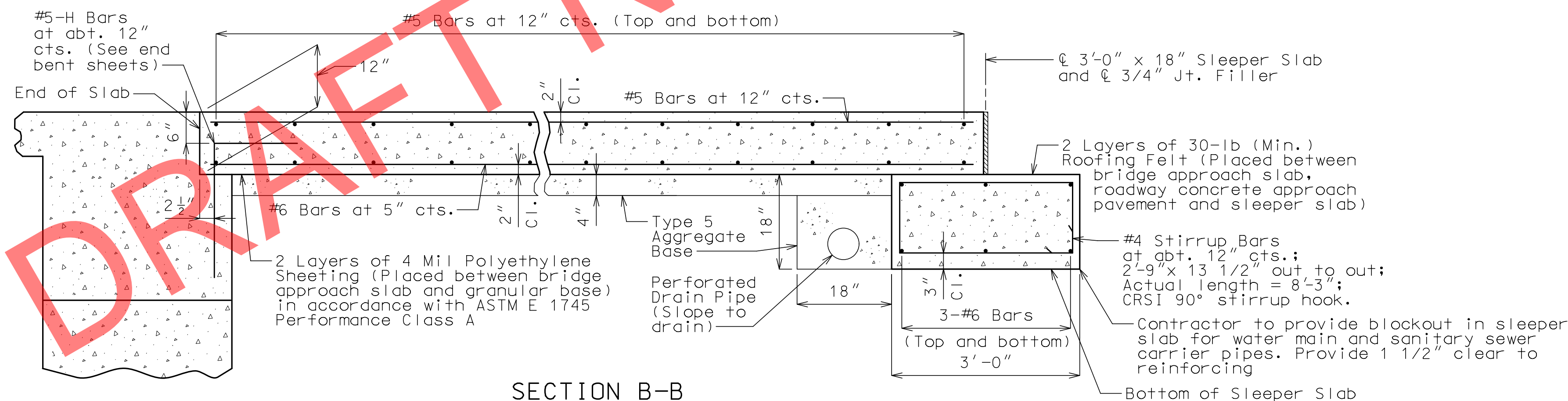


PART PLAN SHOWING REINFORCEMENT



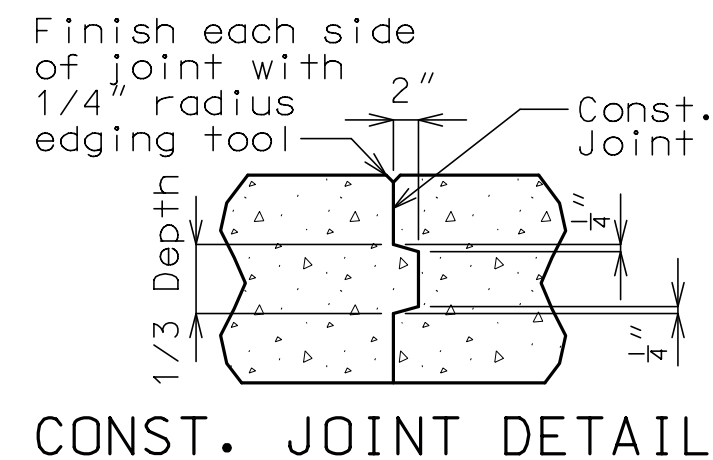
SECTION A-A

Bottom of the approach slab shall be crowned to match the crown of the roadway surface.



SECTION B-B

DETAILS OF BRIDGE APPROACH SLAB (MAJOR)



General Notes:

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

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

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

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

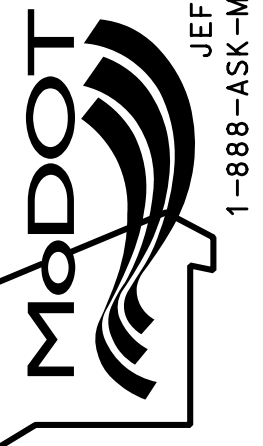

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #5 bars 29" or by mechanical bar splice.

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

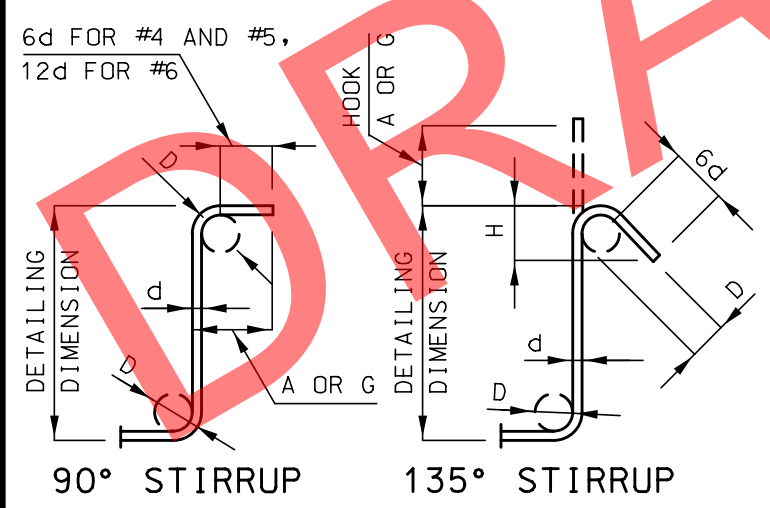
For Concrete Approach Pavement details, see roadway plans.

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

* Seal joint between vertical face of sidewalk and wing, and vertical face of approach slab and sidewalk with "Silicone Joint Sealant for Saw Cut and Formed Joints" in accordance with Sec 717.

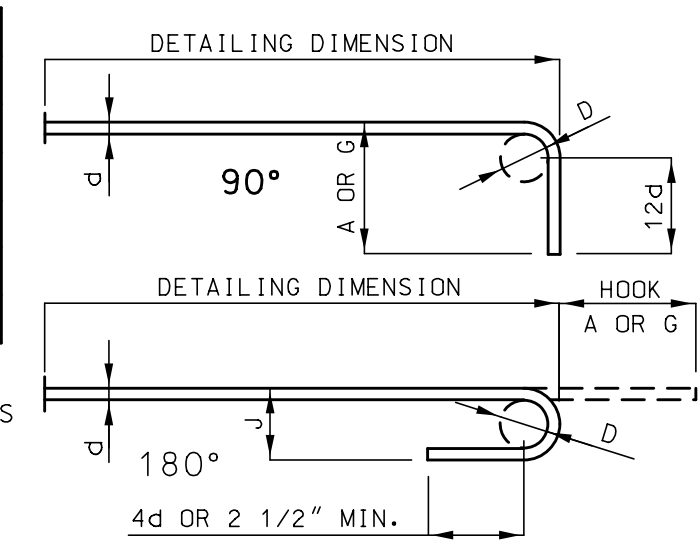
DATE PREPARED 2/1/2022	
ROUTE MIDLAKE	STATE MO
DISTRICT BR	SHEET NO. 32
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9134	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
	7301 WEST 133RD STREET OVERLAND PARK, KS 66213 CERTIFICATE OF AUTHORITY NO. 001592

BILL OF REINFORCING STEEL																													
NO.	REQ'D.	MARK NO.	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (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.
				SUBSTRUCTURE																									
				INT. BENT 2																									
36	6	D200		BEAM		20	X				2	6.000										2	62	6	135				
12	10	H200		BEAM		18	X				35	9.000										38	7	38	7	1992			
12	10	H201		BEAM		20	X				35	9.000										35	9	35	9	1846			
8	6	H202		BEAM		20	X				35	9.000										35	9	35	9	430			
4	6	H203		BEAM		20	X				4	5.000										4	5	4	5	27			
12	6	H204		BEAM		10	S	X					22.000	4	1.500							7	10	7	6	135			
8	9	H205		TIE BEAM		18	X				22	2.000										24	8	24	8	671			
6	4	H206		TIE BEAM		20	X				21	8.000										21	8	21	8	87			
58	4	P200		COLUMN		16	X				3	9.000		22.000								13	8	13	7	526			
162	4	P201		SHAFT		16	X				5	0.000	2	1.000								17	10	17	9	1921			
76	6	U200		BEAM		13	S	X			2	10.000	4	9.000	2	10.000	4	9.000				16	6	16	0	1826			
20	6	U201		BEAM		10	S	X					4	9.000	2	10.000						12	4	12	0	360			
16	6	U202		BEAM		13	S	X			2	10.000	5	1.625	2	10.000	5	1.625				17	3	16	9	403			
4	4	U203		BEAM		10	S	X					6.000	4	3.000							5	3	5	1	14			
36	4	U204		TIE BEAM		10	S	X					2	11.000	1	9.000						7	7	7	5	178			
48	9	V200		COLUMN		20	X				15	6.000										15	6	15	6	2530			
48	9	V201		COLUMN		20	X				19	6.000										19	6	19	6	3182			
48	9	V202		COLUMN		20	X				8	3.000										8	3	8	3	1346			
116	10	V203		SHAFT		20	X				42	2.000										42	2	42	2	21047			
				SUPER-STRUCTURE																									
				END BENT 1																									
28	6	F100		WING BRACE	E	23	S					14.000	5	1.000	2	3.000		19.125		19.125		9.875		9.875	8	6	8	5	354
12	6	F101		DIAPHRAGM	E	19	S				2	8.000	6	0.000								8	8	8	6	153			
8	8	H100		BEAM	E	20					39	5.000										39	5	39	5	842			
6	6	H101		BEAM	E	20					39	5.000										39	5	39	5	355			
4	6	H102		BEAM	E	20					4	7.000										4	7	4	7	28			
2	6	H103		BEAM	E	20					2	5.000										2	5	2	5	7			
10	6	H104		DIAPHRAGM	E	20					3	9.000										3	9	3	9	56			
3	6	H105		DIAPHRAGM	E	20					6	10.000										6	10	6	10	31			
15	6	H106		DIAPHRAGM	E	20					9	5.000										9	5	9	5	212			
6	6	H107		DIAPHRAGM	E	20					39	5.000										39	5	39	5	355			
4	5	H108		STRAND TIE	E	20					5	9.000										5	9	5	9	24			
4	6	H109		DIAPHRAGM	E	20					39	5.000										39	5	39	5	237			
29	5	H110		DIAPHRAGM	E	19	S				2	0.000		15.000								3	3	2	96				
8	5	H111		DIAPHRAGM	E	19	S				2	3.000		15.000								3	6	3	5	29			
4	6	H112		DIAPHRAGM	E	20					5	6.000										5	6	5	6	33			
56	6	H113		WING	E	20					23	8.000										23	8	23	8	1991			
16	8	H114		WING	E	20					24	6.000										24	6	24	6	1047			
4	8	H115		WING	E	20					18	2.000										18	2	18	2	194			
6	6	H116		BEAM	E	18					4	7.000										5	11	5	11	53			
16	5	U100		BEAM	E	10	S					7	7.000	2	9.000							17	11	17	9	296			
18	4	U101		BEAM	E	13	S				2	9.000	3	8.000	2	9.000	3	8.000				13	7	13	4	160			
3	4	U102		BEAM	E	10	S					3	8.000	2	9.000							10	19	11	20				
4	4	U103		BEAM	E	13	S				2	9.000	4	0.625	2	9.000	4	0.625				14	4	14	1	38			
3	4	U104		BEAM	E	10	S					4	0.625	2	9.000							10	10	10	8	21			
26	5	U105		DIAPHRAGM	E	10	S					6	3.750	2	3.000							14	10	14	8	398			



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

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



END HOOK DIMENSIONS				
ALL GRADES				
BAR SIZE	D (IN.)	180° HOOKS A OR G	90° HOOKS 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"

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. E.A. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) F_y = 60,000 PSI.

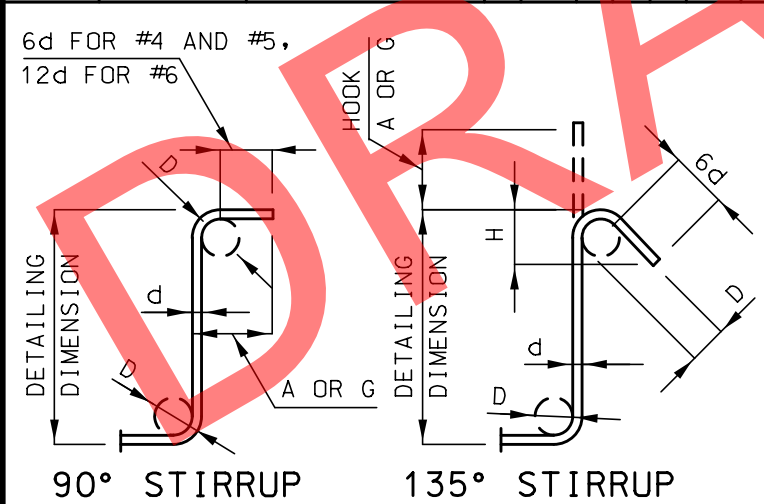
Detailed March 2021
Checked May 2021

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

Sheet No.33 of 43

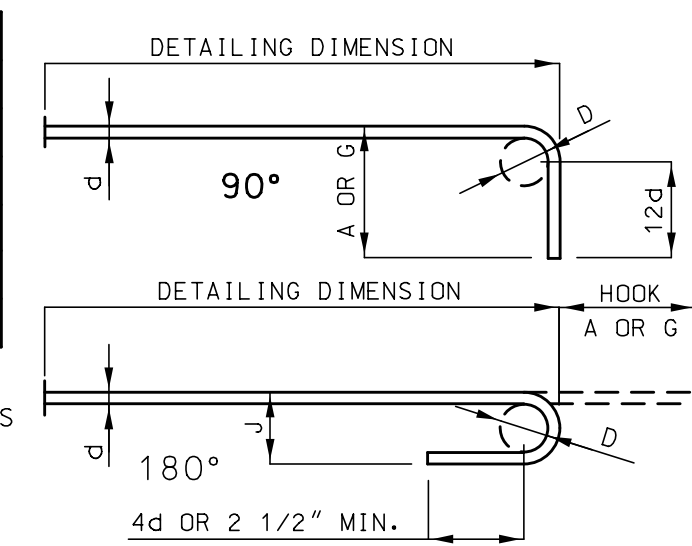
BILL OF REINFORCING STEEL																												
NO.	REQ'D.	MARK NO.	SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS										NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT				
												B		C		D		E		F					H		K	
												FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.	FT.	IN.
26	6	U106			DIAPHRAGM	E	19	S				5	0.750	2	9.000									7	10	7	7	296
50	6	U107			DIAPHRAGM	E	19	S				3	5.000	4	7.000									8	0	7	10	588
20	5	V100			BEAM	E	20					7	7.000											7	7	7	7	158
44	6	V101			WING	E	20				V	4	9	4.000										9	4	9	4	
					INCREMENT =							10	3.000											10	3	10	3	647
					1.100 INCH																							
2	6	V102			WING	E	20					9	4.000											9	4	9	4	28
44	6	V103			WING	E	20				V	4	9	7.000										9	7	9	7	
					INCREMENT =							10	5.000											10	5	10	5	661
					1.000 INCH																							
2	6	V104			WING	E	20					9	6.000											9	6	9	6	29
20	6	V105			DIAPHRAGM	E	20					5	0.000											5	0	5	0	150
2	5	P100			DIAPHRAGM	E	16					20.000	2	5.000										7	9	7	7	16
2	5	P101			DIAPHRAGM	E	16					14.000	2	5.000										6	2	6	0	13
					END BENT 3																							
25	6	F300			WING BRACE	E	23	S				14.000	5	1.000	2	3.000	19.125	19.125	9.875	9.875				8	6	8	5	316
12	6	F301			DIAPHRAGM	E	19	S				2	8.000	6	0.000									8	8	8	6	153
8	8	H300			BEAM	E	20					39	5.000											39	5	39	5	842
4	6	H301			BEAM	E	20					39	5.000											39	5	39	5	237
4	6	H302			BEAM	E	20					4	7.000											4	7	4	7	28
2	6	H303			BEAM	E	20					2	5.000											2	5	2	5	7
10	6	H304			DIAPHRAGM	E	20					3	9.000											3	9	3	9	56
3	6	H305			DIAPHRAGM	E	20					6	10.000											6	10	6	10	31
15	6	H306			DIAPHRAGM	E	20					9	5.000											9	5	9	5	212
6	6	H307			DIAPHRAGM	E	20					39	5.000											39	5	39	5	355
4	5	H308			STRAND TIE	E	20					5	9.000											5	9	5	9	24
4	6	H309			DIAPHRAGM	E	20					39	5.000											39	5	39	5	237
29	5	H310			DIAPHRAGM	E	19	S				2	0.000		15.000									3	3	3	2	96
8	5	H311			DIAPHRAGM	E	19	S				2	3.000		15.000									3	6	3	5	29
4	6	H312			DIAPHRAGM	E	20					5	6.000											5	6	5	6	33
54	6	H313			WING	E	20					23	8.000											23	8	23	8	1920
16	8	H314			WING	E	20					24	6.000											24	6	24	6	1047
4	8	H315			WING	E	20					10	5.000											10	5	10	5	111
6	6	H316			BEAM	E	18					4	7.000											5	11	5	11	53
4	8	H317			WING	E	20					19	4.000											19	4	19	4	206
16	5	U300			BEAM	E	10	S					6	7.000	2	9.000								15	11	15	9	263
18	4	U301			BEAM	E	13	S				2	9.000		2	9.000	2	8.000						11	7	11	4	136
3	4	U302			BEAM	E	10	S					2	8.000	2	9.000								8	1	7	11	16
4	4	U303			BEAM	E	13	S				2	9.000	3	0.625	2	9.000	3	0.625					12	4	12	1	32
3	4	U304			BEAM	E	10	S						3	0.625	2	9.000							8	10	8	8	17
26	5	U305			DIAPHRAGM	E	10	S					5	11.375	2	3.000								14	1	13	11	377
26	6	U306			DIAPHRAGM	E	19	S				4	8.375	2	9.000									7	5	7	3	283
50	6	U307			DIAPHRAGM	E	19	S				3	5.000	4	7.000									8	0	7	10	588
20	5	V300			BEAM	E	20					6	7.000											6	7	6	7	137
44	6	V301			WING	E	20				V	4	9	4.000										9	4	9	4	
					INCREMENT =							10	6.000											10	6	10	6	655
					1.400 INCH																							
2	6	V302			WING	E	20					10	7.000											10	7	10	7	32
44	6	V303			WING	E	20				V	4	9	2.000										9	2	9	2	
					INCREMENT =							10	4.000											10	4	10	4	644
					1.400 INCH																							
2	6	V304			WING	E	20					10	5.000											10	5	10	5	31
20	6	V305			DIAPHRAGM	E	20					4	8.000											4	8	4	8	140

BILL OF REINFORCING STEEL																															
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (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.	FT.	IN.	FT.	IN.	LBS.	
2	5	P300	DIAPHRAGM	E	16						20.000	2	5.000											7	9	7	7	16			
2	5	P301	DIAPHRAGM	E	16						14.000	2	5.000											6	2	6	0	13			
			INT. BENT																												
			DIAPHRAGMS																												
6	6	H50	DIAPHRAGM	E	20						9	7.000												9	7	9	7	86			
24	4	H51	DIAPHRAGM	E	20						9	3.000												9	3	9	3	148			
6	6	H52	DIAPHRAGM	E	20						6	10.000												6	10	6	10	62			
4	6	H53	DIAPHRAGM	E	20						5	6.000												5	6	5	6	33			
4	5	H54	STRAND TIE	E	20						4	7.000												4	7	4	7	19			
4	5	H55	STRAND TIE	E	20						5	9.000												5	9	5	9	24			
12	6	U50	DIAPHRAGM	E	28	S						2	3.000	6	4.875	2	2.000							10	10	10	6	189			
12	6	U51	DIAPHRAGM	E	28	S						2	3.000	5	8.125	2	2.000							10	1	9	9	176			
36	4	U52	DIAPHRAGM	E	28	S						2	1.000	6	1.875		18.000							9	9	9	7	230			
4	6	U53	DIAPHRAGM	E	28	S						1	10.000	5	6.375	2	2.000							9	6	9	2	55			
4	6	U54	DIAPHRAGM	E	28	S						1	10.000	5	9.375	2	2.000							9	9	9	5	57			
20	5	U55	DIAPHRAGM	E	28	S	V	4			16.000		11.625	4	9.875									7	2	7	0				
			INCREMENT = 1.250 INCH								21.000		11.625	4	9.875									7	7	7	5	149			
4	5	U56	DIAPHRAGM	E	19	S					4	4.875		11.625										5	5	5	4	22			
8	5	V50	DIAPHRAGM	E	20						6	4.000												6	4	6	4	53			
2	5	P50	DIAPHRAGM	E	16						20.000	2	5.000											7	9	7	7	16			
2	5	P51	DIAPHRAGM	E	16						14.000	2	5.000											6	2	6	0	13			
			SLAB																												
132	5	S1	SLAB	E	20						42	9.000												42	9	42	9	5886			
99	8	S2	SLAB	E	20						42	0.000												42	0	42	0	11102			
62	8	S3	SLAB	E	20						50	0.000												50	0	50	0	8277			
534	6	S4	SLAB	E	20						39	5.000												39	5	39	5	31615			
152	5	S5	SLAB	E	20						49	8.000												49	8	49	8	7874			
76	8	S6	SLAB	E	20						46	9.000												46	9	46	9	9487			
8	8	S7	SLAB	E	20						50	0.000												50	0	50	0	1068			
534	5	S8	SLAB	E	20						39	5.000												39	5	39	5	21954			
284	4	S9	SLAB	E	10	S					6.000		7.500	3	9.250		6.000							6	0	5	8	1075			
			BARRIER																												
10	5	K1	BARRIER	E	27	S					3	8.000		9.250		5.250	3	2.875						5.125	1.000	8	1	7	11	83	
54	5	K2	BARRIER	E	27	S					3	8.000		9.250		14.500	2	5.750						5.125	1.000	8	2	7	11	446	
128	5	K4	BARRIER	E	19	S					2	5.000		10.000										3	3	3	2	423			
20	5	K5	BARRIER	E	14	S						8.375		9.500		19.375								4.250	18.875	3	1	3	0	63	
108	5	K6	BARRIER	E	21	S					2	5.000		10.000										2	4.375	6.000	3	3	3	1	347
56	5	K7	BARRIER	E	20						24	9.000												24	9	24	9	1446			
10	5	K9	BARRIER	E	27	S					22.250		9.250		5.250		17.125		12.000					5.125	1.000	5	6	5	2	54	
54	5	K10	BARRIER	E	27	S					22.250		9.250		17.250		5.250		12.000					5.250	3.250	5	6	5	2	291	
544	5	R1	BARRIER	E	14	S					2	5.000		6.625	2	5.500								2	5.000	5.500	5	5	5	3	2979
544	5	R2	BARRIER	E	19	S					20.250		9.625											2	6	2	5	1371			
544	5	R3	BARRIER	E	27								9.625		15.250		5.250		12.000					2.875	3	6	3	4	1891		
96	5	R4	BARRIER	E	20						42	6.000												42	6	42	6	4255			
32	5	R5	BARRIER	E	20						11	9.000												11	9	11	9	392			



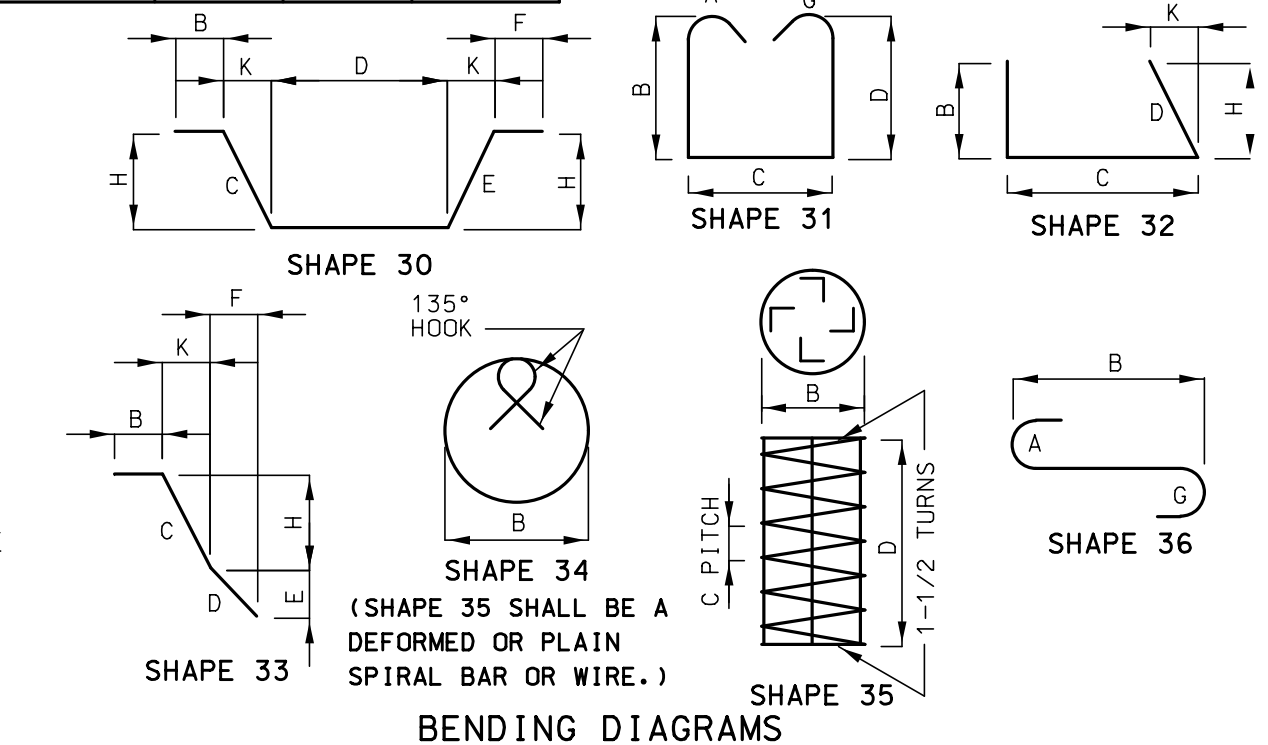
STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

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



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

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. E.A. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) F_y = 60,000 PSI.



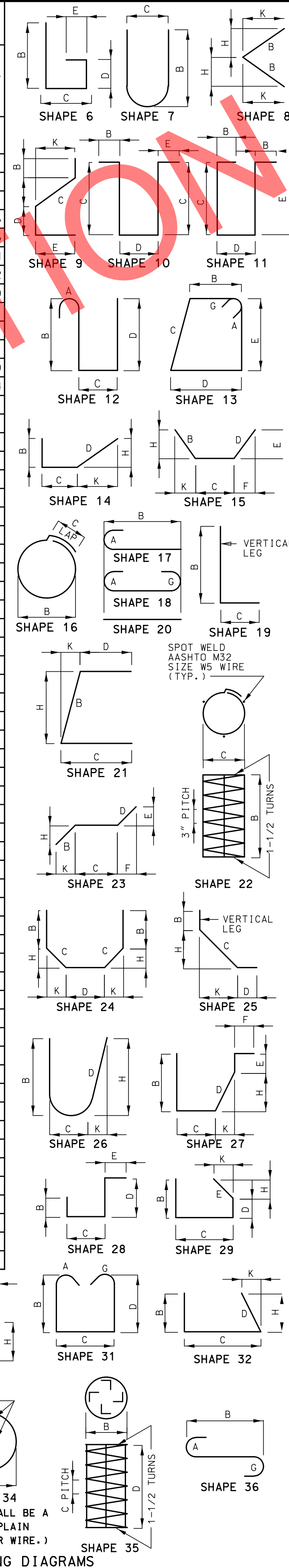
Detailed March 2021
Checked May 2021

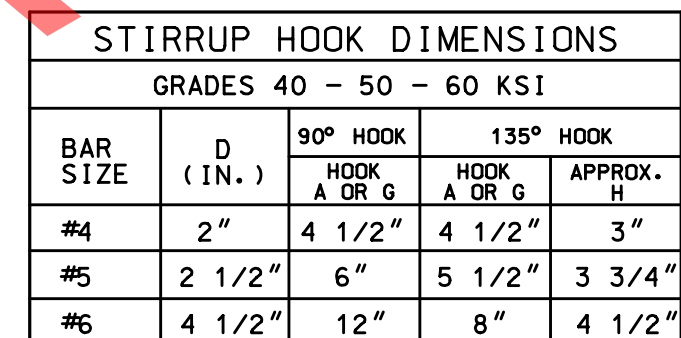
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 34 of 43

NOT FOR CONSTRUCTION

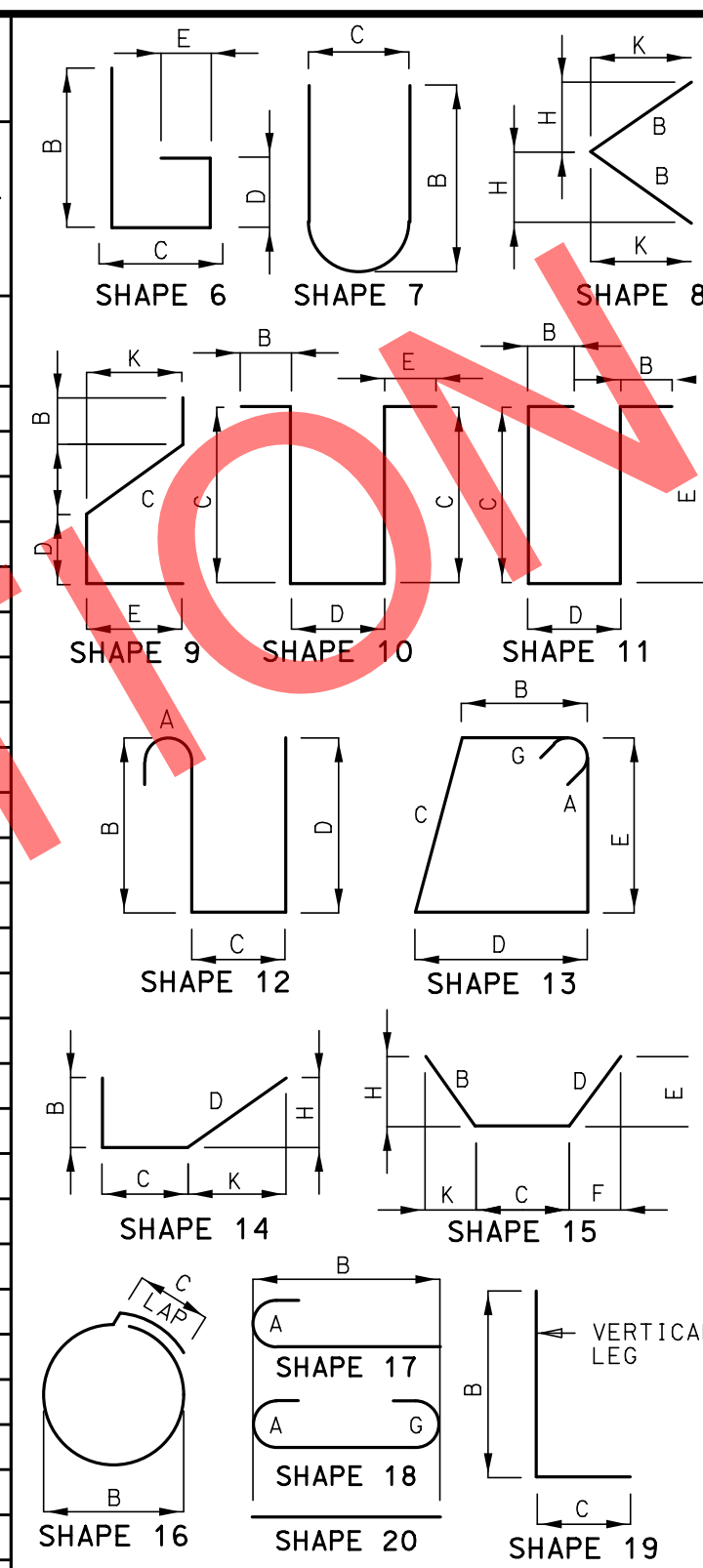
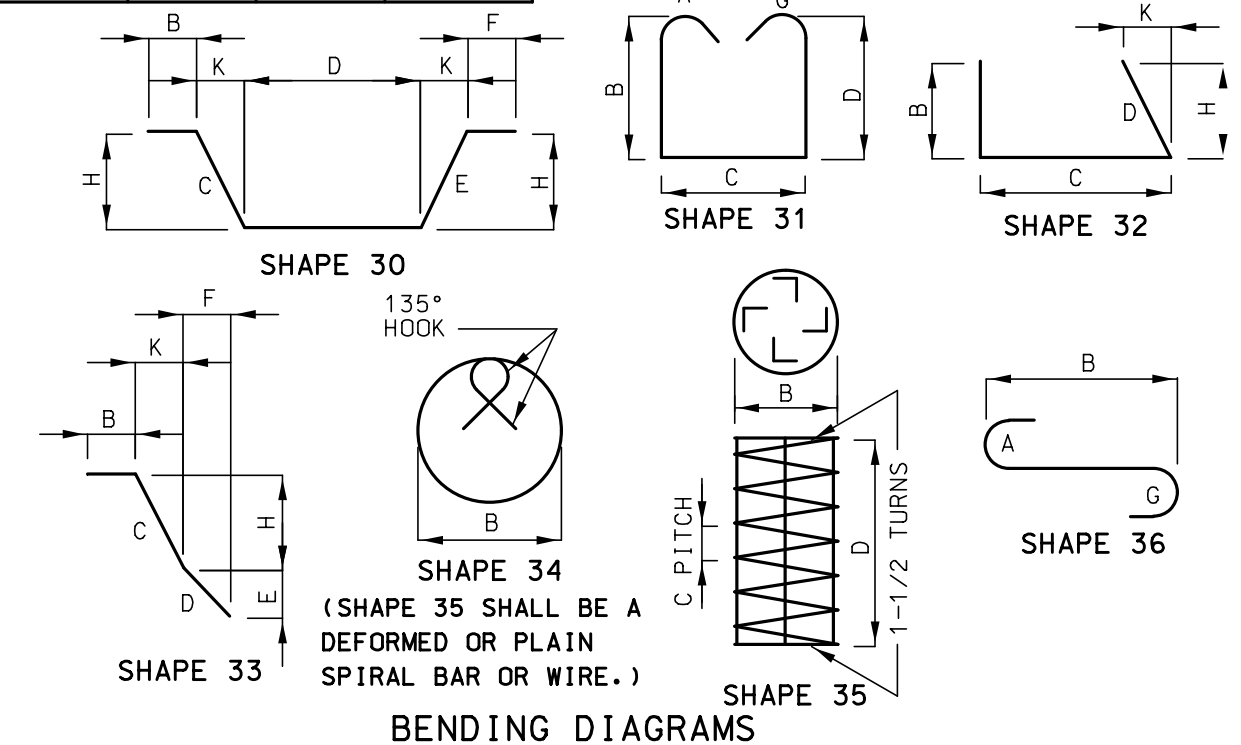
BILL OF REINFORCING STEEL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.	FT.	IN.	LBS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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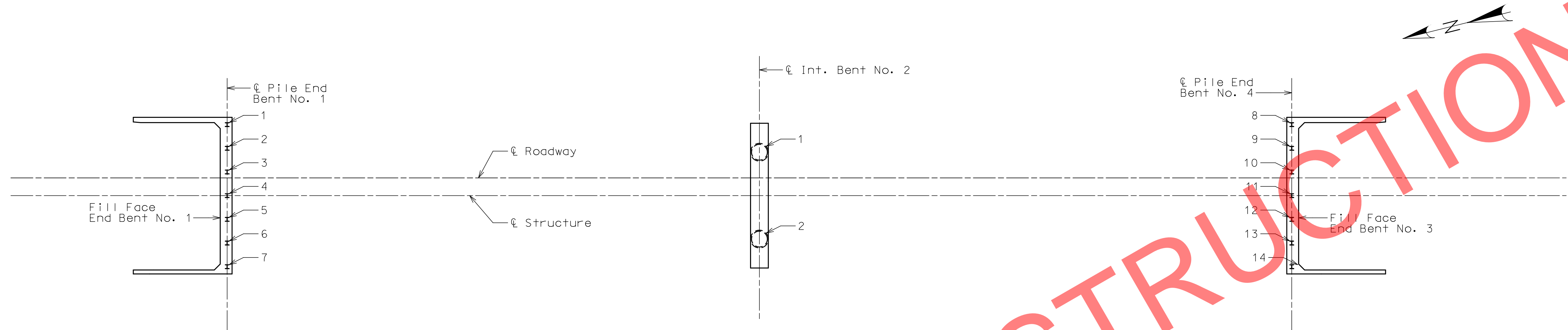
[illegible]

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"

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOR SINGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.

[illegible][illegible]

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



PART PLAN SHOWING PILE & DRILLED SHAFT
NUMBERING FOR RECORDING AS-BUILT PILE DATA
& AS-BUILT DRILLED SHAFT DATA

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 1
1			
2			
3			
4			
5			
6			
7			
			End Bent No. 3
8			
9			
10			
11			
12			
13			
14			

As-Built Drilled Shaft Data				
Shaft No.	Top of Sound Rock (Elev.)	Tip of Casing (Elev.)	Bottom of Rock Socket (Elev.)	Remarks
				Int. Bent No. 2
1				
2				

Note:
Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal
This sheet to be completed by owner.

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9134

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

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

TEST BORING LOG BORING NO. 8												
PROJECT: EAST LOCUST CREEK RESERVOIR - MID LAKE ROAD						CLIENT: NCMO REGIONAL WATER COMMISSION						
SITE LOCATION: NEAR MILAN, MISSOURI - SULLIVAN COUNTY						PROJECT NO: 15046.02						
DEPTH (feet)	SAMPLES				MATERIAL DESCRIPTION	SPT BLOW COUNTS (Blows/6")	PLASTIC LIMIT PL	FIELD WATER CONTENT	LIQUID LIMIT LL	DRY UNIT WEIGHT pcf	UNCONFINED COMPRESSIVE STRENGTH psi	
	NUMBER	TYPE	RECOVERY (inches)	USCS SYMBOL								
					Approx. Surface Elevation: 904.8							
	1	3ST	22	CL	LEAN CLAY, With Silt & Sand, Gray Mottled Tan, Medium, CL			23.3		102	1290	
	2	3ST	23	CL	With Silt, Trace Sand, Gray Mottled Yellow Brown, Stiff			23.5		102	2270	
	3	3ST	24	CL				22.9		102	2390	
	4	3ST	23	CL	Grading Trace Organics, Gray			23.1		102	3370	
	5	3ST	12	CL	With Sand, Soft			23.7		100	600	
	6	3ST	3	CL	Grading Brown, Very Soft to Soft			24.0			*500	
	7	SS	18	SM	SILTY SAND, Fine, Poorly Graded, Gray, Very Loose, SM	1/1/2		20.9				
	8	SS	18	CL	LEAN CLAY, With Silt & Sand, Trace Gravel, Jointed, Hard, CL	7/15/19		16.2			*9000	
	9	SS	12	CL	Grading Very Stiff (GLACIAL DRIFT)	7/9/14		13.1			*6500	
	10	SS	18	CL	Grading Hard	9/14/26		11.9			*9000	
Note: Stratification lines represent approximate boundaries between soil and rock types. In-situ, the transition between strata may be gradual. Rock types based on visual classification. Petrographic analysis may indicate other rock types. * Based on Calibrated Hand Penetrometer.												
DRILLING CONTRACTOR: PALMERTON & PARRISH, Inc.						BORING ALLSTATE CONSULTANTS, LLC						
DRILLING METHOD: CME 550 WITH 4.25" ID HOLLOW STEM AUGERS						STARTED: 4/9/2020 COLUMBIA, MISSOURI						
DEPTH WATER FIRST ENCOUNTERED: 15 FT						COMPLETED: 4/9/2020						
DEPTH TO WATER AFTER BORING COMPLETION (AB):						LOG COMPLETED BY: CRC BORING NO. 8						
DEPTH TO WATER HOURS AFTER BORING COMPLETION:						LOG APPROVED BY: CCM PAGE 1 OF 2						

TEST BORING LOG BORING NO. 8												
PROJECT: EAST LOCUST CREEK RESERVOIR - MID LAKE ROAD						CLIENT: NCMO REGIONAL WATER COMMISSION						
SITE LOCATION: NEAR MILAN, MISSOURI - SULLIVAN COUNTY						PROJECT NO: 15046.02						
DEPTH (feet)	SAMPLES				MATERIAL DESCRIPTION	SPT BLOW COUNTS (Blows/6")	PLASTIC LIMIT PL	FIELD WATER CONTENT	LIQUID LIMIT LL	DRY UNIT WEIGHT pcf	UNCONFINED COMPRESSIVE STRENGTH psi	
	NUMBER	TYPE	RECOVERY (inches)	USCS SYMBOL								
					Approx. Surface Elevation: 904.8							
					LEAN CLAY, With Silt & Sand, Trace Gravel, Silty Sand Filled Joints, Hard, CL	38					866.8	
	11	SS	18	SC	CLAYEY SAND, Trace Gravel, Medium to Fine Grained, Gray, Very Dense, SC	26/45/50-5"			21.1			
					(GLACIAL DRIFT)	43					861.8	
	12	SS	16	CL	LEAN CLAY, With Silt & Sand, Trace Gravel, Gray, Hard, CL	26/31/50-4"			14.1		*9000	
					(GLACIAL DRIFT)	48					856.8	
	13	SS	17	SM	SILTY SAND, Fine Grained, Gray, Very Dense, SM	7/30/50-5"			16.8			
					(GLACIAL DRIFT)	51					853.8	
	14	SS	18	CL	LEAN CLAY, With Sand & Reworked Shale, Trace Gravel, Gray, Very Stiff, CL	11/16/21			19.5		*6500	
					(GLACIAL DRIFT)	57					847.8	
	R1	NQ	10		MODERATELY WEATHERED SHALE, Gray to Maroon, Fossiliferous, Moderately Soft, Slickenside at 58.8' Grading Maroon, Slightly Swelling, Soft, High Angle Joint at 59.6', 5" Limestone Interbed at 60.6', 4" Limestone Interbed at 61.7'	REC - 100% RQD - 0%						
	R2	NQ	60			62					842.8	
	R3	NQ	50		SLIGHTLY WEATHERED SHALE, Gray, Maroon & Yellow Brown, Nodular, Soft	REC - 100% RQD - 15%						
					Grading Dark Gray, Slightly Fissile	REC - 100% RQD - 16%						
						67.4					837.4	
					LIMESTONE, Gray, Fossiliferous, Hard	68					836.8	
					BOTTOM OF BORING AT 68 FT							
Note: Stratification lines represent approximate boundaries between soil and rock types. In-situ, the transition between strata may be gradual. Rock types based on visual classification. Petrographic analysis may indicate other rock types. * Based on Calibrated Hand Penetrometer.												
DRILLING CONTRACTOR: PALMERTON & PARRISH, Inc.						BORING ALLSTATE CONSULTANTS, LLC						
DRILLING METHOD: CME 550 WITH 4.25" ID HOLLOW STEM AUGERS						STARTED: 4/9/2020 COLUMBIA, MISSOURI						
DEPTH WATER FIRST ENCOUNTERED: 15 FT						COMPLETED: 4/9/2020						
DEPTH TO WATER AFTER BORING COMPLETION (AB):						LOG COMPLETED BY: CRC BORING NO. 8						
DEPTH TO WATER HOURS AFTER BORING COMPLETION:						LOG APPROVED BY: CCM PAGE 2 OF 2						

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

DISTRICT
BR

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9134

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

BORING DATA

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

Detailed March 2021
Checked May 2021

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

Sheet No.37 of 43

8:13:58 AM 2/1/2022

olsson

BOREHOLE REPORT NO. BR-21

Sheet 1 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

: X: 0 Y: 0

ELEVATION (ft)

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

APPROX. SURFACE ELEV. (ft): 904.3

ROOT ZONE 0.5'

LEAN CLAY

Firm, gray with light brown, trace orgaincs

2.5'

Stiff, gray with light brown, moist

7.0'

Firm, gray with light brown, moist, trace sand

11.0'

Soft, gray, sandy, wet

19.0'

SS 4

1-3-4 N=7

19.1

P.P. = 2.25

P.P. = 1.0

P.P. = 0.5

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 12.0 ft

IAD Not Performed

AD Not Encountered

OLSSON, INC.
1700 E. 123RD STREET
OLATHE, KANSAS 66061

STARTED: 5/18/21

FINISHED: 5/19/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: E. CRISP

METHOD: HOLLOW STEM AUGER

olsson

BOREHOLE REPORT NO. BR-21

Sheet 2 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

ELEVATION (ft)

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

GLACIAL TILL

Soft, grayish brown, gravel, sand (continued)

24.0'

Very stiff, dark gray, sand, gravel

27.0'

Very stiff, dark gray, sand, silt, gravel

33.0'

Hard, dark gray, silt, sand, gravel

37.0'

POORLY GRADED SAND

Very dense, gray, fine gravel, trace clay

SS 5

4-8-11 N=19

13.8

SS 6

17-13-13 N=26

15.9

SS 7

25-23-25 N=48

11.7

SS 8

17-22-50/5"

11.5

P-200 = 12.7%

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD 12.0 ft

IAD Not Performed

AD Not Encountered

OLSSON, INC.
1700 E. 123RD STREET
OLATHE, KANSAS 66061

STARTED: 5/18/21

FINISHED: 5/19/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: E. CRISP

METHOD: HOLLOW STEM AUGER

BORING DATA

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

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
38

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9134

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

Detailed March 2021
Checked May 2021

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

Sheet No. 38 of 43

8:14:15 AM 2/1/2022

olsson

BOREHOLE REPORT NO. BR-21

Sheet 5 of 5

PROJECT NAME

East Locust Creek - Mid Lake Road Bridges

CLIENT

Missouri Department of Transportation

PROJECT NUMBER

020-3611

LOCATION

Sullivan County, Missouri

ELEVATION
(ft)

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

GRAPHIC LOG

80

820

84.0'

84.5'

85

88.0'

815

90.0'

90

DEPTH
(ft)

80

85

90

SAMPLE TYPE
NUMBER

RC
6

RC
7

RC
8

CLASSIFICATION
(USCS)

BLOWS/6"
N-VALUE

UNC. STR.
(tsf)

MOISTURE
(%)

DRY DENSITY
(pcf)

LL/PI
(%)

ADDITIONAL
DATA/
REMARKS

100.0%
RQD
65.0%

Recovery
100.0%
RQD
76.7%

Recovery
100.0%
RQD
66.7%

BASE OF BORING AT 90.0 FEET

WATER LEVEL OBSERVATIONS

WD

12.0 ft

IAD

Not Performed

AD

Not Encountered

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED:

5/18/21

FINISHED:

5/19/21

DRILL CO/SSI Geotechnical

DRILL RIG:

CME 550

DRILLER:

RONNIE

LOGGED BY:

E. CRISP

METHOD:

HOLLOW STEM AUGER

BORING DATA

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

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

MoDOT

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

DATE PREPARED

2/1/2022

ROUTE

MIDLAKE

STATE

MO

DISTRICT

BR

SHEET NO.

40

COUNTY

SULLIVAN

JOB NO.

J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A9134

DESCRIPTION

DATE

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

REV.

8:14:50 AM

2/1/2022

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

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BOREHOLE REPORT NO. BR-22

Sheet 1 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Rock Core

Split Spoon

ELEVATION (ft)

: X: 0 Y: 135

MATERIAL DESCRIPTION

APPROX. SURFACE ELEV. (ft): 908.3

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

0

0.5'

3.0'

7.0'

12.0'

20

LEAN CLAY

Firm, gray with light brown, moist, trace orgaincs

Stiff, light brown with gray, moist

Stiff, gray with light brown, moist

Firm, gray, sandy, moist

U 1

SS 2

U 3

SS 4

3-4-5 N=9

4-3-5 N=8

18.4

26.3

18.5

112.5

104.6

P.P. = 2.5

P.P. = N/A

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD ☐ Not Performed

IAD ☐ Not Performed

AD ☐ Not Performed

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/20/21

FINISHED: 5/21/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: FARHRENKRUG

METHOD: HOLLOW STEM AUGER

olsson

BOREHOLE REPORT NO. BR-22

Sheet 2 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Rock Core

Split Spoon

ELEVATION (ft)

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH (ft)

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

20

23.0'

27.0'

30

35

40

Firm, gray, sandy, moist (continued)

GLACIAL TILL

Very stiff, gray, sand, gravel

Hard, gray, sand, gravel, silt

U 5

SS 6

SS 7

SS 8

11-28-32 N=60

22-25-30 N=55

11.9

14.0

126.3

P.P. = 4.5+

P-200 = 42.5%

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD ☐ Not Performed

IAD ☐ Not Performed

AD ☐ Not Performed

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/20/21

FINISHED: 5/21/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: FARHRENKRUG

METHOD: HOLLOW STEM AUGER

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
41

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9134

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213

CERTIFICATE OF
AUTHORITY NO. 001592

BORING DATA

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

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BOREHOLE REPORT NO. BR-22

Sheet 3 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH (ft)

40

42.0'

45

48

50

52

54

56.0'

58

60

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

Hard, gray, sand, gravel, silt (continued)

POORLY GRADED SAND

Very dense, gray, wet

SS 9

28-50/4"

14.5

P-200 = 8.6%

SS 10

28-50/4"

15.5

P-200 = 10.2%

WEATHERED SHALE

Olive brown, clayey

SS 11

4-9-14 N=23

21.8

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD ☐ Not Performed

IAD ☐ Not Performed

AD ☐ Not Performed

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/20/21

FINISHED: 5/21/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: FARHRENKRUG

METHOD: HOLLOW STEM AUGER

olsson

BOREHOLE REPORT NO. BR-22

Sheet 4 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Split Spoon

Rock Core

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH (ft)

60

63.0'

65

68.0'

69.5'

70.5'

73.0'

73.7'

74.3'

75.8'

78.0'

80.0'

SAMPLE TYPE NUMBER

CLASSIFICATION (USCS)

BLOWS/6" N-VALUE

UNC. STR. (tsf)

MOISTURE (%)

DRY DENSITY (pcf)

LL/PI (%)

ADDITIONAL DATA/REMARKS

WEATHERED SHALE

Olive brown, clayey (continued)

SHALE

Olive brown

LIMESTONE

Gray

SHALE

Dark gray

LIMESTONE

Gray

SHALE

Olive

Dark gray

COAL

Black

SHALE

Gray

Light gray

RC 1

Recovery 70.8%

RQD 29.2%

RC 2

Recovery 93.3%

RQD 8.3%

RC 3

Recovery 100.0%

RQD 91.7%

CONTINUED NEXT PAGE

WATER LEVEL OBSERVATIONS

WD ☐ Not Performed

IAD ☐ Not Performed

AD ☐ Not Performed

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/20/21

FINISHED: 5/21/21

DRILL C&SI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: FARHRENKRUG

METHOD: HOLLOW STEM AUGER

BORING DATA

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

Detailed March 2021
Checked May 2021

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

Sheet No. 42 of 43

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
42

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9134

DESCRIPTION

DATE

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

REV.

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

8:15:17 AM

2/1/2022

olsson

BOREHOLE REPORT NO. BR-22

Sheet 5 of 5

PROJECT NAME
East Locust Creek - Mid Lake Road Bridges

CLIENT
Missouri Department of Transportation

PROJECT NUMBER
020-3611

LOCATION
Sullivan County, Missouri

Shelby Tube

Rock Core

Split Spoon

ELEVATION
(ft)

MATERIAL DESCRIPTION

GRAPHIC LOG

DEPTH
(ft)

SAMPLE TYPE
NUMBER

CLASSIFICATION
(USCS)

BLOWS/6"
N-VALUE

UNC. STR.
(tsf)

MOISTURE
(%)

DRY DENSITY
(pcf)

LL/PI
(%)

ADDITIONAL
DATA/
REMARKS

80

LIMESTONE

Recovery
100.0%

825

Light gray

RC 4

RQD
97.2%

83.8'

Gray

RC 5

Recovery
100.0%

85

RQD
81.7%

87.0'

SANDSTONE

820

Gray

RC 6

Recovery
100.0%

Light Gray

RQD
78.3%

89.5'

Gray with dark gray

RC 7

Recovery
100.0%

90

RQD
65.0%

100.0'

RC 8

Recovery
100.0%

815

RQD
0.0%

100.0'

BASE OF BORING AT 100.0 FEET

WATER LEVEL OBSERVATIONS

WD ☐ Not Performed

IAD ☐ Not Performed

AD ☐ Not Performed

OLSSON, INC.

1700 E. 123RD STREET

OLATHE, KANSAS 66061

STARTED: 5/20/21

FINISHED: 5/21/21

DRILL CO/SSI Geotechnical

DRILL RIG: CME 550

DRILLER: RONNIE

LOGGED BY: FARHRENKRUG

METHOD: HOLLOW STEM AUGER

BORING DATA

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

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

MoDOT

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

olsson

7301 WEST 133RD STREET
OVERLAND PARK, KS 66213
CERTIFICATE OF
AUTHORITY NO. 001592

DATE PREPARED
2/1/2022

ROUTE
MIDLAKE

STATE
MO

DISTRICT
BR

SHEET NO.
43

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9134

DESCRIPTION

DATE

DESIGN DESIGNATION
A.A.D.T. - 2021 = 0
A.A.D.T. - 2041 = 1,050

V = 40 M.P.H.

FUNC. CLASSIFICATION - ACCESS ROADS

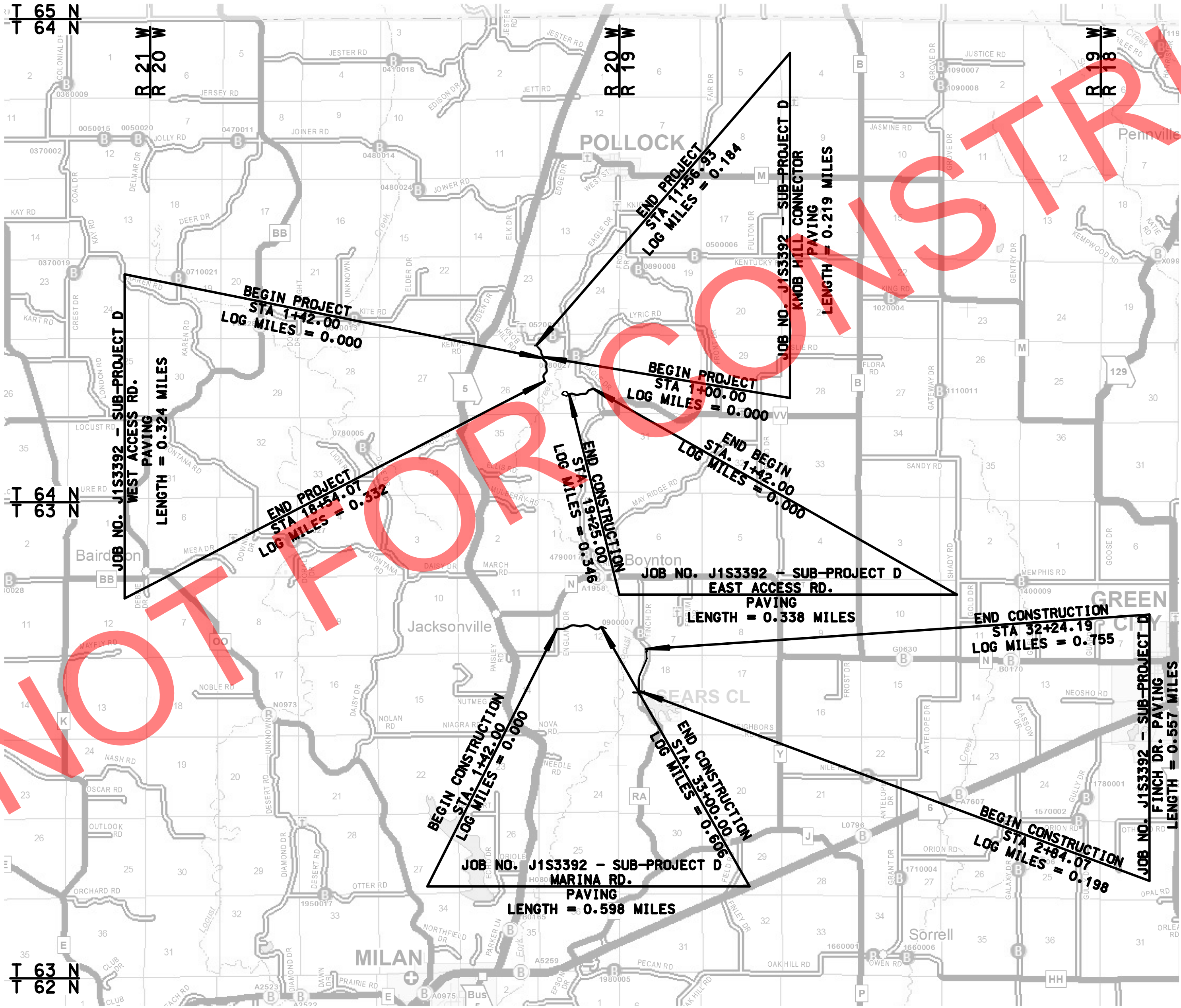
NO RIGHT OF WAY
TO BE ACQUIRED

CONVENTIONAL SYMBOLS
(USED IN PLANS)

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

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
ACCESS ROADS
SULLIVAN COUNTY
SEC. 25, 26, & 36, T64N, R20W
SEC. 30, & 31, T64N, R19W



INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	D.1
TYPICAL SECTIONS (TS) (10 SHEETS)	D.2
QUANTITIES (QU) (3 SHEETS)	D.3
PLAN-PROFILE (PP)	D.4-D.14
COORDINATE POINTS (CP)	D.15-D.17
TRAFFIC CONTROL SHEETS (TC)	D.18-D.19
PAVEMENT MARKING & SIGNING (PM)	D.20-D.22

LENGTH OF SUB-PROJECT

	STA.	FEET
MARINA ROAD		
BEGINNING OF PROJECT	1+42.00	
END OF PROJECT	33+00.00	
APPARENT LENGTH		3,158.00 FEET
KNOB HILL CONNECTOR		
BEGINNING OF CONSTRUCTION	1+00.00	
END OF CONSTRUCTION	11+56.93	
APPARENT LENGTH		1,056.93 FEET
WEST ACCESS ROAD		
BEGINNING OF CONSTRUCTION	1+42.00	
END OF CONSTRUCTION	18+54.07	
APPARENT LENGTH		1,711.49 FEET
EAST ACCESS ROAD		
BEGINNING OF CONSTRUCTION	1+42.00	
END OF CONSTRUCTION	19+25.00	
APPARENT LENGTH		1,783.00 FEET
FINCH DRIVE		
BEGINNING OF CONSTRUCTION	2+84.07	
END OF CONSTRUCTION	32+24.19	
APPARENT LENGTH		2,940.12 FEET
EQUATIONS AND EXCEPTIONS:		
NONE		0.00 FEET
TOTAL CORRECTIONS		0.00 FEET
NET LENGTH OF PROJECT		10,649.54 FEET
STATE LENGTH		2.017 MILES
FOR INFORMATION ONLY		
ESTIMATED DISTURBED ACRES		8.39 ACRES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

DATE PREPARED: 2/7/2022

ROUTE: AC RD, STATE: MO, DISTRICT: NW, SHEET NO.: D.1

COUNTY: SULLIVAN

JOB NO.: J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

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

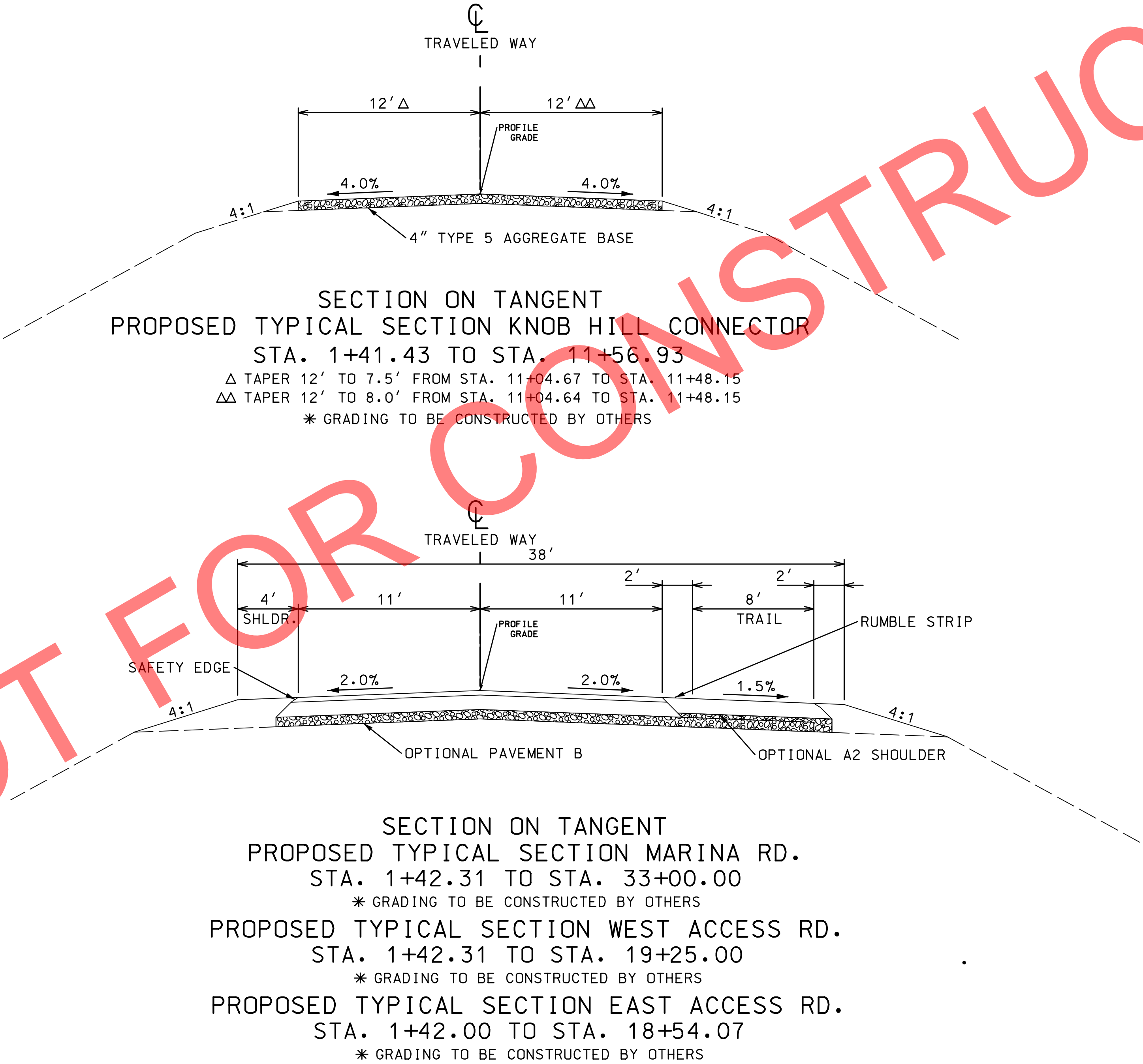
olsson

1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592

- NOTES:
- 1. SEE STANDARD PLAN 401.00C FOR A2 SHOULDERS & SAFETY EDGE DETAILS.
 - 2. DESIRABLE CROSS SLOPE OF TRAIL IS 1.5%, 2.0% MAX.
 - 3. OPTIONAL PAVEMENT FOR MARINA ROAD IS ADD ALTERNATE 3.
 - 4. OPTIONAL PAVEMENT FOR WEST ACCESS ROAD, EAST ACCESS ROAD AND FINCH DRIVE IS ADD ALTERNATE 4.
 - 5. CONTRACTOR TO ADJUST PROFILE GRADE TO TOP OF AGGREGATE BASE FOR BASE CONTRACT.

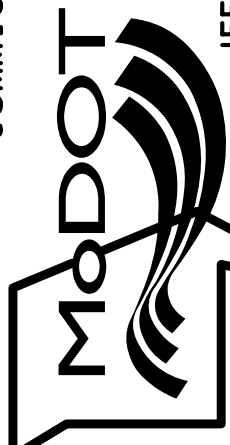

ESTIMATE FACTORS FOR ASPHALTIC MIXTURES	
PMBP (BP-1) PG64-22	1.948 TONS/CY
PMBP (BASE) PG64-22	1.943 TONS/CY
TACK COAT	0.10 GAL/SY

FOR INFORMATIONAL PURPOSES ONLY
PMBP= PLANT MIX BITUMINOUS PAVEMENT



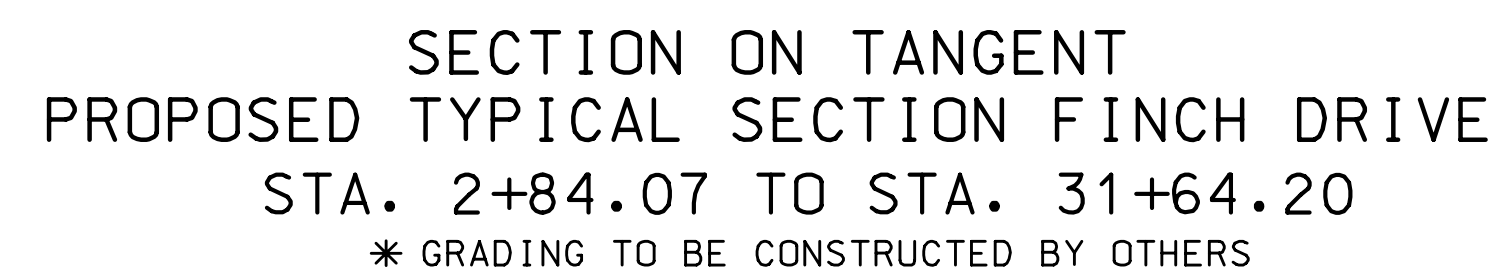
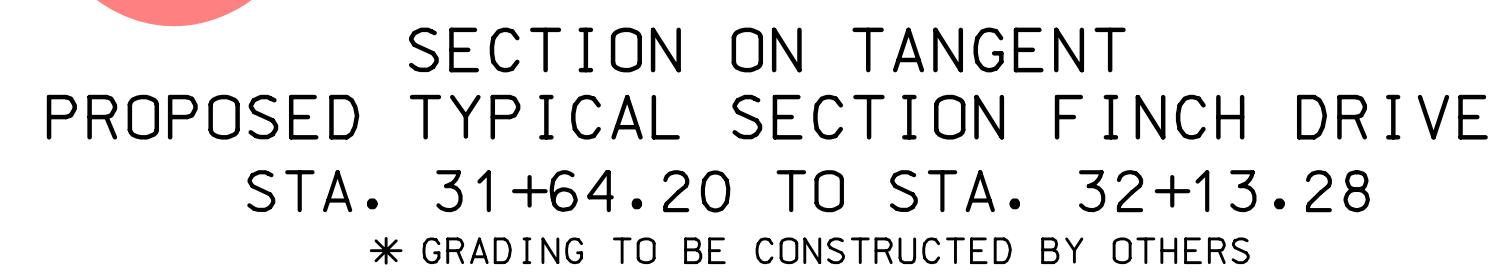
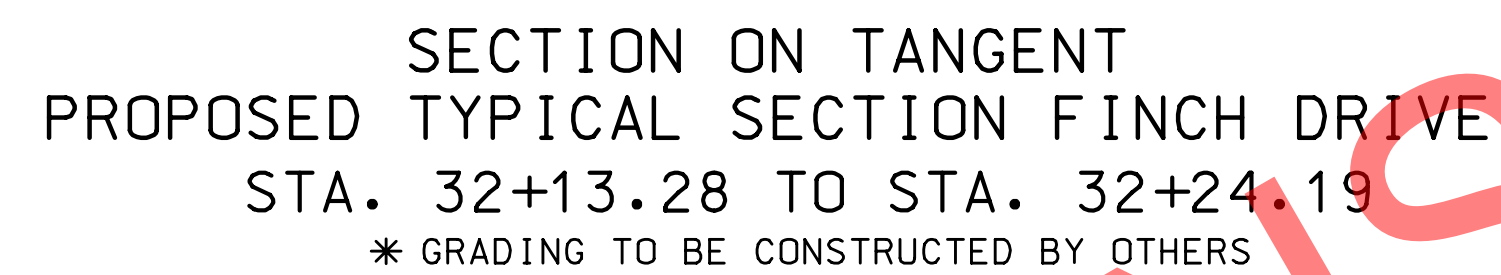
NOT TO SCALE

TYPICAL SECTION
SHEET 1 OF 10

DATE PREPARED 2/7/2022	
ROUTE AC RD	STATE MO
DISTRICT NW	SHEET NO. D.2
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

1. SEE STANDARD PLAN 401.00C FOR A2 SHOULDERS & SAFETY EDGE DETAILS.
2. DESIRABLE CROSS SLOPE OF TRAIL IS 1.5%, 2.0% MAX.
3. OPTIONAL PAVEMENT FOR MARINA ROAD IS ADD ALTERNATE 3.
4. OPTIONAL PAVEMENT FOR WEST ACCESS ROAD, EAST ACCESS ROAD AND FINCH DRIVE IS ADD ALTERNATE 4.
5. CONTRACTOR TO ADJUST PROFILE GRADE TO TOP OF AGGREGATE BASE FOR BASE CONTRACT.

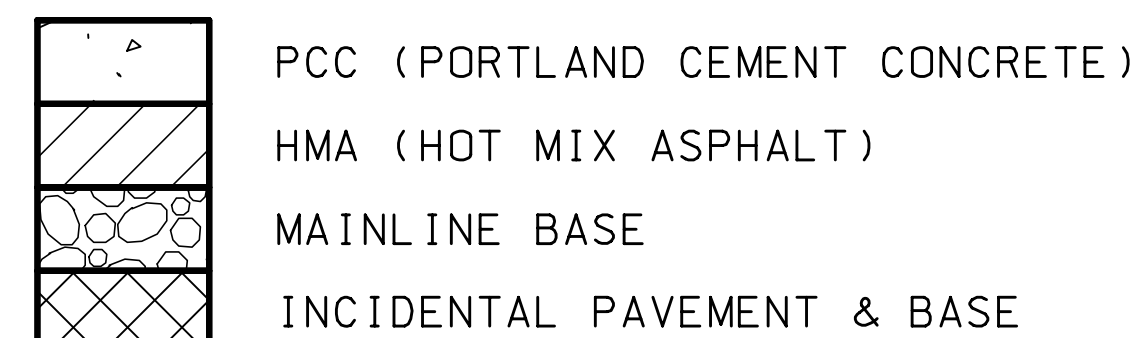
FOR INFORMATIONAL PURPOSES ONLY
PMBP= PLANT MIX BITUMINOUS PAVEMENT

[illegible]

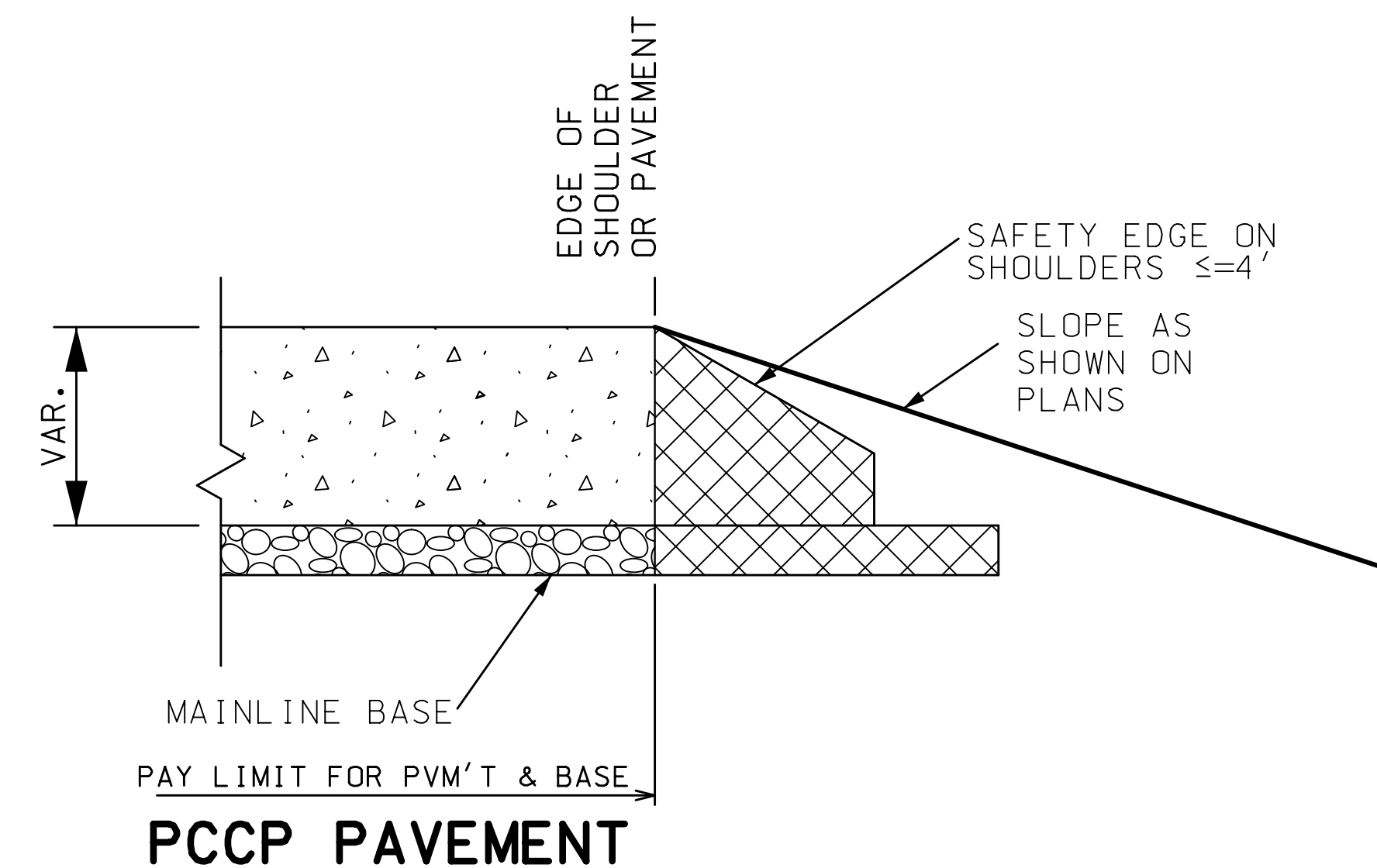
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

REV.

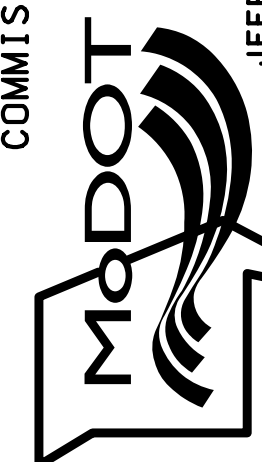
1. SEE STANDARD PLAN 401.00C FOR A2 SHOULDERS & SAFETY EDGE DETAILS.
2. DESIRABLE CROSS SLOPE OF TRAIL IS 1.5%, 2.0% MAX.
3. OPTIONAL PAVEMENT FOR MARINA ROAD IS ADD ALTERNATE 3.
4. OPTIONAL PAVEMENT FOR WEST ACCESS ROAD, EAST ACCESS ROAD AND FINCH DRIVE IS ADD ALTERNATE 4.
5. CONTRACTOR TO ADJUST PROFILE GRADE TO TOP OF AGGREGATE BASE FOR BASE CONTRACT.



INCIDENTAL PAVEMENT & BASE



PROJECT NO.
BRIDGE NO.

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

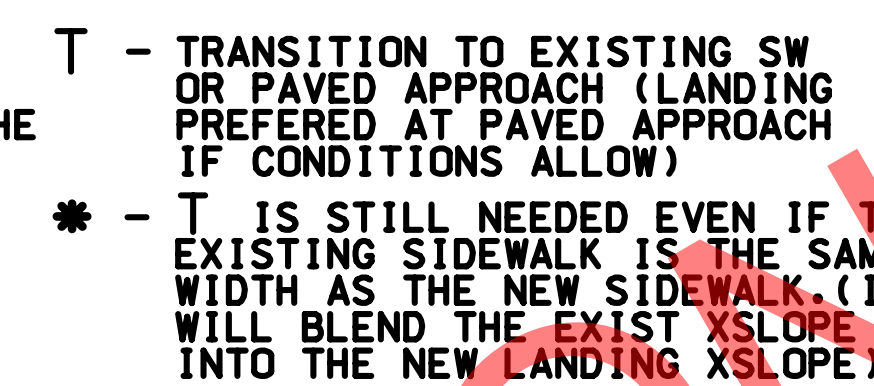
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

TYPICAL SECTION
SHEET 3 OF 10

The diagram illustrates a cross-section of a building labeled "TYPE 1-D". The structure is composed of several interconnected rectangular and trapezoidal sections. The leftmost section is a trapezoid with a dashed outline, containing a room labeled "T" with a star symbol. To its right is a rectangular section labeled "L". Further right is another rectangular section labeled "R". The rightmost section is a tall, narrow structure with a dashed outline, containing a room labeled "T" with a star symbol at the top, and two rooms labeled "L" and "R" below it. The building is surrounded by a hatched area, and a curved, dotted area is visible at the bottom right corner. A large red "DRAFTING" watermark is overlaid diagonally across the entire diagram.



R - ~~RAMP~~

- CURB RAMP PAY LIMITS

  - SOD ~~SLOPE~~ 6:1 MIN.

 - TRUNCATED DOME LOCATION,
IF DIST. IS < 5' OR > 5'

**TRUNCATED DOMES ARE USED ONLY
AT STREETS & ENTRANCES UTILIZING
YIELD / STOP SIGNS OR SIGNALS**

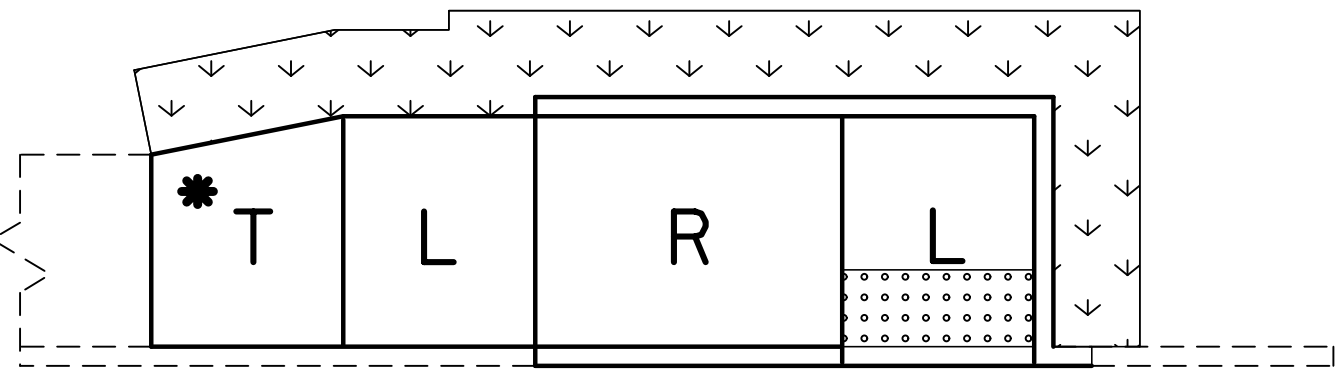
NOTE:
QUANTITIES ARE CALCULATED BY AREA AND
MAY NOT MATCH EXACT FIELD CONDITIONS.



TYPE 1
PERPENDICULAR CURB RAMPS
TYPICAL SECTION SHEET 5 OF 10

PARALLEL - TYPE 2											
TYPE 2-A											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	9.1	10.6	-	11.8	13.7	-	14.4	16.8	
CONC. SIDEWALK	SY	-	5.6	6.4	-	4.9	5.7	-	4.9	5.7	
TYPE 1 AGGREGATE	SY	-	14.7	17.0	-	16.7	19.4	-	19.3	22.5	
ADA LINEAR GRADING	LF	-	26.0	26.0	-	29.0	29.0	-	33.0	33.0	
SODDING	SY	-	8.0	8.3	-	8.6	8.8	-	9.6	9.8	
TYPE 2-B											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	11.8	13.3	-	14.5	16.4	-	17.2	19.5	
CONC. SIDEWALK	SY	-	5.6	6.4	-	4.9	5.7	-	4.9	5.7	
TYPE 1 AGGREGATE	SY	-	17.4	19.7	-	19.4	22.1	-	22.1	25.2	
ADA LINEAR GRADING	LF	-	26.0	26.0	-	29.0	29.0	-	33.0	33.0	
SODDING	SY	-	13.8	14.1	-	15.1	15.5	-	17.1	17.5	
TYPE 2-C											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	16.4	18.7	-	21.7	24.9	-	27.0	31.2	
CONC. SIDEWALK	SY	-	11.2	12.8	-	9.8	11.4	-	9.8	11.4	
TYPE 1 AGGREGATE	SY	-	27.6	31.5	-	31.5	36.3	-	36.8	42.6	
ADA LINEAR GRADING	LF	-	41.0	41.0	-	47.0	47.0	-	55.0	55.0	
SODDING	SY	-	12.3	12.5	-	13.6	13.9	-	15.6	15.9	
TYPE 2-D											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	16.8	19.2	-	22.2	25.4	-	27.5	31.6	
CONC. SIDEWALK	SY	-	11.2	12.8	-	9.8	11.4	-	9.8	11.4	
TYPE 1 AGGREGATE	SY	-	28.0	32.0	-	32.0	36.8	-	37.3	43.0	
ADA LINEAR GRADING	LF	-	41.0	41.0	-	47.0	47.0	-	55.0	55.0	
SODDING	SY	-	20.2	20.3	-	22.4	23.2	-	26.4	27.2	
TYPE 2-E											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	10.8	11.5	-	13.2	14.4	-	15.7	17.3	
CONC. SIDEWALK	SY	-	5.6	6.7	-	5.0	6.0	-	5.0	6.0	
TYPE 1 AGGREGATE	SY	-	16.4	18.2	-	18.2	20.4	-	20.7	23.3	
ADA LINEAR GRADING	LF	-	22.5	22.5	-	26.5	26.5	-	30.5	30.5	
SODDING	SY	-	-	-	-	-	-	-	-	-	
HANDRAIL	LF	-	-	-	-	-	-	-	-	-	SEE STANDARDS FOR LENGTH
TYPE 2-F											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	-	10.0	10.0	-	10.0	10.0	-	10.0	10.0	
CURB RAMP	SY	-	15.5	17.1	-	20.4	23.1	-	25.5	28.9	
CONC. SIDEWALK	SY	-	11.2	13.4	-	10.0	12.0	-	10.0	12.0	
TYPE 1 AGGREGATE	SY	-	26.7	30.5	-	30.4	35.1	-	35.5	40.9	
ADA LINEAR GRADING	LF	-	39.0	39.0	-	47.0	47.0	-	55.0	55.0	
SODDING	SY	-	-	-	-	-	-	-	-	-	
HANDRAIL	LF	-	-	-	-	-	-	-	-	-	SEE STANDARDS FOR LENGTH

NOTE:
QUANTITIES ARE CALCULATED BY AREA AND
MAY NOT MATCH EXACT FIELD CONDITIONS.



TYPE 2-A

*** 3.5' LANDING EXTENSION REQ'D.
FOR INSTALLATION OF FUTURE OR NEW
PED. PUSH BUTTON

NOTE: SEE STANDARDS FOR ALL PED.
PUSH BUTTON LOCATIONS

----- TRUNCATED DOME

TRUNCATED DOMES ARE USED ONLY
AT STREETS & ENTRANCES UTILIZING
YIELD / STOP SIGNS OR SIGNALS

T - TRANSITION TO EXISTING SW
* - T IS STILL NEEDED EVEN IF THE
EXISTING SIDEWALK IS THE SAME
WIDTH AS THE NEW SIDEWALK. (IT
WILL BLEND THE EXIST XSLOPE
INTO THE NEW LANDING XSLOPE)

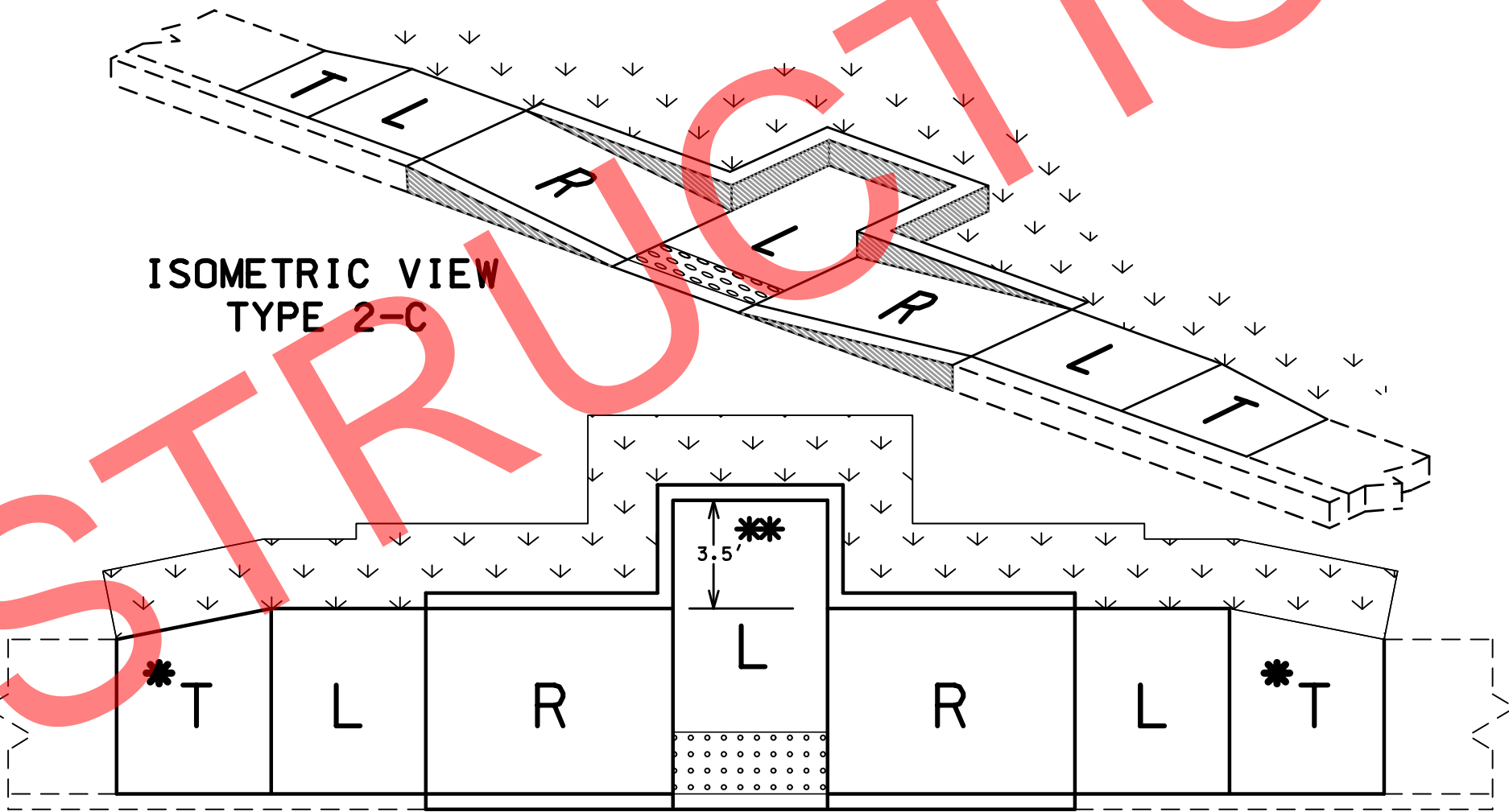
L - LANDING

R - RAMP

----- SOD SLOPE 6:1 MIN.

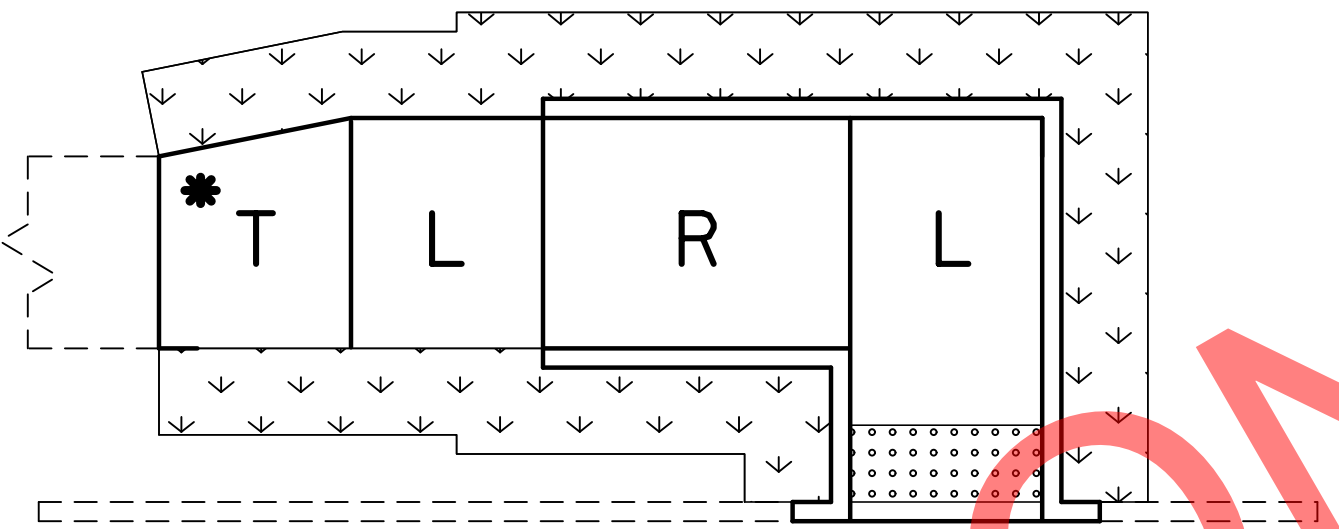
----- CURB RAMP PAY LIMITS

ISOMETRIC VIEW
TYPE 2-C

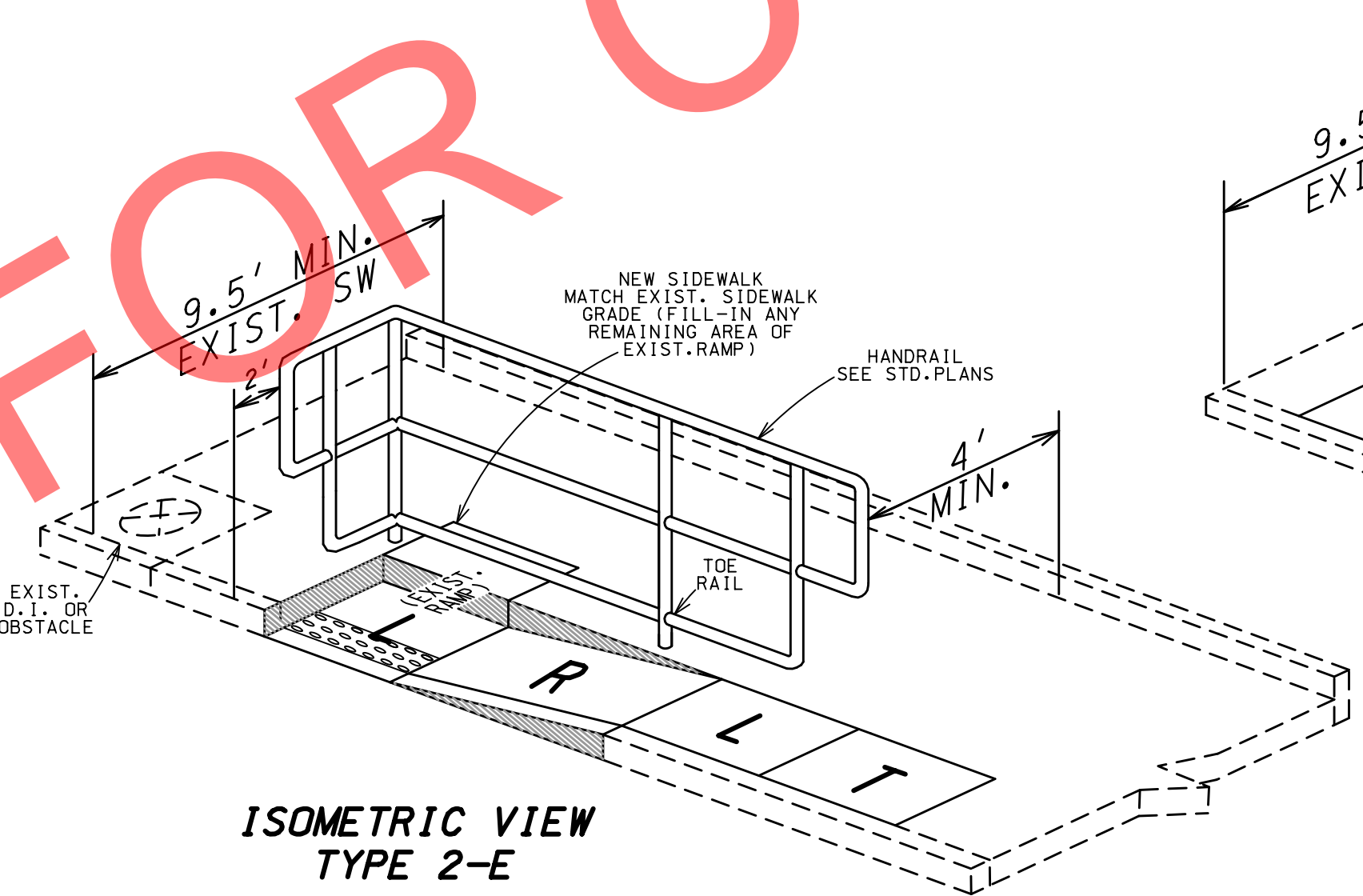


TYPE 2-C

TYPE 2-B



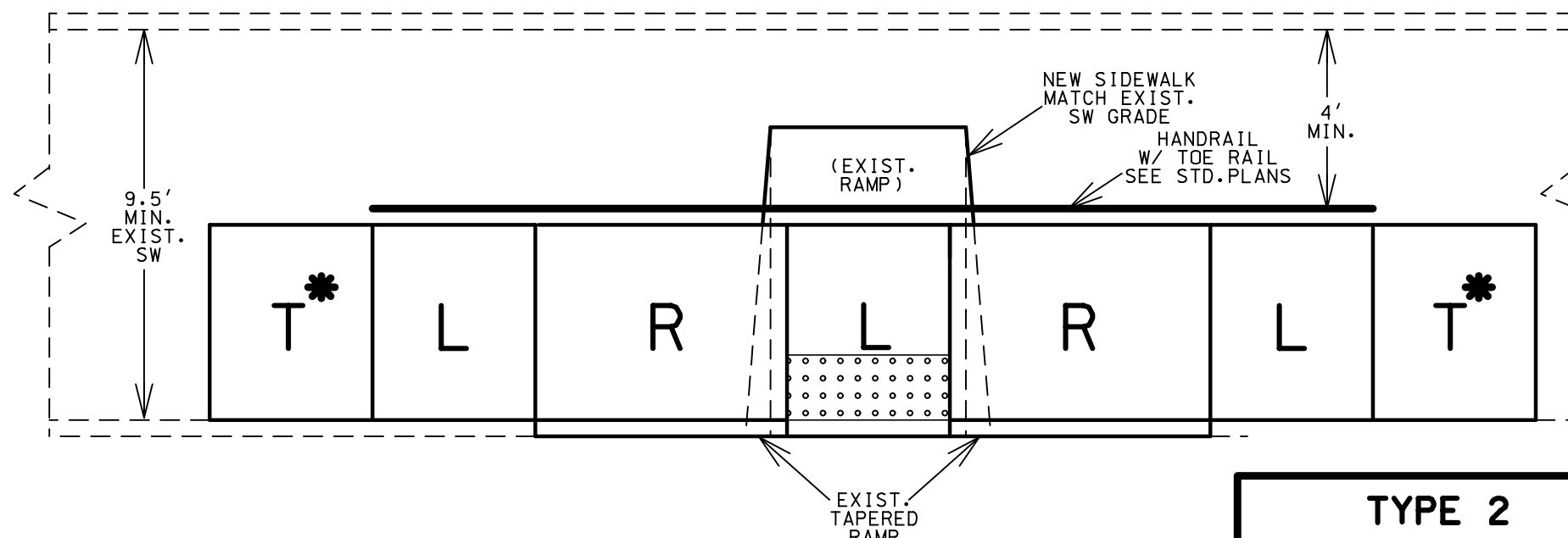
ISOMETRIC VIEW
TYPE 2-E



TYPE 2-E

USE ONLY WHEN TYPE 2-F IS UNABLE TO BE CONSTRUCTED DUE TO AN
EXIST. D.I. OR OTHER OBSTACLE
SEE STANDARDS FOR HANDRAIL SPECS

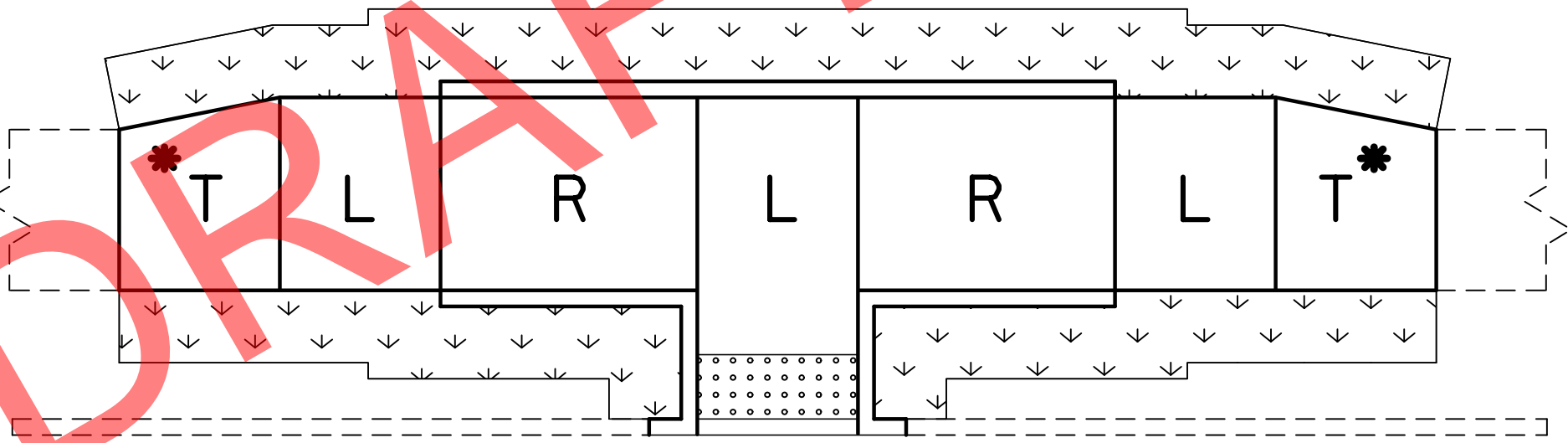
ISOMETRIC VIEW
TYPE 2-F



TYPE 2-F

SEE STANDARDS FOR HANDRAIL SPECS

TYPE 2-D



TYPE 2
PARALLEL
CURB RAMPS
TYPICAL SECTION
SHEET 6 OF 10

DATE PREPARED
2/7/2022

ROUTE
AC RD

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

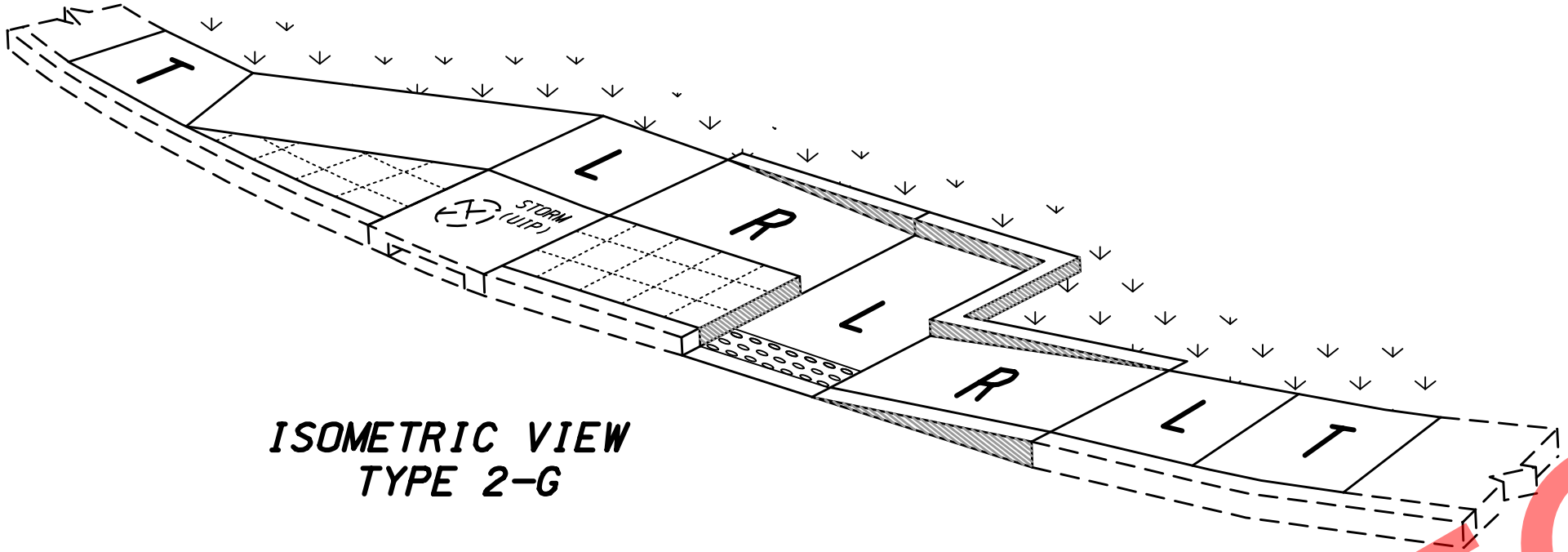
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

MODOT

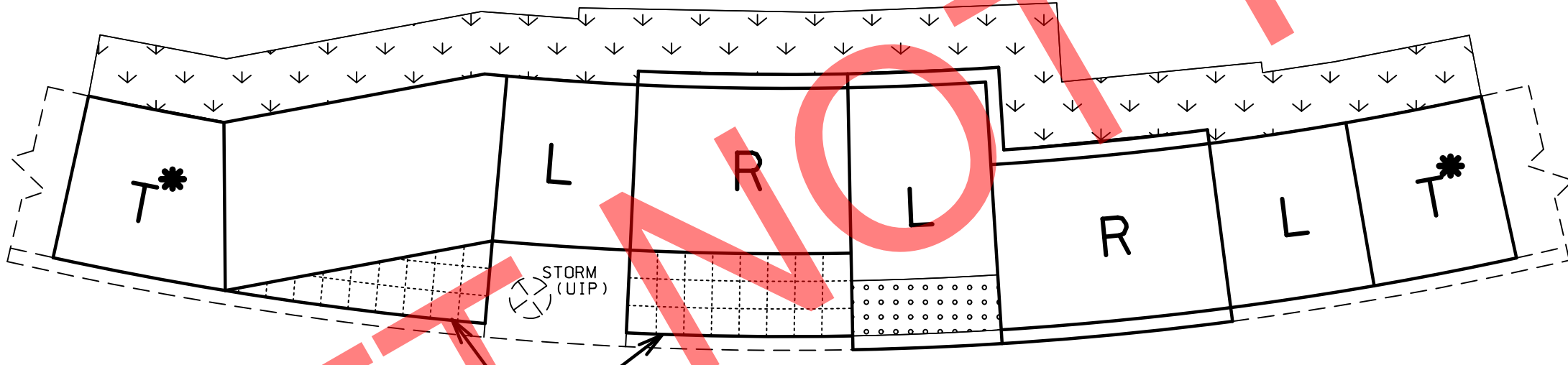
olsson

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NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

PARALLEL - TYPE 2 (cont'd.)									
TYPE 2-G									
LENGTH (LF)	WIDTH (LF)	8			12			16	
		4	5	6	4	5	6	4	5
TRUNCATED DOMES	SF	-	12.0	12.0	-	10.0	10.0	-	10.0
CURB RAMP	SY	-	15.7	18.0	-	20.8	23.7	-	25.8
CONC. SIDEWALK	SY	-	21.4	25.0	-	17.6	20.3	-	15.2
TYPE 1 AGGREGATE	SY	-	37.1	43.0	-	38.4	44.0	-	41.0
ADA LINEAR GRADING	LF	-	52.0	52.0	-	54.0	54.0	-	58.0
SODDING	SY	-	13.6	13.6	-	13.7	13.5	-	14.5
REMARKS									
TYPE 2-H									
LENGTH (LF)	WIDTH (LF)	8			12			16	
		4	5	6	4	5	6	4	5
TRUNCATED DOMES	SF	-	12.0	12.0	-	10.0	10.0	-	10.0
CURB RAMP	SY	-	15.7	18.0	-	21.0	24.5	-	26.9
CONC. SIDEWALK	SY	-	13.2	16.0	-	12.0	14.2	-	12.0
TYPE 1 AGGREGATE	SY	-	28.9	34.0	-	33.0	38.6	-	38.9
ADA LINEAR GRADING	LF	-	42.0	42.0	-	49.0	49.0	-	55.0
SODDING	SY	-	11.1	11.2	-	12.5	12.5	-	14.5
REMARKS									

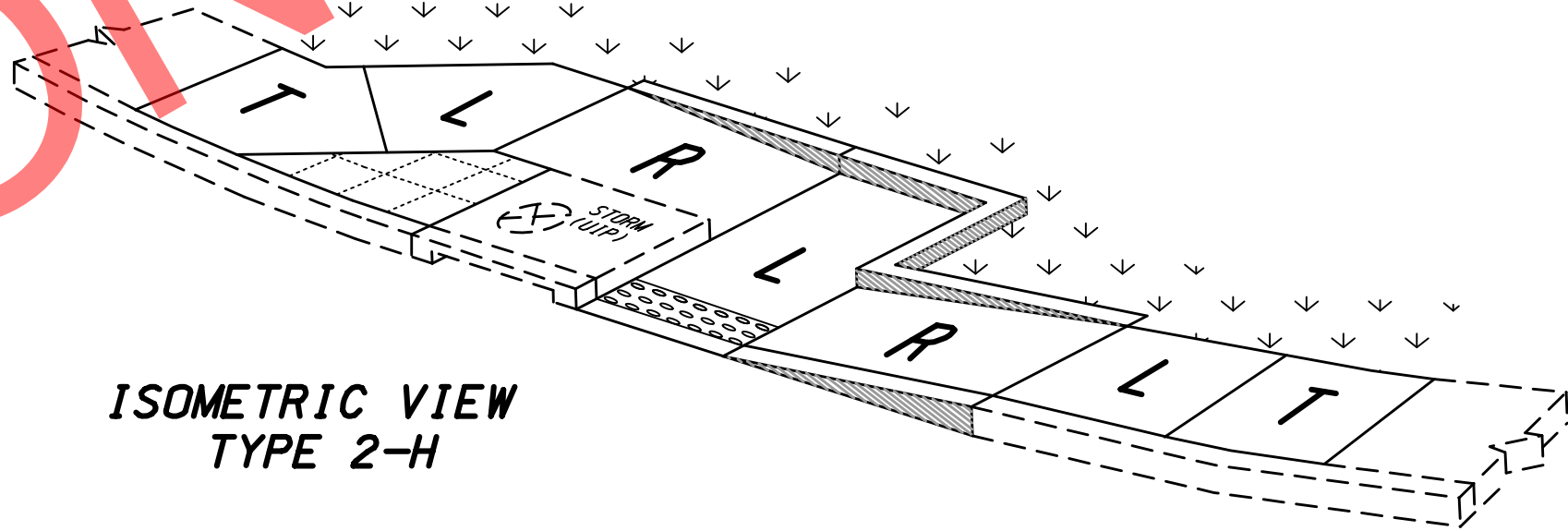


ISOMETRIC VIEW
TYPE 2-G

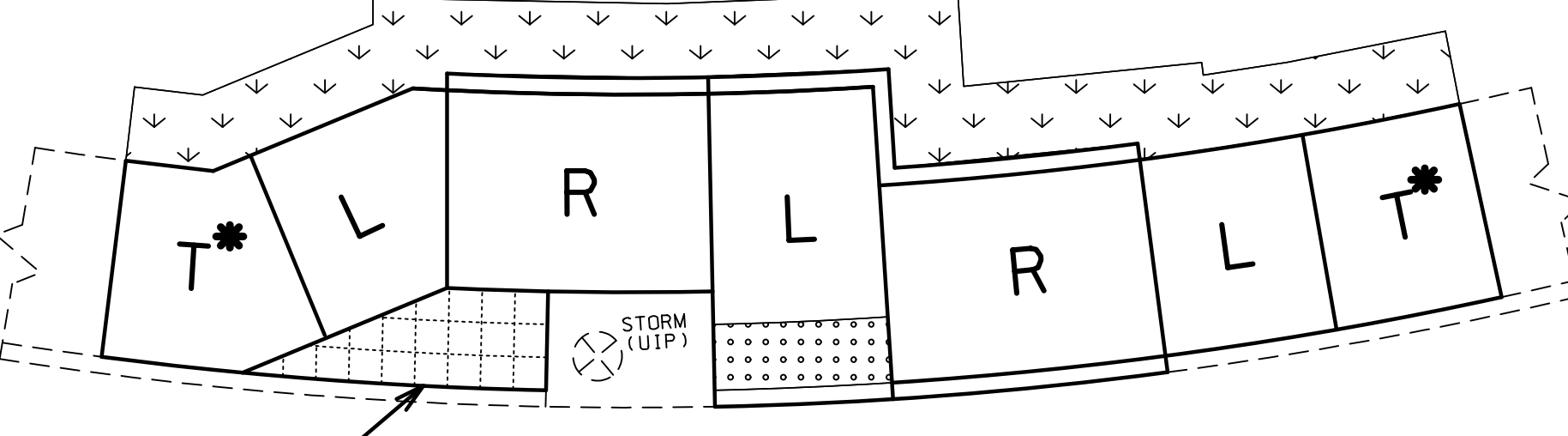


PATTERN IN CONC. SW
2'x2' SQUARES
(NO DIRECT PAY)

TYPE 2-G



ISOMETRIC VIEW
TYPE 2-H



PATTERN IN CONC. SW
2'x2' SQUARES
(NO DIRECT PAY)

TYPE 2-H

T* - IS STILL NEEDED EVEN IF THE EXISTING SIDEWALK IS THE SAME WIDTH AS THE NEW SIDEWALK. (IT WILL BLEND THE EXIST XSLOPE INTO THE NEW LANDING XSLOPE)

- T - TRANSITION TO EXISTING SW
- L - LANDING
- R - RAMP
- ↓ ↓ - SOD SLOPE 6:1 MIN.
- - TRUNCATED DOME LOCATION, IF DIST. IS <5' OR >5'
- TRUNCATED DOMES ARE USED ONLY AT STREETS & ENTRANCES UTILIZING YIELD / STOP SIGNS OR SIGNALS
- ▨ - CURB RAMP PAY LIMITS
- ▤ - INCLUDED IN 4" CONC. SIDEWALK PAY LIMIT

NOTE:
QUANTITIES ARE CALCULATED BY AREA AND MAY NOT MATCH EXACT FIELD CONDITIONS.

DATE PREPARED
2/7/2022

ROUTE
AC RD

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

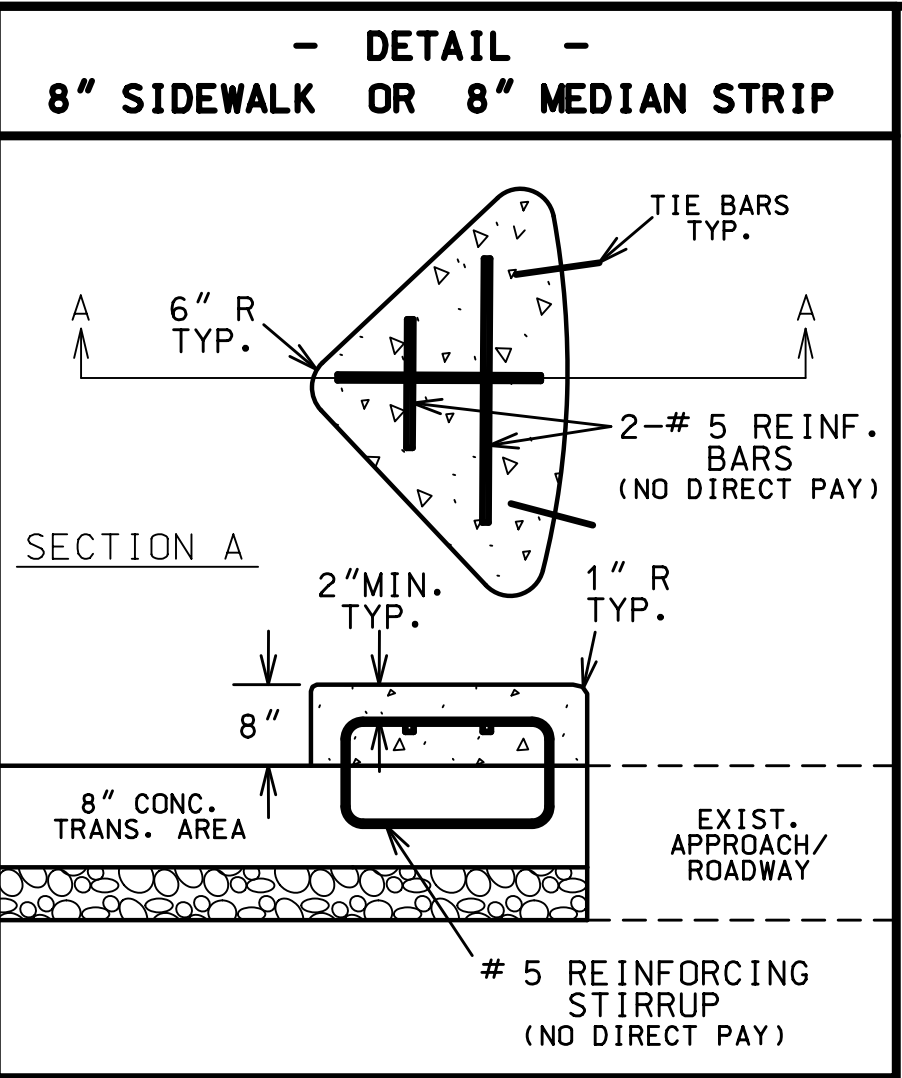
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

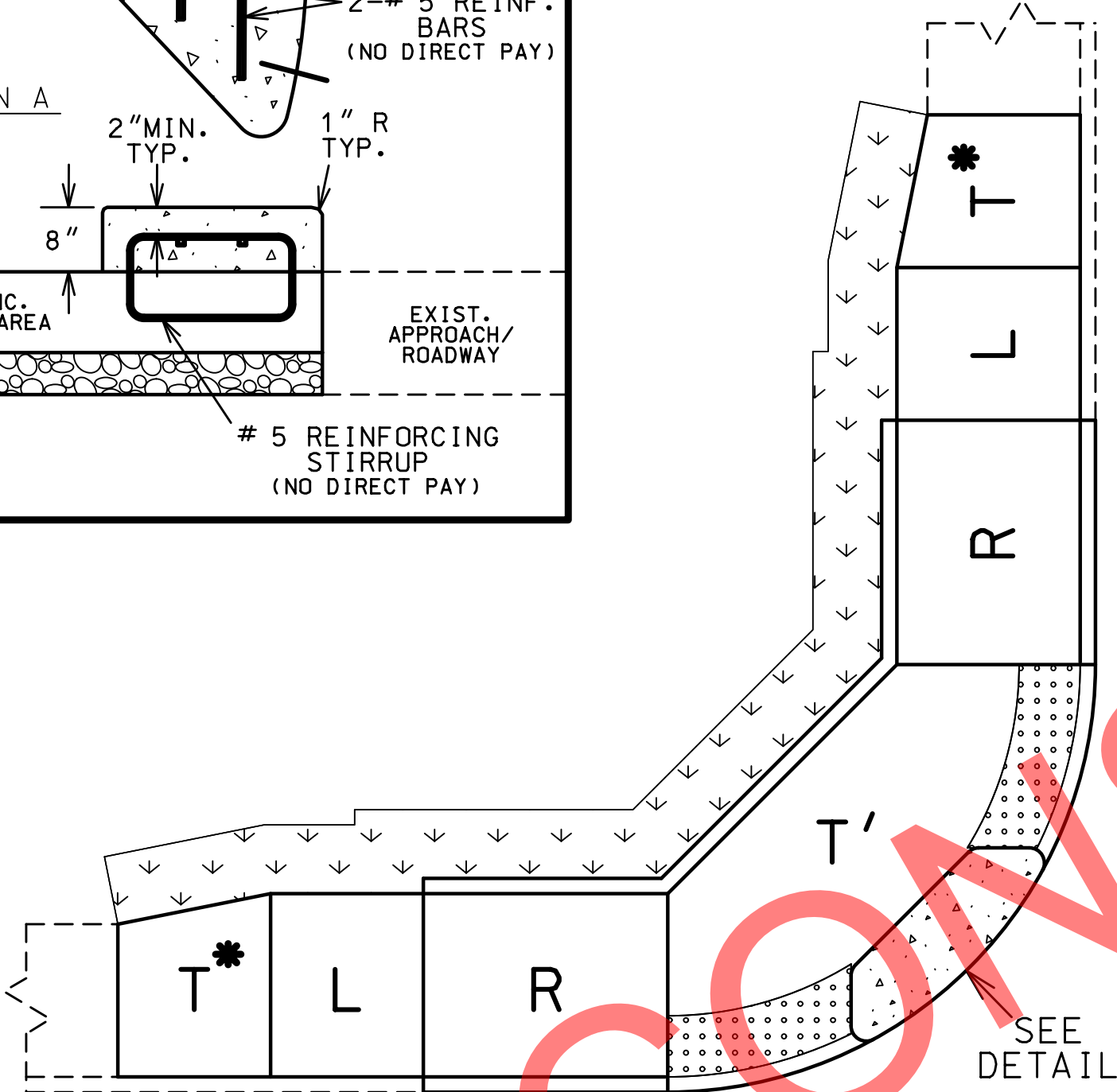
DIAGONAL – TYPE 3											
TYPE 3-A											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	–	24.0	28.0	–	20.6	25.0	–	20.6	25.0	
CURB RAMP	SY	–	24.4	27.0	–	26.9	31.2	–	32.2	37.4	
CONC. SIDEWALK	SY	–	11.2	12.8	–	9.8	11.4	–	9.8	11.4	
TYPE 1 AGGREGATE	SY	–	35.6	39.8	–	36.7	42.6	–	42.0	48.8	
ADA LINEAR GRADING	LF	–	51.0	51.0	–	59.0	59.0	–	67.0	67.0	
SODDING	SY	–	11.6	11.4	–	12.9	12.9	–	14.9	14.9	
8"SW OR MED STRIP	SY	–	3.0	2.2	–	3.0	2.2	–	3.0	2.2	
TYPE 3-B											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	–	24.0	28.0	–	20.6	25.0	–	20.6	25.0	
CURB RAMP	SY	–	22.0	26.3	–	25.9	31.2	–	31.2	37.4	
CONC. SIDEWALK	SY	–	11.2	12.8	–	9.8	11.4	–	9.8	11.4	
TYPE 1 AGGREGATE	SY	–	33.2	39.1	–	35.7	42.6	–	41.0	48.8	
ADA LINEAR GRADING	LF	–	51.0	51.0	–	59.0	59.0	–	67.0	67.0	
SODDING	SY	–	15.2	15.3	–	17.1	17.5	–	20.1	20.5	
8"SW OR MED STRIP	SY	–	1.5	1.5	–	1.5	1.5	–	1.5	1.5	
TYPE 3-C											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	–	20.0	24.0	–	20.0	24.0	–	20.0	24.0	
CURB RAMP	SY	–	20.7	26.8	–	25.1	31.5	–	30.4	37.7	
CONC. SIDEWALK	SY	–	11.2	12.8	–	9.8	11.4	–	9.8	11.4	
TYPE 1 AGGREGATE	SY	–	31.9	39.6	–	34.9	42.9	–	40.2	49.1	
ADA LINEAR GRADING	LF	–	51.0	51.0	–	58.0	58.0	–	67.0	67.0	
SODDING	SY	–	18.8	19.3	–	21.3	22.1	–	25.3	26.1	
8"SW OR MED STRIP	SY	–	1.0	1.6	–	1.0	1.6	–	1.0	1.6	
TYPE 3-D											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	–	24.0	28.0	–	22.4	26.5	–	22.4	26.5	
CURB RAMP	SY	–	15.9	19.1	–	17.7	21.4	–	20.4	24.5	
CONC. SIDEWALK	SY	–	5.6	6.4	–	4.9	5.7	–	4.9	5.7	
TYPE 1 AGGREGATE	SY	–	21.5	25.5	–	22.6	27.1	–	25.3	30.2	
ADA LINEAR GRADING	LF	–	31.0	31.0	–	34.0	34.0	–	38.0	38.0	
SODDING	SY	–	12.6	12.9	–	13.5	14.0	–	15.5	16.0	
8"SW OR MED STRIP	SY	–	1.0	0.8	–	1.0	0.8	–	1.0	0.8	
TYPE 3-E											
LENGTH (LF)		8			12			16			REMARKS
WIDTH (LF)		4	5	6	4	5	6	4	5	6	
TRUNCATED DOMES	SF	–	20.0	24.0	–	20.0	24.0	–	20.0	24.0	
CURB RAMP	SY	–	17.2	19.8	–	17.7	21.4	–	20.4	24.5	
CONC. SIDEWALK	SY	–	8.4	10.7	–	7.3	9.4	–	7.3	9.4	
TYPE 1 AGGREGATE	SY	–	25.6	30.5	–	25.0	30.8	–	27.7	33.9	
ADA LINEAR GRADING	LF	–	30.0	30.0	–	35.5	35.5	–	39.5	39.5	
SODDING	SY	–	12.4	12.4	–	12.9	13.3	–	14.9	15.3	
8"SW OR MED STRIP	SY	–	1.6	1.6	–	1.6	1.6	–	1.6	1.6	



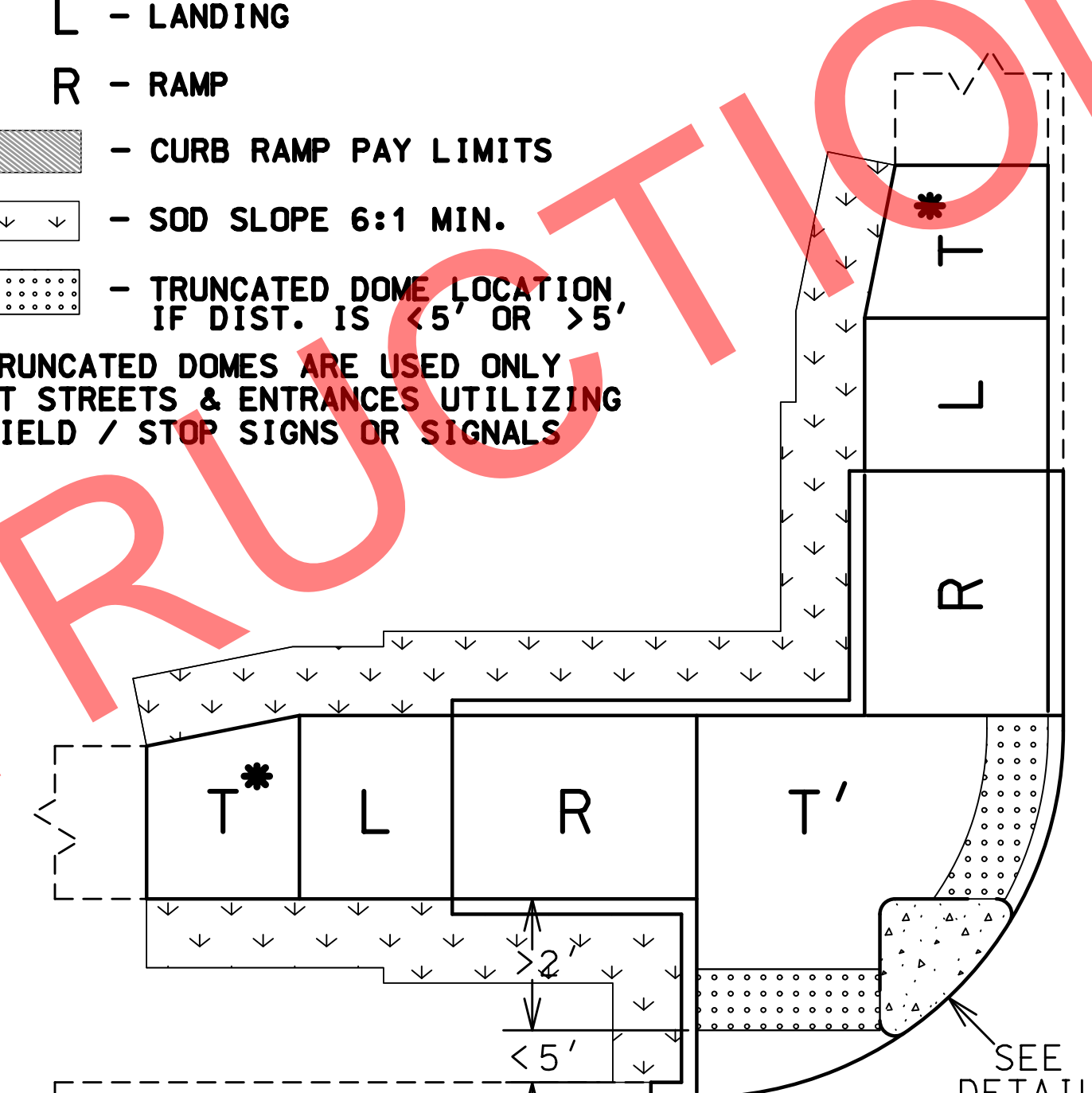
T'- IS TO BE 8" THICK AT ALL PAVED APPROACHES AND STREETS IF WITHIN THE RADIUS. PAID FOR AS CONCRETE CURB RAMP

NOTE: QUANTITIES ARE CALCULATED BY AREA AND MAY NOT MATCH EXACT FIELD CONDITIONS.

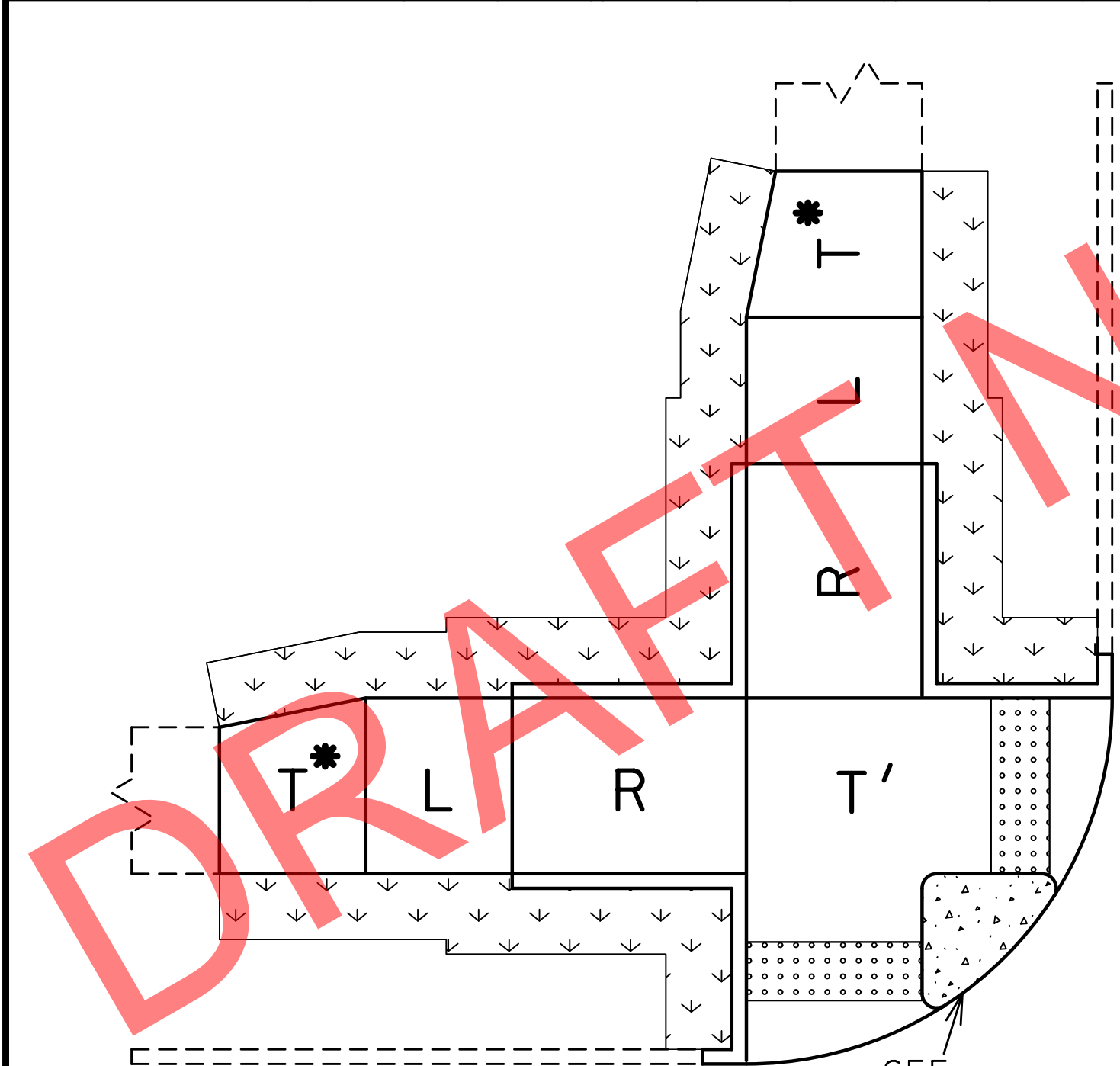
- T - TRANSITION TO EXISTING SW OR PAVED APPROACH (LANDING PREFERRED IF CONDITIONS ALLOW)
- T* - IS STILL NEEDED EVEN IF THE EXISTING SIDEWALK IS THE SAME WIDTH AS THE NEW SIDEWALK. (IT WILL BLEND THE EXIST XSLOPE WITH THE NEW LANDING XSLOPE)
- L - LANDING
- R - RAMP
- CURB RAMP PAY LIMITS
- SOD SLOPE 6:1 MIN.
- TRUNCATED DOME LOCATION, IF DIST. IS <5' OR >5'
- TRUNCATED DOMES ARE USED ONLY AT STREETS & ENTRANCES UTILIZING YIELD / STOP SIGNS OR SIGNALS



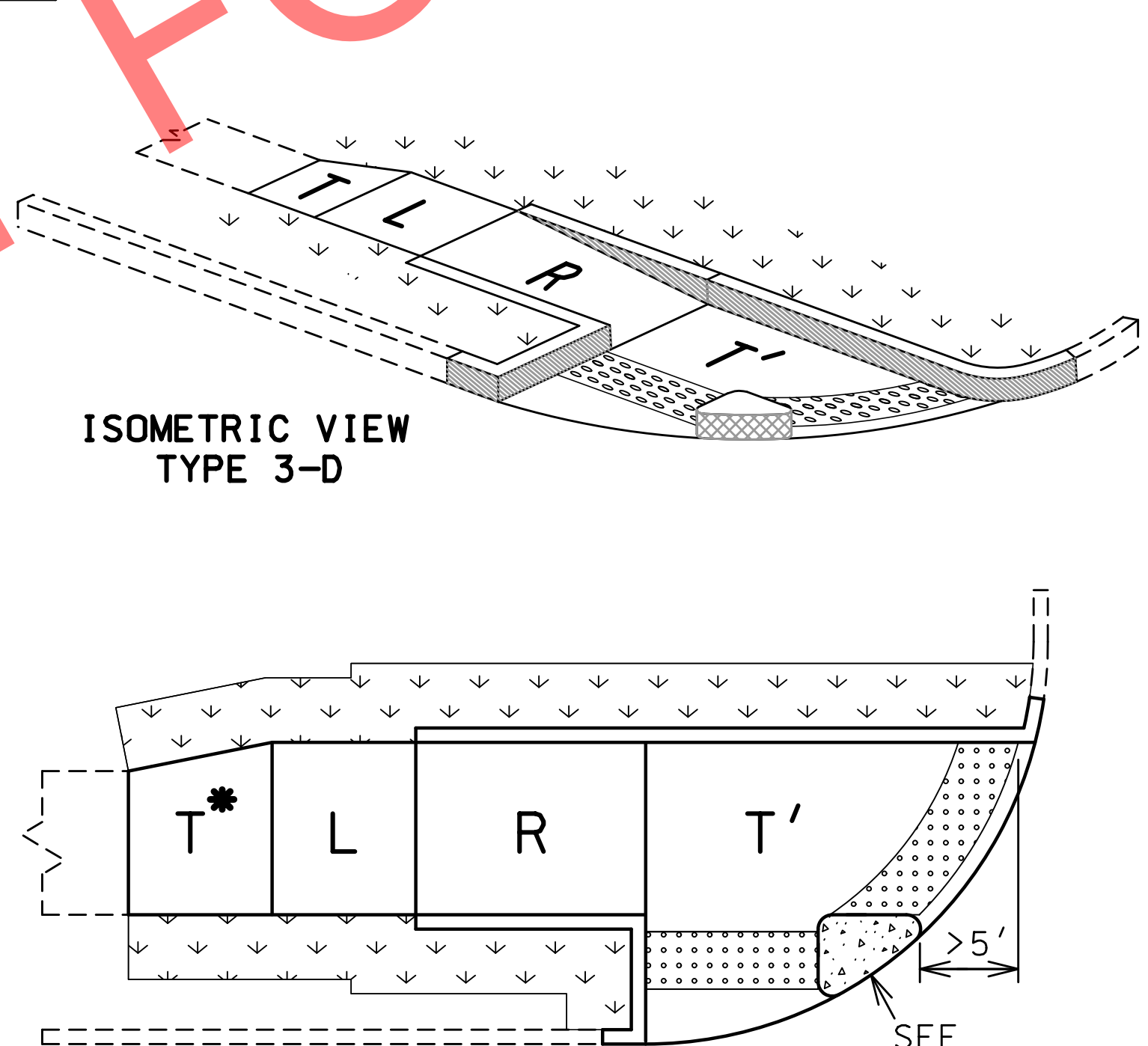
TYPE 3-A



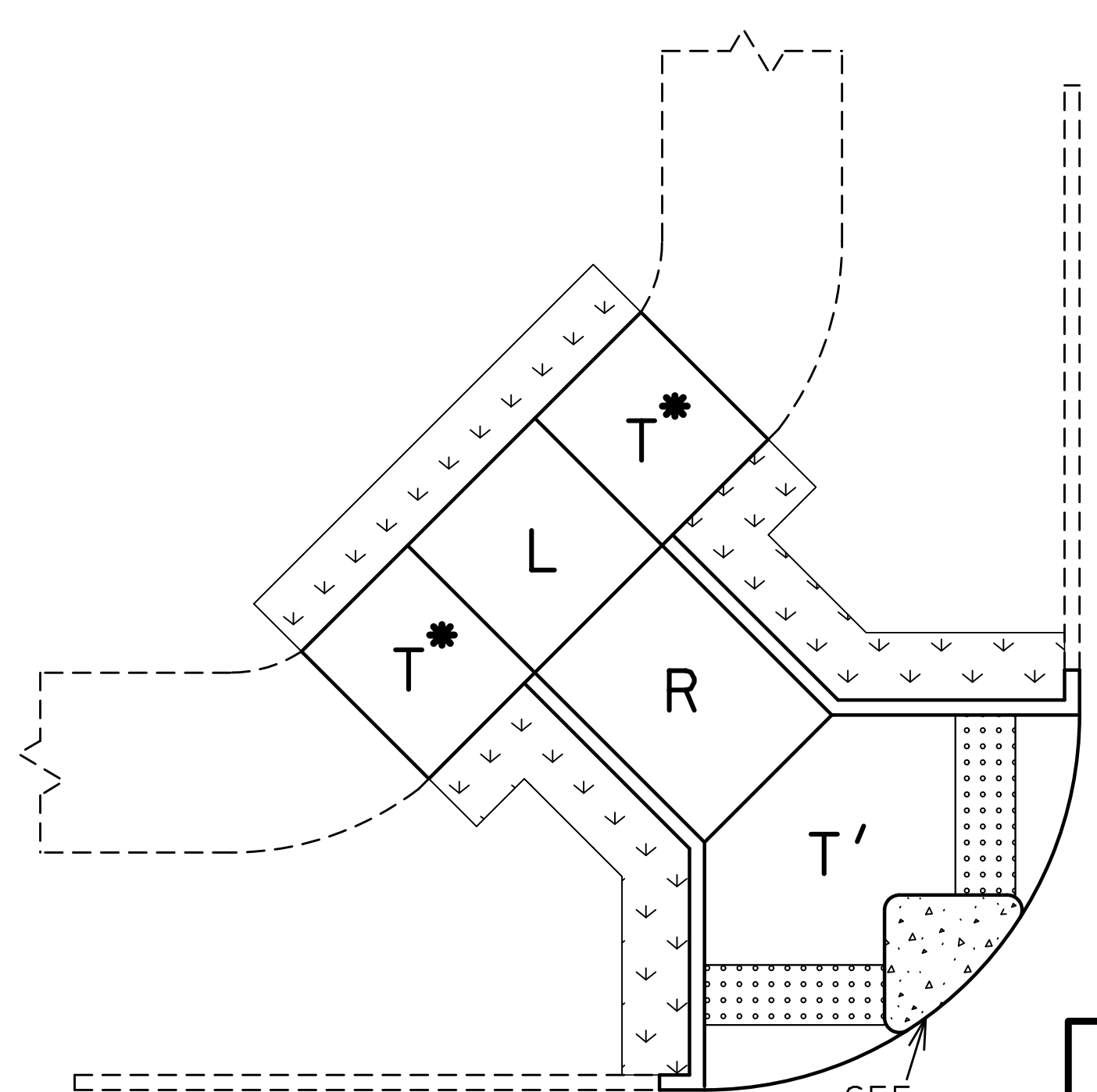
TYPE 3-B



TYPE 3-C



TYPE 3-D



TYPE 3-E

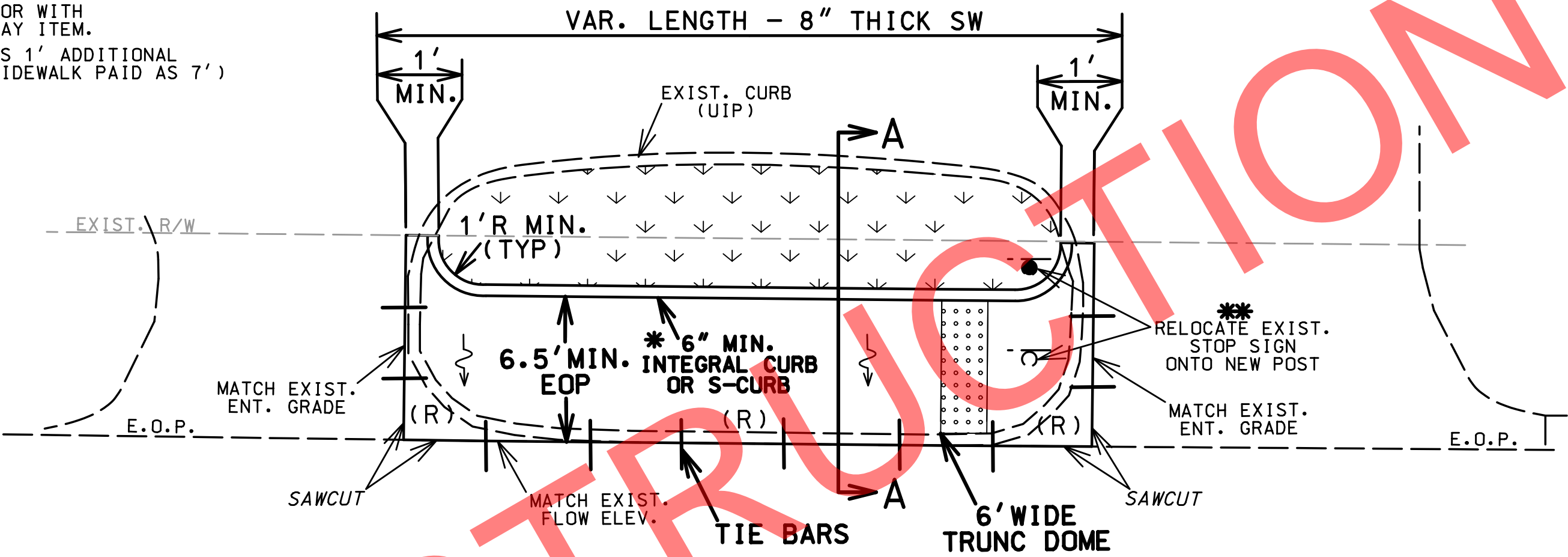
NOTES FOR MODIFIED SIDEWALK:

1. REMOVE EXIST. CURB & RAISED ISLAND WITHIN LIMITS SHOWN.
2. AREA INSIDE FINAL CURB TO BE REPAIRED OR REPLACED WITH EXISTING SURFACE MATERIAL. GRADE TO DRAIN.
3. CONSTRUCT 8" THICK CONC. SIDEWALK FLUSH WITH EXIST. CONC. PAVED APPROACH.
4. CONSTRUCT CURB ADJACENT TO MODIFIED SIDEWALK.
5. MODIFIED SIDEWALK PAID FOR AS 8" SIDEWALK.
6. 6' MINIMUM WIDTH.
7. NO DIRECT PAY FOR SAW CUTS AND TIE BARS (ON 12" CENTERS MAX.)
8. TRUNCATED DOMES ARE USED ONLY AT STREETS & ENTRANCES UTILIZING STOP SIGNS OR SIGNALS.
9. X-SLOPE 1% PREFERRED (2% MAX.)
10. USE S-CURB IF CONSTRUCTING CURB ON R/W LINE.

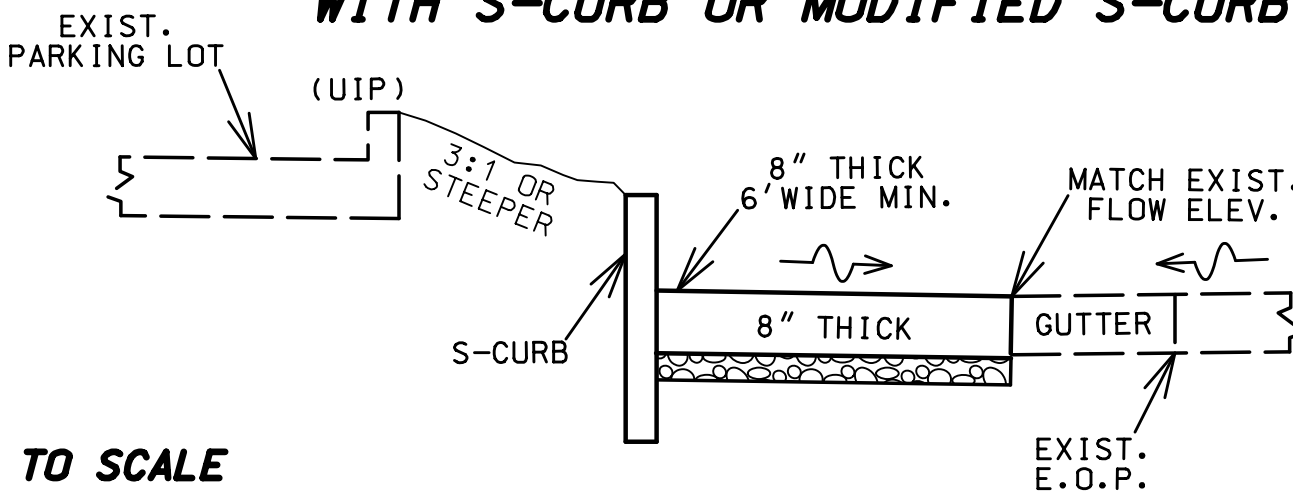
* INTEGRAL CURB IS PAID FOR WITH THE 8" CONC. SIDEWALK PAY ITEM.
INTEGRAL CURB IS PAID AS 1' ADDITIONAL SIDEWALK WIDTH (EX. 6' SIDEWALK PAID AS 7')
(0.11 SY/LF OF CURB)

TYPICAL
MODIFIED SIDEWALK
8" THICK

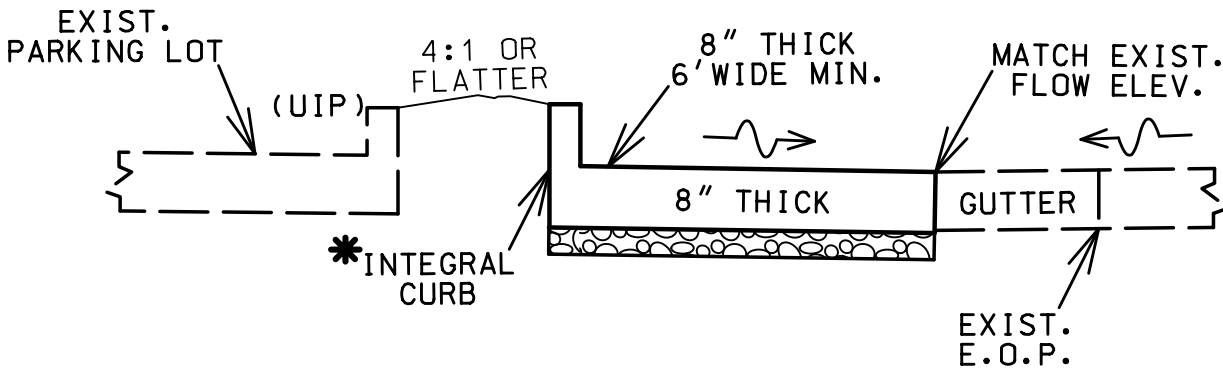
** TRUNCATED DOMES ARE USED ONLY AT STREETS & ENTRANCES UTILIZING STOP/YIELD SIGNS OR SIGNALS.



SECTION A-A
WITH S-CURB OR MODIFIED S-CURB



SECTION A-A
WITH INTEGRAL CURB



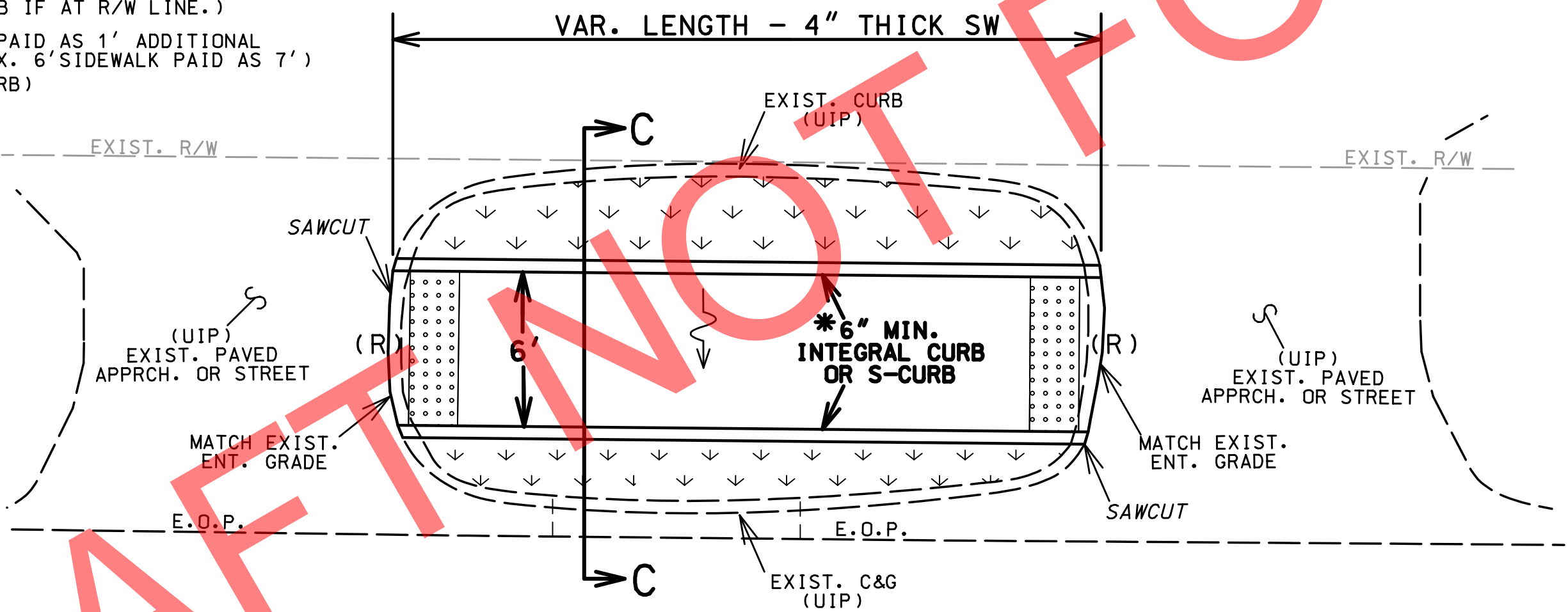
NOT TO SCALE

NOTES FOR CUT-THRU SIDEWALK:

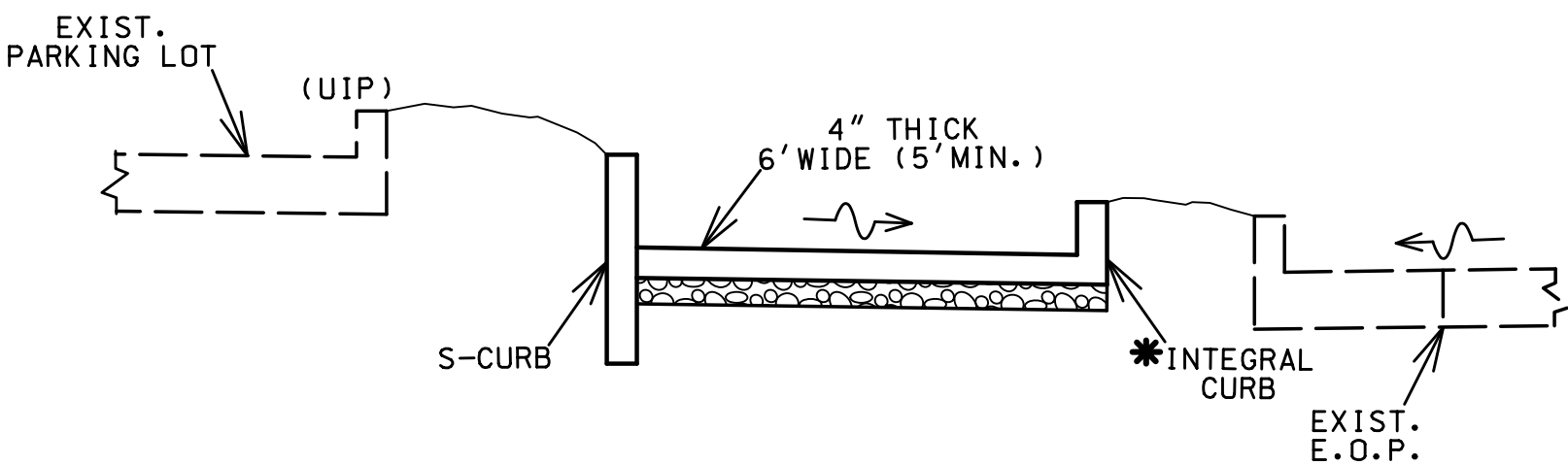
1. REMOVE EXIST. CURB & RAISED ISLAND WITHIN LIMITS SHOWN.
2. AREA INSIDE FINAL CURB TO BE REPAIRED OR REPLACED WITH EXISTING SURFACE MATERIAL. GRADE TO DRAIN.
3. CONSTRUCT 4" THICK CONC. SIDEWALK FLUSH WITH EXIST. CONC. PAVED APPROACH.
4. CONSTRUCT CURB ON BOTH SIDES ADJACENT TO SIDEWALK.
5. CUT-THRU SIDEWALK PAID FOR AS 4" SIDEWALK.
6. 6' PREFERRED WIDTH (5' MIN.)
7. SAW CUTS (NO DIRECT PAY).
8. TRUNCATED DOMES ARE USED ONLY AT STREETS & ENTRANCES UTILIZING STOP SIGNS OR SIGNALS.
9. X-SLOPE 1% PREFERRED (2% MAX.)
10. USE S-CURB IF CONSTRUCTING CURB ON R/W LINE.

* INTEGRAL CURB IS PAID FOR AS 4" CONC. SIDEWALK PAY ITEM. S-CURB IS PAID FOR AS ITS OWN PAY ITEM.
(ALWAYS USE S-CURB IF AT R/W LINE.)
INTEGRAL CURB IS PAID AS 1' ADDITIONAL SIDEWALK WIDTH (EX. 6' SIDEWALK PAID AS 7')
(0.11 SY/LF OF CURB)

TYPICAL
CUT-THRU SIDEWALK

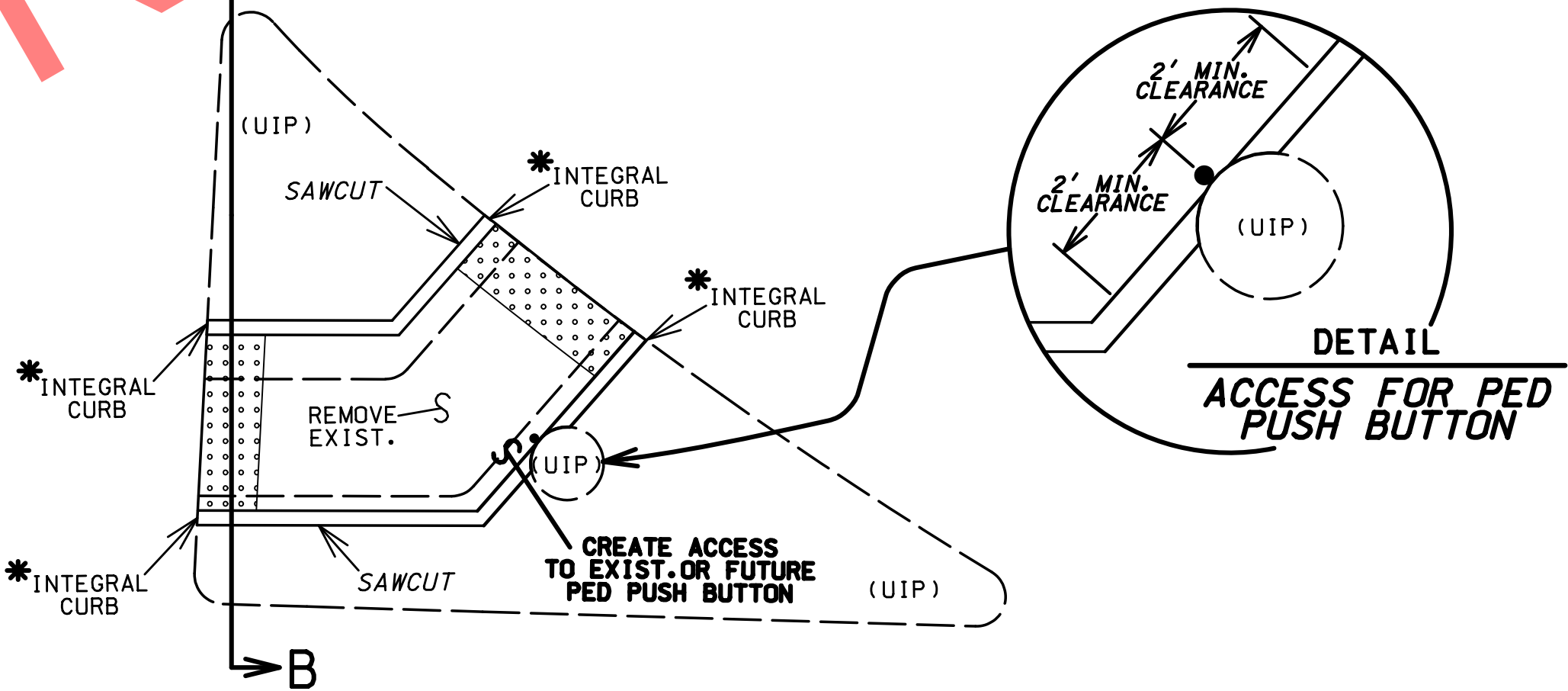


SECTION C-C
WITH S-CURB OR INTEGRAL

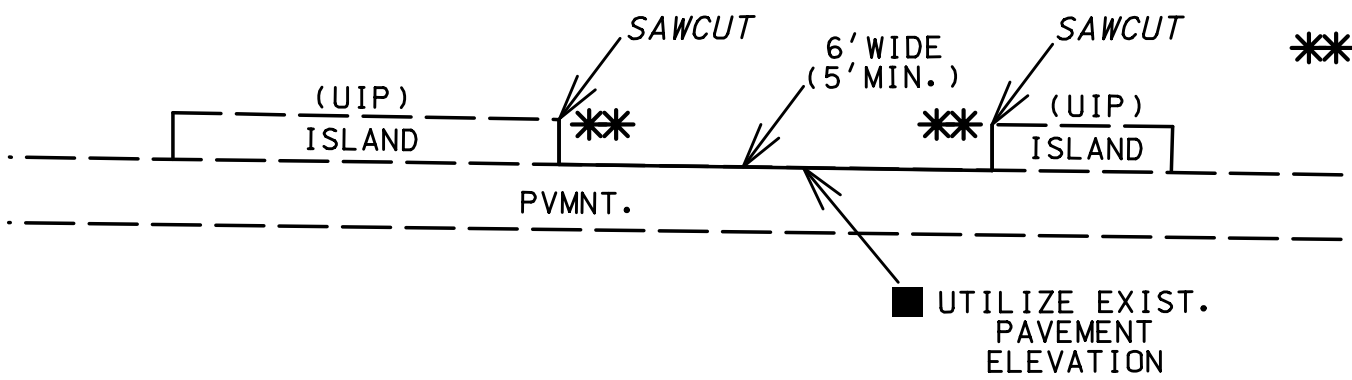


NOT TO SCALE

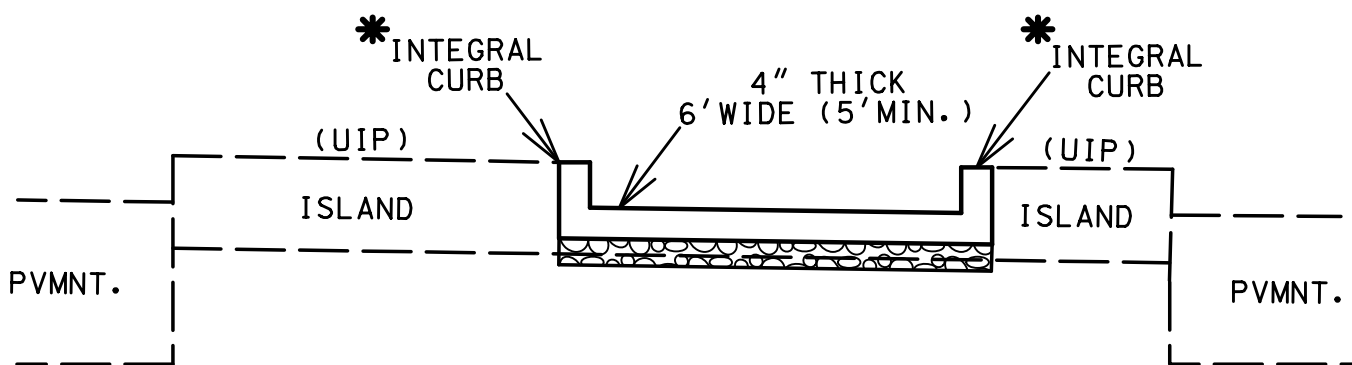
TYPICAL
ISLAND CUT-THRU SIDEWALK
X-SLOPE 2% MAX. CONSTRUCT TO DRAIN



SECTION B-B
ISLAND CUT-THRU SIDEWALK
FOR EXISTING 'PINNED-ON' ISLAND



SECTION B-B
ISLAND CUT-THRU SIDEWALK

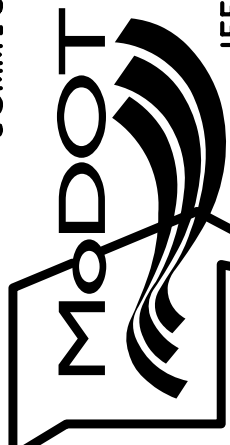


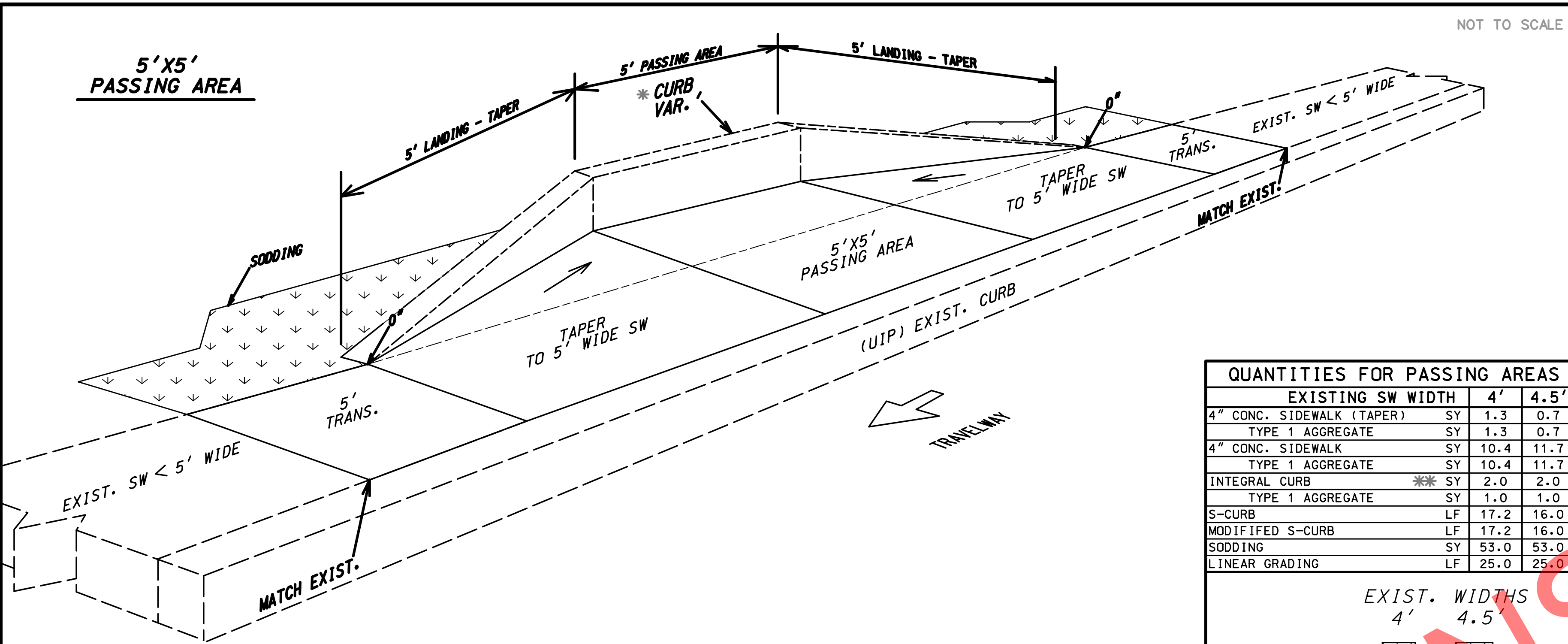
■ SMALL QTY. HAS BEEN INCLUDED FOR 8" THICK SIDEWALK TO ADDRESS ANY UNFORSEEN PVMNT. REPAIRS OR DIFFERENCES IN ELEVATION. (UNDERRUN IF FIELD CONDITIONS DO NOT WARRANT)

** NO INTEGRAL CURB, AGGR. OR LIN. GRADING REQUIRED IF THE ISLAND IS 'PINNED-ON'

* INTEGRAL CURB IS PAID FOR WITH THE 4" CONC. SIDEWALK PAY ITEM.
INTEGRAL CURB IS PAID AS 1' ADDITIONAL SIDEWALK WIDTH (EX. 6' SIDEWALK PAID AS 7')
(0.11 SY/LF OF CURB)

MODIFIED SIDEWALK
AND
SIDEWALK CUT-THRU'S
TYPICAL SECTION
SHEET 9 OF 10

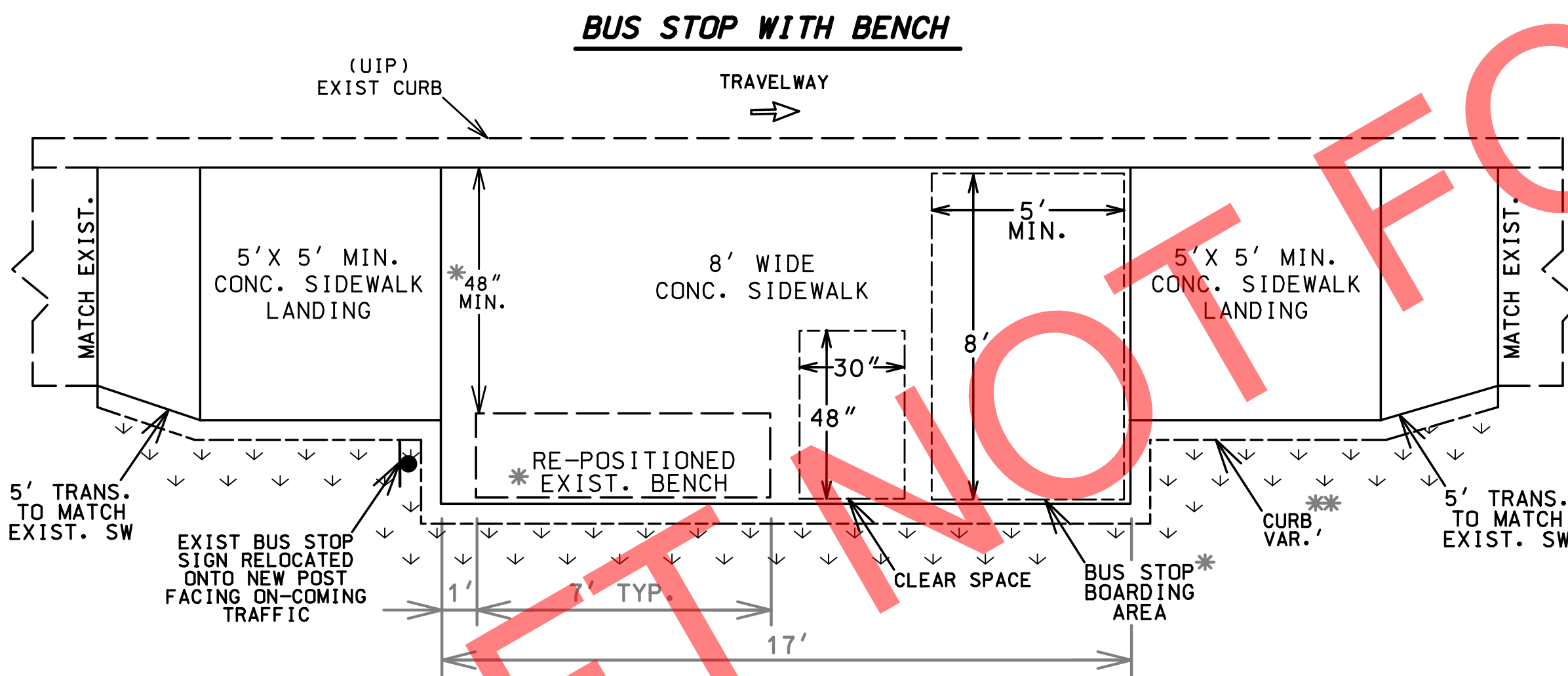
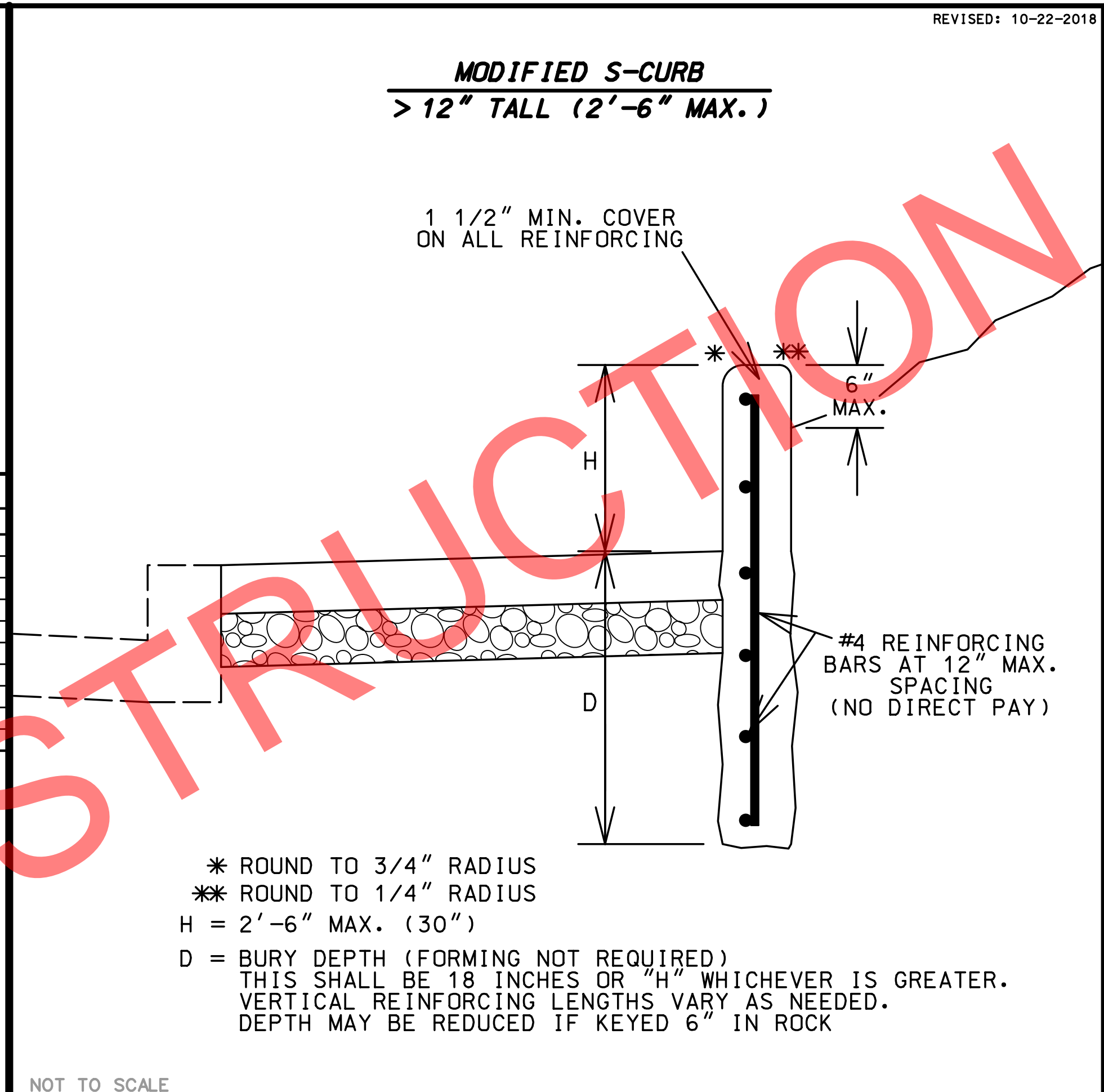
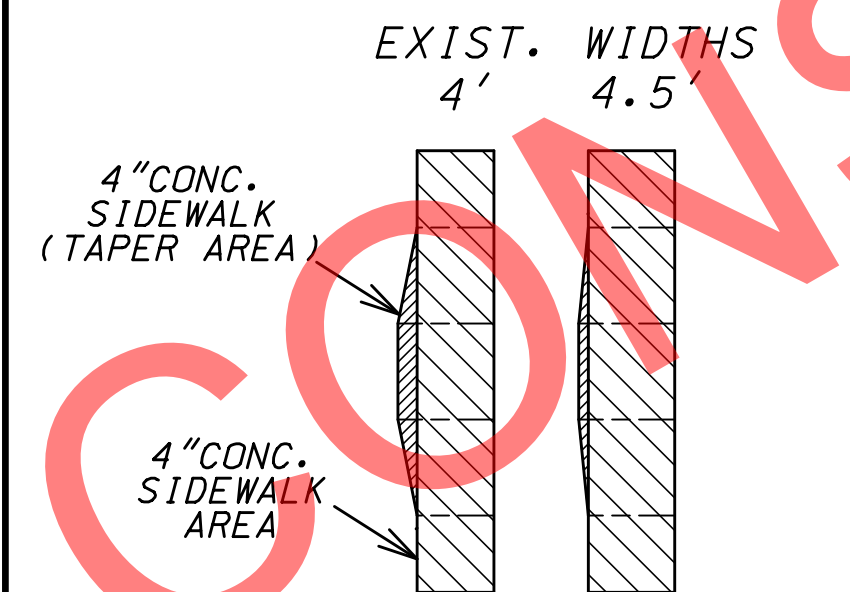
DATE PREPARED 2/7/2022	
ROUTE AC RD	STATE MO
DISTRICT NW	SHEET NO. D.2
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



NOTES:

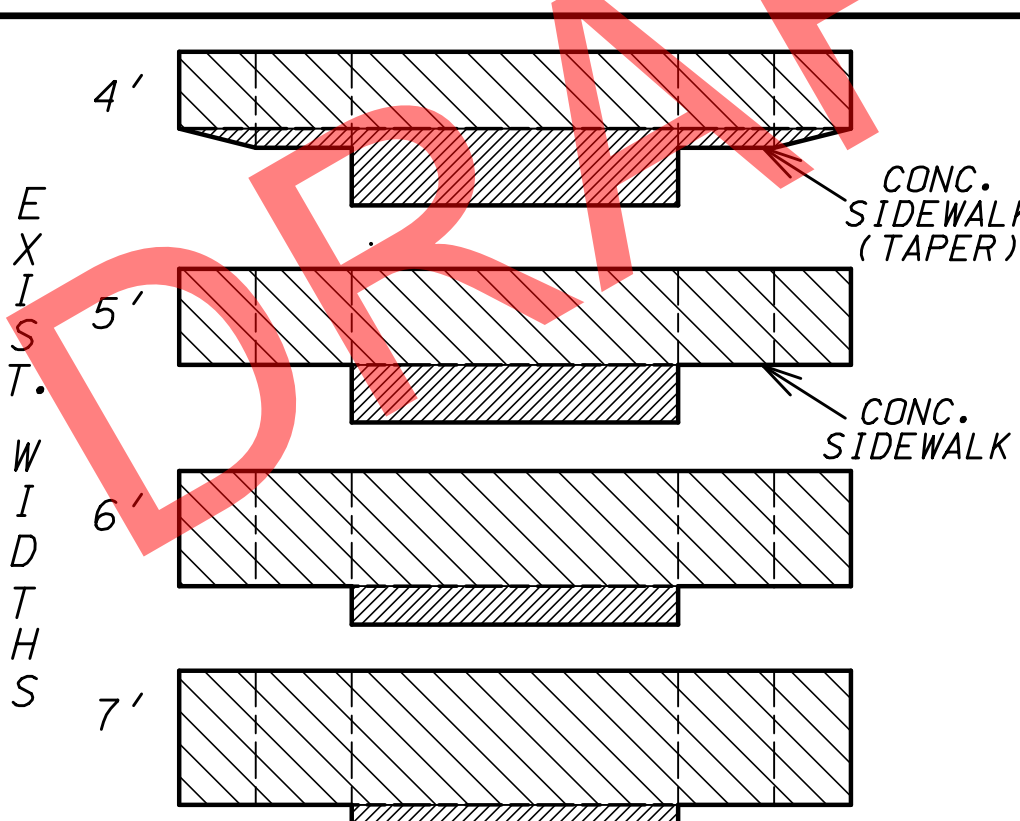
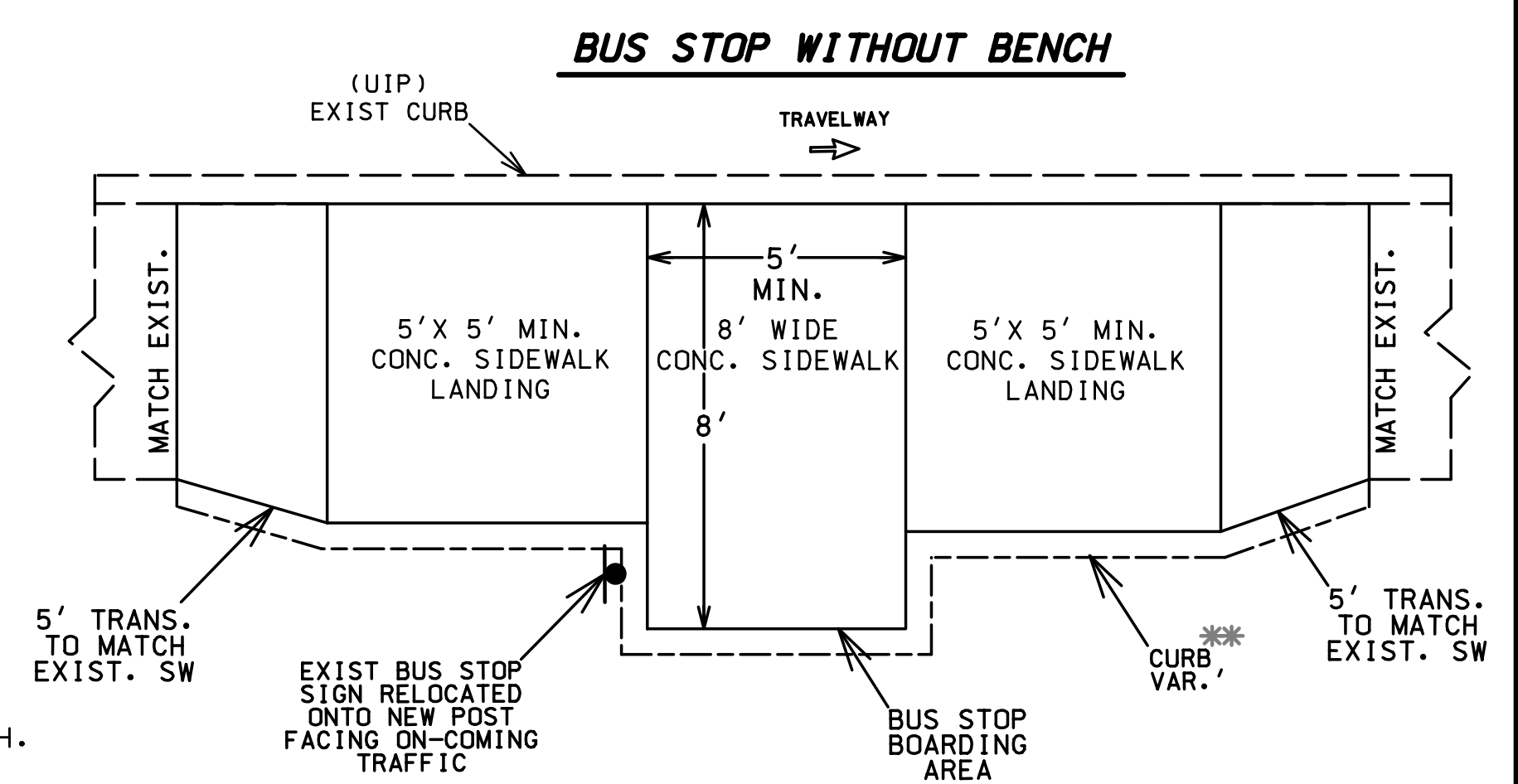
1. PASSING AREA REQUIRED EVERY 200' ON SIDEWALK THAT IS LESS THAN 5' WIDE.
- * 2. CURB MAY OR MAY NOT BE NEEDED DEPENDING ON FIELD CONDITIONS. IF CURB IS NEEDED, THE CURB HEIGHT WILL VARY DEPENDING ON FIELD CONDITIONS. (INTEGRAL CURB, S-CURB OR MOD. S-CURB).
3. S-CURB OVER 12" TALL IS PAID FOR AS 'MODIFIED S-CURB' AND REQUIRES REINFORCEMENT (NO DIRECT PAY). SEE DETAIL THIS SHEET.
- ** 4. INTEGRAL CURB IS PAID FOR IN THE 4" CONC. SIDEWALK PAY ITEM, PAID AS 1' ADDITIONAL SIDEWALK WIDTH. (EX. 6" SW PAID AS 7") (0.11 SY/LF OF CURB)

QUANTITIES FOR PASSING AREAS			
EXISTING SW WIDTH		4'	4.5'
4" CONC. SIDEWALK (TAPER)	SY	1.3	0.7
TYPE 1 AGGREGATE	SY	1.3	0.7
4" CONC. SIDEWALK	SY	10.4	11.7
TYPE 1 AGGREGATE	SY	10.4	11.7
INTEGRAL CURB	SY	2.0	2.0
TYPE 1 AGGREGATE	SY	1.0	1.0
S-CURB	LF	17.2	16.0
MODIFIED S-CURB	LF	17.2	16.0
SODDING	SY	53.0	53.0
LINEAR GRADING	LF	25.0	25.0

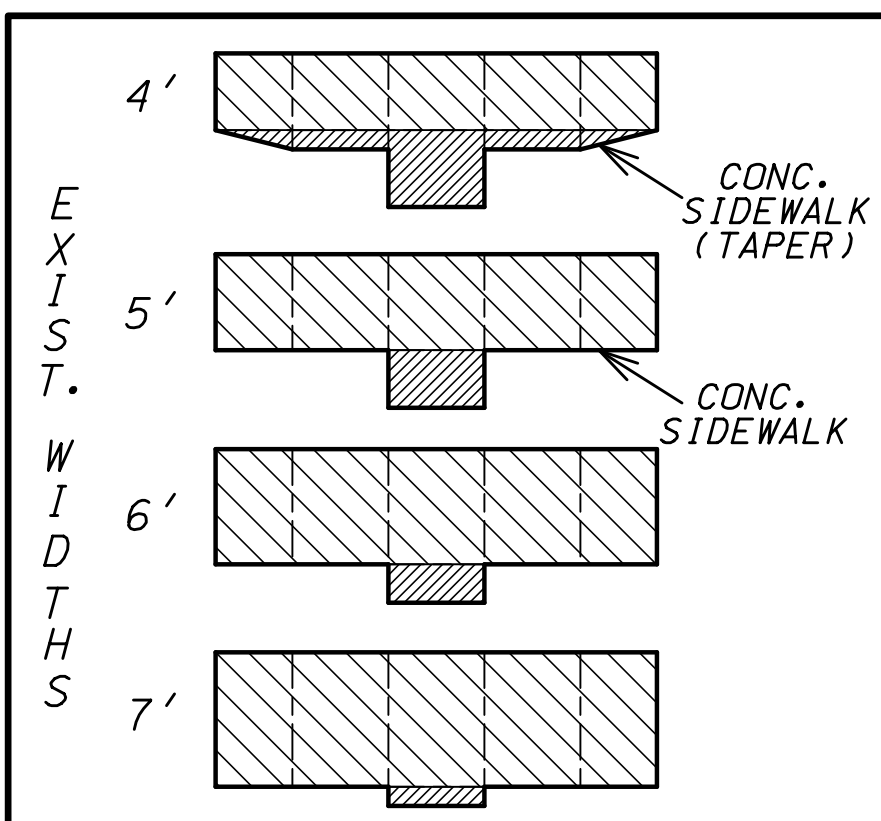


NOTES:

- * 1. THE RE-POSITIONED BENCH SHALL NOT BE PLACED ON THE 5'X8' BUS STOP BOARDING AREA. PLACE THE BACK OF THE BENCH AT THE BACK EDGE OF THE CONC. PAD TO PROVIDE MAX. CLEARANCE.
- ** 2. CURB USAGE DEPENDS ON FIELD CONDITIONS. IF CURB IS NEEDED DUE TO CUT, THE CURB HEIGHT WILL VARY DEPENDING ON FIELD CONDITIONS. (INTEGRAL CURB, S-CURB OR MOD. S-CURB).
3. S-CURB OVER 12" TALL IS PAID FOR AS 'MODIFIED S-CURB' AND REQUIRES REINFORCEMENT (NO DIRECT PAY). SEE DETAIL THIS SHEET.
- ** 4. INTEGRAL CURB IS PAID FOR IN THE 4" CONC. SIDEWALK PAY ITEM. INTEGRAL CURB PAID AS 1' ADDITIONAL SIDEWALK WIDTH. (EX. 6" SW PAID AS 7") (0.11 SY/LF OF CURB)



QUANTITIES FOR BUS STOPS WITH BENCH				
EXISTING SW WIDTH		4'	5'	6'
4" CONC. SIDEWALK (TAPER)	SY	9.3	5.8	3.9
TYPE 1 AGGREGATE	SY	9.3	5.8	3.9
4" CONC. SIDEWALK	SY	16.5	20.4	24.3
TYPE 1 AGGREGATE	SY	16.5	20.4	24.3
INTEGRAL CURB	SY	5.4	3.4	3.2
TYPE 1 AGGREGATE	SY	2.7	1.7	1.6
S-CURB	LF	43.5	27.0	25.0
MODIFIED S-CURB	LF	43.5	27.0	25.0
SODDING	SY	10.6	10.4	9.8
LINEAR GRADING	LF	37.0	37.0	37.0



QUANTITIES FOR BUS STOPS - NO BENCH				
EXISTING SW WIDTH		4'	5'	6'
4" CONC. SIDEWALK (TAPER)	SY	3.9	1.8	1.3
TYPE 1 AGGREGATE	SY	3.9	1.8	1.3
4" CONC. SIDEWALK	SY	10.4	12.9	15.5
TYPE 1 AGGREGATE	SY	10.4	12.9	15.5
INTEGRAL CURB	SY	3.8	2.0	1.8
TYPE 1 AGGREGATE	SY	1.9	1.0	0.9
S-CURB	LF	31.0	15.0	13.0
MODIFIED S-CURB	LF	31.0	15.0	13.0
SODDING	SY	7.6	7.4	6.8
LINEAR GRADING	LF	25.0	25.0	25.0

PASSING AREAS,
BUS STOPS, AND
MODIFIED S-CURB
TYPICAL SECTION
SHEET 10 OF 10

DATE PREPARED
2/7/2022

ROUTE
AC RD

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

STATE
MO

SHEET NO.
D.2

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

olsson

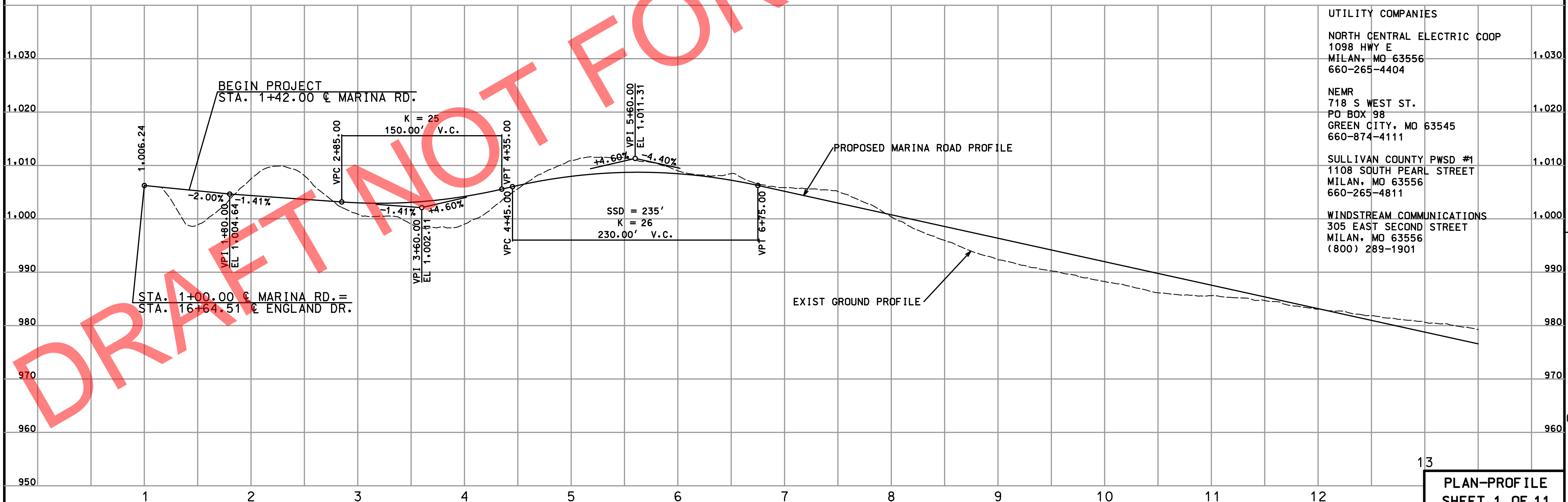
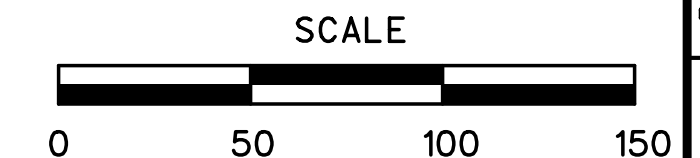
1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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

CONTRACTOR TO REPAIR, SEED AND MULCH ANY DAMAGES TO SIDE SLOPES OUTSIDE PAVING CONSTRUCTION AT CONTRACTORS EXPENSE.

CURVE MARINA_RD_3
PI 6+45.78
PC 5+06.64
PT 7+80.09
Δ 26° 06' 44.6" (LT)
D 9° 32' 57.5"
L 273.45'
T 139.14'

CURVE MARINA_RD_6
PI 12+28.14
PC 10+76.70
PT 13+68.87
Δ 37° 11' 59.8" (RT)
D 12° 43' 56.6"
L 292.17'
T 151.44'
R 450.00'

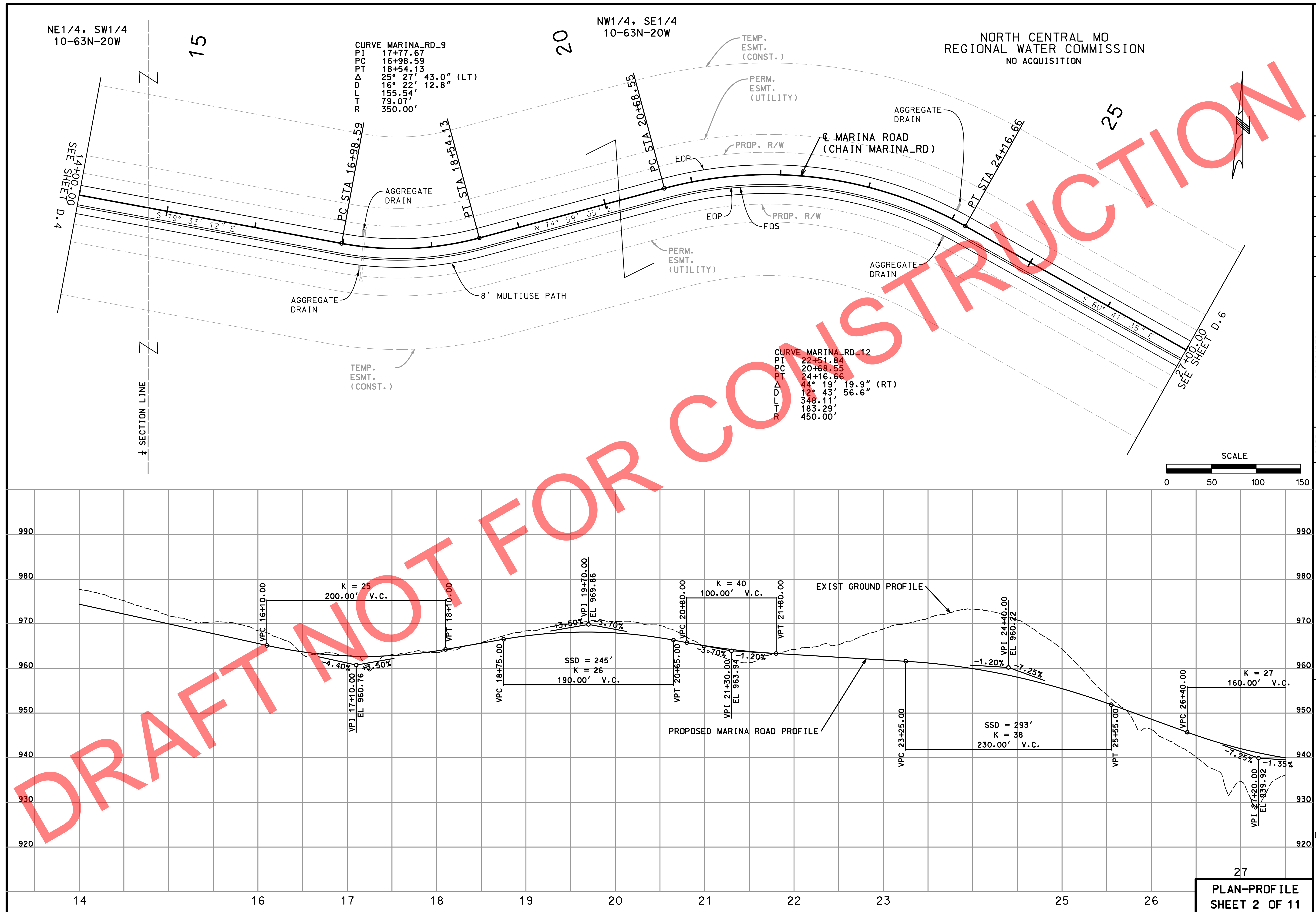


MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION


MoDOT

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

olsson



DATE PREPARED	
2/7/2022	
ROUTE	STATE
AC RD	MO
DISTRICT	SHEET NO.
NW	D.5
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

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1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

NW1/4, SE1/4
10-63N-20W

NE1/4, SE1/4
10-63N-20W

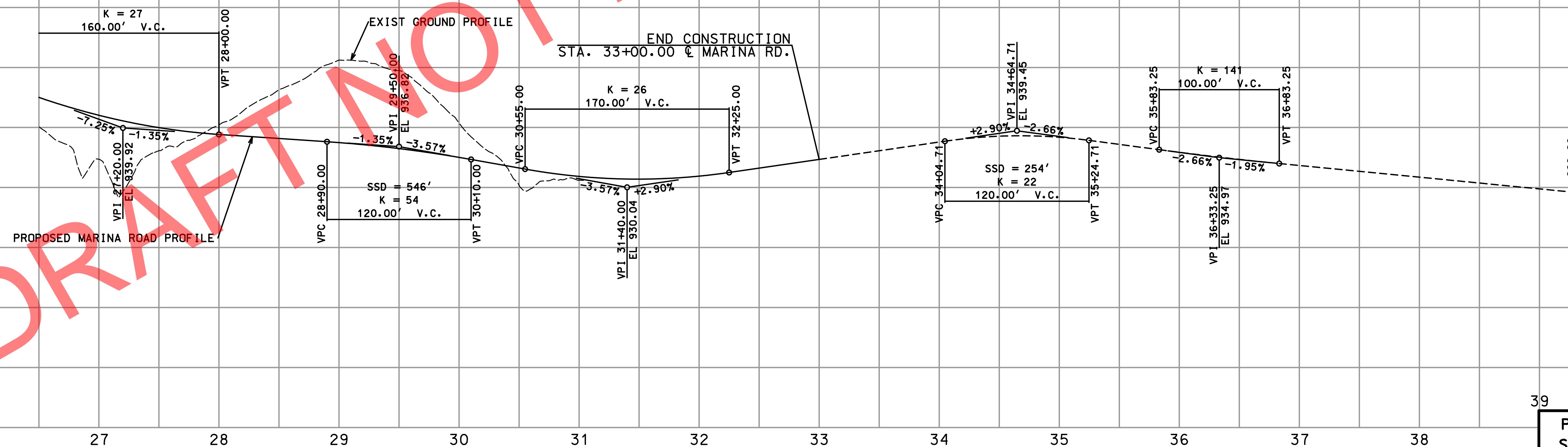
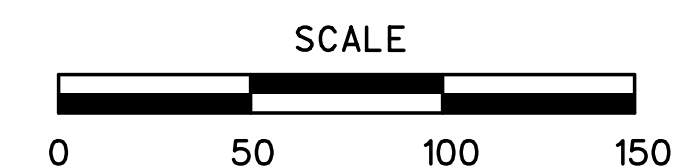
35

CURVE MARINA_RD-15
PI 29+91.95
PC 28+15.19
PT 31+22.90
 Δ 70° 31' 23.9" (LT)
D 22° 55' 05.9"
L 307.72'
T 176.76'
R 250.00'

CURVE MARINA_RD-21
PI 37+07.94
PC 36+27.94
PT 37+53.61
 Δ 90° 00' 00.0" (RT)
D 71° 37' 11.0"
L 125.66'
T 80.00'
R 80.00'

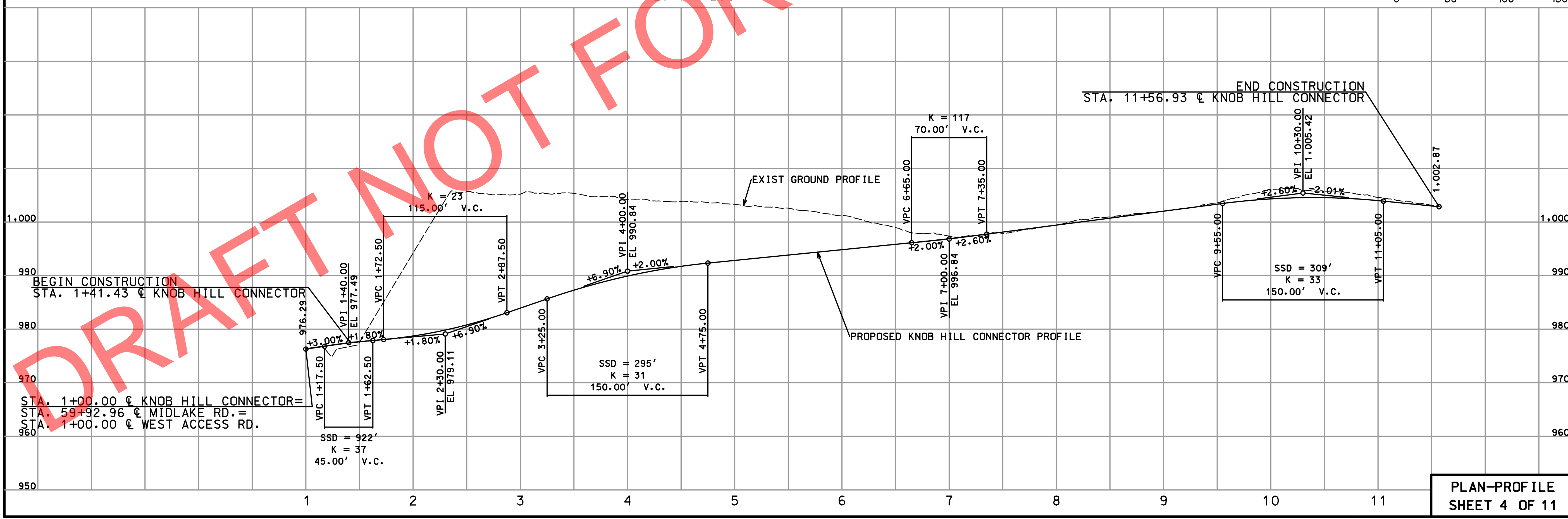
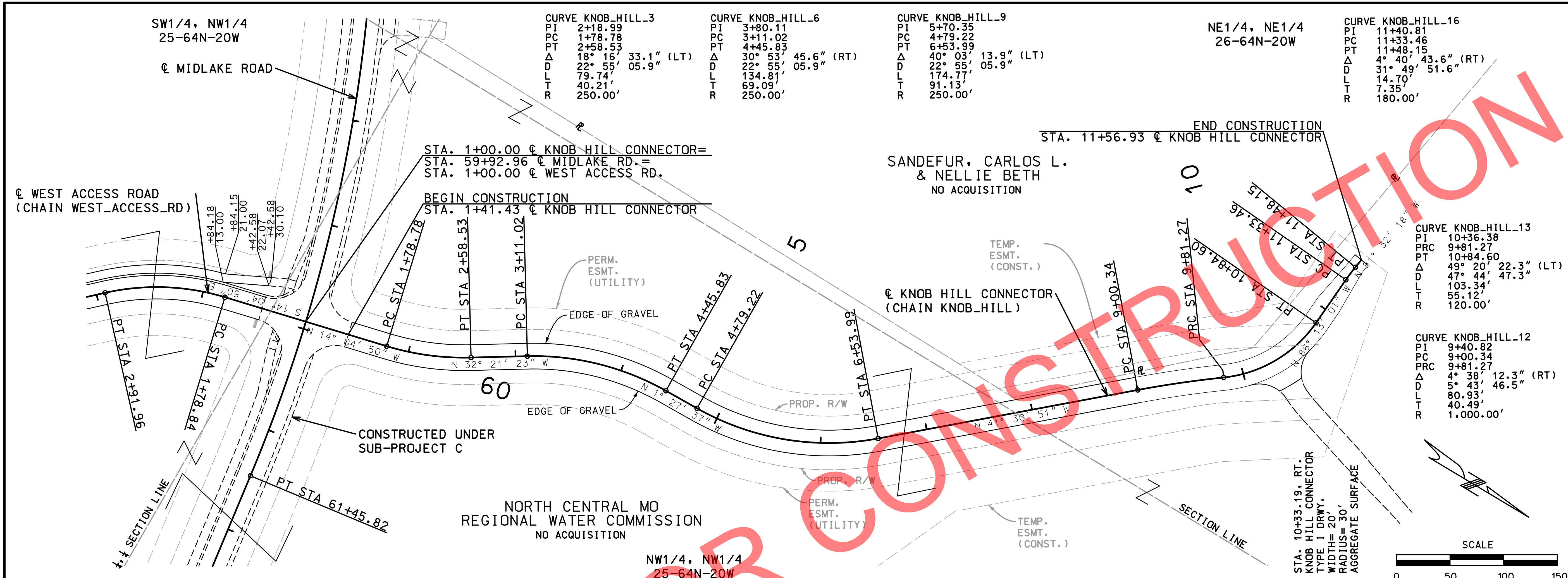
CURVE MARINA_RD-18
PI 33+31.44
PC 31+66.90
PT 34+57.94
 Δ 66° 42' 02.4" (RT)
D 22° 55' 05.9"
L 291.04'
T 164.53'
R 250.00'

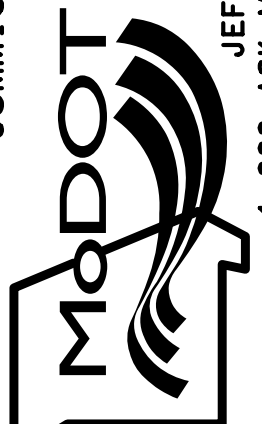
NORTH CENTRAL MO
REGIONAL WATER COMMISSION
NO ACQUISITION



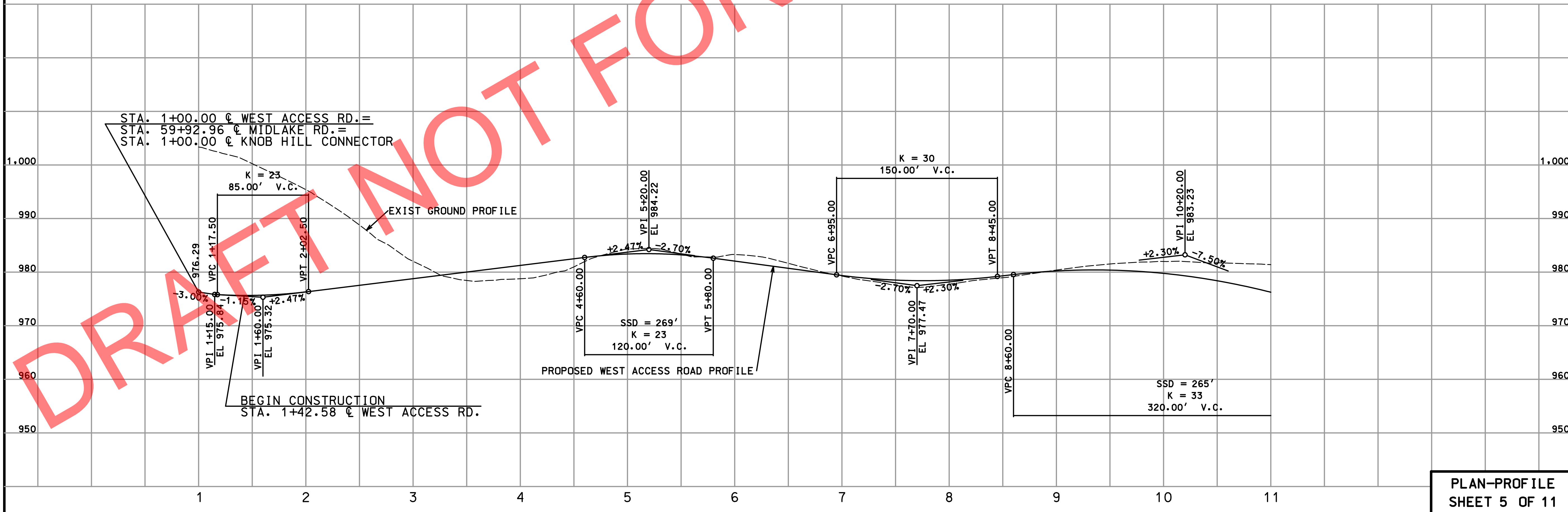
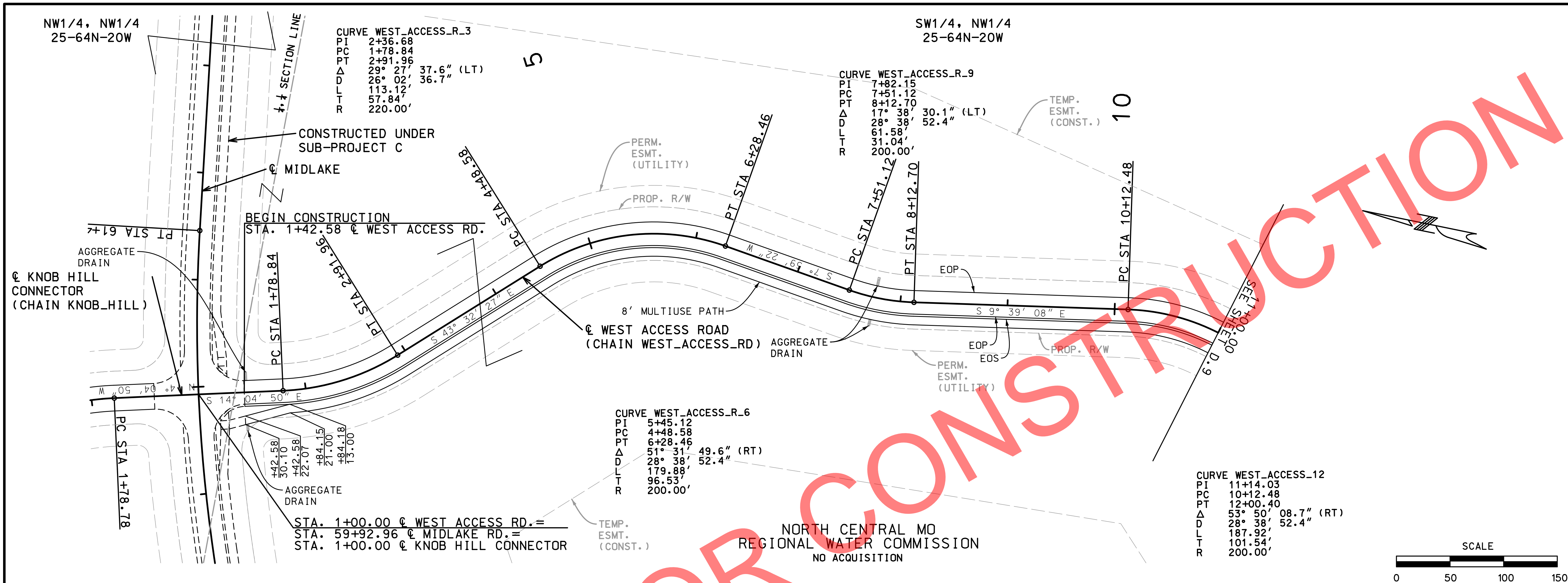
PLAN-PROFILE
SHEET 3 OF 11

DATE PREPARED 2/7/2022	
ROUTE AC RD	STATE MO
DISTRICT NW	SHEET NO. D.6
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



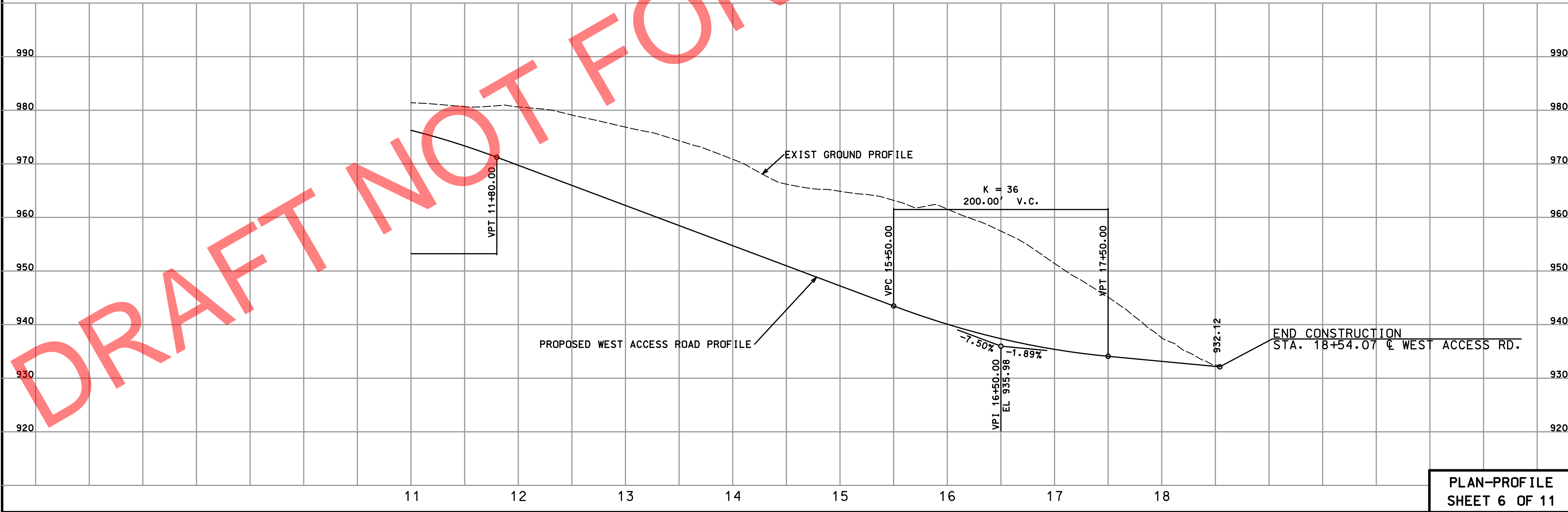
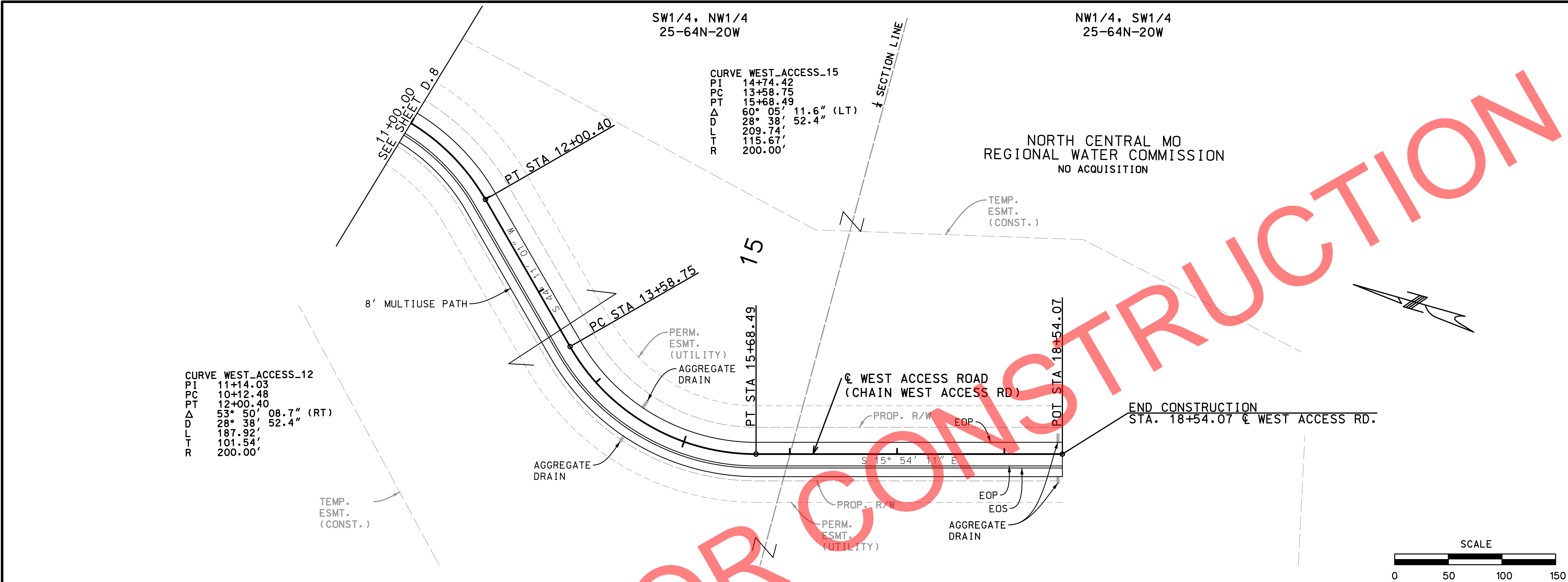
DATE PREPARED 2/7/2022	
ROUTE AC RD	STATE MO
DISTRICT NW	SHEET NO. D.7
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

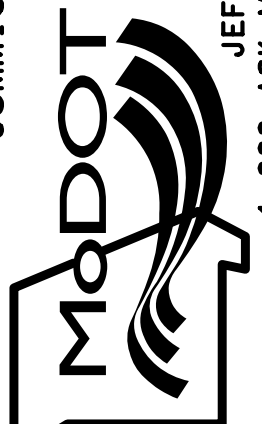

PLAN-PROFILE
SHEET 4 OF 11

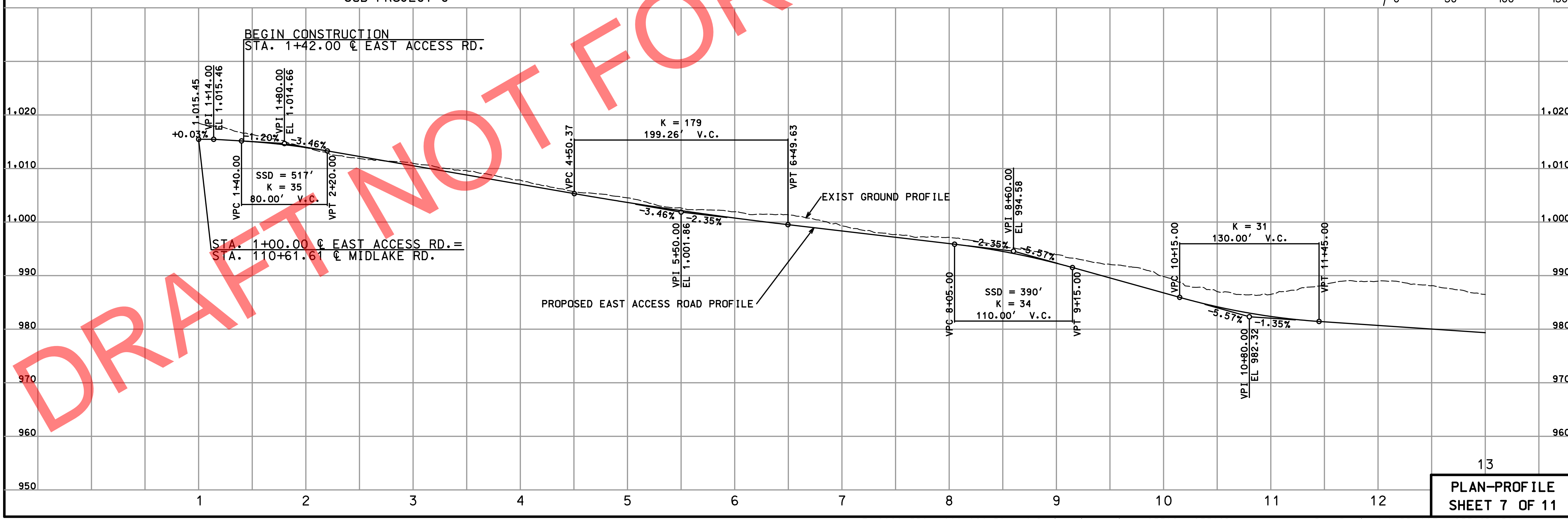
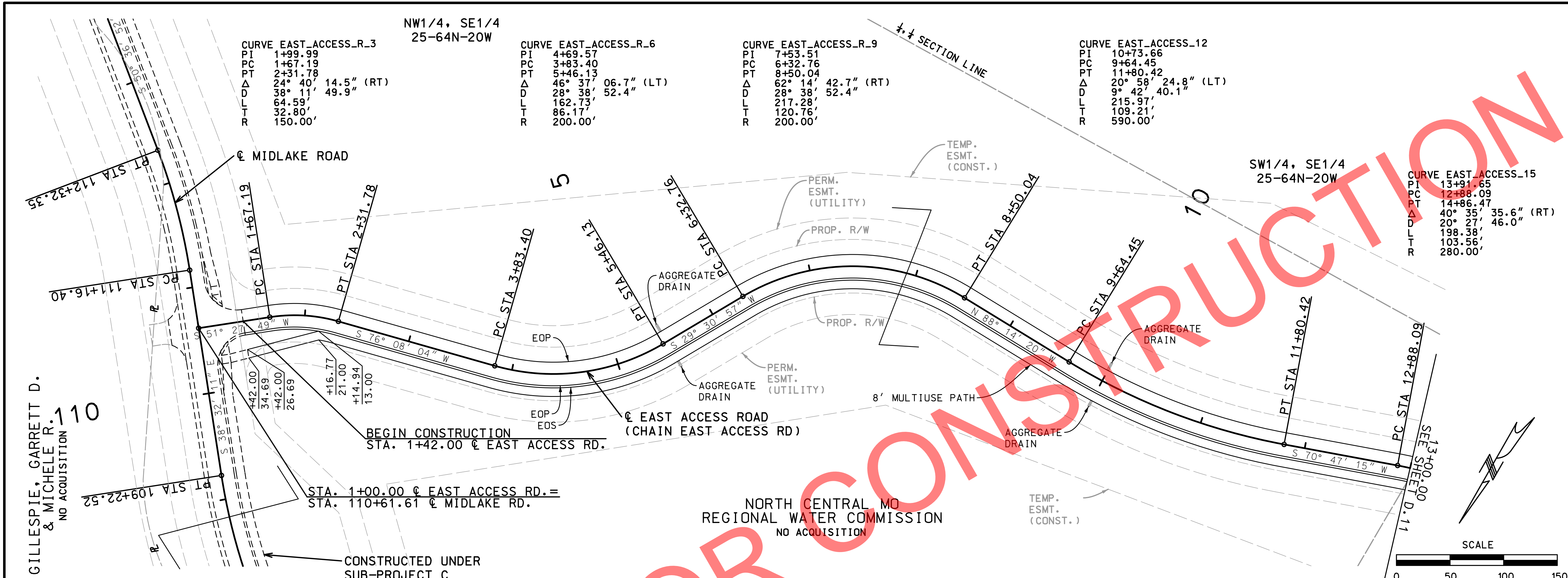


PLAN-PROFILE
SHEET 5 OF 11

DATE PREPARED 2/7/2022	
ROUTE AC RD	STATE MO
DISTRICT NW	SHEET NO. D.8
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
olsson 1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



DATE PREPARED 2/7/2022	
ROUTE AC RD	STATE MO
DISTRICT NW	SHEET NO. D.9
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	



DATE PREPARED 2/7/2022	
ROUTE AC RD	STATE MO
DISTRICT NW	SHEET NO. D.10
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

SE1/4, SW1/4
25-64N-20W

CURVE EAST_ACCESS_18
PI 17+25.09
PC 16+48.25
PT 17+97.36
Δ 34° 10' 22.4" (LT)
D 22° 55' 05.9"
L 149.11'
T 76.85'
R 250.00'

CURVE EAST_ACCESS_21

PI	19+73.36	
PC	19+04.66	
PT	20+37.02	
Δ	37° 55'	11.6" (LT)
D	28° 38'	52.4"
L	132.37'	
T	68.71'	
R	200.00'	

CURVE	EAST_ACCESS_24
PI	21+22.93
PC	20+67.44
PT	21+64.47
Δ	69° 29' 12.5" (RT)
D	71° 37' 11.0"
L	97.02'
T	55.48'
R	80.00'

NORTH CENTRAL MO
REGIONAL WATER COMMISSION
NO ACQUISITION

Engineering plan view of East Access Road, showing curves, stationing, and construction details. The drawing includes a large red 'UNDER CONSTRUCTION' watermark.

Curve Data:

Curve	PI	PC	PT	Δ	D	L	T	R
EAST_ACCESS_15	13+91.65	12+88.09	14+86.47	40° 35'	35.6" (RT)	20° 27'	198.38'	103.56'
EAST_ACCESS_18	17+25.09	16+48.25	17+97.36	34° 10'	22.4" (LT)	22° 55'	149.11'	76.85'
EAST_ACCESS_21	19+73.36	19+04.66	20+37.02	37° 55'	11.6" (LT)	28° 38'	132.37'	68.71'
EAST_ACCESS_24	21+22.93	20+67.44	21+64.47	69° 29'	12.5" (RT)	71° 37'	97.02'	55.48'

Stationing and Key Points:

- PT STA 14+86.47
- PC STA 16+48.25
- PT STA 17+97.36
- PC STA 19+04.66
- PT STA 20+37.02
- PC STA 21+64.47
- PT STA 24+16.53

Construction Details:

- AGGREGATE DRAIN
- EOP (End of Project)
- EOS (End of Section)
- 8' MULTIUSE PATH
- PERM. ESMT. (UTILITY)
- PROP. R/W (Proposed Right of Way)
- TEMP. ESMT. (CONST.)
- CONSTRUCTION BEYOND THIS POINT BY OTHERS
- END CONSTRUCTION STA. 19+25.00 @ EAST ACCESS RD.

Section Lines:

- 13+00.00 SEE SHEET D.10
- 25-64N-20W
- SW1/4, SW1/4 25-64N-20W

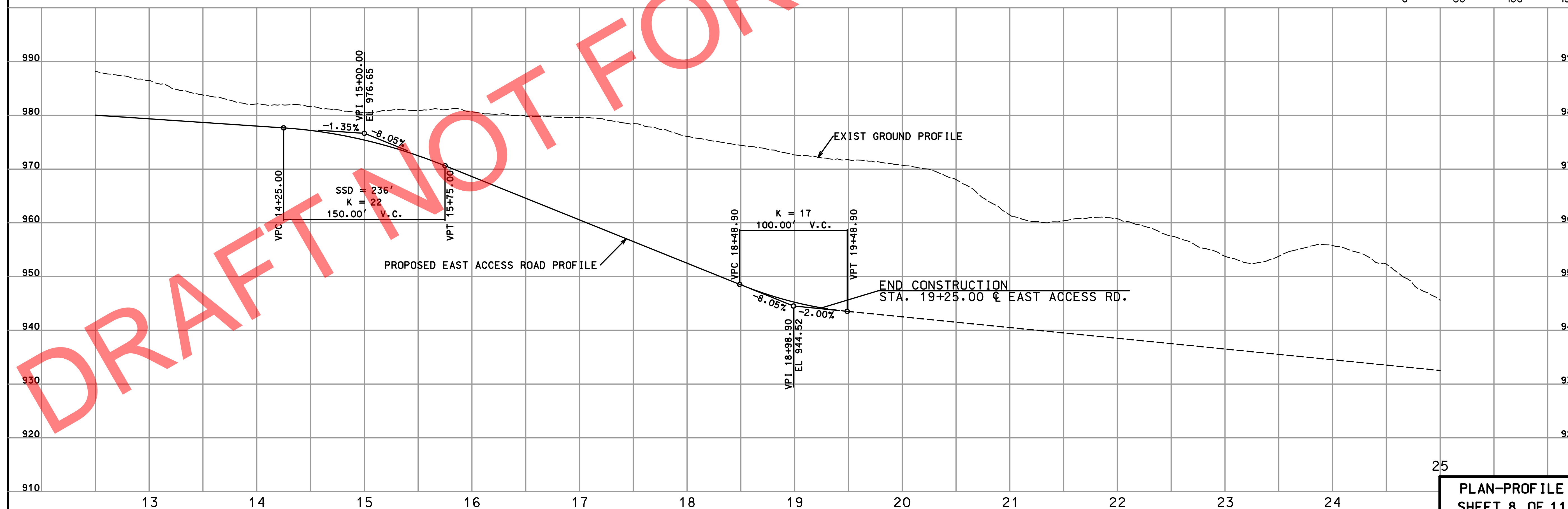
CURVE	EAST_ACCESS_15
PI	13+91.65
PC	12+88.09
PT	14+86.47
Δ	40° 35' 35.6" (RT)
D	20° 27' 46.0"
L	198.38'
T	103.56'
R	280.00'

END CONSTRUCTION
STA. 19+25.00 @ EAST ACCESS RD.

SW1/4, SW1/4
25-64N-20W

SCALE

0 50 100 150



PLAN-PROFILE
SHEET 8 OF 11

DATE PREPARED	
2/7/2022	
ROUTE	STATE
AC RD	MO
DISTRICT	SHEET NO.
NW	D.1
COUNTY	
SULL IVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	

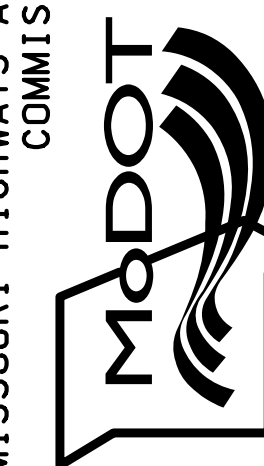
PROJECT NO.

	BRIDGE NO.
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DESCRIPTION

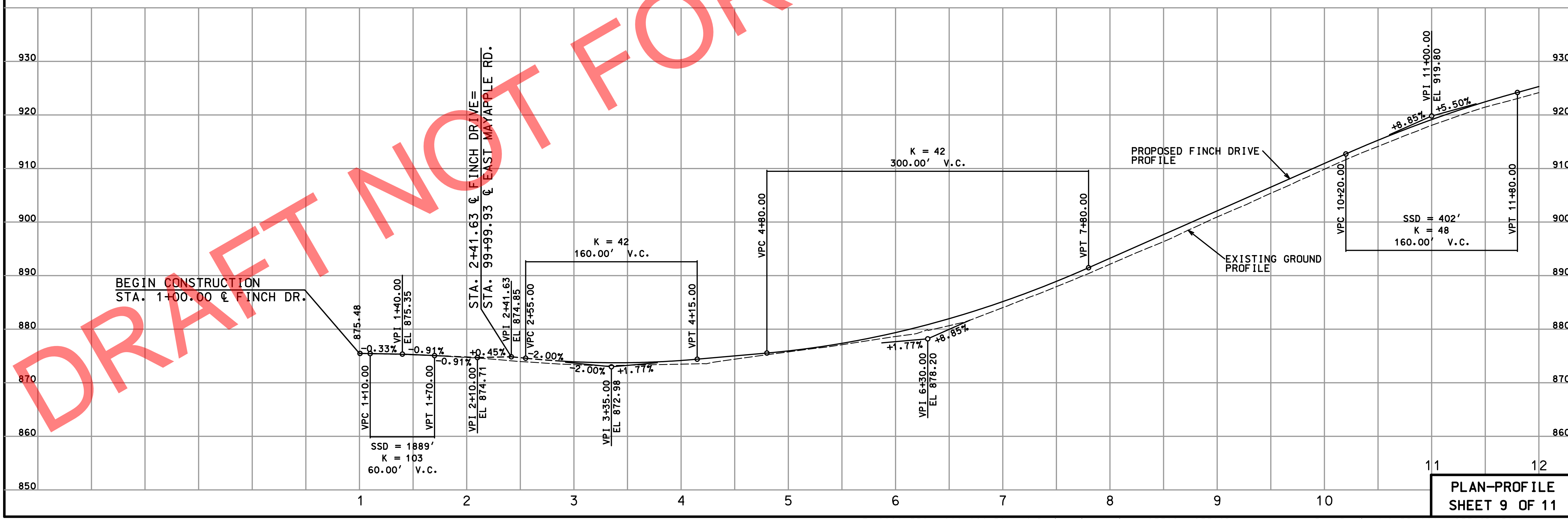
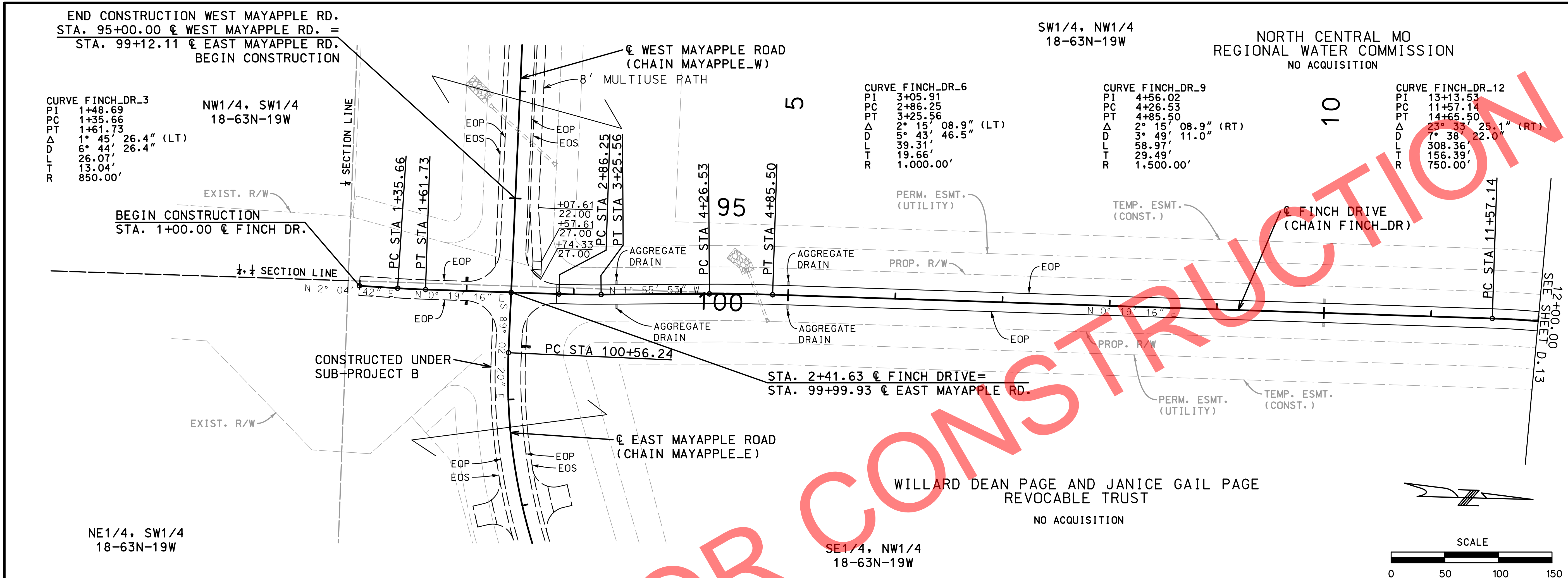
DATE _____

MISSOURI HIGHWAYS AND TRANSPORTATION



Olson
DURLINGTON STREET, STE.
TH KANSAS CITY, MO 641
CERTIFICATE OF

DEW



DATE PREPARED 2/7/2022	
ROUTE AC RD	STATE MO
DISTRICT NW	SHEET NO. D.12
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

olsson

SW1/4, NW1/4
18-63N-19W

NW1/4, NW1/4
18-63N-19W

CURVE FINCH_DR_12
PI 13+13.53
PC 11+57.14
PT 14+65.50
23° 33' 25.1" (RT)
7° 38' 22.0"
308.36'
156.39'
750.00'

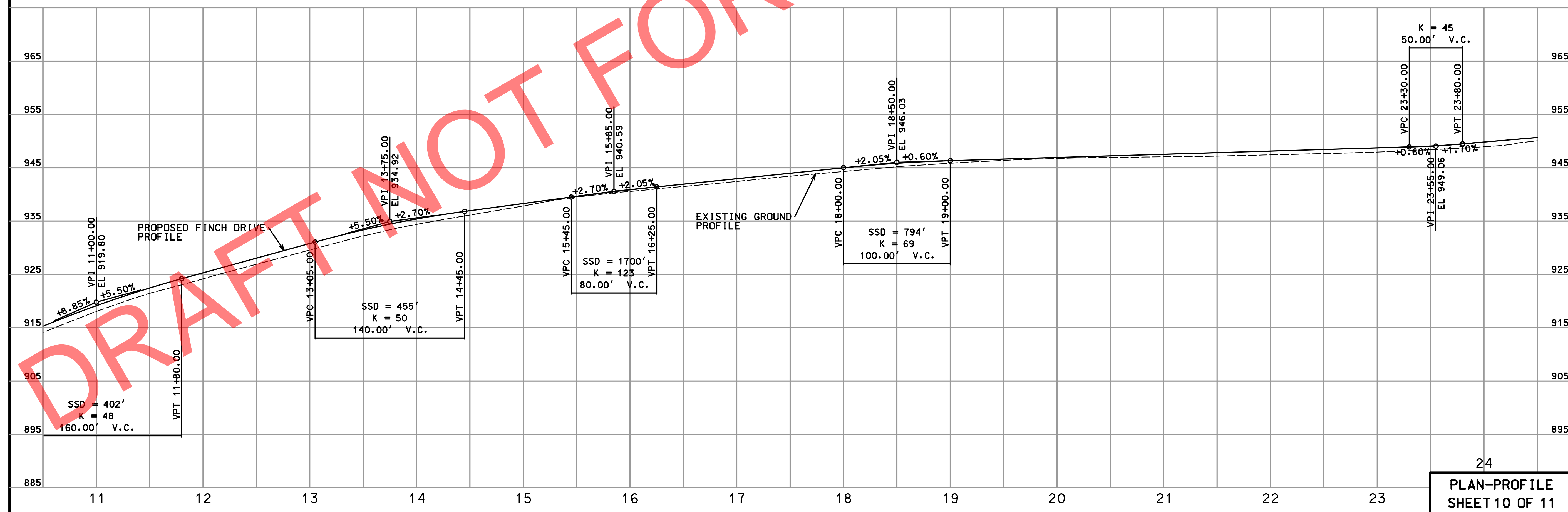
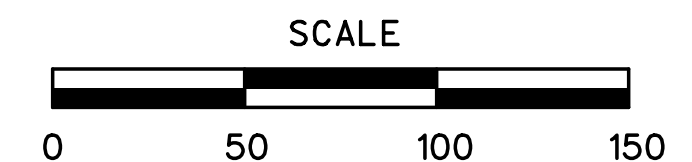
NORTH CENTRAL MO
REGIONAL WATER COMMISSION
NO ACQUISITION

WILLARD DEAN PAGE AND JANICE GAIL PAGE
REVOCABLE TRUST
NO ACQUISITION

SE1/4, NW1/4
18-63N-19W

CRAWFORD, LANNY R.
& KAREN E.
NO ACQUISITION

NE1/4, NW1/4
18-63N-19W



24
PLAN-PROFILE
SHEET 10 OF 11

DATE PREPARED 2/7/2022	
ROUTE AC RD	STATE MO
DISTRICT NW	SHEET NO. D.13
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

DRAFT

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

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	MODIFIED MISSOURI STATE PLANE
HORIZONTAL DATUM	NAD 83 (2011) (EPOCH 2010)
VERTICAL DATUM	NAVD 88: GNSS DERIVED
GEOID MODEL	12B

ELEVATIONS
DETERMINED BY

GPS DERIVED

PROJECT PROJECTION FACTOR 1.00007728

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MO COORDINATE SYSTEM OF 1983
CONTROL STATION	MISSOURI CORS

DESIGNATION MODOT MILAN CORS ARP

CORS ID

MOML

PID

DN6087

LATITUDE 10°12'37.76062" (N)

LONGITUDE 093°06'57.87622" (W)

NORTHING (M) 486,000.913

EASTING (M) 447,556.050

ZONE CENTRAL

PROJECT AVERAGE GRID FACTOR 0.99996781

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

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

EXAMPLE: CONTROL POINT #8

N 1619096.411 X 0.999922725 = N 1618971.295

E 1469538.057 X 0.999922725 = E 146526.733

LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND)			DESCRIPTION	GPK POINT ID
				NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)		
ALIGNMENTS								
CHAIN MARINA RD								
	1+00.00	CL		1,617,873.4288	1,473,591.7110		BEGIN CHAIN MARINA RD	
	5+06.64	CL		1,617,877.9775	1,473,998.3276		P.C. CURVE MARINA RD 3	
	6+45.78	RT		1,617,879.5340	1,474,137.4598		P.I. CURVE MARINA RD 3	
	7+80.09	CL		1,617,942.1682	1,474,261.7060		P.T. CURVE MARINA RD 3	
	10+76.70	CL		1,618,075.6879	1,474,526.5660		P.C. CURVE MARINA RD 6	
	12+28.14	LT		1,618,143.8593	1,474,661.7961		P.I. CURVE MARINA RD 6	
	13+68.87	CL		1,618,116.4000	1,474,810.7273		P.T. CURVE MARINA RD 6	
	16+98.59	CL		1,618,056.6144	1,475,134.9868		P.C. CURVE MARINA RD 9	
	17+77.67	RT		1,618,042.2766	1,475,212.7508		P.I. CURVE MARINA RD 9	
	18+54.13	CL		1,618,062.7630	1,475,289.1257		P.T. CURVE MARINA RD 9	
	20+68.55	CL		1,618,118.3145	1,475,496.2252		P.C. CURVE MARINA RD 12	
	22+51.84	LT		1,618,165.7995	1,475,673.2525		P.I. CURVE MARINA RD 12	
	24+16.66	CL		1,618,076.0838	1,475,833.0791		P.T. CURVE MARINA RD 12	
	28+15.19	CL		1,617,881.0083	1,476,180.6018		P.C. CURVE MARINA RD 15	
	29+91.95	RT		1,617,794.4872	1,476,334.7373		P.I. CURVE MARINA RD 15	
	31+22.90	CL		1,617,910.9545	1,476,467.6999		P.T. CURVE MARINA RD 15	
	31+66.90	CL		1,617,939.9460	1,476,500.7974		P.C. CURVE MARINA RD 18	
	33+31.44	LT		1,618,048.3582	1,476,624.5640		P.I. CURVE MARINA RD 18	
	34+57.94	CL		1,617,977.5654	1,476,773.0894		P.T. CURVE MARINA RD 18	
	36+27.94	CL		1,617,904.4198	1,476,926.5510		P.C. CURVE MARINA RD 21	
	37+07.94	LT		1,617,869.9988	1,476,998.7673		P.I. CURVE MARINA RD 21	
	37+53.61	CL		1,617,797.7825	1,476,964.3463		P.T. CURVE MARINA RD 21	
	39+29.18	CL		1,617,639.2881	1,476,888.8018		END CHAIN MARINA RD	
KNOB HILL CONNECTOR								
	1+00.00	CL		1,636,104.5791	1,472,695.9588		BEGIN CHAIN KNOB HILL	
	1+78.78	CL		1,636,180.9937	1,472,676.7924		P.C. CURVE KNOB HILL 3	
	2+18.99	RT		1,636,219.9988	1,472,667.0092		P.I. CURVE KNOB HILL 3	
	2+58.53	CL		1,636,253.9684	1,472,645.4877		P.T. CURVE KNOB HILL 3	
	3+11.02	CL		1,636,298.3138	1,472,617.3925		P.C. CURVE KNOB HILL 6	
	3+80.11	LT		1,636,356.6740	1,472,580.4184		P.I. CURVE KNOB HILL 6	
	4+45.83	CL		1,636,425.7384	1,472,578.6577		P.T. CURVE KNOB HILL 6	
	4+79.22	CL		1,636,459.1184	1,472,577.8067		P.C. CURVE KNOB HILL 9	
	5+70.35	RT		1,636,550.2145	1,472,575.4843		P.I. CURVE KNOB HILL 9	
	6+53.99	CL		1,636,618.4485	1,472,515.0856		P.T. CURVE KNOB HILL 9	
	9+00.34	CL		1,636,802.9128	1,472,351.8038		P.C. CURVE KNOB HILL 12	
	9+40.82	LT		1,636,833.2279	1,472,324.9698		P.I. CURVE KNOB HILL 12	
	9+81.27	CL		1,636,865.6131	1,472,300.6742		P.T. CURVE KNOB HILL 12	
	9+81.27	CL		1,636,865.6131	1,472,300.6742		P.C. CURVE KNOB HILL 13	
	10+36.38	RT		1,636,909.7024	1,472,267.5981		P.I. CURVE KNOB HILL 13	
	10+84.60	CL		1,636,913.3389	1,472,212.6011		P.T. CURVE KNOB HILL 13	
	11+33.46	CL		1,636,916.5622	1,472,163.8539		P.C. CURVE KNOB HILL 16	
	11+40.81	LT		1,636,917.0473	1,472,156.5165		P.I. CURVE KNOB HILL 16	
	11+48.15	CL		1,636,918.1294	1,472,149.2430		P.T. CURVE KNOB HILL 16	
	11+56.93	CL		1,636,919.4206	1,472,140.5641		END CHAIN KNOB HILL	

DATE PREPARED
2/7/2022

ROUTE
AC RD

STATE
MO

DISTRICT
NW

SHEET NO.
D.15

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-5636)

MODOT

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

REV.

DRAFT

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

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	MODIFIED MISSOURI STATE PLANE
HORIZONTAL DATUM	NAD 83 (2011) (EPOCH 2010)
VERTICAL DATUM	NAVD 88: GNSS DERIVED
GEOID MODEL	12B
ELEVATIONS DETERMINED BY	GPS DERIVED
PROJECT PROJECTION FACTOR	1.00007728

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MO COORDINATE SYSTEM OF 1983
CONTROL STATION	MISSOURI CORS
DESIGNATION	MODOT MILAN CORS ARP
CORS ID	MOML
PID	DN6087
LATITUDE	10°12'37.76062" (N)
LONGITUDE	093°06'57.87622" (W)
NORTHING (M)	486,000.913
EASTING (M)	447,556.050
ZONE	CENTRAL
PROJECT AVERAGE GRID FACTOR	0.99996781

EXAMPLE OF PROJECT COORDINATE TO S.P.C.

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

EXAMPLE: CONTROL POINT #8
N 1619096.411 X 0.999922725 = N 1618971.295
E 1469538.057 X 0.999922725 = E 146526.733

LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING

SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND)			DESCRIPTION	GPK POINT ID
				NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)		
ALIGNMENTS								
WEST ACCESS RD								
	1+00.00	CL		1636104.5791	1,472,695.9588		BEGIN CHAIN WEST ACCESS RD	
	1+78.84	CL		1636028.1090	1,472,715.1392		P.C. CURVE WEST ACCESS R 3	
	2+36.68	RT		1635972.0068	1,472,729.2108		P.I. CURVE WEST ACCESS R 3	
	2+91.96	CL		1635930.0796	1,472,769.0552		P.T. CURVE WEST ACCESS R 3	
	4+48.58	CL		1635816.5459	1,472,876.9490		P.C. CURVE WEST ACCESS R 6	
	5+45.12	LT		1635746.5701	1,472,943.4487		P.I. CURVE WEST ACCESS R 6	
	6+28.46	CL		1635650.9730	1,472,930.0313		P.T. CURVE WEST ACCESS R 6	
	7+51.12	CL		1635529.5036	1,472,912.9826		P.C. CURVE WEST ACCESS R 9	
	7+82.15	RT		1635498.7687	1,472,908.6689		P.I. CURVE WEST ACCESS R 9	
	8+12.70	CL		1635468.1719	1,472,913.8726		P.T. CURVE WEST ACCESS R 9	
	10+12.48	CL		1635271.2167	1,472,947.3697		P.C. CURVE WEST ACCESS R 12	
	11+14.03	LT		1635171.1099	1,472,964.3954		P.I. CURVE WEST ACCESS R 12	
	12+00.40	CL		1635098.2914	1,472,893.6232		P.T. CURVE WEST ACCESS R 12	
	13+58.75	CL		1634984.7420	1,472,783.2647		P.C. CURVE WEST ACCESS R 15	
	14+74.42	RT		1634901.7927	1,472,702.6464		P.I. CURVE WEST ACCESS R 15	
	15+68.49	CL		1634790.5482	1,472,734.3416		P.T. CURVE WEST ACCESS R 15	
	18+54.07	CL		1634515.8934	1,472,812.5947		END CHAIN WEST ACCESS RD	
EAST ACCESS RD								
	1+00.00	CL		1634042.9561	1476096.0012		BEGIN CHAIN EAST ACCESS RD	
	1+67.19	CL		1634001.0971	1476043.4456		P.C. CURVE EAST ACCESS R 3	
	1+99.99	LT		1633980.6610	1476017.7872		P.I. CURVE EAST ACCESS R 3	
	2+31.78	CL		1633972.8001	1475985.9408		P.T. CURVE EAST ACCESS R 3	
	3+83.40	CL		1633936.4652	1475838.7392		P.C. CURVE EAST ACCESS R 6	
	4+69.57	RT		1633915.8145	1475755.0783		P.I. CURVE EAST ACCESS R 6	
	5+46.13	CL		1633840.8260	1475712.6244		P.T. CURVE EAST ACCESS R 6	
	6+32.76	CL		1633765.4354	1475669.9428		P.C. CURVE EAST ACCESS R 9	
	7+53.51	LT		1633660.3518	1475610.4509		P.I. CURVE EAST ACCESS R 9	
	8+50.04	CL		1633664.0628	1475489.7527		P.T. CURVE EAST ACCESS R 9	
	9+64.45	CL		1633667.5789	1475375.3941		P.C. CURVE EAST ACCESS R 12	
	10+73.66	RT		1633670.9351	1475266.2365		P.I. CURVE EAST ACCESS R 12	
	11+80.42	CL		1633634.9974	1475163.1097		P.T. CURVE EAST ACCESS R 12	
	12+88.09	CL		1633599.5655	1475061.4344		P.C. CURVE EAST ACCESS R 15	
	13+91.65	LT		1633565.4880	1474963.6457		P.I. CURVE EAST ACCESS R 15	
	14+86.47	CL		1633603.2408	1474867.2163		P.T. CURVE EAST ACCESS R 15	
	16+48.25	CL		1633662.2194	1474716.5716		P.C. CURVE EAST ACCESS R 18	
	17+25.09	RT		1633690.2344	1474645.0149		P.I. CURVE EAST ACCESS R 18	
	17+97.36	CL		1633673.2197	1474570.0769		P.T. CURVE EAST ACCESS R 18	
	19+04.66	CL		1633649.4621	1474465.4412		P.C. CURVE EAST ACCESS R 21	
	19+73.36	RT		1633634.2489	1474398.4374		P.I. CURVE EAST ACCESS R 21	
	20+37.02	CL		1633581.0698	1474354.9295		P.T. CURVE EAST ACCESS R 21	
	20+67.44	CL		1633557.5236	1474335.6654		P.C. CURVE EAST ACCESS R 24	
	21+22.93	LT		1633514.5802	1474300.5318		P.I. CURVE EAST ACCESS R 24	
	21+64.47	CL		1633532.4378	1474247.9997		P.T. CURVE EAST ACCESS R 24	
	24+16.53	CL		1633613.5644	1474009.3471		P.C. CURVE EAST ACCESS R 27	
	25+06.77	LT		1633642.6073	1473923.9106		P.I. CURVE EAST ACCESS R 27	
	25+34.61	CL		1633710.1559	1473983.7444		P.T. CURVE EAST ACCESS R 27	
	26+30.84	CL		1633782.1854	1474047.5473		P.C. CURVE EAST ACCESS R 30	
	27+11.67	LT		1633842.6974	1474101.1482		P.I. CURVE EAST ACCESS R 30	
	27+79.12	CL		1633831.2006	1474181.1643		P.T. CURVE EAST ACCESS R 30	
	28+18.17	CL		1633825.6479	1474219.8113		P.C. CURVE EAST ACCESS R 33	
	28+88.89	LT		1633815.5896	1474289.8161		P.I. CURVE EAST ACCESS R 33	
	29+50.34	CL		1633755.1826	1474326.5971		P.T. CURVE EAST ACCESS R 33	
	31+02.45	CL		1633625.2598	1474405.7056		END CHAIN EAST ACCESS RD	

COORDINATE POINTS
SHEET 2 OF 3

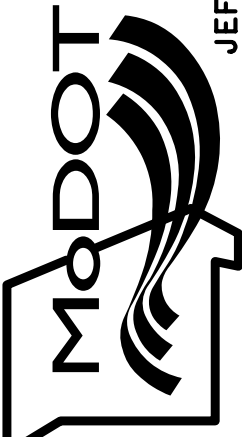
DATE PREPARED 2/7/2022	
ROUTE AC RD	STATE MO
DISTRICT NW	SHEET NO. D.16
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	

PROJECT NO.

BRIDGE NO.

DESCRIPTION									
DATE									

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-5636)

olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

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

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	MODIFIED MISSOURI STATE PLANE
HORIZONTAL DATUM	NAD 83 (2011) (EPOCH 2010)
VERTICAL DATUM	NAVD 88: GNSS DERIVED
GEOID MODEL	12B

ELEVATIONS DETERMINED BY	GPS DERIVED
-----------------------------	-------------

PROJECT PROJECTION FACTOR	1.00007728
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REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MO COORDINATE SYSTEM OF 1983
CONTROL STATION	MISSOURI CORS

DESIGNATION	MODOT MILAN CORS ARP
-------------	----------------------

CORS ID	MOML
---------	------

PID	DN6087
LATITUDE	10°12'33.36062" (N)

LATITUDE	10° 12' 51.18082" (N)
LONGITUDE	093° 06' 57.87622" (W)

NORTHING (M)	486,000.913
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EASTING (M)	447,556.050
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ZONE	CENTRAL
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PROJECT AVERAGE GRID FACTOR	0.99996781
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EXAMPLE OF PROJECT COORDINATE TO S.P.C.

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

EXAMPLE: CONTROL POINT #8

N 1619096.411	X 0.999922725	= N 1618971.295
E 1469538.057	X 0.999922725	= E 146526.733


LINEAR UNIT CONVERSION

1 METER = 3.280833333 US SURVEY FEET (USFT)

[illegible]

DATE PREPARED	
2/7/2022	
ROUTE	STATE
AC RD	MO
DISTRICT	SHEET NO.
NW	D. 17
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	

PROJECT NO.

BRIDGE NO.[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITAL
JEFFERSON CITY, MO 65102
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olsson
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AUTHORITY NO. 001592

SIGN SPACING FOR ADVANCE SIGN SERIES (1)		
PERMANENT POSTED SPEED MPH	UNDIVIDED HIGHWAYS	DIVIDED HIGHWAYS
0-35	200'	200'
40-45	350'	500'
50-55	500'	1000'
60-70	1000'	SA - 1000' SB - 1500' SC - 2640'

TAPER LENGTHS AND END TREATMENTS FOR CONCRETE BARRIER				
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (2)			END TREATMENT (3)
	T1	10'	11'	12'
<40	160'	168'	176'	BARRIER HEIGHT TRANSITION
>40	160'	168'	176'	APPROVED CRASH CUSHION

TAPER LENGTHS AND SPACING FOR CHANNELIZERS							
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (T1)			MINIMUM SHOULDER TAPER LENGTH BASED ON 10' SHOULDER	BUFFER LENGTH FT.	MAXIMUM CHANNELIZER SPACING	
	10'	11'	12'			THROUGH TAPER	THROUGH WORK AREA
0-35	205'	225'	245'	70'	280'	35'	40'
40-45	450'	495'	540'	150'	400'	40'	80'
50-55	550'	605'	660'	185'	560'	50'	80'
60-70	700'	770'	840'	235'	840'	60'	120'

NOTES:

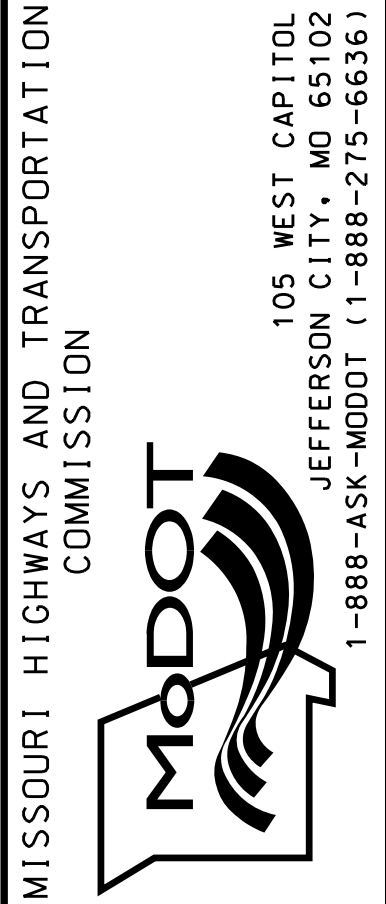
- (1) SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS AND VIABILITY.
- (2) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER.
- (3) CONCRETE BARRIER MAY BE INSTALLED AT AN 8:1 FLARE RATE FROM THE SHOULDER POINT TO THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER. CONTRACTOR MAY PROVIDE CONCRETE BARRIER, INCIDENTAL TO PROJECT.

GENERAL NOTES:

1. AS WITH ALL CONSTRUCTION ACTIVITIES TRAFFIC SITUATIONS ARE SUBJECT TO CHANGE. THE CONTRACTOR SHALL BE AWARE THAT ALL TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE STANDARDS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) THE MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION, SECTION 600 AND SHALL FOLLOW THE GUIDELINES IN THE MODOT 'TRAFFIC CONTROL FOR FIELD OPERATIONS MANUAL'.
2. PLACE A 'ROAD WORK AHEAD' SIGN ON THE APPROACH TO ALL INTERSECTIONS WHERE THE ADVANCE SIGNING FOR THE TEMPORARY TRAFFIC CONTROL EXTENDS PAST THAT INTERSECTION.
3. NOTIFY MODOT RESIDENT ENGINEER 48-HOURS IN ADVANCE OF ANY LANE CLOSURE OR ROADWAY CLOSURE.
4. ALL EXISTING SIGNS SHALL BE USED IN PLACE, ADJUSTED, AND/OR COVERED AS CONDITIONS REQUIRE (NO DIRECT PAY).
5. ALL STATIONING, DISTANCES, AND SPACING OF WORK ZONES DEVICES ARE APPROXIMATE AND MAY BE REVISED AS APPROVED BY ENGINEER.
6. FIRST ORDER OF WORK ON ALL PHASES SHALL BE PLACEMENT OF ALL WORK ZONE WARNING DEVICES AND SIGNS AS NOTED.
7. SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED OR AS APPROVED BY THE ENGINEER.
8. SIGNS LEFT IN PLACE OVERNIGHT MUST BE MOUNTED AT 5' MINIMUM HEIGHT.
9. ALTERNATE TRAFFIC CONTROL MAY BE USED AS NEEDED AT THE APPROVAL OF THE ENGINEER.
10. NO DIRECT PAYMENT WILL BE MADE FOR RELOCATION OF CHANNELIZERS, CONSTRUCTION SIGNS, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES, UNLESS OTHERWISE SHOWN ON THE PLANS.
11. FLAG ASSEMBLIES SHALL BE USED DURING ALL DAYTIME OPERATIONS. THEY ARE REQUIRED ON ALL FLAGGER SIGNS AND TRUCK CROSSING SIGNS WITHIN THE WORK ZONE. THEY WILL BE REQUIRED ON THE FIRST OCCURRENCE OF THE ROAD/RAMP/BRIDGE WORK AHEAD SIGN, BUT ONLY IF THE WORK DURATION IS 30 MINUTES OR MORE. IF PROVIDED, THE COST OF THE FLAG ASSEMBLES AS SHOWN IN THE PLANS.

TRAFFIC CONTROL
SHEET 1 OF 2

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

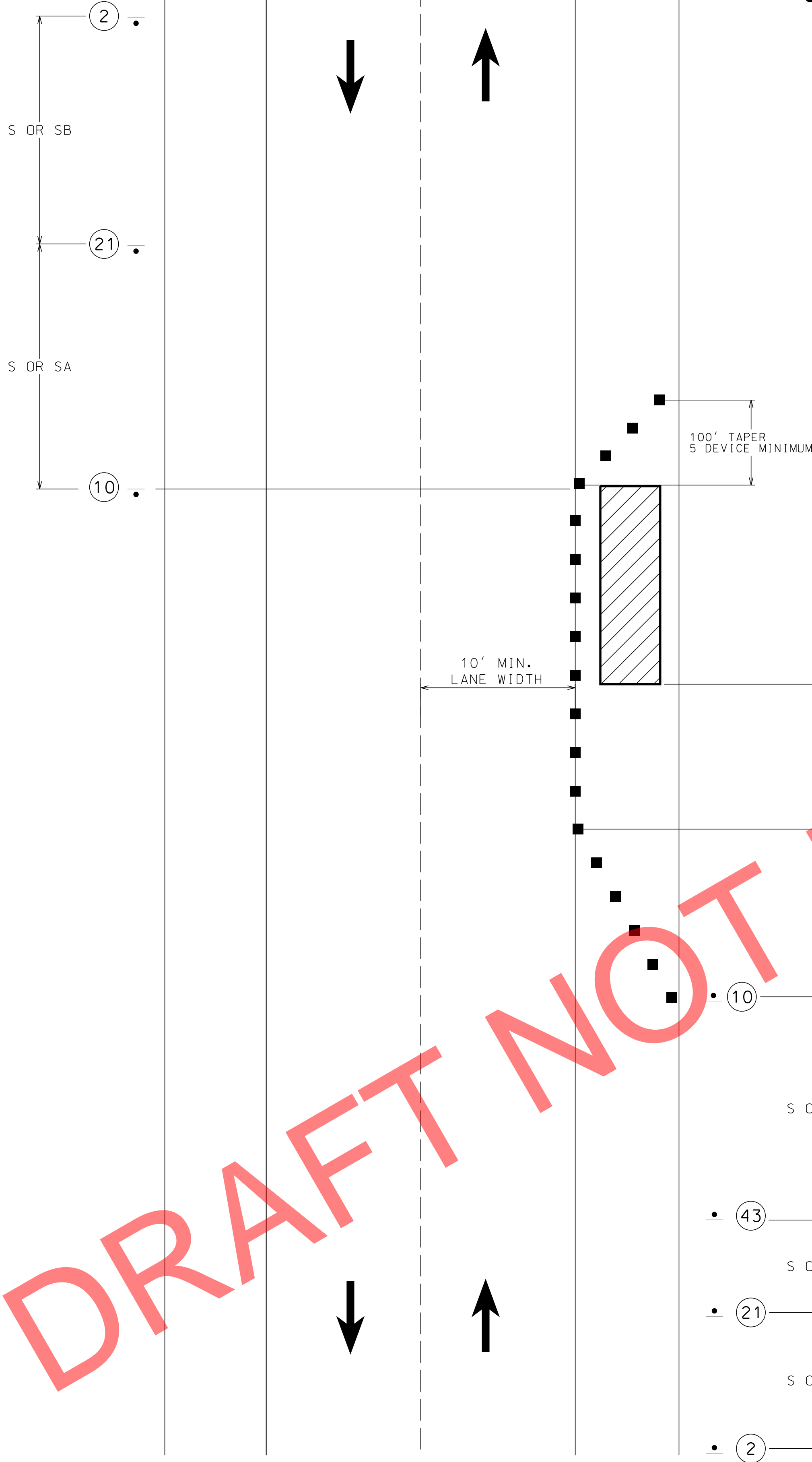


DATE PREPARED 2/6/2022	
ROUTE AC RD	STATE MO
DISTRICT NW	SHEET NO. D.18
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE

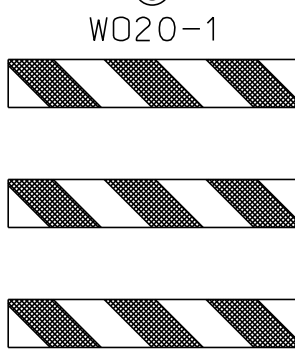
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IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED. REV.

TA-6 - SHOULDER WORK WITH MINOR ENCROACHMENT ON DIVIDED AND UNDIVIDED HIGHWAYS



BRIDGE
OR
RAMP



2



W021-5
21



W05-1
43

BRIDGE
OR
RAMP



W08-6
10

NOTES:

PROVIDE SIGNS ON LEFT AND RIGHT SIDES OF DIVIDED HIGHWAYS

ROAD WORK AHEAD SIGN NOT NEEDED IF SHOULDER WORK IS LOCATED WITHIN THE LIMITS OF AN ACTIVITIY AREA WHERE ANOTHER ROAD WORK AHEAD SIGN IS ALREADY USED.

SEE EPG 616.12 WORK ZONE SPEED LIMITS FOR SPEED LIMIT GUIDELINES.

THE PROTECTIVE VEHICLE MAY BE OMITTED IF A TAPER AND CHANNELIZING DEVICES ARE USED.

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

VEHICLE HAZARD WARNING SIGNALS SHALL NOT BE USED INSTEAD OF VEHICLE'S ROTATING LIGHTS OR STROBE LIGHTS

SHADOW AND WORK VEHICLES SHALL DISPLAY HIGH-DENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

TRAFFIC CONTROL LEGEND

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

SPEED NORMAL POSTED (MPH)	SIGN SPACING (FT.)		TAPER LENGTH (FT.)		OPTIONAL BUFFER LENGTH (FT.) (B)	CHANNELIZER SPACING (FT.)	
	UNDIVIDED (S)	DIVIDED (S)	SHOULDER (1) (T1)	LANE (2) (T2)		TAPERS	BUFFER/ WORK AREA
0-35	200	200	70	245	280	35	40
40-45	350	500	150	540	400	40	80
50-55	500	1000	185	660	560	50	80
60-70	1000	SA - 1000 SB - 1500 SC - 2640	235	840	840	60	120

1. SHOULDER TAPER LENGTH BASED ON 10 FT. (STANDARD SHOULDER WIDTH) OFFSET. 2. LANE TAPER LENGTH BASED ON 12 FT. (STANDARD LANE WIDTH) OFFSET.

NOT TO SCALE

TRAFFIC CONTROL
SHEET 2 OF 2

"THIS MEDIA SHOULD
NOT BE CONSIDERED
A CERTIFIED
DOCUMENT."

DATE PREPARED

2/6/2022

ROUTE

AC RD MO

DISTRICT

NW D.19

COUNTY

SULLIVAN

JOB NO.

J1S3392

CONTRACT ID.

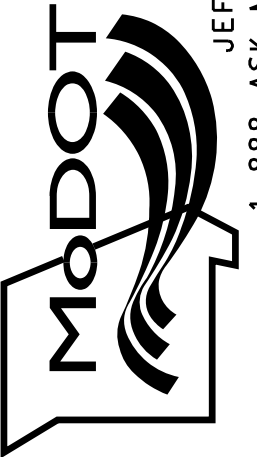
PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



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

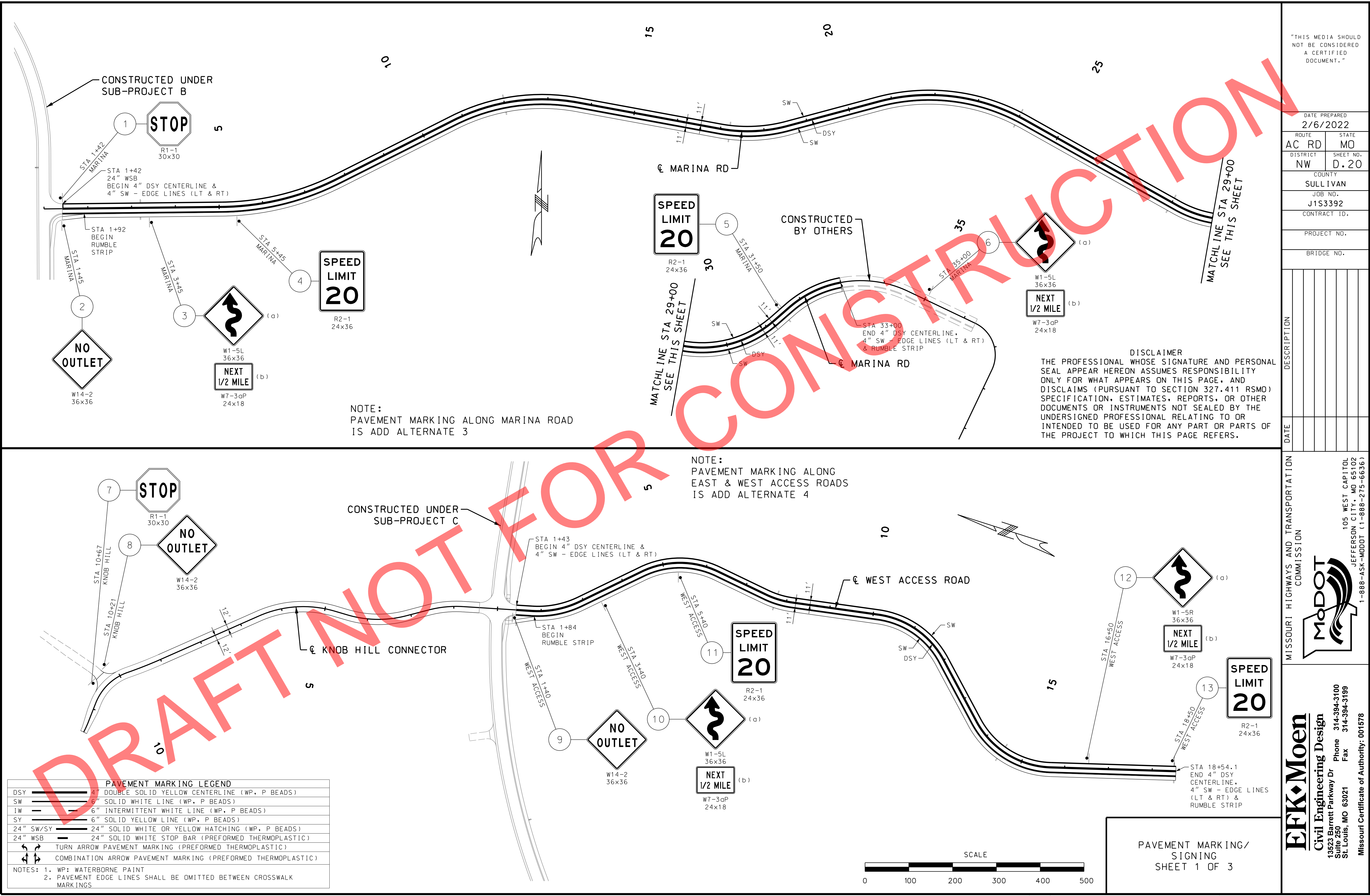
EFFK Moen

Civil Engineering Design

13523 Barrett Parkway Dr Phone 314-394-3100

Suite 250 St. Louis, MO 63021 Fax 314-394-3199

Missouri Certificate of Authority: 001578



PAVEMENT MARKING LEGEND	
DSY	4" DOUBLE SOLID YELLOW CENTERLINE (WP, P BEADS)
SW	6" SOLID WHITE LINE (WP, P BEADS)
IW	6" INTERMITTENT WHITE LINE (WP, P BEADS)
SY	6" SOLID YELLOW LINE (WP, P BEADS)
24" SW/SY	24" SOLID WHITE OR YELLOW HATCHING (WP, P BEADS)
24" WSB	24" SOLID WHITE STOP BAR (PREFORMED THERMOPLASTIC)
TURN ARROW	TURN ARROW PAVEMENT MARKING (PREFORMED THERMOPLASTIC)
COMBINATION ARROW	COMBINATION ARROW PAVEMENT MARKING (PREFORMED THERMOPLASTIC)
NOTES: 1. WP: WATERBORNE PAINT	
2. PAVEMENT EDGE LINES SHALL BE OMITTED BETWEEN CROSSWALK MARKINGS	

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

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DATE PREPARED
2/6/2022

ROUTE
AC RD

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

STATE
MO

SHEET NO.
D.20

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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EFK Moen

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Suite 250
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Phone 314-394-3100
Fax 314-394-3199

Missouri Certificate of Authority: 001578

EFFECTIVE 12-01-2017

SIGNS

902 SIGNAL SIGNS TABULATED ON D-37A SHEET

SIGN NO.	SIGN SIZE	STATION	HORZ CLEAR IF NOT STD	LOCATION	SIGN DTL. SHT. NO.	PIPE POST *					STRUCTURAL STEEL										U CHANNEL POST	PERFORATED SQUARE STEEL TUBE POST (BASE CONTRACT)														FOOTINGS		REMARKS AND OTHER REQUIRED ITEMS.
						POSTS *					BACKING BARS				TOTAL	2 IN														BREAK-AWAY ASSEMBLY	EMBD	BOLT DOWN						
						POST DES. NO.	POST NO.1	POST NO.2	POST NO.3	LBS PER FT	POST DES. NO.	POST NO.1	POST NO.2	POST NO.3		LBS PER FT	TOTAL	POST NO.1	POST NO.2	TOTAL		ANCHOR 7 GA.	OMNI 7 GA.	ANCHOR 12 GA.	OMNI 12 GA.	POST NO.1	POST NO.2	TOTAL	2.25" INSERT				ANCHOR 7 GA.	OMNI 7 GA.				
IN.	LF	LF	FT	ITEM NO. 9031220	IN.	LF	LF	LF	FT	LBS	IN.	LF	LF	LF	LBS	ITEM NO. 9031210	LF	ITEM NO. 9031270A	ITEM NO. 9031273	ITEM NO. 9031279	ITEM NO. 9031271	ITEM NO. 9031278	LF	LF	LF	LF	LF	LF	ITEM NO. 9031280	ITEM NO. 9031272	ITEM NO. 9031281	ITEM NO. 9031282	ITEM NO. 9031241	ITEM NO. 9031010	ITEM NO. 9031020			

SUBTOTAL

TOTAL

* BREAKAWAY ASSEMBLY IS INCIDENTAL FOR PIPE AND STRUCTURAL STEEL POSTS

DISCLAIMER

POST AND FOOTING DATA TABLE

ROUND PIPE POST AND FOOTING DATA TABLE

STANDARD SIGN ASSEMBLIES

SIGN SUMMARY (BASE CONTRACT)

EFFECTIVE 10-01-2016

SIGNING SHEET 3 OF 3

D-30

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

DESIGN DESIGNATION
A.A.D.T. - 2021 = 84
A.A.D.T. - 2041 = 2307
V = 55 M.P.H.

FUNCTIONAL CLASSIFICATION - RURAL LOCAL

NO RIGHT OF WAY
TO BE ACQUIRED

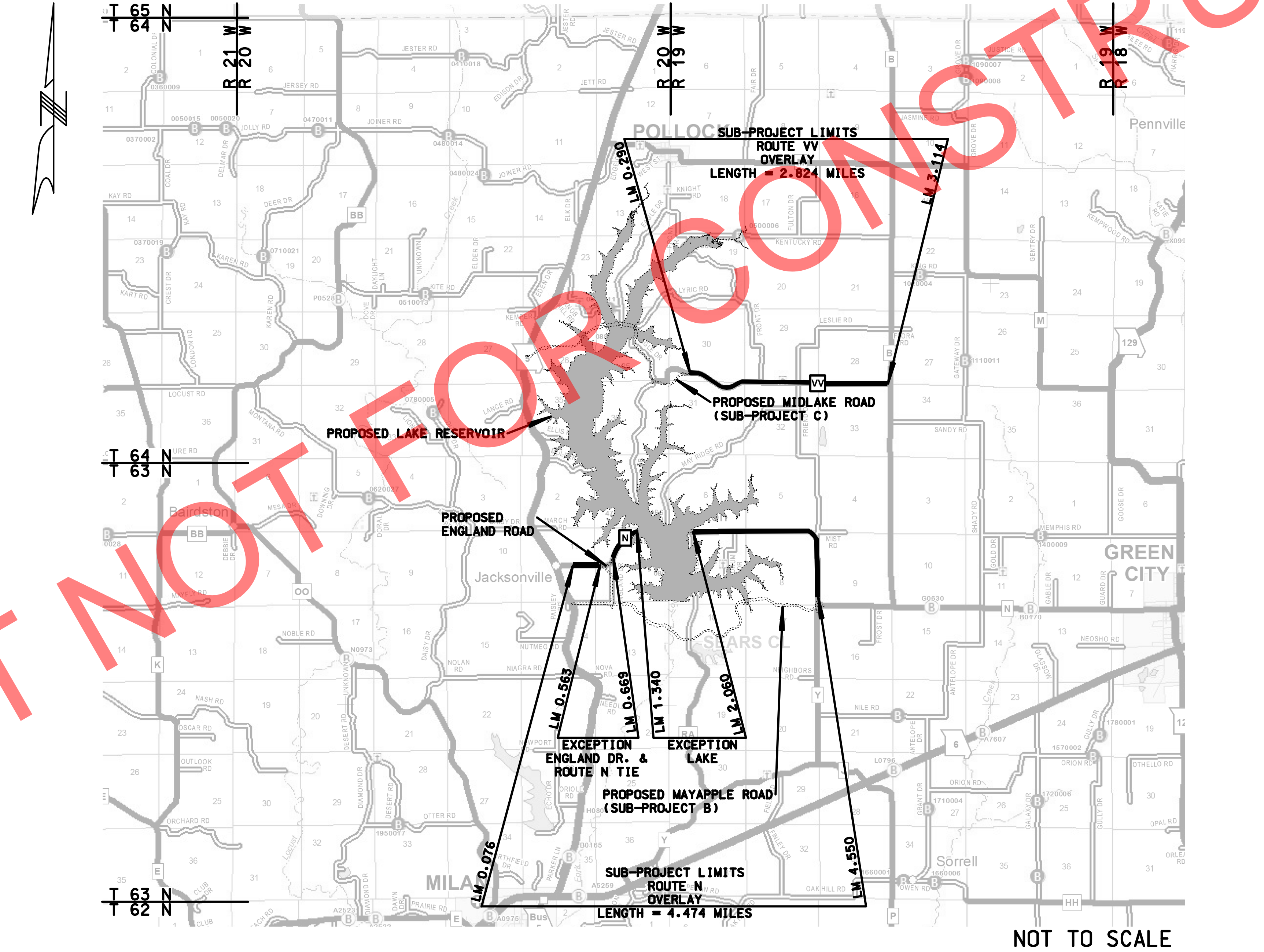
CONVENTIONAL SYMBOLS
(USED IN PLANS)

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

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
STATE HIGHWAY
SULLIVAN COUNTY

SEC. 11 & 12, T63N, R20W
SEC 6, 7, 8 & 9 T63N, R19W
SEC. 28, 29, 30, 31, 32, & 33 T64N, R19W
ADD ALTERNATE 1



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

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	E.1
TYPICAL SECTIONS (TS) (1 SHEET)	E.2
QUANTITIES (QU) (2 SHEET)	E.3
SPECIAL SHEET (SS)	E.4-E.6
TRAFFIC CONTROL SHEETS (TC)	E.7-E.10

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. E.1
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	

LENGTH OF SUB-PROJECT

ROUTE N	
BEGINNING OF PROJECT	LM 0.076 MILES
END OF PROJECT	LM 4.550 MILES
APPARENT LENGTH	4.474 MILES
EQUATIONS AND EXCEPTIONS:	
ENGLAND DR. WORK	561 FEET = 0.106 MILES
LAKE	3,802 FEET = 0.720 MILES
CORRECTIONS	-0.826 MILES
NET LENGTH	3.648 MILES

ROUTE VV	
BEGINNING OF PROJECT	LM 0.290 MILES
END OF PROJECT	LM 3.114 MILES
APPARENT LENGTH	2.824 MILES
EQUATIONS AND EXCEPTIONS:	
CORRECTIONS	0.000 MILES
NET LENGTH	2.824 MILES
TOTAL CORRECTIONS	
NET LENGTH OF PROJECT	6.472 MILES
STATE LENGTH	6.472 MILES
FOR INFORMATION ONLY	
ESTIMATED DISTURBED ACRES	0.00 ACRES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

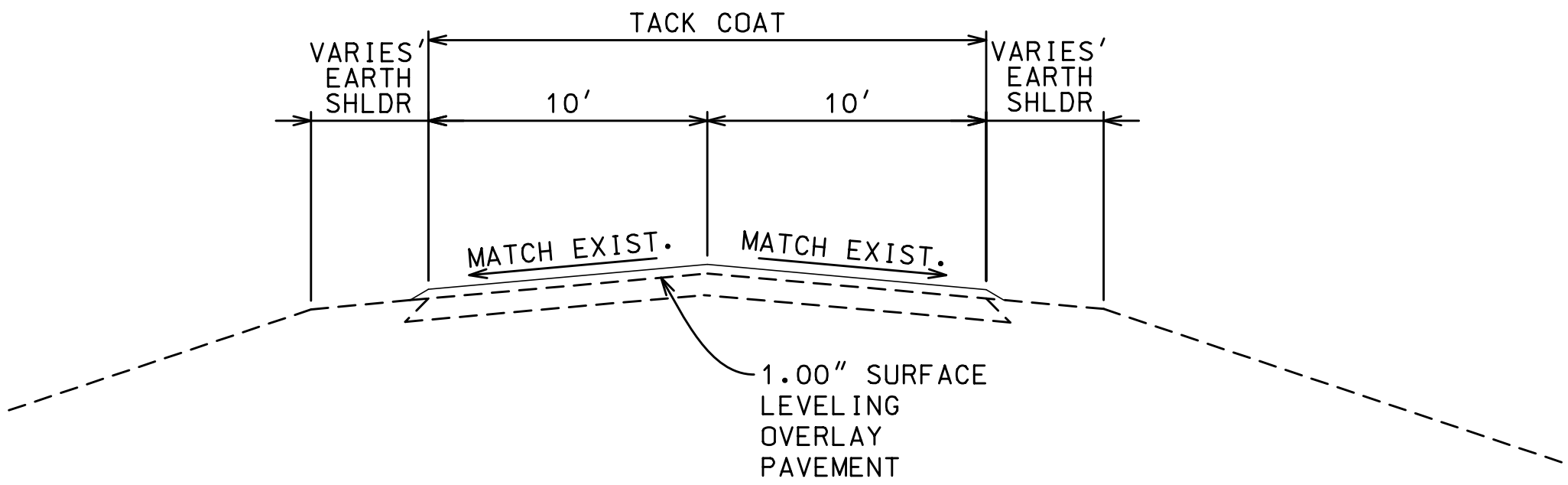
olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF AUTHORITY NO. 001592

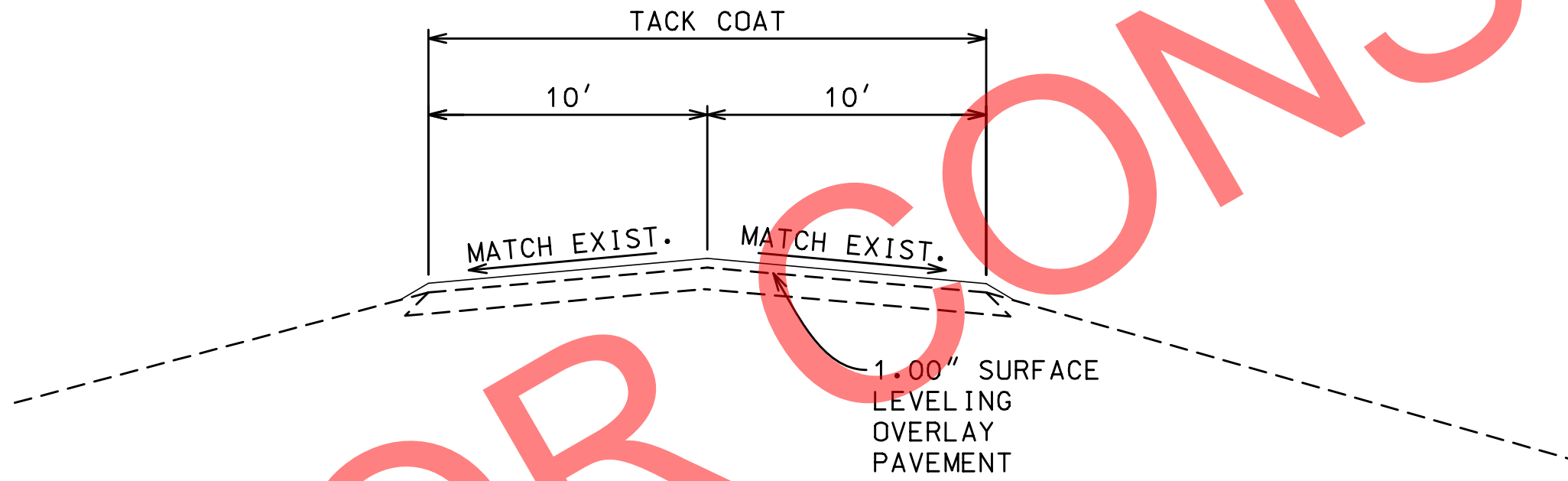
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

ESTIMATE FACTORS FOR ASPHALTIC MIXTURES	
1" SL PG64-22	2.034 TONS/CY
PMBP (BASE) PG64-22	2.040 TONS/CY
GRAVEL A OR CRUSHED STONE B	1.40 TONS/CY
TACK COAT	0.10 GAL/SY
IRREGULARITIES 450 TON/MILE	
FOR INFORMATIONAL PURPOSES ONLY	

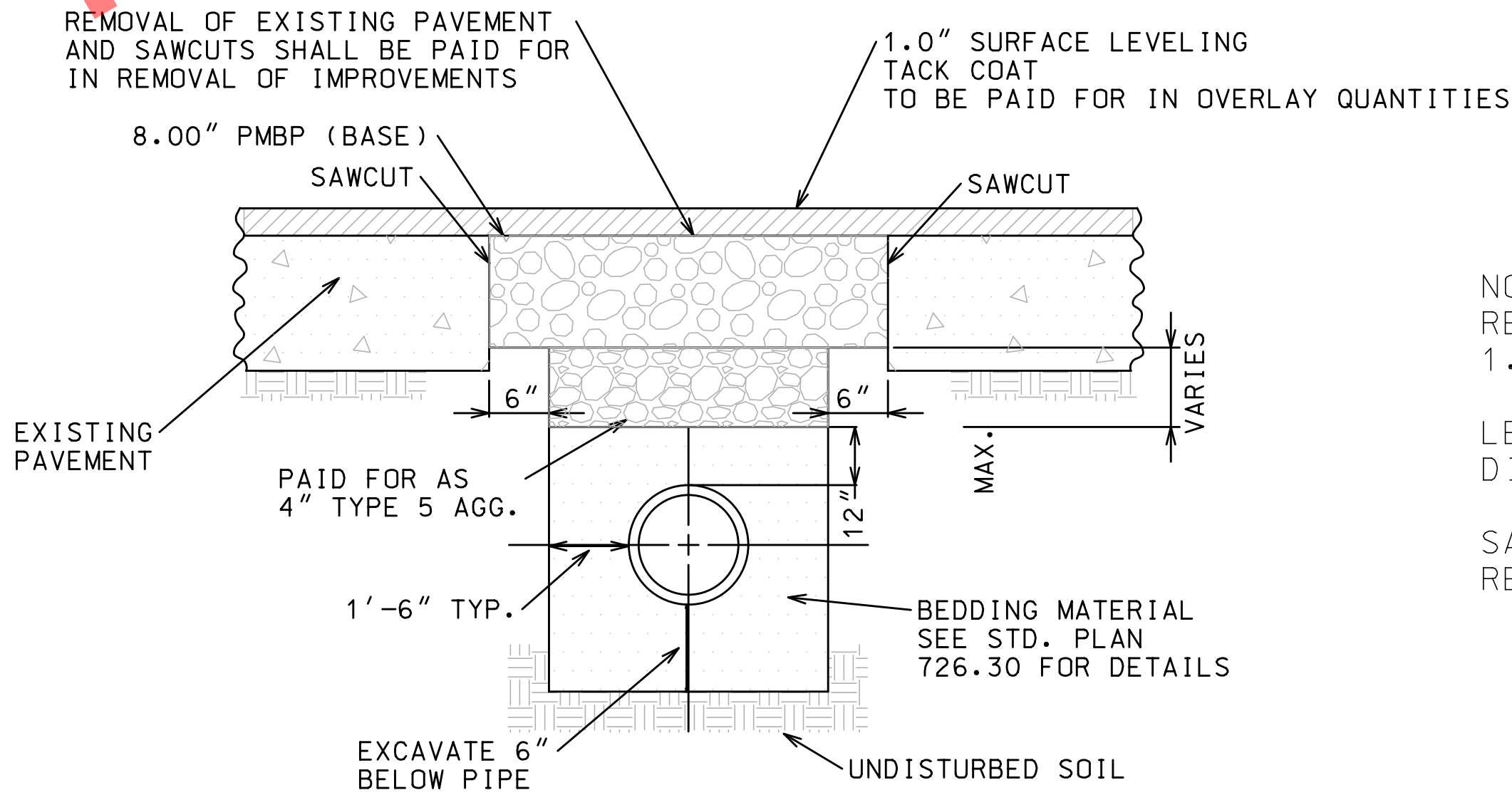
NOTE: SURFACE PLACEMENT SHALL BE ONE PASS PER LANE
NO S.E. CORRECTION.



TYPICAL SECTION
ROUTE N
LOG MILE 0.076 TO LOG MILE 0.563
LOG MILE 0.669 TO LOG MILE 1.340
LOG MILE 2.060 TO LOG MILE 4.550



TYPICAL SECTION
ROUTE VV
LOG MILE 0.290 TO LOG MILE 3.114



NOTE: CULVERT AND PAVEMENT
REPLACEMENT WILL BE PAID FOR BEFORE
1.00" OVERLAY PAVEMENT IS PLACED.

LENGTH IS CONSIDERED AS PIPE
DIAMETER PLUS 18" ON BOTH SIDES.

SAWCUTS REQUIRED AND PAID FOR UNDER
REMOVAL OF IMPROVEMENTS.

PAVEMENT REPLACEMENT DETAIL FOR PIPE INSTALLATIONS

TYPICAL SECTION
SHEET 1 OF 1

DATE PREPARED
2/7/2022

ROUTE
N

DISTRICT
NW

COUNTY
SULLIVAN

JOB NO.
J1S3392

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

STATE
MO

SHEET NO.
E.2

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

MoDOT

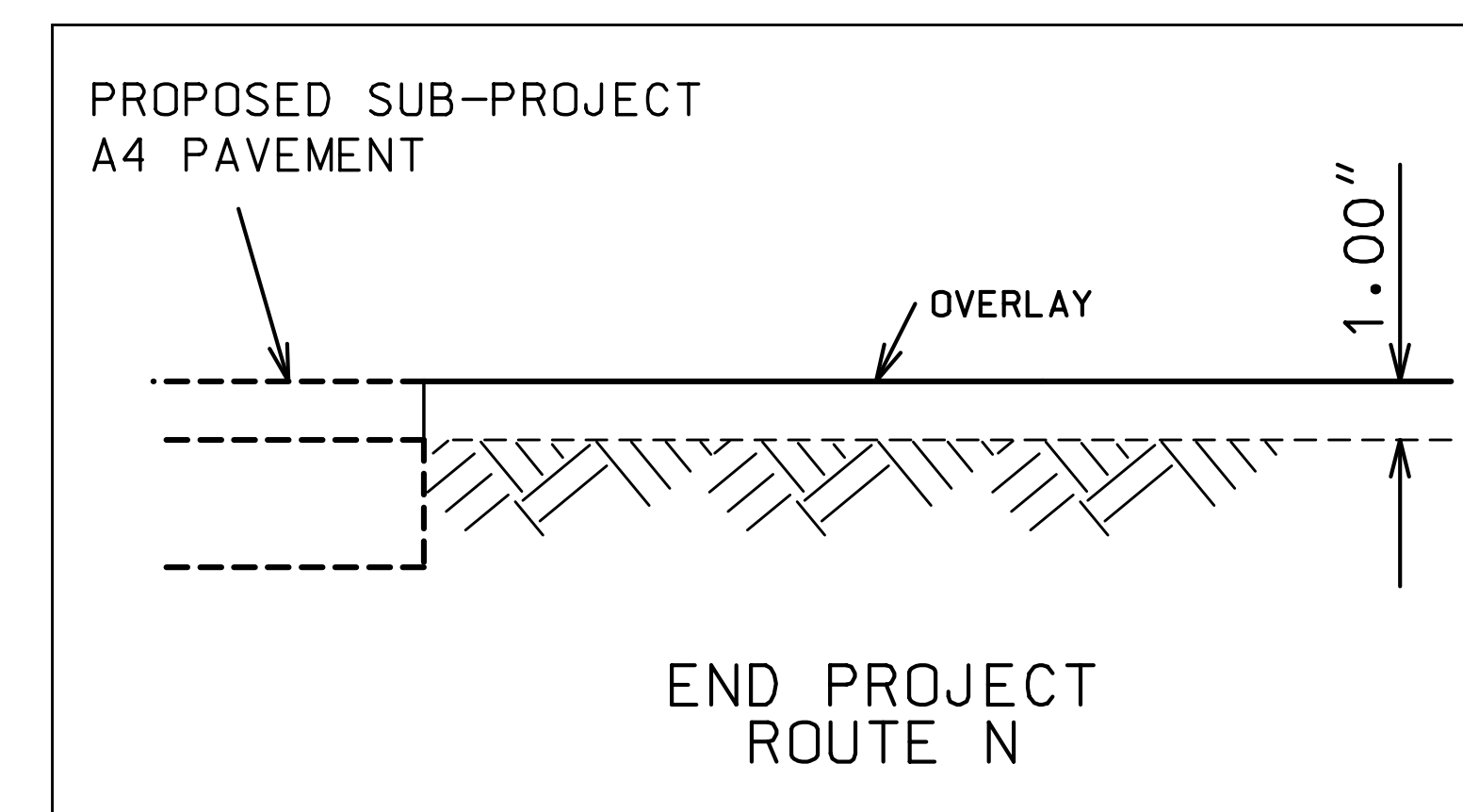
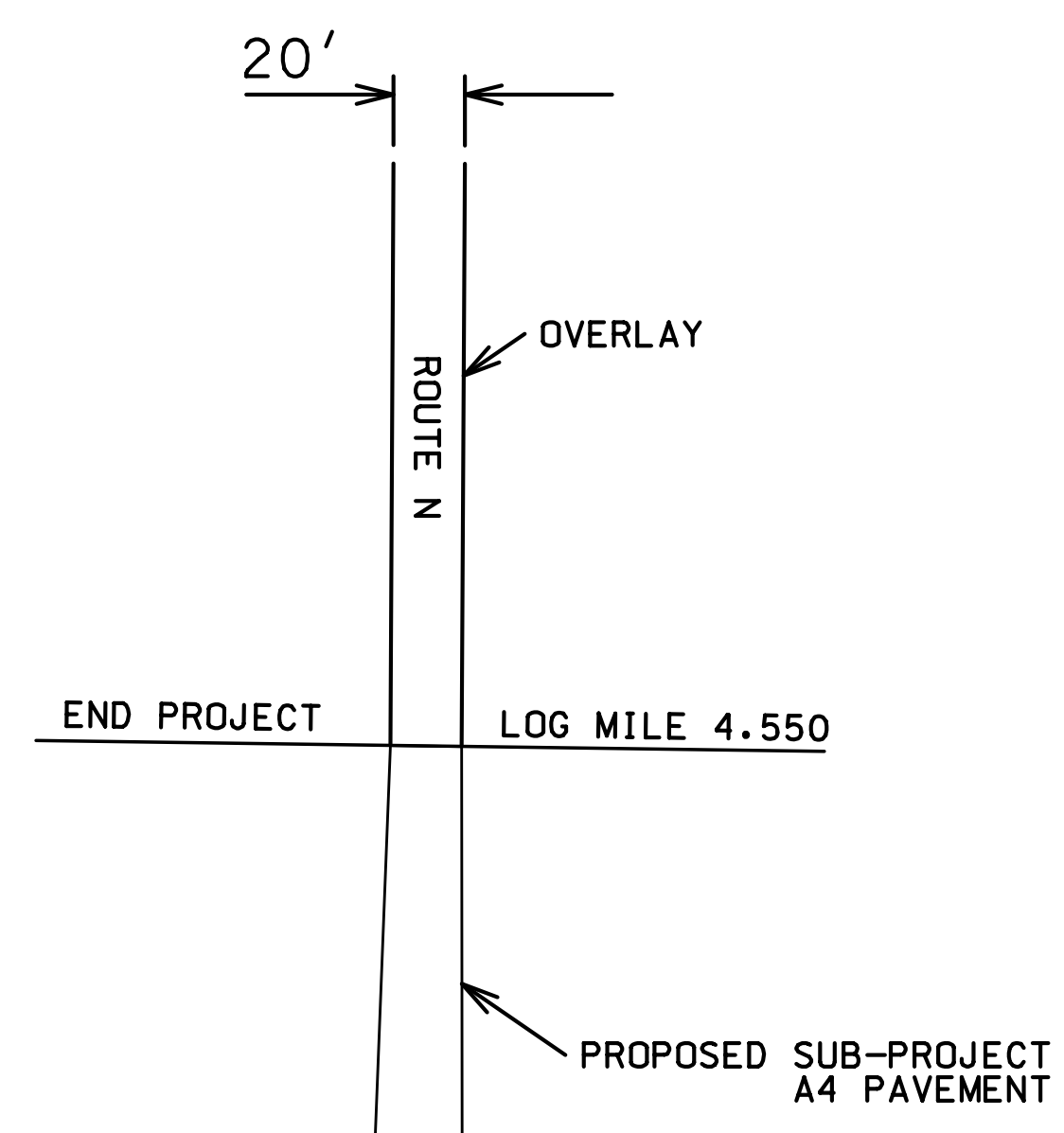
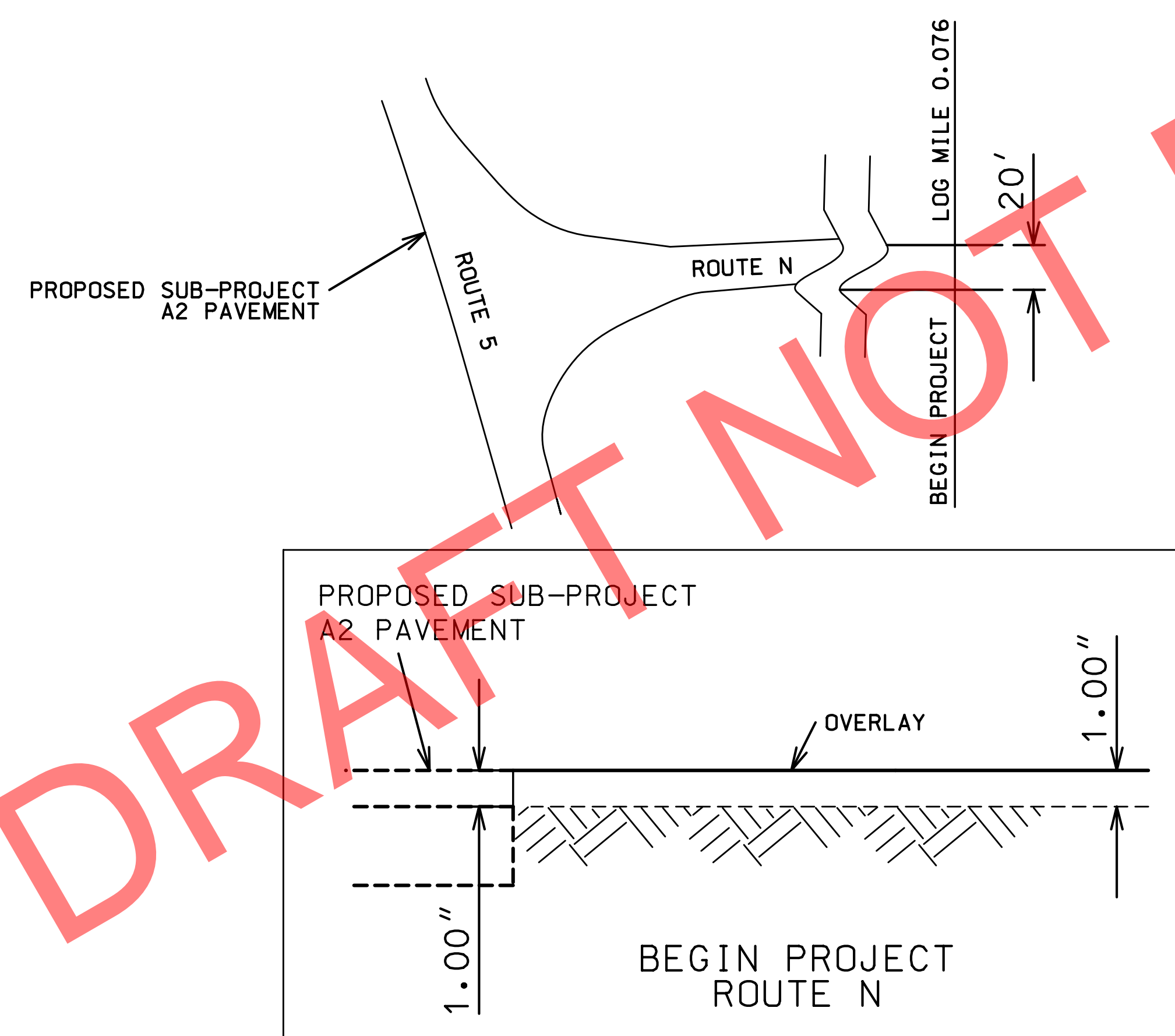
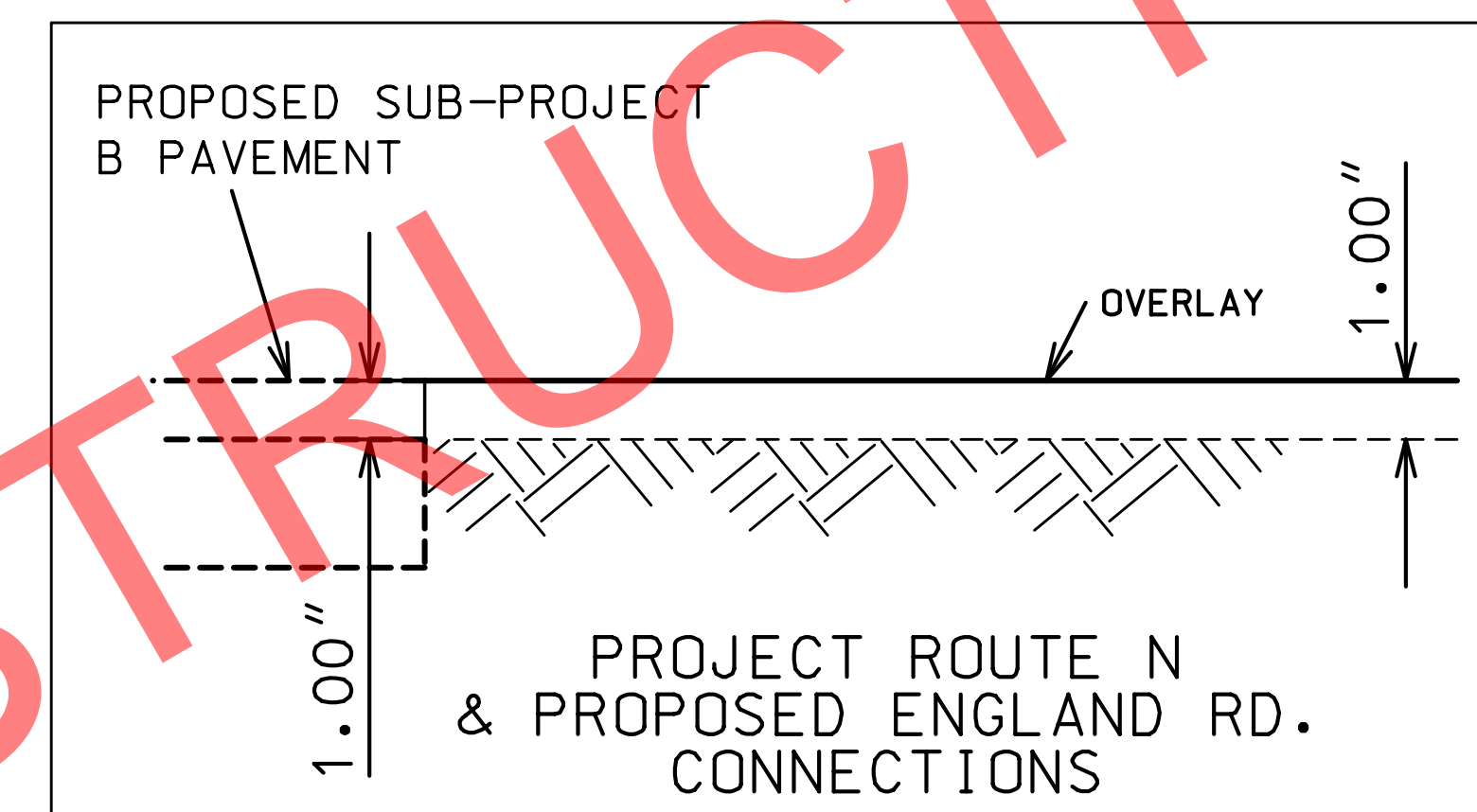
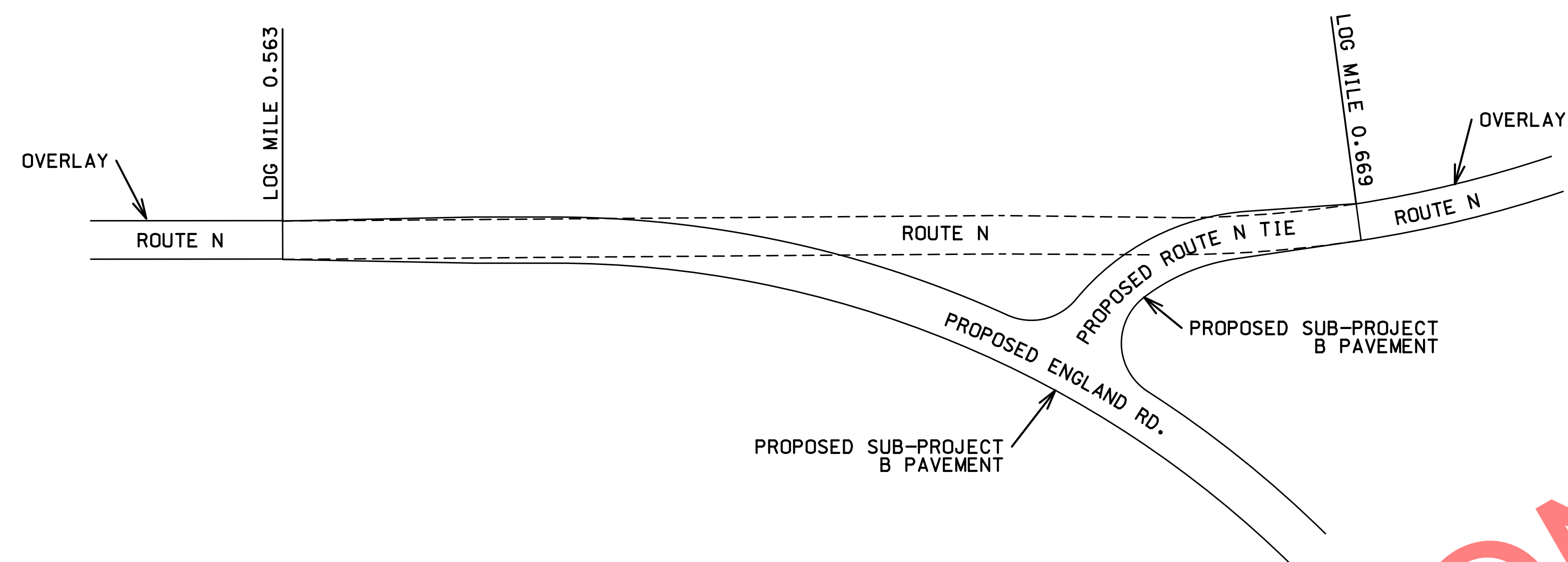
olsson

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NORTH KANSAS CITY, MO 64116
CERTIFICATE OF
AUTHORITY NO. 001592

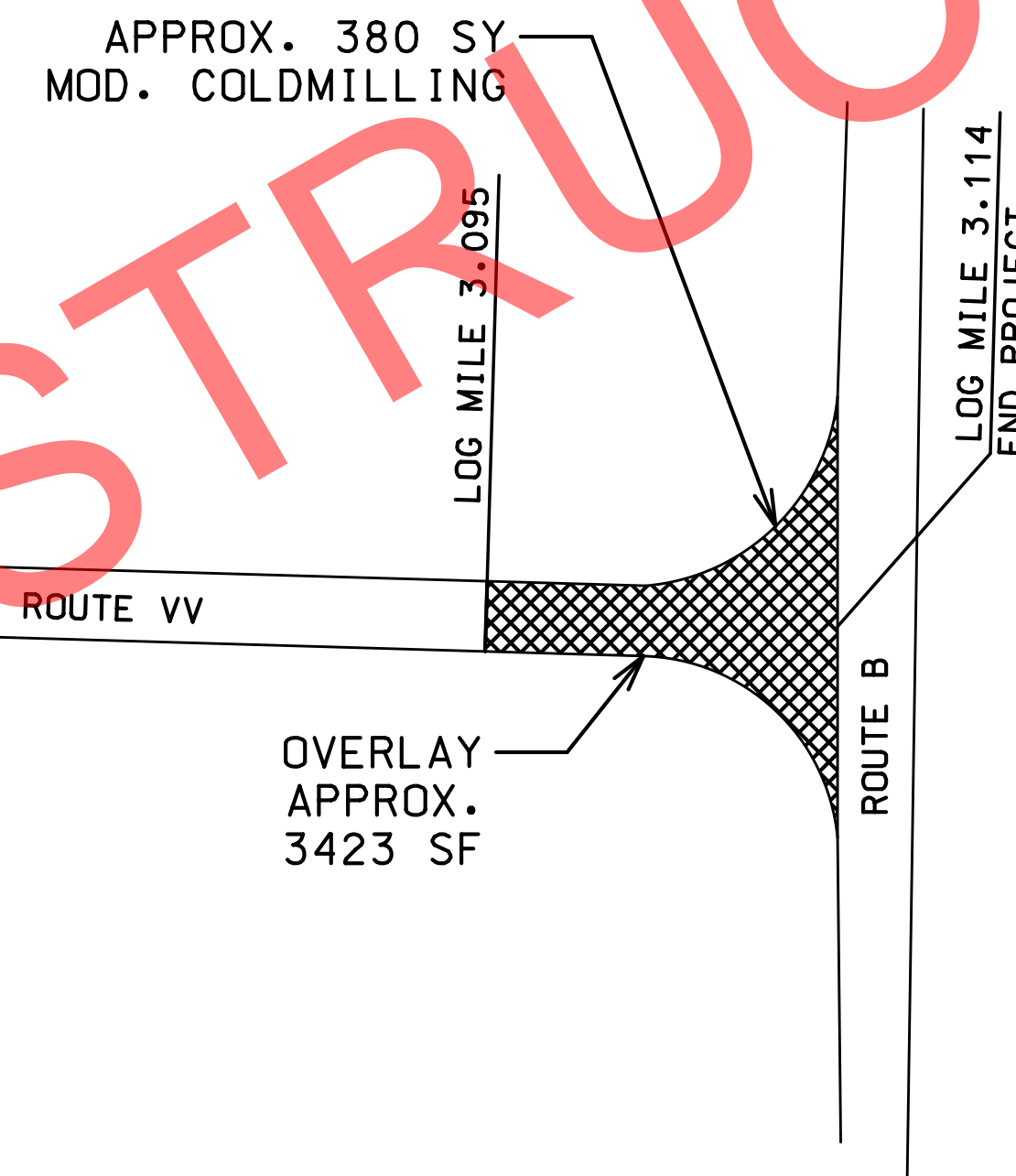
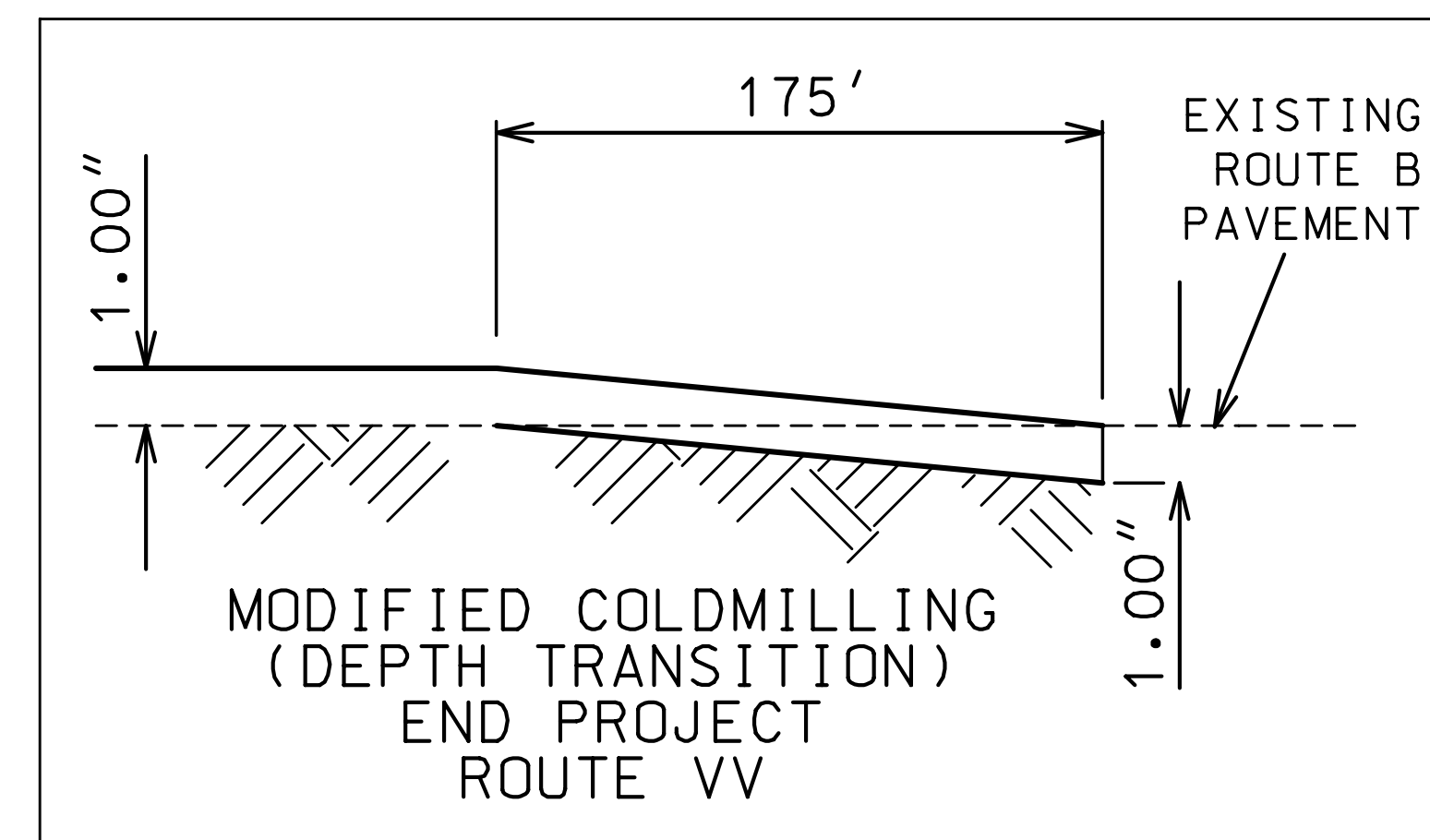
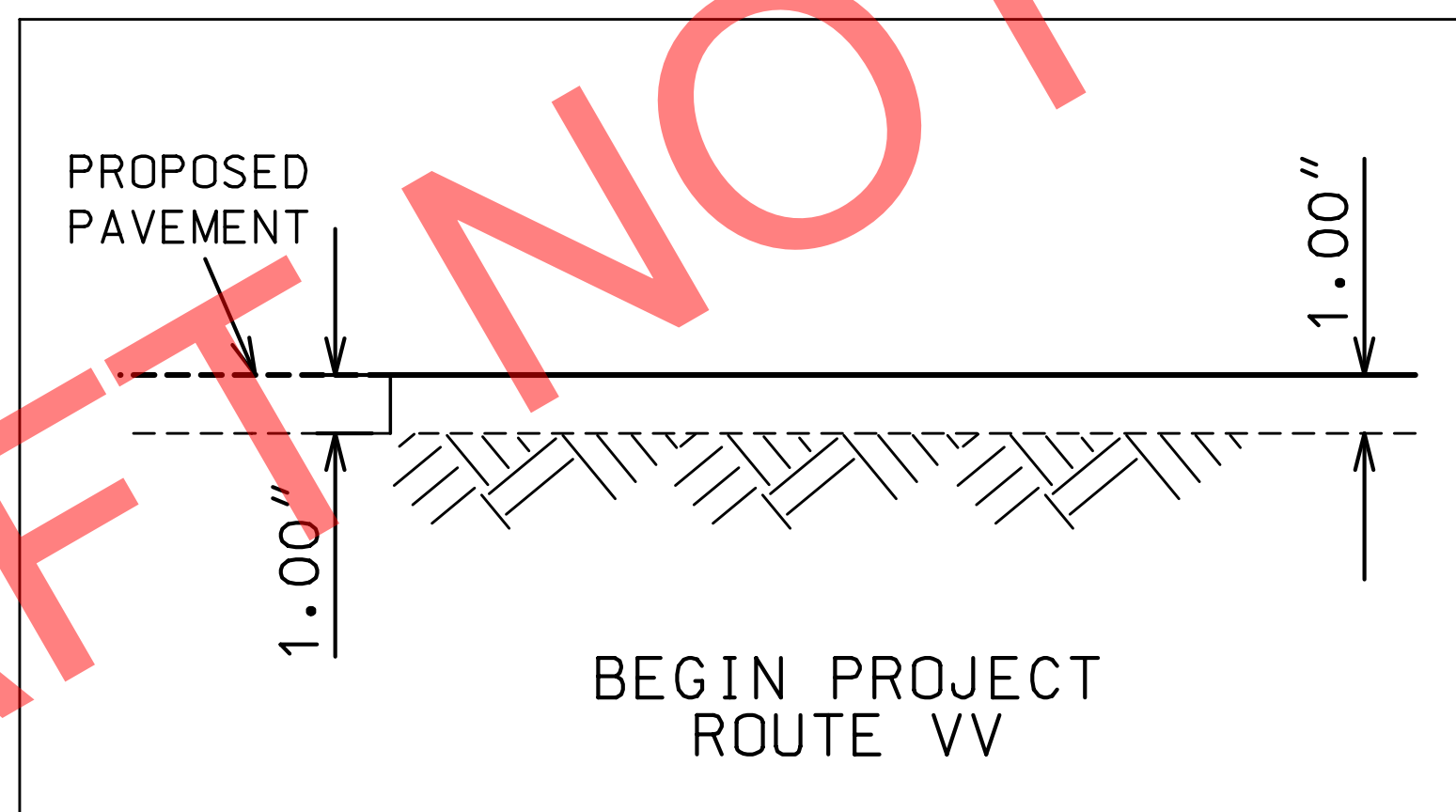
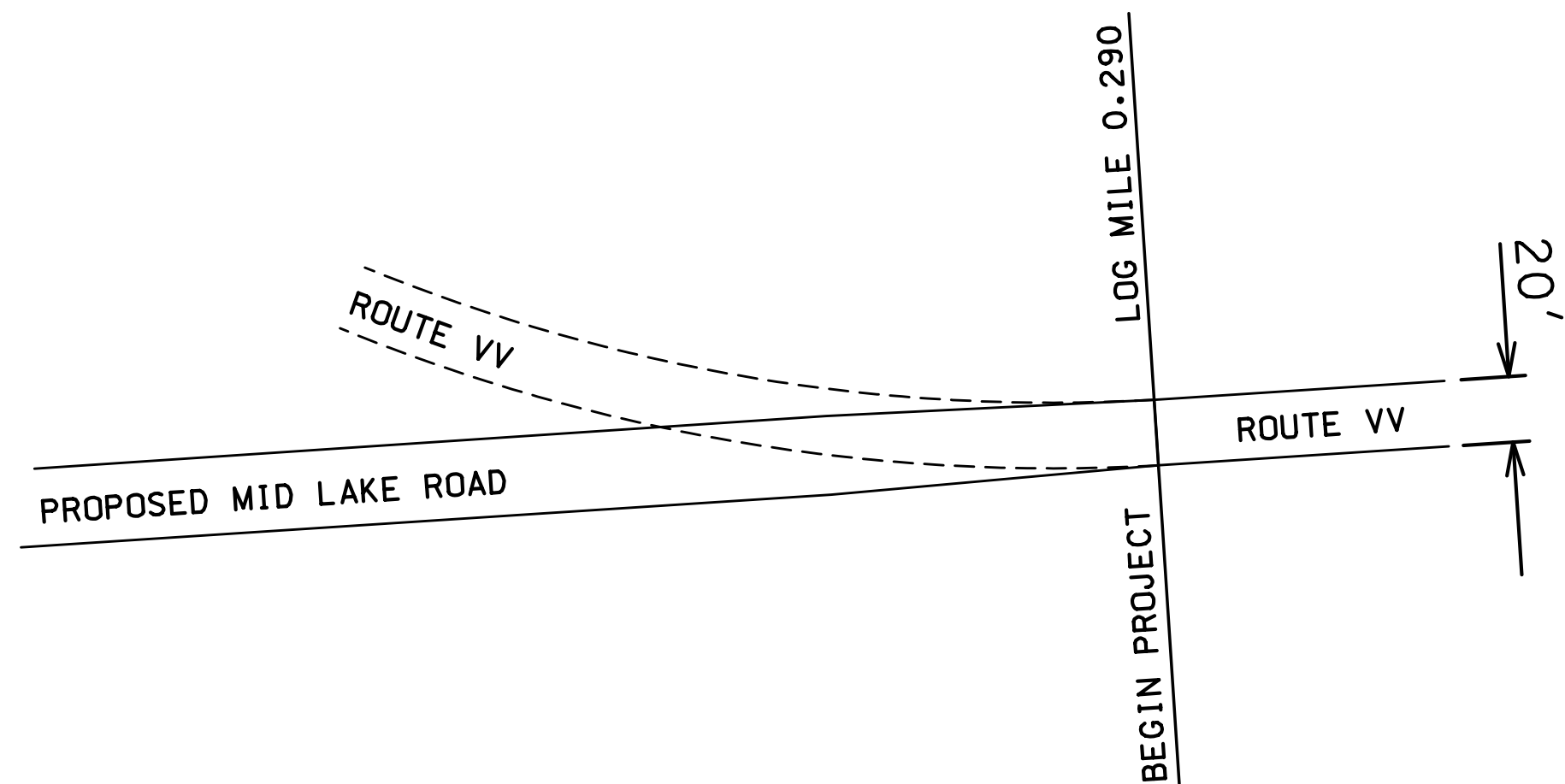
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NOT TO SCALE

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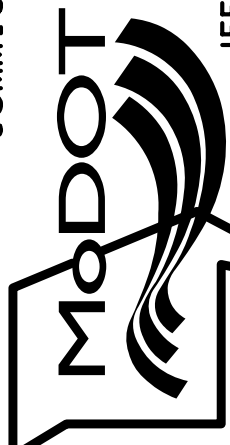



DRAFT NOT FOR CONSTRUCTION



NOT TO SCALE

SPECIAL SHEET
SHEET 3 OF 3

DATE PREPARED 2/7/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. E.6
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	
1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592	

SIGN SPACING FOR ADVANCE SIGN SERIES (1)		
PERMANENT POSTED SPEED MPH	UNDIVIDED HIGHWAYS	DIVIDED HIGHWAYS
0-35	200'	200'
40-45	350'	500'
50-55	500'	1000'
60-70	1000'	SA - 1000' SB - 1500' SC - 2640'

TAPER LENGTHS AND END TREATMENTS FOR CONCRETE BARRIER				
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (2)			END TREATMENT (3)
	T1	10'	11'	12'
<40	160'	168'	176'	BARRIER HEIGHT TRANSITION
>40	160'	168'	176'	APPROVED CRASH CUSHION

TAPER LENGTHS AND SPACING FOR CHANNELIZERS							
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (T1)			MINIMUM SHOULDER TAPER LENGTH BASED ON 10' SHOULDER	BUFFER LENGTH FT.	MAXIMUM CHANNELIZER SPACING	
	10'	11'	12'			THROUGH TAPER	THROUGH WORK AREA
0-35	205'	225'	245'	70'	280'	35'	40'
40-45	450'	495'	540'	150'	400'	40'	80'
50-55	550'	605'	660'	185'	560'	50'	80'
60-70	700'	770'	840'	235'	840'	60'	120'

NOTES:

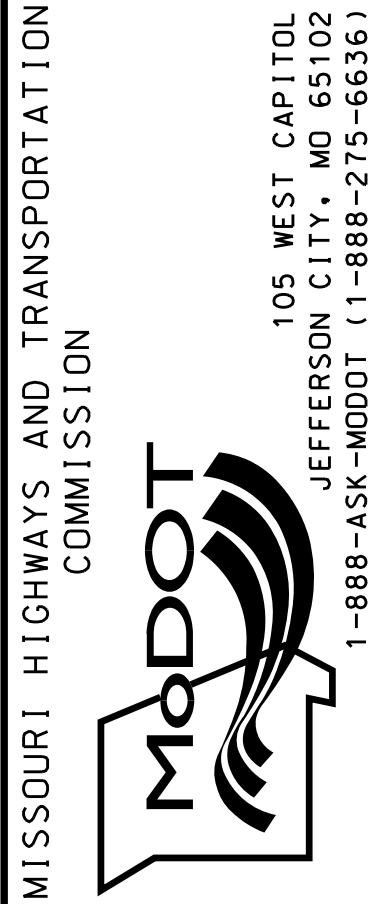
- (1) SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS AND VIABILITY.
- (2) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER.
- (3) CONCRETE BARRIER MAY BE INSTALLED AT AN 8:1 FLARE RATE FROM THE SHOULDER POINT TO THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER. CONTRACTOR MAY PROVIDE CONCRETE BARRIER, INCIDENTAL TO PROJECT.

GENERAL NOTES:

1. AS WITH ALL CONSTRUCTION ACTIVITIES TRAFFIC SITUATIONS ARE SUBJECT TO CHANGE. THE CONTRACTOR SHALL BE AWARE THAT ALL TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE STANDARDS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) THE MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION, SECTION 600 AND SHALL FOLLOW THE GUIDELINES IN THE MODOT 'TRAFFIC CONTROL FOR FIELD OPERATIONS MANUAL'.
2. PLACE A 'ROAD WORK AHEAD' SIGN ON THE APPROACH TO ALL INTERSECTIONS WHERE THE ADVANCE SIGNING FOR THE TEMPORARY TRAFFIC CONTROL EXTENDS PAST THAT INTERSECTION.
3. NOTIFY MODOT RESIDENT ENGINEER 48-HOURS IN ADVANCE OF ANY LANE CLOSURE OR ROADWAY CLOSURE.
4. ALL EXISTING SIGNS SHALL BE USED IN PLACE, ADJUSTED, AND/OR COVERED AS CONDITIONS REQUIRE (NO DIRECT PAY).
5. ALL STATIONING, DISTANCES, AND SPACING OF WORK ZONES DEVICES ARE APPROXIMATE AND MAY BE REVISED AS APPROVED BY ENGINEER.
6. FIRST ORDER OF WORK ON ALL PHASES SHALL BE PLACEMENT OF ALL WORK ZONE WARNING DEVICES AND SIGNS AS NOTED.
7. SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED OR AS APPROVED BY THE ENGINEER.
8. SIGNS LEFT IN PLACE OVERNIGHT MUST BE MOUNTED AT 5' MINIMUM HEIGHT.
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TRAFFIC CONTROL
SHEET 1 OF 4

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Phone 314-394-3100
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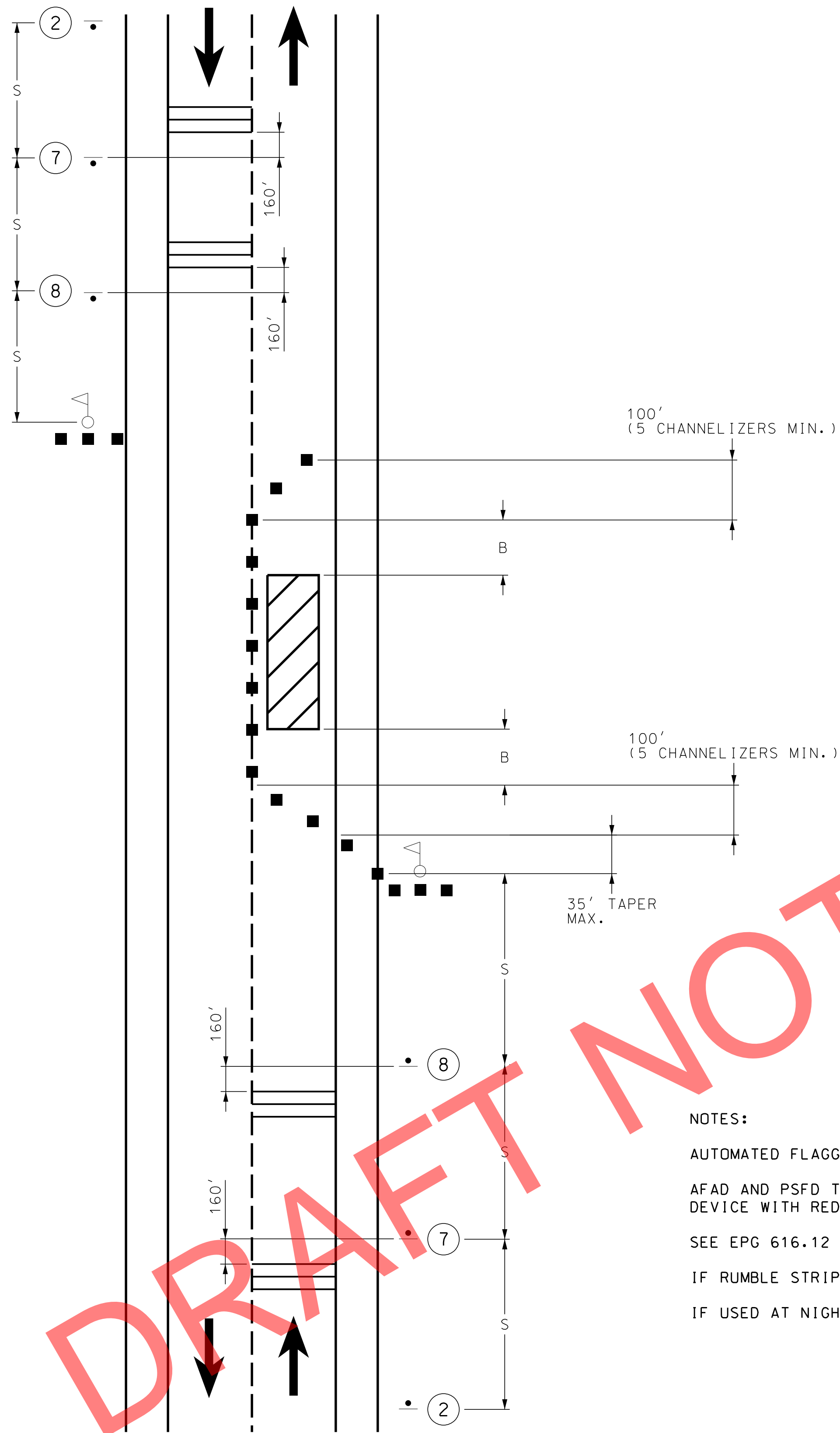


DATE	DESCRIPTION

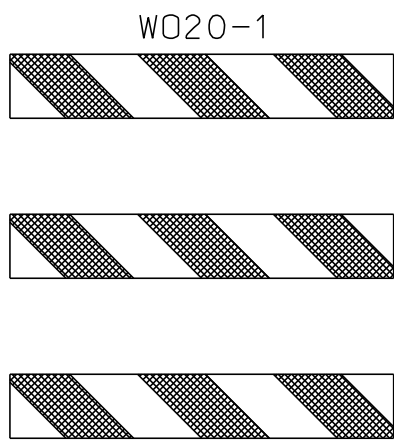
DATE PREPARED 2/6/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. E. 7
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

TA-10 - LANE CLOSURE ON TWO-LANE ROAD USING FLAGGERS



BRIDGE
OR
RAMP

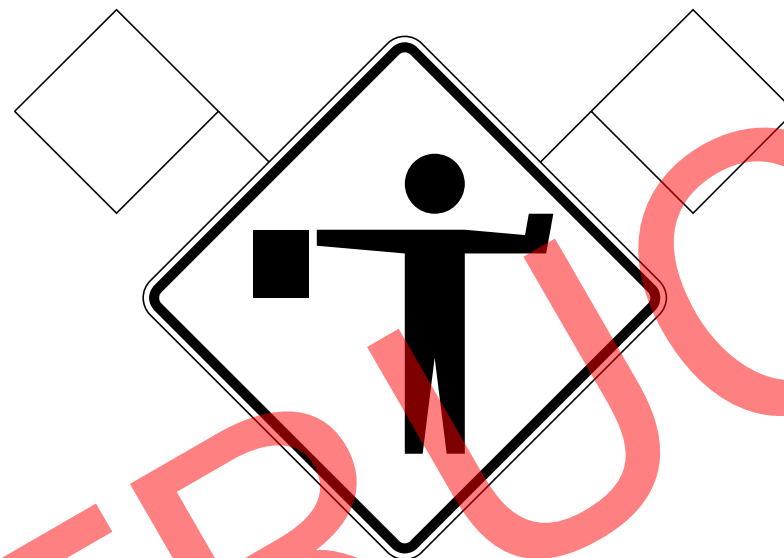


(2)



W020-4

(7)



W020-7a

(8)

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- ◁ FLAGGER
- ▨ WORK AREA
- ▨ ADVANCED WARNING RAIL SYSTEM (AWRS)
- ▨ SHORT-TERM RUMBLE STRIPS 3 STRIPS SPACED AT 20 FT

SPEED PERMANENT POSTED (MPH)	SIGN SPACING (FT.)		TAPER LENGTH (FT.)		OPTIONAL BUFFER LENGTH (FT.) (B)	CHANNELIZER SPACING (FT.)	
	UNDIVIDED (S)	DIVIDED (S)	SHOULDER (1) (T1)	LANE (2) (T2)		TAPERS	BUFFER/WORK AREA
0-35	200	-	-	-	280	-	40
40-45	350	-	-	-	400	-	80
50-55	500	-	-	-	560	-	80
60-70	1000	-	-	-	840	-	120

1. SHOULDER TAPER LENGTH BASED ON 10 FT. (STANDARD SHOULDER WIDTH) OFFSET. 2. LANE TAPER LENGTH BASED ON 12 FT. (STANDARD LANE WIDTH) OFFSET.

NOTES:

- AUTOMATED FLAGGER ASSISTANCE DEVICES (AFAD) AND PORTABLE SIGNAL FLAGGING DEVICES (PSFD) MAY BE USED AS AN ALTERNATIVE FLAGGING OPERATION.
- AFAD AND PSFD TYPICAL APPLICATIONS AND CRITERIA ARE LOCATED AT THE FOLLOWING: EPG 616.8.10A (TA-10A) LANE CLOSURE ON TWO-LANE HIGHWAYS USING AUTOMATED FLAGGER ASSISTANCE DEVICE WITH RED AND AMBER SIGNAL SYSTEM & EPG 616.8.10C (TA-10C) LANE CLOSURE ON TWO-LANE HIGHWAYS USING PORTABLE SIGNAL FLAGGING DEVICE.
- SEE EPG 616.12 WORK ZONE SPEED LIMITS FOR SPEED LIMIT GUIDELINES.
- IF RUMBLE STRIPS ARE USED, REVIEW 616.6.87 RUMBLE STRIPS.
- IF USED AT NIGHT, THE FLAGGER STATIONS SHALL BE ILLUMINATED WITH AN AVERAGE MAINTAINED INTENSITY OF 0.6 FOOTCANDLES (6.5 LUX).

NOT TO SCALE

TRAFFIC CONTROL
SHEET 2 OF 4

"THIS MEDIA SHOULD
NOT BE CONSIDERED
A CERTIFIED
DOCUMENT."

DATE PREPARED 2/6/2022	
ROUTE N	STATE MO
DISTRICT NW	SHEET NO. E.8
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

MoDOT

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

EFK Moen

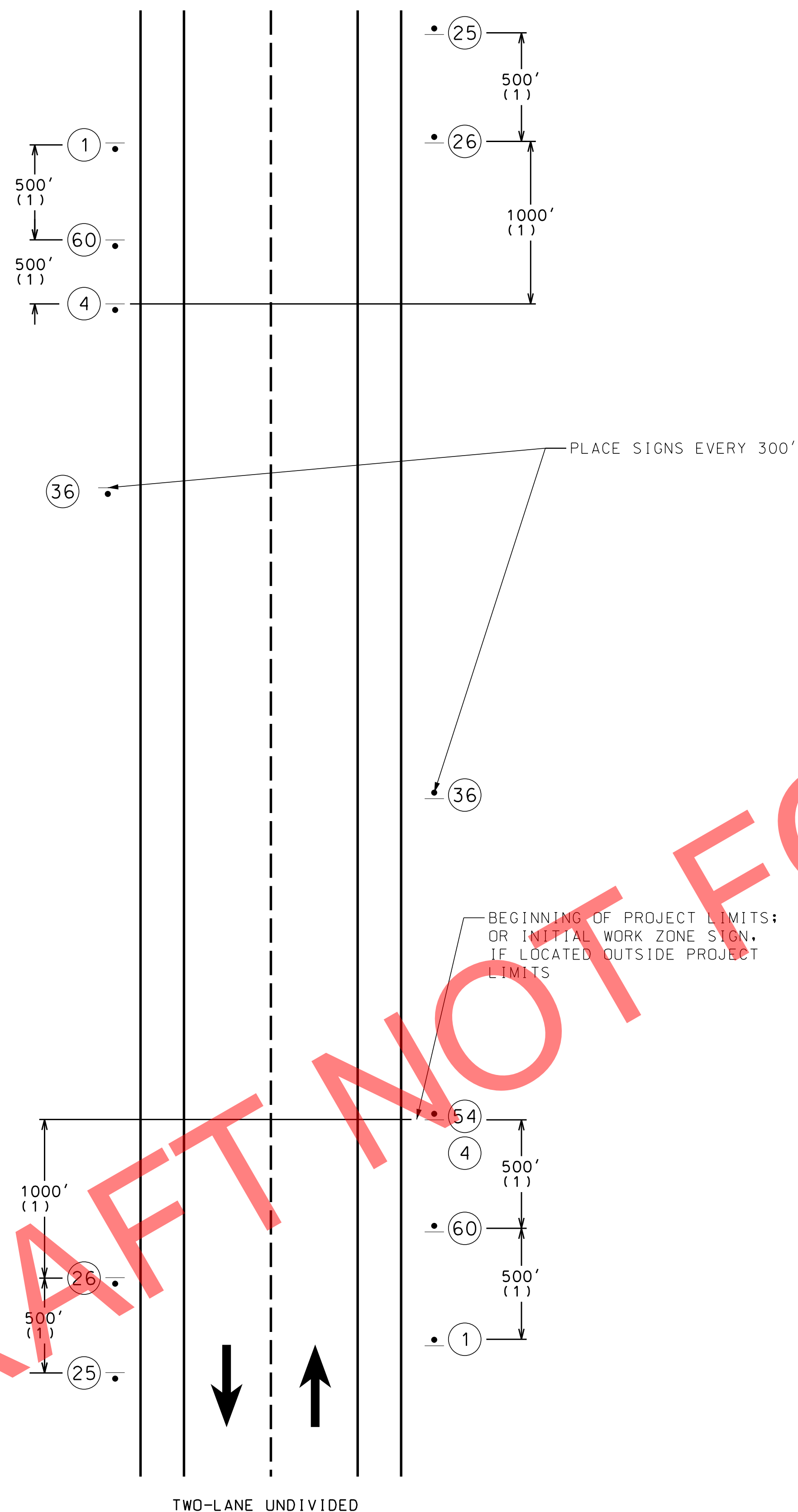
Civil Engineering Design

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

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

Missouri Certificate of Authority: 001578

BEGIN/END OF PROJECT SIGNING



ROAD WORK
NEXT 1 MILES

G020-1
(1)

WORK ZONE
NO PHONE
ZONE

CONST-8
(60)
(2)

WORK
ZONE

G020-5aP
(54)

SPEED
LIMIT
45

R2-1
(4)

UNEVEN
LANES

W08-11
(36)

BUMP

W08-1
(61)

END
ROAD WORK

G020-2
(26)

SPEED
LIMIT
55

R2-1
(25)

NOTES:

SIGN G020-1 IS REQUIRED PER EPG 616.6.56.

SIGN G020-2 IS USED ON ALL PROJECTS WHERE SIGN G020-1 IS USED.

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

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

WHEN APPROPRIATE, THE BUMP SIGN SHALL BE PLACED AT EVERY SIDE STREET APPROACH.

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

(2) THE "WORK ZONE NO PHONE ZONE" SIGN IS PLACED A MINIMUM OF 500 FEET BEFORE THE ROAD WORK AHEAD SIGN

NOT TO SCALE

TRAFFIC CONTROL
SHEET 4 OF 4

"THIS MEDIA SHOULD
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A CERTIFIED
DOCUMENT."

DATE PREPARED
2/6/2022

ROUTE N STATE MO
DISTRICT NW SHEET NO. E.10

COUNTY
SULLIVAN

JOB NO.
J1S3392

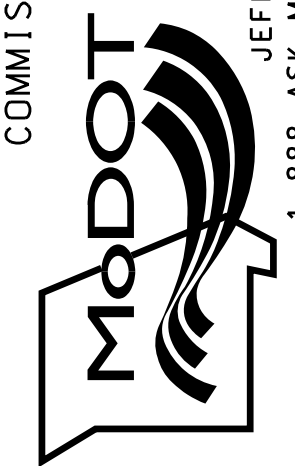
CONTRACT ID.

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)

EFFK Moen

Civil Engineering Design

13523 Barrett Parkway Dr Phone 314-394-3100
Suite 250 St. Louis, MO 63021 Fax 314-394-3199

Missouri Certificate of Authority: 001578

REV.

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

A.A.D.T. - 2021 = VARIES
A.A.D.T. - 2041 = VARIES

FUNCTIONAL CLASSIFICATION - GRAVEL ROADS

NO RIGHT OF WAY
TO BE ACQUIRED

CONVENTIONAL SYMBOLS (USED IN PLANS)

BUILDINGS AND STRUCTURES
GUARD RAIL
GUARD CABLE
CONCRETE RIGHT-OF-WAY MARKER
STEEL RIGHT-OF-WAY MARKER
LOCATION SURVEY MARKER
UTILITIES

FIBER OPTICS
OVERHEAD CABLE TV
UNDERGROUND CABLE TV
OVERHEAD TELEPHONE
UNDERGROUND TELEPHONE
OVERHEAD POWER
UNDERGROUND POWER
SANITARY SEWER
STORM SEWER
GAS
WATER

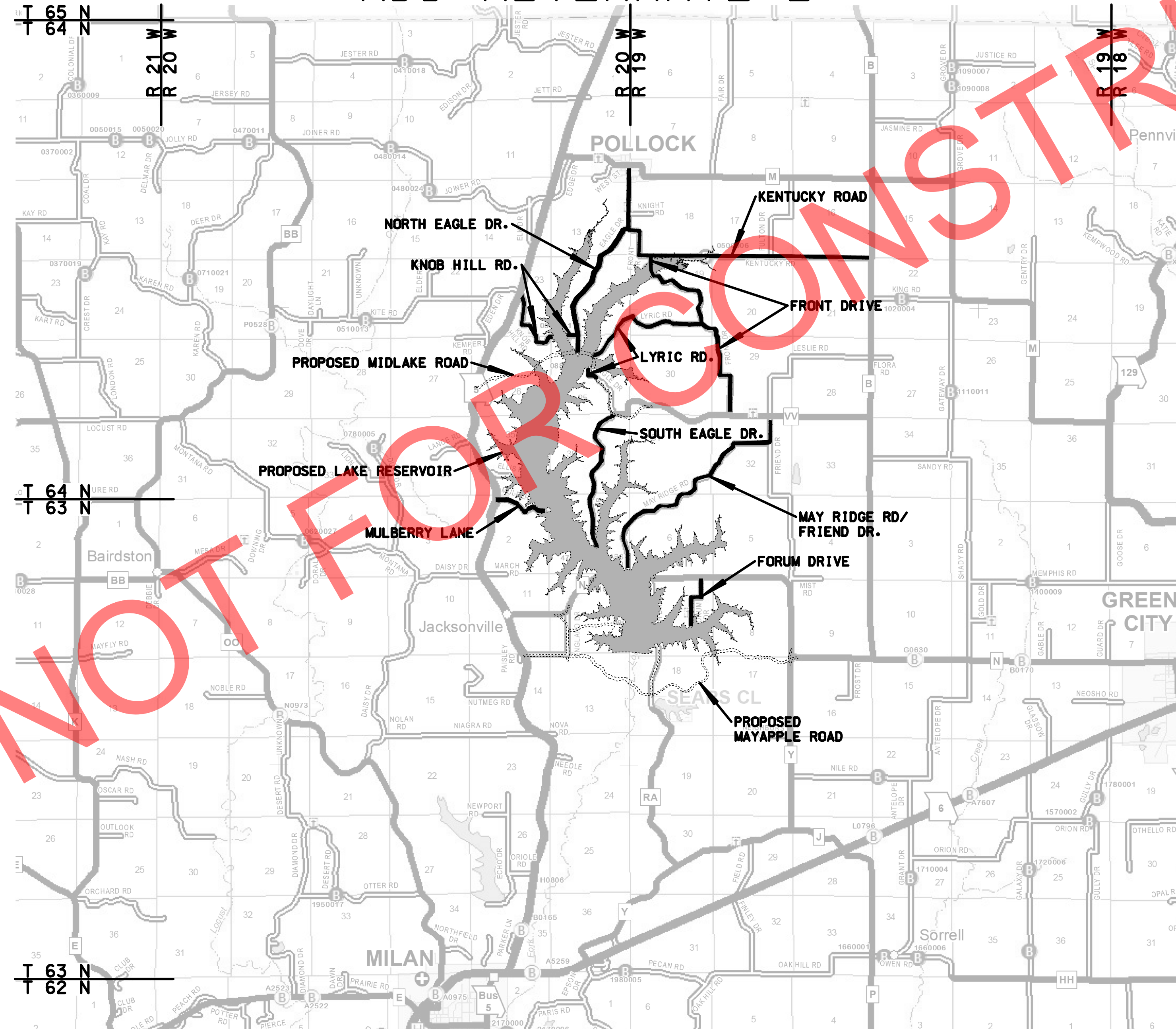
MANHOLE
FIRE HYDRANT
WATER VALVE
WATER METER
DROP INLET
DITCH BLOCK
GROUND MOUNTED SIGN
LIGHT POLE
H-FRAME POWER POLE
TELEPHONE PEDESTAL
FENCE
CHAIN LINK
WOVEN WIRE
GATE POST
BENCHMARK

NOTE: DASHED OR OPEN SYMBOLS INDICATE
EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION PLANS FOR PROPOSED COUNTY GRAVEL ROADS

SULLIVAN COUNTY

SEC. 6 & 7, T63N, R19W
SEC. 1 & 2, T63N, R20W
SEC. 7, 16, 17, 18, 19, 20, 21, 29, 31 & 32, T64N, R19W
SEC. 12, 13, 23, 24, 25, 26, 35 & 36, T64N, R20W
ADD ALTERNATE 2



NOT TO SCALE

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

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	F.1
TYPICAL SECTIONS (TS) (1 SHEET)-----	F.2
QUANTITIES (QU) (2 SHEET)-----	F.3
SPECIAL SHEETS (SS)-----	F.4
TRAFFIC CONTROL SHEETS (TC)-----	F.5-F.7

LENGTH OF SUB-PROJECT

NORTH EAGLE DR.			
BEGINNING OF PROJECT	LM	0.002	
END OF PROJECT	LM	2.659	
APPARENT LENGTH		2.657	MILE
SOUTH EAGLE DR.			
BEGINNING OF PROJECT	LM	0.000	
END OF PROJECT	LM	1.944	
APPARENT LENGTH		1.994	MILE
KENTUCKY RD.			
BEGINNING OF PROJECT	LM	0.002	
END OF PROJECT	LM	3.384	
APPARENT LENGTH		3.382	MILE
LYRIC RD.			
BEGINNING OF PROJECT	LM	0.000	
END OF PROJECT	LM	2.259	
APPARENT LENGTH		2.259	MILE
FRONT DR.			
BEGINNING OF PROJECT	LM	0.000	
END OF PROJECT	LM	2.740	
APPARENT LENGTH		2.740	MILE
KNOB HILL RD.			
BEGINNING OF PROJECT	LM	0.002	
END OF PROJECT	LM	1.321	
APPARENT LENGTH		1.319	MILE
MULBERRY RD.			
BEGINNING OF PROJECT	LM	0.002	
END OF PROJECT	LM	0.682	
APPARENT LENGTH		0.680	MILE
MAY RIDGE RD.			
BEGINNING OF PROJECT	LM	0.002	
END OF PROJECT	LM	3.310	
APPARENT LENGTH		3.310	MILE
FORUM DR.			
BEGINNING OF PROJECT	LM	0.002	
END OF PROJECT	LM	0.706	
APPARENT LENGTH		0.704	MILE

NET LENGTH OF PROJECT	19.045	MILES
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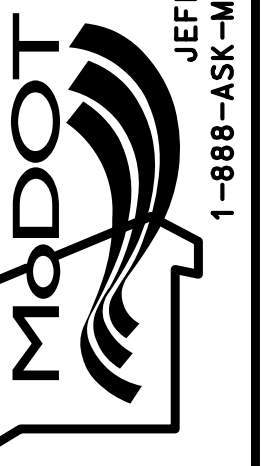
DATE PREPARED	
2/7/2022	
ROUTE	STATE
RIES	MO
DISTRICT	SHEET NO.
NW	F. 1
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	

PROJECT NO.

RIDGE NO.

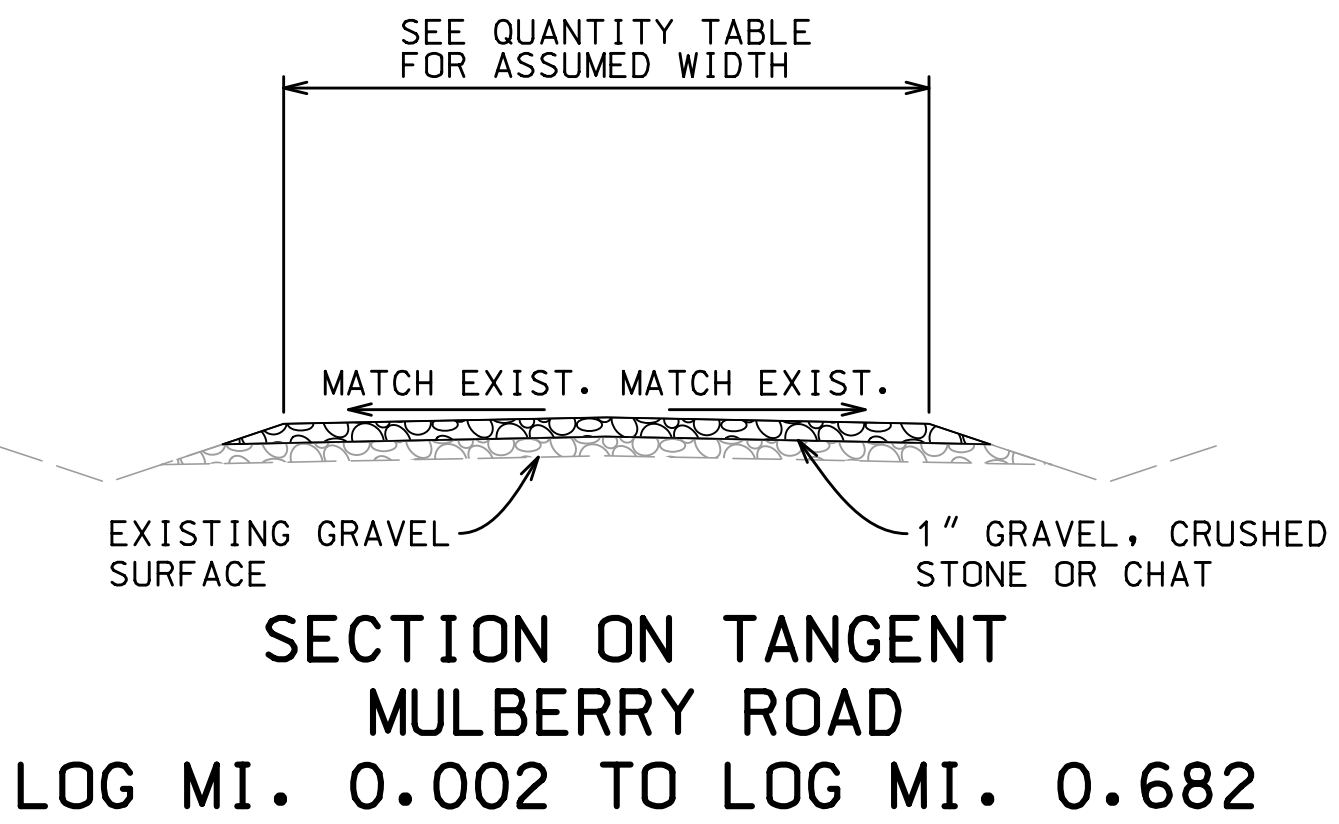
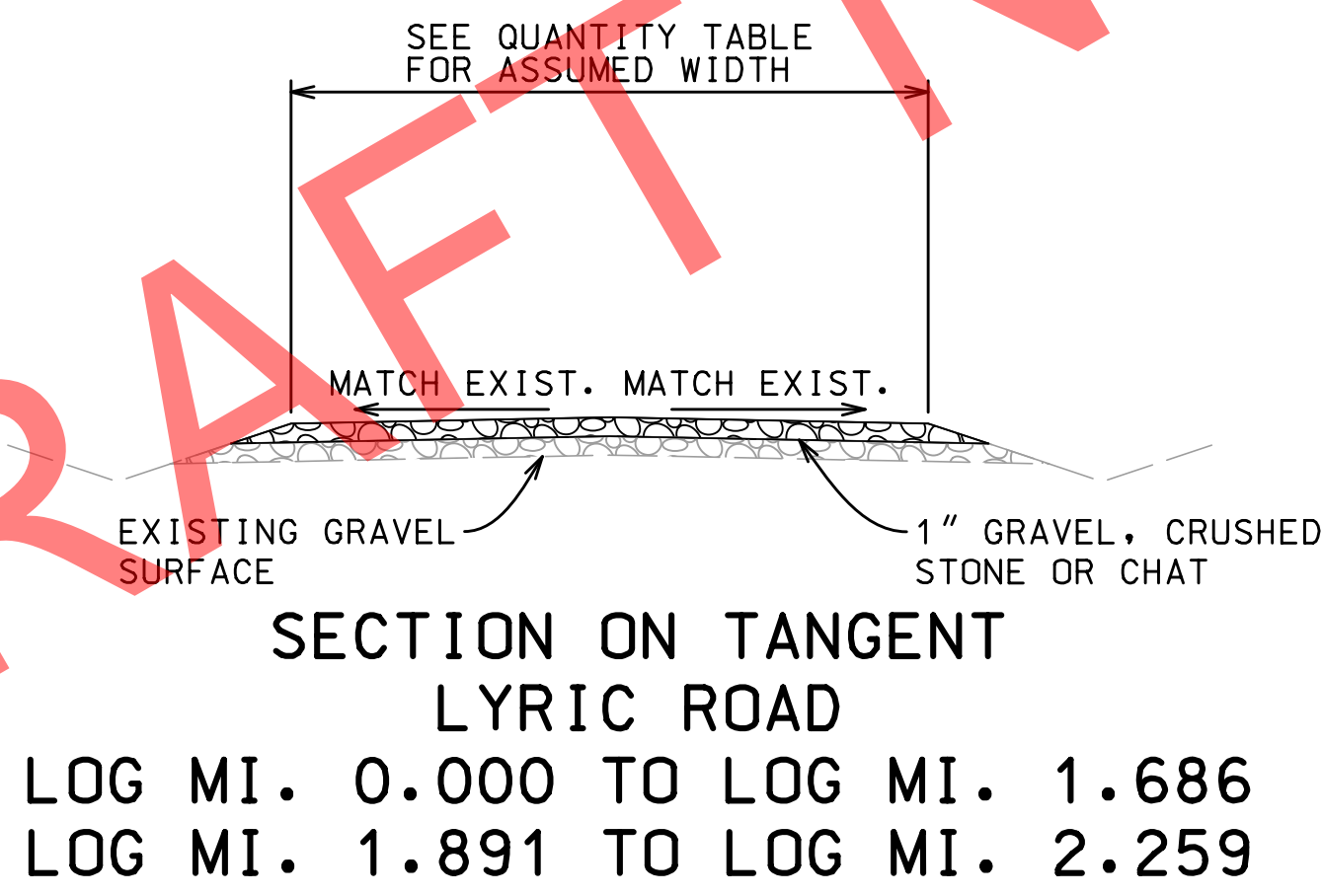
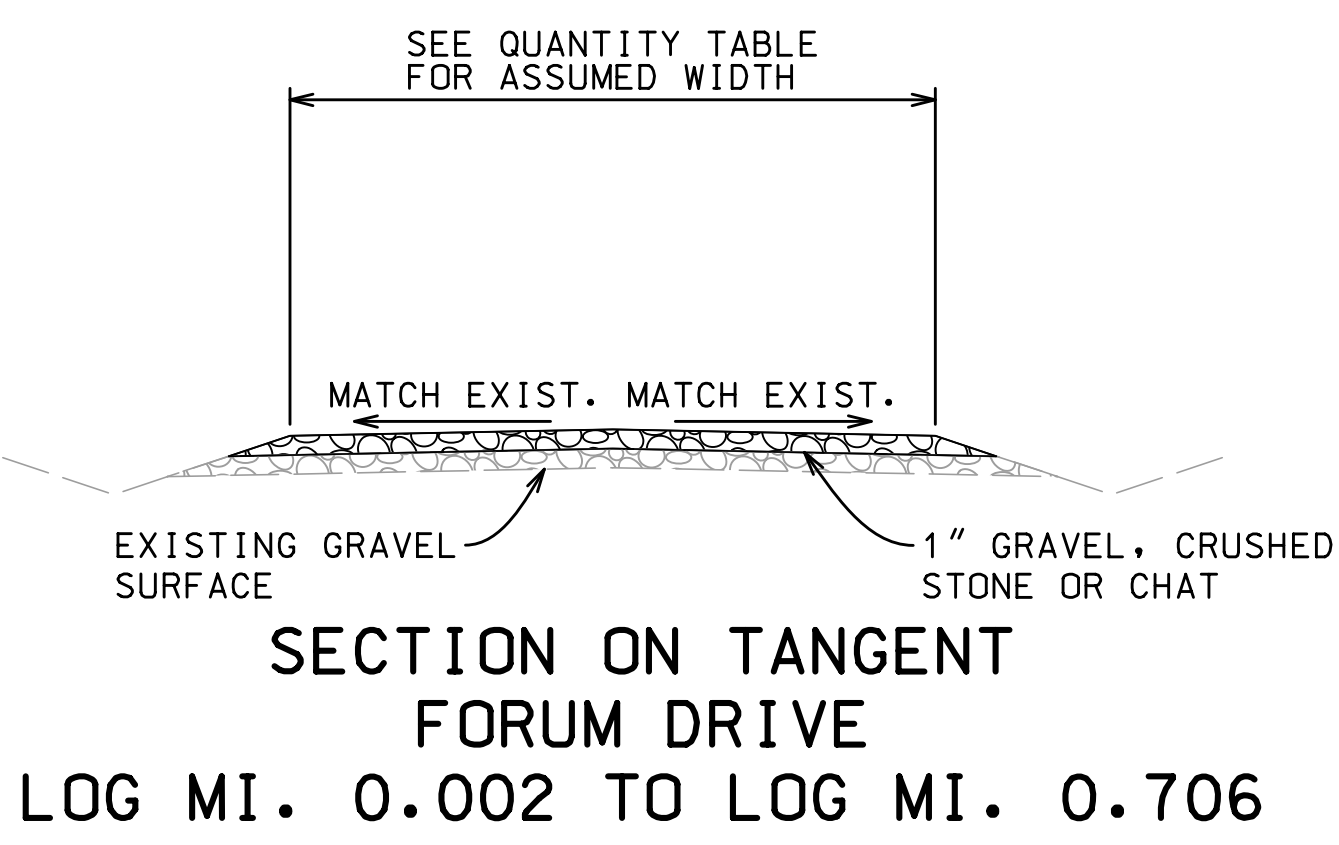
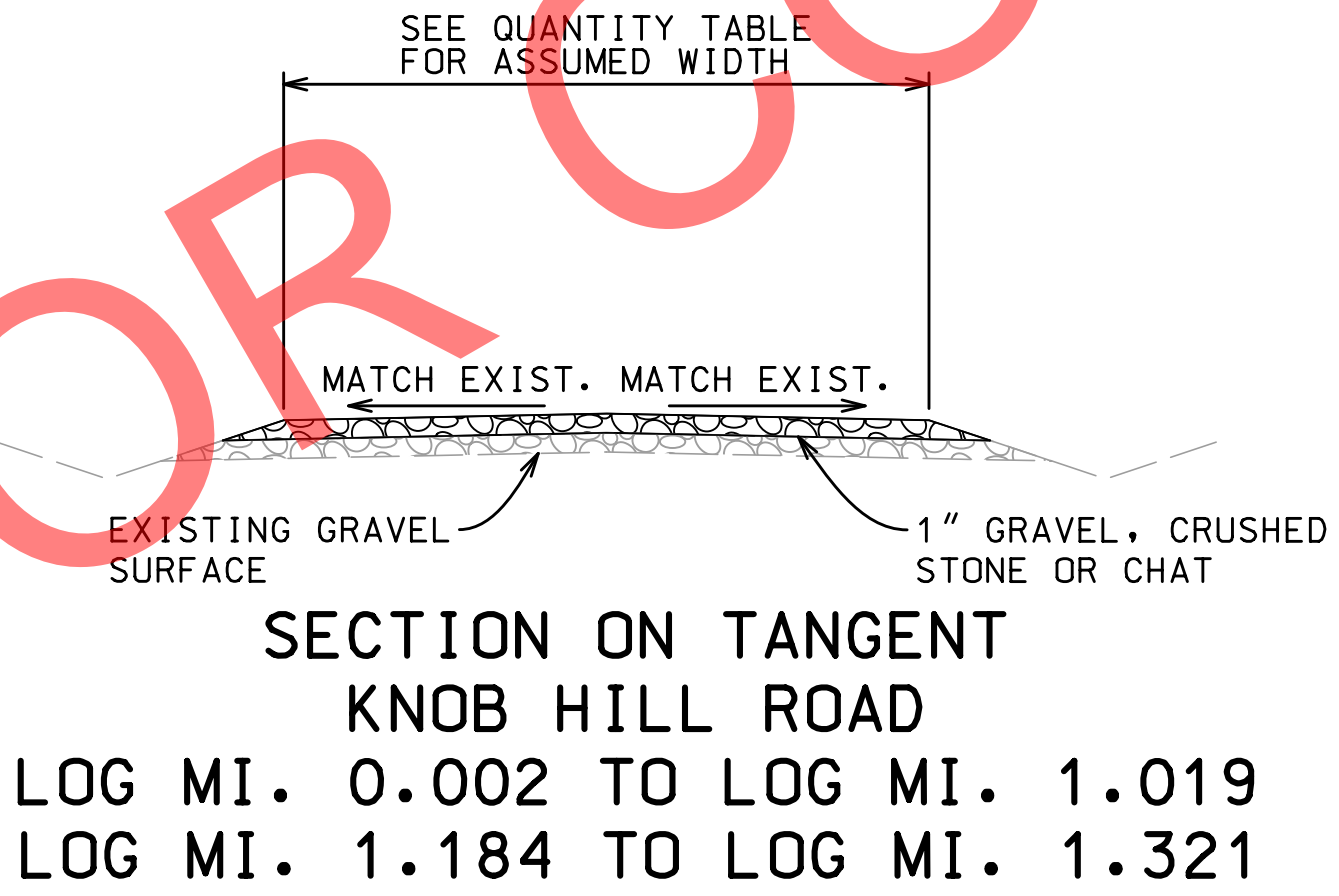
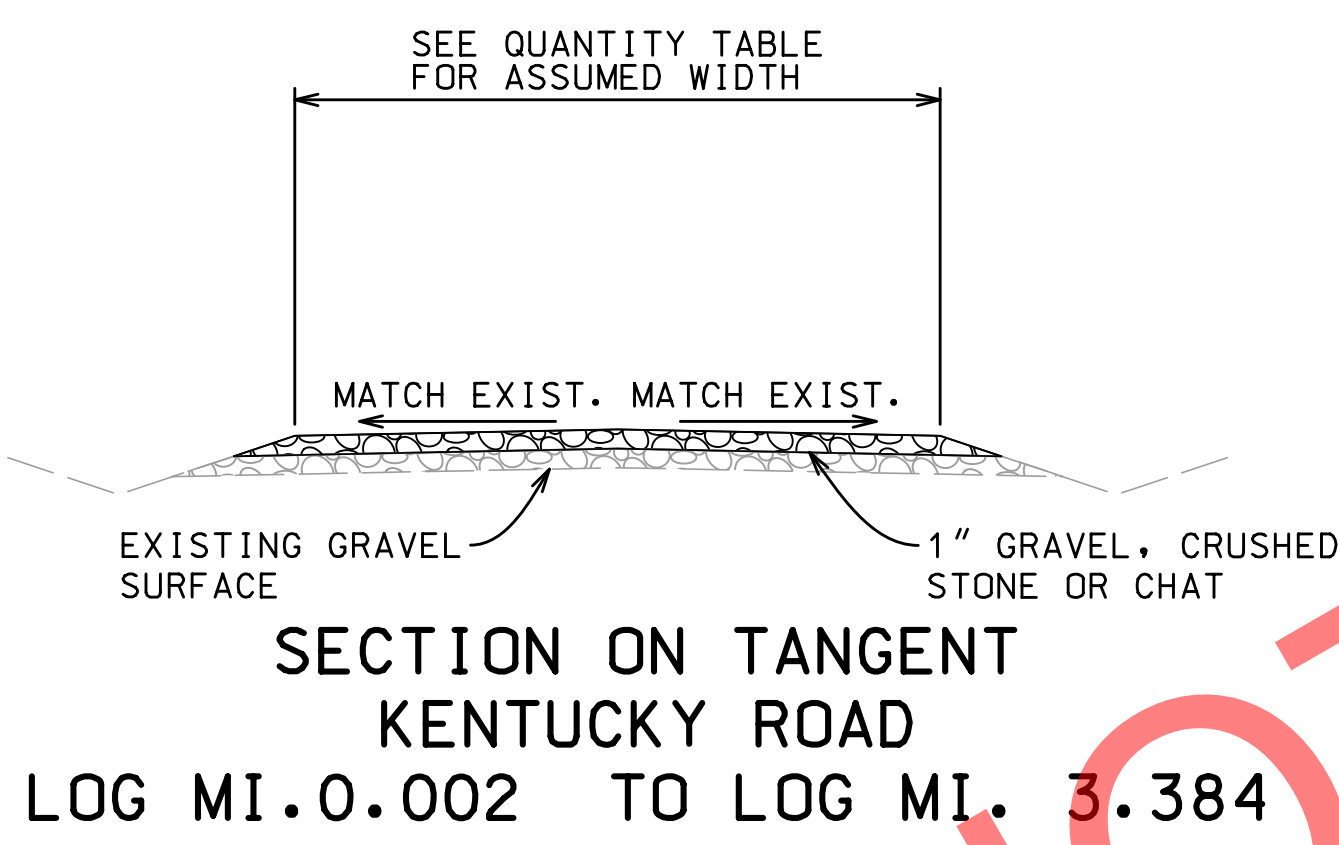
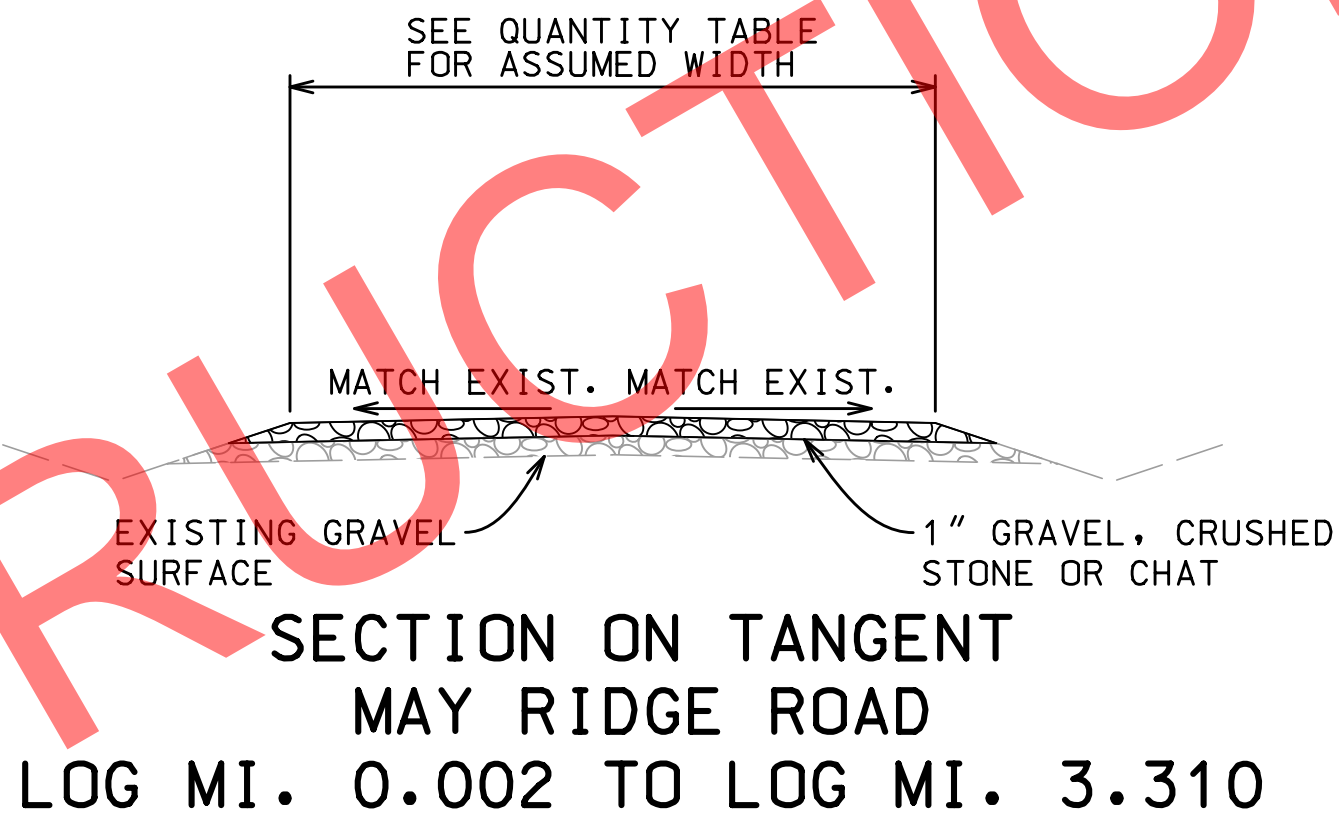
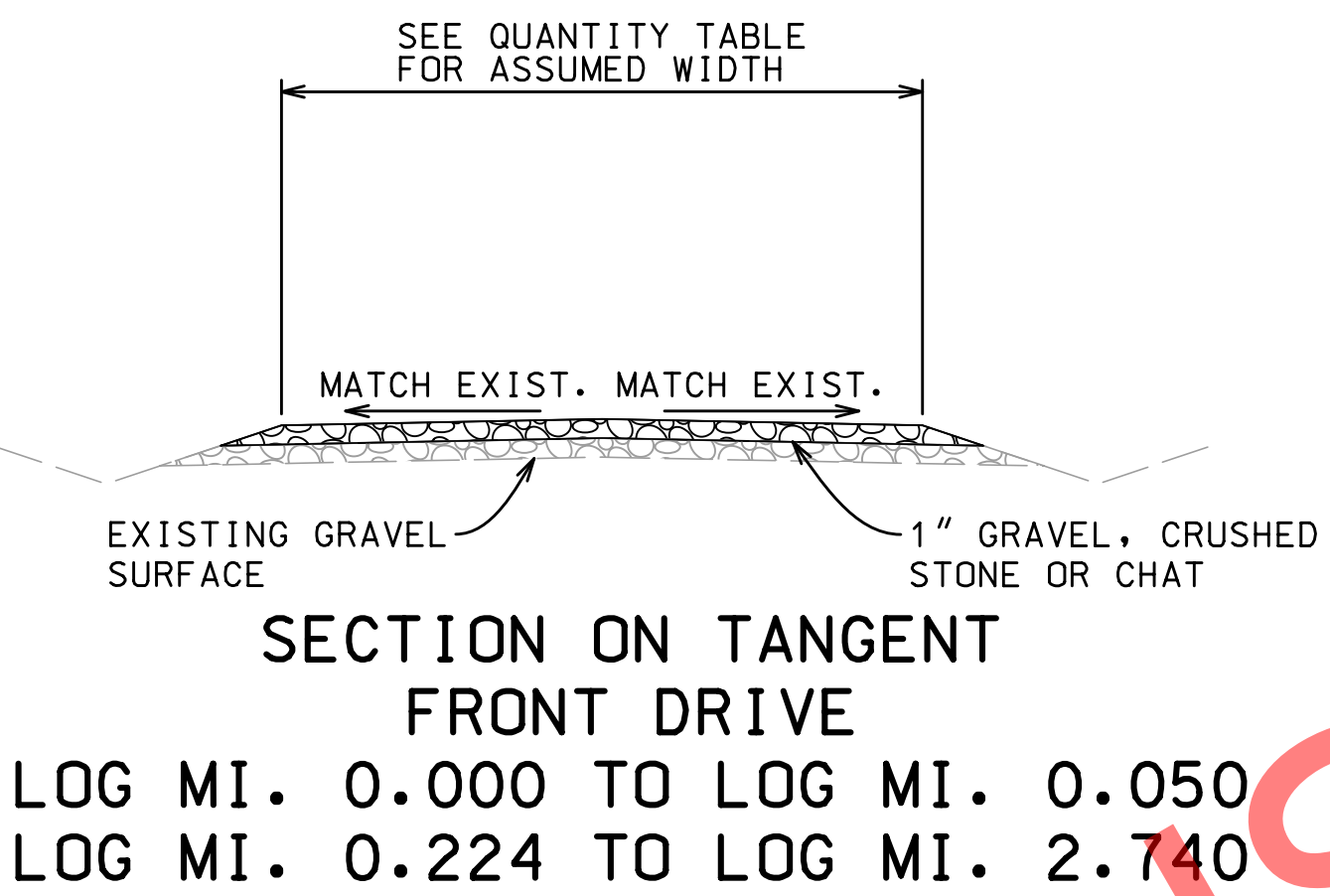
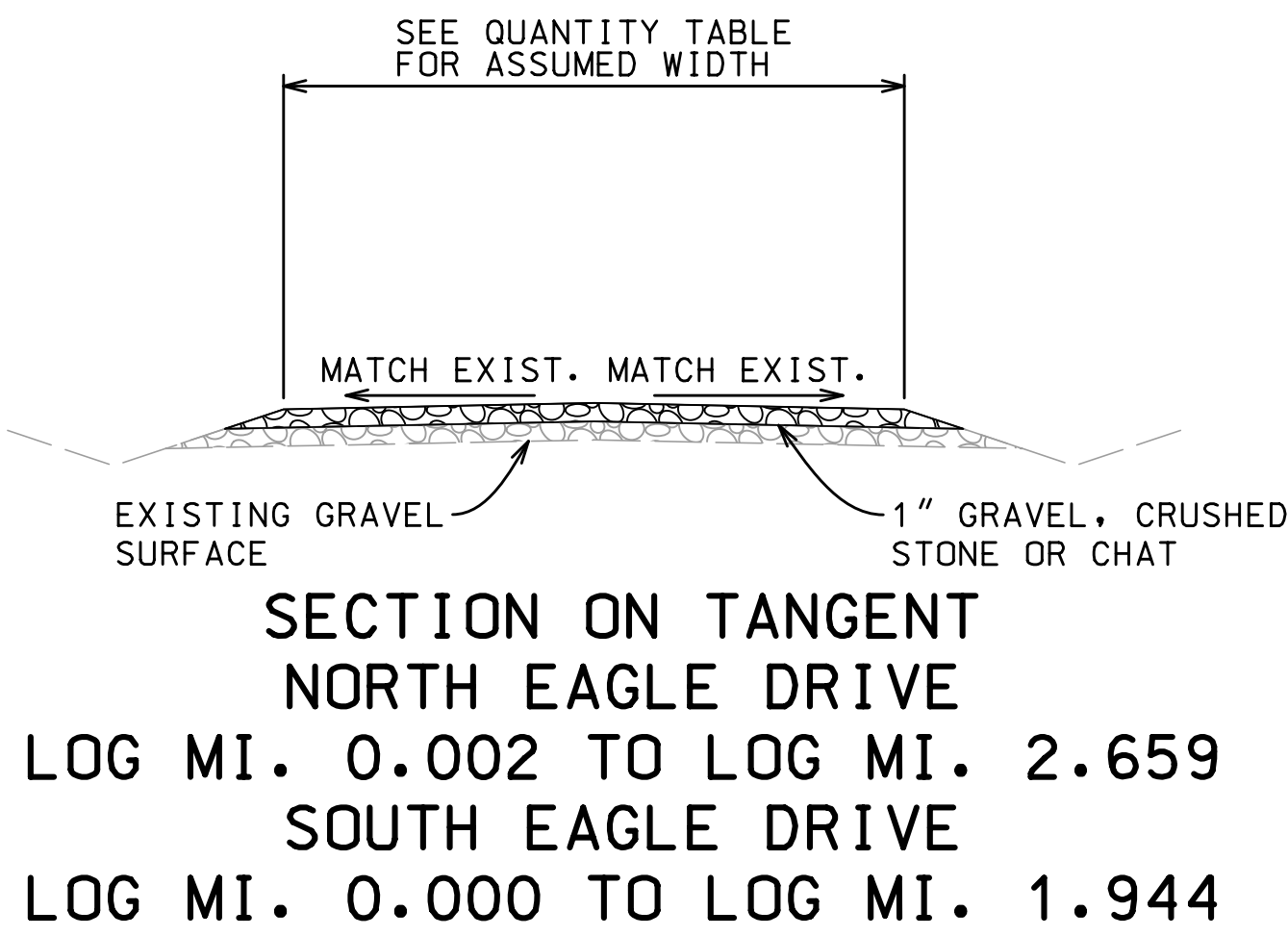
DESCRIPTION

DAIE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

Olson
1301 BURLINGTON STREET, STE.
NORTH KANSAS CITY, MO 641
CERTIFICATE OF
AUTHORITY NO. 001592

ESTIMATE FACTORS FOR AGGREGATE SURFACE		
GRAVEL, CRUSHED STONE AND CHAT	0.039 TONS/SY	
FOR INFORMATIONAL PURPOSES ONLY		



DATE PREPARED 2/7/2022	
ROUTE VARIES	STATE MO
DISTRICT NW	SHEET NO. F.2
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

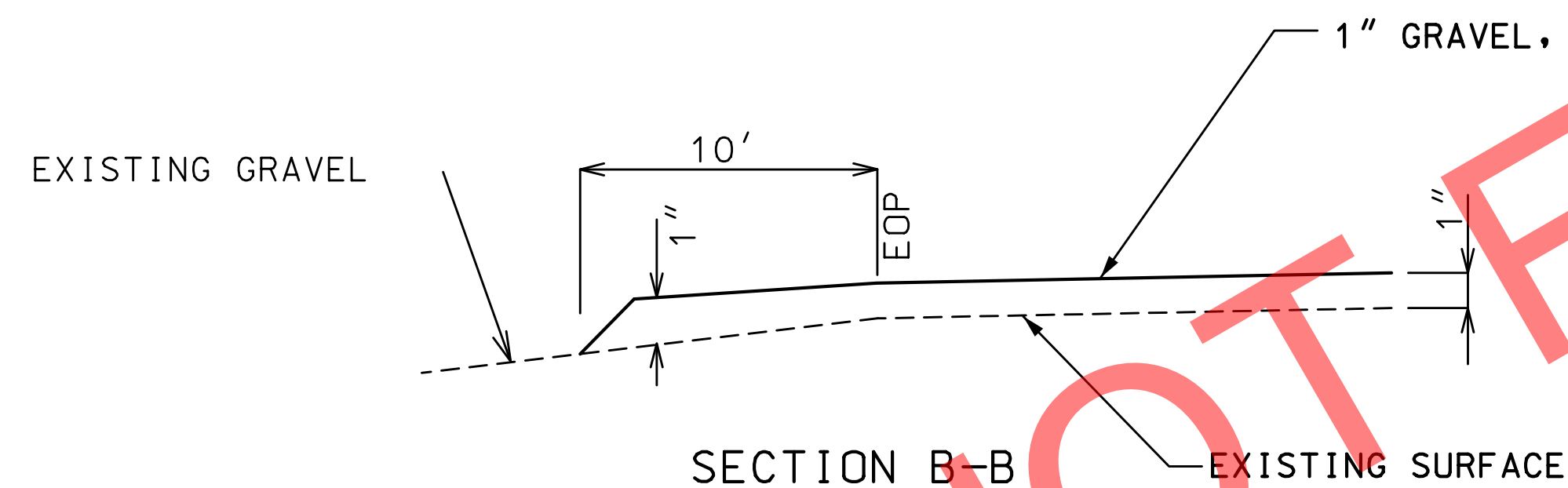
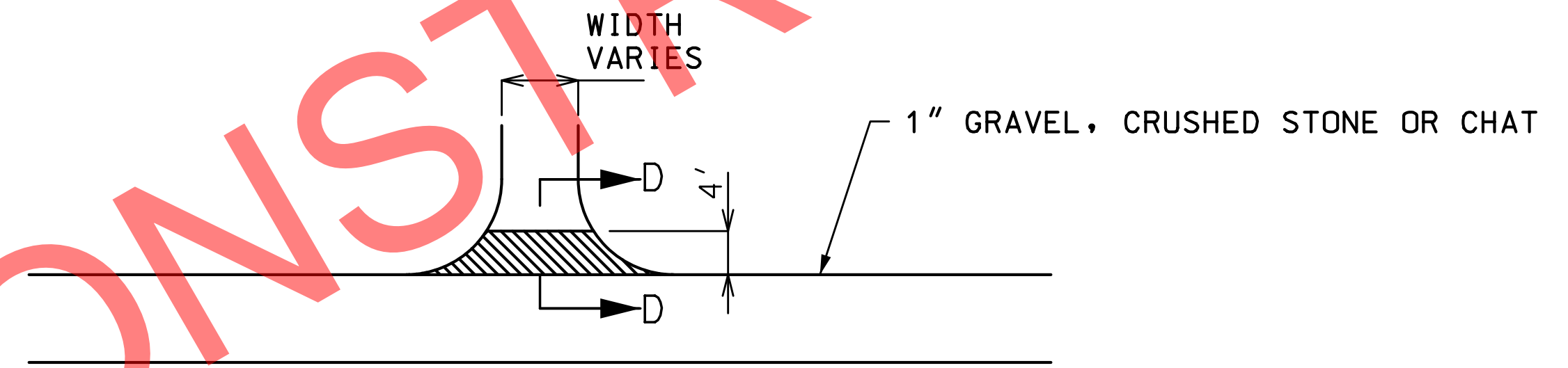
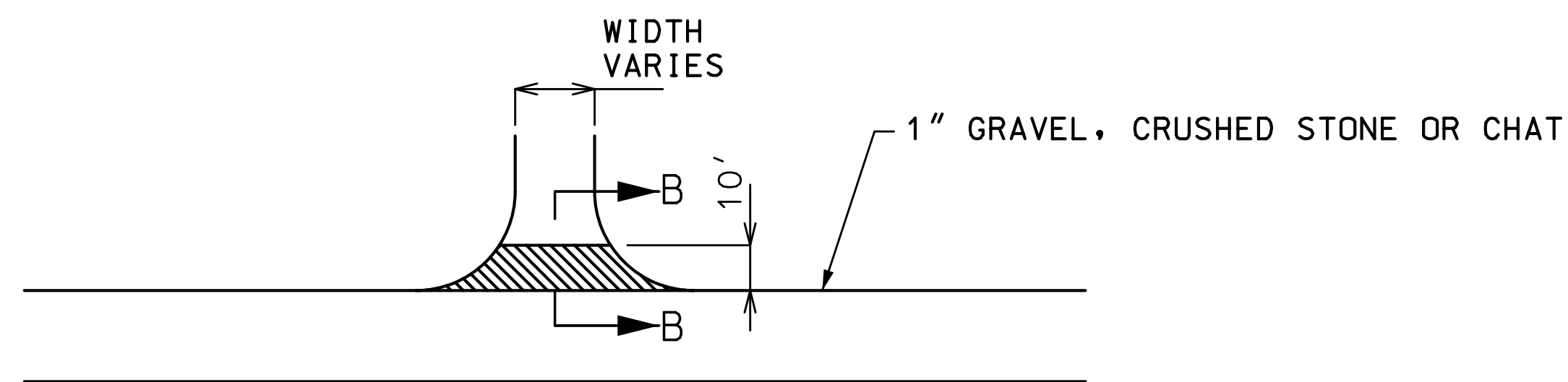
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

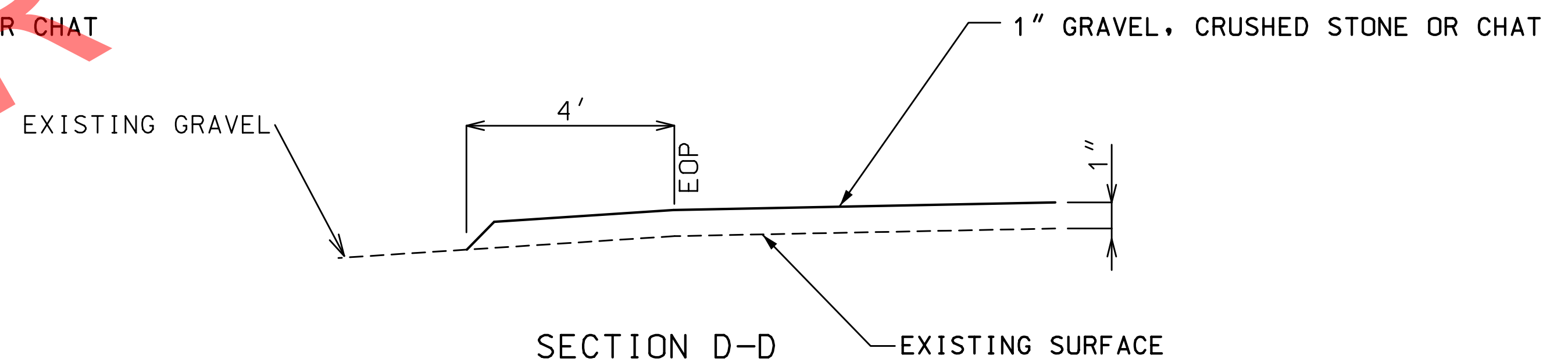
olsson

1301 BURLINGTON STREET, STE. 100
NORTH KANSAS CITY, MO 64116
CERTIFICATE OF AUTHORITY NO. 001592

DRAFT NOT FOR CONSTRUCTION



(TYPICAL APRON)
GRAVEL COUNTY ROAD ENTRANCES



(TYPICAL APRON)
GRAVEL ENTRANCES

NOT TO SCALE

SPECIAL SHEET
SHEET 1 OF 1

DATE PREPARED 2/7/2022	
ROUTE VARIES	STATE MO
DISTRICT NW	SHEET NO. F.4
COUNTY SULLIVAN	
JOB NO. J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
MoDOT	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)
olsson	1301 BURLINGTON STREET, STE. 100 NORTH KANSAS CITY, MO 64116 CERTIFICATE OF AUTHORITY NO. 001592

SIGN SPACING FOR ADVANCE SIGN SERIES (1)		
PERMANENT POSTED SPEED MPH	UNDIVIDED HIGHWAYS	DIVIDED HIGHWAYS
0-35	200'	200'
40-45	350'	500'
50-55	500'	1000'
60-70	1000'	SA - 1000' SB - 1500' SC - 2640'

TAPER LENGTHS AND END TREATMENTS FOR CONCRETE BARRIER				
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (2)			END TREATMENT (3)
	T1	10'	11'	12'
<40	160'	168'	176'	BARRIER HEIGHT TRANSITION
>40	160'	168'	176'	APPROVED CRASH CUSHION

TAPER LENGTHS AND SPACING FOR CHANNELIZERS							
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (T1)			MINIMUM SHOULDER TAPER LENGTH BASED ON 10' SHOULDER	BUFFER LENGTH FT.	MAXIMUM CHANNELIZER SPACING	
	10'	11'	12'			THROUGH TAPER	THROUGH WORK AREA
0-35	205'	225'	245'	70'	280'	35'	40'
40-45	450'	495'	540'	150'	400'	40'	80'
50-55	550'	605'	660'	185'	560'	50'	80'
60-70	700'	770'	840'	235'	840'	60'	120'

NOTES:

- (1) SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS AND VIABILITY.
- (2) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER.
- (3) CONCRETE BARRIER MAY BE INSTALLED AT AN 8:1 FLARE RATE FROM THE SHOULDER POINT TO THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER. CONTRACTOR MAY PROVIDE CONCRETE BARRIER, INCIDENTAL TO PROJECT.

GENERAL NOTES:

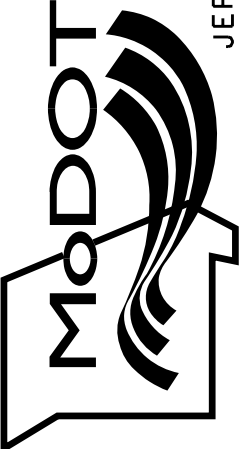
1. AS WITH ALL CONSTRUCTION ACTIVITIES TRAFFIC SITUATIONS ARE SUBJECT TO CHANGE. THE CONTRACTOR SHALL BE AWARE THAT ALL TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE STANDARDS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) THE MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION, SECTION 600 AND SHALL FOLLOW THE GUIDELINES IN THE MODOT 'TRAFFIC CONTROL FOR FIELD OPERATIONS MANUAL'.
2. PLACE A 'ROAD WORK AHEAD' SIGN ON THE APPROACH TO ALL INTERSECTIONS WHERE THE ADVANCE SIGNING FOR THE TEMPORARY TRAFFIC CONTROL EXTENDS PAST THAT INTERSECTION.
3. NOTIFY MODOT RESIDENT ENGINEER 48-HOURS IN ADVANCE OF ANY LANE CLOSURE OR ROADWAY CLOSURE.
4. ALL EXISTING SIGNS SHALL BE USED IN PLACE, ADJUSTED, AND/OR COVERED AS CONDITIONS REQUIRE (NO DIRECT PAY).
5. ALL STATIONING, DISTANCES, AND SPACING OF WORK ZONES DEVICES ARE APPROXIMATE AND MAY BE REVISED AS APPROVED BY ENGINEER.
6. FIRST ORDER OF WORK ON ALL PHASES SHALL BE PLACEMENT OF ALL WORK ZONE WARNING DEVICES AND SIGNS AS NOTED.
7. SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED OR AS APPROVED BY THE ENGINEER.
8. SIGNS LEFT IN PLACE OVERNIGHT MUST BE MOUNTED AT 5' MINIMUM HEIGHT.
9. ALTERNATE TRAFFIC CONTROL MAY BE USED AS NEEDED AT THE APPROVAL OF THE ENGINEER.
10. NO DIRECT PAYMENT WILL BE MADE FOR RELOCATION OF CHANNELIZERS, CONSTRUCTION SIGNS, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES, UNLESS OTHERWISE SHOWN ON THE PLANS.
11. FLAG ASSEMBLIES SHALL BE USED DURING ALL DAYTIME OPERATIONS. THEY ARE REQUIRED ON ALL FLAGGER SIGNS AND TRUCK CROSSING SIGNS WITHIN THE WORK ZONE. THEY WILL BE REQUIRED ON THE FIRST OCCURRENCE OF THE ROAD/RAMP/BRIDGE WORK AHEAD SIGN, BUT ONLY IF THE WORK DURATION IS 30 MINUTES OR MORE. IF PROVIDED, THE COST OF THE FLAG ASSEMBLES AS SHOWN IN THE PLANS.

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED	
2/6/2022	
ROUTE	STATE
VARIES	MO
DISTRICT	SHEET NO.
NW	F.5
COUNTY	
SULLIVAN	
JOB NO.	
J1S3392	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE


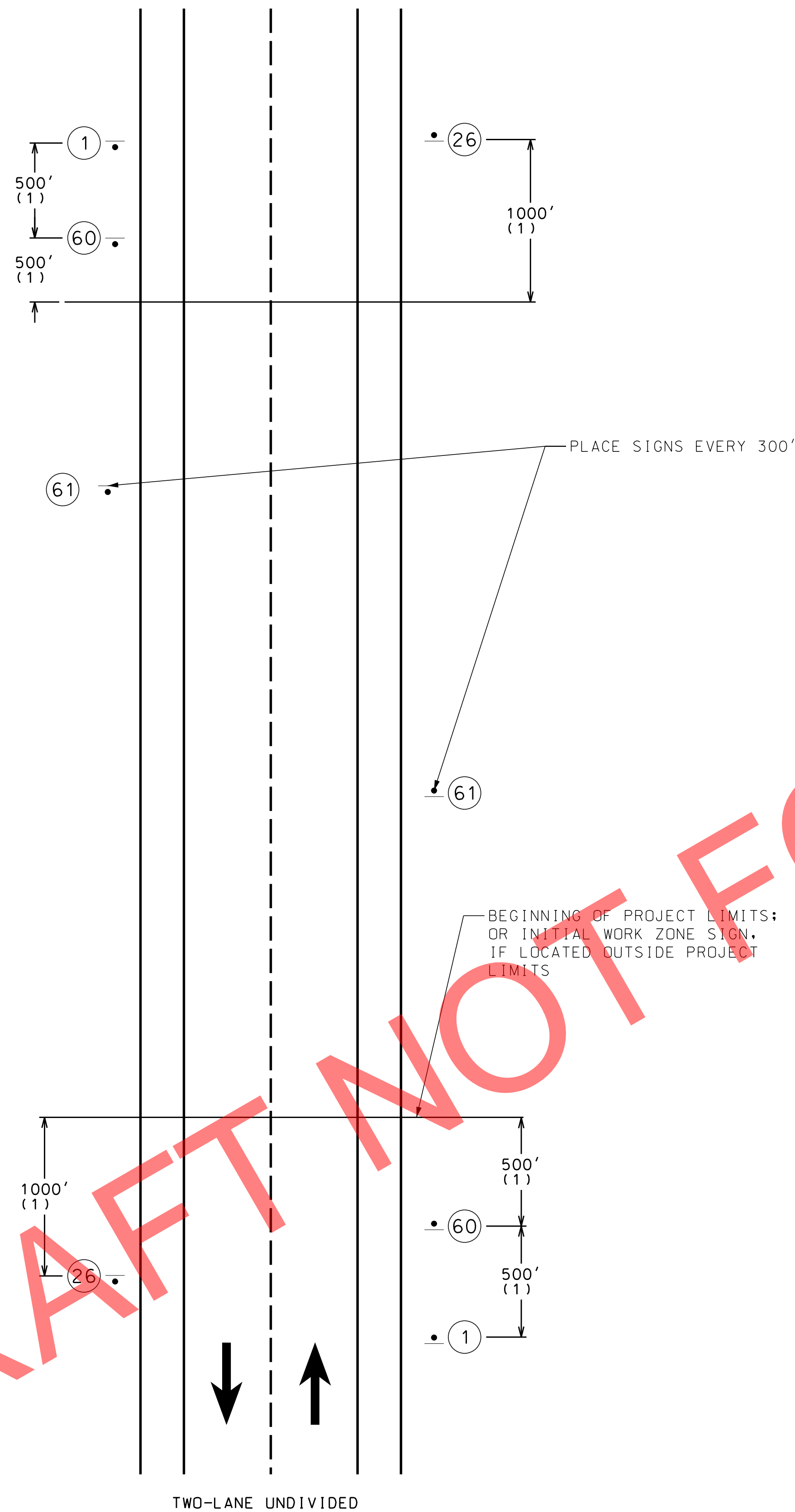
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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

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

BEGIN/END OF PROJECT SIGNING



WORK ZONE

**NO PHONE
ZONE**

ROAD WORK
NEXT 1 MILES

G020-1

1


CONST-8
(60)
(2)



WD8-7
(61)



W08-1
(61)



END
ROAD WORK

G020-2
(26)

NOTES:

SIGN GO20-1 IS REQUIRED PER EPG 616.6.56.

SIGN G020-2 IS USED ON ALL PROJECTS WHERE SIGN G020-1 IS USED.

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

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

WHEN APPROPRIATE, THE BUMP SIGN SHALL BE PLACED AT EVERY SIDE STREET APPROACH.

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

(2) THE "WORK ZONE NO PHONE ZONE" SIGN IS PLACED A MINIMUM OF 500 FEET BEFORE THE ROAD WORK AHEAD SIGN

"THIS MEDIA SHOULD
NOT BE CONSIDERED
A CERTIFIED
DOCUMENT."

DATE PREPARED
2/6/2022

ROUTE VARIES	STATE MO
DISTRICT NW	SHEET NO. F. 7

COUNTY
SULLIVAN

JOB NO.
J1S3392

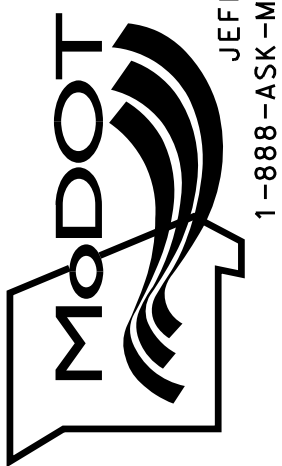
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PROJECT NO.

BRIDGE NO.

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MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



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

LEFK MOEN

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

TRAFFIC CONTROL
SHEET 3 OF 3

NOT TO SCALE