RHI

DECEMBER 2026

PROJECT ID: 9394-00-70

WITH: N/A

COUNTY: SHAWANO

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details (Includes Erosion Control)
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
~~Section No.~~	~~4~~	~~Right of Way Plat~~
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 = 108



36

N

DESIGN DESIGNATION

A.A.D.T.	(2027)	=	1536
A.A.D.T.	(2047)	=	1770
D.H.V.		=	243
D.D.		=	60/40
T.		=	10.2%
DESIGN SPEED		=	45 MPH
ESALS		=	360,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STH 29 - CTH D

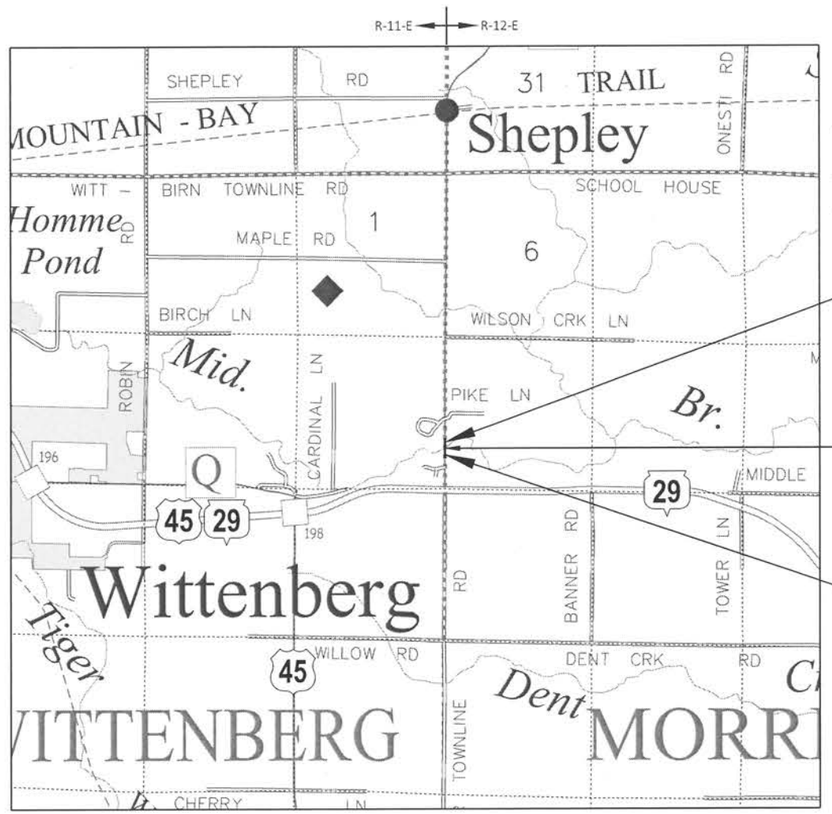
MIDDLE BR EMBARRASS RVR B-58-0140

CTH Q

SHAWANO COUNTY

STATE PROJECT NUMBER
9394-00-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9394-00-70		



END PROJECT
STA 15+65.00

STRUCTURE B-58-0140
STA 12+96 - STA 13+48

BEGIN PROJECT
STA 10+71.33
Y = 289,551.53
X = 731,988.90

LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.093 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), SHAWANO 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 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A

ACCEPTED FOR SHAWANO COUNTY

DATE: 7/29/26 (Signature)

ORIGINAL PLANS PREPARED BY:

STRAND ASSOCIATES®



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	STRAND ASSOCIATES
Designer	STRAND ASSOCIATES
Project Manager	NATHAN WAITE
Regional Examiner	NATHAN WAITE
Regional Supervisor	DAN ERVA

APPROVED FOR THE DEPARTMENT

DATE: 07/23/2026 (Signature)

E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\010101-TI.DWG

PLOT DATE : 7/22/2026 3:30 AM

PLOT BY : KOWALSKI, NICK

PLOT NAME :

UTILITIES CONTACTS

**DENOTES DIGGERS HOTLINE MEMBER

**CENTRAL WISCONSIN ELECTRIC COOPERATIVE (ELECTRIC)

TYLER TAUTGES
P.O. BOX 100
10401 LYSTUL RD.
ROSHOLT, WI 54473
PHONE: (715) 881-2998
EMAIL: tyler.tautges@cwecoop.com

**WITTENBERG TELEPHONE AND CABLE (CIRRINITY)(FIBER)

MARCUS DAVIDSON
P.O. BOX 160
WITTENBERG, WI 54499-0160
PHONE: (715) 253-2111
EMAIL: marcus@cirrinity.net

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

DESIGN CONSULTANT

TERA MEYER, P.E.
STRAND ASSOCIATES, INC.
910 WEST WINGRA DR.
MADISON, WI 53715
PHONE: (608) 251-4843
EMAIL: Tera.Meyer@strand.com

SHAWANO COUNTY

HUNTER HOFFMAN, P.E.
SHAWANO COUNTY HIGHWAY DEPT.
3035 E. RICHMOND ST.
SHAWANO, WI 54166
PHONE: (715) 526-9182
EMAIL: Hunter.Hoffman@shawanocountywi.gov

WISCONSIN DNR LIAISON

JIM DOPERALSKI, JR.
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
2984 SHAWANO AVE.
GREEN BAY, WI 54313
PHONE: (920) 412-0165
EMAIL: James.Doperalski@wisconsin.gov

WISDOT CONTACT

NATHAN WAITE, P.E.
WISDOT NC REGION
510 HANSON LAKE RD.
RHINELANDER, WI 54501
PHONE: (715) 365-5762
EMAIL: Nathaniel.Waite@dot.wi.gov

GENERAL NOTES

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. THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE.

SAWCUTS, AS SHOWN ON THE PLANS, ARE SUGGESTED LOCATIONS AND MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER TO BETTER SUIT FIELD CONDITIONS.

PAVEMENT REMOVAL WILL BE TO THE NEAREST JOINT OR A SAWED EDGE WILL BE REQUIRED AS DIRECTED BY THE ENGINEER.

EXISTING SIGNS SHALL REMAIN IN PLACE UNLESS MOVED AS PART OF THE PLAN OR THE ENGINEER APPROVES THE REMOVAL.

ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

2

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS:	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIPTURF:	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPETURF:			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT:	.70 - .95											
CONCRETE:	.80 - .95											
BRICK:	.70 - .80											
DRIVES, WALKS:	.75 - .85											
ROOFS:	.75 - .95											
GRAVEL ROADS, SHOULDERS:	.40 - .60											

TOTAL PROJECT AREA = 1.740 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.841 ACRES

ORDER OF SECTION 2 DETAIL SHEETS

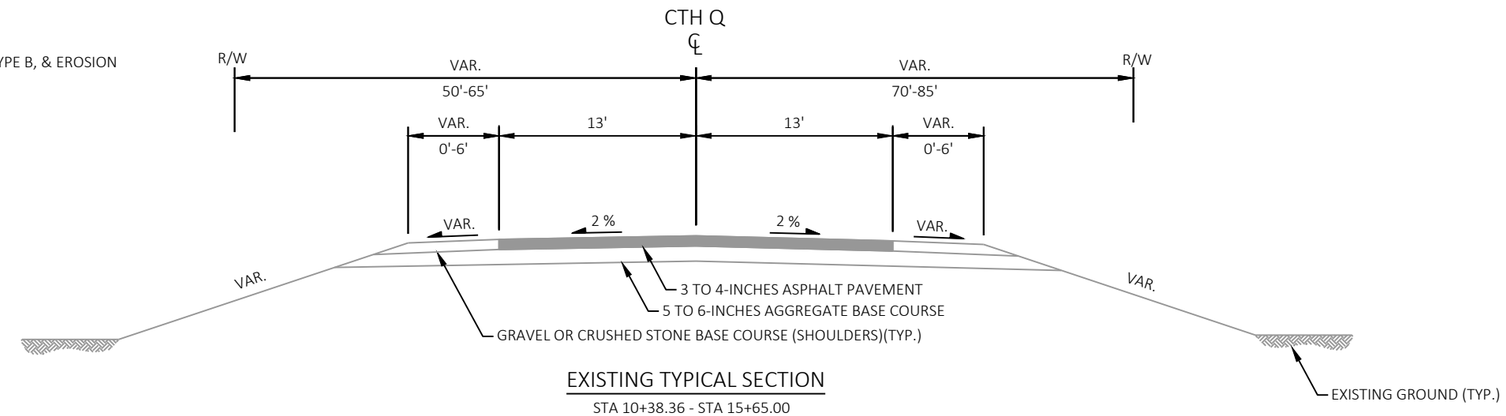
GENERAL NOTES
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
EROSION CONTROL
PERMANENT SIGNING & PAVEMENT MARKING
DETOUR ROUTE

NOTES:

Ⓐ SEEDING MIXTURE NO. 30 AND FERTILIZER TYPE B

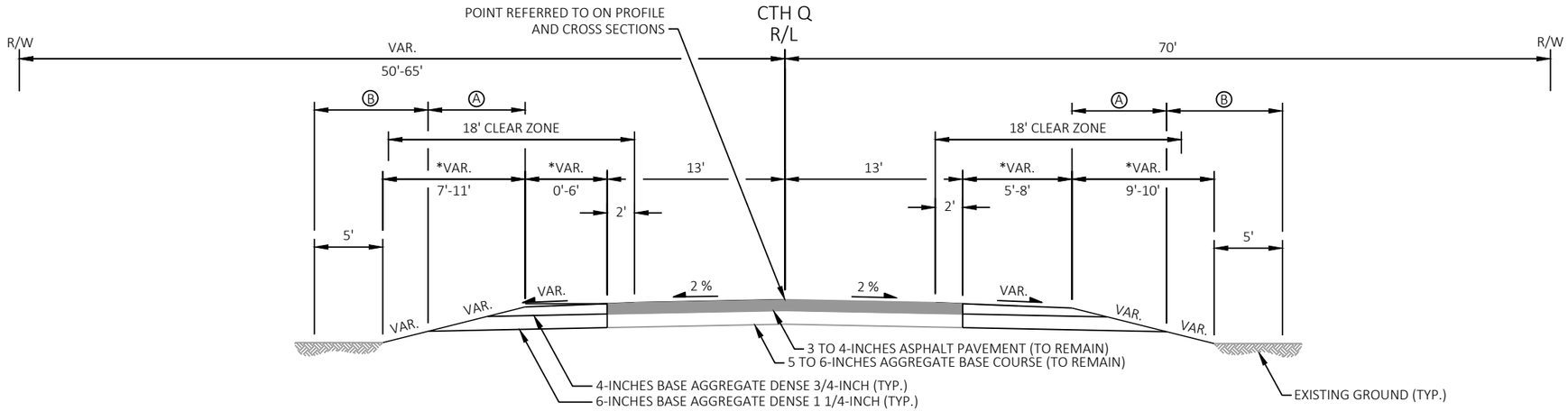
Ⓑ SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, FERTILIZER TYPE B, & EROSION MAT URBAN CLASS I TYPE B

* SEE PLAN DETAILS FOR ADDITIONAL LAYOUT INFORMATION



EXISTING TYPICAL SECTION

STA 10+38.36 - STA 15+65.00



FINISHED TYPICAL SECTION - SHOULDER GRADING

STA 10+38.36 - STA 10+71.33
STA 15+65.00 LT - STA 16+20.44 LT
STA 15+65.00 RT - STA 16+05.28 RT

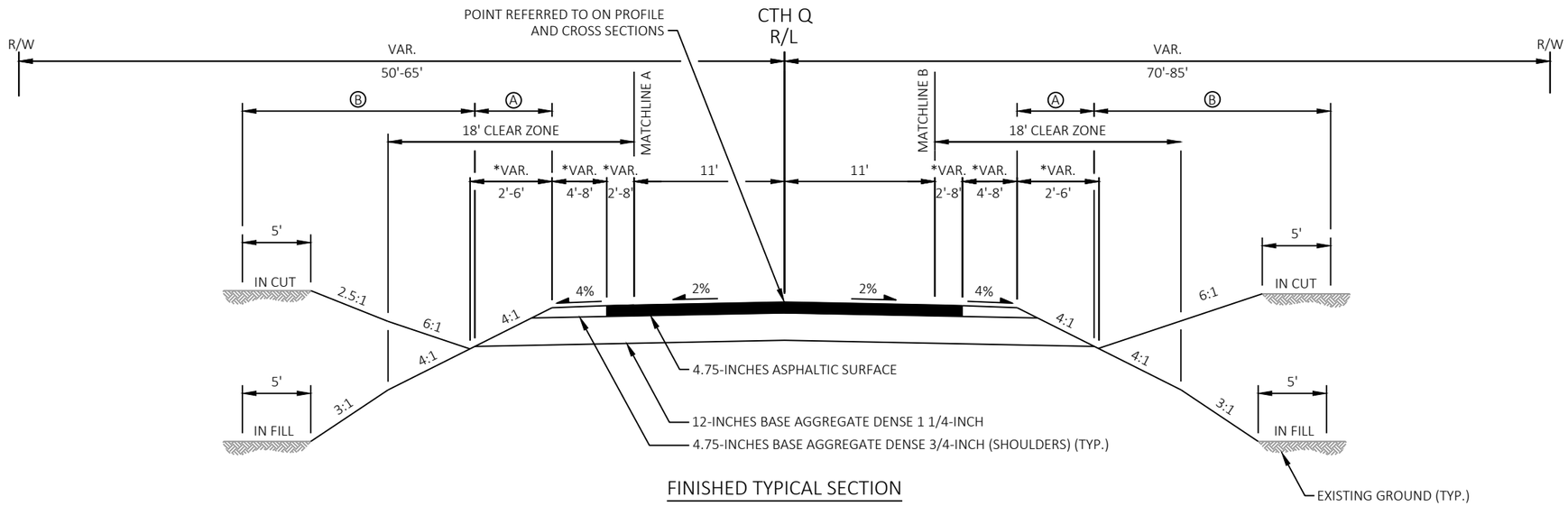
PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	TYPICAL SECTIONS	SHEET 3	E

NOTES:

Ⓐ SEEDING MIXTURE NO. 30 AND FERTILIZER TYPE B

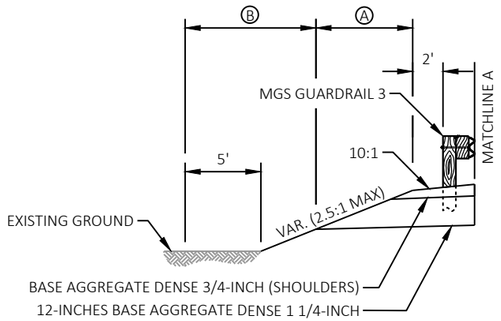
Ⓑ SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, FERTILIZER TYPE B, & EROSION MAT URBAN CLASS I TYPE B

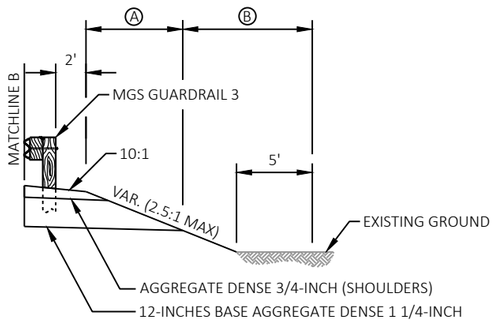
* SEE PLAN DETAILS FOR ADDITIONAL LAYOUT INFORMATION



FINISHED TYPICAL SECTION

STA 10+71.33 - STA 15+65.00





FINSIHED TYPICAL SECTION - GUARDRAIL

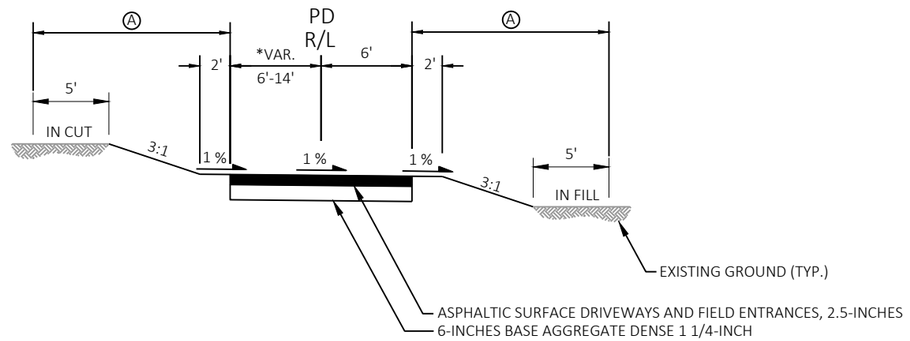
STA 11+69.95 LT - STA 12+62.47 LT STA 11+85.08 RT - STA 12+90.10 RT
STA 13+53.90 LT - STA 14+58.88 LT STA 13+81.53 RT - STA 14+74.01 RT

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	TYPICAL SECTIONS	SHEET 4	E

NOTES

Ⓐ SALVAGED TOPSOIL, SEEDING MIXTURE NO. 30, FERTILIZER TYPE B, & EROSION MAT URBAN CLASS I TYPE B

* SEE PLAN DETAILS FOR ADDITIONAL LAYOUT INFORMATION



FINISHED TYPICAL SECTION - PARK DRIVEWAY (PD)

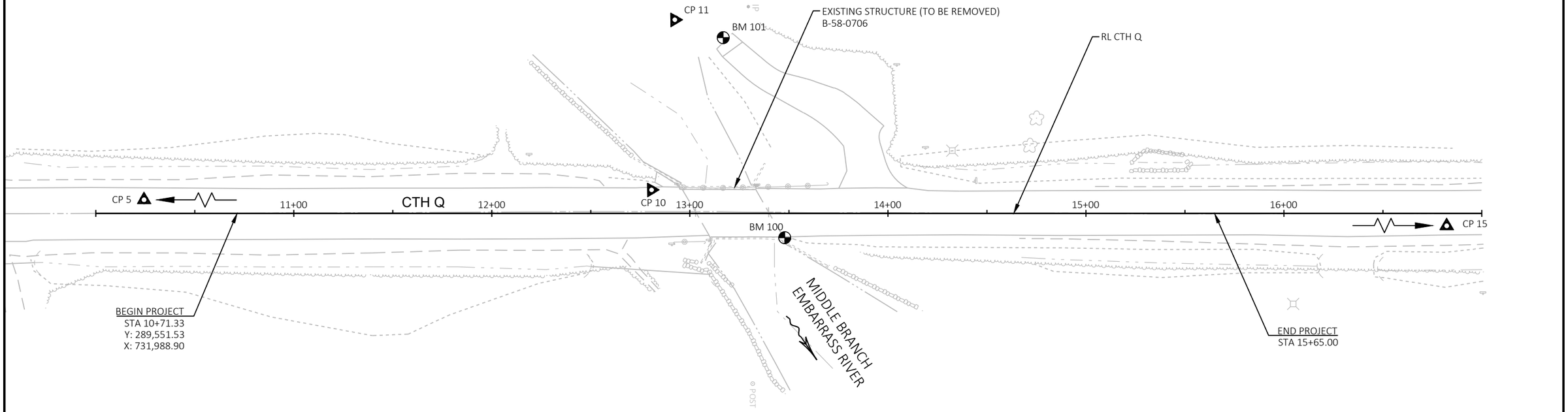
STA 10+01.24 PD - STA 12+14.97 PD

BENCH MARKS				
NO.	STATION	OFFSET	ELEV.	DESCRIPTION
BM 100	13+47.91	12.30' RT	1125.25	MAG NAIL AT NE CORNER OF BRIDGE
BM 101	13+16.82	88.76' LT	1117.79	CHSLD SQR ON CONC PAD

CONTROL POINTS					
NO.	STATION	OFFSET	Y	X	DESCRIPTION
CP 5	---	---	289,371.609	731,976.179	MAG NAIL, 400' SOUTH OF BRIDGE
CP 10	12+80.60	11.86' LT	289,760.865	731,978.442	MAG NAIL
CP 11	12+92.37	97.78' LT	289,773.207	731,892.600	TEMP HUB
CP 15	---	---	290,229.544	732,003.983	MAG NAIL, 400' NORTH OF BRIDGE

2

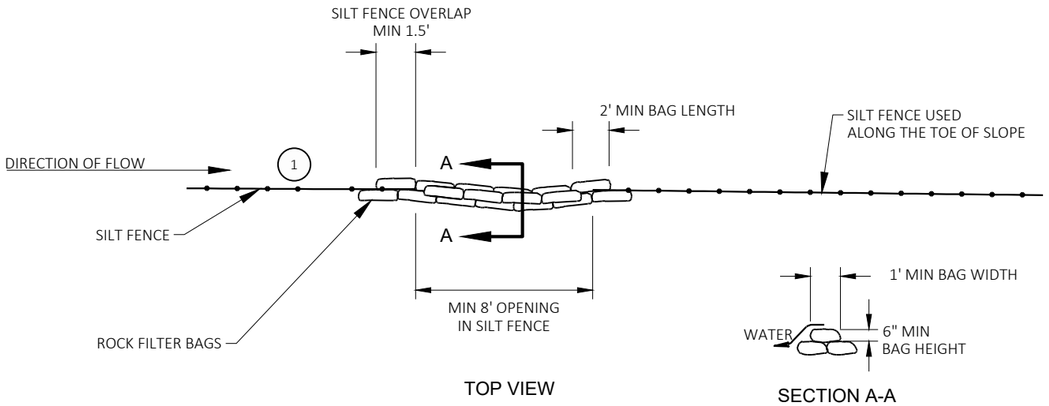
N



CONTROL POINTS AND BENCHMARKS DETAIL

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CONSTRUCTION DETAILS	SHEET 6	E

2



TOP VIEW

SECTION A-A

ROCK BAGS USED FOR SILT FENCE RELIEF

GENERAL NOTES

THE SILT FENCE RELIEF DETAIL IS A SUPPLEMENTAL DETAIL TO THE SILT FENCE STANDARD DETAILS AND SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

INSTALL SILT FENCE PRIOR TO CONSTRUCTING THE SILT FENCE OPENING. PRIOR TO CONSTRUCTING THE SILT FENCE OPENING, PLACE ROCK BAGS AT THE SILT FENCE OPENING AS SHOWN IN THIS DETAIL.

CONSTRUCTION OF THE SILT FENCE OPENING SHALL BE INCIDENTAL TO THE COST OF THE SILT FENCE BID ITEM.

PROVIDE A MINIMUM OF 22 ROCK BAGS PER 3 FOOT OPENING. ROCK BAGS SHALL BE PAID UNDER THE ROCK BAGS BID ITEM. ROCK BAG PLACEMENT DEPENDENT ON SITE CONDITIONS TO BE DETERMINED BY THE FIELD ENGINEER.

THE CONTRACTOR SHALL ADJUST THE SILT FENCE RELIEF OPENINGS WITHIN THE SILT FENCE AS NECESSARY TO PROVIDE RELIEF AND TO FIT FIELD CONDITIONS, AS DIRECTED BY THE FIELD ENGINEER.

(1) REFER TO THE SILT FENCE STANDARD DETAILS FOR ALLOWABLE ADJUSTMENTS TO POST SPACING.

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CONSTRUCTION DETAILS	SHEET 7	E

2

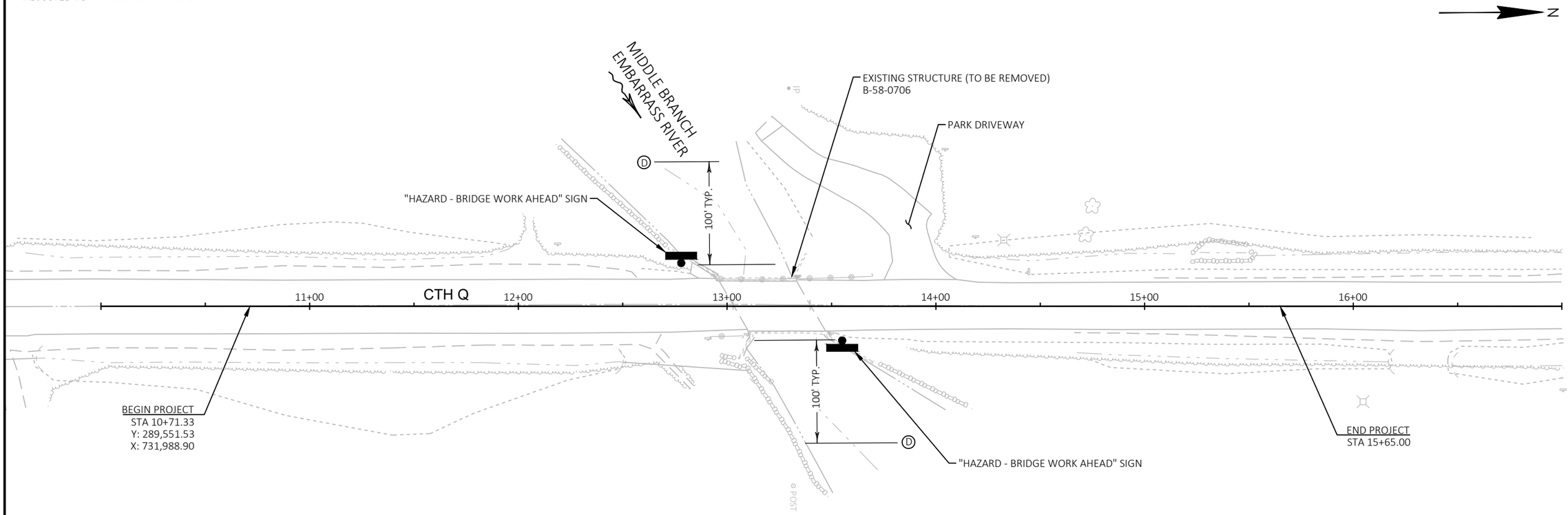
GENERAL NOTES

MAINTAIN BOAT TRAFFIC AT ALL TIMES ON THE EMBARRASS RIVER THROUGH THE WORK ZONE. SEE SPECIAL PROVISIONS.

PLACE "HAZARD - BRIDGE WORK AHEAD" SIGNS WHEN APPLICABLE PLACE SIGN UPSTREAM OF THE CARDINAL LANE BRIDGE AND DOWNSTREAM OF THE CTH Q BRIDGE.

LOCATION OF ACCESS UNDER THE STRUCTURE TO BE DETERMINED BY CONTRACTOR'S OPERATIONS AND AS DIRECTED BY THE ENGINEER.

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



LEGEND

Ⓓ *DANGER BUOY

SIGN ON POST

*DANGER BUOY AND BOAT TRAFFIC CONTROL SIGNAGE IS PAID FOR AS A PART OF "TRAFFIC CONTROL"

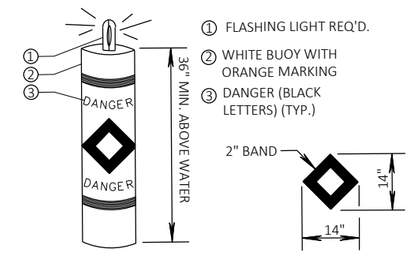
HAZARD - BRIDGE WORK AHEAD

36" X 18"

TRAFFIC CONTROL SIGNS FIXED MESSAGE

HAZARD SIGN DETAIL

NOT TO SCALE



TYPICAL DANGER BUOY DETAIL

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CONSTRUCTION DETAILS	SHEET 8	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\021003-CD.DWG
LAYOUT NAME - 021003-cd

PLOT DATE : 10/21/2026 2:49 PM PLOT BY : DEMPSEY, EDEN PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

DOUG D WESTPHAL,
GREG S WESTPHAL

STA. 11+69.95 LT - STA. 12+23.07 LT, MGS GUARDRAIL TERMINAL EAT REQ'D
- EAT POST #1, STA. 11+69.95, 17.0' LT
- EAT POST #5, STA. 11+94.95, 17.0' LT
- EAT POST #9, STA. 12+19.95, 17.0' LT
STA. 12+23.08 LT - STA. 12+62.47 LT, MGS THRIE BEAM TRANSITION REQ'D

TOWN OF WITTENBERG
TLE
N
MIDDLE BRANCH EMBARRASS RIVER
BP: 10+00.00 PD
XXXXXXXXXX
R/W
RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
WITTENBERG TELEPHONE AND CABLE (CIRRINITY)(FIBER)
BEGIN CONSTRUCTION
STA 10+38.36
MATCH EXISTING
MGS GUARDRAIL TERMINAL EAT
BAD
HMA
+59.95 20.59' LT
CONCRETE PAVEMENT 6-INCH
MGS THRIE BEAM TRANSITION
+77.34 13.00' LT
+09.95 13.00' LT
+69.95 17.00' LT
15:1 TAPER
15:1 TAPER
15:1 TAPER
6'
2'
1.1'
CTH Q
2.2%
2.0%
+76
11+00
+01
12+00
13+00
MATCHLINE 13+25
XXXXXXXXXX
0.9%
%0.2
11'
11'
2'
6'
15:1 TAPER
15:1 TAPER
BEGIN PROJECT
STA 10+71.33
MATCH EXISTING
SAWING ASPHALT REQ'D
+71.33 20.70' RT
MATCH EXISTING
+91.33 19.00' RT
+25.08 13.00' RT
+46.07 19.00' RT
+75.08 20.93' RT
+85.08 17.00' RT
MGS GUARDRAIL 3
MGS THRIE BEAM TRANSITION
CONCRETE PAVEMENT APPROACH SLAB
CONCRETE PAVEMENT 6-INCH
REMOVING GUARDRAIL
REMOVING SMALL PIPE CULVERTS
PROPOSED STRUCTURE
B-58-0140
EXISTING STRUCTURE (TO BE REMOVED)
B-58-0706
PROPOSED DITCH FLOWLINE (TYP.)
EXISTING DITCH FLOWLINE (TYP.)
HMA
BAD
SLOPE INTERCEPT (TYP.)
MGS GUARDRAIL TERMINAL EAT
CENTRAL WISCONSIN ELECTRIC COOPERATIVE (ELECTRIC)
WITTENBERG TELEPHONE AND CABLE (CIRRINITY)(FIBER)

LEGEND

HMA	ASPHALTIC SURFACE
XXXXX	SAWING ASPHALT
→	TRAFFIC FLOW
BAD	BASE AGGREGATE DENSE 3/4-INCH (SHOULDERS)
	GRUBBING REQ'D

STA. 11+85.08 RT - STA. 12+38.21 RT, MGS GUARDRAIL TERMINAL EAT REQ'D
- EAT POST #1, STA. 11+85.08, 17.0' RT
- EAT POST #5, STA. 12+10.08, 17.0' RT
- EAT POST #9, STA. 12+35.08, 17.0' RT
STA. 12+38.21 RT - STA. 12+50.71 RT, MGS GUARDRAIL 3 REQ'D
STA. 12+50.71 RT - STA. 12+90.10 RT, MGS THRIE BEAM TRANSITION REQ'D

R/W

DALE A ADAMS

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	PLAN DETAILS	SHEET 9	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\021201-PD.DWG
LAYOUT NAME - 021201-pd
PLOT DATE : 10/21/2026 2:50 PM PLOT BY : DEMPSEY, EDEN PLOT NAME : PLOT SCALE : 1 IN:20 FT

TOWN OF WITTENBERG

APPLE RIDGE PROPERTY OWNERS ASSOCIATION

CARL J. BULA

N

STA. 13+53.90 LT - STA. 13+93.29 LT, MGS THRIE BEAM TRANSITION REQ'D
STA. 13+93.29 LT - STA. 14+05.79 LT, MGS GUARDRAIL 3 REQ'D
STA. 14+05.79 LT - STA. 14+58.88 LT, MGS GUARDRAIL TERMINAL EAT REQ'D
- EAT POST #1, STA. 14+58.88, 19.0' LT
- EAT POST #5, STA. 14+33.90, 18.1' LT
- EAT POST #9, STA. 14+08.92, 17.1' LT

PC: 10+23.50 PD
+27.25 PD
-14.00' LT
PT: 10+27.25 PD
+25.38 PD
6.00' RT
STA 10+66.13 PD, -24.00' LT
PC: 10+66.13 PD
PT: 10+80.15 PD
STA 10+92.25 PD, -16.00' LT
+66.13 PD
6.00' RT
+80.15 PD
6.00' RT
+86.74 PD
7.66' LT
+92.25 PD
-6.00' LT
14'
6'
R30'
R10'
P.L.
TLE
WITTENBERG TELEPHONE AND CABLE (CIRRINITY)(FIBER)
PROPOSED DITCH FLOWLINE (TYP.)
EXISTING DITCH FLOWLINE (TYP.)
ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
PC: 11+71.70 PD
+75.69 PD
-6.40' LT
R/W
REMOVE RIPRAP (PAID AS EXCAVATION COMMON)
PLACE SALVAGED TOPSOIL TO MATCH GRADE
END CONSTRUCTION
STA 16+20.44
MATCH EXISTING
11+00 PD
6'
6'
PARK DRIVEWAY
CONCRETE PAVEMENT 6-INCH
MGS GUARDRAIL 3
REMOVING GUARDRAIL
MGS THRIE BEAM TRANSITION
HMA
BAD
MGS GUARDRAIL TERMINAL EAT
10:1 TAPER
15:1 TAPER
STA 11+82.61 PD
16.72' RT
+58.88
-24.94' LT
+76.25 PD
5.68' RT
+06.55
20.93' LT
STA 14+58.88
-19.00' LT
STA 12+06.03 PD
19.90' RT
+81.50
-11.00' LT
12+00 PD
R11'
R30'
+07.57 PD
-10.09' LT
STA 12+07.63 PD, -20.09' LT
R10'
+22.69
-11.00' LT
2'
+52.50
13.00' LT
CTH Q
MATCHLINE 13+25
14+00
15+00
16+00
11'
11'
PT: 12+10.97 PD
EP: 12+25.97 PD
+34
2.0%
+03
2.0%
2.5%
3.2%
CONCRETE PAVEMENT APPROACH SLAB
6'
+82.33 PD
50.83' RT
+74.01
19.00' RT
+34.01
13.00' RT
2'
+45
13.00' RT
+05.28
11.23' RT
10:1 TAPER
MGS GUARDRAIL TERMINAL EAT
15:1 TAPER
+21.69
20.93' RT
+49.03
22.33' RT
+74.01
24.94' RT
MGS THRIE BEAM TRANSITION
HMA
BAD
EXISTING STRUCTURE (TO BE REMOVED)
B-58-0706
PROPOSED STRUCTURE
B-58-0140
RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
CONCRETE PAVEMENT 6-INCH
SLOPE INTERCEPT (TYP.)
END PROJECT
STA 15+65.00
MATCH EXISTING
SAWING ASPHALT REQ'D
WITTENBERG TELEPHONE AND CABLE (CIRRINITY)(FIBER)
CENTRAL WISCONSIN ELECTRIC COOPERATIVE (ELECTRIC)
R/W
MIDDLE BRANCH EMBARRASS RIVER

STA. 13+81.53 RT - STA. 14+20.92 RT, MGS THRIE BEAM TRANSITION REQ'D
STA. 14+20.92 RT - STA. 14+74.01 RT, MGS GUARDRAIL TERMINAL EAT REQ'D
- EAT POST #1, STA. 14+74.01, 19.0' RT
- EAT POST #5, STA. 14+49.03, 18.1' RT
- EAT POST #9, STA. 14+24.05, 17.1' RT

EDWARD M ADAMS, HELEN ADAMS

LEGEND

HMA	ASPHALTIC SURFACE
XXXXX	SAWING ASPHALT
→	TRAFFIC FLOW
BAD	BASE AGGREGATE DENSE 3/4-INCH (SHOULDERS)
	GRUBBING REQ'D

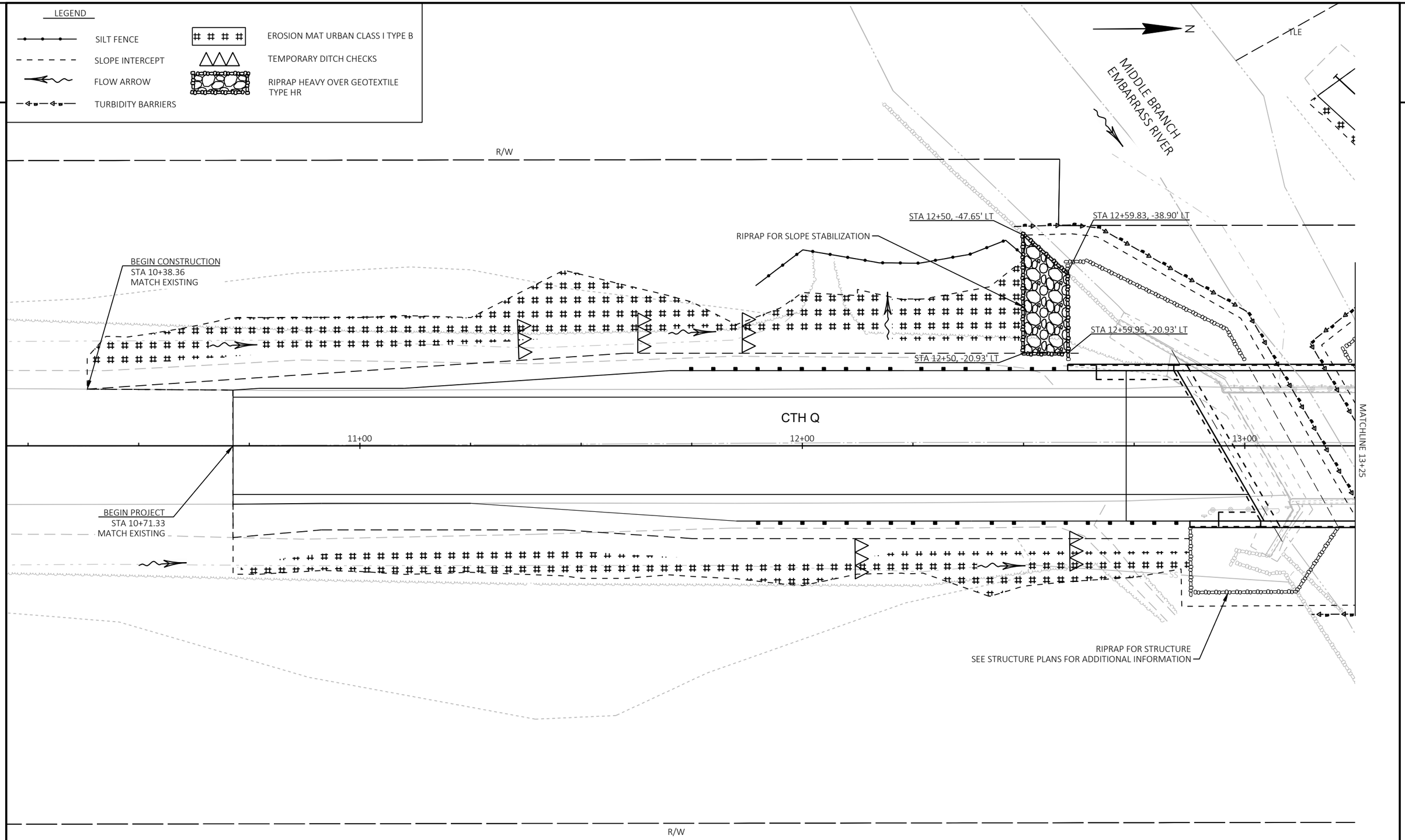
PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	PLAN DETAILS	SHEET 10	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\021201-PD.DWG
LAYOUT NAME - 021202-pd
PLOT DATE : 10/21/2026 2:50 PM
PLOT BY : DEMPSEY, EDEN
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

LEGEND

- SILT FENCE
- SLOPE INTERCEPT
- FLOW ARROW
- TURBIDITY BARRIERS
- EROSION MAT URBAN CLASS I TYPE B
- TEMPORARY DITCH CHECKS
- RIPRAP HEAVY OVER GEOTEXTILE TYPE HR



2

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	EROSION CONTROL	SHEET 11	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\022001-EC.DWG
LAYOUT NAME - 022001-ec

PLOT DATE : 10/21/2026 2:50 PM PLOT BY : DEMPSEY, EDEN PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2

2

N

P.L.

P.L.

TLE

R/W

11+00 PD

PARK DRIVEWAY

12+00 PD

END CONSTRUCTION
STA 16+20.44
MATCH EXISTING

CTH Q

MATCHLINE 13+25

14+00

15+00

16+00

STA 13+84.05, 20.92' RT

STA 13+84.13, 33.15' RT

STA 14+00, 20.92' RT

STA 14+00, 40.79' RT

END PROJECT
STA 15+65.00
MATCH EXISTING

RIPRAP FOR SLOPE STABILIZATION

RIPRAP FOR STRUCTURE
SEE STRUCTURE PLANS FOR ADDITIONAL INFORMATION

MIDDLE BRANCH
EMBARRASS RIVER

R/W

LEGEND

- SILT FENCE
- SLOPE INTERCEPT
- FLOW ARROW
- TURBIDITY BARRIERS
- EROSION MAT URBAN CLASS I TYPE B
- TEMPORARY DITCH CHECKS
- RIPRAP HEAVY OVER GEOTEXTILE TYPE HR

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	EROSION CONTROL	SHEET 12	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\022001-EC.DWG
LAYOUT NAME - 022002-ec

PLOT DATE : 10/21/2026 2:50 PM PLOT BY : DEMPSEY, EDEN PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2

LEGEND

PROPOSED SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON POST(S)

XXX DESIGNATES SIGN ITEM NUMBER

N

2

101

102

W1-1R
36"X36"

25 MPH

W13-1
18"X18"

E01

SIGN TO BE REMOVED BY OTHERS

E02

SIGN TO BE REMOVED BY OTHERS

E03

SIGN TO BE REMOVED BY OTHERS

E04

25 MPH

SIGN TO BE REMOVED BY OTHERS

MARKING LINE PAINT 4-INCH (WHITE)

PARK DRIVEWAY

11+00 PD

12+00 PD

11+00

12+00

13+00

14+00

15+00

11'

11'

CTH Q

EMBARRASS RIVER

E07

SIGN TO BE REMOVED AND REPLACED BY OTHERS

MARKING LINE PAINT 4-INCH (WHITE)

END CONSTRUCTION
STA 16+20.44
MATCH EXISTING

MARKING LINE PAINT 4-INCH (DOUBLE YELLOW)

BEGIN PROJECT
STA 10+71.33
MATCH EXISTING

E06

SIGN TO BE REMOVED BY OTHERS

E05

SIGN TO BE REMOVED BY OTHERS

END PROJECT
STA 15+65.00
MATCH EXISTING

BEGIN CONSTRUCTION
STA 10+38.36
MATCH EXISTING

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	PERMANENT SIGNING & PAVEMENT MARKING	SHEET 13	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\023201-PS.DWG
LAYOUT NAME - 023201-ps

PLOT DATE : 10/21/2026 2:50 PM PLOT BY : DEMPSEY, EDEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

GENERAL NOTES

DETOUR ROUTE MARKER SIGNING TO BE INSTALLED AND MAINTAINED BY CONTRACTOR.

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

REMOVE OR COVER ANY SIGN, TEMPORARY OR EXISTING, WHICH CONFLICTS WITH TRAFFIC CONTROL "IN USE", OR AS APPROVED BY THE ENGINEER.

"WO" AND "W" SIGNS SHALL BE 48"x48" UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL SIGNS PORTABLE CHANGEABLE MESSAGE TO BE INSTALLED BY SHAWANO COUNTY ONE WEEK PRIOR TO IMPLEMENTATION OF DETOUR ROUTE.

SEE S.D.D. "DETOUR SIGNING FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR MAINLINE CLOSURES".

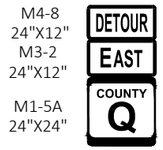
ALL M3 SERIES SIGNS (NORTH, SOUTH, EAST, WEST) WHICH ARE PART OF ANY DETOUR ROUTE MARKER SIGNING ASSEMBLY OR ATTACHED TO ANY WARNING SIGN SHALL BE BLACK LETTERING ON A WHITE BACKGROUND.

ALL M05 AND M06 ARROW SIGNS SHALL BE THE SAME AS "M" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

LEGEND

- DETOUR ROUTE
- TRAFFIC CONTROL SIGNS
- TRAFFIC CONTROL BARRICADES TYPE III WITH ATTACHED SIGN (TWO TYPE "A" WARNING LIGHTS)
- TRAFFIC CONTROL COVERING SIGNS TYPE II
- EXISTING SIGNS MOUNTED ON POST(S)

M4-8 24"X12"
M3-2 24"X12"
M1-5A 24"X24"

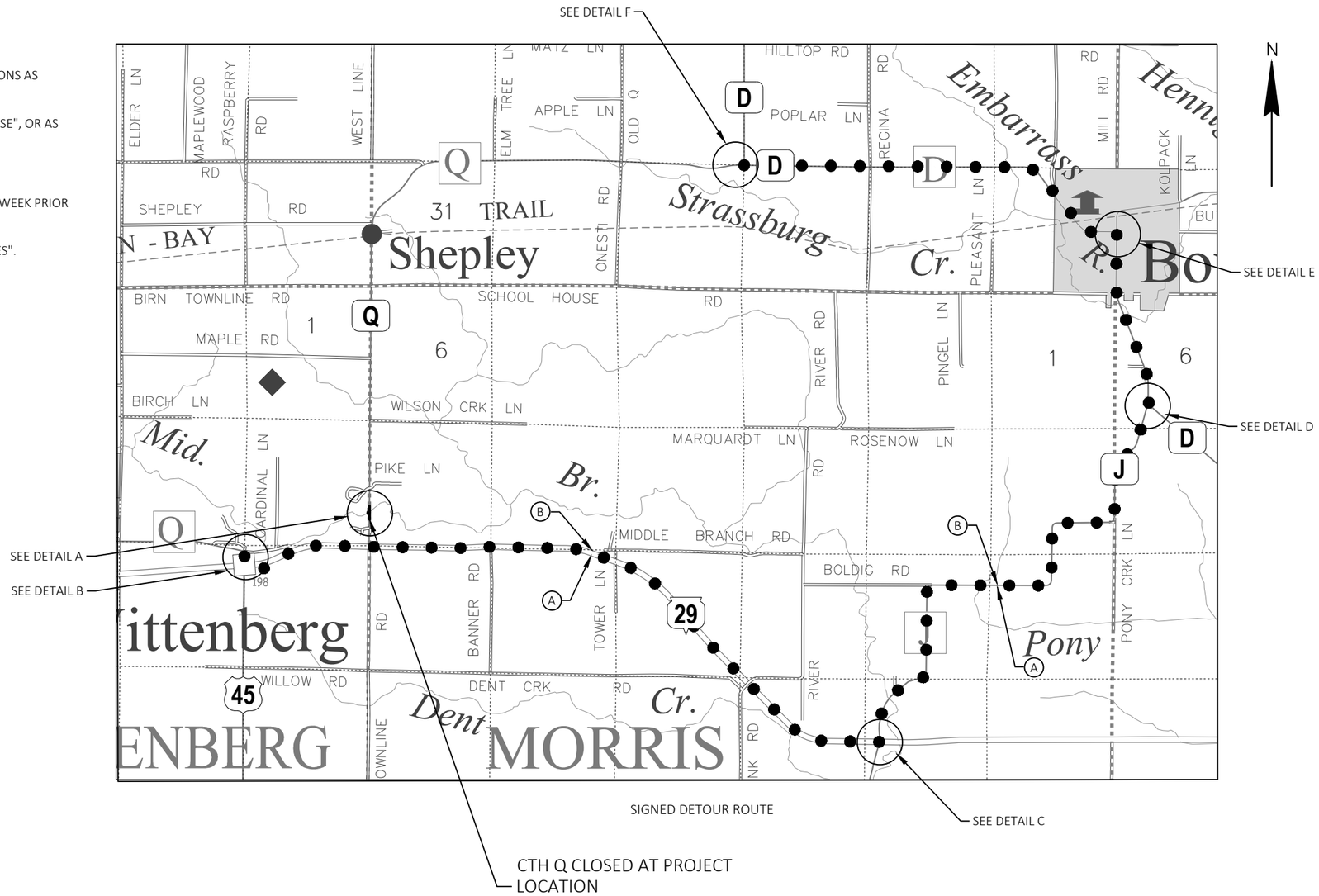


(A)

M4-8 24"X12"
M3-4 24"X12"
M1-5A 24"X24"



(B)



2

THORN APPLE DRIVE

N

CTH Q

ROAD CLOSED 1000 FT W20-3C

ROAD CLOSED 500 FT W20-3D

BRIDGE OUT R11-2B 48"X30"

50 FT

ROAD CLOSED AHEAD W20-3A

1000' 500' 500'

500' 500' 1000'

50 FT

ROAD CLOSED 500 FT W20-3D

ROAD CLOSED 1000 FT W20-3C

ROAD CLOSED AHEAD W20-3A

BRIDGE OUT R11-2B 48"X30"

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN TYPE 2 (TWO WARNING LIGHTS TYPE A REQ'D)
- TYPE III BARRICADE WITHOUT SIGN (TWO WARNING LIGHTS TYPE A REQ'D)
- TYPE III BARRICADE WITHOUT SIGN (ONE WARNING LIGHT TYPE A REQ'D)
- TRAFFIC CONTROL SIGN ON POST
- WORK ZONE

SEE S.D.D "DETOUR SIGNING FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" FOR ADDITIONAL INFORMATION AND SPACING.

ALL SIGNS ARE 48-INCH X 48-INCH UNLESS OTHERWISE NOTED.

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

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	DETOUR ROUTE - DETAIL A	SHEET 15	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\027001-DT.DWG
LAYOUT NAME - 027002-dt
PLOT DATE : 10/21/2026 2:51 PM PLOT BY : DEMPSEY, EDEN PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN TYPE 2 (TWO WARNING LIGHTS TYPE A REQ'D)
- TRAFFIC CONTROL SIGN ON POST
- WORK ZONE
- DETOUR ROUTE
- TRAFFIC CONTROL COVERING SIGNS TYPE II

SEE S.D.D "DETOUR SIGNING FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" FOR ADDITIONAL INFORMATION AND SPACING.

ALL SIGNS ARE 48-INCH X 48-INCH UNLESS OTHERWISE NOTED.

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

STH 29 EB EXIT RAMP
STH 29 WB EXTRANCE RAMP
USH 45 SB
USH 45 NB
STH 29 EB
STH 29 WB
STH 29 EB ENTRANCE RAMP
STH 29 WB EXIT RAMP
PARROT LANE
SPRUCE ROAD
CTH Q
1000'
500'
N

DETOUR AHEAD W20-2A

M4-8 24"X12" / M3-2 24"X12" / M1-5A 24"X24" / MO6-1 21"X21" — DETOUR EAST COUNTY Q — EAST 29

M4-8 24"X12" / M3-2 24"X12" / M1-5A 24"X24" / MO5-1L 21"X21" — DETOUR EAST COUNTY Q — EAST SOUTH 29 45

M4-8 24"X12" / M3-2 24"X12" / M1-5A 24"X24" / MO6-1 21"X21" — DETOUR EAST COUNTY Q — SOUTH SOUTH NORTH WEST 45 29 45 29

M4-8 24"X12" / M3-2 24"X12" / M1-5A 24"X24" / M05-1R 21"X21" — DETOUR EAST COUNTY Q

M4-8 24"X12" / M3-2 24"X12" — DETOUR EAST COUNTY Q; MO6-1 21"X21" COVER WITH

M4-8 24"X12" / M3-2 24"X12" / M1-5A 24"X24" / MO6-1 21"X21" — DETOUR EAST COUNTY Q

R11-3C 60"X24" — BRIDGE OUT 1 MILE AHEAD

BUSINESS 29 TO COUNTY Q — END DETOUR M4-8A 24"X18"

M4-9R 30"X24" — DETOUR

R10-61 (MOD.) 60"X30" — ACCESS TO SANDPIPER LANE

TRAFFIC CONTROL SIGNS FIXED MESSAGE

M4-8 24"X12" / M3-4 24"X12" / M1-5A 24"X24" / MO6-1 21"X21" — DETOUR WEST COUNTY Q

M4-8 24"X12" / M3-4 24"X12" / M1-5A 24"X24" / M05-1R 21"X21" — DETOUR WEST COUNTY Q

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	DETOUR ROUTE - DETAIL B	SHEET 16	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\027001-DT.DWG
LAYOUT NAME - 027003-dt
PLOT DATE : 10/21/2026 2:51 PM PLOT BY : DEMPSEY, EDEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

2

N

M4-8 24"X12"
M3-2 24"X12"
M1-5A 24"X24"
M05-1L 21"X21"

500'

M4-8 24"X12"
M3-2 24"X12"
M1-5A 24"X24"
MO6-1 21"X21"

500'

J

M3-2 24"X12"
M1-5A 24"X24"

DETOUR AHEAD W20-2A

M4-8 24"X12"
M3-2 24"X12"
M1-5A 24"X24"
MO6-1 21"X21"

29

STH 29 EB

STH 29 WB

M4-8 24"X12"
M3-4 24"X12"
M1-5A 24"X24"

M4-8 24"X12"
M3-4 24"X12"
MO6-1 21"X21"

29

500'

M4-8 24"X12"
M3-4 24"X12"
M1-5A 24"X24"
M05-1R 21"X21"

500'

J

M4-8 24"X12"
M3-2 24"X12"
M1-5A 24"X24"

M4-8 24"X12"
M3-2 24"X12"
M1-5A 24"X24"
MO6-1 21"X21"

500'

1000'

M4-8 24"X12"
M3-2 24"X12"
M1-5A 24"X24"
M05-1R 21"X21"

M1-5A 24"X24"

DETOUR AHEAD W20-2A

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN TYPE 2 (TWO WARNING LIGHTS TYPE A REQ'D)
- TRAFFIC CONTROL SIGN ON POST
- WORK ZONE
- DETOUR ROUTE
- COVERING SIGNS

SEE S.D.D "DETOUR SIGNING FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" FOR ADDITIONAL INFORMATION AND SPACING.

ALL SIGNS ARE 48-INCH X 48-INCH UNLESS OTHERWISE NOTED.

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

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	DETOUR ROUTE - DETAIL C	SHEET 17	E

2

N

J

M4-8 24"X12"
M3-2 24"X12"
M1-5A 24"X24"
M05-1L 21"X21"
DETOUR EAST COUNTY Q

500'

M4-8 24"X12"
M3-4 24"X12"
M1-5A 24"X24"
DETOUR WEST COUNTY Q

M4-8 24"X12"
M3-2 24"X12"
M1-5A 24"X24"
MO6-1 21"X21"
DETOUR EAST COUNTY Q COUNTY D

D

M4-8 24"X12"
M3-4 24"X12"
M1-5A 24"X24"
MO6-1 21"X21"
DETOUR WEST COUNTY Q COUNTY D COUNTY J

500'

M4-8 24"X12"
M3-2 24"X12"
M1-5A 24"X24"
DETOUR EAST COUNTY Q

M4-8 24"X12"
M3-4 24"X12"
M1-5A 24"X24"
M05-1R 21"X21"
DETOUR WEST COUNTY Q

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN TYPE 2 (TWO WARNING LIGHTS TYPE A REQ'D)
- TRAFFIC CONTROL SIGN ON POST
- WORK ZONE
- DETOUR ROUTE
- COVERING SIGNS

SEE S.D.D "DETOUR SIGNING FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" FOR ADDITIONAL INFORMATION AND SPACING.

ALL SIGNS ARE 48-INCH X 48-INCH UNLESS OTHERWISE NOTED.

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

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	DETOUR ROUTE - DETAIL D	SHEET 18	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\027001-DT.DWG
LAYOUT NAME - 027005-dt
PLOT DATE : 10/21/2026 2:51 PM
PLOT BY : DEMPSEY, EDEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

2

N

M4-8 24"X12" DETOUR
M3-4 24"X12" WEST
M1-5A 24"X24" COUNTY Q
M05-1R 21"X21"

M4-8 24"X12" DETOUR
M3-2 24"X12" EAST
M1-5A 24"X24" COUNTY Q

M4-8 24"X12" DETOUR
M3-4 24"X12" WEST
M1-5A 24"X24" COUNTY Q

500'

500'

D

D

A

M4-8 24"X12" DETOUR
M3-2 24"X12" EAST
M1-5A 24"X24" COUNTY Q
M05-1L 21"X21"

M4-8 24"X12" DETOUR
M3-2 24"X12" EAST
M1-5A 24"X24" COUNTY Q
MO6-1 21"X21"
COUNTY D
COUNTY A

M4-8 24"X12" DETOUR
WEST
M3-4 24"X12"
COUNTY Q
M1-5A 24"X24"
MO6-1 21"X21"
COUNTY A
COUNTY D

E MAIN ST

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN TYPE 2 (TWO WARNING LIGHTS TYPE A REQ'D)
- TRAFFIC CONTROL SIGN ON POST
- WORK ZONE
- DETOUR ROUTE
- COVERING SIGNS

SEE S.D.D "DETOUR SIGNING FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" FOR ADDITIONAL INFORMATION AND SPACING.

ALL SIGNS ARE 48-INCH X 48-INCH UNLESS OTHERWISE NOTED.

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

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	DETOUR ROUTE - DETAIL E	SHEET 19	E

2

2

N

Q

R10-61 (MOD.)
66"X30"

BRIDGE OUT
5 1/2 MILES AHEAD
R11-3C
60"X24"

ACCESS TO
PIKE/THORN APPLE
R10-61 (MOD.)
60"X30"

TRAFFIC CONTROL
SIGNS FIXED MESSAGE

500'

DETOUR
WEST
COUNTY
Q
M4-8
24"X12"
M3-4
24"X12"
M1-5A
24"X24"
M05-1L
21"X21"

1000'

M3-4
24"X12"
WEST
M1-5A
24"X24"
COUNTY
Q
DETOUR
AHEAD
W20-2A

D

DETOUR
WEST
COUNTY
Q
M4-8
24"X12"
M3-4
24"X12"
M1-5A
24"X24"
MO6-1
21"X21"

COUNTY
D

M4-8A
24"X18"
END
DETOUR
COUNTY
Q
COUNTY
D

M4-8
24"X12"
DETOUR
M3-4
24"X12"
WEST
M1-5A
24"X24"
COUNTY
Q

D

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN TYPE 2 (TWO WARNING LIGHTS TYPE A REQ'D)
- TRAFFIC CONTROL SIGN ON POST
- WORK ZONE
- DETOUR ROUTE
- COVERING SIGNS

SEE S.D.D "DETOUR SIGNING FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" FOR ADDITIONAL INFORMATION AND SPACING.

ALL SIGNS ARE 48-INCH X 48-INCH UNLESS OTHERWISE NOTED.

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

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	DETOUR ROUTE - DETAIL F	SHEET 20	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\027001-DT.DWG
LAYOUT NAME - 027007-dt
PLOT DATE : 10/21/2026 2:51 PM
PLOT BY : DEMPSEY, EDEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

Estimate Of Quantities

9394-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	8.000	8.000
0004	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0006	203.0211.S	Abatement of Asbestos Containing Material (structure) 01. B-58-706	EACH	1.000	1.000
0008	203.0270	Removing Structure Over Waterway Debris Capture (structure) 01. B-58-706	EACH	1.000	1.000
0010	204.0165	Removing Guardrail	LF	50.000	50.000
0012	205.0100	Excavation Common	CY	651.000	651.000
0014	206.1001	Excavation for Structures Bridges (structure) 01. B-58-140	EACH	1.000	1.000
0016	210.1500	Backfill Structure Type A	TON	627.000	627.000
0018	213.0100	Finishing Roadway (project) 01. 9394-00-70	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	150.000	150.000
0022	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,500.000	1,500.000
0024	312.0110	Select Crushed Material	TON	53.000	53.000
0026	415.0060	Concrete Pavement 6-Inch	SY	58.000	58.000
0028	415.0410	Concrete Pavement Approach Slab	SY	104.000	104.000
0030	455.0605	Tack Coat	GAL	70.000	70.000
0032	460.2000	Incentive Density HMA Pavement	DOL	240.000	240.000
0034	465.0105	Asphaltic Surface	TON	369.000	369.000
0036	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	50.000	50.000
0038	502.0100	Concrete Masonry Bridges	CY	246.000	246.000
0040	502.3200	Protective Surface Treatment	SY	220.000	220.000
0042	502.3210	Pigmented Surface Sealer	SY	98.000	98.000
0044	503.0128	Prestressed Girder Type I 28-Inch	LF	265.000	265.000
0046	505.0400	Bar Steel Reinforcement HS Structures	LB	8,240.000	8,240.000
0048	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	25,490.000	25,490.000
0050	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	10.000	10.000
0052	506.4000	Steel Diaphragms (structure) 01. B-68-140	EACH	4.000	4.000
0054	516.0500	Rubberized Membrane Waterproofing	SY	24.000	24.000
0056	550.0020	Pre-Boring Rock or Consolidated Materials	LF	160.000	160.000
0058	550.0500	Pile Points	EACH	16.000	16.000
0060	550.1100	Piling Steel HP 10-Inch x 42 Lb	LF	400.000	400.000
0062	606.0300	Riprap Heavy	CY	318.000	318.000
0064	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	200.000	200.000
0066	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0068	614.2300	MGS Guardrail 3	LF	25.000	25.000
0070	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0072	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0074	618.0100	Maintenance and Repair of Haul Roads (project) 01. 9394-00-70	EACH	1.000	1.000
0076	619.1000	Mobilization	EACH	1.000	1.000
0078	624.0100	Water	MGAL	37.900	37.900
0080	625.0500	Salvaged Topsoil	SY	1,134.000	1,134.000
0082	627.0200	Mulching	SY	200.000	200.000
0084	628.1504	Silt Fence	LF	282.000	282.000
0086	628.1520	Silt Fence Maintenance	LF	564.000	564.000
0088	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0090	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0092	628.2008	Erosion Mat Urban Class I Type B	SY	934.000	934.000
0094	628.6005	Turbidity Barriers	SY	398.000	398.000
0096	628.7504	Temporary Ditch Checks	LF	78.000	78.000
0098	628.7560	Tracking Pads	EACH	2.000	2.000

9394-00-70

Line	Item	Item Description	Unit	Total	Qty
0100	628.7570	Rock Bags	EACH	66.000	66.000
0102	629.0210	Fertilizer Type B	CWT	0.950	0.950
0104	630.0130	Seeding Mixture No. 30	LB	64.000	64.000
0106	630.0300	Seeding Borrow Pit	LB	9.000	9.000
0108	630.0500	Seed Water	MGAL	36.100	36.100
0110	634.0616	Posts Wood 4x6-Inch x 16-FT	EACH	1.000	1.000
0112	637.2230	Signs Type II Reflective F	SF	11.250	11.250
0114	642.5001	Field Office Type B	EACH	1.000	1.000
0116	643.0420	Traffic Control Barricades Type III	DAY	1,428.000	1,428.000
0118	643.0705	Traffic Control Warning Lights Type A	DAY	2,448.000	2,448.000
0120	643.0900	Traffic Control Signs	DAY	21,420.000	21,420.000
0122	643.0920	Traffic Control Covering Signs Type II	EACH	3.000	3.000
0124	643.1222	Traffic Control Connected Work Zone End Location Marker	DAY	204.000	204.000
0126	643.5000	Traffic Control	EACH	1.000	1.000
0128	645.0111	Geotextile Type DF Schedule A	SY	66.000	66.000
0130	645.0120	Geotextile Type HR	SY	572.000	572.000
0132	646.1005	Marking Line Paint 4-Inch	LF	1,976.000	1,976.000
0134	650.5000	Construction Staking Base	LF	396.000	396.000
0136	650.6501	Construction Staking Structure Layout (structure) 01. B-58-0140	EACH	1.000	1.000
0138	650.7000	Construction Staking Concrete Pavement	LF	42.000	42.000
0140	650.9911	Construction Staking Supplemental Control (project) 01. 9394-00-70	EACH	1.000	1.000
0142	650.9920	Construction Staking Slope Stakes	LF	527.000	527.000
0144	680.0100	Public Land Survey Monument Verify and Reset	EACH	1.000	1.000
0146	690.0150	Sawing Asphalt	LF	62.000	62.000
0148	715.0502	Incentive Strength Concrete Structures	DOL	1,476.000	1,476.000
0150	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0152	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. Sta. 12+94	EACH	1.000	1.000
0154	SPV.0060	Special 01. Research and Locate Existing Land Parcel Monuments	EACH	1.000	1.000

3

GRUBBING

CATEGORY	STATION - STATION	LOCATION	201.0205 STA
0010	10+50 - 13+25	LT/RT	4
	13+30 - 16+20	LT/RT	3
	CATEGORY 0010 TOTAL		7
0030	13+30 - 16+20	LT/RT	1
	CATEGORY 0030 TOTAL		1
	GRAND TOTAL		8

REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION - STATION	LOCATION	203.0100 EACH	SIZE
0010	12+50 - 13+10	RT	1	18"x60' CMCP
		TOTAL	1	

ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-58-0706

CATEGORY	203.0211.S EACH
0020	1
TOTAL	1

FINISHING ROADWAY

CATEGORY	PROJECT	213.0100 EACH
0010	9394-00-70	1
	TOTAL	1

BASE AGGREGATE SUMMARY

CATEGORY	STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100* WATER MGAL
0010	10+00 - 13+25	LT/RT	62	650	16.0
	13+25 - 15+40	LT/RT	88	730	18.0
	10+55PD - 12+15 PD	LT/RT	0	80	1.7
	CATEGORY 0010 TOTALS		150	1,460	35.7
0030	10+01 PD - 10+55 PD	LT/RT	0	40	0.9
	CATEGORY 0030 TOTALS		0	40	0.9
	GRAND TOTALS		150	1,500	36.6

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

ASPHALTIC ITEMS

CATEGORY	STATION - STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON
0010	10+00 - 12+75	LT/RT	35	185	---
	13+70 - 15+65	LT/RT	35	184	---
	10+55 PD - 12+15 PD	LT/RT	---	---	33
	CATEGORY 0010 TOTALS		70	369	33
0030	10+01 PD - 10+55 PD	LT/RT	---	---	17
	CATEGORY 0030 TOTALS		0	0	17
	GRAND TOTALS		70	369	50

CONCRETE PAVEMENT SUMMARY

CATEGORY	STATION	-	STATION	LOCATION	415.0060 CONCRETE PAVEMENT 6-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
0010	12+73	-	13+04	LT/RT	29	52
	13+40	-	13+71	LT/RT	29	52
				TOTALS	58	104

EARTHWORK SUMMARY

CATEGORY	DIVISION	FROM/TO STATION	LOCATION	205.0100 EXCAVATION COMMON (1)(CY) CUT (2)	205.0100 EXCAVATION COMMON (1)(CY) EBS EXCAVATION (3)(4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (6) FACTOR 1.25	MASS ORDINATE +/- (7)	WASTE (8)	312.0110 SELECT CRUSHED MATERIAL (TON)	*624.0100 WATER (MGAL)
0010	CTH Q	10+38.36/16+20.44	LT/RT	560	26	560	284	355	205		49	1.2
	CATEGORY 0010 EXCAVATION COMMON TOTAL				586							
0030	PARK DRIVEWAY (PD)	10+01.24/12+00.00	LT/RT	63	2	63	27	34	29		4	0.1
	CATEGORY 0030 EXCAVATION COMMON TOTAL				65							
	TOTALS			623	28	623	311	389	234	262	53	1.3
	GRAND TOTAL EXCAVATION COMMON (CAT 0010 + CAT 0030)				651							

*QUANTITIES LISTED ELSEWHERE

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; THIS PROJECT DOES NOT INCLUDE ANY SALVAGED/UNUSABLE MATERIAL.
(3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL. ITEM NUMBER 312.0110
(4)EBS CALCUALTED AS 5 PERCENT OF CUT.
(5) AVAILABLE MATERIAL = CUT
(6) EXPANDED FILL = (UNEXPANDED FILL)*EXPANDED FILL FACTOR. EXPANDED FILL FACTOR = 1.25
(7) MASS ORDINATE: MASS ORDINATE = CUT-EXPANDED FILL
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.
(8) WASTE = MASS ORDINATE + EBS EXCAVATION

3

RIPRAP SUMMARY

CATEGORY	STATION			LOCATION	*606.03 RIPRAP HEAVY CY	*645.0120 GEOTEXTILE TYPE HR SY
0010	12+50	-	12+60	LT	17	40
0010	13+84	-	14+00	RT	19	43
			TOTALS		36	83

*QUANTITY LISTED ELSEWHERE

MAINTENANCE AND REPAIR OF HAUL ROADS

CATEGORY	PROJECT	618.0100 EACH
0030	9394-00-70	1
	TOTAL	1

MOBILIZATION

CATEGORY	PROJECT	619.1000 EACH
0010	9394-00-70	1
	TOTAL	1

FINISHING SUMMARY

CATEGORY	STATION		STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0300 SEEDING BORROW PIT LB	630.0500 SEED WATER MGAL
0010	10+00	-	13+25	RT	330	---	330	0.3	24	---	11.8
	13+25	-	15+40	LT	180	---	180	0.2	17	---	8.4
	10+55 PD	-	12+15 PD	LT/RT	200	---	200	0.12	9	---	4.4
	WASTE SITE				160	160	---	0.1	---	7	3.5
	UNDISTRIBUTED				220	40	180	0.2	11	2	7.0
	CATEGORY 0010 TOTALS				1,090	200	890	0.92	61	9	35.1
0030	10+01 PD	-	10+55 PD	LT/RT	34	---	34	0.02	2	---	0.8
	UNDISTRIBUTED				10	---	10	0.01	1	---	0.2
	CATEGORY 0030 TOTALS				44	---	44	0.03	3	---	1
	GRAND TOTALS				1,134	200	934	0.95	64	9	36.1

SILT FENCE

CATEGORY	STATION		STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
0010	11+89	-	12+50	LT	65	130
	14+02	-	15+60	RT	160	320
	UNDISTRIBUTED				57	114
				TOTALS	282	564

TURBIDITY BARRIERS

CATEGORY	STATION		STATION	LOCATION	628.6005 TURBIDITY BARRIERS SY
0010	12+48	-	13+28	LT/RT	162
	13+15	-	13+96	LT/RT	156
	UNDISTRIBUTED				80
				TOTAL	398

MOBILIZATIONS EROSION CONTROL

CATEGORY	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	5	5
TOTALS	5	5

TEMPORARY DITCH CHECKS

CATEGORY	STATION	LOCATION	628.7504 LF
0010	11+36	LT	10
	11+63	LT	12
	11+86	LT	8
	12+12	RT	8
	12+60	RT	6
	13+49	LT	6
	14+07	LT	8
	UNDISTRIBUTED		20
		TOTAL	78

ROCK BAGS

CATEGORY	LOCATION	628.7570 EACH	REMARKS
0010	UNDISTRIBUTED	66	FOR SILT FENCE RELIEF
	TOTAL	66	

TRACKING PADS

CATEGORY	LOCATION	628.7560 EACH
0010	SOUTH END OF PROJECT	1
	NORTH END OF PROJECT	1
	TOTAL	2

FIELD OFFICE TYPE B

CATEGORY	PROJECT	642.5001 EACH
0010	9394-00-70	1
	TOTAL	1

MGS GUARDRAIL ITEMS

CATEGORY	STATION		STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
0010	11+70	-	12+63	LT	---	---	39.4	1
	11+85	-	12+90	RT	15	12.5	39.4	1
	13+54	-	14+59	LT	35	12.5	39.4	1
	13+82	-	14+74	RT	---	---	39.4	1
	TOTALS				50	25.0	157.6	4

3

PERMANENT SIGNING SUMMARY

CATEGORY	DESCRIPTION	SIGN NO.	APPROX. STA.	LOC.	SIGN CODE	SIGN MESSAGE	SIGN SIZE (W x H) IN	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0616 POSTS WOOD 4X6 INCH X 16-FT EACH	REMARKS
0010	CTH Q									
		101	11+50	LT	W1-1R	RIGHT TURN	36 x 36	9.00	1	
		102	11+50	LT	W13-1	ADVISORY SPEED PLATE (YELLOW BACK)	18 x 18	2.25	---	25 MPH, INSTALL BELOW SIGN 101
		E01	12+94	LT	---	---	0 x 0	---	---	REMOVE BY OTHERS
		E02	13+34	LT	---	---	0 x 0	---	---	REMOVE BY OTHERS
		E03	14+44	LT	---	RIGHT TURN	36 x 36	---	---	REMOVE BY OTHERS
		E04	14+44	LT	---	ADVISORY SPEED PLATE (YELLOW BACK)	18 x 18	---	---	REMOVE BY OTHERS
		E05	13+50	RT	---	---	0 x 0	---	---	REMOVE BY OTHERS
		E06	13+09	RT	---	---	0 x 0	---	---	REMOVE BY OTHERS
		E07	12+90	RT	---	---	0 x 0	---	---	REMOVE BY OTHERS
		TOTALS						11.25	1	

TRAFFIC CONTROL

CATEGORY	PROJECT	643.5000 EACH
0010	9394-00-70	1
	TOTAL	1

TRAFFIC CONTROL

CATEGORY	LOCATION	DURATION DAYS	643.0420 BARRICADES TYPE III EACH	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A EACH	643.0705 WARNING LIGHTS TYPE A DAY	643.0900 SIGNS EACH	643.0900 SIGNS DAY	643.0920 COVERING SIGNS TYPE II CYCLES	643.0920 COVERING SIGNS TYPE II SIGNS	643.0920 COVERING SIGNS TYPE II EACH	643.1222 CONNECTED WORK ZONE END LOCATION MARKER EACH	643.1222 CONNECTED WORK ZONE END LOCATION MARKER DAY
0010	DETOUR	102	14	1,428	24	2,448	210	21,420	1	3	3	2	204

PAVEMENT MARKING

CATEGORY	STATION	LOCATION	646.1005 MARKING LINE PAINT 4 -INCH (WHITE) LF	646.1005 MARKING LINE PAINT 4 -INCH (DOUBLE YELLOW) LF
0010	10+71 - 15+65	LT/RT	988	988
	TOTAL			1976

CONSTRUCTION STAKING ITEMS

CATEGORY	STATION - STATION	LOCATION	650.5000 CONSTRUCTION STAKING BASE LF	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT LF	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	10+00 - 13+25	LT/RT	202	21	256
	13+25 - 15+40	LT/RT	194	21	271
		TOTALS	396	42	527

CONSTRUCTION STAKING STRUCTURE LAYOUT

CATEGORY	STRUCTURE	650.6501 EACH
0020	B-58-0140	1
	TOTAL	1

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL

CATEGORY	PROJECT	650.9911 EACH
0010	9394-00-70	1
	TOTAL	1

PUBLIC LAND SURVEY MONUMENT VERIFY AND RESET

CATEGORY	680.0100 EACH
0010	1
TOTAL	1

SAWING ASPHALT

CATEGORY	STATION-STATION	OFFSET	LOCATION	690.0150 LF
0010	10+71	LT/RT	MATCH	26
	15+65	LT/RT	MATCH	23
			CATEGORY 0010 TOTAL	49
0030	10+01 PD	LT/RT	MATCH	13
			CATEGORY 0030 TOTAL	13

INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM

CATEGORY	STATION	999.2000.S EACH
0020	12+94	1
TOTAL		1

RESEARCH AND LOCATE EXISTING LAND PARCEL MONUMENTS

CATEGORY	SPV.0060.01 EACH
0010	1
TOTAL	1

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTEREST TO THE COUNTY

PARCEL NUMBER	OWNERS	INTEREST REQUIRED	R/W NEW	S.F REQUIRED EXISTING	S.F REQUIRED TOTAL	TLE S.F.
1	TOWN OF WITTENBERG	TLE	---	---	---	3739
2	APPLE RIDGE PROPERTY OWNER'S ASSOCIATION LTD.	TLE	---	---	---	852

DOUG D WESTPHAL, GREG S WESTPHAL
LOT 1
MAPLE VALLEY SUBDIVISION

MIDDLE BRANCH EMBARRASS RIVER

1/16TH LINE

TOWN SE-SE SEC. 12

APPLE RIDGE PROPERTY OWNERS ASSOCIATION
OUTLOT 1
APPLE RIDGE

TOWN OF WITTENBERG
OUTLOT 2
APPLE RIDGE

NE-SE SEC. 12

CARL J. BULA
LOT 13
APPLE RIDGE

WITTENBERG

R/W

WITTENBERG TELEPHONE AND CABLE (CIRRINITY)(FIBER)

BEGIN CONSTRUCTION
STA 10+38.36
MATCH EXISTING

BP: 10+00.00
Y = 289480.20
X = 731988.43

END RELOCATION ORDER
STA 15+50.00
1020.83 FEET SOUTH AND 5.18 FEET WEST OF THE EAST QUARTER COR. SEC. 12,T27N, R11E

END CONSTRUCTION
STA 16+20.44
MATCH EXISTING

EP: 17+00.00
Y = 290180.18
X = 731993.05

PARK DRIVEWAY

CTH Q

S 00°18'11" W 1020.85'

N00° 22' 55"E R/L

N 00°18'11" E 1313.77'

11+00 12+00 13+00 14+00 15+00 16+00

ON R/L 102 ON SEC. LINE 101 ON SEC. LINE 100

65' 85' 50' 70'

TLE - GRADING 1 TLE102 TLE101 TLE100 TLE103 TLE - GRADING 2 TLE104 TLE105

TLE

103 104

COMPUTED FROM TIES
Y = 288423.518
X = 731983.383

COMPUTED FROM TIES
Y = 291051.018
X = 731997.275

BEGIN RELOCATION ORDER
STA 12+57.08
1313.75 FEET SOUTH AND 7.14 FEET WEST OF THE EAST QUARTER COR. SEC. 12,T27N, R11E

EXISTING STRUCTURE (TO BE REMOVED) B-58-0706

PROPOSED STRUCTURE B-58-0140

R/L = SEC. LINE STA. 13+94.10

SLOPE INTERCEPT (TYP.)

CENTRAL WISCONSIN ELECTRIC COOPERATIVE (ELECTRIC)
WITTENBERG TELEPHONE AND CABLE (CIRRINITY)(FIBER)

EXISTING BOULDERS (OUTSIDE OF PROPOSED WORK AREA) TO REMAIN (TYP.)

BEGIN PROJECT
STA 10+71.33
Y: 289,551.53
X: 731,988.90
MATCH EXISTING
SAWING ASPHALT REQ'D

END PROJECT
STA 15+65.00
MATCH EXISTING
SAWING ASPHALT REQ'D

TOWN SW-SW SEC. 7

NW-SW SEC. 7 MORRIS

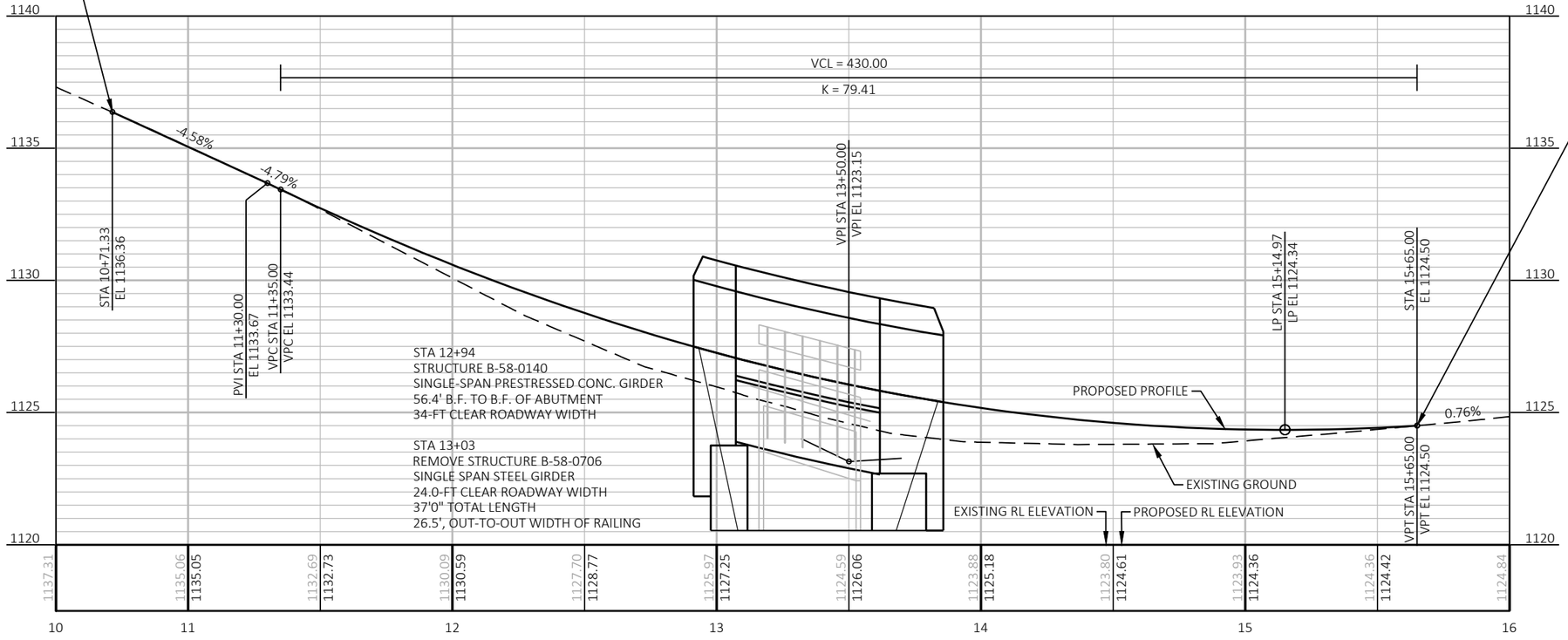
DALE A ADAMS

EDWARD M ADAMS, HELEN ADAMS

OF OF

P.L. R/W E FO

5 5



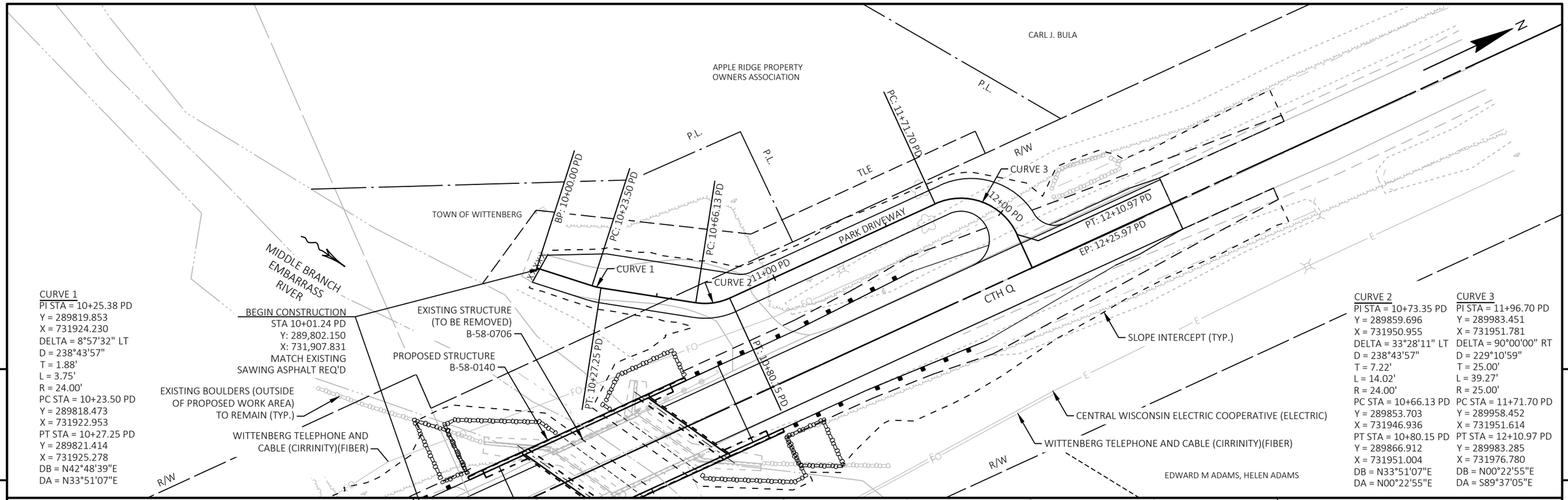
STATION & OFFSET TABLE

POINT	STATION	OFFSET
100	15+50.00	-0.22'
101	12+57.08	0.19'
102	12+57.08	0.00'
103	12+57.90	-49.81'
104	15+50.00	-50.22'
TLE100	13+13.63	-49.89'
TLE101	12+97.96	-87.08'
TLE102	13+30.00	-105.00'
TLE103	14+05.00	-60.00'
TLE104	15+05.00	-60.00'
TLE105	15+05.00	-50.15'

COURSE TABLE

COURSE	BEARING	DISTANCE
100 - 101	S00° 18' 11"W	292.92'
101 - 102	N88° 40' 24"W	0.19'
102 - 103	N88° 40' 24"W	49.82'
103 - 104	N00° 18' 11"E	292.10'
104 - 100	S89° 37' 05"E	50.00'
103 - TLE100	N00° 18' 11"E	55.72'
TLE100 - TLE101	S67° 32' 44"W	40.36'
TLE101 - TLE102	N28° 50' 15"W	36.71'
TLE102 - TLE103	N31° 20' 50"E	87.46'
TLE103 - TLE104	N00° 22' 55"E	100.00'
TLE104 - TLE105	S89° 37' 05"E	9.85'
TLE105 - TLE100	S00° 18' 11"W	191.37'
TLE105 - 104	N00° 18' 11"E	45.00'

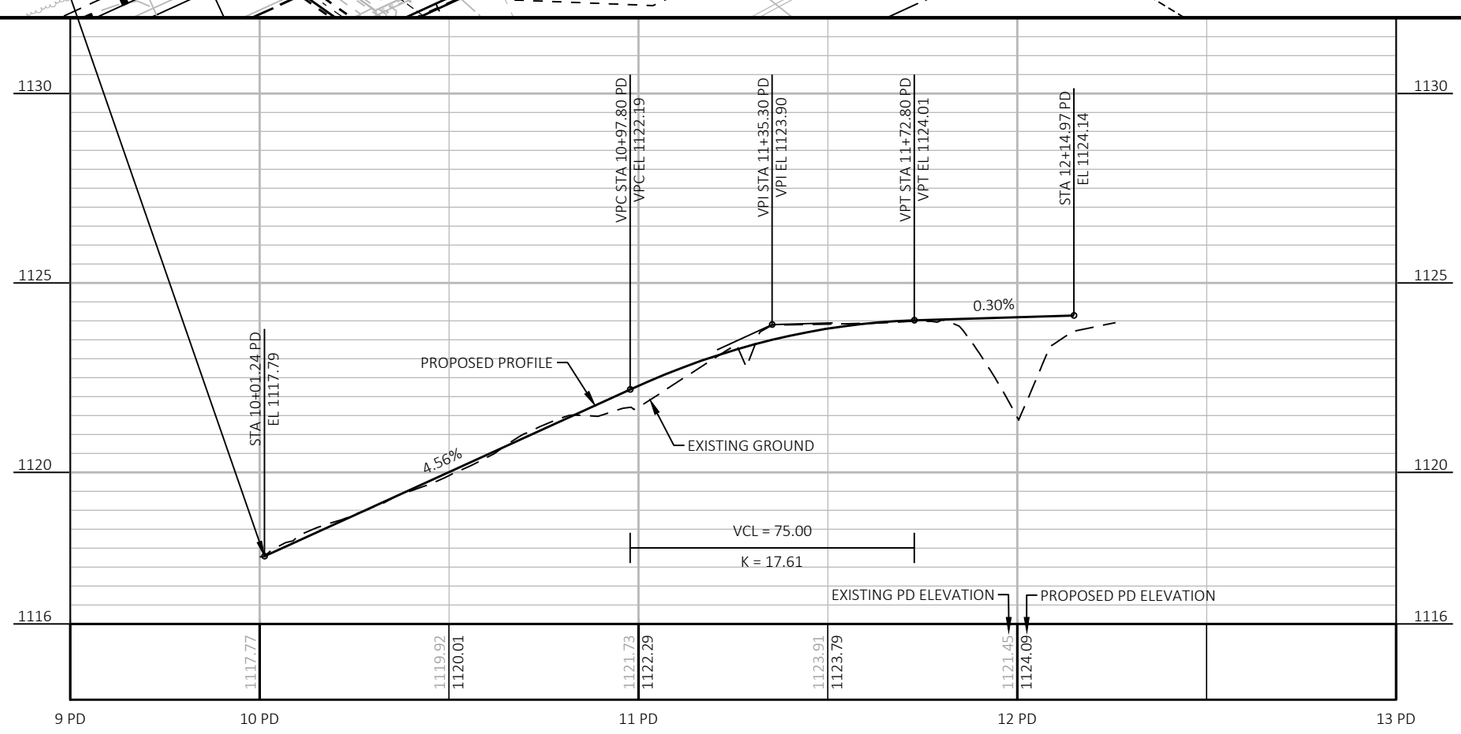
PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	PLAN AND PROFILE: CTH Q	SHEET 26	E



CURVE 1
PI STA = 10+25.38 PD
Y = 289819.853
X = 731924.230
DELTA = 8°57'32" LT
D = 238°43'57"
T = 1.88'
L = 3.75'
R = 24.00'
PC STA = 10+23.50 PD
Y = 289818.473
X = 731922.953
PT STA = 10+27.25 PD
Y = 289821.414
X = 731925.278
DB = N42°48'39"E
DA = N33°51'07"E

CURVE 2
PI STA = 10+73.35 PD
Y = 289859.696
X = 731950.955
DELTA = 33°28'11" LT
D = 238°43'57"
T = 7.22'
L = 14.02'
R = 24.00'
PC STA = 10+66.13 PD
Y = 289853.703
X = 731946.936
PT STA = 10+80.15 PD
Y = 289866.912
X = 731951.004
DB = N33°51'07"E
DA = N00°22'55"E

CURVE 3
PI STA = 11+96.70 PD
Y = 289983.451
X = 731951.781
DELTA = 90°00'00" RT
D = 229°10'59"
T = 25.00'
L = 39.27'
R = 25.00'
PC STA = 11+71.70 PD
Y = 289958.452
X = 731951.614
PT STA = 12+10.97 PD
Y = 289983.285
X = 731976.780
DB = N00°22'55"E
DA = S89°37'05"E

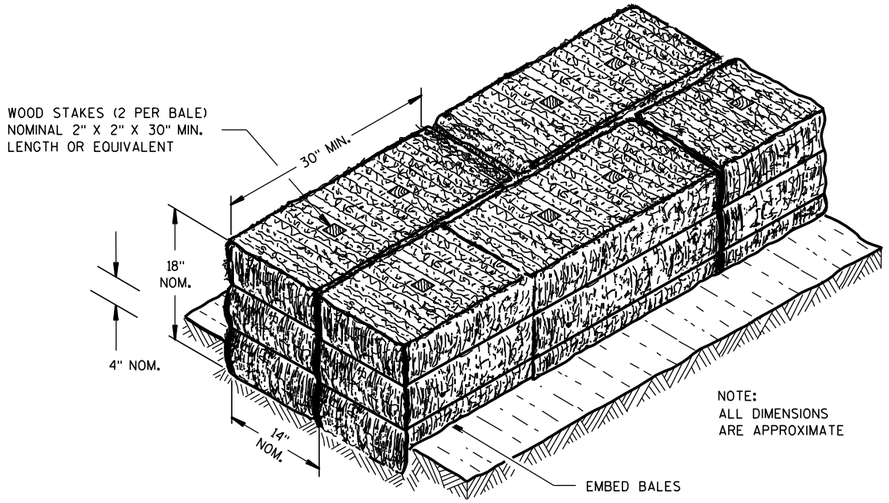


PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	PLAN AND PROFILE: PARK DRIVEWAY (PD)	SHEET 27	E

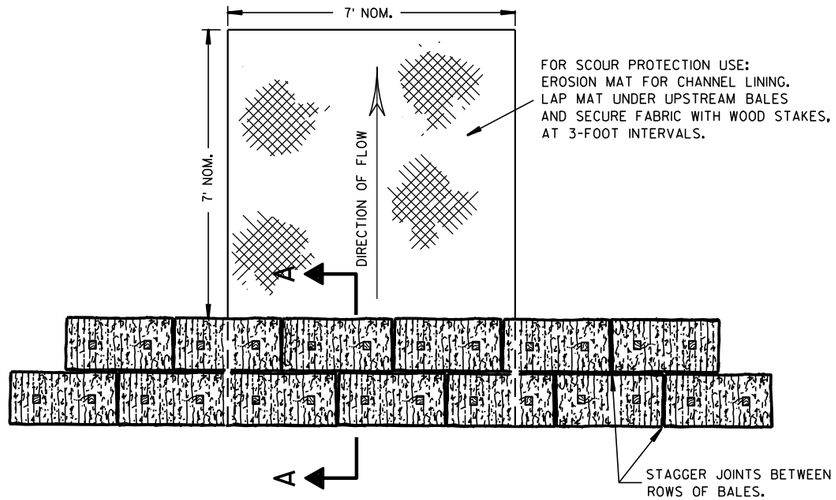
Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
12A03-10	NAME PLATE (STRUCTURES)
13A03-07	CONCRETE PAVEMENT SHOULDERS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C19-03	HMA LONGITUDINAL JOINTS
14B29-01	SAFETY EDGE
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
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)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-10A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-10B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-10C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C06-12	SIGNING AND MARKING FOR TWO LANE BRIDGES
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-11B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

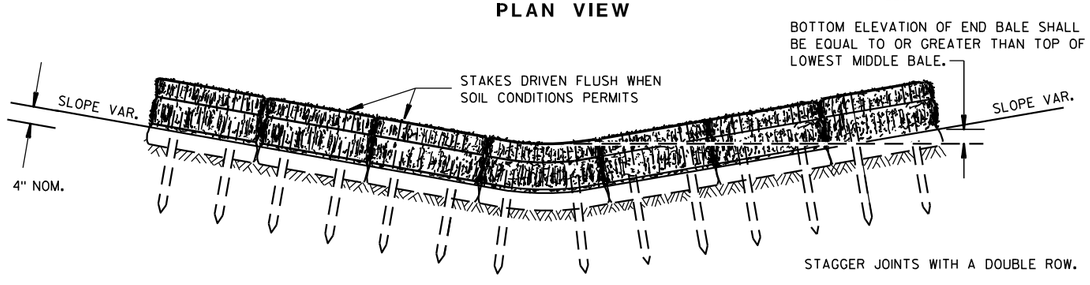
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SECTION A-A



PLAN VIEW



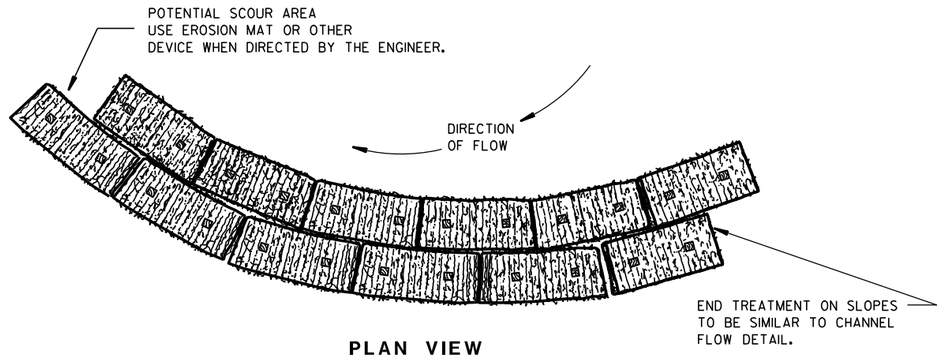
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

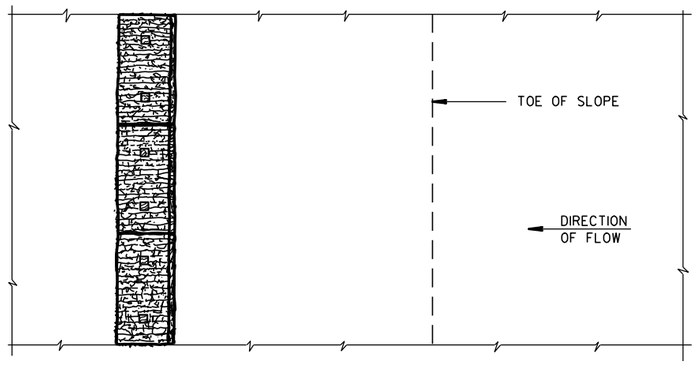
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

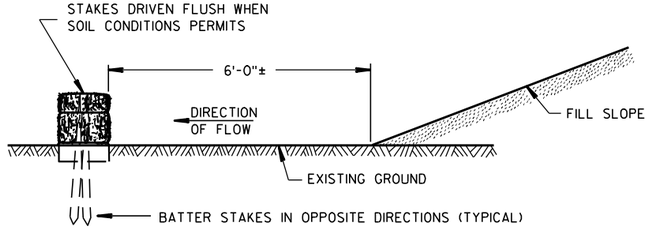


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

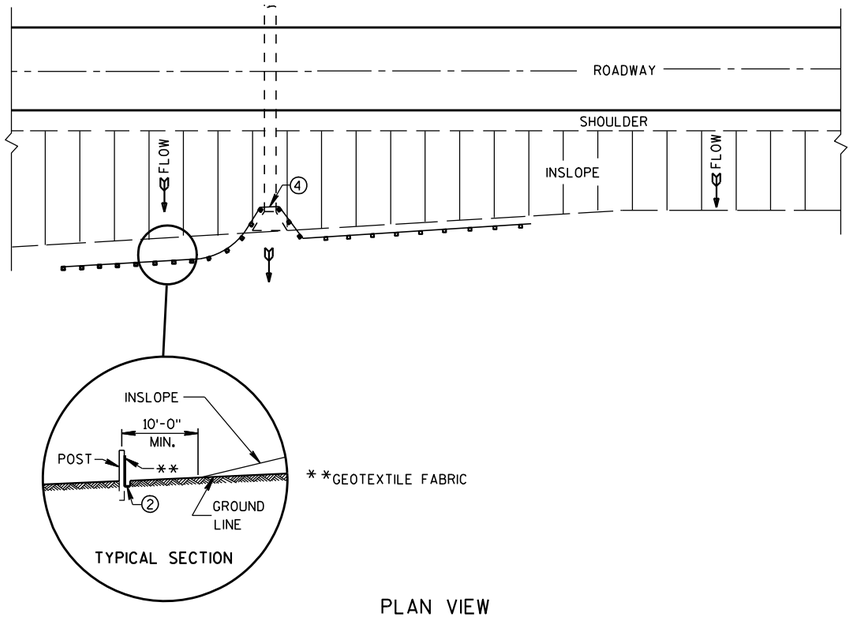
EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

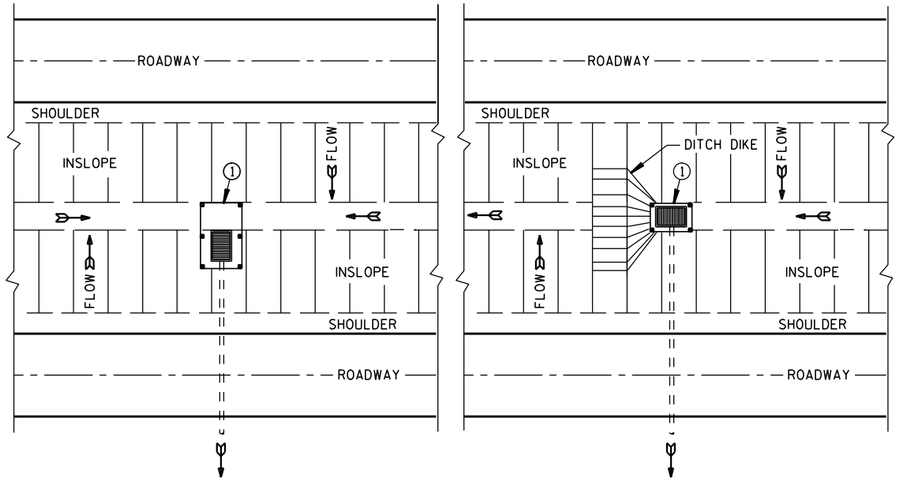
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



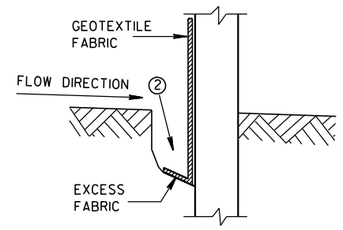
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

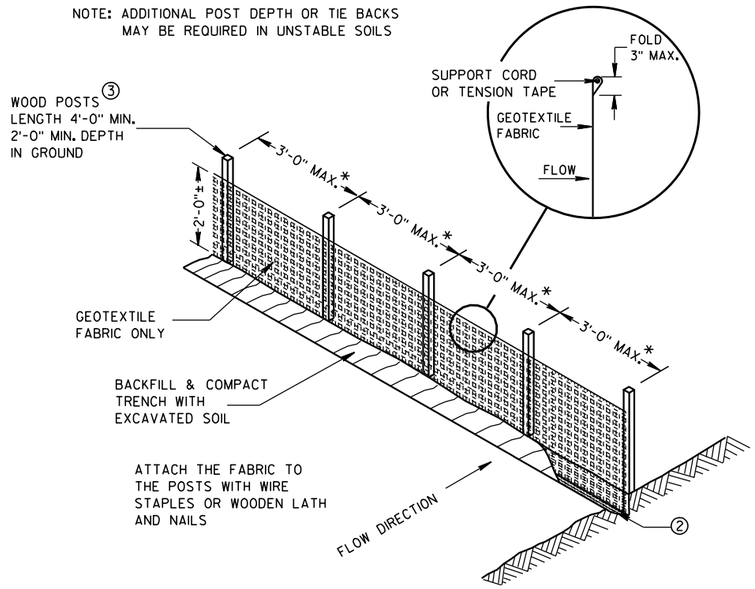
GENERAL NOTES

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

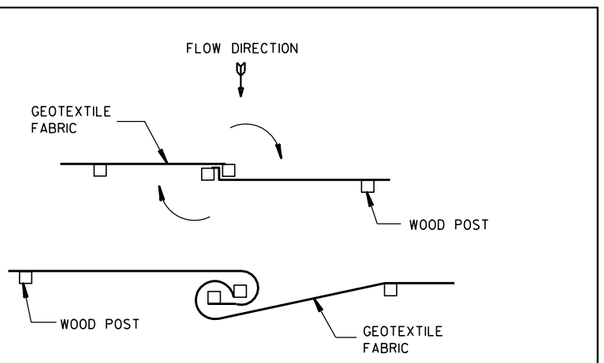
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



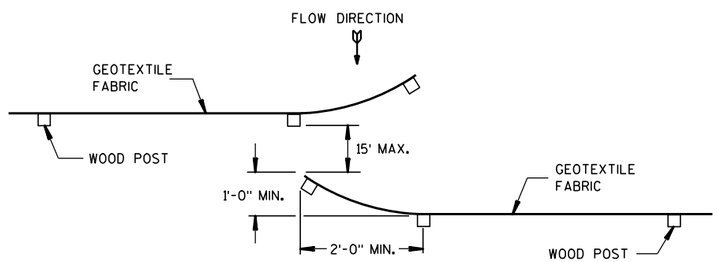
TRENCH DETAIL



SILT FENCE

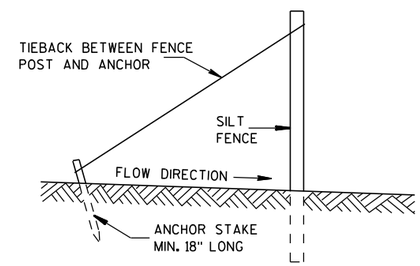


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

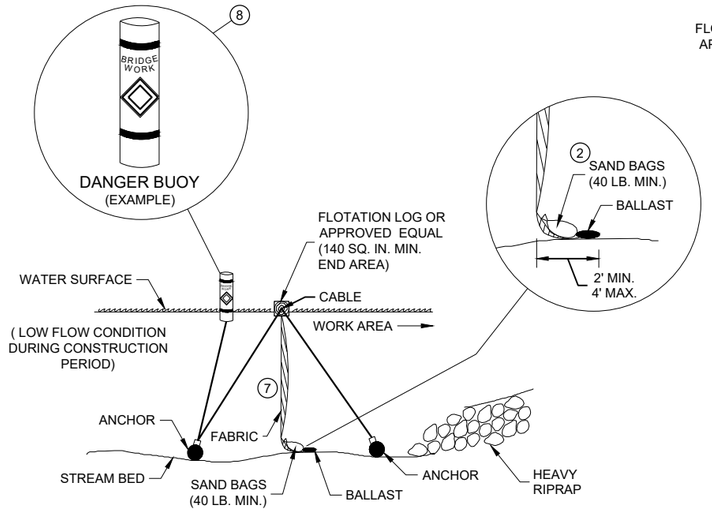
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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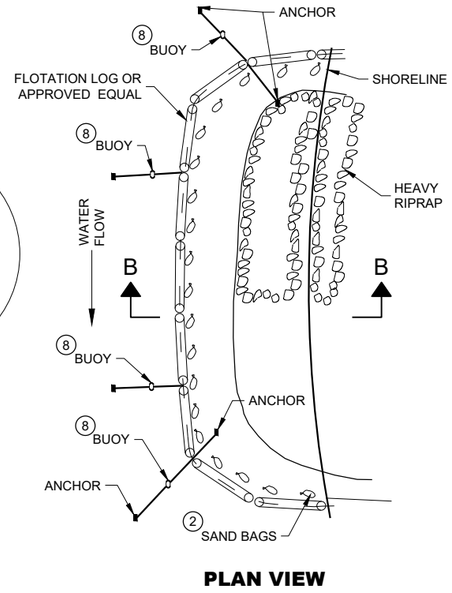
S.D.D. 8 E 9-6

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S.D.D. 8 E 9-6

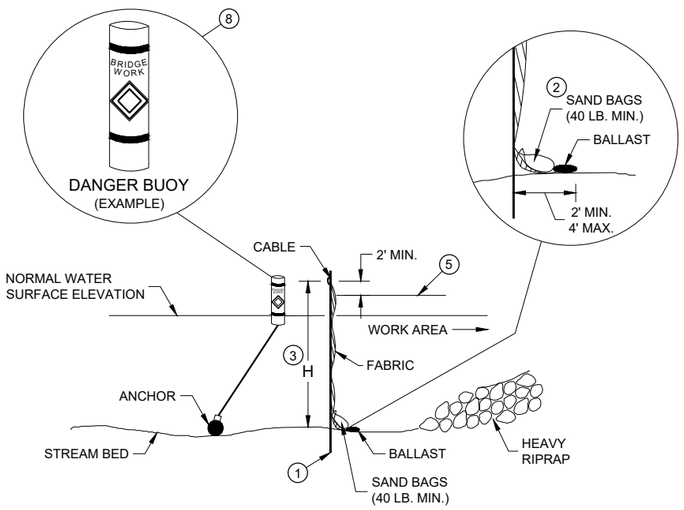


SECTION B - B

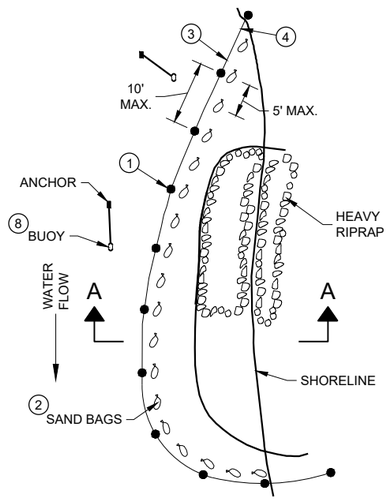


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

(1) DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

(2) SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

(3) WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.

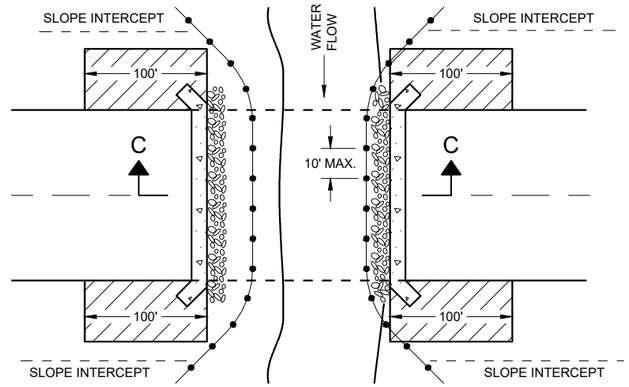
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(5) ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.

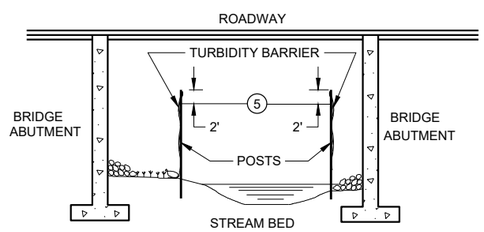
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(7) ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

(8) USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

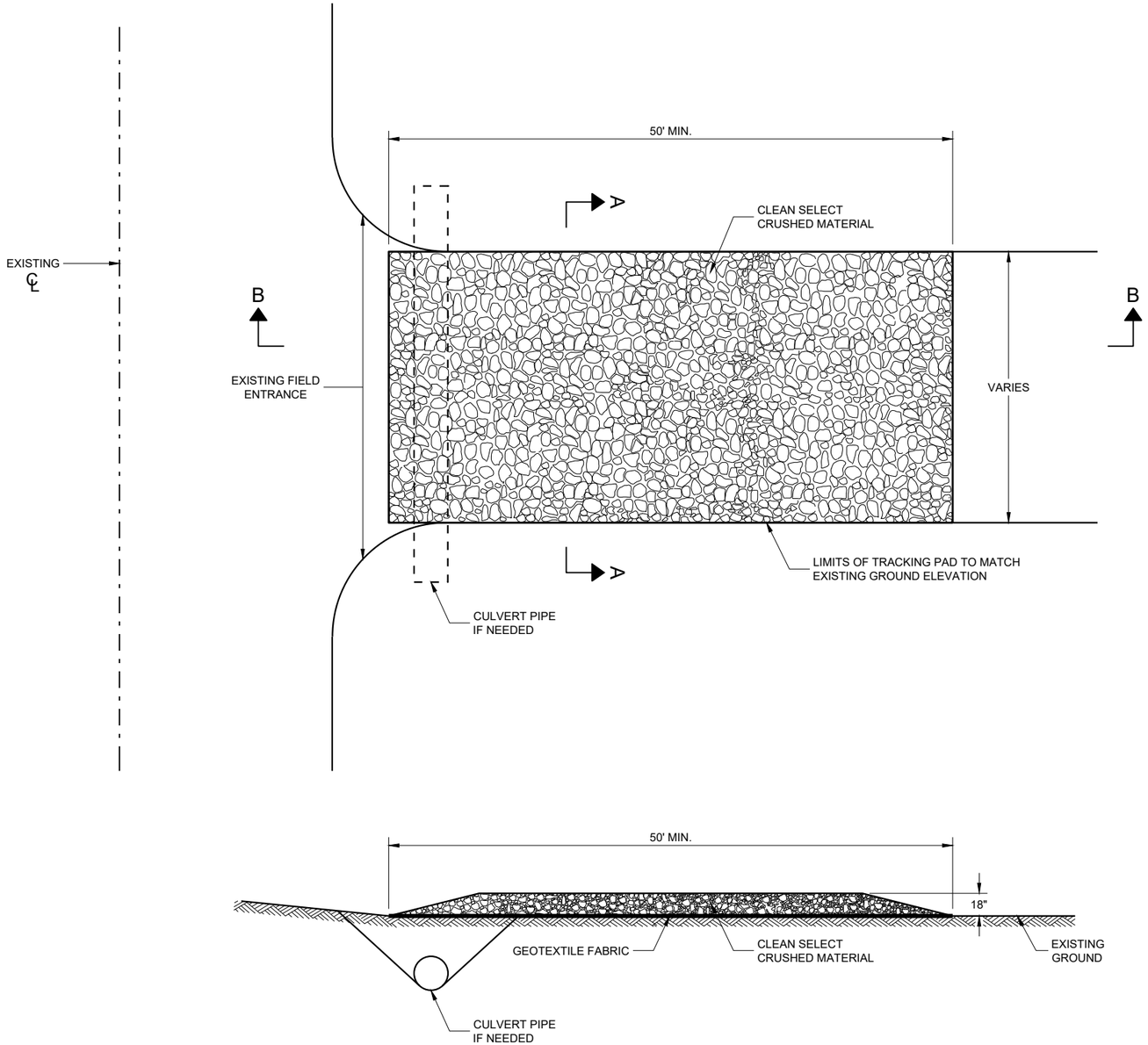
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/4/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

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SDD 08E11 - 02



SECTION B - B

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

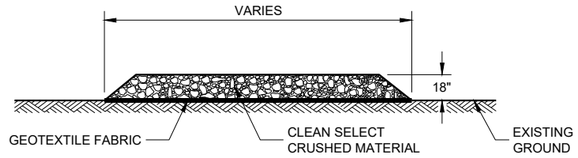
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A - A

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SDD 08E14 - 01

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

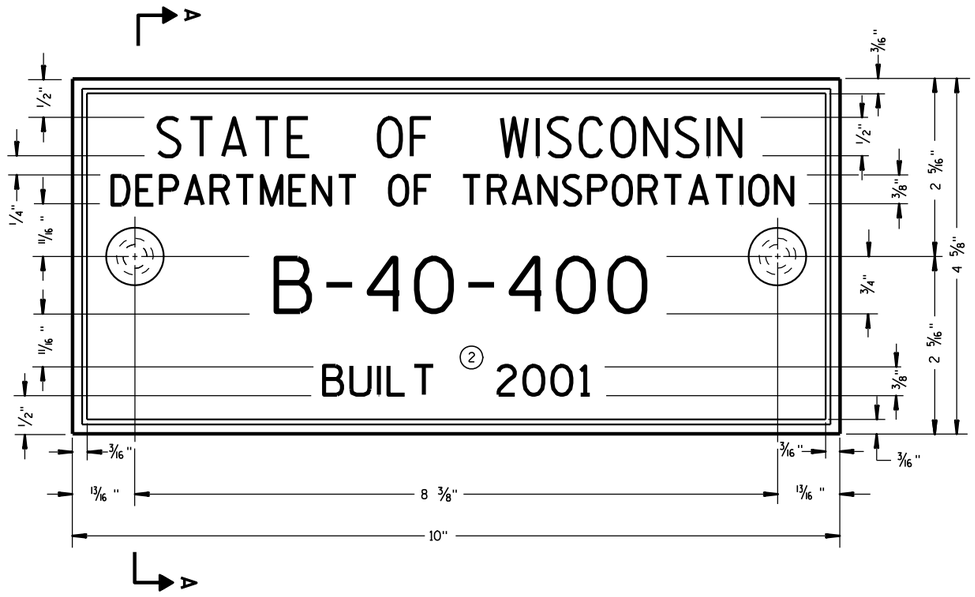
3/24/2011
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVE ENGINEER

FHWA

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SDD 08E14 - 01



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

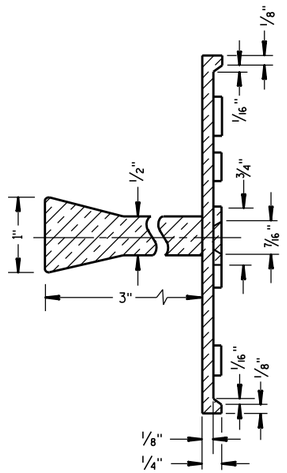
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

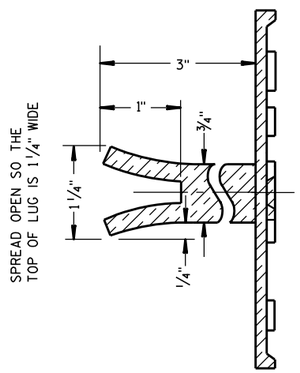
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

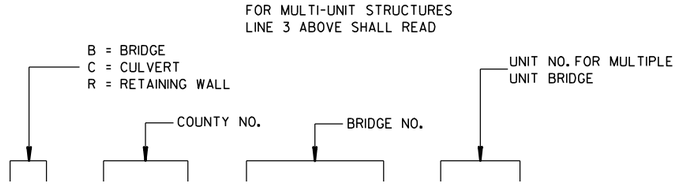
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



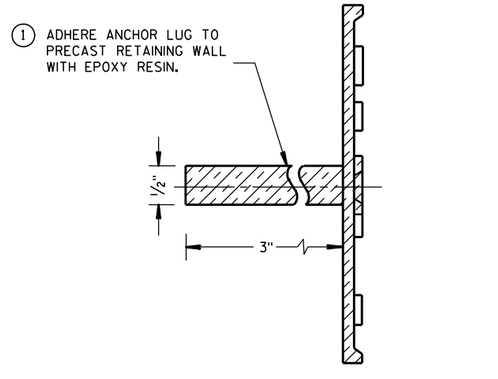
SECTION A-A



ALTERNATE LUG



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

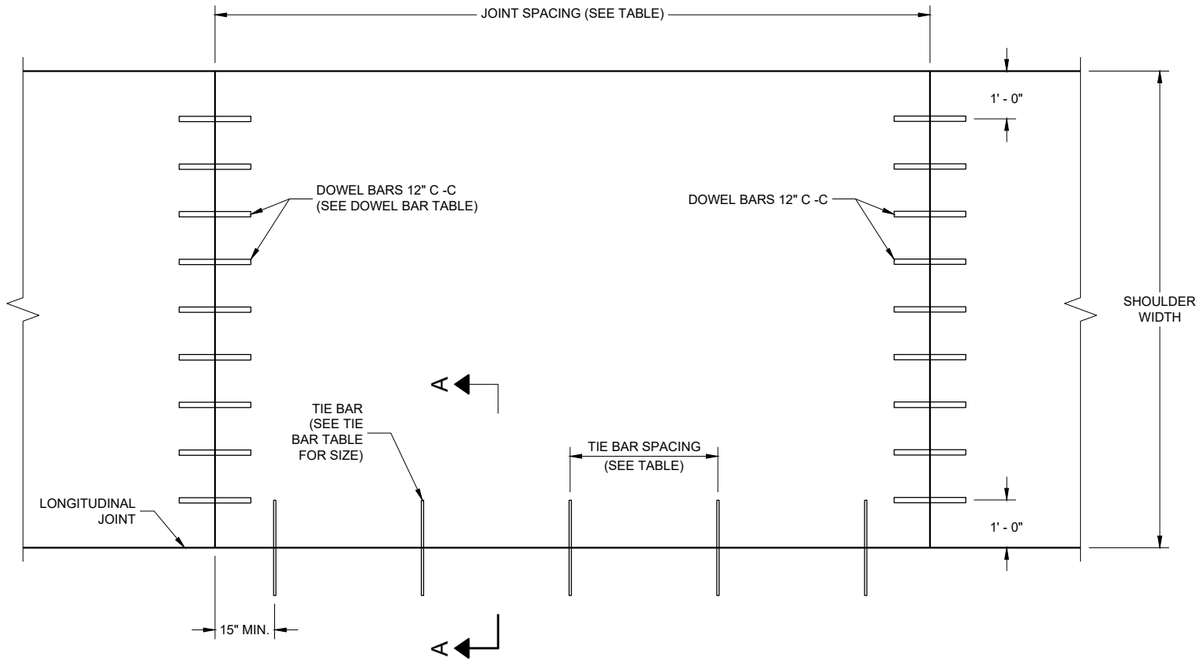
APPROVED

3/26/10 DATE — /S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA

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S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

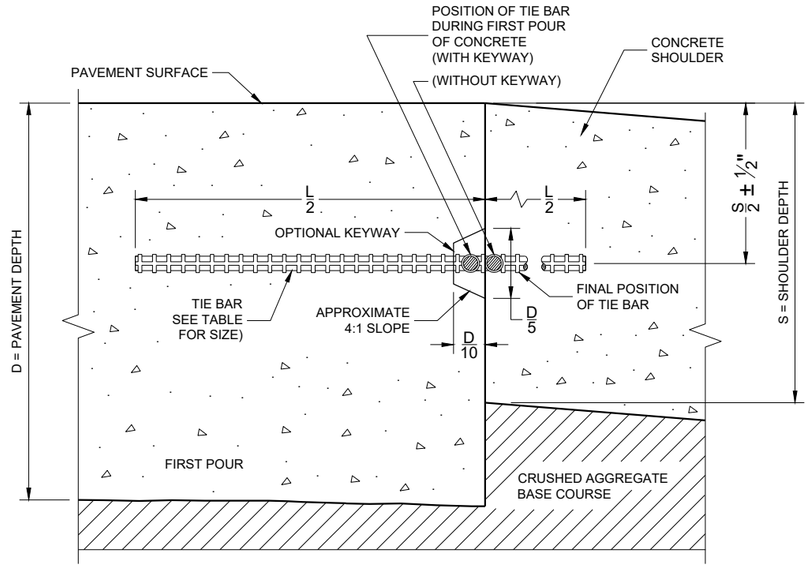
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A - A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
<10 ½"	NO. 4	30"	36"
>10 ½"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* SUBSTITUTE BENT BATS 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.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER ***	CONTRACTION JOINT SPACING
6", 6 ½"	NONE	12"
7", 7 ½"	1"	14"
8" & ABOVE	1 ¼"	15"

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FRO THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

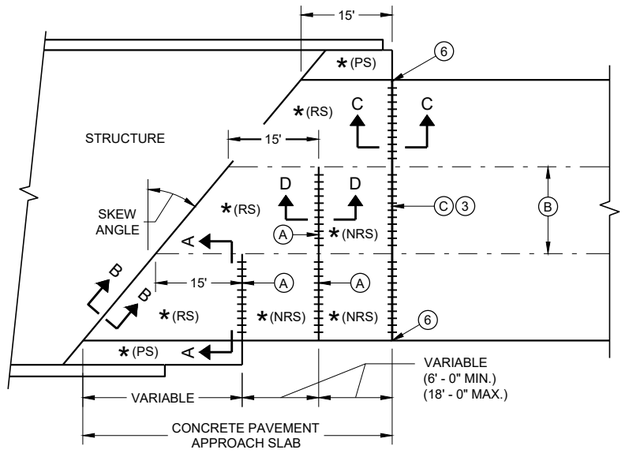
APPROVED
November 2022
DATE

/S/ Peter Kemp
PAVEMENT SUPERVIS

FHWA

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SDD 13A03 - 07



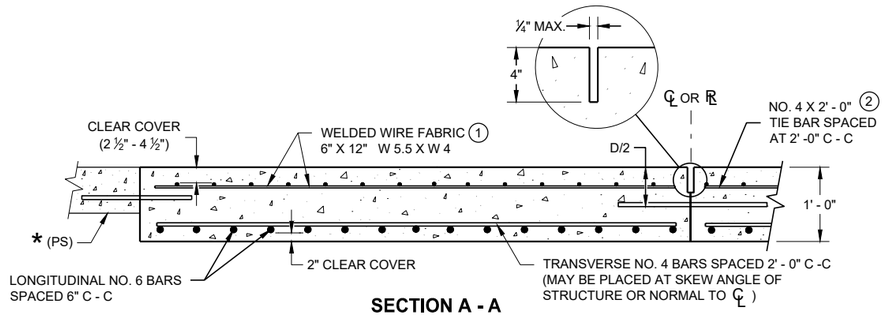
SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)

* (RS) = REINFORCED CONCRETE SLAB

* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

(1) THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0 " C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

(2) THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

(3) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

(4) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

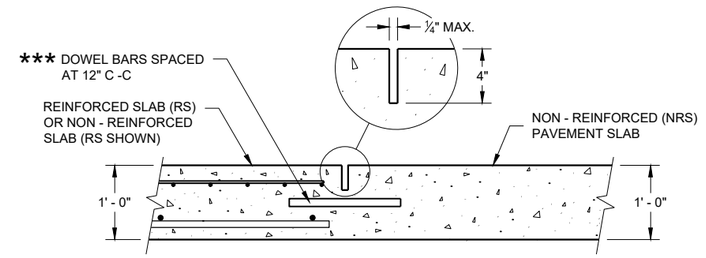
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

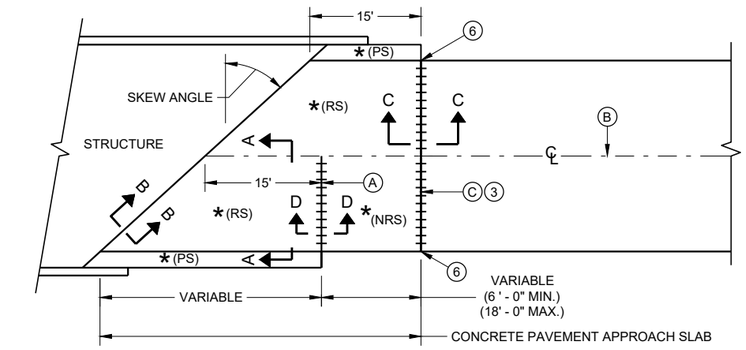
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .

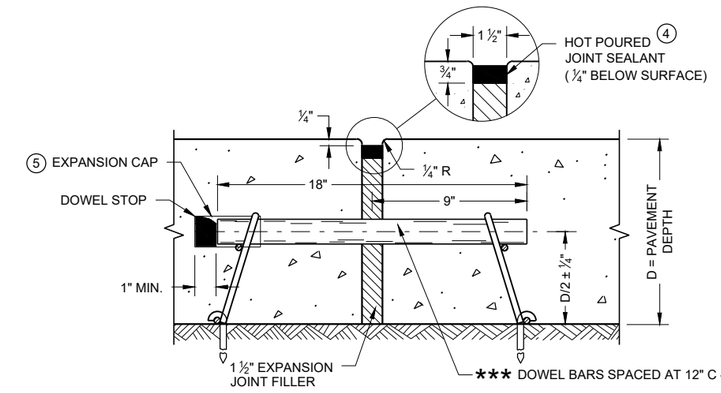


SECTION D - D
CONTRACTION JOINT

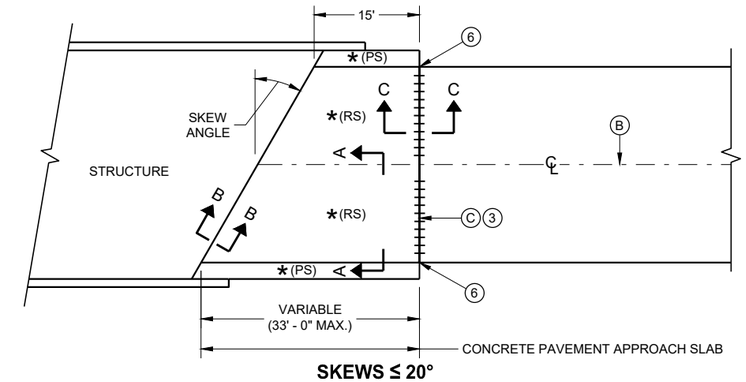


SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')

SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT

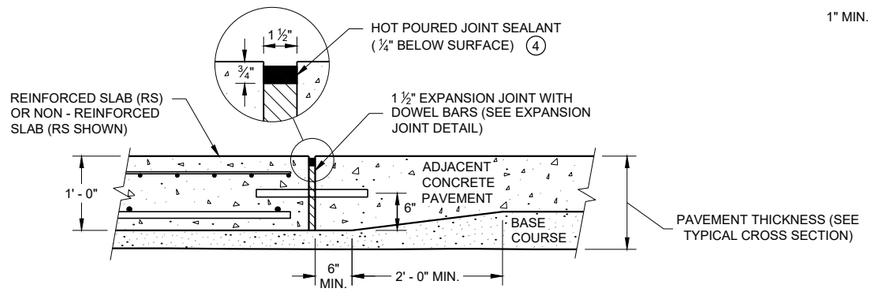


EXPANSION JOINT DETAIL



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

APPROACH SLAB AND ADJACENT PAVEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

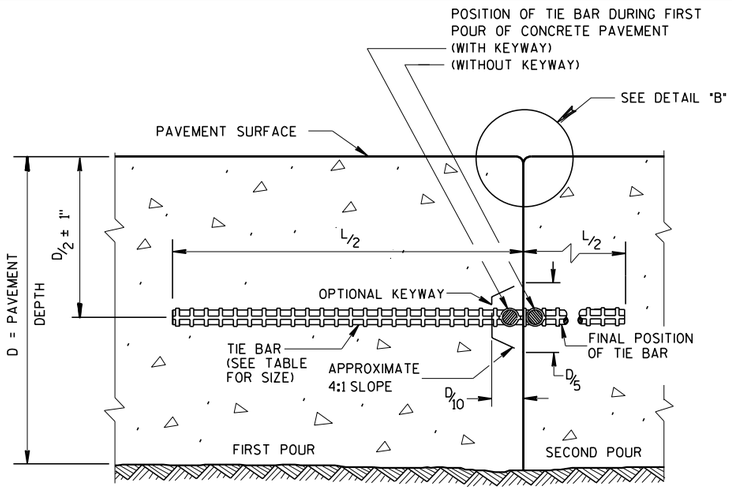
APPROVED
November 2018
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVIS

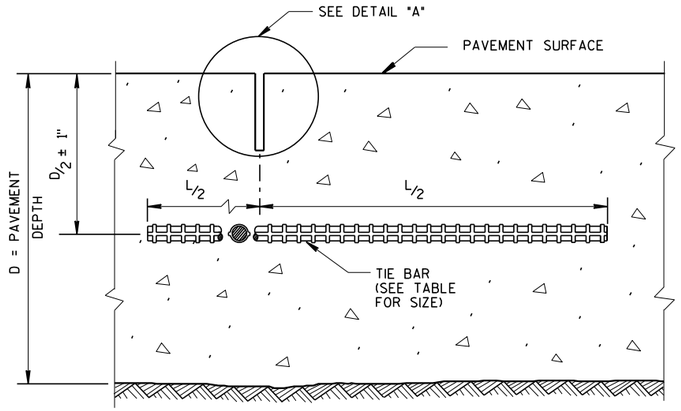
FHWA

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SDD 13B02 - 09a



CONSTRUCTION JOINT



SAWED JOINT

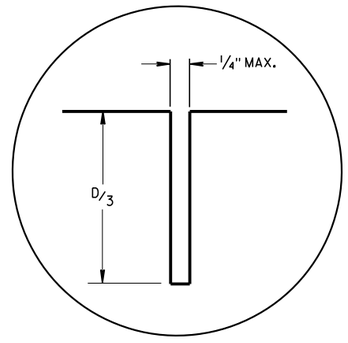
GENERAL NOTES

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

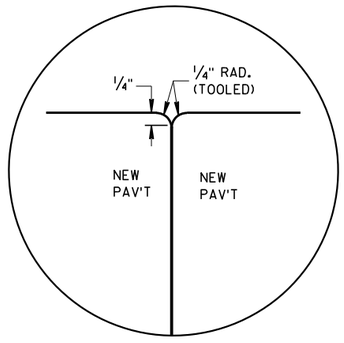
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

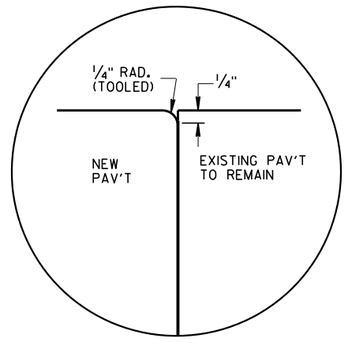
(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.



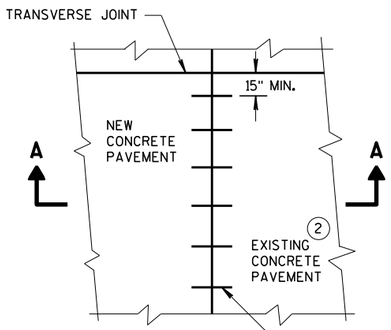
DETAIL "A"



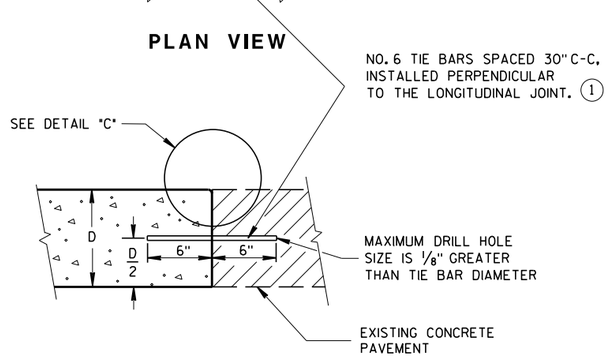
DETAIL "B"



DETAIL "C"



PLAN VIEW



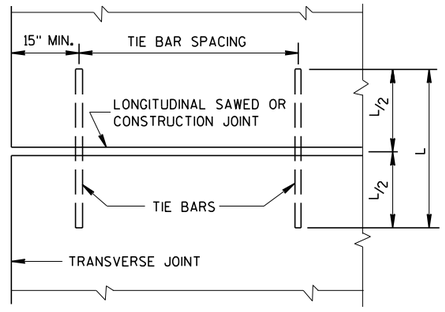
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

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" MINUMUM 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

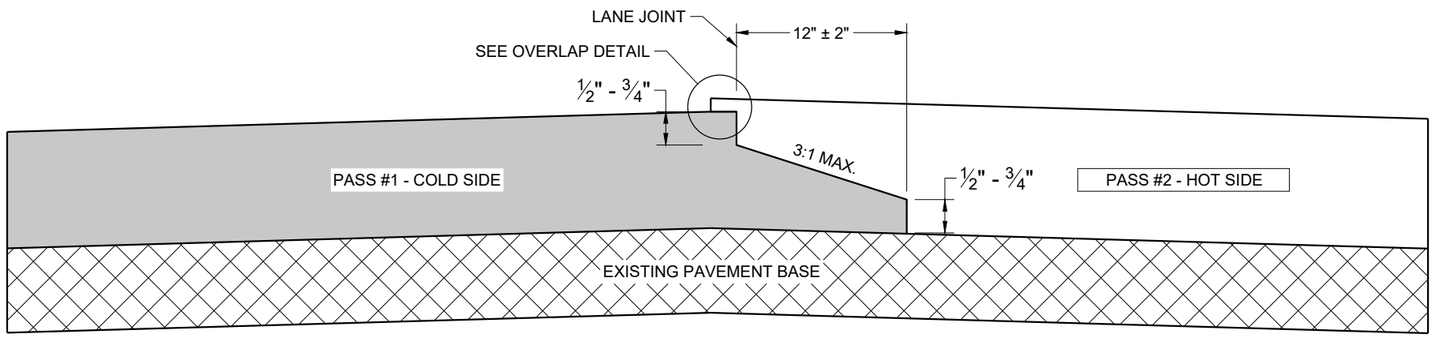
APPROVED
March 2018 — DATE
/S/ Peter Kemp — PAVEMENT SUPE
FHWA

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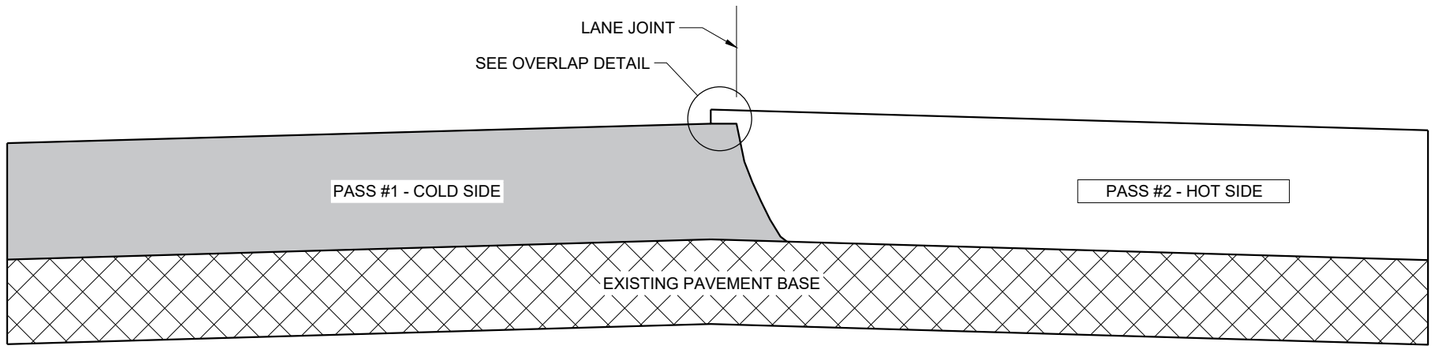
S.D.D. 13 C 1-19

6

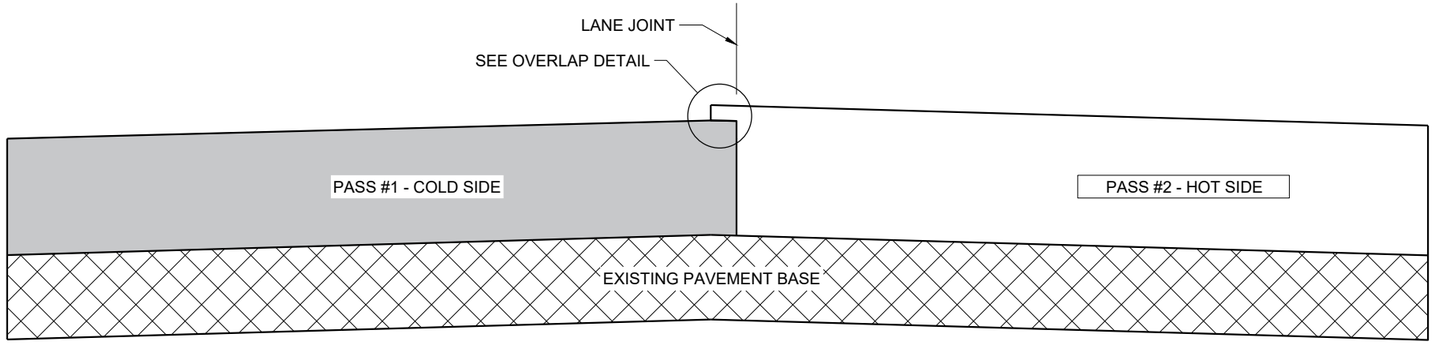
S.D.D. 13 C 1-19



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

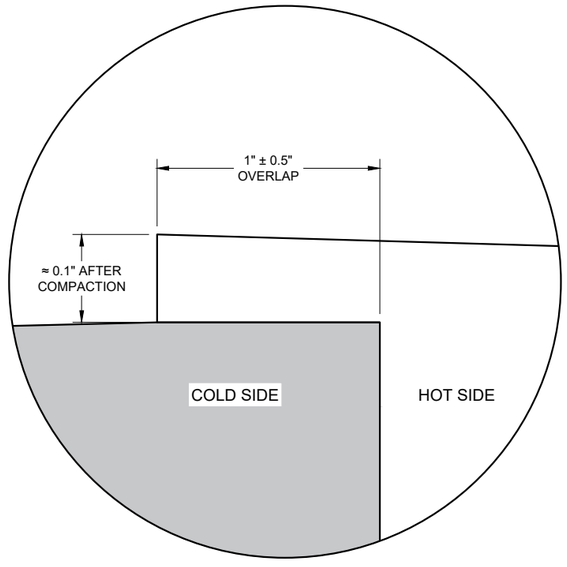
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 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)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

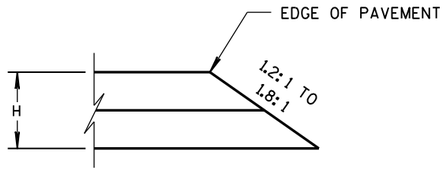
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

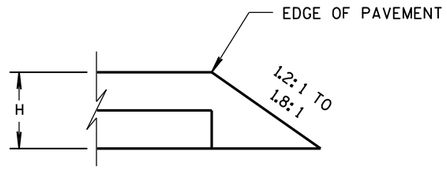
/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA



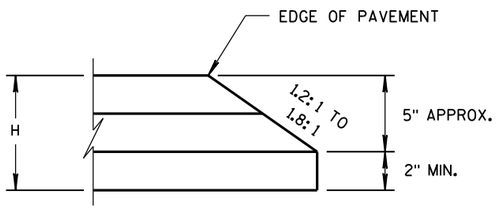
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



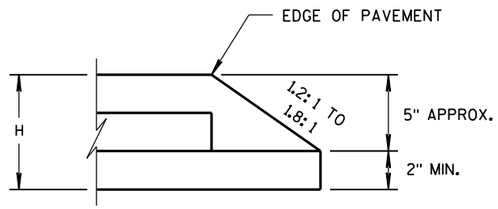
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

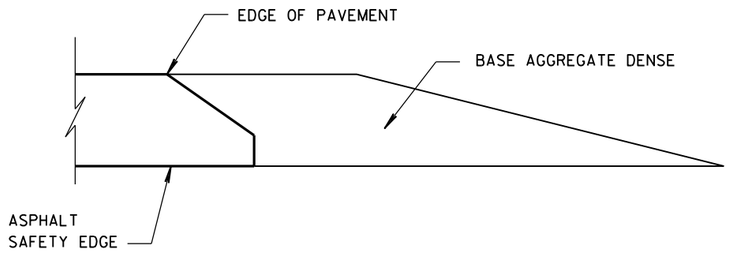
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

(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.

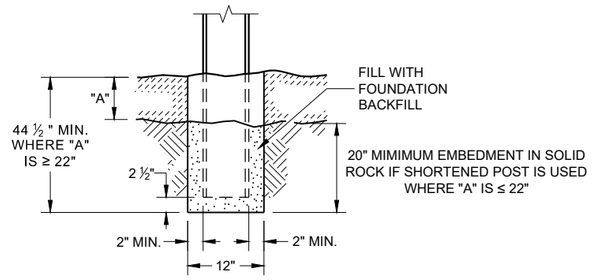
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL 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).

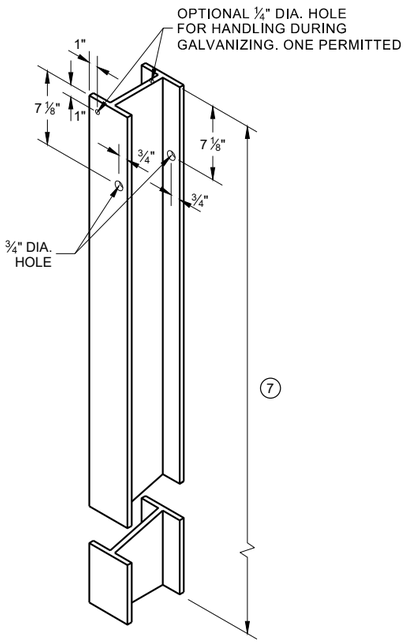
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

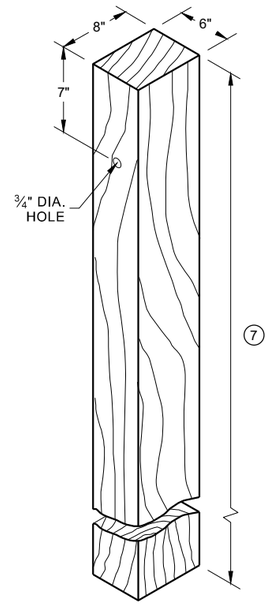
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



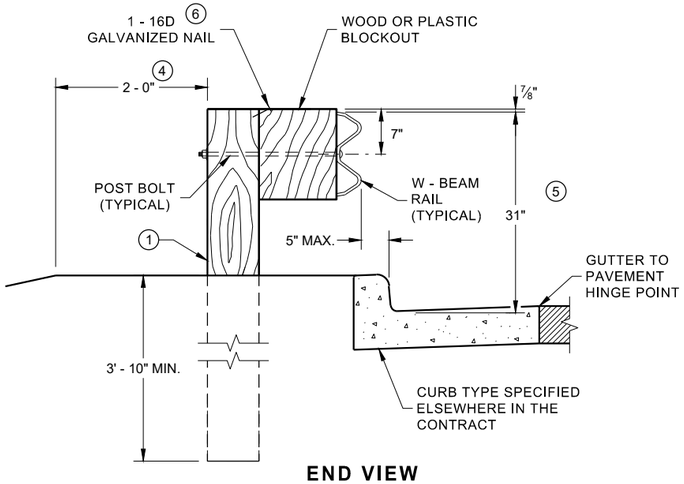
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



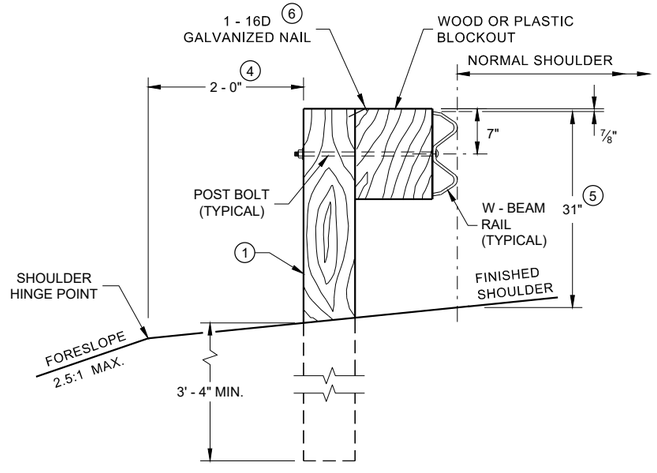
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



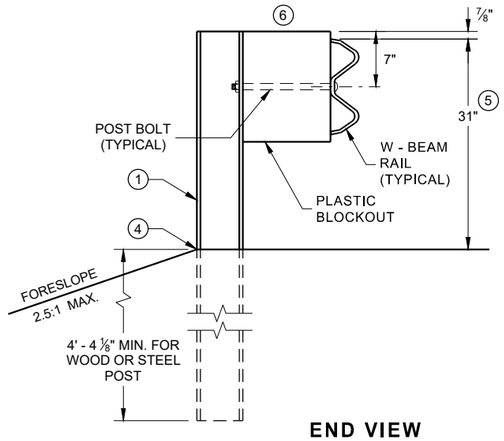
WOOD POST (6" X 8") NOMINAL (1)



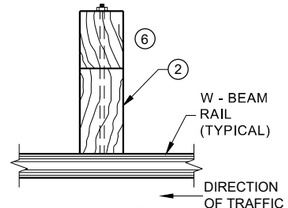
END VIEW
LOCATED ALONG A CURBED ROADWAY



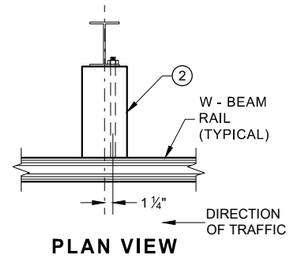
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



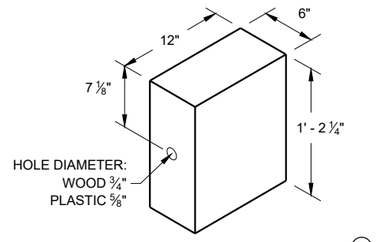
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

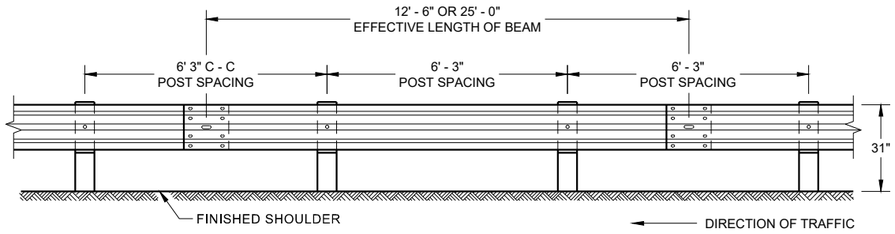
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

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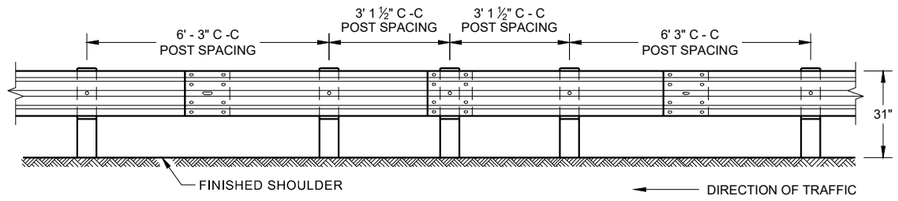
SDD 14B42 - 07a

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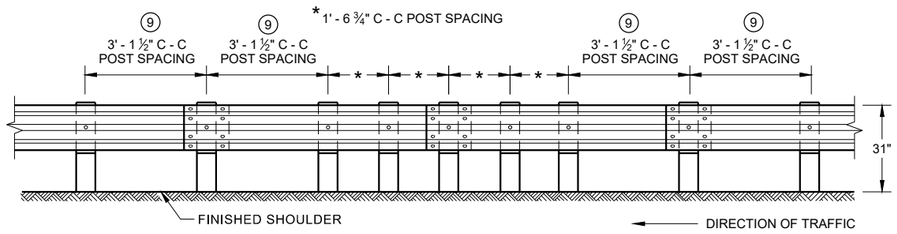
SDD 14B42 - 07a



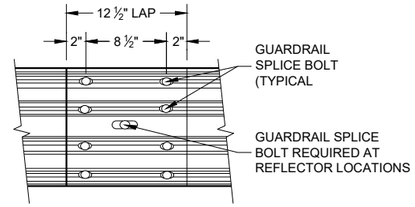
FRONT VIEW
POST SPACING STANDARD INSTALLATION



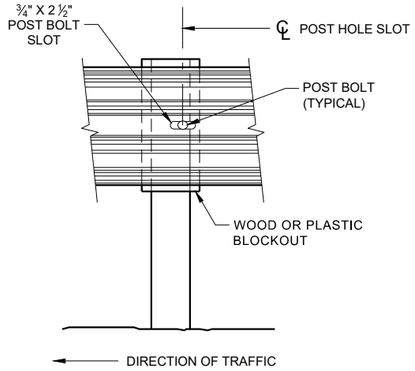
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



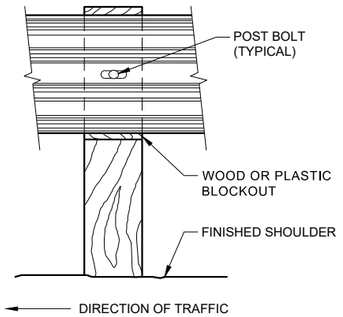
FRONT VIEW
QUARTER POST SPACING (QS)



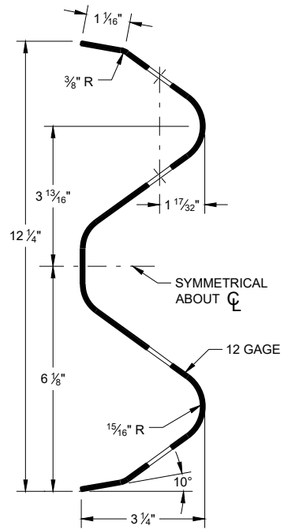
FRONT VIEW
MID-SPAN BEAM SPLICE



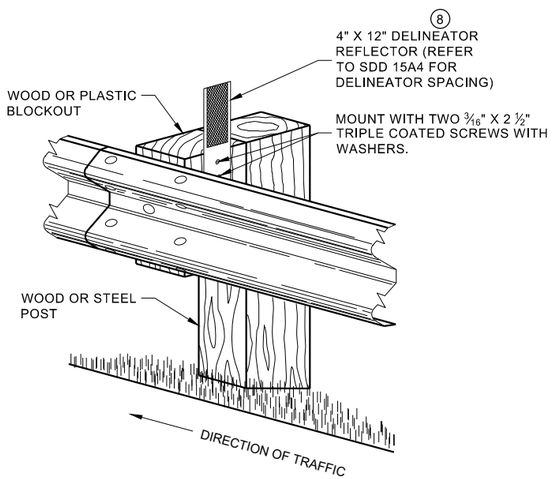
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



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 ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

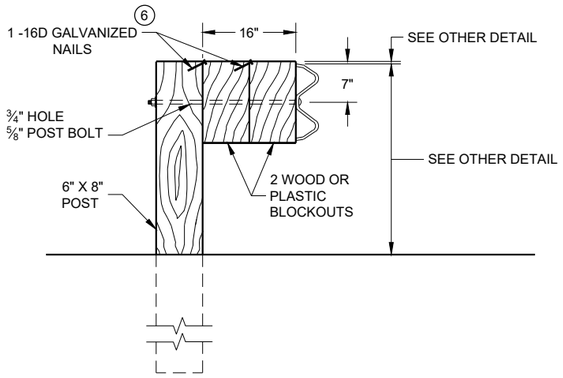
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

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SDD 14B42 - 07b
SDD 14B42 - 07b

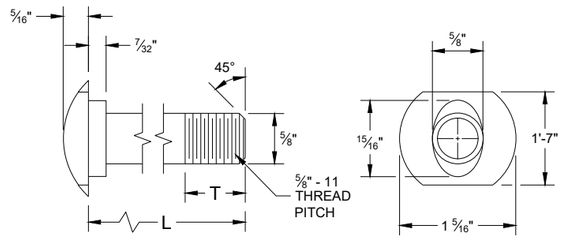


DETAIL FOR 16" BLOCKOUT DEPTH

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.

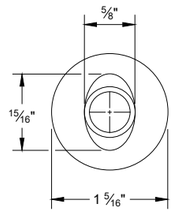
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

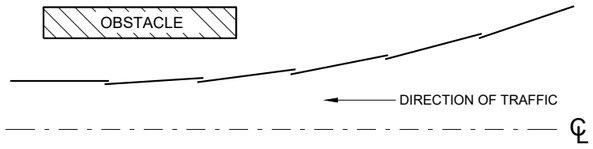


POST BOLT TABLE

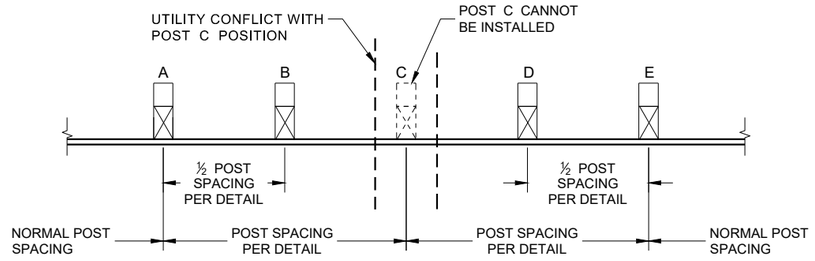
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



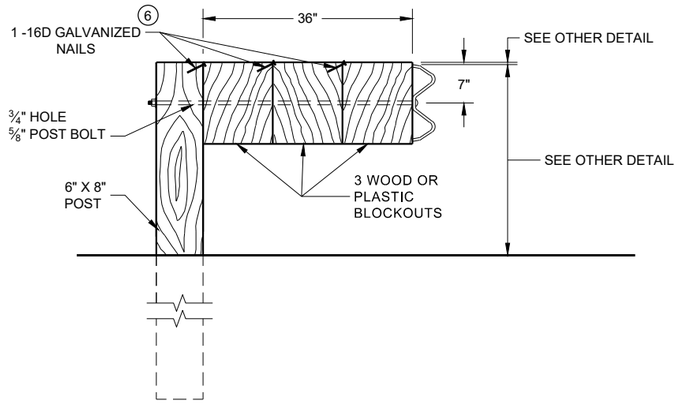
ALTERNATE BOLT HEAD



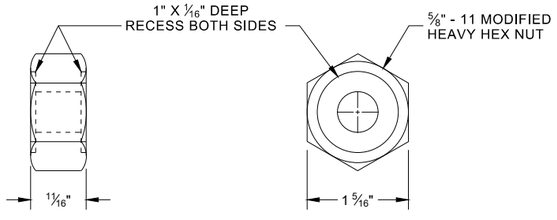
PLAN VIEW
BEAM LAPPING DETAIL



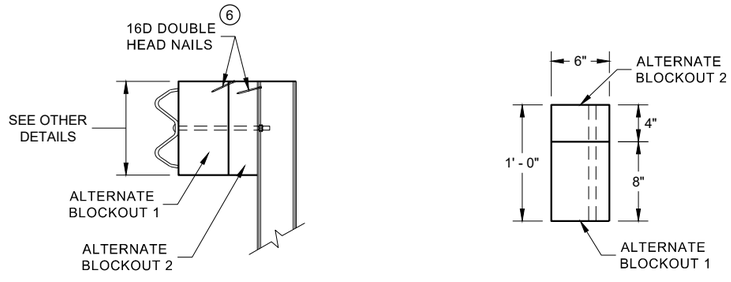
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW

PLAN VIEW

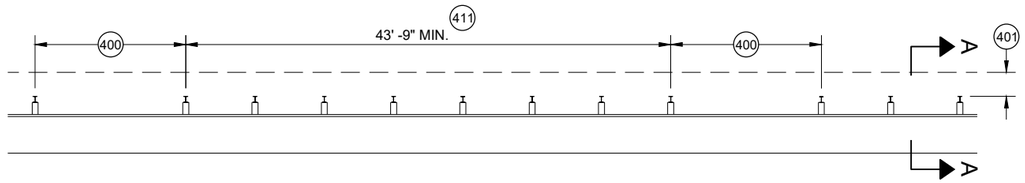
ALTERNATE WOOD BLOCKOUT DETAIL

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.

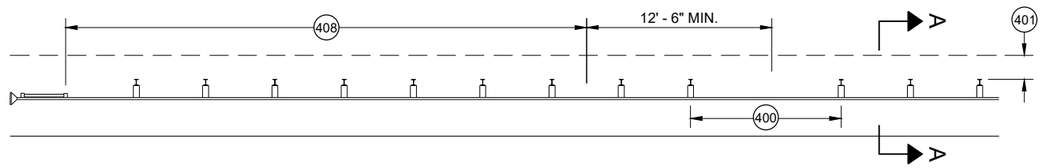
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(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.

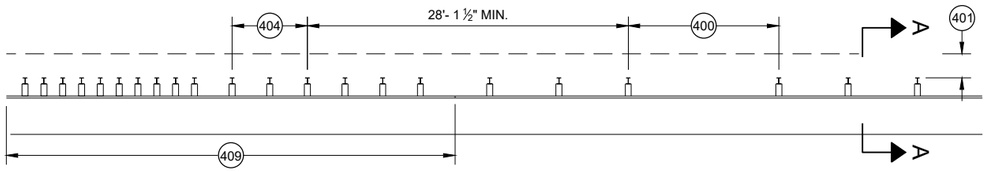
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



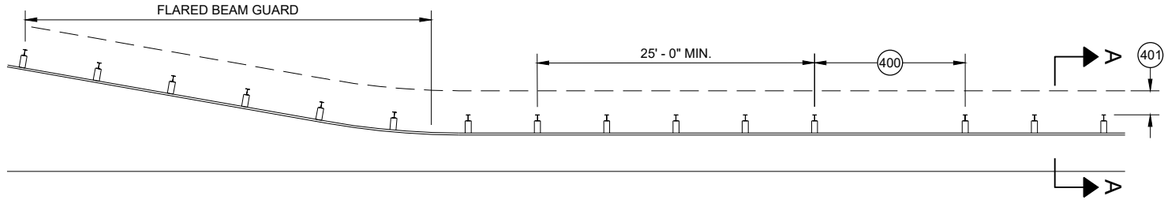
MISSING POST IN MGS GUARDRAIL



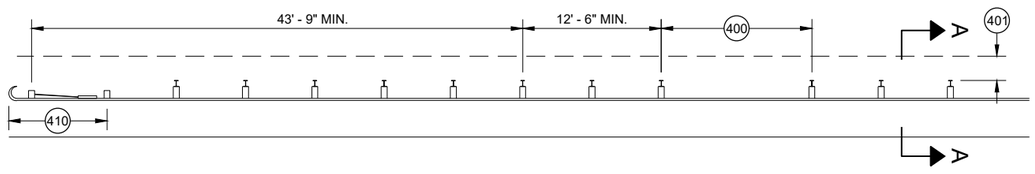
MISSING POST IN MGS GUARDRAIL NEAR EAT



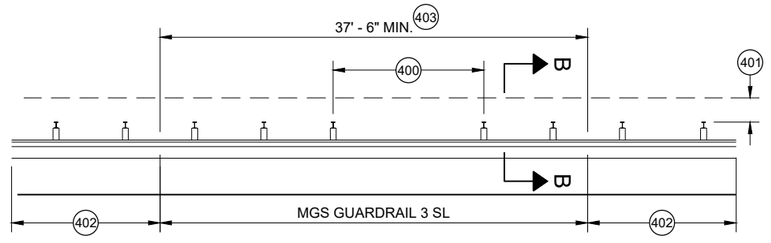
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

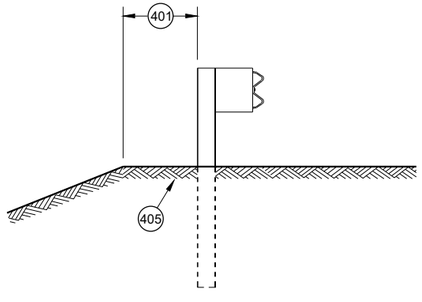


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

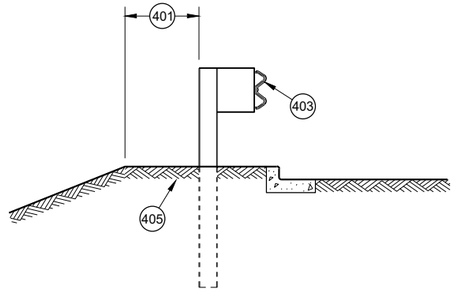


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

(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 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B42 - 07d

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

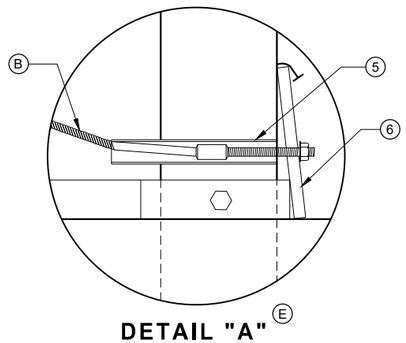
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

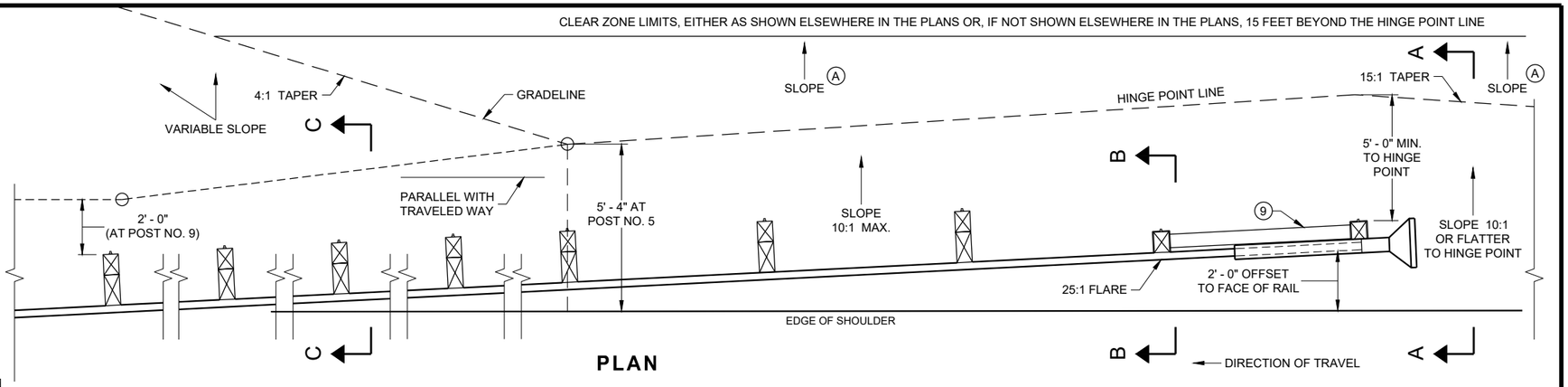
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

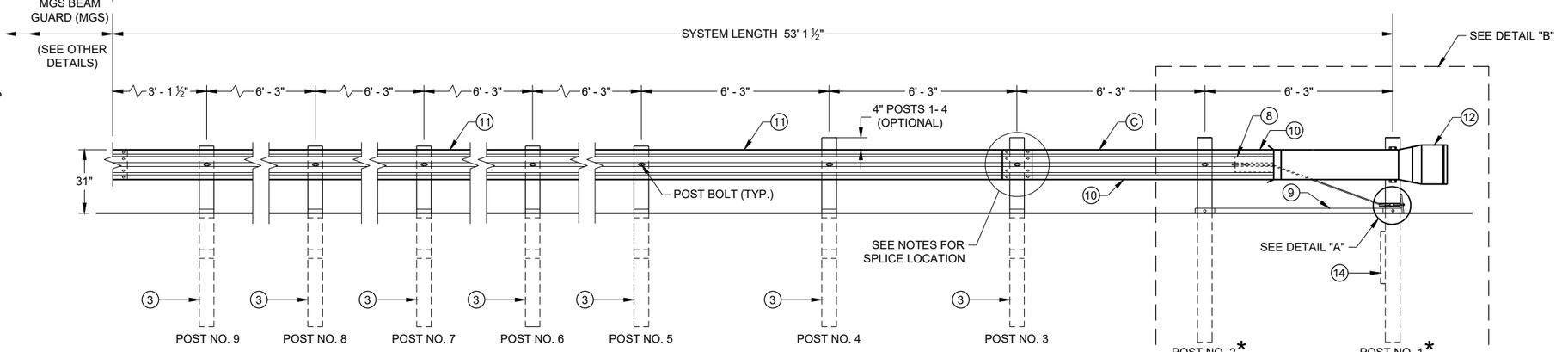
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



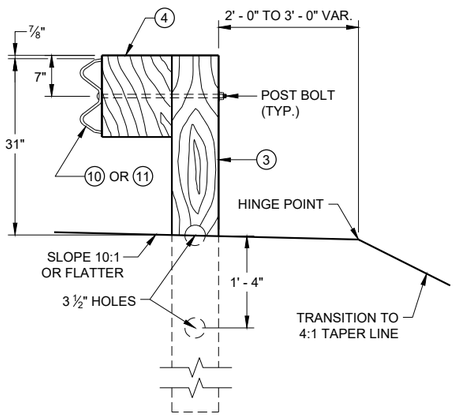
DETAIL "A" (E)



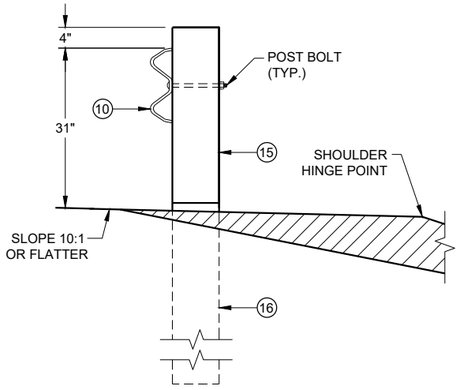
PLAN



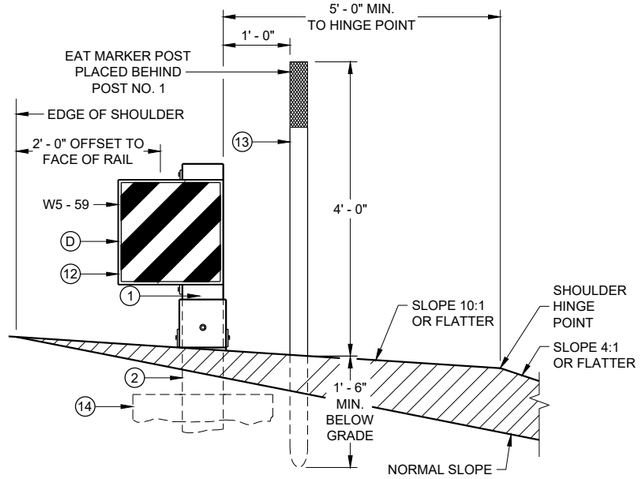
ELEVATION



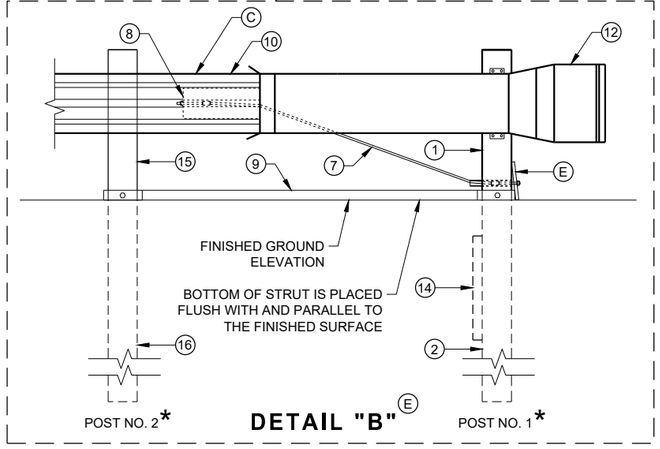
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



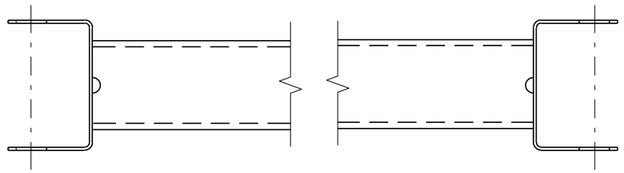
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

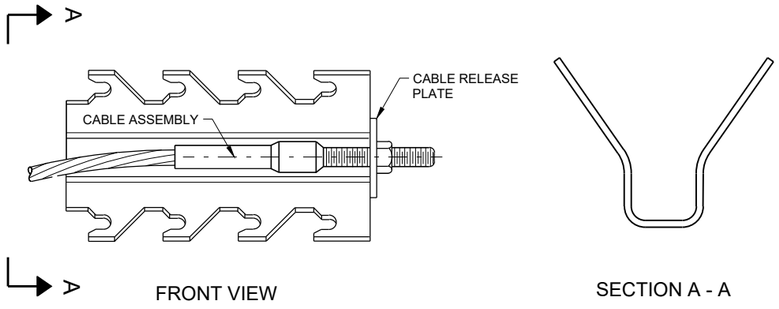
SDD 14B44 - 04a



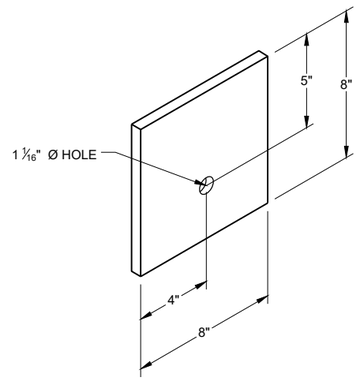
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'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 Ⓔ



BEARING PLATE ⑥ Ⓔ

6

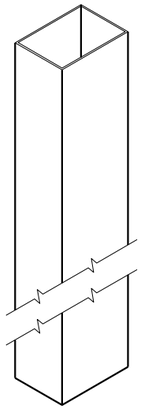
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SDD 14B44 - 04b

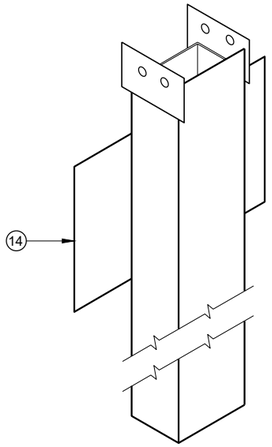
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

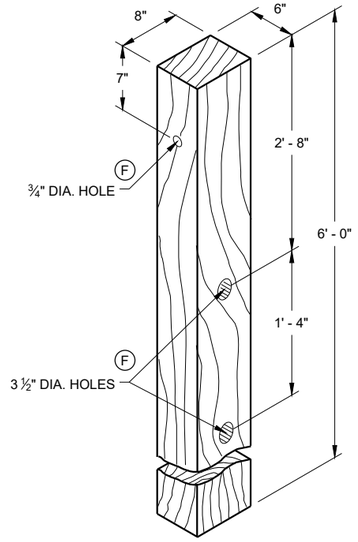
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



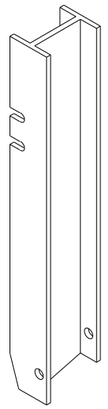
UPPER POST NO. 1 (1) (E)



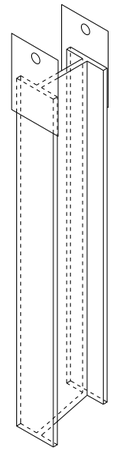
LOWER POST NO. 1 (2) (E)



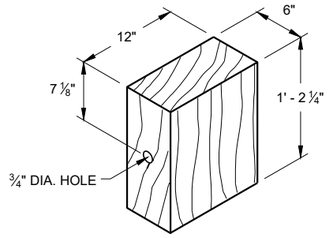
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



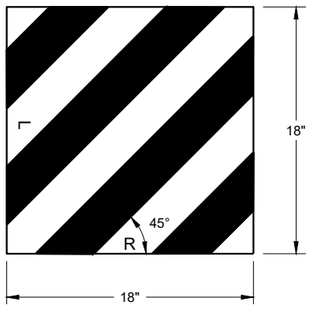
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

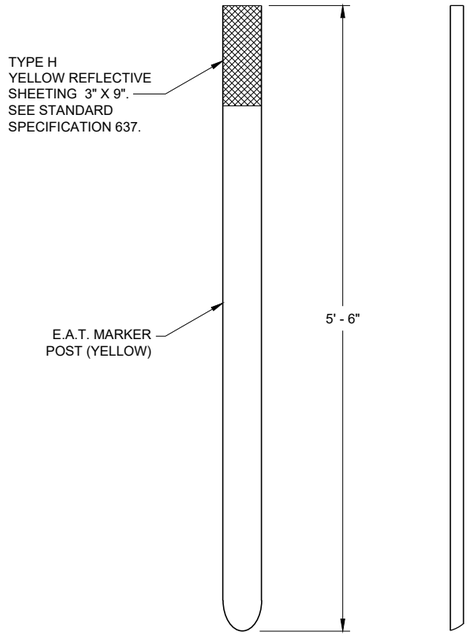


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



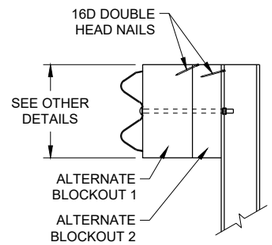
W5 - 59

REFLECTIVE SHEETING DETAIL (E)

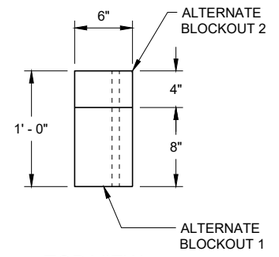


FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

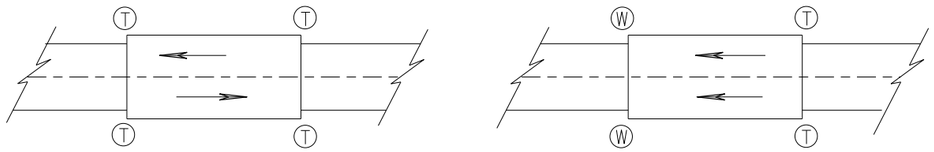
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

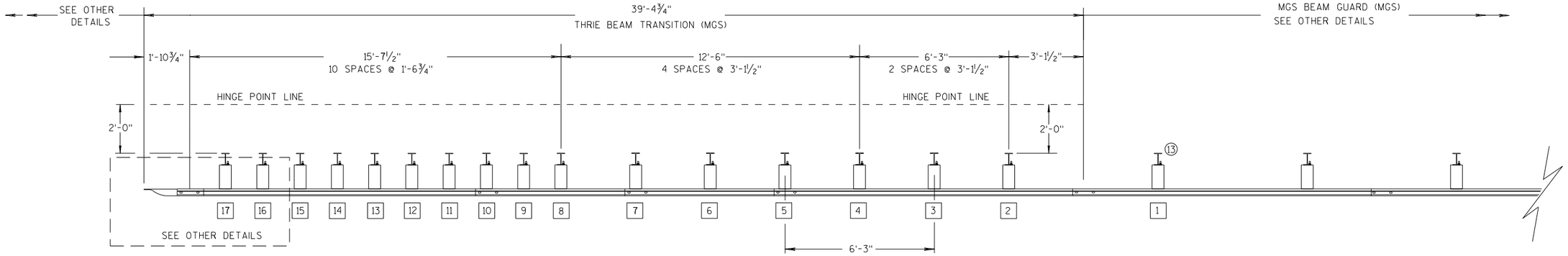
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

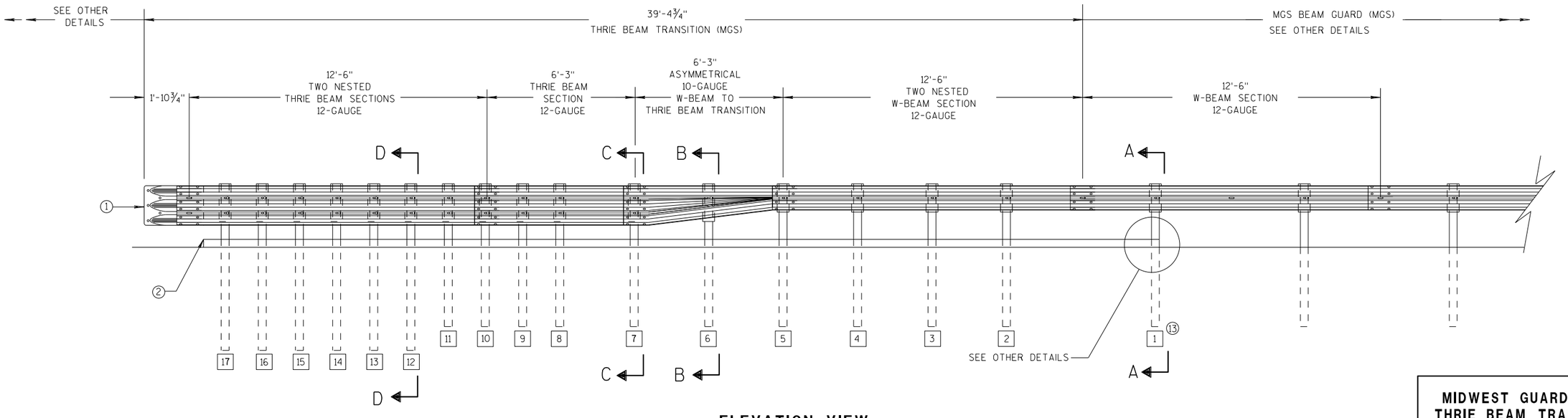
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5a

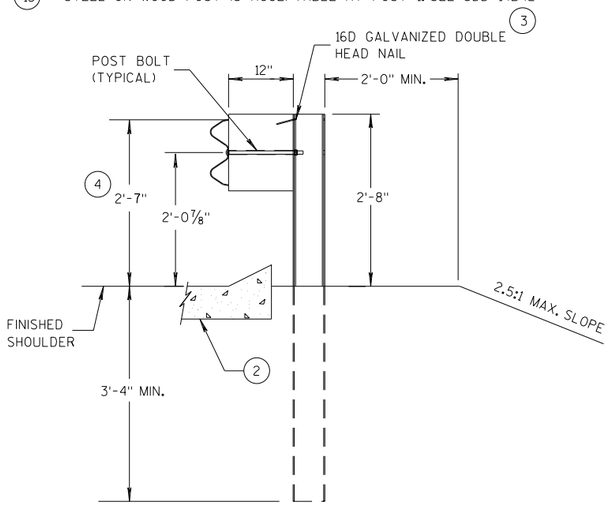
GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

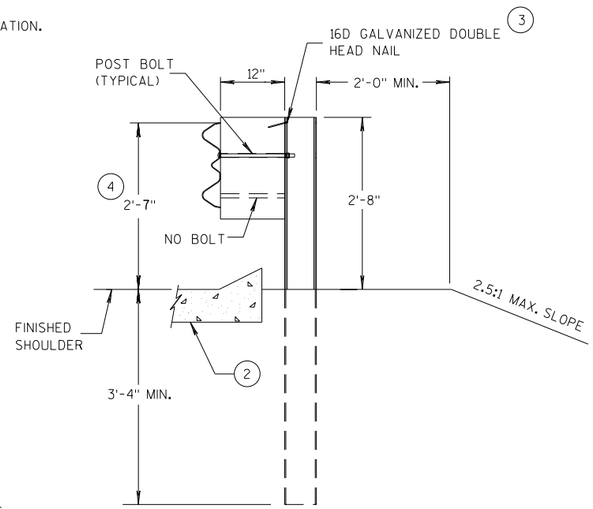
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



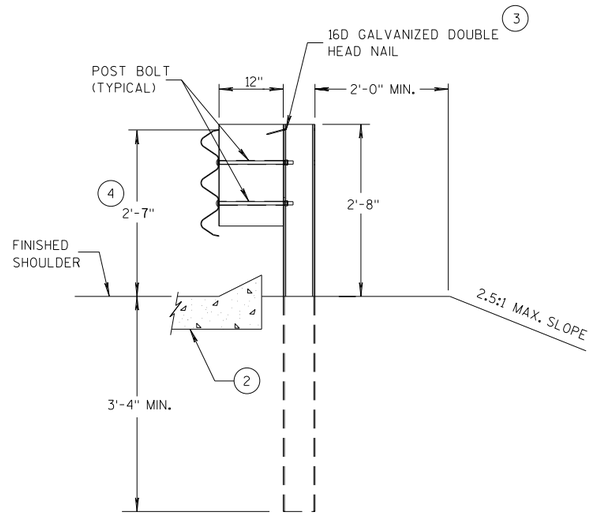
SECTION A-A (13)

POSTS 1-5



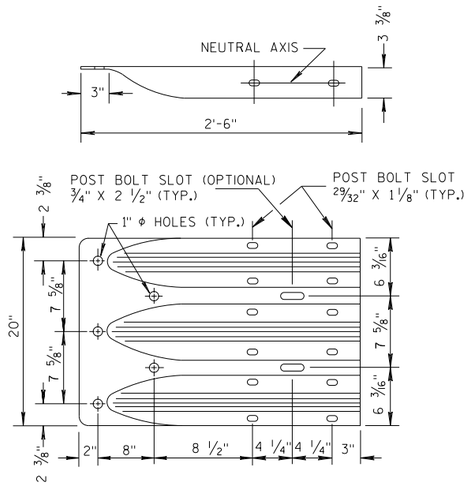
SECTION B-B

POST 6

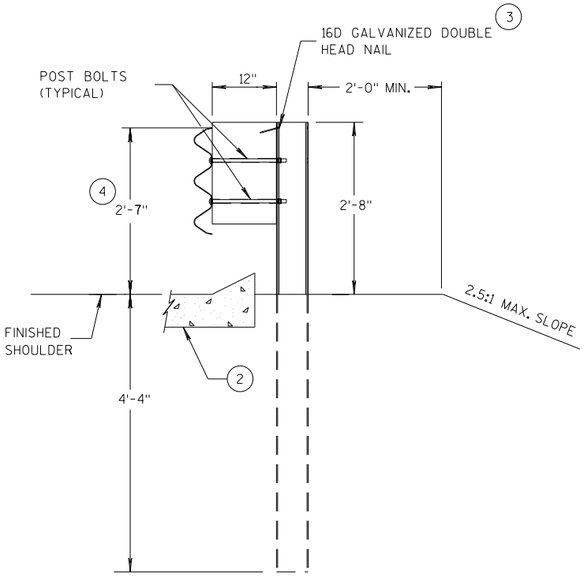


SECTION C-C

POSTS 7-11

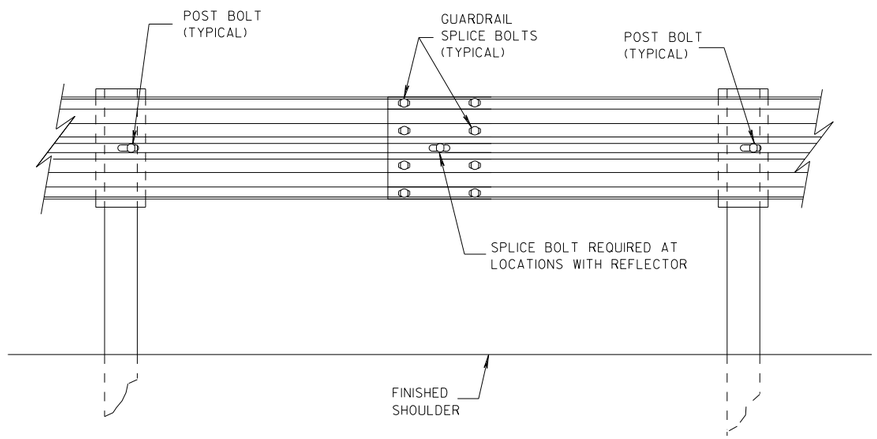


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

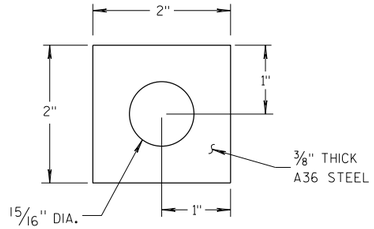
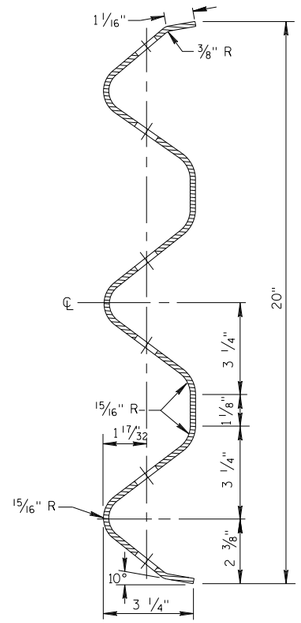


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

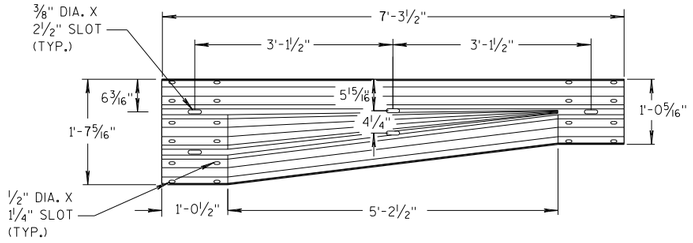
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 47

6

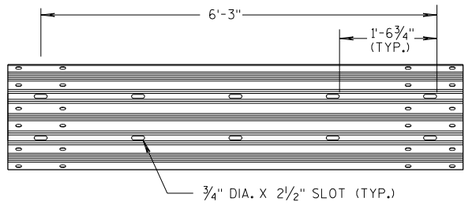
S.D.D. 14 B 45-5b

6

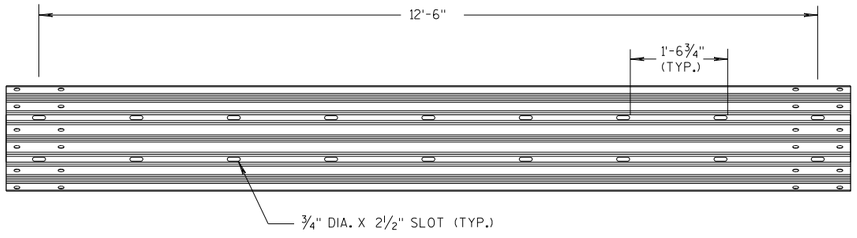
S.D.D. 14 B 45-5b



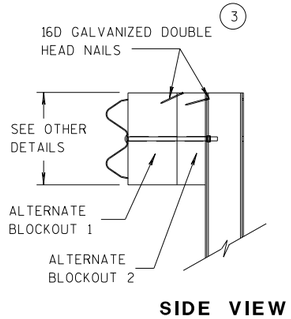
W-BEAM TO THRIE BEAM TRANSITION SECTION



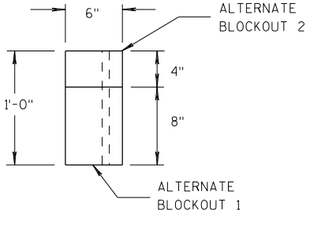
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

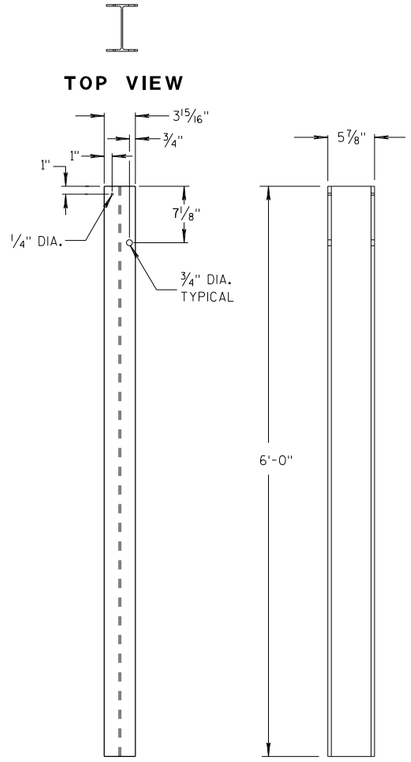


SIDE VIEW



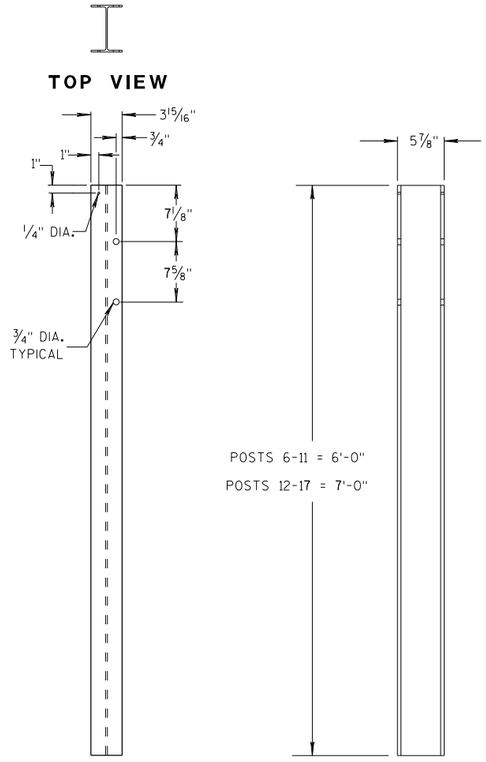
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



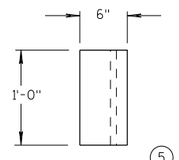
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

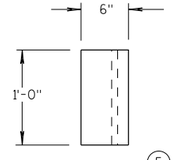


FRONT VIEW SIDE VIEW

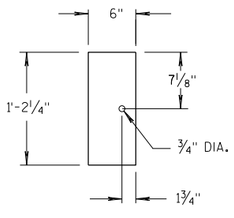
STEEL POSTS 6-17



TOP VIEW (5)

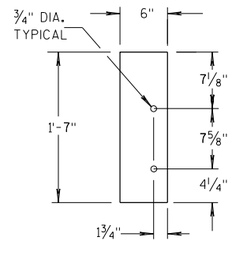


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS 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.

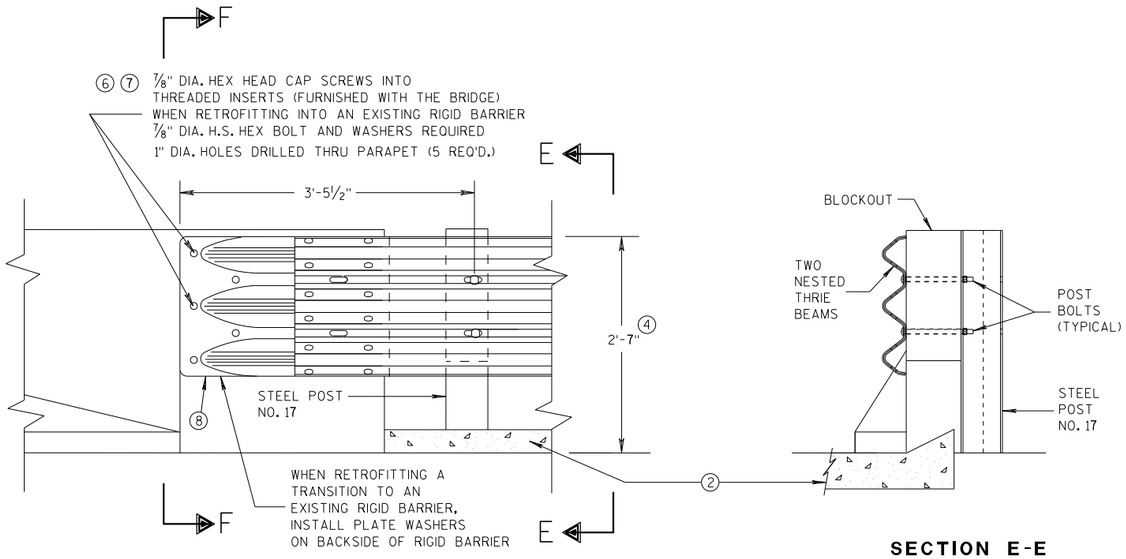
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 45-5c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

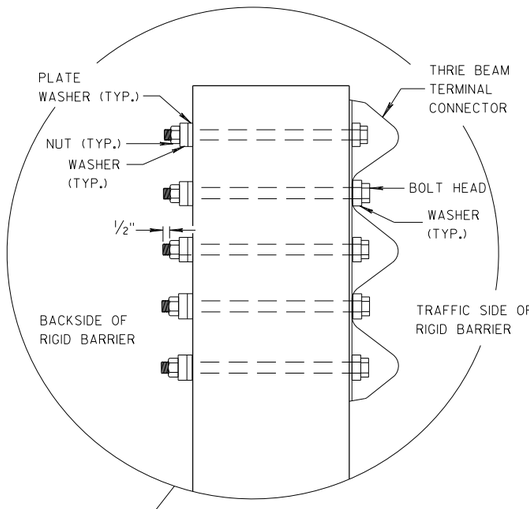
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

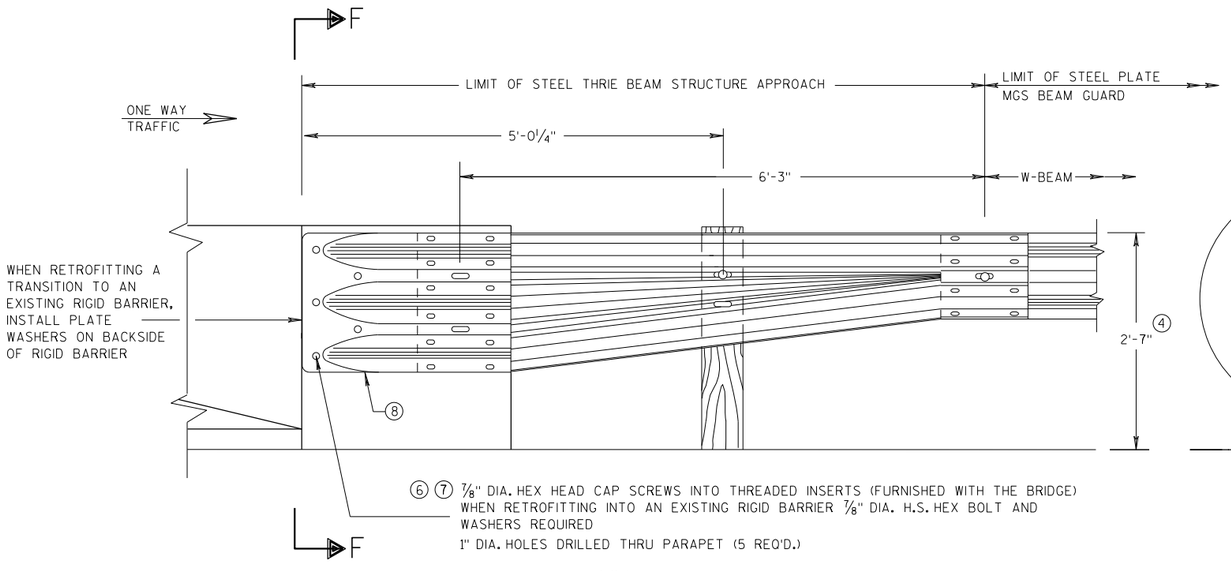
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

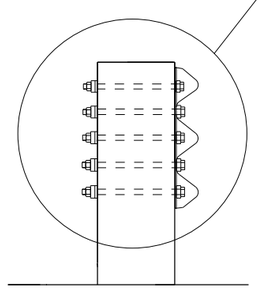
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

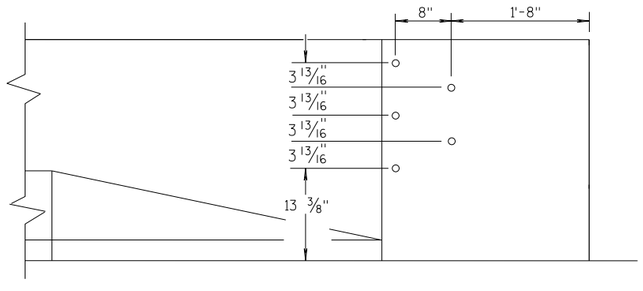




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

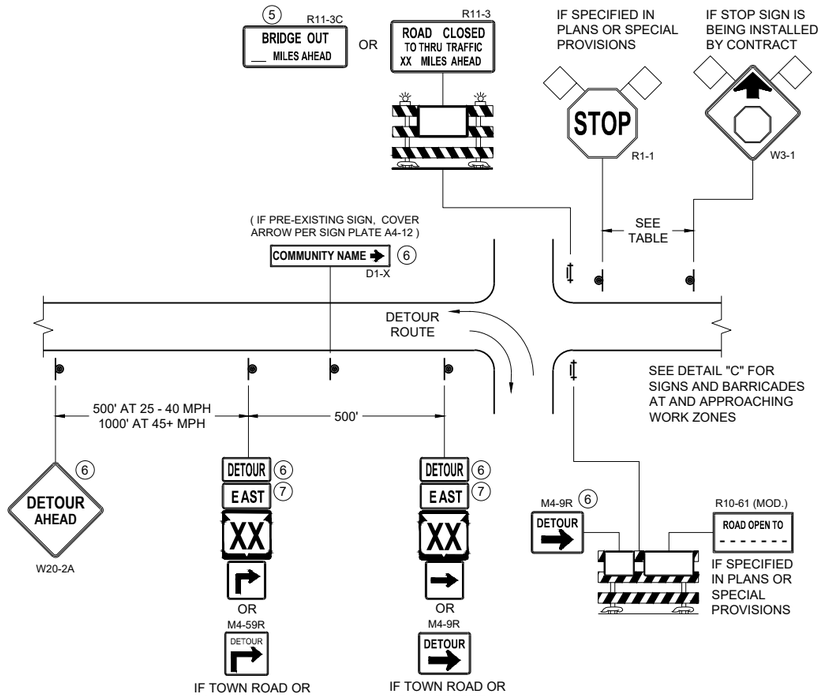
APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D UNIT SUPERVI
NT
FHWA

6

S.D.D. 14 B 45-5d

6

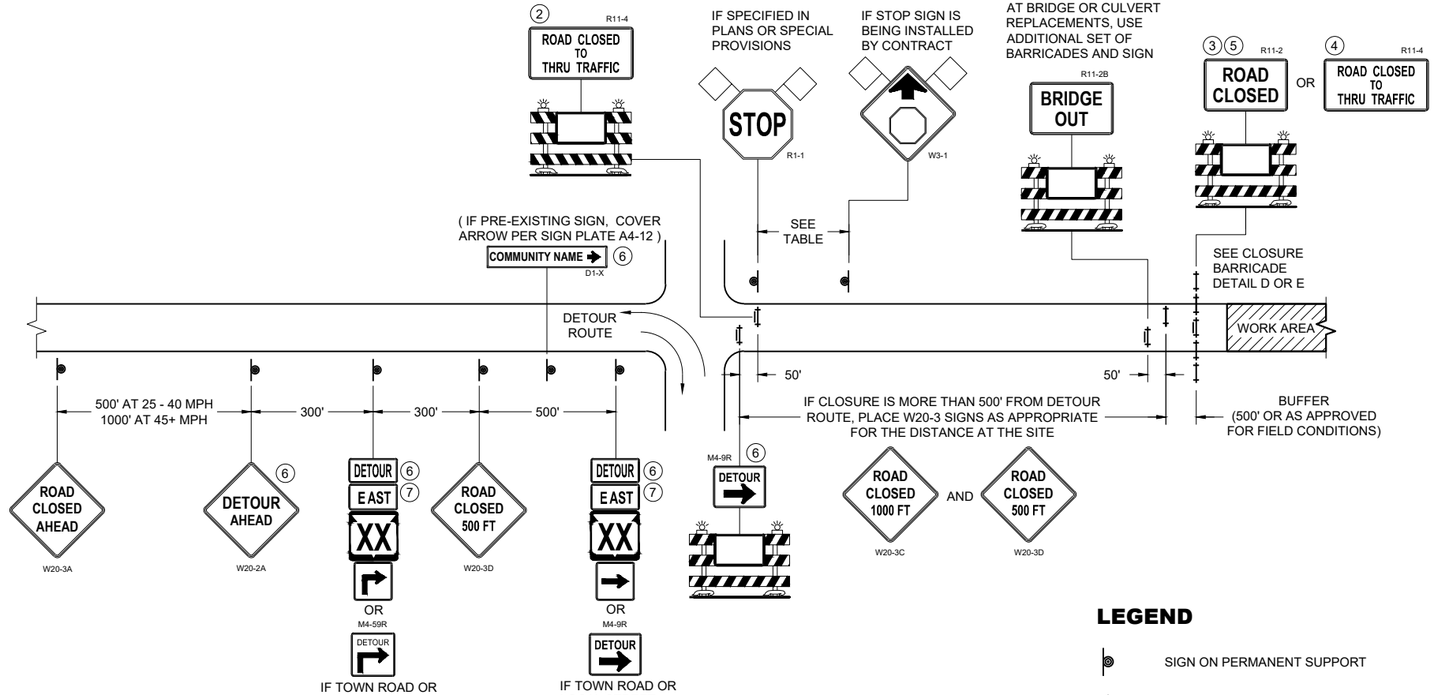
S.D.D. 14 B 45-5d



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

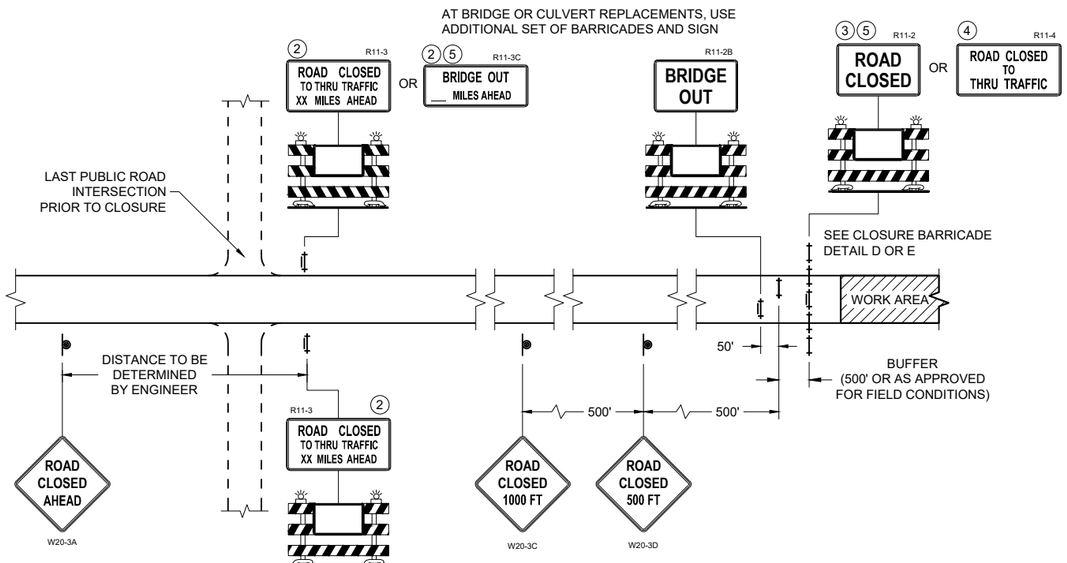
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8

EAST M3 - X

XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A

M05 - 1 OR M06 - 1



DETAIL C

MAINLINE CLOSURE, NO POSTED DETOUR

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

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

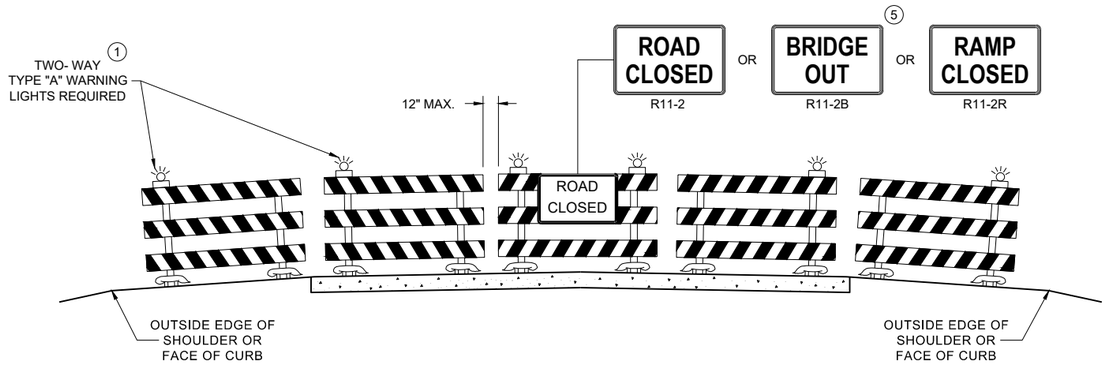
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 DATE
/S/ Andrew Heidtke WORK ZONE ENGINEER

FHWA

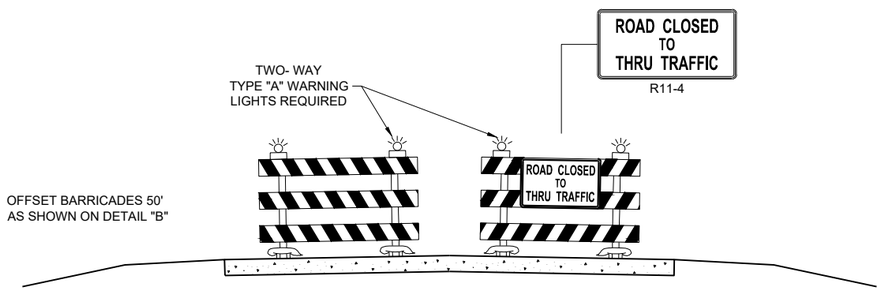
6
SDD 15C02-10a



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.

PARTIAL NUMBERS ON SIGNS SHALL BE DISPLAYED AS A WHOLE NUMBER(AS NEEDED) FOLLOWED BY A FRACTION. SIGNS SHALL NOT DISPLAY NUMBERS IN DECIMAL FORM.

"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"

SIGNS PLACED ON TYPE III BARRICADES THAT ARE SIZES OTHER THAN 48"X30" SHALL HAVE A CORRUGATED POLYPROPYLENE OR POLYETHYLENE PLASTIC SIGN BASE.

(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
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

6

SDD 15C02-10b

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1 OR M06 - 1

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.

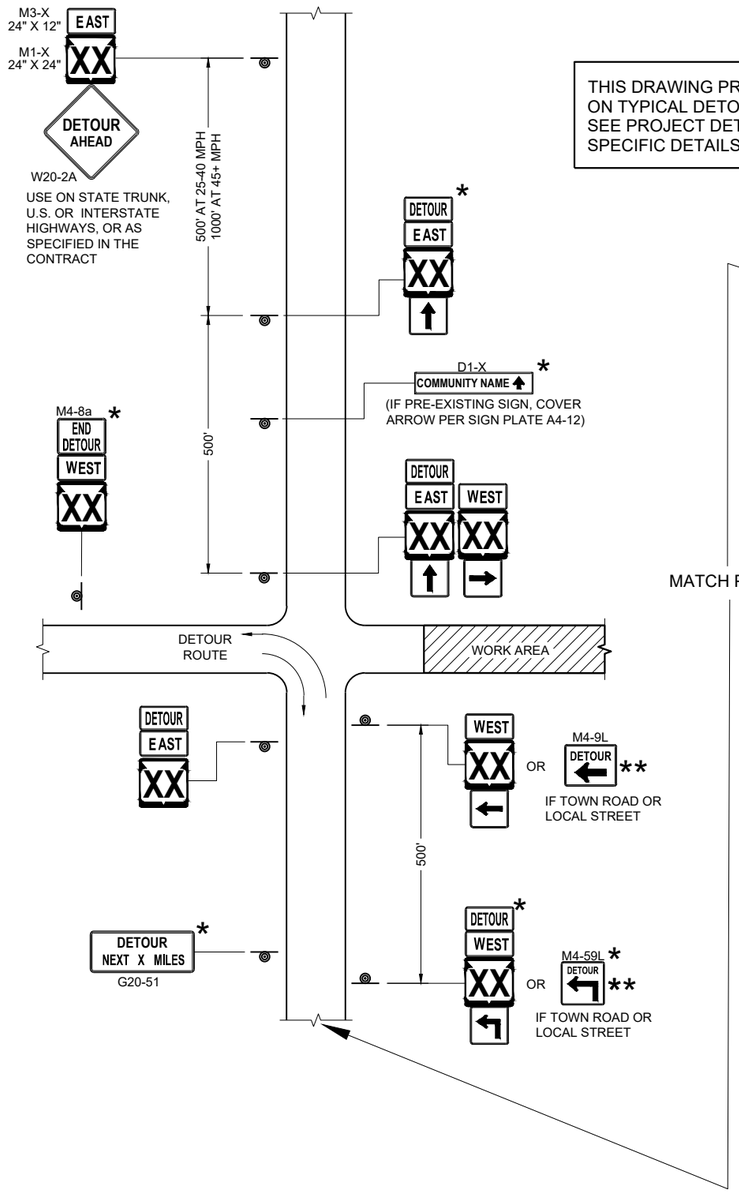
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

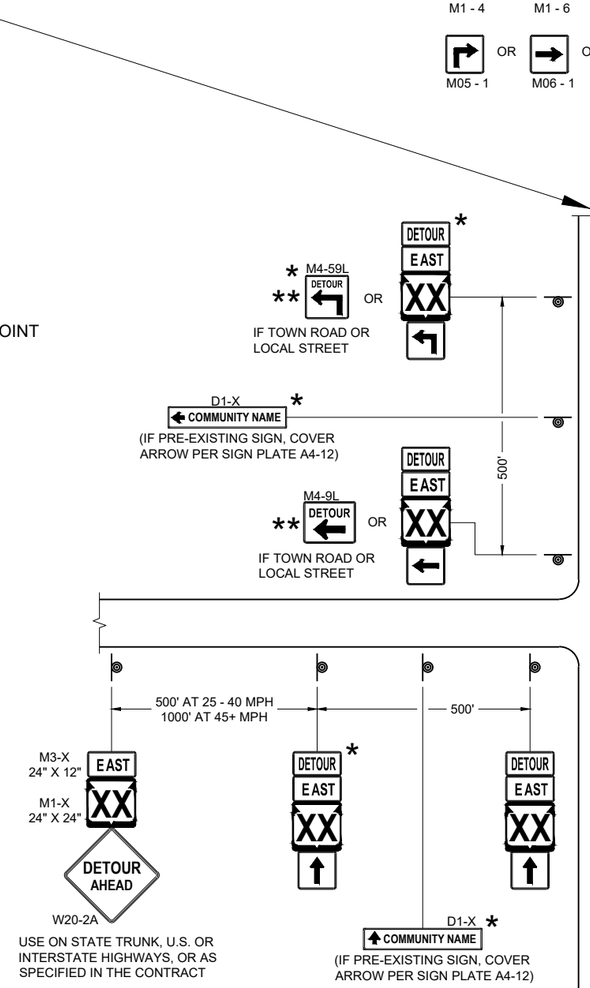
SIGN SIZES SHALL BE AS FOLLOWS:

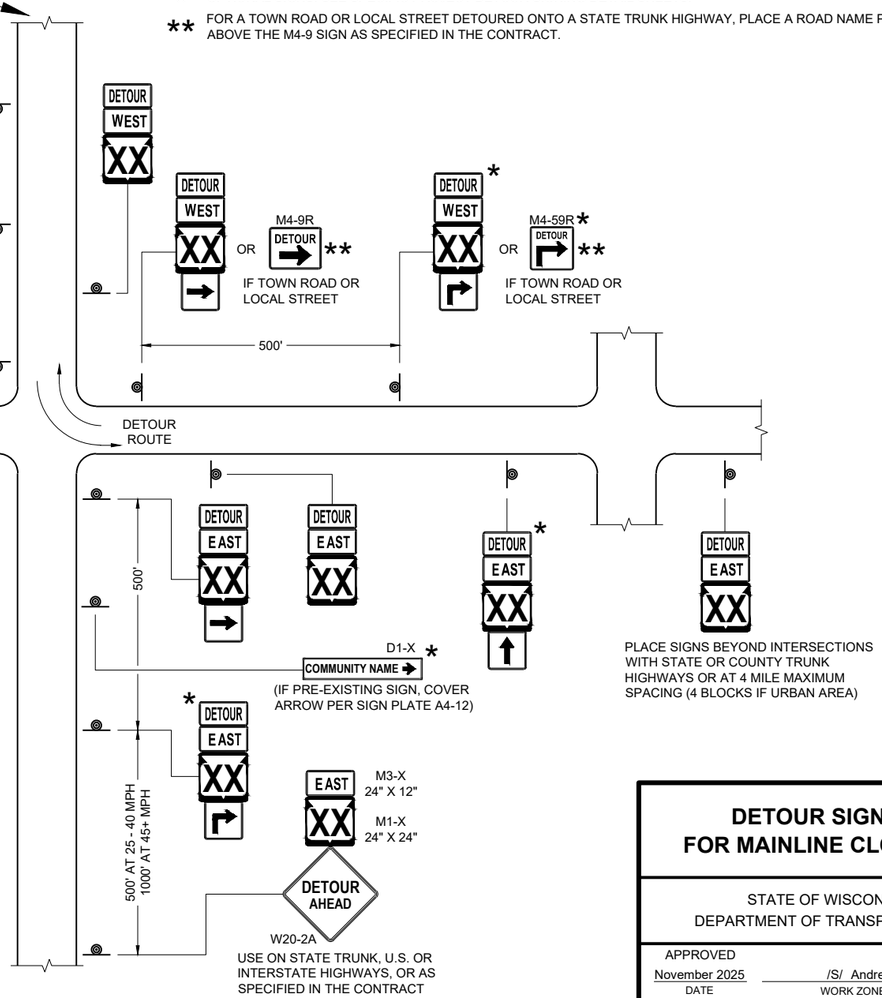
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING 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.







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

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

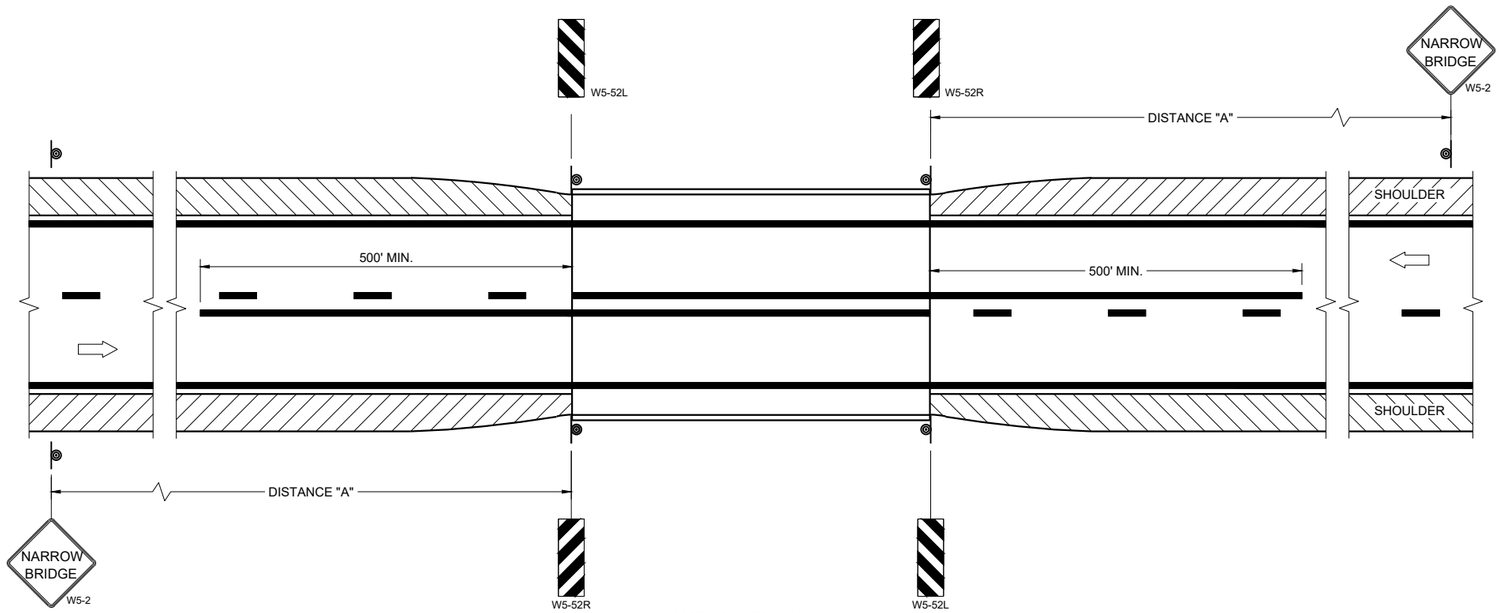
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

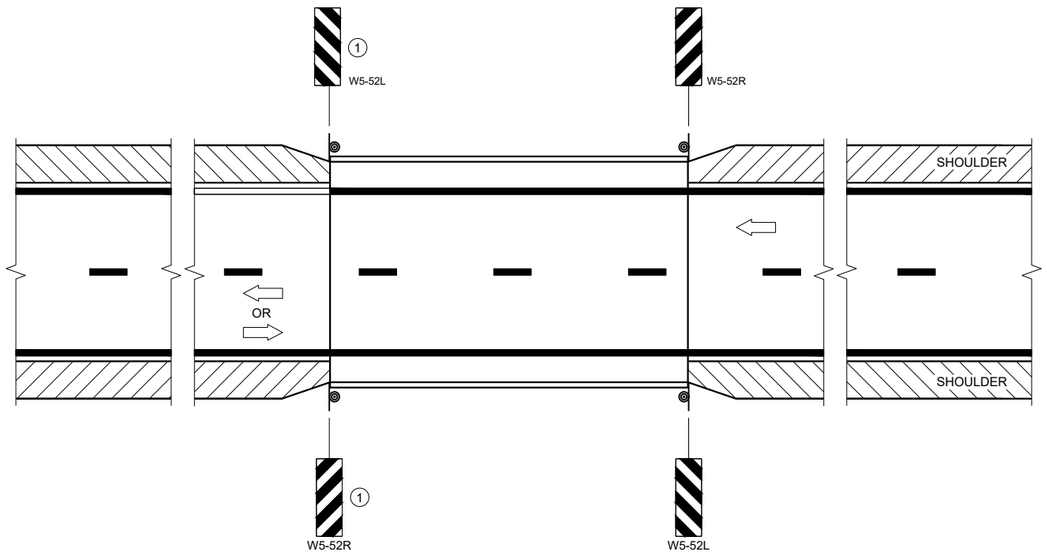
6

SDD 15C02-10c



SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



SITUATION 2

WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

GENERAL NOTES

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

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA

6
SDD 15C06-12

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.

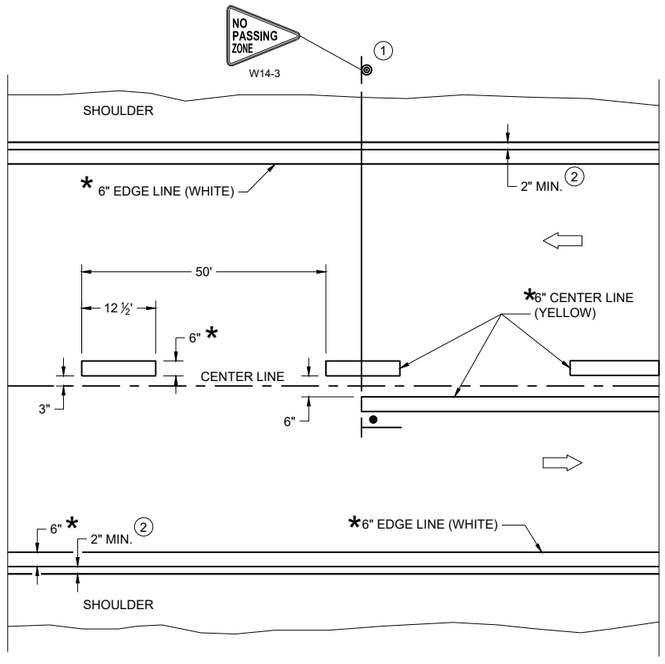
LEGEND

"T" MARKING

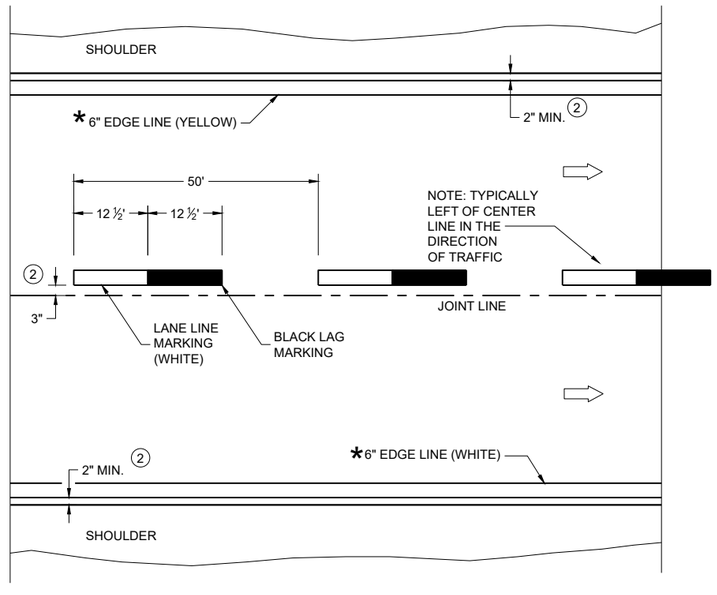
SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA

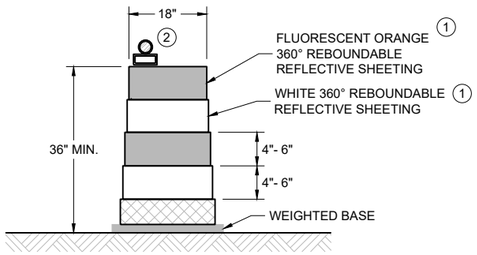
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SDD 15C08-24a
SDD 15C08-24a

GENERAL NOTES

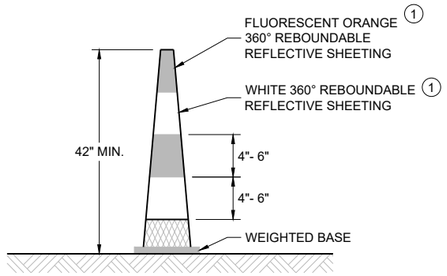
(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

(2) LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



DRUM

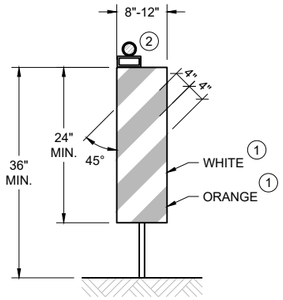
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

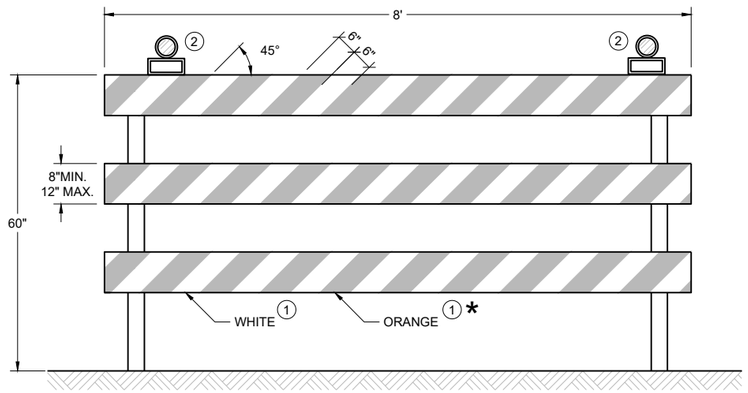
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



VERTICAL PANEL

THE 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.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

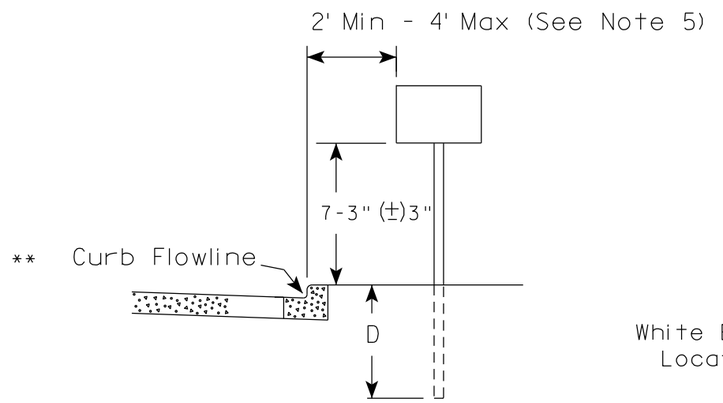
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2026 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

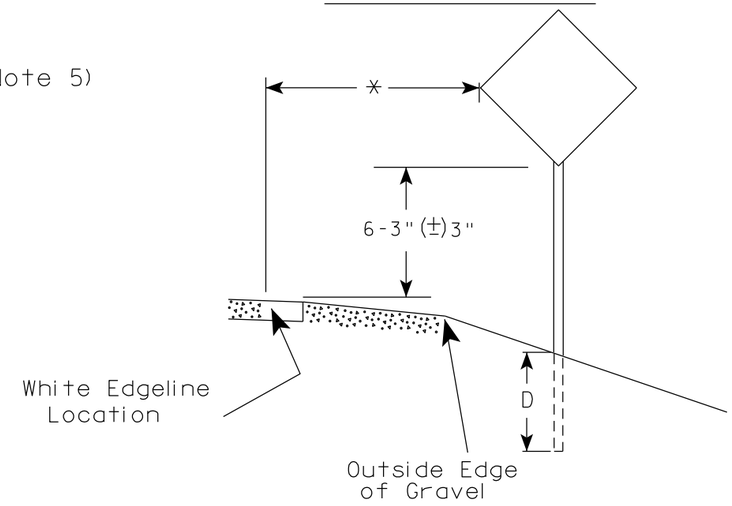
FHWA

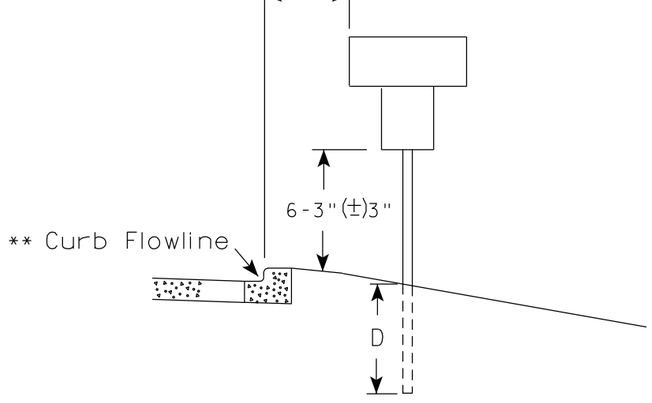
6
SDD 15C11-11b

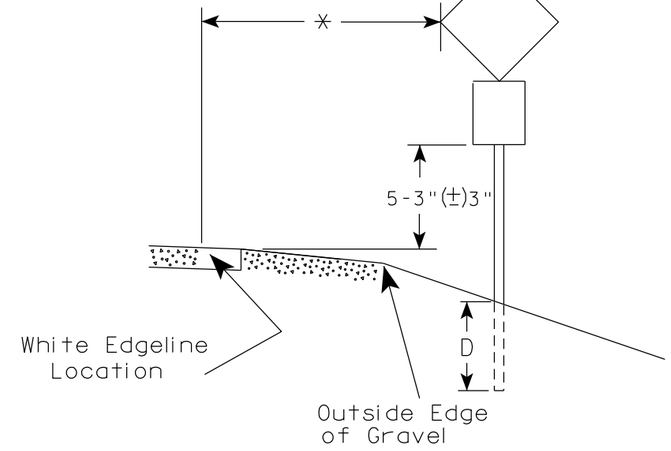
URBAN AREA



RURAL AREA (See Note 2)







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

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

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" (±) 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".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directd by the Engineer.

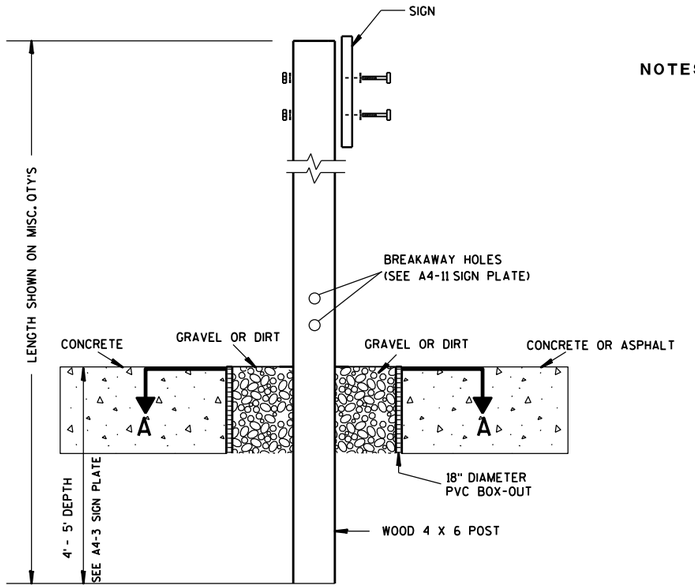
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23

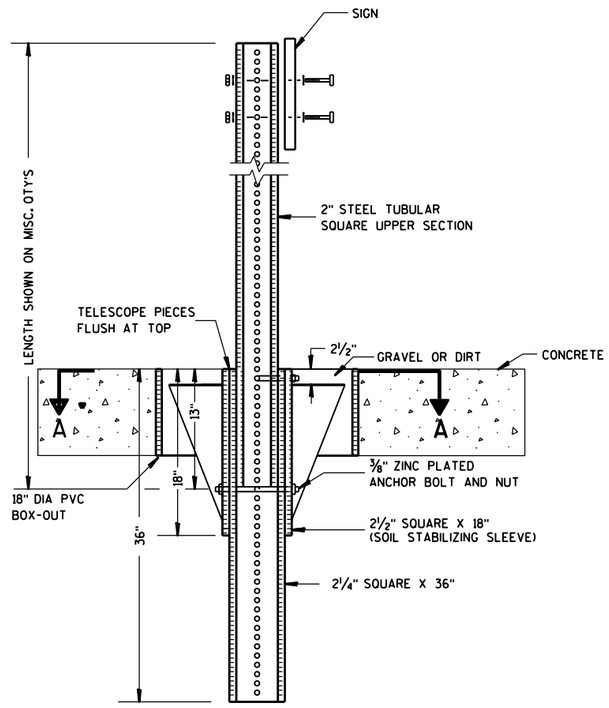
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 56	E



ELEVATION VIEW

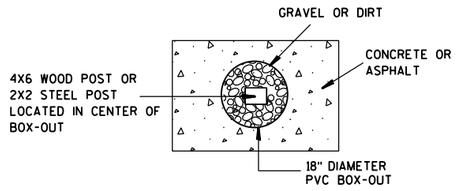
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

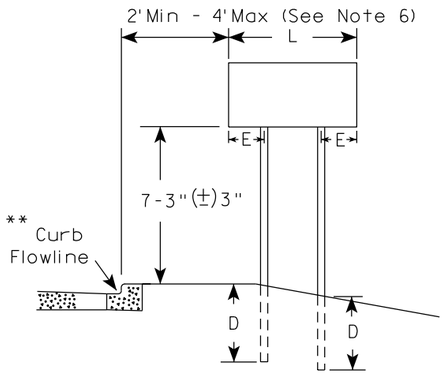
APPROVED Matthew R Rauch
for State Traffic Engineer

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

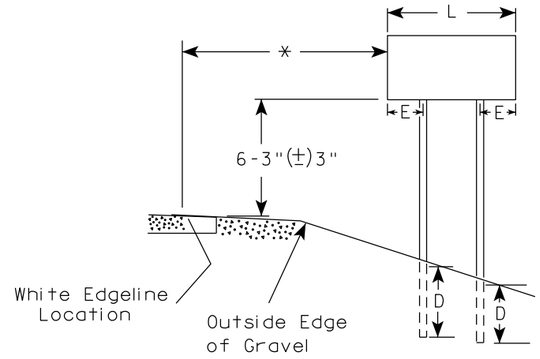
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

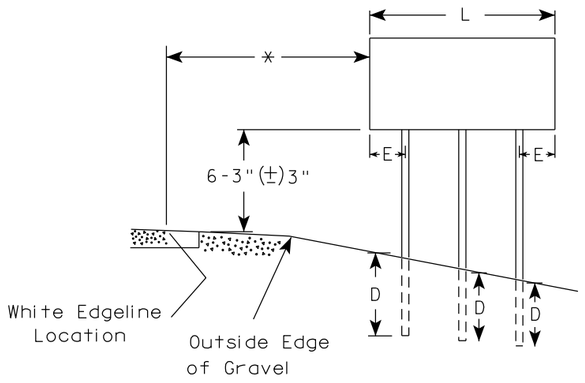
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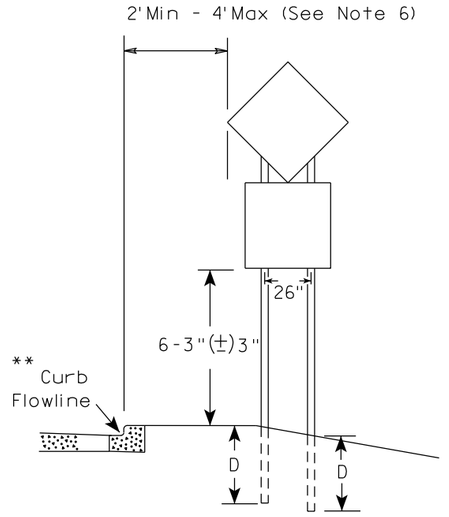
URBAN AREA



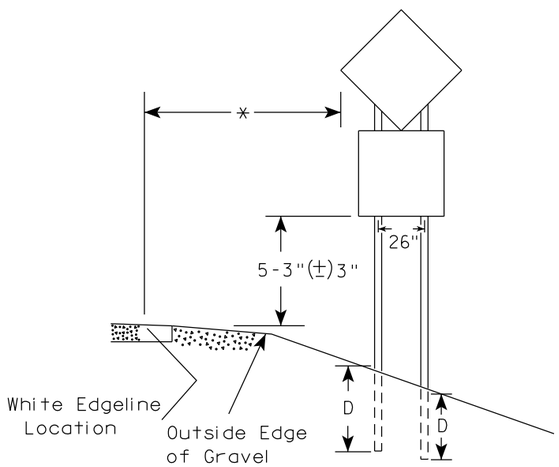
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

***	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"

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" (±) 3" or 6'-3" (±) 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" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 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" (±) 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.

POST EMBEDMENT DEPTH

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

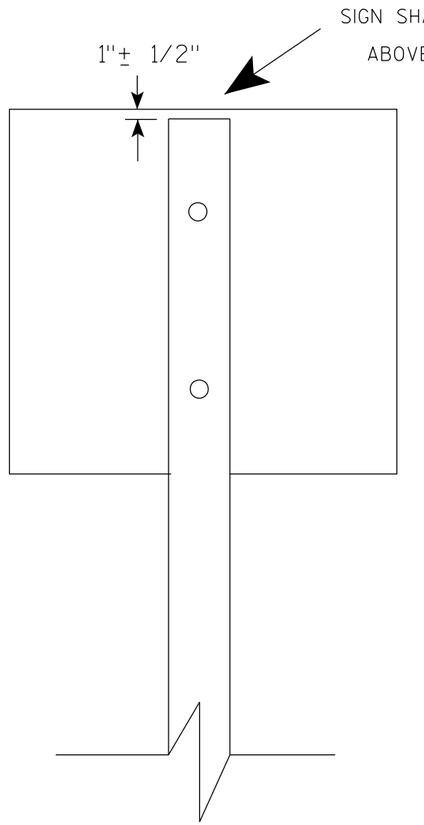
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

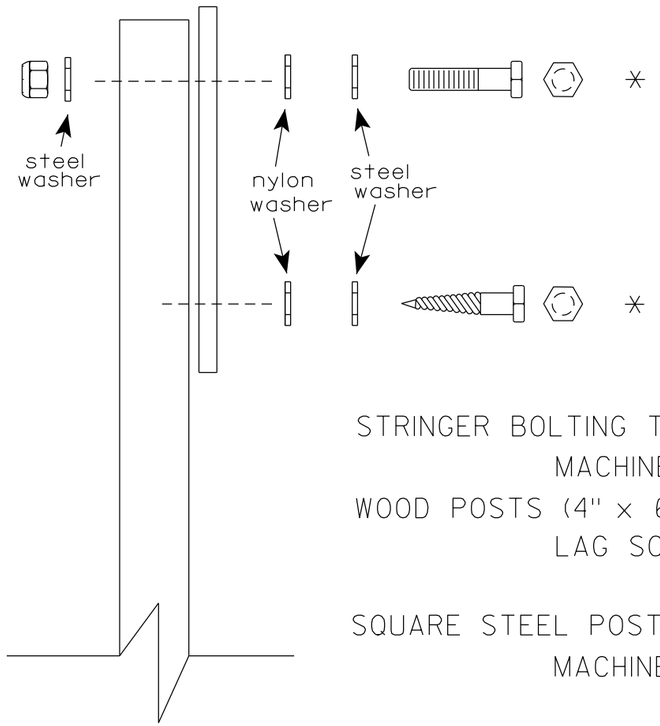
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 58	E





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

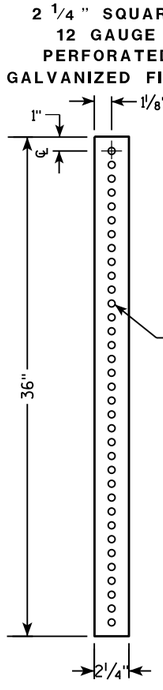
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

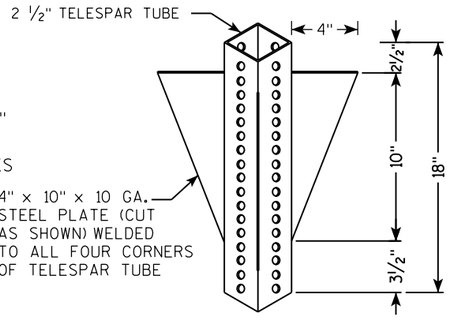
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

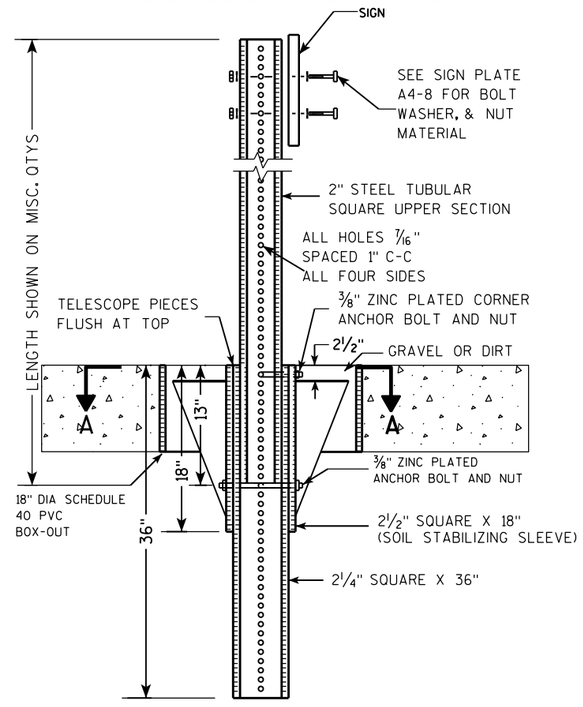
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



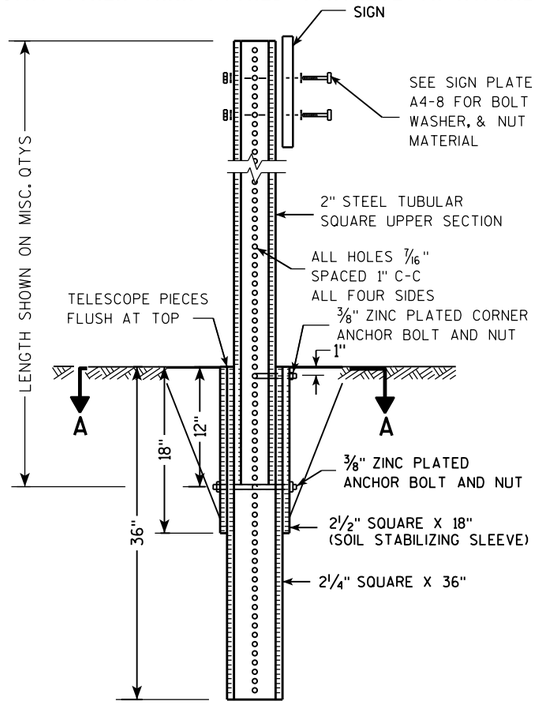
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

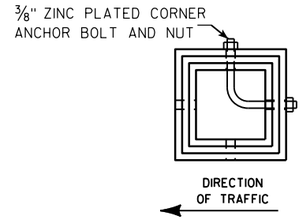


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

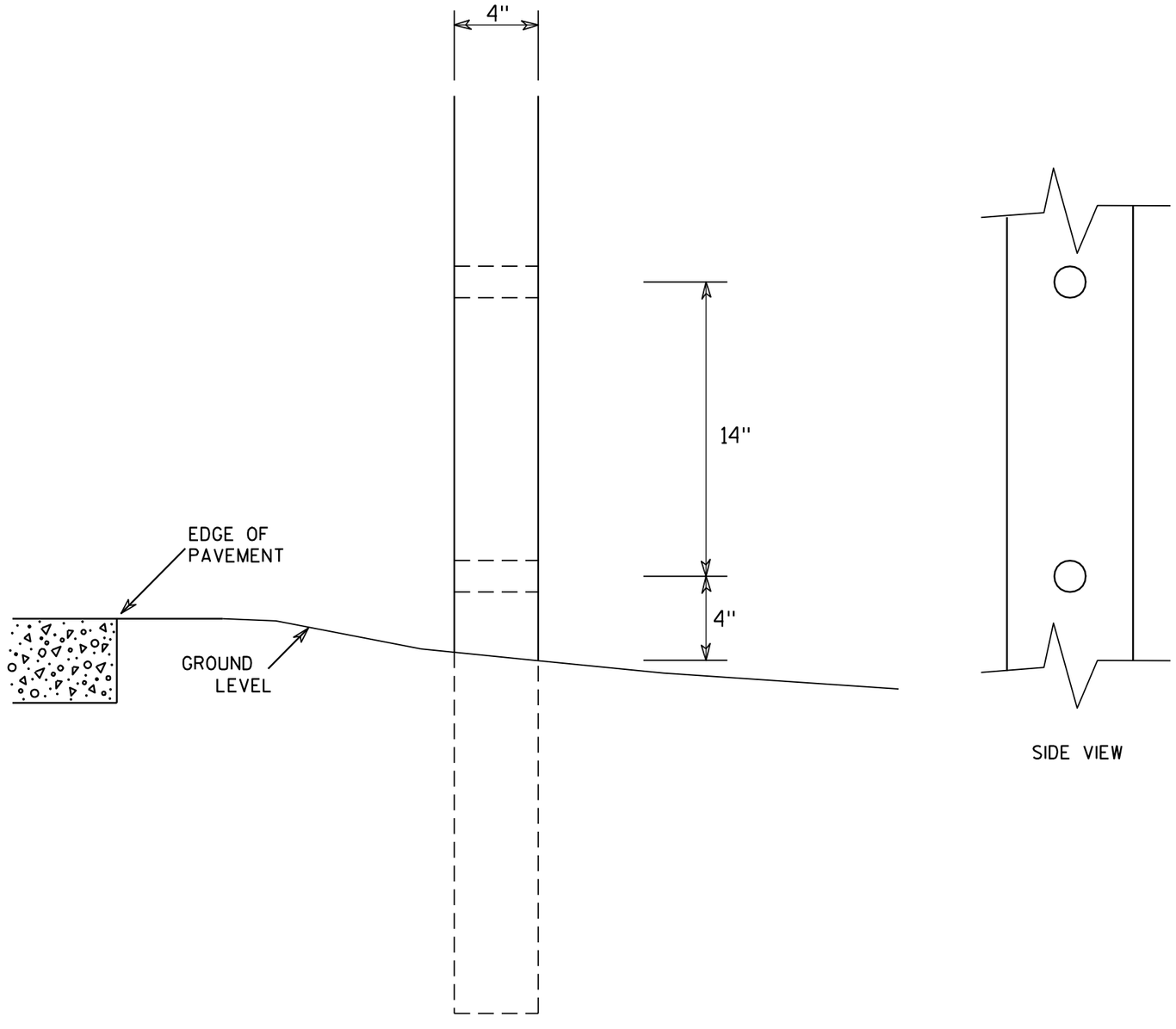
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 60 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

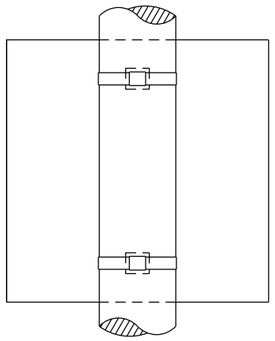
APPROVED Chester J Spang for State Traffic Engineer

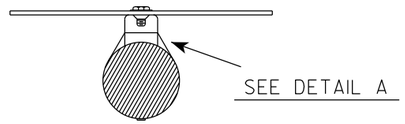
DATE 3/27/97 PLATE NO. A4-11.2

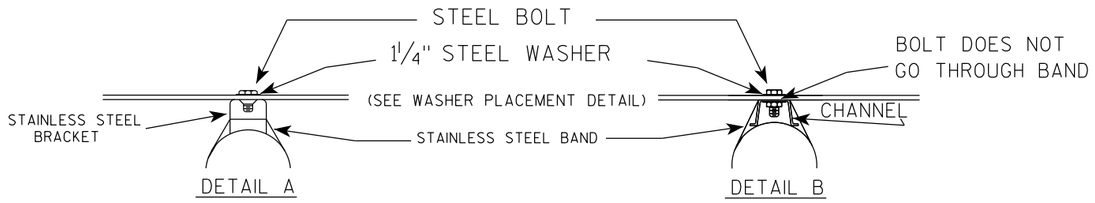
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 61	E

BANDING

SINGLE SIGN



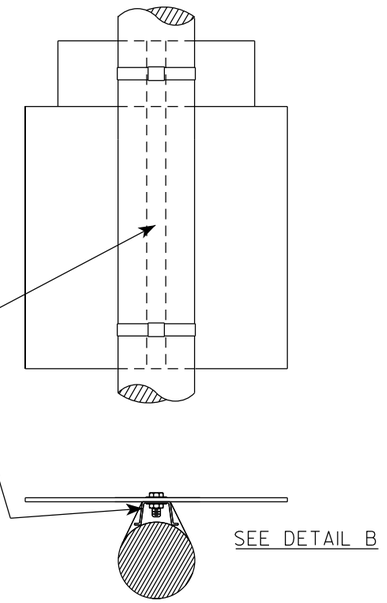




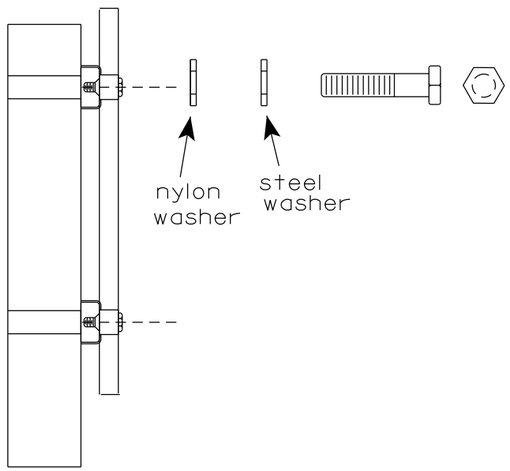
GENERAL NOTES

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 ¾" 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



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

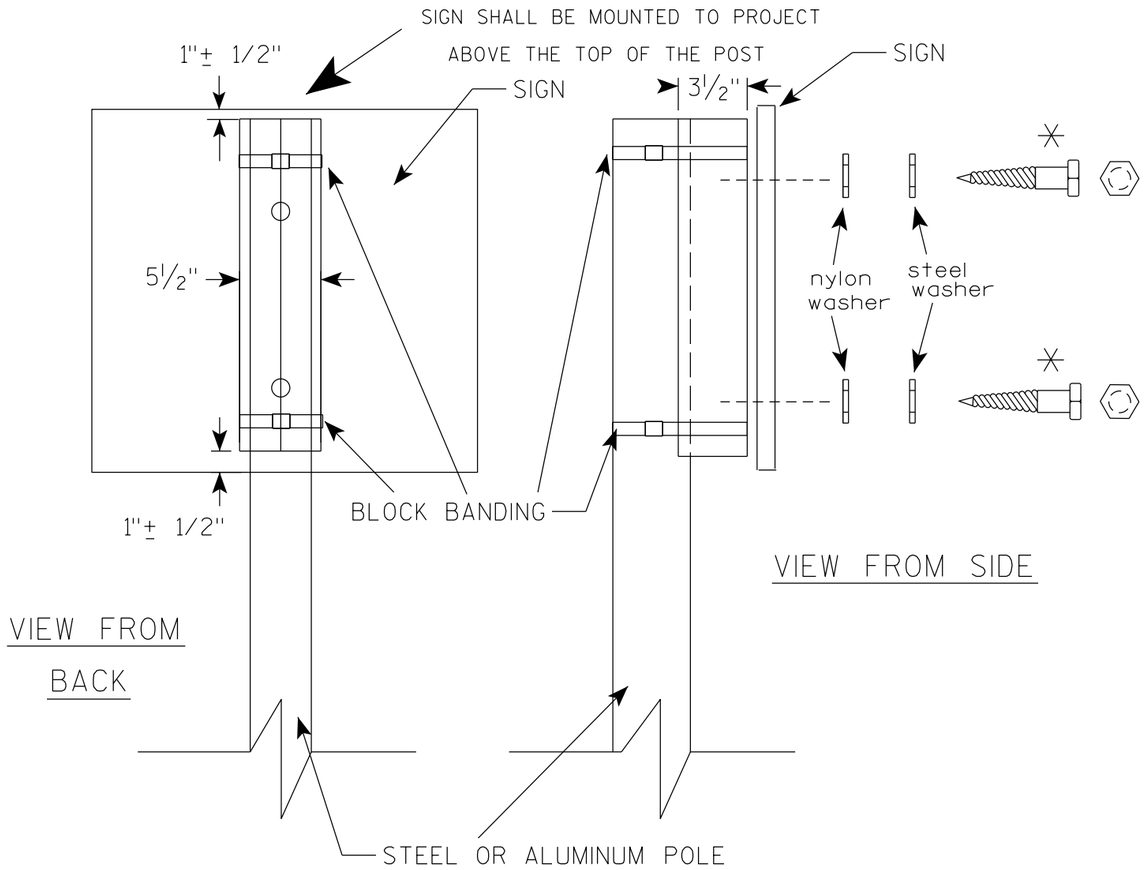
WISCONSIN DEPT OF TRANSPORTATION

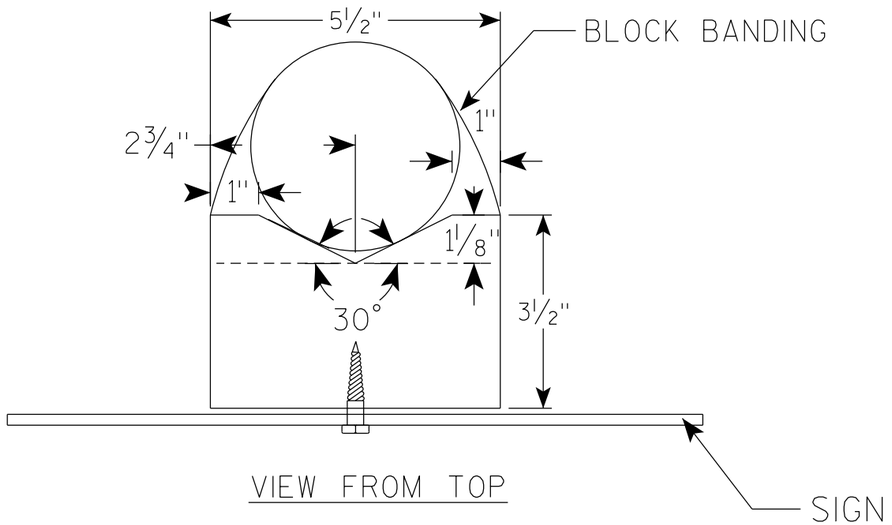
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-9.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 62	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$





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, ¾" 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 NORNALLY 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 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

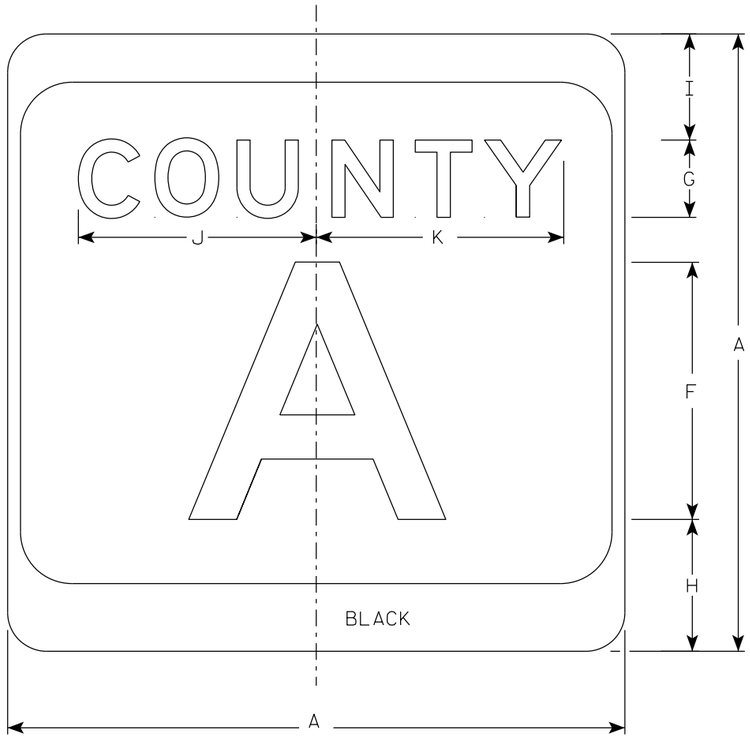
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

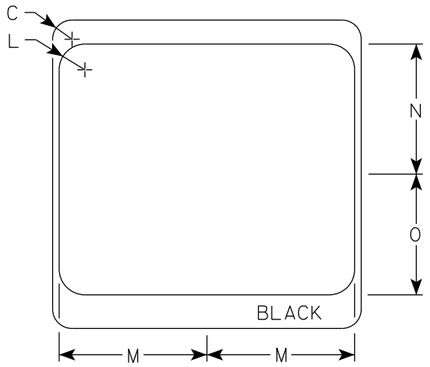
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 63 E

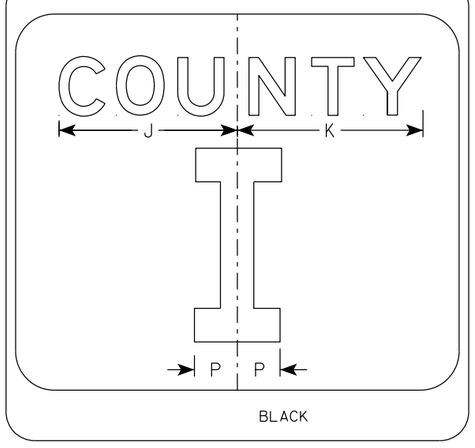


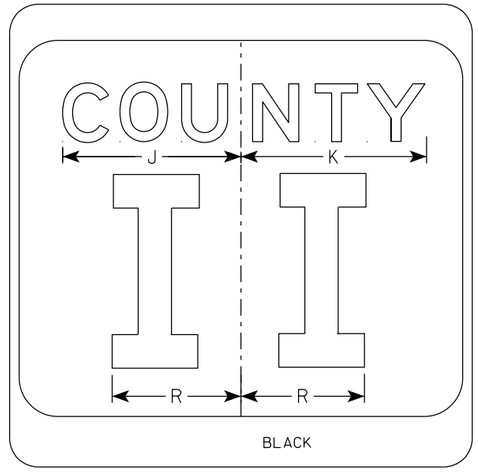
M1-5A



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White & Black
   Message - Black
3. Message Series - see Note 4
4. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
5. Substitute appropriate letters & optically center 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																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
2M	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

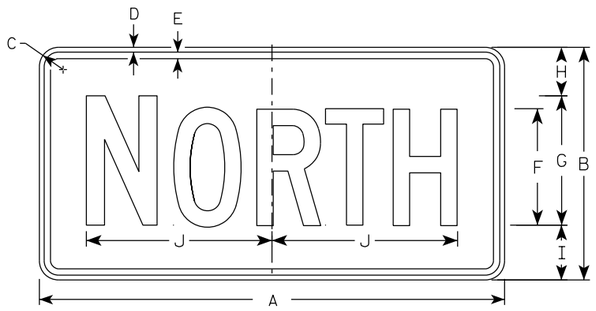
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-5A.9

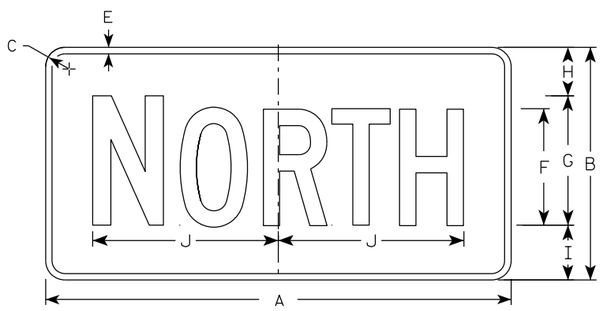
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M15A.dgn PLOT DATE : 8-NOV 2022 8:26 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

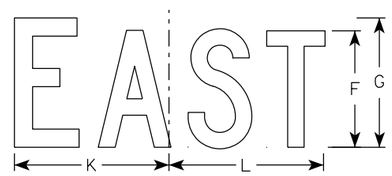
7



M3-1
MM3-1
MP3-1



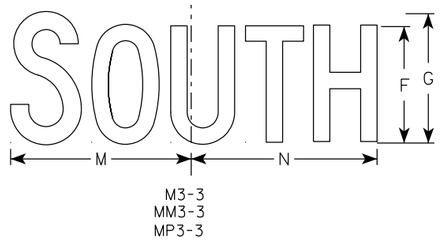
MB3-1
MK3-1
MN3-1



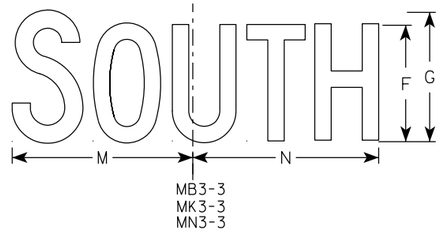
M3-2
MM3-2
MP3-2



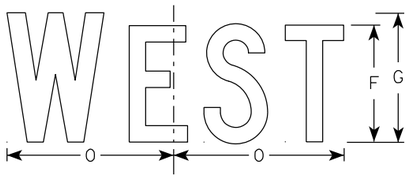
MB3-2
MK3-2
MN3-2



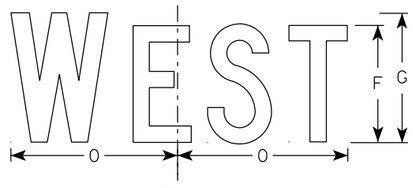
M3-3
MM3-3
MP3-3



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 Reflective
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																											
2S	24	12	1 1/2	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												2.00
2M	24	12	1 1/2	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												2.00
3	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
4	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
5	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5

STANDARD SIGNS
M3-1 THRU M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

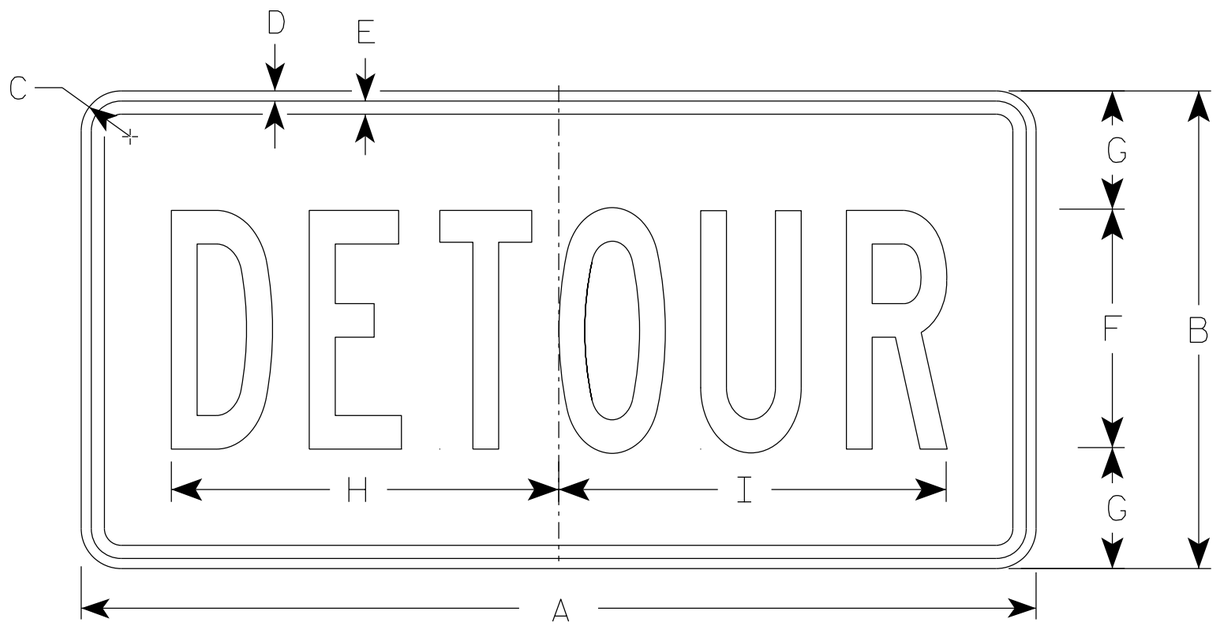
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/8/2023 PLATE NO. M3-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 65 | E

NOTES

1. Sign is Type II - Type F Reflective
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 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
2M	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5

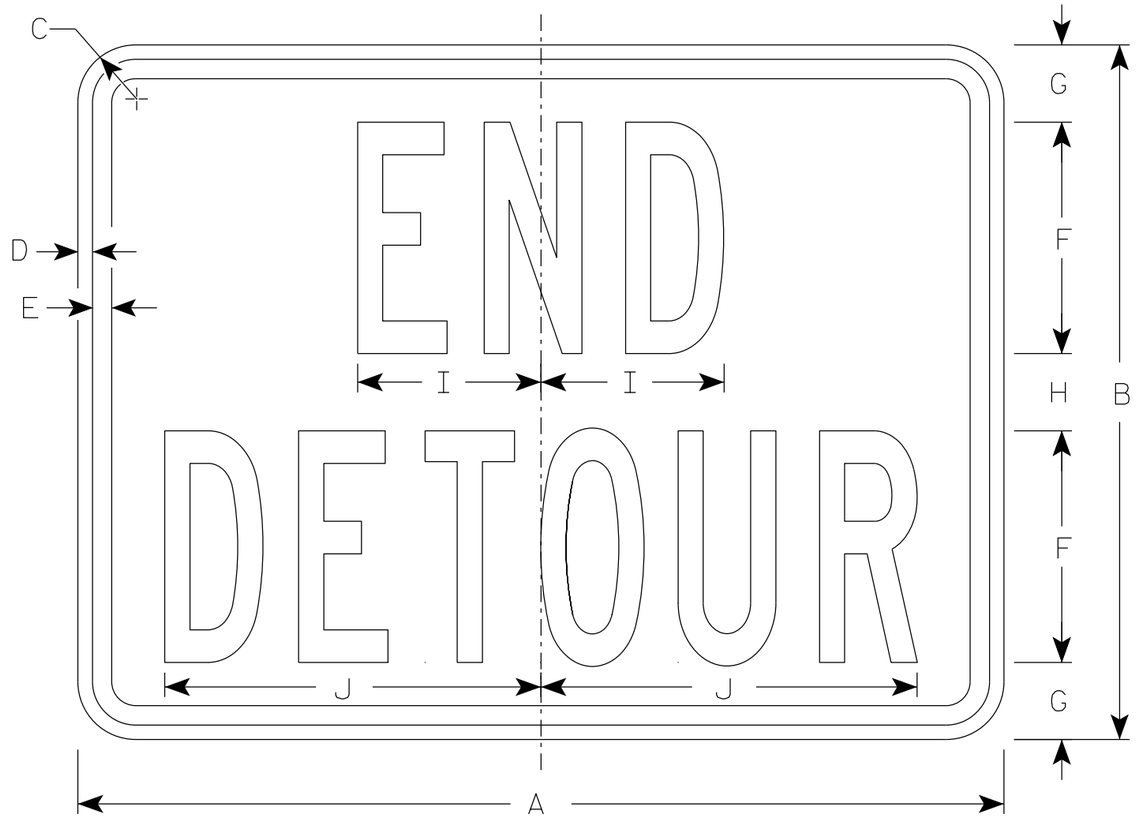
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 66	E



M4-8A

NOTES

1. Sign is Type II - Type F Reflective
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.

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 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
2M	24	18	1 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
3	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
4	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
5	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0

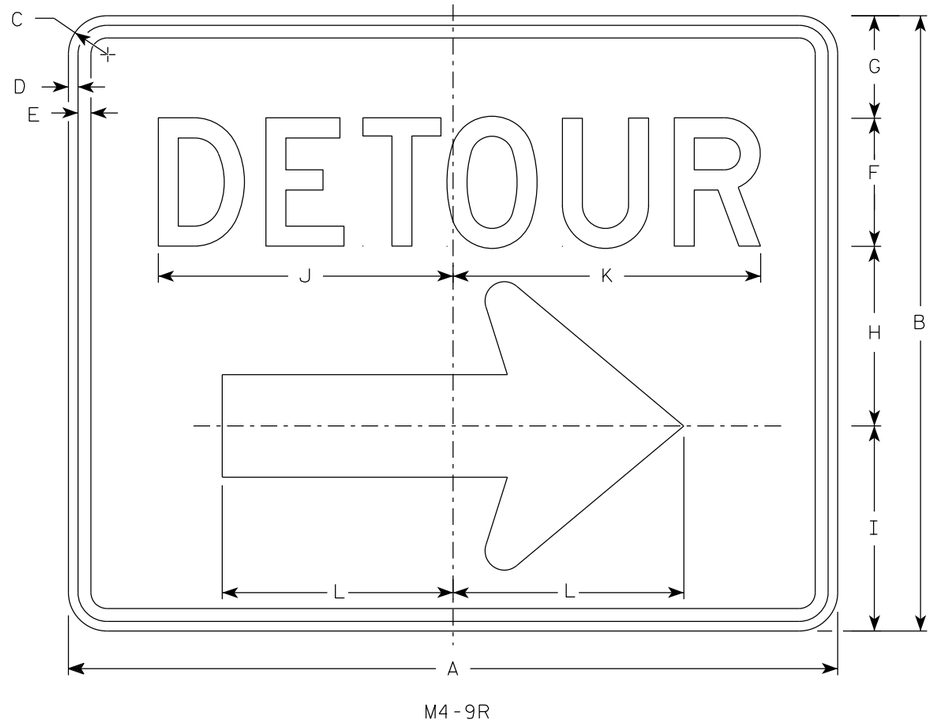
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8A.4

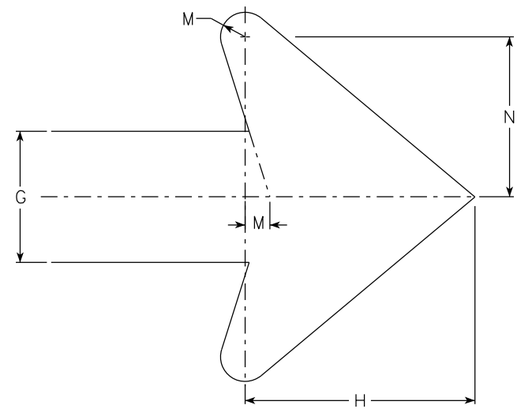
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 67 | E



M4-9R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   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.
4. M4-9L is the same as M4-9R except the arrow is reversed.



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																											
2	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
2M	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

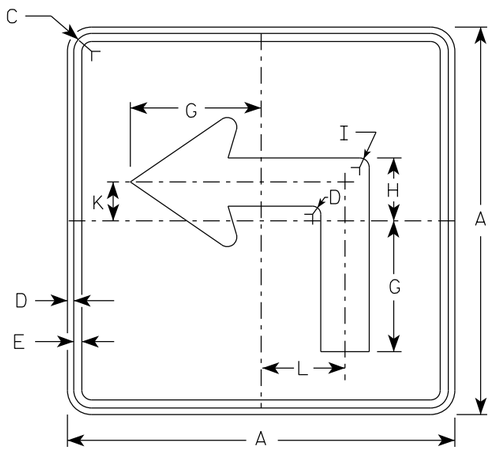
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

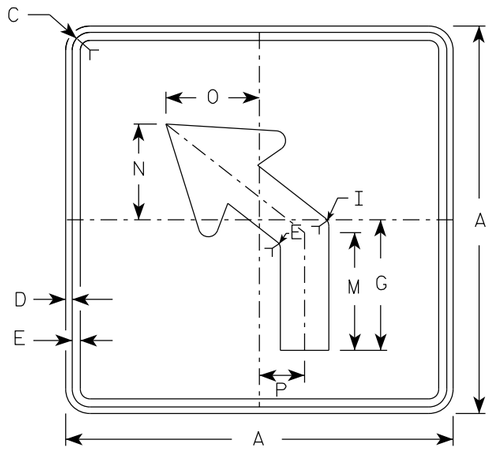
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9R.6

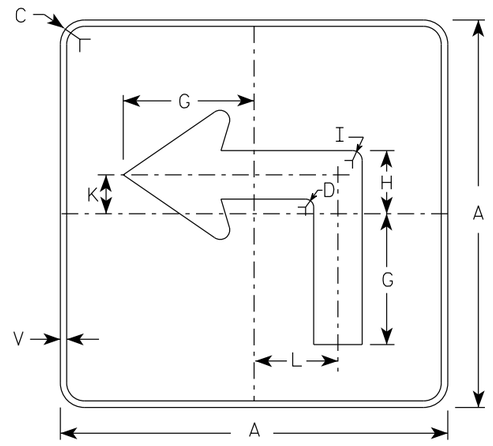
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



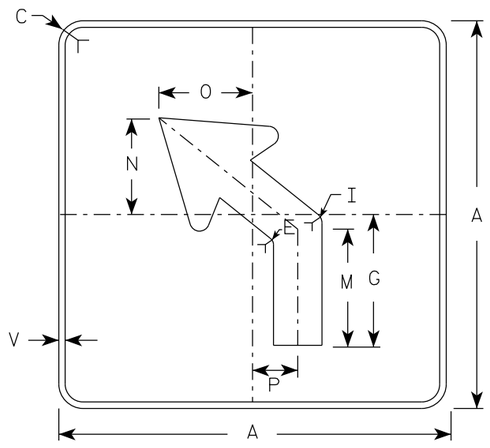
M5-1L
MM5-1L
MO5-1L
MP5-1L



M5-2L
MM5-2L
MO5-2L
MP5-2L



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

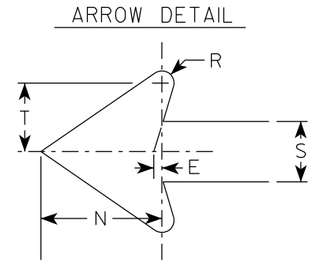


MB5-2L
MK5-2L
MN5-2L
MR5-2L

NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   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. 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
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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

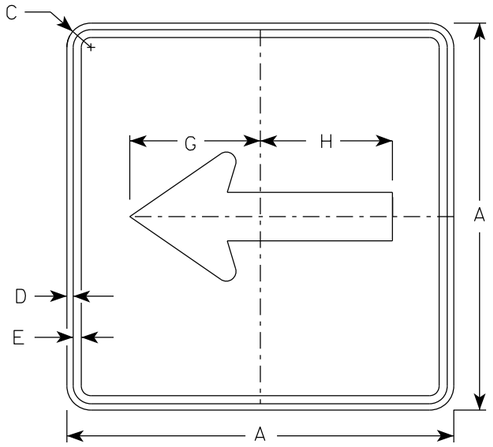
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

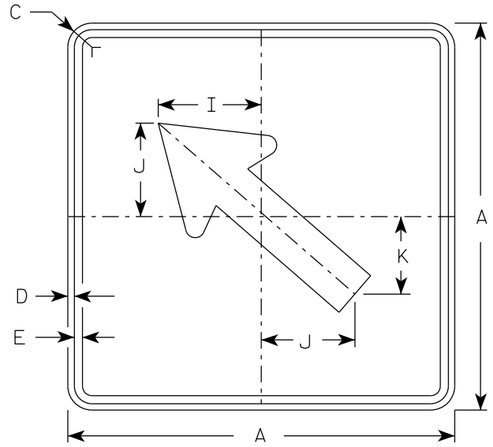
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M5-1.15

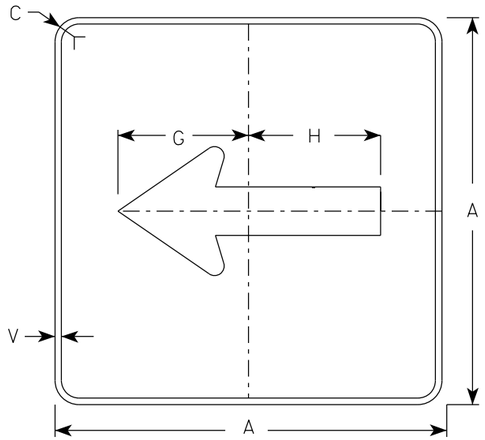
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 69 | E



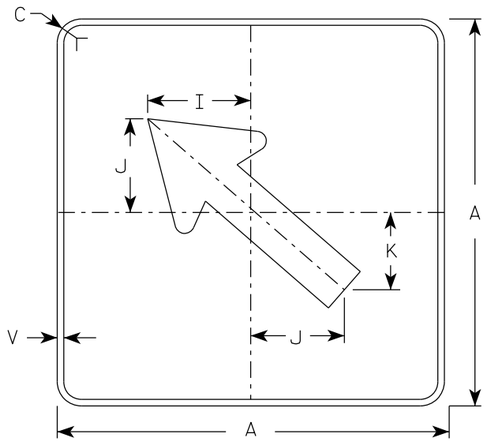
M6-1
MM6-1
MO6-1
MP6-1



M6-2
MM6-2
MO6-2
MP6-2



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

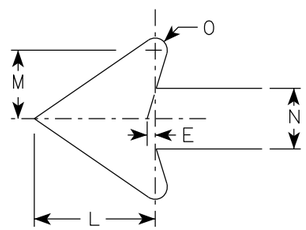


MB6-2
MK6-2
MN6-2
MR6-2

NOTES

1. Signs are Type II - Type H Reflective except as Shown
2. Color:
   Background - See note 4
   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. 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
   MO6-1 and MO6-2 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

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

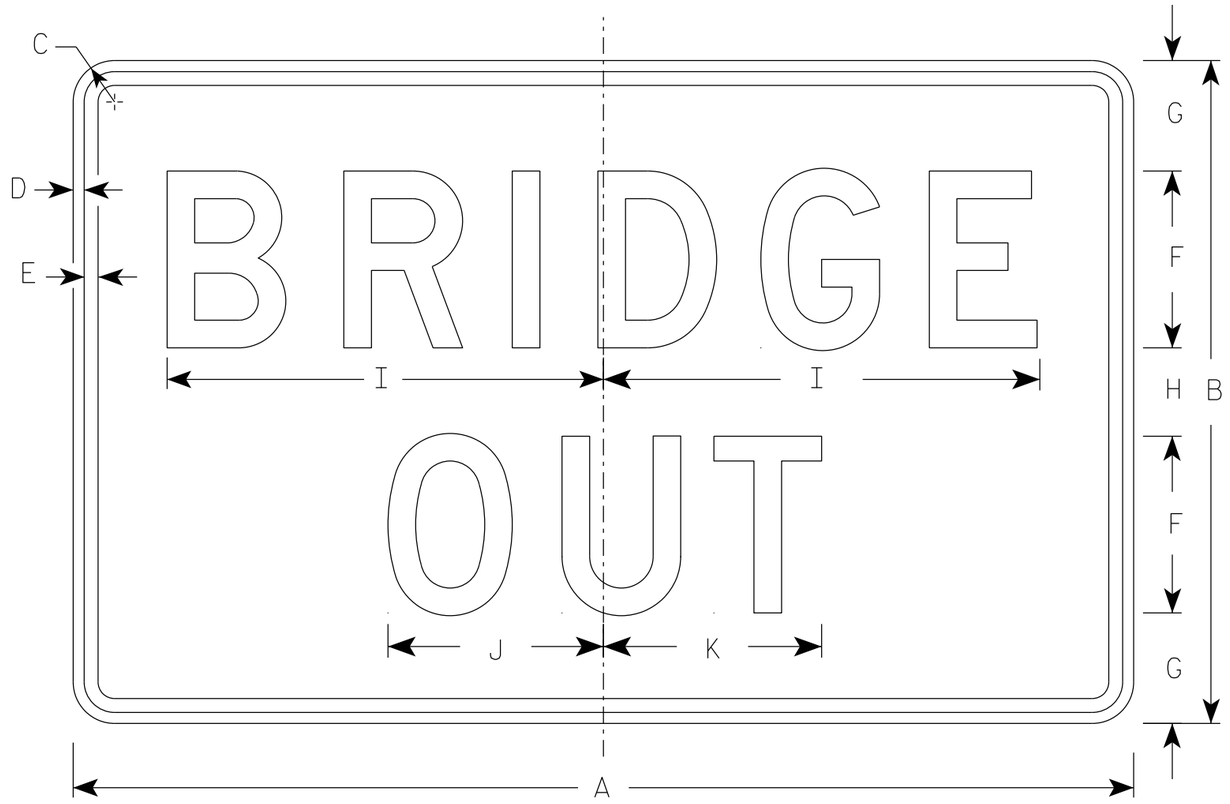
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 70 | E



R11-2B

NOTES

1. Sign is Type II - Type H Reflective
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.

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	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

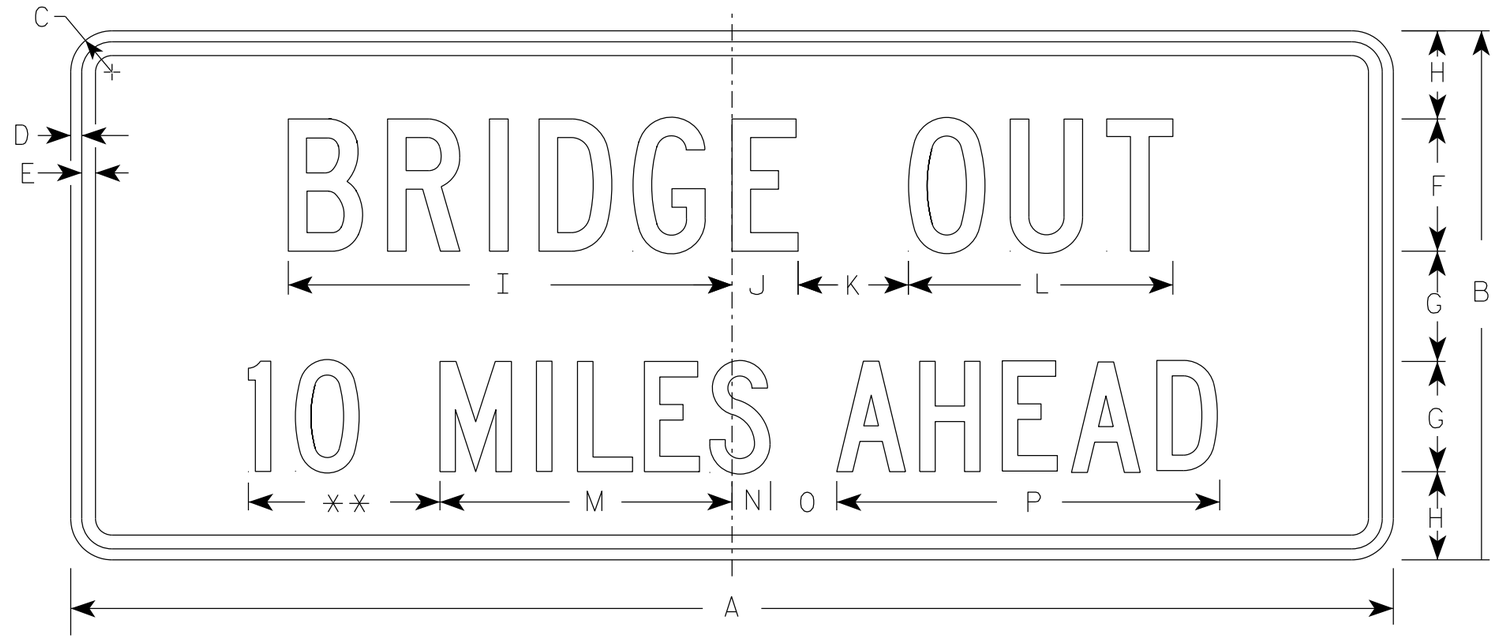
DATE 2/5/24 PLATE NO. R11-2B.3

PROJECT NO:

SHEET NO: 71 E

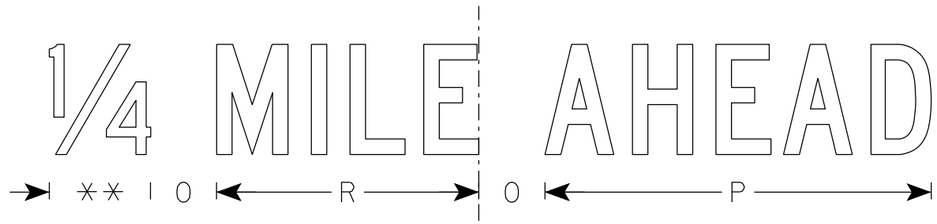
NOTES

1. Sign is Type II - Type H Reflective
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. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3C

** 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	15	1 1/2	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

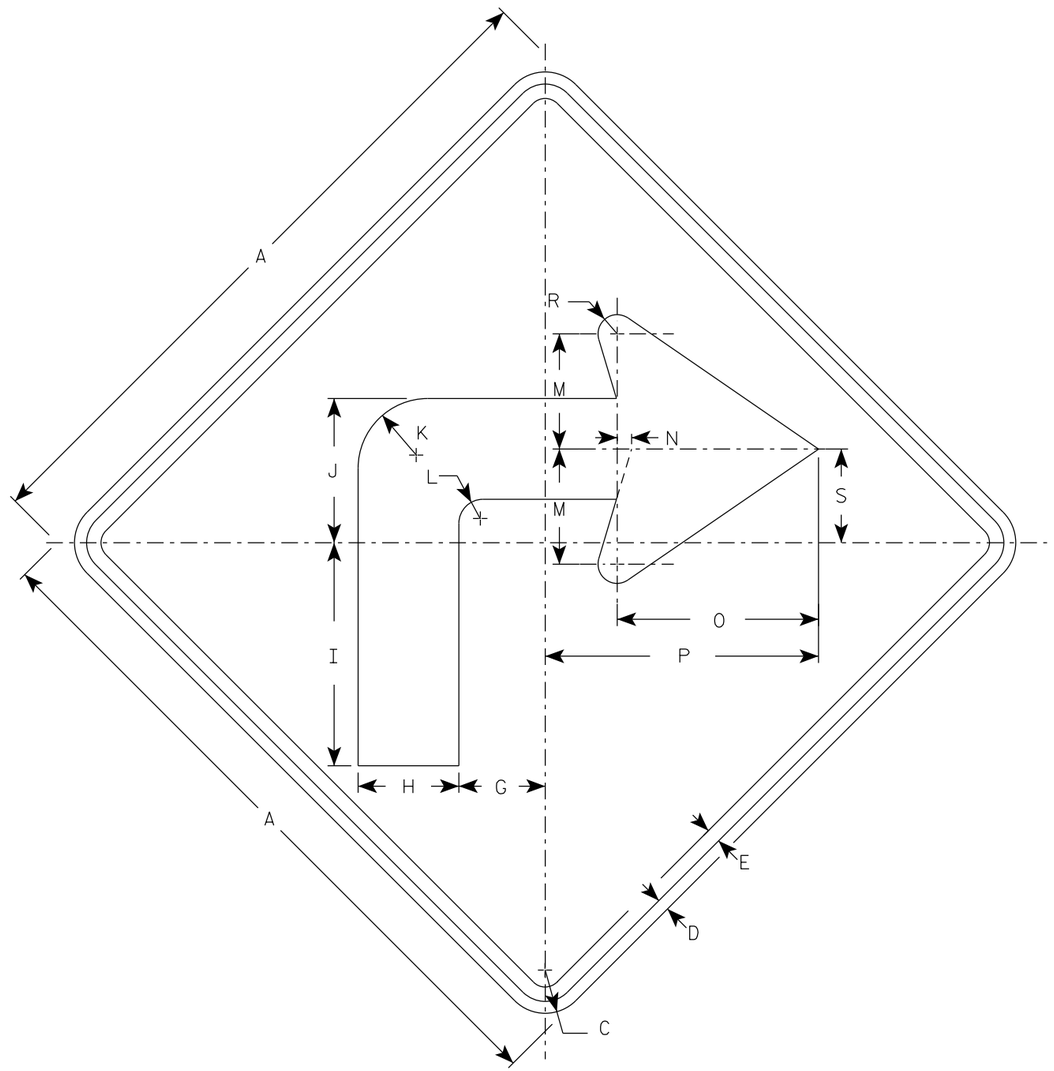
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-3C.4

PROJECT NO:

SHEET NO: 72 E



W1-1R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. 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 1/2	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		2 1/4	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		2 1/4	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		2 1/4	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		3	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		3	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

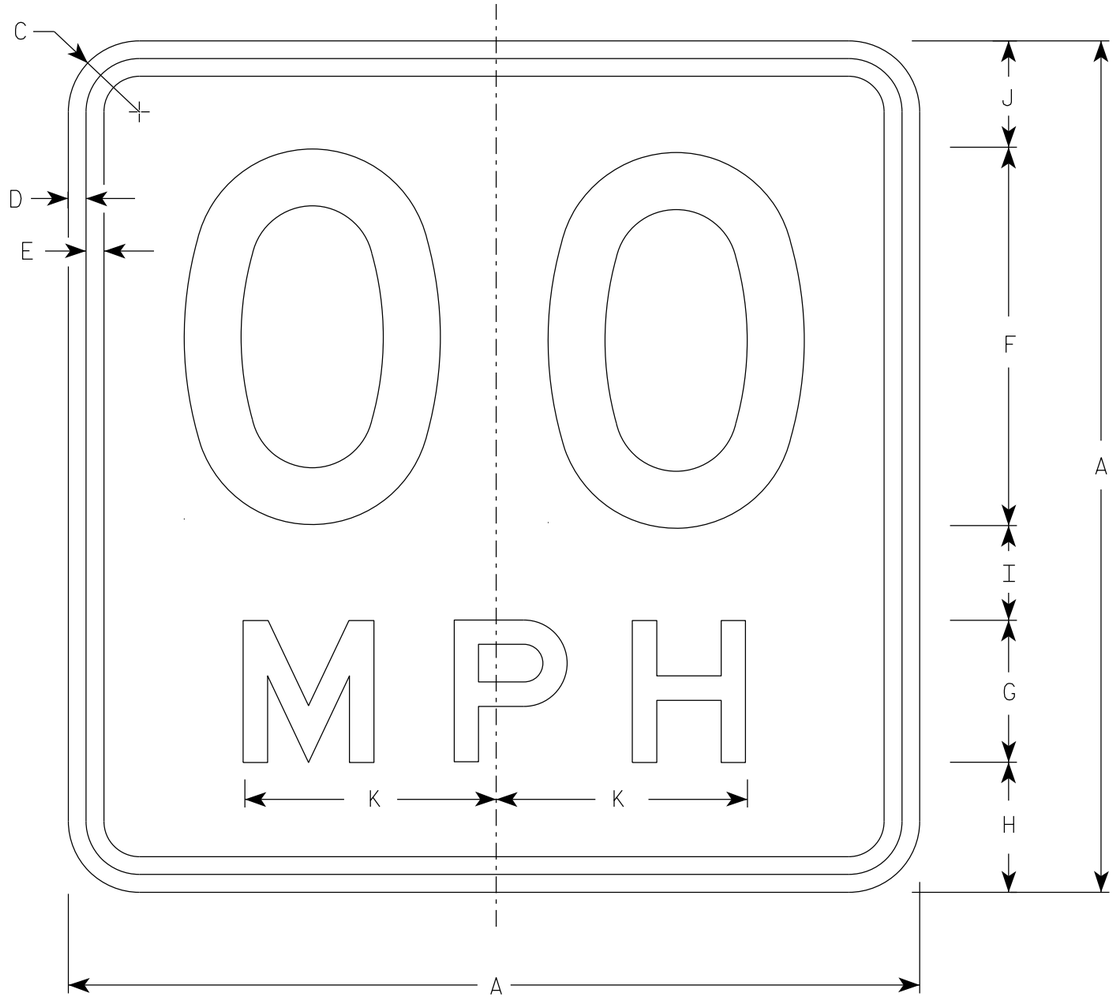
STANDARD SIGN
W1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/22/2023 PLATE NO. W1-1.12

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



W13-1

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See Note 5
4. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
5. Line 1 is Series D
   Line 2 is Series E

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

STANDARD SIGN
W13-1

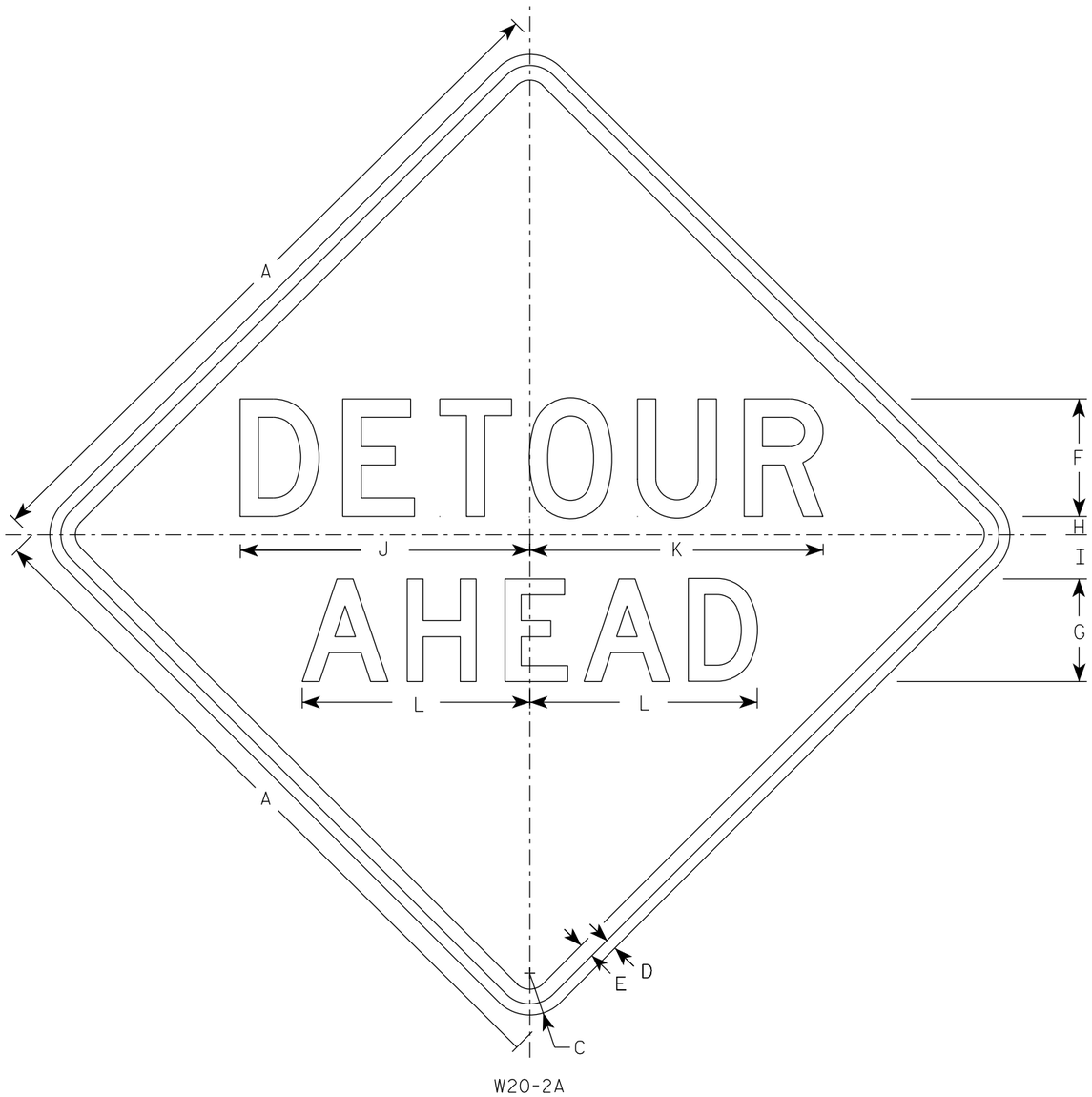
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

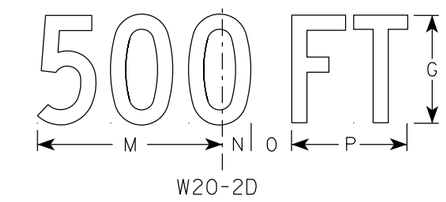
DATE 1/8/2024 PLATE NO. W13-1.17

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

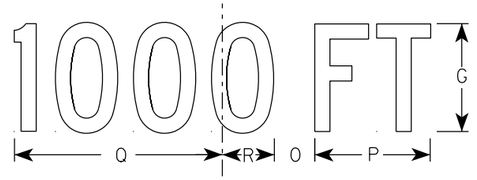
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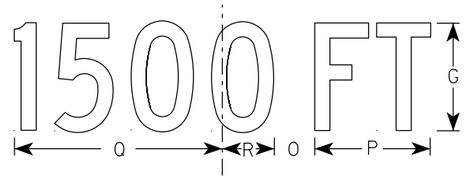
W20-2A



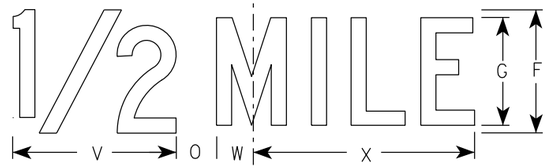
W20-2D



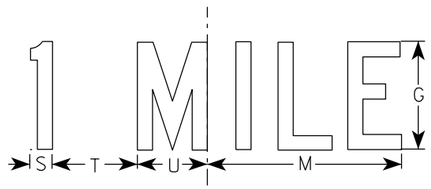
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

1. Sign is Type II - Type F Reflective
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		2 1/4	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		3	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		3	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		3	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		3	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		3	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

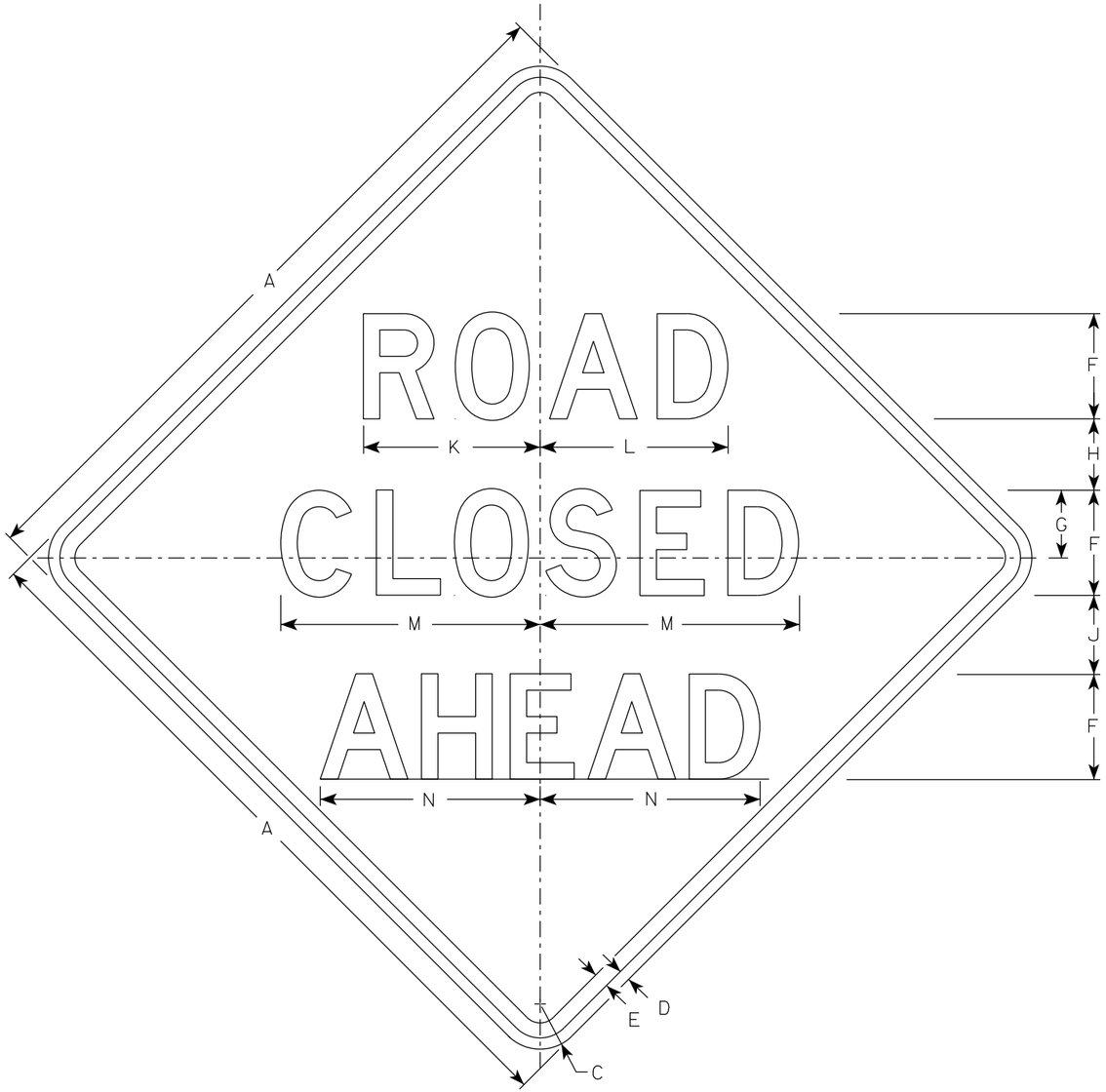
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

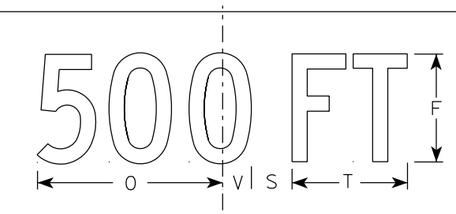
DATE 1/10/2024 PLATE NO. W20-2.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

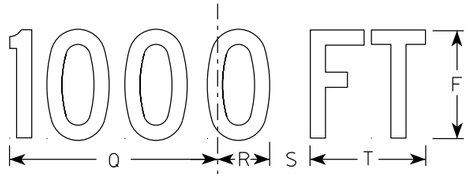
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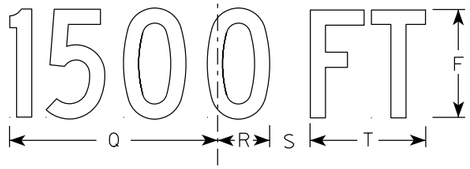
W20-3A



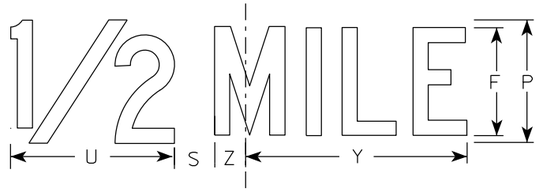
W20-3D



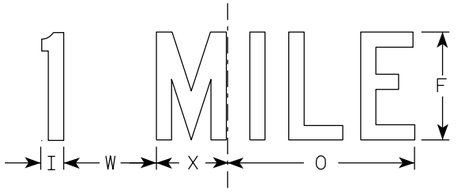
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective
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. Lines 1 and 2 are Series D.
   Line 3 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		2 1/4	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

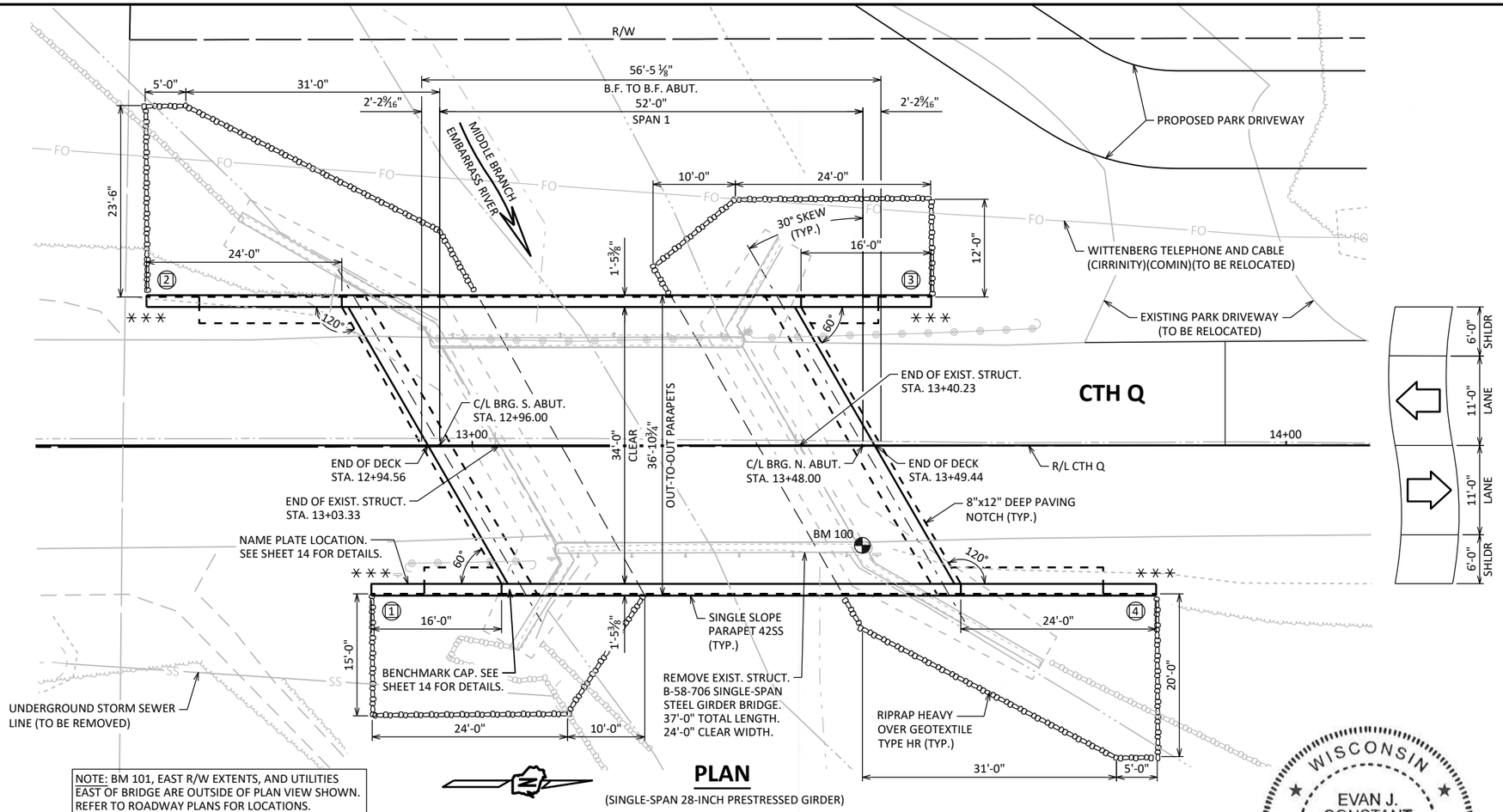
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-3.8

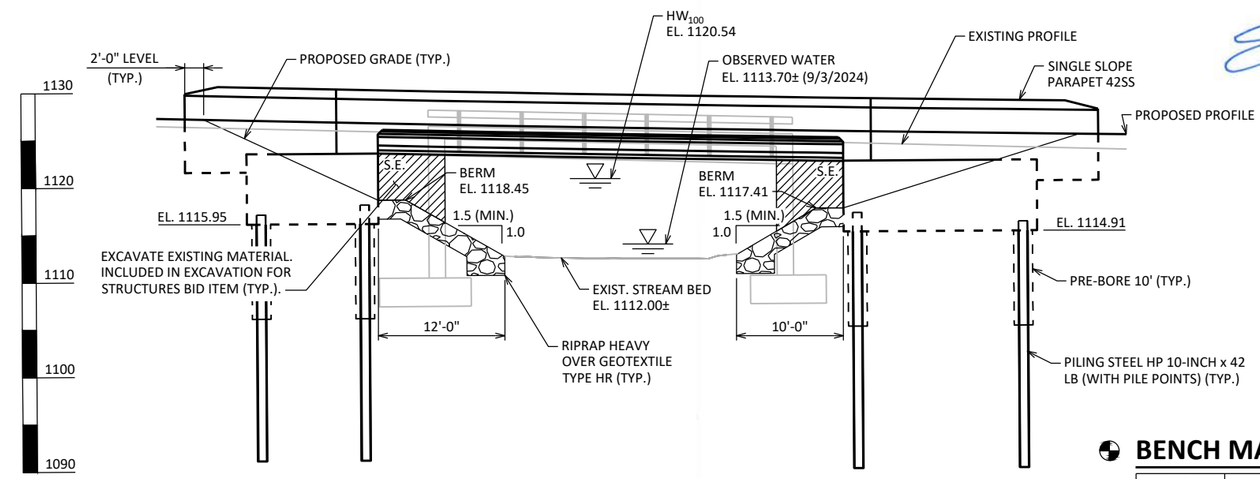
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W203.DGN PLOT DATE : 10-JAN 2024 12:02 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



PLAN

(SINGLE-SPAN 28-INCH PRESTRESSED GIRDER)



ELEVATION

(NORMAL TO SUBSTRUCTURE, LOOKING WEST UPSTREAM)

DESIGN DATA

STATE PROJECT NUMBER

9394-00-70

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.09
OPERATING RATING: RF = 1.43
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE — f'_c = 4,000 PSI
ALL OTHER — f'_c = 3,500 PSI

BAR STEEL REINFORCEMENT
GRADE 60 — f_y = 60,000 PSI

28" PRESTRESSED GIRDERS:
CONCRETE MASONRY — f'_c = 8,000 PSI
STRANDS: 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON STEEL HP 10-INCH x 42 LB PILING (WITH PILE POINTS). PRE-BORE 10 FEET THROUGH LAYER OF DENSE SOILS WITH COBBLES AND POSSIBLE BOULDERS AND EXISTING FOOTING (WHERE PILES OVERLAP), THEN DRIVE PILES FROM THE BOTTOM OF THE PRE-BORED HOLES UNTIL A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE IS ACHIEVED AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
SOUTH ABUTMENT = ESTIMATED 25'-0" LONG.
NORTH ABUTMENT = ESTIMATED 25'-0" LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE PILE CAPACITY.

HYDRAULIC DATA

100-YEAR FREQUENCY:

Q_{100}= 1,890 C.F.S.
V_{100}= 11.60 F.P.S.
HW_{100}= EL. 1120.54
WATERWAY AREA = 163 SQ. FT.
DRAINAGE AREA = 75.5 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

2-YEAR FREQUENCY:

Q_2= 745 C.F.S.
V_2= 9.30 F.P.S.
HW_2= EL. 1117.19

TRAFFIC DATA

FEATURE ON: CTH Q

ADT = 1,536 (2027)
ADT = 1,770 (2047)
R.D.S. = 45 MPH

LEGEND

(X) INDICATES WING NUMBER

✳✳✳ PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT

WISCONSIN
EVAN J. CONSTANT
E-48226
MADISON
WI
PROFESSIONAL ENGINEER

8-18-2026

LIST OF DRAWINGS:

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES, NOTES, AND DETAILS
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. 28" PRESTRESSED GIRDER DETAILS
9. STEEL DIAPHRAGM
10. SUPERSTRUCTURE PLAN
11. SUPERSTRUCTURE SECTION
12. SUPERSTRUCTURE DETAILS - 1
13. SUPERSTRUCTURE DETAILS - 2
14. SINGLE SLOPE PARAPET 42SS

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
BM 100	13+47.91, 12.30' RT	MAG NAIL AT NE CORNER OF BRIDGE	1125.25
BM 101	13+16.82, 88.76' LT	CHSLD SQR ON CONC PAD	1117.79

STRUCTURE DESIGN CONTACTS:

DESIGN CONSULTANT: EVAN CONSTANT 608-251-4843
BUREAU OF STRUCTURES: AARON BONK 608-261-0261

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED JLR 08/18/26
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-58-140

CTH Q OVER MIDDLE BRANCH EMBARRASS RIVER

COUNTY	TOWN
SHAWANO	MORRIS

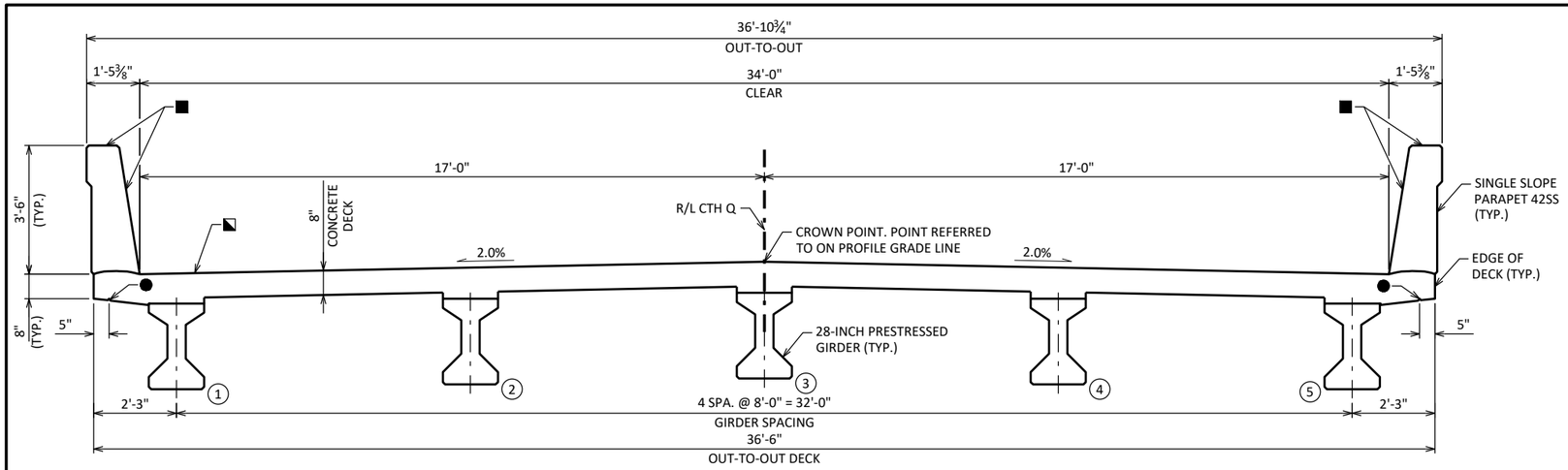
DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGN CK'D	DRAWN BY	PLANS CK'D
JFG	EJC	ZHC	EJC

GENERAL PLAN

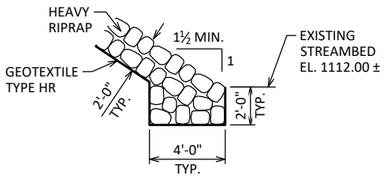
SHEET 1 OF 14
77

I.D. 9394-00-00 DATE:

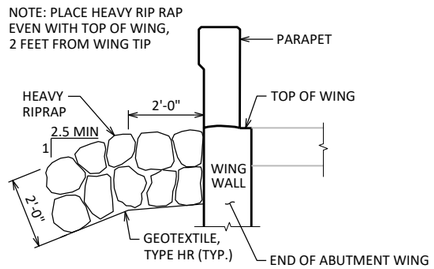


CROSS SECTION THRU SUPERSTRUCTURE

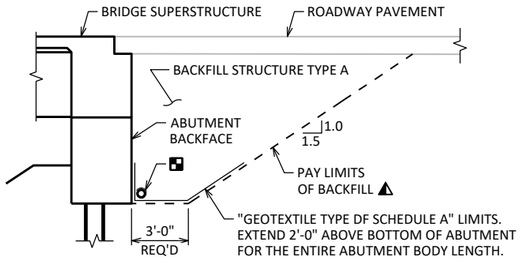
(LOOKING NORTH)



RIPRAP TOE DETAIL



TYPICAL FILL SECTION AT WING TIPS



TYPICAL SECTION THRU ABUTMENT

TOTAL ESTIMATED QUANTITIES

BID NUMBER	BID ITEM	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTAL
203.0270	REMOVING STRUCTURE OVER WATERWAY DEBRIS CAPTURE B-58-706	EACH	---	---	---	1
203.0211.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-58-706	EACH	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-58-140	EACH	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	322	305	---	627
502.0100	CONCRETE MASONRY BRIDGES	CY	76.7	73.8	94.8	246
502.3200	PROTECTIVE SURFACE TREATMENT	SY	---	---	220	220
502.3210	PIGMENTED SURFACE SEALER	SY	21	21	56	98
503.0128	PRESTRESSED GIRDER TYPE I 28-INCH	LF	---	---	265	265
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	4,140	4,100	---	8,240
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	4,080	4,030	17,380	25,490
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	5	5	---	10
506.4000	STEEL DIAPHRAGMS B-58-140	EACH	---	---	4	4
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	12	12	---	24
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	80	80	---	160
550.0500	PILE POINTS	EACH	8	8	---	16
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	200	200	---	400
606.0300	RIPRAP HEAVY	CY	154	128	---	282
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	100	100	---	200
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	2	---	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	33	33	---	66
645.0120	GEOTEXTILE TYPE HR	SY	265	224	---	489
	NON-BID ITEMS					
	FILLER	SIZE				1/2" & 3/4"
	NAME PLATE	EACH				1

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR DIMENSIONS FOR BENDING ARE OUT-TO-OUT OF BARS.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-58-140" SHALL BE THE EXISTING GROUNDLINE.

AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH "BACKFILL STRUCTURE TYPE A".

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK AND TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES AT ABUTMENT DIAPHRAGMS.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE, TOP, AND ENDS OF THE PARAPETS, INCLUDING PARAPETS ON WINGS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE "HR" TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

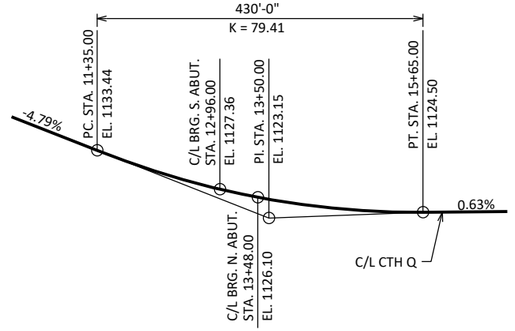
HP12X53 STEEL PILING MAY BE USED IN LIEU OF HP10X42 STEEL PILING. PAYMENT SHALL BE BASED ON BID PRICE FOR HP10X42 STEEL PILING.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON SHEET 8.

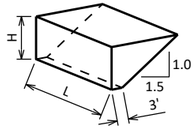
AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

LEGEND

- ● ¾" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUTMENT DIAPHRAGMS.
- ◪ COAT WITH PROTECTIVE SURFACE TREATMENT.
- ■ COAT WITH PIGMENTED SURFACE SEALER.
- ◭ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- ▪ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.
- (#) INDICATES GIRDER NUMBER



PROFILE GRADE LINE



ABUTMENT BACKFILL DIAGRAM

L = OUT TO OUT OF ABUTMENT BODY INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)
V_{CY} = V_{CF}(EF)/27
V_{TON} = V_{CY}(2.0)

NO.	DATE	REVISION	BY

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-140

DRAWN BY ZHC | PLANS CK'D EJC

CROSS SECTION, QUANTITIES, NOTES, AND DETAILS

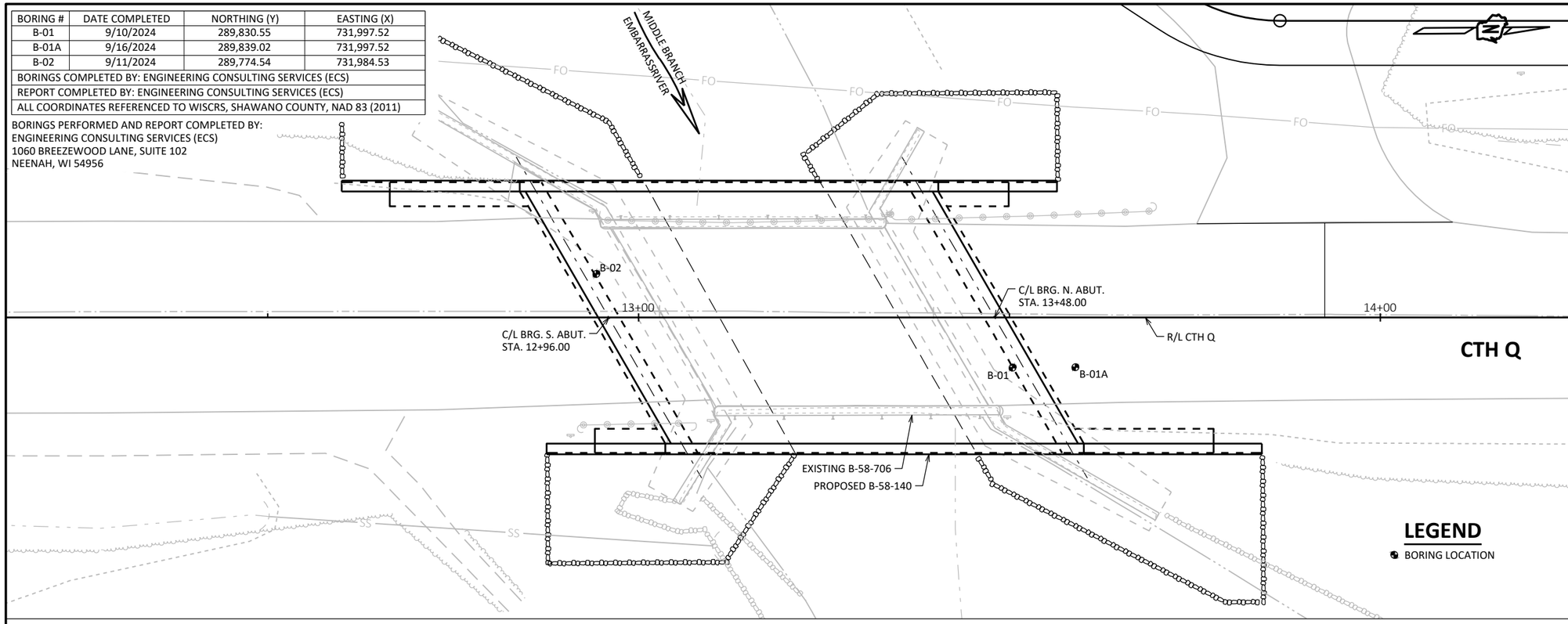
SHEET 2
78

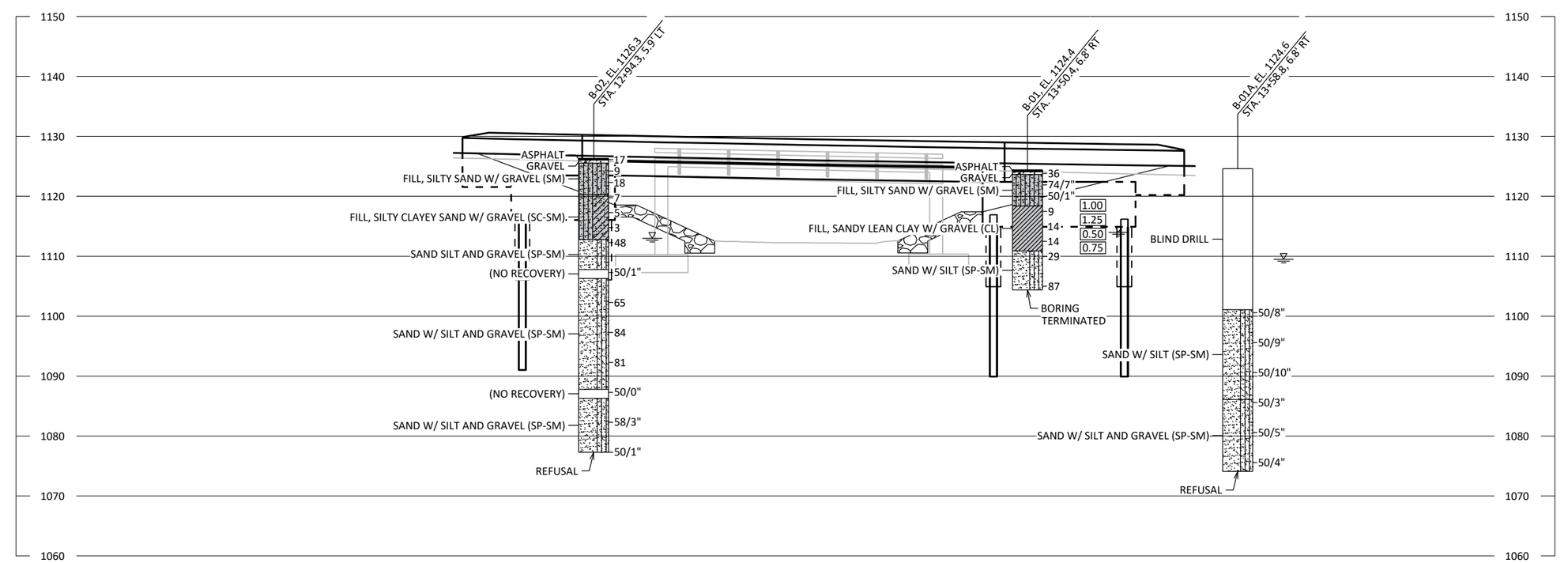
8

8

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-01	9/10/2024	289,830.55	731,997.52
B-01A	9/16/2024	289,839.02	731,997.52
B-02	9/11/2024	289,774.54	731,984.53
BORINGS COMPLETED BY: ENGINEERING CONSULTING SERVICES (ECS)			
REPORT COMPLETED BY: ENGINEERING CONSULTING SERVICES (ECS)			
ALL COORDINATES REFERENCED TO WISCRS, SHAWANO COUNTY, NAD 83 (2011)			

BORINGS PERFORMED AND REPORT COMPLETED BY:
ENGINEERING CONSULTING SERVICES (ECS)
1060 BREEZEWOOD LANE, SUITE 102
NEENAH, WI 54956





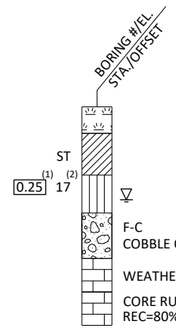
STATE PROJECT NUMBER

9394-00-70

MATERIAL SYMBOLS

ASPHALT, TOPSOIL, PEAT, CONCRETE, FILL, GRAVEL, SAND, CLAY, SILT, BOULDERS OR COBBLES, LIMESTONE, BEDROCK (UNKNOWN), SHALE, SANDSTONE, IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

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SUBSURFACE EXPLORATION

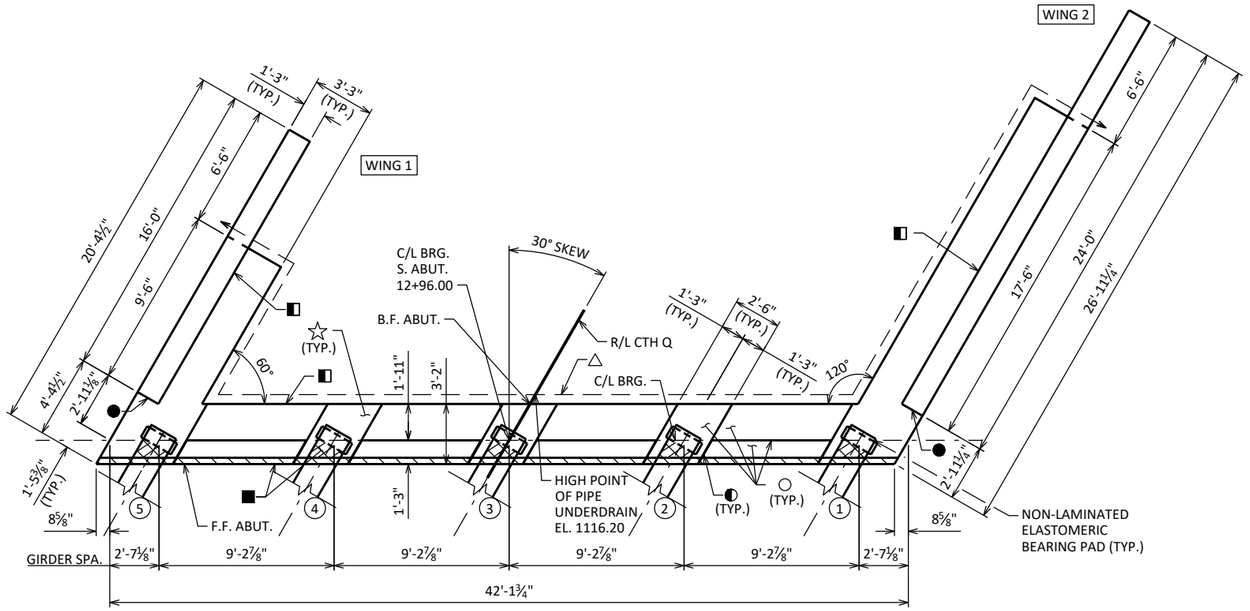
SHEET 3
79

8

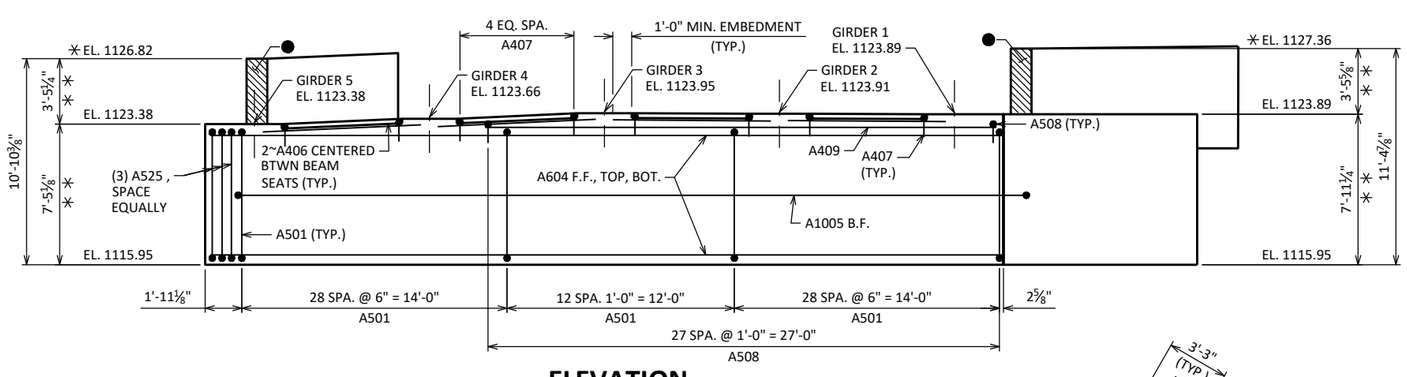
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STATE PROJECT NUMBER

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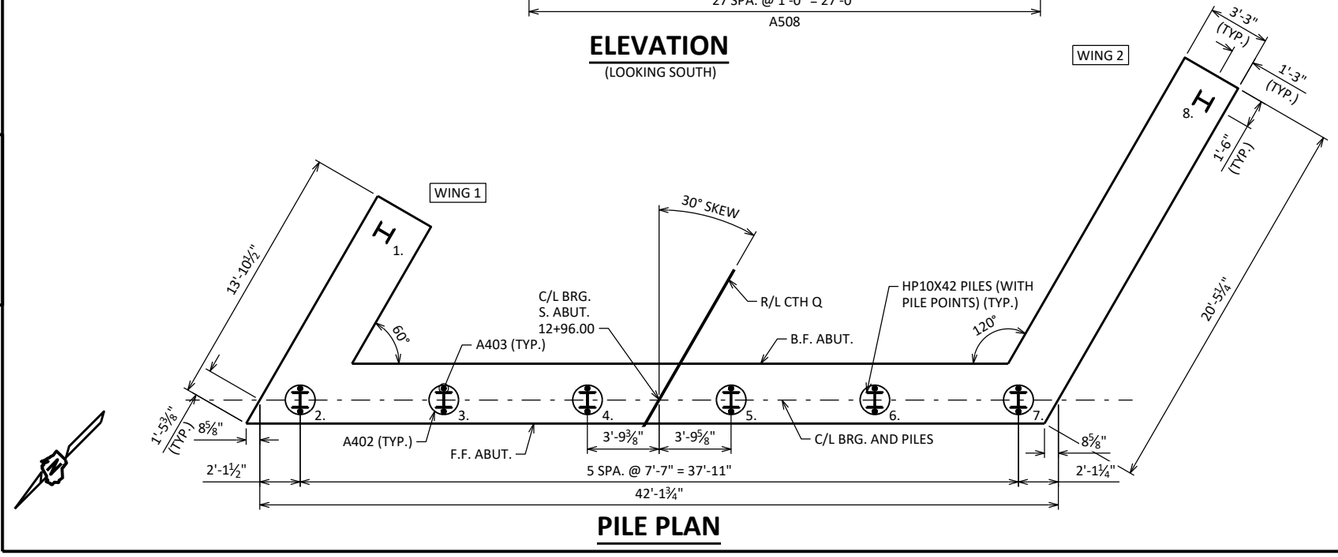


PLAN

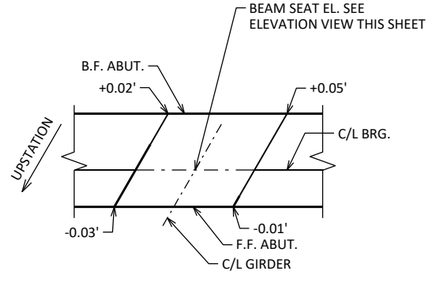


ELEVATION

(LOOKING SOUTH)



PILE PLAN



SLOPED BEAM SEAT DETAIL

NOTES

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW FINISHED ROADWAY SURFACE AT INSIDE FACE.

ADJUST A501 BARS INTERFERING WITH PILES.

SEE SHEET 6 FOR PILE SPLICE DETAILS.

SEE SHEET 5 FOR REINFORCING DETAILS.

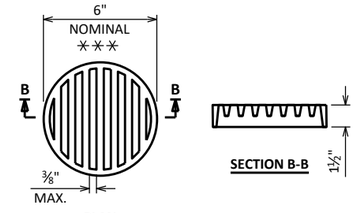
SEE SHEET 2 FOR TYPICAL FILL SECTION AT WING TIPS.

SOUTH ABUTMENT TO BE SUPPORTED ON PILING STEEL 10-INCH X 42 LB WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 25 FEET LONG EACH.

SEE SHEET 1 FOR PRE-BORING DETAILS.

LEGEND

- ● ½" FILLER. EXTEND FROM ABUT. SEAT TO TOP OF PARAPET. FILLER INCLUDED IN WING LENGTH.
- ◧ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- (#) INDICATES GIRDER NUMBER.
- ⚹ ELEVATION GIVEN AT B.F. ABUTMENT AND ABUTMENT WING.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 1116.20. ATTACH RODENT SHIELD AT ENDS OF PIPE. SEE DETAIL THIS SHEET.
- ○ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ■ 4"x ½" PREFORMED JOINT FILLER, LENGTH OF ABUTMENT, AND ½" PREFORMED JOINT FILLER UNDER GIRDER IN FRONT OF BRG. PAD.
- ◐ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDERS.
- ☆ BEAM SEATS ARE SLOPED. SEE DETAIL THIS SHEET.
- ⚹⚹ DIMENSION MEASURED TO BEAM SEAT ELEVATION @ C/L BRG.



PLAN

RODENT SHIELD DETAIL

⚹⚹⚹ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-140

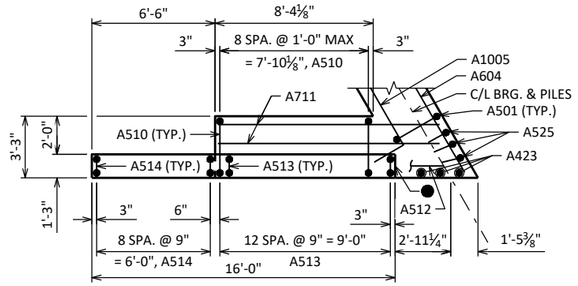
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SOUTH ABUTMENT

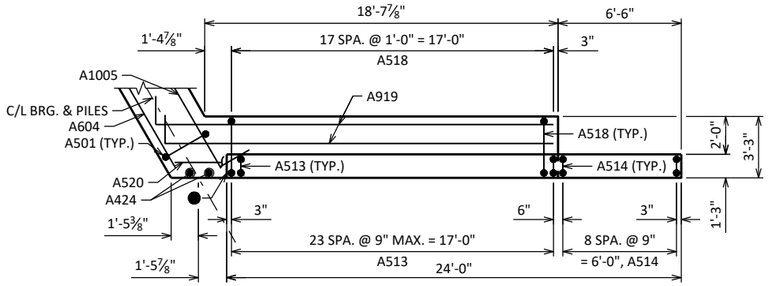
SHEET 4
80

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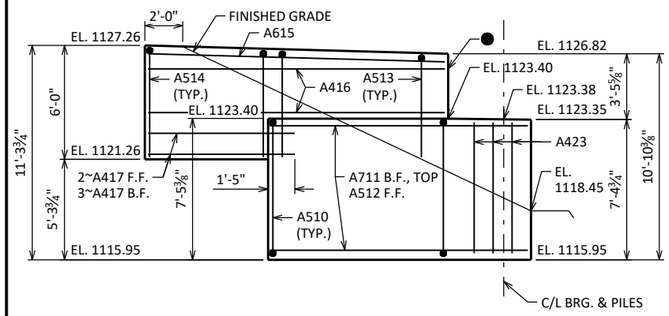
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WING 1 PLAN

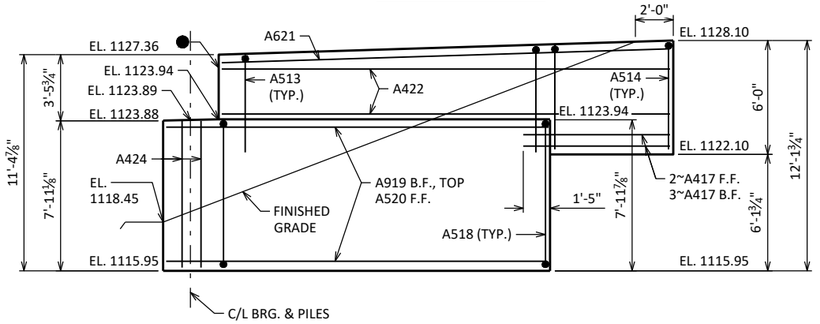


WING 2 PLAN



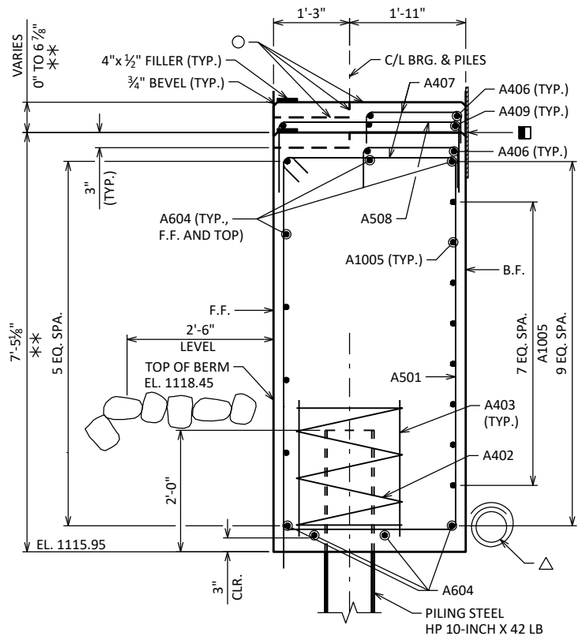
WING 1 ELEVATION

(LOOKING AT F.F.)

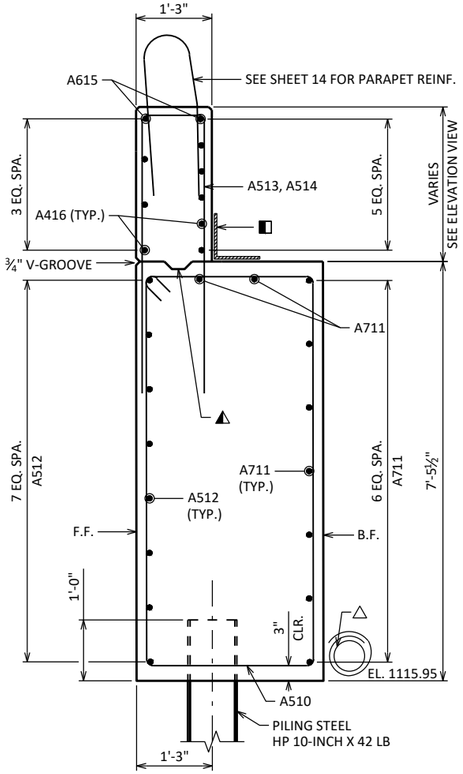


WING 2 ELEVATION

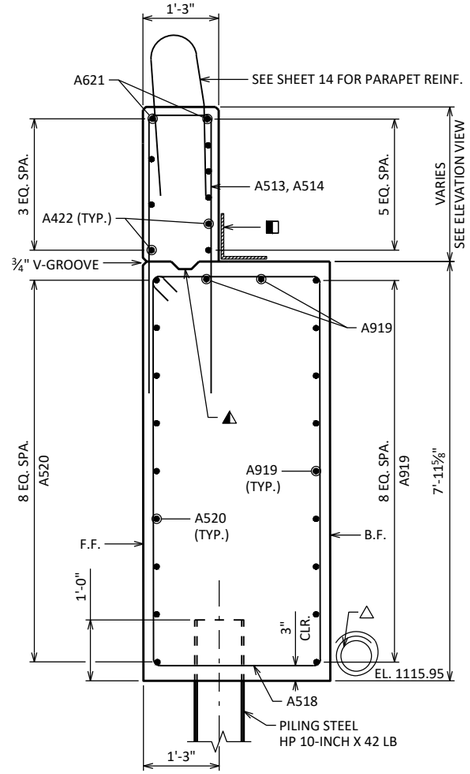
(LOOKING AT F.F.)



BODY SECTION



WING 1 SECTION



WING 2 SECTION

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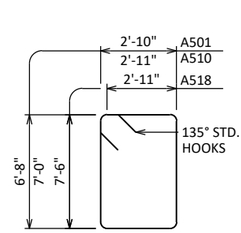
SOUTH ABUTMENT BILL OF BARS

UNCOATED: 4,140 LB
COATED: 2,990 LB

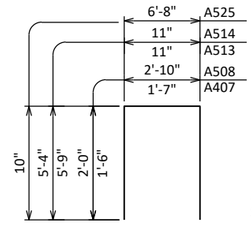
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
A501	69	19'-8"	X		LOWER BODY - VERT. STIRRUPS
A402	6	28'-0"	X		LOWER BODY - PILES - SPIRAL
A403	12	2'-3"			LOWER BODY - PILES - VERT
A604	11	41'-9"			BODY - F.F., TOP & BOT. - HORIZ.
A1005	8	43'-8"	X		BODY - B.F. - HORIZ.
A408	8	8'-5"			BODY - TOP - HORIZ.
A407	20	4'-5"	X		BODY - TOP - VERT
A508	28	6'-7"	X		BODY - TOP - VERT.
A409	3	27'-0"			BODY - TOP - HORIZ.
A510	9	20'-6"	X	X	WING 1 - LOWER STIRRUPS
A711	9	11'-7"		X	WING 1 - LOWER - B.F., TOP - HORIZ
A512	8	13'-3"		X	WING 1 - LOWER - F.F. - HORIZ.
A513	37	12'-2"	X	X	WINGS 1 & 2 - UPPER - VERT.
A514	18	11'-4"	X	X	WINGS 1 & 2 - UPPER - VERT.
A815	2	15'-7"		X	WING 1 - UPPER - TOP - HORIZ
A416	8	15'-7"		X	WING 1 - UPPER - F.F., B.F. - HORIZ.
A417	10	7'-9"		X	WINGS - UPPER - F.F., B.F. - HORIZ.
A518	18	21'-6"	X	X	WING 2 - LOWER STIRRUPS
A919	11	22'-0"	X	X	WING 2 - LOWER - B.F., TOP - HORIZ
A520	9	20'-0"		X	WING 2 - LOWER - F.F. - HORIZ.
A621	2	23'-7"		X	WING 2 - UPPER - TOP - HORIZ.
A422	8	23'-7"		X	WING 2 - UPPER - F.F., B.F. - HORIZ.
A423	3	7'-0"			BODY - ENDS - VERT.
A424	2	7'-7"			BODY - ENDS - VERT.
A525	3	8'-1"	X		LOWER BODY - VERT. STIRRUPS - CORNER

LEGEND

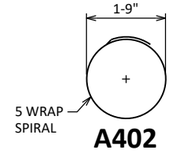
- ● ½" FILLER, INCLUDED IN WING LENGTH.
- ◧ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 1116.20. ATTACH RODENT SHIELD AT ENDS OF PIPE AS DETAILED ON SHEET 4.
- ○ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ◭ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"X6".
- ✳✳ DIMENSION MEASURED TO BEAM SEAT ELEVATION AT C/L BRG.



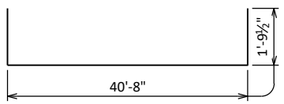
A501, A510, A518



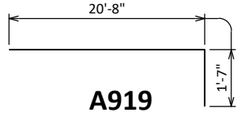
A407, A508, A513, A514, A525



A402



A1005



A919

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-140

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SOUTH ABUTMENT DETAILS

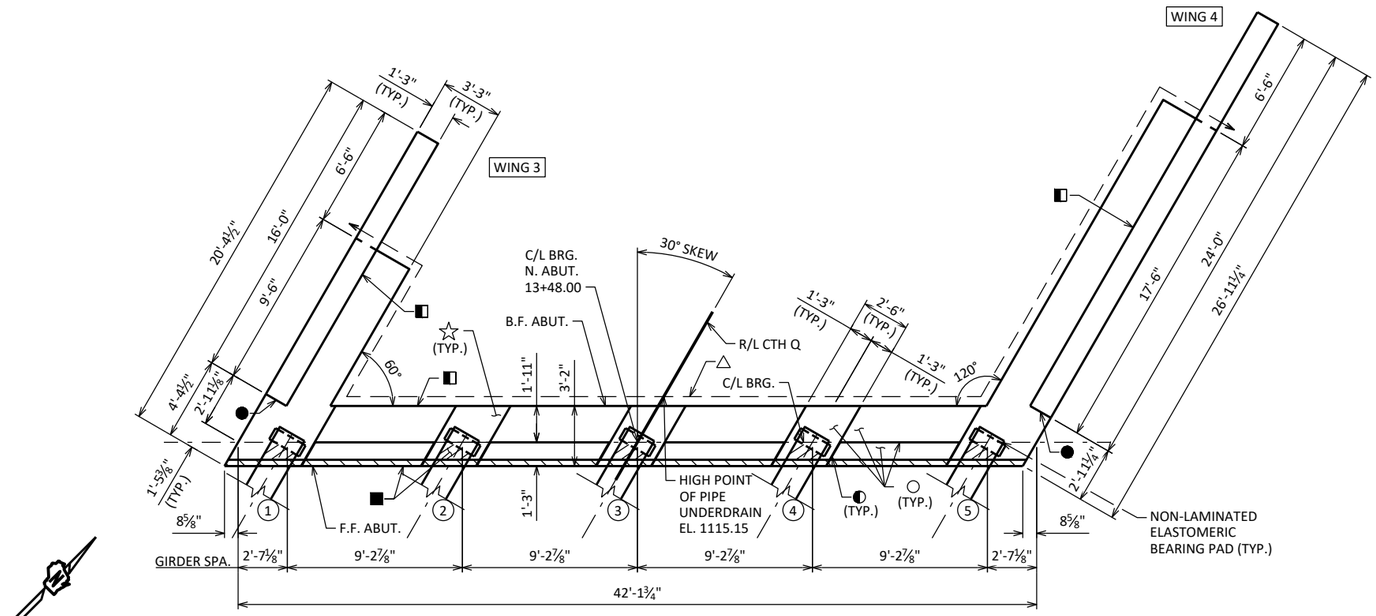
SHEET 5
81

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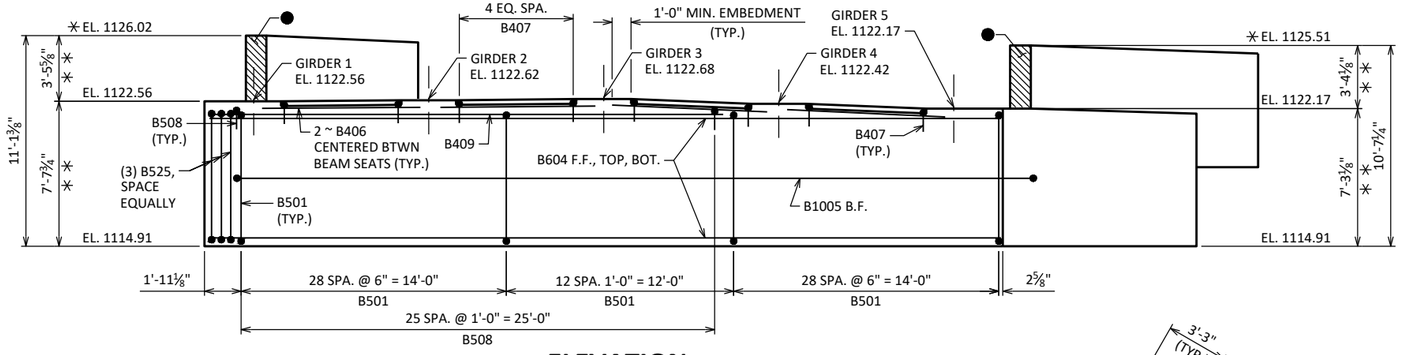
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STATE PROJECT NUMBER

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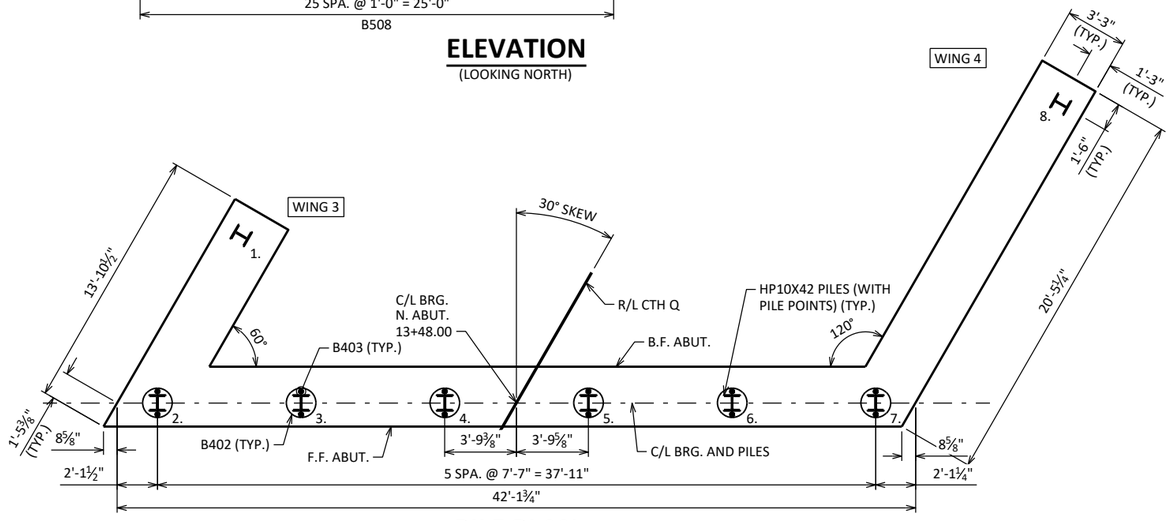


PLAN



ELEVATION

(LOOKING NORTH)



PILE PLAN

NOTES

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW FINISHED ROADWAY SURFACE AT INSIDE FACE.

ADJUST B501 BARS INTERFERING WITH PILES.

SEE THIS SHEET FOR PILE SPLICE DETAILS.

SEE SHEET 7 FOR REINFORCING DETAILS.

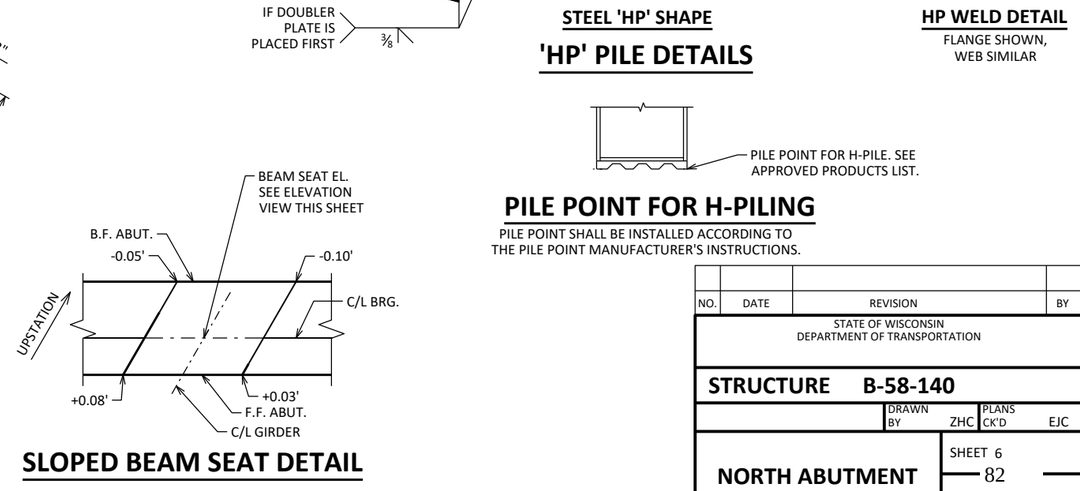
SEE SHEET 2 FOR TYPICAL FILL SECTION AT WING TIPS.

NORTH ABUTMENT TO BE SUPPORTED ON PILING STEEL 10-INCH X 42 LB WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 25 FEET LONG EACH.

SEE SHEET 1 FOR PRE-BORING DETAILS.

LEGEND

- ● ½" FILLER. EXTEND FROM ABUT. SEAT TO TOP OF PARAPET. FILLER INCLUDED IN WING LENGTH.
- ◧ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- (#) INDICATES GIRDER NUMBER.
- ⚹ ELEVATION GIVEN AT B.F. ABUTMENT AND ABUTMENT WING.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 1115.15. ATTACH RODENT SHIELD AT ENDS OF PIPE. SEE DETAIL ON SHEET 4.
- ○ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ■ 4"x ½" PREFORMED JOINT FILLER, LENGTH OF ABUTMENT, AND ½" PREFORMED JOINT FILLER UNDER GIRDER IN FRONT OF BRG. PAD.
- ◐ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDERS.
- ☆ BEAM SEATS ARE SLOPED. SEE DETAIL THIS SHEET.
- ⚹⚹ DIMENSION MEASURED TO BEAM SEAT ELEVATION @ C/L BRG.



STEEL 'HP' SHAPE

HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

'HP' PILE DETAILS

PILE POINT FOR H-PILING

PILE POINT SHALL BE INSTALLED ACCORDING TO THE PILE POINT MANUFACTURER'S INSTRUCTIONS.

SLOPED BEAM SEAT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-140

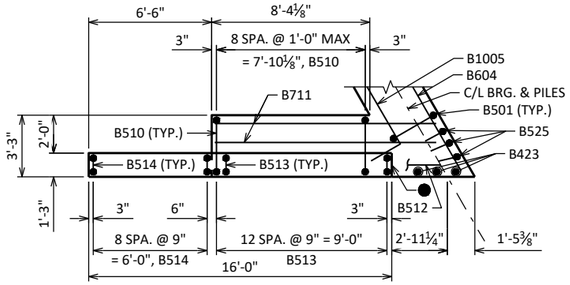
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NORTH ABUTMENT

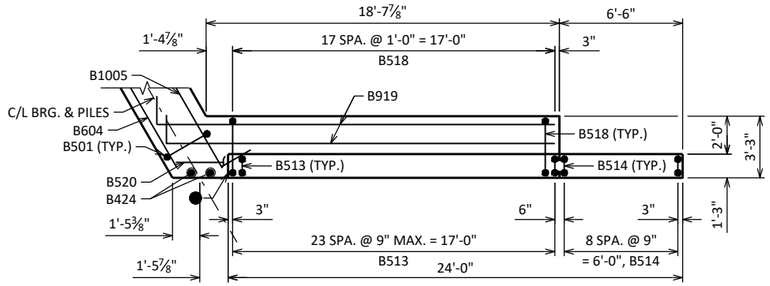
SHEET 6
82

8

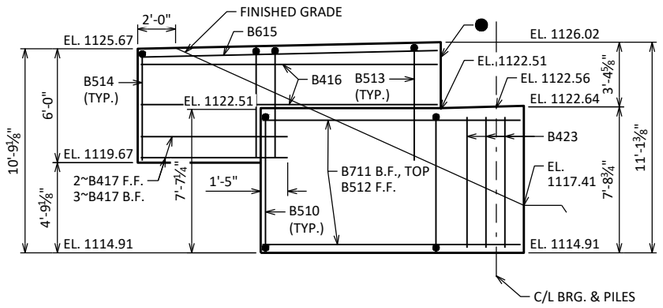
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WING 3 PLAN

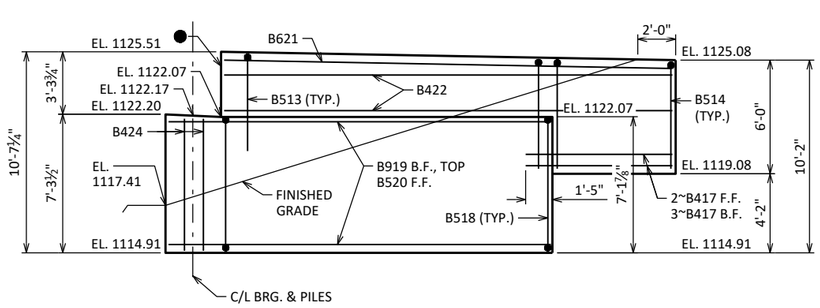


WING 4 PLAN



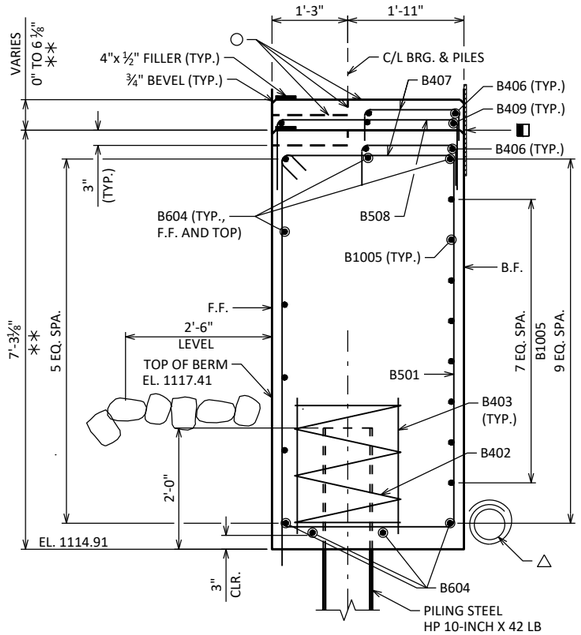
WING 3 ELEVATION

(LOOKING AT F.F.)

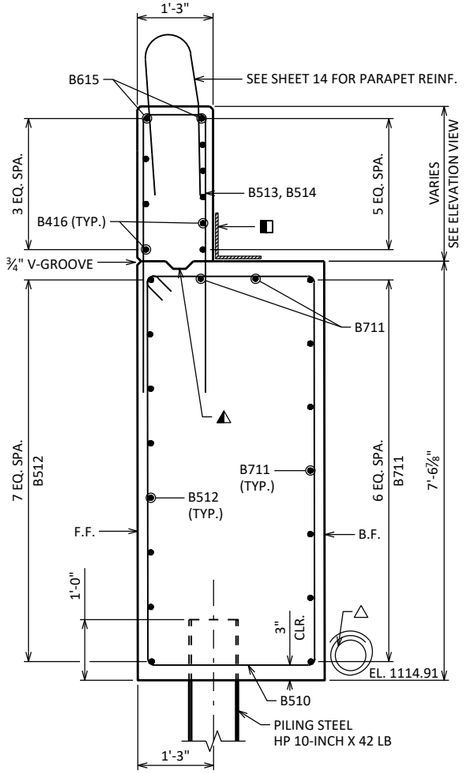


WING 4 ELEVATION

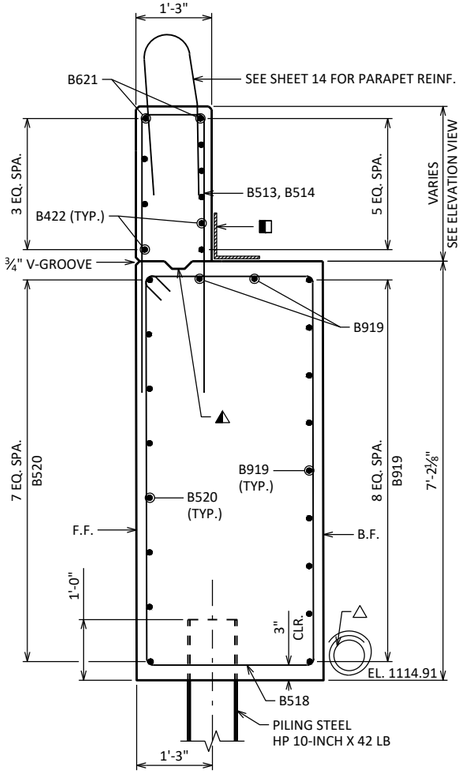
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BODY SECTION



WING 3 SECTION



WING 4 SECTION

STATE PROJECT NUMBER

9394-00-70

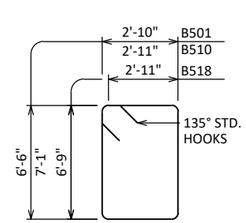
NORTH ABUTMENT BILL OF BARS

UNCOATED: 4,100 LB
COATED: 2,940 LB

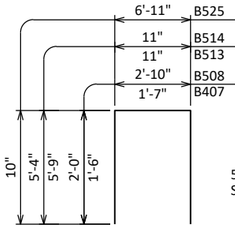
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
B501	69	19'-4"	X		LOWER BODY - VERT. STIRRUPS
B402	6	28'-0"	X		LOWER BODY - PILES - SPIRAL
B403	12	2'-3"			LOWER BODY - PILES - VERT
B604	11	41'-9"			BODY - F.F., TOP. & BOT. - HORIZ.
B1005	8	43'-8"	X		BODY - B.F. - HORIZ.
B406	8	8'-5"			BODY - TOP - HORIZ.
B407	20	4'-5"	X		BODY - TOP - VERT.
B508	26	6'-7"	X		BODY - TOP - VERT.
B409	3	27'-0"			BODY - TOP - HORIZ.
B510	9	20'-8"	X	X	WING 3 - LOWER STIRRUPS
B711	9	11'-7"		X	WING 3 - LOWER - B.F., TOP - HORIZ
B512	8	13'-3"		X	WING 3 - LOWER - F.F. - HORIZ
B513	37	12'-2"	X	X	WINGS 3 & 4 - UPPER - VERT.
B514	18	11'-4"	X	X	WINGS 3 & 4 - UPPER - VERT.
B615	2	15'-7"		X	WING 3 - UPPER - TOP - HORIZ.
B416	8	15'-7"		X	WING 3 - UPPER - F.F., B.F. - HORIZ.
B417	10	7'-9"		X	WINGS 3 & 4 - UPPER - F.F., B.F. - HORIZ.
B518	18	20'-0"	X	X	WING 4 - LOWER STIRRUPS
B919	11	22'-0"	X	X	WING 4 - LOWER - B.F., TOP - HORIZ
B520	8	20'-0"		X	WING 4 - LOWER - F.F. - HORIZ.
B621	2	23'-7"		X	WING 4 - UPPER - TOP - HORIZ.
B422	8	23'-7"		X	WING 4 - UPPER - F.F., B.F. - HORIZ.
B423	3	7'-4"			BODY - ENDS - VERT.
B424	2	6'-11"			BODY - ENDS - VERT.
B525	3	8'-4"	X		LOWER BODY - VERT. STIRRUPS - CORNER

LEGEND

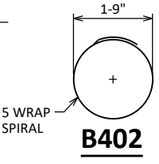
- ● ½" FILLER, INCLUDED IN WING LENGTH.
- ◧ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 1115.15. ATTACH RODENT SHIELD AT ENDS OF PIPE AS DETAILED ON SHEET 4.
- ○ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ◭ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"X6".
- ✳✳ DIMENSION MEASURED TO BEAM SEAT ELEVATION AT C/L BRG.



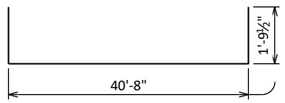
B501, B510, B518



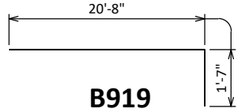
B407, B508, B513, B514, B525



B402



B1005



B919

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STRUCTURE B-58-140

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NORTH ABUTMENT DETAILS

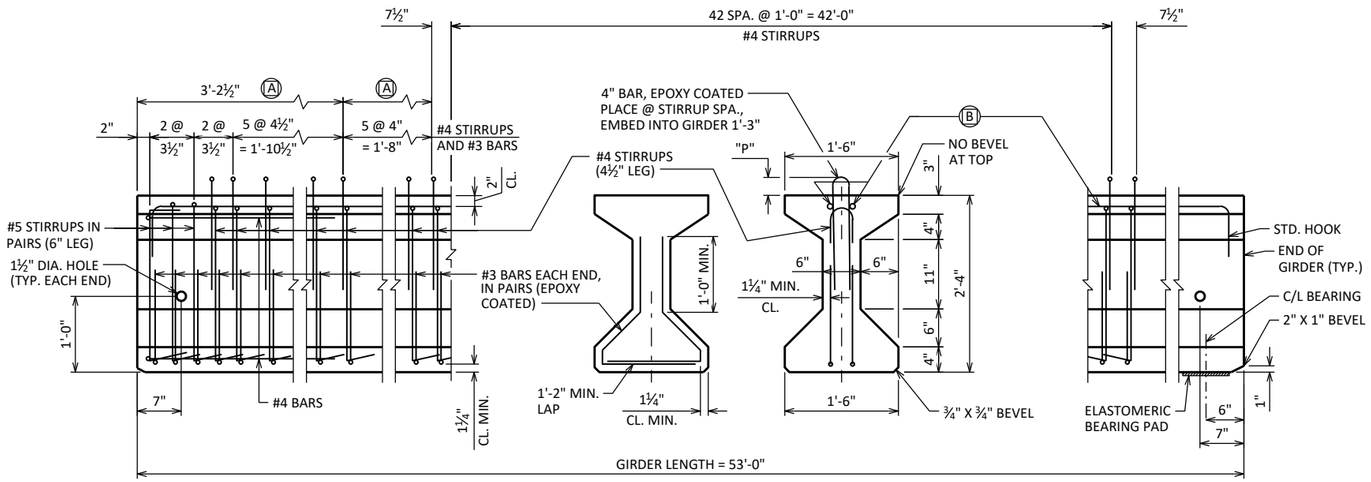
SHEET 7
83

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STATE PROJECT NUMBER

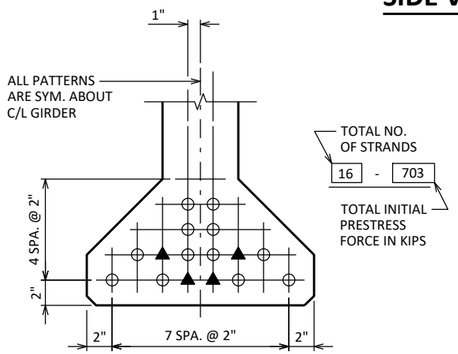
9394-00-70



SIDE VIEW & TYPICAL SECTION IN SPAN

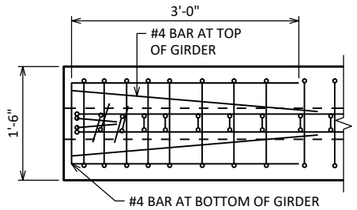
Ⓐ DETAIL TYP. AT EACH END

Ⓑ 2 #5 BARS, FULL LENGTH, MIN. LAP = 2'-5" , STD. HOOK AT ENDS

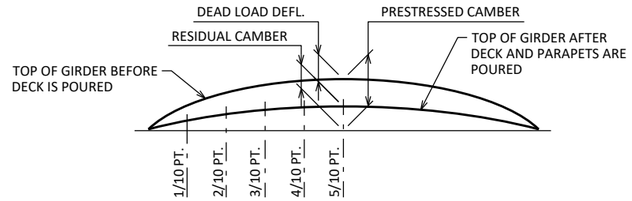


TYP. STRAND PATTERN AT C/L SPAN

▲ DEBOND LENGTH = 4'-0" AT BOTH ENDS OF ALL GIRDERS



TOP VIEW OF GIRDER ENDS



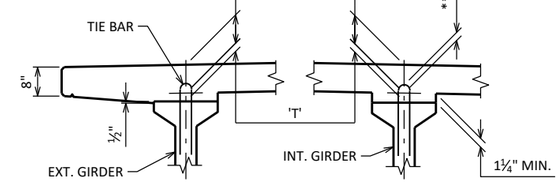
DEAD LOAD DEFLECTION DIAGRAM

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	2.3"

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



DECK HAUNCH DETAIL

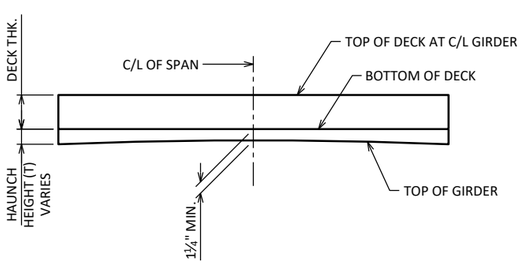
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF THE TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEVATION OF TOP OF GIRDERS AT C/L OF SUBSTRUCTURE UNITS & AT ⅒ POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT "T"

NOTE: AN AVERAGE HAUNCH ('T') OF 3¼" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



ELEVATION

* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA																		
SPAN	GIRDER	GIRDER LENGTH "L" (FEET)	DEAD LOAD DEFL. (IN.) ⅒	⅒	⅒	⅒	⅒	⅒	⅒	⅒	⅒	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) 1ST ⅓ OF GIRDER	MID ⅓ OF GIRDER	END ⅓ OF GIRDER	DIA. OF STRAND (IN.)	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1, 5	53'-0"	0.2	0.4	0.5	0.6	0.7	0.6	0.5	0.4	0.2	8,000	7.25	7.00	7.25	0.60	16	6,800
1	2-4	53'-0"	0.2	0.5	0.7	0.8	0.8	0.8	0.7	0.5	0.2	8,000	7.25	7.00	7.25	0.60	16	6,800

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 2" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 2" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECT. 503.3.4 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DESIGN SECTION. IF USED, WWF SUBSTITUTION DETAILS SHALL BE SUBMITTED ELECTRONICALLY TO THE WISDOT FABRICATION LIBRARY AND ACCEPTED PRIOR TO SHOP DRAWING SUBMITTAL.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.) -7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

BEND EACH END OF #4 STIRRUPS 4½" AND #5 STIRRUPS 6".

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-140

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28" PRESTRESSED GIRDER DETAILS

SHEET 8
84

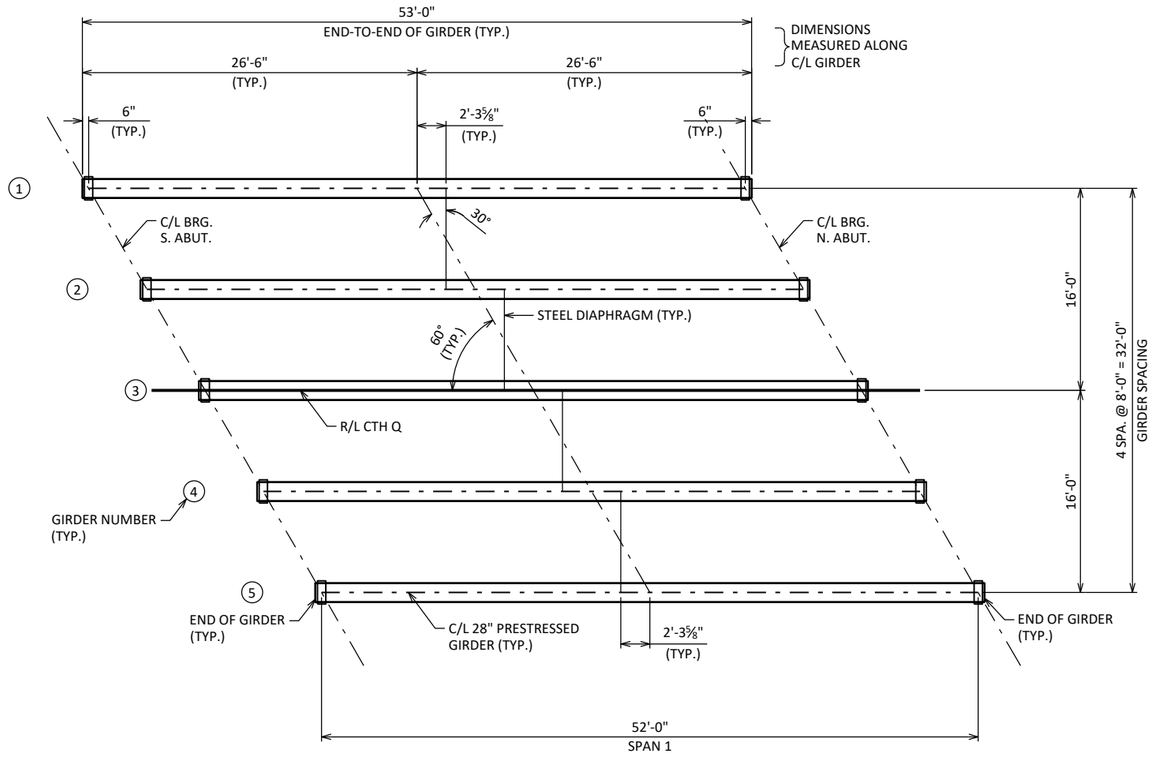
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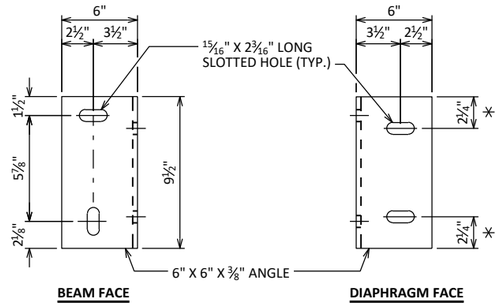
STATE PROJECT NUMBER

9394-00-70



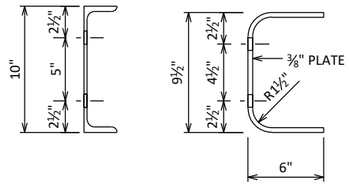
PLAN

(SHOWING STEEL DIAPHRAGM LAYOUT)



DIAPHRAGM SUPPORT

* 2½" FOR ALTERNATE PLATE DIAPHRAGM



NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-58-140", EACH.

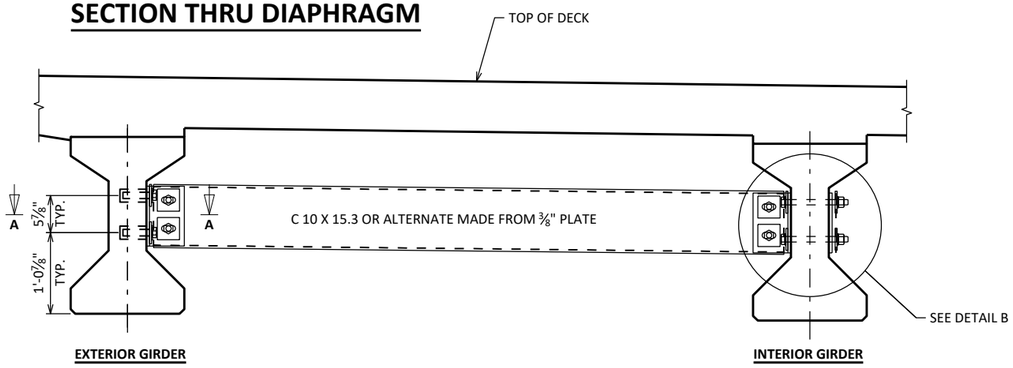
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

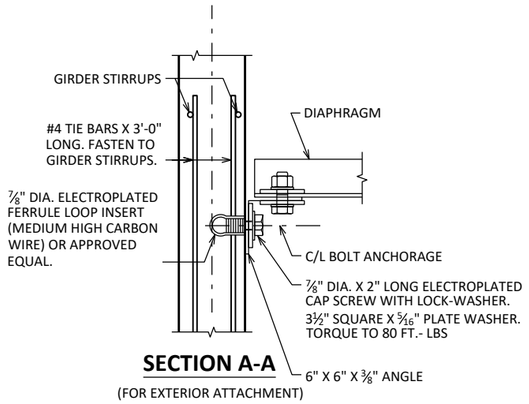
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS 1/4 TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

SECTION THRU DIAPHRAGM

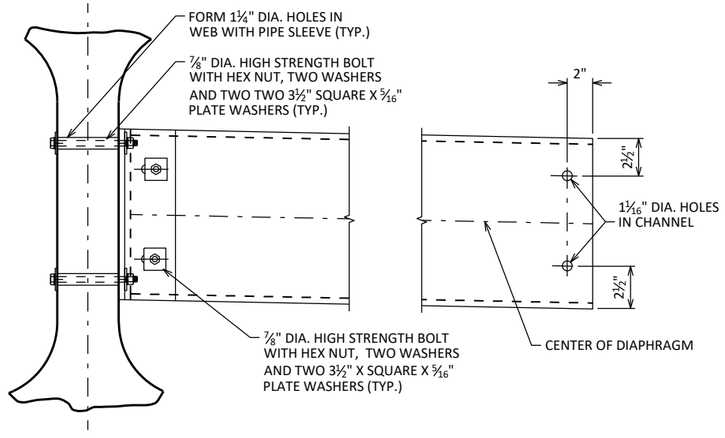


PART TRANSVERSE SECTION AT DIAPHRAGM



SECTION A-A

(FOR EXTERIOR ATTACHMENT)



DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-140

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STEEL DIAPHRAGM

SHEET 9
85

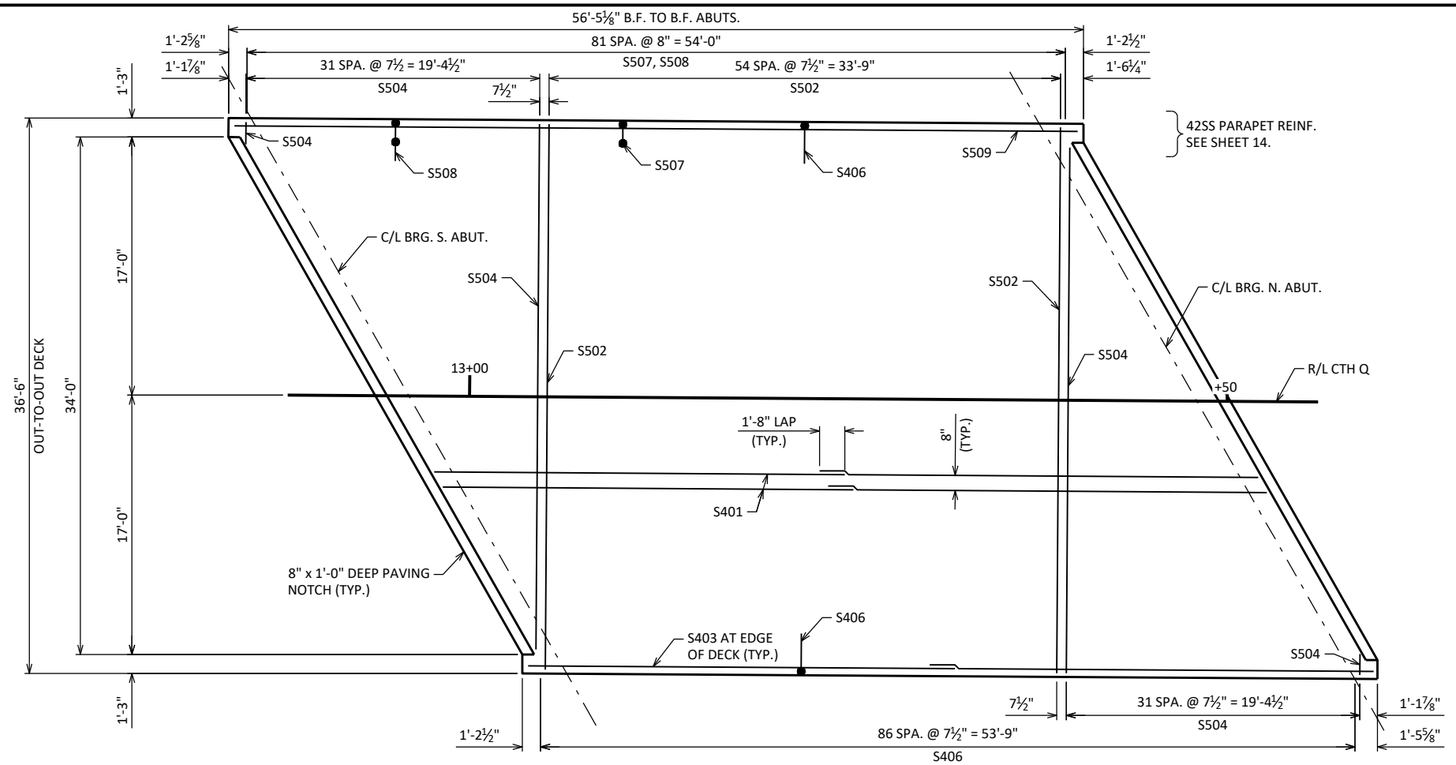
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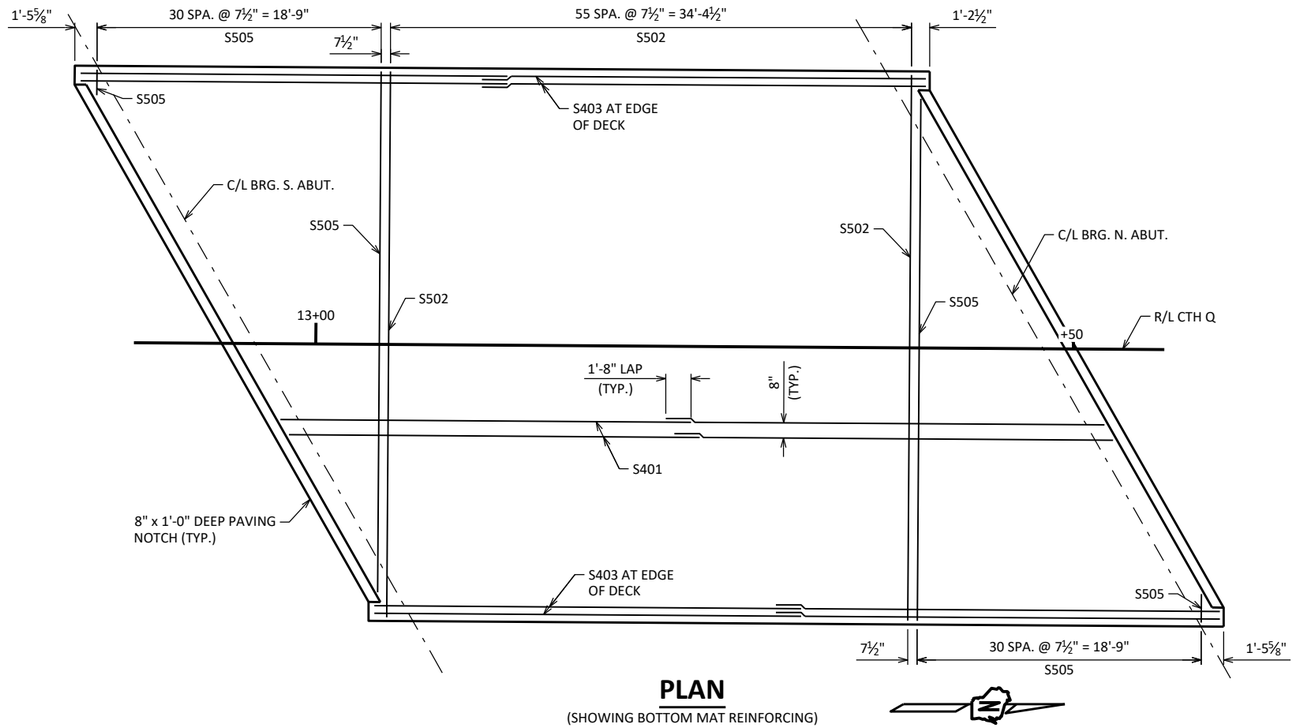
STATE PROJECT NUMBER

9394-00-70



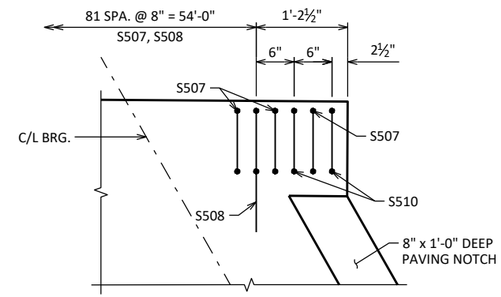
PLAN

(SHOWING TOP MAT AND PARAPET REINFORCING)



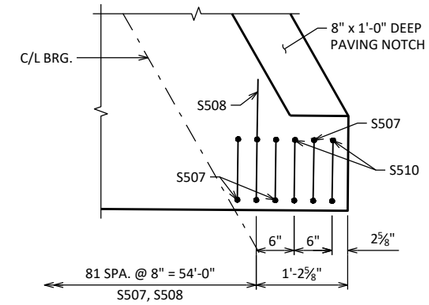
PLAN

(SHOWING BOTTOM MAT REINFORCING)



ENLARGED VIEW AT NW CORNER

(SHOWING PARAPET REINF., SE CORNER SIMILAR)



ENLARGED VIEW AT NE CORNER

(SHOWING PARAPET REINF., SW CORNER SIMILAR)

NOTES

SEE SHEETS 11-13 FOR REINFORCING DETAILS.

SEE SHEET 12 FOR HAUNCH REINFORCEMENT PLAN.

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-140

DRAWN BY ZHC | PLANS CK'D EJC

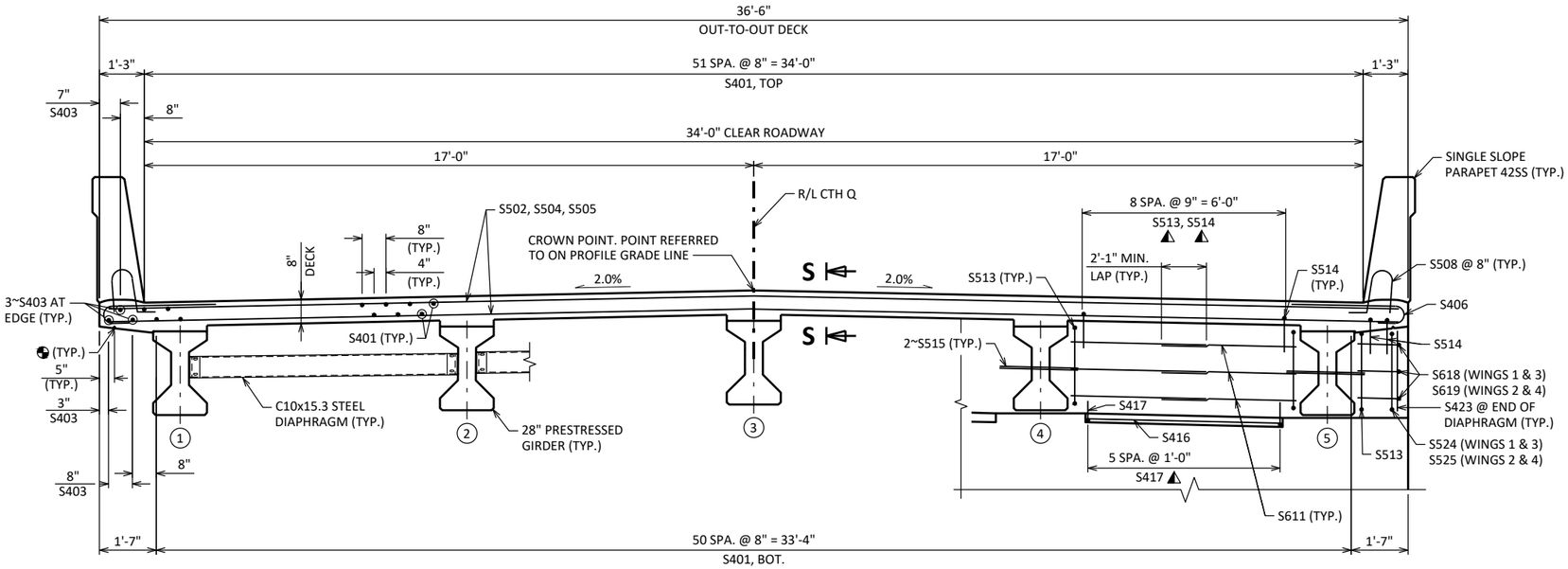
SUPERSTRUCTURE PLAN

SHEET 10
86

8

8

STATE PROJECT NUMBER
9394-00-70



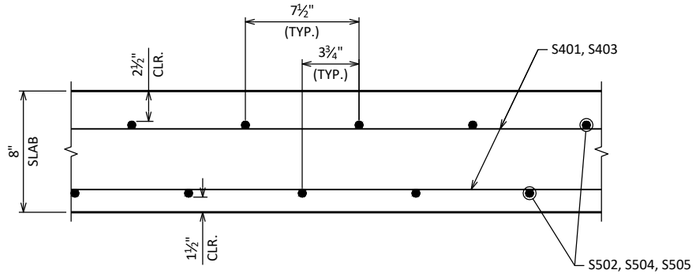
LEGEND

(#) INDICATES GIRDER NUMBER.

¾" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUTMENT DIAPHRAGMS. LOCATE 5" IN FROM OUTSIDE EDGE OF DECK.

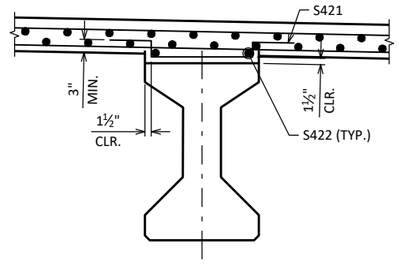
BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO C/L GIRDERS.

IN-SPAN STEEL DIAPHRAGMS



SECTION S-S

CONCRETE DIAPHRAGM AT ABUTMENTS



HAUNCH DETAIL

NOTE: TILT S421 BARS AS REQUIRED TO FIT BETWEEN REBAR MATS. SEE SHEET 12 FOR HAUNCH REINFORCEMENT PLAN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-140

DRAWN BY ZHC | PLANS CK'D EJC

SUPERSTRUCTURE SECTION

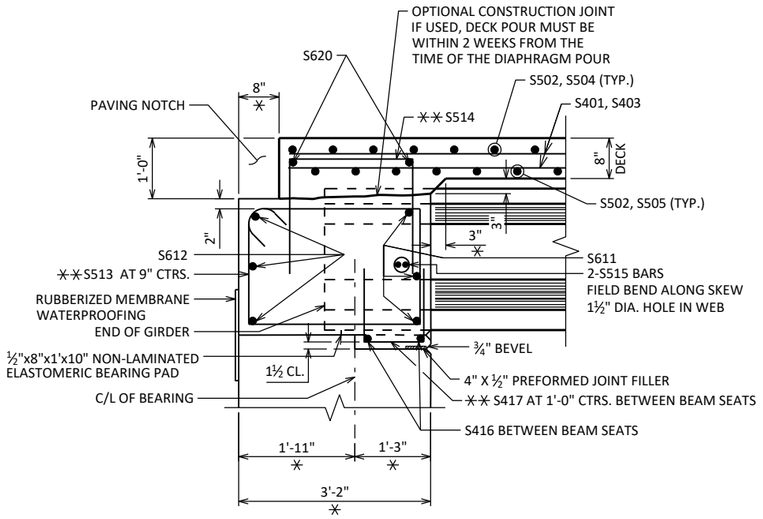
SHEET 11
87

8

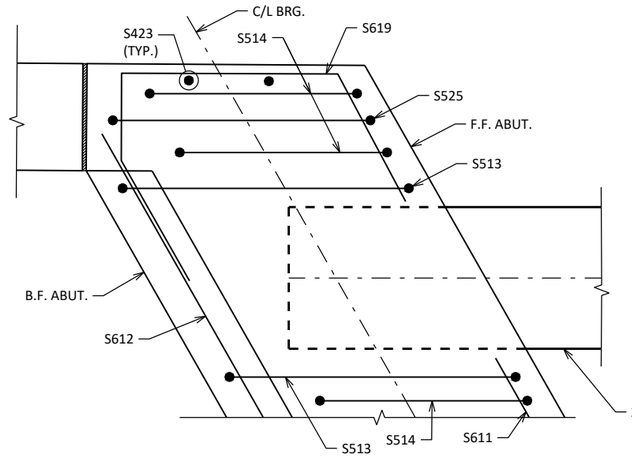
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STATE PROJECT NUMBER

9394-00-70

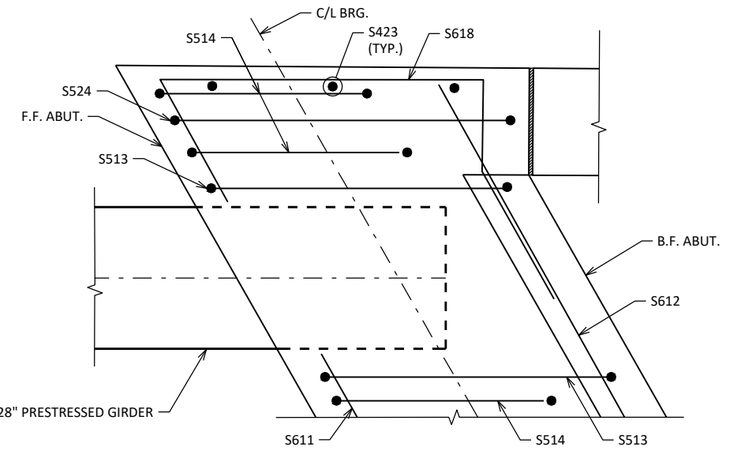


SUPERSTRUCTURE DETAILS AT ABUTMENT



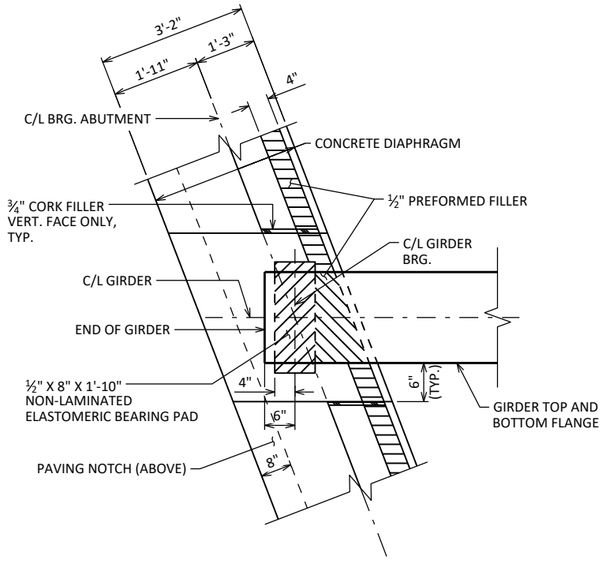
ENLARGED PLAN AT WING 2

(WING 4 SIMILAR)

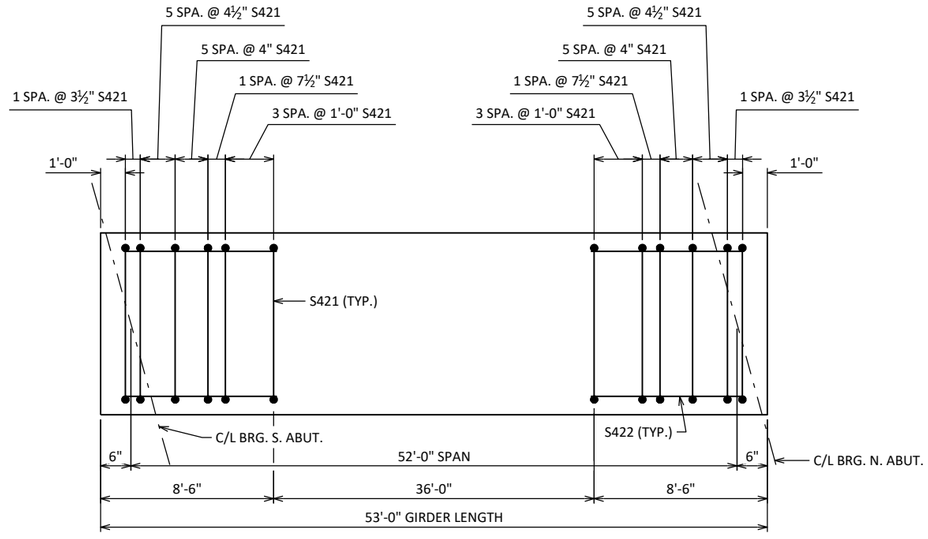


ENLARGED PLAN AT WING 3

(WING 1 SIMILAR)



BEARING PAD DETAIL



HAUNCH REINFORCEMENT PLAN

(TYP. FOR ALL GIRDERS)

NOTE: S421 SPACING TO MATCH GIRDER STIRRUPS. TILT BARS AS REQUIRED TO FIT BETWEEN REBAR MATS.

NOTES

SEE SHEET 13 FOR REINFORCING DETAILS.

LEGEND

✳ DIMENSION IS TAKEN NORMAL TO C/L ABUTMENT

✳✳ BARS PLACED PARALLEL TO GIRDERS
SPACING PERPENDICULAR TO C/L GIRDERS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-140

DRAWN BY ZHC | PLANS CK'D EJC

SUPERSTRUCTURE DETAILS - 1

SHEET 12
88

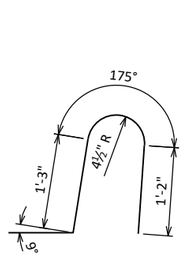
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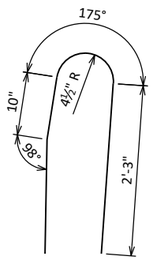
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TOP OF DECK ELEVATIONS

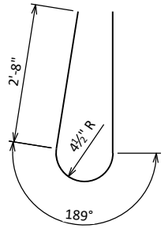
LOCATION	WEST EDGE OF DECK AT INSIDE FACE OF PARAPET			GIRDER 1			GIRDER 2			GIRDER 3 AND REFERENCE LINE			GIRDER 4			GIRDER 5			EAST EDGE OF DECK AT INSIDE FACE OF PARAPET		
	STATION	OFFSET (FT)	ELEV.	STATION	OFFSET (FT)	ELEV.	STATION	OFFSET (FT)	ELEV.	STATION	OFFSET (FT)	ELEV.	STATION	OFFSET (FT.)	ELEV.	STATION	OFFSET (FT.)	ELEV.	STATION	OFFSET (FT.)	ELEV.
C/L BRG. S. ABUT.	12+86.19	17.00	1127.30	12+86.76	16.00	1127.30	12+91.38	8.00	1127.33	12+96.00	0	1127.36	13+00.62	8.00	1127.08	13+05.24	16.00	1126.79	13+05.81	17.00	1126.76
0.1 SPAN	12+91.39	17.00	1127.15	12+91.96	16.00	1127.15	12+96.58	8.00	1127.19	13+01.20	0	1127.22	13+05.82	8.00	1126.94	13+10.44	16.00	1126.66	13+11.01	17.00	1126.62
0.2 SPAN	12+96.59	17.00	1127.01	12+97.16	16.00	1127.01	13+01.78	8.00	1127.04	13+06.40	0	1127.08	13+11.02	8.00	1126.80	13+15.64	16.00	1126.52	13+16.21	17.00	1126.49
0.3 SPAN	13+01.79	17.00	1126.86	13+02.36	16.00	1126.87	13+06.98	8.00	1126.91	13+11.60	0	1126.95	13+16.22	8.00	1126.67	13+20.84	16.00	1126.39	13+21.41	17.00	1126.36
0.4 SPAN	13+06.99	17.00	1126.73	13+07.56	16.00	1126.73	13+12.18	8.00	1126.77	13+16.80	0	1126.81	13+21.42	8.00	1126.54	13+26.04	16.00	1126.27	13+26.61	17.00	1126.24
0.5 SPAN	13+12.19	17.00	1126.59	13+12.76	16.00	1126.60	13+17.38	8.00	1126.64	13+22.00	0	1126.69	13+26.62	8.00	1126.42	13+31.24	16.00	1126.15	13+31.81	17.00	1126.11
0.6 SPAN	13+17.39	17.00	1126.46	13+17.96	16.00	1126.47	13+22.58	8.00	1126.51	13+27.20	0	1126.56	13+31.82	8.00	1126.29	13+36.44	16.00	1126.03	13+37.01	17.00	1126.00
0.7 SPAN	13+22.59	17.00	1126.33	13+23.16	16.00	1126.34	13+27.78	8.00	1126.39	13+32.40	0	1126.44	13+37.02	8.00	1126.18	13+41.64	16.00	1125.91	13+42.21	17.00	1125.88
0.8 SPAN	13+27.79	17.00	1126.21	13+28.36	16.00	1126.21	13+32.98	8.00	1126.27	13+37.60	0	1126.32	13+42.22	8.00	1126.06	13+46.84	16.00	1125.80	13+47.41	17.00	1125.77
0.9 SPAN	13+32.99	17.00	1126.09	13+33.56	16.00	1126.09	13+38.18	8.00	1126.15	13+42.80	0	1126.21	13+47.42	8.00	1125.95	13+52.04	16.00	1125.69	13+52.61	17.00	1125.66
C/L BRG. N. ABUT.	13+38.19	17.00	1125.97	13+38.76	16.00	1125.98	13+43.38	8.00	1126.04	13+48.00	0	1126.10	13+52.62	8.00	1125.84	13+57.24	16.00	1125.59	13+57.81	17.00	1125.56



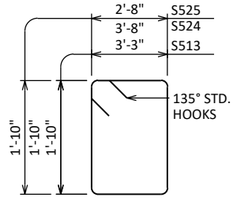
S508



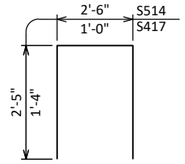
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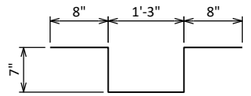
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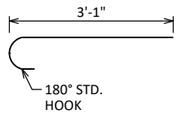
S513, S524, S525



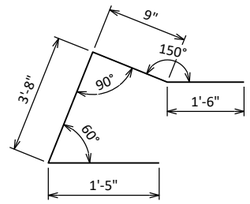
S514, S417



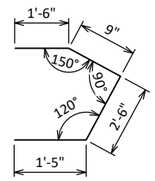
S421



S406



S618



S619

SUPERSTRUCTURE BILL OF BARS

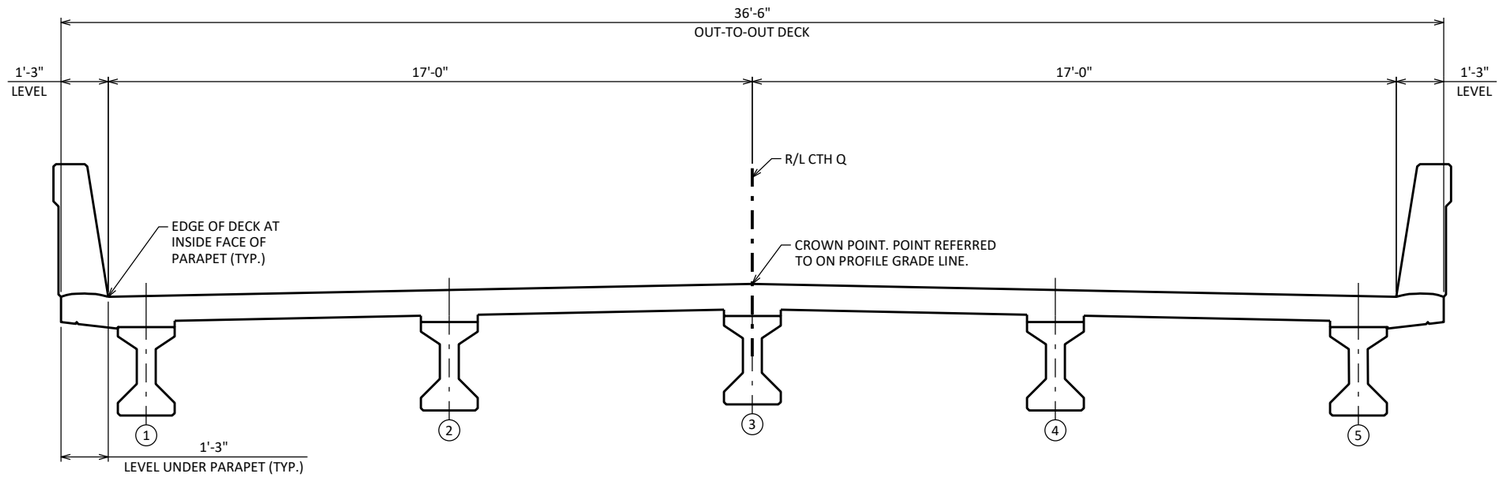
COATED: 17,380 LB

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
S401	206	28'-2"		X	SLAB - LONG. - TOP & BOT.
S502	111	36'-2"		X	SLAB - TRANS. - TOP & BOT.
S403	12	28'-11"		X	SLAB - LONG. - TOP & BOT. - EDGES
⚠ S504	64	18'-2"		X	SLAB - TRANS. - TOP
⚠ S505	62	18'-2"		X	SLAB - TRANS. - BOT.
S406	174	3'-7"	X	X	SLAB - TRANS. - TOP - OVERHANG
S507	172	6'-8"	X	X	PARAPET - VERT. - 42SS
S508	164	4'-5"	X	X	PARAPET - VERT. - 42SS
S509	16	56'-1"		X	PARAPET - LONG. - 42SS
S510	8	5'-10"	X	X	PARAPET - VERT. - 42SS - CORNERS
S611	48	4'-8"		X	ABUT. DIAPHRAGM - HORIZ.
S612	6	40'-9"		X	ABUT. DIAPHRAGM - HORIZ. - B.F.
S513	76	10'-10"	X	X	ABUT. DIAPHRAGM - VERT.
S514	80	7'-1"	X	X	ABUT. DIAPHRAGM - VERT.
S515	20	6'-0"		X	ABUT. DIAPHRAGM - GIRDER ENDS
S416	16	6'-0"		X	ABUT. DIAPHRAGM - HORIZ.
S417	48	3'-6"	X	X	ABUT. DIAPHRAGM - VERT.
S618	6	7'-0"	X	X	ABUT. DIAPHRAGM - HORIZ. ENDS - WINGS 1 & 3
S619	6	5'-10"	X	X	ABUT. DIAPHRAGM - HORIZ. ENDS - WINGS 2 & 4
S620	4	41'-8"		X	ABUT. DIAPHRAGM - HORIZ. - TOP
S421	160	3'-5"	X	X	HAUNCH - TRANS.
S422	20	7'-6"		X	HAUNCH - LONG.
S423	10	2'-8"		X	ABUT. DIAPHRAGM - VERT. ENDS
S524	2	11'-8"	X	X	ABUT. DIAPHRAGM - VERT. ENDS - WINGS 1 & 3
S525	2	9'-8"	X	X	ABUT. DIAPHRAGM - VERT. ENDS - WINGS 2 & 4

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT COMPUTATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
S504	2 SERIES OF 32	1'-4" TO 34'-11"
S505	2 SERIES OF 31	1'-11" TO 34'-5"



CROSS SECTION THRU DECK

(LOOKING NORTH - SHOWING TOP OF DECK ELEVATIONS)

STATE PROJECT NUMBER

9394-00-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-140

DRAWN BY ZHC | PLANS CK'D EJC

SUPERSTRUCTURE DETAILS - 2

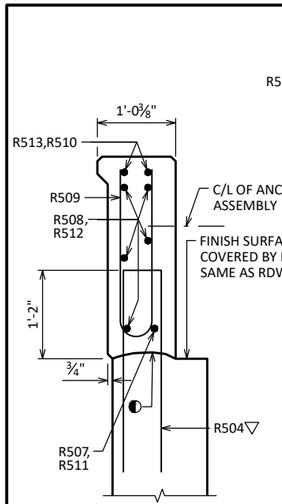
SHEET 13
89

8

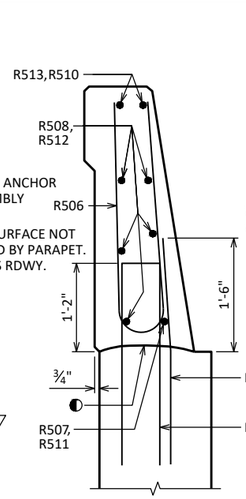
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STATE PROJECT NUMBER

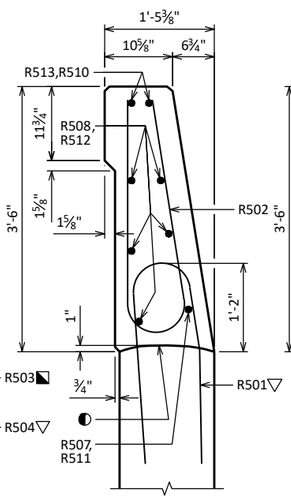
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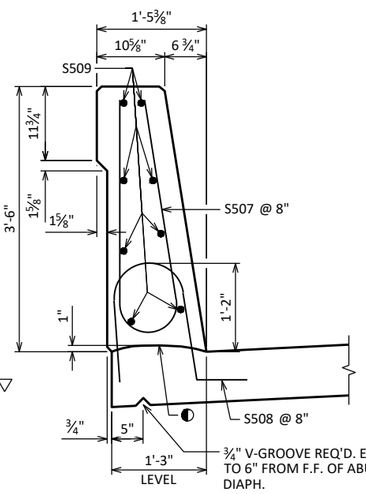
SECTION A-A



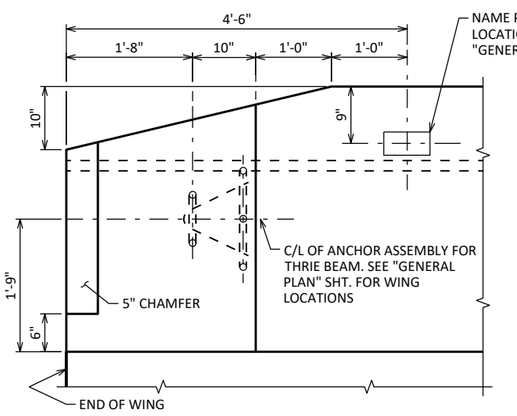
SECTION B-B



SECTION C-C



SECTION THRU PARAPET ON DECK



PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

42SS PARAPET BILL OF BARS

COATED: 2,180 LB

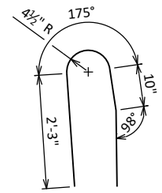
BAR MARK	NO. REQ'D		LENGTH	BENT	COAT	LOCATION
	S. ABUT.	N. ABUT.				
R501	36	36	5'-10"	X	X	PARAPET - VERT.
R502	36	36	6'-8"	X	X	PARAPET - VERT.
R503	24	24	3'-0"	X	X	PARAPET - VERT.
R504	34	34	5'-7"	X	X	PARAPET - VERT.
R505	10	10	6'-5"	X	X	PARAPET - VERT.
R506	12	12	6'-6"	X	X	PARAPET - VERT.
R507	1	1	15'-7"	X	X	PARAPET - HORIZ. - WINGS 1 & 3
R508	5	5	15'-7"		X	PARAPET - HORIZ. - WINGS 1 & 3
⚠ R509	12	12	5'-5"	X	X	PARAPET - VERT.
R510	2	2	15'-7"	X	X	PARAPET - HORIZ. - WINGS 1 & 3
R511	1	1	23'-7"	X	X	PARAPET - HORIZ. - WINGS 2 & 4
R512	5	5	23'-7"		X	PARAPET - HORIZ. - WINGS 2 & 4
R513	2	2	23'-7"	X	X	PARAPET - HORIZ. - WINGS 2 & 4

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

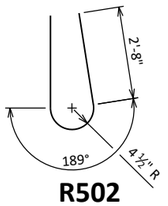
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

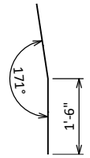
BAR MARK	NO. REQ'D.	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"



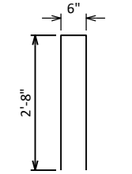
R501



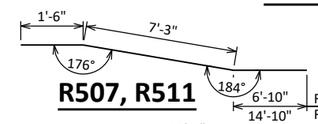
R502



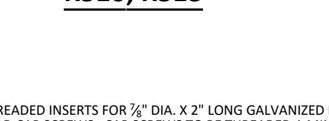
R503



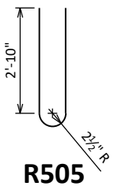
R504



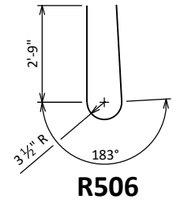
R507, R511



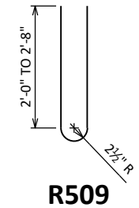
R510, R513



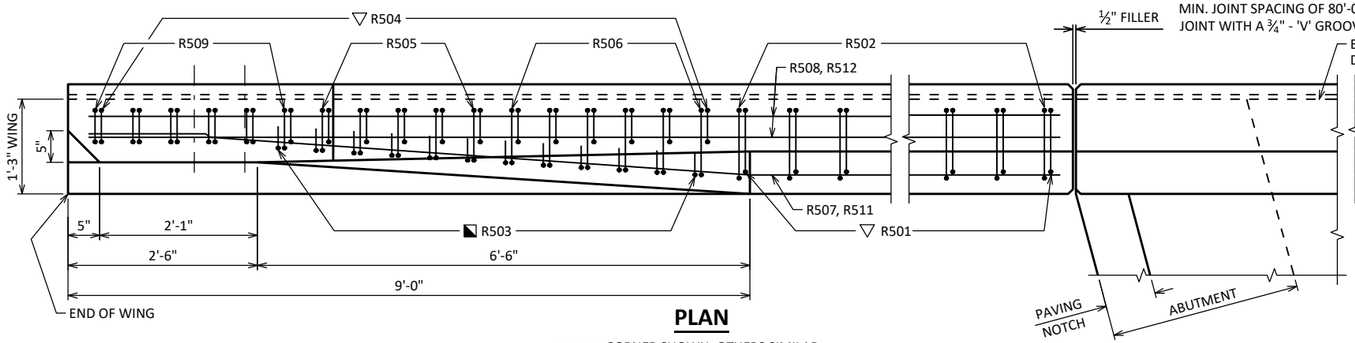
R505



R506

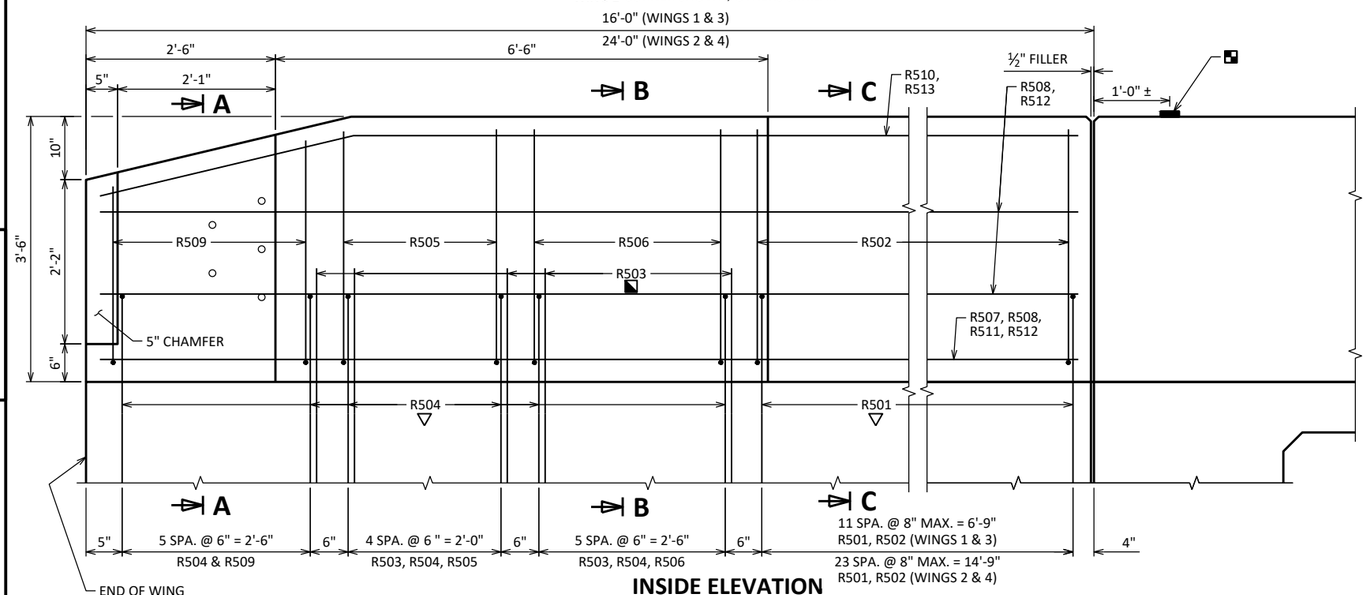


R509



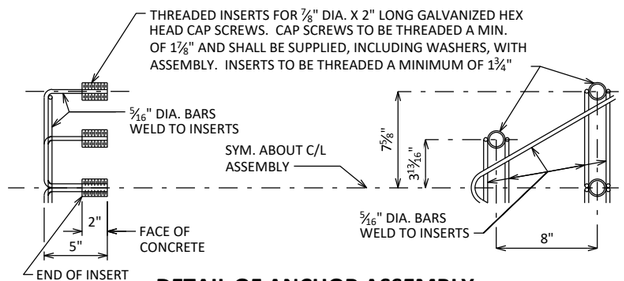
PLAN

WING 2 CORNER SHOWN, OTHERS SIMILAR



INSIDE ELEVATION

WING 2 CORNER SHOWN, OTHERS SIMILAR



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH ASTM F2329.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

LEGEND

- ◐ CONST. JOINT - STRIKE OFF AS SHOWN
- ◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.
- ◪ BENCH MARK CAP (WHEN SUPPLIED).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-140

DRAWN BY ZHC | PLANS CK'D EJC

SINGLE SLOPE PARAPET 42SS

SHEET 14
90

SCALE = 2.00

8

8

CATEGORY 0010 - CTH Q

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	FILL	EBS	CUT	FILL	EBS	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
					NOTE 1	NOTE 3	NOTE 4	NOTE 1		NOTE 5
10+38.36	0.00	2.62	0.00	0.13	0	0	0	0	0	0
10+71.48	33.12	50.48	9.12	2.52	33	6	2	33	8	26
11+00.00	28.52	56.11	7.33	2.81	56	9	3	89	19	70
11+46.07	46.07	67.85	4.61	3.39	106	10	5	195	31	164
11+50.00	3.93	67.22	5.24	3.36	10	1	0	205	33	173
11+69.95	19.95	51.08	6.02	2.55	44	4	2	249	38	212
11+85.08	15.13	40.75	10.46	2.04	26	5	1	275	44	231
11+94.97	9.89	35.63	16.71	1.78	14	5	1	289	50	239
12+00.00	5.03	33.35	21.92	1.67	6	4	0	295	55	240
12+10.10	10.10	28.40	13.60	1.42	12	7	1	307	64	243
12+19.95	9.85	23.17	13.83	1.16	9	5	0	316	70	246
12+35.08	15.13	18.45	17.01	0.92	12	9	1	328	81	247
12+50.00	14.92	15.24	31.05	0.76	9	13	0	337	98	240
12+61.00	11.00	14.43	28.55	0.72	6	12	0	343	113	231
12+95.64	34.64	7.16	5.17	0.36	14	22	1	357	140	217
13+48.44	0.00	10.42	8.40	0.52	0	0	0	357	140	217
13+50.00	1.56	9.06	9.60	0.45	1	1	0	358	141	217
13+83.00	33.00	2.57	33.41	0.13	7	26	0	365	174	191
14+00.00	17.00	3.01	34.26	0.15	2	21	0	367	200	167
14+08.92	8.92	4.22	30.17	0.21	1	11	0	368	214	154
14+24.00	15.08	8.22	21.41	0.41	3	14	0	371	231	140
14+33.90	9.90	10.74	30.45	0.54	3	10	0	374	244	130
14+49.03	15.13	15.59	34.22	0.78	7	18	0	381	266	115
14+50.00	0.97	15.87	34.27	0.79	1	1	0	382	268	115
14+58.84	8.84	18.46	36.46	0.92	6	12	0	388	283	106
14+74.01	15.17	22.44	32.14	1.12	11	19	1	399	306	93
15+00.00	25.99	31.12	13.00	1.56	26	22	1	425	334	91
15+50.00	50.00	47.24	3.01	2.36	73	15	4	498	353	146
15+65.00	15.00	37.50	0.84	1.88	24	1	1	522	354	168
16+00.00	35.00	10.57	0.00	0.53	31	1	2	553	355	198
16+05.19	5.19	11.25	0.00	0.56	2	0	0	555	355	200
16+20.44	15.25	5.76	0.00	0.29	5	0	0	560	355	205
	COLUMN TOTALS				560	284	26			

NOTES:

1) CUT: CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL: NOT SHOWN IN CROSS SECTIONS
3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) EBS CALCULATED AT 5 PERCENT OF CUT
5) MASS ORDINATE: MASS ORDINATE = CUT-EXPANDED FILL

CATEGORY 0030 - PARK DRIVEWAY (PD)

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	FILL	EBS	CUT	FILL	EBS	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
					NOTE 1	NOTE 3	NOTE 4	NOTE 1		NOTE 5
10+01.24 PD	0.00	8.81	0.44	0.44	0	0	0	0	0	0
10+50.00 PD	48.76	11.60	0.81	0.58	18	1	1	18	1	17
10+65.00 PD	15.00	13.10	0.96	0.66	7	0	0	25	1	24
10+75.00 PD	10.00	14.67	1.79	0.73	5	1	0	30	3	28
10+85.00 PD	10.00	10.42	1.83	0.52	5	1	0	35	4	31
11+00.00 PD	15.00	2.03	3.66	0.10	3	2	0	38	6	32
11+50.00 PD	50.00	10.76	1.34	0.54	12	5	1	50	13	38
11+75.00 PD	25.00	8.30	6.71	0.41	9	4	0	59	18	42
11+90.00 PD	15.00	3.13	15.08	0.16	3	6	0	62	25	37
12+00.00 PD	10.00	0.01	24.95	0.00	1	7	0	63	34	29
	COLUMN TOTALS				63	27	2			

BEGIN CONSTRUCTION
STA 10+38.36

BEGIN 15:1 SHOULDER TAPER

-20.03, 1135.69
-16.45, 1136.59
-12.83, 1137.49
-12.83, 1136.66
4.0:1

10+38

BEGIN PROJECT
STA 10+71.33

-29.04, 1136.75
-20.24, 1134.54
-15.04, 1135.84
-12.62, 1136.08
-11.00, 1136.12
-11.00, 1134.72
0.00, 1136.35
0.00, 1134.96
11.00, 1136.26
11.00, 1134.86
13.18, 1136.24
20.69, 1135.89
27.02, 1134.54
4.0:1
4.0:1
10.2%
2.2%
2.2%
0.9%
0.9%
4.7%
4.7:1

10+71

10 FT
10 FT

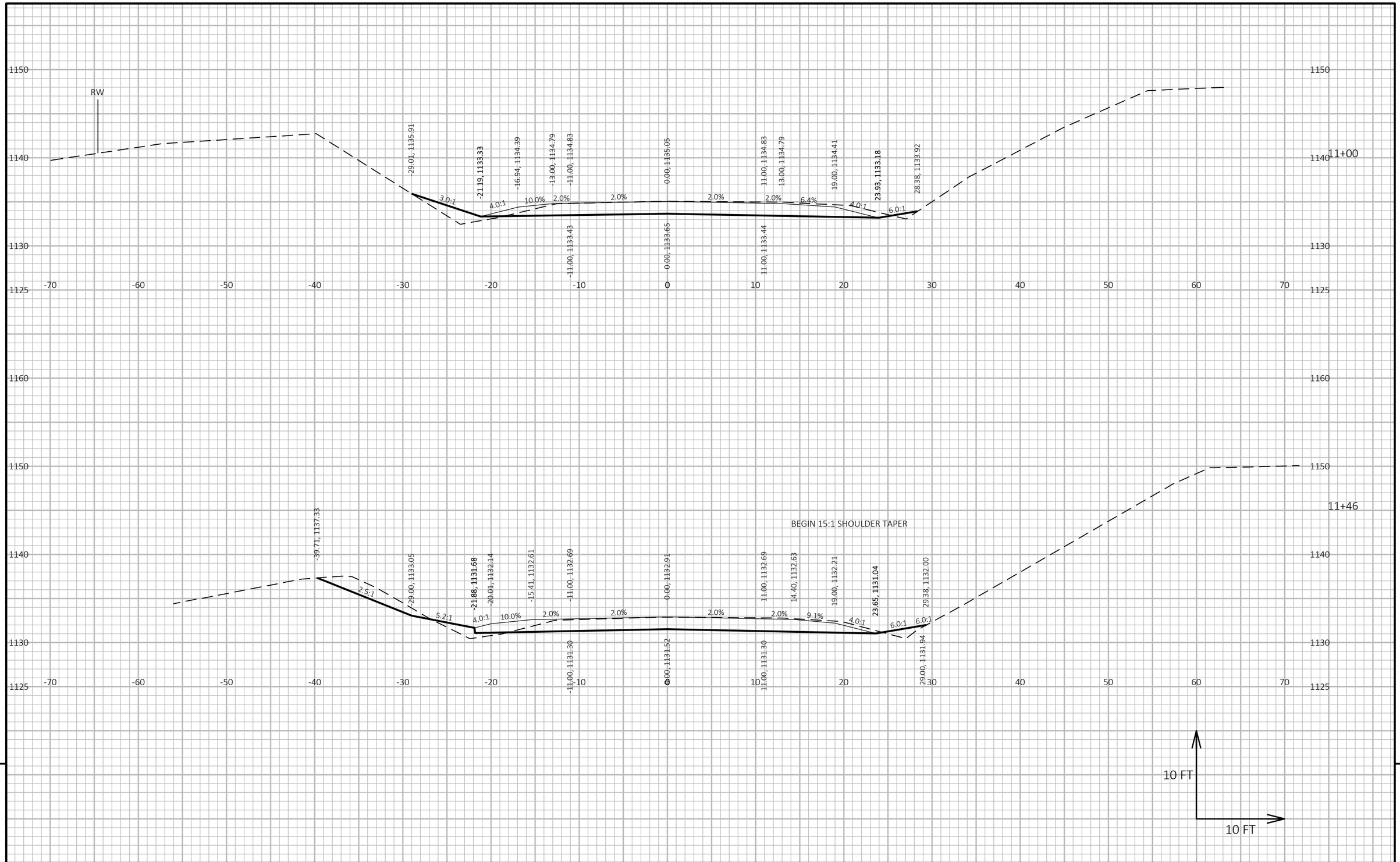
PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CROSS SECTIONS: CTH Q	SHEET 92	E

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LAYOUT NAME - 090201-xs-01

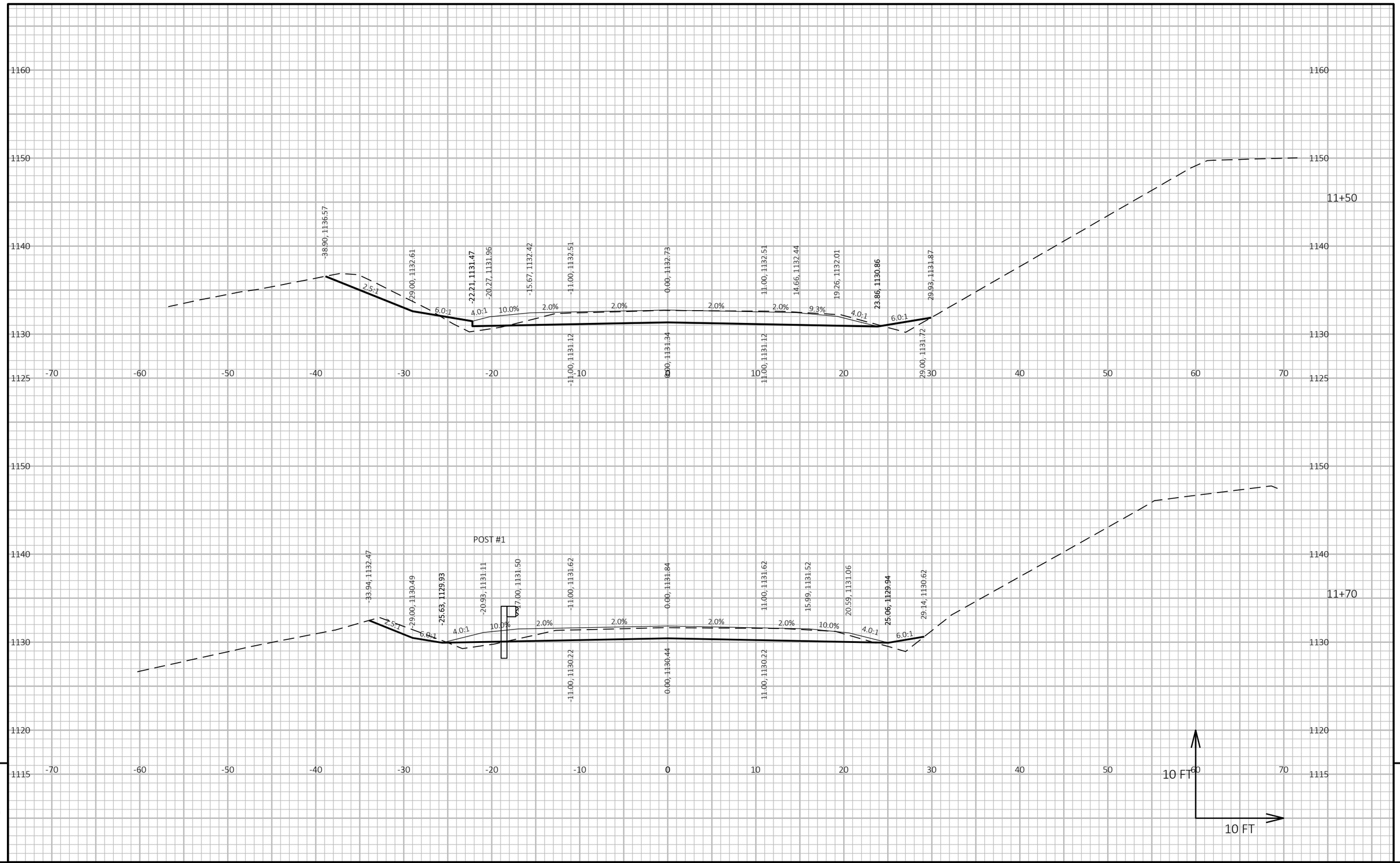
PLOT DATE : 10/21/2026 2:54 PM PLOT BY : DEMPSEY, EDEN PLOT NAME :

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

WISDOT/CADDS SHEET 49



PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CROSS SECTIONS: CTH Q	SHEET 93	E

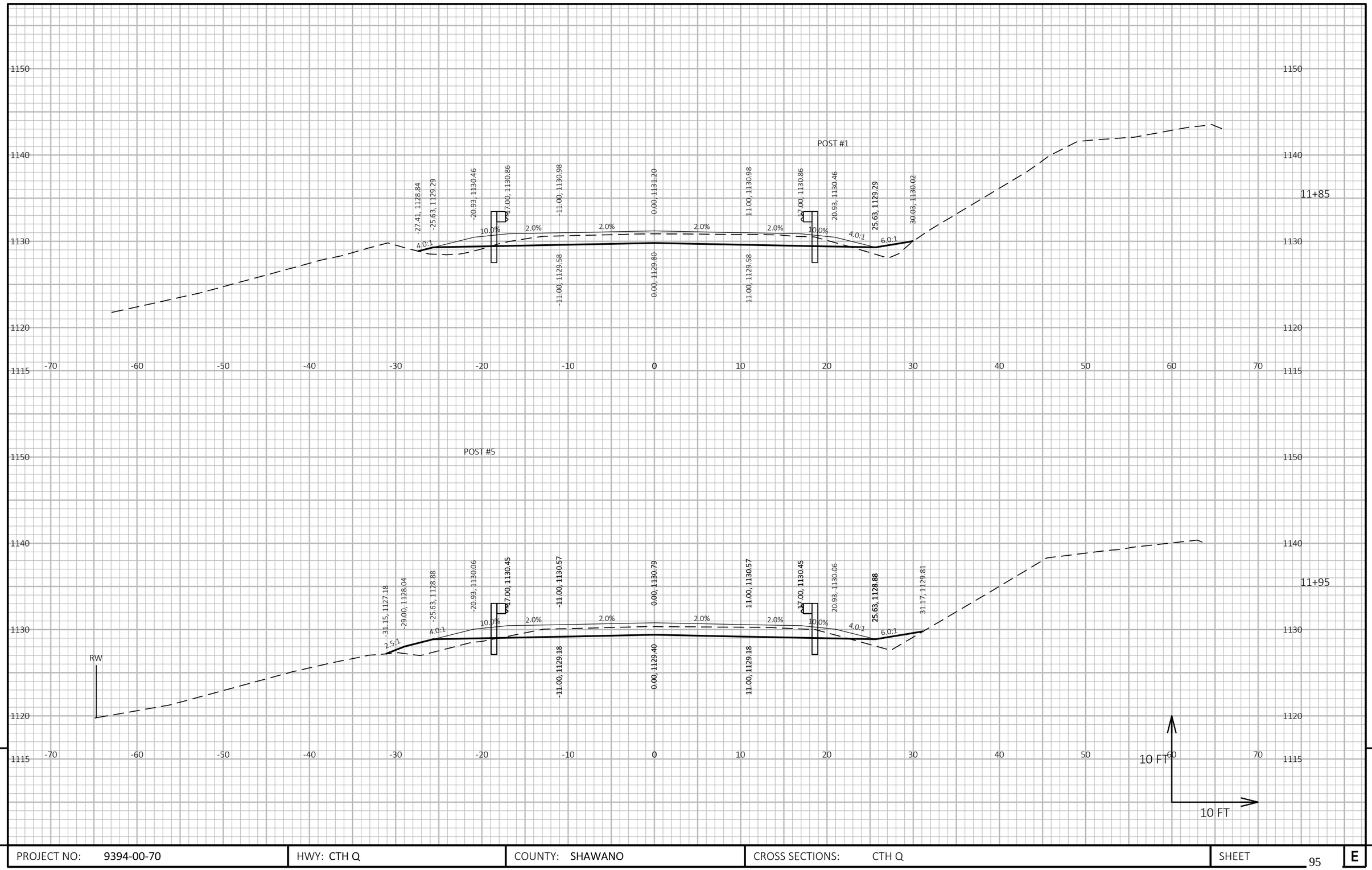


PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CROSS SECTIONS: CTH Q	SHEET 94	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\090201-XS.DWG
LAYOUT NAME - 090201-xs-03

PLOT DATE : 10/21/2026 2:54 PM PLOT BY : DEMPSEY, EDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

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PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CROSS SECTIONS: CTH Q	SHEET 95	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\090201-XS.DWG
LAYOUT NAME - 090201-xs-04

PLOT DATE : 10/21/2026 2:54 PM PLOT BY : DEMPSEY, EDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

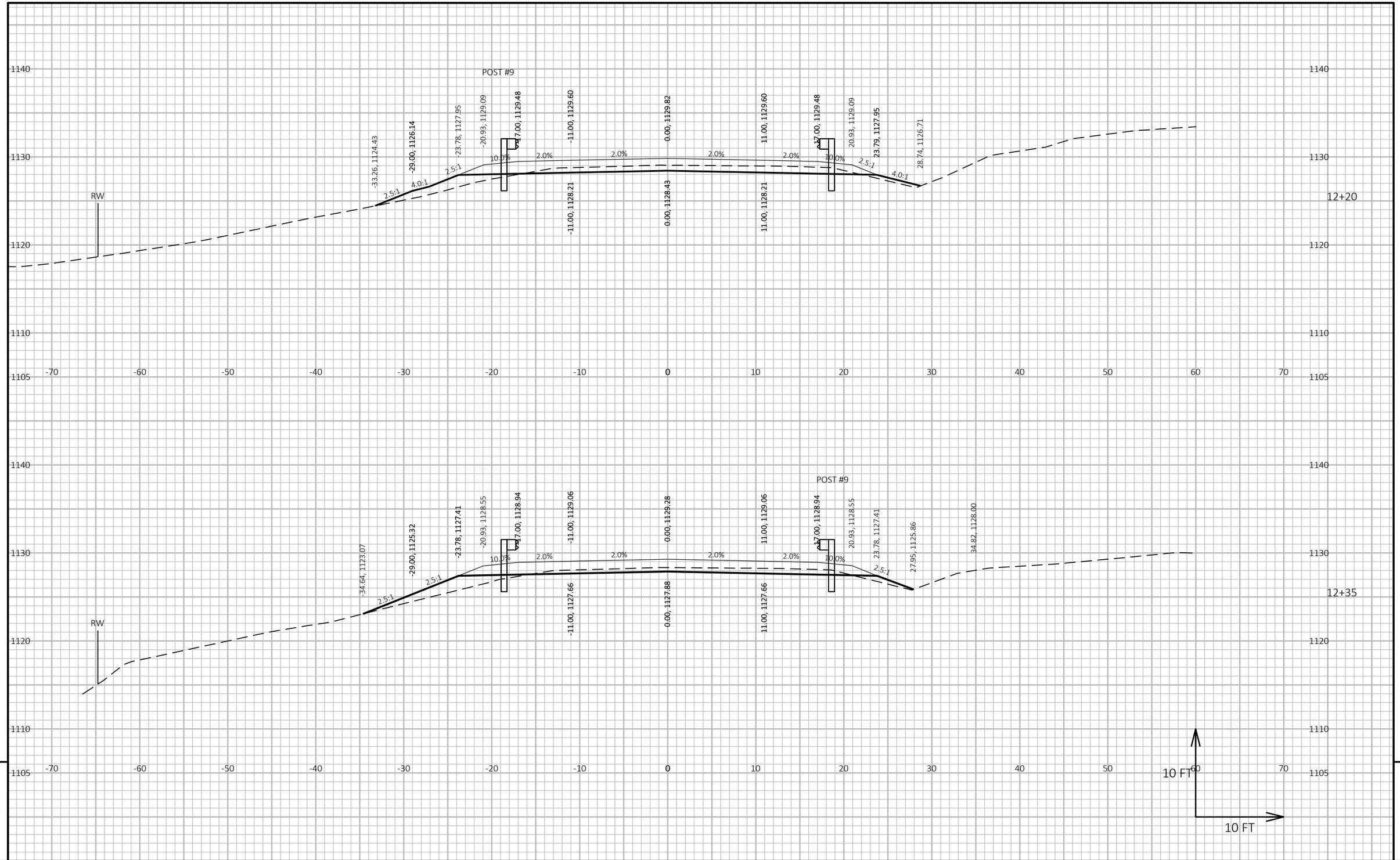


PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CROSS SECTIONS: CTH Q	SHEET 96	E

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LAYOUT NAME - 090201-xs-05

PLOT DATE : 10/21/2026 2:54 PM PLOT BY : DEMPSEY, EDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



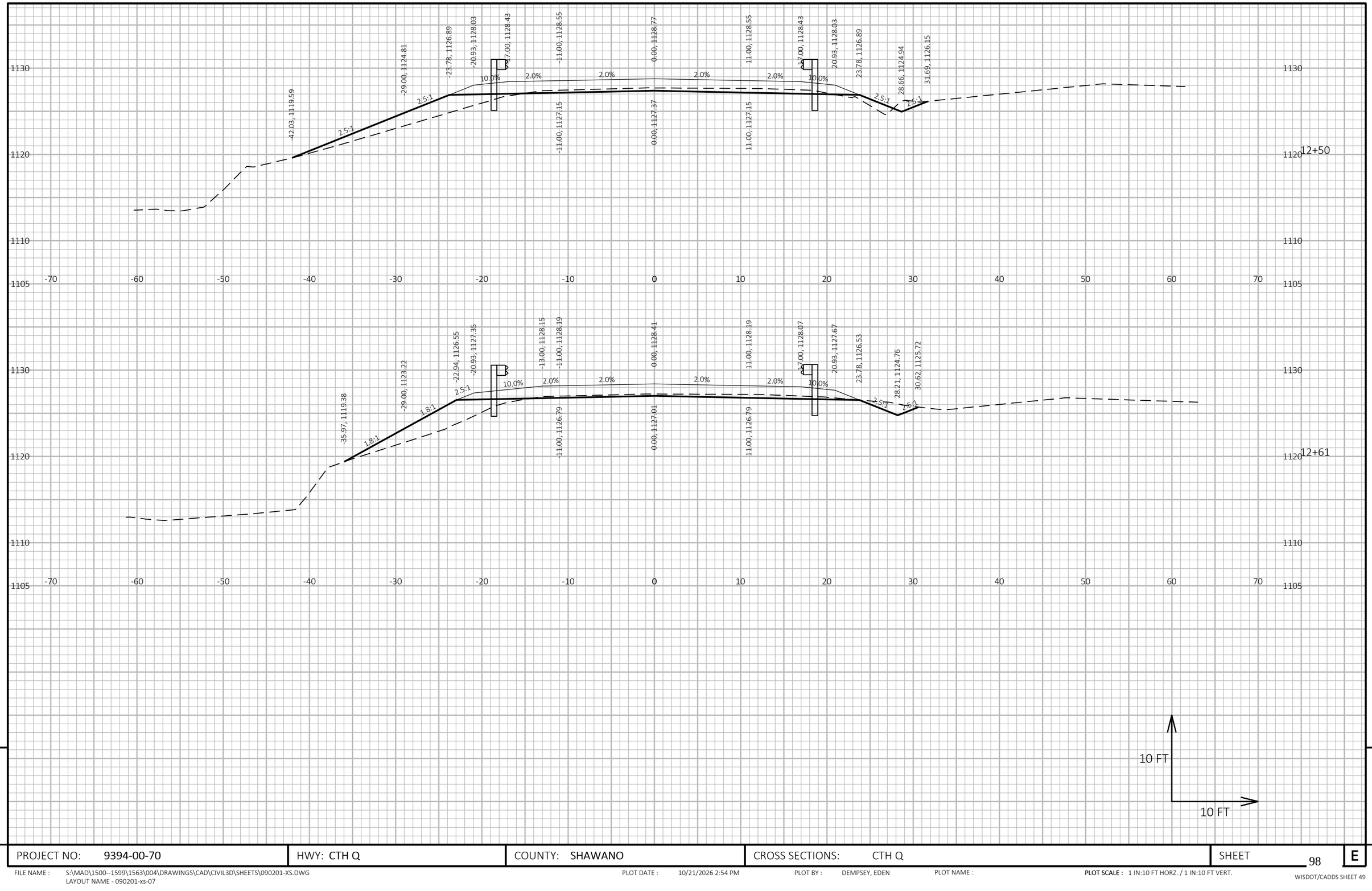
9 9

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CROSS SECTIONS: CTH Q	SHEET 97	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\090201-XS.DWG
LAYOUT NAME - 090201-xs-06

PLOT DATE : 10/21/2026 2:54 PM PLOT BY : DEMPSEY, EDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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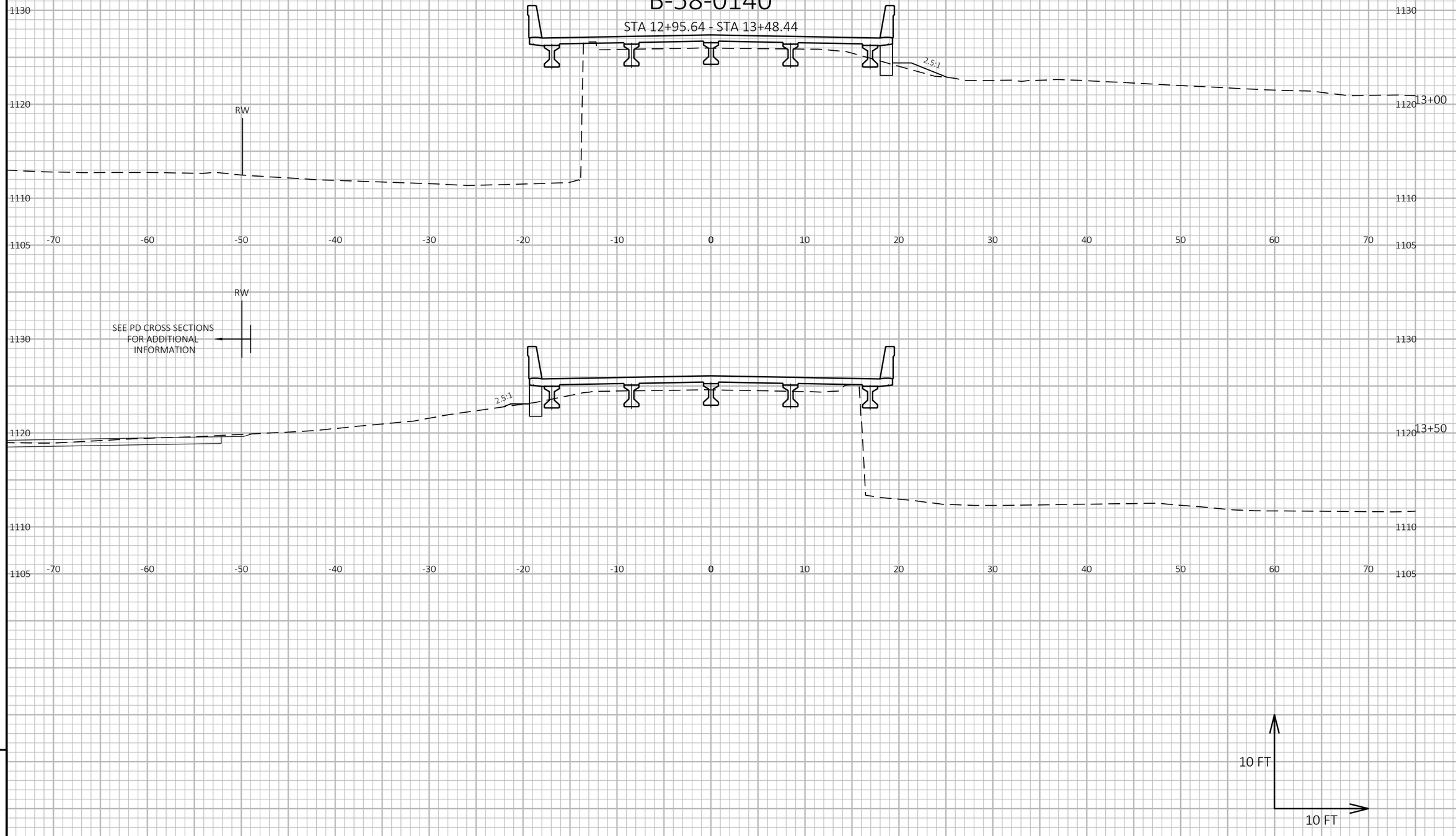
PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CROSS SECTIONS: CTH Q	SHEET 98	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\090201-XS.DWG
LAYOUT NAME - 090201-xs-07

PLOT DATE : 10/21/2026 2:54 PM PLOT BY : DEMPSEY, EDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

B-58-0140

STA 12+95.64 - STA 13+48.44

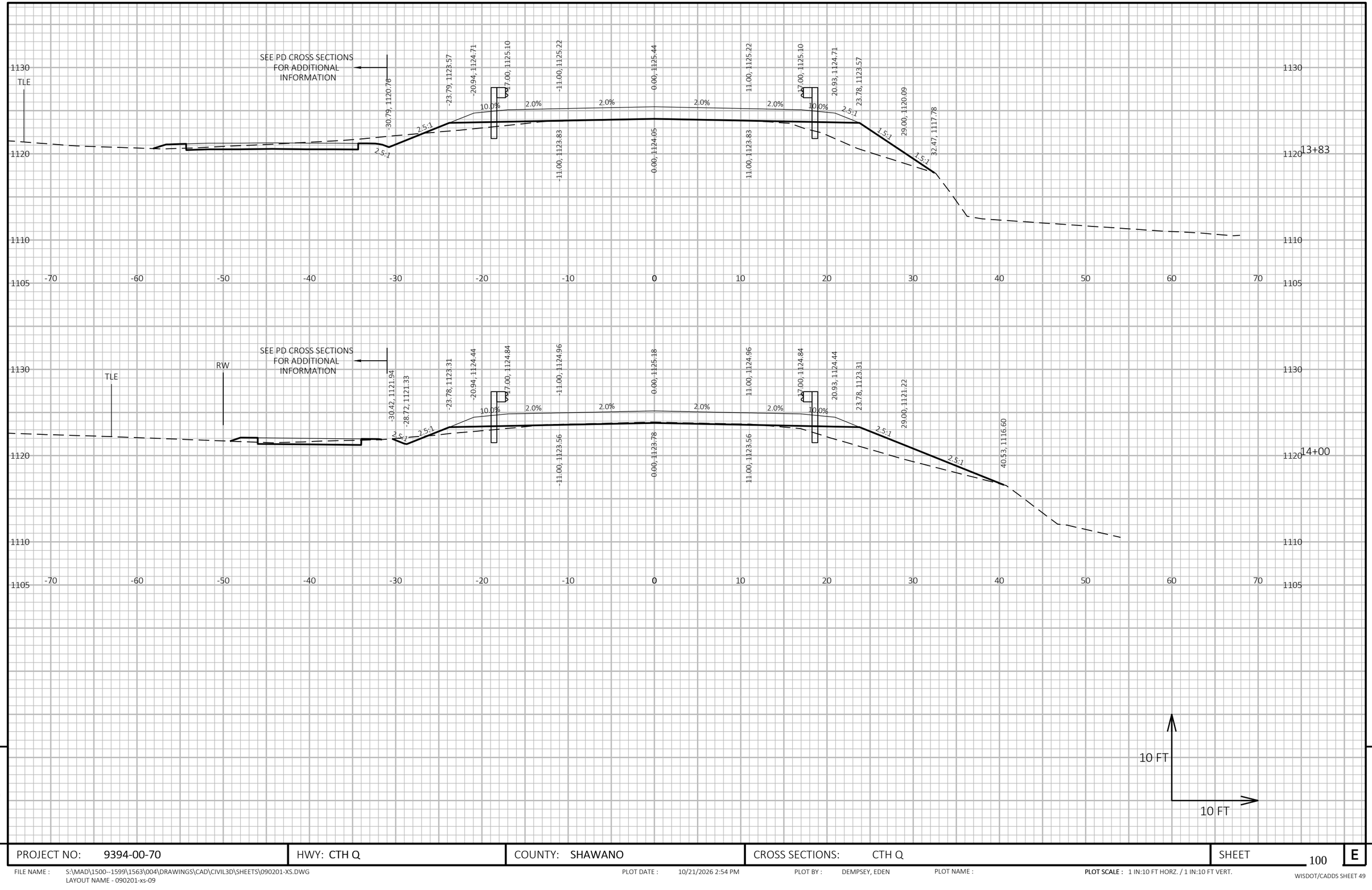


PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CROSS SECTIONS: CTH Q	SHEET 99	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\090201-XS.DWG
LAYOUT NAME - 090201-xs-08

PLOT DATE : 10/21/2026 2:54 PM PLOT BY : DEMPSEY, EDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



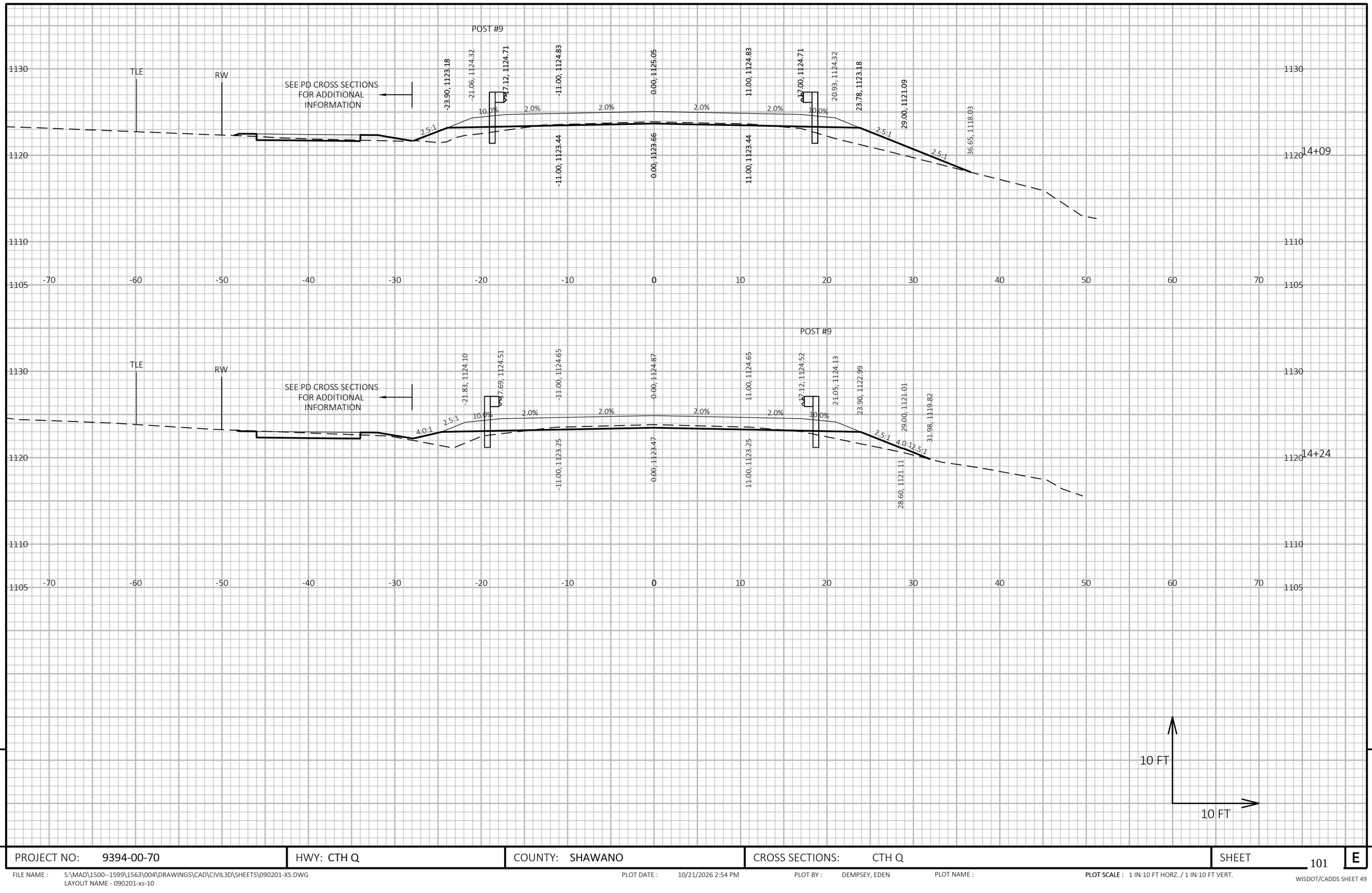
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PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CROSS SECTIONS: CTH Q	SHEET 100	E

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LAYOUT NAME - 090201-xs-09

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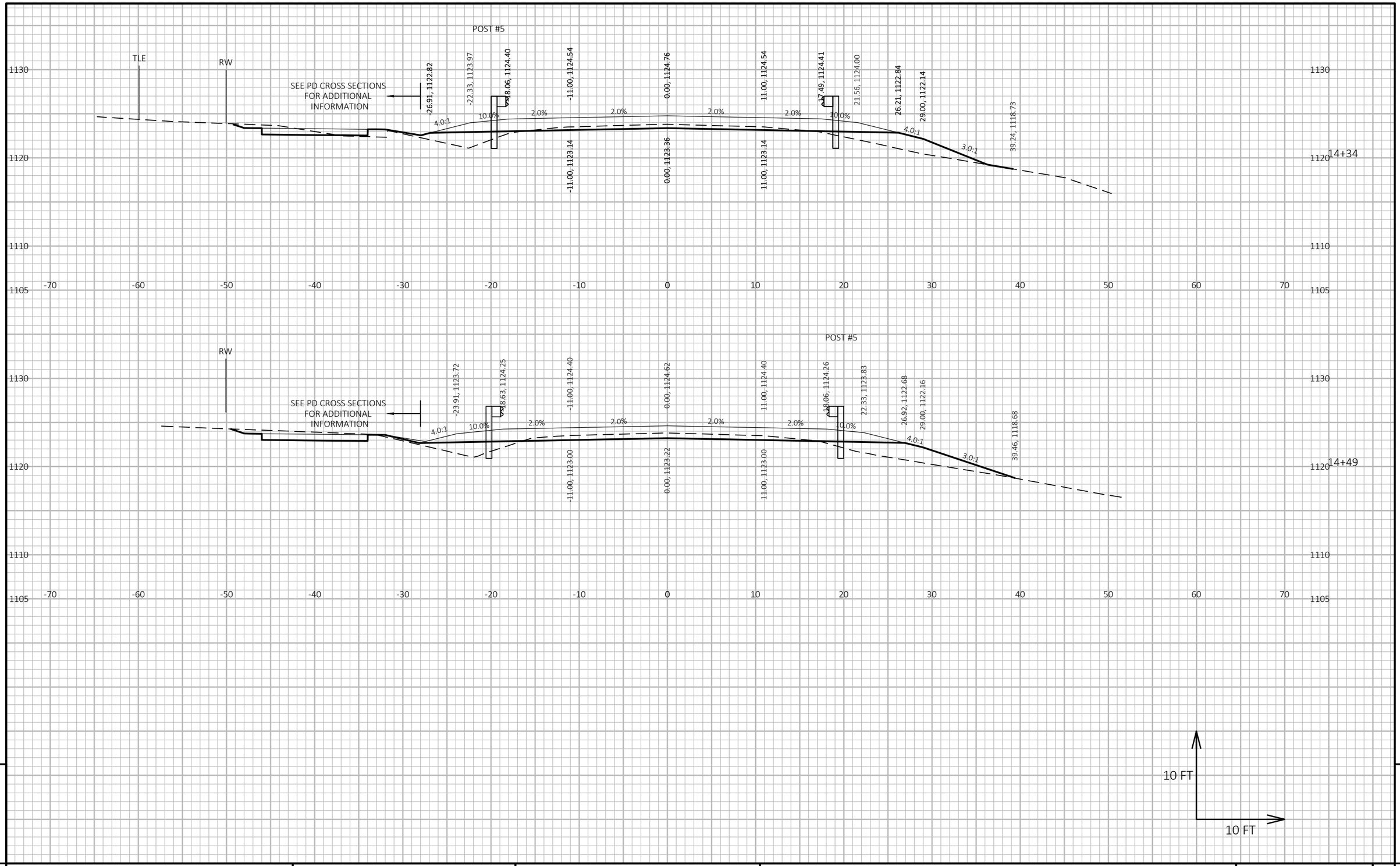


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PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CROSS SECTIONS: CTH Q	SHEET 101	E

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LAYOUT NAME - 090201-xs-10
PLOT DATE : 10/21/2026 2:54 PM
PLOT BY : DEMPSEY, EDEN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



9

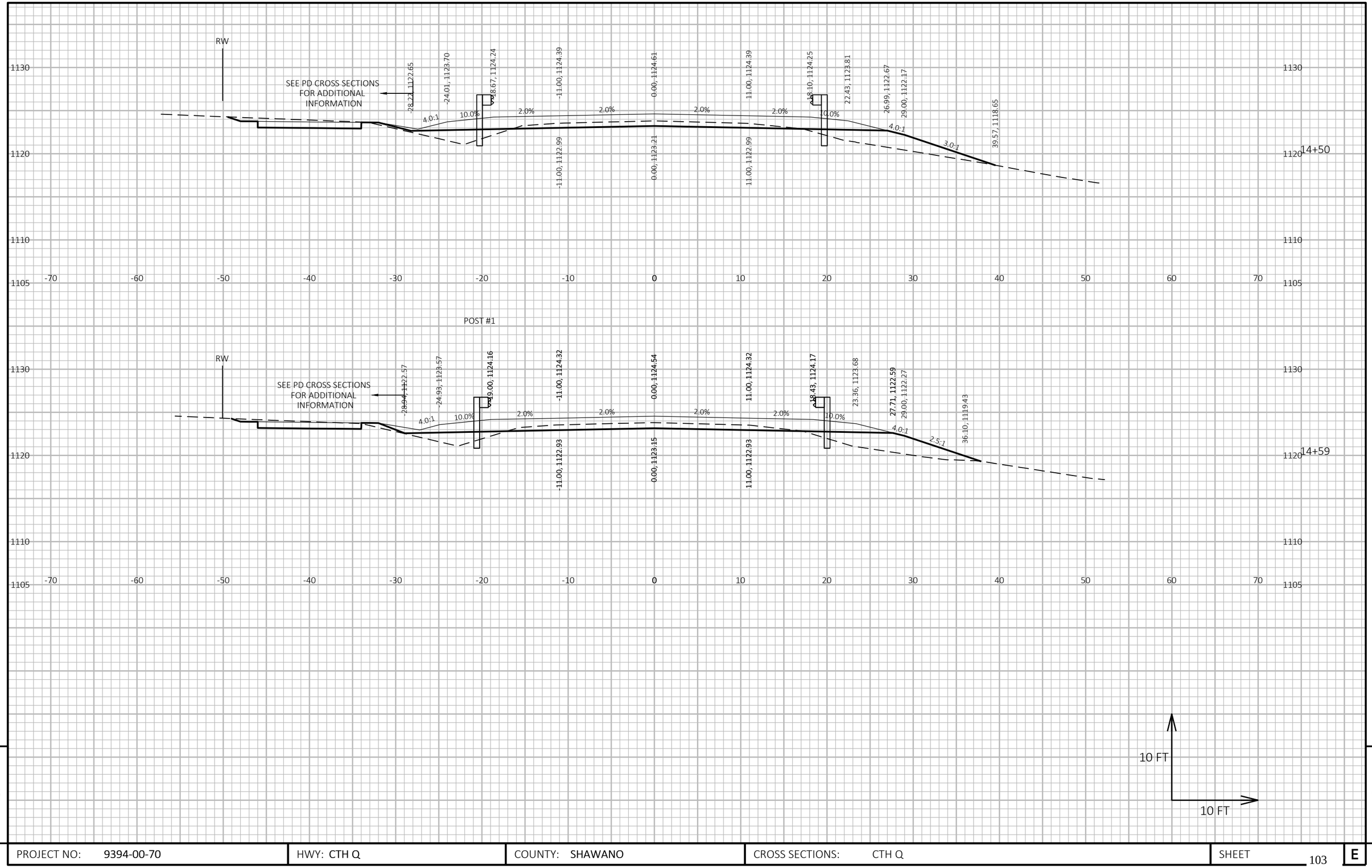
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PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CROSS SECTIONS: CTH Q	SHEET 102	E

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LAYOUT NAME - 090201-xs-11

PLOT DATE : 10/21/2026 2:55 PM PLOT BY : DEMPSEY, EDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

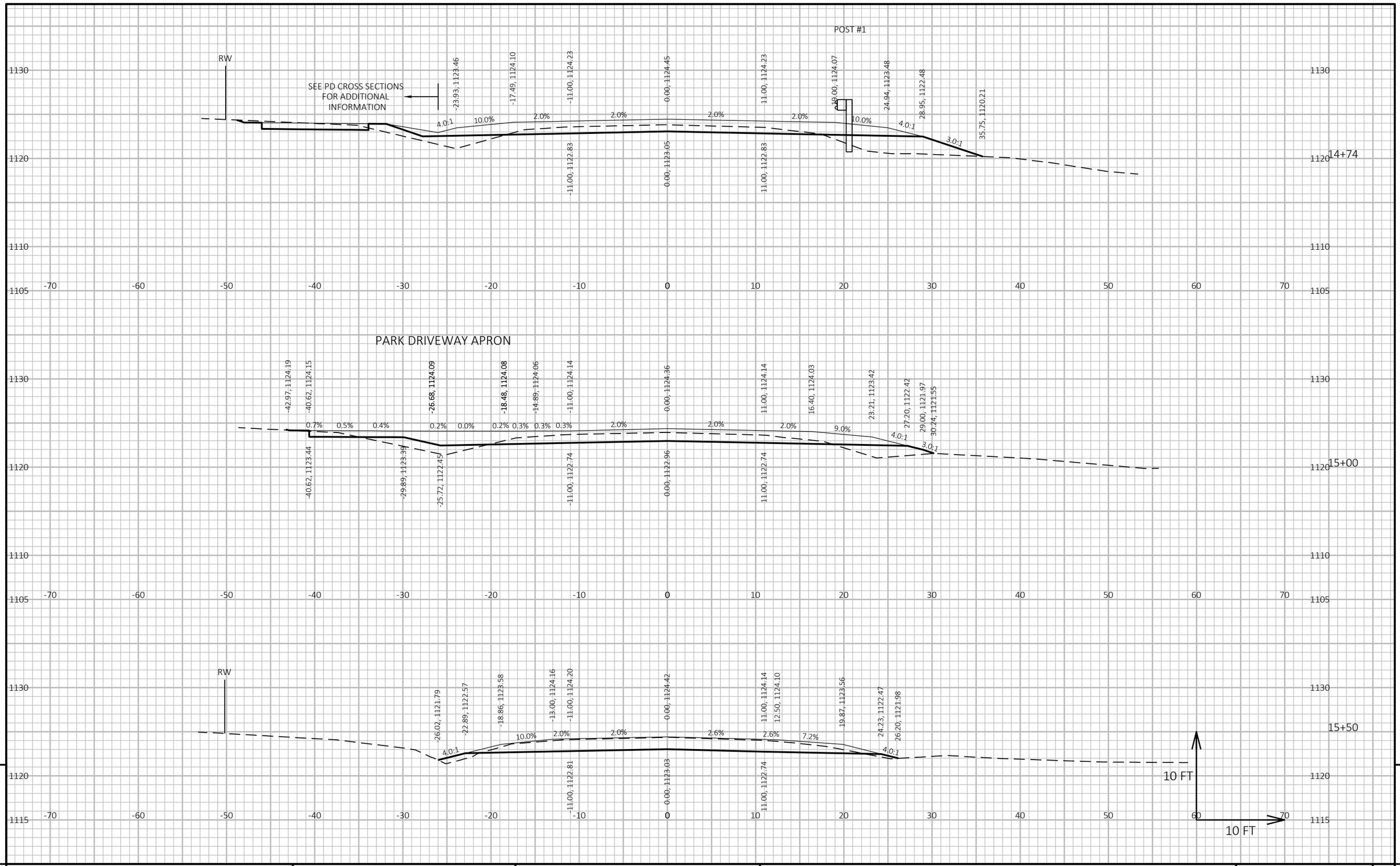


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PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CROSS SECTIONS: CTH Q	SHEET 103	E

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PLOT DATE : 10/21/2026 2:55 PM
PLOT BY : DEMPSEY, EDEN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

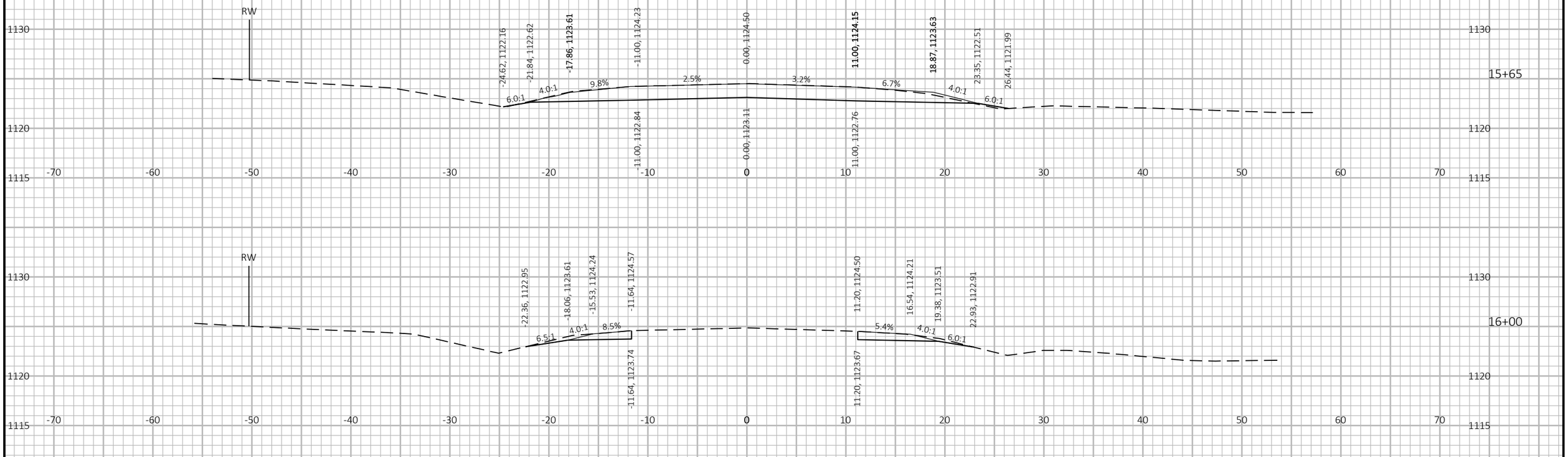


9

9

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CROSS SECTIONS: CTH Q	SHEET 104	E

END PROJECT
STA 15+65.00



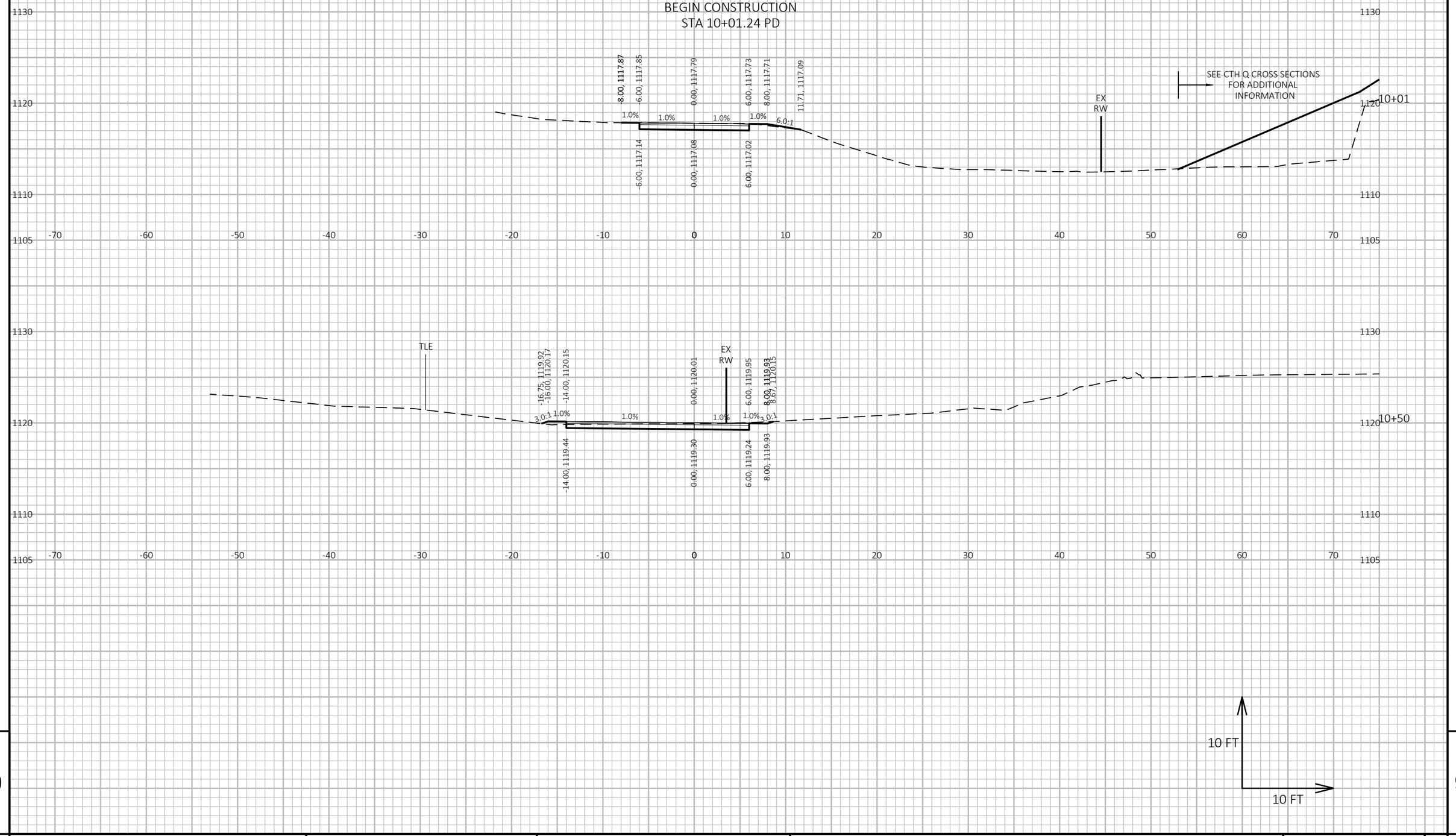
PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CROSS SECTIONS: CTH Q	SHEET 105	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\090201-XS.DWG
LAYOUT NAME - 090201-xs-14

PLOT DATE : 10/21/2026 2:55 PM PLOT BY : DEMPSEY, EDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

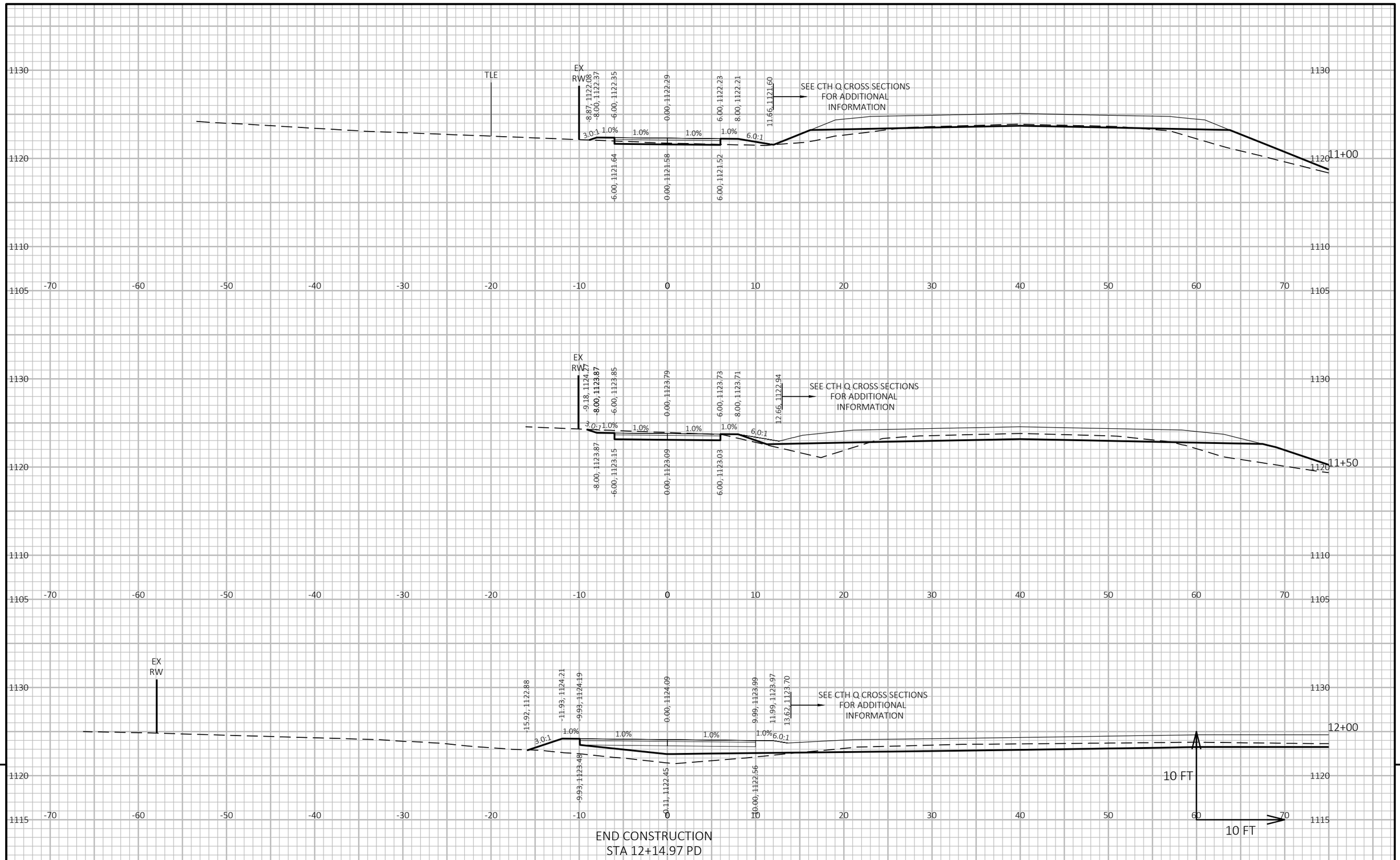
BEGIN CONSTRUCTION
STA 10+01.24 PD



9

9

PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CROSS SECTIONS: PARK DRIVEWAY (PD)	SHEET 106	E



PROJECT NO: 9394-00-70	HWY: CTH Q	COUNTY: SHAWANO	CROSS SECTIONS: PARK DRIVEWAY (PD)	SHEET 107	E

FILE NAME : S:\MAD\1500--1599\1563\004\DRAWINGS\CAD\CIVIL3D\SHEETS\090202-XS.DWG
LAYOUT NAME - 090202-xs

PLOT DATE : 10/21/2026 2:55 PM PLOT BY : DEMPSEY, EDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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