

WKE
PROJECT ID: 2774-01-70
WITH: N/A
COUNTY: WAUKESHA

MAR 2018

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plot
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 218

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
CTH VV
INTERSECTION WITH CTH E
CTH VV
WAUKESHA COUNTY

STATE PROJECT NUMBER
2774-01-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2774-01-70	WISC 2018154	1



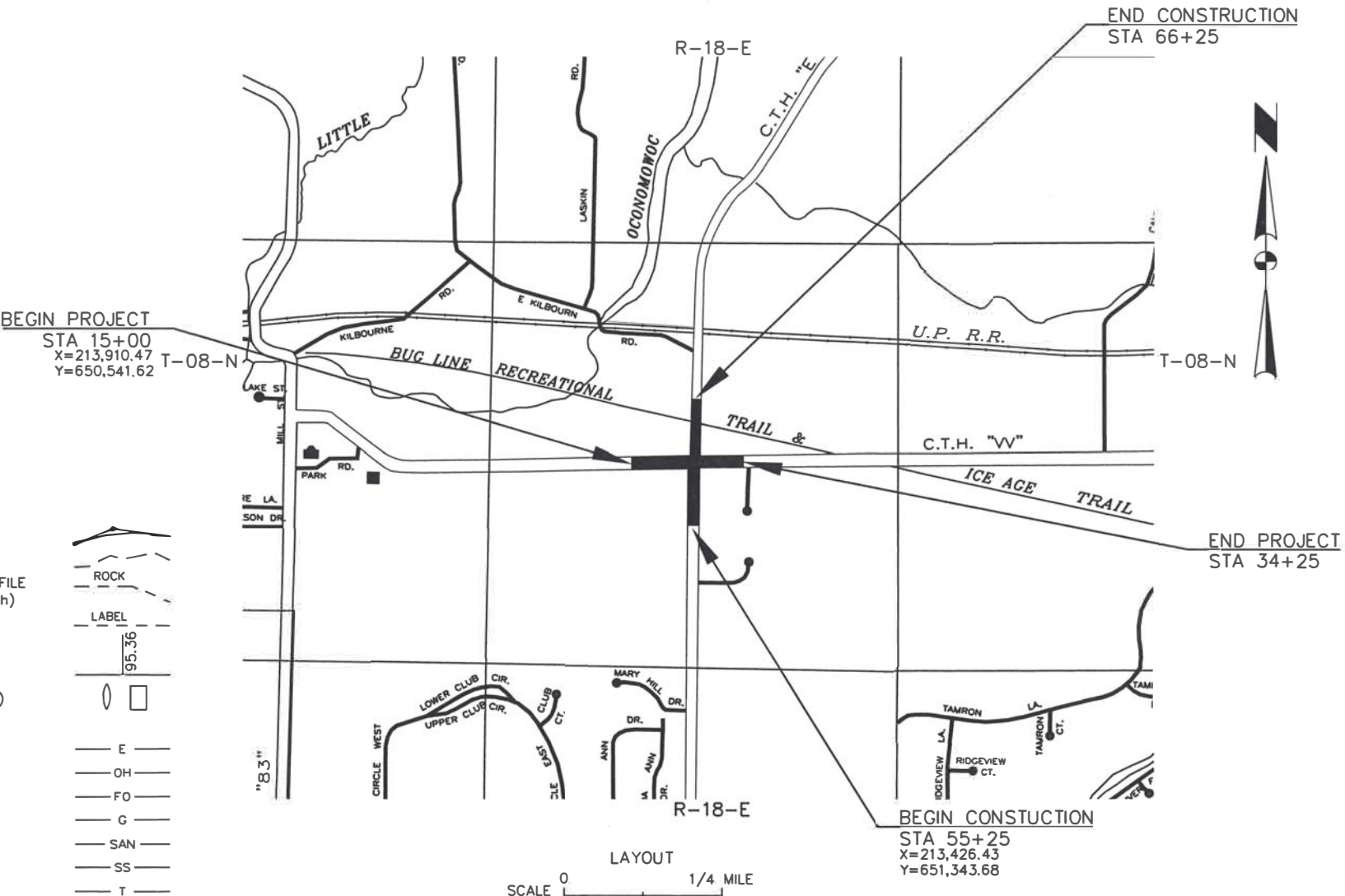
DESIGN DESIGNATION

A.A.D.T.	2018	=	CTH VV	3100	CTH E	2100
A.A.D.T.	2038	=		4000		2800
D.H.V.		=		500		250
D.D.		=		59/41		59/41
T.		=		10.8%		7.2%
DESIGN SPEED		=		50		45/55
ESALS		=		591,300		591,300

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	////
PROPERTY LINE	----
LOT LINE	- - - -
LIMITED HIGHWAY EASEMENT	----
EXISTING RIGHT OF WAY	----
PROPOSED OR NEW R/W LINE	----
SLOPE INTERCEPT	----
REFERENCE LINE	----
EXISTING CULVERT	----
PROPOSED CULVERT (Box or Pipe)	----
COMBUSTIBLE FLUIDS	CAUTION
MARSH AREA	----
WOODED OR SHRUB AREA	----

PROFILE	
GRADE LINE	----
ORIGINAL GROUND	----
MARSH OR ROCK PROFILE (To be noted as such)	----
SPECIAL DITCH	----
GRADE ELEVATION	95.36
CULVERT (Profile View)	----
UTILITIES	
ELECTRIC	----
OVERHEAD UTILITY	----
FIBER OPTIC	----
GAS	----
SANITARY SEWER	----
STORM SEWER	----
TELEPHONE	----
WATER	----
UTILITY PEDESTAL	----
POWER POLE	----
TELEPHONE POLE	----



TOTAL NET LENGTH OF CENTERLINE = 0.365 MILES

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO NAVD 88(2012.) HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, WAUKESHA COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

APPROVED FOR
WAUKESHA COUNTY
DEPARTMENT OF PUBLIC WORKS

10-19-17
Date
10/19/17
Date
Director
Engineering Services Manager

ORIGINAL PLANS PREPARED BY
GARY M. EVANS
E-25441
Milwaukee, WI
10/19/17
Date
Signature

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor
Wauk. Co. Dept. of Public Works
Designer
Wauk. Co. Dept. of Public Works
Management Consultant
DAAR ENGINEERING CO
County Examiner

APPROVED FOR THE DEPARTMENT
DATE: 10/24/17
Signature
(Signature)

E

GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY DIGGER’S HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK TO DETERMINE THE LATEST STATUS OF UTILITY RELOCATIONS. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF A ONE–CALL SYSTEM MUST BE CONTACTED SEPARATELY.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS, AS SHOWN ON THE PLANS, ARE APPROXIMATE. THERE MAY BE OTHER UTILITIES AND UTILITY INSTALLATIONS WITHIN THE PROJECT LIMITS THAT ARE NOT SHOWN.
3. NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS INDICATED FOR REMOVAL BY PLANS OR THE ENGINEER.
4. PAVEMENTS ARE TO BE SAWCUT, AS INDICATED ON THE PLANS, TO PROVIDE A BUTT JOINT AT THE PROJECT LIMITS AND AT ALL ASPHALTIC DRIVEWAYS.
5. EXCAVATION BELOW SUBGRADE (EBS) SHALL NOT BE USED TO BALANCE YARDAGE. EBS IS NOT SHOWN ON THE CROSS SECTIONS, BUT WILL BE MEASURED AND PAID FOR AS EXCAVATION COMMON. THE PRECISE LOCATION OF THE EBS WILL BE DETERMINED BY THE ENGINEER.
6. QUANTITIES OF BASE AGGREGATE OR HMA PAVEMENT ARE MEASURED FOR PAYMENT BY THE TON. THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS ARE APPROXIMATE. THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.
7. NEW PAVEMENT SHALL BE CONSTRUCTED WITH A 2” HMA 5–LT 58–28 S AS AN UPPER LAYER AND AN 4” OF 3–LT 58–28 S LOWER LAYER.
8. THE CRUSHED AGGREGATE FOR SHOULDERS ADJACENT TO THE HMA PAVEMENT SHALL NOT BE PLACED UNTIL AFTER THE SURFACE LAYER OF THE HMA PAVEMENT HAS BEEN PLACED.
9. THE QUANTITY OF SALVAGED TOPSOIL IS COMPUTED FROM MEASUREMENTS TAKEN:

A. BETWEEN POINTS LOCATED 5 FEET OUTSIDE THE SLOPE INTERCEPTS SHOWN ON THE CROSS–SECTIONS (FOR ROUNDING) AND THE SUBGRADE SHOULDER POINTS OR BACK–OF–CURB.

B. WITHIN THE MEDIAN AREA BETWEEN BACK–OF–CURB OR SUBGRADE SHOULDER POINTS.
12. SEED QUANTITIES ARE BASED ON MIXTURE NO. 30 FOR ROADWAY AND MIXTURE NO. 20 FOR THE BUGLINE RECREATIONAL TRAIL.
13. RESTORATION OF EXPOSED SLOPES AND DITCHES SHALL TAKE PLACE NOT MORE THAN 7 CALENDAR DAYS AFTER GRADING IS COMPLETE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. EVERY EFFORT SHALL BE MADE BY THE CONTRACTOR’S SEQUENCE OF OPERATIONS TO LIMIT THE DURATION THAT DARE GROUND IS EXPOSED.

INDEX OF SECTION 2 DRAWINGS

- GENERAL NOTES AND PROJECT CONTACTS
- PROJECT OVERVIEW
- TYPICAL EXISTING SECTIONS
- TYPICAL FINISHED SECTIONS
- CONSTRUCTION DETAILS
- REMOVAL PLAN
- UTILITY OCCUPATION PLAN
- PAVEMENT GRADES
- PAVING DETAILS
- EROSION CONTROL PLAN
- STORM SEWER PLANS
- PLANTING PLANS
- SIGN REMOVAL
- PERMANENT SIGNS
- LIGHTING PLANS
- PAVEMENT MARKING PLANS
- DETOUR PLAN
- ALIGNMENT DIAGRAM
- SECTION CORNER AND CONTROL POINT TIES

STANDARD ABBREVIATIONS

A.D.T.	AVERAGE DAILY TRAFFIC	P.C.	POINT OF CURVATURE
AC.	ACRE(S)	P.I.	POINT OF INTERSECTION
ASPH.	ASPHALT	P.L.	PROPERTY LINE
BM	BENCH MARK	P.R.C.	POINT OF REVERSE CURVATURE
C & G	CURB & GUTTER	P.T.	POINT OF TANGENCY
CB	CATCH BASIN	PAV’T.	PAVEMENT
C.S.C.P.	CORRUGATED STEEL CULVERT PIPE	R	RADIUS
C.Y.	CUBIC YARDS	C.P.R.C.	CULVERT PIPE REINFORCED CONCRETE
℄	CENTERLINE	RHF	RIGHT HAND FORWARD
CO.	COUNTY	RT.	RIGHT
C.T.H.	COUNTY TRUNK HIGHWAY	R/W	RIGHT OF WAY
CWT.	HUNDREDWEIGHT	S	SOUTH
D	DEGREE OF CURVE	SAN	SANITARY
D.H.V.	DESIGN HOURLY VOLUME	S.B.	SOUTHBOUND
DISCH.	DISCHARGE	S.D.D.	STANDARD DETAIL DRAWING
E	EAST	S.F.	SQUARE FEET
EA.	EACH	S.S.P.R.C.	STORM SEWER PIPE REINFORCED CONCRETE
E.B.	EASTBOUND	STA.	STATION
ESALS	EQUIVALENT SINGLE AXLE LOADS	S.Y.	SQUARE YARDS
ESMT.	EASEMENT	T	TANGENT
F.E.	FIELD ENTRANCE	T	TELEPHONE
FT.	FOOT (FEET)	T.L.E.	TEMPORARY LIMITED EASEMENT
G	GAS	VAR.	VARIES
I.P.	IRON PIPE	V.P.C.	VERTICAL POINT OF CURVATURE
K	RATE OF VERTICAL CURVATURE	V.P.I.	VERTICAL POINT OF INTERSECTION
L	LENGTH	V.P.T.	VERTICAL POINT OF TANGENCY
LB.	POUND(S)	W	WATER MAIN
L.F.	LINEAR FEET	W	WEST
LHF	LEFT HAND FORWARD	W.B.	WESTBOUND
LS	LUMP SUM	WV	WATER VALVE
LT.	LEFT	YD.	YARDS
MH	MANHOLE		
N	NORTH		
N.B.	NORTHBOUND		
NO.	NUMBER		

UTILITIES CONTACTS

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WDNR LIAISON

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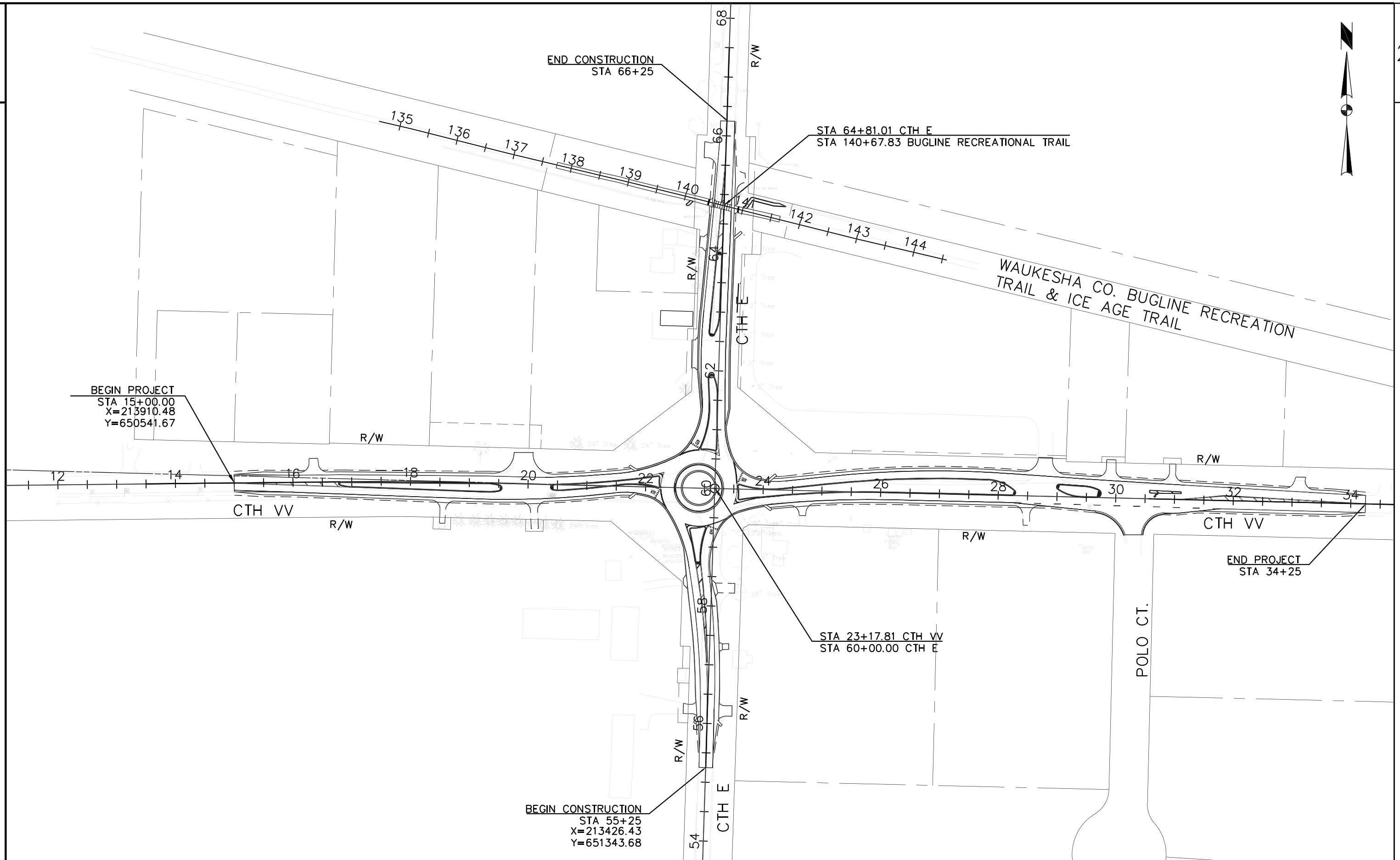
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CROSS PLAINS, WI 53528
608.798.4453 X223
tim@iceagetrail.org



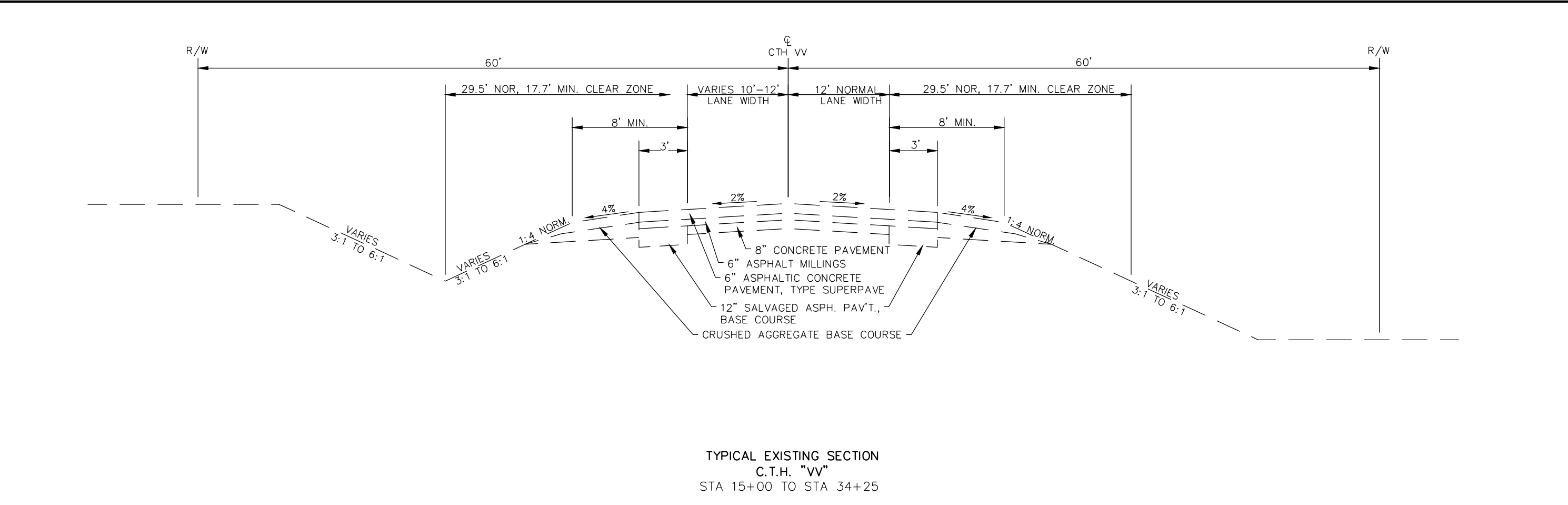
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www.DiggersHotline.com

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Or Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com



2



VARIES 2'-5'

VARIES 10'-12'

VARIES 10'-12'

VARIES 2'-5'

33'

33'

R/W

C.T.H. "E"

4%

2%

2%

4%

1:4 NORM.

VARIES 3:1 TO 6:1

VARIES 3:1 TO 6:1

VARIES 3:1 TO 6:1

VARIES 3:1 TO 6:1

VARIES CRUSHED AGGREGATE BASE COURSE (3"-9")

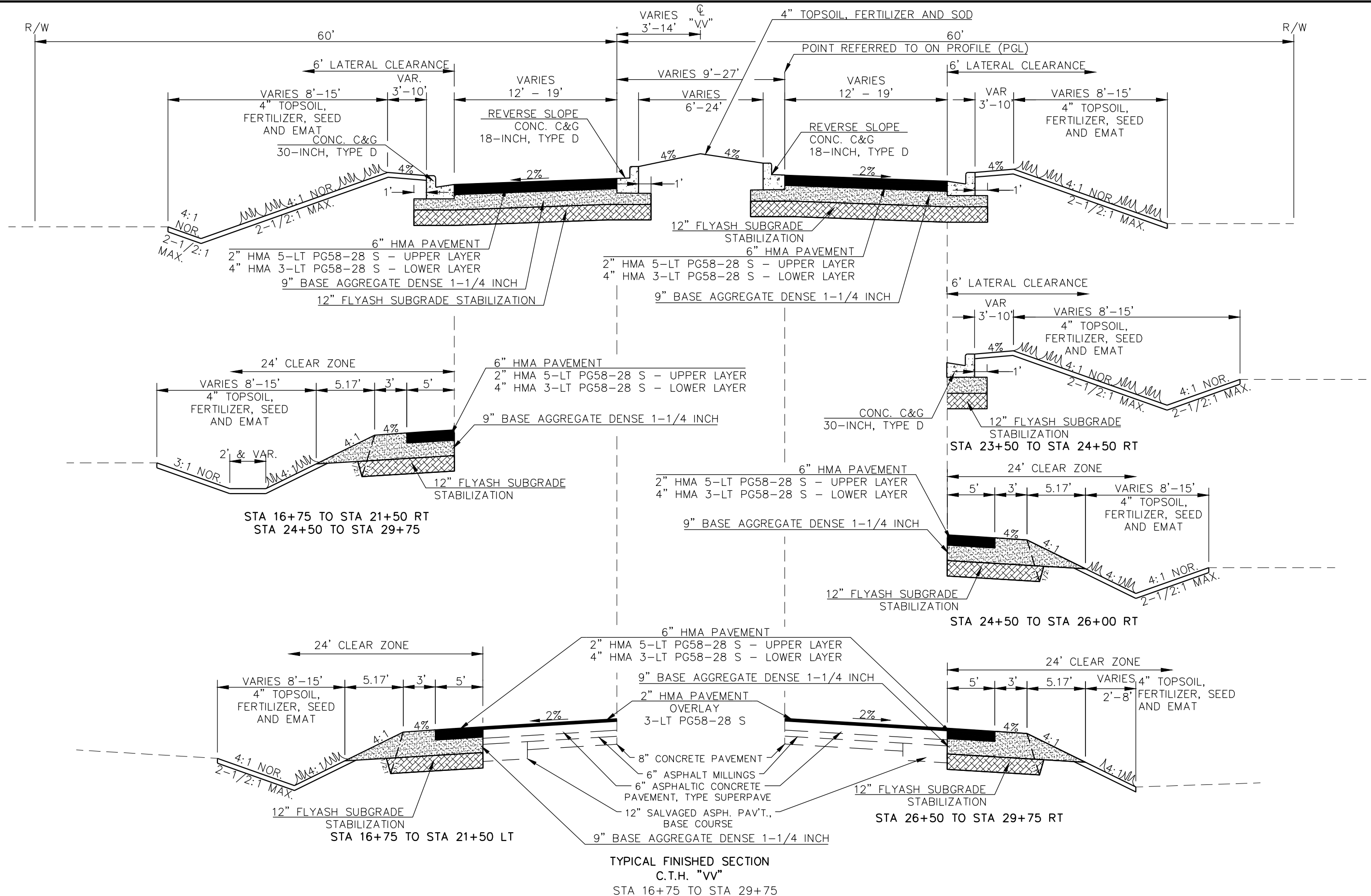
VARIES HMA PAVEMENT (7"-10")

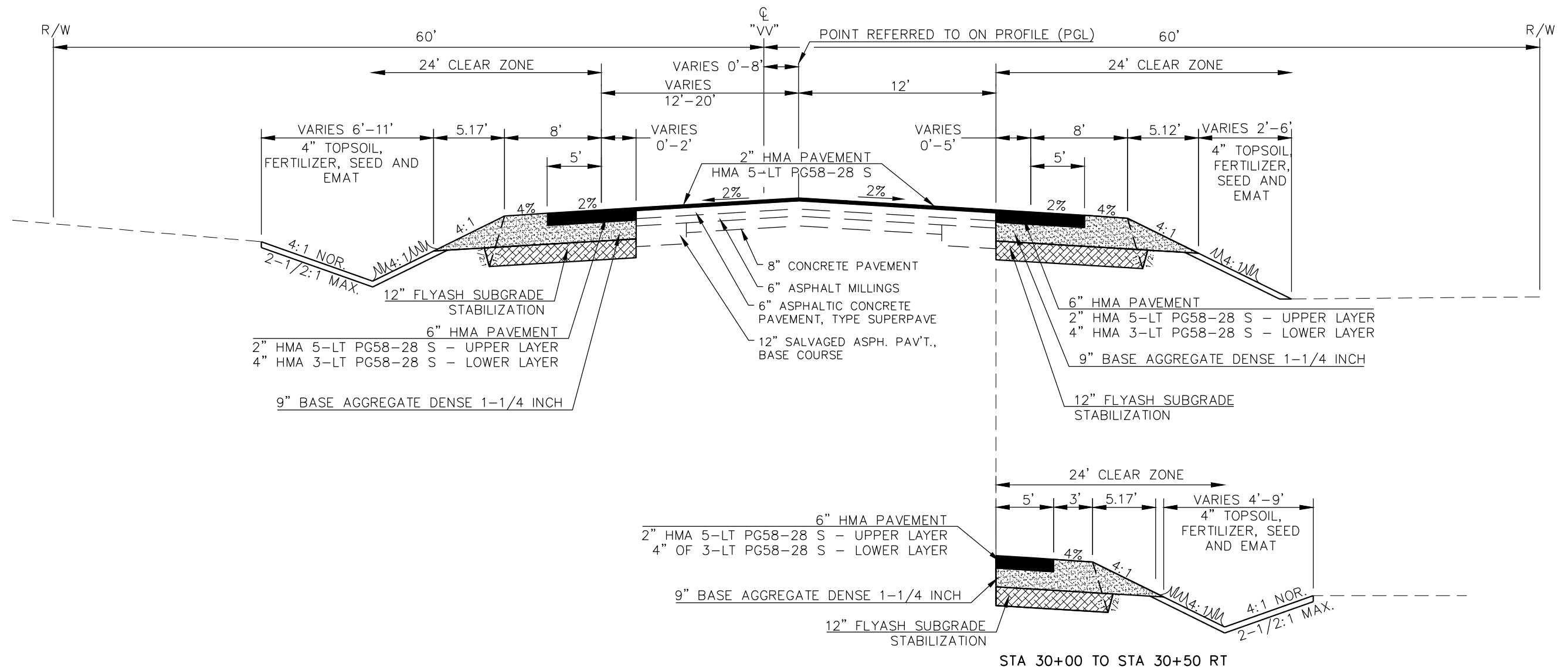
TYPICAL EXISTING SECTION

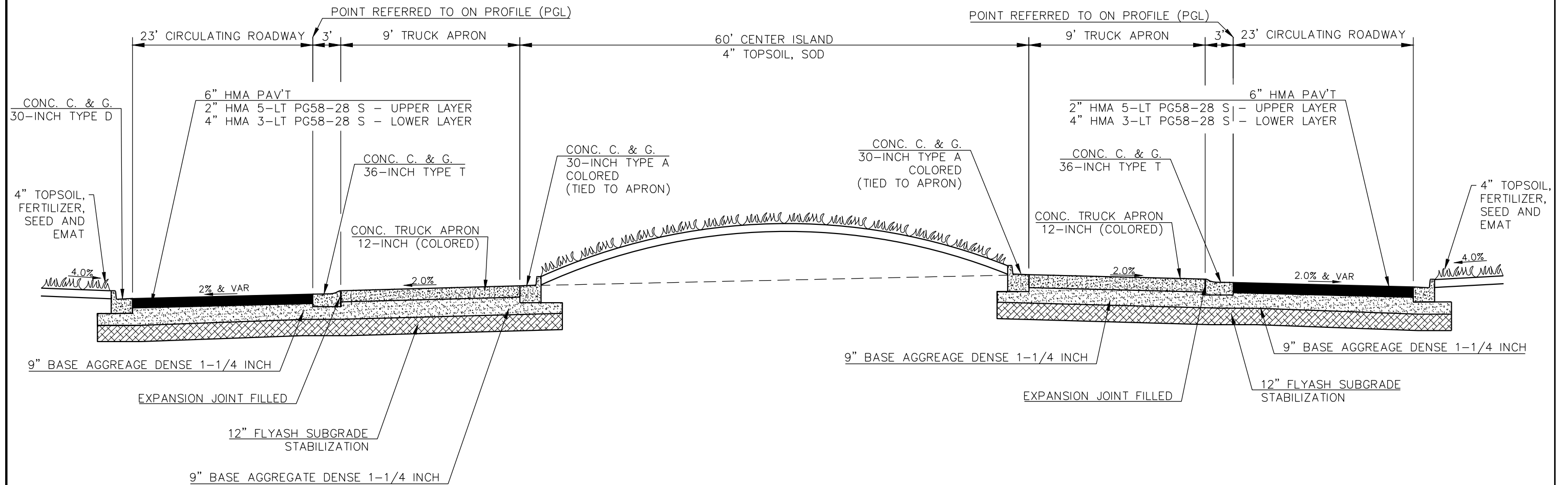
C.T.H. "E"

STA 55+25 TO 66+25

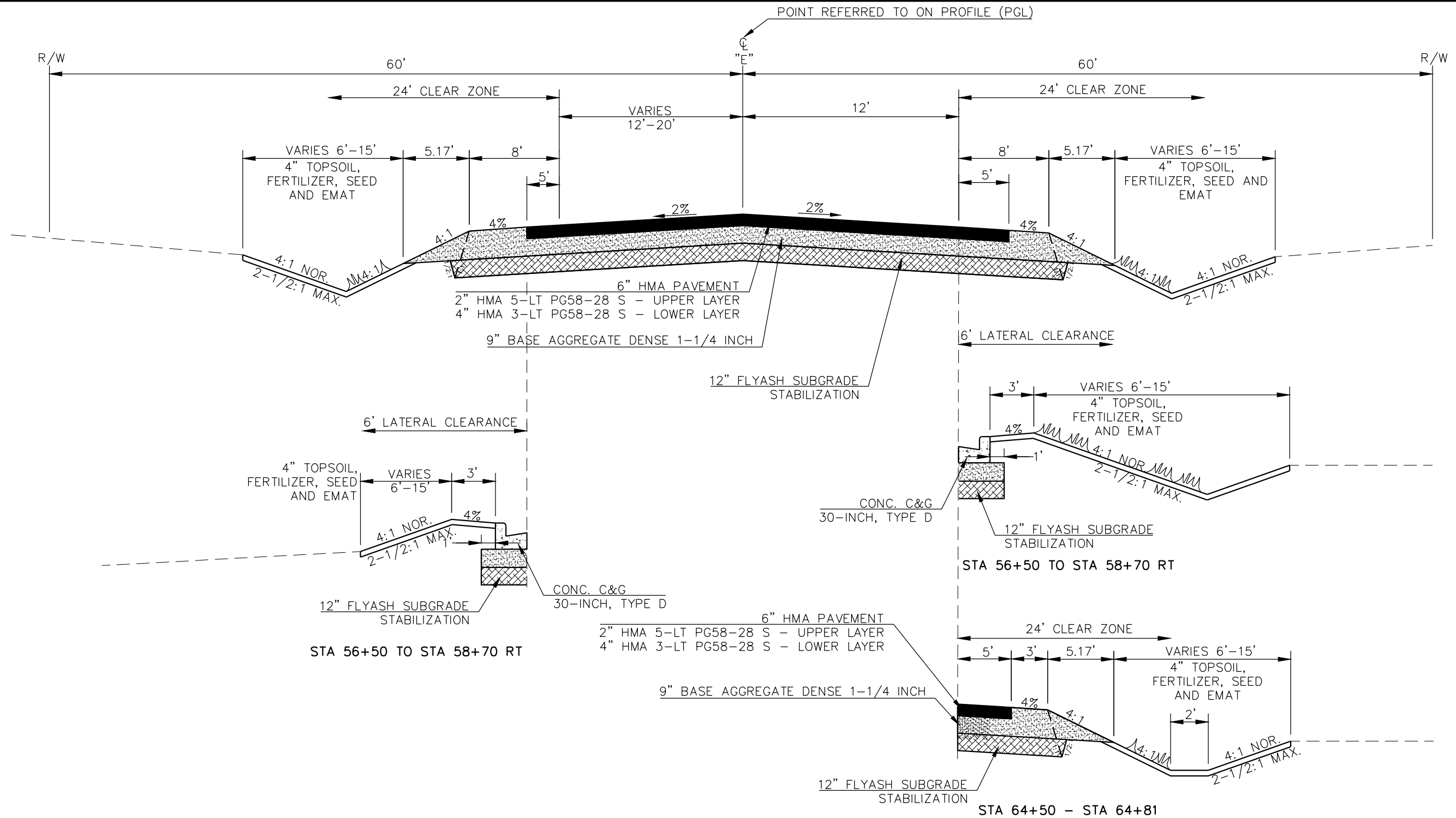
PROJECT NO:2774-01-70	HWY:CTH VV	COUNTY:WAUKESHA	TYPICAL EXISTING SECTION	SHEET	E
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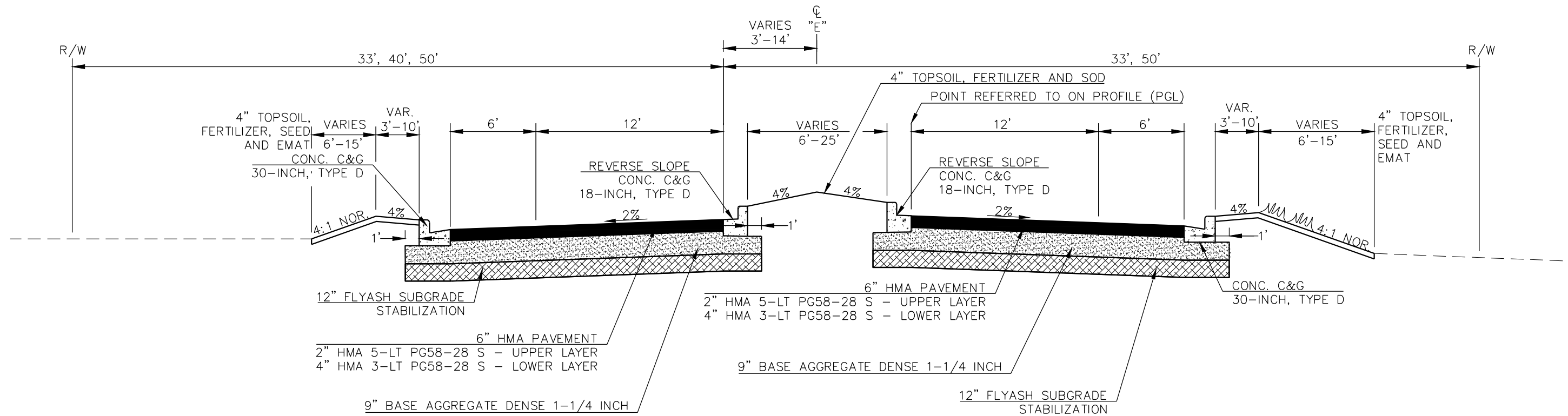




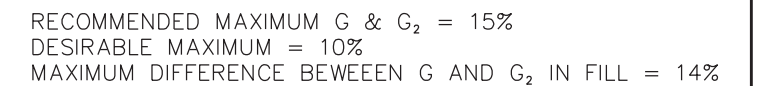
TYPICAL FINISHED CROSS SECTION THROUGH ROUNDABOUT
CTH VV AND CTH E



TYPICAL FINISHED SECTION
C.T.H. "E"
STA 55+25 TO STA 58+70
STA 64+02 TO STA 66+25

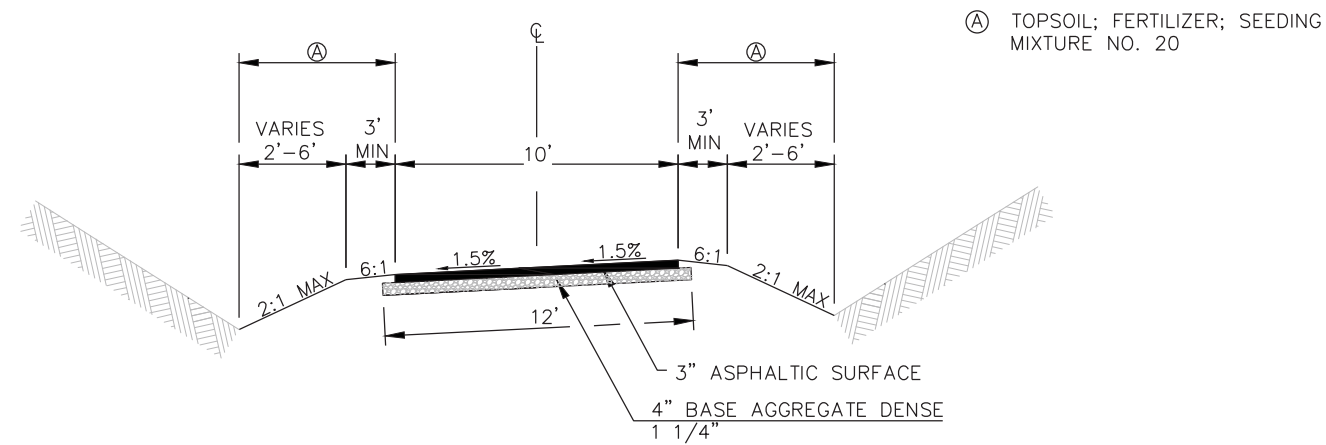


TYPICAL FINISHED SECTION
C.T.H. "E"
STA 58+70 TO 59+35
STA 60+63 TO 64+02

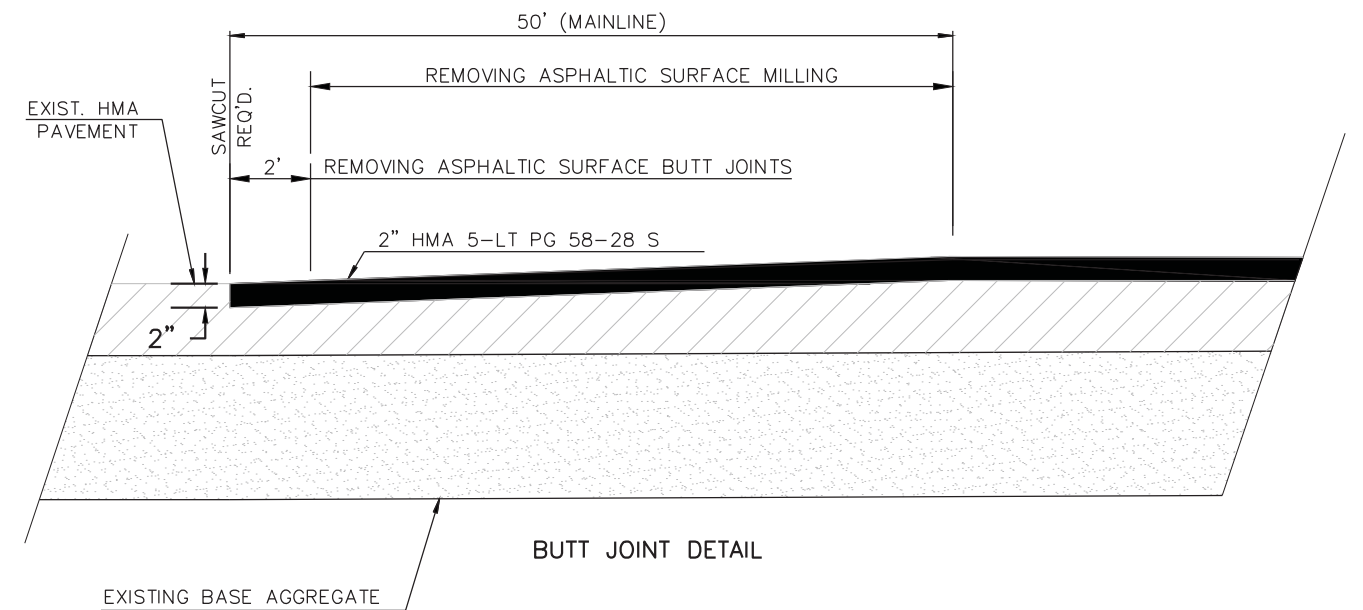




2

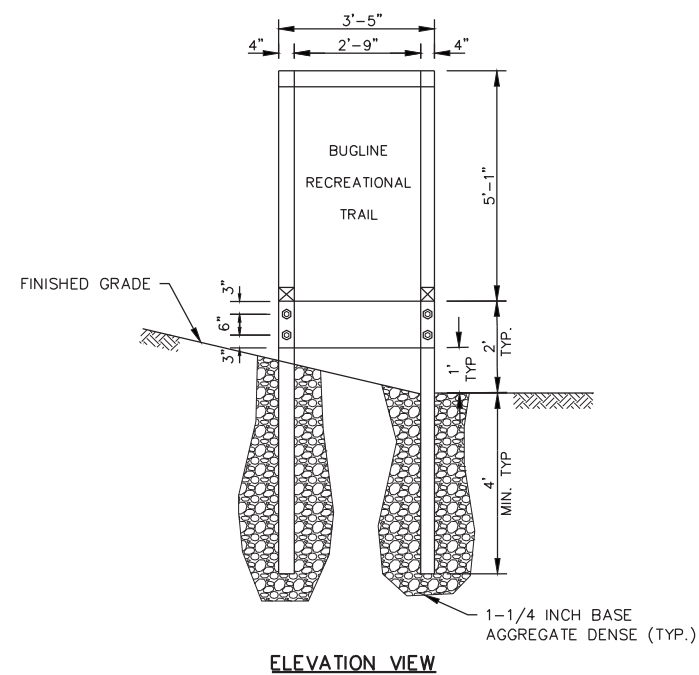


TYPICAL FINISHED SECTION – BUGLINE TRAIL

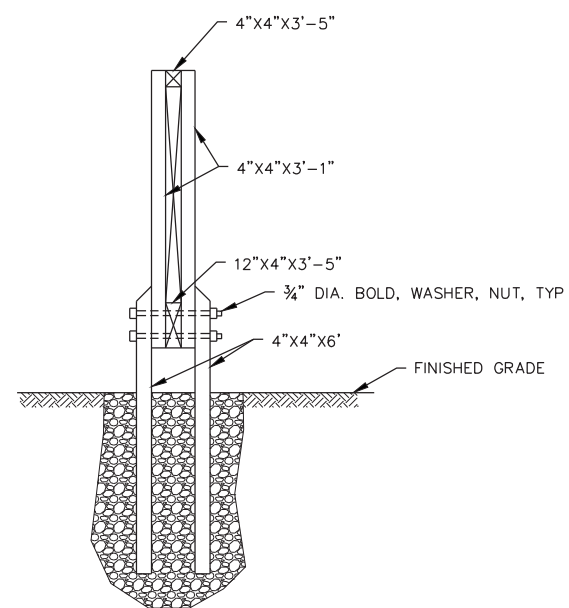


NOTES

1. BACKFILL AND COMPACT AROUND ALL SIGN POSTS WITH 1 1/4 INCH BASE AGGREGATE DENSE.
2. DISPOSE OF ANY SURPLUS EXCAVATION OR MATERIALS.
3. CONTACT JOHN DENK AT THE WAUKESHA COUNTY CARPENTER SHOP AT (262)646-3737 TO ARRANGE FOR PICKUP OF SIGNS. SIGNS ARE STORED OFF-SITE AT NAGA-WAUKEE PARK, 651 5TH ST 83, HARTLAND, WI.
4. THE BUGLINE RECREATIONAL SIGNS ARE FULLY ASSEMBLED. FINAL LOCATIONS ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

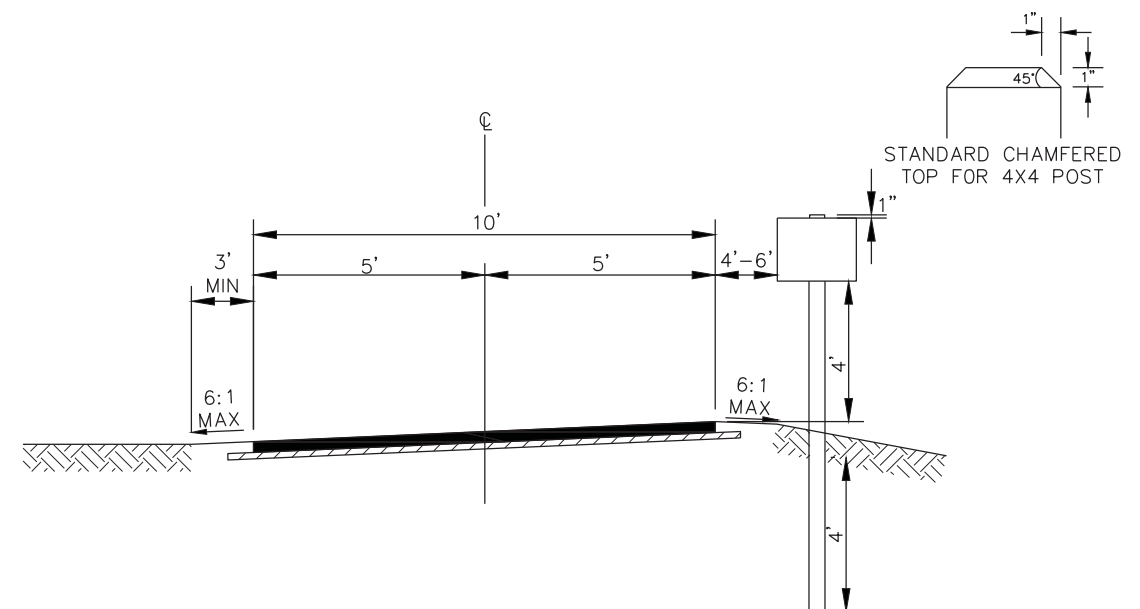


ELEVATION VIEW

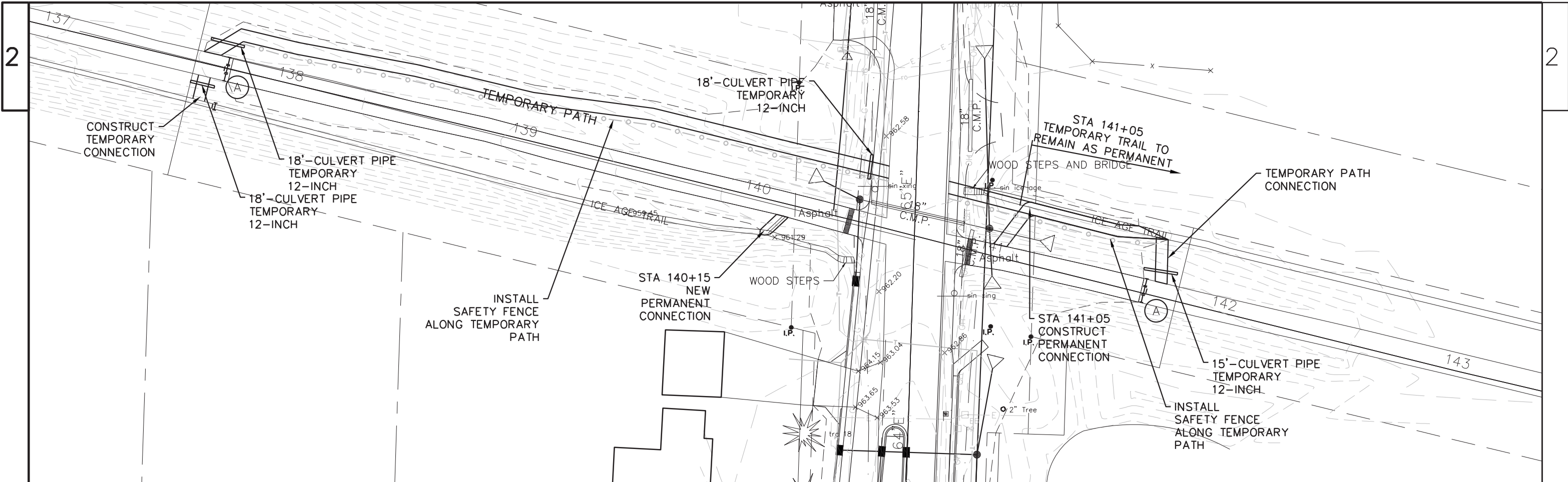


SECTION VIEW

BUGLINE RECREATIONAL TRAIL SIGN DETAIL



TRAIL SIGNAGE LAYOUT



CONSTRUCTION SEQUENCE

STAGE 1

- ICE AGE TRAIL & BUGLINE TRAIL IN USE.
- CONSTRUCT TEMPORARY CONNECTIONS AT 138+65 RT AND 140+75 LT

STAGE 2

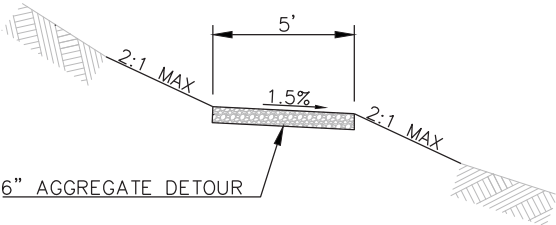
- TRAFFIC USES BUGLINE TRAIL
- ICE AGE TRAIL CLOSED 138+75 TO 141+65
- CONSTRUCT TEMPORARY TRAIL 138+65 TO 141+75

STAGE 3

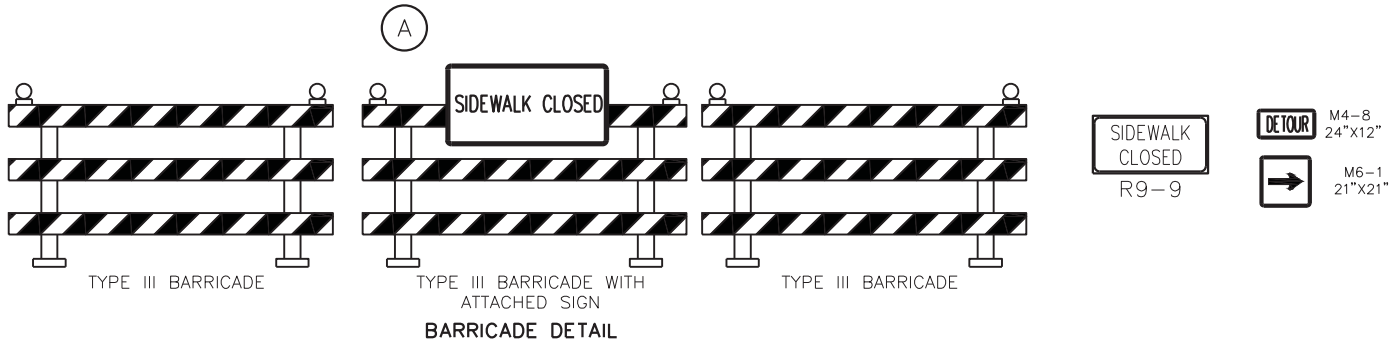
- BUGLINE TRAIL & ICE AGE TRAIL CLOSED. TRAFFIC USES TEMPORARY PATH.
- CONSTRUCT NEW TRAIL 138+75 TO 141+65 AND NEW CONNECTIONS 140+15 RT. & 141+05
- CONSTRUCT CTH E FROM 64"E"+90 SOUTH TO BINDER ASPHALT.

STAGE 4

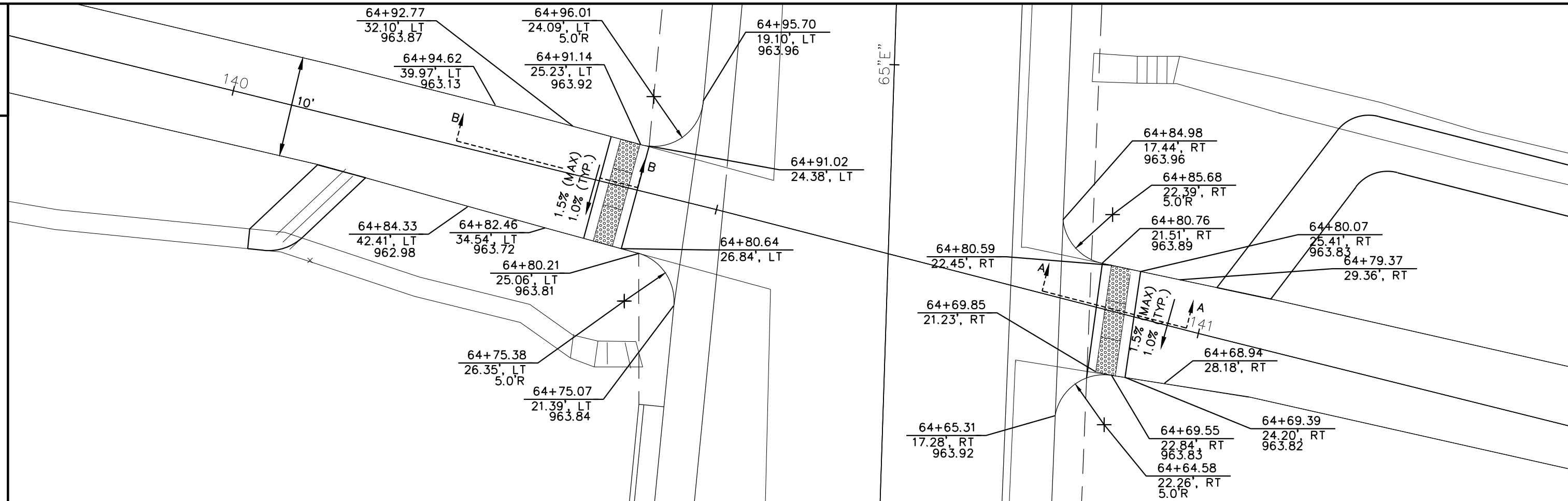
- TRAFFIC USES NEW BUGLINE TRAIL.
- REMOVE TEMPORARY TRAIL 138+65 TO 141+05, TEMP TRAIL 141+05 TO 141+75 TO REMAIN PERMANENT.
- REMOVE TEMPORARY TRAIL CONNECTIONS
- COMPLETE CTH E 64"E"+90 TO PROJECT LIMIT



TEMPORARY TRAIL SECTION 138+65 TO 141+75
PERMANENT TRAIL SECTION 141+05 TO 141+75

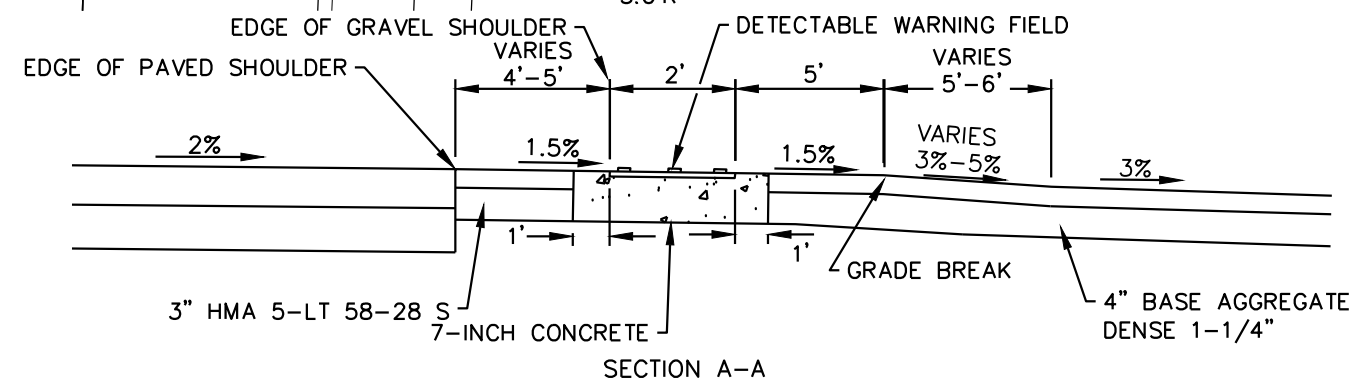


BUGLINE RECREATIONAL TRAIL/ICE AGE TRAIL CONSTRUCTION

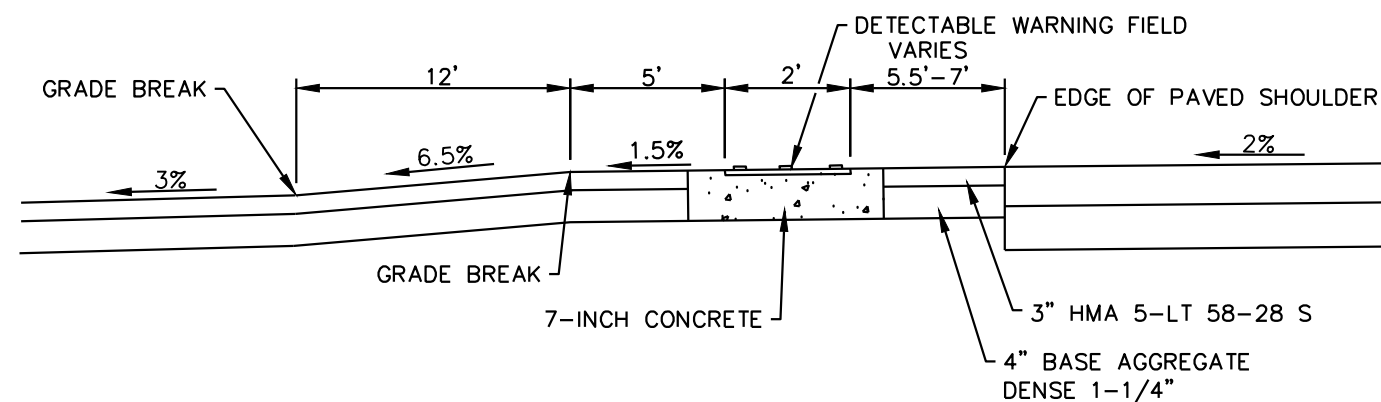


GENERAL NOTES:

1. DETAILS OF CONSTRUCTION MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD AND THE APPLICABLE CONTRACT PROVISIONS.
2. DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD".
3. SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".
4. DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUND OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
5. GRADE CHANGES BETWEEN THE ASPHALT SHOULDER OR ASPHALT PATH SHALL NOT EXCEED 11%. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED.
6. CONCRETE PAID FOR AS CONCRETE TRUCK APRON 12-INCH.

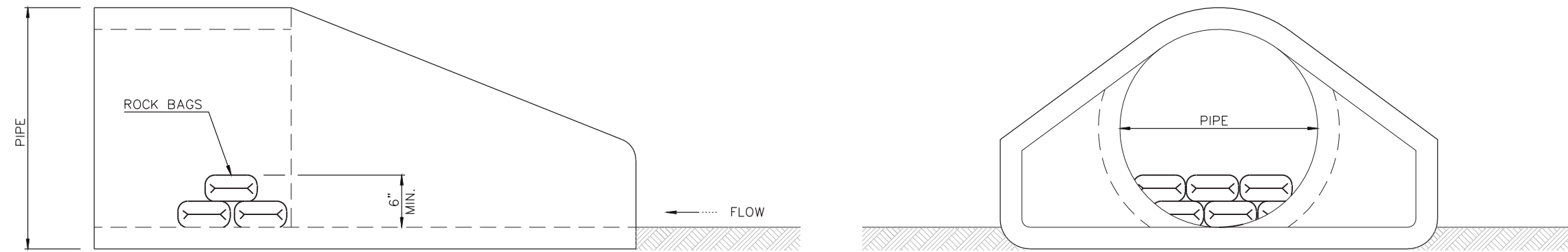


SECTION A-A

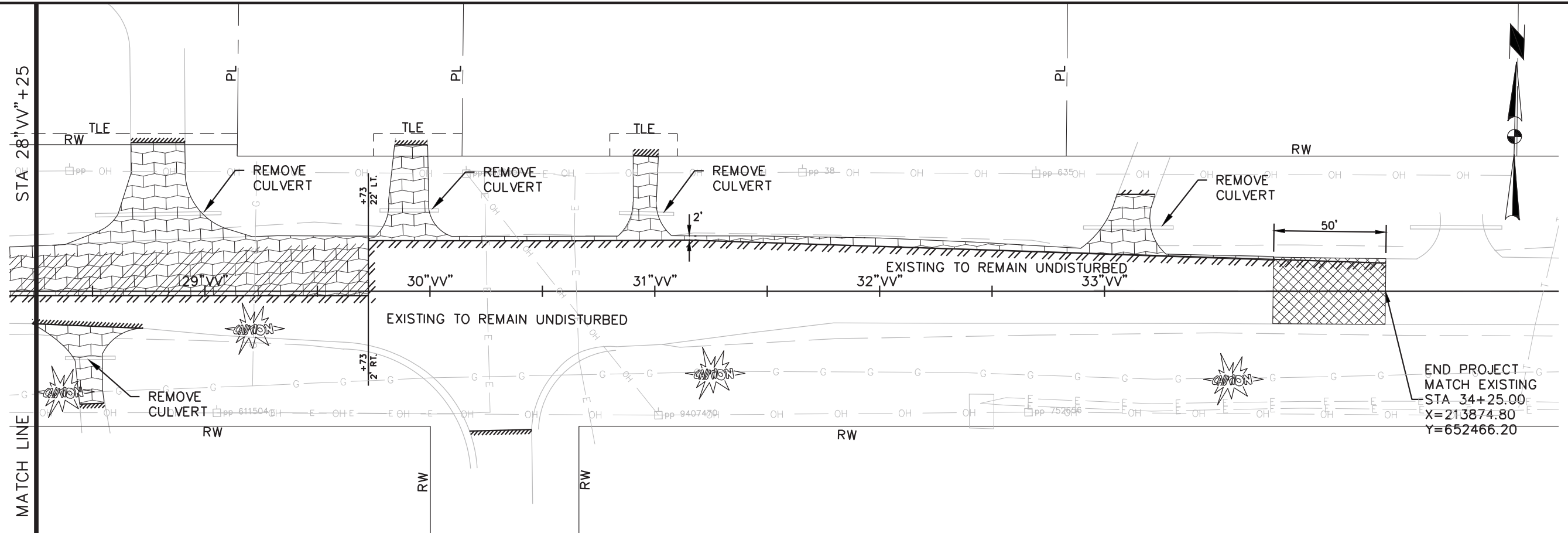
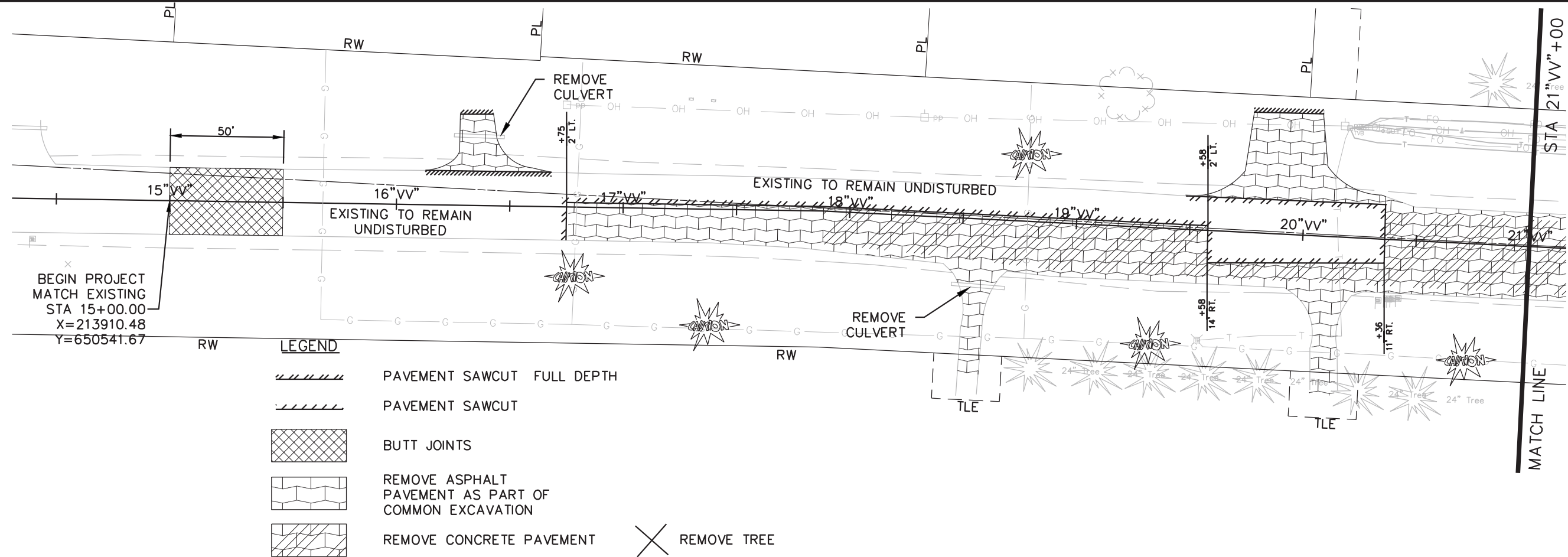


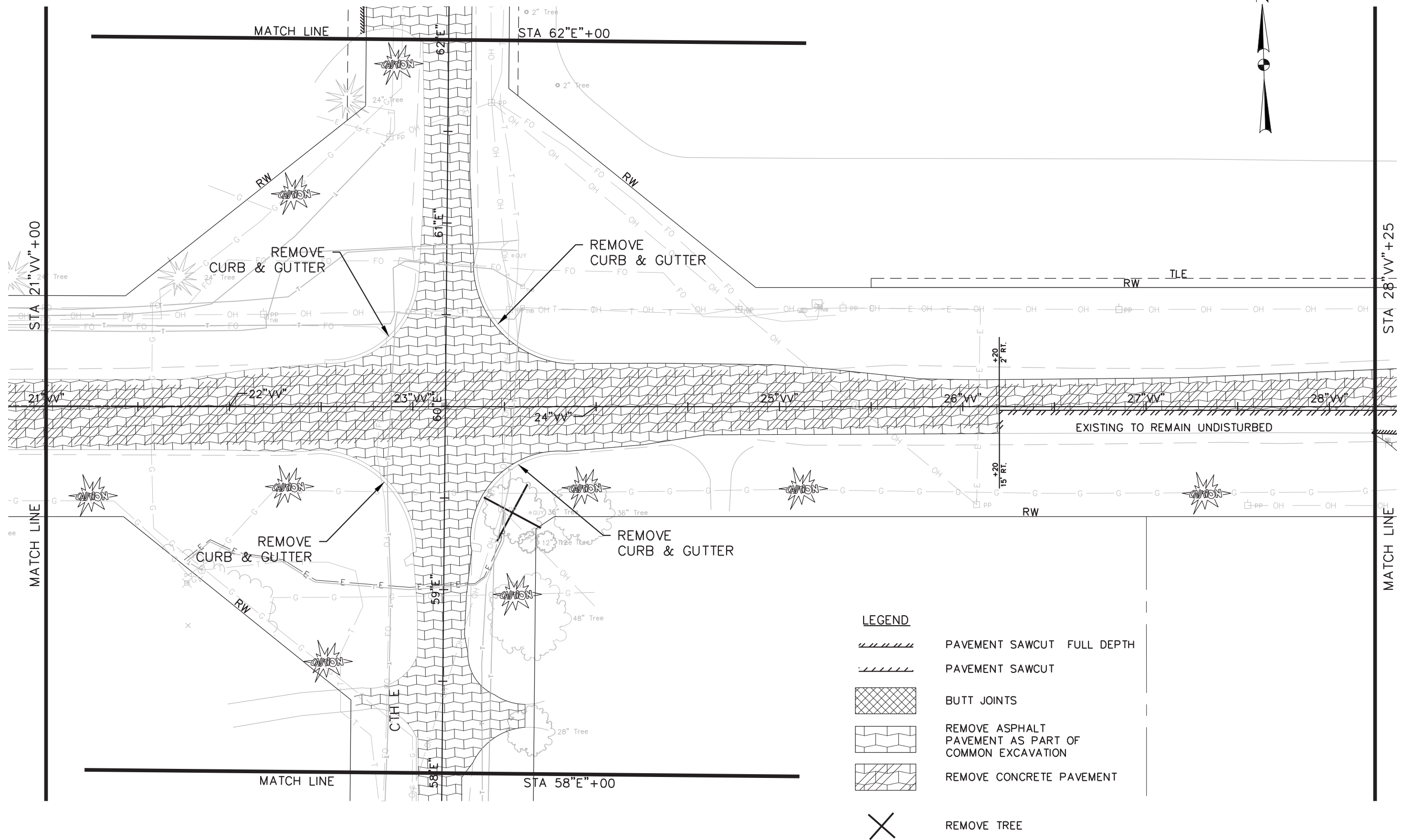
SECTION B-B

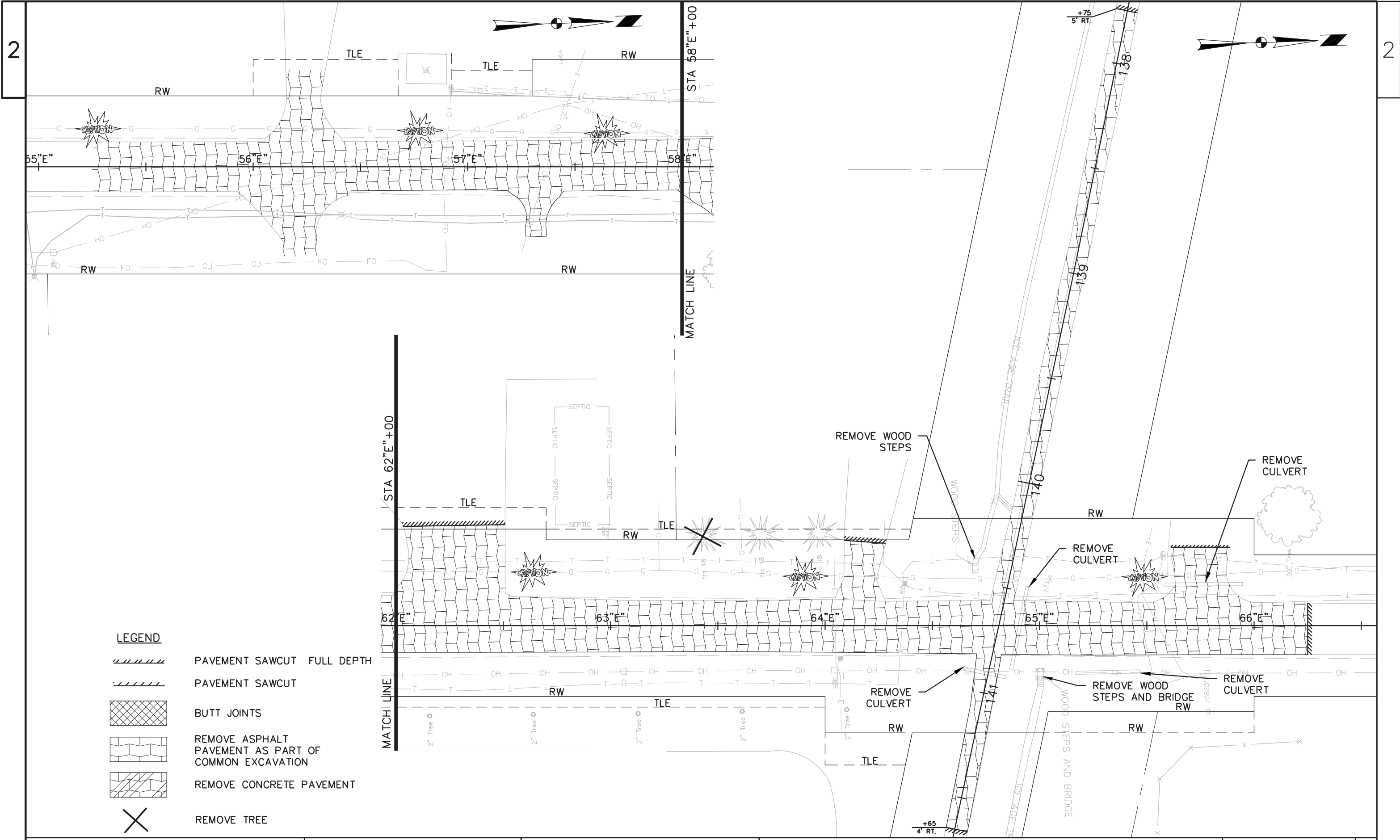
RAMP DETAILS

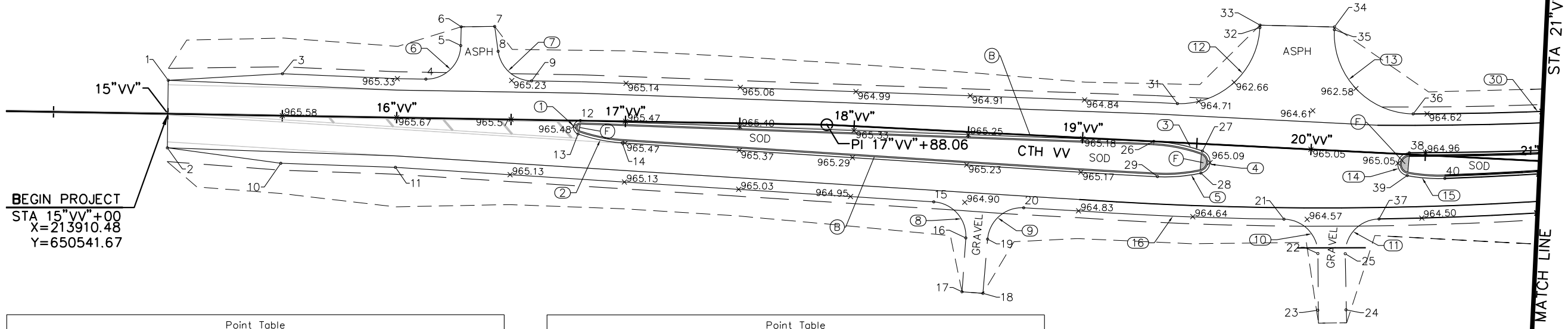


CULVERT PIPE CHECK DETAILS









BEGIN PROJECT
STA 15"VV"+00
X=213910.48
Y=650541.67

STA 21"VV"+00

MATCH LINE

Point Table						
Point #	Description	Station	Offset	Elevation	X	Y
1	PI	15"VV"+00.00	14.64' LT.	965.13	213925.11	650541.41
2	PI	15"VV"+00.00	14.88' RT.	965.29	213895.59	650541.83
3	PI	15"VV"+49.76	18.32' LT.	965.21	213929.33	650591.24
4	PC (DRIVEWAY)	16"VV"+12.49	17.00' LT.	965.30	213928.67	650653.98
5	PT (DRIVEWAY)	16"VV"+27.49	31.90' LT.	962.47	213943.73	650668.82
6	PI (DRIVEWAY)	16"VV"+27.54	40.10' LT.	964.45	213951.94	650668.78
7	PI (DRIVEWAY)	16"VV"+42.16	40.50' LT.	964.62	213952.49	650683.40
8	PC (DRIVEWAY)	16"VV"+43.87	29.67' LT.	962.60	213941.67	650685.22
9	PT (DRIVEWAY)	16"VV"+58.69	17.00' LT.	965.21	213929.17	650700.17
10	PI	15"VV"+49.68	20.81' RT.	965.26	213890.19	650591.58
11	PI	15"VV"+99.83	21.75' RT.	965.26	213889.79	650641.73
12	PC	16"VV"+80.31	0.00' T.	965.51	213912.40	650721.97
13	PT/PC	16"VV"+79.38	5.85' RT.	965.44	213906.53	650721.11
14	PC	16"VV"+98.77	9.43' RT.	965.34	213903.17	650740.53
15	PC (DRIVEWAY)	18"VV"+36.45	31.27' RT.	964.91	213881.14	650877.35
16	PT (DRIVEWAY)	18"VV"+51.25	46.31' RT.	962.92	213865.75	650891.80
17	PI (DRIVEWAY)	18"VV"+50.77	69.88' RT.	963.09	213842.20	650890.76
18	PI (DRIVEWAY)	18"VV"+59.93	70.09' RT.	962.98	213841.78	650899.91
19	PT (DRIVEWAY)	18"VV"+60.76	46.34' RT.	963.22	213865.50	650901.30
20	PT (DRIVEWAY)	18"VV"+75.83	31.86' RT.	964.86	213879.61	650916.71
21	PC (DRIVEWAY)	19"VV"+89.70	31.05' RT.	964.59	213877.73	651030.57
22	PT (DRIVEWAY)	20"VV"+05.28	45.28' RT.	962.61	213863.14	651045.80
23	PI (DRIVEWAY)	20"VV"+06.50	70.00' RT.	963.15	213838.39	651046.44
24	PI (DRIVEWAY)	20"VV"+18.79	69.21' RT.	962.78	213838.89	651058.74

Point Table						
Point #	Description	Station	Offset	Elevation	X	Y
25	PC (DRIVEWAY)	20"VV"+17.22	44.76' RT.	962.95	213863.38	651057.75
26	PT	19"VV"+31.13	0.00' T.	965.13	213910.16	650972.75
27	PC/PT	19"VV"+52.60	3.14' RT.	965.16	213906.51	650994.14
28	PT/PC	19"VV"+52.45	12.76' RT.	965.03	213896.89	650993.76
29	PC	19"VV"+33.52	15.26' RT.	965.13	213894.85	650974.78
31	PT (DRIVEWAY)	19"VV"+40.62	17.00' LT.	964.78	213926.93	650982.63
32	PC (DRIVEWAY)	19"VV"+74.95	52.00' LT.	963.61	213961.11	651017.78
33	PI (DRIVEWAY)	19"VV"+74.95	53.06' LT.	963.60	213962.17	651017.81
34	PI (DRIVEWAY)	20"VV"+07.50	53.94' LT.	963.82	213962.27	651050.37
35	PC (DRIVEWAY)	20"VV"+07.50	52.73' LT.	963.84	213961.07	651050.35
36	PC (DRIVEWAY)	20"VV"+43.75	17.74' LT.	964.64	213925.23	651085.76
37	PC (DRIVEWAY)	20"VV"+42.93	0.68' LT.	964.53	213878.95	651072.10
38	PT (DRIVEWAY)	20"VV"+31.19	28.85' RT.	964.99	213908.19	651084.54
39	PC/PT	20"VV"+42.52	9.27' RT.	965.15	213898.25	651083.89
40	PC	20"VV"+59.02	9.68' RT.	964.83	213897.45	651100.38

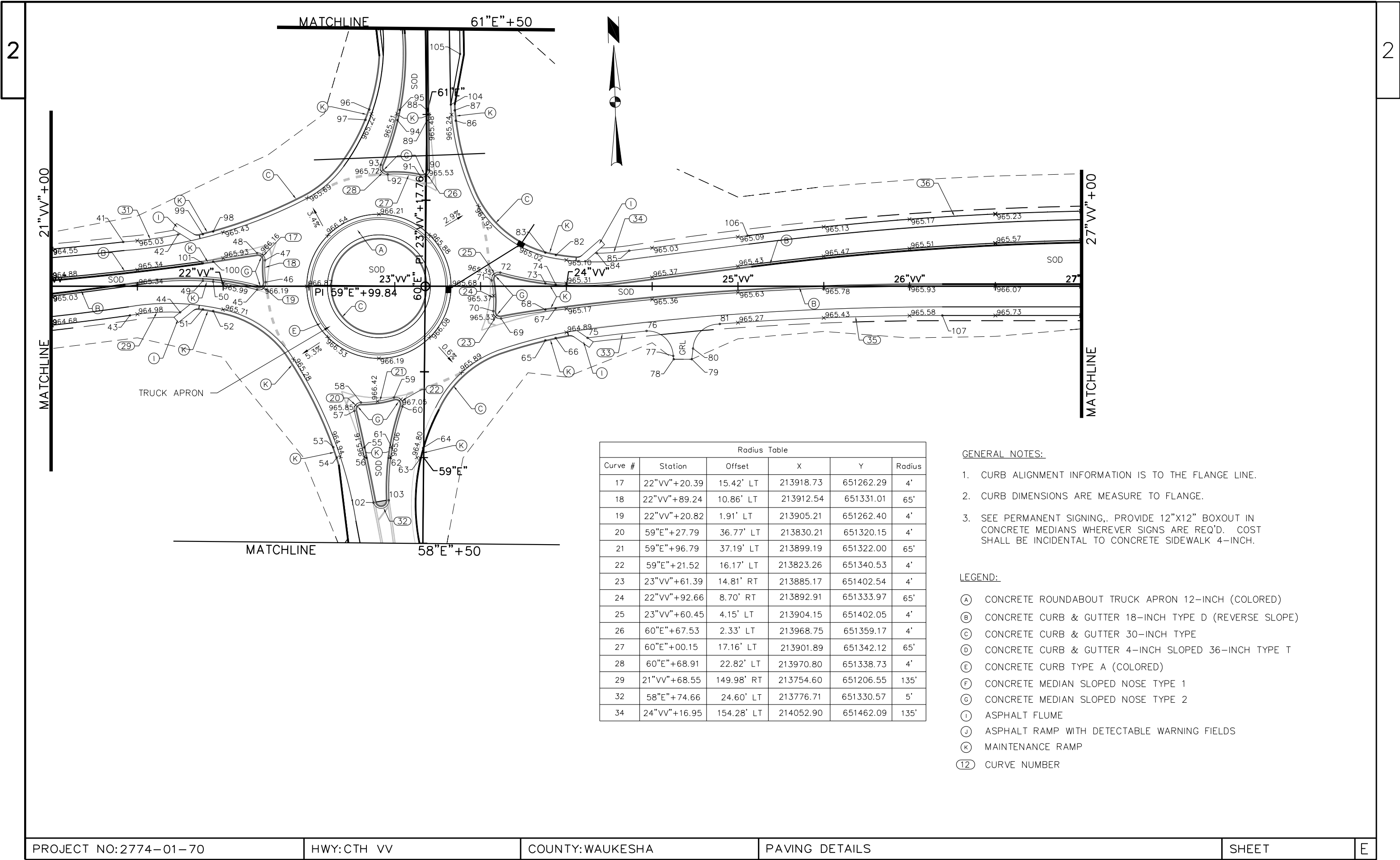
LEGEND:

- (A) CONCRETE ROUNDABOUT TRUCK APRON 12-INCH (COLORED)
- (B) CONCRETE CURB & GUTTER 18-INCH TYPE D (REVERSE SLOPE)
- (C) CONCRETE CURB & GUTTER 30-INCH TYPE
- (D) CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE T
- (E) CONCRETE CURB TYPE A (COLORED)
- (F) CONCRETE MEDIAN SLOPED NOSE TYPE 1
- (G) CONCRETE MEDIAN SLOPED NOSE TYPE 2
- (I) ASPHALT FLUME
- (J) ASPHALT RAMP WITH DETECTABLE WARNING FIELDS
- (K) MAINTENANCE RAMP
- (12) CURVE NUMBER

Radius Table					
Curve #	Station	Offset	X	Y	Radius
1	16"VV"+80.31	3.00' RT	213909.40	650722.00	3'
2	17"VV"+02.56	65.48' LT	213978.11	650743.52	75'
3	19"VV"+31.13	75.00' RT	213835.18	650970.98	75'
4	19"VV"+50.53	8.94' RT	213901.76	650992.60	5'
5	19"VV"+33.28	59.74' LT	213969.84	650976.31	75'
6	16"VV"+12.49	32.00' LT	213943.67	650653.82	15'
7	16"VV"+58.69	32.00' LT	213944.16	650700.01	15'
8	18"VV"+36.25	46.27' RT	213866.15	650876.80	15'
9	18"VV"+75.75	46.86' RT	213864.62	650916.27	15'
10	19"VV"+90.30	46.04' RT	213862.73	651030.81	15'
11	20"VV"+32.19	43.81' RT	213863.96	651072.74	15'
12	19"VV"+40.62	52.00' LT	213961.92	650983.46	35'
13	20"VV"+41.87	52.69' LT	213960.22	651084.70	35'
14	20"VV"+43.20	4.32' RT	213903.19	651084.68	5'
15	20"VV"+52.62	65.04' LT	213972.31	651095.75	75'
16	19"VV"+28.45	1514.74' LT	215424.53	651005.92	1547'

GENERAL NOTES:

- CURB ALIGNMENT INFORMATION IS TO THE FLANGE LINE.
- CURB DIMENSIONS ARE MEASURE TO FLANGE.
- SEE PERMANENT SIGNING,. PROVIDE 12"x12" BOXOUT IN CONCRETE MEDIANS WHEREVER SIGNS ARE REQ'D. COST SHALL BE INCIDENTAL TO CONCRETE SIDEWALK 4-INCH.



Radius Table					
Curve #	Station	Offset	X	Y	Radius
17	22"VV"+20.39	15.42' LT	213918.73	651262.29	4'
18	22"VV"+89.24	10.86' LT	213912.54	651331.01	65'
19	22"VV"+20.82	1.91' LT	213905.21	651262.40	4'
20	59"E"+27.79	36.77' LT	213830.21	651320.15	4'
21	59"E"+96.79	37.19' LT	213899.19	651322.00	65'
22	59"E"+21.52	16.17' LT	213823.26	651340.53	4'
23	23"VV"+61.39	14.81' RT	213885.17	651402.54	4'
24	22"VV"+92.66	8.70' RT	213892.91	651333.97	65'
25	23"VV"+60.45	4.15' LT	213904.15	651402.05	4'
26	60"E"+67.53	2.33' LT	213968.75	651359.17	4'
27	60"E"+00.15	17.16' LT	213901.89	651342.12	65'
28	60"E"+68.91	22.82' LT	213970.80	651338.73	4'
29	21"VV"+68.55	149.98' RT	213754.60	651206.55	135'
32	58"E"+74.66	24.60' LT	213776.71	651330.57	5'
34	24"VV"+16.95	154.28' LT	214052.90	651462.09	135'

- GENERAL NOTES:
- 1. CURB ALIGNMENT INFORMATION IS TO THE FLANGE LINE.
 - 2. CURB DIMENSIONS ARE MEASURE TO FLANGE.
 - 3. SEE PERMANENT SIGNING.. PROVIDE 12"x12" BOXOUT IN CONCRETE MEDIANS WHEREVER SIGNS ARE REQ'D. COST SHALL BE INCIDENTAL TO CONCRETE SIDEWALK 4-INCH.
- LEGEND:
- (A) CONCRETE ROUNDABOUT TRUCK APRON 12-INCH (COLORED)
 - (B) CONCRETE CURB & GUTTER 18-INCH TYPE D (REVERSE SLOPE)
 - (C) CONCRETE CURB & GUTTER 30-INCH TYPE
 - (D) CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE T
 - (E) CONCRETE CURB TYPE A (COLORED)
 - (F) CONCRETE MEDIAN SLOPED NOSE TYPE 1
 - (G) CONCRETE MEDIAN SLOPED NOSE TYPE 2
 - (I) ASPHALT FLUME
 - (J) ASPHALT RAMP WITH DETECTABLE WARNING FIELDS
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 - (12) CURVE NUMBER

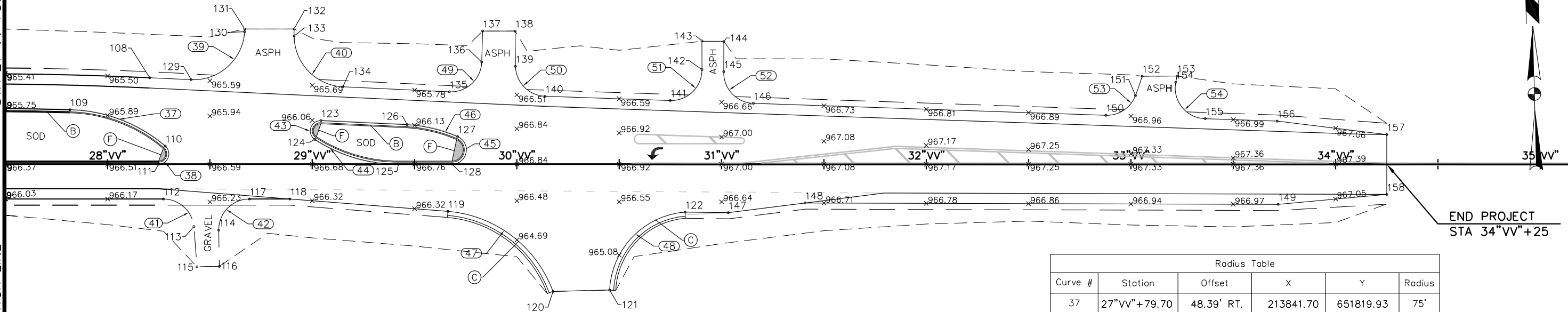
Point Table						
Point #	Description	Station	Offset	Elevation	X	Y
41	PC	21"VV"+41.80	25.84' LT.	964.93	213931.01	651183.97
42	PT	21"VV"+73.71	30.16' LT.	965.29	213934.57	651215.97
43	PC	21"VV"+45.72	16.93' RT.	964.94	213888.16	651186.88
44	PT	21"VV"+74.94	15.14' RT.	965.23	213889.26	651216.13
45	PC	22"VV"+19.79	1.96' RT.	966.27	213901.37	651261.28
46	PT/PC	22"VV"+24.78	2.43' LT.	966.24	213905.64	651266.38
47	PT/PC	22"VV"+24.38	15.16' LT.	966.19	213918.37	651266.27
48	PT	22"VV"+19.78	19.37' LT.	966.16	213922.70	651261.78
49	CURB CUT	21"VV"+88.18	3.20' LT.	965.82	213907.27	651229.80
50	CURB CUT	21"VV"+94.18	2.73' LT.	965.91	213906.66	651235.79
51	CURB CUT	21"VV"+88.18	13.39' RT.	965.64	213890.69	651229.41
52	CURB CUT	21"VV"+94.18	14.38' RT.	965.59	213889.55	651235.38
53	CURB CUT	59"E"+05.59	52.70' LT.	965.20	213808.54	651303.50
54	CURB CUT	58"E"+99.59	50.57' LT.	964.92	213802.48	651305.43
55	CURB CUT	59"E"+05.59	34.69' LT.	965.28	213807.95	651321.50
56	CURB CUT	58"E"+99.59	33.36' LT.	965.18	213801.91	651322.63
57	PC	59"E"+26.85	40.66' LT.	965.66	213829.40	651316.23
58	PT/PC	59"E"+31.79	36.83' LT.	965.98	213834.21	651320.22
59	PC/PT	59"E"+34.80	17.65' LT.	966.86	213836.59	651339.49
60	PT	59"E"+29.71	12.69' LT.	967.26	213831.33	651344.28
61	CURB CUT	59"E"+05.59	18.55' LT.	965.18	213807.42	651337.63
62	CURB CUT	58"E"+99.59	19.36' LT.	965.06	213801.45	651336.63
63	CURB CUT	58"E"+99.59	1.91' LT.	964.87	213800.88	651354.06
64	CURB CUT	59"E"+05.59	0.42' LT.	964.88	213806.83	651355.76
65	CURB CUT	23"VV"+87.76	31.46' RT.	964.85	213867.90	651428.50
66	CURB CUT	23"VV"+93.76	30.11' RT.	964.97	213869.11	651434.53
67	CURB CUT	23"VV"+93.76	12.88' RT.	965.21	213886.34	651434.94
68	CURB CUT	23"VV"+87.76	13.60' RT.	965.33	213885.76	651428.93
69	PC	23"VV"+61.92	18.77' RT.	965.32	213881.20	651402.97
70	PT/PC	23"VV"+57.41	14.45' RT.	965.32	213885.62	651398.56
71	PT/PC	23"VV"+56.52	3.41' LT.	965.34	213903.50	651398.10
72	PT	23"VV"+61.52	8.01' LT.	965.33	213907.98	651403.20

Point Table						
Point #	Description	Station	Offset	Elevation	X	Y
73	CURB CUT	23"VV"+87.76	1.75' LT.	965.32	213901.10	651429.29
74	CURB CUT	23"VV"+93.76	1.12' LT.	965.32	213900.33	651435.27
75	PC	24"VV"+12.36	30.08' RT.	964.79	213868.70	651453.13
76	PT	24"VV"+46.75	26.01' RT.	964.96	213871.96	651487.61
77	PC	24"VV"+62.28	40.58' RT.	963.96	213857.02	651502.79
78	DRIVEWAY	24"VV"+62.54	42.50' RT.	964.44	213855.09	651503.01
79	DRIVEWAY	24"VV"+73.09	42.50' RT.	964.46	213854.84	651513.55
80	PC	24"VV"+73.82	36.25' RT.	963.18	213861.08	651514.43
81	PT	24"VV"+89.42	21.94' RT.	965.24	213875.01	651530.39
82	CURB CUT	23"VV"+93.90	18.22' LT.	965.15	213917.42	651435.81
83	CURB CUT	23"VV"+87.76	19.58' LT.	965.30	213918.93	651429.71
84	PC	24"VV"+17.79	19.29' LT.	964.98	213917.92	651459.73
85	PT	24"VV"+36.66	20.73' LT.	965.02	213918.92	651478.62
86	CURB CUT	60"E"+96.52	16.84' RT.	965.18	213997.08	651379.28
87	CURB CUT	61"E"+02.52	16.19' RT.	965.21	214003.11	651378.83
88	CURB CUT	61"E"+02.52	0.00' LT.	965.86	214003.64	651362.65
89	CURB CUT	60"E"+96.52	0.11' RT.	965.87	213997.64	651362.57
90	PC	60"E"+67.55	1.67' RT.	965.54	213968.63	651363.17
91	PT/PC	60"E"+63.63	3.19' LT.	965.57	213964.87	651358.18
92	PT/PC	60"E"+64.93	22.49' LT.	965.67	213966.81	651338.93
93	PT	60"E"+70.45	26.52' LT.	965.72	213972.45	651335.09
94	CURB CUT	60"E"+96.52	17.15' LT.	965.83	213998.21	651345.32
95	CURB CUT	61"E"+02.52	15.89' LT.	965.54	214004.17	651346.77
96	CURB CUT	61"E"+02.55	33.50' LT.	965.17	214004.77	651329.17
97	CURB CUT	60"E"+96.52	35.67' LT.	965.22	213998.82	651326.81
98	CURB CUT	21"VV"+94.18	31.90' LT.	965.43	213935.83	651236.48
99	CURB CUT	21"VV"+88.18	30.32' LT.	965.30	213934.39	651230.44
100	CURB CUT	21"VV"+94.18	14.45' LT.	966.25	213918.34	651236.06
101	CURB CUT	21"VV"+88.18	13.53' LT.	965.97	213917.60	651230.04
102	PC	58"E"+73.50	28.95' LT.	964.67	213775.69	651326.19
103	PT	58"E"+74.93	20.11' LT.	964.60	213776.83	651335.07
104	PT	61"E"+05.86	13.93' RT.	965.21	214006.52	651376.69

Point Table						
Point #	Description	Station	Offset	Elevation	X	Y
105	PI	61"E"+35.42	19.05' RT.	965.05	214035.89	651382.78
106	PT	25"VV"+05.64	29.54' LT.	965.09	213926.09	651547.79
107	PT	26"VV"+19.07	17.00' RT.	965.64	213876.88	651660.09

STA 27"VV"+50

MATCH LINE

END PROJECT
STA 34"VV"+25

Point Table						
Point #	Description	Station	Offset	Elevation	X	Y
108	PI	28"VV"+20.58	42.19' LT.	965.53	213931.28	651862.95
109	PC	27"VV"+81.61	26.58' LT.	965.81	213916.61	651823.62
110	PT/PC	28"VV"+28.20	8.81' LT.	966.23	213897.74	651869.78
111	PC	28"VV"+24.97	0.00' T.	966.55	213889.00	651866.34
112	PC-DWRY	28"VV"+27.28	17.00' RT.	966.22	213871.95	651868.24
113	PT-DWRY	28"VV"+42.19	30.44' RT.	963.90	213858.16	651882.84
114	PC-DWRY	28"VV"+54.34	32.19' RT.	964.10	213856.13	651894.94
115	MATCH	28"VV"+43.71	50.15' RT.	964.88	213838.43	651883.88
116	MATCH	28"VV"+54.63	49.89' RT.	964.91	213838.43	651894.80
117	PT-DWRY	28"VV"+69.34	17.00' RT.	966.29	213870.96	651910.29
118	PI	28"VV"+89.08	17.00' RT.	966.32	213870.49	651930.02
119	PC	29"VV"+66.34	23.03' RT.	966.32	213862.64	652007.12
120	PT-MATCH	30"VV"+17.64	62.13' RT.	964.41	213822.33	652057.48
121	PC-MATCH	30"VV"+45.30	61.47' RT.	965.50	213822.33	652085.15
122	PT	30"VV"+82.19	23.41' RT.	966.51	213859.51	652122.93
123	PC	29"VV"+04.25	21.26' LT.	966.04	213908.38	651946.10
124	PT/PC	29"VV"+01.30	12.07' LT.	966.75	213899.26	651942.93
125	PT	29"VV"+42.10	0.00' T.	966.75	213886.23	651983.44
126	PC	29"VV"+46.39	19.29' LT.	966.12	213905.41	651988.18
127	PT/PC	29"VV"+71.06	13.44' LT.	966.79	213898.98	652012.70
128	PT	29"VV"+68.31	0.00' T.	966.79	213885.61	652009.64
129	PC-DWRY	28"VV"+40.86	41.24' LT.	965.57	213929.86	651883.20
130	PT-DWRY	28"VV"+66.98	64.65' LT.	965.46	213952.68	651909.87
131	MATCH	28"VV"+67.01	66.00' LT.	965.46	213953.99	651909.93
132	MATCH	28"VV"+91.14	66.00' LT.	965.68	213953.42	651934.05
133	PC-DWRY	28"VV"+91.16	62.62' LT.	965.66	213950.04	651933.99
134	PT-DWRY	29"VV"+14.99	37.78' LT.	965.71	213924.64	651957.23
135	PC-DWRY	29"VV"+66.99	35.35' LT.	965.96	213920.98	652009.15
136	PT-DWRY	29"VV"+82.81	49.88' LT.	965.27	213935.14	652025.31
137	MATCH	29"VV"+83.25	65.00' LT.	966.20	213950.24	652026.11
138	MATCH	29"VV"+99.13	65.00' LT.	966.12	213949.86	652041.98

Point Table						
Point #	Description	Station	Offset	Elevation	X	Y
139	PC-DWRY	29"VV"+99.31	47.77' LT.	964.95	213932.63	652041.76
140	PT-DWRY	30"VV"+13.80	33.15' LT.	966.54	213917.68	652055.90
141	PC-DWRY	30"VV"+74.91	31.08' LT.	966.63	213914.16	652116.94
142	PT-DWRY	30"VV"+90.42	46.19' LT.	965.42	213928.90	652132.81
143	MATCH	30"VV"+90.42	60.18' LT.	966.63	213942.88	652133.14
144	MATCH	31"VV"+01.09	59.82' LT.	966.75	213942.27	652143.79
145	PC-DWRY	31"VV"+01.07	45.20' LT.	964.76	213927.65	652143.43
146	PT-DWRY	31"VV"+15.55	29.70' LT.	966.68	213911.82	652157.54
147	PI	31"VV"+03.28	23.69' RT.	966.53	213858.74	652144.01
148	PI	31"VV"+40.76	18.96' RT.	966.69	213862.58	652181.59
149	PI	33"VV"+71.94	19.62' RT.	966.98	213856.45	652412.69
150	PC-DWRY	32"VV"+87.72	23.86' LT.	966.94	213901.90	652329.52
151	PT-DWRY	33"VV"+02.24	33.49' LT.	964.96	213911.19	652344.26
152	MATCH	33"VV"+05.52	42.97' LT.	966.63	213920.59	652347.77
153	MATCH	33"VV"+22.53	43.03' LT.	966.65	213920.25	652364.77
154	PC-DWRY	33"VV"+21.89	40.00' LT.	966.54	213917.23	652364.06
155	PT-DWRY	33"VV"+36.33	22.21' LT.	966.98	213899.10	652378.08
156	PI	33"VV"+71.46	21.02' LT.	967.00	213897.08	652413.17
157	MATCH	34"VV"+25.00	14.46' LT.	967.21	213889.26	652466.54
158	MATCH	34"VV"+25.00	14.77' RT.	967.11	213860.04	652465.85

GENERAL NOTES:

- CURB ALIGNMENT INFORMATION IS TO THE FLANGE LINE.
- CURB DIMENSIONS ARE MEASURE TO FLANGE.
- SEE PERMANENT SIGNING,. PROVIDE 12"x12" BOXOUT IN CONCRETE MEDIANS WHEREVER SIGNS ARE REQ'D. COST SHALL BE INCIDENTAL TO CONCRETE SIDEWALK 4-INCH.

Radius Table					
Curve #	Station	Offset	X	Y	Radius
37	27"VV"+79.70	48.39' RT.	213841.70	651819.93	75'
38	28"VV"+24.97	5.00' LT.	213894.00	651866.45	5'
39	28"VV"+42.03	66.21' LT.	213954.79	651884.96	25'
40	29"VV"+16.16	62.75' LT.	213949.58	651958.98	25'
41	28"VV"+27.28	32.00' RT.	213856.96	651867.88	15'
42	28"VV"+69.34	32.00' RT.	213855.96	651909.94	15'
43	29"VV"+04.02	16.26' LT.	213903.39	651945.75	5'
44	29"VV"+42.10	75.00' LT.	213961.21	651985.21	75'
45	29"VV"+68.31	7.00' LT.	213892.61	652009.81	7'
46	29"VV"+41.67	55.56' RT.	213830.70	651981.69	75'
47	29"VV"+61.32	82.82' RT.	213802.98	652000.69	60'
48	30"VV"+85.26	63.29' RT.	213819.57	652125.06	40'
49	29"VV"+67.69	50.33' LT.	213935.94	652010.21	15'
50	30"VV"+14.31	48.14' LT.	213932.65	652056.76	15'
51	30"VV"+75.42	46.07' LT.	213929.13	652117.81	15'
52	31"VV"+16.06	44.69' LT.	213926.79	652158.40	15'
53	33"VV"+36.98	37.49' LT.	213914.37	652379.09	15'
54	32"VV"+88.36	38.85' LT.	213916.87	652330.52	15'

LEGEND:

- (A) CONCRETE ROUNDABOUT TRUCK APRON 12-INCH (COLORED)
- (B) CONCRETE CURB & GUTTER 18-INCH TYPE D (REVERSE SLOPE)
- (C) CONCRETE CURB & GUTTER 30-INCH TYPE
- (D) CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE T
- (E) CONCRETE CURB TYPE A (COLORED)
- (F) CONCRETE MEDIAN SLOPED NOSE TYPE 1
- (G) CONCRETE MEDIAN SLOPED NOSE TYPE 2
- (I) ASPHALT FLUME
- (J) ASPHALT RAMP WITH DETECTABLE WARNING FIELDS
- (K) MAINTENANCE RAMP
- (12) CURVE NUMBER

PROJECT NO: 2774-01-70

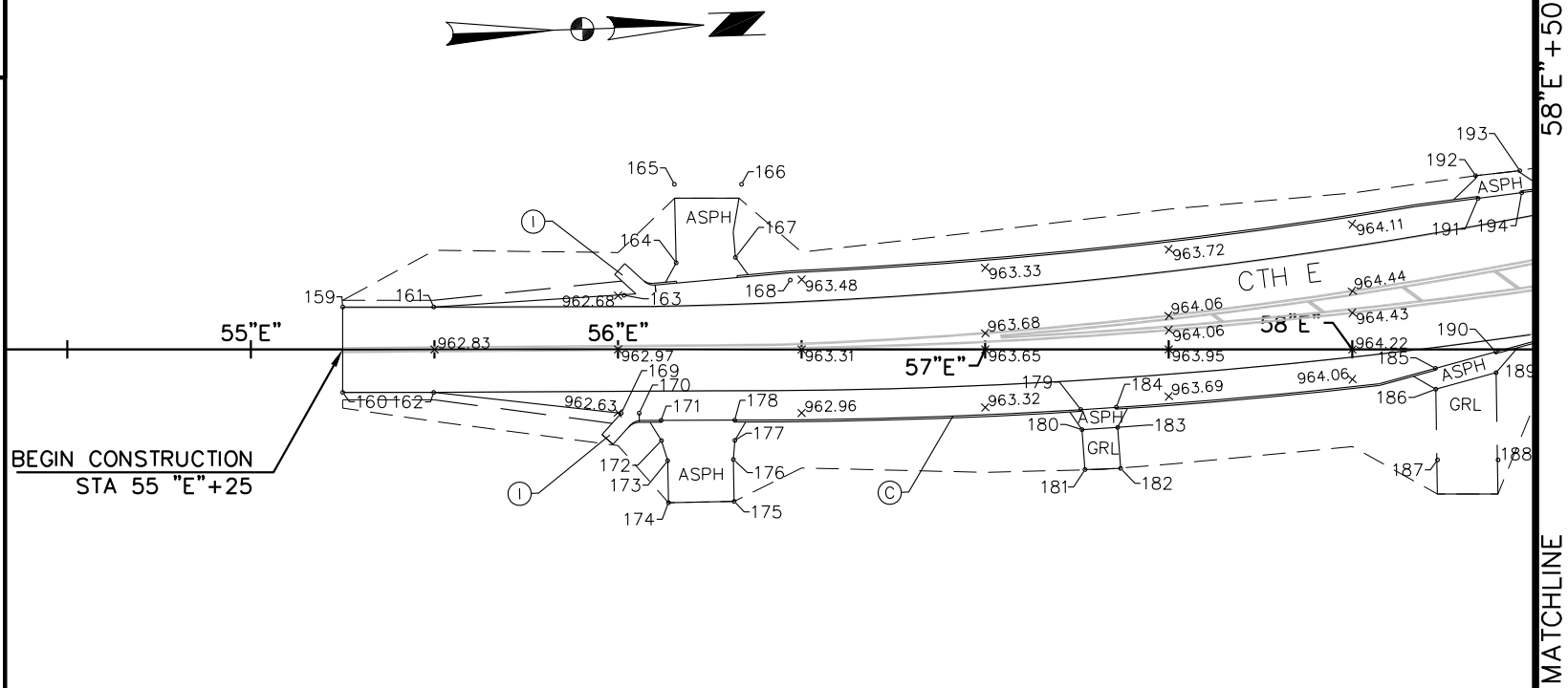
HWY: CTH VV

COUNTY: WAUKESHA

PAVING DETAILS

SHEET

E



58'E+50
MATCHLINE

BEGIN CONSTRUCTION
STA 55 "E"+25

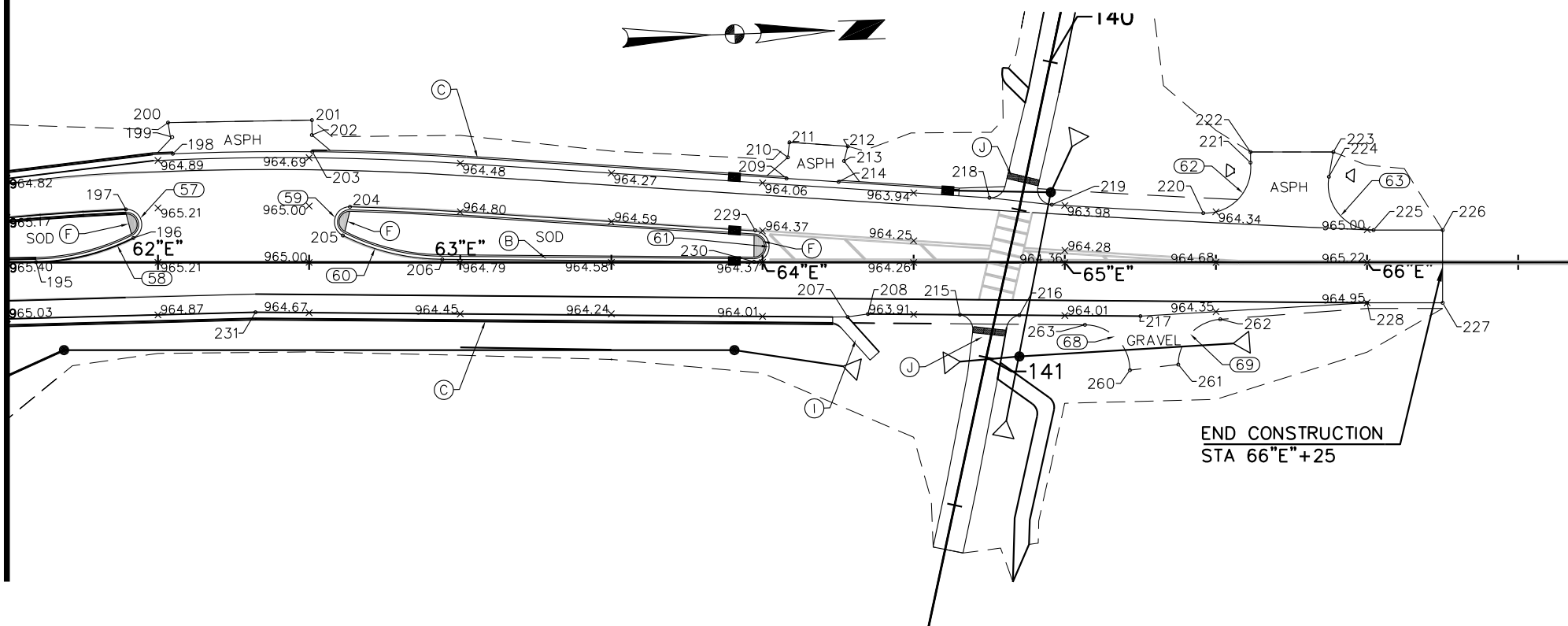
LEGEND:

- (A) CONCRETE ROUNDABOUT TRUCK APRON 12-INCH (COLORED)
- (B) CONCRETE CURB & GUTTER 18-INCH TYPE D (REVERSE SLOPE)
- (C) CONCRETE CURB & GUTTER 30-INCH TYPE
- (D) CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE T
- (E) CONCRETE CURB TYPE A (COLORED)
- (F) CONCRETE MEDIAN SLOPED NOSE TYPE 1
- (G) CONCRETE MEDIAN SLOPED NOSE TYPE 2
- (I) ASPHALT FLUME
- (J) ASPHALT RAMP WITH DETECTABLE WARNING FIELDS
- (K) MAINTENANCE RAMP
- (12) CURVE NUMBER

GENERAL NOTES:

- CURB ALIGNMENT INFORMATION IS TO THE FLANGE LINE.
- CURB DIMENSIONS ARE MEASURE TO FLANGE.
- SEE PERMANENT SIGNING,. PROVIDE 12"x12" BOXOUT IN CONCRETE MEDIANS WHEREVER SIGNS ARE REQ'D. COST SHALL BE INCIDENTAL TO CONCRETE SIDEWALK 4-INCH.

Point Table						
Point #	Description	Station	Offset	Elevation	X	Y
159	MATCH	55"E"+25.00	11.56' LT.	962.24	213426.81	651332.13
160	MATCH	55"E"+25.00	11.71' RT.	962.15	213426.04	651355.38
161	PI	55"E"+49.79	11.56' LT.	962.55	213451.58	651332.94
162	PI	55"E"+49.79	11.71' RT.	962.35	213450.82	651356.20
163	PC-DRIVEWAY	56"E"+01.61	14.75' LT.	962.69	213503.48	651331.45
164	PT-DRIVEWAY	56"E"+15.68	30.08' LT.	962.05	213517.99	651323.09
165	MATCH-DRIVEWAY	56"E"+15.33	45.00' LT.	961.76	213518.19	651301.67
166	MATCH-DRIVEWAY	56"E"+33.62	45.00' LT.	962.00	213536.47	651302.27
167	PC-DRIVEWAY	56"E"+31.36	32.00' LT.	962.19	213534.16	651322.14
168	PT-DRIVEWAY	56"E"+46.91	18.90' LT.	963.34	213548.90	651328.79
169	PI	56"E"+00.84	17.41' RT.	962.63	213501.66	651363.57
170	PI	56"E"+05.76	17.38' RT.	962.66	213506.57	651363.70
171	PI-DRIVEWAY	56"E"+11.71	19.34' RT.	962.65	213512.45	651365.86
172	PI-DRIVEWAY	56"E"+11.81	24.84' RT.	961.65	213512.38	651371.36
173	PI-DRIVEWAY	56"E"+13.51	30.34' RT.	961.38	213513.90	651376.91
174	MATCH-DRIVEWAY	56"E"+13.73	41.76' RT.	961.30	213513.74	651388.33
175	MATCH-DRIVEWAY	56"E"+31.63	41.41' RT.	961.69	213531.64	651388.57
176	PI-DRIVEWAY	56"E"+31.25	29.99' RT.	962.46	213531.79	651377.15
177	PI-DRIVEWAY	56"E"+31.81	24.78' RT.	962.85	213532.37	651371.96
178	PI-DRIVEWAY	56"E"+31.78	19.28' RT.	962.79	213532.52	651366.46
179	PI-DRIVEWAY	57"E"+26.02	16.38' RT.	963.47	213626.80	651366.65
180	PI-DRIVEWAY	57"E"+26.37	21.87' RT.	964.07	213626.97	651372.15
181	MATCH-DRIVEWAY	57"E"+27.17	32.73' RT.	963.99	213627.41	651383.03
182	MATCH-DRIVEWAY	57"E"+36.89	32.42' RT.	964.05	213637.14	651383.04
183	PI-DRIVEWAY	57"E"+36.07	21.25' RT.	964.14	213636.69	651371.85
184	PI-DRIVEWAY	57"E"+35.72	15.76' RT.	963.54	213636.52	651366.35
185	PI-DRIVEWAY	58"E"+22.63	5.17' RT.	964.55	213723.73	651358.61
186	PI-DRIVEWAY	58"E"+22.73	10.85' RT.	965.01	213723.64	651364.30
187	MATCH-DRIVEWAY	58"E"+23.20	30.10' RT.	964.64	213723.48	651383.55
188	MATCH-DRIVEWAY	58"E"+39.70	30.10' RT.	964.79	213739.97	651384.09
189	PI-DRIVEWAY	58"VV"+39.06	0.67' RT.	965.05	213740.21	651360.32
190	PI-DRIVEWAY	58"E"+39.16	6.33' RT.	964.58	213740.29	651354.66
191	PI-DRIVEWAY	58"E"+34.24	41.15' LT.	963.96	213736.86	651312.71
192	MATCH-DRIVEWAY	58"E"+33.58	47.32' LT.	963.96	213736.39	651306.51
193	MATCH-DRIVEWAY	58"E"+45.59	48.69' LT.	963.99	213748.44	651305.54
194	PI-DRIVEWAY	58"E"+46.12	42.70' LT.	964.05	213748.78	651311.54



Point Table						
Point #	Description	Station	Offset	Elevation	X	Y
195	PC	61"E"+59.68	0.11' LT.	965.39	214060.77	651364.43
196	PT/PC	61"E"+91.89	8.07' LT.	965.85	214093.22	651357.54
197	PT	61"E"+89.39	17.53' LT.	964.91	214091.04	651348.00
198	PI-DRWY	62"E"+04.94	35.92' LT.	965.18	214107.18	651330.12
199	PI-DRWY	62"E"+04.72	41.42' LT.	964.95	214107.15	651324.62
200	MATCH-DRWY	62"E"+03.35	46.22' LT.	964.44	214105.93	651319.78
201	MATCH-DRWY	62"E"+50.94	47.05' LT.	964.71	214153.53	651320.52
202	PI-DRWY	62"E"+50.92	42.12' LT.	964.77	214153.34	651325.45
203	PI-DRWY	62"E"+51.06	36.62' LT.	965.08	214153.30	651330.95
204	PC	62"E"+63.53	18.38' LT.	964.95	214165.16	651349.59
205	PT/PC	62"E"+61.16	8.91' LT.	965.12	214162.49	651358.98
206	PT	62"E"+94.06	1.03' LT.	964.84	214195.11	651367.94
207	PI	64"E"+28.14	18.03' RT.	963.91	214328.49	651391.40
208	PI	64"E"+34.82	17.07' RT.	963.93	214335.24	651390.67
209	PI-DRWY	64"E"+07.94	27.76' LT.	964.33	214309.81	651344.98
210	PI-DRWY	64"E"+08.38	34.74' LT.	964.36	214310.48	651338.01
211	MATCH-DRWY	64"E"+08.93	39.71' LT.	963.87	214311.19	651333.06
212	MATCH-DRWY	64"E"+28.22	38.38' LT.	964.72	214330.43	651335.03
213	PI-DRWY	64"E"+26.97	33.54' LT.	964.43	214329.02	651339.83
214	PI-DRWY	64"E"+25.18	26.64' LT.	964.28	214327.00	651346.67
215	PC-RAMP	64"E"+65.31	17.31' RT.	963.92	214365.66	651391.91
216	PC-RAMP	64"E"+84.97	17.46' RT.	963.96	214385.30	651392.72
217	PI	65"E"+25.02	17.78' RT.	964.13	214425.32	651394.35
218	PC-RAMP	64"E"+75.06	21.36' LT.	963.84	214376.68	651353.58
219	PC-RAMP	64"E"+95.69	19.07' LT.	963.96	214397.23	651356.55

Point Table						
Point #	Description	Station	Offset	Elevation	X	Y
220	PC-DRWY	65"E"+45.80	16.30' LT.	964.32	214447.22	651360.97
221	PT-DRWY	65"E"+61.42	33.00' LT.	962.96	214463.39	651344.80
222	MATCH-DRWY	65"E"+61.43	36.50' LT.	963.83	214463.50	651341.30
223	MATCH-DRWY	65"E"+88.84	36.50' LT.	964.49	214490.89	651342.20
224	PC-DRWY	65"E"+87.37	28.32' LT.	962.41	214489.16	651350.33
225	PT-DRWY	66"E"+02.14	10.68' LT.	964.97	214503.34	651368.45
226	MATCH	66"E"+25.00	10.68' LT.	965.19	214526.19	651369.21
227	MATCH	66"E"+25.00	13.36' RT.	965.52	214525.39	651393.23
228	PI	66"E"+00.00	13.36' RT.	964.95	214500.41	651392.41
229	PC	63"E"+97.58	10.62' LT.	964.38	214298.88	651361.77
230	PT	63"E"+97.19	0.22' LT.	964.39	214298.15	651372.15
231	PI	62"E"+32.27	16.49' RT.	964.75	214132.77	651383.41

Point Table						
Point #	Description	Station	Offset	Elevation	X	Y
260	PI-DRWY	65"E"+21.55	35.63' RT.	963.68	214421.26	651412.08
261	PI-DRWY	65"E"+37.55	33.79' RT.	963.66	214437.31	651410.76
262	PC-DRWY	65"E"+51.44	18.83' RT.	964.26	214451.69	651396.27
263	PC-DRWY	65"E"+06.66	20.63' RT.	963.92	214406.88	651396.60

Radius Table					
Curve #	Station	Offset	X	Y	Radius
57	61"E"+89.64	12.53' LT	214091.12	651353.00	5'
58	61"E"+58.23	75.09' LT	214061.79	651289.44	75'
59	62"E"+63.40	13.39' LT	214164.87	651354.58	5'
60	62"E"+94.64	76.02' LT	214198.16	651293.00	75'
61	63"E"+97.08	5.32' LT	214298.22	651367.05	5'
62	65"E"+46.52	31.28' LT	214448.43	651346.02	15'
63	66"E"+02.14	25.68' LT	214503.83	651353.46	15'
68	65"E"+52.55	33.79' RT	214452.30	651411.26	15'
69	65"E"+06.55	35.63' RT	214406.27	651411.59	15'

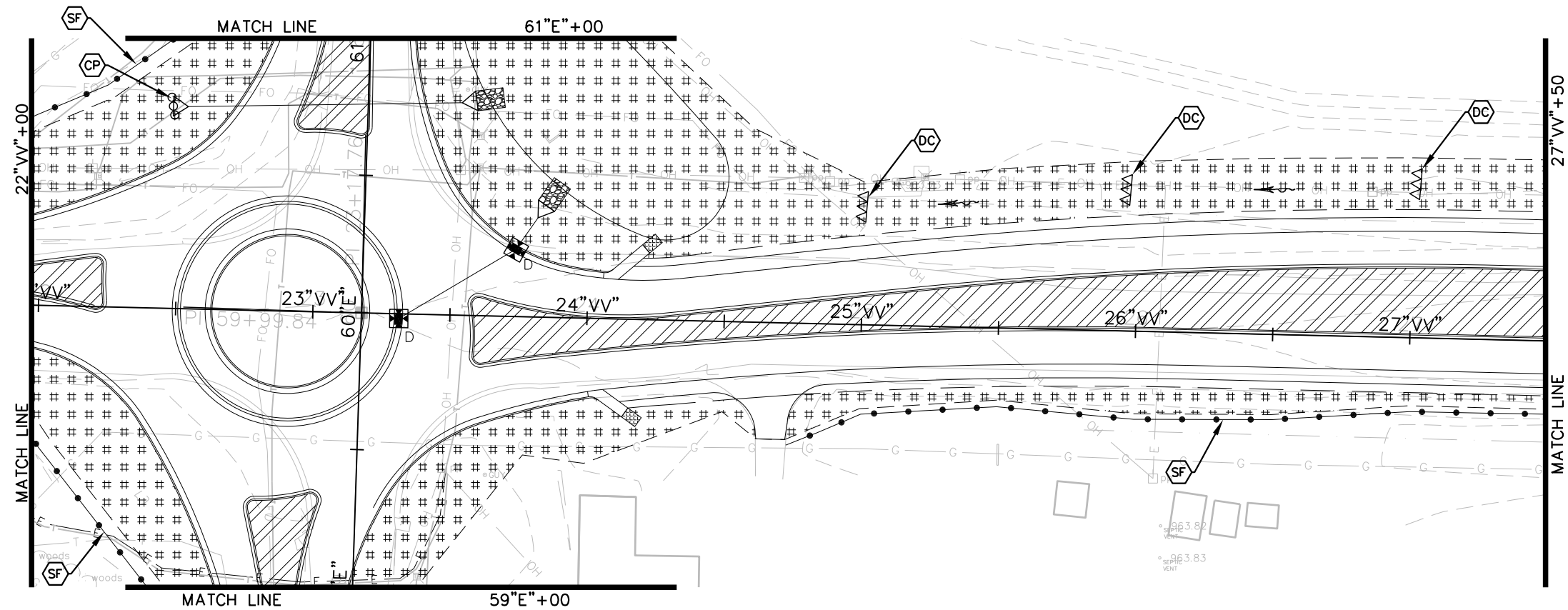
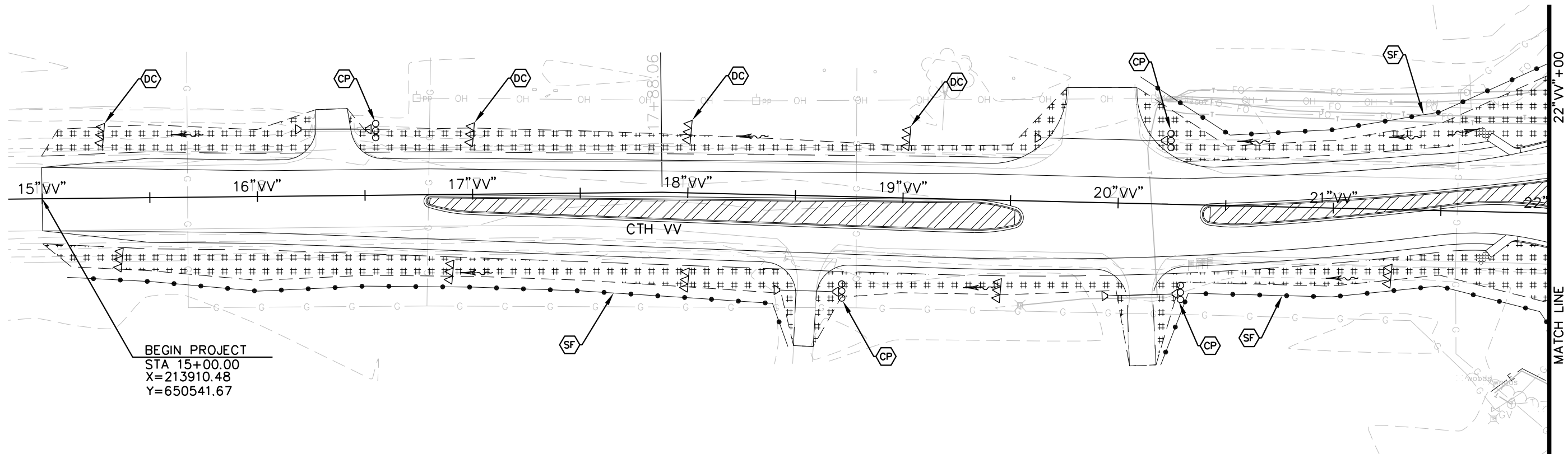
GENERAL NOTES:

- CURB ALIGNMENT AND ELEVATION INFORMATION IS TO THE FLANGE LINE.
- CURB DIMENSIONS ARE MEASURE TO FLANGE.
- SEE PERMANENT SIGNING.. PROVIDE 12"x12" BOXOUT IN CONCRETE MEDIANS WHEREVER SIGNS ARE REQ'D. COST SHALL BE INCIDENTAL TO CONCRETE SIDEWALK 4-INCH.

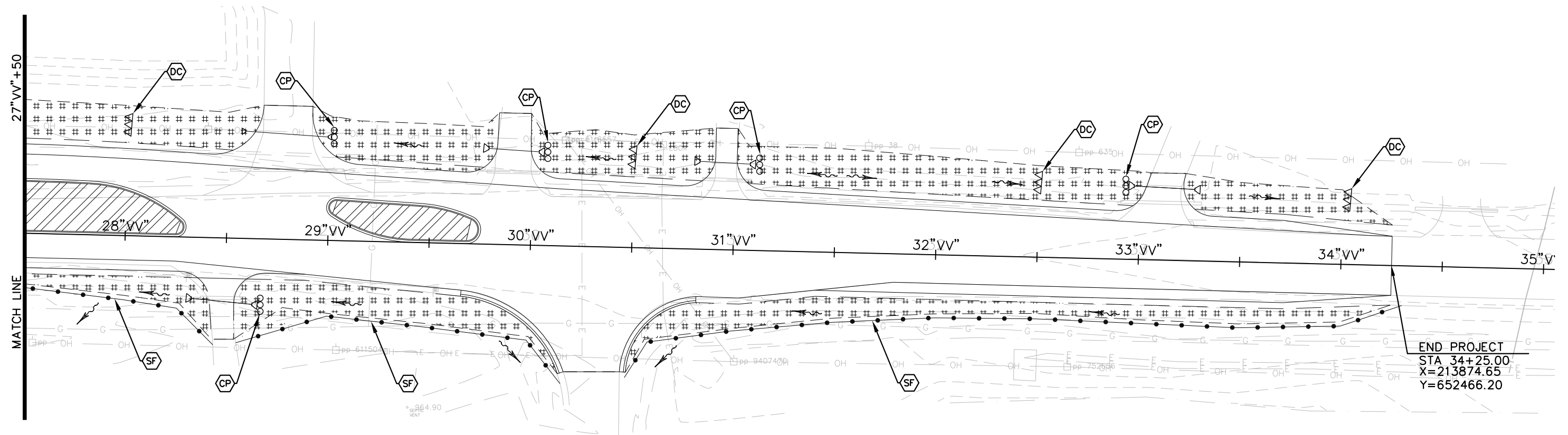
LEGEND:

- (A) CONCRETE ROUNDABOUT TRUCK APRON 12-INCH (COLORED)
- (B) CONCRETE CURB & GUTTER 18-INCH TYPE D (REVERSE SLOPE)
- (C) CONCRETE CURB & GUTTER 30-INCH TYPE
- (D) CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE T
- (E) CONCRETE CURB TYPE A (COLORED)
- (F) CONCRETE MEDIAN SLOPED NOSE TYPE 1
- (G) CONCRETE MEDIAN SLOPED NOSE TYPE 2
- (I) ASPHALT FLUME
- (J) ASPHALT RAMP WITH DETECTABLE WARNING FIELDS
- (K) MAINTENANCE RAMP
- (12) CURVE NUMBER



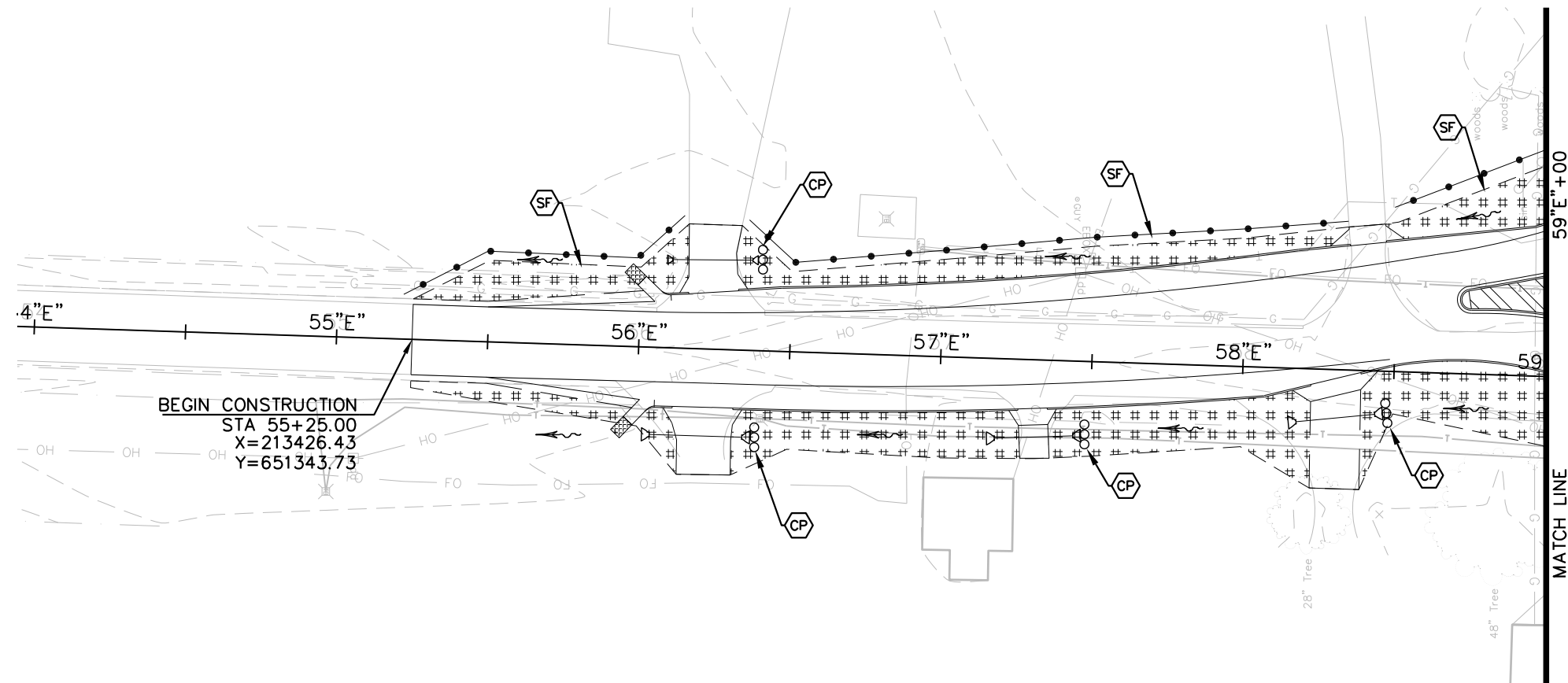


LEGEND	
#####	EROSION MAT URBAN CLASS I, TYPE A
XXXXXX	SOD EROSION CONTROL
XXXXXX	SOD LAWN
XXXXXX	RIPRAP
—●—●—●—	SILT FENCE (SF)
- - -	SLOPE INTERCEPT
⊗	INLET PROTECTION TYPE A OR D
△△△	TEMPORARY DITCH CHECK (DC)
OOO	CULVERT PIPE CHECK (CP)
~>	SURFACE WATER FLOW

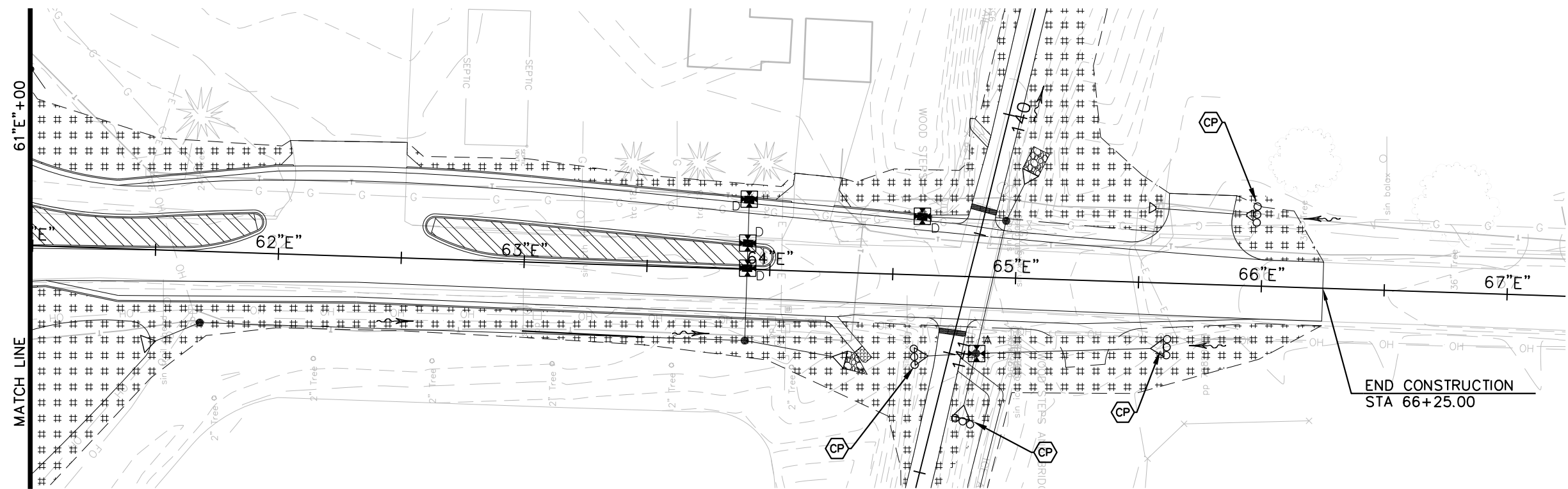


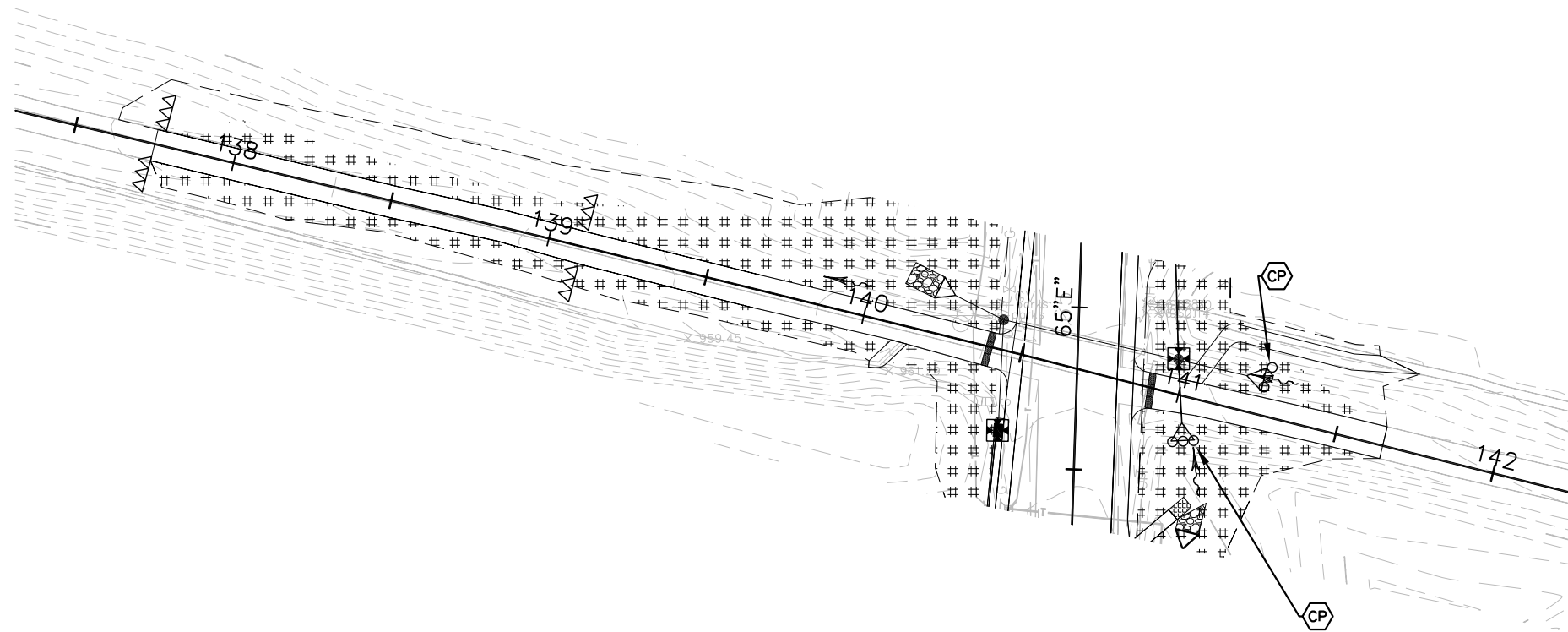
LEGEND

- ##### EROSION MAT URBAN CLASS I, TYPE A
- XXXXXX SOD EROSION CONTROL
- XXXXXX SOD LAWN
- XXXXXX RIPRAP
- SILT FENCE (SF)
- SLOPE INTERCEPT
- ✕ INLET PROTECTION TYPE A OR D
- △△△ TEMPORARY DITCH CHECK (DC)
- CULVERT PIPE CHECK (CP)
- ~> SURFACE WATER FLOW



LEGEND	
#####	EROSION MAT URBAN CLASS I, TYPE A
	SOD EROSION CONTROL
	SOD LAWN
	RIPRAP
	SILT FENCE SF
	SLOPE INTERCEPT
	INLET PROTECTION TYPE A OR D
	TEMPORARY DITCH CHECK DC
	CULVERT PIPE CHECK CP
	SURFACE WATER FLOW



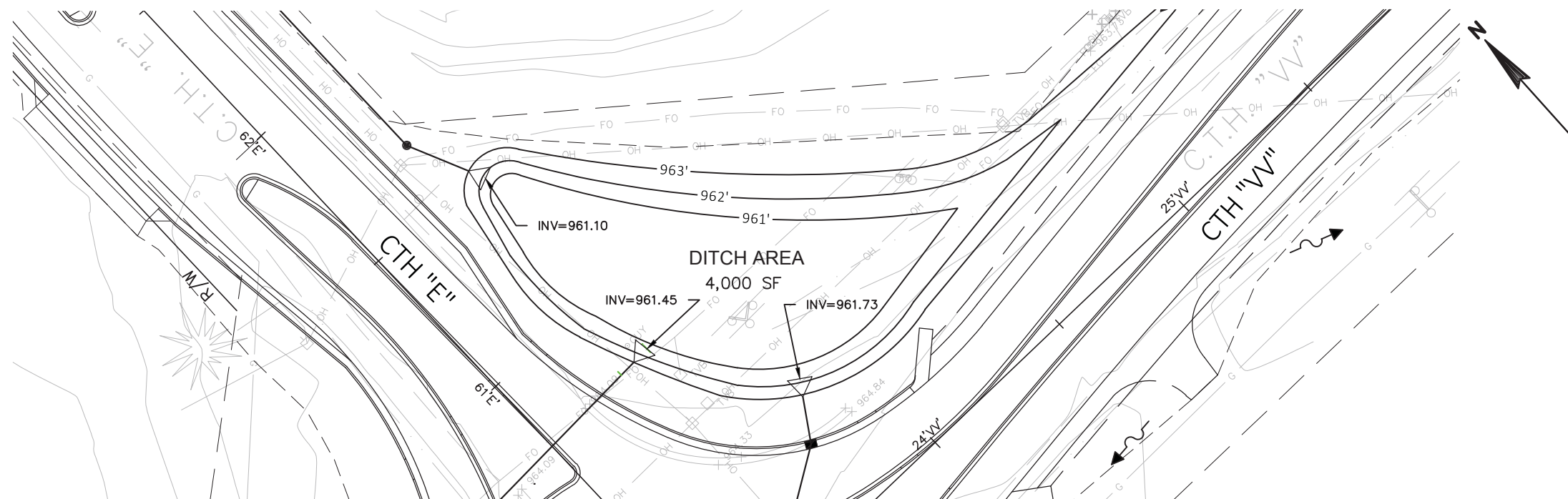
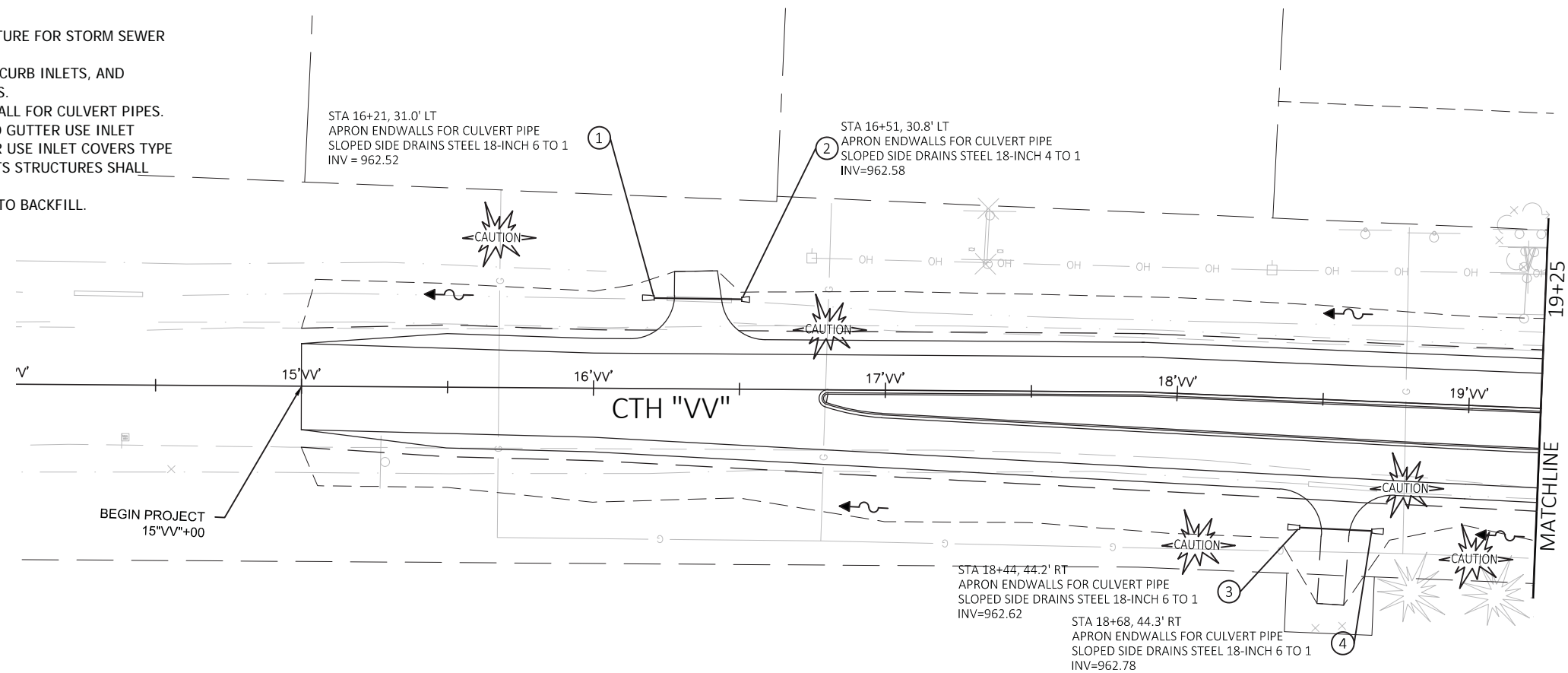


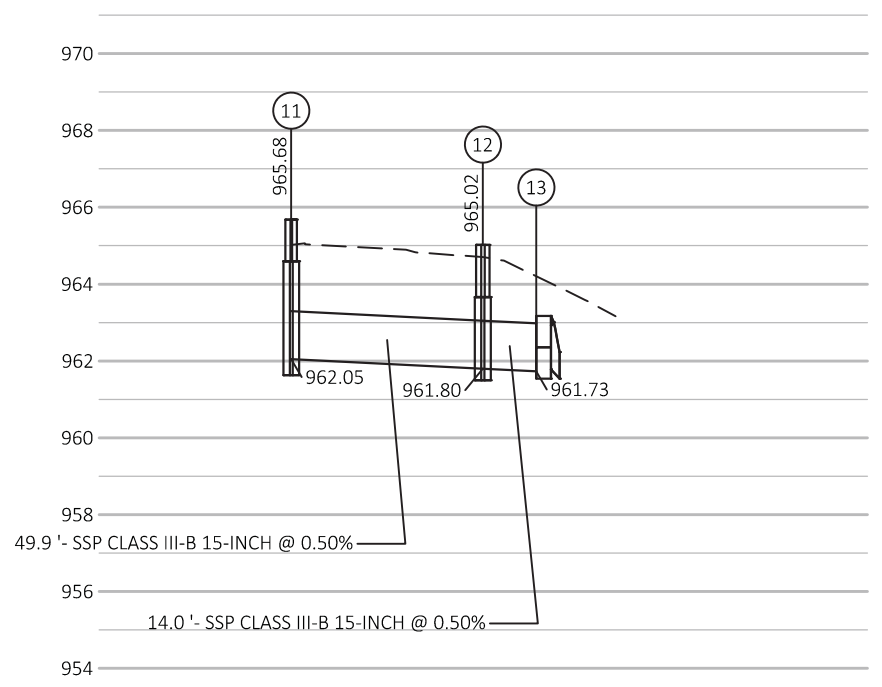
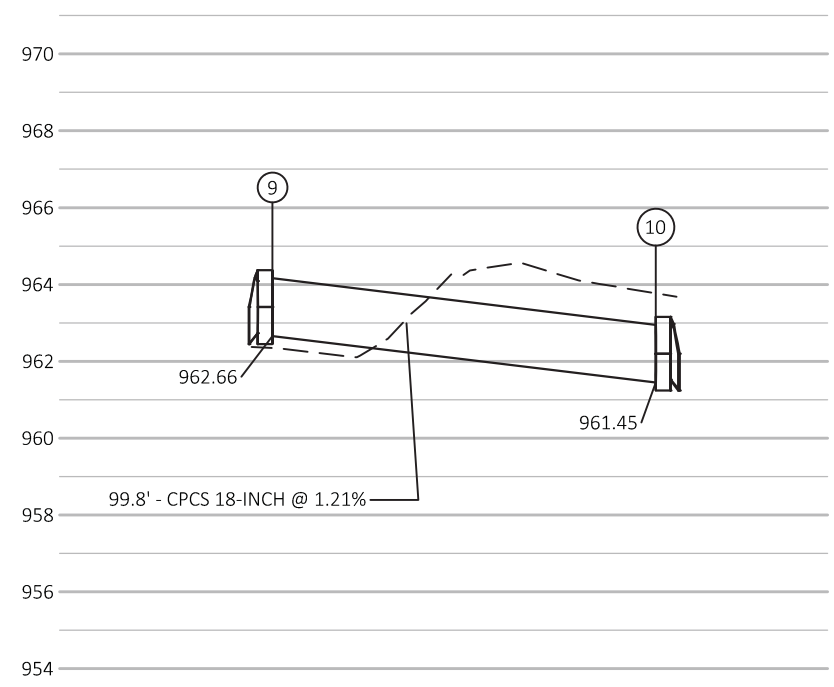
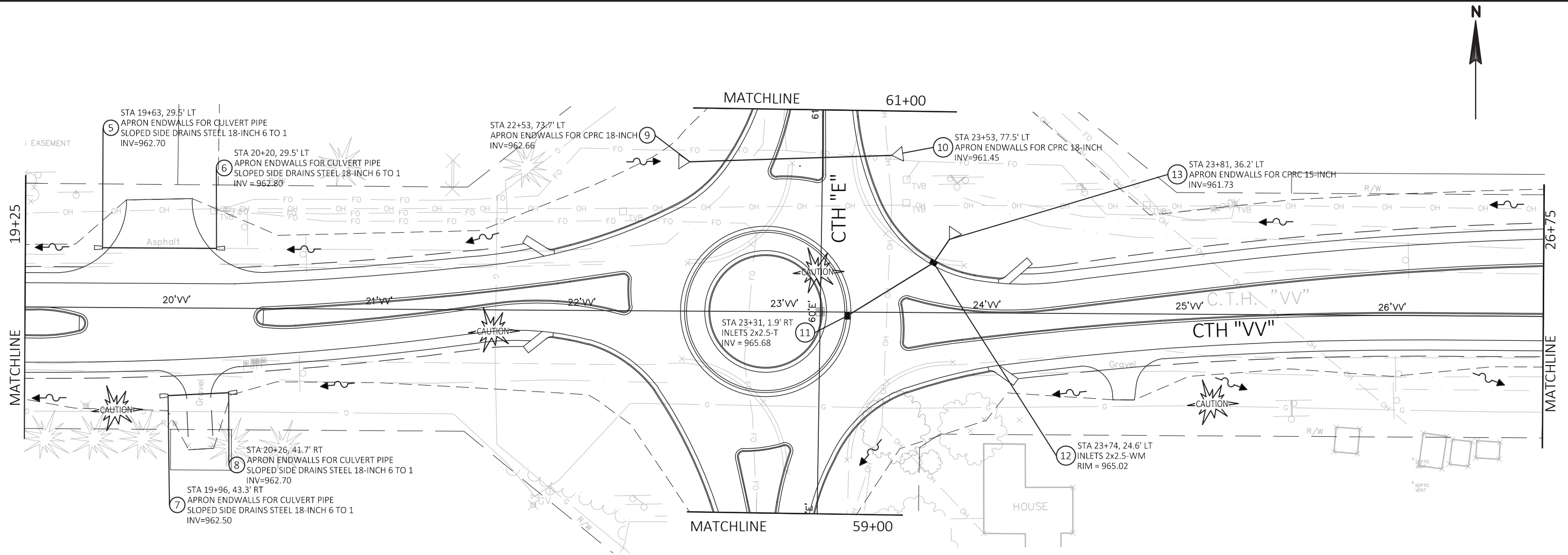
LEGEND

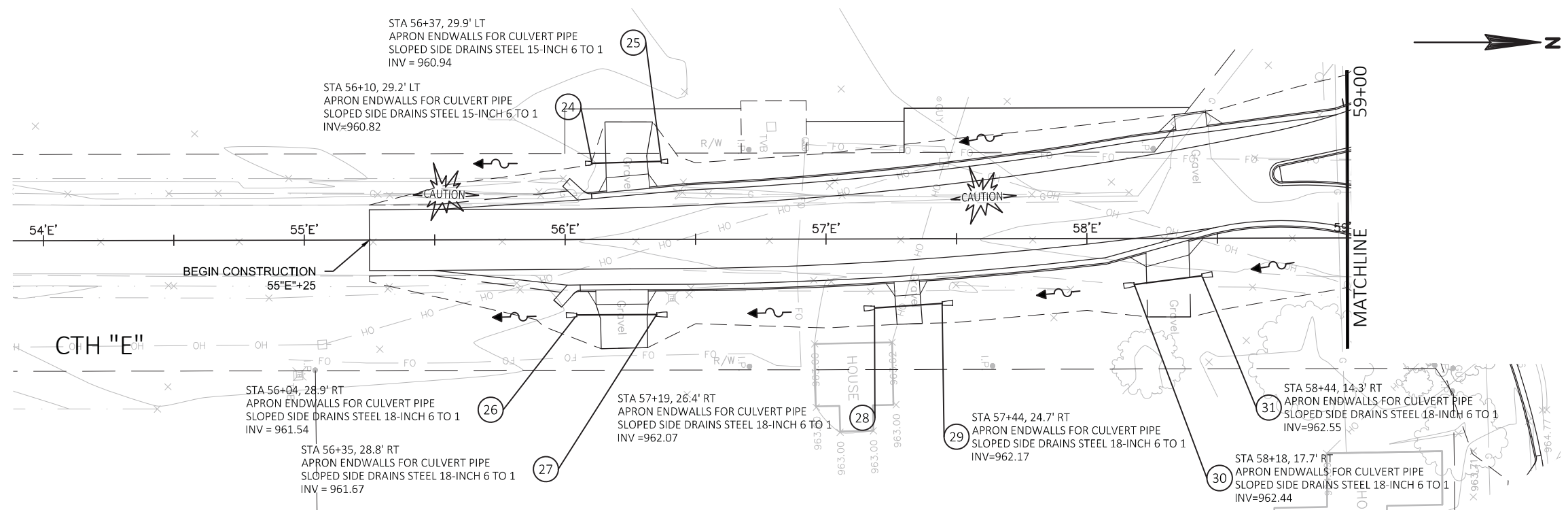
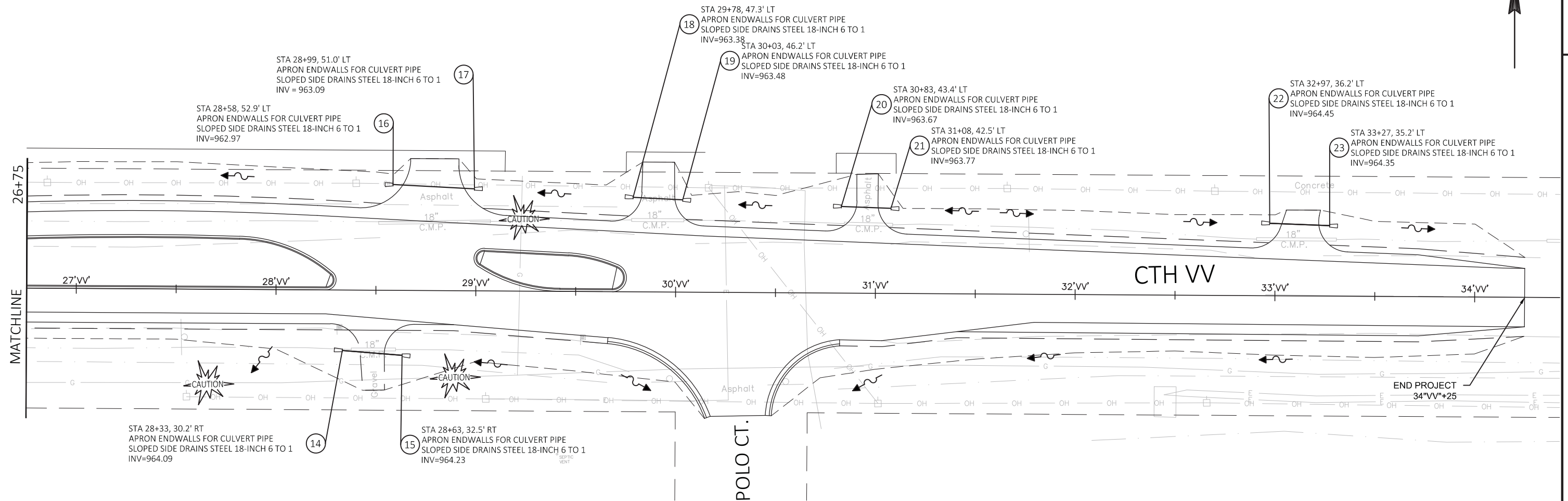
#####	EROSION MAT URBAN CLASS I, TYPE A
	SOD EROSION CONTROL
	SOD LAWN
	RIPRAP
	SILT FENCE
	SLOPE INTERCEPT
	INLET PROTECTION TYPE A OR D
	TEMPORARY DITCH CHECK
	CULVERT PIPE CHECK
	SURFACE WATER FLOW

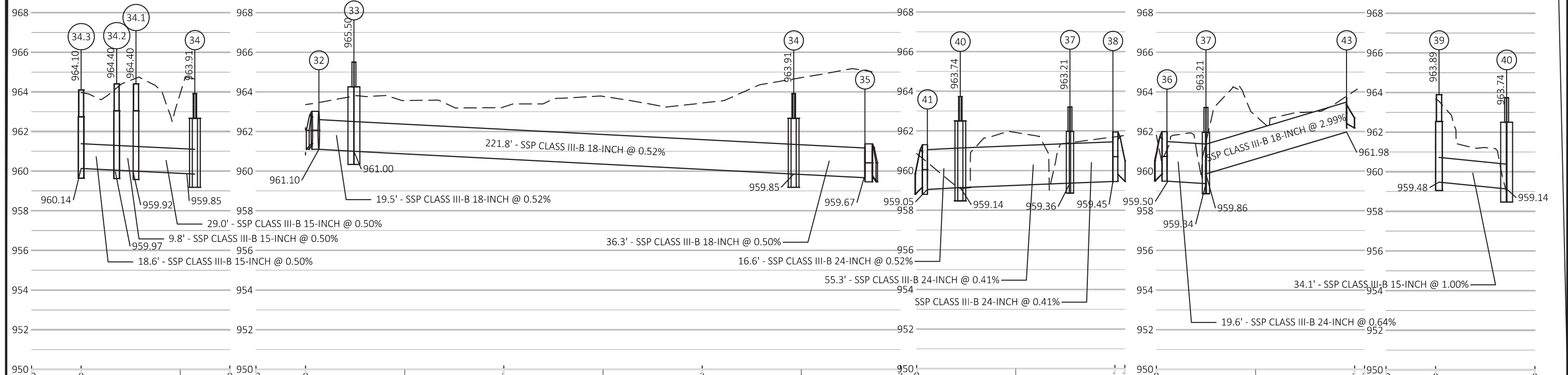
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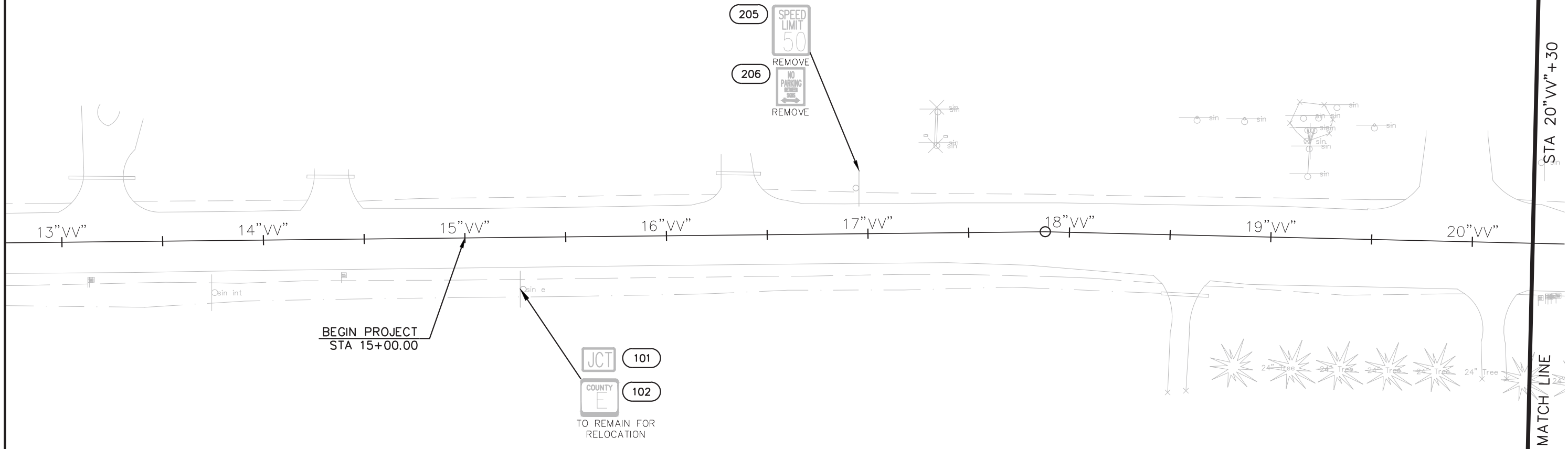
- 1) STATION AND OFFSETS ARE GIVEN TO THE CENTER OF STRUCTURE FOR STORM SEWER STRUCTURES AND END CULVERT PIPES.
- 2) RIM ELEVATIONS ARE GIVEN TO THE EDGE OF PAVEMENT FOR CURB INLETS, AND CENTER OF CASTING FOR ALL OTHER FRAME AND GRATE TYPES.
- 3) INVERT ELEVATIONS ARE GIVEN AT THE END OF APRON ENDWALL FOR CULVERT PIPES.
- 4) UNLESS OTHERWISE NOTED, CATCH BASINS ALONG CURB AND GUTTER USE INLET COVERS TYPE WM, CATCH BASINS OUTSIDE CURB AND GUTTER USE INLET COVERS TYPE B. MANHOLES USE MANHOLE COVERS TYPE J. ALL CURB INLETS STRUCTURES SHALL HAVE 18" SUMPS UNLESS OTHERWISE NOTED.
- 5) FIELD ENGINEER TO VERIFY ALL CULVERT ELEVATIONS PRIOR TO BACKFILL.





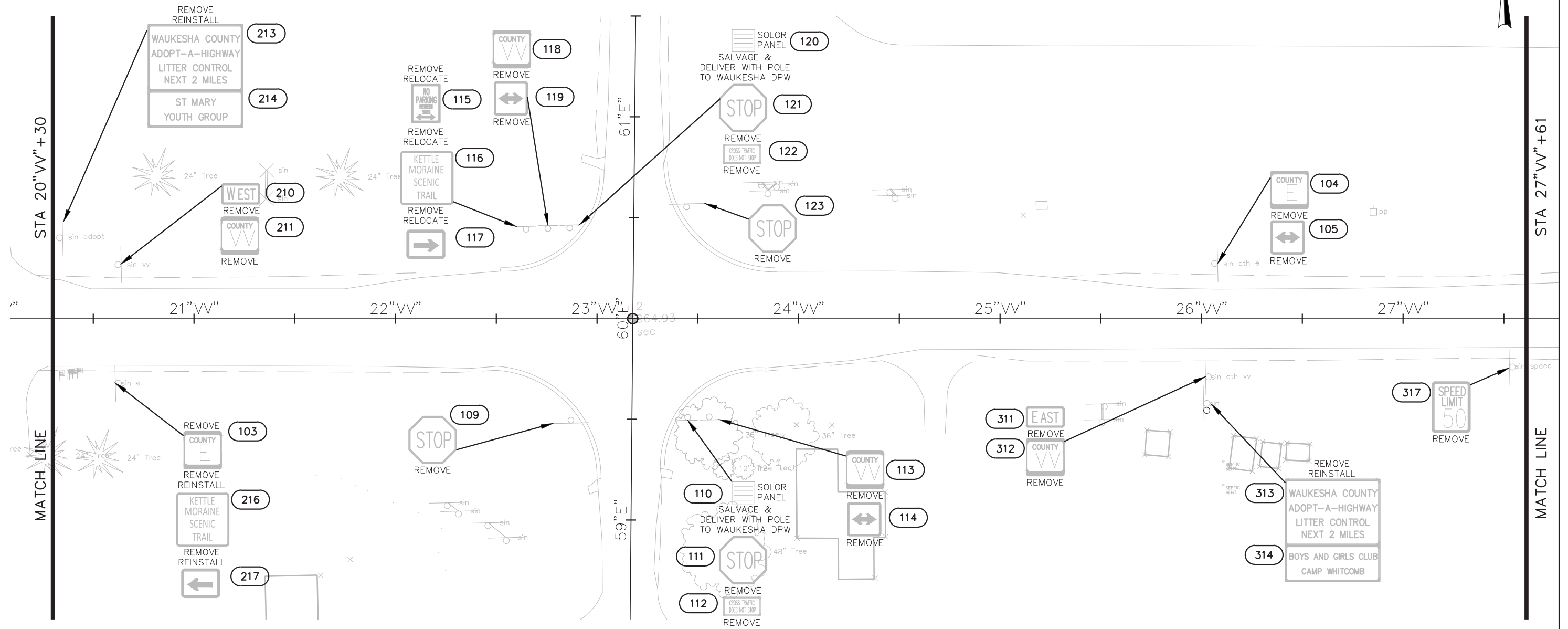




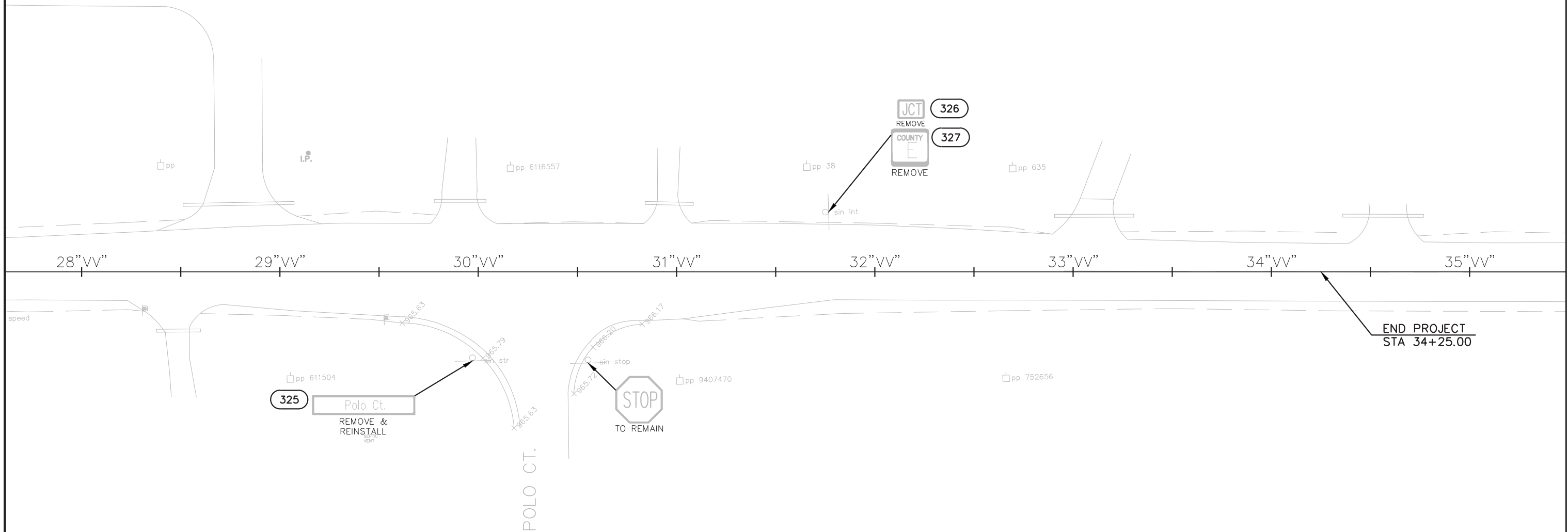


NOTE: ALL SIGNS AND POSTS NOT BEING REINSTALLED SHALL BE RETURNED TO THE WAUKESHA COUNTY DEPT OF PUBLIC WORKS.

PROJECT NO:2774-01-70	HWY:CTH VV	COUNTY:WAUKESHA	SIGN REMOVAL	SHEET	E
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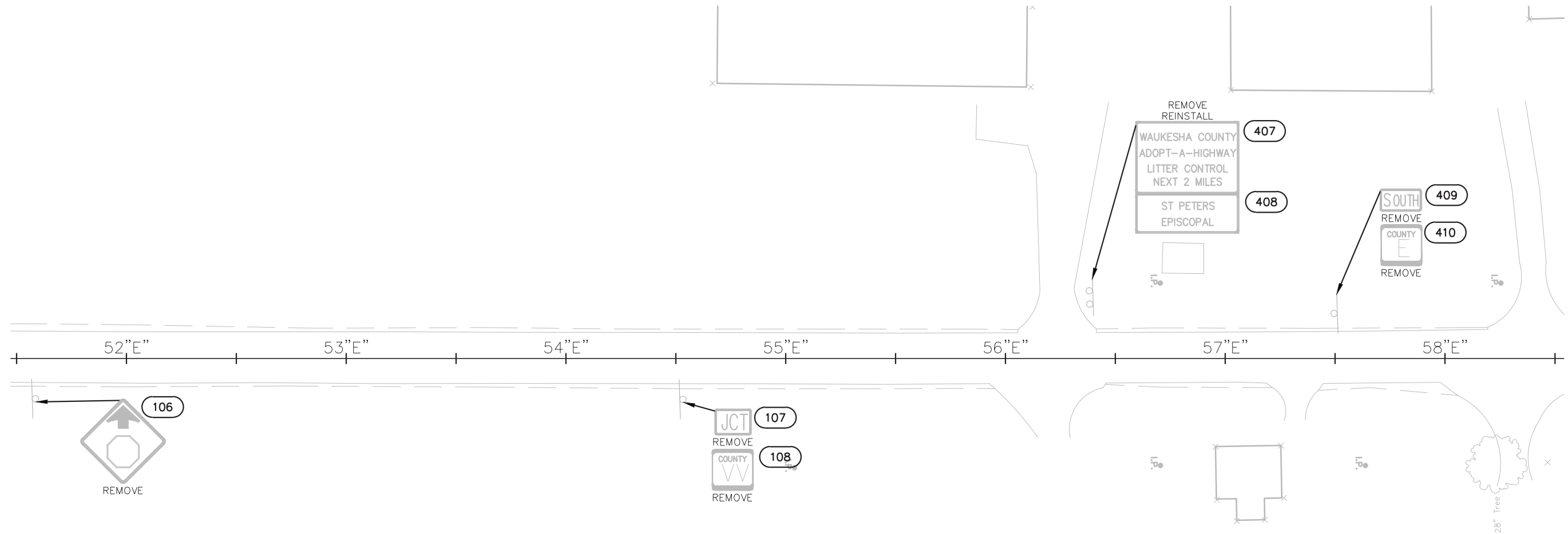


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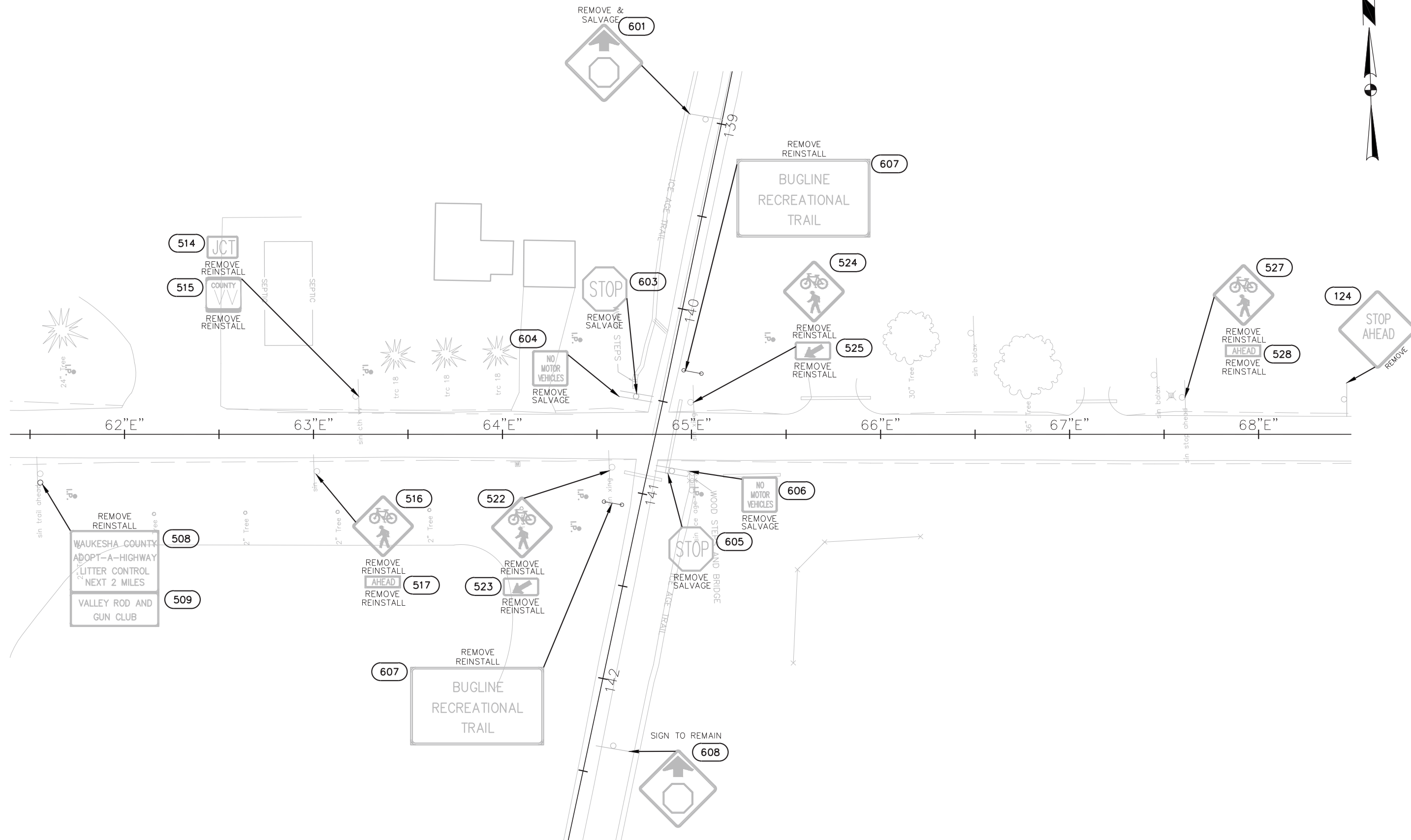
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PROJECT NO:2774-01-70	HWY:CTH VV	COUNTY:WAUKESHA	SIGN REMOVAL	SHEET	E
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PROJECT NO:2774-01-70	HWY:CTH VV	COUNTY:WAUKESHA	SIGN REMOVAL	SHEET	E
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NOTE: ALL SIGNS AND POSTS NOT BEING REINSTALLED SHALL BE RETURNED TO THE WAUKESHA COUNTY DEPT OF PUBLIC WORKS.

LEGEND

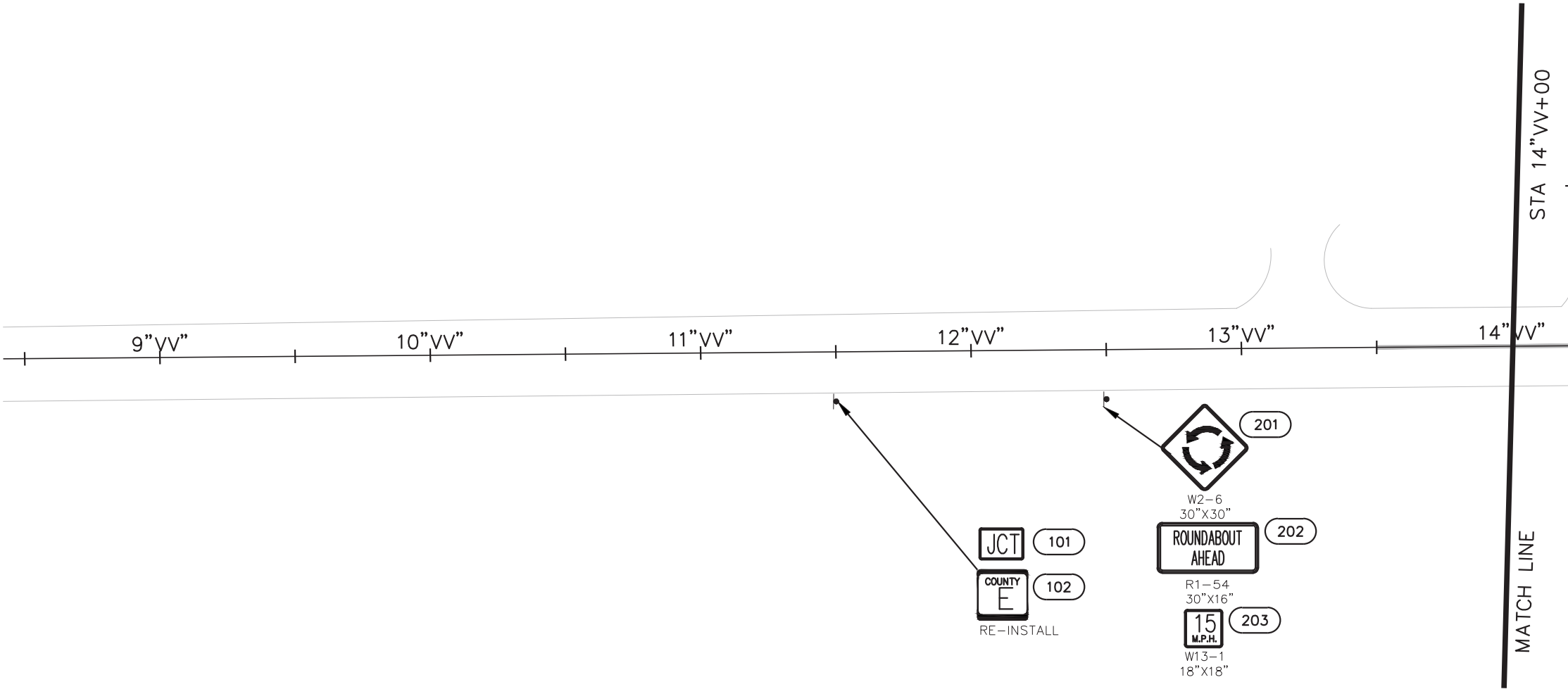
- TYPE II SIGN(S) MOUNTED ON 1.75"x1.75" TUBULAR STEEL POST(S)
WITH POST ANCHOR BASE
- TYPE II GUIDE SIGN MOUNTED ON 1.75"x1.75" STEEL POSTS (3 POSTS)
- 204 SIGN NUMBER
- 18"x18" ORANGE FLAGS

NOTES

THE ERECTION AND PLACEMENT OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS SHALL BE DIAMOND GRADE SHEETING.

FINAL LOCATION OF SIGNS SHALL BE DETERMINED BY THE FIELD ENGINEER AND ADJUSTED TO AVOID UTILITY CONFLICTS.



LEGEND

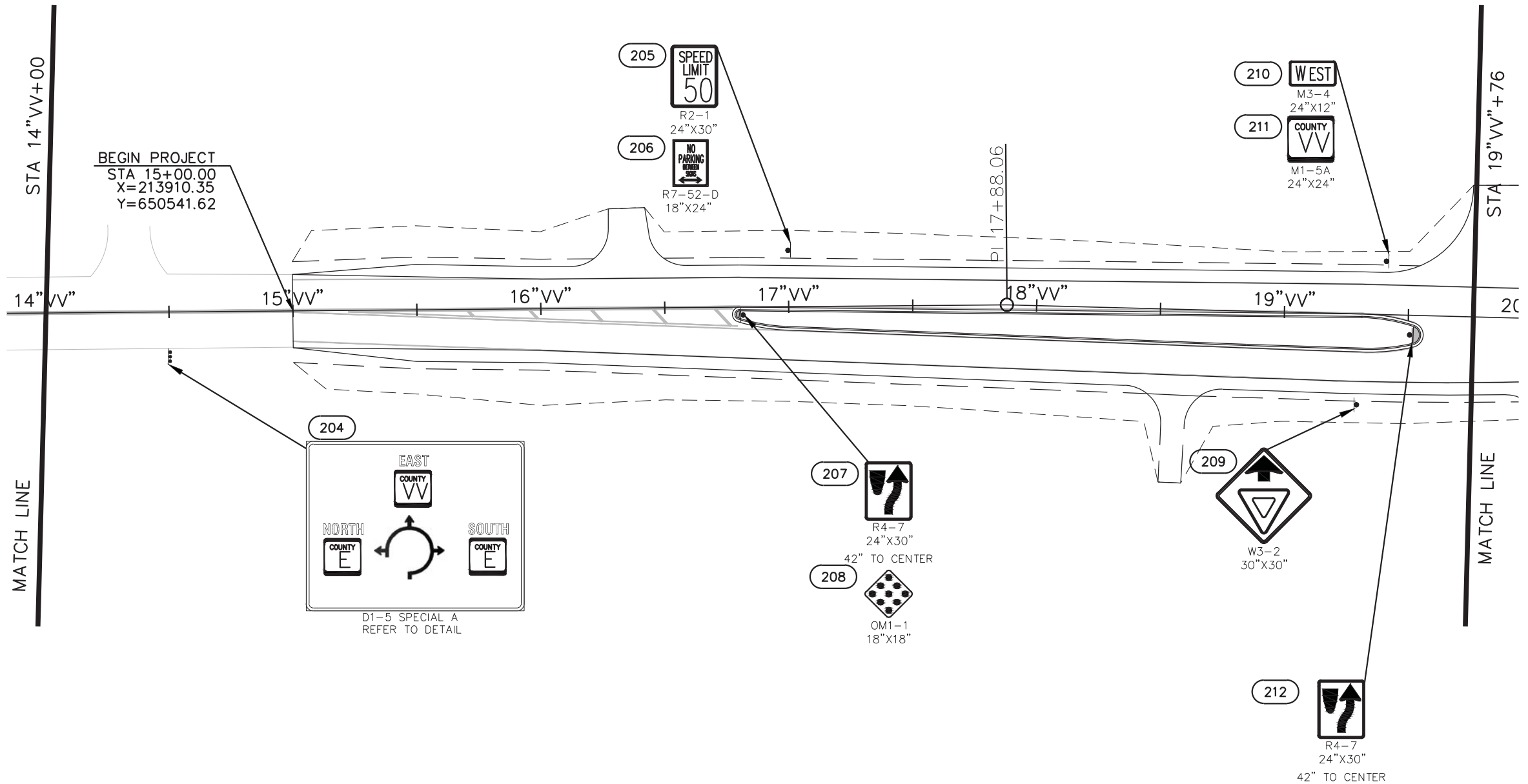
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- (204) SIGN NUMBER
- ◇ 18"x18" ORANGE FLAGS

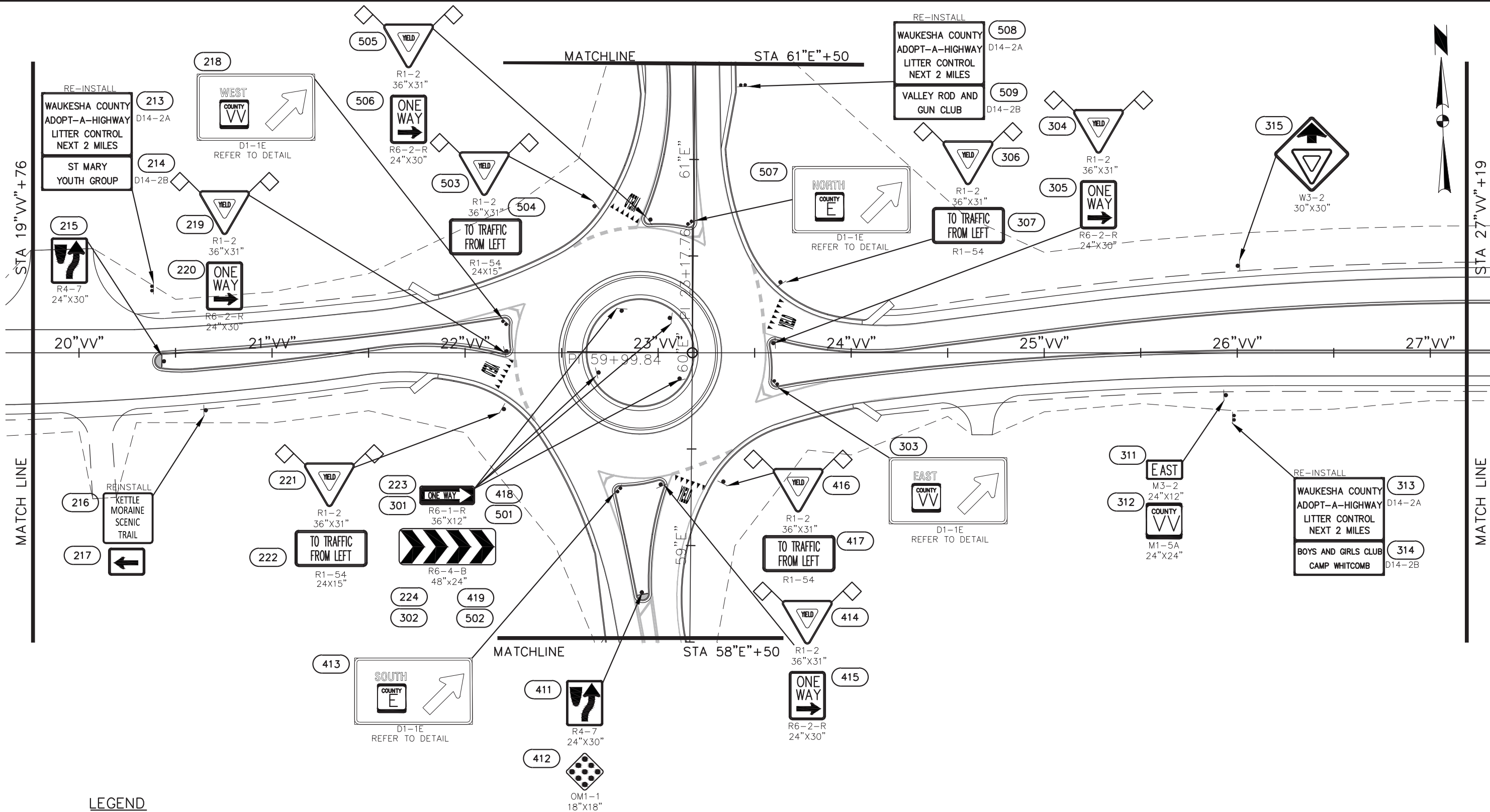
NOTES

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**LEGEND**

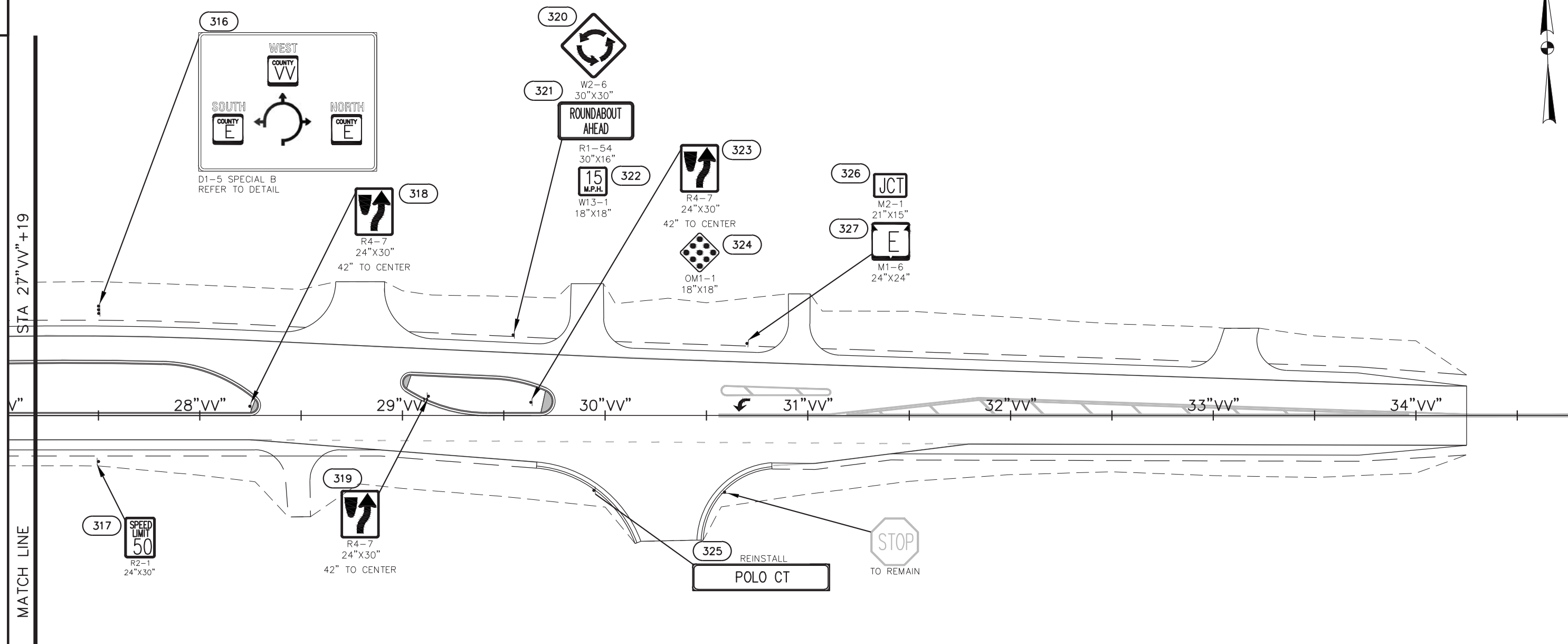
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- ▬ WITH POST ANCHOR BASE
- ▬ TYPE II GUIDE SIGN MOUNTED ON 1.75"x1.75" STEEL POSTS (3 POSTS)
- (204) SIGN NUMBER
- ◇ 18"x18" ORANGE FLAGS

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**LEGEND**

- TYPE II SIGN(S) MOUNTED ON 1.75"x1.75" TUBULAR STEEL POST(S) WITH POST ANCHOR BASE
- TYPE II GUIDE SIGN MOUNTED ON 1.75"x1.75" STEEL POSTS (3 POSTS)

204 SIGN NUMBER

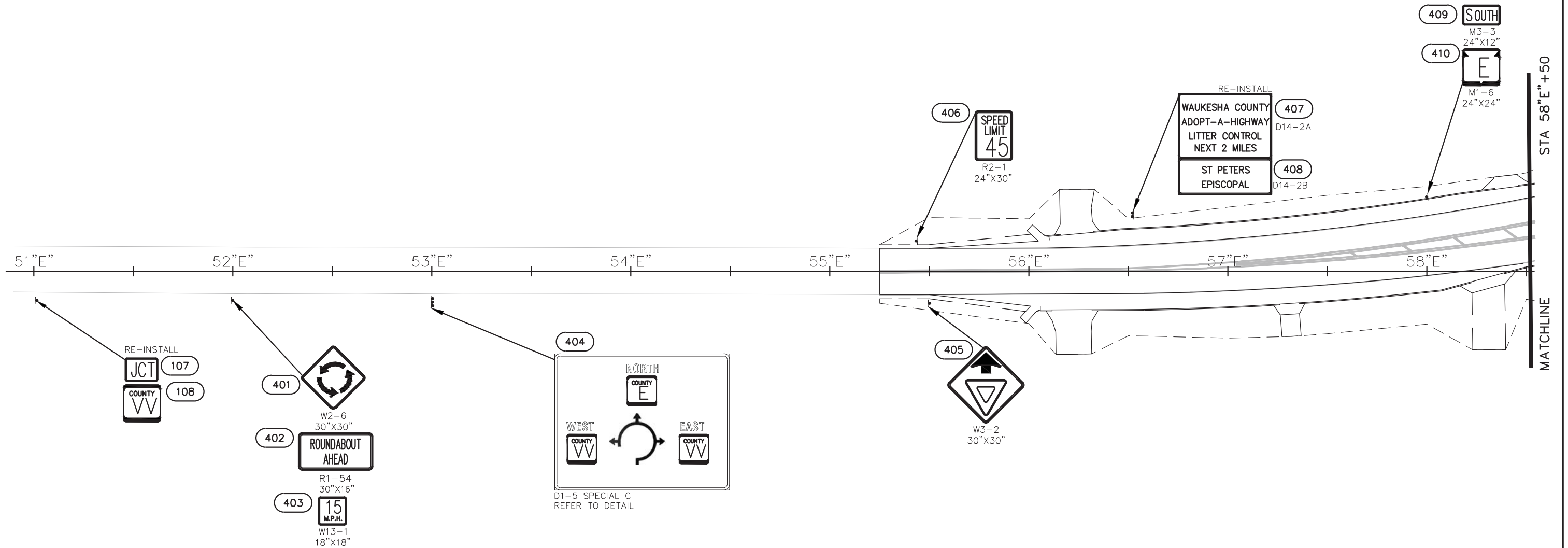
18"x18" ORANGE FLAGS

NOTES

THE ERECTION AND PLACEMENT OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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LEGEND

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204 SIGN NUMBER

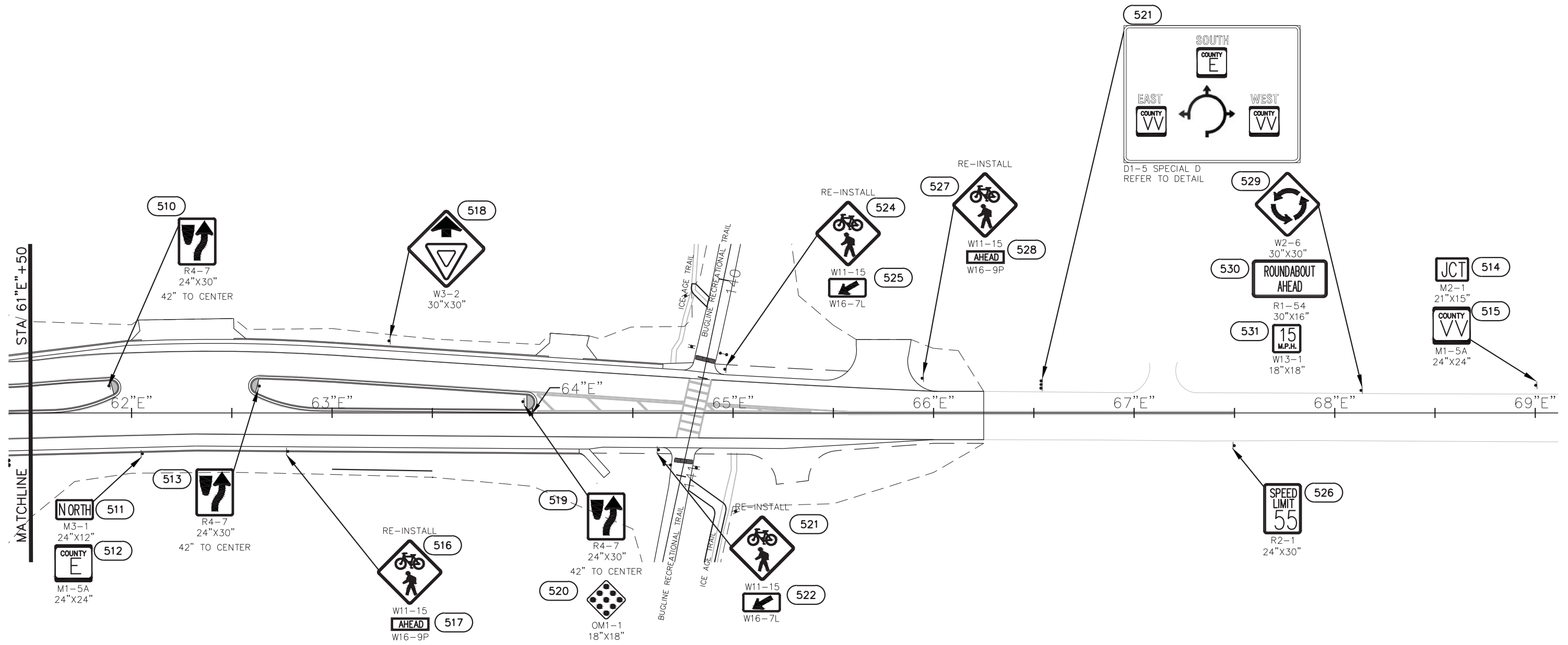
◇ 18"x18" ORANGE FLAGS

NOTES

THE ERECTION AND PLACEMENT OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS SHALL BE DIAMOND GRADE SHEETING.

FINAL LOCATION OF SIGNS SHALL BE DETERMINED BY THE FIELD ENGINEER AND ADJUSTED TO AVOID UTILITY CONFLICTS.

**LEGEND**

- TYPE II SIGN(S) MOUNTED ON 1.75"x1.75" TUBULAR STEEL POST(S) WITH POST ANCHOR BASE
- TYPE II GUIDE SIGN MOUNTED ON 1.75"x1.75" STEEL POSTS (3 POSTS)

204 SIGN NUMBER

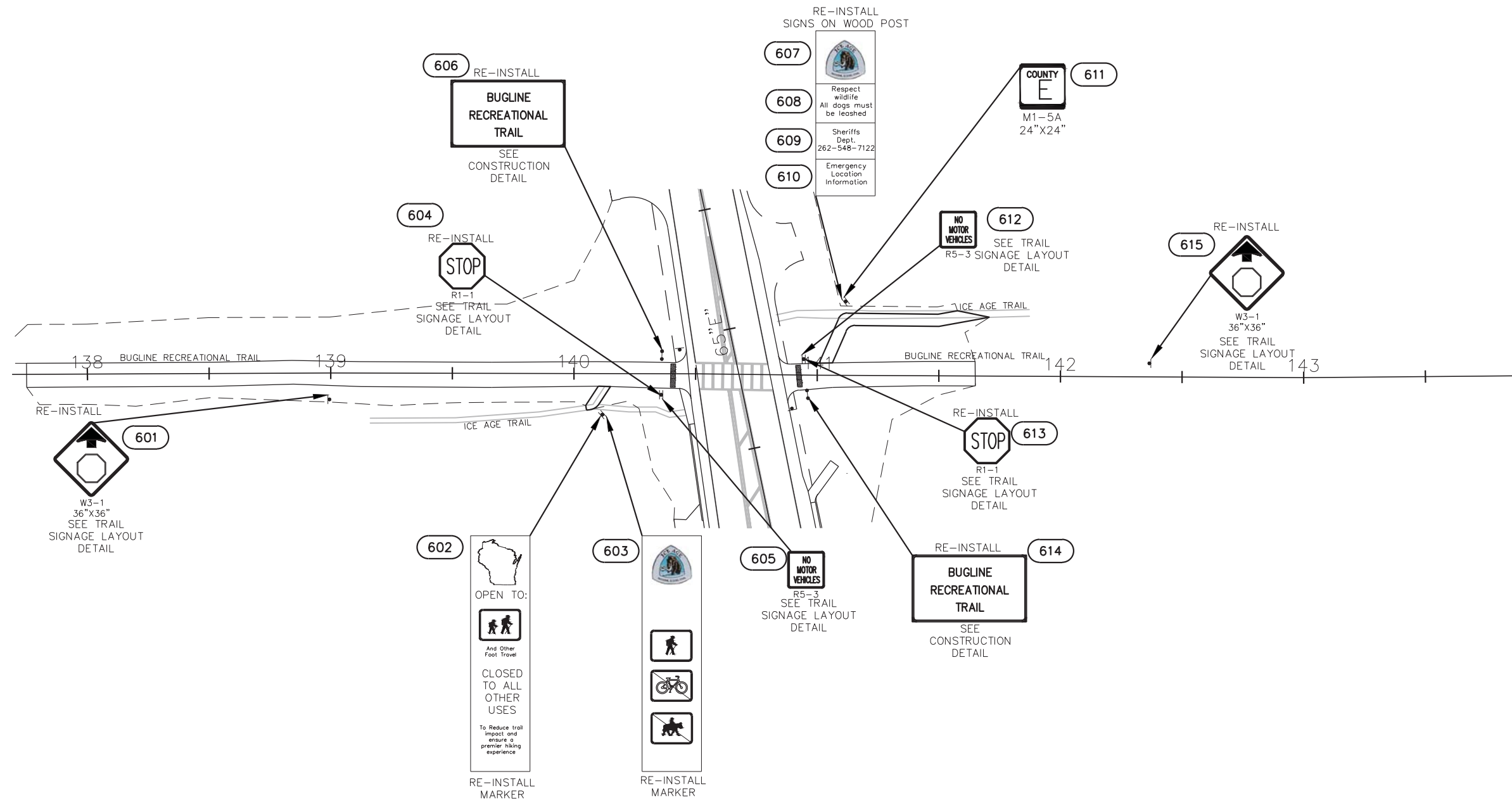
18"x18" ORANGE FLAGS

NOTES

THE ERECTION AND PLACEMENT OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS SHALL BE DIAMOND GRADE SHEETING.

FINAL LOCATION OF SIGNS SHALL BE DETERMINED BY THE FIELD ENGINEER AND ADJUSTED TO AVOID UTILITY CONFLICTS.

**LEGEND**

- ▬ TYPE II SIGN(S) MOUNTED ON 1.75"x1.75" TUBULAR STEEL POST(S)
WITH POST ANCHOR BASE
- ▬ TYPE II GUIDE SIGN MOUNTED ON 1.75"x1.75" STEEL POSTS (3 POSTS)

204 SIGN NUMBER

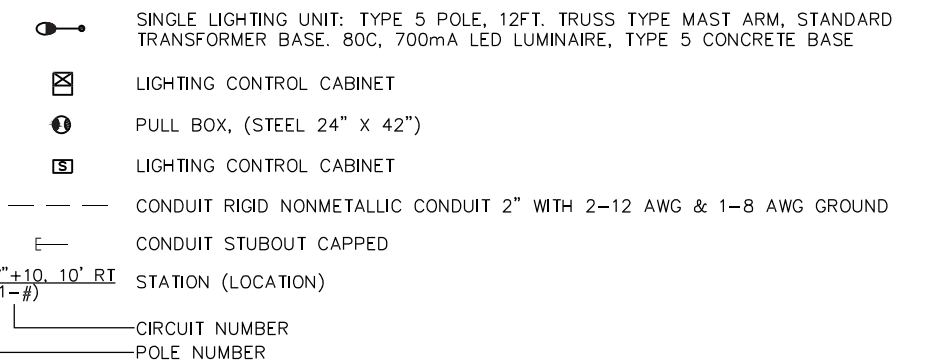
◇ 18"x18" ORANGE FLAGS

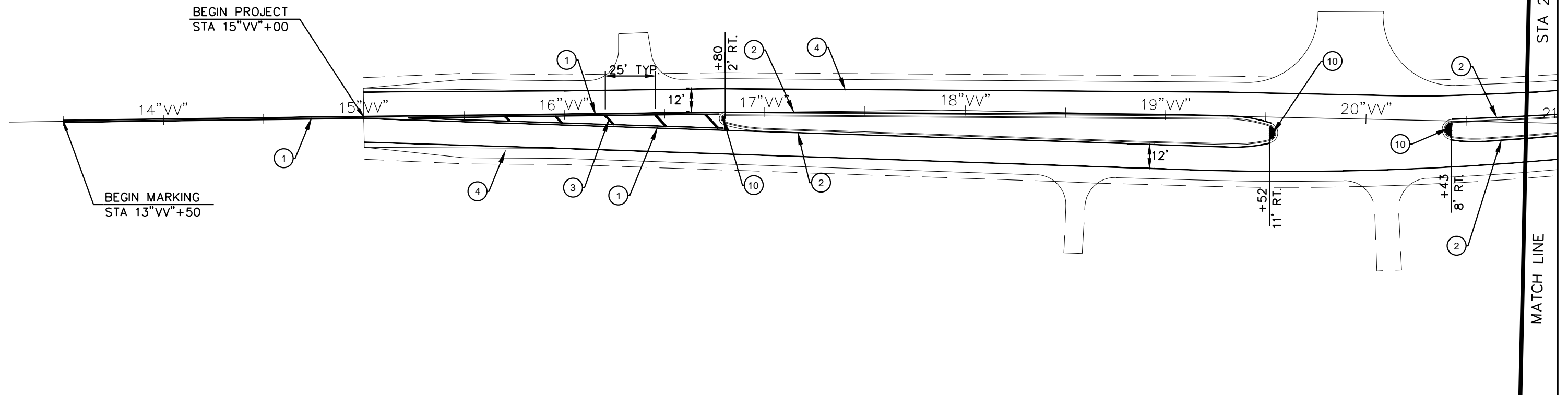
NOTES

THE ERECTION AND PLACEMENT OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS SHALL BE TYPE H REFLECTIVE GRADE SHEETING.

FINAL LOCATION OF SIGNS SHALL BE DETERMINED BY THE FIELD ENGINEER AND ADJUSTED TO AVOID UTILITY CONFLICTS.

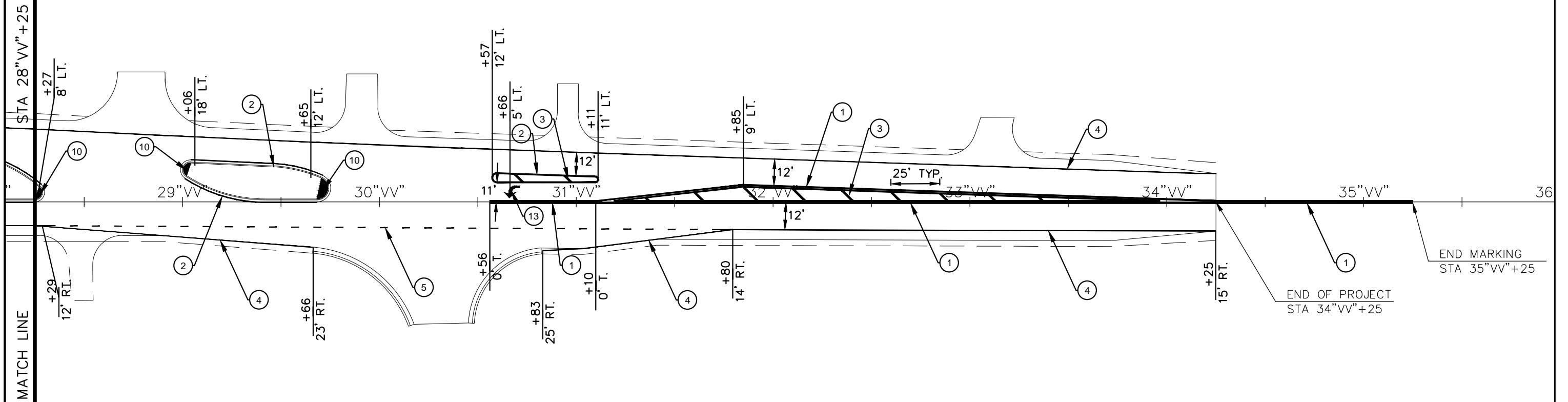


**LEGEND**

- | | |
|--|---|
| ① PAVEMENT MARKING, EPOXY, 4-INCH YELLOW, (SOLID), DOUBLE YELLOW | ⑧ PAVEMENT MARKING, EPOXY, 18-INCH, WHITE, (2' SEG, 2' GAP). SKIP |
| ② PAVEMENT MARKING, EPOXY, 4-INCH YELLOW, (SOLID) | ⑩ PAVEMENT MARKING, EPOXY, YELLOW, ISLAND NOSE |
| ③ PAVEMENT MARKING, EPOXY, 12-INCH, YELLOW, (SOLID), DIAGONAL | ⑫ PAVEMENT MARKING, EPOXY, WORDS |
| ④ PAVEMENT MARKING, EPOXY, 4-INCH, WHITE, (SOLID) | ⑬ PAVEMENT MARKING, WHITE, TYPE 2 ARROW |
| ⑤ PAVEMENT MARKING, EPOXY, 4-INCH, WHITE, (3' SEG, 9' GAP), SKIP | |
| ⑥ PAVEMENT MARKING, EPOXY, 8-INCH, WHITE, (SOLID) | |
| ⑦ PAVEMENT MARKING, EPOXY, 12-INCH, WHITE, (SOLID), DIAGONAL | |

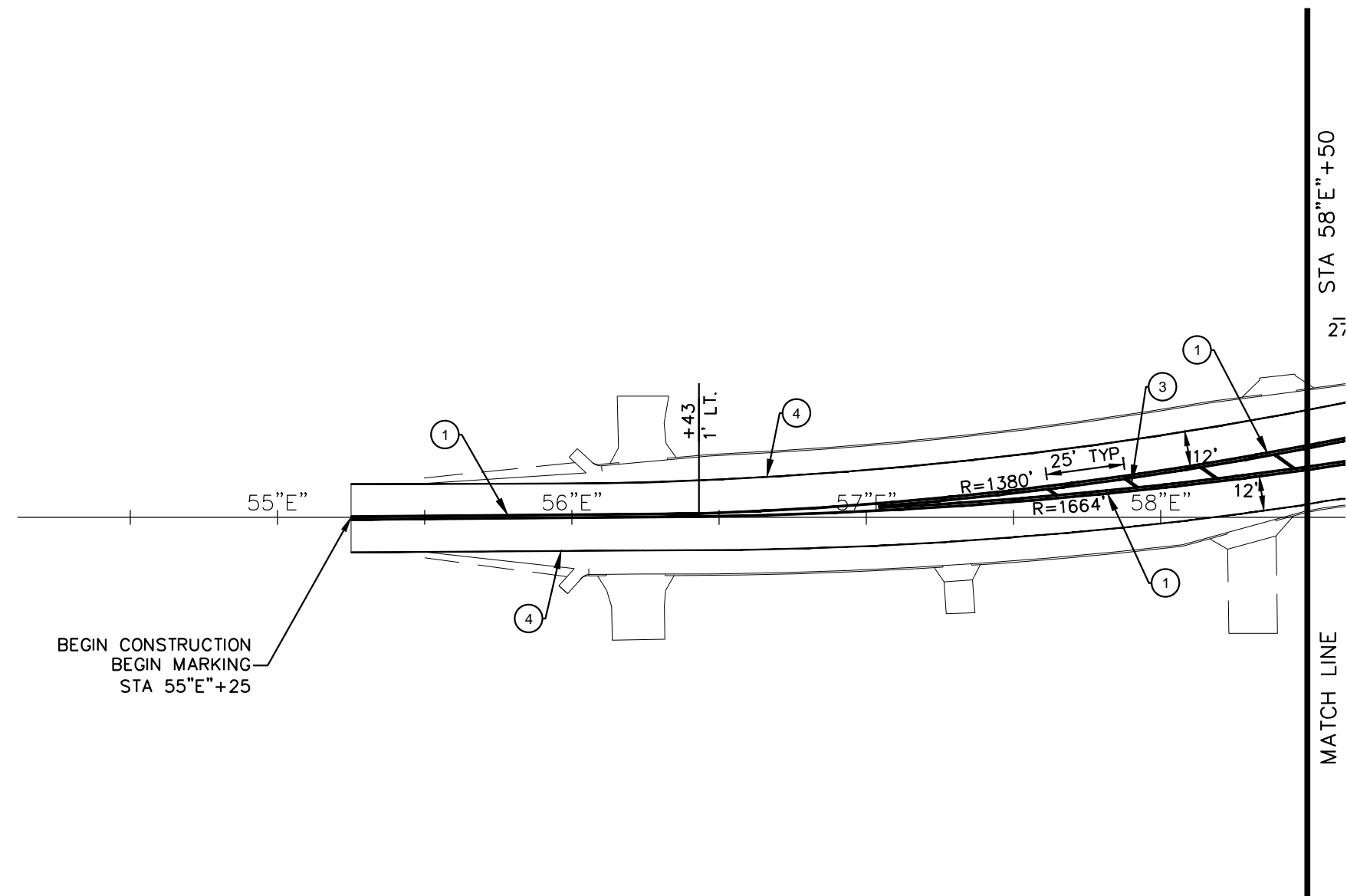


① PAVEMENT MARKING, EPOXY, 4-INCH YELLOW, (SOLID), DOUBLE YELLOW	⑧ PAVEMENT MARKING, EPOXY, 18-INCH, WHITE, (2' SEG, 2' GAP). SKIP
② PAVEMENT MARKING, EPOXY, 4-INCH YELLOW, (SOLID)	⑩ PAVEMENT MARKING, EPOXY, YELLOW, ISLAND NOSE
③ PAVEMENT MARKING, EPOXY, 12-INCH, YELLOW, (SOLID), DIAGONAL	⑫ PAVEMENT MARKING, EPOXY, WORDS
④ PAVEMENT MARKING, EPOXY, 4-INCH, WHITE, (SOLID)	⑬ PAVEMENT MARKING, WHITE, TYPE 2 ARROW
⑤ PAVEMENT MARKING, EPOXY, 4-INCH, WHITE, (3' SEG, 9' GAP), SKIP	
⑥ PAVEMENT MARKING, EPOXY, 8-INCH, WHITE, (SOLID)	
⑦ PAVEMENT MARKING, EPOXY, 12-INCH, WHITE, (SOLID), DIAGONAL	



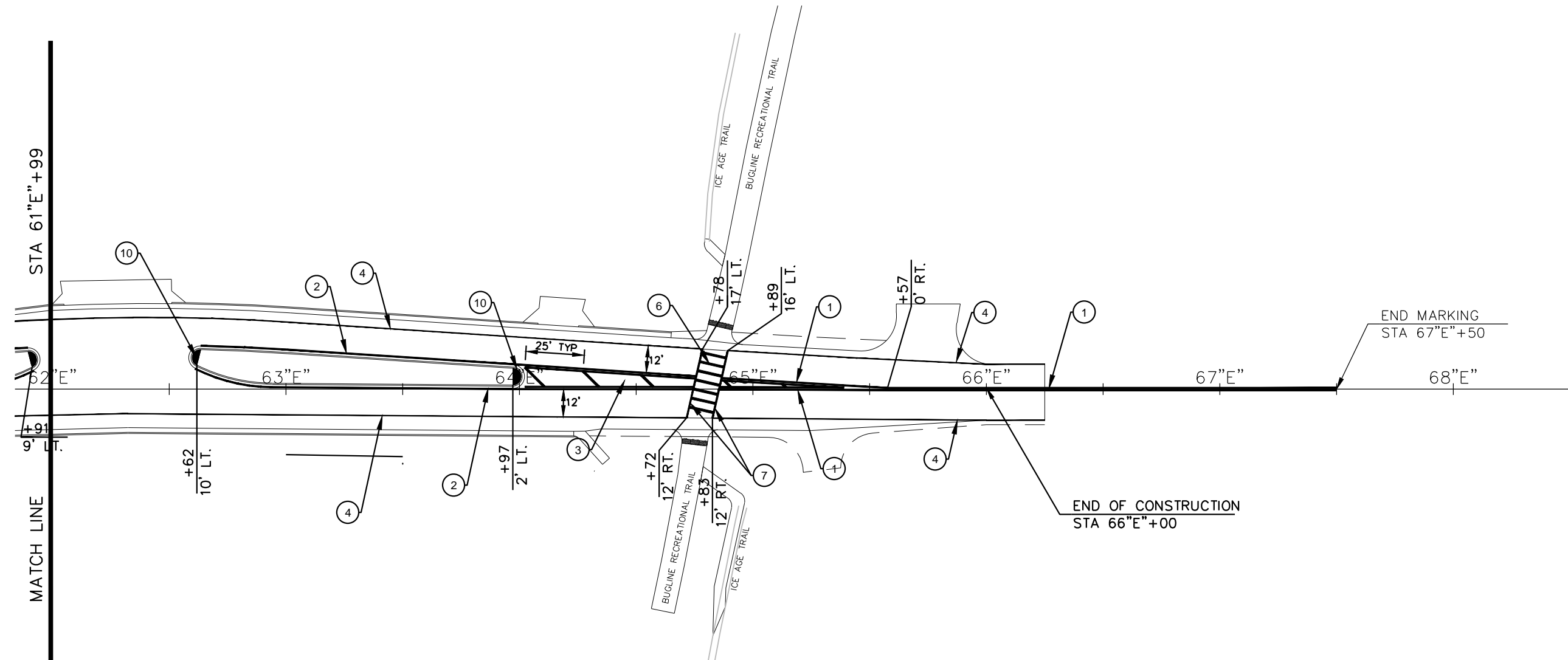
LEGEND

- | | |
|--|---|
| ① PAVEMENT MARKING, EPOXY, 4-INCH YELLOW, (SOLID), DOUBLE YELLOW | ⑧ PAVEMENT MARKING, EPOXY, 18-INCH, WHITE, (2' SEG, 2' GAP). SKIP |
| ② PAVEMENT MARKING, EPOXY, 4-INCH YELLOW, (SOLID) | ⑩ PAVEMENT MARKING, EPOXY, YELLOW, ISLAND NOSE |
| ③ PAVEMENT MARKING, EPOXY, 12-INCH, YELLOW, (SOLID), DIAGONAL | ⑫ PAVEMENT MARKING, EPOXY, WORDS |
| ④ PAVEMENT MARKING, EPOXY, 4-INCH, WHITE, (SOLID) | ⑬ PAVEMENT MARKING, WHITE, TYPE 2 ARROW |
| ⑤ PAVEMENT MARKING, EPOXY, 4-INCH, WHITE, (3' SEG, 9' GAP), SKIP | |
| ⑥ PAVEMENT MARKING, EPOXY, 8-INCH, WHITE, (SOLID) | |
| ⑦ PAVEMENT MARKING, EPOXY, 12-INCH, WHITE, (SOLID), DIAGONAL | |



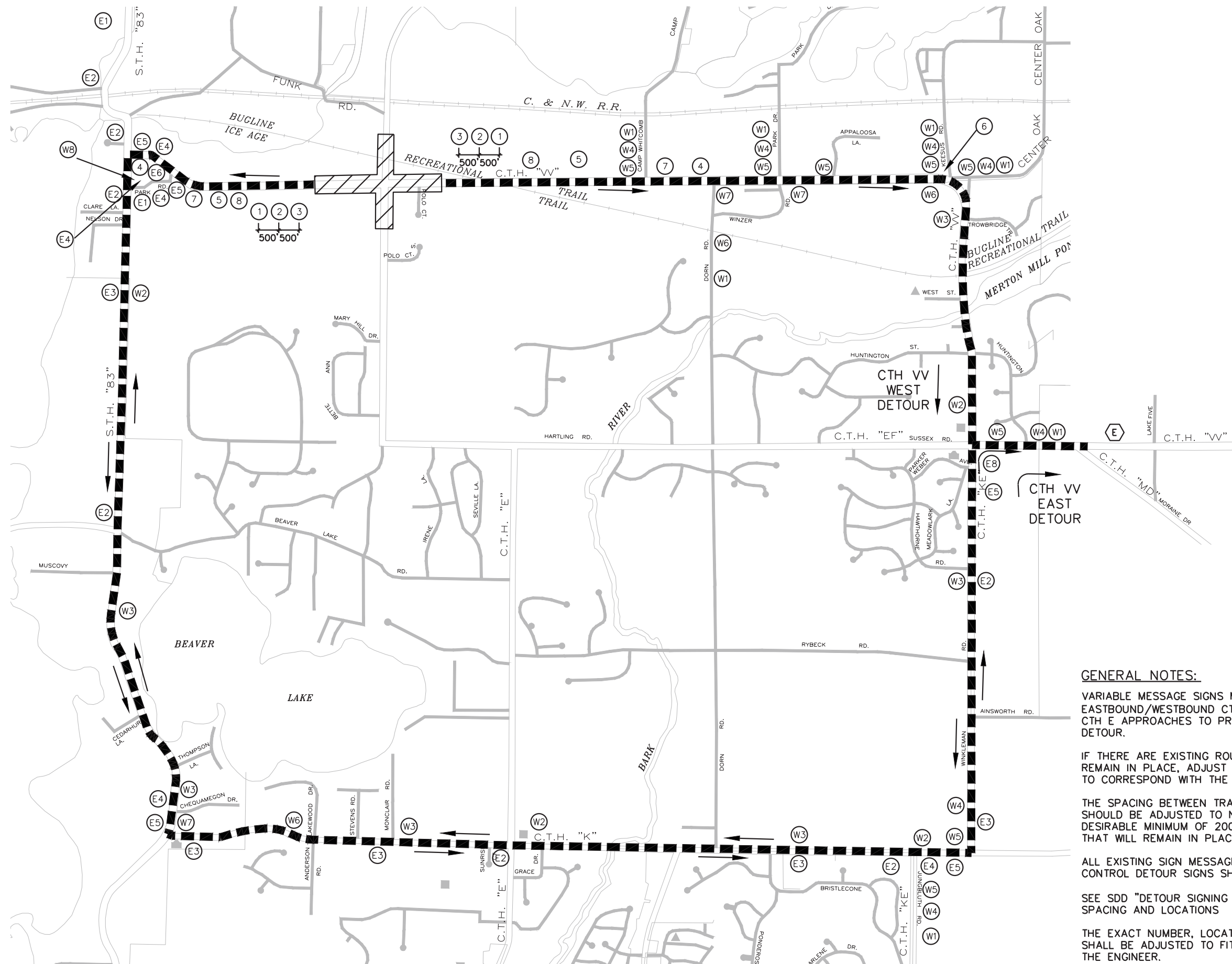
LEGEND

- | | |
|--|---|
| ① PAVEMENT MARKING, EPOXY, 4-INCH YELLOW, (SOLID), DOUBLE YELLOW | ⑧ PAVEMENT MARKING, EPOXY, 18-INCH, WHITE, (2' SEG, 2' GAP). SKIP |
| ② PAVEMENT MARKING, EPOXY, 4-INCH YELLOW, (SOLID) | ⑩ PAVEMENT MARKING, EPOXY, YELLOW, ISLAND NOSE |
| ③ PAVEMENT MARKING, EPOXY, 12-INCH, YELLOW, (SOLID), DIAGONAL | ⑫ PAVEMENT MARKING, EPOXY, WORDS |
| ④ PAVEMENT MARKING, EPOXY, 4-INCH, WHITE, (SOLID) | ⑬ PAVEMENT MARKING, WHITE, TYPE 2 ARROW |
| ⑤ PAVEMENT MARKING, EPOXY, 4-INCH, WHITE, (3' SEG, 9' GAP), SKIP | |
| ⑥ PAVEMENT MARKING, EPOXY, 8-INCH, WHITE, (SOLID) | |
| ⑦ PAVEMENT MARKING, EPOXY, 12-INCH, WHITE, (SOLID), DIAGONAL | |



LEGEND

- | | |
|--|---|
| ① PAVEMENT MARKING, EPOXY, 4-INCH YELLOW, (SOLID), DOUBLE YELLOW | ⑧ PAVEMENT MARKING, EPOXY, 18-INCH, WHITE, (2' SEG, 2' GAP). SKIP |
| ② PAVEMENT MARKING, EPOXY, 4-INCH YELLOW, (SOLID) | ⑩ PAVEMENT MARKING, EPOXY, YELLOW, ISLAND NOSE |
| ③ PAVEMENT MARKING, EPOXY, 12-INCH, YELLOW, (SOLID), DIAGONAL | ⑫ PAVEMENT MARKING, EPOXY, WORDS |
| ④ PAVEMENT MARKING, EPOXY, 4-INCH, WHITE, (SOLID) | ⑬ PAVEMENT MARKING, WHITE, TYPE 2 ARROW |
| ⑤ PAVEMENT MARKING, EPOXY, 4-INCH, WHITE, (3' SEG, 9' GAP), SKIP | |
| ⑥ PAVEMENT MARKING, EPOXY, 8-INCH, WHITE, (SOLID) | |
| ⑦ PAVEMENT MARKING, EPOXY, 12-INCH, WHITE, (SOLID), DIAGONAL | |



GENERAL NOTES:

VARIABLE MESSAGE SIGNS MUST BE PLACES ALONG EASTBOUND/WESTBOUND CTH VV AND NORTHBOUND/SOUTHBOUND CTH E APPROACHES TO PROJECT AREA 10 DAYS PRIOR TO DETOUR.

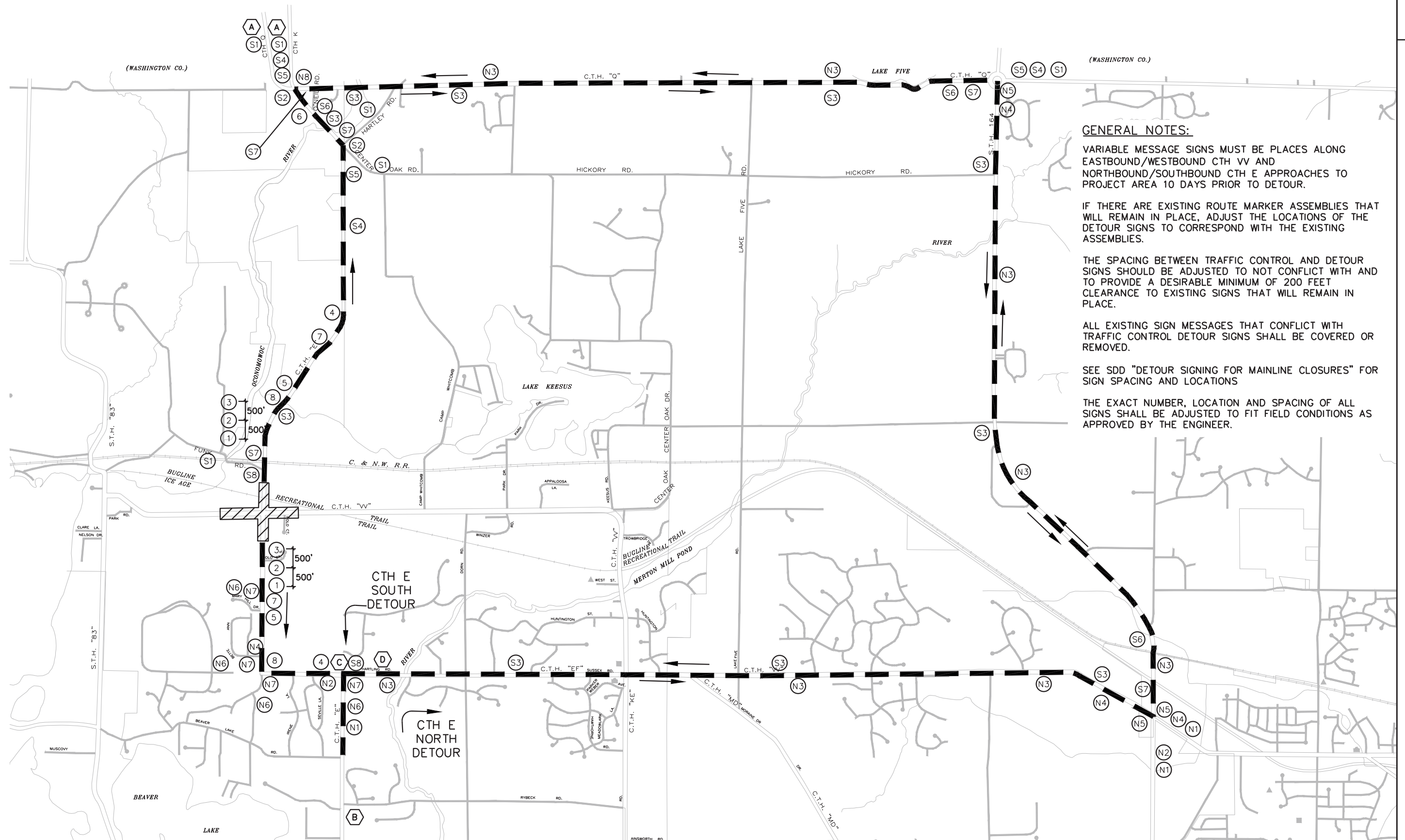
IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATIONS OF THE DETOUR SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES.

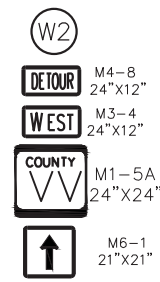
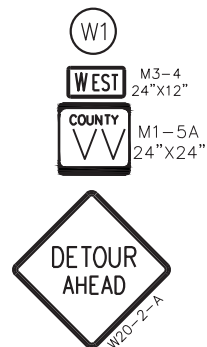
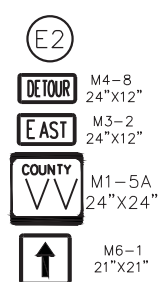
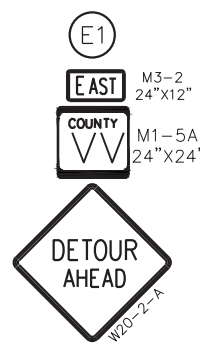
THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL EXISTING SIGN MESSAGES THAT CONFLICT WITH TRAFFIC CONTROL DETOUR SIGNS SHALL BE COVERED OR REMOVED.

SEE SDD "DETOUR SIGNING FOR MAINLINE CLOSURES" FOR SIGN SPACING AND LOCATIONS

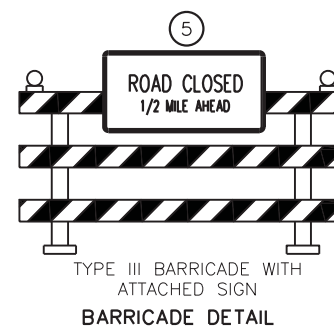
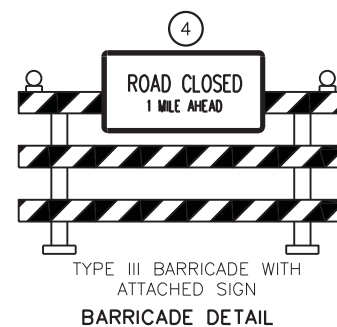
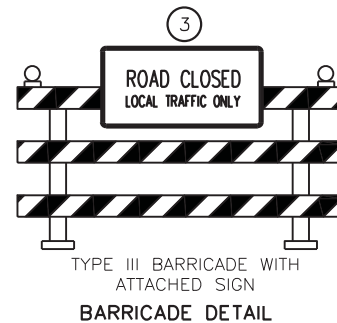
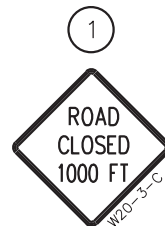
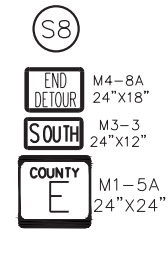
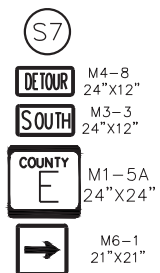
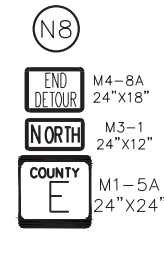
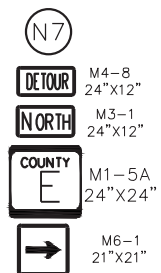
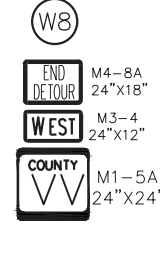
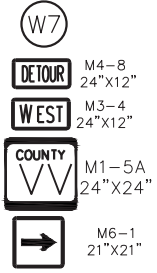
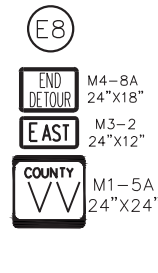
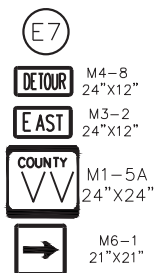
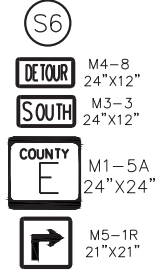
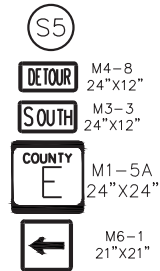
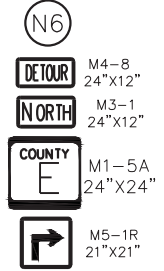
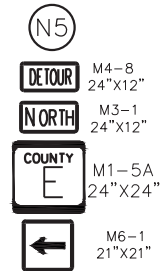
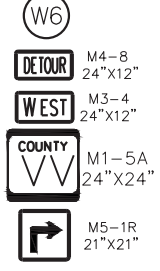
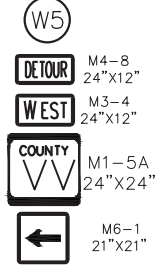
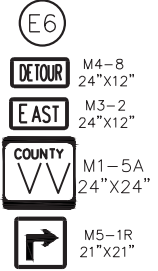
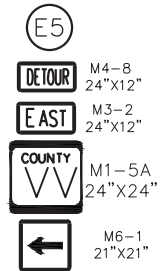
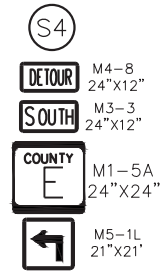
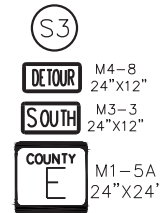
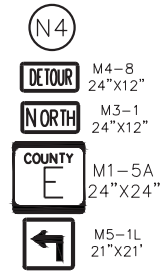
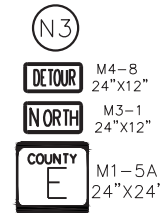
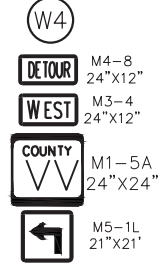
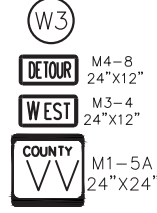
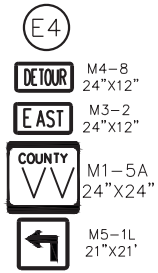
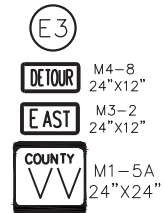
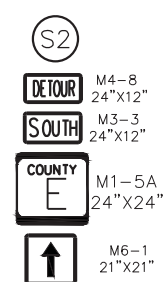
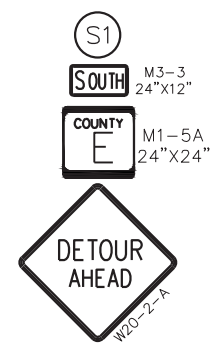
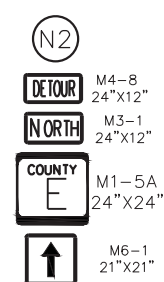
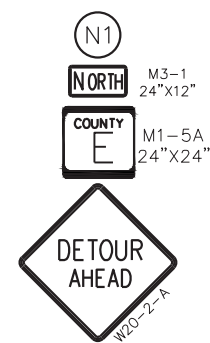
THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

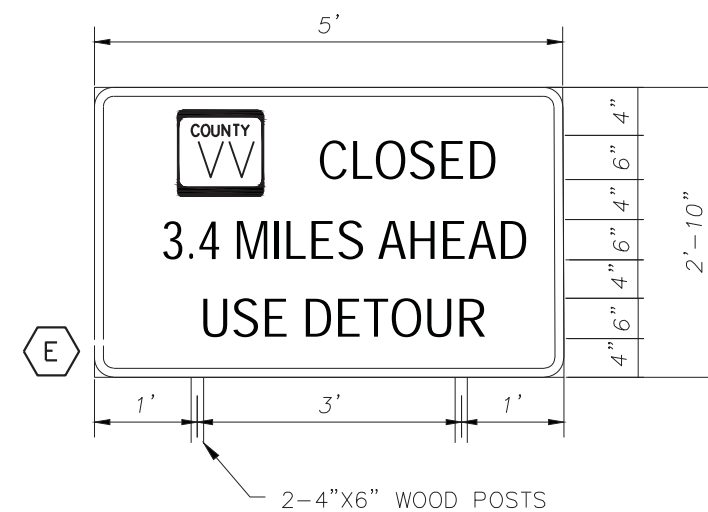
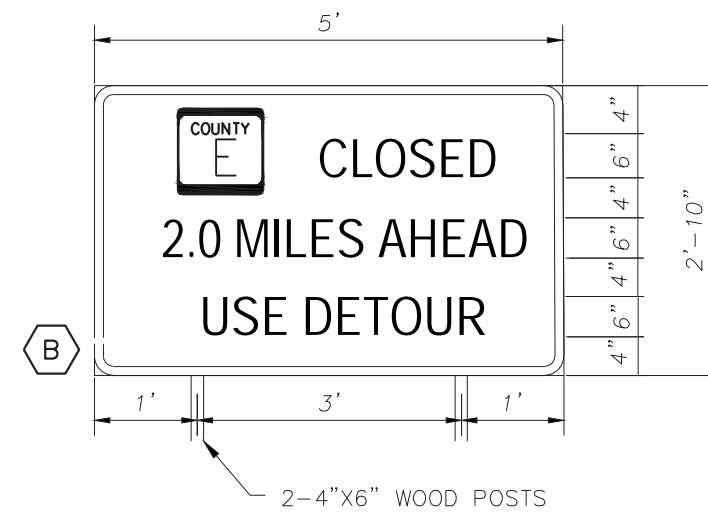
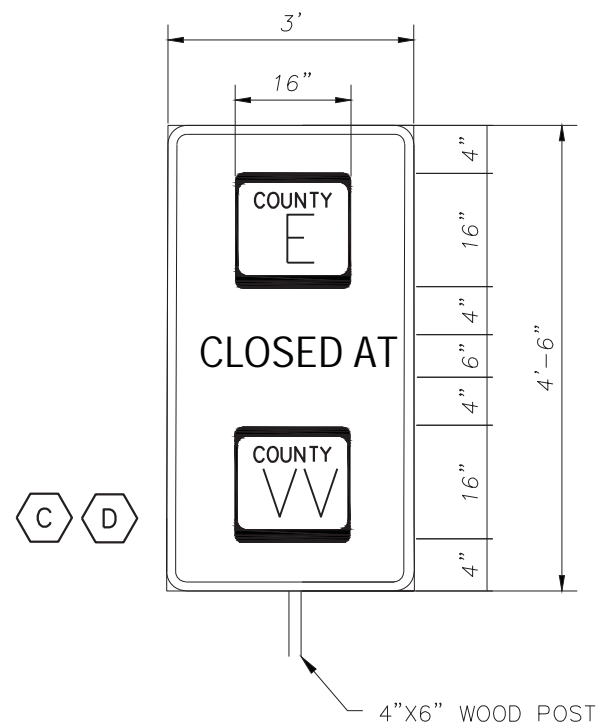
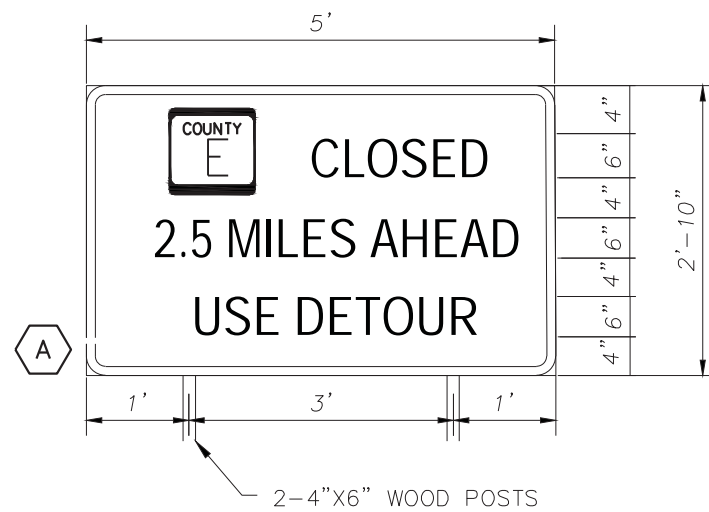




DETOUR SIGNAGE NOTES:

ALL M3 SERIES SIGNS WHICH ARE PART OF THE DETOUR ROUTE MARKING SIGNING ASSEMBLY OR ATTACHED TO ANY WARNING SIGN SHALL BE BLACK LETTERING ON A WHITE BACKGROUND







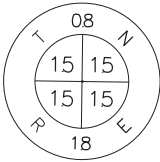
"A" SPLITTER INLAND CURB

PI STA = 0"A" + 79.66
Y = 651150.2962
X = 213909.5107
DELTA = 005°18'12"
D = 003°19'52"
T = 79.66
L = 159.20
R = 1720.00
PC STA = -0"A" + -00.00
PT STA = 1"A" + 59.20

"I" SPLITTER INLAND CURB

PI STA = 1"I" + 61.31	PI STA = 0"I" + 43.20
Y = 651345.0086	Y = 651351.6817
X = 214125.0872	X = 214005.2645
DELTA = 009°00'00"	DELTA = 029°20'32"
D = 005°52'14"	D = 034°43'29"
T = 76.81	T = 43.20
L = 153.31	L = 84.50
R = 976.00	R = 165.00
PC STA = 0"I" + 84.50	PC STA = 0"I" + 00.00
PT STA = 2"I" + 37.81	PT STA = 0"I" + 84.50

A CONCRETE MON.
WITH A SEWRPC
BRASS CAP
Y = 216,556.589
X = 651,446.865



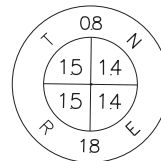
STA 4"I" + 95.83 =
STA 65"E" + 57.45, 0.00' LT
X = 214,458.32
Y = 651,377.65

PI STA 140 + 67.74 (BUGLINE)
STA 64"E" + 81.83 (C.T.H. "E")
X = 214,381.92
Y = 651,375.13

"G" SPLITTER INLAND CURB

PI STA = 0"G" + 39.84	PI STA = 3"G" + 21.19
Y = 651434.3242	Y = 651715.4705
X = 213896.9368	X = 213926.3863
DELTA = 025°39'12"	DELTA = 010°35'23"
D = 032°44'26"	D = 003°10'59"
T = 39.84	T = 166.82
L = 78.35	L = 332.68
R = 175.00	R = 1800.00
PC STA = 0"G" + 00.00	PC STA = 1"G" + 54.38
PT STA = 0"G" + 78.35	PT STA = 4"G" + 87.06

A CONCRETE MON.
WITH A SEWRPC
BRASS CAP
Y = 213,838.333
X = 654,005.501



STA 10"G" + 72.76 =
STA 34"VV" + 25.00, 00.0' LT
X = 213,874.80
Y = 652,466.20

"F" SPLITTER INLAND CURB

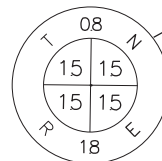
PI STA = 0"F" + 21.27	PI STA = 1"F" + 48.29
Y = 651414.2321	Y = 651540.6467
X = 213883.5241	X = 213896.2816
DELTA = 006°05'12"	DELTA = 007°02'22"
D = 014°19'26"	D = 003°19'52"
T = 21.27	T = 105.79
L = 42.49	L = 211.32
R = 400.00	R = 1720.00
PC STA = -0"F" + -00.00	PC STA = 0"F" + 42.49
PT STA = 0"F" + 42.49	PT STA = 2"F" + 53.81

"D" SPLITTER INLAND CURB

PI STA = 2"D" + 64.94	PI STA = 1"D" + 16.62
Y = 651334.4368	Y = 651349.5261
X = 213808.9097	X = 213661.1065
DELTA = 024°27'51"	DELTA = 008°05'09"
D = 038°42'48"	D = 003°28'21"
T = 32.09	T = 116.62
L = 63.19	L = 232.86
R = 148.00	R = 1650.00
PC STA = 2"D" + 32.86	PC STA = 0"D" + 00.00
PT STA = 2"D" + 96.05	PT STA = 2"D" + 32.86

"B" SPLITTER INLAND CURB

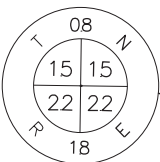
PI STA = 5"B" + 28.06	PI STA = 6"B" + 92.10
Y = 651069.2948	Y = 651232.6077
X = 213890.4523	X = 213911.2852
DELTA = 009°33'44"	DELTA = 026°27'12"
D = 003°44'41"	D = 036°43'41"
T = 127.97	T = 36.67
L = 255.35	L = 72.02
R = 1530.00	R = 156.00
PC STA = 4"B" + 00.09	PC STA = 6"B" + 55.44
PT STA = 6"B" + 55.44	PT STA = 7"B" + 27.46



A CONCRETE MON.
WITH A SEWRPC
BRASS CAP
Y = 213,901.009
X = 651,359.266

"C" SPLITTER INLAND CURB

PI STA = 1"C" + 16.38	PI STA = 2"C" + 64.68
Y = 651345.3878	Y = 651320.9560
X = 213660.9078	X = 213807.6075
DELTA = 008°25'32"	DELTA = 002°49'26"
D = 003°37'35"	D = 004°22'01"
T = 116.38	T = 32.34
L = 232.34	L = 64.66
R = 1580.00	R = 1312.00
PC STA = 0"C" + 00.00	PC STA = 2"C" + 32.34
PT STA = 2"C" + 32.34	PT STA = 2"C" + 97.01



A CONCRETE MON.
WITH A SEWRPC
BRASS CAP
Y = 211,255.129
X = 651,272.384

Estimate Of Quantities

2774-01-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0120	Clearing	ID	90.000	90.000
0004	201.0220	Grubbing	ID	90.000	90.000
0006	203.0100	Removing Small Pipe Culverts	EACH	11.000	11.000
0008	204.0100	Removing Pavement	SY	3,329.000	3,329.000
0010	204.0115	Removing Asphaltic Surface Butt Joints	SY	262.000	262.000
0012	204.0120	Removing Asphaltic Surface Milling	SY	420.000	420.000
0014	204.0150	Removing Curb & Gutter	LF	456.000	456.000
0016	205.0100	Excavation Common	CY	5,551.000	5,551.000
0018	208.0100	Borrow	CY	504.000	504.000
0020	208.2110.S	Fly Ash Subgrade Stabilization	SY	5,663.000	5,663.000
0022	213.0100	Finishing Roadway (project) 01. 2774-01-70	EACH	1.000	1.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	6,042.000	6,042.000
0026	305.0415	Aggregate Detours	CY	125.000	125.000
0028	405.0100	Coloring Concrete WisDOT Red	CY	85.000	85.000
0030	416.0512	Concrete Truck Apron 12-Inch	SY	217.000	217.000
0032	455.0605	Tack Coat	GAL	362.000	362.000
0034	460.5223	HMA Pavement 3 LT 58-28 S	TON	2,194.000	2,194.000
0036	460.5225	HMA Pavement 5 LT 58-28 S	TON	1,560.000	1,560.000
0038	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	194.000	194.000
0040	465.0315	Asphaltic Flumes	SY	29.000	29.000
0042	520.2012	Culvert Pipe Temporary 12-Inch	LF	72.000	72.000
0044	521.1515	Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 15-Inch 6 to 1	EACH	2.000	2.000
0046	521.1518	Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 18-Inch 6 to 1	EACH	26.000	26.000
0048	521.3112	Culvert Pipe Corrugated Steel 12-Inch	LF	8.000	8.000
0050	521.3115	Culvert Pipe Corrugated Steel 15-Inch	LF	27.000	27.000
0052	521.3118	Culvert Pipe Corrugated Steel 18-Inch	LF	412.000	412.000
0054	522.1015	Apron Endwalls for Culvert Pipe Reinforced Concrete 15-Inch	EACH	1.000	1.000
0056	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	4.000	4.000
0058	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	3.000	3.000
0060	601.0407	Concrete Curb & Gutter 18-Inch Type D	LF	2,872.000	2,872.000
0062	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	189.000	189.000
0064	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	1,955.000	1,955.000
0066	601.0582	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type T	LF	264.000	264.000
0068	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	40.000	40.000
0070	606.0100	Riprap Light	CY	12.000	12.000
0072	608.3615	Storm Sewer Pipe Class III-B 15-Inch	LF	156.000	156.000

Estimate Of Quantities

2774-01-70

Line	Item	Item Description	Unit	Total	Qty
0074	608.3618	Storm Sewer Pipe Class III-B 18-Inch	LF	378.000	378.000
0076	608.3624	Storm Sewer Pipe Class III-B 24-Inch	LF	102.000	102.000
0078	611.0530	Manhole Covers Type J	EACH	3.000	3.000
0080	611.0612	Inlet Covers Type C	EACH	1.000	1.000
0082	611.0652	Inlet Covers Type T	EACH	1.000	1.000
0084	611.0660	Inlet Covers Type WM	EACH	5.000	5.000
0086	611.2005	Manholes 5-FT Diameter	EACH	4.000	4.000
0088	611.3225	Inlets 2x2.5-FT	EACH	6.000	6.000
0090	612.0700	Drain Tile Exploration	LF	30.000	30.000
0092	616.0700.S	Fence Safety	LF	542.000	542.000
0094	618.0100	Maintenance And Repair of Haul Roads (project) 01. 2774-01-70	EACH	1.000	1.000
0096	619.1000	Mobilization	EACH	1.000	1.000
0098	620.0300	Concrete Median Sloped Nose	SF	455.000	455.000
0100	621.1100	Landmark Reference Monuments and Cast Iron Covers	EACH	5.000	5.000
0102	624.0100	Water	MGAL	30.000	30.000
0104	625.0100	Topsoil	SY	2,526.000	2,526.000
0106	625.0500	Salvaged Topsoil	SY	11,047.000	11,047.000
0108	628.1504	Silt Fence	LF	2,913.000	2,913.000
0110	628.1520	Silt Fence Maintenance	LF	2,913.000	2,913.000
0112	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0114	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0116	628.2006	Erosion Mat Urban Class I Type A	SY	10,133.000	10,133.000
0118	628.7005	Inlet Protection Type A	EACH	1.000	1.000
0120	628.7020	Inlet Protection Type D	EACH	5.000	5.000
0122	628.7504	Temporary Ditch Checks	LF	547.000	547.000
0124	628.7555	Culvert Pipe Checks	EACH	17.000	17.000
0126	629.0210	Fertilizer Type B	CWT	7.000	7.000
0128	630.0120	Seeding Mixture No. 20	LB	41.000	41.000
0130	630.0130	Seeding Mixture No. 30	LB	287.000	287.000
0132	630.0200	Seeding Temporary	LB	25.000	25.000
0134	631.0300	Sod Water	MGAL	54.000	54.000
0136	631.1000	Sod Lawn	SY	2,603.000	2,603.000
0138	631.1100	Sod Erosion Control	SY	21.000	21.000
0140	633.5200	Markers Culvert End	EACH	8.000	8.000
0142	637.2210	Signs Type II Reflective H	SF	594.610	594.610
0144	638.2102	Moving Signs Type II	EACH	29.000	29.000
0146	638.2602	Removing Signs Type II	EACH	59.000	59.000
0148	638.3000	Removing Small Sign Supports	EACH	37.000	37.000
0150	642.5001	Field Office Type B	EACH	1.000	1.000

Estimate Of Quantities

2774-01-70

Line	Item	Item Description	Unit	Total	Qty
0152	643.0420	Traffic Control Barricades Type III	DAY	2,010.000	2,010.000
0154	643.0900	Traffic Control Signs	DAY	12,090.000	12,090.000
0156	643.0920	Traffic Control Covering Signs Type II	EACH	80.000	80.000
0158	643.1050	Traffic Control Signs PCMS	DAY	900.000	900.000
0160	643.5000	Traffic Control	EACH	1.000	1.000
0162	645.0130	Geotextile Type R	SY	15.000	15.000
0164	646.1020	Marking Line Epoxy 4-Inch	LF	10,798.000	10,798.000
0166	646.3020	Marking Line Epoxy 8-Inch	LF	386.000	386.000
0168	646.5020	Marking Arrow Epoxy	EACH	1.000	1.000
0170	646.5120	Marking Word Epoxy	EACH	4.000	4.000
0172	646.6120	Marking Stop Line Epoxy 18-Inch	LF	72.000	72.000
0174	646.6220	Marking Yield Line Epoxy 18-Inch	EACH	72.000	72.000
0176	646.7120	Marking Diagonal Epoxy 12-Inch	LF	329.000	329.000
0178	646.8220	Marking Island Nose Epoxy	EACH	10.000	10.000
0180	650.4000	Construction Staking Storm Sewer	EACH	18.000	18.000
0182	650.4500	Construction Staking Subgrade	LF	3,025.000	3,025.000
0184	650.5000	Construction Staking Base	LF	3,025.000	3,025.000
0186	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	5,279.000	5,279.000
0188	650.6000	Construction Staking Pipe Culverts	EACH	14.000	14.000
0190	650.8500	Construction Staking Electrical Installations (project) 01. 2774-01-70	LS	1.000	1.000
0192	650.9910	Construction Staking Supplemental Control (project) 01. 2774-01-70	LS	1.000	1.000
0194	650.9920	Construction Staking Slope Stakes	LF	3,025.000	3,025.000
0196	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	806.000	806.000
0198	653.0135	Pull Boxes Steel 24x36-Inch	EACH	9.000	9.000
0200	654.0105	Concrete Bases Type 5	EACH	8.000	8.000
0202	654.0215	Concrete Control Cabinet Bases Type 9	EACH	1.000	1.000
0204	655.0610	Electrical Wire Lighting 12 AWG	LF	2,812.000	2,812.000
0206	655.0620	Electrical Wire Lighting 8 AWG	LF	806.000	806.000
0208	655.0640	Electrical Wire Lighting 1 AWG	LF	36.000	36.000
0210	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. CTH VV at CTH E	LS	1.000	1.000
0212	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	8.000	8.000
0214	657.0321	Poles Type 5-Steel	EACH	8.000	8.000
0216	657.0709	Luminaire Arms Truss Type 4-Inch Clamp 12-FT	EACH	8.000	8.000
0218	659.1125	Luminaires Utility LED C	EACH	8.000	8.000
0220	659.2130	Lighting Control Cabinets 120/240 30-Inch	EACH	1.000	1.000
0222	690.0150	Sawing Asphalt	LF	879.000	879.000
0224	690.0250	Sawing Concrete	LF	1,267.000	1,267.000

Estimate Of Quantities

2774-01-70

Line	Item	Item Description	Unit	Total	Qty
0226	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
0228	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	250.000	250.000
0230	SPV.0060	Special 02. Tubular Steel Posts 1-3/4"x1-3/4"x12-ft	EACH	13.000	13.000
0232	SPV.0060	Special 03. Tubular Steel Posts 1-3/4"x1-3/4"x14-ft	EACH	64.000	64.000
0234	SPV.0060	Special 04. Utility Locate Obstruction (ULO)	EACH	4.000	4.000

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CLEARING AND GRUBBING				REMOVING CURB AND GUTTER			BASE AGGREGATE			ASPHALT ITEMS							
CLEARING		GRUBBING		204.0150			305.0120		305.0415		HMA PAVEMENT		HMA PAVEMENT		ASPHALTIC SURFACE		
201.0120		201.0220		STA - STA	LOCATION	LF	BASE AGGREGATE		AGGREGATE		3-LT 58-28 S		5-LT 58-28 S		DRIVEWAYS		
STA	OFFSET	ID	ID				DENSE 1-1/4-INCH		DETOUR		460.5223		460.5225		AND FIELD ENTRANCE		
							TON		CY		GAL		455.0605		465.0120		
23"VV"+92.26	58.3' RT	36	36	22"VV"+49 - 23"VV"+02	RT	84	15"VV"+00 - 21"VV"+00		-		280		201		21		
59"E"+42.33	37.1' RT	36	36	22"VV"+52 - 23"VV"+03	LT	80	21"VV"+00 - 27"VV"+00		-		770		545		-		
63"E"+42.99	41.6' LT	18	18	23"VV"+31 - 23"VV"+84	RT	80	27"VV"+00 - 34"VV"+25		-		390		279		19		
TOTAL				90	90	68	55"E"+25 - 58"E"+50		-		285		200		36		
REMOVING SMALL PIPE CULVERT						58	61"E"+50 - 66"E"+25		-		469		335		33		
203.0100						456	137+75 - 141+65		125		-		-		85		
STA - STA	OFFSET	SIZE	EACH	TOTAL			TOTAL		125		TOTAL		2194		1560		
16"VV"+36.06	29.8' LT	18"	1								TOTAL		2194		1560		
18"VV"+58.00	28.8' RT	18"	1								TOTAL		2194		1560		
28"VV"+48.93	28.9' RT	18"	1								TOTAL		2194		1560		
28"VV"+79.16	33.5' LT	18"	1								TOTAL		2194		1560		
29"VV"+90.84	35.2' LT	18"	1								TOTAL		2194		1560		
30"VV"+96.31	33.8' LT	18"	1								TOTAL		2194		1560		
33"VV"+10.63	27.6' LT	18"	1								TOTAL		2194		1560		
64"E"+74.53	21.3' RT	18"	1								TOTAL		2194		1560		
64"E"+89.82	0.0' RT	18"	1								TOTAL		2194		1560		
65"E"+31.89	20.9' RT	18"	1								TOTAL		2194		1560		
65"E"+76.31	20.0' LT	18"	1								TOTAL		2194		1560		
TOTAL				11								TOTAL		2194		1560	
REMOVING PAVEMENT											TOTAL		2194		1560		
204.0100											TOTAL		2194		1560		
STA - STA	SY										TOTAL		2194		1560		
15"VV"+00 - 21"VV"+00	692										TOTAL		2194		1560		
21"VV"+00 - 28"VV"+25	2294										TOTAL		2194		1560		
28"VV"+25 - 34"VV"+25	342										TOTAL		2194		1560		
TOTAL				3329								TOTAL		2194		1560	
REMOVING ASPHALTIC SURFACE BUTT JOINTS											TOTAL		2194		1560		
204.0115											TOTAL		2194		1560		
STA - STA	LOCATION	SY									TOTAL		2194		1560		
15"VV"+00 - 15"VV"+25	CTH VV	82.0									TOTAL		2194		1560		
30"VV"+17 - 30"VV"+45	POLO CT	104.0									TOTAL		2194		1560		
34"VV"+00 - 34"VV"+25	CTH VV	76.0									TOTAL		2194		1560		
TOTAL				262								TOTAL		2194		1560	
REMOVING ASPHALTIC SURFACE BUTT JOINTS											TOTAL		2194		1560		
204.0115											TOTAL		2194		1560		
STA - STA	LOCATION	SY									TOTAL		2194		1560		
15"VV"+00 - 15"VV"+25	CTH VV	82.0									TOTAL		2194		1560		
30"VV"+17 - 30"VV"+45	POLO CT	104.0									TOTAL		2194		1560		
34"VV"+00 - 34"VV"+25	CTH VV	76.0									TOTAL		2194		1560		
TOTAL				262								TOTAL		2194		1560	
REMOVING ASPHALTIC SURFACE BUTT JOINTS											TOTAL		2194		1560		
204.0115											TOTAL		2194		1560		
STA - STA	LOCATION	SY									TOTAL		2194		1560		
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30"VV"+17 - 30"VV"+45	POLO CT	104.0									TOTAL		2194		1560		
34"VV"+00 - 34"VV"+25	CTH VV	76.0									TOTAL		2194		1560		
TOTAL				262								TOTAL		2194		1560	
REMOVING ASPHALTIC SURFACE BUTT JOINTS											TOTAL		2194		1560		
204.0115											TOTAL		2194		1560		
STA - STA	LOCATION	SY									TOTAL		2194		1560		
15"VV"+00 - 15"VV"+25	CTH VV	82.0									TOTAL		2194		1560		
30"VV"+17 - 30"VV"+45	POLO CT	104.0									TOTAL		2194		1560		
34"VV"+00 - 34"VV"+25	CTH VV	76.0									TOTAL		2194		1560		
TOTAL				262								TOTAL		2194		1560	
REMOVING ASPHALTIC SURFACE BUTT JOINTS											TOTAL		2194		1560		
204.0115											TOTAL		2194		1560		
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30"VV"+17 - 30"VV"+45	POLO CT	104.0									TOTAL		2194		1560		
34"VV"+00 - 34"VV"+25	CTH VV	76.0									TOTAL		2194		1560		
TOTAL				262								TOTAL		2194		1560	
REMOVING ASPHALTIC SURFACE BUTT JOINTS											TOTAL		2194		1560		
204.0115											TOTAL		2194		1560		
STA - STA	LOCATION	SY									TOTAL		2194		1560		
15"VV"+00 - 15"VV"+25	CTH VV	82.0									TOTAL		2194		1560		
30"VV"+17 - 30"VV"+45	POLO CT	104.0									TOTAL		2194		1560		
34"VV"+00 - 34"VV"+25	CTH VV	76.0									TOTAL		2194		1560		
TOTAL				262								TOTAL		2194		1560	
REMOVING ASPHALTIC SURFACE BUTT JOINTS											TOTAL		2194		1560		
204.0115											TOTAL		2194		1560		
STA - STA	LOCATION	SY									TOTAL		2194		1560		
15"VV"+00 - 15"VV"+25	CTH VV	82.0									TOTAL		2194		1560		
30"VV"+17 - 30"VV"+45	POLO CT	104.0									TOTAL		2194		1560		
34"VV"+00 - 34"VV"+25	CTH VV	76.0									TOTAL		2194		1560		
TOTAL				262								TOTAL		2194		1560	
REMOVING ASPHALTIC SURFACE BUTT JOINTS											TOTAL		2194		1560		
204.0115											TOTAL		2194		1560		
STA - STA	LOCATION	SY									TOTAL		2194		1560		
15"VV"+00 - 15"VV"+25	CTH VV	82.0									TOTAL		2194		1560		
30"VV"+17 - 30"VV"+45	POLO CT	104.0									TOTAL		2194		1560		
34"VV"+00 - 34"VV"+25	CTH VV	76.0									TOTAL		2194		1560		
TOTAL				262								TOTAL		2194		1560	
REMOVING ASPHALTIC SURFACE BUTT JOINTS											TOTAL		2194		1560		
204.0115											TOTAL		2194		1560		
STA - STA	LOCATION	SY									TOTAL		2194		1560		
15"VV"+00 - 15"VV"+25	CTH VV	82.0									TOTAL		2194		1560		
30"VV"+17 - 30"VV"+45	POLO CT	104.0									TOTAL		2194		1560		
34"VV"+00 - 34"VV"+25	CTH VV	76.0									TOTAL		2194		1560		
TOTAL				262								TOTAL		2194		1560	
REMOVING ASPHALTIC SURFACE BUTT JOINTS											TOTAL		2194		1560		
204.0115											TOTAL		2194		1560		
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30"VV"+17 - 30"VV"+45	POLO CT	104.0									TOTAL		2194		1560		
34"VV"+00 - 34"VV"+25	CTH VV	76.0									TOTAL		2194		1560		
TOTAL				262								TOTAL		2194		1560	
REMOVING ASPHALTIC SURFACE BUTT JOINTS											TOTAL		2194		1560		
204.0115											TOTAL		2194		1560		
STA - STA	LOCATION	SY									TOTAL		2194		1560		
15"VV"+00 - 15"VV"+25	CTH VV	82.0									TOTAL		2194		1560		
30"VV"+17 - 30"VV"+45	POLO CT	104.0									TOTAL		2194		1560		
34"VV"+00 - 34"VV"+25	CTH VV	76.0									TOTAL		2194		1560		
TOTAL				262								TOTAL		2194		1560	
REMOVING ASPHALTIC SURFACE BUTT JOINTS											TOTAL		2194		1560		
204.0115											TOTAL		2194		1560		
STA - STA	LOCATION	SY									TOTAL		2194		1560		
15"VV"+00 - 15"VV"+25	CTH VV	82.0									TOTAL		2194		1560		
30"VV"+17 - 30"VV"+45	POLO CT	104.0									TOTAL		2194		1560		
34"VV"+00 - 34"VV"+25	CTH VV	76.0									TOTAL		2194		1560		
TOTAL				262								TOTAL		2194		1560	
REMOVING ASPHALTIC SURFACE BUTT JOINTS											TOTAL		2194		1560		
204.0115											TOTAL		2194		1560		
STA - STA	LOCATION	SY									TOTAL		2194		1560		
15"VV"+00 - 15"VV"+25	CTH VV	82.0									TOTAL		2194		1560		
30"VV"+17 - 30"VV"+45	POLO CT	104.0									TOTAL		2194		1560		
34"VV"+00 - 34"VV"+25	CTH VV	76.0									TOTAL		2194		1560		
TOTAL				262								TOTAL		2194		1560	
REMOVING ASPHALTIC SURFACE BUTT JOINTS											TOTAL		2194		1560		
204.0115											TOTAL		2194		1560		
STA - STA	LOCATION	SY									TOTAL		2194		1560		
15"VV"+00 - 15"VV"+25	CTH VV	82.0									TOTAL		2194		1560		
30"VV"+17 - 30"VV"+45	POLO CT	104.0									TOTAL		2194		1560		
34"VV"+00 - 34"VV"+25	CTH VV	76.0									TOTAL		2194		1560		
TOTAL				262								TOTAL		2194		1560	
REMOVING ASPHALTIC SURFACE BUTT JOINTS											TOTAL		2194		1560		
204.0115											TOTAL		2194		1560		
STA - STA	LOCATION	SY									TOTAL		2194		1560		
15"VV"+00 - 15"VV"+25	CTH VV	82.0									TOTAL		2194		1560		
30"VV"+17 - 30"VV"+45	POLO CT	104.0									TOTAL		2194		1560		
34"VV"+00 - 34"VV"+25	CTH VV	76.0									TOTAL		2194		1560		
TOTAL				262								TOTAL		2194		1560	
REMOVING ASPHALTIC SURFACE BUTT JOINTS											TOTAL		2194		1560		
204.0115											TOTAL		2194		1560		
STA - STA	LOCATION	SY									TOTAL		2194				

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ERECTION OF TYPE II SIGNS AND POSTS									
		SPV.0060.02 POSTS TUBULAR STEEL 1.75x1.75-INCH		SPV.0060.03 POSTS TUBULAR STEEL 1.75 x 1.75 INCH		637.2210 SIGNS REFLECTIVE TYPE II -H		638.2102 MOVING SIGNS TYPE II	
SIGN NO.	LOCATION	SIGN CODE	SIZE WXH	12-FOOT EACH	14-FOOT EACH	SF	EACH	MESSAGE	REMARKS
101	11"VV"+50	M2-1	21 X 15				1	JUNCTION	RE-INSTALL EXISTING.
102	11"VV"+50	M1-6	24 X 24				-	COUNTY E	SAME POST AS SIGN 101.
201	12"VV"+50	W2-6	30 X 30	-	1	6.3	-	ROUNDAABOUT AHEAD WARNING	
202	12"VV"+50	R1-54	30 X 16	-	-	3.1	-	ROUNDAABOUT AHEAD, PLAQUE	SAME POST AS SIGN 201.
203	12"VV"+50	W13-1 (15 MPH)	18 X 18	-	-	2.3	-	ADVISORY SPEED, PLAQUE	SAME POST AS SIGN 201.
204	14"VV"+50	D1-5	108 X 84	-	3	63.0	-	SPECIAL 'A'	
205	17"VV"+00	R2-1 (50)	24 X 30	-	1	5.0	-	SPEED LIMIT	REPLACE EXISTING
206	17"VV"+00	R7-1 (ARROW)	12 X 18	-	-	1.5	-	NO PARKING BETWEEN SIGNS	REPLACE EXISTING. SAME POST AS SIGN 205.
207	16"VV"+77	R4-7	24 X 30	-	1	5.0	-	KEEP RIGHT	
208	16"VV"+77	OM1-1	18 X 18	-	-	2.3	-	TYPE 1 OBJECT MARKER	SAME POST AS SIGN 207.
209	19"VV"+30	W3-2	30 X 30	1	-	6.3	-	YIELD AHEAD	
210	19"VV+40	M3-4	24 X 12	1	-	2.0	-	WEST	
211	19"VV+40	M1-6	24 X 24	-	-	4.0	-	COUNTY VV	SAME POST AS SIGN 210.
212	19"VV"+50	R4-7	24 X 30	-	1	5.0	-	KEEP RIGHT	
213	20"VV"+37	D14-2A	___X___	-	2	-	1	ACKNOWLEDGEMENT	RE-INSTALL EXISTING
214	20"VV"+37	D14-2B	___X___	-	-	-	1	ACKNOWLEDGEMENT GROUP	RE-INSTALL EXISTING. SAME POST AS SIGN 213.
215	20"VV"+42	R4-7	24 X 30	-	1	5.0	-	KEEP RIGHT	
216	20"VV"+64	RS-113	___X___	1	-	-	1	KETTLE MORRAINE SCENIC TRAIL	RE-INSTALL EXISTING
217	20"VV"+64	RS-113	___X___	-	-	-	1	DIRECTIONAL ARROW	RE-INSTALL EXISTING. SAME POST AS SIGN 216.
218	22"VV"+20	D1-1e	24 X 42	-	2	7.0	-	EXIT DESTINATION: WEST CTH VV	
219	22"VV"+21	R1-2	36 X 36 X 36	-	1	4.5	-	YIELD	
220	22"VV"+21	R6-2R	24 X 30	-	-	5.0	-	ONE WAY	SAME POST AS SIGN 219.
221	22"VV"+20	R1-2	36 X 36 X 36	-	1	4.5	-	YIELD	
222	22"VV"+20	R1-54	24 X 15	-	-	2.5	-	TO TRAFFIC FROM LEFT, PLAQUE	SAME POST AS SIGN 221.
223	22"VV"+79	R6-1R	36 X 12	-	1	3.0	-	ONE WAY	
224	22"VV"+79	R6-4a	48 x 24	-	-	8.0	-	ROUNDAABOUT DIRECTIONAL (3 CHEVRONS)	SAME POST AS SIGN 223.
301	22"VV"+67	R6-1R	36 X 12	-	1	3.0	-	ONE WAY	
302	22"VV"+67	R6-4a	48 x 24	-	-	8.0	-	ROUNDAABOUT DIRECTIONAL (3 CHEVRONS)	SAME POST AS SIGN 301.
303	23"VV"+60	D1-1e	24 X 42	-	2	7.0	-	EXIT DESTINATION: EAST CTH VV	
304	23"VV"+69	R1-2	36 X 36 X 36	-	1	4.5	-	YIELD	
305	23"VV"+69	R6-2R	24 X 30	-	-	5.0	-	ONE WAY	SAME POST AS SIGN 304.
306	23"VV"+62	R1-2	36 X 36 X 36	-	1	4.5	-	YIELD	
307	23"VV"+62	R1-54	24 X 15	-	-	2.5	-	TO TRAFFIC FROM LEFT, PLAQUE	SAME POST AS SIGN 306.
308	24"VV"+32	R4-7	24 X 30	-	1	5.0	-	KEEP RIGHT	
309	24"VV"+85	R4-7	24 X 30	-	1	5.0	-	KEEP RIGHT	
310	26"VV"+00	W3-2	30 X 30	1	-	6.3	-	YIELD AHEAD	??????
311	25"VV"+92	M3-4	24 X 12	1	-	2	-	EAST	
312	25"VV"+92	M1-6	24 X 24	-	-	4	-	COUNTY VV	SAME POST AS SIGN 311.
313	25"VV"+95	D14-2A	___X___	-	2	-	1	ACKNOWLEDGEMENT	RE-INSTALL EXISTING.
314	25"VV"+95	D14-2B	___X___	-	-	-	1	ACKNOWLEDGEMENT GROUP	RE-INSTALL EXISTING. SAME POST AS SIGN 313.
315	26"VV"+00	W3-2	30 X 30	1	-	6.25	-	YIELD AHEAD	
316	27"VV"+51	D1-5	108 X 84	-	3	63	-	SPECIAL 'B'	
317	27"VV"+49	R2-1 (50)	24 X 30	-	1	5	-	SPEED LIMIT	REPLACE EXISTING
318	28"VV"+25	R4-7	24 X 30	-	1	5	-	KEEP RIGHT	
319	29"VV"+13	R4-7	24 X 30	-	1	5	-	KEEP RIGHT	
320	29"VV"+55	W2-6	30 X 30	-	1	6.25	-	ROUNDAABOUT AHEAD WARNING	
321	29"VV"+55	R1-54	30 X 16	-	-	3.125	-	ROUNDAABOUT AHEAD, PLAQUE	SAME POST AS SIGN 320.
322	29"VV"+55	W13-1 (15 MPH)	18 X 18	-	-	2.25	-	ADVISORY SPEED, PLAQUE	SAME POST AS SIGN 320.
323	29"VV"+64	R4-7	24 X 30	-	1	5	-	KEEP RIGHT	
324	29"VV"+64	OM1-1	18 X 18	-	-	2.25	-	TYPE 1 OBJECT MARKER	SAME POST AS SIGN 323.
325	29"VV"+95	STREET	___X___	1	-	-	1	STREET NAME SIGN: POLO CT	RE-INSTALL EXISTING
326	33"VV"+70	M2-1	21 X 15	1	-	2.188	-	JUNCTION	
327	33"VV"+70	M1-6	24 X 24	-	-	4	-	COUNTY VV	SAME POST AS SIGN 326.
401	52"E"+00	W2-6	30 X 30	-	1	6.25	-	ROUNDAABOUT AHEAD WARNING	
402	52"E"+00	R1-54	30 X 16	-	-	3.125	-	ROUNDAABOUT AHEAD, PLAQUE	SAME POST AS SIGN 401.
403	52"E"+00	W13-1 (15 MPH)	18 X 18	-	-	2.25	-	ADVISORY SPEED, PLAQUE	SAME POST AS SIGN 401.
404	53"E"+00	D1-5	108 X 84	-	3	63	-	SPECIAL 'C'	
405	55"E"+50	W3-2	30 X 30	1	-	6.25	-	YIELD AHEAD	
406	55"E"+43	R2-1 (45)	24 X 30	-	1	5	-	SPEED LIMIT	
407	56"E"+51	D14-2A	___X___	-	2	-	1	ACKNOWLEDGEMENT	RE-INSTALL EXISTING
408	56"E"+51	D14-2B	___X___	-	-	-	1	ACKNOWLEDGEMENT GROUP	RE-INSTALL EXISTING. SAME POST AS SIGN 407.
409	58"E"+00	M3-1	24 X 12	1	-	2	-	SOUTH	
410	58"E"+00	M1-6	24 X 24	-	-	4	-	COUNTY E	SAME POST AS SIGN 409.
411	58"E"+75	R4-7	24 X 30	-	1	5	-	KEEP RIGHT	
412	58"E"+75	OM1-1	18 X 18	-	-	2.25	-	TYPE 1 OBJECT MARKER	SAME POST AS SIGN 411.
413	59"E"+26	D1-1e	24 X 42	-	2	7	-	EXIT DESTINATION: SOUTH CTH E	
414	59"E"+30	R1-2	36 X 36 X 36	-	1	4.5	-	YIELD	
415	59"E"+30	R6-2R	24 X 30	-	-	5	-	ONE WAY	SAME POST AS SIGN 414.
416	59"E"+32	R1-2	36 X 36 X 36	-	1	4.5	-	YIELD	
417	59"E"+32	R1-54	24 X 15	-	-	2.5	-	TO TRAFFIC FROM LEFT, PLAQUE	SAME POST AS SIGN 416.
418	59"E"+84	R6-1R	36 X 12	-	1	3	-	ONE WAY	
419	59"E"+84	R6-4a	48 x 24	-	-	8	-	ROUNDAABOUT DIRECTIONAL (3 CHEVRONS)	SAME POST AS SIGN 418.
501	60"E"+19	R6-1R	36 X 12	-	1	3	-	ONE WAY	
TOTAL				10	46	448	10		
PROJECT NO: 2774-01-70				HWY: CTH VV		COUNTY: WAUKESHA		MISCELLANEOUS QUANTITIES	
								SHEET	
								E	

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ERECTION OF TYPE II SIGNS AND POSTS										
SIGN NO.	LOCATION	SIGN CODE	SIZE WXH	SPV.0060.02	SPV.0060.03	637.2210	638.2102	MESSAGE	REMARKS	
				POSTS TUBULAR STEEL 1.75X1.75 INCH 12-FOOT EACH	POSTS TUBULAR STEEL 1.75X1.75 INCH 14-FOOT EACH	SIGNS REFLECTIVE TYPE II -H SF	MOVING SIGNS TYPE II EACH			
502	60"E"+19	R6-4a	48 x 24	-	-	8	-	ROUNDAABOUT DIRECTIONAL (3 CHEVRONS)	SAME POST AS SIGN 501.	
503	60"E"+76	R1-2	36 X 36 X 36	-	1	4.5	-	YIELD		
504	60"E"+76	R1-54	24 X 15	-	-	2.5	-	TO TRAFFIC FROM LEFT, PLAQUE	SAME POST AS SIGN 503.	
505	60"E"+70	R1-2	36 X 36 X 36	-	1	4.5	-	YIELD		
506	60"E"+70	R6-2R	24 X 30	-	-	5	-	ONE WAY	SAME POST AS SIGN 505.	
507	60"E"+67	D1-1e	24 X 42	-	2	7	-	EXIT DESTINATION: NORTH CTH E		
508	61 "E"+38	D14-2A	___ X ___	-	2	-	1	ACKNOWLEDGEMENT	RE-INSTALL EXISTING	
509	61"E"+38	D14-2B	___ X ___	-	-	-	1	ACKNOWLEDGEMENT GROUP	RE-INSTALL EXISTING. SAME POST AS SIGN 508.	
510	61 "E"+90	R4-7	24 X 30	-	1	5	-	KEEP RIGHT		
511	62"E"+5	M3-1	24 X 12	1	-	2	-	NORTH		
512	62"E"+5	M1-6	24 X 24	-	-	4	-	COUNTY E	SAME POST AS SIGN 511.	
513	62"E"+63	R4-7	24 X 30	-	1	5	-	KEEP RIGHT		
514	69"E"+00	M2-1	21 X 15	1	-	2.188	-	JUNCTION	RE-INSTALL EXISTING	
515	69 "VV"+00	M1-6	24 X 24	-	-	4	-	COUNTY VV	RE-INSTALL EXISTING. SAME POST AS SIGN 514.	
516	62"E"+77	W11-15	30 X 30	-	1	-	1	BICYCLE / PEDESTRIAN	RE-INSTALL EXISTING FLOURESCENT YELLOW-GREEN BACKGROUND.	
517	62"E"+77	W16-9P	24 X 12	-	-	-	1	AHEAD (PLAQUE)	RE-INSTALL EXISTING FLOURESCENT YELLOW-GREEN BACKGROUND.	
518	63"E"+25	W3-2	30 X 30	1	-	6.25	-	YIELD AHEAD		
519	63"E"+95	R4-7	24 X 30	-	1	5	-	KEEP RIGHT		
520	63"E"+95	OM1-1	18 X 18	-	-	2.25	-	TYPE 1 OBJECT MARKER	SAME POST AS SIGN 519.	
521	64"E"+40	D1-5	108 X 84	-	3	63	-	SPECIAL 'D'		
522	64"E"+63	W11-15	30 X 30	-	1	-	1	BICYCLE / PEDESTRIAN	RE-INSTALL EXISTING FLOURESCENT YELLOW-GREEN BACKGROUND.	
523	64"E"+63	W16-7P	24 X 12	-	-	-	1	DOWNWARD DIAGONAL ARROW (PLAQUE)	RE-INSTALL EXISTING FLOURESCENT YELLOW-GREEN BACKGROUND. SAME POST AS SIGN 522.	
524	64"E"+95	W11-15	30 X 30	-	1	-	1	BICYCLE / PEDESTRIAN	RE-INSTALL EXISTING FLOURESCENT YELLOW-GREEN BACKGROUND.	
525	64"E"+95	W16-7P	24 X 12	-	-	-	1	DOWNWARD DIAGONAL ARROW (PLAQUE)	RE-INSTALL EXISTING FLOURESCENT YELLOW-GREEN BACKGROUND. SAME POST AS SIGN 524.	
526	65"E"+50	R2-1 (55)	24 X 30	-	1	5	-	SPEED LIMIT		
527	66"E"+35	W11-15	30 X 30	-	1	-	1	BICYCLE / PEDESTRIAN	RE-INSTALL EXISTING FLOURESCENT YELLOW-GREEN BACKGROUND.	
528	66"E" +35	W16-9P	24 X 12	-	-	-	1	AHEAD (PLAQUE)	RE-INSTALL EXISTING FLOURESCENT YELLOW-GREEN BACKGROUND. SAME POST AS SIGN 527.	
529	67"E"+25	W2-6	30 X 30	-	1	6.25	-	ROUNDAABOUT AHEAD WARNING		
530	67"E"+25	R1-54	30 X 16	-	-	3.125	-	ROUNDAABOUT AHEAD PLAQUE	SAME POST AS SIGN 529.	
531	67"E"+25	W13-1 (15 MPH)	18 X 18	-	-	2.25	-	ADVISORY SPEED PLAQUE	SAME POST AS SIGN 529.	
601	139 + 00	W3-1	18 X 18	-	-	-	1	BUGLINE TRAIL STOP AHEAD WARNING	RE-INSTALL EXISTING. SEE CONSTRUCTION DETAIL.	
602	140 + 22	--	--	-	-	-	1	BUGLINE TRAIL MARKER	RE-INSTALL EXISTING. SEE CONSTRUCTION DETAIL.	
603	140 + 22	--	--	-	-	-	-	BUGLINE TRAIL MARKER	RE-INSTALL EXISTING. SEE CONSTRUCTION DETAIL.	
604	140 + 35	R1-1	24 X 24	-	-	-	1	BUGLINE TRAIL STOP	RE-INSTALL EXISTING. SEE CONSTRUCTION DETAIL.	
605	140 + 35	R5-3	18 X 18	-	-	-	-	NO MOTOR VEHICLES	RE-INSTALL EXISTING. SEE CONSTRUCTION DETAIL.	
606	140 + 35	--	--	-	-	-	1	BUGLINE TRAIL SIGN (WOOD)	RE-INSTALL EXISTING. SEE CONSTRUCTION DETAIL.	
607	140 + 92	--	--	-	-	-	1	BUGLINE TRAIL SIGN (WOOD)	RE-INSTALL EXISTING. SEE CONSTRUCTION DETAIL.	
608	140 + 92	--	--	-	-	-	-	BUGLINE TRAIL SIGN (WOOD)	RE-INSTALL EXISTING. SEE CONSTRUCTION DETAIL.	
609	140 + 92	--	--	-	-	-	-	BUGLINE TRAIL SIGN (WOOD)	RE-INSTALL EXISTING. SEE CONSTRUCTION DETAIL.	
610	140 + 92	--	--	-	-	-	-	BUGLINE TRAIL SIGN (WOOD)	RE-INSTALL EXISTING. SEE CONSTRUCTION DETAIL.	
611	140 + 92	--	--	-	-	-	-	HWY E	RE-INSTALL EXISTING. SEE CONSTRUCTION DETAIL.	
612	140 + 93	R5-3	18 X 18	-	-	-	1	NO MOTOR VEHICLES	RE-INSTALL EXISTING. SEE CONSTRUCTION DETAIL.	
613	140 + 93	R1-1	24 X 24	-	-	-	-	BUGLINE TRAIL STOP	RE-INSTALL EXISTING. SEE CONSTRUCTION DETAIL.	
614	140 + 93	--	--	-	-	-	2	BUGLINE TRAIL SIGN (WOOD)	RE-INSTALL EXISTING. SEE CONSTRUCTION DETAIL.	
615	142 + 37	W3-1	18 X 18	-	-	-	1	BUGLINE TRAIL STOP AHEAD WARNING	RE-INSTALL EXISTING. SEE CONSTRUCTION DETAIL.	
PAGE 2 TOTAL				3	18	146.81	19			
PAGE 1 TOTAL				10	46	447.80	10			
PROJECT TOTAL				13	64	594.61	29			
PROJECT NO: 2774-01-70				HWY: CTH VV		COUNTY: WAUKESHA		MISCELLANEOUS QUANTITIES		SHEET E

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REMOVAL OF TYPE II SIGNS AND POSTS						
SIGN NO.	LOCATION	SIGN CODE	638.2602 SIGNS TYPE II	638.3000 SMALL SIGN SUPPORTS	MESSAGE	REMARKS
101	15"VV"+25, RT	M2-1	-	-	JUNCTION	EXISTING TO REMAIN.
102	15"VV"+25, RT	M1-6	-	-	COUNTY E	EXISTING TO REMAIN. SAME POST AS SIGN 101.
103	20"VV"+60, RT	M1-6	1	1	COUNTY E	
104	26"VV"+7, LT	M1-6	1	1	COUNTY E	
105	26"VV"+7, LT	M6-4	1	-	DIRECTIONAL ARROW	
106	52"E"+20, RT	W3-1	1	1	ADVANCE TRAFFIC CONTROL	SAME POST AS SIGN 104.
107	54"E"+30, RT	M2-1	1	1	JUNCTION	
108	54"E"+30, RT	M1-6	1	-	COUNTY VV	SAME POST AS SIGN 107.
109	59"E"+50, LT	R1-1	1	1	STOP	
110	59"E"+50, RT	- -	-	-	SOLAR PANEL FOR BLINKER STOP	DELIVER EQUIPMENT TO WAUKESHA COUNTY DPW.
111	59"E"+50, RT	R1-1	1	1	BLINKER STOP	DELIVER EQUIPMENT TO WAUKESHA COUNTY DPW.
112	59"E"+50, RT	W4-4P	1	-	CROSS TRAFFIC DOES NOT STOP	SAME POST AS SIGN 111.
113	59"E"+50, RT	M1-6	1	1	COUNTY VV	
114	59"E"+50, RT	M6-4	1	-	DIRECTIONAL ARROW	SAME POST AS SIGN 113.
115	60"E"+45, LT	R7-1 (ARROW)	1	1	NO PARKING BETWEEN SIGNS	SALVAGE AND RELOCATE
116	60"E"+45, LT	RS-113	1	1	KETTLE MORRAINE SCENIC TRAIL	SALVAGE AND RELOCATE. SAME POST AS SIGN 115
117	60"E"+45, LT	RS-113	1	-	DIRECTIONAL ARROW	SALVAGE AND RELOCATE. SAME POST AS SIGN 115.
118	60"E"+45, LT	M1-6	1	1	COUNTY VV	
119	60"E"+45, LT	M6-4	1	-	DIRECTIONAL ARROW	SAME POST AS SIGN 118.
120	60"E"+45, LT	- -	-	-	SOLAR PANEL FOR BLINKER STOP	DELIVER EQUIPMENT TO WAUKESHA COUNTY DPW.
121	60"E"+45, LT	R1-1	1	1	BLINKER STOP	DELIVER EQUIPMENT TO WAUKESHA COUNTY DPW.
122	60"E"+45, LT	W4-4P	1	-	CROSS TRAFFIC DOES NOT STOP	SAME POST AS SIGN 121.
123	60"E"+55, RT	R1-1	1	1	STOP	
124	68"E"+45, LT	W3-1	1	1	ADVANCE TRAFFIC CONTROL	
205	16"VV"+95, LT	R2-1 (50)	1	1	SPEED LIMIT	
206	16"VV"+95, LT	R7-1 (ARROW)	1	-	NO PARKING BETWEEN SIGNS	SAME POST AS SIGN 205
210	20"VV"+64, LT	M3-4	1	1	WEST	
211	20"VV"+64, LT	M1-6	1	-	COUNTY VV	SAME POST AS SIGN 210.
213	20"VV"+37, LT	D14-2A	1	1	ACKNOWLEDGEMENT	SALVAGE AND RE-INSTALL.
214	20"VV"+37, LT	D14-2B	1	-	ACKNOWLEDGEMENT GROUP	SALVAGE AND RE-INSTALL. SAME POST AS SIGN 213
216	20"VV"+60, RT	RS-113	1	1	KETTLE MORRAINE SCENIC TRAIL	SALVAGE AND RE-INSTALL.
217	20"VV"+60, RT	RS-113	1	-	DIRECTIONAL ARROW	SALVAGE AND RE-INSTALL. SAME POST AS SIGN 216.
311	26"VV"+3, RT	M3-4	1	1	EAST	
312	26"VV"+3, RT	M1-6	1	-	COUNTY VV	SAME POST AS SIGN 311.
313	26"VV"+00, RT	D14-2A	1	1	ACKNOWLEDGEMENT	SALVAGE AND RE-INSTALL.
314	26"VV"+00, RT	D14-2B	1	-	ACKNOWLEDGEMENT GROUP	SALVAGE AND RE-INSTALL. SAME POST AT 313.
317	27"VV"+52, RT	R2-1 (50)	1	1	SPEED LIMIT	
325	29"VV"+95, RT	STREET	1	1	STREET NAME SIGN: POLO CT	RE-INSTALL
326	33"VV"+76, RT	M2-1	1	1	JUNCTION	
327	33"VV"+76, RT	M1-6	1	-	COUNTY E	SAME POST AS SIGN 326.
407	56"E"+38, LT	D14-2A	1	1	ACKNOWLEDGEMENT	SALVAGE AND RE-INSTALL.
408	56"E"+38, LT	D14-2B	1	-	ACKNOWLEDGEMENT GROUP	SALVAGE AND RE-INSTALL. SAME POST AS SIGN 407
409	57"E"+50, LT	M3-1	1	1	SOUTH	
410	57"E"+50, LT	M1-6	1	-	COUNTY E	SAME POST AS SIGN 409
508	61"E"+53, RT	D14-2A	1	1	ACKNOWLEDGEMENT	SALVAGE AND RE-INSTALL.
509	61"E"+53, RT	D14-2B	1	-	ACKNOWLEDGEMENT GROUP	SALVAGE AND RE-INSTALL. SAME POST AS SIGN 508.
514	63"E"+20, LT	M2-1	1	1	JUNCTION	RE-INSTALL
515	63"E"+20, LT	M1-6	1	-	COUNTY VV	RE-INSTALL. SAME POST AS SIGN 514.
516	63"E"+00, RT	W11-15	1	1	BICYCLE / PEDESTRIAN	RE-INSTALL
517	63"E"+00, RT	W16-9P	1	-	AHEAD (PLAQUE)	RE-INSTALL. SAME POST AS SIGN 516.
522	64"E"+56, RT	W11-15	1	1	BICYCLE / PEDESTRIAN	RE-INSTALL
523	64"E"+56, RT	W16-7P	1	-	DOWNWARD DIAGONAL ARROW (PLAQUE)	RE-INSTALL. SAME POST AS SIGN 522.
524	65"E"+00, LT	W11-15	1	1	BICYCLE / PEDESTRIAN	REINSTAL
525	65"E"+00, LT	W16-7P	1	-	DOWNWARD DIAGONAL ARROW (PLAQUE)	REINSTAL. SAME POST AS SIGN 524.
527	67"E"+60, LT	W11-15	1	1	BICYCLE / PEDESTRIAN	RE-INSTALL
528	67"E"+60, LT	W16-9P	1	-	AHEAD (PLAQUE)	RE-INSTALL. SAME POST AS SIGN 527.
601	139+00, RT	W3-1	1	1	BUGLINE TRAIL STOP AHEAD WARNING	SALVAGE
603	140+50, RT	R1-1	1	1	BUGLINE TRAIL STOP	SALVAGE
604	140+50, RT	R5-3	1	-	NO MOTOR VEHICLES	SALVAGE, SAME POST AS SIGN 603.
605	140+82, LT	R1-1	1	1	BUGLINE TRAIL STOP	SALVAGE
606	140+82, LT	R5-3	1	-	NO MOTOR VEHICLES	SALVAGE, SAME POST AS SIGN 605.
607	141+7, RT	- -	1	2	BUGLINE TRAIL SIGN (WOOD)	SALVAGE AND RE-INSTALL
609	140+30, LT	- -	1	2	BUGLINE TRAIL SIGN (WOOD)	SALVAGE AND RE-INSTALL
608	142+35, LT	W3-1	-	-	BUGLINE TRAIL STOP AHEAD WARNING	EXISTING TO REMAIN
Total			59	37		

SIGN LOCATIONS ARE FOR INFORMATION ONLY - ITEM IS PAID FOR BY LUMP
SUM FOR ALL SIGNS/SUPPORTS

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TRAFFIC CONTROL										
		643.0420		643.0900		643.0920		643.1050		643.5000
		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL COVERING		TRAFFIC CONTROL		
		BARRICADES TYPE III		SIGNS		SIGNS TYPE II		SIGNS PCMS		TRAFFIC CONTROL
STATION TO STATION	DAYS	EACH	DAYS	EACH	DAYS	EACH		EACH	DAY	LS
2774-01-70		-	-	-	-	-		-	-	1
2774-01-70 (CTH VV DETOUR)	75	12	900	75	5625	40		6	450	-
2774-01-70 (CTH E DETOUR)	75	12	900	75	5625	40		6	450	-
2774-01-70 (BUGLINE/ICE AGE)	35	6	210	4	840	-		-	-	-
TOTAL			2010		12090	80			900	1
FIELD OFFICE		PAVEMENT MARKING								
642.5001			646.1020	646.3020	646.5020	646.5120	646.6120	646.6220	646.8220	646.7120
TYPE B					ARROW	WORD		YIELD LINE	ISLAND	DIAGONAL
PROJECT	EACH		EPOXY	EPOXY	EPOXY	EPOXY	STOP LINE	EPOXY	NOSE	EPOXY
2774-01-70	1		4-INCH	8-INCH	TYPE 2		18-INCH	18-INCH	EPOXY	12-INCH
		STATION	LF	LF	EACH	EACH	LF	EACH	EACH	LF
		13"VV"+50 - 19"VV"+00	1701	-	-	-	-	-	1	23
		19"VV"+00 - 20"VV"+00	309	-	-	-	-	-	1	-
		20"VV"+00 - 22"VV"+40	797	79	-	1	-	18	1	8
		23"VV"+45 - 24"VV"+70	443	79	-	1	-	18	-	8
		24"VV"+70 - 28"VV"+70	1498	-	-	-	-	-	1	-
		28"VV"+70 - 29"VV"+80	468	-	-	-	-	-	2	-
		29"VV"+80 - 35"VV"+25	1859	-	1	-	-	-	-	52
		55"E"+50 - 59"E"+10	1301	-	-	-	-	-	1	30
		59"E"+10 - 59"E"+60	123	79	-	1	-	18	-	8
		Inscribed Circle	252	-	-	-	72	-	-	40
		60"E"+50 - 62"E"+00	518	79	-	1	-	18	1	8
		62"E"+00 - 64"E"+00	660	-	-	-	-	-	2	-
		64"E"+00 - 67"E"+50	869	70	-	-	-	-	-	152
		TOTAL	10798	386	1	4	72	72	10	329
UTILITY LINE OPENING										
SPV.0060.04										
STA	EACH									
UNDISTRIBUTED	4									
TOTAL	4									
GEOTEXTILE TYPE R										
645.0130										
STA - STA	SY									
22"VV"+00 - 27"VV"+50	7.5									
61"E"+00 - 66"E"+25	7.5									
TOTAL	15									

LIGHTING CIRCUIT WIRE QUANTITIES			
		655.0610*	655.0620
		ELECTRICAL WIRE	ELECTRICAL WIRE
		LIGHTING	LIGHTING
FROM	TO	12 AWG	8 AWG
LOCATION	LOCATION	LF	LF
CONTROL CABINET	LPB1	32	16
LPB1	LPB2	146	73
LPB2	LP1 (1-1)	16	8
LPB2	LPB3	160	80
LPB3	LP2 (1-2)	16	8
LPB3	LPB4	242	121
LPB4	LP3 (1-3)	16	8
LPB4	LPB5	156	78
LPB5	LP4 (1-4)	16	8
LPB4	LPB6	246	123
LPB6	LP5 (1-5)	16	8
LPB6	LPB7	140	70
LPB7	LP6 (1-6)	16	8
LPB3	LPB8	236	118
LPB8	LP7 (1-7)	16	8
LPB8	LPB9	126	63
LPB9	LP8 (1-8)	16	8
TOTAL		1612	806
*ADDITIONAL QUANTITIES LOCATED IN OTHER TABLES			

LIGHTING PULL BOXES			
653.0135			
PULL BOX STEEL			
24X36			
STATION	LOCATION	EACH	
PB1	24"VV"+90.70	58.1' LT	1
PB2	24"VV"+34.08	30.2' LT	1
PB3	23"VV"+60.40	54.6' LT	1
PB4	22"VV"+39.94	62.4' LT	1
PB5	22"VV"+77.90	124.6' LT	1
PB6	22"VV"+35.46	60.4' RT	1
PB7	21"VV"+75.00	29.2' RT	1
PB8	23"VV"+47.23	62.7' RT	1
PB9	23"VV"+23.04	120.1' RT	1
TOTAL			9

LIGHT POLE QUANTITIES								
			654.0105	655.0610	657.0255	657.0321	657.0709	659.1125
			CONCRETE BASES	ELECTRICAL WIRE	TRANSFOMER	POLES	LUMINARIE ARMS	
			TYPE 5	LIGHTING	BASES BREAKAWAY	TYPE 5-STEEL	TRUSS TYPE 4	LUMINAIRES
STATION	LOCATION	LABEL	EACH	12 AWG*	11-1/2 BOLT CIRCLE	EACH	CLAMP 12-FT	UTLITY LED C
24"VV"+27.68	24.9' LT	LP1 (1-1)	1	150	1	1	1	1
23"VV"+54.00	49.2' LT	LP2 (1-2)	1	150	1	1	1	1
22"VV"+44.29	55.3' LT	LP3 (1-3)	1	150	1	1	1	1
22"VV"+82.31	117.5' LT	LP4 (1-4)	1	150	1	1	1	1
22"VV"+42.65	56.2' RT	LP5 (1-5)	1	150	1	1	1	1
22"VV"+75.00	20.9' RT	LP6 (1-6)	1	150	1	1	1	1
23"VV"+40.65	57.6' RT	LP7 (1-7)	1	150	1	1	1	1
23"VV"+18.39	113.9' RT	LP8 (1-8)	1	150	1	1	1	1
TOTAL			8	1200	8	8	8	8

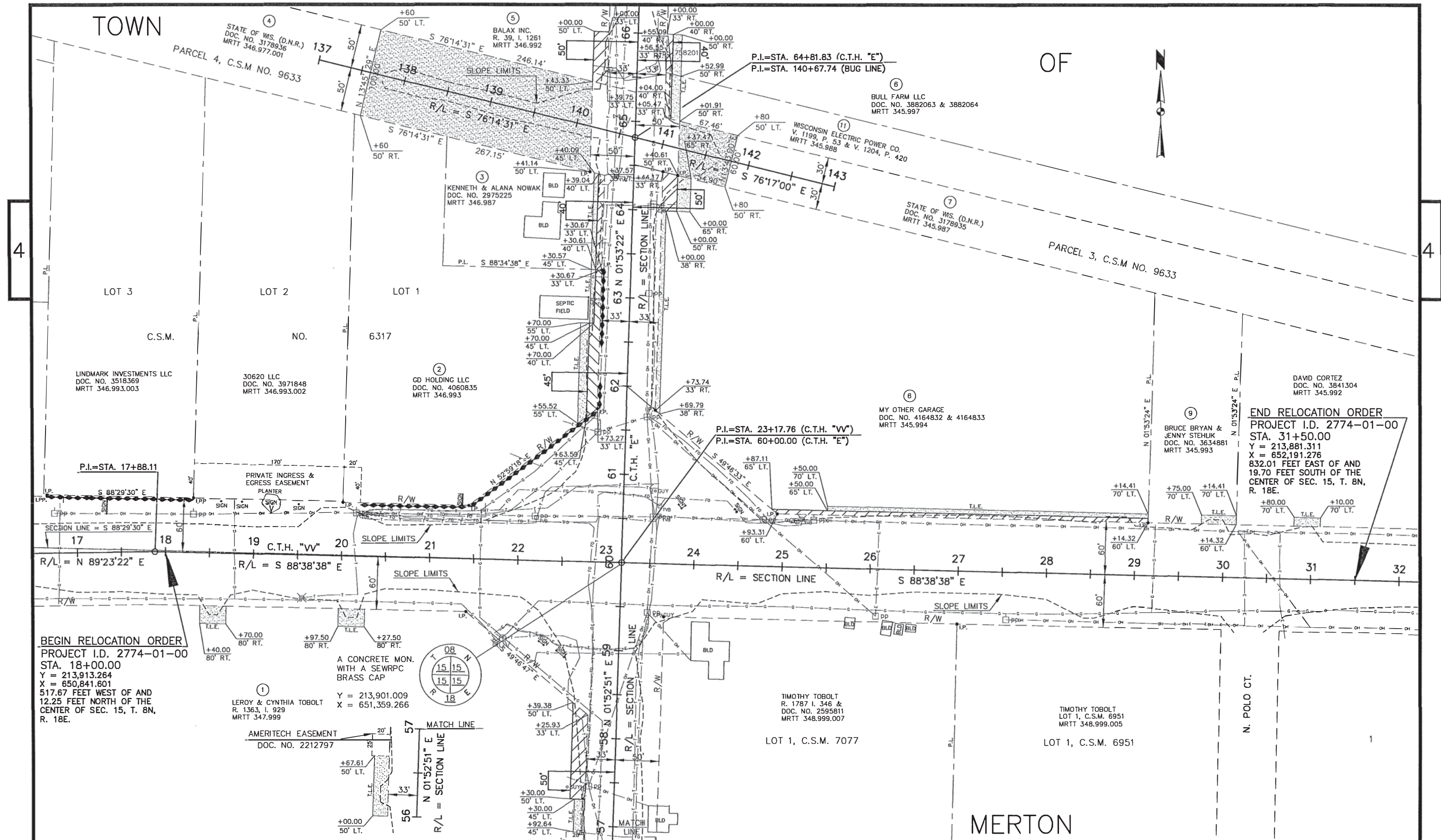
LIGHTING CIRCUIT CONDUIT QUANTITIES			
652.0225			
CONDUIT RIGID			
NONMETALLIC			
SCHEDULE 40			
2-INCH			
FROM	TO	LF	
LOCATION	LOCATION		
CONTROL CABINET	LPB1	16	
LPB1	LPB2	73	
LPB2	LP1 (1-1)	8	
LPB2	LPB3	80	
LPB3	LP2 (1-2)	8	
LPB3	LPB4	121	
LPB4	LP3 (1-3)	8	
LPB4	LPB5	78	
LPB5	LP4 (1-4)	8	
LPB4	LPB6	123	
LPB6	LP5 (1-5)	8	
LPB6	LPB7	70	
LPB7	LP6 (1-6)	8	
LPB3	LPB8	118	
LPB8	LP7 (1-7)	8	
LPB8	LPB9	63	
LPB9	LP8 (1-8)	8	
TOTAL		806	

CONSTRUCTION STAKING						
650.4500	650.5000	650.5500	650.8500	650.9910	650.9920	
CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	
STAKING	STAKING	STAKING	STAKING	STAKING	STAKING	
SUBGRADE	BASE	CURB & GUTTER	ELECTRICAL	SUPPLEMENTAL	CONTROL	SLOPE STAKING
PROJECT	PROJECT	PROJECT	PROJECT	PROJECT	PROJECT	PROJECT
STATION TO STATION	LF	LF	LF	LS	LS	LF
2474-01-70	-	-	-	1	1	-
15"VV"+00 - 21"VV"+00	600	600	549	-	-	600
21"VV"+00 - 27"VV"+00	600	600	2921	-	-	600
27"VV"+00 - 34"VV"+25	725	725	339	-	-	725
55"E"+25 - 58"E"+50	325	325	481	-	-	325
61"E"+50 - 66"E"+25	775	775	991	-	-	775
TOTAL	3025	3025	5279	1	1	3025

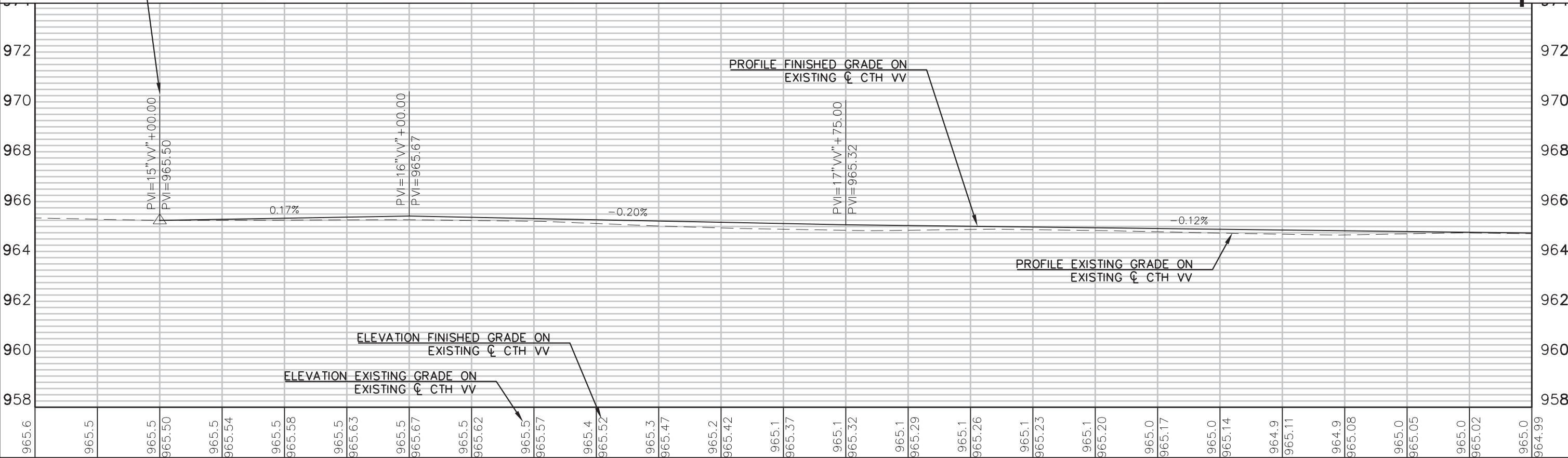
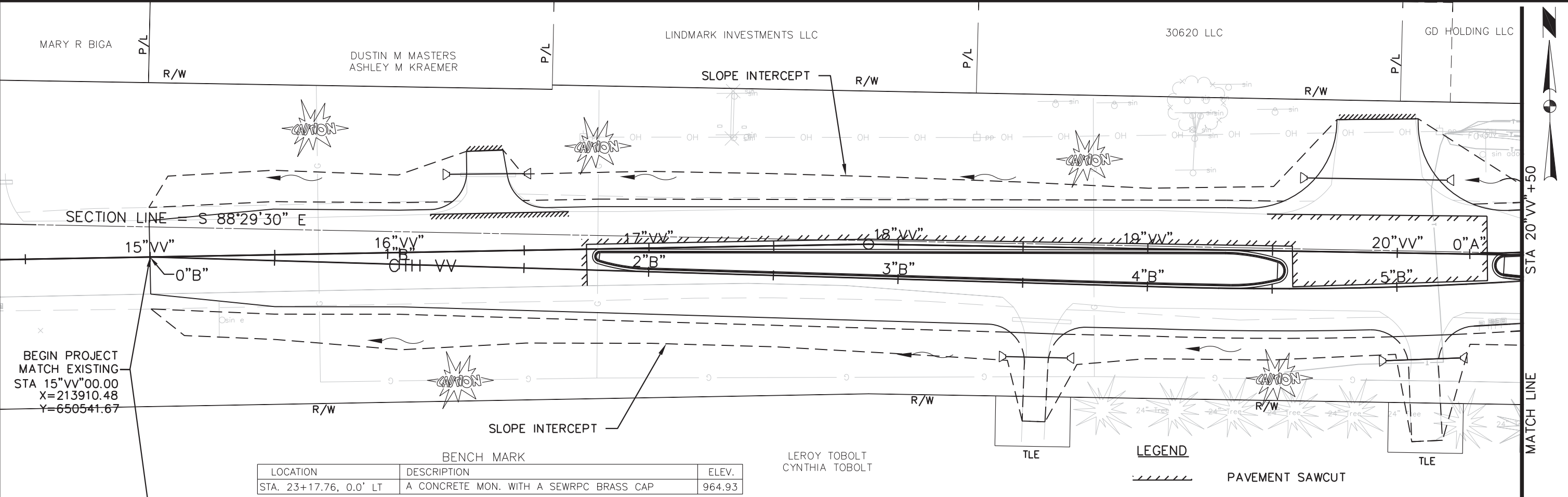
SCHEDULE OF LANDS & INTERESTS REQUIRED

AREAS SHOWN IN THE TOTAL AREA MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

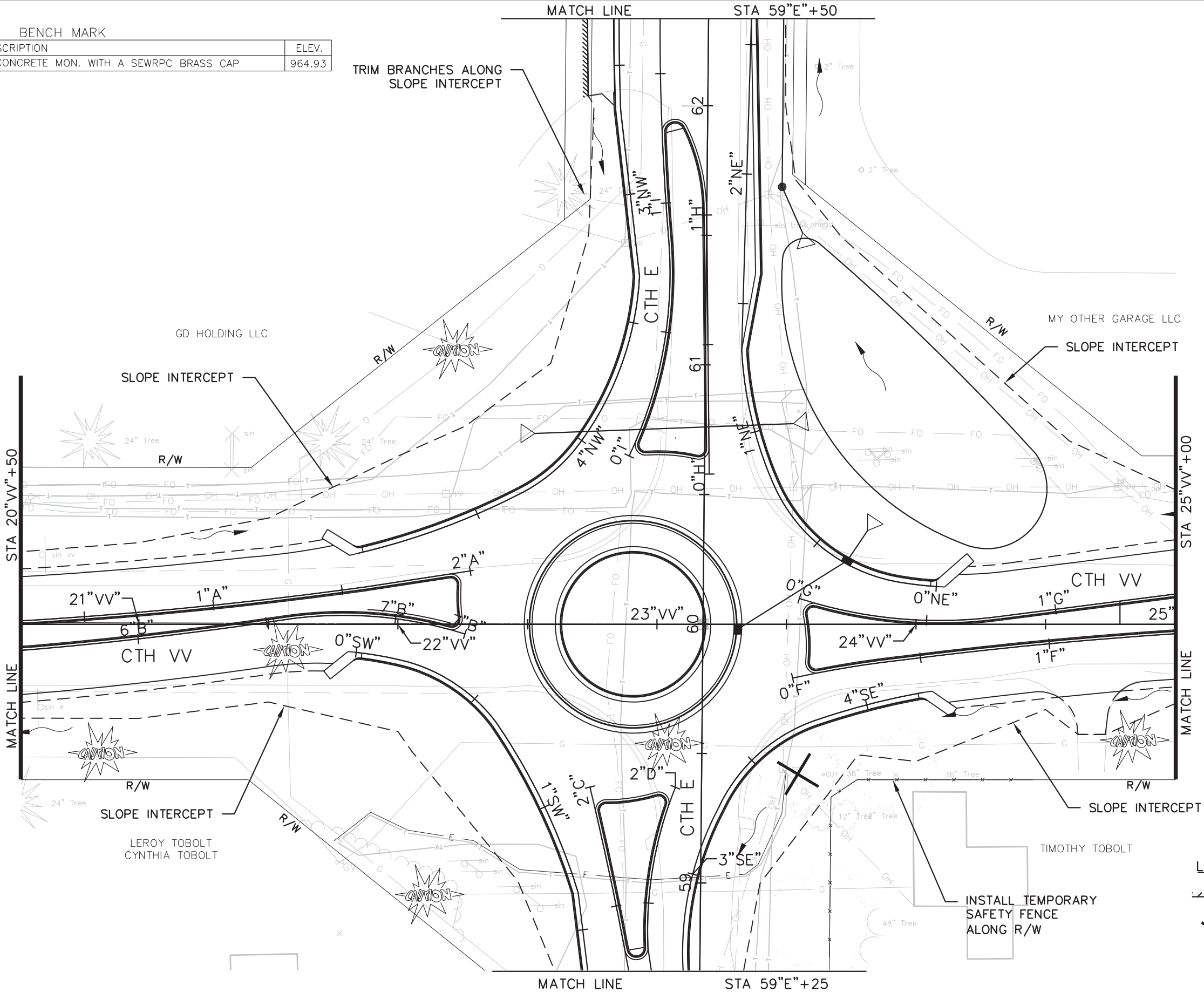
[illegible]



REVISION DATE: 07/11/17		DATE: 06/7/2017		HWY: VV		CONSTRUCTION PROJECT NO.: 2774-01-70	
SCALE: 1" = 100'				COUNTY: WAUKESHA		R/W PROJECT NO.: 2774-01-00	
						PLAT SHEET NO. 4.3	



BENCH MARK		
LOCATION	DESCRIPTION	ELEV.
STA. 23+17.76, 0.0' LT	A CONCRETE MON. WITH A SEWRPC BRASS CAP	964.93

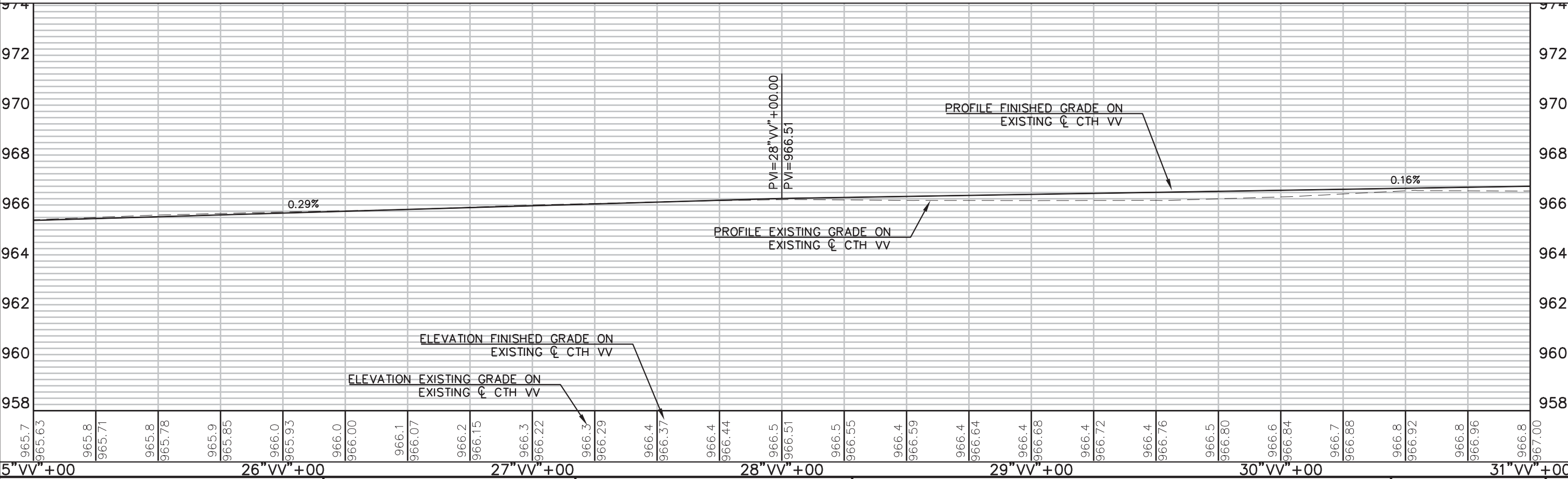
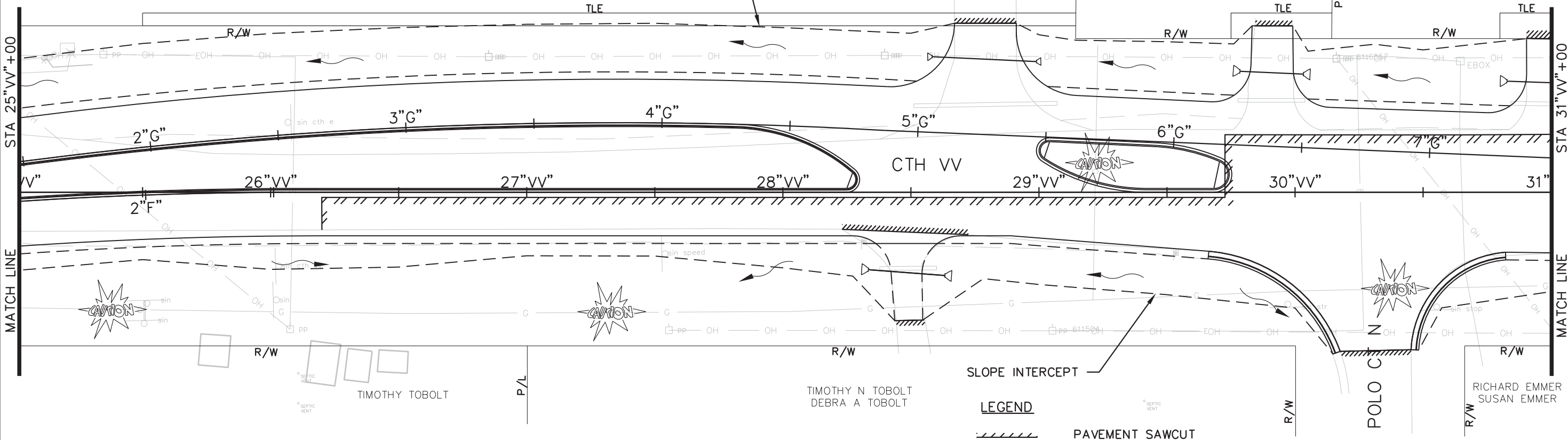


BENCH MARK		
LOCATION	DESCRIPTION	ELEV.
STA. 23+17.76, 0.0' LT	A CONCRETE MON. WITH A SEWRPC BRASS CAP	964.93

SLOPE INTERCEPT
MY OTHER GARAGE LLC

BRUCE J BRYAN
JENNY L STEHLIK

DAVID S CORTEZ



5"VV"+00	26"VV"+00	27"VV"+00	28"VV"+00	29"VV"+00	30"VV"+00	31"VV"+00
PROJECT NO: 2774-01-70	HWY: CTH VV	COUNTY: WAUKESHA	PLAN AND PROFILE - CTH VV	SHEET	E	

BENCH MARKS

LOCATION	DESCRIPTION	ELEV.
STA. 23+17.76, 0.0' LT	A CONCRETE MON. WITH A SEWRPC BRASS CAP	964.93
LOCATION	DESCRIPTION	ELEV.
STA. 56+71.7, 52.8' LT.	SOUTHWEST CORNER OF CONCRETE TELEPHONE PAD	962.81

LEROY TOBOLT
CYNTHIA TOBOLT

INSTALL TEMPORARY
SAFETY FENCE

SLOPE INTERCEPT

TLE

TLE

R/W

R/W

STA 59"E"+25

MATCH LINE

54

55

CTH E

56

0"C"

0"D"

57

58

2"SE"

59

3"SE"

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BEGIN CONSTRUCTION
MATCH EXISTING
STA 55"VV"+25.00
X=213426.43
Y=651343.68

KENNETH FISCHER
KATHLEEN FISCHER

LEGEND

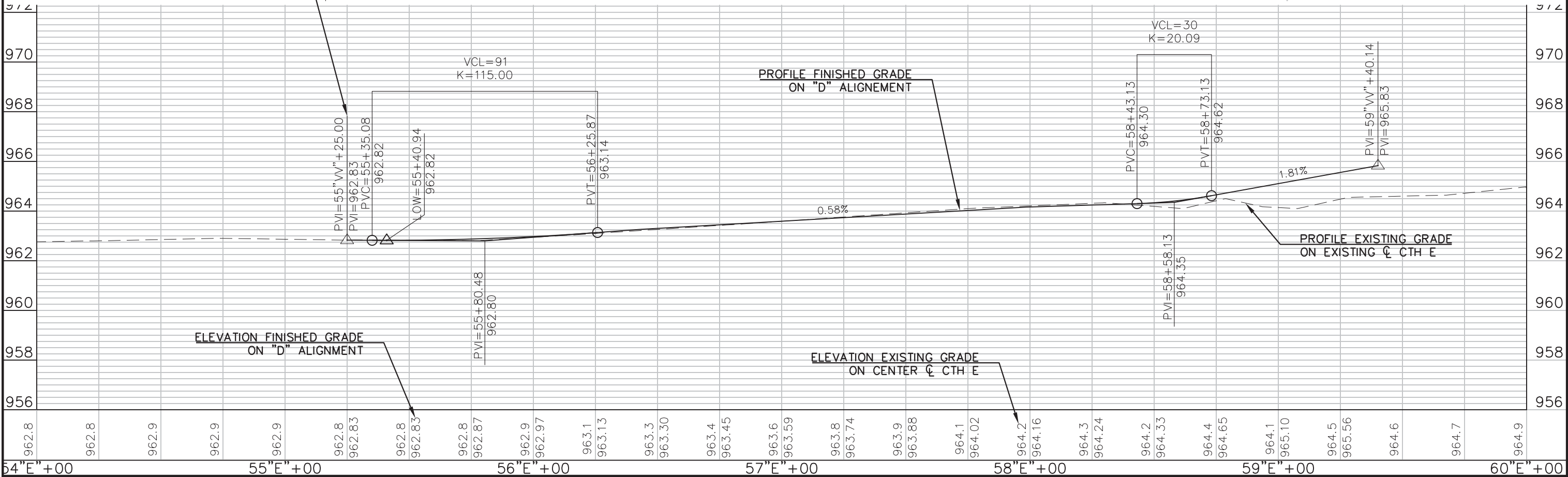


PAVEMENT SAWCUT

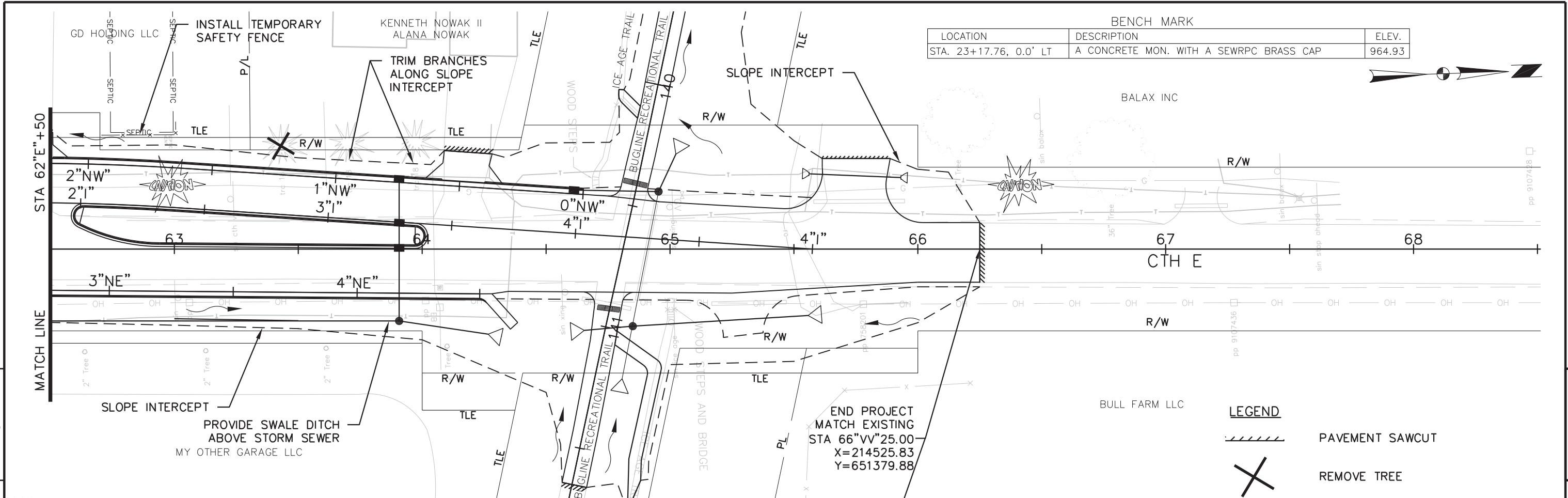
SLOPE INTERCEPT

TIMOTHY TOBOLT

INSTALL TEMPORARY SAFETY FENCE
ALONG R/W

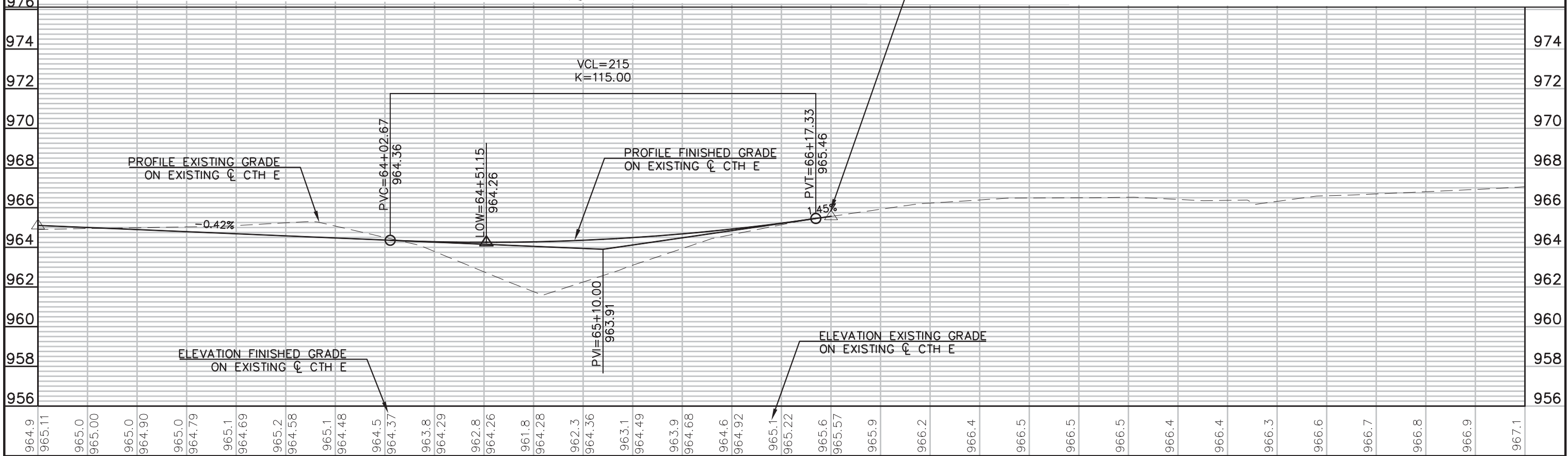


54"E"+00	55"E"+00	56"E"+00	57"E"+00	58"E"+00	59"E"+00	60"E"+00
PROJECT NO:2774-01-70		HWY:CTH VV		COUNTY:WAUKESHA		PLAN AND PROFILE - CTH E
SHEET						E



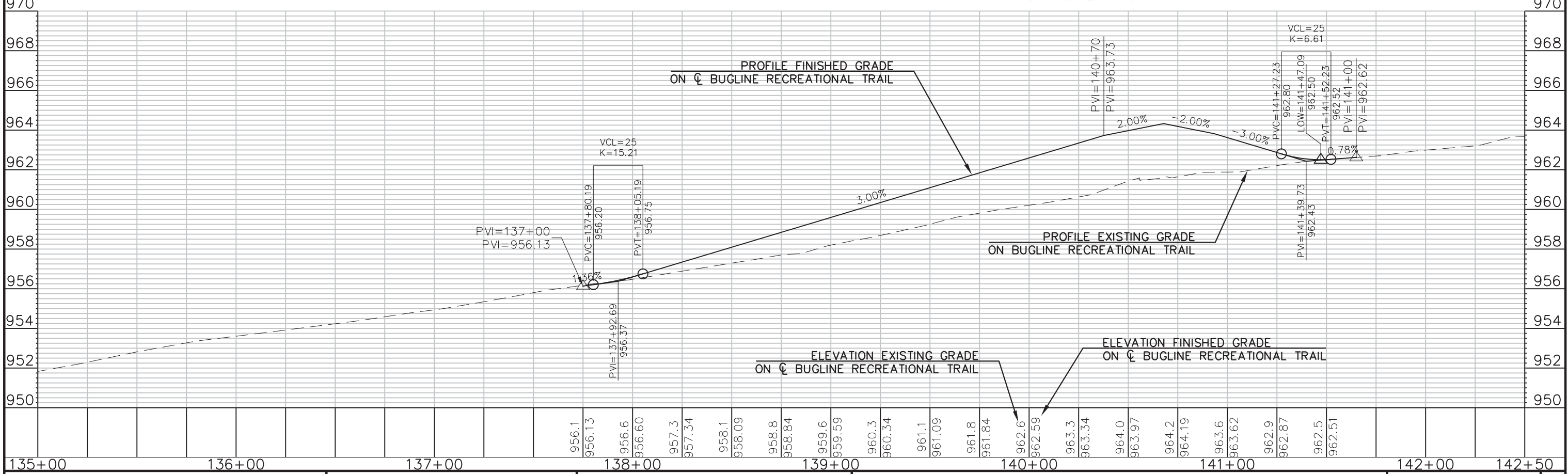
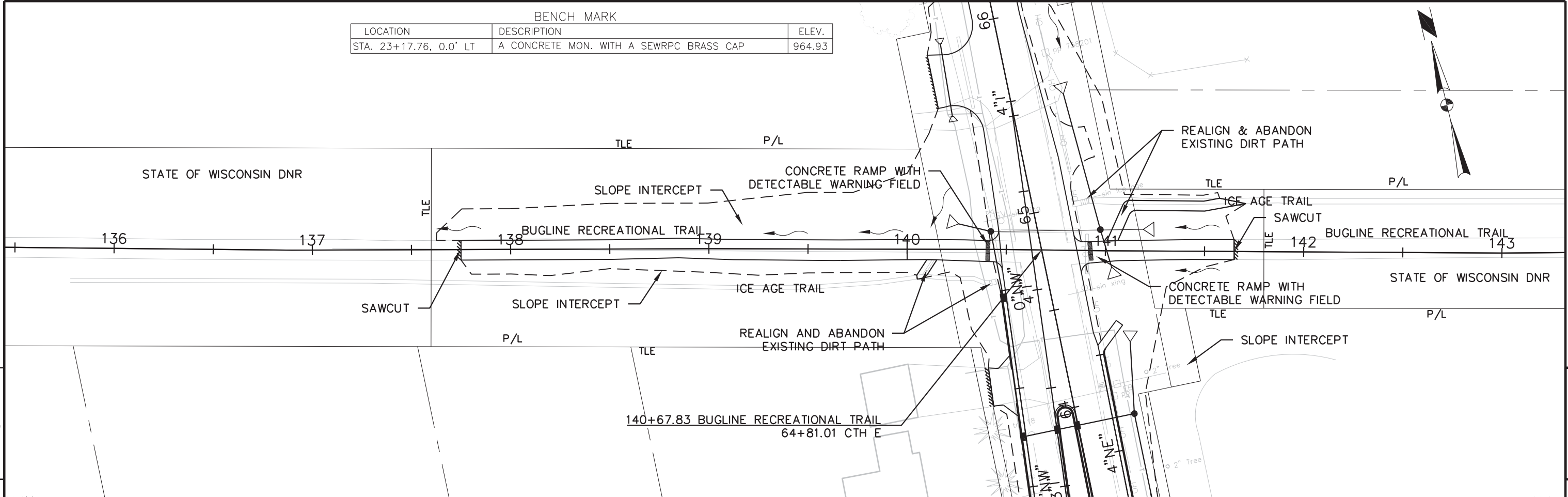
BENCH MARK		ELEV.
LOCATION	DESCRIPTION	
STA. 23+17.76, 0.0' LT	A CONCRETE MON. WITH A SEWRPC BRASS CAP	964.93

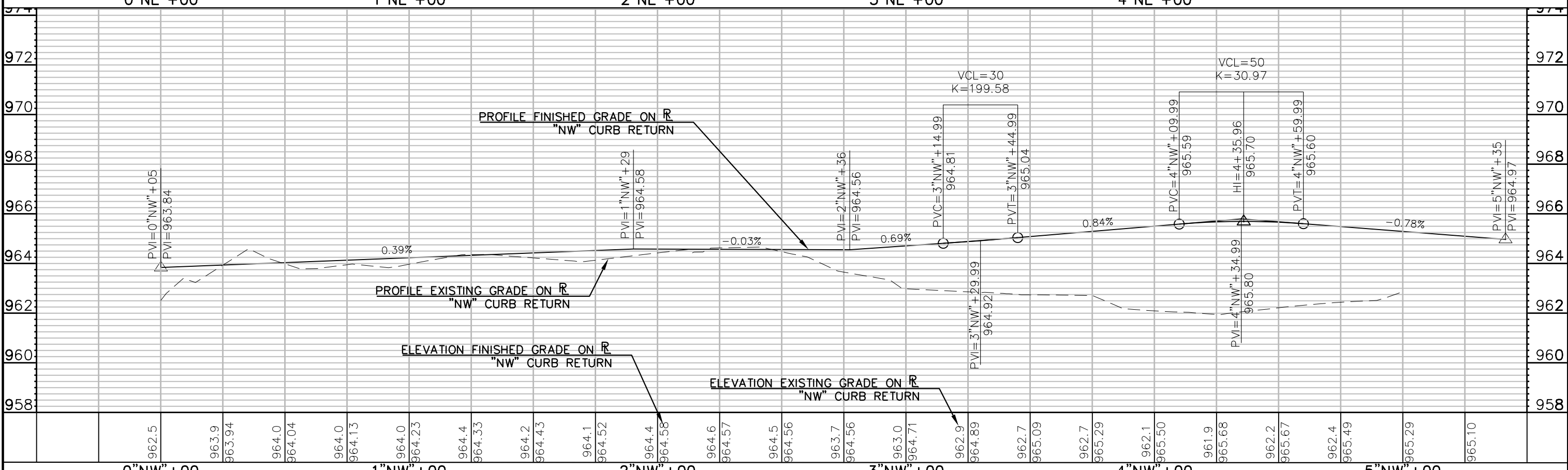
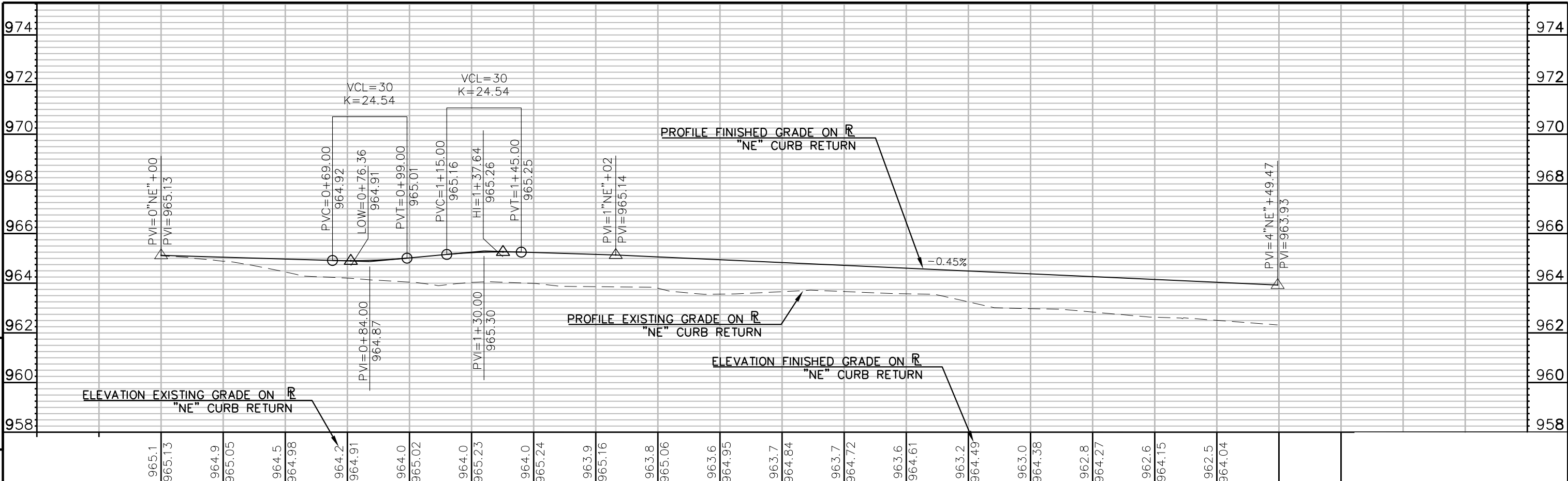
LEGEND	
	PAVEMENT SAWCUT
	REMOVE TREE



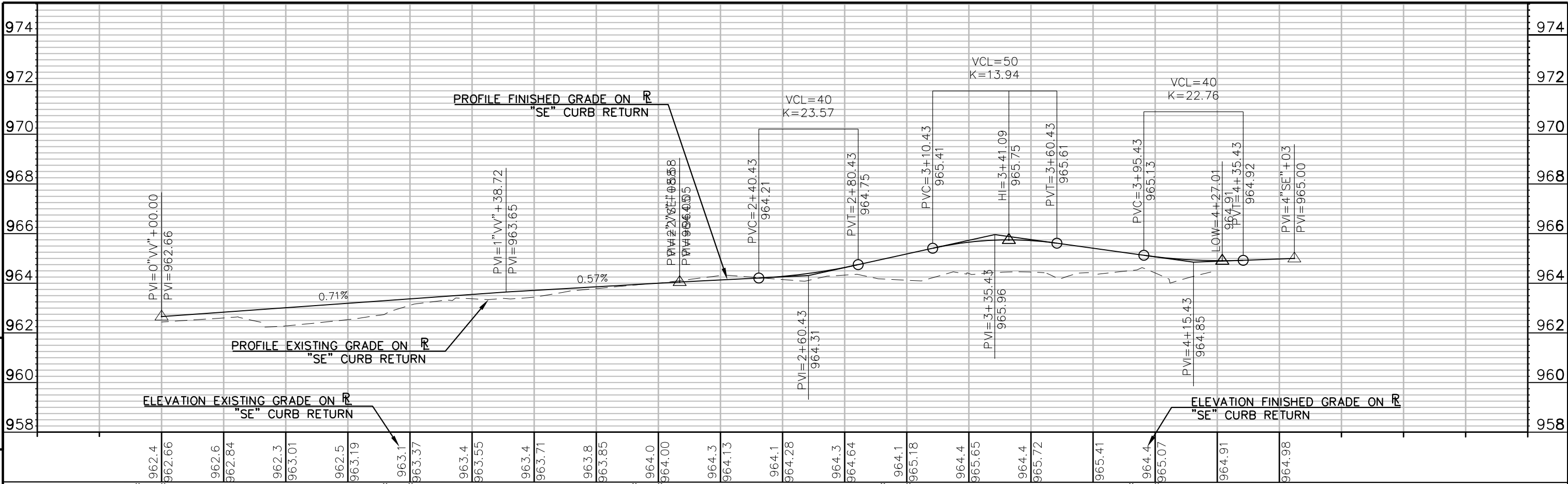
63"E"+00	64"E"+00	65"E"+00	66"E"+00	67"E"+00	68"E"+00	69"E"+00
PROJECT NO: 2774-01-70		HWY: CTH VV	COUNTY: WAUKESHA	PLAN AND PROFILE - CTH E		SHEET

BENCH MARK		
LOCATION	DESCRIPTION	ELEV.
STA. 23+17.76, 0.0' LT	A CONCRETE MON. WITH A SEWRPC BRASS CAP	964.93

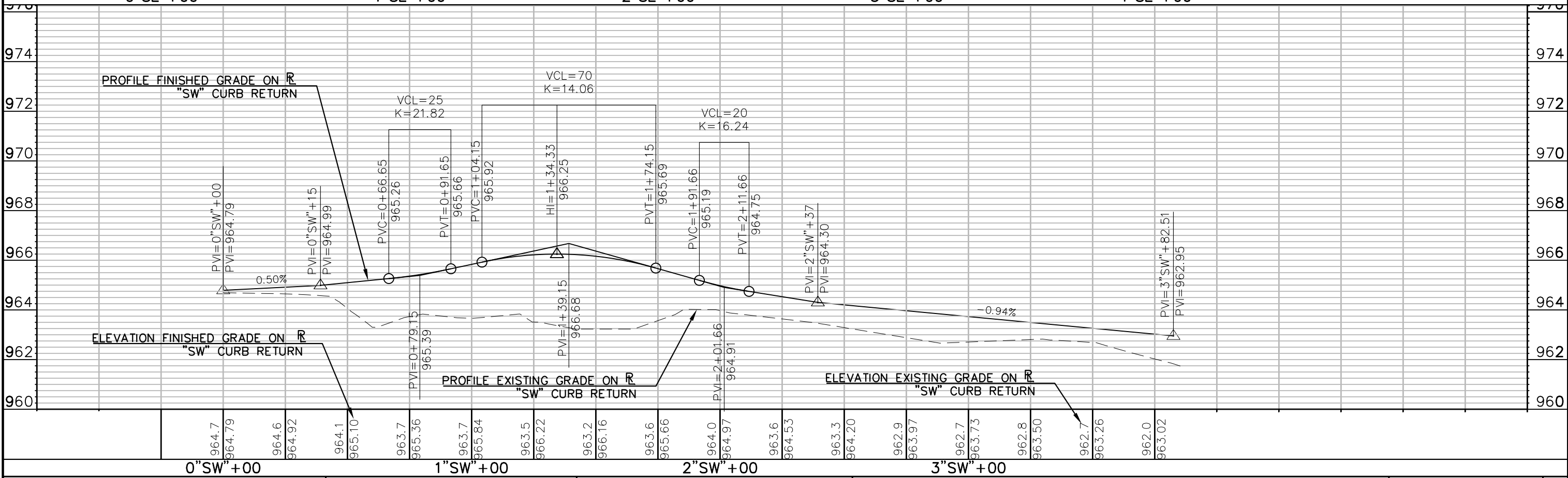




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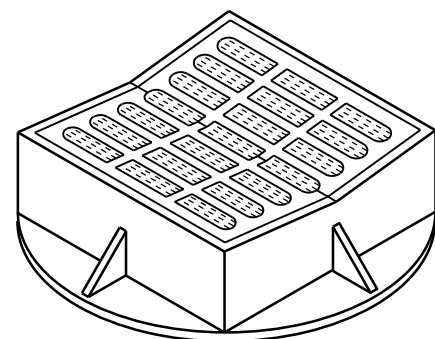
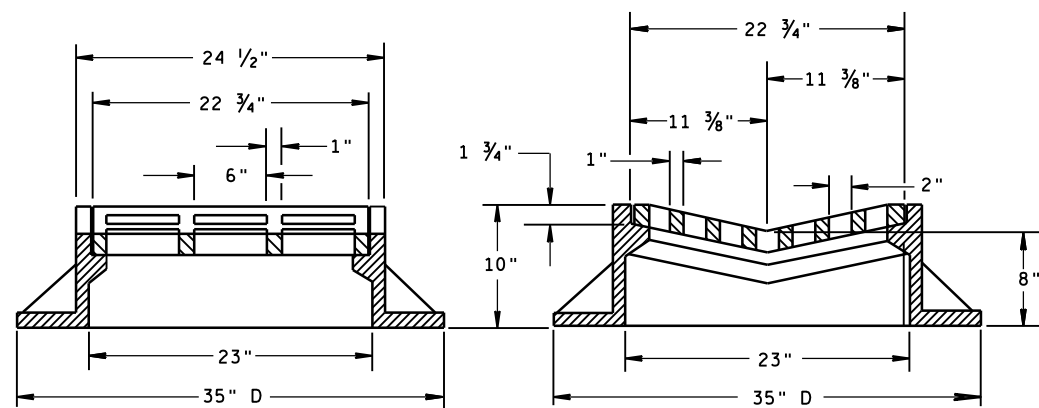


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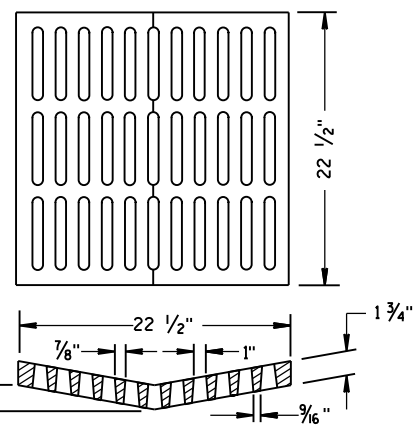


Standard Detail Drawing List

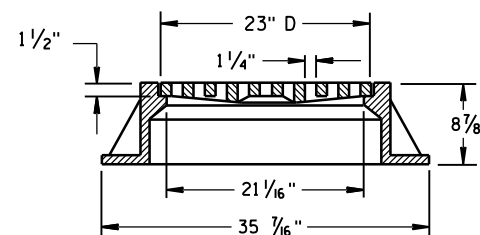
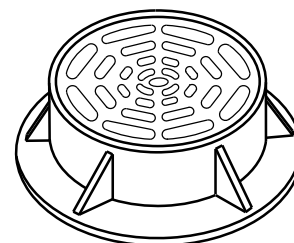
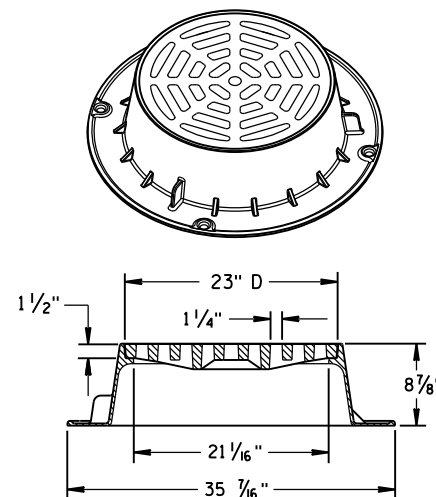
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-02	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-19A	CURB RAMPS TYPES 1 AND 1-A
08D05-19B	CURB RAMPS TYPES 2 AND 3
08D05-19C	CURB RAMPS TYPES 4A AND 4A1
08D05-19D	CURB RAMPS TYPE 4B AND 4B1
08D05-19E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-19F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-19G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F07-05	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE FRAINS
09B02-10	CONDUIT
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D04-02	LIGHTING CONTROL CABINET 120/240 VOLT
09E01-14D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
11B01-05	CONCRETE CORRUGATED MEDIAN
11B02-02	CONCRETE MEDIAN NOSE
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C18-05A	CONCRETE PAVEMENT JOINTING
13C18-05B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-05C	CONCRETE PAVEMENT JOINT TYPES
13C18-05E	CONCRETE PAVEMENT JOINTING AND STEEL REINFORCEMENT IN ROUNDABOUTS
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-03	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-14B	PAVEMENT MARKING WORDS
15C07-14C	PAVEMENT MARKING ARROWS
15C08-18A	LONGITUDINAL MARKING (MAINLINE)
15C08-18B	PAVEMENT MARKING (TURN LANES)
15C18-04	MEDIAN ISLAND MARKING
15C20-02	YIELD MARKING
15C27-02B	PAVEMENT MARKING (ISLANDS)
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
16A01-06	LANDMARK REFERENCE MONUMENTS AND COVERS



TYPE "B"

ALTERNATIVE GRATE FOR
TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
 NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

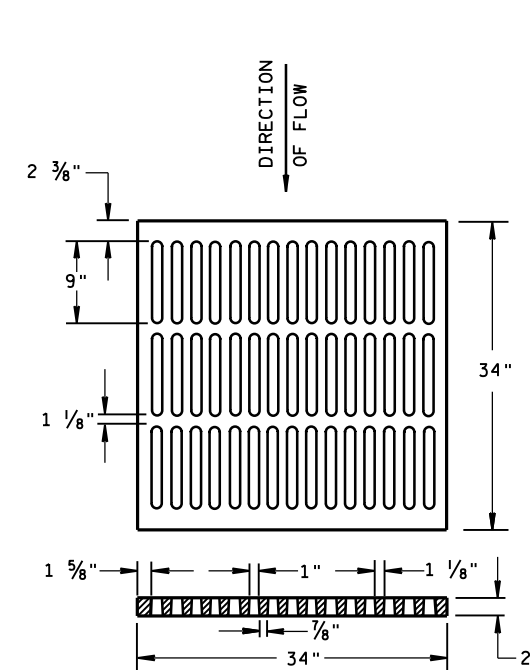
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

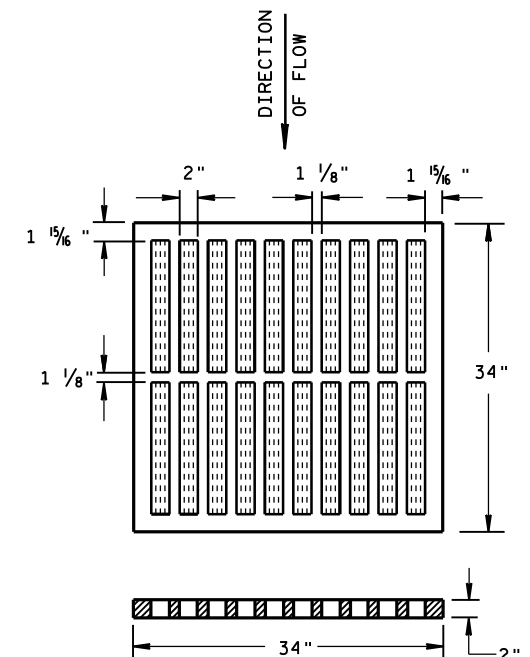
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



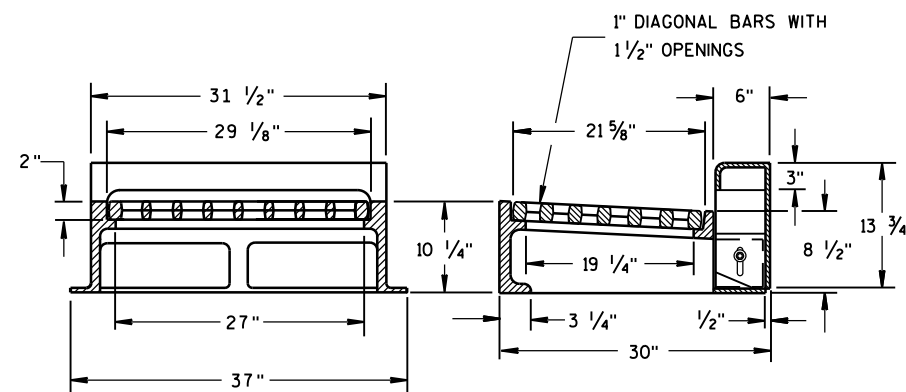
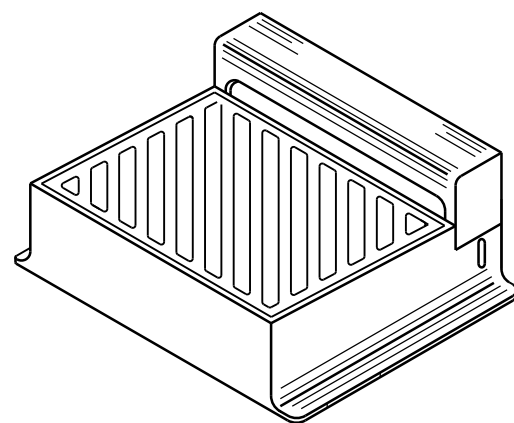
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
 NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
 NOTED AS TYPE MS ON DRAINAGE TABLE



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

DIAGONAL SLOTS, SHALL BE ORIENTED
 TO THE DIRECTION OF FLOW AS ILLUSTRATED.
 GRATES ARE MANUFACTURED TO BE REVERSIBLE.

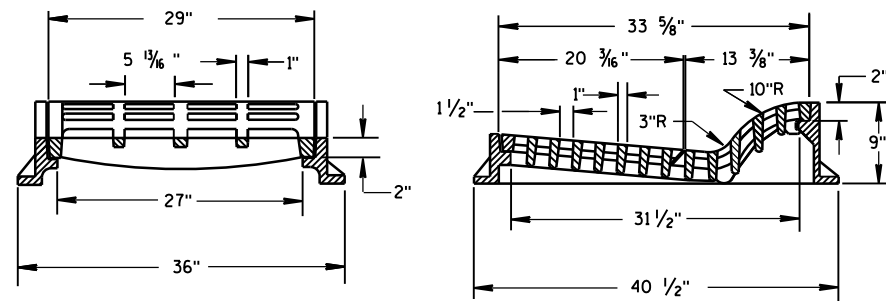
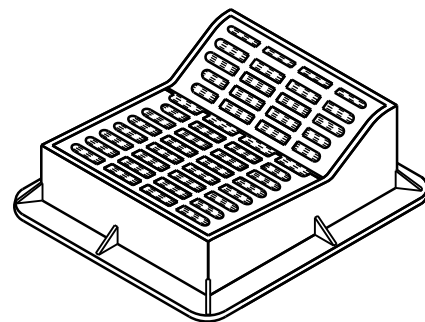
DIRECTION
OF FLOW

INLET COVERS
 TYPE B, B-A, C,
 MS, MS-A, & WM

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

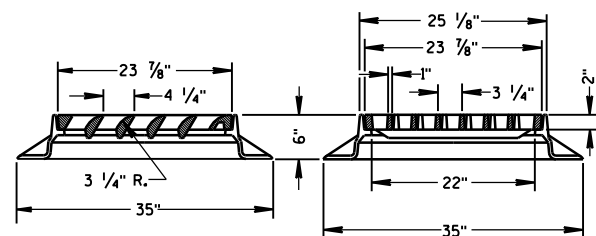
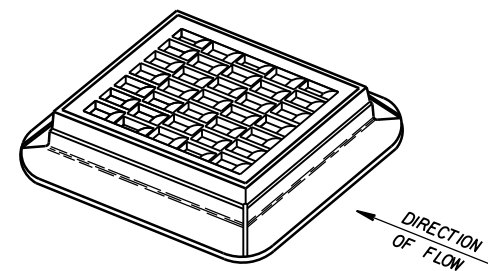
APPROVED
 11/27/2013
 DATE
 FHWA

/S/ Jerry H. Zogg
 ROADWAY STANDARDS DEVELOPMENT
 ENGINEER

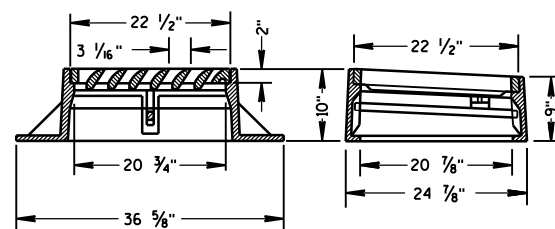
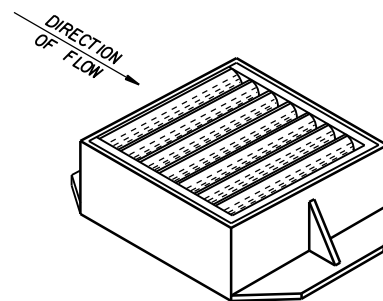


TYPE "F"

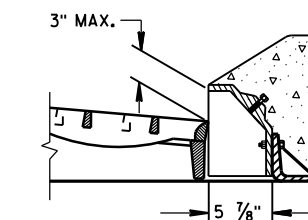
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



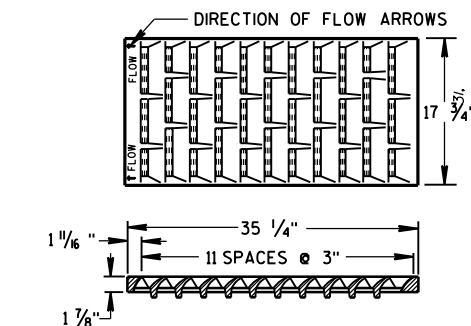
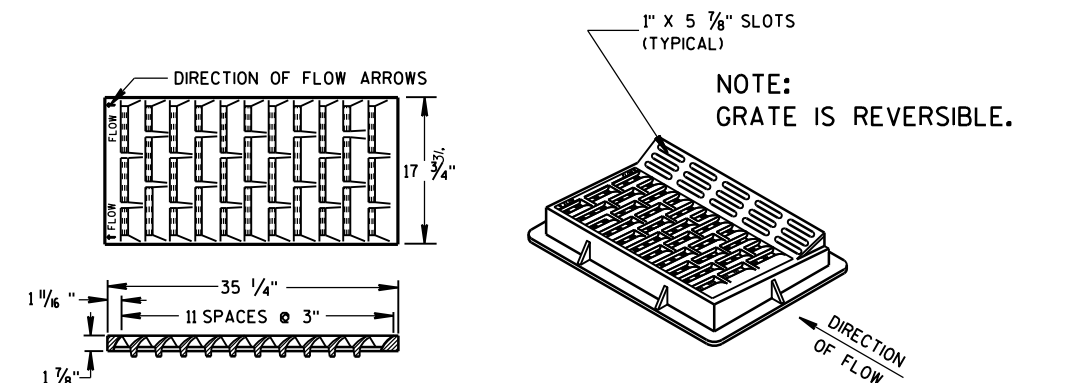
TYPE "S"



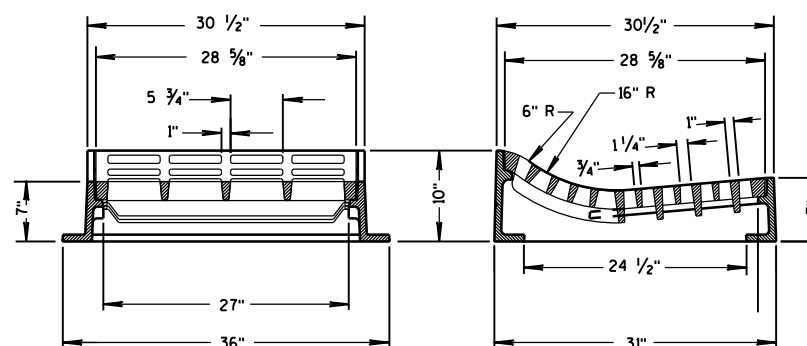
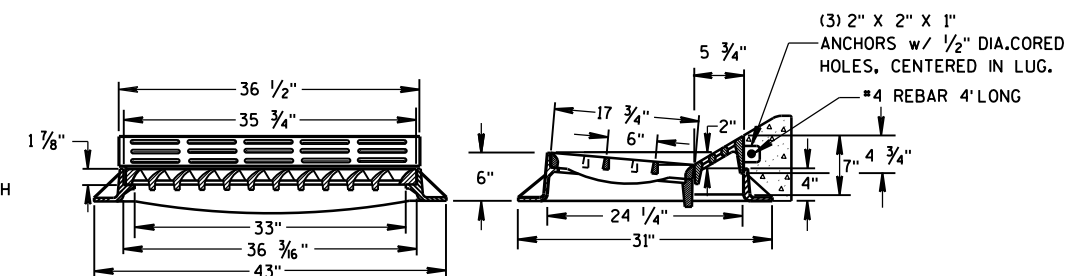
TYPE "V"

ALTERNATIVE CURB BOX
FOR TYPE "HM" COVERUSE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLENOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

GENERAL NOTES

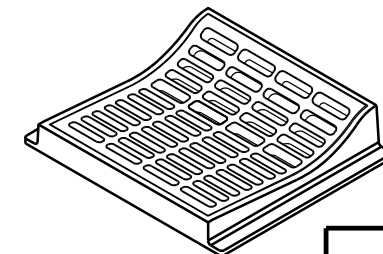
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING
SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND
THE APPLICABLE SPECIAL PROVISIONS.DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED
TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION
FOR EQUIVALENT CAPACITY AND STRENGTH.

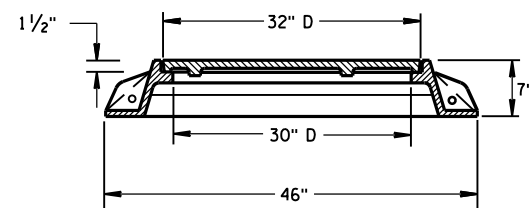
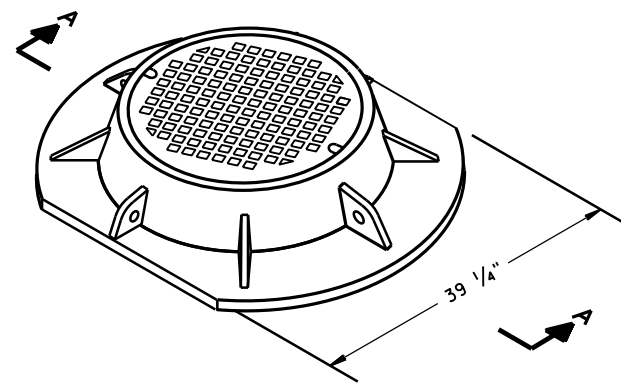
TYPE "HM"

USE WITH TYPES A & D CONCRETE
CURB & GUTTER, 36 INCH.NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE

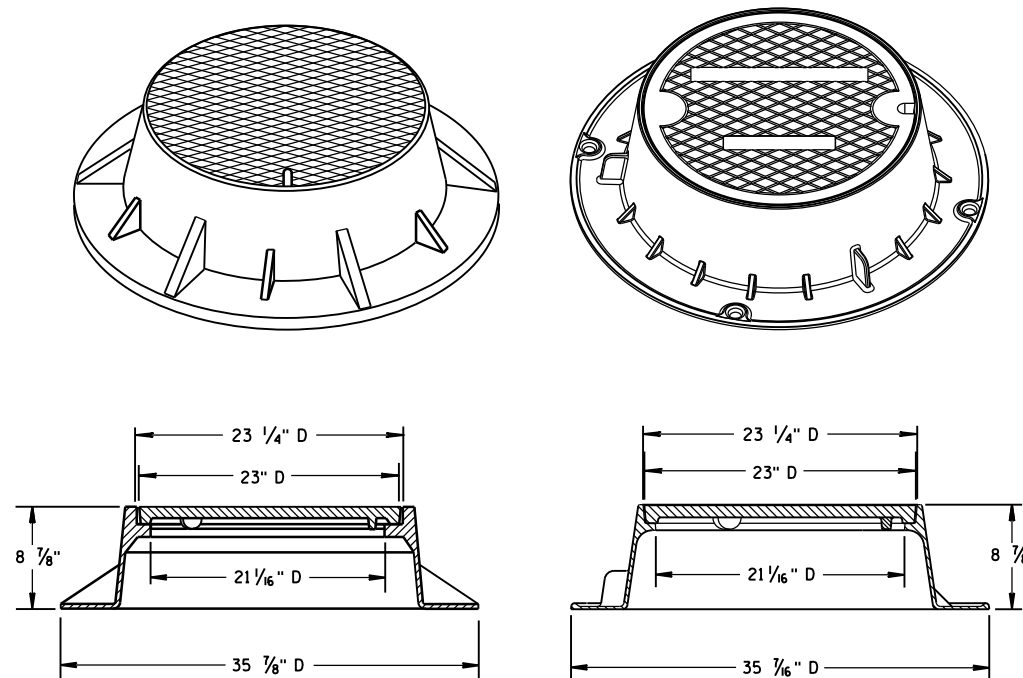
TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.

INLET COVERS
TYPE F, HM, HM-S, S, T, V,
HM-GJ, & HM-GJ-SSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATIONAPPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

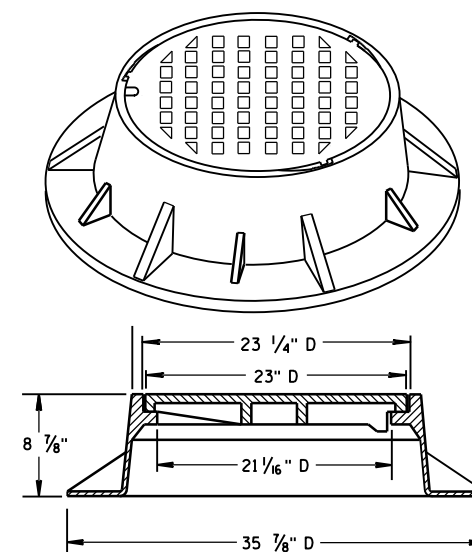
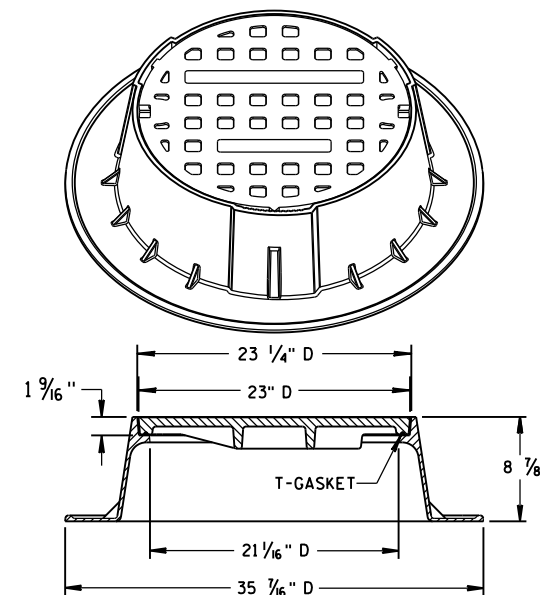


SECTION A-A
TYPE "K"



TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

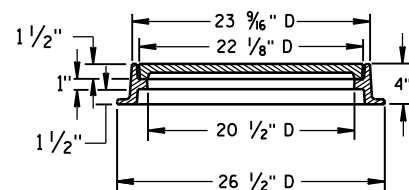
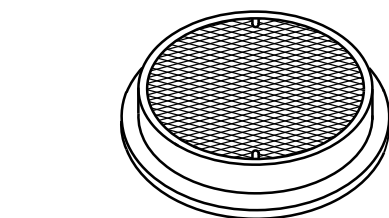


TYPE "J" SPECIAL

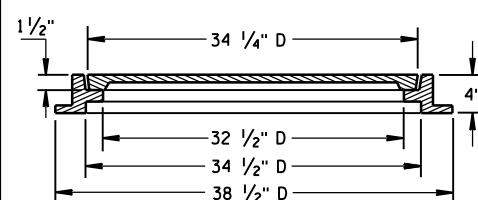
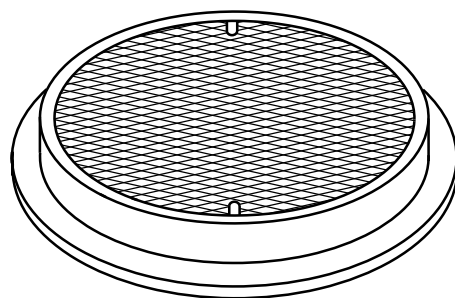
TYPE "B" NON-ROCKING SELF-SEAL LID

(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

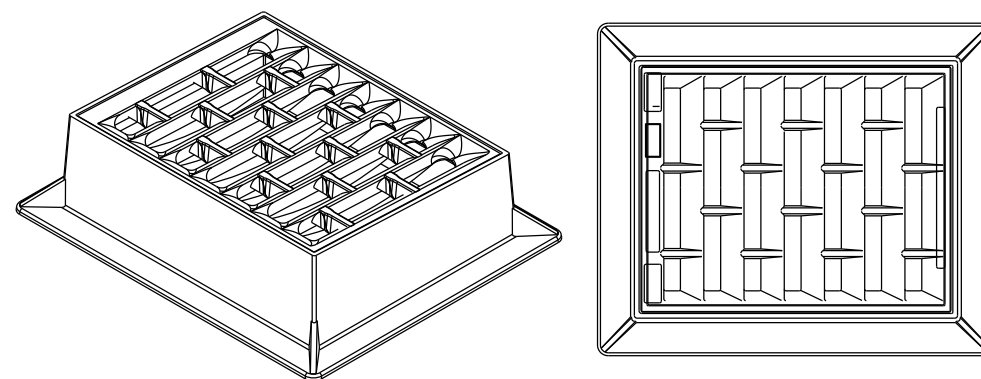
NOTE: EITHER CASTING IS ACCEPTABLE



TYPE "L"



TYPE "M"



INLET COVER TYPE "BW"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

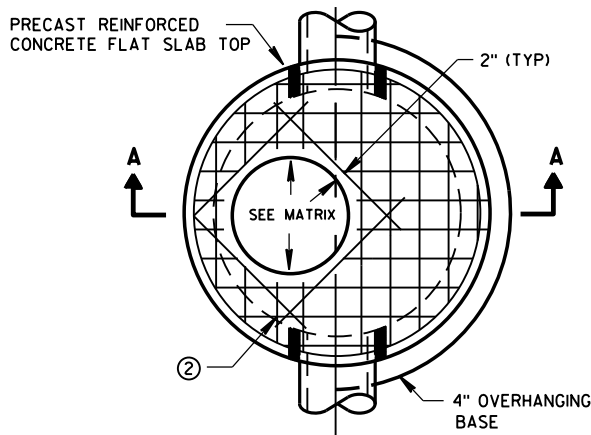
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

INLET COVER TYPE BW
MANHOLE COVERS, TYPE K,
J, J-S, L & M

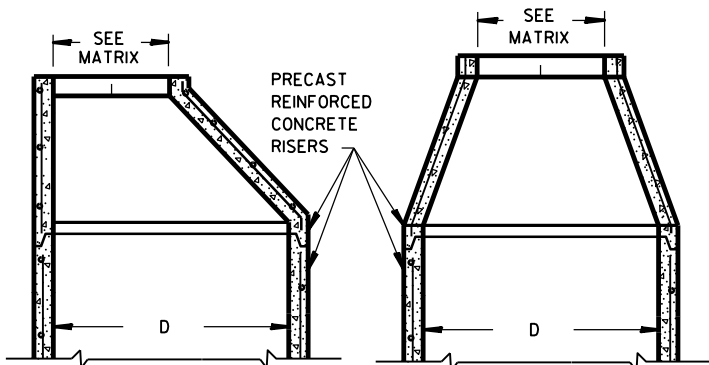
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

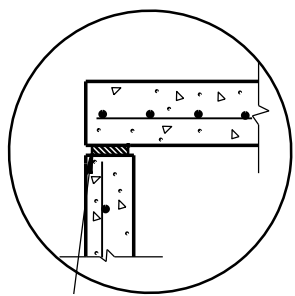


PLAN VIEW CIRCULAR OPENING

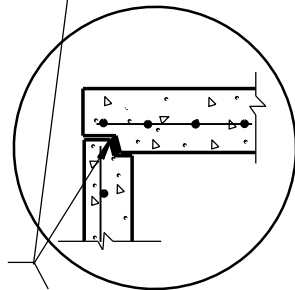


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

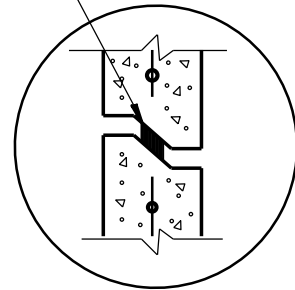
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT



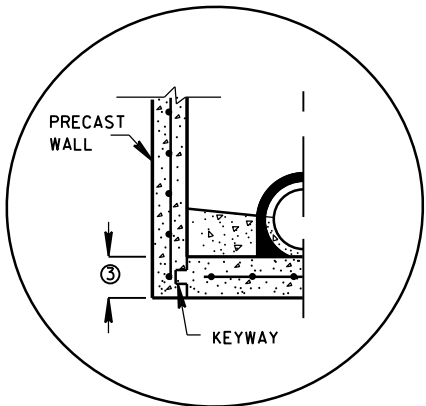
TOP WITH TONGUE AND GROOVE JOINT



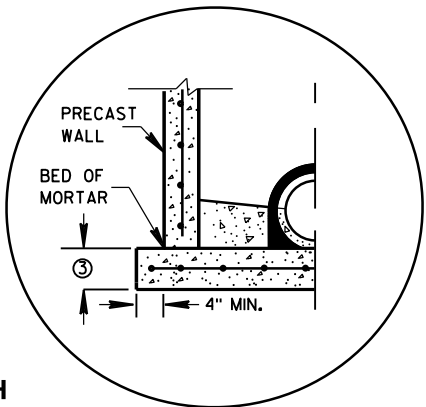
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

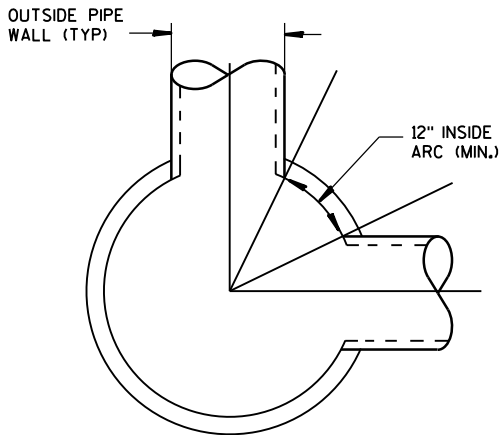


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

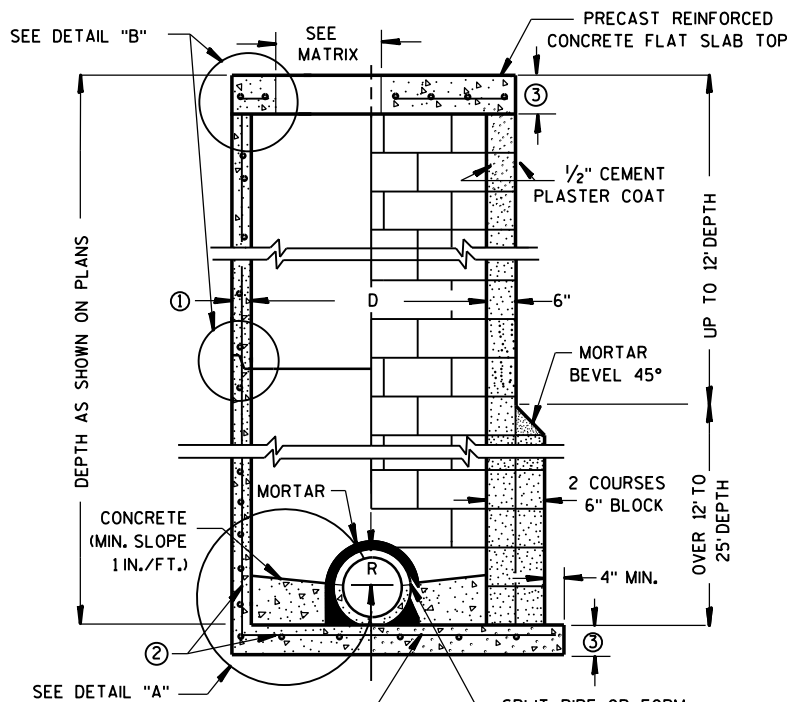


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"



CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES

PRECAST REINFORCED CONCRETE BLOCK WITH CONCRETE WITH MONOLITHIC BASE CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS. UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- ① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.
- ② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

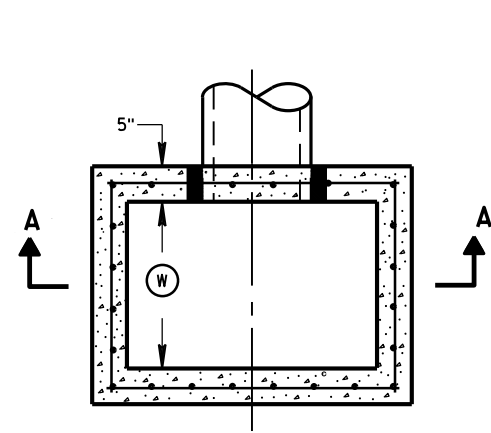
PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

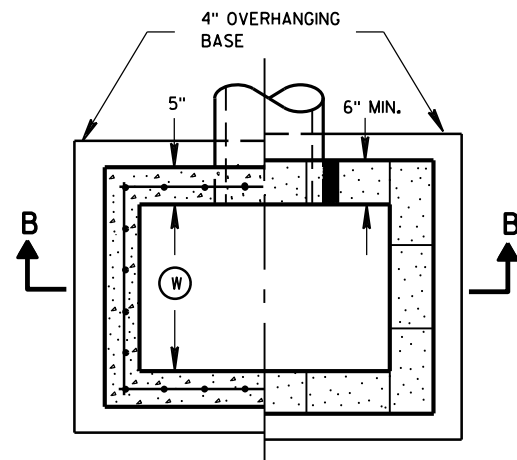
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

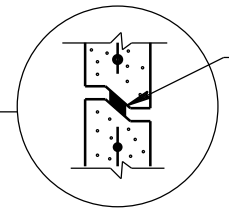
APPROVED
Sept., 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



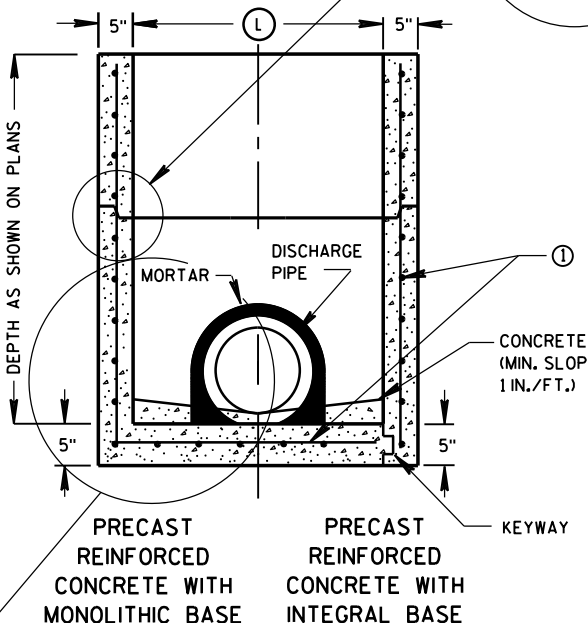
PLAN VIEW



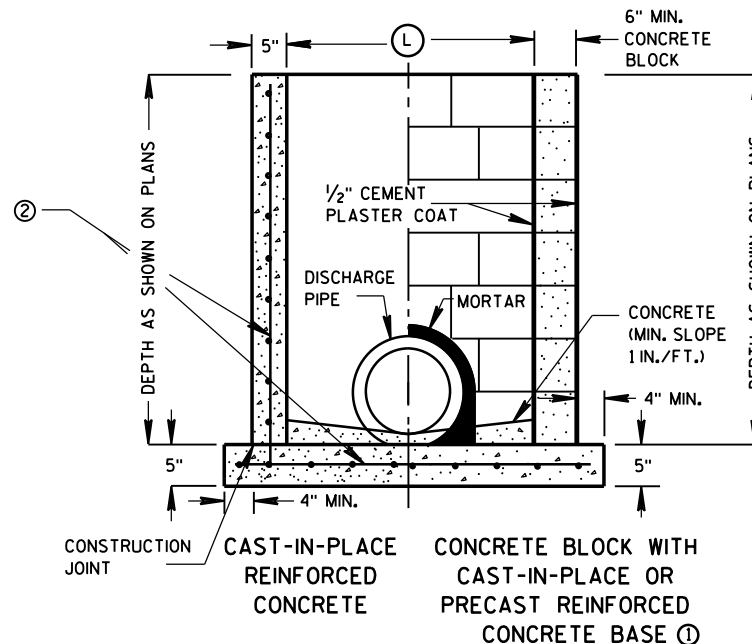
PLAN VIEW



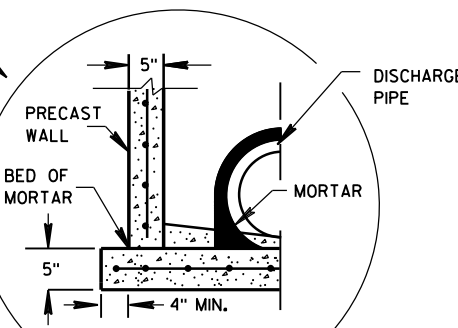
RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

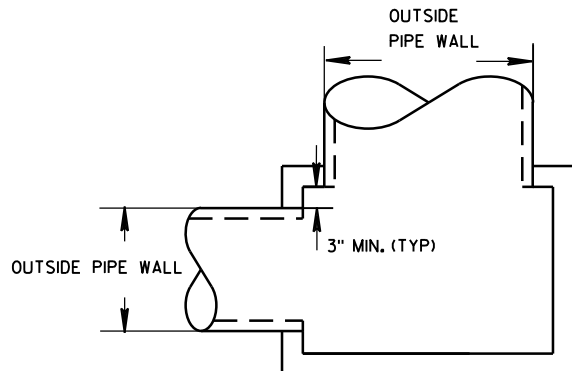
- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE	WIDTH ① (FT)	INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
		LENGTH ② (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24

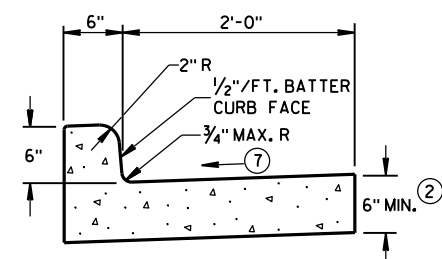


DETAIL "A"

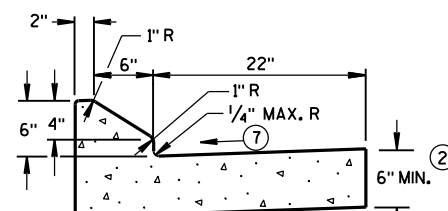
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

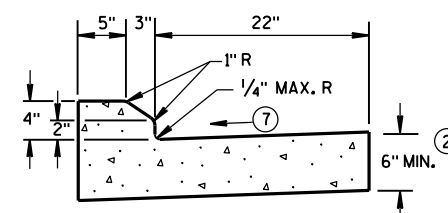
APPROVED
Sept., 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



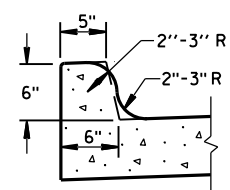
TYPES A^① & D



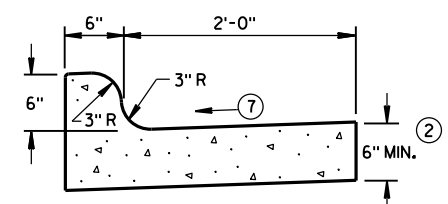
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

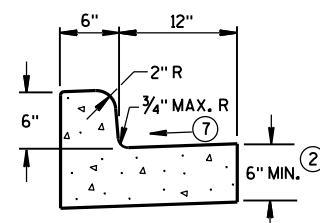


TYPES K^① & L
(OPTIONAL CURB SHAPE)



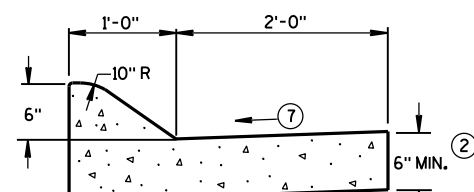
TYPES K^① & L

CONCRETE CURB & GUTTER 30"

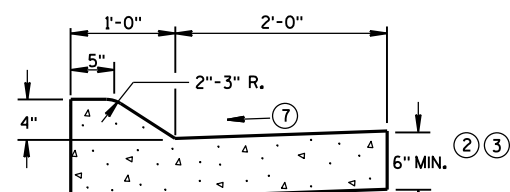


TYPES A^① & D

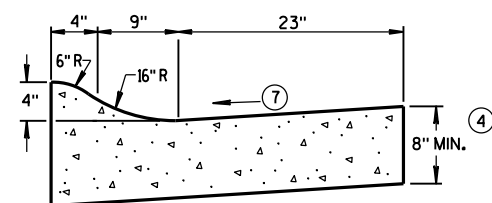
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A^① & D

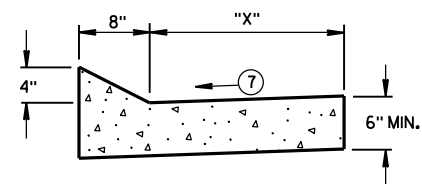


4" SLOPED CURB TYPES A^① & D



4" SLOPED CURB TYPES R⁽¹⁾ & T⁽⁵⁾

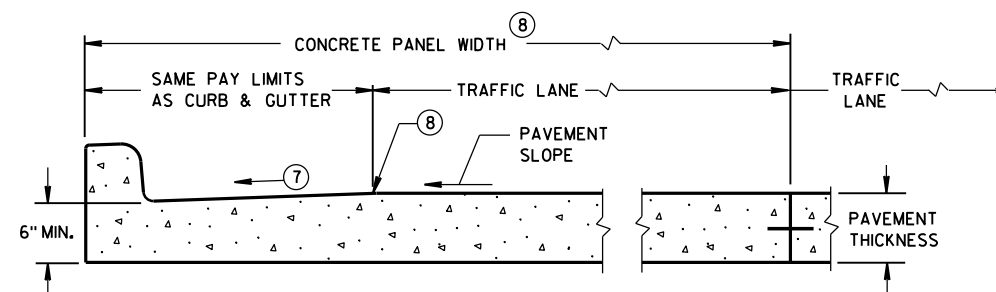
CONCRETE CURB & GUTTER 36"



TYPES TBT & TBTT^①

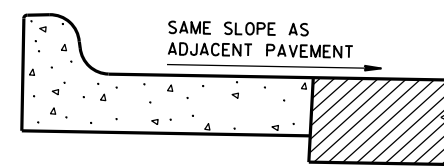
CONCRETE CURB & GUTTER

TBT & TBTT	"X"
30"	22"
36"	28"



*

**PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER**



REVERSE SLOPE GUTTER⁽⁶⁾
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2-6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

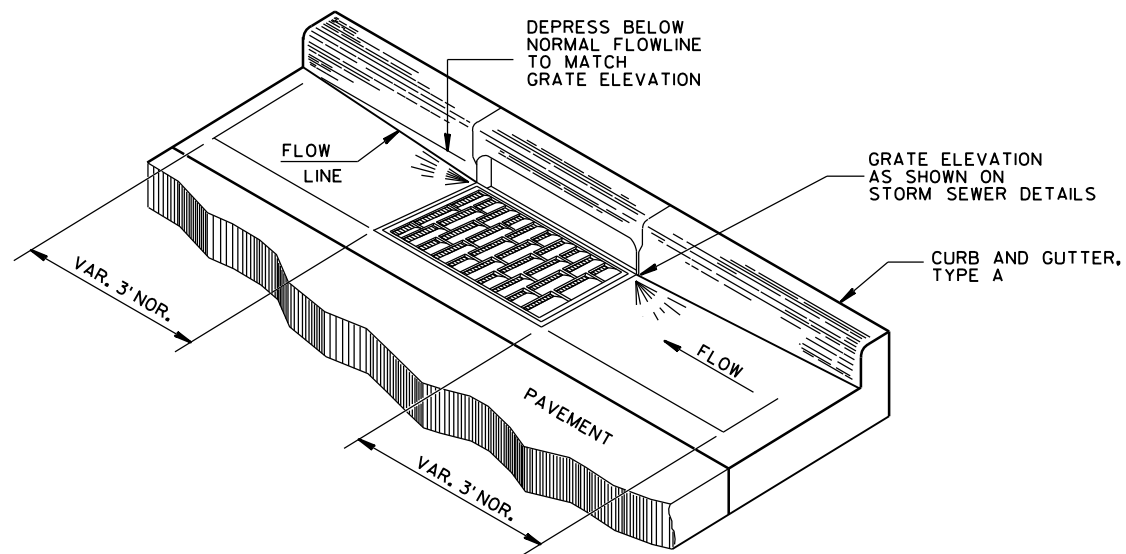
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'

* BIKE LANE IS NOT SHOWN.

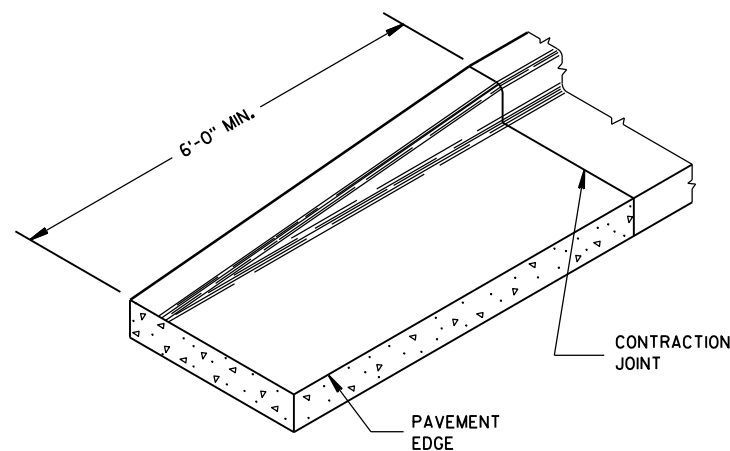
CONCRETE CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

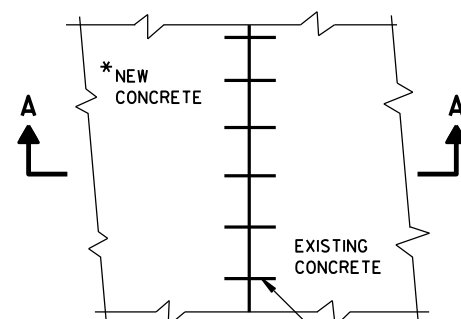


DETAIL OF CURB AND GUTTER AT INLETS

(TYPE H INLET COVER SHOWN)

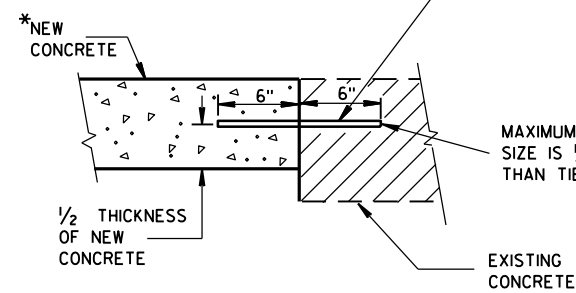


END SECTION CURB & GUTTER



PLAN VIEW

*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.



**SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT**

NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT.

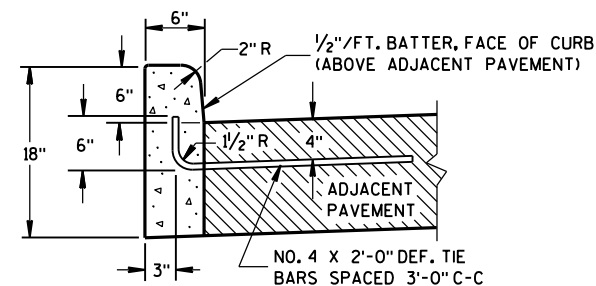
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

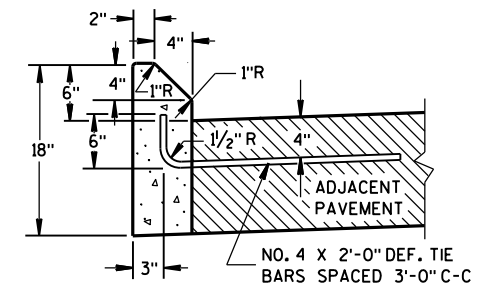
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑨ REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

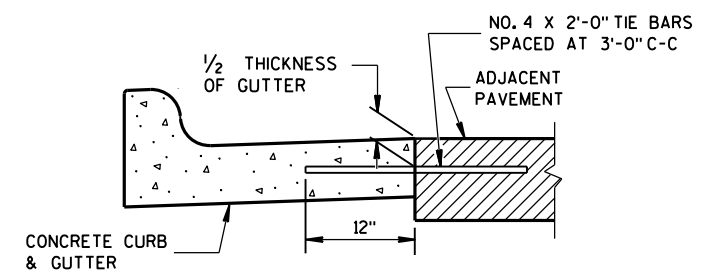


TYPES A^① & D

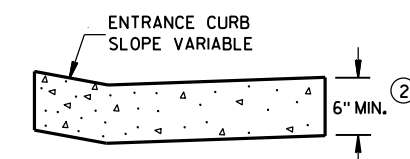


TYPES G^① & J

CONCRETE CURB



TYPICAL TIE BAR LOCATION^①



DRIVEWAY ENTRANCE CURB^⑨
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2017

DATE

FHWA

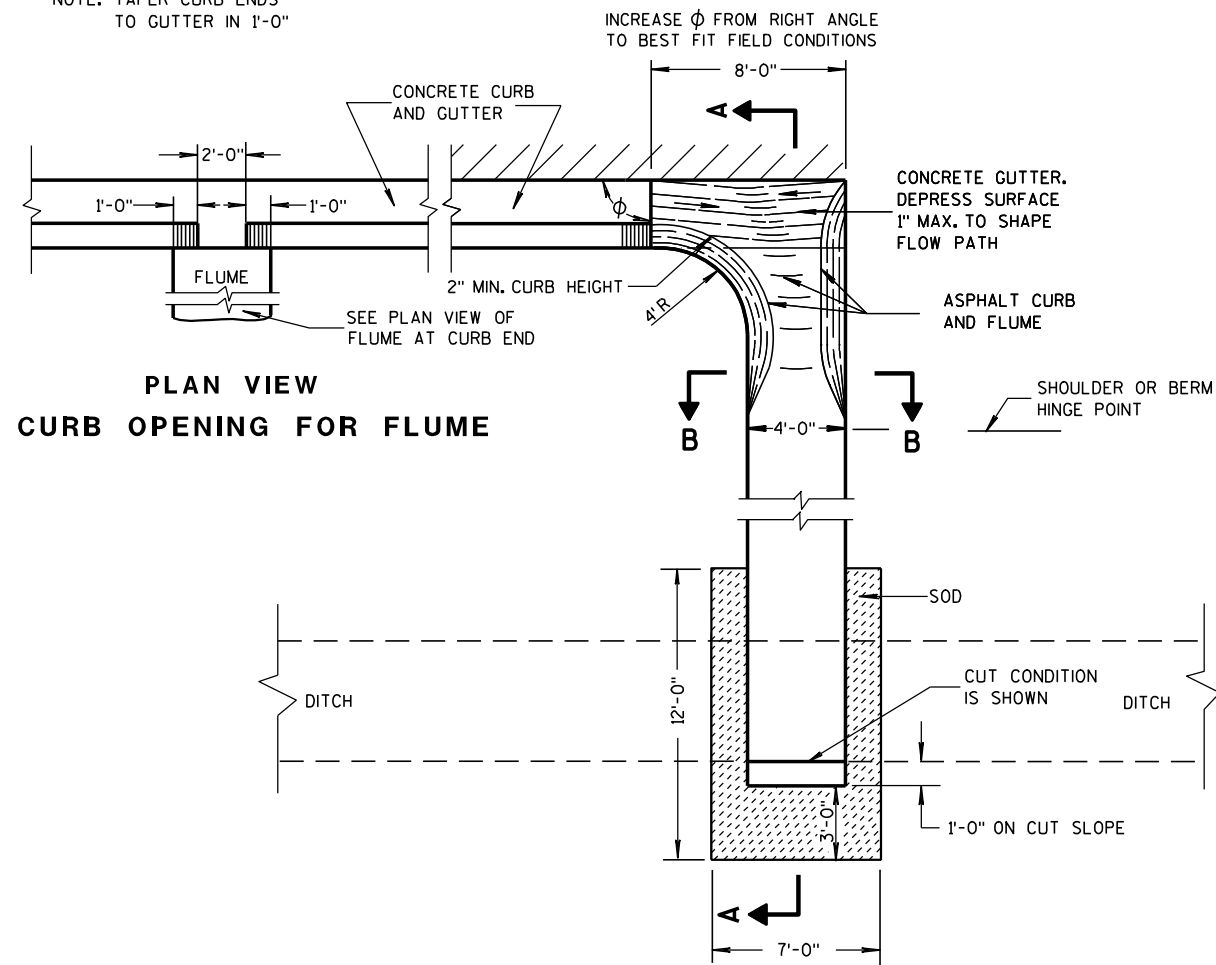
/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

UNIT SUPERVISOR

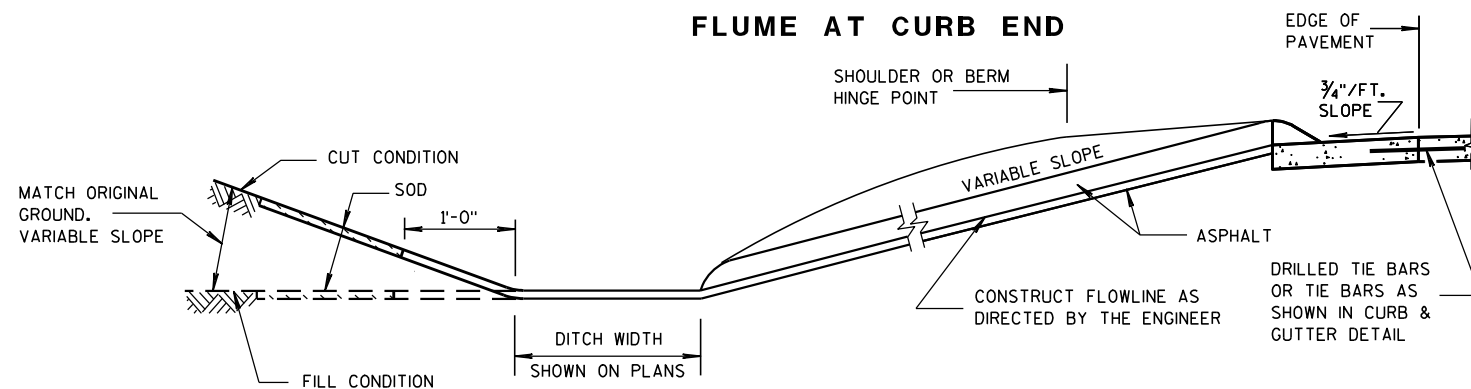
ASPHALTIC FLUME

NOTE: TAPER CURB ENDS
TO GUTTER IN 1'-0"

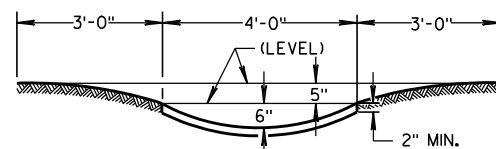


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

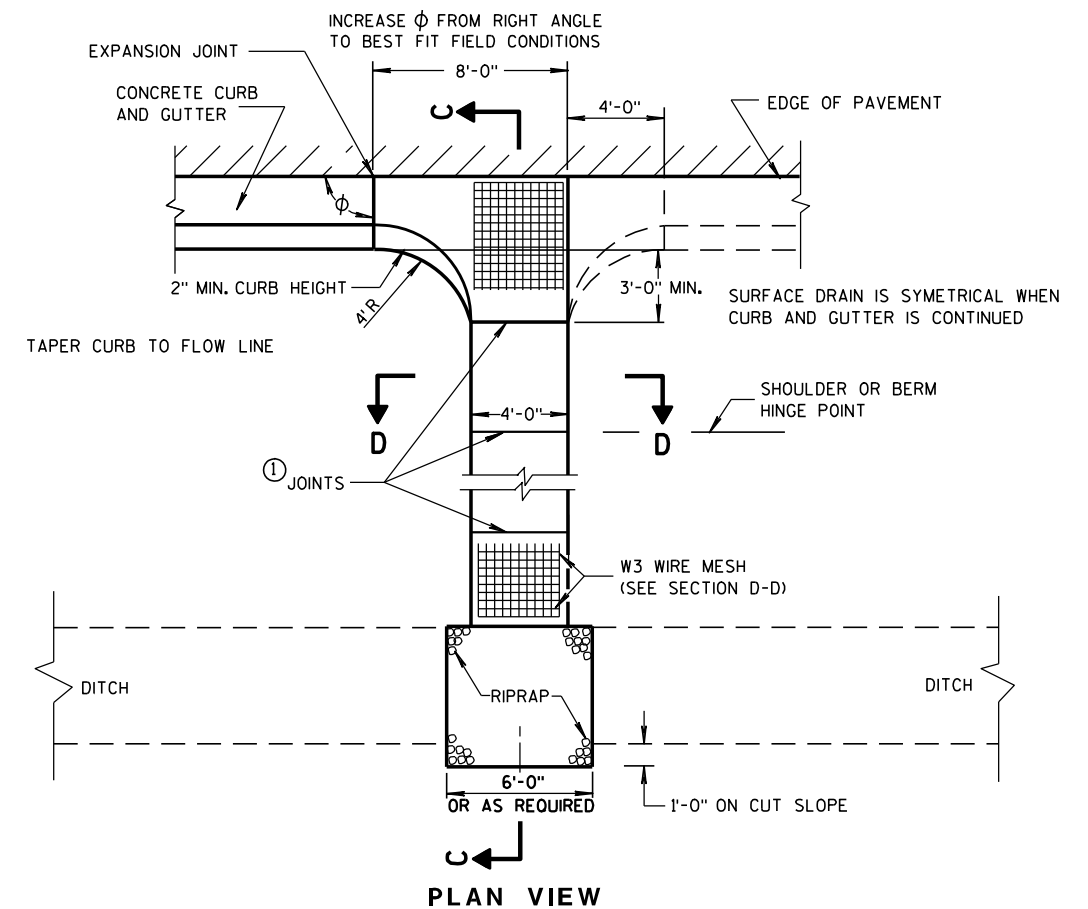
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

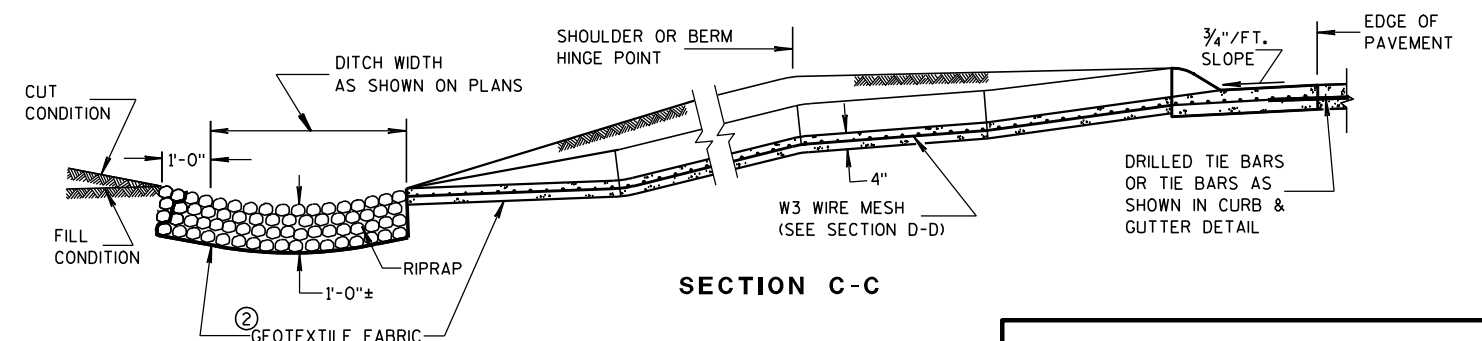
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- ① JOINTS SHALL BE 1/8" TO 1/4" INCH WIDE BY 1 1/2" INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

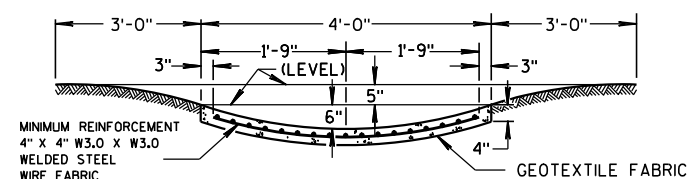
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

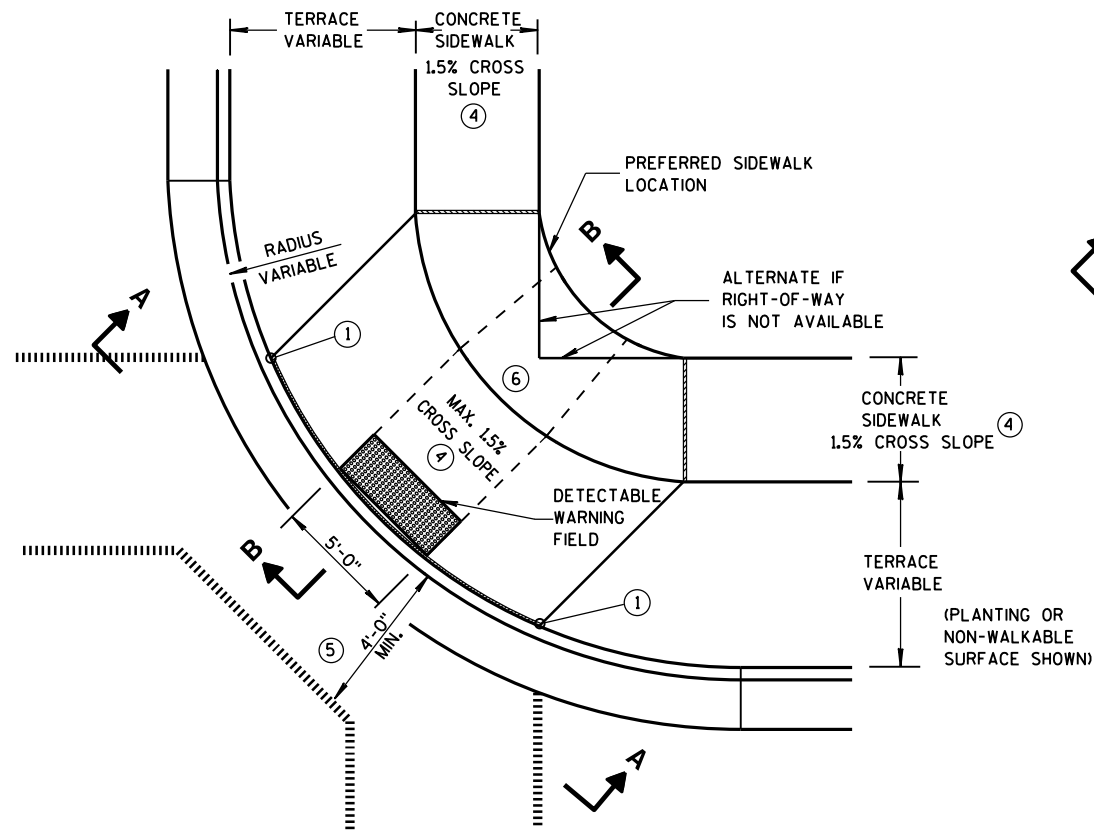
APPROVED

9-4-08

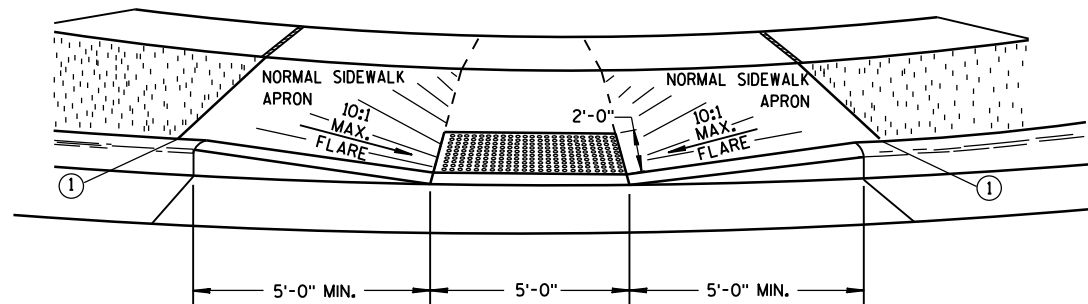
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

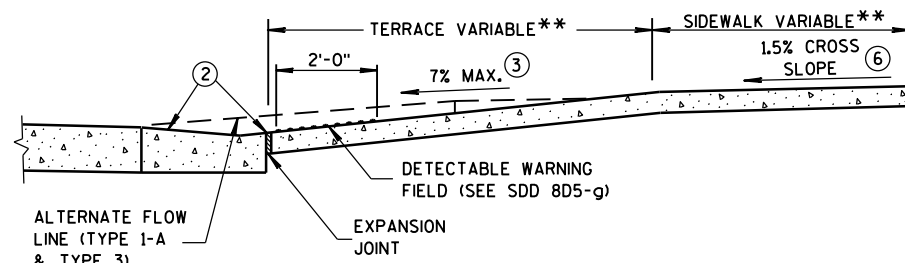


**PLAN VIEW
TYPE 1 RAMP**
(CENTER OF CORNER RADIUS)

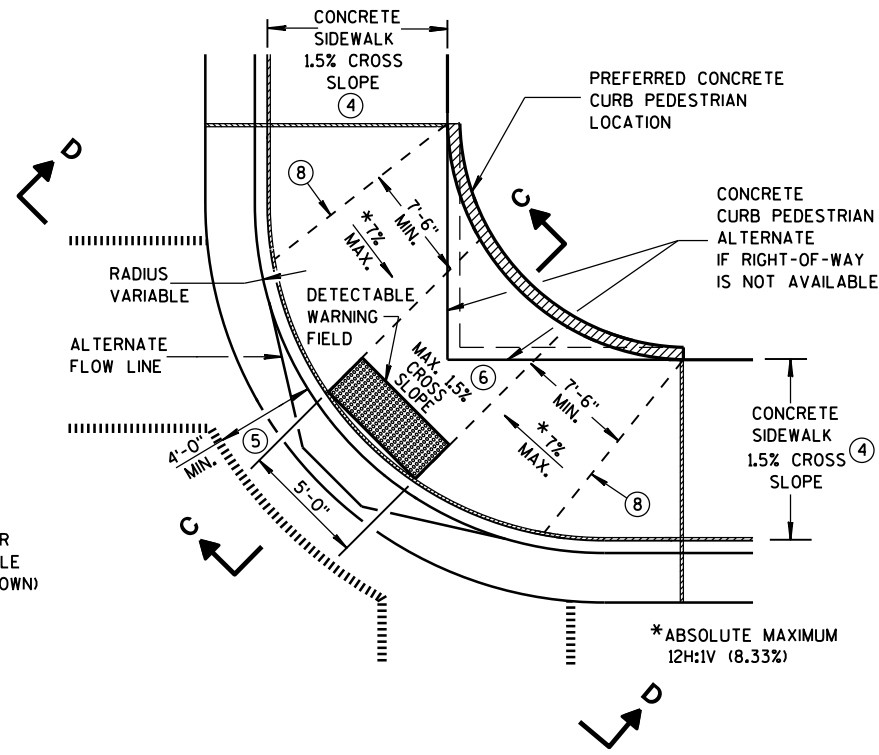


VIEW A-A

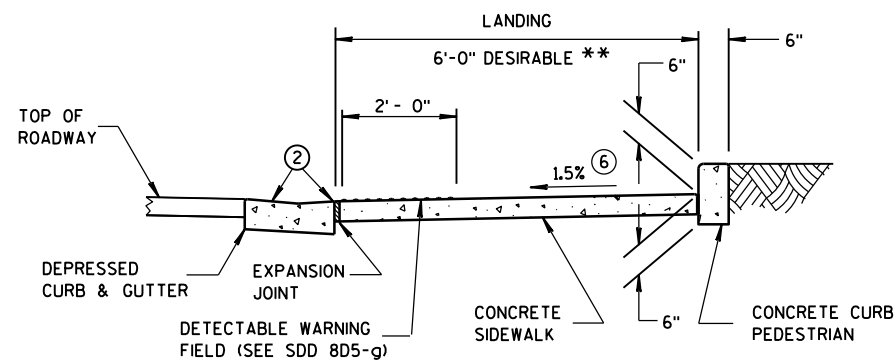
** WIDTH SHOWN ELSEWHERE
IN THE PLANS



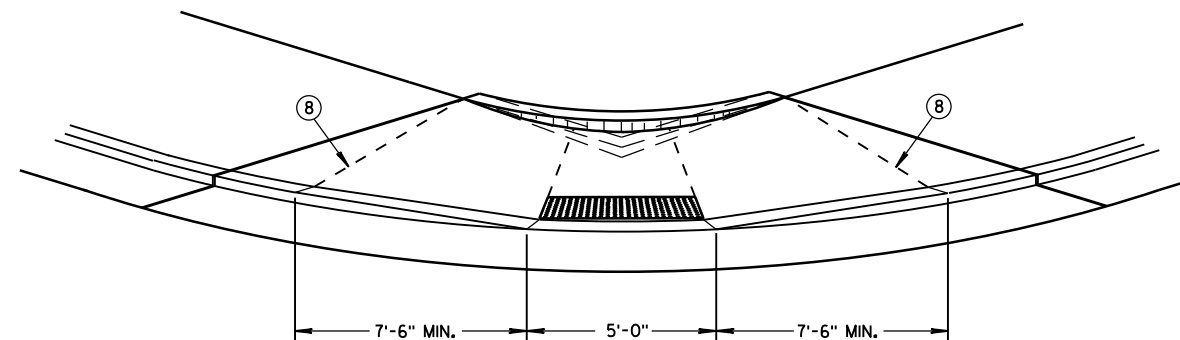
SECTION B-B



**PLAN VIEW
TYPE 1-A RAMP**
(NO TERRACE)



SECTION C-C



VIEW D-D

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

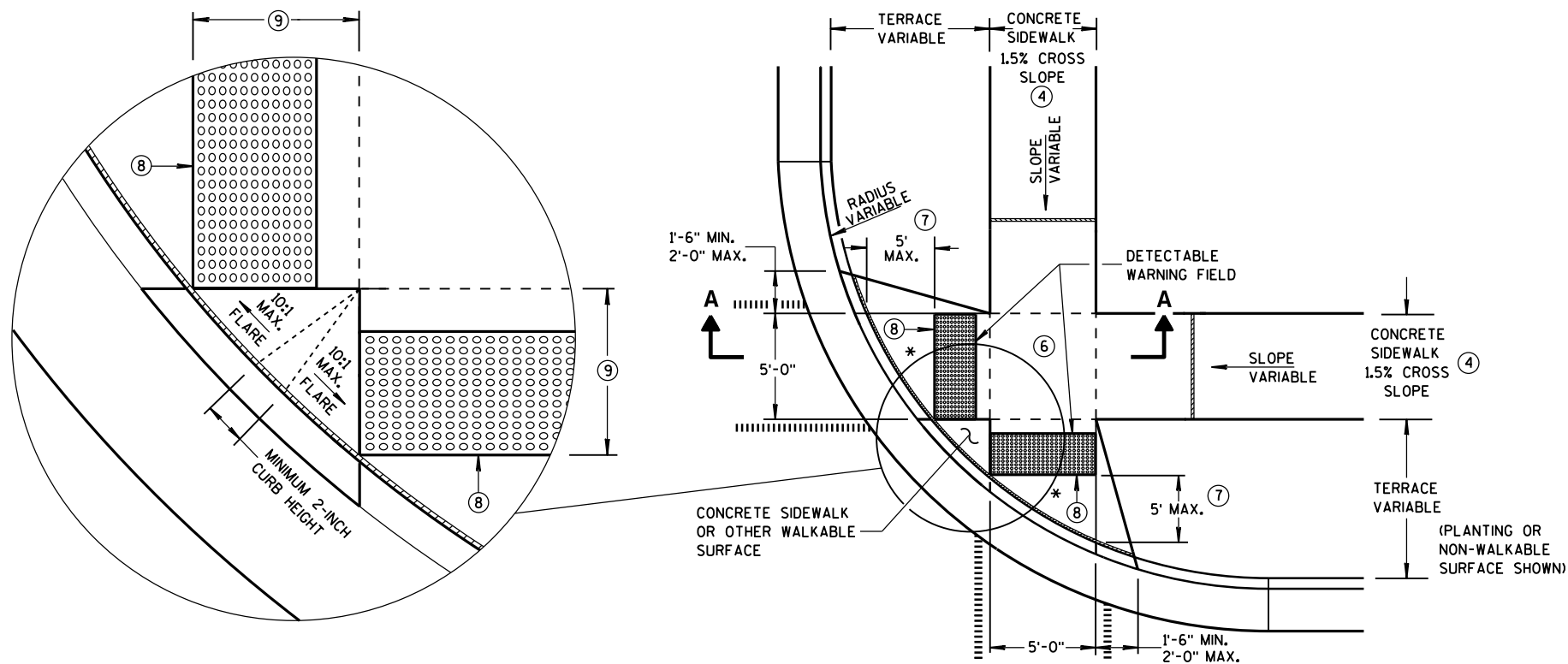
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑤ PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA. (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

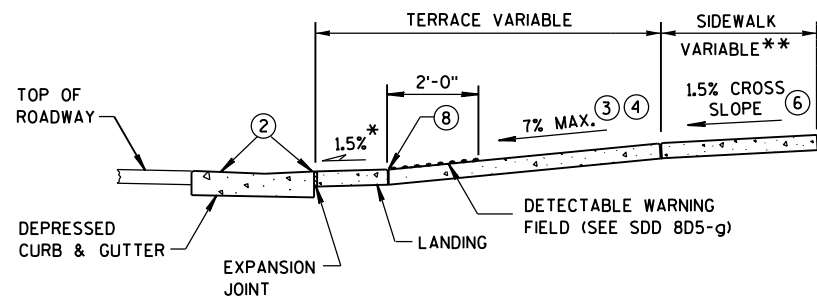
**CURB RAMPS
TYPES 1 AND 1-A**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



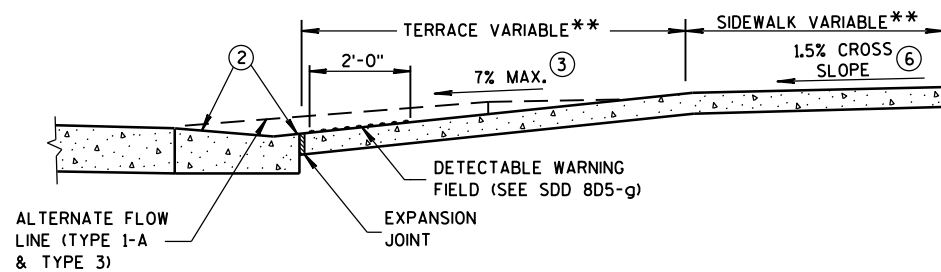
**PLAN VIEW
TYPE 2 RAMP**
(ON LINE WITH SIDEWALK)

* MAXIMUM 2.0% SLOPE
IN ALL DIRECTIONS IN
FRONT OF GRADE BREAK



SECTION A-A

** WIDTH SHOWN ELSEWHERE
IN THE PLANS



SECTION B-B

GENERAL NOTES

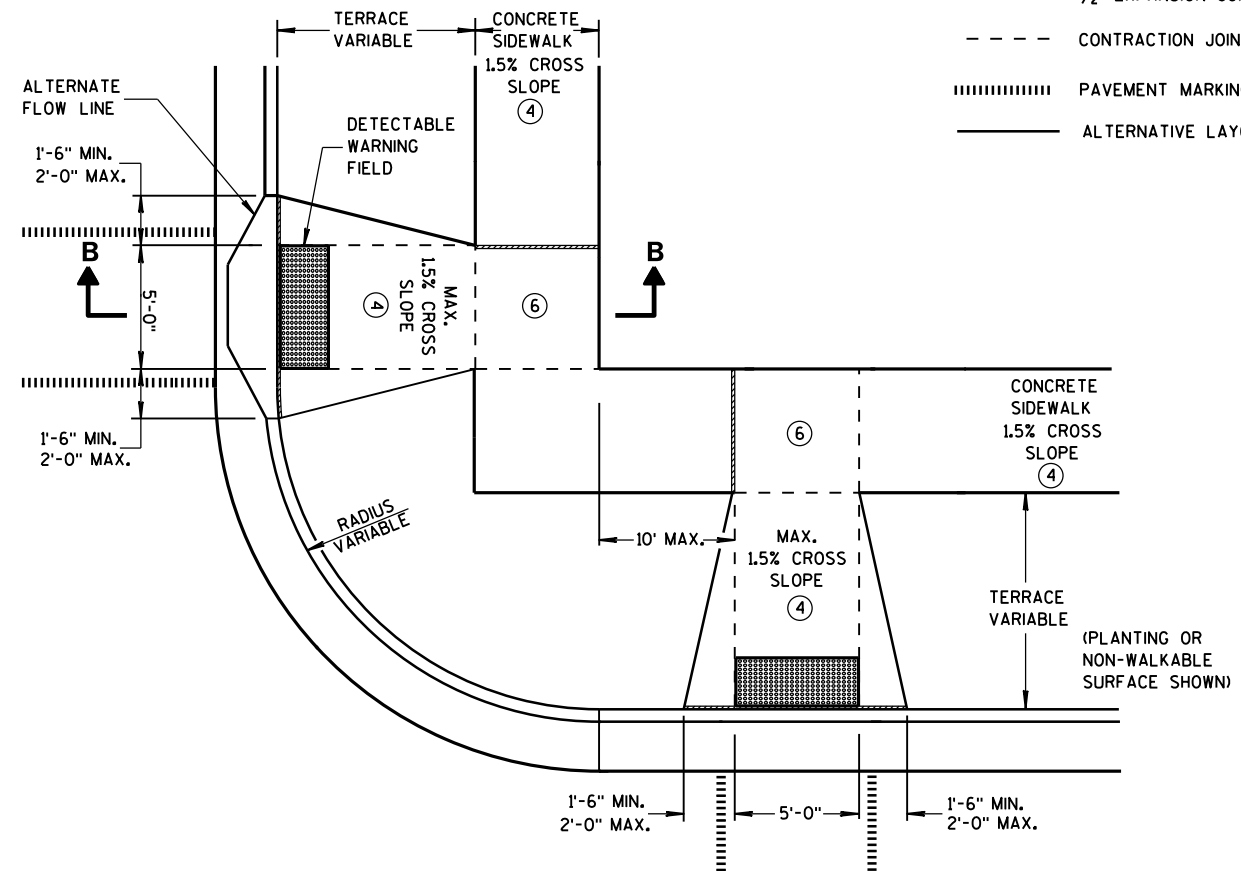
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- ⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑨ WHEN THIS DISTANCE IS LESS THAN 6'-0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

LEGEND

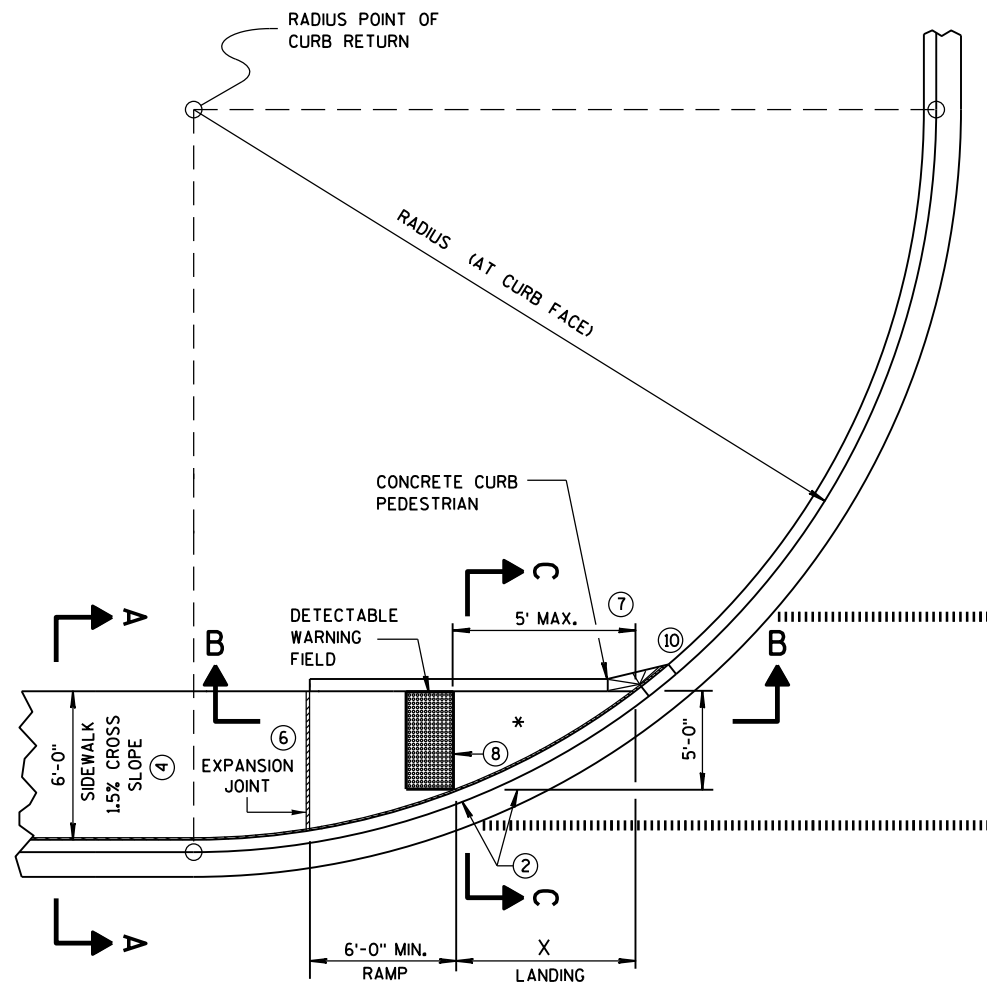
- 1/2" EXPANSION JOINT-SIDEWALK
- - - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



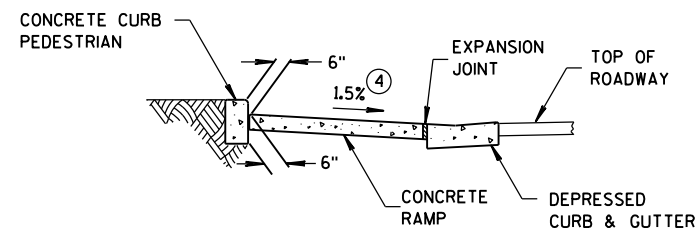
**PLAN VIEW
TYPE 3 RAMP**
(OUTSIDE OF CROSSWALK AREA)

**CURB RAMPS
TYPES 2 AND 3**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

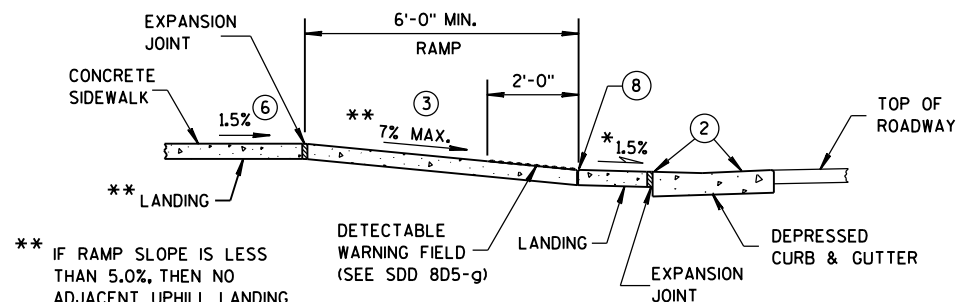


CURB RAMP TYPE 4A
PLAN VIEW



SECTION C-C FOR TYPE 4A

* MAXIMUM 2.0% SLOPE
IN ALL DIRECTIONS IN
FRONT OF GRADE BREAK

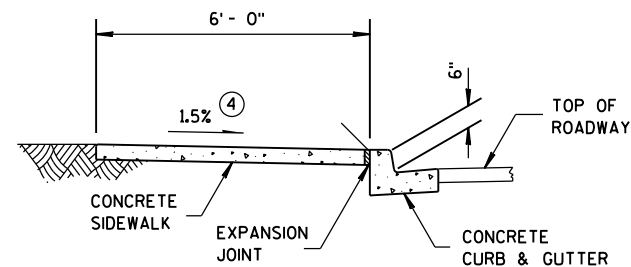


SECTION B-B FOR TYPE 4A

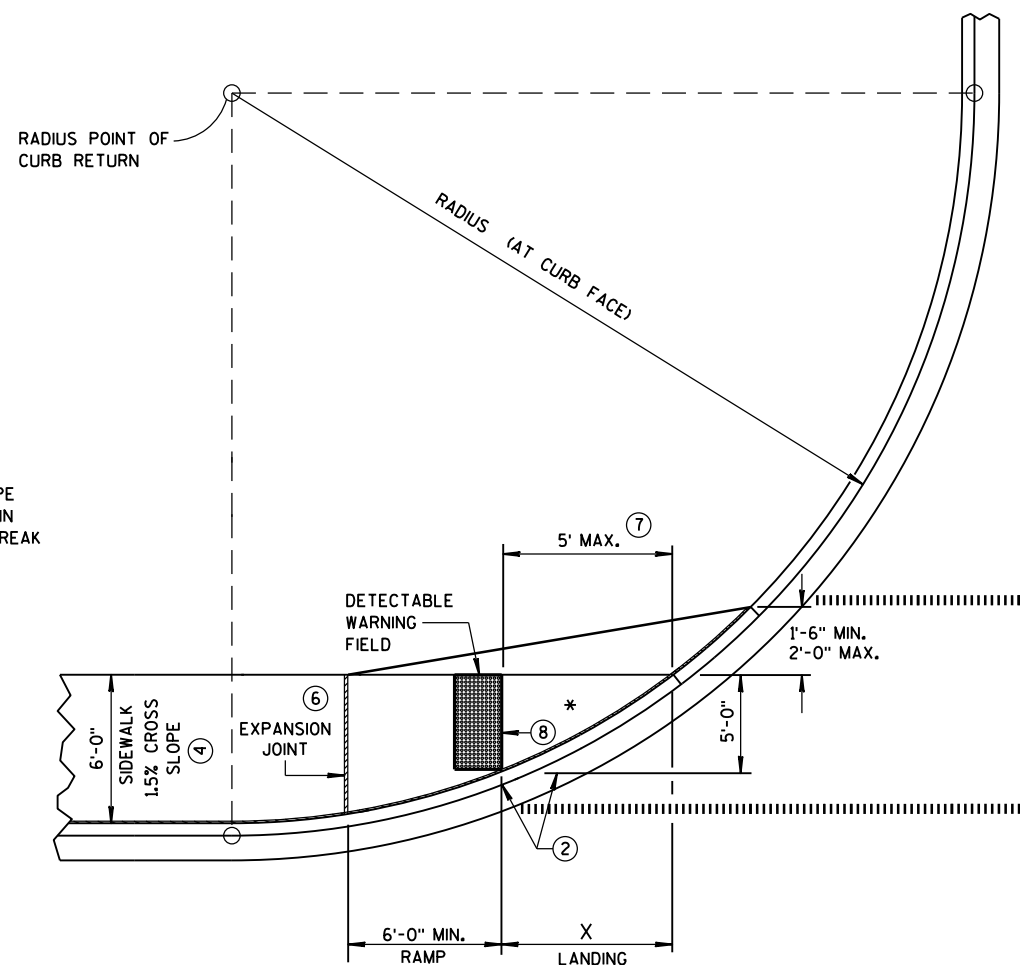
** IF RAMP SLOPE IS LESS
THAN 5.0%, THEN NO
ADJACENT UPHILL LANDING
IS REQUIRED

RADIUS (AT CURB FACE)	X
10 FEET	4'-7"
15 FEET	6'-5½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A



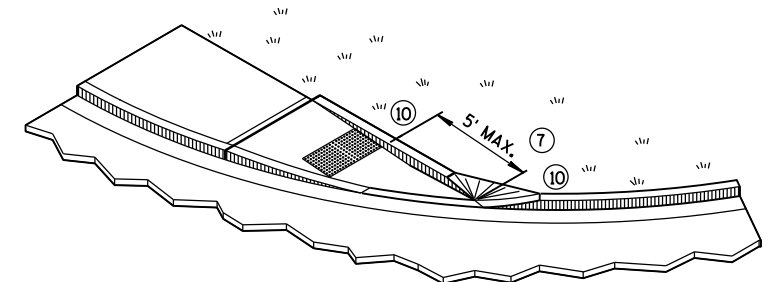
CURB RAMP TYPE 4A1
PLAN VIEW

GENERAL NOTES

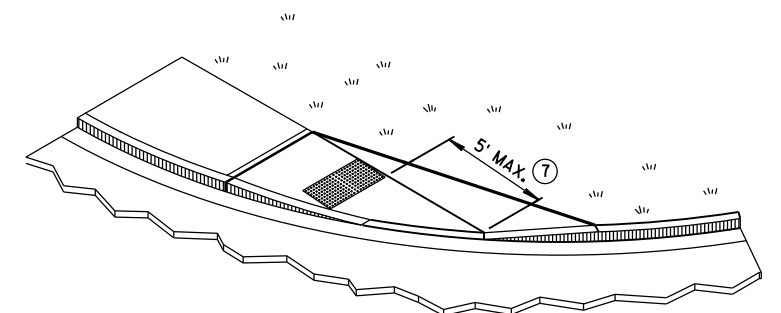
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- ⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑩ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4A



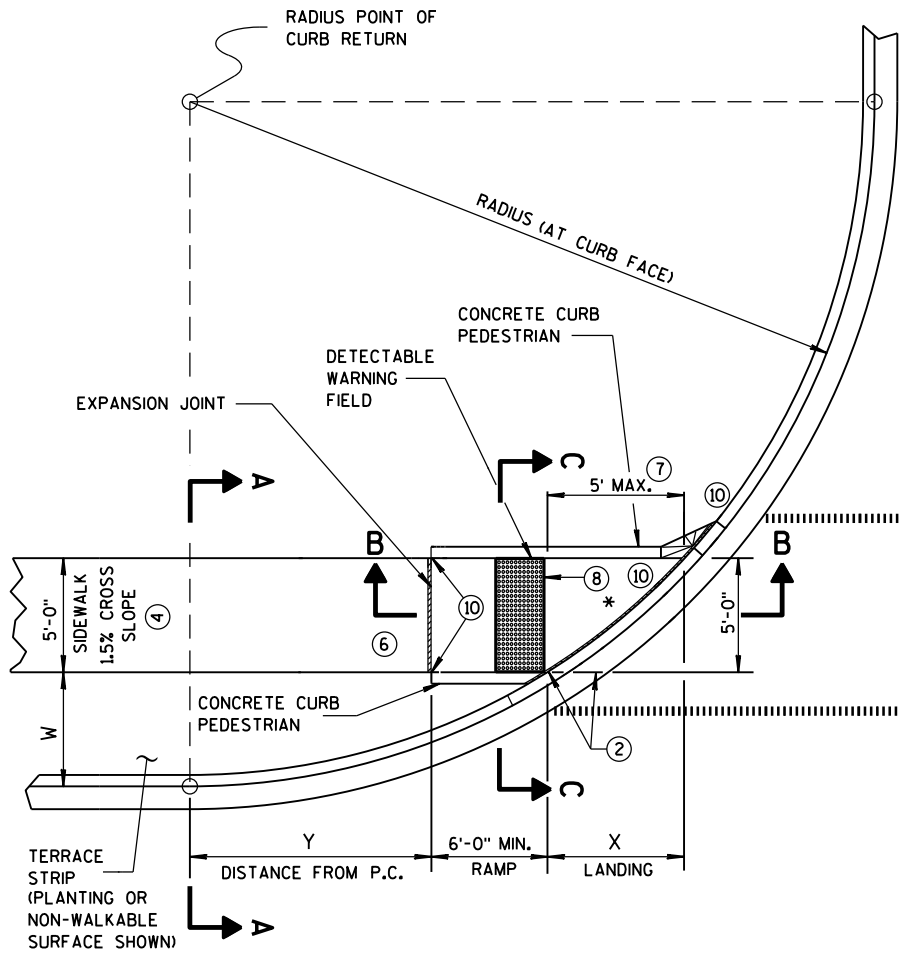
ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

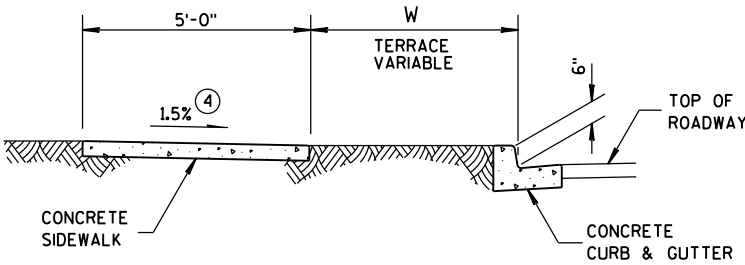
- ½" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

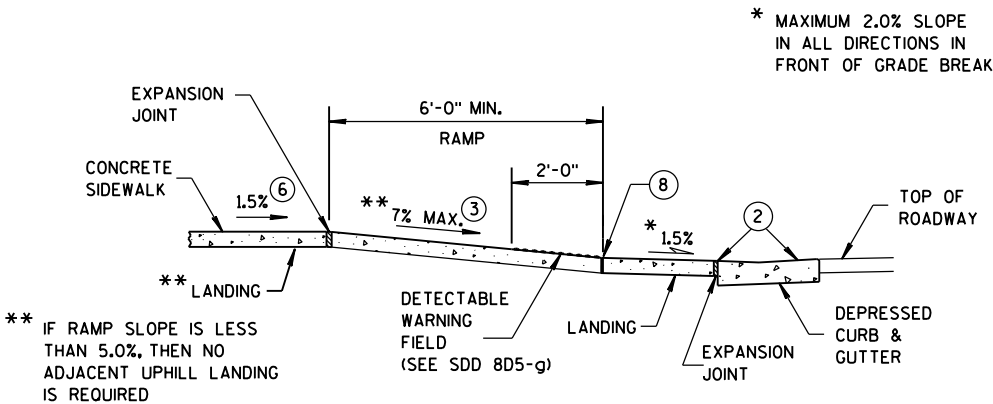
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CURB RAMP TYPE 4B
PLAN VIEW**



SECTION A-A FOR TYPE 4B



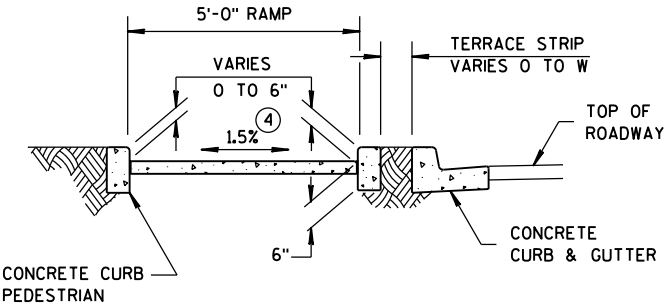
SECTION B-B FOR TYPE 4B

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2'-10 1/4"	0'-5"	2'-1"	1'-4 1/2"	1'-5"	2'-1"	0'-10"	2'-7 1/2"	0'-3 1/4"	3'-0 1/4"						
15 FEET	4'-6 3/4"	2'-1 3/4"	3'-9"	3'-5 1/4"	3'-1 1/4"	4'-6"	2'-6 3/4"	5'-4 1/2"	2'-1"	6'-1"	1'-8"	6'-8 1/2"	1'-3 1/4"	7'-2 1/2"	0'-10 3/4"	7'-7 1/4"
20 FEET	5'-9 3/4"	3'-6 1/2"	4'-11 1/2"	5'-1 3/4"	4'-3 1/4"	6'-5 1/2"	3'-8 3/4"	7'-7"	3'-3"	8'-6 1/2"	2'-10"	9'-4 1/2"	2'-5 1/2"	10'-1 1/4"	2'-1 1/4"	10'-9"
30 FEET			6'-9 1/4"	7'-11 1/4"	6'-0 1/4"	9'-8"	5'-5"	11'-1 3/4"	4'-10 3/4"	12'-5 3/4"	4'-5 1/2"	13'-7 3/4"	4'-0 3/4"	14'-8 1/2"	3'-8 1/2"	15'-8 1/4"
40 FEET									6'-1 3/4"	15'-8 1/2"	5'-8"	17'-2"	5'-3"	18'-5 3/4"	4'-10 3/4"	19'-8 1/4"
50 FEET															5'-10 1/4"	23'-2"

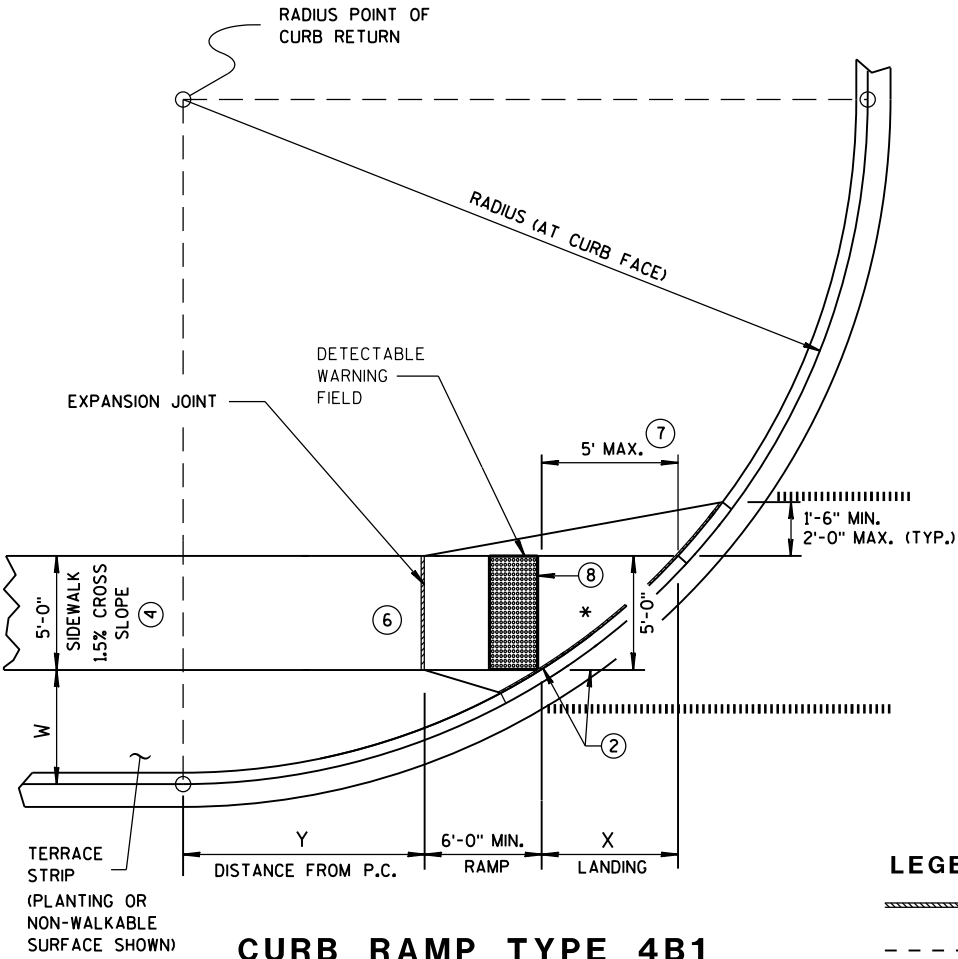
INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH

GENERAL NOTES

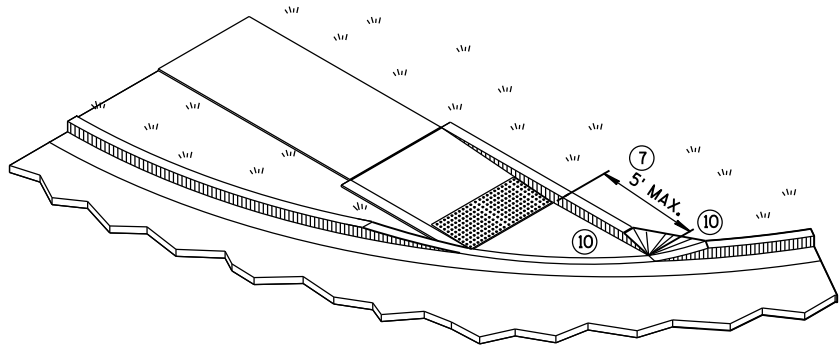
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS. DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



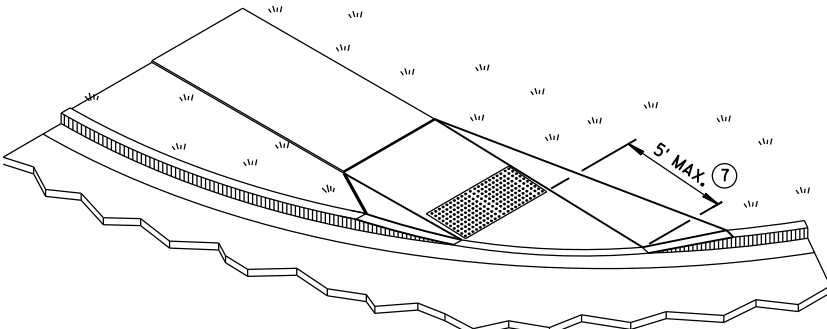
SECTION C-C FOR TYPE 4B



**CURB RAMP TYPE 4B1
PLAN VIEW**



ISOMETRIC VIEW FOR TYPE 4B



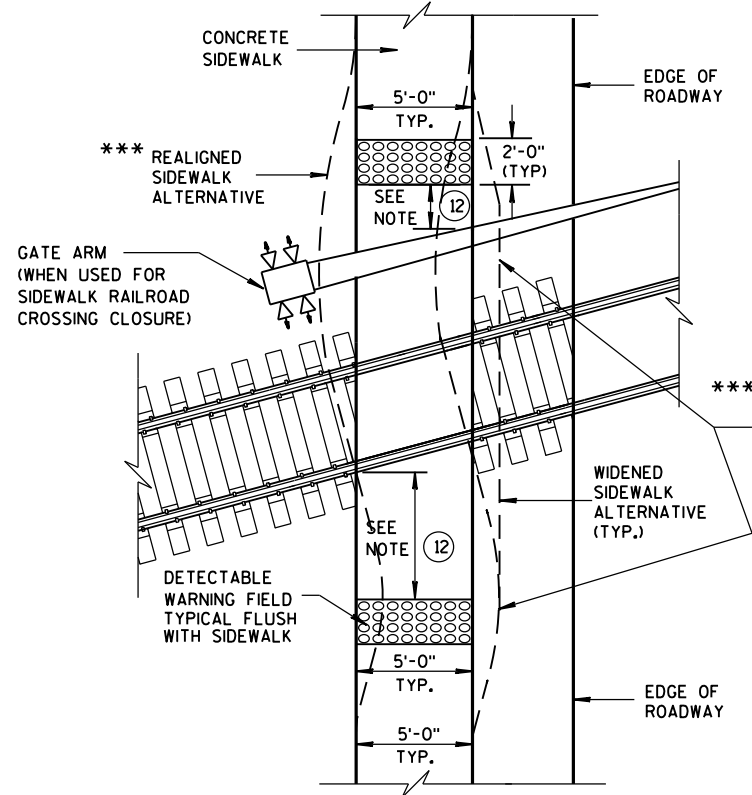
ISOMETRIC VIEW FOR TYPE 4B1

LEGEND

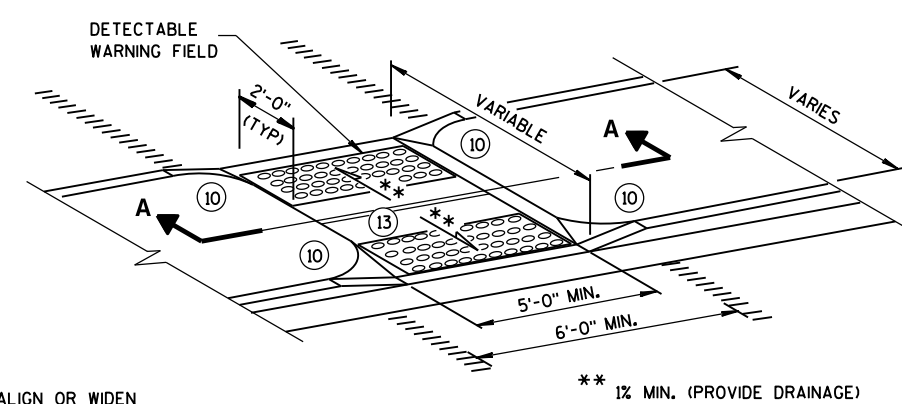
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS
TYPE 4B AND 4B1**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



TYPE 8
DETECTABLE WARNINGS
AT RAILROAD CROSSING

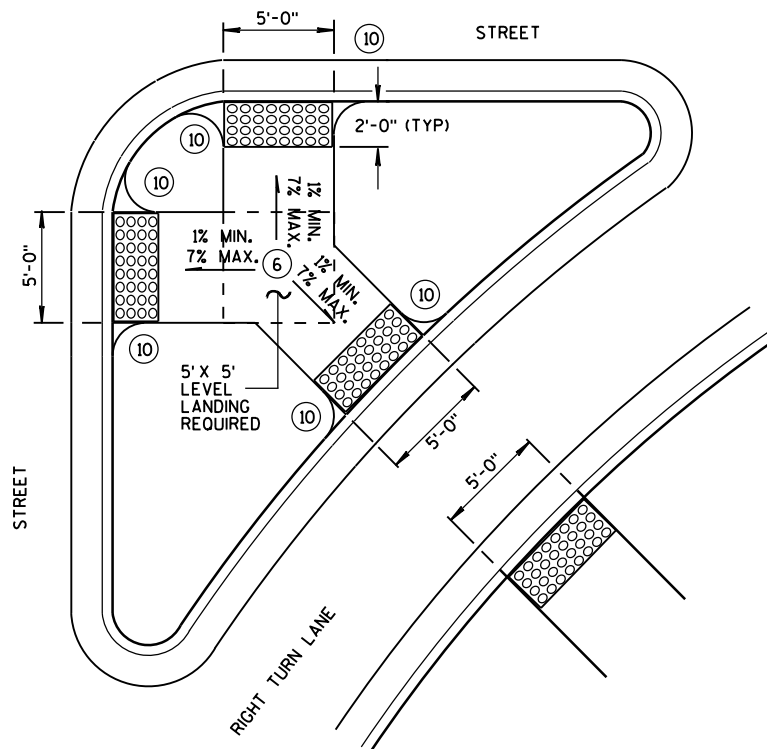


MEDIAN ISLAND
NON-ELEVATED PEDESTRIAN CROSSING
TYPE 5

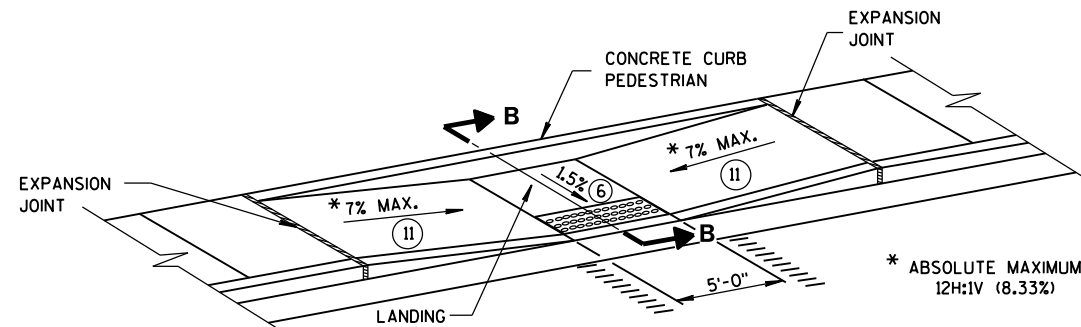
GENERAL NOTES

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- ⑩ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.
- ⑪ SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- ⑫ THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 15 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- ⑬ DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STREET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2-FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

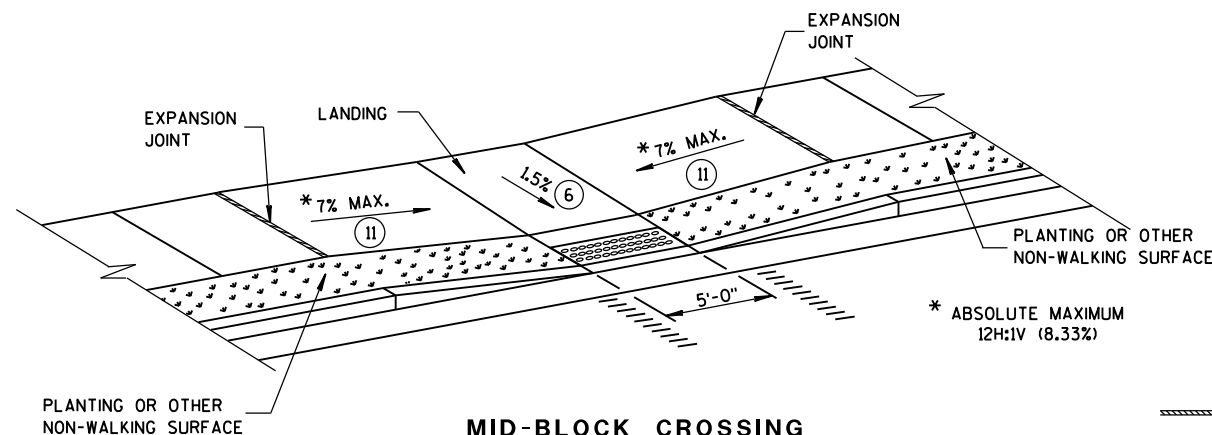
REFER TO GENERAL NOTES ② AND ③
FOR ALL ISLAND CURB RAMPS



TYPE 6
DETECTABLE WARNING AT ISLANDS

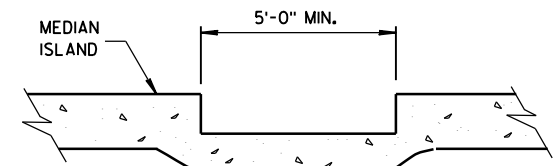


MID-BLOCK CROSSING
TYPE 7A

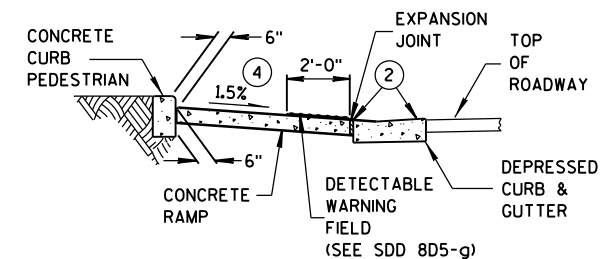


MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS
MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.



SECTION A-A



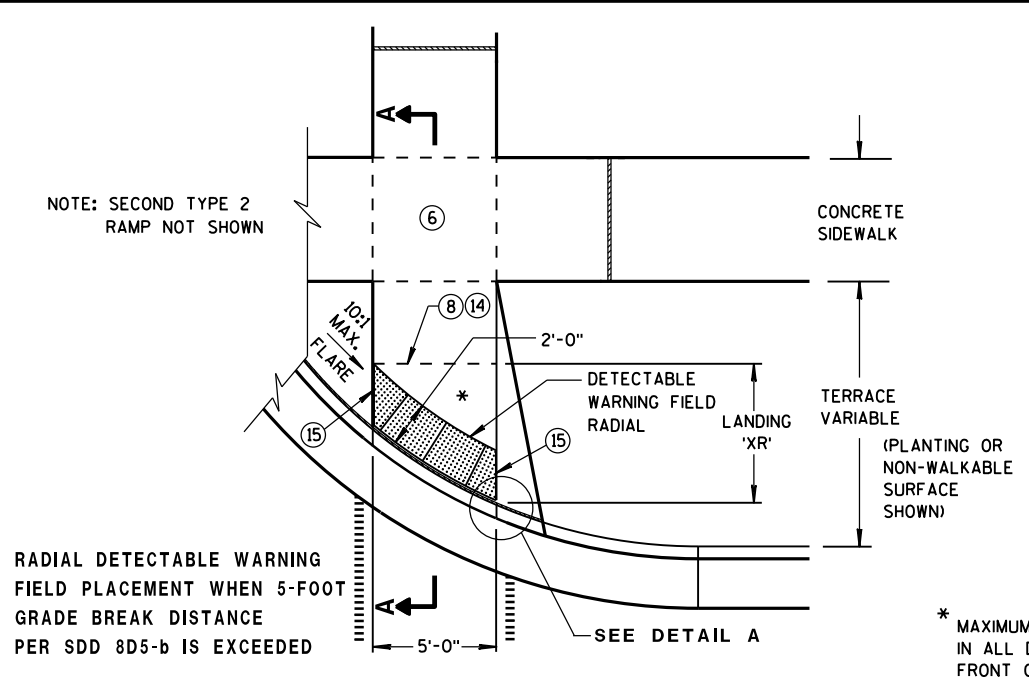
SECTION B-B

LEGEND

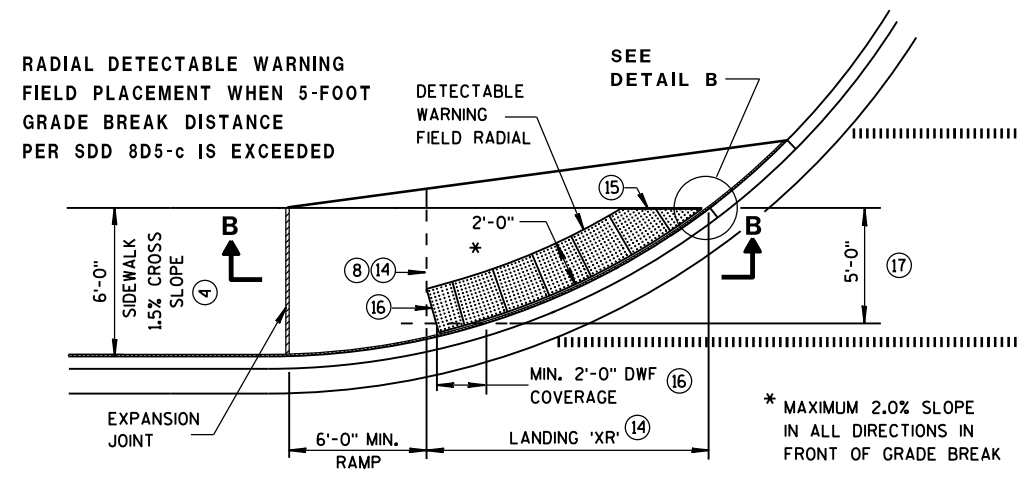
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

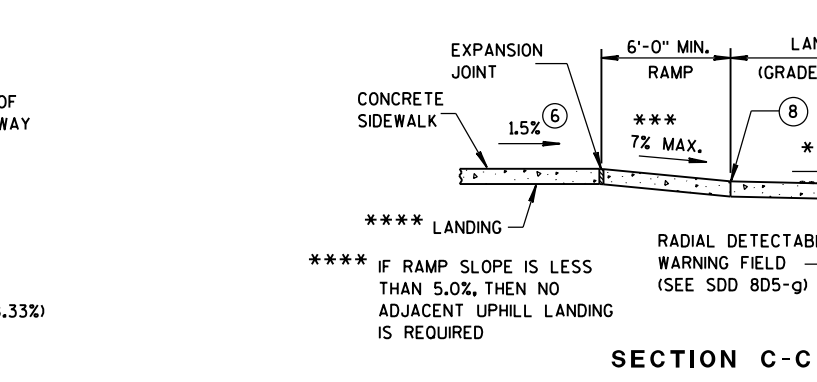
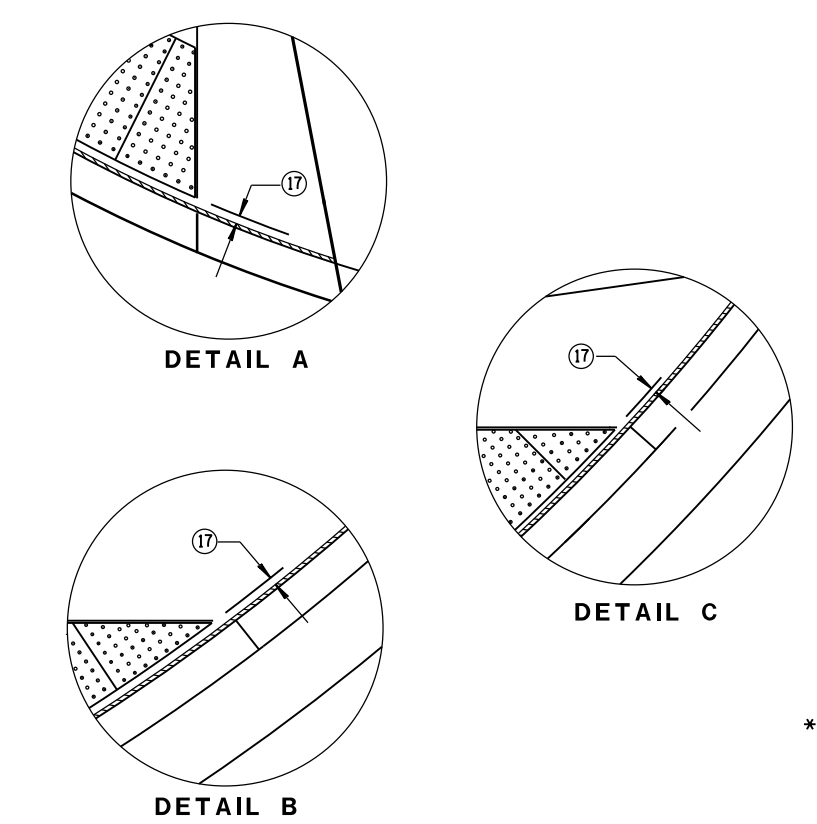
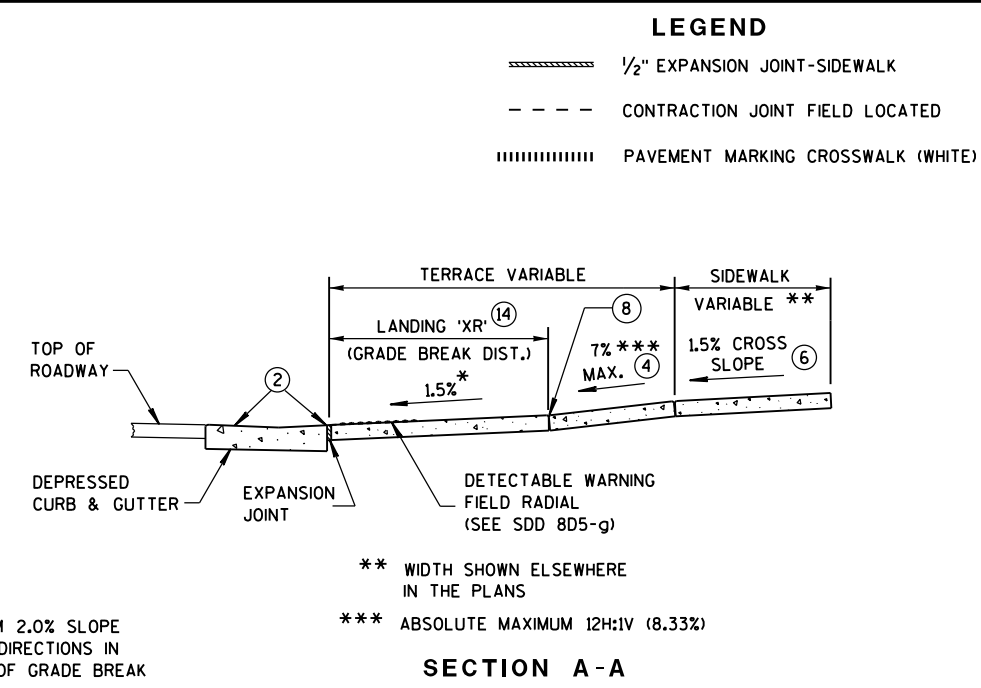
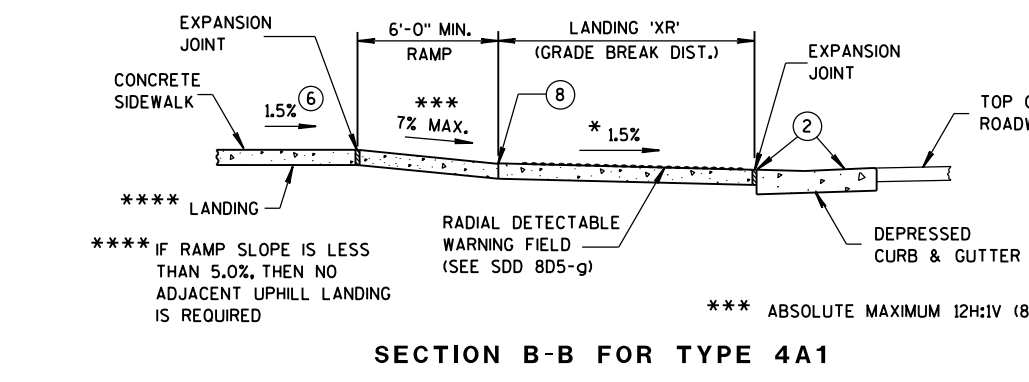
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



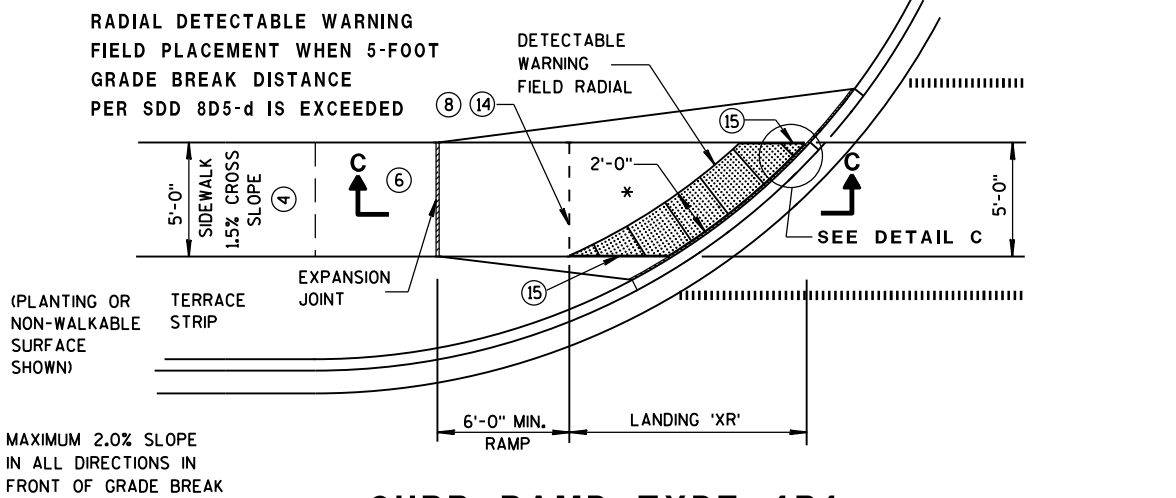
TYPE 2 RAMP
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)
(ON LINE WITH SIDEWALK)



CURB RAMP TYPE 4A1
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



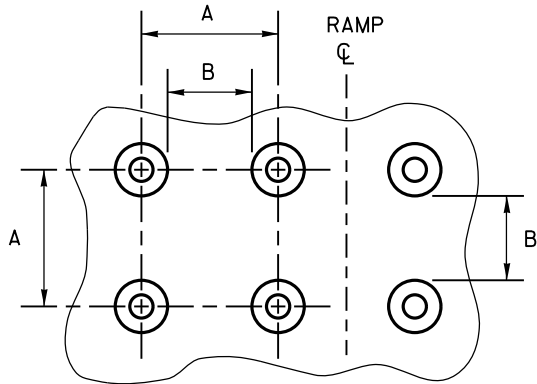
- LEGEND**
- 1/2" EXPANSION JOINT-SIDEWALK
 - CONTRACTION JOINT FIELD LOCATED
 - PAVEMENT MARKING CROSSWALK (WHITE)
- GENERAL NOTES**
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETECTABLE WARNING FIELDS (DWFs) THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.
- REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.
- FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.
- DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.
- GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
 - ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
 - ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
 - PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
 - PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
 - CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION 'XR') REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.
 - FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.
 - USE 1'X 2' RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2'-0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.
 - A MAXIMUM 3-INCH CONCRETE BORDER WIDTH IS ALLOWABLE IN FRONT OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.



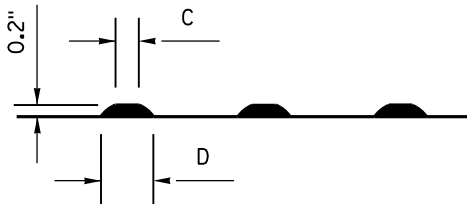
CURB RAMP TYPE 4B1
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

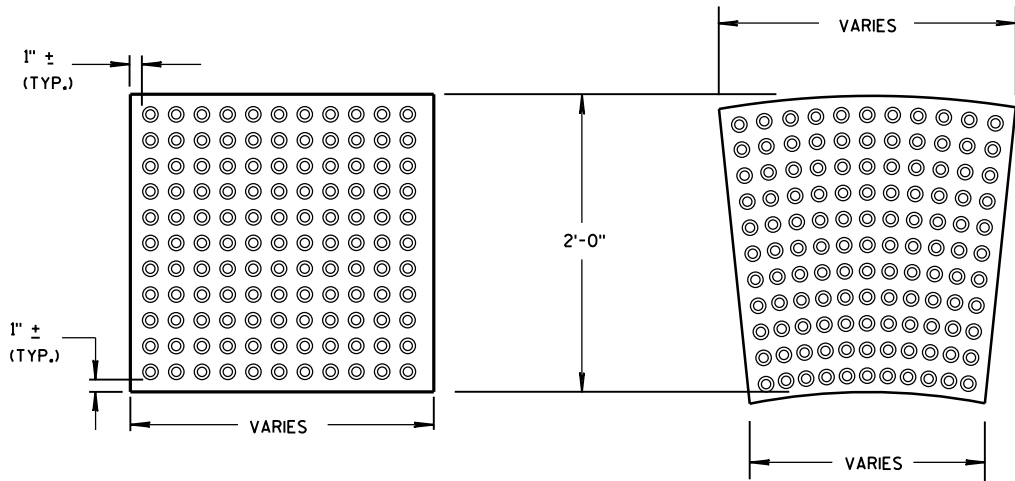


PLAN VIEW



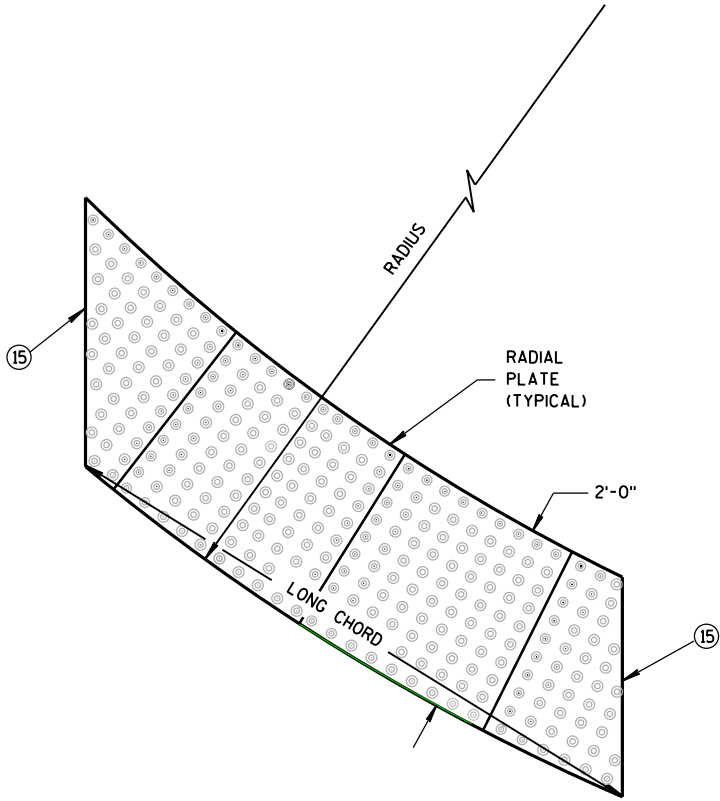
ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL



RECTANGULAR
PLATES
DETECTABLE WARNING FIELDS (TYPICAL)

PLAN VIEW



RADIAL DETECTABLE
WARNING FIELD ATTRIBUTES

GENERAL NOTES

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGES IN COMBINATION WITH SQUARE PANELS ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

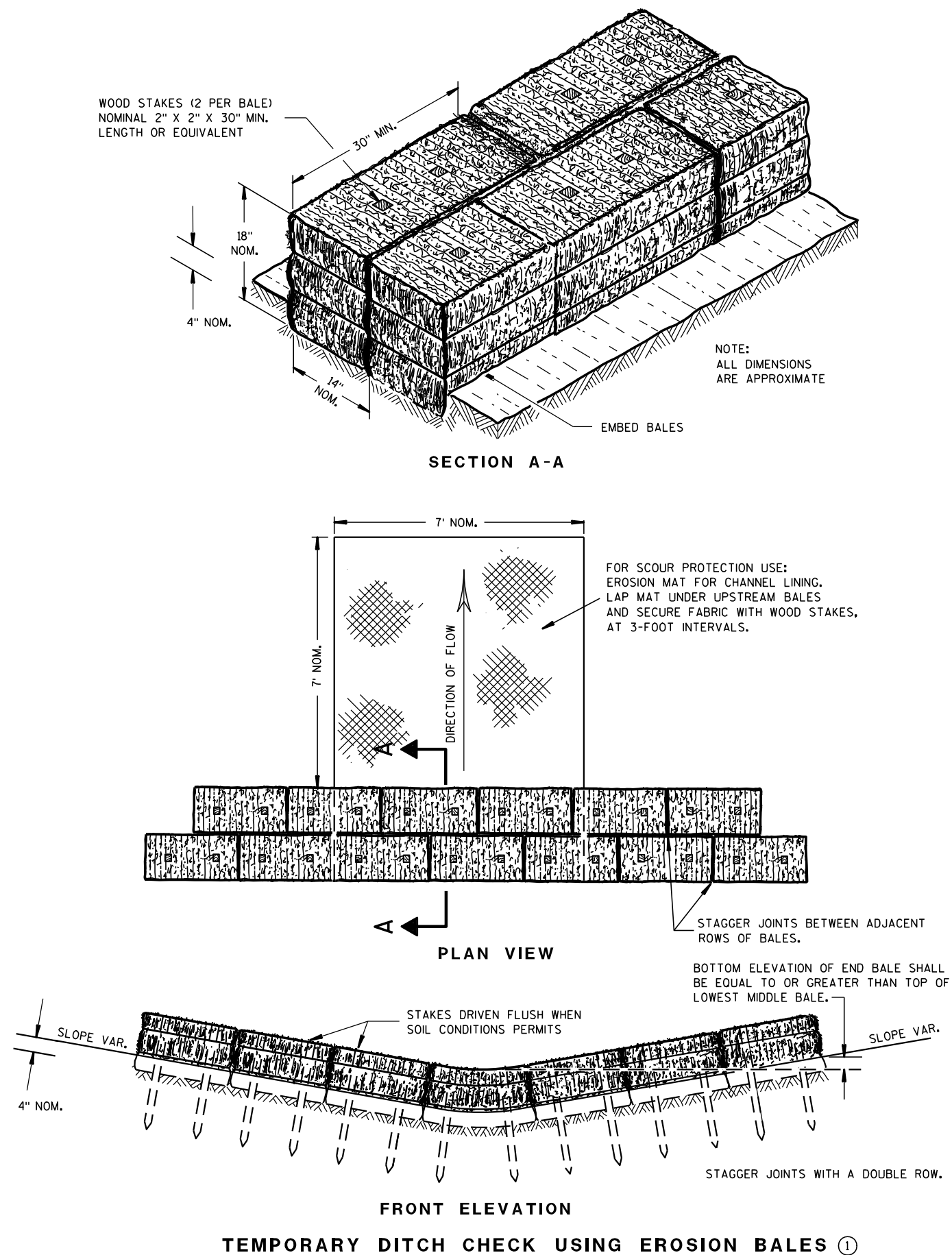
DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

15 FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

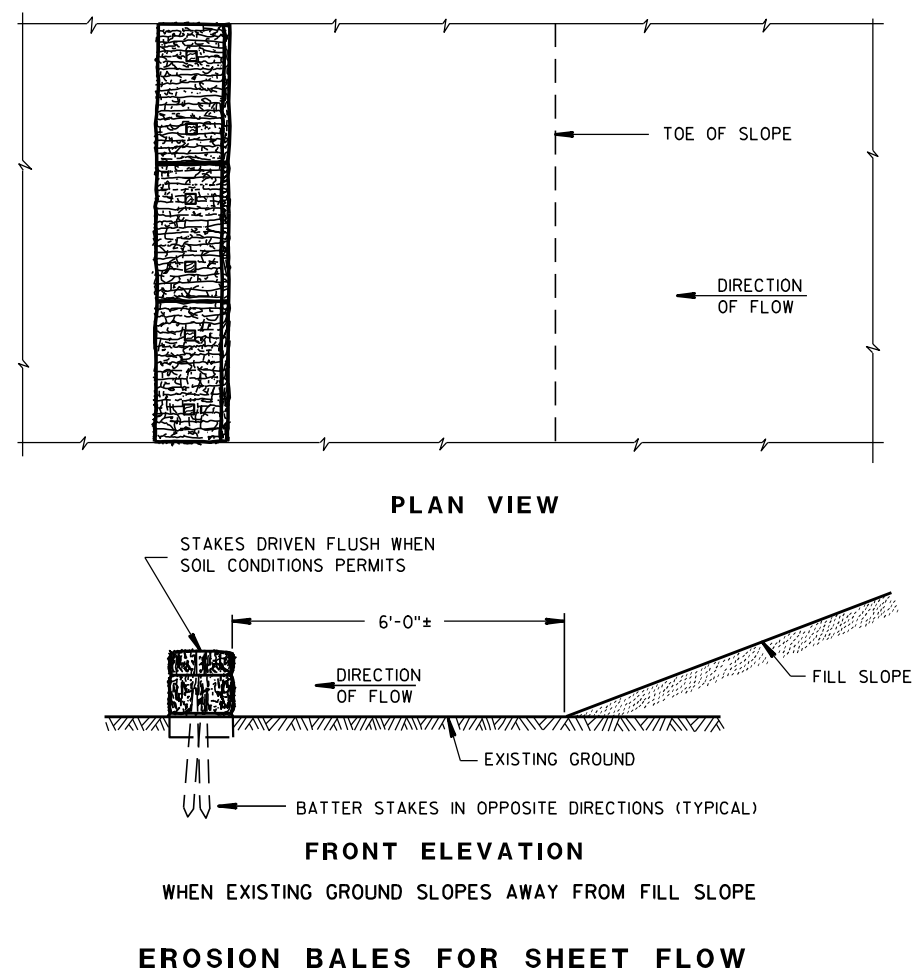
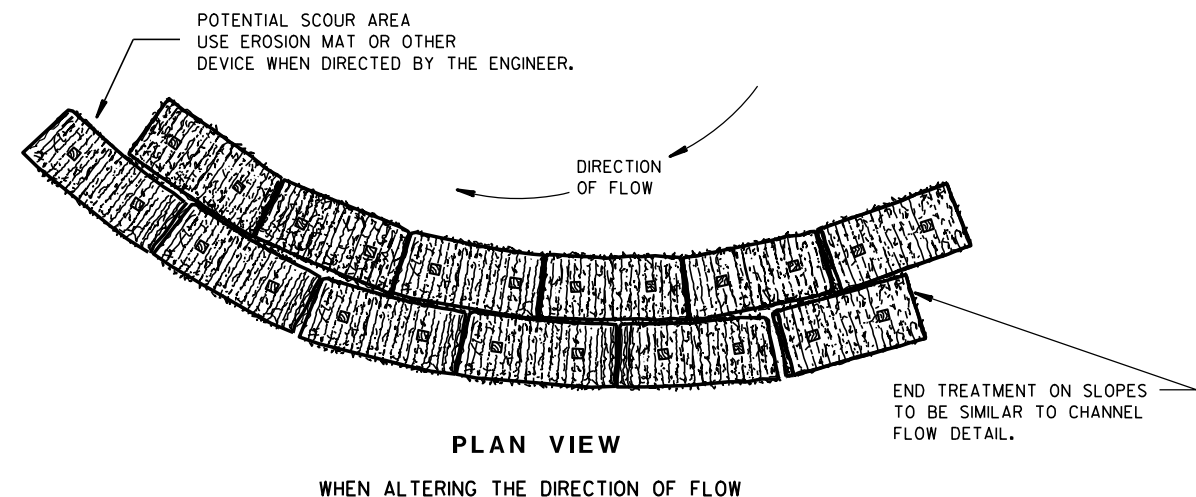
APPROVED
June, 2017 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

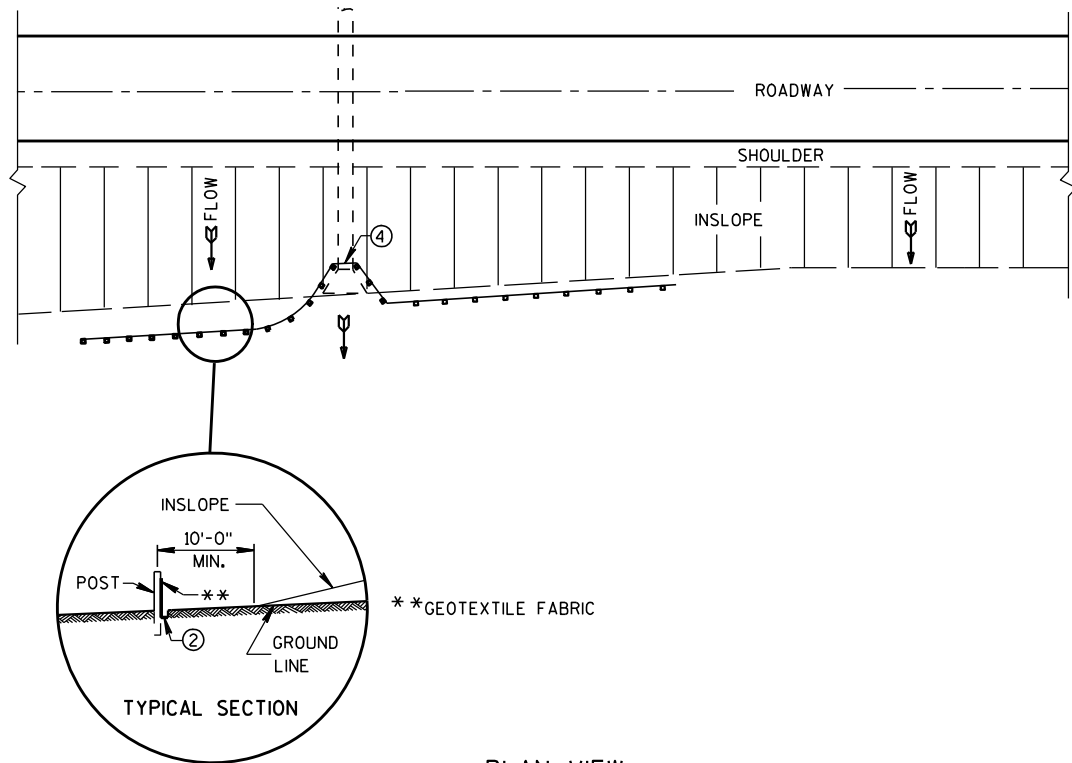
TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

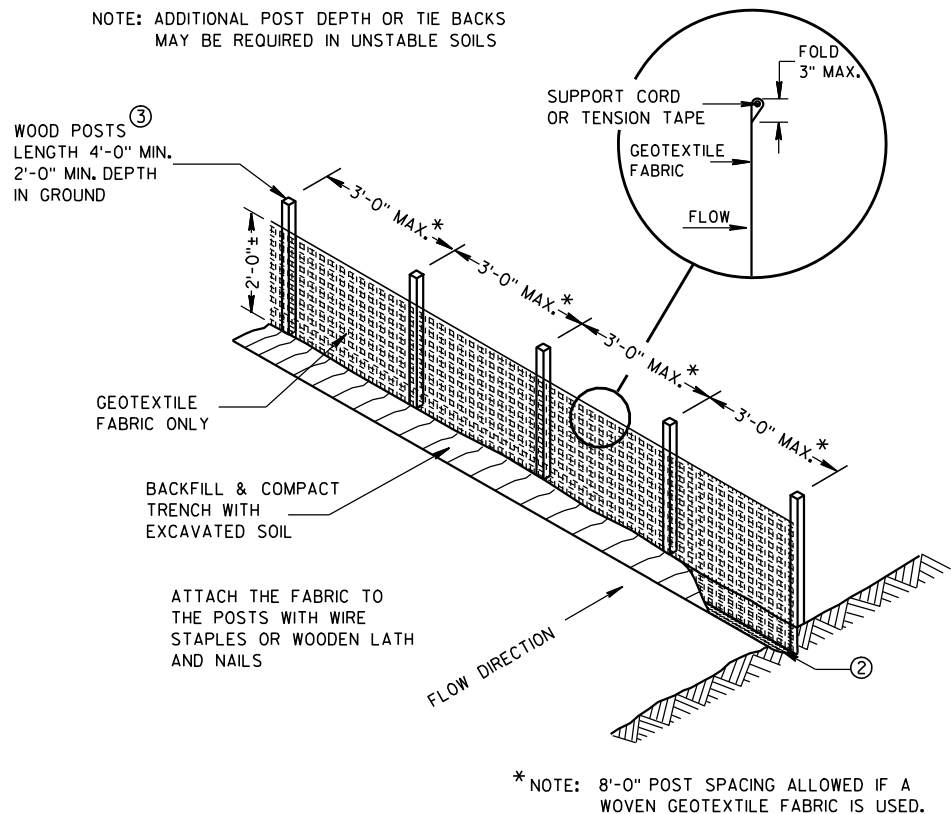
APPROVED

6/04/02
DATE/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

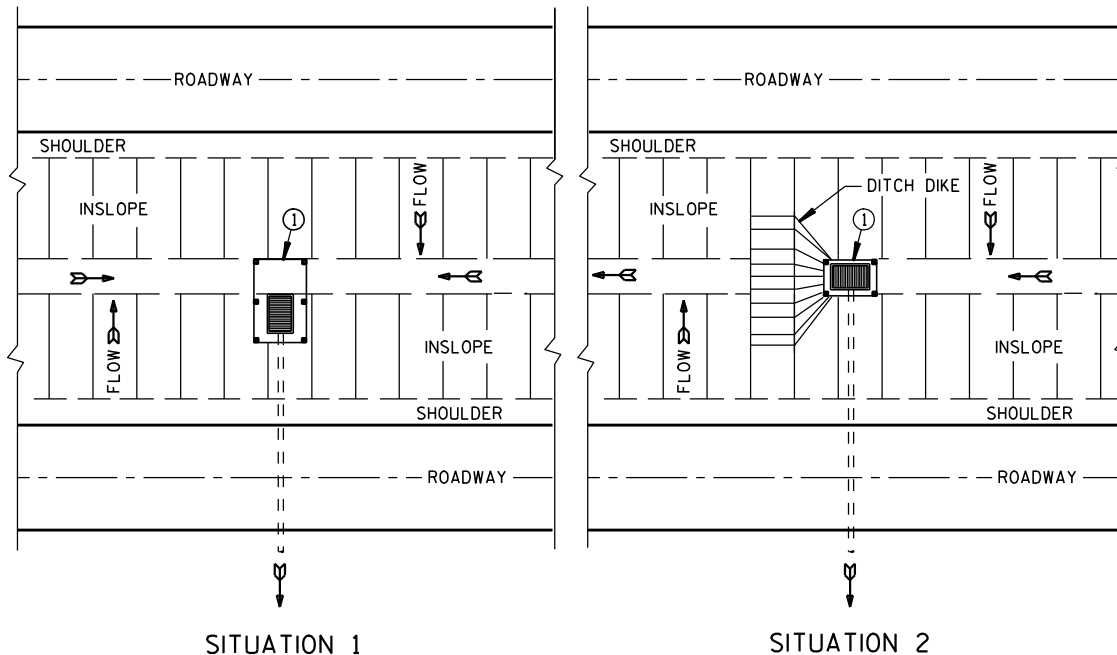
FHWA



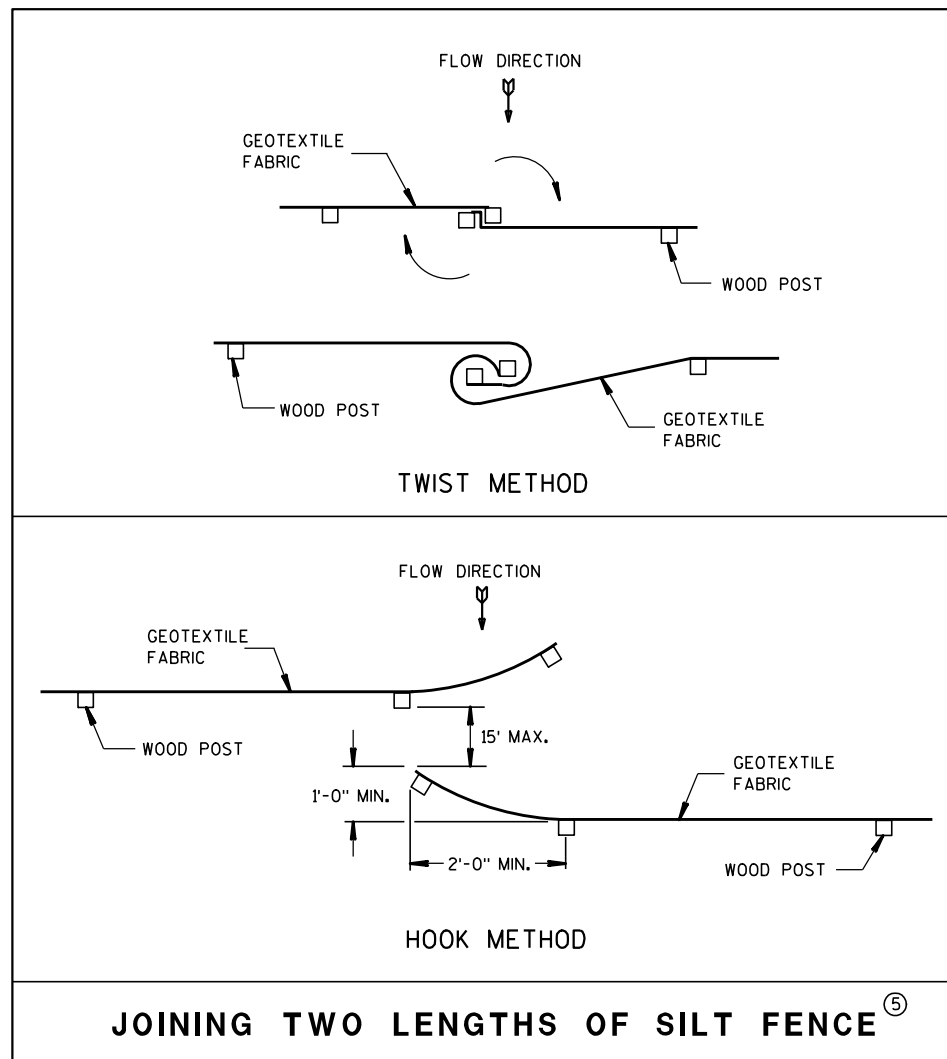
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

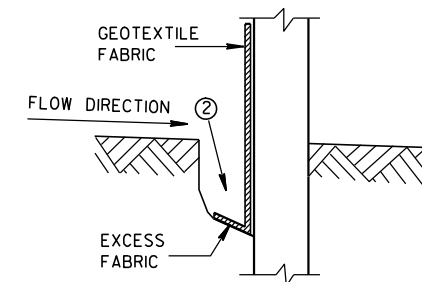


JOINING TWO LENGTHS OF SILT FENCE

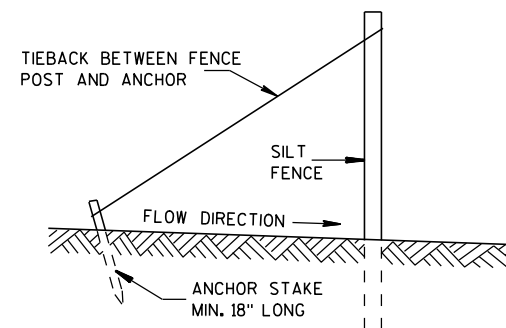
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

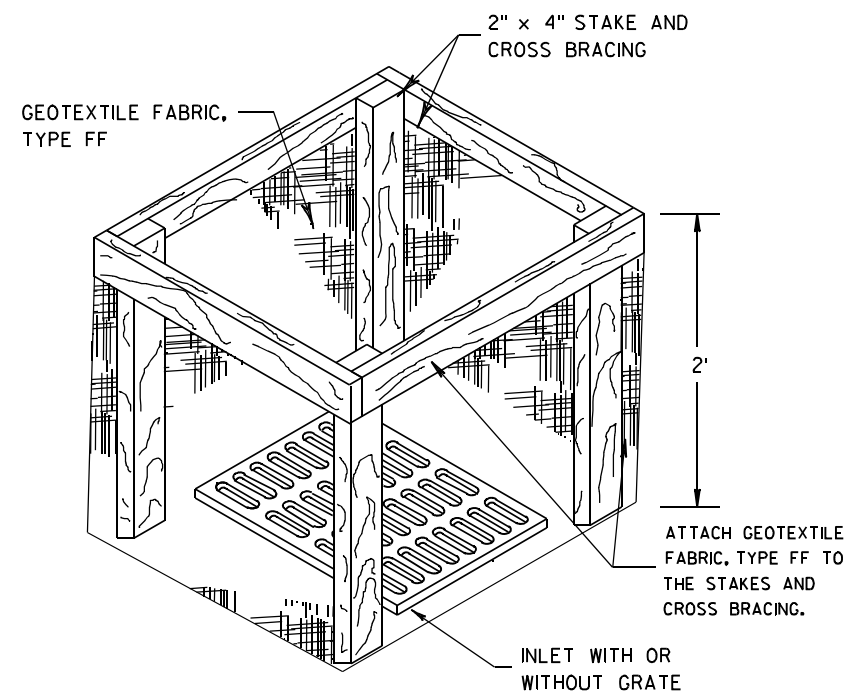
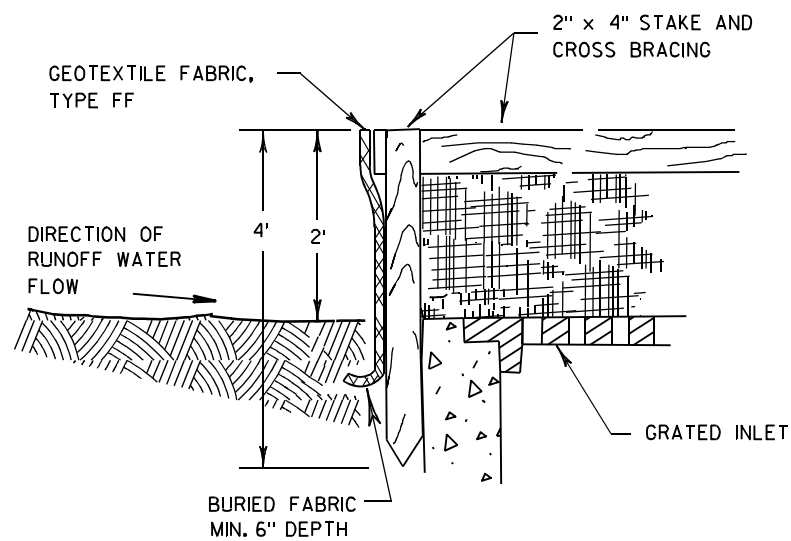


TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



INLET PROTECTION, TYPE A

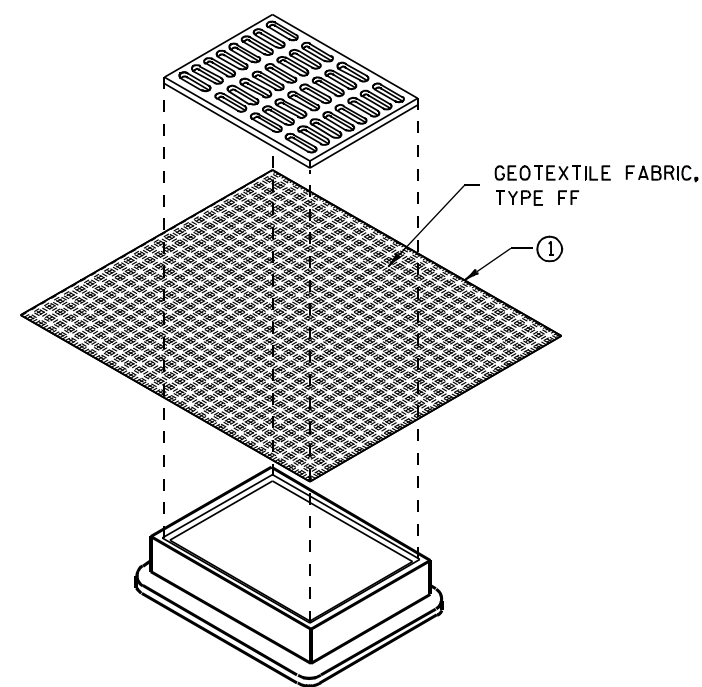
GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

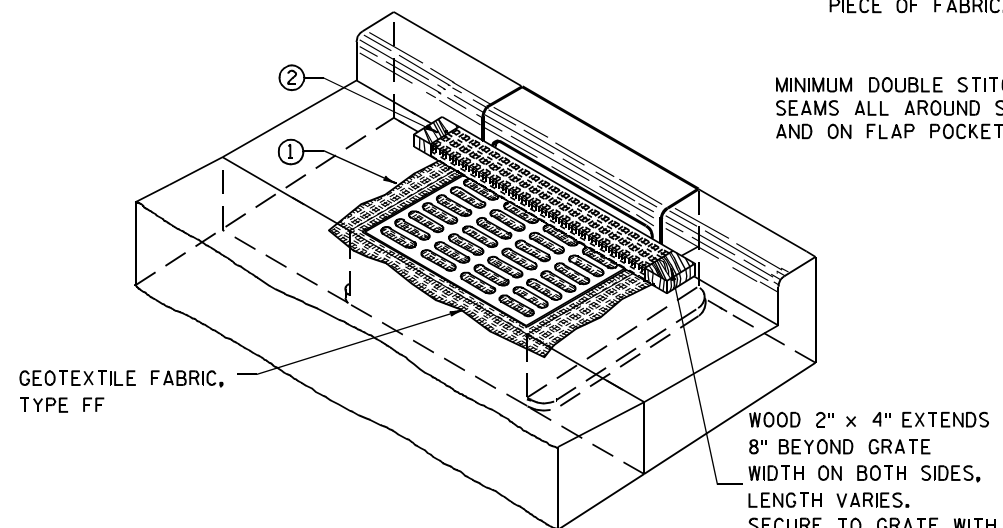
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

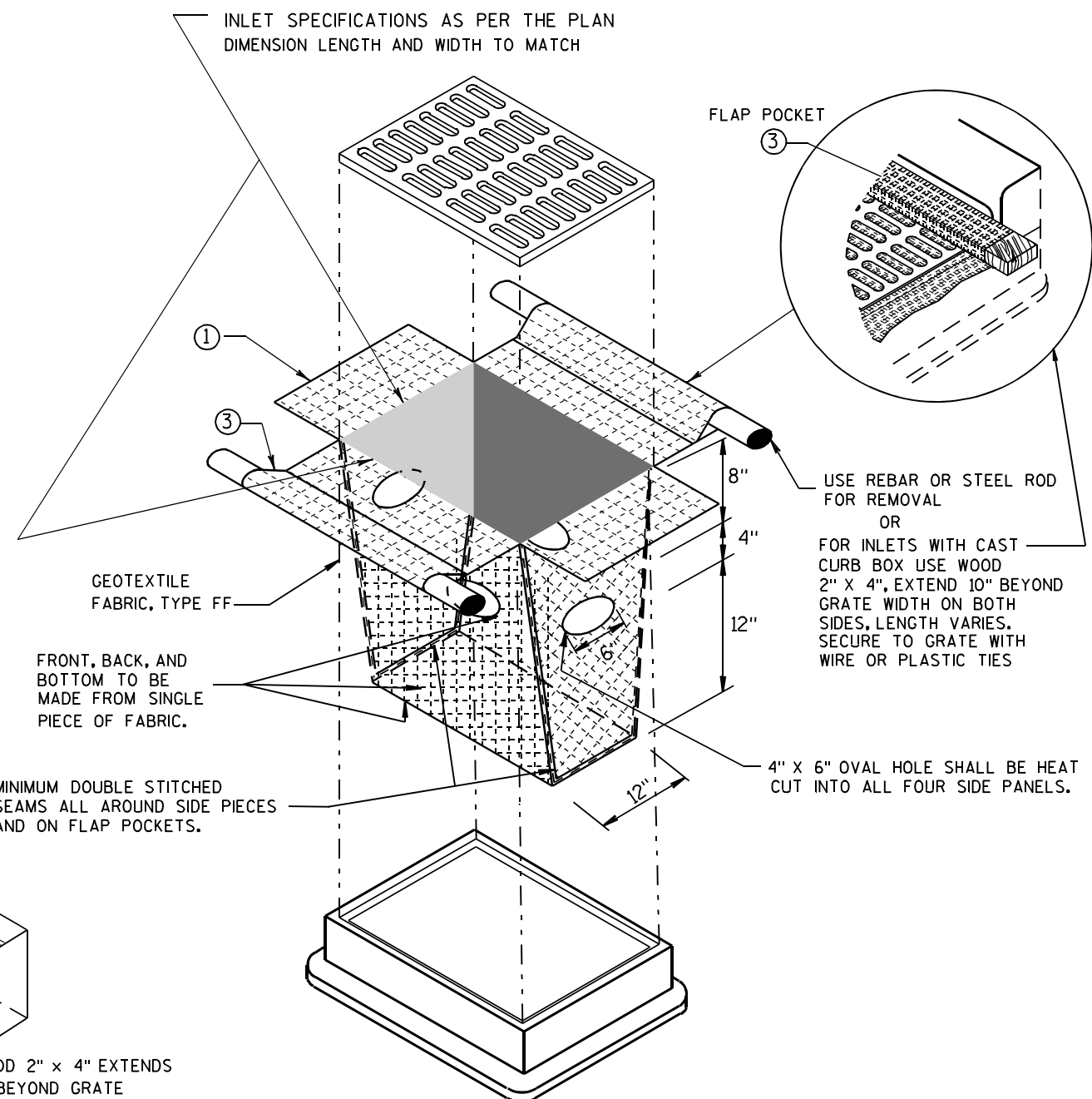
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



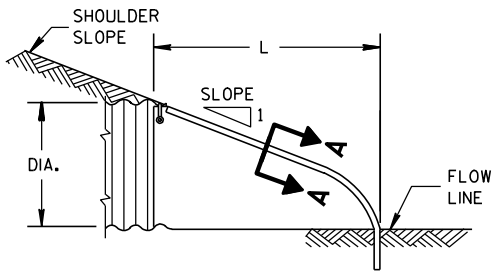
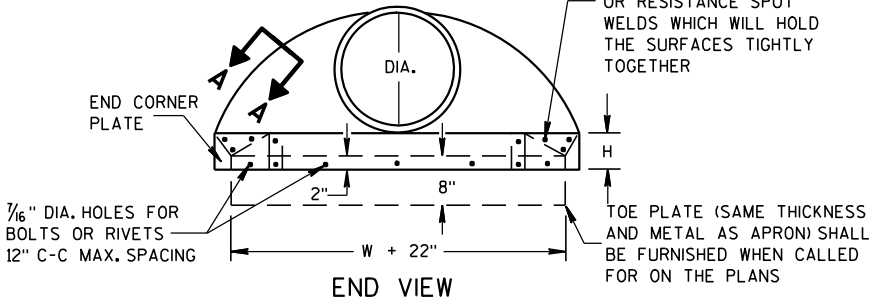
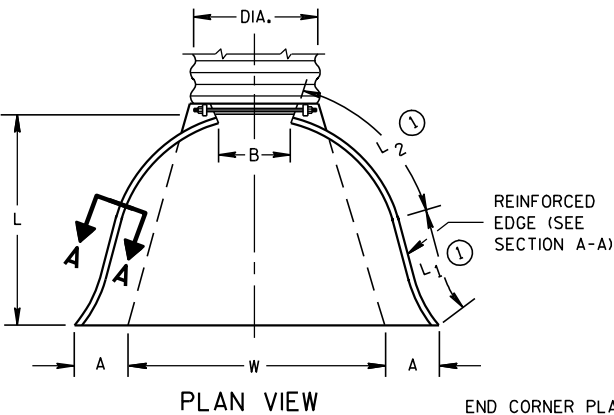
INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

INLET PROTECTION TYPE A, B, C, AND D	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/16/02 DATE	/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE		BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2	Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2	Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3	Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3	Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3	Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3	Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3	Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3	Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3	Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3	Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3	Pc.

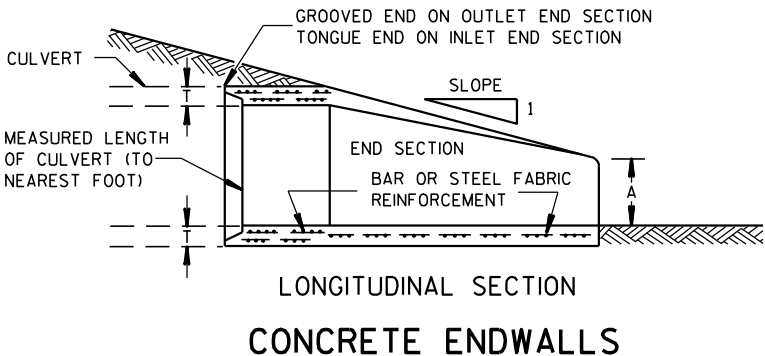
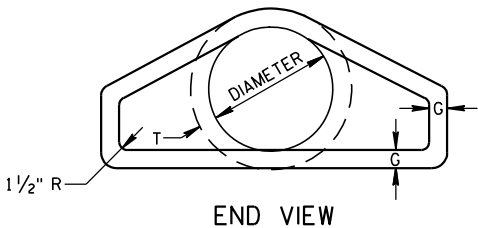
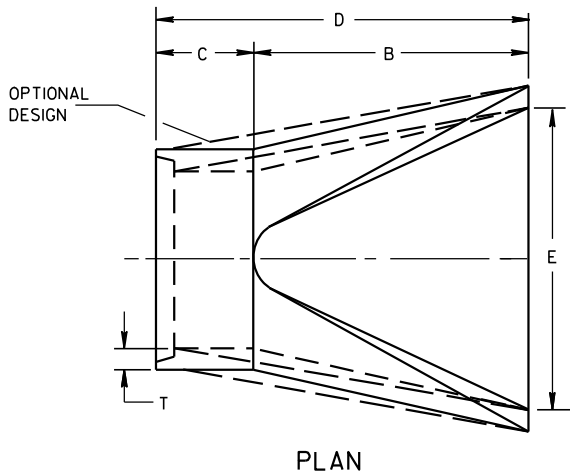
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



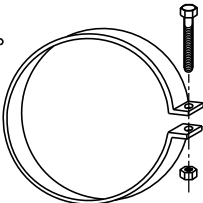
SIDE ELEVATION
METAL ENDWALLS

REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 7/8	72 7/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1				
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1				
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1				
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1				
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1				
48	5	24	72	26	98	84	5	3 to 1				
54	5 1/2	27	65	33 1/4-35	98 1/4-100	90	5 1/2	2 2/5 to 1				
60	6	30-35	60	39	99	96	5	2 to 1				
66	6 1/2	24-30	72-78	21-27	99	102	5 1/2	2 to 1				
72	7	24-36	78	21	99	108	6	2 to 1				
78	7 1/2	24-36	78	21	99	114	6 1/2	2 to 1				
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1				
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1				

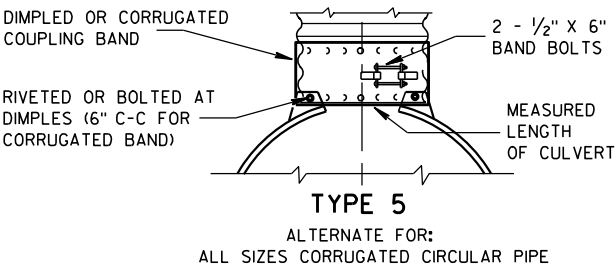
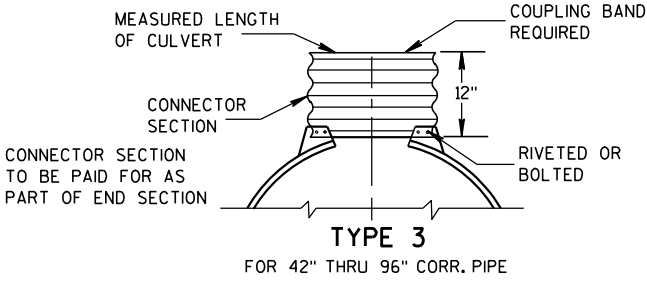
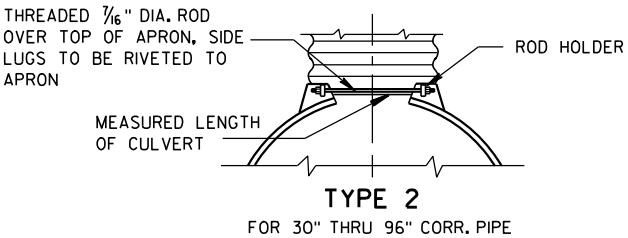
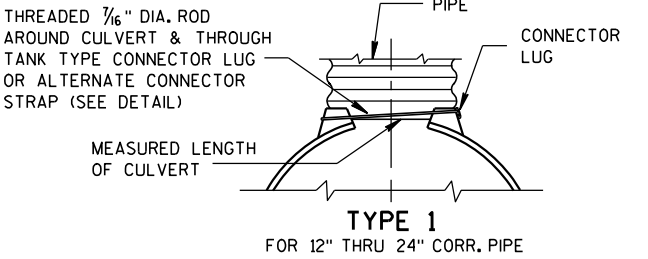
* MINIMUM
** MAXIMUM



1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



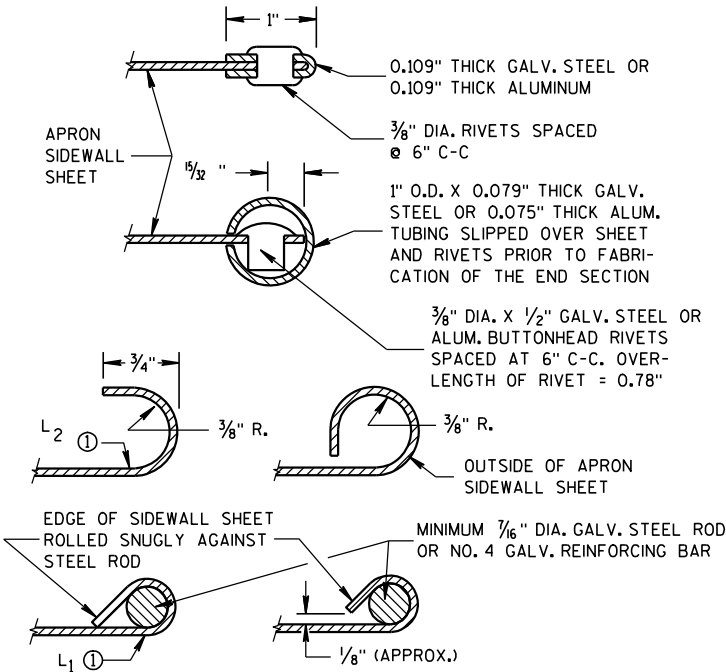
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

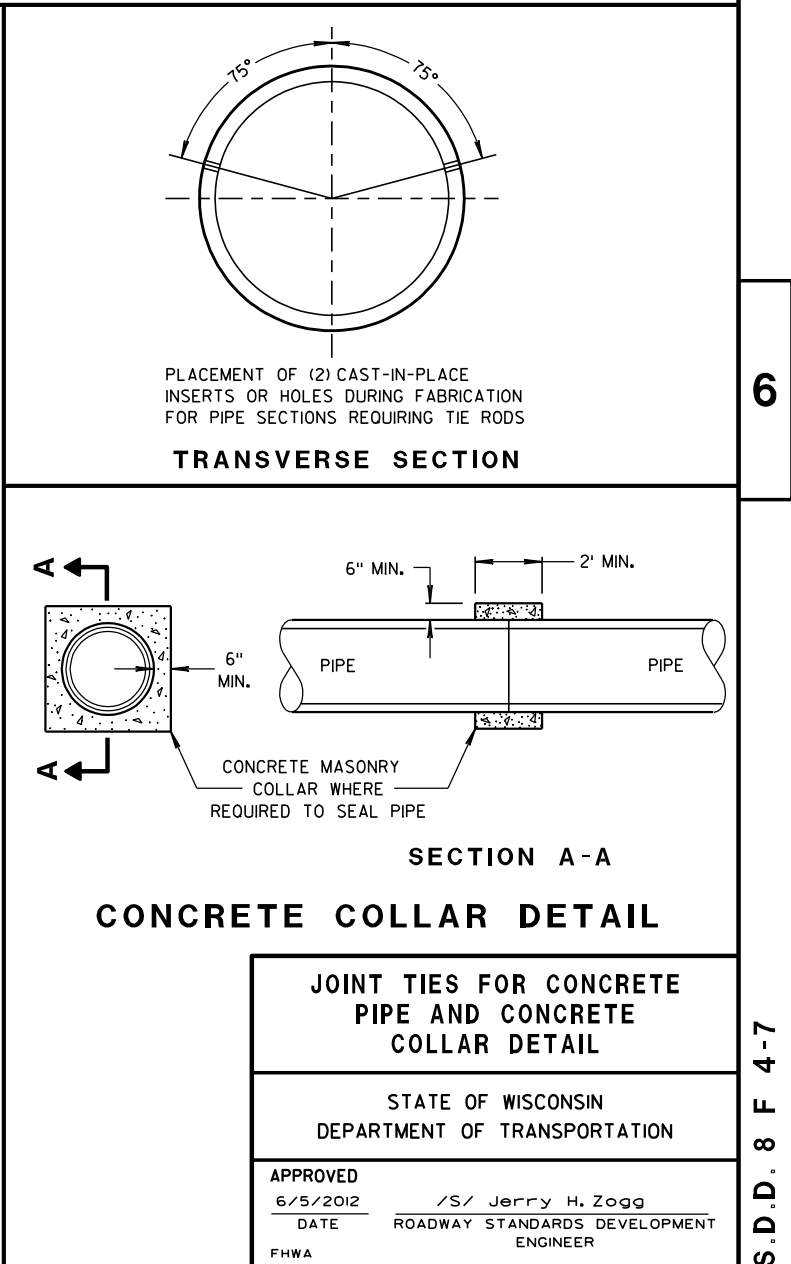
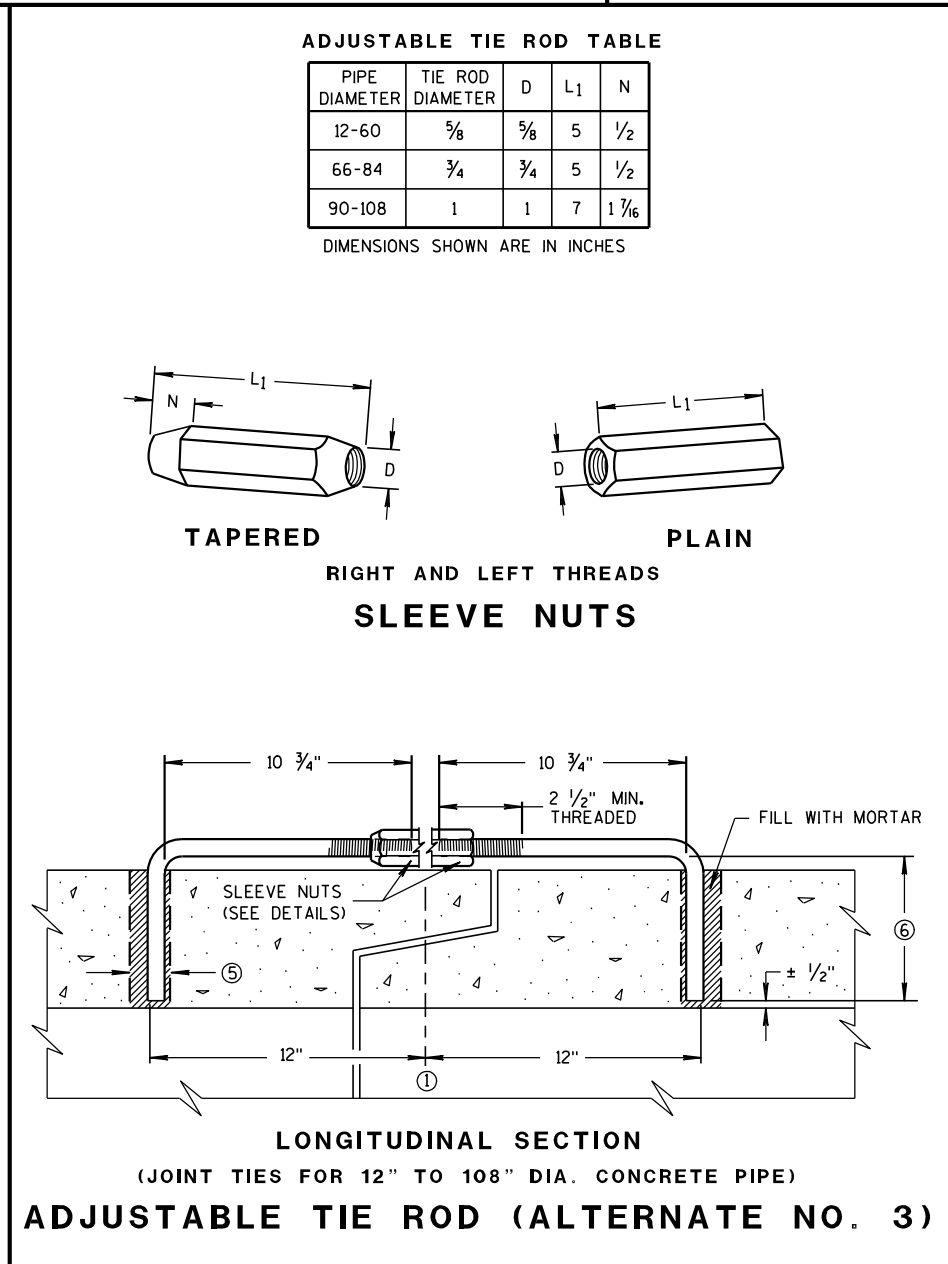
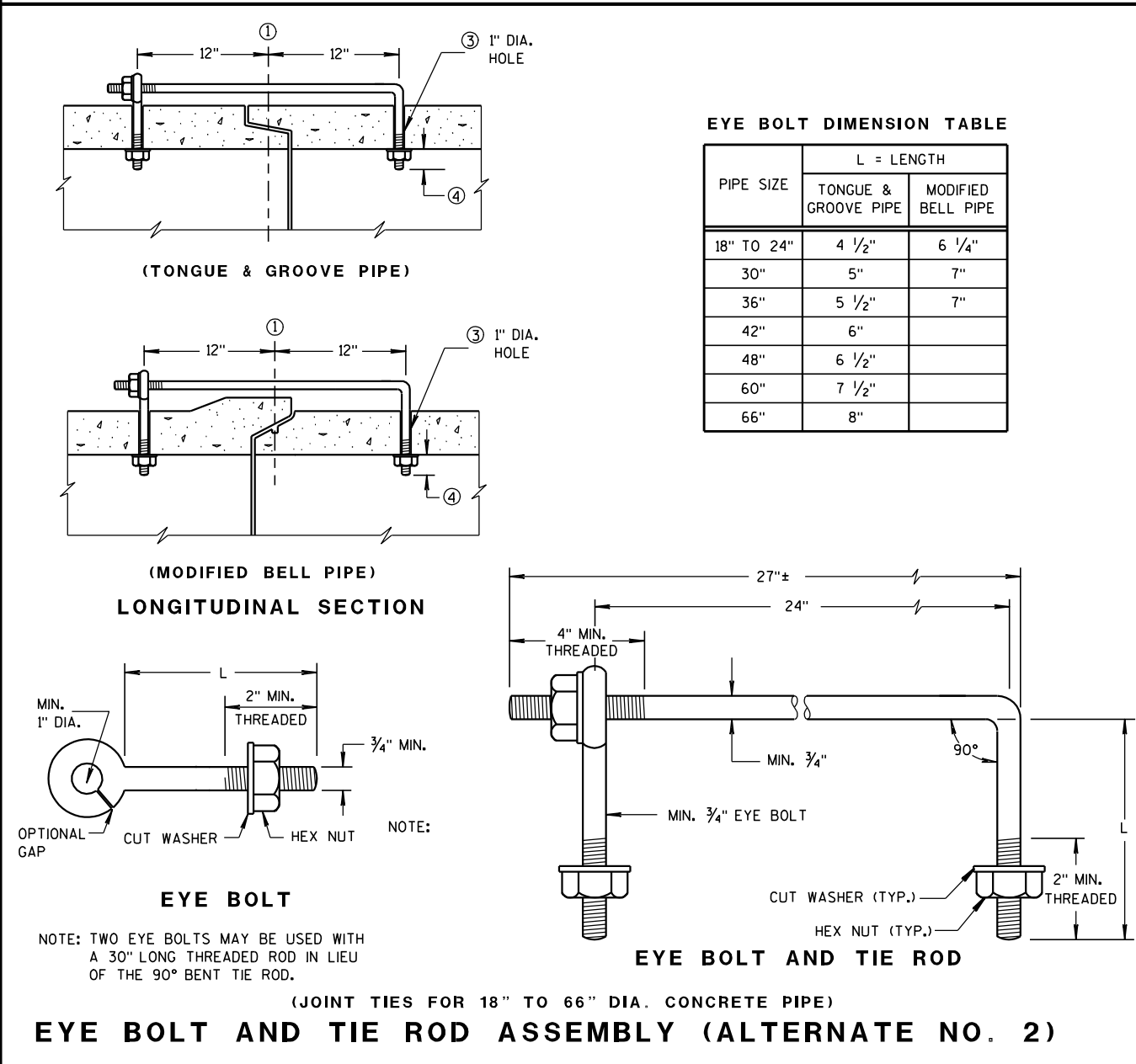
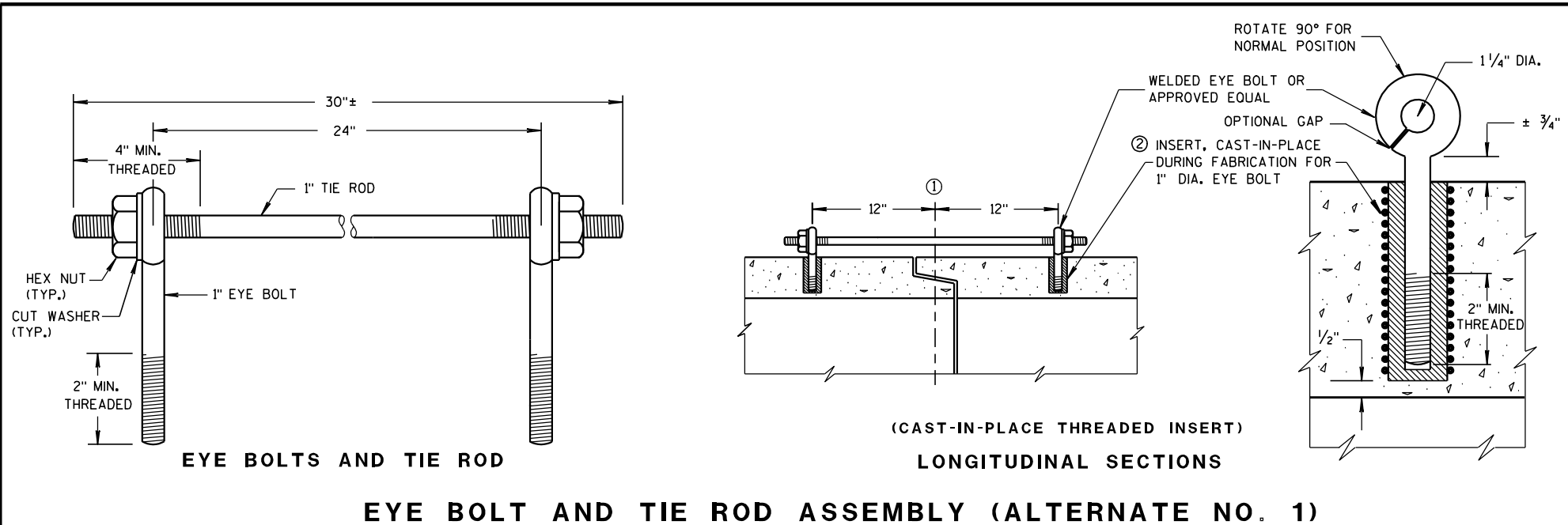
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

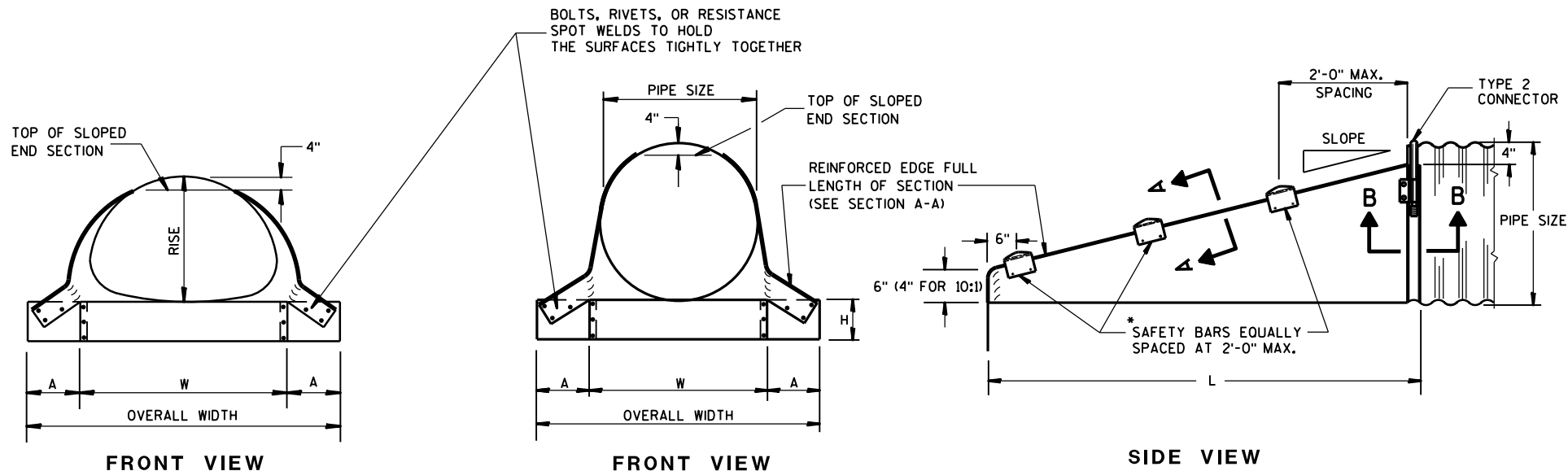
LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 11/30/94 DATE	/S/ Rory L. Rhinesmith CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	





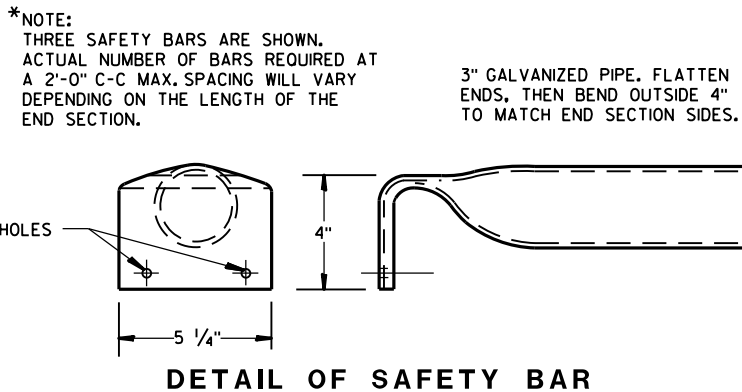
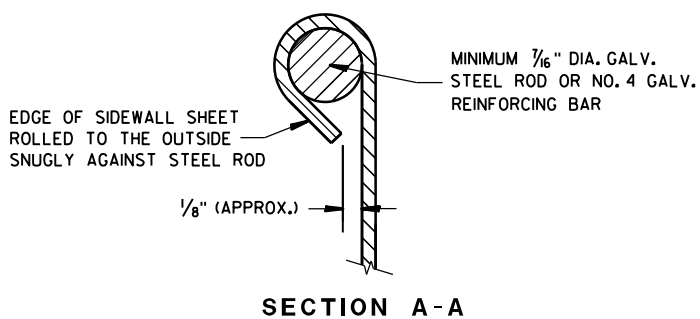
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

SLOPED END SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, SECTION 521 FOR STEEL APRON ENDWALLS.

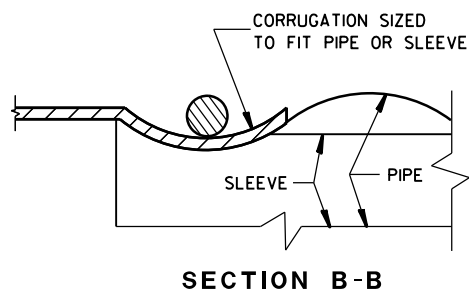
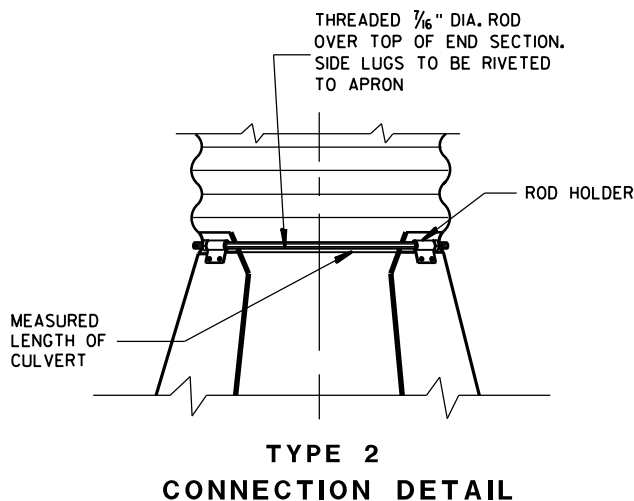
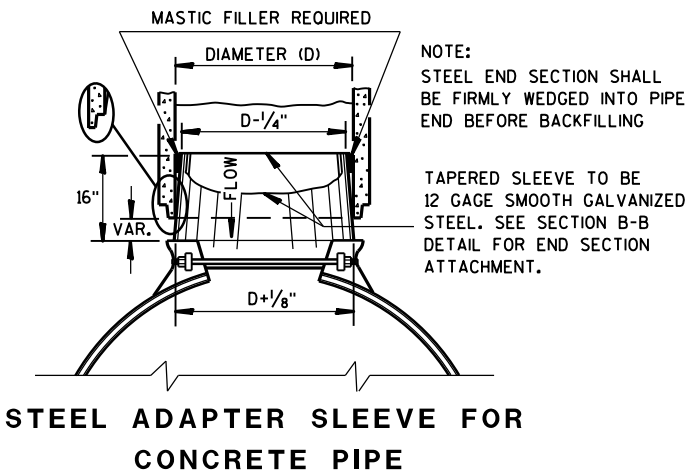
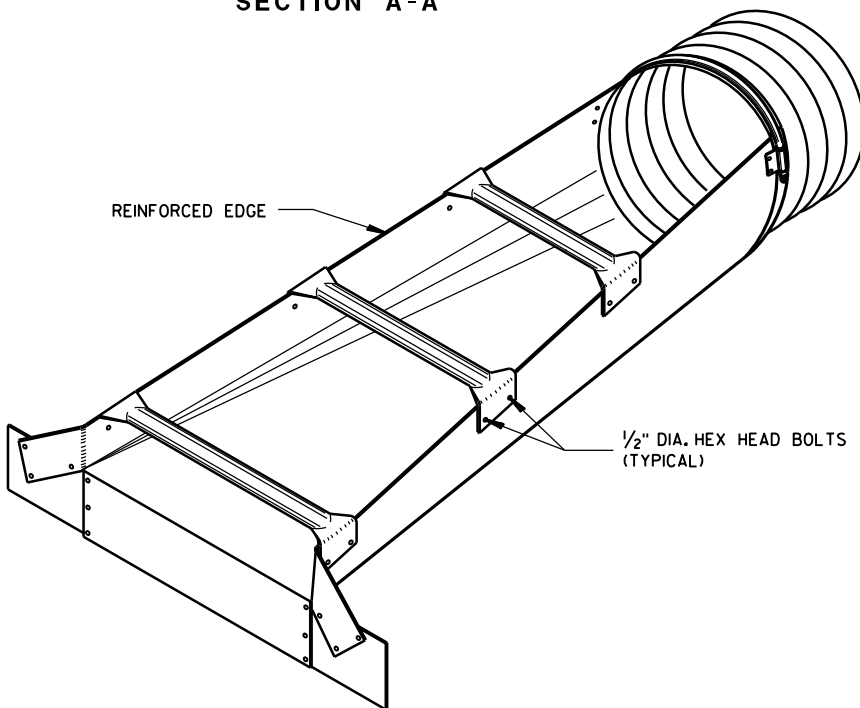
SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL.

STEEL APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)	DIMENSIONS (Inches)				L DIMENSIONS					
		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	.064	8	6	21	37	4:1	20	6:1	30	10:1	70
18	.064	8	6	24	40	4:1	32	6:1	48	10:1	100
21	.064	8	6	27	43	4:1	44	6:1	66	10:1	130
24	.064	8	6	30	46	4:1	56	6:1	84	10:1	160
30	.109	12	9	36	60	4:1	80	6:1	120	10:1	220
36	.109	12	9	42	66	4:1	104	6:1	156	10:1	280
42	.109	16	12	48	80	4:1	128	6:1	192	—	—
48	.109	16	12	54	86	4:1	152	6:1	228	—	—
54	.109	16	12	60	92	4:1	176	6:1	264	—	—
60	.109	16	12	66	98	4:1	200	6:1	300	—	—



STEEL APRON ENDWALLS FOR PIPE ARCH SLOPED SIDE DRAINS											
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches) ①	DIMENSIONS (Inches)				L DIMENSIONS			
	SPAN	RISE		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	17	13	.064 *	7	6	30	44	4:1	19	6:1	30 10:1 ②
18	21	15	.064 *	8	6	27	43	4:1	20	6:1	30 10:1
21	24	18	.064 *	8	6	30	46	4:1	32	6:1	48 10:1
24	28	20	.064 *	8	6	34	50	4:1	40	6:1	60 10:1
30	35	24	.079 *	12	9	41	65	4:1	56	6:1	84 10:1
36	42	29	.109 *	12	9	48	72	4:1	76	6:1	114 10:1
42	49	33	.109	16	12	55	87	4:1	92	6:1	138 —
48	57	38	.109	16	12	63	95	4:1	112	6:1	168 —
54	64	43	.109	16	12	70	102	4:1	132	6:1	198 —

① * MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".
② ACTUAL SLOPE GREATER THAN 10:1.



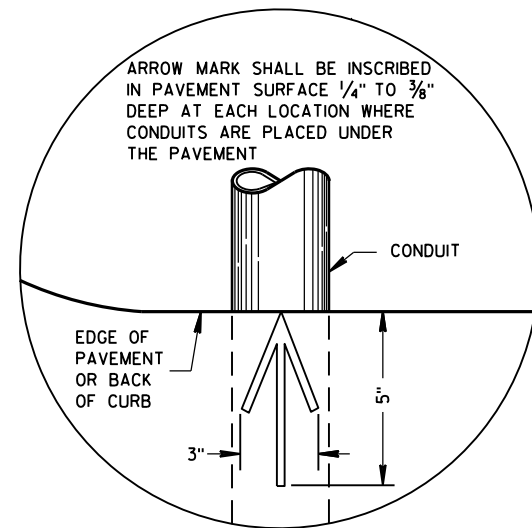
STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

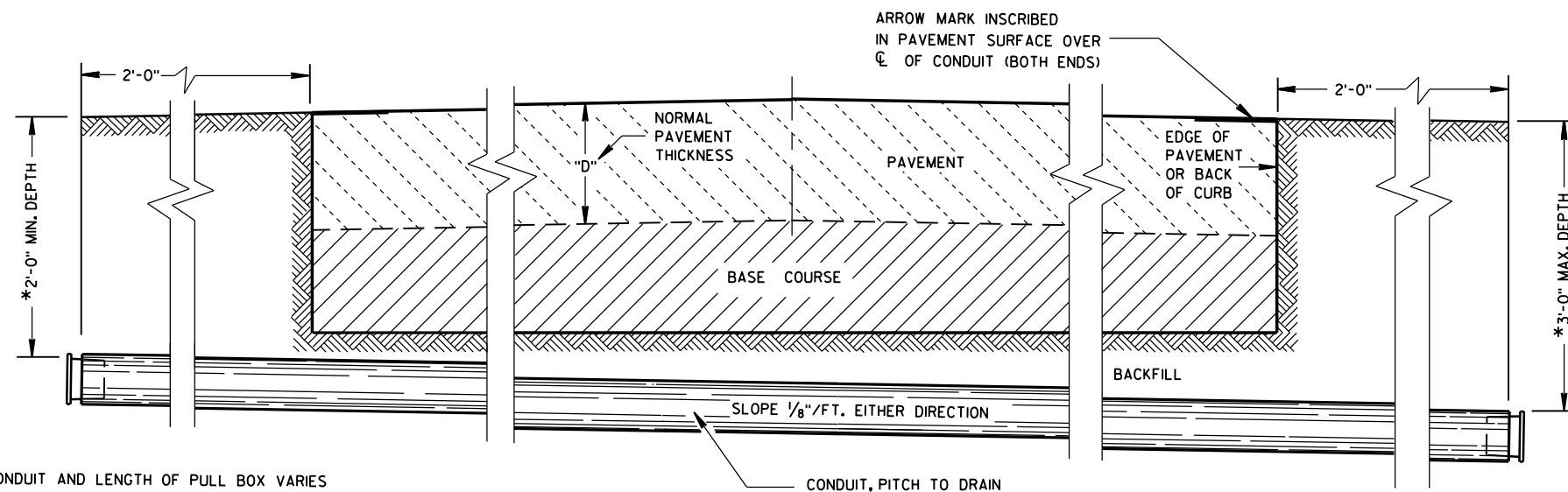
APPROVED
9/14/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA



PLAN VIEW
ARROW MARK



SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES
WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March, 2017 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

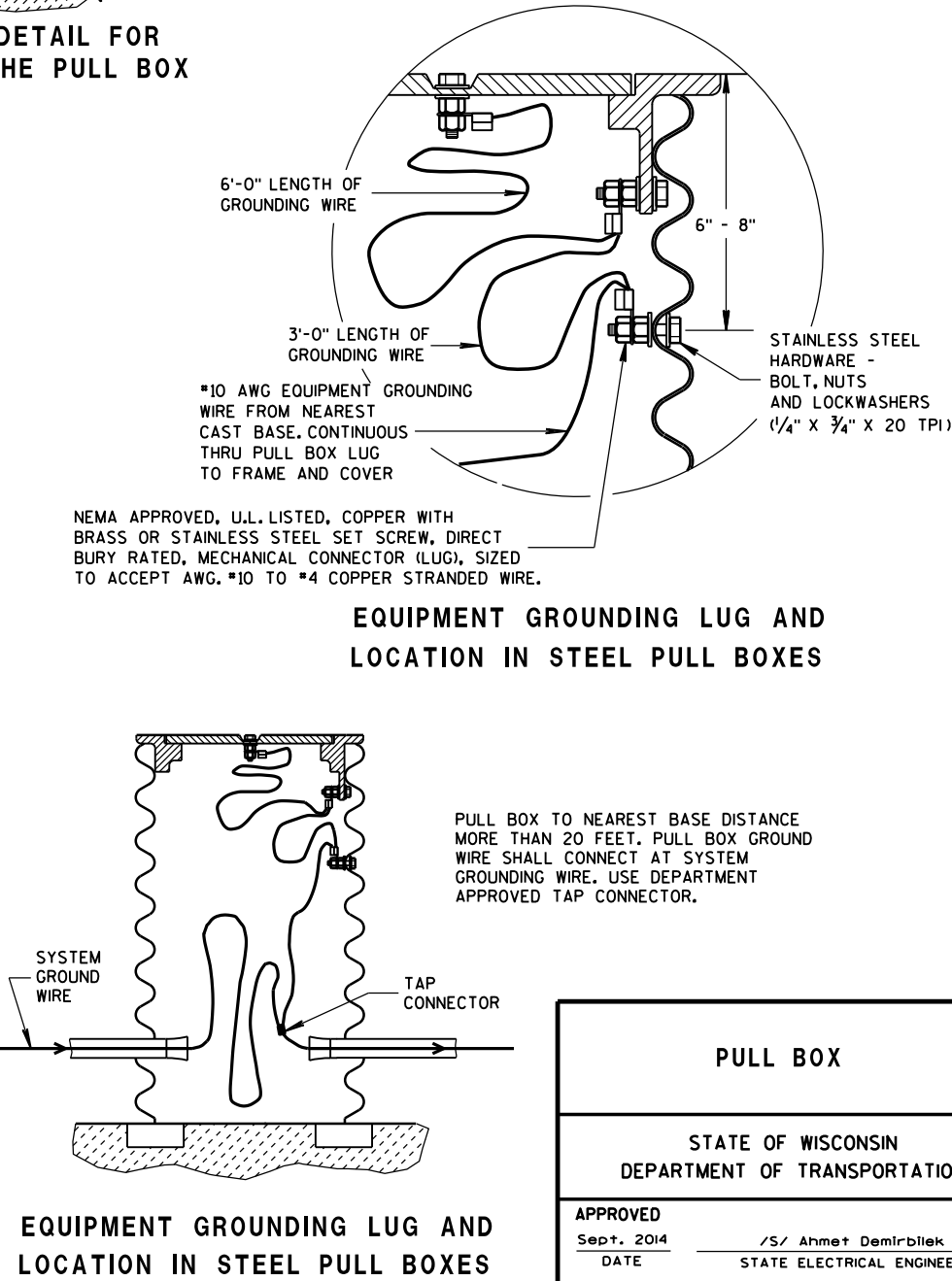
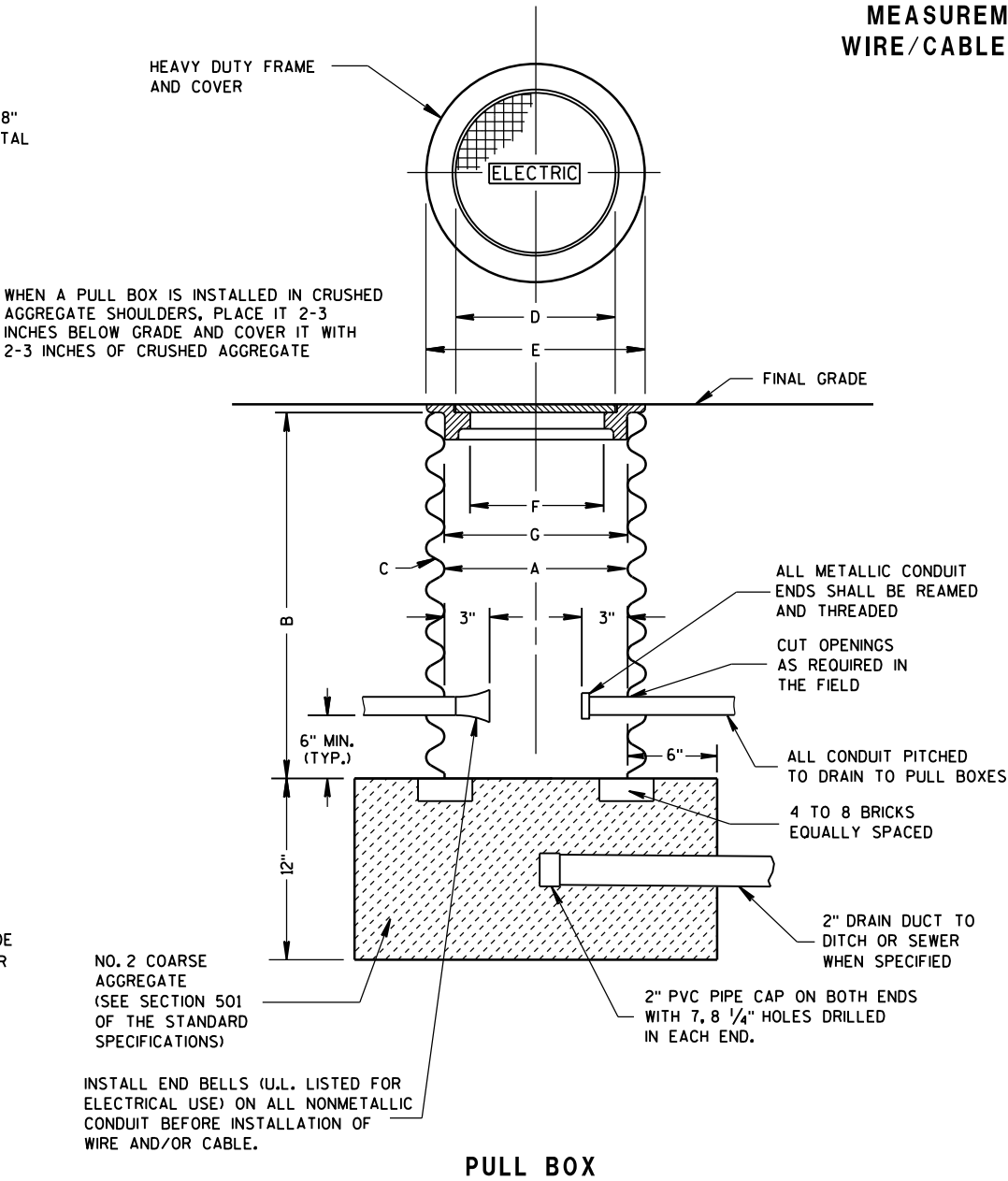
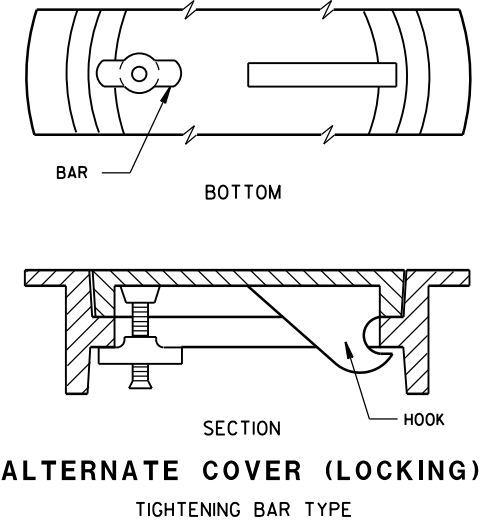
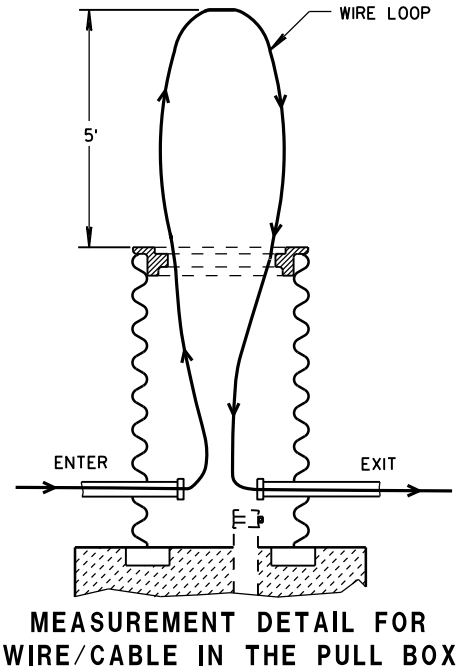
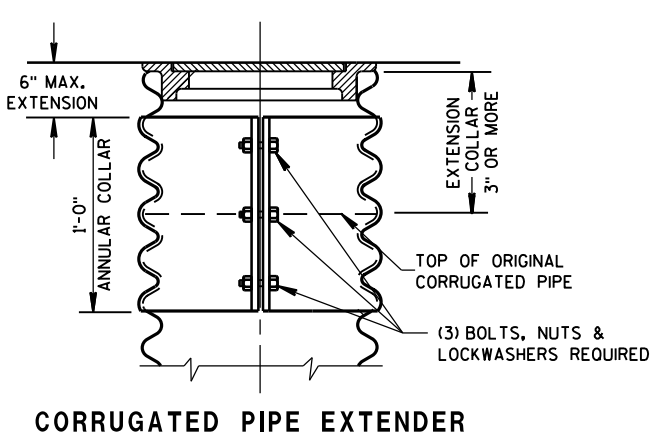
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

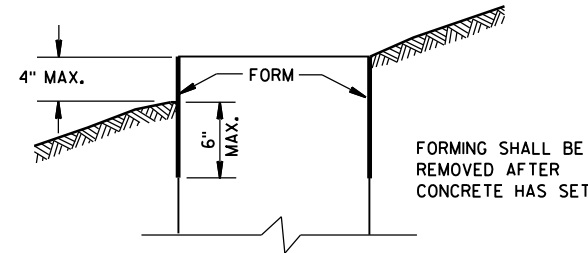
ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



PULL BOX	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG. STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

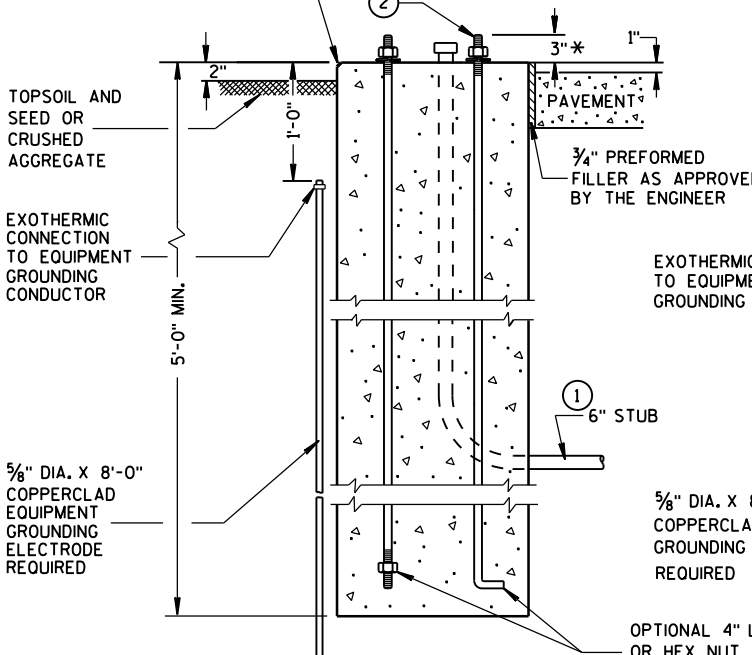
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

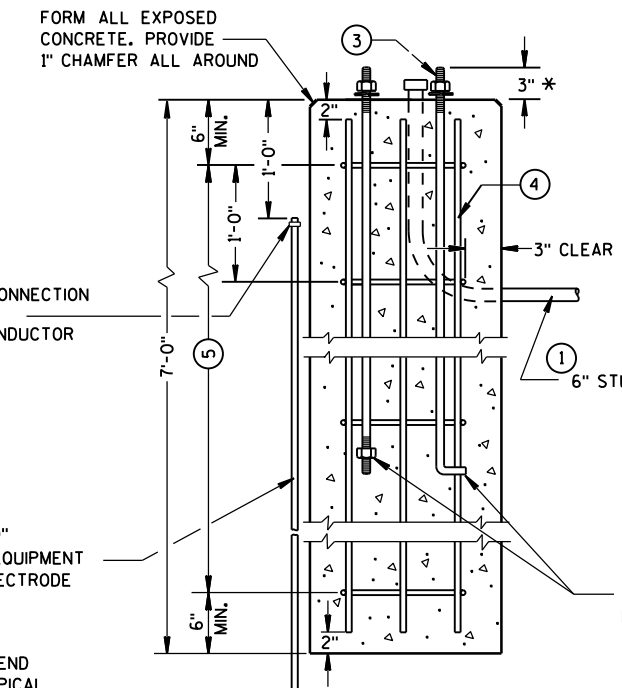
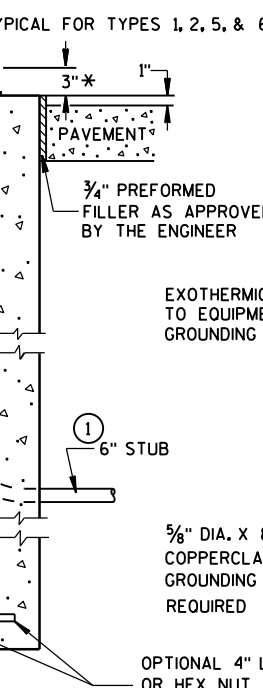
- 1 THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.
- 2 (4) 1" DIA. X 3'-6" ANCHOR RODS.
- 3 (4) 1" DIA. X 5'-0" ANCHOR RODS.
- 4 (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.
- 5 (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.
- 6 (4) 1" DIA. X 3'-6" ANCHOR RODS.
- 7 (6) NO. 4 X 4'-8" BAR STEEL REINFORCEMENT.
- 8 (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2, 5, & 6)



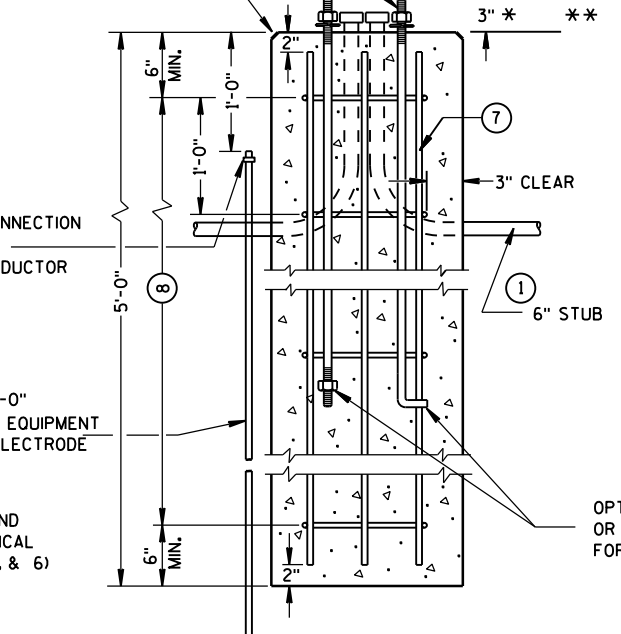
TYPE 1

HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5, & 6)



TYPE 2

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES,
TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE /S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER
FHWA

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

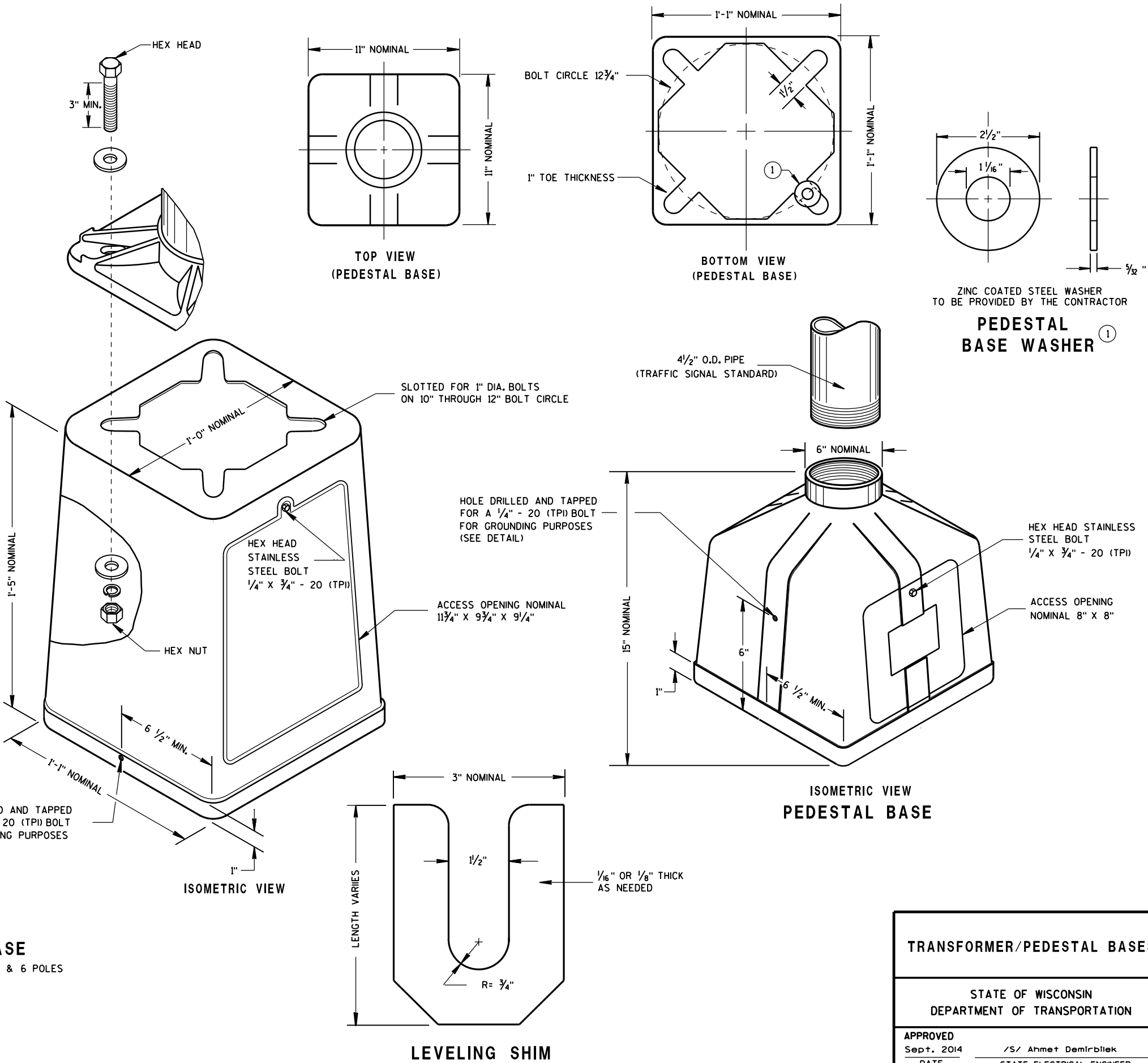
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.



TYPICAL MECHANICAL
CONNECTOR LUG
TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE
INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES

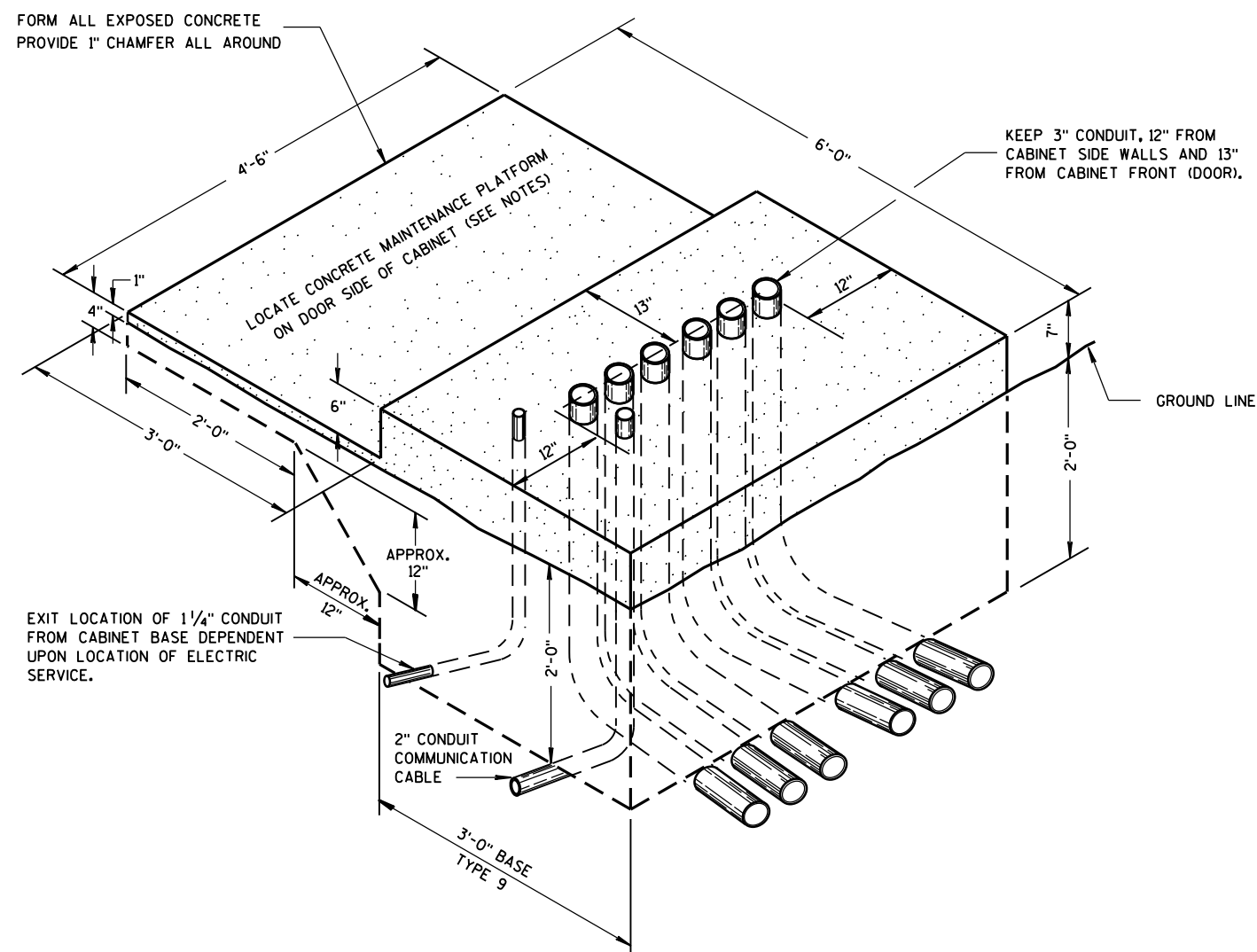
ISOMETRIC VIEW
PEDESTAL BASE

LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

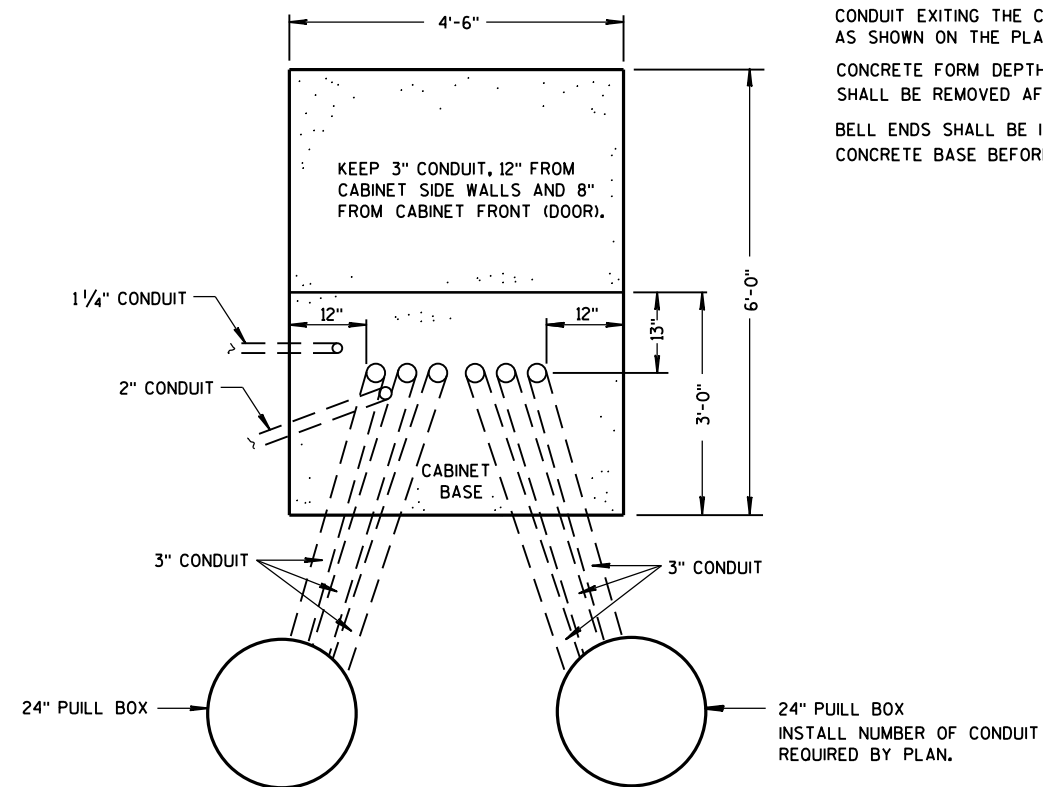
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA



ISOMETRIC VIEW
TYPE 9, SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

INSTALL FOUR 1/2 INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

CONCRETE CONTROL CABINET
BASE, TYPE 9, SPECIAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE
FHWA

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER



* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

APPROVED
Sept. 2014
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER

FHWA

FRONT INTERIOR
ELEVATION

SIDE VIEW

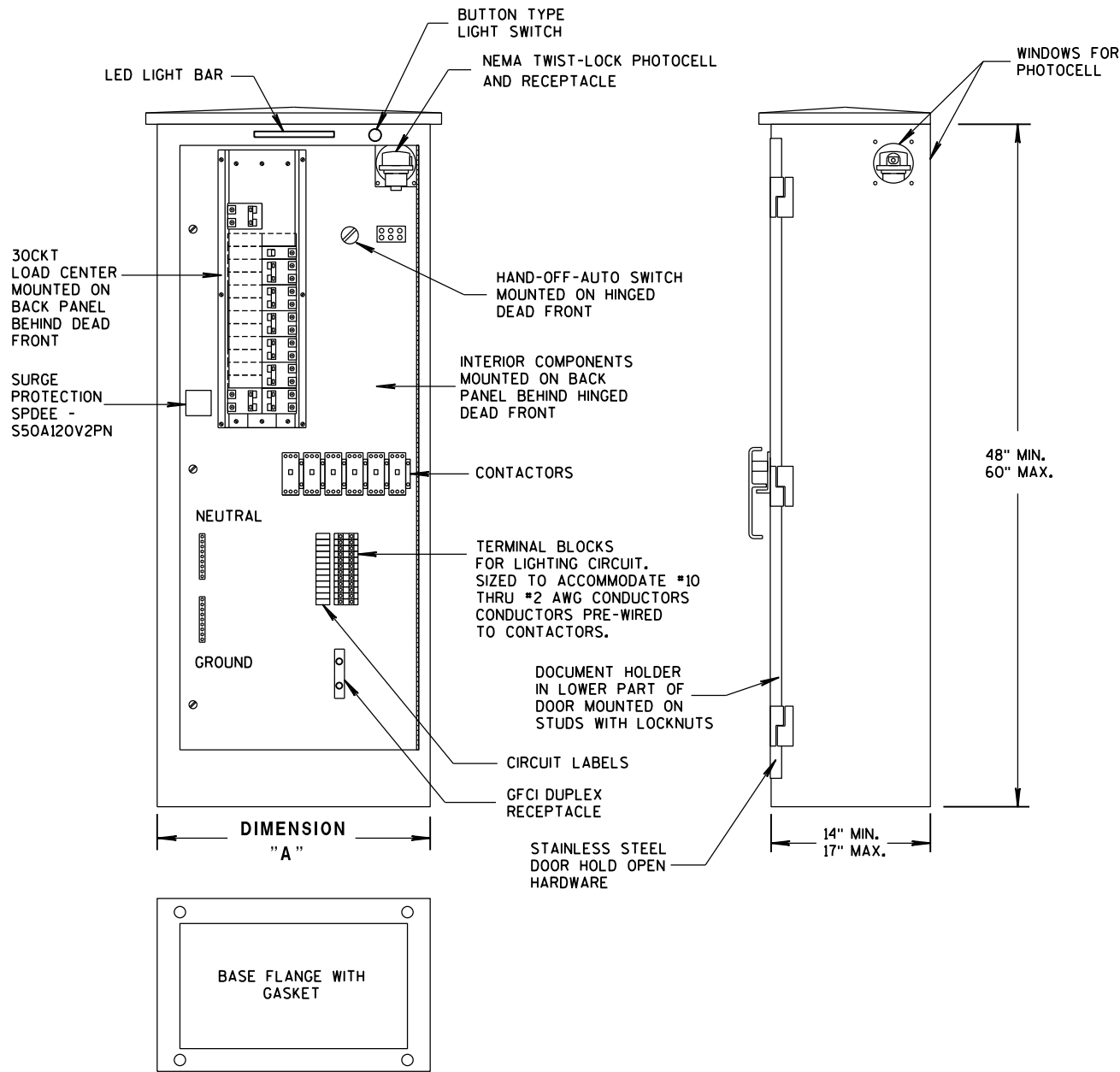
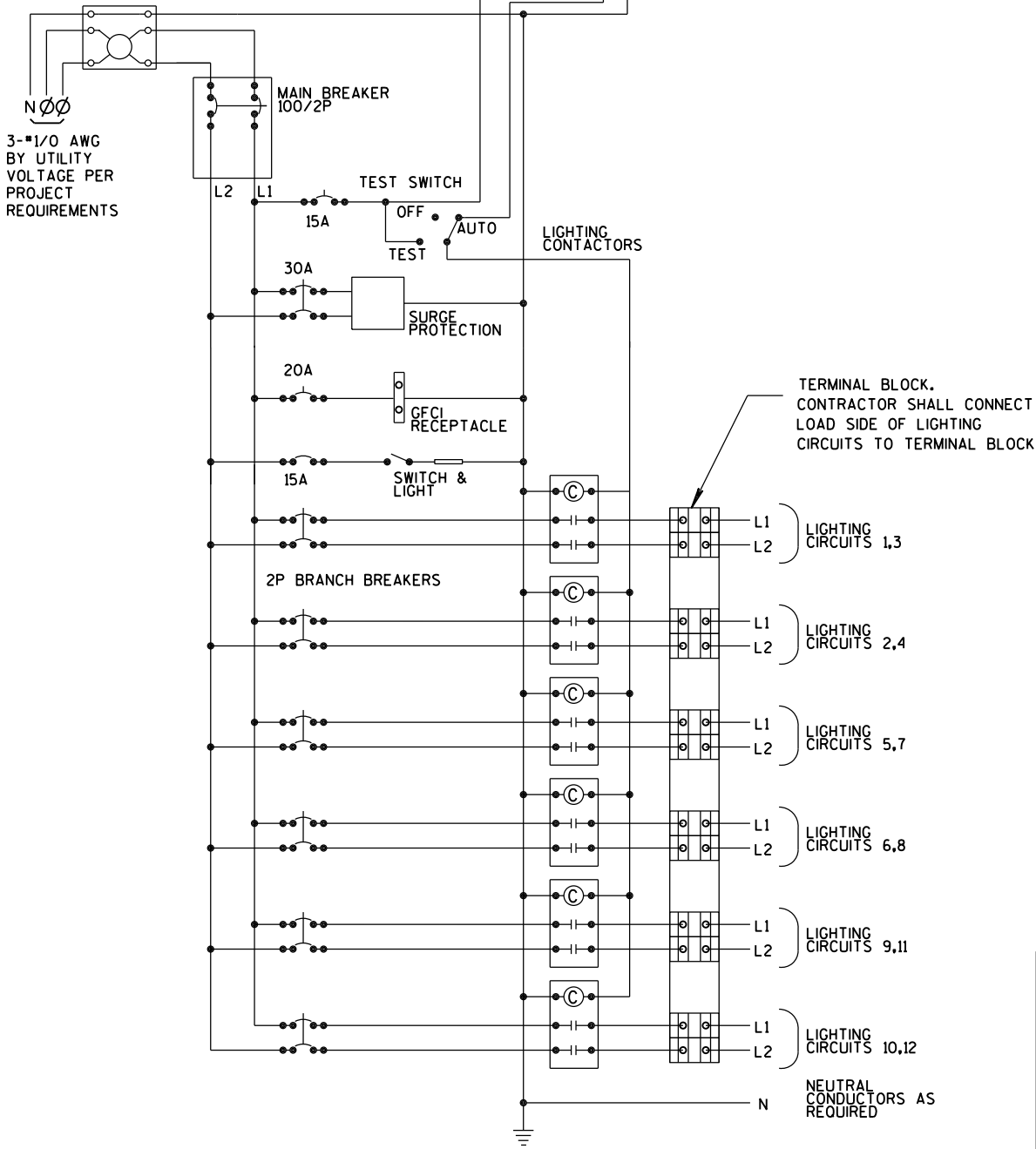


TABLE OF DIMENSIONS (INCHES)

CONCRETE BASE TYPE	CABINET WIDTH	DIMENSION "A"
L24	24"	24"
L30	30"	30"

LIGHTING CONTROL CABINET

UTILITY METER PEDESTAL PROVIDED BY CONTRACTOR UNDER SEPARATE BID ITEM. MAY, OR MAY NOT BE ATTACHED TO OUTSIDE OF CONTROL CABINET PER PROJECT REQUIREMENTS



CONTROL CABINET SCHEMATIC

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

ALL INTERNAL ELECTRICAL COMPONENTS WILL BE PRE-WIRED BY THE CABINET FABRICATOR.

ALL CONDUIT ENTRIES SHALL BE SEALED WITH AN APPROPRIATE DUCT SEALING COMPOUND.

ORIENT PHOTOCELL AWAY FROM AMBIENT LIGHT SOURCES AND ONCOMING TRAFFIC HEADLIGHTS.

THE CONTRACTOR SHALL TOUCH UP ANY DAMAGE TO THE ANODIZED FINISH CAUSED BY THE INSTALLATION PROCESS. COLOR MATCH PAINT SHALL BE USED.

A COMPLETE LIGHTING OR ELECTRICAL PLAN SHALL BE SECURELY PLACED IN THE DOCUMENT HOLDER ATTACHED TO THE DOOR.

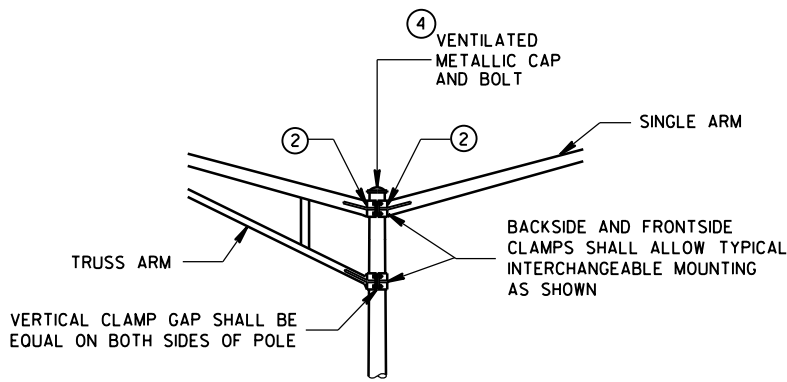
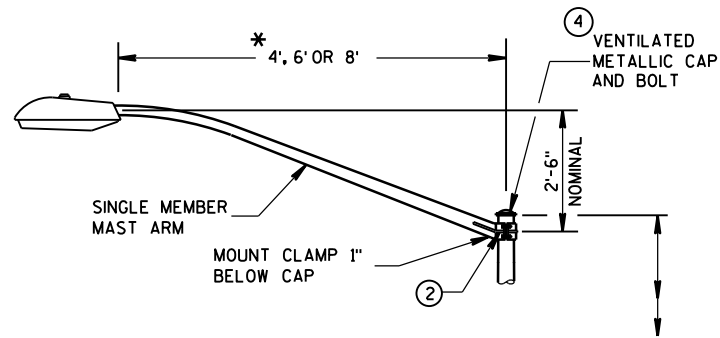
LIGHTING CONTROL CABINET
120/240 VOLT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

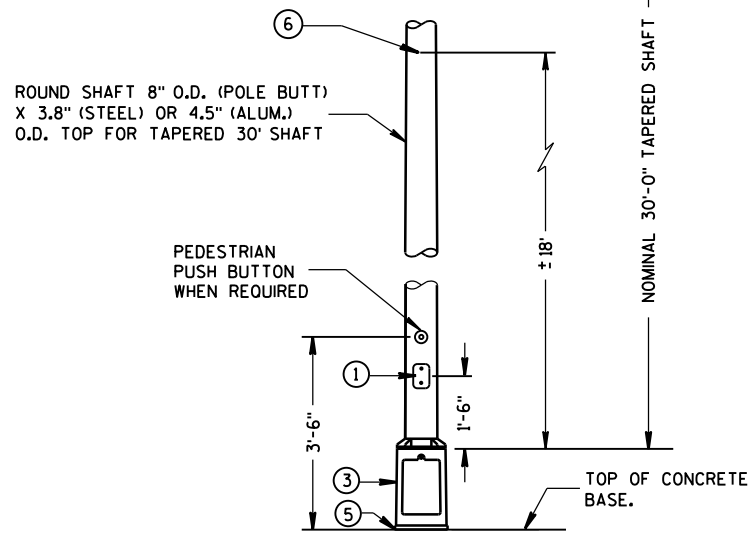
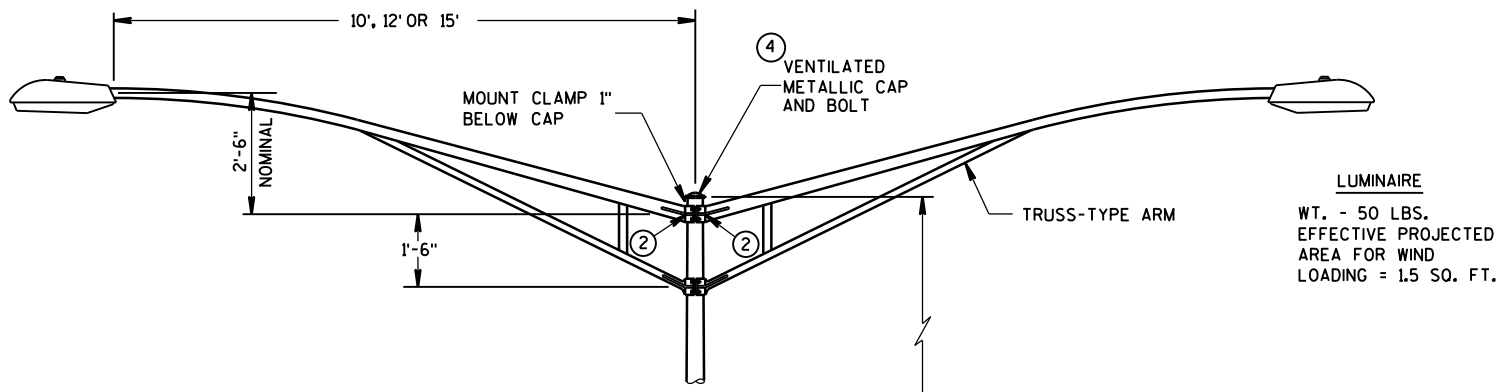
APPROVED
DATE
FWHA

/S/ Thomas Gorring
STATE LIGHTING ENGINEER FOR HWYS.

* RISE FOR 4' ARM SHALL BE 2'-0".



INTERCHANGEABLE MOUNTING DETAIL



TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

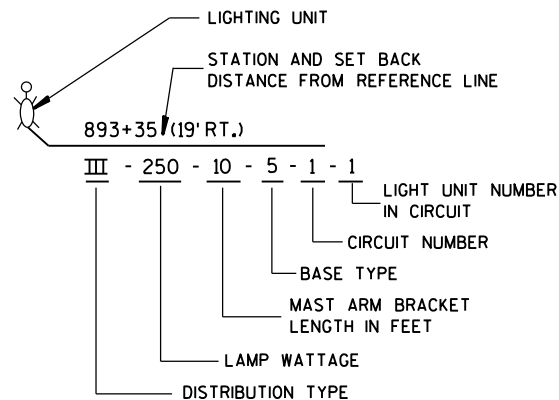
THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 3/8 INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

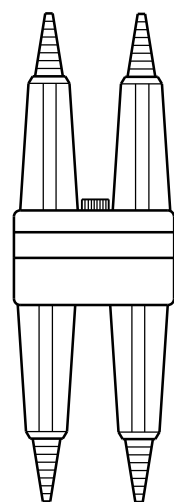
- ① 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) 1/4" x 3/4" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
- ② GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 3/8" HOLE IN POLE SHAFT FOR WIRING.
- ③ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
- ④ FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" x 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- ⑤ SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.
- ⑥ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

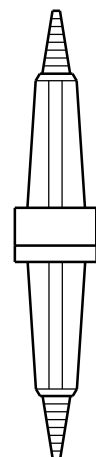
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



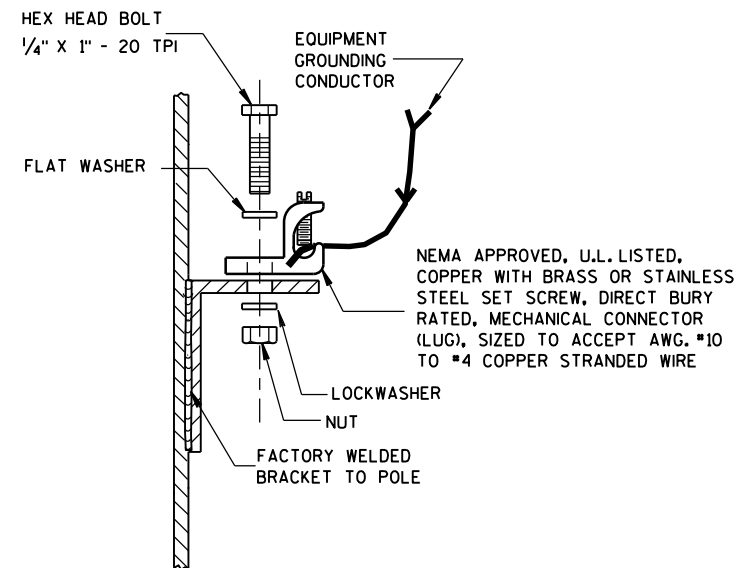
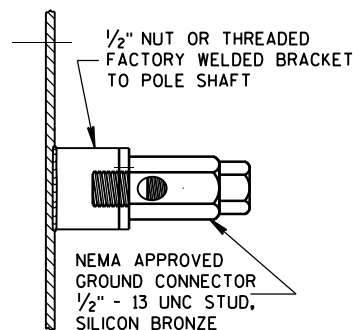
**LIGHTING UNIT CODE
(TYPICAL)**



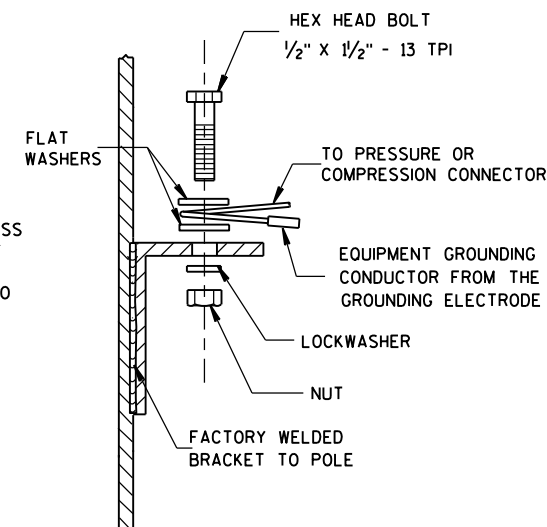
**DETAIL "A"
BREAKAWAY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT**



**DETAIL "B"
BREAKAWAY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT**



TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL

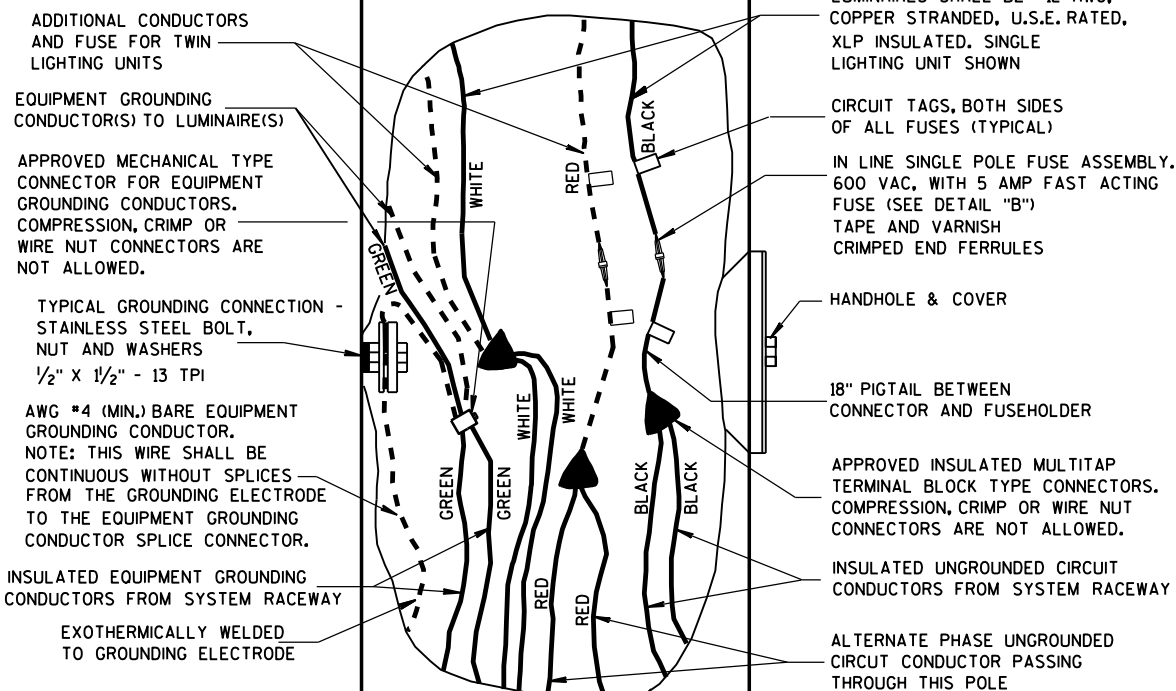


GENERAL NOTES

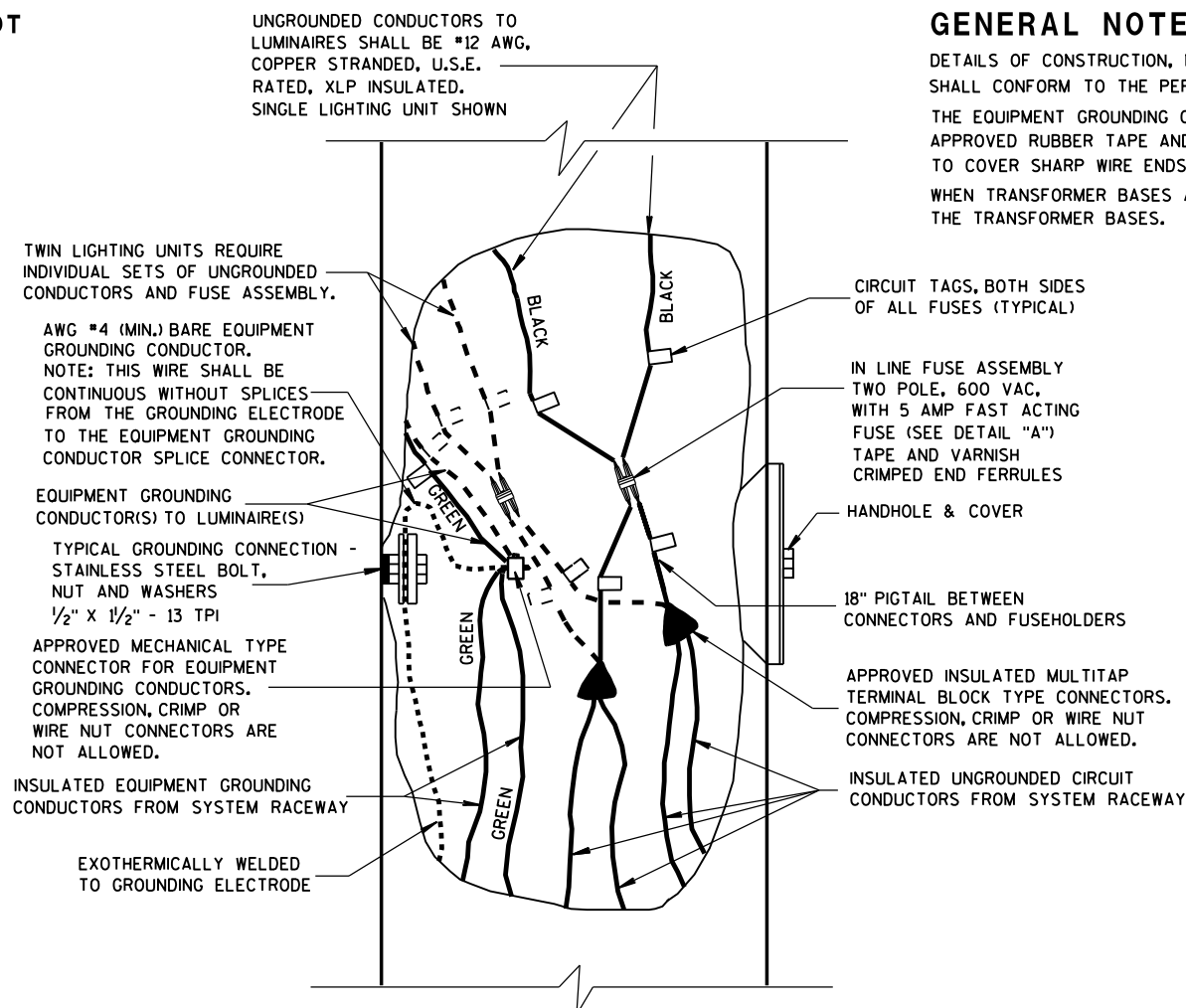
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.



**3 WIRE - 120, 240 OR 480 VAC (UNGROUND CONDUCTOR)
WITH GROUNDED CONDUCTOR AND
WITH EQUIPMENT GROUNDING CONDUCTOR**

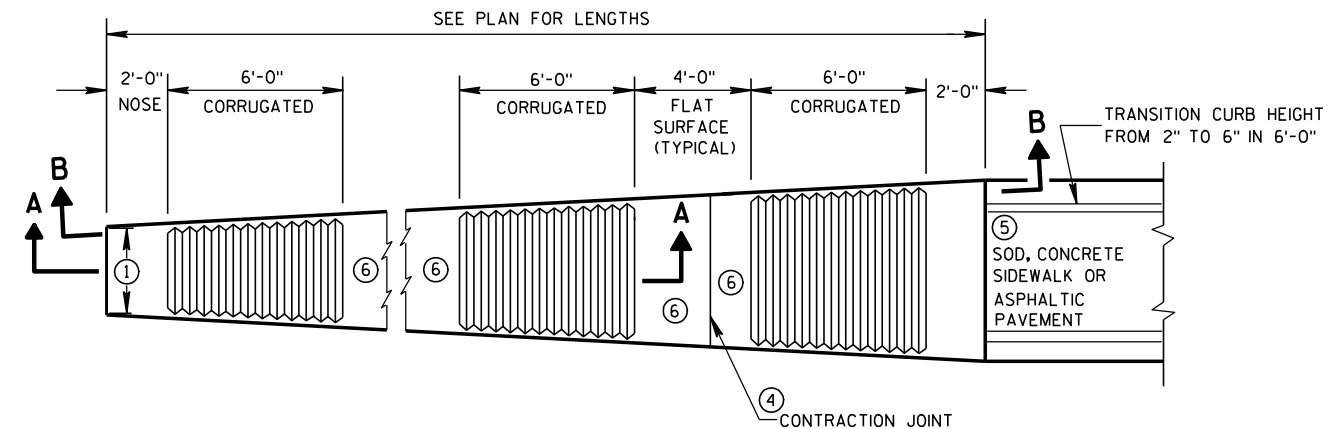


**2 WIRE - 240 OR 480 VAC (UNGROUND CONDUCTORS)
WITH EQUIPMENT GROUNDING CONDUCTOR**

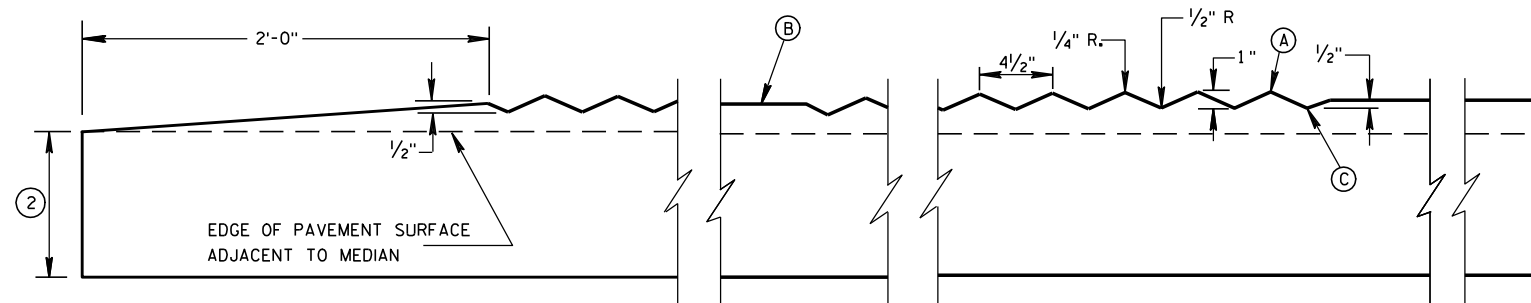
**NON-FREWAY LIGHTING UNIT
POLE WIRING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

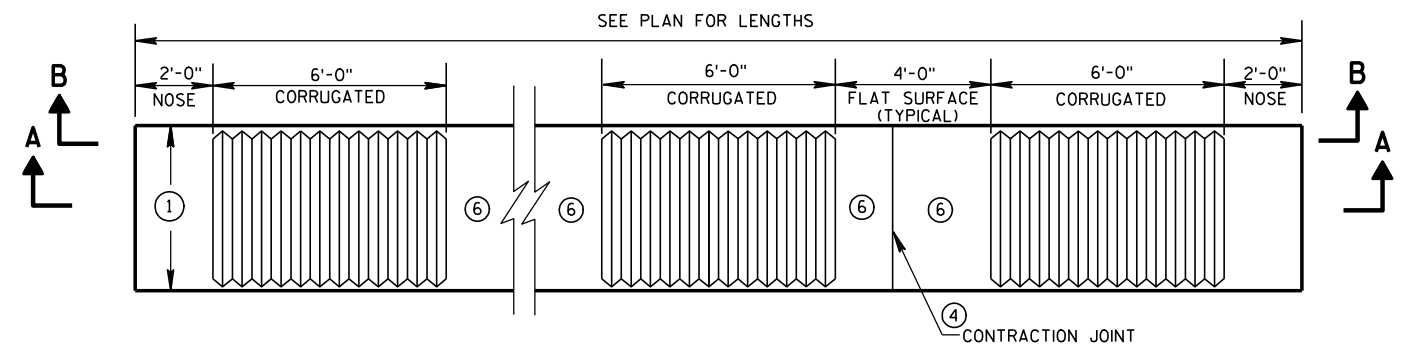
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Sept. 2014 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA



PLAN VIEW
VARIABLE WIDTH CONCRETE CORRUGATED MEDIAN



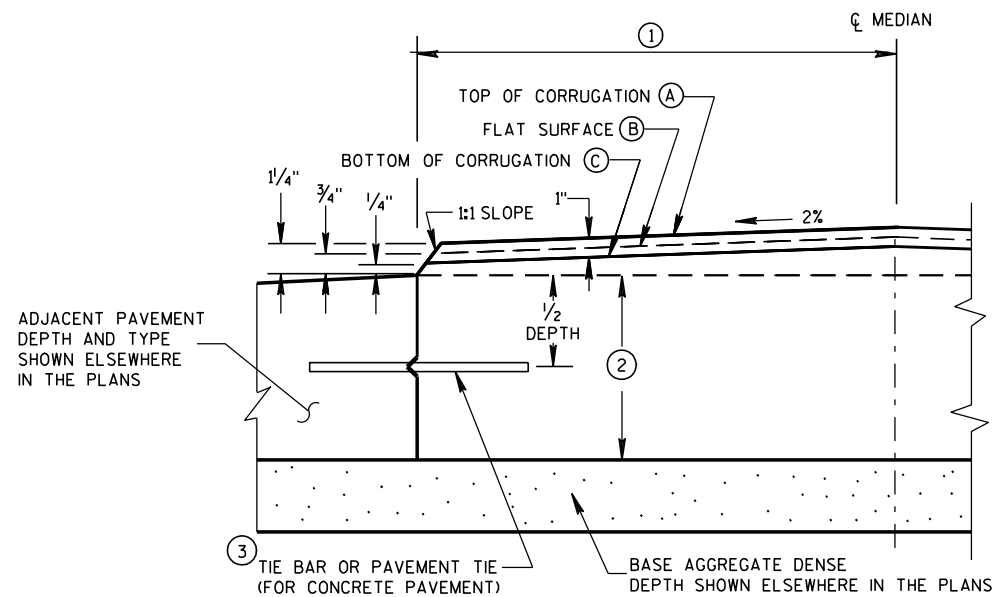
SECTION A-A
LONGITUDINAL SECTION



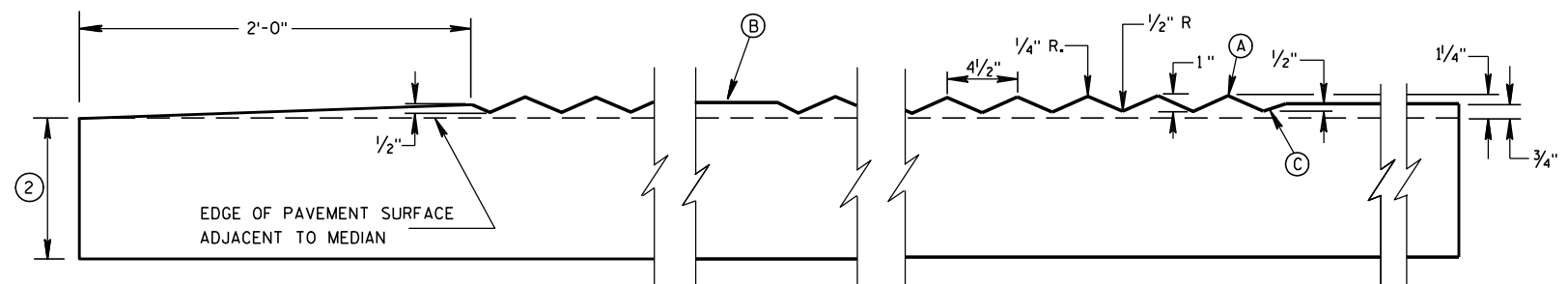
PLAN VIEW
UNIFORM WIDTH CONCRETE CORRUGATED MEDIAN

GENERAL NOTES

- ① SEE PLANS FOR CONSTANT OR VARIABLE WIDTH.
- ② THE DEPTH OF THE CONCRETE CORRUGATED MEDIAN SHALL BE 9-INCHES UNLESS SHOWN OTHERWISE IN THE PLAN. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN IN THE PLAN. TYPICAL OPTIONS ARE:
(1) NEW OR EXISTING CONCRETE PAVEMENT.
(2) ASPHALTIC CONCRETE OVER NEW OR EXISTING CONCRETE BASE COURSE, OR PAVEMENT.
(3) ASPHALTIC PAVEMENT OVER BASE AGGREGATE DENSE.
- ③ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C. INSTALL TIE BARS TO MAINTAIN A MINIMUM OF 3-INCHES OF COVER BETWEEN THE TIE BAR AND THE CONCRETE SURFACE (BOTTOM AND TOP).
PAVEMENT TIES REQUIRED IN EXISTING CONCRETE PAVEMENT OR CONCRETE BASE COURSE, PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.
- ④ CONCRETE CORRUGATED MEDIAN CONTRACTION JOINTS SHALL BE CONSTRUCTED TO MATCH THE JOINTS IN ADJACENT CONCRETE PAVEMENT. WHERE ADJACENT PAVEMENT IS ASPHALT WITH BASE AGGREGATE DENSE, TRANSVERSE CONTRACTION JOINTS SHALL BE PROVIDED AT 20 FOOT INTERVALS.
- ⑤ SURFACE TYPE AND DETAILS ARE DEFINED ELSEWHERE IN THE PLAN.
- ⑥ YELLOW MARKING ON FLAT SURFACE WHEN MEDIAN SEPARATES OPPOSING TRAFFIC.



HALF CROSS SECTION
② CONCRETE CORRUGATED MEDIAN AND ADJACENT PAVEMENT



SECTION B-B
LONGITUDINAL SECTION

CONCRETE CORRUGATED MEDIAN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

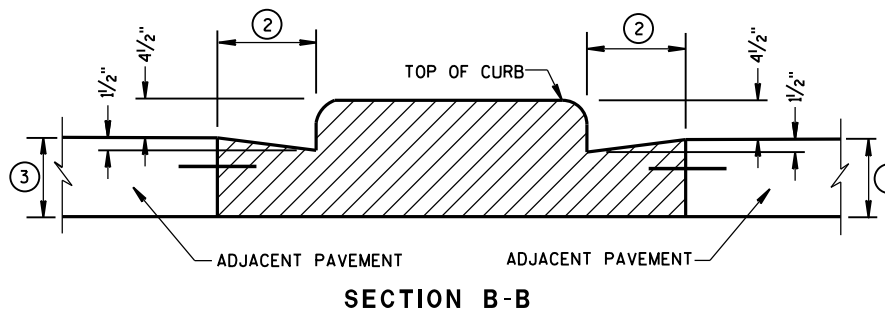
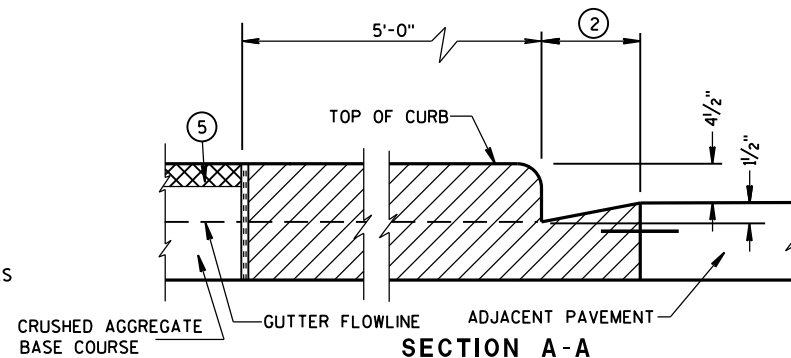
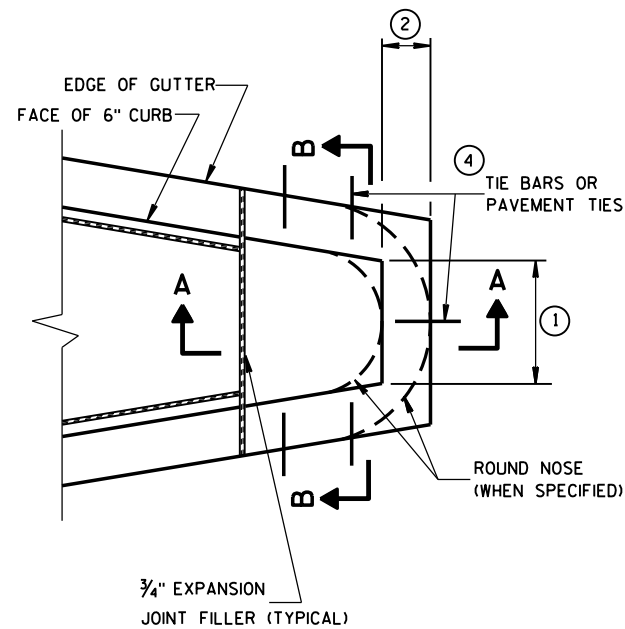
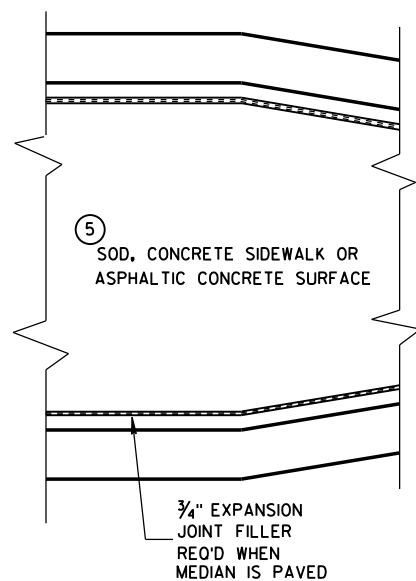
APPROVED

12/17/07

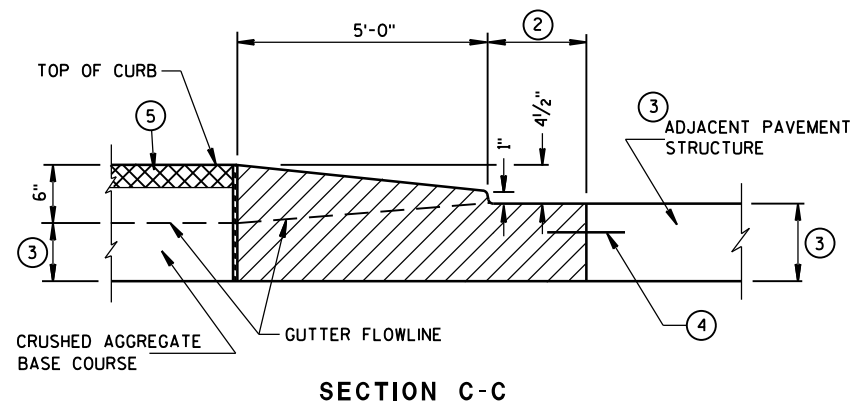
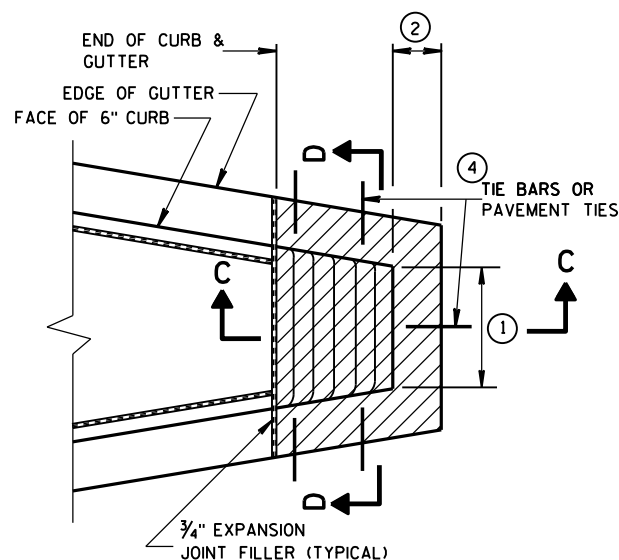
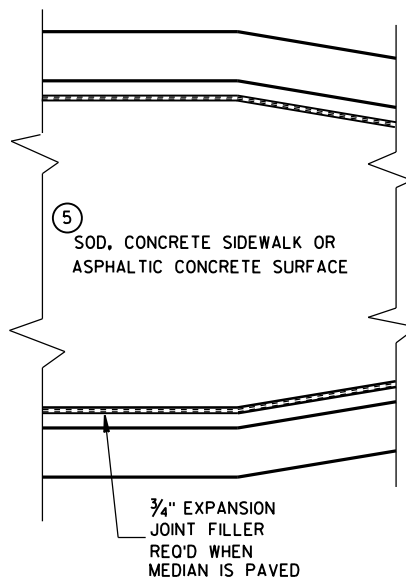
DATE

FHWA

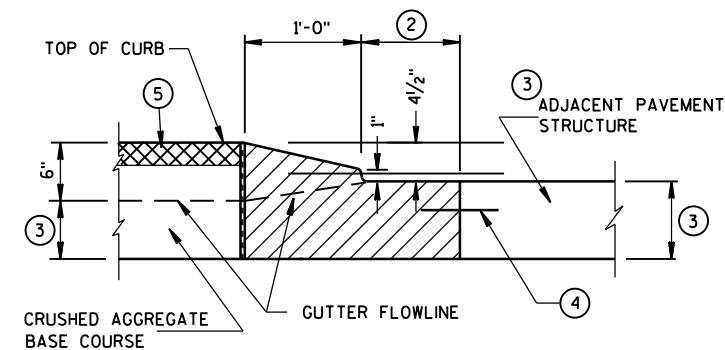
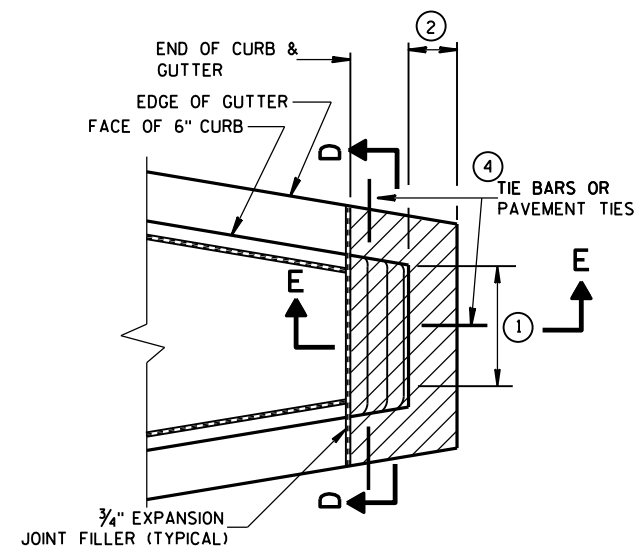
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



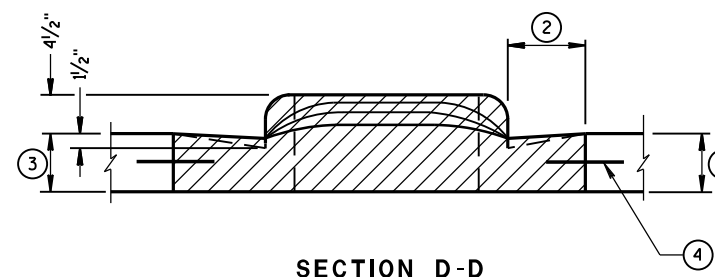
CONCRETE MEDIAN BLUNT NOSE DETAIL



CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN SLOPED NOSE TYPE 2



GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
- ② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
- ③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
 - (1) NEW OR EXISTING CONCRETE PAVEMENT.
 - (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
 - (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

- ④ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

- ⑤ SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

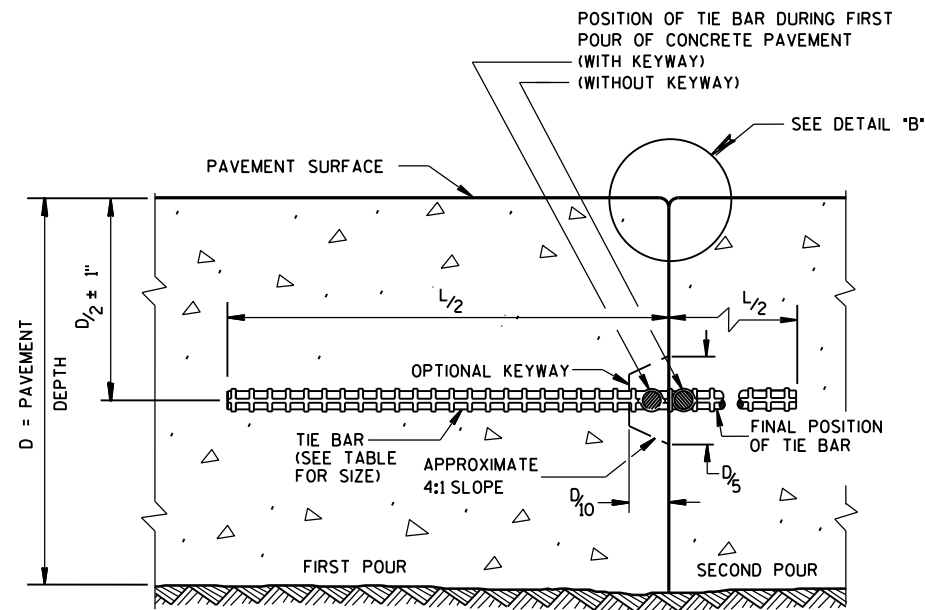
APPROVED

6/8/2006

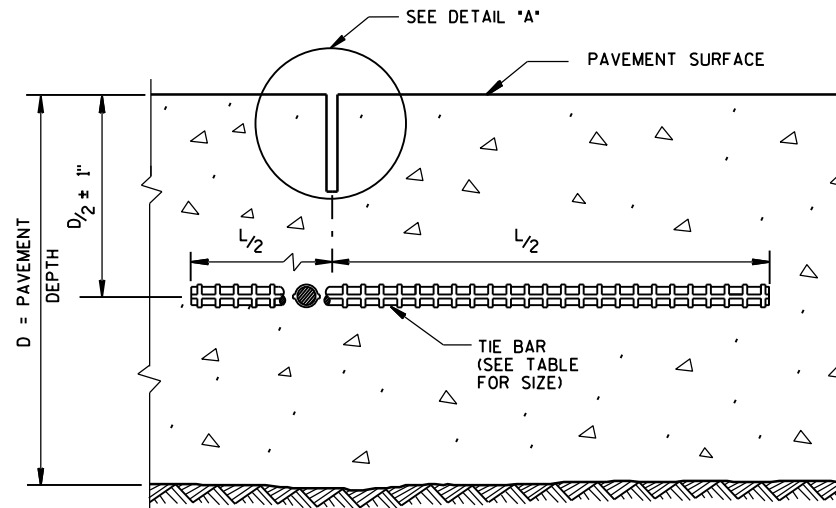
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



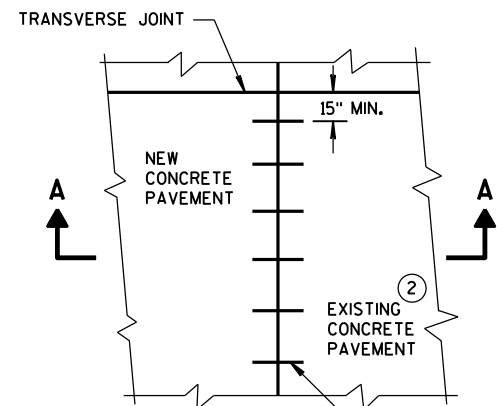
CONSTRUCTION JOINT



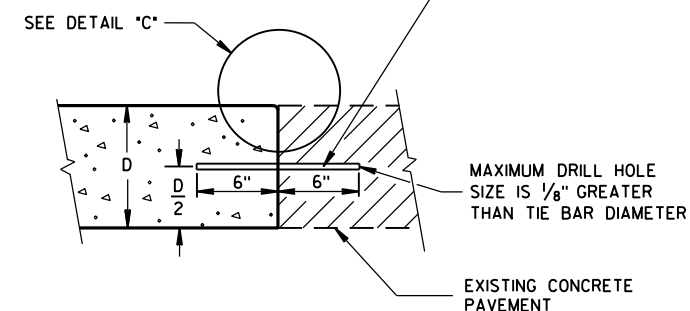
SAWED JOINT

GENERAL NOTES

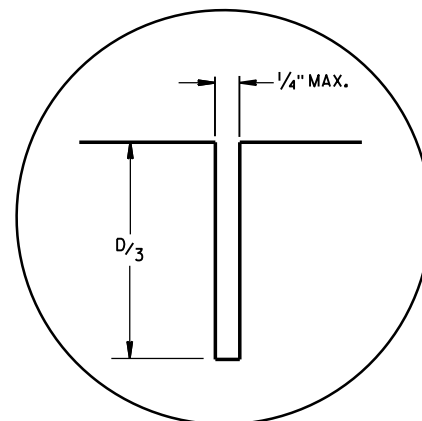
- DO NOT SEAL OR FILL LONGITUDINAL JOINTS.
- CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.
- CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.
- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.



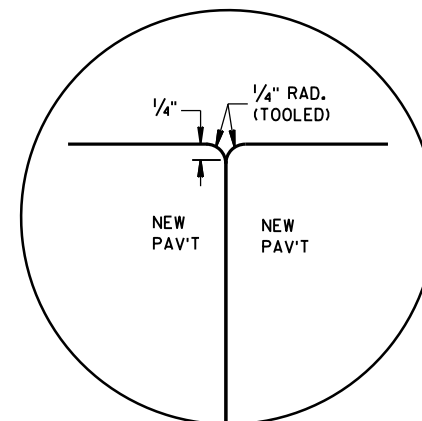
PLAN VIEW



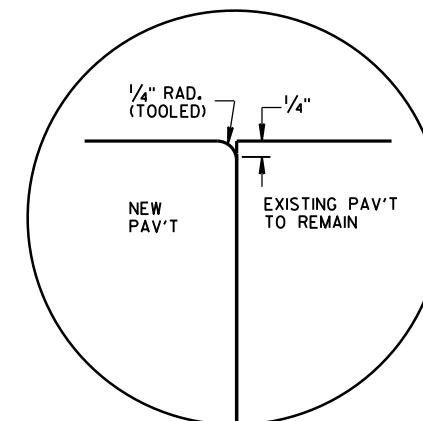
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"

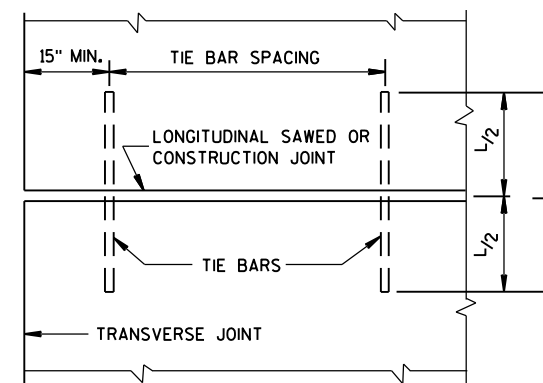


DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

- * SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)
- ** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

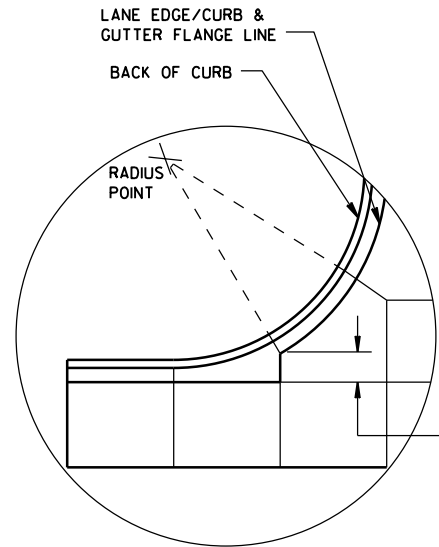


PLAN VIEW
SHOWING LOCATION OF TIE BARS

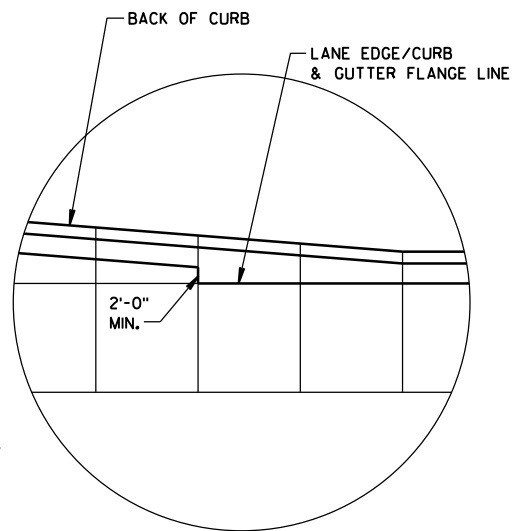
CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

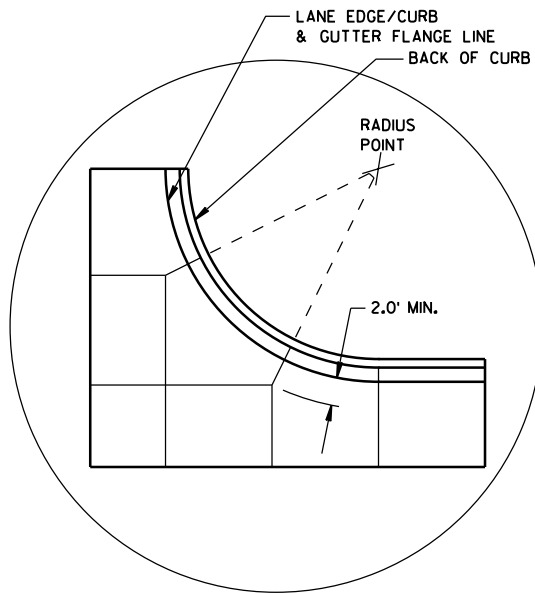
APPROVED
June, 2015 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA



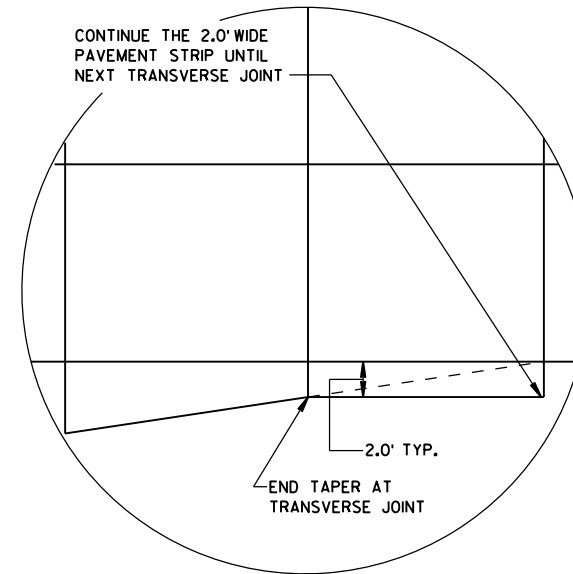
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

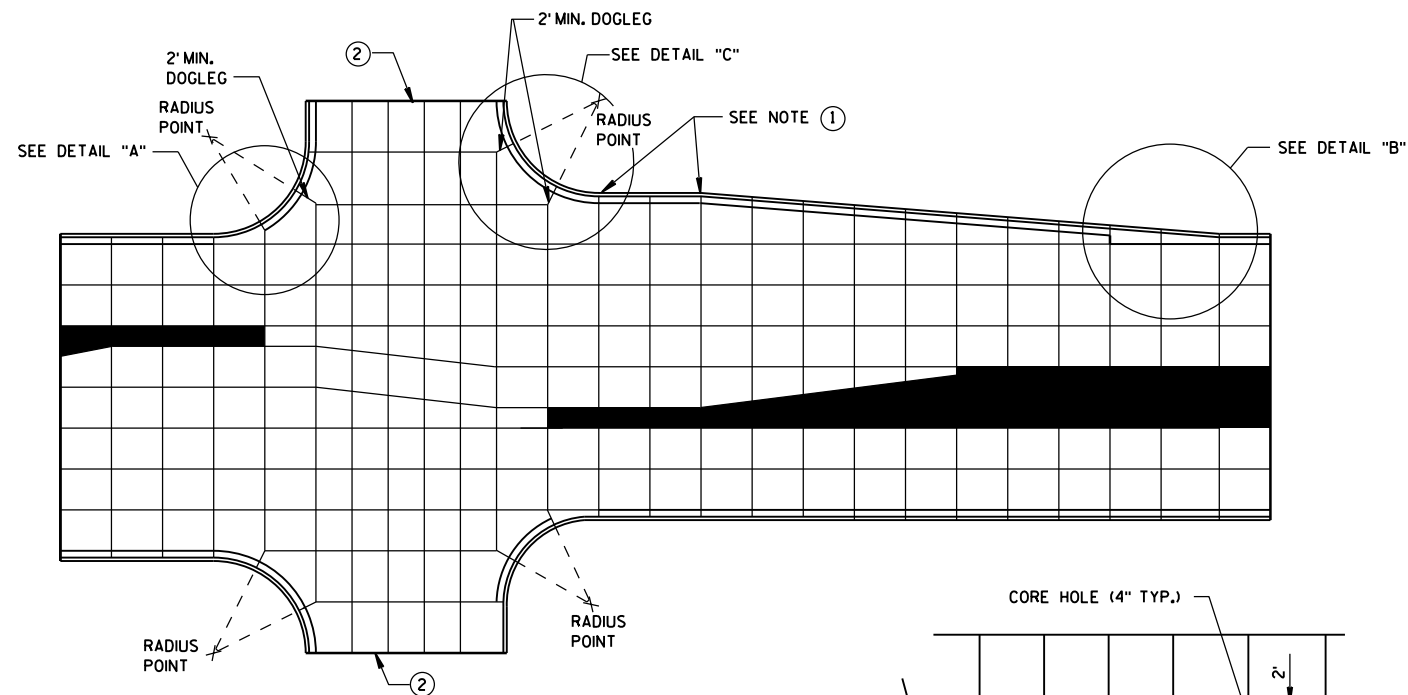
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

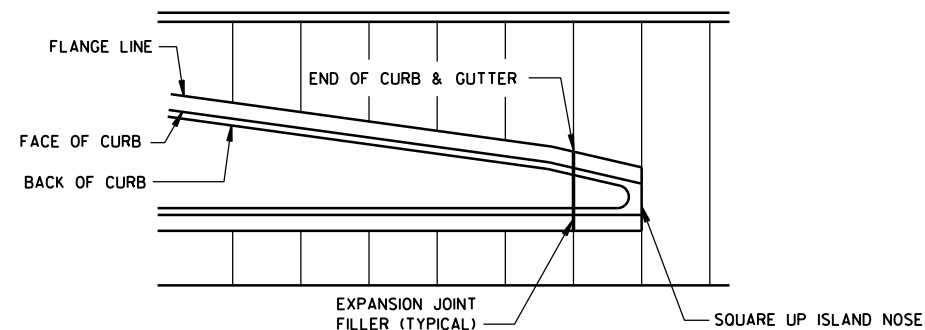
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

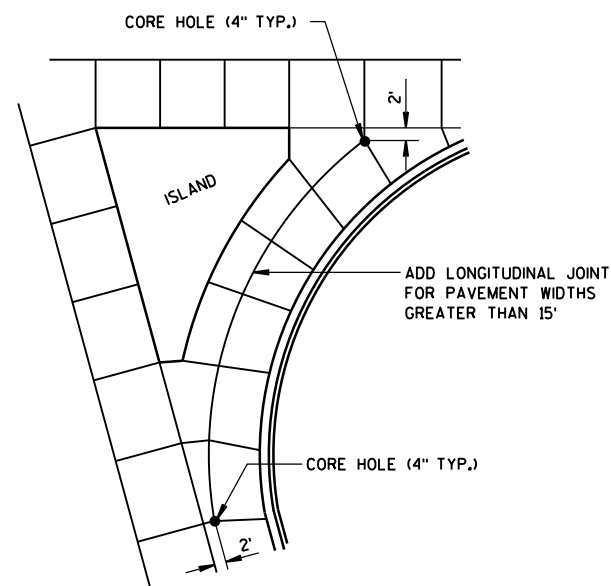
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



STANDARD INTERSECTION



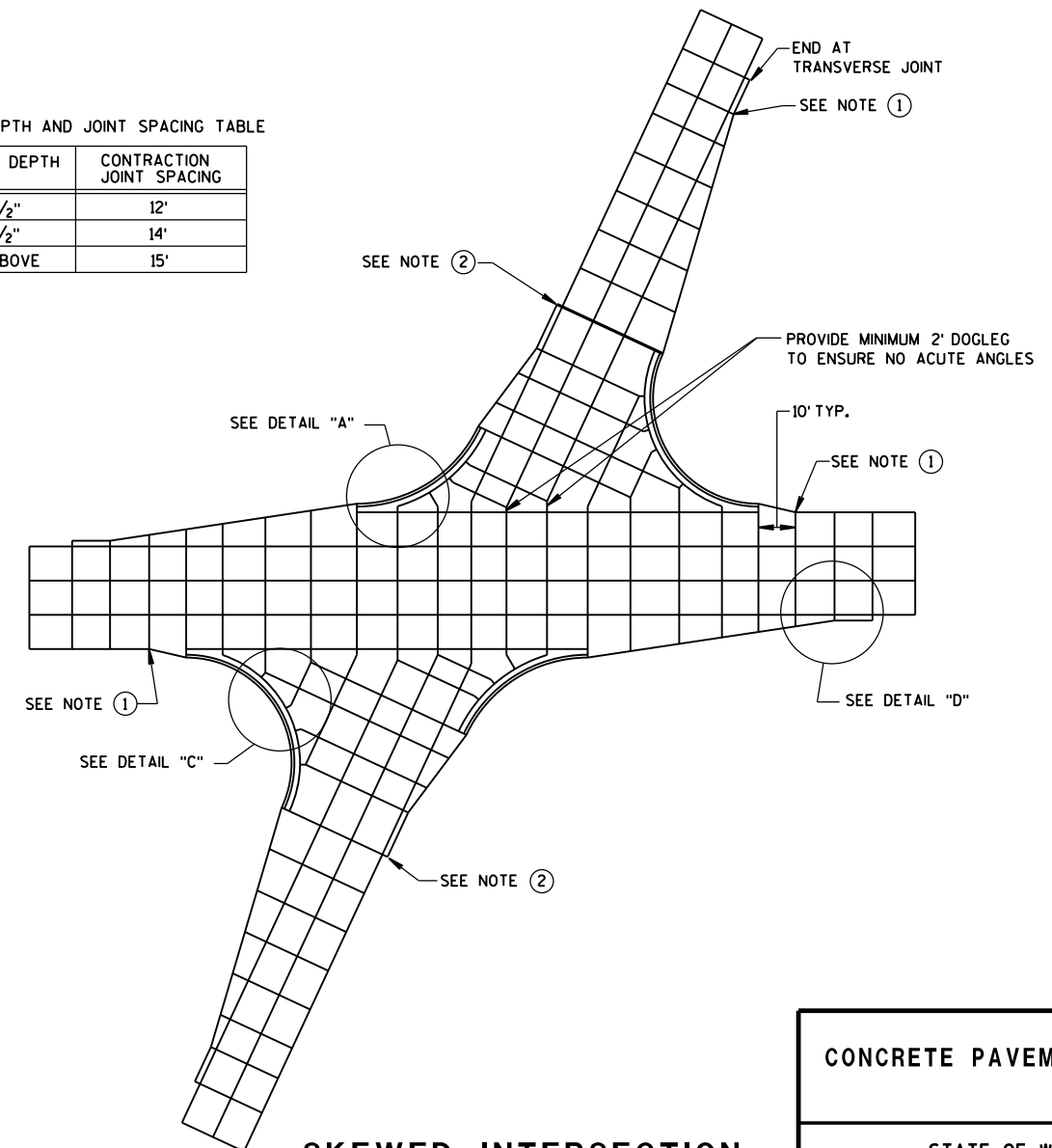
APPROACH TO MEDIAN



LARGE RIGHT TURN

PAVEMENT DEPTH AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



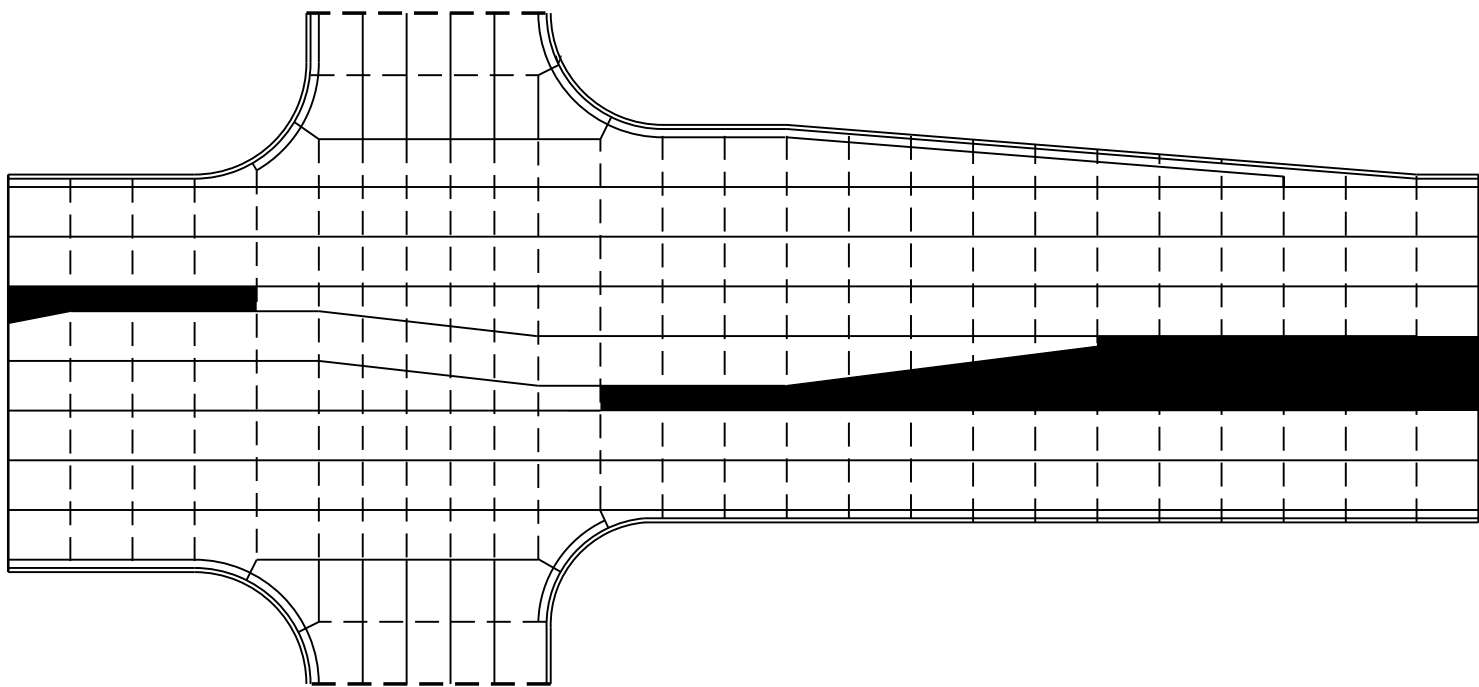
SKewed INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

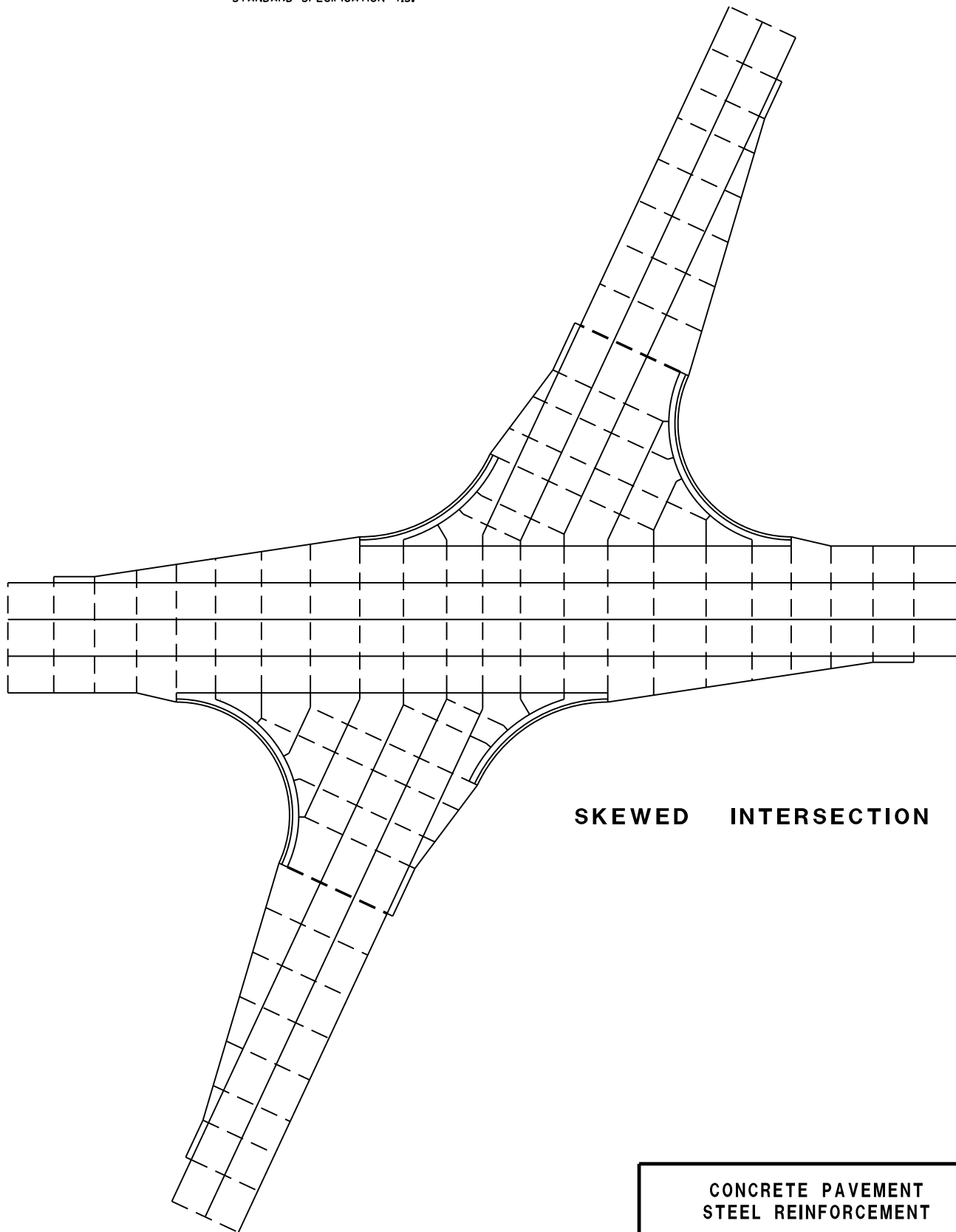
- POTENTIAL DOWELED EXPANSION JOINT
- DOWELED JOINT
- TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

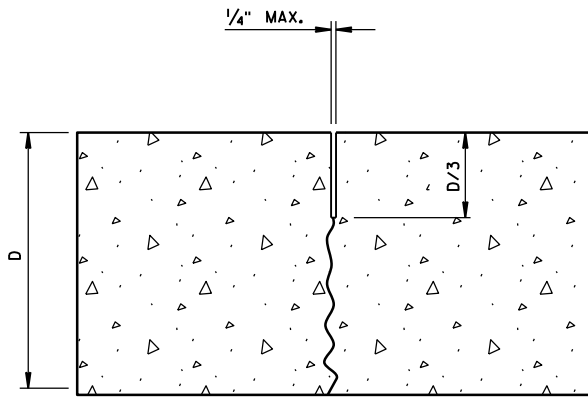
USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



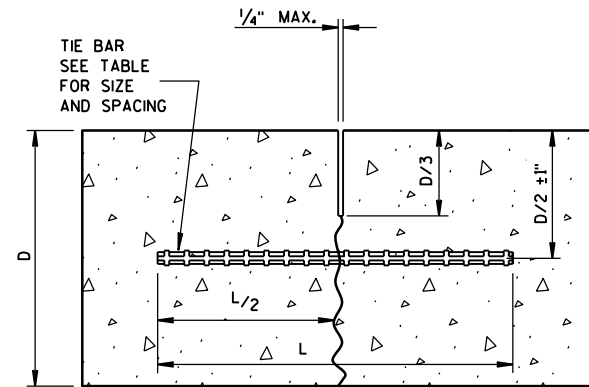
SKewed INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

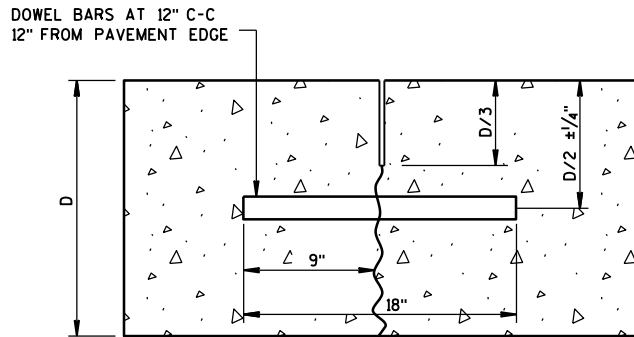
TIE BAR TABLE			
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
	NO. 5	36"	36"
≥ 10 1/2"	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

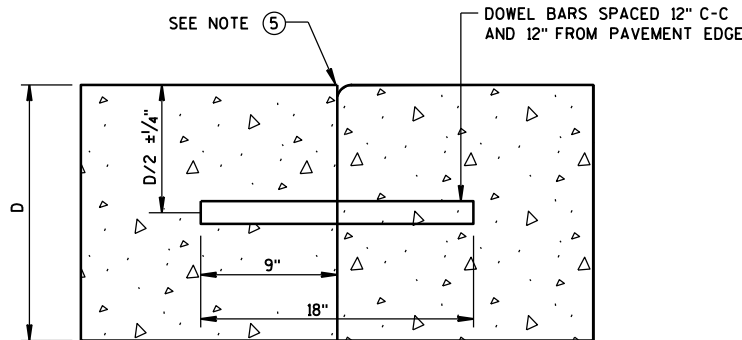
- 1 USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
- 2 SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
- 3 LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
- 4 CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
- 5 IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.
- 6 ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



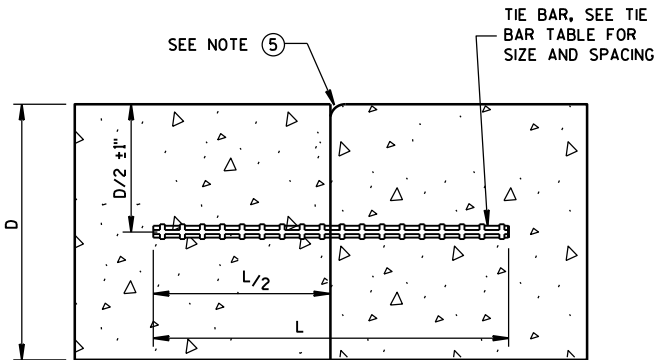
DOWELED-TRANSVERSE

CONTRACTION JOINTS

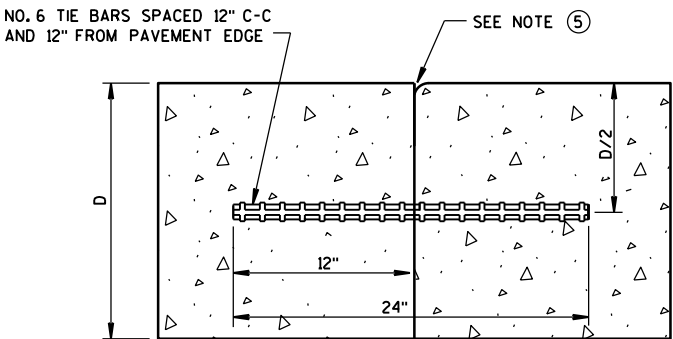
SEE NOTE 2



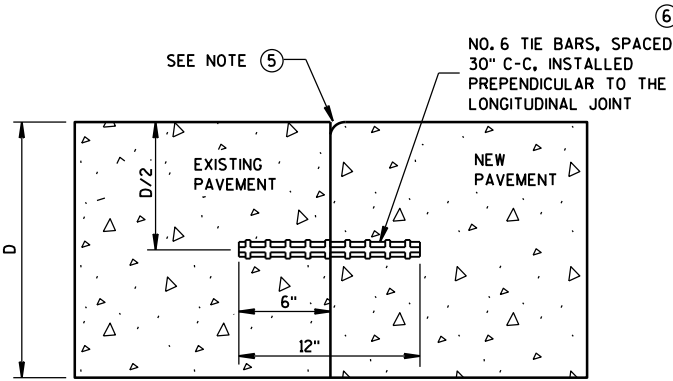
DOWELED TRANSVERSE 3



TIED LONGITUDINAL



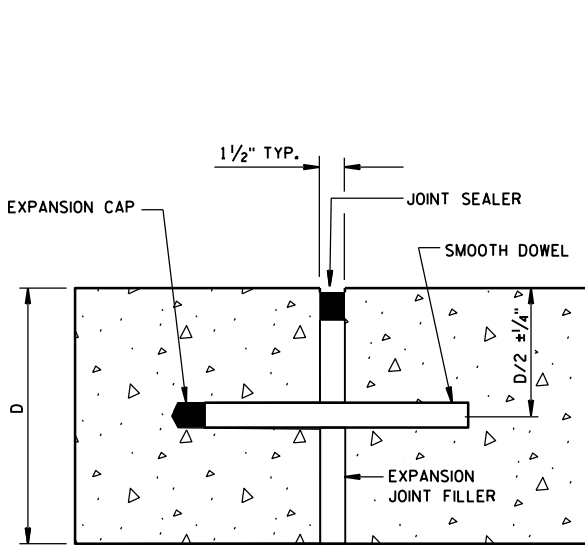
TIED TRANSVERSE 3
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



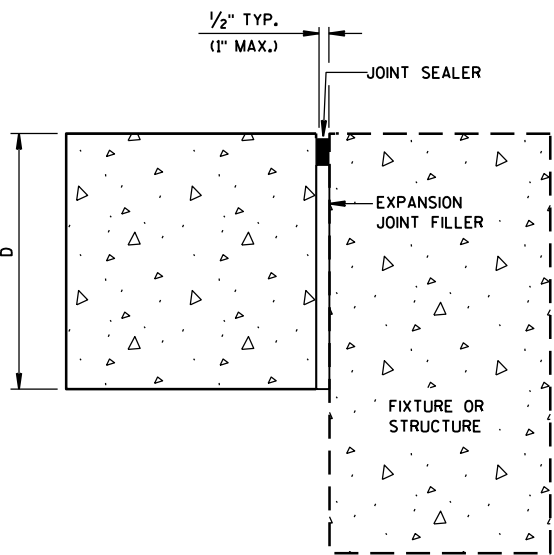
TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

SEE NOTE 4



DOWELED-TRANSVERSE
SEE NOTE 1

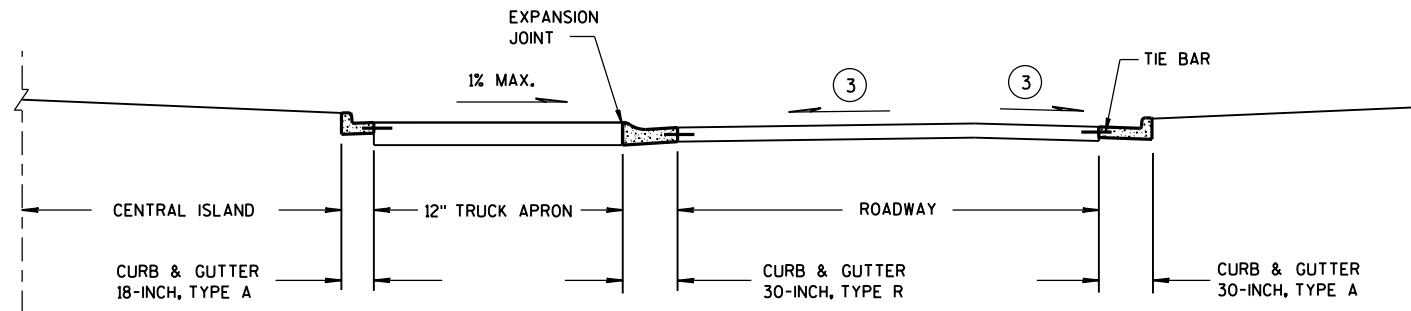


UNTIED-LONGITUDINAL

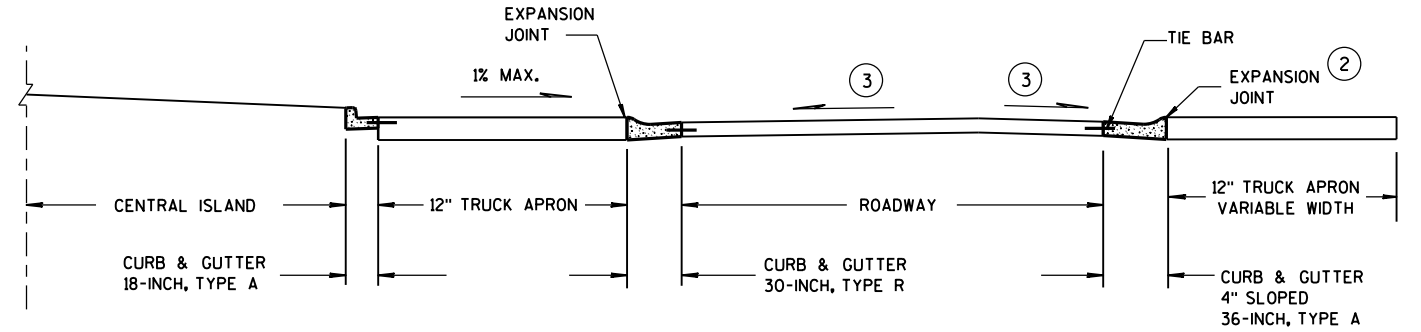
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

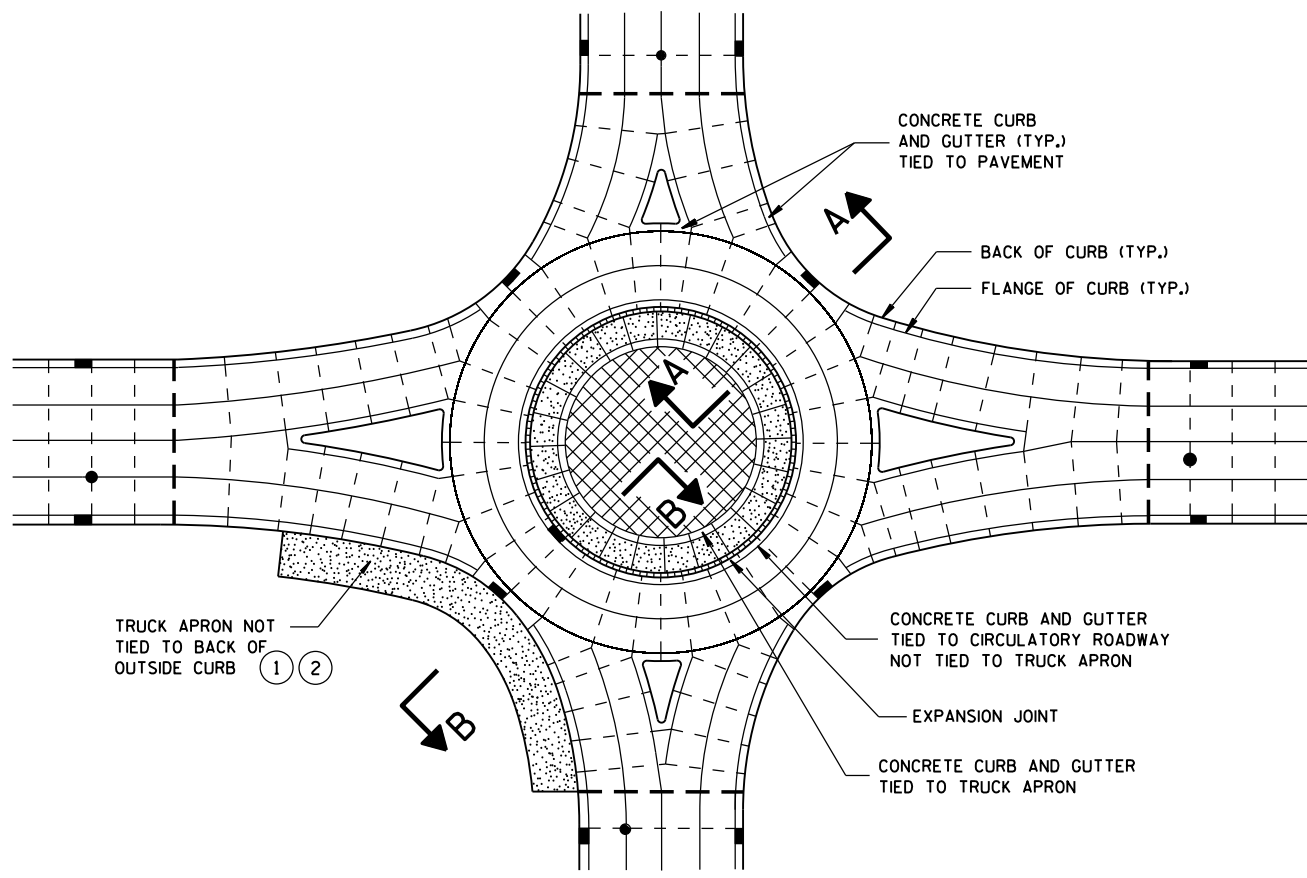
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



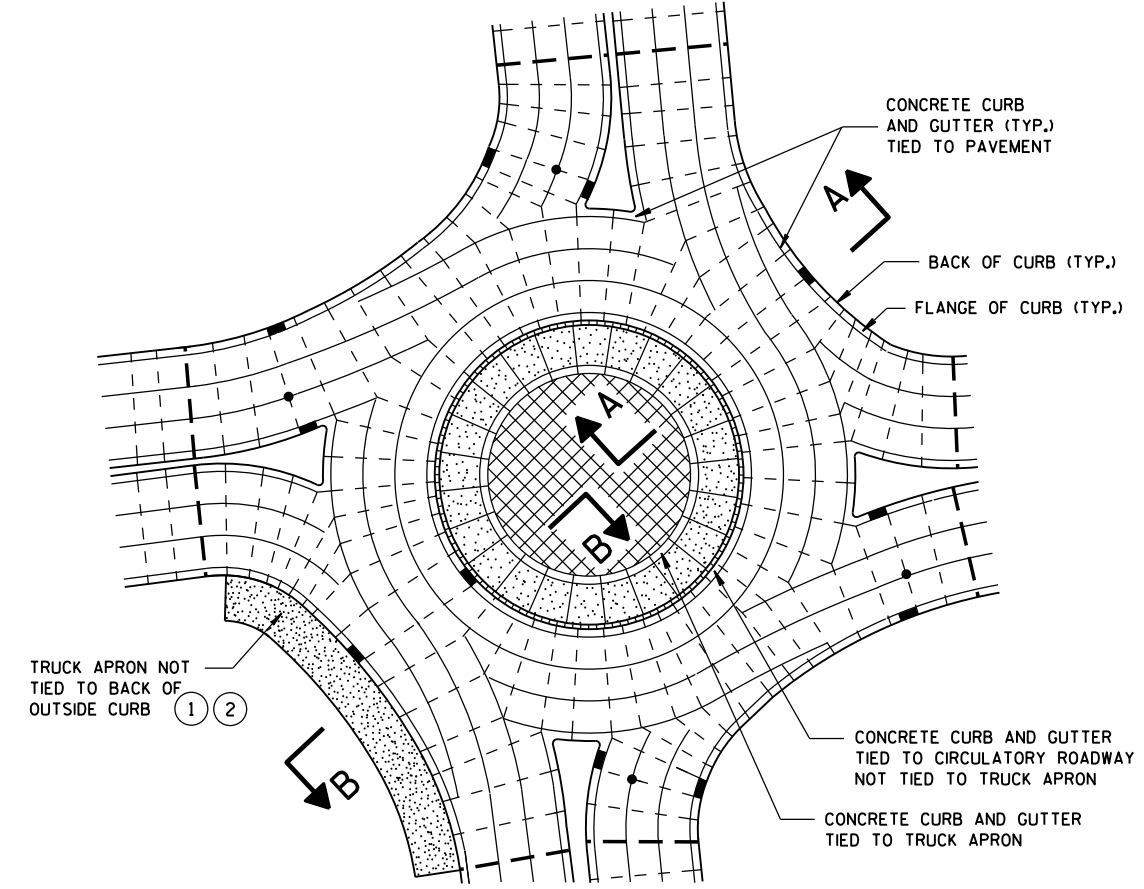
SECTION A-A



SECTION B-B



ISOLATED CIRCLE JOINT LAYOUT FOR ROUNDABOUTS



PINWHEEL JOINT LAYOUT FOR ROUNDABOUTS

GENERAL NOTES

MAXIMUM JOINT SPACING IS IN ACCORDANCE WITH THE TABLE SHOWN ON SDD 13C18 SHEET "a".
USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.
DO NOT DOWEL OR TIE THE TRUCK APRON TRANSVERSE JOINTS.

- 1 DESIGNER DETERMINES SIZE AND LOCATION(S) OF TRUCK APRON TO ACCOMMODATE TRACKING OF OVERSIZE/OVERWEIGHT VEHICLES.
- 2 TIE THE OUTSIDE TRUCK APRON TO THE BACK SIDE OF CURB ONLY WHEN ENTIRE TRUCK APRON WIDTH IS LESS THAN 3 FEET.
- 3 CONFORM TO PLAN CONSTRUCTION DETAILS FOR CIRCULATORY ROADWAY CROSS SLOPE.

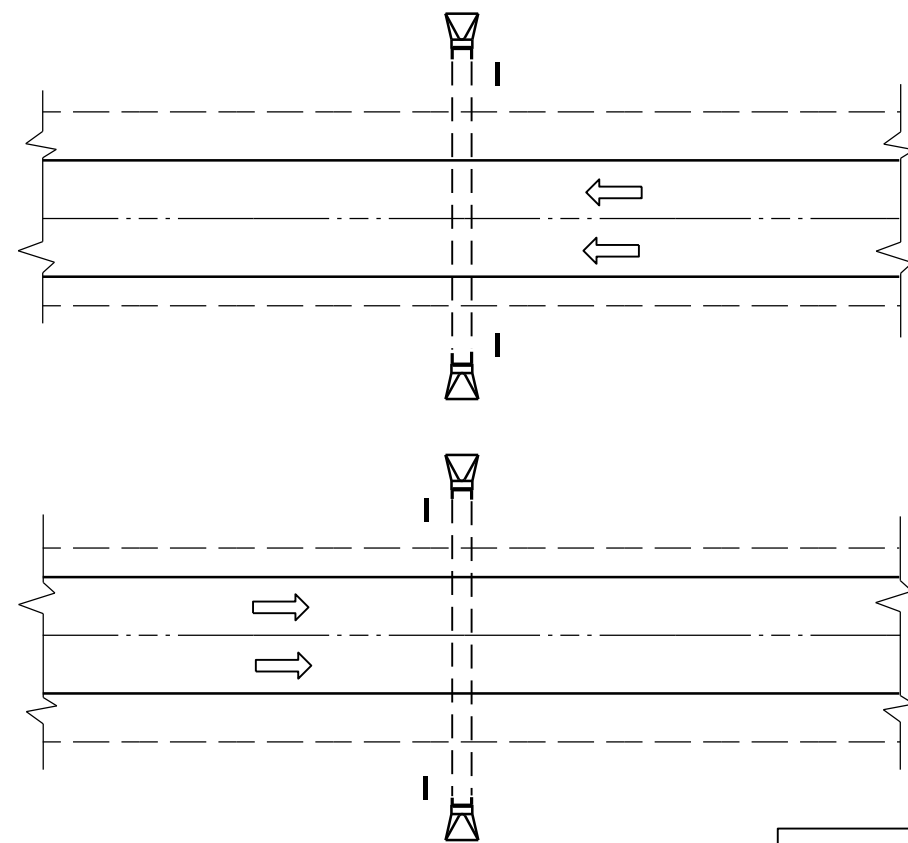
LEGEND

- — DOWELED JOINT
- — TIED JOINT
- EXPANSION JOINT
- POTENTIAL DOWELED EXPANSION JOINT
- TRUCK APRON
- CENTRAL ISLAND
- UTILITY STRUCTURES

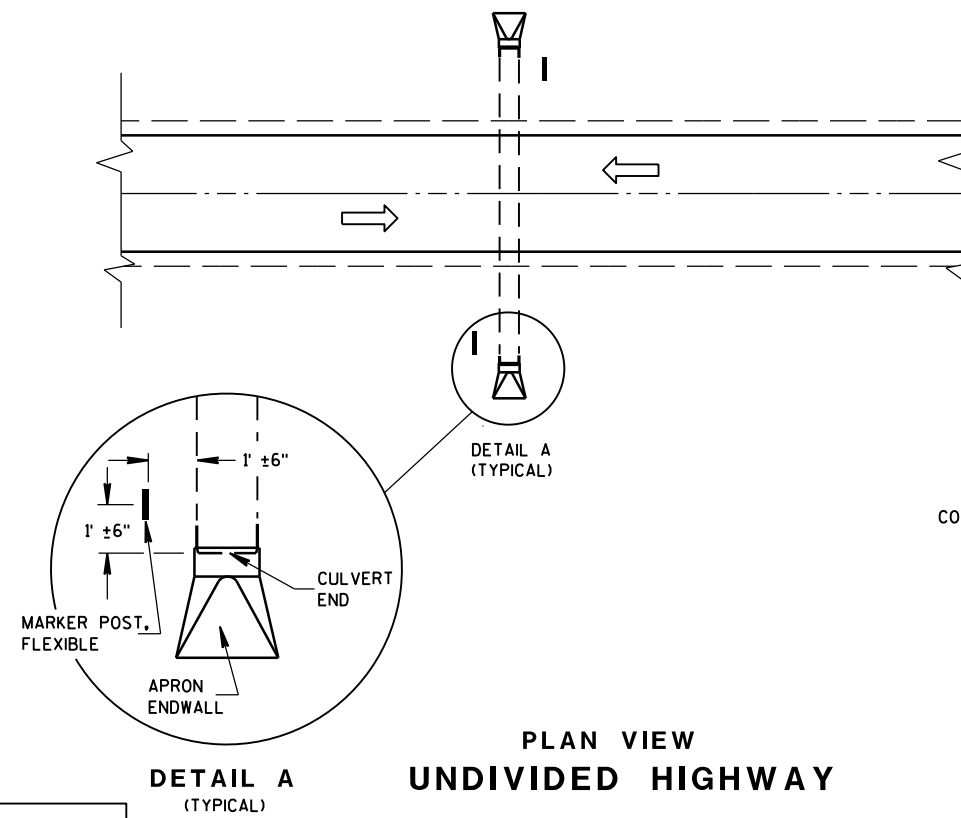
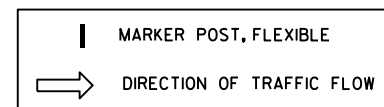
CONCRETE PAVEMENT JOINTING AND STEEL REINFORCEMENT IN ROUNDABOUTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA



PLAN VIEW
DIVIDED HIGHWAY

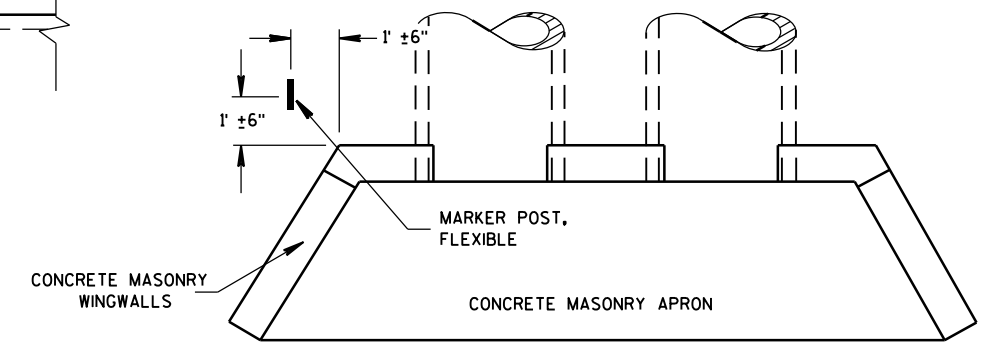


PLAN VIEW
UNDIVIDED HIGHWAY

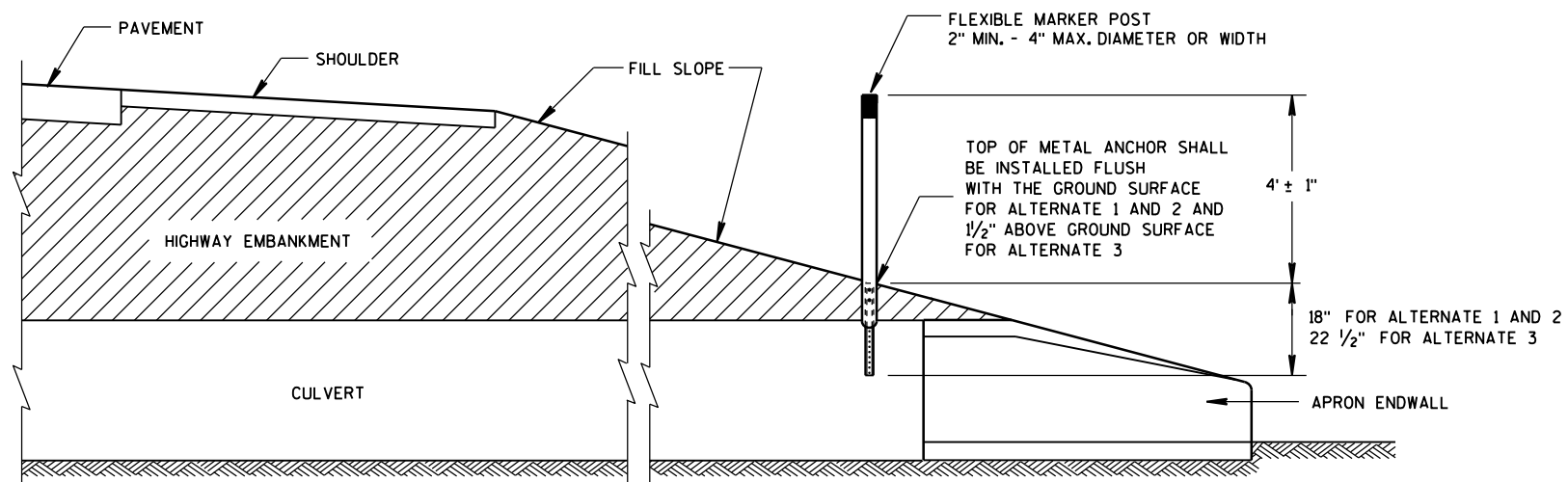
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



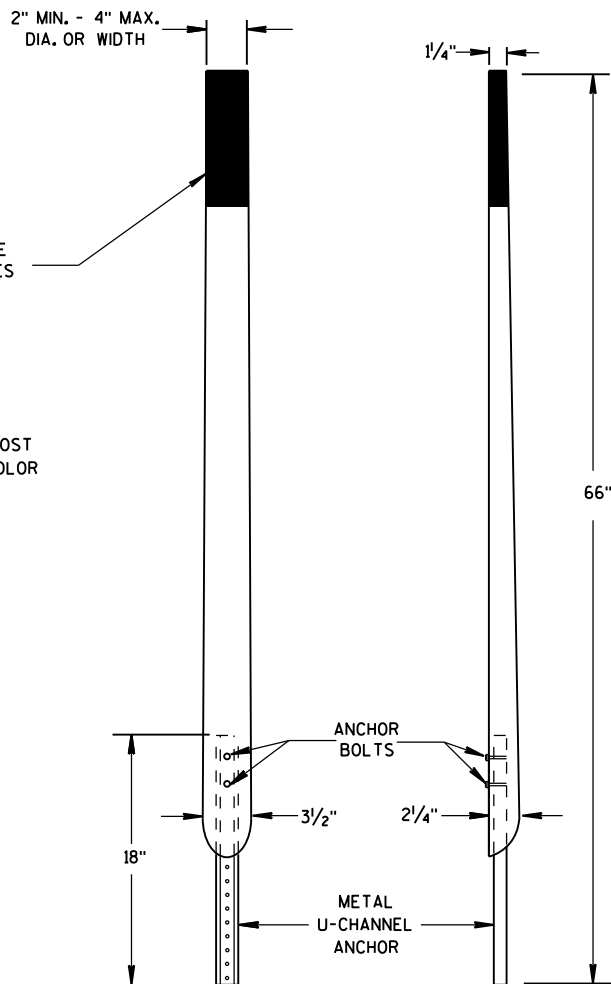
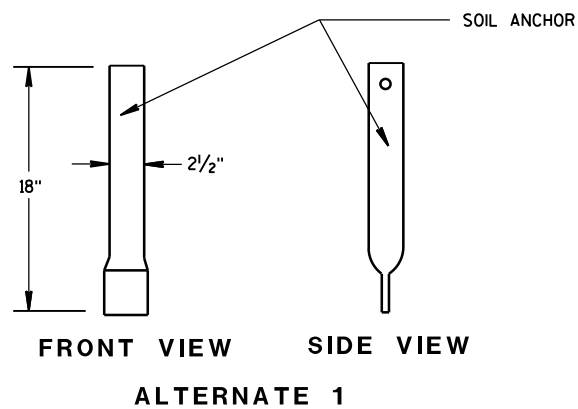
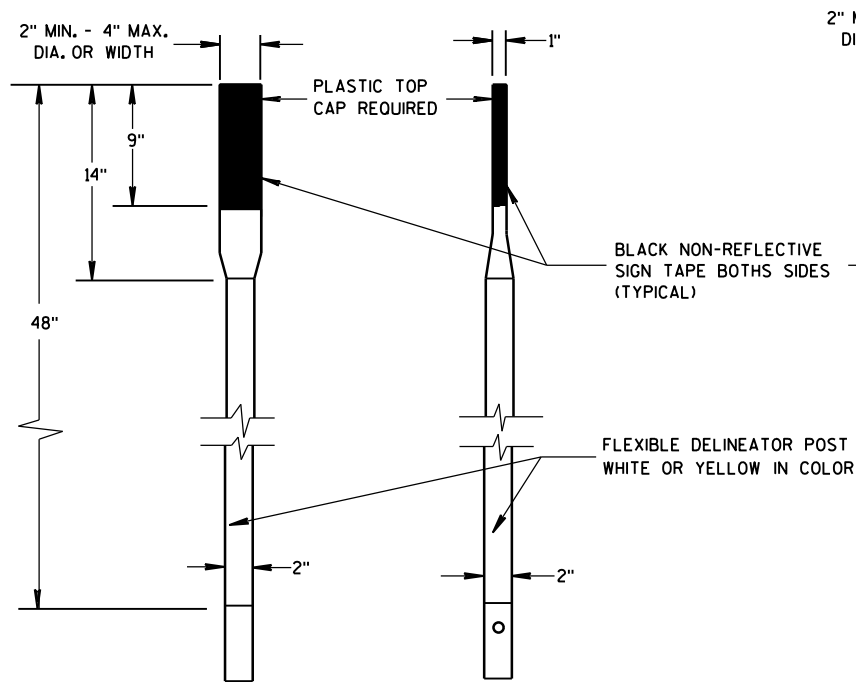
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



CROSS SECTION
FLEXIBLE MARKER POST

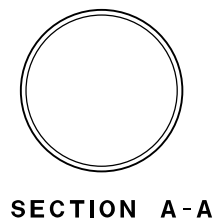
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

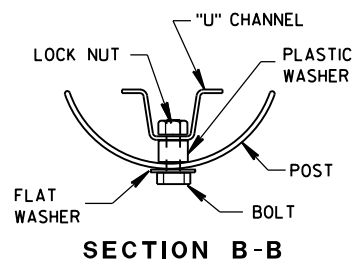
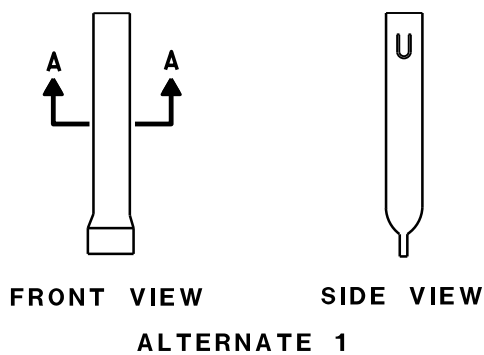


FRONT VIEW SIDE VIEW
ALTERNATE 2

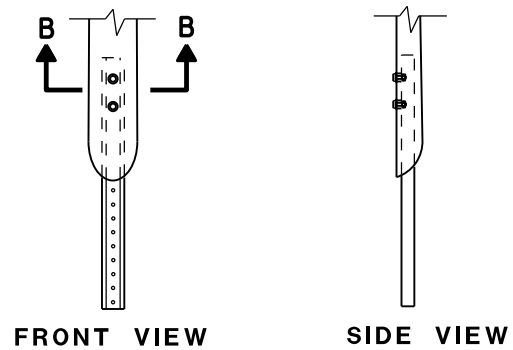
FLEXIBLE MARKER POSTS



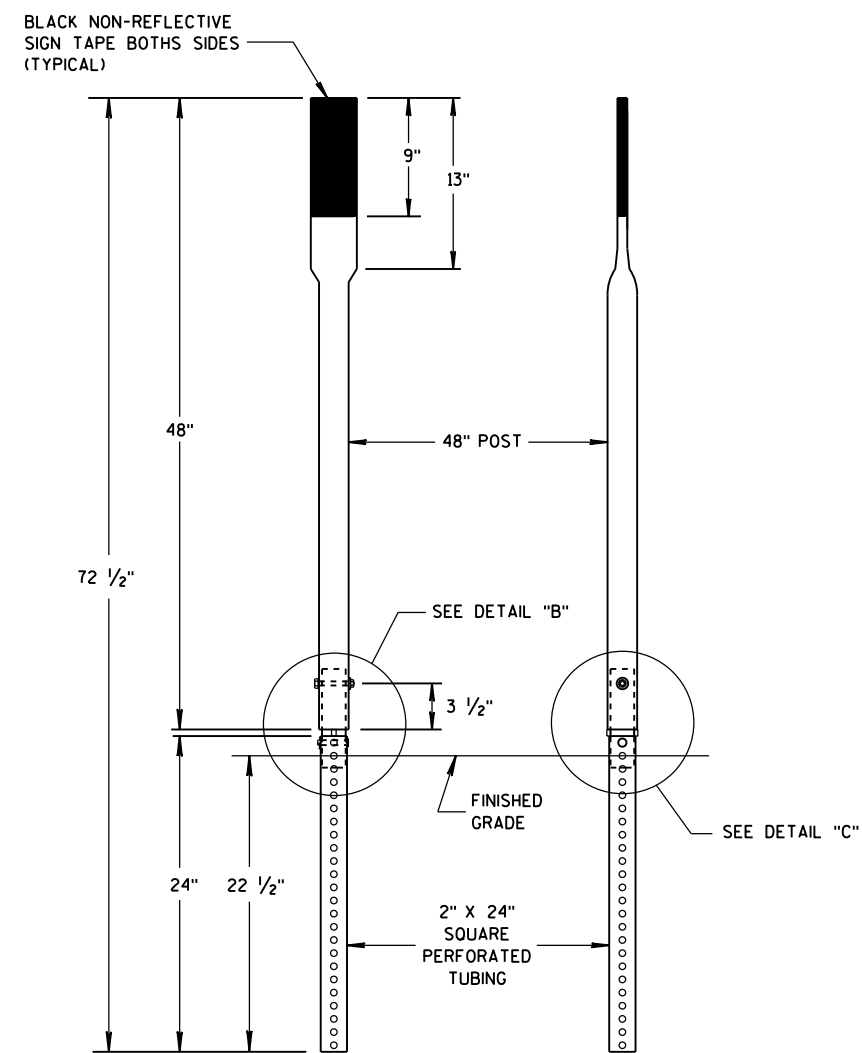
SECTION A-A



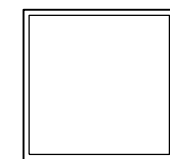
SECTION B-B



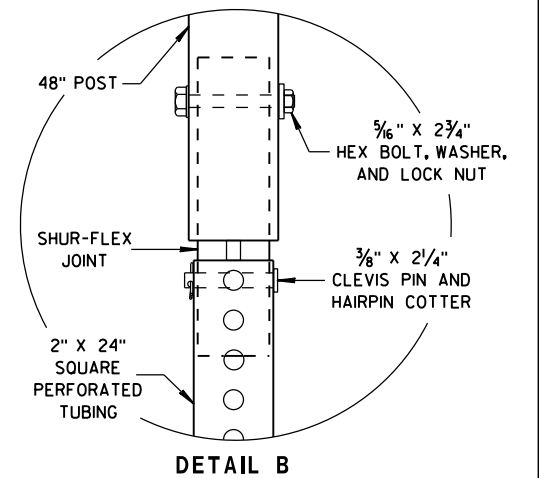
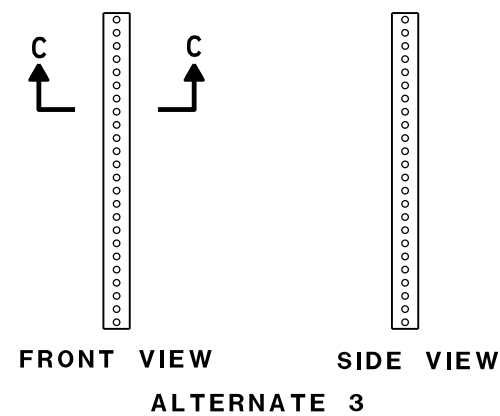
FRONT VIEW SIDE VIEW
ALTERNATE 2
FLEXIBLE MARKER POST ANCHORS



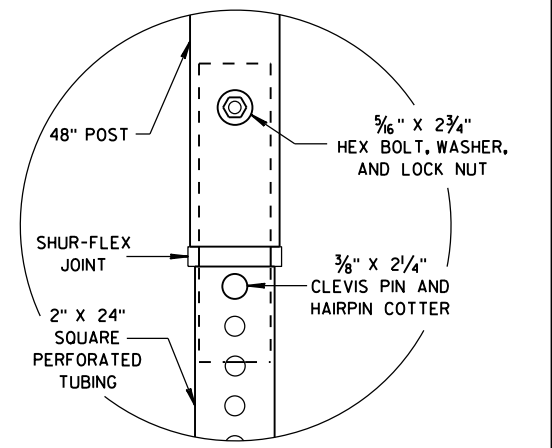
FRONT VIEW SIDE VIEW
ALTERNATE 3



SECTION C-C



DETAIL B



DETAIL C

FLEXIBLE MARKER POST FOR CULVERT END

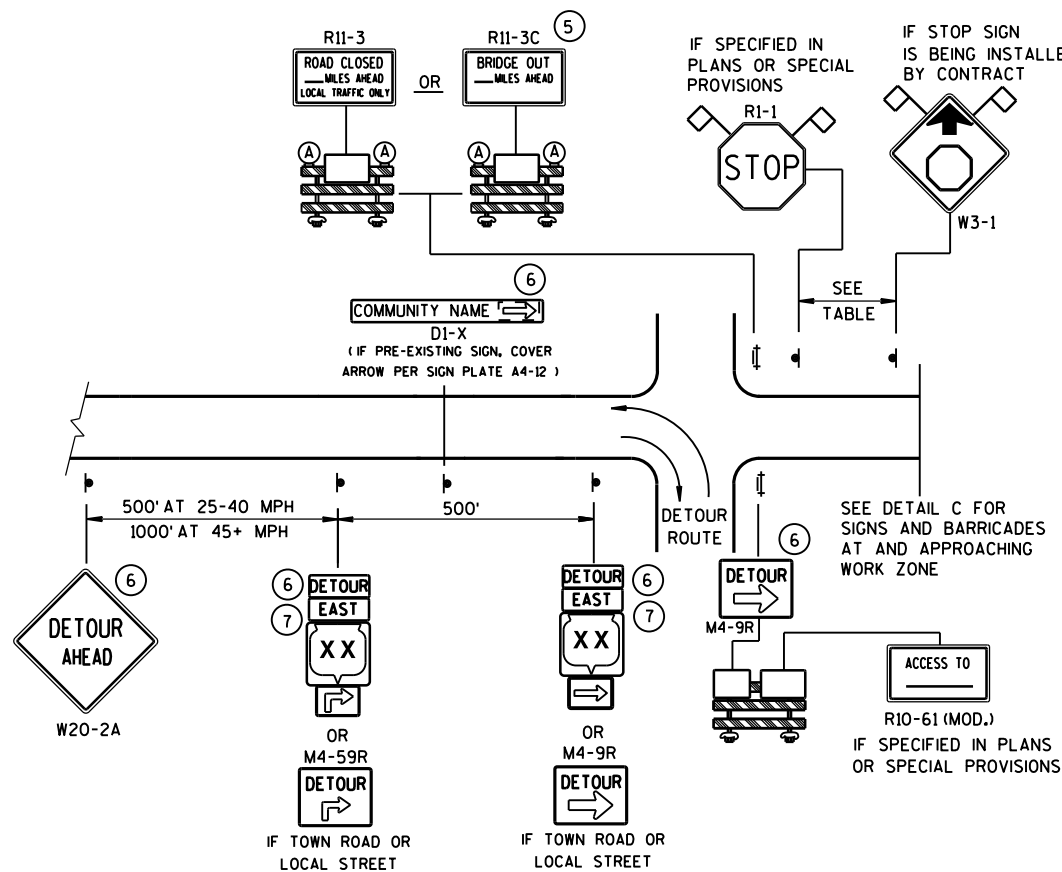
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

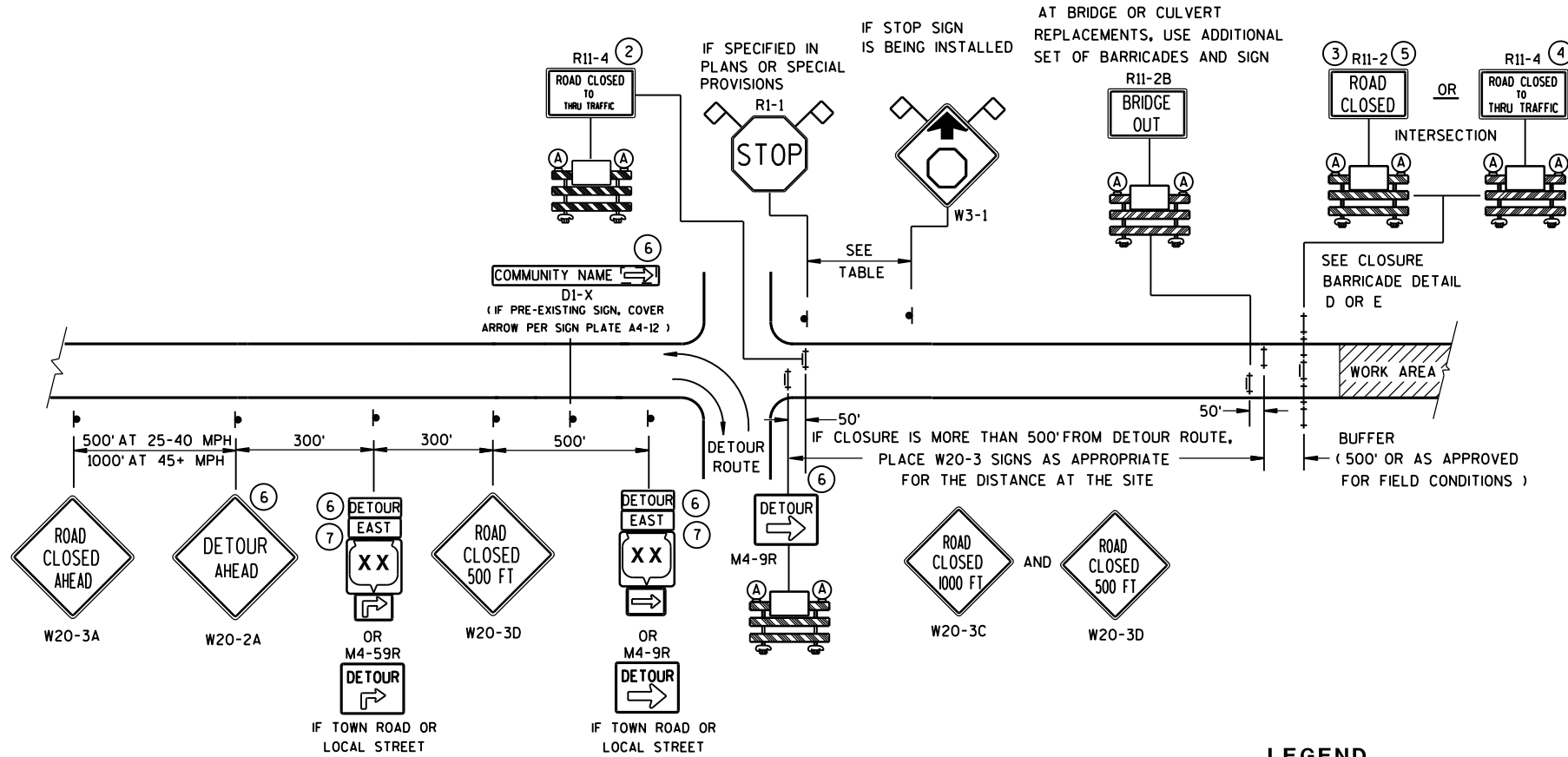
10/1/2012
DATE

FHWA

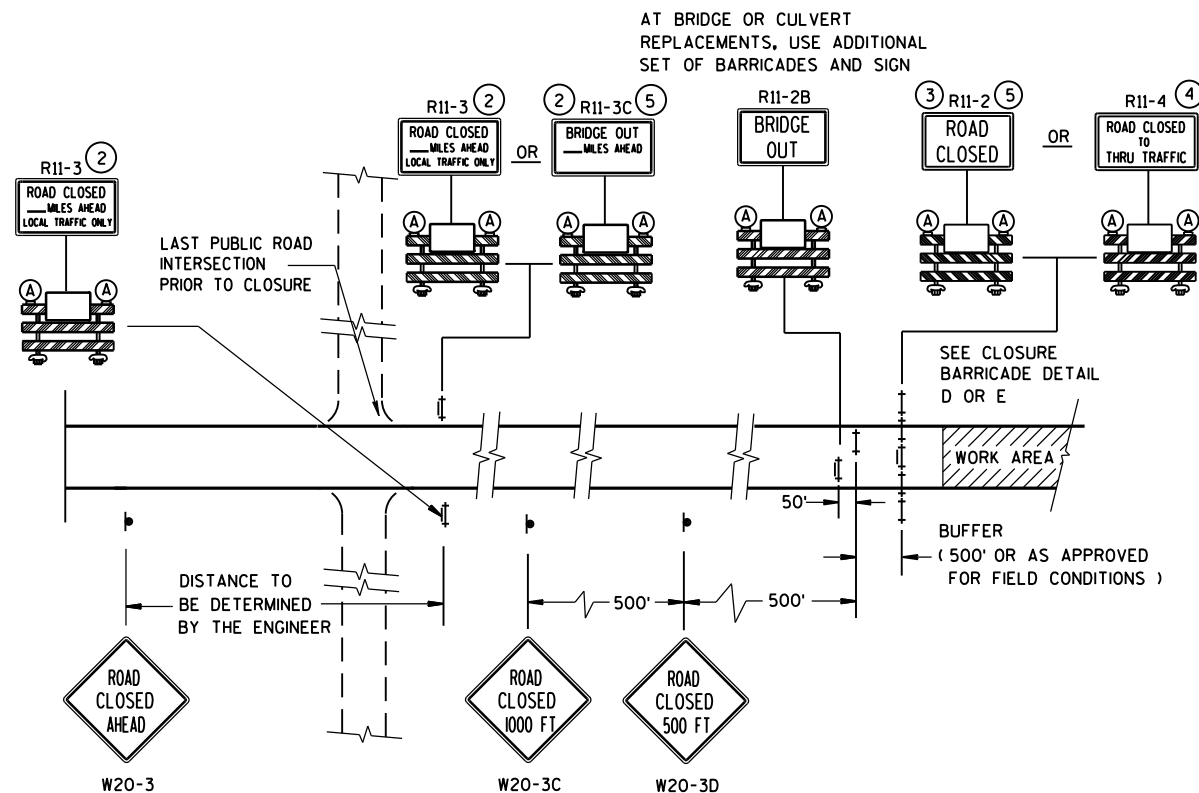
/S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

LEGEND

- SIGN ON PERMANENT SUPPORT
- ⊥ TYPE III BARRICADE
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- Ⓐ TYPE "A" WARNING LIGHT (FLASHING)

WORK AREA

DETOUR EAST
M4-8
M3-X
XX OR XX OR XX
M1-4 M1-5A M1-6

M05-1 OR M06-1

FLAGS, 16" X 16" MIN., (ORANGE)

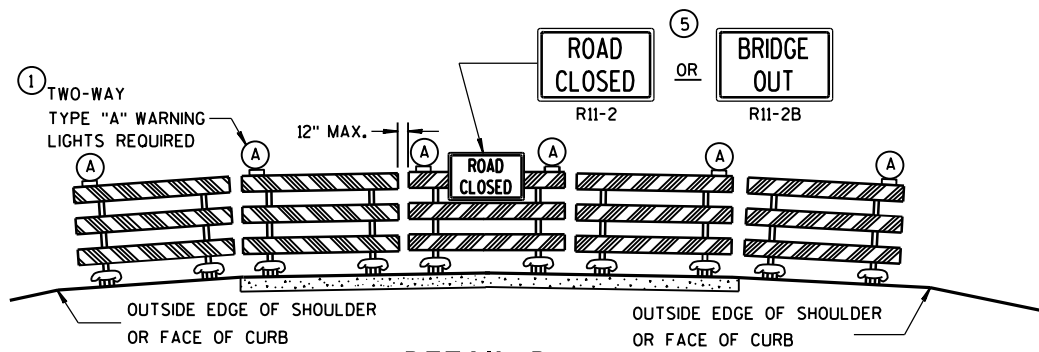
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

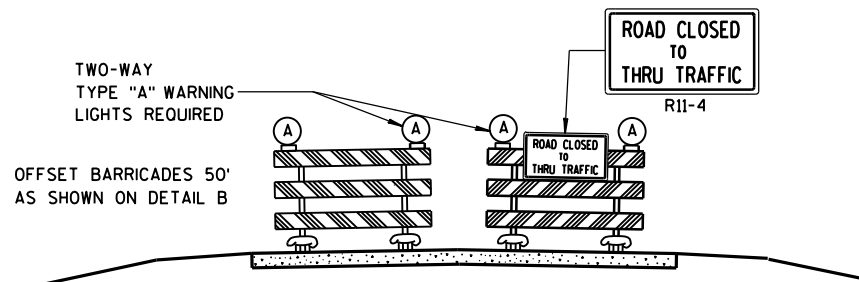
BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

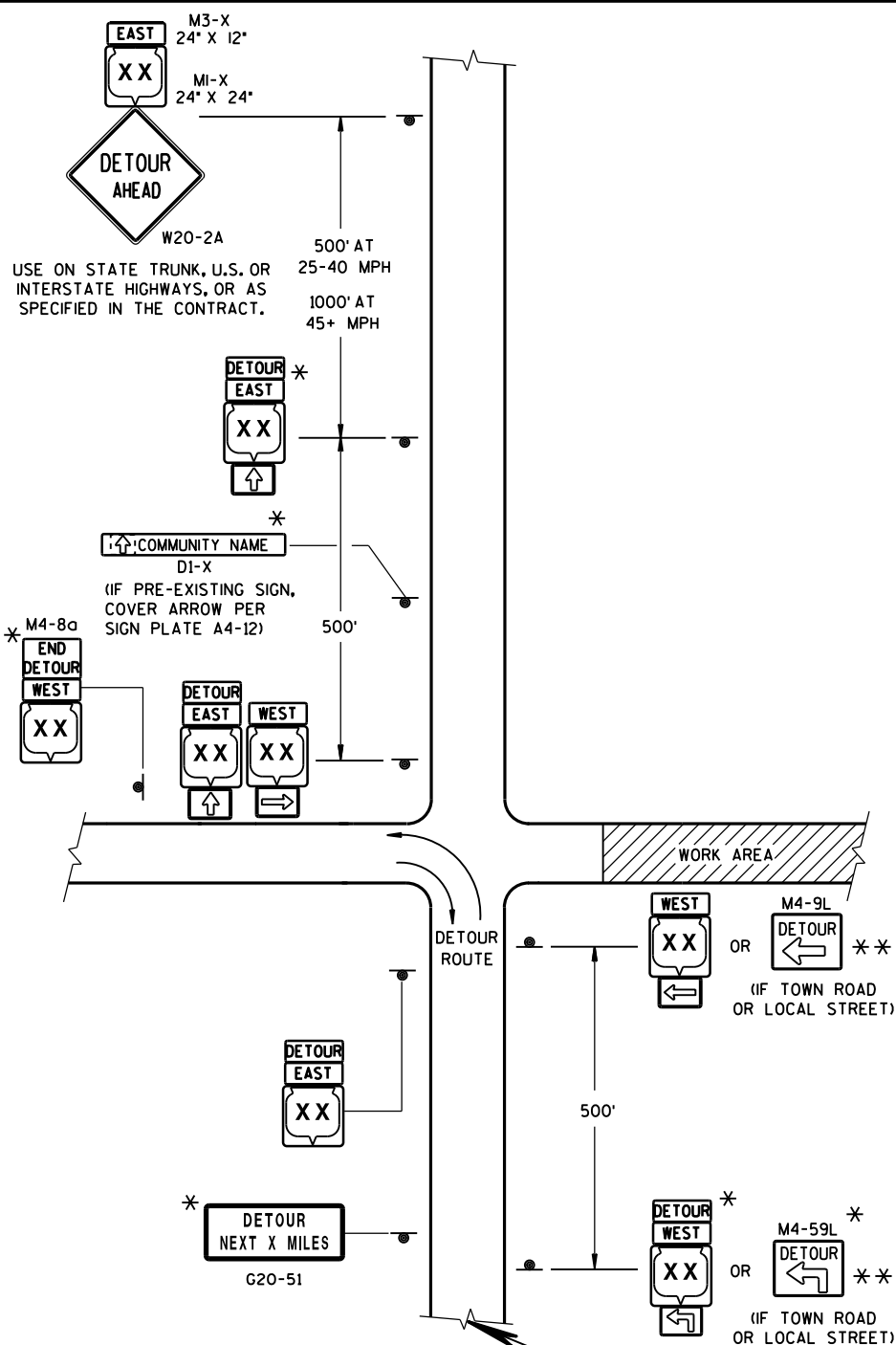
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



LEGEND

SIGN ON PERMANENT SUPPORT

WORK AREA

M4-8
M3-X

OR OR
MI-4 MI-5A MI-6

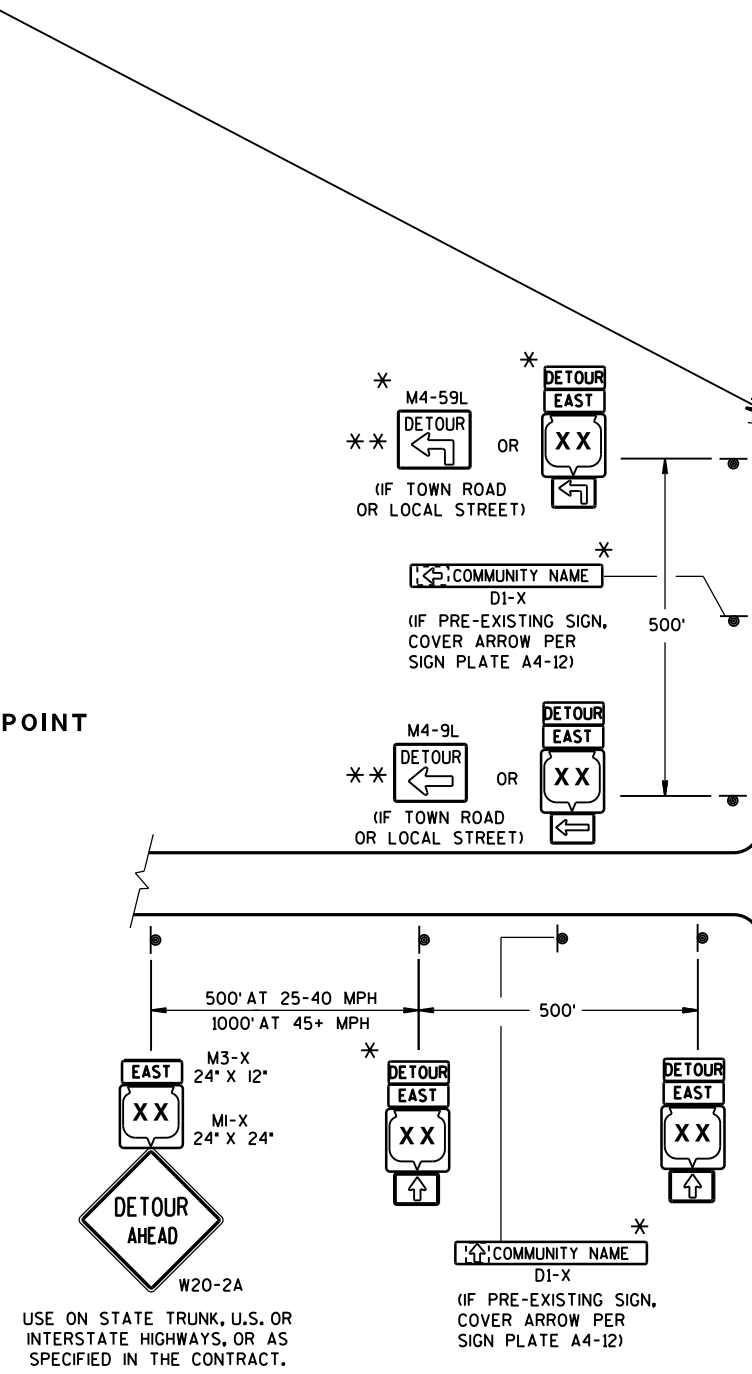
OR OR
M05-1 M06-1 M06-1

SEE SPECIFIC PROJECT DETOUR
SIGNING DETAIL SHEETS AND
DETAIL A OR B ON SDD 15C2-SHEET "a"

THIS DRAWING PROVIDES GENERAL GUIDANCE
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.
SEE PROJECT DETOUR SIGNING SHEETS FOR
SPECIFIC DETAILS FOR EACH PROJECT.

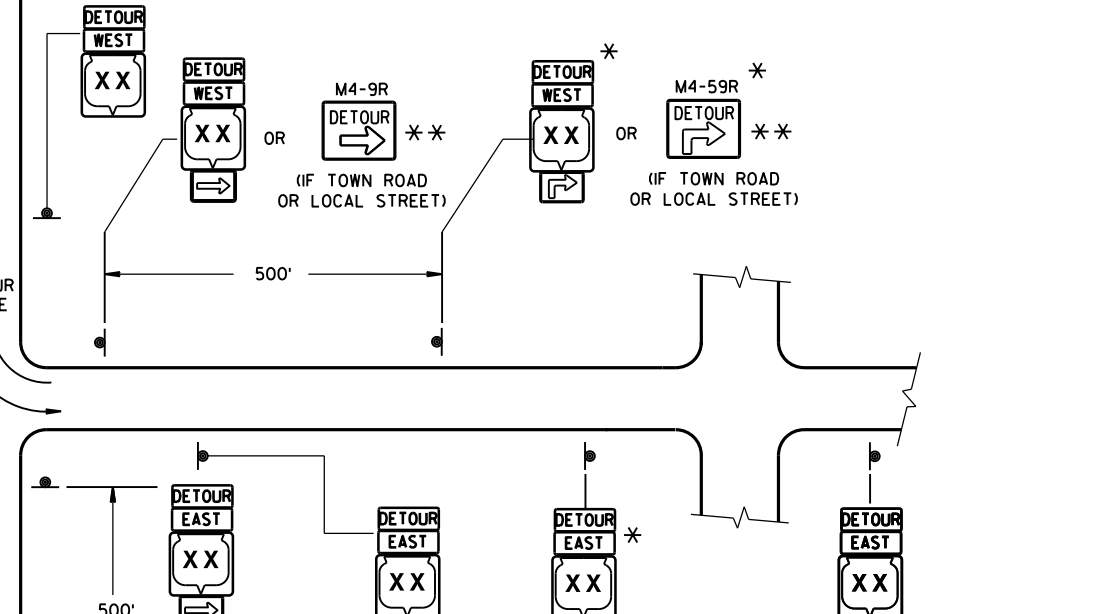
MATCH POINT

DETAIL F
DETOUR SIGNING



GENERAL NOTES

- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS, MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOWS:
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
 - MI-4, MI-5A, AND MI-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-9 SHALL BE 30" X 24".
 - M4-8a SHALL BE 24" X 18".
 - G20-51 SHALL BE 60" X 24".
 - W20-2 SHALL BE 48" X 48".
 - D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

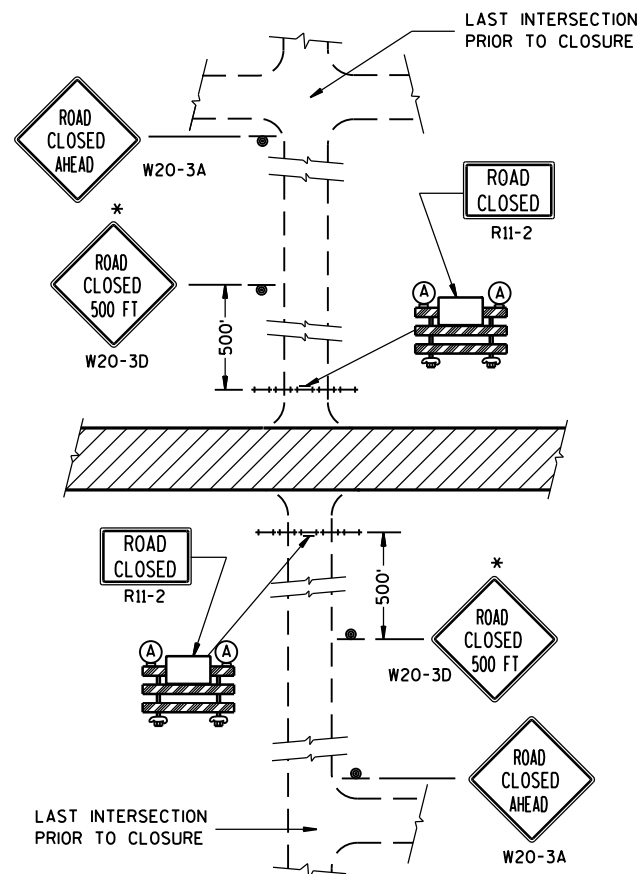


PLACE SIGNS BEYOND INTERSECTIONS WITH
STATE OR COUNTY TRUNK HIGHWAYS OR
AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF
URBAN AREA.)

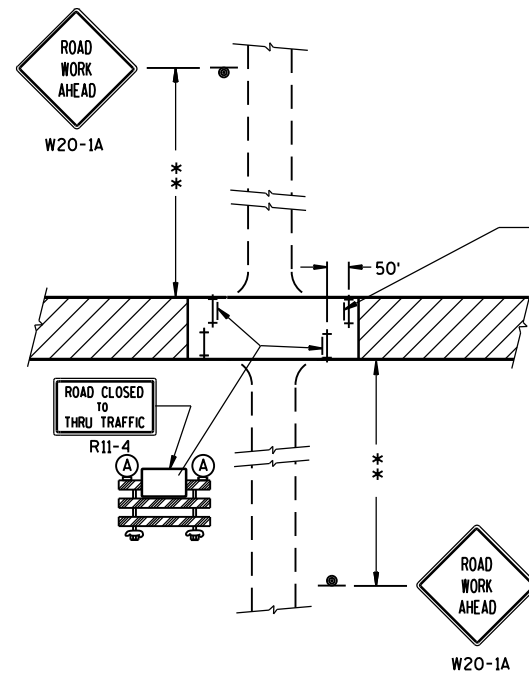
**DETOUR SIGNING FOR
MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

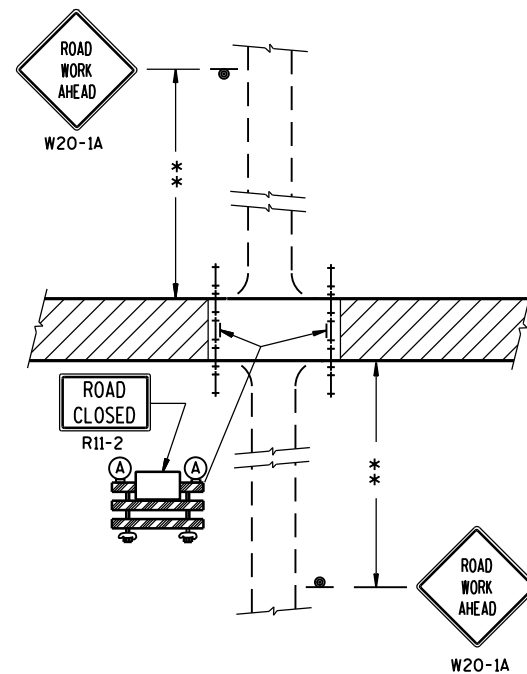
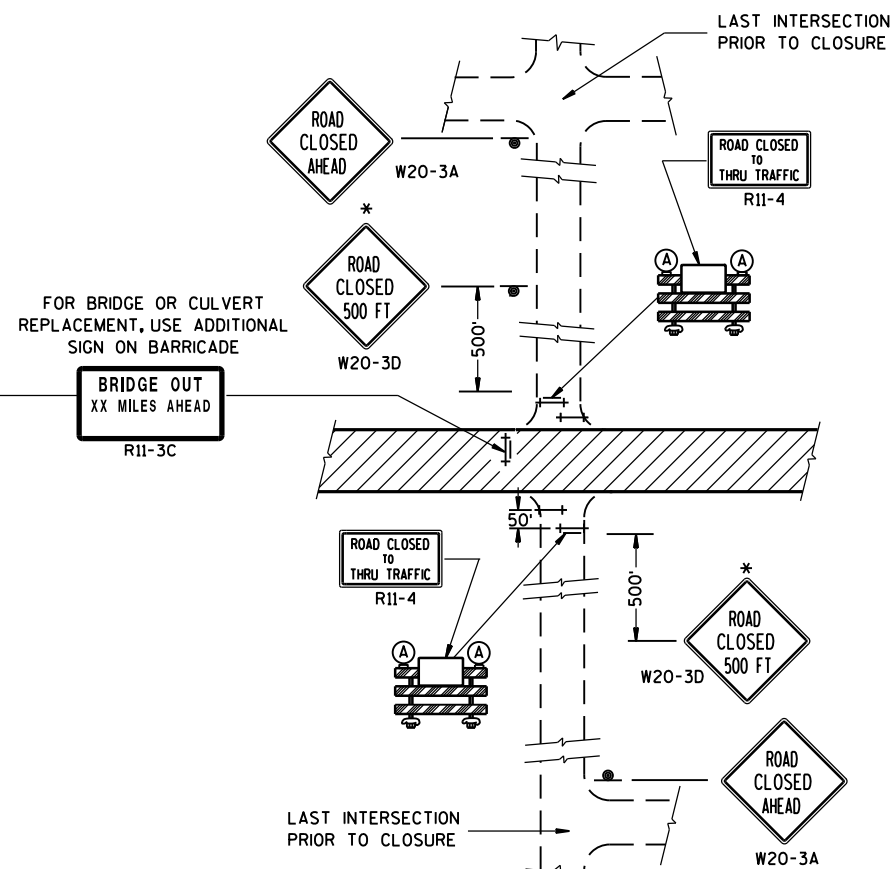
APPROVED
DATE Sept. 2015 /S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER
FHWA

**DETAIL 1**

(NO ACCESS TO PROJECT)

**DETAIL 3**

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).

**DETAIL 2**(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT).**DETAIL 4**(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)**GENERAL NOTES**

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3 AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

R11-2 SHALL BE 48" X 30".

R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- ⊥ TYPE III BARRICADE
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- ▨ WORK AREA

**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2015

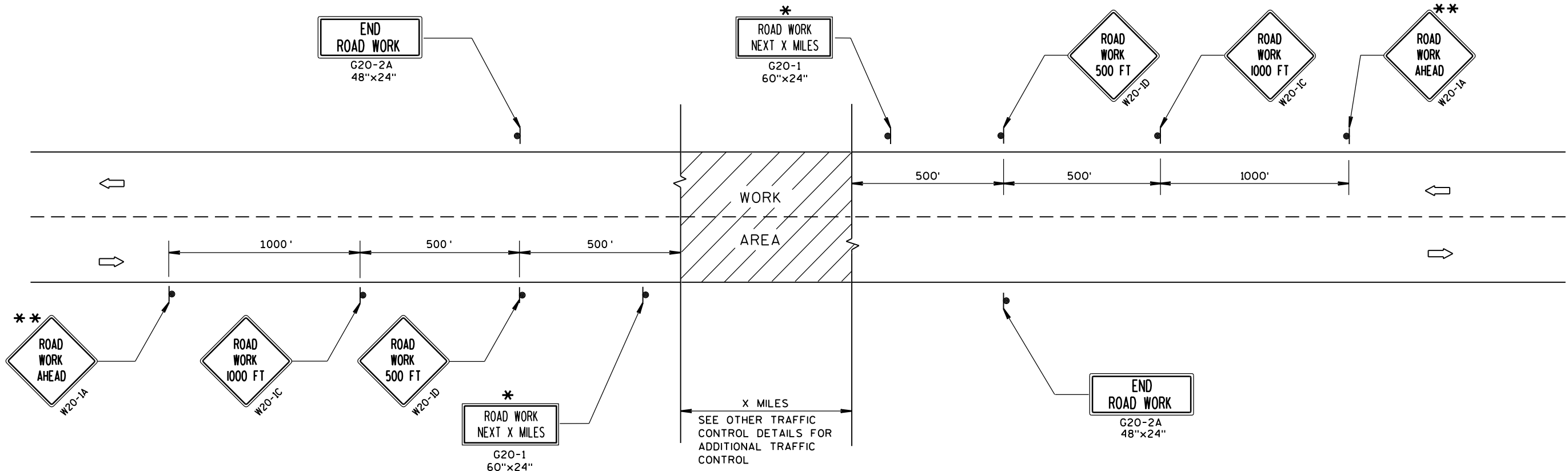
DATE

FHWA

/S/ Peter Amakobe Atepe

STATEWIDE WORK ZONE TRAFFIC

SAFETY ENGINEER



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

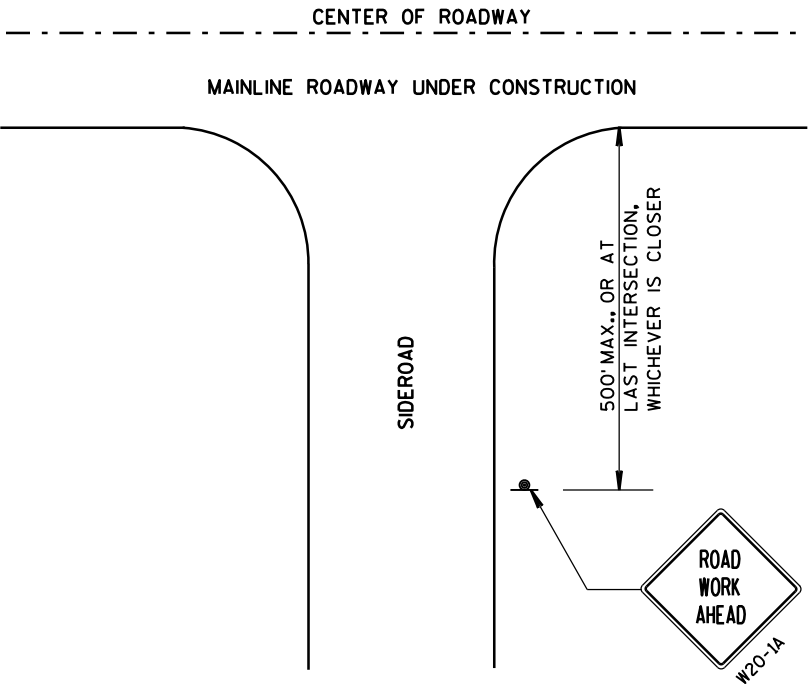
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

** PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



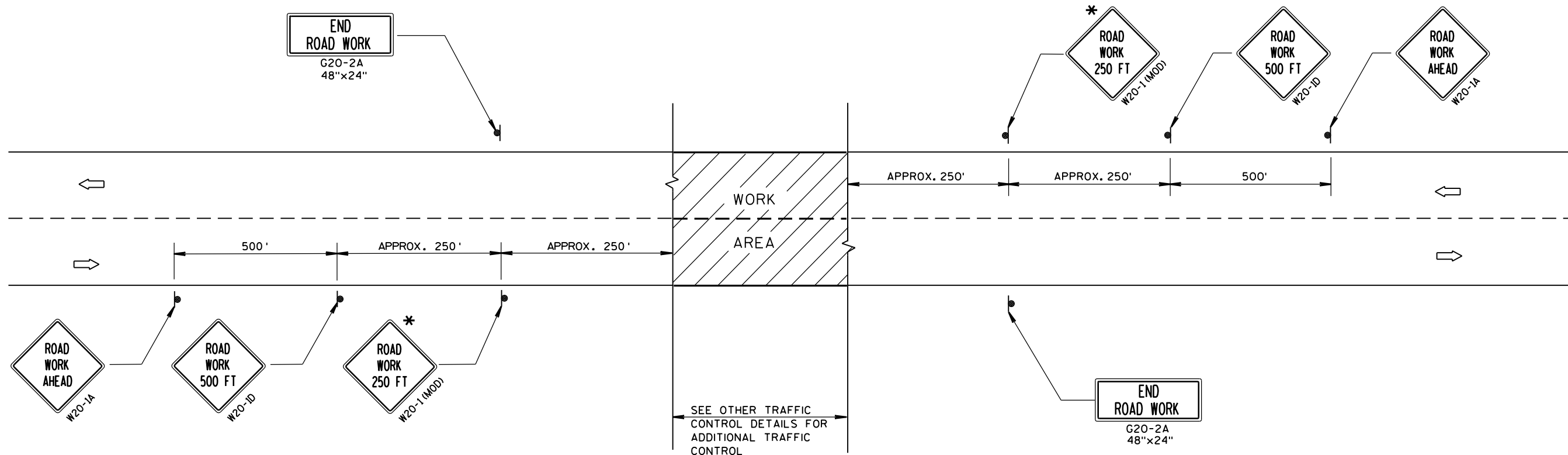
LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

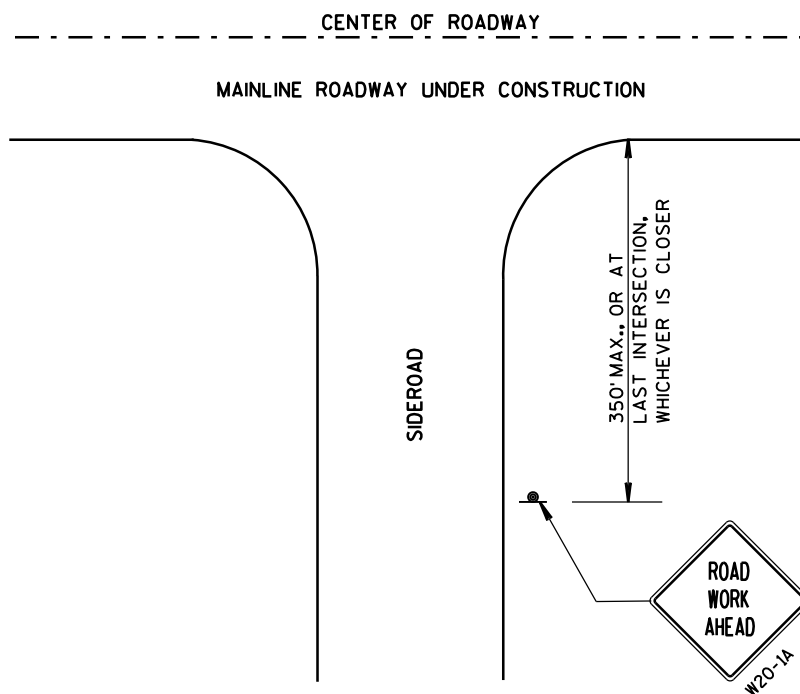
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

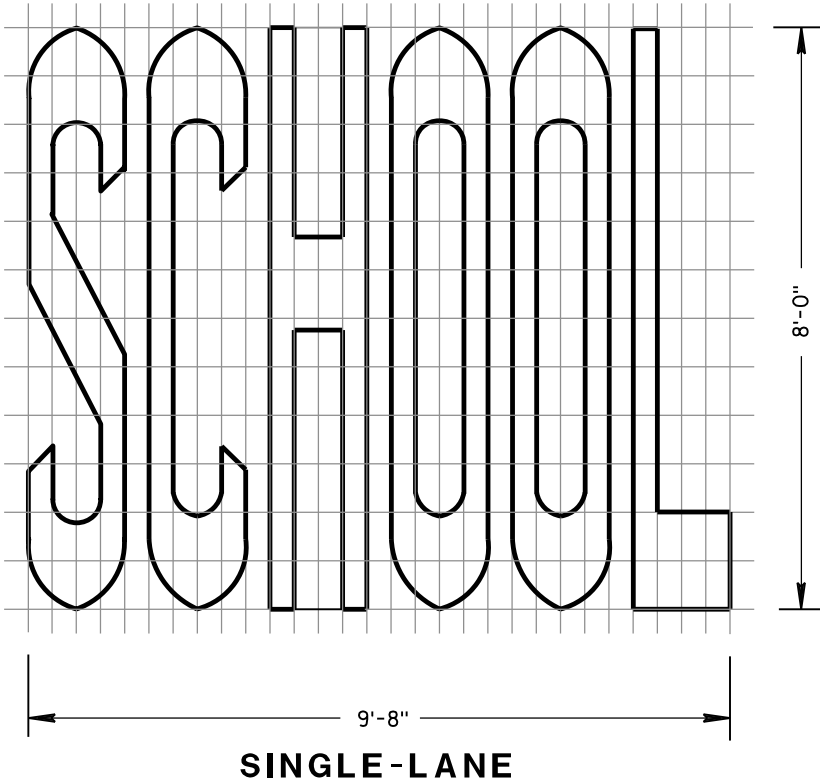
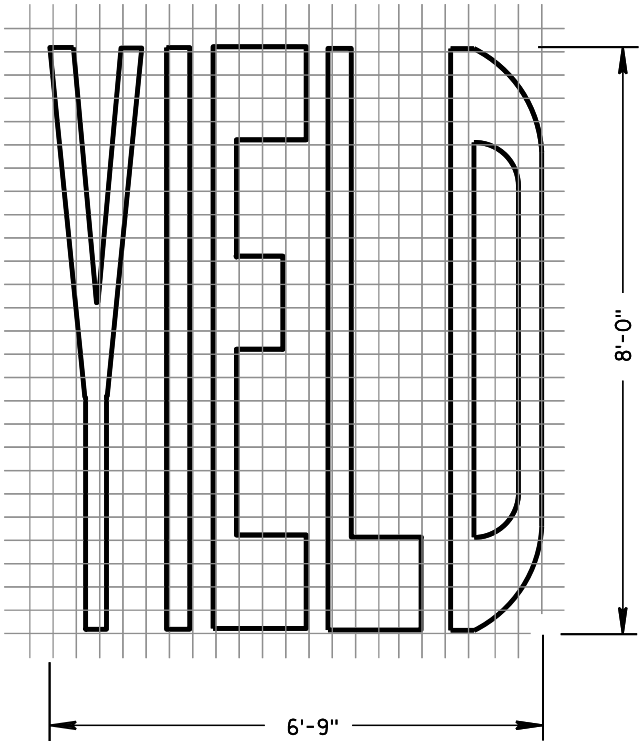
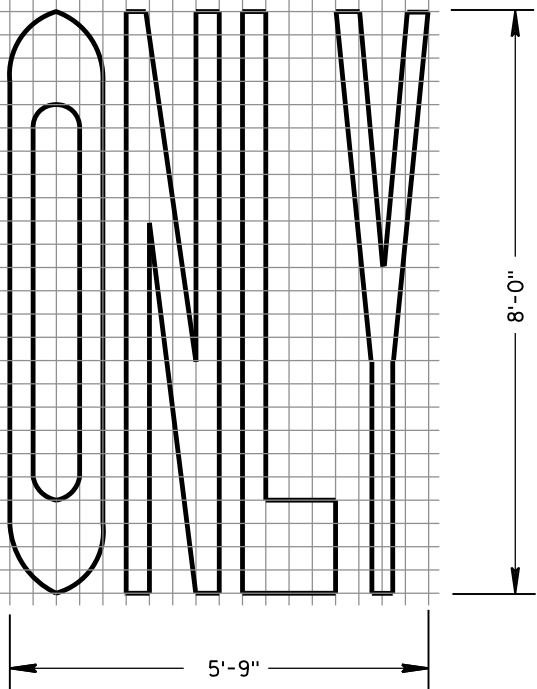
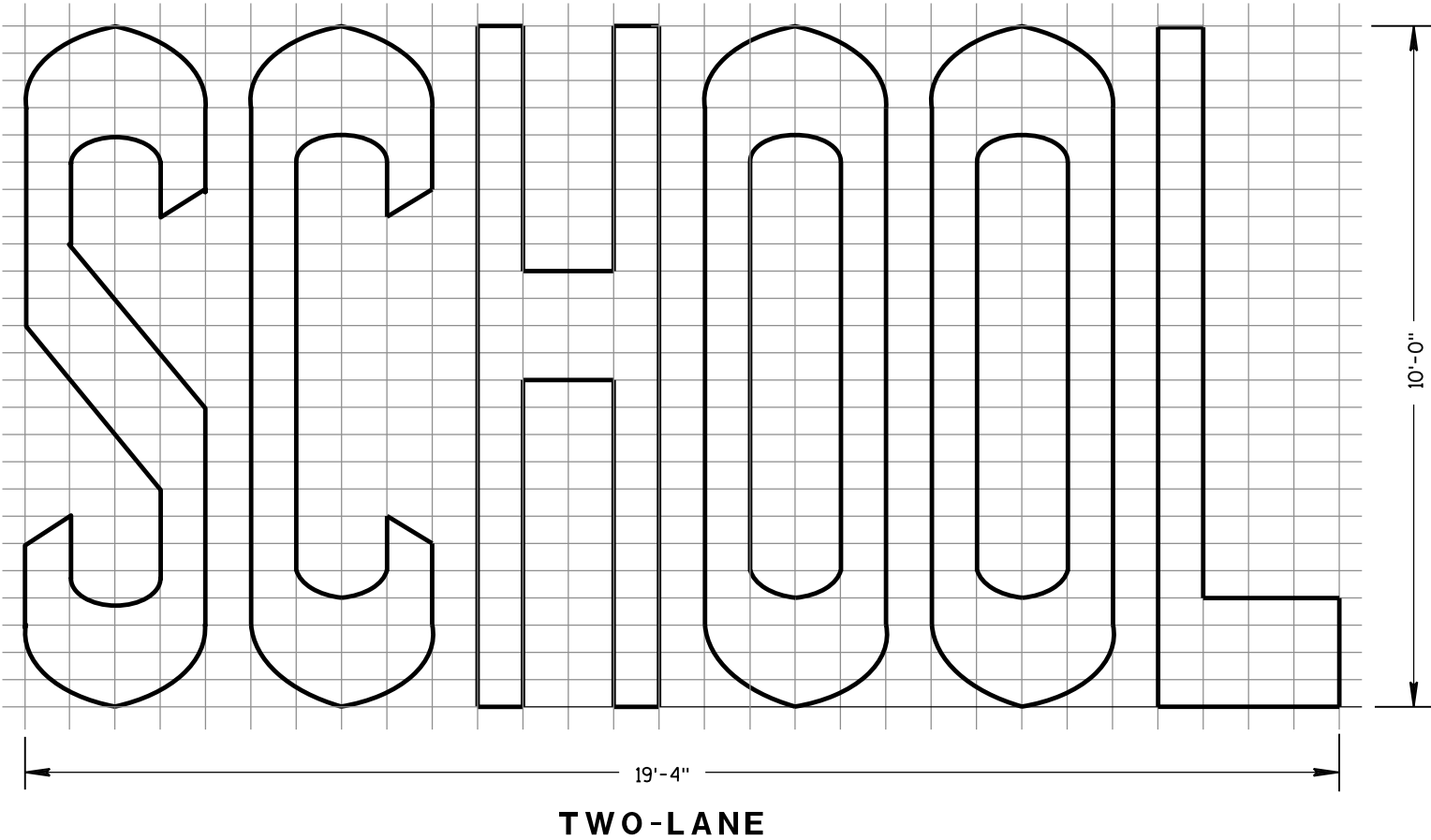
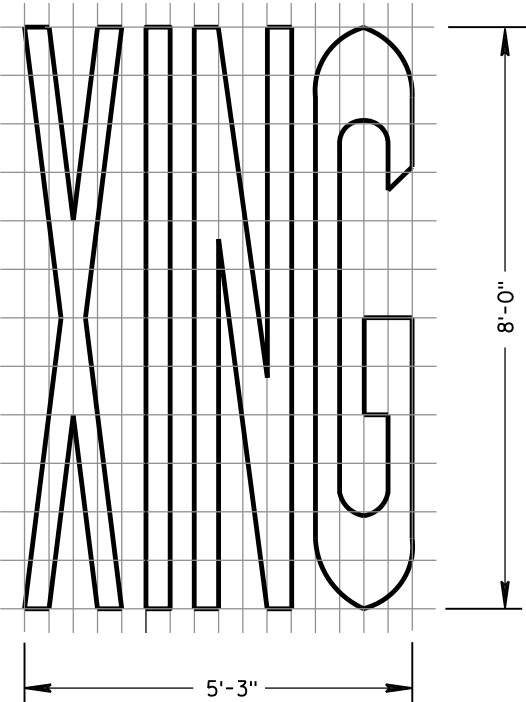
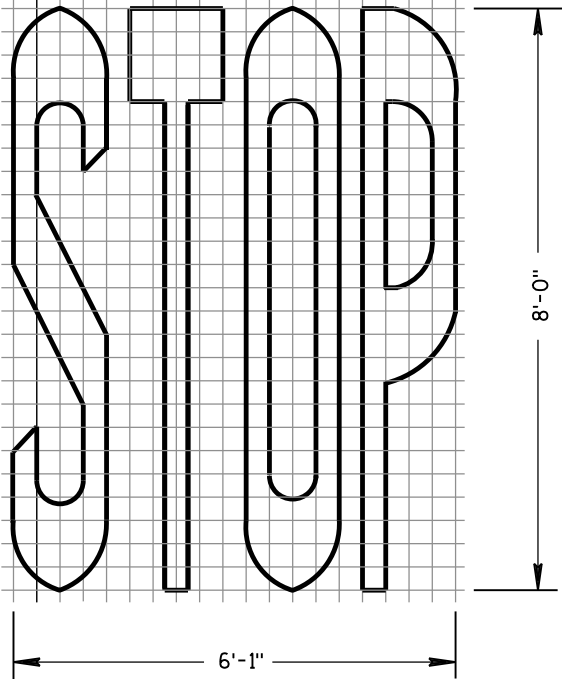
TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 40 M.P.H.
OR LESS TWO-WAY UNDIVIDED
ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

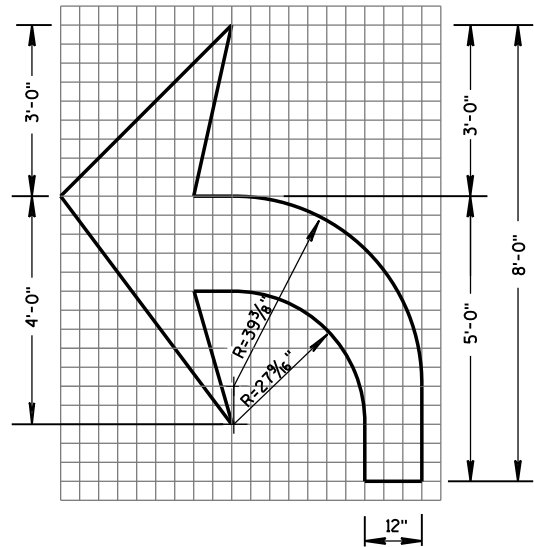
APPROVED
Sept. 2015 /S/ Peter Amakobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER

GENERAL NOTES

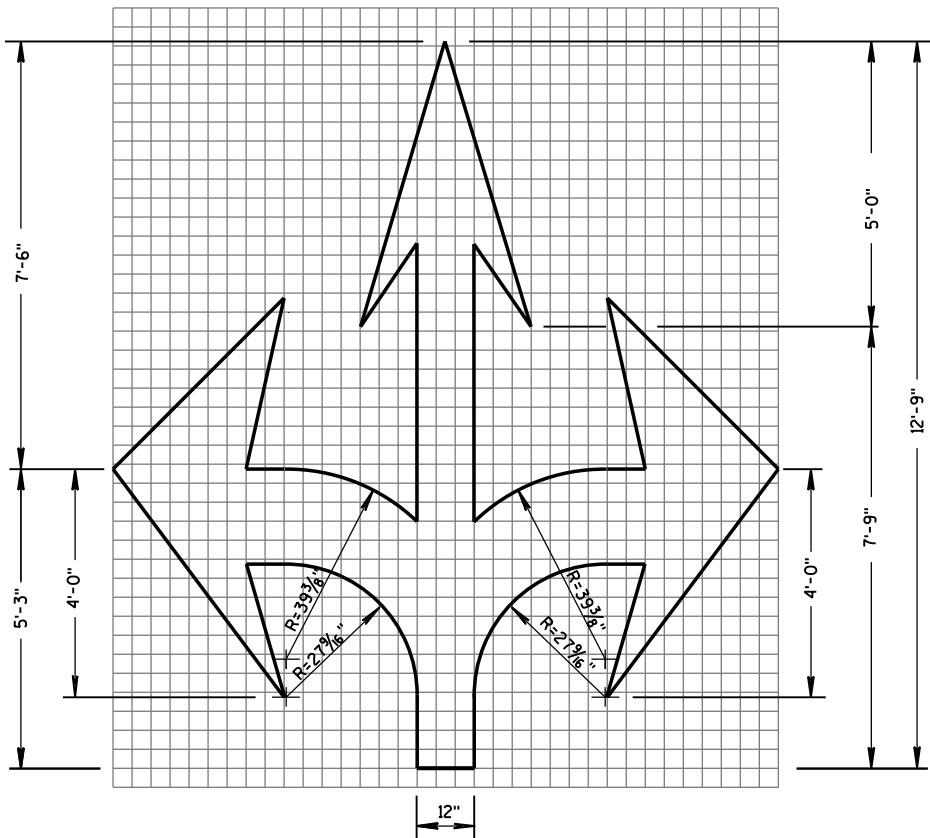
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



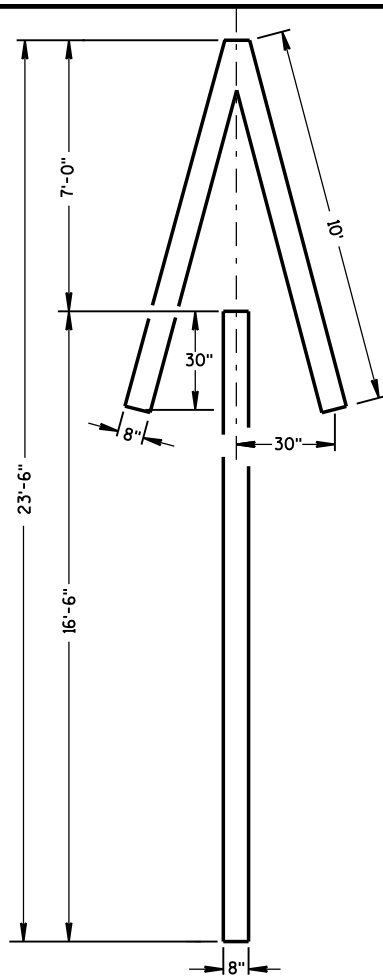
PAVEMENT MARKING WORDS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Matthew R. Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	



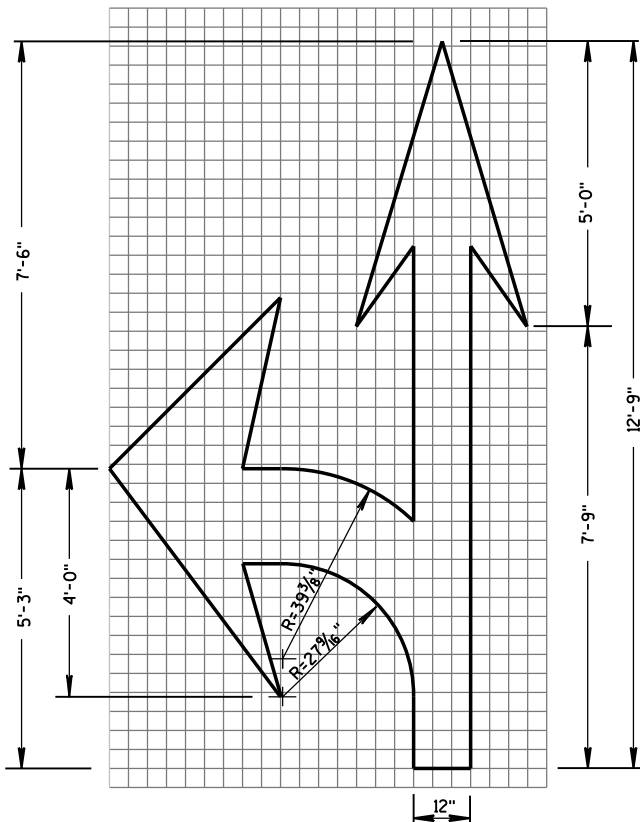
TYPE 2



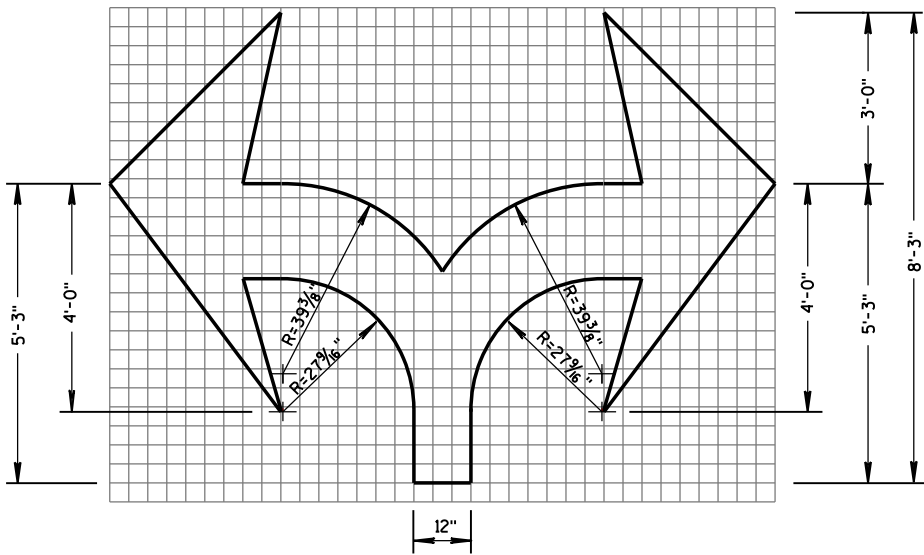
TYPE 6



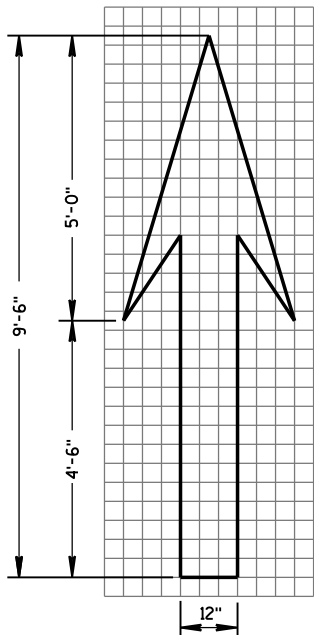
TYPE 4



TYPE 3



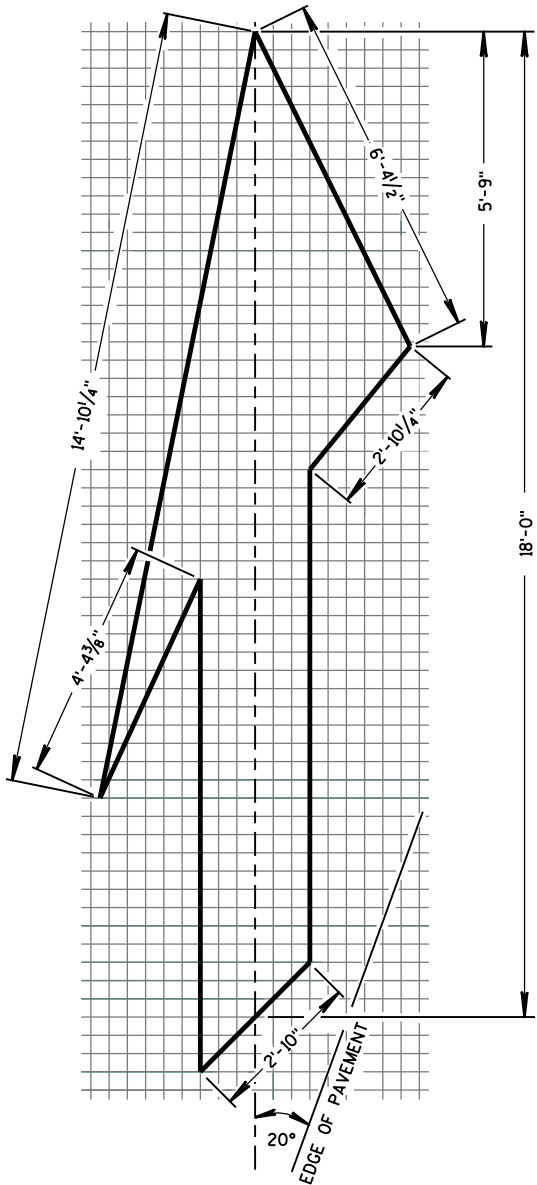
TYPE 7



TYPE 1

GENERAL NOTES

DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

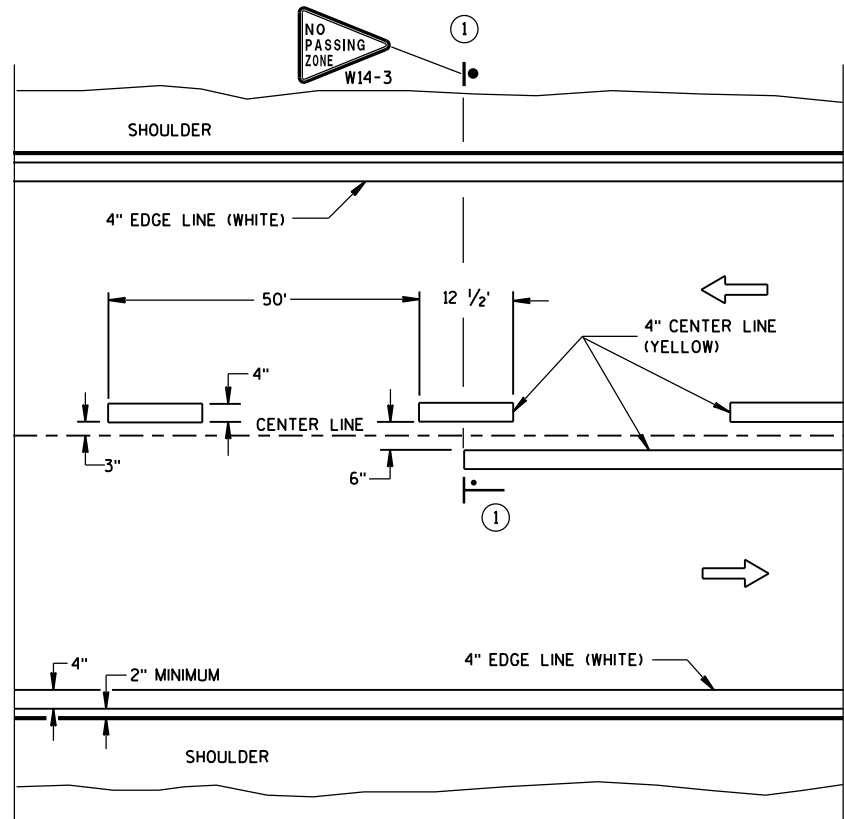


TYPE 5 LANE DROP ARROW

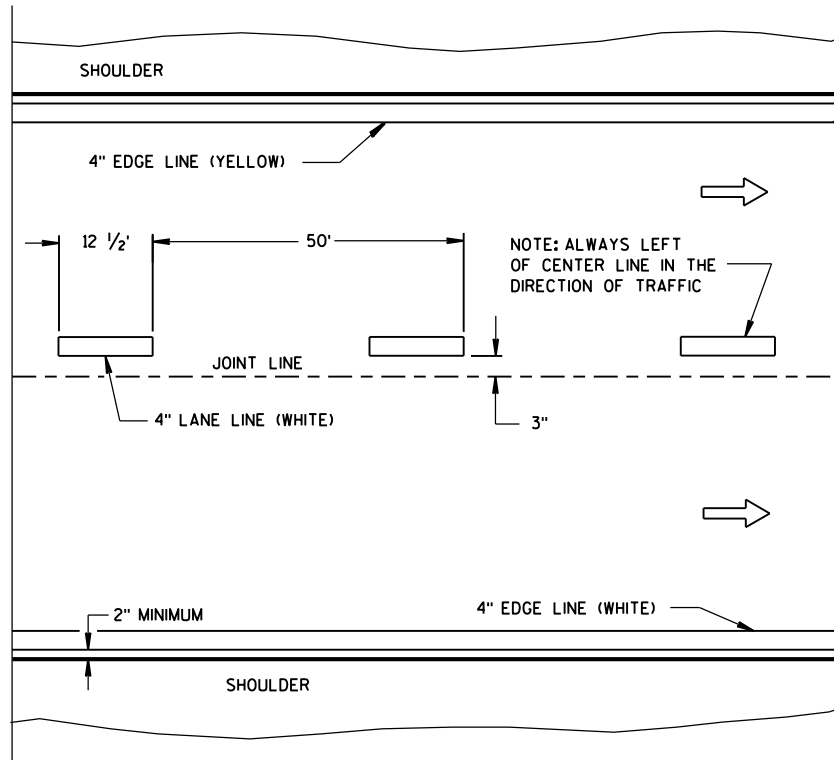
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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June 2017 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

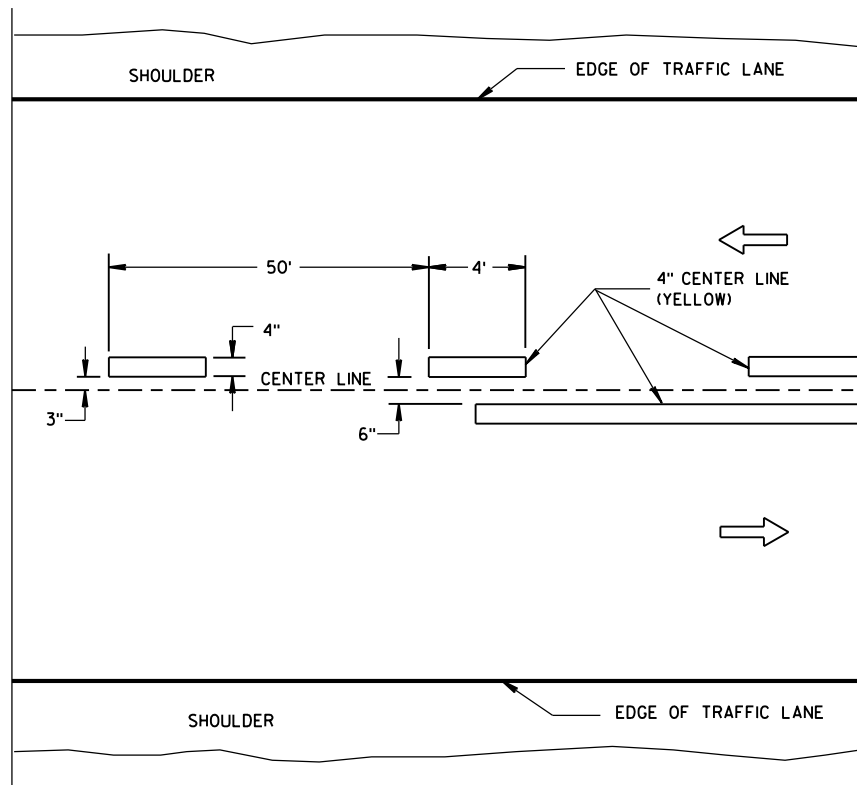


TWO WAY TRAFFIC

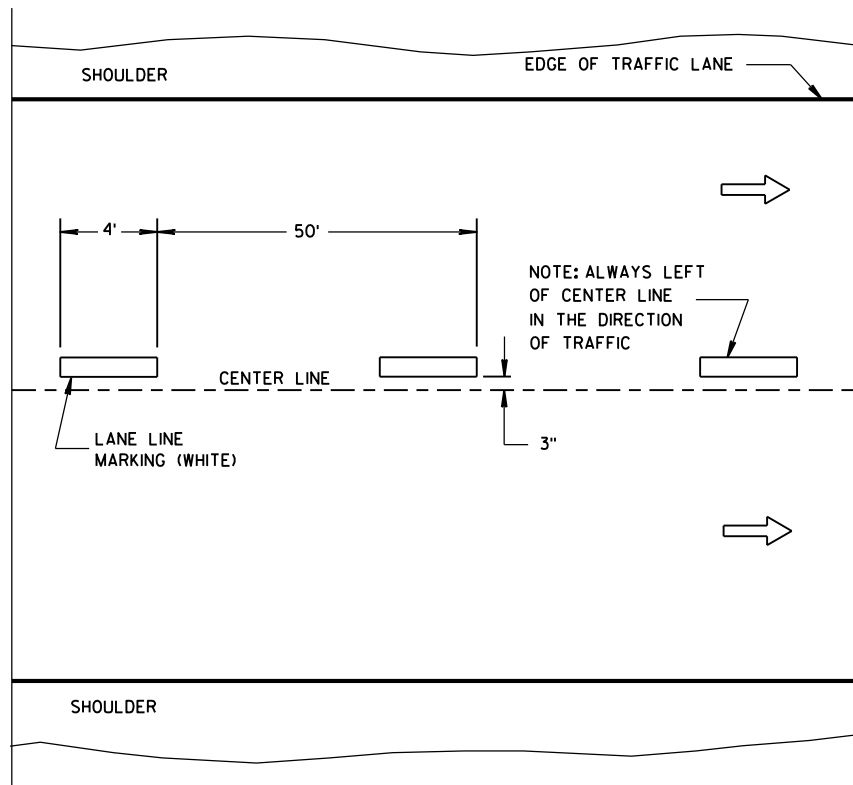


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

LEGEND

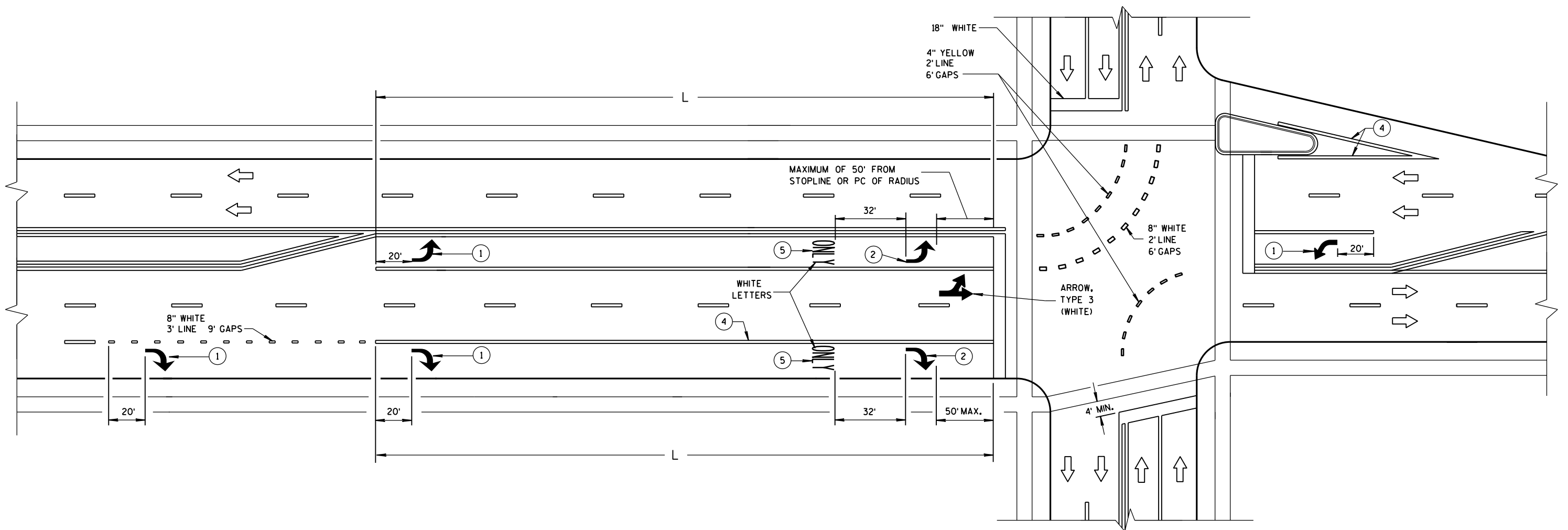
├── "T" MARKING

● POST MOUNTED SIGN

LONGITUDINAL MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION


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DATE STATE SIGNING AND MARKING ENGINEER
FHWA



GENERAL NOTES

- ① REQUIRED ARROW, TYPE 2 (WHITE).
- ② REQUIRED ARROW, TYPE 2 (WHITE) WHEN L IS GREATER THAN 78 FEET AND LESS THAN OR EQUAL TO 166 FEET.
- ③ A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ④ 8" WHITE
- ⑤ REQUIRED WORD ONLY WHEN L IS GREATER THAN 166 FEET.

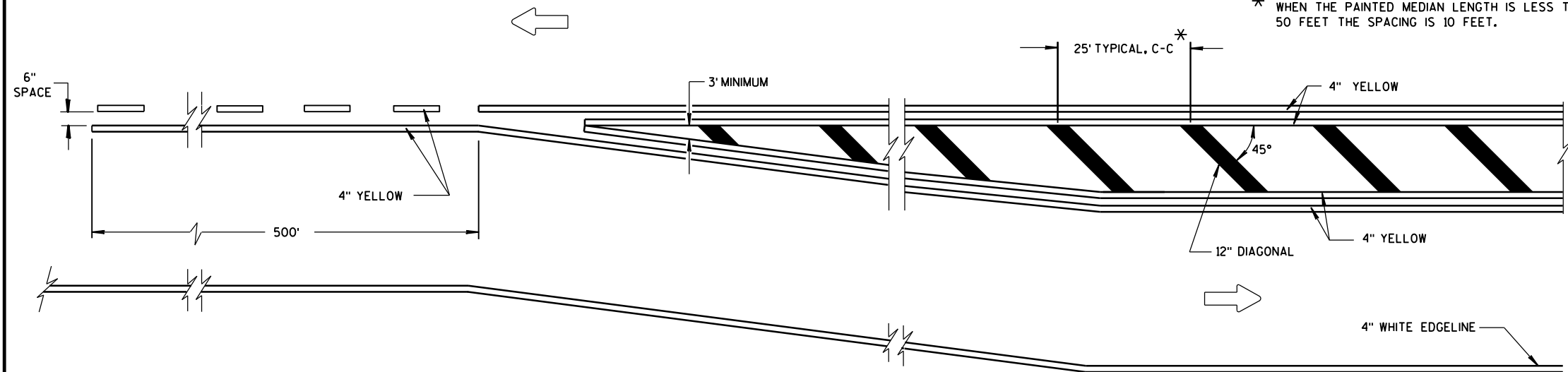
TWO WAY LEFT TURN LANE

NOTE:
ARROW SYMBOL ()
SHOWS DIRECTION OF TRAVEL

L = LENGTH OF TURN BAY

PAVEMENT MARKING
(TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

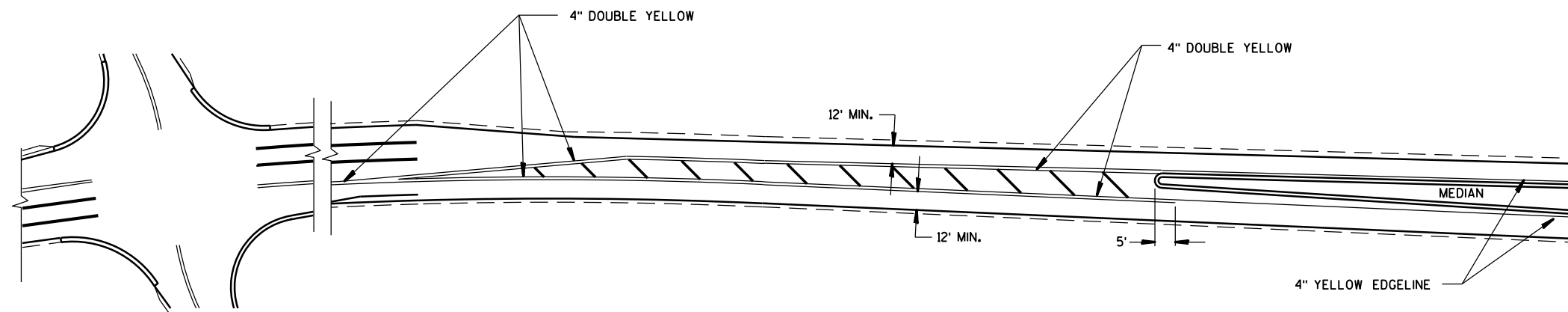


MEDIAN ISLAND DETAIL

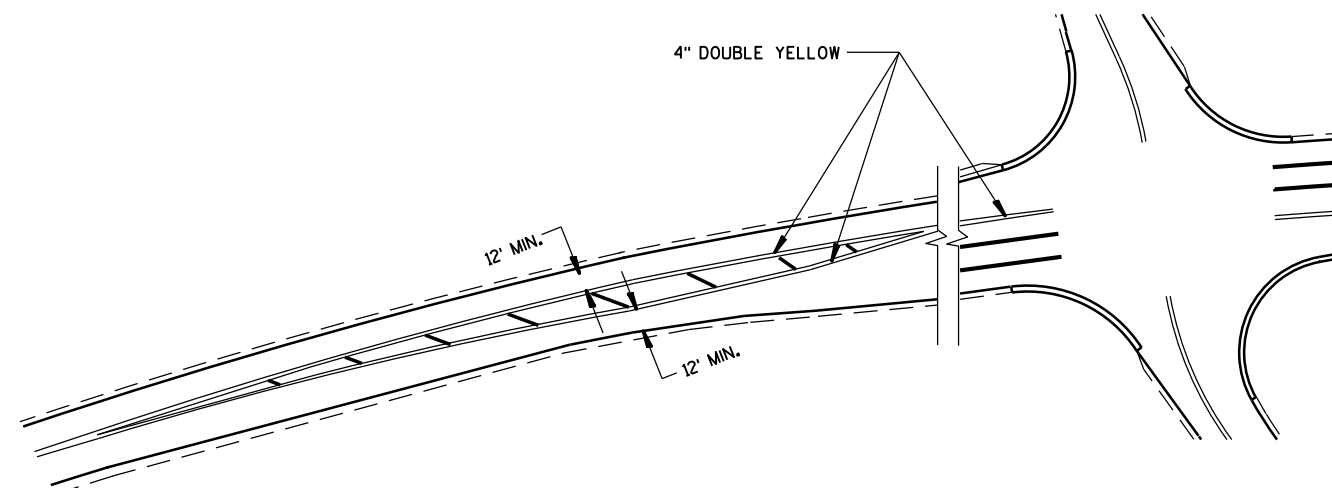
GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

➡ DIRECTION OF TRAVEL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES

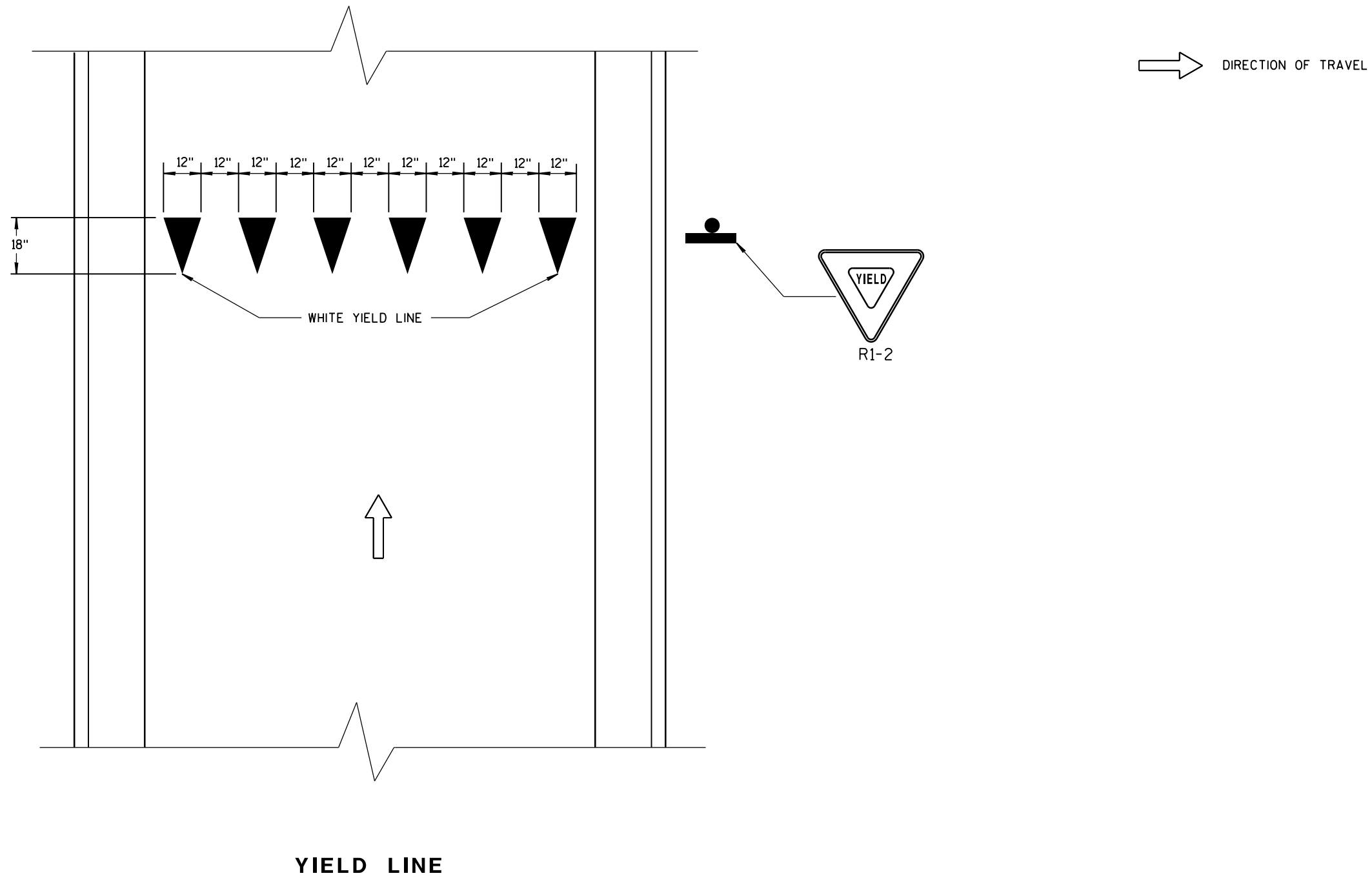


NON APPROACH MARKINGS

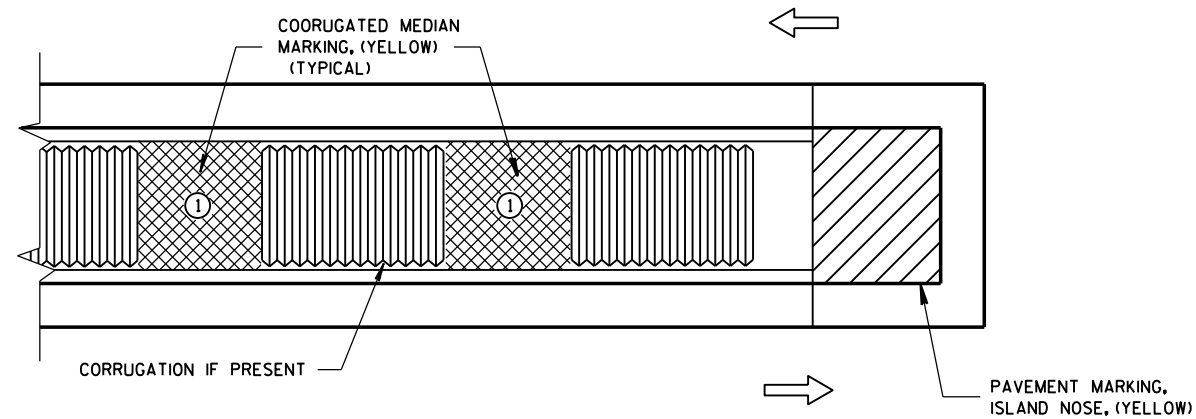
MEDIAN ISLAND MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

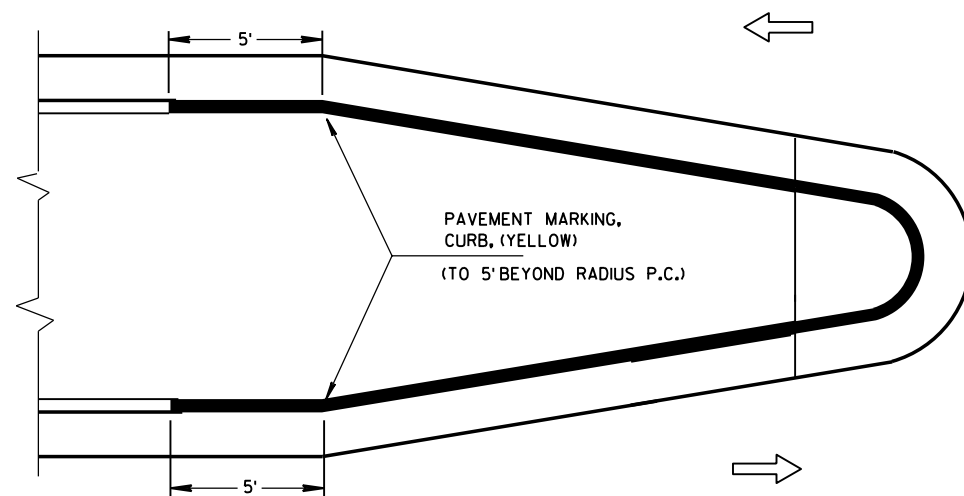
APPROVED
June 2017 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA



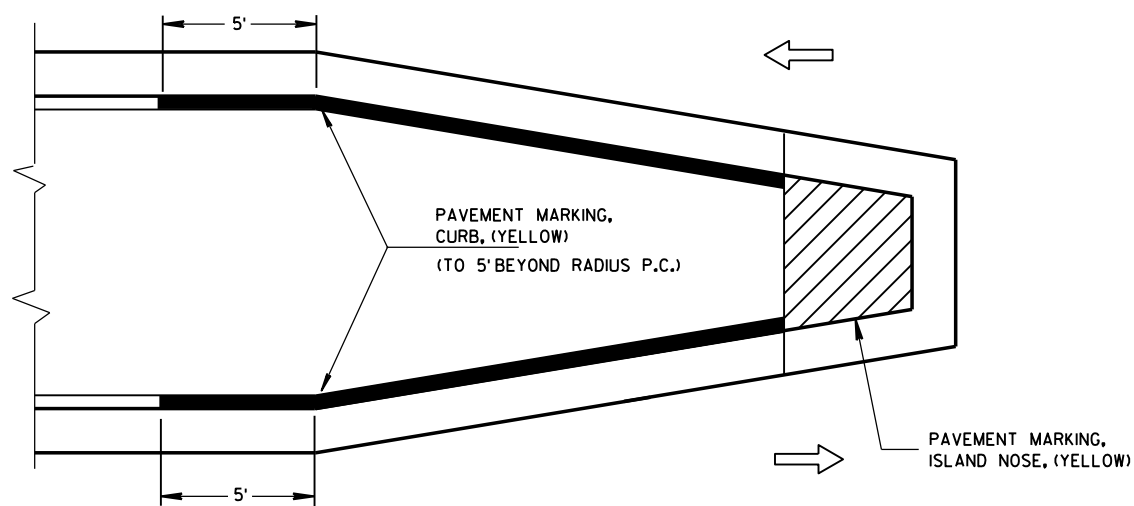
<p>YIELD MARKINGS</p>	
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>	
<p>APPROVED</p> <p><u>4-18-2016</u> DATE</p>	<p><u>/S/ Matthew R. Rauch</u> STATE SIGNING AND MARKING ENGINEER</p>
<p>FHWA</p>	



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE

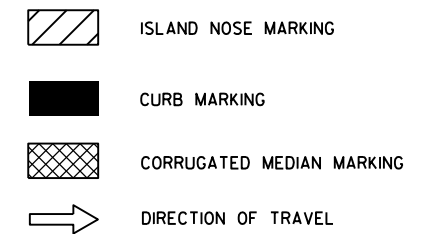


MEDIAN ISLAND WITH SLOPED NOSE

**TYPICAL PLACEMENT OF
PAVEMENT MARKING ON MEDIAN ISLANDS**

GENERAL NOTES

- ① WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



**PAVEMENT MARKING
(ISLANDS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

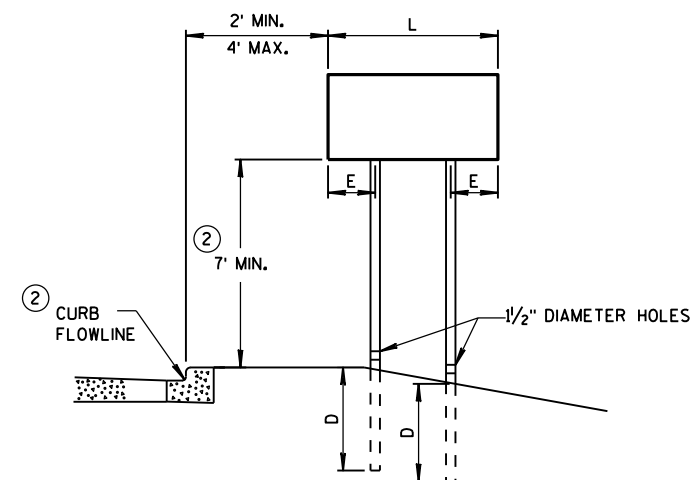
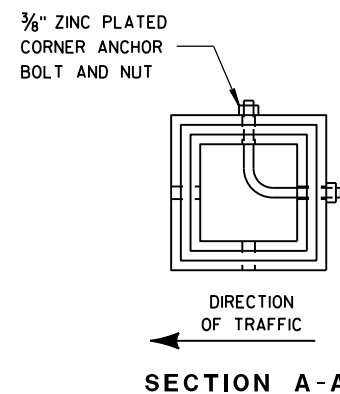
APPROVED
June 2017 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA



TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS LARGER THAN 27 SQ.FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

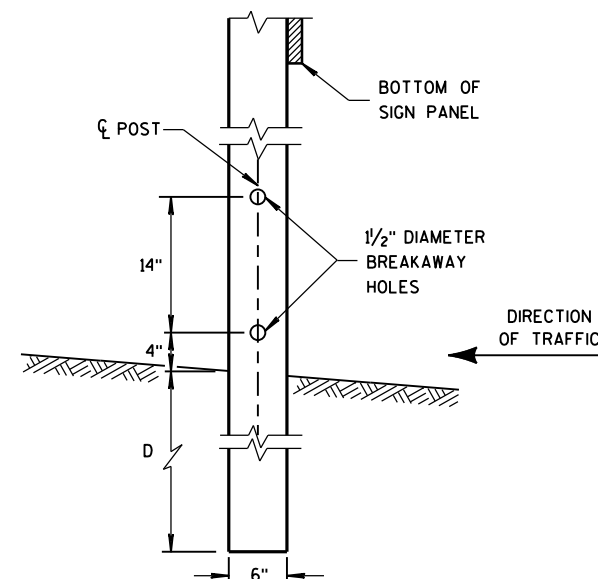


URBAN AREA

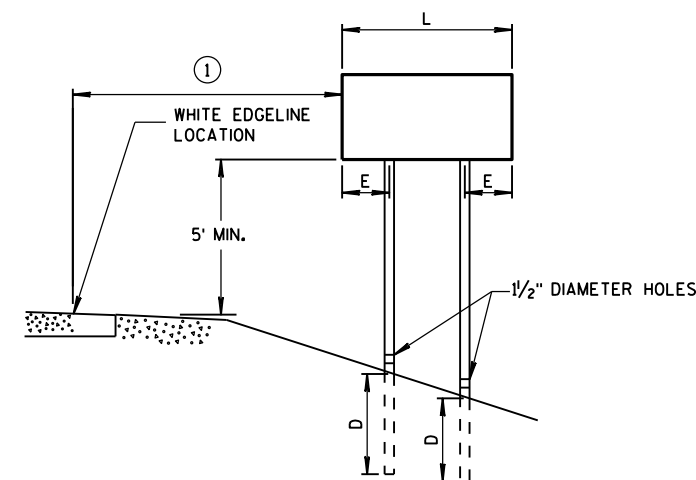
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST
EMBEDMENT DEPTH

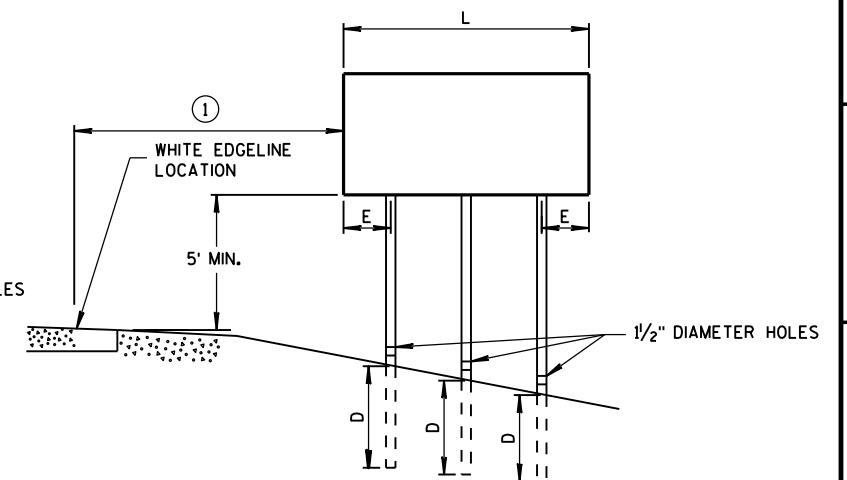
AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



4" x 6" WOOD POST MODIFICATION



RURAL AREA



GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

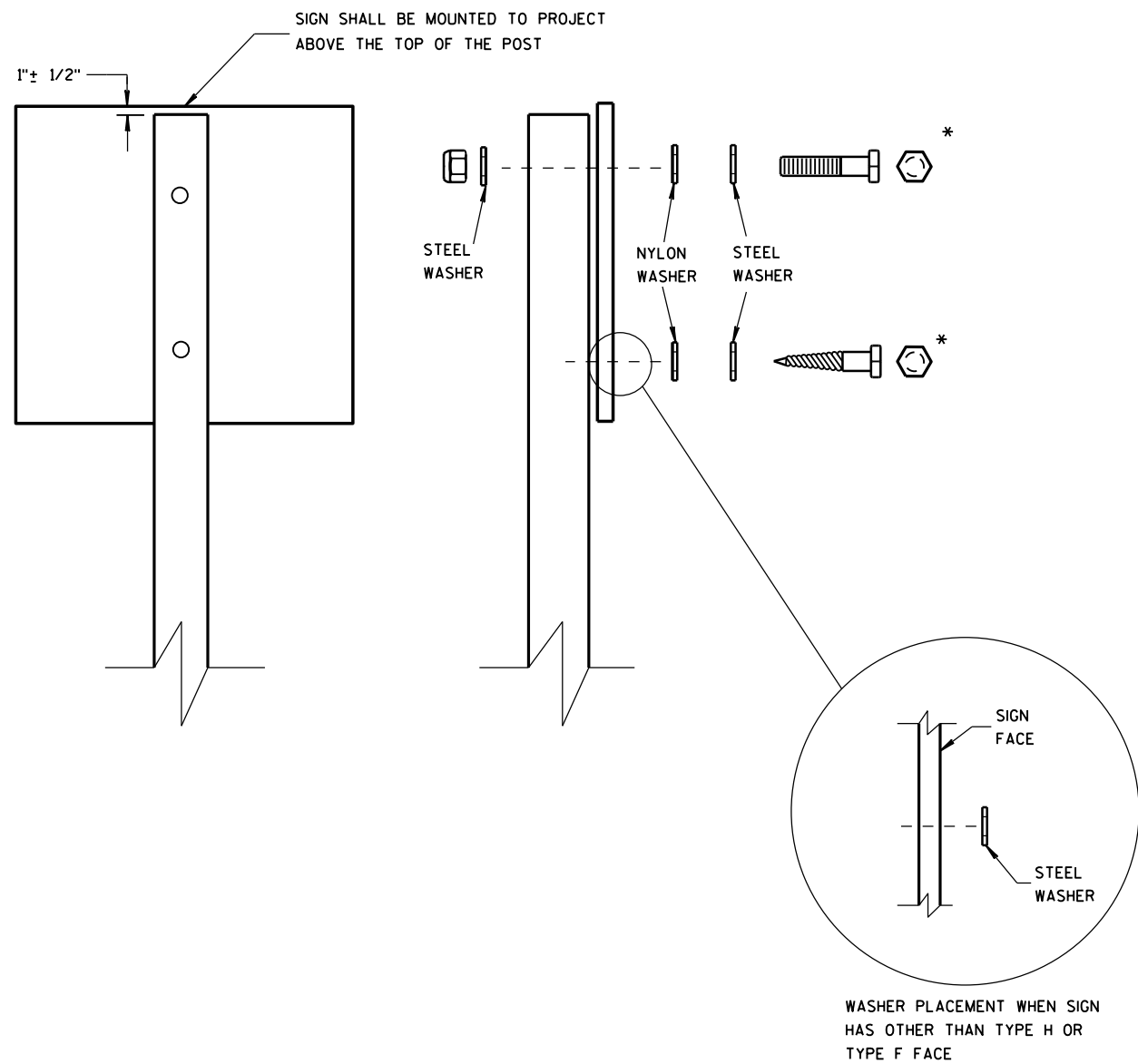
4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

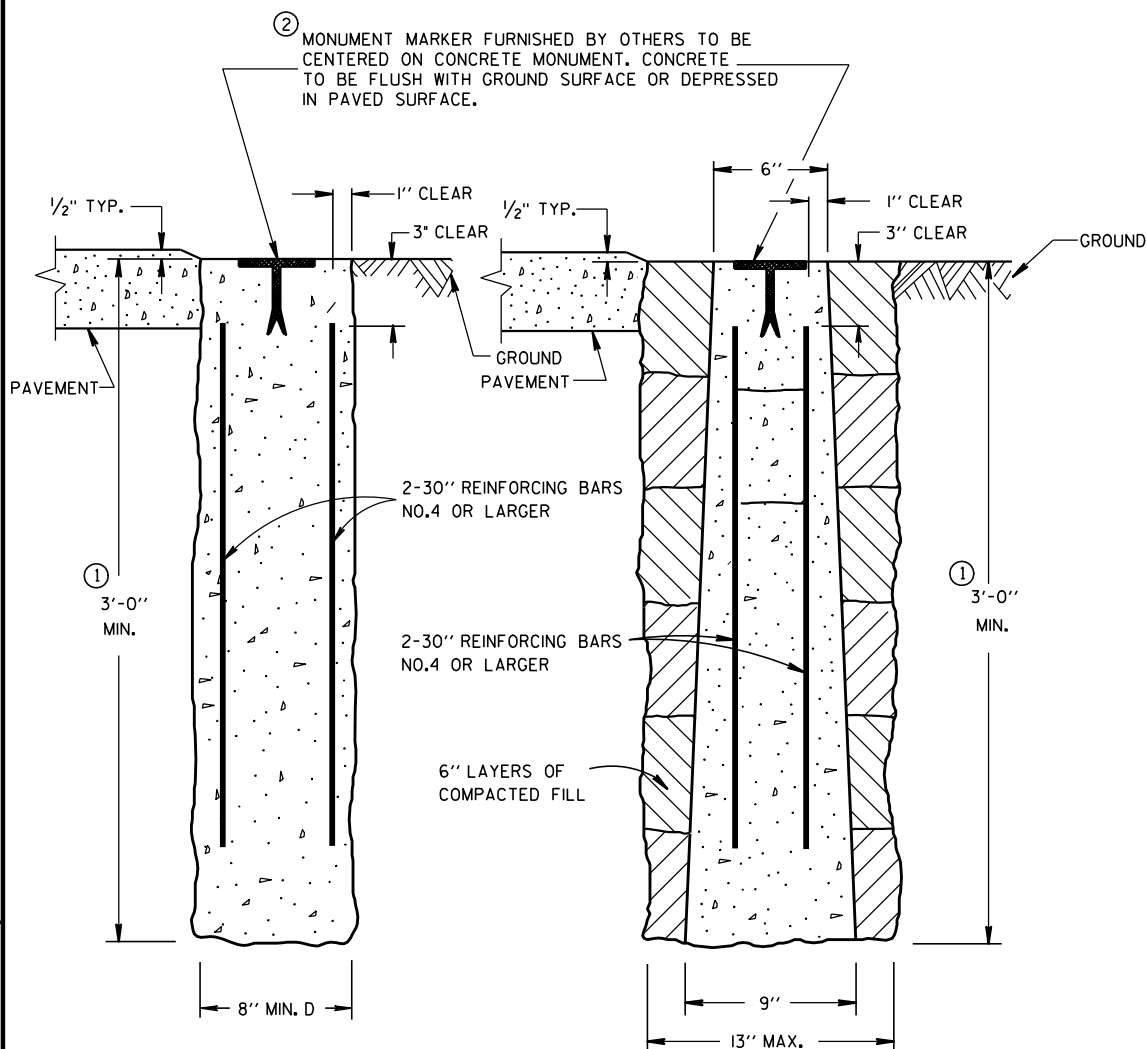
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" x 3"
 - MACHINE BOLTS - 5/16" x 6-1/2" OR 7" LENGTH W/ NUTS

- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" x 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

- WASHERS (ALL POSTS) -
- 1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL
 - 1-1/4" O.D. x 3/8" I.D. x .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heldtke WORK ZONE ENGINEER
FHWA	

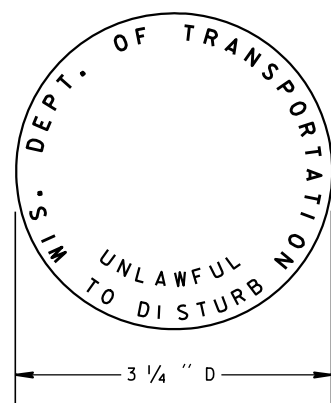


CAST-IN-PLACE

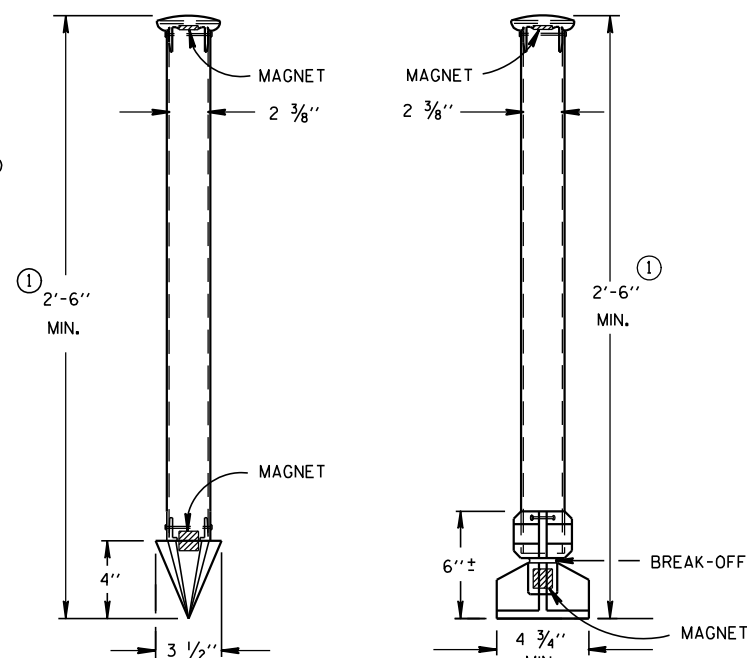
PRECAST

CONCRETE MONUMENTS

TYPE A



② WIS DOT MONUMENT MARKER LOGO
FOR TYPES "A", "C" & "D"

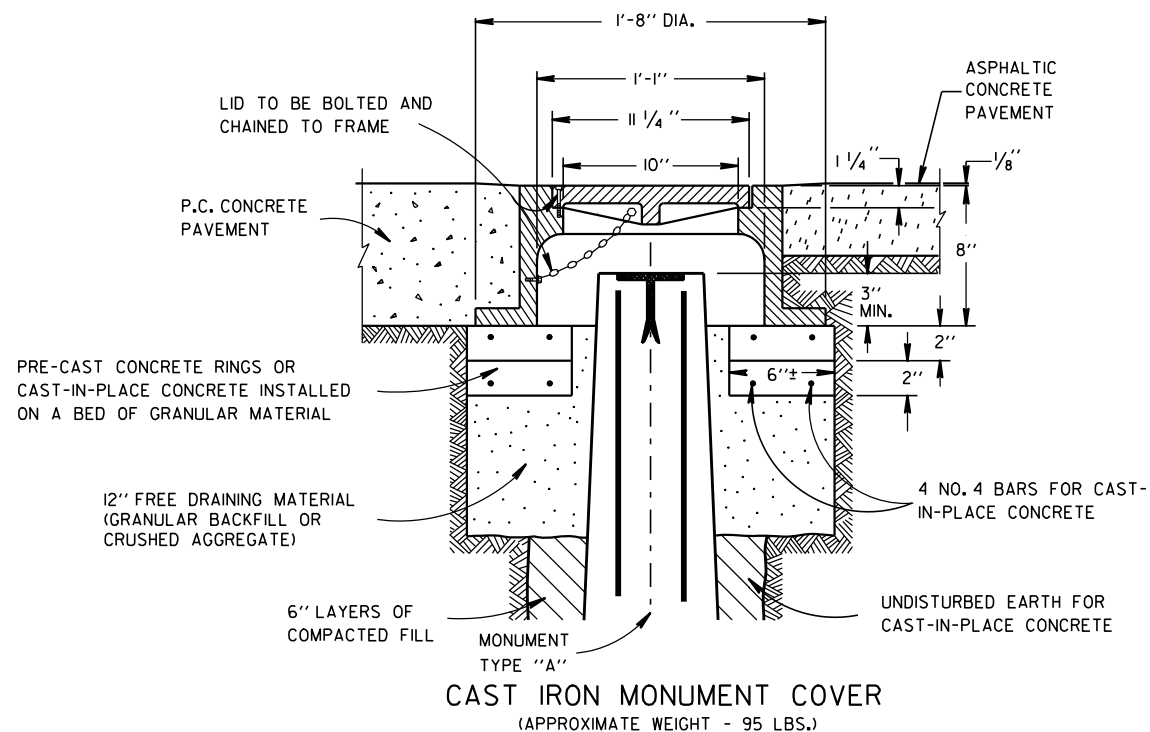


TYPE C

TYPE D

DRIVE-IN MONUMENT

BREAK-OFF MONUMENT

ALUMINUM MONUMENTS
(INCLUDES MARKER)CAST IRON MONUMENT COVER
(APPROXIMATE WEIGHT - 95 LBS.)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

INSTALLED METAL MONUMENTS MUST BE EASILY DETECTED WITH A DIP NEEDLE. INSERT PERMANENT MAGNETS SHALL BE ATTACHED NEAR THE TOP AND BOTTOM OF THOSE MONUMENTS CONSTRUCTED OF A METAL ALLOY WHICH IS NOT ATTRACTIVE TO A DIP NEEDLE.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

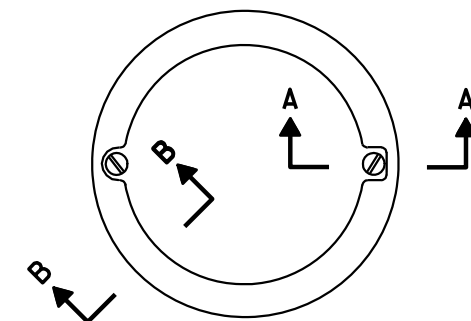
MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

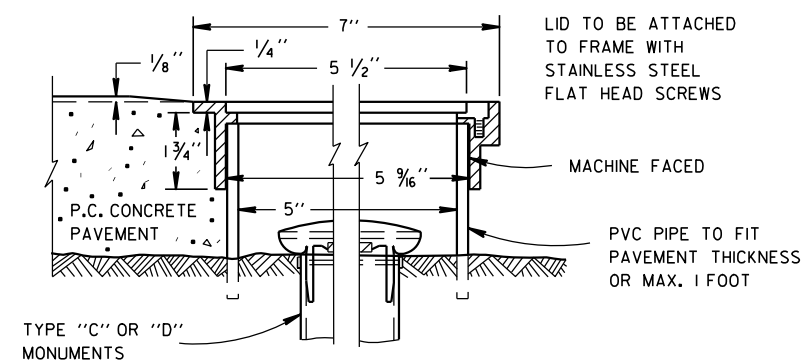
THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

- ① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.
- ② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.



TOP VIEW

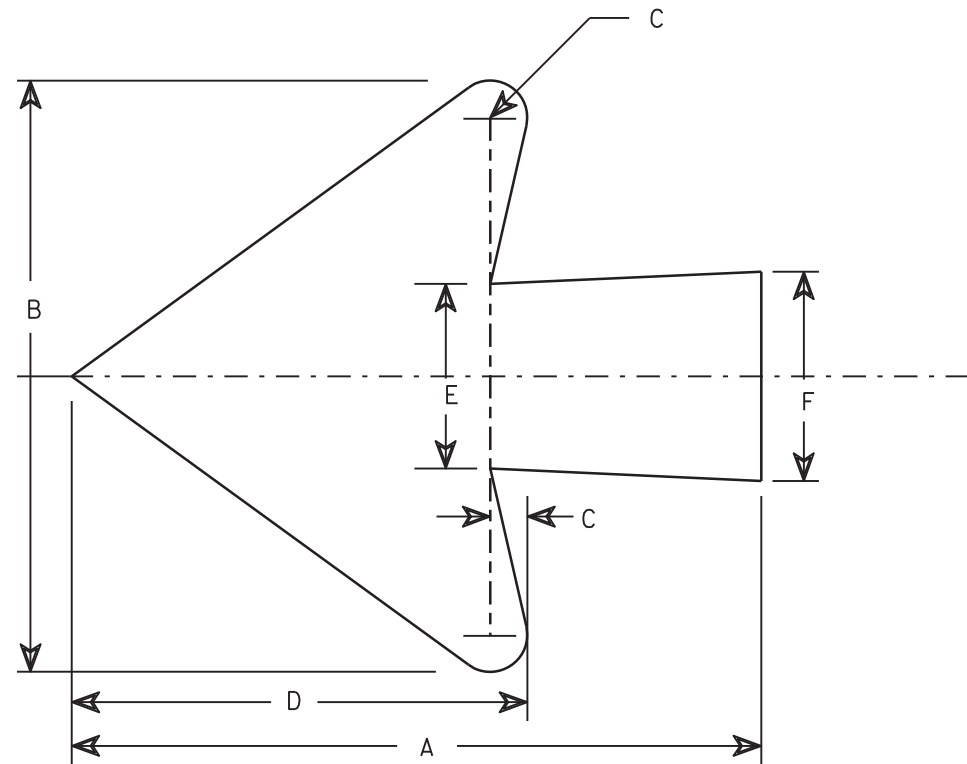
SECTION B-B SECTION A-A
ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)
(FOR CONCRETE PAVEMENT ONLY)

LANDMARK REFERENCE
MONUMENTS AND COVERS

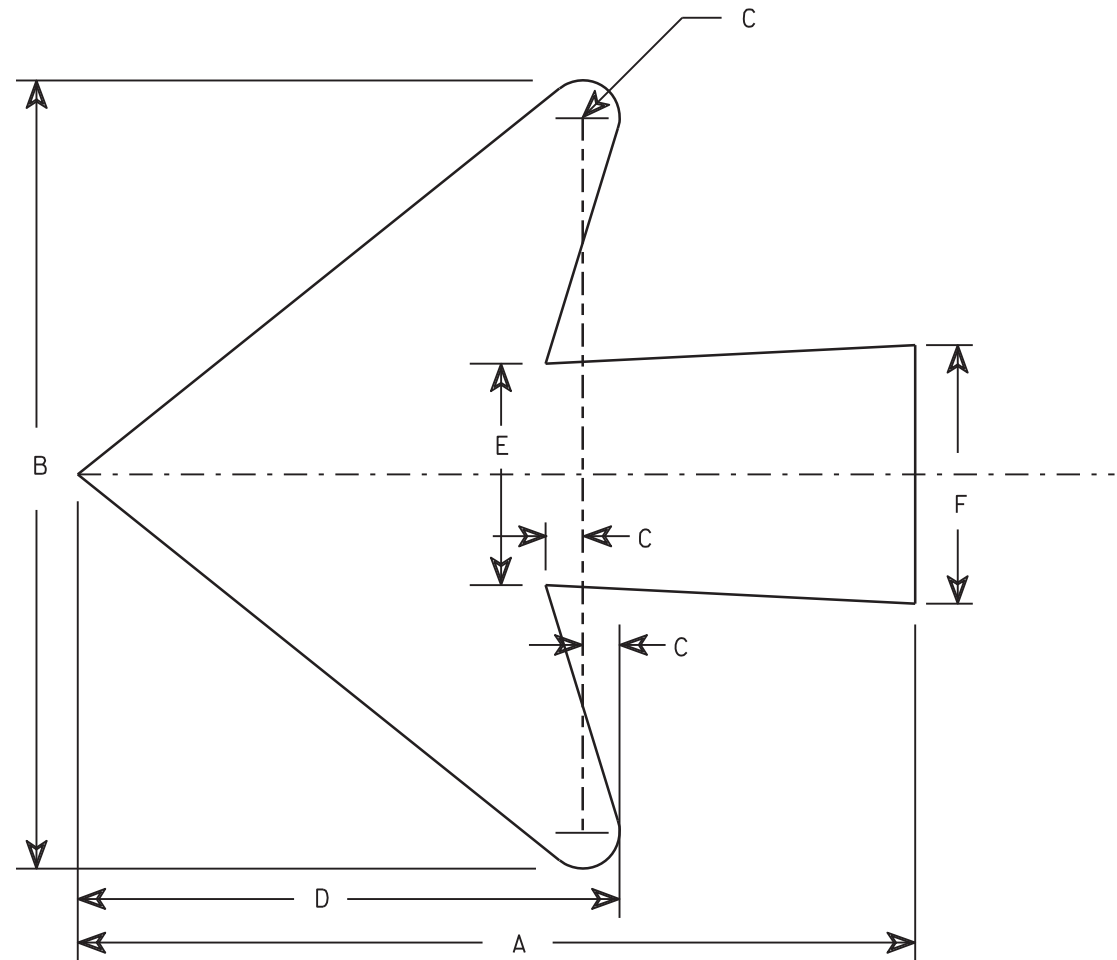
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/22/1999 /S/ Rory L. Rhinesmith
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



Lower Case Copy Size	Right or Left	A		B	C	D	E	F
		* 2 Town	* 3 Town					
3¾ Series C	7	11	18	6	¾	4⅝	1⅞	2⅛

* Indicates Ahead and Tilt for
2 & 3 Town applications.

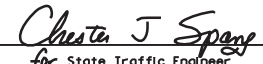


Lower Case Copy Size	Right or Left	A		B	C	D	E	F
		* 2 Town	* 3 Town					
4½ Series D&E	8½	11	18	8	¾	5½	2¼	2⅝
6 Series D&E	12	18	24	10¾	½	7⅜	3¼	3½
8 Series E	15½	24	30	14¼	¾	9¾	4¼	4½

* Indicates Ahead and Tilt for
2 & 3 Town applications.

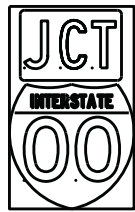
STANDARD ARROWS
FOR D1 GUIDE SIGNS

WISCONSIN DEPT OF TRANSPORTATION

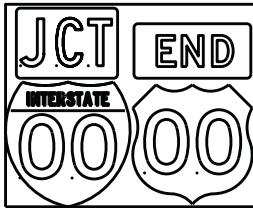
APPROVED 
for State Traffic Engineer

DATE 8/10/92 PLATE NO. A1-2.3

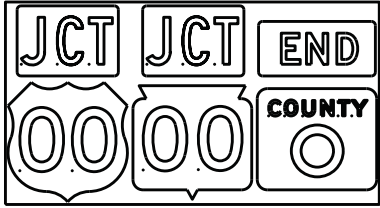
TYPICAL ASSEMBLIES



J1-1



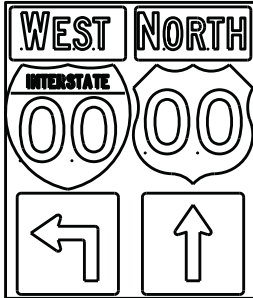
J1-2



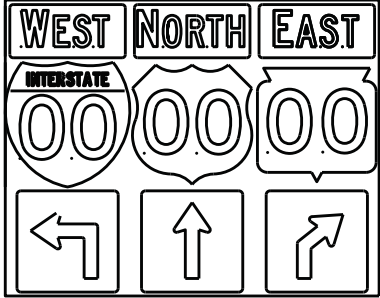
J1-3



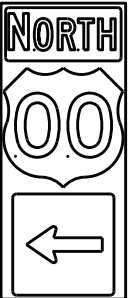
J2-1



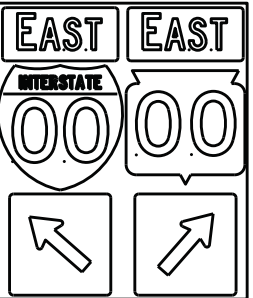
J2-2



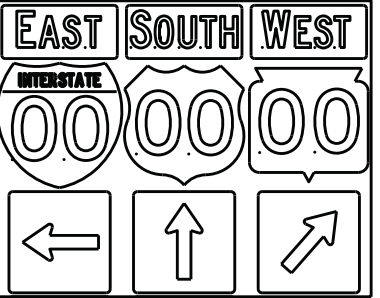
J2-3



J3-1



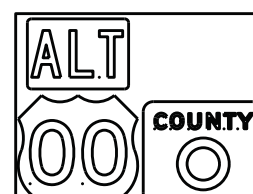
J3-2



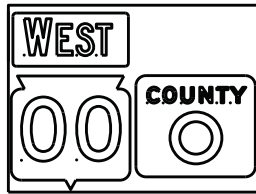
J3-3



J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



J23-1

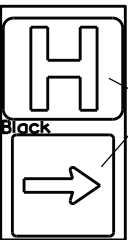


J22-1



JV

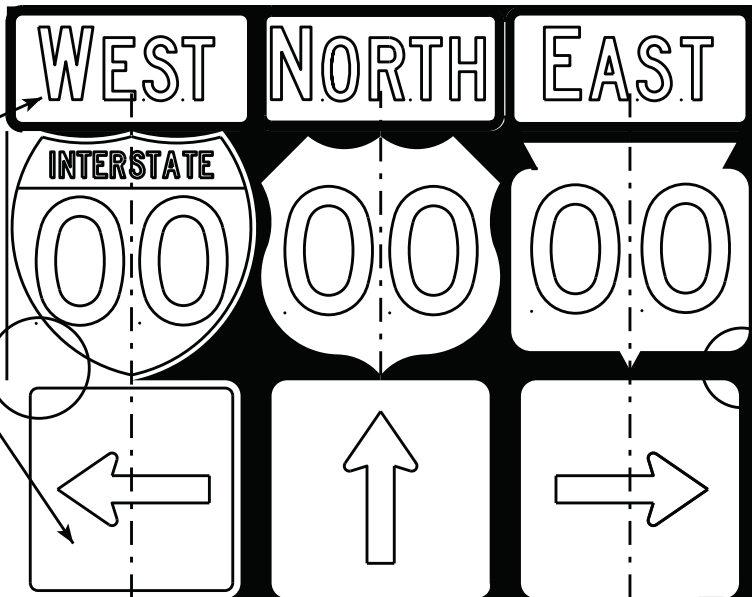
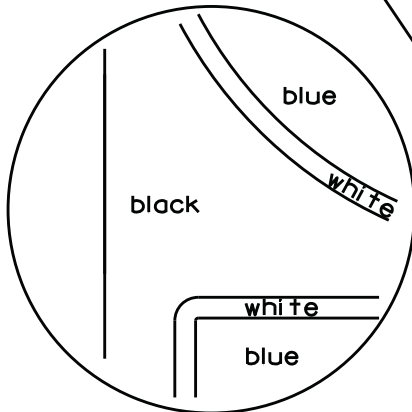
(Typical Vertical J-Assembly
See Note 10 and 11)



JH-1

Blue Background

[blue background
with interstate]



[black background]

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

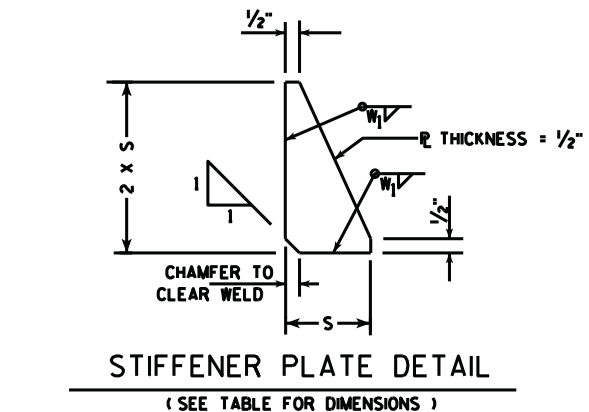
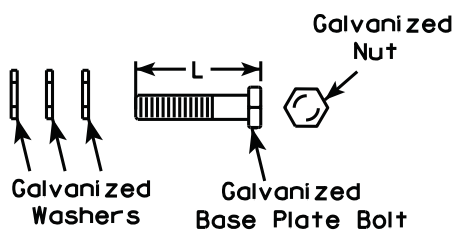
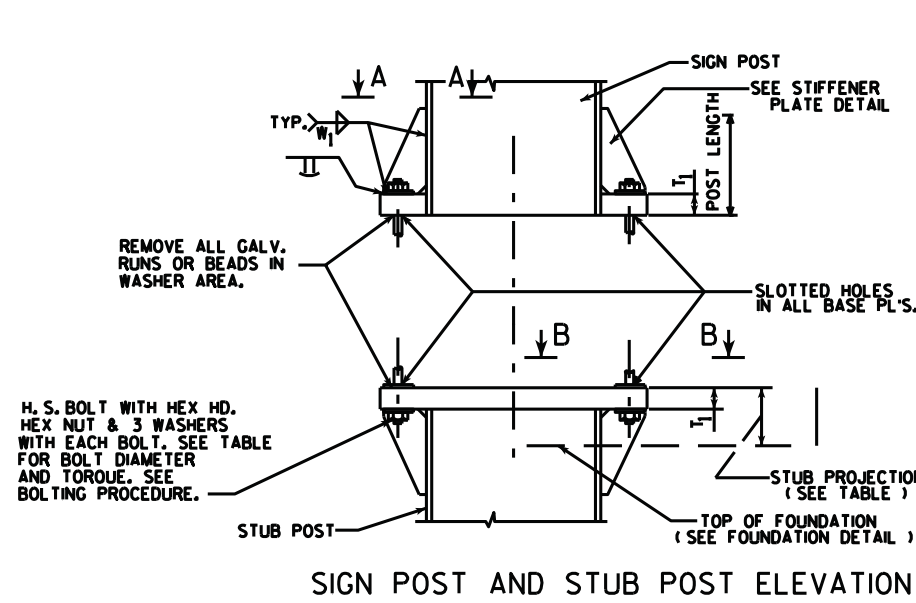
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/06/14 PLATE NO. A2-1S.8

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Black Non-reflective
Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

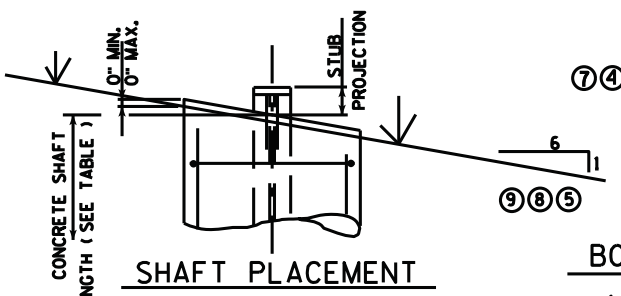
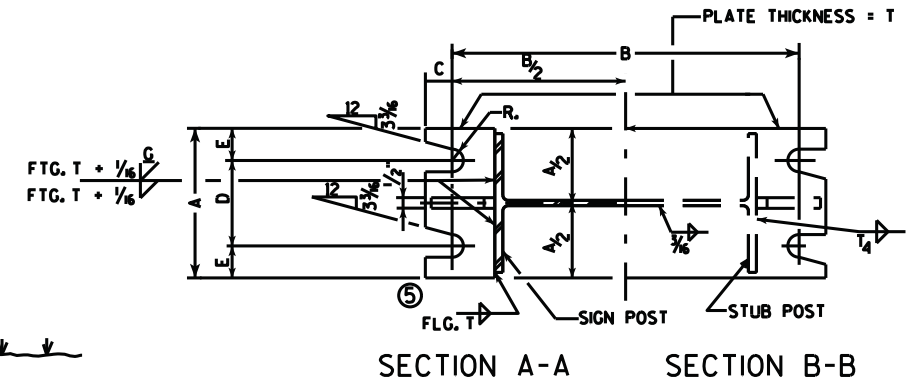
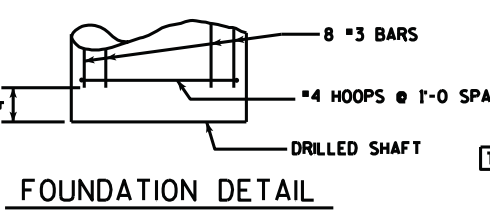
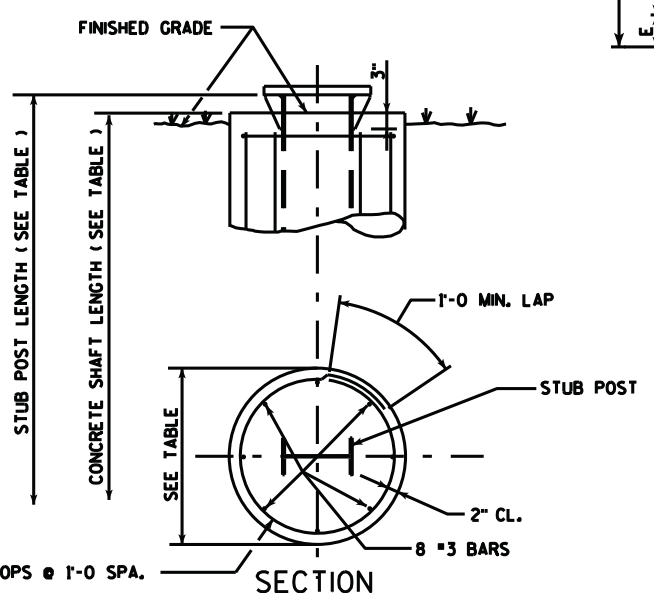
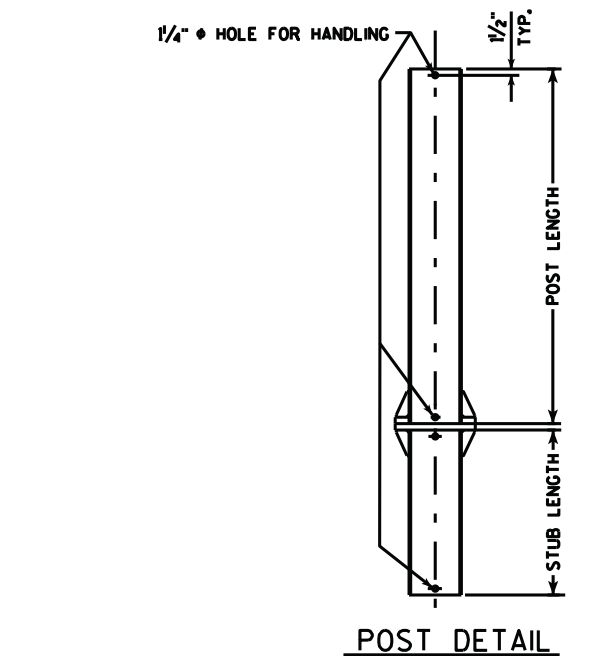


FURNISH 2 @ .012" ± THICK AND 2 @ .032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T. M.- B36.

SHIM DETAIL

QUANTITIES FOR 1 FOOTING		
CONC. MASONRY	C.Y.	REINF. STEEL LBS.
A	0.6	34
B	0.8	49
C	0.9	50
D	0.9	56
E	1.0	62

REINF.	TYPE	#3		#4	
		8 @ 4'-5"	5 @ 6'-3"	8 @ 6'-3"	7 @ 6'-3"
7	A	8 @ 4'-5"	5 @ 6'-3"	8 @ 6'-3"	7 @ 6'-3"
	B	8 @ 6'-5"	7 @ 6'-3"	8 @ 6'-3"	7 @ 6'-3"
	C	8 @ 6'-11"	7 @ 6'-3"	8 @ 6'-3"	7 @ 6'-3"
	D	8 @ 7'-5"	8 @ 6'-3"	8 @ 6'-3"	7 @ 6'-3"
7	E	8 @ 7'-11"	9 @ 6'-3"	8 @ 6'-3"	7 @ 6'-3"



DESIGN DATA

WIND PRESSURE = 75 M.P.H.
WIND COMPONENTS - NORMAL = 1.0 TRANSVERSE = 0.0
ICE LOAD = 3 P.S.F.
GROUP LOADS PERCENT OF ALLOWABLE STRESS
1. DEAD 100
2. DEAD & WIND 140
3. DEAD, ICE & 1/2 WIND 140 425 P.S.F. MIN.
ALLOWABLE SOIL PRESSURE = 1/2 T / SO. FT.
WIND LOAD WAS APPLIED TO THE AREA OF THE SIGN AND TO THE SUPPORTING MEMBERS.
ICE LOAD WAS APPLIED TO ONE FACE OF THE SIGN AND AROUND THE SURFACE OF THE SUPPORTING MEMBERS.

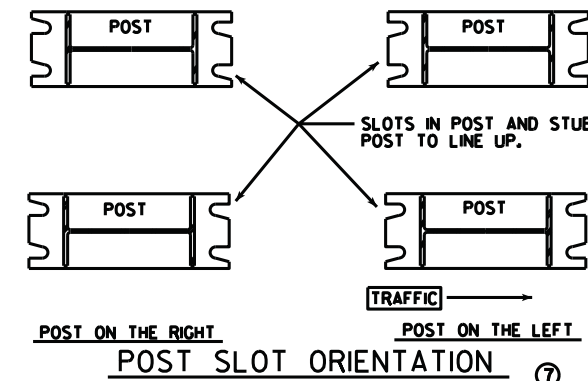
GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DESIGN CONFORMS WITH A.A.S.H.T.O. SPECIFICATIONS 1985.
ALL POSTS, POST STUBS & ATTACHMENTS SHALL BE A.S.T.M. A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH ASTM A123.
THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.
FURNISH STEEL BOLTS, NUTS, AND WASHERS IN ACCORDANCE WITH SECTION 635 OF THE STANDARD SPECIFICATIONS.

BOLTING PROCEDURE - BASE CONNECTION

1. ASSEMBLE SIGN POST TO STUB POST WITH BOLTS AND ONE OF THE FLAT WASHERS ON EACH BOLT BETW. PLATES.
2. SHIM AS REQ'D. TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS, THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. (SEE TABLE)
5. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NOTE:
TIGHTEN THE HIGH STRENGTH BOLTS TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.

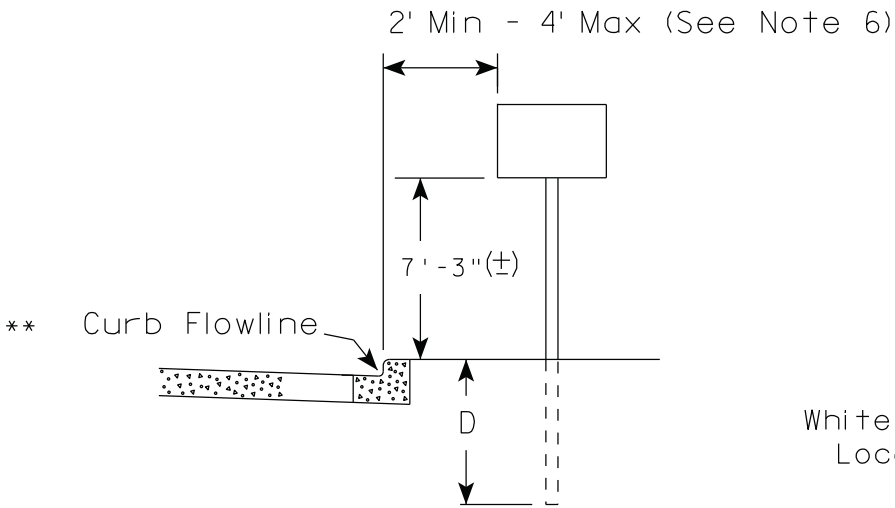


BASE CONNECTION DATA TABLE															FOUNDATION DATA				②
L	X	TYPE	DIMENSION POST SIZE	BOLT SIZE & TORQUE	A	B	C	D	E	T ₁	T ₄	W ₁	R	S	STUB LENGTH	STUB PROJECTION	SHAFT DIAMETER	SHAFT LENGTH	K
3 ¾	④	A	W10"x12.0 #/FT.	¾" ♦ @ 75"-FT.	5/4"	1'-0 ¾"	¾"	3 ½"	¾"	1"	¾"	¾"	¾"	2 ⅞"	3'-6"	3"	2'-0 ♦	5'-0"	76.0"
4 ¾	④	B	W12"x16.0 #/FT.	½" ♦ @ 85"-FT.	5/2"	1'-4 ¼"	1"	3 ½"	1"	1 ¼"	¼"	¾"	¾"	3"	5'-6"	3"	2'-0 ♦	7'-0"	146.5"
5		C	W12"x19.0 #/FT.	⅝" ♦ @ 85"-FT.	5/2"	1'-4 ¼"	1"	3 ½"	1"	1 ½"	¾"	¾"	¾"	3"	6'-0"	3"	2'-0 ♦	7'-6"	182.1"
5		D	W12"x22.0 #/FT.	⅝" ♦ @ 85"-FT.	5/2"	1'-4 ¼"	1"	3 ½"	1"	1 ½"	¾"	¾"	¾"	3"	6'-6"	3"	2'-0 ♦	8'-0"	210.5"
5	③	E	W12"x26.0 #/FT.	1" ♦ @ 90"-FT.	7"	1'-4 ¼"	1 ¼"	4"	1 ½"	1 ½"	¾"	¾"	¾"	3"	7'-0"	3"	2'-0 ♦	8'-6"	293.0"

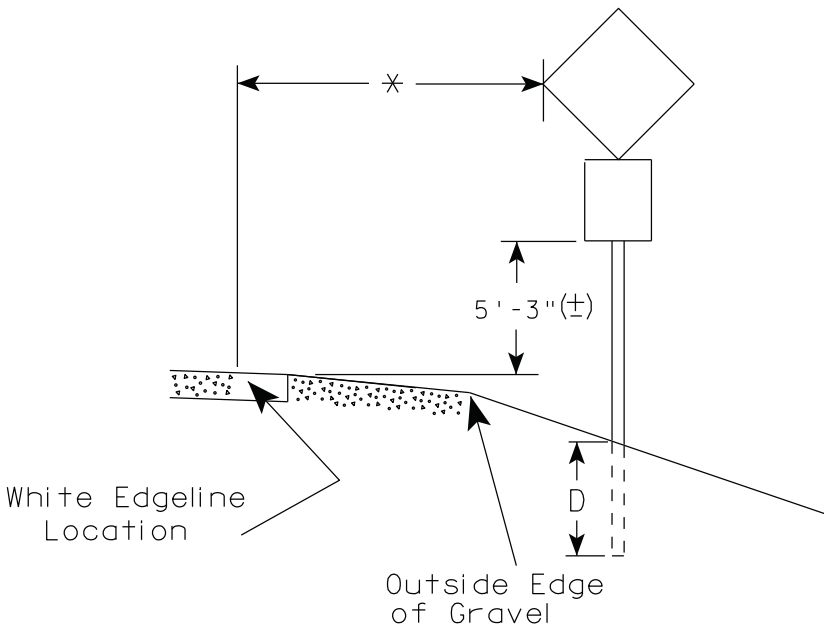
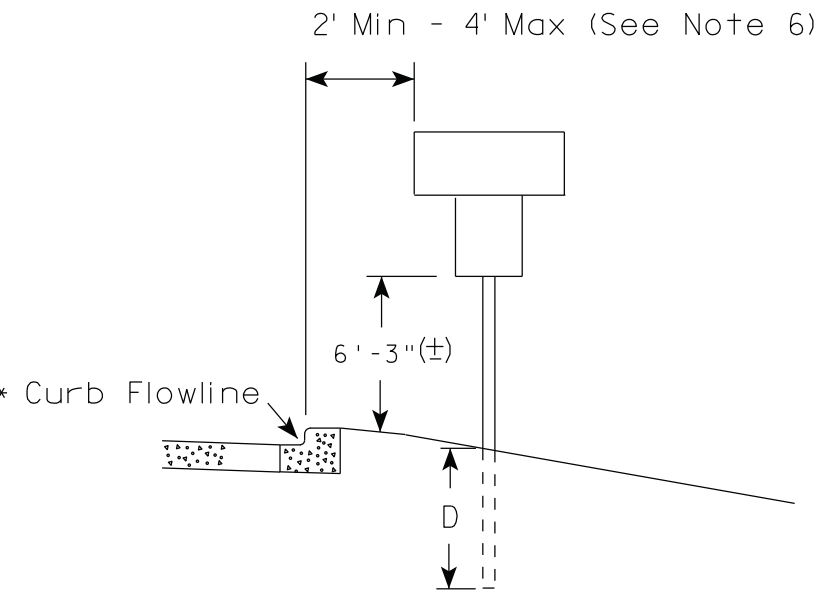
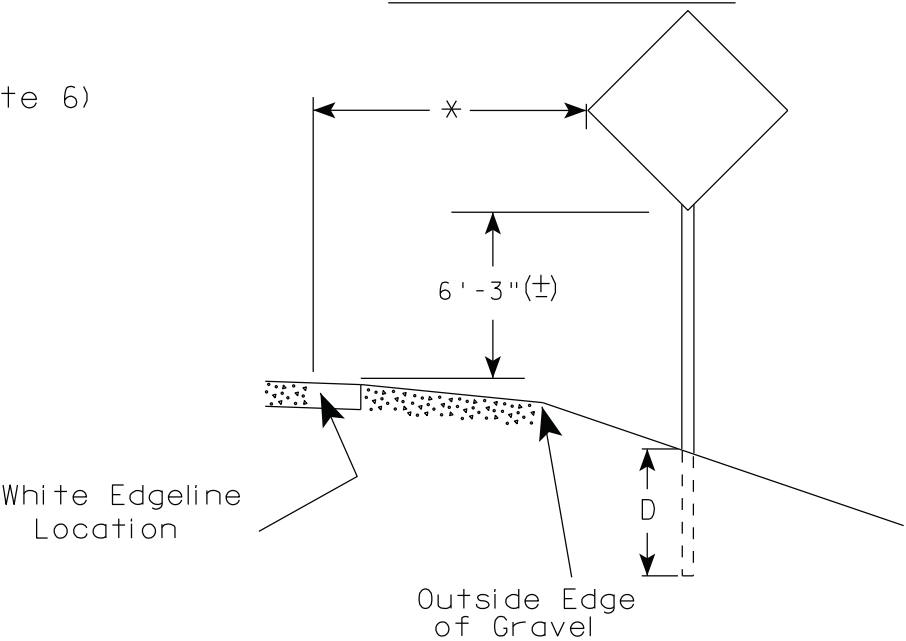
STRUCTURAL CARBON STEEL PAY WTS. (1POST) = K + (POST LENGTH X POST WT.)
"K" INCLUDES STUB, BASE PLATES, STIFFS., BOLTS, AND WASHERS.

WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> State Traffic Engineer
DATE 11/12/15	PLATE NO. A3-1.16
1-21-14	LUBRICATION OF BASE BOLTS
4-26-11	REMOVE NON-GALVANIZED
10-30-96	NOT GALVANIZED/GALVANIZED
10-30-92	QUANT., A588 EXCEPT., ADD SLOT VIEW
8-24-87	BASE CONN. WELD
10-13-81	BASE CONN. WELD & FUSE & WASHERS
10-19-79	POST A & B, A572 GR. 50, & K
11-28-78	"K" 4-23-79 TYPE "E"
5-4-78	T ₁ , T ₂ & W ₁
NO.	DATE
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS	
TYPE A, B, C, D, & E	
CONST. SPEC. 2011	DRAWN BY JPH
FTG. & SIGN SUPPORT DETAILS GROUND MOUNT BREAK-AWAY SIGNS	
SHEET	

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

* * The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

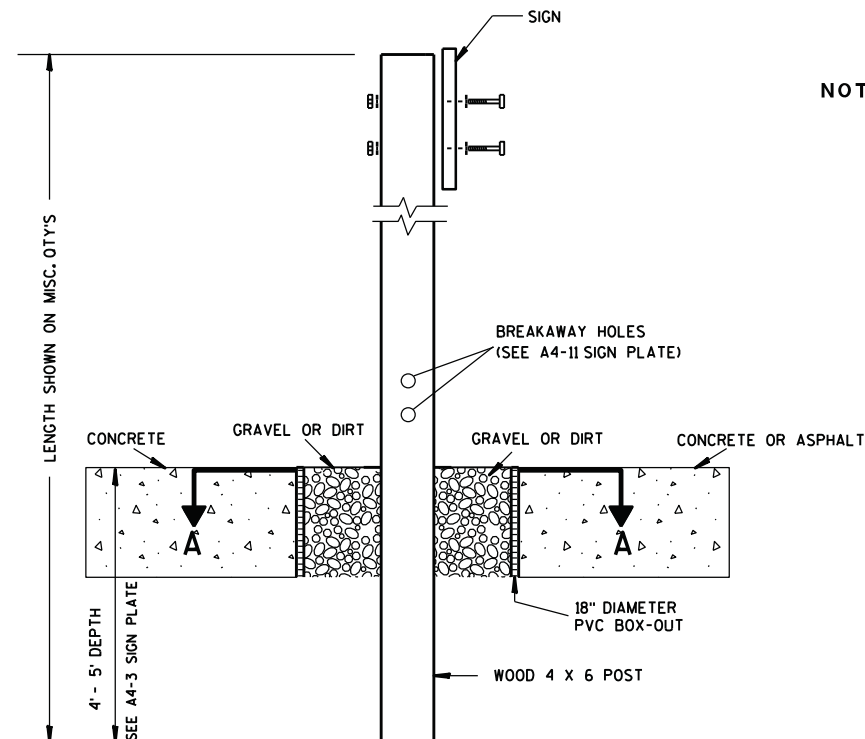
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

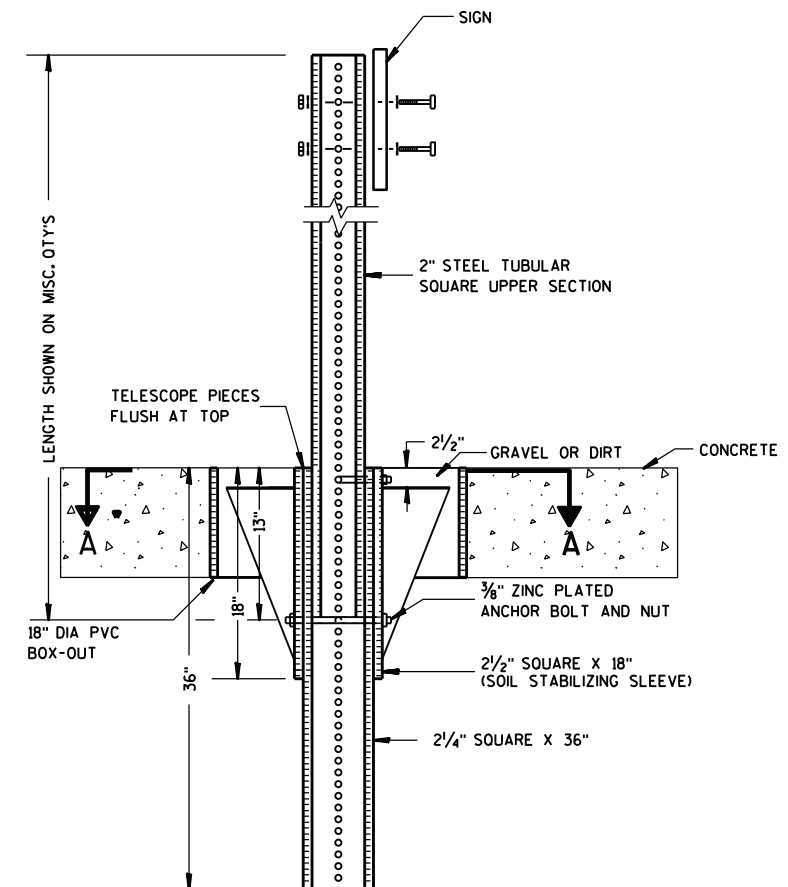
DATE 7/23/15 PLATE NO. A4-3.20



ELEVATION VIEW

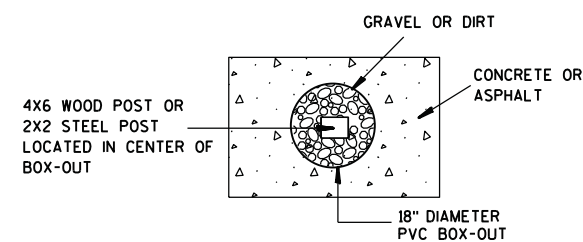
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES:**
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
 2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
 3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

**SIGN POST
BOX-OUTS
A4-3B**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:

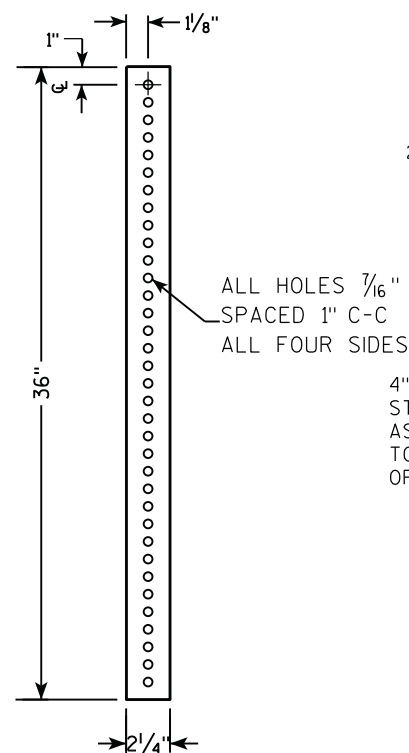
HWY:

COUNTY:

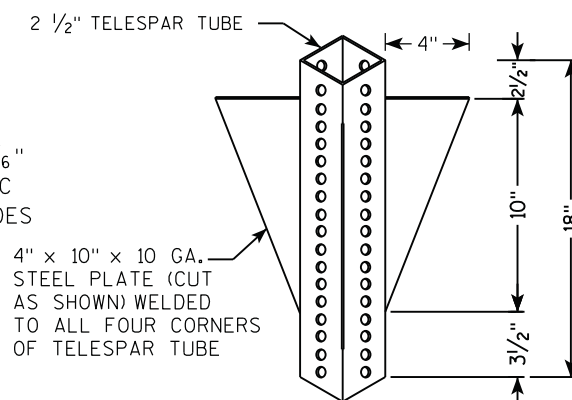
SHEET NO:

E

**2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**



TECHNICAL DRAWING OF A VERTICAL SIGNPOST ASSEMBLY.

Labels and Dimensions:

- 18" DIA SCHEDULE 40 PVC BOX-OUT**: The base container for the assembly.
- 36"**: Total height of the PVC box-out.
- 18"**: Height of the gravel/dirt section at the base.
- 13"**: Height of the soil stabilizing sleeve section.
- 2 1/2" GRAVEL OR DIRT**: The base layer within the box-out.
- 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)**: The sleeve supporting the upper section.
- 2 1/4" SQUARE X 36"**: The main vertical support structure.
- 2" STEEL TUBULAR SQUARE UPPER SECTION**: The top section of the main support.
- ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES**: Specification for the holes in the steel tubular section.
- 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT**: Hardware securing the sleeve to the main support.
- 3/8" ZINC PLATED ANCHOR BOLT AND NUT**: Hardware securing the sleeve to the box-out.
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL**: Reference to a sign plate for hardware specifications.
- SIGN**: The sign plate mounted at the top.
- TELESCOPE PIECES FLUSH AT TOP**: Note indicating the top of the sleeve and main support are flush.

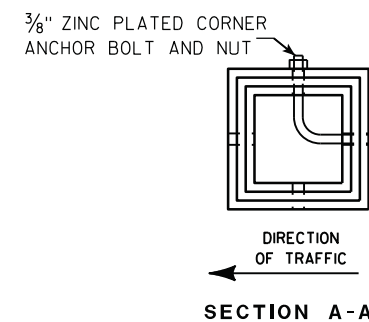
TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY:

Side View (Left):

- Overall height dimension: LENGTH SHOWN ON MISC. QTYS.
- Top section: 2" STEEL TUBULAR SQUARE UPPER SECTION.
- Telescope pieces: TELESCOPE PIECES FLUSH AT TOP.
- Vertical dimensions from ground line: 36", 18", 12".
- Ground level indicated by hatched area with downward arrow 'A'.

End View (Right):

- Top: SIGN.
- Fasteners: SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL.
- Upper section: 2" STEEL TUBULAR SQUARE UPPER SECTION.
- Hole specifications: ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES.
- Corner fasteners: $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT (1" from corner).
- Main fasteners: $\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT.
- Soil stabilizing sleeve: 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE).
- Post section: 2 1/4" SQUARE X 36".
- Ground level indicated by hatched area with downward arrow 'A'.



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

PROJECT NO:

HWY:

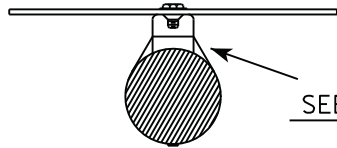
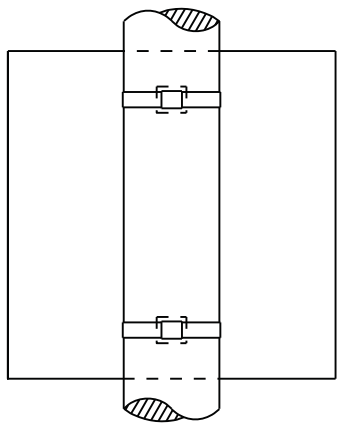
COUNTY:

SHEET NO:

T

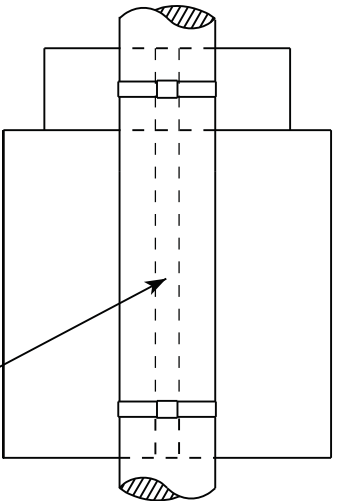
BANDING

SINGLE SIGN

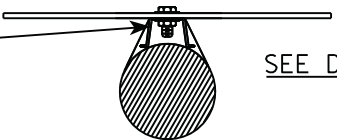


SEE DETAIL A

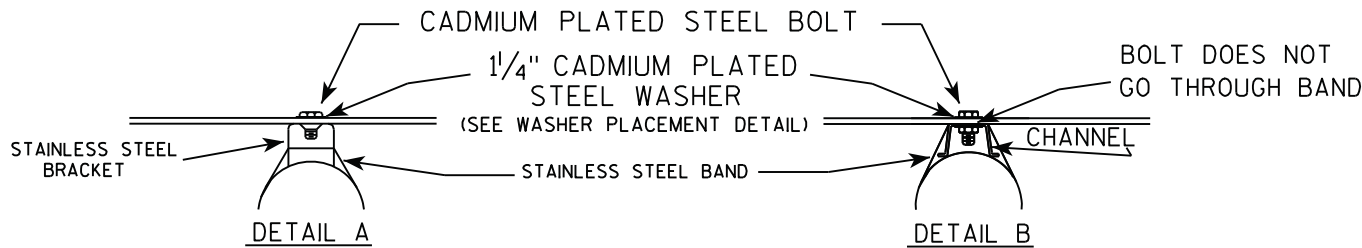
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



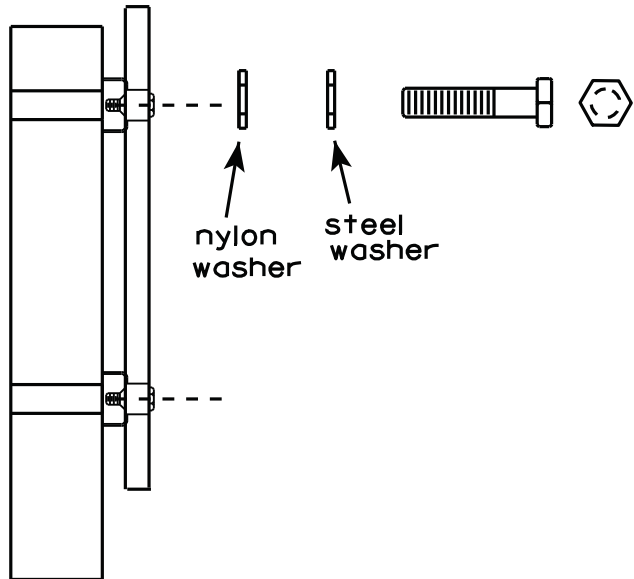
SEE DETAIL B



GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be $\frac{3}{4}$ " in width and 0.025" thickness.

WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

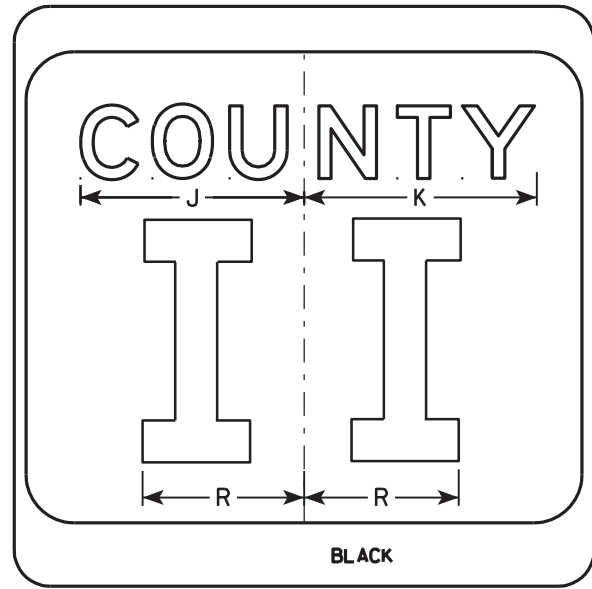
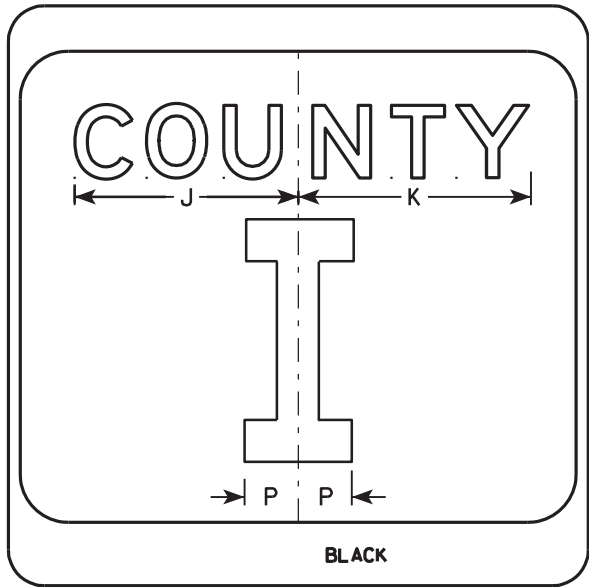
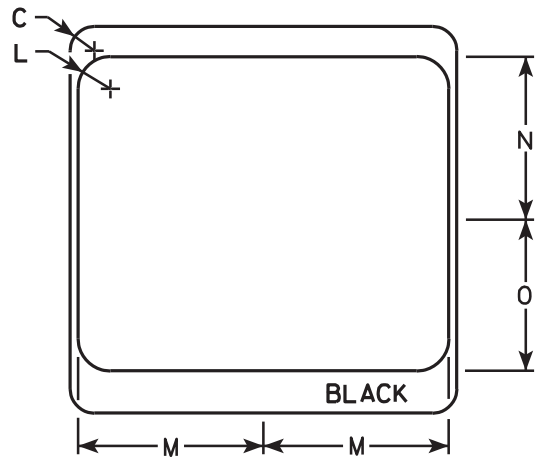
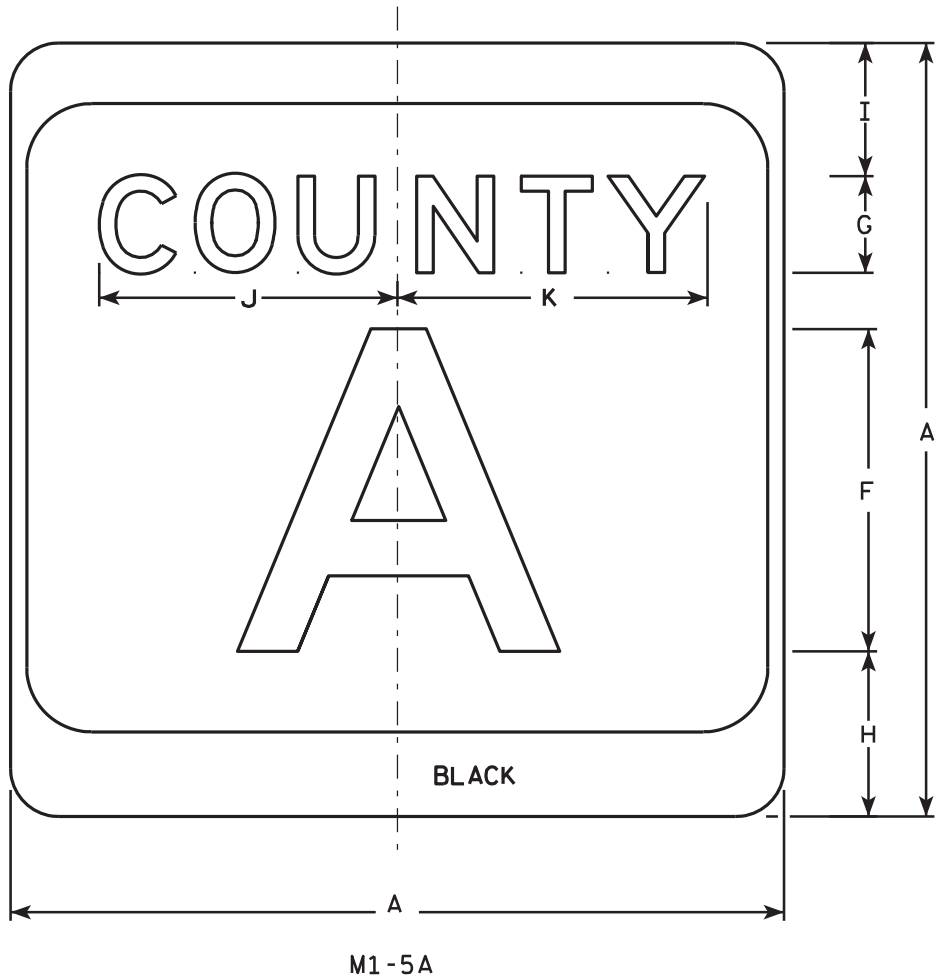
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

7



NOTES

- Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - White & Black - See Note 7
Message - Black
- Message Series - see Note 5
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- Message Series E for 1 letter.
Message Series D for 2 letters unless message is too big then Series C.
Message Series C for 3 letters unless message is too big then Series B.
- Substitute appropriate letters & optically center to achieve proper balance.
- Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

CTH MARKER

M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

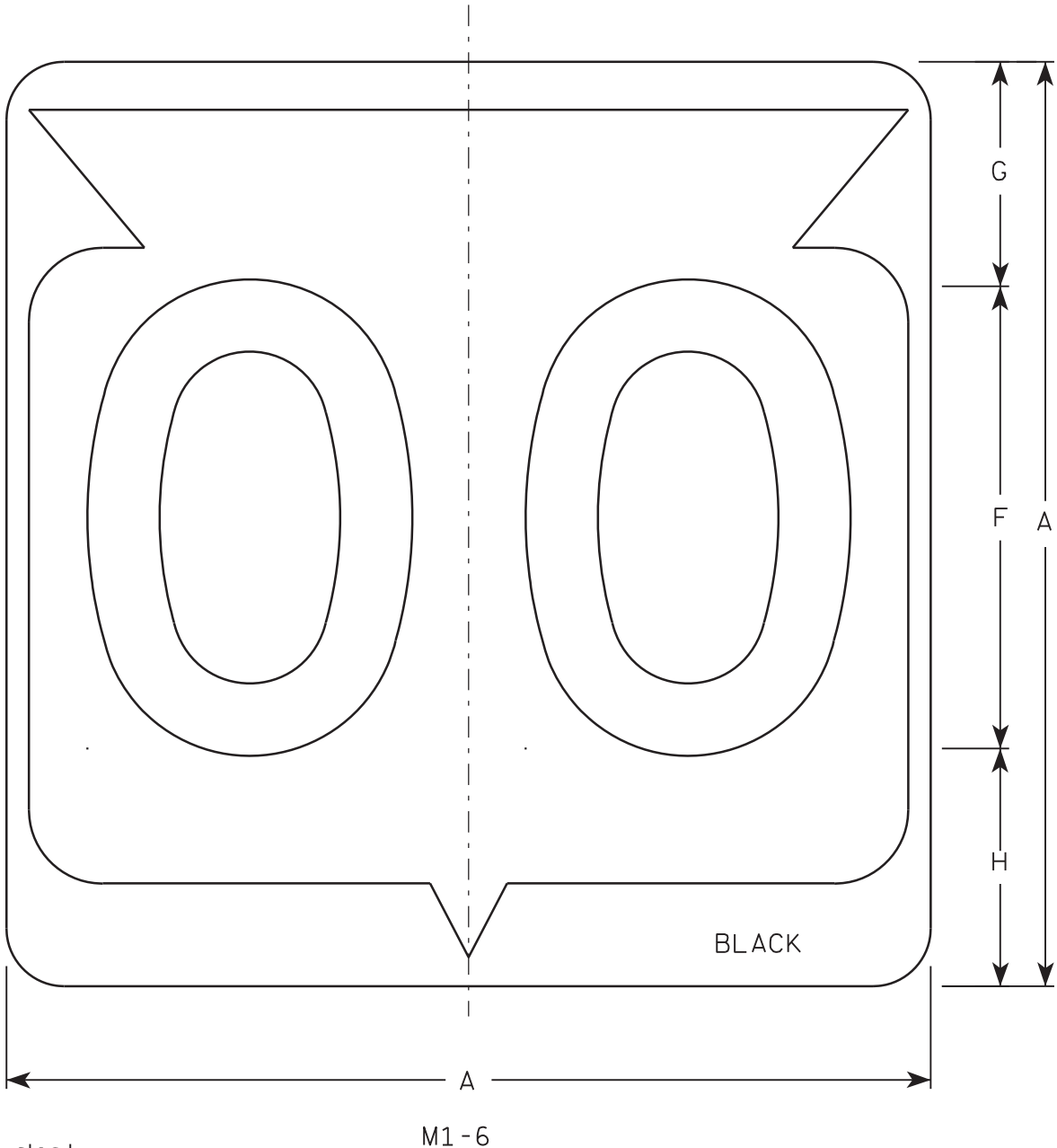
Matthew R. Rauch

For State Traffic Engineer

DATE 9/27/11

PLATE NO. M1-5A.8

7



Metric equivalent
for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

FILE NAME : C:\Users\Projects\tr_std\plate\M16.DGN

PLOT DATE : 13-OCT-2005 14:55

PLOT BY : DITJPH

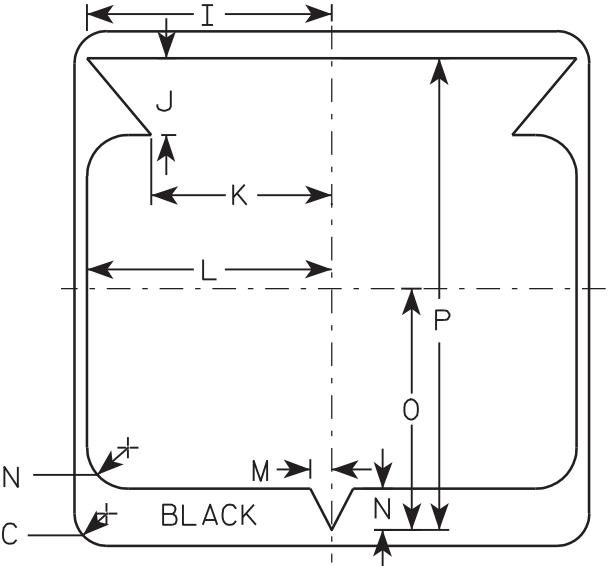
PLOT NAME :

PLOT SCALE : 6.715871:1.000000

WISDOT/CADDS SHEET 42

NOTES

1. Sign is Type II - See Note 6 - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 6
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base
material is plywood but borders shall be rounded
as shown. When base material is metal, the
corners and borders shall be rounded.
5. Substitute appropriate Series numerals and
adjust spacing as per plate A10-1.
6. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective



STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

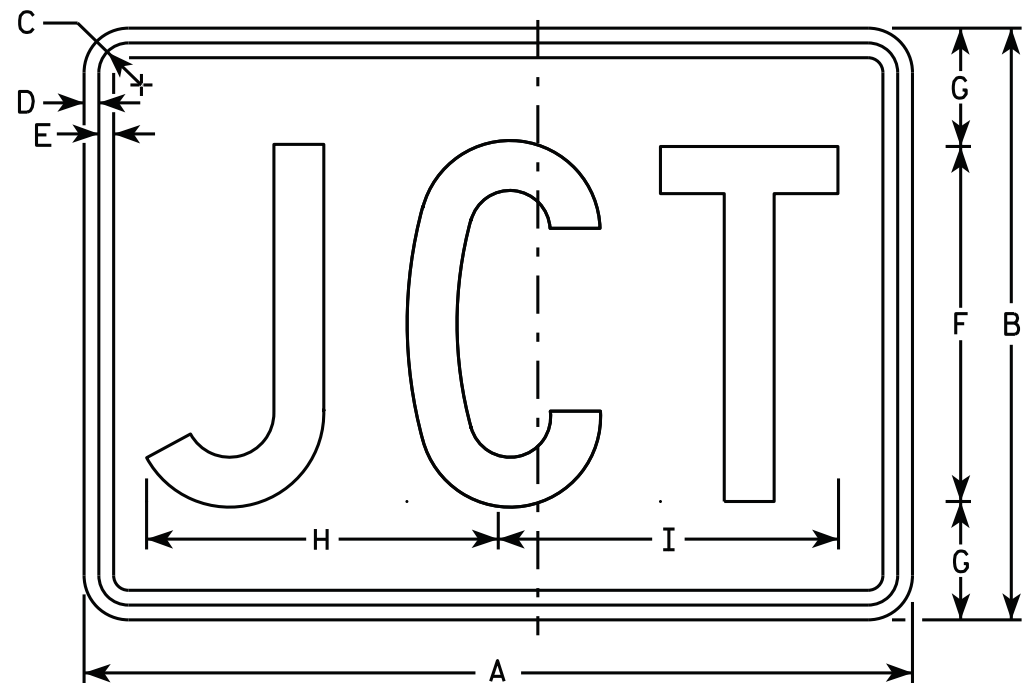
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

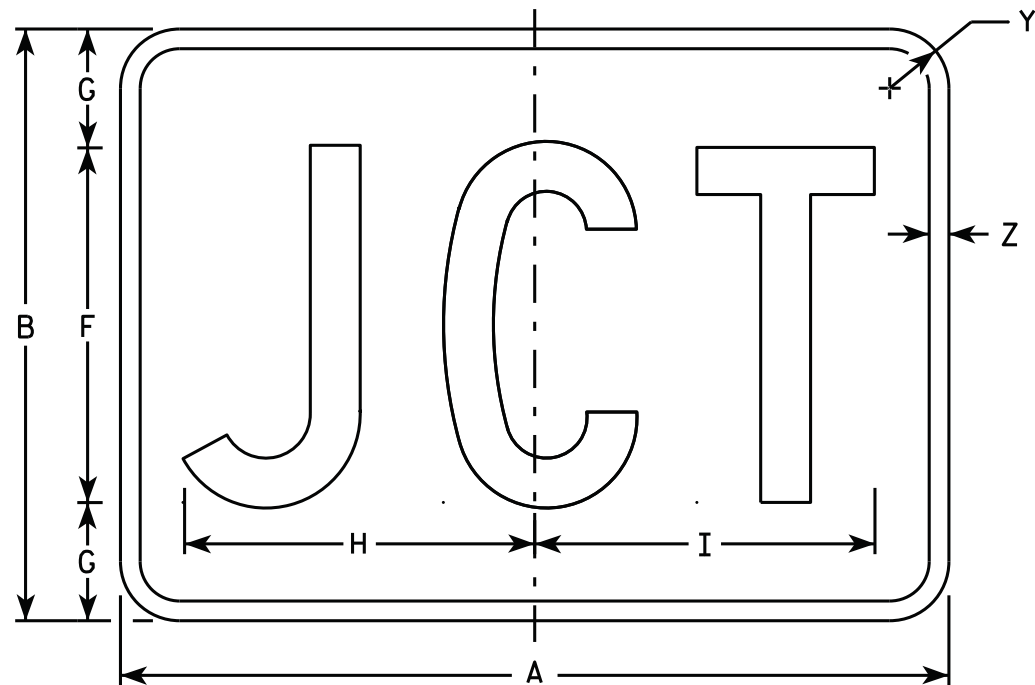
Chester J. Spang
for State Traffic Engineer

DATE 3/20/02

PLATE NO. M1-6.9



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

1. Sign is Type II - Type H
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M2-1 Background - White
Message - Black
MB2-1 Background - Blue
Message - White
MK2-1 Background - Green
Message - White
MM2-1 Background - White
Message - Green
MN2-1 Background - Brown
Message - White
MP2-1 Background - White
Message - Blue
MR2-1 Background - Brown
Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN

M2 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Raush*
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M2-1.12

NOTES

1. All Signs Type II - Type H
2. Color:

Background - See note 5

Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4

Background - White

Message - Black

MB3-1 thru MB3-4

Background - Blue

Message - White

MK3-1 thru MK3-4

Background - Green

Message - White

MM3-1 thru MM3-4

Background - White

Message - Green

MN3-1 thru MN3-4

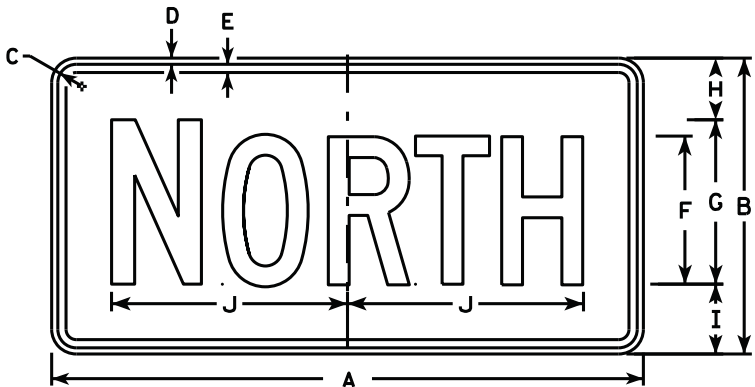
Background - Brown

Message - White

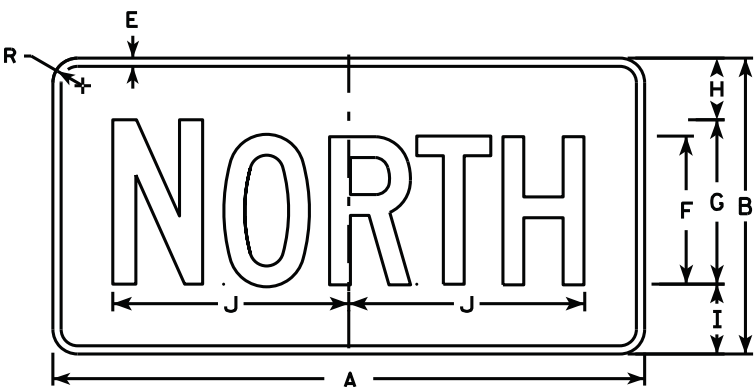
MP3-1 thru MP3-4

Background - White

Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.



M3-1
MM3-1
MP3-1



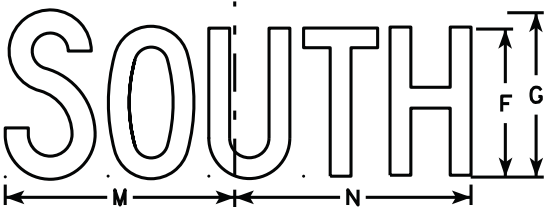
MB3-1
MK3-1
MN3-1



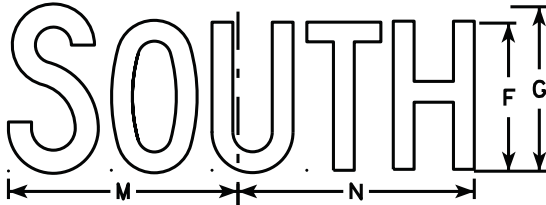
M3-2
MM3-2
MP3-2



MB3-2
MK3-2
MN3-2



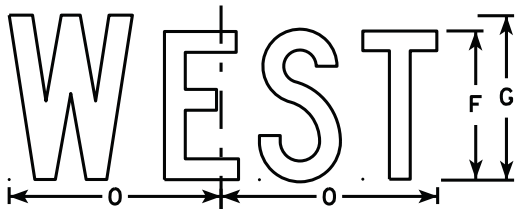
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

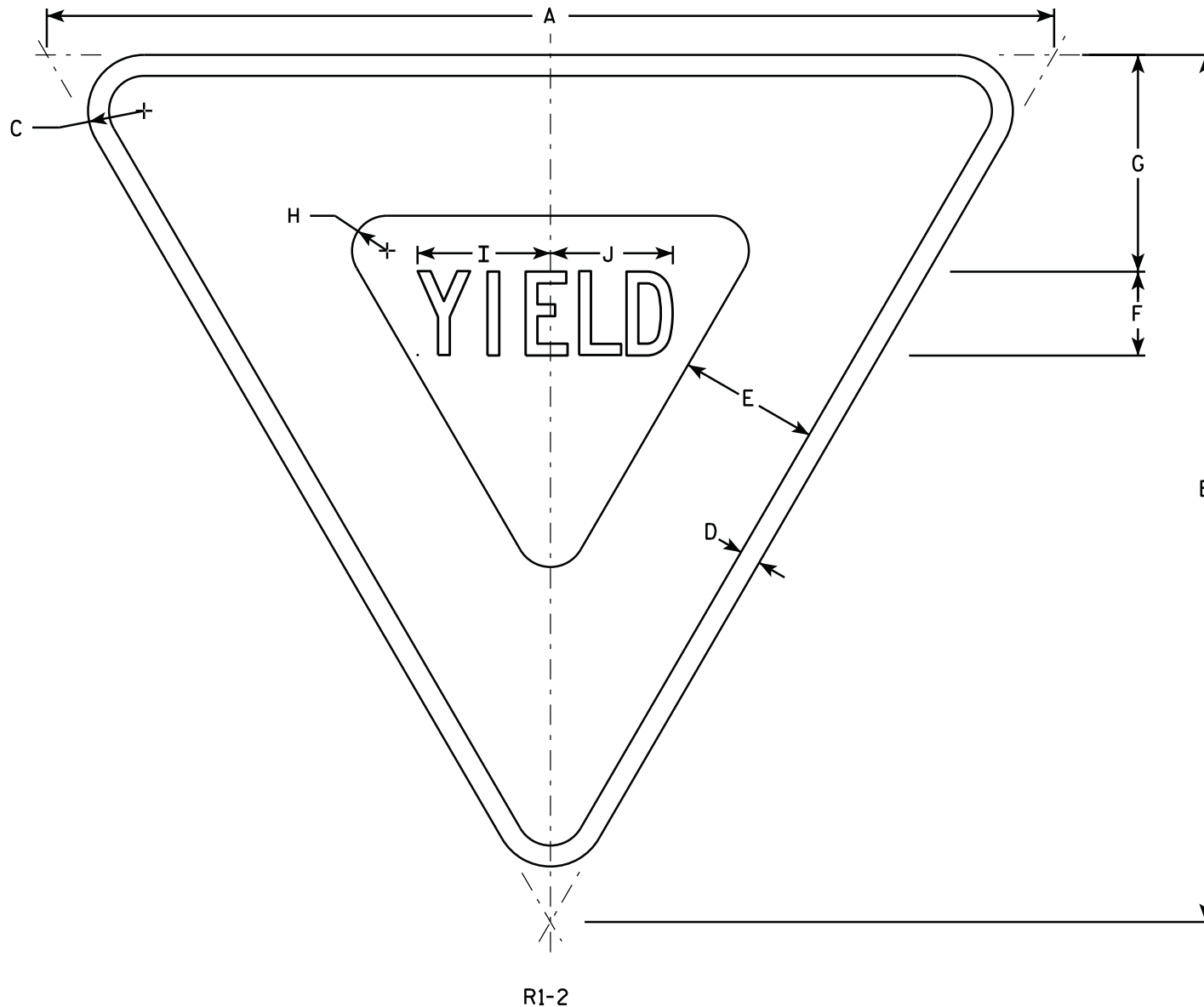
E

STANDARD SIGNS
M3-1 thru M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M3-1.14



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The border strip and word message are reflectorized red.

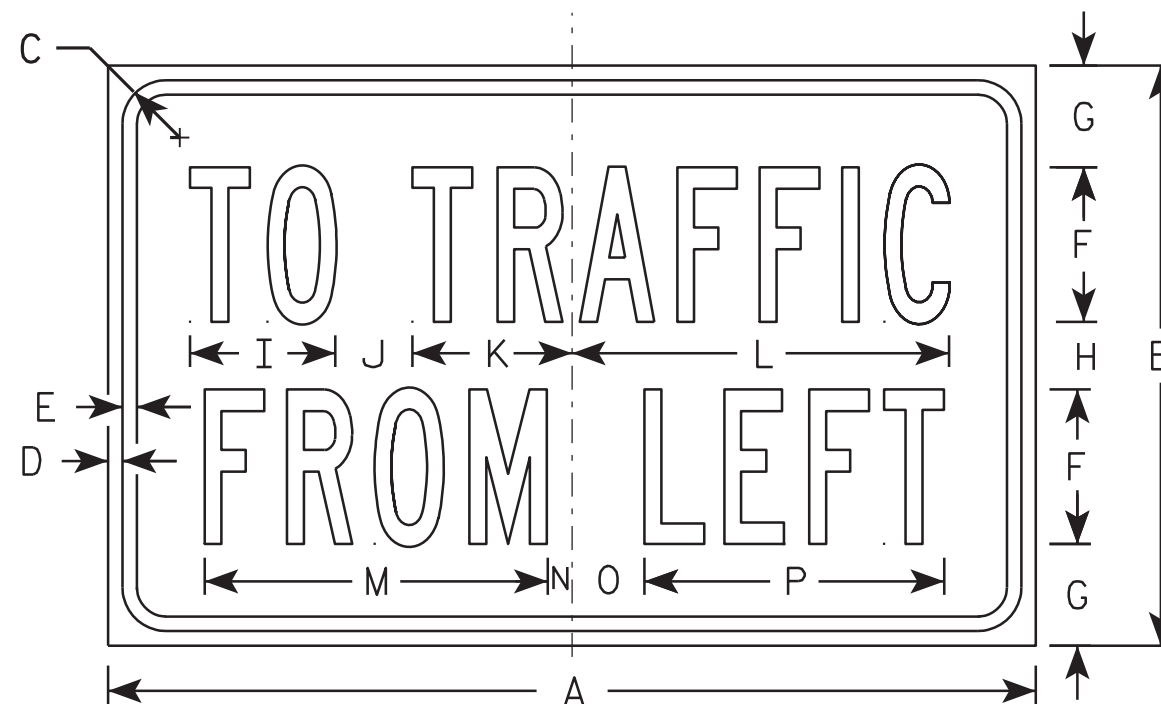
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/13/14 PLATE NO. R1-2.12



R1-54

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - B

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	15	1 1/8	3/8	3/8	4	2 5/8	1 3/4	3 3/4	2	4 1/8	9 3/4	8 7/8	5/8	1 7/8	7 3/4											2.5
2M	24	15	1 1/8	3/8	3/8	4	2 5/8	1 3/4	3 3/4	2	4 1/8	9 3/4	8 7/8	5/8	1 7/8	7 3/4											2.5
3																											
4																											
5																											

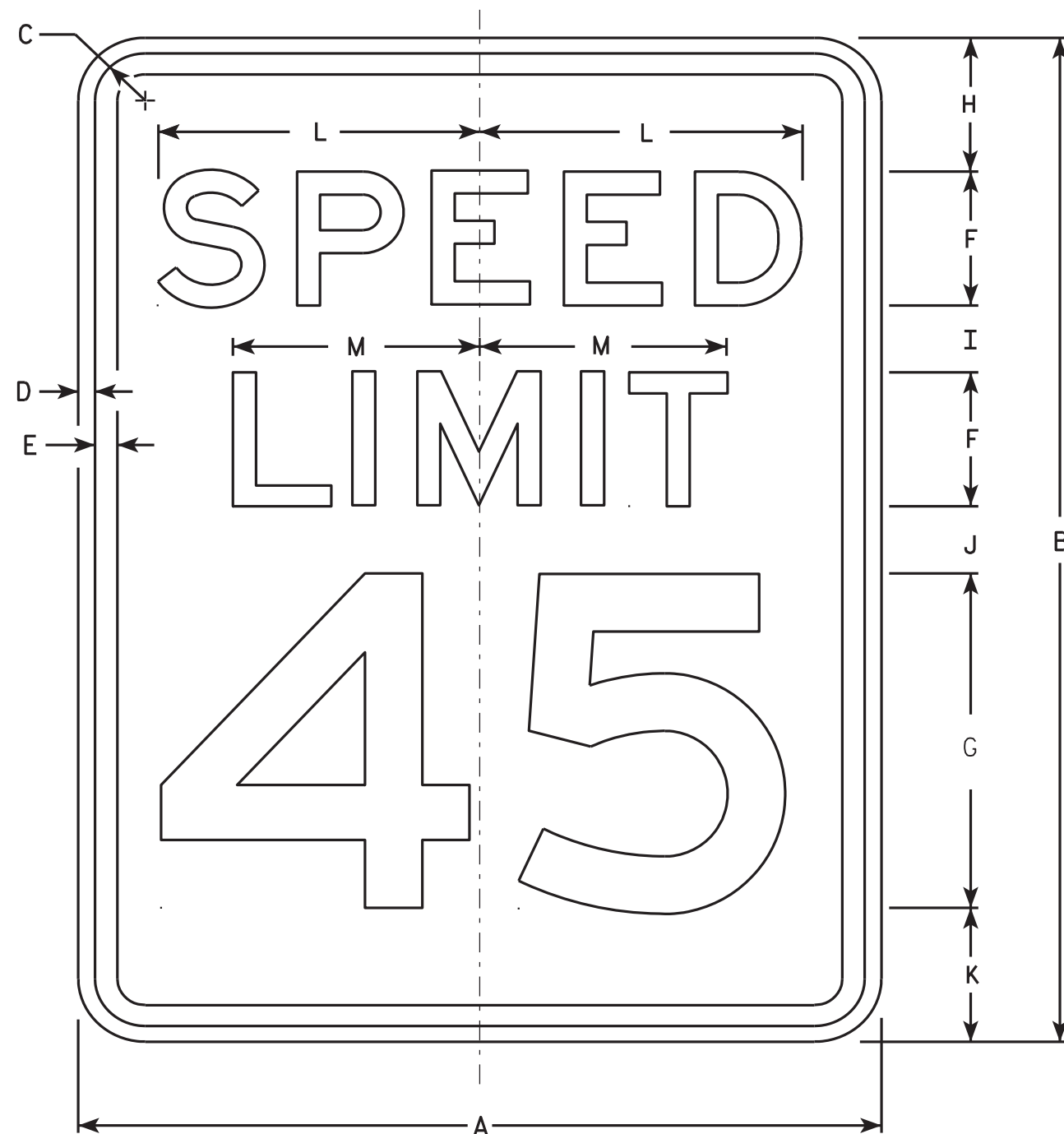
STANDARD SIGN
R1-54

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-54.2

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

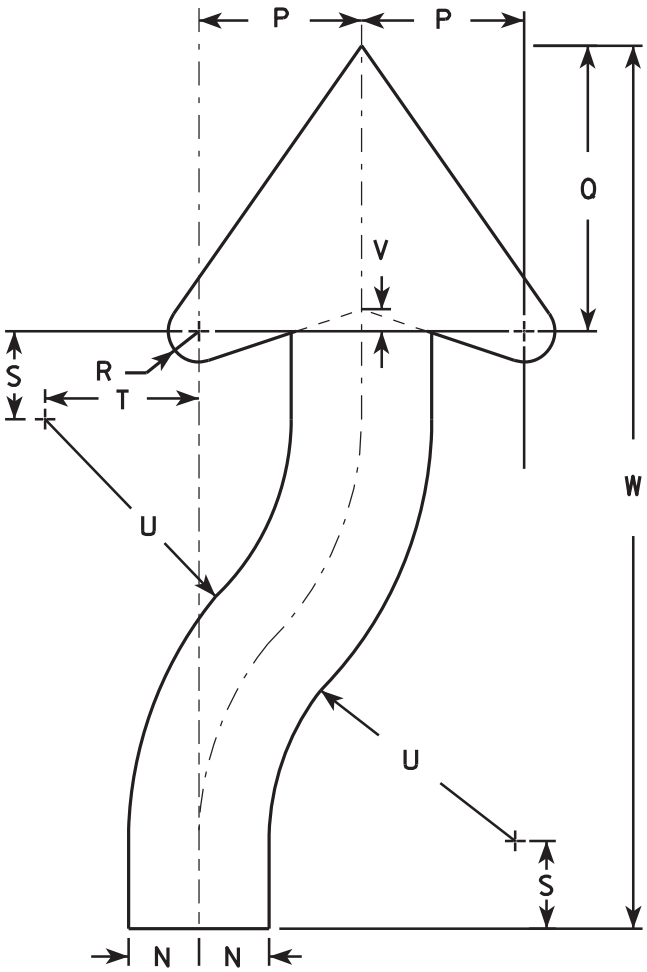
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 5/26/10 PLATE NO. R2-1.13

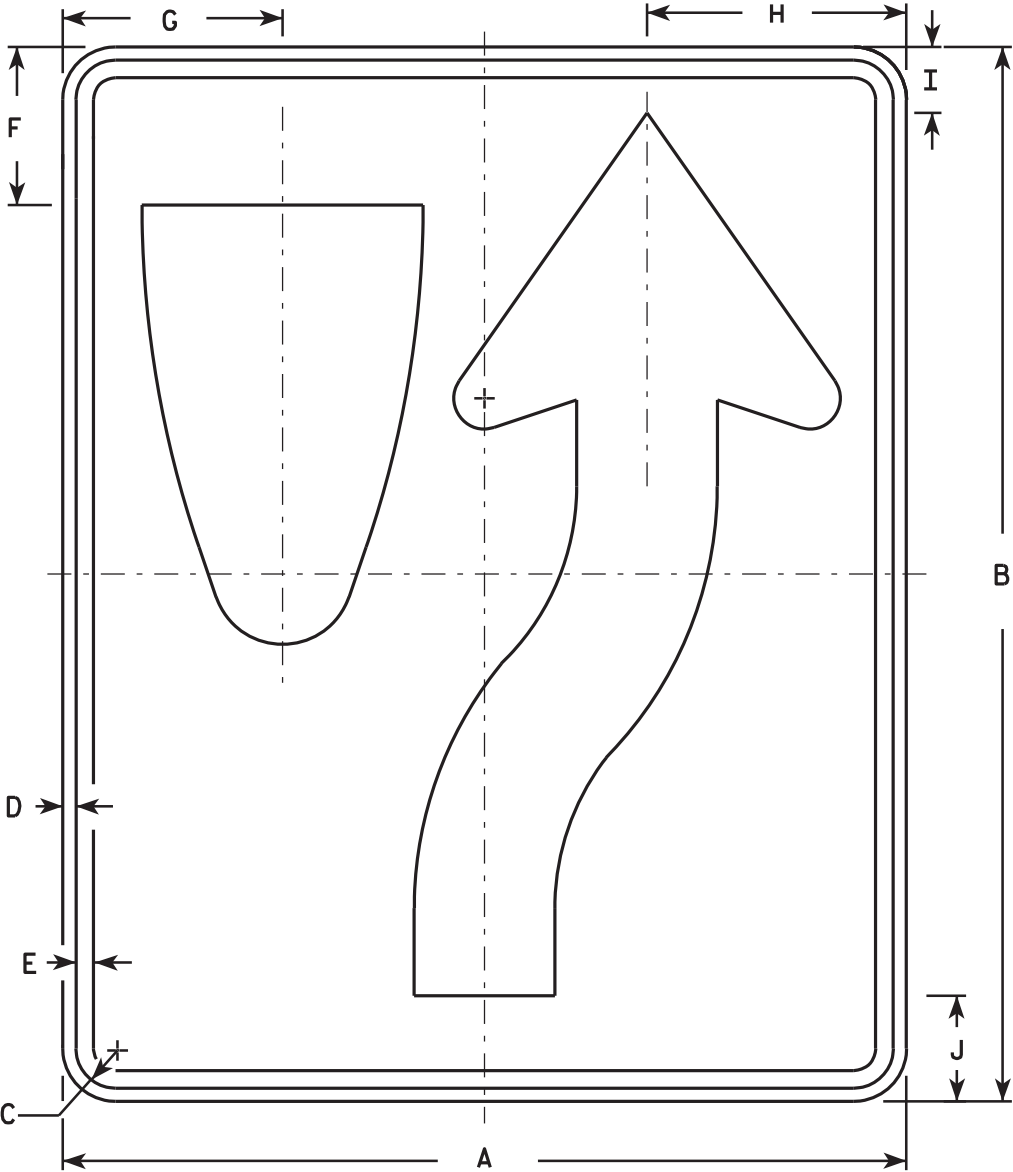
PROJECT NO: HWY: COUNTY: SHEET NO: E

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
Background - White
Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL



R4-7

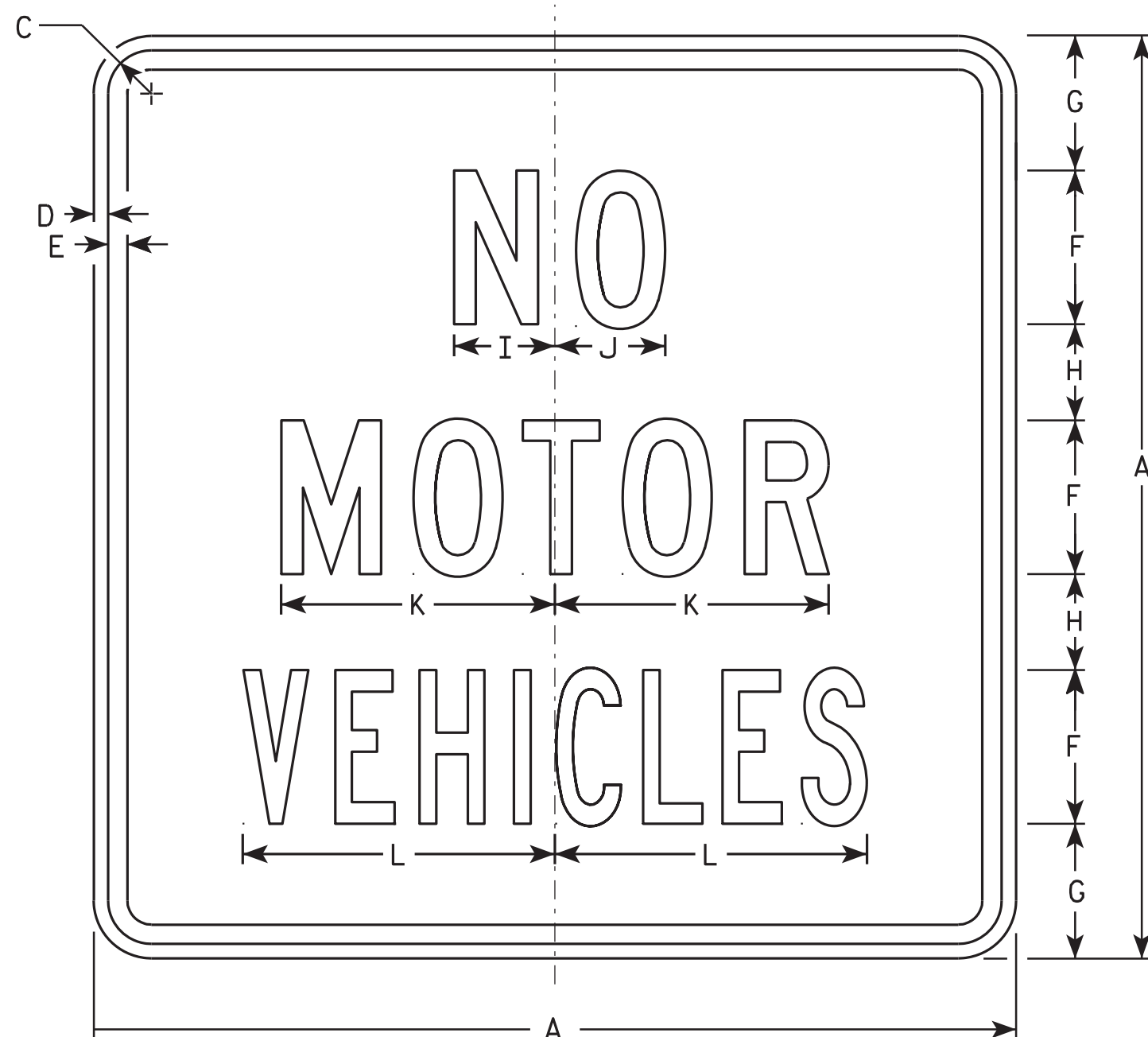
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8



R5-3

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - See Note 5.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 & 2 are Series C.
Line 3 is Series B.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2	4	3 1/2	2 1/2	2 5/8	2 7/8	7 1/8	8 1/8															4.0
2M	24		1 1/8	3/8	1/2	4	3 1/2	2 1/2	2 5/8	2 7/8	7 1/8	8 1/8															4.0
3																											
4																											
5																											

STANDARD SIGN R5-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-3.2

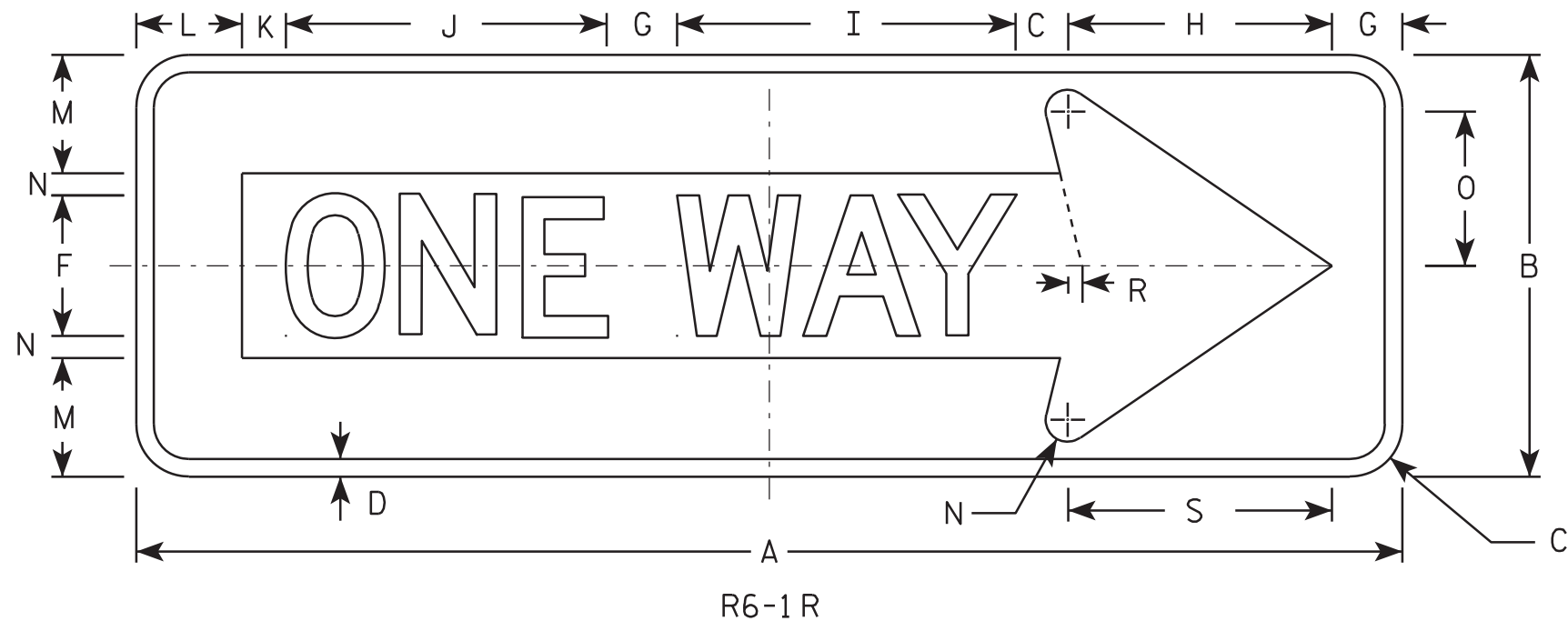
PROJECT NO:

HWY:

COUNTY:

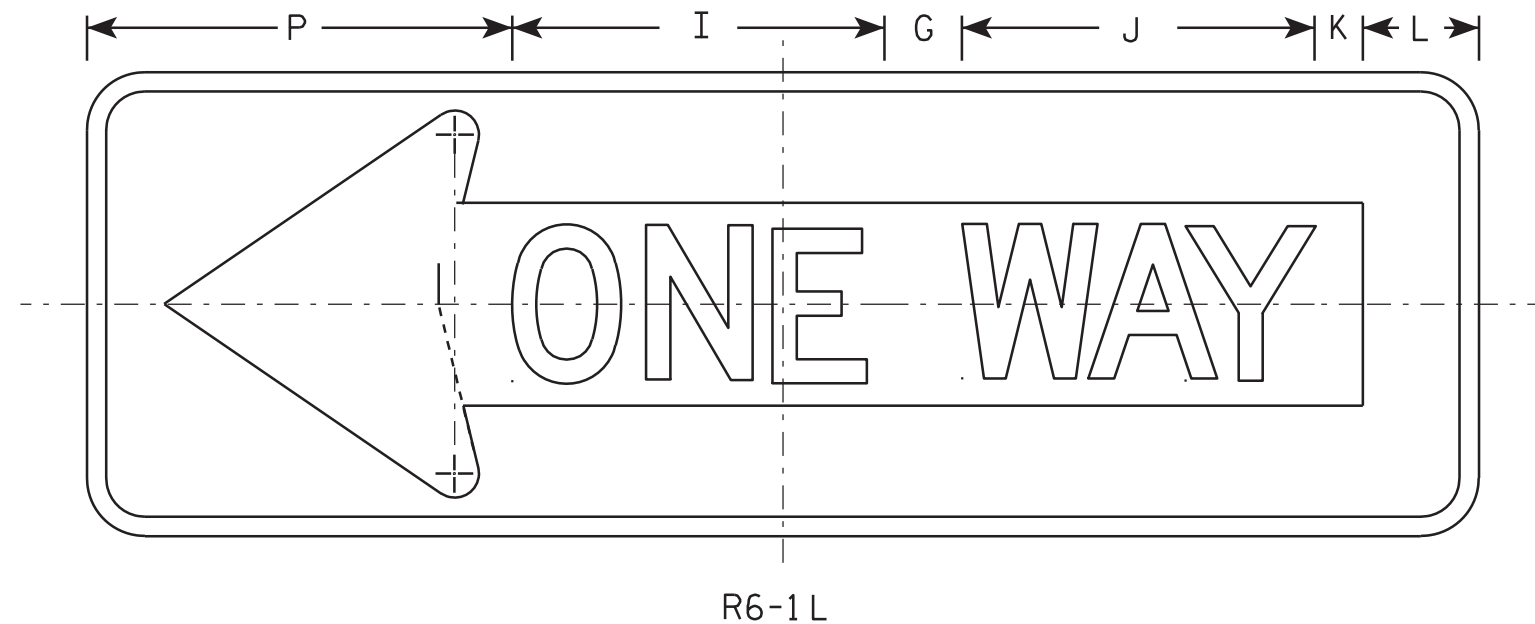
SHEET NO:

E



NOTES

- Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - BLACK
Message - BLACK LEGEND & WHITE ARROW & BORDER
- Message Series - D
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36	12	1 1/2	1/2		4	2	7 1/2	9 5/8	9 1/8	1 1/4	3	3 3/8	5/8	4 3/8	11		3/8	7 1/2								3.0
2M	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
3	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
4	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
5																											

STANDARD SIGN R6-1 L & R

WISCONSIN DEPT OF TRANSPORTATION

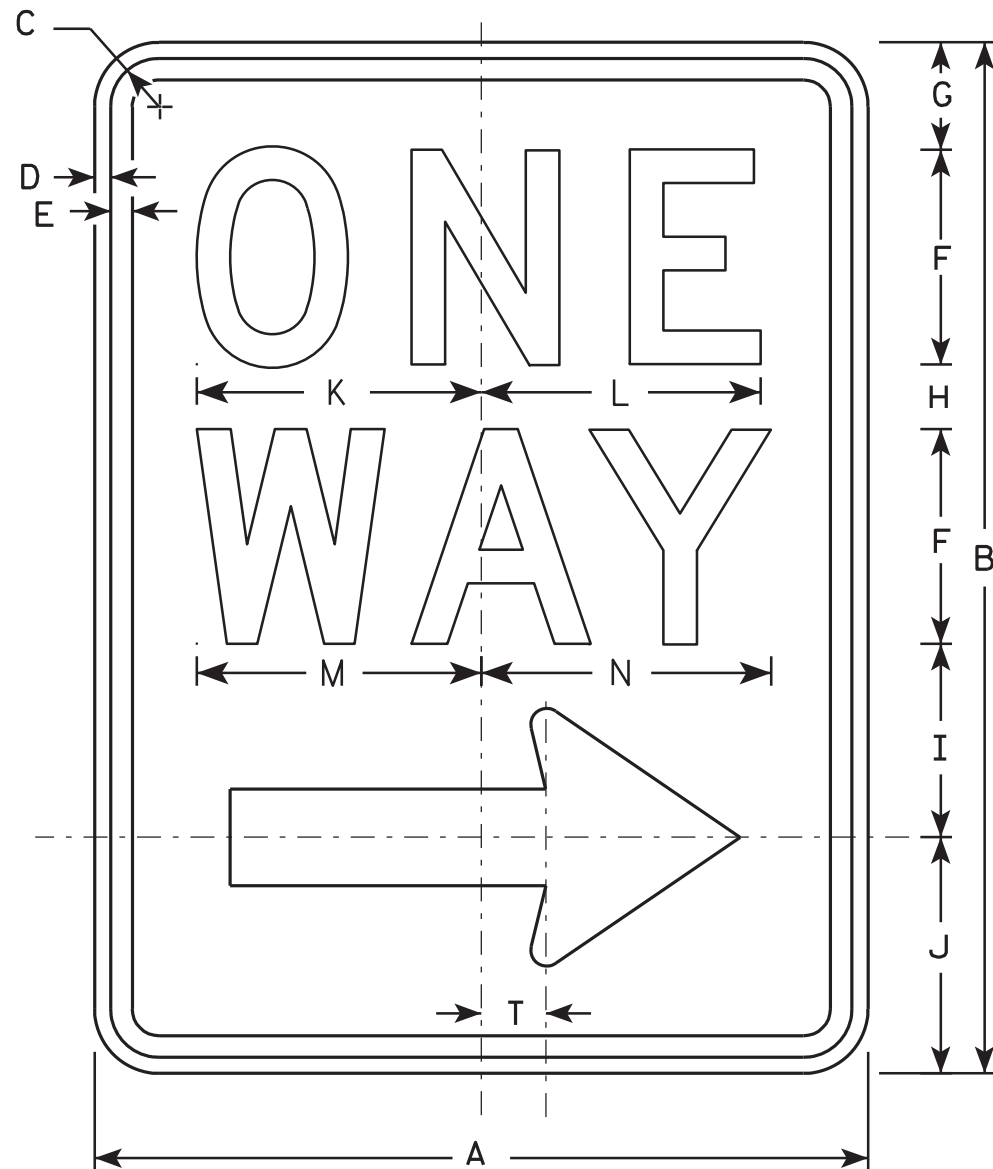
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R6-1.2

PROJECT NO:

SHEET NO:

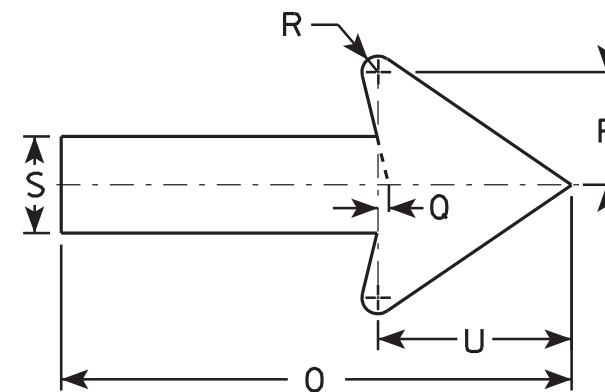
E



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN

R6-2 R&L

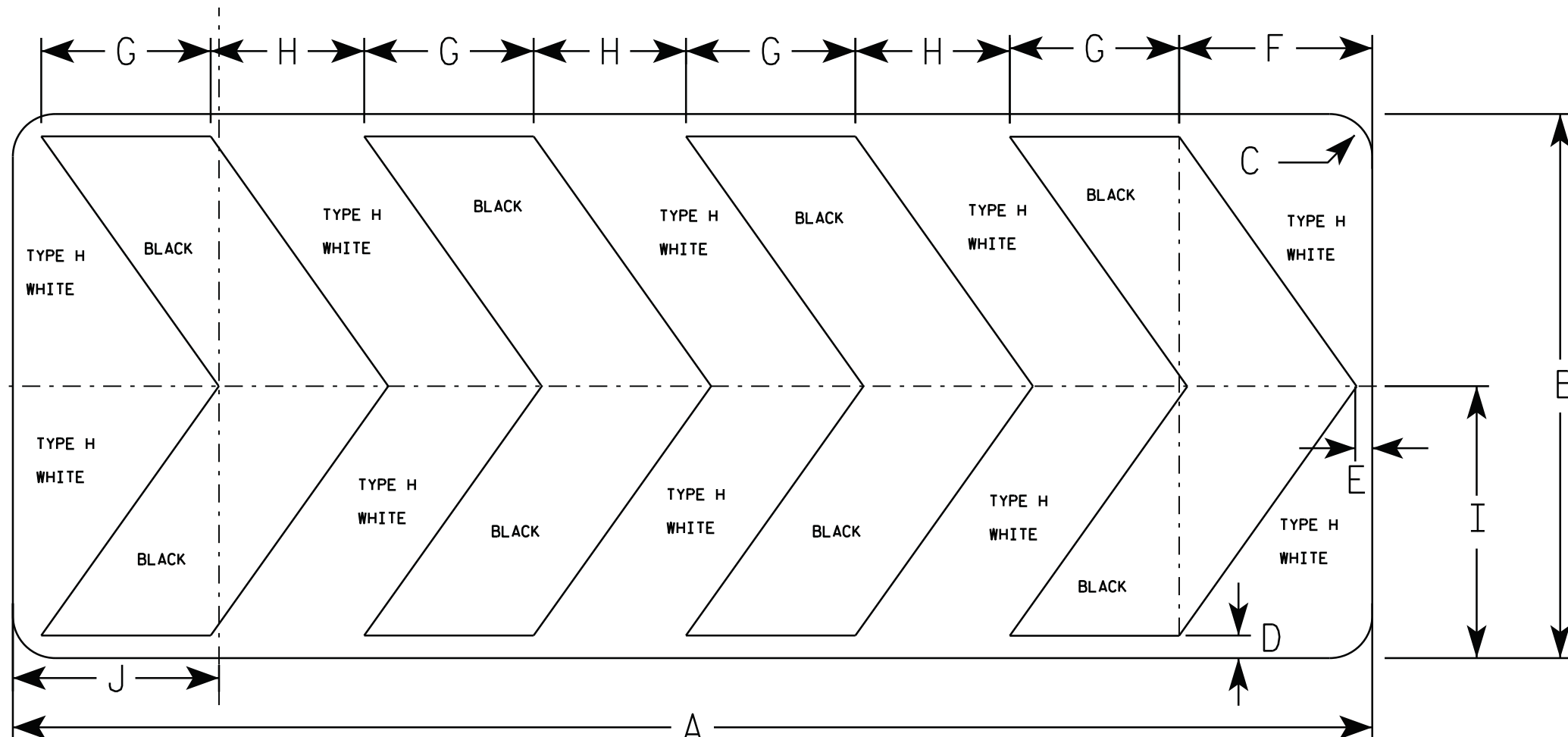
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - WHITE
Message - BLACK
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



R6-4B

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	24	1 7⁄8	1	3⁄4	8 1⁄2	7 1⁄2	6 3⁄4	12	9 1⁄8																	10.0
2M	60	24	1 7⁄8	1	3⁄4	8 1⁄2	7 1⁄2	6 3⁄4	12	9 1⁄8																	10.0
3																											
4																											
5																											

STANDARD SIGN R6-4B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/21/14 PLATE NO. R6-4.3

PROJECT NO:

SHEET NO:

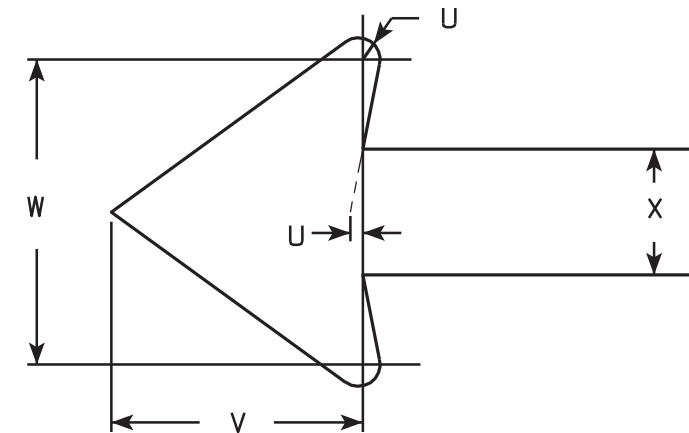
E



R7-52

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-52D (double arrow)
R7-52L (left arrow)
R7-52R (right arrow)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	1 1/2	7/8	7/8	2	2 1/2	2	2	4 7/8	4 7/8	5 1/8	5	3 1/8	3 7/8	1/8	1 1/2	1 3/4	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	6 3/8	6 1/4	3 7/8	5 7/8	1/4	2 1/4	2 5/8	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	7 5/8	7 5/8	4 3/4	7 3/4	1/4	3	3 1/2	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	7 5/8	7 5/8	4 3/4	7 3/4	1/4	3	3 1/2	1 1/2			5.0
4																											
5																											

STANDARD SIGN R7-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-52.6

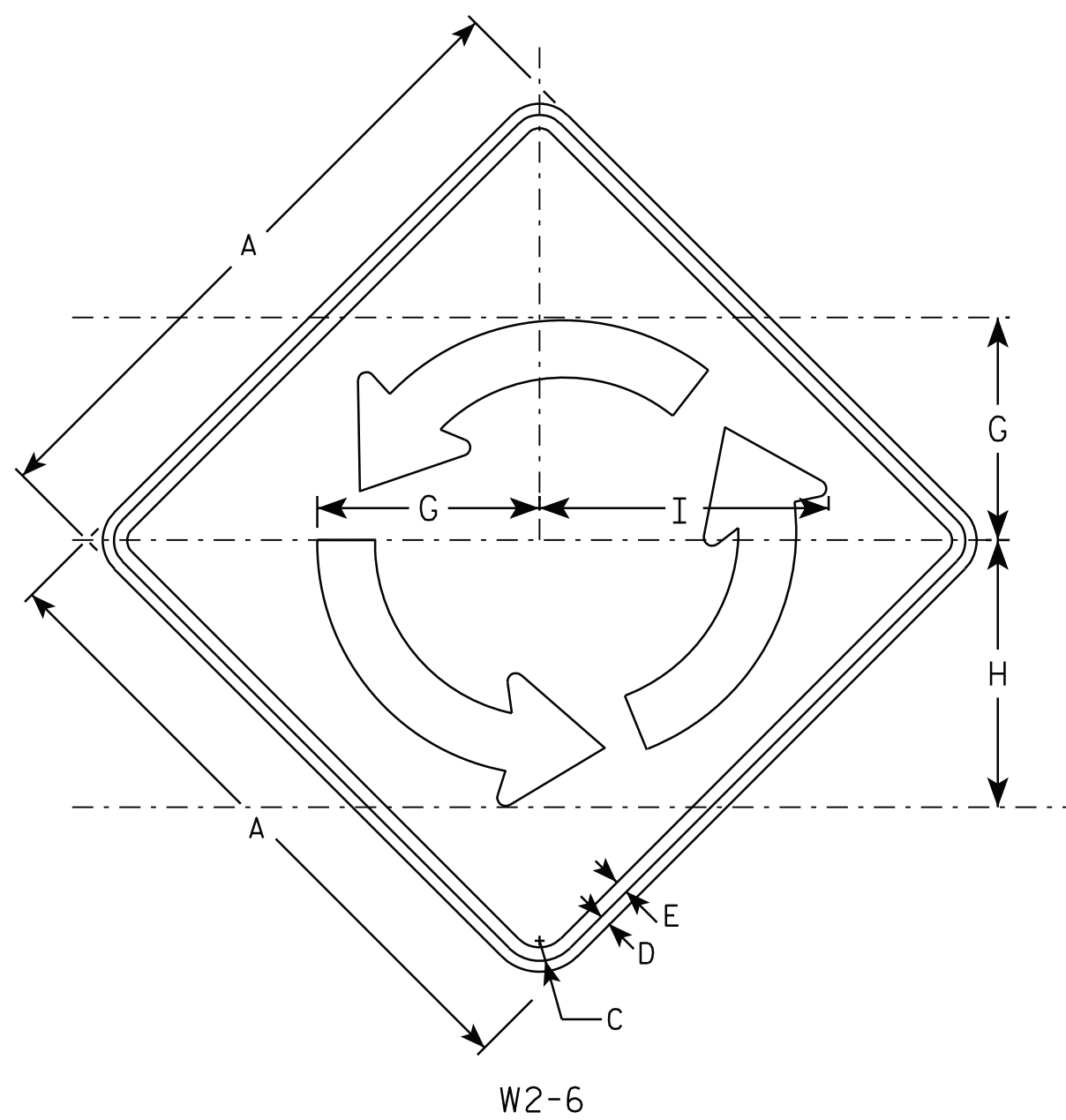
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

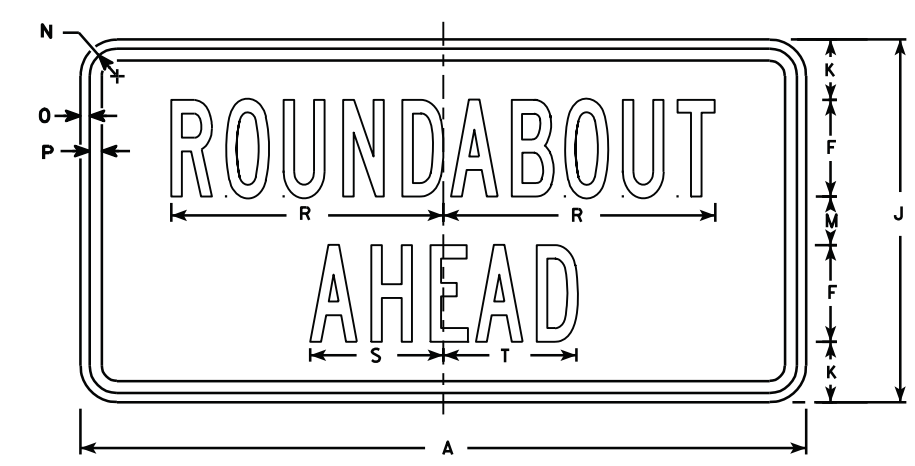
E



W2-6

NOTES

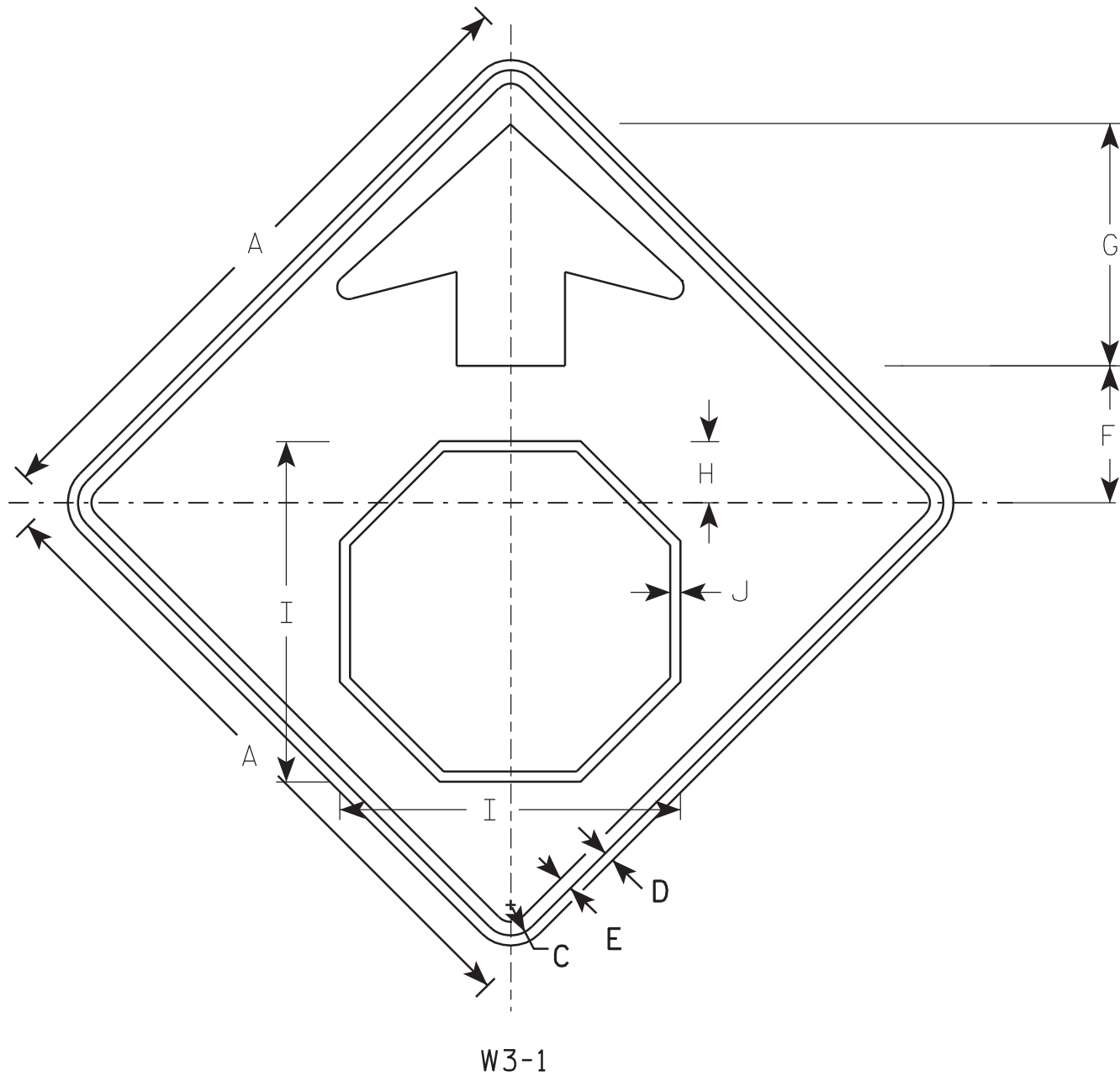
1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - YELLOW
Message - BLACK
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W2-6P

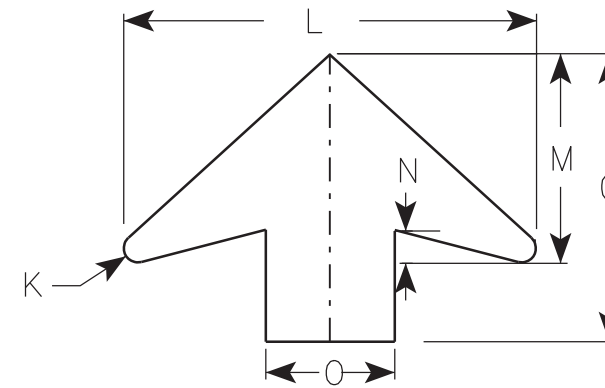
																								W2-6	W2-6P		
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Area sq. ft.	Area sq. ft.	
1																											
2S	30		1 3⁄8	½	5⁄8	4	10 3⁄8	12 ½	13 ½	15	2 ½		2	1 ⅛	3⁄8	½		11 ¼	5 ½	5 ½						6.25	3.12
2M	30		1 3⁄8	½	5⁄8	4	10 3⁄8	12 ½	13 ½	15	2 ½		2	1 ⅛	3⁄8	½		11 ¼	5 ½	5 ½						6.25	3.12
3	36		1 5⁄8	5⁄8	¾	5	12 ½	15	16 ¼	18	2 5⁄8		2 ¾	1 ⅛	3⁄8	½		14	7	6 ¾						9.00	4.50
4	48		2 ¼	¾	1	6	16 5⁄8	20	16 ¼	24	4 3⁄8		3 5⁄8	1 3⁄8	½	5⁄8		17	8 ¼	8 ¼						16.0	8.0
5																											

STANDARD SIGN W2-6	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 6/29/12	PLATE NO. W2-6.5



NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - YELLOW
Arrow & Border - BLACK
Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

PROJECT NO:

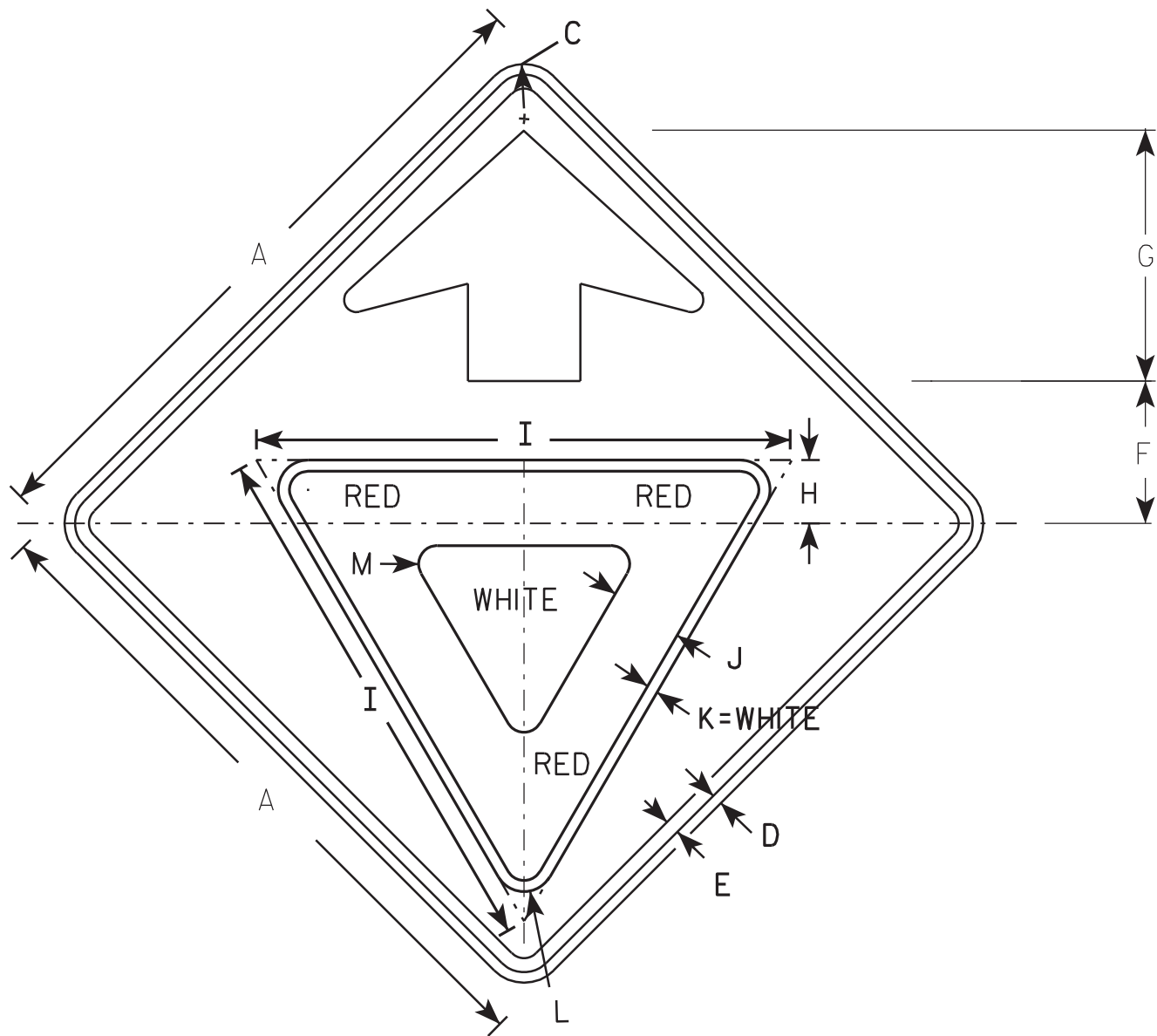
STANDARD SIGN
W3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/7/10 PLATE NO. W3-1.12

SHEET NO:

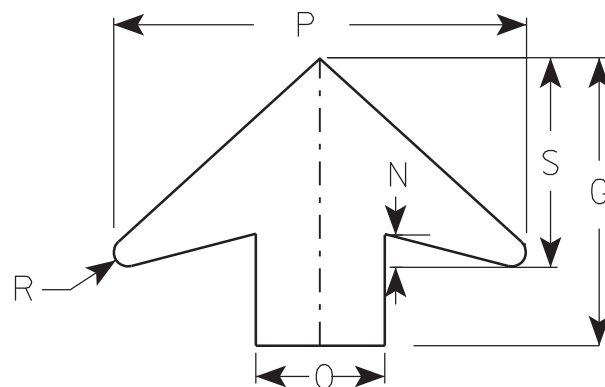
E



W3-2

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - YELLOW
Arrow & Border - BLACK
Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	3	25	3 3/8	1/2	1 3/8	7/8	1 1/4	5	16		1/2	8								6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

PROJECT NO:

STANDARD SIGN W3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

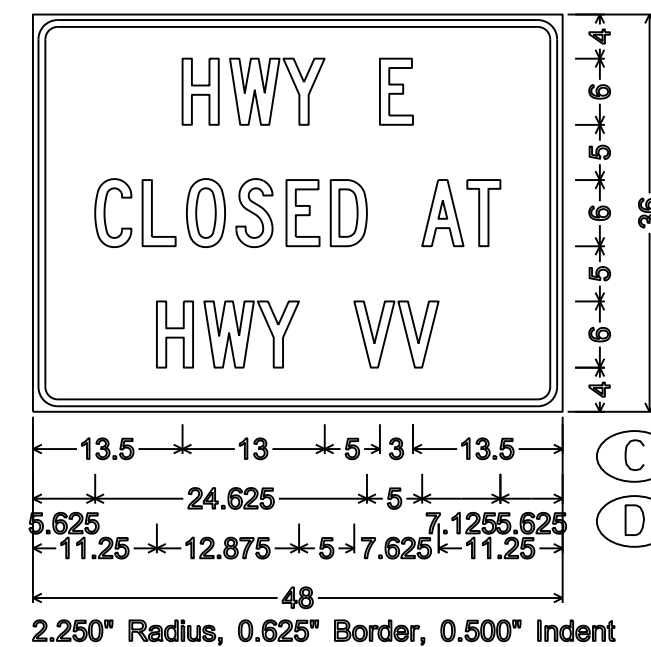
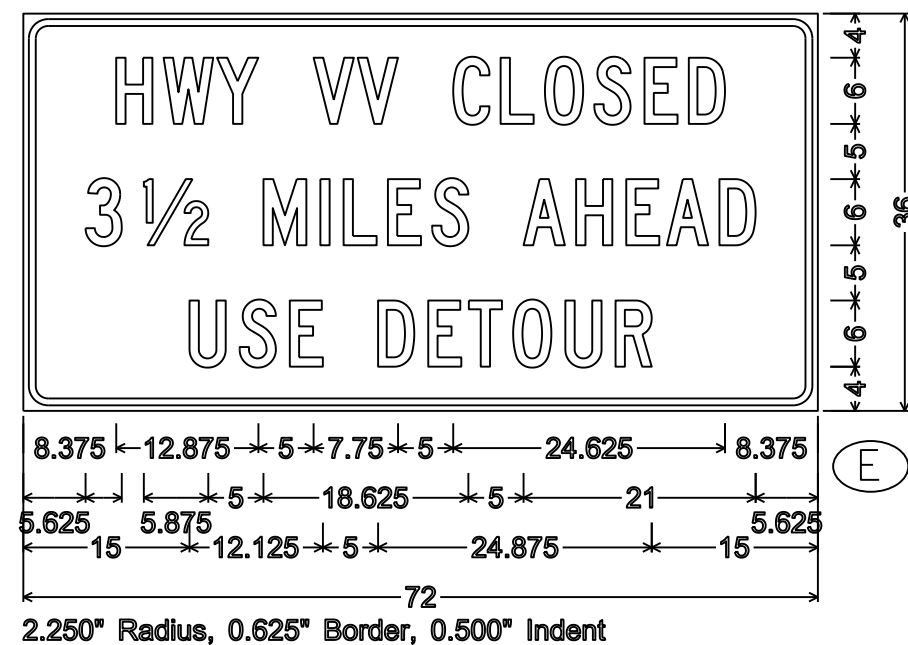
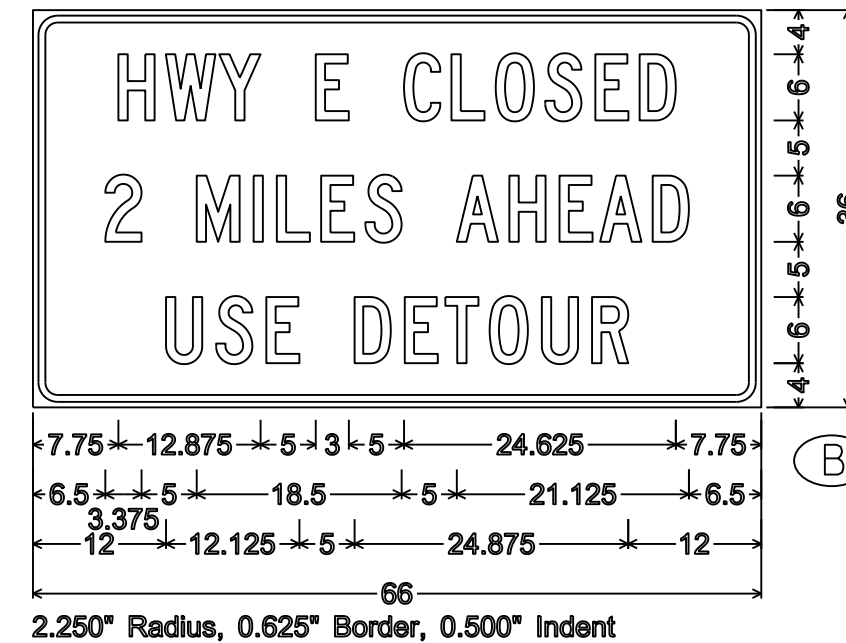
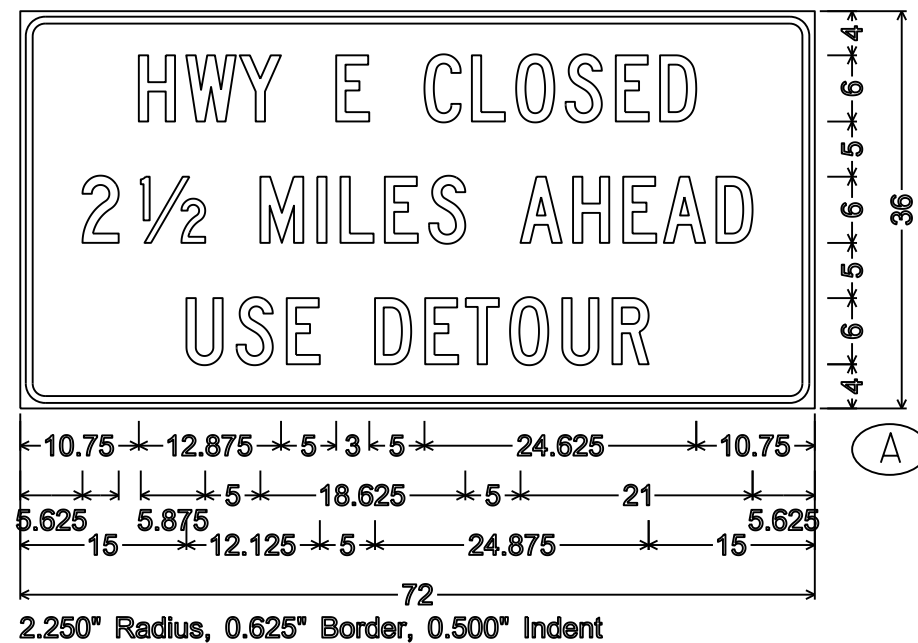
DATE 6/7/10 PLATE NO. W3-2..9

SHEET NO:

E

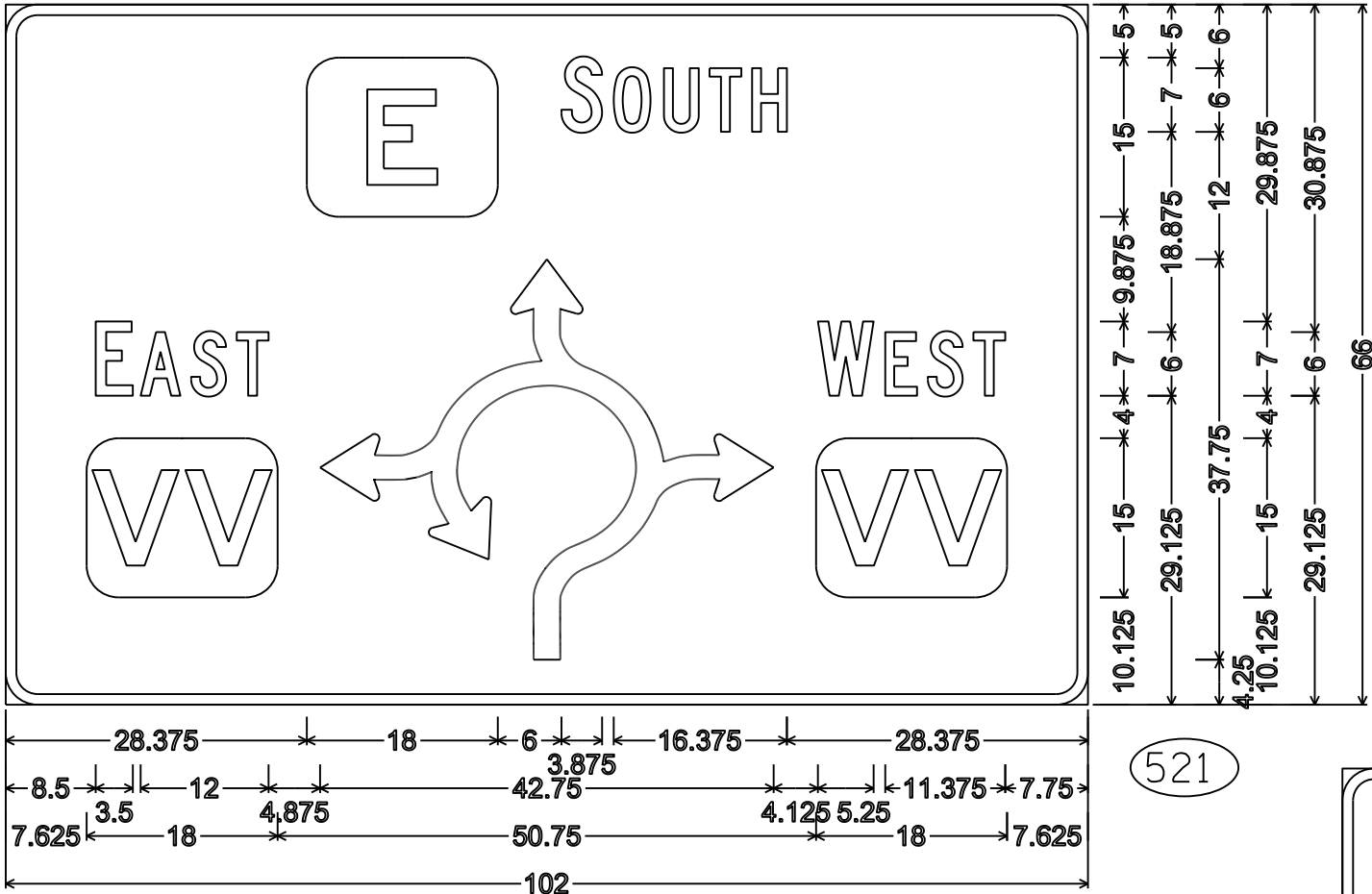
NOTES

- Fixed Message Signs are Type II - Type F Reflective
- Color:
Background - Orange
Message - Black
- Message Series - C

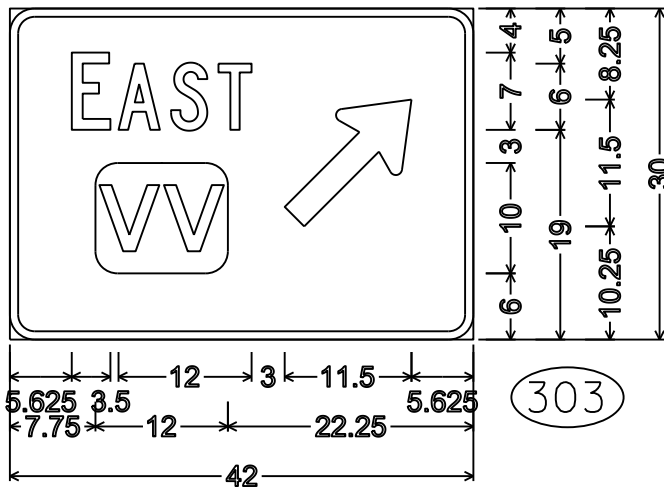


NOTES

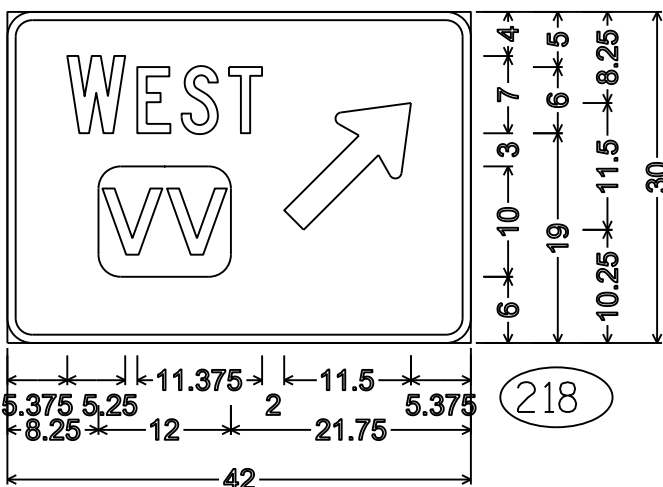
1. Signs are Type II- Type H Reflective
2. Color:
Background - Green
Message - White
3. Message Series - C



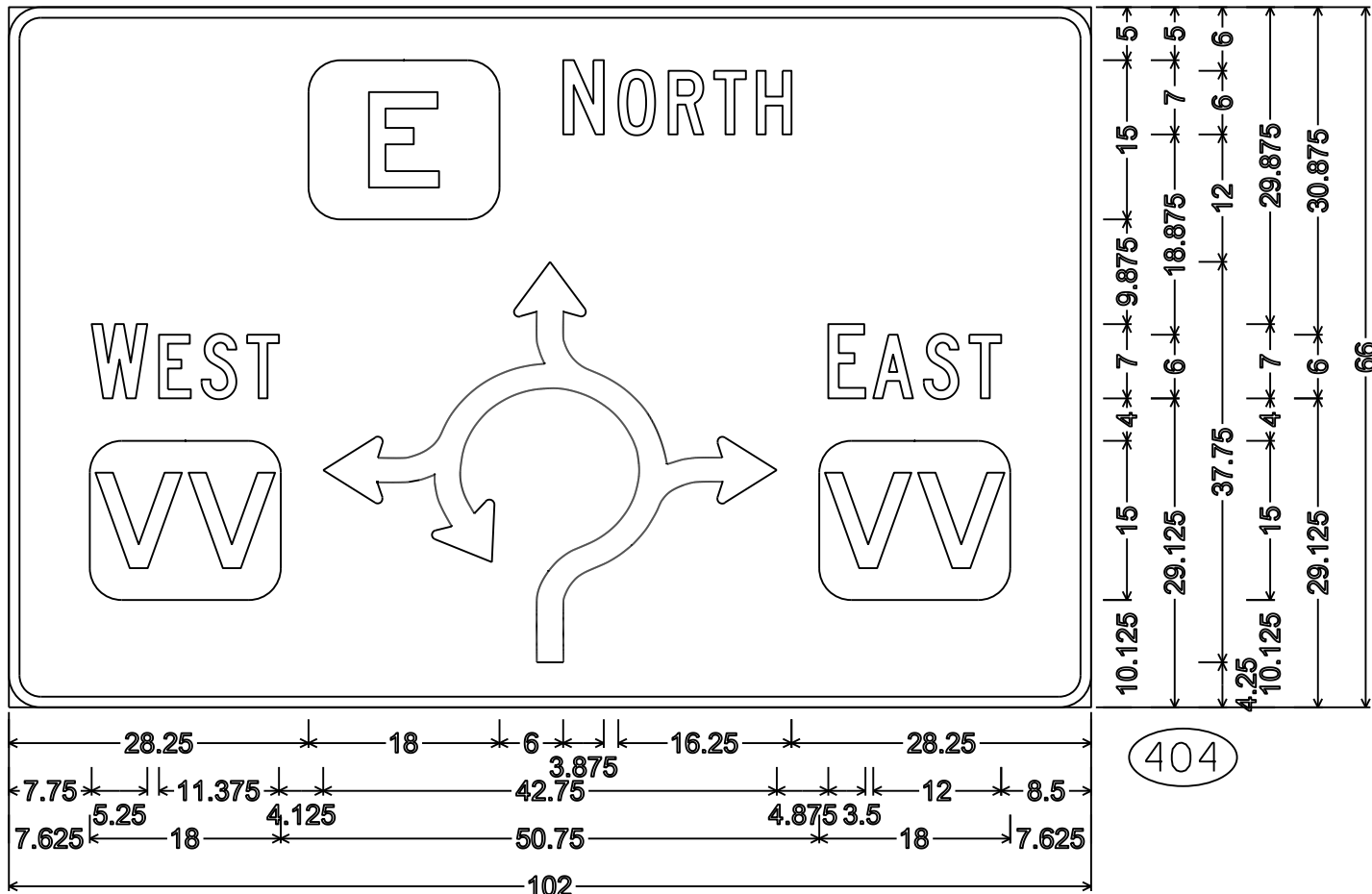
3.000" Radius, 1.000" Border



D1-1;
2.250" Radius, 0.750" Border



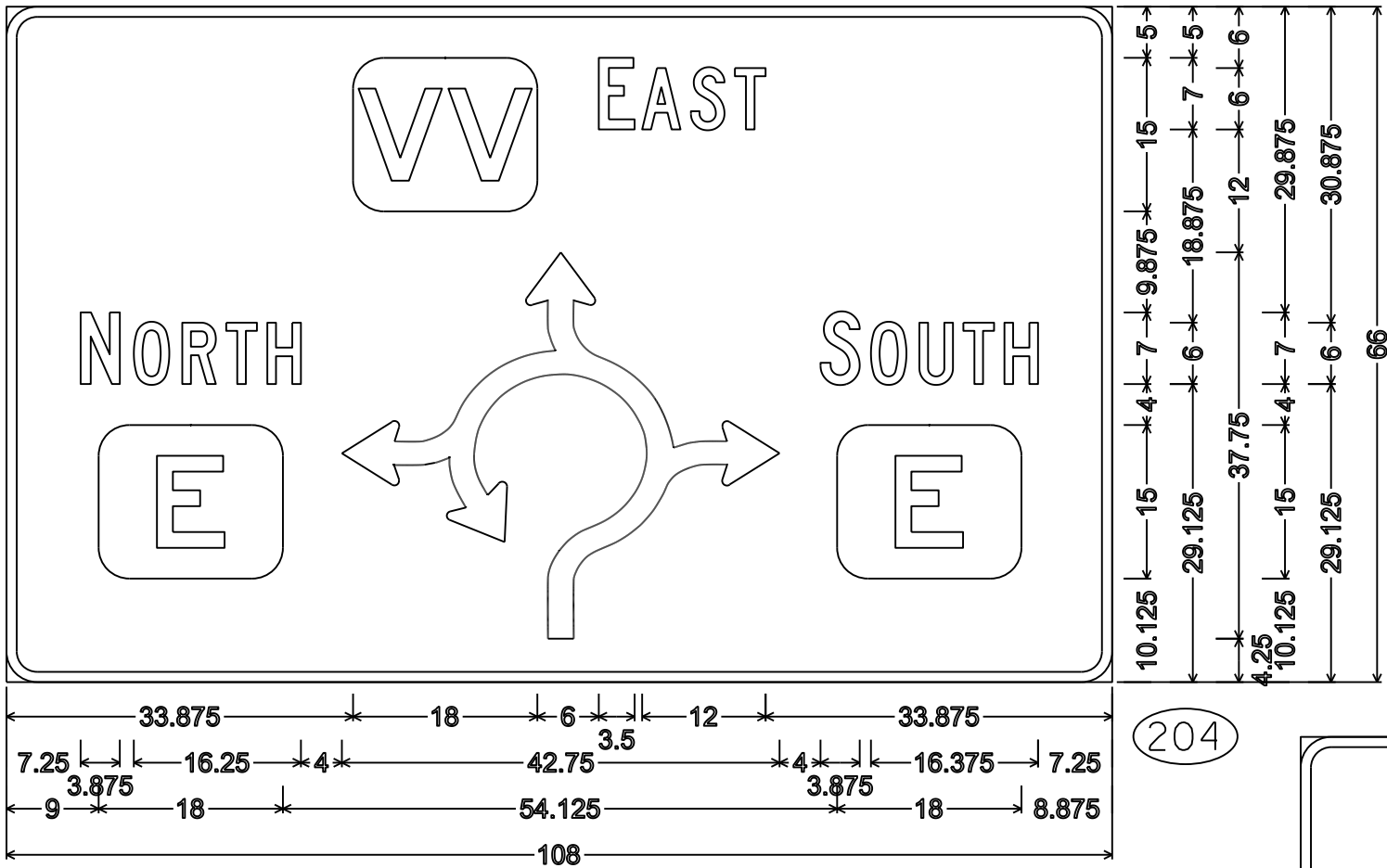
D1-1;
2.250" Radius, 0.750" Border



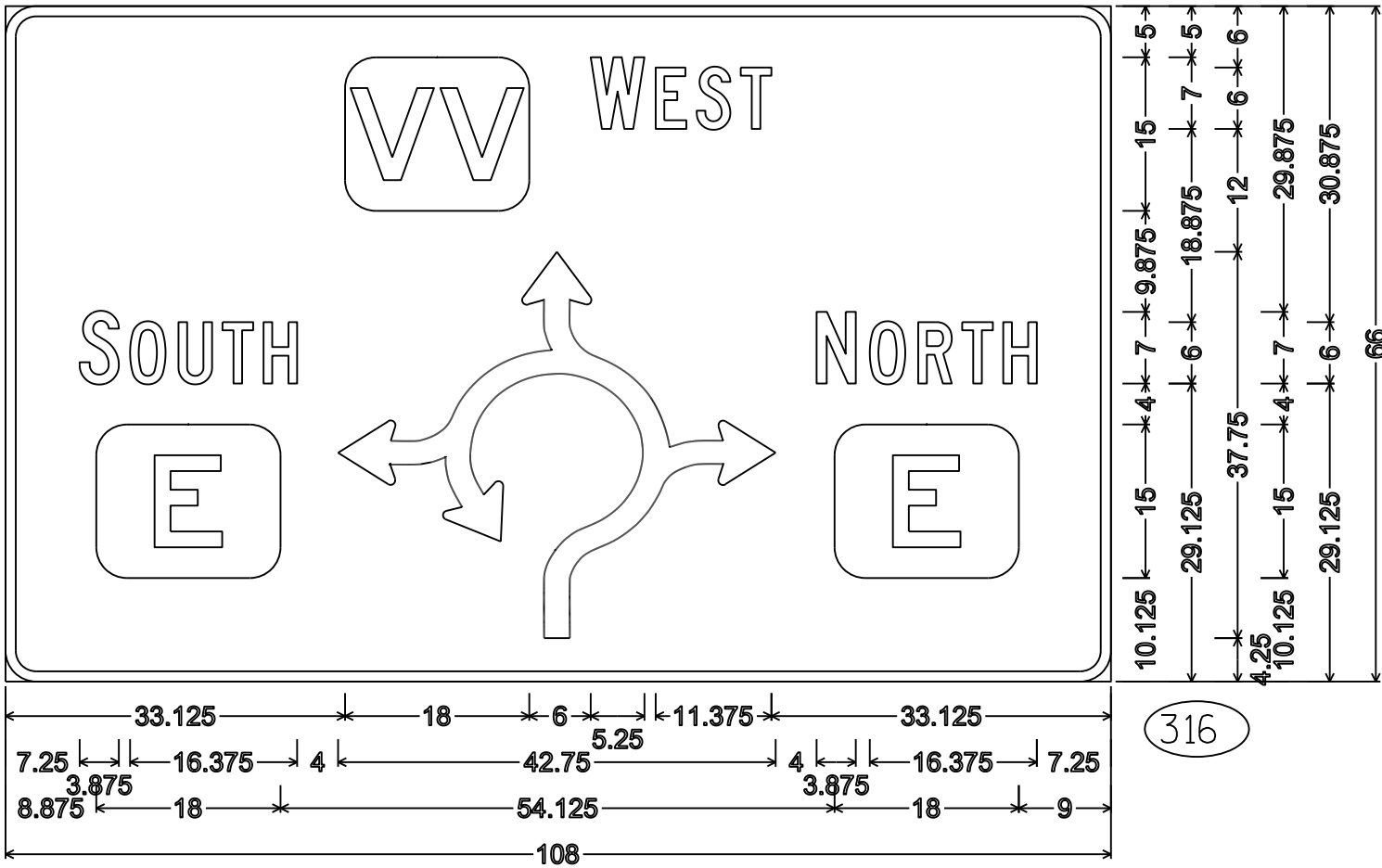
3.000" Radius, 1.000" Border

NOTES

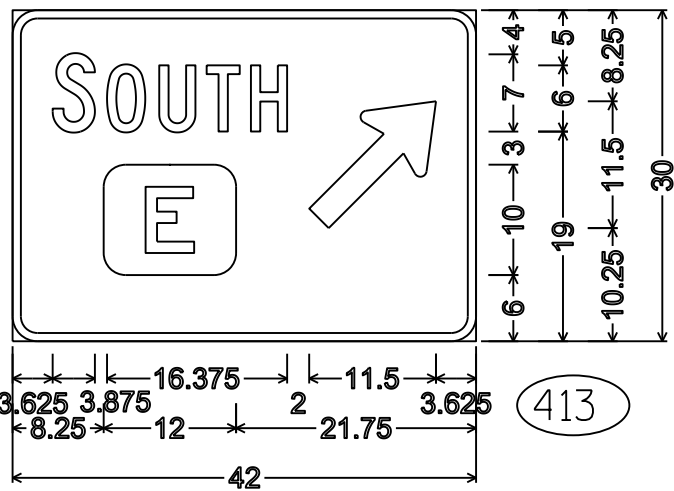
1. Signs are Type II- Type H Reflective
2. Color:
Background - Green
Message - White
3. Message Series - C



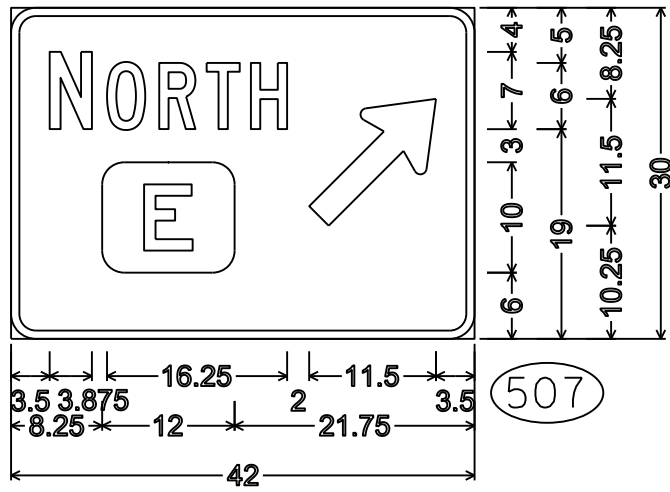
204



316



413



507

D1-1;
2.250" Radius, 0.750" Border

D1-1;
2.250" Radius, 0.750" Border

EARTHWORK TABLE FOR CTH VV																									
STATION	Real Station	Distance	AREA (SF)						Incremental Vol (CY) (Unadjusted)						Cumulative Vol (CY)								Mass Ordinate		
			Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	Rock Exc	EBS	Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	Rock Exc	EBS	Cut 1.00	Expanded Fill 1.25	Expanded Marsh		Expanded EBS		Reduced Marsh			Reduced EBS	
																	Backfill 1.5	Expanded Rock 1.1	Backfill 1.3	In Fill 0.6	In Fill 0.8				
																						Note 1		Note 2	Note 3
14+50	1450	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
15+00	1500	50	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	-1		
15+50	1550	50	13	0	10	0	0	0	12	0	10	0	0	0	12	13	0	0	0	0	0	0	-2		
16+00	1600	50	16	0	10	0	0	0	26	0	19	0	0	0	38	37	0	0	0	0	0	0	1		
16+50	1650	50	21	0	13	0	0	0	34	0	24	0	0	0	72	67	0	0	0	0	0	0	9		
17+00	1700	50	26	0	19	0	0	0	44	0	29	0	0	0	115	104	0	0	0	0	0	0	16		
17+50	1750	50	25	0	18	0	0	0	47	0	34	0	0	0	162	147	0	0	0	0	0	0	20		
18+00	1800	50	28	0	21	0	0	0	48	0	36	0	0	0	211	192	0	0	0	0	0	0	23		
18+50	1850	50	39	0	9	0	0	0	62	0	28	0	0	0	273	227	0	0	0	0	0	0	50		
19+00	1900	50	27	0	22	0	0	0	61	0	40	0	0	0	334	277	0	0	0	0	0	0	50		
19+50	1950	50	38	0	10	0	0	0	60	0	30	0	0	0	394	314	0	0	0	0	0	0	73		
20+00	2000	50	30	0	1	0	0	0	56	0	2	0	0	0	449	316	0	0	0	0	0	0	126		
20+50	2050	50	59	0	6	0	0	0	109	0	11	0	0	0	558	330	0	0	0	0	0	0	221		
21+00	2100	50	54	0	7	0	0	0	104	0	12	0	0	0	662	345	0	0	0	0	0	0	310		
21+50	2150	50	39	0	20	0	0	0	86	0	25	0	0	0	748	376	0	0	0	0	0	0	365		
22+00	2200	50	4	0	149	0	0	0	40	0	157	0	0	0	788	572	0	0	0	0	0	0	209		
22+50	2250	50	0	0	290	0	0	0	4	0	406	0	0	0	792	1080	0	0	0	0	0	0	-295		
23+00	2300	50	4	0	287	0	0	0	4	0	534	0	0	0	796	1748	0	0	0	0	0	0	-958		
23+50	2350	50	97	0	123	0	0	0	93	0	379	0	0	0	890	2222	0	0	0	0	0	0	-1339		
24+00	2400	50	205	0	38	0	0	0	279	0	149	0	0	0	1169	2408	0	0	0	0	0	0	-1246		
24+50	2450	50	136	0	6	0	0	0	315	0	41	0	0	0	1484	2459	0	0	0	0	0	0	-982		
25+00	2500	50	59	0	11	0	0	0	180	0	20	0	0	0	1664	2485	0	0	0	0	0	0	-898		
25+50	2550	50	54	0	16	0	0	0	105	0	25	0	0	0	1769	2516	0	0	0	0	0	0	-824		
26+00	2600	50	49	0	23	0	0	0	96	0	36	0	0	0	1865	2560	0	0	0	0	0	0	-772		
26+50	2650	50	36	0	28	0	0	0	79	0	47	0	0	0	1944	2618	0	0	0	0	0	0	-752		
27+00	2700	50	41	0	30	0	0	0	71	0	54	0	0	0	2015	2686	0	0	0	0	0	0	-748		
27+50	2750	50	42	0	29	0	0	0	76	0	55	0	0	0	2092	2754	0	0	0	0	0	0	-740		
28+00	2800	50	44	0	23	0	0	0	80	0	48	0	0	0	2172	2814	0	0	0	0	0	0	-720		
28+50	2850	50	62	0	2	0	0	0	98	0	23	0	0	0	2270	2843	0	0	0	0	0	0	-651		
29+00	2900	50	68	0	2	0	0	0	120	0	4	0	0	0	2389	2848	0	0	0	0	0	0	-531		
29+50	2950	50	42	0	17	0	0	0	101	0	18	0	0	0	2491	2871	0	0	0	0	0	0	-452		
30+00	3000	50	31	0	6	0	0	0	58	0	11	0	0	0	2548	2884	0	0	0	0	0	0	-408		
30+50	3050	50	29	0	9	0	0	0	53	0	16	0	0	0	2602	2904	0	0	0	0	0	0	-374		
31+00	3100	50	13	0	6	0	0	0	23	0	12	0	0	0	2625	2919	0	0	0	0	0	0	-366		
31+50	3150	50	17	0	5	0	0	0	28	0	10	0	0	0	2653	2932	0	0	0	0	0	0	-351		
32+00	3200	50	16	0	4	0	0	0	31	0	9	0	0	0	2684	2943	0	0	0	0	0	0	-331		
32+50	3250	50	8	0	4	0	0	0	22	0	8	0	0	0	2706	2953	0	0	0	0	0	0	-319		
33+00	3300	50	34	0	1	0	0	0	39	0	5	0	0	0	2745	2959	0	0	0	0	0	0	-286		
33+50	3350	50	18	0	6	0	0	0	49	0	11	0	0	0	2793	2973	0	0	0	0	0	0	-266		
34+00	3400	50	18	0	4	0	0	0	34	0	9	0	0	0	2827	2984	0	0	0	0	0	0	-244		
34+50	3450	50	0	0	0	0	0	0	17	0	3	0	0	0	2844	2988	0	0	0	0	0	0	-231		
Column totals								2844	0	2390	0	0	0												

Notes:	
1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded Marsh Backfill	Will be backfilled with Granular Backfill (or Cut, or Borrow)
5 - Expanded EBS	Will be backfilled with Granular Backfill (or Cut, or Borrow)
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	If Marsh or EBS to be backfilled with Cut or Borrow: [(Cut + Marsh Exc + EBS) - ((Fill - Reduced Marsh in Fill) - (Reduced EBS in Fill) - Expanded Rock) * Fill Factor]]

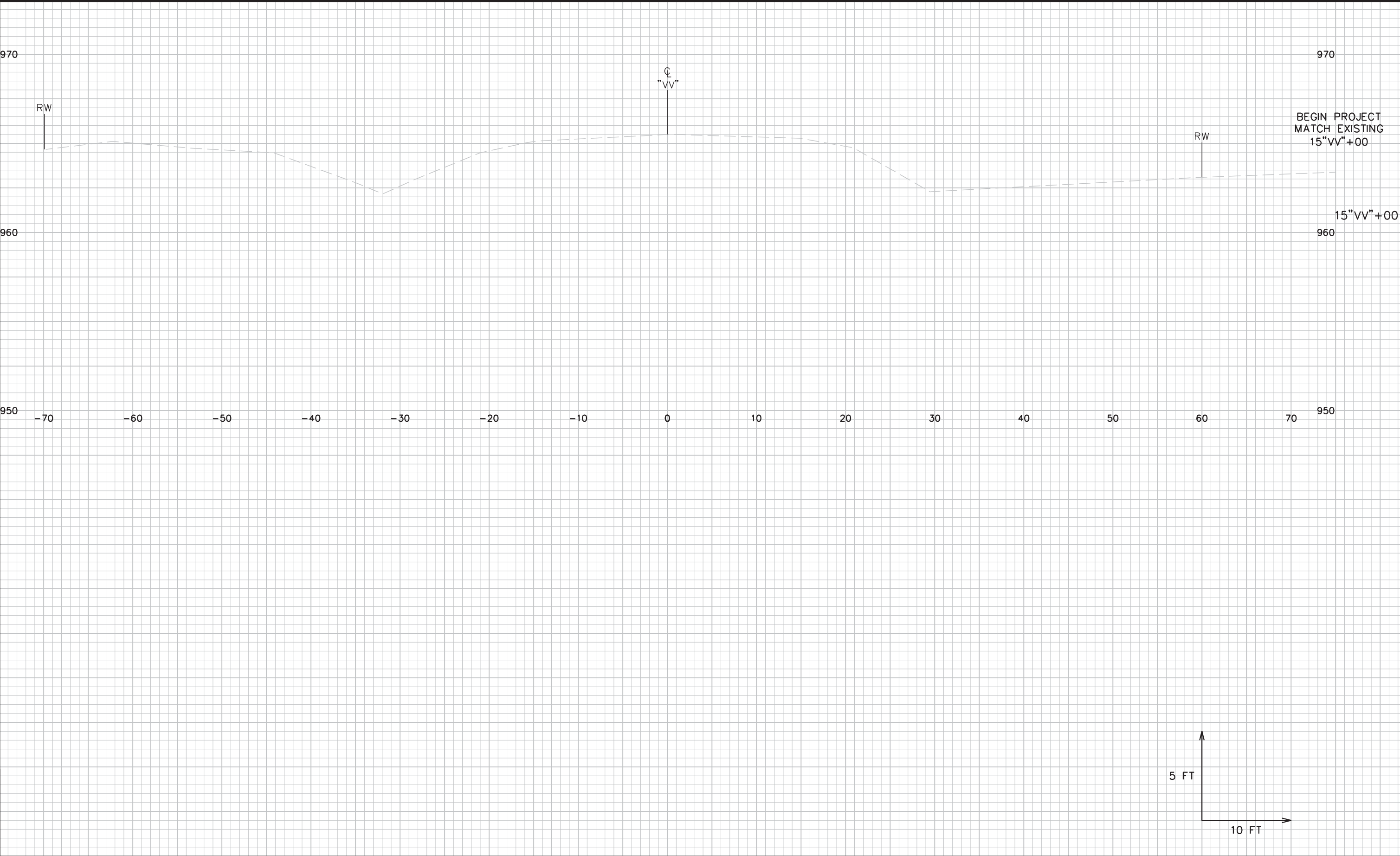
EARTHWORK TABLE FOR CTH E																									
STATION	Real Station	Distance	AREA (SF)						Incremental Vol (CY) (Unadjusted)						Cumulative Vol (CY)									Mass Ordinate	
			Cut (scaled)	Salvaged/Unusable Pavement Material	Fill (scaled)	Marsh Exc	Rock Exc	EBS	Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	Rock Exc	EBS	Cut 1.00	Expanded Fill 1.25	Expanded Marsh		Expanded EBS		Reduced Marsh		Reduced EBS		
																	Backfill 1.50	Expanded Rock 1.10	Backfill 1.30	in Fill 0.60	In Fill 0.80				
																						Note 1	Note 2		Note 3
55+00	5500	0	0	0	0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
55+50	5550	50	39	0	7	0.0	0.0	0.0	36	0	7	0	0	0	36	8	0	0	0	0	0	0	28		
56+00	5600	50	48	0	2	0.0	0.0	0.0	81	0	9	0	0	0	117	19	0	0	0	0	0	0	98		
56+50	5650	50	38	0	14	0.0	0.0	0.0	70	0	25	0	0	0	187	51	0	0	0	0	0	0	137		
57+00	5700	50	46	0	9	0.0	0.0	0.0	78	0	21	0	0	0	265	77	0	0	0	0	0	0	188		
57+50	5750	50	40	0	14	0.0	0.0	0.0	75	0	27	0	0	0	340	111	0	0	0	0	0	0	229		
58+00	5800	50	41	0	10	0.0	0.0	0.0	75	0	22	0	0	0	415	138	0	0	0	0	0	0	277		
58+50	5850	50	48	0	4	0.0	0.0	0.0	90	0	8	0	0	0	505	149	0	0	0	0	0	0	356		
59+00	5900	50	14	0	83	0.0	0.0	0.0	58	0	81	0	0	0	563	250	0	0	0	0	0	0	313		
59+50	5950	50	1	0	142	0.0	0.0	0.0	14	0	209	0	0	0	576	511	0	0	0	0	0	0	65		
60+00	6000	50	21	0	186	0.0	0.0	0.0	20	0	304	0	0	0	597	891	0	0	0	0	0	0	-294		
60+50	6050	50	18	0	261	0.0	0.0	0.0	36	0	414	0	0	0	633	1409	0	0	0	0	0	0	-775		
61+00	6100	50	132	0	136	0.0	0.0	0.0	139	0	368	0	0	0	772	1869	0	0	0	0	0	0	-1097		
61+50	6150	50	40	0	68	0.0	0.0	0.0	160	0	190	0	0	0	931	2106	0	0	0	0	0	0	-1175		
62+00	6200	50	21	0	22	0.0	0.0	0.0	57	0	83	0	0	0	988	2210	0	0	0	0	0	0	-1222		
62+50	6250	50	52	0	13	0.0	0.0	0.0	97	0	23	0	0	0	1085	2239	0	0	0	0	0	0	-1154		
63+00	6300	50	39	0	22	0.0	0.0	0.0	85	0	32	0	0	0	1170	2279	0	0	0	0	0	0	-1109		
63+50	6350	50	51	0	11	0.0	0.0	0.0	84	0	30	0	0	0	1254	2317	0	0	0	0	0	0	-1063		
64+00	6400	50	56	0	6	0.0	0.0	0.0	99	0	15	0	0	0	1353	2336	0	0	0	0	0	0	-983		
64+50	6450	50	140	0	18	0.0	0.0	0.0	259	0	34	0	0	0	1612	2378	0	0	0	0	0	0	-766		
65+00	6500	50	45	0	87	0.0	0.0	0.0	83	0	160	0	0	0	1695	2578	0	0	0	0	0	0	-883		
65+50	6550	50	77	0	13	0.0	0.0	0.0	113	0	92	0	0	0	1808	2693	0	0	0	0	0	0	-886		
66+00	6600	50	84	0	0	0.0	0.0	0.0	156	0	0	0	0	0	1963	2693	0	0	0	0	0	0	-730		
66+50	6650	50	0	0	0	0.0	0.0	0.0	78	0	0	0	0	0	2041	2693	0	0	0	0	0	0	-652		
								Column totals	2041	0	2155	0	0	0											

EARTHWORK TABLE FOR BUGLINE RECREATIONAL TRAIL																								
STATION	Real Station	Distance	AREA (SF)						Incremental Vol (CY) (Unadjusted)						Cumulative Vol (CY)									
			Cut	Salvaged/U nusable Pavement Material	Fill	Marsh Exc	Rock Exc	EBS	Cut	Salvaged/ Unusable Pavement Material	Fill	Marsh Exc	Rock Exc	EBS	Cut	Expanded Fill	Expanded Marsh	Expanded EBS		Reduced Marsh	Reduced EBS	Mass Ordinate		
																	Backfill	Expanded Rock	Backfill	in Fill	In Fill			
																	1.00	1.25	1.50	1.10	1.30		0.60	0.80
																	Note 1	Note 2	Note 3	Note 4	Note 5		Note 6	Note 7
137+50	13750	0	0	0	0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0			
138+00	13800	50	11	0	0	0.0	0.0	0.0	10	0	0	0	0	0	0	0	0	0	0	0	10			
138+50	13850	50	0	0	5	0.0	0.0	0.0	10	0	4	0	0	0	20	6	0	0	0	0	15			
139+00	13900	50	0	0	18	0.0	0.0	0.0	0	0	21	0	0	0	21	32	0	0	0	0	-11			
139+50	13950	50	8	0	23	0.0	0.0	0.0	7	0	38	0	0	0	28	79	0	0	0	0	-51			
140+00	14000	50	66	0	38	0.0	0.0	0.0	68	0	56	0	0	0	97	149	0	0	0	0	-53			
140+50	14050	50	0	0	0	0.0	0.0	0.0	61	0	35	0	0	0	158	193	0	0	0	0	-35			
141+00	14100	50	160	0	36	0.0	0.0	0.0	139	0	46	0	0	0	236	207	0	0	0	0	30			
141+50	14150	50	9	0	1	0.0	0.0	0.0	156	0	34	0	0	0	392	249	0	0	0	0	143			
141+65	14165	15	0	0	0	0.0	0.0	0.0	2	0	0	0	0	0	394	250	0	0	0	0	145			
Column totals									455	0	235	0	0	0										

Notes:	
1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded Marsh Backfill	Will be backfilled with Granular Backfill (or Cut, or Borrow)
5 - Expanded EBS	Will be backfilled with Granular Backfill (or Cut, or Borrow)
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	If Marsh or EBS to be backfilled with Cut or Borrow: [(Cut + Marsh Exc + EBS) - ((Fill - Reduced Marsh in Fill) - (Reduced EBS in Fill) - Expanded Rock) * Fill Factor]]

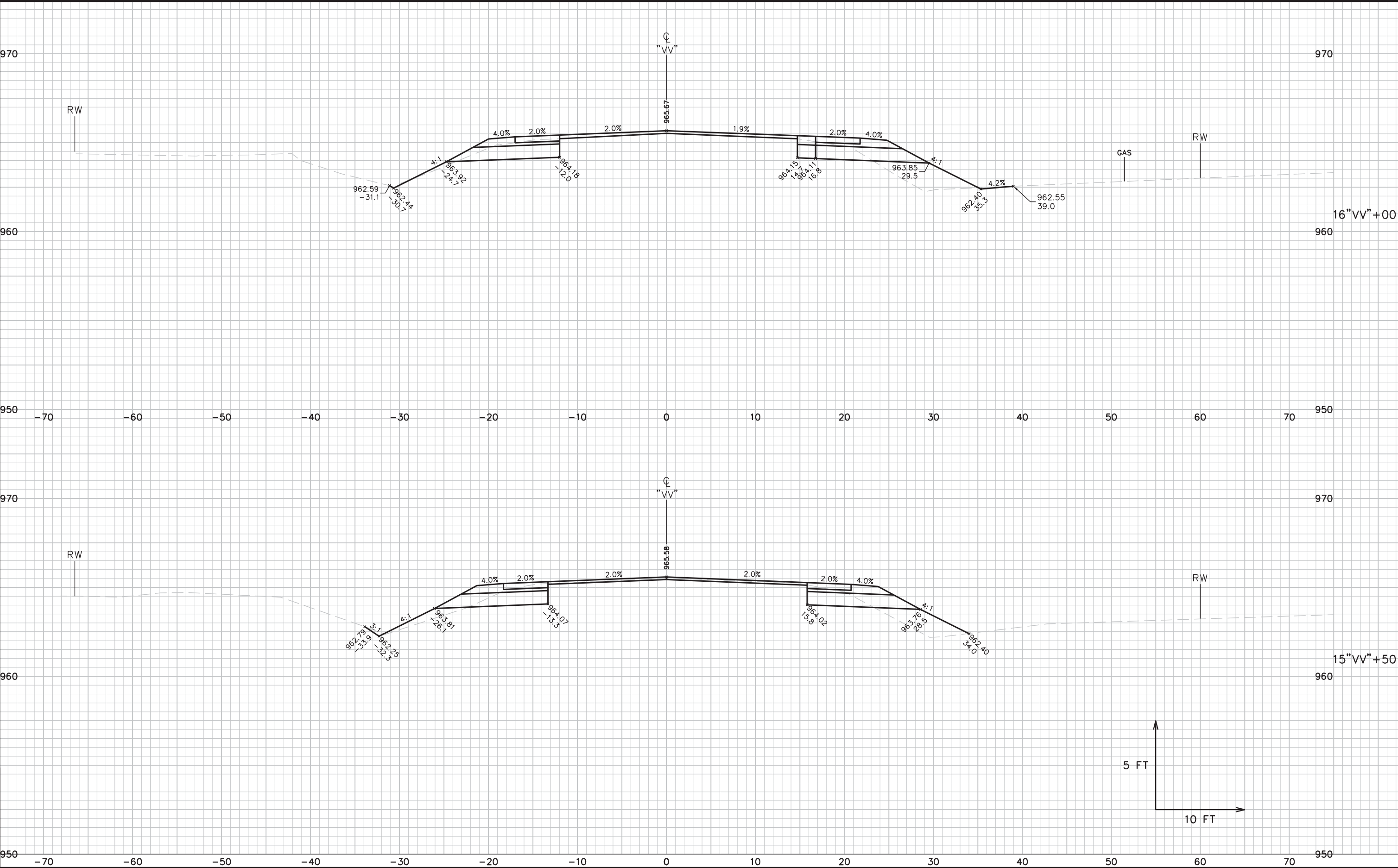
EARTHWORK TABLE FOR TEMPOARY BUGLINE RECREATIONAL TRAIL																							
STATION	Real Station	Distance	AREA (SF)						Incremental Vol (CY) (Unadjusted)						Cumulative Vol (CY)								Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	Rock Exc	EBS	Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	Rock Exc	EBS	Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh Backfill 1.50 Note 4	Expanded Rock Backfill 1.10	Expanded EBS Backfill 1.30 Note 5	Reduced Marsh in Fill 0.60 Note 6	Reduced EBS In Fill 0.80 Note 7		
137+50	13750	0	0	0	15	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0		
138+00	13800	50	0	0	4	0.0	0.0	0.0	0	0	17	0	0	0	0	21	0	0	0	0	0		
138+50	13850	50	0	0	9	0.0	0.0	0.0	0	0	12	0	0	0	0	36	0	0	0	0	0		
139+00	13900	50	0	0	10	0.0	0.0	0.0	0	0	17	0	0	0	0	57	0	0	0	0	0		
139+50	13950	50	2	0	0	0.0	0.0	0.0	2	0	9	0	0	0	2	69	0	0	0	0	0		
140+00	14000	50	41	0	0	0.0	0.0	0.0	39	0	0	0	0	0	41	69	0	0	0	0	0		
140+50	14050	50	0	0	0	0.0	0.0	0.0	38	0	0	0	0	0	79	69	0	0	0	0	0		
141+00	14100	50	30	0	8	0.0	0.0	0.0	43	0	5	0	0	0	84	75	0	0	0	0	0		
141+25	14125	25	34	0	0	0.0	0.0	0.0	30	0	4	0	0	0	114	79	0	0	0	0	0		
141+50	14150	25	8	0	0	0.0	0.0	0.0	19	0	0	0	0	0	133	79	0	0	0	0	0		
141+75	14175	50	20	0	0	0.0	0.0	0.0	38	0	0	0	0	0	152	79	0	0	0	0	0		
142+00	14200	50	0	0	0	0.0	0.0	0.0	17	0	0	0	0	0	150	79	0	0	0	0	0		
								Column totals	209	0	64	0	0	0									

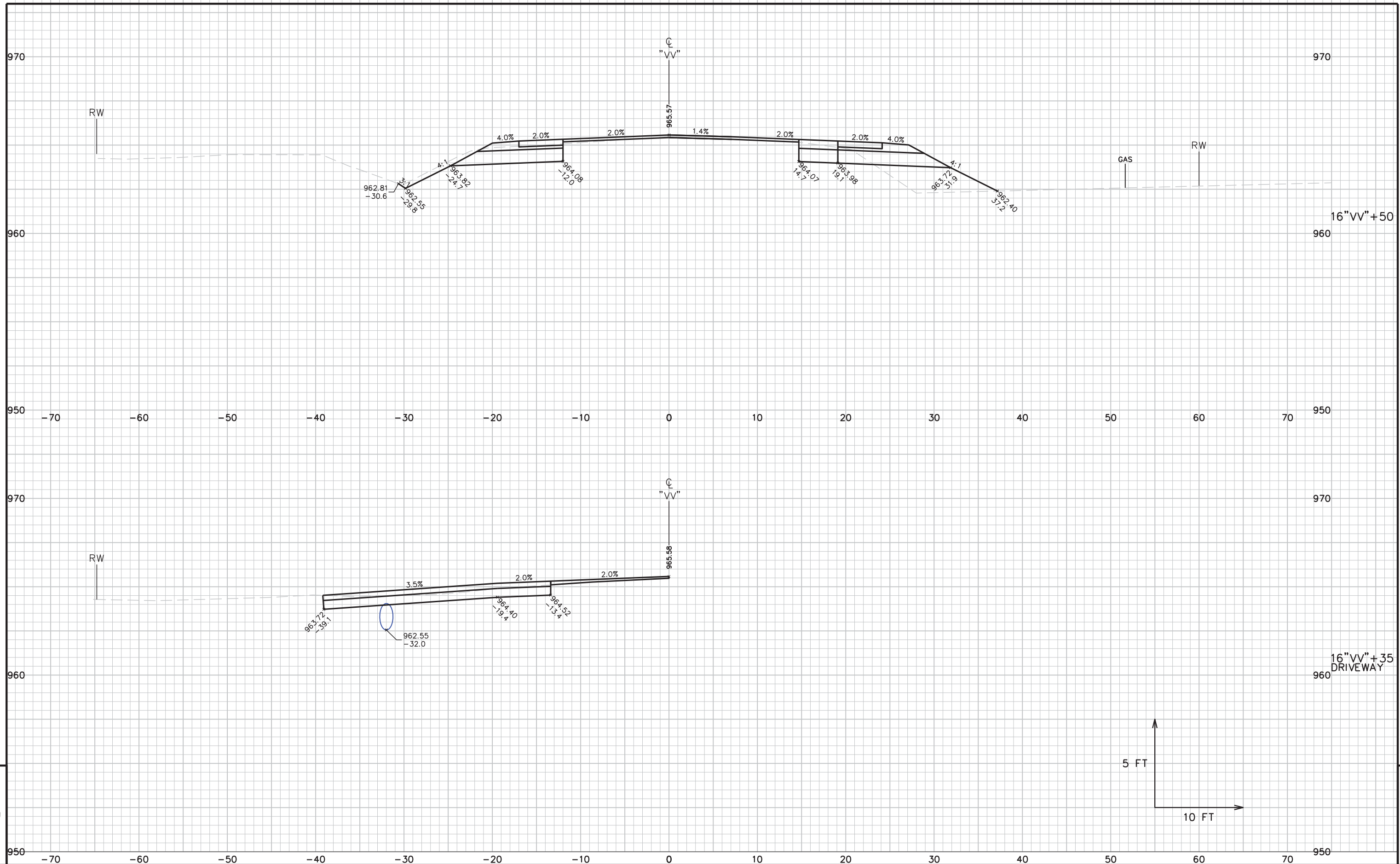
Notes:	
1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded Marsh Backfill	Will be backfilled with Granular Backfill (or Cut, or Borrow)
5 - Expanded EBS	Will be backfilled with Granular Backfill (or Cut, or Borrow)
6 - Reduced Marsh in Fill	Reduced Marsh Excavation that can be used in Fill
7 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
8 - Mass Ordinate	If Marsh or EBS to be backfilled with Cut or Borrow: [(Cut + Marsh Exc + EBS) - ((Fill - Reduced Marsh in Fill) - (Reduced EBS in Fill) - Expanded Rock) * Fill Factor]]

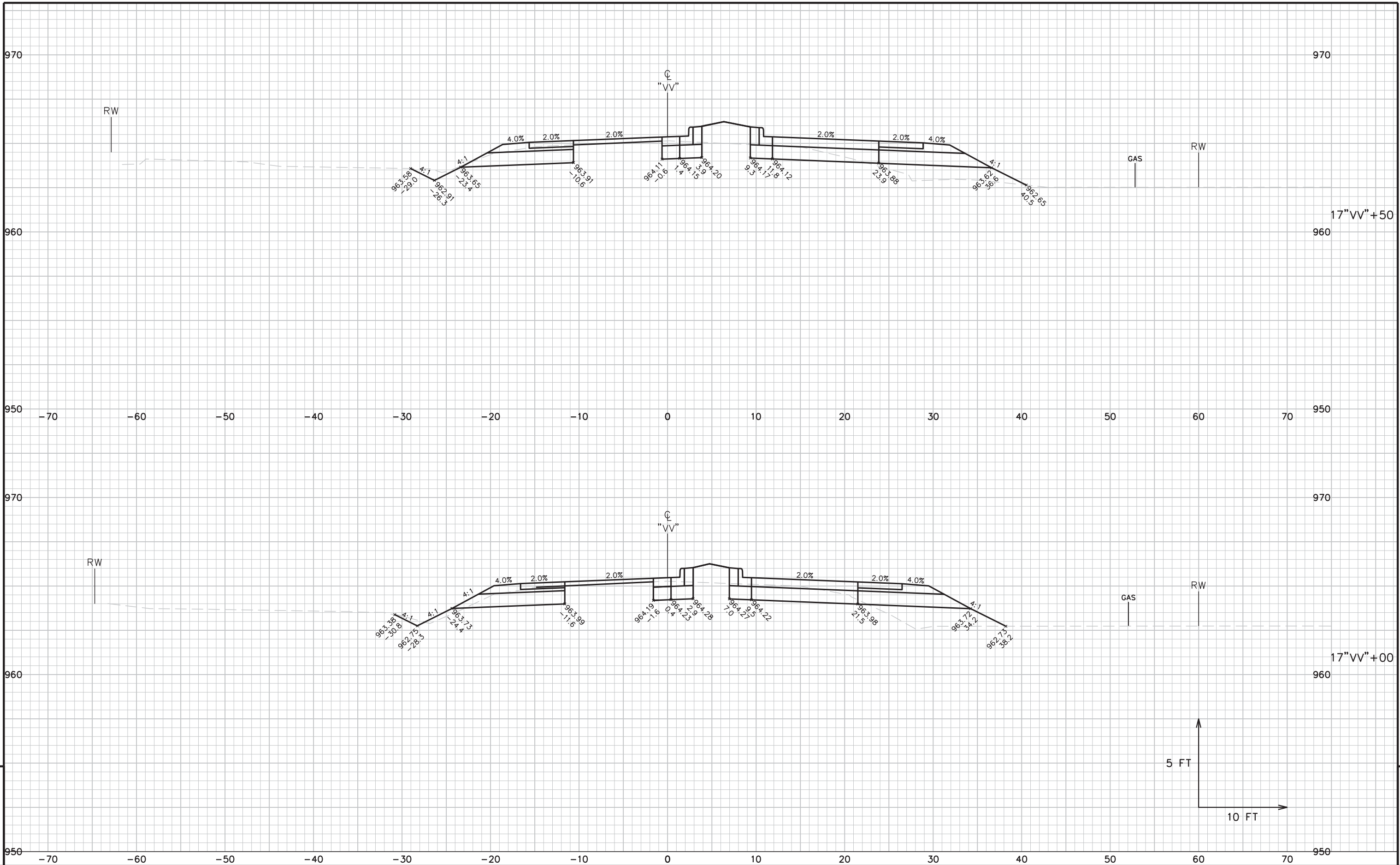


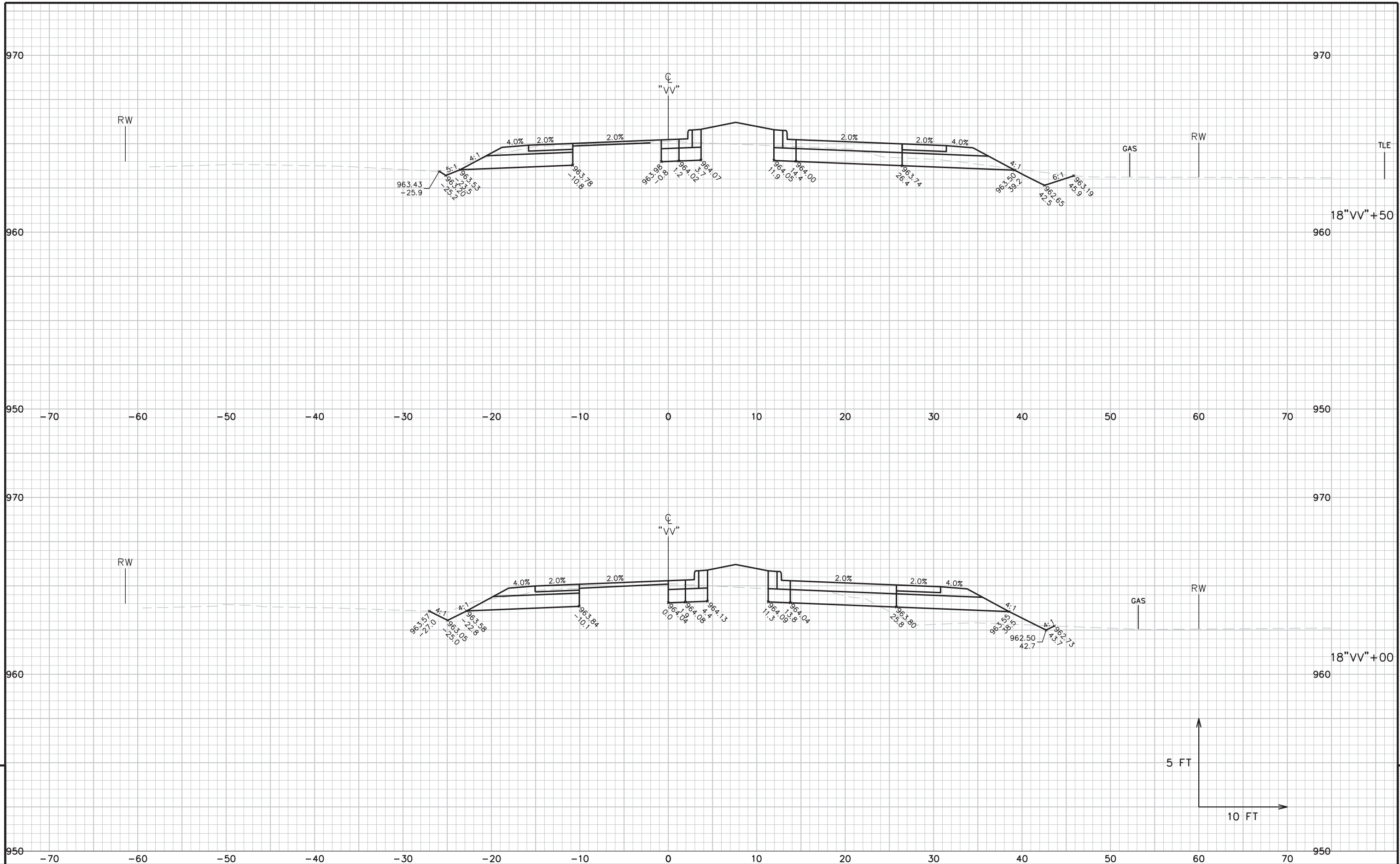
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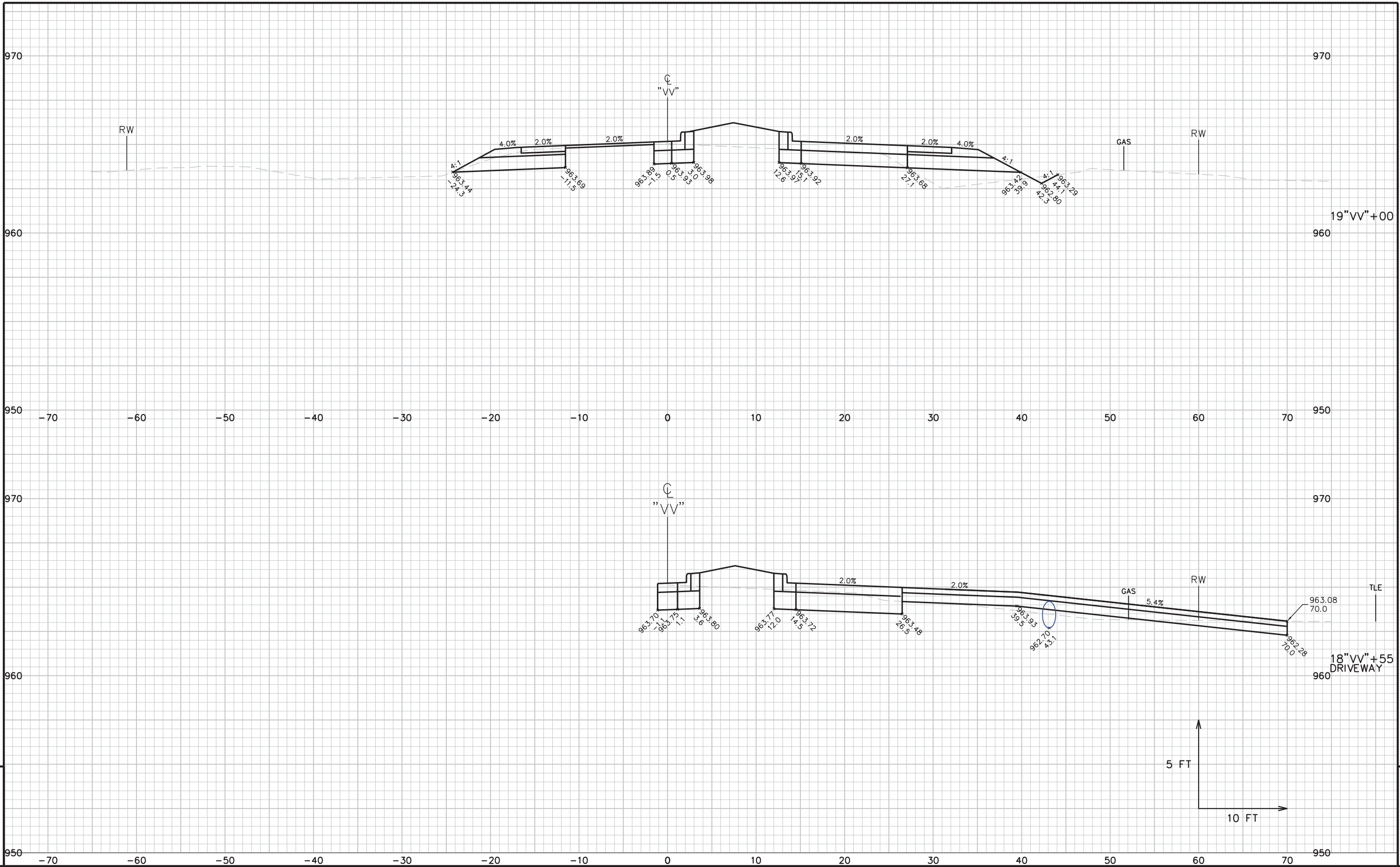
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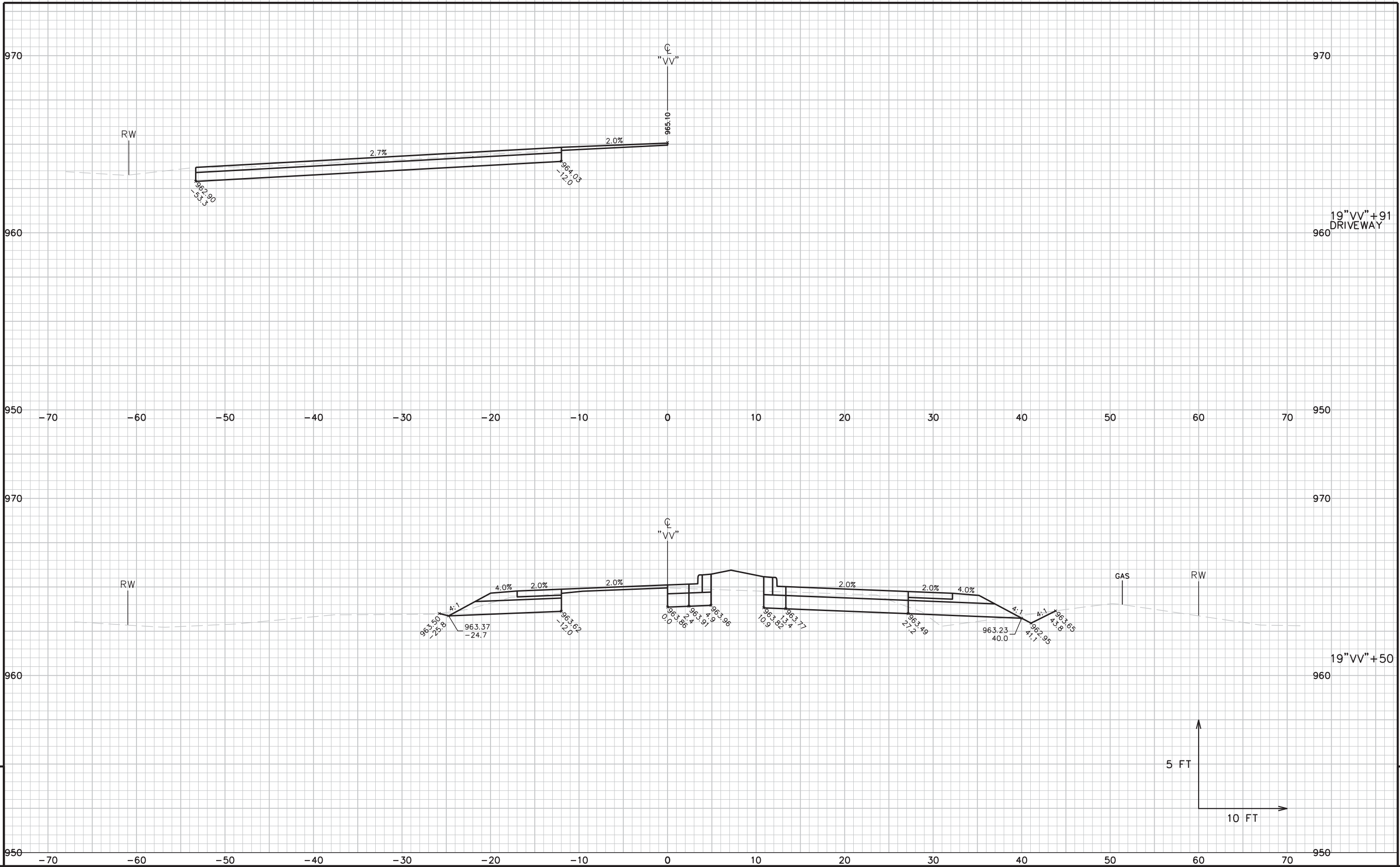


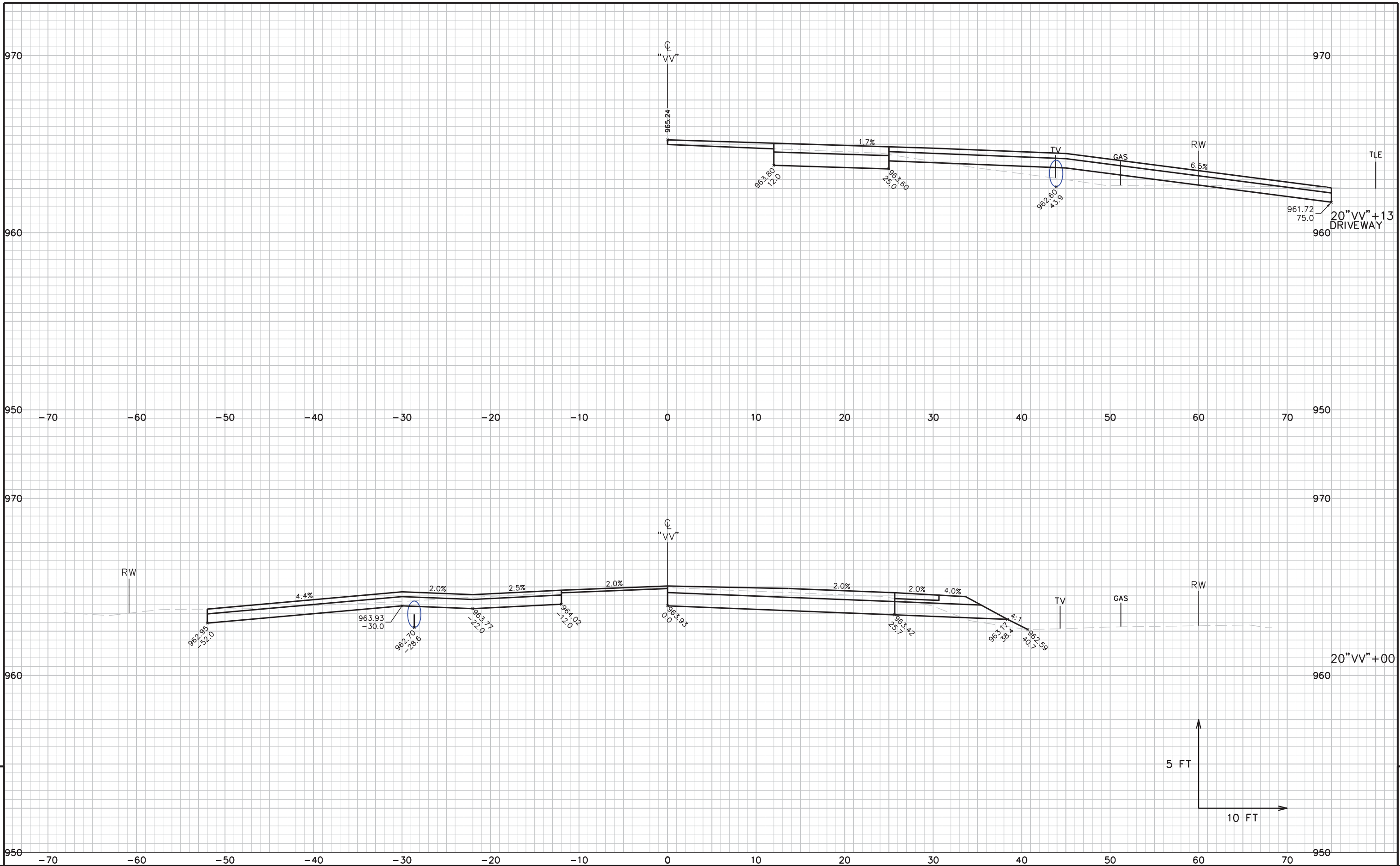


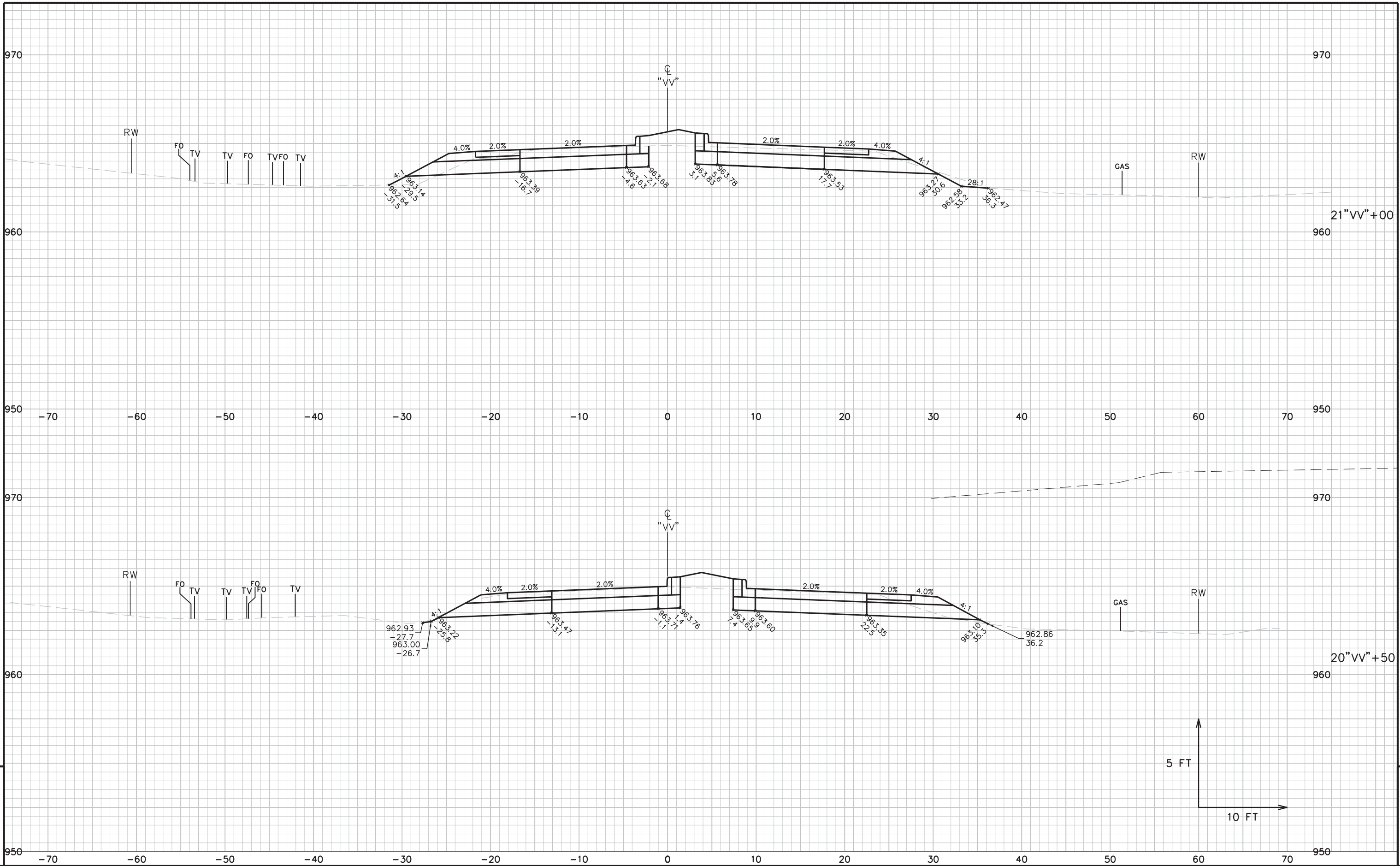


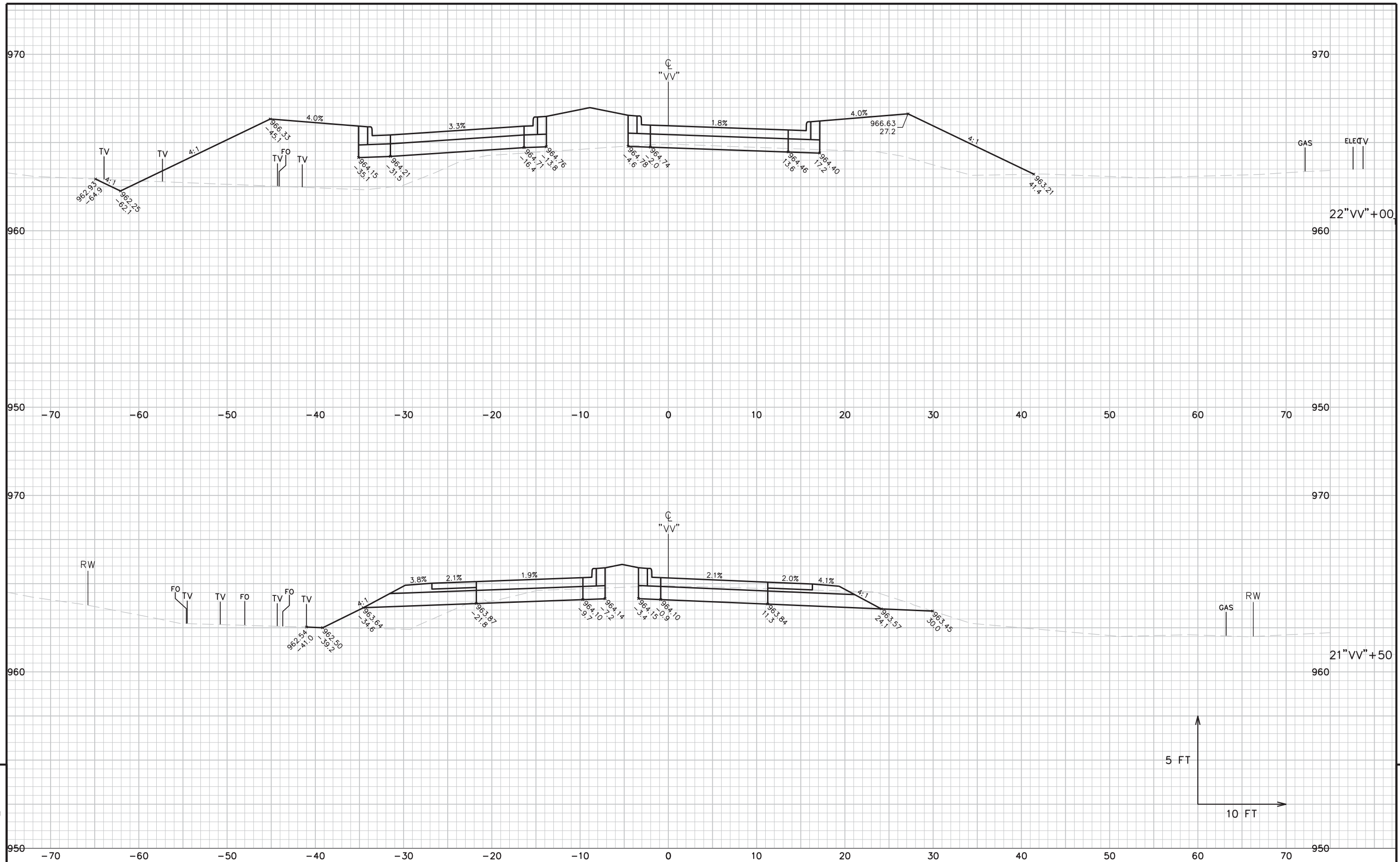


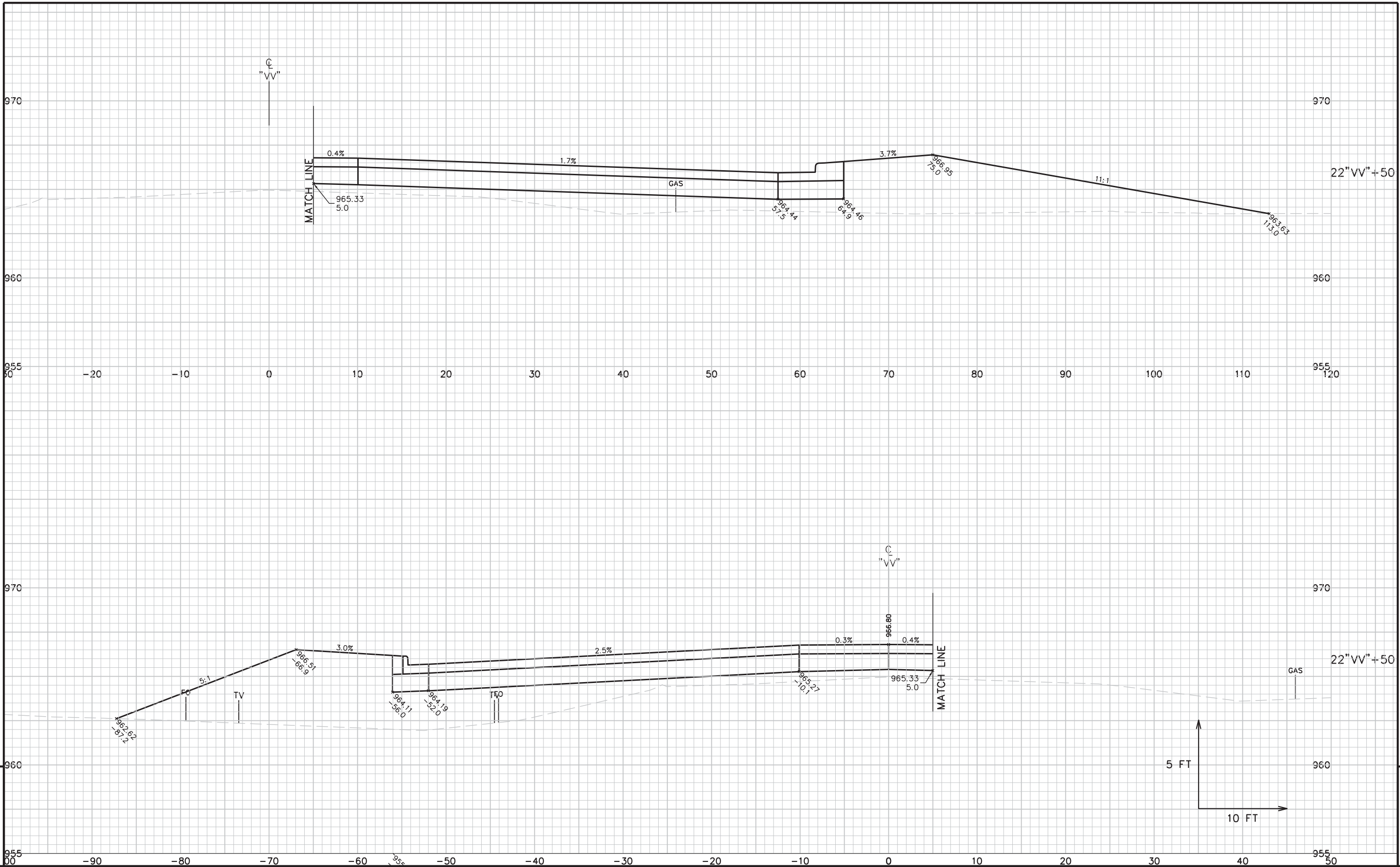


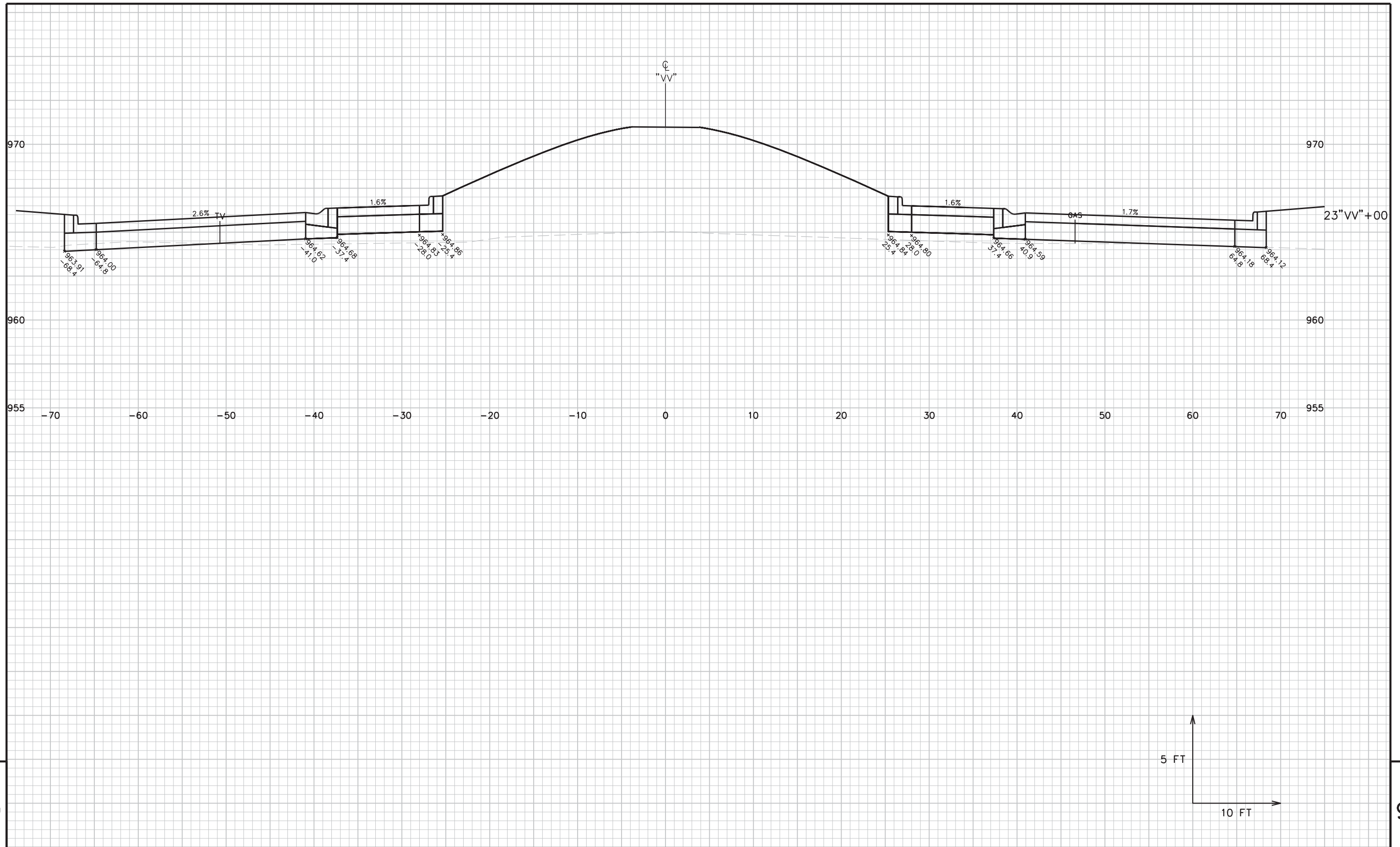


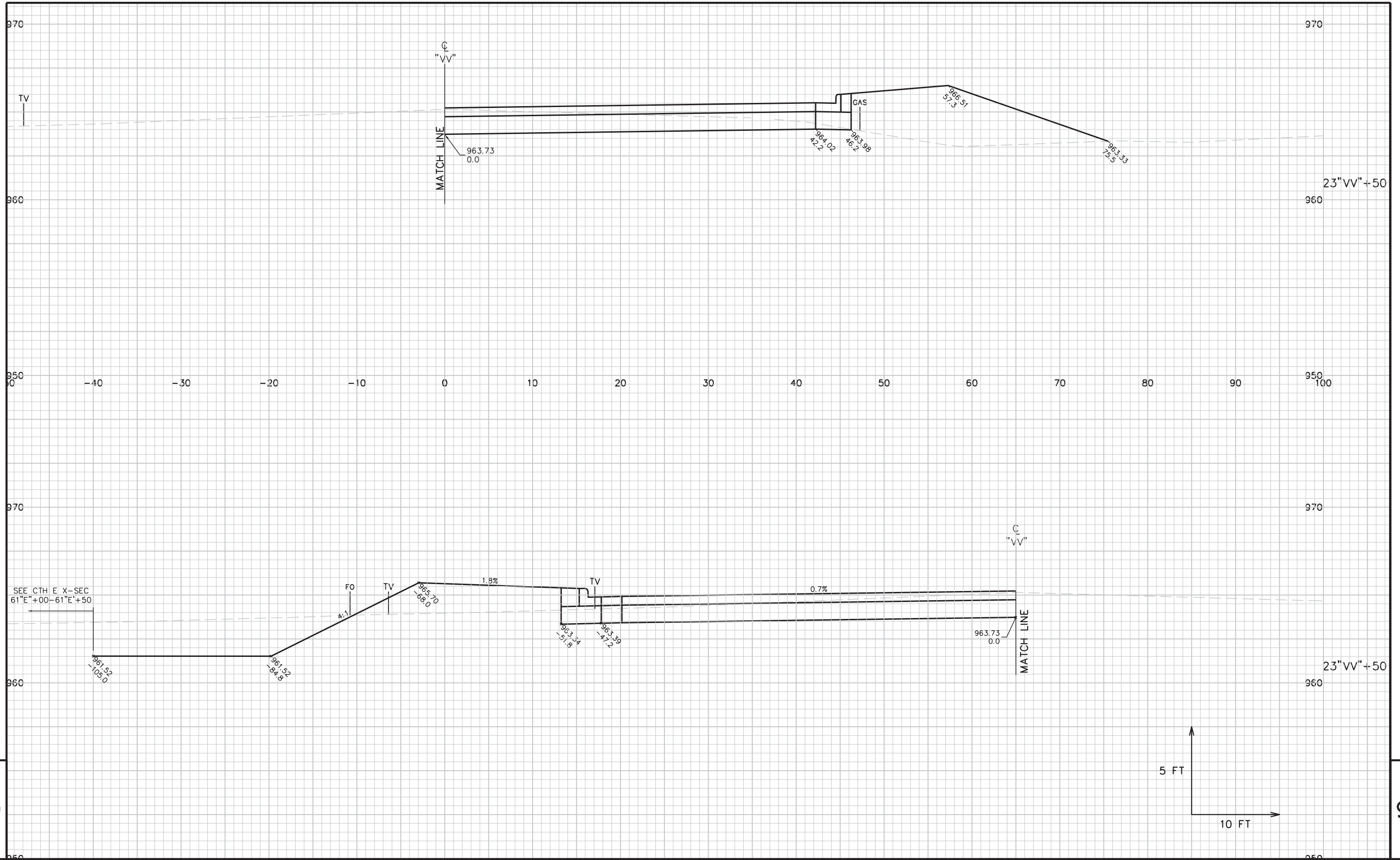


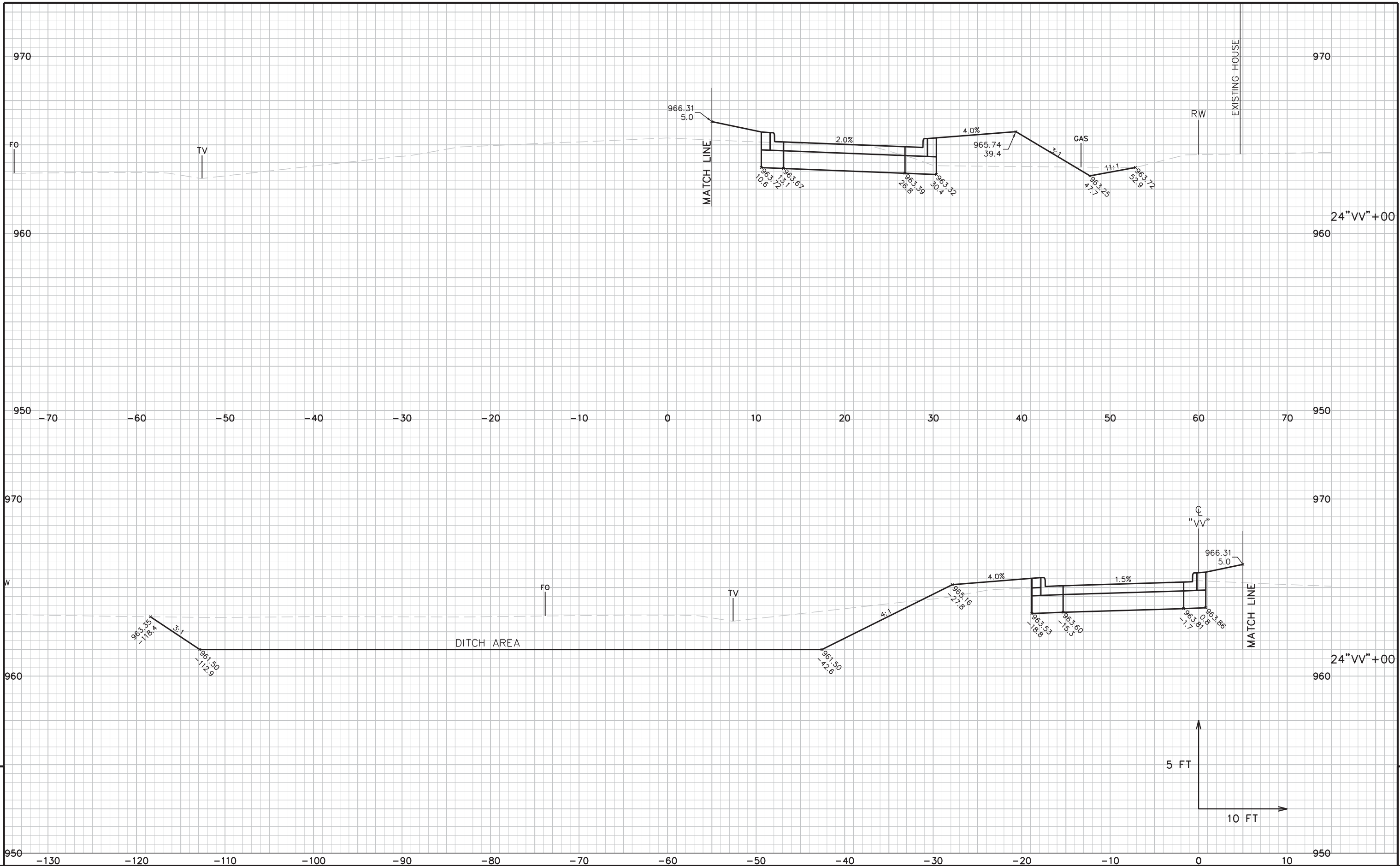


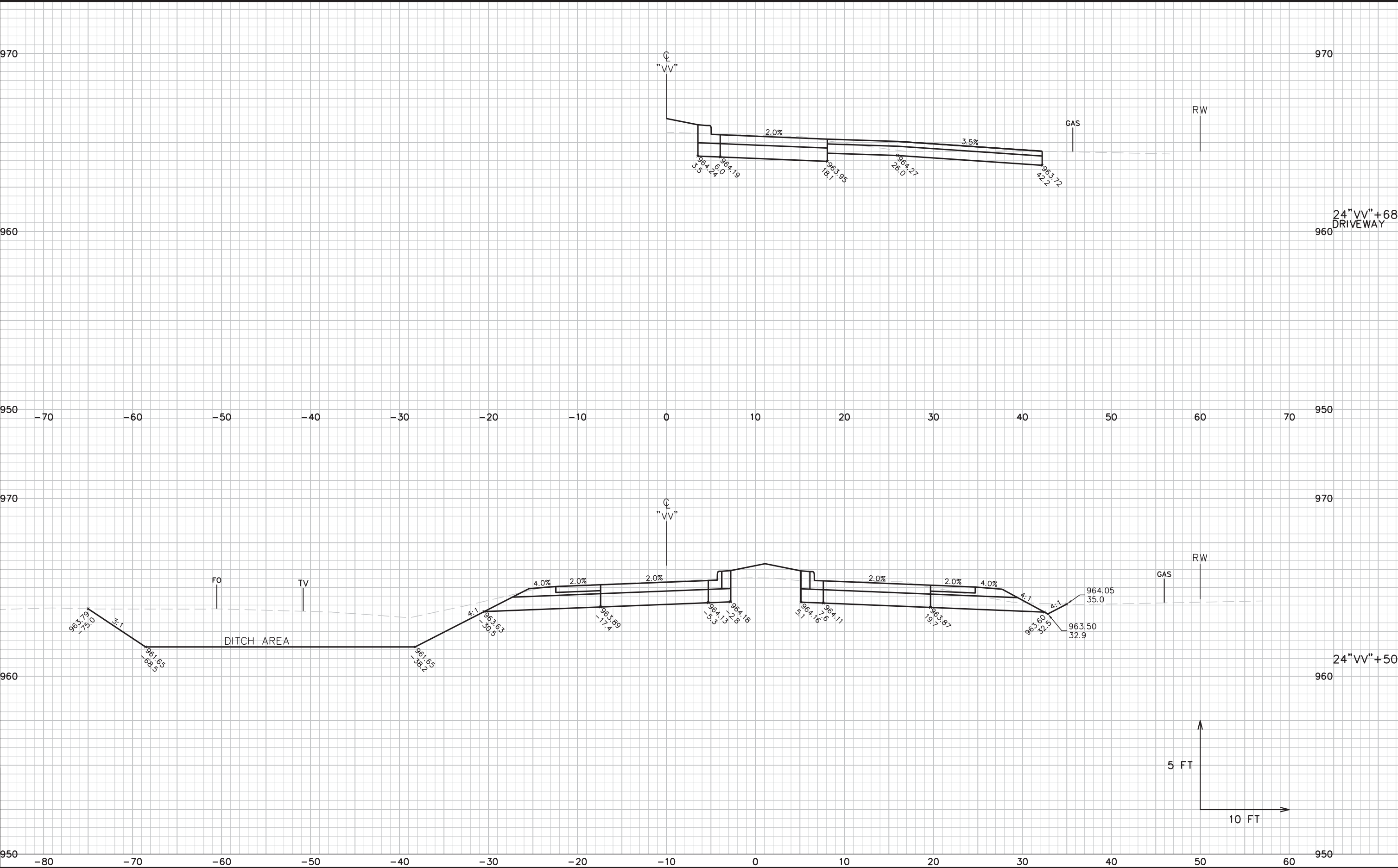


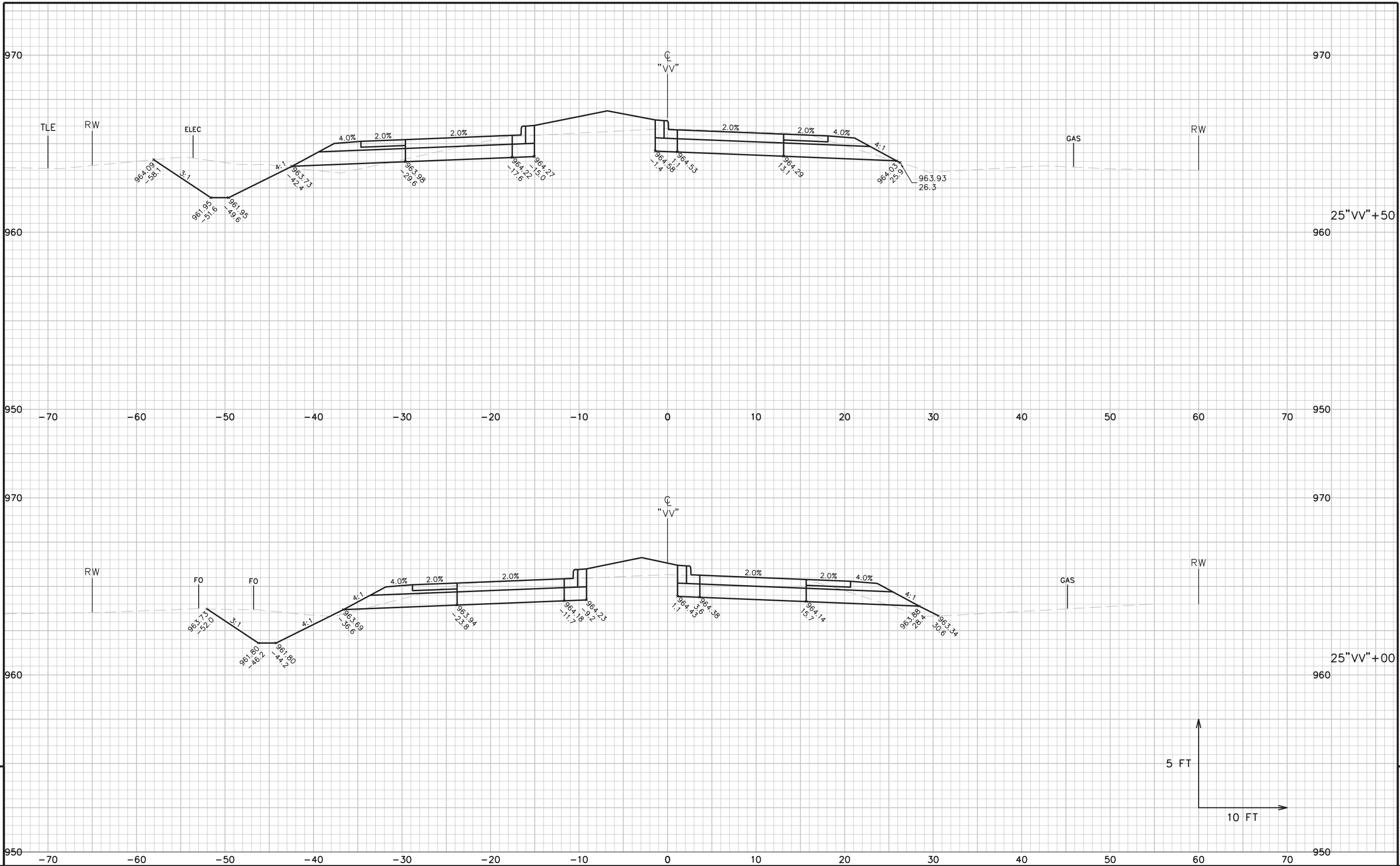


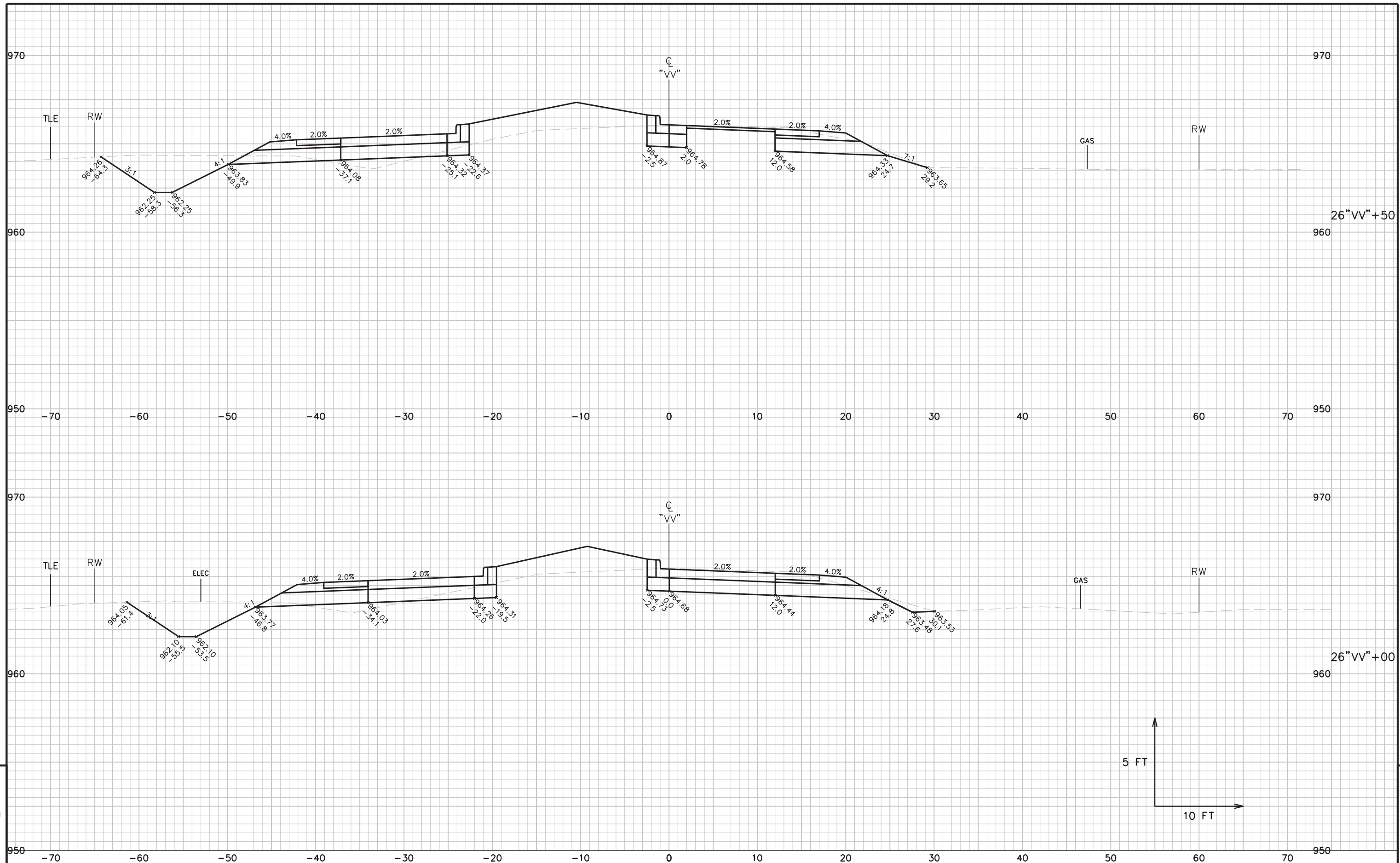


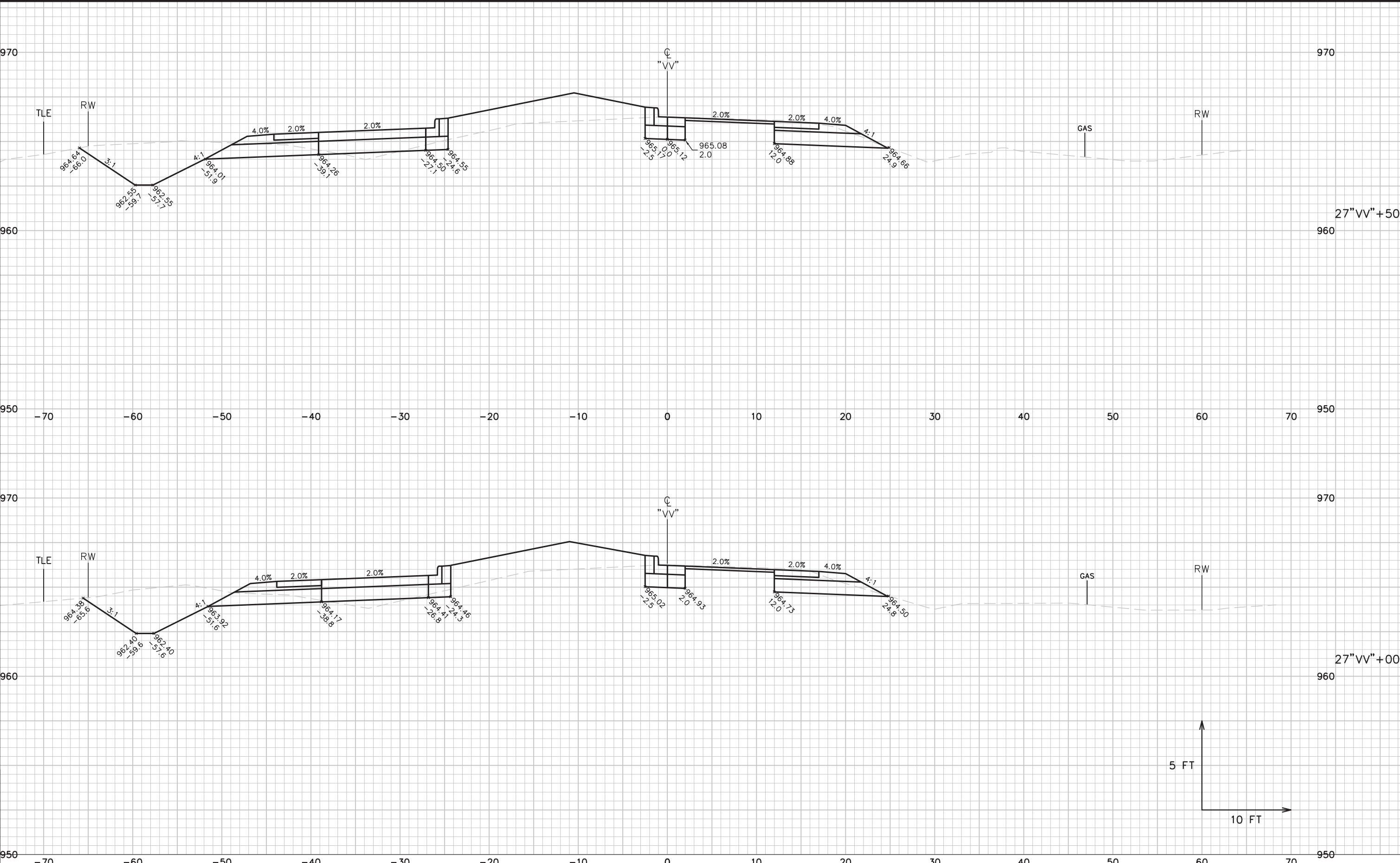


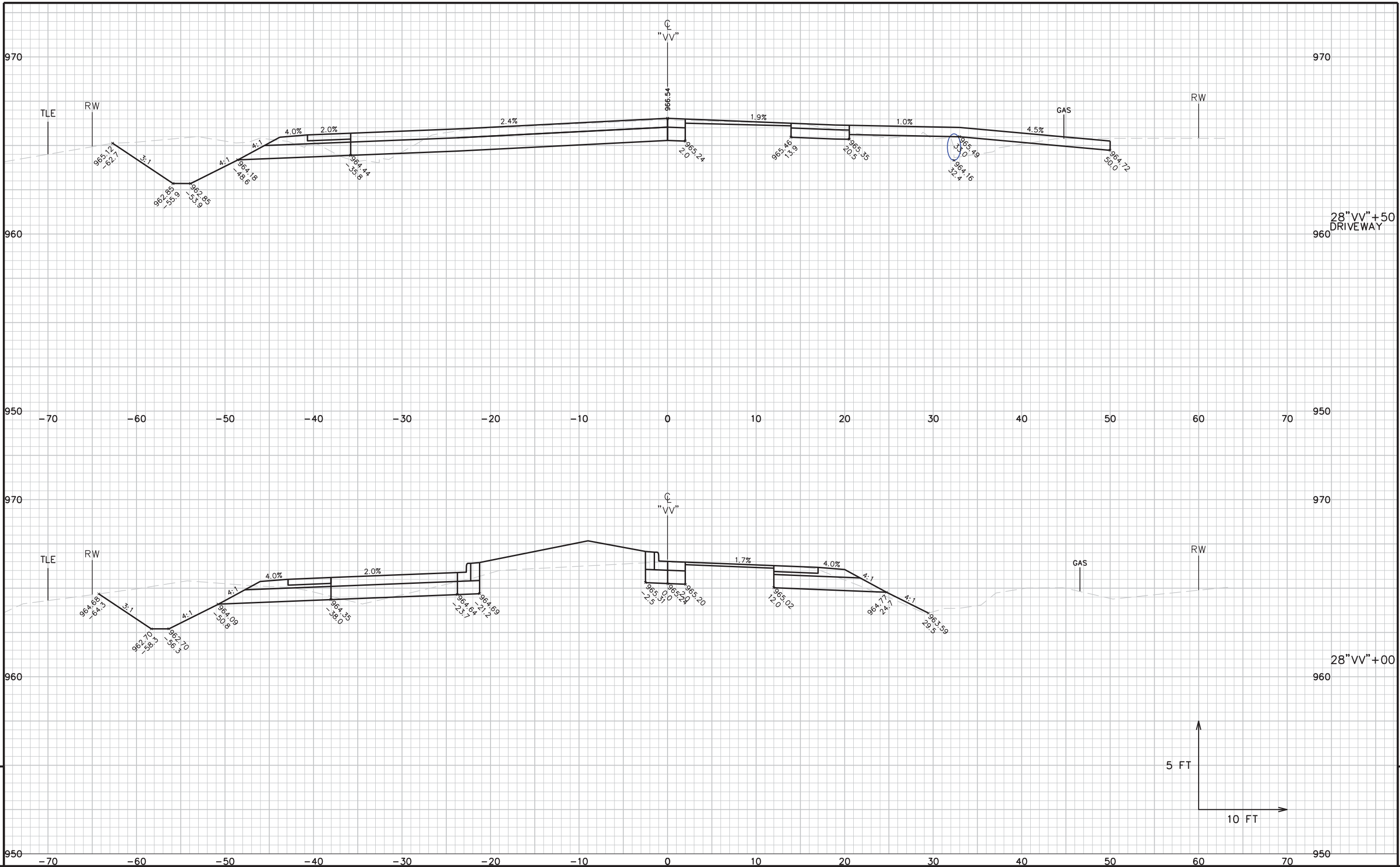


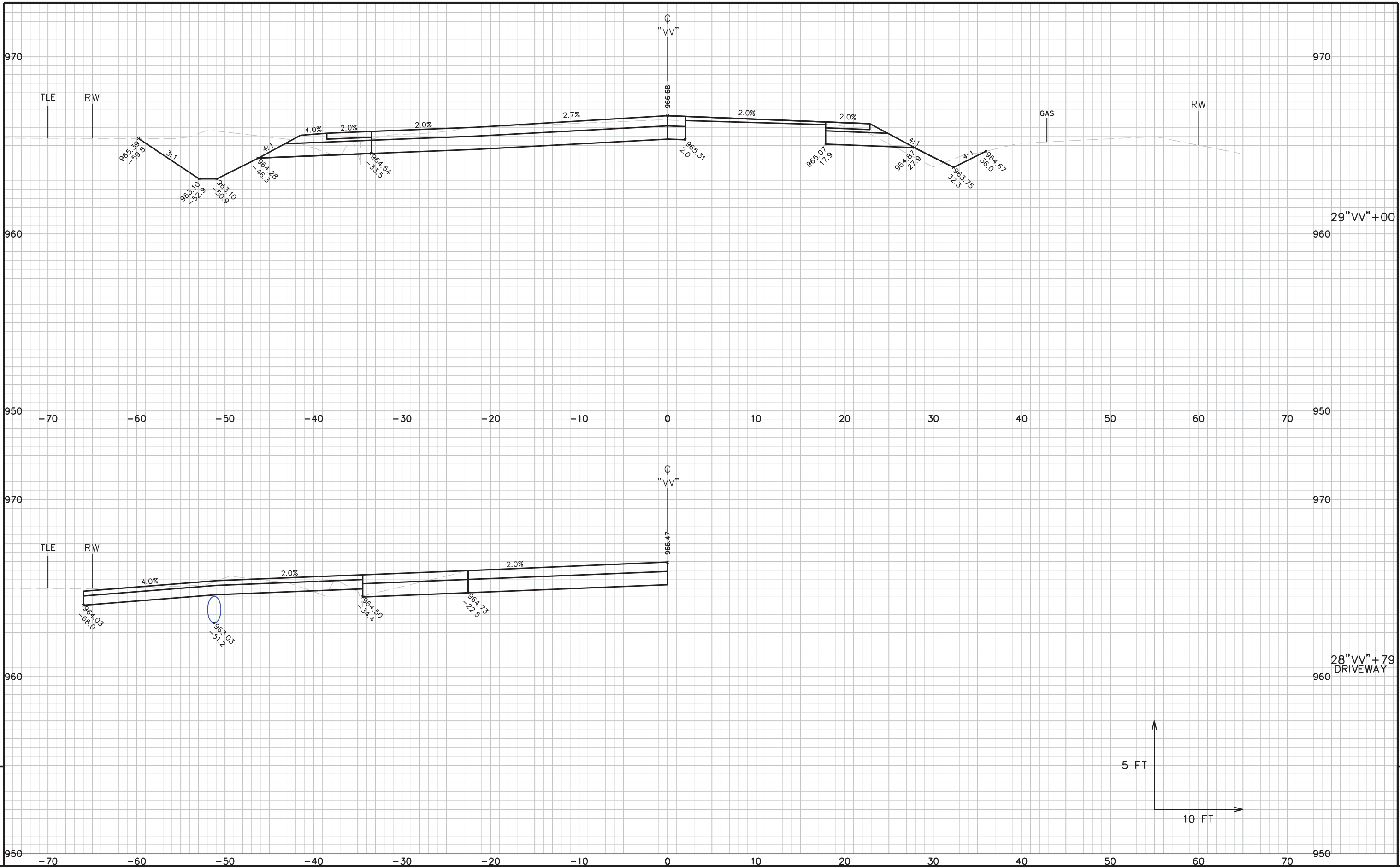


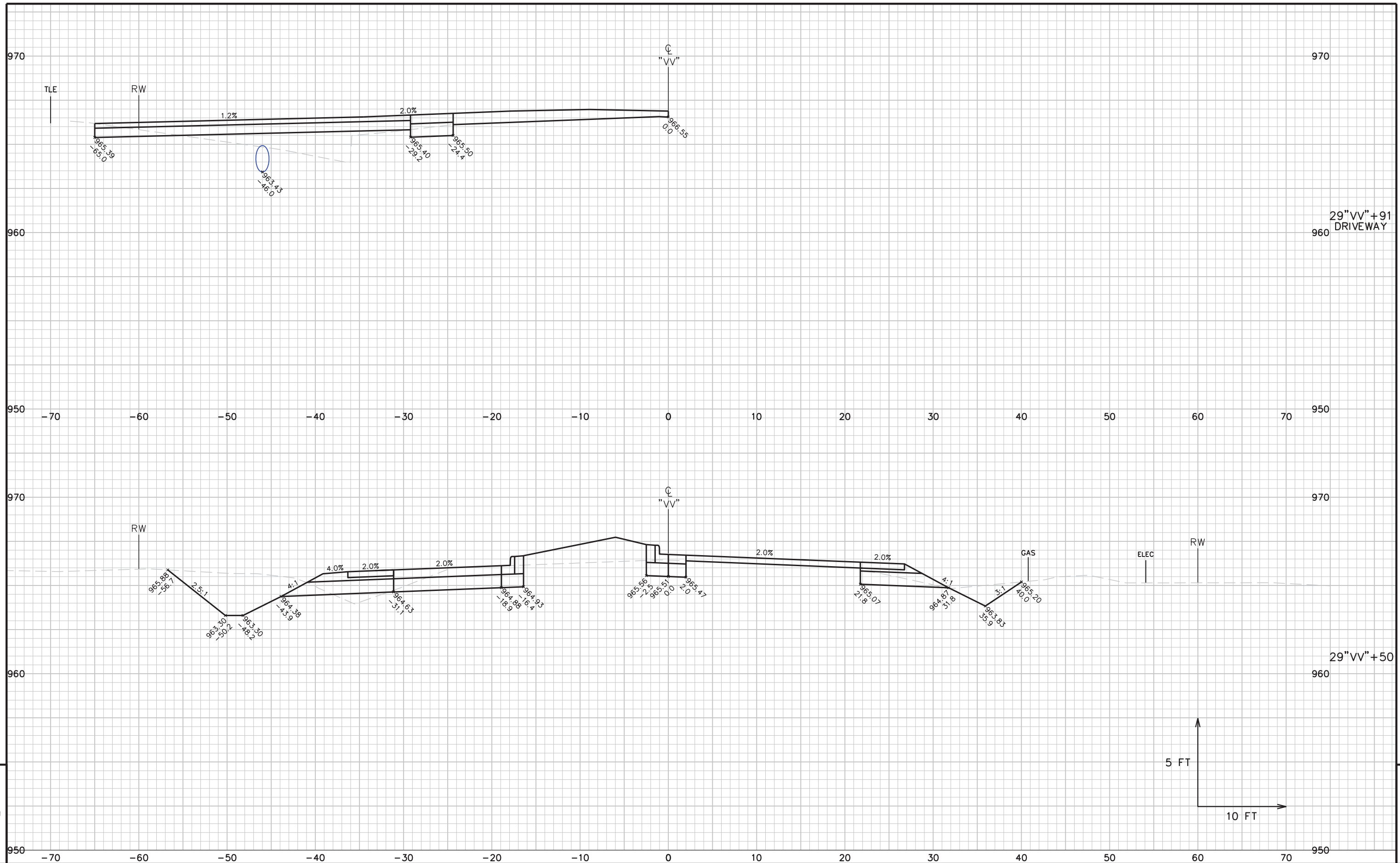


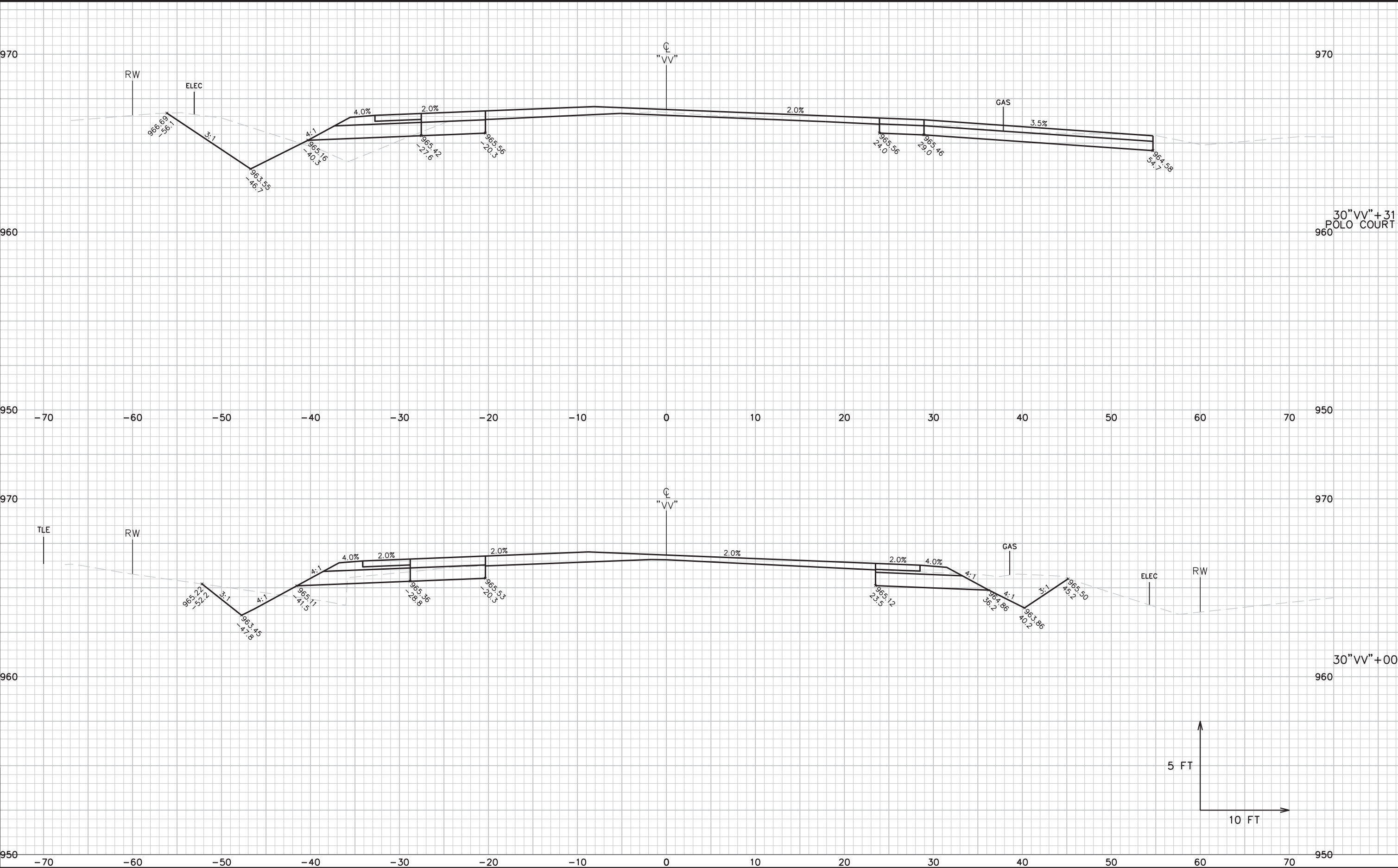


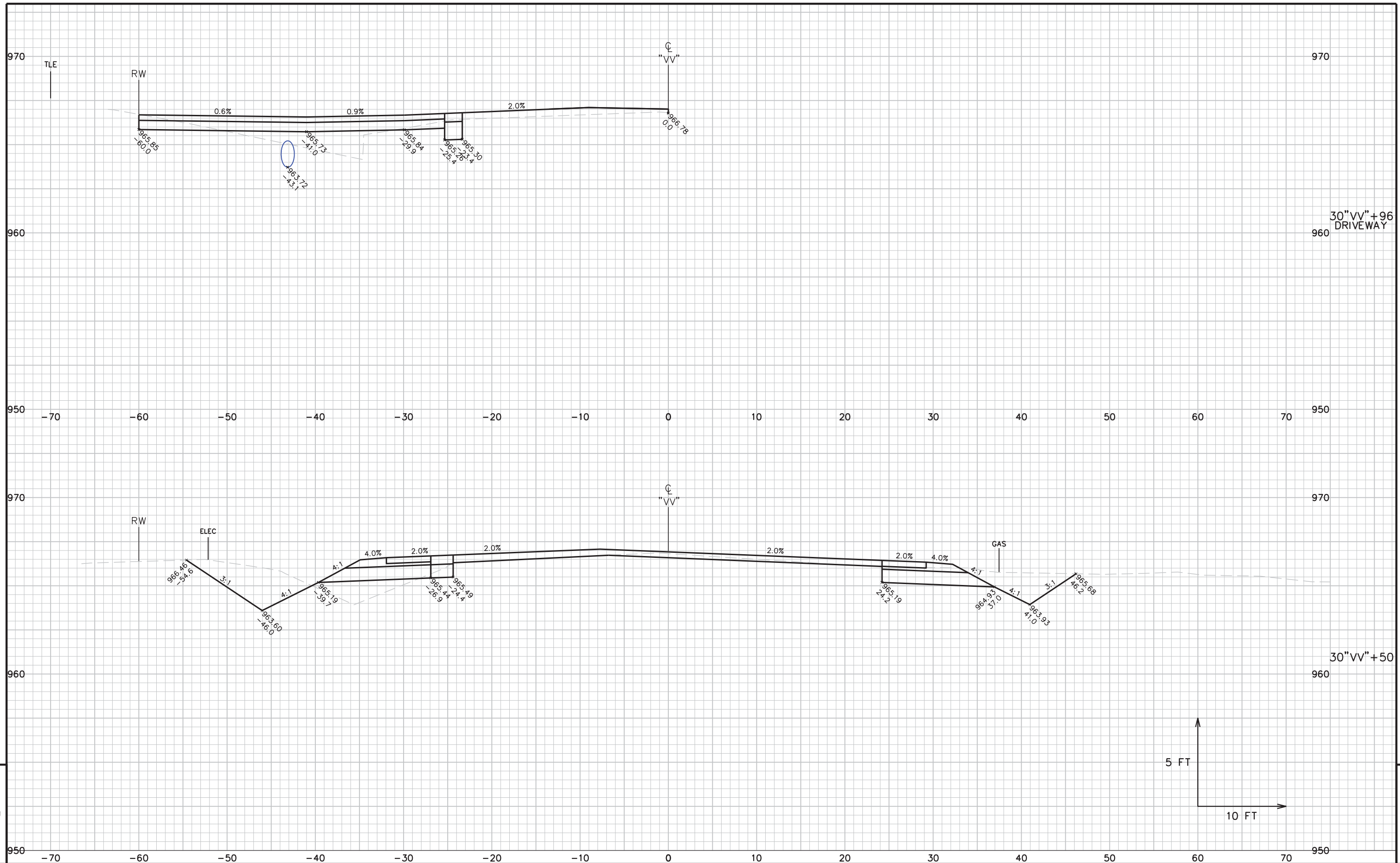


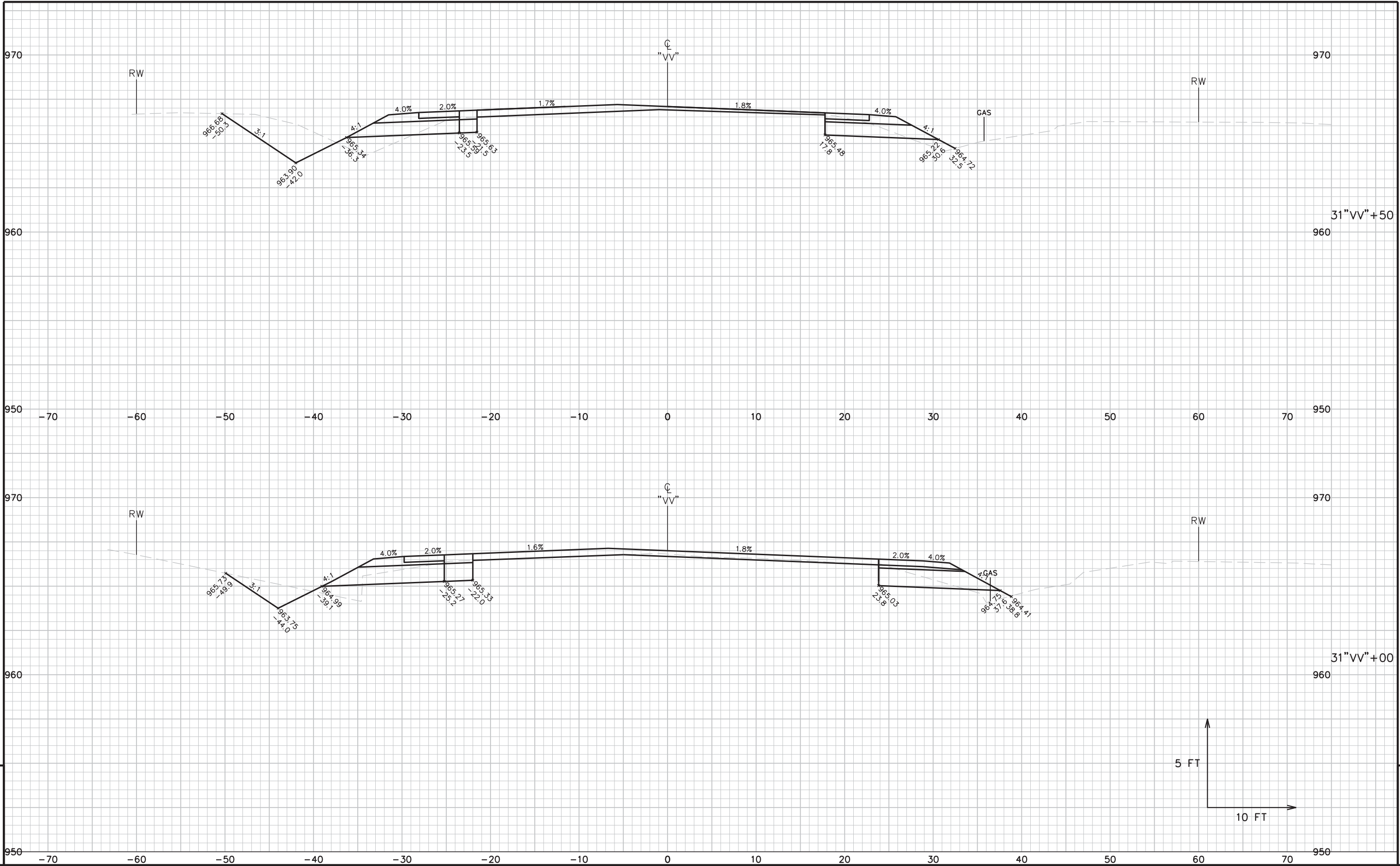


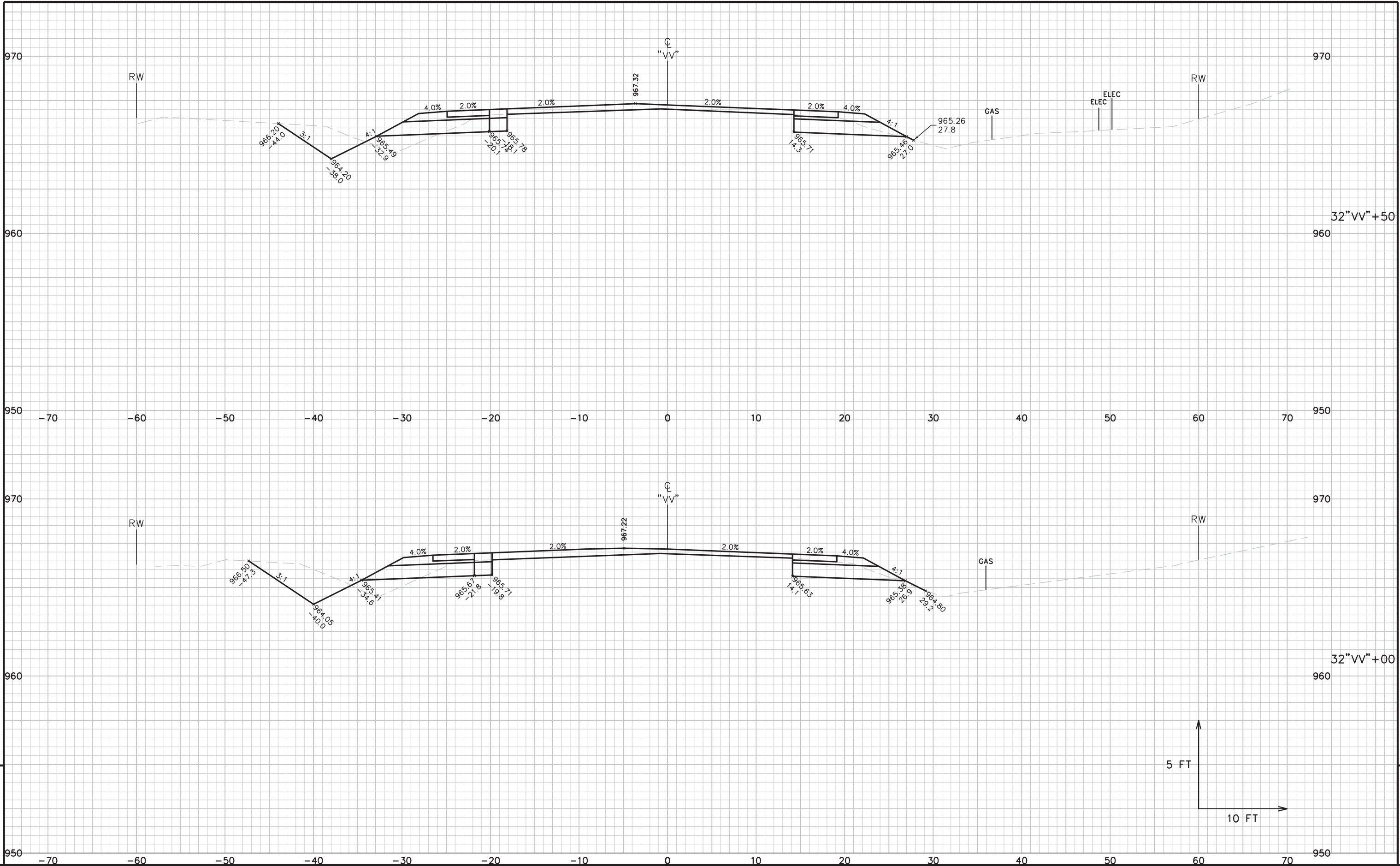


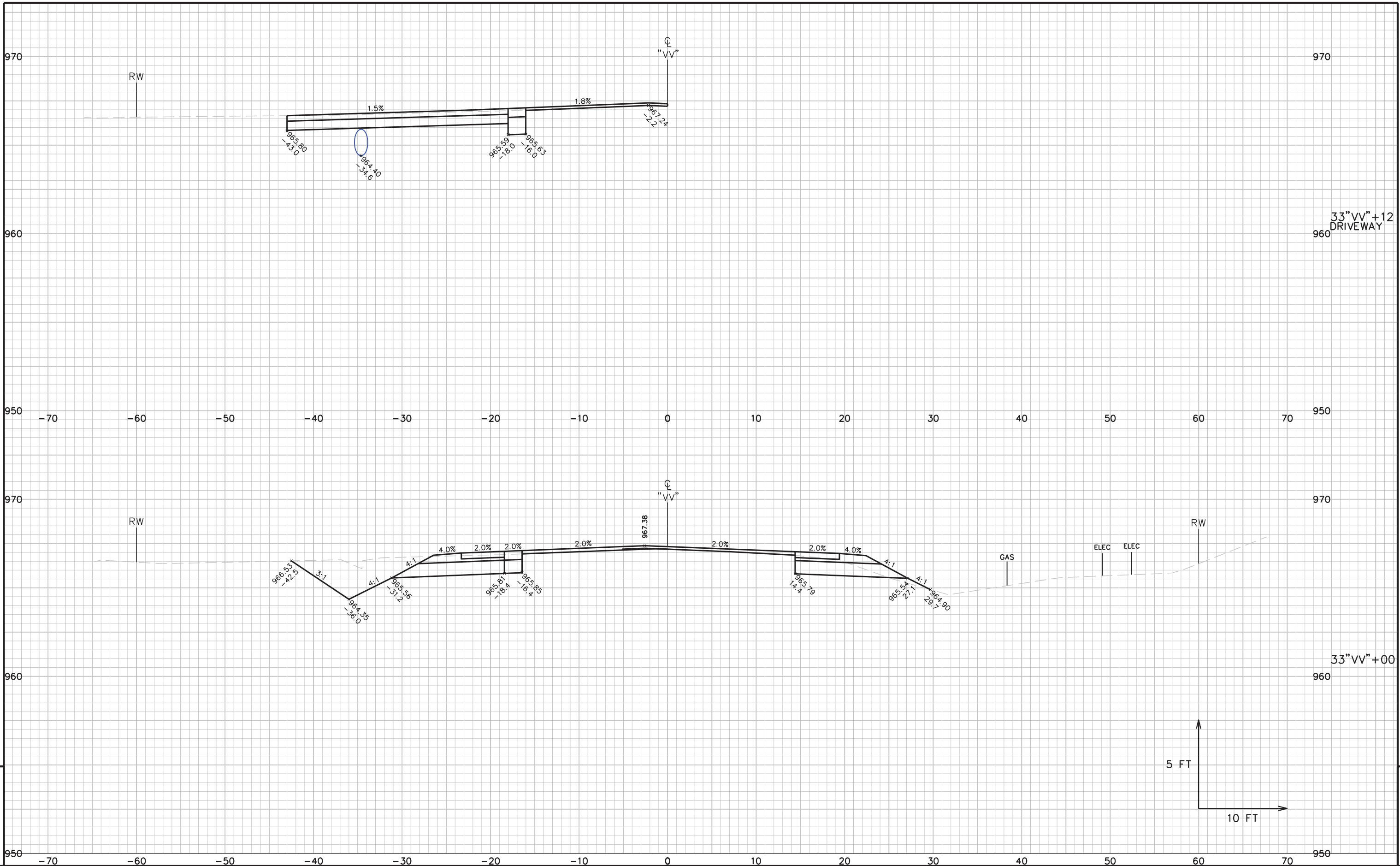


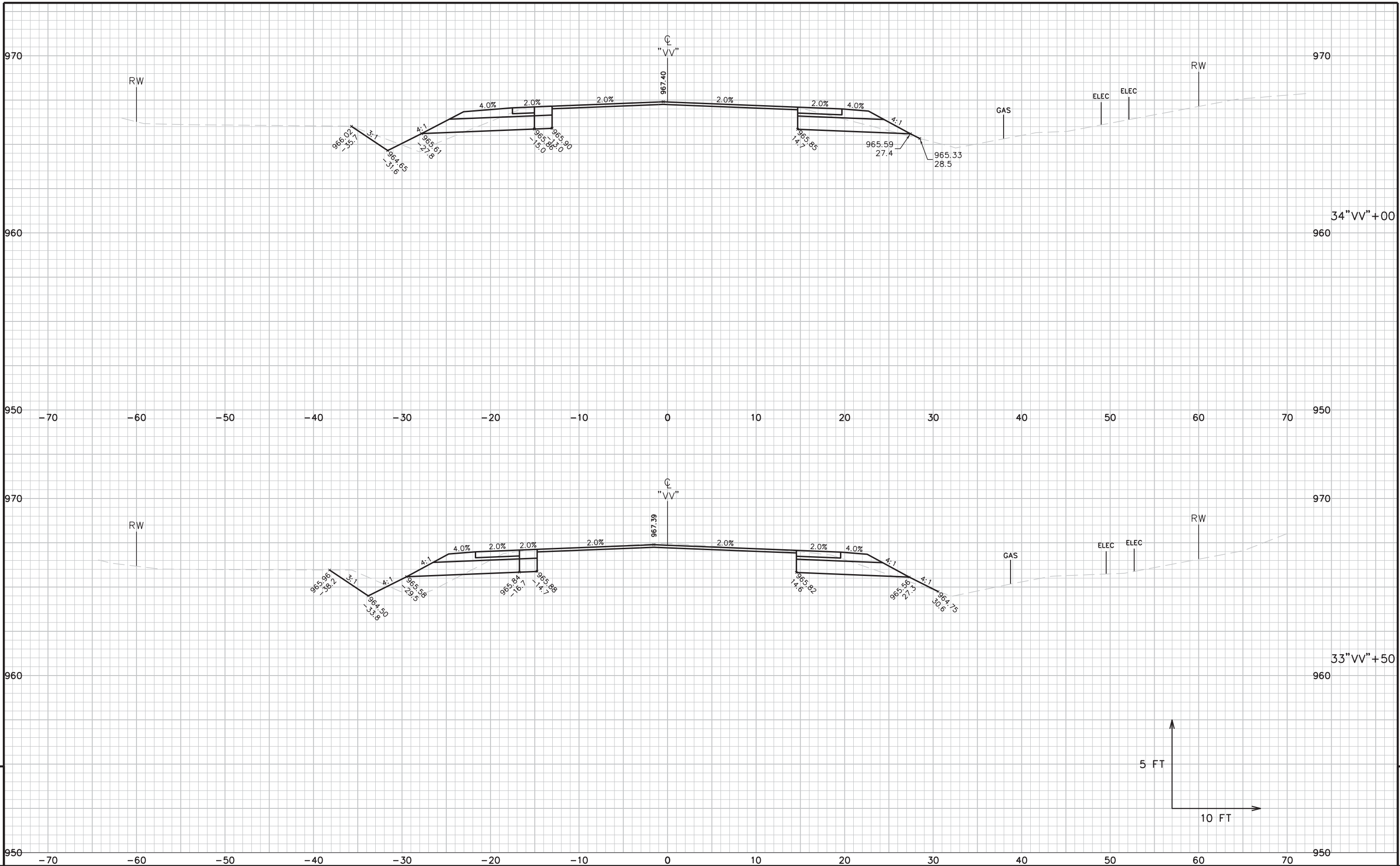


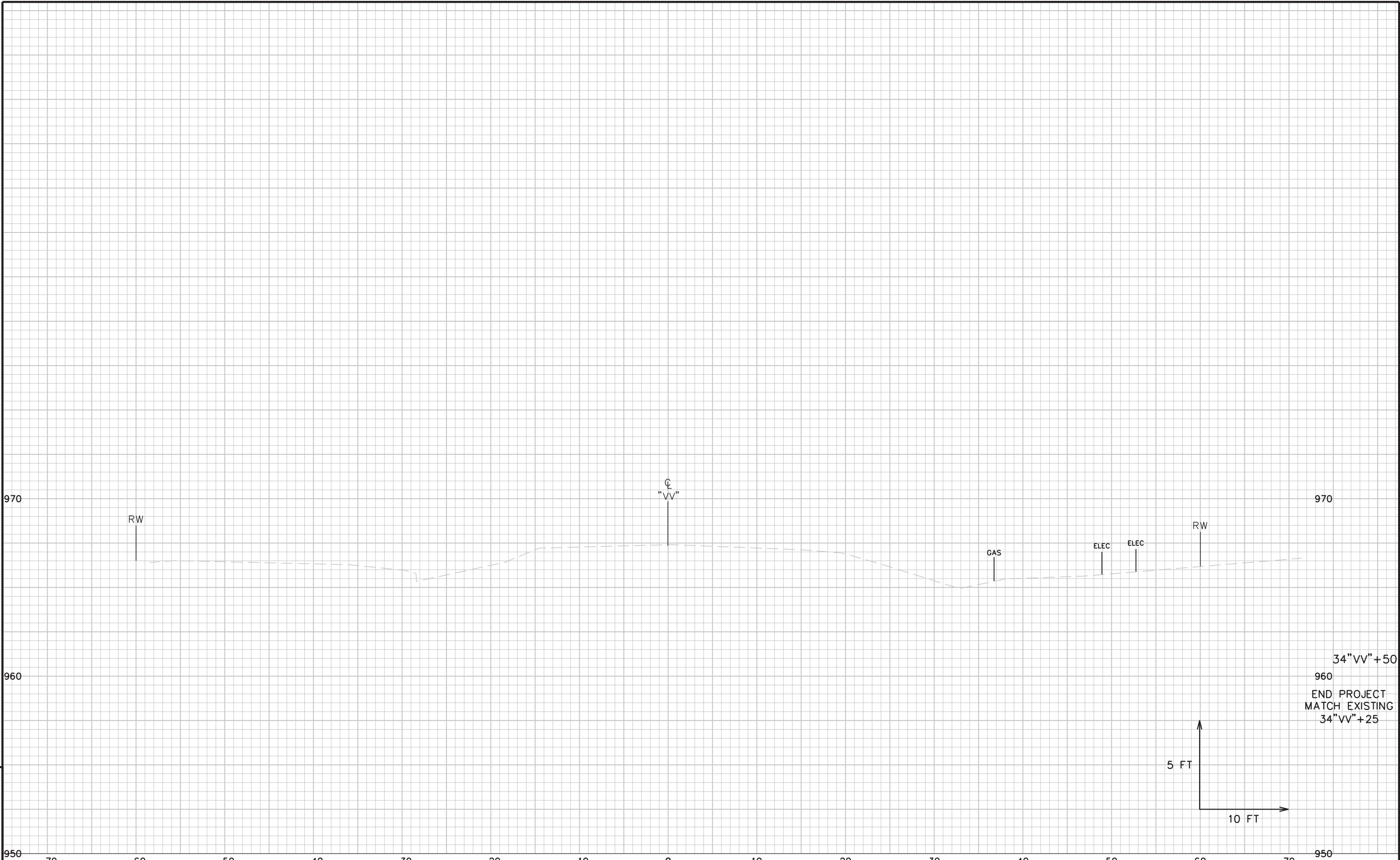






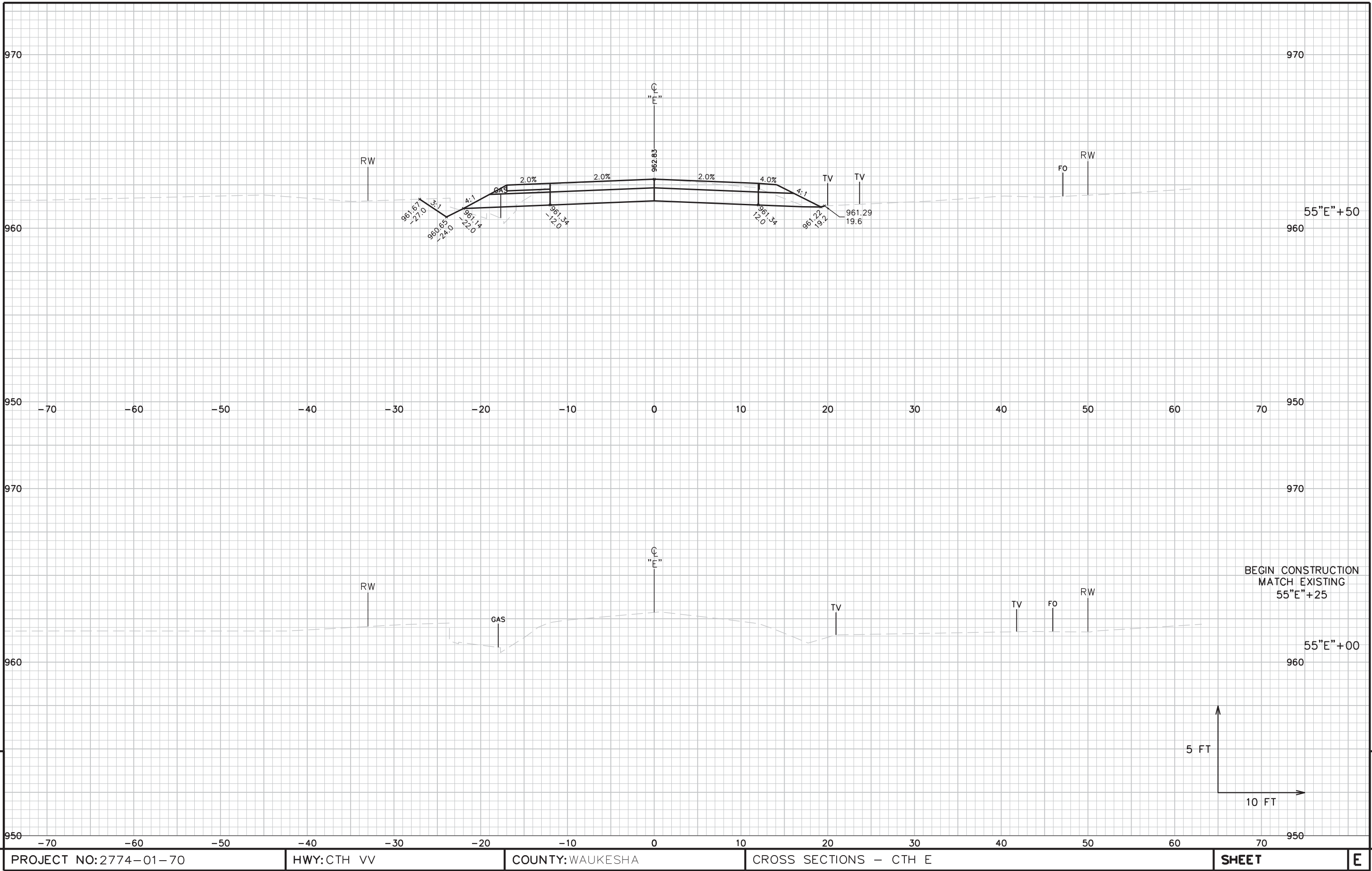


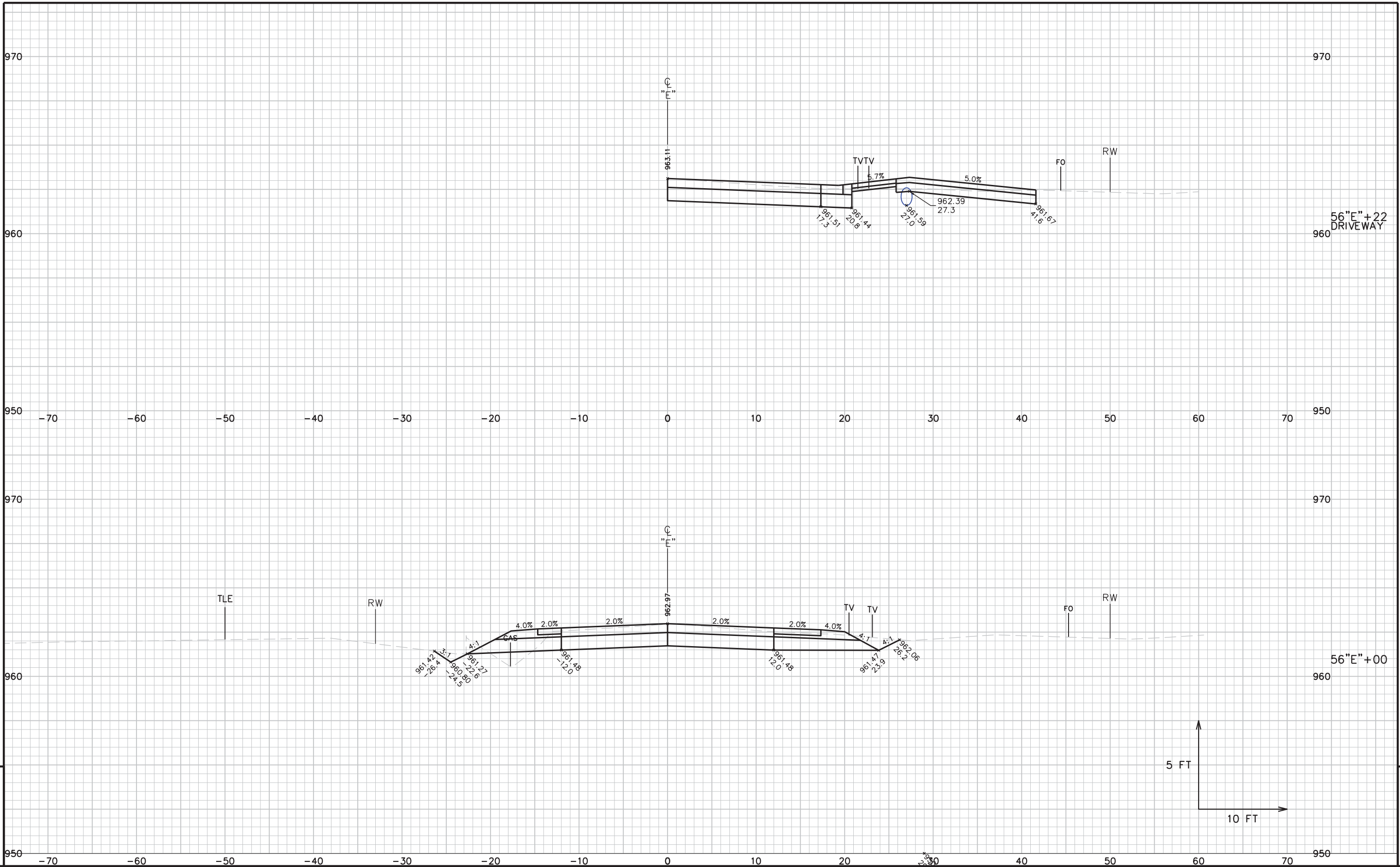


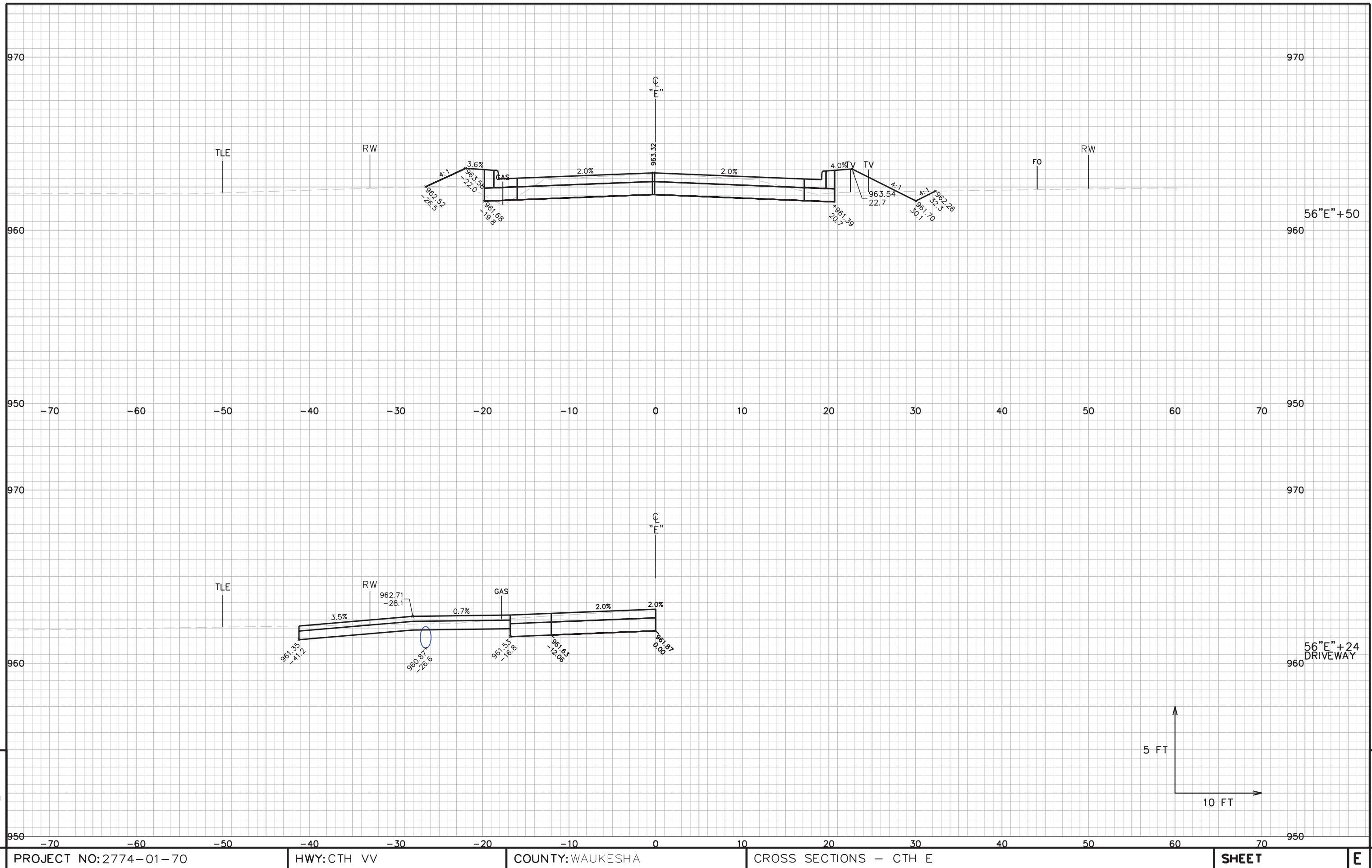


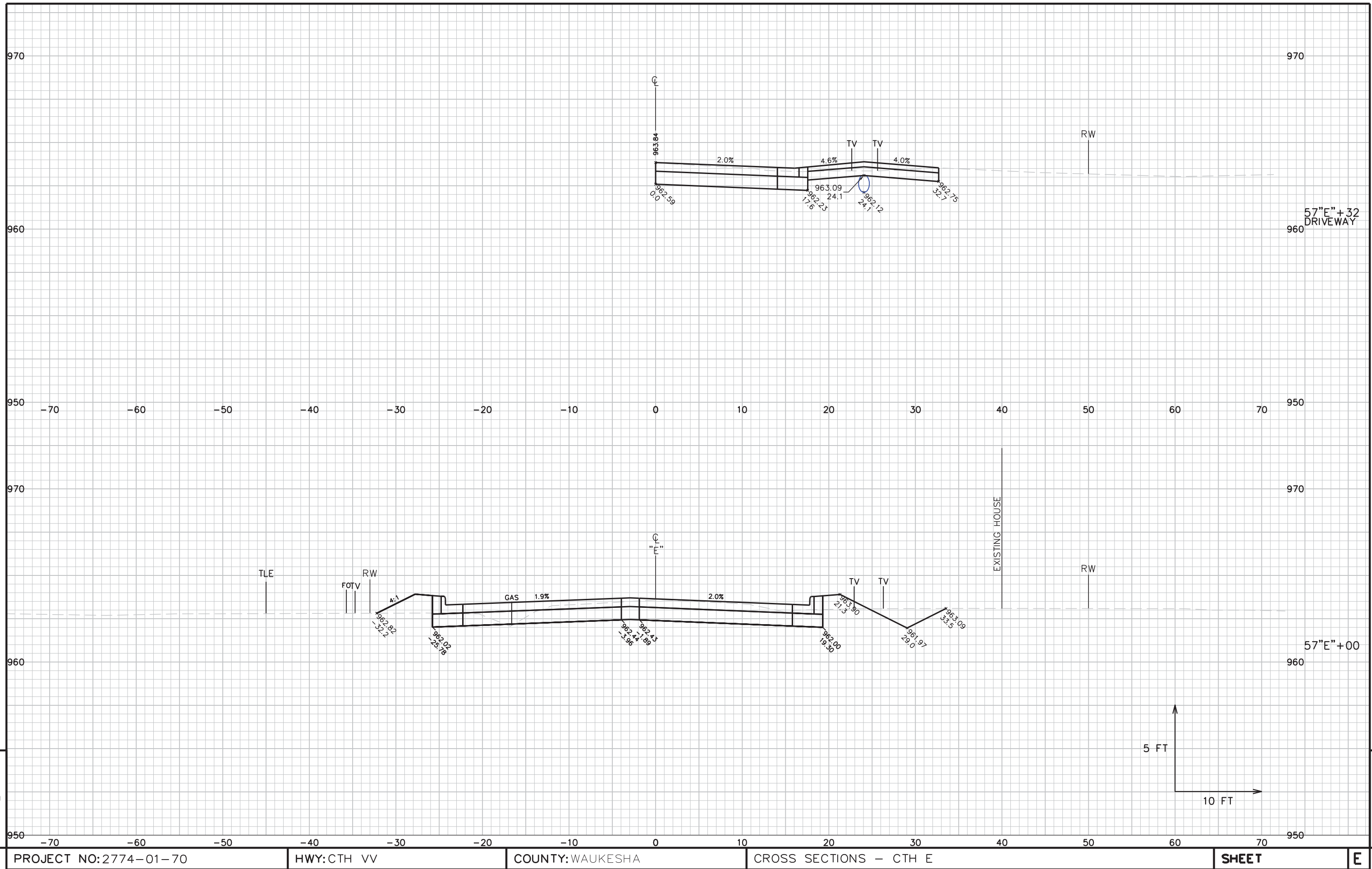
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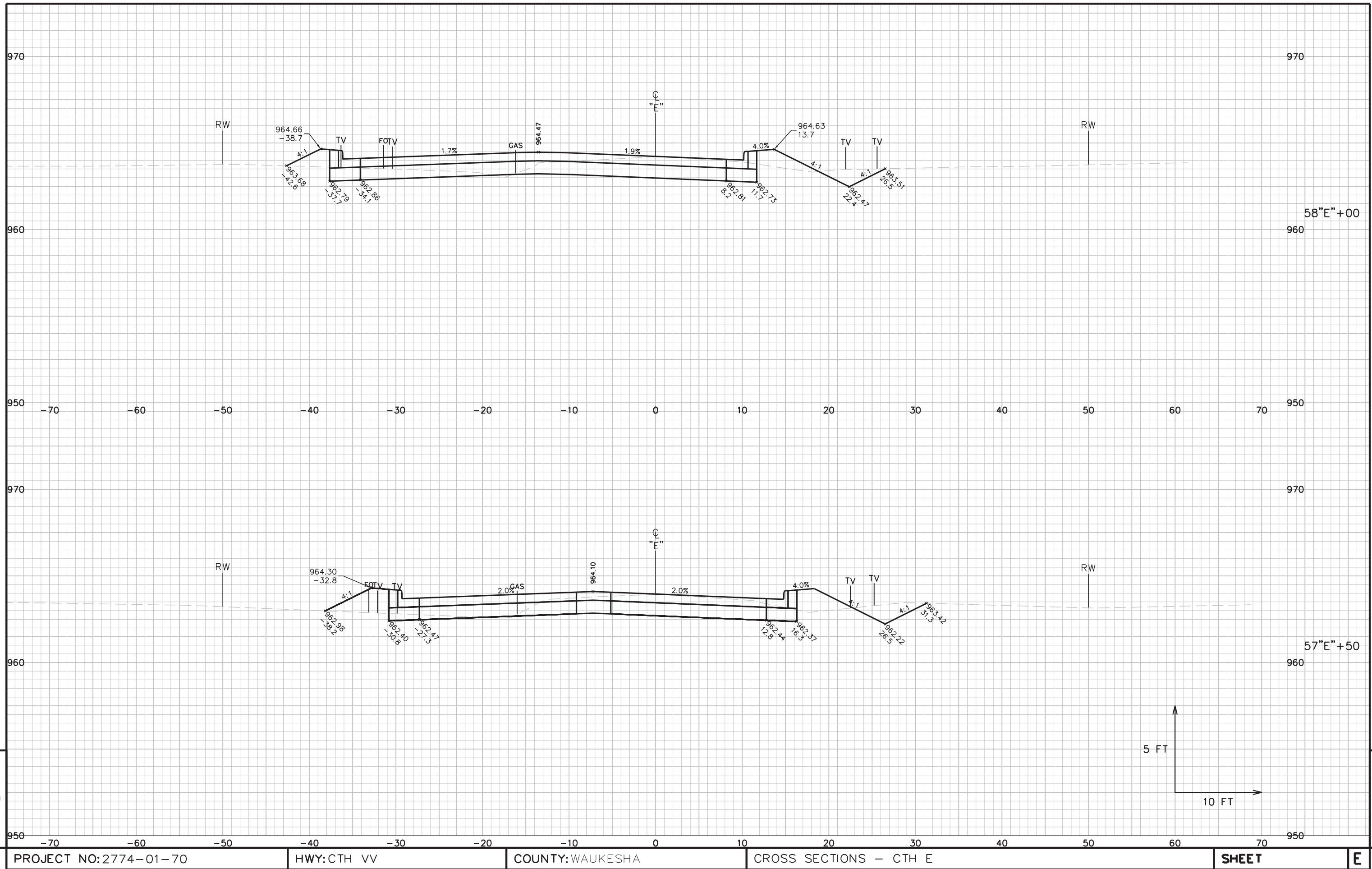
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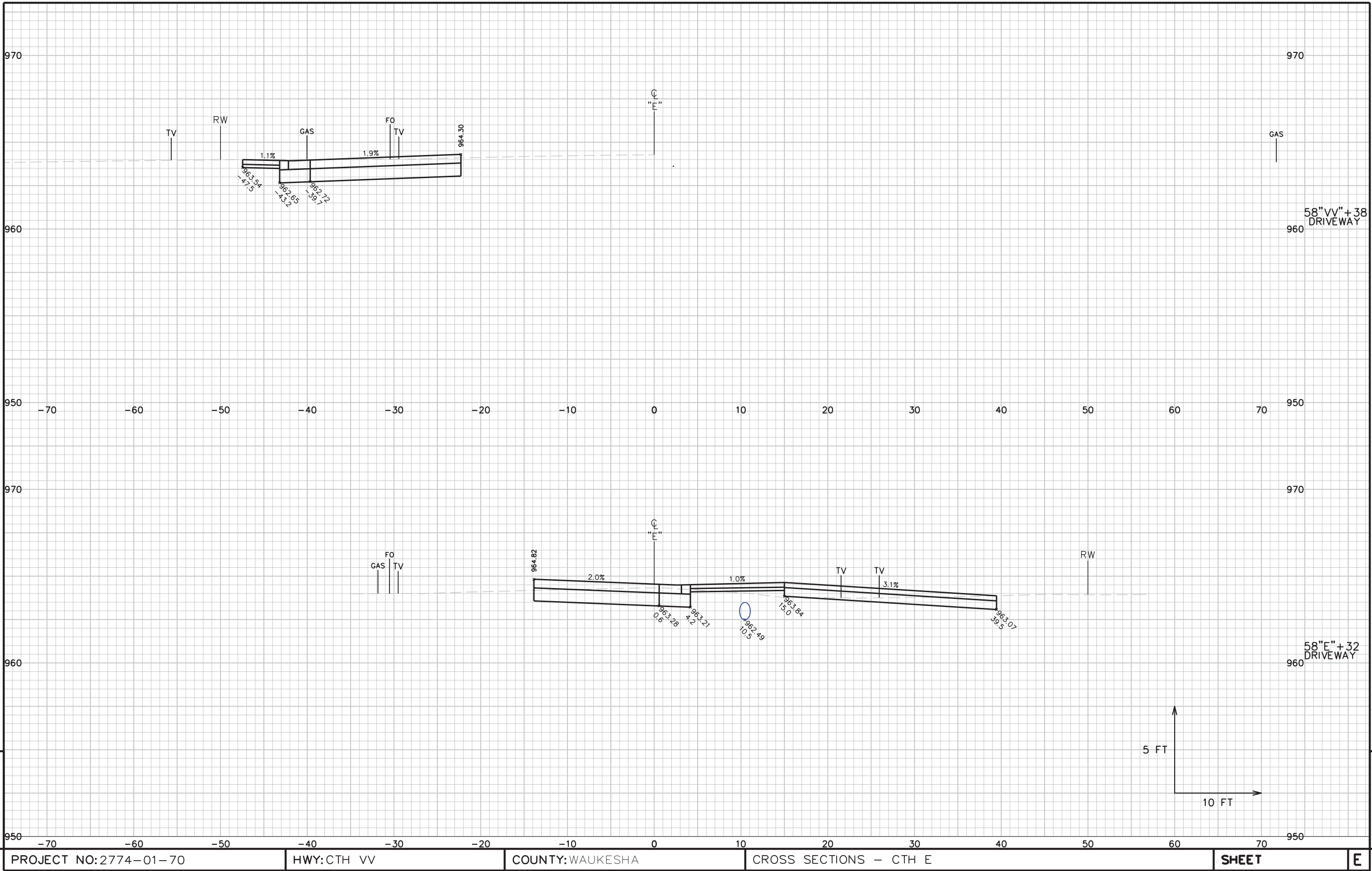


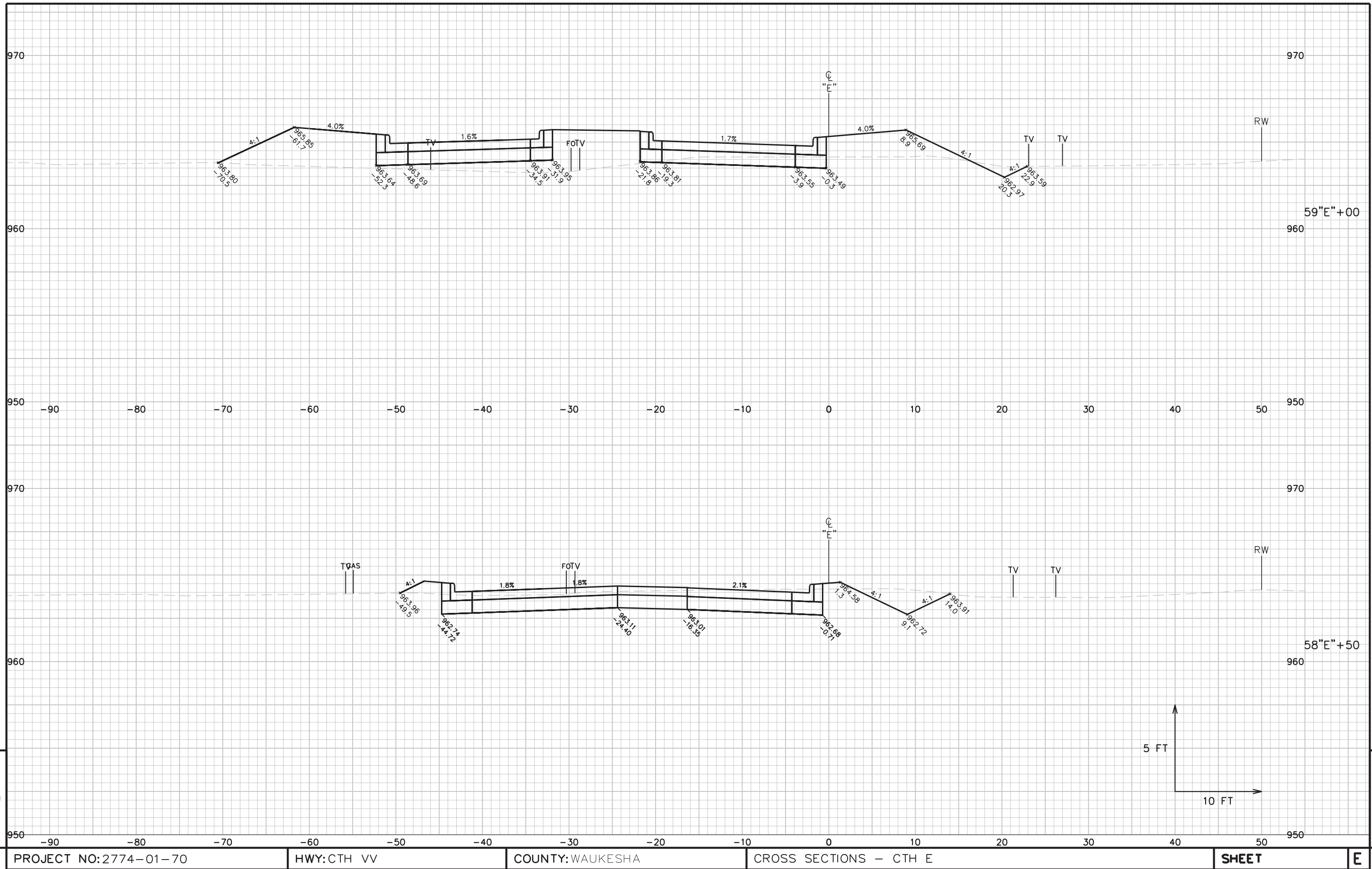












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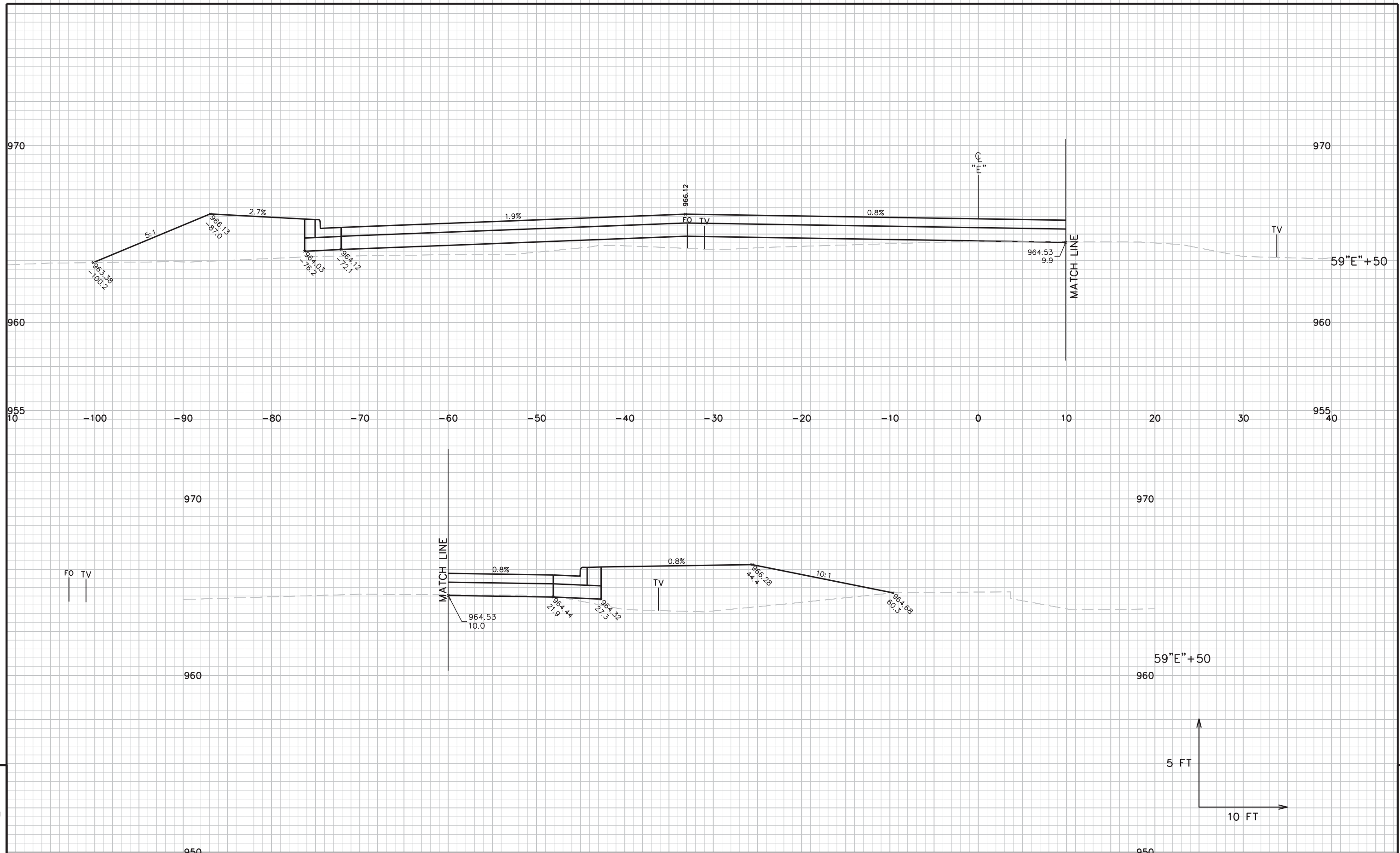
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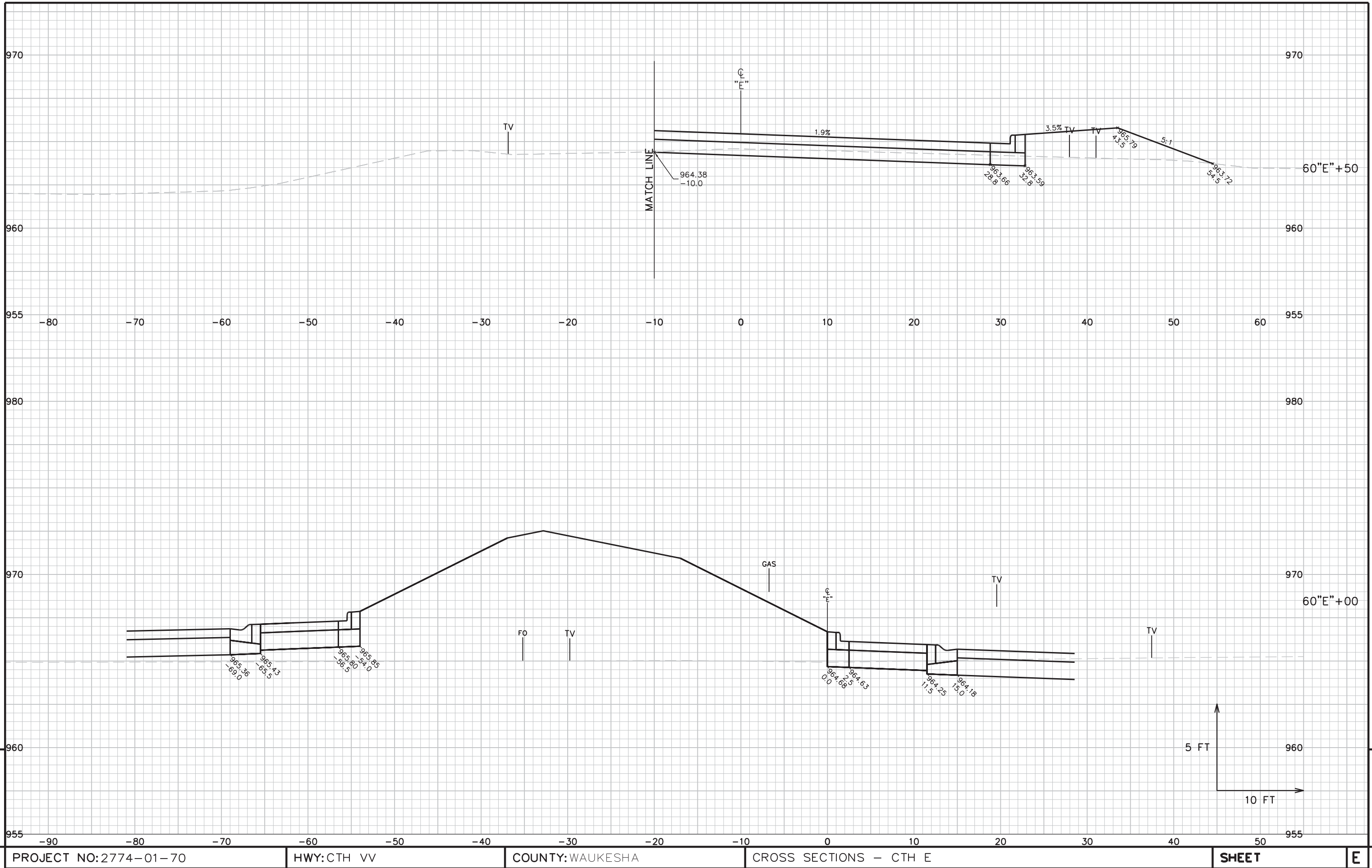
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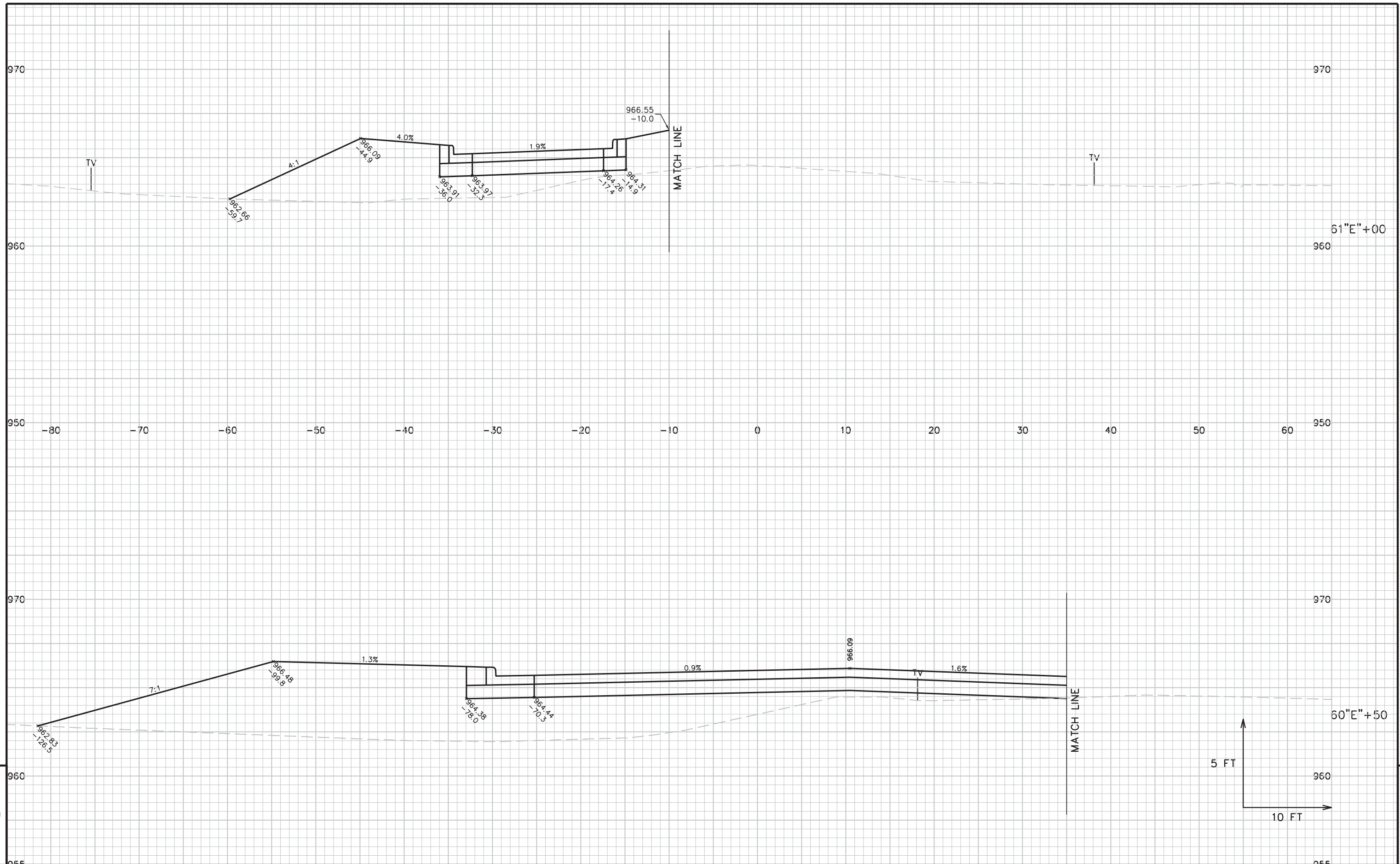
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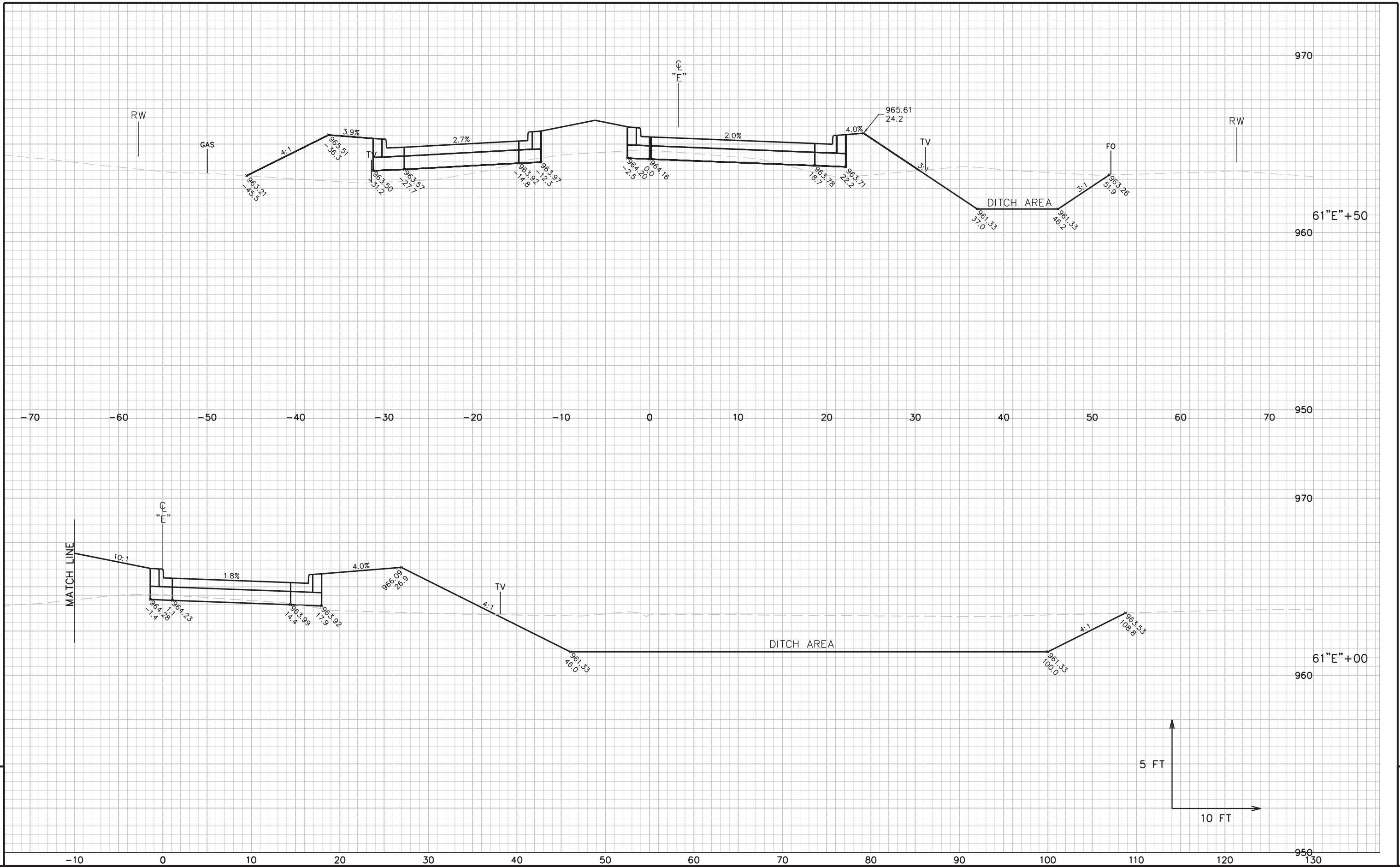
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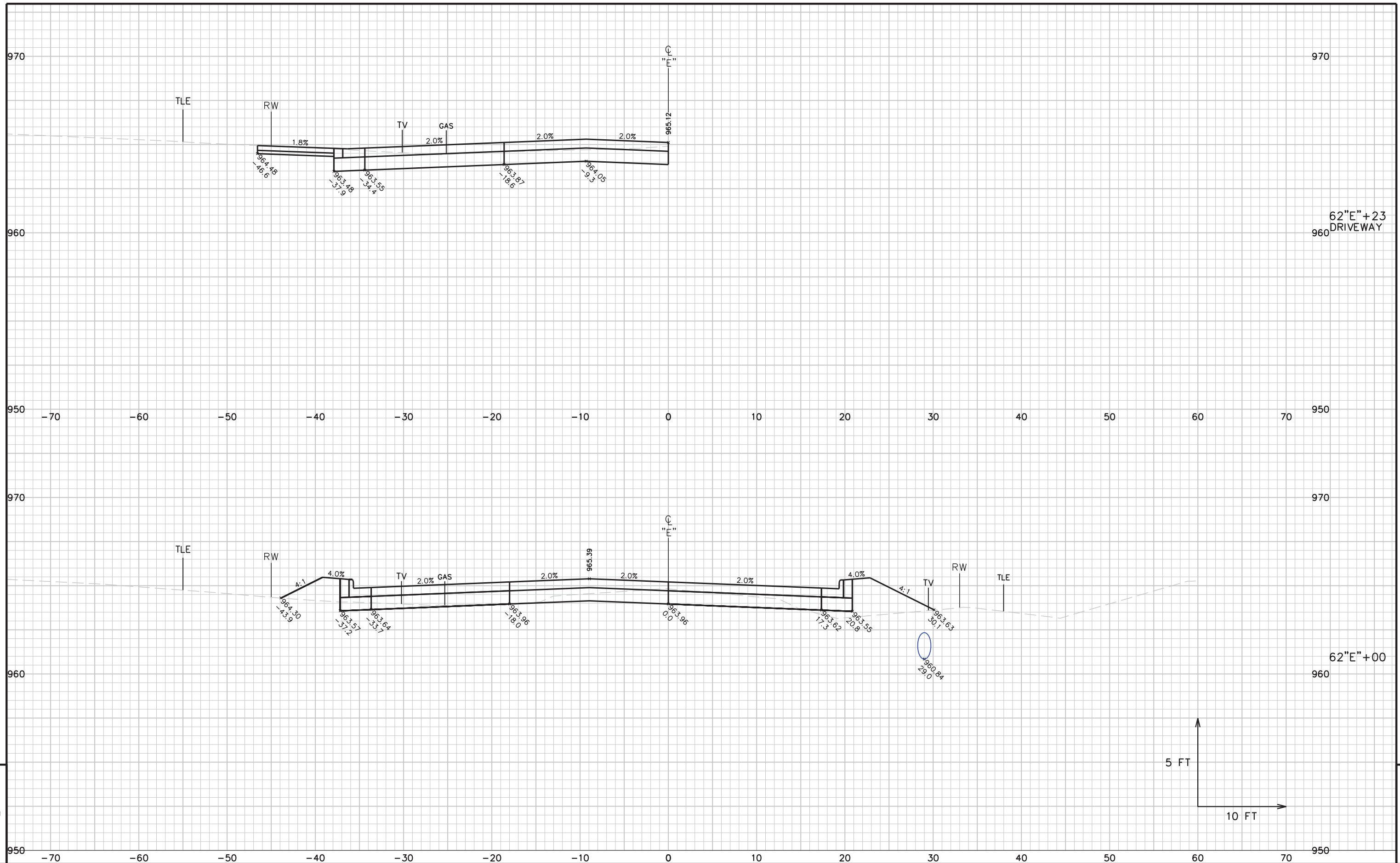
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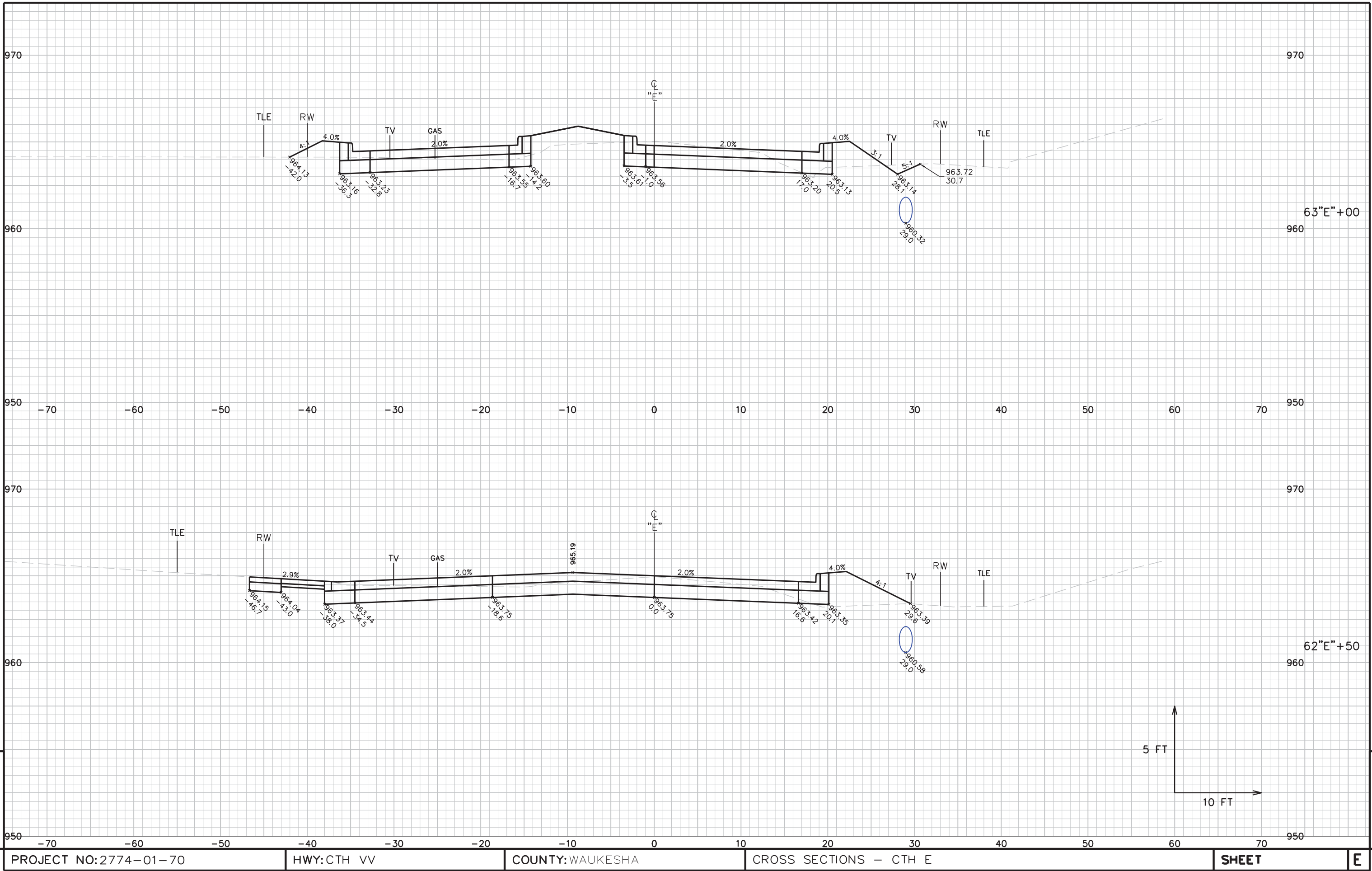


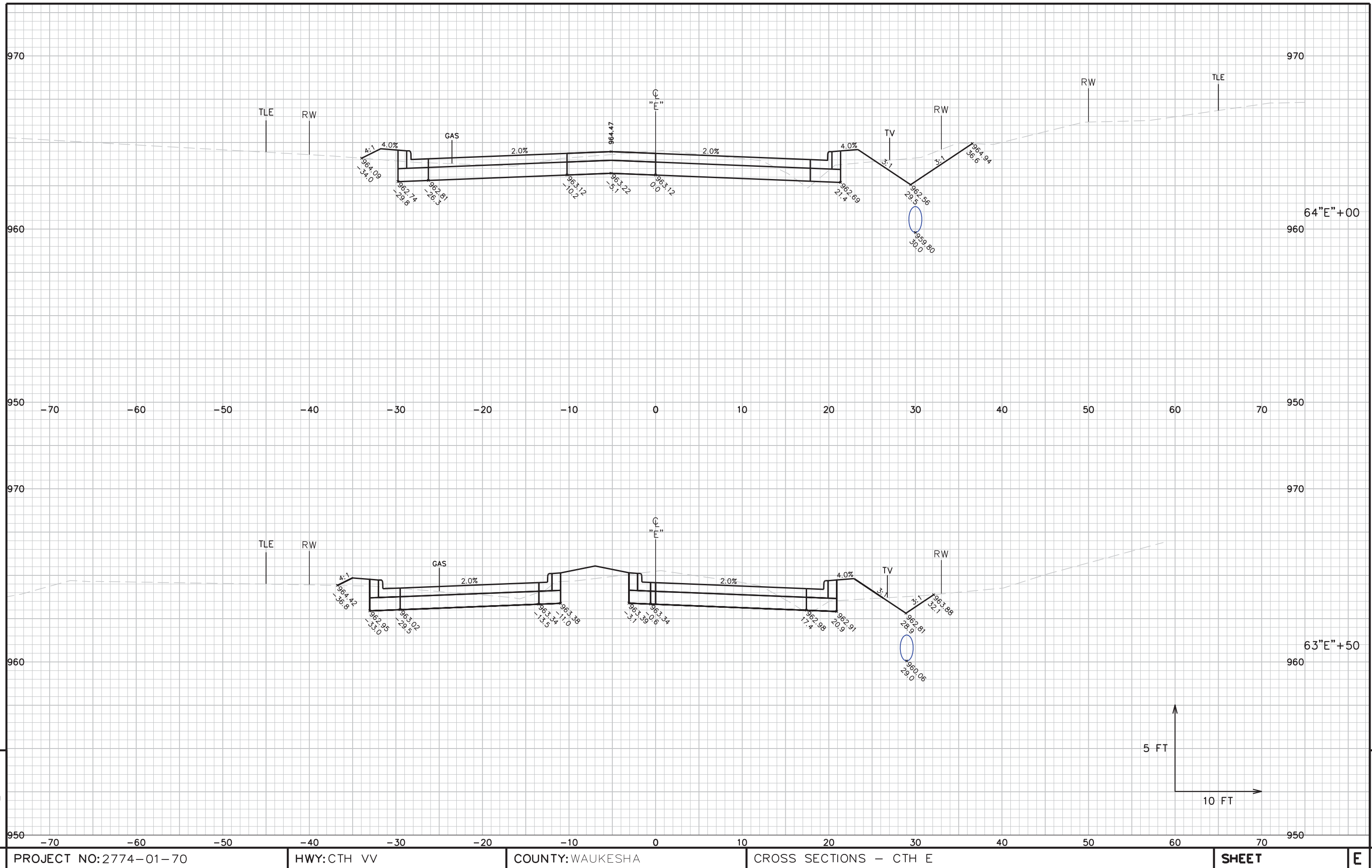


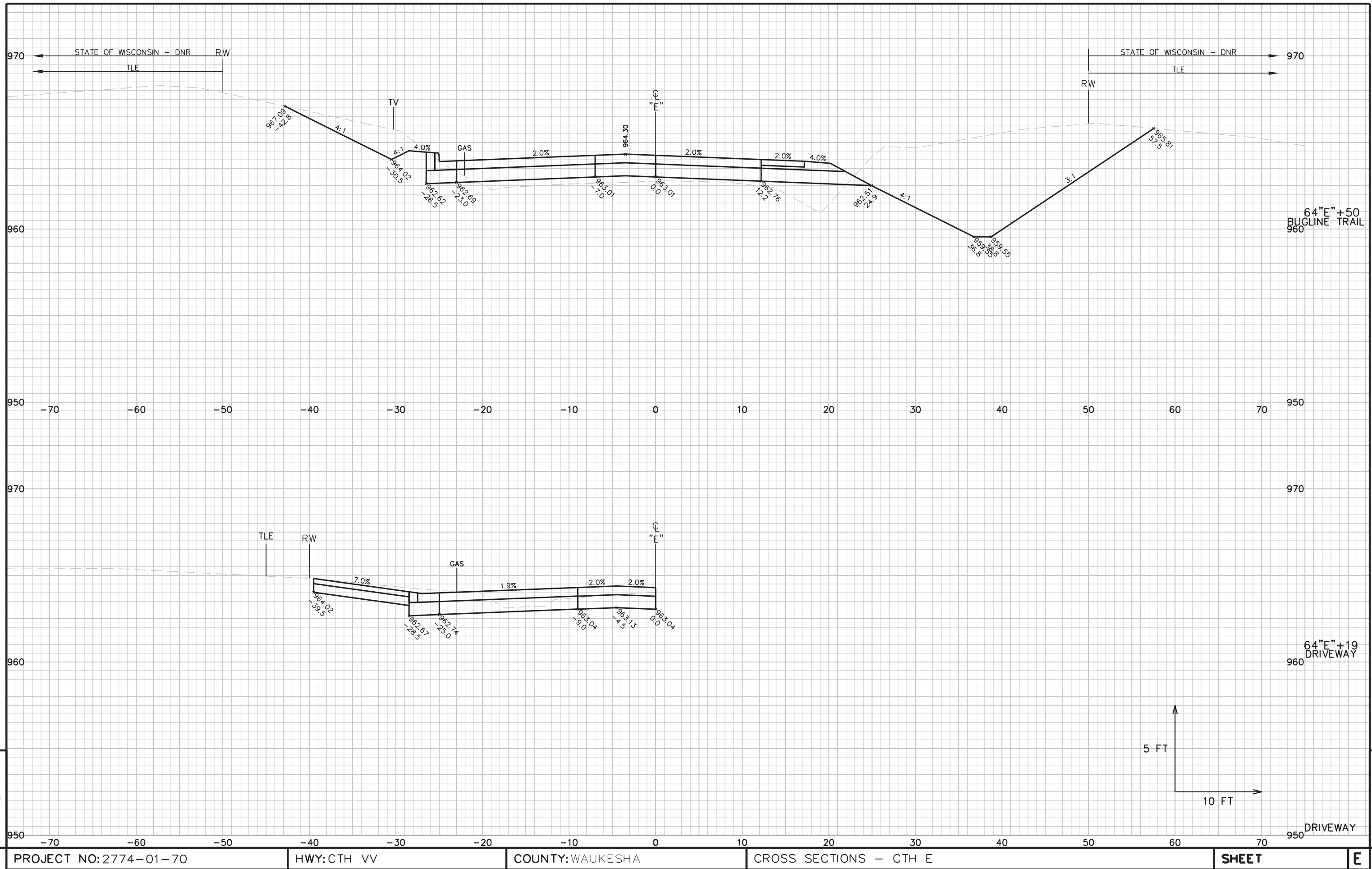


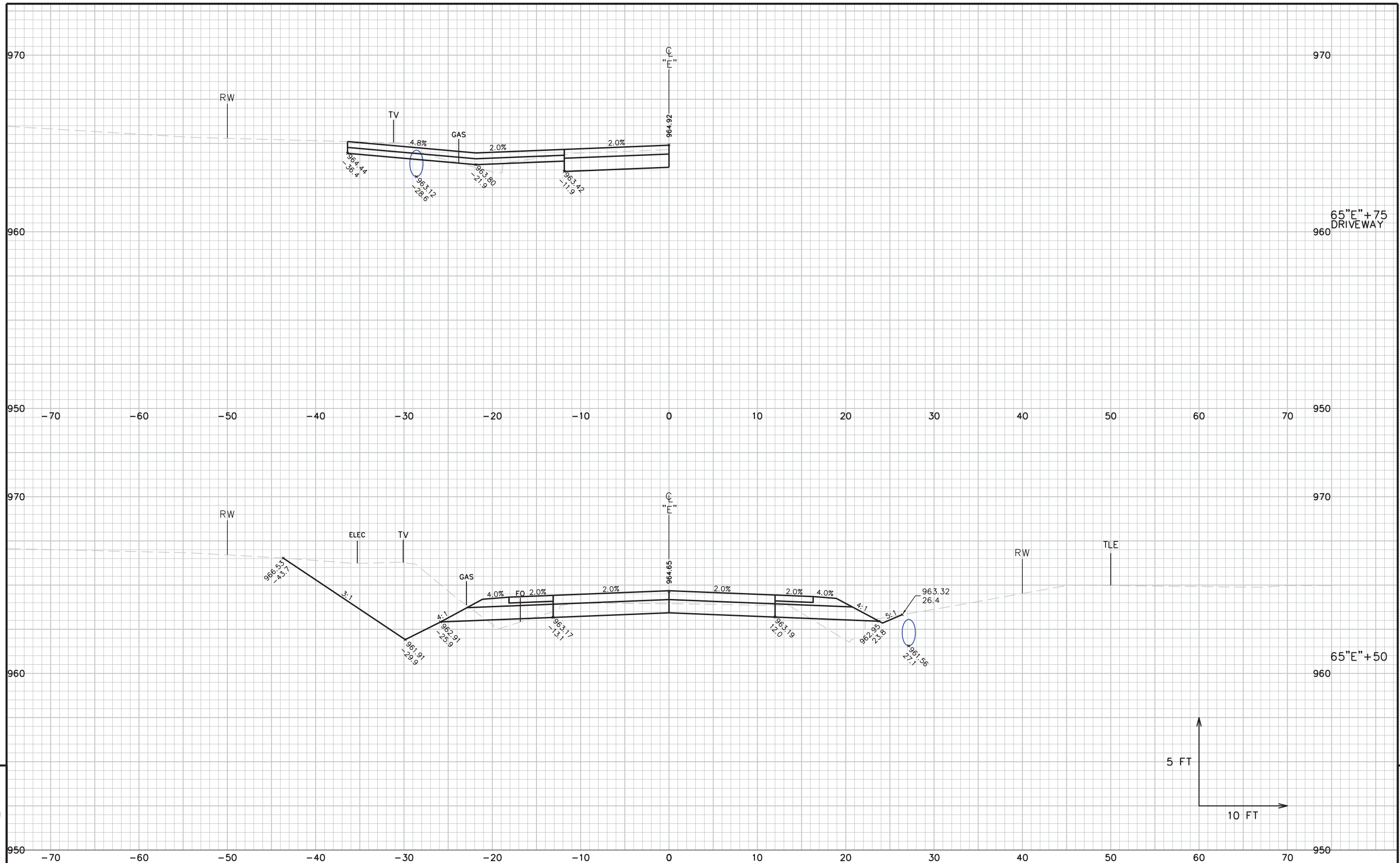


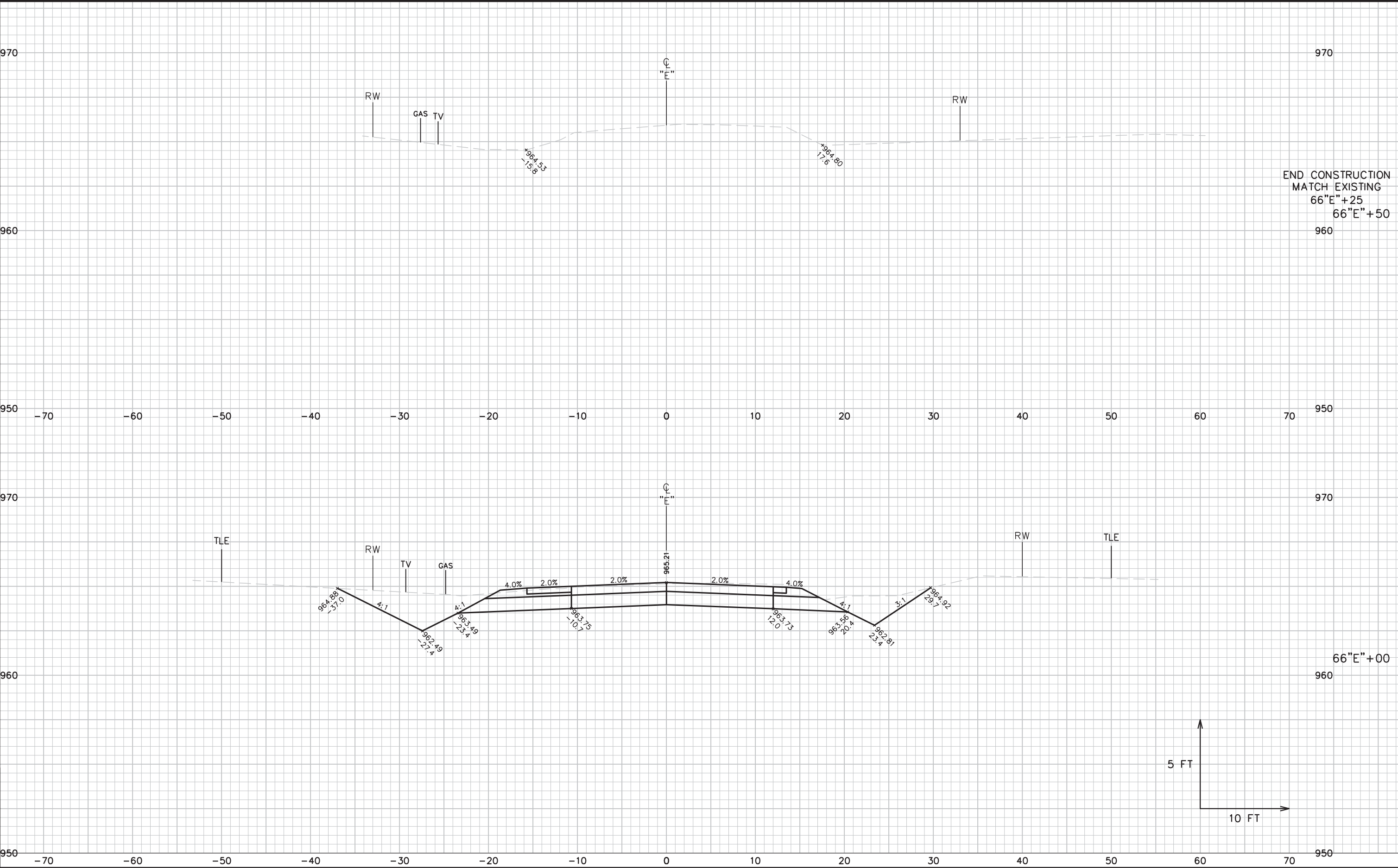


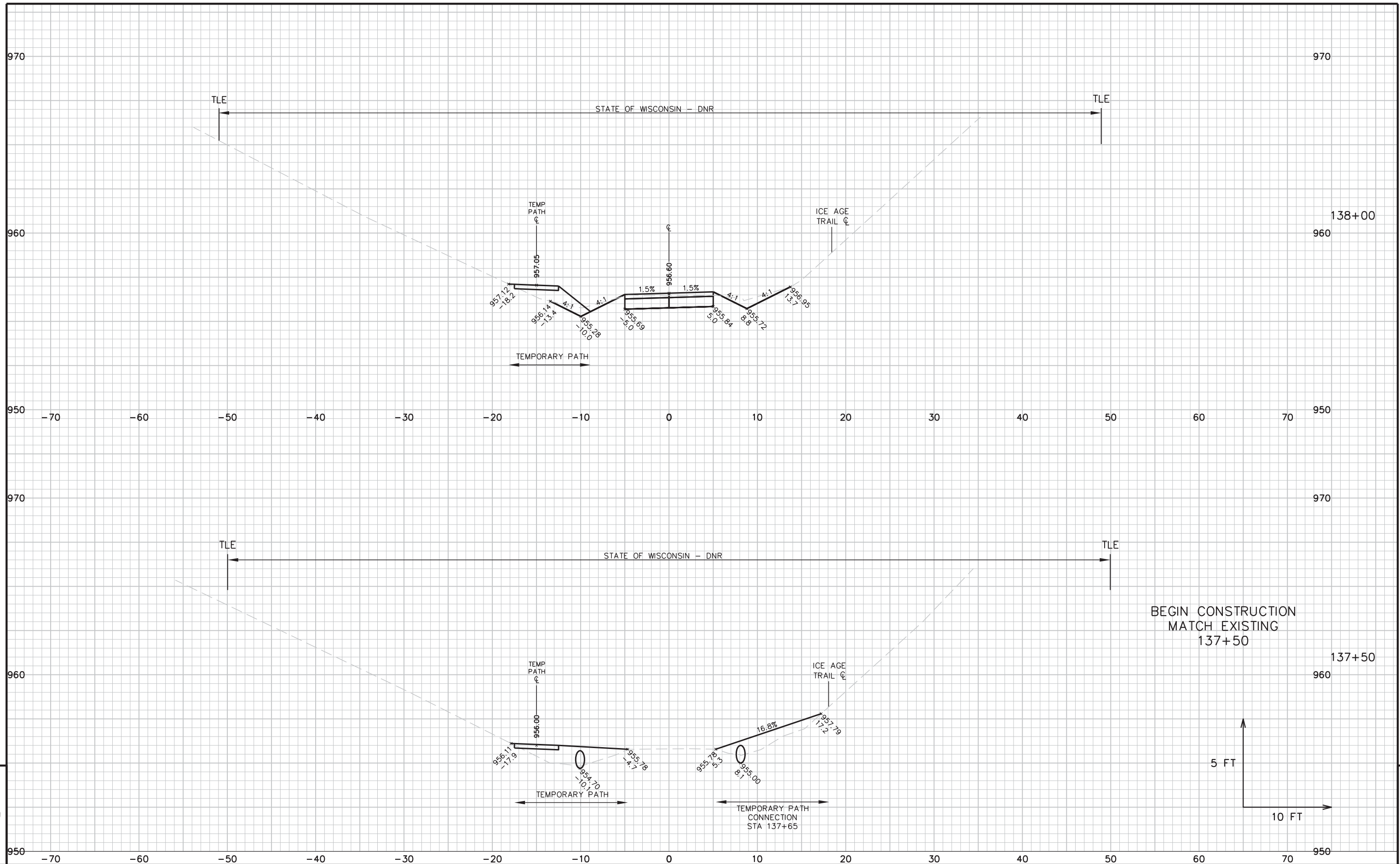


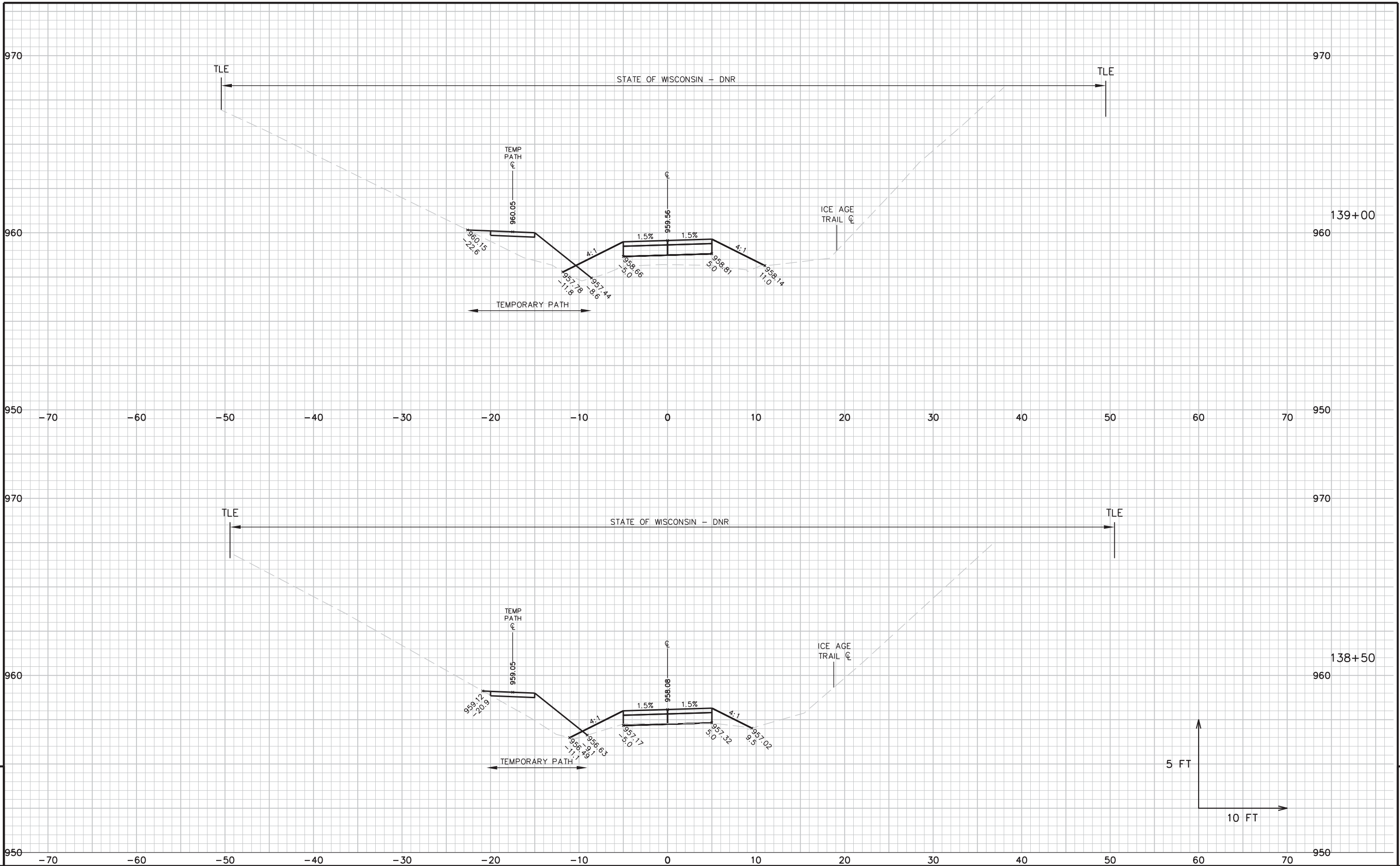


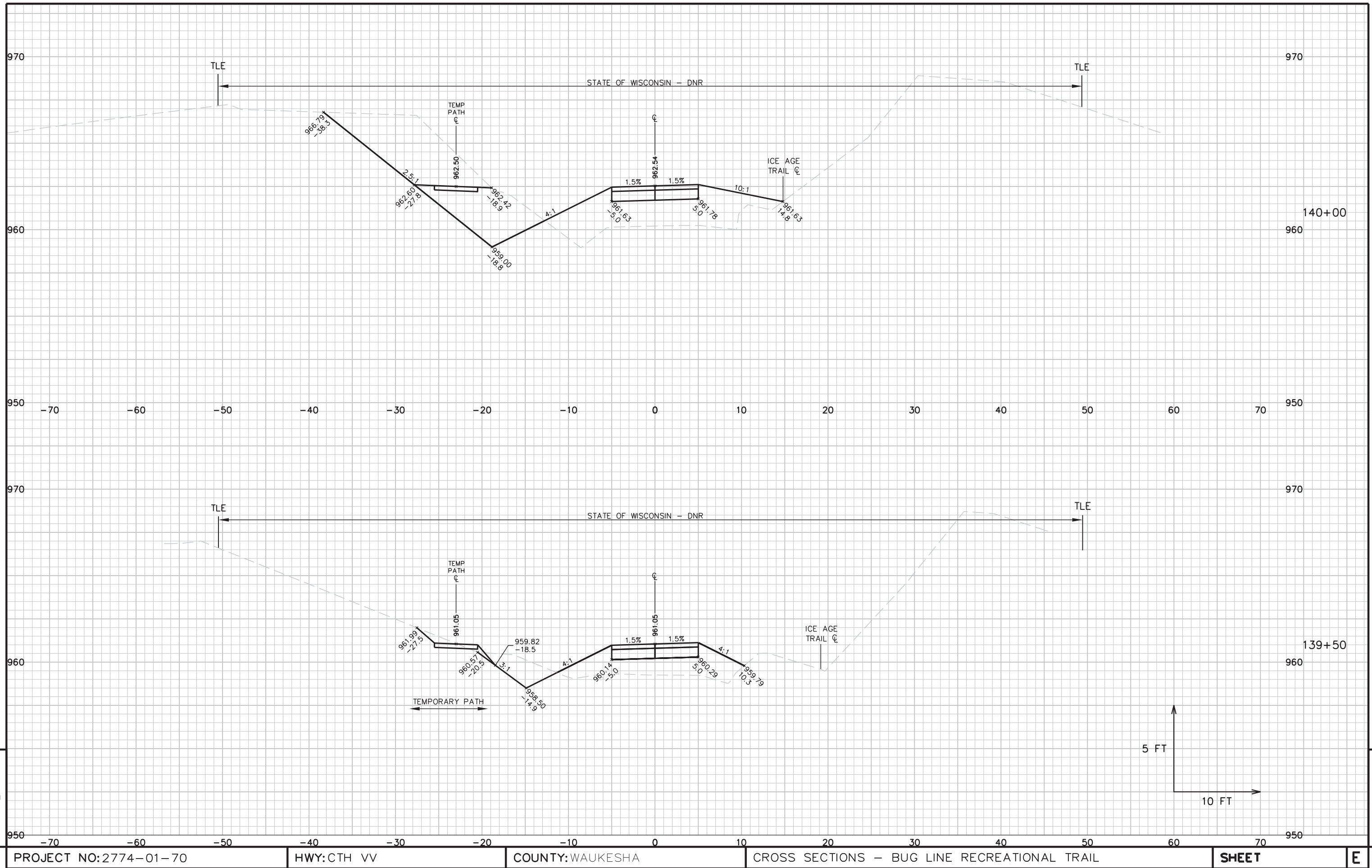


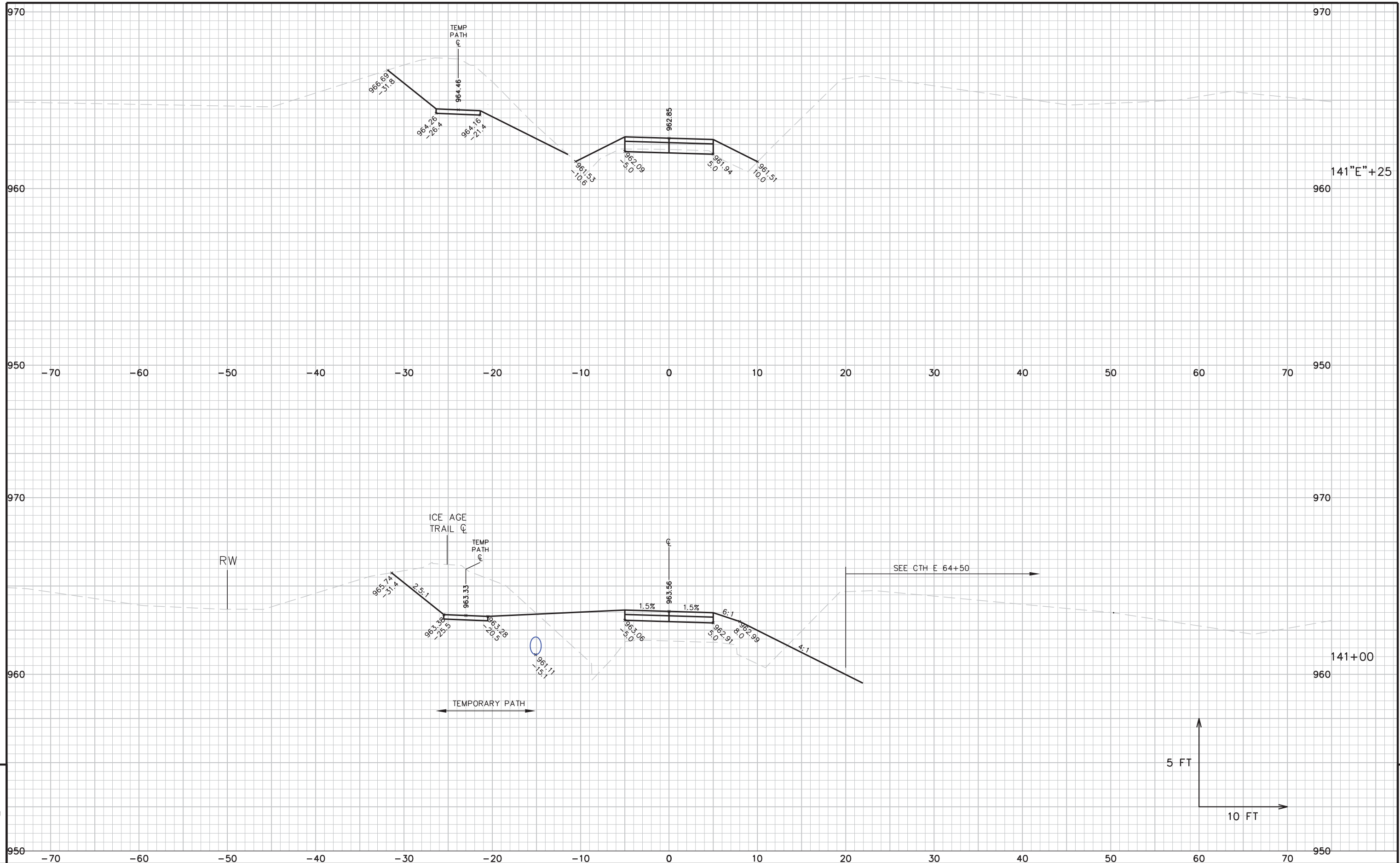


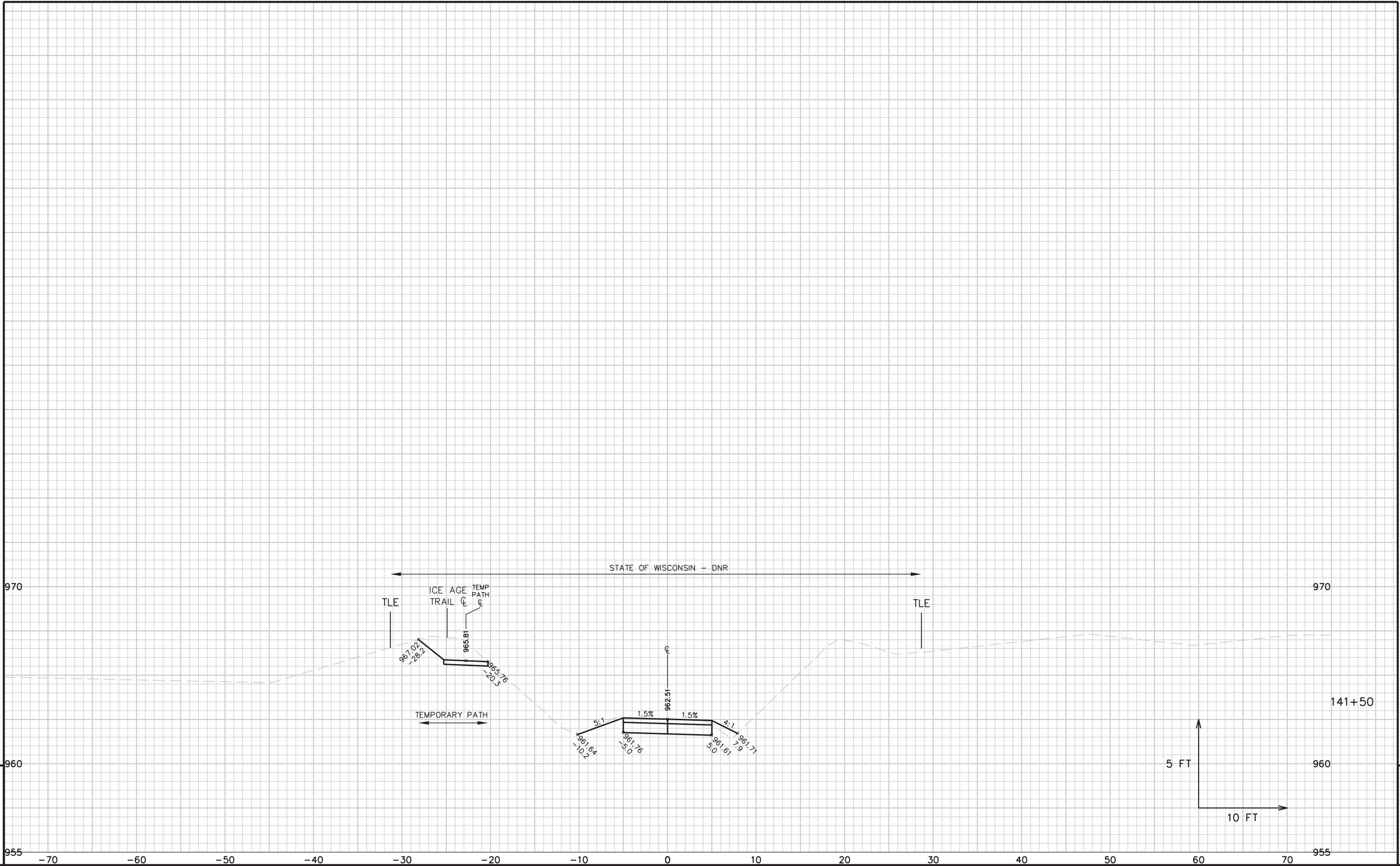


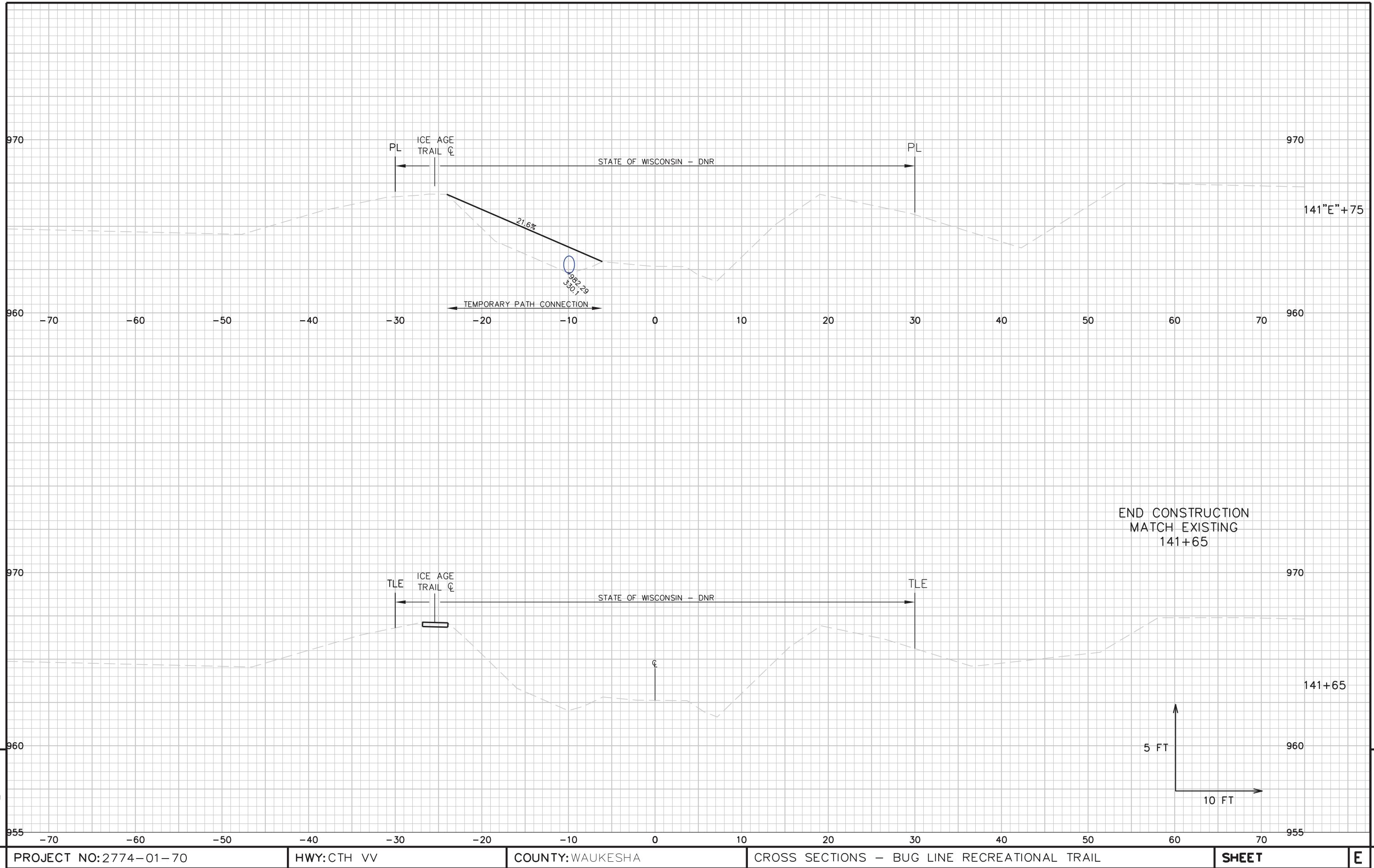














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