

WKE

PROJECT ID: 1330-29-70

COUNTY: WAUKESHA

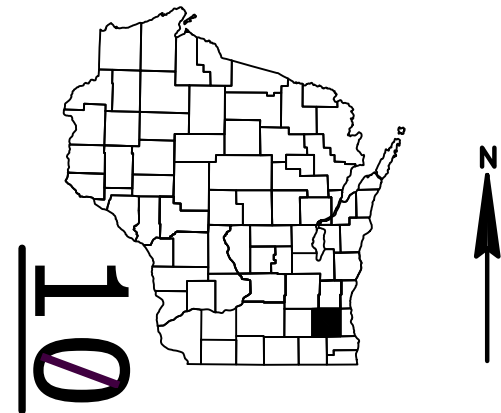
WITH:

SEPTEMBER 2022

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 Plan
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 = 310



DESIGN DESIGNATION

A.A.D.T.	2023	=	8500
A.A.D.T.	2043	=	9800
D.H.V.		=	
D.D.		=	50/50
T.		=	7.1%
DESIGN SPEED		=	25 MPH,35 MPH,55 MPH
ESALS		=	1,400,000

CONVENTIONAL SYMBOLS

PLAN	PROFILE
CORPORATE LIMITS	GRADE LINE
PROPERTY LINE	ORIGINAL GROUND
LOT LINE	MARSH OR ROCK PROFILE (To be noted as such)
LIMITED HIGHWAY EASEMENT	SPECIAL DITCH
EXISTING RIGHT OF WAY	GRADE ELEVATION
PROPOSED OR NEW R/W LINE	CULVERT (Profile View)
SLOPE INTERCEPT	UTILITIES
REFERENCE LINE	ELECTRIC
EXISTING CULVERT	FIBER OPTIC
PROPOSED CULVERT (Box or Pipe)	GAS
COMBUSTIBLE FLUIDS	SANITARY SEWER
	STORM SEWER
	TELEPHONE
	WATER
MARSH AREA	UTILITY PEDESTAL
	POWER POLE
	TELEPHONE POLE
WOODED OR SHRUB AREA	

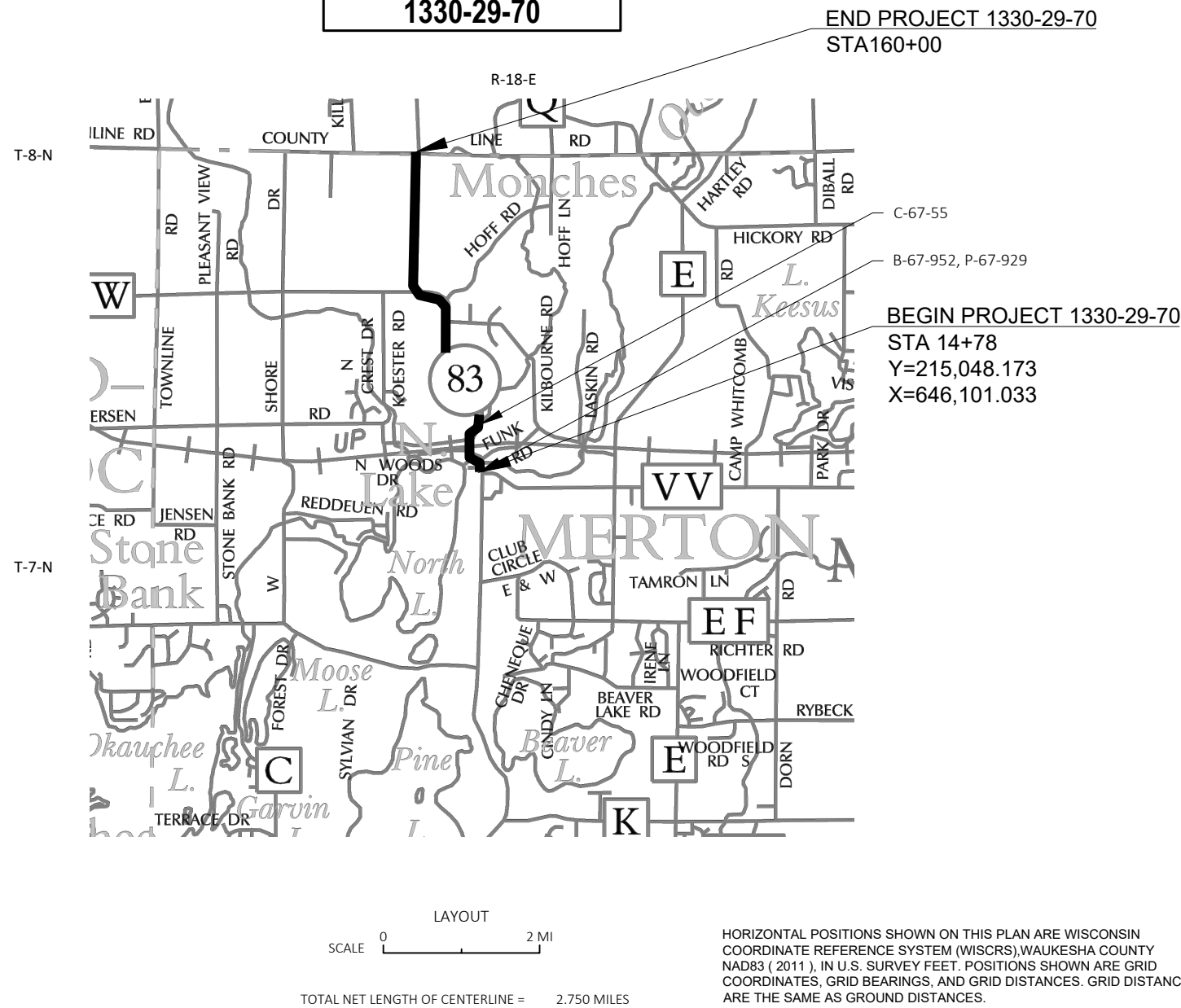
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STH 83 (MILL ST)
OCONOMOWOC RVR TO N WAUKESHA CO LN

STH 83
WAUKESHA

STATE PROJECT NUMBER
1330-29-70



HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), WAUKESHA COUNTY NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2018). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1330-29-70	WISC 2022511	1

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	WISDOT
Surveyor	PRIYA MITRA
Designer	DOUGLAS CAIN
Project Manager	REGIONAL EXAMINER
Regional Examiner	BENEDICT ERUCHALU
Regional Supervisor	
APPROVED FOR THE DEPARTMENT	
DATE: 7/1/22	(Signature)

UTILITY CONTACTS

AT&T WISCONSIN -COMMUNICATION LINE

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435 S. 95TH STREET
MILWAUKEE, 53214
(262) 896-3499
tc1657@att.com

SPECTRUM - COMMUNICATION LINE

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1320 N MARTIN LUTHER KING DR
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(414) 227-4271
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WE ENERGIES - GAS/PETROLEUM

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DELAFIELD ,WI 53018
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we-utility-relocations@we-energies.com
GAS DISPATCH NUMBER : 1-800-261-5325

WE ENERGIES - ELECTRICITY

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ELECTRIC DISPATCH NUMBER : 1-800-662-4797

OTHER CONTACTS

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craig.webster@wisconsin.gov

WISDOT MAINTAINENCE

GARY WOLF
141 NW BARSTOW STREET
WAUKESHA, WI 53188-3789
414-750-2715

SOUTHEASTERN WISCONSIN -
REGIONAL PLANNING COMMISSION

ROB MERRY (CHIEF SURVEYOR)
P.O BOX 1607
WAUKESHA, WI 53187-1607
PHONE (262) 953-4289
CELL (920) 912-1036
FAX (262) 547-1103
rmerry@sewrpc.org

WASHINGTON COUNTY
ENGINEER/SURVEYOR

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900 LANG ST
WEST BEND, WI 53090
CELL (262)-335-6881
FAX (262) 335-4439
scott.schmidt@co.washington.wi.us

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NORTH LAKE, WI 53064
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highway@townofmerton.com

WAUKESHA COUNTY

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DESIGN CONTACTS

WISDOT PROJECT MANAGER

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douglas.cain@dot.wi.gov

WISDOT PROJECT DESIGN

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ORDER OF SECTION 2 DETAIL SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- REMOVAL PLANS
- PLAN DETAILS
- EROSION CONTROL PLAN
- STORM SEWER PLAN
- PERMANENT SIGNING
- TRAFFIC SIGNALS
- PAVEMENT MARKING
- TRAFFIC CONTROL AND CONSTRUCTION STAGING
- DETOUR PLAN
- ALIGNMENT PLAN

HMA TOTAL DEPTH	HMA LAYER	ASPHALTIC MATERIAL	LOCATION
2-INCH	2-INCH UPPER	4MT 58-28 S	MAINLINE- RESURFACE
4-INCH	2-INCH UPPER	4MT 58-28 S	3-FT SHOULDER PAVING
	2-INCH LOWER	4MT 58-28 S	
4-INCH	4-INCH	ASPHALTIC SURFACE	GUARDRAIL SHOULDERS
5-INCH	2-INCH UPPER	4MT 58-28 S	PAVEMENT WIDENING
	3-INCH LOWER	4MT 58-28 S	



GENERAL NOTES

DO NOT REMOVE ANY TREES OR SHRUBS WITHOUT APPROVAL OF THE ENGINEER.

THE LOCATION OF DRIVEWAY MATCH POINTS NOT SHOWN IN THE PLANS WILL BE DETERMINED BY THE ENGINEER.

ALL LAYOUT DATA IS REFERENCED TO THE R/L UNLESS OTHERWISE NOTED.

STATIONING, DISTANCES AND OFFSETS FOR SIGNS SHOWN ON THE PLANS ARE APPROXIMATE AND THE LOCATIONS OF SIGNS ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. COORDINATE CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

ANY REMOVAL OF REINFORCEMENT LOCATED IN EXISTING CONCRETE PAVEMENT SHALL BE CONSIDERED INCIDENTAL TO THE REMOVING PAVEMENT ITEM, AND NO ADDITIONAL COMPENSATION WILL BE GRANTED.

EROSION CONTROL DEVICES ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE DEVICES IS NO LONGER REQUIRED I.

EROSION CONTROL DEVICES ARE TO BE PLACED IN SEQUENCE WITH CONSTRUCTION STAGING AND MAINTAINED THROUGH EACH STAGE OR AS DETERMINED BY THE ENGINEER.

RE-TOPSOILING OF ALL DISTURBED AREAS SHALL BE DONE IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. FERTILIZE, SEED AND MULCH, SOD OR PLACE EROSION MAT ON ALL TOPSOILED AREAS WITHIN 5 WORKING DAYS AFTER PLACEMENT OF THE TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN 14 CALENDER DAYS, SEED THOSE AREAS WITH TEMPORARY SEED AND MULCH.

PLACE TOPSOIL IN SODDED AREAS LOW ADJACENT TO CONCRETE CURBS AND SIDEWALK TO MATCH.

CURB AND GUTTER GRADES ARE GIVEN TO THE FLANGE OF CURB AND GUTTER OR THEORETICAL FLANGE POINT OF INTEGRAL CURB AND GUTTER. CURB AND GUTTER RADII ARE MEASURED TO THE FLANGE OF CURB AND GUTTER OR THEORETICAL FLANGE POINT OF INTEGRAL CURB AND GUTTER.

FELT EXPANSION JOINT IS TO BE CONSTRUCTED BETWEEN CONCRETE SIDEWALK AND BRIDGE PARAPET.

STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS, AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

RESHAPE, RESTORE AND FINISH ALL PREVIOUSLY GRASSED AREAS DISTURBED BY OPERATIONS OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AT NO EXPENSE TO THE DEPARTMENT.

EXISTING DRIVEWAYS AND FIELD ENTRANCES SHALL BE RESTORED IN KIND AS DIRECTED BY THE ENGINEER IN THE FIELD AND AT THE LOCATION DETERMINED BY THE ENGINEER.

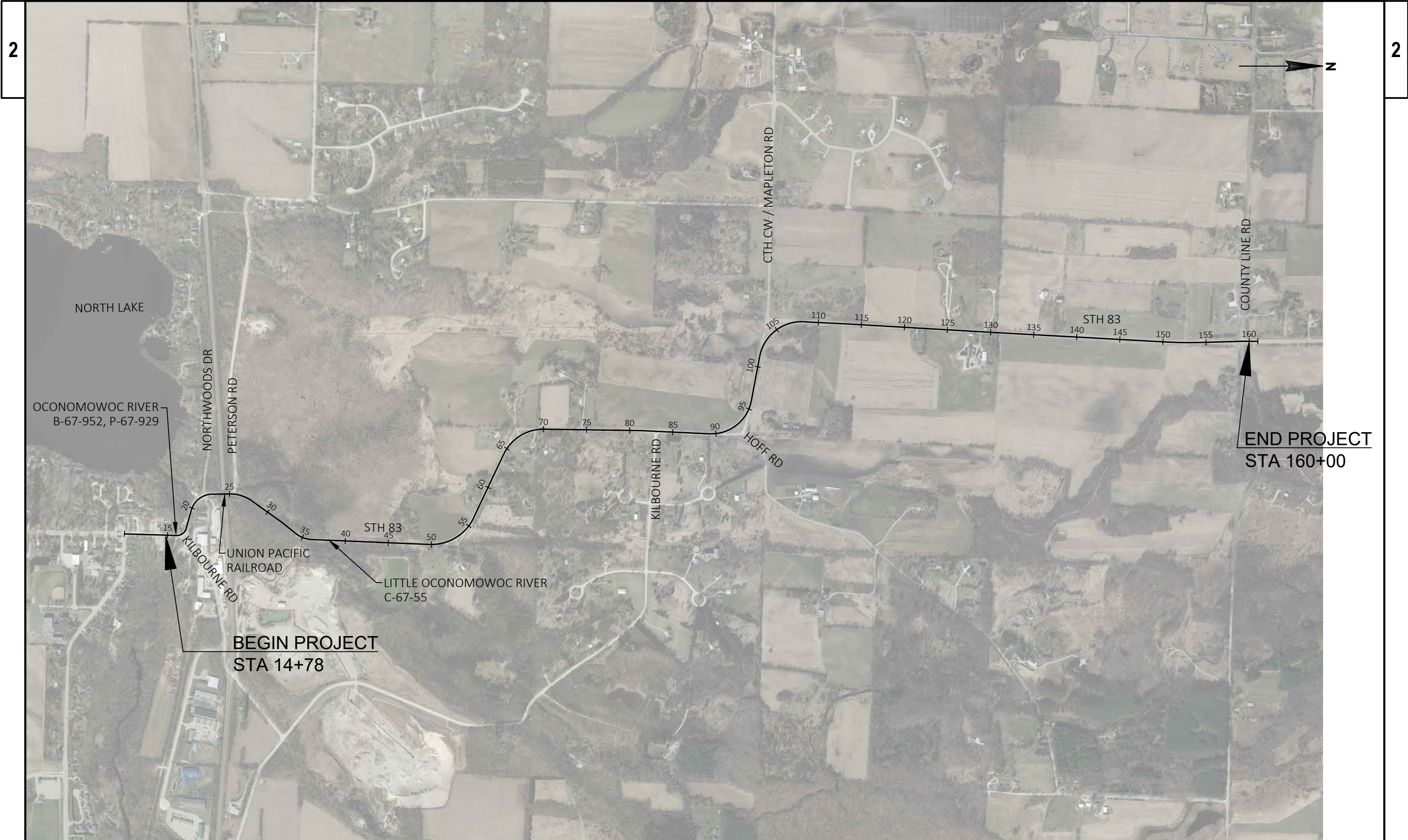
INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES AND PIPES SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER TO FIT EXISTING FIELD CONDITIONS.

ALL STORM SEWER LOCATIONS AND ELEVATIONS ARE PROVIDED TO THE CENTER OF STRUCTURE UNLESS IN CURB AND GUTTER WHICH REFER TO THE FLOW LINE.

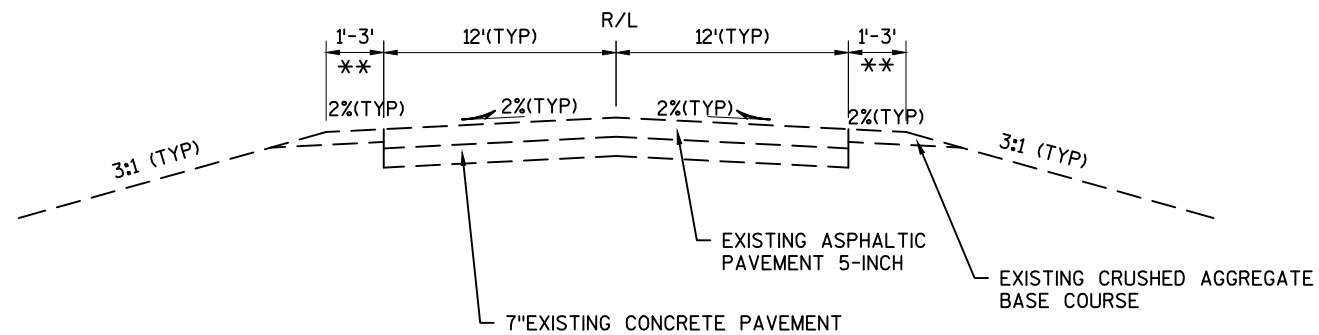
VERIFY EXISTING PAVEMENT ELEVATIONS AT ALL TIE-INS TO EXISTING PAVEMENT PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IF A DISCREPANCY IS FOUND BETWEEN PROPOSED PLAN ELEVATIONS AND EXISTING PAVEMENT ELEVATIONS.

CONSTRUCT PAVEMENT CONSISTENT WITH THE PLAN TYPICAL SECTIONS. LOCATE LONGITUDINAL JOINTS IN ASPHALT PAVEMENT OUTSIDE OF DRIVING, TURNING, BIKE, OR PARKING LANE UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

COORDINATE WITH SOUTHEATERN WISCONSIN REGIONAL PLANNING COMMISSION (SEWRPC), WASHINGTON COUNTY SURVEYOR, AND THE PROJECT ENGINEER 2 WEEKS PRIOR TO CONSTRUCTION AND PERPETUATION OF SECTION CORNER (PUBLIC LAND SURVEY SYSTEM-PLSS) MONUMENTS. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH SEWRPC AND WASHINGTON COUNTY SURVEYOR (IF IN WASHINGTON COUNTY) THROUGHOUT THE PERPETUATION PROCESS. SEWRPC AND THE WASHINGTON COUNTY SURVEYOR WILL MAKE THE DETERMINATION OF THE EXTENT OF WORK INVOLVED WITH THE SECTION CORNER MONUMENT BASED ON INSPECTION DURING CONSTRUCTION.

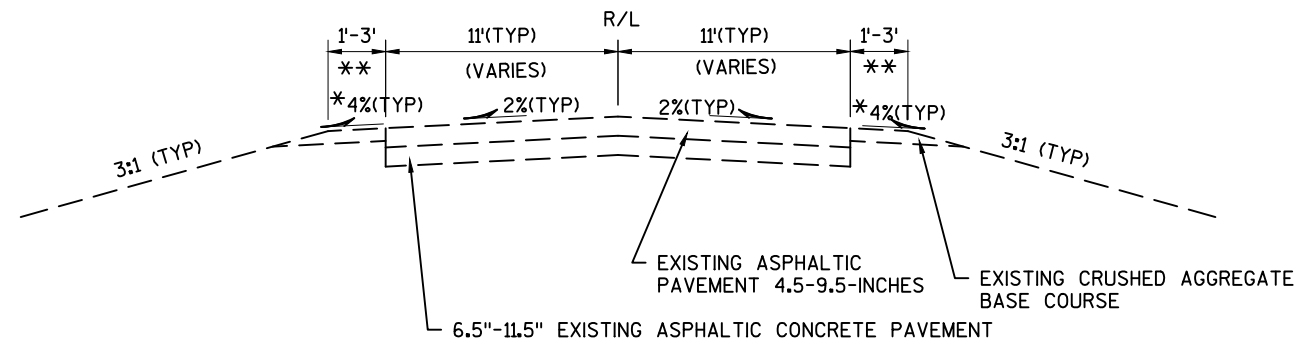


PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	PROJECT OVERVIEW	SHEET	E
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EXISTING TYPICAL SECTION

STH 83
STA 14+78 - 25+45

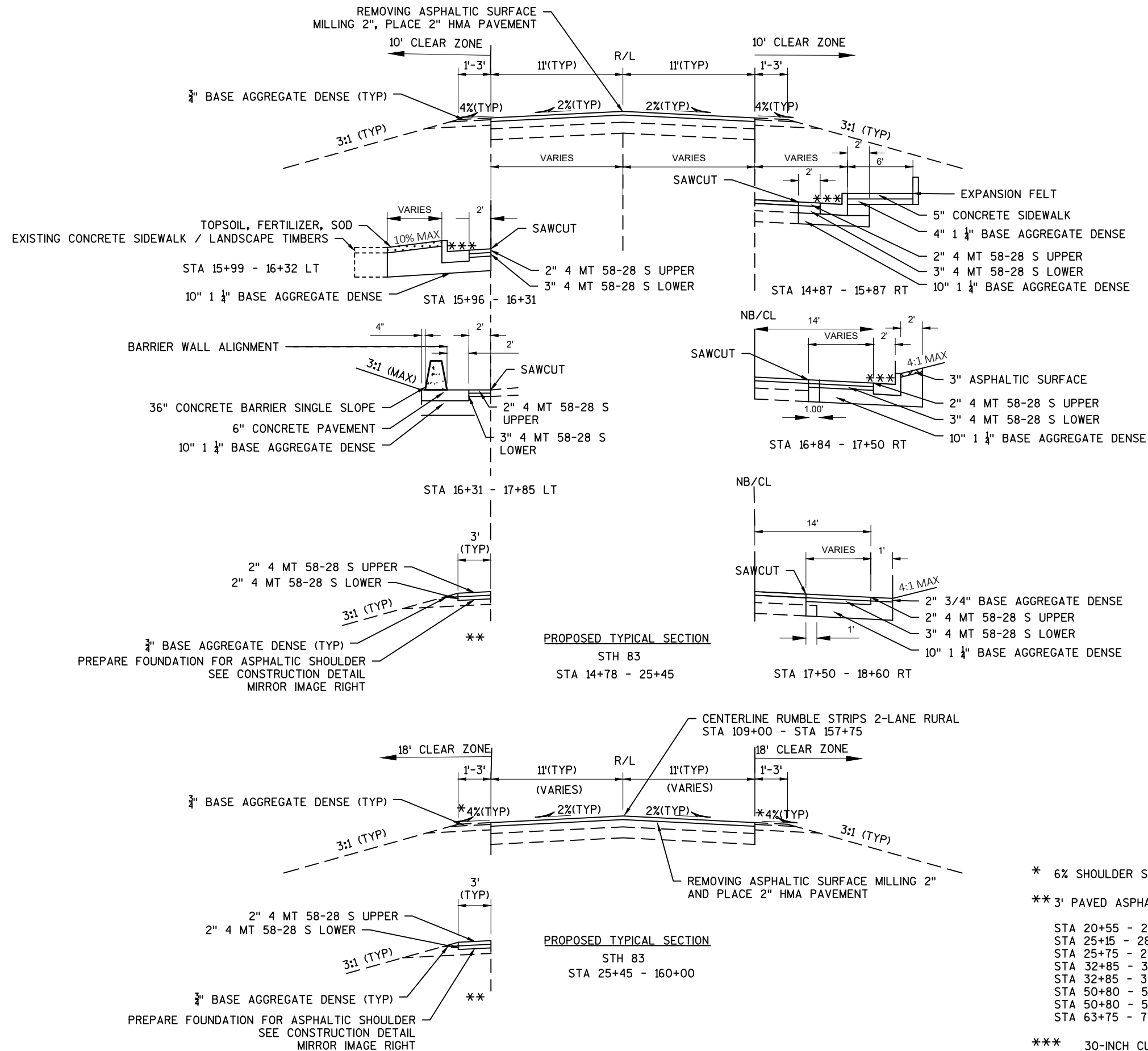


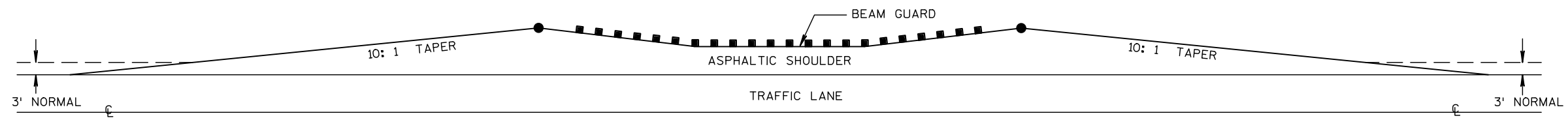
EXISTING TYPICAL SECTION

STH 83
STA 25+45 - 160+00

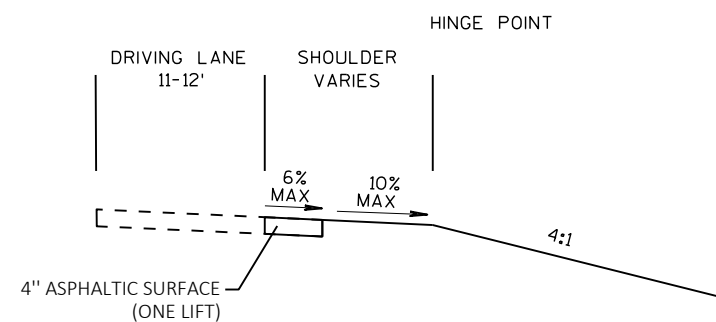
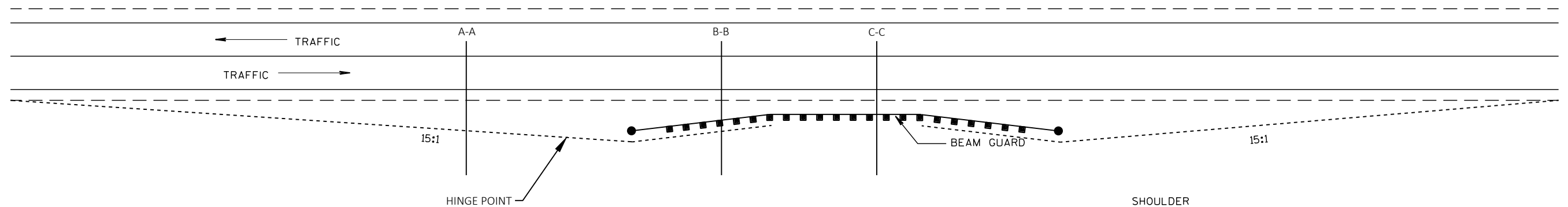
* 6% SHOULDER SLOPE - STA 25+45 - 57+00 RT & LT

** 2-3' PAVED ASPHALT SHOULDER - STA 20+55 - 23+62 RT STA 64+10 - 70+65 LT
(2.5" EXISTING THICKNESS) STA 25+15 - 28+10 RT STA 87+55 - 99+75 LT
 STA 25+75 - 28+10 LT STA 91+10 - 94+50 RT
 STA 32+85 - 35+90 RT STA 95+05 - 96+25 RT
 STA 32+85 - 36+45 LT STA 100+05 - 101+65 LT
 STA 50+80 - 56+75 LT STA 100+30 - 109+95 RT
 STA 50+80 - 56+65 LT STA 103+30 - 106+25 LT
 STA 63+75 - 70+65 RT STA 108+20 - 109+85 LT

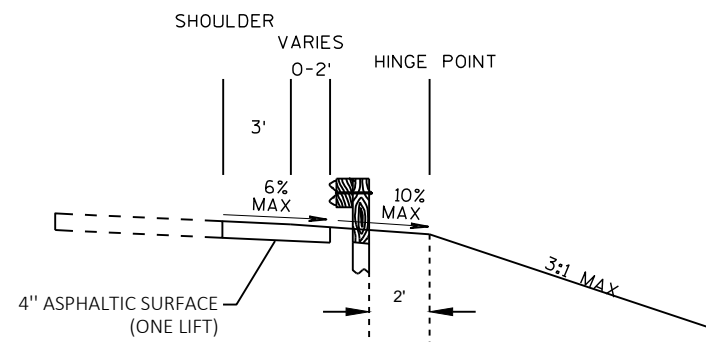




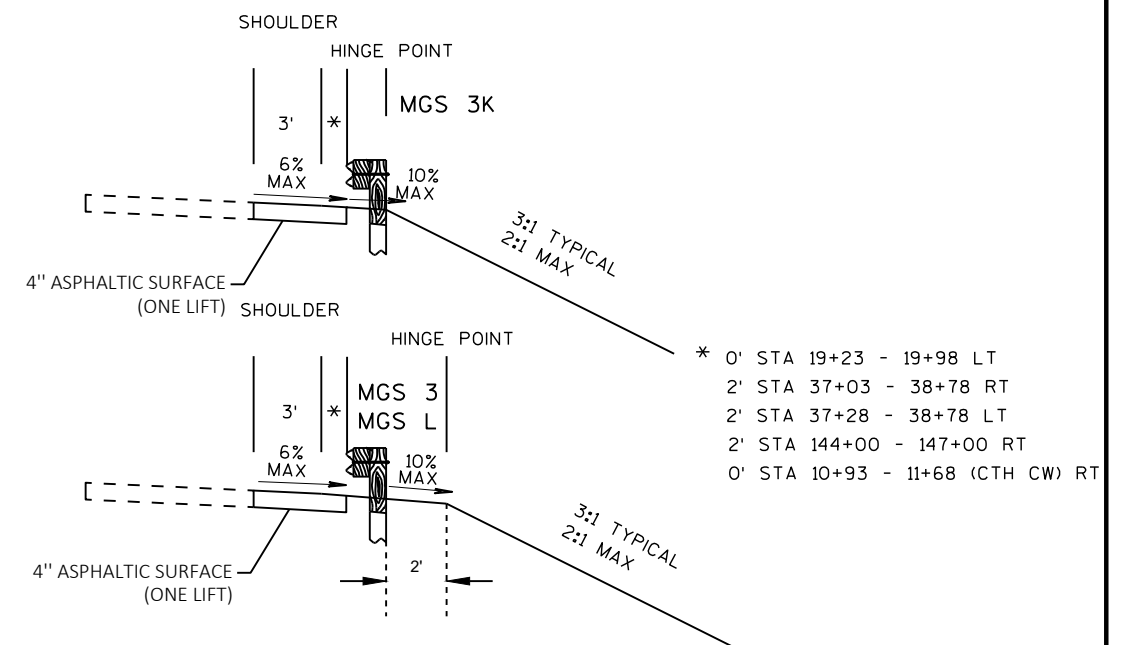
DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD



SECTION A-A

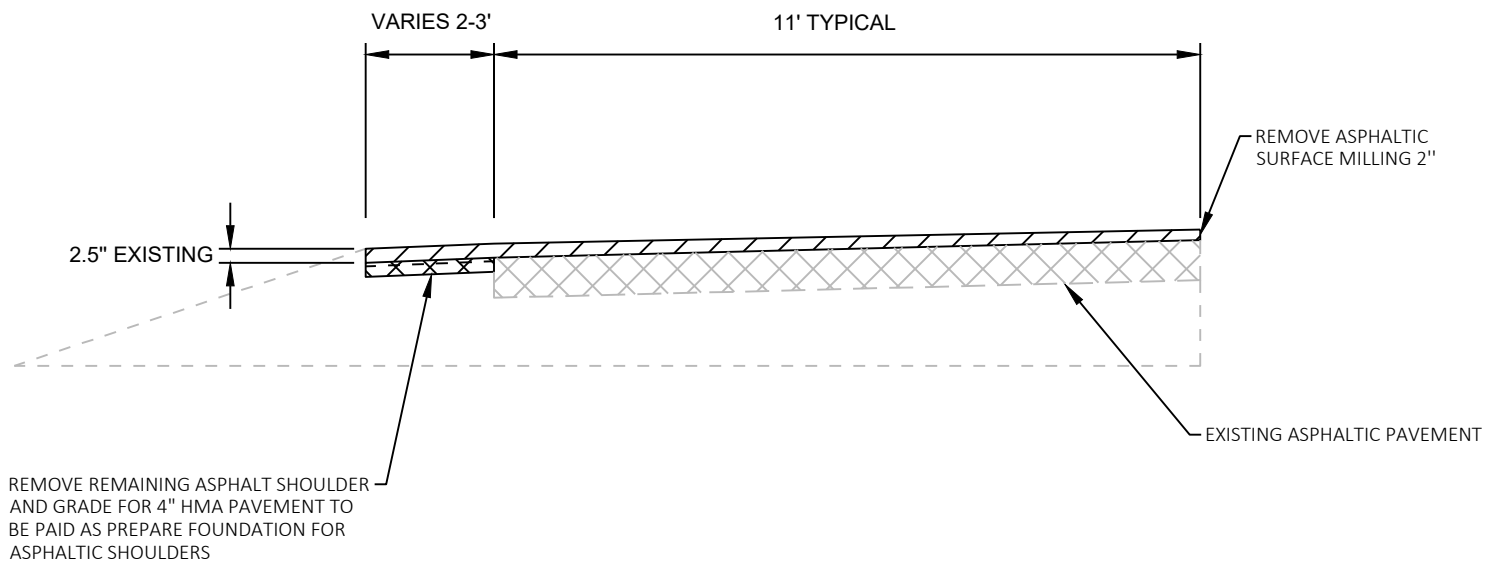


SECTION B-B



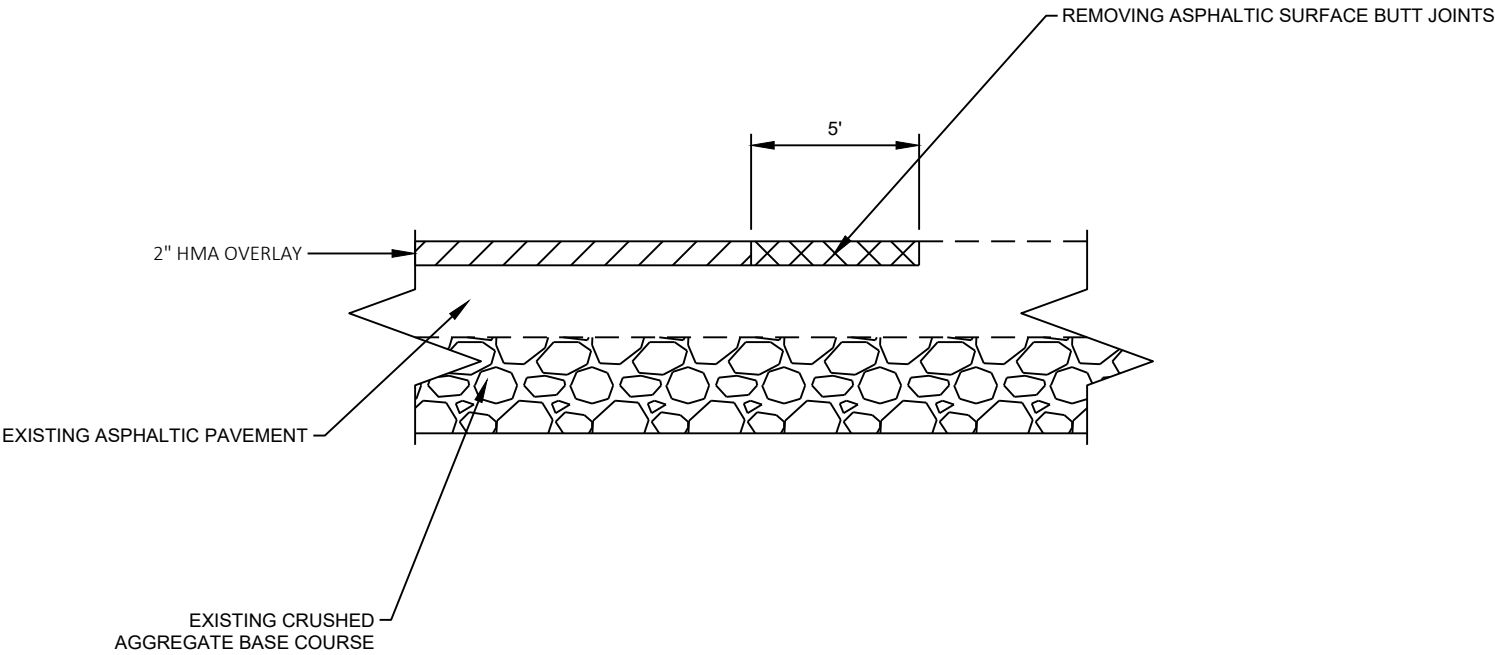
SECTION C-C

GRADING DETAILS FOR GUARDRAIL INSTALLATION

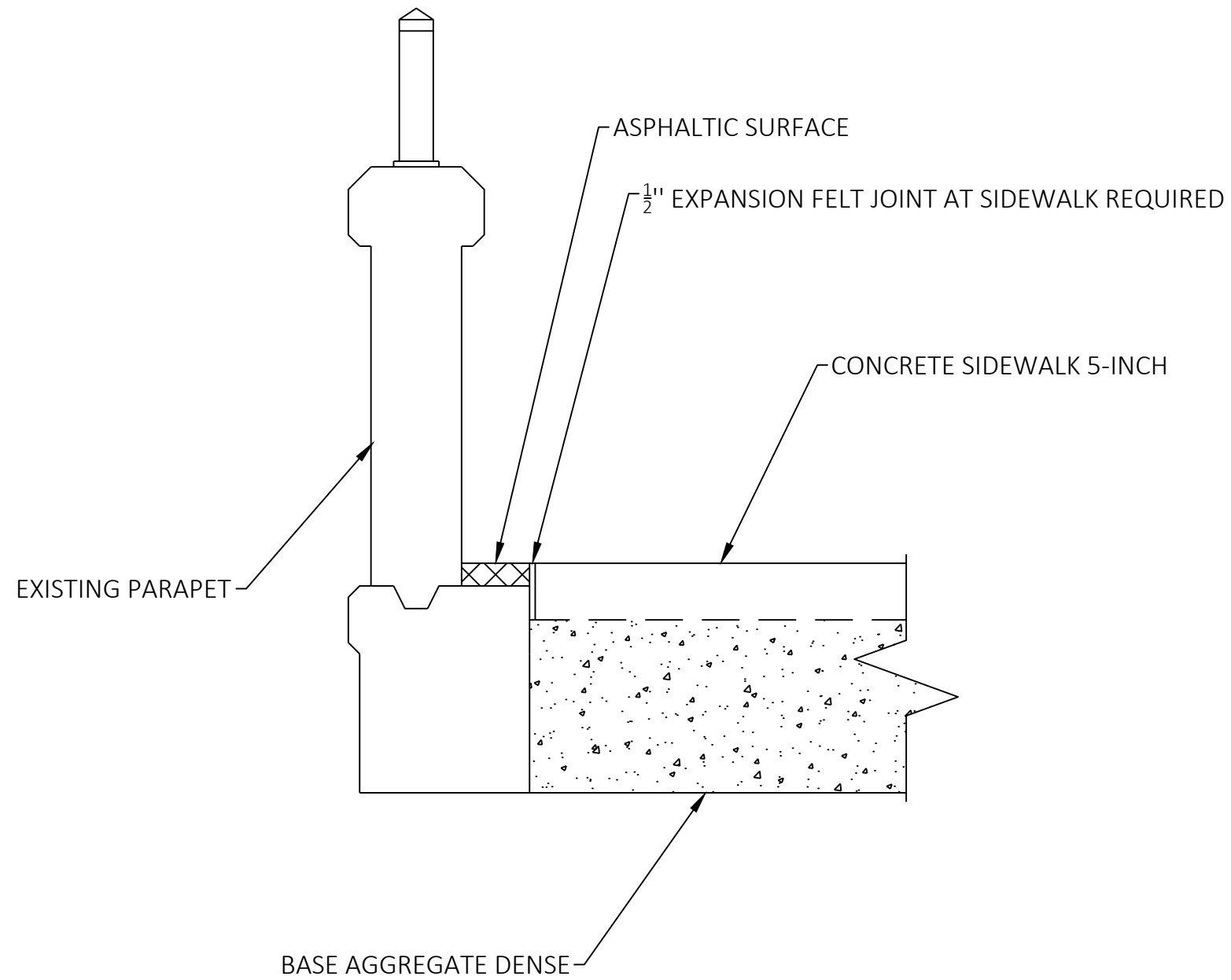


PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

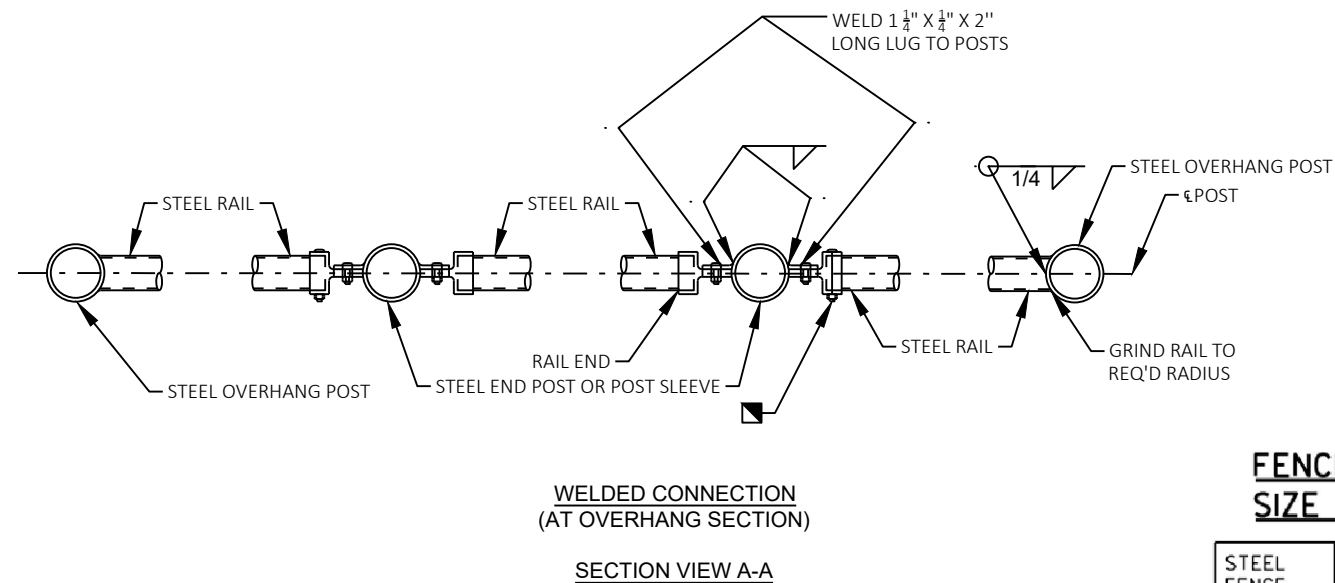
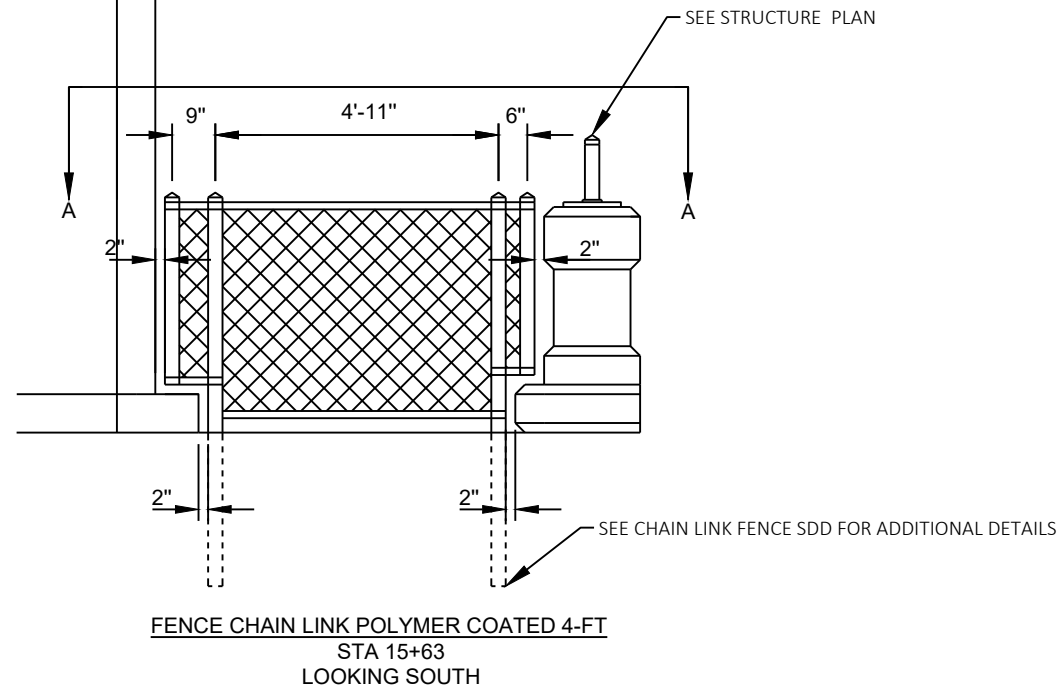
STA 20+55 - 23+62 RT	STA 64+10 - 70+65 LT
STA 25+15 - 28+10 RT	STA 87+55 - 99+75 LT
STA 25+75 - 28+10 LT	STA 91+10 - 94+50 RT
STA 32+85 - 35+90 RT	STA 95+05 - 96+25 RT
STA 32+85 - 36+45 LT	STA 100+05 - 101+65 LT
STA 50+80 - 56+75 LT	STA 100+30 - 109+95 RT
STA 50+80 - 56+65 RT	STA 103+30 - 106+25 LT
STA 63+75 - 70+65 RT	STA 108+20 - 109+85 LT



REMOVING ASPHALTIC SURFACE BUTT JOINTS



BRIDGE PARAPET DETAILS
(EAST SIDE)

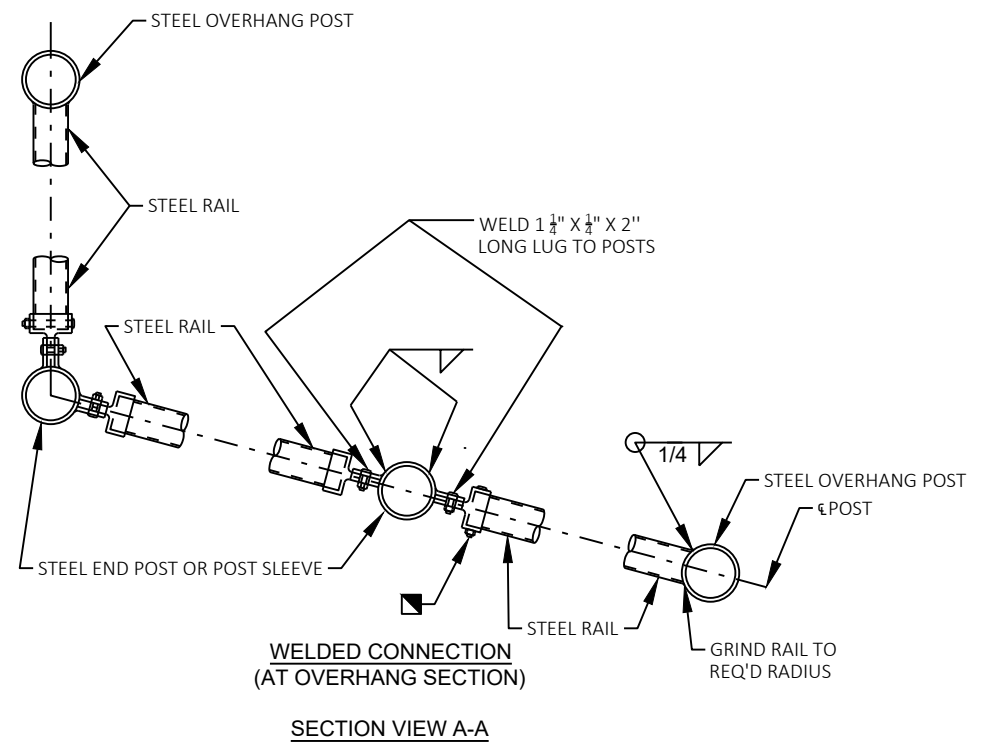
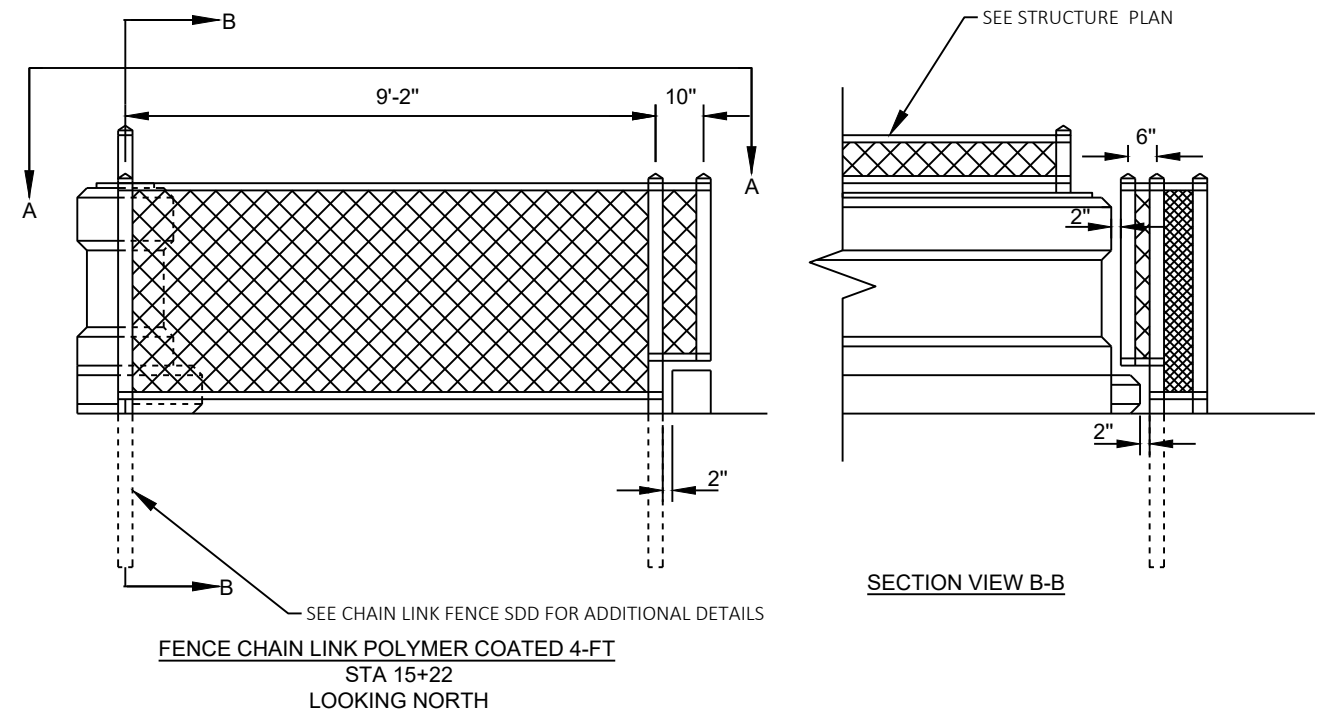


FENCE MEMBER SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12

*FIELD VERIFY DIMENSIONS BEFORE ORDERING

■ BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION.
ALTERNATIVE IS TO WELD RAIL DIRECTLY TO END POST

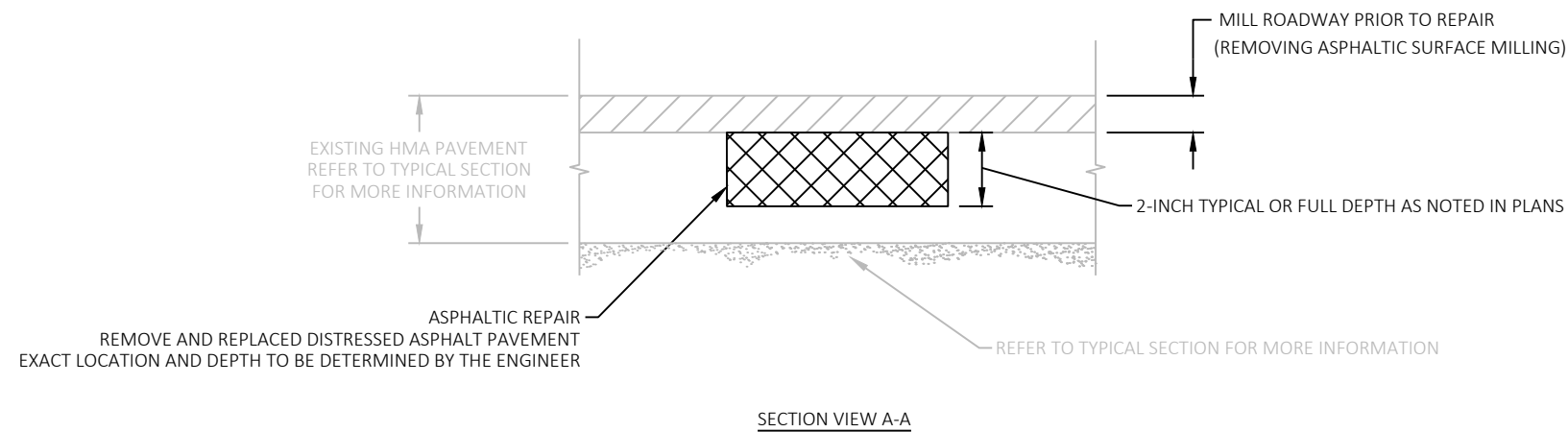
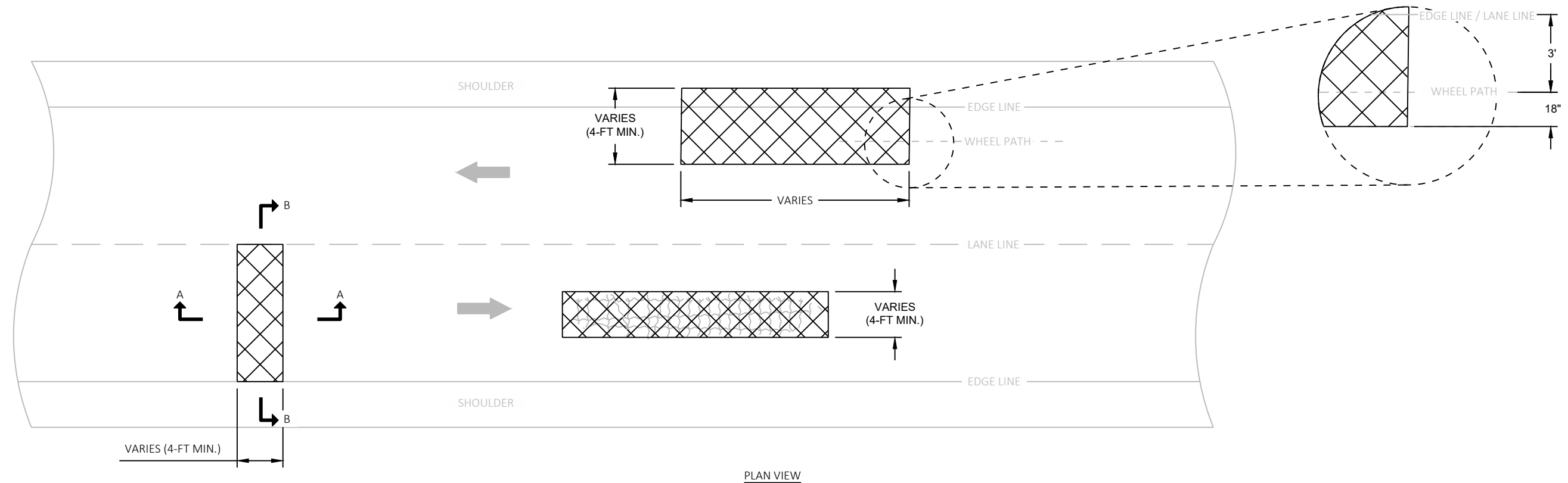


■ BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION.
ALTERNATIVE IS TO WELD RAIL DIRECTLY TO END POST

*FIELD VERIFY DIMENSIONS BEFORE ORDERING

GENERAL NOTES

- ① EXACT LOCATION, DEPTH AND SIZE OF REPAIR TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
- ② MILL PAVEMENT PER PLAN PRIOR TO MAKING ASPHALTIC REPAIR.
- ③ NEW LONGITUDINAL REPAIR JOINTS SHALL BE A MINIMUM OF 18-INCHES FROM THE CENTER OF THE WHEEL PATH.
- ④ ASPHALTIC REPAIR PAVING TO BE DONE ON THE SAME DAY AS REMOVAL.



ASPHALTIC REPAIR

PROJECT NO: 1330-29-70

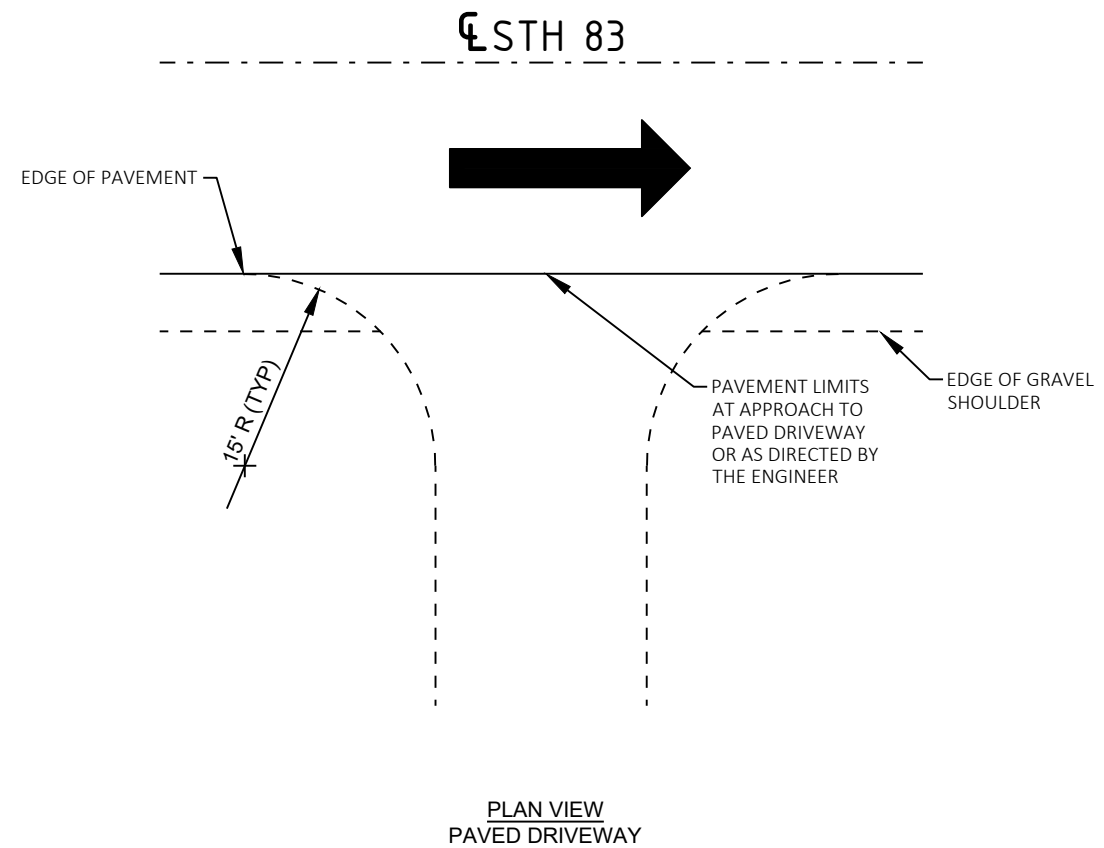
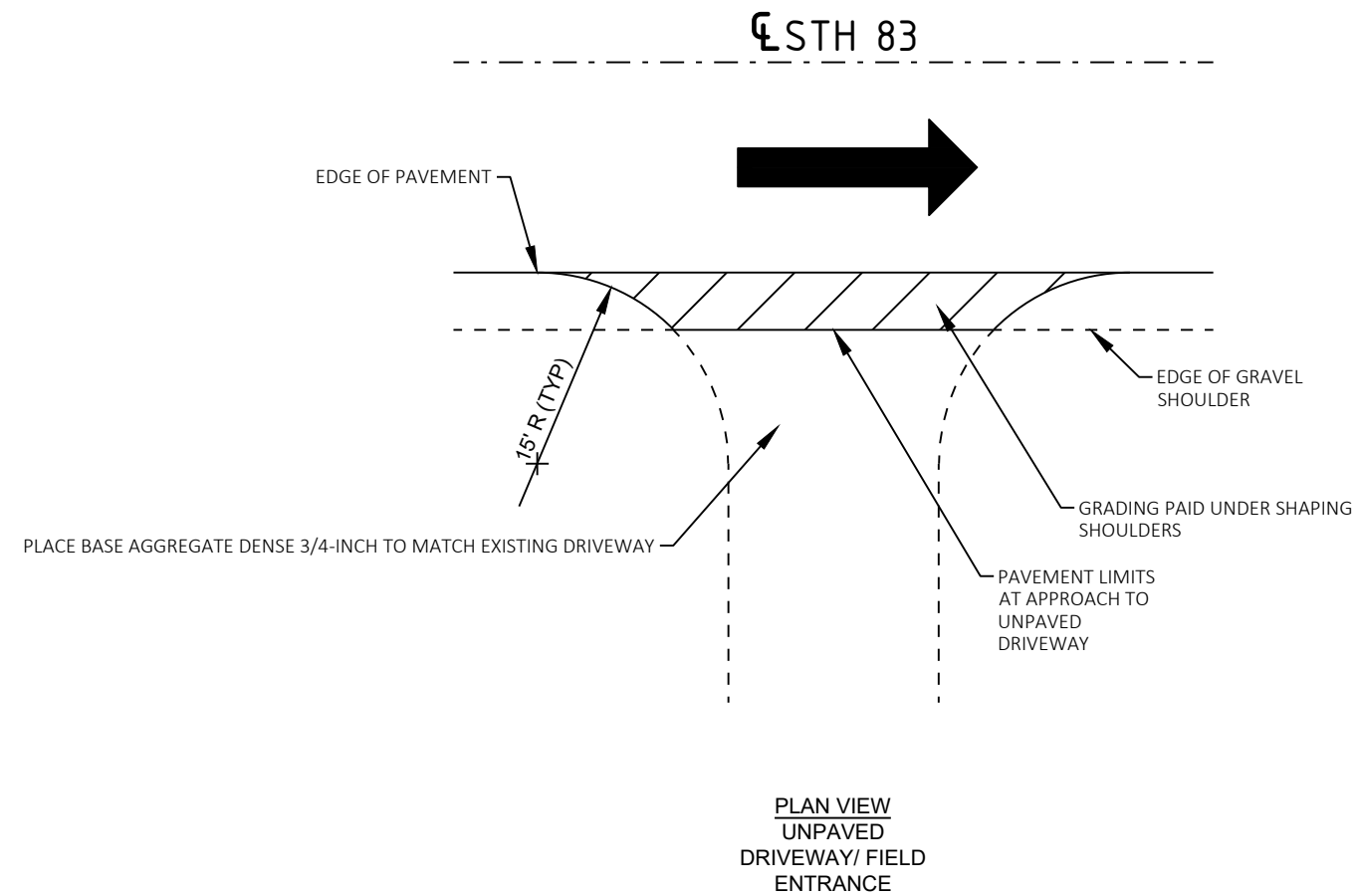
HWY: STH 83

COUNTY: WAUKESHA

CONSTRUCTION DETAILS

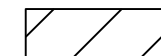
SHEET

E



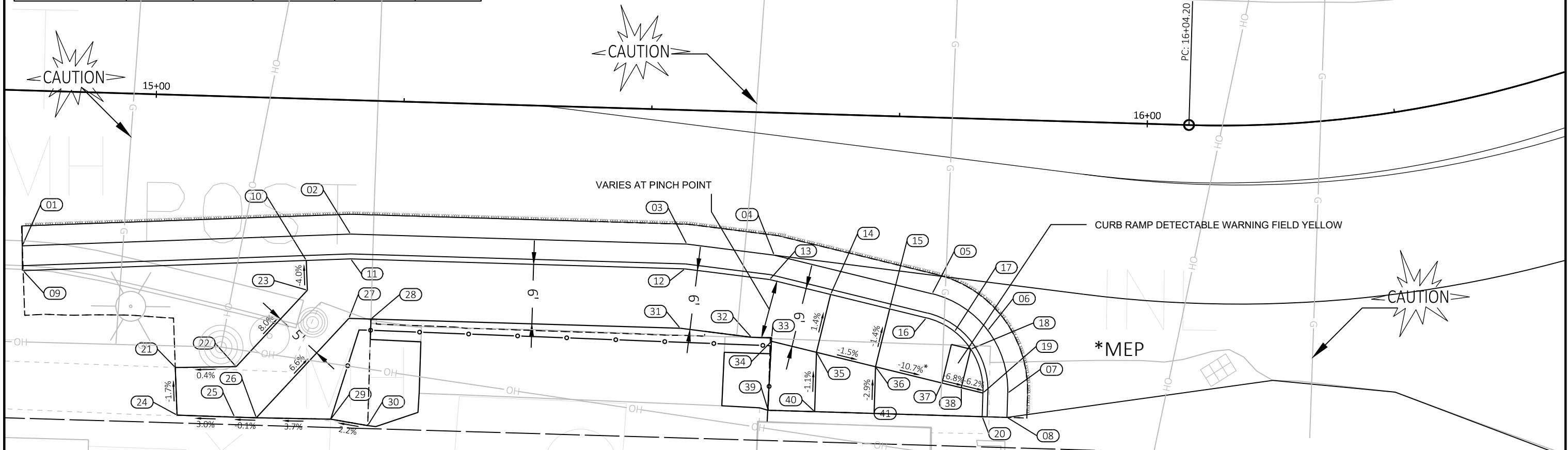
ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

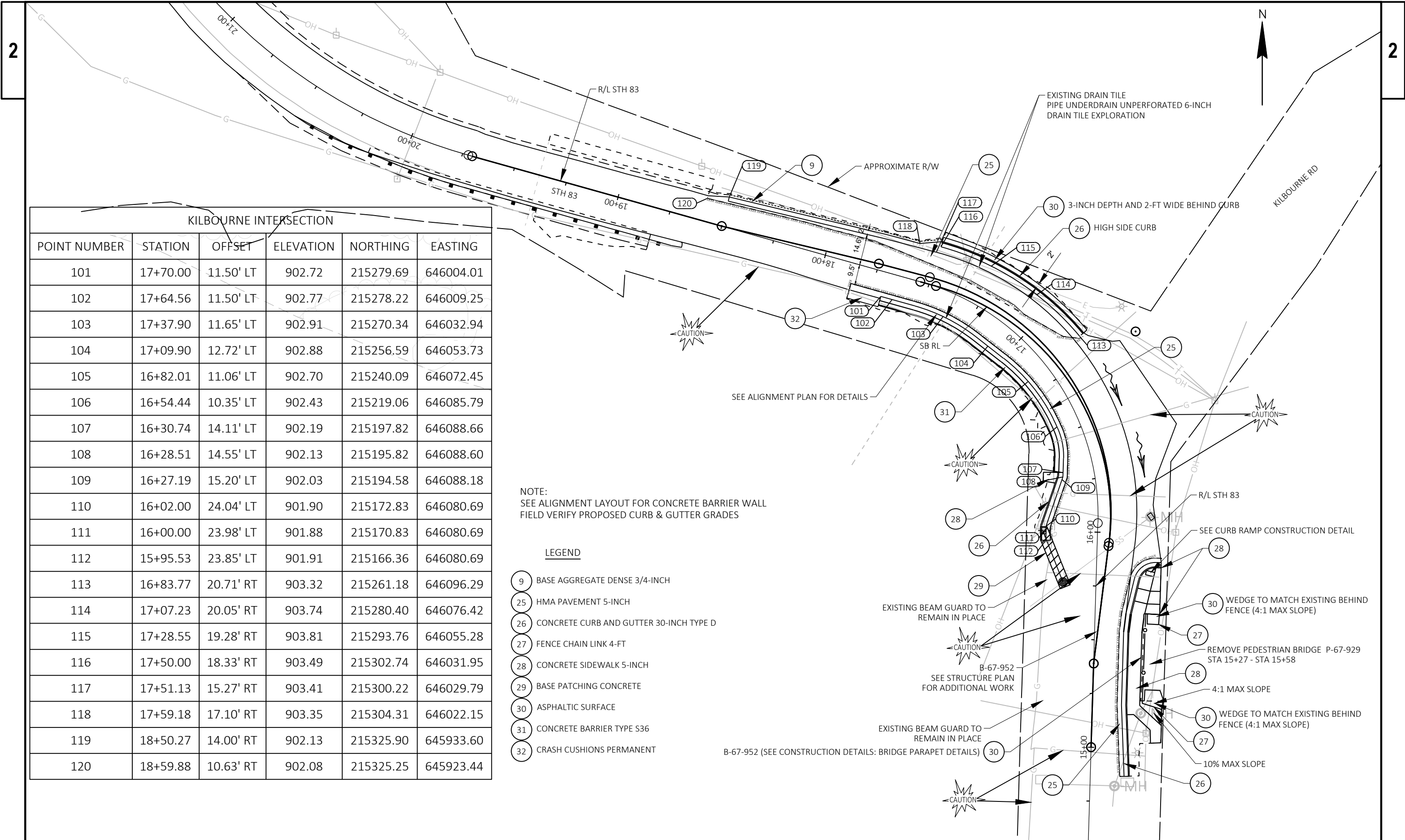
NOTE: DRIVEWAY TO BE REPLACED IN KIND

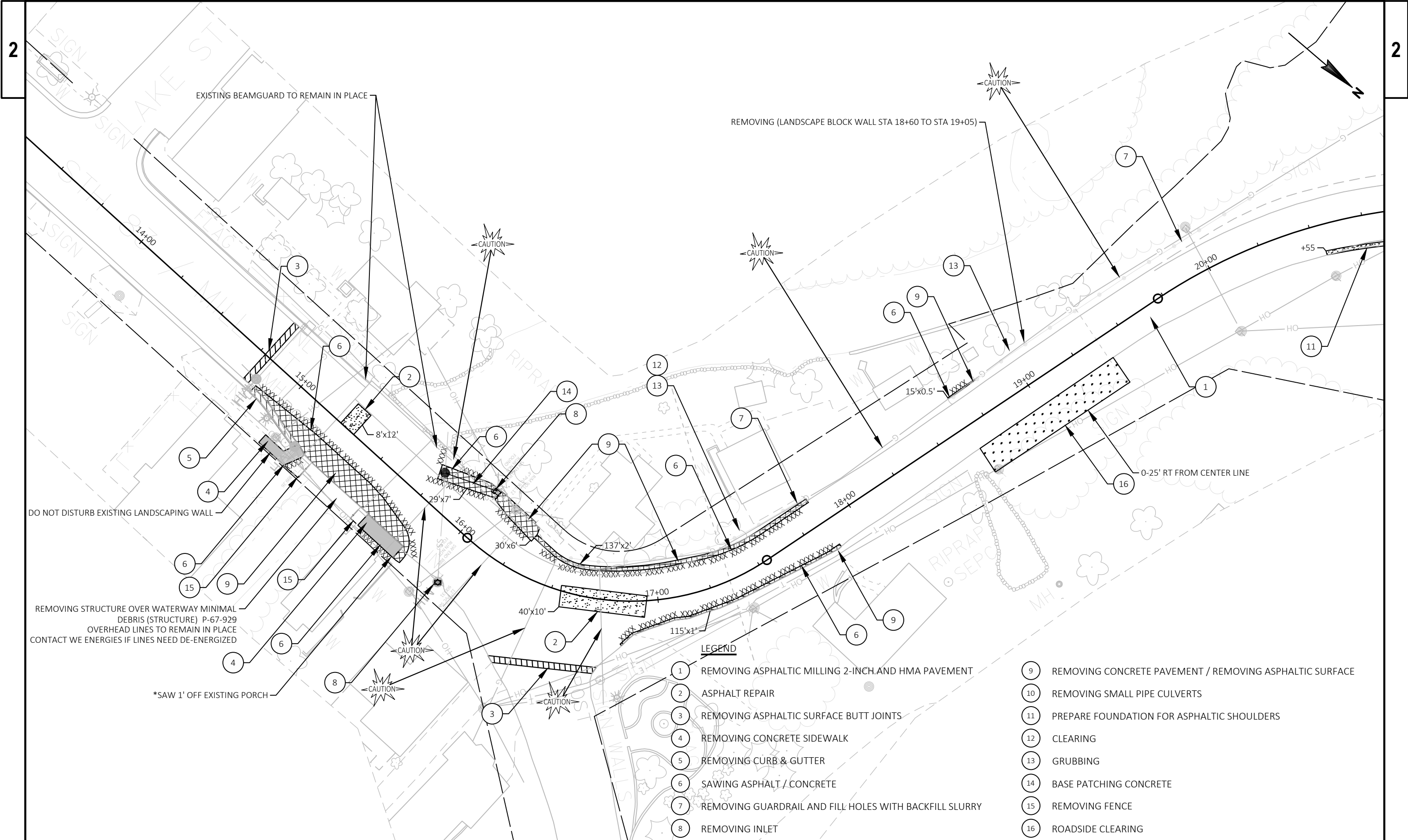


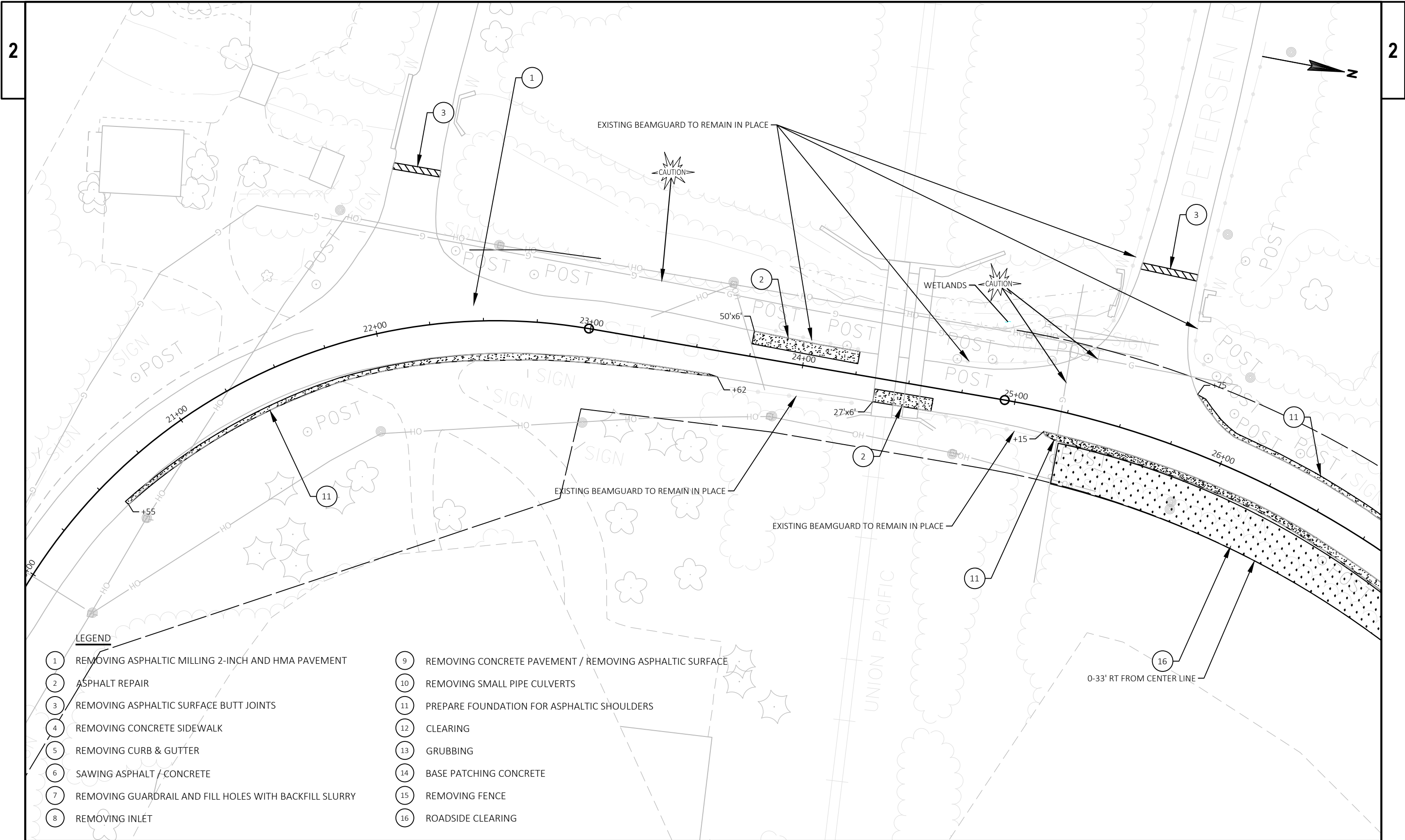
ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

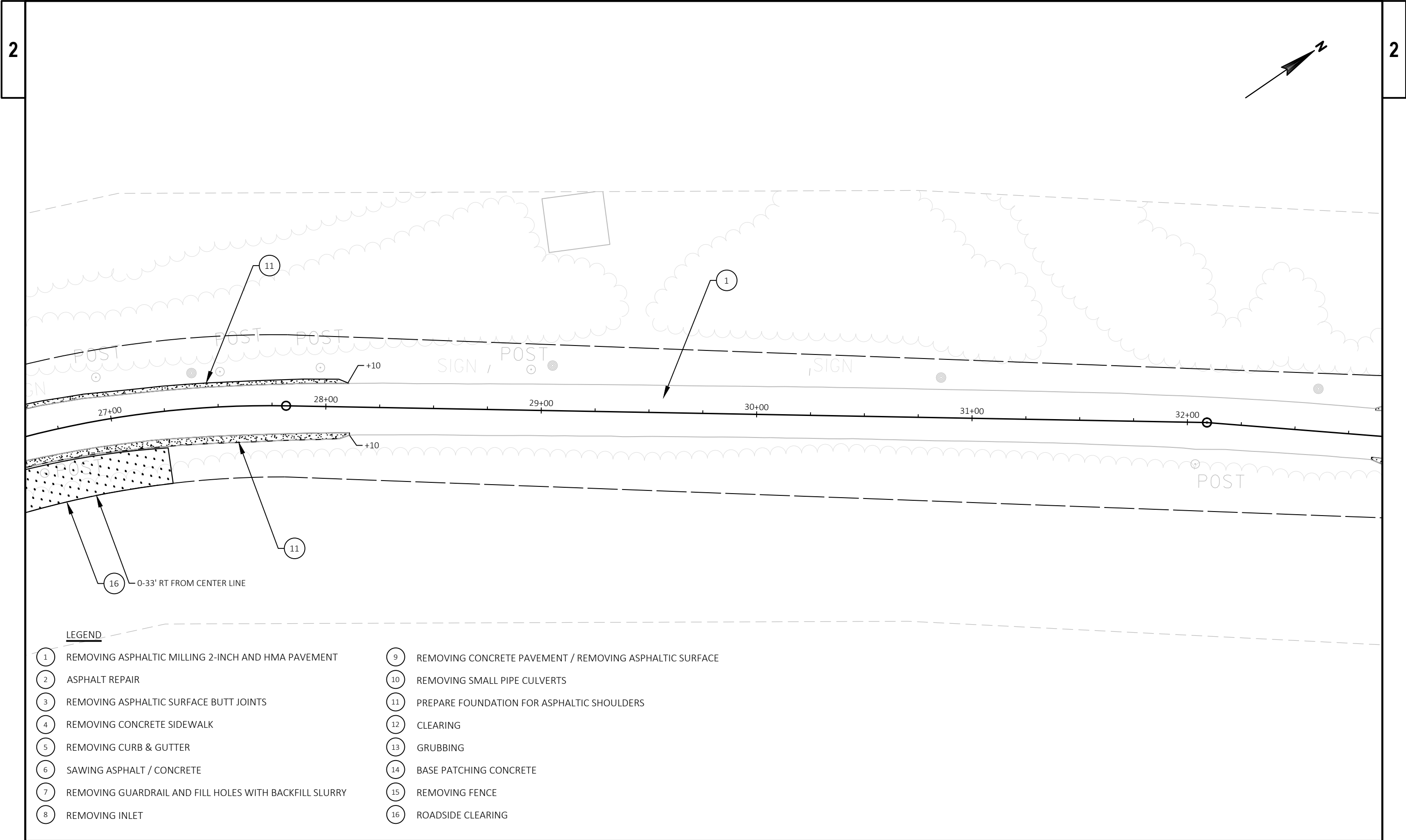
CurbRamp						CurbRamp					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING	POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
01	14+86.93	15.67' RT	904.78	215056.63	646116.96	22	15+08.86	27.21' RT	904.61	215078.21	646129.15
02	15+20.00	13.50' RT	904.94	215089.75	646115.78	23	15+15.81	19.29' RT	905.46	215085.39	646121.44
03	15+53.93	13.50' RT	904.31	215123.67	646116.79	24	15+03.05	32.27' RT	904.72	215072.25	646134.03
04	15+62.77	14.35' RT	903.94	215132.48	646117.90	25	15+08.86	32.29' RT	904.54	215078.06	646134.23
05	15+78.82	17.77' RT	903.25	215148.42	646121.80	26	15+11.05	32.29' RT	904.54	215080.24	646134.30
06	15+84.54	21.30' RT	902.97	215154.03	646125.49	27	15+20.08	22.00' RT	905.44	215089.58	646124.28
07	15+86.74	27.55' RT	902.82	215156.04	646131.81	28	15+22.31	22.00' RT	905.45	215091.81	646124.34
08	15+86.74	30.00' RT	902.80	215155.97	646134.26	29	15+18.56	32.21' RT	904.26	215087.75	646134.44
09	14+87.09	18.16' RT	905.20	215056.72	646119.46	30	15+22.30	32.75' RT	904.18	215091.48	646135.08
10	15+15.61	16.29' RT	905.34	215085.29	646118.44	31	15+53.52	22.00' RT	904.83	215123.01	646125.27
11	15+20.08	16.00' RT	905.36	215089.76	646118.28	32	15+60.72	22.69' RT	904.44	215130.18	646126.18
12	15+53.81	16.00' RT	904.73	215123.47	646119.28	33	15+62.77	22.68' RT	904.20	215132.23	646126.23
13	15+62.39	16.83' RT	904.36	215132.02	646120.37	34	15+62.76	23.04' RT	904.19	215132.21	646126.59
14	15+68.58	18.15' RT	904.09	215138.17	646121.87	35	15+67.33	24.01' RT	904.01	215136.75	646127.70
15	15+74.58	19.42' RT	903.83	215144.13	646123.33	36	15+73.33	25.29' RT	903.91	215142.71	646129.15
16	15+78.30	20.22' RT	903.20	215147.83	646124.23	37	15+80.08	26.73' RT	903.17	215149.41	646130.79
17	15+81.19	21.52' RT	903.02	215150.68	646125.62	38	15+82.04	27.15' RT	903.04	215151.35	646131.27
18	15+82.87	23.24' RT	902.91	215152.30	646127.38	39	15+62.63	30.00' RT	904.12	215131.88	646133.54
19	15+84.24	27.62' RT	902.90	215153.54	646131.80	40	15+67.33	30.00' RT	904.07	215136.57	646133.68
20	15+84.24	30.00' RT	903.31	215153.47	646134.18	41	15+73.33	30.00' RT	904.05	215142.57	646133.86
21	15+02.73	27.47' RT	904.64	215072.07	646129.23						





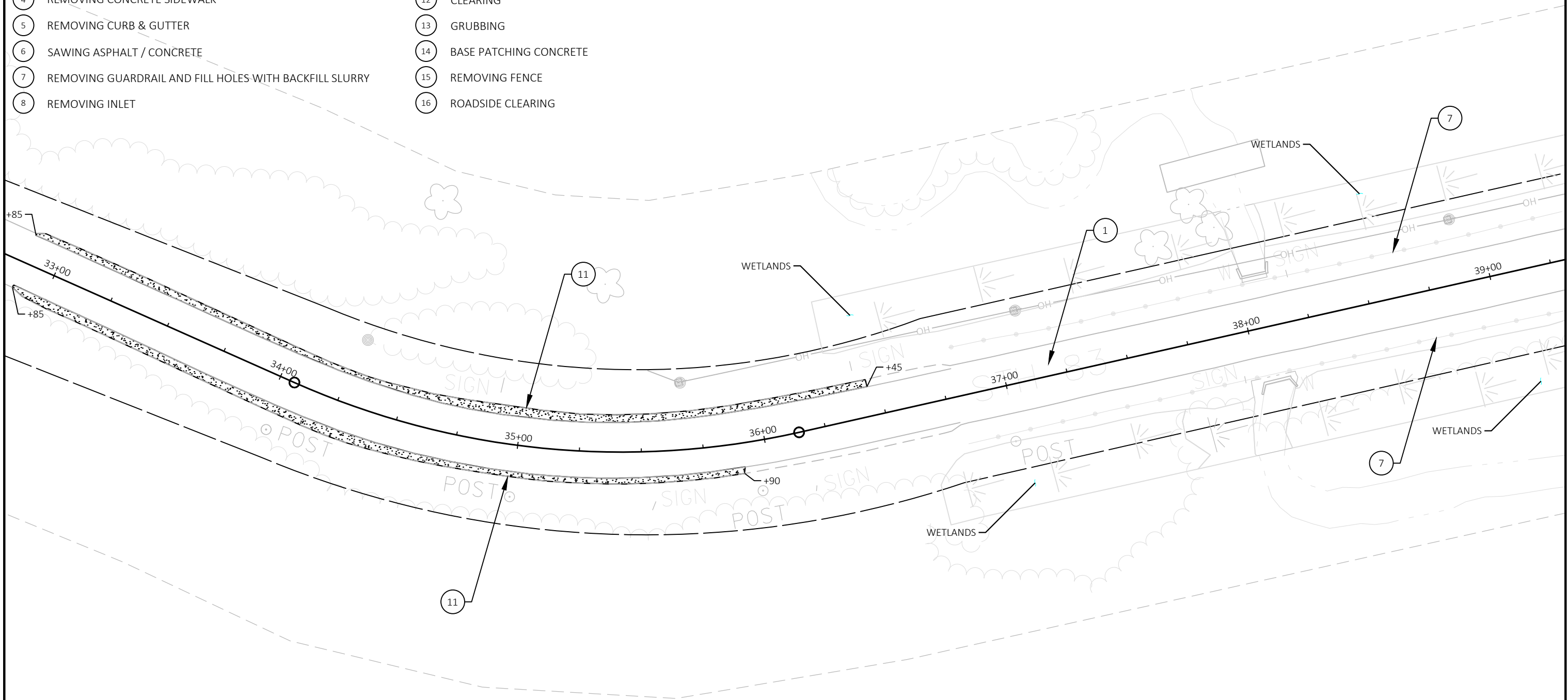
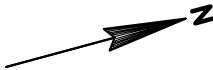


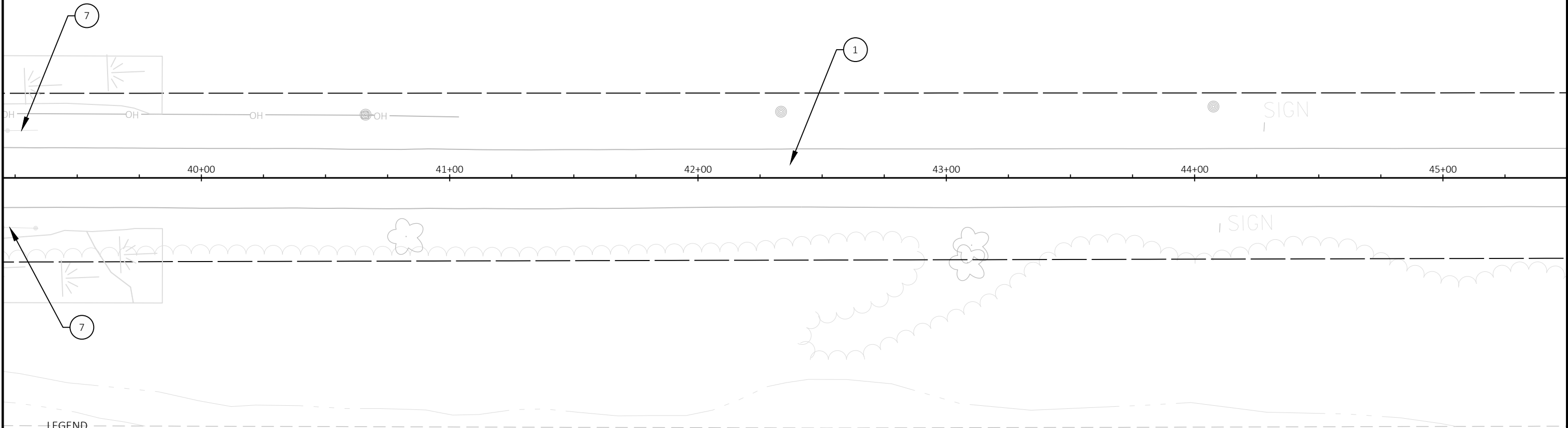




LEGEND

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|---|--|----|---|
| 1 | REMOVING ASPHALTIC MILLING 2-INCH AND HMA PAVEMENT | 9 | REMOVING CONCRETE PAVEMENT / REMOVING ASPHALTIC SURFACE |
| 2 | ASPHALT REPAIR | 10 | REMOVING SMALL PIPE CULVERTS |
| 3 | REMOVING ASPHALTIC SURFACE BUTT JOINTS | 11 | PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS |
| 4 | REMOVING CONCRETE SIDEWALK | 12 | CLEARING |
| 5 | REMOVING CURB & GUTTER | 13 | GRUBBING |
| 6 | SAWING ASPHALT / CONCRETE | 14 | BASE PATCHING CONCRETE |
| 7 | REMOVING GUARDRAIL AND FILL HOLES WITH BACKFILL SLURRY | 15 | REMOVING FENCE |
| 8 | REMOVING INLET | 16 | ROADSIDE CLEARING |





LEGEND

- | | | | |
|---|--|----|---|
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| 8 | REMOVING INLET | 16 | ROADSIDE CLEARING |

PROJECT NO: 1330-29-70

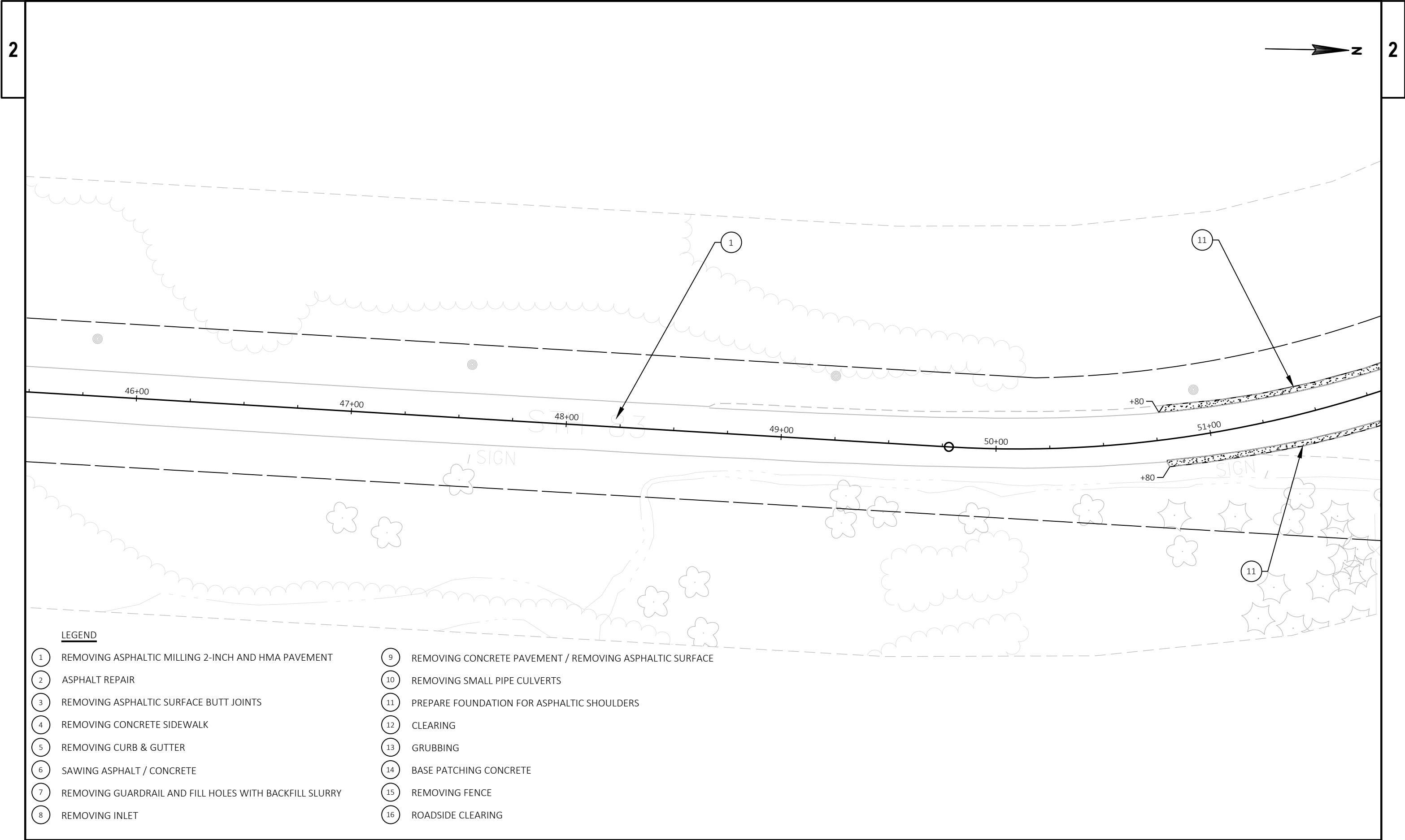
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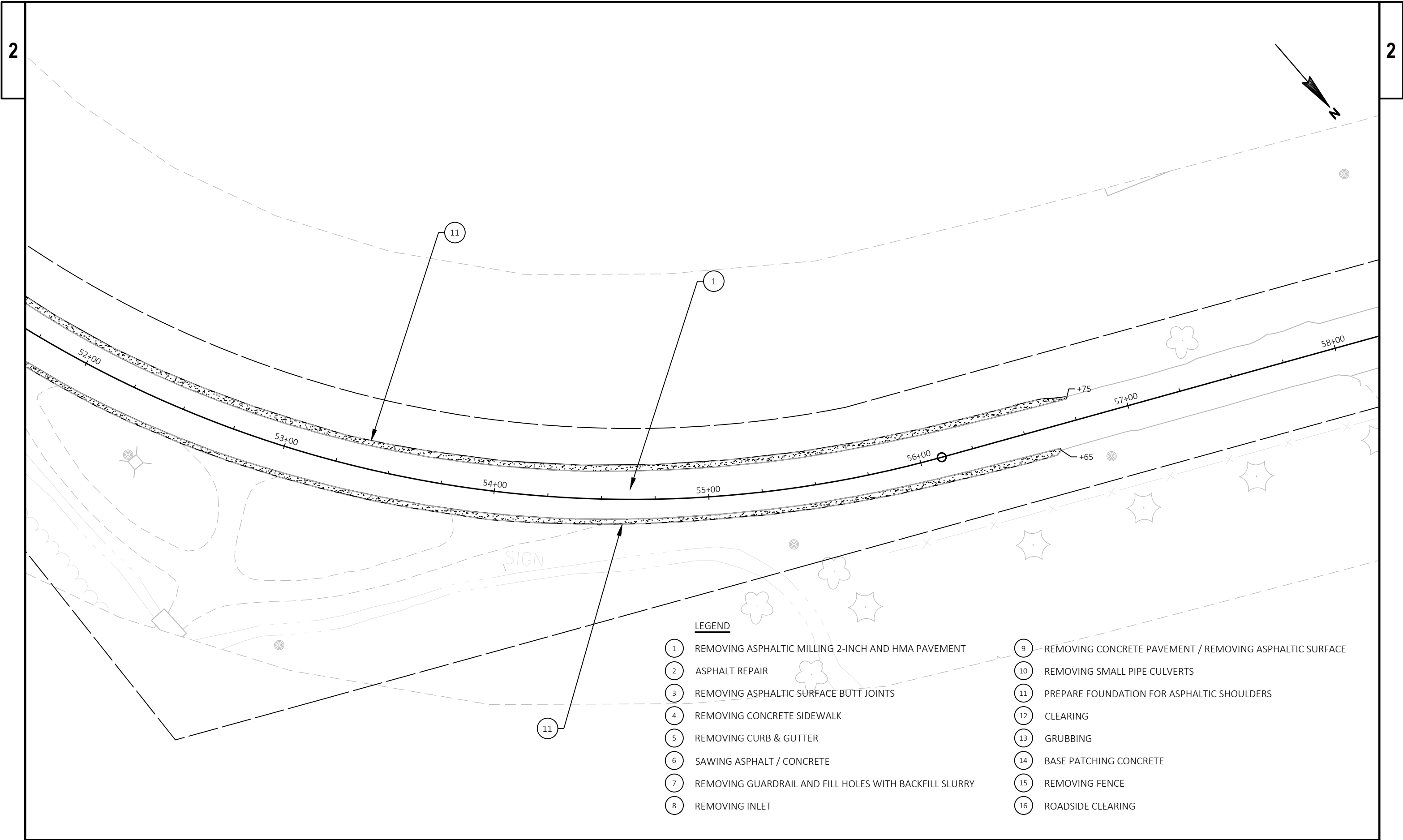
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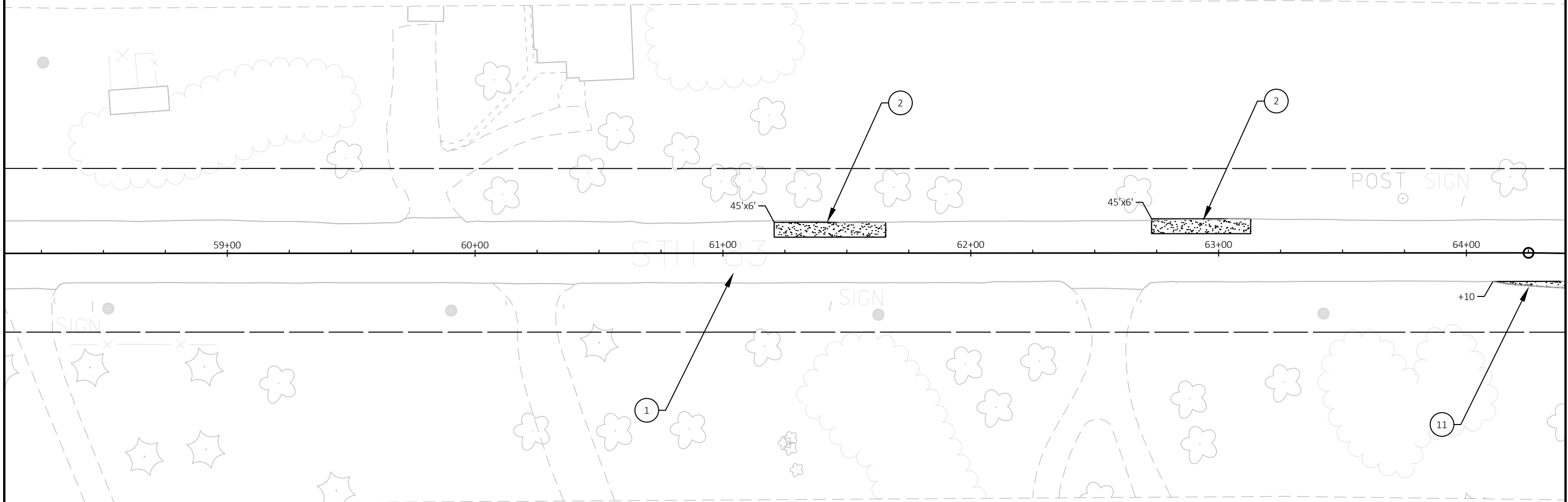
REMOVAL PLAN

SHEET

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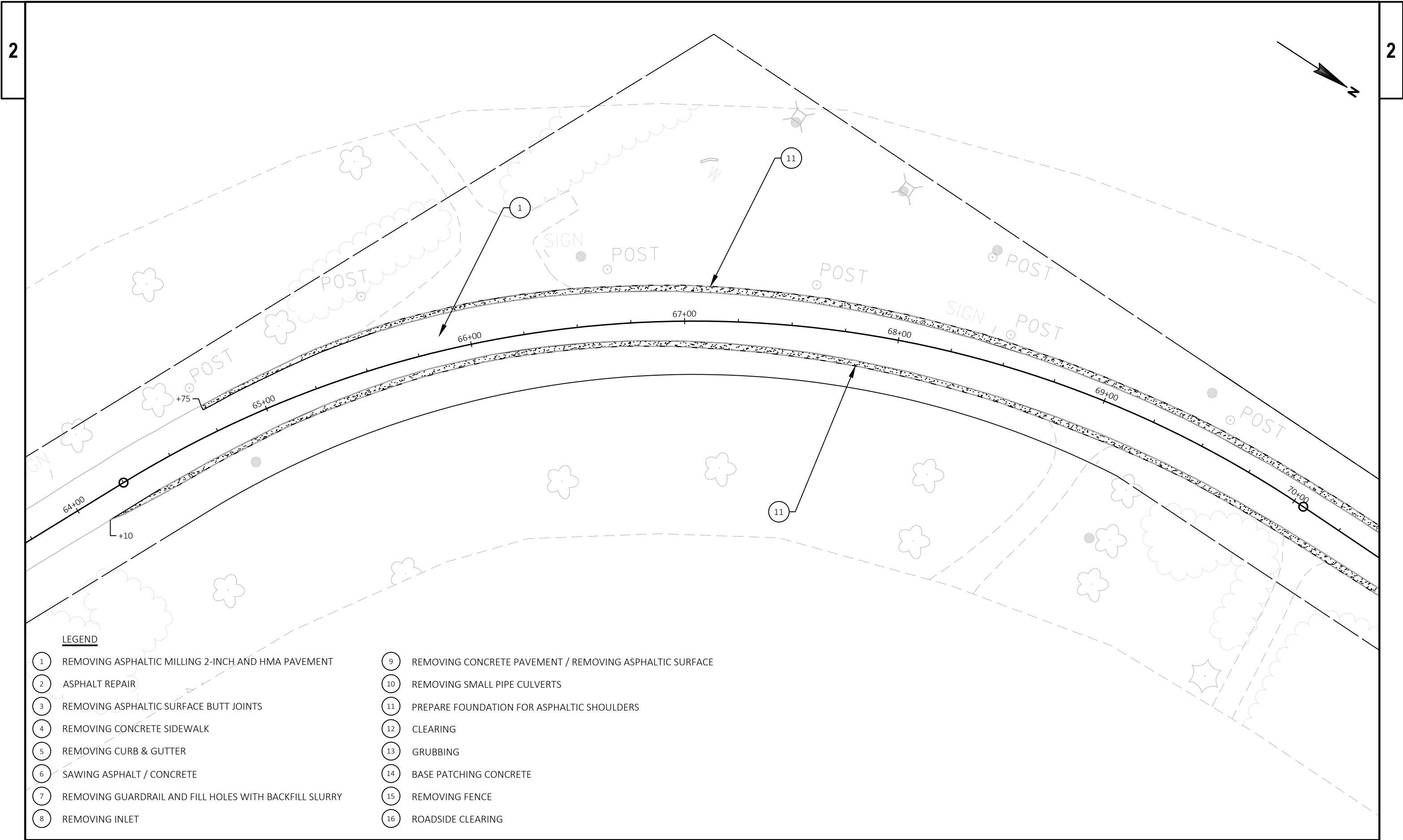


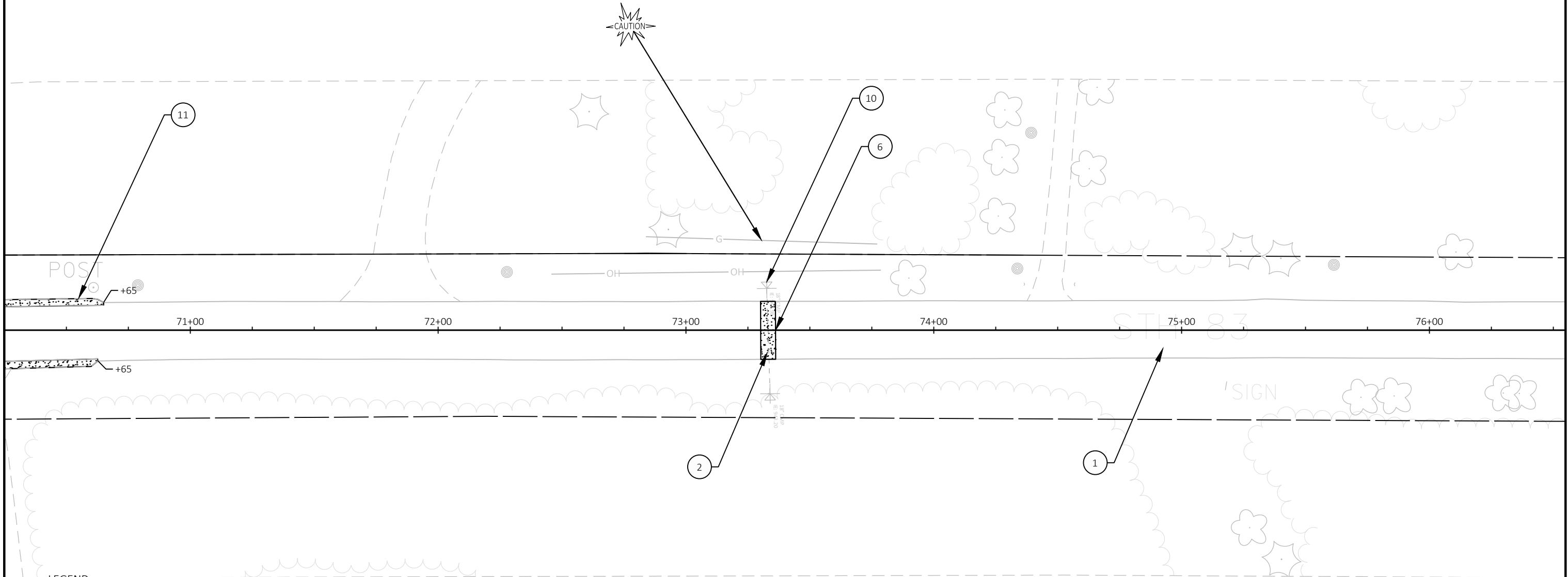




LEGEND

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|--|---|
| 1 REMOVING ASPHALTIC MILLING 2-INCH AND HMA PAVEMENT | 9 REMOVING CONCRETE PAVEMENT / REMOVING ASPHALTIC SURFACE |
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| 8 REMOVING INLET | 16 ROADSIDE CLEARING |





LEGEND

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PROJECT NO: 1330-29-70

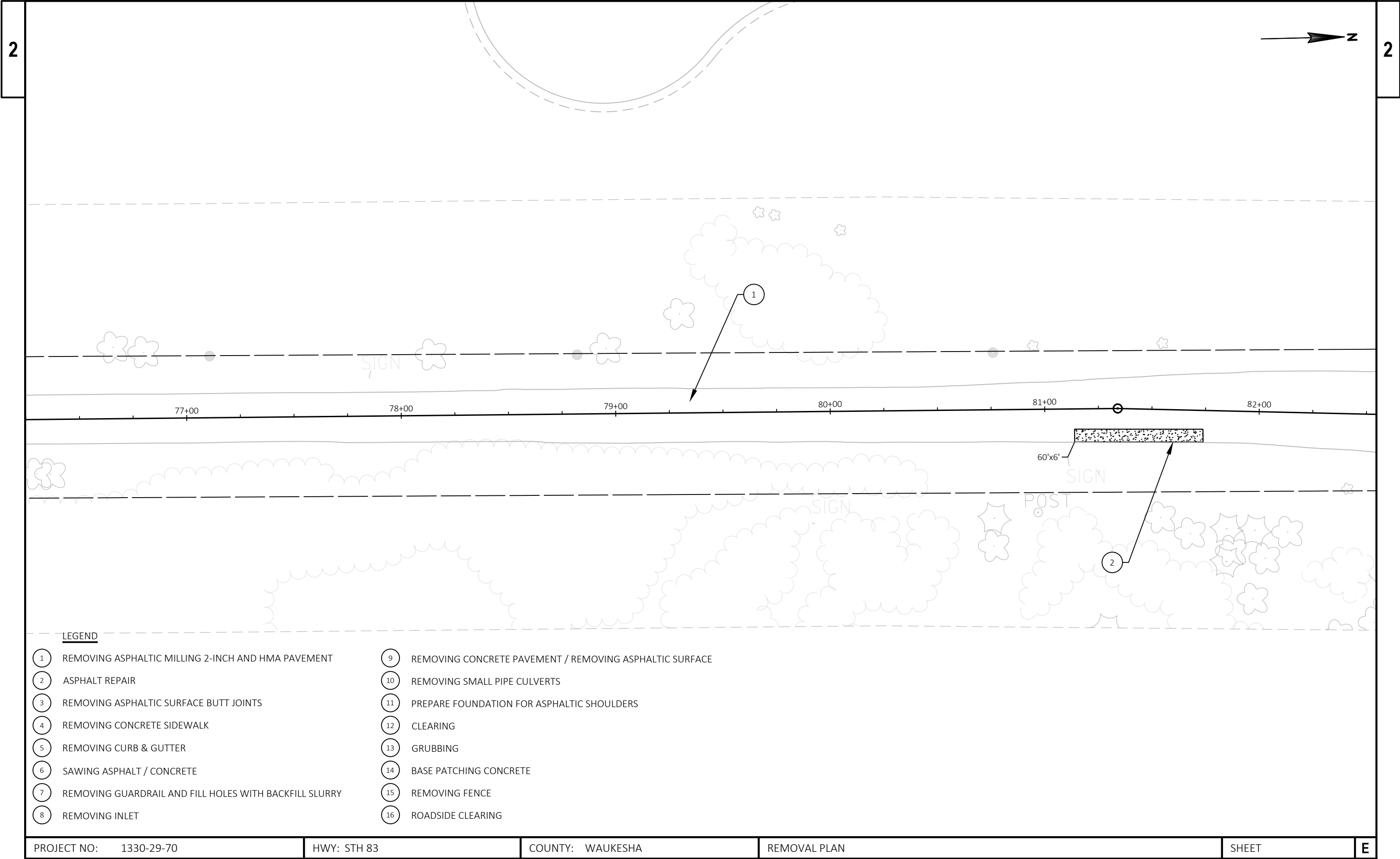
HWY: STH 83

COUNTY: WAUKESHA

REMOVAL PLAN

SHEET

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- LEGEND
- 1

REMOVING ASPHALTIC MILLING 2-INCH AND HMA PAVEMENT

2

ASPHALT REPAIR
- 3

REMOVING ASPHALTIC SURFACE BUTT JOINTS
- 4
- REMOVING CONCRETE SIDEWALK

5

REMOVING CURB & GUTTER

6

7

REMOVING GUARDRAIL AND FILL HOLES WITH BACKFILL SLURRY

8

9

REMOVING CONCRETE PAVEMENT / REMOVING ASPHALTIC SURFACE

10

11

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

12

13

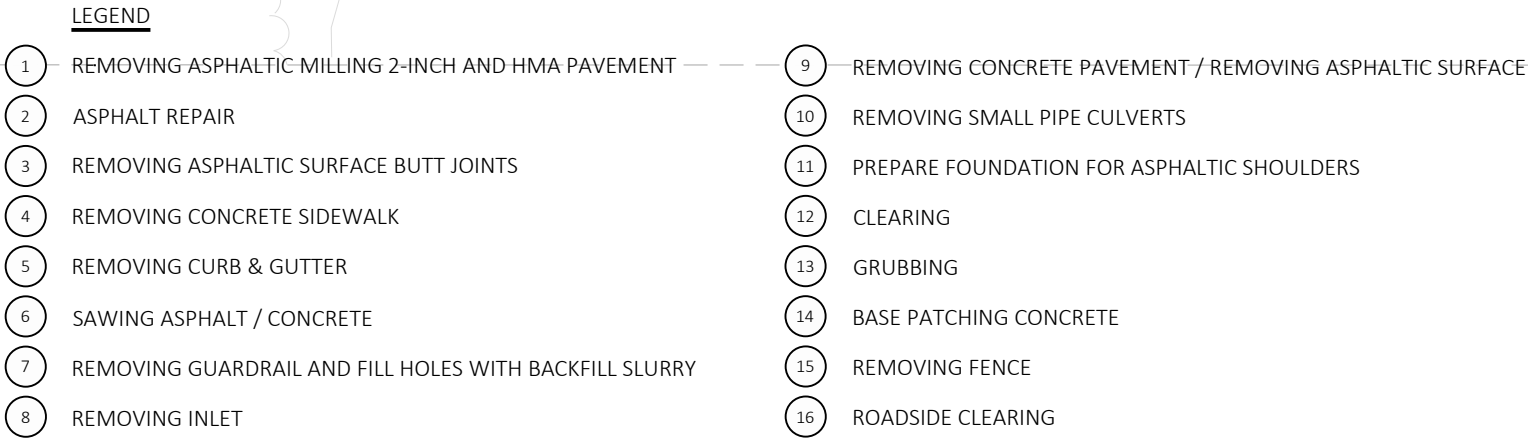
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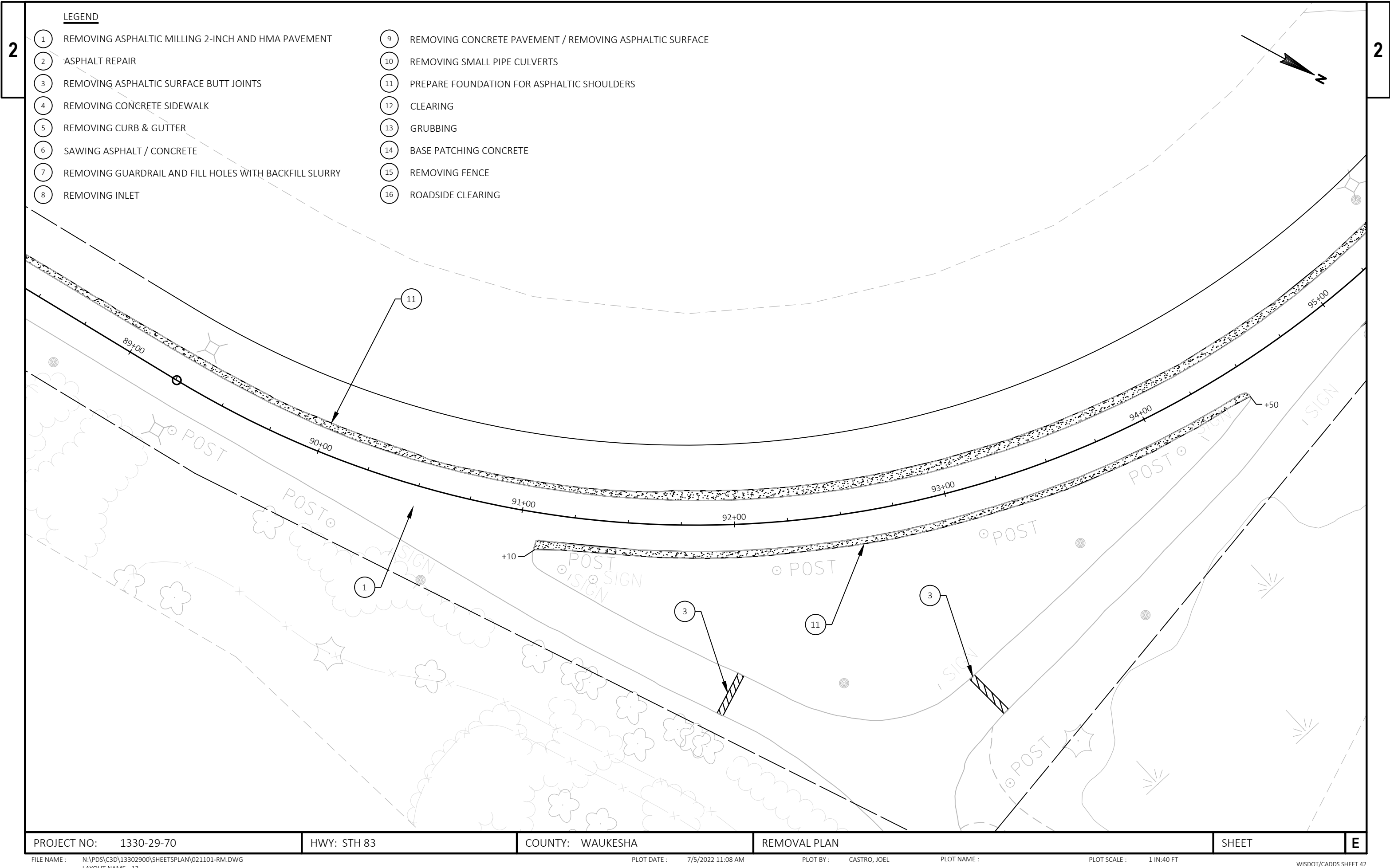
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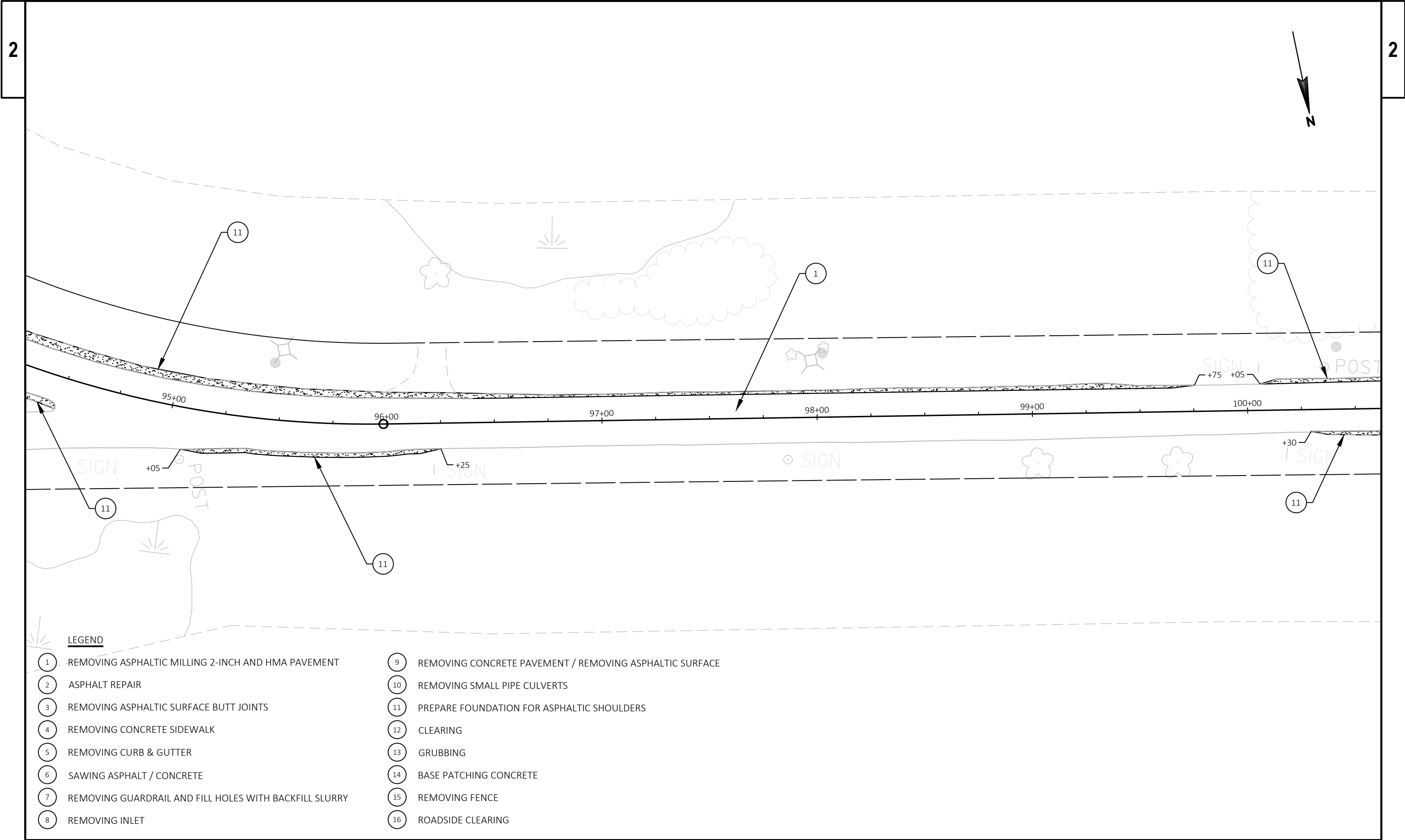
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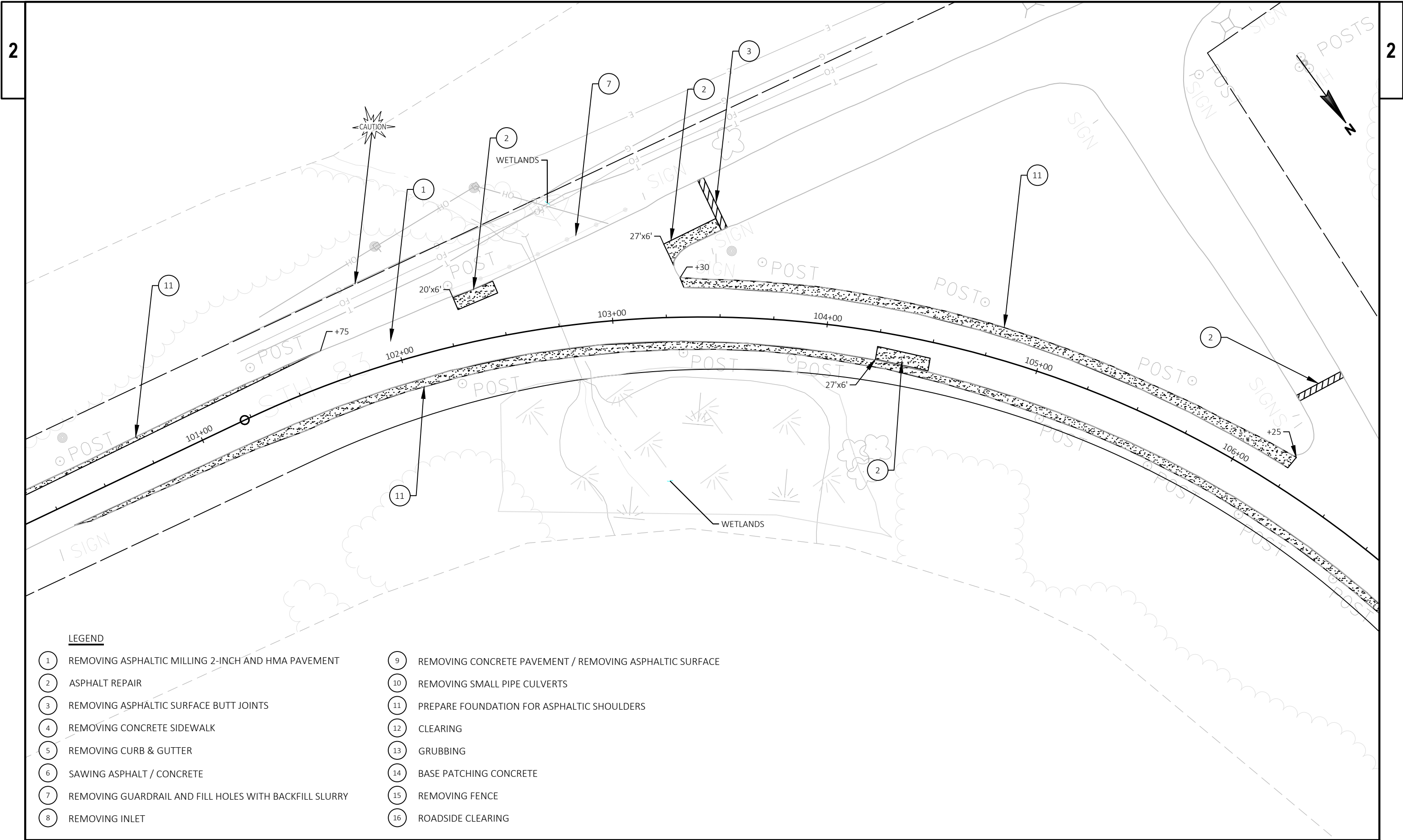
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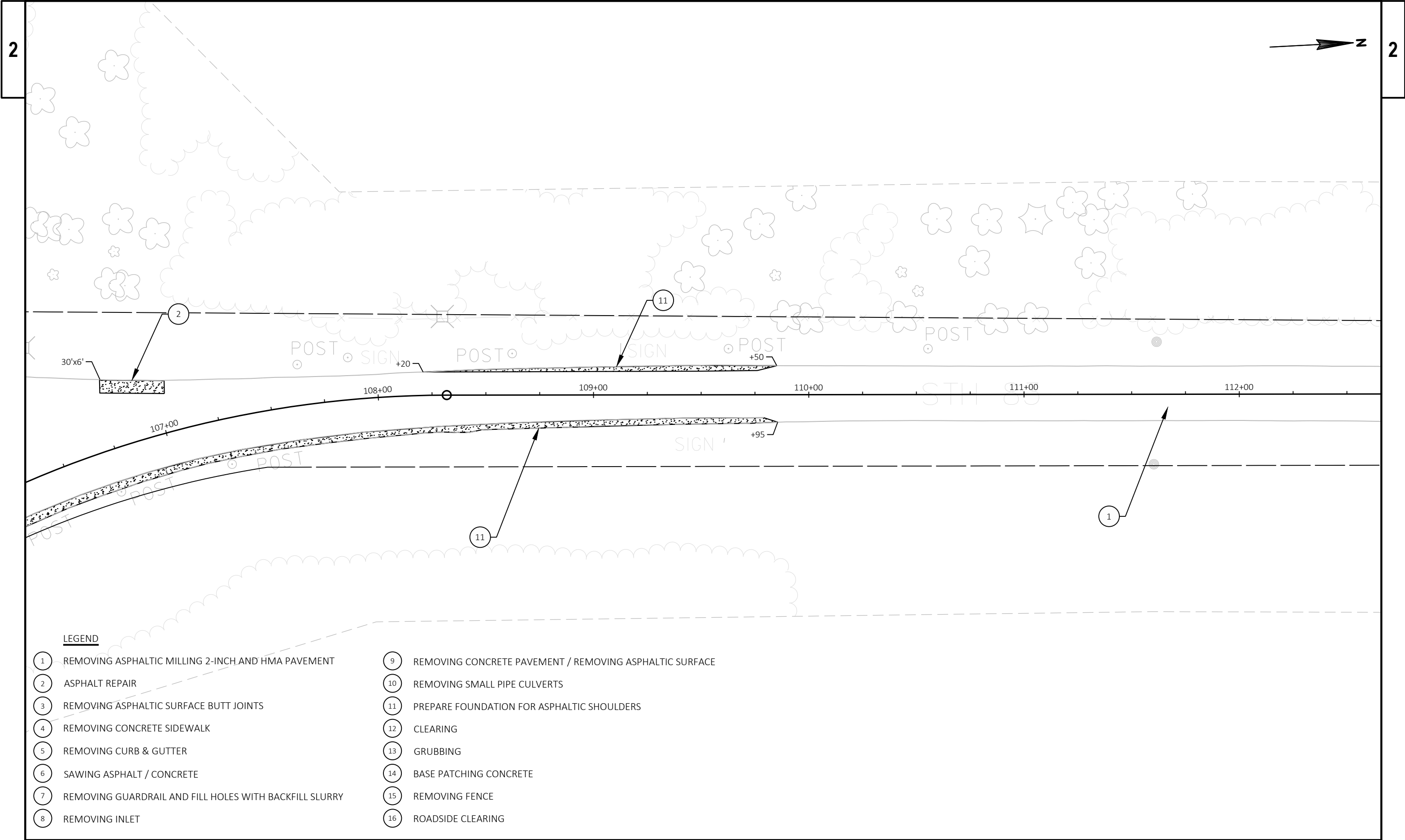






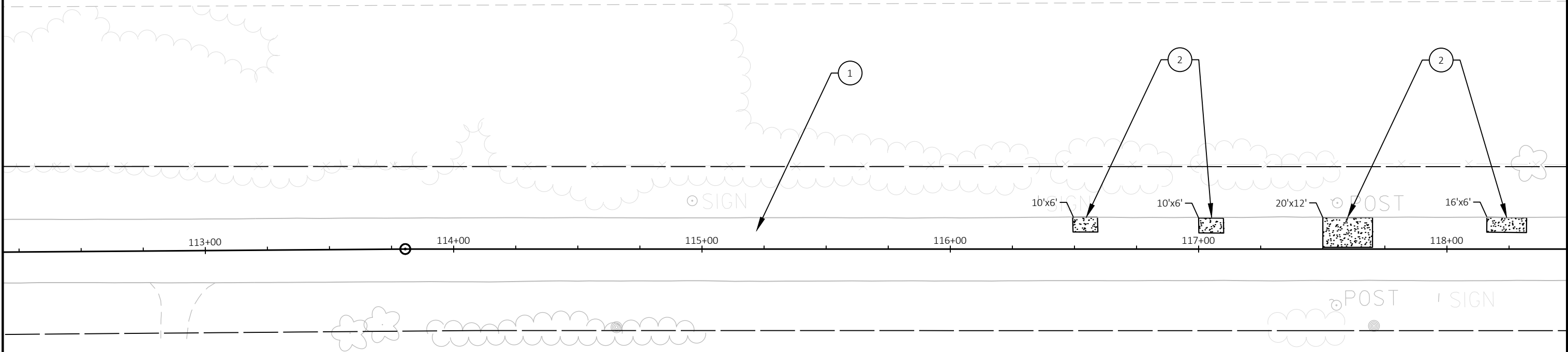
LEGEND

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|--|---|
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| 8 REMOVING INLET | 16 ROADSIDE CLEARING |



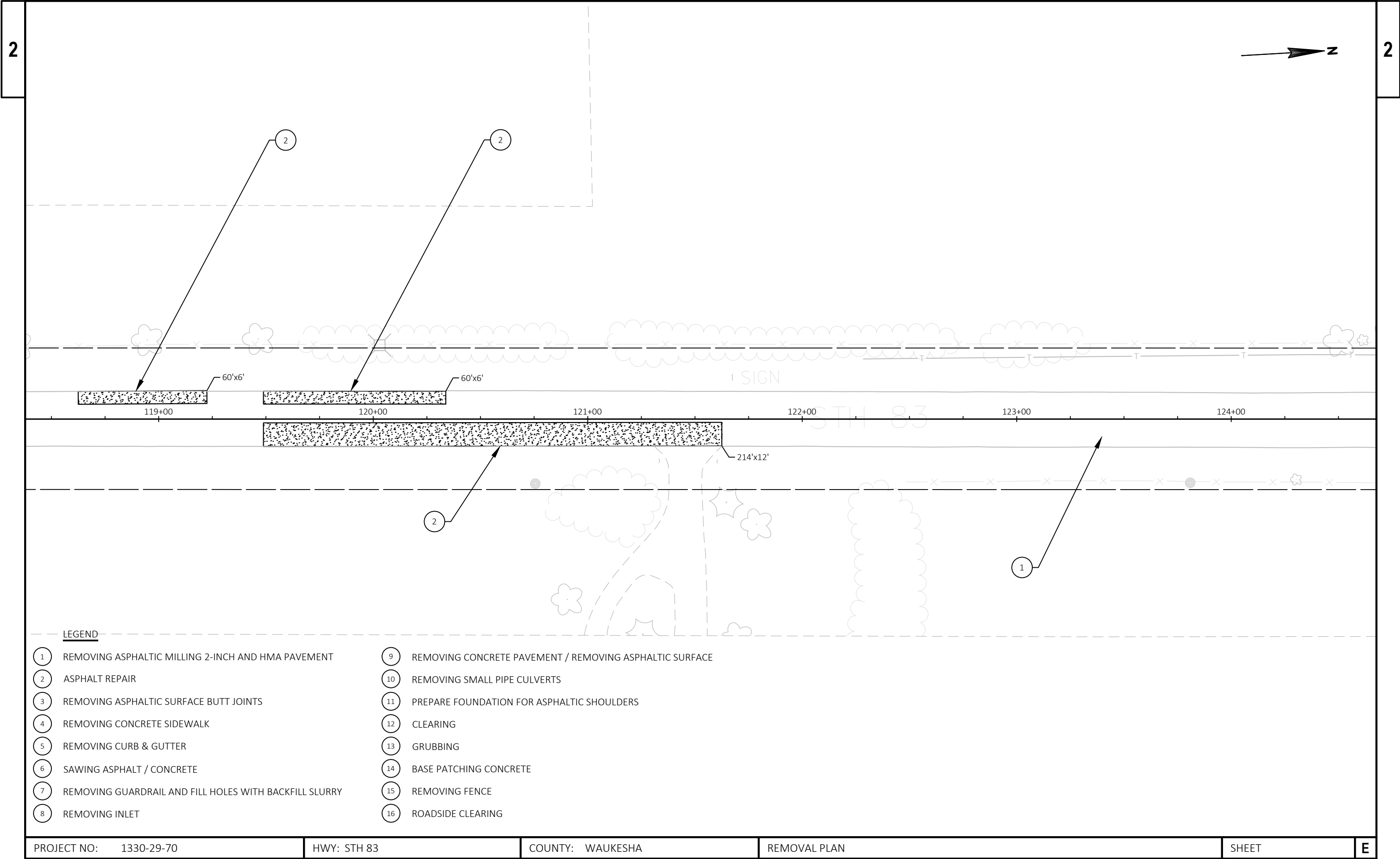
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LEGEND

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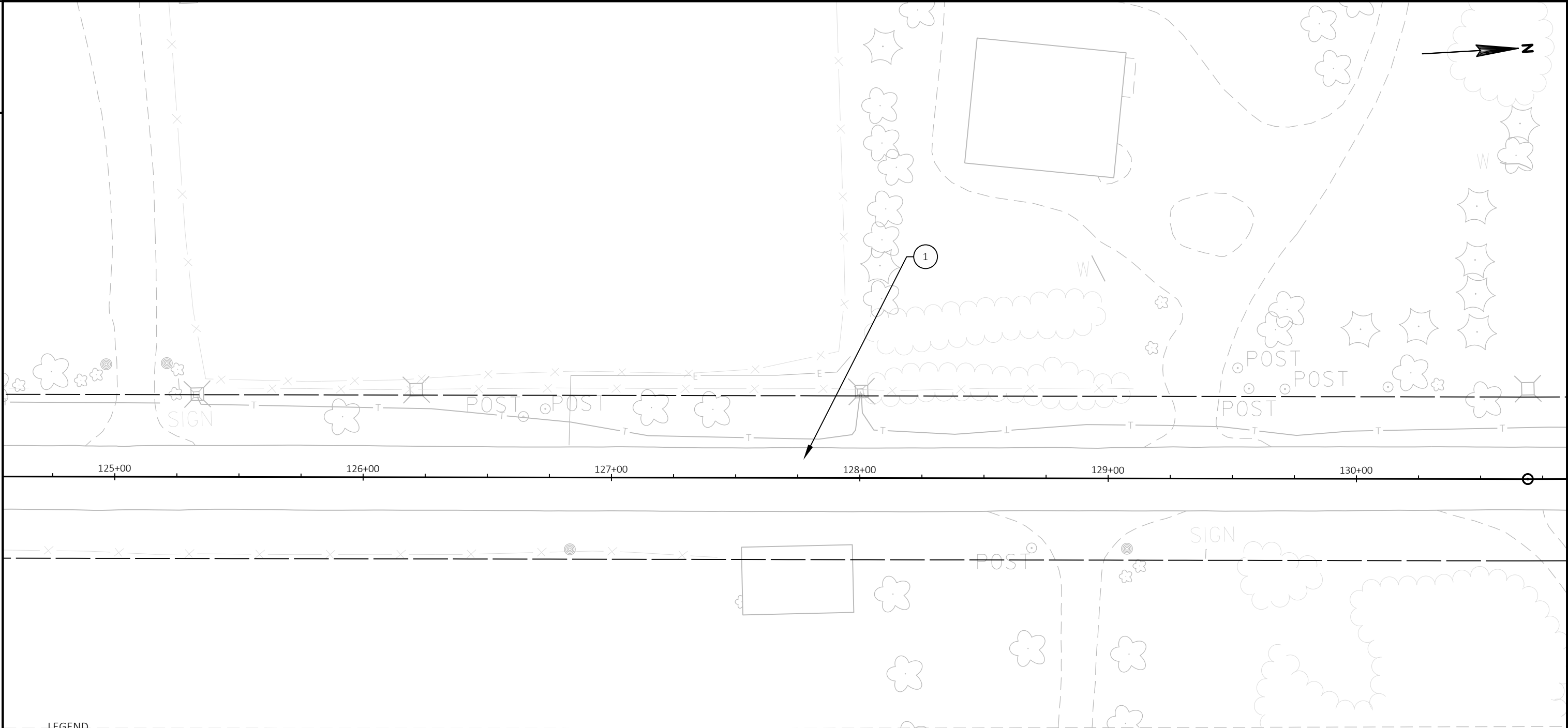


LEGEND

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|---|--|----|---|
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| 7 | REMOVING GUARDRAIL AND FILL HOLES WITH BACKFILL SLURRY | 15 | REMOVING FENCE |
| 8 | REMOVING INLET | 16 | ROADSIDE CLEARING |

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2



LEGEND

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|---|--|----|---|
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| 8 | REMOVING INLET | 16 | ROADSIDE CLEARING |

PROJECT NO: 1330-29-70

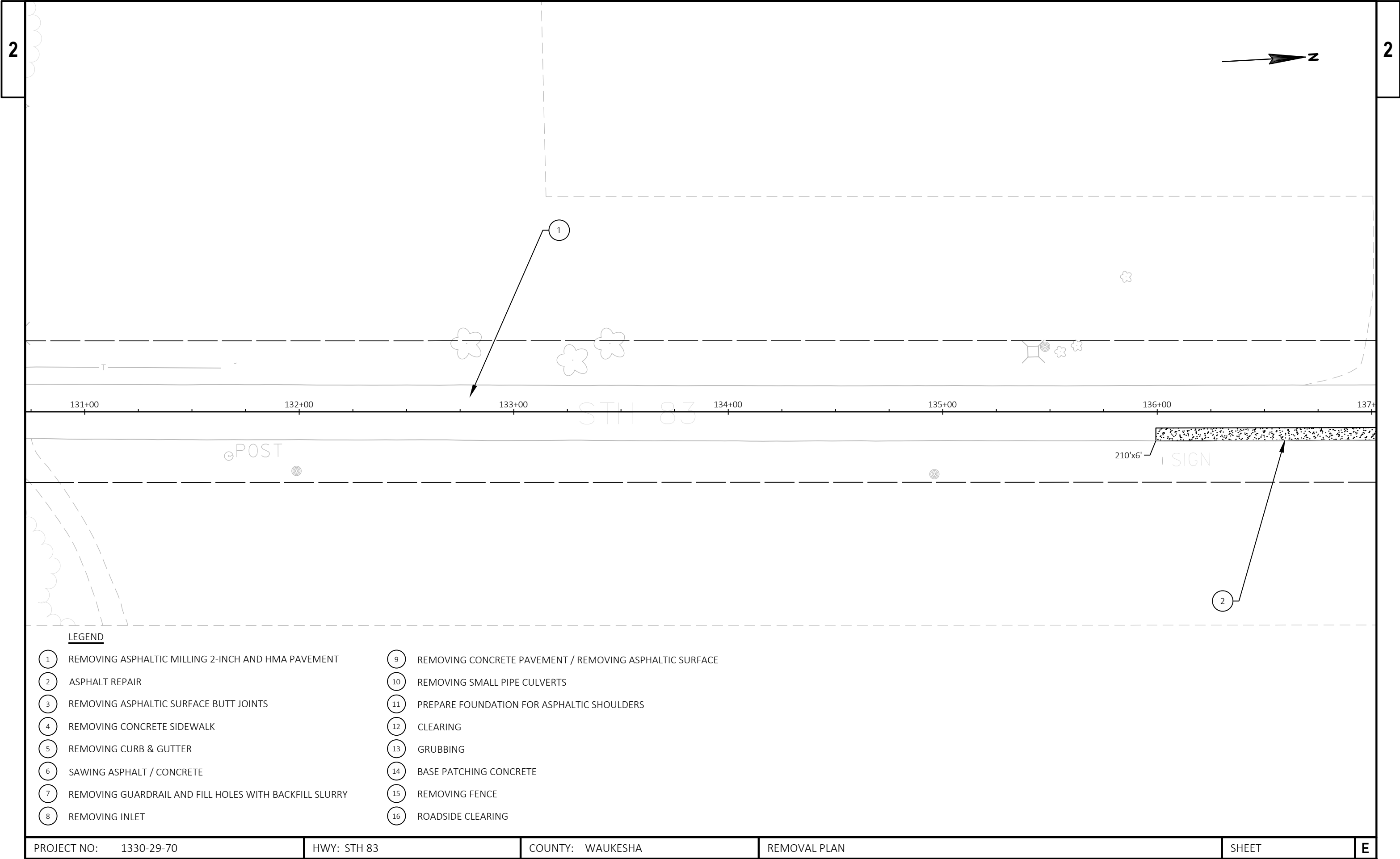
HWY: STH 83

COUNTY: WAUKESHA

REMOVAL PLAN

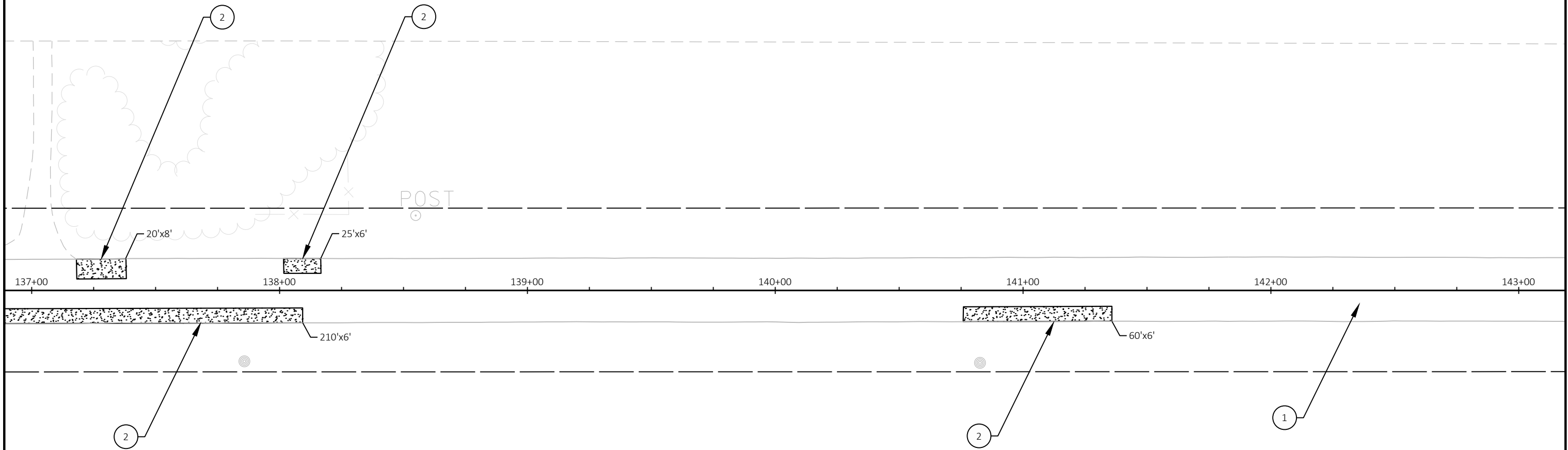
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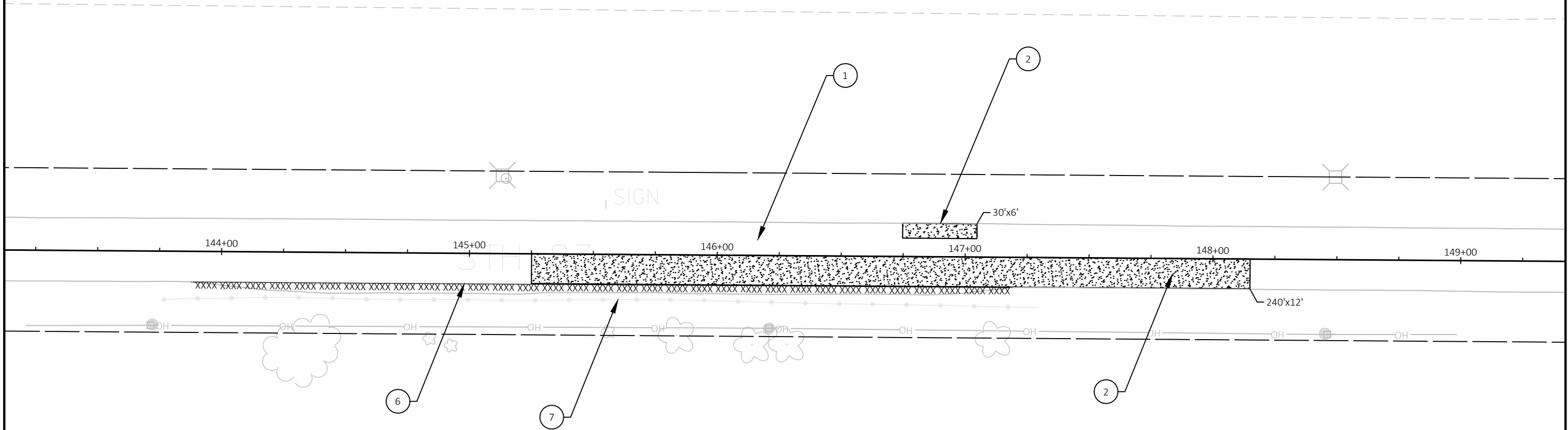
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|--|---|
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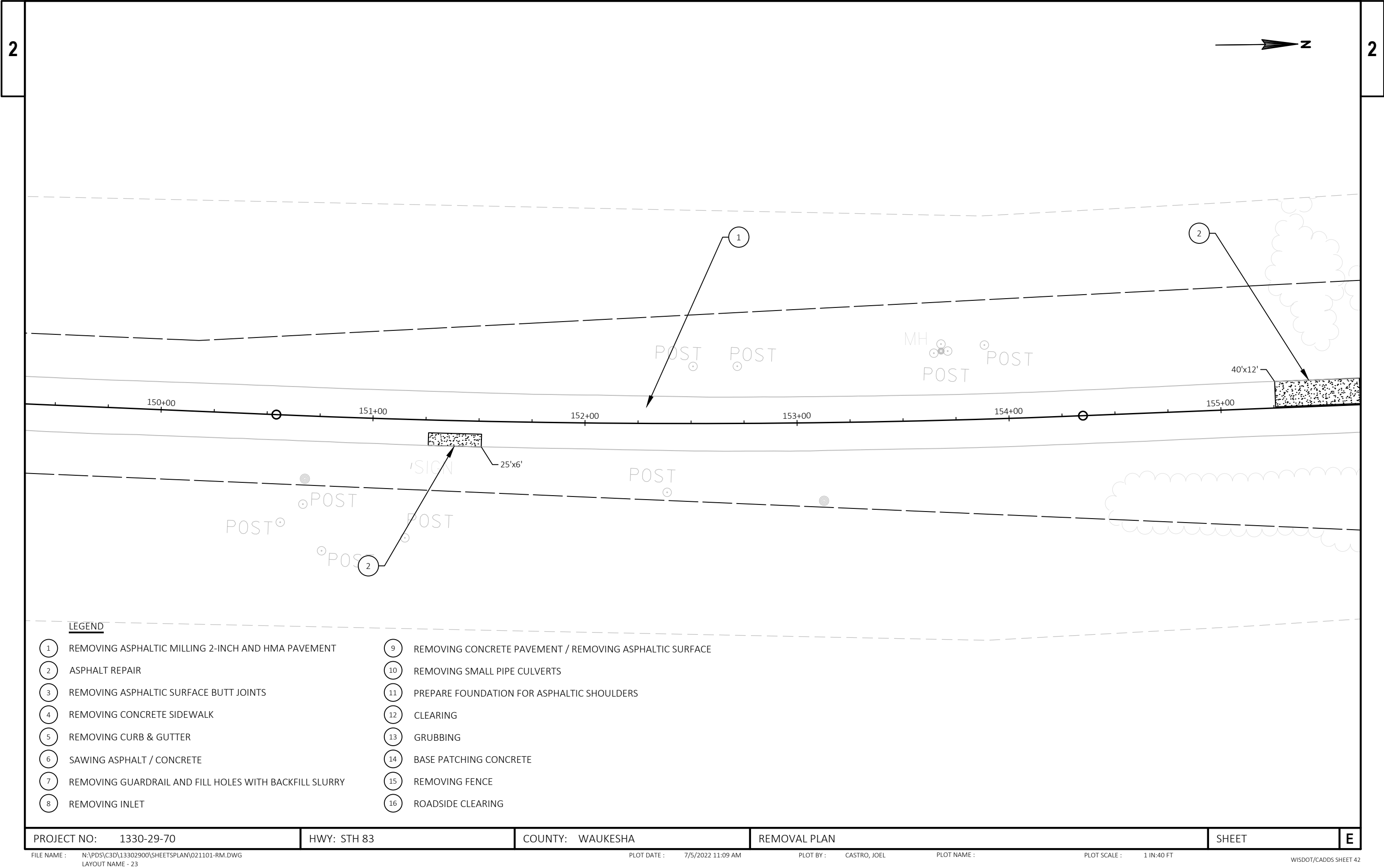
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LEGEND

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PROJECT NO: 1330-29-70

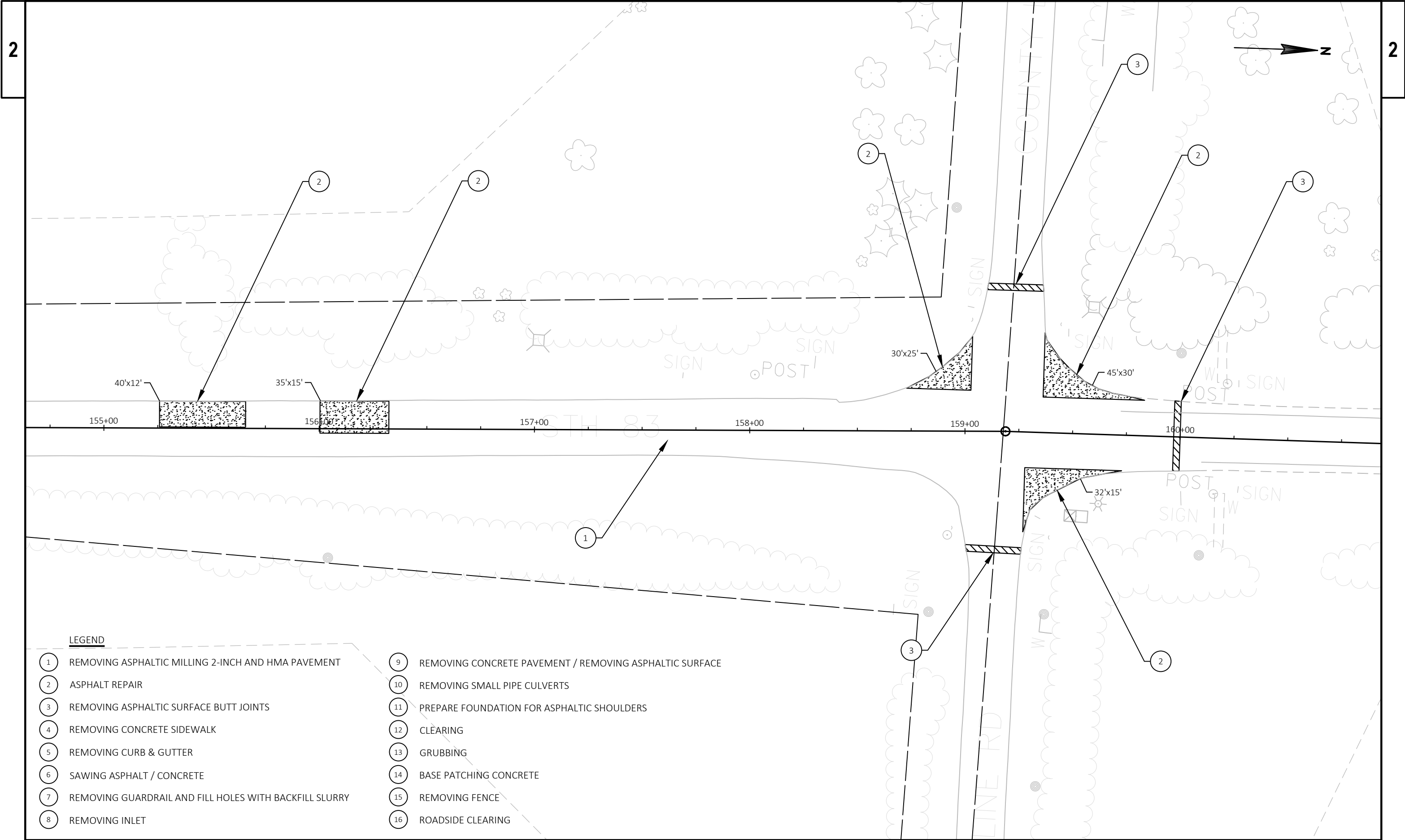
HWY: STH 83

COUNTY: WAUKESHA

REMOVAL PLAN

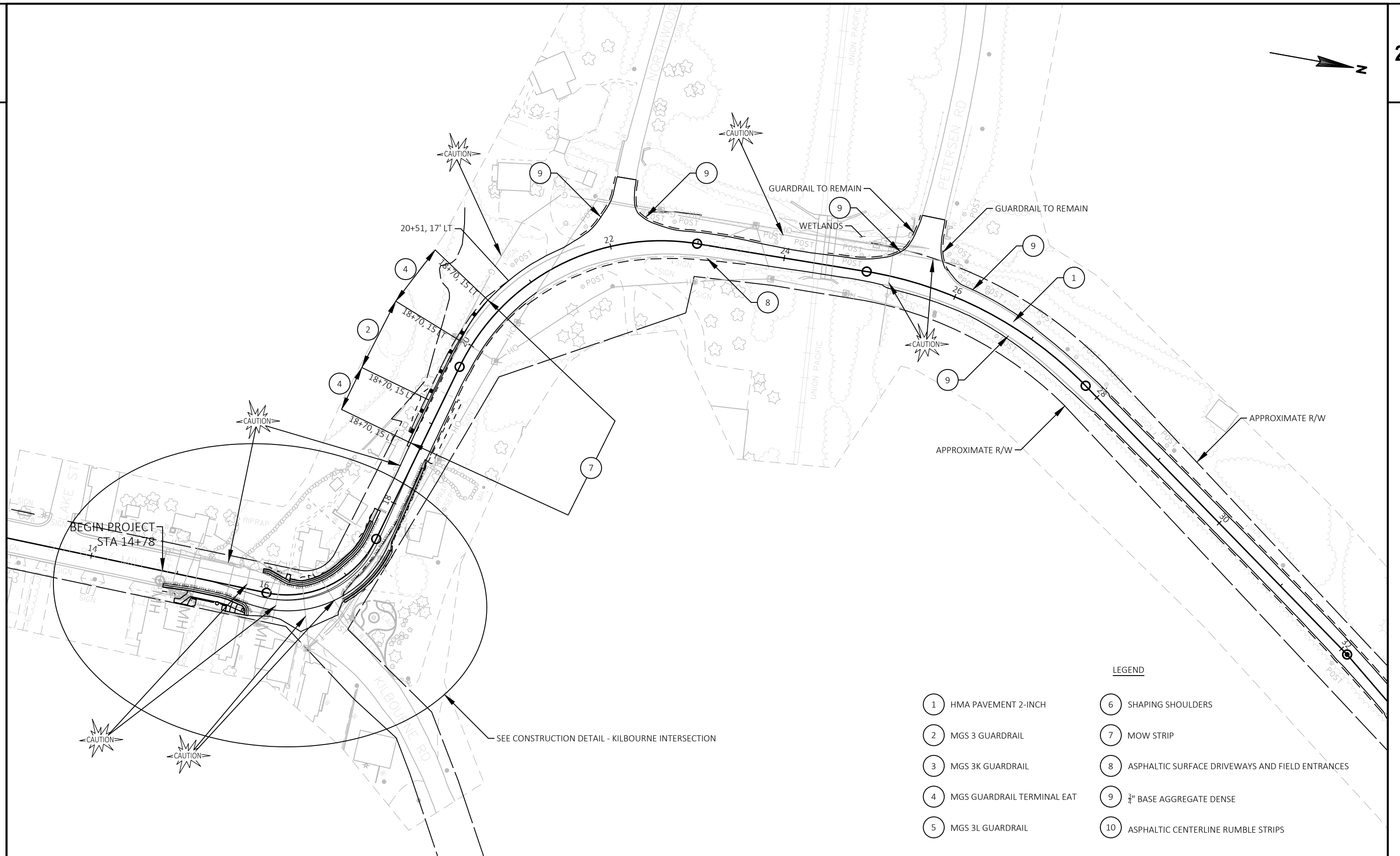
SHEET

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LEGEND

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|---|--|----|---|
| 1 | REMOVING ASPHALTIC MILLING 2-INCH AND HMA PAVEMENT | 9 | REMOVING CONCRETE PAVEMENT / REMOVING ASPHALTIC SURFACE |
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PROJECT NO: 1330-29-70

HWY: STH 83

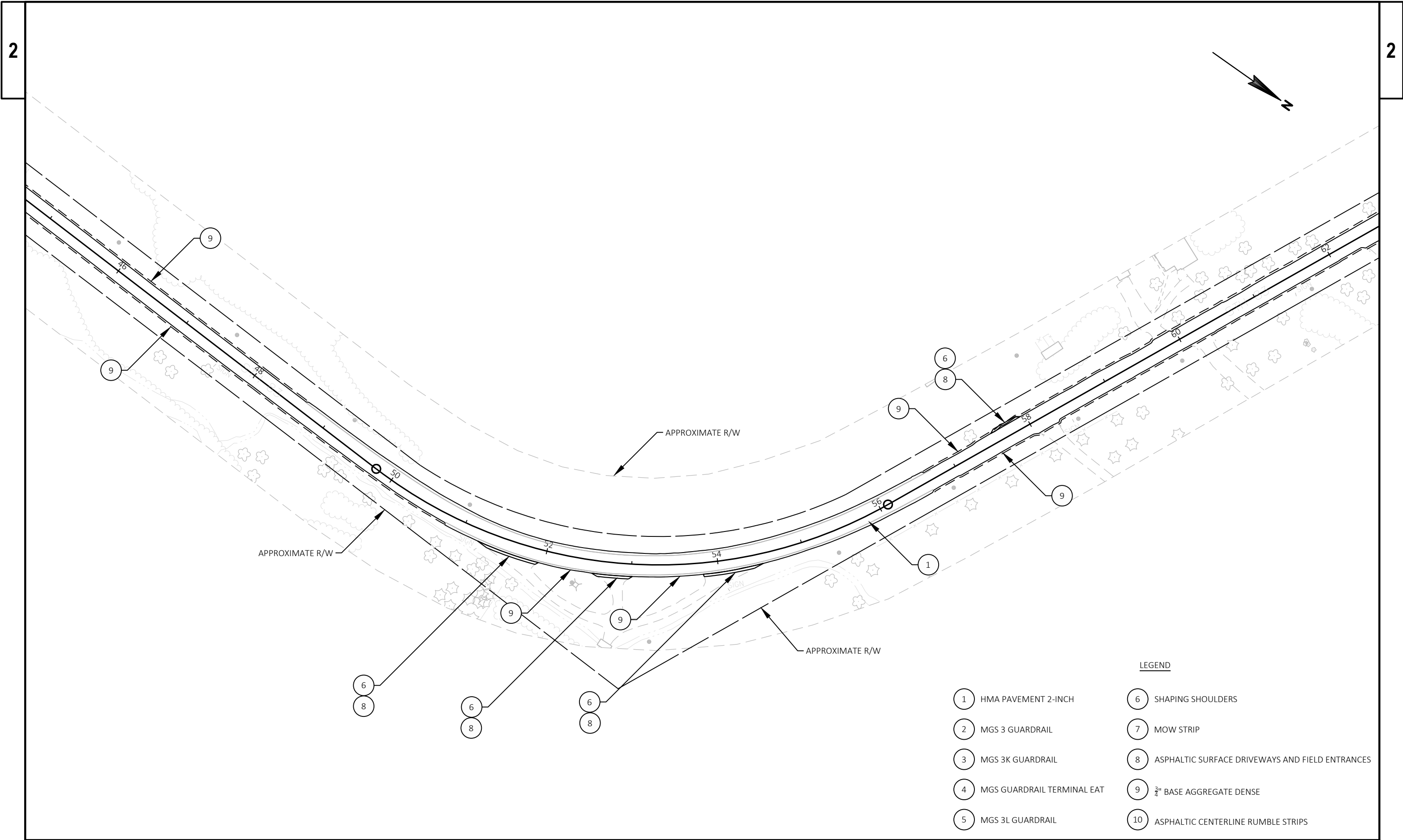
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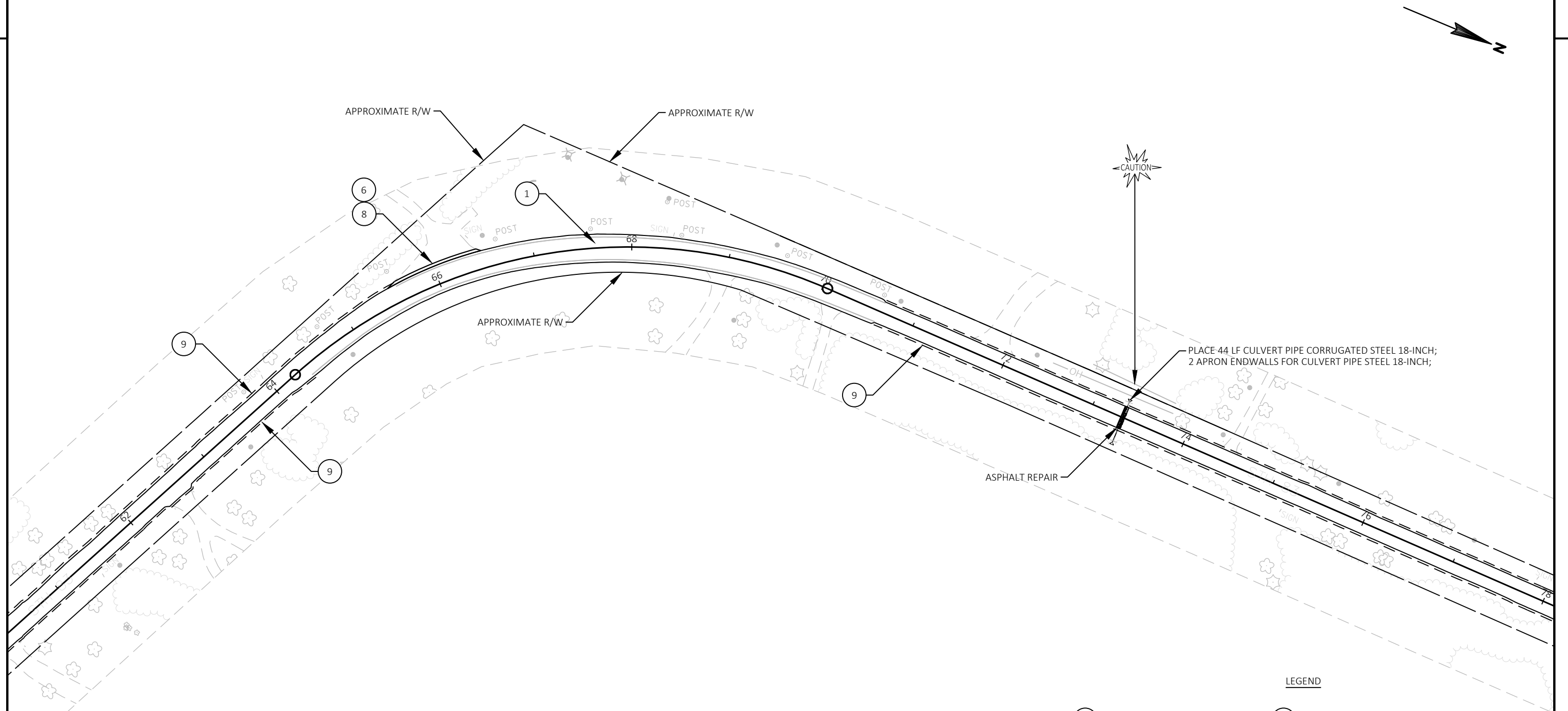
PLAN DETAILS

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LEGEND

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|------------------------------|---|
| 1 HMA PAVEMENT 2-INCH | 6 SHAPING SHOULDERS |
| 2 MGS 3 GUARDRAIL | 7 MOW STRIP |
| 3 MGS 3K GUARDRAIL | 8 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES |
| 4 MGS GUARDRAIL TERMINAL EAT | 9 3/4" BASE AGGREGATE DENSE |
| 5 MGS 3L GUARDRAIL | 10 ASPHALTIC CENTERLINE RUMBLE STRIPS |

PROJECT NO: 1330-29-70

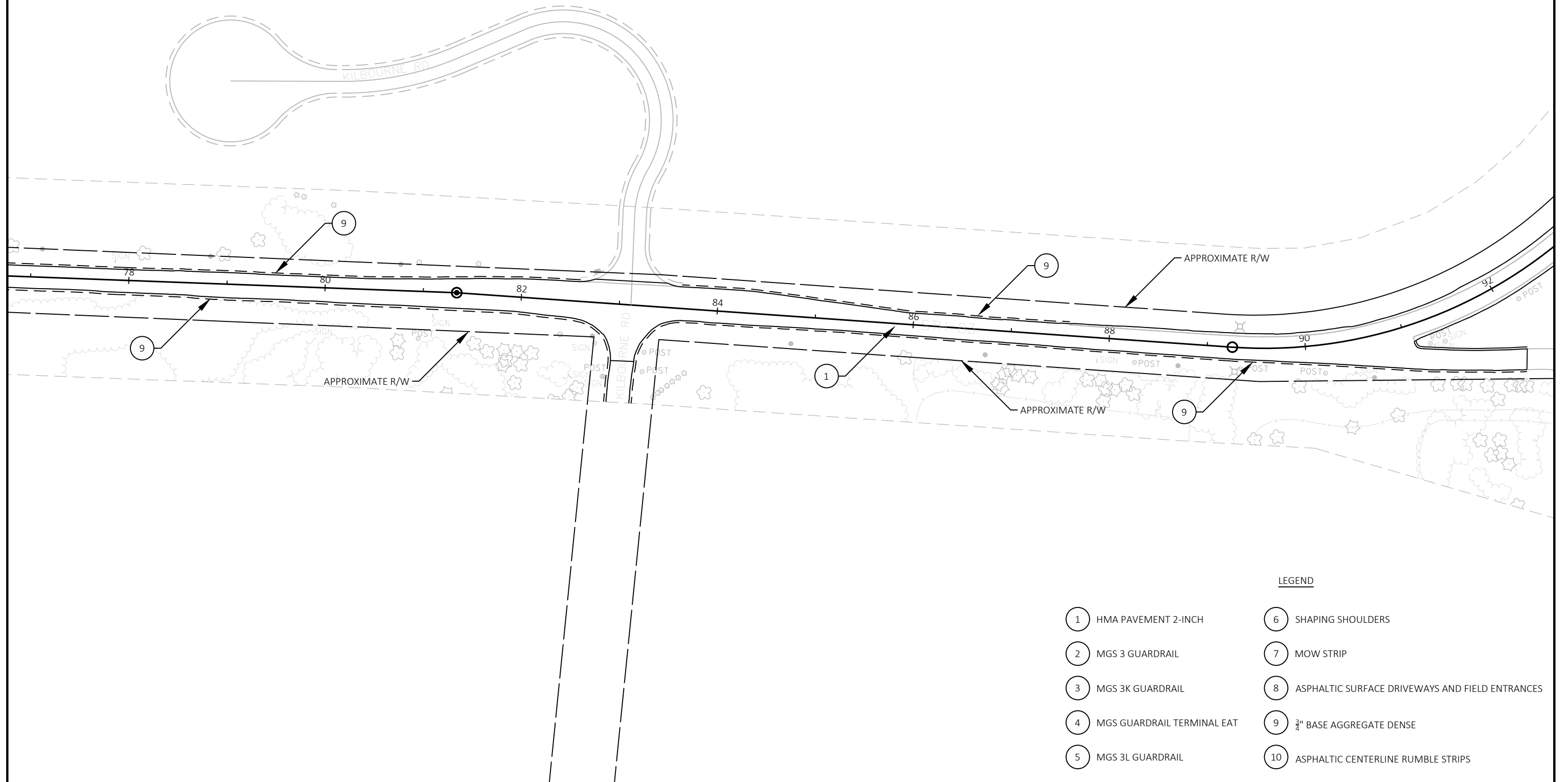
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COUNTY: WAUKESHA

PLAN DETAILS

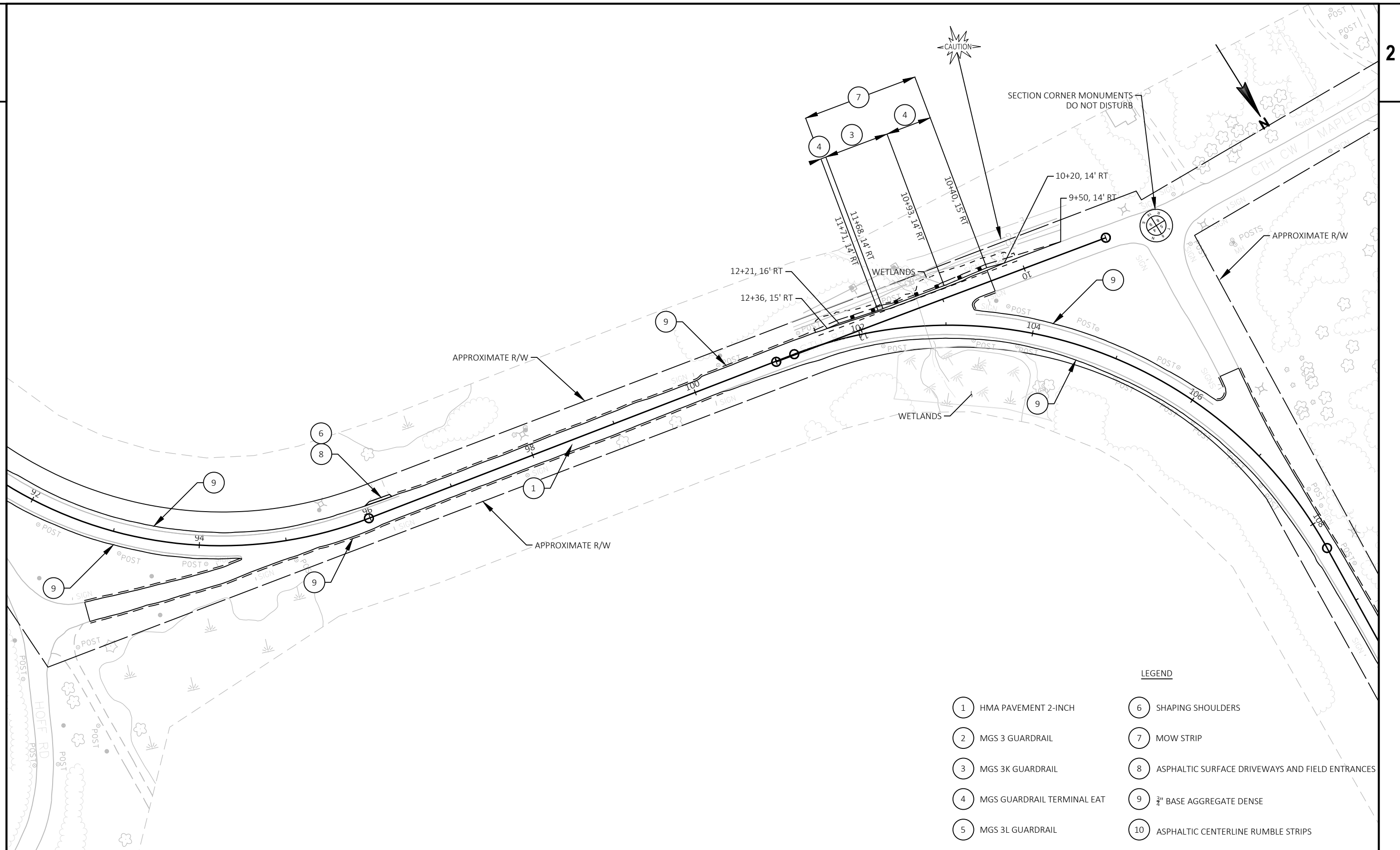
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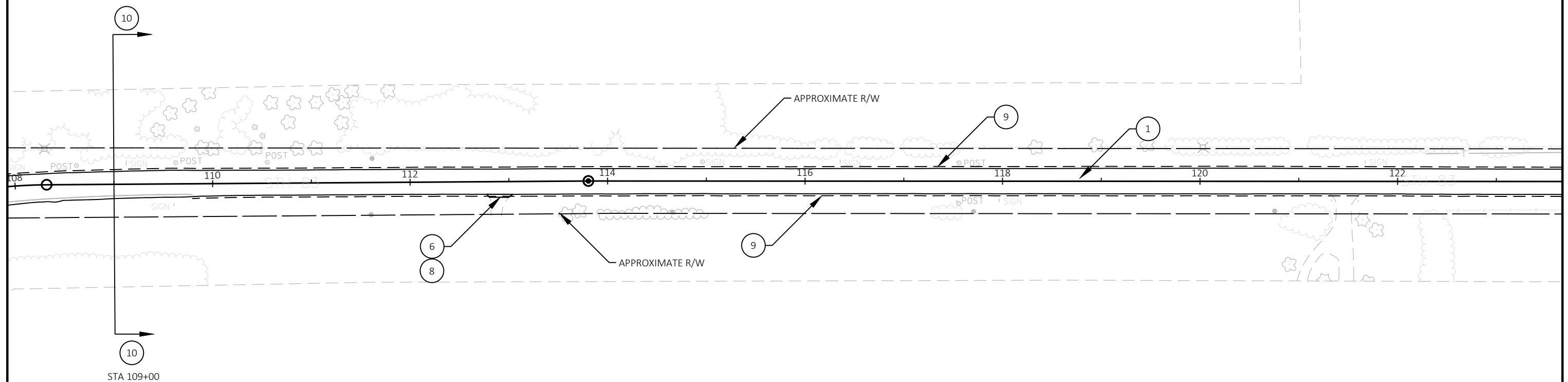


LEGEND

- | | |
|------------------------------|---|
| 1 HMA PAVEMENT 2-INCH | 6 SHAPING SHOULDERS |
| 2 MGS 3 GUARDRAIL | 7 MOW STRIP |
| 3 MGS 3K GUARDRAIL | 8 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES |
| 4 MGS GUARDRAIL TERMINAL EAT | 9 3/4" BASE AGGREGATE DENSE |
| 5 MGS 3L GUARDRAIL | 10 ASPHALTIC CENTERLINE RUMBLE STRIPS |

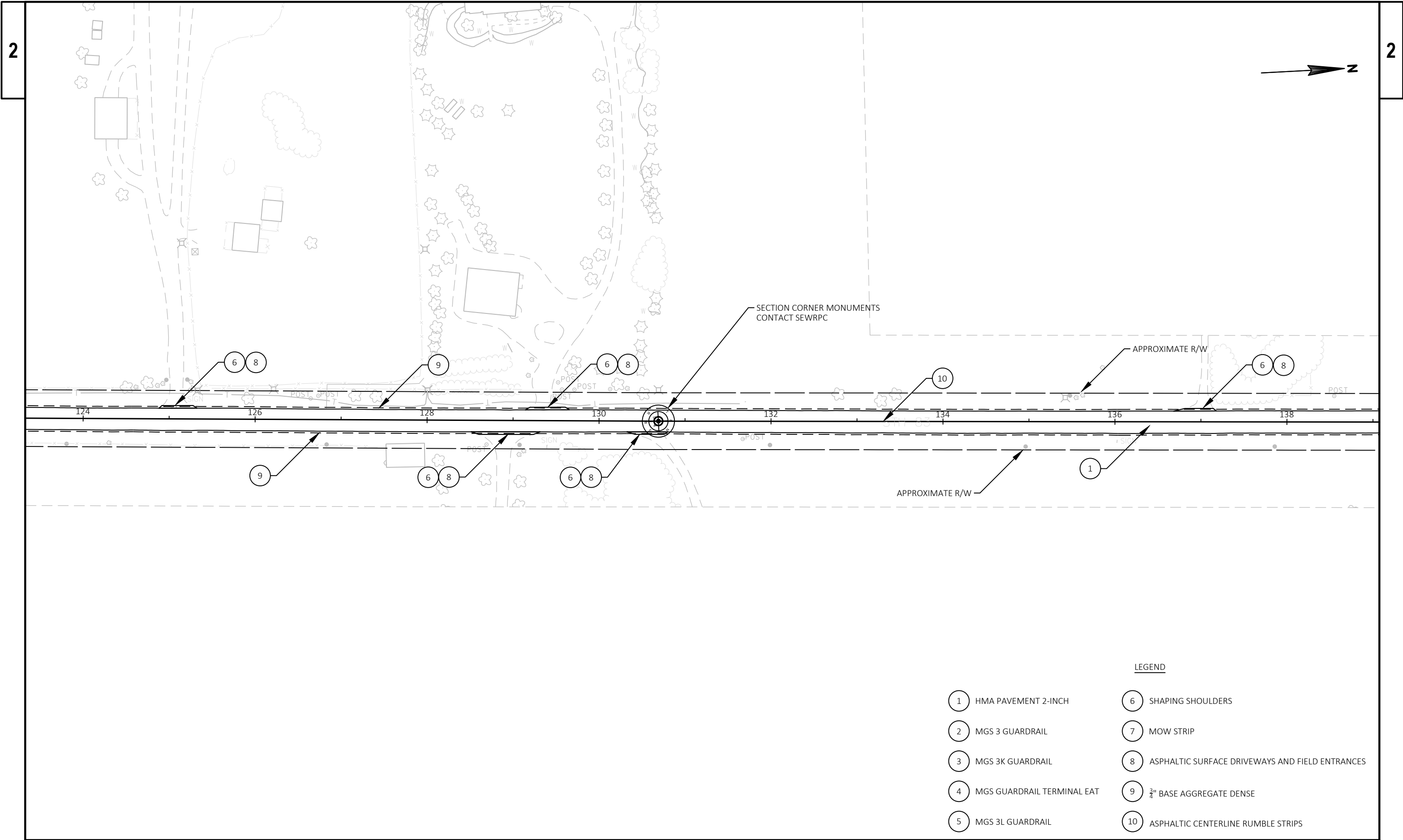


PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	PLAN DETAILS	SHEET	E
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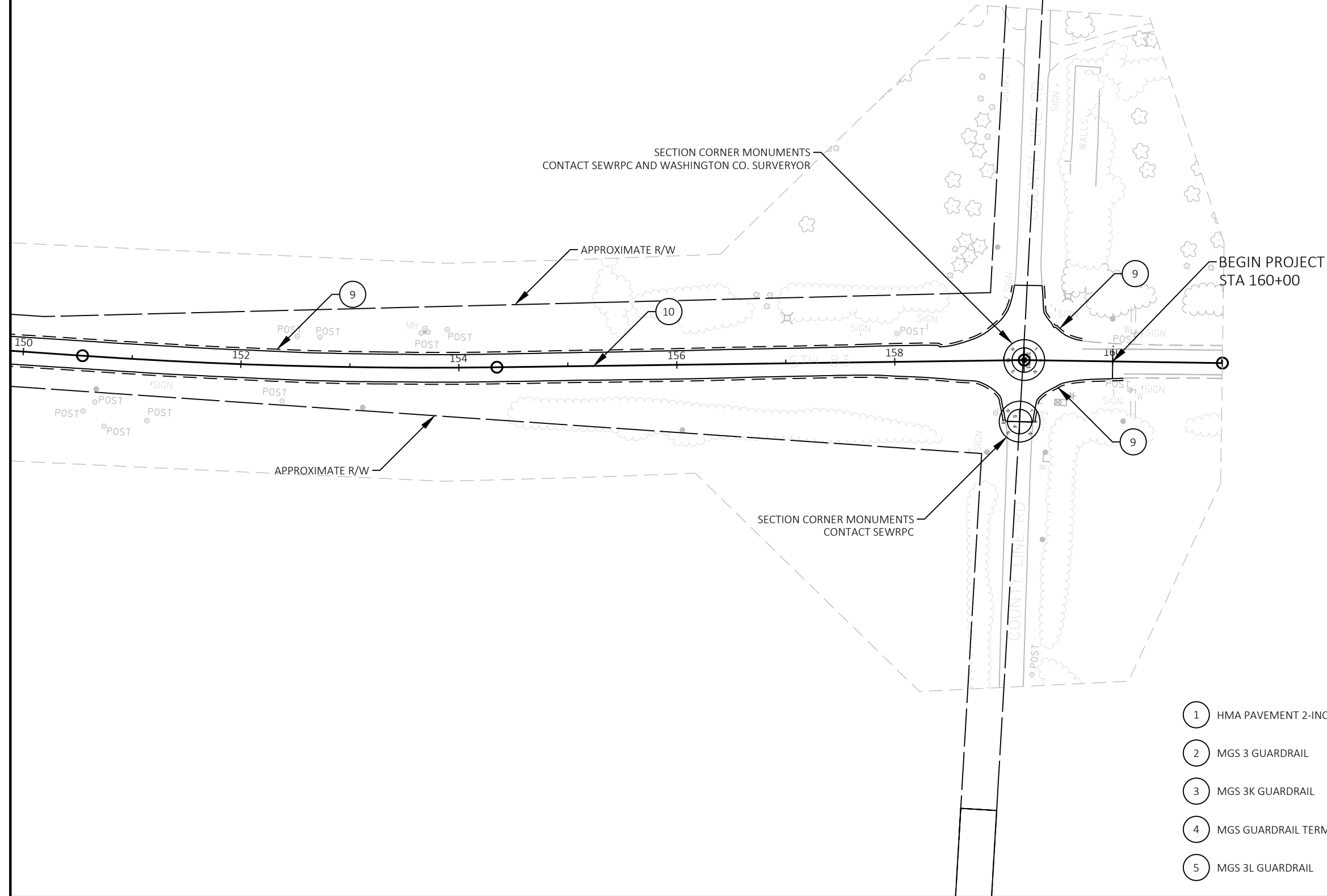
LEGEND

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|------------------------------|---|
| 1 HMA PAVEMENT 2-INCH | 6 SHAPING SHOULDERS |
| 2 MGS 3 GUARDRAIL | 7 MOW STRIP |
| 3 MGS 3K GUARDRAIL | 8 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES |
| 4 MGS GUARDRAIL TERMINAL EAT | 9 3/4" BASE AGGREGATE DENSE |
| 5 MGS 3L GUARDRAIL | 10 ASPHALTIC CENTERLINE RUMBLE STRIPS |



LEGEND

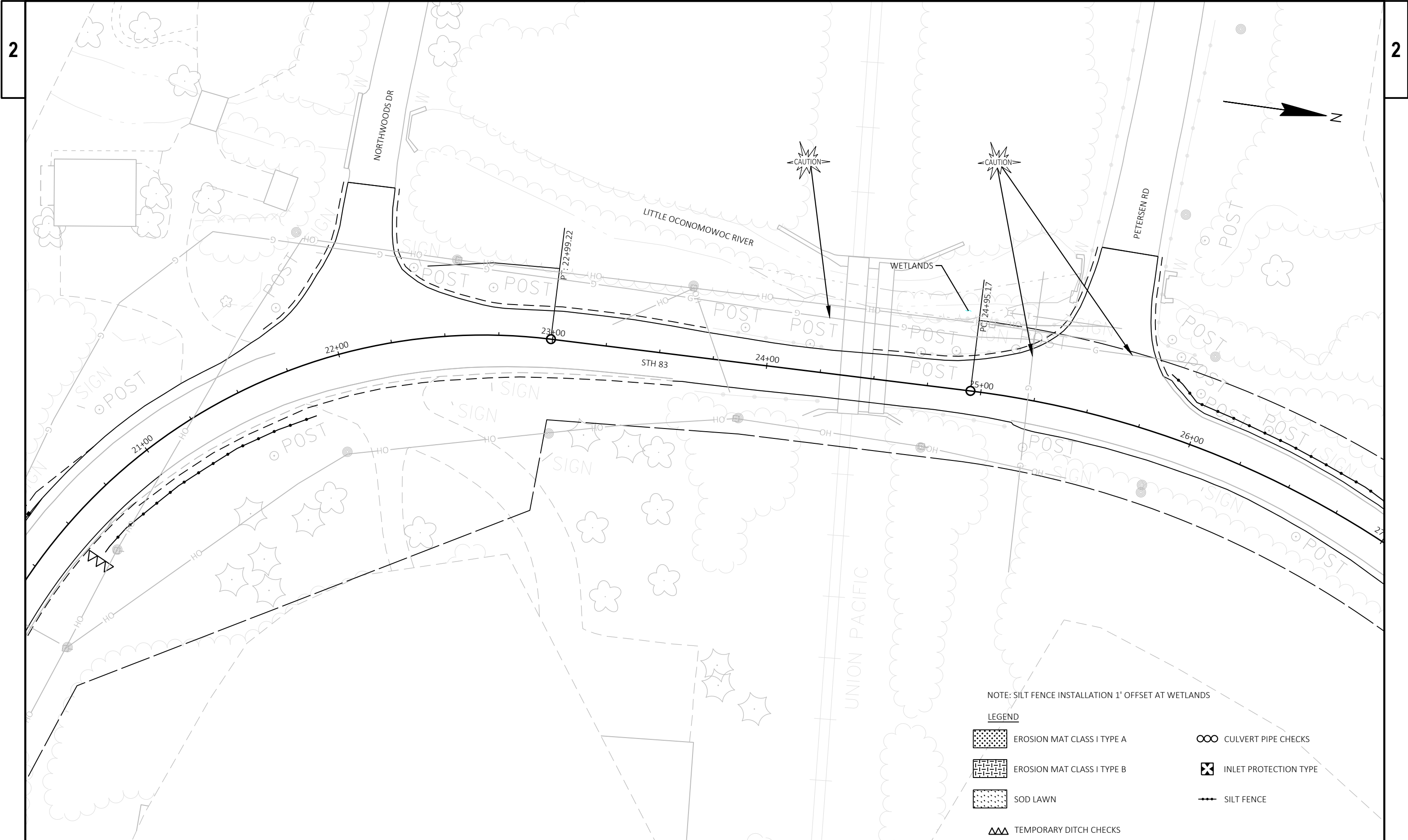
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|------------------------------|---|
| 1 HMA PAVEMENT 2-INCH | 6 SHAPING SHOULDERS |
| 2 MGS 3 GUARDRAIL | 7 MOW STRIP |
| 3 MGS 3K GUARDRAIL | 8 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES |
| 4 MGS GUARDRAIL TERMINAL EAT | 9 ¾" BASE AGGREGATE DENSE |
| 5 MGS 3L GUARDRAIL | 10 ASPHALTIC CENTERLINE RUMBLE STRIPS |



LEGEND

- | | |
|------------------------------|---|
| 1 HMA PAVEMENT 2-INCH | 6 SHAPING SHOULDERS |
| 2 MGS 3 GUARDRAIL | 7 MOW STRIP |
| 3 MGS 3K GUARDRAIL | 8 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES |
| 4 MGS GUARDRAIL TERMINAL EAT | 9 3/4" BASE AGGREGATE DENSE |
| 5 MGS 3L GUARDRAIL | 10 ASPHALTIC CENTERLINE RUMBLE STRIPS |





NOTE: SILT FENCE INSTALLATION 1' OFFSET AT WETLANDS

LEGEND



EROSION MAT CLASS I TYPE A



EROSION MAT CLASS I TYPE B



SOD LAWN



TEMPORARY DITCH CHECKS



CULVERT PIPE CHECKS



INLET PROTECTION TYPE



SILT FENCE

PROJECT NO: 1330-29-70

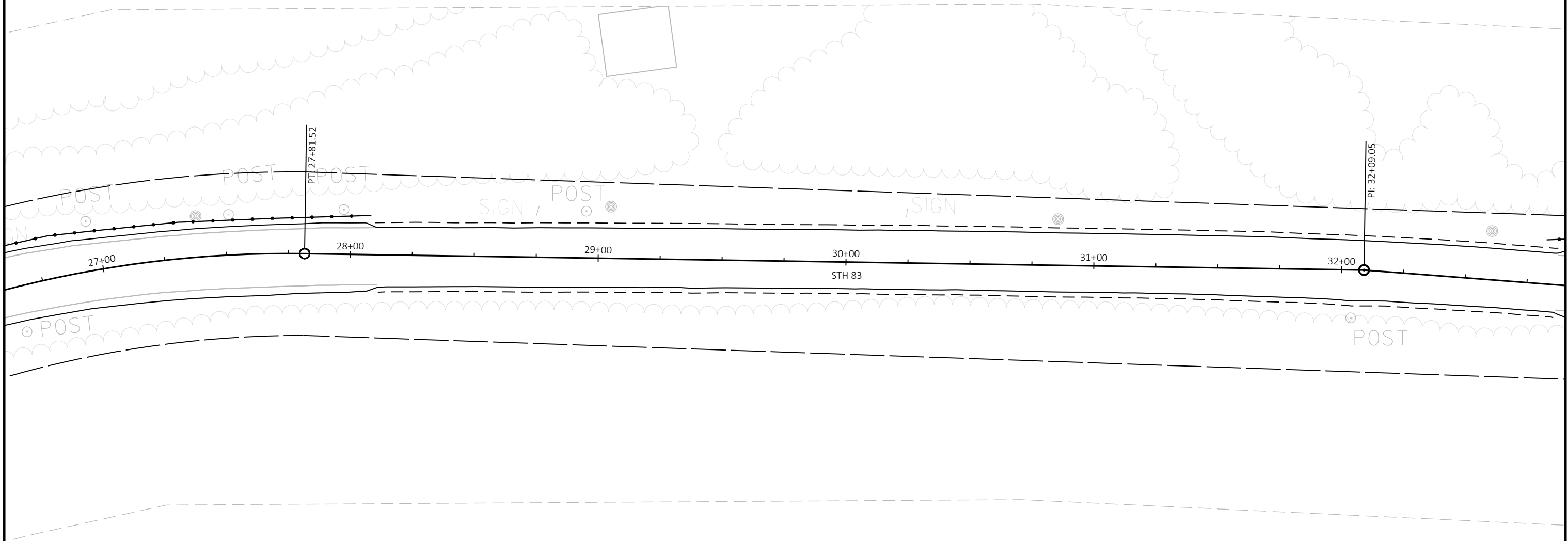
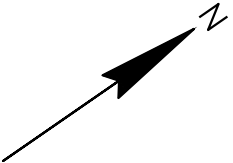
HWY: STH 83

COUNTY: WAUKESHA

EROSION CONTROL

SHEET

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NOTE: SILT FENCE INSTALLATION 1' OFFSET AT WETLANDS

LEGEND



EROSION MAT CLASS I TYPE A



EROSION MAT CLASS I TYPE B



SOD LAWN



TEMPORARY DITCH CHECKS



CULVERT PIPE CHECKS



INLET PROTECTION TYPE



SILT FENCE

PROJECT NO: 1330-29-70

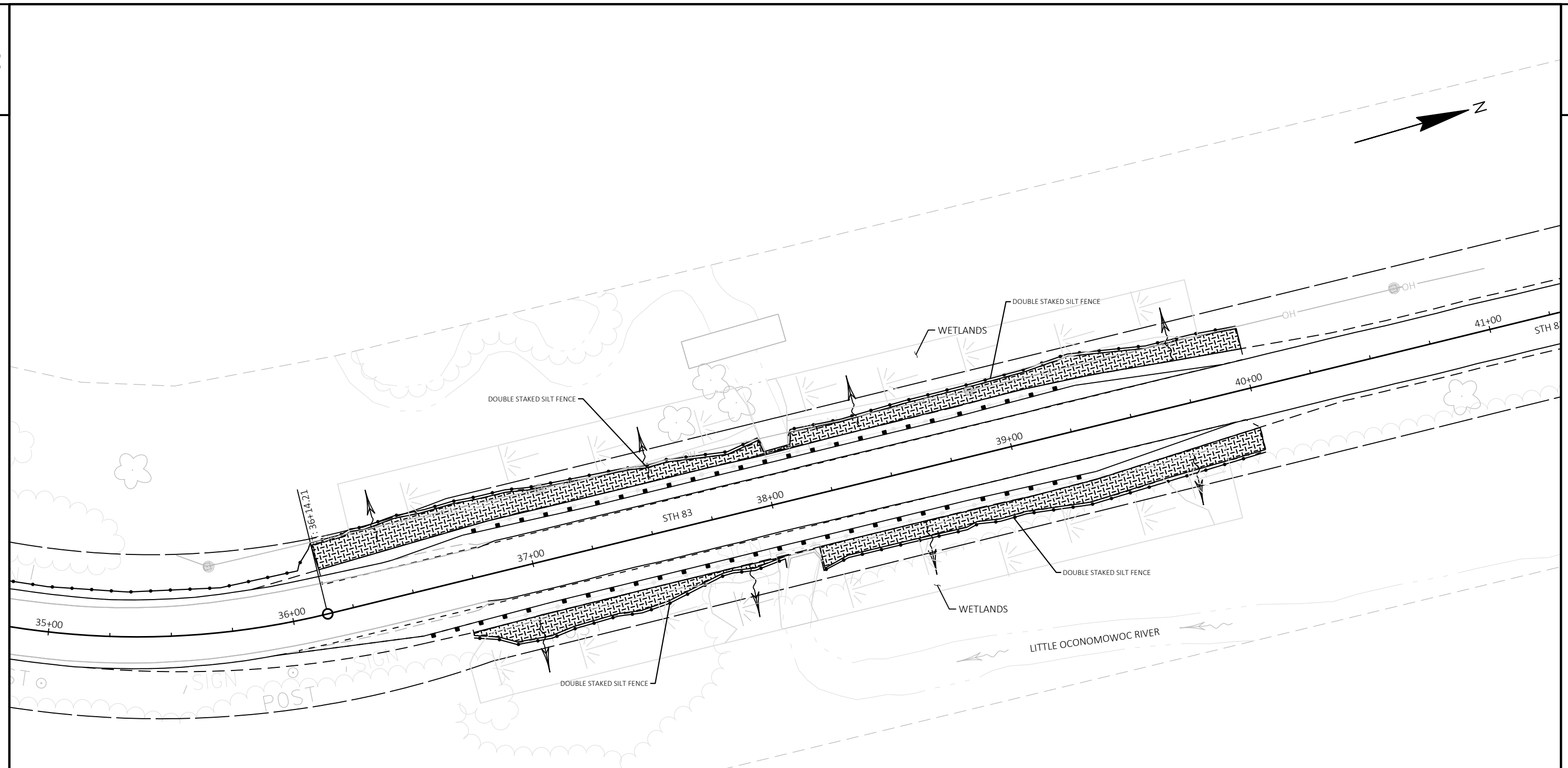
HWY: STH 83

COUNTY: WAUKESHA

EROSION CONTROL

SHEET

E



NOTE: SILT FENCE INSTALLATION 1' OFFSET AT WETLANDS

LEGEND

EROSION MAT CLASS I TYPE A

EROSION MAT CLASS I TYPE B

SOD LAWN

CULVERT PIPE CHECKS

INLET PROTECTION TYPE

SILT FENCE

TEMPORARY DITCH CHECKS

PROJECT NO: 1330-29-70

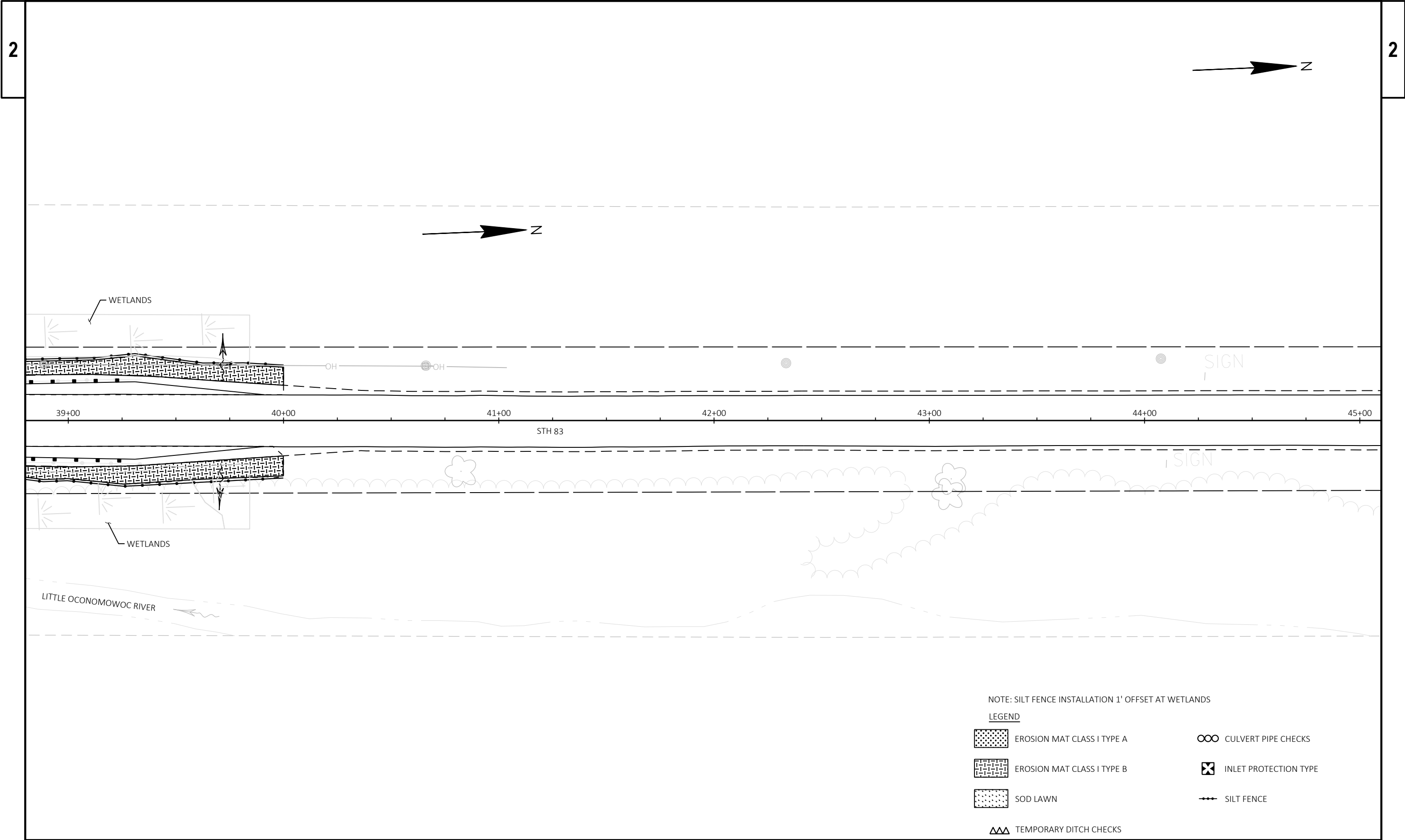
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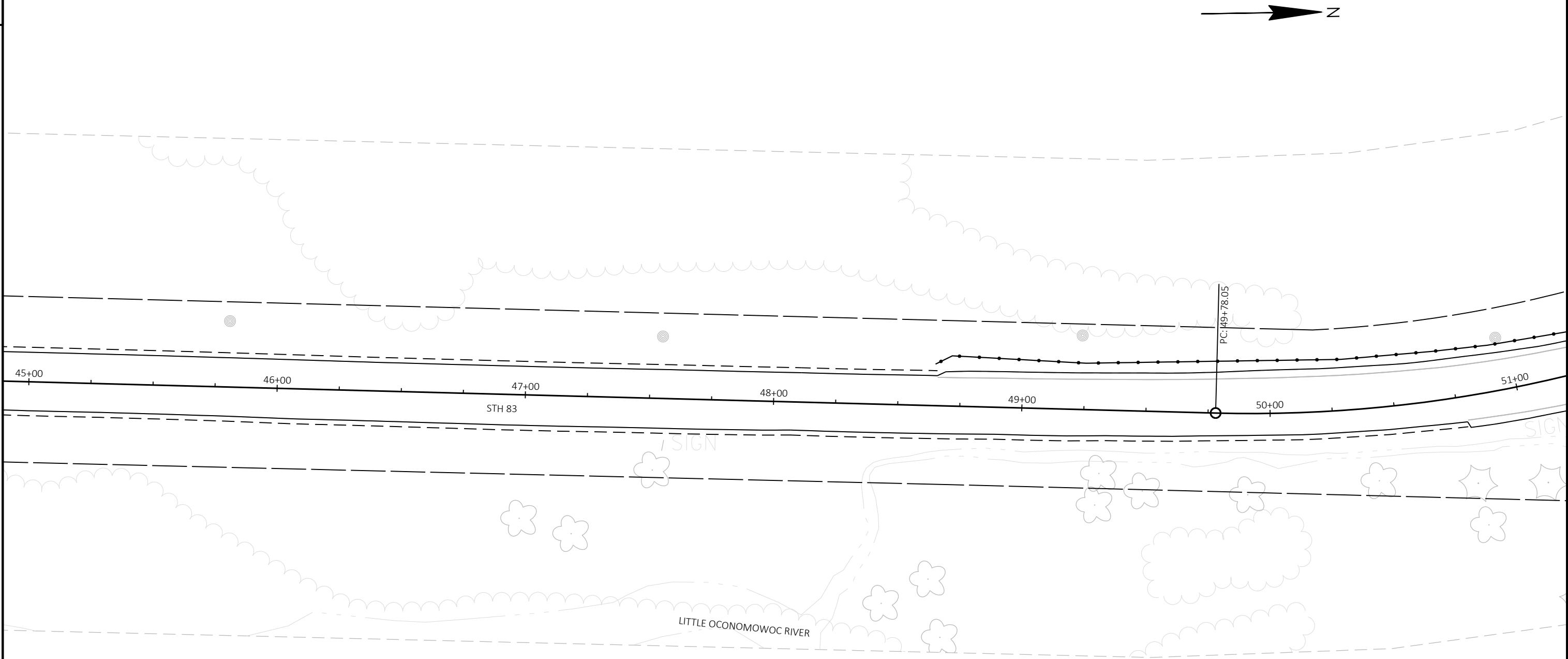
COUNTY: WAUKESHA

EROSION CONTROL

SHEET

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NOTE: SILT FENCE INSTALLATION 1' OFFSET AT WETLANDS

LEGEND



EROSION MAT CLASS I TYPE A



EROSION MAT CLASS I TYPE B



SOD LAWN



TEMPORARY DITCH CHECKS



CULVERT PIPE CHECKS



INLET PROTECTION TYPE



SILT FENCE

PROJECT NO: 1330-29-70

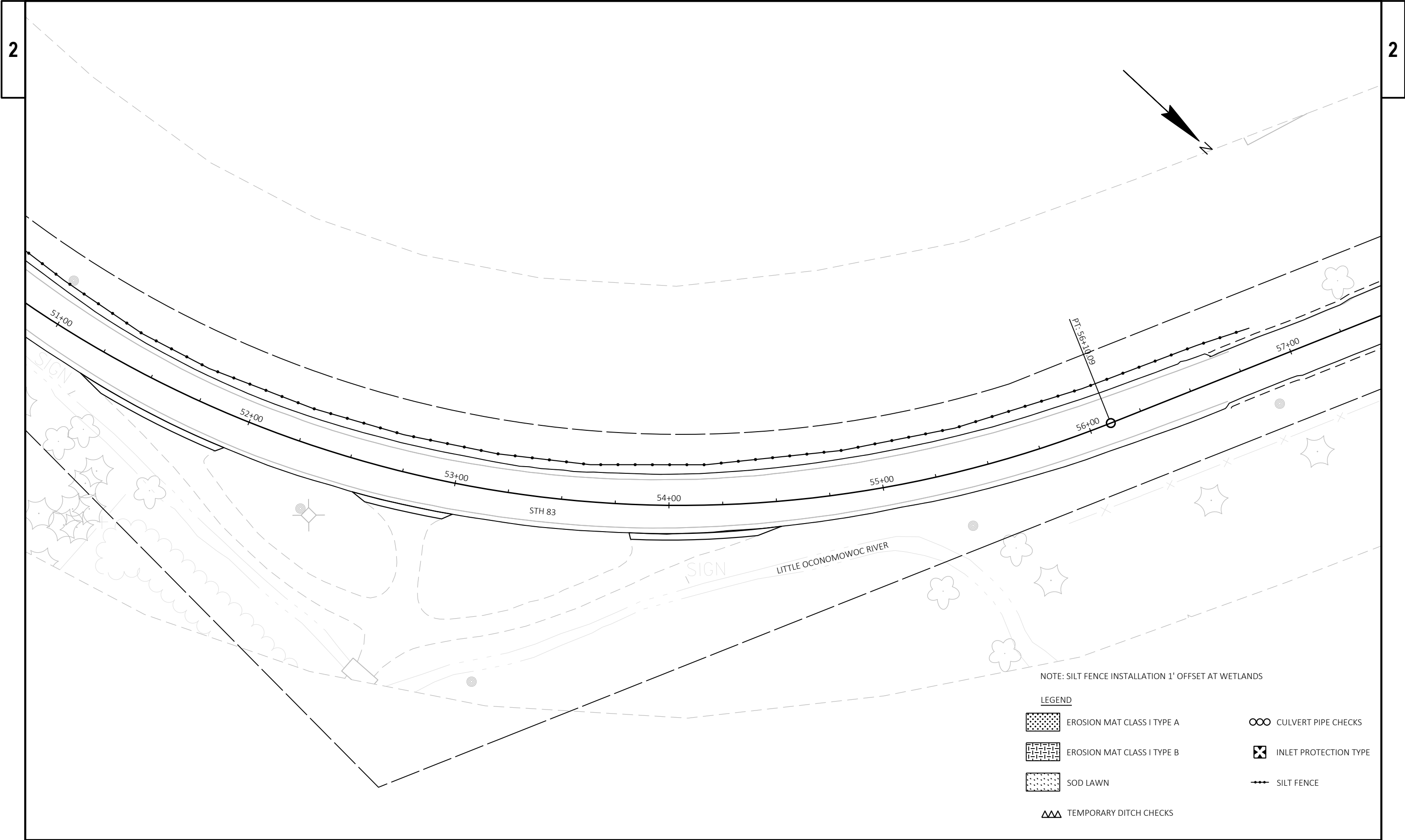
HWY: STH 83

COUNTY: WAUKESHA

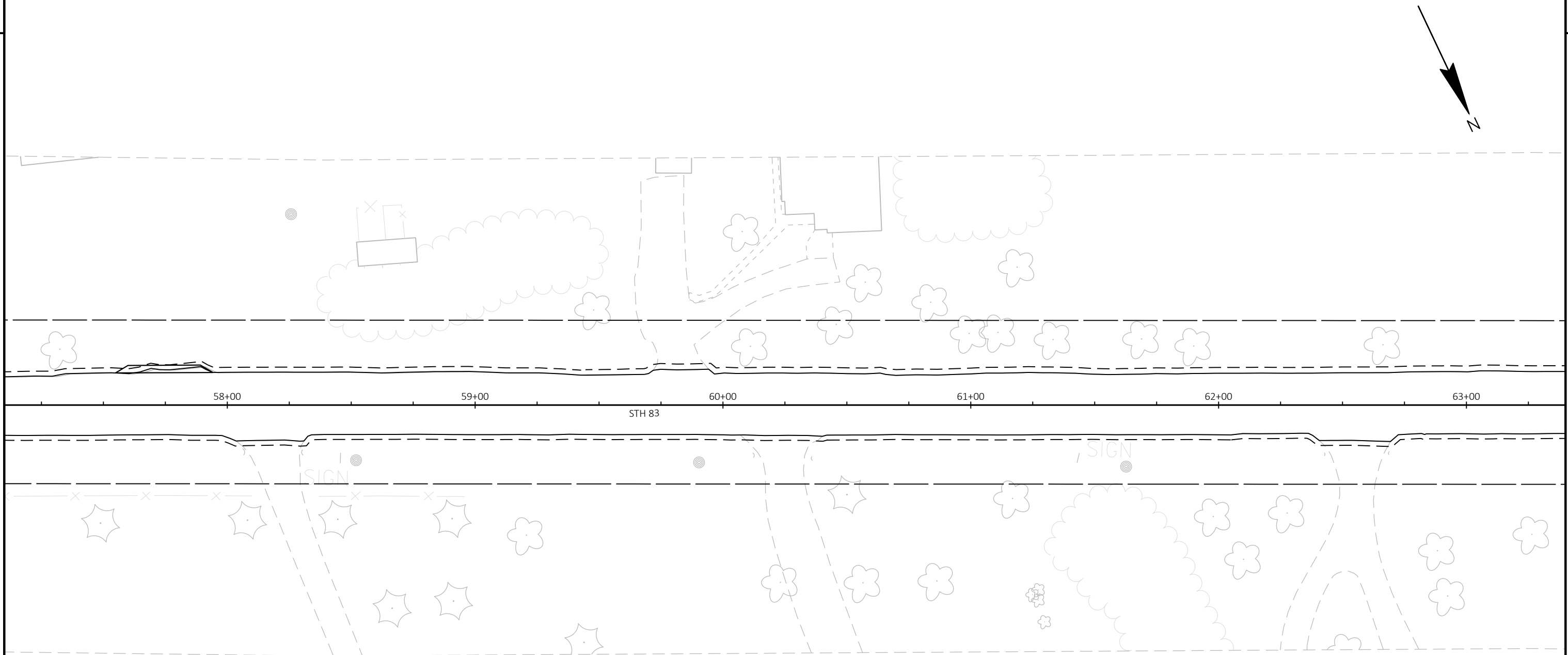
EROSION CONTROL

SHEET

E



PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	EROSION CONTROL	SHEET	E
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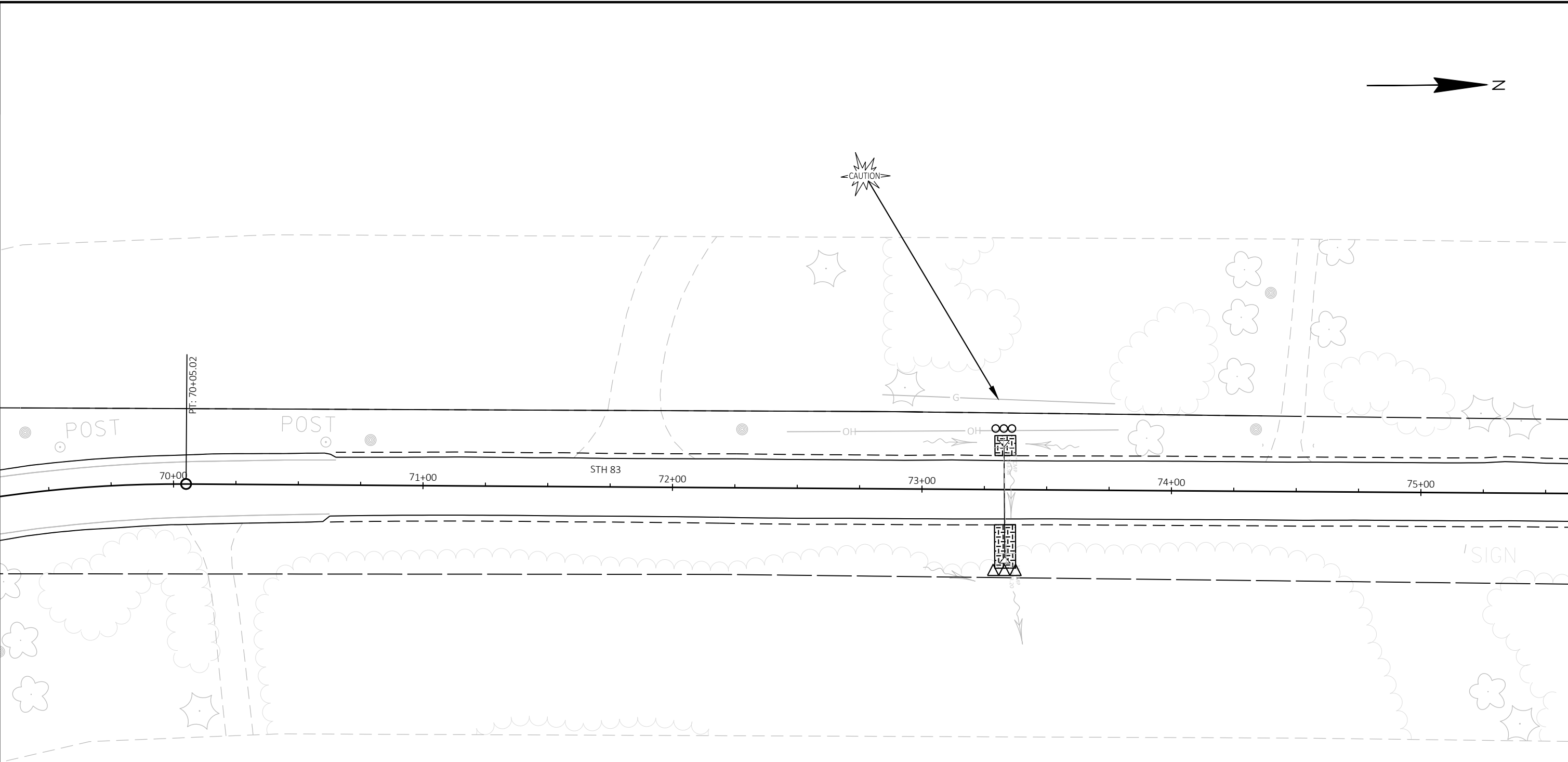


NOTE: SILT FENCE INSTALLATION 1' OFFSET AT WETLANDS

LEGEND

- | | | | |
|---|----------------------------|---|-----------------------|
|  | EROSION MAT CLASS I TYPE A |  | CULVERT PIPE CHECKS |
|  | EROSION MAT CLASS I TYPE B |  | INLET PROTECTION TYPE |
|  | SOD LAWN |  | SILT FENCE |
|  | TEMPORARY DITCH CHECKS | | |

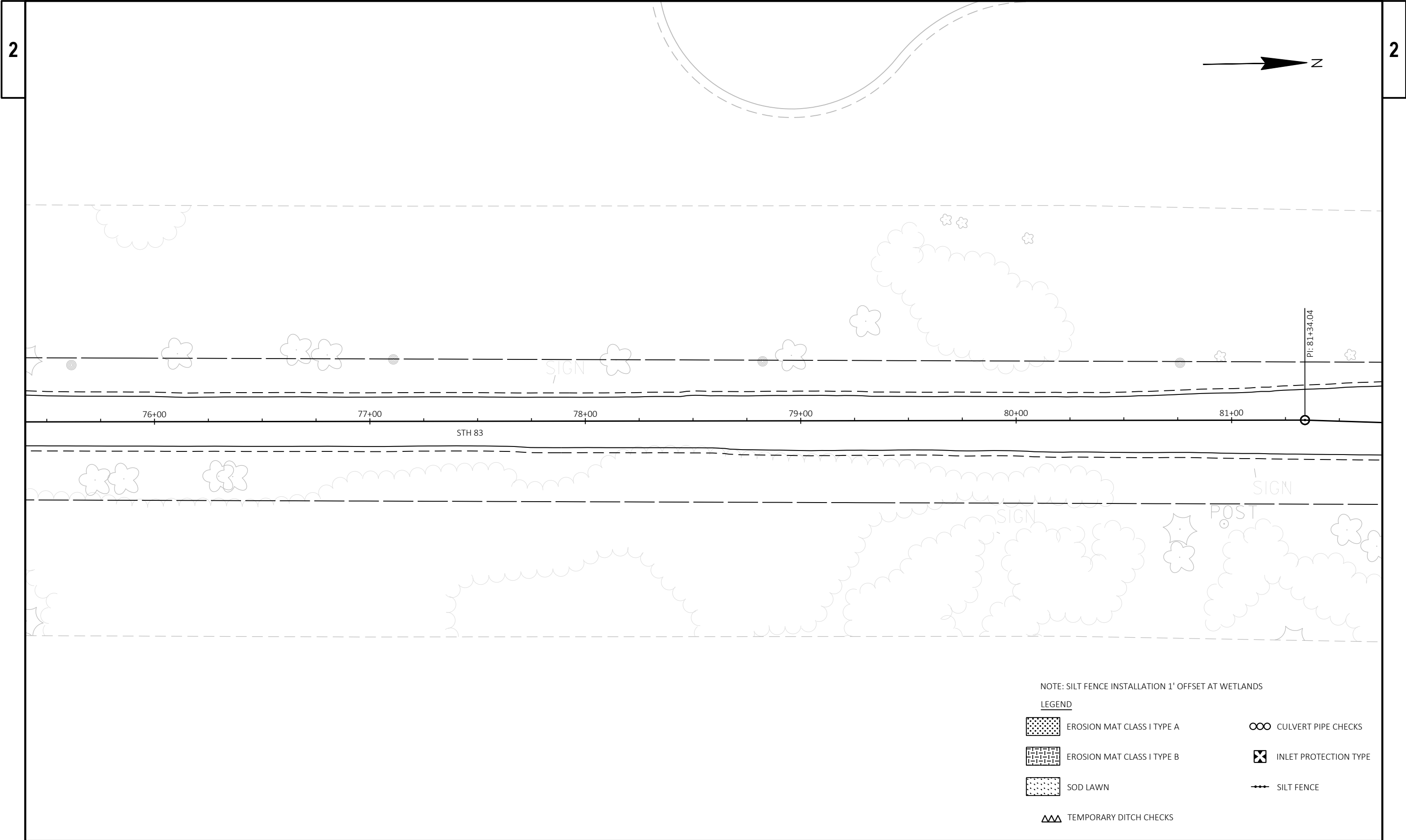




NOTE: SILT FENCE INSTALLATION 1' OFFSET AT WETLANDS

LEGEND

- | | |
|--|---|
|  EROSION MAT CLASS I TYPE A |  CULVERT PIPE CHECKS |
|  EROSION MAT CLASS I TYPE B |  INLET PROTECTION TYPE |
|  SOD LAWN |  SILT FENCE |
|  TEMPORARY DITCH CHECKS | |



NOTE: SILT FENCE INSTALLATION 1' OFFSET AT WETLANDS

LEGEND



EROSION MAT CLASS I TYPE A



EROSION MAT CLASS I TYPE B



SOD LAWN



TEMPORARY DITCH CHECKS



CULVERT PIPE CHECKS



INLET PROTECTION TYPE



SILT FENCE

PROJECT NO: 1330-29-70

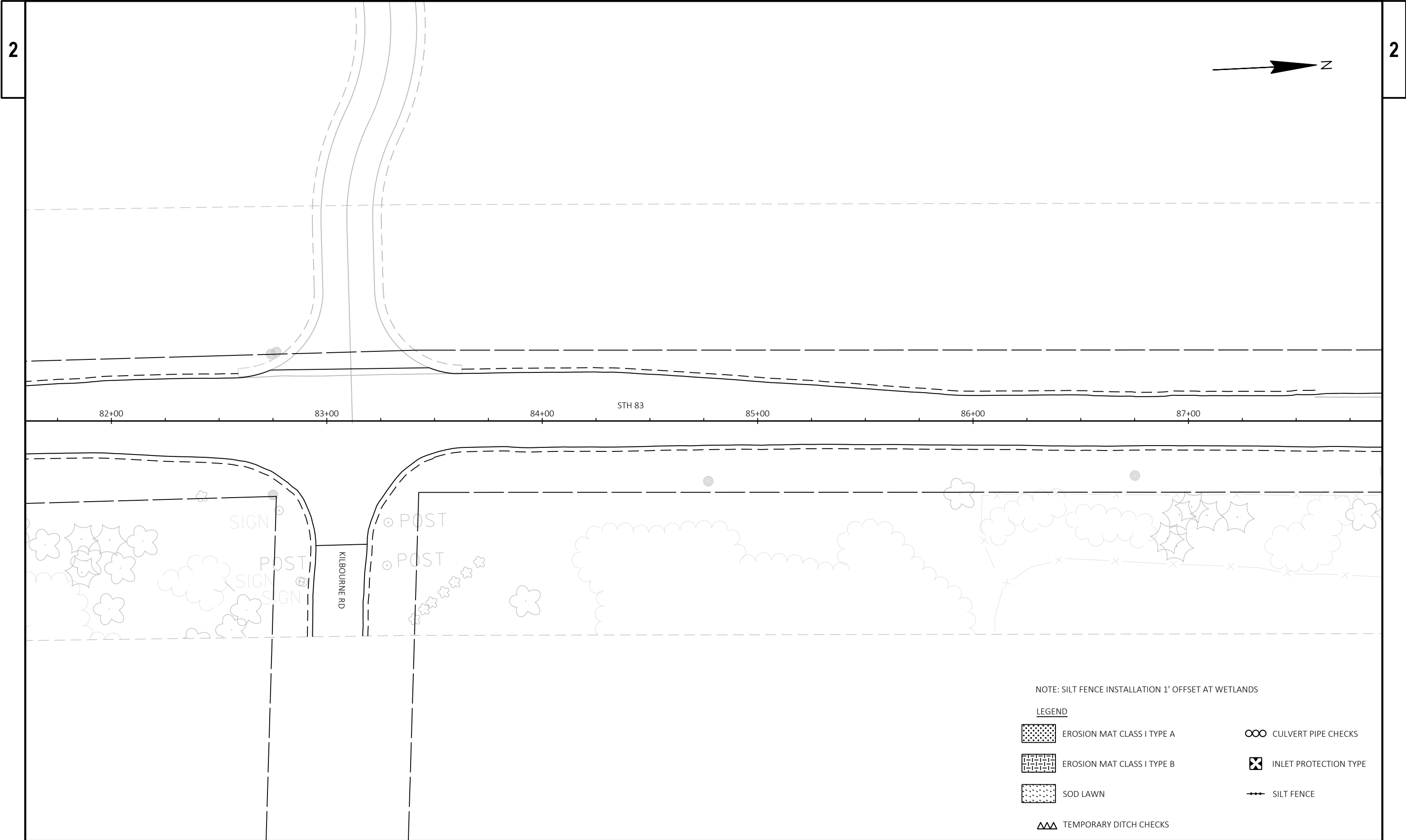
HWY: STH 83

COUNTY: WAUKESHA

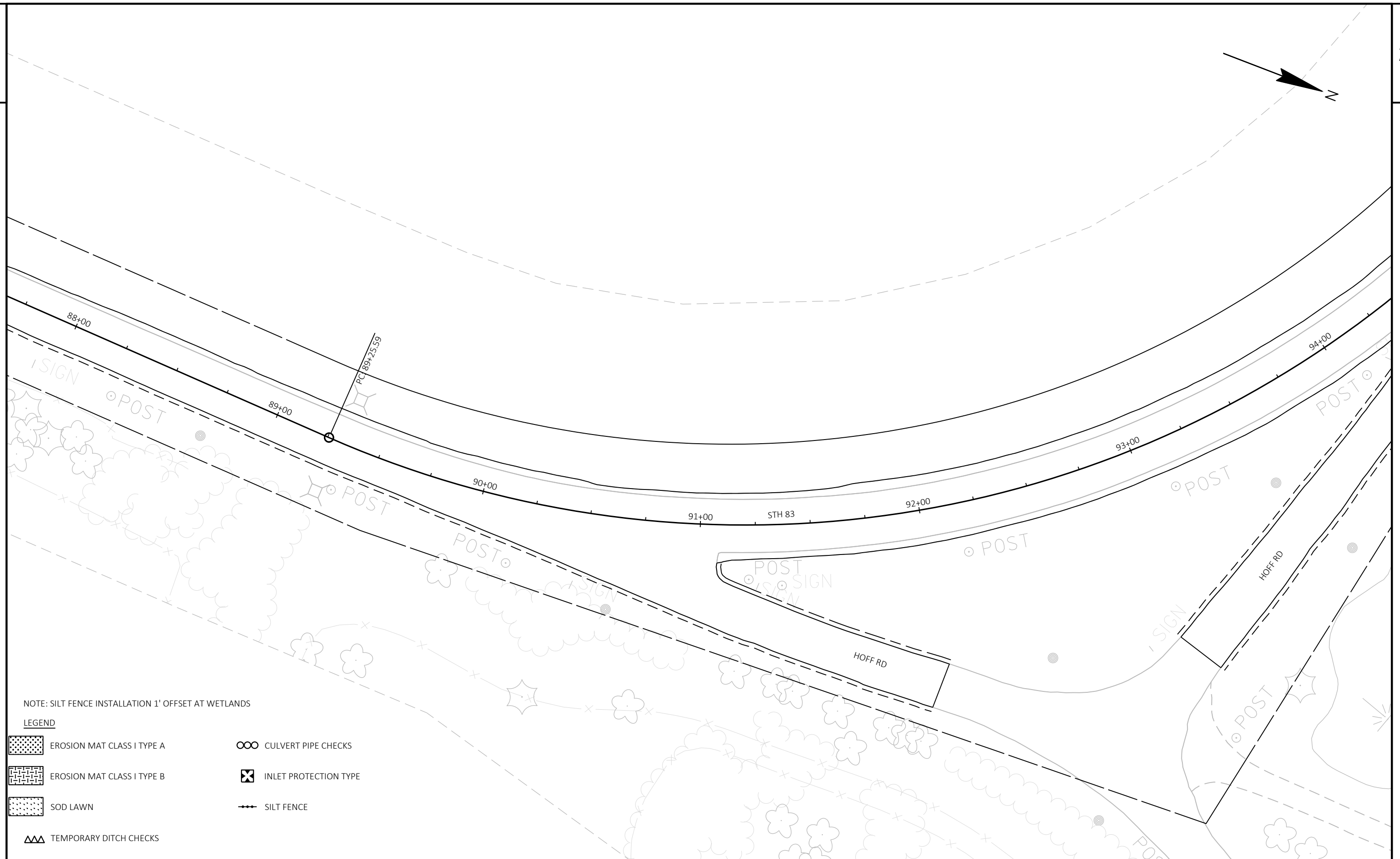
EROSION CONTROL

SHEET

E

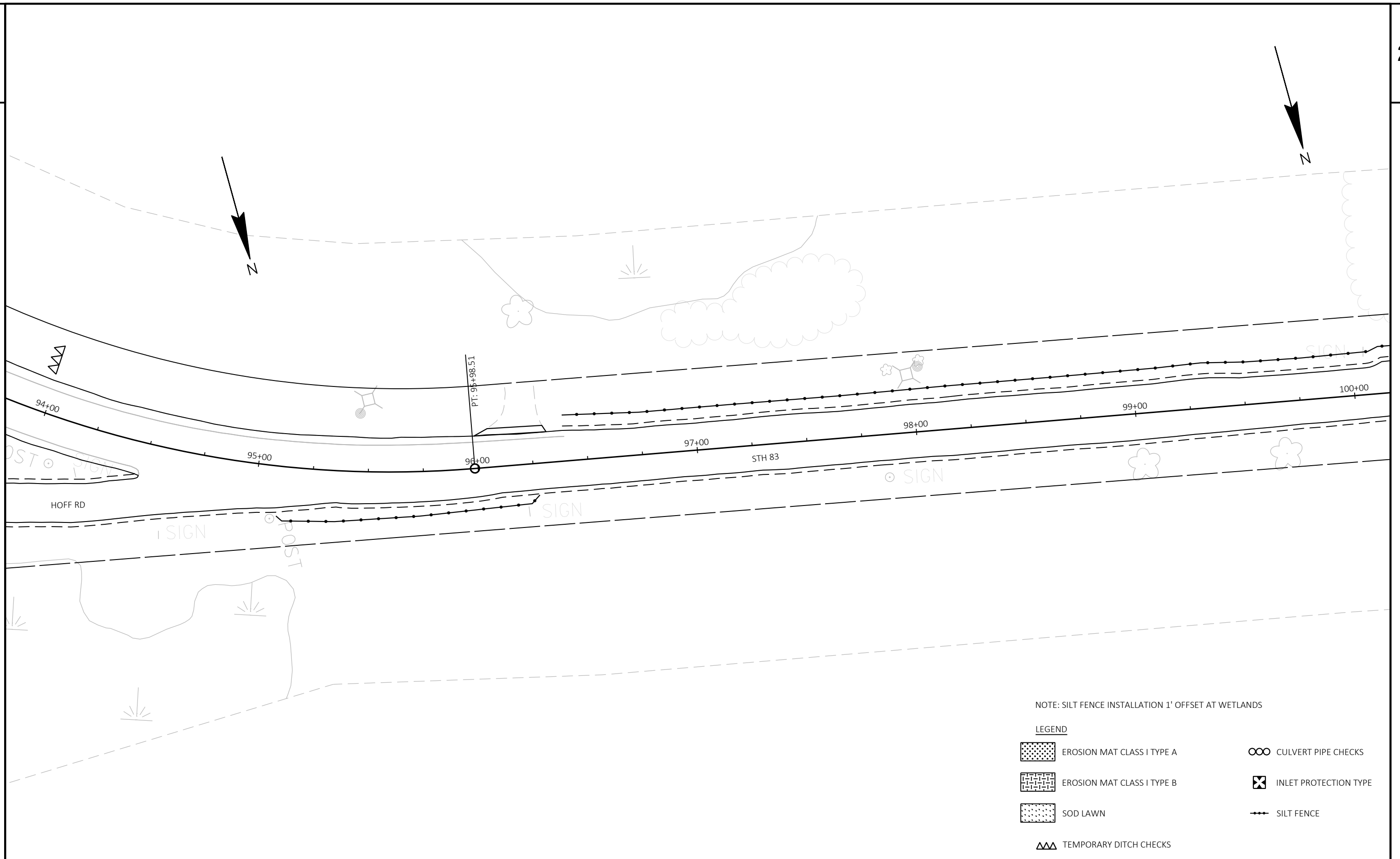


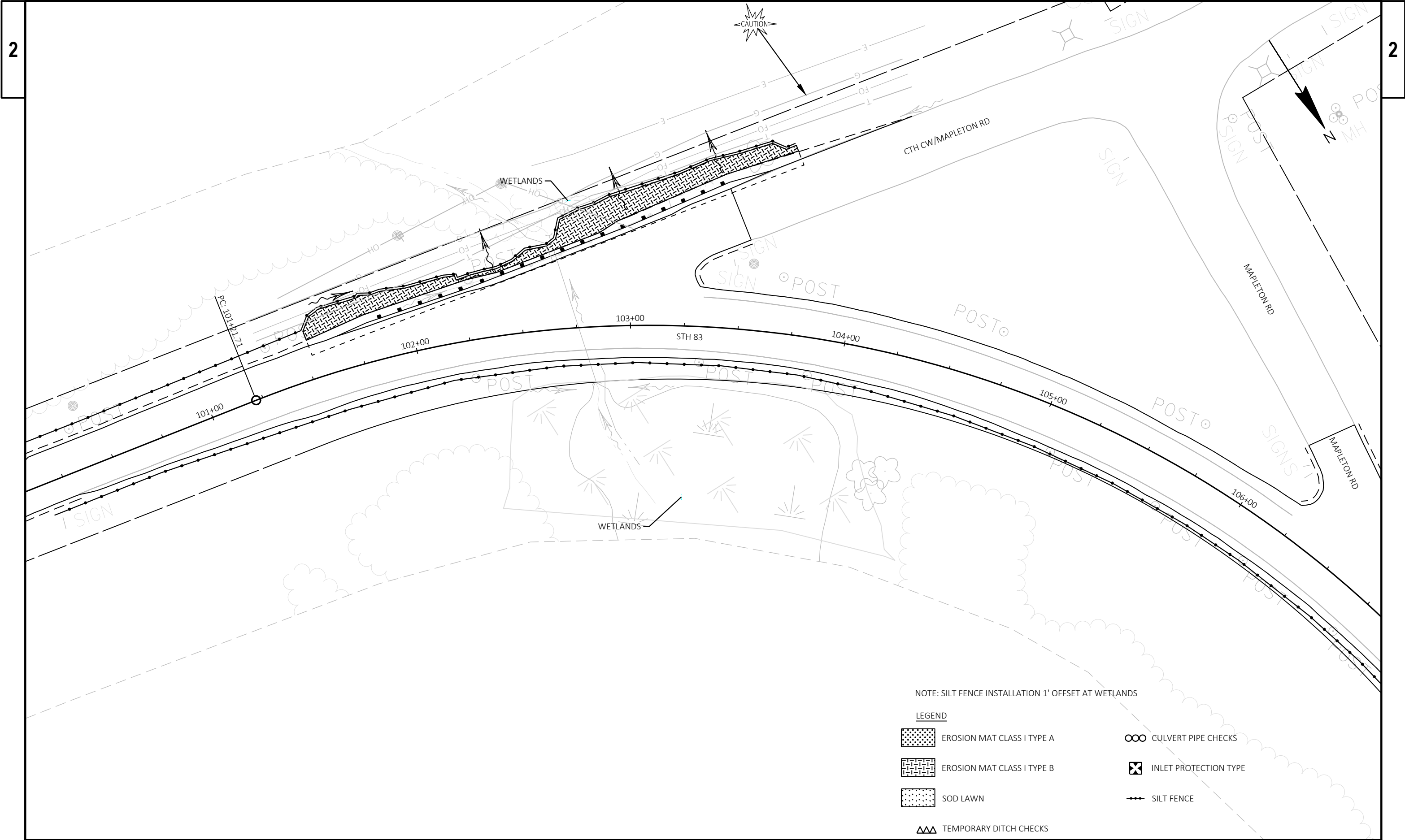
PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	EROSION CONTROL	SHEET	E
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LEGEND

- | | | | |
|---|----------------------------|---|-----------------------|
|  | EROSION MAT CLASS I TYPE A |  | CULVERT PIPE CHECKS |
|  | EROSION MAT CLASS I TYPE B |  | INLET PROTECTION TYPE |
|  | SOD LAWN |  | SILT FENCE |
|  | TEMPORARY DITCH CHECKS | | |





NOTE: SILT FENCE INSTALLATION 1' OFFSET AT WETLANDS

LEGEND



EROSION MAT CLASS I TYPE A



EROSION MAT CLASS I TYPE B



SOD LAWN



TEMPORARY DITCH CHECKS



CULVERT PIPE CHECKS



INLET PROTECTION TYPE



SILT FENCE

PROJECT NO: 1330-29-70

HWY: STH 83

COUNTY: WAUKESHA

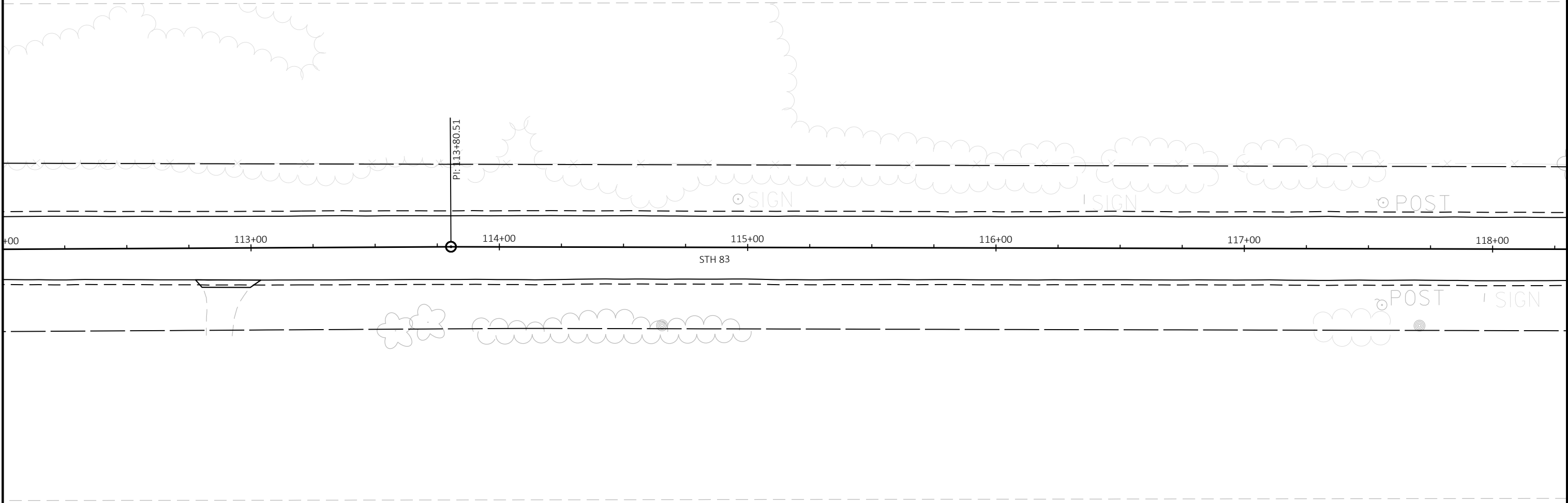
EROSION CONTROL

SHEET

E



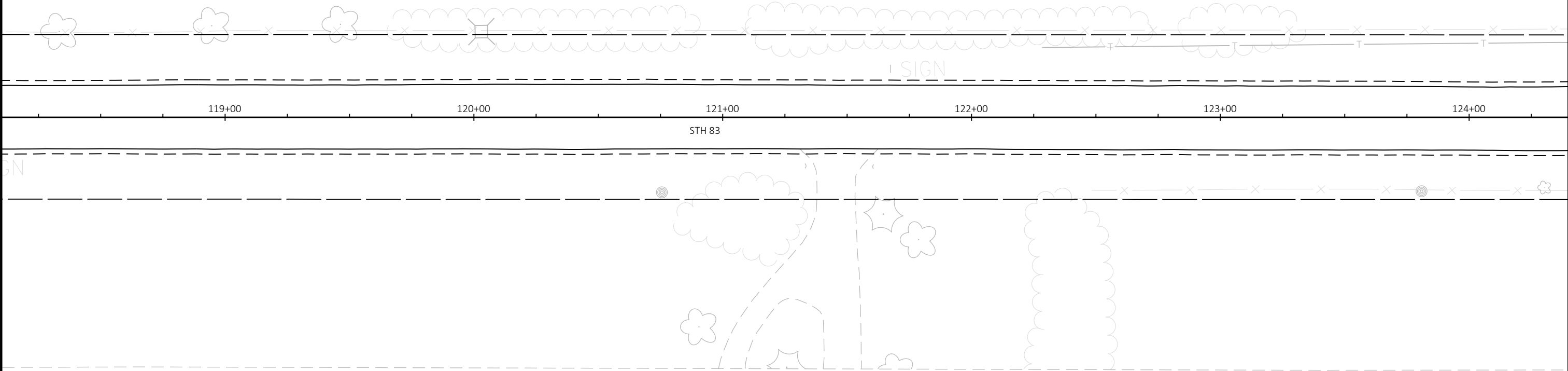
- SILT FENCE



NOTE: SILT FENCE INSTALLATION 1' OFFSET AT WETLANDS

LEGEND

- | | | | |
|---|----------------------------|---|-----------------------|
|  | EROSION MAT CLASS I TYPE A |  | CULVERT PIPE CHECKS |
|  | EROSION MAT CLASS I TYPE B |  | INLET PROTECTION TYPE |
|  | SOD LAWN |  | SILT FENCE |
|  | TEMPORARY DITCH CHECKS | | |



NOTE: SILT FENCE INSTALLATION 1' OFFSET AT WETLANDS

LEGEND



EROSION MAT CLASS I TYPE A



EROSION MAT CLASS I TYPE B



SOD LAWN



TEMPORARY DITCH CHECKS



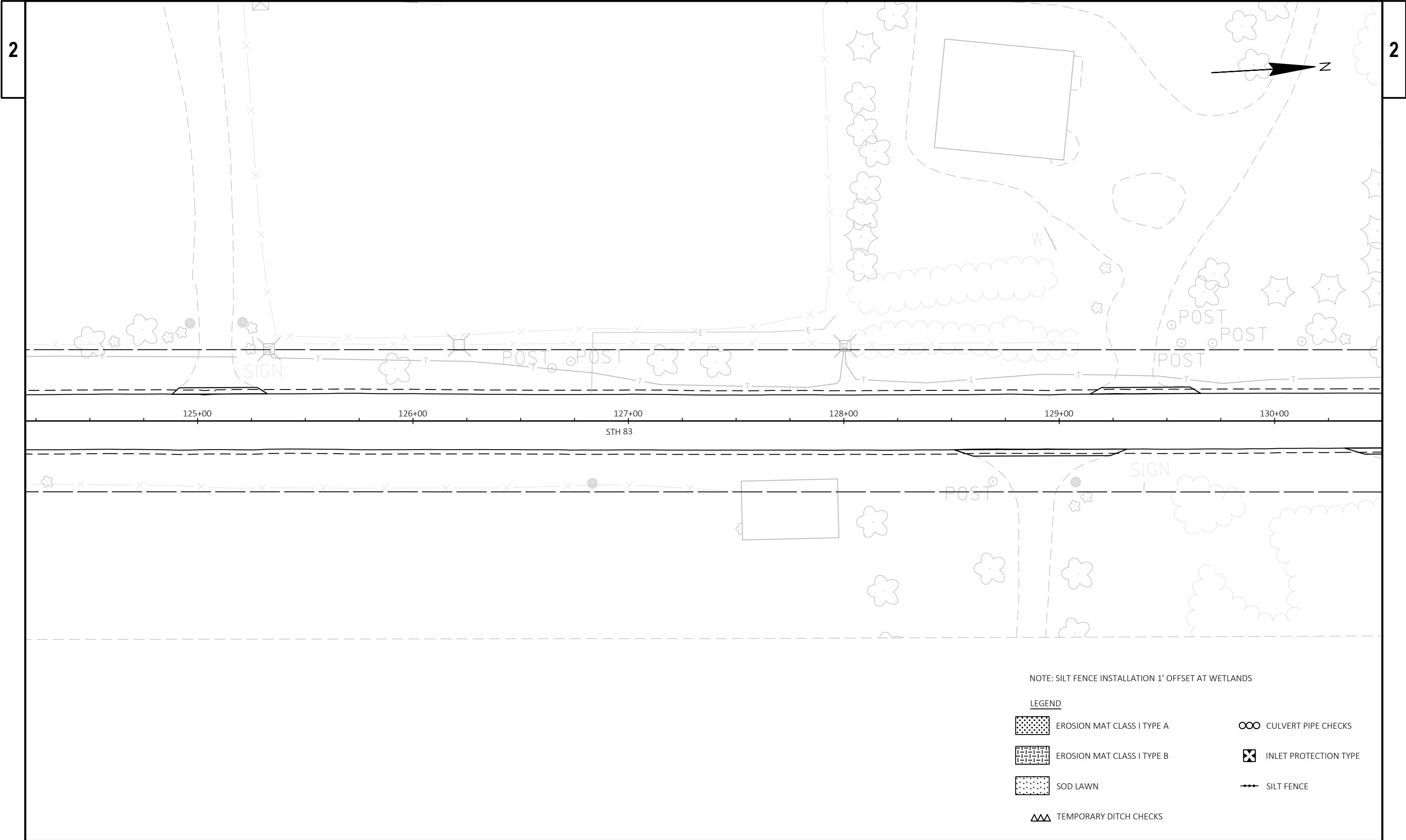
CULVERT PIPE CHECKS

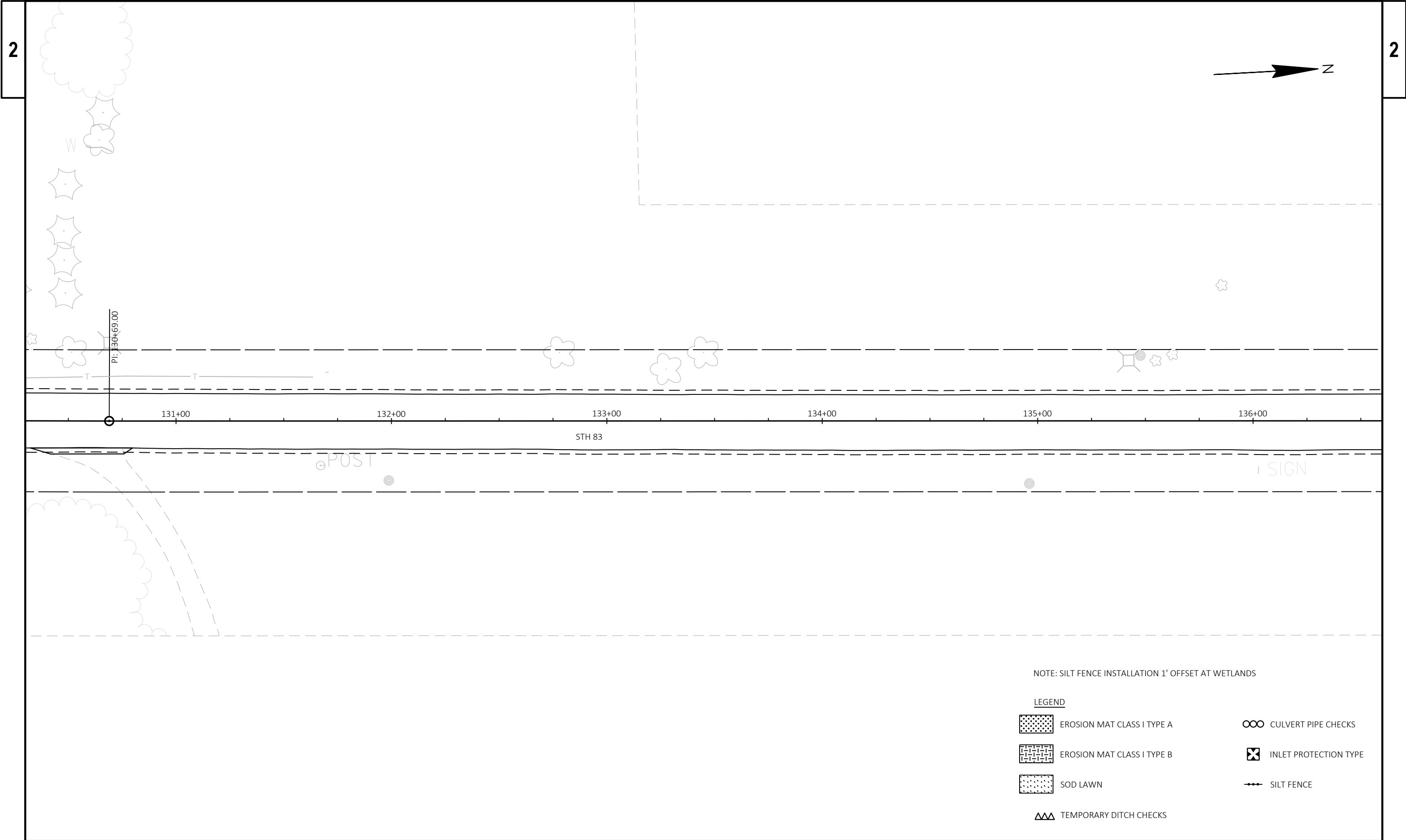


INLET PROTECTION TYPE

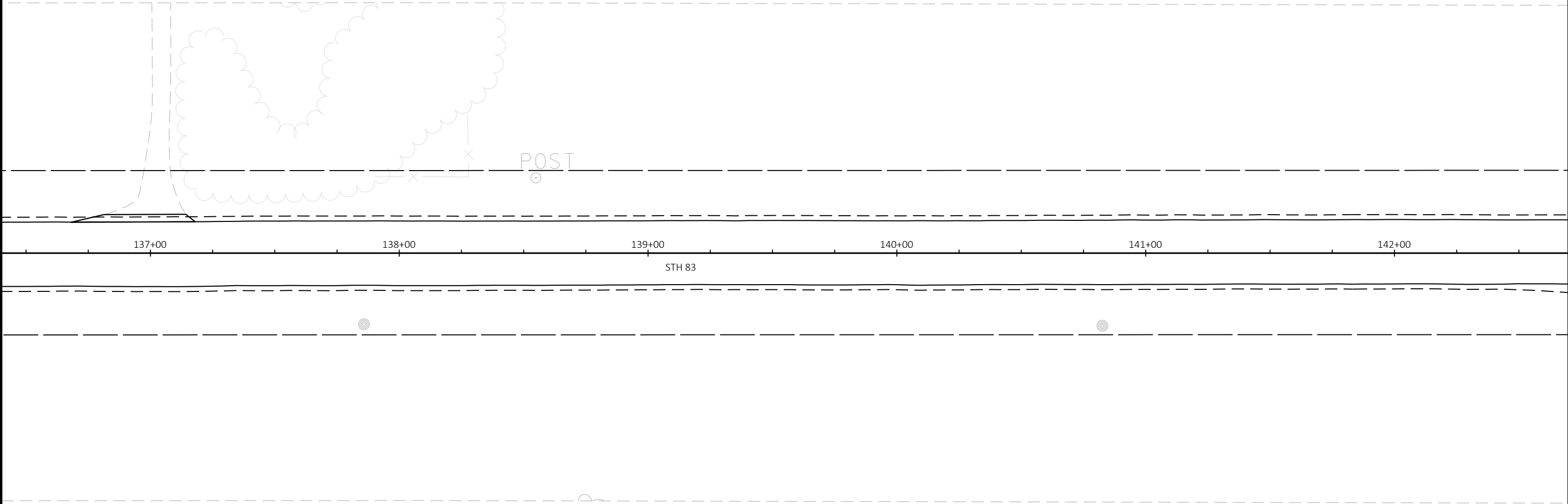


SILT FENCE





PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	EROSION CONTROL	SHEET	E
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NOTE: SILT FENCE INSTALLATION 1' OFFSET AT WETLANDS

LEGEND



EROSION MAT CLASS I TYPE A



EROSION MAT CLASS I TYPE B



SOD LAWN



TEMPORARY DITCH CHECKS



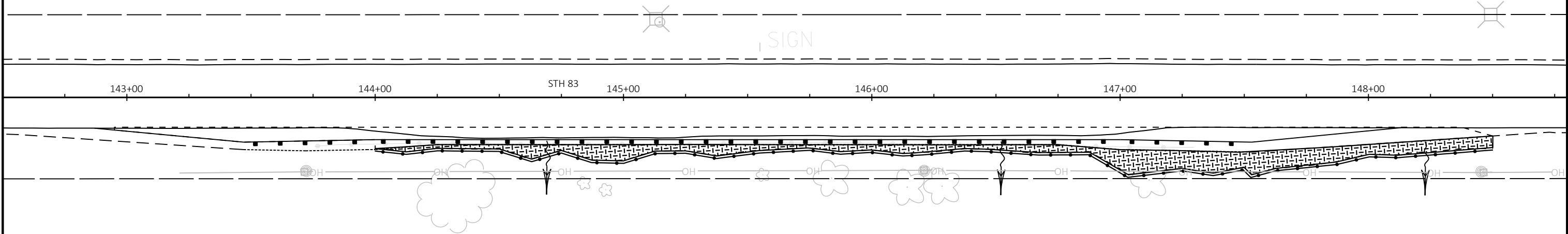
CULVERT PIPE CHECKS



INLET PROTECTION TYPE



SILT FENCE



- NOTE:
1. SILT FENCE INSTALLATION 1' OFFSET AT WETLANDS
 2. SILT FENCE CAN BE OMITTED WHEN CONFLICT WITH STONE EMBANKMENT

LEGEND

- | | | | |
|---|----------------------------|---|-----------------------|
|  | EROSION MAT CLASS I TYPE A |  | CULVERT PIPE CHECKS |
|  | EROSION MAT CLASS I TYPE B |  | INLET PROTECTION TYPE |
|  | SOD LAWN |  | SILT FENCE |
|  | TEMPORARY DITCH CHECKS | | |

PROJECT NO: 1330-29-70

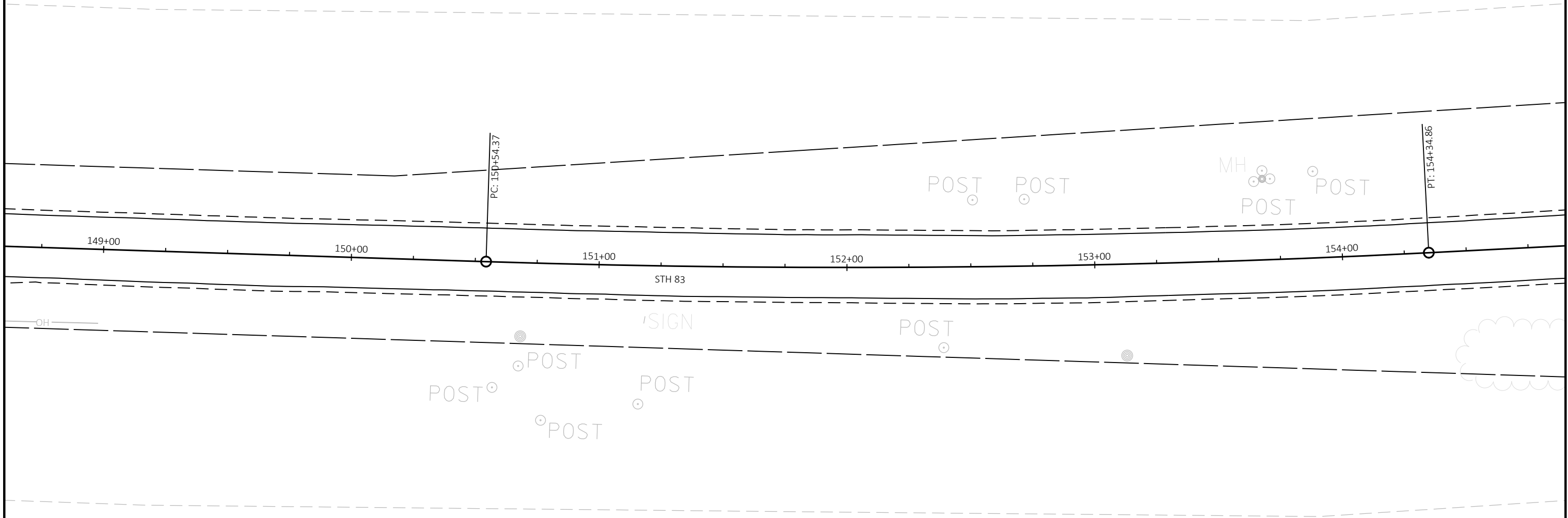
HWY: STH 83

COUNTY: WAUKESHA

EROSION CONTROL

SHEET

E



NOTE: SILT FENCE INSTALLATION 1' OFFSET AT WETLANDS

LEGEND



EROSION MAT CLASS I TYPE A



EROSION MAT CLASS I TYPE B



SOD LAWN



TEMPORARY DITCH CHECKS



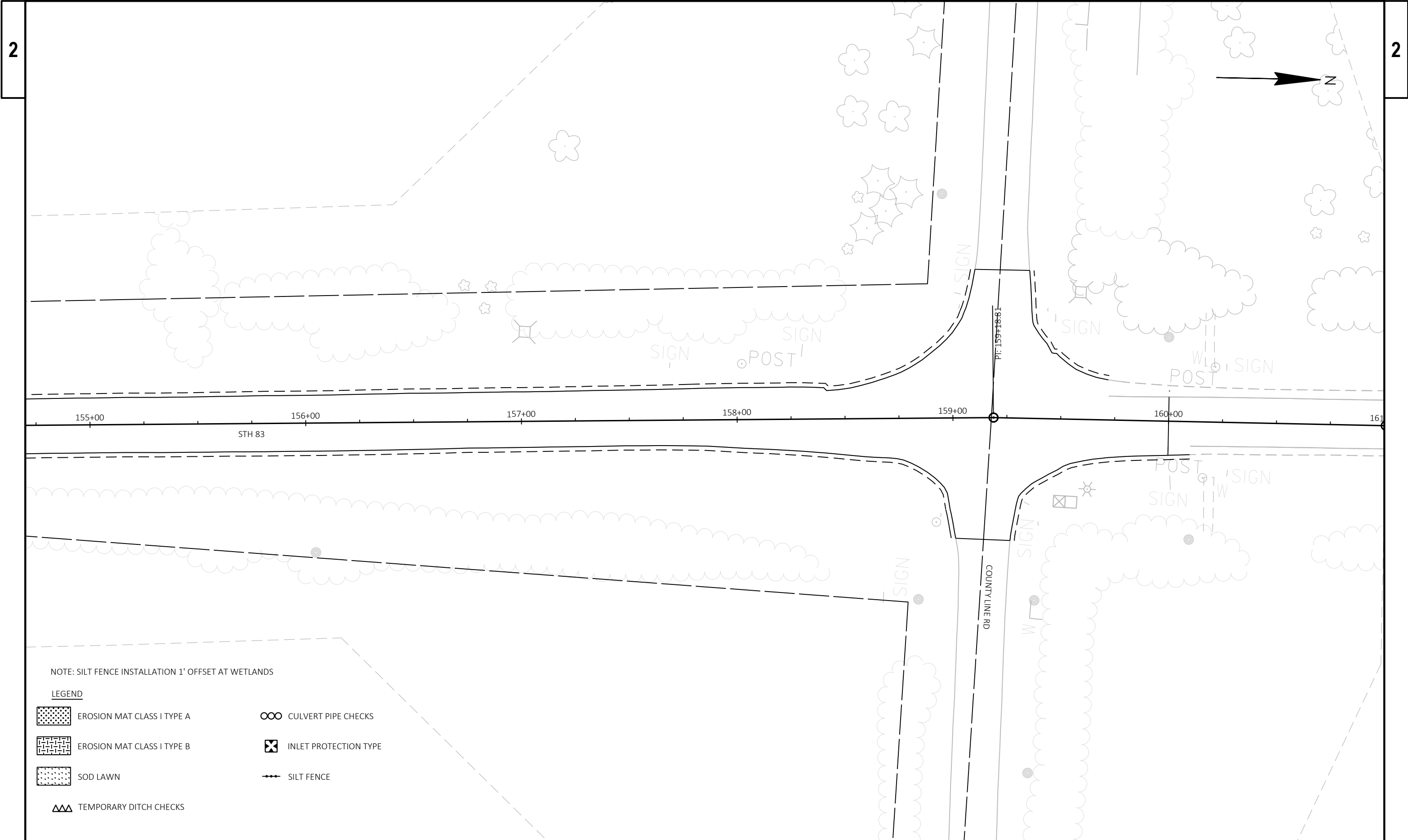
CULVERT PIPE CHECKS



INLET PROTECTION TYPE



SILT FENCE



NOTE: SILT FENCE INSTALLATION 1' OFFSET AT WETLANDS

LEGEND

- | | | | |
|---|----------------------------|---|-----------------------|
|  | EROSION MAT CLASS I TYPE A |  | CULVERT PIPE CHECKS |
|  | EROSION MAT CLASS I TYPE B |  | INLET PROTECTION TYPE |
|  | SOD LAWN |  | SILT FENCE |
|  | TEMPORARY DITCH CHECKS | | |

PROJECT NO: 1330-29-70

HWY: STH 83

COUNTY: WAUKESHA

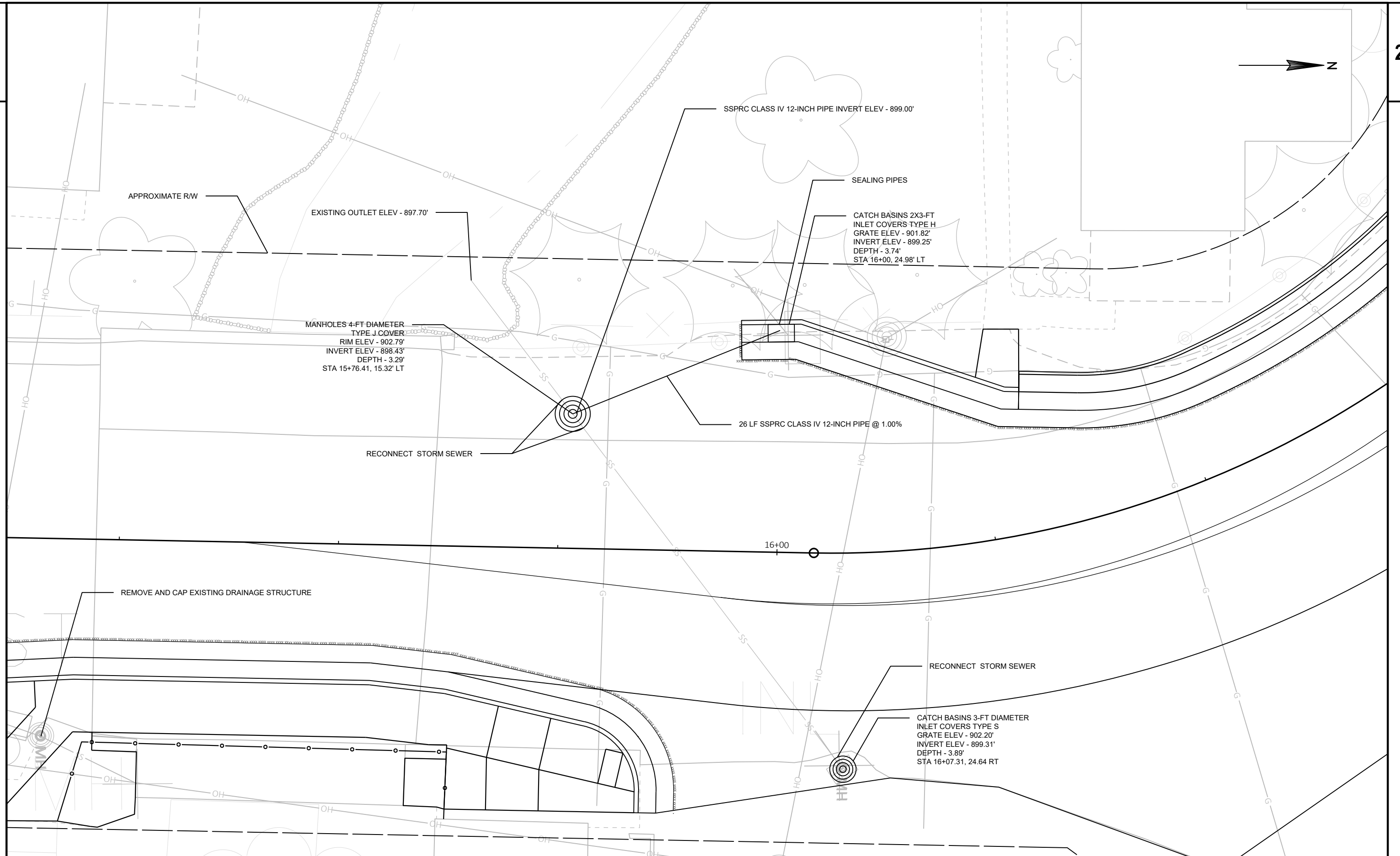
EROSION CONTROL

SHEET

E

2

2



PROJECT NO:	1330-29-70
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HWY: STH 83

COUNTY: WAUKESHA

STORM SEWER PLAN

SHEET

E

FILE NAME : N:\PDS\C3D\13302900\SHEETSP\PLAN\022501-SS.DWG
LAYOUT NAME - 1

PLOT DATE : 7/5/2022 11:42 AM

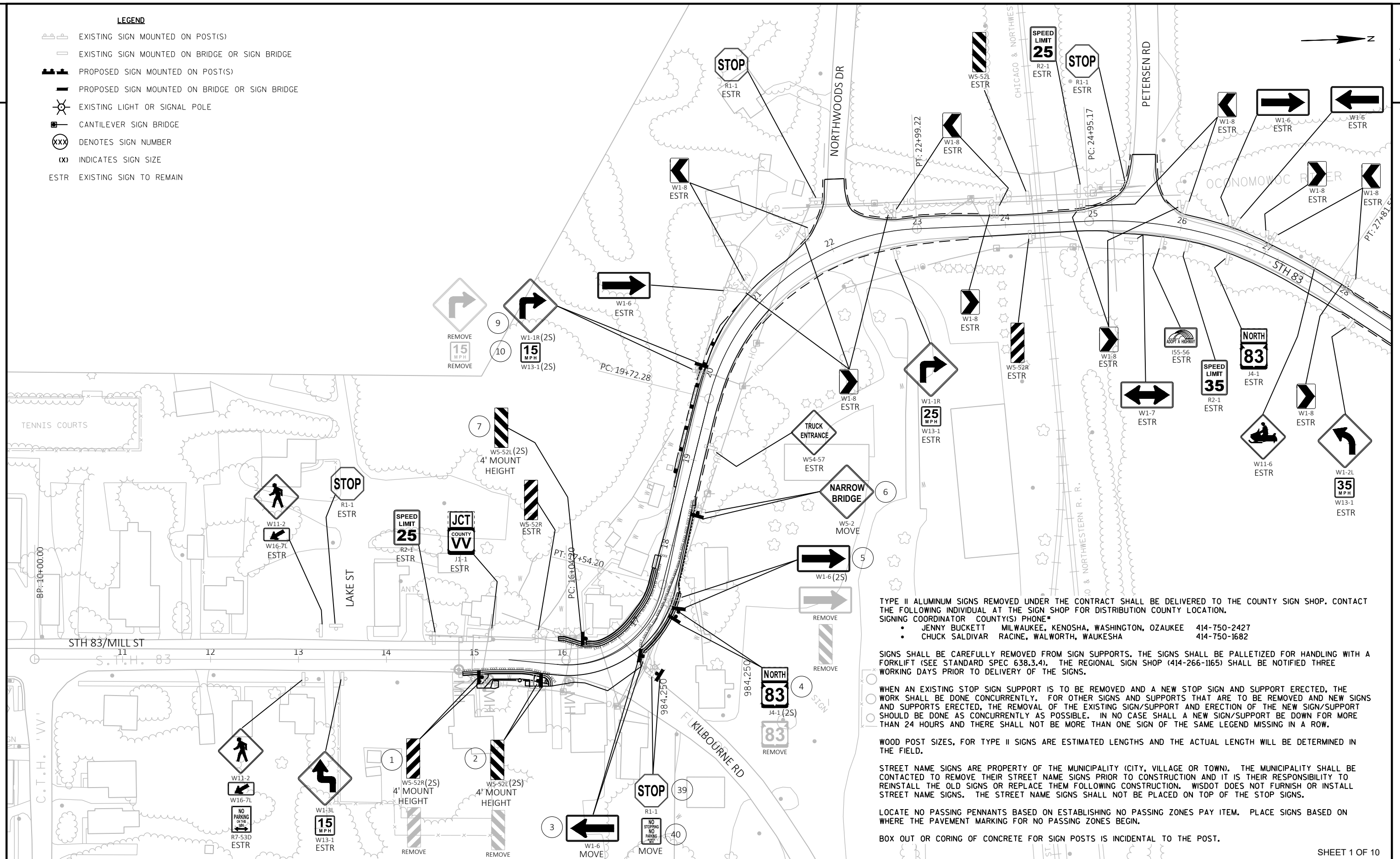
PLOT BY : CASTRO, JOEL

PLOT NAME : PLOT SCALE :

PLOT SCALE : 1 IN:10 FT

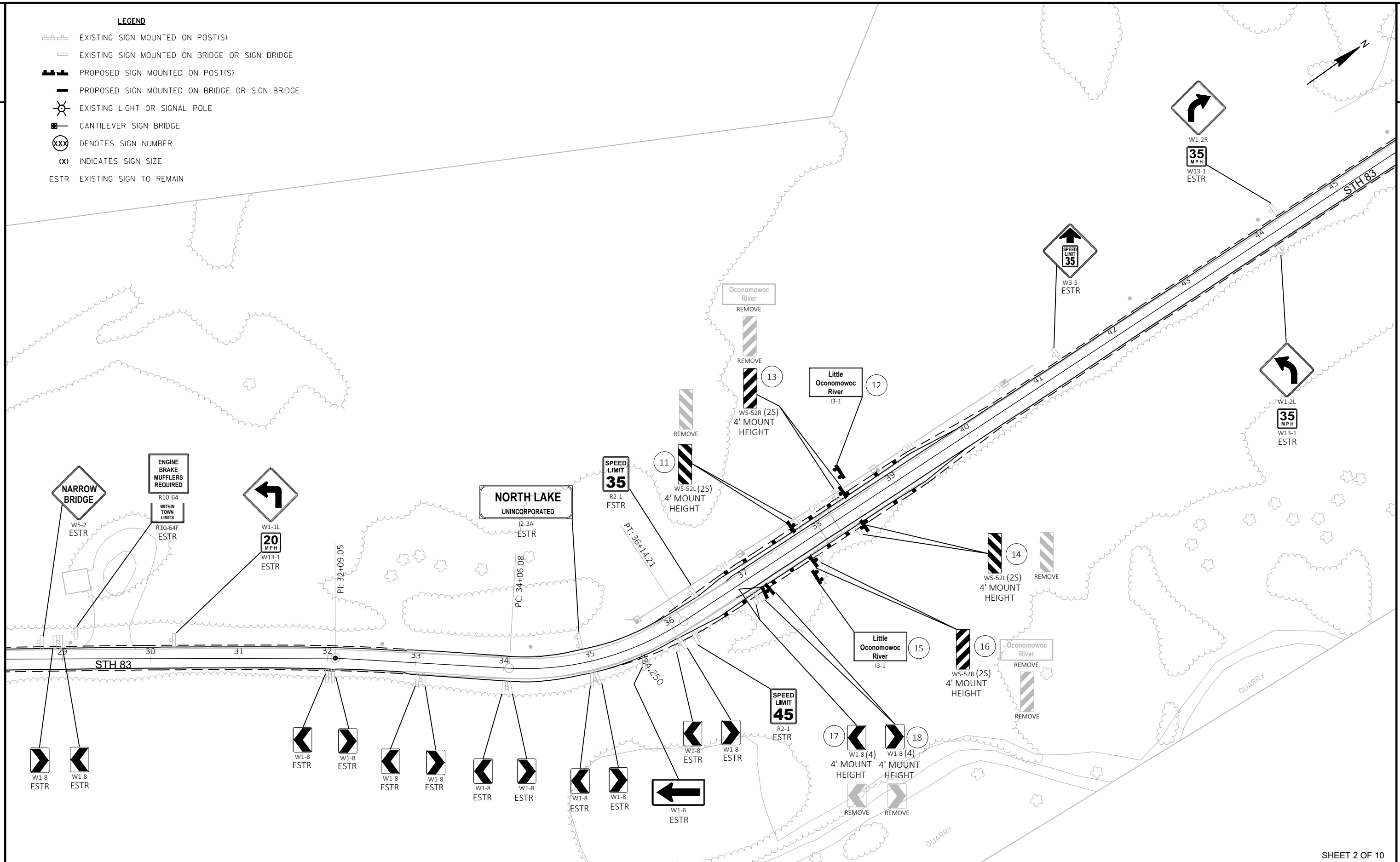
WISDOT/CADDS SHEET 44

	EXISTING SIGN MOUNTED ON POST(S)
	EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
	PROPOSED SIGN MOUNTED ON POST(S)
	PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
	EXISTING LIGHT OR SIGNAL POLE
	CANTILEVER SIGN BRIDGE
	DENOTES SIGN NUMBER
(X)	INDICATES SIGN SIZE
ESTR	EXISTING SIGN TO REMAIN



LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

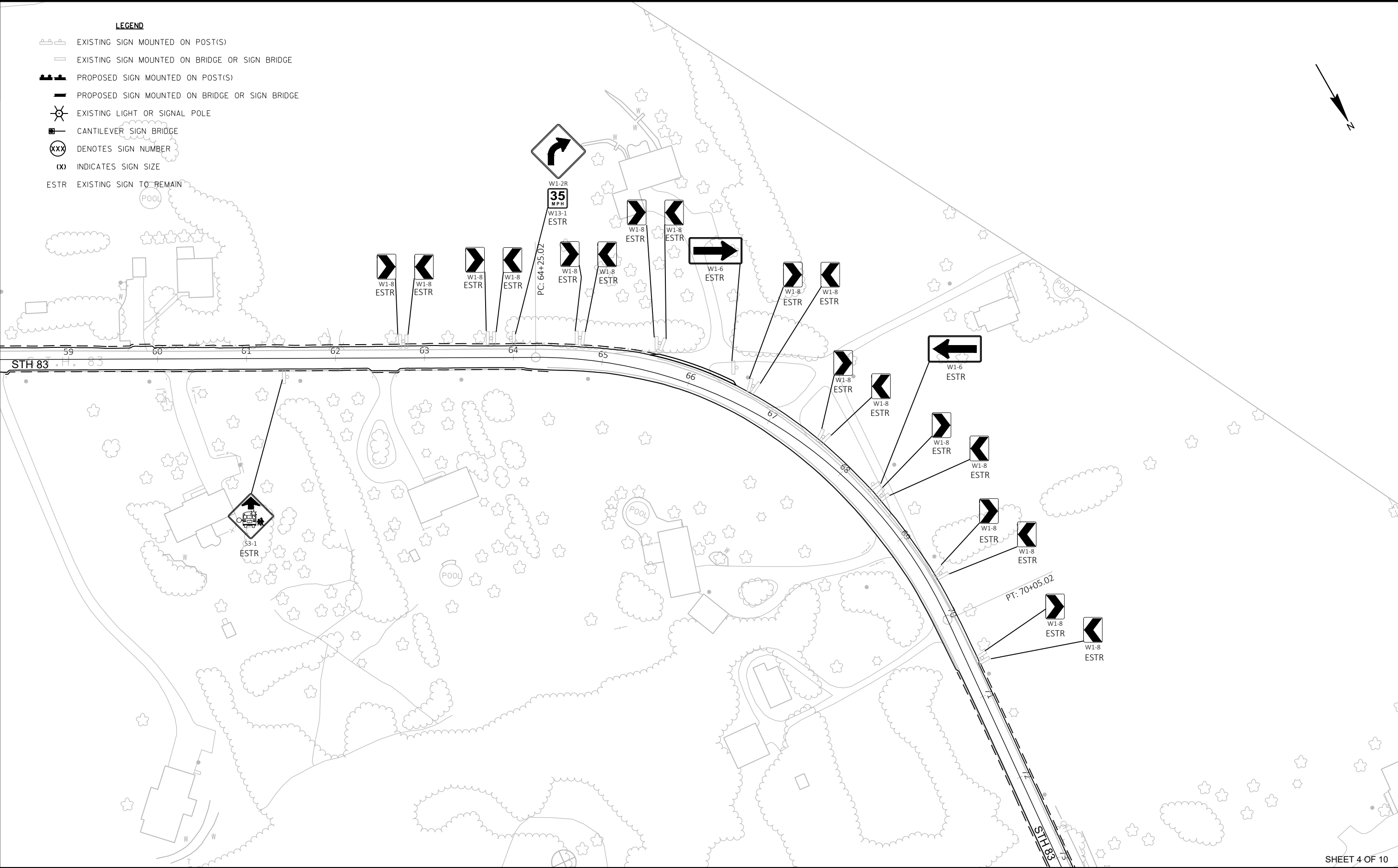


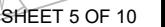


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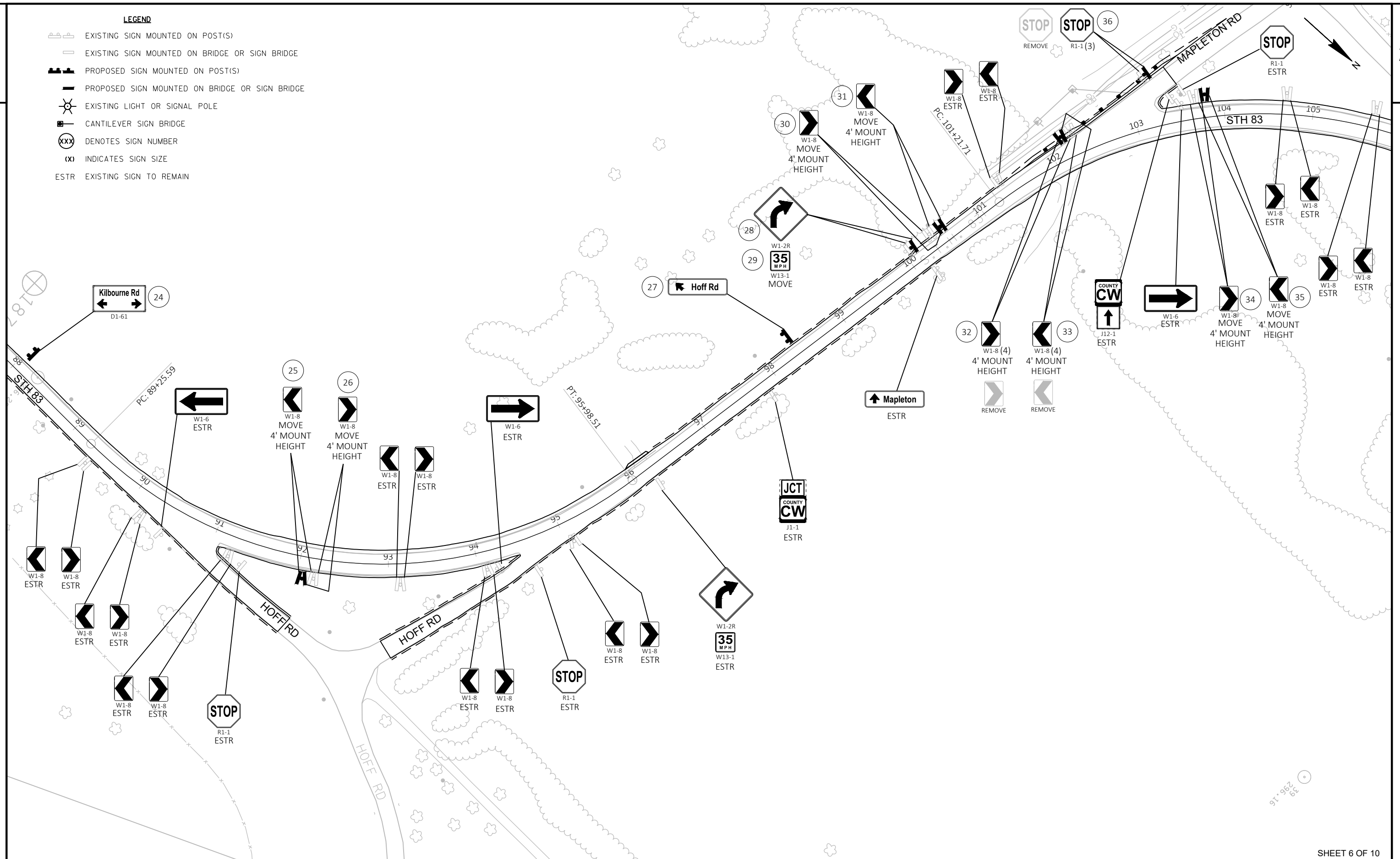
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- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE

ESTR EXISTING SIGN TO REMAIN





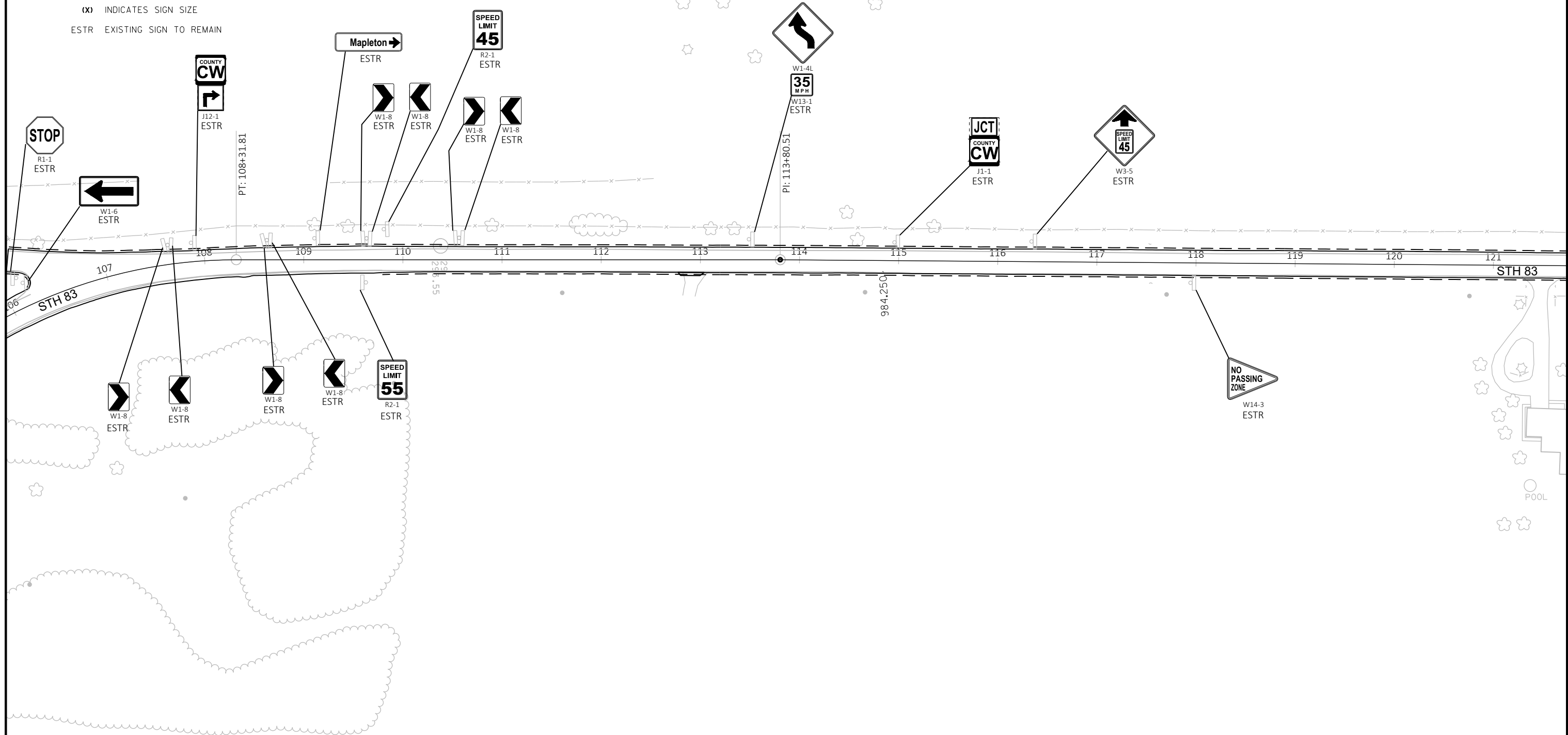
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- INDICATES SIGN SIZE
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NOTE:
LOCATE NO PASSING PENNANTS BASED ON ESTABLISHING NO PASSING ZONES PAY ITEM.
PLACE SIGNS BASED ON WHERE THE PAVEMENT MARKING FOR NO PASSING ZONES BEGIN.



LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
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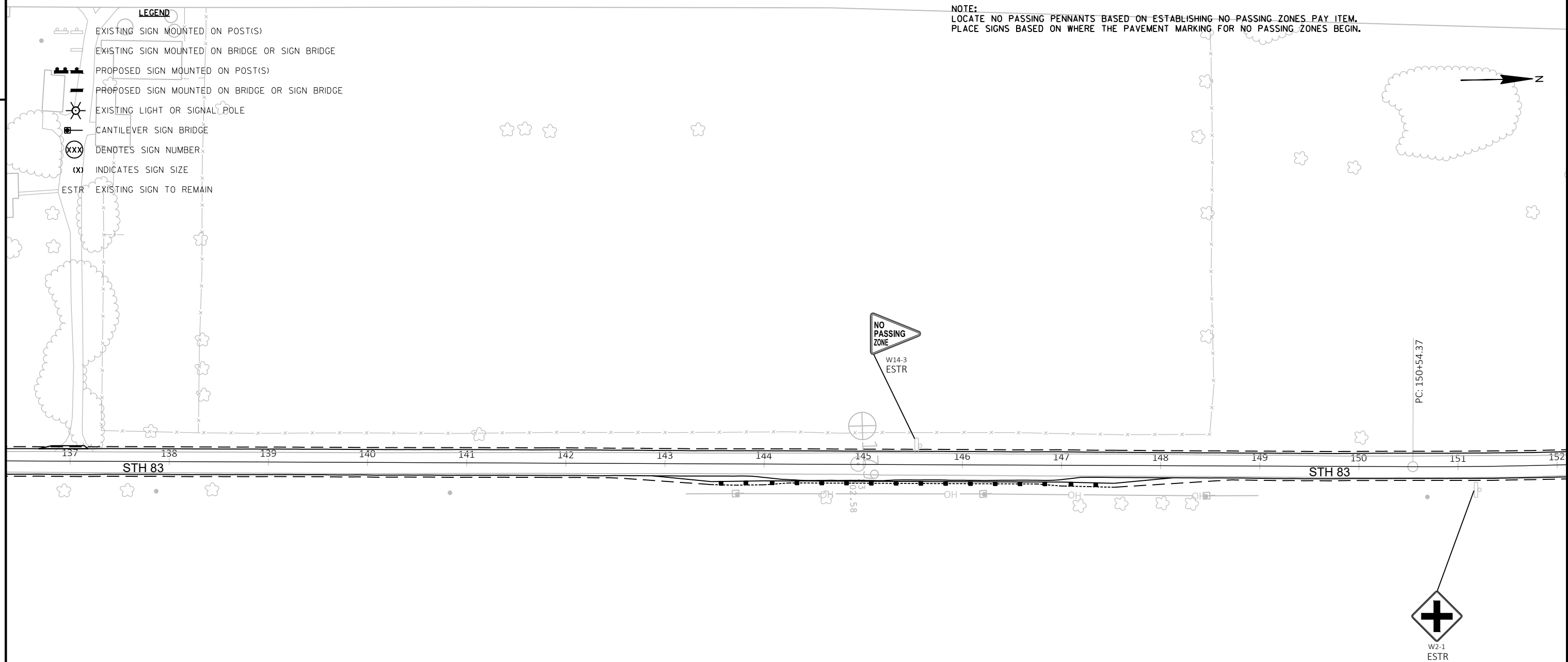
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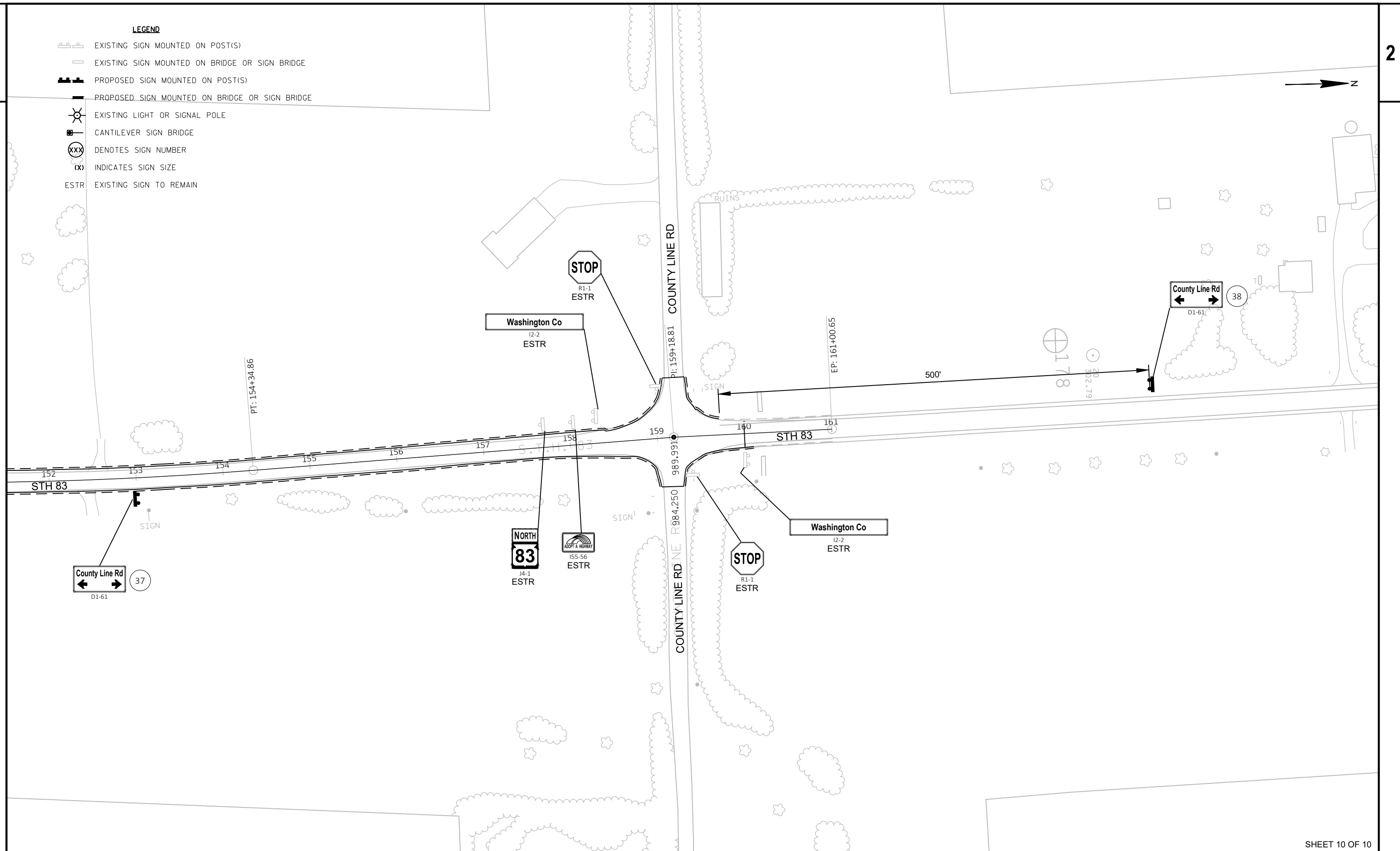
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- PROPOSED SIGN MOUNTED ON POST(S)
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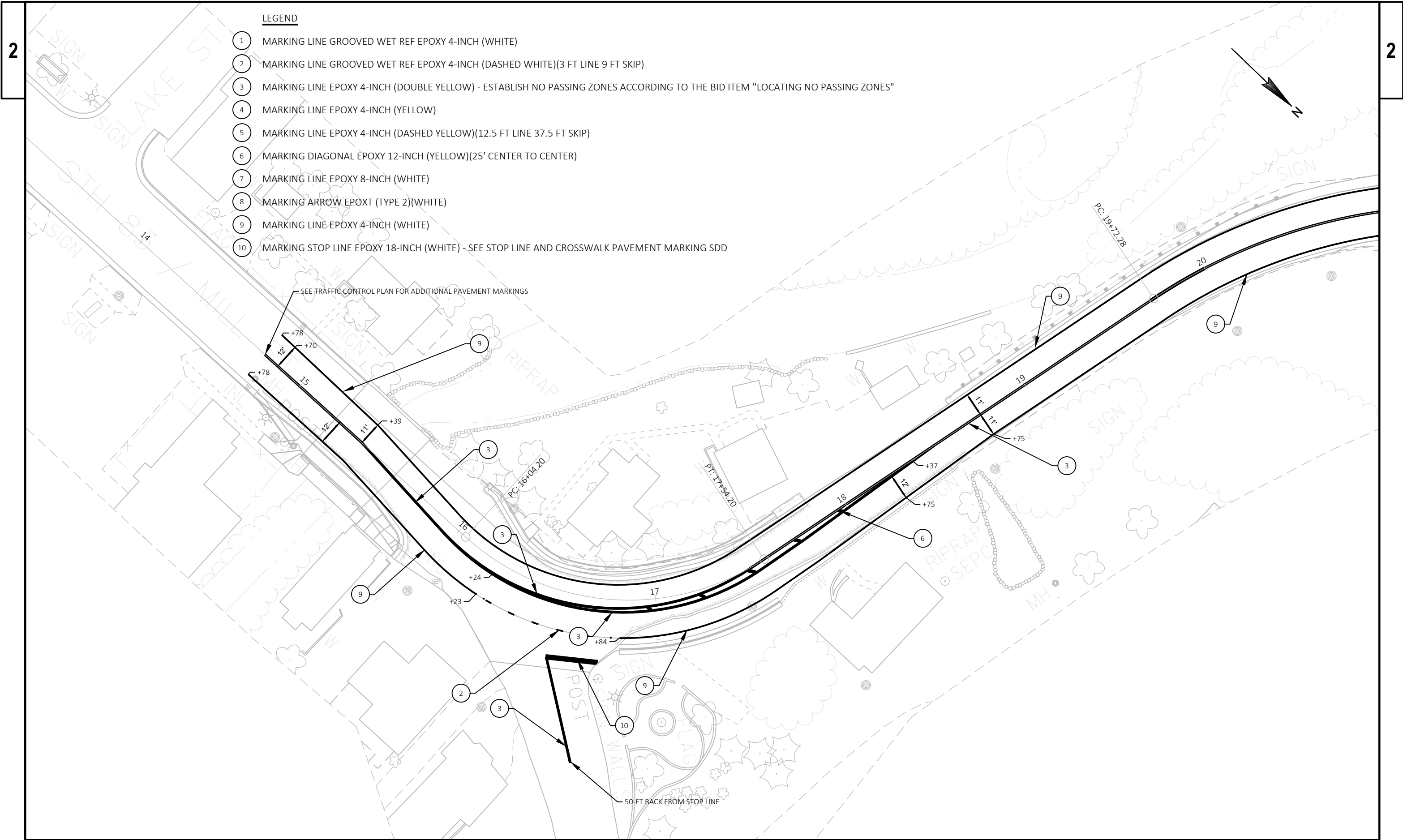
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	PROPOSED SIGN MOUNTED ON POST(S)
	PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
	EXISTING LIGHT OR SIGNAL POLE
	CANTILEVER SIGN BRIDGE
	DENOTES SIGN NUMBER
	INDICATES SIGN SIZE
ESTR	EXISTING SIGN TO REMAIN



BARRIER

N

STH 83 & KILBOURNE RD NORTH LAKE WAUKESHA COUNTY	
SIGNAL NO: T67-1503	CABINET TYPE: TEMP
CONTROLLER TYPE: TEMP	
DATE: JANUARY 2022	



LEGEND

- 1 MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
- 2 MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE)(3 FT LINE 9 FT SKIP)
- 3 MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW) - ESTABLISH NO PASSING ZONES ACCORDING TO THE BID ITEM "LOCATING NO PASSING ZONES"
- 4 MARKING LINE EPOXY 4-INCH (YELLOW)
- 5 MARKING LINE EPOXY 4-INCH (DASHED YELLOW)(12.5 FT LINE 37.5 FT SKIP)
- 6 MARKING DIAGONAL EPOXY 12-INCH (YELLOW)(25' CENTER TO CENTER)
- 7 MARKING LINE EPOXY 8-INCH (WHITE)
- 8 MARKING ARROW EPOXT (TYPE 2)(WHITE)
- 9 MARKING LINE EPOXY 4-INCH (WHITE)
- 10 MARKING STOP LINE EPOXY 18-INCH (WHITE) - SEE STOP LINE AND CROSSWALK PAVEMENT MARKING SDD

PROJECT NO: 1330-29-70

HWY: STH 83

COUNTY: WAUKESHA

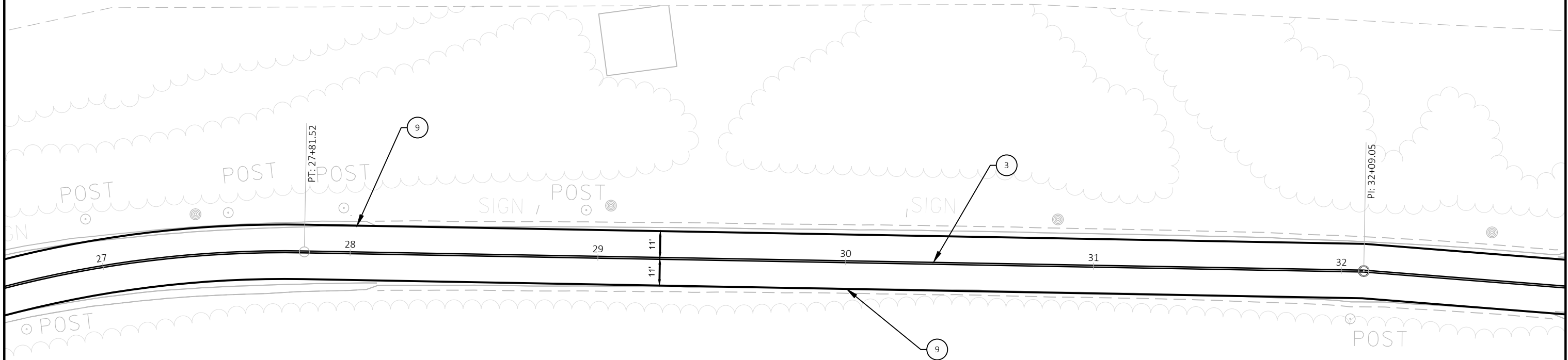
PAVEMENT MARKING

SHEET

E



PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET	E
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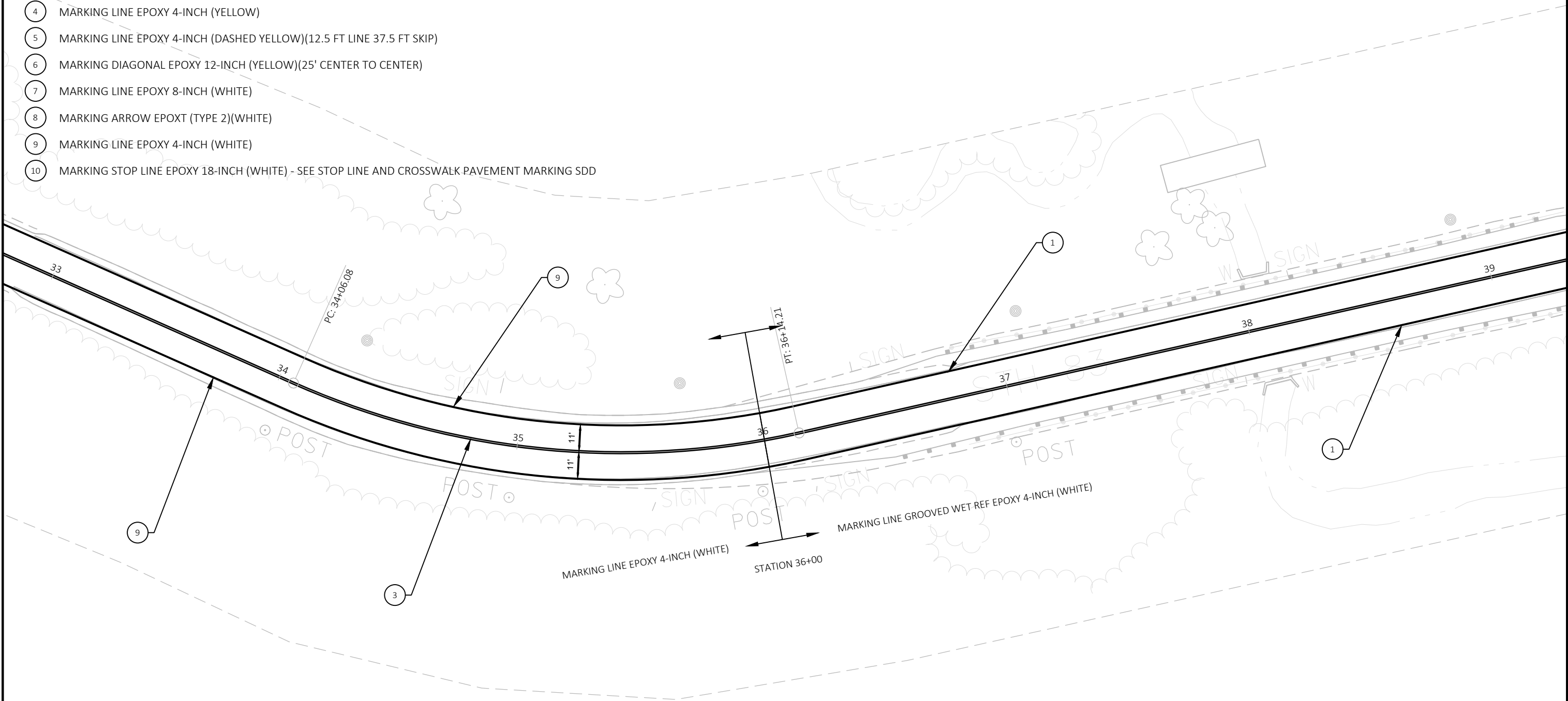
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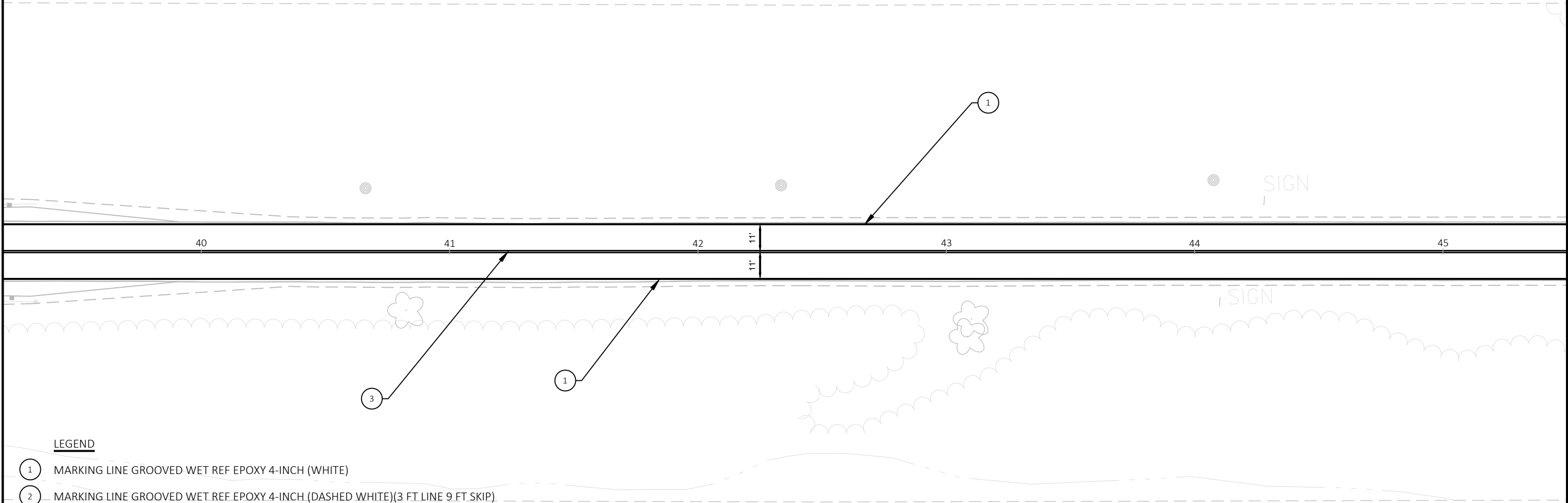
- 1 MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET	E
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LEGEND

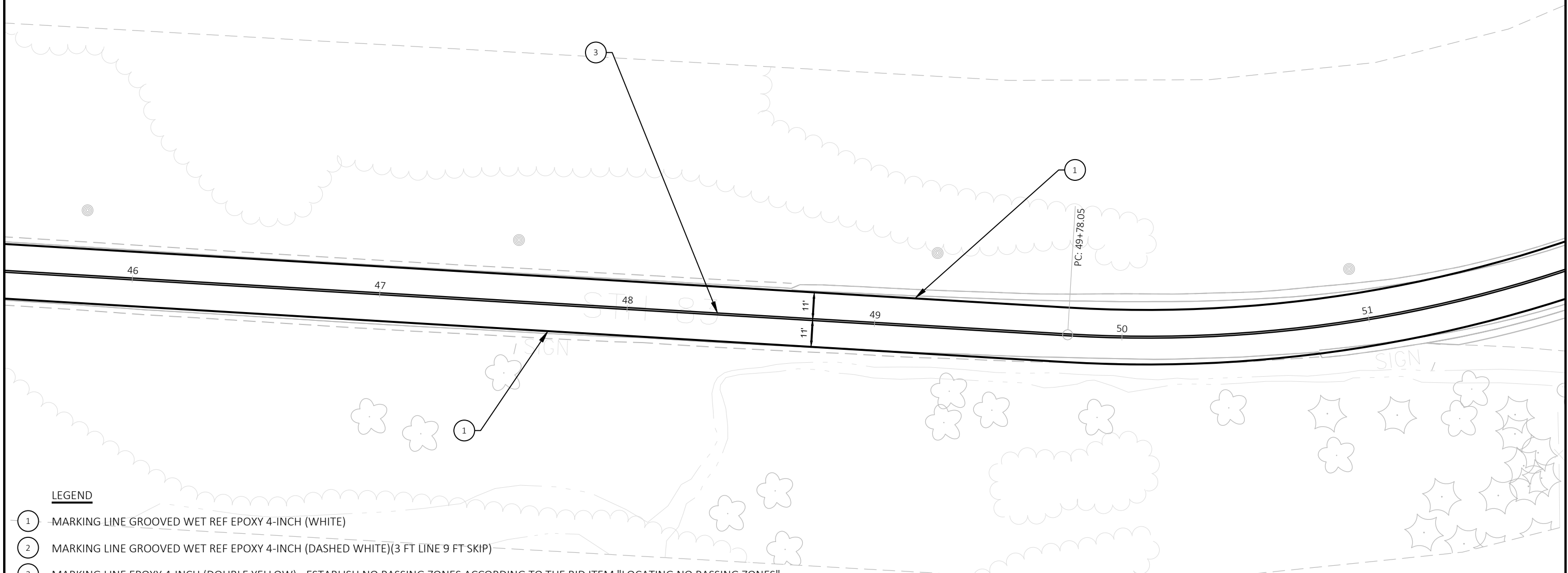
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LEGEND

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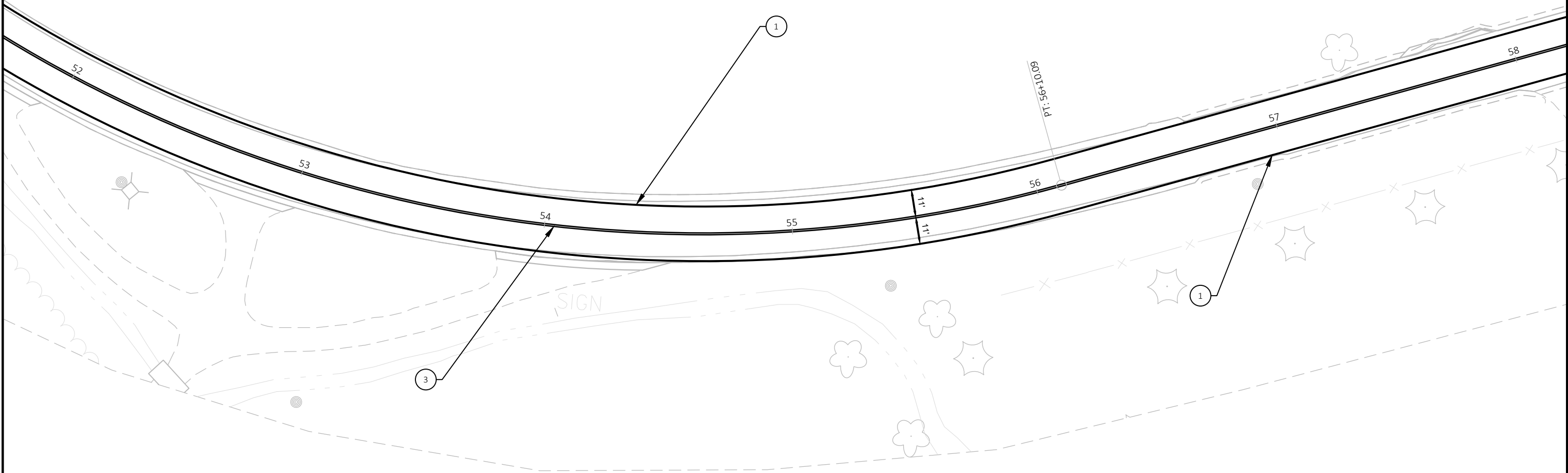
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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET	E
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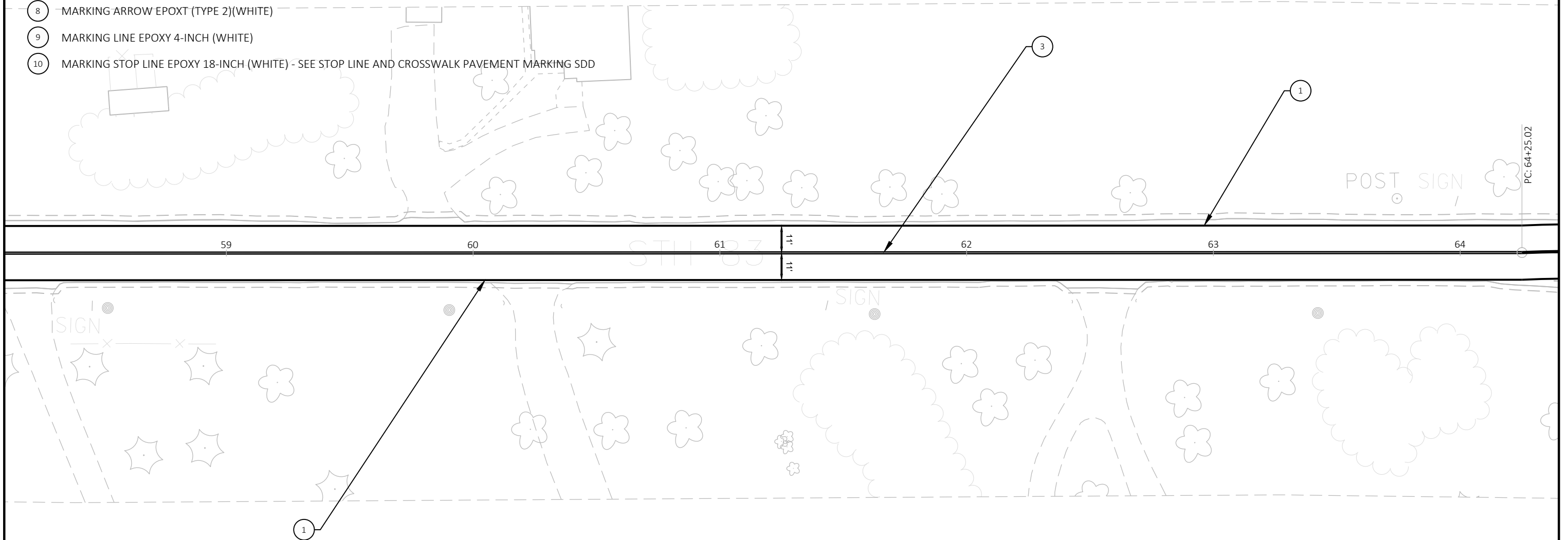
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PROJECT NO: 1330-29-70

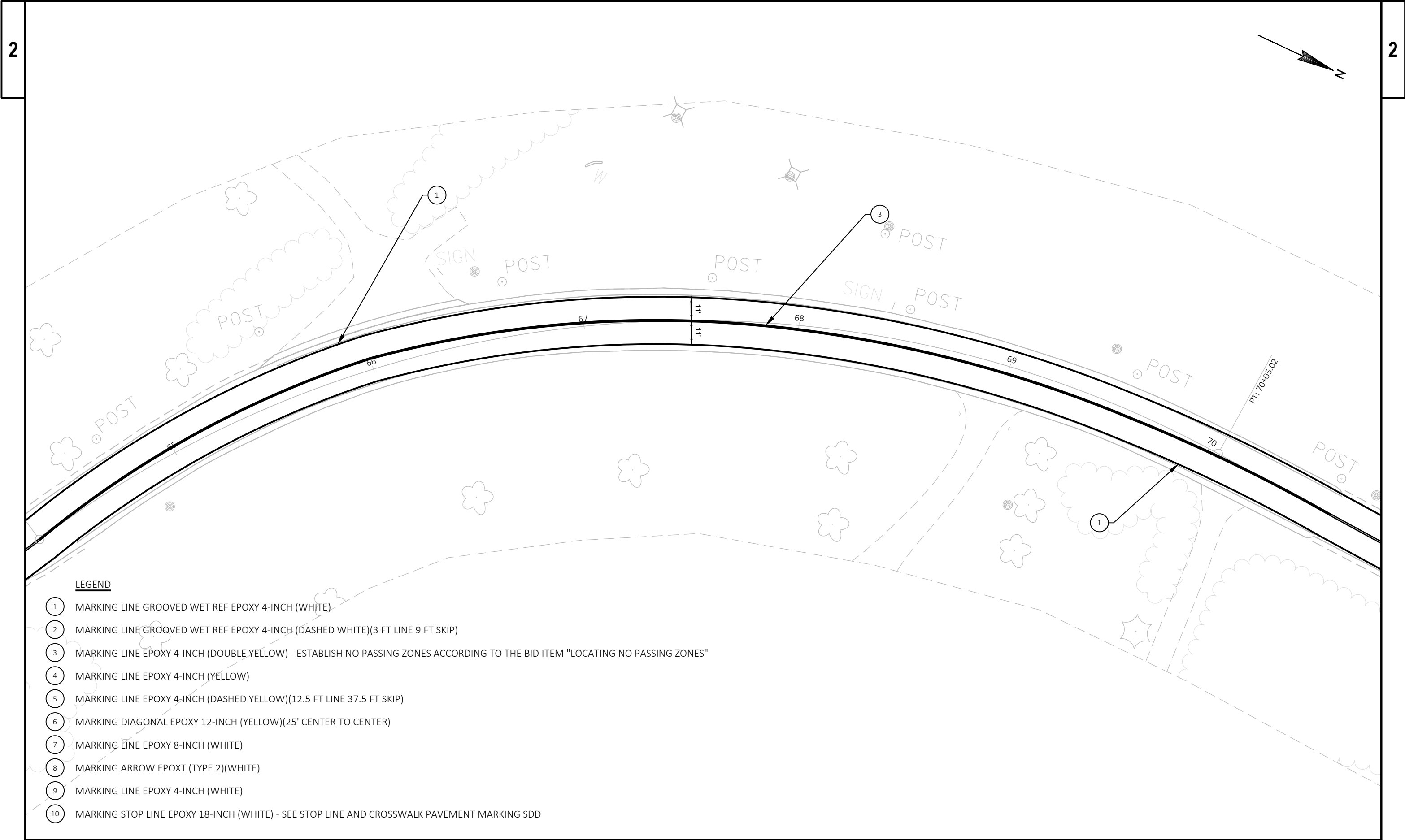
HWY: STH 83

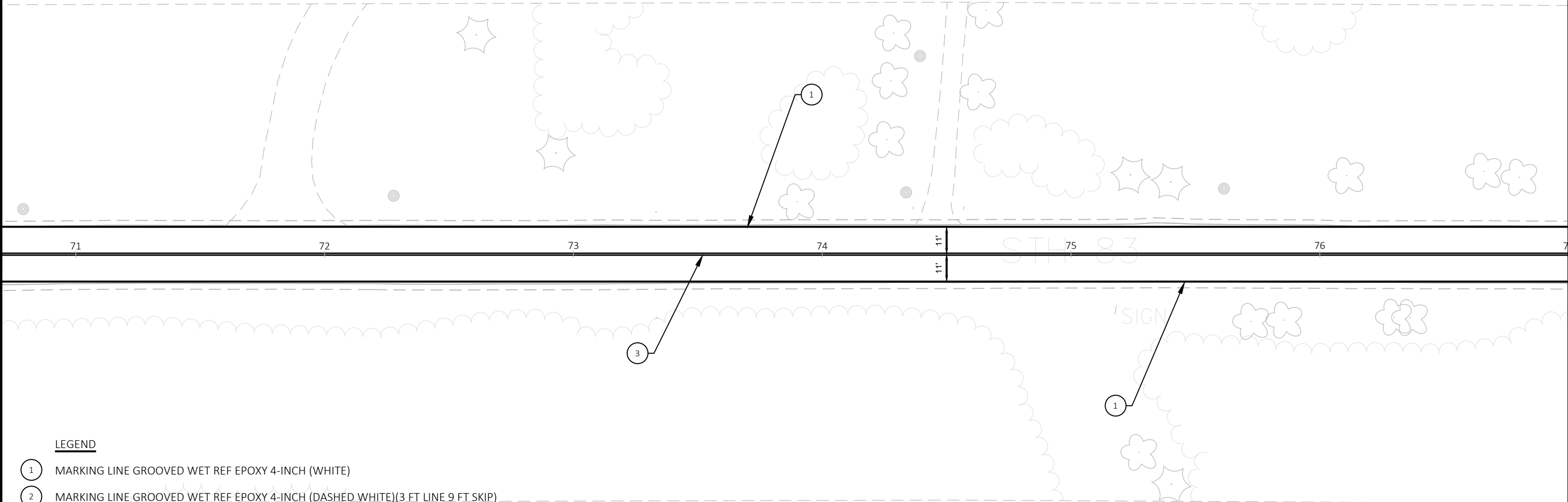
COUNTY: WAUKESHA

PAVEMENT MARKING

SHEET

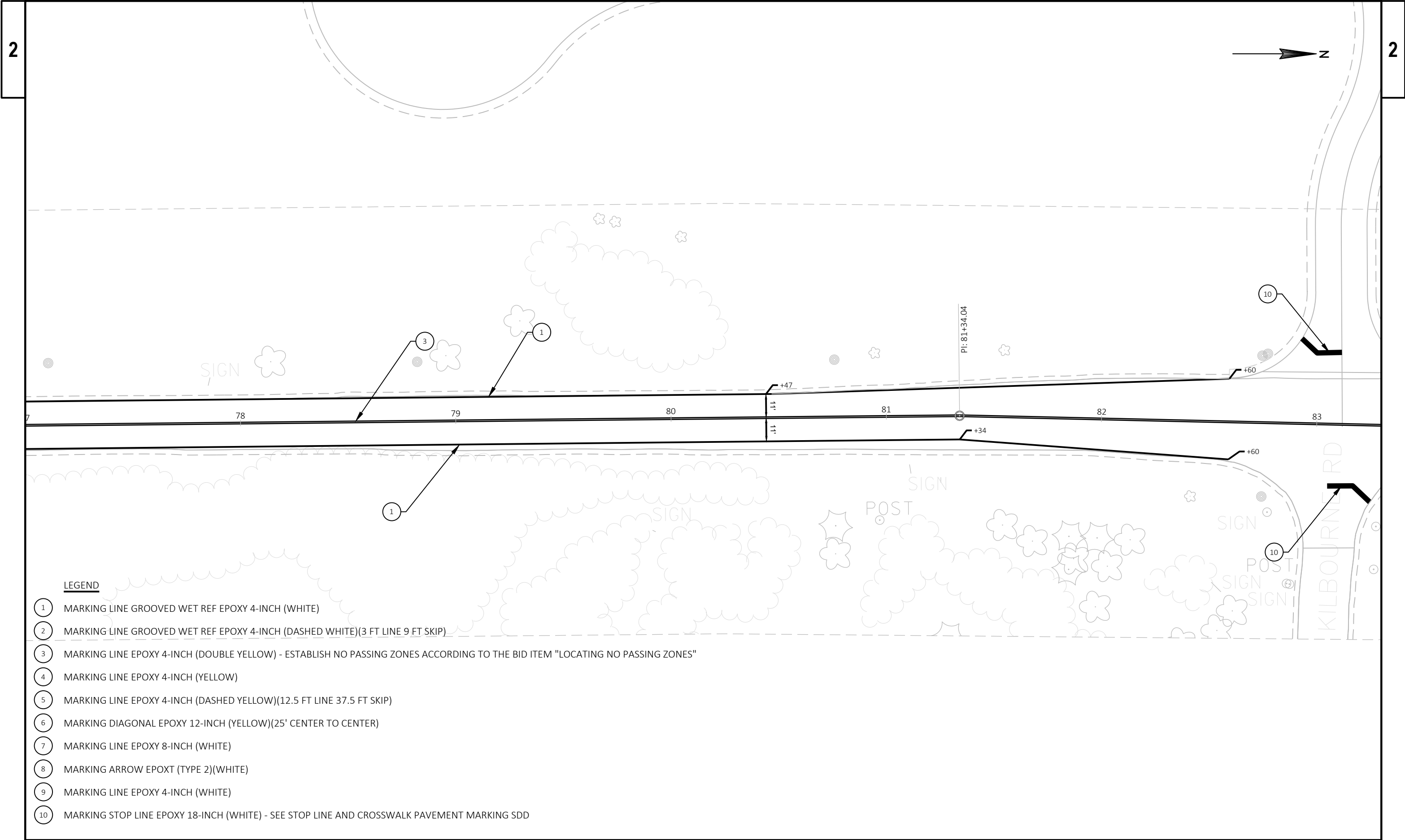
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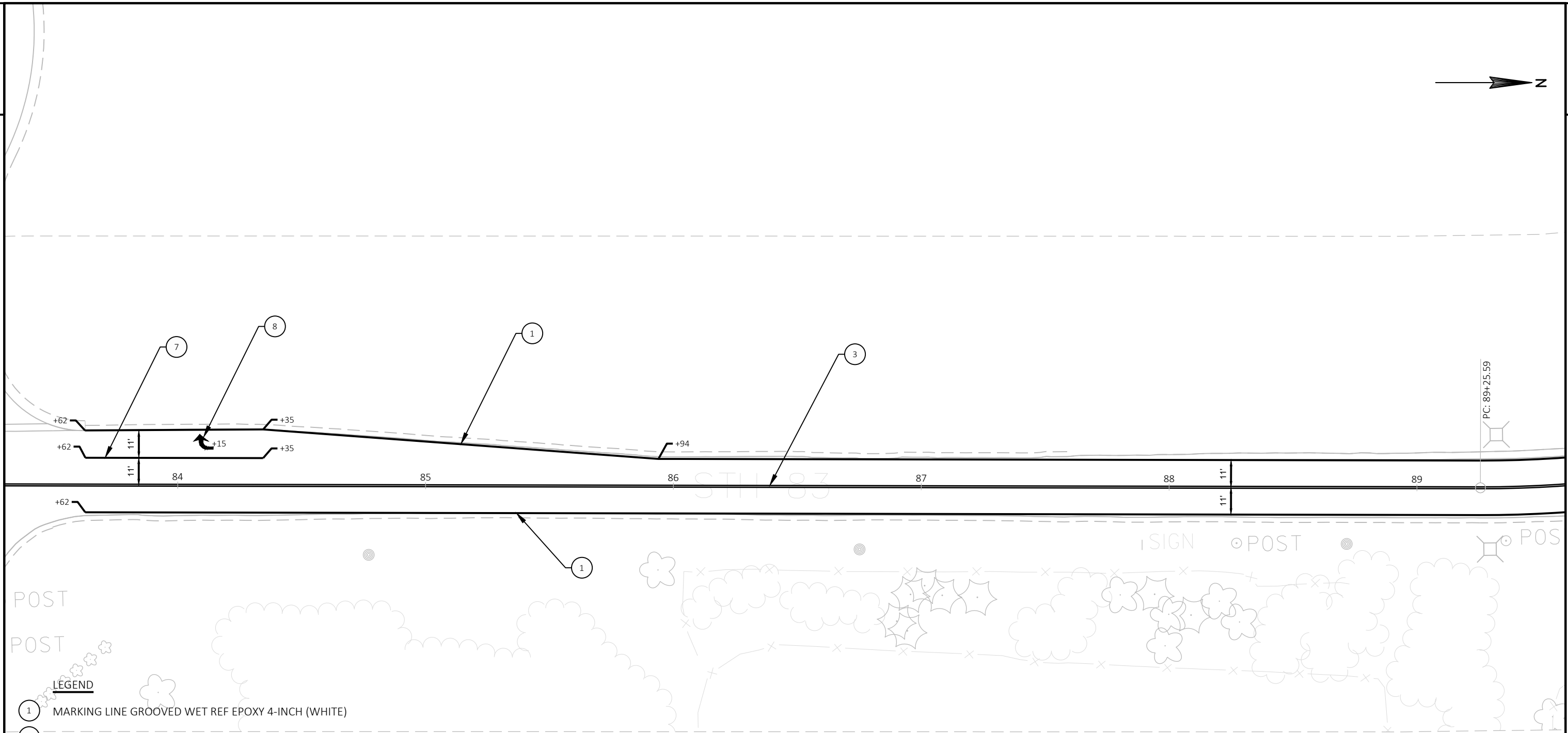


LEGEND

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- 2 MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE)(3 FT LINE 9 FT SKIP)
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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET	E
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POST
POST

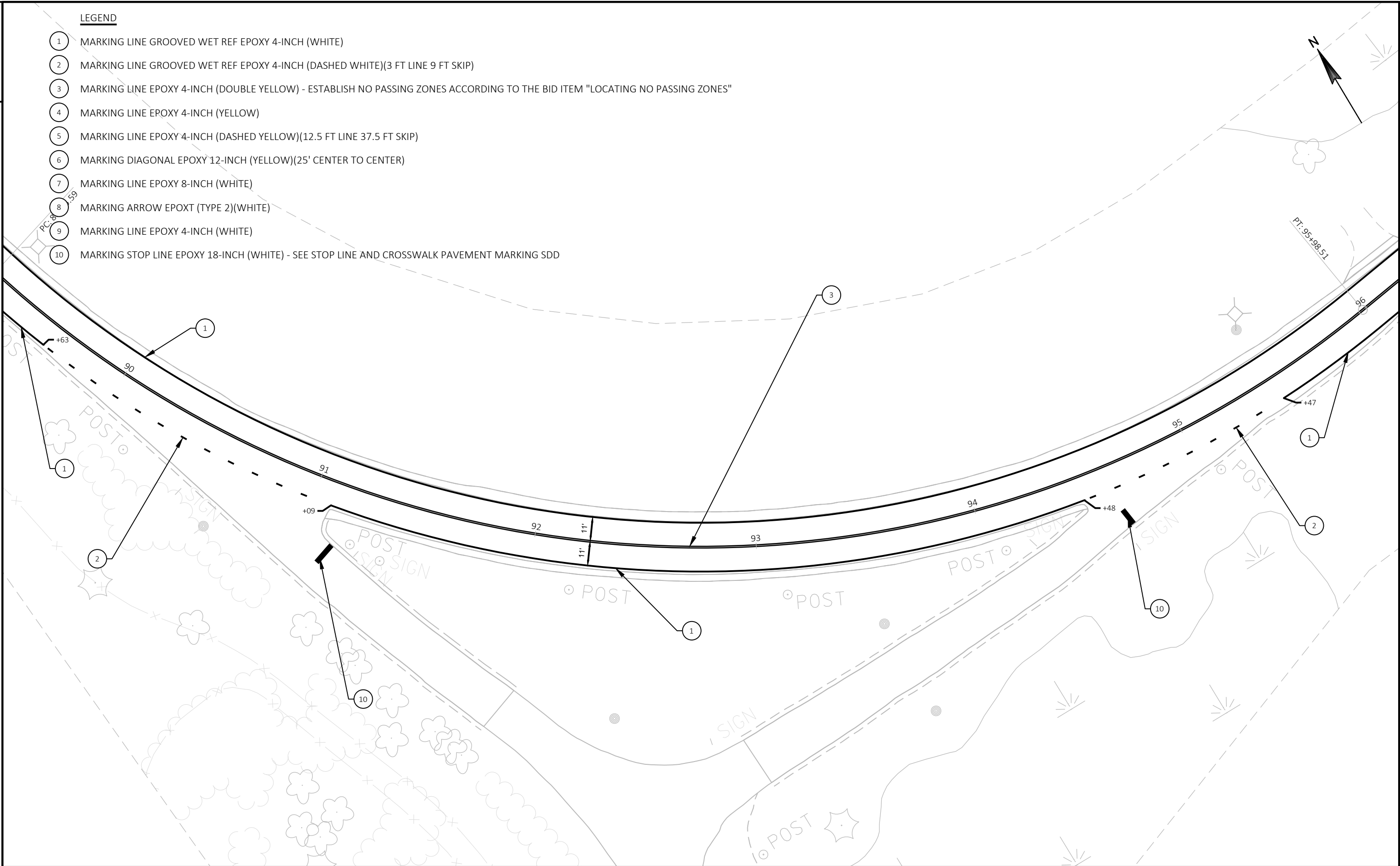
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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET	E
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LEGEND

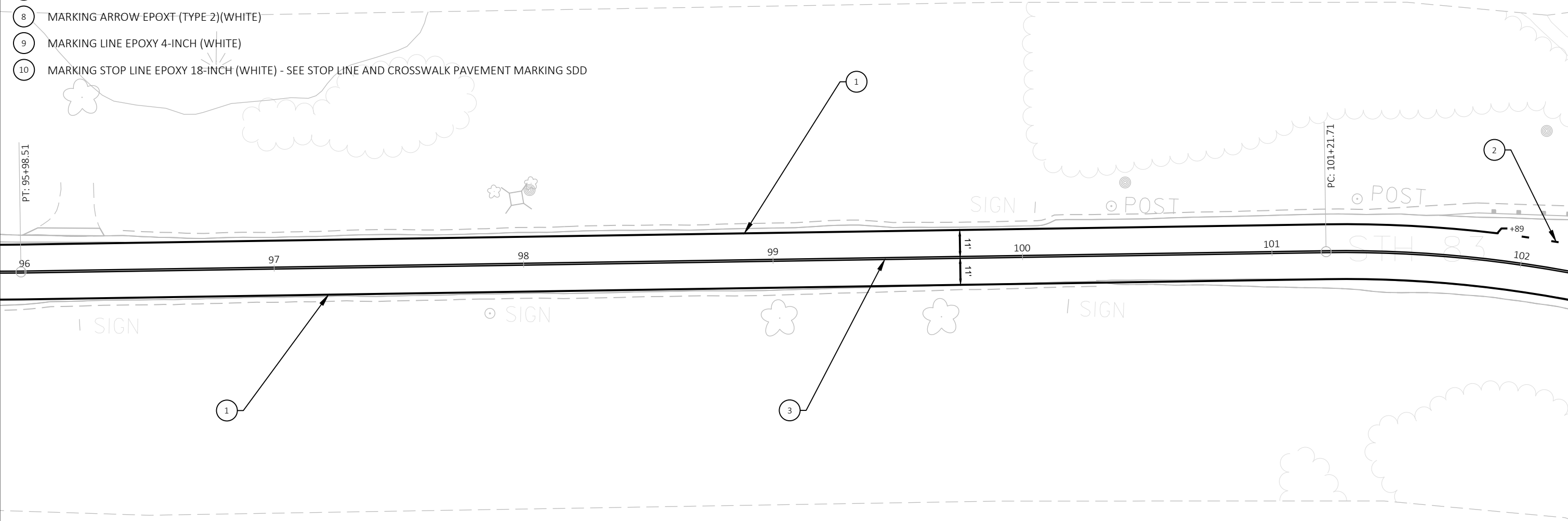
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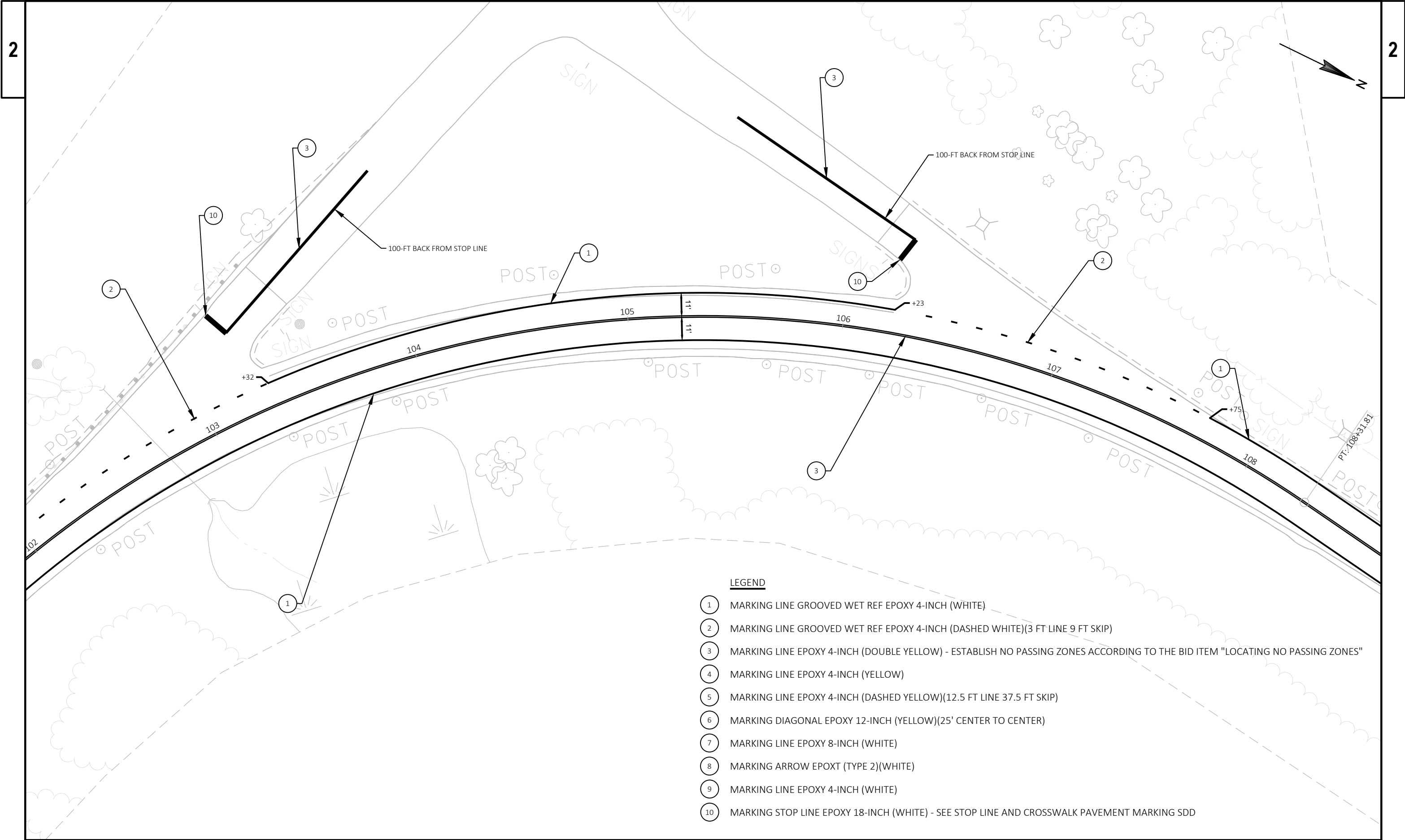


PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET	E
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LEGEND

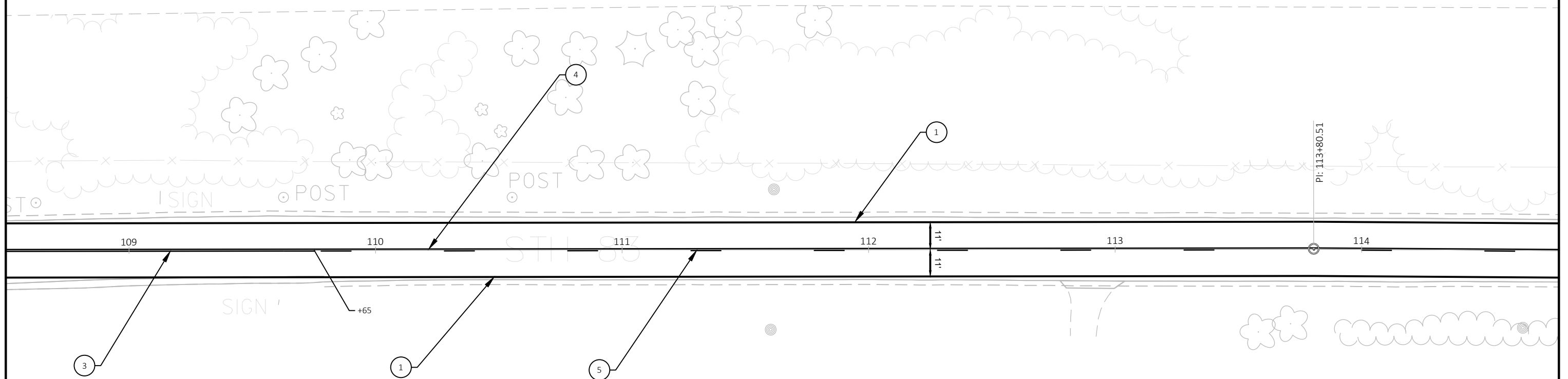
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PROJECT NO: 1330-29-70

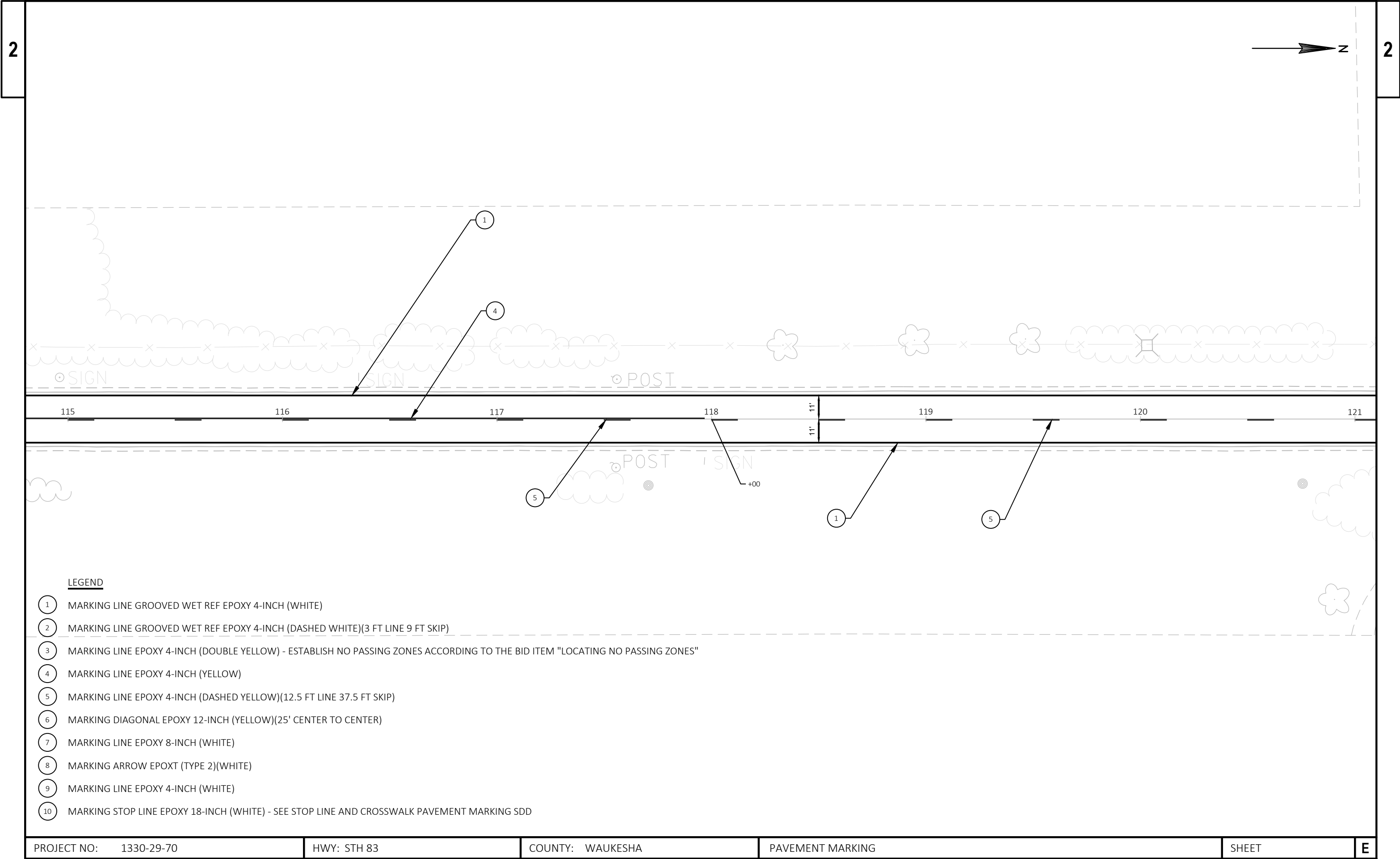
HWY: STH 83

COUNTY: WAUKESHA

PAVEMENT MARKING

SHEET

E



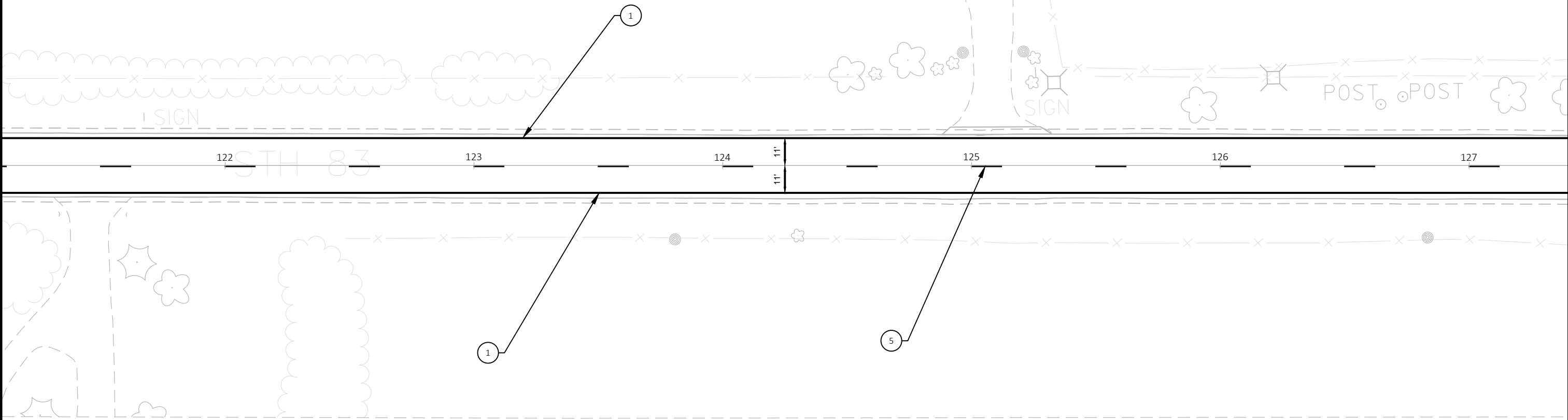
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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	PAVEMENT MARKING	SHEET	E
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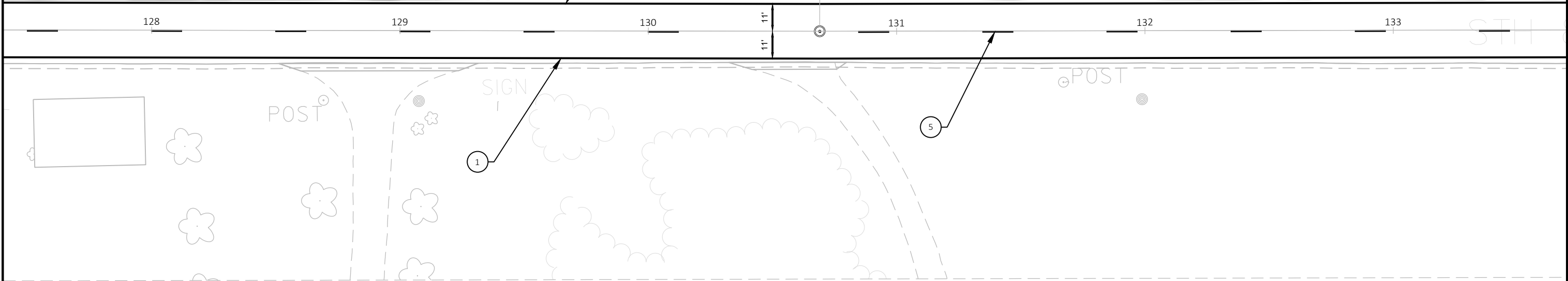
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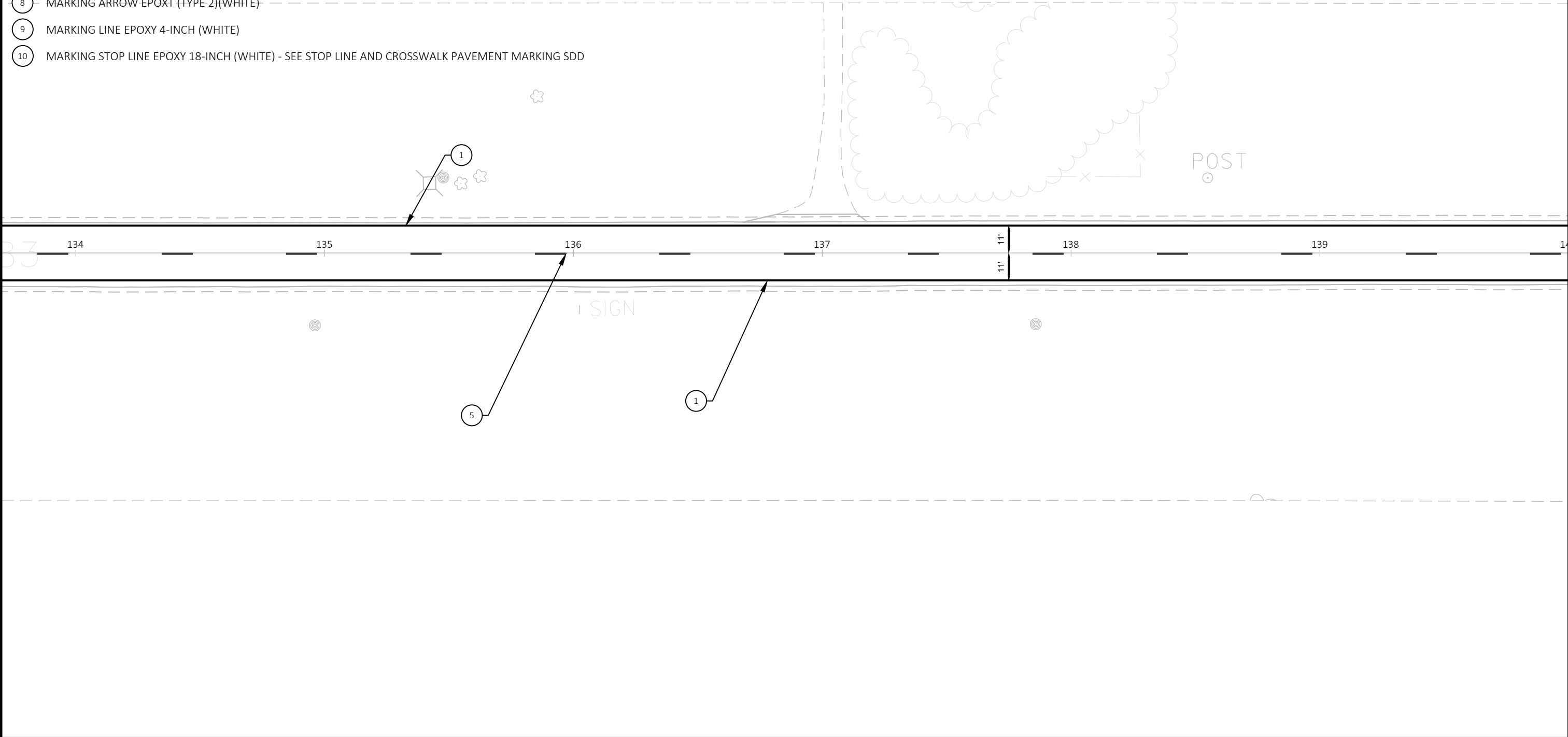
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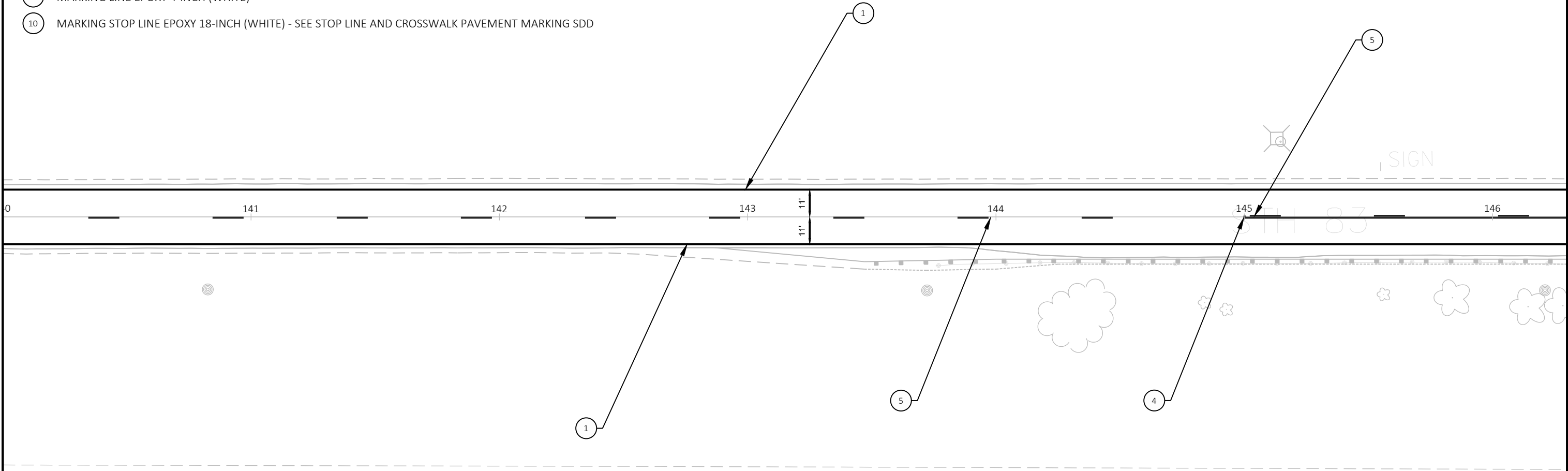
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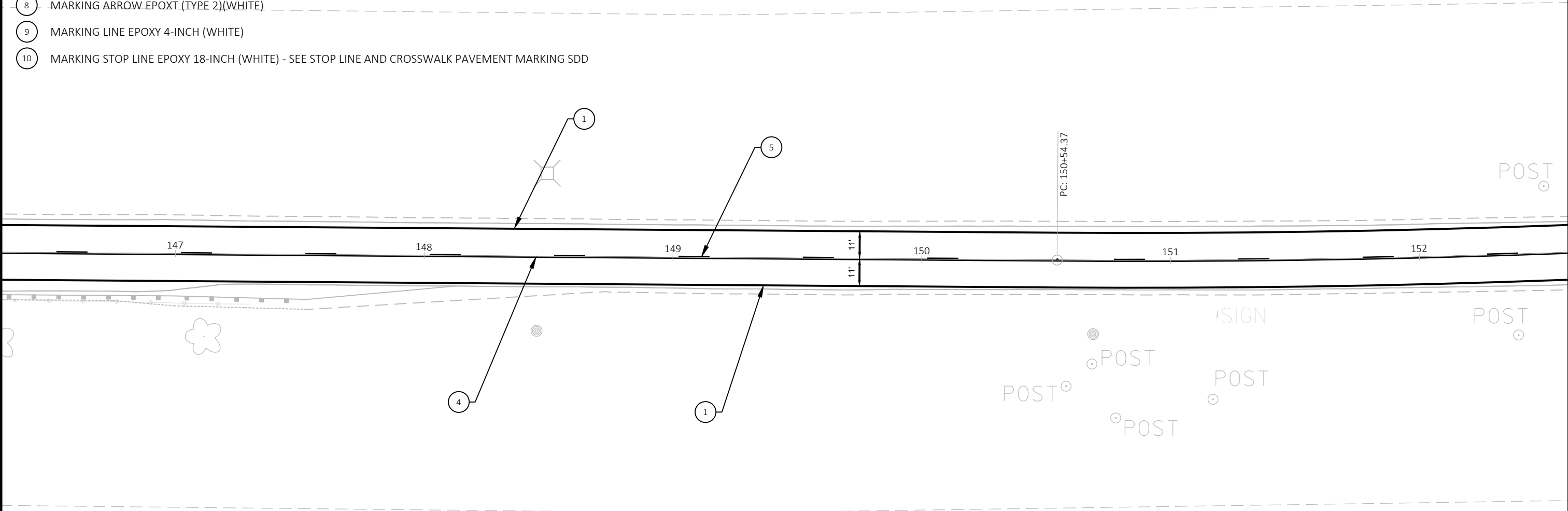
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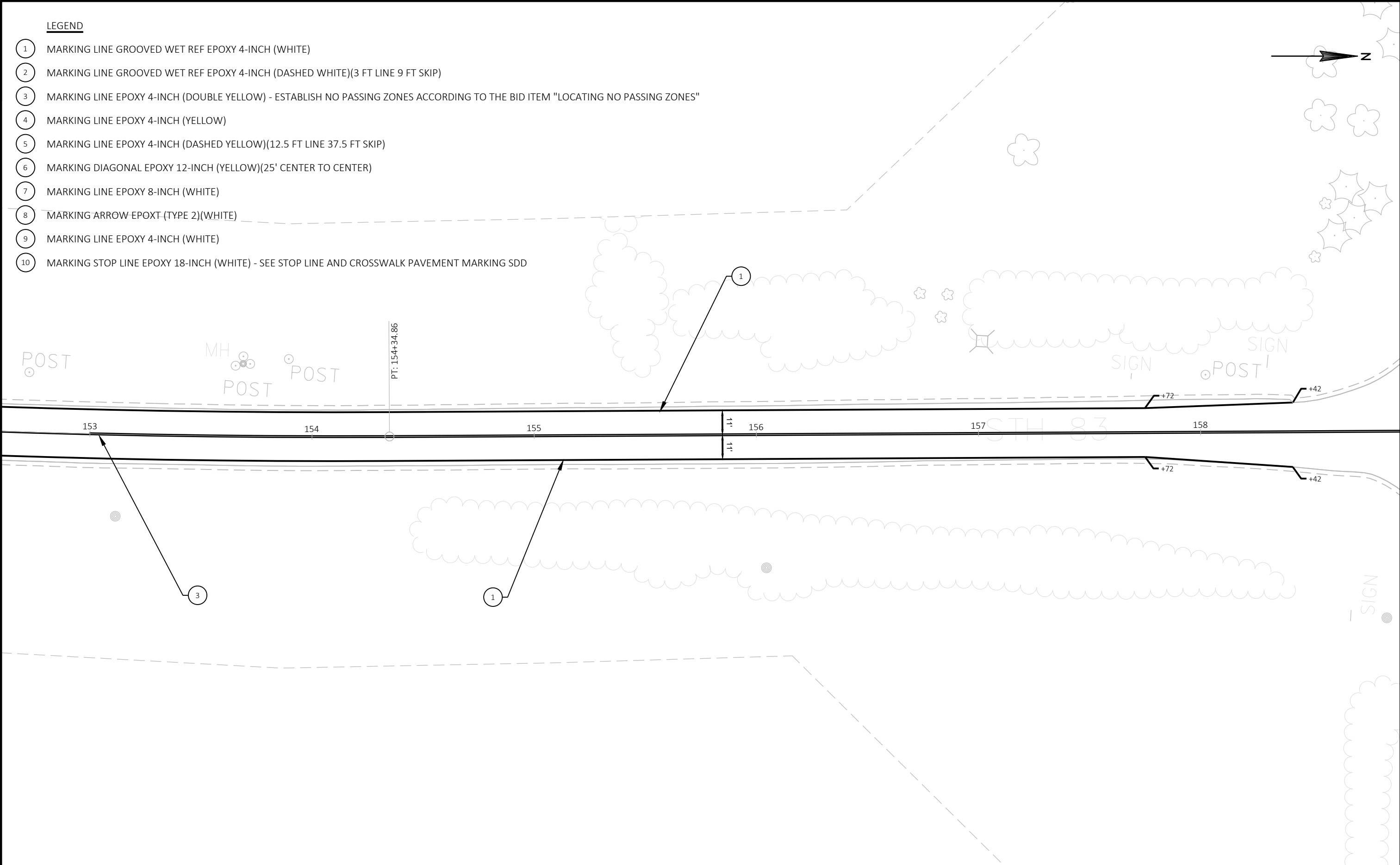
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GENERAL NOTES:

USE STANDARD DETAIL DRAWINGS "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" AND "TRAFFIC CONTROL. WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY":

USE STANDARD DETAIL DRAWINGS "BARRICADE AND SIGNS FOR MAINLINE CLOSURE" AND "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES".

ACTUAL PORTABLE CHANGEABLE MESSAGE SIGN LOCATIONS AND MESSAGES SHALL BE APPROVED BY THE ENGINEER.

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

GENERAL NOTES (CONT.):

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED.

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.

TEMPORARY CENTERLINE PAVEMENT MARKING AND TEMPORARY SIGNAGE TO BE PLACED IN ACCORDANCE WITH TRAFFIC CONTROL ARTICLES IN SPECIAL PROVISIONS ON ALL INTERMEDIATE AND FINAL PAVEMENT SURFACES.

FLAGGING IS REQUIRED WHEN OPERATIONS INTERFERE WITH 2 LANES OF TRAFFIC. SEE TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION SDD. ADDITIONAL FLAGGERS MAY BE NEEDED AT INTERSECTIONS.

GENERAL NOTES (CONT.):

PCMS SIGN MESSAGES:

FRAME 1 (NB):

HWY 83 NORTH
CLOSED AT
KILBOURNE RD

FRAME 1 (SB):

HWY 83 SOUTH
CLOSED AT
COUNTY LINE RD

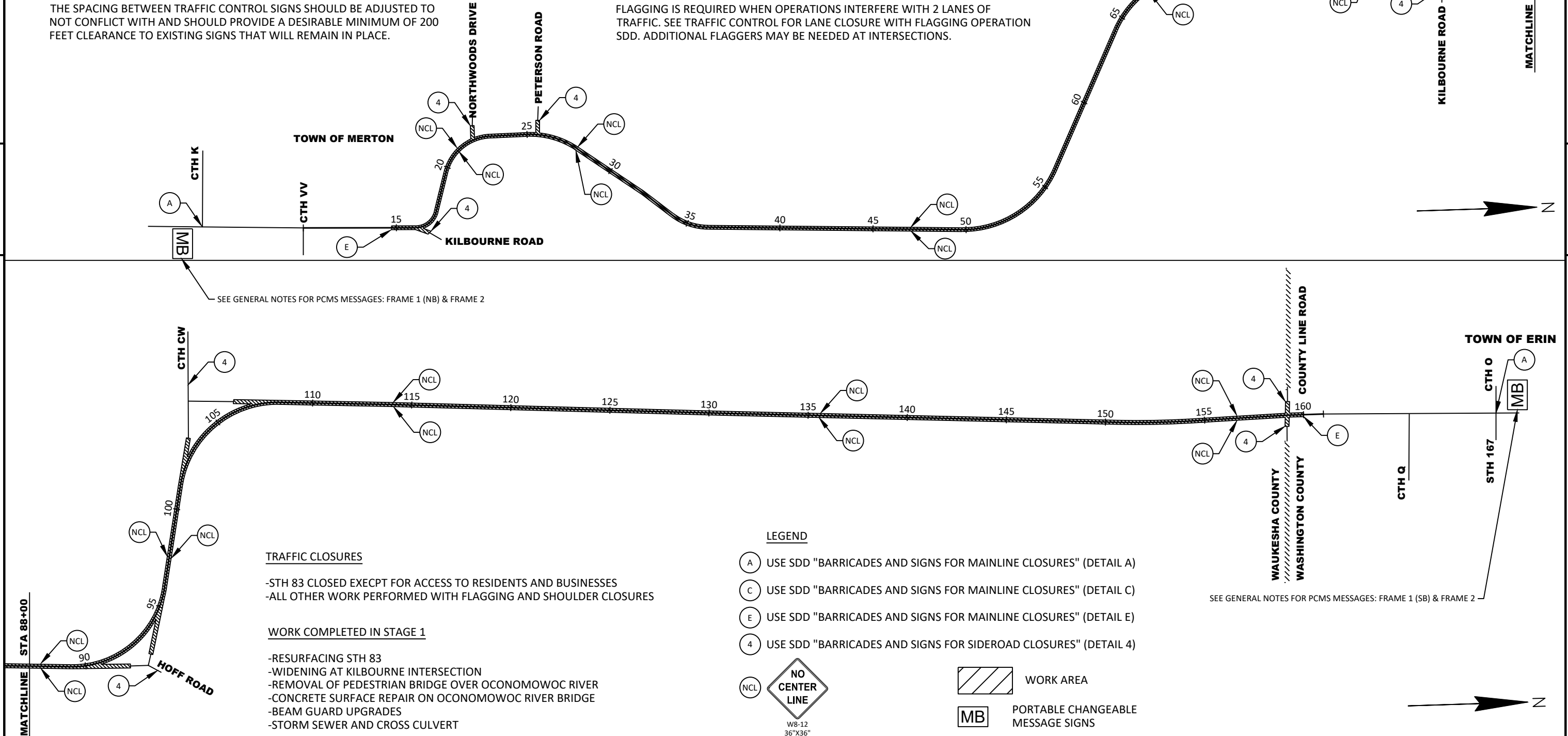
FRAME 2:

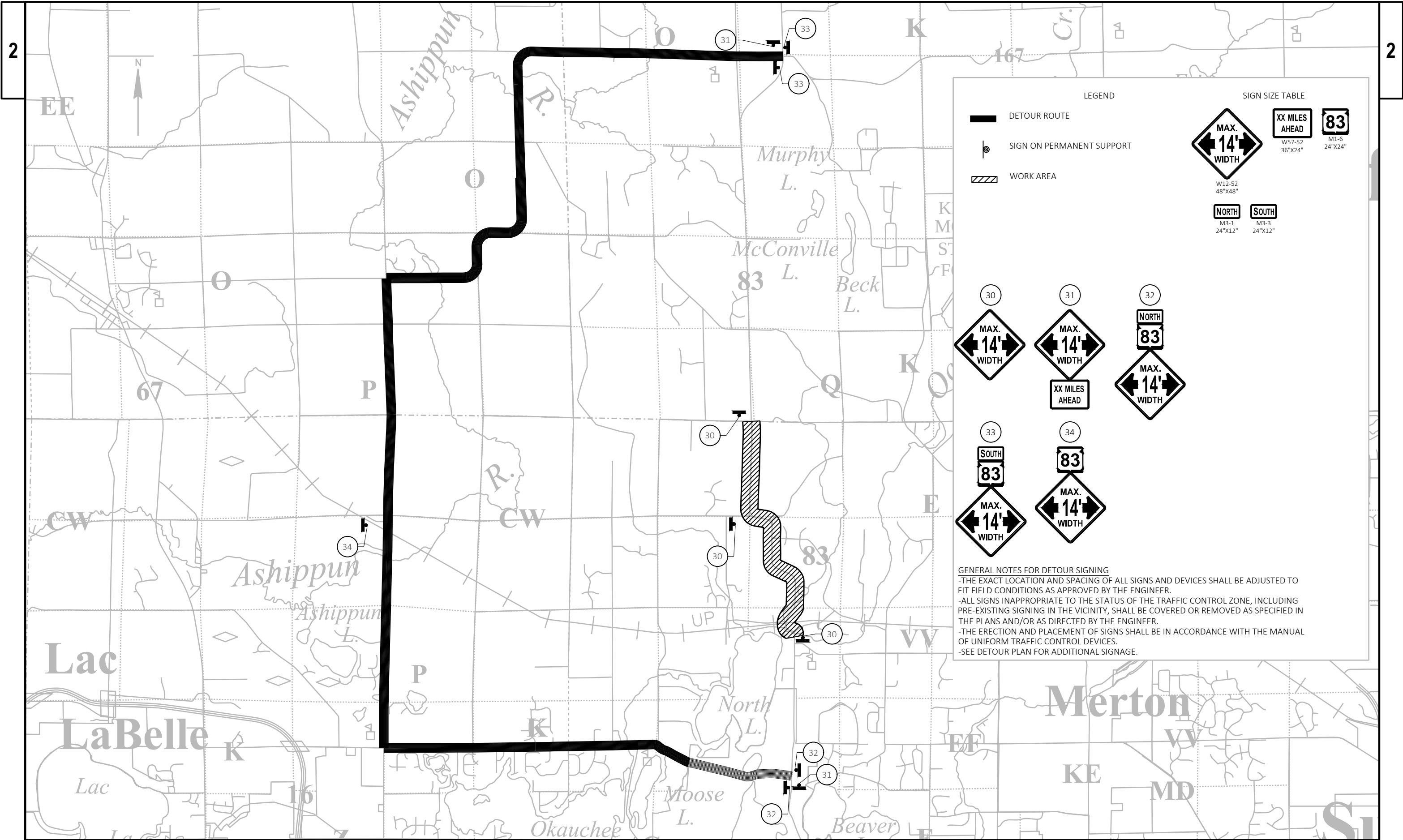
BEGINS
XXXXDAY
(XX/XX)

PLACE PCMS SIGN 7 DAYS PRIOR TO ROAD CLOSURE.

5

5



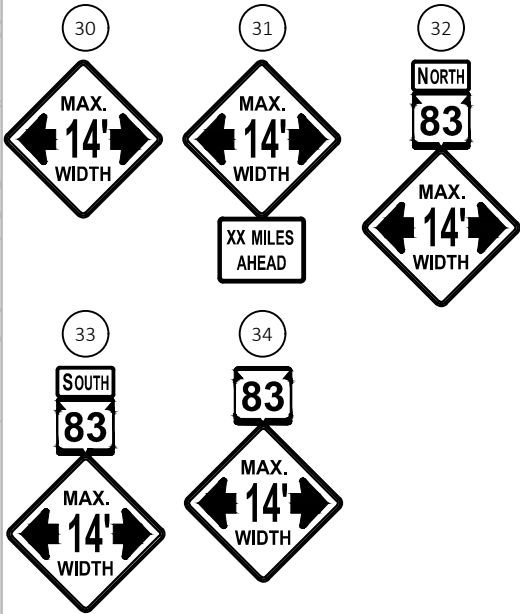


LEGEND

- DETOUR ROUTE
- SIGN ON PERMANENT SUPPORT
- WORK AREA

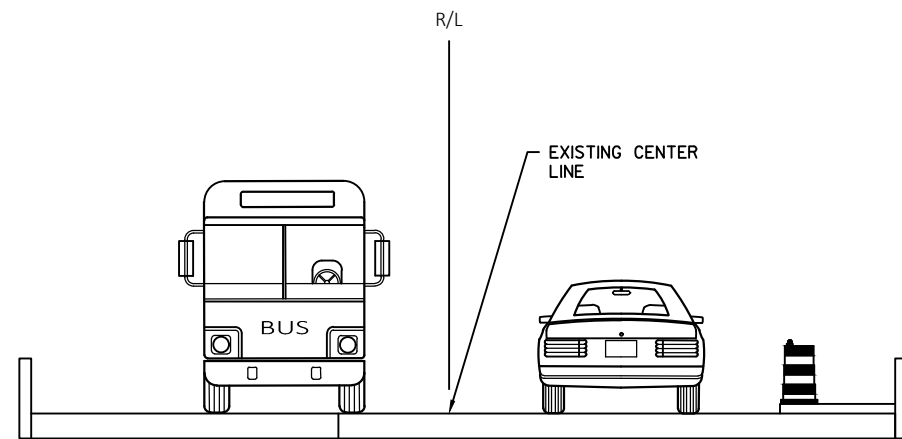
SIGN SIZE TABLE

XX MILES AHEAD	83
W57-52 36"X24"	M1-6 24"X24"
NORTH M3-1 24"X12"	SOUTH M3-3 24"X12"

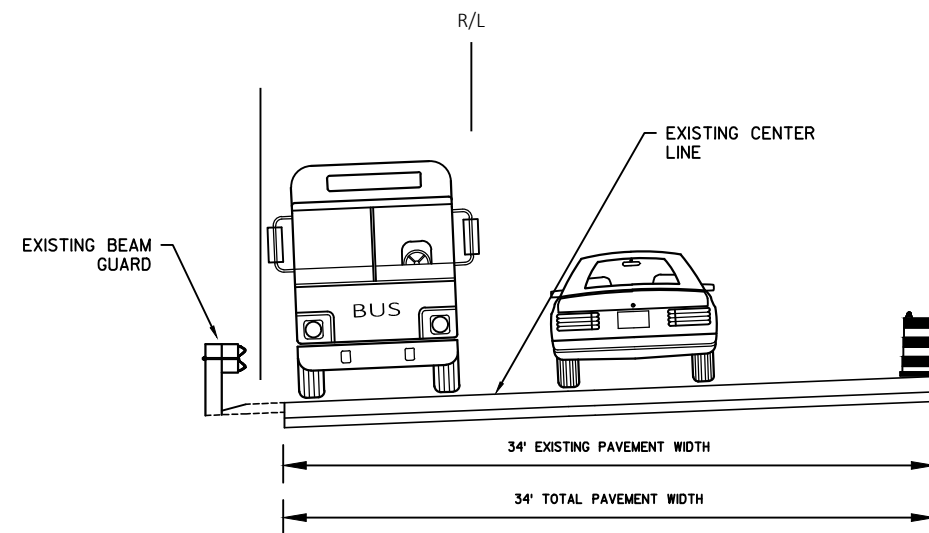


GENERAL NOTES FOR DETOUR SIGNING

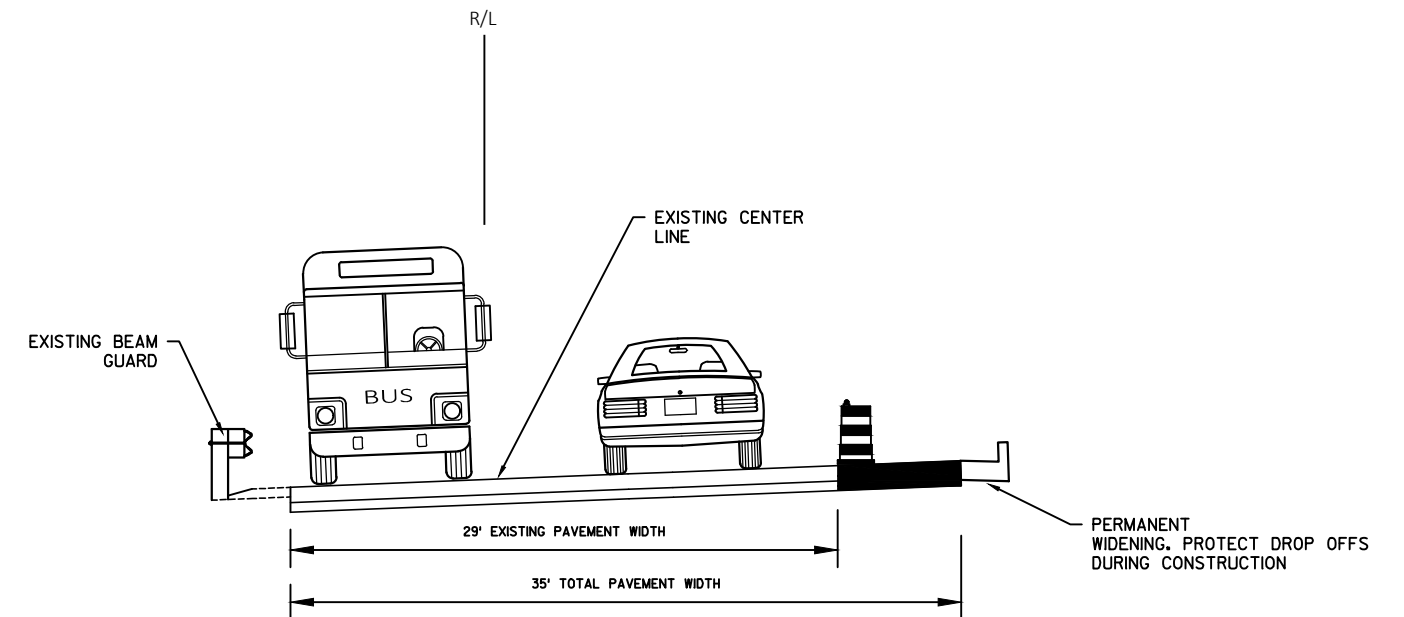
- THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE TRAFFIC CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.
- THE ERECTION AND PLACEMENT OF SIGNS SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- SEE DETOUR PLAN FOR ADDITIONAL SIGNAGE.



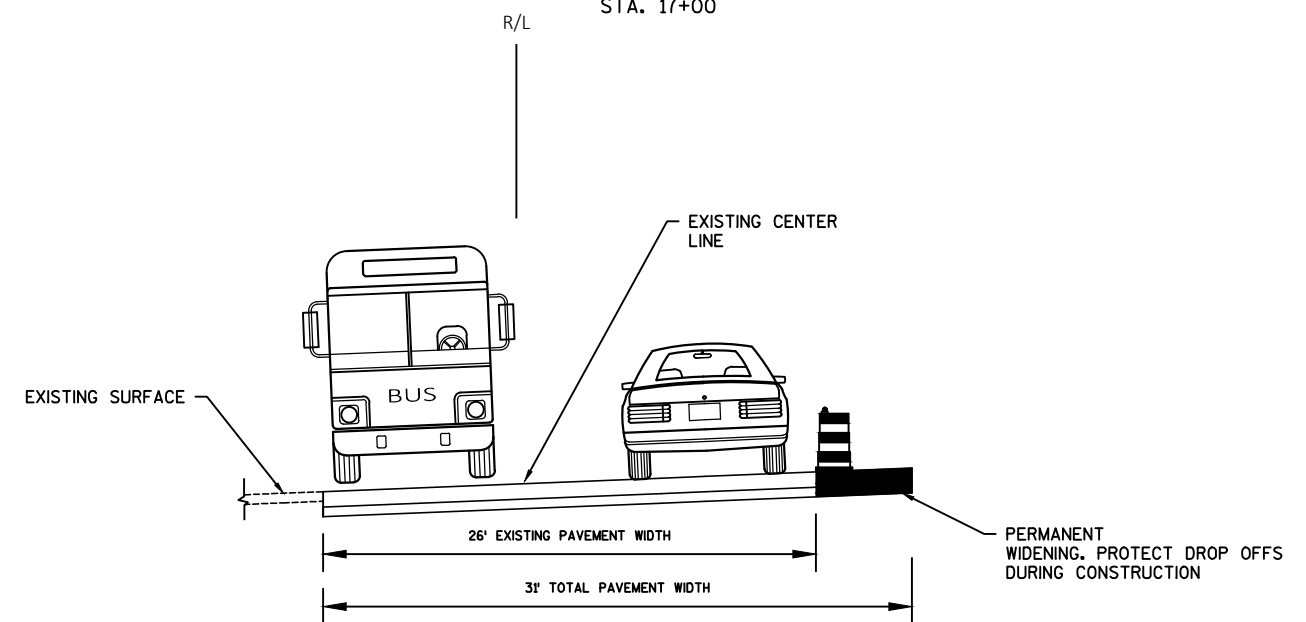
1-LANE STAGING
TYPICAL SECTION
BRIDGE B-67-952



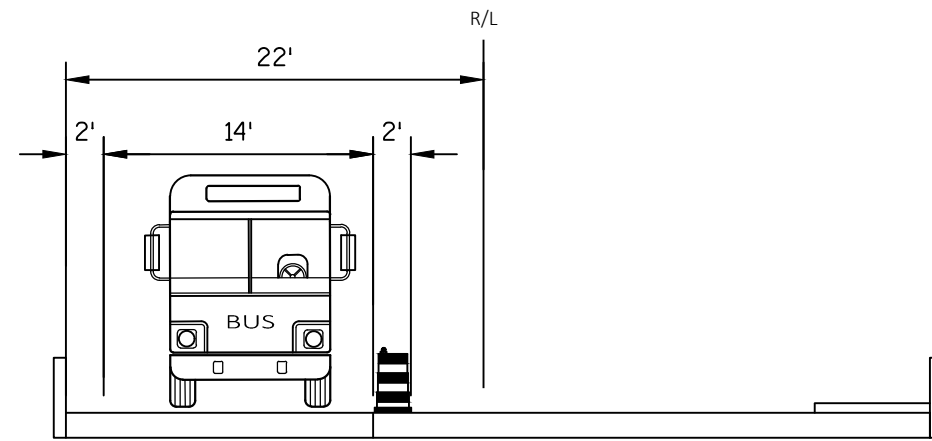
1-LANE STAGING
TYPICAL SECTION
STA. 16+55



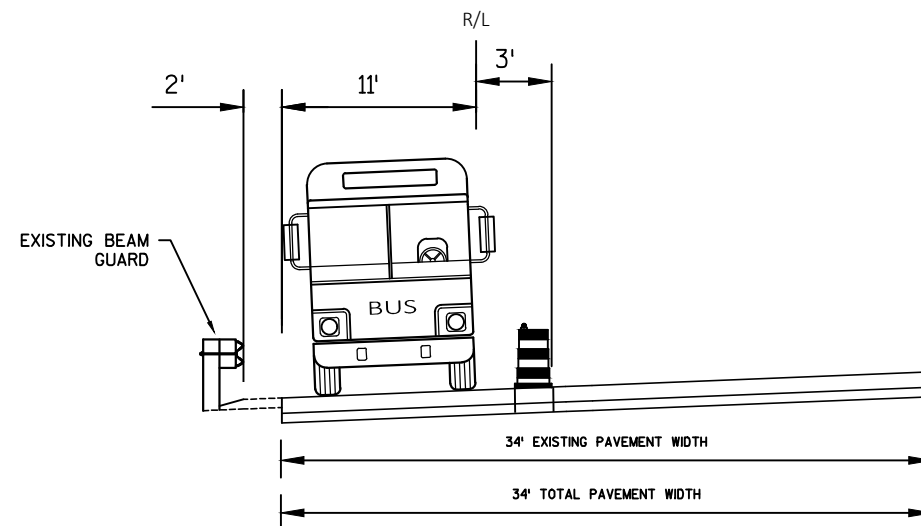
1-LANE STAGING
TYPICAL SECTION
STA. 17+00



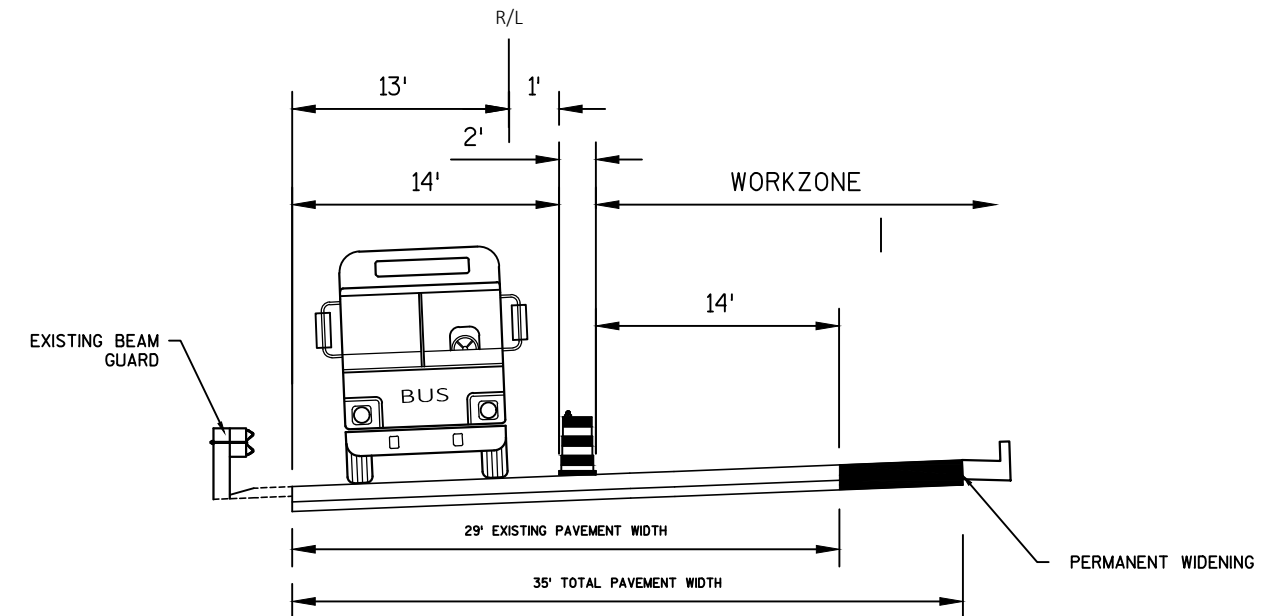
1-LANE STAGING
TYPICAL SECTION
STA. 18+00



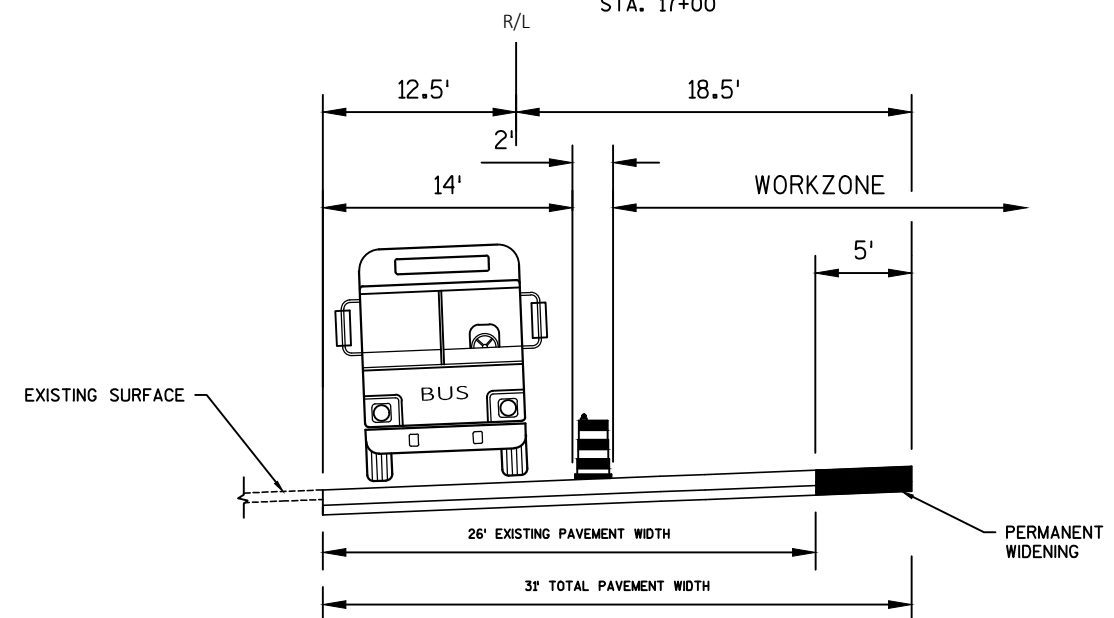
1-LANE STAGING
TYPICAL SECTION
BRIDGE B-67-952



1-LANE STAGING
TYPICAL SECTION
STA. 16+55

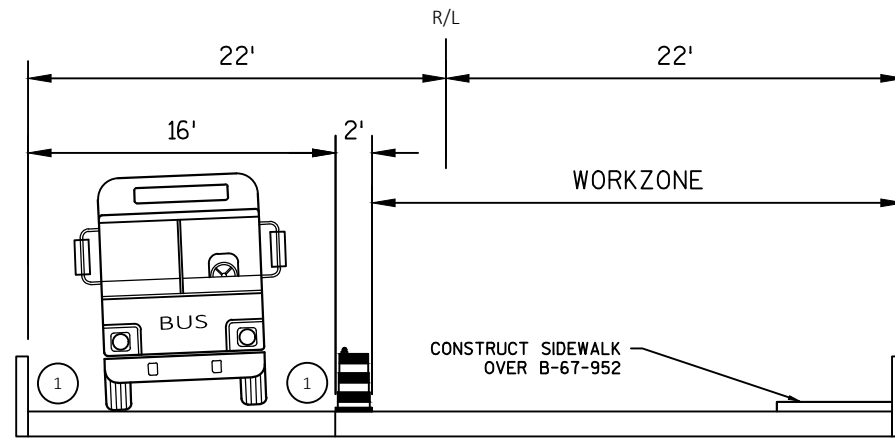


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TYPICAL SECTION
STA. 17+00

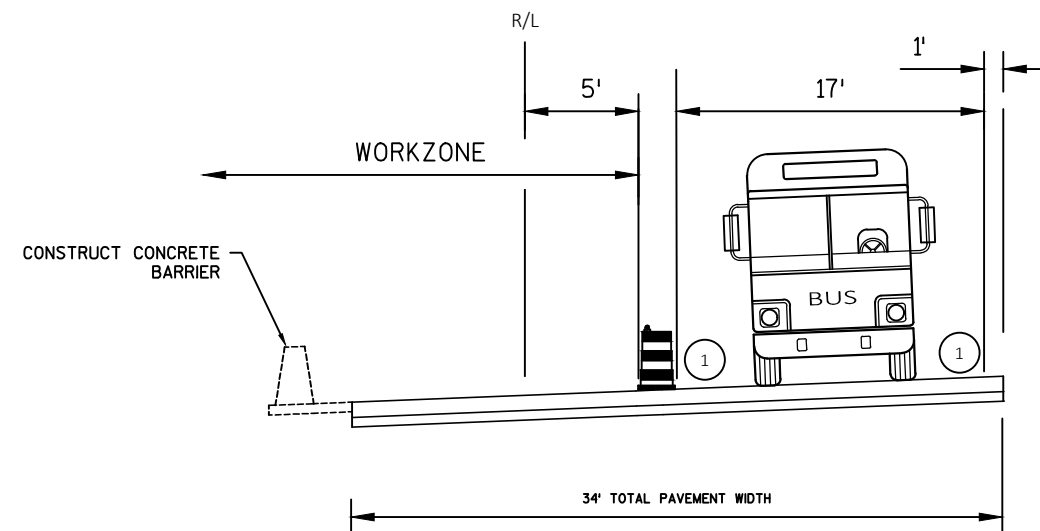


1-LANE STAGING
TYPICAL SECTION
STA. 18+00

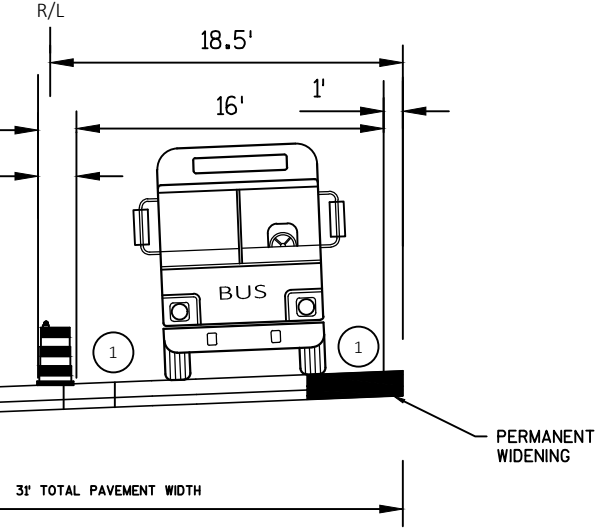
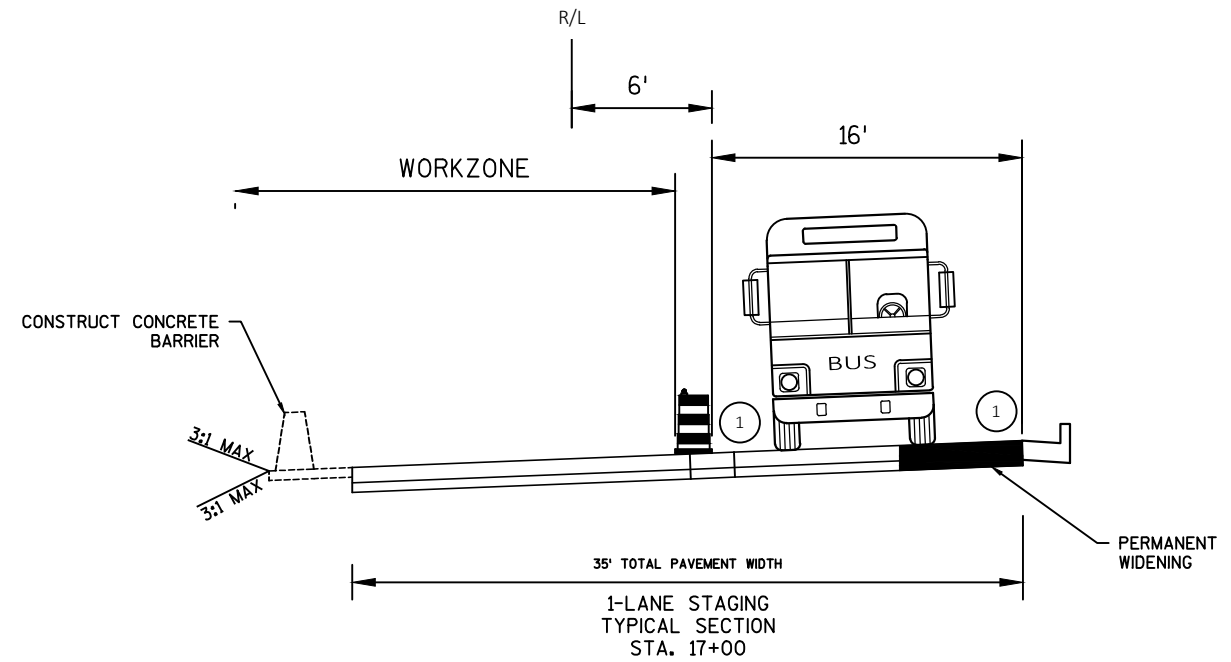
① - MARKING LINE PAINT 4-INCH (WHITE)



1-LANE STAGING
TYPICAL SECTION
BRIDGE B-67-952

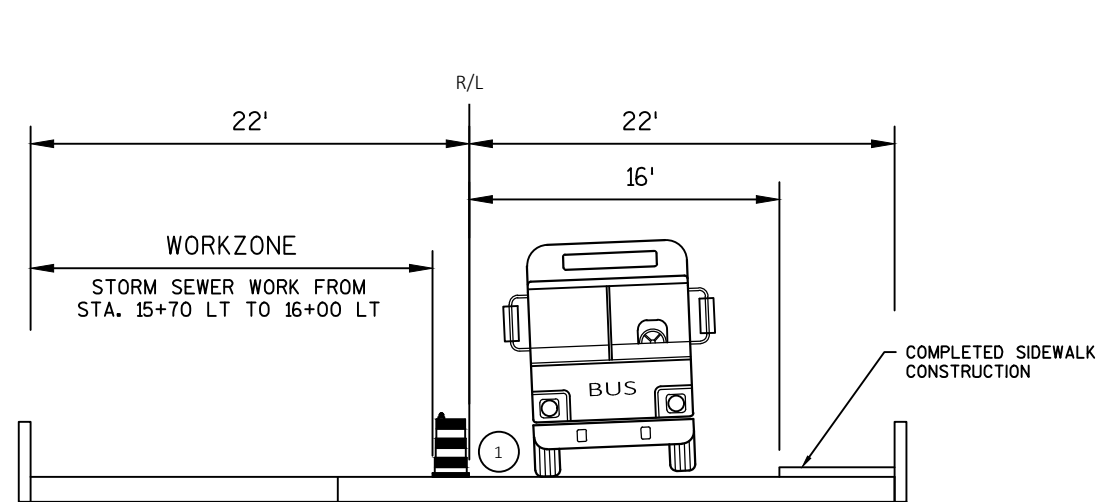


1-LANE STAGING
TYPICAL SECTION
STA. 16+55

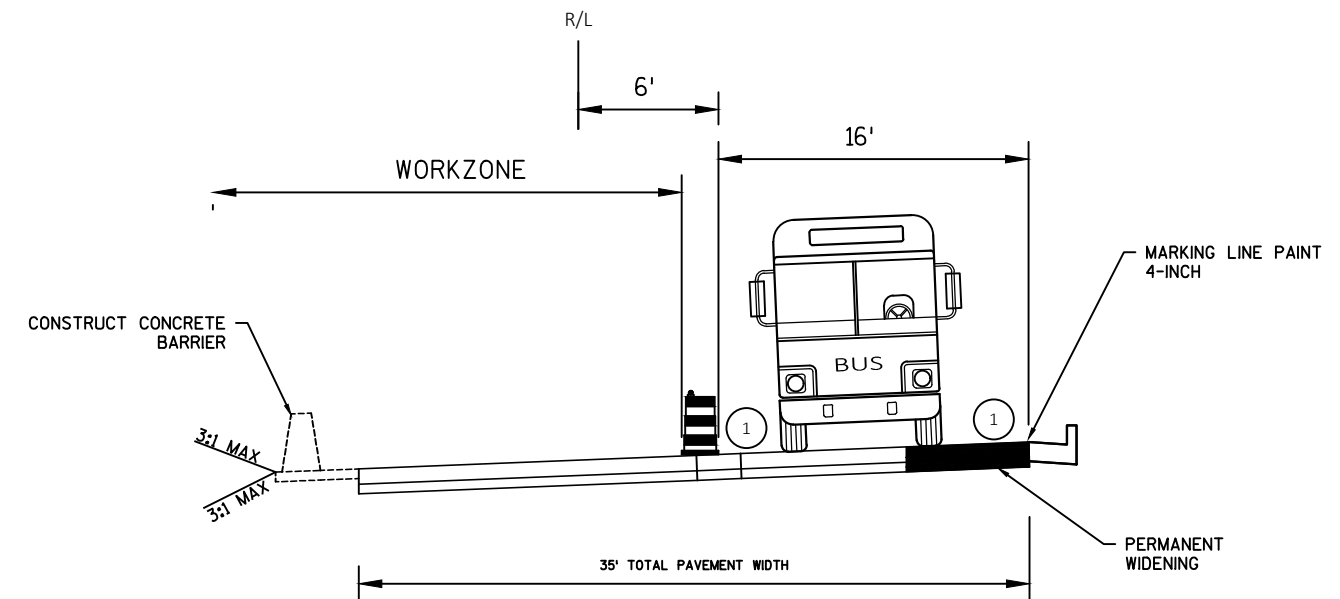


1-LANE STAGING
TYPICAL SECTION
STA. 18+00

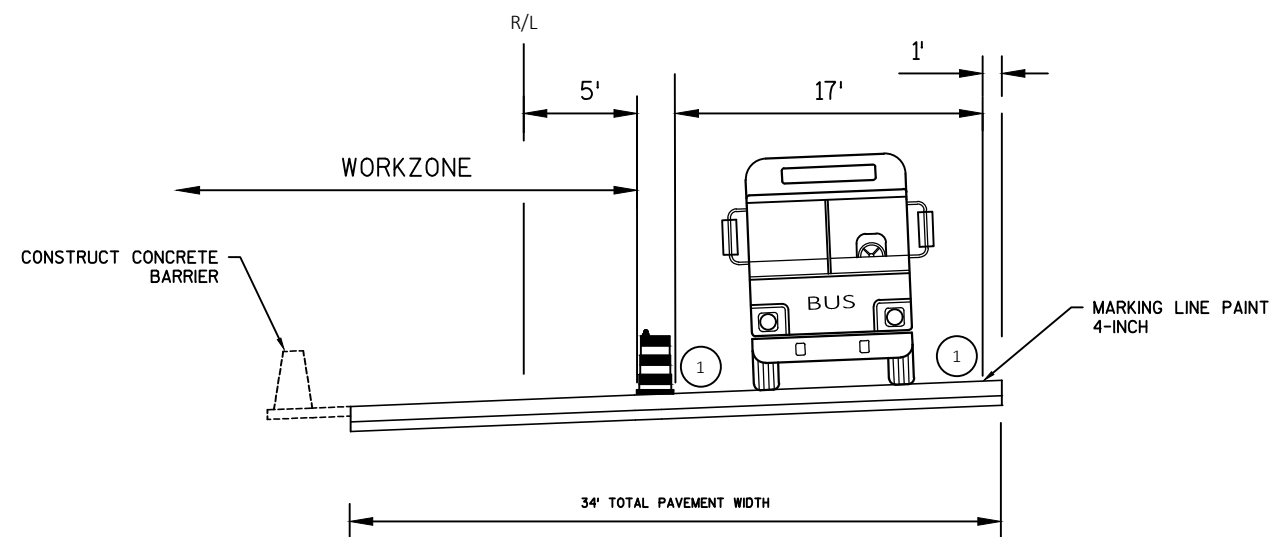
① - MARKING LINE PAINT 4-INCH (WHITE)



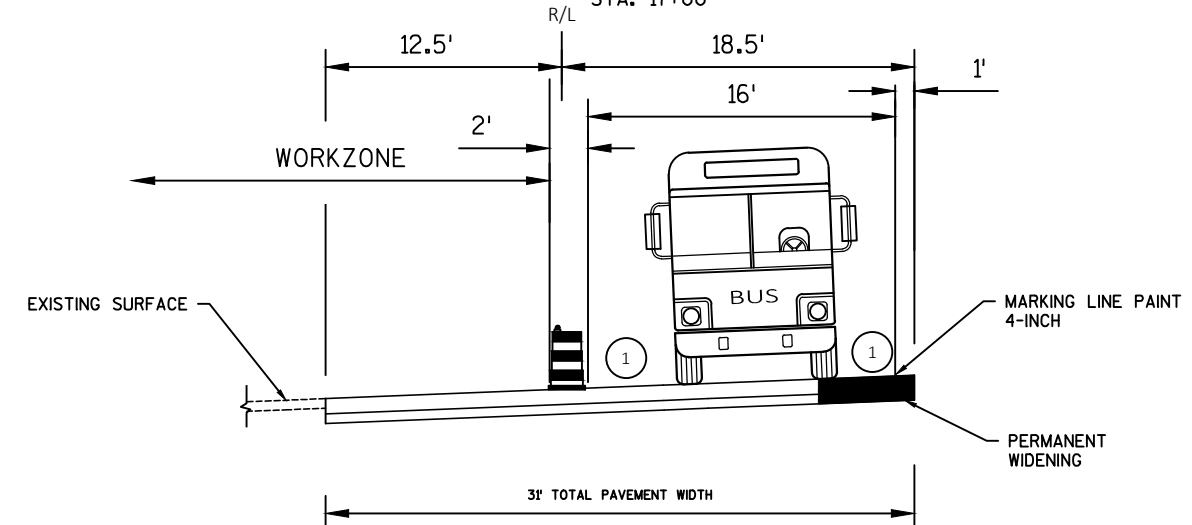
1-LANE STAGING
TYPICAL SECTION
BRIDGE B-67-952



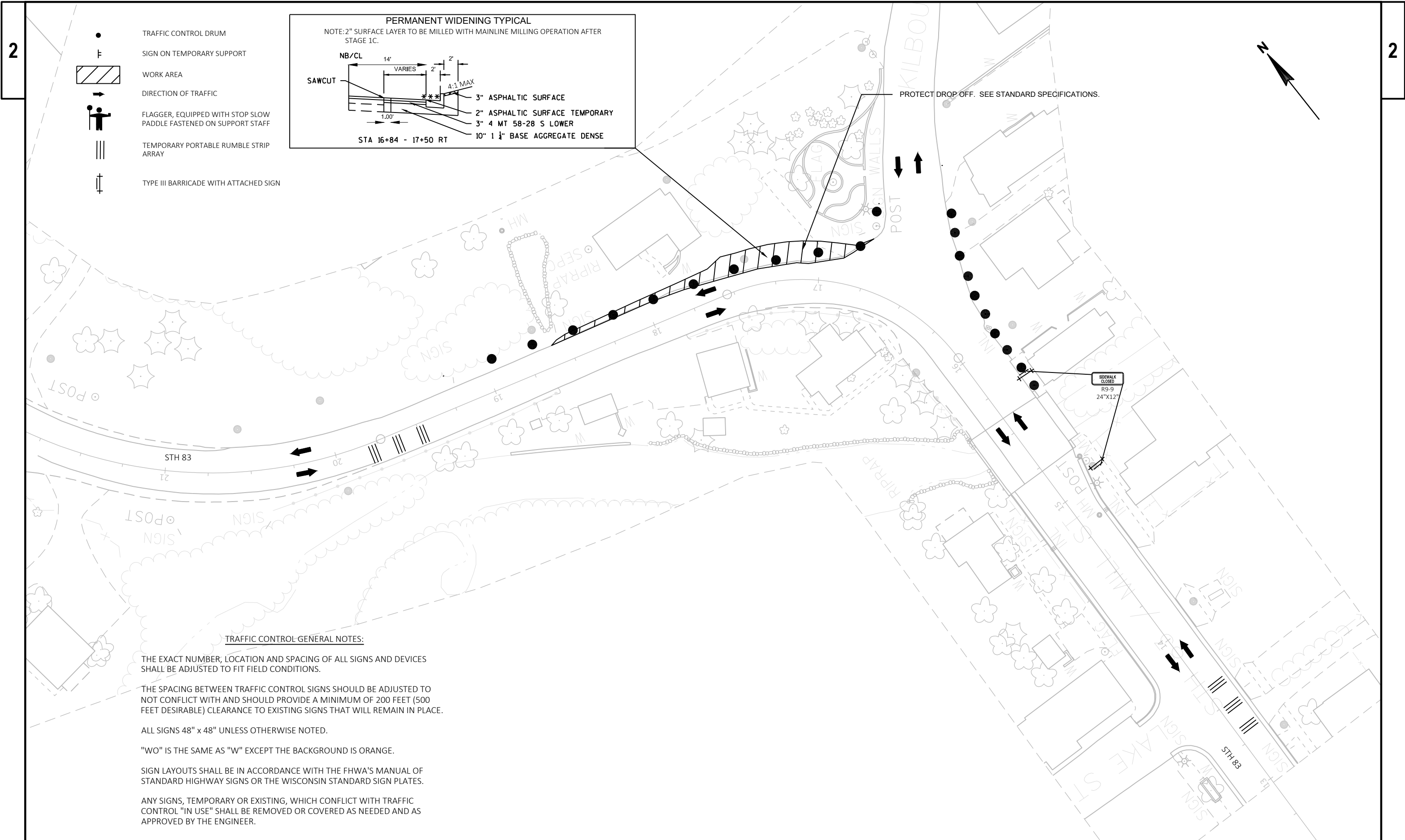
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TYPICAL SECTION
STA. 17+00



1-LANE STAGING
TYPICAL SECTION
STA. 16+55



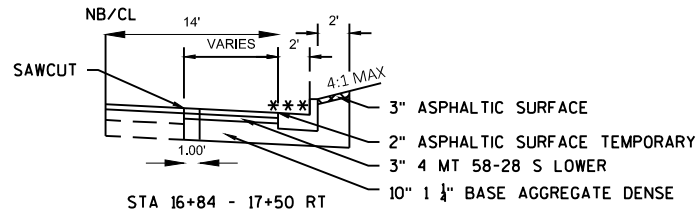
1-LANE STAGING
TYPICAL SECTION
STA. 18+00



- TRAFFIC CONTROL DRUM
- ⊥ SIGN ON TEMPORARY SUPPORT
- ▨ WORK AREA
- DIRECTION OF TRAFFIC
- ⚠ FLAGGER, EQUIPPED WITH STOP SLOW PADDLE FASTENED ON SUPPORT STAFF
- ≡≡≡ TEMPORARY PORTABLE RUMBLE STRIP ARRAY
- ⚡ TYPE III BARRICADE WITH ATTACHED SIGN

PERMANENT WIDENING TYPICAL

NOTE: 2" SURFACE LAYER TO BE MILLED WITH MAINLINE MILLING OPERATION AFTER STAGE 1C.



STA 16+84 - 17+50 RT

SET DRUM SPACING AT 5' TO DIRECT VEHICLES FROM DRIVEWAYS TO KILBOURNE ROAD

TRAFFIC CONTROL-GENERAL NOTES:

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

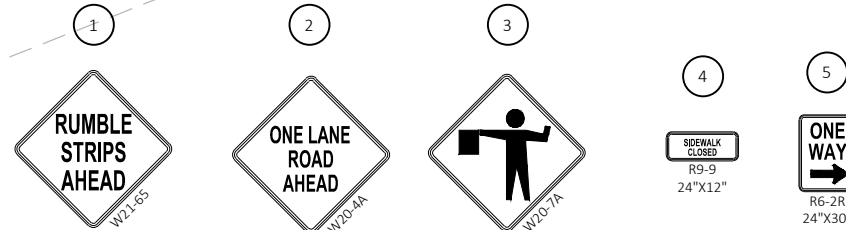
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS 48" x 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

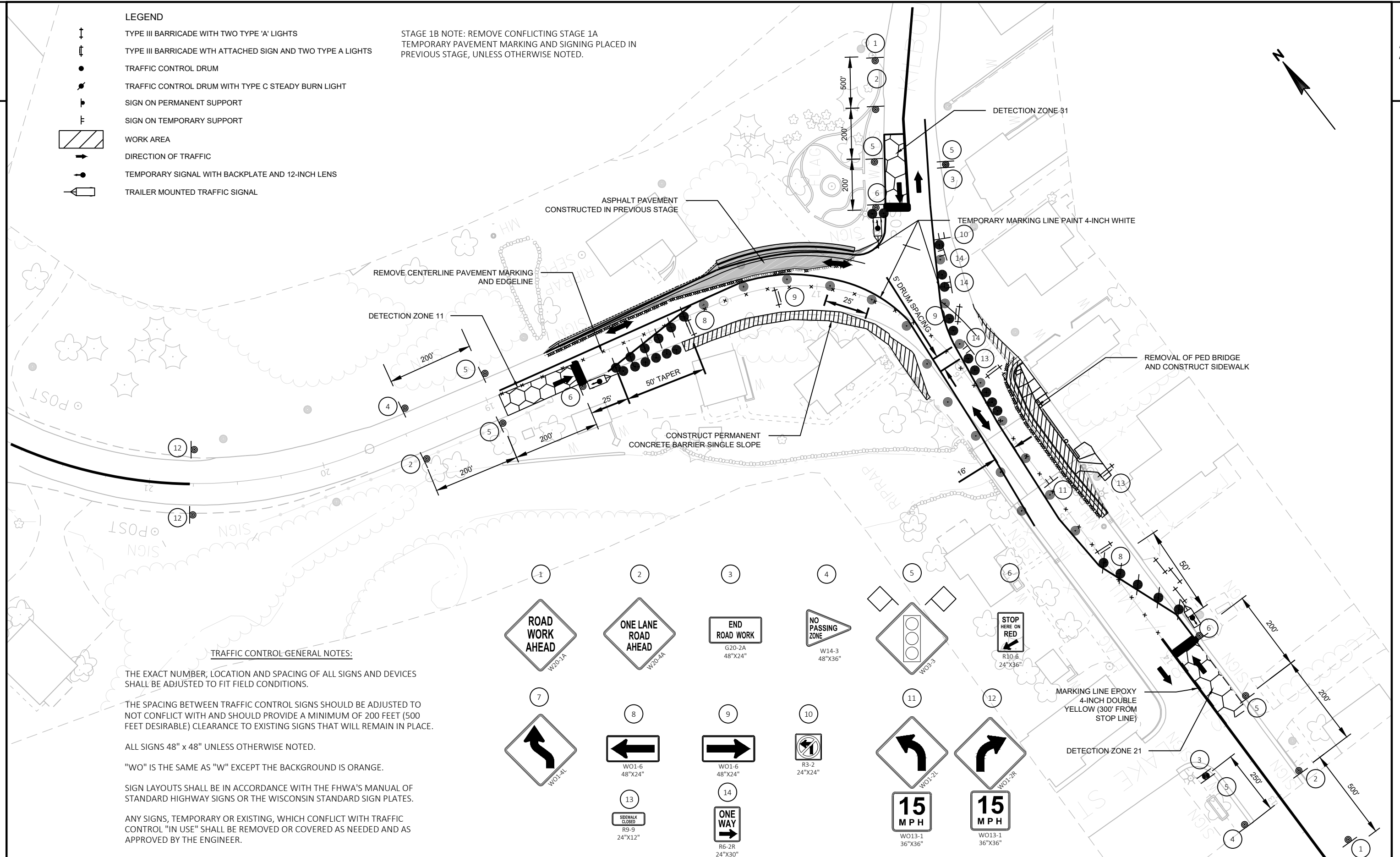
ANY SIGNS, TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.



LEGEND

-  TYPE III BARRICADE WITH TWO TYPE 'A' LIGHTS
-  TYPE III BARRICADE WITH ATTACHED SIGN AND TWO TYPE A LIGHTS
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  WORK AREA
-  DIRECTION OF TRAFFIC
-  TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENS
-  TRAILER MOUNTED TRAFFIC SIGNAL

STAGE 1B NOTE: REMOVE CONFLICTING STAGE 1A
TEMPORARY PAVEMENT MARKING AND SIGNING PLACED IN
PREVIOUS STAGE, UNLESS OTHERWISE NOTED.



PROJECT NO: 1330-29-70

HWY: STH 83

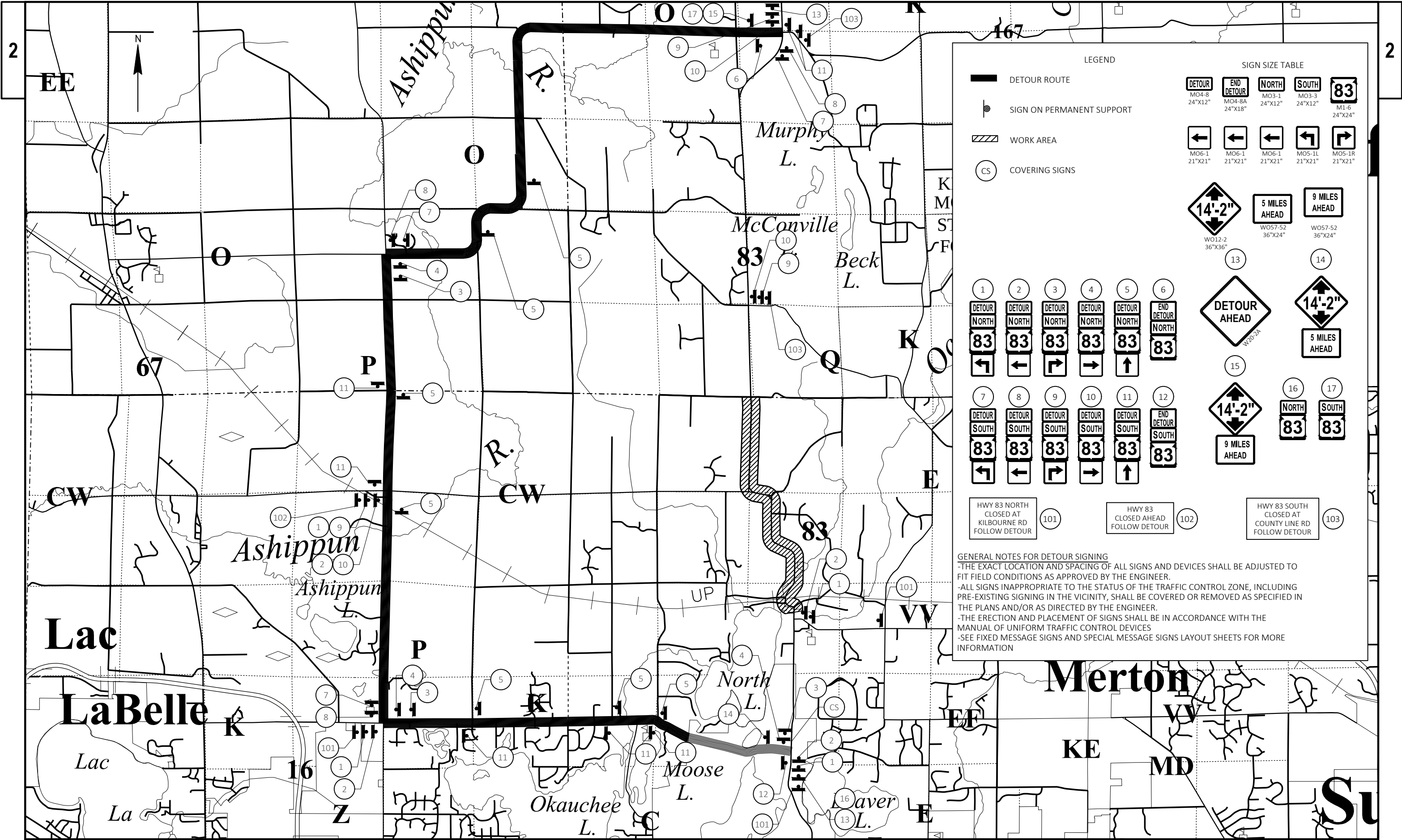
COUNTY: WAUKESHA

TRAFFIC CONTROL - STAGE 1B - 3-PHASE TRAFFIC SIGNAL

SHEET

E





LEGEND

- DETOUR ROUTE
- SIGN ON PERMANENT SUPPORT
- WORK AREA
- COVERING SIGNS

SIGN SIZE TABLE

DETOUR	END DETOUR	NORTH	SOUTH	83
MO4-8 24"x12"	MO4-8A 24"x18"	MO3-1 24"x12"	MO3-3 24"x12"	M1-6 24"x24"
MO6-1 21"x21"	MO6-1 21"x21"	MO6-1 21"x21"	MO5-1L 21"x21"	MO5-1R 21"x21"

14'-2" 5 MILES AHEAD 9 MILES AHEAD

WO12-2 36"x36" WO57-52 36"x24" WO57-52 36"x24"

13 14

DETOUR AHEAD 14'-2" 5 MILES AHEAD

15 16 17

14'-2" 9 MILES AHEAD NORTH 83 SOUTH 83

1	2	3	4	5	6
DETOUR NORTH 83	DETOUR NORTH 83	DETOUR NORTH 83	DETOUR NORTH 83	DETOUR NORTH 83	END DETOUR NORTH 83
1	1	2	2	1	1
7	8	9	10	11	12
DETOUR SOUTH 83	DETOUR SOUTH 83	DETOUR SOUTH 83	DETOUR SOUTH 83	DETOUR SOUTH 83	END DETOUR SOUTH 83
1	1	2	2	1	1

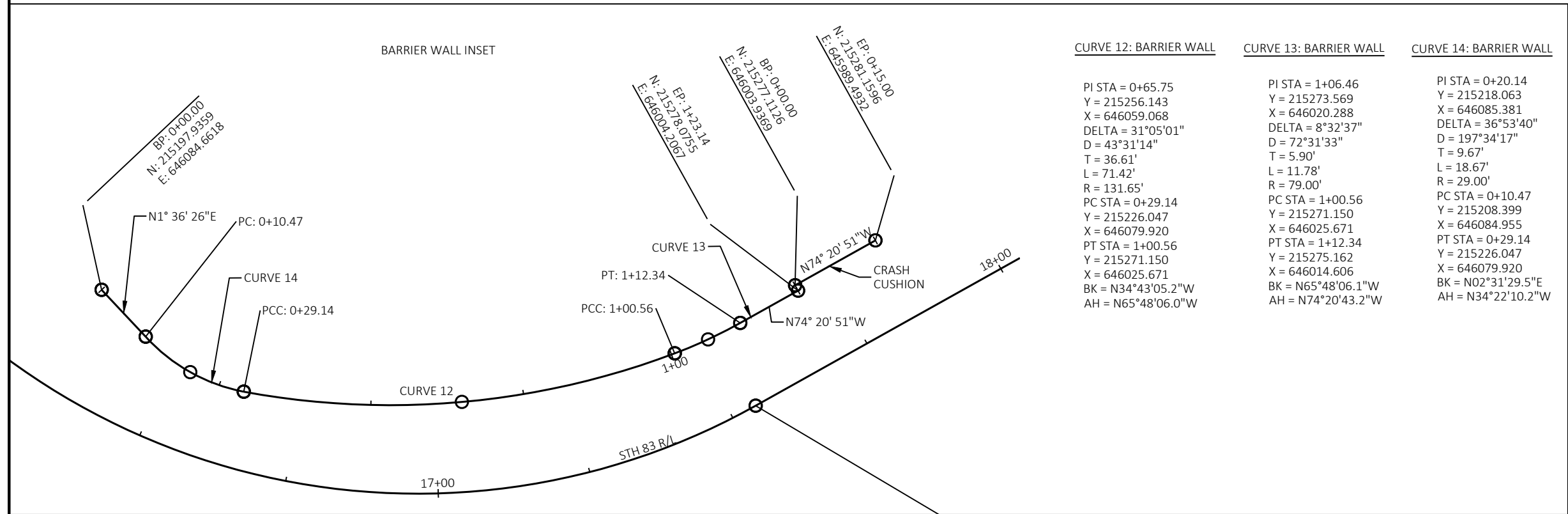
HWY 83 NORTH CLOSED AT KILBOURNE RD FOLLOW DETOUR 101

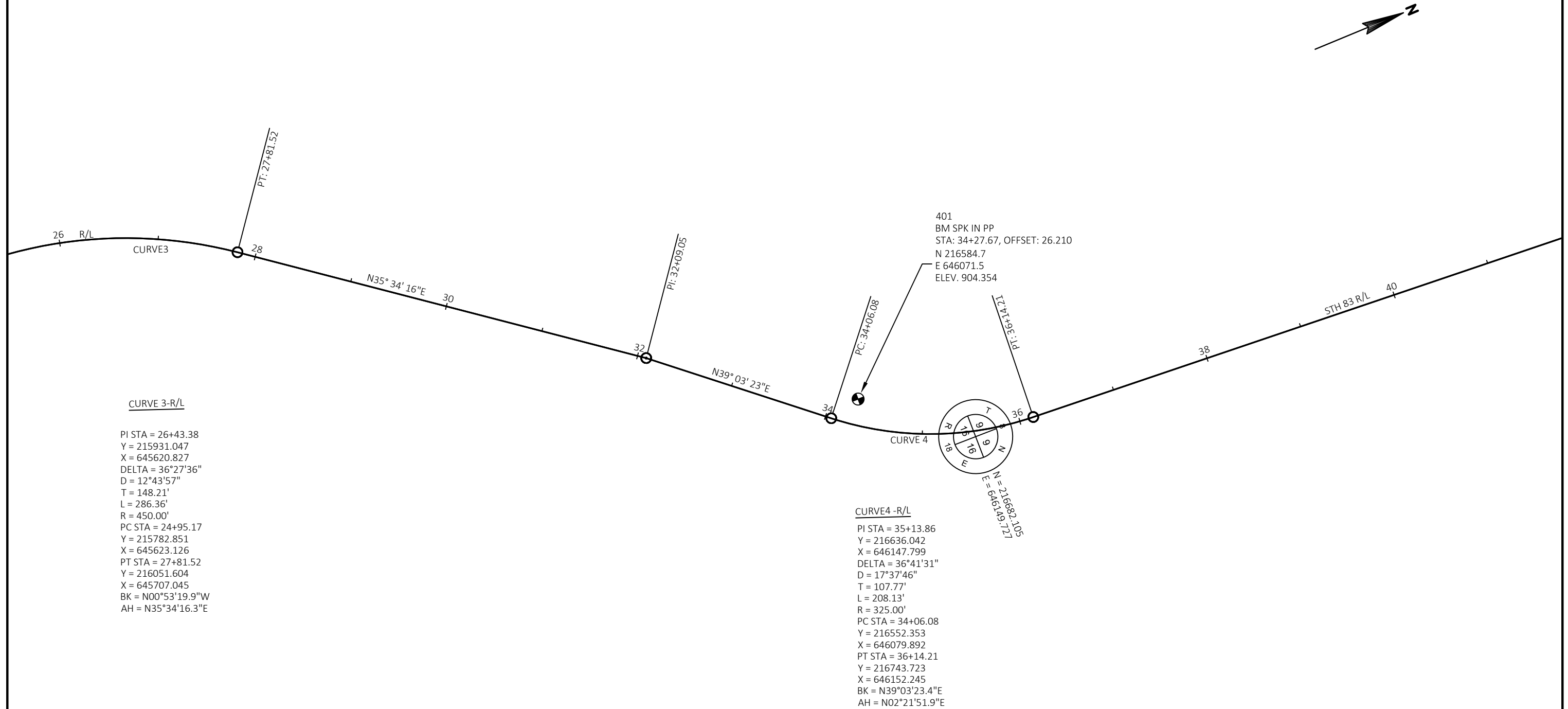
HWY 83 CLOSED AHEAD FOLLOW DETOUR 102

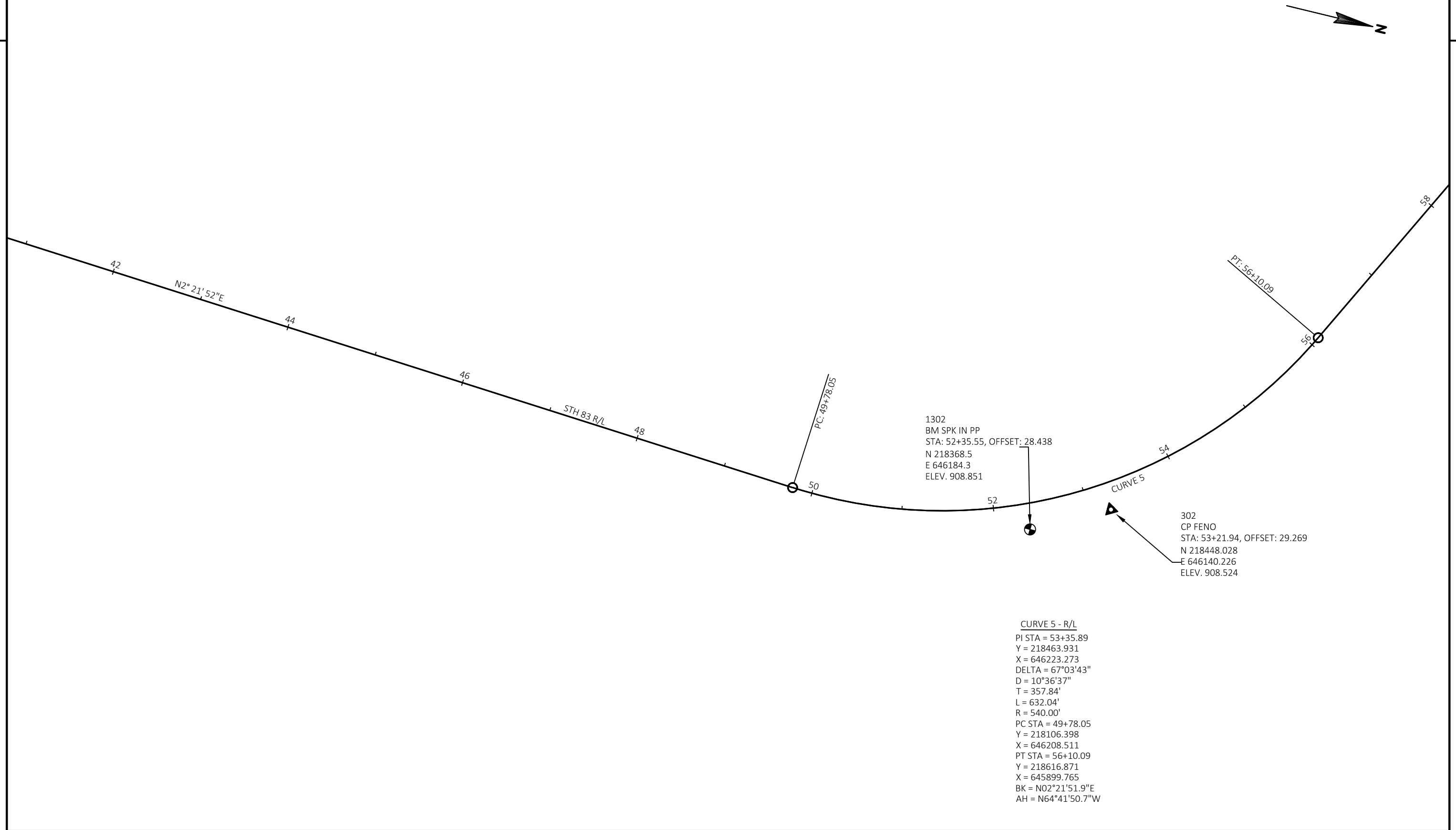
HWY 83 SOUTH CLOSED AT COUNTY LINE RD FOLLOW DETOUR 103

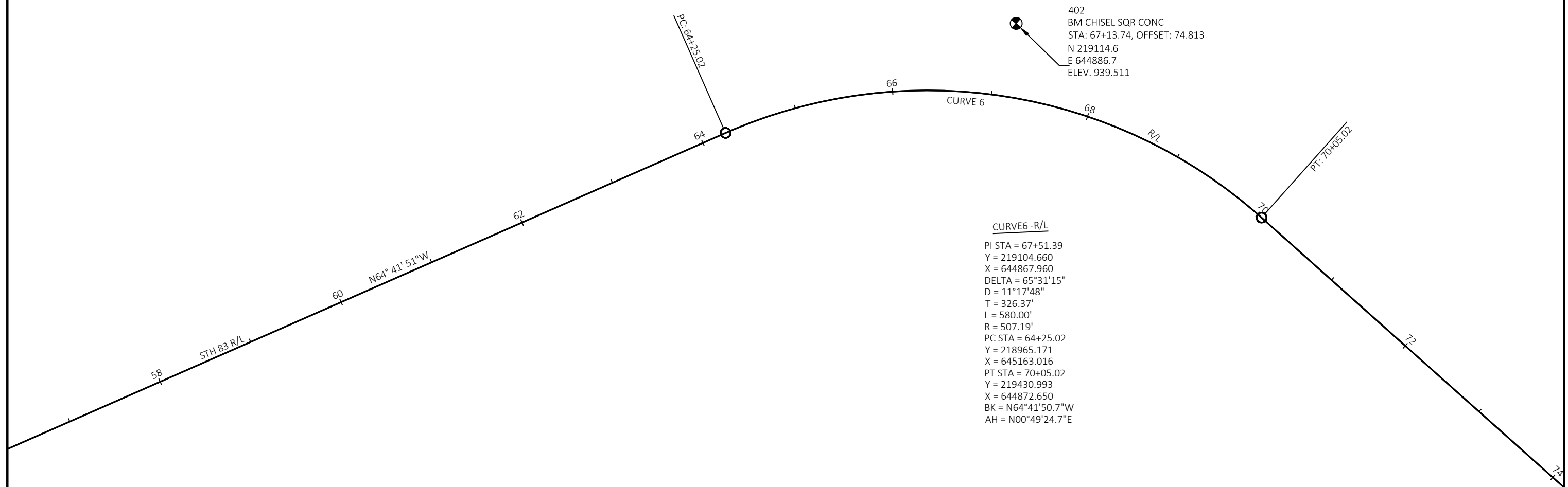
GENERAL NOTES FOR DETOUR SIGNING

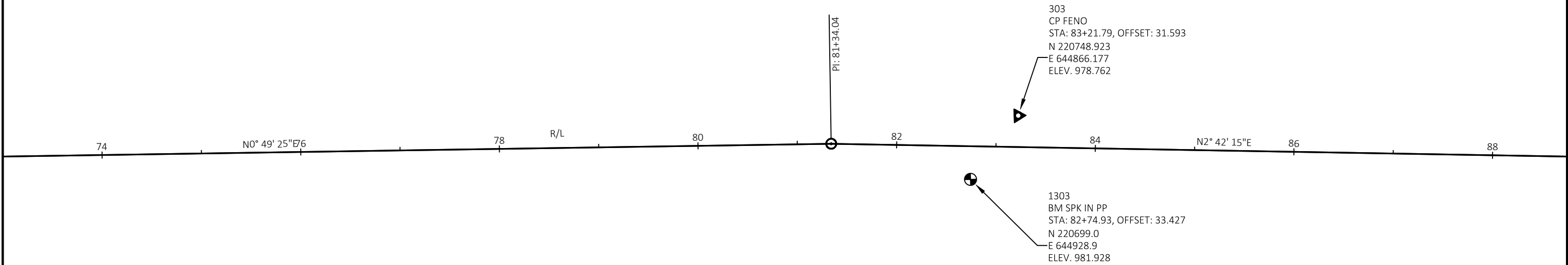
- THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE TRAFFIC CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.
- THE ERECTION AND PLACEMENT OF SIGNS SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
- SEE FIXED MESSAGE SIGNS AND SPECIAL MESSAGE SIGNS LAYOUT SHEETS FOR MORE INFORMATION



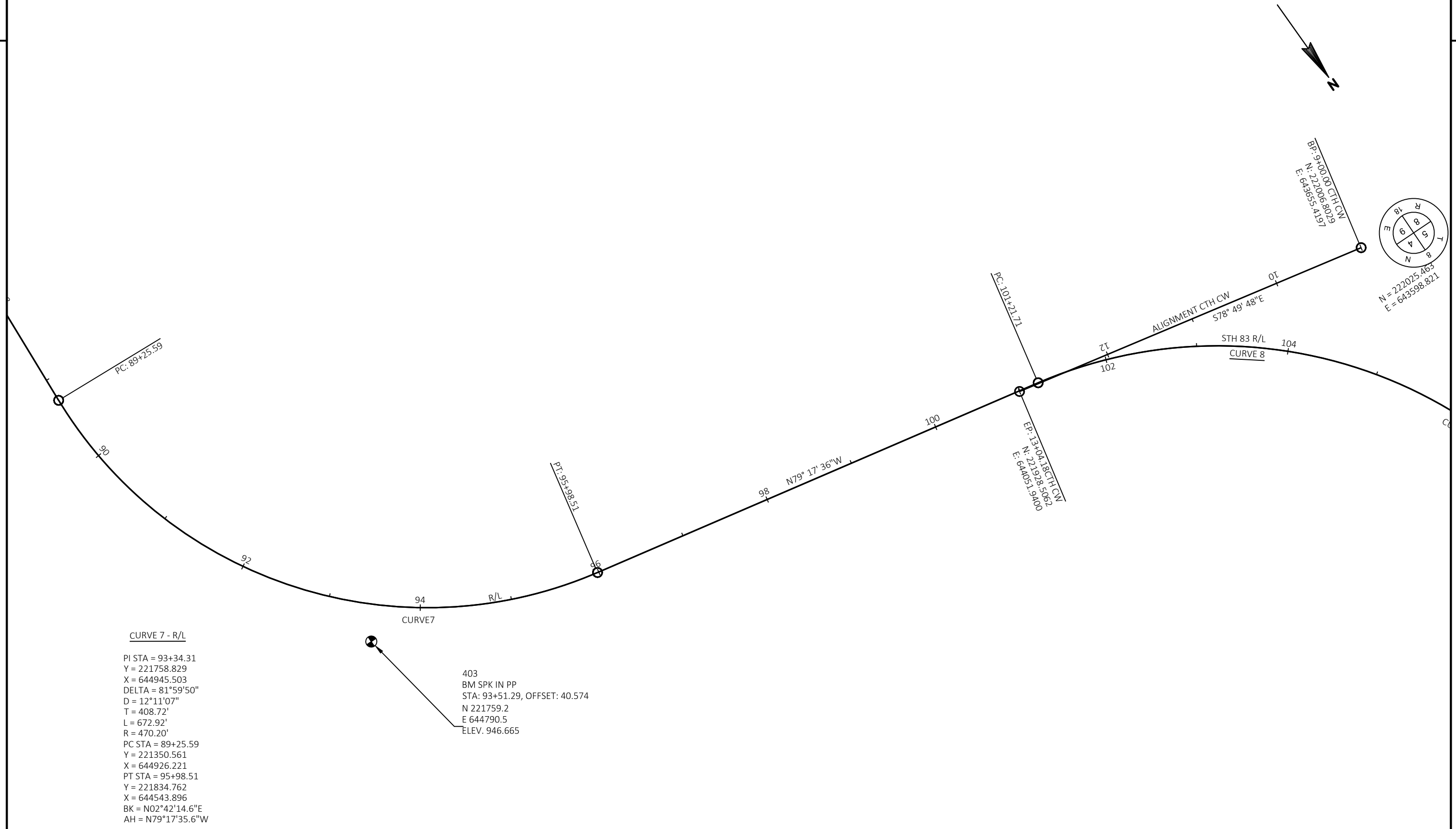




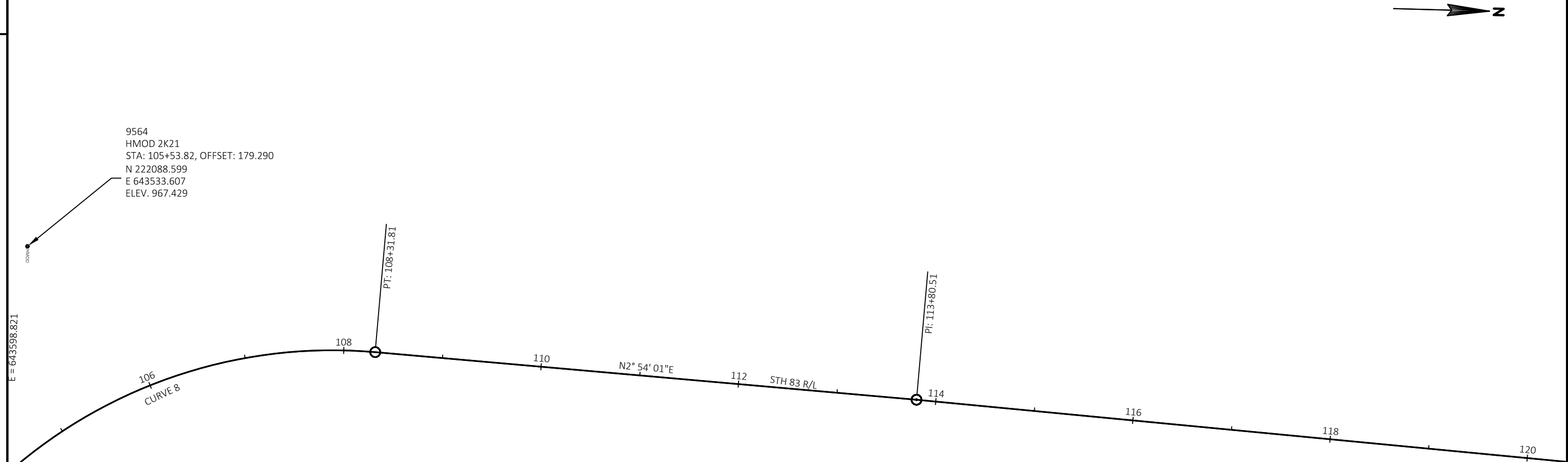




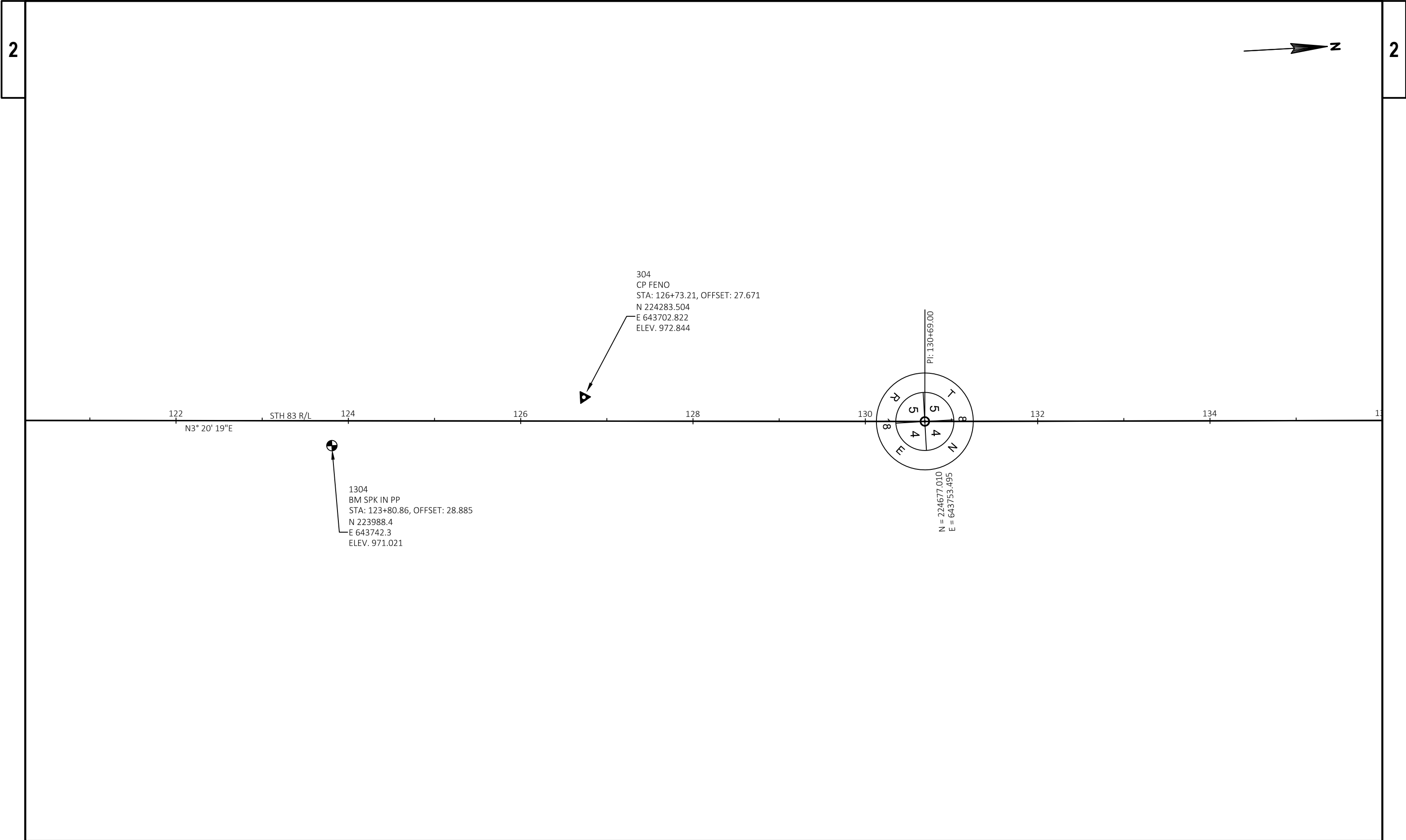
PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	ALIGNMENT PLAN	SHEET	E
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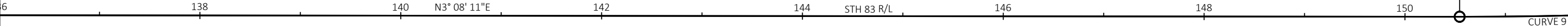
PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	ALIGNMENT PLAN	SHEET	E
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CURVE 8
PI STA = 105+53.47
Y = 222012.178
X = 643605.556
DELTA = 82°11'37"
D = 11°34'30"
T = 431.77'
L = 710.10'
R = 495.00'
PC STA = 101+21.71
Y = 221931.963
X = 644029.807
PT STA = 108+31.81
Y = 222443.392
X = 643627.403
BK = N79°17'35.6"W
AH = N02°54'01.3"E



PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	ALIGNMENT PLAN	SHEET	E
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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	ALIGNMENT PLAN	SHEET	E
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9563
HMOD MERTON N GPS
STA: 153+68.74, OFFSET: 32.724
N 226973.206
E 643835.858
ELEV. 1011.186

PC: 150+54.37

PT: 154+34.86

PI: 159+18.81

EP: 161+00.65
N: 227705.3568
E: 643853.7065

150

CURVE 9

152

CURVE 9

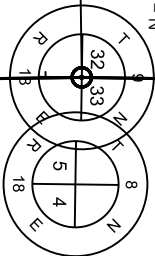
STH 83 R/L

154

156

N1° 36' 28"W

158

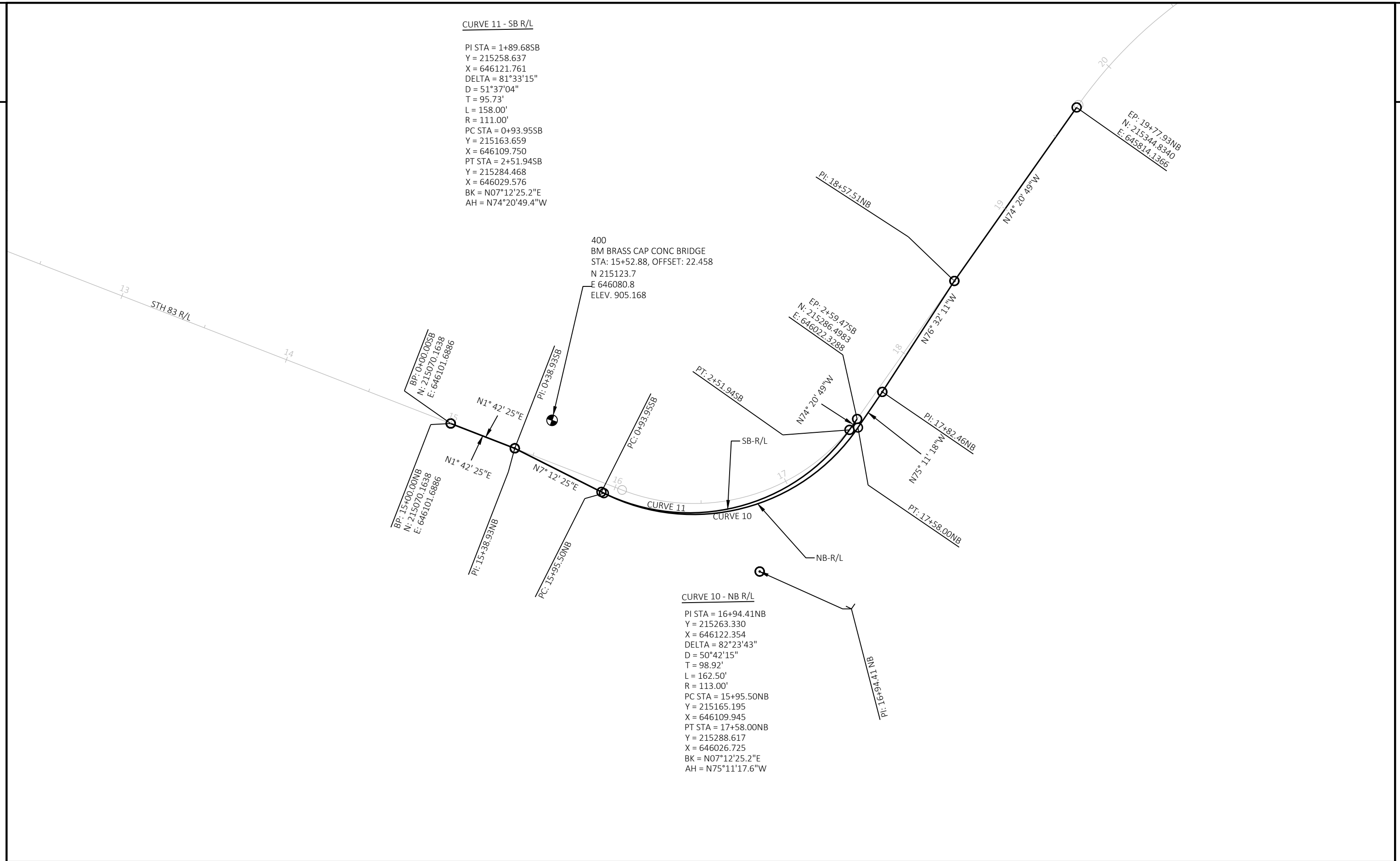


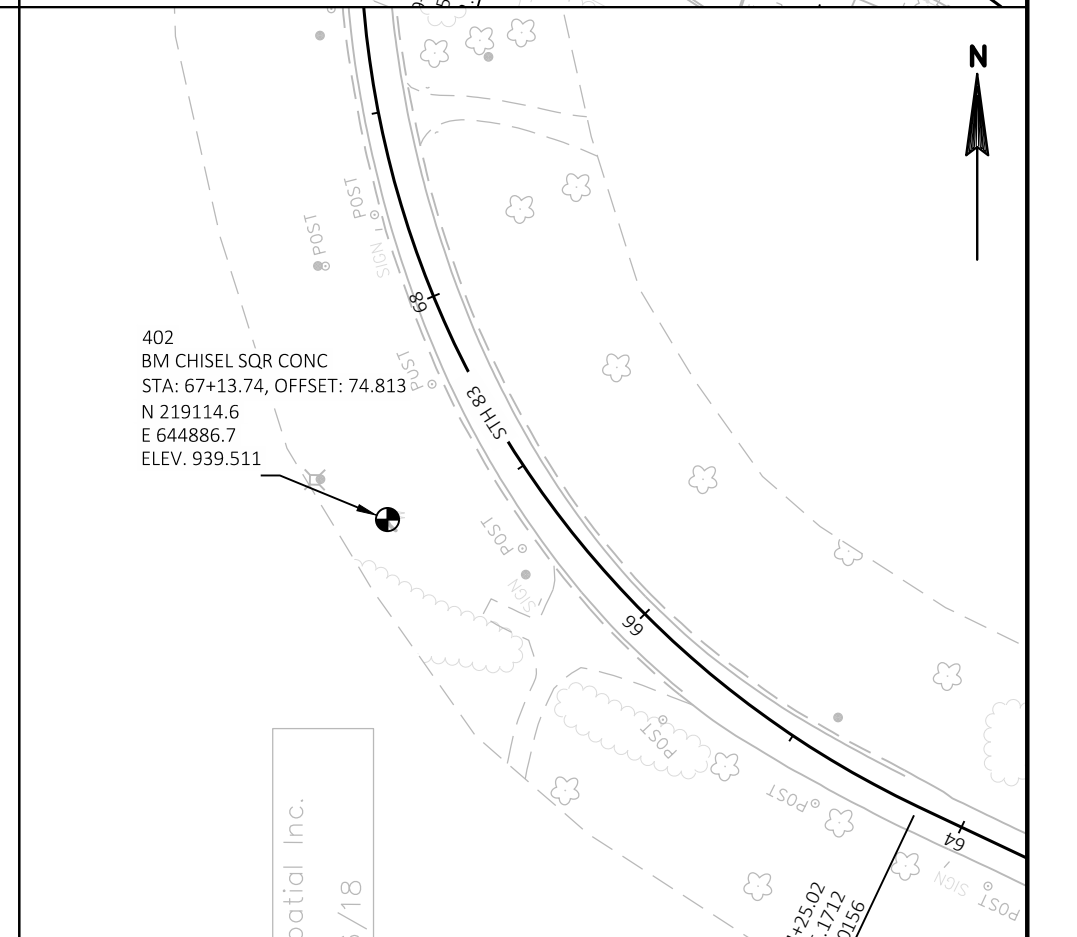
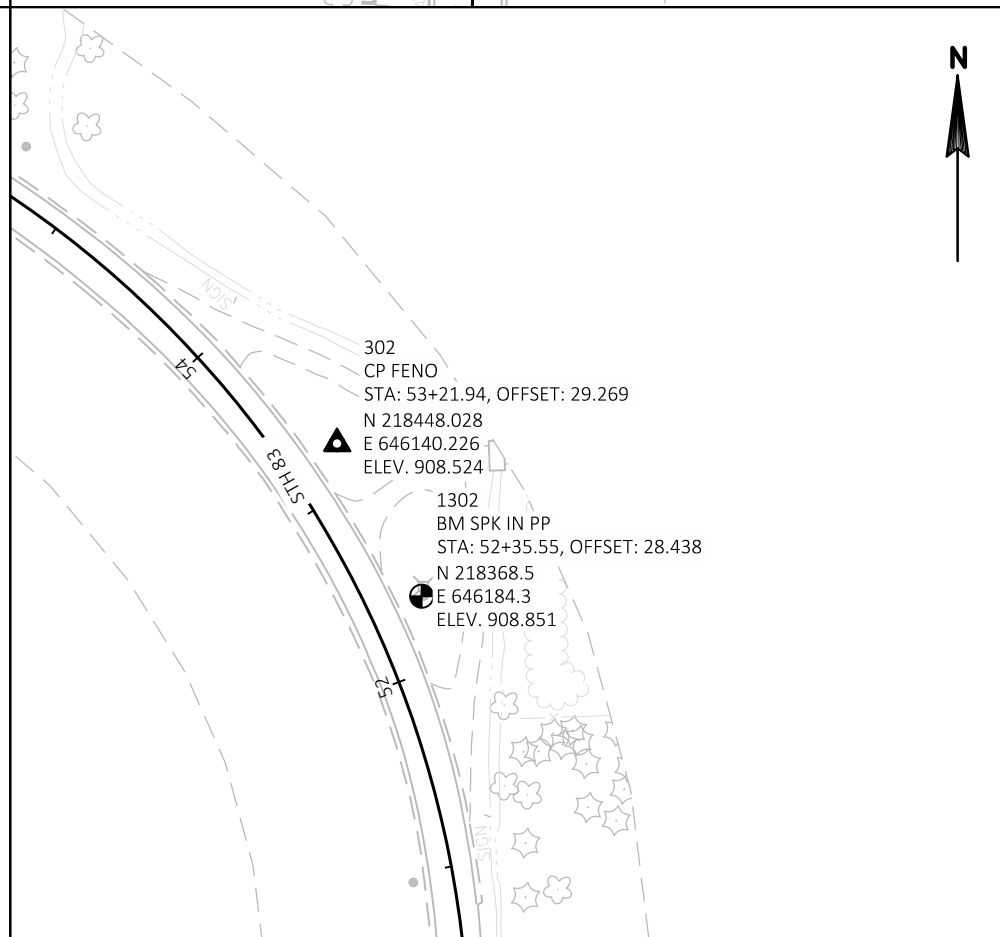
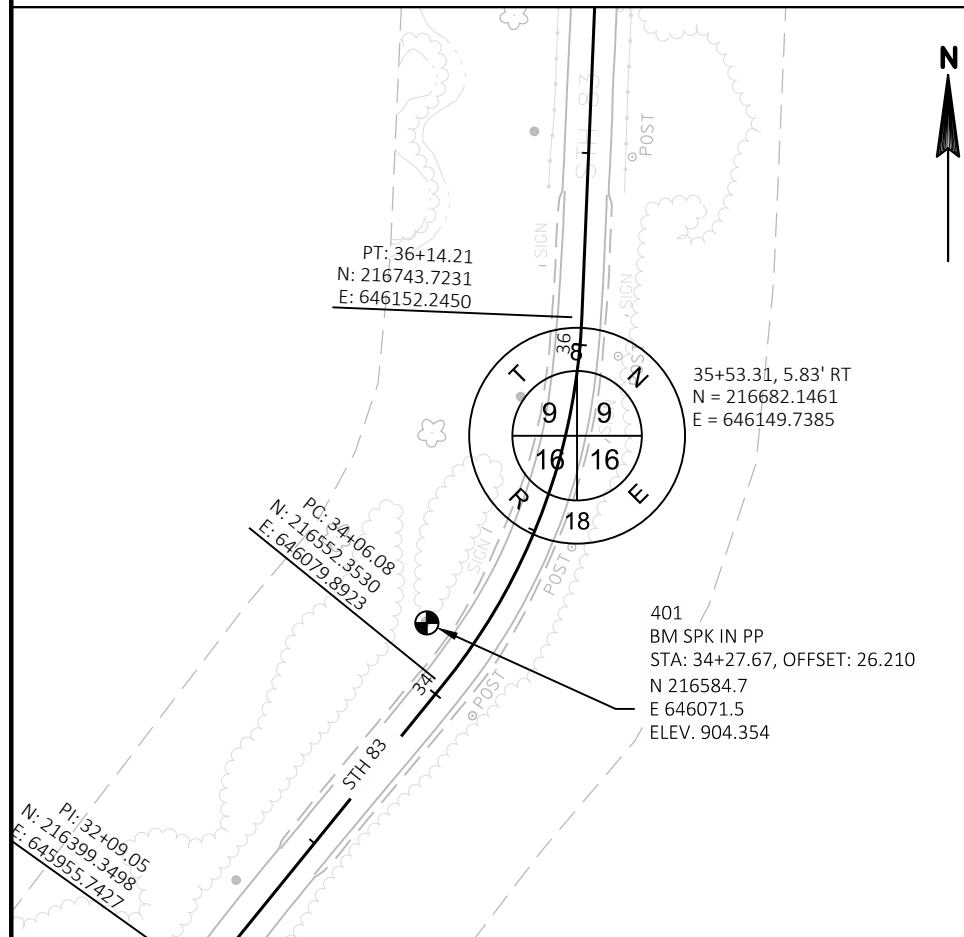
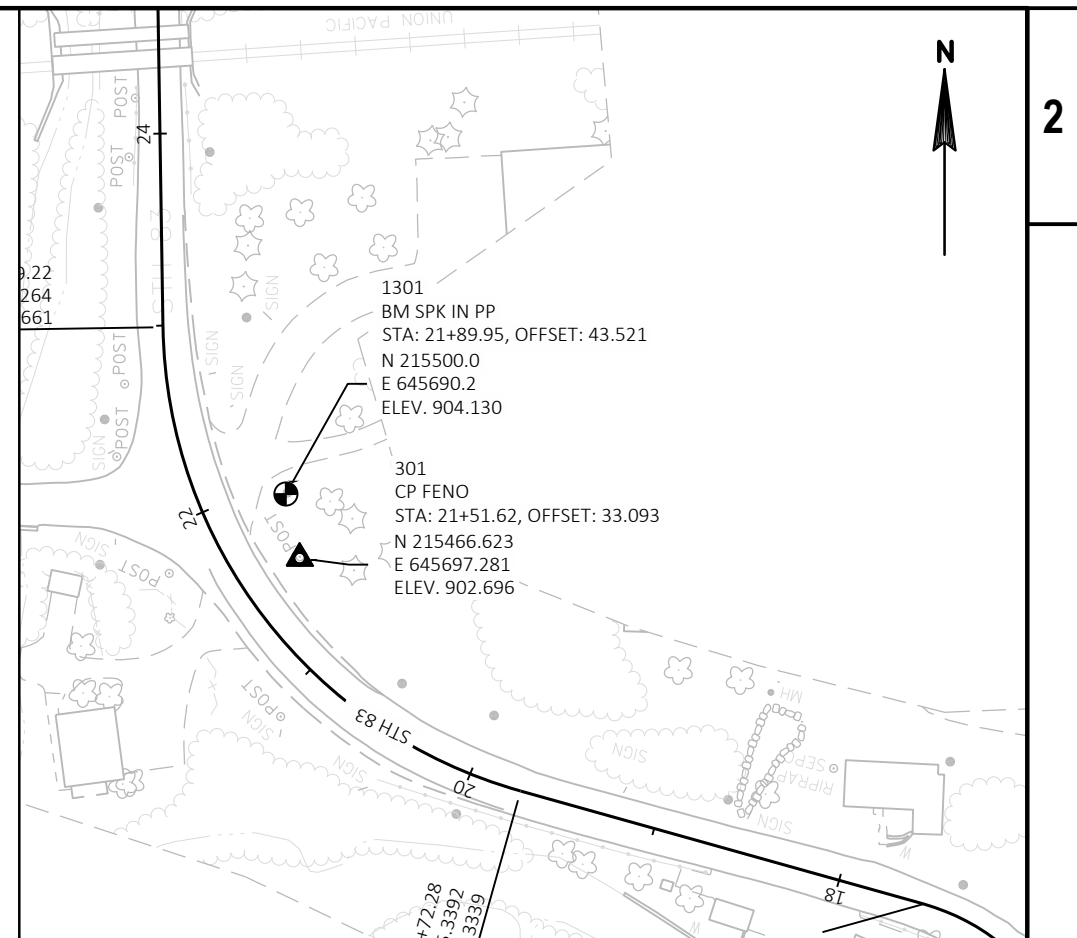
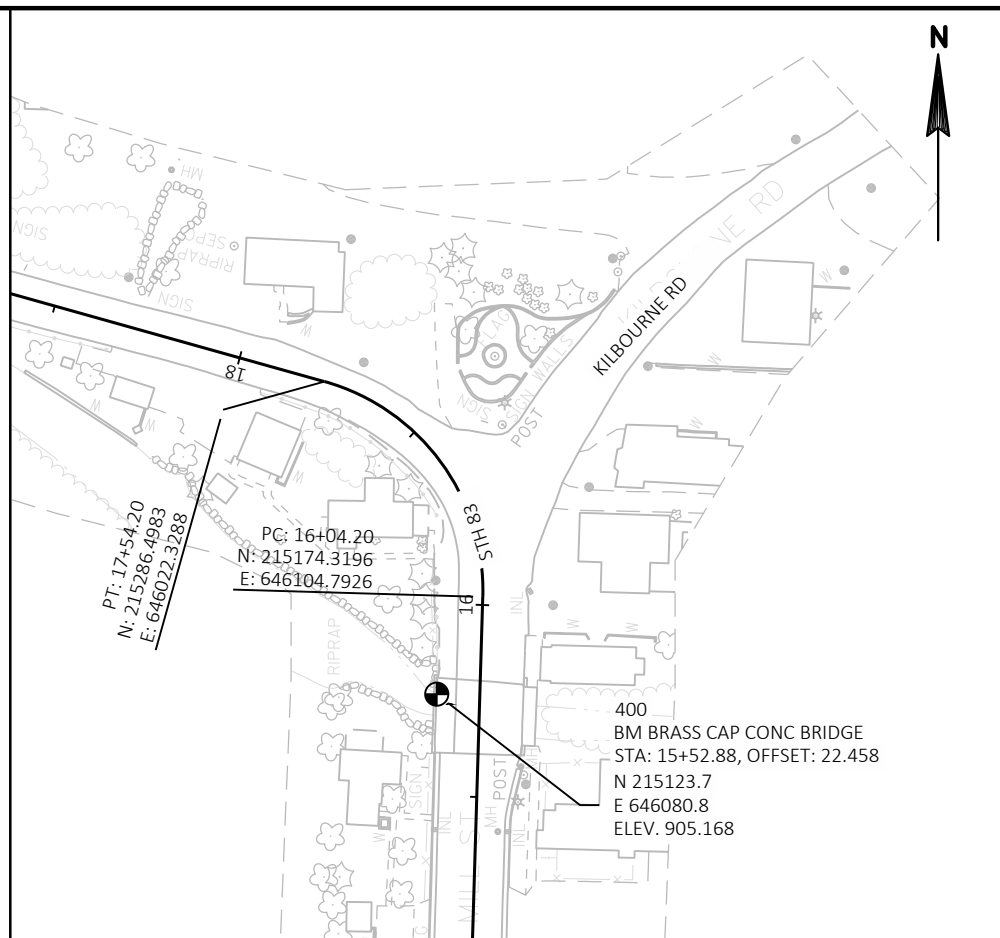
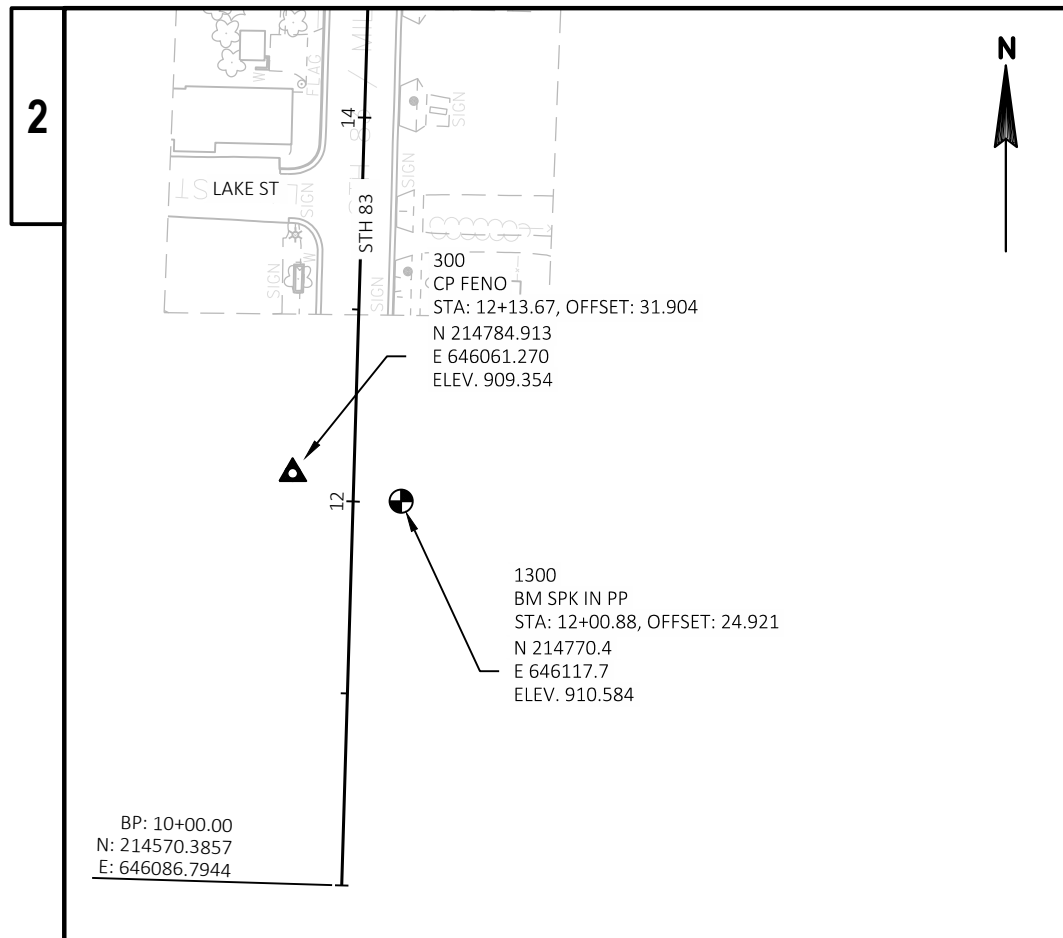
N = 227523.517
E = 643853.620

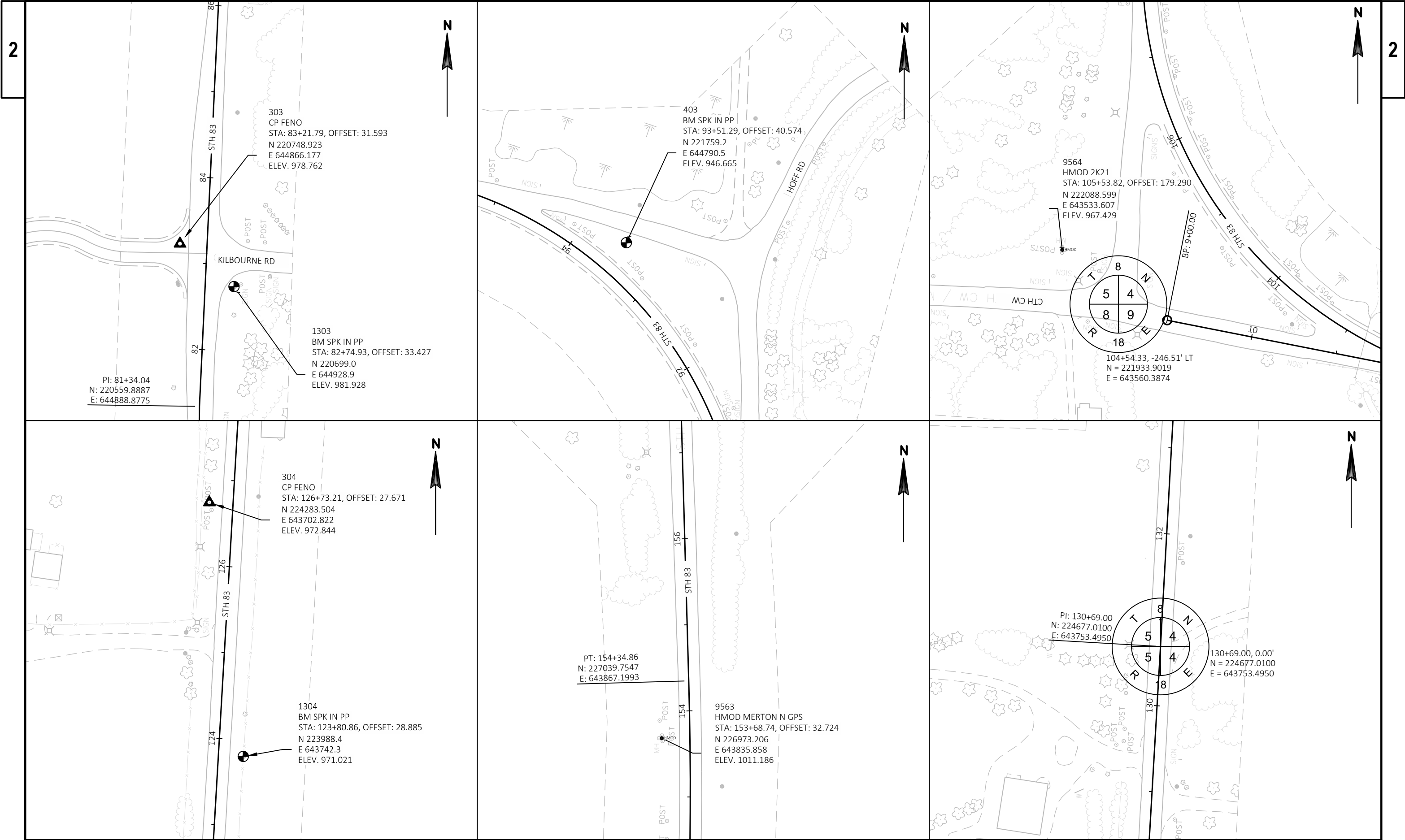
N0° 01' 38"E

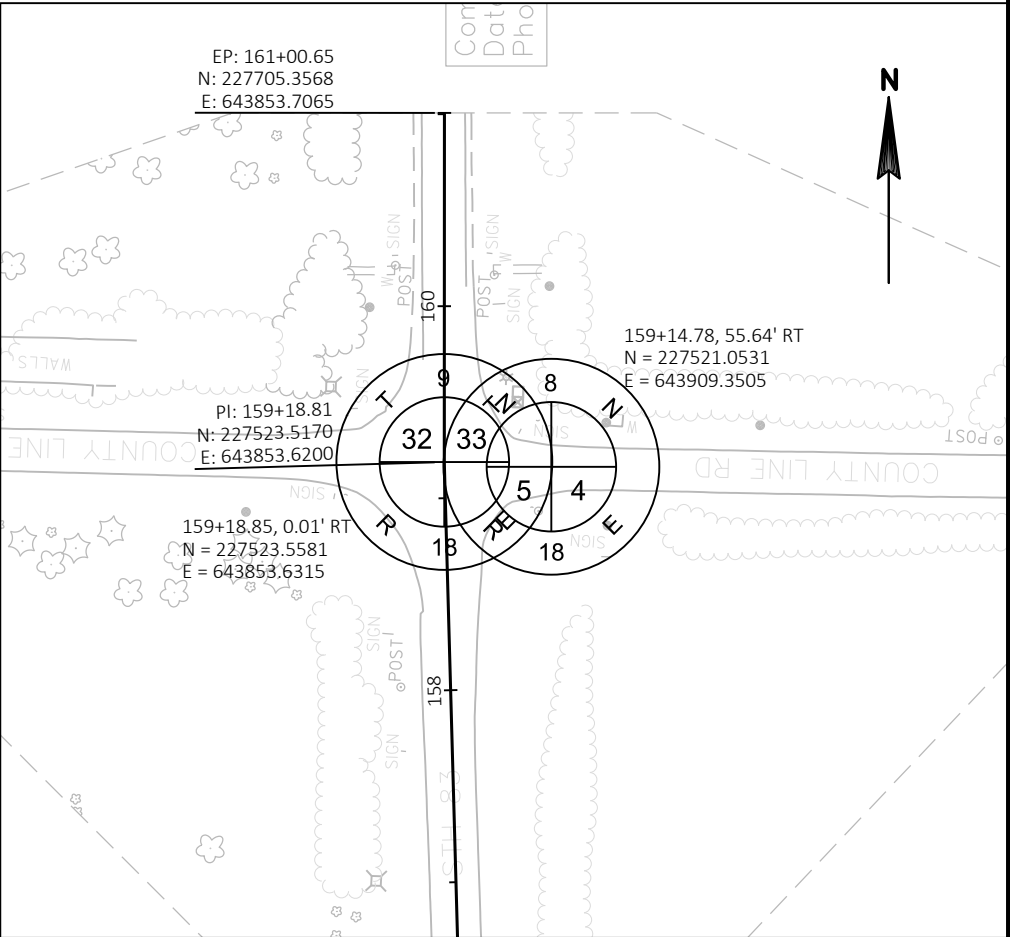
160

CURVE 9- R/L
PI STA = 152+44.72
Y = 226849.475
X = 643872.541
DELTA = 4°44'40"
D = 1°14'49"
T = 190.35'
L = 380.49'
R = 4595.00'
PC STA = 150+54.37
Y = 226659.406
X = 643862.125
PT STA = 154+34.86
Y = 227039.755
X = 643867.199
BK = N03°08'11.5"E
AH = N01°36'28.4"W









Estimate Of Quantities

1330-29-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	1.000	1.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	202.0105	Roadside Clearing	STA	3.000	3.000
0008	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0010	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-67-929	EACH	1.000	1.000
0012	204.0100	Removing Concrete Pavement	SY	159.000	159.000
0014	204.0110	Removing Asphaltic Surface	SY	174.000	174.000
0016	204.0115	Removing Asphaltic Surface Butt Joints	SY	139.000	139.000
0018	204.0120	Removing Asphaltic Surface Milling	SY	46,028.000	46,028.000
0020	204.0150	Removing Curb & Gutter	LF	31.000	31.000
0022	204.0155	Removing Concrete Sidewalk	SY	31.000	31.000
0024	204.0165	Removing Guardrail	LF	1,350.000	1,350.000
0026	204.0170	Removing Fence	LF	15.000	15.000
0028	204.0220	Removing Inlets	EACH	2.000	2.000
0030	204.0280	Sealing Pipes	EACH	1.000	1.000
0032	204.9060.S	Removing (item description) 01. Landscape Block Wall STA 18+60 to STA 19+05	EACH	1.000	1.000
0034	205.0100	Excavation Common	CY	279.000	279.000
0036	208.0100	Borrow	CY	128.000	128.000
0038	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 1330-29-70	LS	1.000	1.000
0040	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	80.000	80.000
0042	213.0100	Finishing Roadway (project) 01. 1330-29-70	EACH	1.000	1.000
0044	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,026.000	1,026.000
0046	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	215.000	215.000
0048	305.0500	Shaping Shoulders	STA	12.000	12.000
0050	305.0504.S	Hauling Excess Shoulder Material	CY	136.000	136.000
0052	390.0303	Base Patching Concrete	SY	28.000	28.000
0054	416.0610	Drilled Tie Bars	EACH	29.000	29.000
0056	416.0620	Drilled Dowel Bars	EACH	14.000	14.000
0058	455.0605	Tack Coat	GAL	3,625.000	3,625.000
0060	460.2000	Incentive Density HMA Pavement	DOL	4,375.000	4,375.000
0062	460.6224	HMA Pavement 4 MT 58-28 S	TON	7,151.000	7,151.000
0064	465.0105	Asphaltic Surface	TON	6.000	6.000
0066	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	37.000	37.000
0068	465.0125	Asphaltic Surface Temporary	TON	20.000	20.000
0070	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	4,875.000	4,875.000
0072	502.3205	Pigmented Surface Sealer Reseal	SY	48.000	48.000
0074	509.1500	Concrete Surface Repair	SF	100.000	100.000
0076	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	2.000	2.000
0078	521.3118	Culvert Pipe Corrugated Steel 18-Inch	LF	44.000	44.000
0080	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	217.000	217.000
0082	602.0410	Concrete Sidewalk 5-Inch	SF	626.000	626.000
0084	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	8.000	8.000
0086	603.1136	Concrete Barrier Type S36	LF	124.000	124.000
0088	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	26.000	26.000
0090	611.0530	Manhole Covers Type J	EACH	1.000	1.000
0092	611.0624	Inlet Covers Type H	EACH	1.000	1.000
0094	611.0651	Inlet Covers Type S	EACH	1.000	1.000
0096	611.1003	Catch Basins 3-FT Diameter	EACH	1.000	1.000
0098	611.1230	Catch Basins 2x3-FT	EACH	1.000	1.000

Estimate Of Quantities

1330-29-70

Line	Item	Item Description	Unit	Total	Qty
0100	611.2004	Manholes 4-FT Diameter	EACH	1.000	1.000
0102	612.0206	Pipe Underdrain Unperforated 6-Inch	LF	40.000	40.000
0104	612.0700	Drain Tile Exploration	LF	50.000	50.000
0106	614.0396	Guardrail Mow Strip Asphalt	SY	509.000	509.000
0108	614.0800	Crash Cushions Permanent	EACH	1.000	1.000
0110	614.2300	MGS Guardrail 3	LF	196.000	196.000
0112	614.2330	MGS Guardrail 3 K	LF	350.000	350.000
0114	614.2340	MGS Guardrail 3 L	LF	206.000	206.000
0116	614.2610	MGS Guardrail Terminal EAT	EACH	10.000	10.000
0118	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1330-29-70	EACH	1.000	1.000
0120	619.1000	Mobilization	EACH	1.000	1.000
0122	624.0100	Water	MGAL	25.000	25.000
0124	625.0100	Topsoil	SY	1,398.000	1,398.000
0126	628.1504	Silt Fence	LF	4,823.000	4,823.000
0128	628.1520	Silt Fence Maintenance	LF	5,771.000	5,771.000
0130	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0132	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0134	628.2002	Erosion Mat Class I Type A	SY	928.000	928.000
0136	628.2004	Erosion Mat Class I Type B	SY	330.000	330.000
0138	628.7010	Inlet Protection Type B	EACH	2.000	2.000
0140	628.7015	Inlet Protection Type C	EACH	2.000	2.000
0142	628.7020	Inlet Protection Type D	EACH	1.000	1.000
0144	628.7504	Temporary Ditch Checks	LF	90.000	90.000
0146	628.7555	Culvert Pipe Checks	EACH	2.000	2.000
0148	629.0210	Fertilizer Type B	CWT	1.000	1.000
0150	630.0130	Seeding Mixture No. 30	LB	26.000	26.000
0152	630.0200	Seeding Temporary	LB	37.000	37.000
0154	630.0500	Seed Water	MGAL	22.000	22.000
0156	631.0300	Sod Water	MGAL	2.000	2.000
0158	631.1000	Sod Lawn	SY	78.000	78.000
0160	633.5200	Markers Culvert End	EACH	2.000	2.000
0162	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	45.000	45.000
0164	637.2210	Signs Type II Reflective H	SF	111.680	111.680
0166	637.2230	Signs Type II Reflective F	SF	99.250	99.250
0168	638.2102	Moving Signs Type II	EACH	20.000	20.000
0170	638.2602	Removing Signs Type II	EACH	12.000	12.000
0172	638.3000	Removing Small Sign Supports	EACH	19.000	19.000
0174	642.5201	Field Office Type C	EACH	1.000	1.000
0176	643.0300	Traffic Control Drums	DAY	1,157.000	1,157.000
0178	643.0420	Traffic Control Barricades Type III	DAY	1,091.000	1,091.000
0180	643.0705	Traffic Control Warning Lights Type A	DAY	3,040.000	3,040.000
0182	643.0715	Traffic Control Warning Lights Type C	DAY	253.000	253.000
0184	643.0900	Traffic Control Signs	DAY	10,255.000	10,255.000
0186	643.0910	Traffic Control Covering Signs Type I	EACH	1.000	1.000
0188	643.1000	Traffic Control Signs Fixed Message	SF	154.000	154.000
0190	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0192	643.5000	Traffic Control	EACH	1.000	1.000
0194	646.1020	Marking Line Epoxy 4-Inch	LF	40,520.000	40,520.000
0196	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	24,409.000	24,409.000

Estimate Of Quantities

1330-29-70

Line	Item	Item Description	Unit	Total	Qty
0198	646.3020	Marking Line Epoxy 8-Inch	LF	72.000	72.000
0200	646.5020	Marking Arrow Epoxy	EACH	1.000	1.000
0202	646.6120	Marking Stop Line Epoxy 18-Inch	LF	185.000	185.000
0204	646.7120	Marking Diagonal Epoxy 12-Inch	LF	18.000	18.000
0206	646.9000	Marking Removal Line 4-Inch	LF	900.000	900.000
0208	648.0100	Locating No-Passing Zones	MI	2.750	2.750
0210	649.0105	Temporary Marking Line Paint 4-Inch	LF	457.000	457.000
0212	649.0805	Temporary Marking Stop Line Paint 18-Inch	LF	38.000	38.000
0214	650.4000	Construction Staking Storm Sewer	EACH	3.000	3.000
0216	650.4500	Construction Staking Subgrade	LF	375.000	375.000
0218	650.5000	Construction Staking Base	LF	375.000	375.000
0220	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	212.000	212.000
0222	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0224	650.7500	Construction Staking Concrete Barrier	LF	124.000	124.000
0226	650.8000	Construction Staking Resurfacing Reference	LF	14,522.000	14,522.000
0228	650.9000	Construction Staking Curb Ramps	EACH	1.000	1.000
0230	650.9910	Construction Staking Supplemental Control (project) 01. 1330-29-70	LS	1.000	1.000
0232	650.9920	Construction Staking Slope Stakes	LF	1,397.000	1,397.000
0234	661.0300	Generators	DAY	30.000	30.000
0236	690.0150	Sawing Asphalt	LF	333.000	333.000
0238	690.0250	Sawing Concrete	LF	524.000	524.000
0240	715.0603	Incentive Strength Concrete Barrier	DOL	459.000	459.000
0242	740.0440	Incentive IRI Ride	DOL	11,000.000	11,000.000
0244	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	250.000	250.000
0246	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	900.000	900.000
0248	SPV.0035	Special 01. Backfill Slurry	CY	28.000	28.000
0250	SPV.0060	Special 01. Remove and Cap Existing Drainage Structure	EACH	1.000	1.000
0252	SPV.0060	Special 02. Reconnect Storm Sewer	EACH	3.000	3.000
0254	SPV.0060	Special 03. Section Corner Monuments	EACH	4.000	4.000
0256	SPV.0060	Special 04. Temporary Traffic Signals for One Lane Road Project 1330-29-70	EACH	1.000	1.000
0258	SPV.0090	Special 01. Fence Chain Link Polymer Coated 3-FT. B-67-952	LF	39.000	39.000
0260	SPV.0090	Special 02. Fence Chain Link Polymer Coated 4-FT	LF	18.000	18.000
0262	SPV.0090	Special 03. Double Staked Silt Fence	LF	949.000	949.000
0264	SPV.0165	Special 01. Removing Loose Concrete Overhead	SF	75.000	75.000
0266	SPV.0195	Special 01. Asphaltic Repair	TON	337.000	337.000

CLEARING AND GRUBBING

201.0105 201.0205 202.0105
CLEARING GRUBBING ROADSIDE
CLEARING

STATION - STATION		STA	STA	STA
17+40	- ---	1	1	---
19+40	- ---	---	1	---
18+65	- 19+40	---	---	1
25+25	- 27+25	---	---	2
TOTAL		1	2	3

REMOVING SMALL PIPE CULVERTS

203.0100
REMOVING SMALL PIPE
CULVERTS

STATION	DESCRIPTION	EACH
73+33	18" CMP CROSS CULVERT, 44 LF	1
TOTAL		1

REMOVING CONCRETE PAVEMENT

204.0100 204.0110
REMOVING CONCRETE REMOVING ASPHALTIC
PAVEMENT SURFACE

STATION - STATION		SY	SY
14+84	- 15+89 RT	95	95
16+02	- 16+32 LT	18	18
16+32	- 17+84 LT	31	31
16+83	- 17+86 RT	14	14
18+65	- 18+80 RT	1	---
73+23	- 73+28 CL	---	16
TOTAL		159	174

REMOVALS

204.0150 204.0155 204.0170 204.0220 204.9060.S.01 204.0280
REMOVING REMOVING REMOVING REMOVING REMOVING SEALING
CURB AND GUTTER CONCRETE SIDEWALK FENCE INLET (LANDSCAPE BLOCK WALL PIPES
STA 18+60 TO STA 19+05)

STATION - STATION		OFFSET	LF	SY	LF	EACH	EACH	EACH
14+84	- 15+15	RT	31	----	----	----	----	----
15+03	- 15+23	RT	---	14	----	----	----	----
15+19	- 15+27	RT	---	---	10	----	----	----
15+56	- 15+58	RT	---	---	5	----	----	----
15+63	- 15+85	RT	---	17	---	----	----	----
16+00	- ---	LT	---	---	---	1	----	1
16+07	- ---	RT	---	---	---	1	----	---
18+60	- 19+05	LT	---	---	---	---	1	---
TOTAL			31	31	15	2	1	1

REMOVING ASPHALTIC SURFACE MILLING BUTT JOINTS

204.0115			
REMOVING ASPHALTIC			
SURFACE			
BUTT JOINTS			
STATION	-	STATION	SY
14+78	-	14+81	12
16+38	-	16+79	16
22+18	-	22+34	7
25+40	-	25+63	9
82+60	-	83+32	28
82+95	-	83+19	8
91+90	-	92+00	7
92+93	-	93+03	8
103+40	-	103+50	9
106+13	-	100+62	8
159+00	-	159+28	9
159+10	-	159+35	9
159+97	-	160+00	11
TOTAL			139

REMOVING ASPHALTIC SURFACE MILLING

204.0120		
REMOVING ASPHALTIC		
SURFACE MILLING		
STATION - STATION		SY
14+84 - 25+00	3683	
25+00 - 35+00	3201	
35+00 - 45+00	2724	
45+00 - 55+00	2853	
55+00 - 65+00	2836	
65+00 - 75+00	2899	
75+00 - 85+00	3432	
85+00 - 95+00	4001	
95+00 - 105+00	3443	
105+00 - 115+00	3403	
115+00 - 125+00	2846	
125+00 - 135+00	2853	
135+00 - 145+00	2902	
145+00 - 155+00	2907	
155+00 - 160+00	2044	
TOTAL		46028

REMOVING GUARDRAIL

204.0165				SPV.0035.01		
REMOVING GUARDRAIL				BACKFILL SLURRY		
STATION	-	STATION	OFFSET	LOCATION	LF	CY
16+53	-	18+85	LT	STH 83	116	2
18+65	-	20+41	LT	STH 83	179	4
36+80	-	39+34	RT	STH 83	254	5
36+81	-	39+34	LT	STH 83	254	5
143+25	-	147+67	LT	STH 83	443	2
10+79	-	11+82	RT	CTH CW	104	9
TOTAL					1350	28

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)		SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE +/- (14)	WASTE	208.0100 BORROW	COMMENT
			CUT (2)	EBS EXCAVATION (3)				FACTOR 1.25				
DIVISION 1	16+84/18+59 RT 18+59/19+38 LT	STH 83	64	0	0	64	0	0	64	64	0	
Widening Stage 1A		STH 83	1	0	0	1	0	0	1	1	0	
Ditching Stage 1A												
DIVISION 1 SUBTOTAL			65	0	0	65	0	0	65	65	0	
DIVISION 2	14+87.5/15+80 RT 16+00/17+84.579 lt	STH 83	33	0	0	33	2	3	31	31	0	
Sidewalk Stage 1B		STH 83	56	0	0	56	0	0	56	56	0	
Barrier/Curb and Gutter Stage 1B												
DIVISION 2 SUBTOTAL			89	0	0	89	2	3	87	87	0	
DIVISION 3	18+40/20+79.4 LT	STH 83	7	0	0	7	4	5	2	2	0	
Guardrail												
DIVISION 3 SUBTOTAL			7	0	0	7	4	5	2	2	0	
DIVISION 4												
Guardrail	36+00/40+00 RT	STH 83	36	0	0	36	53	66	-30	0	30	
Guardrail	36+00/40+00 LT	STH 83	34	0	0	34	76	95	-61	0	61	
DIVISION 4 SUBTOTAL			70	0	0	70	129	161	-91	0	91	
DIVISION 5	142+34.799/148+53 RT	STH 83	35	0	0	35	28	35	0	0	0	
Guardrail												
DIVISION 5 SUBTOTAL			35	0	0	35	28	35	0	0	0	
DIVISION 6	10+00/12+50 RT	CTH CW	13	0	0	13	40	50	-37	0	37	
Guardrail												
DIVISION 6 SUBTOTAL												
GRAND TOTAL			279	0	0	279	203	254	25	154	128	
TOTAL COMMON EXC			279									

NOTES:

- (1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
- (2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- (3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT BORROW MATERIAL. NOTE: THIS IS DESIGNERS CHOICE, CAN BE BACKFILLED WITH BORROW, OR CUT AS WELL.
- (4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
- (13) EXPANDED FILL FACTOR = X.6X
- DEPENDING ON SELE EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED MARSH - REDUCED EBS) * FILL FACTOR
- OR EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED EBS) * FILL FACTOR
- OR EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED MARSH) * FILL FACTOR
- OR EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK) * FILL FACTOR
- (14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
- (15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

PREPARE FOUNDATION FOR ASPHALTIC PAVING	
211.0100	
PREPARE FOUNDATION FOR	
ASPHALTIC PAVING	
(1330-29-70)	
LOCATION	LS
STH 83	1
TOTAL	1

SHOULDERS					
211.0400			305.0504.S		
PREPARE FOUNDATION FOR			HAULING EXCESS SHOULDER		
ASPHALTIC SHOULDERS			MATERIAL		
STATION	-	STATION	OFFSET	STA	CY
20+55	-	23+62	RT	4	4
25+15	-	28+10	RT	3	5
25+75	-	28+10	LT	3	3
32+85	-	35+90	RT	4	5
32+85	-	36+45	LT	4	6
50+80	-	56+75	LT	6	10
50+80	-	56+65	RT	6	9
63+75	-	70+65	LT	7	10
64+10	-	70+65	RT	7	10
87+55	-	99+75	LT	13	18
91+10	-	94+50	RT	4	7
95+05	-	96+25	RT	2	7
100+05	-	101+65	LT	2	7
100+30	-	109+95	RT	10	19
103+30	-	106+25	LT	3	8
108+20	-	109+85	LT	2	8
TOTAL				80	136

FINISHING ROADWAY	
213.0100	
FINISHING ROADWAY	
(1330-29-70)	
LOCATION	EACH
STH 83	1
TOTAL	1

BASE AGGREGATE ITEMS

305.0110305.0120624.0100

BASE AGGREGATE DENSEBASE AGGREGATE DENSEWATER

3/4-INCH1-1/4-INCH

STATION	-	STATION	OFFSET	TON	TON	MGAL
14+84	-	15+99	RT	---	59	1.17
16+01	-	16+30	LT	---	10	0.20
16+30	-	17+85	LT	---	39	0.77
16+82	-	18+60	RT	---	108	2.15
17+50	-	20+60	RT	11	0	0.23
20+60	-	21+81	RT	4	0	0.09
22+40	-	23+58	RT	4	0	0.09
25+16	-	28+10	RT	11	0	0.22
28+10	-	32+90	RT	18	0	0.36
32+90	-	36+50	RT	13	0	0.27
39+31	-	50+80	RT	43	0	0.85
50+80	-	56+62	RT	22	0	0.43
56+62	-	64+40	RT	29	0	0.58
64+40	-	70+62	RT	23	0	0.46
70+62	-	82+93	RT	48	0	0.96
83+19	-	91+61	RT	40	0	0.81
91+07	-	94+48	RT	19	0	0.39
93+02	-	100+30	RT	34	0	0.68
100+30	-	109+79	RT	35	0	0.70
109+79	-	143+70	RT	126	0	2.51
147+53	-	159+00	RT	42	0	0.85
159+30	-	160+10	RT	4	0	0.08
160+10	-	159+30	LT	6	0	0.13
159+00	-	107+22	LT	7	0	0.14
106+22	-	103+33	LT	5	0	0.10
101+80	-	96+40	LT	29	0	0.58
96+40	-	87+60	LT	14	0	0.29
87+60	-	70+65	LT	35	0	0.69
70+65	-	65+60	LT	30	0	0.59
65+60	-	56+65	LT	33	0	0.66
56+65	-	48+65	LT	19	0	0.37
48+65	-	39+31	LT	63	0	1.26
36+75	-	32+87	LT	33	0	0.65
32+87	-	25+65	LT	20	0	0.40
25+40	-	24+48	LT	11	0	0.21
23+70	-	22+36	LT	192	0	3.84
22+20	-	20+51	LT	4	0	0.08
TOTAL				1026	215	25

ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

305.0500465.0120

SHAPINGASPHALTIC SURFACE

SHOULDERSDRIVEWAYS AND

FIELD ENTRANCES

STATION	-	STATION	OFFSET	STA	TON
51+21	-	51+94	RT	1	4
52+55	-	53+02	RT	1	3
53+82	-	54+52	RT	1	4
57+55	-	57+95	LT	1	2
65+50	-	66+50	LT	1	6
95+99	-	96+32	LT	1	2
112+77	-	113+03	RT	1	1
124+88	-	125+33	LT	1	3
128+50	-	129+31	RT	1	4
129+14	-	129+66	LT	1	3
130+32	-	130+80	RT	1	2
136+68	-	137+17	LT	1	3
TOTAL				12	37

BASE PATCHING CONCRETE

390.0303416.0610416.0620

BASE PATCHINGDRILLEDDRILLED

CONCRETECONCRETECONCRETE

TIE BARSDOWEL BARS

STATION	-	STATION	SY	EACH	SY
15+73	-	16+02	16	23	8
UNDISTRIBUTED			4	6	2
TOTAL			20	29	10

ASPHALTIC REPAIR

*455.0605 SPV.0195.01
TACK COAT ASPHALTIC
REPAIR

STATION	-	STATION	OFFSET	GAL	TON	
15+25	-	15+33	LT	1	1	
16+55	-	16+95	RT	3	6	
23+75	-	24+25	RT	2	4	
24+35	-	24+62	LT	1	2	
61+20	-	61+55	LT	2	4	
62+73	-	63+13	LT	2	3	
73+23	-	73+27	CL	1	7	FULL DEPTH
81+14	-	81+74	RT	3	5	
84+00	-	84+60	RT	3	5	
86+88	-	87+23	RT	2	3	
102+30	-	102+50	LT	1	2	
103+24	-	103+50	LT	1	3	
104+25	-	104+50	RT	1	2	
106+75	-	107+05	LT	1	1	
116+49	-	116+59	LT	0	1	
117+00	-	117+10	LT	0	1	
117+50	-	117+70	LT	2	3	
118+16	-	118+32	LT	1	1	
118+62	-	119+22	LT	3	5	
119+50	-	120+14	LT	4	7	
119+50	-	121+63	RT	20	37	
136+00	-	138+10	RT	10	18	
137+18	-	137+38	LT	1	2	
138+00	-	138+16	LT	1	1	
140+76	-	141+36	RT	3	5	
145+25	-	148+15	RT	11	21	
146+75	-	147+05	LT	1	3	
151+25	-	151+50	RT	1	2	
155+26	-	155+66	LT	4	7	
156+00	-	156+32	LT	4	7	
158+73	-	158+03	LT	2	4	
159+30	-	159+75	RT	3	5	
159+35	-	159+80	LT	3	6	
UNDISTRIBUTED				80	150	
TOTAL				178	337	

*QUANTITY SHOWN ELSEWHERE

ASPHALTIC ITEMS

*455.0605 460.6224
TACK COAT HMA PAVEMENT
4 MT 58-28 S

STATION	-	STATION	LOCATION	OFFSET	GAL	TON
14+84	-	25+00	STH 83 MAINLINE	---	273	597
25+00	-	35+00	STH 83 MAINLINE	---	224	460
35+00	-	45+00	STH 83 MAINLINE	---	216	492
45+00	-	55+00	STH 83 MAINLINE	---	200	410
55+00	-	65+00	STH 83 MAINLINE	---	199	408
65+00	-	75+00	STH 83 MAINLINE	---	203	417
75+00	-	85+00	STH 83 MAINLINE	---	240	493
85+00	-	95+00	STH 83 MAINLINE	---	280	575
95+00	-	105+00	STH 83 MAINLINE	---	244	508
105+00	-	115+00	STH 83 MAINLINE	---	238	489
115+00	-	125+00	STH 83 MAINLINE	---	199	409
125+00	-	135+00	STH 83 MAINLINE	---	200	410
135+00	-	145+00	STH 83 MAINLINE	---	207	434
145+00	-	155+00	STH 83 MAINLINE	---	209	441
155+00	-	160+00	STH 83 MAINLINE	---	143	294
20+55	-	23+62	STH 83 SHOULDERS	RT	4	7
25+15	-	28+10	STH 83 SHOULDERS	RT	7	12
25+75	-	28+10	STH 83 SHOULDERS	LT	4	7
32+85	-	35+90	STH 83 SHOULDERS	RT	7	12
32+85	-	36+45	STH 83 SHOULDERS	LT	8	14
50+80	-	56+75	STH 83 SHOULDERS	LT	13	23
50+80	-	56+65	STH 83 SHOULDERS	RT	11	21
63+75	-	70+65	STH 83 SHOULDERS	RT	13	23
64+10	-	70+65	STH 83 SHOULDERS	LT	13	24
87+55	-	99+75	STH 83 SHOULDERS	LT	22	41
91+10	-	94+50	STH 83 SHOULDERS	RT	8	16
95+05	-	96+25	STH 83 SHOULDERS	RT	8	16
100+05	-	101+65	STH 83 SHOULDERS	LT	8	16
100+30	-	109+95	STH 83 SHOULDERS	RT	24	45
103+30	-	106+25	STH 83 SHOULDERS	LT	10	19
108+20	-	109+85	STH 83 SHOULDERS	LT	10	19
TOTAL					3447	7151

*QUANTITY SHOWN ELSEWHERE

ASPHALTIC SURFACE

465.0105
ASPHALTIC
SURFACE

STATION	-	STATION	OFFSET	DESCRIPTION	TON
15+18	-	15+27	RT	WEDGE TO MATCH EXISTING BEHIND FENCE (4:1 MAX SLOPE)	1
15+20	-	15+60	RT	B-67-952 (SEE CONSTRUCTION DETAILS: BRIDGE PARAPET DETAILS)	1
15+58	-	15+65	RT	WEDGE TO MATCH EXISTING BEHIND FENCE (4:1 MAX SLOPE)	1
16+84	-	17+50	RT	3-INCH DEPTH AND 2-FT WIDE BEHIND CURB	3
TOTAL					6

ASPHALTIC SURFACE TEMPORARY

465.0125
ASPHALTIC SURFACE
TEMPORARY

STATION	-	STATION	OFFSET	TON
16+83	-	17+86	RT	20
				20

ASPHALTIC CENTERLINE RUMBLE STRIPS

465.0475
ASPHALTIC CENTERLINE
RUMBLE STRIPS
2-LANE RURAL

STATION	-	STATION	LF
109+00	-	157+75	4875
TOTAL			4875

CULVERT ITEMS

520.1018 521.3118 633.5200
APRON ENDWALLS FOR CULVERT PIPE CORRUGATED MARKERS CULVERT
CULVERT PIPE 18-INCH STEEL 18-INCH END

LOCATION	STATION	OFFSET	STATION	OFFSET	INLET	OUTLET	EACH	LF	EACH
STH 83	73+33	16.82 LT	73+33	27.18 RT	943.98	943.20	2	44	2
TOTAL							2	44	2

CONCRETE ITEMS					
		601.0411	602.0410	603.1136	
		CONCRETE	CONCRETE SIDEWALK	CONCRETE BARRIER	
		CURB AND GUTTER	5-INCH	TYPES36	
		30-INCH TYPED			
STATION	- STATION	OFFSET	LF	SF	LF
14+87	- 15+87	RT	104	---	---
15+03	- 15+84	RT	---	595	---
15+96	- 16+31	LT	34	---	---
16+26	- 16+33	LT	---	31	---
16+31	- 17+70	LT	---	---	124
16+84	- 17+50	RT	79	---	---
TOTAL			217	626	124

CURB RAMP DETECTABLE WARNING FIELD YELLOW		
602.0505		
CURB RAMP		
DETECTABLE WARNING		
FIELD YELLOW		
STATION	OFFSET	SF
15+82	RT	8
TOTAL		8

STORM SEWER					
608.0412					
STORM SEWER PIPE					
REINFORCED CONCRETE					
FROM	TO	INLET	DISCHARGE		CLASS IV 12-INCH
STRUCTURE	STRUCTURE	ELEVATION	ELEVATION	SLOPE	LF
1.01	3.01	899.25	899.00	1.00%	26
TOTAL					26

STORM SEWER											
				611.0530		611.0624	611.0651	611.1003	611.1230	611.2004	
				MANHOLE COVER TYPE J		INLET COVERS	INLET COVERS	CATCH BASINS	CATCH BASINS	MANHOLES 4-FT	
						TYPE H	TYPE S	3-FT DIAMETER	2X3-FT	DIAMETER	
				RIM/FLOW LINE	INVERT	DEPTH					
STRUCTURE	LOCATION	STATION	OFFSET	ELEVATION	ELEVATION	FT	EACH	EACH	EACH	EACH	EACH
1.01	STH 83	16+00.00	24.98' LT	901.82	899.25	3.74	---	1	---	1	---
2.01	STH 83	15+76.41	15.33' LT	902.79	898.43	3.29	1	---	---	---	1
3.01	STH 83	16+07.31	24.64' RT	902.20	899.31	3.89	---	---	1	---	---
TOTAL							1	1	1	1	1

UNDERDRAIN		
612.0206		
PIPE UNDERDRAIN		
UNPERFORATED 6-INCH		
612.0700		
DRAIN TILE		
EXPLORATION		
STATION	LF	LF
17+35	40	50
TOTAL		50

CRASH CUSHION PERMENANT				
614.0800				
CRASH CUSHION				
		OBJECT	CRASH	PERMENANT
		MARKING	TEST	
STATION	OFFSET	PATTERN	LEVEL	EACH
17+85	14.50' LT	OM-3R	TL-2	1
TOTAL				1

GUARDRAIL									
				614.0396		614.2300		614.2330	
				GUARDRAIL		MGS GUARDRAIL 3		MGS GUARDRAIL 3K	
				MOW STRIP				MGS GUARDRAIL 3L	
				ASPHALT					
								614.2340	
								MGS GUARDRAIL 3L	
								614.2610	
								MGS GUARDRAIL	
								TERMINAL EAT	
STATION	-	STATION	OFFSET	LOCATION	SY	LF	LF	LF	EACH
18+70	-	20+51	LT	STH 83	72	77	---	---	2
36+50	-	39+31	RT	STH 83	109	72	---	103	2
36+75	-	39+31	LT	STH 83	100	47	---	103	2
143+47	-	147+53	RT	STH 83	158	---	300	---	2
11+96	-	10+40	RT	CTH CW	70	---	50	---	2
TOTAL					509	196	350	206	10

MAINTENANCE AND REPAIR OF HAUL ROADS

618.0100	
MAINTENANCE	
AND REPAIR OF HAUL	
ROADS	
LOCATION	EACH
STH 83	1
TOTAL	1

MOBILIZATION

619.1000		
MOBILIZATION		
PROJECT ID	DESCRIPTION	EACH
1330-29-70	STH 83	1
TOTAL		1

EROSION CONTROL															
				625.0100	628.1504	SPV.0090.03	628.1520	628.2002	628.2004	629.0210	630.0130	630.0200	630.0500	631.0300	631.1000
				TOPSOIL	SILT FENCE	DOUBLE STAKED	SILT FENCE	EROSION MAT CLASS I	EROSION MAT CLASS I	FERTILIZER	SEEDING MIXTURE	SEEDING	SEED WATER	SOD WATER	SOD LAWN
						SILT FENCE	MAINTAINANCE	TYPE A	TYPE B	TYPE B	NO. 30	TEMPORARY			
STATION	-	STATION	OFFSET	SY	LF	LF	LF	SY	SY	CWT	LB	LB	MGAL	MGAL	SY
16+00	-	17+59	LT	42	---	---	---	---	---	---	---	---	---	0.71	42
18+65	-	19+40	RT	33	---	---	---	---	33	0.03	1	1	1	---	---
18+80	-	19+24	LT	20	---	---	---	---	---	---	--	---	---	0.34	20
18+80	-	19+24	LT	---	61	---	61	---	---	---	---	---	---	---	---
20+50	-	21+80	RT	---	118	---	118	---	---	---	---	---	---	---	---
25+82	-	28+08	LT	---	236	---	236	---	---	---	---	---	---	---	---
32+81	-	36+06	LT	---	313	---	313	---	---	---	---	---	---	---	---
36+06	-	40+08	LT	318	---	346	346	318	---	0.23	6	9	5	---	---
36+65	-	40+08	RT	275	---	413	413	225	---	0.22	5	7	5	---	---
48+65	-	56+86	LT	---	800	---	800	---	---	---	---	---	---	---	---
73+21	-	73+29	LT	8	---	---	---	---	8	0.01	1	1	0	---	---
73+27	-	73+29	RT	17	---	---	---	---	17	0.03	1	1	0	---	---
95+10	-	96+27	RT	---	123	---	123	---	---	---	---	---	---	---	---
96+40	-	103+76	LT	199	780	---	780	199	---	0.16	4	5	3	---	---
100+17	-	108+22	RT	---	780	---	780	---	---	---	---	---	---	---	---
108+20	-	109+96	LT	---	175	---	175	---	---	---	---	---	---	---	---
143+95	-	148+58	RT	206	472	---	472	---	206	0.19	4	6	3	---	---
25% UNDISTRIBUTED				280	965	190	1154	186	66	0.21	5	7	4	0.26	16
TOTAL				1398	4823	949	5771	928	330	1	26	37	22	2	78

EROSION CONTROL						
		628.7010	628.7015	628.7020	628.7504	628.7555
		INLET PROJECTION	INLET PROTECTION	INLET PROTECTION	TEMPORARY DITCH	CULVERT PIPE
		TYPE B	TYPE C	TYPE D	CHECKS	CHECKS
STATION	OFFSET	EACH	EACH	EACH	LF	EACH
14+82	RT	---	1	---	---	---
14+82	LT	---	1	---	---	---
15+16	RT	1	---	---	---	---
15+75	LT	---	---	---	15	---
16+00	LT	---	---	1	---	---
16+07	RT	1	---	---	---	---
18+55	RT	---	---	---	15	---
19+42	RT	---	---	---	15	---
20+46	RT	---	---	---	15	---
73+25	RT	---	---	---	15	---
73+25	LT	---	---	---	---	2
108+25	RT	---	---	---	15	---
		2	2	1	90	2

EROSION CONTROL			
		628.1905	628.1910
		MOBILIZATION	MOBILIZATION
		EROSION CONTROL	EMERGENCY
		EROSION CONTROL	
PROJECT ID	DESCRIPTION	EACH	EACH
1330-29-70	STH 83	6	4
		6	4

FIELD OFFICE TYPE C	
642.5201	
FIELD OFFICE	
TYPE C	
LOCATION	EACH
STH 83	1
TOTAL	1

3

3

TYPE II PERMANENT SIGNING -

1330-29-70 STH 83

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.] x [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 WOOD POSTS 4"x6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
1	W5-52R(2S)	--	18 x 36	--	4.500	1	1	1	--	--	4' MOUNT HEIGHT
2	W5-52L(2S)	--	18 x 36	--	4.500	1	1	1	--	--	4' MOUNT HEIGHT
3	W1-6	--	-- x --	--	--	--	1	1	1	--	--
4	J4-1(2S) M3-1 M1-6	-- NORTH STH 83	24 x 36 24 x 12 24 x 24	6.000	--	1	--	1	--	--	REMOVE FROM UTILITY POLE
5	W1-6(2S)	--	48 x 24	--	8.000	1	--	1	--	--	REMOVE FROM UTILITY POLE
6	W5-2	--	-- x --	--	--	--	1	1	1	--	--
7	W5-52L(2S)	--	12 x 36	--	3.000	--	--	1	--	--	4' MOUNT HEIGHT
8	NOT USED	--	-- x --	--	--	--	--	--	--	--	--
9	W1-1R(2S)	--	36 x 36	--	9.000	1	1	1	--	--	--
10	W13-1(2S)	15 MPH	18 x 18	--	2.250	--	--	--	--	9	--
11	W5-52L(2S)	--	12 x 36	--	3.000	1	1	1	--	--	4' MOUNT HEIGHT
12	I3-1	LITTLE OCONOMOWOC RIVER	72 x 36	18.000	--	--	--	2	--	--	--
13	W5-52R(2S)	--	12 x 36	--	3.000	1	1	1	--	--	4' MOUNT HEIGHT
14	W5-52L(2S)	--	12 x 36	--	3.000	1	1	1	--	--	4' MOUNT HEIGHT
15	I3-1	LITTLE OCONOMOWOC RIVER	72 x 36	18.000	--	--	--	2	--	--	--
16	W5-52R(2S)	--	12 x 36	--	3.000	1	1	1	--	--	4' MOUNT HEIGHT
17	W1-8(4)	--	30 x 36	--	7.500	1	1	1	--	--	4' MOUNT HEIGHT
18	W1-8(4)	--	30 x 36	--	7.500	--	--	--	--	17	4' MOUNT HEIGHT
19	D1-61	KILBOURNE RD	72 x 24	12.000	--	--	--	2	--	--	--
20	W1-2L	--	-- x --	--	--	--	1	1	1	--	--
21	W13-1	--	-- x --	--	--	--	--	--	1	20	--
22	R2-1	--	-- x --	--	--	--	1	1	1	--	--
23	D1-1	HOFF RD [TA]	60 x 15	6.250	--	--	--	2	--	--	--
24	D1-61	KILBOURNE RD	72 x 24	12.000	--	--	--	2	--	--	--
25	W1-8	--	-- x --	--	--	--	1	1	1	--	4' MOUNT HEIGHT
26	W1-8	--	-- x --	--	--	--	--	--	1	25	4' MOUNT HEIGHT
27	D1-1	[TA] HOFF RD	60 x 15	6.250	--	--	--	2	--	--	--
28	W1-2R	--	-- x --	--	--	--	1	1	1	--	--
29	W13-1	--	-- x --	--	--	--	--	--	1	28	--

3

3

TYPE II PERMANENT SIGNING -

1330-29-70 STH 83

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE			637.2210	637.2230	638.2602	638.3000	634.0618	638.2102	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
			W [IN.]	x x	H [IN.]	SIGNS TYPE II REFLC H [SF]	SIGNS TYPE II REFLC F [SF]	REMOVING SIGNS TYPE II [EA]	REMOVING SMALL SIGN SUPPORTS [EA]	WOOD POSTS 4"X 6"x18' [EA]	MOVE SIGNS TYPE II [EA]		
30	W1-8	--	--	x	--	--	--	--	1	1	1	--	4' MOUNT HEIGHT
31	W1-8	--	--	x	--	--	--	--	--	--	1	30	4' MOUNT HEIGHT
32	W1-8(4)	--	30	x	36	--	7.500	1	1	1	--	--	4' MOUNT HEIGHT
33	W1-8(4)	--	30	x	36	--	7.500	--	--	--	--	32	4' MOUNT HEIGHT
34	W1-8	--	--	x	--	--	--	--	1	1	1	--	4' MOUNT HEIGHT
35	W1-8	--	--	x	--	--	--	--	--	--	1	34	4' MOUNT HEIGHT
36	R1-1(3)	--	36	x	36	5.180	--	1	1	1	--	--	--
37	D1-61	COUNTY LINE RD	84	x	24	14.000	--	--	--	2	--	--	SHEET 10
38	D1-61	COUNTY LINE RD	84	x	24	14.000	--	--	--	2	--	--	SHEET10
39	R1-1	--	--	x	--	--	--	--	1	1	1	--	SHEET 1
40	--	NO STOPPING NO PARKING...	--	x	--	--	--	--	--	--	1	39	SHEET 1
41	W2-1(3)	--	36	x	36	--	9.000	--	--	1	--	--	SHEET 5 - TEMP ORANGE FLAGS INCIDENTA
41A	W13-1(3)	30 MPH	24	x	24	--	4.000	--	--	--	--	41	SHEET 5
42	W2-1(3)	--	36	x	36	--	9.000	--	--	1	--	--	SHEET 5 - TEMP ORANGE FLAGS INCIDENTA
42A	W13-1(3)	30 MPH	24	x	24	--	4.000	--	--	--	--	42	SHEET 5
--	--	--	--	x	--	--	--	--	--	--	--	--	--
	UNDISTRIBUTED					--	--	--	--	5	5	--	--
TOTALS						111.680	99.250	12	19	45	20		

TRAFFIC CONTROL																
		643.0300		643.0420		643.0705		643.0715		643.0900		643.0910		643.1000	643.1050	643.5000
		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL	TRAFFIC CONTROL	TRAFFIC CONTROL
		DRUMS		BARRICADES TYPE III		WARNING LIGHTS TYPE A		WARNING LIGHTS TYPE C		SIGNS		COVERING SIGNS TYPE I		SIGNS	SIGNS PCMS	
														FIXED MESSAGE		
STATION	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	CYCLES	SF	EACH	EACH
DETOUR ROUTE	40	---	---	24	960	44	1760	0	0	241	9640	1	1	154	14	---
STAGE 1A	11	30	330	2	22	4	160	5	55	14	154	---	---	---	---	---
STAGE 1B	6	48	288	9	54	18	720	11	66	31	186	---	---	---	---	---
STAGE 1C	11	49	539	5	55	10	400	12	132	25	275	---	---	---	---	---
UNDISTRIBUTED																1
TOTAL			1157		1091		3040		253		10255		1	154	14	1

PAVEMENT MARKING															
				646.1020		646.1040		646.3020	646.6120	646.7120	646.5020	649.0105	649.0805		
				MARKING LINE		MARKING LINE GROOVED		MARKING LINE	MARKING STOP LINE	MARKING	MARKING ARROW	TEMPORARY MARKING	TEMPORARY MARKING		
				EPOXY		WET REF		EPOXY	EPOXY	DIAGONAL EPOXY	EPOXY	LINE PAINT	STOP LINE PAINT		
				4-INCH		EPOXY 4-INCH		8-INCH	18-INCH	12-INCH		4-INCH	18-INCH		
				YELLOW	DASHED YELLOW	WHITE	DASHED WHITE	WHITE	DASHED WHITE	WHITE	WHITE	YELLOW	WHITE	WHITE	WHITE
				12.5-FT LINE		3-FT LINE		3-FT LINE				TYPE 2			
				37.5-FT SKIP		9-FT SKIP		9-FT SKIP							
STATION -	STATION	LOCATION	LF	LF	LF	LF	LF	LF	LF	LF	LF	EA	LF	LF	
10+66	- 13+66	KILBOURNE RD	600	---	---	---	---	---	---	---	---	---	---	12	
11+83	- 14+83	STH 83	600	---	---	---	---	---	---	---	---	---	---	12	
14+83	- 15+39	STH 83	110	---	110	---	---	---	---	24	---	---	202	---	
15+39	- 18+50	STH 83	1358	---	565	---	---	71	---	---	18	---	255	---	
18+50	- 36+00	STH 83	3700	---	3243	117	---	---	---	52	---	---	---	---	
21+75	- 24+75	STH 83	600	---	---	---	---	---	---	---	---	---	---	12	
36+00	58+50	STH 83	4500	---	---	---	4457	---	---	---	---	---	---	---	
58+50	- 98+50	STH 83	8000	---	---	---	7542	250	72	23	---	1	---	2	
98+50	- 109+75	STH 83	2637	---	---	---	1936	301	---	43	---	---	---	---	
109+75	- 160+25	STH 83	3622	4326	---	---	9852	---	---	43	---	---	---	---	
UNDISTRIBUTED			6432												
			32159	4326	3918	117	23787	622	72	185	18	1	457	38	
TOTAL			40520				24409		72	185	18	1	457	38	

MARKING REMOVAL LINE 4-INCH

646.9000
MARKING REMOVAL
LINE 4-INCH

STATION - STATION		LF
14+00	- 20+75	900
TOTAL		900

LOCATING NO-PASSING ZONES

648.0100
LOCATING
NO-PASSING
ZONES

LOCATION	MI
STH 83	2.75
TOTAL	2.75

CONSTRUCTION STAKING

650.4000		650.4500		650.5000		650.5500		650.6000		650.7500		650.8000		650.9000		650.9910		650.9920	
CONSTRUCTION STAKING		CONSTRUCTION STAKING		CONSTRUCTION STAKING		CONSTRUCTION STAKING		CONSTRUCTION STAKING		CONSTRUCTION STAKING		CONSTRUCTION STAKING		CONSTRUCTION STAKING		CONSTRUCTION STAKING		CONSTRUCTION STAKING	
STORM SEWER		SUBGRADE		BASE		CURB GUTTER		PIPE CULVERTS		CONCRETE BARRIER		RESURFACING REFERENCE		CURB RAMPS		SUPPLEMENTAL CONTROL		SLOPE STAKES	
						CURB AND GUTTER										(1333-29-70)			
LOCATION	EACH	LF		LF		LF		EACH		LF		LF		EACH		LS		LF	
STH 83	2	375		375		212		1		124		14522		1		1		375	
TOTAL	2	375		375		212		1		124		14522		1		1		375	

TEMPORARY TRAFFIC SIGNALS		
SPV.0060.04 661.0300		
TEMPORARY TRAFFIC GENERATORS		
SIGNALS FOR ONE LANE		
ROAD PROJECT 1330-29-70		
LOCATION	EACH	DAY
STH 83	1	30
TOTAL	1	30

SAWING					
690.0150			690.0250		
SAWING ASPHALT			SAWING CONCRETE		
STATION	OFFSET	-	STATION	OFFSET	LF
14+84	18' RT	-	15+89	30' RT	---
15+19	32' RT	-	15+22	24' RT	---
15+63	23' RT	-	15+85	30' RT	---
15+95	26' LT	-	16+02	27' LT	---
15+96	22' LT	-	16+31	16' LT	---
17+84	12' LT	-	17+84	12' LT	---
16+84	21' RT	-	17+86	14' RT	---
18+65	16' LT	-	18+80	16' LT	---
143+86	12' RT	-	147+19	12' RT	333
TOTAL				333	524

<u>STORM SEWER</u>			
SPV.0060.01		SPV.0060.02	
REMOVE AND CAP		RECONNECT	
EXISTING DRAINAGE		STORM SEWER	
STRUCTURE			
STATION	OFFSET	EACH	EACH
15+16.00	RT	1	---
15+76.50	LT	---	2
16+07.31	RT	---	1
TOTAL		1	3

FENCE CHAIN LINK POLYMER COATED 4-FT

SPV.0090.02				
FENCE CHAIN				
LINK POLYMER				
COATED 4-FT				
STATION	OFFSET	-	STATION	OFFSET
15+18	23.0' RT	-	15+19	32.0' RT
15+63	23.5' RT	-	15+56	30.5' RT
TOTAL				18

SECTION CORNER MONUMENTS

SPV.0060.03		
SECTION		
CORNER		
MONUMENTS		
STATION	OFFSET	EACH
35+53.31	5.83' RT	1
130+69.00	0.00'	1
159+18.85	0.01' RT	1
159+14.78	55.64' RT	1
TOTAL		4

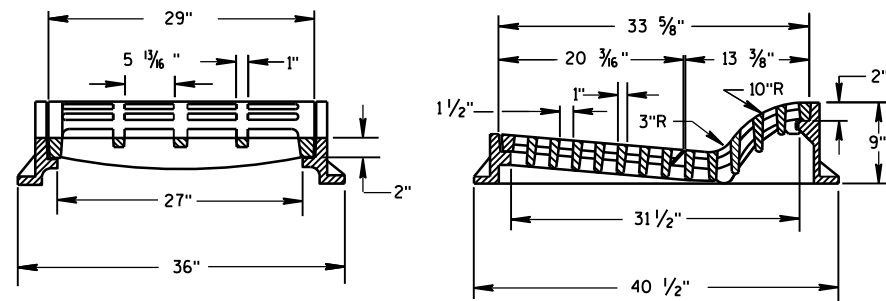
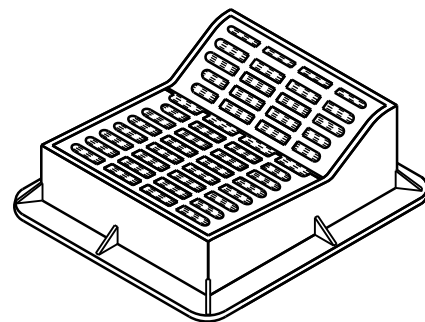
REMOVING OLD STRUCTURE

203.0260	
REMOVING OLD STRUCTURE	
OVER WATERWAY WITH	
MINIMAL DEBRIS (P-67-929)	
LOCATION	EACH
P-67-929	1
TOTAL	1

CATEGORY 0030

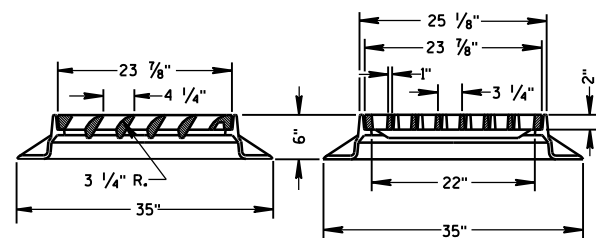
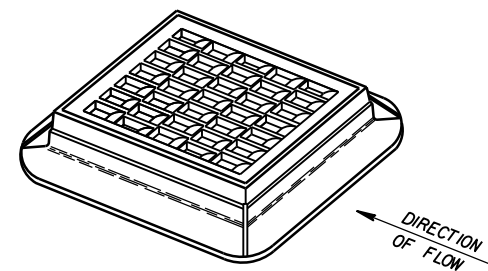
Standard Detail Drawing List

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
08B09-03	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-20A	CURB RAMPS TYPES 1 AND 1-A
08D05-20B	CURB RAMPS TYPES 2 AND 3
08D05-20D	CURB RAMPS TYPE 4B AND 4B1
08D05-20E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-20F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-20G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08D16-11	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08D17-06	MANHOLES, MANHOLE & INLET COVERS
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
08F07-05	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS
09G02-05A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C19-03	HMA LONGITUDINAL JOINTS
14B28-04A	GUARDRAIL MOW STRIP
14B28-04B	GUARDRAIL MOW STRIP
14B32-10A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-10B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B43-04A	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-04B	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-04C	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B03-15A	FENCE CHAIN LINK
15B03-15B	FENCE CHAIN LINK
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C02-08E	OFF RAMP LANE CLOSURE
15C02-08F	ADVANCED WIDTH RESTRICTION SIGNING
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C07-15C	PAVEMENT MARKING ARROWS
15C08-21A	LONGITUDINAL MARKING (MAINLINE)
15C11-09A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-05A	PAVEMENT MARKING (INTERSECTIONS)
15D12-10A	TRAFFIC CONTROL, LANE CLOSURE
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D33-07	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS
16A01-07	LANDMARK REFERENCE MONUMENTS AND COVERS

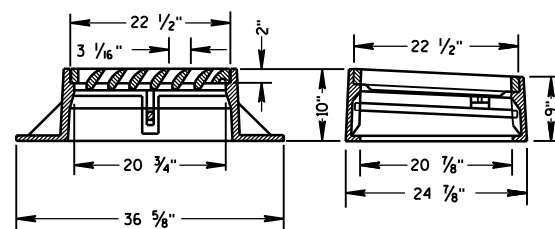
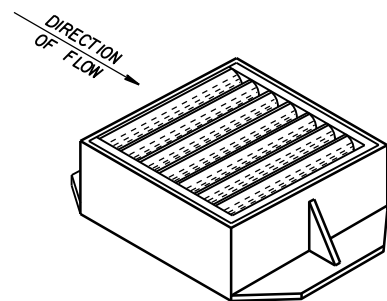


TYPE "F"

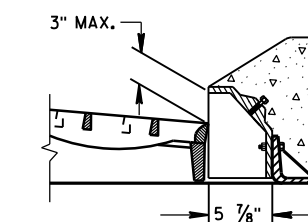
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



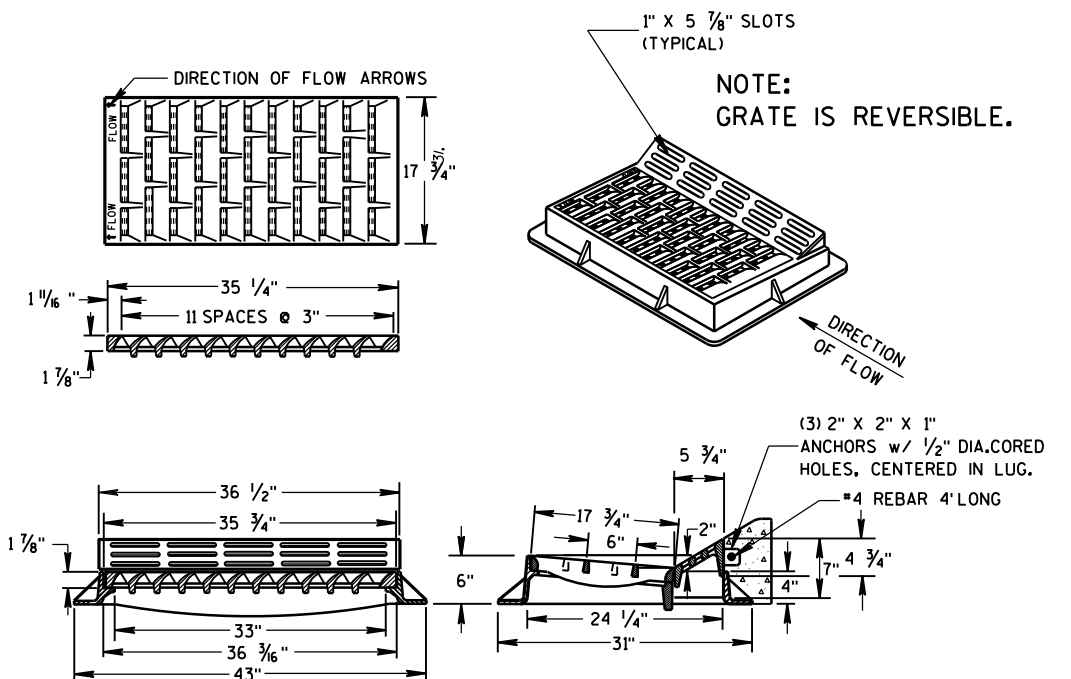
TYPE "S"



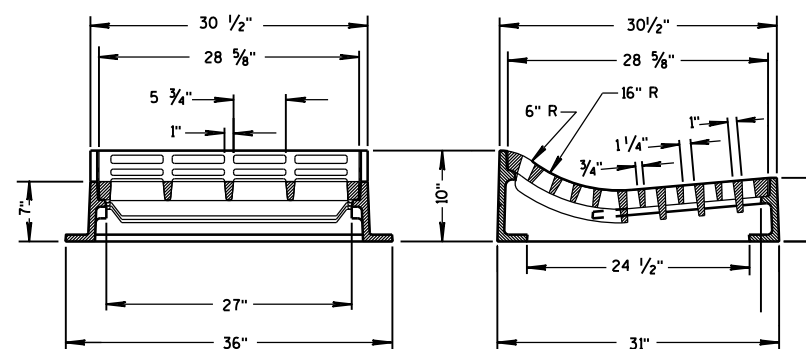
TYPE "V"

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

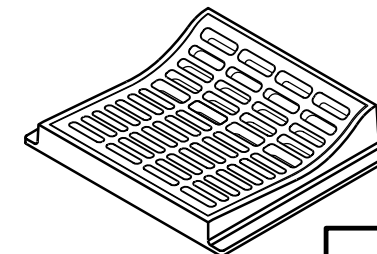
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING
SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND
THE APPLICABLE SPECIAL PROVISIONS.DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED
TO THE ENGINEER FOR APPROVAL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

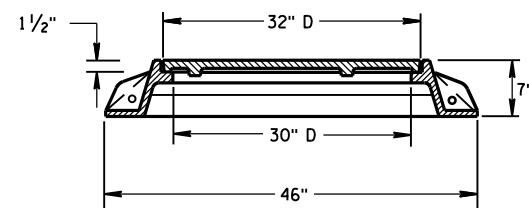
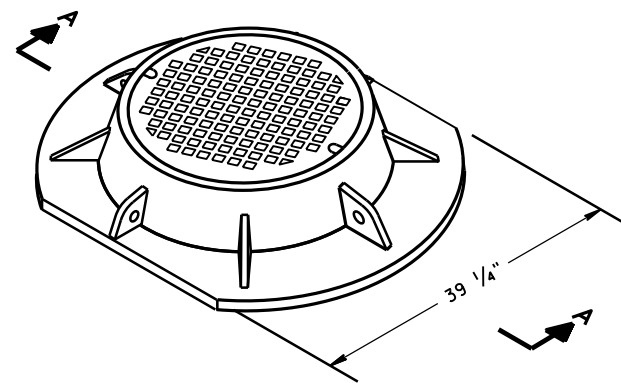
TYPE "HM"

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

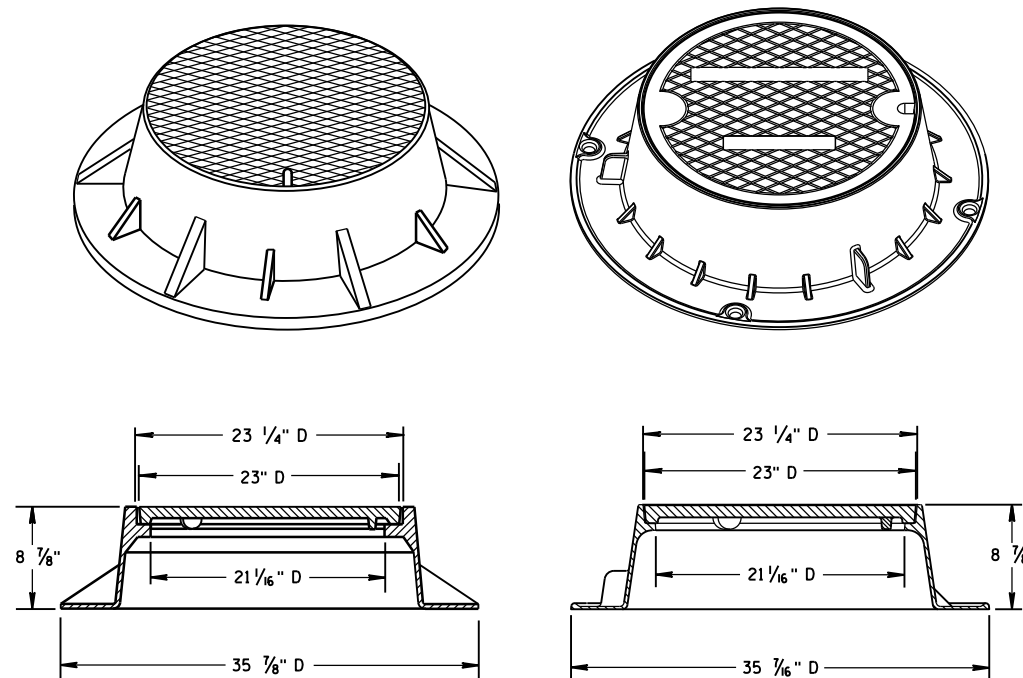
TYPE "T"

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

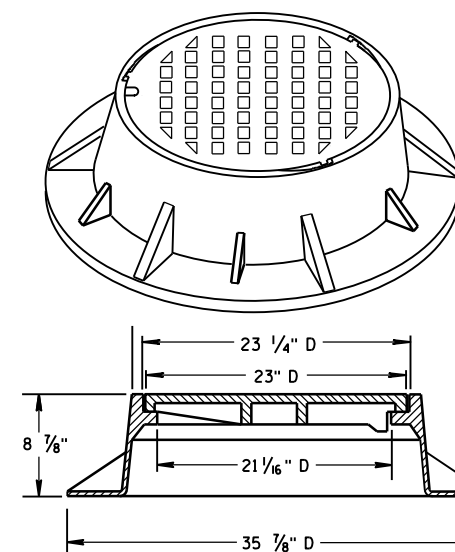
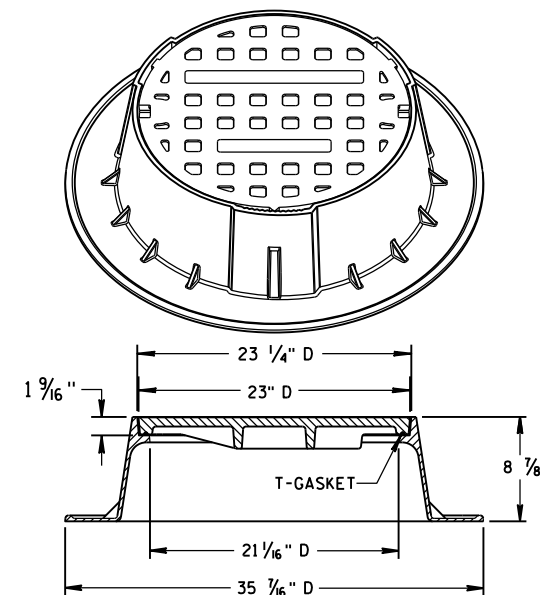


SECTION A-A
TYPE "K"



TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

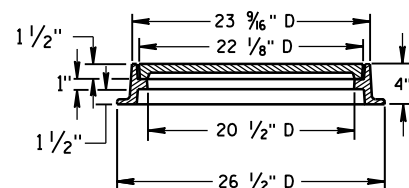
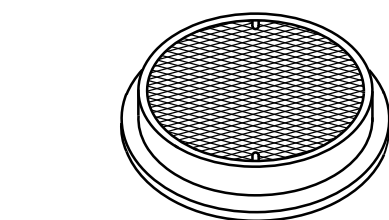


TYPE "J" SPECIAL

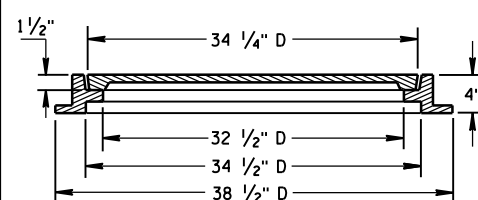
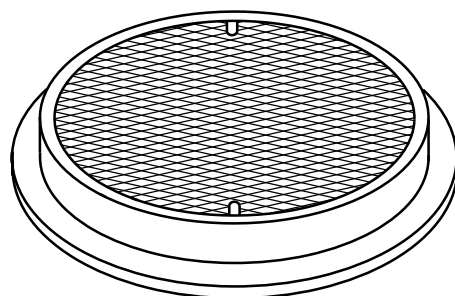
TYPE "B" NON-ROCKING SELF-SEAL LID

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

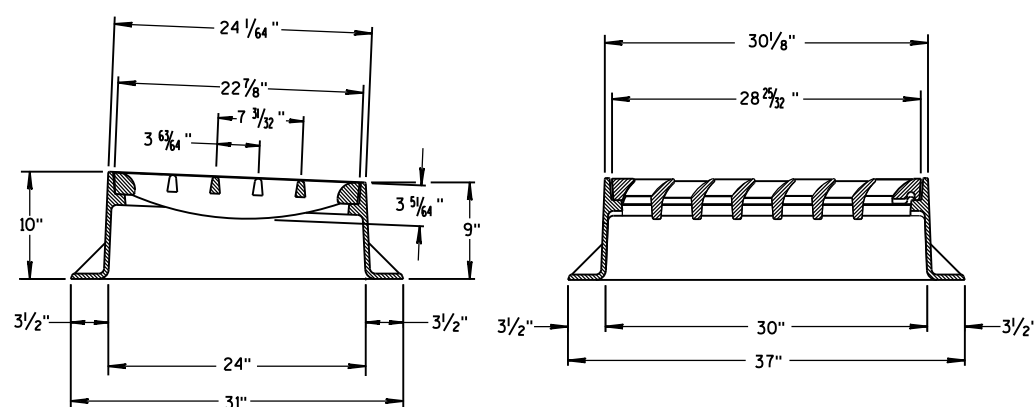
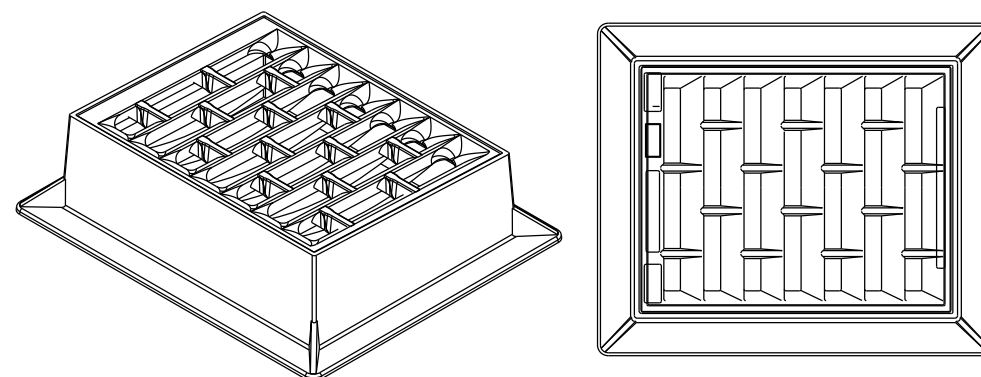
NOTE: EITHER CASTING IS ACCEPTABLE



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.

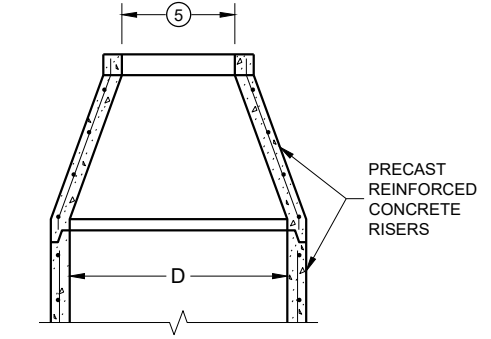
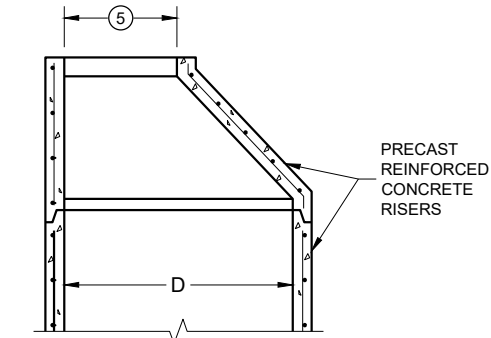
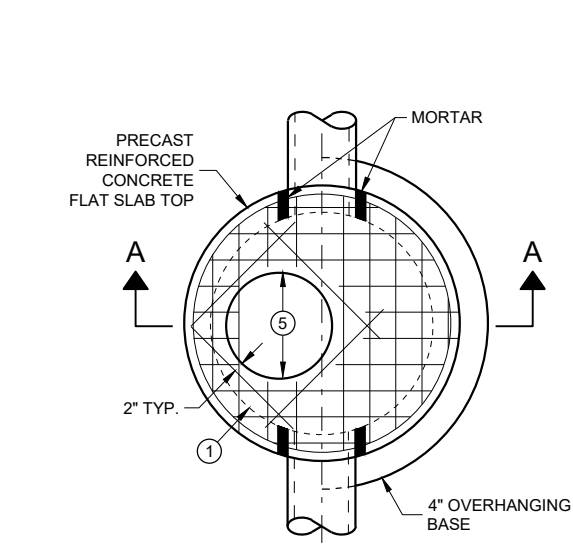
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

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



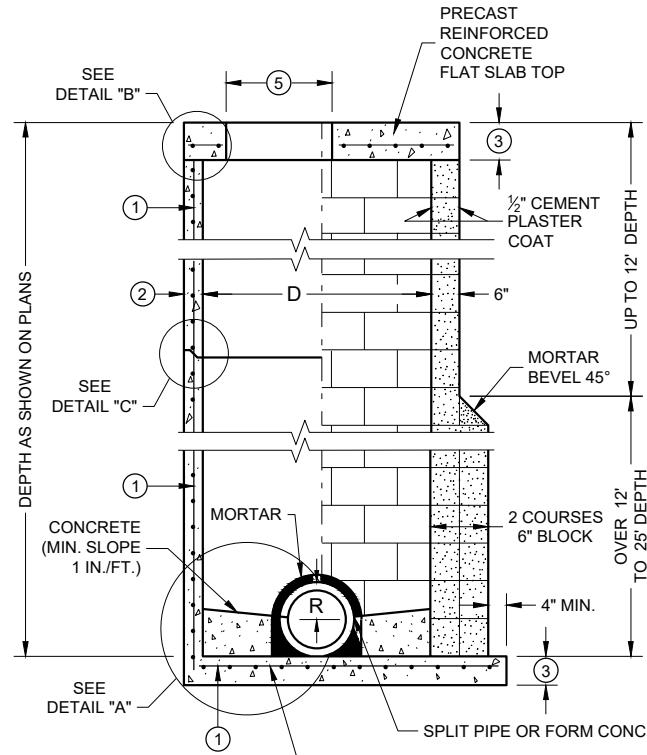
MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

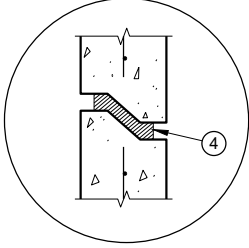
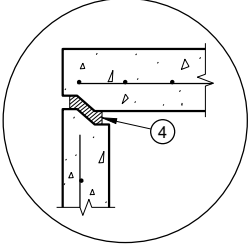
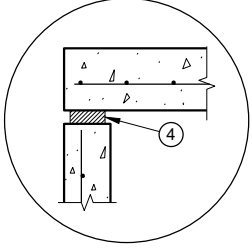
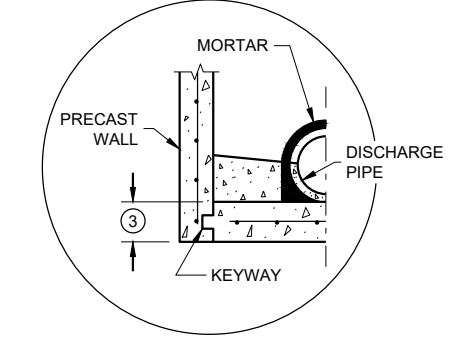
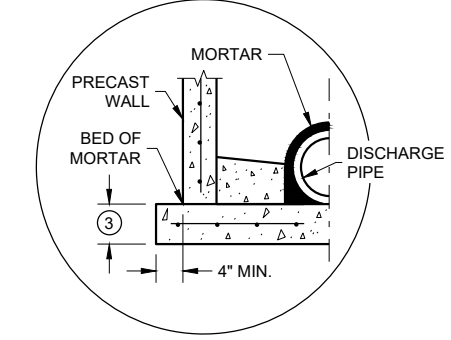
MANHOLE SIZE (DIA.)	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES		MINIMUM WALL THICKNESS (IN)	MINIMUM PRECAST FLAT SLAB TOP AND BASE THICKNESS
	180° SEPARATION (IN)	90° SEPARATION (IN)		
3-FT	15	12	4	6
4-FT	24	18	4	6
5-FT	36	24	5	8
6-FT	42	36	6	8
7-FT	48	36/42 *	7	8
8-FT	60	42	8	8
9-FT	66	54	9	10
10-FT	72	60	10	10

* A 36" PIPE AND A 42" PIPE CAN BE PLACED WITHIN 90 DEGREES. SEE MINIMUM HORIZONTAL PIPE SEPARATION DETAIL.



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE ①



DETAIL "B"

DETAIL "C"

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

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES. 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 INCH 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.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

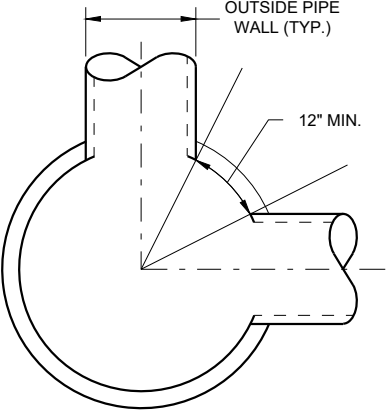
PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

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

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 "D".

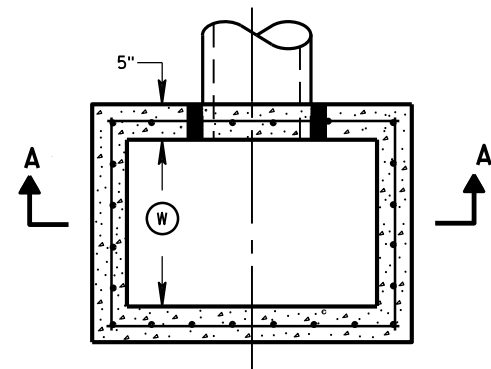
- ① FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ② SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES
- ③ SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.
- ④ JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP.).
- ⑤ SEE MANHOLE COVER OPENING MATRIX.



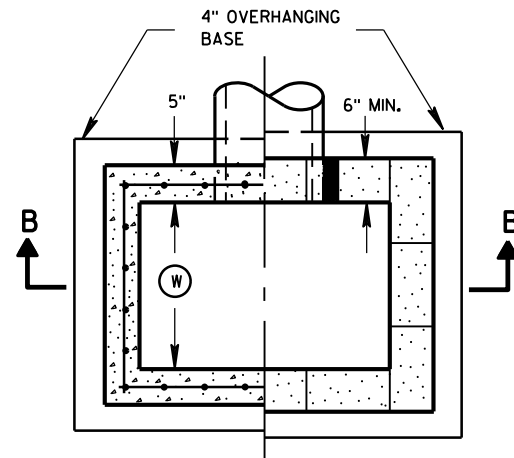
MANHOLES, 3-FT, 4-FT
5-FT, 6-FT, 7-FT, 8-FT, 9-FT
AND 10-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

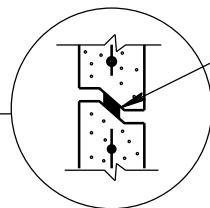
APPROVED
November 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



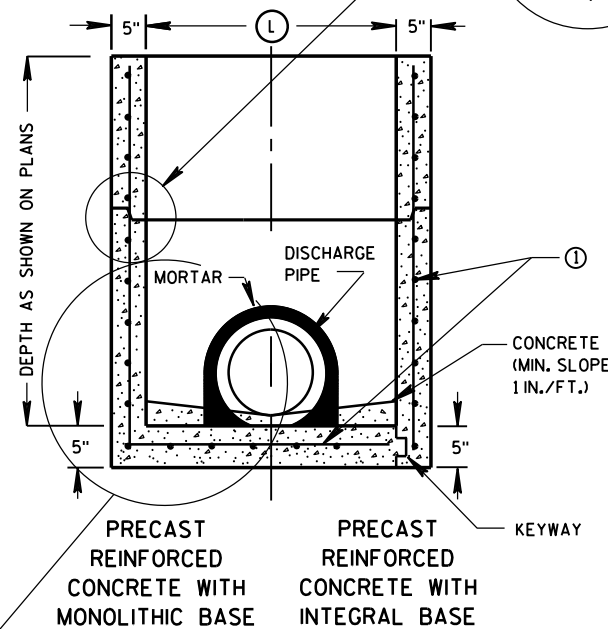
PLAN VIEW



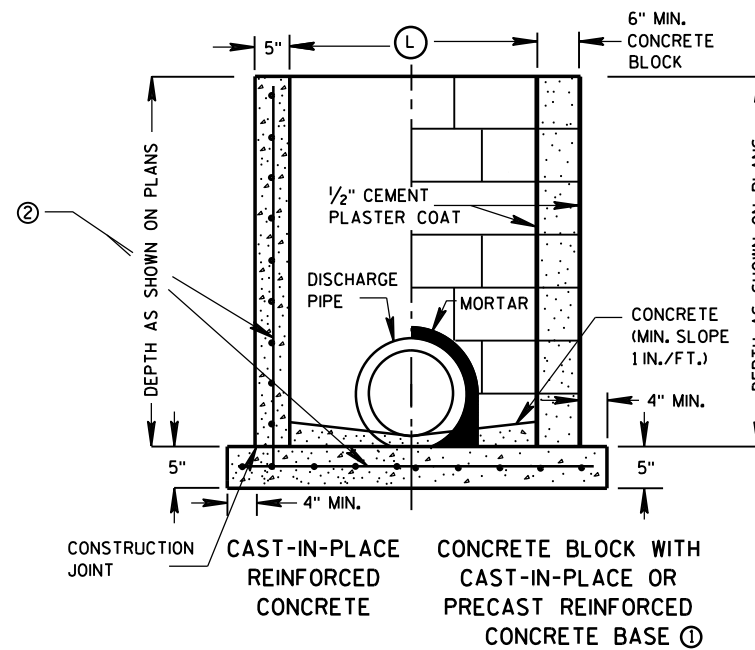
PLAN VIEW



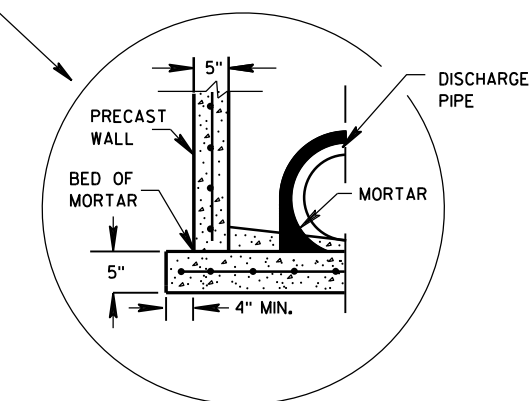
RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



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.

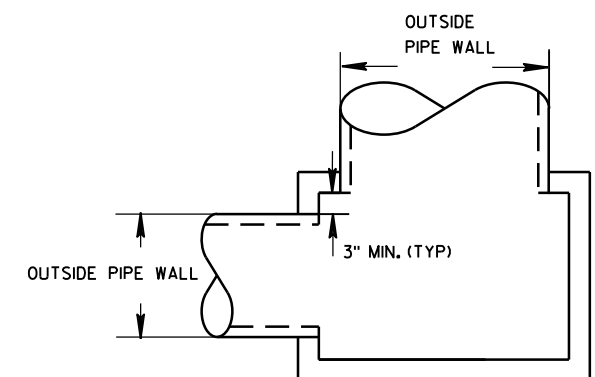
- FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

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

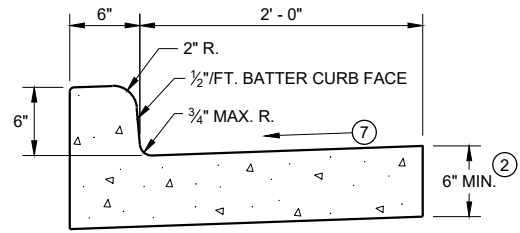


DETAIL "A"

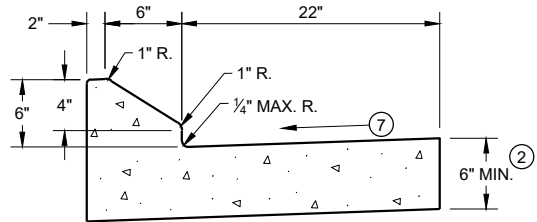
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

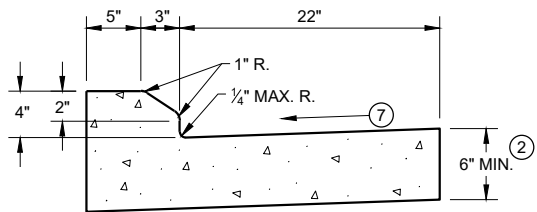
APPROVED
Sept., 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



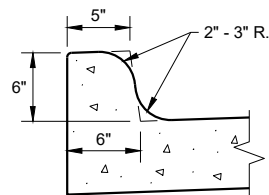
TYPES A^① & D



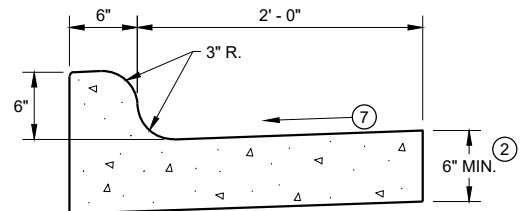
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

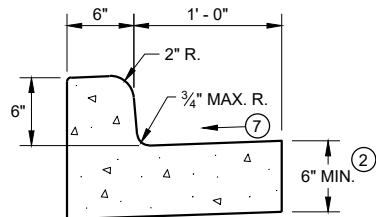


TYPES K^① & L
(OPTIONAL CURB SHAPE)



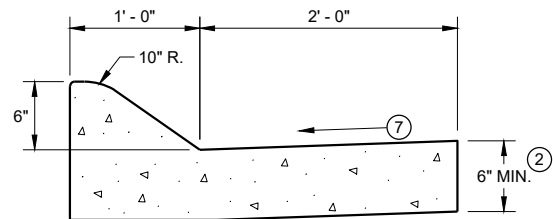
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

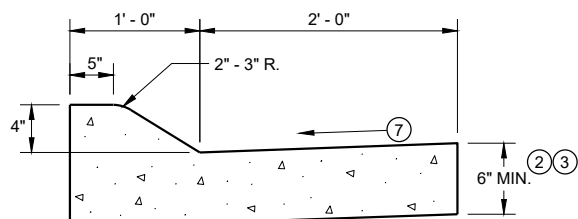


TYPES A^① & D

CONCRETE CURB AND GUTTER 18"

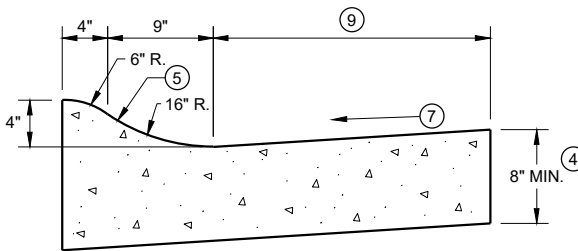


6" SLOPED CURB TYPES A^① & D



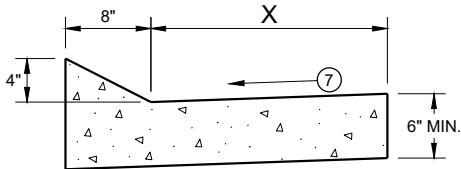
4" SLOPED CURB TYPES A^① & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T

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

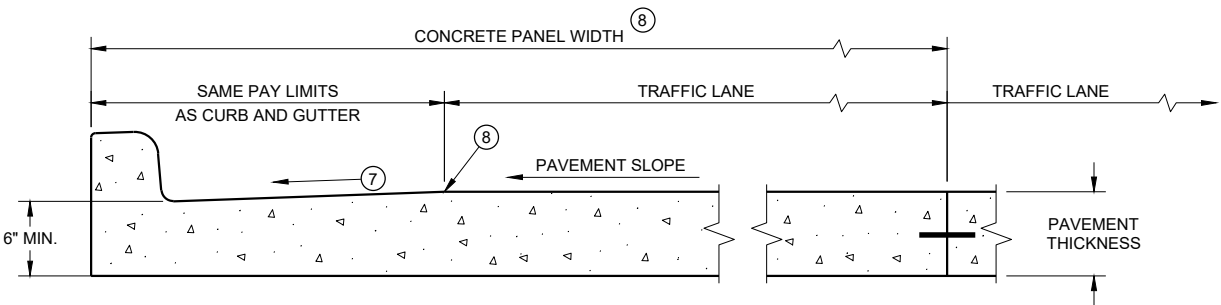


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

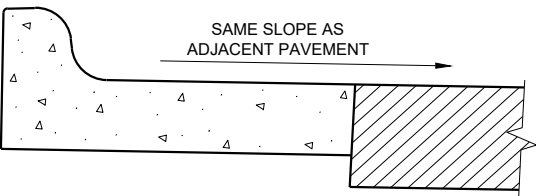
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT *
WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

DETAILS OF CONSTRUCTION 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.

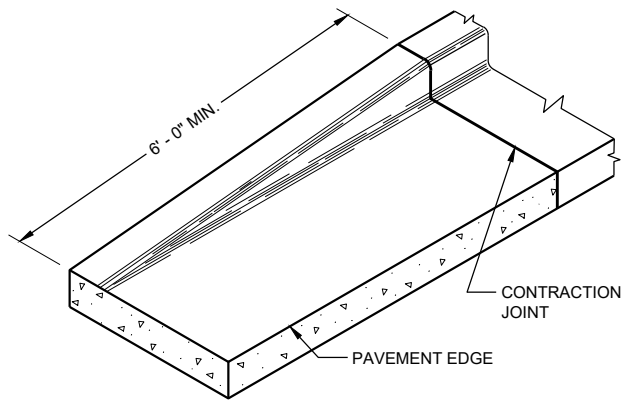
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

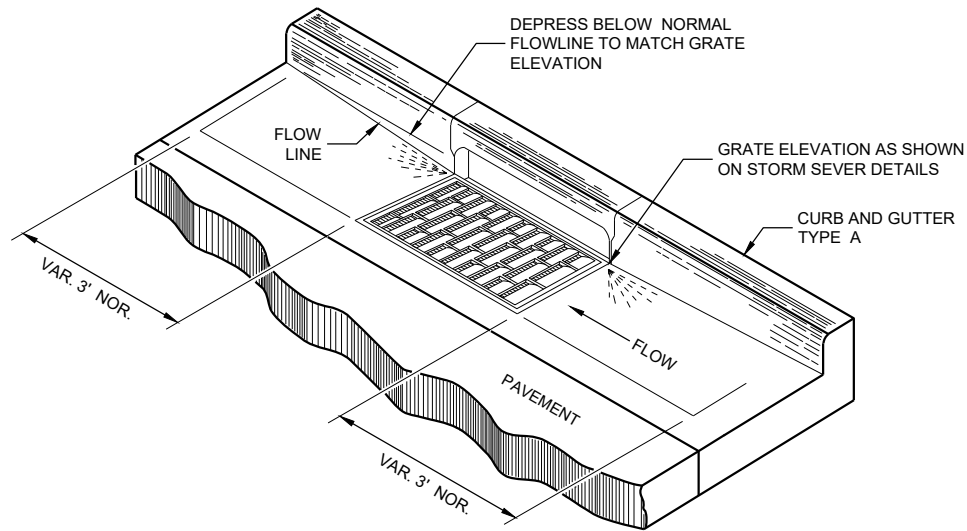
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH 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 UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES 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.
- ⑨ CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

CONCRETE CURB AND GUTTER

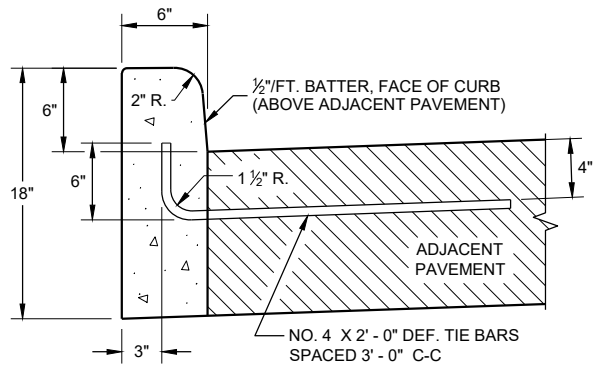
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



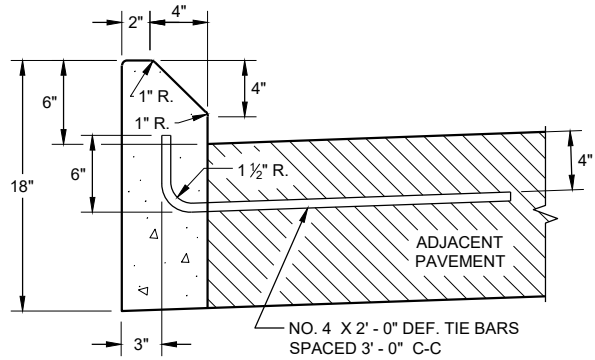
END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS
(TYPICAL H INLET COVER SHOWN)

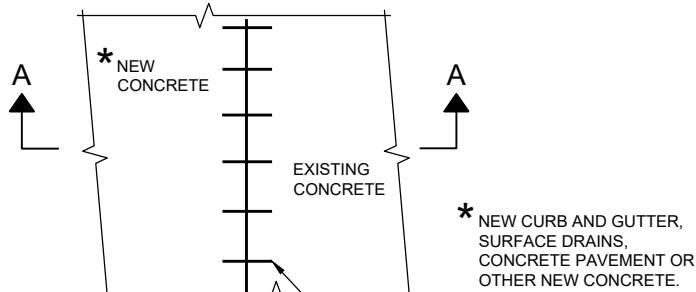


TYPES A^① & D

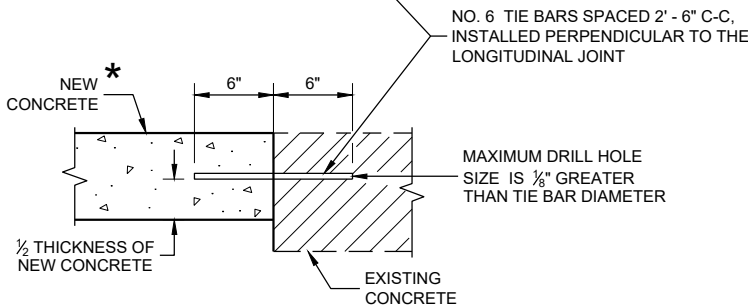


TYPES G^① & J

CONCRETE CURB



PLAN VIEW



SECTION A - A

TIE BARS DRILLED
INTO EXISTING PAVEMENT

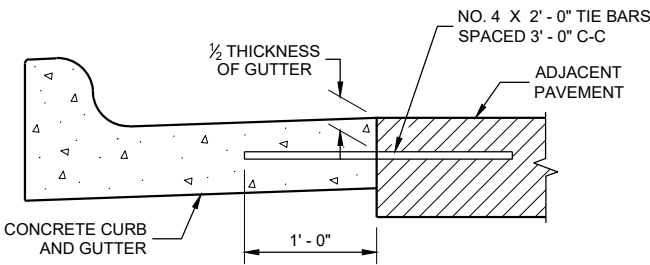
GENERAL NOTES

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

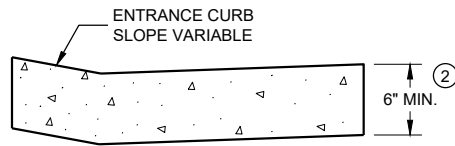
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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 GUTTERS 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 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION^①



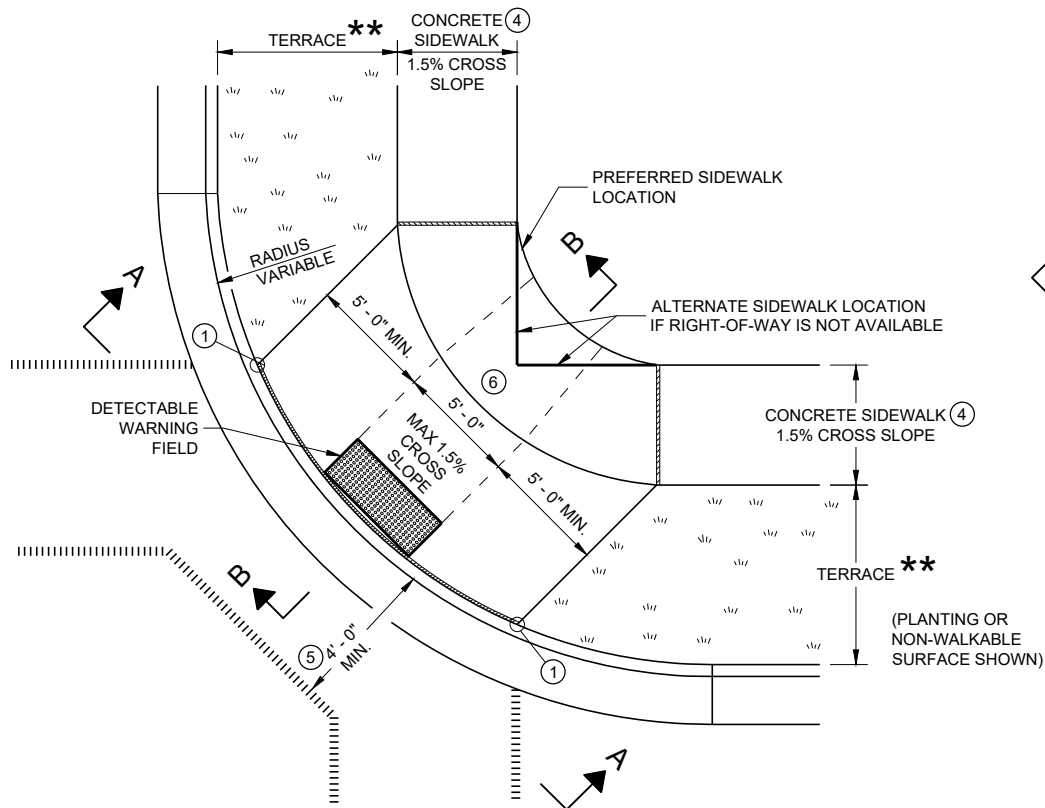
DRIVEWAY ENTRANCE CURB^⑨
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES
AND CURB AND GUTTER
APPLICATIONS

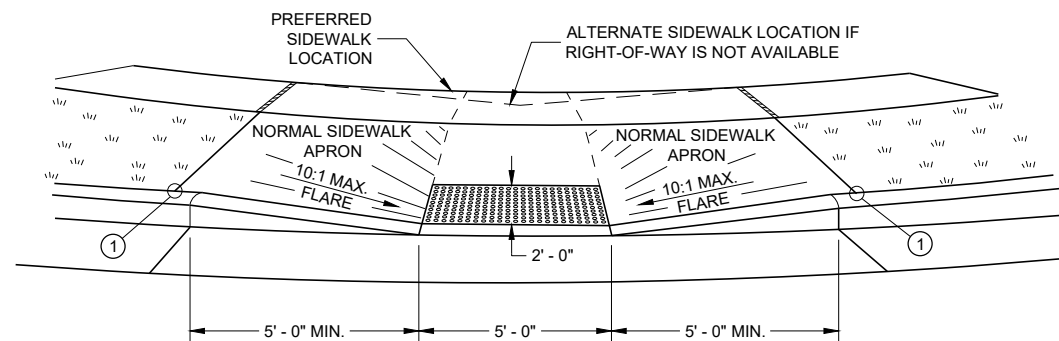
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021
DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA

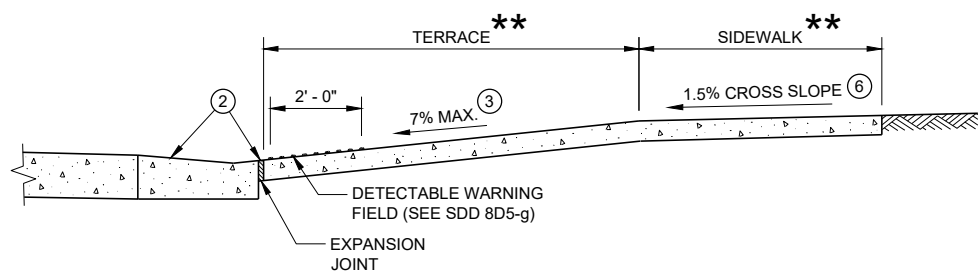


PLAN VIEW
CURB RAMP TYPE 1
(CENTER OF CORNER RADIUS)

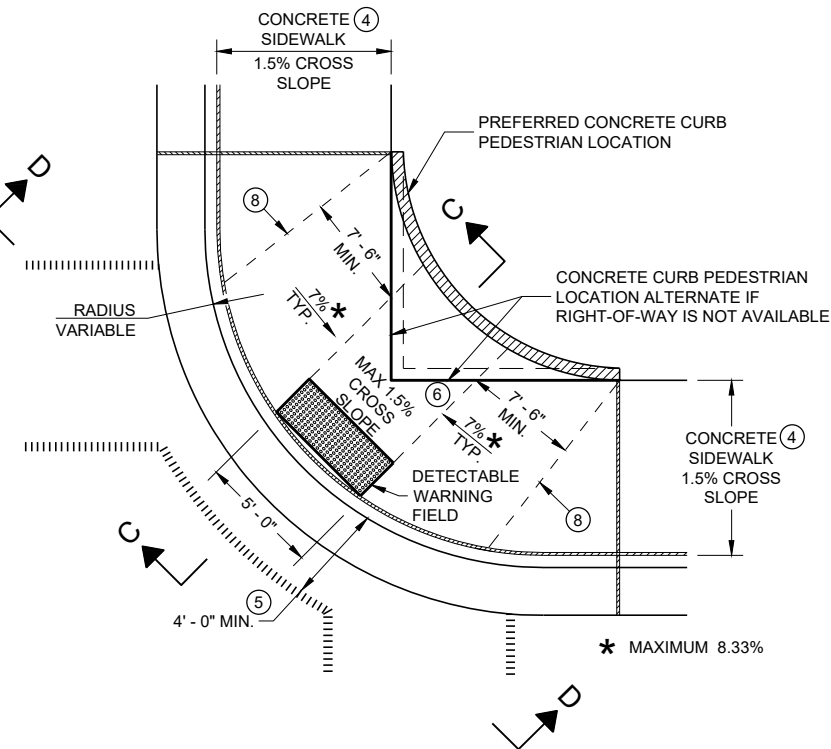


VIEW A - A FOR TYPE 1

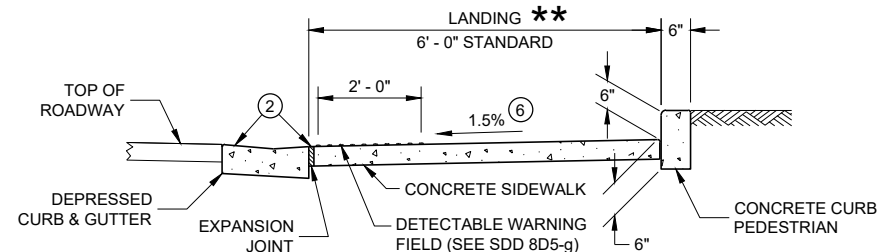
** WIDTH SHOWN ELSEWHERE
IN THE PLANS



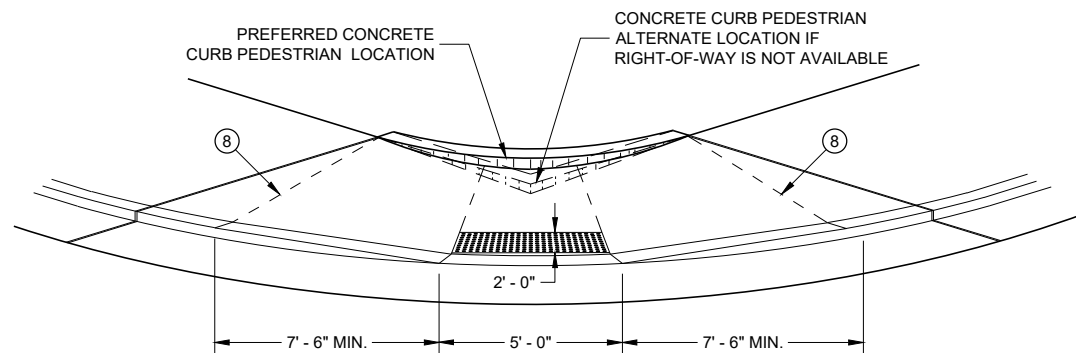
SECTION B - B FOR TYPE 1



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



SECTION C - C FOR TYPE 1 - A



VIEW D - D FOR TYPE 1 - A

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 CURB 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 LINEAR 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.

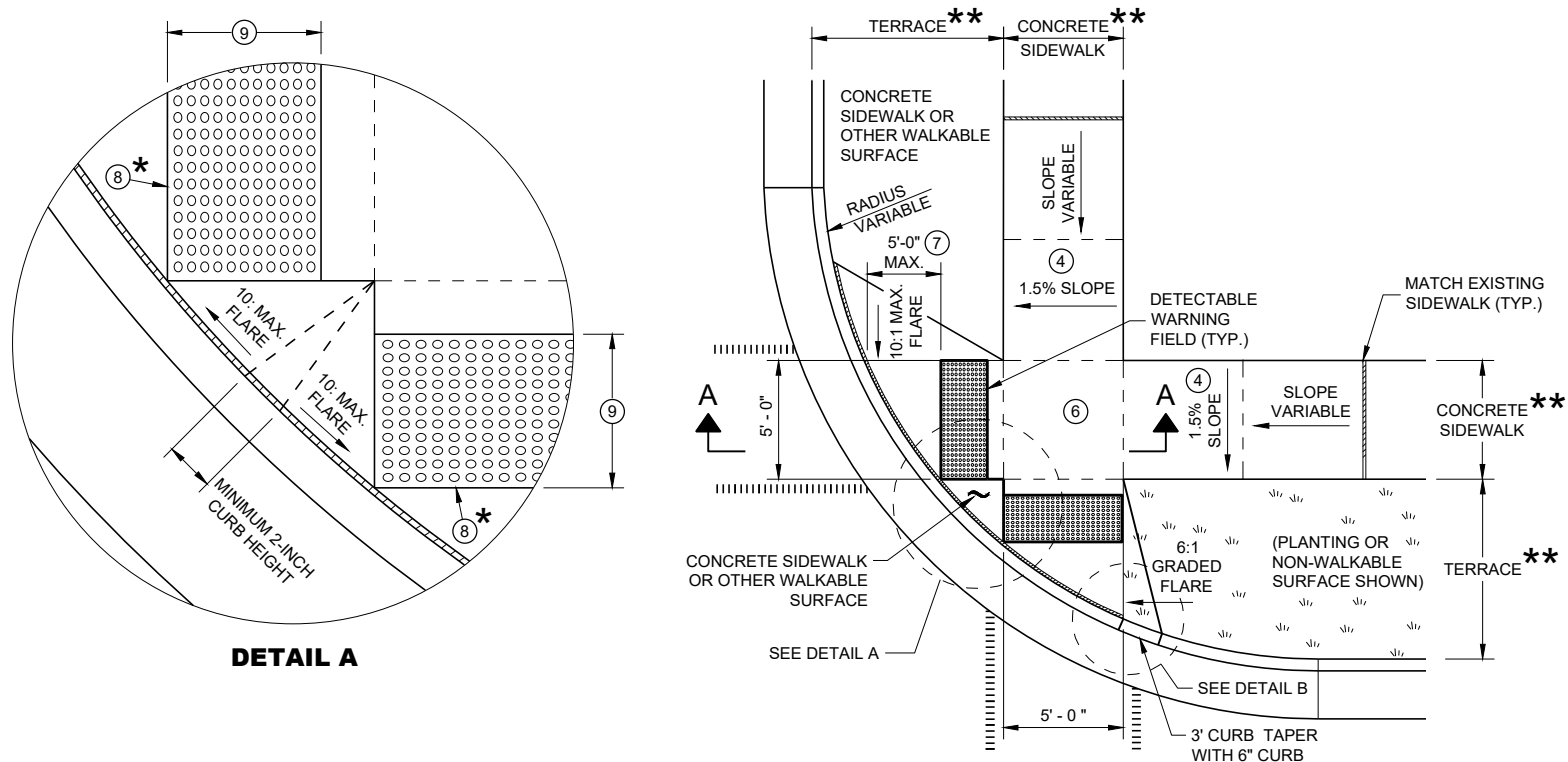
- 1 THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
- 2 GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. 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 MAXIMUM 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 LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- 8 PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

LEGEND

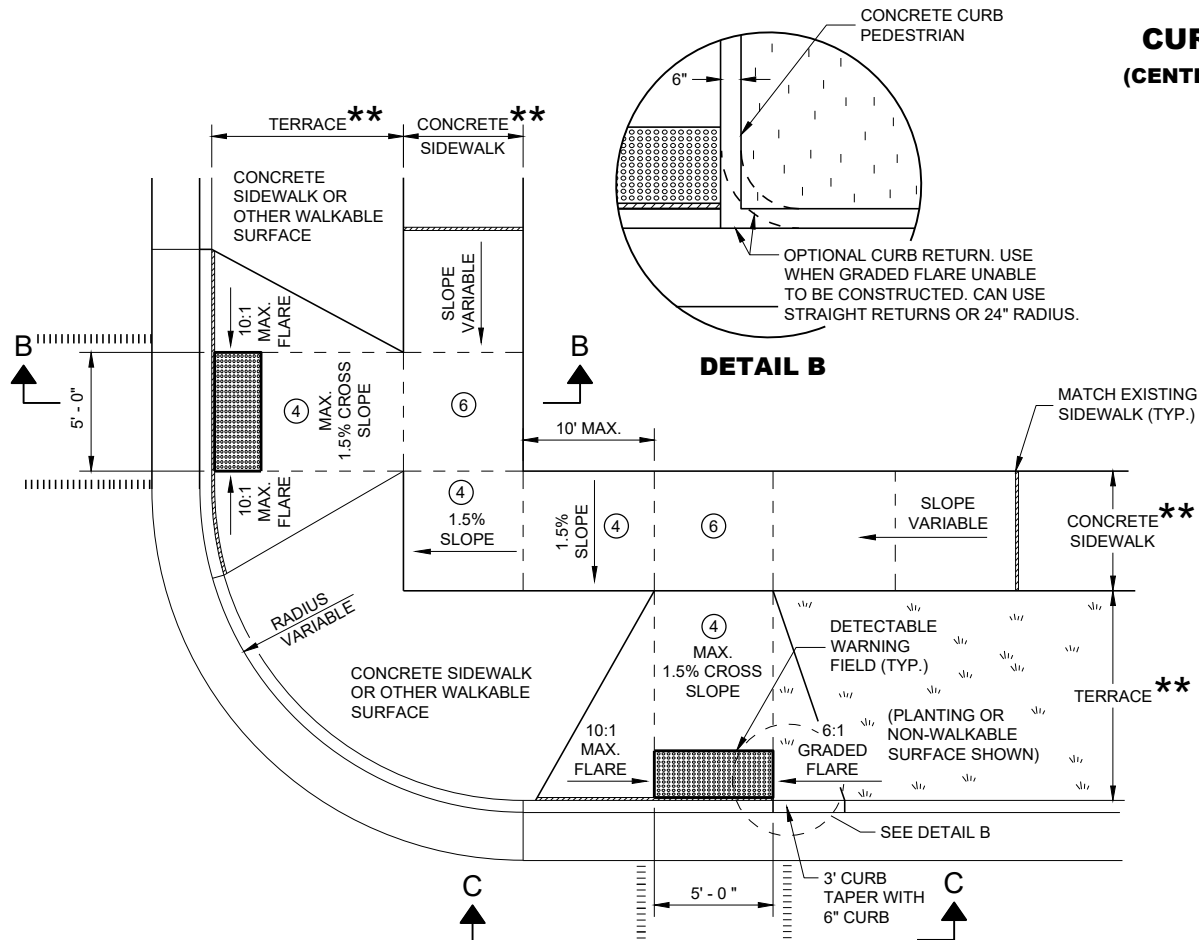
- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPE 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



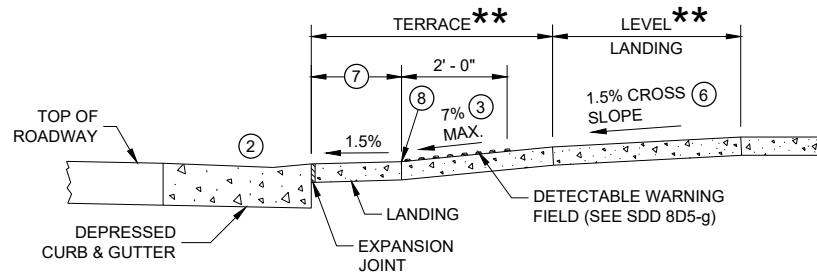
PLAN VIEW
CURB RAMP TYPE 2
(CENTER OF CORNER RADIUS)



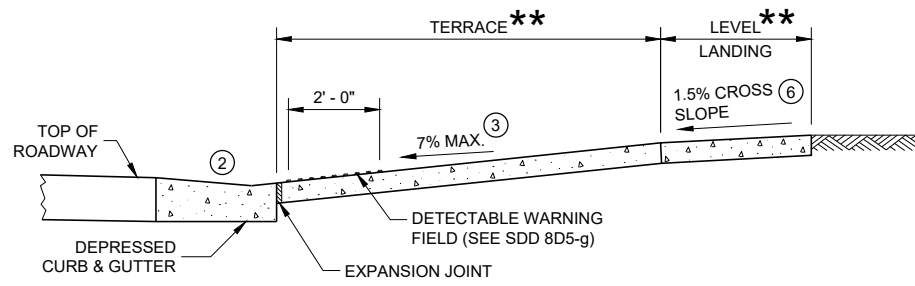
PLAN VIEW
CURB RAMP TYPE 3
(OUTSIDE OF CROSSWALK AREA)

GENERAL NOTES

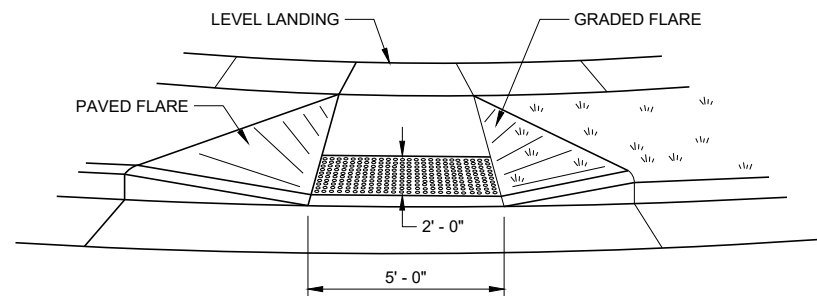
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE 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 1/2 - 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 AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) 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 LEVEL LANDING SIZE IS 5 FEET X 5 FEET.
 - ⑦ WHEN 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 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.



SECTION A - A FOR TYPE 2



SECTION B - B FOR TYPE 3



VIEW C - C FOR TYPE 3

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

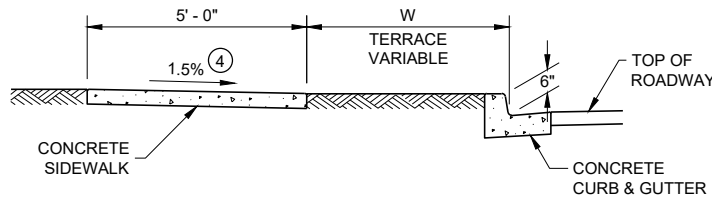
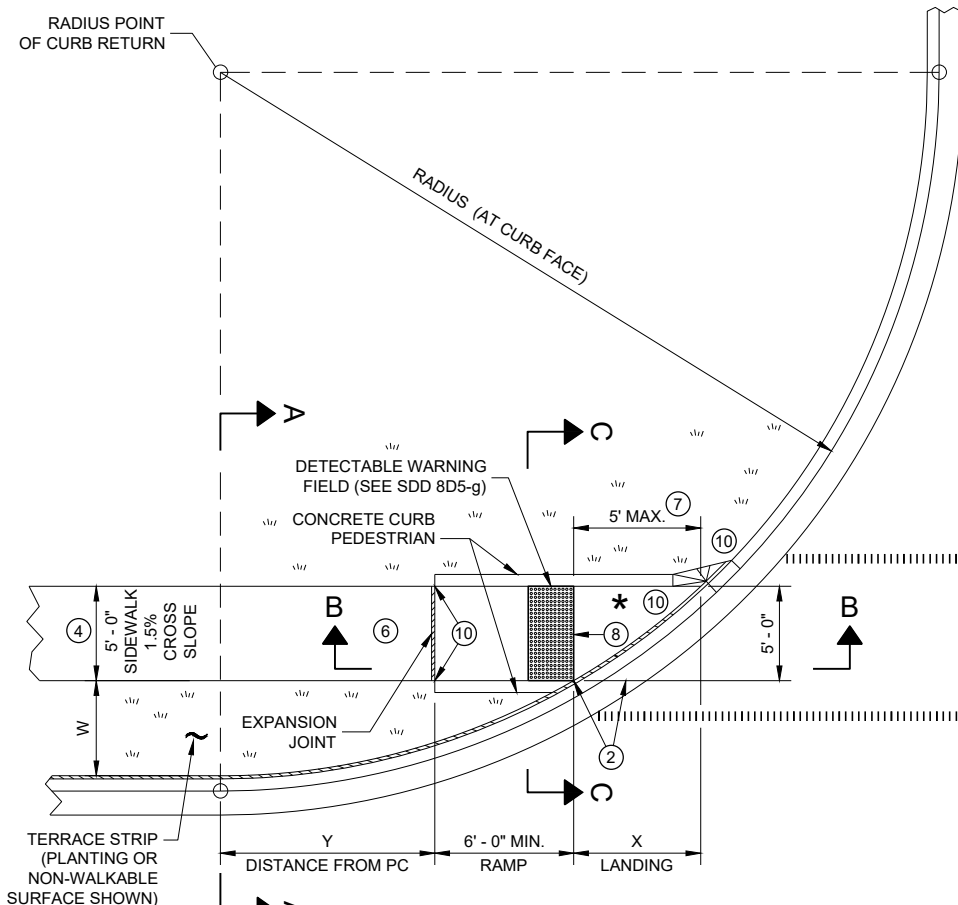
** WIDTH SHOWN ELSEWHERE
IN THE PLANS

LEGEND

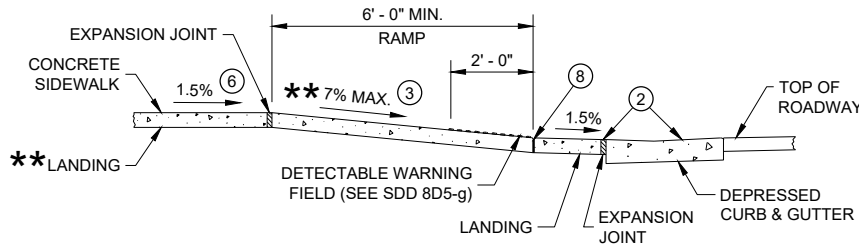
- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPE 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SECTION A - A FOR TYPE 4B



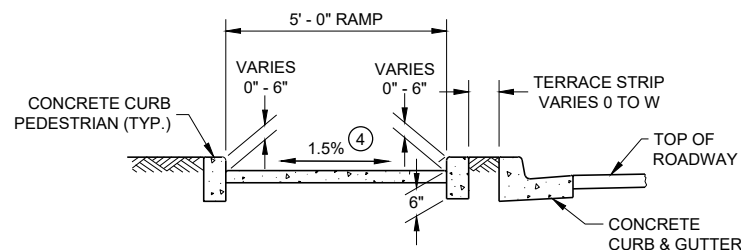
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

SECTION B - B FOR
TYPE 4B AND TYPE 4B1

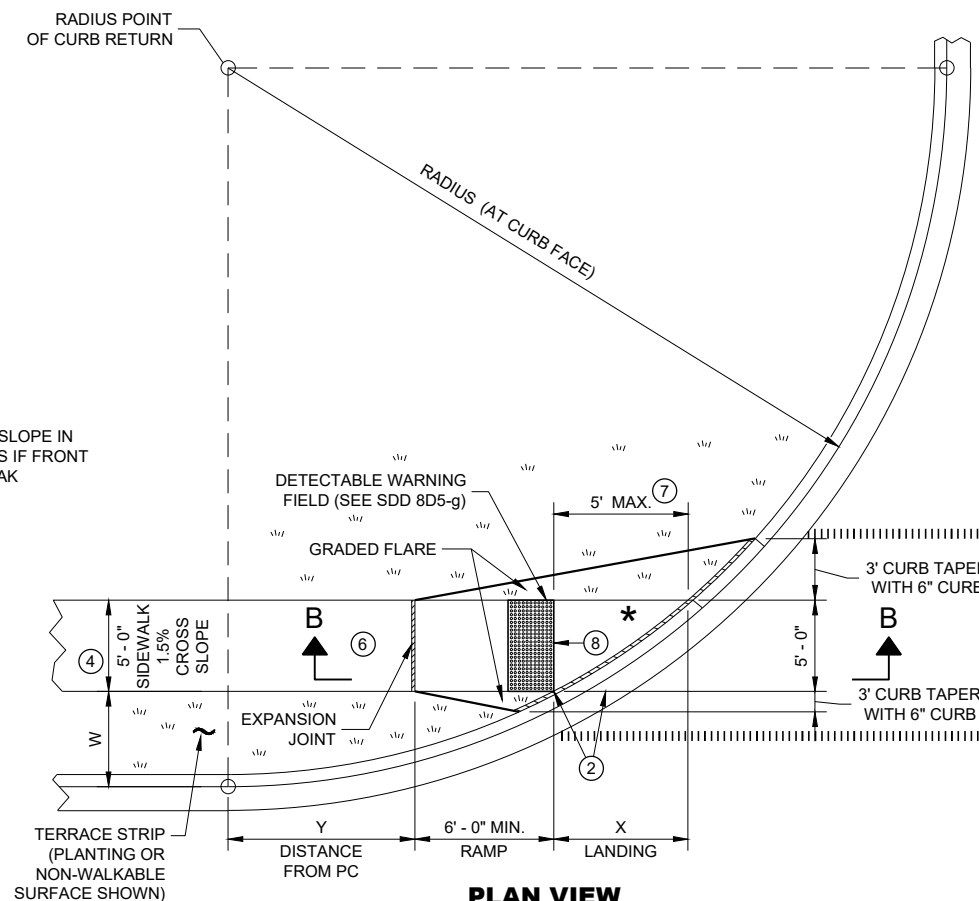
* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK

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 3/4"	3' - 0 1/4"						
15 FEET	4' - 6 3/4"	2' - 1 3/4"	3' - 9"	3' - 5 3/4"	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 1/2"	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"

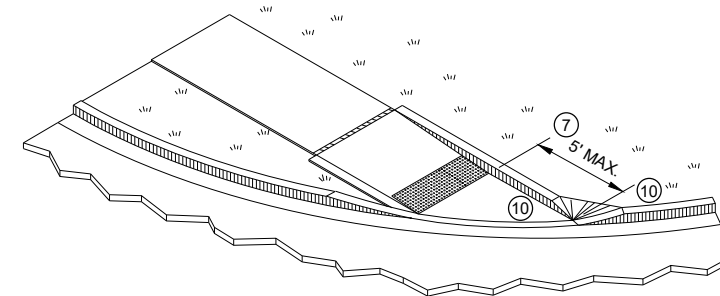
INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH



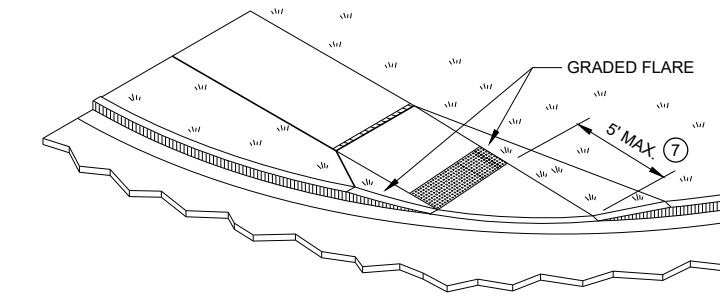
SECTION C - C FOR TYPE 4B



PLAN VIEW
CURB RAMP TYPE 4B1



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1

- LEGEND**
- 1/2" EXPANSION JOINT SIDEWALK
 - CONTRACTION JOINT SIDEWALK
 - PAVEMENT MARKING CROSSWALK (WHITE)

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.
- 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 AN 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 LEVEL LANDING SIZE IS 5 FEET BY 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.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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



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

- 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 $\frac{1}{4}$ - 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 AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ $\pm 0.5\%$ 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 LEVEL LANDING SIZE IS 5 FEET BY 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 1.5 FEET $\pm 0.1'$ 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.

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



RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-c IS EXCEEDED

SEE DETAIL A

GRADED FLARE

DETECTABLE WARNING FIELD RADIAL

EXPANSION JOINT

3' CURB WITH 6'-0" MIN. RAMP

6'-0" SIDEWALK 1.5% CROSS SLOPE

2'-0" MIN. DWF COVERAGE

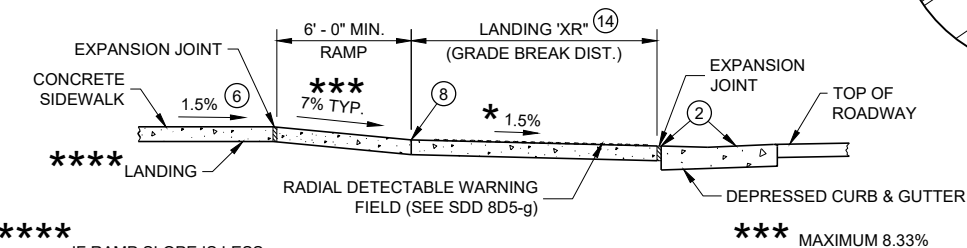
LANDING 'XR'

MIN. 2'-0" DWF COVERAGE

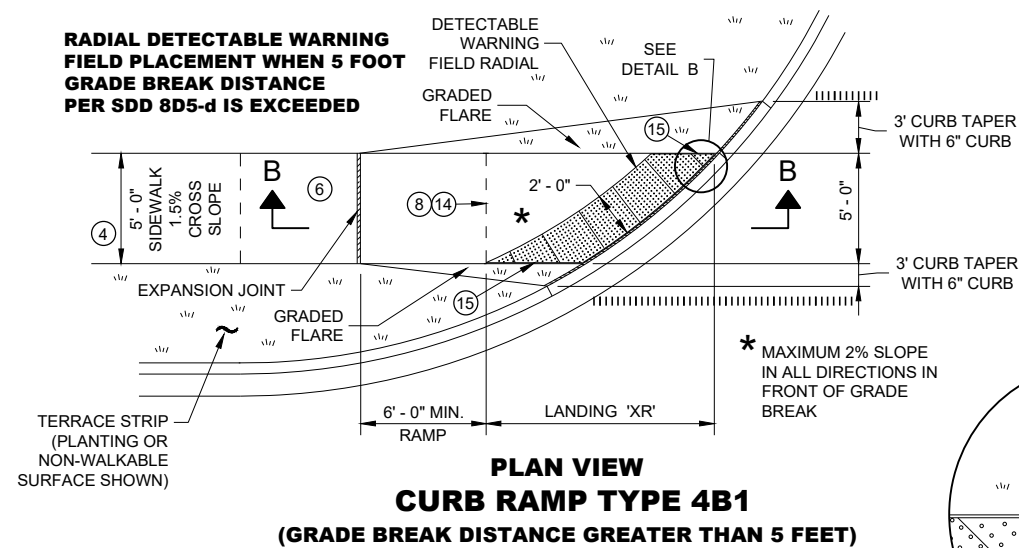
3'-0" CURB WITH 6'-0" MIN. RAMP

MAXIMUM 2% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

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

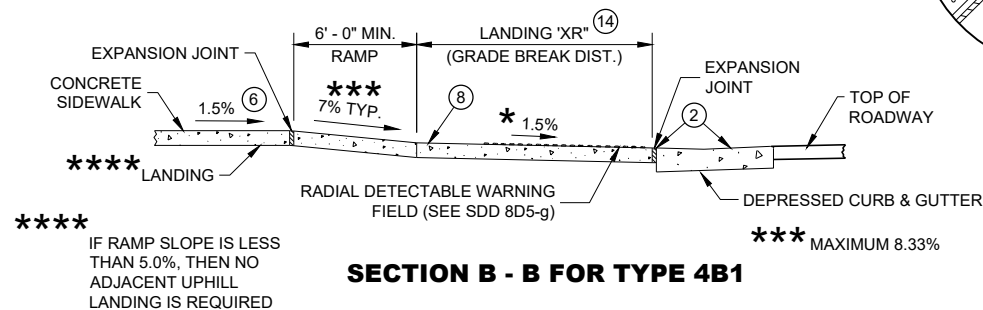


SECTION A - A FOR TYPE 4A1



NON-WALKABLE
SURFACE SHOWN)

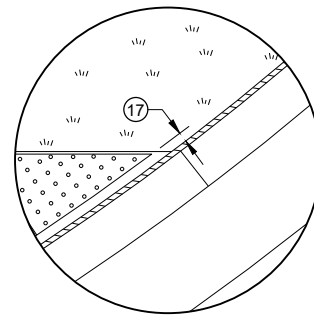
PLAN VIEW
CURB RAMP TYPE 4B1
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



SECTION B - B FOR TYPE 4B1

LEGEND

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



DETAIL A

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIO

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.

DETECTABLE WARNING FIELDS 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 FILED 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.

- 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 AN 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 BY 5 FEET.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑭ CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.
- 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.
- ⑯ 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.
- ⑰ A MAXIMUM 3 INCH CONCRETE BORDER WITH IS ALLOWABLE IN FROM OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-b IS EXCEEDED

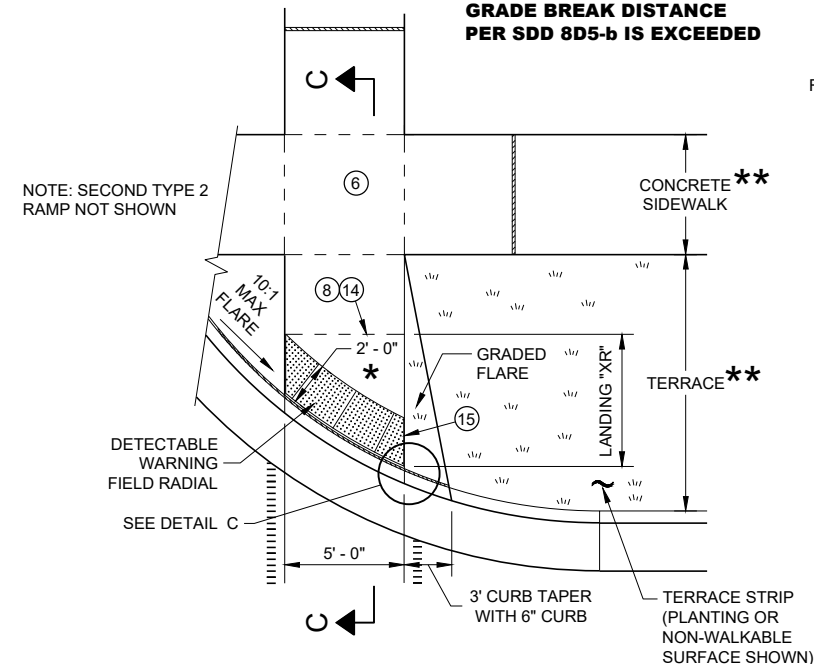
EXPANSION

TERRACE

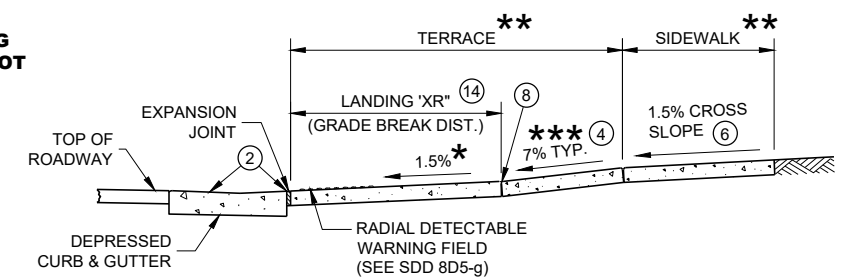
LANDING "XR" (14) (8)

SIDEWALK

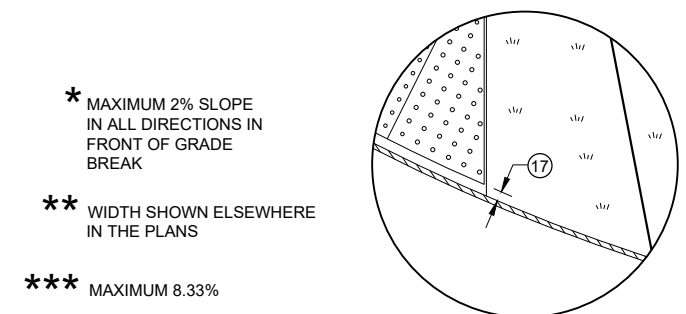
1.5% CROSS



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



SECTION C - C FOR TYPE 2



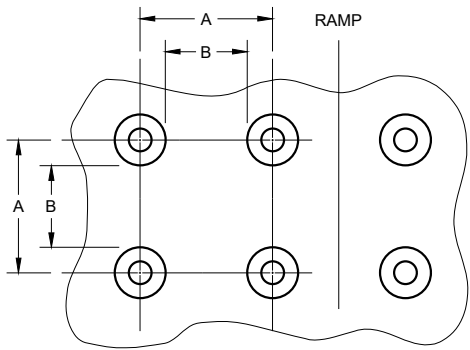
l) **DETAIL C**

CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS

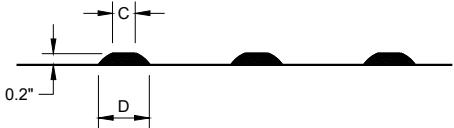
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

	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.

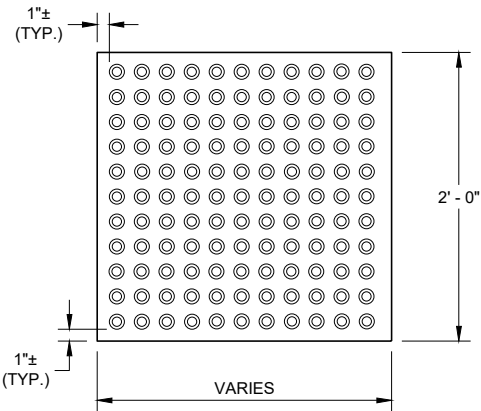


PLAN VIEW

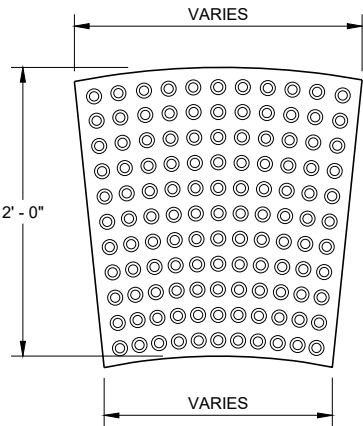


ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

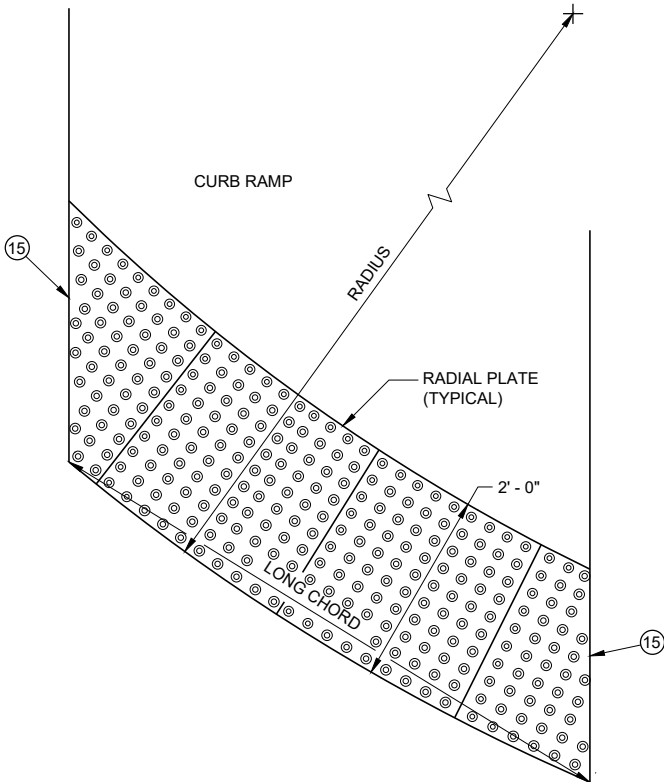


RECTANGULAR
PLATES

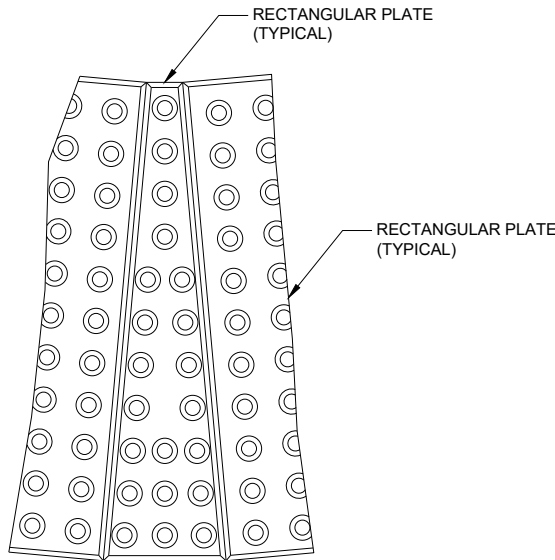


RADIAL
PLATES

PLAN VIEW
DETECTABLE WARNING FIELDS (TYPICAL)



PLAN VIEW
RADIAL DETECTABLE
WARNING FIELD ATTRIBUTES



PLAN VIEW
RADIAL WEDGE PLATE
CONNECTION DETAIL

GENERAL NOTES

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AT A CURB RAMP 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 FILED 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 WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

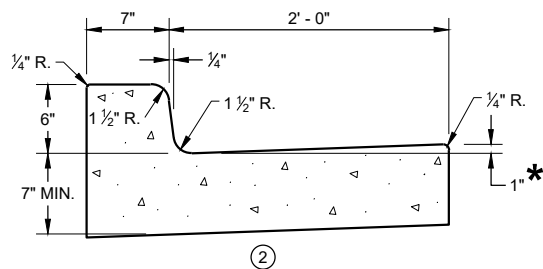
DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

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.

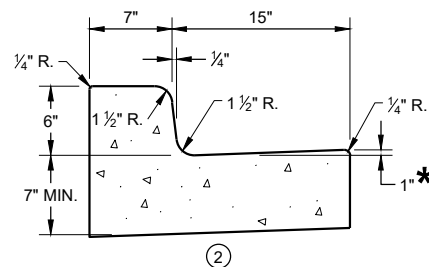
CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

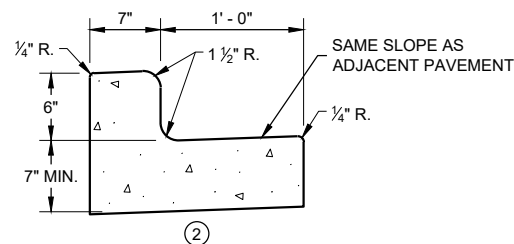
APPROVED
May 2019 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



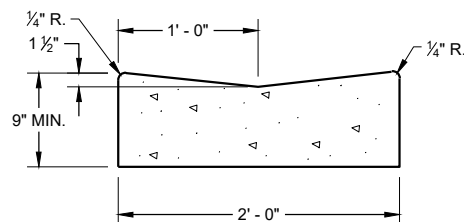
CONCRETE CURB AND GUTTER 31" ①



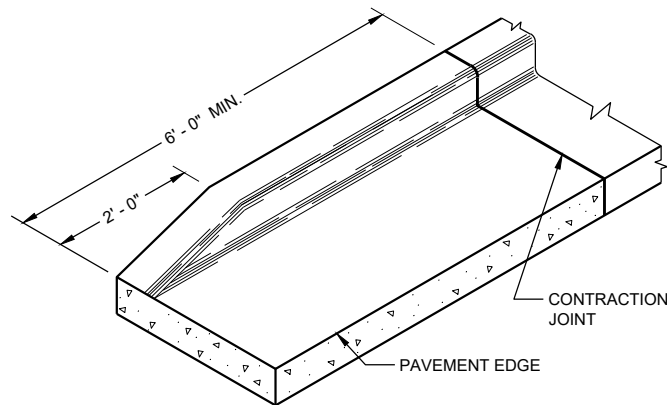
CONCRETE CURB AND GUTTER 22" ①



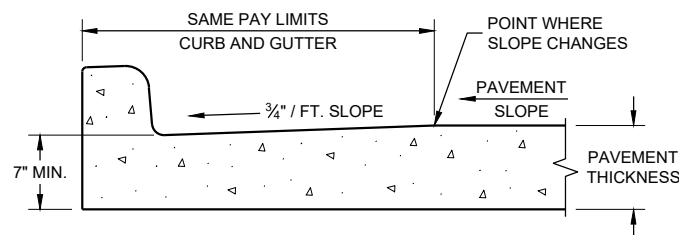
CONCRETE CURB AND GUTTER 19" ①



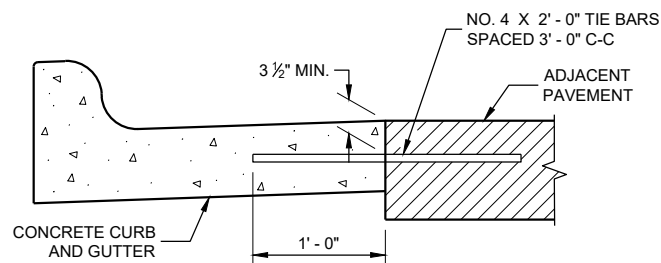
CONCRETE GUTTER 24" ①



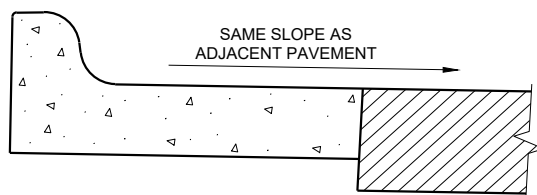
END SECTION CURB AND GUTTER



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB AND GUTTER



TYPICAL TIE BAR LOCATION ①



HIGH SIDE SECTION ③
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

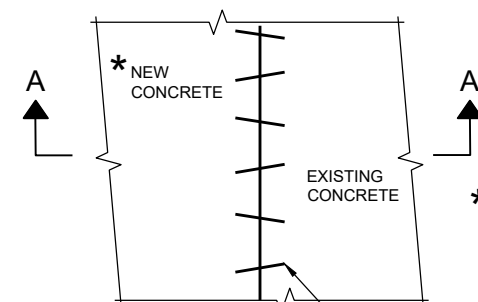
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

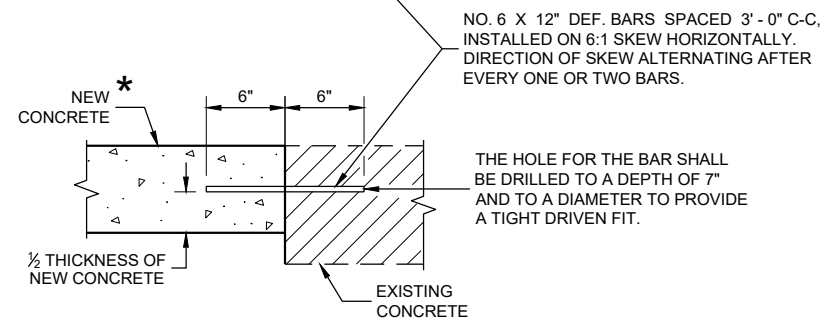
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

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

- ① WHEN PLACED ADJACENT TO NEW CONCRETE, TIE BARS ARE REQUIRED FOR CURB AND GUTTER 31", 22", 19" AND CONCRETE GUTTER 24".
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 7" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLANS



PLAN VIEW



SECTION A - A

PAVEMENT TIES

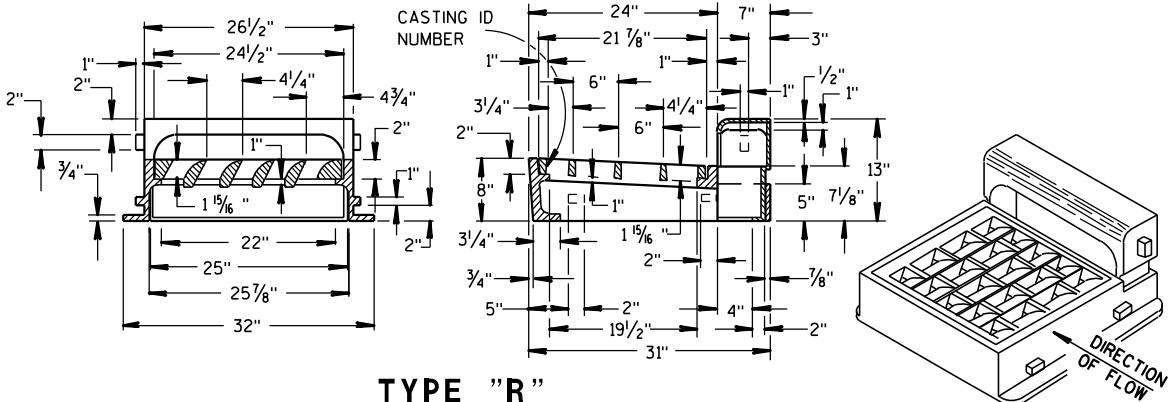
**CONCRETE GUTTER,
CURB AND GUTTER AND
PAVEMENT TIES**
(For Optional use in Milwaukee Co. Only)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

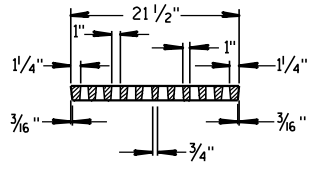
FHWA

INLET COVERS



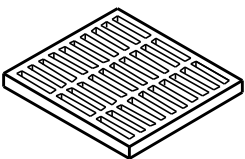
TYPE "R"

SHOWING SPECIAL GRATE NO. 1
(TO BE NOTED AS R-1 IN DRAINAGE TABLE)



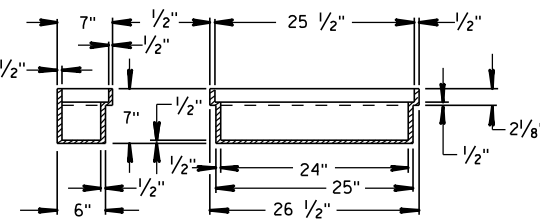
GRATE FOR TYPE "R" INLET COVER

(GRATE..... 150 LBS.)
(TO BE USED UNLESS OTHERWISE NOTED IN DRAINAGE TABLE)



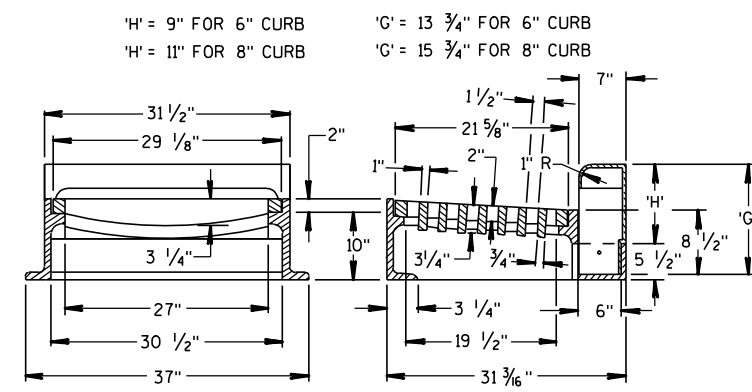
NOTE:
CURB PLUG USED IN PLACE
OF CURB BOX IN ABSENCE
OF CONC. CURB. FILL TO
TOP WITH CONCRETE.

(APPROX. WEIGHT - 510 LBS.)
FRAME..... 245 LBS.
CURB..... 120 LBS.
GRATE..... 145 LBS.



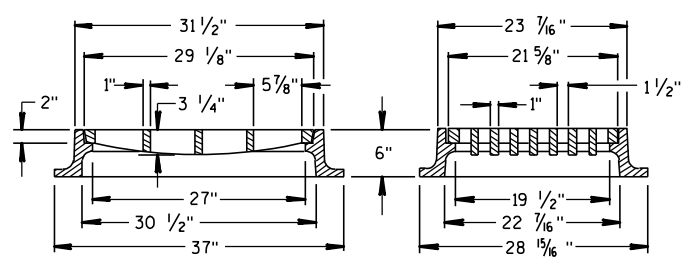
SECTION B-B SECTION A-A
SPECIAL CURB PLUG "P"

(CURB PLUG..... 85 LBS.)
(TO BE NOTED AS R-P IN DRAINAGE TABLE)



TYPE "W"

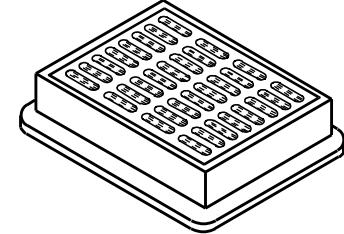
(APPROX. WEIGHT - 670 LBS.)
FRAME..... 350 LBS.
CURB BOX..... 135 LBS.
GRATE..... 185 LBS.



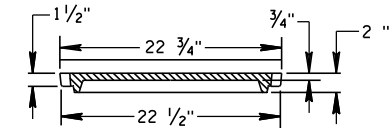
TYPE "X"

(APPROX. WEIGHT - 470 LBS.)

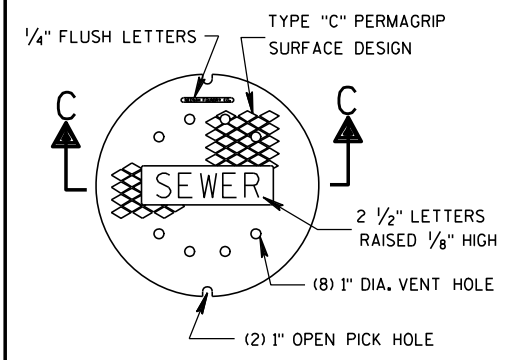
ALTERNATE GRATE
(FOR EXPRESSWAY RAMPS)
TYPES "W" & "X"



MANHOLE COVER



SECTION C-C



TYPE "Q"

(APPROX. WEIGHT - 290 LBS.)

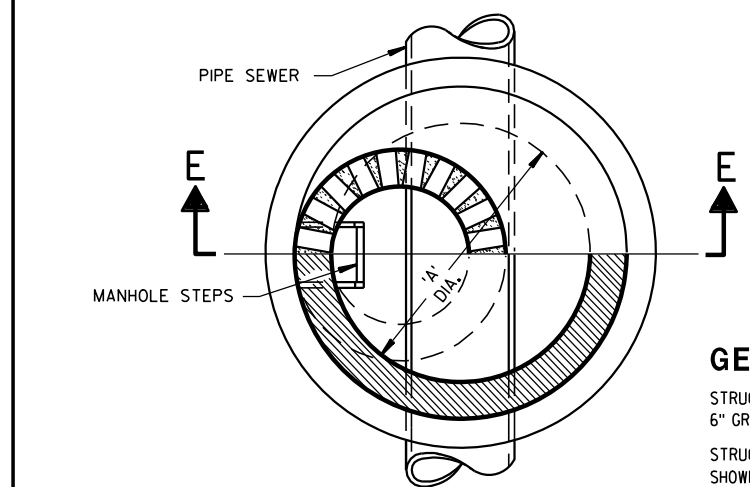
TABLE OF DIMENSIONS

TYPE	'A'	'B'	'C'
11	3'-6"	2'-8"	12" - 36"*
12	4'-0"	3'-8"	12" - 42"***
13	5'-0"	5'-8"	42" - 48"
14	6'-0"	7'-8"	54" - 60"

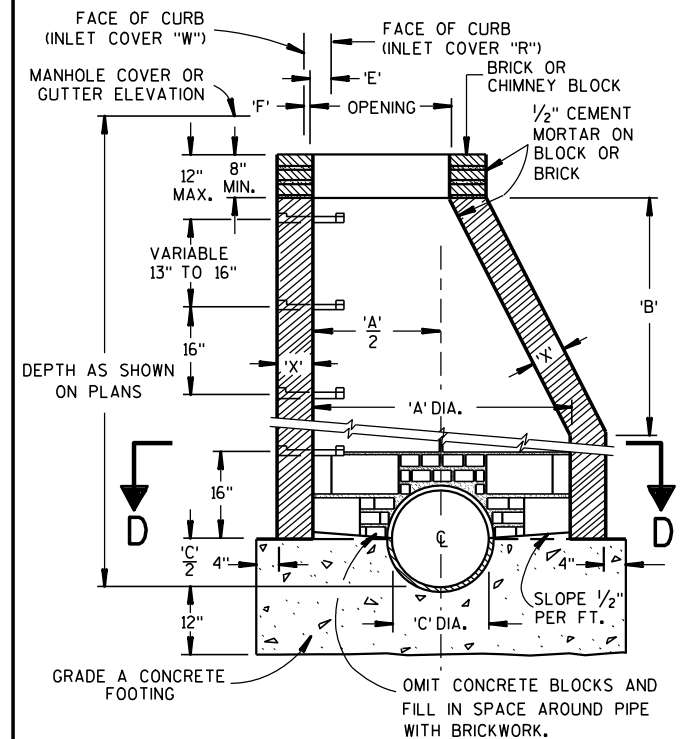
* 12" - 21" FOR PRECAST MANHOLES
** 12" - 24" FOR PRECAST MANHOLES

THE FIRST STEP SHALL BE PLACED
16" ABOVE THE BENCH.

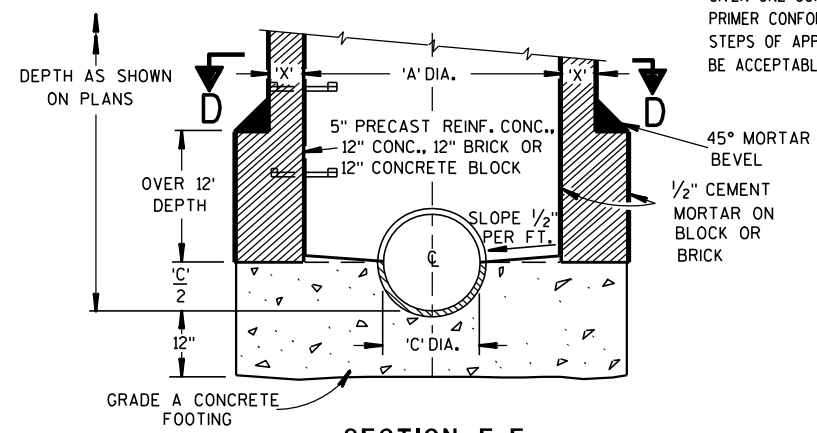
MANHOLE



HALF SECTION D-D



SECTION E-E



SECTION E-E

TYPES 11, 12, 13 & 14

TABLE OF OPENING DIMENSIONS

COVER	TYPE	DESCRIPTION	OPENING	'E'	'F'
"O"	ROUND	2'-2" DIA.	—	—	—
"W"	CURB BOX	1'-8" X 2'-6"	—	1"	—
"X"	INLET	1'-10" X 2'-6"	—	—	—
"R"	CURB BOX	2'-0" X 2'-1"	4"	—	—

GENERAL NOTES

STRUCTURE WALL THICKNESS 'X' TO BE 8" BRICK, 6" CONCRETE BLOCK, 6" GRADE A CONCRETE OR 5" PRECAST REINFORCED CONCRETE.

STRUCTURE FOOTINGS ARE TO BE GRADE A CONCRETE OF THE THICKNESS SHOWN IN THE DETAIL OR 5" PRECAST REINFORCED CONCRETE.

REINFORCEMENT FOR 5" PRECAST REINFORCED CONCRETE SHALL BE 6" X 6" W16 X W16 WELDED SREEL WIRE FABRIC AND SHALL BE EMBEDDED 2" CLEAR.

PRECAST INLET UNITS AND BASES SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

PRECAST CONCRETE FLAT SLAB TOPS MAY BE USED ON THE STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6" IN DEPTH, WHICH MEETS THE REQUIREMENTS FOR GRANULAR BACK-FILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

SET FRAME ELEVATION 0.03 FT. LOWER THAN ELEVATION INDICATED ON THE PLANS.

THE CONTRACTOR MAY FORM AND POUR MONOLITHIC CONCRETE INVERT PROVIDED THE PIPE ENDS ARE EXTENDED INTO THE M.H. AND NOT TERMINATED WITHIN THE M.H. WALLS.

MANHOLE STEPS

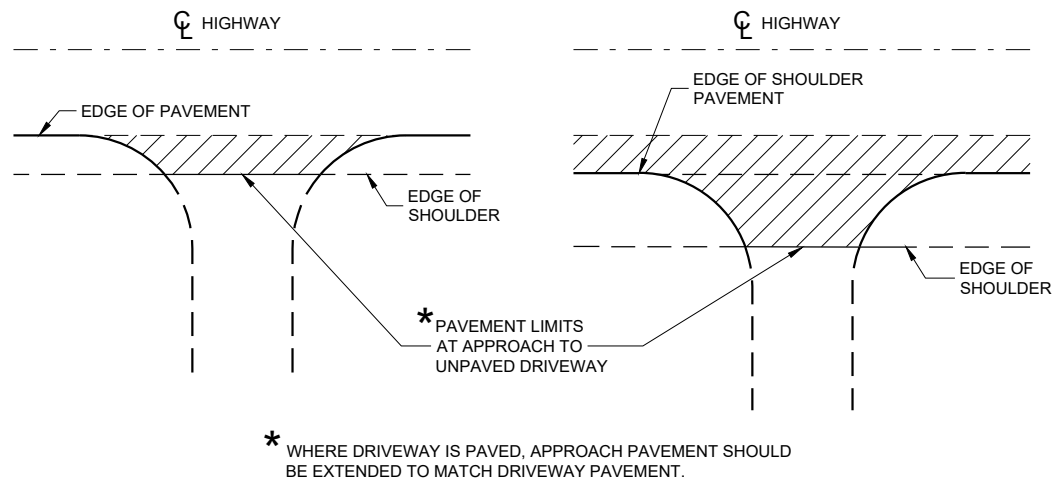
STEPS MEETING THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH; 16 INCH C-C MAX. SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM WALL EMBEDMENT OF 3 INCHES IN PRECAST MANHOLE AND 6 INCHES IN 8 INCH BRICK OR 6 INCH BLOCK MANHOLE; TREAD OF STEP SHALL HAVE A NON-SKID SURFACE AND BE FLANKED BY CLEATS, WITH A MINIMUM OF 10 INCHES CLEAR BETWEEN CLEATS, TO PREVENT FOOT SLIPPING OFF THE EDGE CLEATS SHALL BE A MINIMUM OF 3/4 INCH HIGH BY 3/4 INCH WIDE HAVING A MINIMUM THICKNESS OF 3/8 INCH. STEPS SHALL BE CAPABLE OF SUPPORTING A CONCENTRATED LOAD OF 300 LBS. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

SOLID ALUMINUM STEPS SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 0.75 INCH. ALUMINUM SURFACES TO BE EMBEDDED IN CONCRETE SHALL BE GIVEN ONE COAT OF SUITABLE QUALITY PAINT, SUCH AS ZINC CHROMATE PRIMER CONFORMING TO FEDERAL SPECIFICATION TT-P-645 OR EQUIVALENT. STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCING BAR WILL BE ACCEPTABLE.

MANHOLES,
MANHOLE & INLET COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

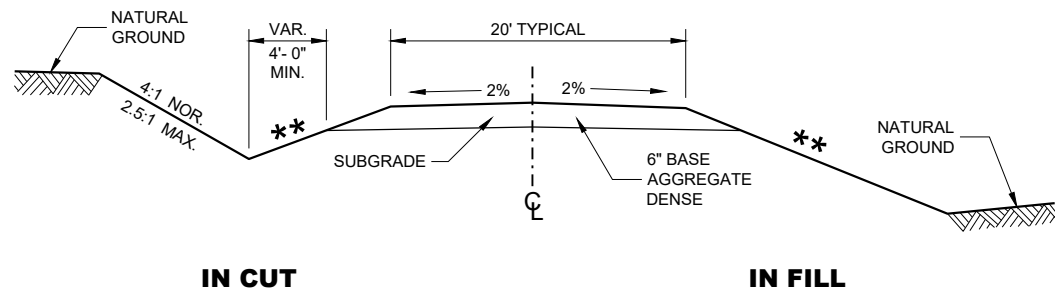
APPROVED
4/12/2011
DATE
/S/ Jerry H. Zogg
ROADSIDE STANDARDS DEVELOPMENT
ENGINEER
FHWA



PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

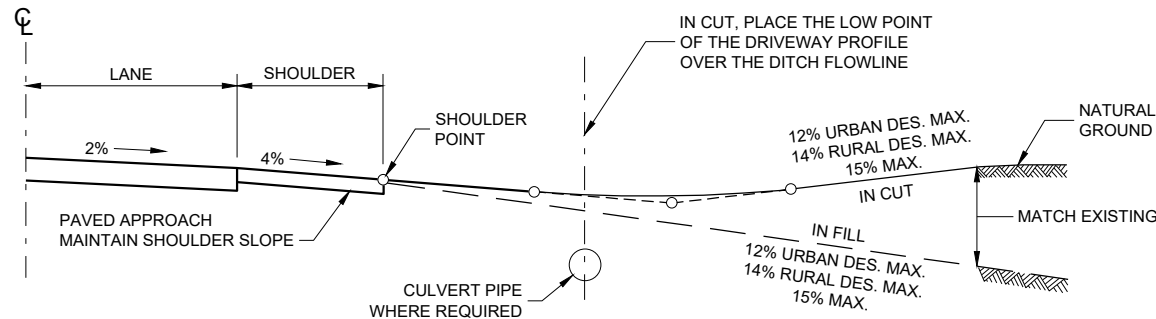
**RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)**



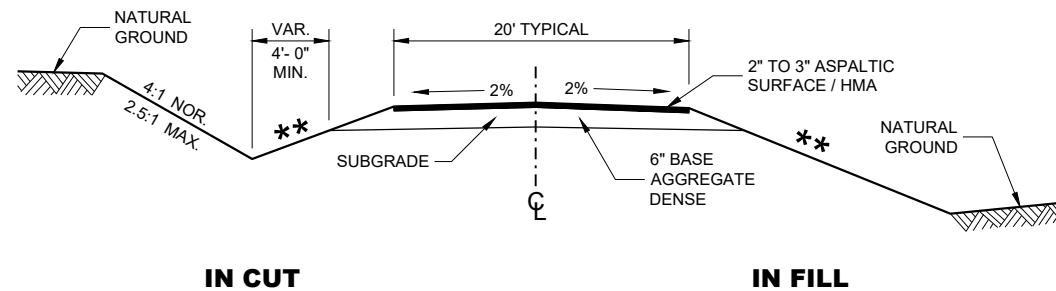
**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
AGGREGATE SURFACE**

****** SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥ 35 TO < 60	6:1
≥60	10:1



TYPICAL DRIVEWAY PROFILES



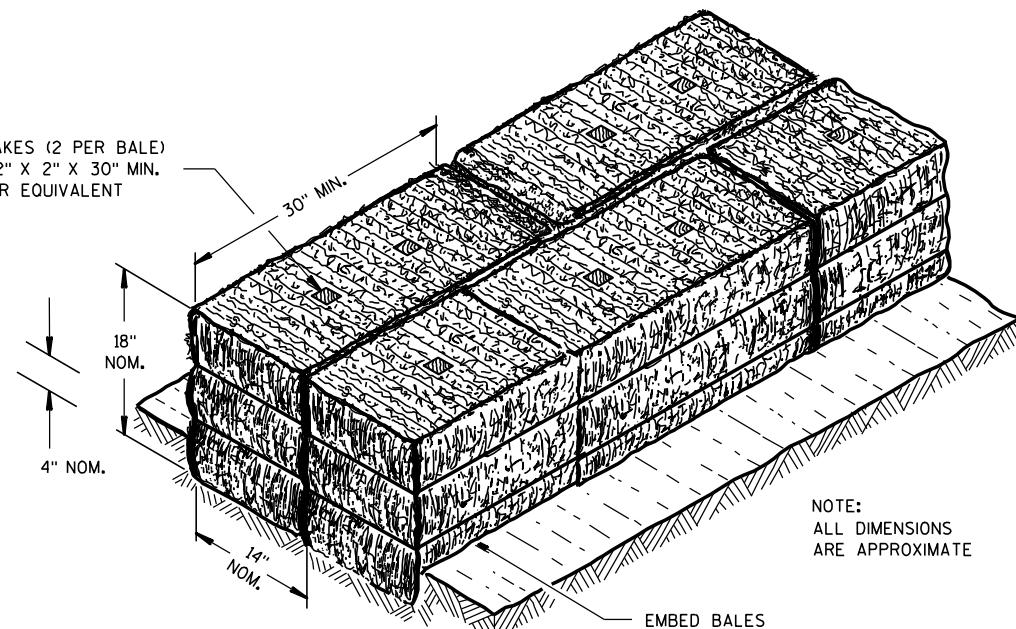
**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
ASPHALTIC SURFACE**

**DRIVEWAYS WITHOUT
CURB AND GUTTER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

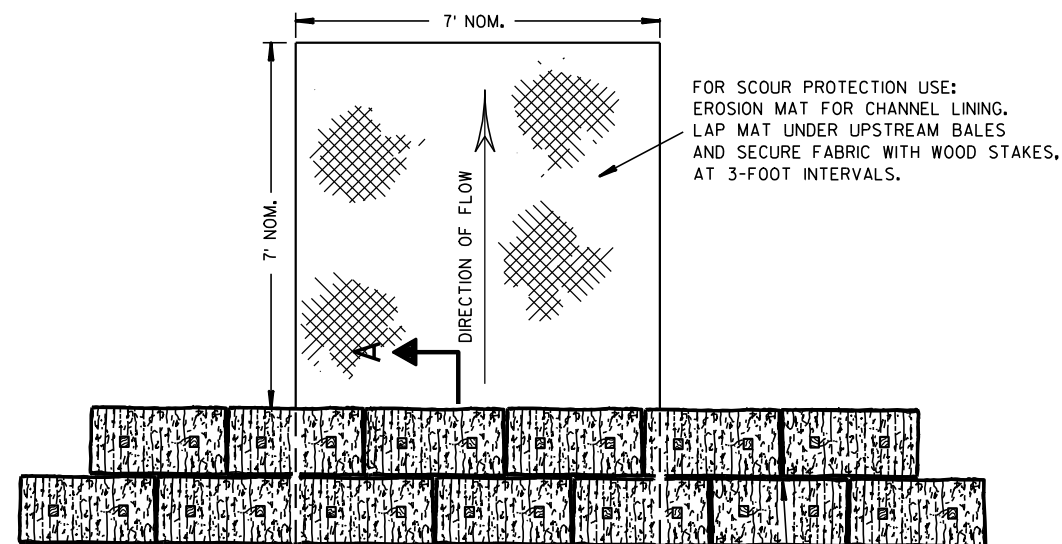
APPROVED
December 2017
DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA

WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

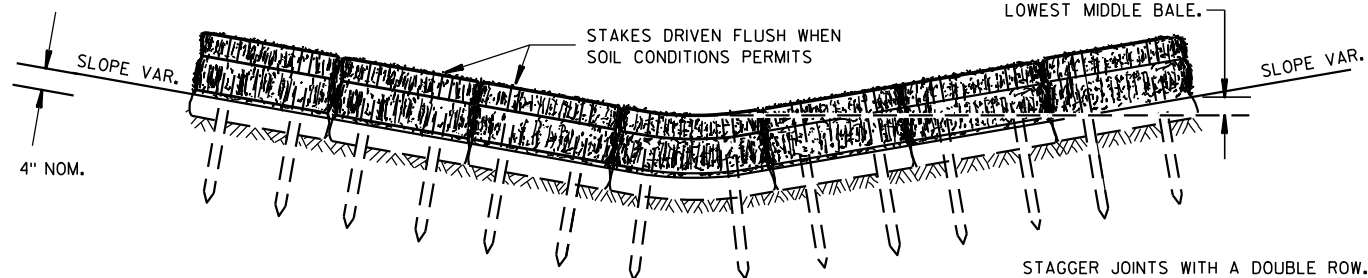
SECTION A-A



PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

BOTTOM ELEVATION OF END BALE SHALL
BE EQUAL TO OR GREATER THAN TOP OF
LOWEST MIDDLE BALE.



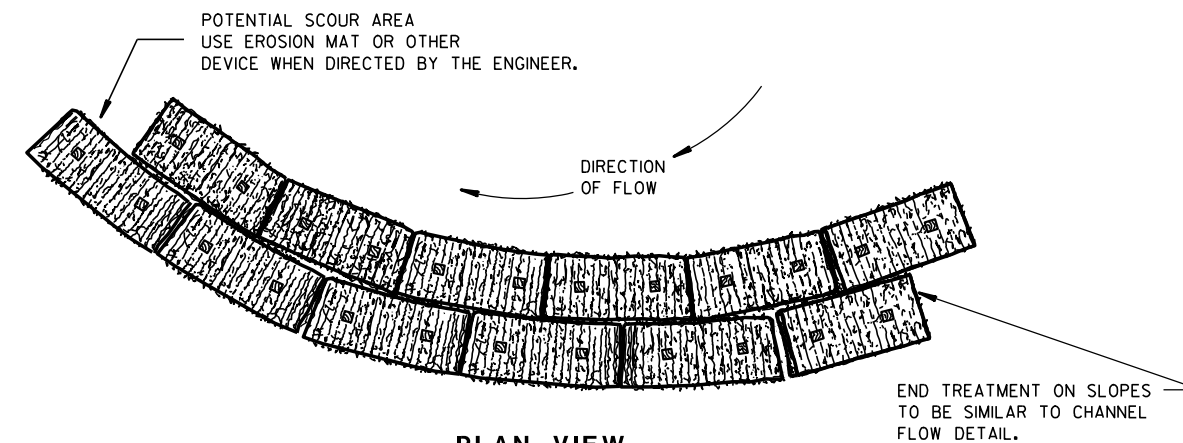
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

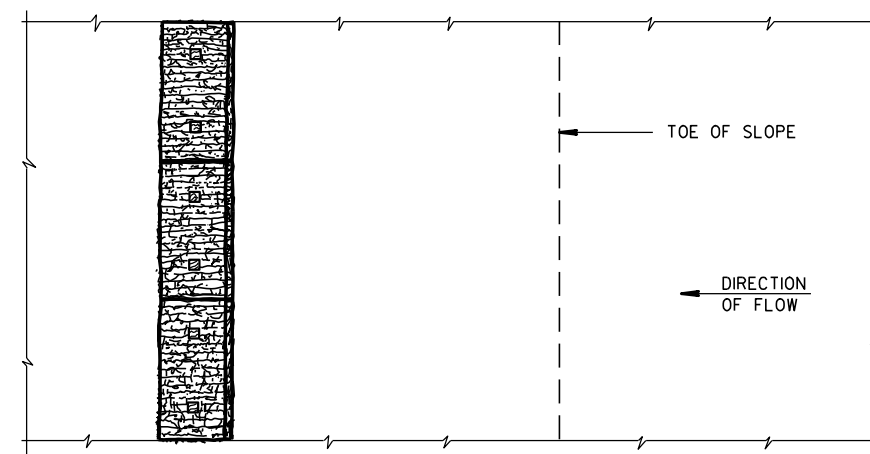
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

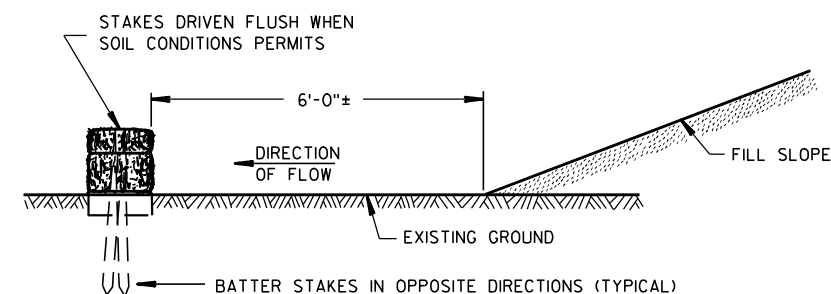


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

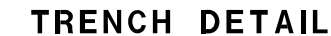
6/04/02
DATE

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

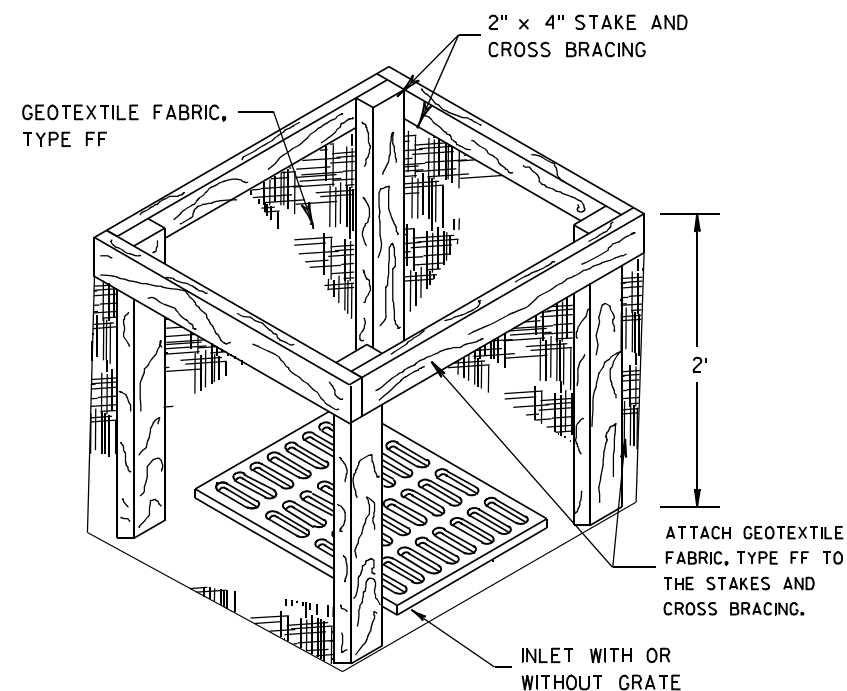
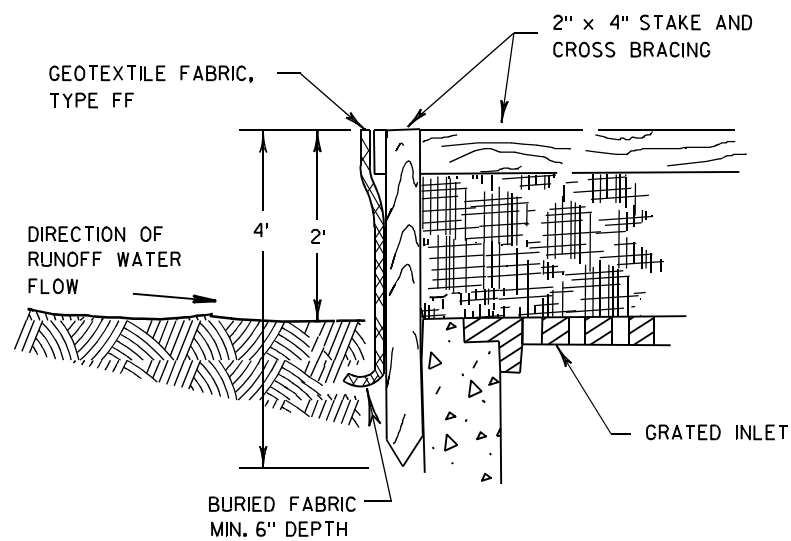
FHWA



- 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 1½" X 1½" 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.



SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>4-29-05</u> DATE	<u>/S/ Beth Canestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



INLET PROTECTION, TYPE A

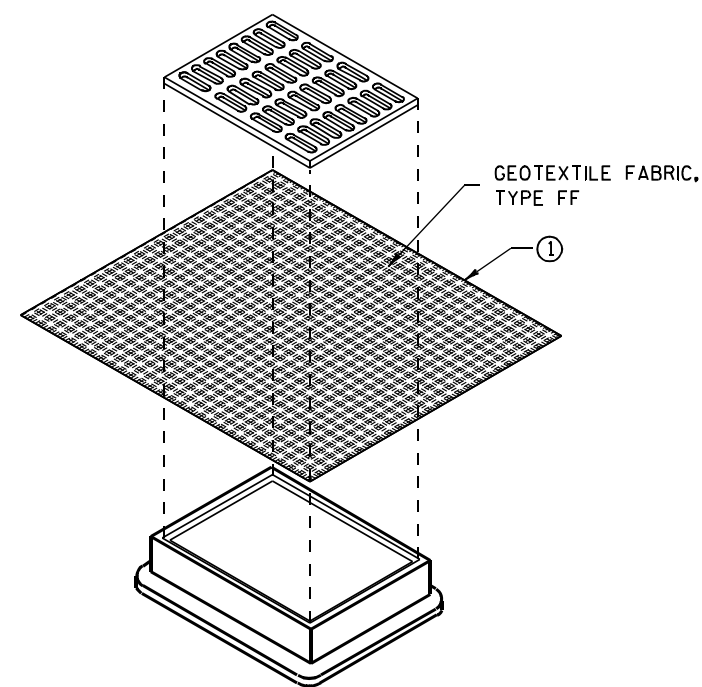
GENERAL NOTES

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.

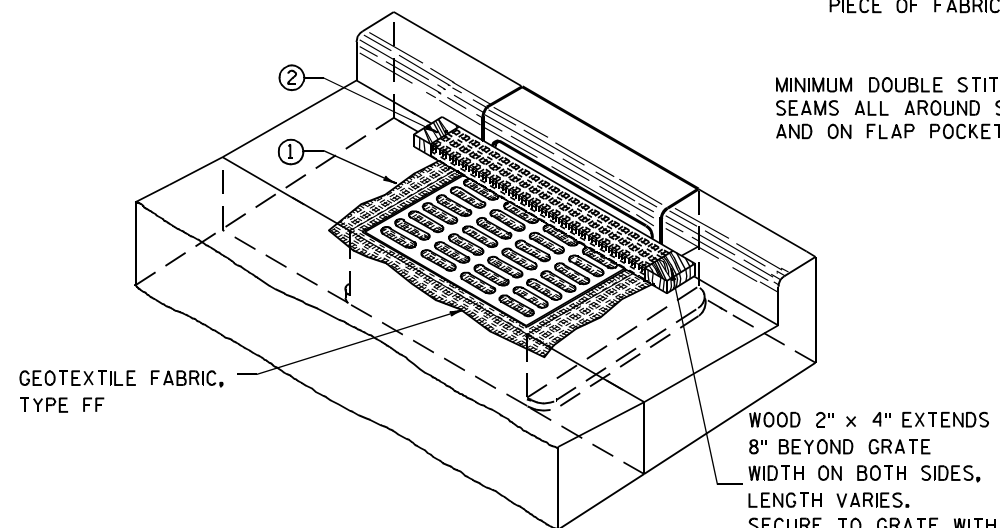
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

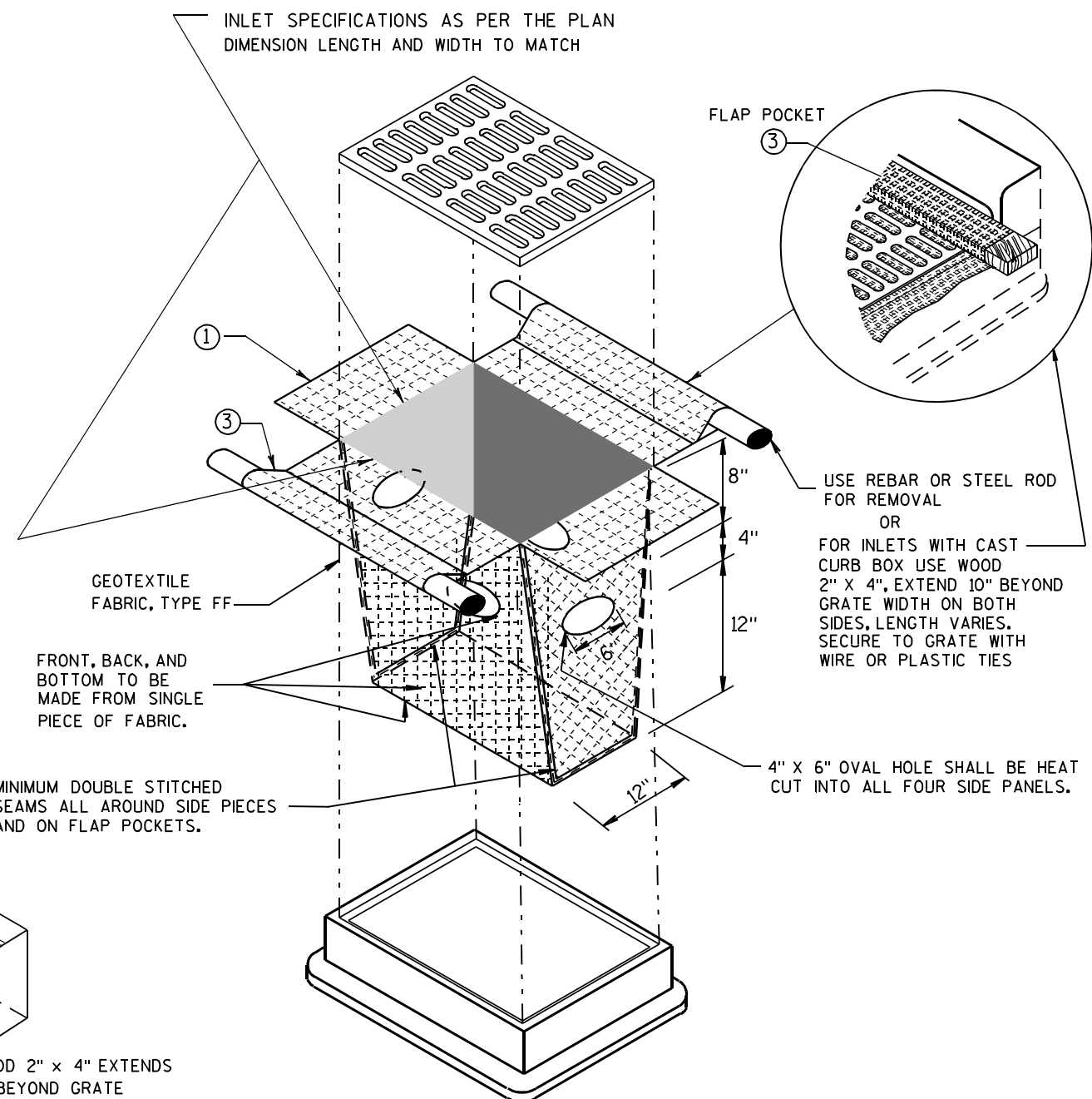
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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.



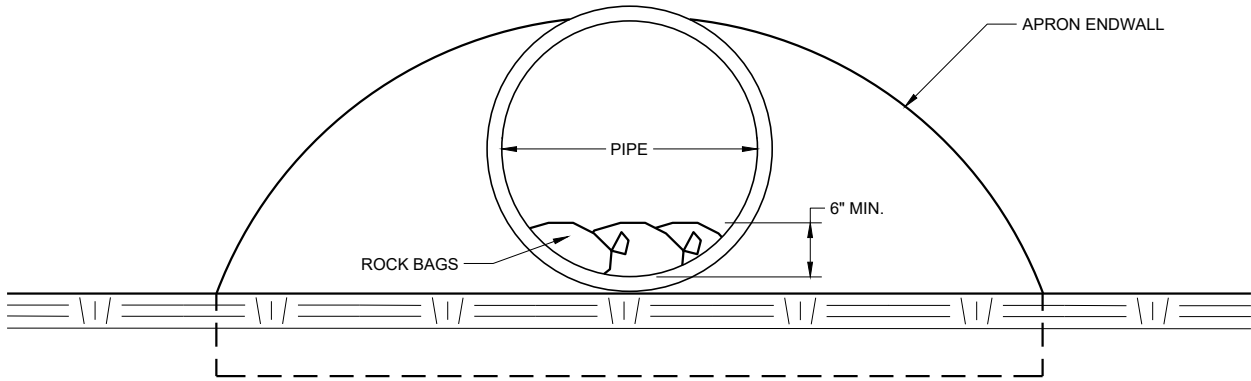
INLET PROTECTION, TYPE D

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

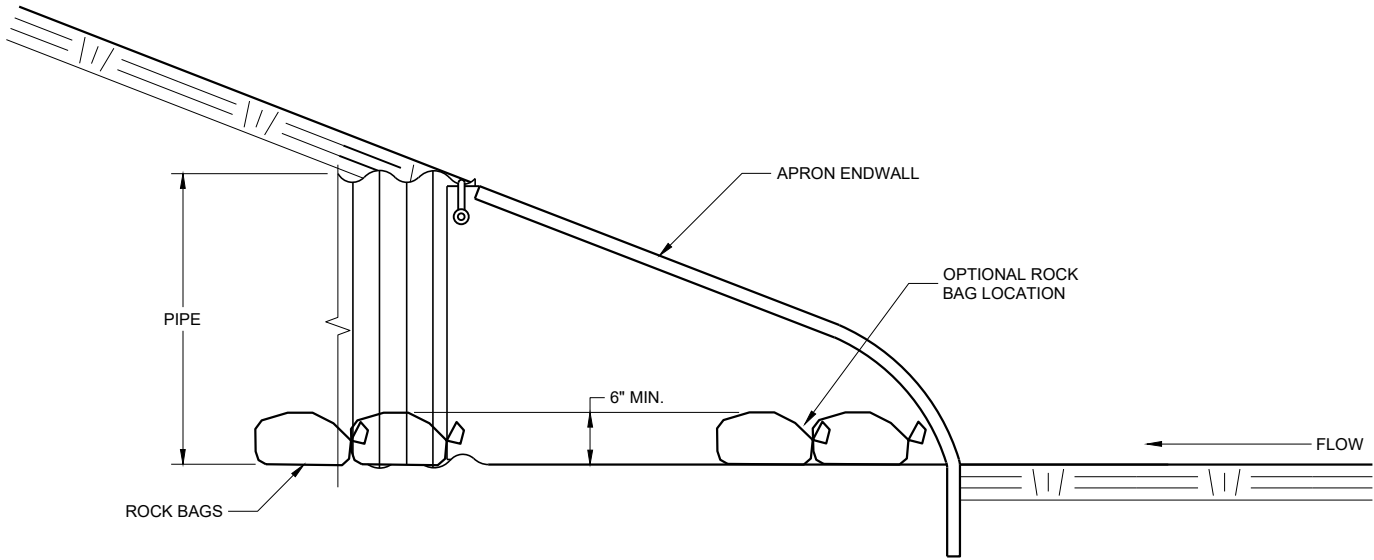
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Cannestra
DATE
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER



END VIEW



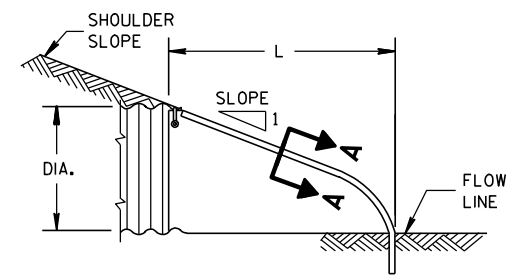
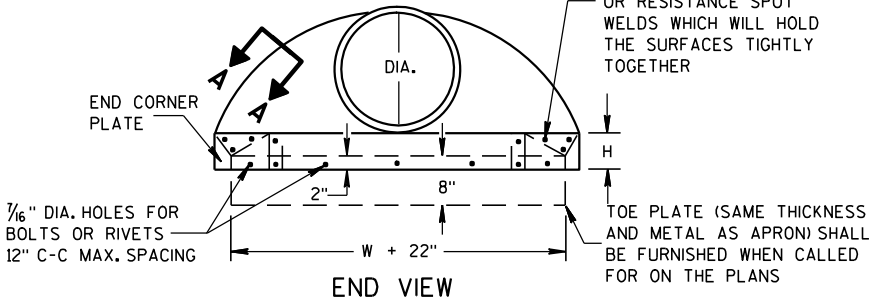
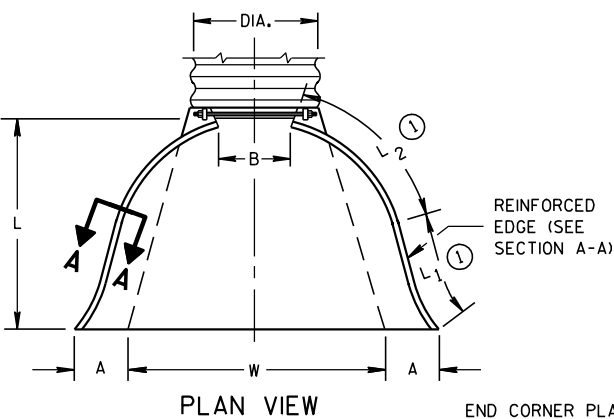
SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL 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")	L ₁ ①	L ₂ ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.	
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.	
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.	
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.	
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.	
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 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.	

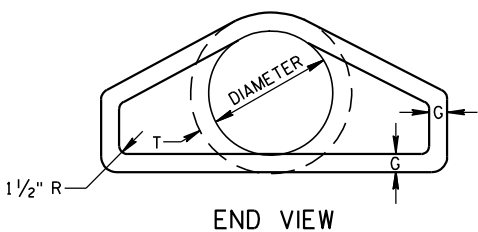
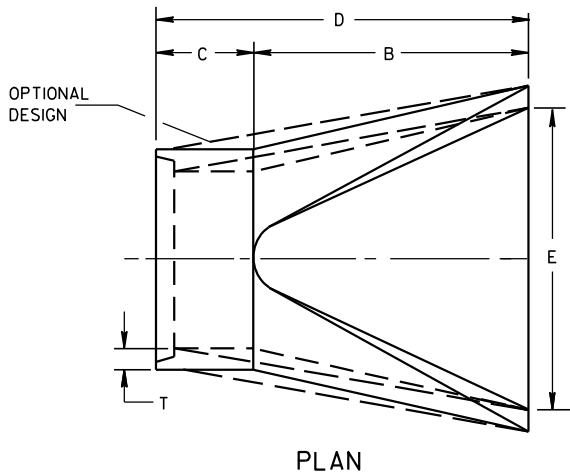
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



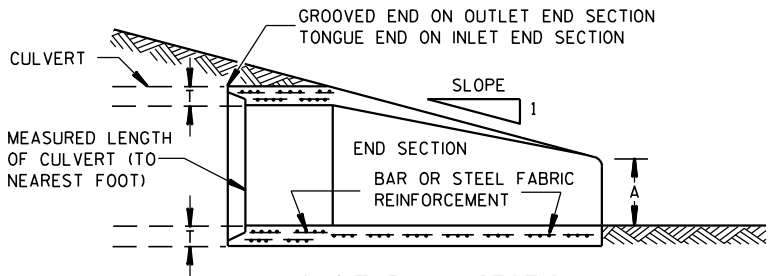
SIDE ELEVATION
METAL ENDWALLS

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 ² / ₂	9	27	46	73	36	2 ² / 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 4- ^{**} / ₃₅	^{**} / ₉₈ 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

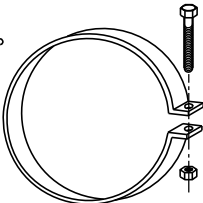
* MINIMUM
** MAXIMUM



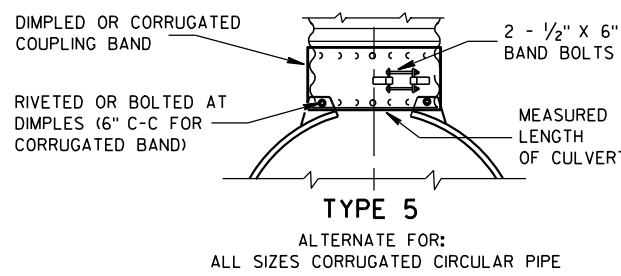
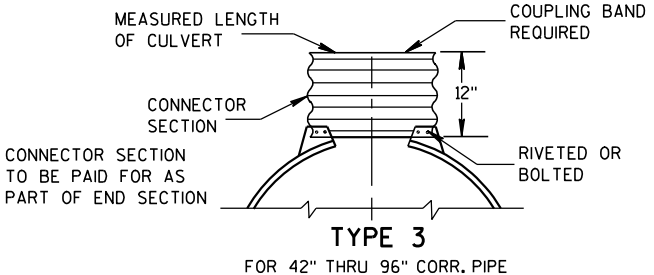
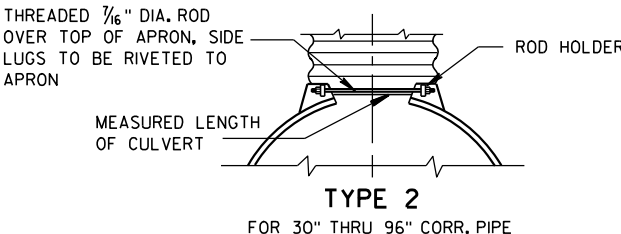
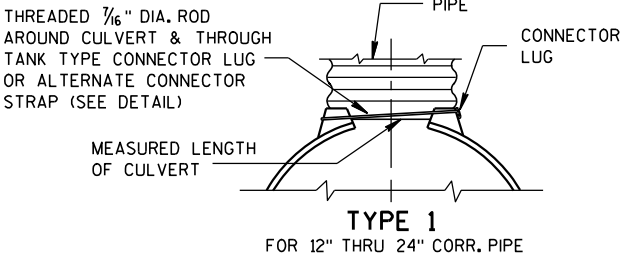
LONGITUDINAL SECTION
CONCRETE ENDWALLS



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



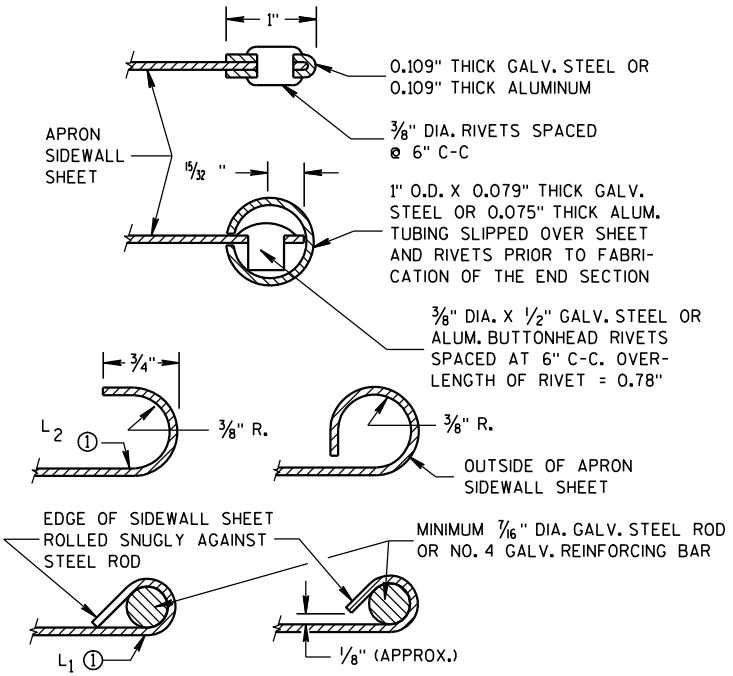
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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



SECTION A-A

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 VICE 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.

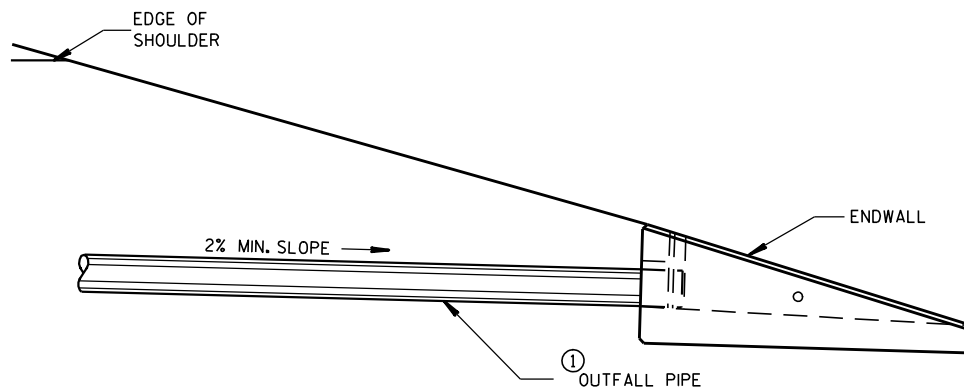
APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

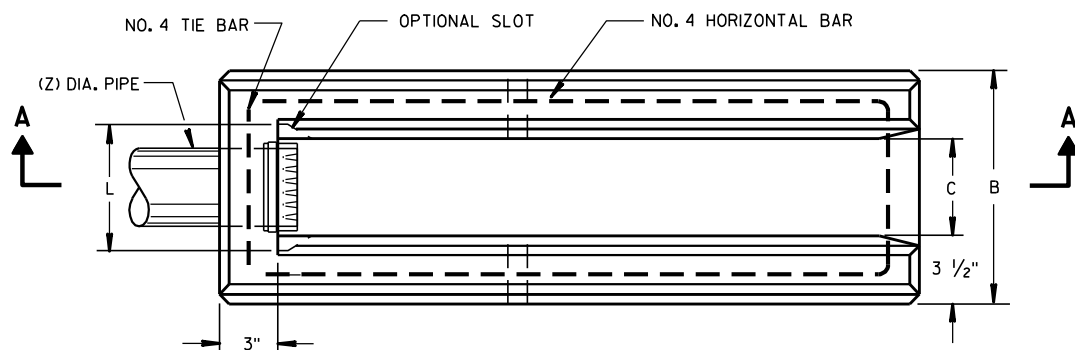
APPROVED
11/30/94
DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

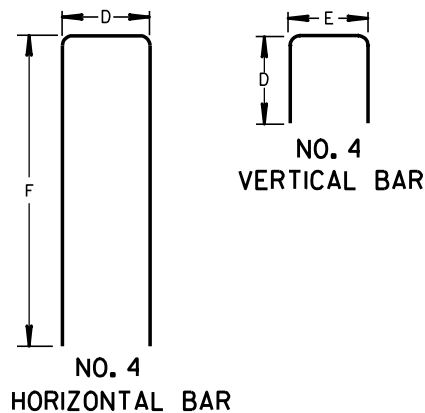
** APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



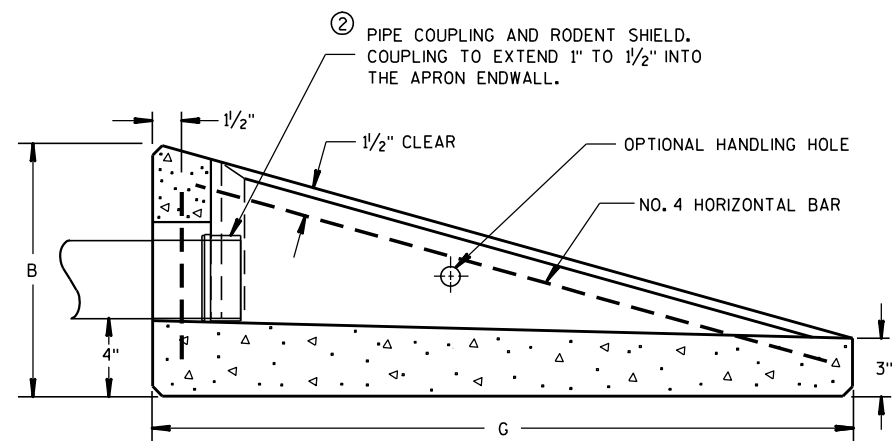
INSTALLATION DETAIL



PLAN VIEW

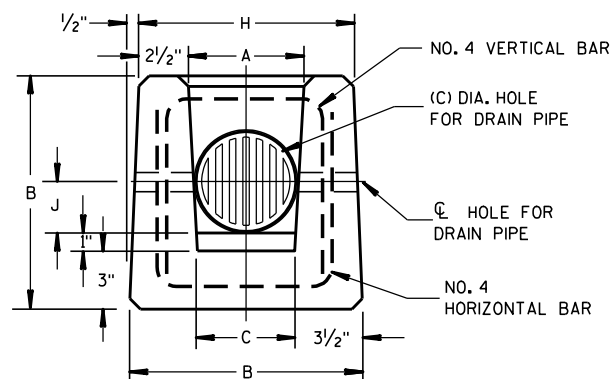


BAR STEEL REINFORCEMENT DETAILS



SECTION A-A

CONCRETE APRON ENDWALL FOR UNDERDRAIN



END VIEW

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.

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

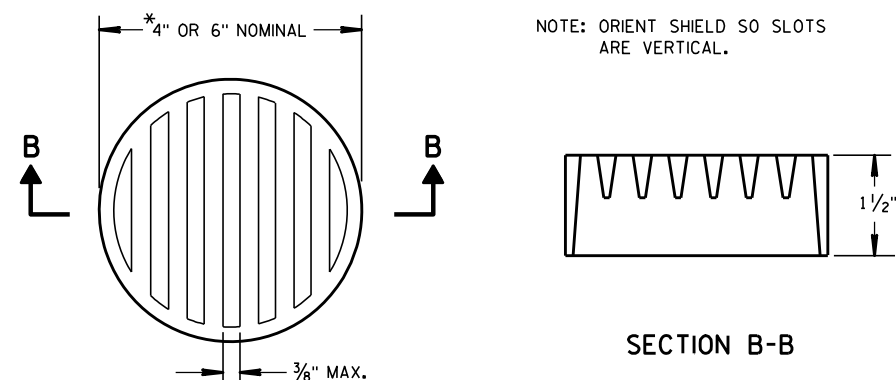
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

- ① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

- ② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

**REINFORCED
CONCRETE APRON ENDWALL
FOR PIPE UNDERDRAIN**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

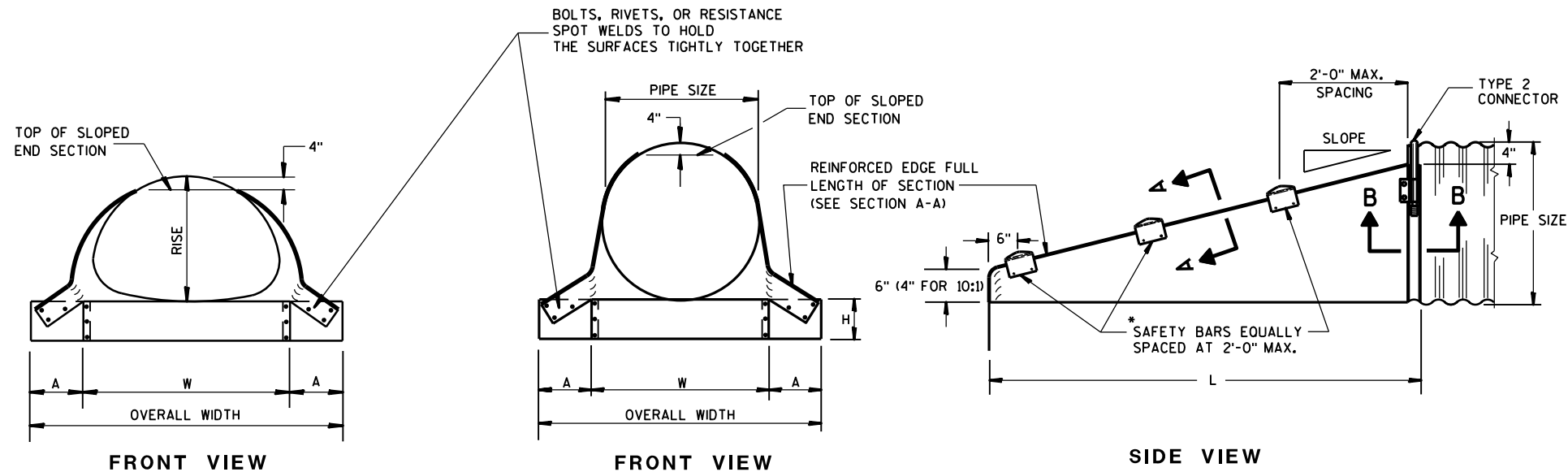
APPROVED

3/10/98

DATE

/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



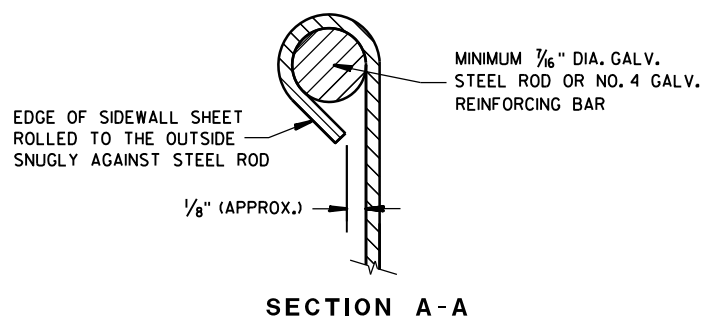
GENERAL NOTES

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.

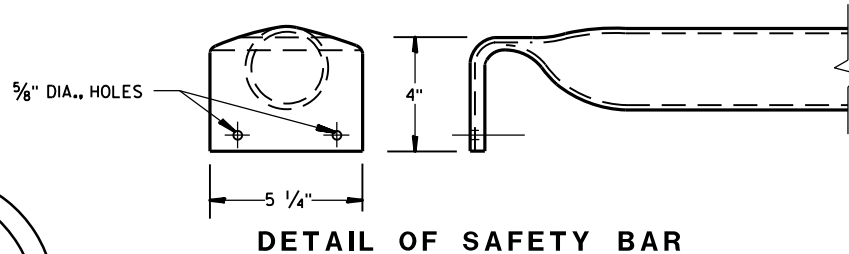
SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL.

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	—	—



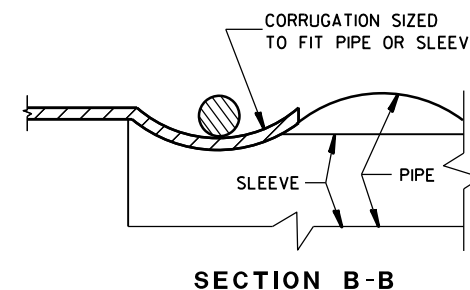
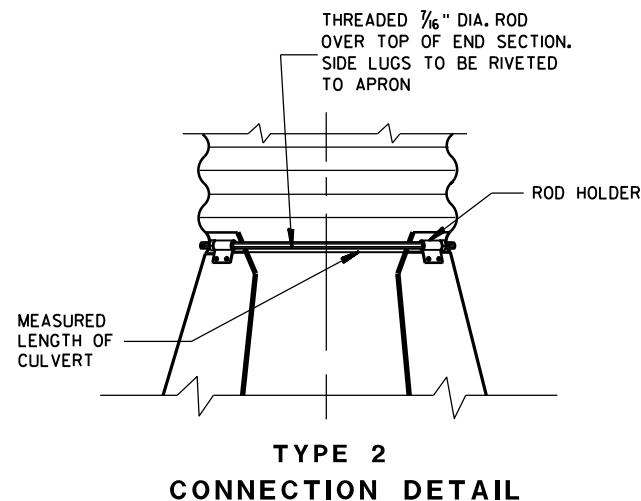
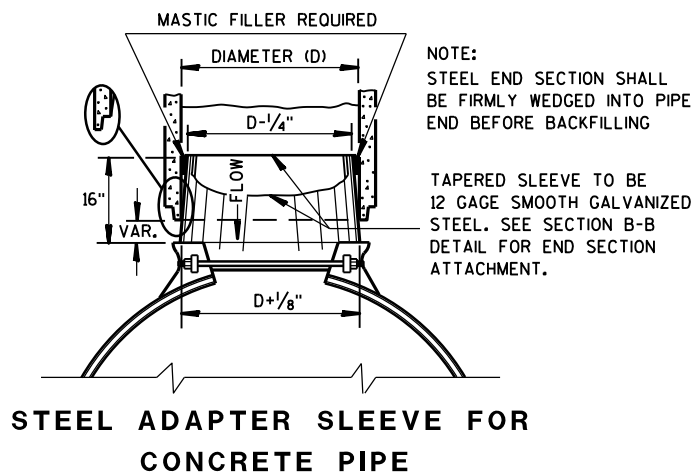
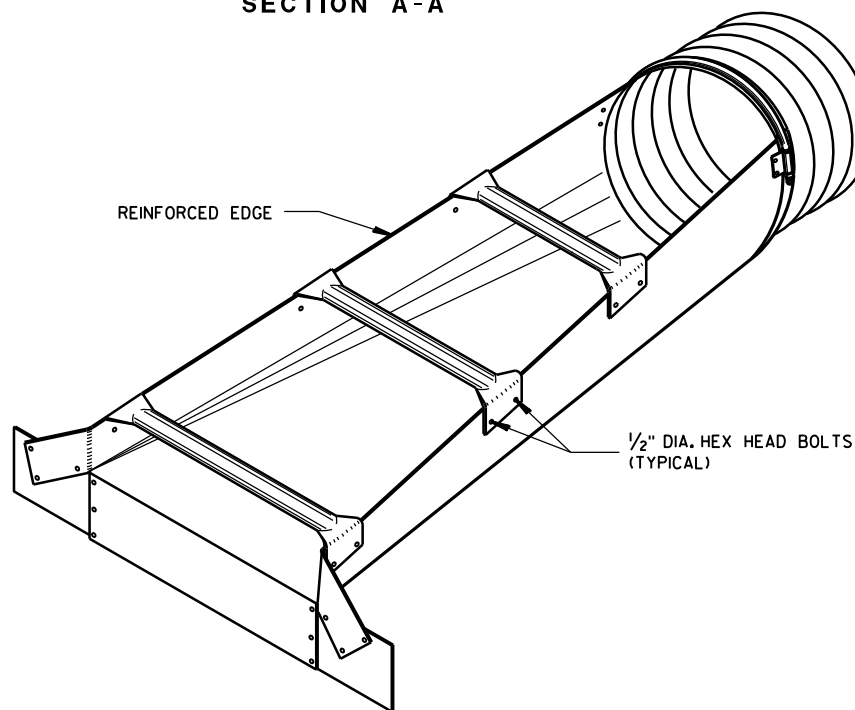
*NOTE:
THREE SAFETY BARS ARE SHOWN.
ACTUAL NUMBER OF BARS REQUIRED AT
A 2'-0" C-C MAX. SPACING WILL VARY
DEPENDING ON THE LENGTH OF THE
END SECTION.

3" GALVANIZED PIPE, FLATTEN
ENDS, THEN BEND OUTSIDE 4"
TO MATCH END SECTION SIDES.



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
18	21	15	.064 *	8	6	27	43	4:1	20	6:1	30
21	24	18	.064 *	8	6	30	46	4:1	32	6:1	48
24	28	20	.064 *	8	6	34	50	4:1	40	6:1	60
30	35	24	.079 *	12	9	41	65	4:1	56	6:1	84
36	42	29	.109 *	12	9	48	72	4:1	76	6:1	114
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.

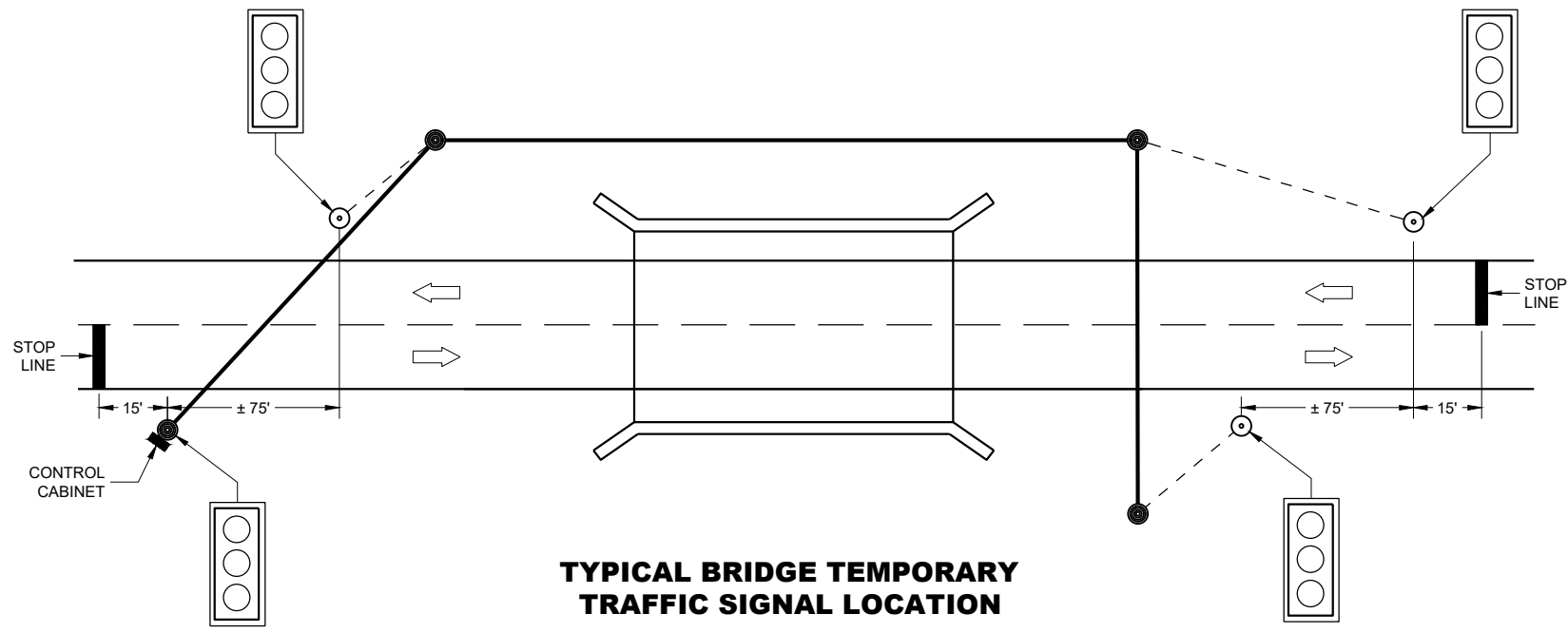


STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/14/2012
DATE
FHWA

/s/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION

LEGEND

- WOOD POLE (NON-BREAKAWAY)
- WOOD POST (BREAKAWAY)
- SIGNAL CABLE
- SIGNAL CABLE W/MESSENGER
- DIRECTION OF TRAFFIC
- LED TRAFFIC SIGNAL WITH BACKPLATE

GENERAL NOTES

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

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAY BE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

WOOD POLES (NON-BREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAM GUARD, ETC.).

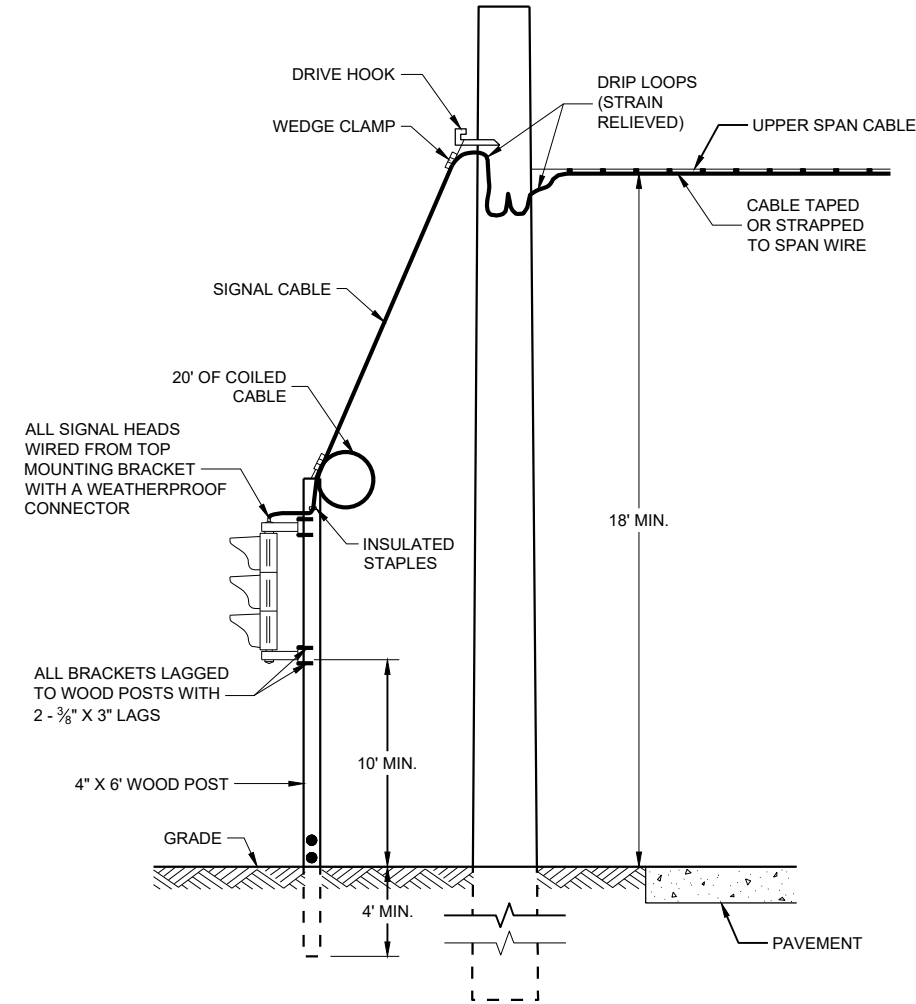
WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

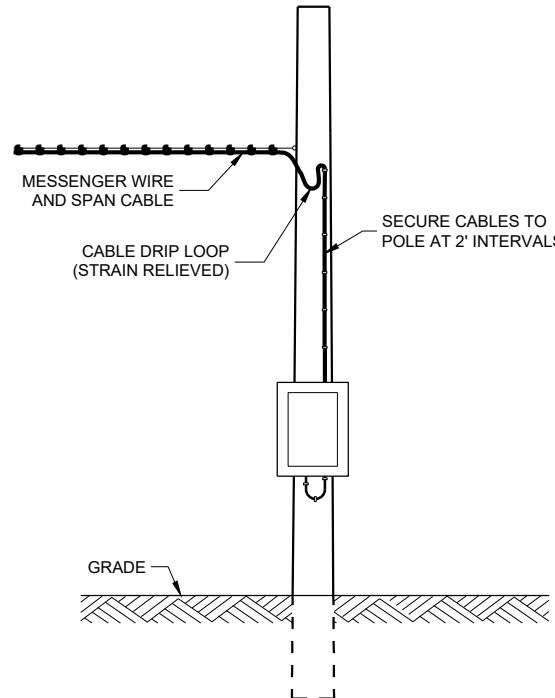
TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL SHALL HAVE A BACKPLATE.

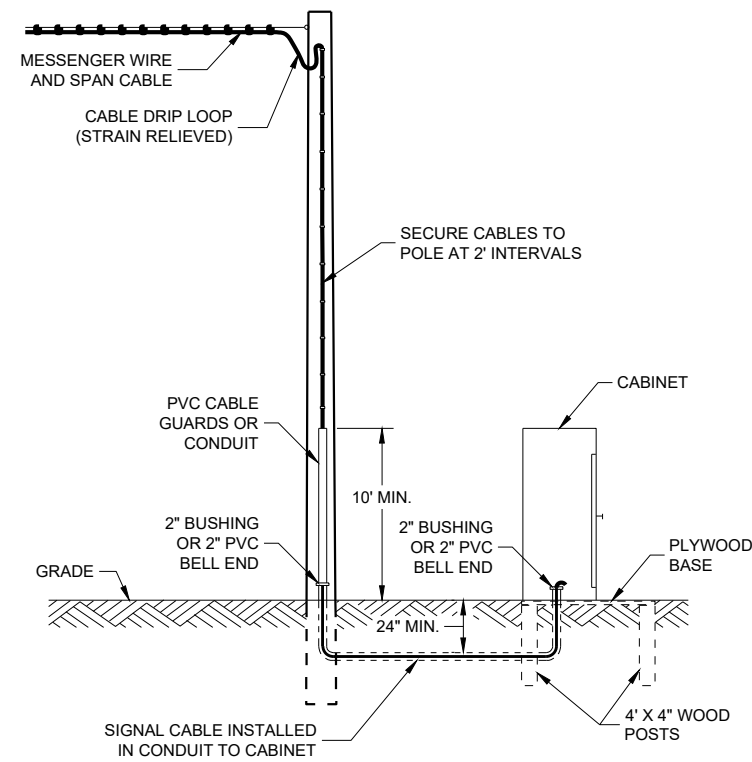
SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15D33.



TYPICAL DROP TO TRAFFIC SIGNAL FACE



POLE MOUNT CABINET INSTALLATION



GROUND MOUNT CABINET INSTALLATION

MINIMUM POLE LENGTHS	CLASS	POLE BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES	
SPEED LIMIT	OFFSET DISTANCE*
GREATER THAN 45 MPH	18 FT
45 MPH OR LESS	12 FT
45 MPH OR LESS W/CURBS	2 FT

* NOTE: OFFSET MEASURED FROM OUTER EDGE OF OUTSIDE THRU LANE.

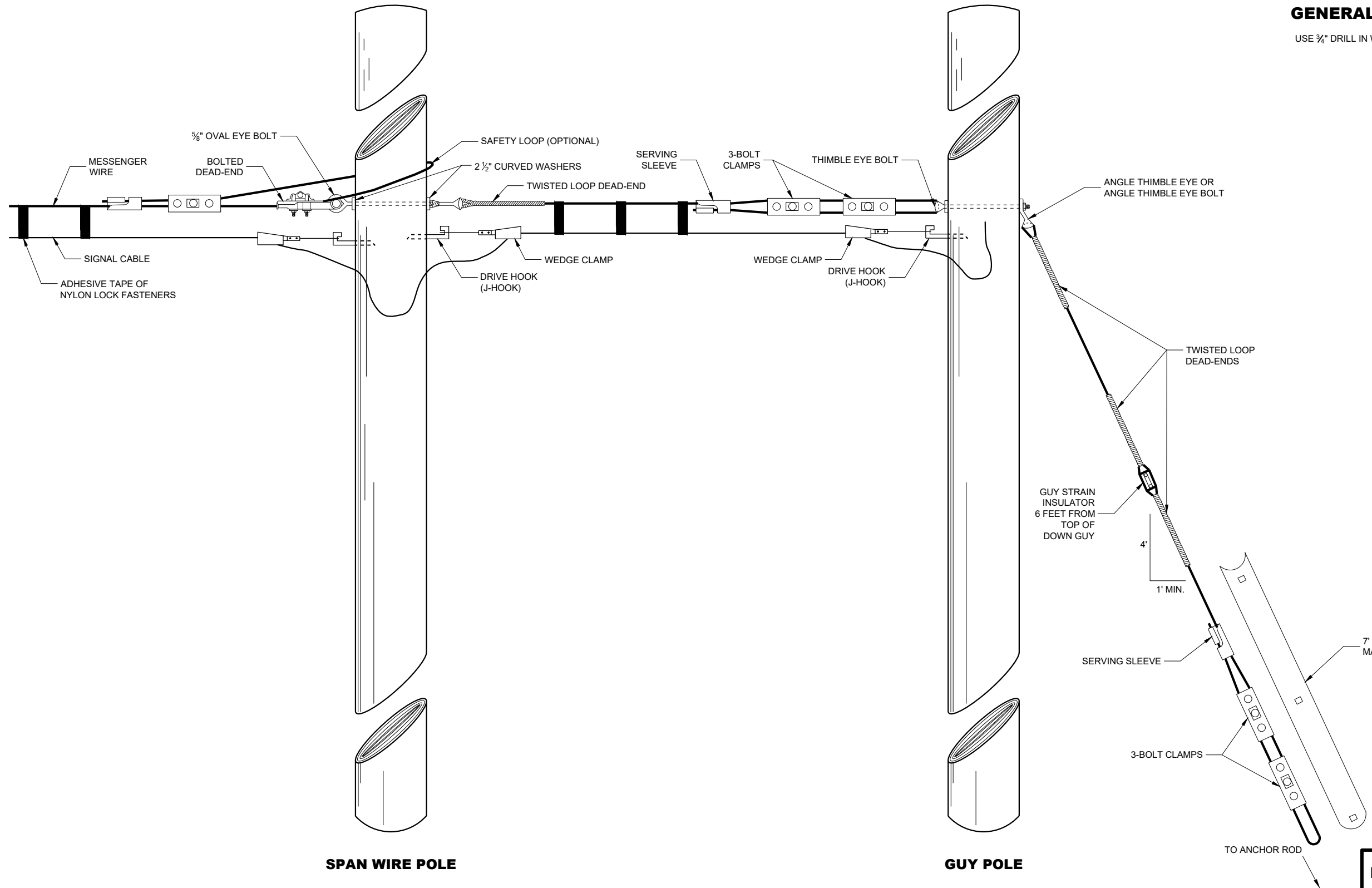
BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

/S/ Ahmet Demirelek
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

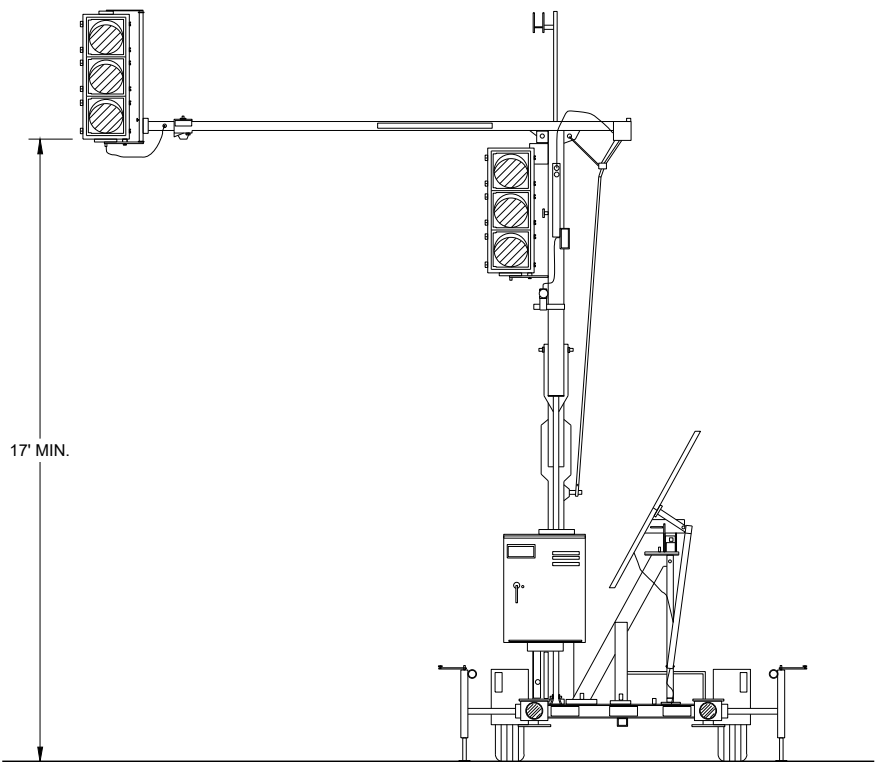
FHWA



GENERAL NOTES
USE 3/4" DRILL IN WOOD POLE TO PROVIDE FOR 5/8" BOLTS.

TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2015 DATE	/S/ Ahmet Demerbilek ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

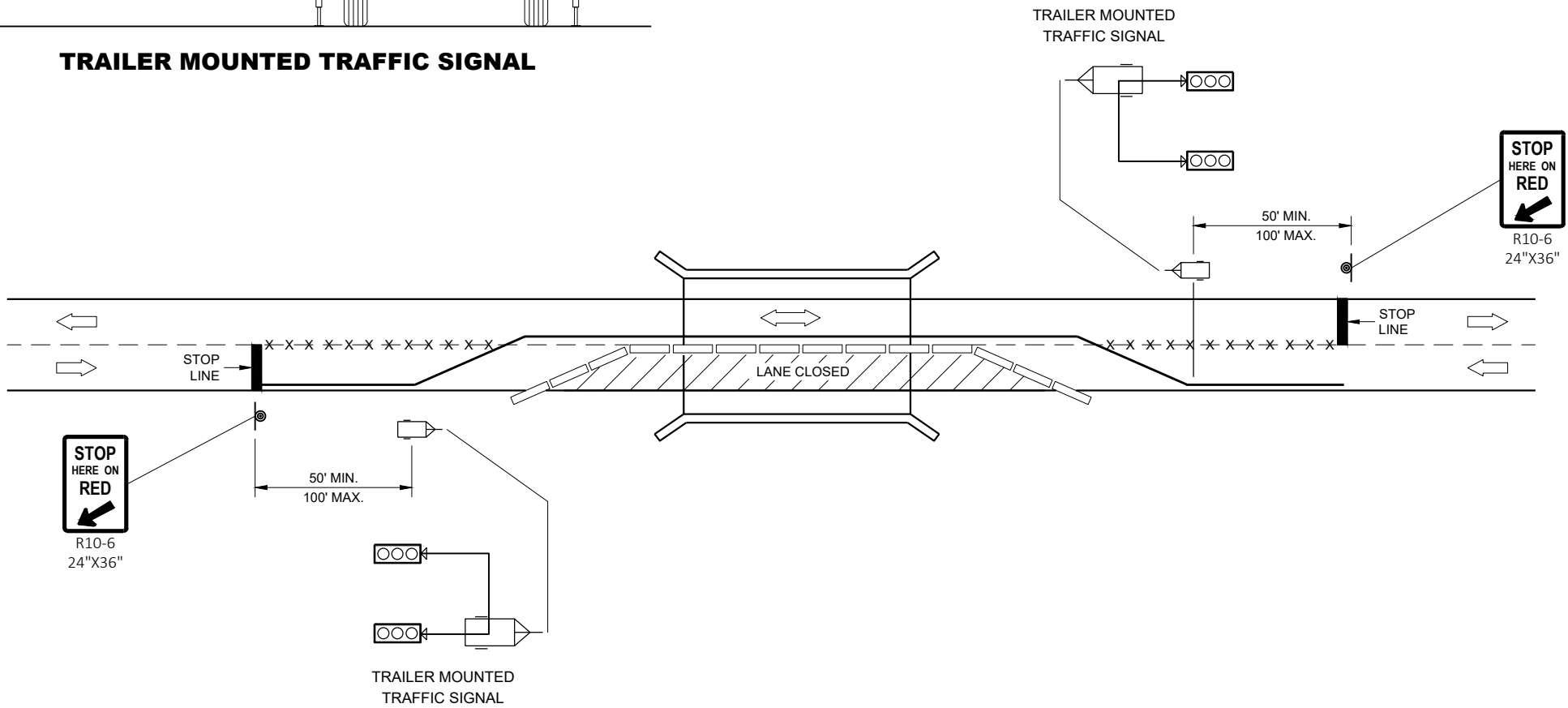


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

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

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15D33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

LEGEND

- POST MOUNTED SIGN
- TEMPORARY PRECAST CONCRETE BARRIER
- TRAILER MOUNTED TRAFFIC SIGNAL
- REMOVE PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC

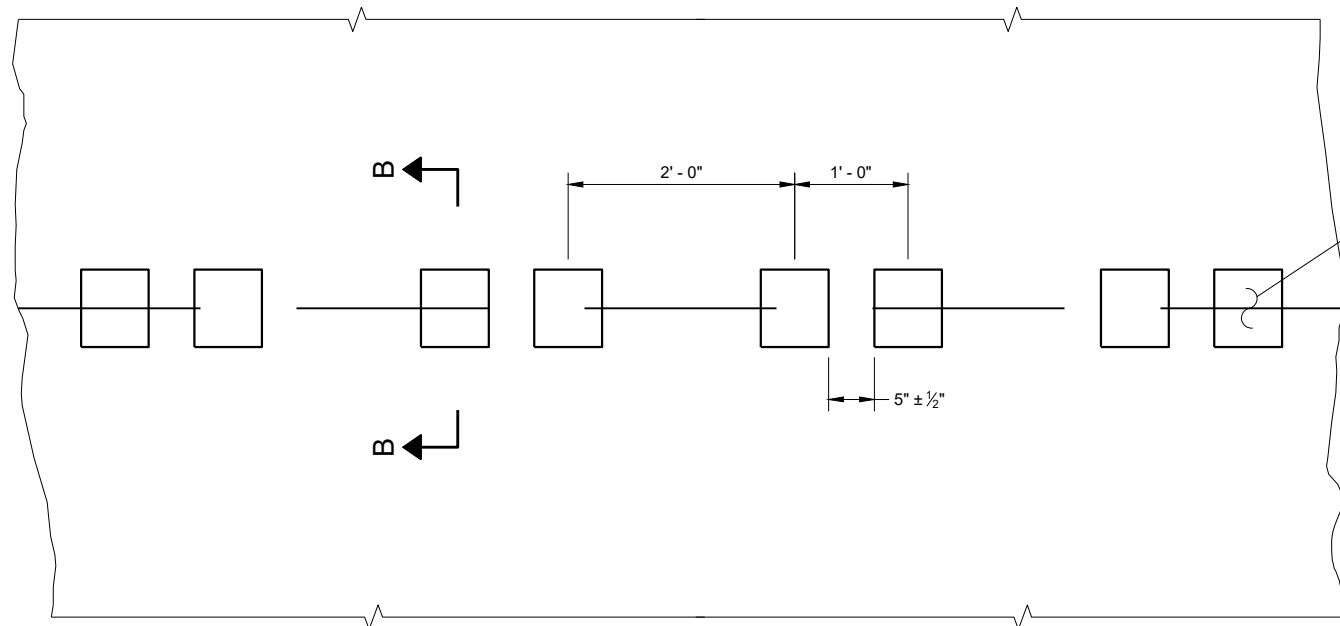
BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2015
DATE

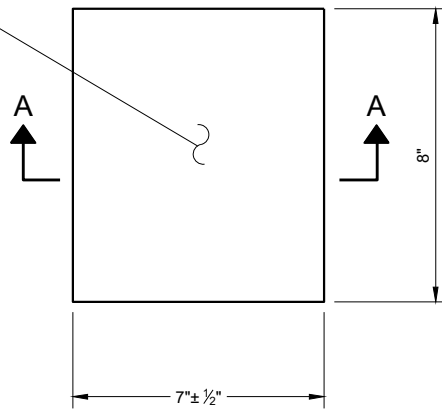
/S/ Ahmet Demerbilek
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA



PLAN VIEW
SHOULDER WITH GROOVES

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

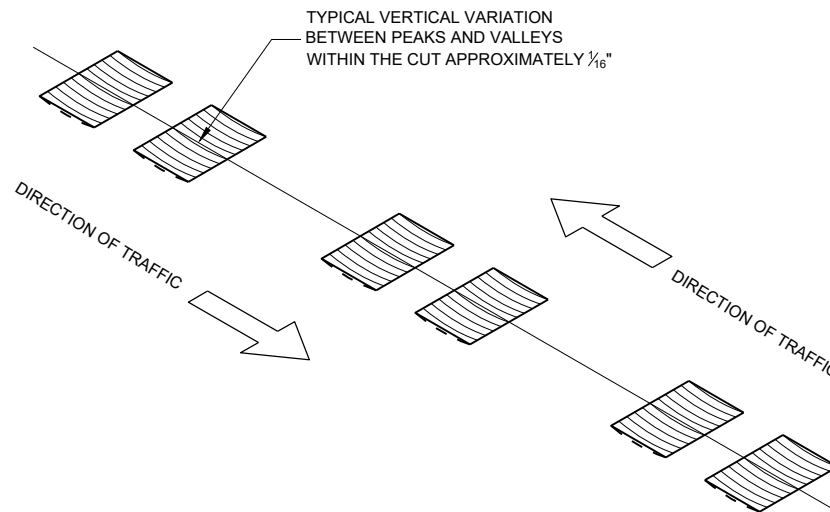
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTERLINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

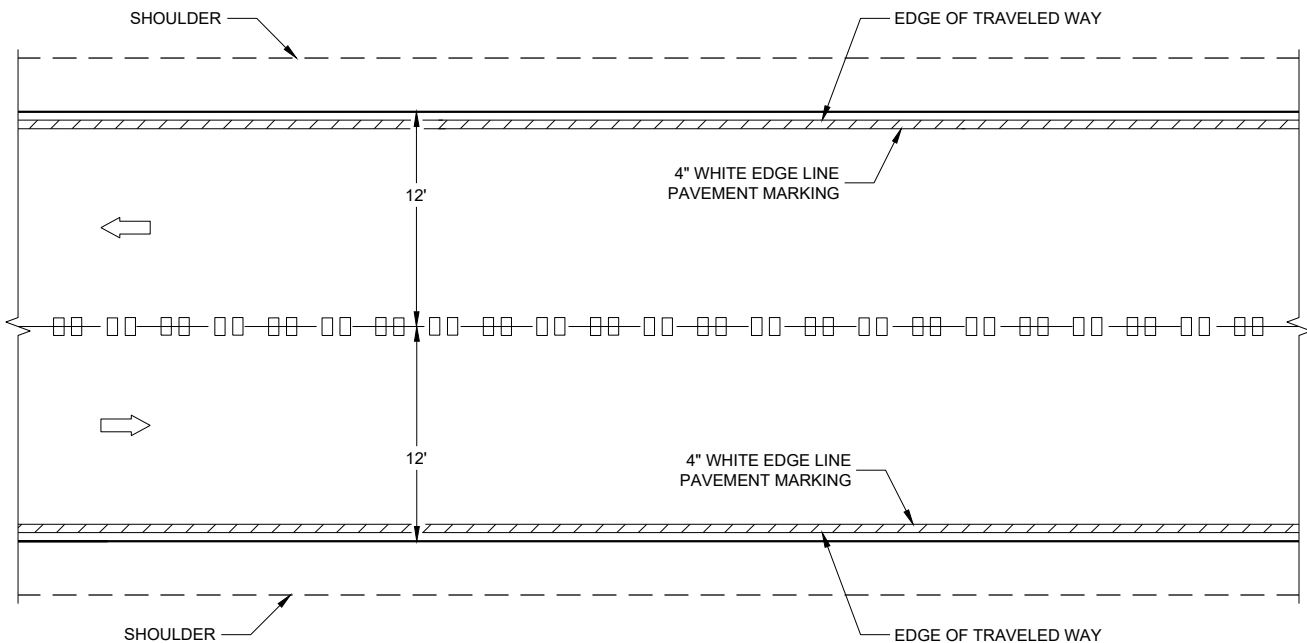
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

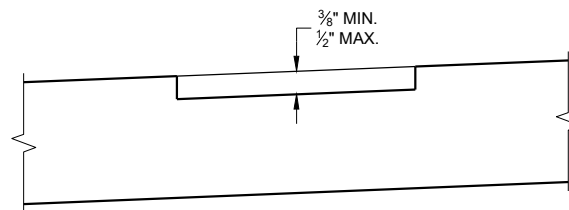
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



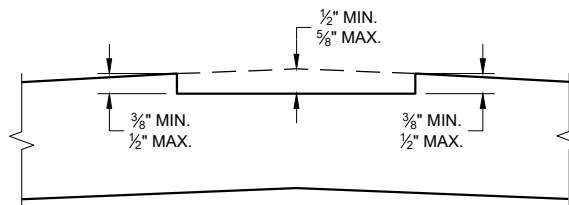
ISOMETRIC



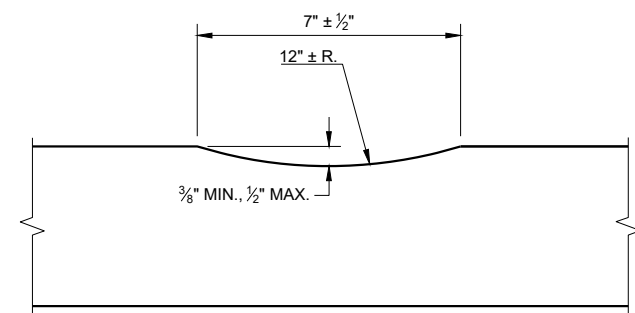
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



SECTION B - B
SUPERELEVATED ROADWAY



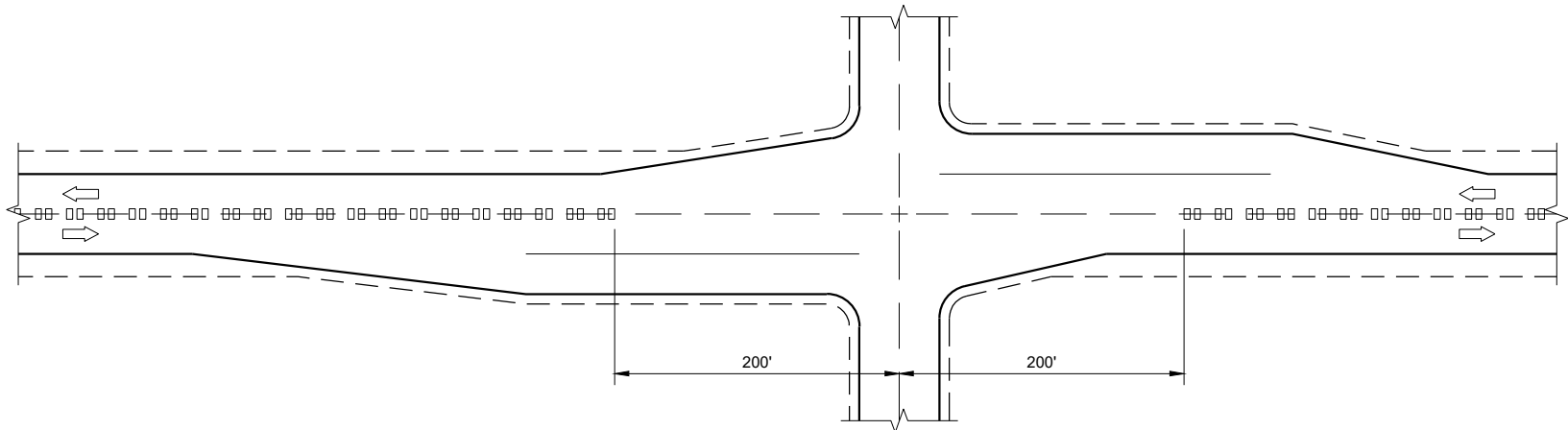
SECTION B - B
CROWNED ROADWAY



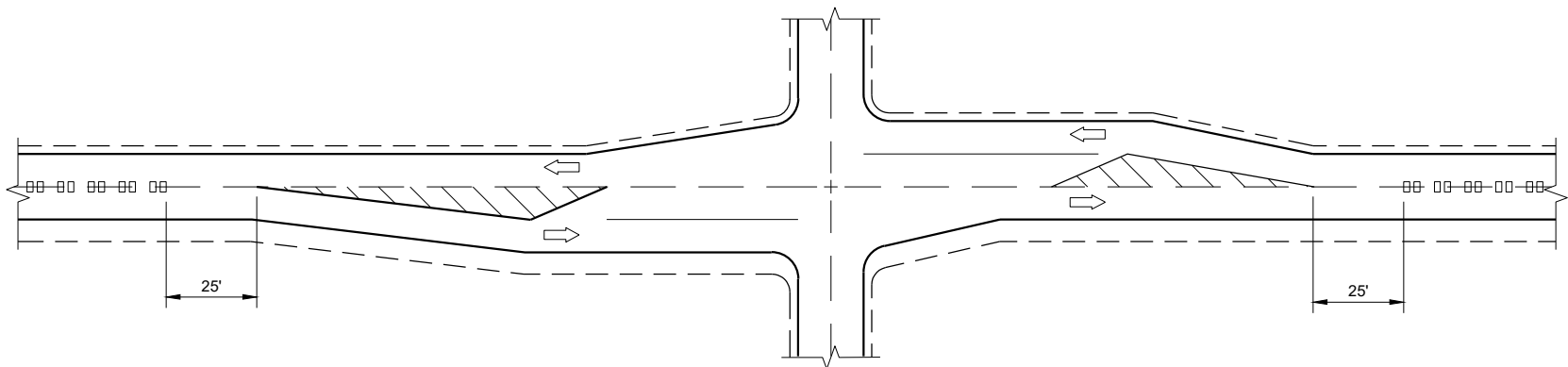
SECTION A - A

2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

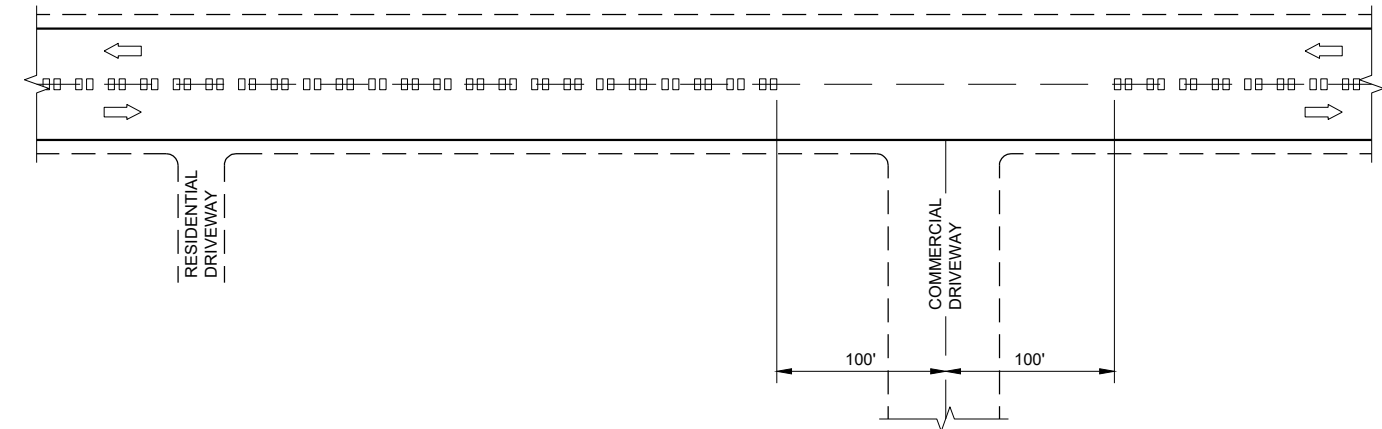
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



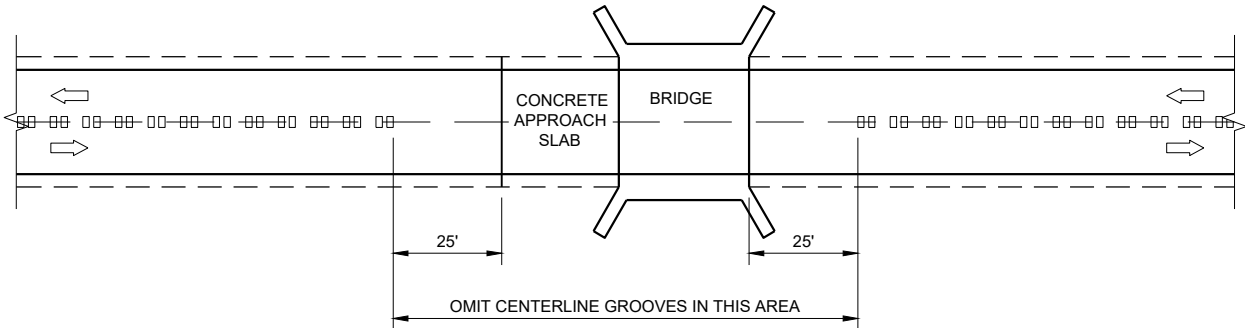
CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)



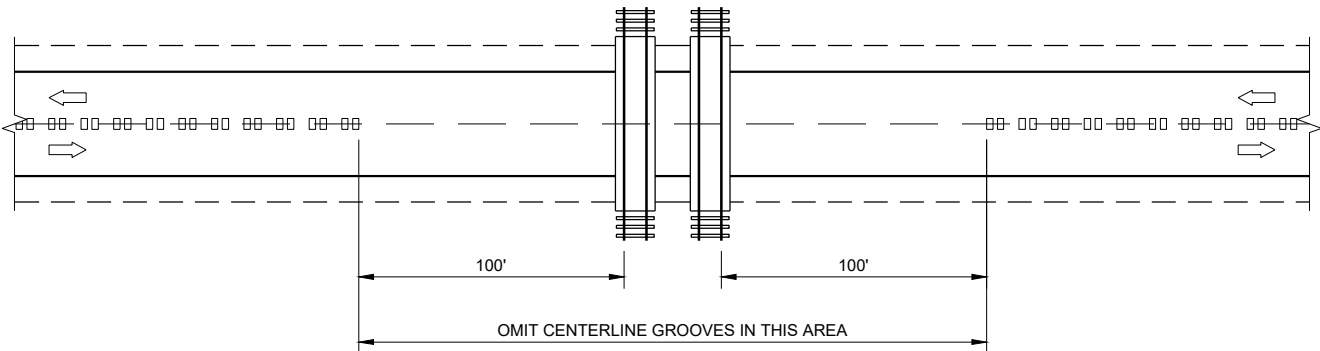
CENTERLINE GROOVES AT DRIVEWAYS^①

GENERAL NOTES

- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



CENTERLINE GROOVES AT BRIDGES



CENTERLINE GROOVES AT RAILROADS

2-LANE RURAL
CENTERLINE RUMBLE STRIP,
MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018

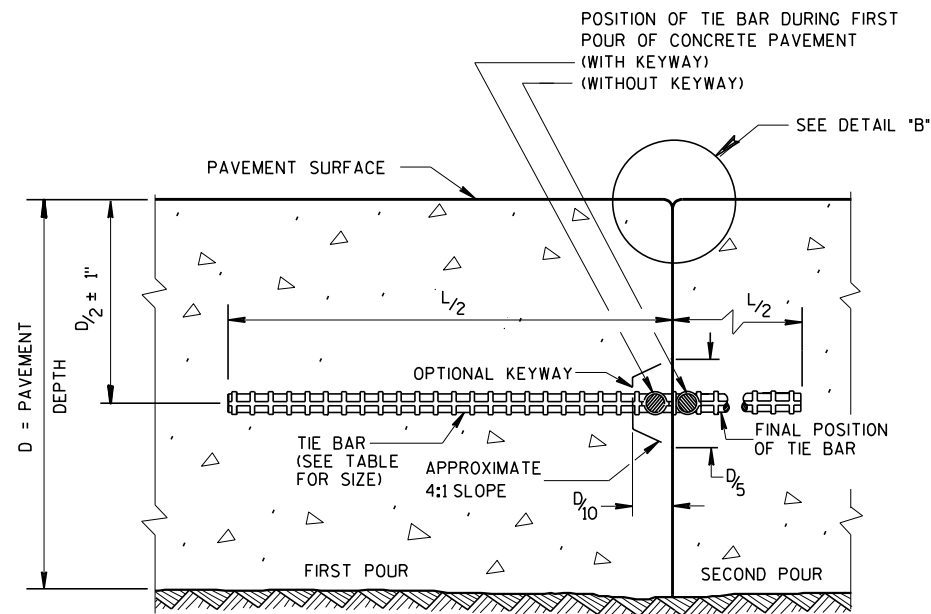
DATE

FHWA

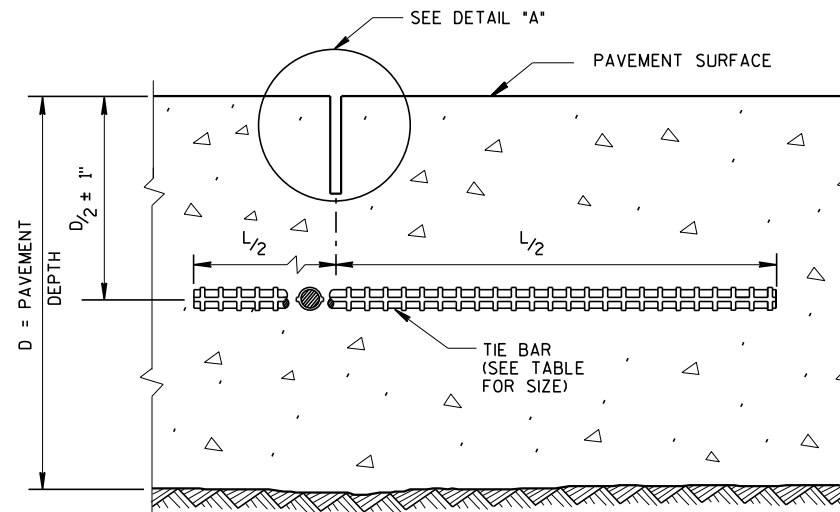
/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

ENGINEER



CONSTRUCTION JOINT



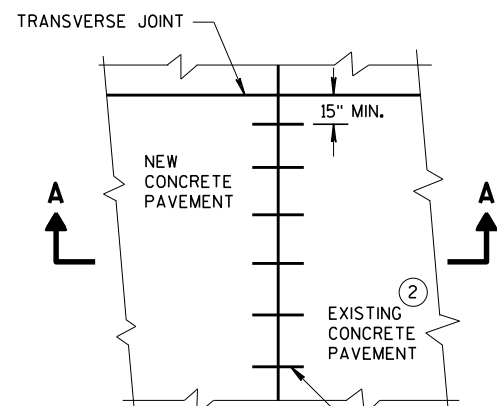
SAWED JOINT

GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

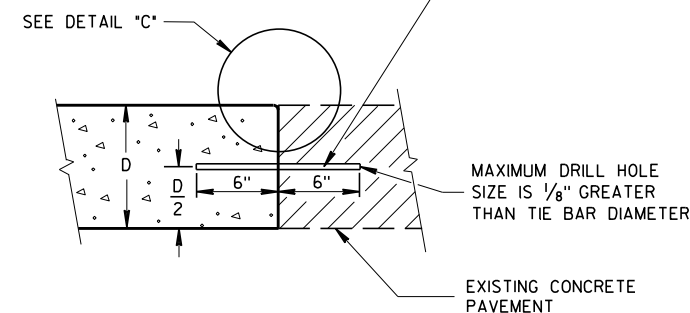
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

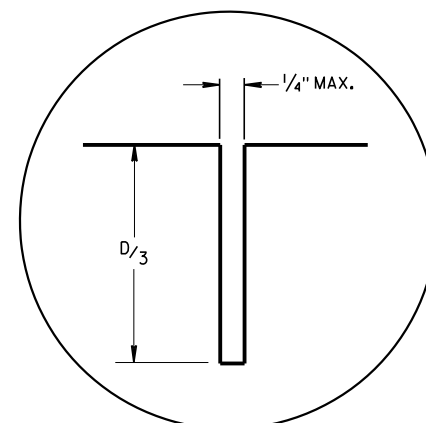


PLAN VIEW

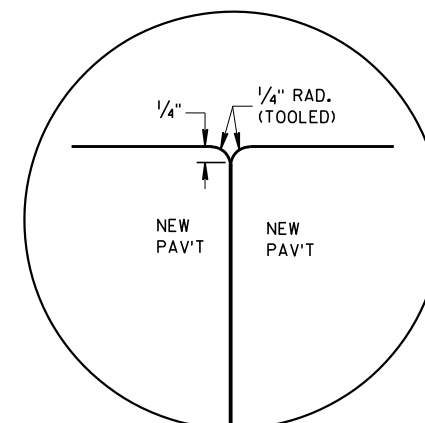
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



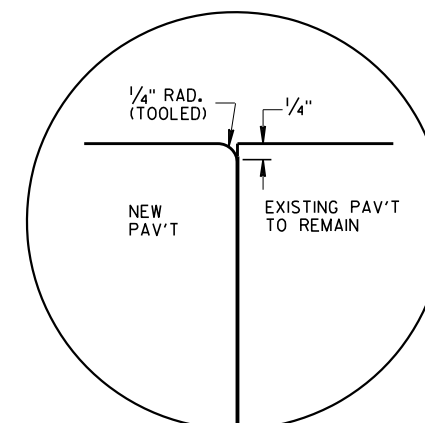
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



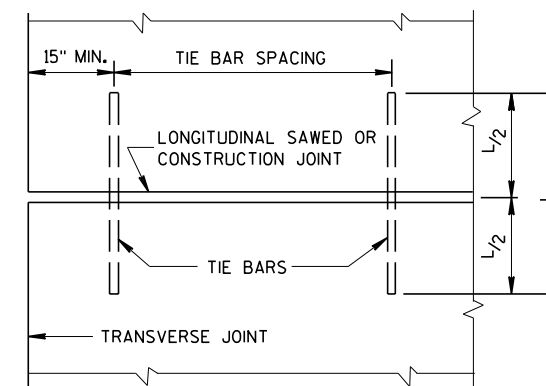
DETAIL "C"

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.

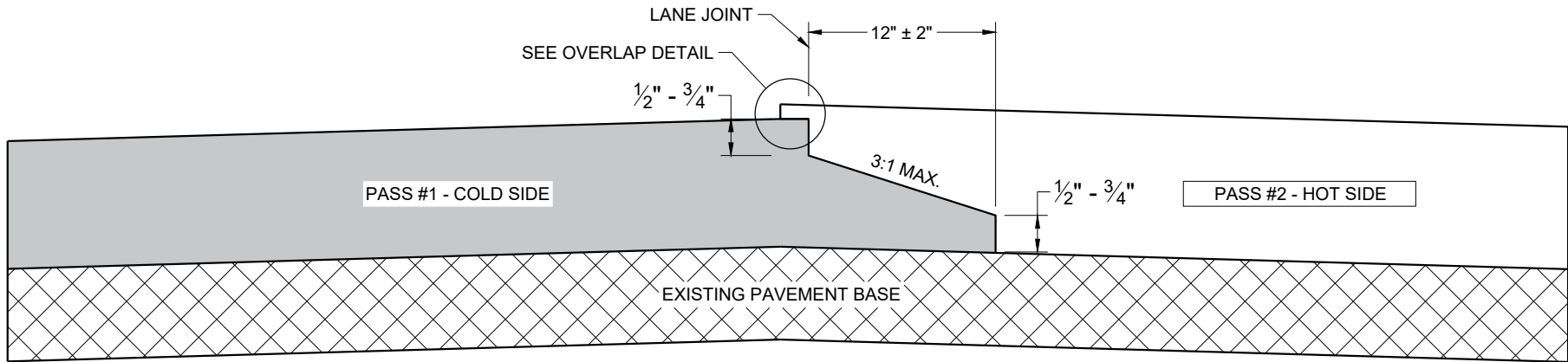


PLAN VIEW
SHOWING LOCATION OF TIE BARS

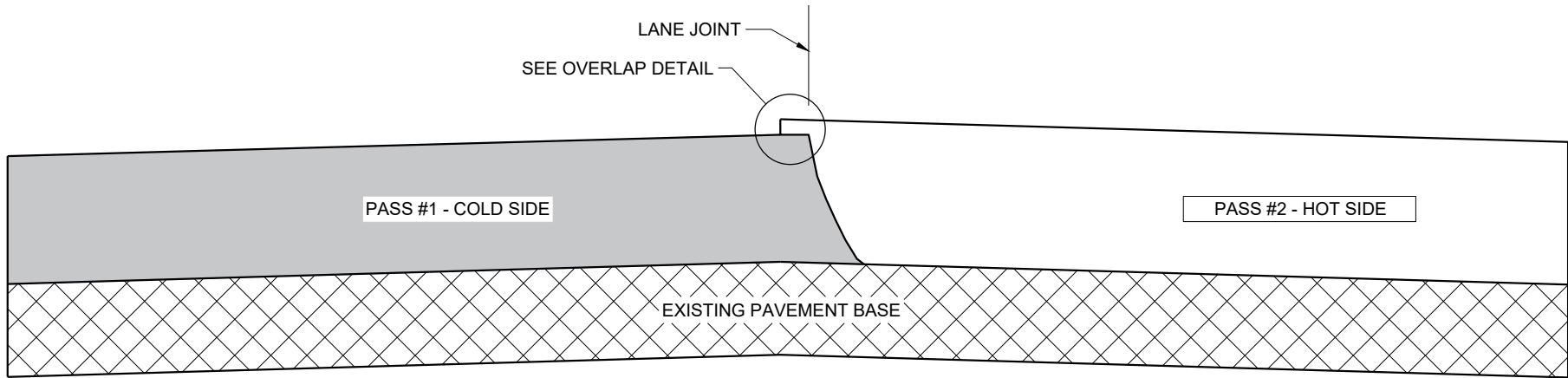
CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

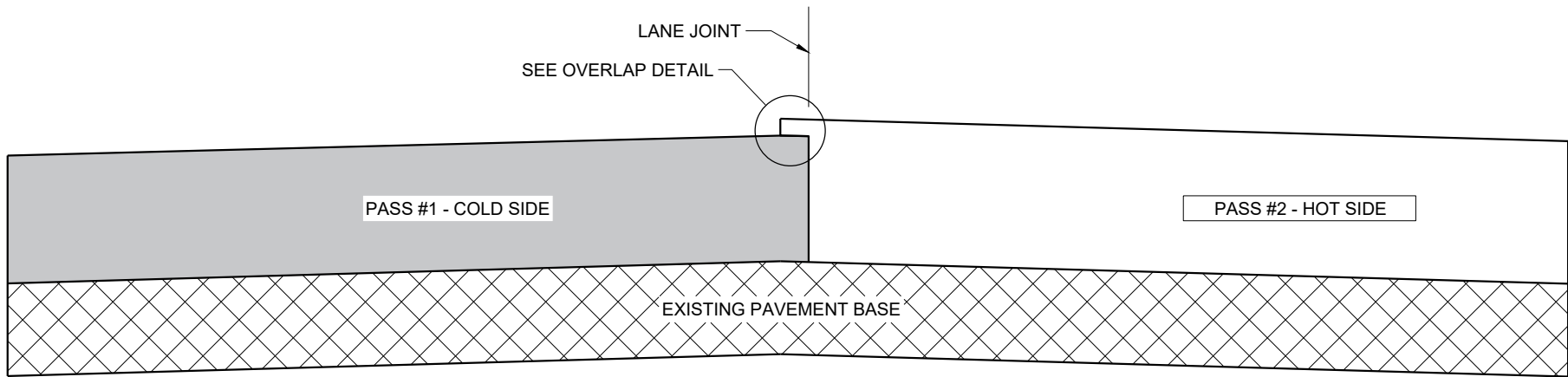
APPROVED
March 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

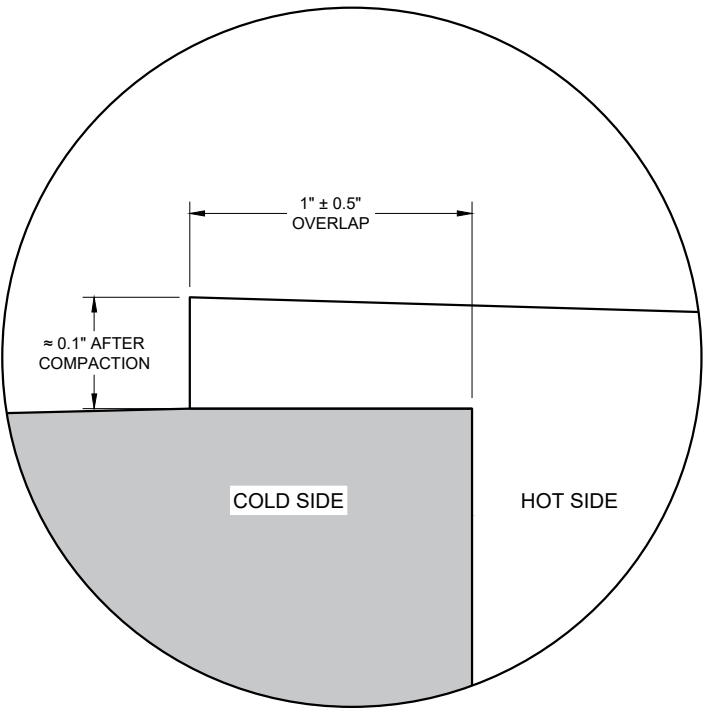
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY $1" \pm 0.5"$ AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.

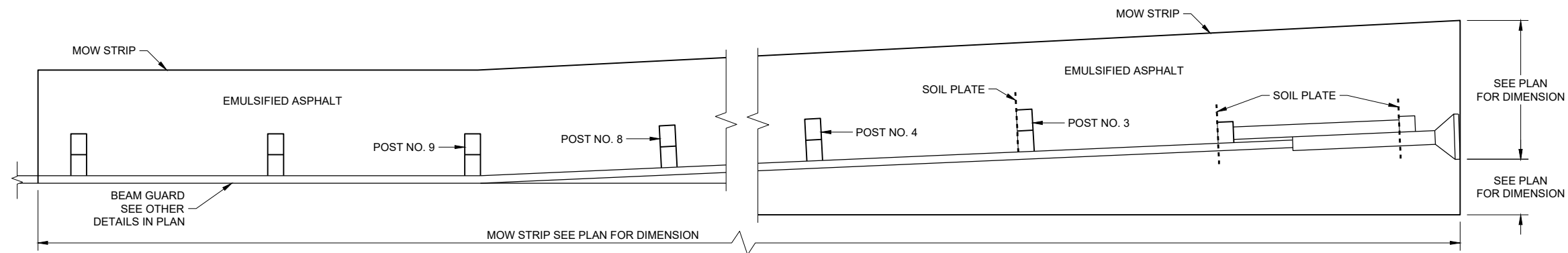


OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGINEER
FHWA

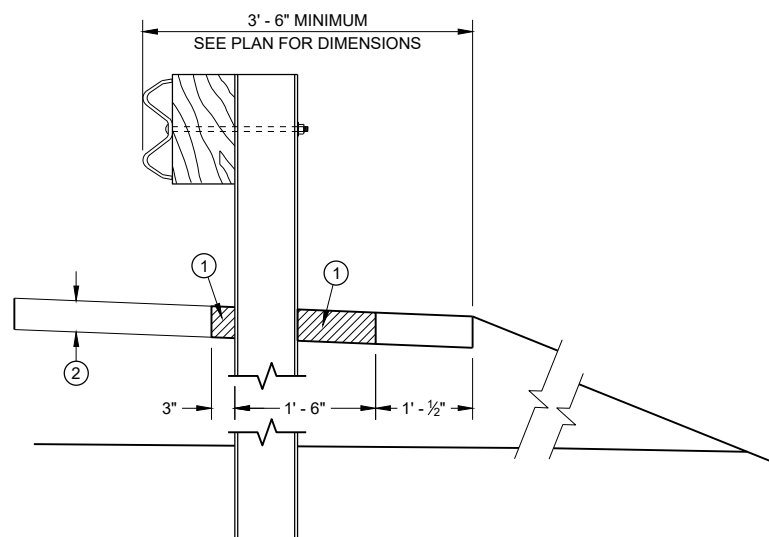


PLAN VIEW
MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL

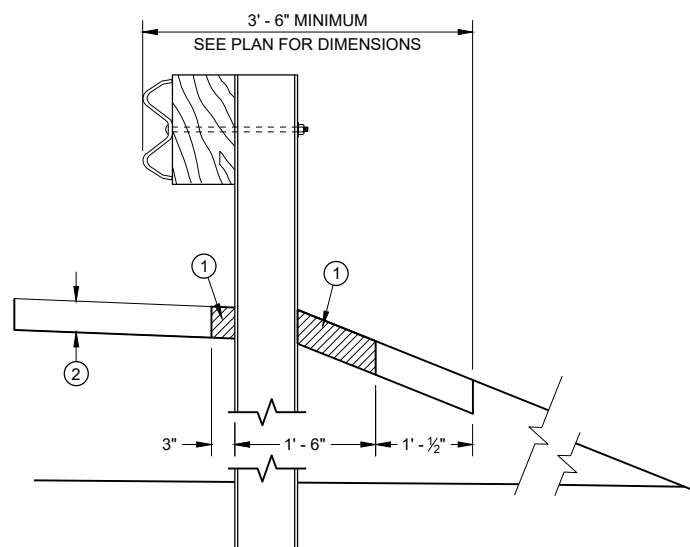
GENERAL NOTES

ONLY USE STEEL POSTS IN CONCRETE AND ASPHALT MOW STRIPS.

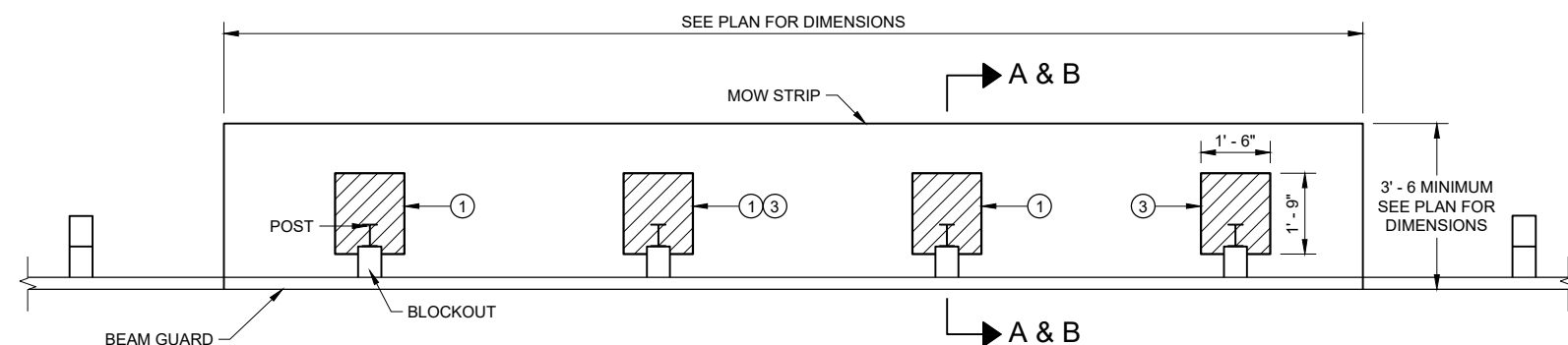
- ① CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.
- ② DEPTH OF MOW STRIP:
ASPHALT - 4"
CONCRETE - 4"
EMULSIFIED ASPHALT - 1" OR LESS
- ③ FOR EMULSIFIED ASPHALT, MOW STRIP STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS)



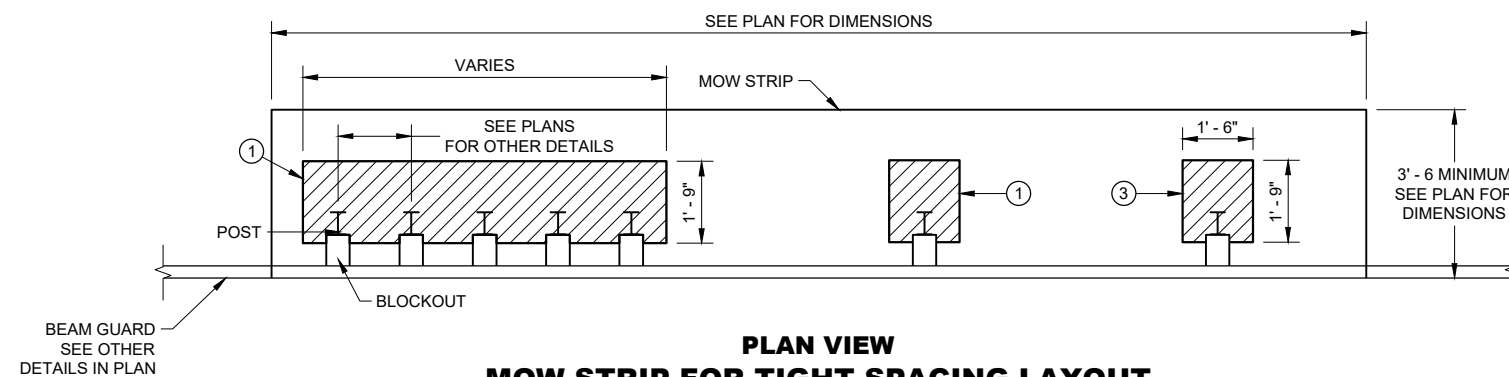
SECTION A - A



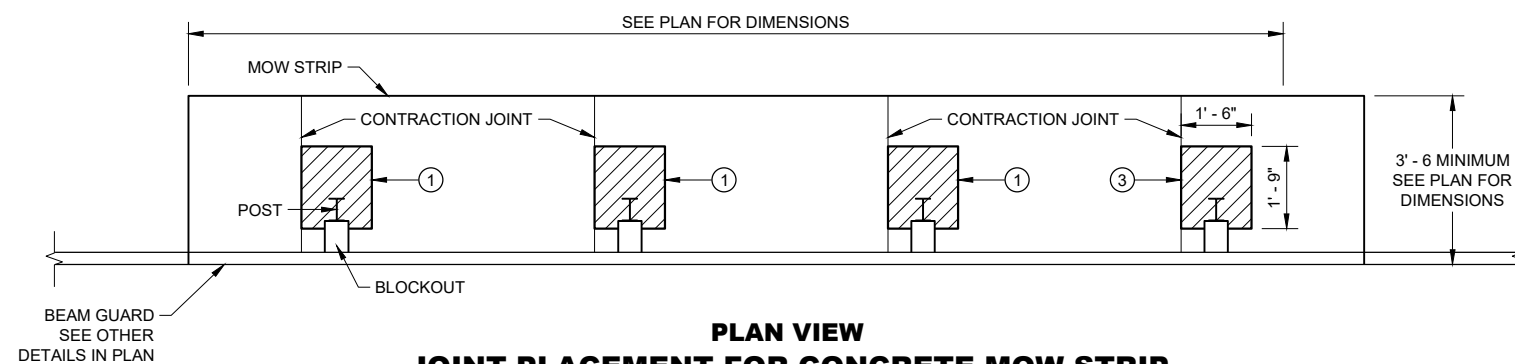
SECTION B - B



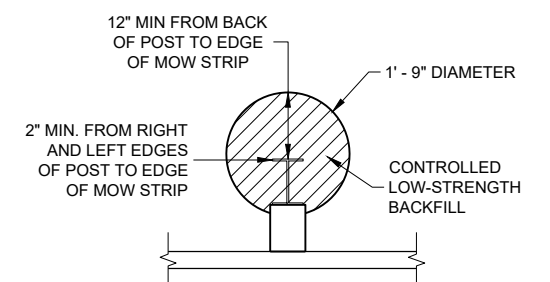
PLAN VIEW
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



PLAN VIEW
MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW
JOINT PLACEMENT FOR CONCRETE MOW STRIP



ALTERNATIVE HMA
MOW STRIP DESIGN

GUARDRAIL MOW STRIP

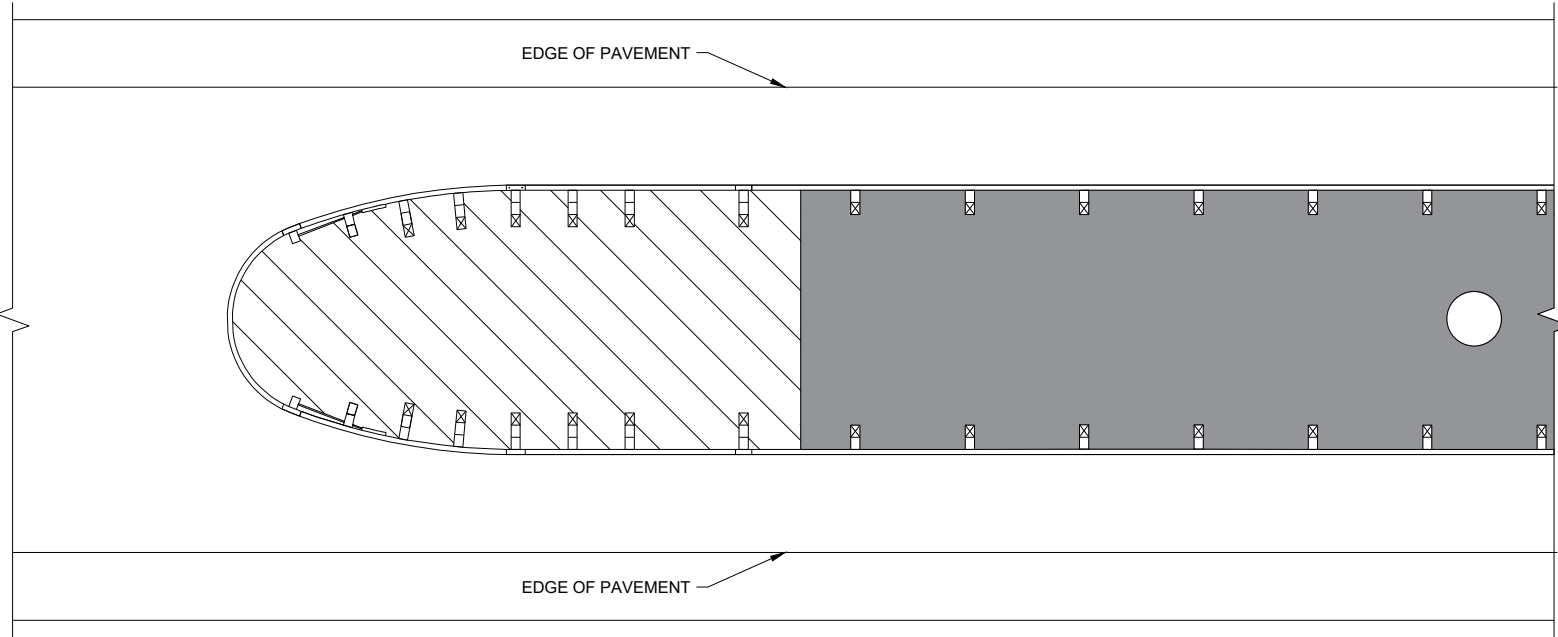
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

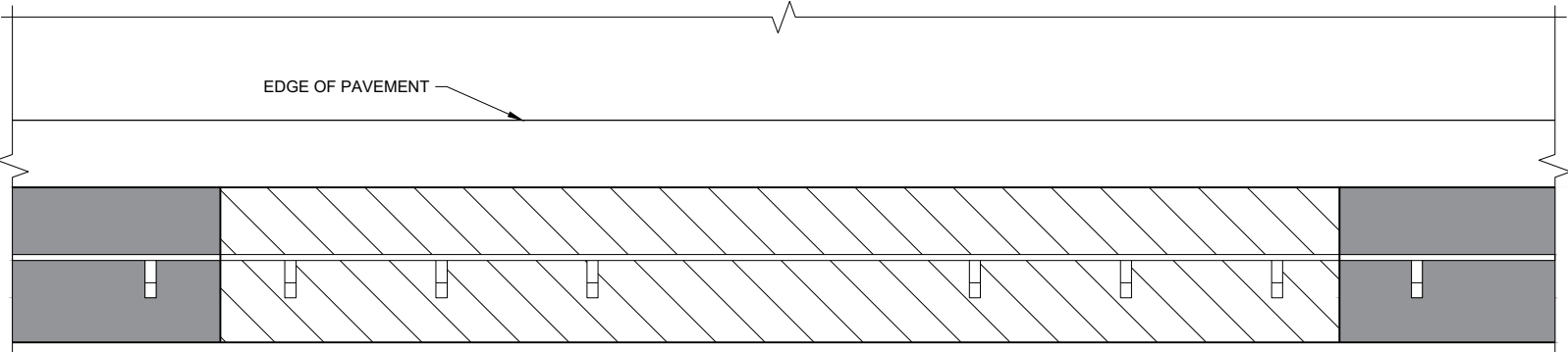
- CONCRETE, ASPHALT, OR EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)
- EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

GENERAL NOTES

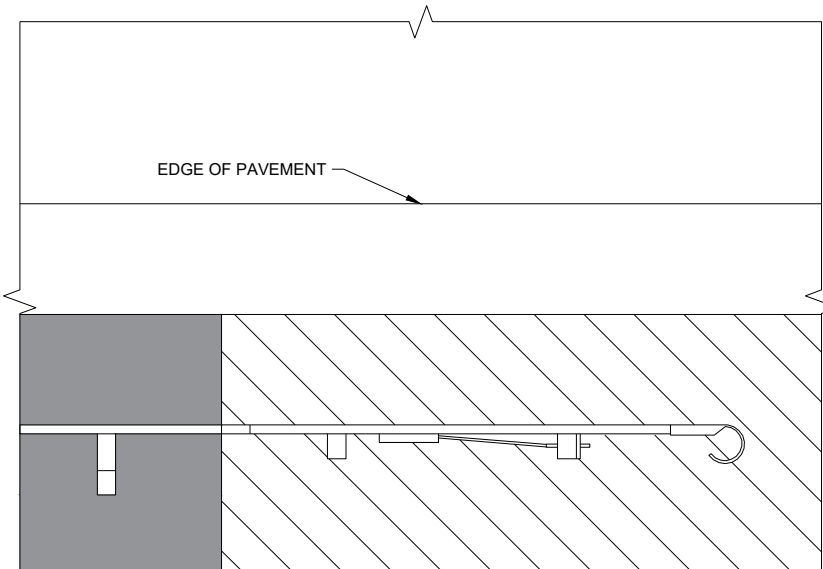
EXISTING THRIE BEAM BULLNOSES MAY HAVE WOOD POSTS. NEW THRIE BEAM BULLNOSE WILL HAVE STEEL POSTS.



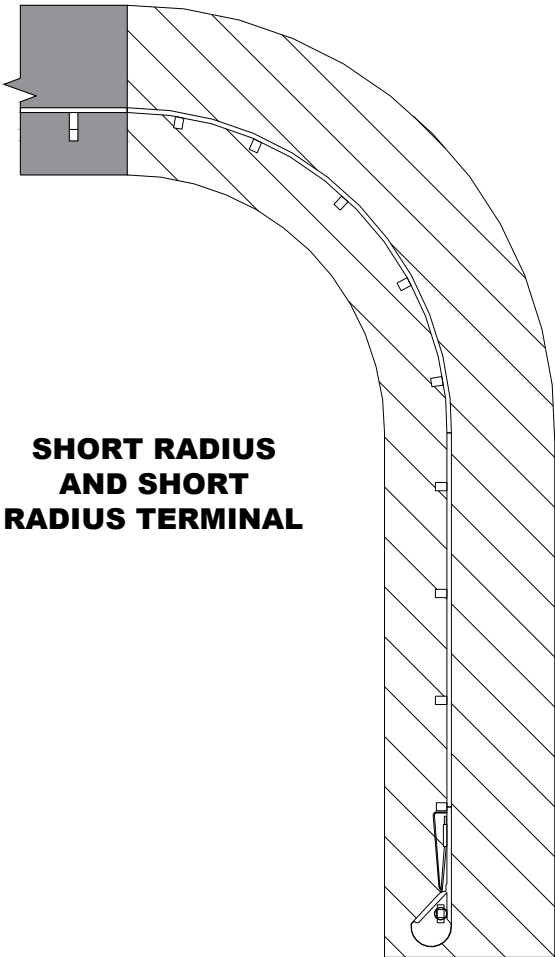
THRIE BEAM BULLNOSE



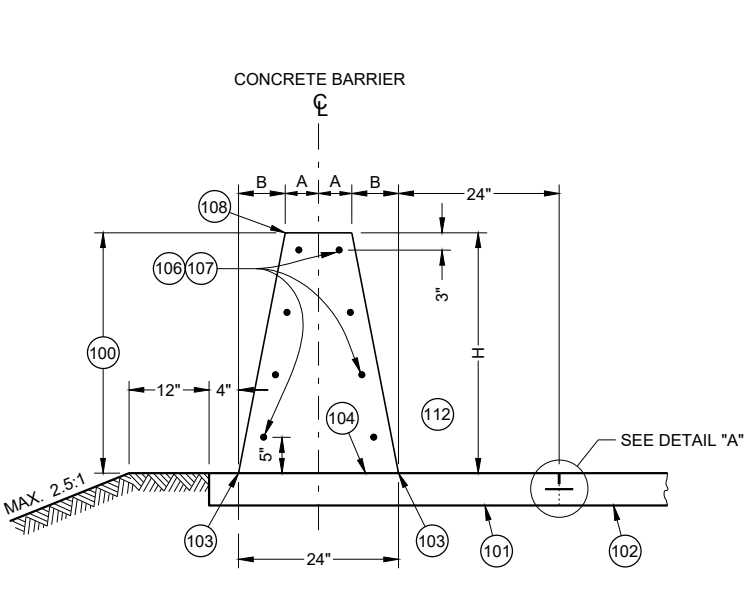
LONG - SPAN



TYPE 2 TERMINAL



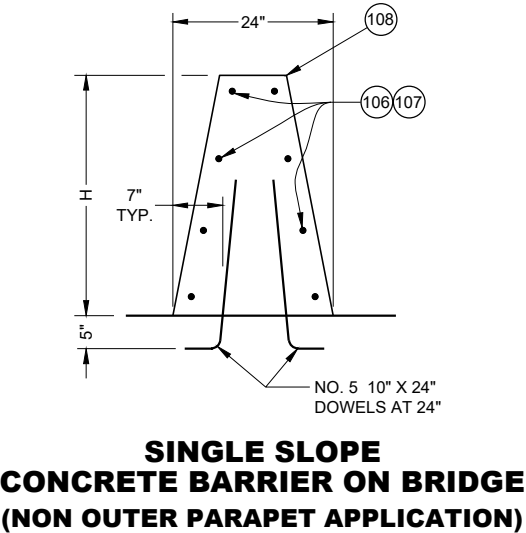
GUARDRAIL MOW STRIP	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED August 2020 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



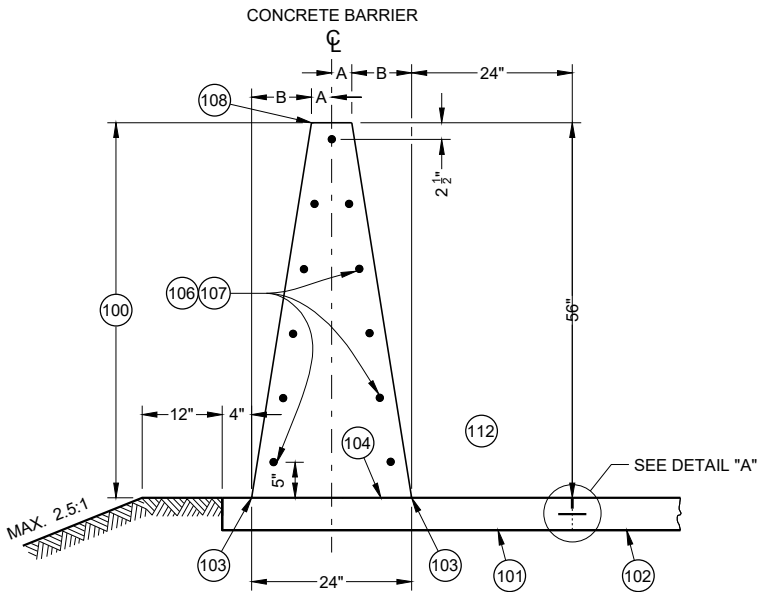
32 - INCH, 36 - INCH OR 42 - INCH
SINGLE SLOPE CONCRETE BARRIER
(TYPE S32, TYPE S36, TYPE S42)

TABLE "A"

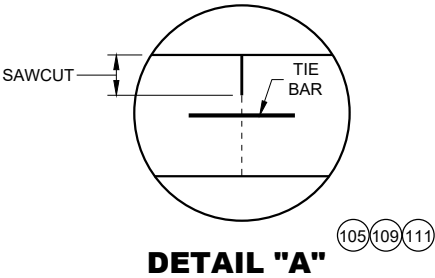
BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6 ¼	5 ¾	8
42	5 ¼	6 ¾	10
56	3	9	11



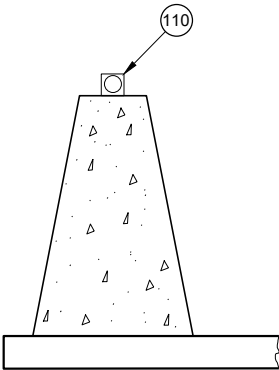
SINGLE SLOPE
CONCRETE BARRIER ON BRIDGE
(NON OUTER PARAPET APPLICATION)



56 - INCH SINGLE
SLOPE CONCRETE BARRIER
(TYPE S56)



DETAIL "A"



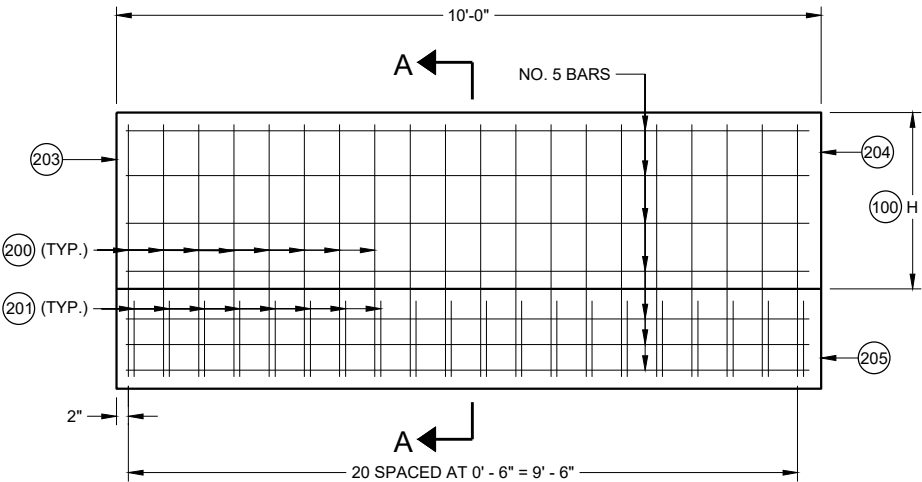
DELINEATION

GENERAL NOTES

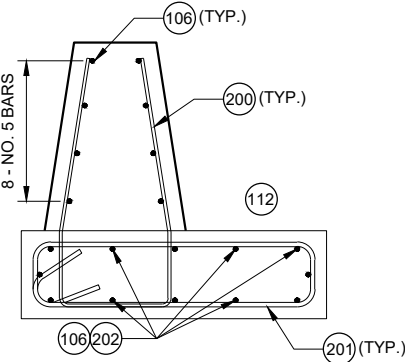
- WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.
- LOCATE EXPANSION JOINTS IN CONCRETE BARRIER SHALL AT ALL DECK AND PRINCIPAL WALL JOINTS. FILL EXPANSION JOINT WITH EXPANSION JOINT MATERIAL. SEAL THE EXPANSION JOINT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.
- 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.
- 2" CLEAR COVER TYPICAL
- ANCHORS ARE REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN IN THIS SDD OR DETAIL SHOWN ON SDD 14B33. ANCHORS INCIDENTAL TO CBSS.
- PROVIDE A 1" DEEP CONTRACTION JOINT IN BARRIER PAD AND BARRIER. JOINT IS TO MATCH ADJACENT CONCRETE JOINTS. NO DOWEL BARS ARE REQUIRED FOR BARRIER PAD. IF ADJACENT TO ASPHALT, CONTRACTION JOINT IS REQUIRED EVERY 15'.
- ALL REBAR SHALL BE EPOXY COATED M31 TYPE S. SEE STANDARD SPECIFICATION 505.
- CONCRETE BARRIER, UPPER CONCRETE BARRIER, LOWER CONCRETE BARRIER, CONCRETE BARRIER PAD, AND FOOTINGS ARE TERMS USED TO DESCRIBE PARTS OF SINGLE SLOPE CONCRETE BARRIER BID ITEMS. THESE PARTS ARE INCIDENTAL TO THE SINGLE SLOPE CONCRETE BARRIER BID ITEMS.
- (100) CONCRETE BARRIER
- (101) CONCRETE BARRIER PAD
- (102) PAVEMENT
- (103) WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1 ½", USE TYPE A SINGLE SLOPE BARRIER.
- (104) OPTIONAL CONSTRUCTION JOINT.
- (105) CONSTRUCTION JOINTS MAY BE ELIMINATED WHEN CONCRETE SHOULDER IS LESS THAT 10'.
- (106) STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL IS 2' BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.
- (107) NO. 5 CONTINUOUS BARS EVENLY SPACED (SEE TABLE "A").
- (108) USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
- (109) CONCRETE BARRIER PAD UNDER CBSS MAY BE PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED ⅓ DEPTH. CONCRETE BARRIER PAD AND SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE BARRIER PAD MINIMUM DEPTH IS 6", OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
- (110) SEE SDD 15A04 FOR DELINEATOR DETAILS AND SPACING.
- (111) SEE SDD 13C01 FOR DETAILS TYPING CONCRETE BARRIER TO ADJACENT CONCRETE
- (112) TRAFFIC SIDE

CONCRETE BARRIER
SINGLE SLOPE (CBSS)

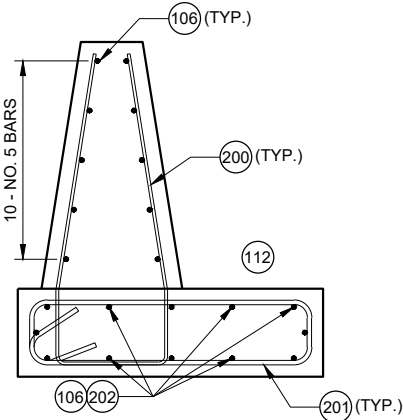
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



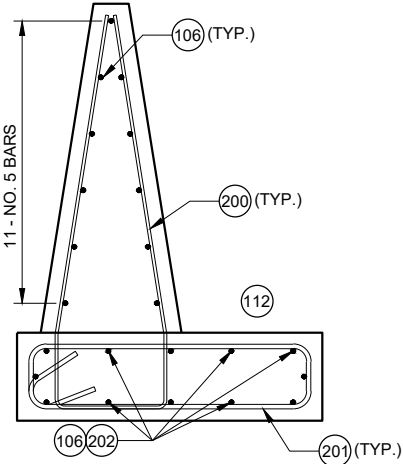
**END ANCHOR SINGLE
SLOPE CONCRETE BARRIER**



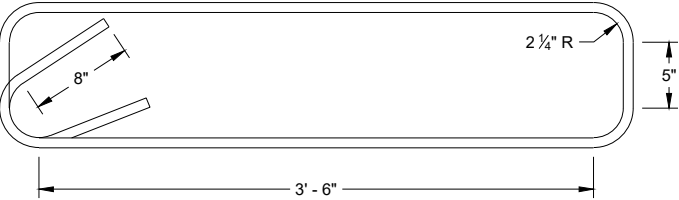
32" AND 36" CBSS



42" CBSS



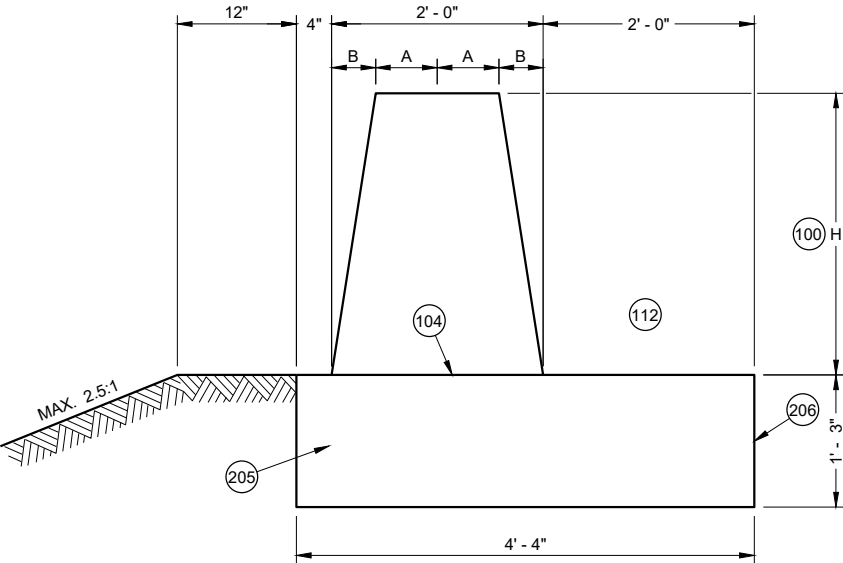
56" CBSS



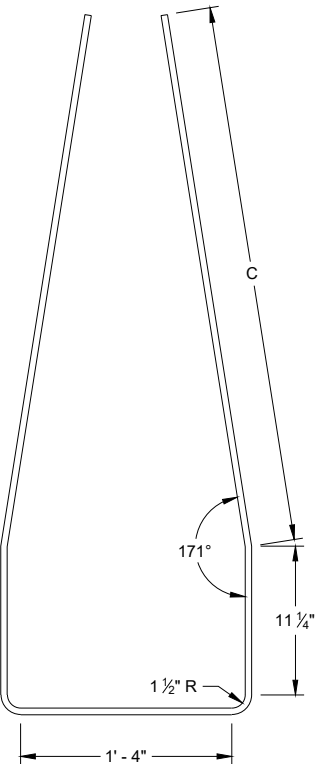
**STIRRUP BAR
BENDING DETAIL**

GENERAL NOTES

- (200) V1 BARS ARE NO. 5 BARS. (SEE BAR BENDING DETAIL)
- (201) STIRRUPS ARE NO. 6 BARS. (SEE BAR BENDING DETAIL)
- (202) TWELVE (12) NO. 5 BARS EVENLY SPACED
- (203) END OF INSTALLATION OR EXPANSION JOINT.
- (204) SEE COLD JOINT DETAIL TO CONNECT END ANCHOR SINGLE SLOPE CONCRETE BARRIER TO SINGLE SLOPE CONCRETE BARRIER.
- (205) FOOTING
- (206) DO NOT TIE TO FOOTING TO ADJACENT PAVEMENT.



SECTION A - A



**V1 BAR
BENDING DETAIL**

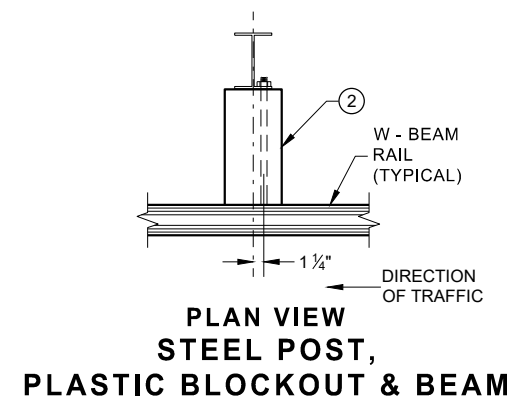
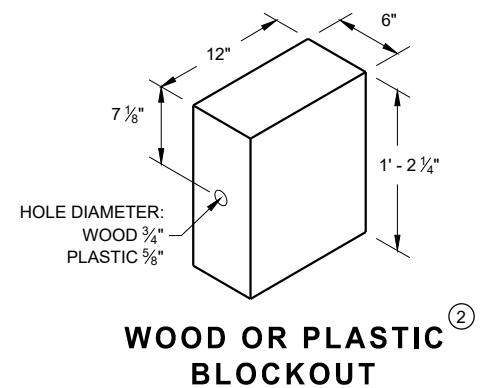
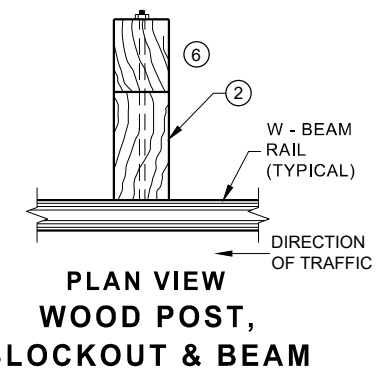
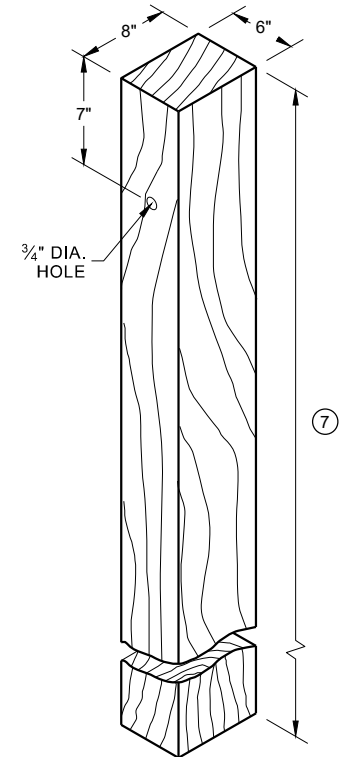
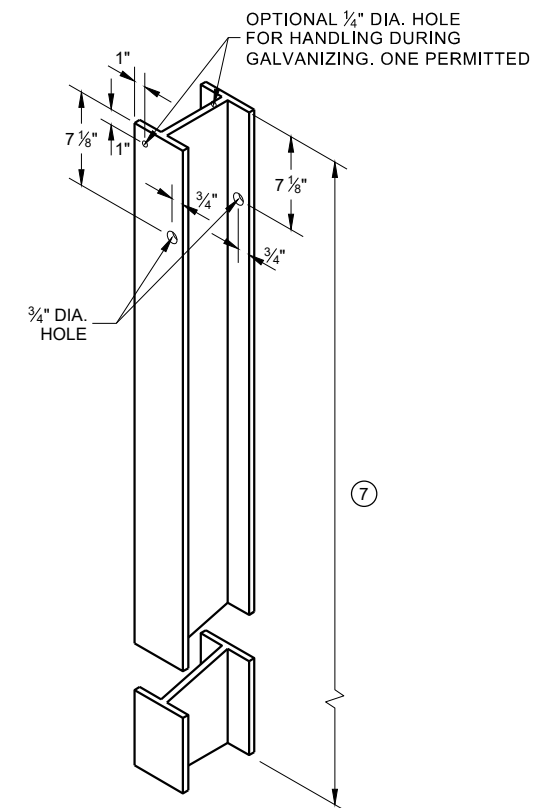
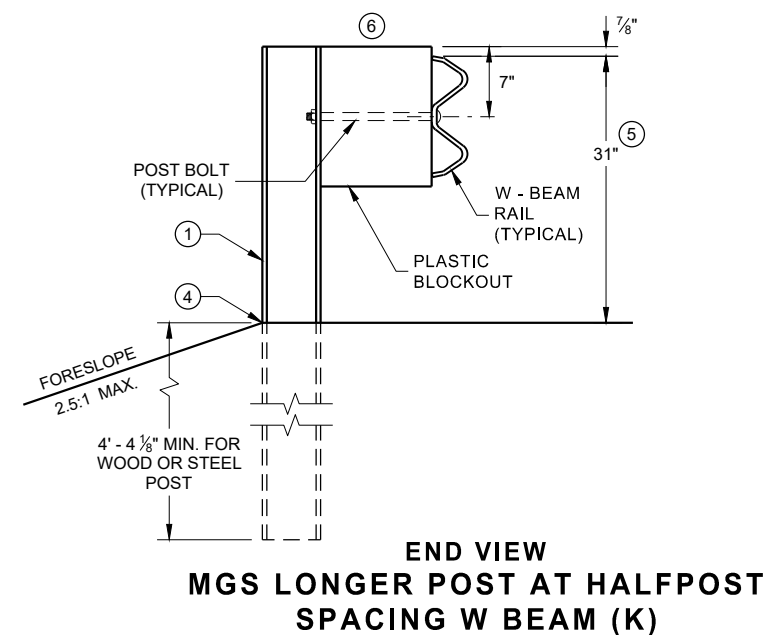
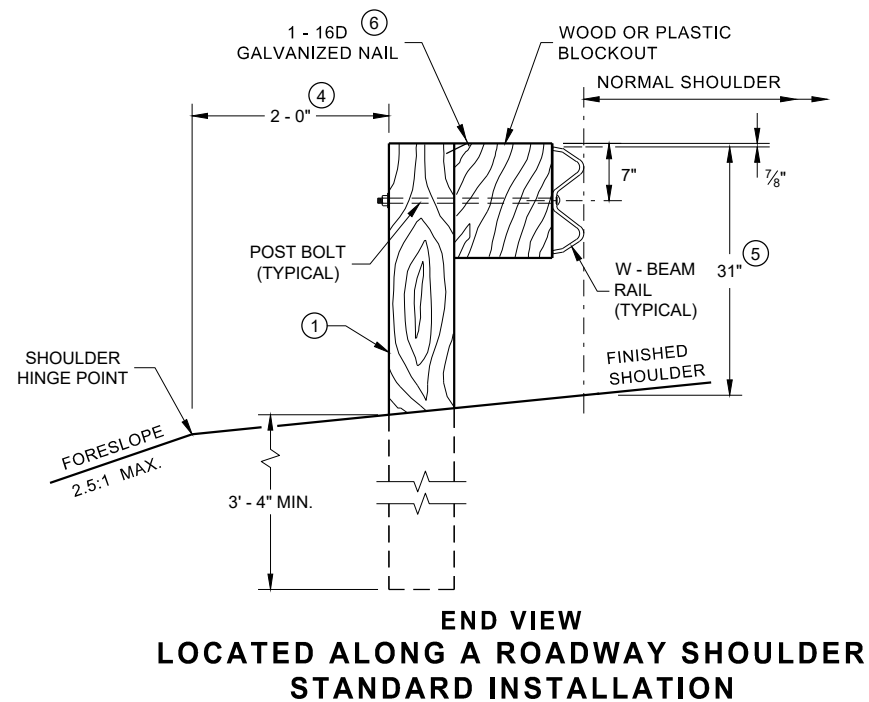
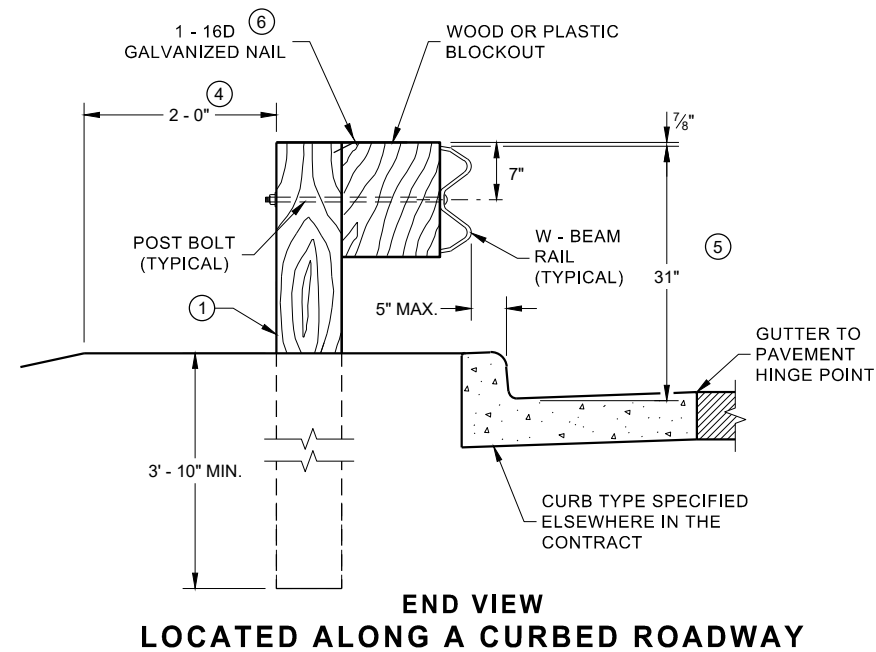
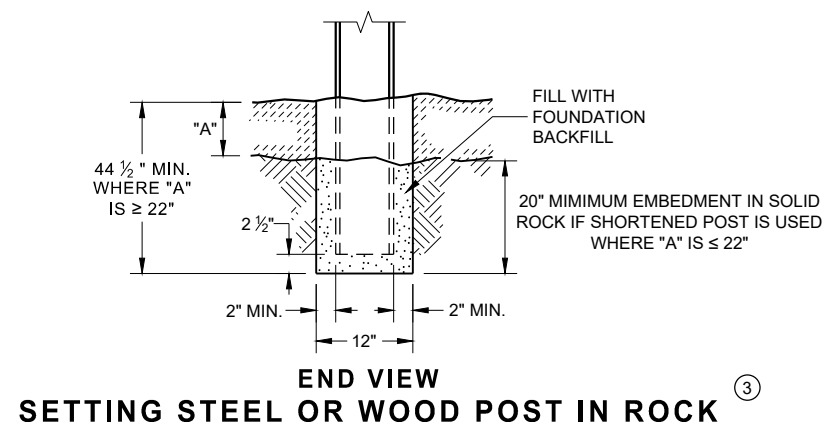
TABLE "B"

BARRIER HEIGHT H INCHES	C INCHES
32	2' - 6"
36	2' - 11"
42	3' - 4"
56	4' - 6 1/2"

**CONCRETE BARRIER
SINGLE SLOPE (CBSS)**

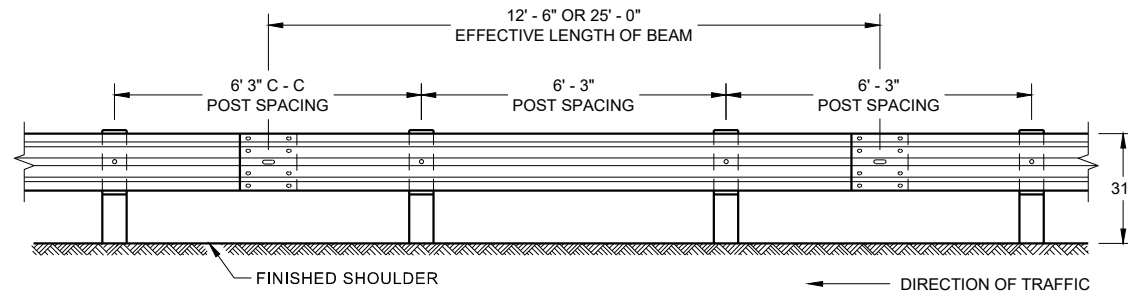
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS $\pm 1"$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".

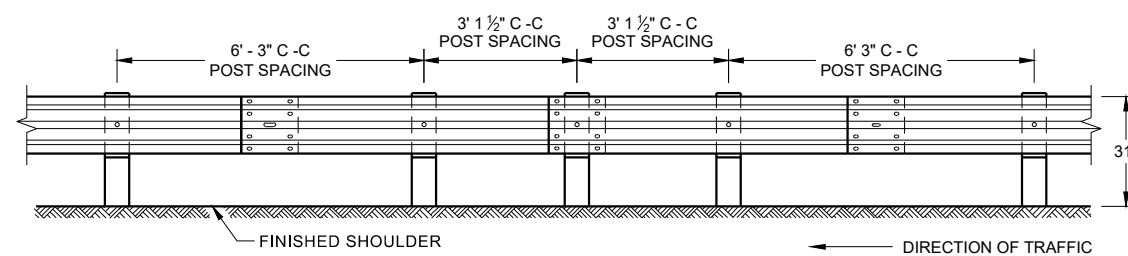


**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

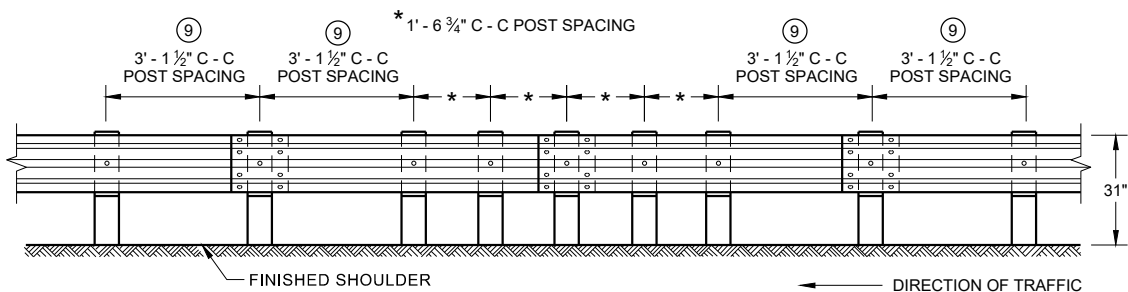
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



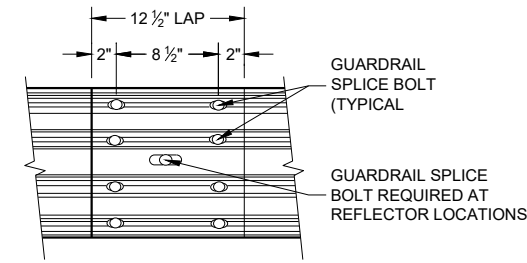
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



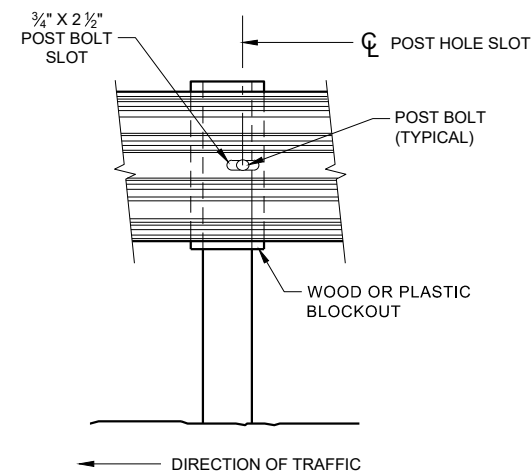
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



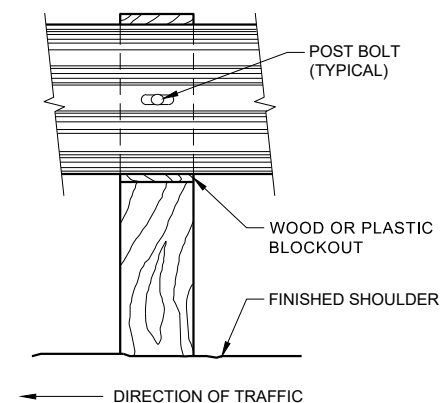
**FRONT VIEW
QUARTER POST SPACING (QS)**



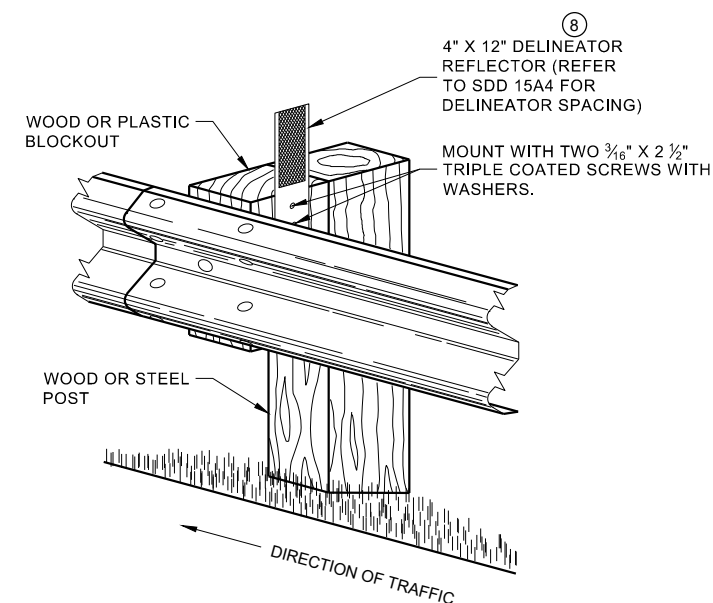
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



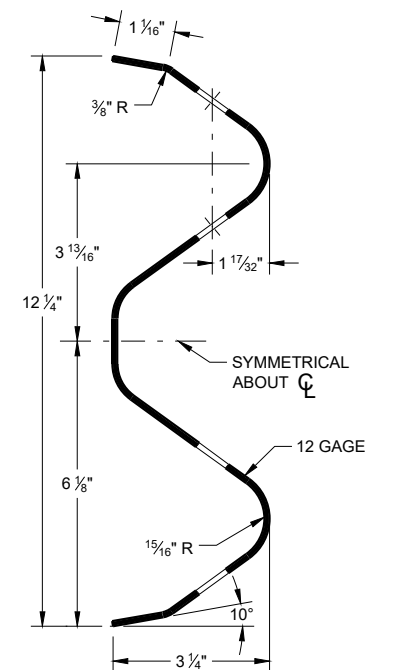
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

GENERAL NOTES

- 8 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- 9 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

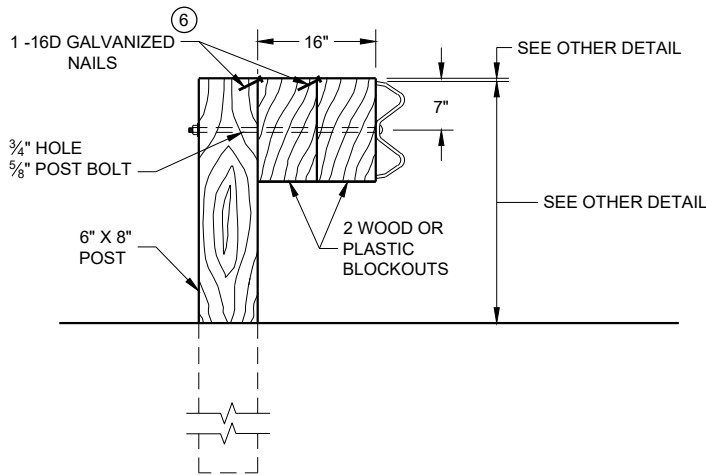
GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



SECTION THRU W-BEAM RAIL

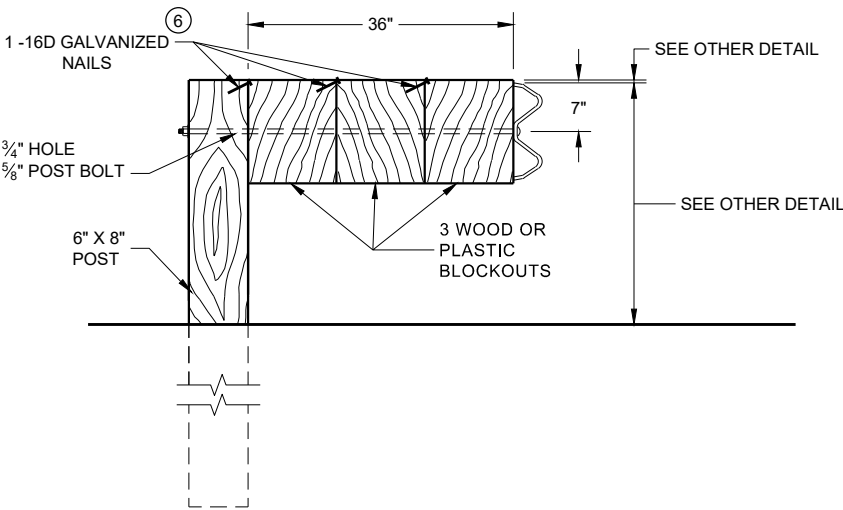
**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

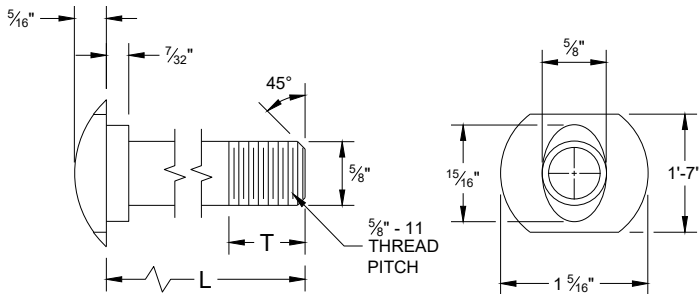
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



DETAIL FOR 36" BLOCKOUT DEPTH

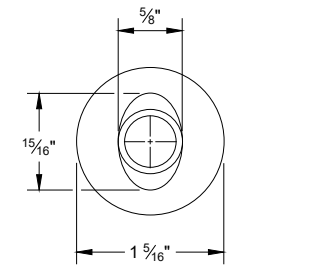
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

- NOTE:
- 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
 - 2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

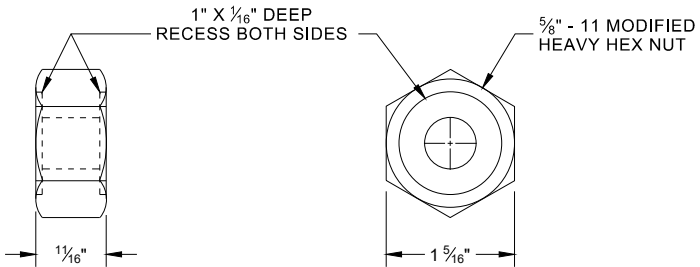


POST BOLT TABLE

L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"

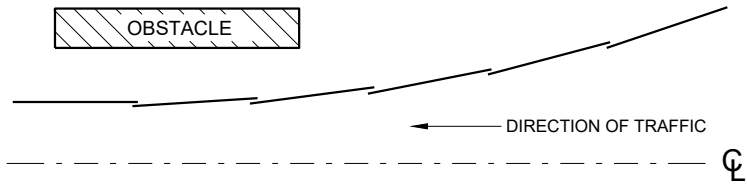


ALTERNATE BOLT HEAD

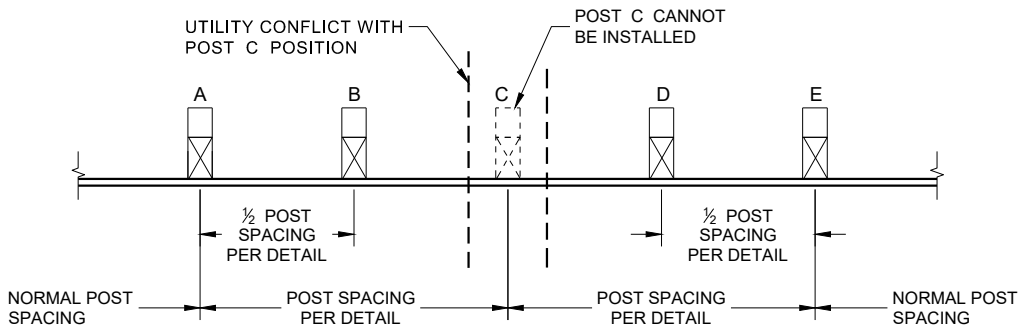


POST BOLT, SPLICE BOLT AND RECESS NUT

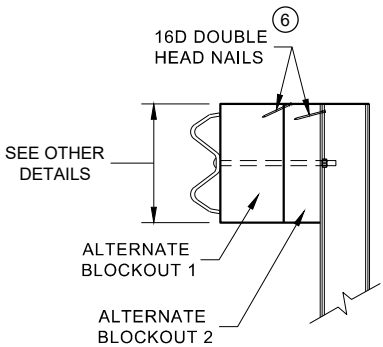
- 6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



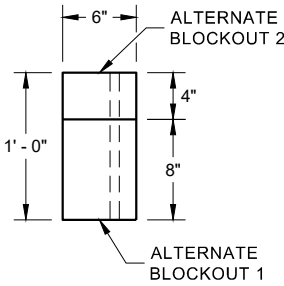
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW

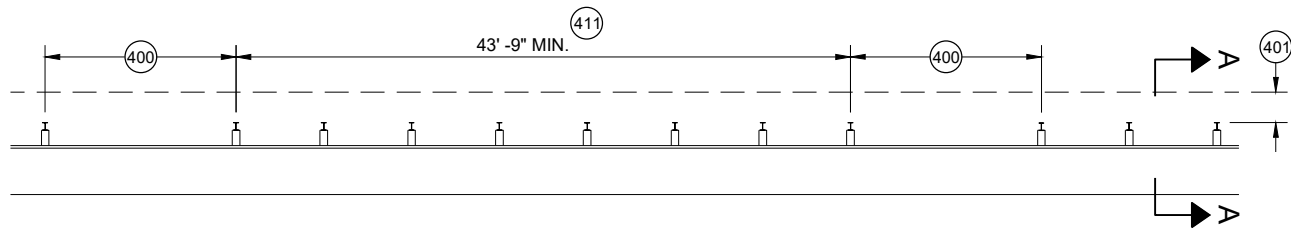


PLAN VIEW

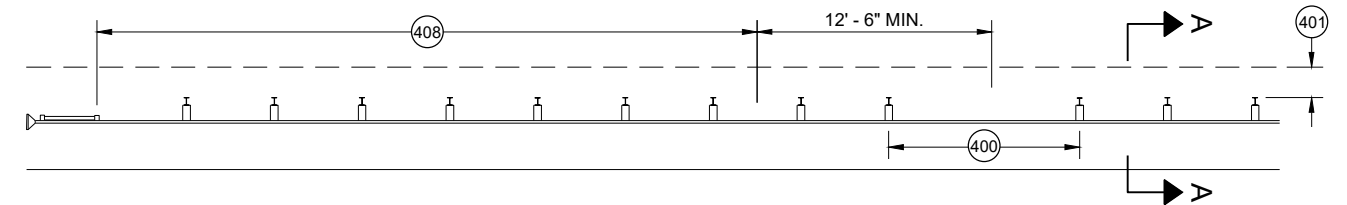
ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

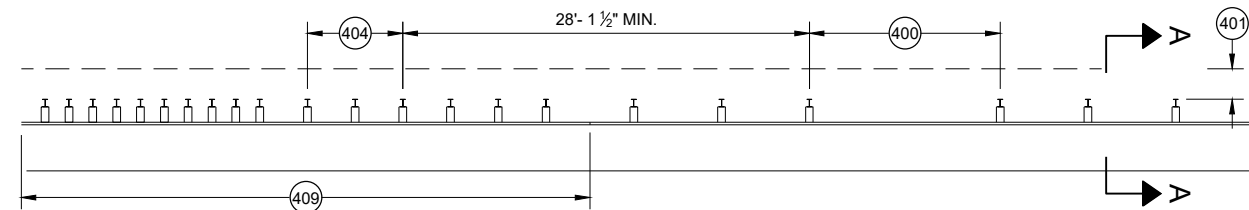
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



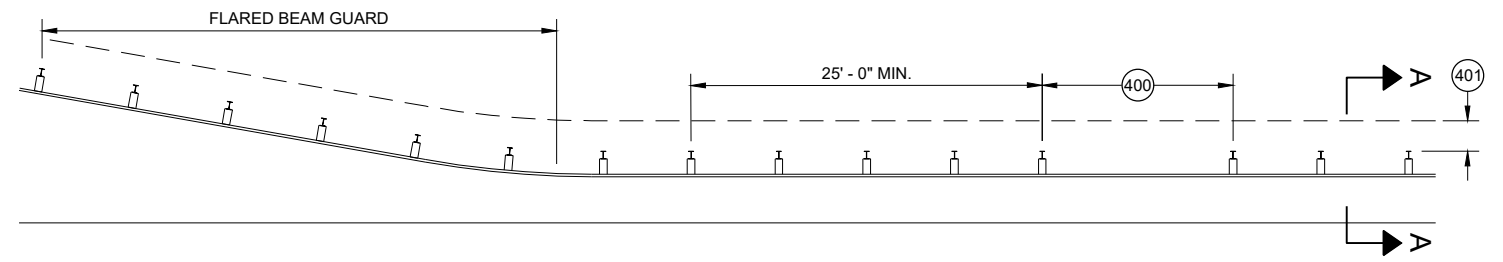
MISSING POST IN MGS GUARDRAIL



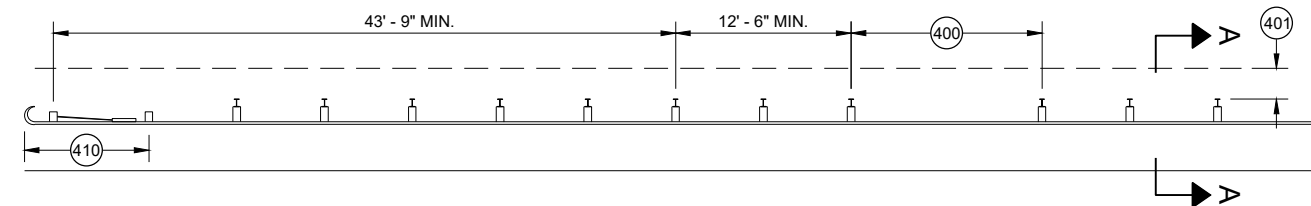
MISSING POST IN MGS GUARDRAIL NEAR EAT



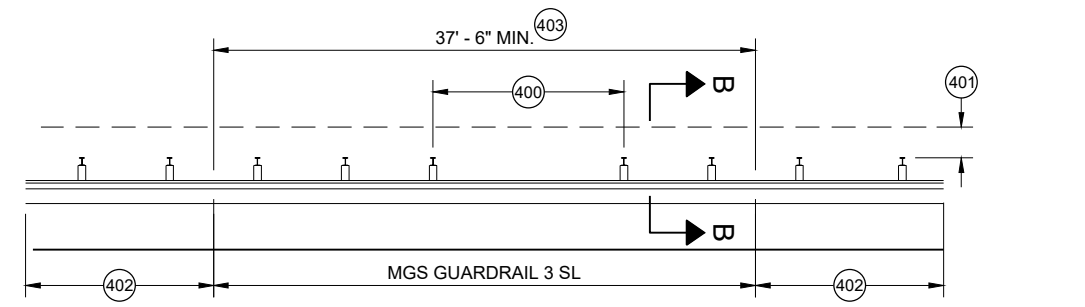
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

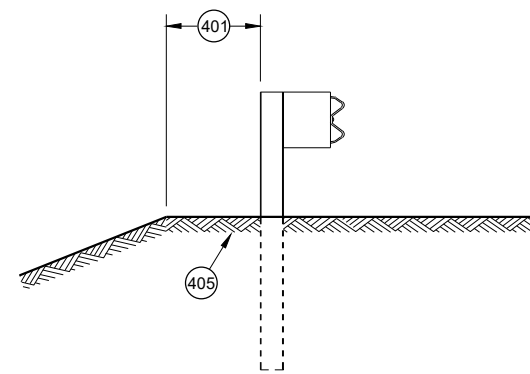


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

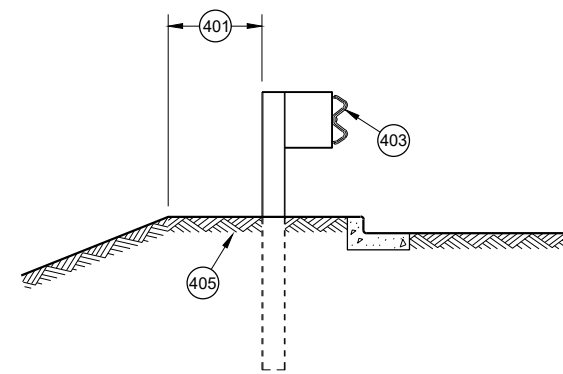


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

- (400) MAX SPAN 12' - 6"
- (401) 2' MIN.
- (402) MGS GUARDRAIL 3
- (403) NESTING BEAM GUARD
- (404) ASYMMETRIC TRANSITION
- (405) SOIL WELL DRAINED AND COMPACTED
- (406) SEE OTHER DRAWINGS IN THIS SDD
- (407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
- (408) SEE SDD 14B44
- (409) SEE SDD 14B45
- (410) SEE SDD 14B47
- (411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A



SECTION B - B

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

FHWA

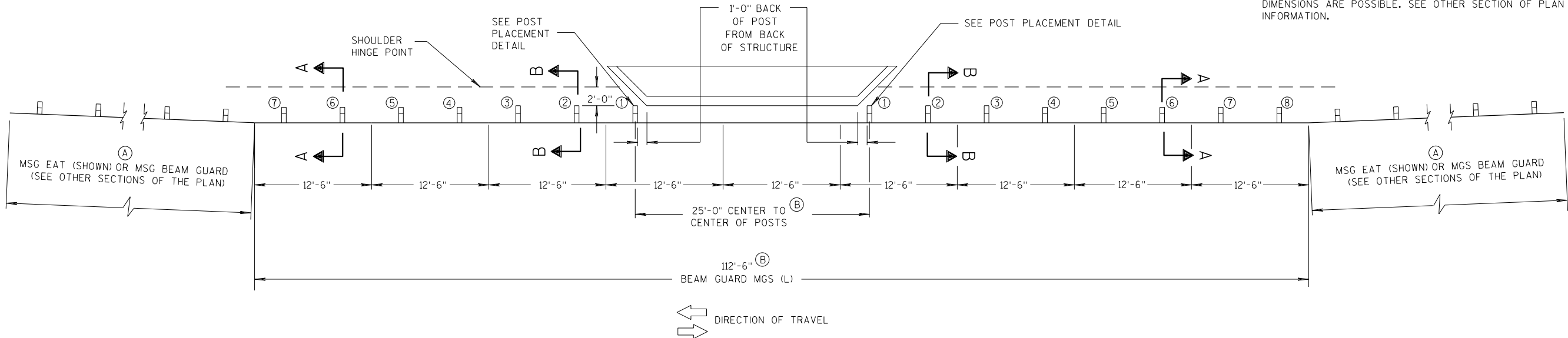
GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

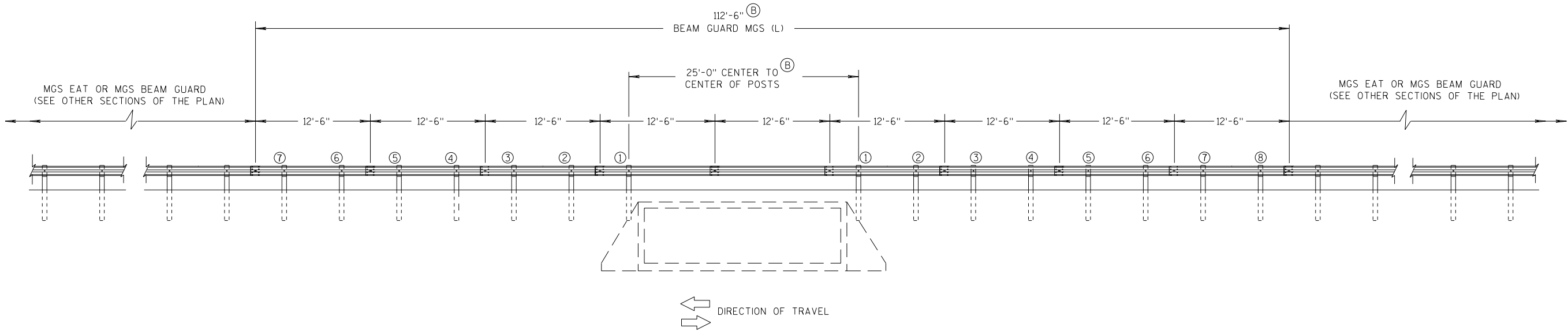
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN, IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) TWO-WAY TRAFFIC

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

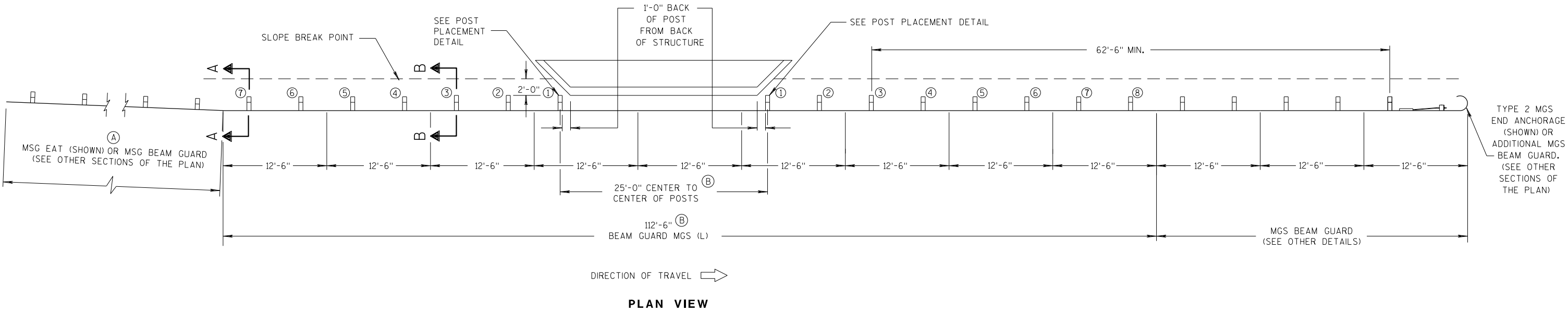
STATE OF WISCONSIN
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GENERAL NOTES

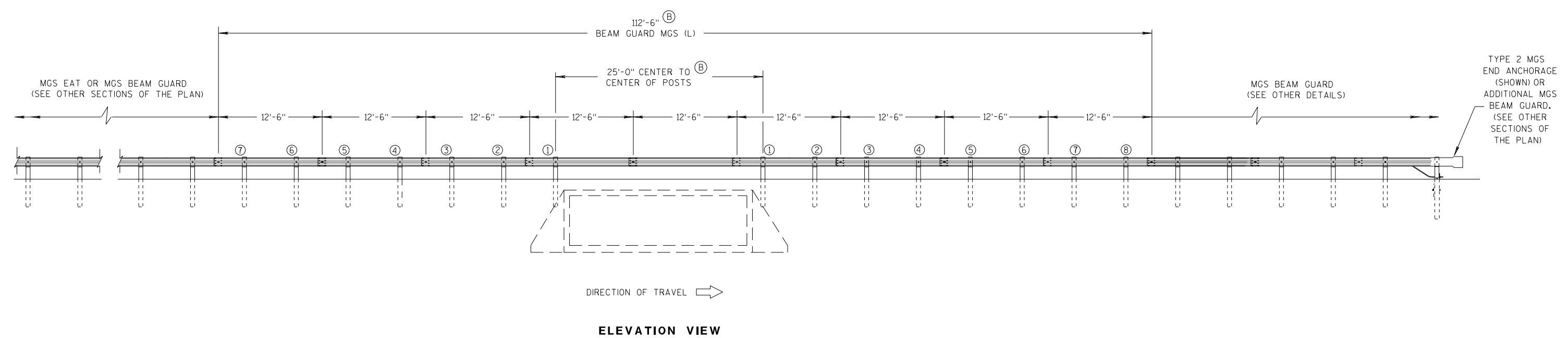
POSTS 1 THROUGH 3 ARE CRT POSTS.
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SEE SDD 14 B 42 FOR MORE DETAILS.

- (A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.
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PLAN VIEW

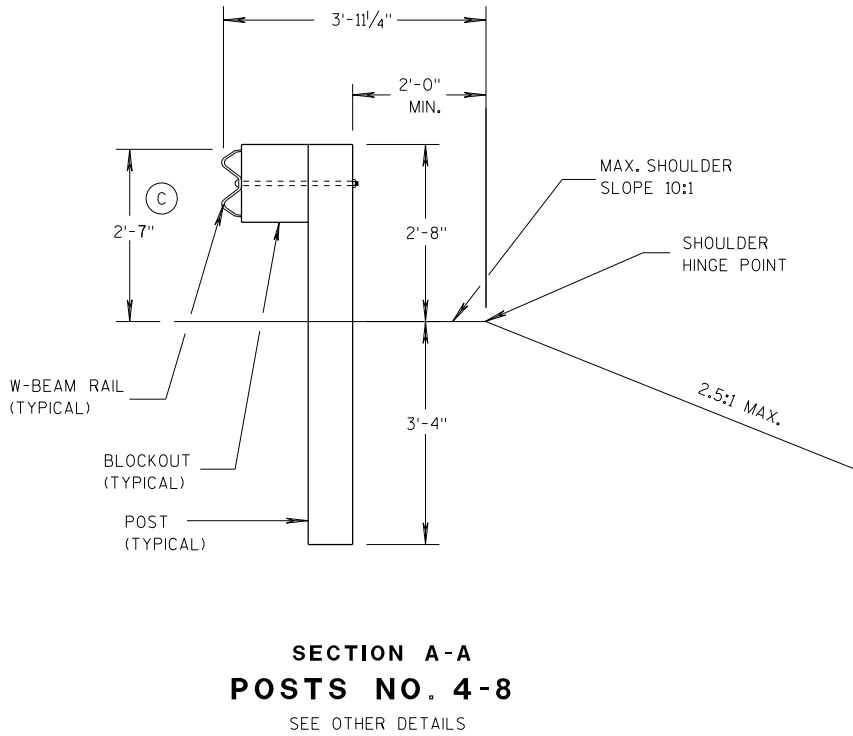
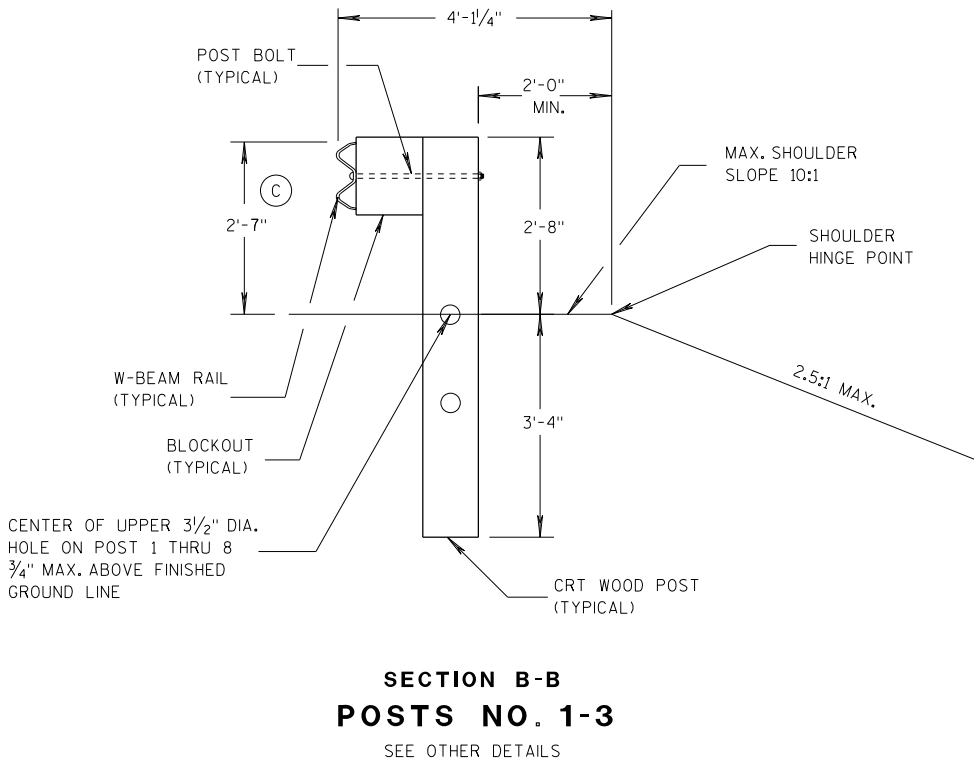
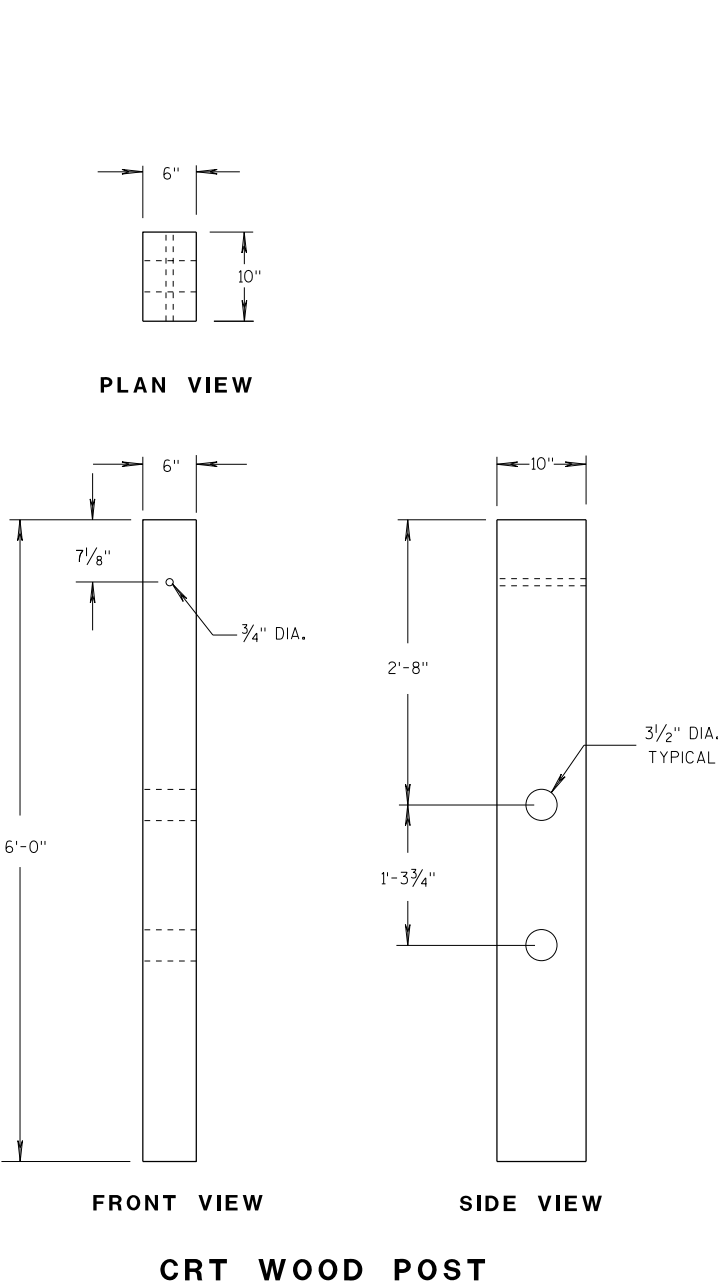


ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

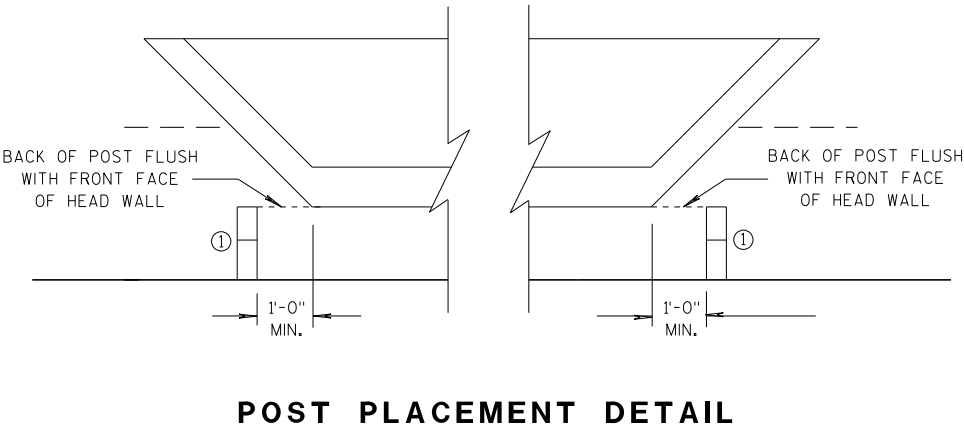
MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



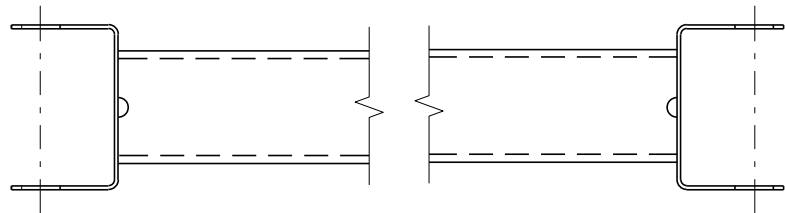
GENERAL NOTES

Ⓒ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



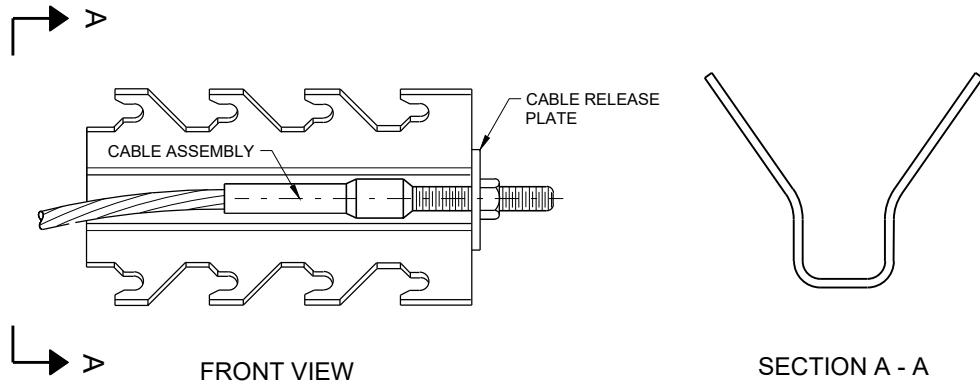
MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 07/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

SDD14B44 - 04a

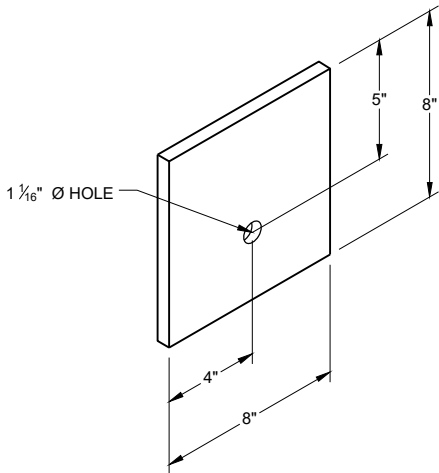


GENERIC GROUND STRUT 9 E

BILL OF MATERIALS	
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
1	UPPER POST NO. 1 6" X 6" TUBE
2	LOWER POST NO. 1
3	WOOD CRT
4	WOOD BLOCKOUT
5	PIPE SLEEVE
6	BEARING PLATE
7	BCT CABLE ASSEMBLY
8	ANCHOR CABLE BOX
9	GROUND STRUT
10	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
11	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
12	IMPACT HEAD
13	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
14	SOIL PLATE
15	UPPER POST NO. 2
16	LOWER POST NO. 2



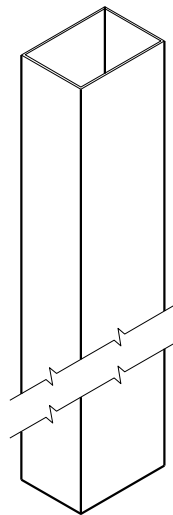
GENERIC ANCHOR CABLE BOX 9 E



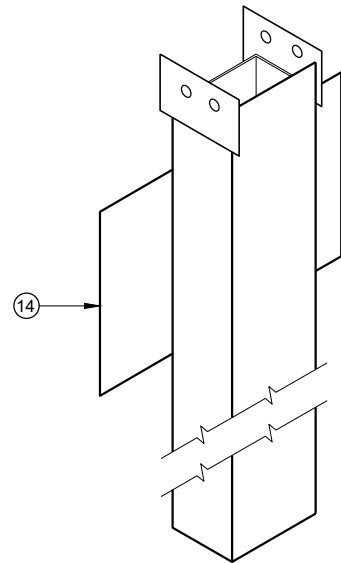
BEARING PLATE 6 E

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

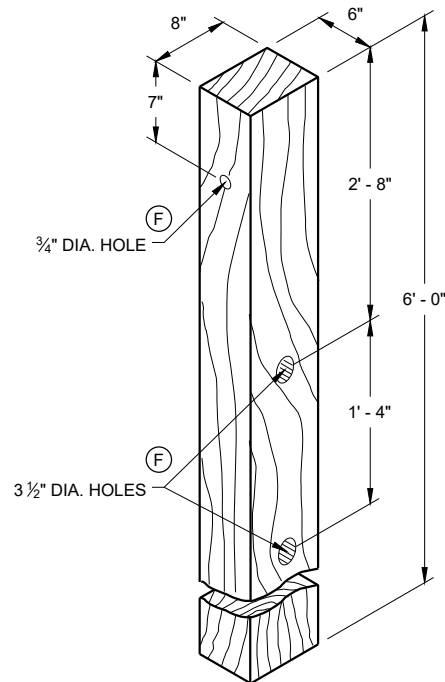
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



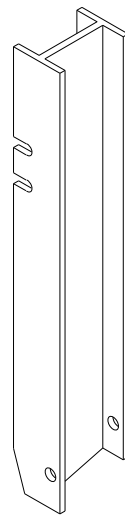
UPPER POST NO. 1 ⁽¹⁾ (E)



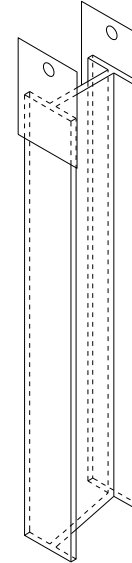
LOWER POST NO. 1 ⁽²⁾ (E)



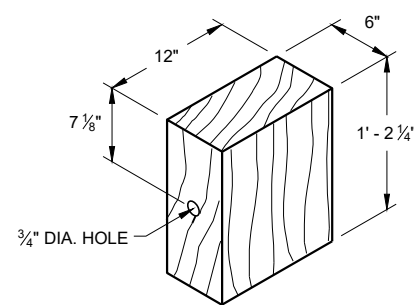
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



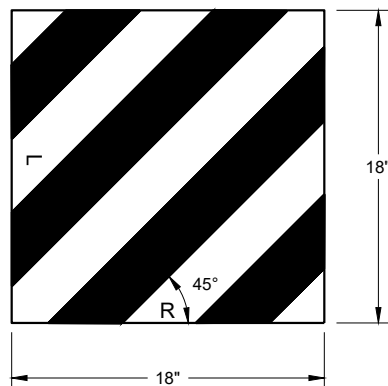
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



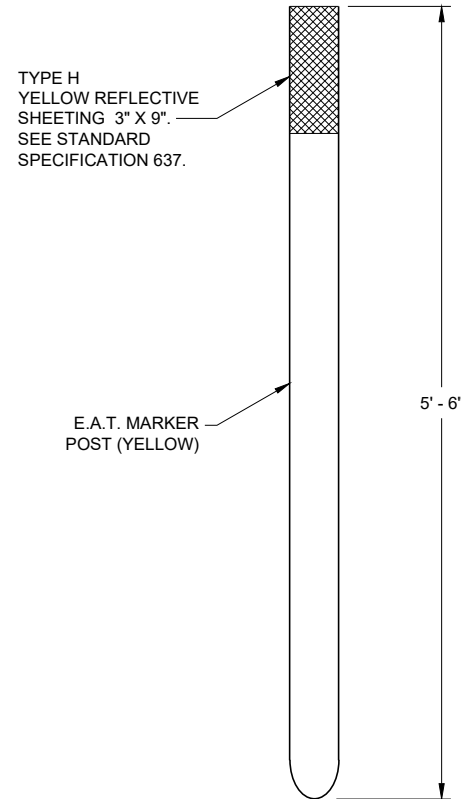
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



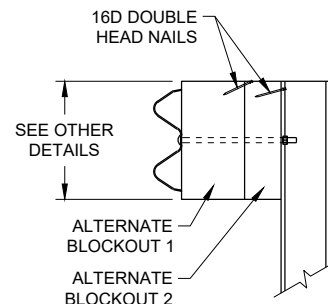
WOOD BLOCKOUT ⁽⁴⁾
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



REFLECTIVE SHEETING DETAIL ^(E)
W5 - 59

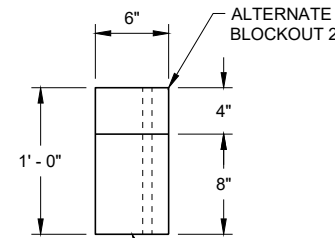


FRONT VIEW
SIDE VIEW
E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

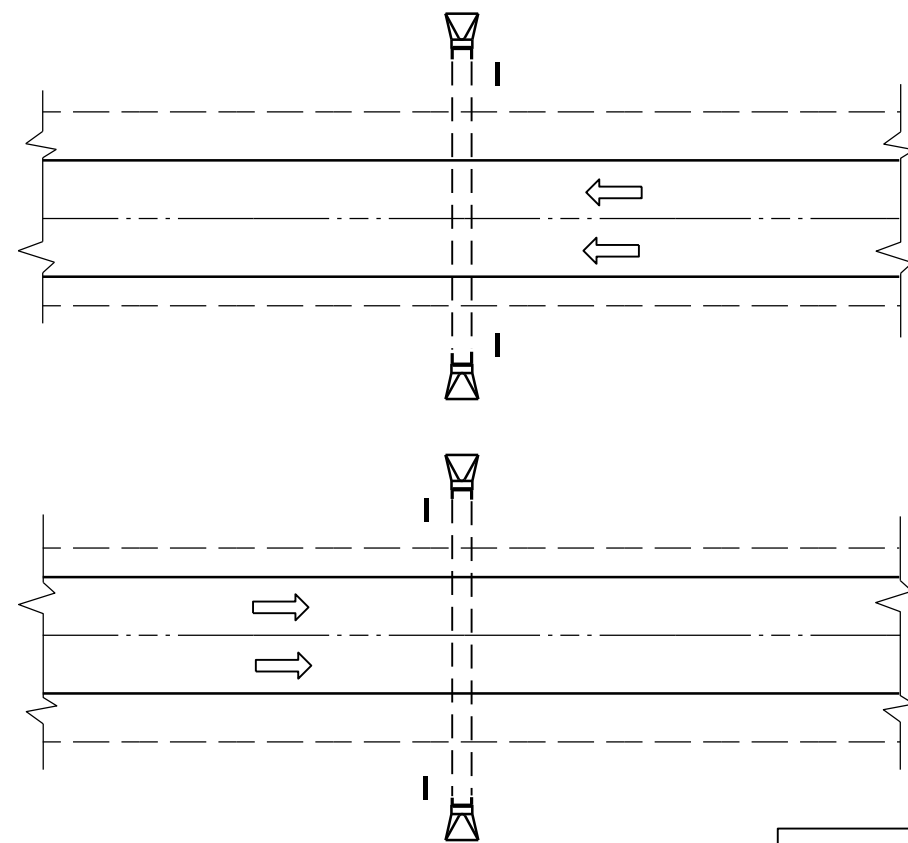


TOP VIEW

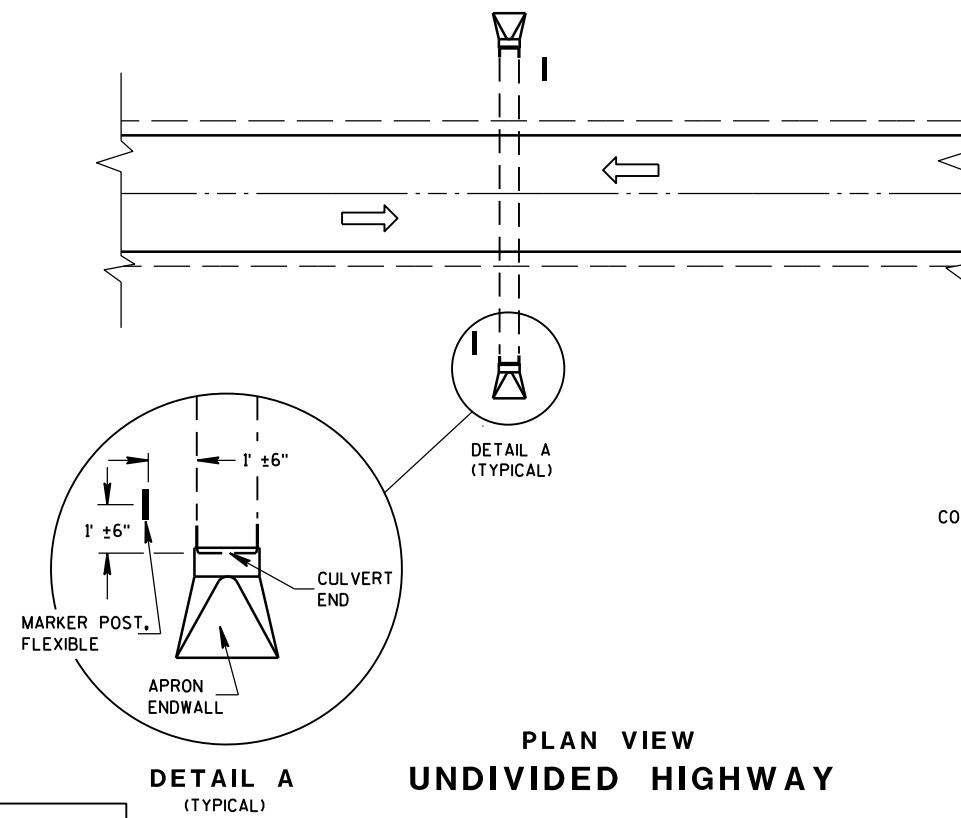
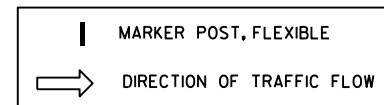
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



PLAN VIEW
DIVIDED HIGHWAY

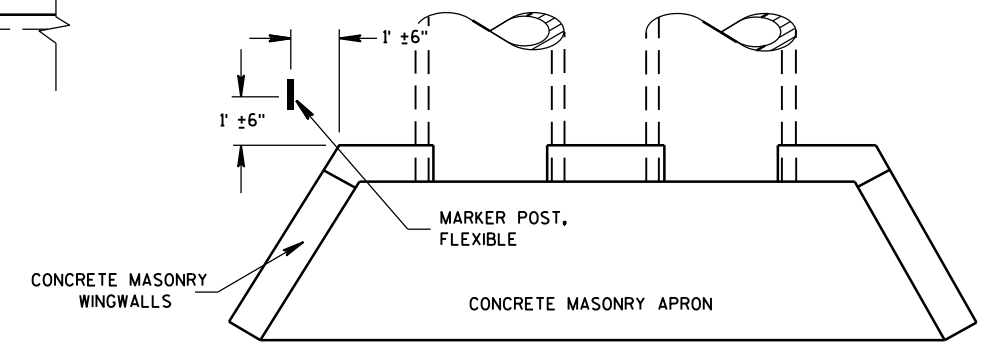


PLAN VIEW
UNDIVIDED HIGHWAY

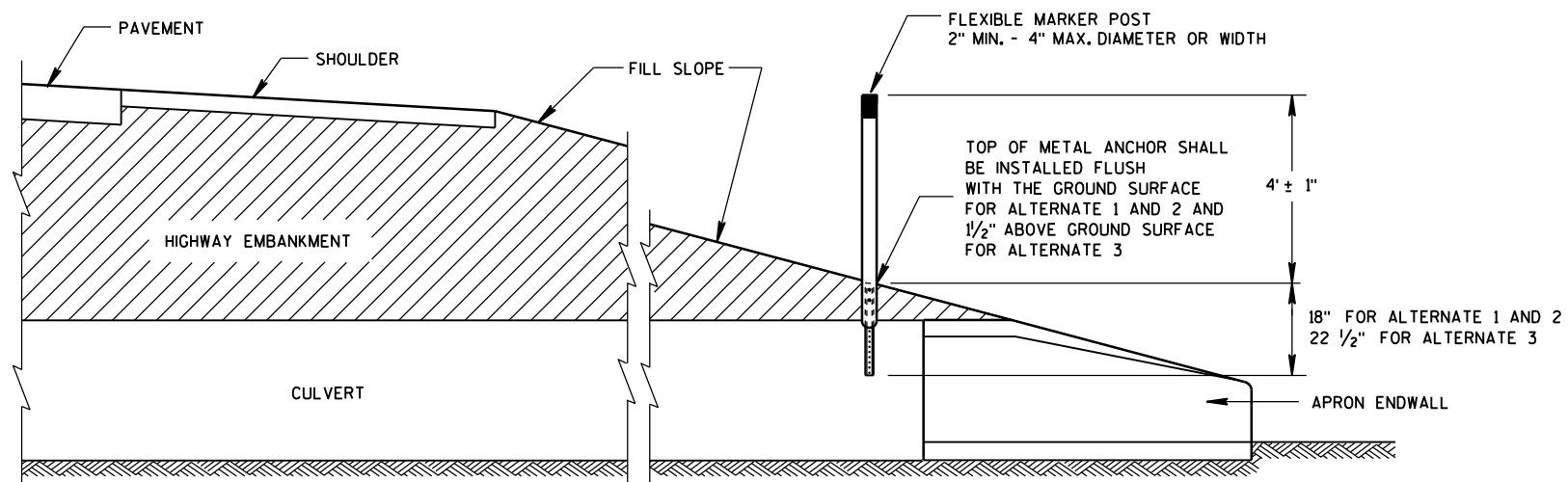
FLEXIBLE MARKER POST LOCATION

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.



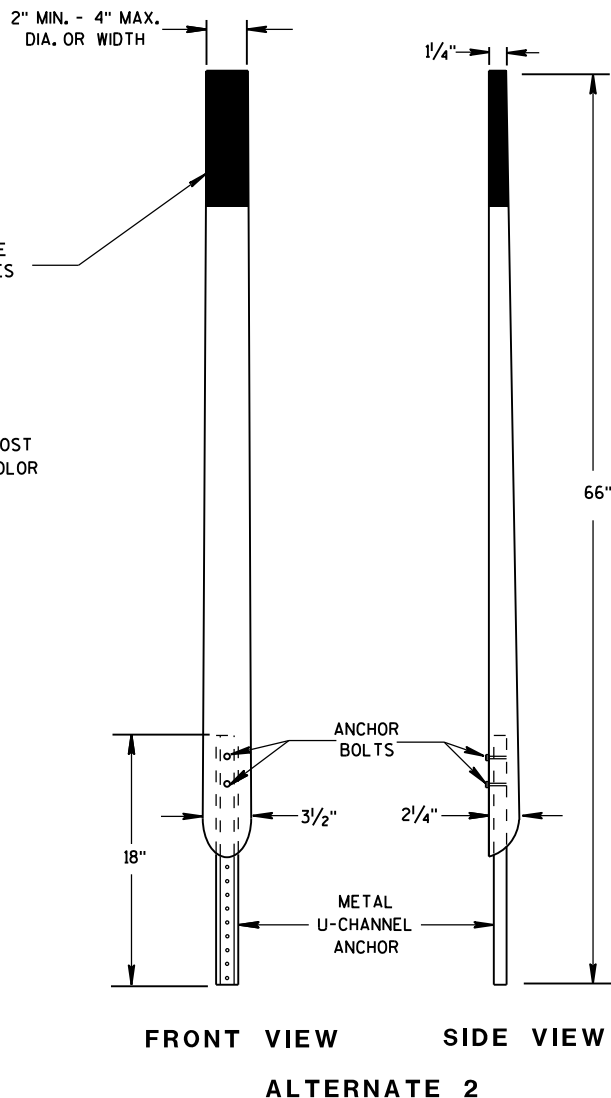
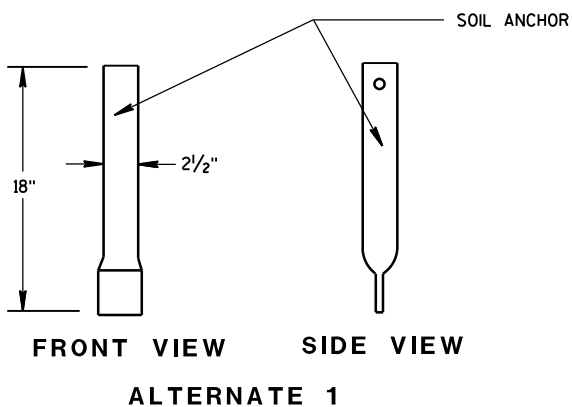
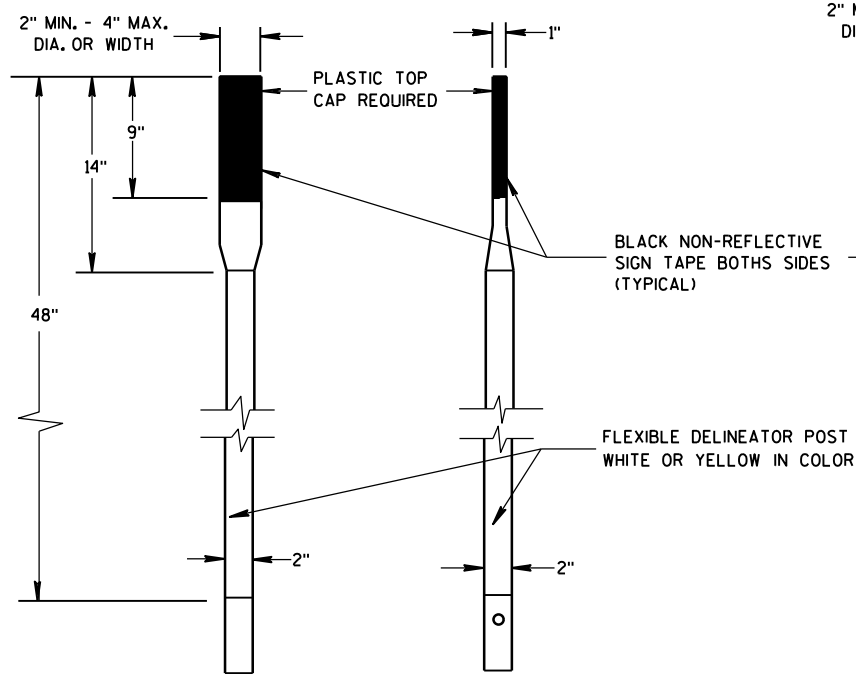
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



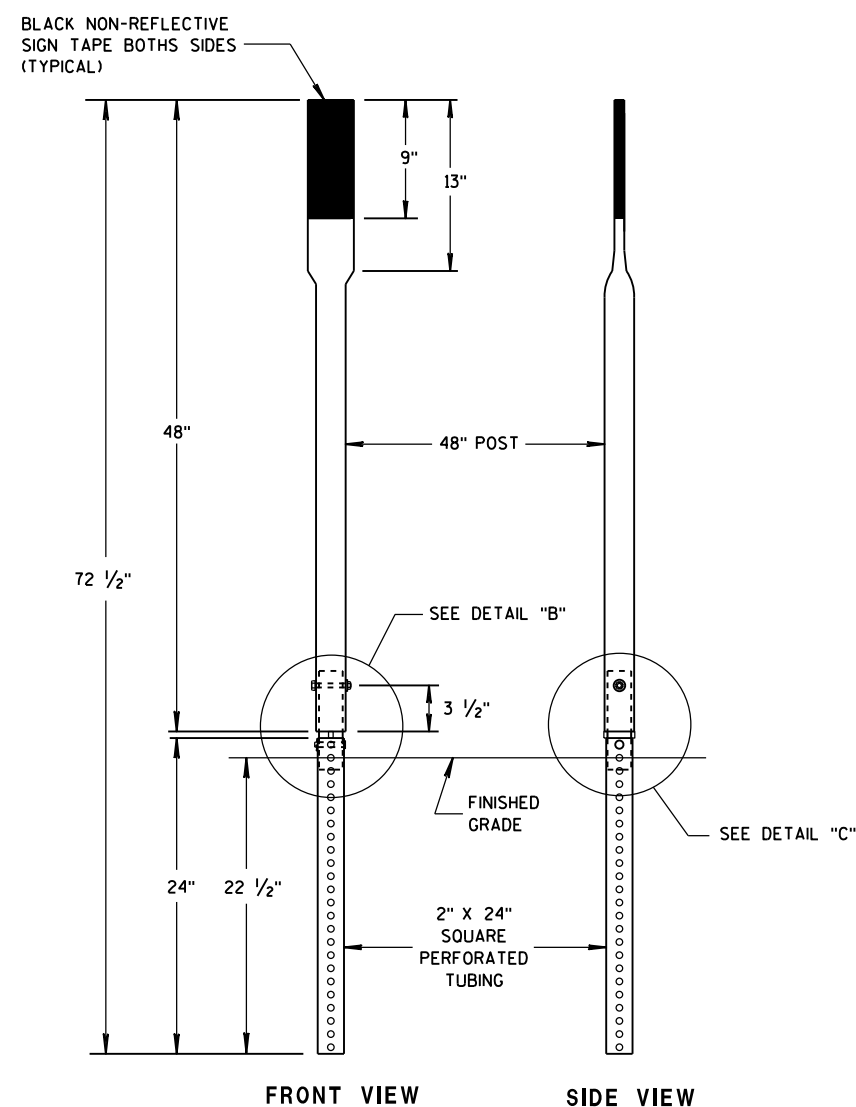
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

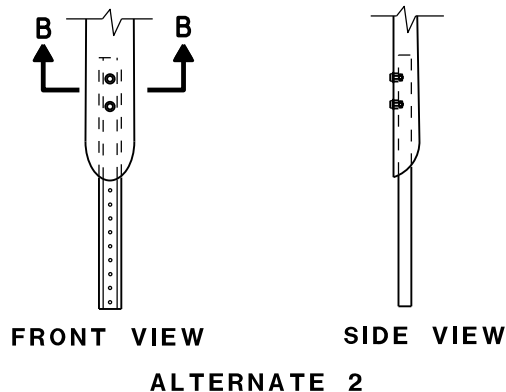
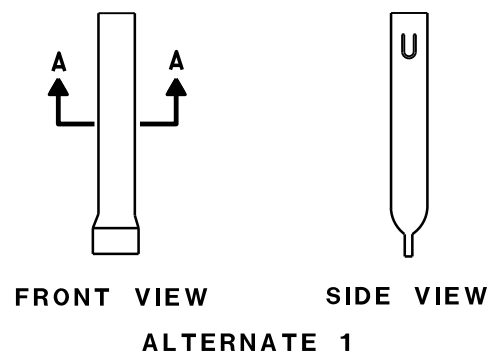
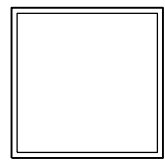
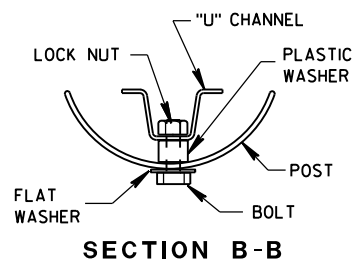
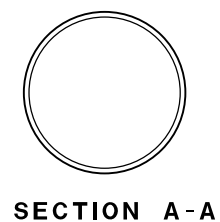
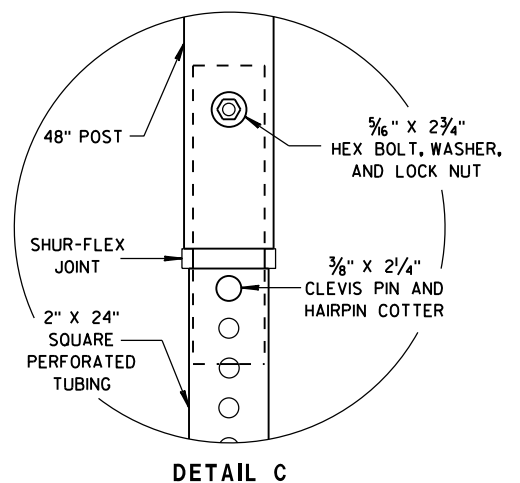
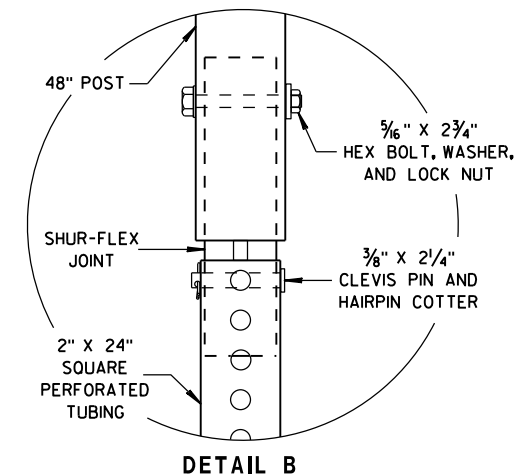
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



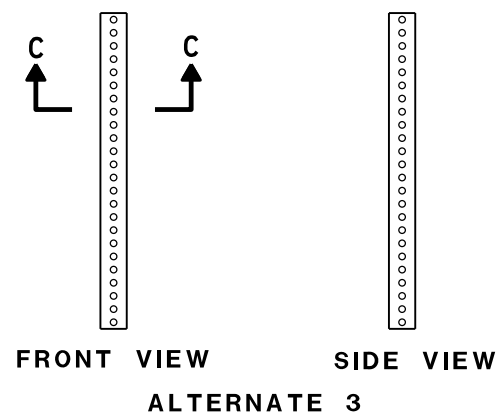
FLEXIBLE MARKER POSTS



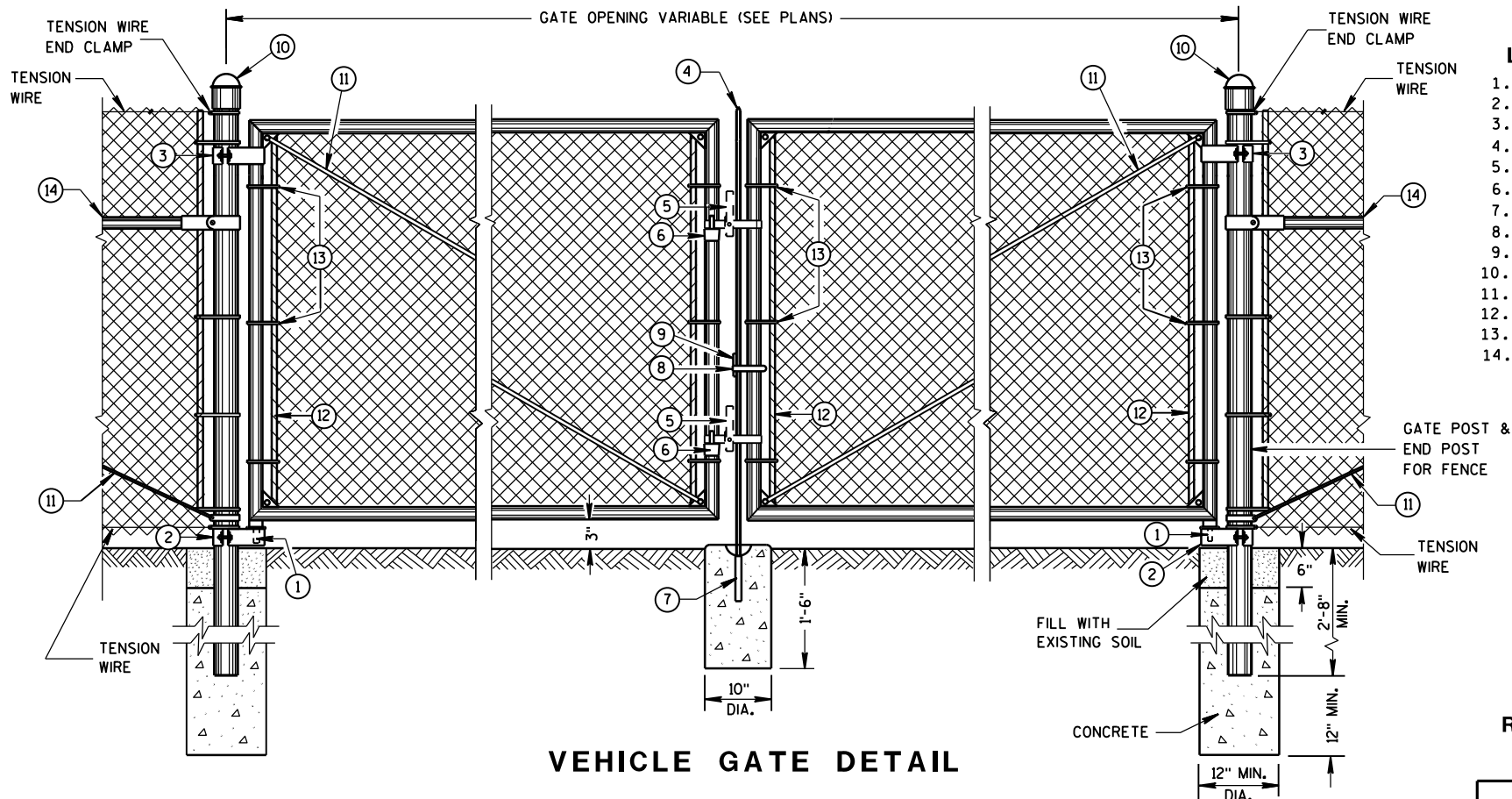
SECTION C-C



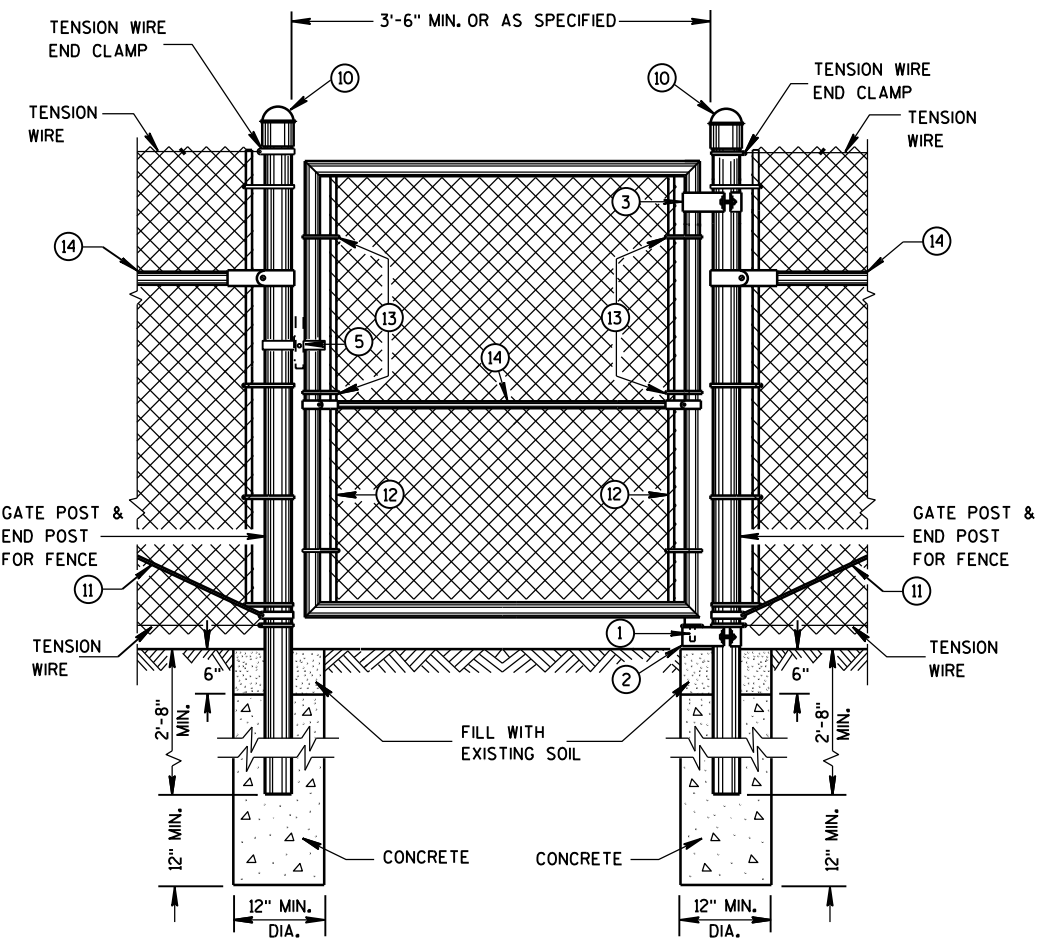
FLEXIBLE MARKER POST ANCHORS



FLEXIBLE MARKER POST FOR CULVERT END	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2+
	GREATER THAN OR EQUAL TO 8 FT.	FS3

BRACE RAIL TYPES

USE	TYPE
BRACE RAIL	SP1 OR FS1

** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

LEGEND

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. TOP HINGE
4. PLUNGER ROD
5. FULCRUM LATCH
6. FORK CATCH *
7. PLUNGER ROD CATCH
8. LOCK KEEPER GUIDE
9. LOCK KEEPER
10. DOME TOPS
11. TRUSS RODS
12. TENSION BAR
13. TENSION BANDS
14. BRACE RAIL

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

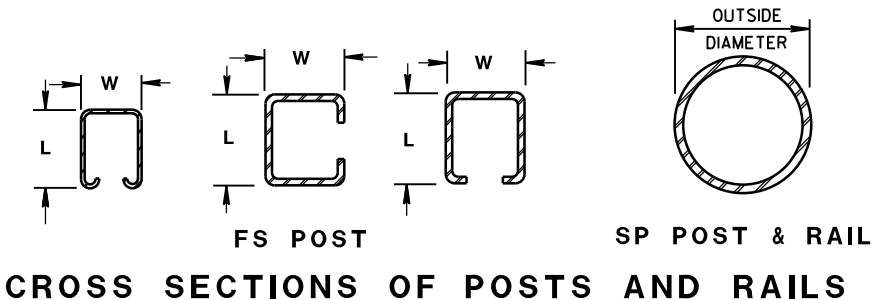
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.

USE TYPE 2, CLASS 3, MARCELLED/CRIMPED, TENSION WIRE PER ASTM A 817.



ROLLED-FORMED STEEL FENCE POST
(2.0 OZ./SQ. FT. COATING)

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2+	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

REQUIRED POST SIZE FOR GATES

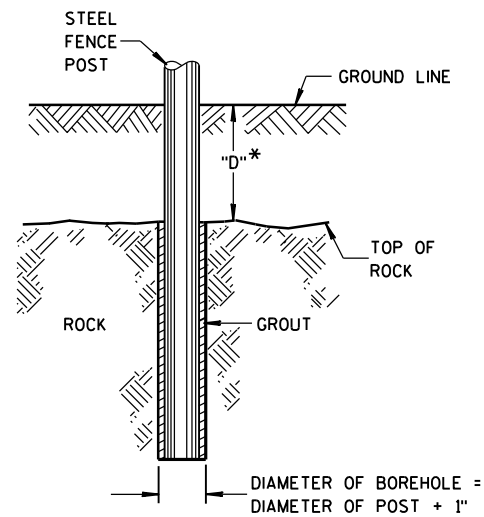
USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

ROUND STEEL FENCE POST
(1.8 OZ./SQ. FT. COATING)

POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

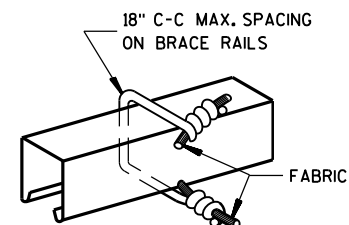
FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



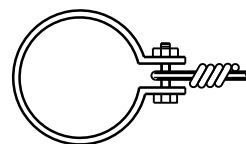
* IF "D" IS LESS THAN 2'-6",
DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST

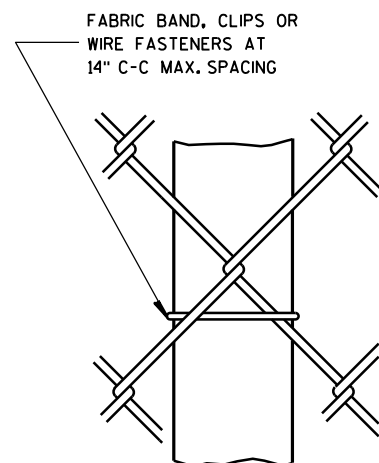


BRACE RAIL FABRIC FASTENER

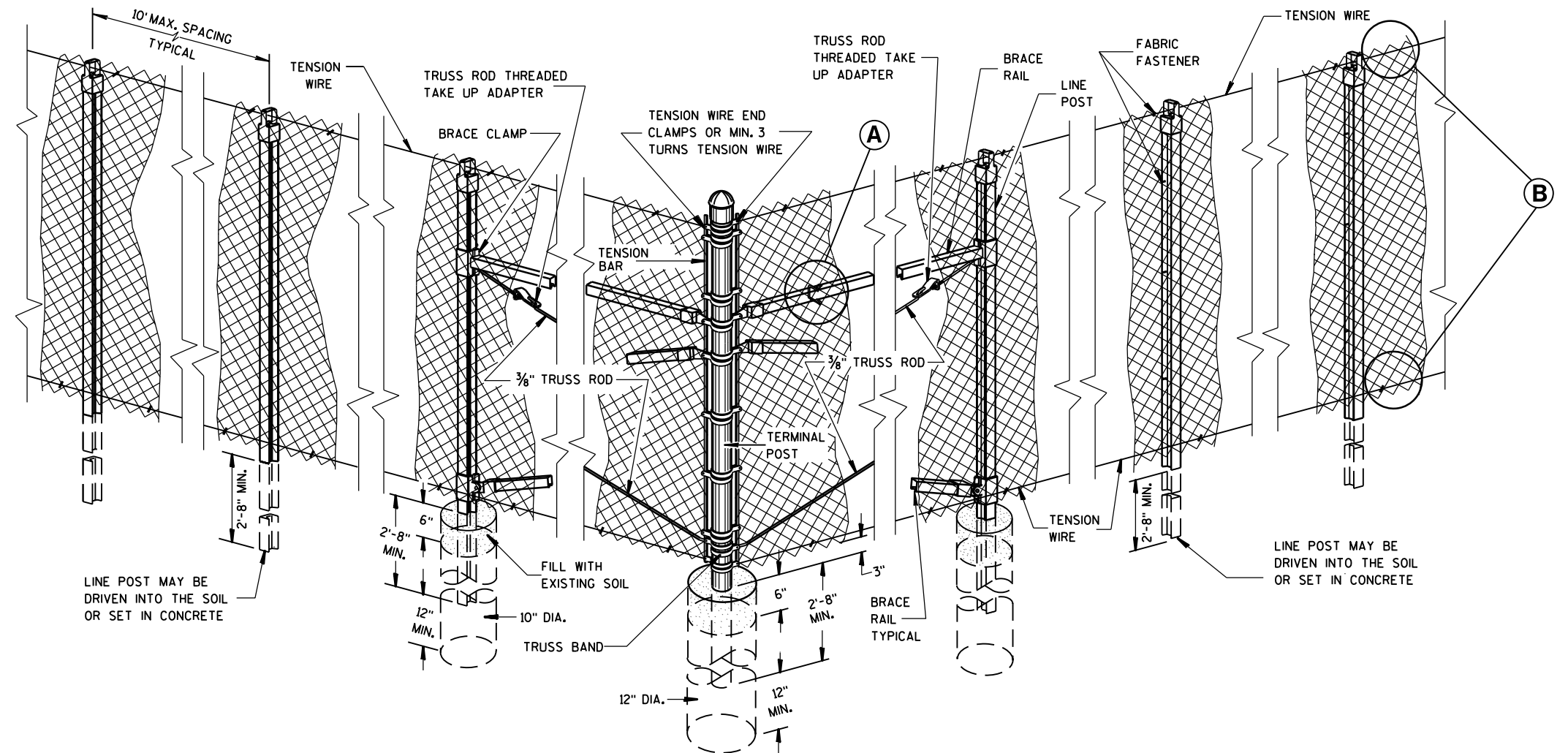
(A)



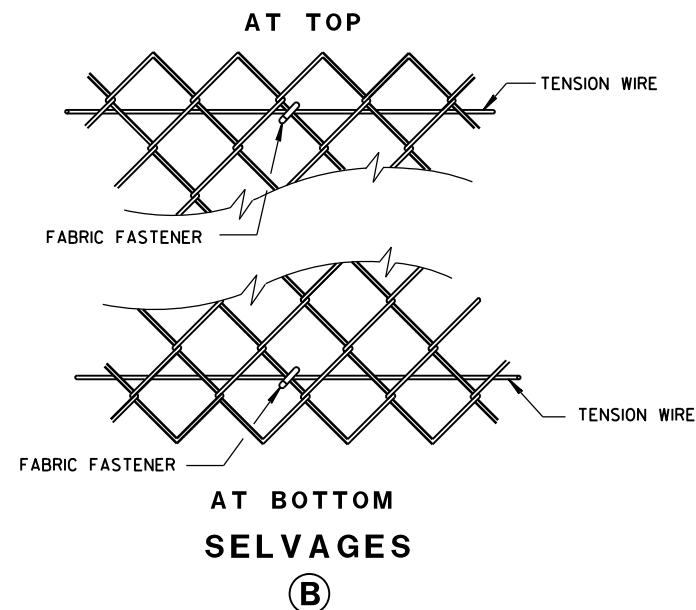
TENSION WIRE END CLAMP



LINE POST FABRIC FASTENER



END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS

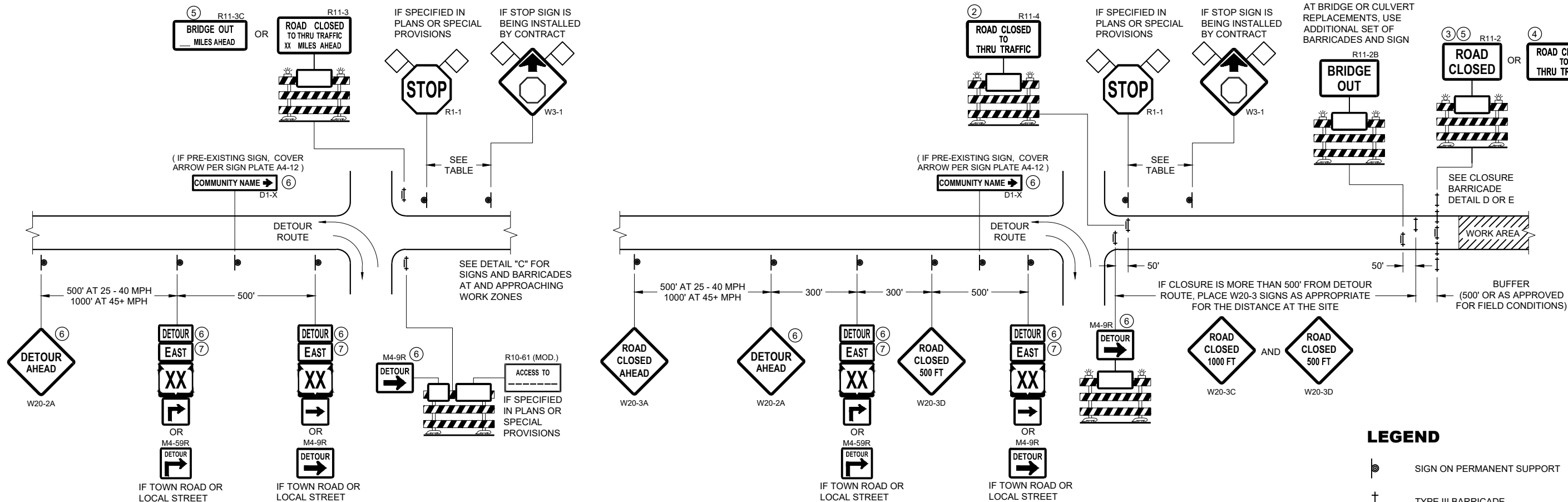


FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
FEB. 2015
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



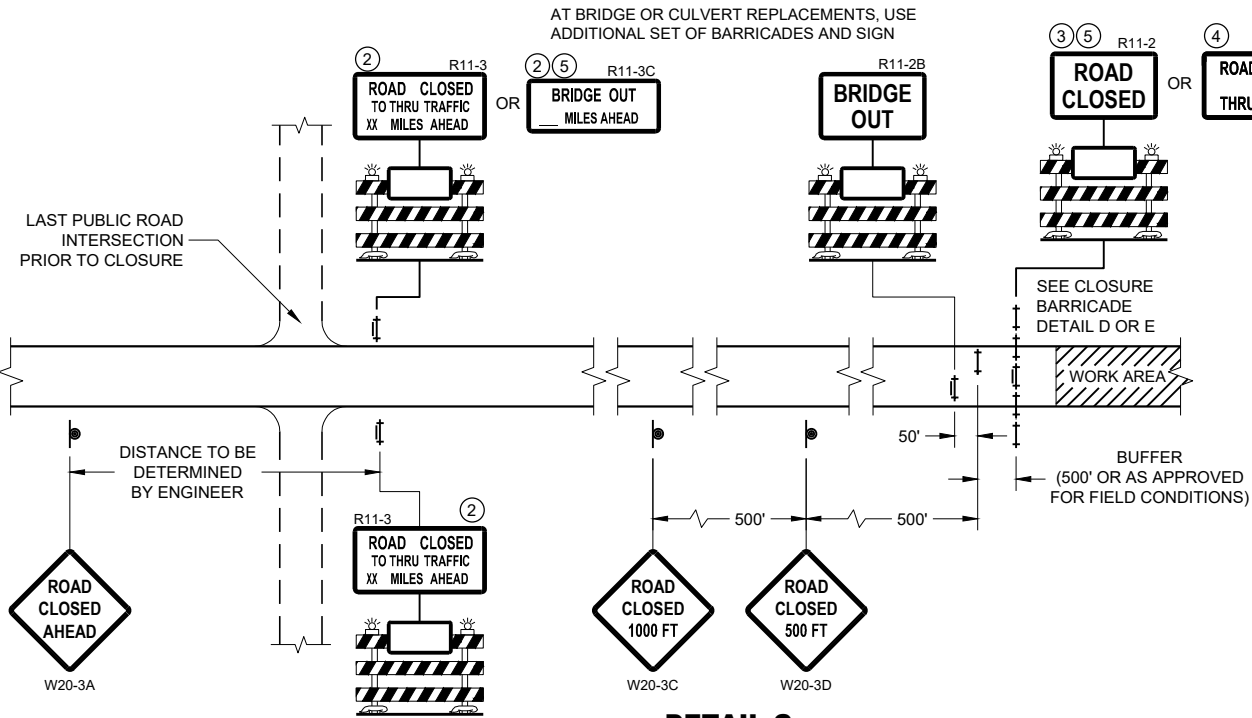
LEGEND

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

- DETOUR M4 - 8
- EAST M3 - X
- XX M1 - 4 OR XX M1 - 6 OR COUNTY M1 - 5A
- M05 - 1 OR M06 - 1

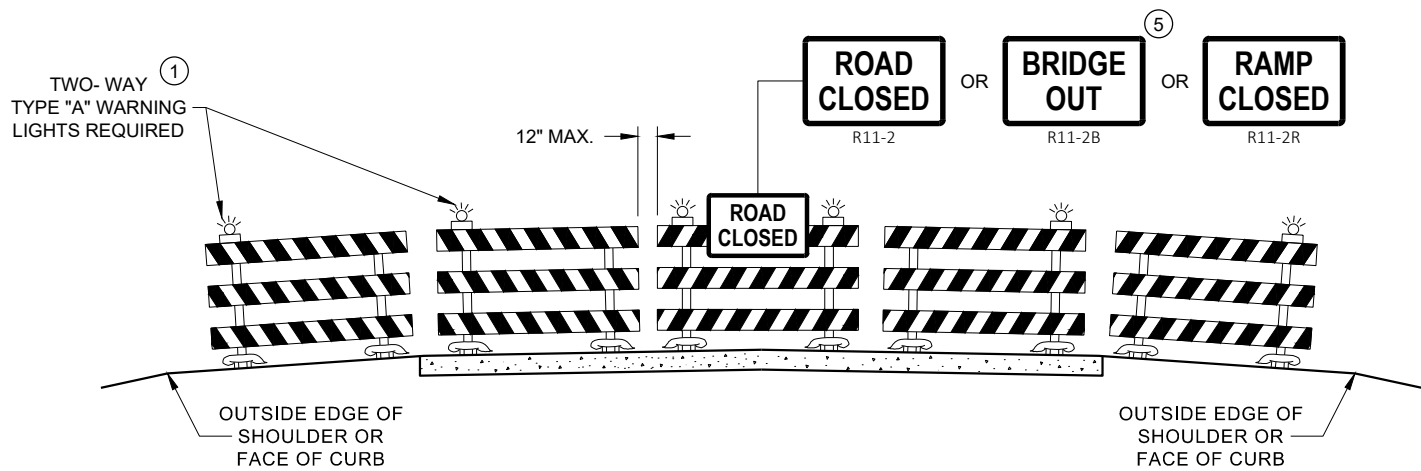
SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦



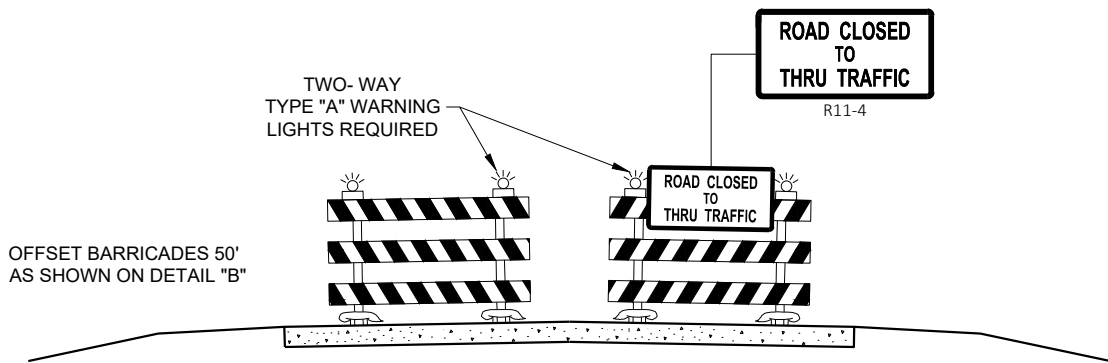
BARRICADES AND SIGNS
FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



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 THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL 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 SHALL, 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" (36" X 18" 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)
- MO5 - 1 AND MO6 - 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"

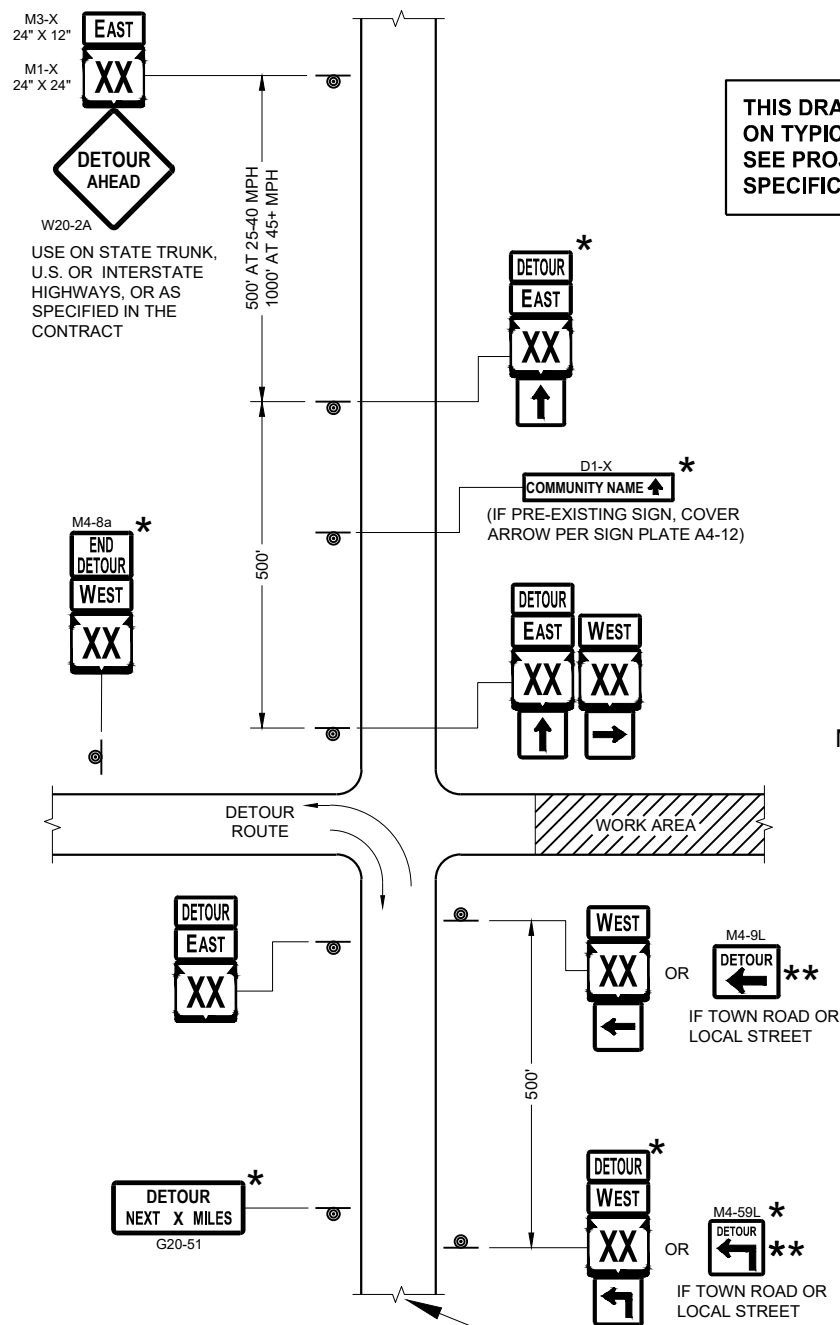
- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN 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 ROAD 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
VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

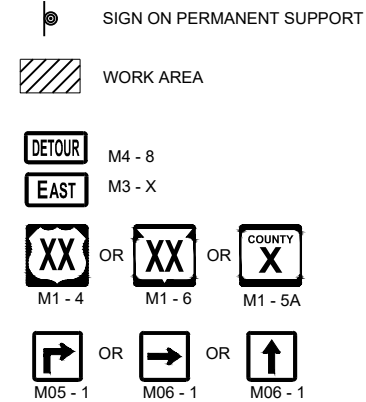
APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



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

LEGEND



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.

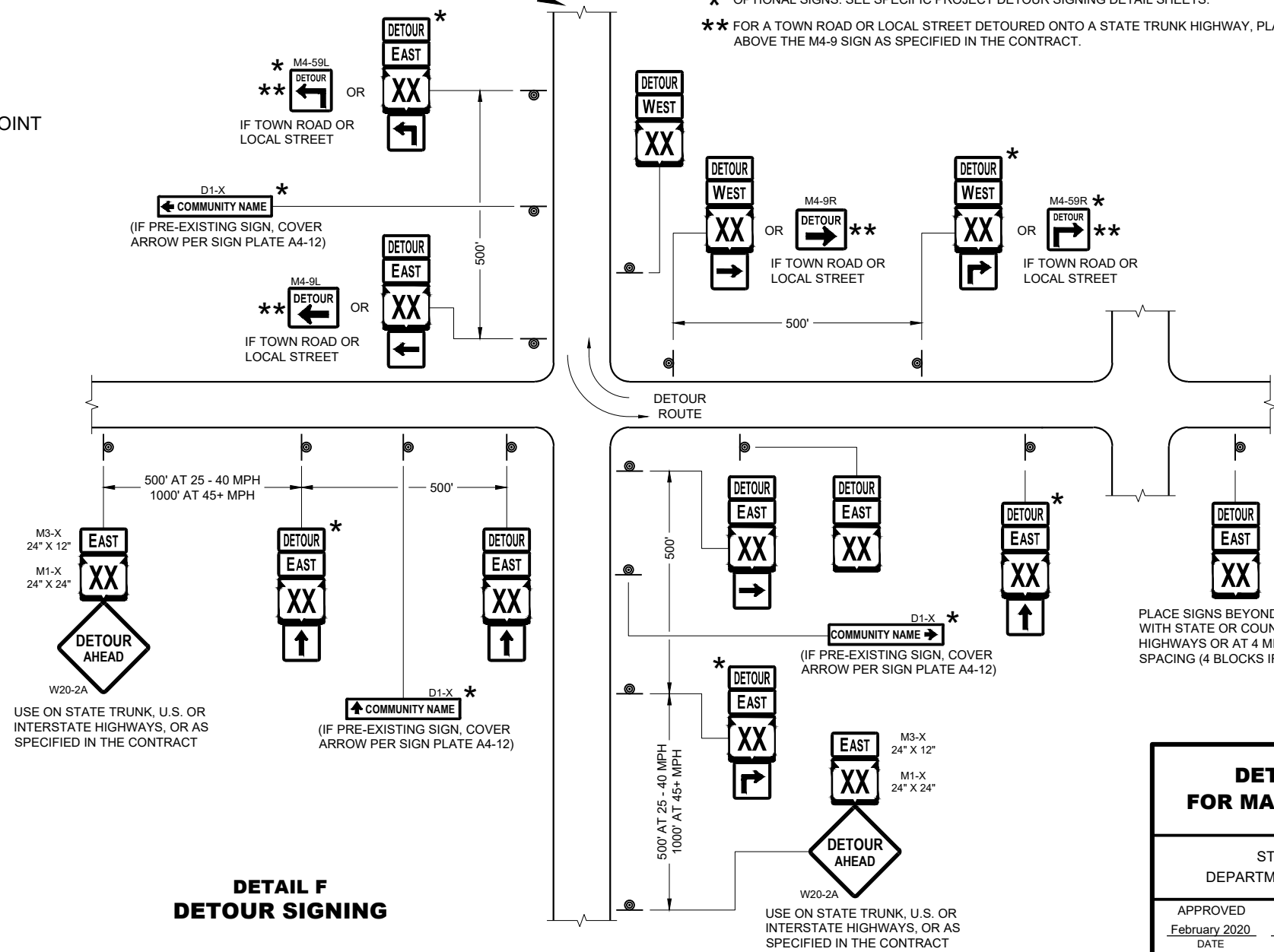
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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" (36" X 18" 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)
M4-9 AND M4-59 SHALL BE 30" X 24"
M4-8a SHALL BE 24" X 18"
G20-51 SHALL BE 60" X 24"
W20-2A 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
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

SEE SPECIFIC PROJECT DETOUR
SIGNING DETAIL SHEETS AND
DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

DETAIL F DETOUR SIGNING

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL "TO" MO-4 SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

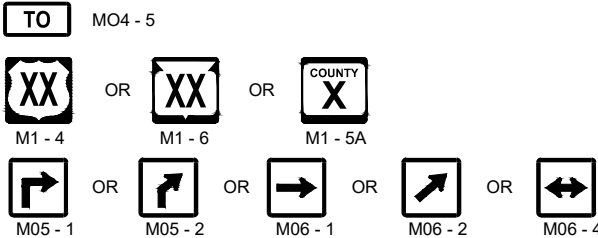
LEGEND



SIGN ON PERMANENT SUPPORT



PORTABLE CHANGEABLE MESSAGE SIGN



GENERAL NOTES

SEE SDD 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" DETAIL FOR TRAFFIC CONTROL AT EXIT RAMP CLOSURE.

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

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE "TO" MO-4 ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND "TO" MO-4 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 SHALL 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 FOLLOW:
MO4 - 5 SHALL BE 24" X 12". (36" X 18" 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).
MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).

- ① ONLY ADD IF THERE ARE NO EXISTING ROUTE MARKERS FOR THE INTERSECTING ROADWAY.

OFF RAMP LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

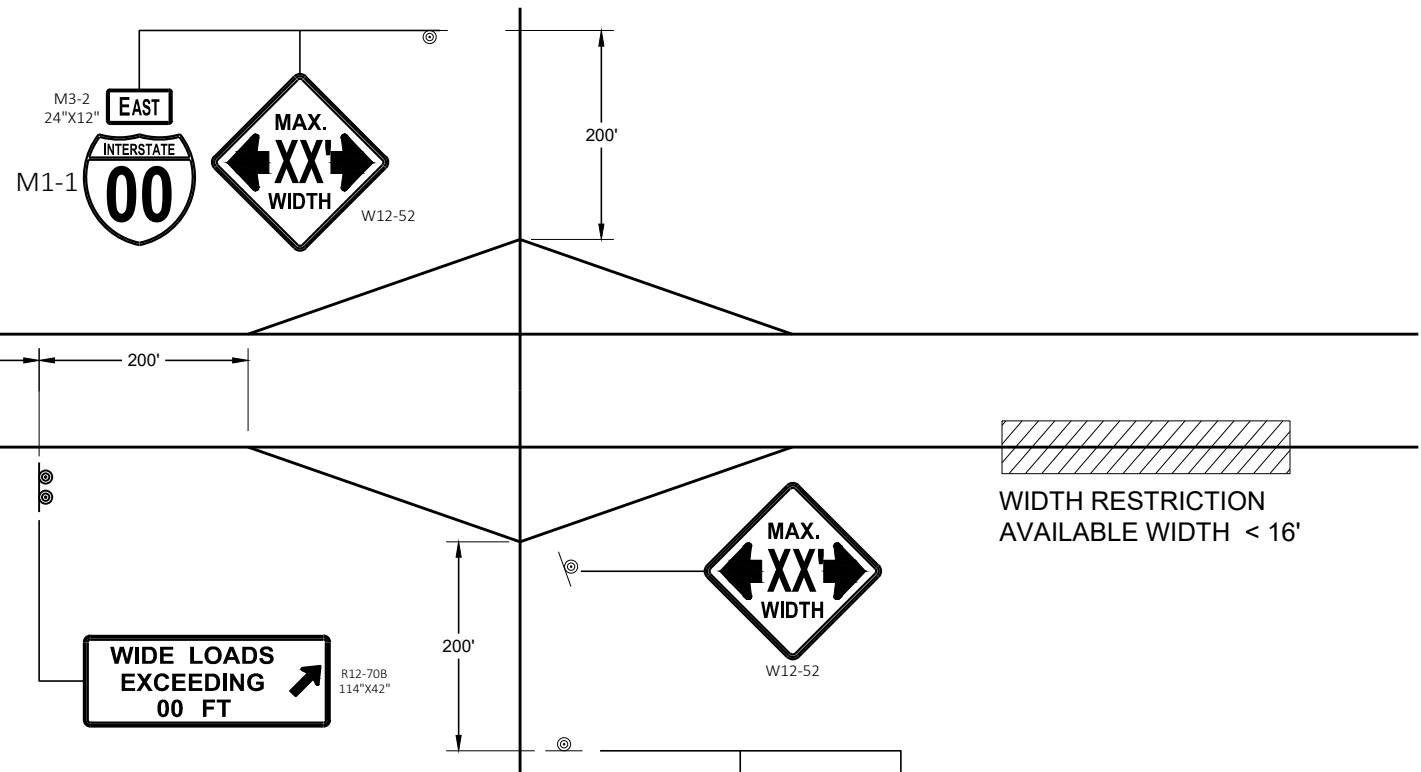
FHWA

6

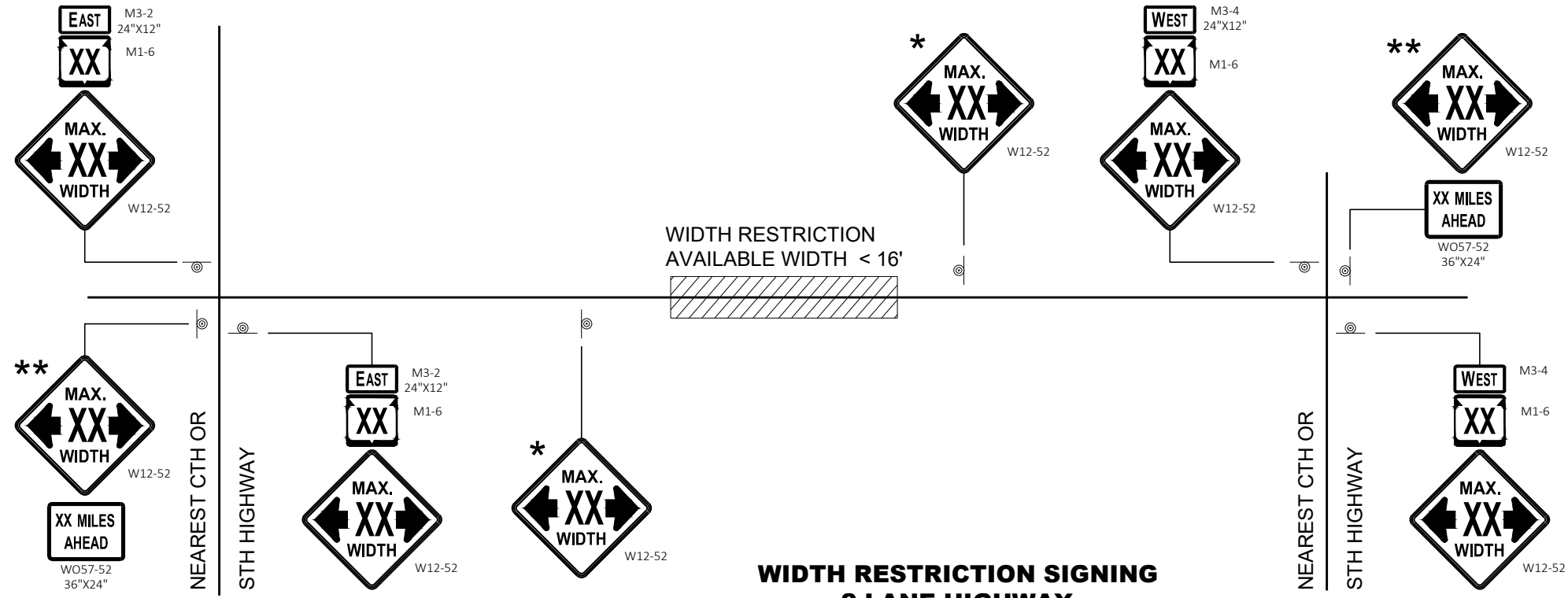
SDD 15C02 - 08e

6

SDD15C02 - 08e



WIDTH RESTRICTION SIGNING



WIDTH RESTRICTION SIGNING
2 LANE HIGHWAY

LEGEND

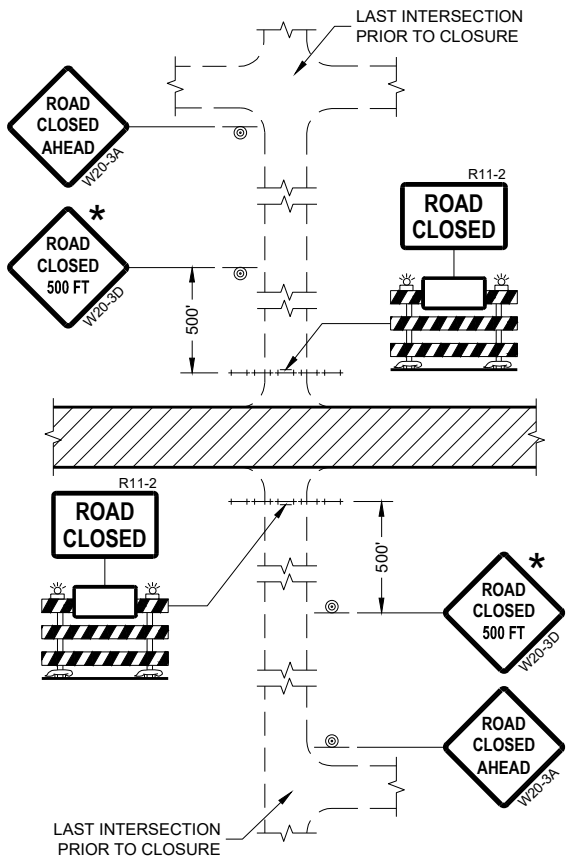
⊙ SIGN ON PERMANENT SUPPORT

GENERAL NOTES

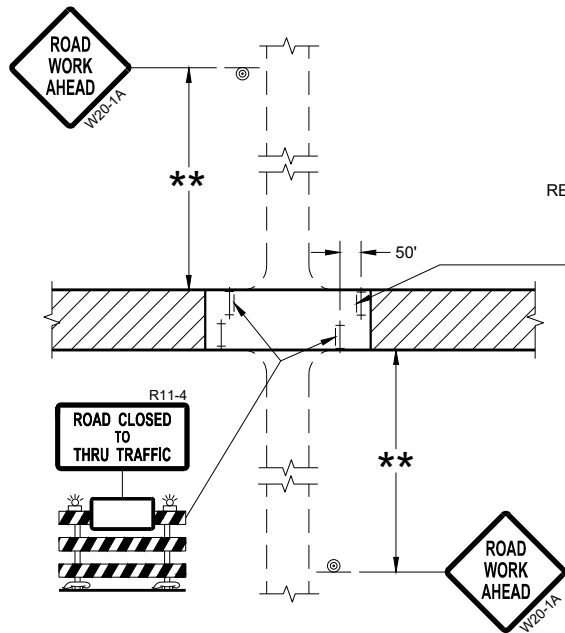
- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.
- * PLACE 500 FEET AFTER THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200 FOOT TYPICAL SPACING.
- ** SIGN SHALL BE VISIBLE FROM ROADWAY.
- *** ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.



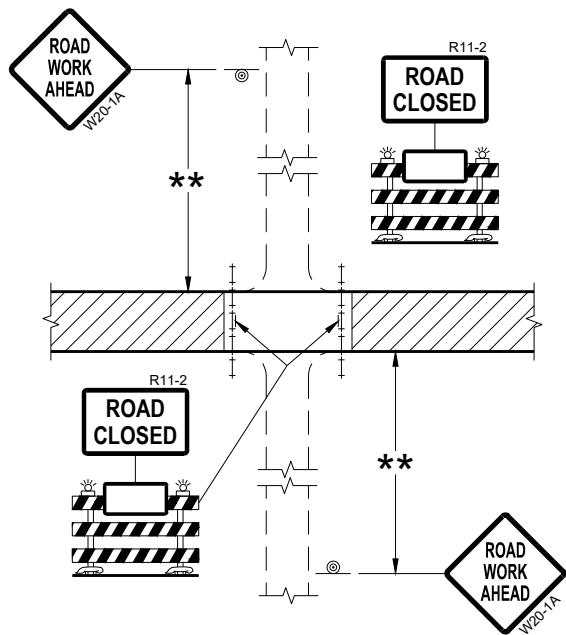
ADVANCED WIDTH RESTRICTION SIGNING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2020 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



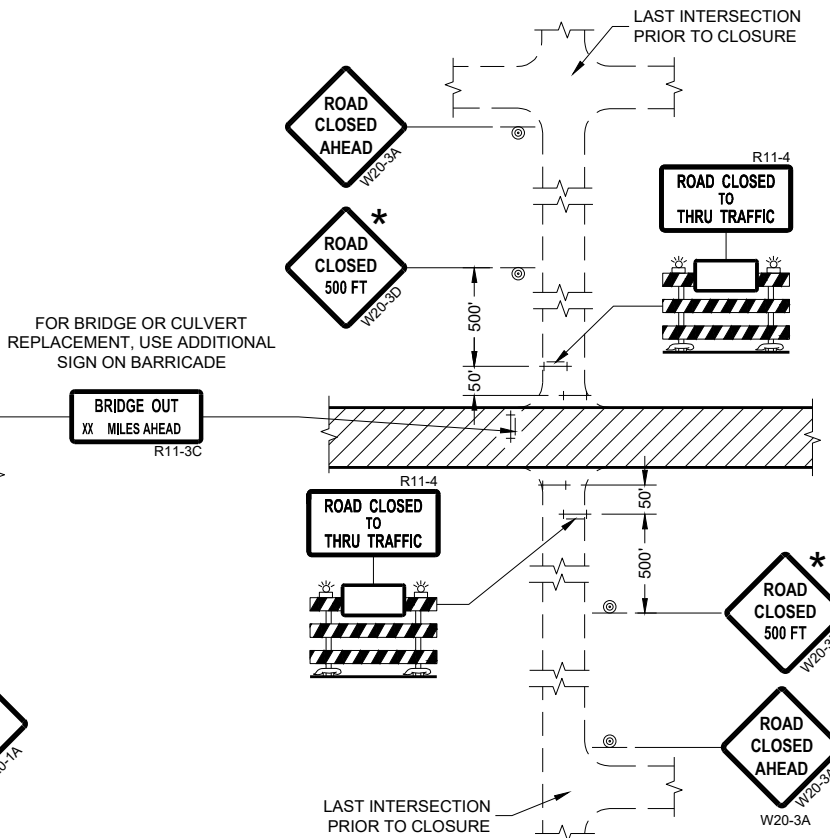
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



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 (500 FEET DESIRABLE) 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 REESTABLISHED.

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

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN 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 FEET OR LESS FROM THE WORK ZONE.
- ** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

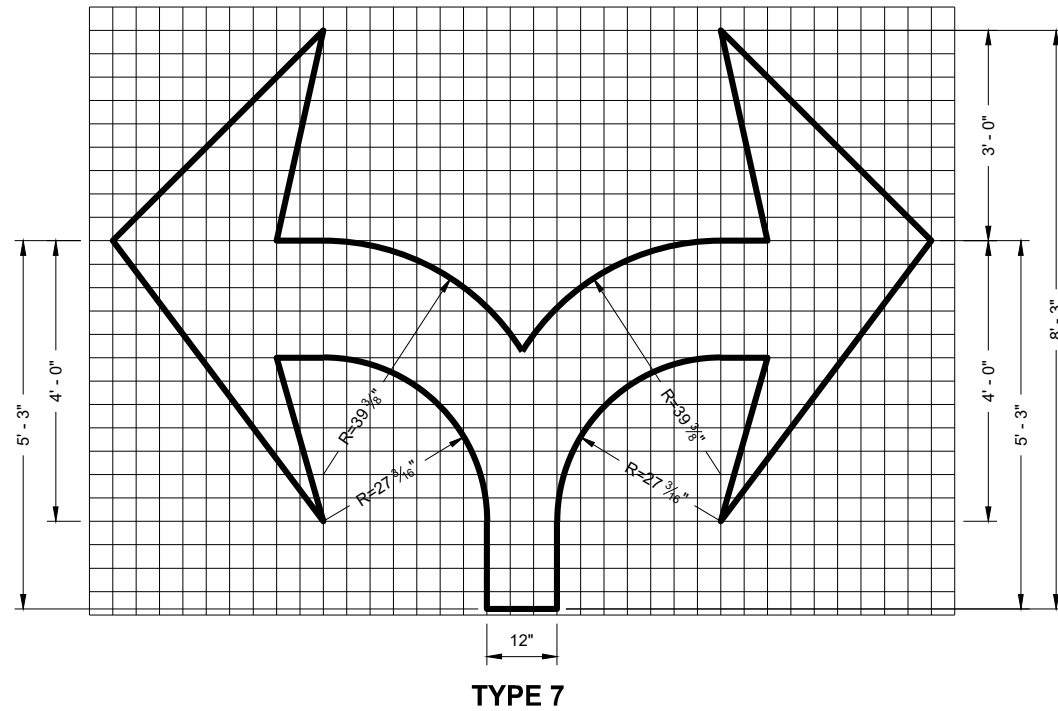
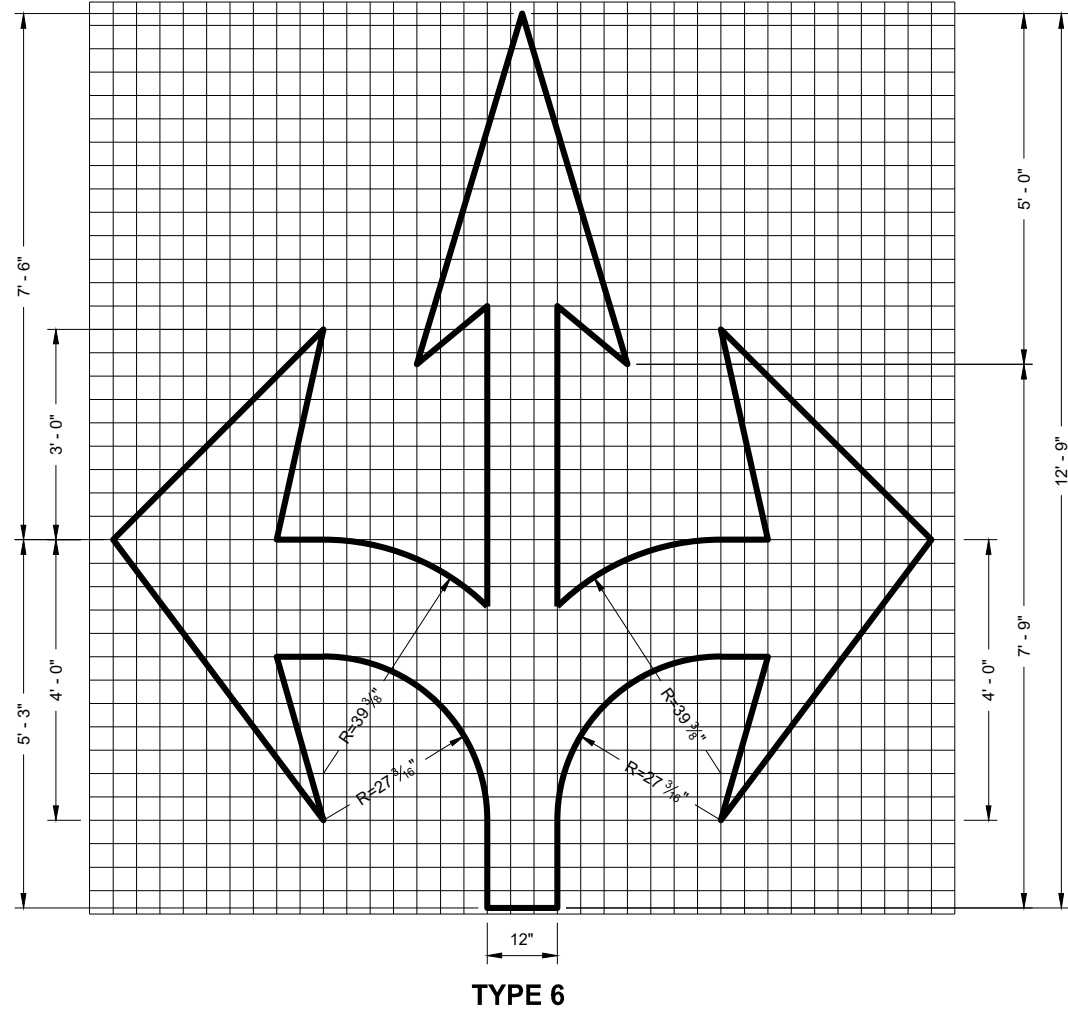
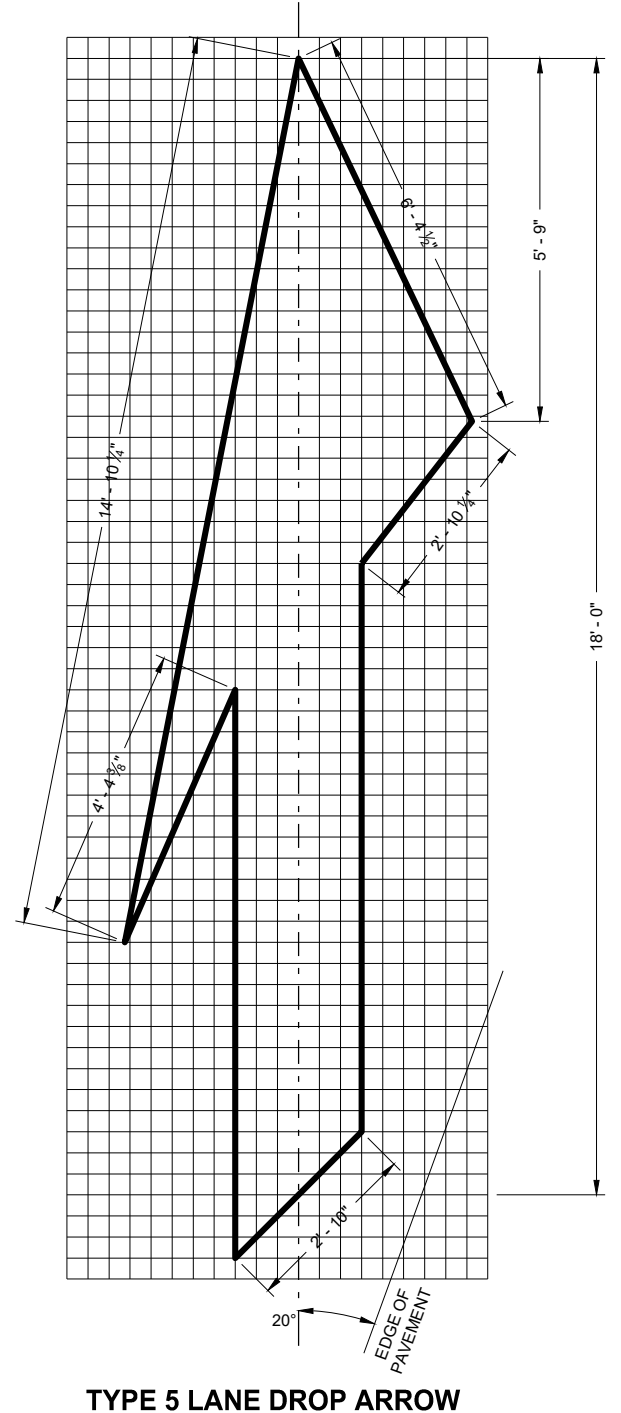
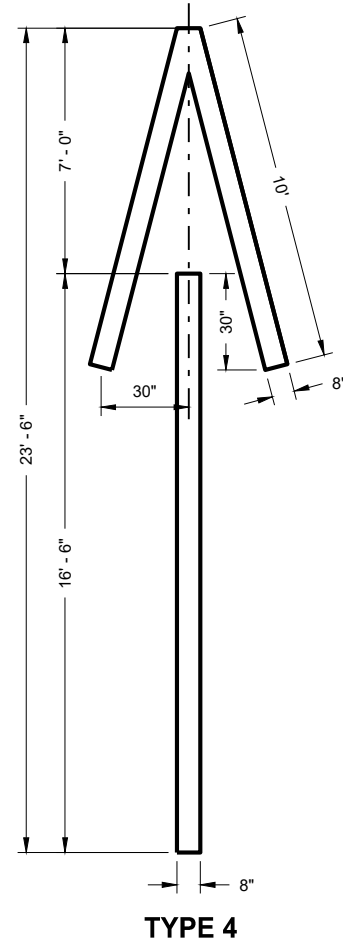
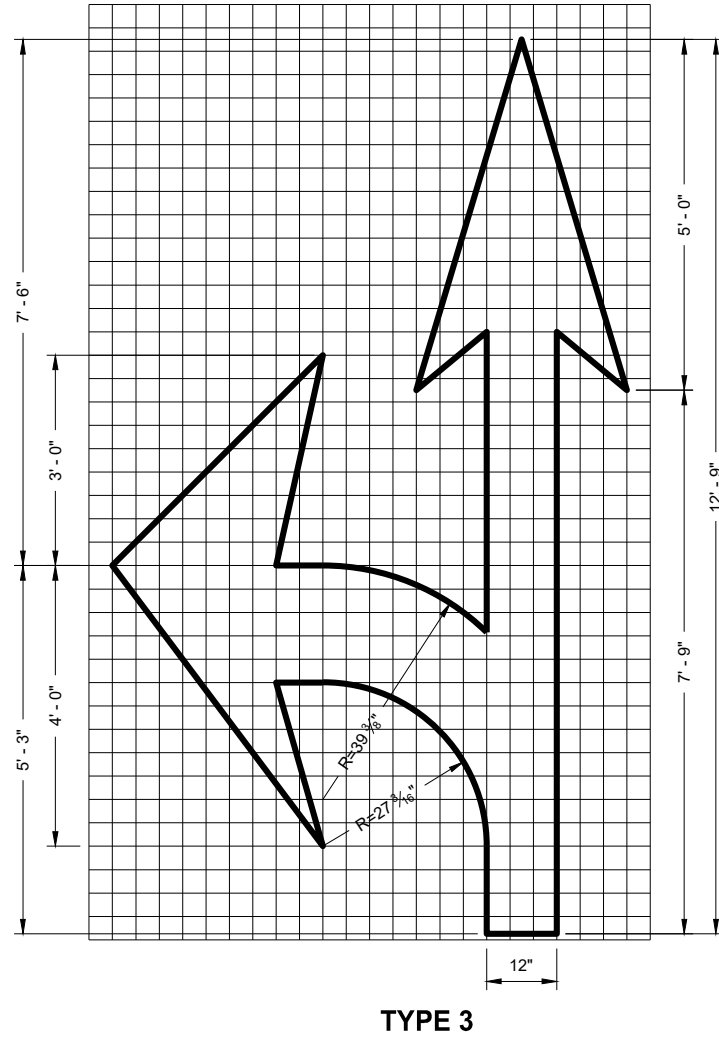
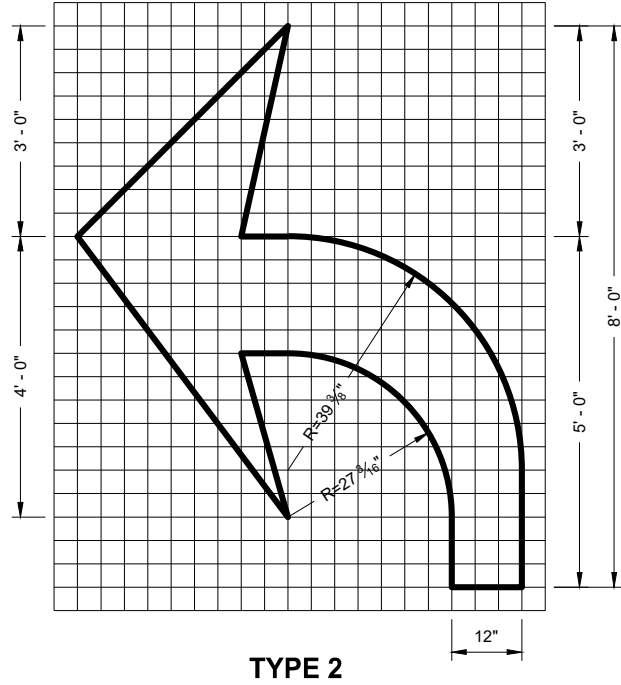
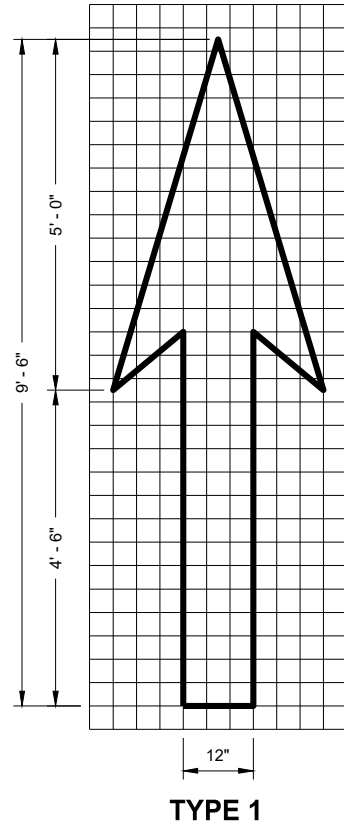
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



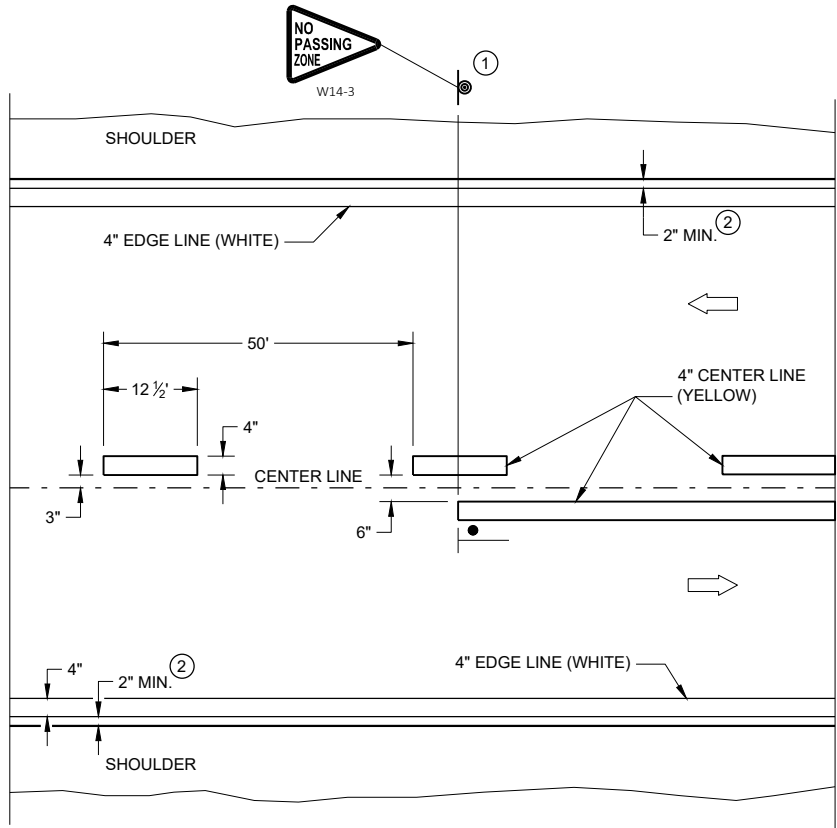
GENERAL NOTES

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.

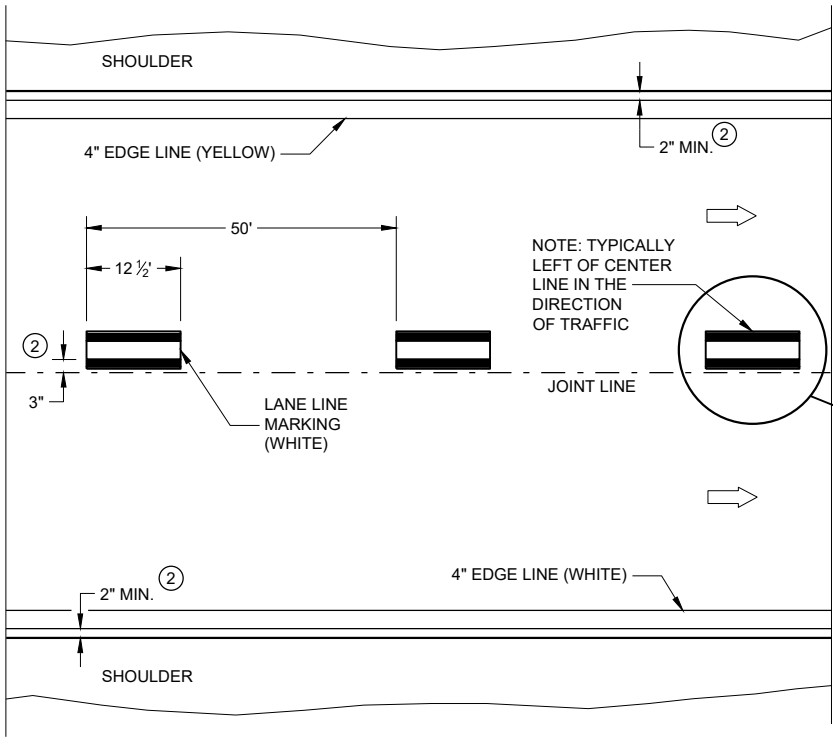
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE
/S/ Matthew Rauch
STATE SIGNING AND MARKING
ENGINEER
FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

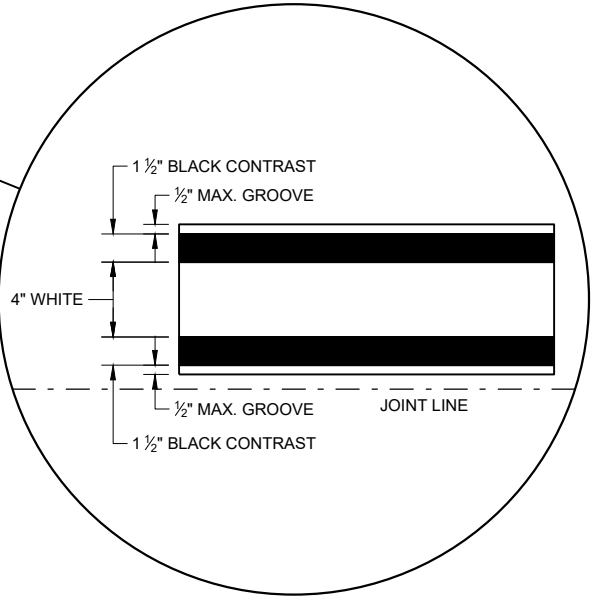
GENERAL NOTES

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
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

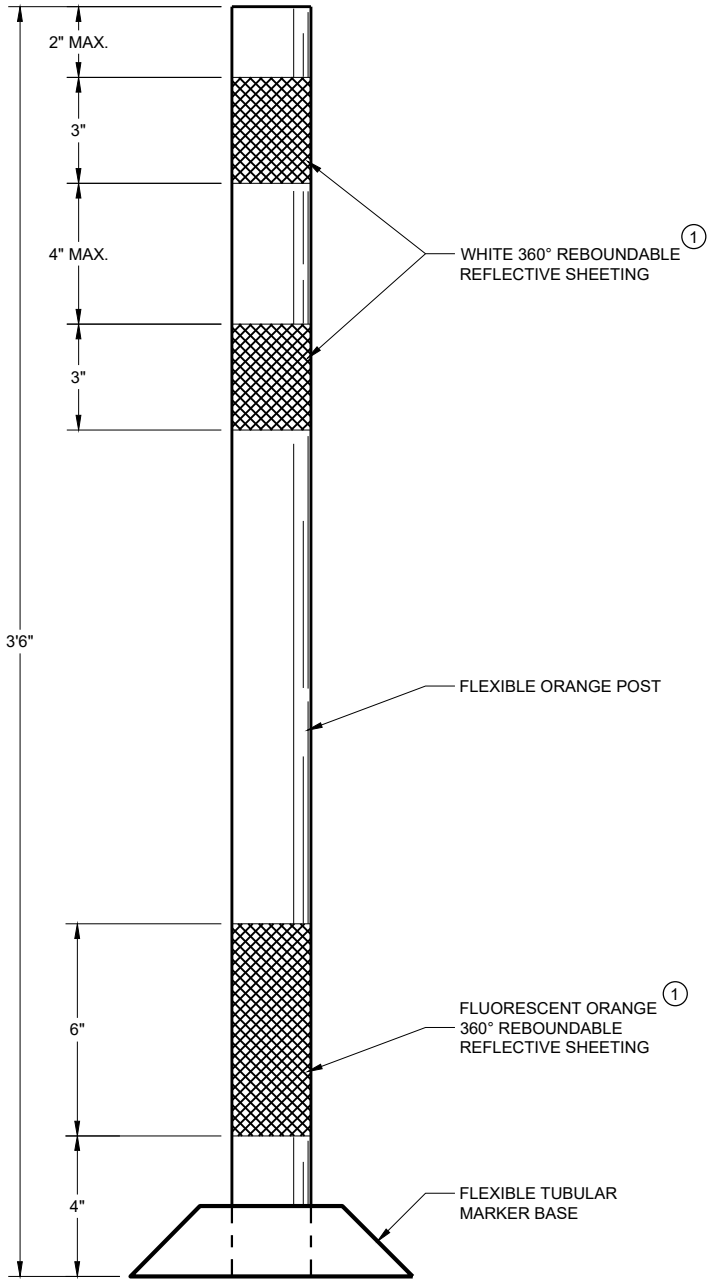


PERMANENT LONGITUDINAL
PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE
/S/ Jeannie Silver
STATEWIDE SIGNING AND MARKING
ENGINEER

FHWA



FLEXIBLE TUBULAR
MARKER POST
WORK ZONE

GENERAL NOTES

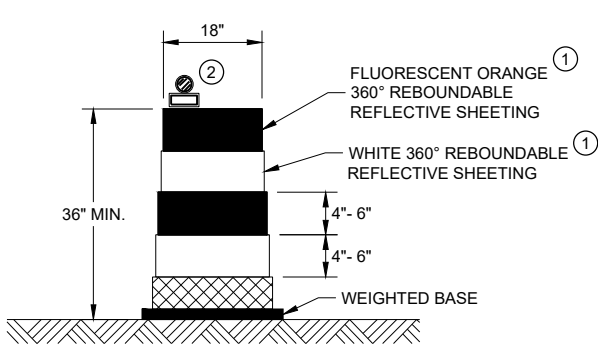
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

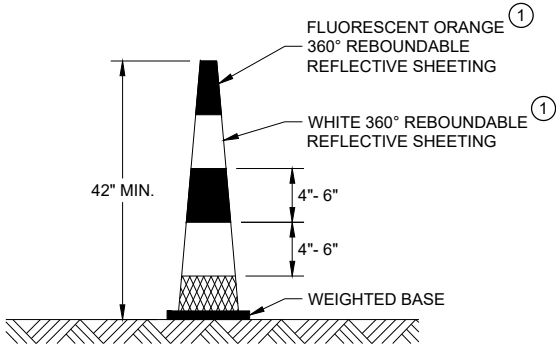
THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2021 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

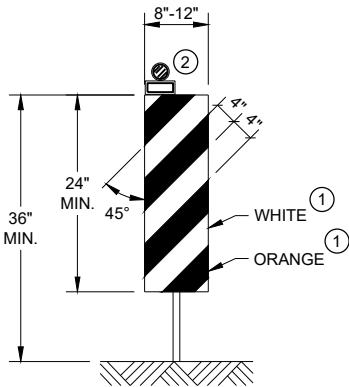


DRUM



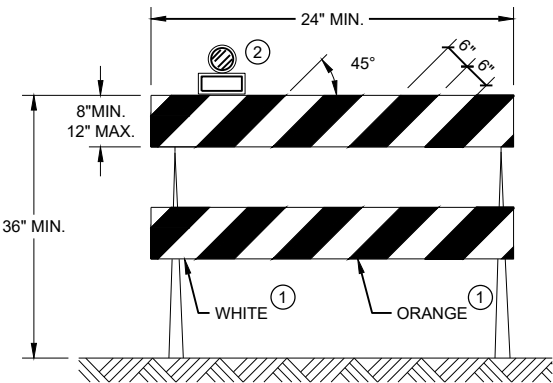
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



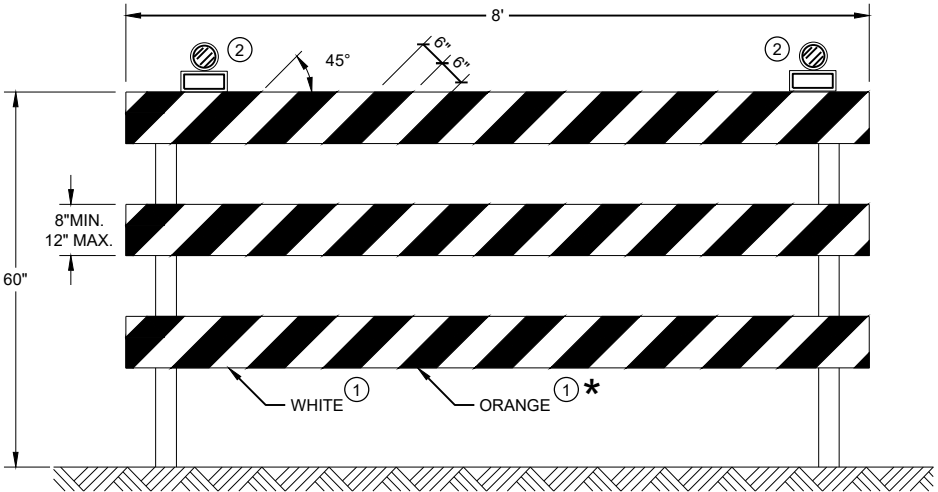
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

LEGEND

- 
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- 
- TEMPORARY PORTABLE RUMBLE STRIP ARRAY
- 
- DIRECTION OF TRAFFIC
- 
- WORK AREA
- 
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

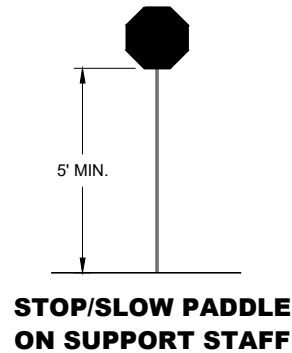
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

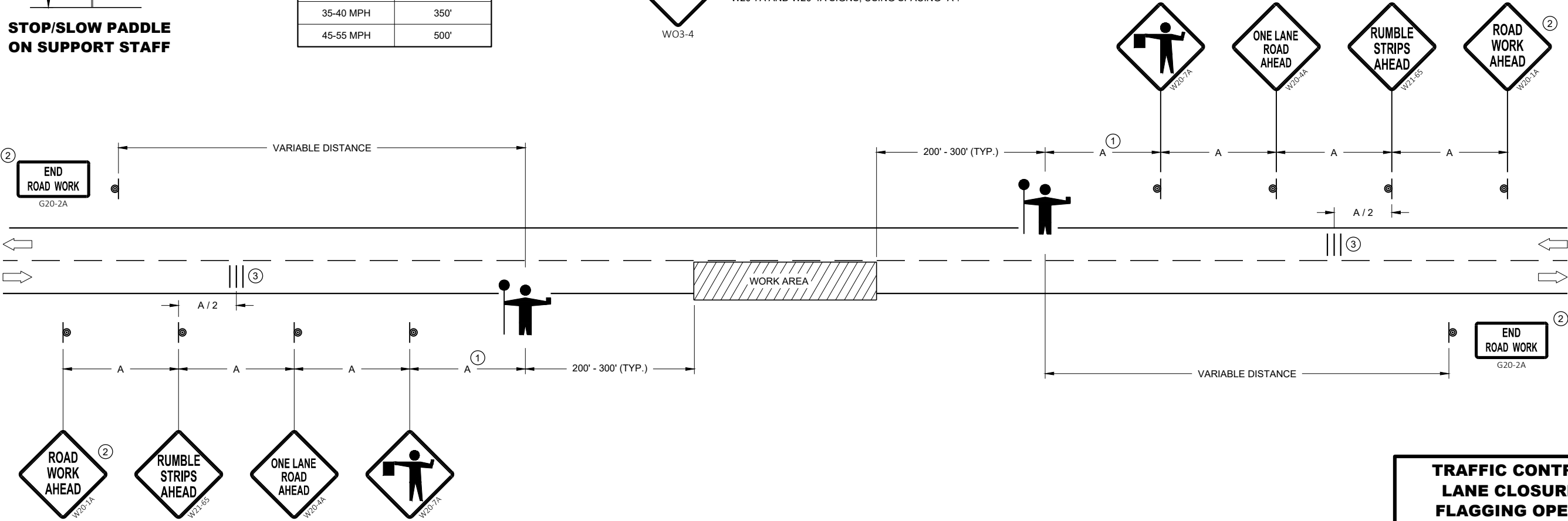


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

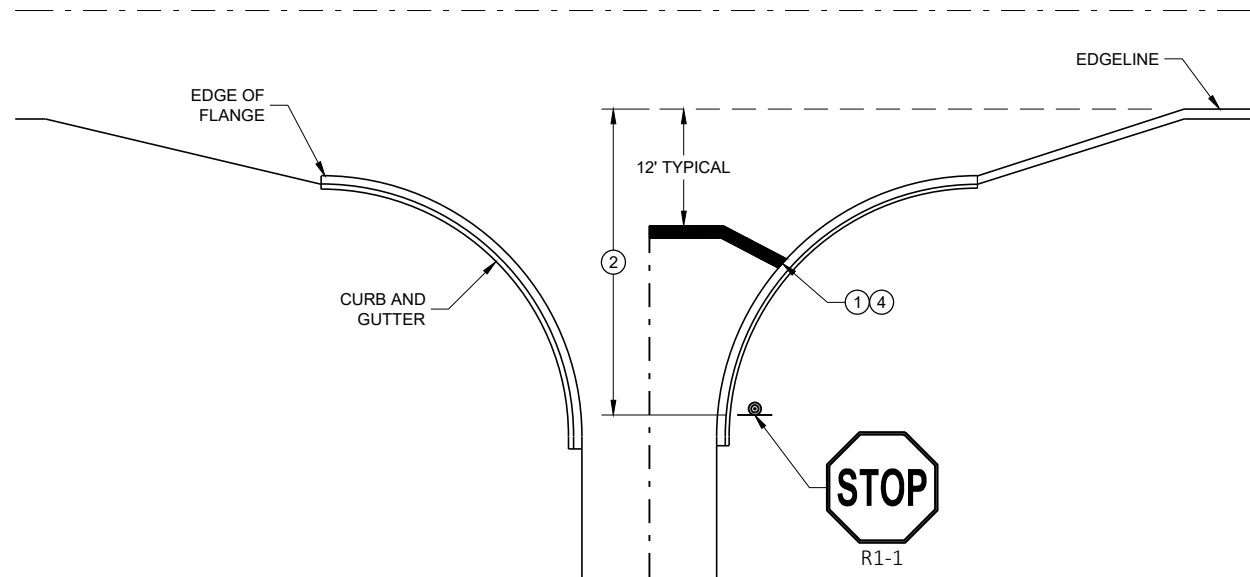
SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



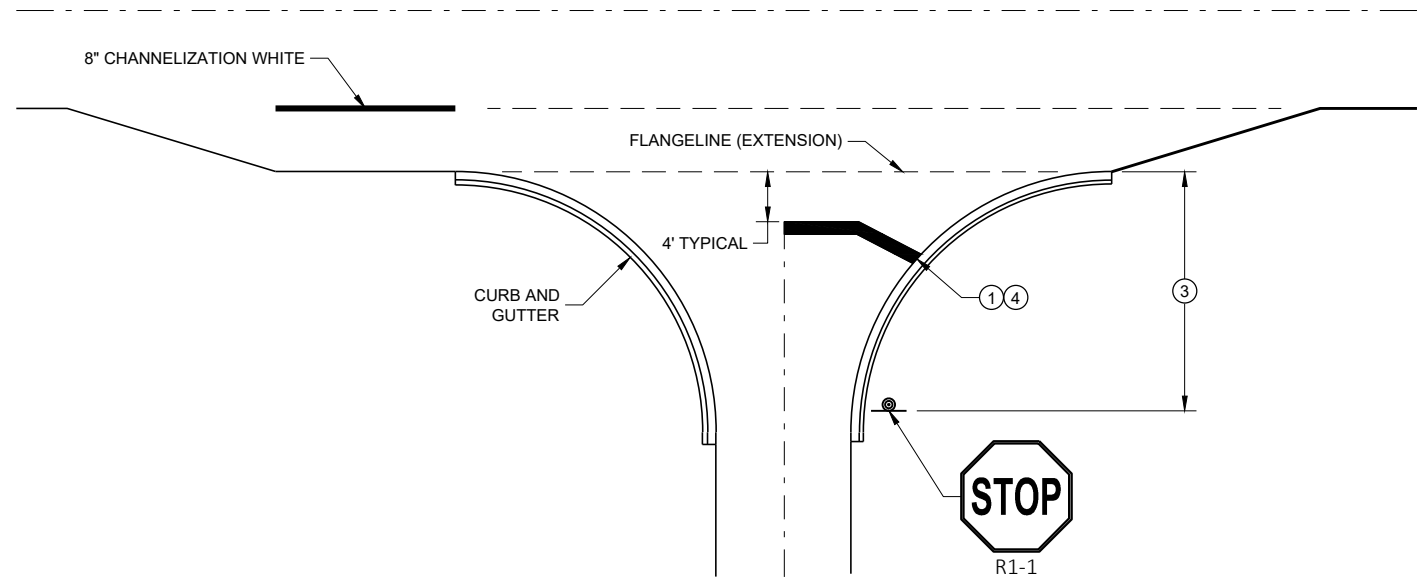
USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



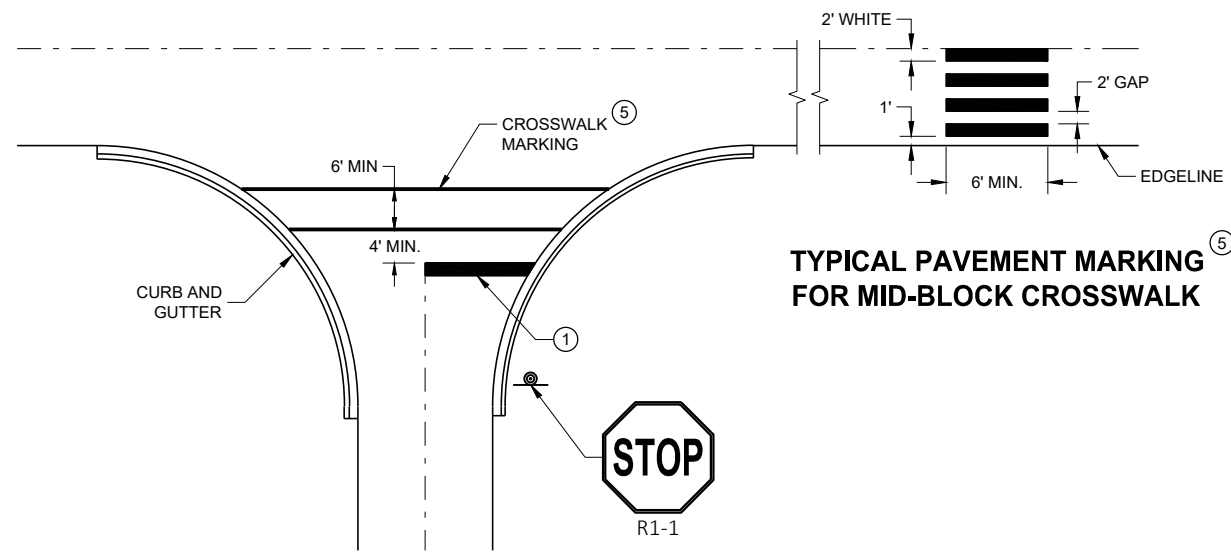
TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



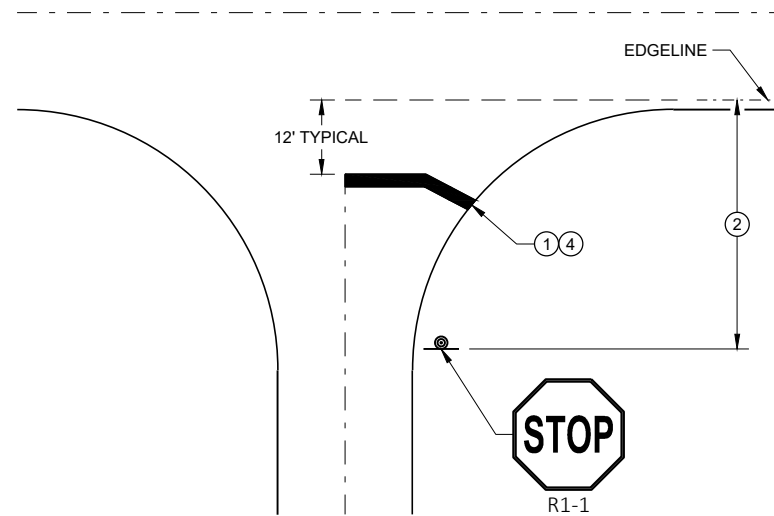
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

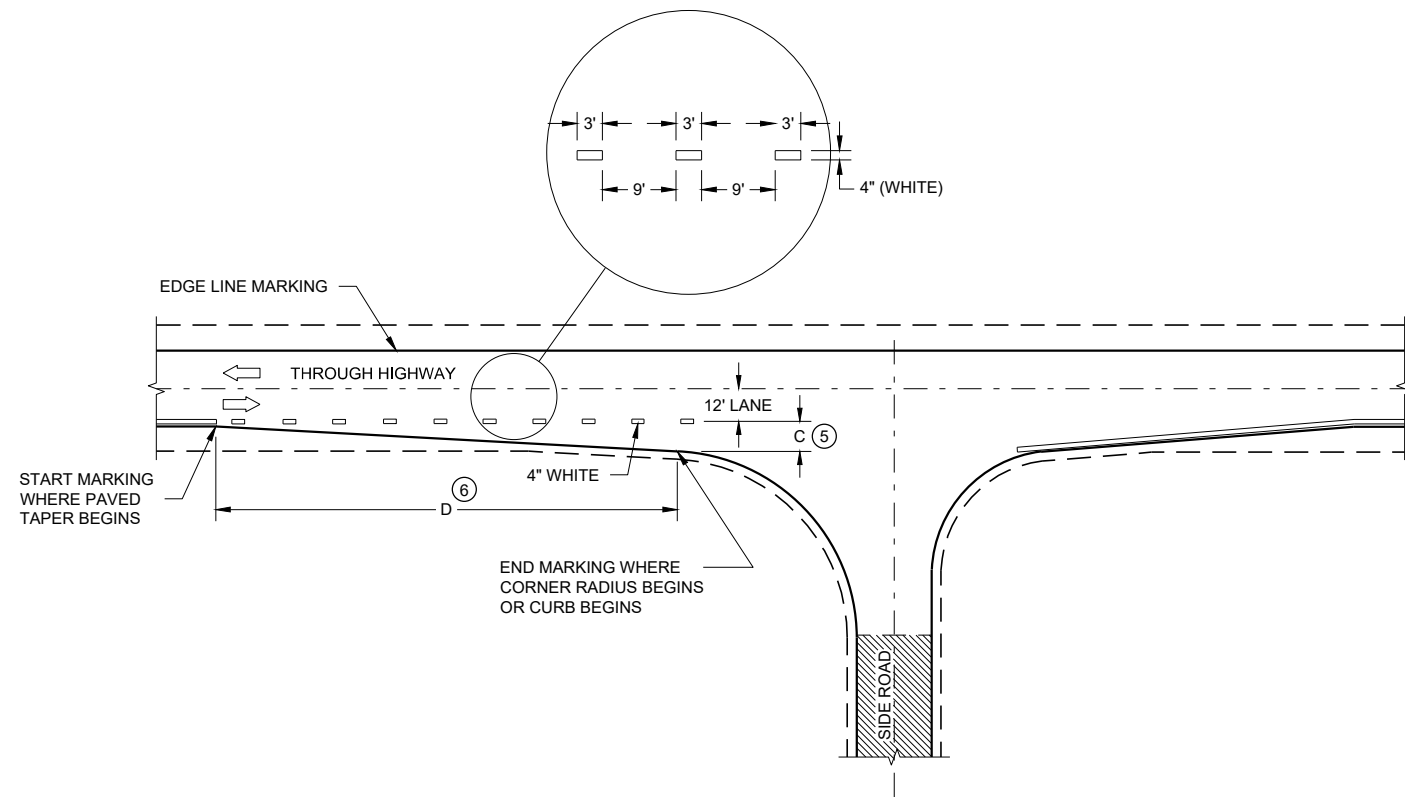
STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGE LINE LOCATION.

- 1 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- 2 NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE.
- 3 NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
- 4 MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
- 5 LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.

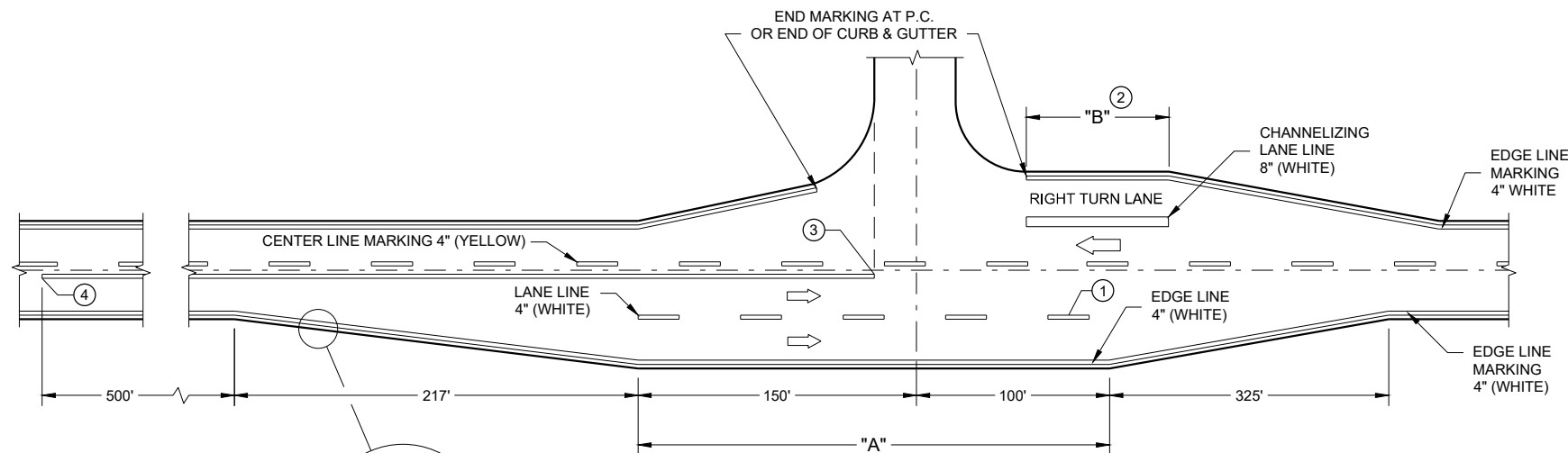
STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING
ENGINEER
FHWA



MINOR INTERSECTION



MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

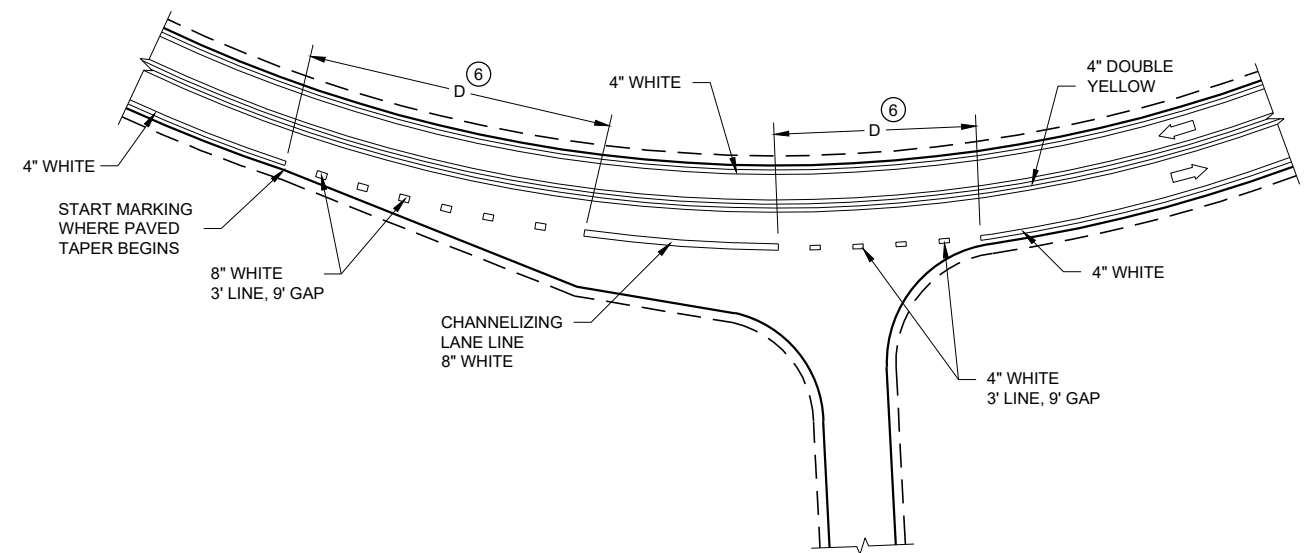
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑤ WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
- ⑥ WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

➡ DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS

NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)

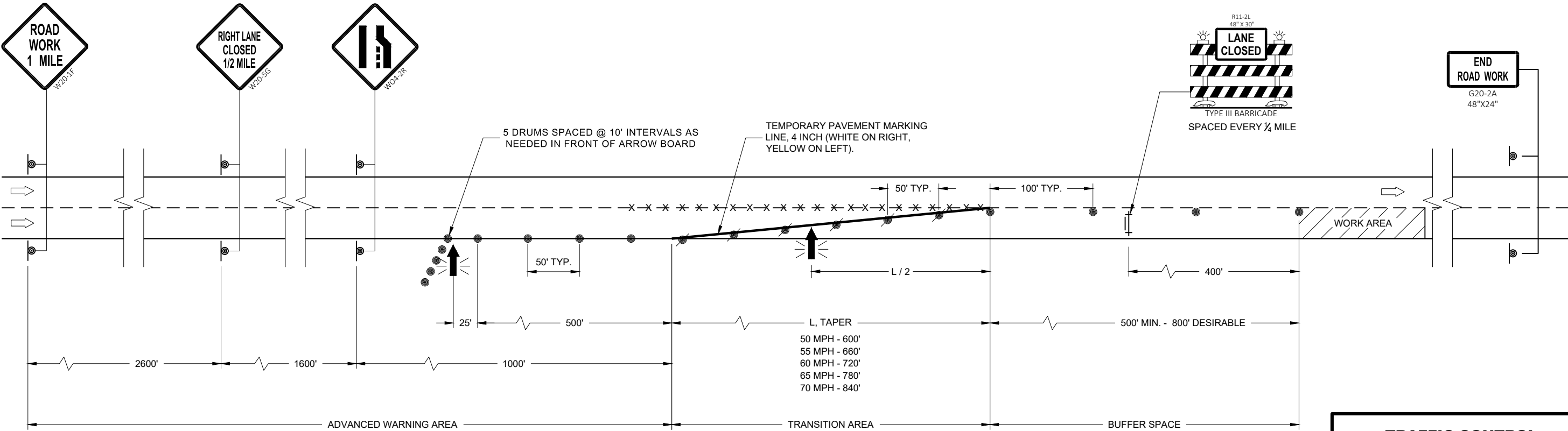
-X-X-X- REMOVING PAVEMENT MARKINGS

DIRECTION OF TRAFFIC

WORK AREA

FLASHING ARROW BOARD

6



SDD 15D12 - 10a

**TRAFFIC CONTROL
LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D12 - 10a

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

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

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

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

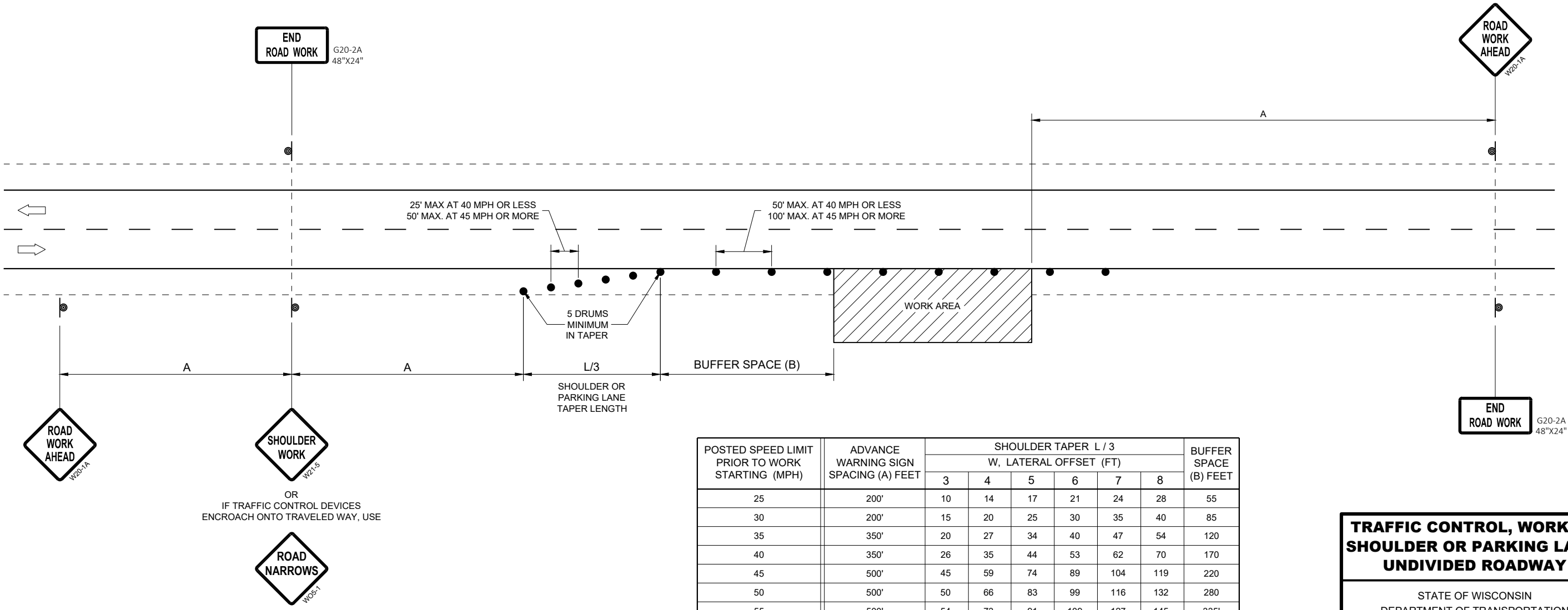
W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

6

6

SDD 15D28 - 04

SDD 15D28 - 04



TRAFFIC CONTROL, WORK ON
SHOULDER OR PARKING LANE,
UNDIVIDED ROADWAY

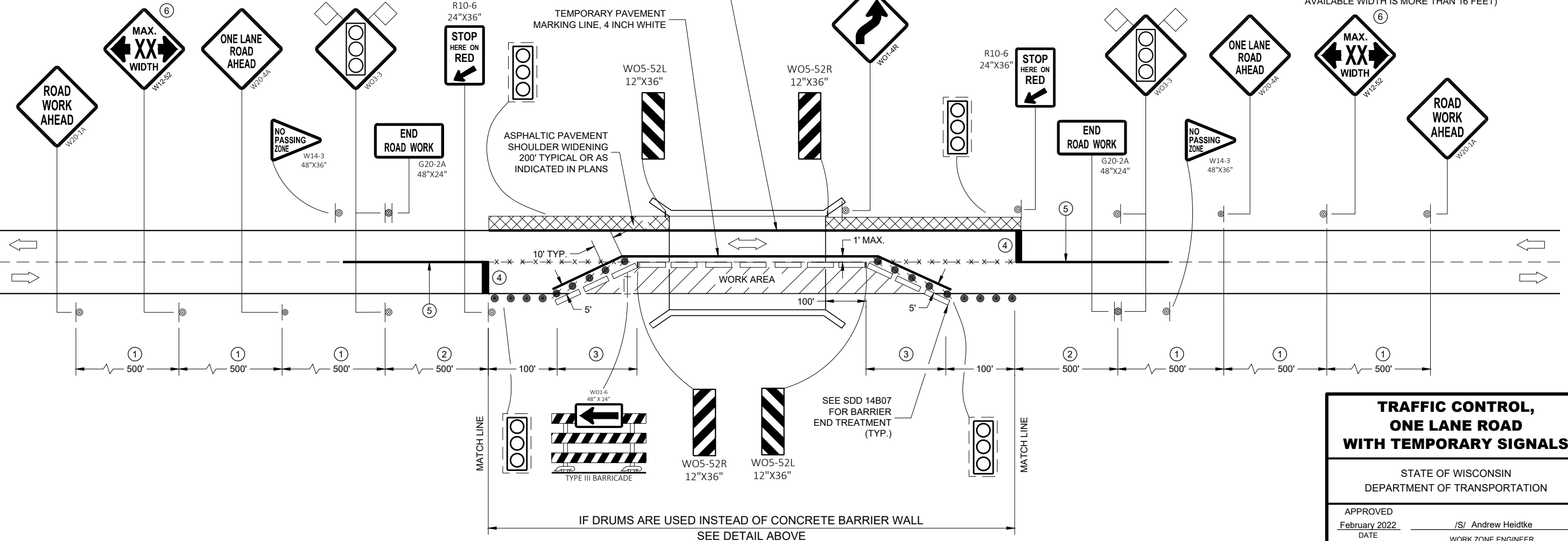
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020
DATE
/S/ Andrew Heidtke
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER
FHWA

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLAGS, 16" X 16" MIN. (ORANGE)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- ASPHALTIC PAVEMENT WIDENING
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY SIGNAL. SEE SDD 09G02 FOR EXACT PLACEMENT

WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET)



GENERAL NOTES

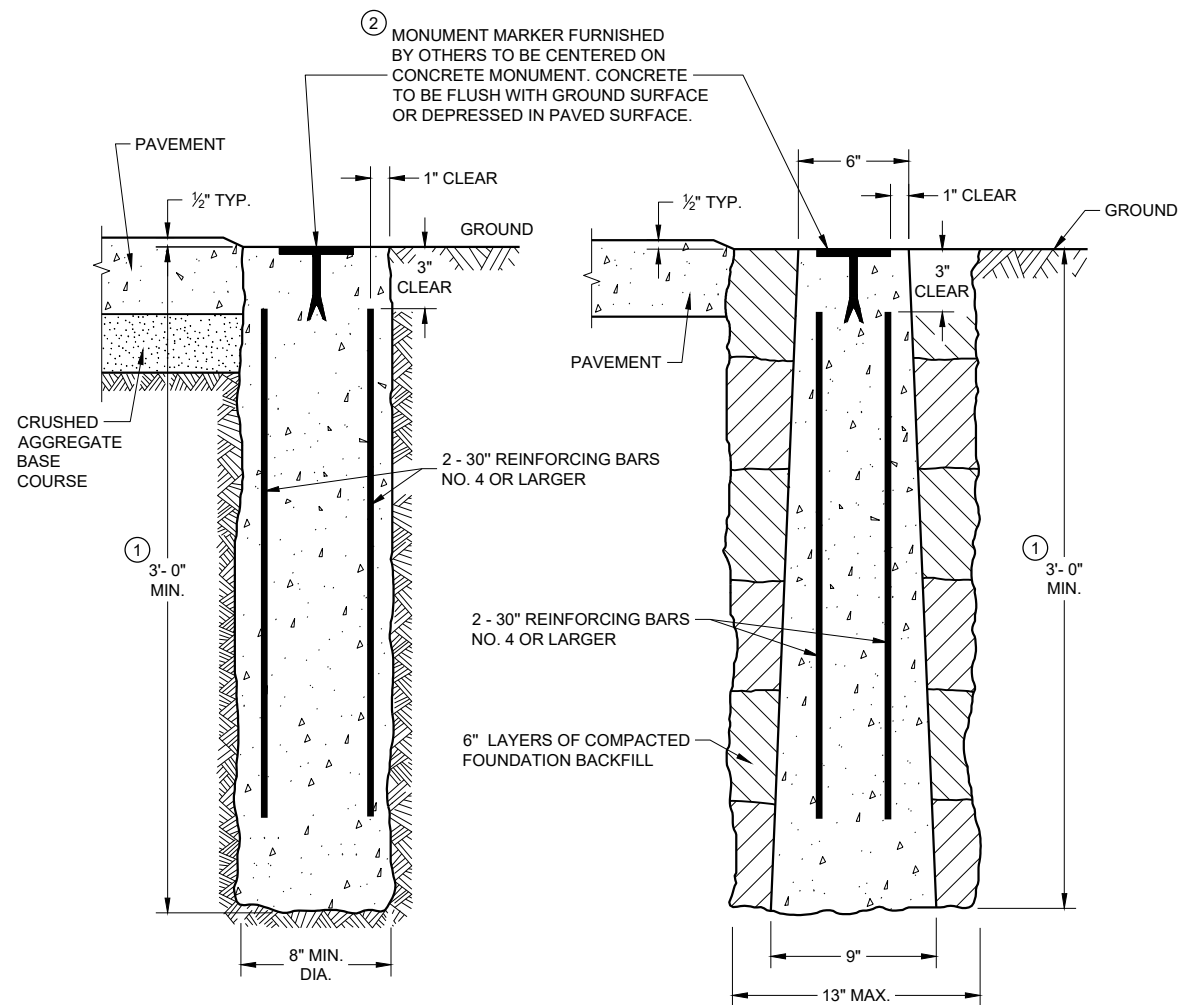
- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE..
- THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.
- ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.
- "WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER.
- REMOVE PAVEMENT MARKING AND PLACE TEMPORARY PAVEMENT MARKING LINES IF THE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.
- 500 FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35 - 40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25 - 30 MPH, USE 200 FOOT TYPICAL SPACING.
 - USE 300 FOOT SPACING IF THE PRE - CONSTRUCTION REGULATORY SPEED IS 35 MPH OR LESS.
 - DIMENSION DETERMINED BY CBTP TAPER FROM EDGE LINE TO TANGENT SECTION OF THE ROAD.
 - TEMPORARY PAVEMENT MARKING LINE, 18 INCH WHITE STOP LINE.
 - 700 FOOT TEMPORARY PAVEMENT MARKING LINE, 4 INCH DOUBLE YELLOW . WHEN THE DISTANCE FOR THE PRECEDING NO - PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.
 - SEE SDD 15C02 - SHEET "F" FOR ADVANCED WIDTH RESTRICTION SIGNING.

WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET)

TRAFFIC CONTROL,
ONE LANE ROAD
WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

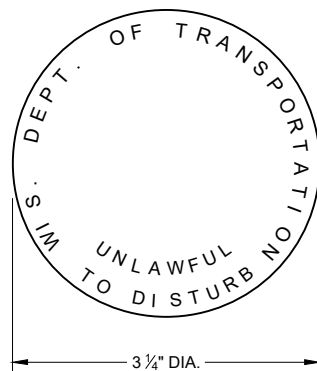
APPROVED
February 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



CAST-IN-PLACE

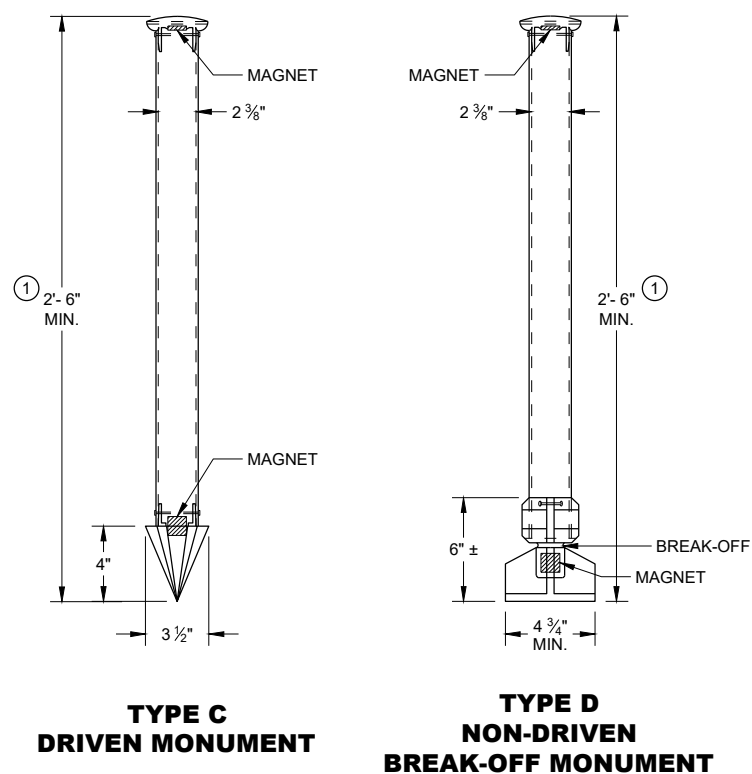
PRECAST

CONCRETE MONUMENTS TYPE A

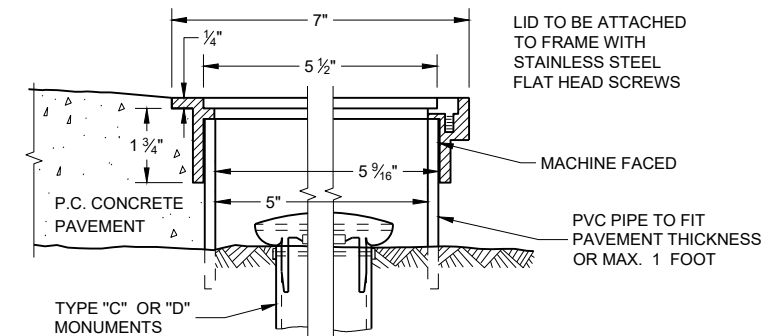
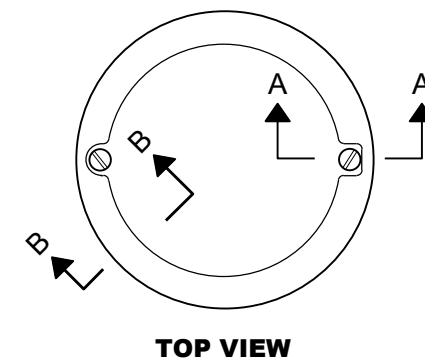


② WIS DOT MONUMENT MARKER LOGO

FOR TYPES "A", "C" & "D"



ALUMINUM MONUMENTS (INCLUDES MARKER)



SECTION B-B SECTION A-A ALUMINUM MONUMENT COVER

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

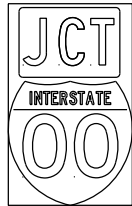
LANDMARK REFERENCE MONUMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

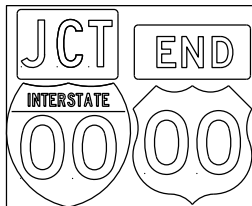
APPROVED
March 2018 /S/ Raymond A. Kumapayii
DATE CHIEF SURVEYING AND MAPPING
ENGINEER

FHWA

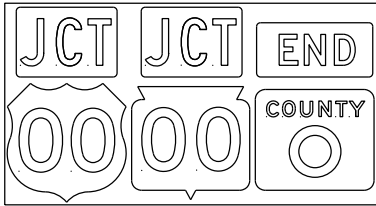
TYPICAL ASSEMBLIES



J1-1



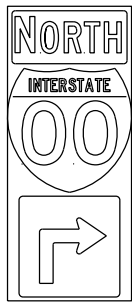
J1-2



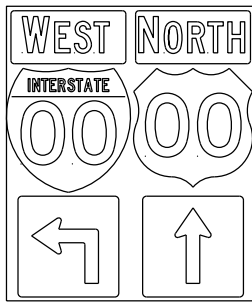
J1-3



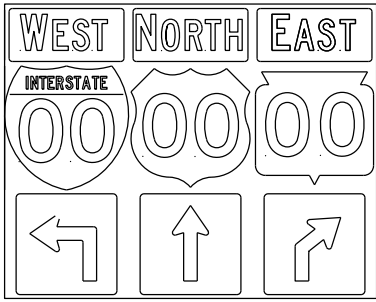
JR1-1



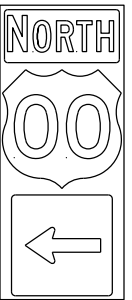
J2-1



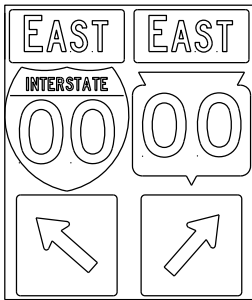
J2-2



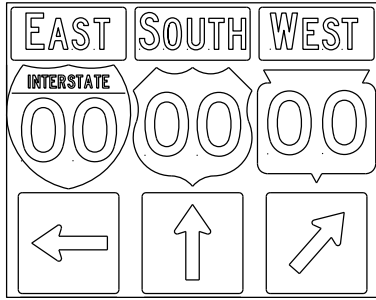
J2-3



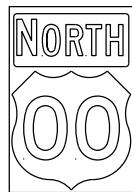
J3-1



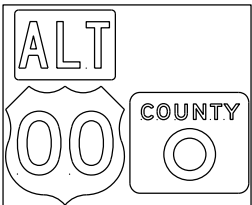
J3-2



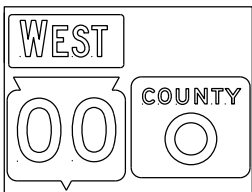
J3-3



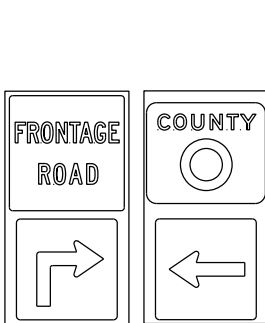
J4-1



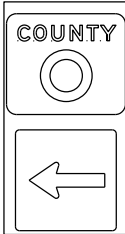
J4-2



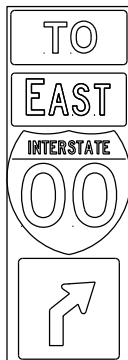
J4-2



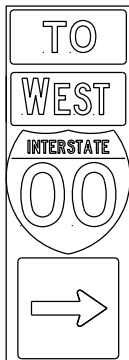
J12-1



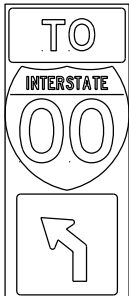
J13-1



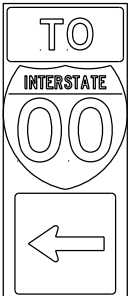
J32-1



J33-1



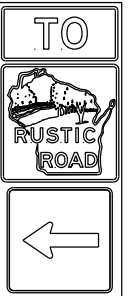
J22-1



J23-1



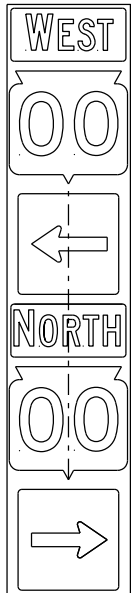
JR13-1



JR23-1

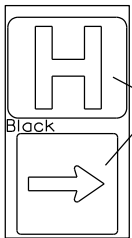


JR99-1



JV

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

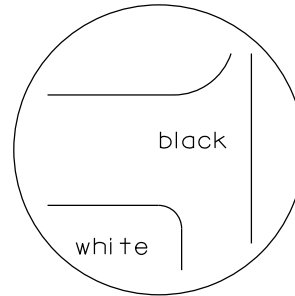
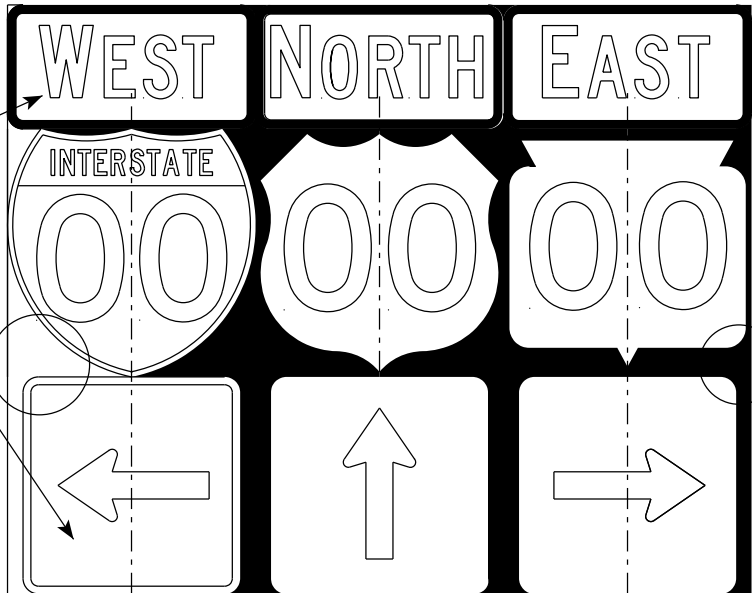
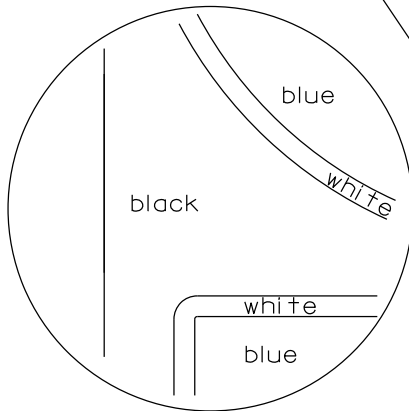


JH-1

Blue Background

Black

blue background
with interstate



black background

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

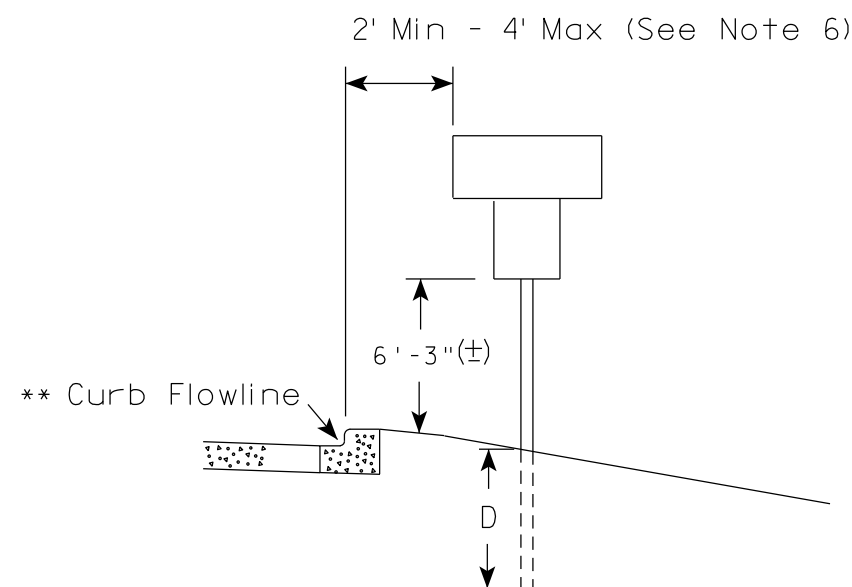
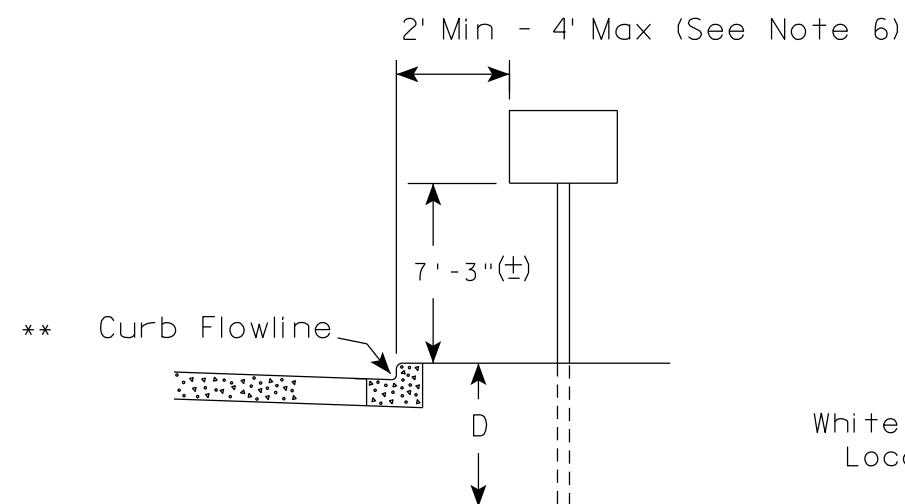
DATE 3/18/21 PLATE NO. A2-1S.9

PROJECT NO:

SHEET NO:

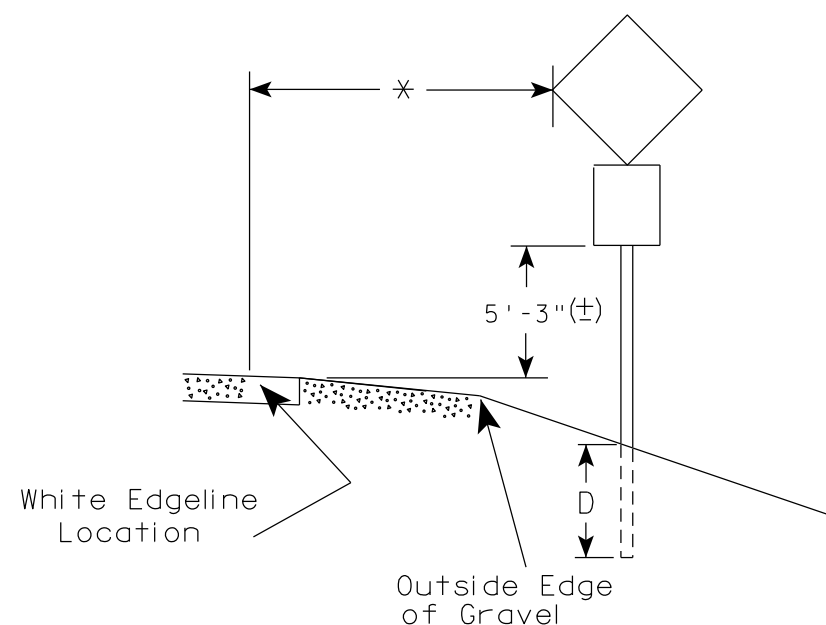
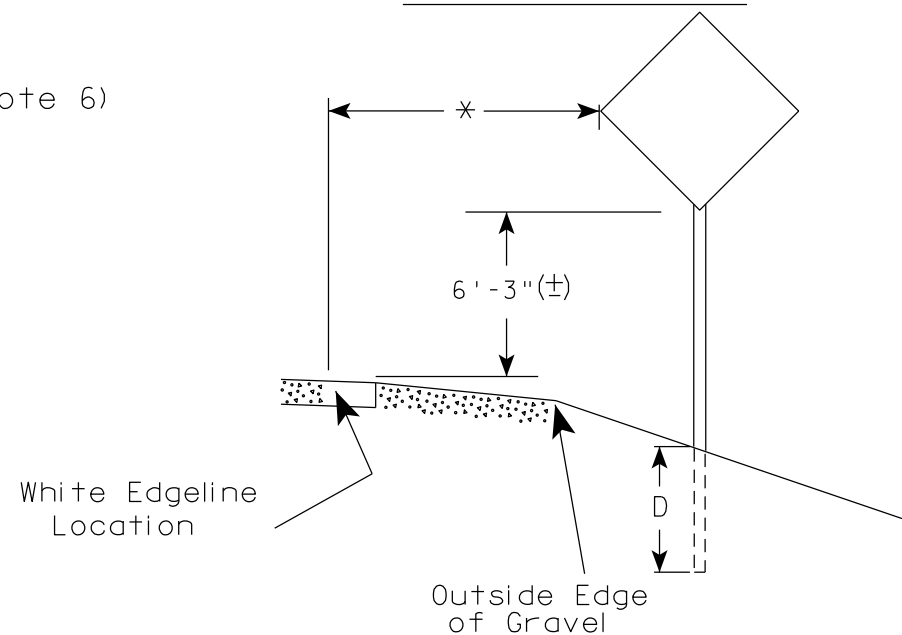
E

URBAN AREA



✱✱ 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.

RURAL AREA (See Note 2)



✱ 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.

POST EMBEDMENT DEPTH

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

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 or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) 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" (±).
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 signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

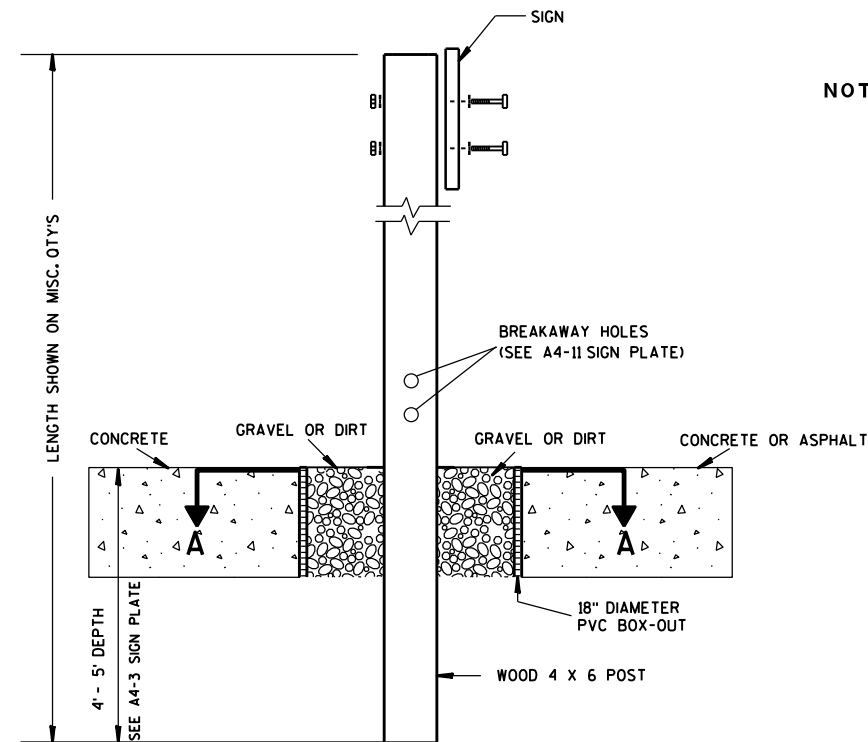
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

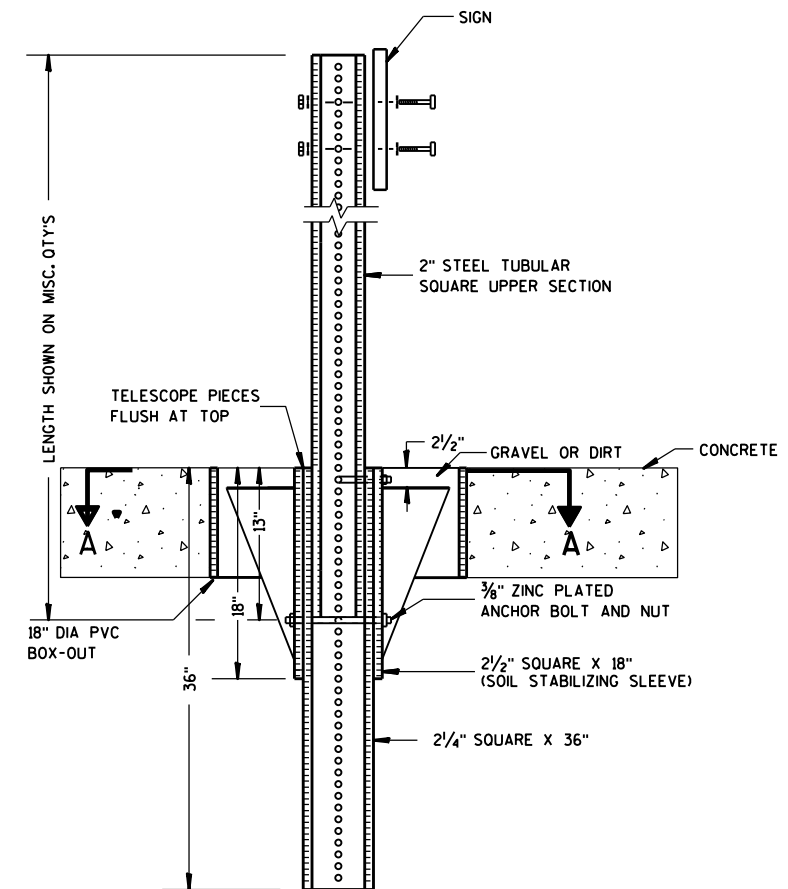
E



ELEVATION VIEW

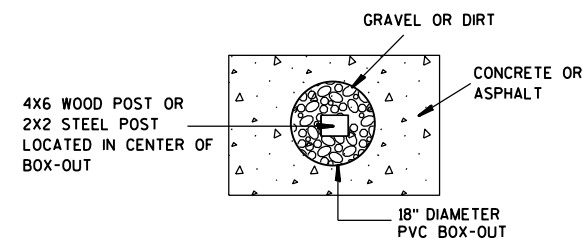
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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

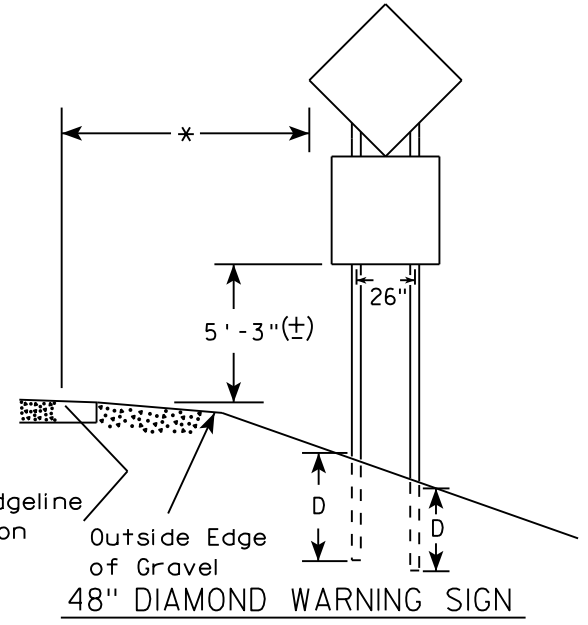
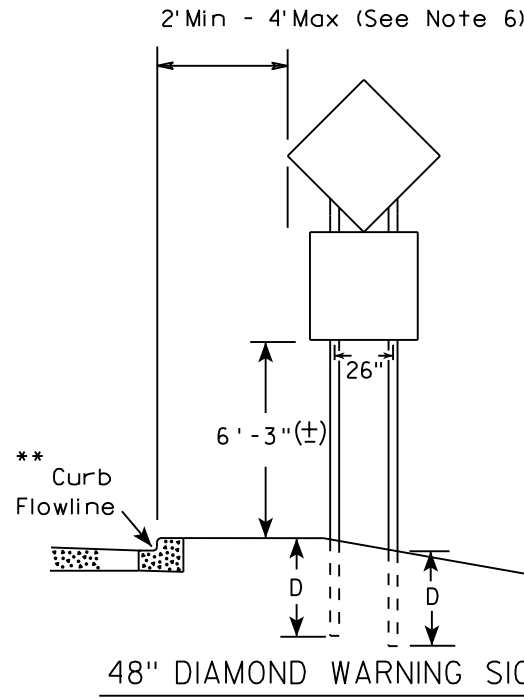
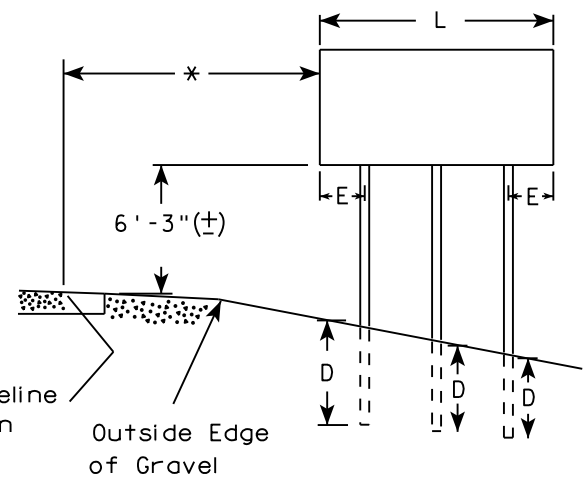
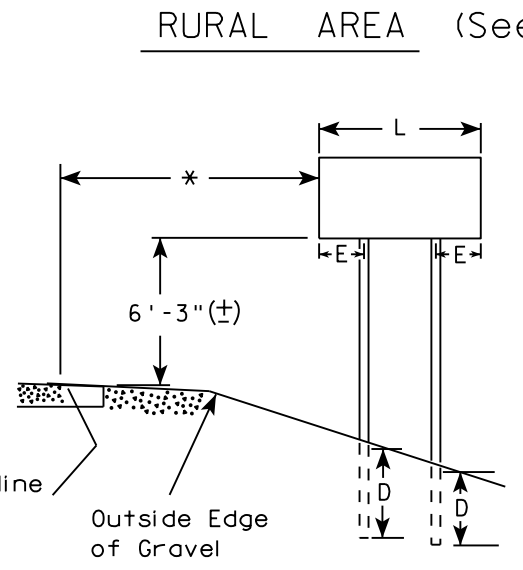
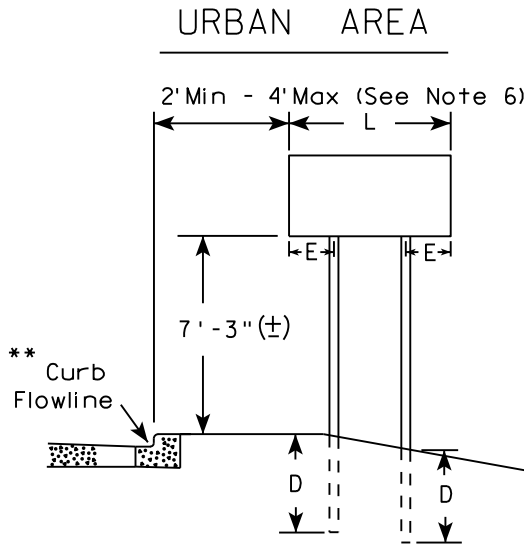
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



- GENERAL NOTES
1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
 2. See tables below for required number of posts.
 3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
 4. The (±) tolerance for mounting height is 3 inches.
 5. J-Assemblies are considered to be one sign for mounting height.
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
 8. 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), 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" (±).

* 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.

** 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.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

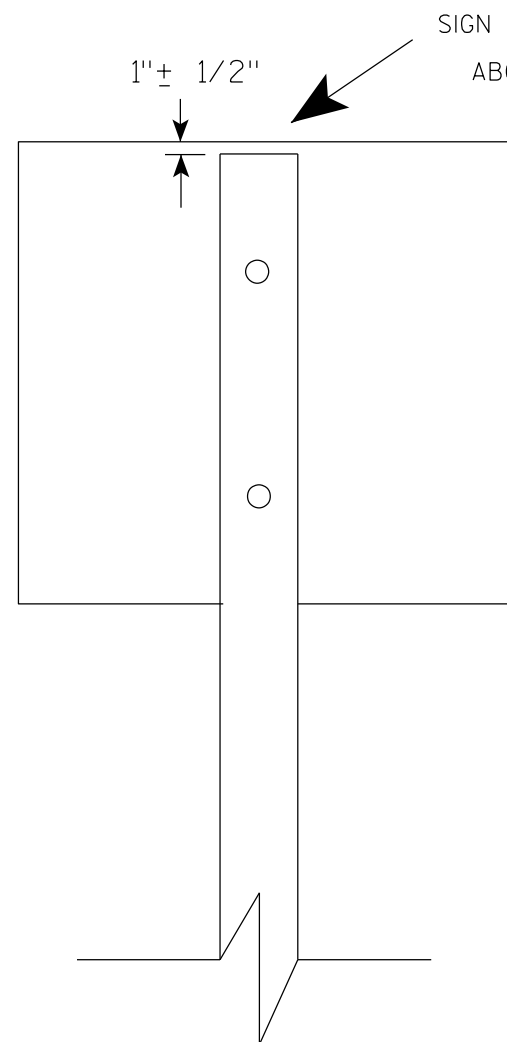
SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

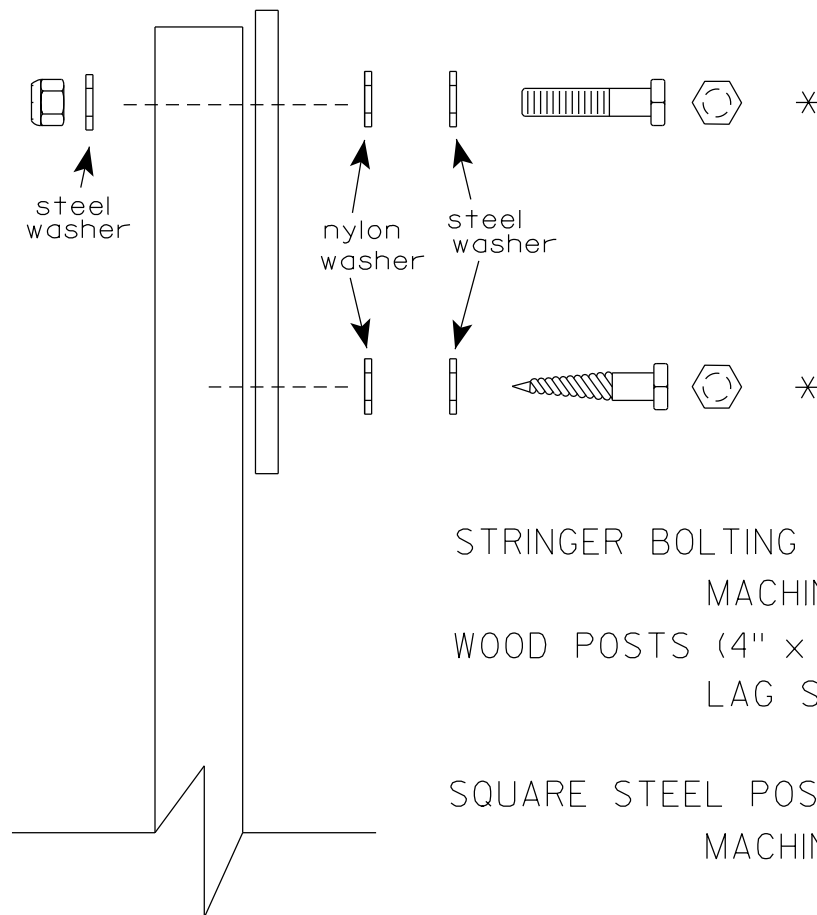
POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 8/21/17	PLATE NO. A4-4.15



SIGN SHALL BE MOUNTED TO PROJECT
ABOVE THE TOP OF THE POST



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.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

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

* 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, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

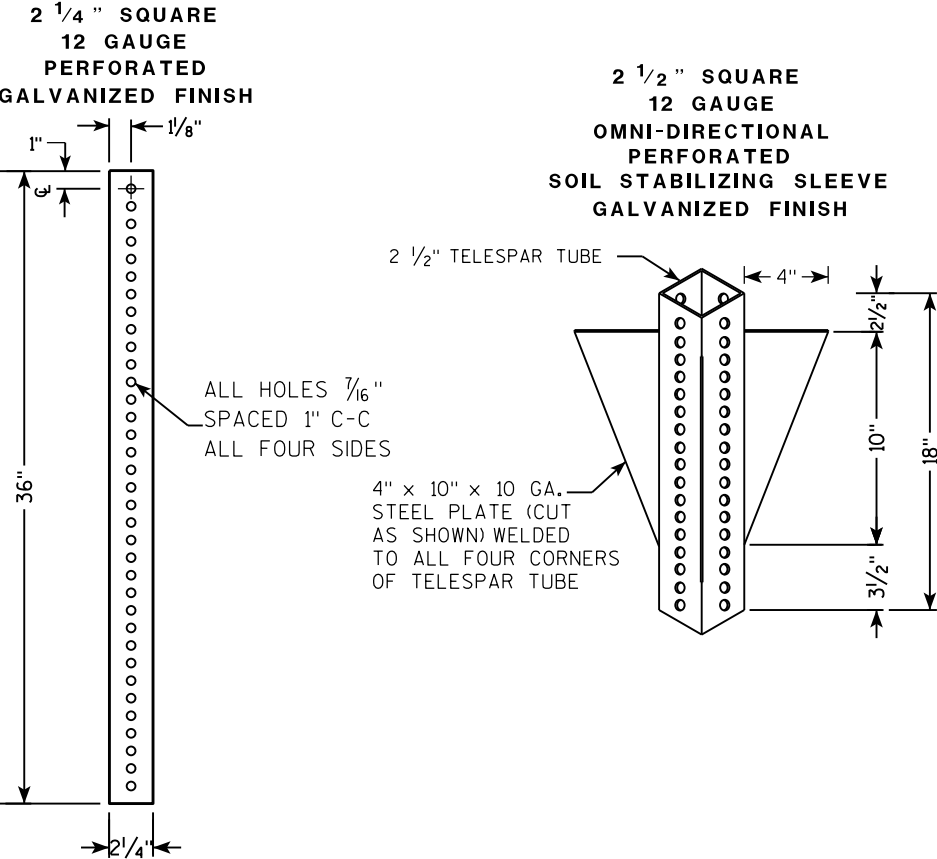
ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

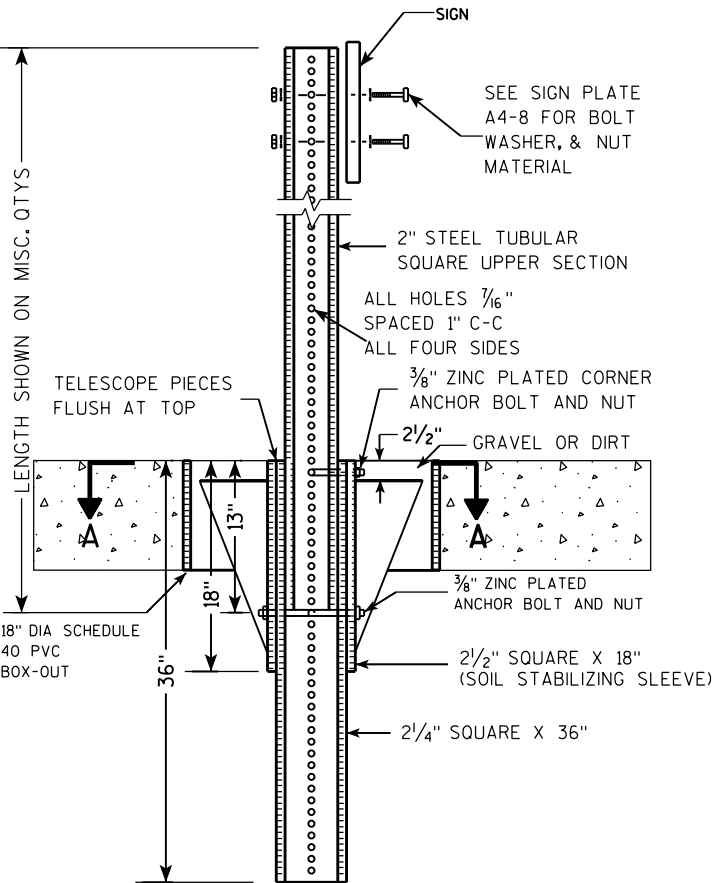
APPROVED Matthew R. Rauch
For State Traffic Engineer

DATE 4/1/2020 PLATE NO. A4-8.9

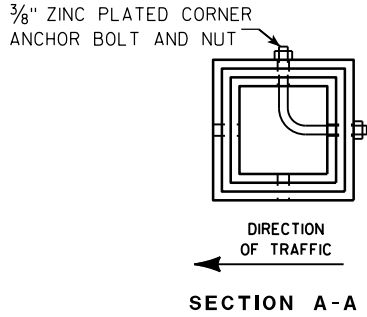
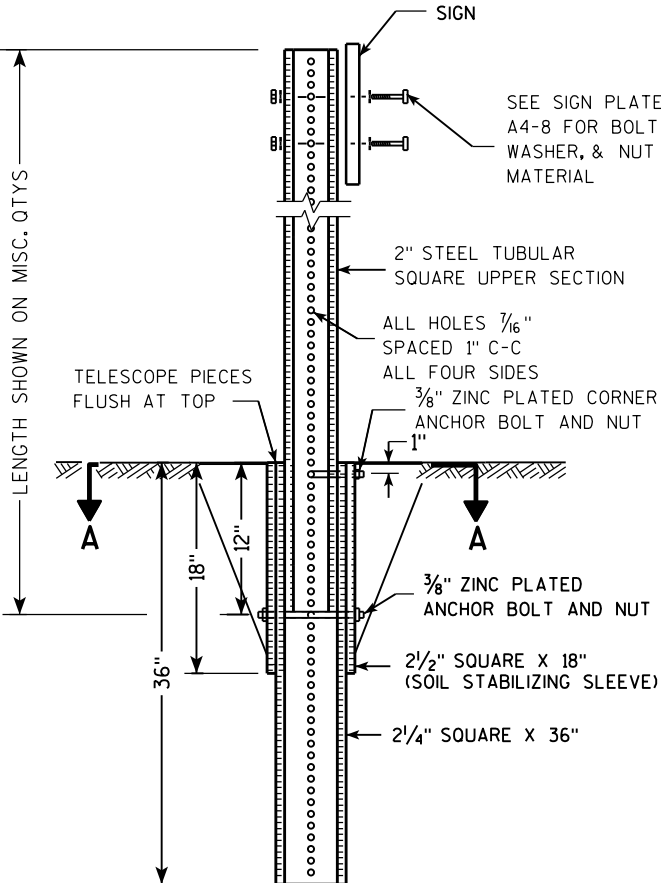
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)



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).

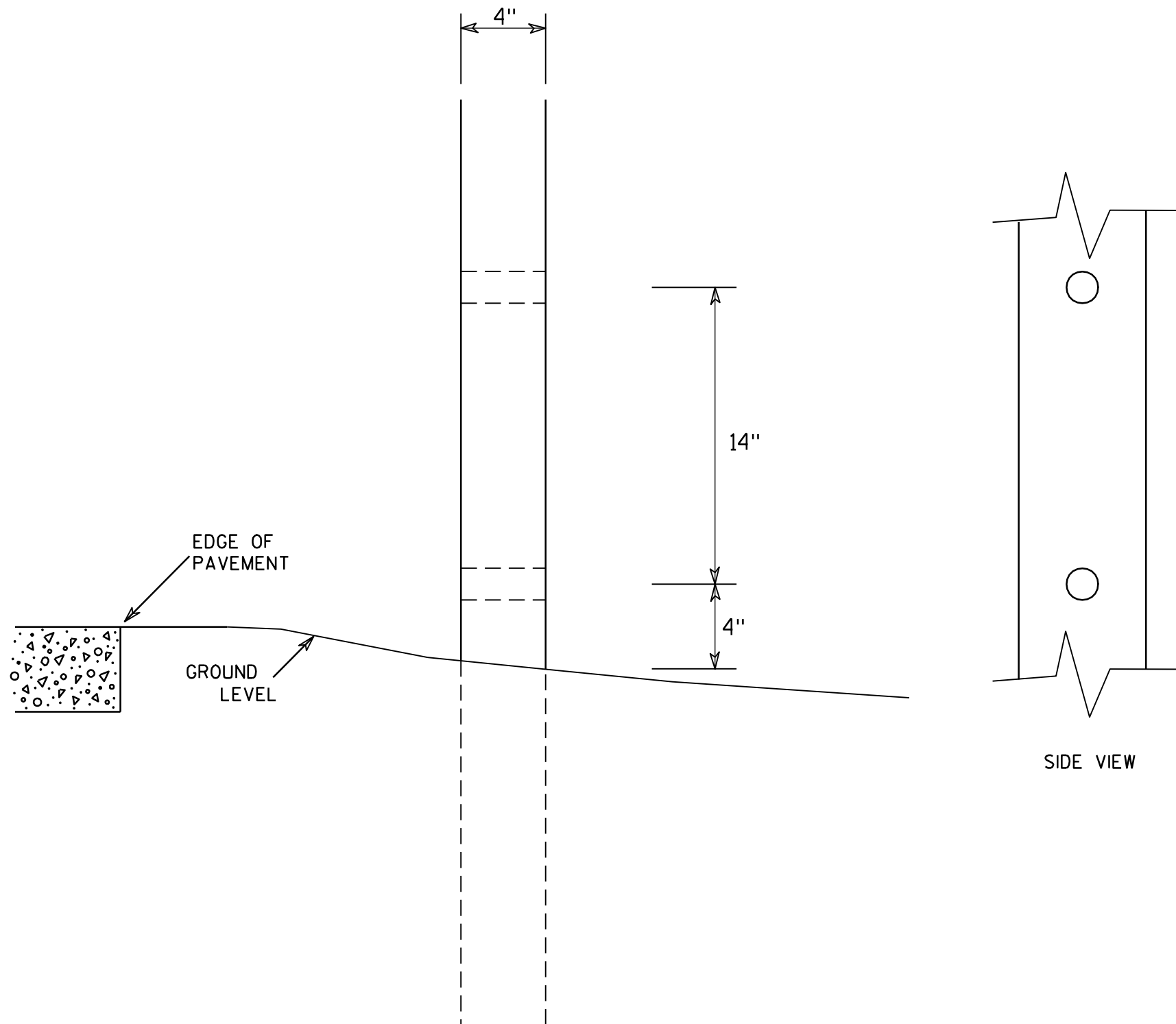
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

7



GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

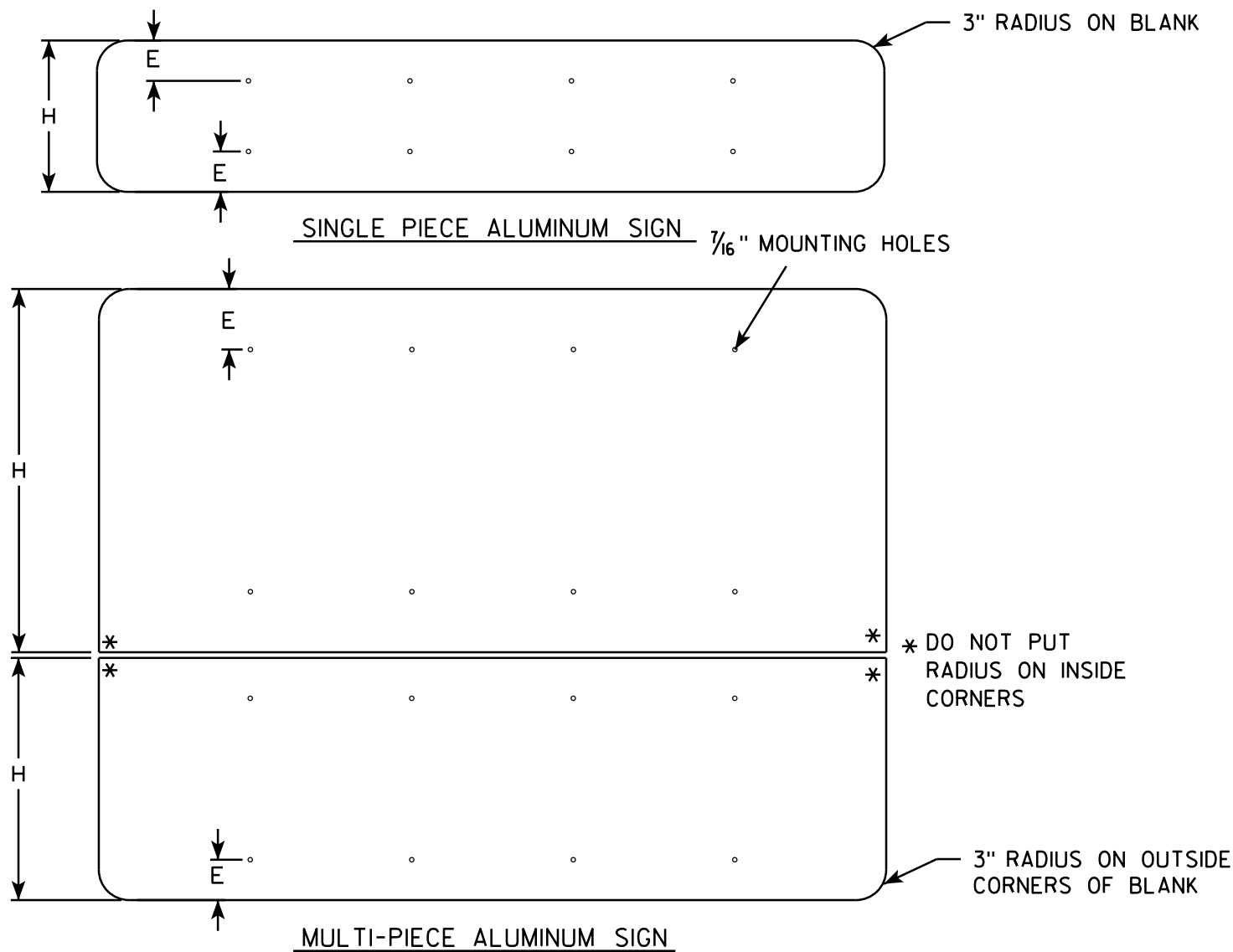
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

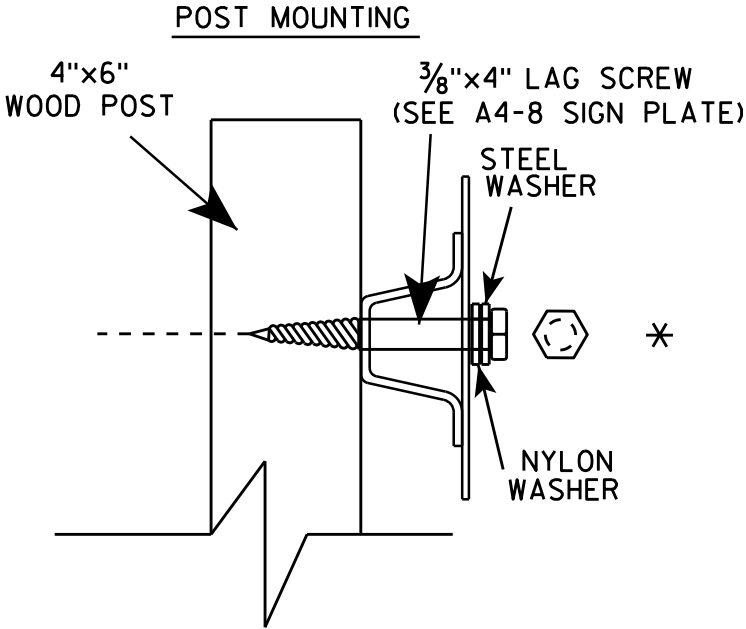
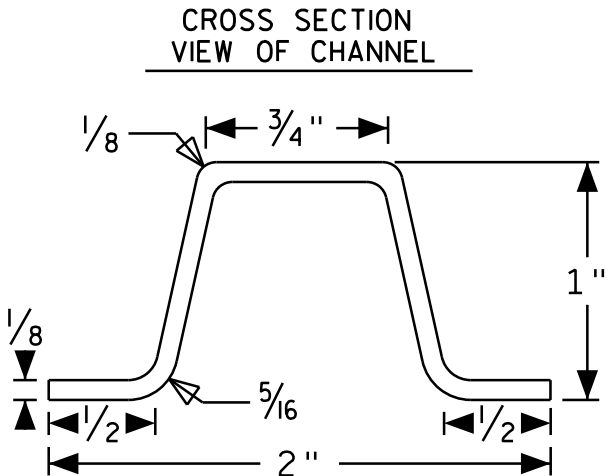
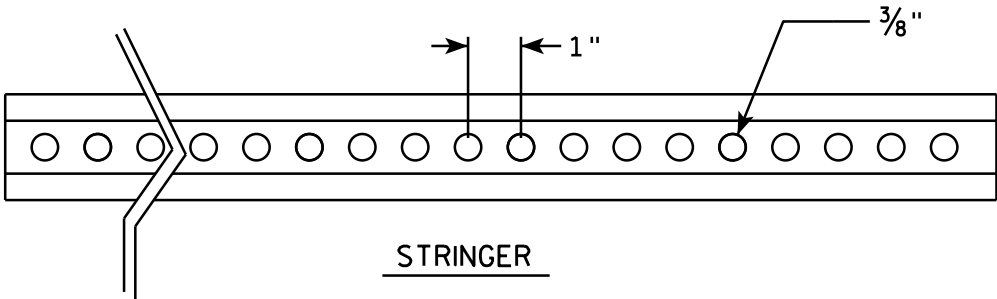
E



GENERAL NOTES

- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES			
78"	72"	2	16"	15"	31"	47"	63"
84"	72"	2	17"	16 1/2"	33 1/2"	50 1/2"	67 1/2"
90"	72"	2	18"	18"	36"	54"	72"
96"	90"	2	19"	19 1/2"	38 1/2"	57 1/2"	76 1/2"
102"	90"	2	20"	21"	41"	61"	81"
108"	90"	2	21"	22 1/2"	43 1/2"	64 1/2"	85 1/2"
114"	108"	3	15"	12"	27"	42"	57" 72" 87" 102"
120"	108"	3	16"	12"	28"	44"	60" 76" 92" 108"
126"	108"	3	17"	12"	29"	46"	63" 80" 97" 114"
132"	126"	3	18"	12"	30"	48"	66" 84" 102" 120"
138"	126"	3	19"	12"	31"	50"	69" 88" 107" 126"
144"	126"	3	20"	12"	32"	52"	72" 92" 112" 132"



SIGN STRINGER
MOUNTING REQUIREMENTS

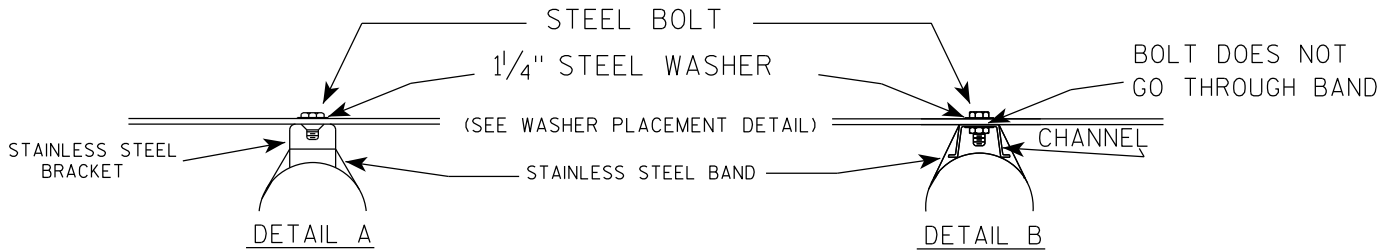
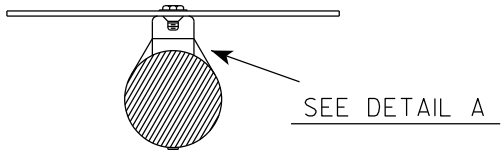
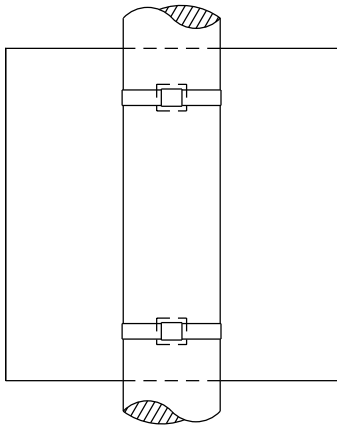
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

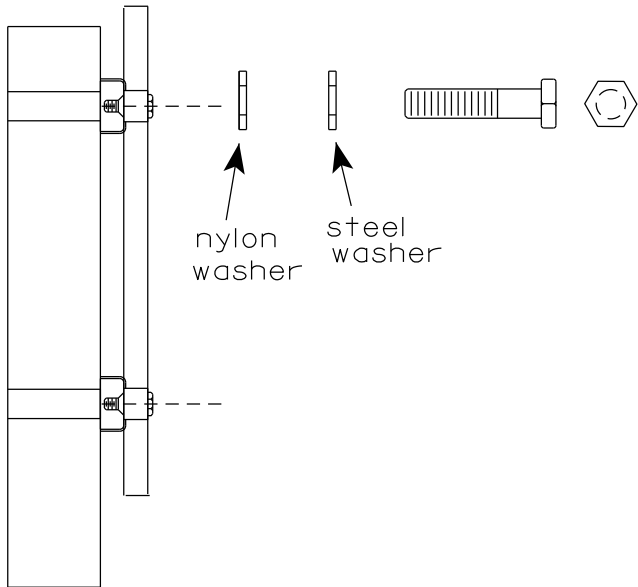
DATE 4/26/16 PLATE NO. A4-18.1

BANDING

SINGLE SIGN



WASHER PLACEMENT

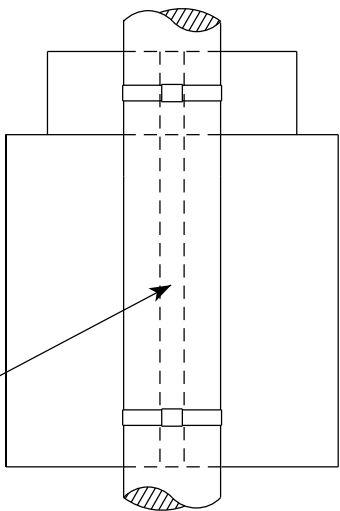


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

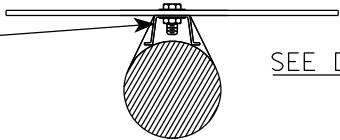
GENERAL NOTES

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 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



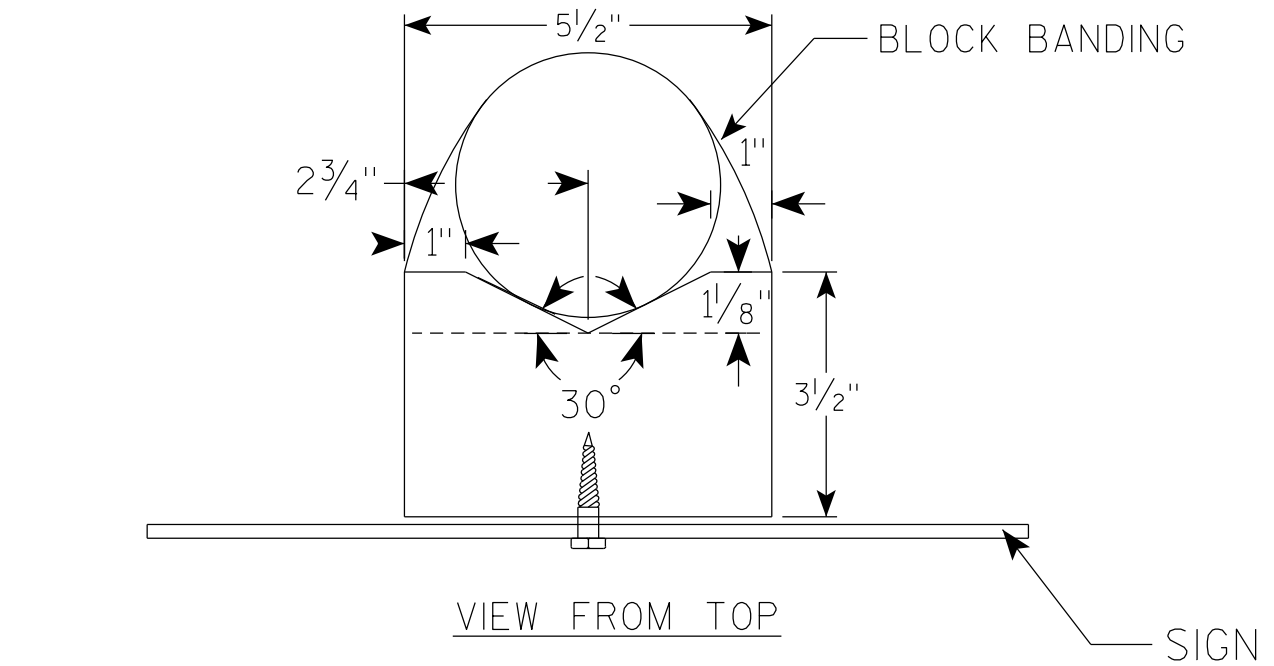
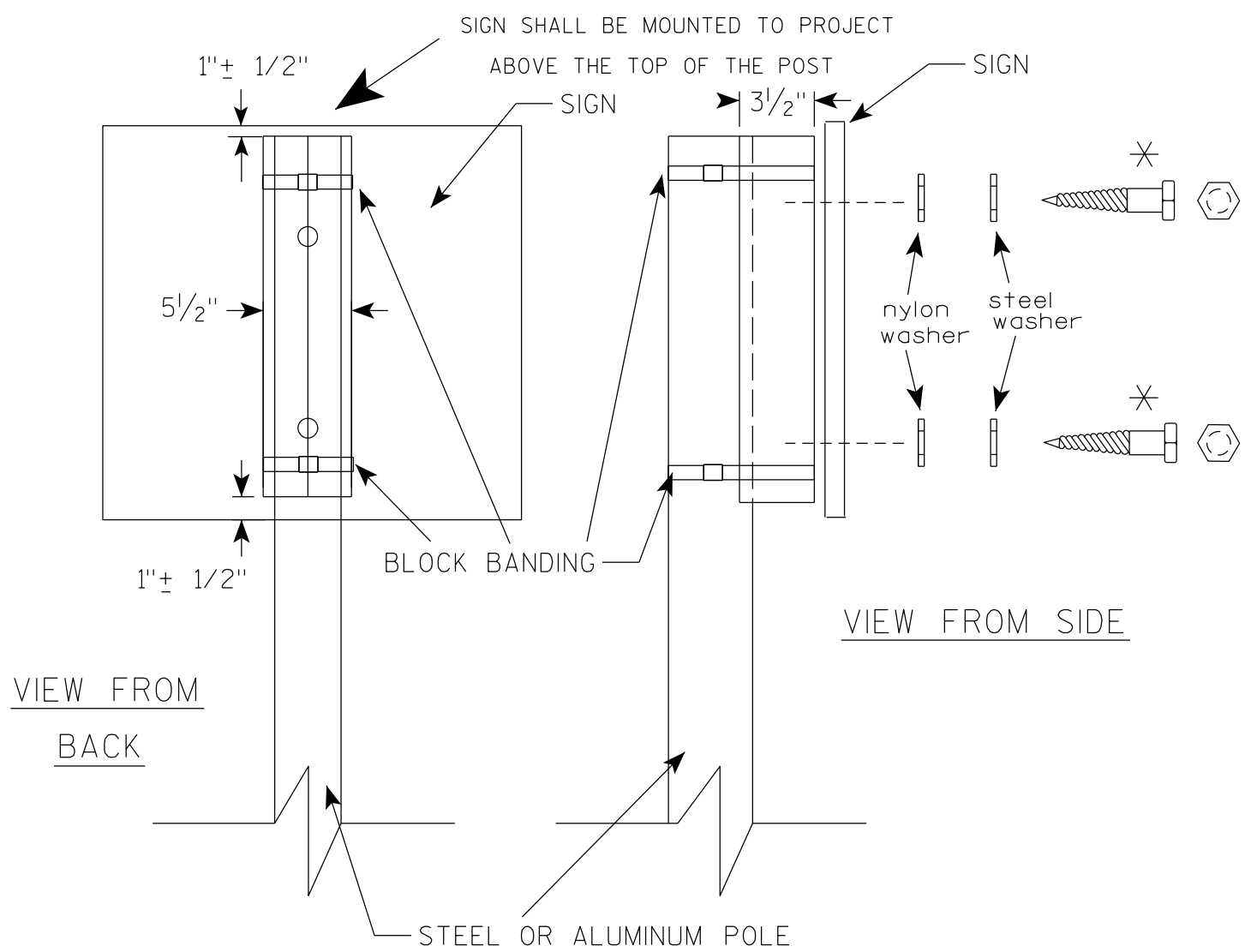
CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



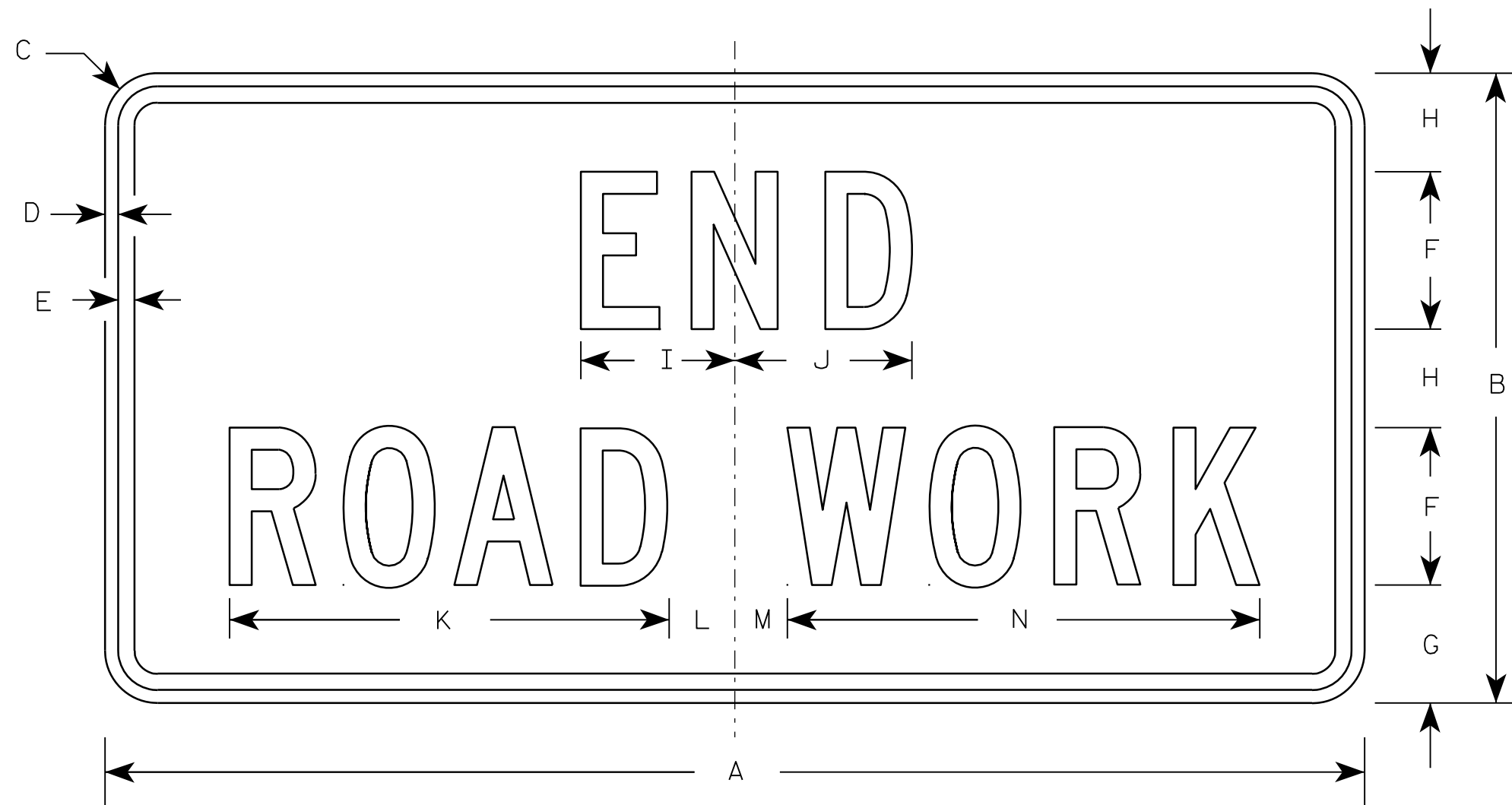
GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL (V-BLOCK OPTION)	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 4/19/2022	PLATE NO. A5-10.3

7



G20-2A

Metric equivalent
for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 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	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- Message Series - C
- 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.

7

PROJECT NO:

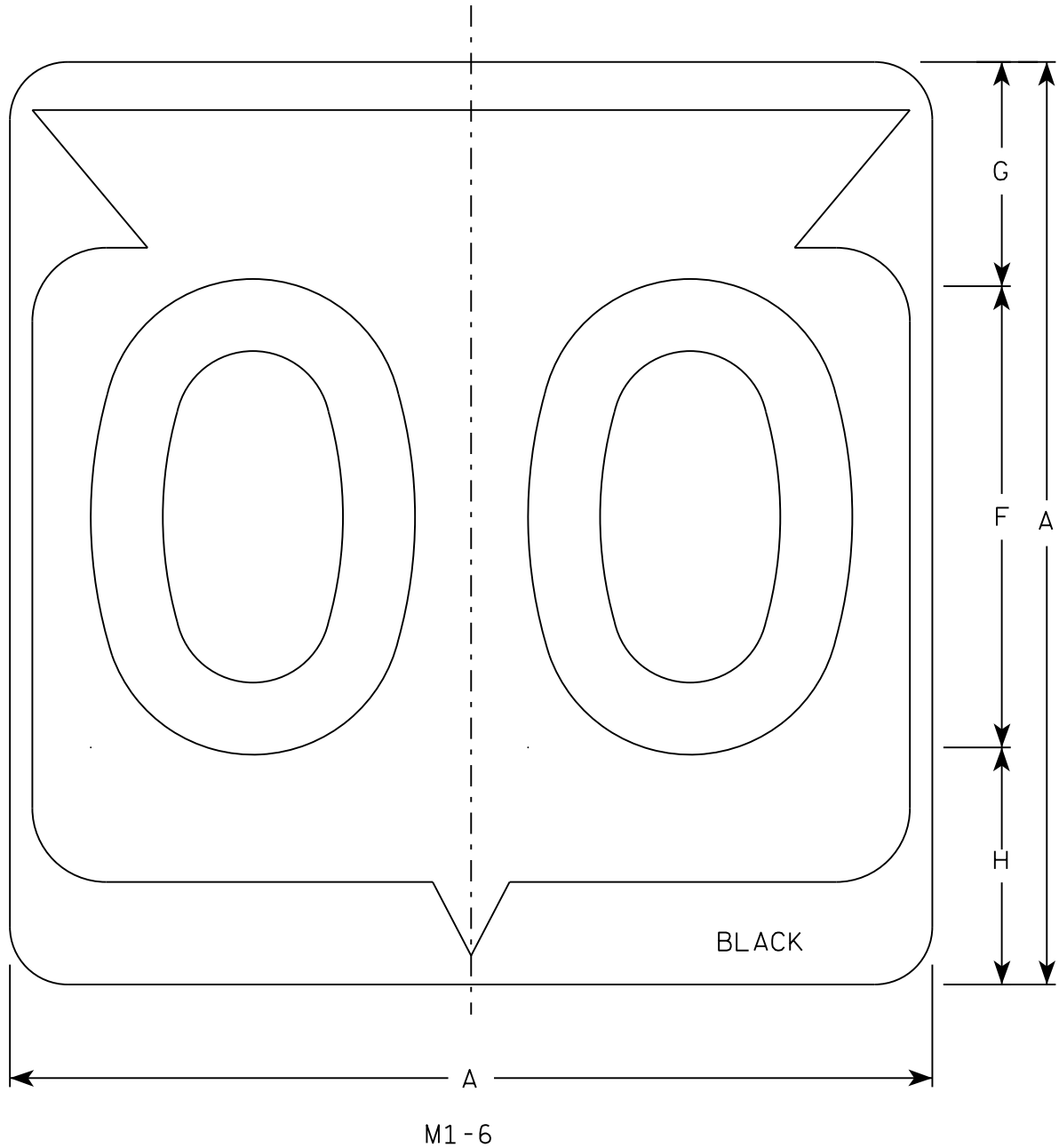
HWY:

COUNTY:

SHEET NO:

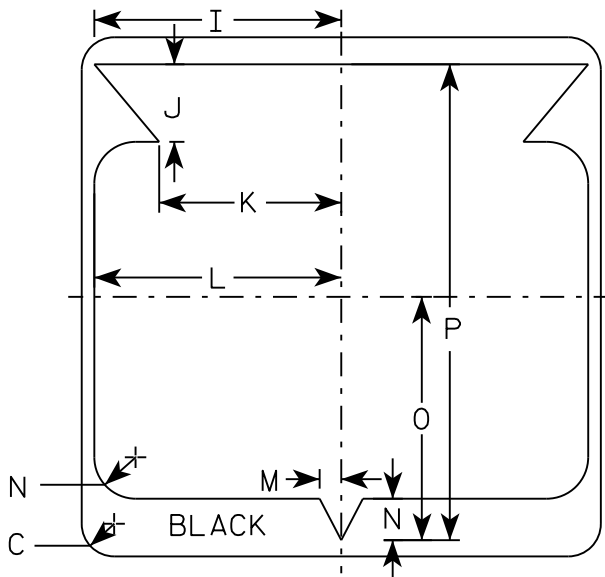
E

7



NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - D except 3 number signs 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.



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																											
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
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
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
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

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

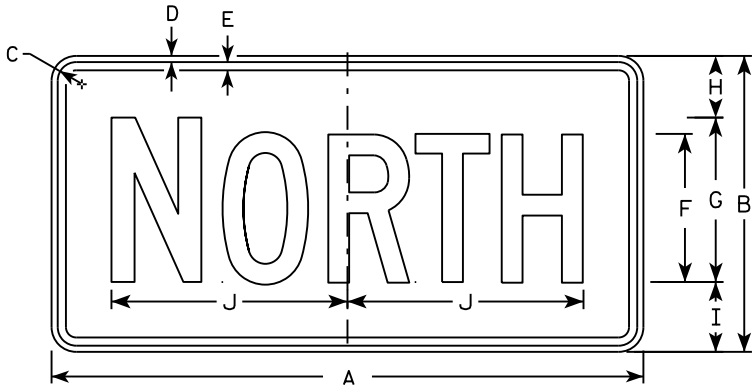
E

STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

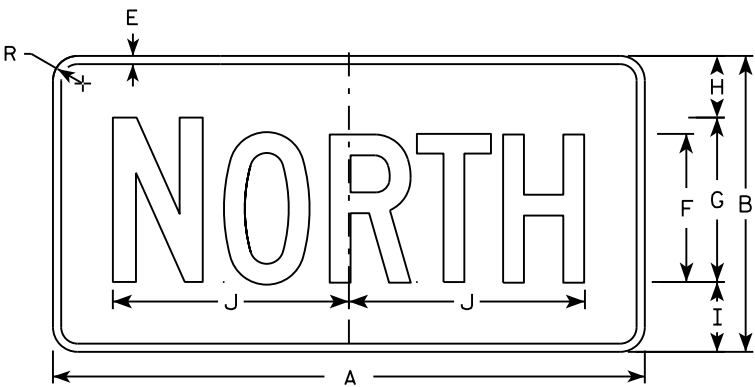
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-6.10



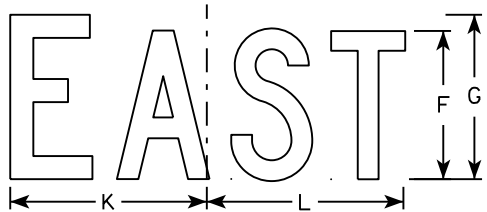
M3-1
MM3-1
MP3-1



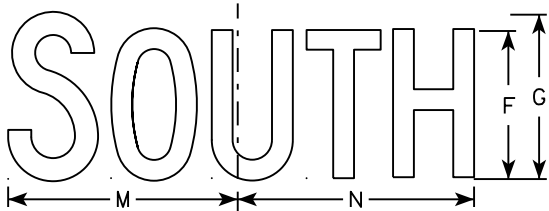
MB3-1
MK3-1
MN3-1



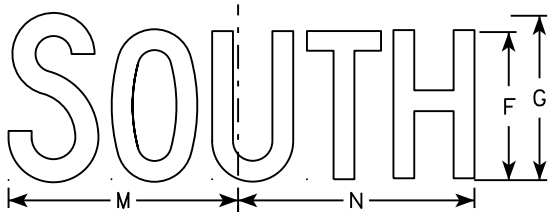
M3-2
MM3-2
MP3-2



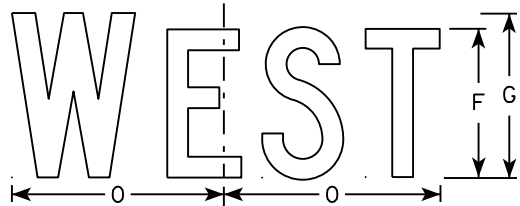
MB3-2
MK3-2
MN3-2



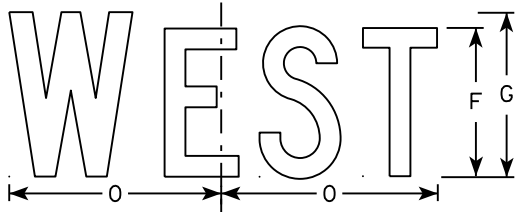
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

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.

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

STANDARD SIGNS
M3-1 thru M3-4
SERIES

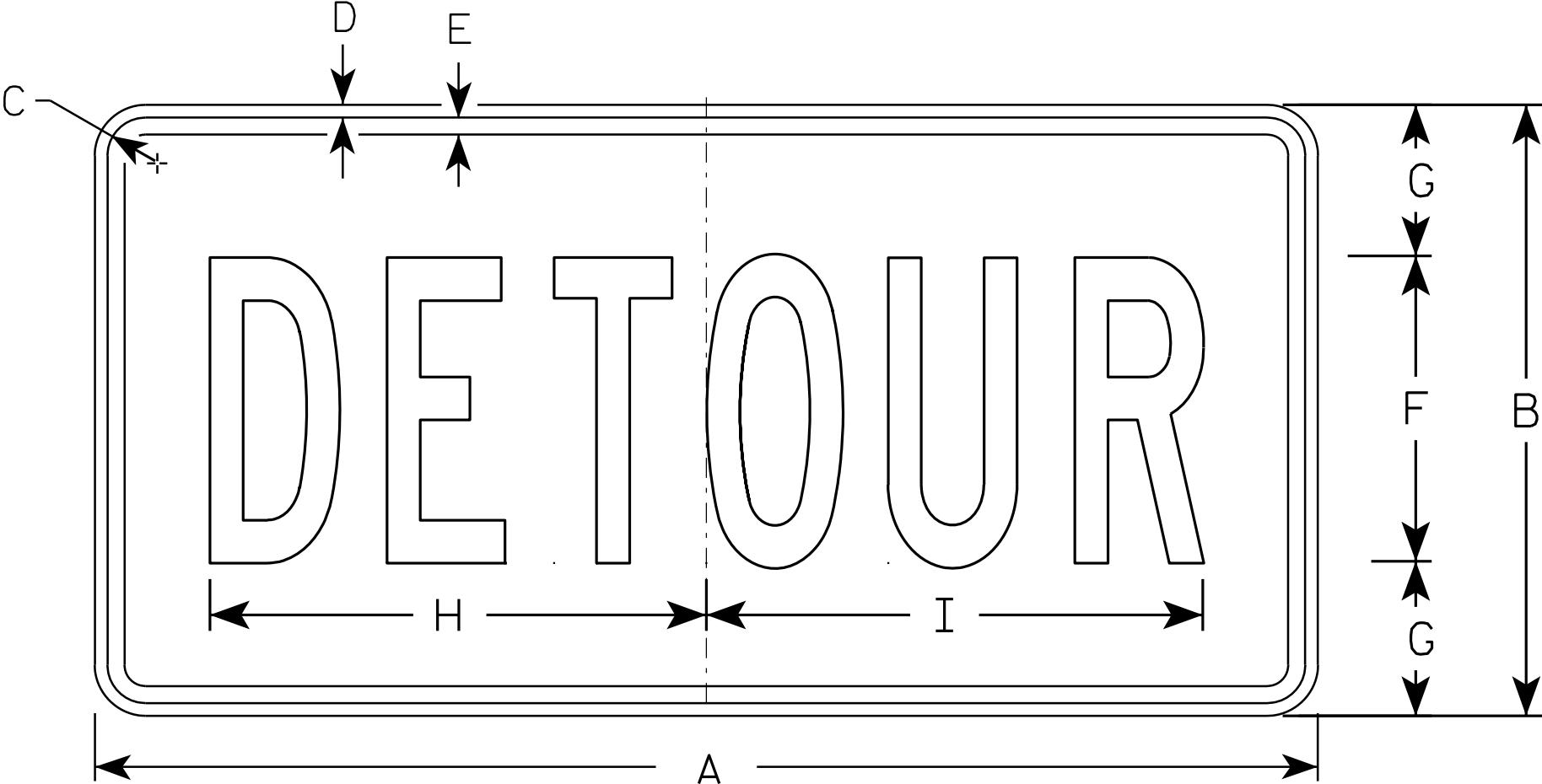
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

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

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - Orange
 - 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.



M4 - 8

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	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

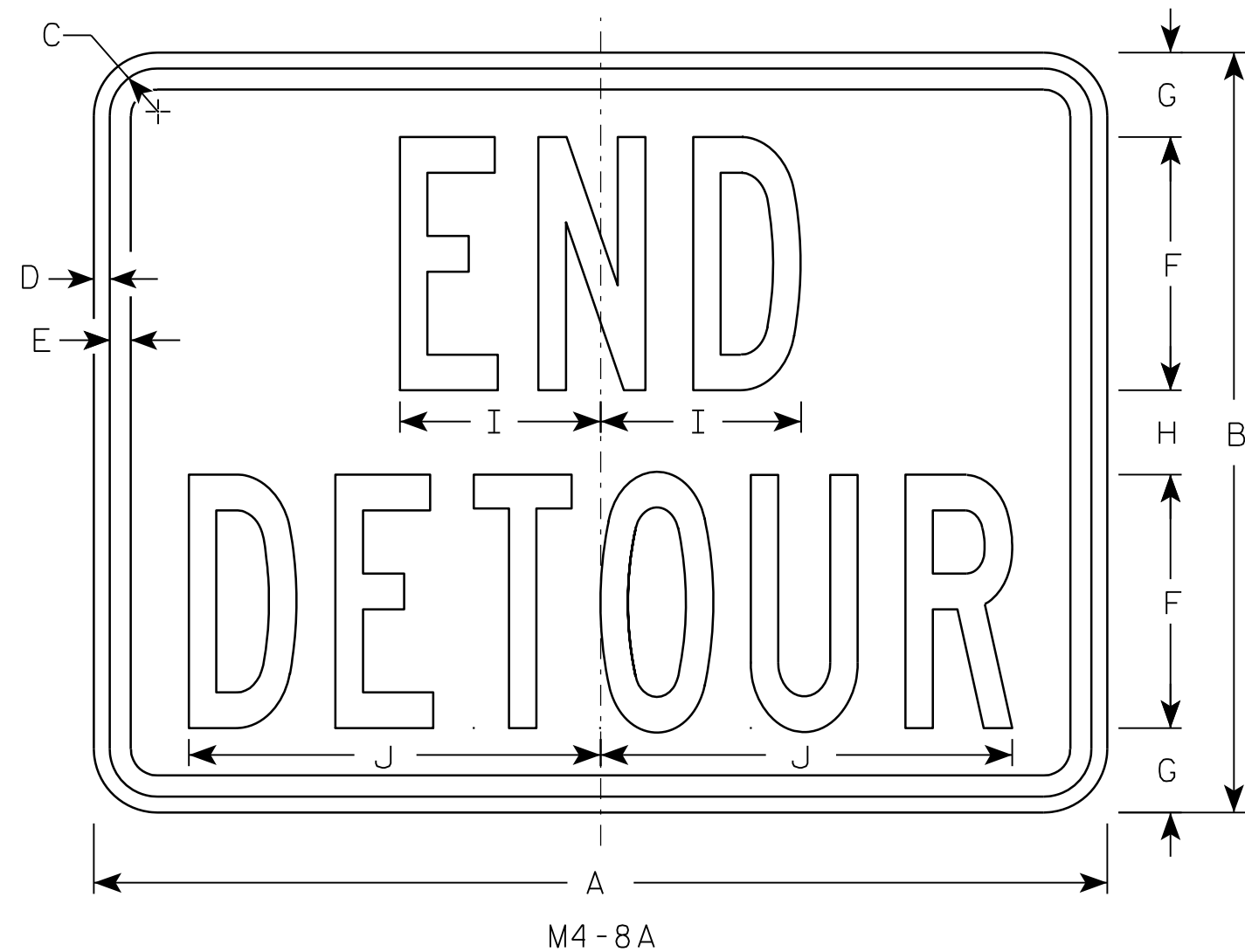
STANDARD SIGN
M4 - 8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

7



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
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.

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																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

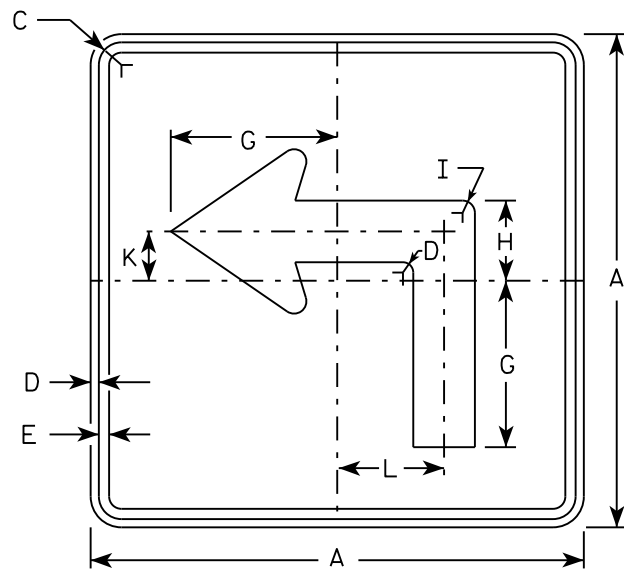
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN
M4-8A

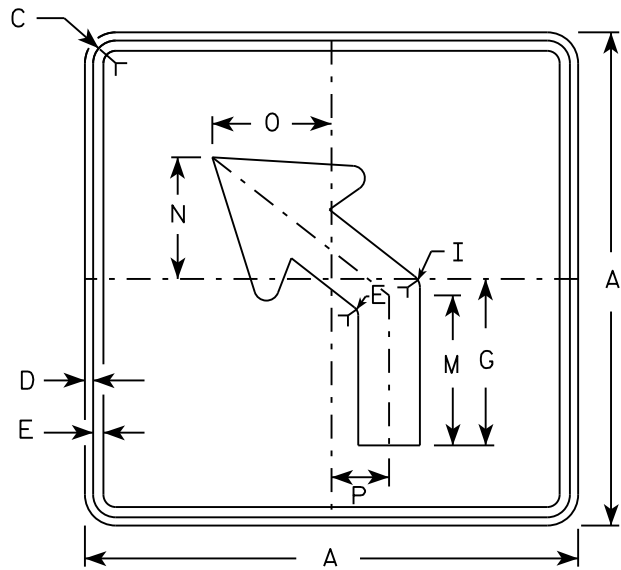
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

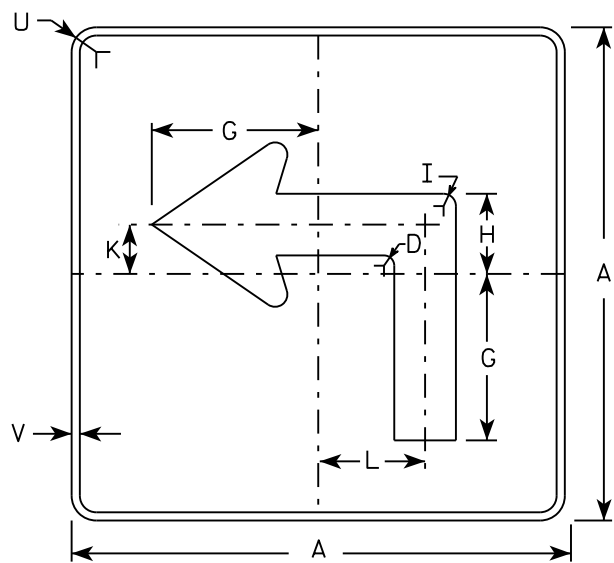
DATE 3/9/11 PLATE NO. M4-8A.2



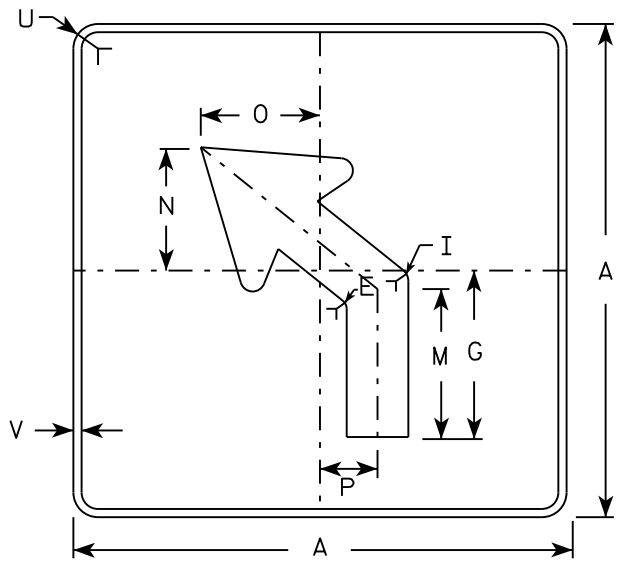
M5-1L
MM5-1L
M05-1L
MP5-1L



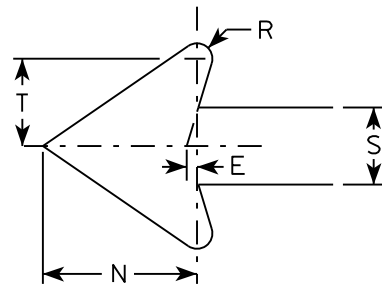
M5-2L
MM5-2L
M05-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 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.
- | | |
|-----------------|---|
| M5-1 and M5-2 | Background - White |
| | Message - Black |
| MB5-1 and MB5-2 | Background - Blue |
| | Message - White |
| MK5-1 and MK5-2 | Background - Green |
| | Message - White |
| MM5-1 and MM5-2 | Background - White |
| | Message - Green |
| MN5-1 and MN5-2 | Background - Brown |
| | Message - White |
| M05-1 and M05-2 | Background - Orange - Type F Reflective |
| | Message - Black |
| MP5-1 and MP5-2 | Background - White - Type H Reflective |
| | Message - Blue |
| MR5-1 and MR5-2 | Background - Brown |
| | Message - Yellow |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

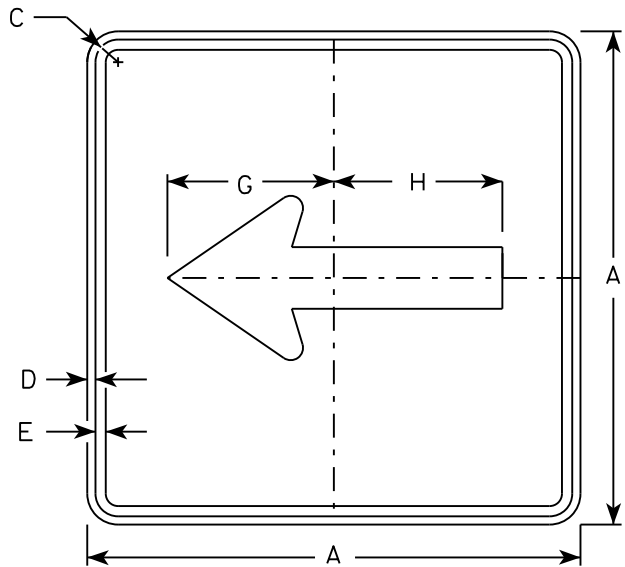
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

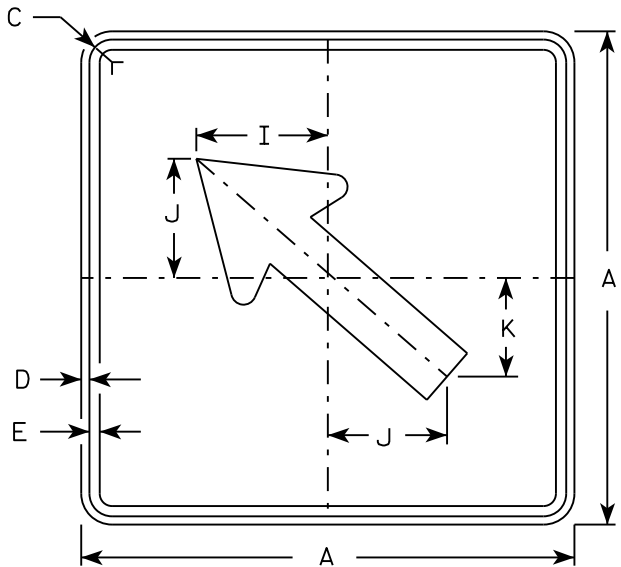
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

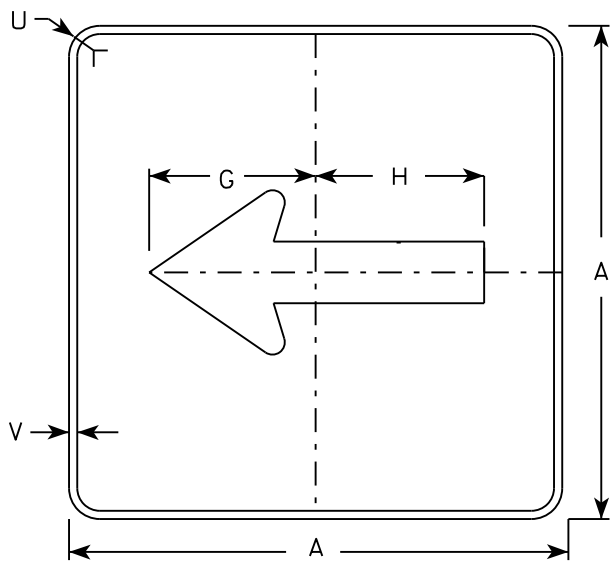
DATE 10/15/15 PLATE NO. M5-1.13



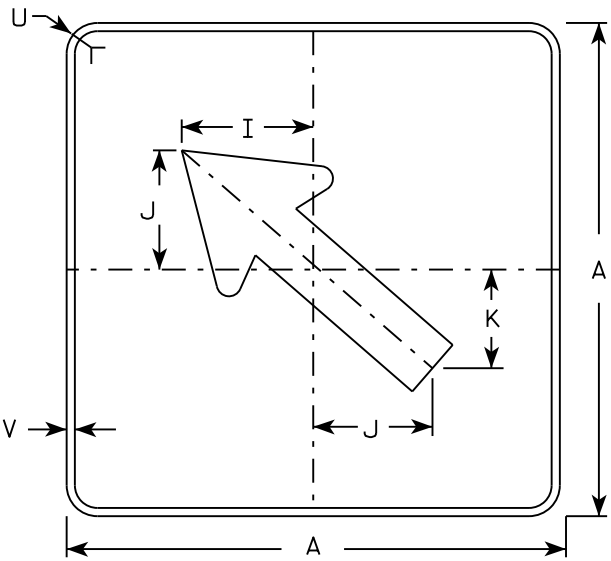
M6 - 1
MM6 - 1
M06 - 1
MP6 - 1



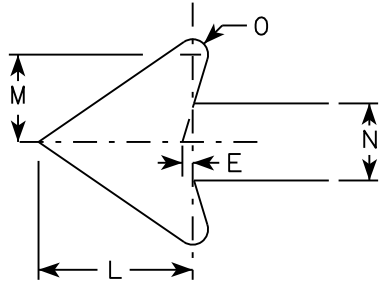
M6 - 2
MM6 - 2
M06 - 2
MP6 - 2



MB6 - 1
MK6 - 1
MN6 - 1
MR6 - 1



MB6 - 2
MK6 - 2
MN6 - 2
MR6 - 2



NOTES

- Signs are Type II - Type H except as Shown
- Color:
Background - See note 4
Message - See note 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.
- M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow

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	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

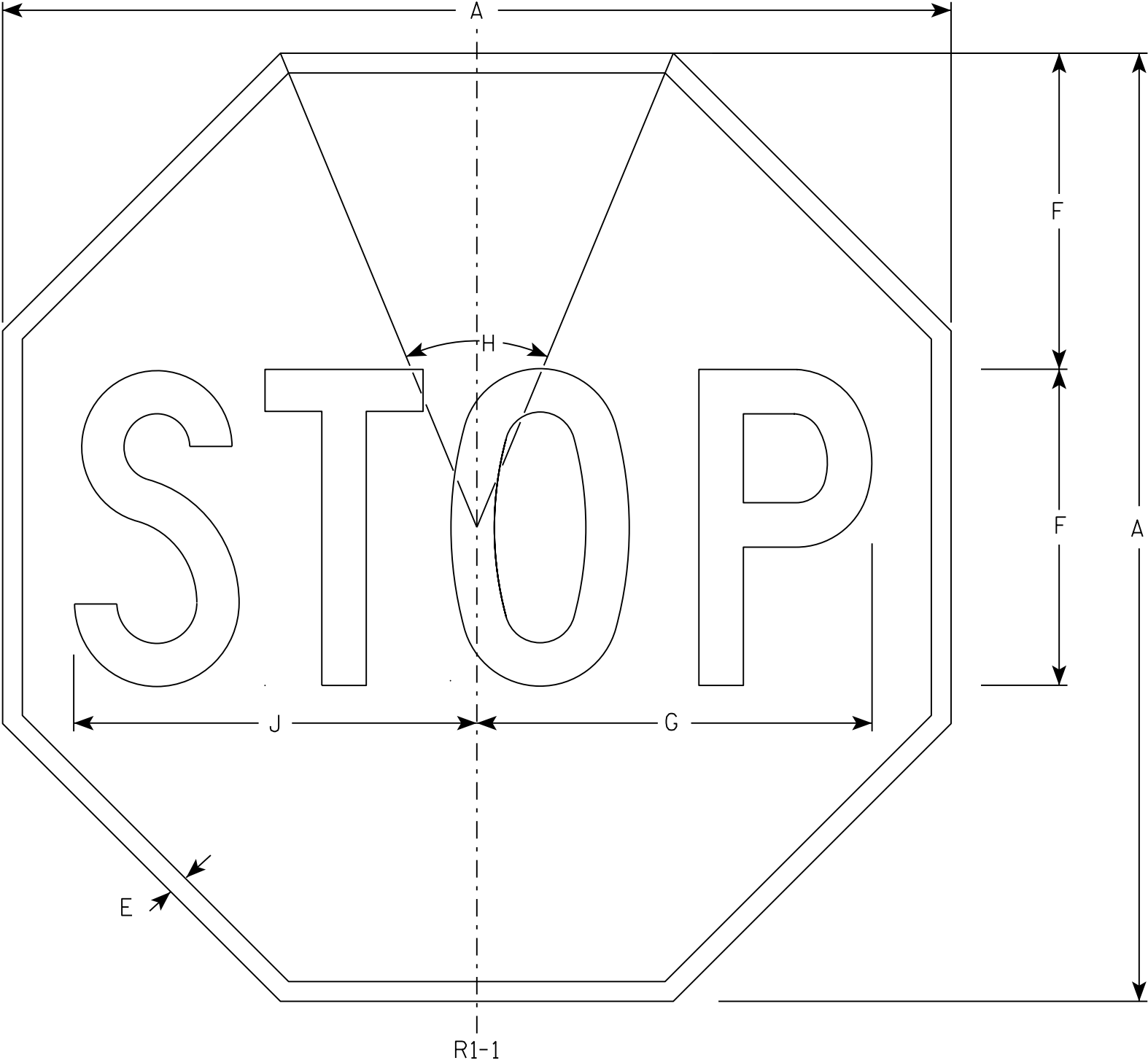
STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15

7



NOTES

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

7

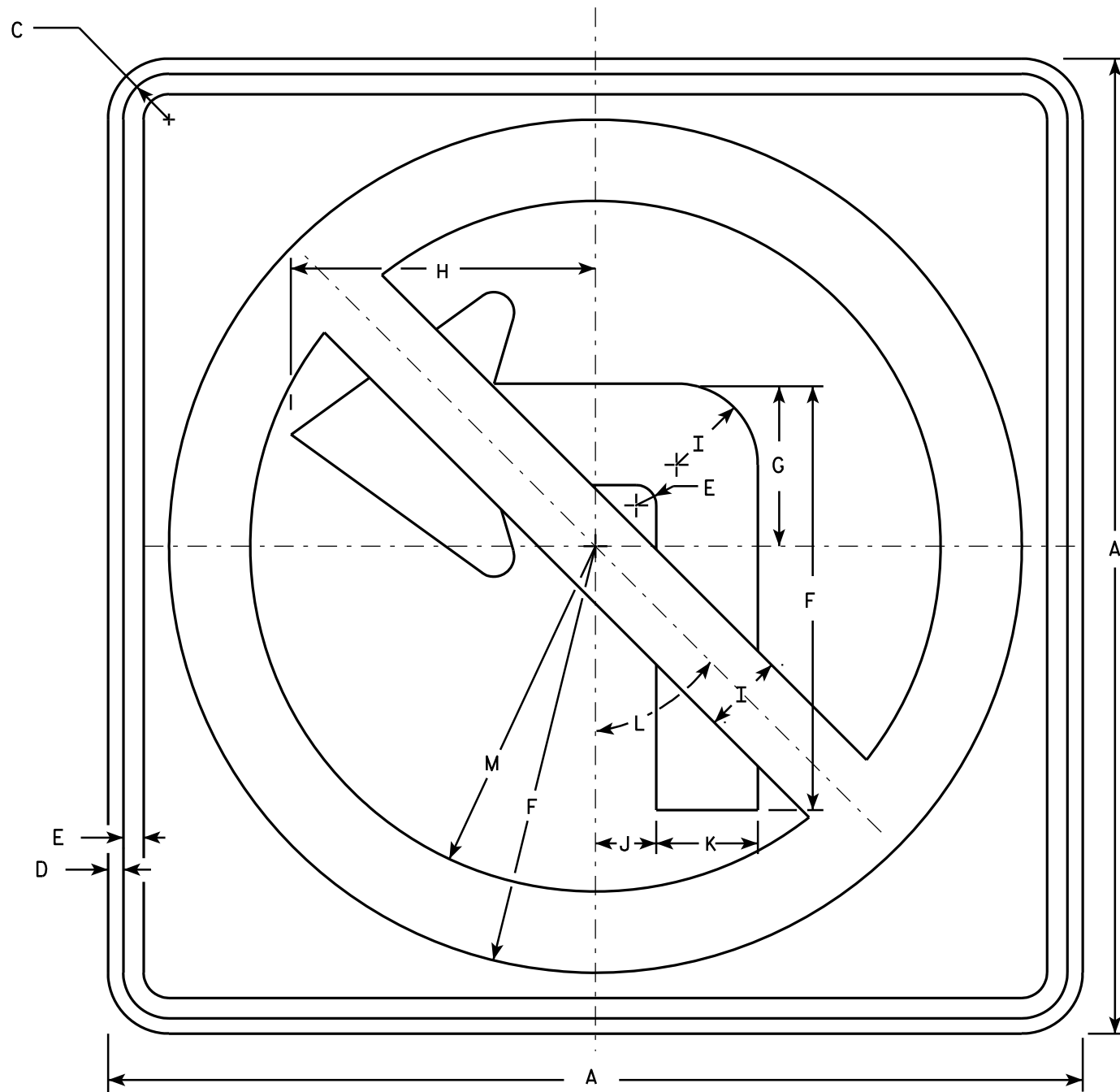
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

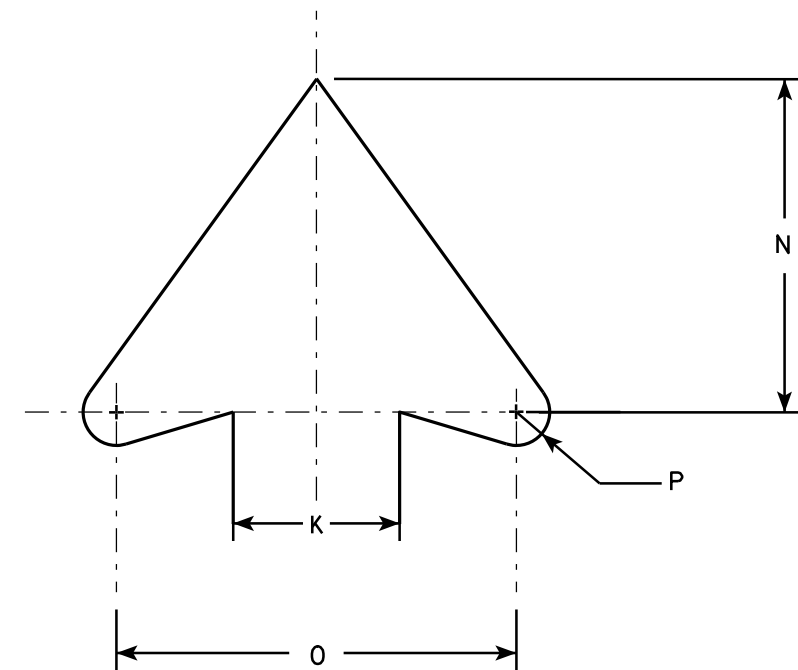
DATE 11/12/15 PLATE NO. R1-1.13



R3-2

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 4
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.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



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	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

STANDARD SIGN R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

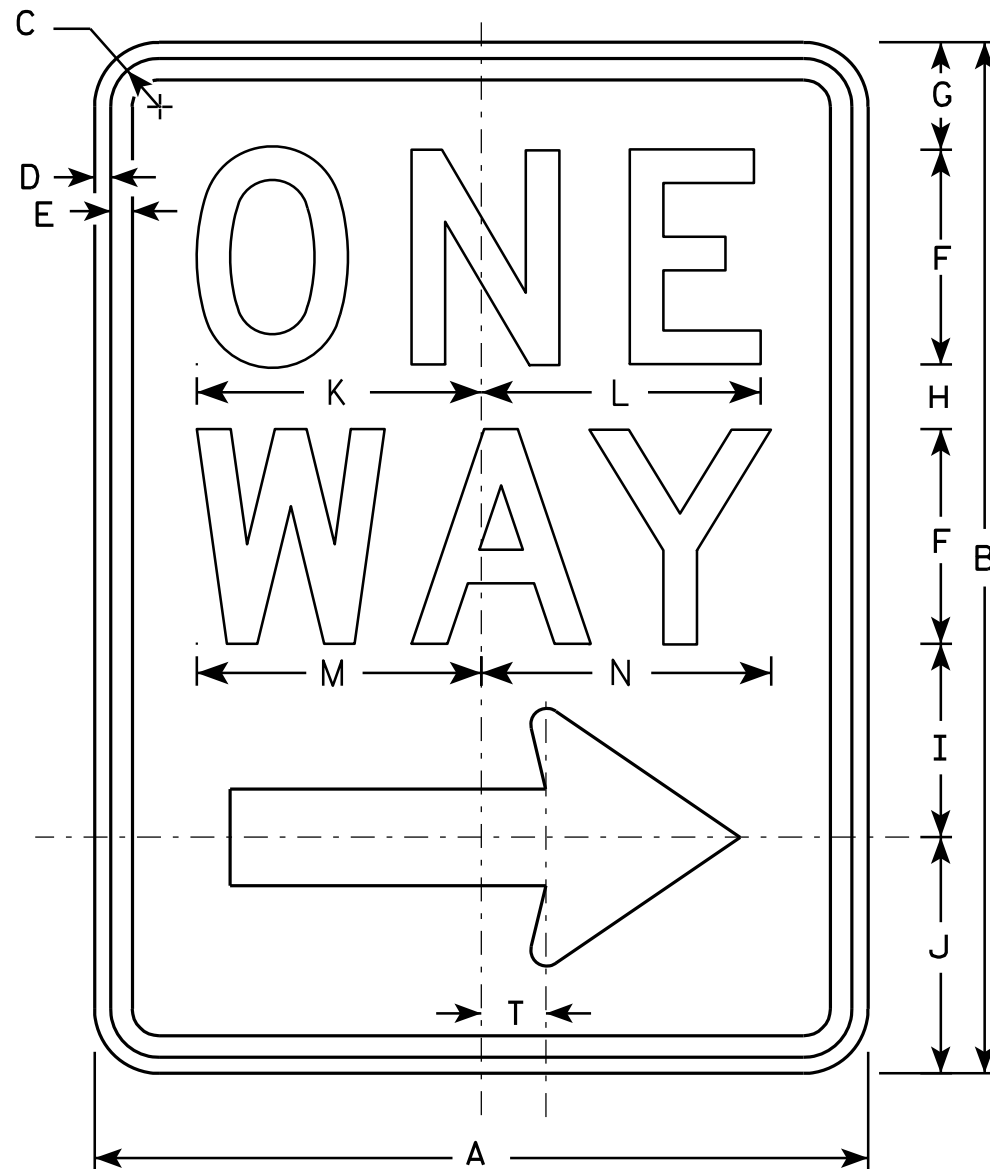
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

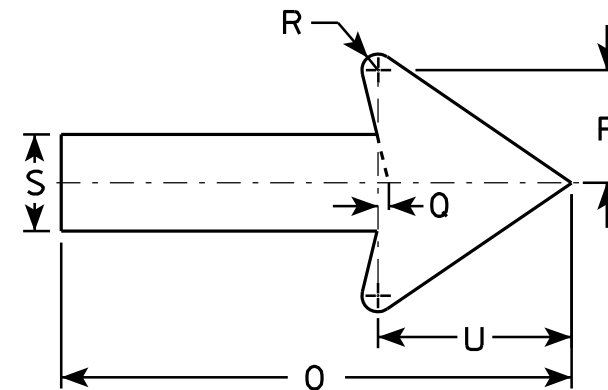
E



R6-2R

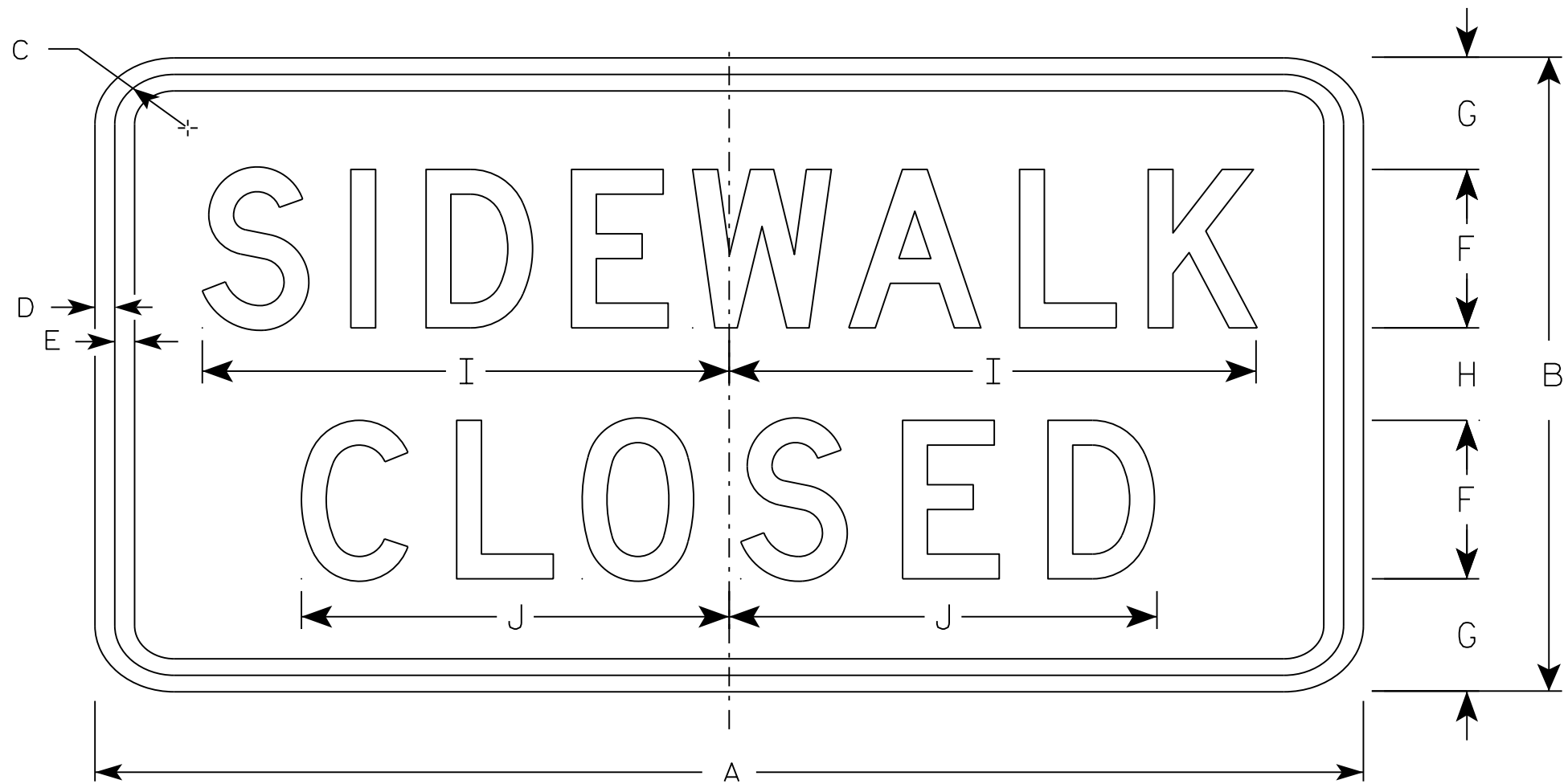
NOTES

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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R9-9

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 - 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. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

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	12	1 ¾	½	½	3	2 ⅛	1 ¾	10	8 ⅛																	2.0
2M	24	12	1 ¾	½	½	3	2 ⅛	1 ¾	10	8 ⅛																	2.0
3	30	18	1 ¾	½	½	4	3 ½	3	12 ½	10 ¼																	3.75
4																											
5																											

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

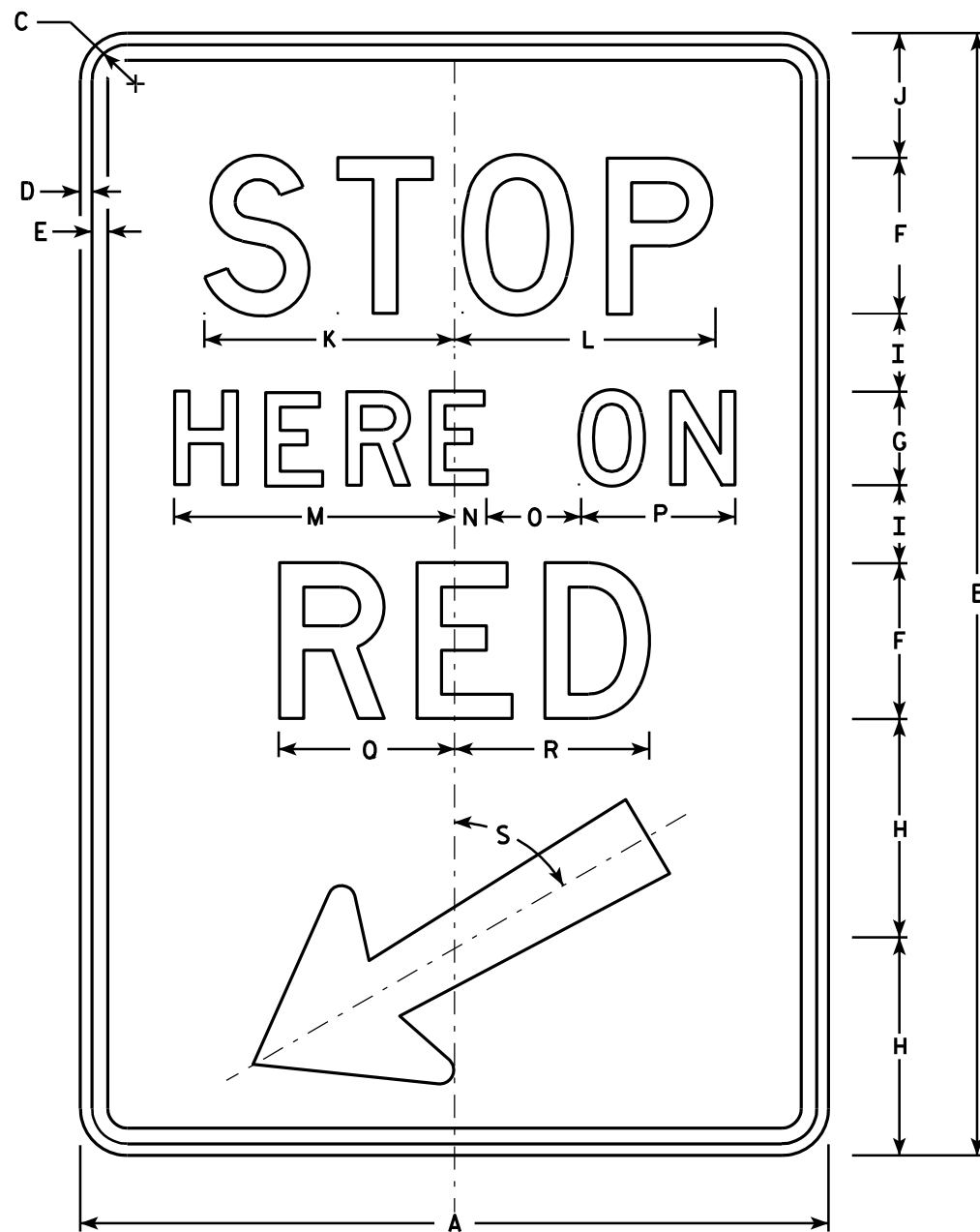
E

STANDARD SIGN
R9-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

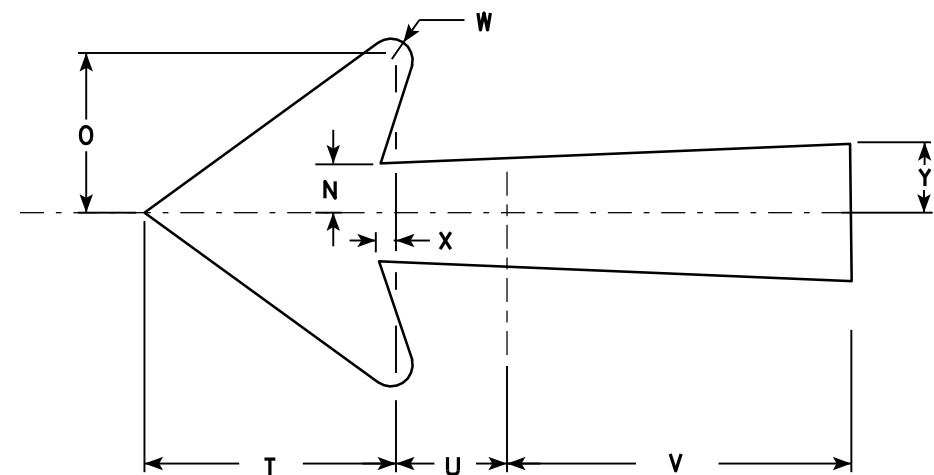
DATE 8/11/16 PLATE NO. R9-9.6



R10-6

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.



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																											
2S	24	36	1 1/8	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
2M	24	36	1 1/8	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
3																											
4																											
5																											

STANDARD SIGN R10-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/5/11 PLATE NO. R10-6.6

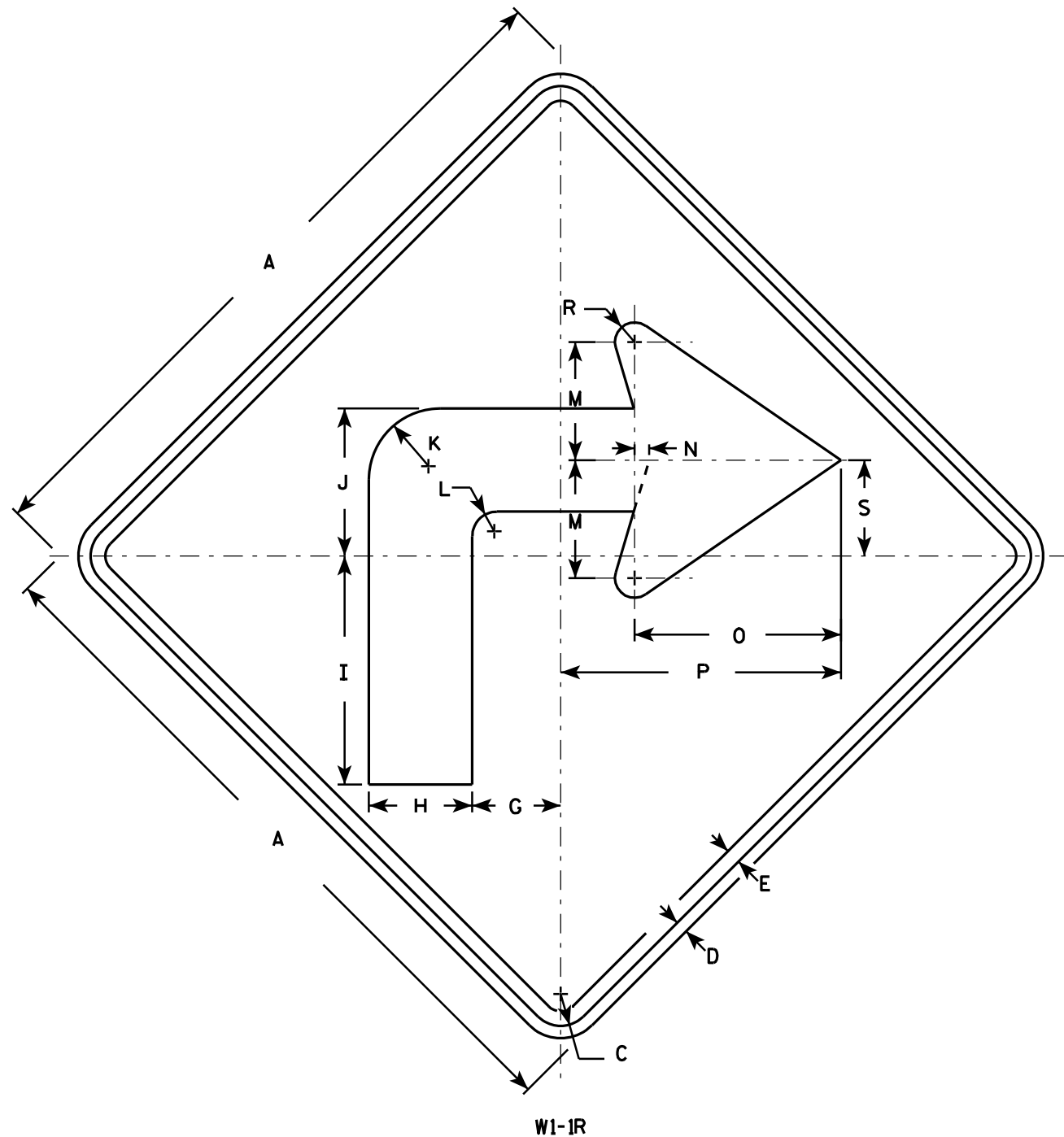
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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. 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.
4. W1-1L is the same as W1-1R except the arrow is reversed along the vertical centerline.

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	24		1 1/8	3/8	1/2		3	3 1/2	7 3/4	5	2 1/2	7/8	4	1/2	7	9 1/2		5/8	3 1/4								4.0
2S	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
2M	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
3	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
4	48		2 1/4	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0
5	48		2 1/4	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0

STANDARD SIGN

W1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-1.11

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

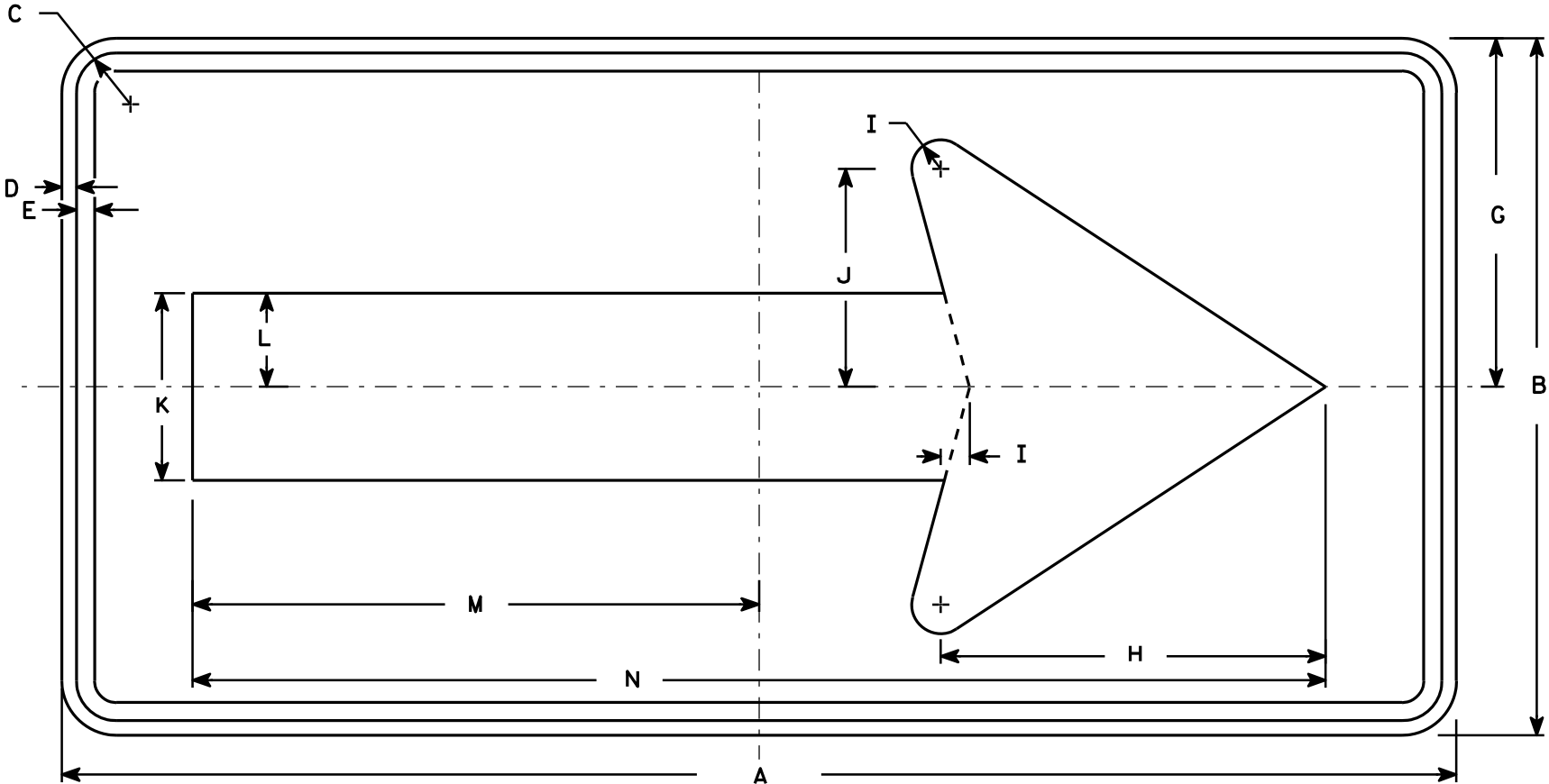
E

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. 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.



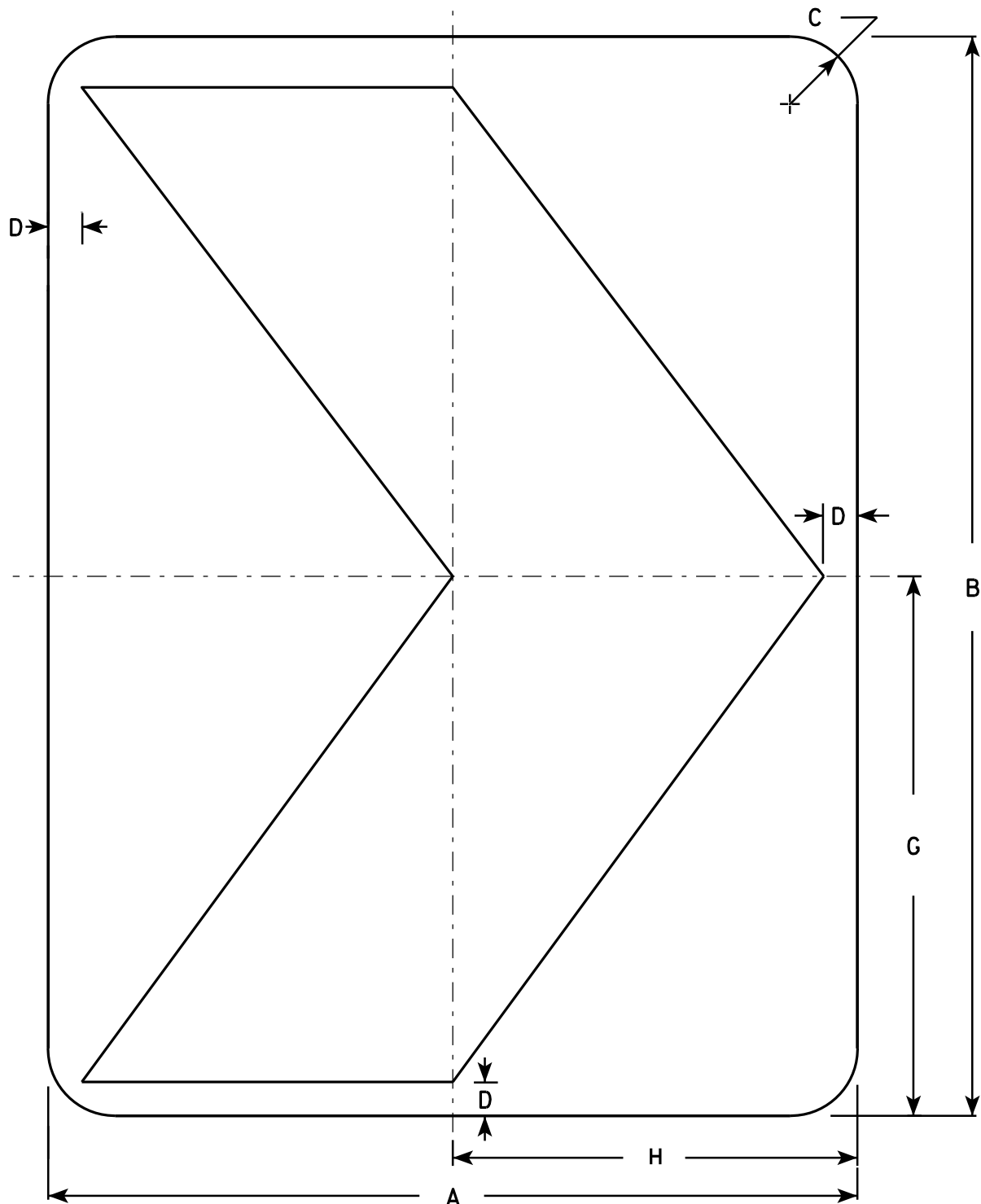
W1-6

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	36	18	1 1/8	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	96	48	2 1/4	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/7/10 PLATE NO. W1-6.8



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. 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.

W1-8

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 1/2	1/2			9	6																			1.5
2S	18	24	1 1/2	3/4			12	9																			3.0
2M	18	24	1 1/2	3/4			12	9																			3.0
3	24	30	1 1/2	1			15	12																			5.0
4	30	36	1 7/8	1 1/4			18	15																			7.5
5	36	48	2 1/4	1 1/2			24	18																			12.0

STANDARD SIGN

W1-8

WISCONSIN DEPT OF TRANSPORTATION

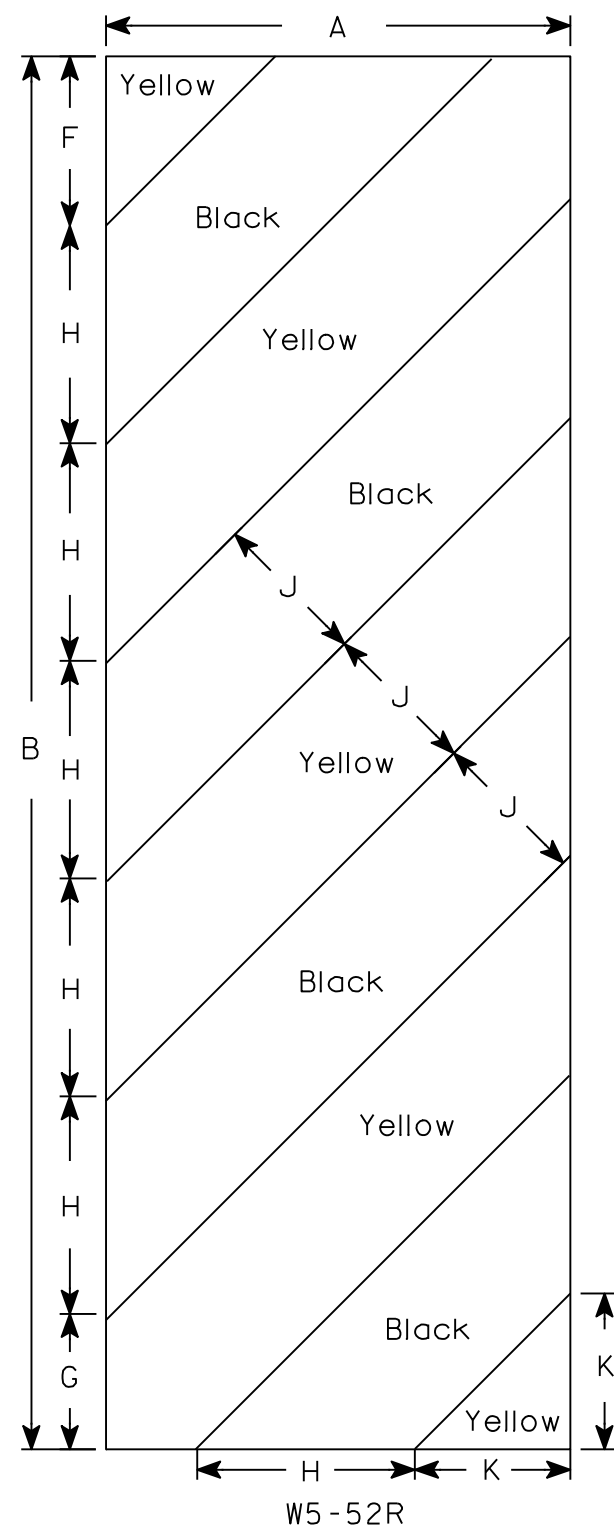
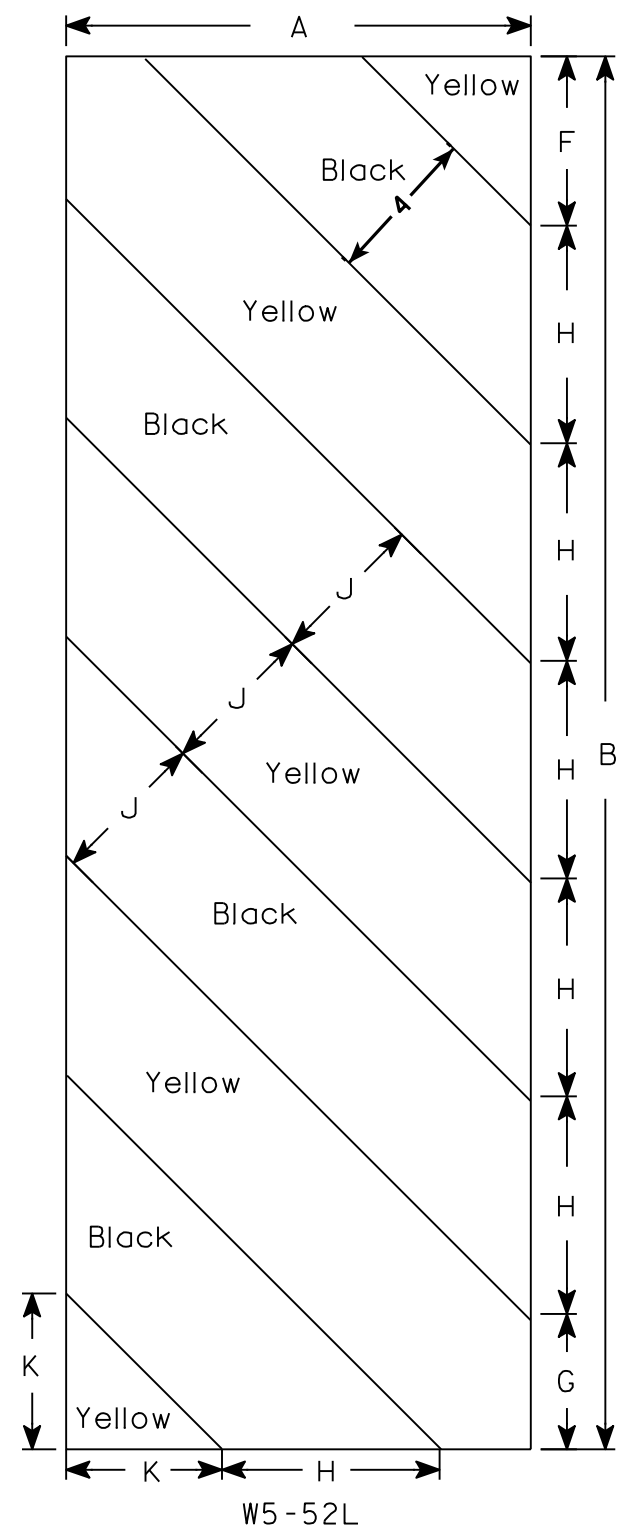
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-8.6

PROJECT NO:

SHEET NO:

E



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. 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.
4. Alternate colors of stripes as shown.

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	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
2M	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
3	18	54				6	5 1⁄2	8 1⁄2	45°	6	6 9⁄16																6.75
4																											
5																											

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

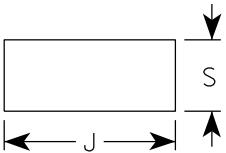
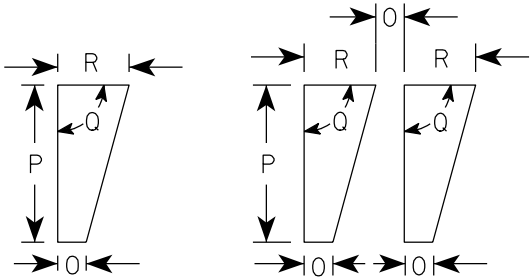
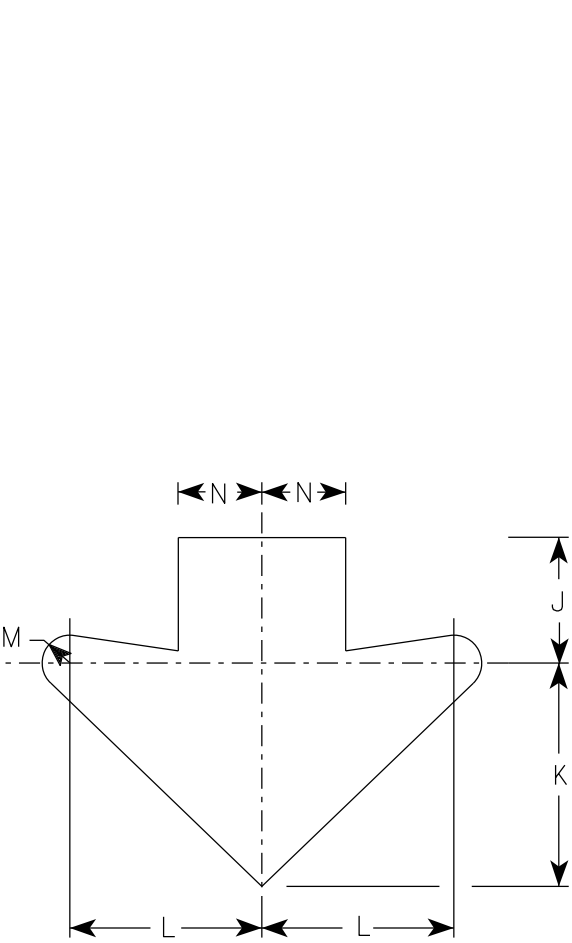
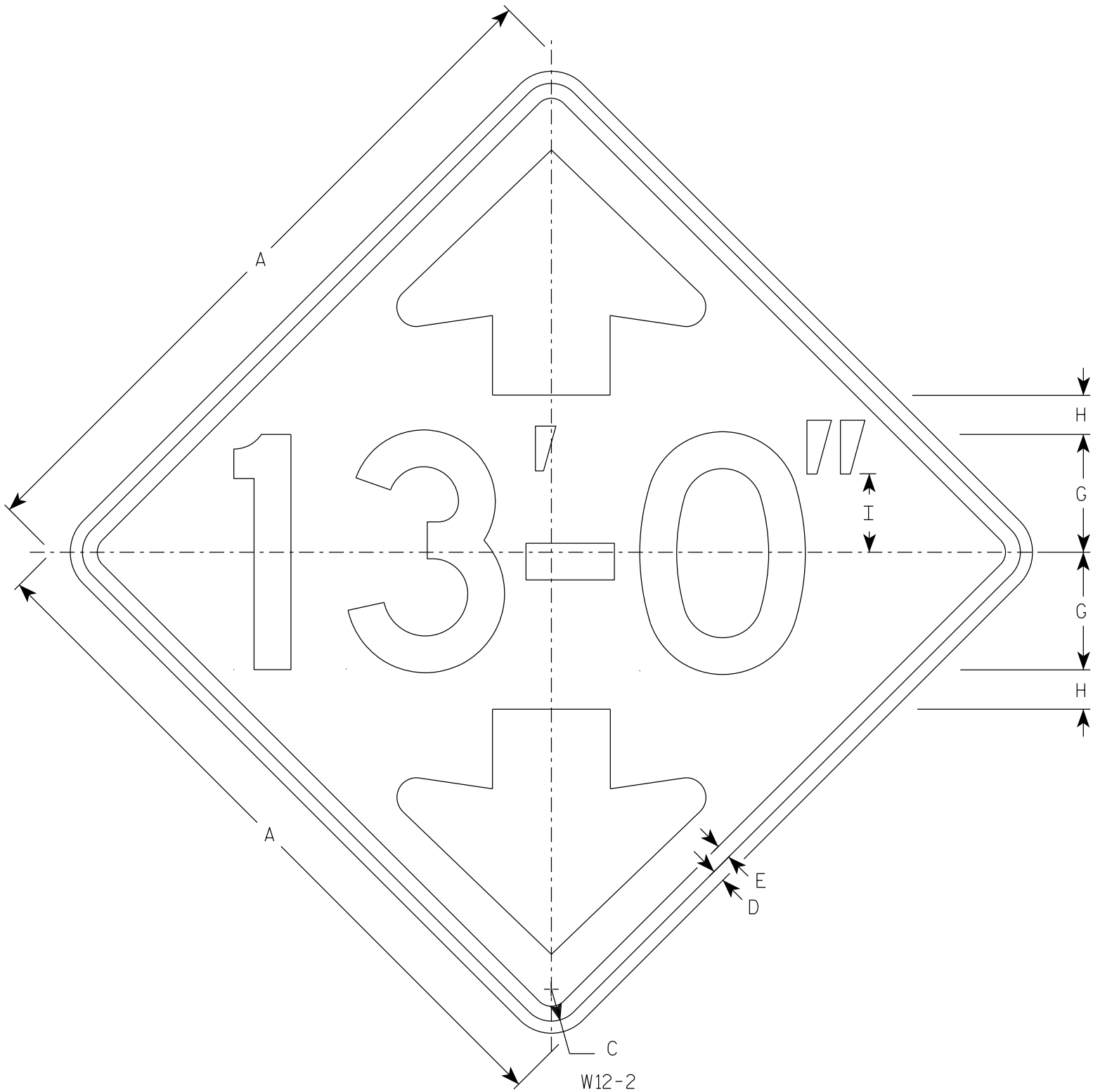
DATE 5/29/12 PLATE NO. W5-52.9

NOTES

1. Sign is Type II - Type F Reflective
2. Color:

Background - Yellow

Message - Black
3. Message Series - D
4. Substitute appropriate numerals and optically adjust spacing of numerals, hyphen, foot & inch marks 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	30		1 3/8	1/2	5/8		5	1 5/8	3 3/8	3 3/4	6 5/8	5 3/4	3/4	2 1/2	1/2	2 1/4	90°	1	1 5/8								6.25
2S	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
2M	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
3	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
4	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
5	48		2 1/4	3/4	1		8	2 5/8	5 1/2	5 7/8	10 5/8	9 1/4	1 3/8	4	5/8	3 5/8	90°	1 5/8	2 1/2								16.00

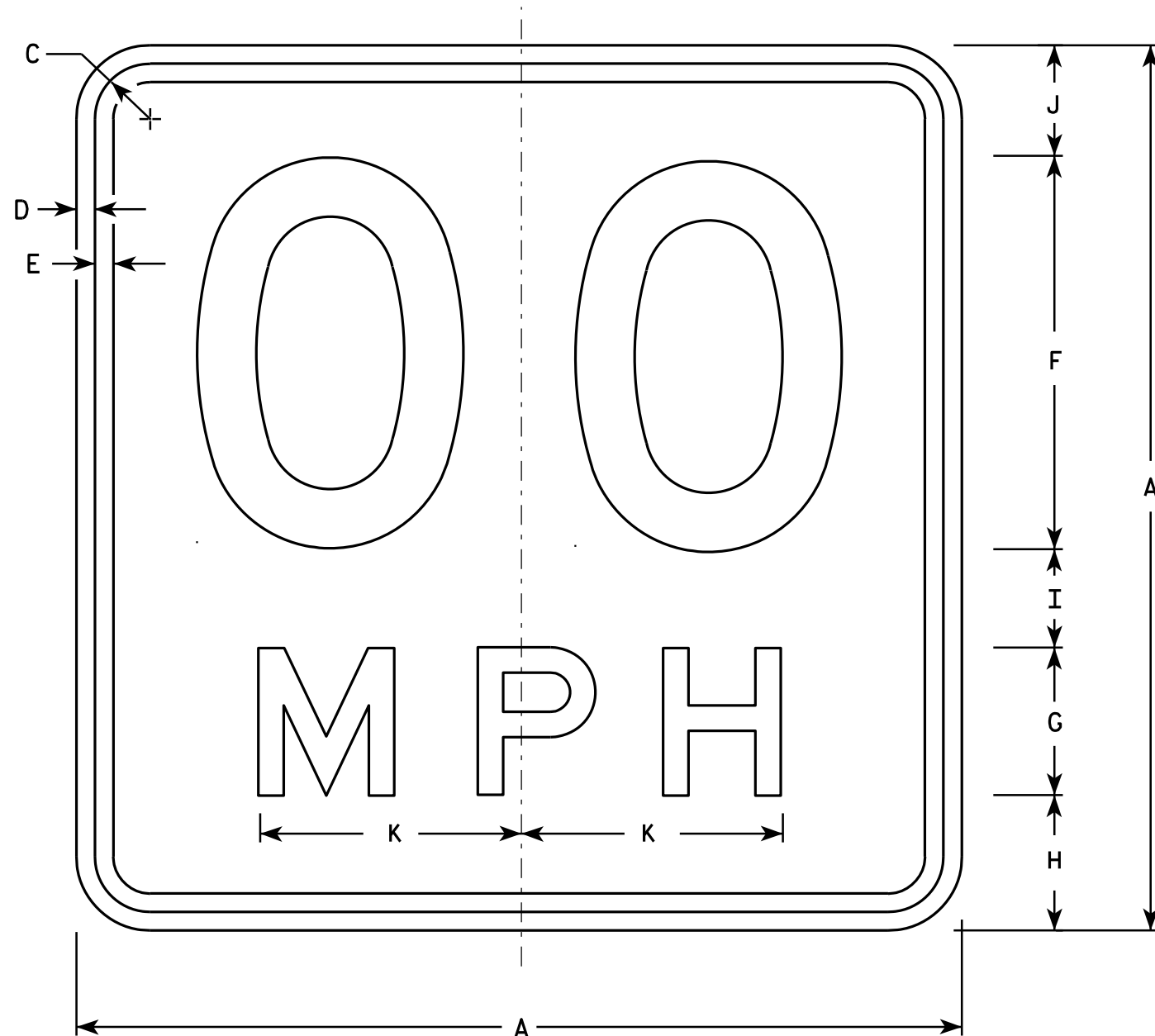
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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 - See Note 6
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 space about centerline to achieve proper balance.
6. Line 1 is Series D
Line 2 is Series E

W13-1

- * For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

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		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
* 2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
* 2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN

W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

PROJECT NO:

HWY:

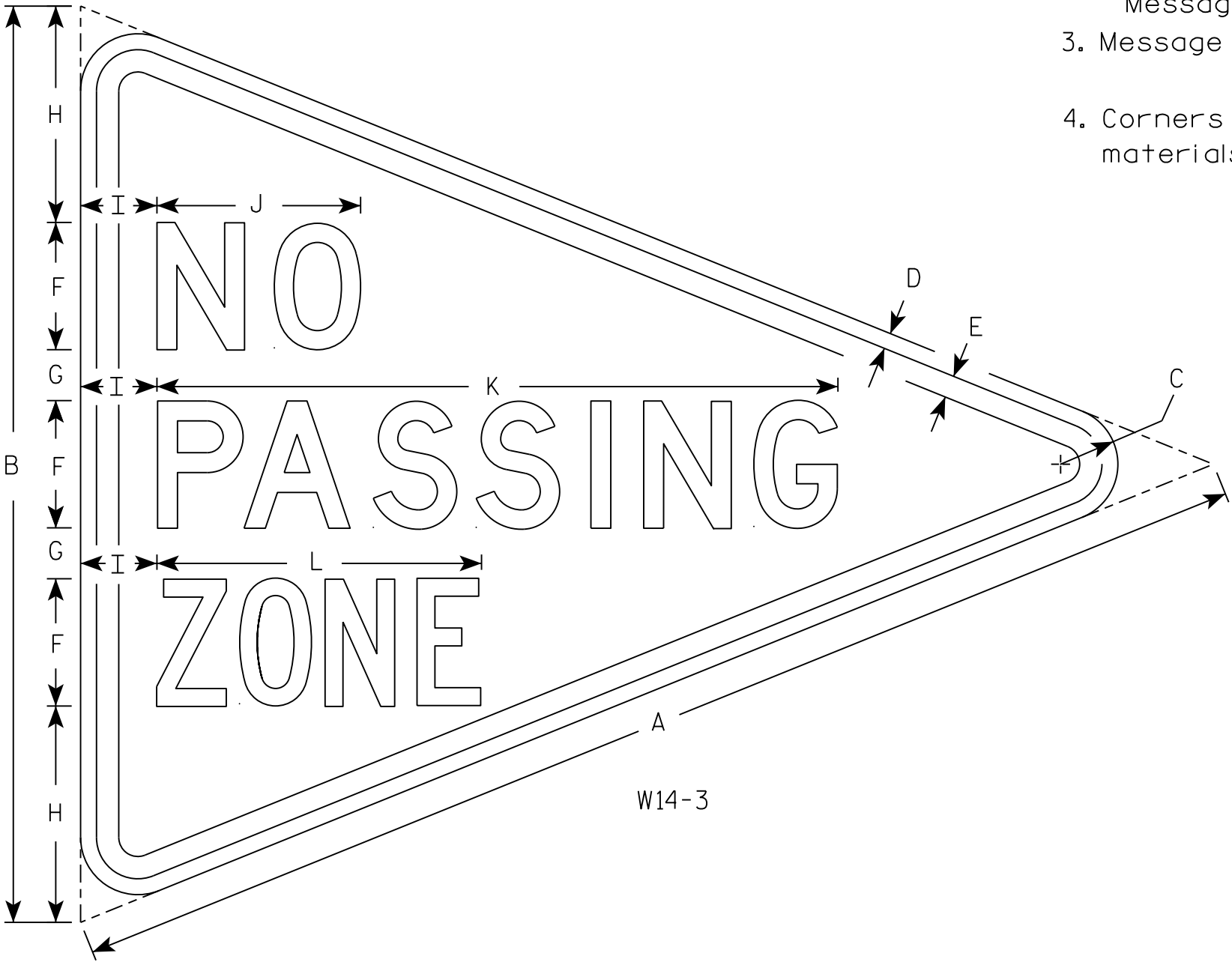
COUNTY:

SHEET NO:

E

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Yellow
Message - Black
- 3. Message Series - Lines 1 and 2 are Series D.
Line 3 is series C.
- 4. Corners and borders shall be rounded on all base materials for this sign.



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	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															5.56
2M																											
3																											
4																											
5																											

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

STANDARD SIGN
W14-3

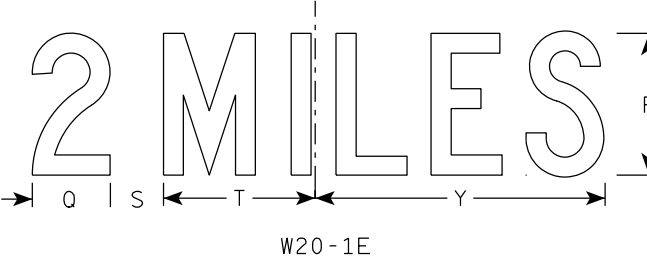
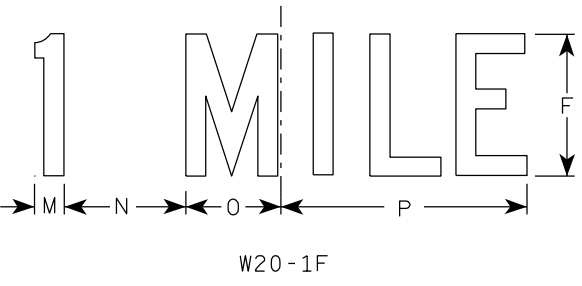
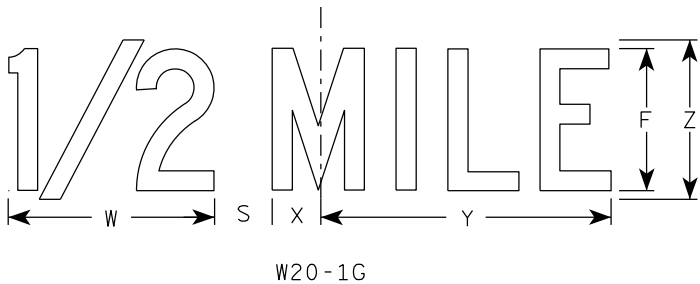
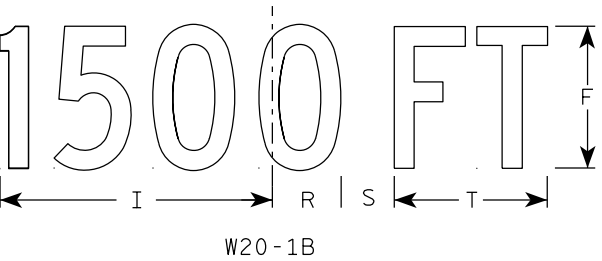
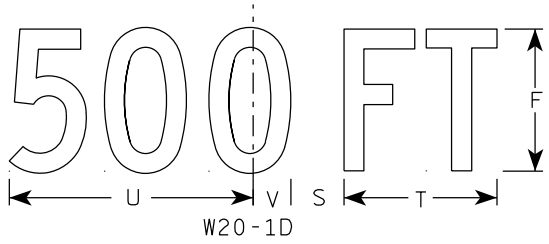
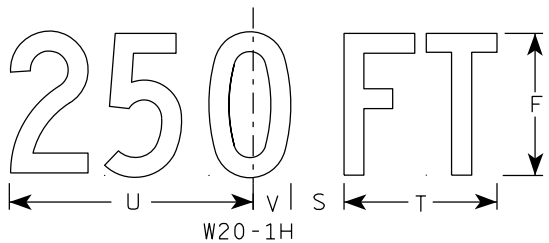
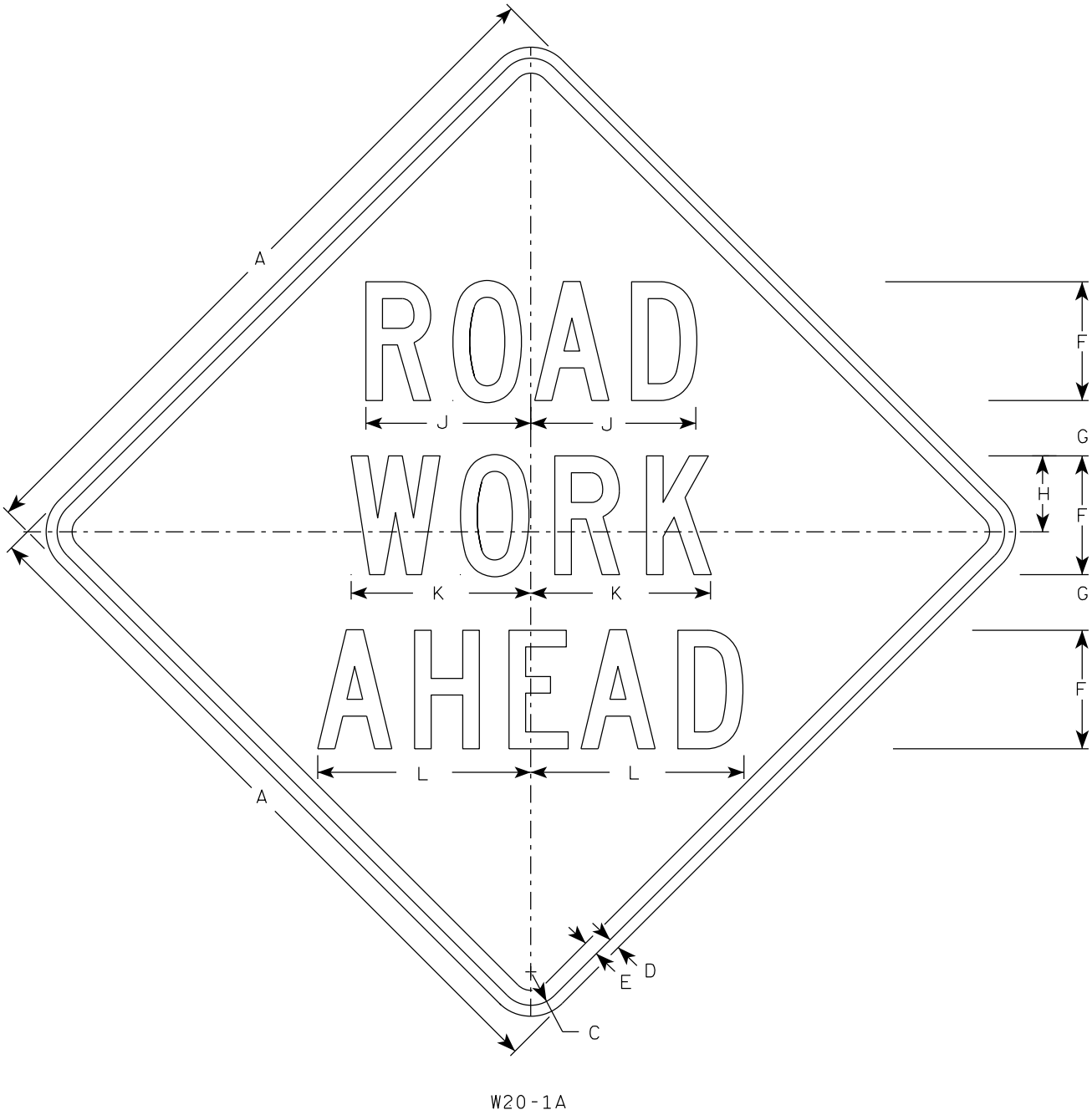
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/21/17 PLATE NO. W14-3.10

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
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.



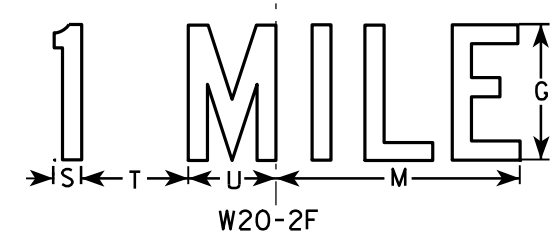
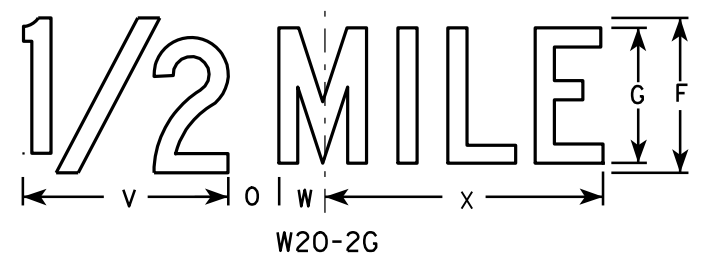
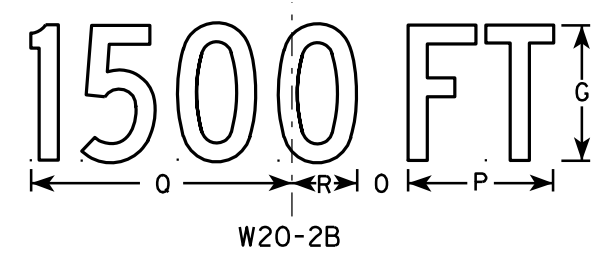
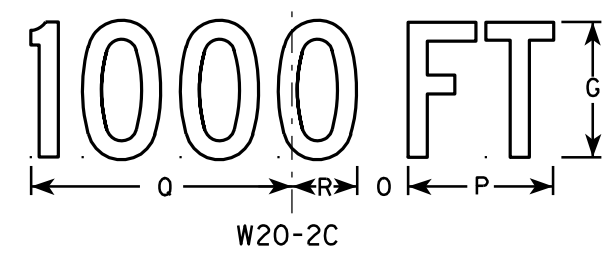
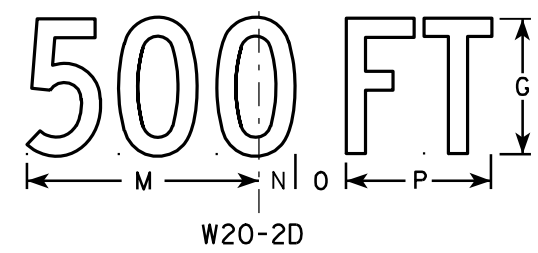
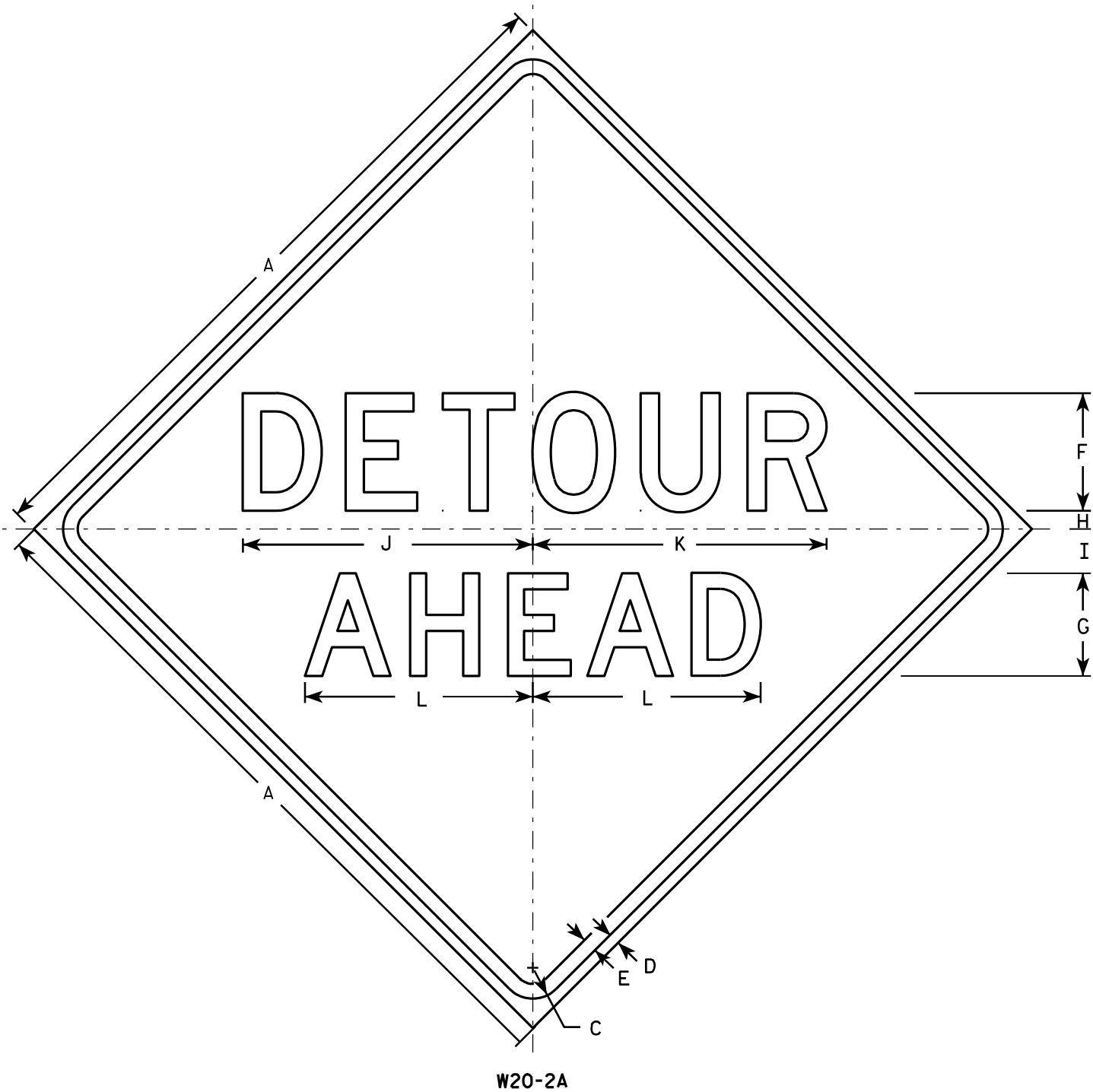
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A _{req} sq. ft.
1	36		1 5/8	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/25/2020 PLATE NO. W20-1.11



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
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. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

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	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

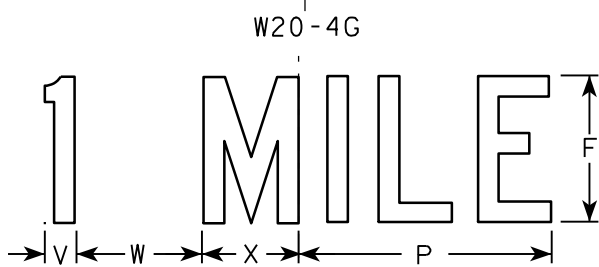
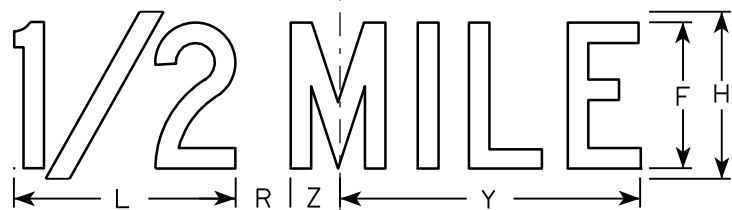
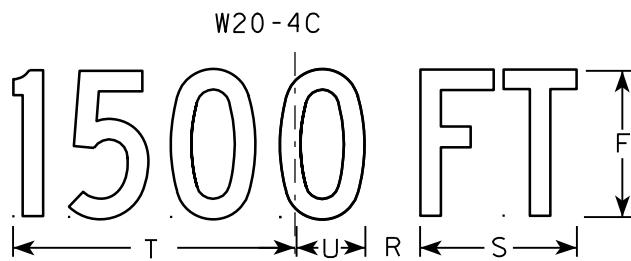
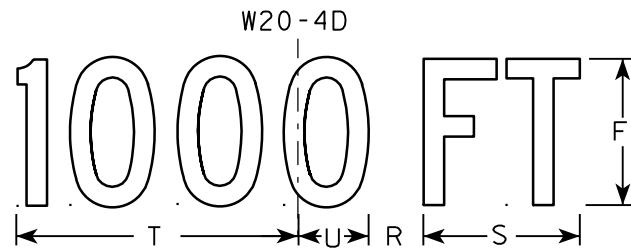
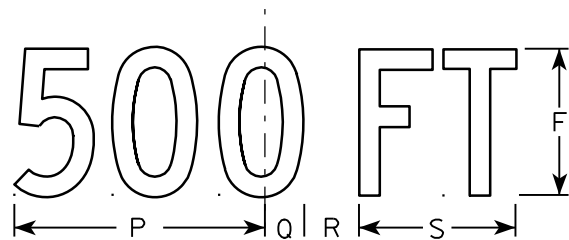
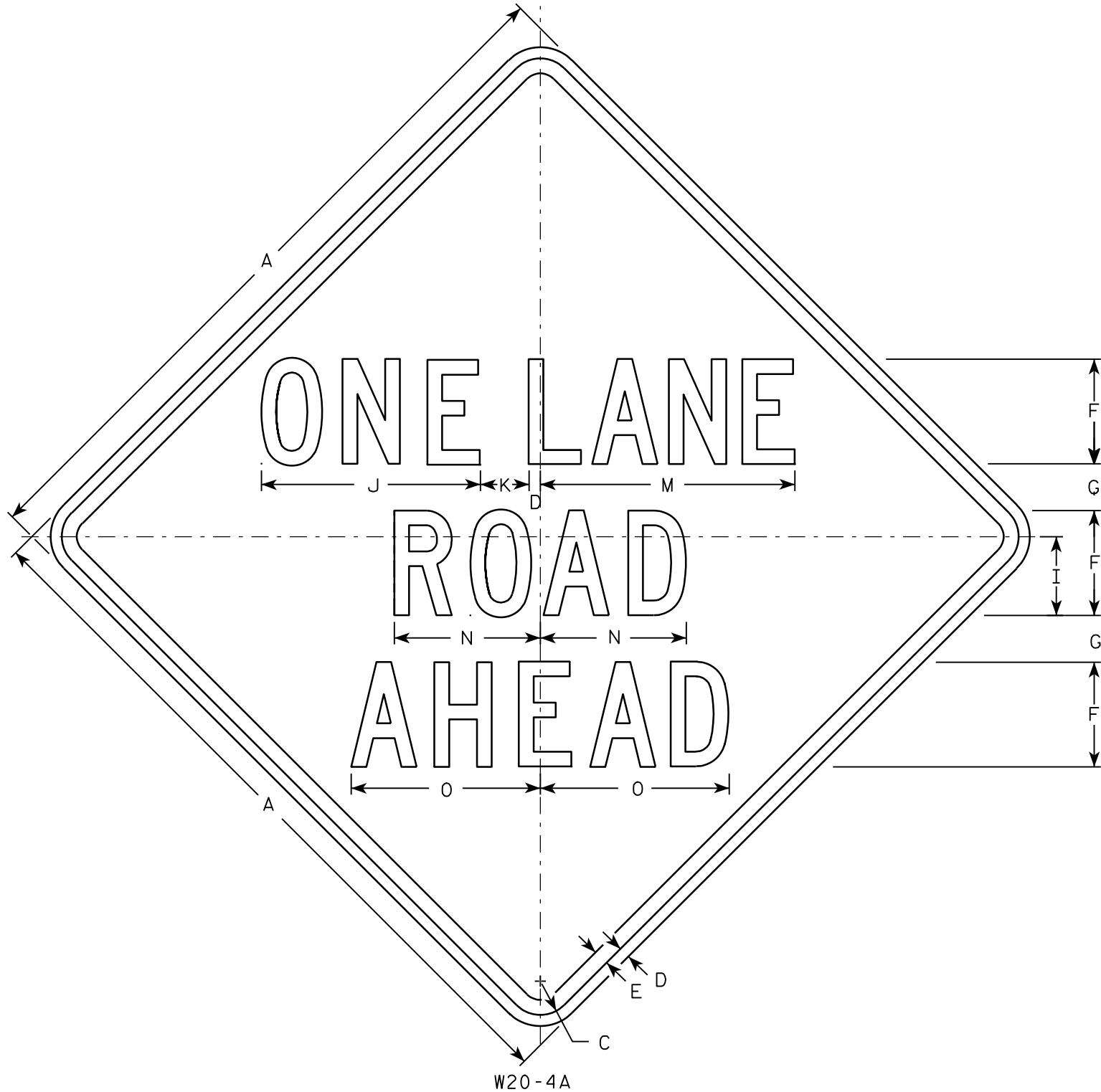
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
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.

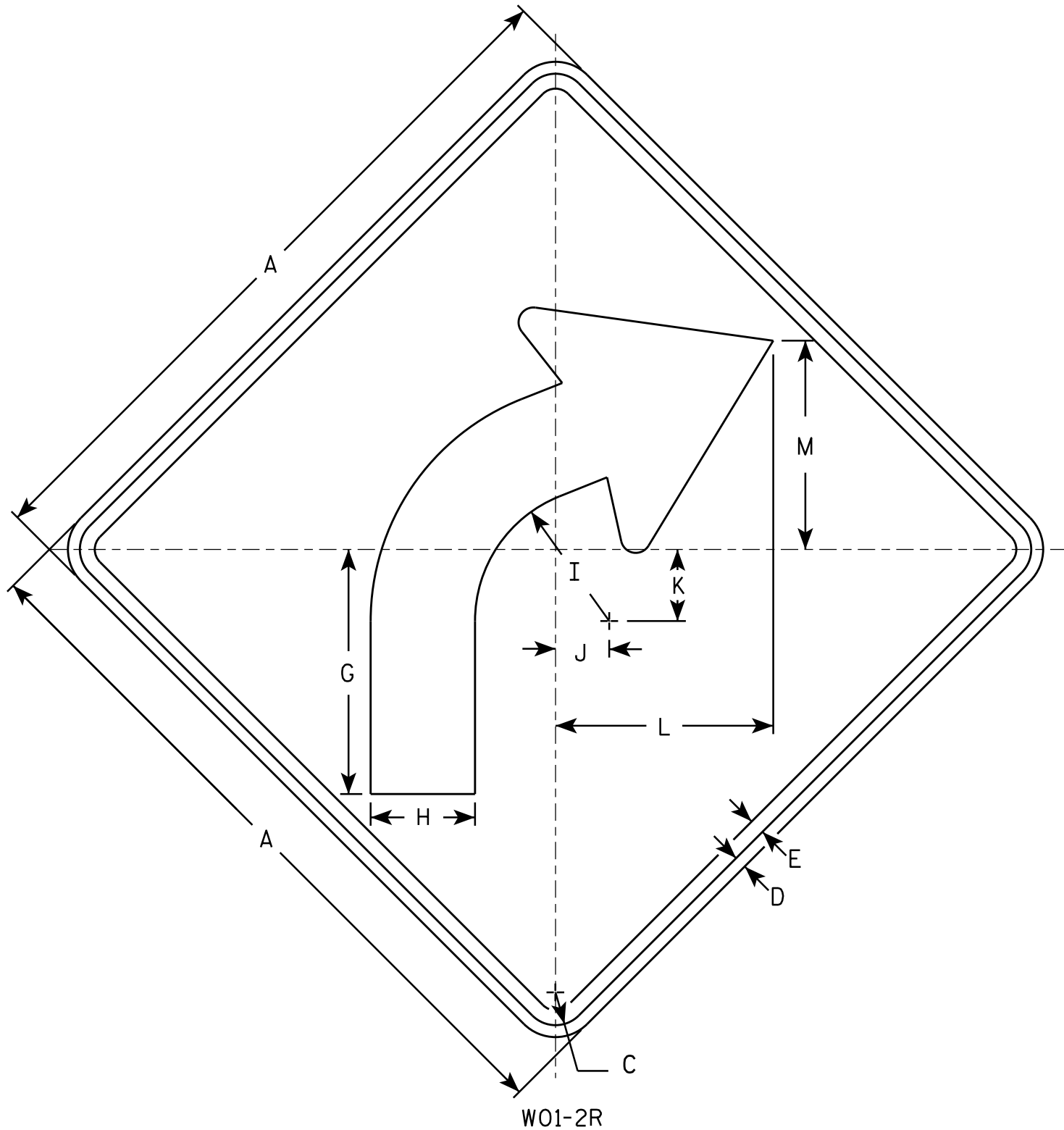
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 3/8	6	3 3/4	10 3/8	2 3/8	8	13 1/2	7	8 7/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-4A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

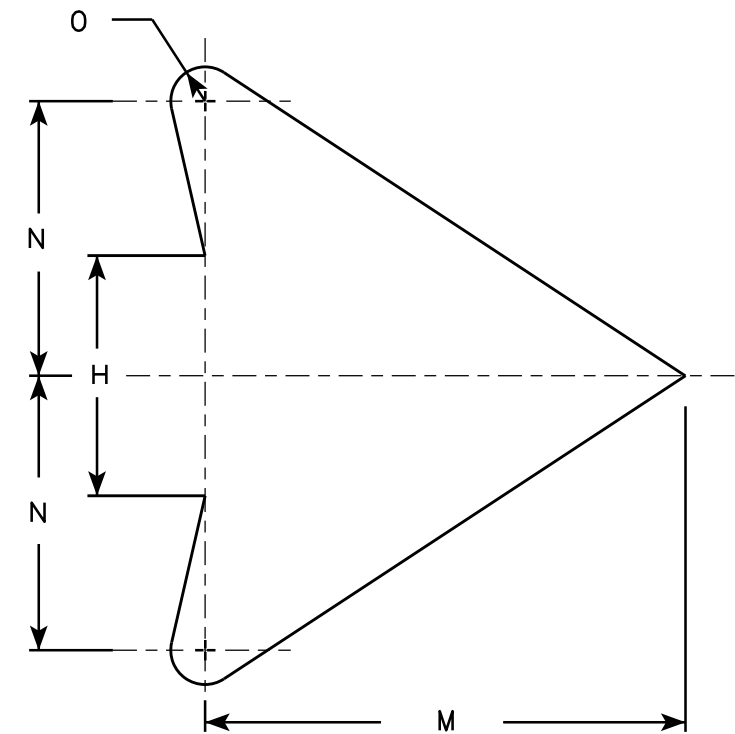
DATE 3/18/11 PLATE NO. W20-4.9



W01-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
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.
4. W01-2L is the same as W01-2R except the arrow is reversed along the vertical centerline.



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	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												4.0
2S	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0
2M	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0
3	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0
4	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0
5	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

STANDARD SIGN W01-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-1.1

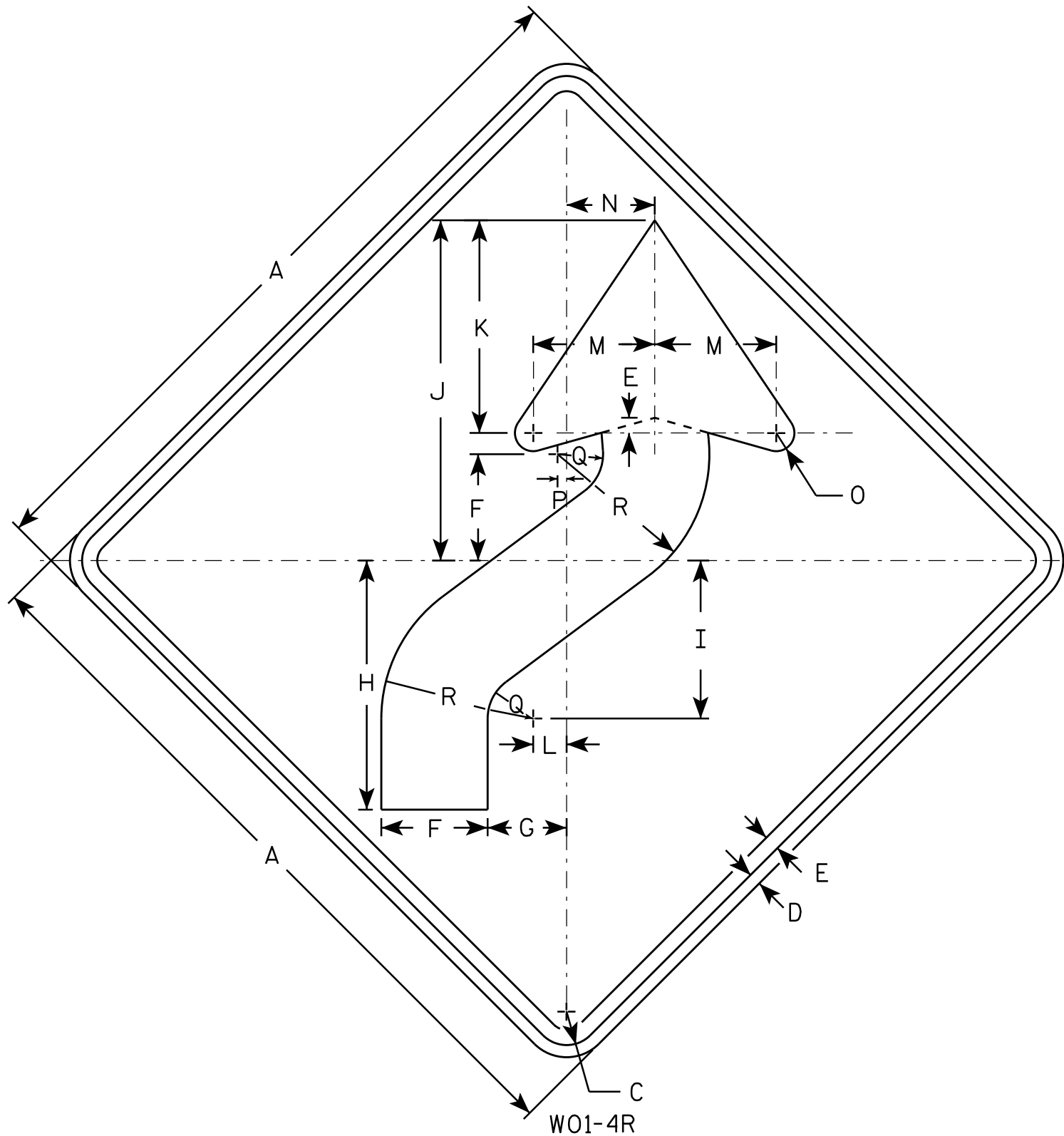
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
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.
4. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

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	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN W01-4

WISCONSIN DEPT OF TRANSPORTATION

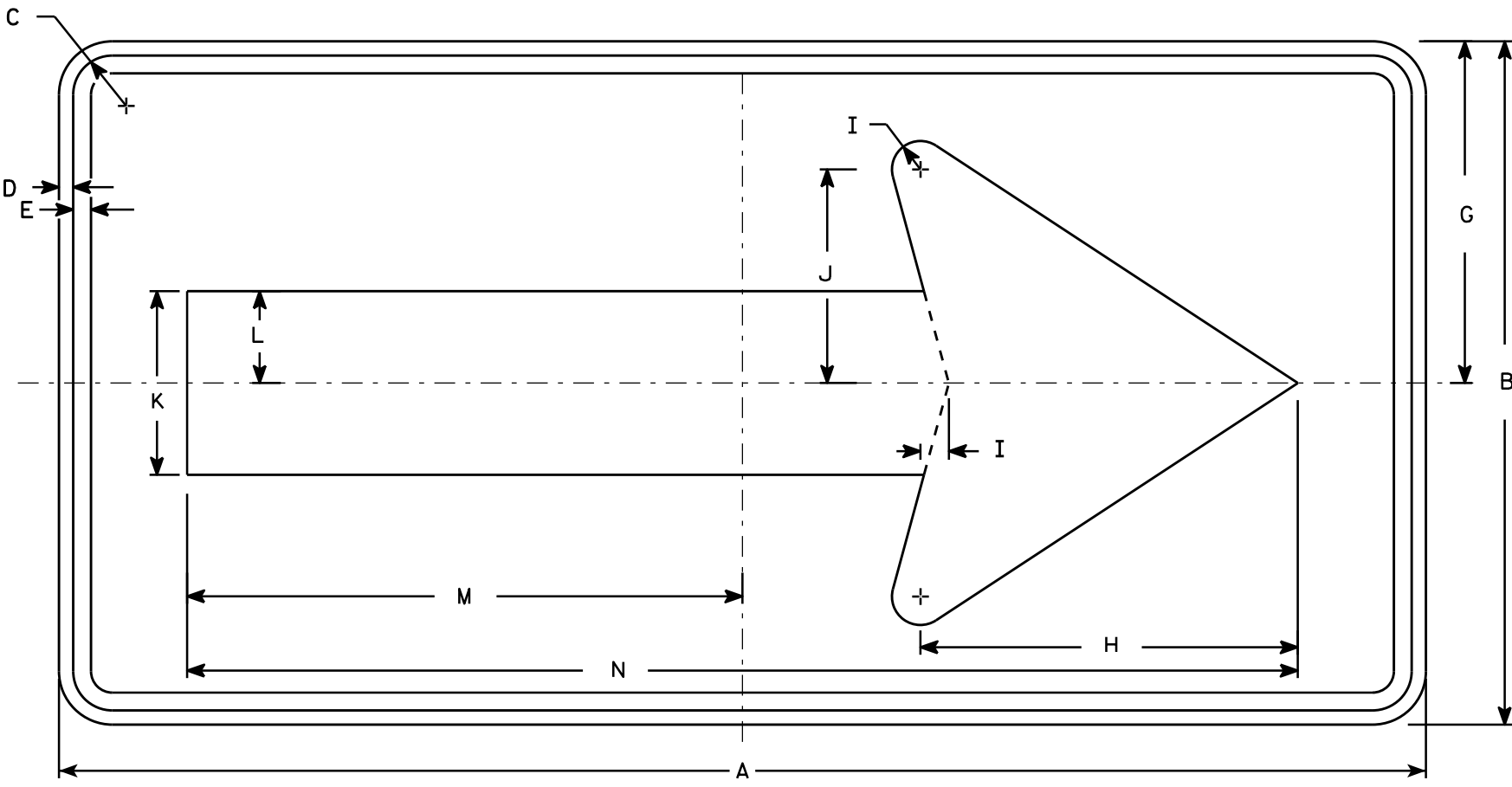
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-4.1

PROJECT NO: HWY: COUNTY: SHEET NO: E

NOTES

1. Sign is Type II - Type F Reflective - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
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.



W01-6

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	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN

W01-6

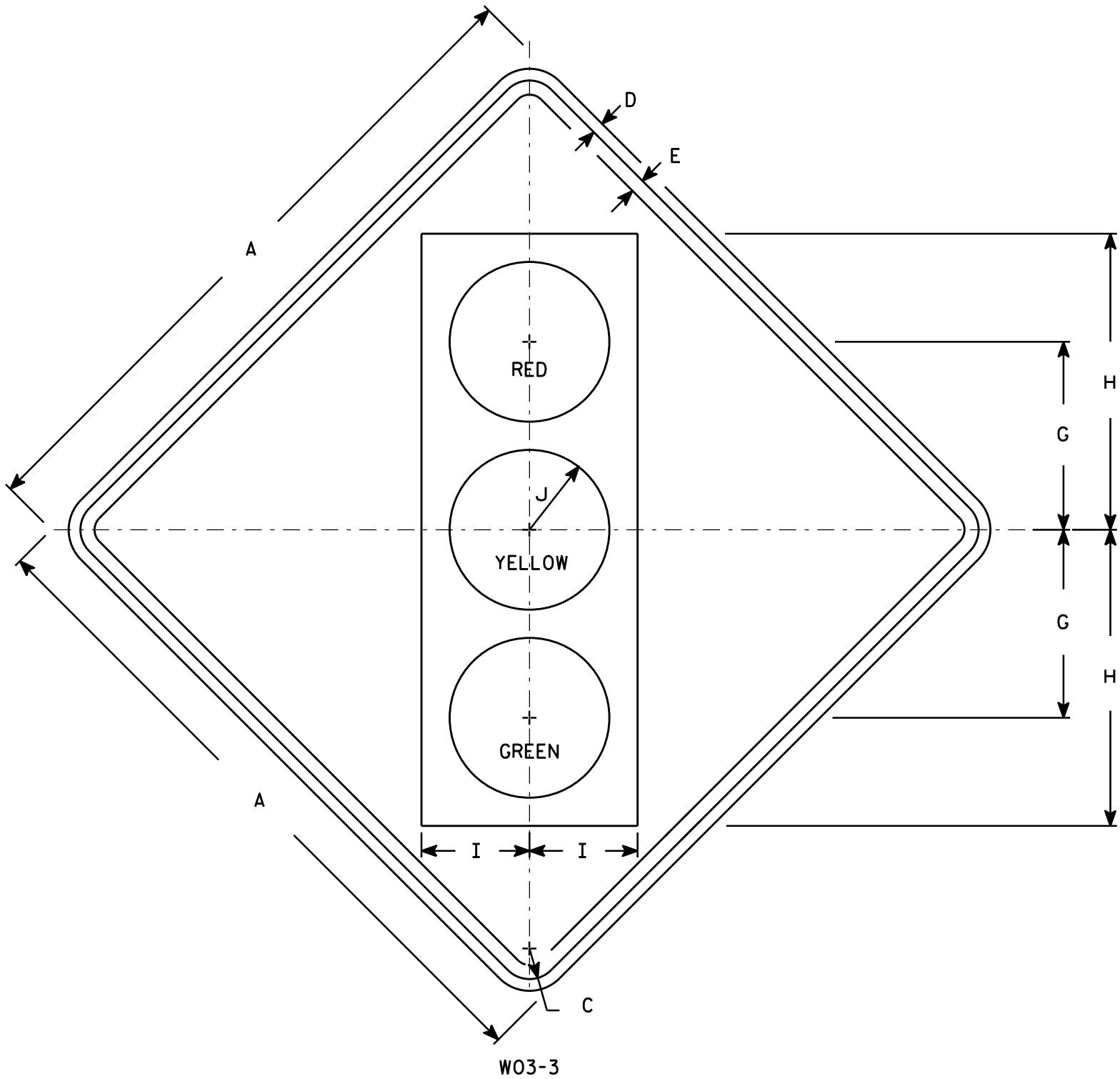
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 11/18/13

PLATE NO. W01-6.1



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - See Note 4
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.
4. Symbol and border are non-reflective black.
Top circle - Type H Reflectorized Red
Center circle - Same as background
Bottom circle - Type H Reflectorized Green

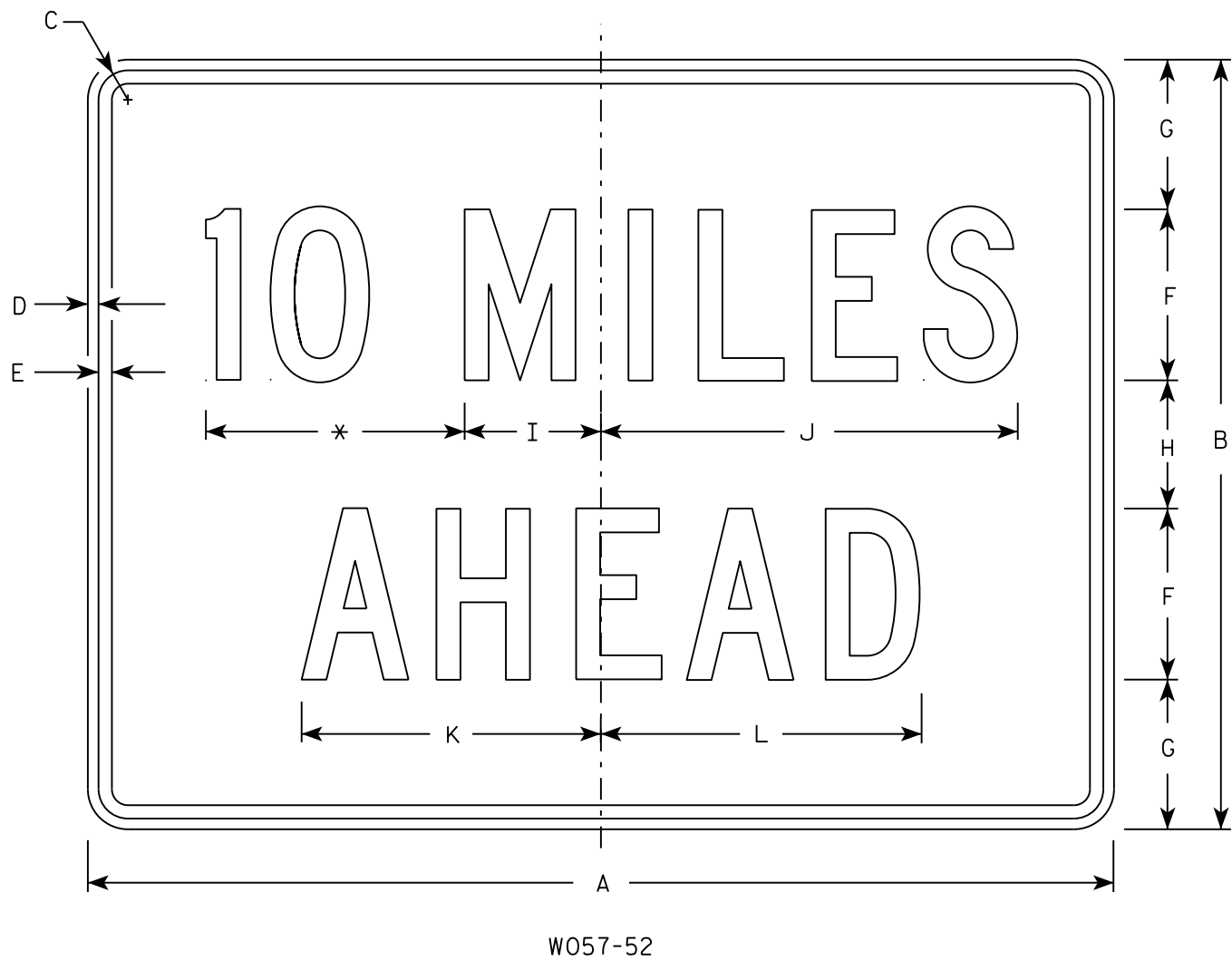
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2S	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
2M	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
3	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

STANDARD SIGN
W03-3

WISCONSIN DEPT OF TRANSPORTATION

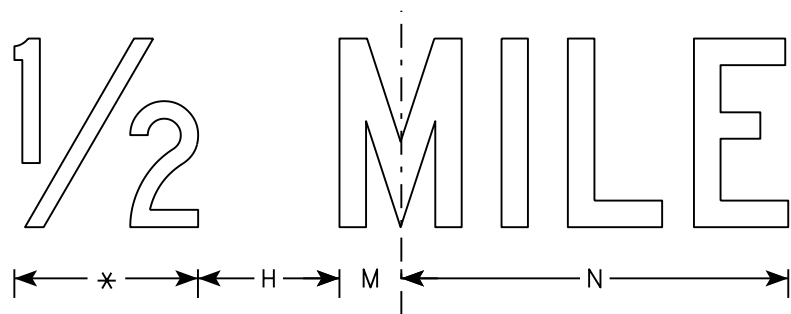
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W03-3.1



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 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. Substitute appropriate numerals to the nearest quarter mile and optically adjust spacing to achieve proper balance.



* See note 5

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	36	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	12													6.0
2S	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
2M	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
3	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
4	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
5	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

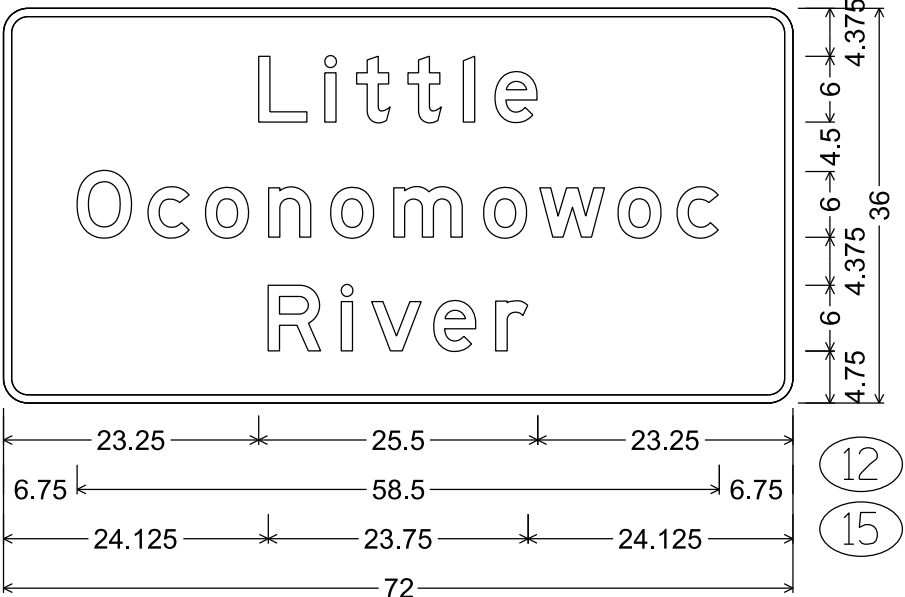
E

STANDARD SIGN
W057-52

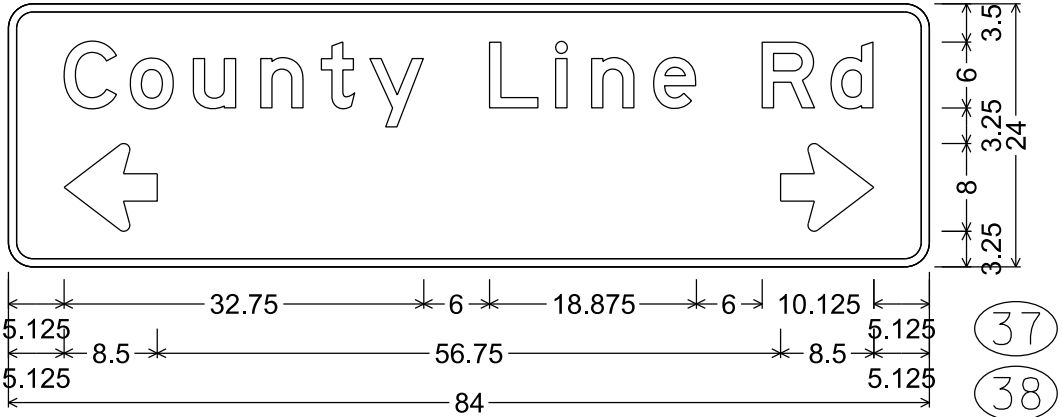
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

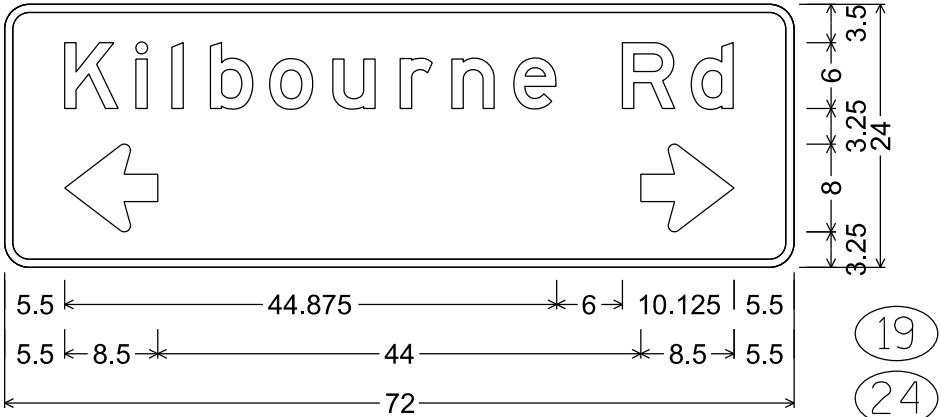
DATE 3/21/17 PLATE NO. W057-52.2



I3-1; 2.250" Radius, 0.750" Border



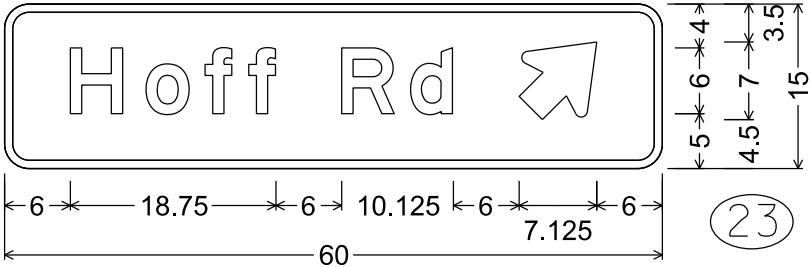
D1-61; 2.250" Radius, 0.750" Border



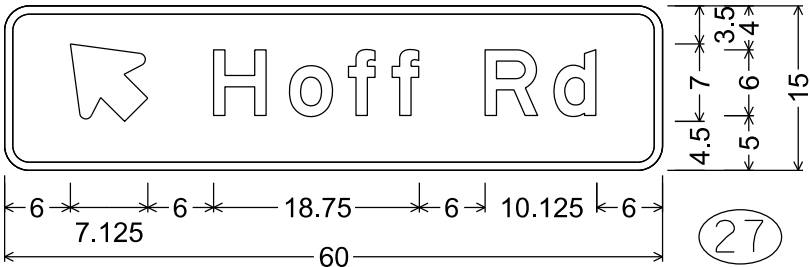
D1-61; 2.250" Radius, 0.750" Border

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - Green
Message - White
- 3. Message Series - E



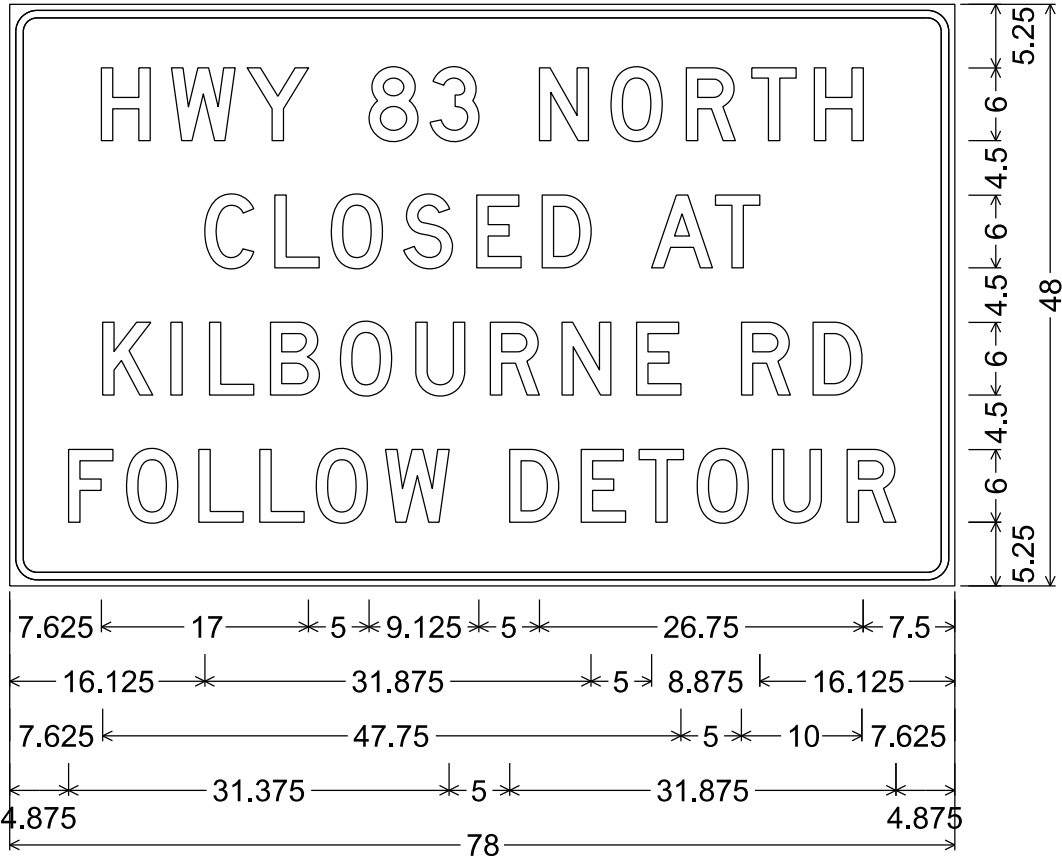
D1-1; 2.250" Radius, 0.750" Border



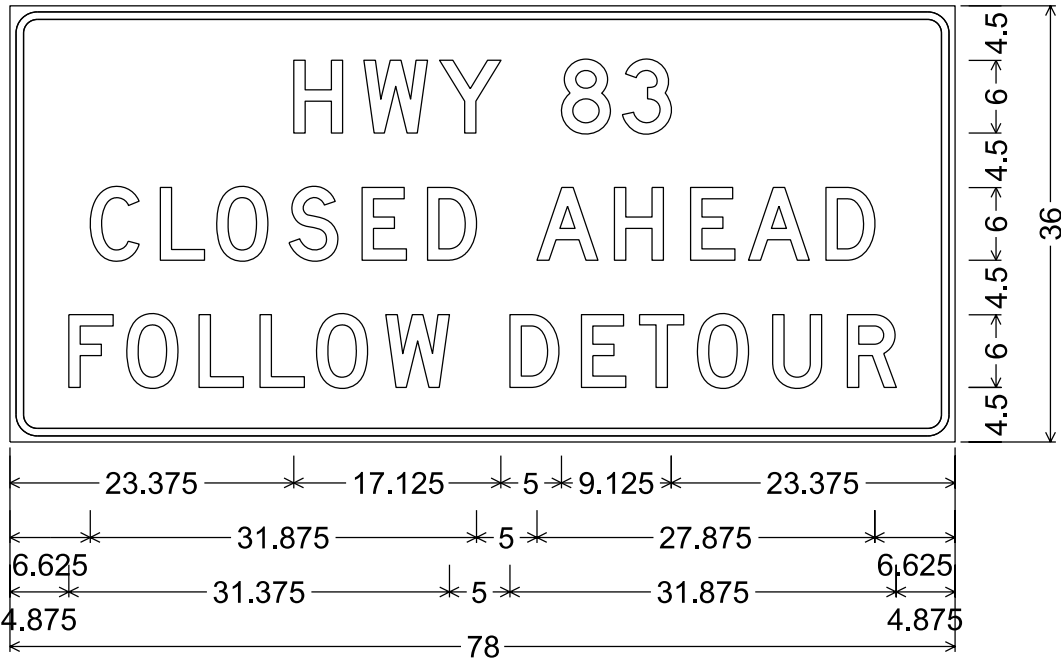
D1-1; 2.250" Radius, 0.750" Border

NOTES

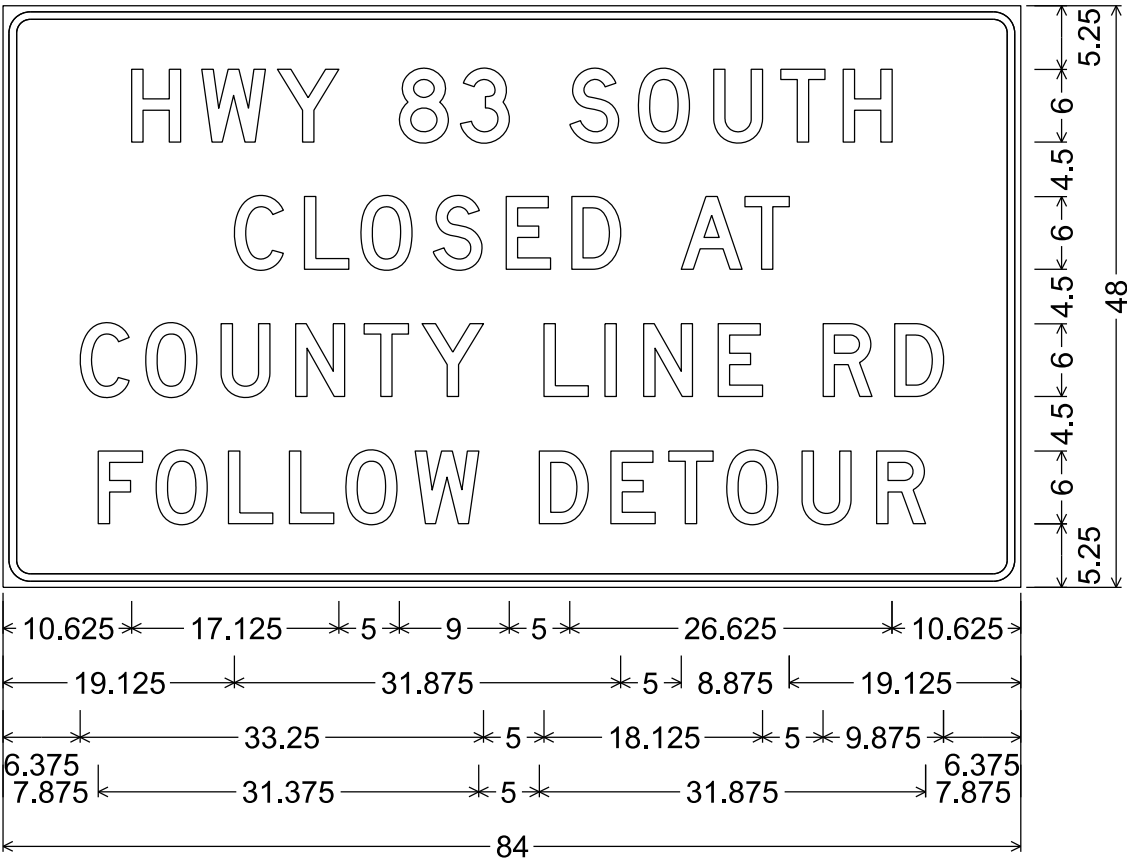
- 1. Fixed Message Signs - Type II Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - D



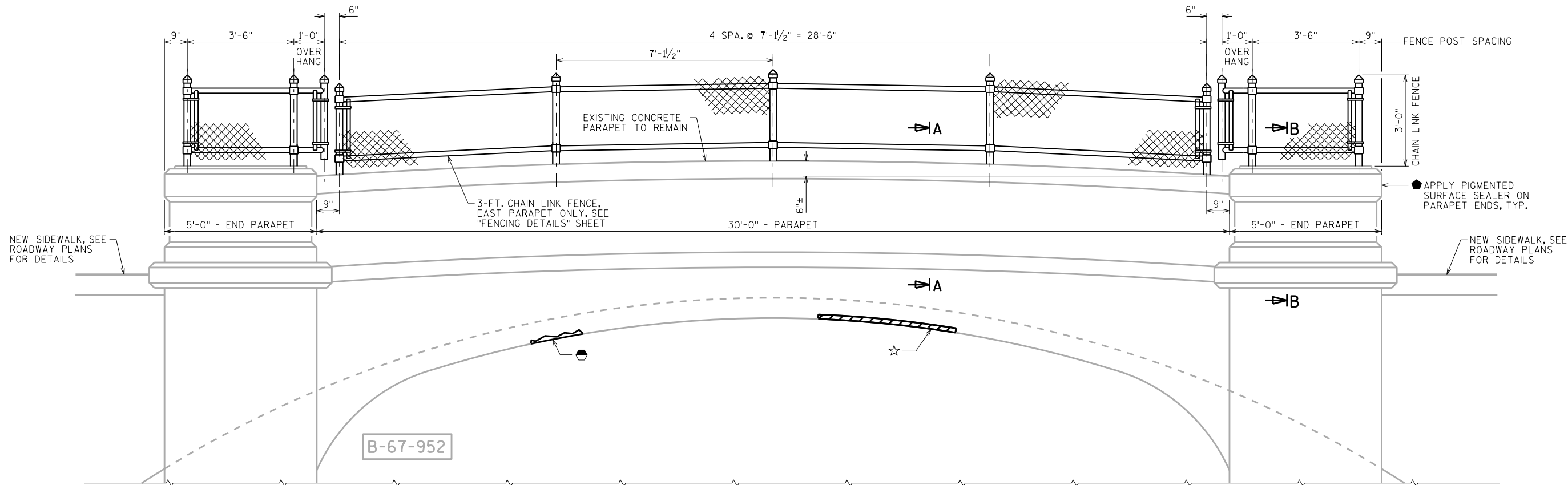
2.250" Radius, 0.625" Border, 0.500" Indent



2.250" Radius, 0.625" Border, 0.500" Indent



2.250" Radius, 0.625" Border, 0.500" Indent



ELEVATION

LOOKING WEST AT B.F. EAST PARPET

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	48
509.1500	CONCRETE SURFACE REPAIR	SF	100
SPV.0090.01	FENCE CHAIN LINK POLYMER COATED 3-FT. B-67-952	LF	39
SPV.0165.01	REMOVING LOOSE CONCRETE OVERHEAD	SF	75

- PIGMENTED SURFACE SEALER TO BE "TK KURE AND SEAL 1315" IN COLOR CLEAR OR APPROVED EQUAL. APPLY TO TOP, F.F. AND ENDS OF BOTH PARAPETS.
- ACTUAL LOCATIONS AND AREA TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
75 SF ESTIMATED ON EAST AND WEST EXISTING CONCRETE PARAPETS.
25 SF ESTIMATED ON UNDERSIDE OF ARCH.
- ESTIMATED 75 SF ON UNDERSIDE OF ARCH, AREAS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.
BEVEL EXPOSED EDGES OF CONCRETE $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

TRAFFIC VOLUME

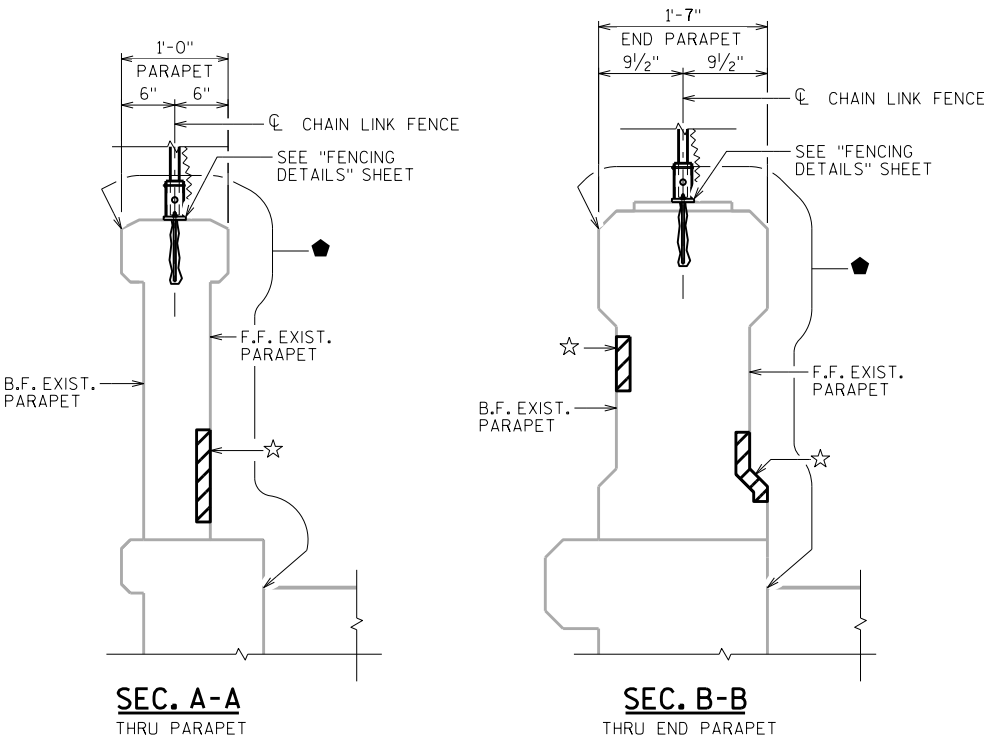
STH 83
ADT = 2043 (9,800)
R.D.S. = 25 M.P.H.

LIST OF DRAWINGS

- ADD RAILING PLAN
- FENCING DETAILS

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089
DOMINIQUE BECHLE (608) 261-8205



NO.	DATE	REVISION	BY
			
ACCEPTED  DMB 06/21/22 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-67-952			
STH 83 OVER OCONOMOWOC RIVER			
COUNTY	WAUKESHA	TOWN	MERTON
DESIGN SPEC. N/A REHABILITATION			
DESIGNED BY	EMK	DESIGNED CK'D. ACT	DRAWN BY EMK PLANS CK'D. ACT
ADD RAILING PLAN			SHEET 1 OF 2

NOTES

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL WITH A COLORED POLYMER-COATING ON THE OUTSIDE.

FABRIC SHALL CONFORM TO ASTM F668, CLASS 2B. STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626. SEE THE "BRIDGE SPECIAL PROVISIONS" FOR ADDITIONAL DETAILS.

THE COLOR OF POLYMER-COATING FOR THIS STRUCTURE SHALL BE BLACK IN ACCORDANCE WITH ASTM F934.

THE BID ITEM SHALL BE "FENCE CHAIN LINK POLYMER-COATED 3-FT. B-67-952".

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST.

CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

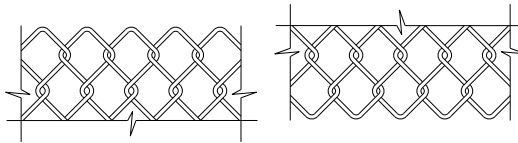
ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.

CONCRETE ADHESIVE ANCHORS 1/2-INCH, EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS.

ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".

BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION. ALTERNATE IS TO WELD RAIL DIRECTLY TO END POST.

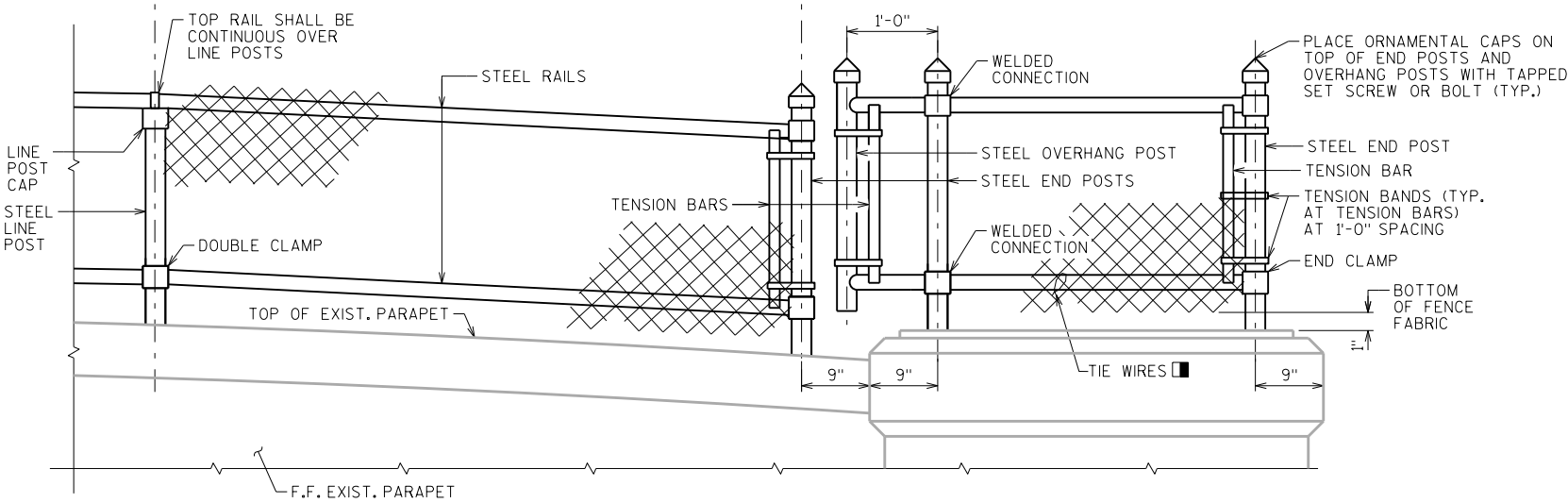
MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR 1/4 POINT OF POST SPACING.



FENCE FABRIC

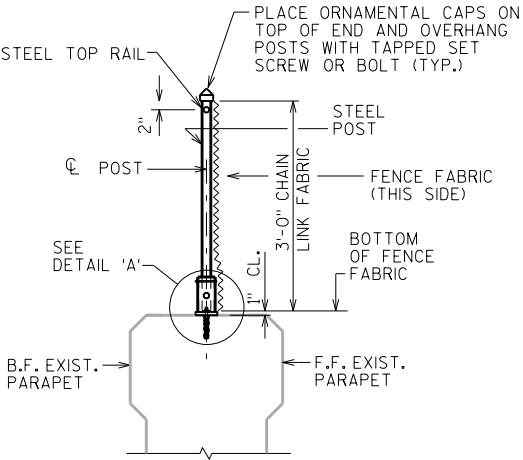
FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-952			
DRAWN BY EMK		PLANS CKD. ACT	
FENCING DETAILS			SHEET 2



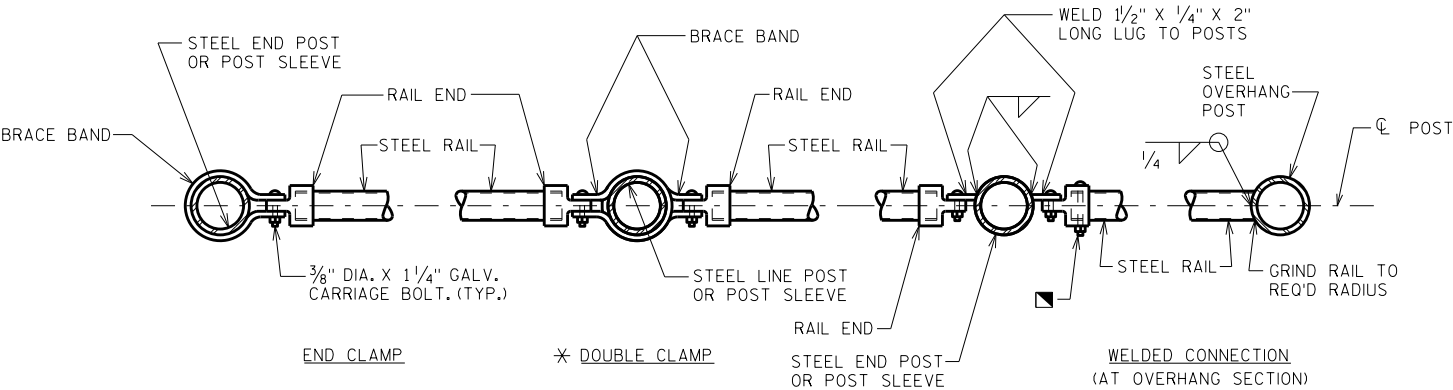
FENCE PART ELEVATION

VIEWING FABRIC SIDE, EAST PARAPET ONLY



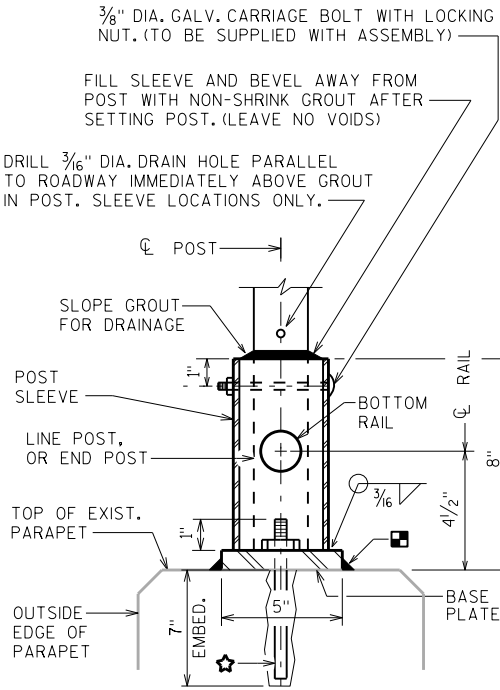
SECTION THRU PARAPET

CENTER RAILING ON EXIST. PARAPET
SEE "ADD RAILING PLAN" FOR DETAILS



SECTION THRU FENCE

NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS



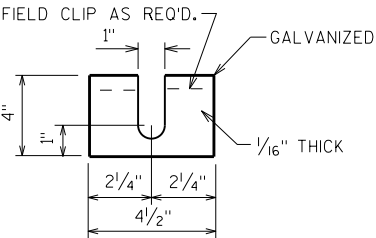
DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION

NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.

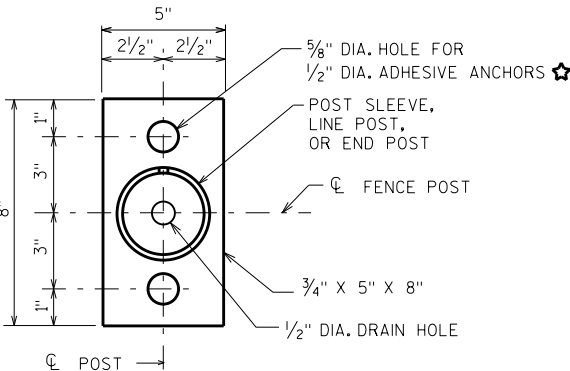
FENCE MEMBER SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12



POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.



BASE PLATE

DIVISION 1 - Widening Stage 1A - 16+84 - 18+59 RT

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDNATE
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	
16+84	0.00	3.58	0.01	0	0	0	0	0
17+00	16.00	22.79	0.00	8	0	8	0	8
17+25	25.00	18.68	0.00	19	0	27	0	27
17+50	25.00	14.02	0.00	15	0	42	0	42
17+75	25.00	6.20	0.14	9	0	51	0	51
17+84.579	9.58	5.04	0.31	2	0	53	0	53
18+00	15.42	4.37	0.24	3	0	56	0	56
18+25	25.00	3.59	0.18	4	0	60	0	60
18+40	15.00	3.59	0.14	2	0	62	0	62
18+50	10.00	3.59	0.16	1	0	63	0	63
18+59	9.00	1.78	0.22	1	0	64	0	64
				64	0			

DIVISION 1 - DITCHING STAGE 1A

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDINATE
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	
18+59	0.00	0.99	0.00	0	0	0	0	0
18+70	11.00	0.80	0.00	0	0	0	0	0
18+85	15.00	0.61	0.01	0	0	0	0	0
18+95	10.00	0.46	0.00	0	0	0	0	0
19+00	5.00	0.42	0.06	0	0	0	0	0
19+20	20.00	0.59	0.00	0	0	0	0	0
19+38	18.00	1.26	0.00	1	0	1	0	1
				1	0			

DIVISION 2- Sidewalk Stage 1B - 14+87.5 - 15+80 RT

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDINATE
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	
14+87.5	0.00	8.96	0.52	0	0	0	0	0
15+00	12.50	7.49	0.98	4	0	4	0	4
15+25	25.00	7.80	1.14	7	1	11	1	10
15+50	25.00	8.89	0.43	8	1	19	3	17
15+70	20.00	13.47	0.00	8	0	27	3	25
15+80	10.00	18.30	0.00	6	0	33	3	31
				33	2			

DIVISION 2 - Barrier/Curb and Gutter Stage 1B - 16+00 -17+85 LT

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDINATE
		CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	
						1.00	1.25	
16+00	0.00	6.09	0.03	0	0	0	0	0
16+25	25.00	7.28	0.39	6	0	6	0	6
16+25.357	0.36	5.76	0.46	0	0	6	0	6
16+50	24.64	9.20	0.00	7	0	13	0	13
16+62	12.00	8.56	0.00	4	0	17	0	17
16+75	13.00	8.55	0.00	4	0	21	0	21
16+84	9.00	8.17	0.00	3	0	24	0	24
17+00	16.00	8.17	0.00	5	0	29	0	29
17+25	25.00	8.38	0.02	8	0	37	0	37
17+50	25.00	8.65	0.00	8	0	45	0	45
17+75	25.00	9.16	0.09	8	0	53	0	53
17+84.579	9.58	9.22	0.02	3	0	56	0	56
				56	0			

DIVISION 3- Guardrail - 18+40 - 20+80 LT

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDINATE
		CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	
						1.00	1.25	
18+40	0.00	0.00	0.00	0	0	0	0	0
18+50	10.00	0.00	0.00	0	0	0	0	0
18+70	20.00	0.00	0.00	0	0	0	0	0
18+85	15.00	2.99	0.03	1	0	1	0	1
18+95	10.00	1.52	1.23	1	0	2	0	2
19+00	5.00	1.26	1.91	0	0	2	0	2
19+20	20.00	1.20	3.12	1	2	3	3	1
19+50	30.00	1.15	0.00	1	2	4	5	-1
20+00	50.00	1.17	0.00	2	0	6	5	1
20+01	1.00	1.22	0.00	0	0	6	5	1
20+26	25.00	0.00	0.00	1	0	7	5	2
20+50	24.00	0.00	0.00	0	0	7	5	2
20+51	1.00	0.00	0.00	0	0	7	5	2
20+79.4	28.40	0.00	0.00	0	0	7	5	2
				7	4			

DIVISION 4 - Guardrail - 36+00-40+00 LT

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDINATE
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	
36+00	0.00	0.00	0.00	0	0	0	0	0
36+50	50.00	1.67	11.58	2	11	2	14	-12
36+75	25.00	2.90	8.76	2	9	4	25	-21
37+00	25.00	2.81	6.36	3	7	7	34	-27
37+25	25.00	3.15	2.42	3	4	10	39	-29
37+50	25.00	2.58	1.98	3	2	13	41	-28
38+00	50.00	2.63	2.50	5	4	18	46	-28
38+15	15.00	2.48	1.87	1	1	19	48	-29
38+50	35.00	2.33	4.50	3	4	22	53	-31
38+81	31.00	2.96	5.05	3	5	25	59	-34
39+00	19.00	3.06	6.86	2	4	27	64	-37
39+06	6.00	3.14	6.93	1	2	28	66	-38
39+31	25.00	1.88	8.73	2	7	30	75	-45
39+50	19.00	1.71	7.00	1	6	31	83	-52
39+90	40.00	1.45	4.94	2	9	33	94	-61
40+00	10.00	1.79	2.07	1	1	34	95	-61
				34	76			

DIVISION 4 - Guardrail - 36+00-40+00 RT

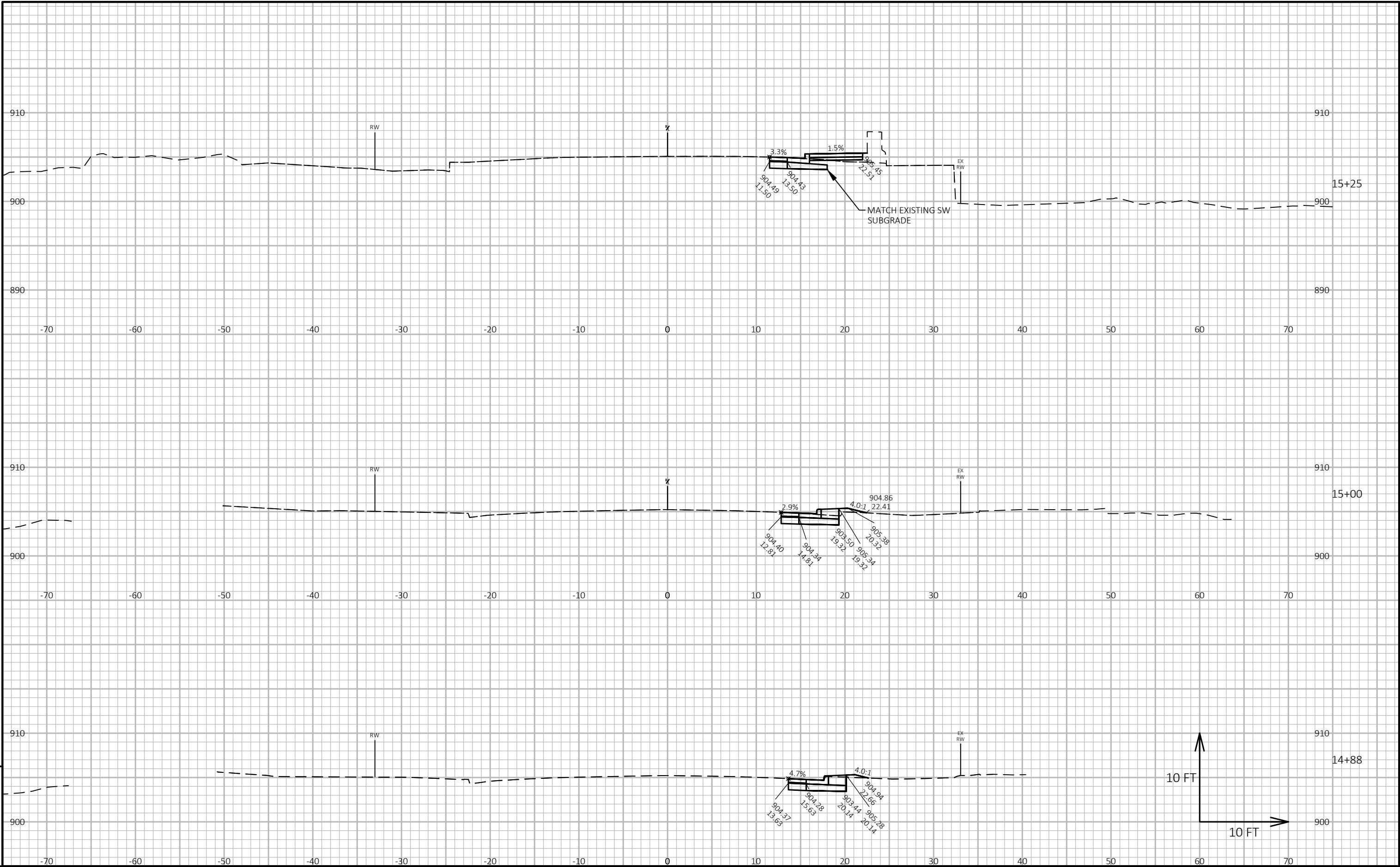
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDINATE
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	
36+00	0.00	0.27	0.00	0	0	0	0	0
36+50	50.00	2.57	0.00	3	0	3	0	3
36+75	25.00	3.03	0.17	3	0	6	0	6
37+00	25.00	2.95	6.55	3	3	9	4	5
37+25	25.00	2.74	3.60	3	5	12	10	2
37+50	25.00	2.93	1.89	3	3	15	14	1
38+00	50.00	3.67	0.00	6	2	21	16	5
38+15	15.00	2.41	5.14	2	1	23	18	6
38+50	35.00	1.77	4.03	3	6	26	25	1
38+81	31.00	1.76	3.13	2	4	28	30	-2
39+00	19.00	2.67	2.23	2	2	30	33	-3
39+06	6.00	2.79	3.06	1	1	31	34	-3
39+31	25.00	2.09	7.70	2	5	33	40	-7
39+50	19.00	1.31	8.05	1	6	34	48	-14
39+90	40.00	1.29	8.11	2	12	36	63	-27
40+00	10.00	0.00	5.80	0	3	36	66	-30
				36	53			

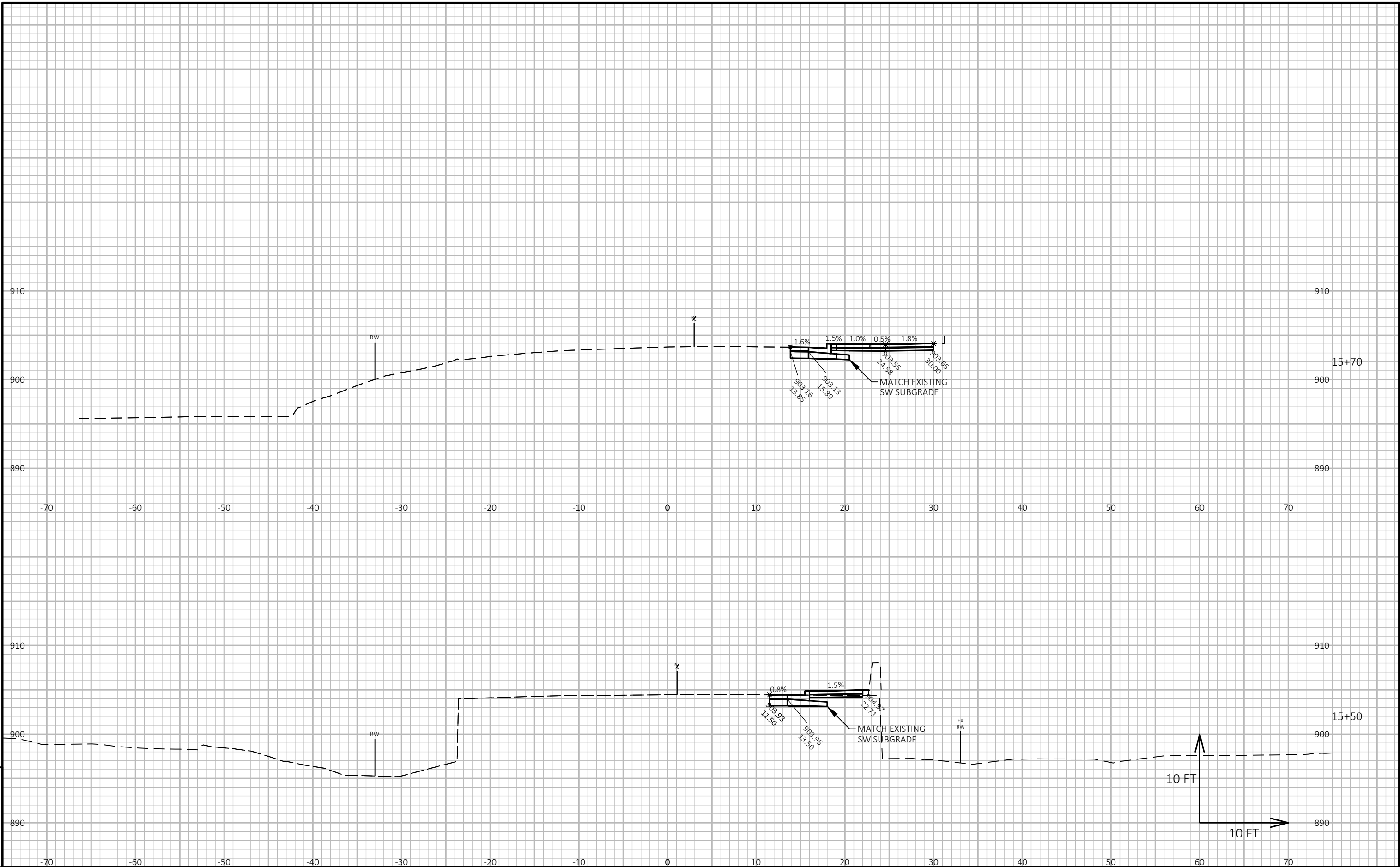
DIVISION 5 - Guardrail - 142+34-148+53 RT

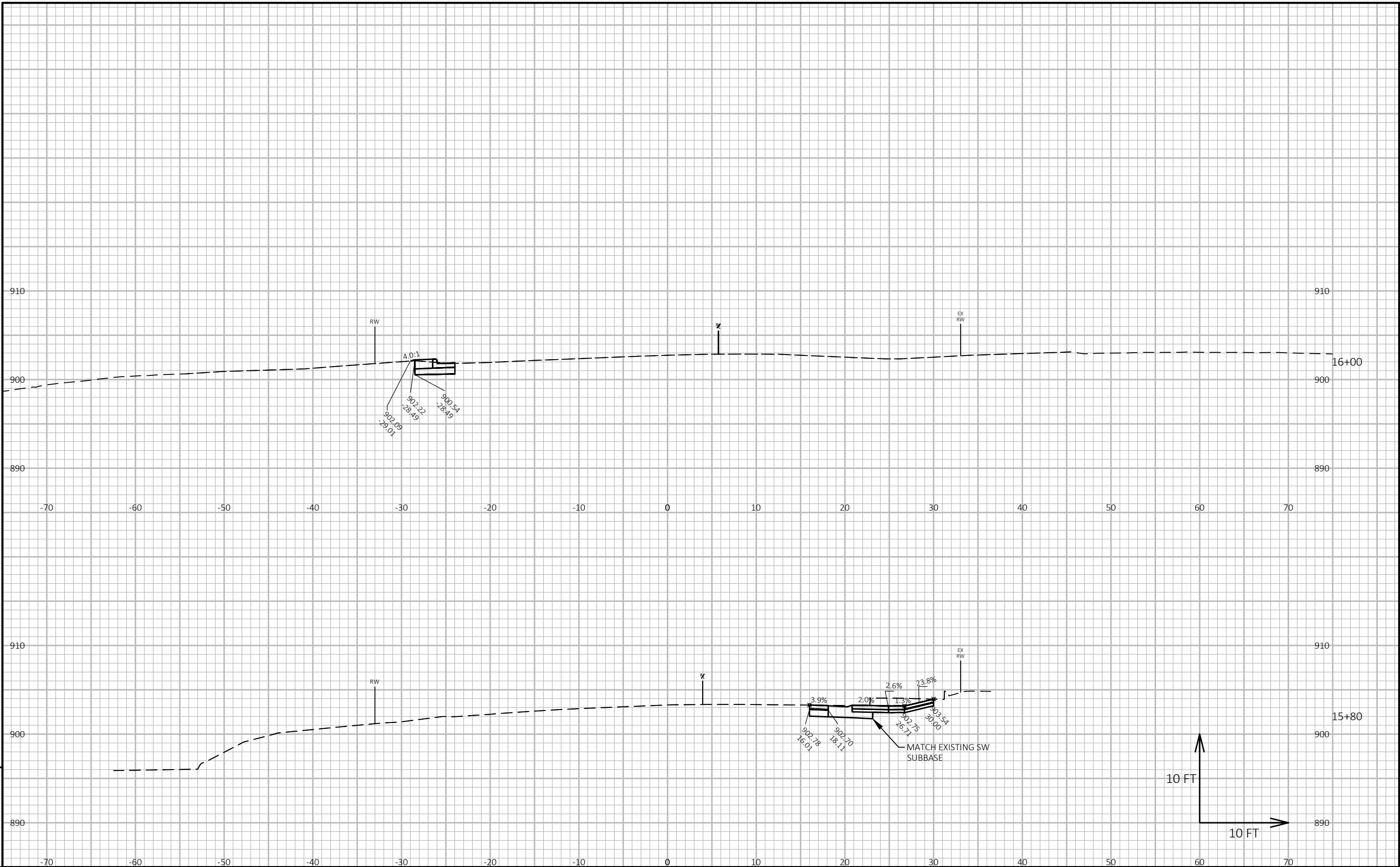
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDNATE
		CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	
142+34.799	0.00	0.00	0.00	0	0	0	0	0
142+50	15.20	0.00	0.00	0	0	0	0	0
143+00	50.00	0.53	0.00	0	0	0	0	0
143+47	47.00	1.98	0.00	2	0	2	0	2
143+50	3.00	2.06	0.00	0	0	2	0	2
143+72	22.00	2.08	0.00	2	0	4	0	4
143+97	25.00	1.93	0.00	2	0	6	0	6
144+00	3.00	2.97	0.00	0	0	6	0	6
144+50	50.00	1.62	0.70	4	1	10	1	9
145+00	50.00	1.24	2.76	3	3	13	5	8
145+50	50.00	1.82	0.62	3	3	16	9	7
146+00	50.00	2.04	0.46	4	1	20	10	10
146+50	50.00	1.80	0.68	4	1	24	11	13
147+00	50.00	2.06	5.10	4	5	28	18	11
147+03	3.00	1.90	5.79	0	1	28	19	9
147+28	25.00	2.32	1.04	2	3	30	23	8
147+50	22.00	1.47	4.15	2	2	32	25	7
147+53	3.00	1.35	5.86	0	1	32	26	6
148+00	47.00	0.99	0.99	2	6	34	34	0
148+50	50.00	0.00	0.00	1	1	35	35	0
148+53	3.00	0.00	0.00	0	0	35	35	0
				35	28			

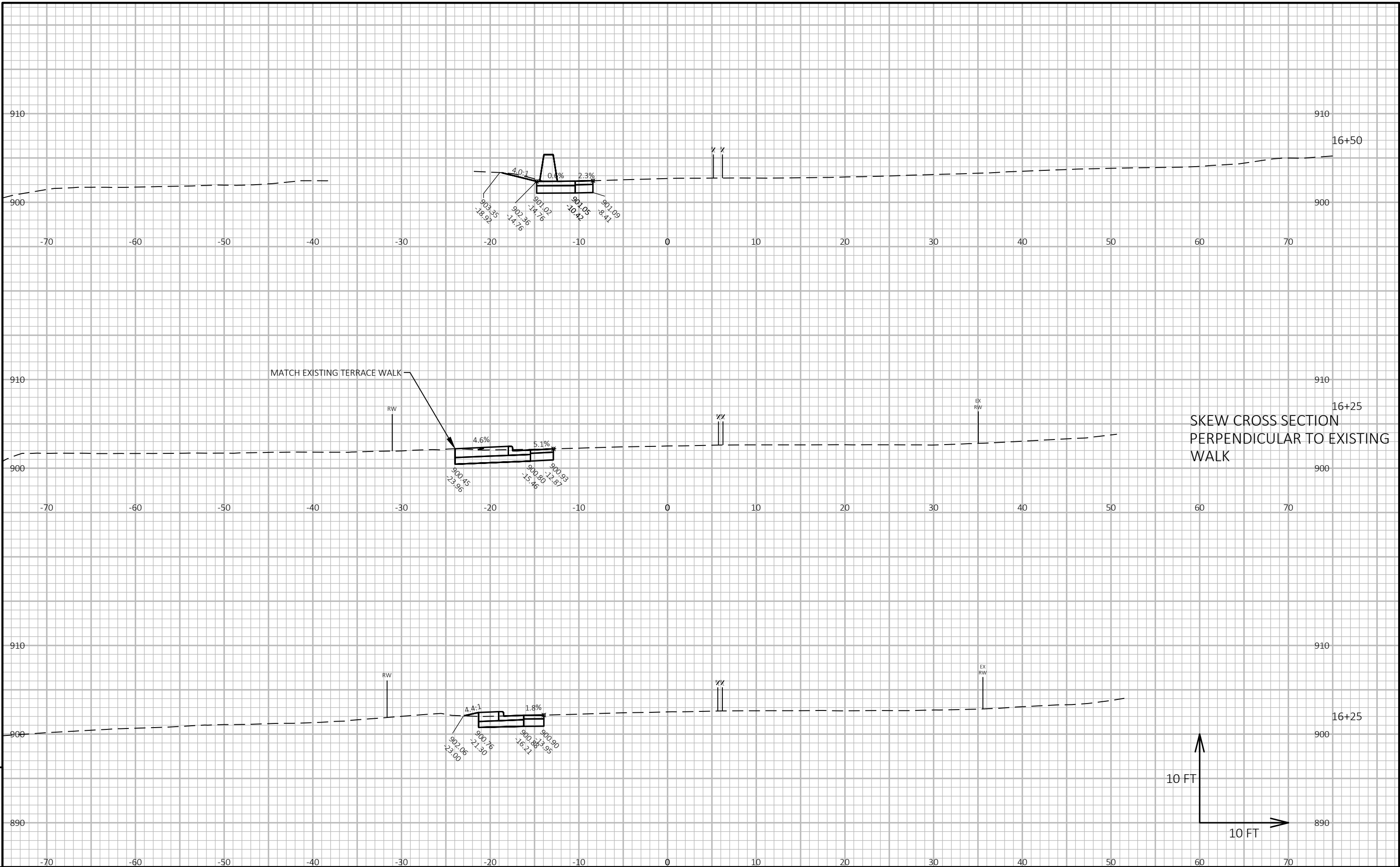
DIVISION 6 - Guardrail - CTH CW - 10+00-12+50 RT

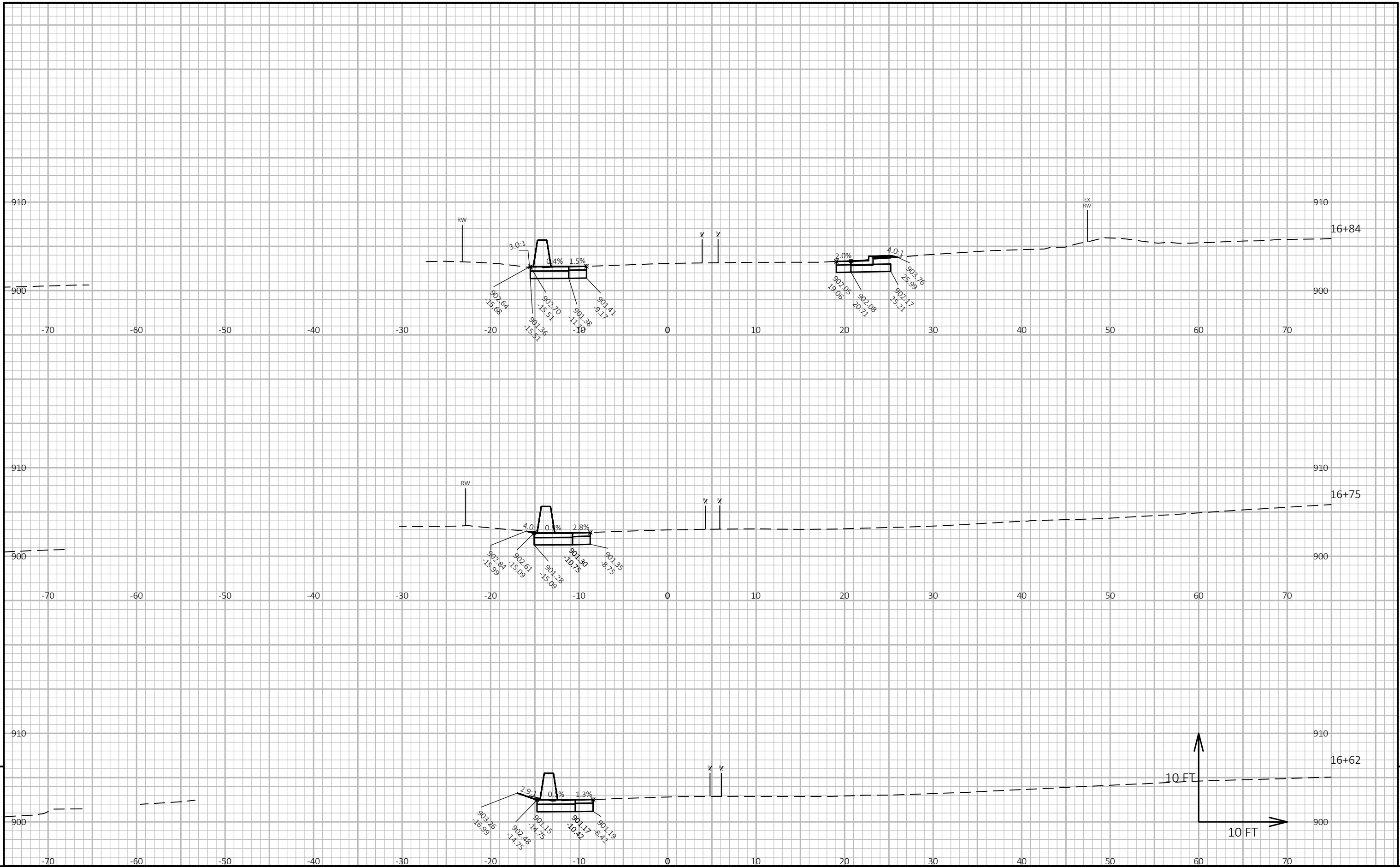
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDINATE
		CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	
						1.00	1.25	
10+00	0.00	0.00	0.00	0	0	0	0	0
10+25	25.00	1.12	3.61	1	2	1	3	-2
10+40	15.00	1.02	10.49	1	4	2	8	-6
10+50	10.00	0.88	12.42	0	4	2	13	-11
10+65	15.00	0.81	14.26	0	7	2	21	-19
10+90	25.00	0.82	12.21	1	12	3	36	-33
11+00	10.00	0.59	9.54	0	4	3	41	-38
11+25	25.00	0.38	2.39	0	6	3	49	-46
11+50	25.00	0.61	0.27	0	1	3	50	-47
11+71.25	21.25	1.34	0.04	1	0	4	50	-46
11+96	24.75	1.44	0.79	1	0	5	50	-45
12+00	4.00	1.72	0.32	0	0	5	50	-45
12+21.25	21.25	6.83	0.00	3	0	8	50	-42
12+50	28.75	3.19	0.00	5	0	13	50	-37
				13	40			

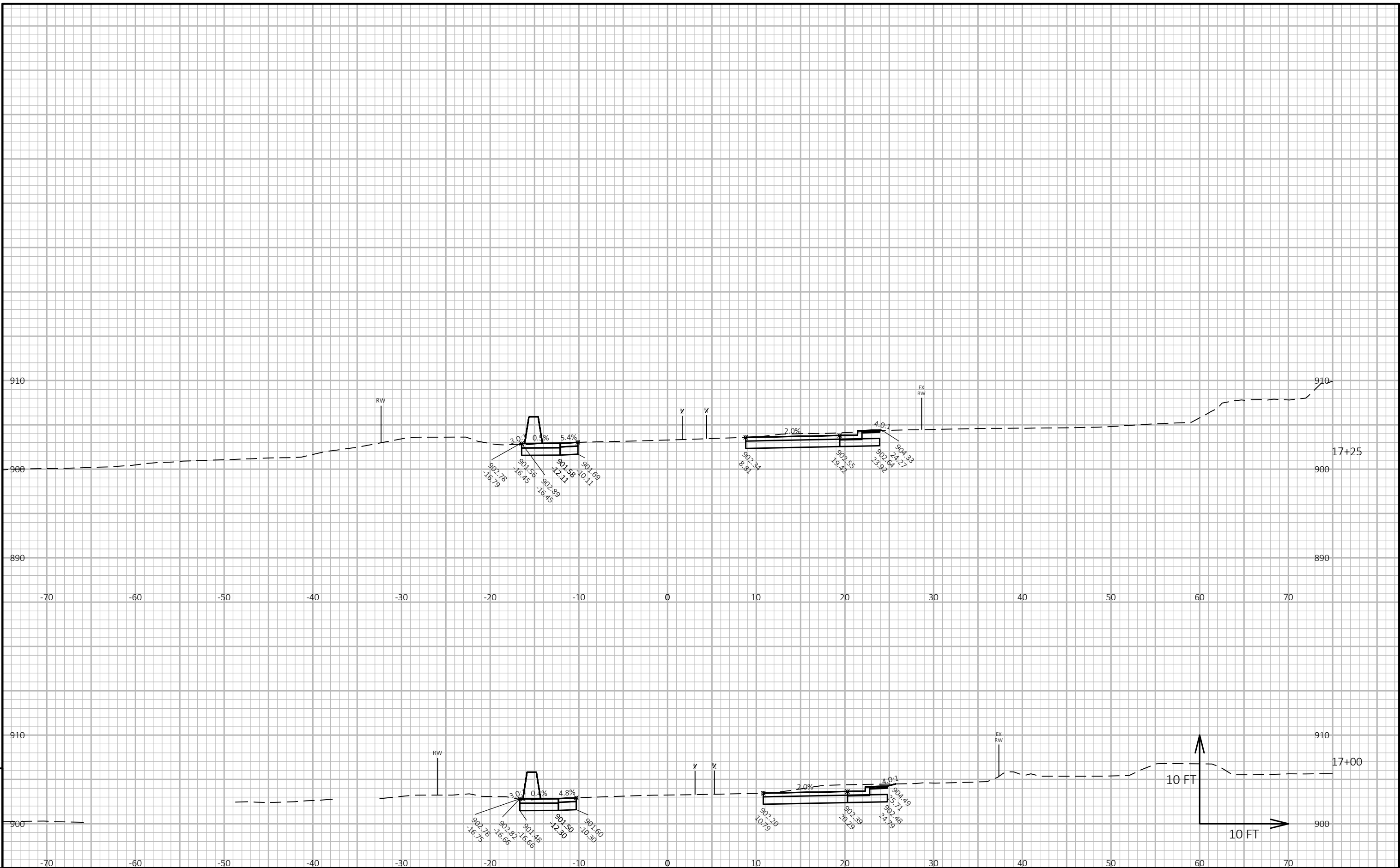


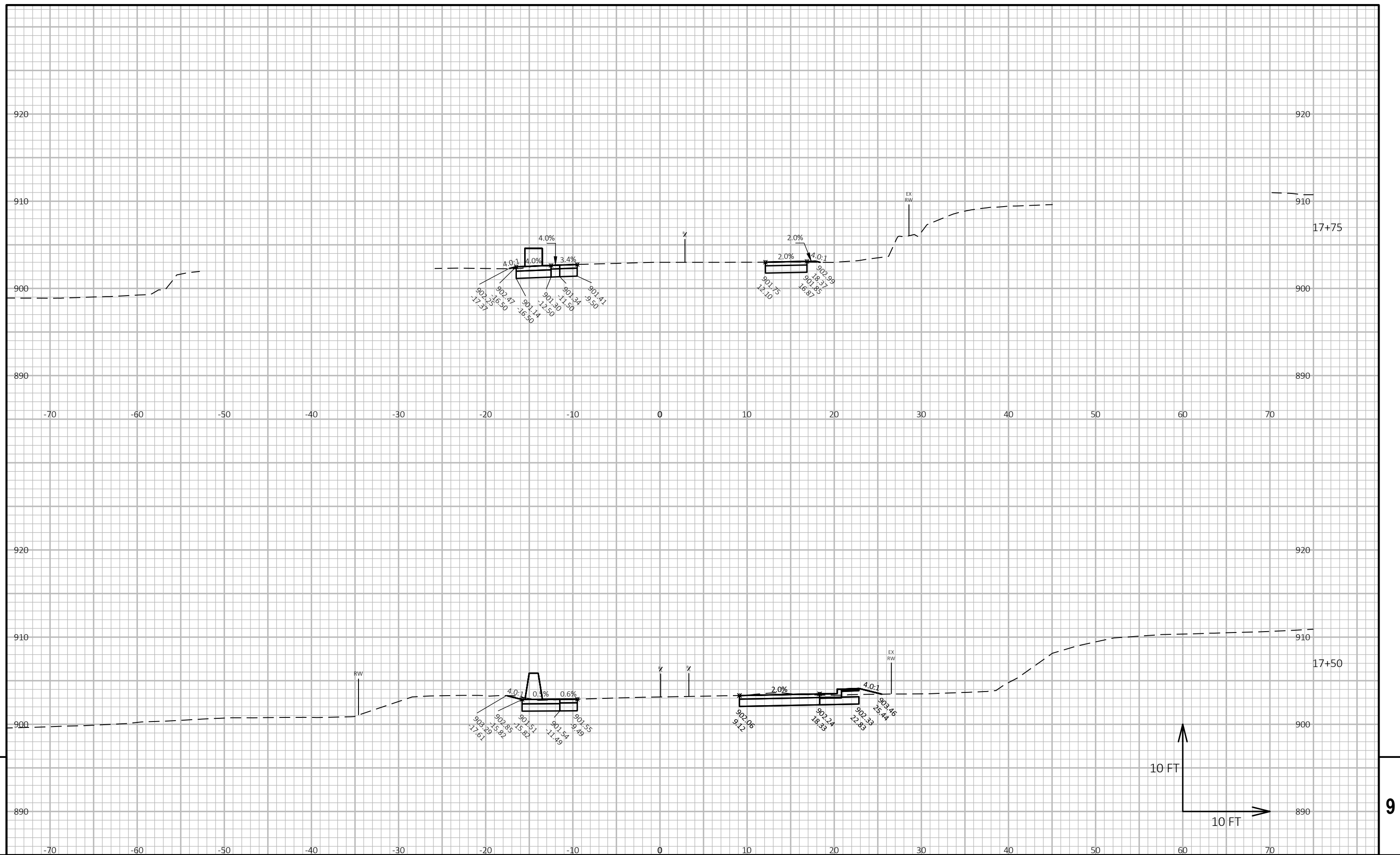












PROJECT NO:	1330-29-70
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HWY: STH 83

COUNTY: WAUKESHA

CROSS SECTIONS: STH 83

SHEET

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FILE NAME : N:\PDS\C3D\13302900\SHEETSPLAN\090213-XS_2016.DWG
LAYOUT NAME - 090213-xs-07

LAYOUT NAME - 090213-xs-07

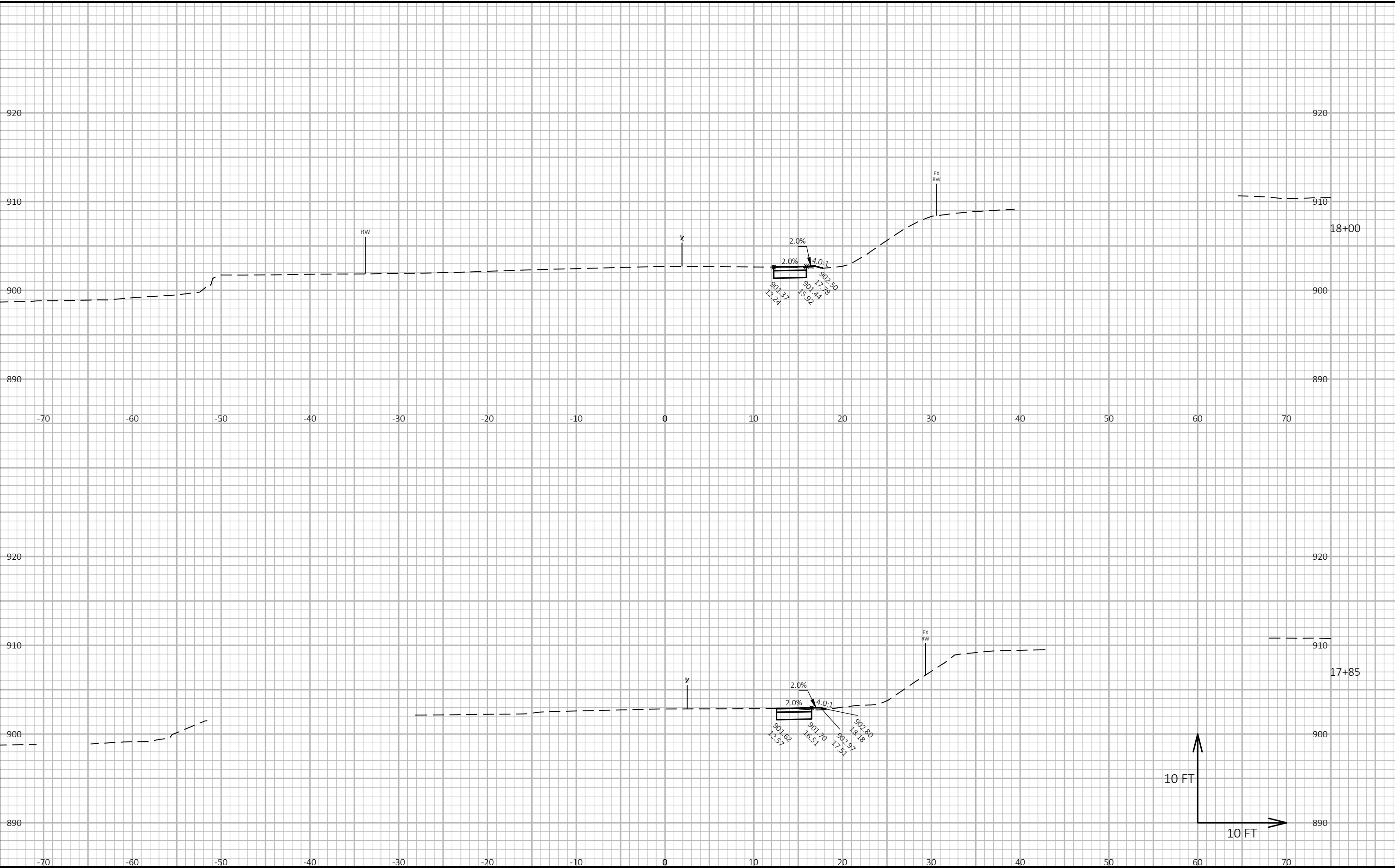
PLOT DATE : 7/5/2022 3:17 PM

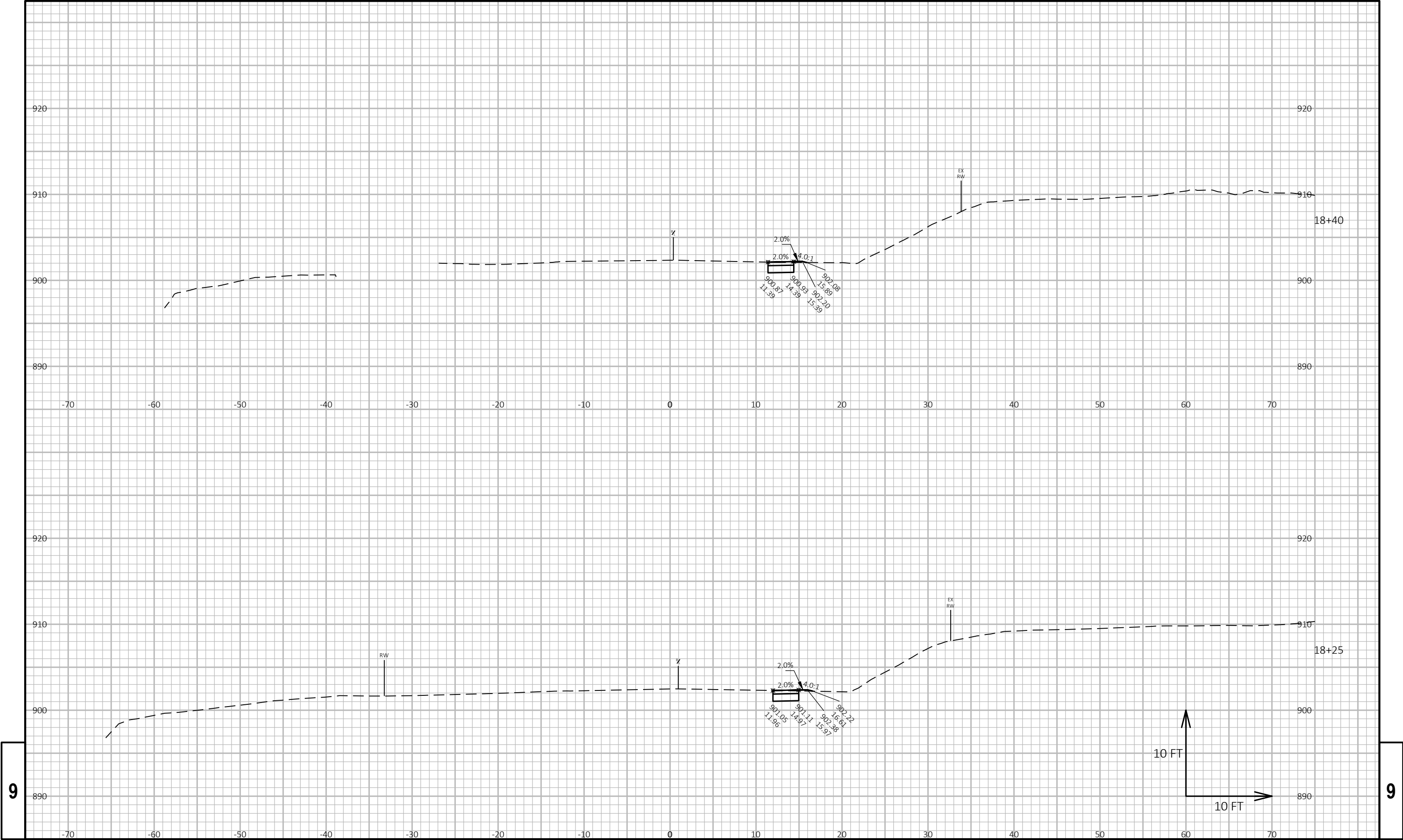
PLOT BY : CASTRO, JOEL

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

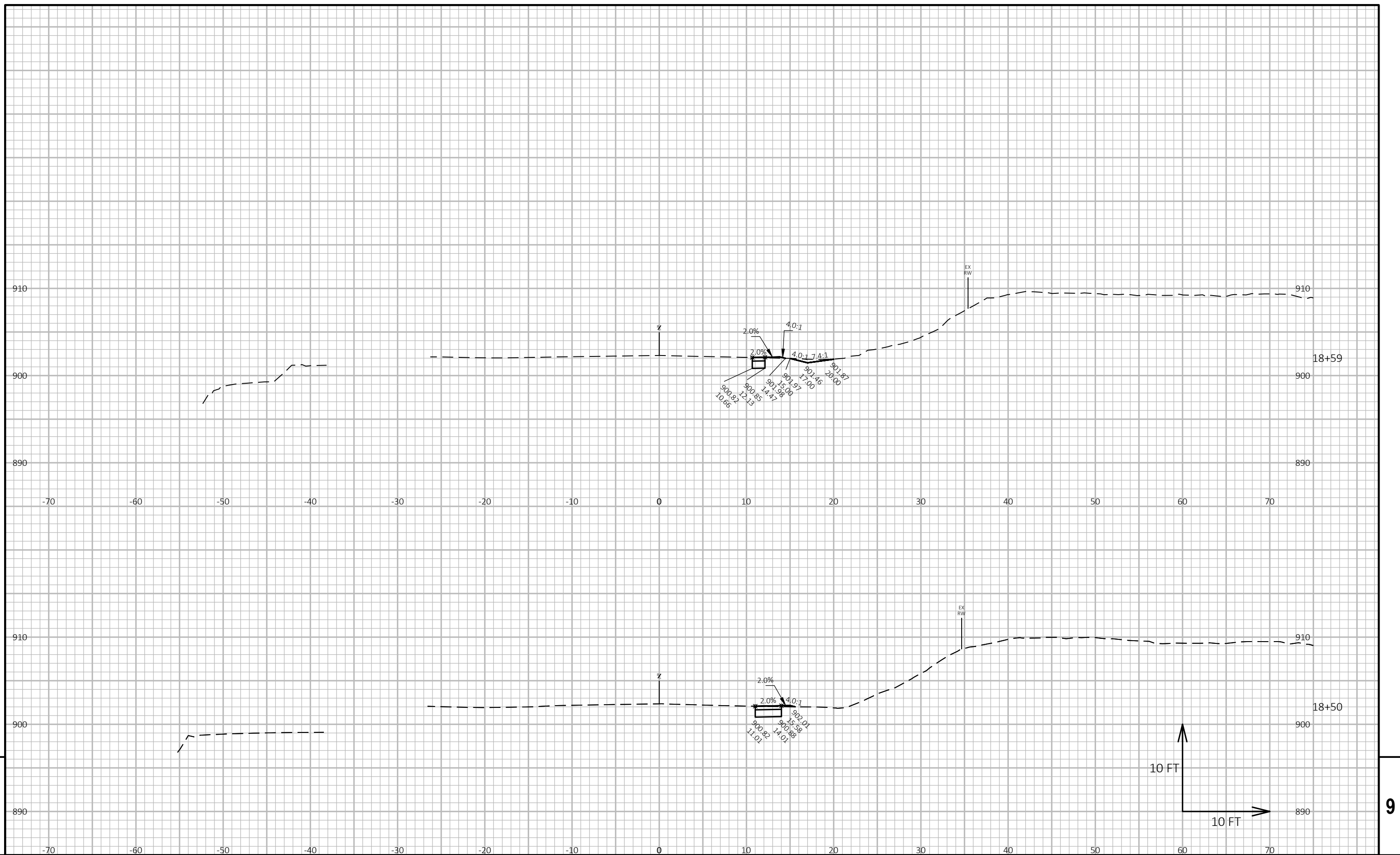
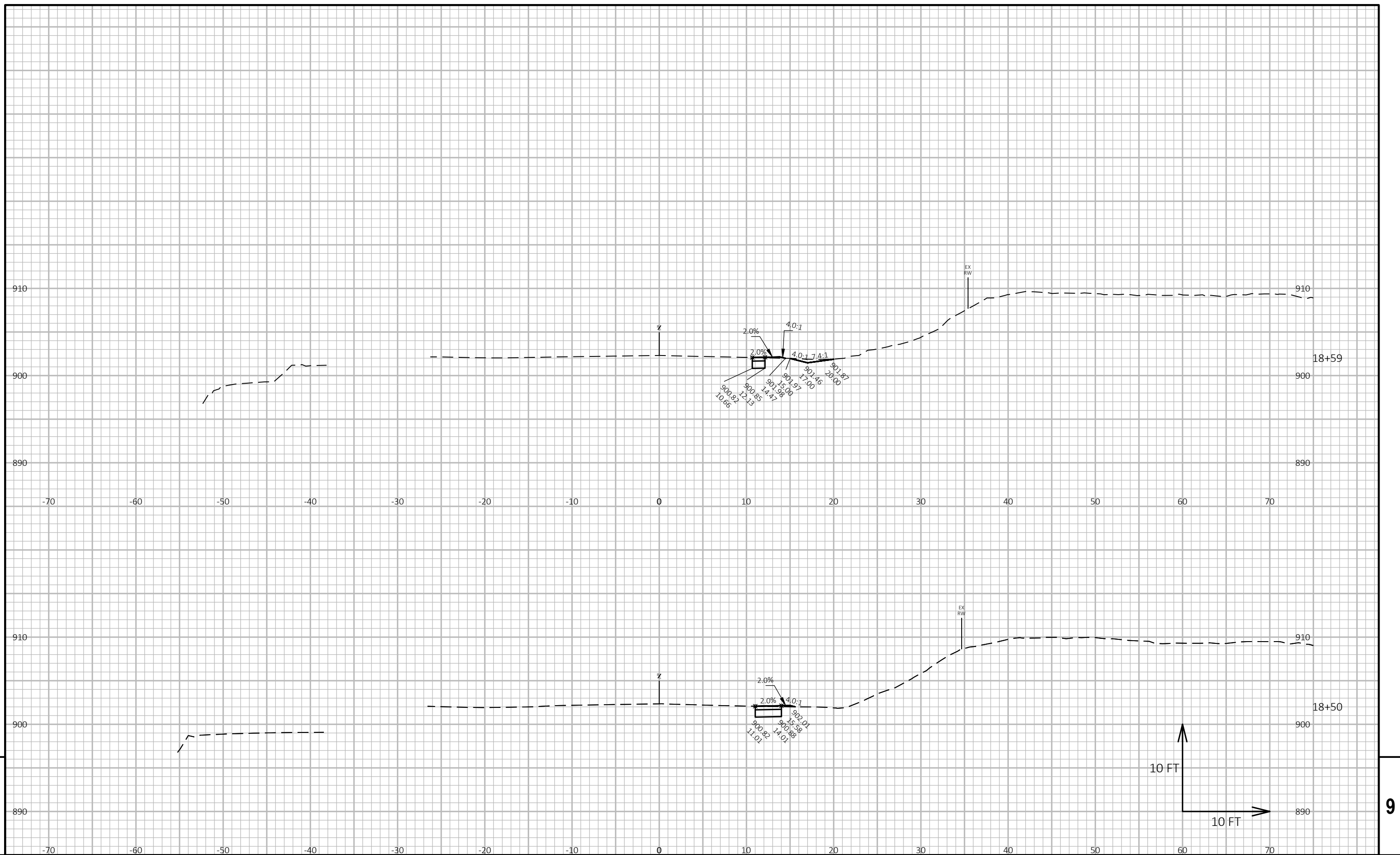
WISDOT/CADDS SHEET 49





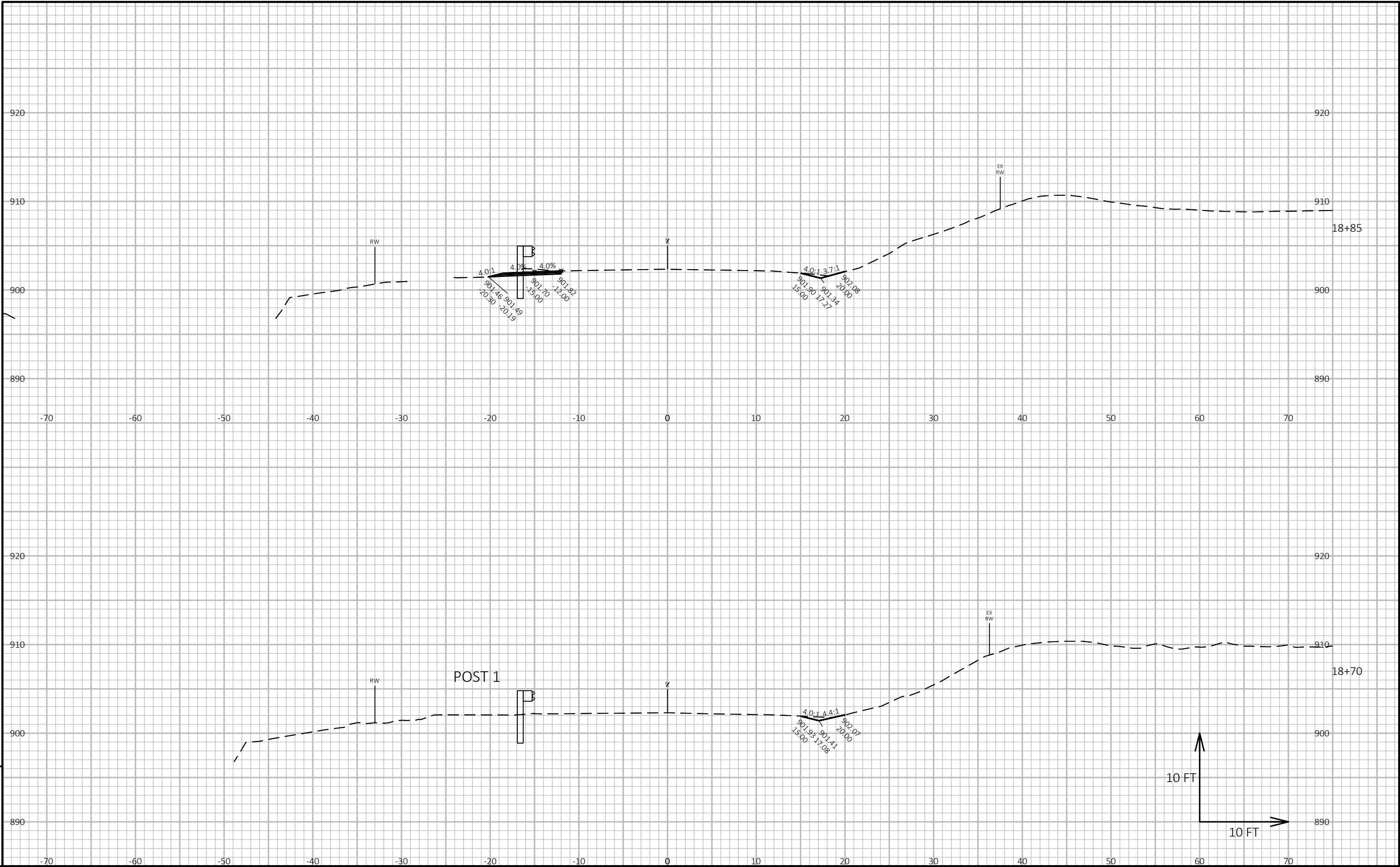
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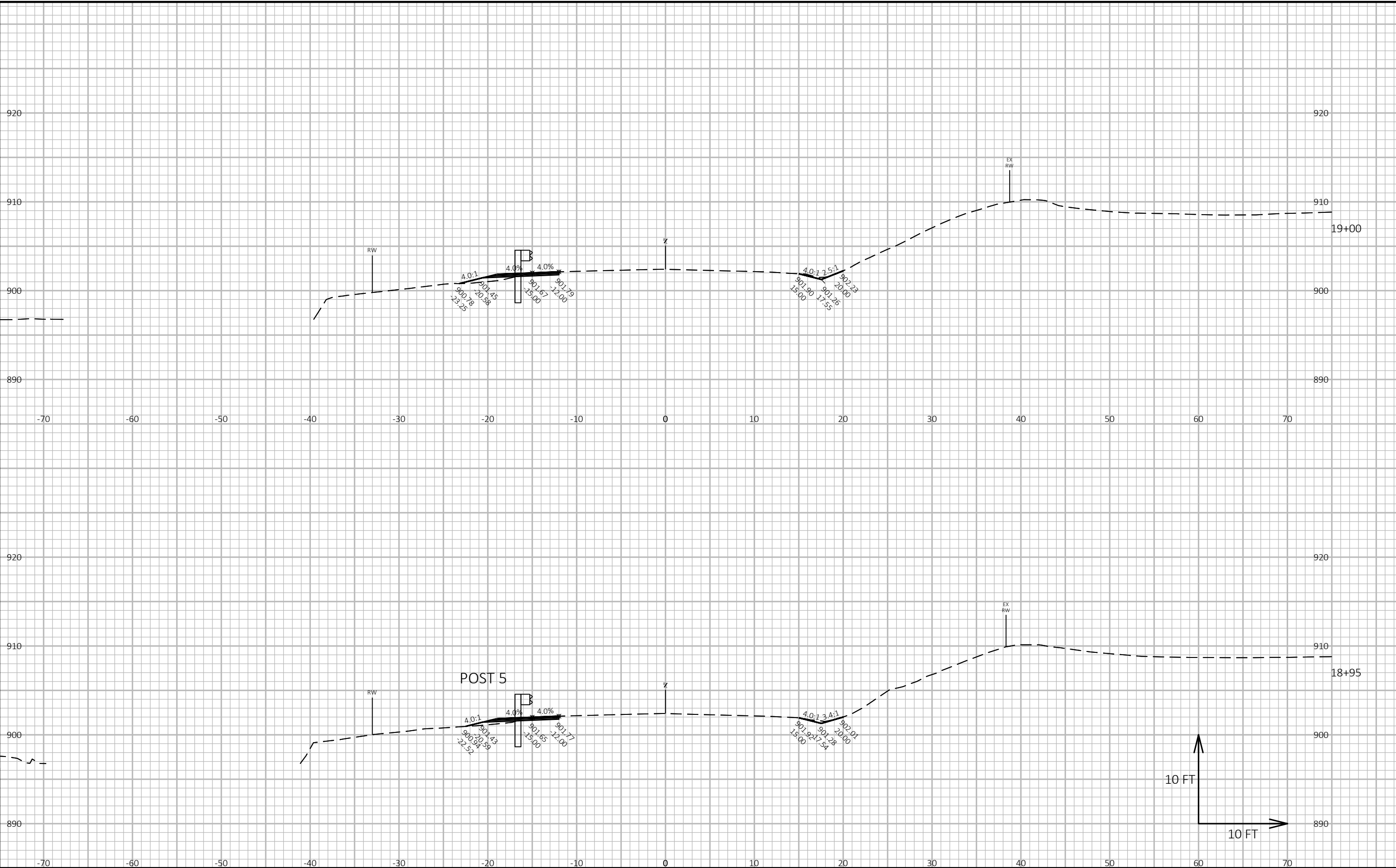
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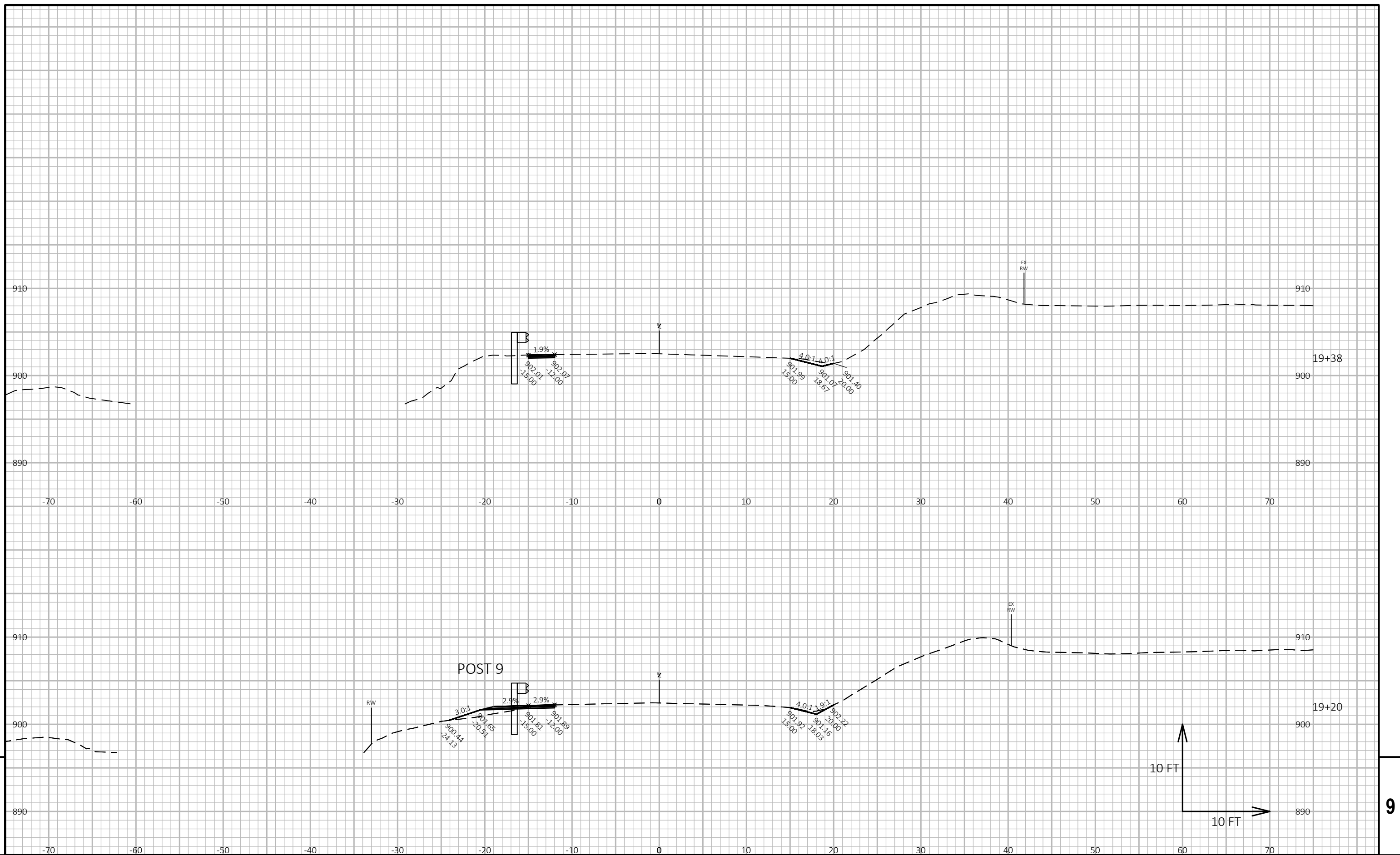
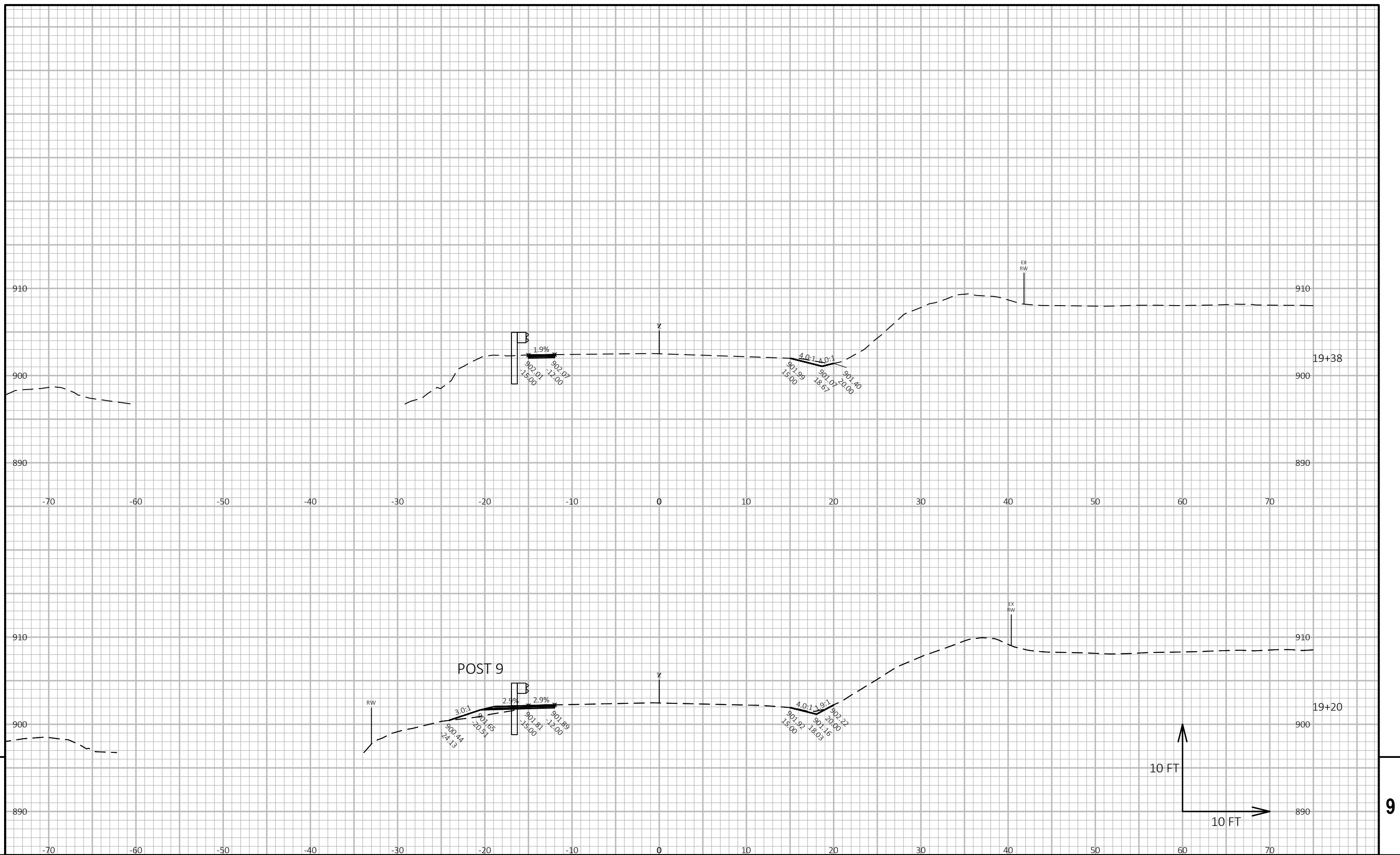


PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET	E
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[illegible]







PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET	E
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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET	E
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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET	E
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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET	E
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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET	E
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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET	E
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FILE NAME :	N:\PDS\C3D\13302900\SHEETSPLAN\090213-XS_2016.DWG	PLOT DATE :	7/5/2022 3:17 PM	PLOT BY :	CASTRO, JOEL	PLOT NAME :		PLOT SCALE :	1 IN:10 FT HORZ. / 1 IN:10 FT VERT.	WISDOT/CADDS SHEET 49
LAYOUT NAME -	090213-xs-13									

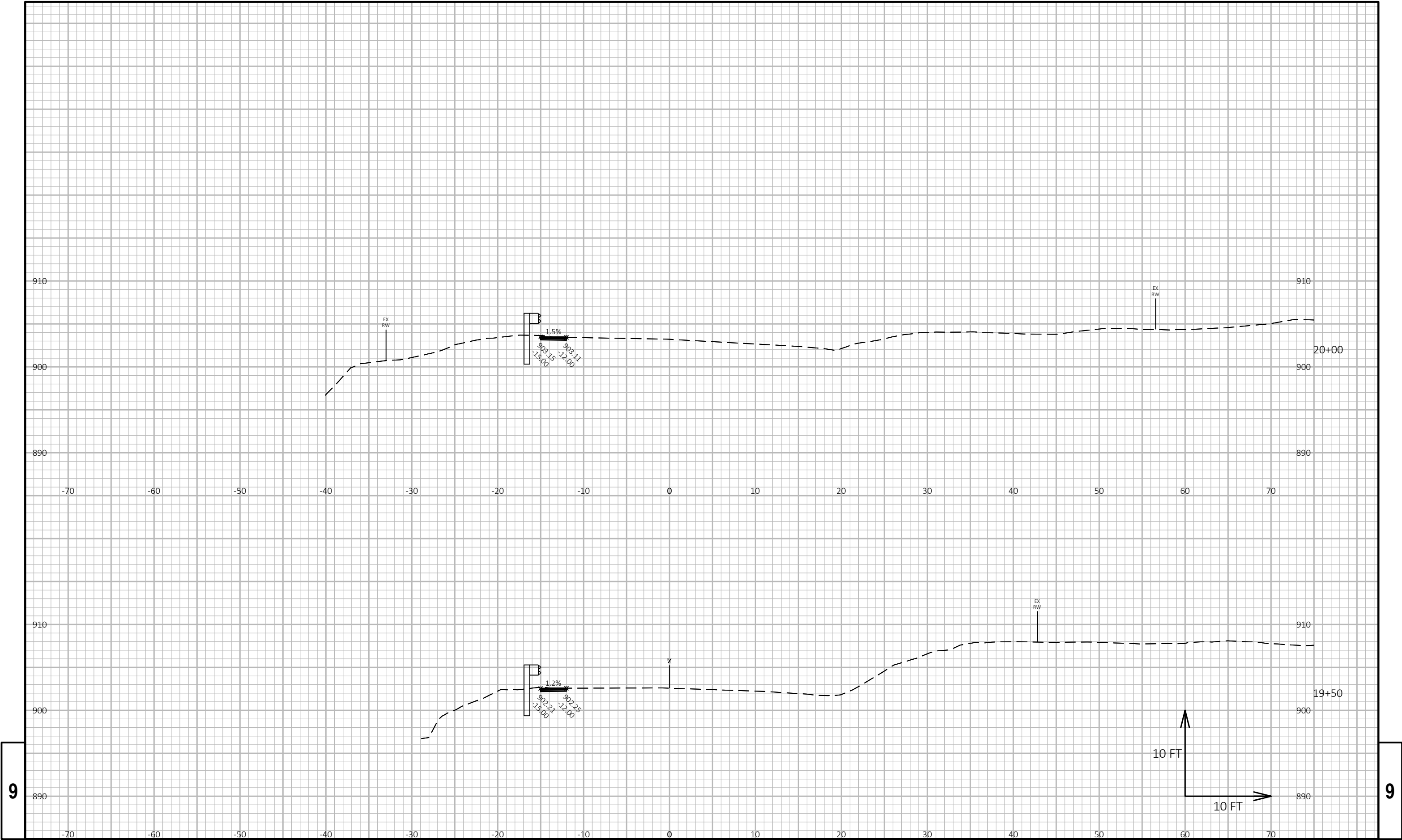
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LAYOUT NAME -	090213-xs-13									

[illegible][illegible]

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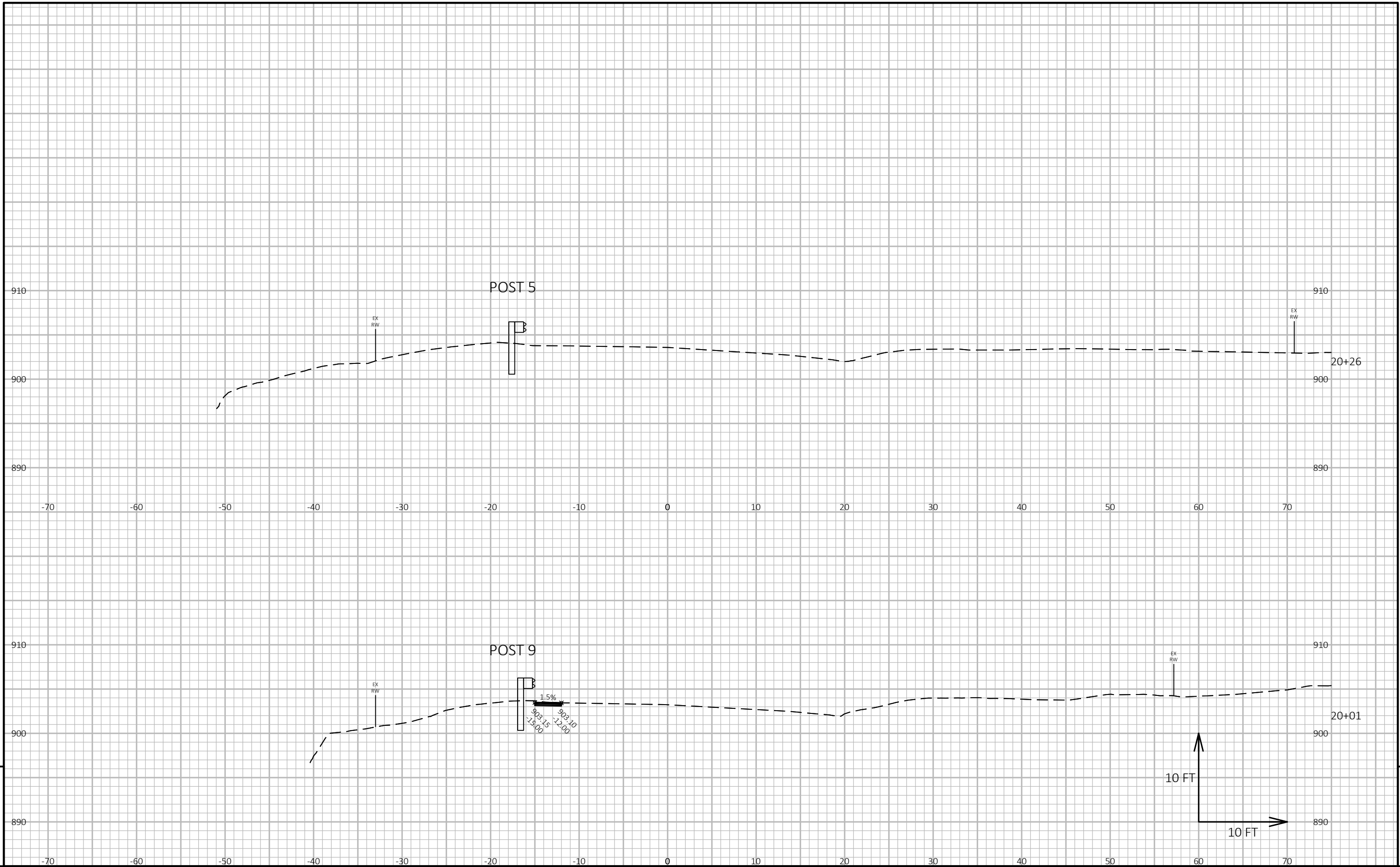
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LAYOUT NAME - 090213-xs-13 WISDOT/CADDs SHEET 49

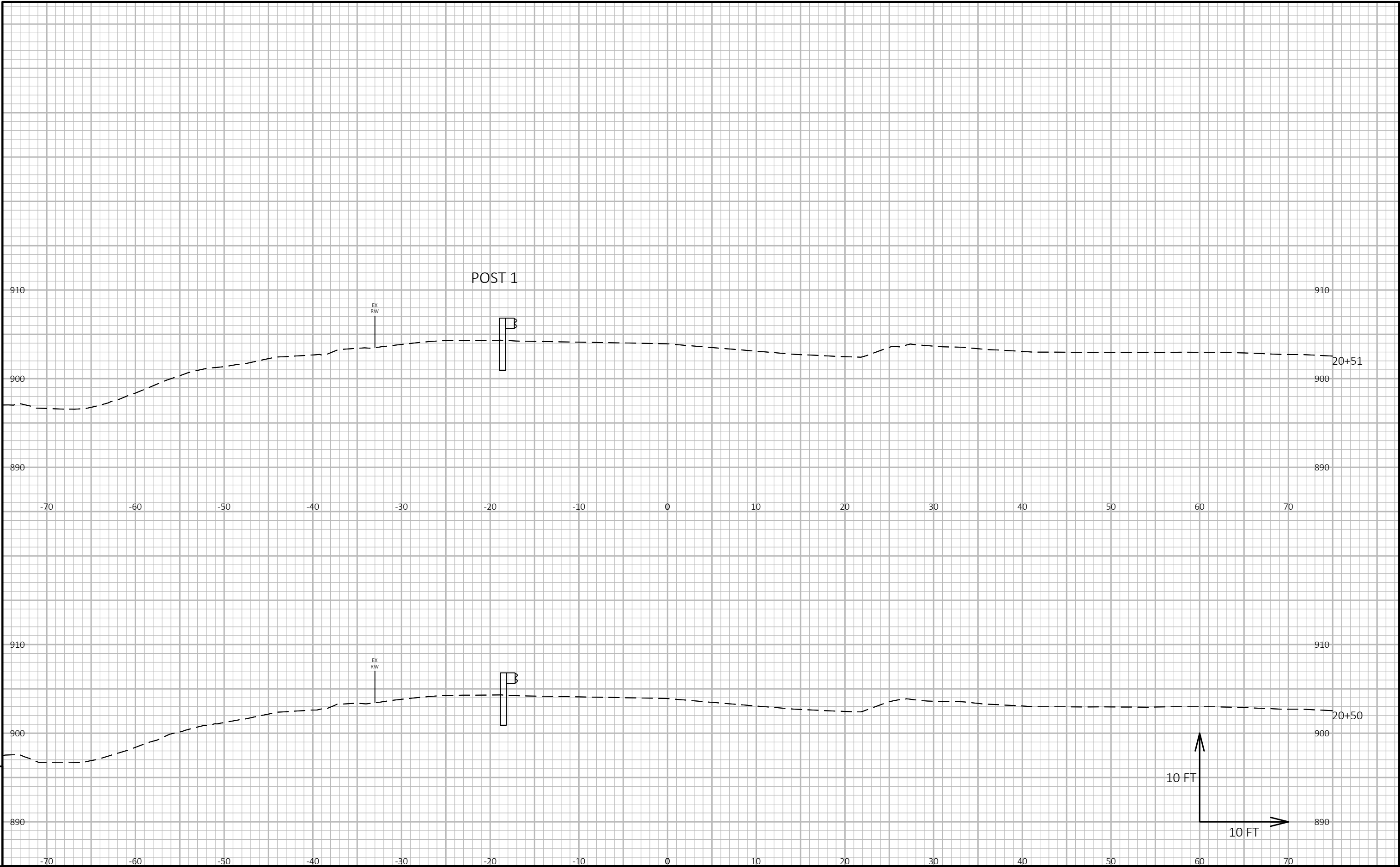


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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET E
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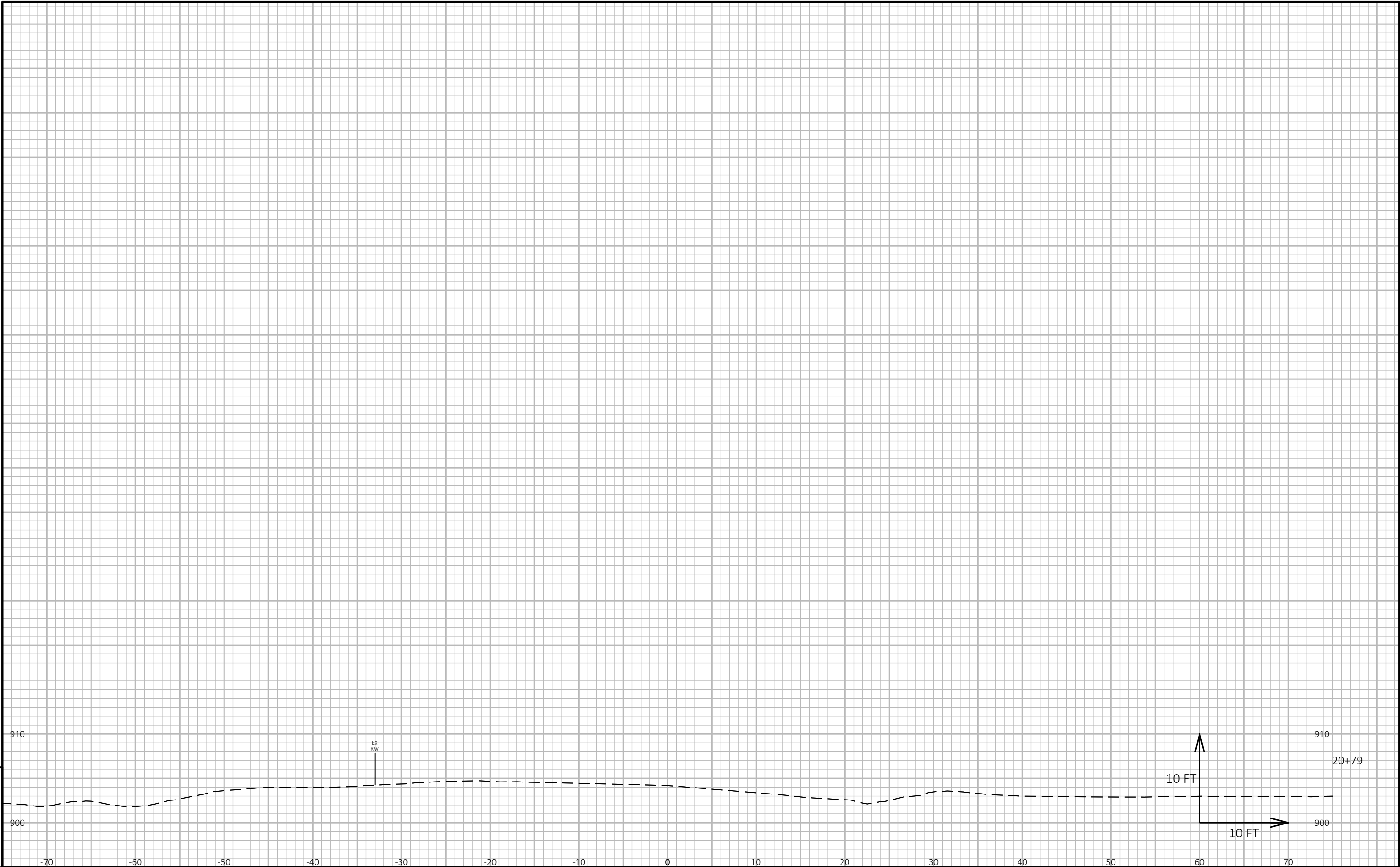




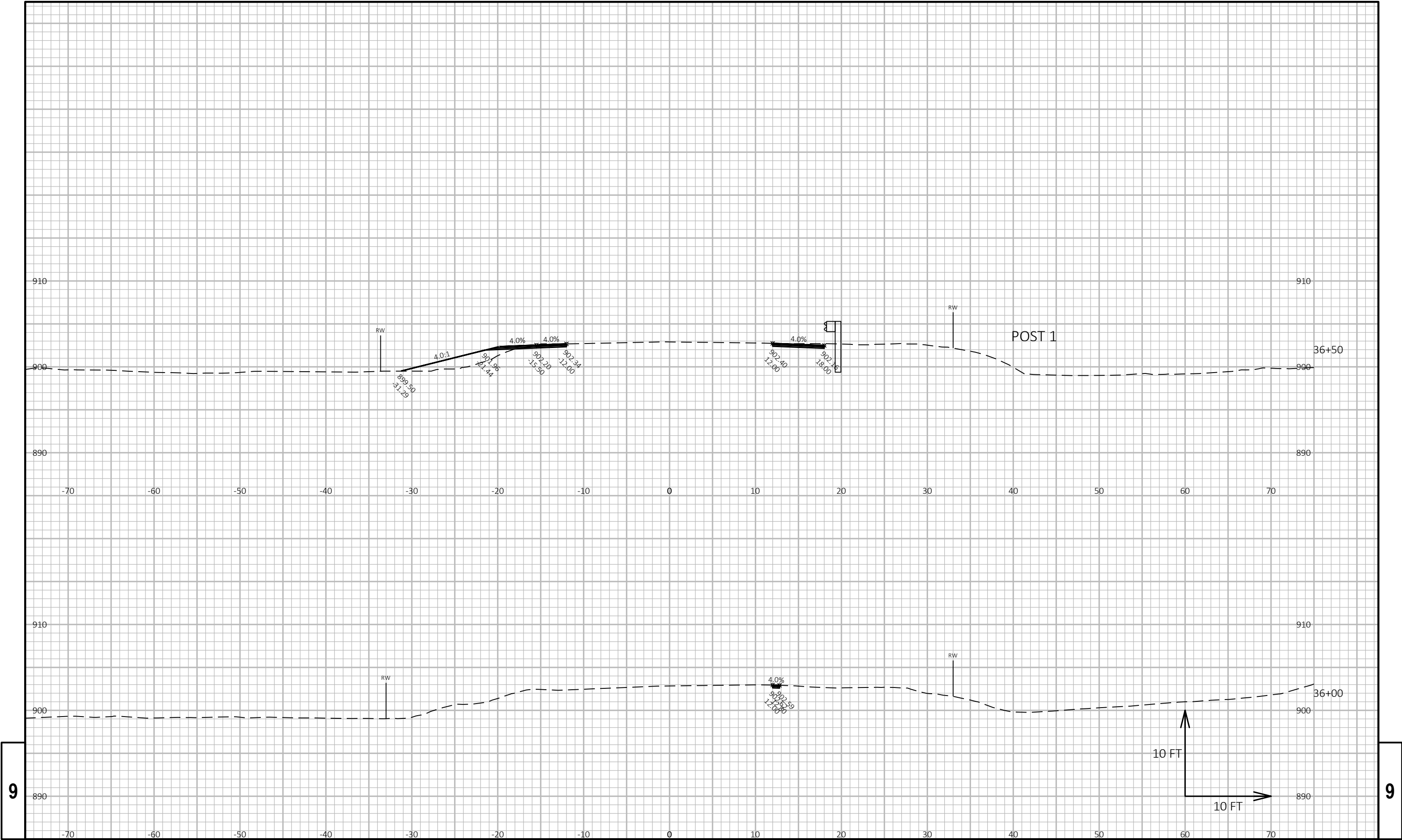
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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET E
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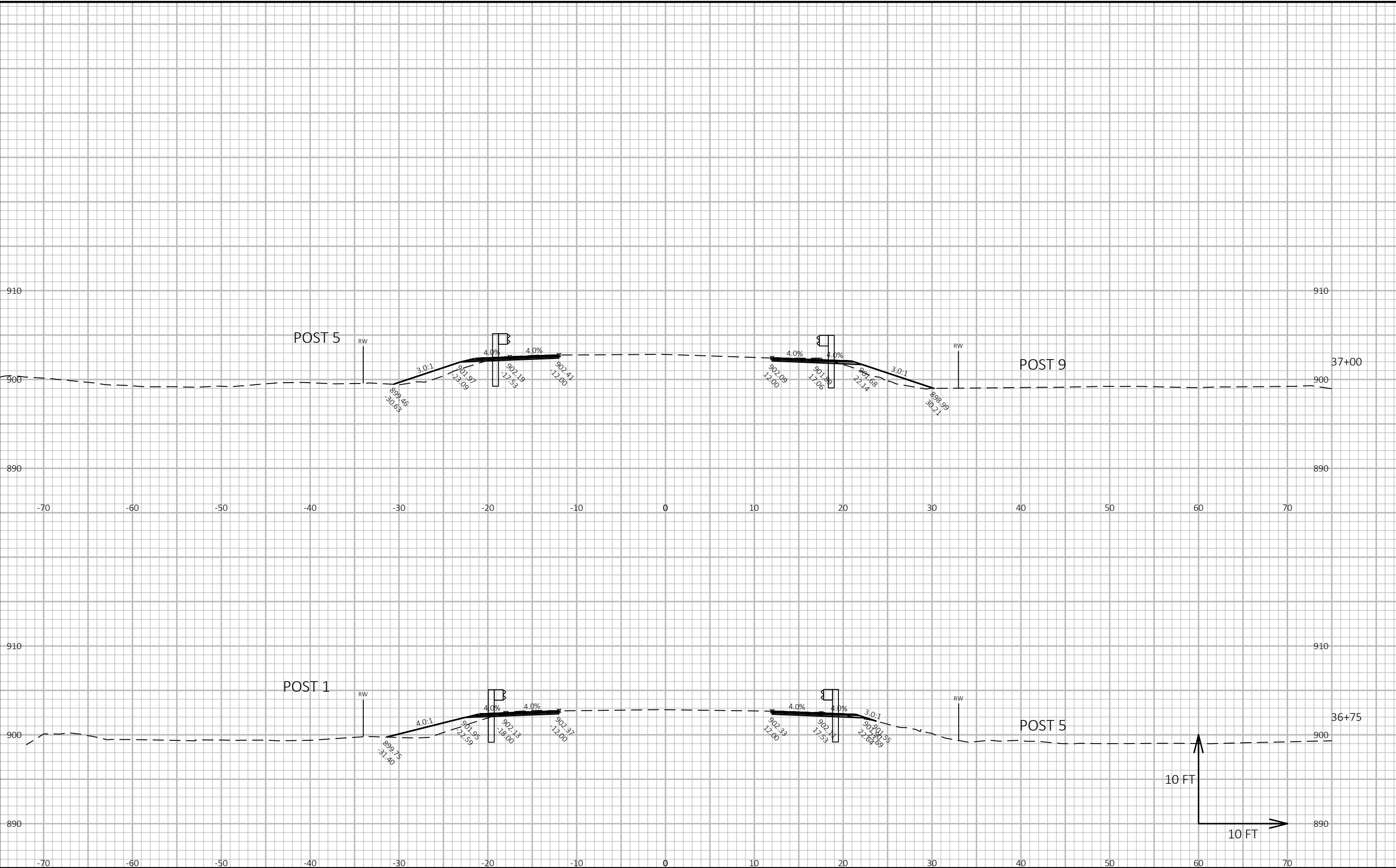
PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET	E
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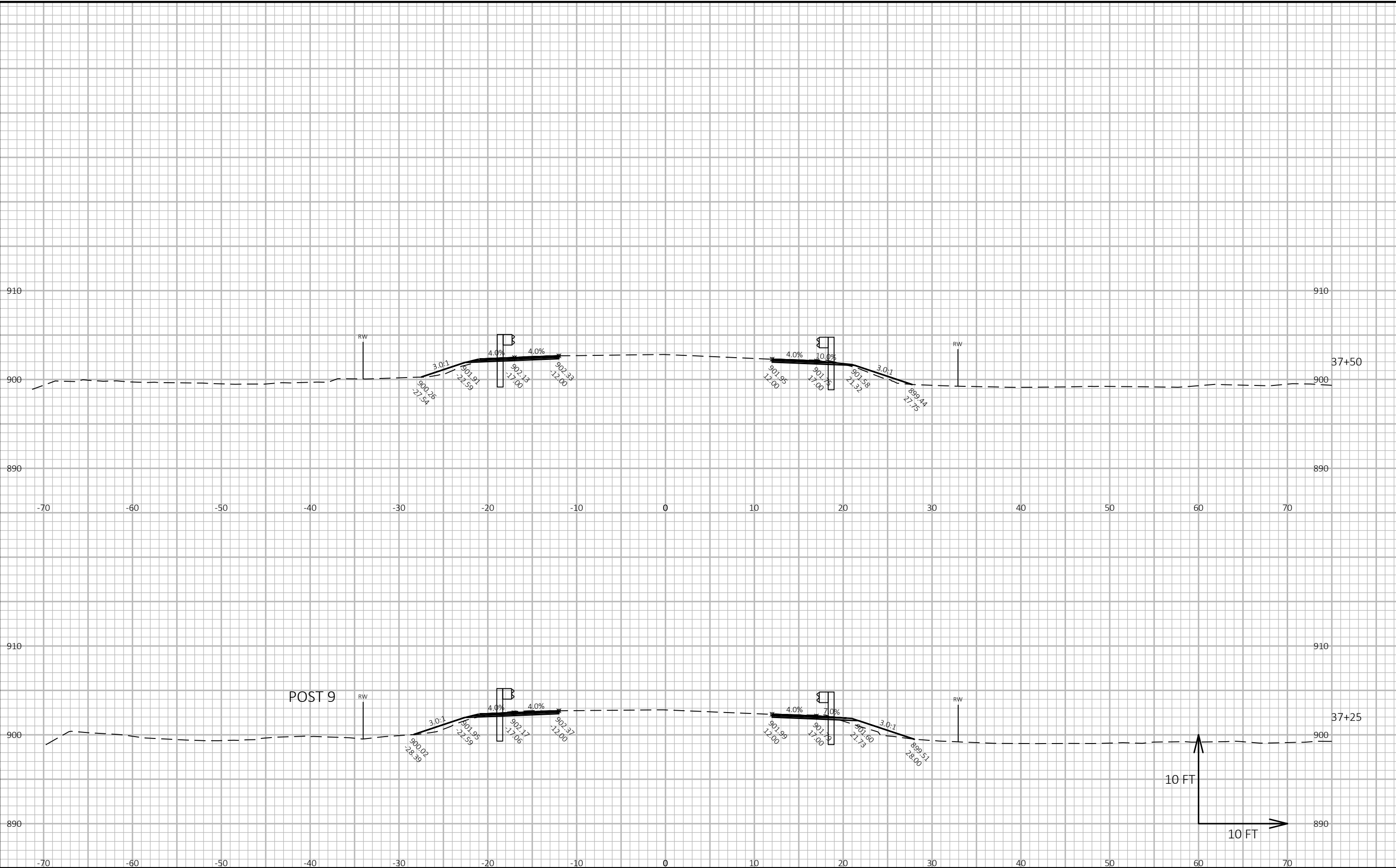


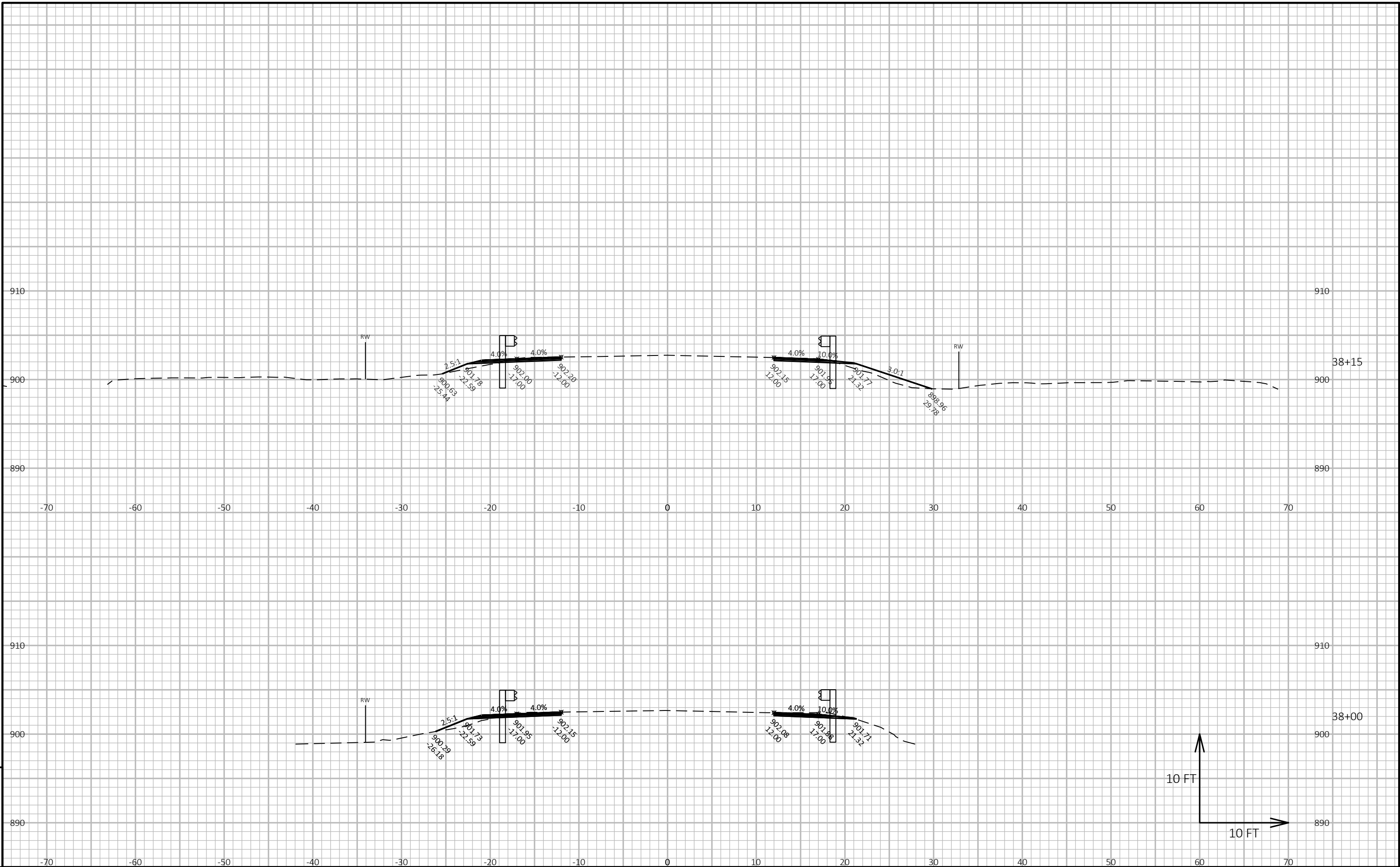
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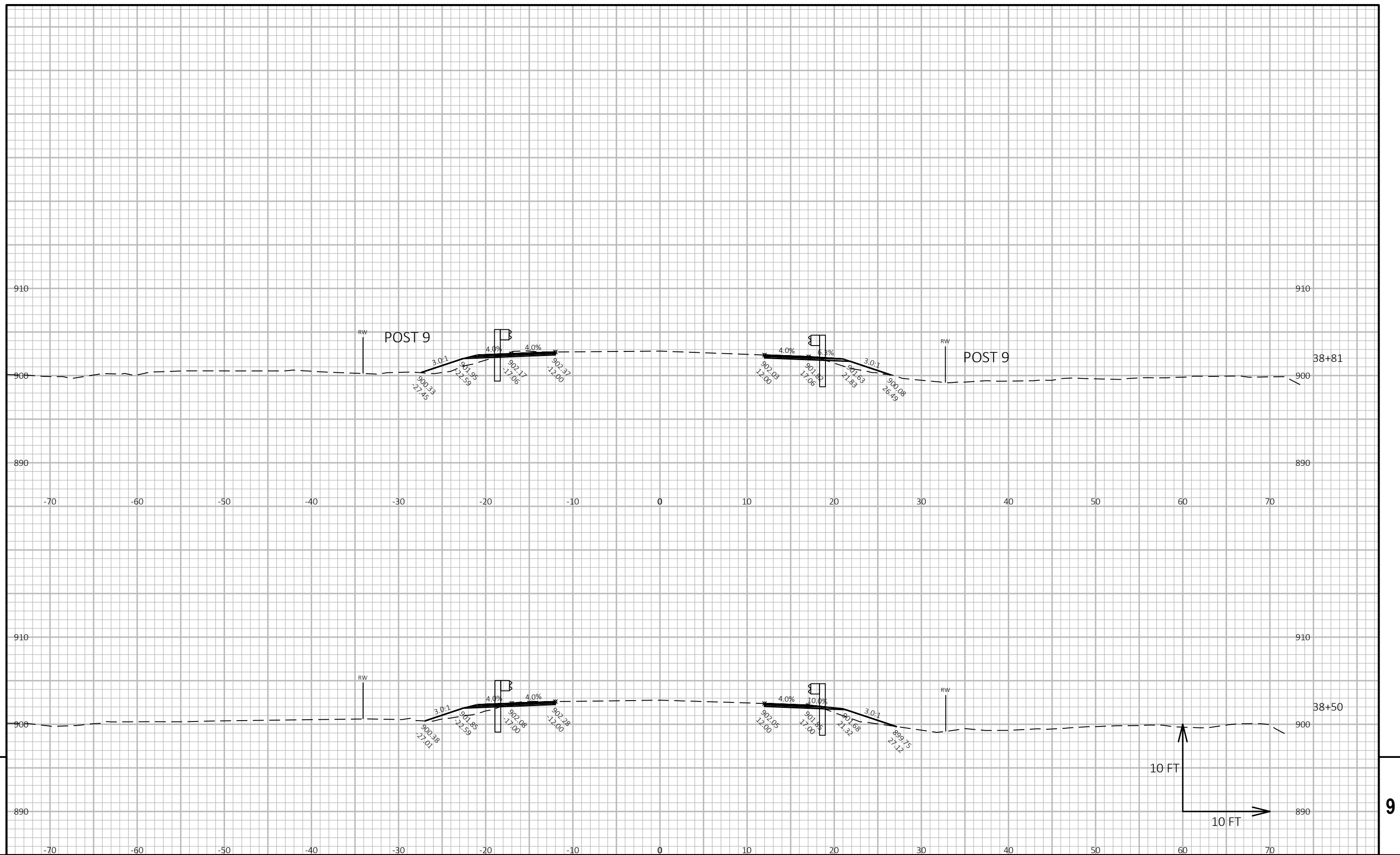
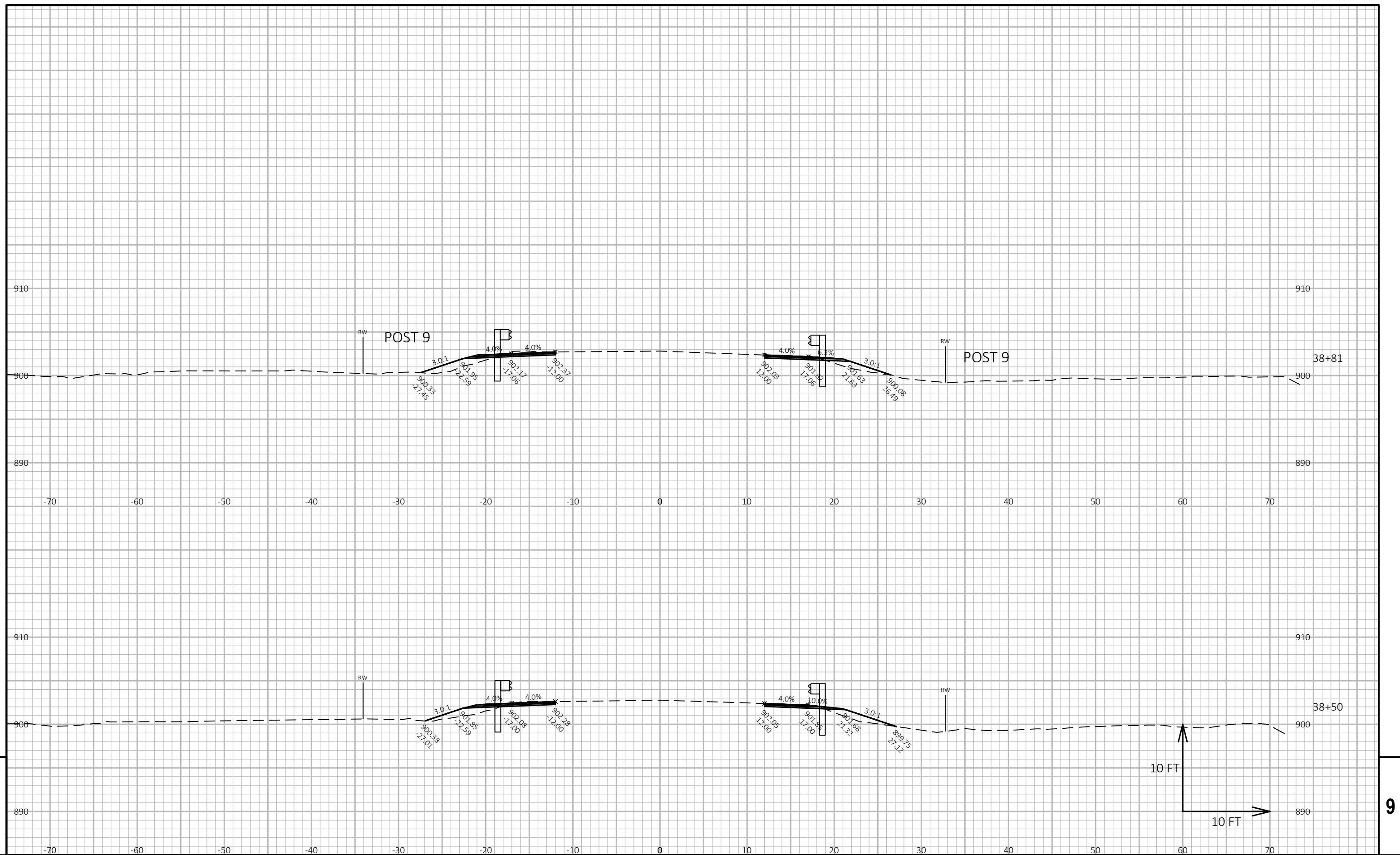
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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET E
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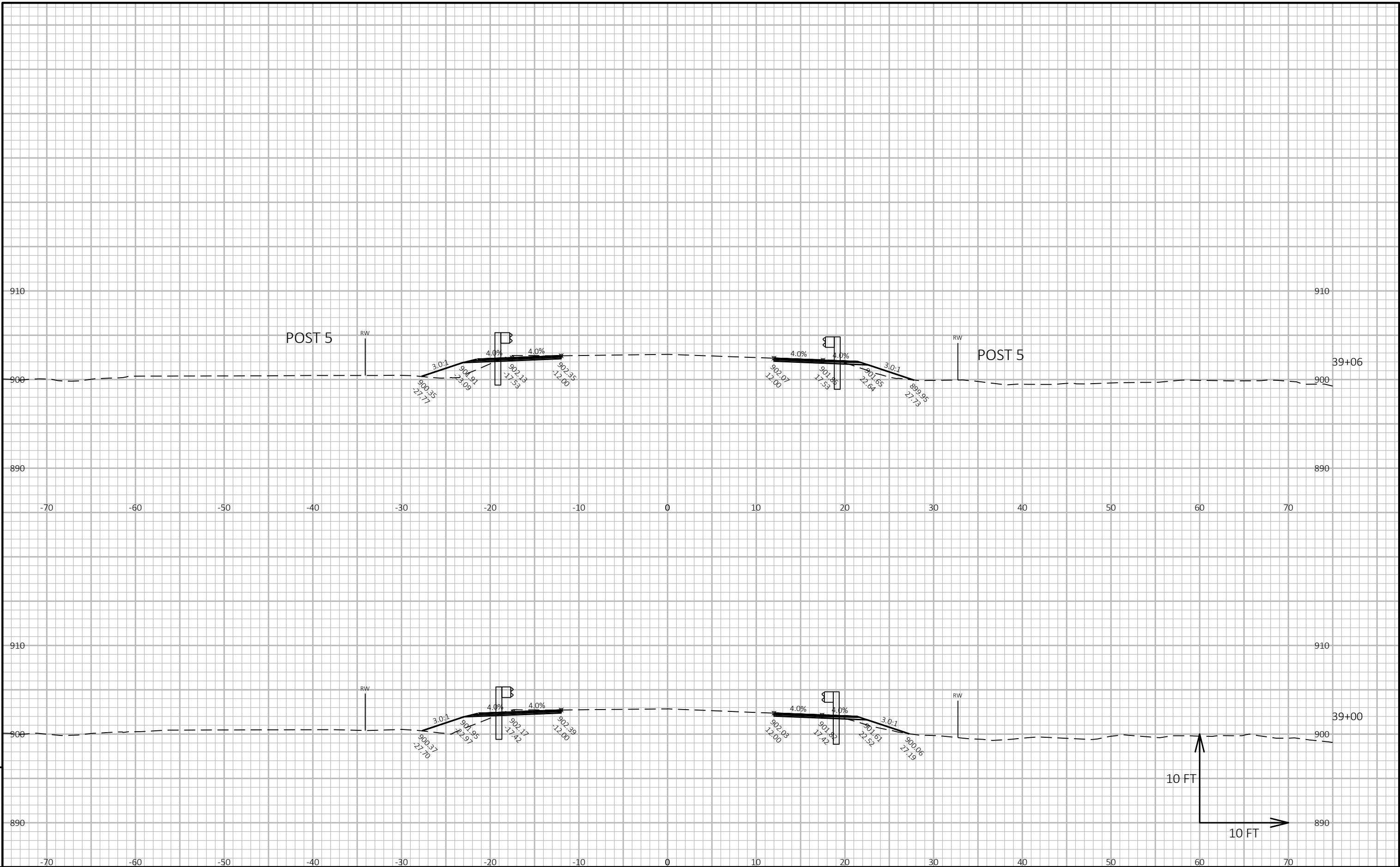


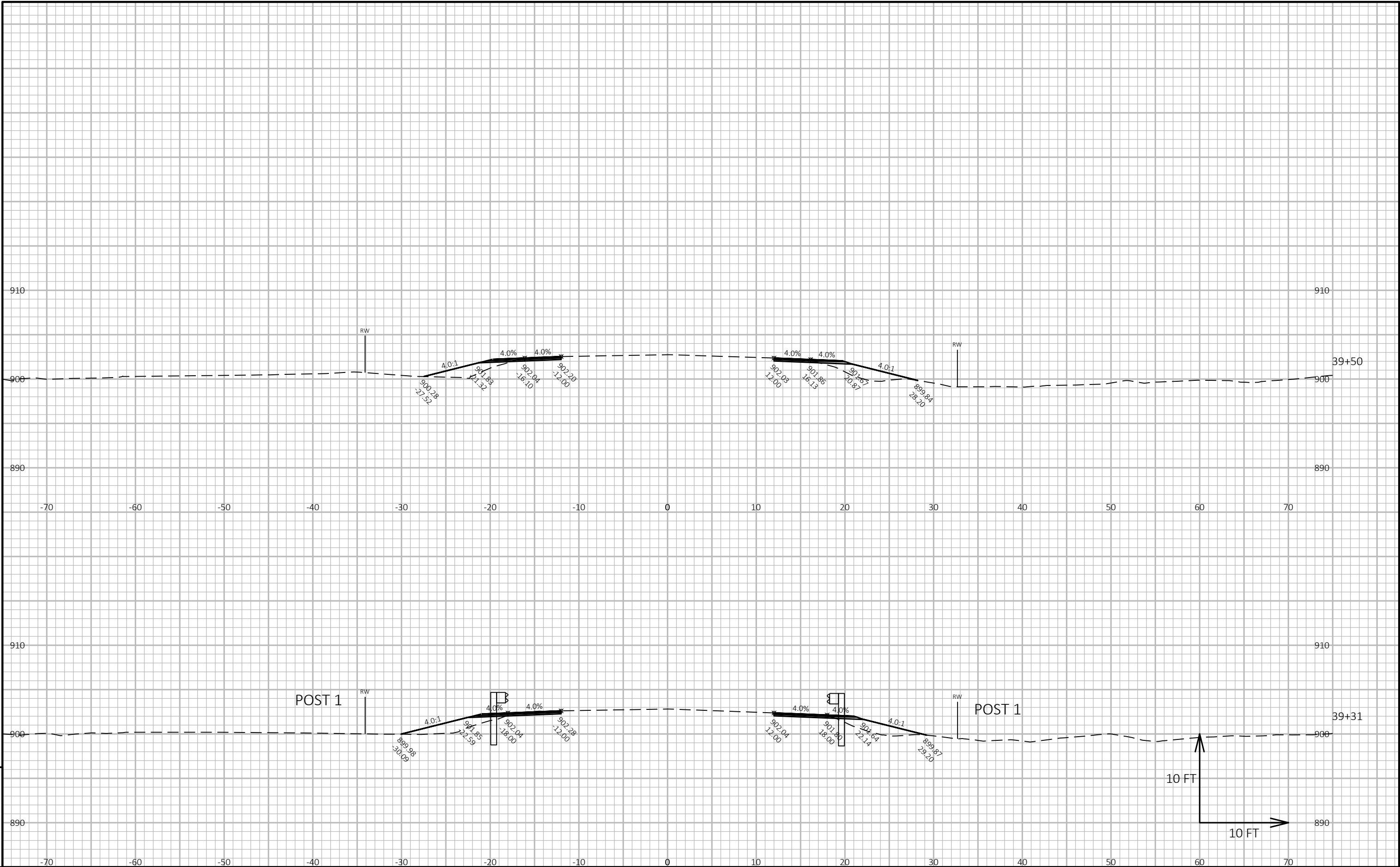






PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET	E
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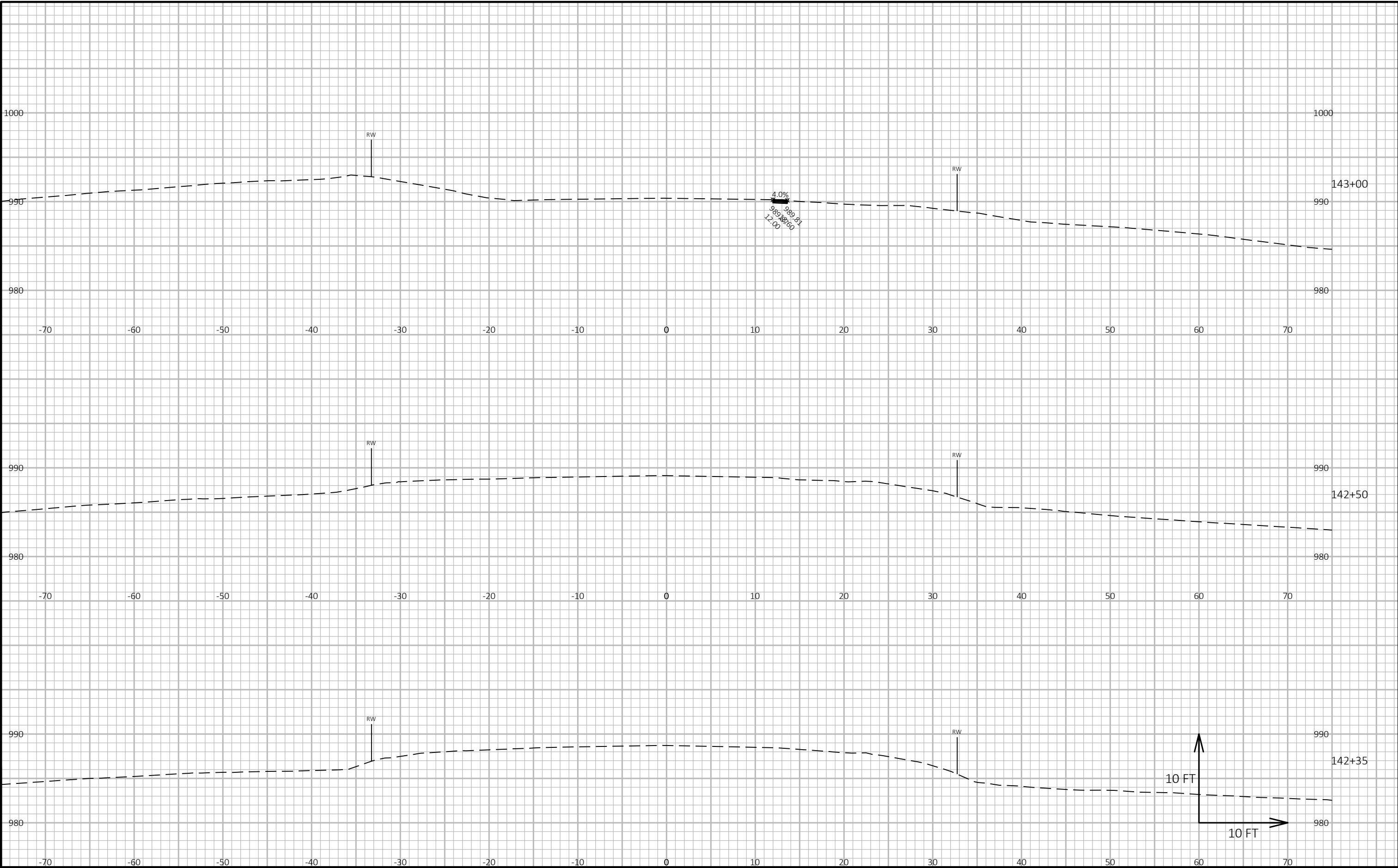


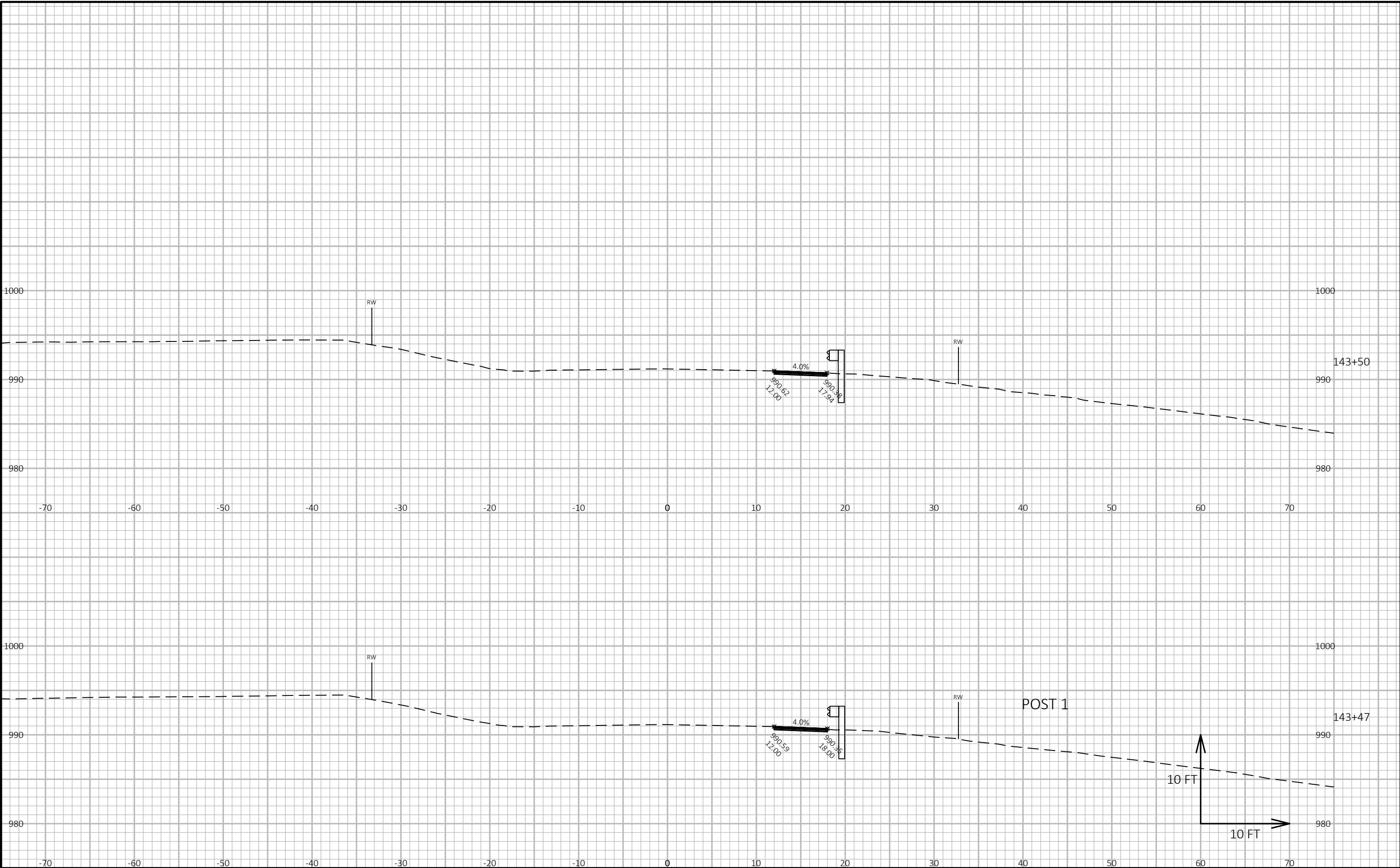


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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET	E
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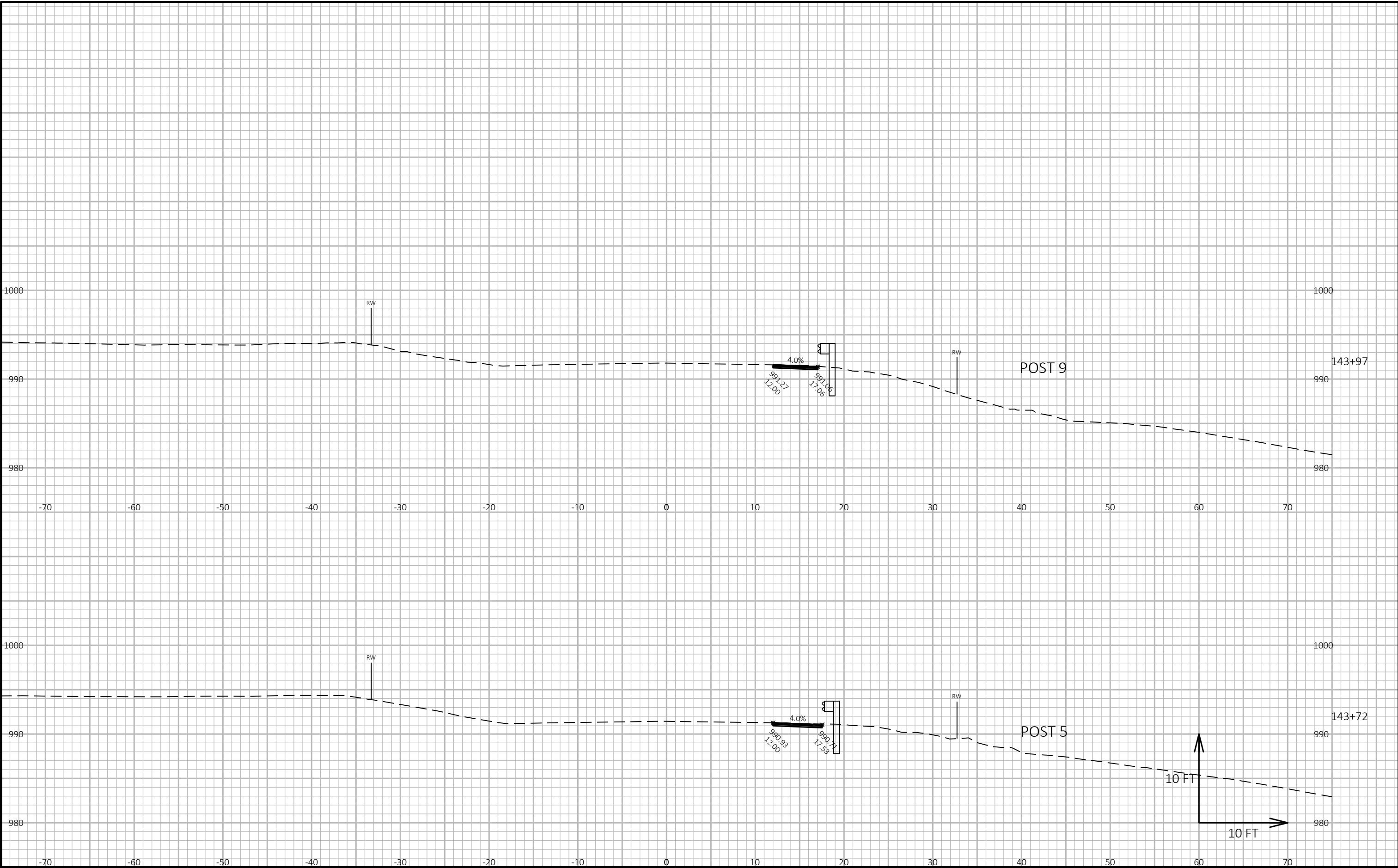




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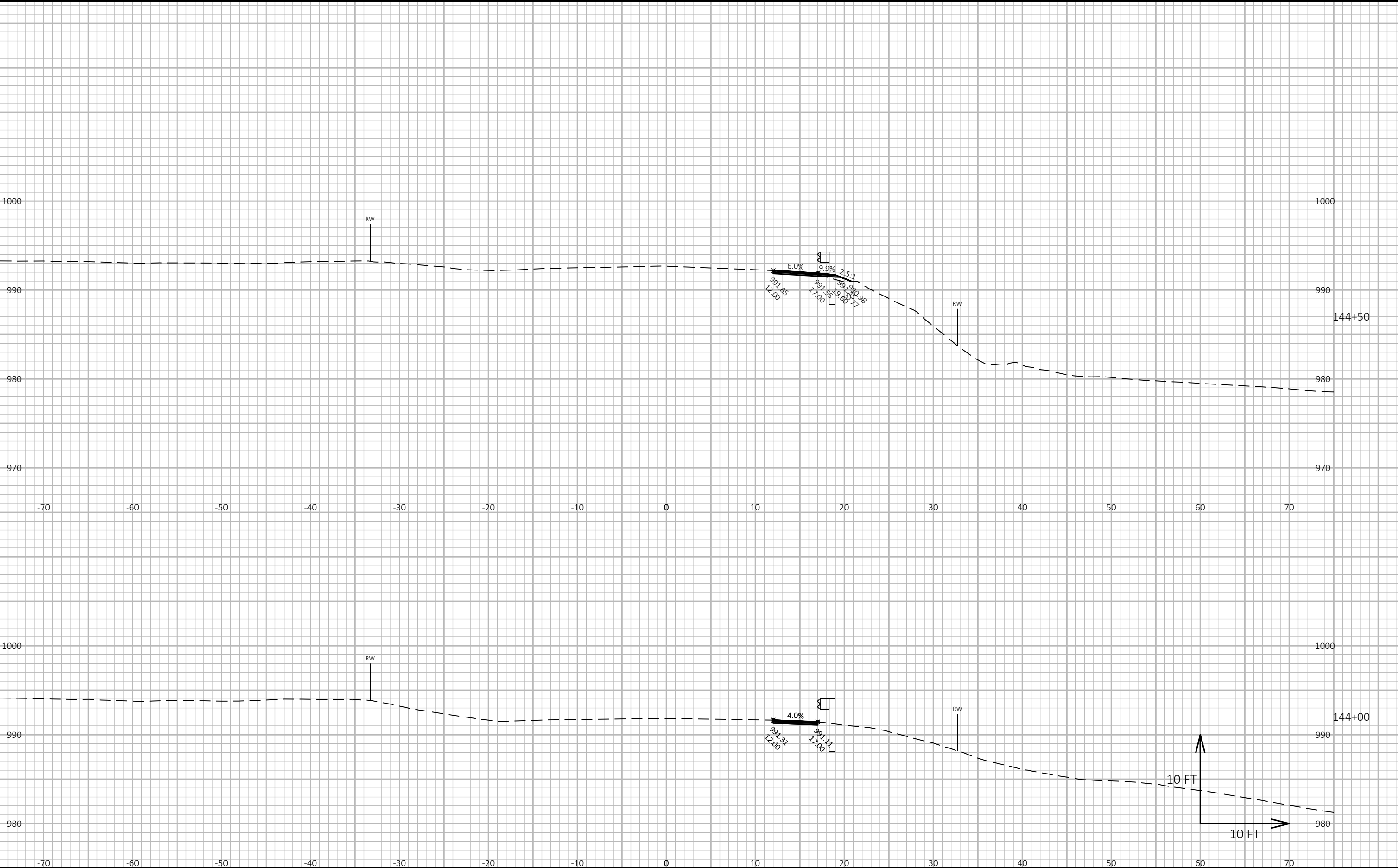
PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET E
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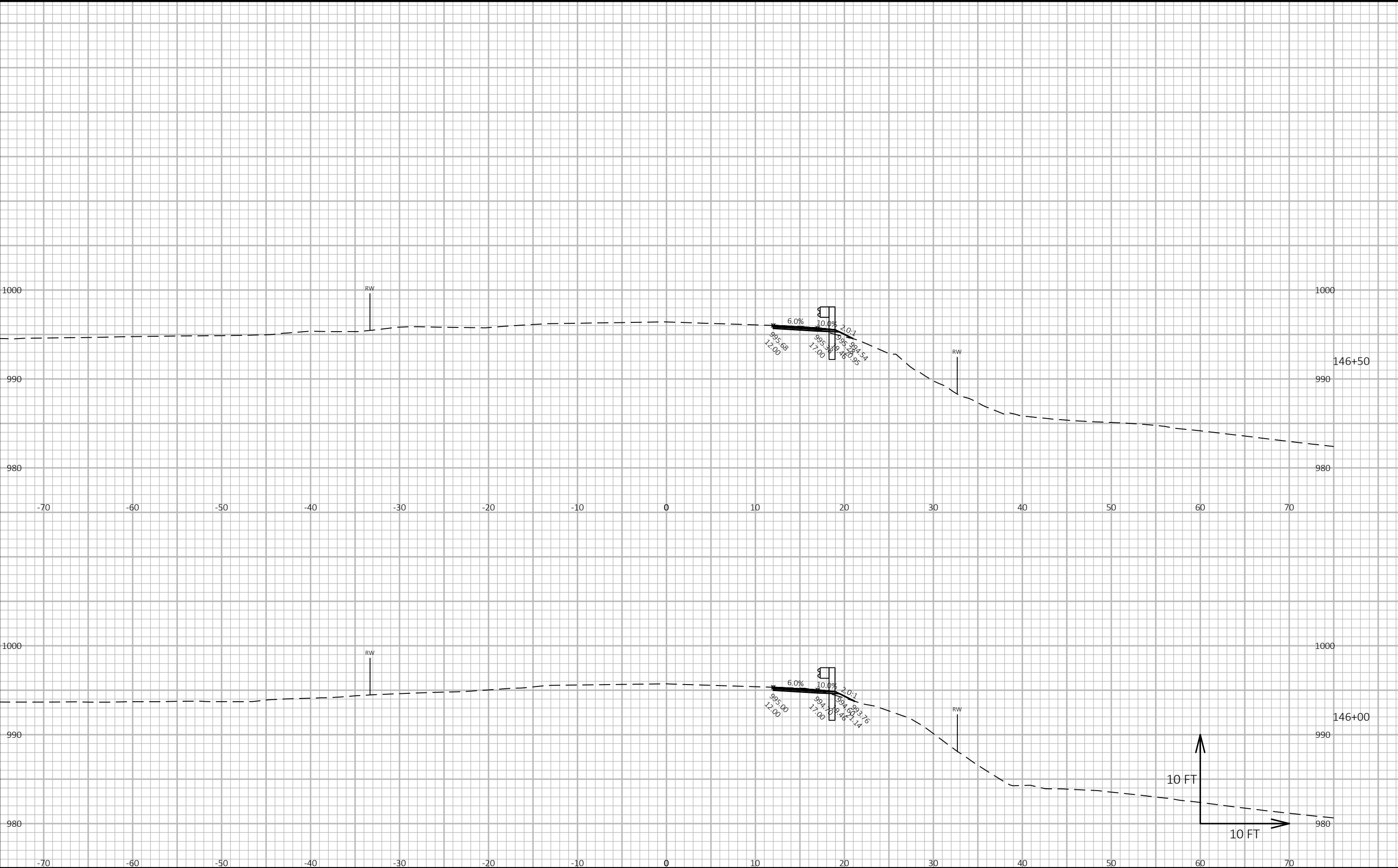


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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET E
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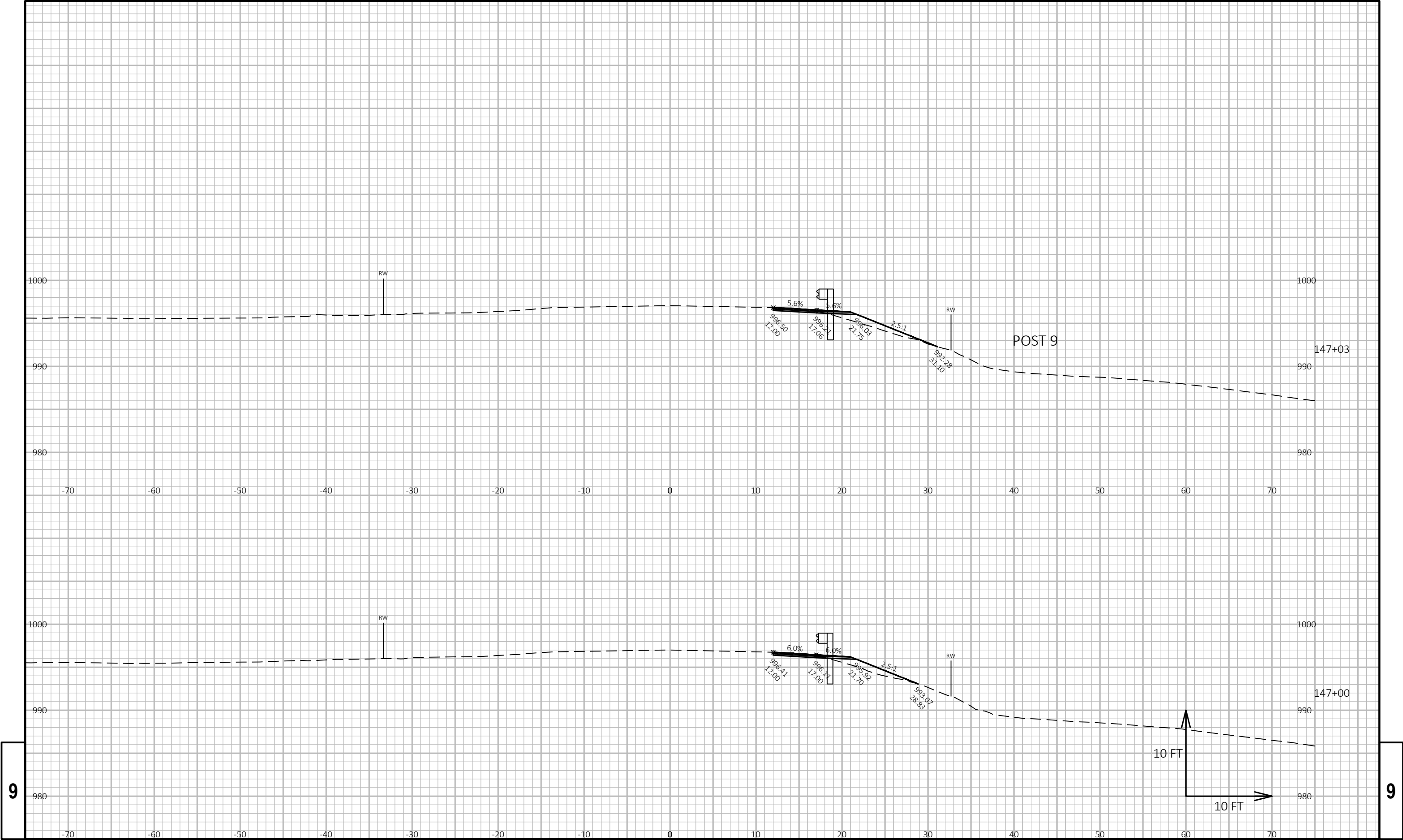




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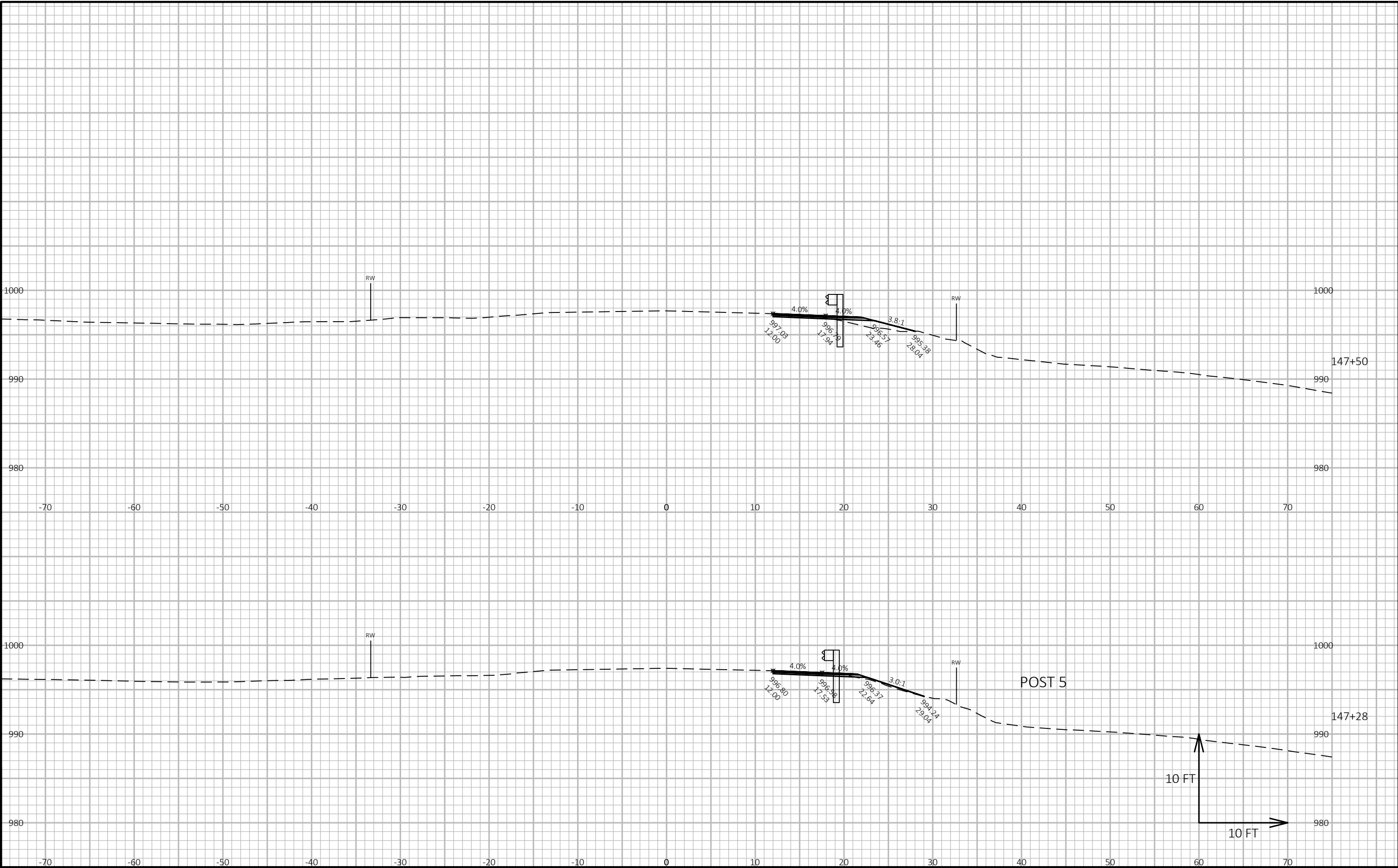
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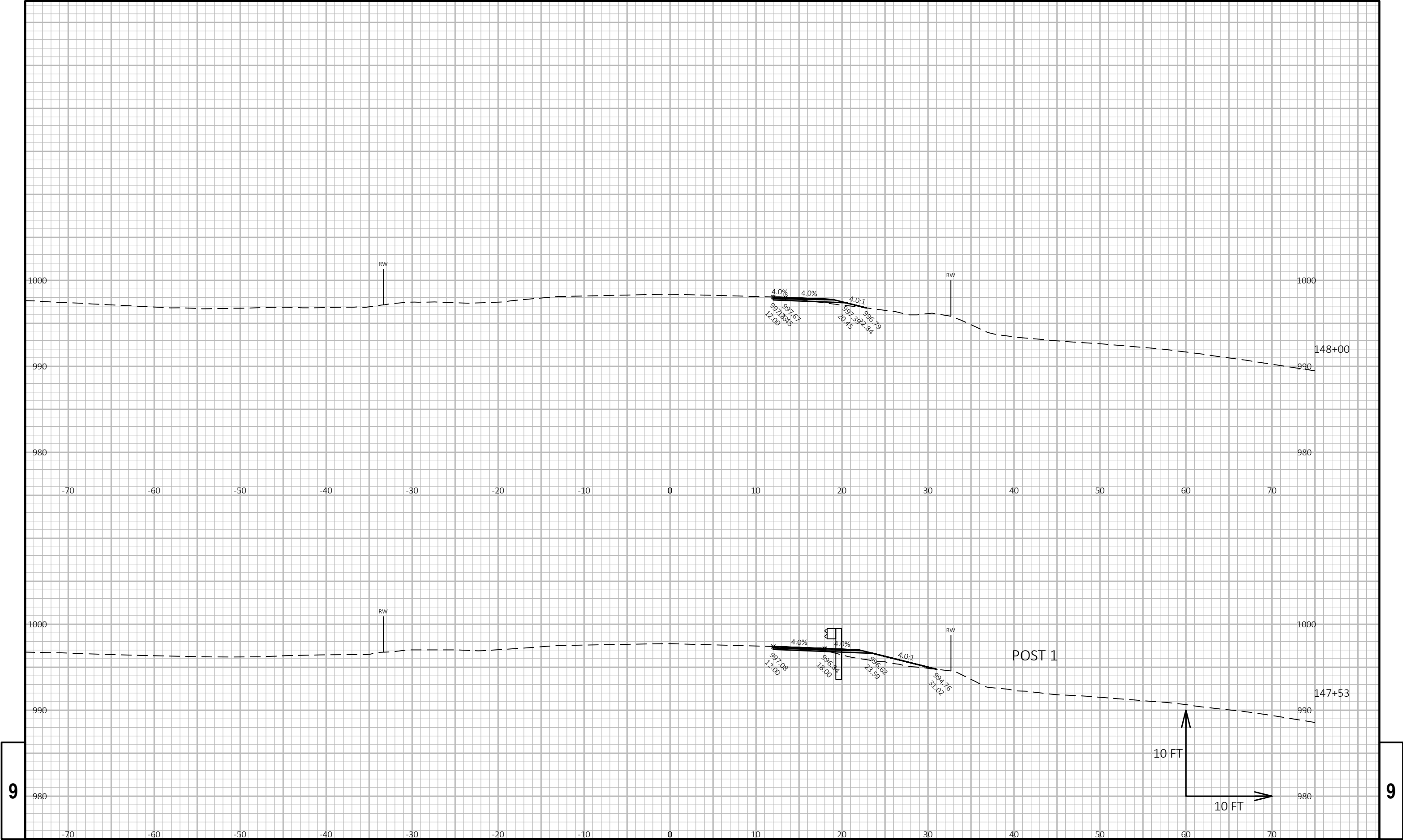
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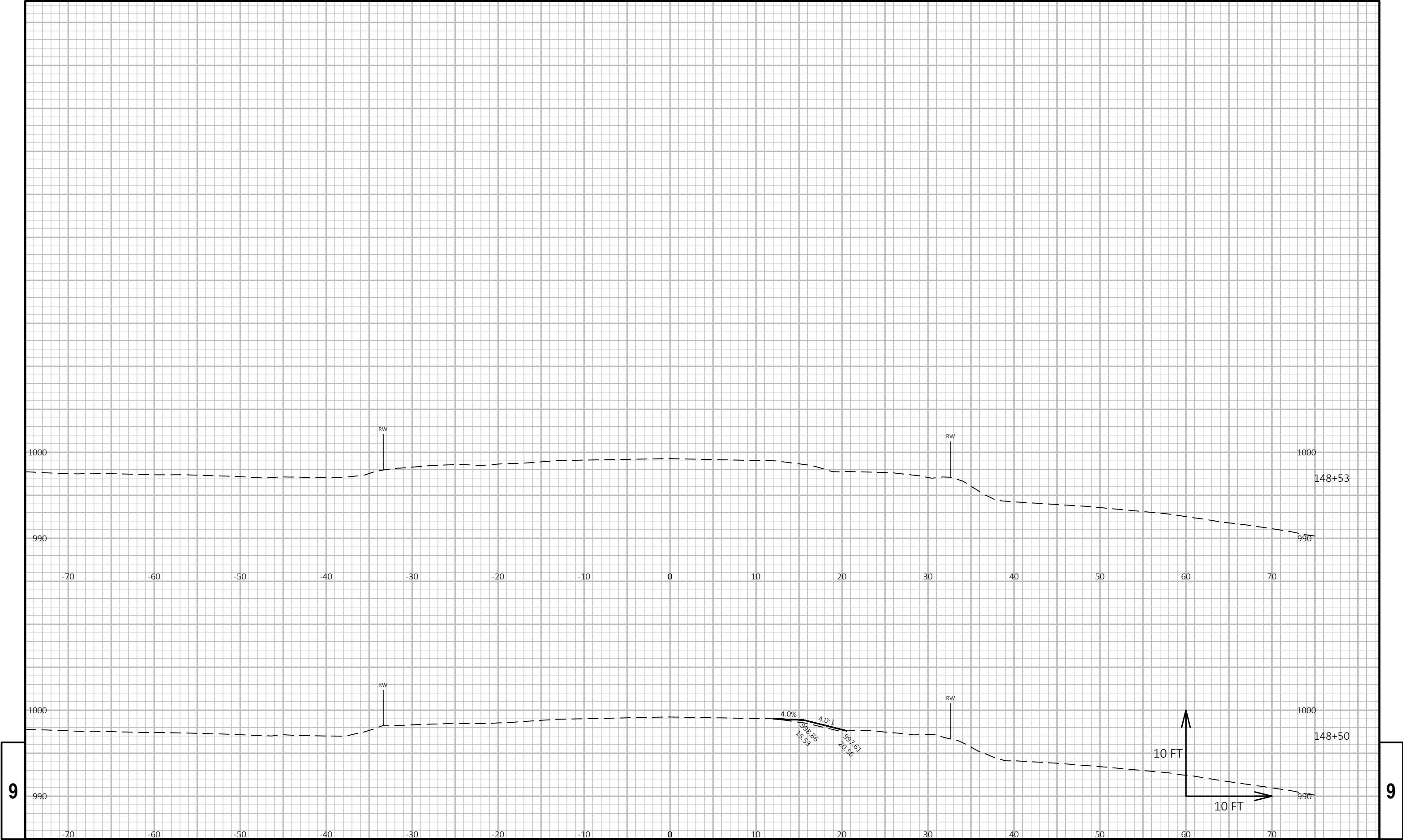




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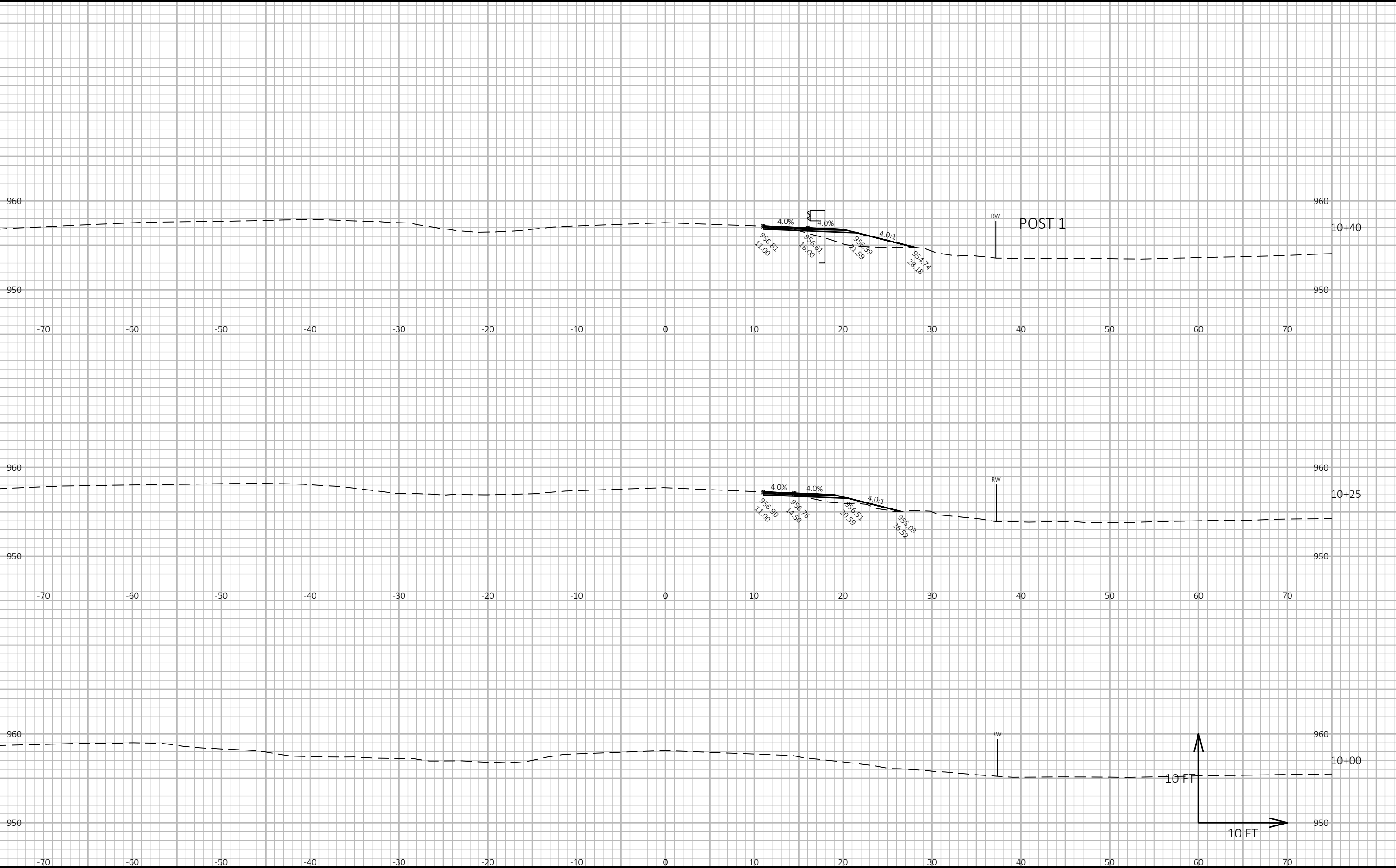
PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET E
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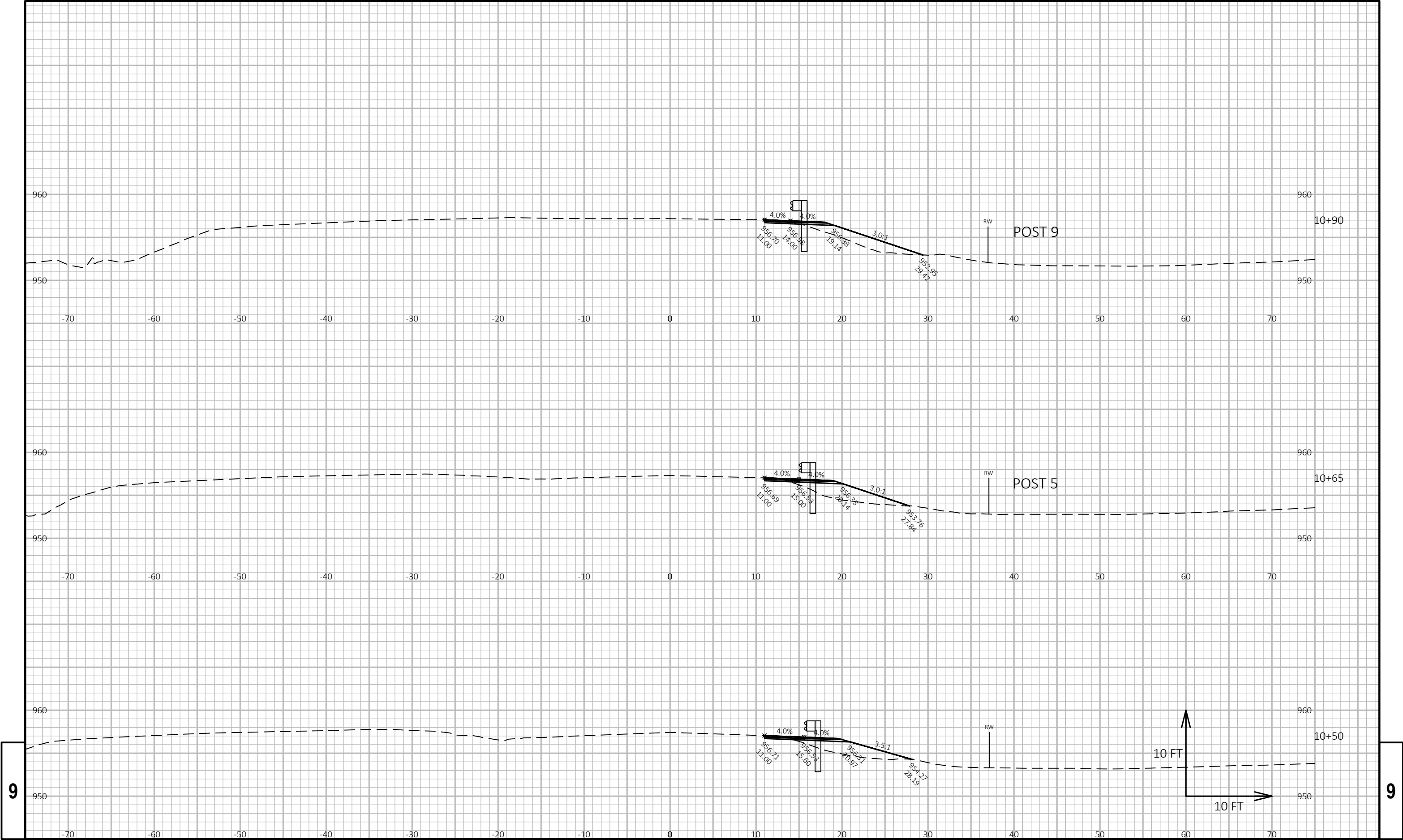


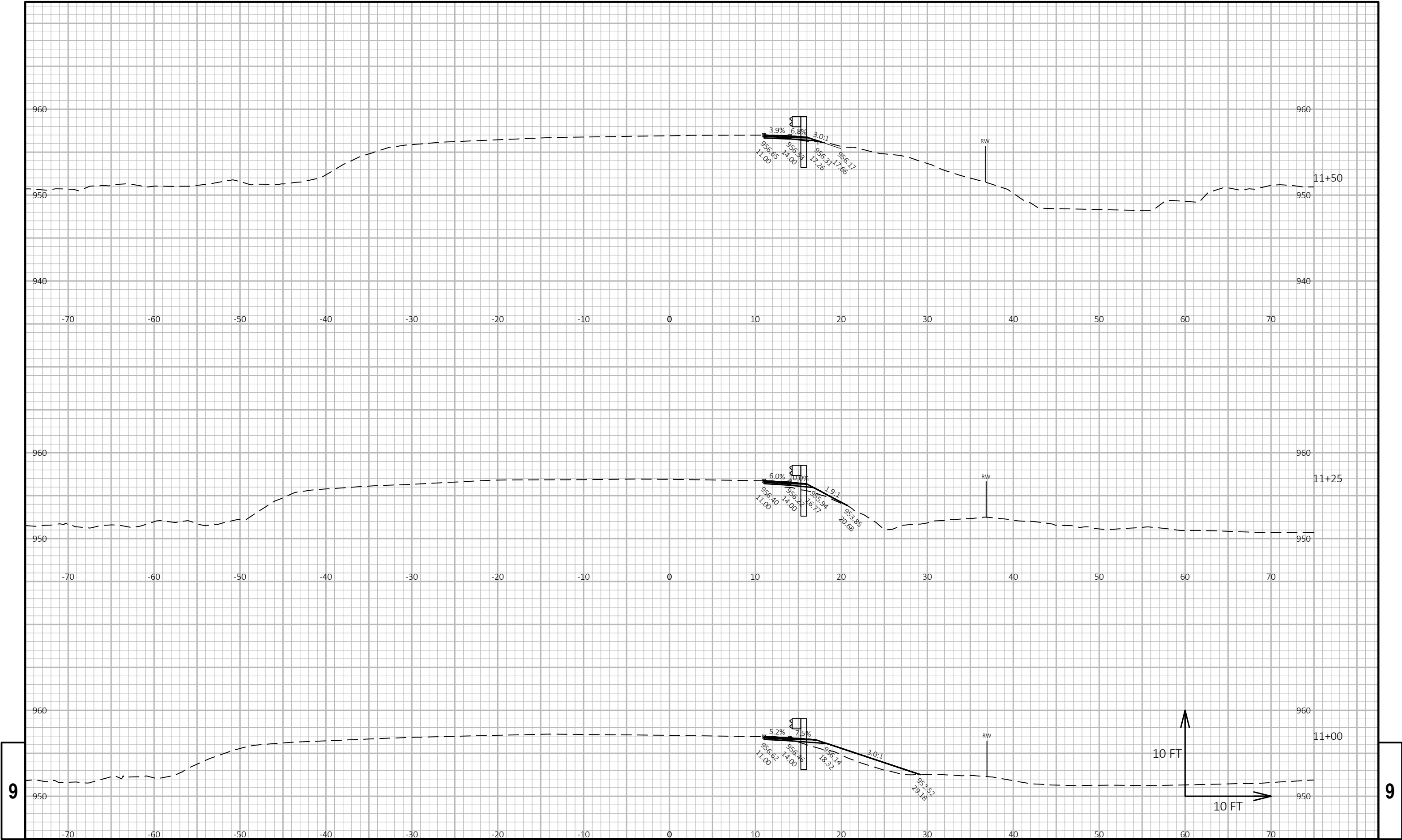
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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: STH 83	SHEET	E
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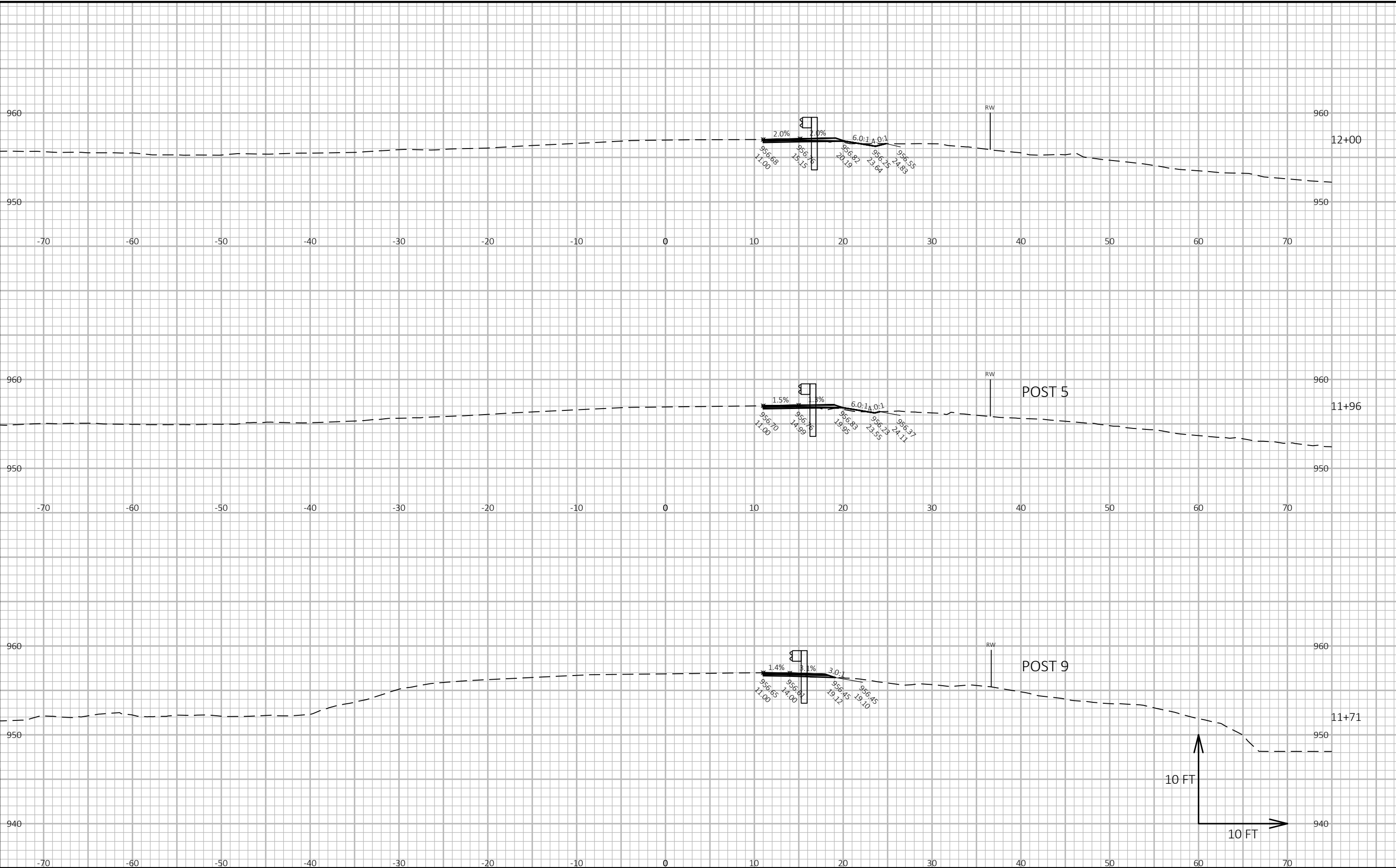


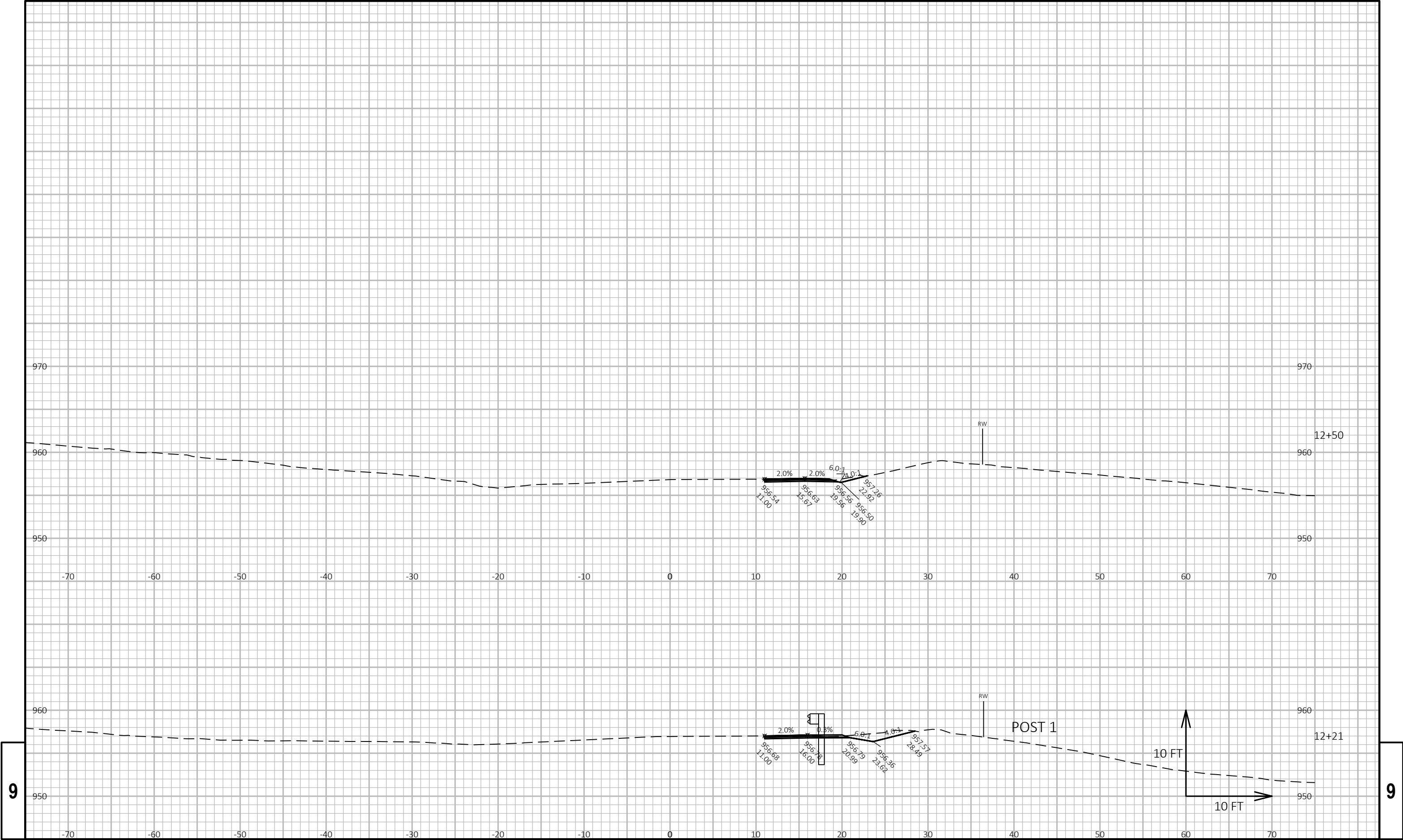


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PROJECT NO: 1330-29-70	HWY: STH 83	COUNTY: WAUKESHA	CROSS SECTIONS: CTH CW	SHEET E
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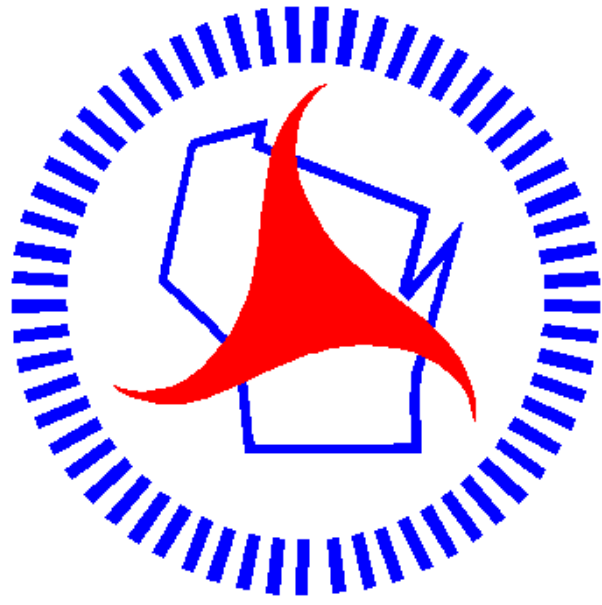




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Notes



Wisconsin Department of Transportation

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