EAU

PROJECT ID: 8090-00-70

WITH: 8100-01-71

COUNTY: DUNN

NOVEMBER 2018

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
~~Section No.~~	~~4~~	~~Right-of-Way 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 = 136



37

N

DESIGN DESIGNATION

A.A.D.T.	2019	=	3600
A.A.D.T.	2039	=	4400
D.H.V.		=	
D.D.		=	50/50
T.		=	9.4
DESIGN SPEED		=	55 MPH
ESALS		=	790,000

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'ESE)
- 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

MENOMONIE - RIDGELAND

STH 170 TO STH 64

STH 25
DUNN

STATE PROJECT NUMBER
8090-00-70

STH 25
DUNN

STATE PROJECT NUMBER
8090-00-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8090-00-70	WISC 2018458	1
8090-00-71	WISC 2018459	1



LAYOUT

SCALE 0 2 MILES

TOTAL NET LENGTH OF CENTERLINE = 5.6

EXCEPTION TO NET ℄ LENGTH
STRUCTURE B-17-0225
STA 8+00 TO 23+50

BEGIN PROJECT
STA 1+50
Y = 231941.49
X = 167257.88

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, DUNN COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ORIGINAL PLANS PREPARED BY

FAA CONSULTING ENGINEERS

WISCONSIN
MATTHEW J. GUNDRY
36517
EAU CLAIRE
WI
PROFESSIONAL ENGINEER

12-1-18

(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	FAA, INC
Designer	FAA, INC
Project Manager	TYLER RONGSTAD
Regional Examiner	TOU YANG
Regional Supervisor	TIM MASON

APPROVED FOR THE DEPARTMENT

DATE: 2/1/18 (Signature)

E

2

GENERAL NOTES

NO TREES OR SHRUBS SHALL BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE BEEN DESIGNATED FOR REMOVAL BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOIL, FERTILIZED, SEEDED AND EROSION MAT AS DIRECTED BY THE ENGINEER.

ALL PRIVATE DRIVEWAYS AND COMMERCIAL ENTRANCES SHALL BE RESTORED IN KIND. LIMITS TO BE DETERMINED BY THE ENGINEER.

PAVING LIMITS ARE TO BE DETERMINED BY THE ENGINEER.

LOCATION OF UNDERGROUND UTILITIES AS SHOWN ON THE PLAN ARE APPROXIMATE, THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

ALL RADII ARE MEASURED TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED ON THE PLAN.

CURVE DATA IS BASED ON THE ARC DEFINITION.

"ASPHALTIC SURFACE" ITEM IS TO BE USED FOR LEVELING/WEDGING, PAVED SHOULDER LOWER LAYERS, PAVED DRIVEWAYS, AND SPOT REPAIR.

"ASPHALTIC SURFACE PATCHING" ITEM IS TO BE USED FOR RAMPING AT BUTT JOINT SAW CUTS, MISCELLANEOUS REPAIRS OF POTHOLES AND POPOUTS THAT OCCUR DURING CONSTRUCTION.

PLACE THE LOWER MAINLINE PAVEMENT LAYER ON THE SAME DAY THAT THE EXISTING PAVEMENT IS MILLED.

PRIOR TO THE PLACEMENT OF MGS GUARDRAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.

THE EROSION CONTROL FEATURES AS SHOWN ON THE PLAN DETAILS ARE AT SUGGESTED LOCATIONS, THEIR EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

WETLANDS MAY EXIST IN LOCATIONS THAT ARE NOT SHOWN IN THE PLANS. DO NOT STAGE IN OR DISTURB WETLANDS AREAS.

WHEN THE QUANTITY OF BASE AGGREGATE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

THE PROPOSED SHOULDER WIDTHS SHOWN IN THE TYPICAL SECTIONS ARE MINIMUM WIDTH, PERPETUATE EXISTING SHOULDERS THAT ARE WIDER THAN WHAT IS SHOWN IN THE TYPICAL SECTION.

THE LATEST APPROVED DOT ℄ WEDGE JOINT SHOULD NOT BE USED ON THE UPPER LAYER WITHIN THE FINAL PAVEMENT STRUCTURE. THE CONTRACTOR SHOULD MILL OUT ANY WEDGE USED FOR TRAFFIC STAGING PRIOR TO PLACING THE ADJACENT LANE.

REMOVE ALL EXISTING CULVERT MARKER POSTS. "MARKERS CULVERT END" REQUIRED AT ALL CROSS CULVERT LOCATIONS.

STANDARD ABBREVIATIONS

A.A.D.T.	ANNUAL AVERAGE DAILY TRAFFIC
B.A.D.	BASE AGGREGATE DENSE
C/L	CENTERLINE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CMCP	CORRUGATED METAL CULVERT PIPE
CY	CUBIC YARD
D.D.	DAILY DIRECTIONAL SPLIT (TRAFFIC VOLUME)
D.H.V.	DAILY HOURLY TRAFFIC
EAT	ENERGY ABSORBING TERMINAL
EB	EASTBOUND
EL.	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
FO	FIBER OPTIC
INV	INVERT
LB	POUND
LF OR L.F.	LINEAR FEET
LT.	LEFT
MAX.	MAXIMUM
MIN.	MINIMUM
NB	NORTHBOUND
NPZ	NO PASSING ZONE
OH	OVERHEAD
P.E.	PRIVATE ENTRANCE
REQ'D	REQUIRED
R/L OR RL	REFERENCE LINE
RT.	RIGHT
R/W	RIGHT OF WAY
SB	SOUTHBOUND
S.D.D.	STANDARD DETAIL DRAWING
STA.	STATION
SF	SQUARE FOOT
STH	STATE HIGHWAY
SY	SQUARE YARD
T.	PERCENT OF TRUCK TRAFFIC
T.L.E.	TEMPORARY LIMITED EASEMENT
TYP.	TYPICAL
VAR.	VARIES
WB	WESTBOUND

WISCONSIN CENTRAL LTD (CN) IS NOT PART OF DIGGERS HOTLINE
CONTACT CN BEFORE YOU DIG: (734) 783-4533

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

WISDOT REGIONAL CONTACT

TYLER RONGSTAD
WISDOT NORTHWEST REGION
EAU CLAIRE OFFICE
718 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
(715) 461-0372

TIM MASON
WISDOT NORTHWEST REGION
EAU CLAIRE OFFICE
718 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
(715) 833-5366

DNR LIASON

CHRIS WILLGER
DNR WEST CENTRAL REGION HQ
1300 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54702
(715) 839-1609

DESIGN CONTACT

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3615 N. HASTINGS WAY - STE. 100
EAU CLAIRE, WI 54703
(715) 832-8400
mjgundry@faa-engineers.com

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RICE LAKE, WI 54868
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kyle.schlampp@centurylink.com

SHANE YODER
CHARTER SPECTRUM
1201 MCCANN DR
ALTOONA, WI 54701
(715) 831-8940 EXT. 51113
Shane.Yoder@charter.com

ELECTRICITY:

ROB MALY
DAIRYLAND POWER COOPERATIVE
3200 EAST AVE S
P.O. BOX 817
LA CROSSE, WI 54602
(608) 787-1248
Rob.Maly@DairylandPower.com

MIKE ANDRASCHKO
DUNN ENERGY COOPERATIVE
N5725 600TH ST.
P.O. BOX 220
MENOMONIE, WI 54751
(608) 232-6240
mandra@dunnenergy.com

BRUCE ZEMKE
XCEL ENERGY
414 NICOLLET MALL
MINNEAPOLIS, MN 55401
(612) 330-7819
bruce.m.zemke@xcelenergy.com

GAS/PETROLEUM:

STEVEN KEILEN, RONALD MINNICK
VIKING GAS TRANSMISSION COMPANY
2077 70TH AVE
OSCEOLA, WI 54020
(715) 294-2155
Steven.Keilen@oneok.com, Ronald.Minnick@oneok.com

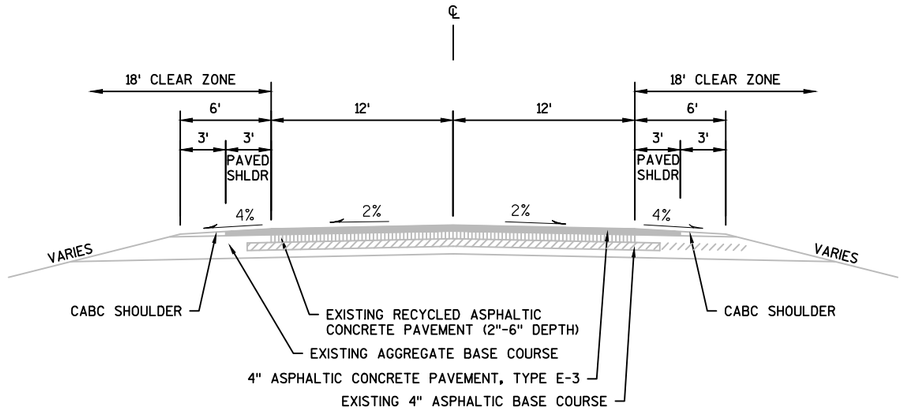
MUNICIPAL WATER/SEWER:

CHRIS GOODELL
VILLAGE OF WHEELER MUNICIPAL WATER & SEWER
105 W. TOWER RD
WHEELER, WI 54772
(715) 632-2449
vwheeler@charter.net, office@wheeler-wi.com

RAILROAD:

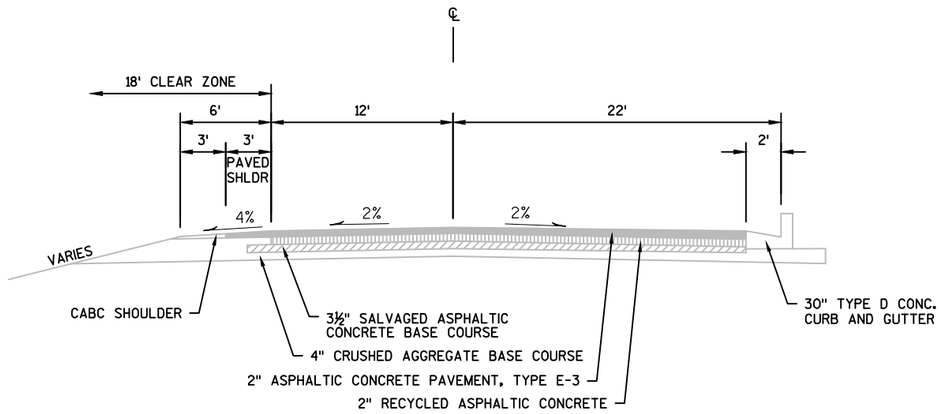
JACKIE MACEWICZ
WISCONSIN CENTRAL LTD (CN)
1625 DEPOT ST
STEVENS POINT, WI 54481
(715) 345-2503
jackie.macewicz@cn.ca

2



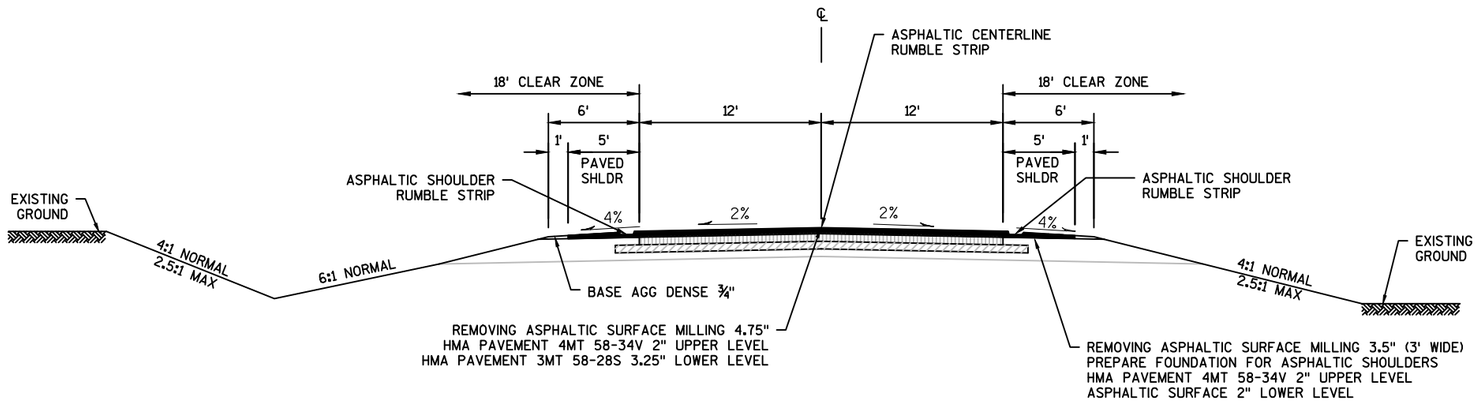
EXISTING TYPICAL SECTION

STA 1+50.00 TO STA 23+50
STA 18+12.46 TO STA 268+85
STA 273+10 TO STA 296+16



EXISTING TYPICAL SECTION

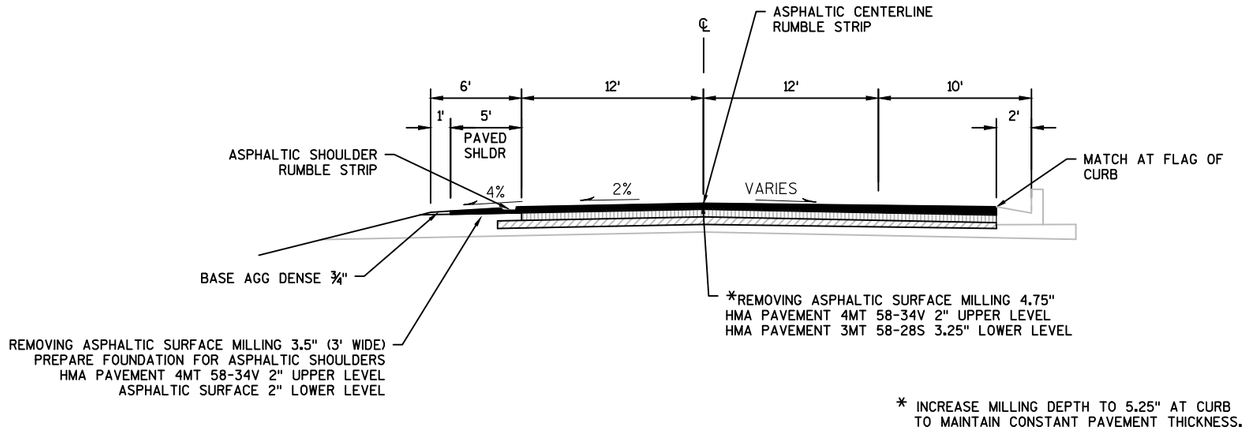
STA 268+85 TO STA 273+10



FINISHED TYPICAL SECTION

STA 1+50 TO STA 8+00
STA 23+50 TO STA 268+85
STA 273+10 TO STA 296+16

NOTE: BASE COURSE MIGHT BE ENCOUNTERED WHEN MILLING MAINLINE AND SHOULDER PAVEMENTS

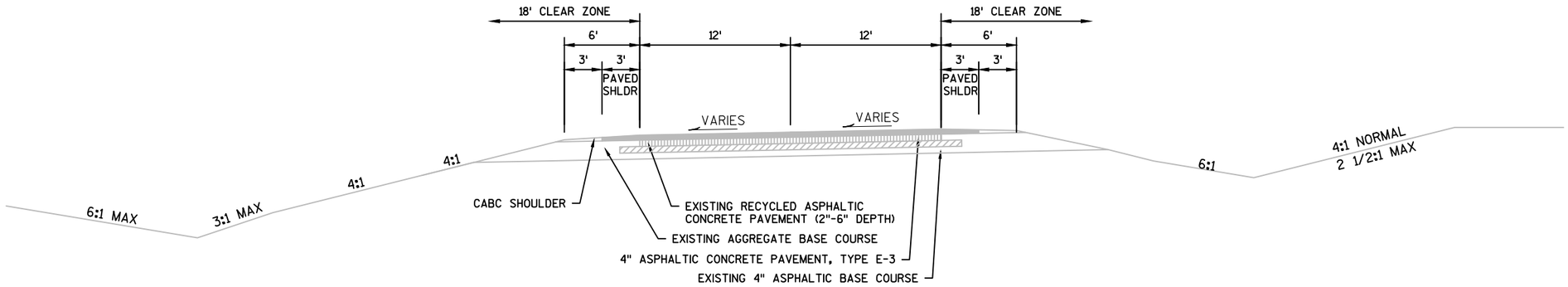


* INCREASE MILLING DEPTH TO 5.25" AT CURB TO MAINTAIN CONSTANT PAVEMENT THICKNESS.

FINISHED TYPICAL SECTION

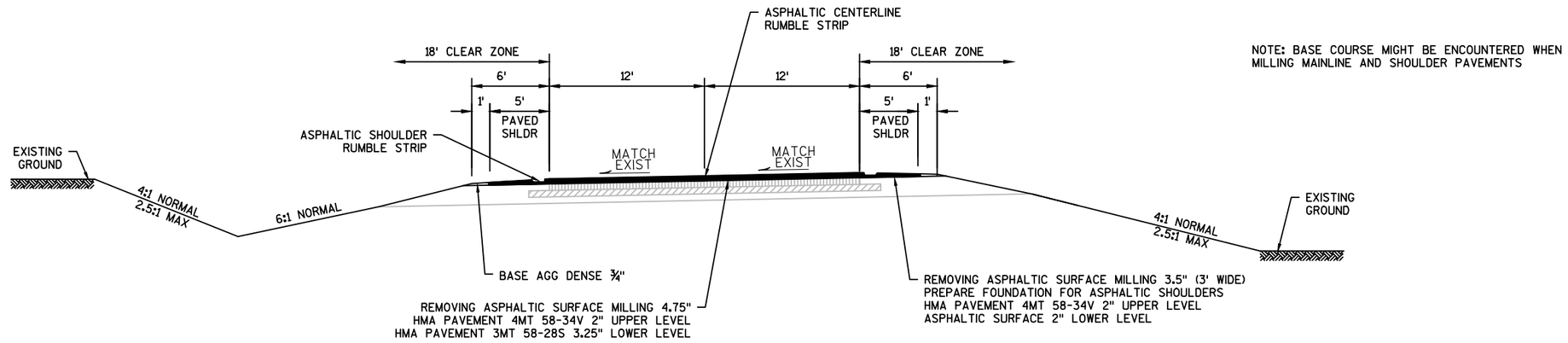
STA 268+85 TO STA 273+10

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PLAN: TYPICAL SECTIONS	SHEET 4	E



EXISTING SUPERELEVATED TYPICAL SECTION STH 25

STA 93+74.00 TO STA 102+36.46
STA 106+53.29 TO STA 122+59.74
STA 127+93.08 TO STA 136+70.81
STA 232+44.20 TO STA 172+37.41
STA 263+63.21 TO STA 282+85.00



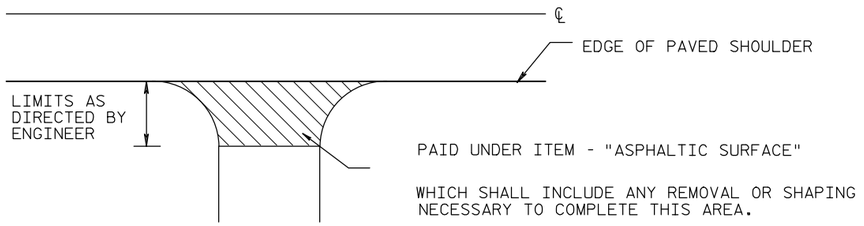
NOTE: BASE COURSE MIGHT BE ENCOUNTERED WHEN MILLING MAINLINE AND SHOULDER PAVEMENTS

FINISHED SUPERELEVATED TYPICAL SECTION STH 25

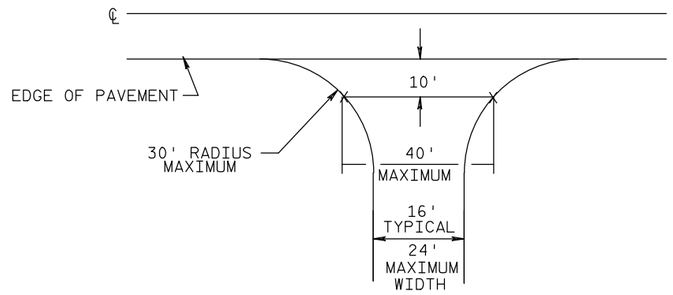
STA 93+74.00 TO STA 102+36.46
STA 106+53.29 TO STA 122+59.74
STA 127+93.08 TO STA 136+70.81
STA 232+44.20 TO STA 172+37.41
STA 263+63.21 TO STA 282+85.00

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PLAN: TYPICAL SECTIONS	SHEET 5	E

RURAL DRIVEWAY DETAIL - ASPHALT

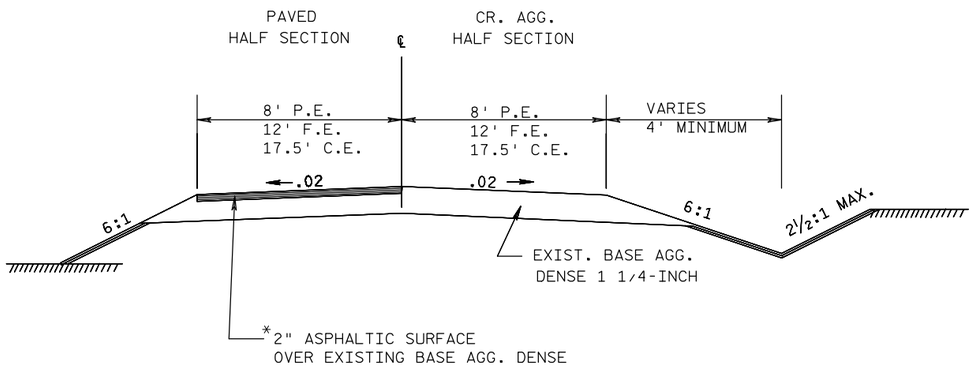


ANY ADDITIONAL BASE AGG. DENSE REQ'D. SHALL BE PAID UNDER ITEM - "BASE AGGREGATE DENSE 3/4-INCH"



TYPICAL DRIVEWAY DETAIL

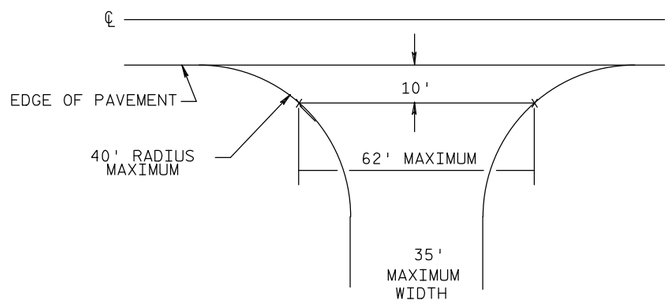
(NON-COMMERCIAL RURAL)



*OR MATCH EXIST. ASPH. DEPTH

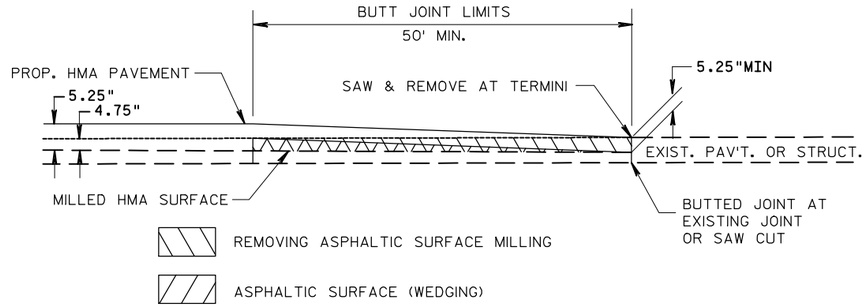
TYPICAL SECTION
FOR PRIVATE ENTRANCES

NOTE:
DRIVEWAY PROFILES NOT EXPECTED TO EXCEED 10%. PLACE LOW POINT OF DRIVEWAY PROFILE OVER DITCH FLOW LINE.

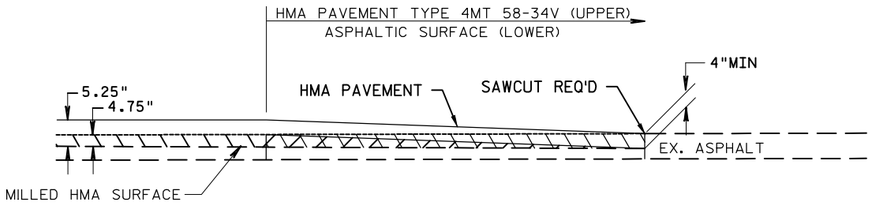


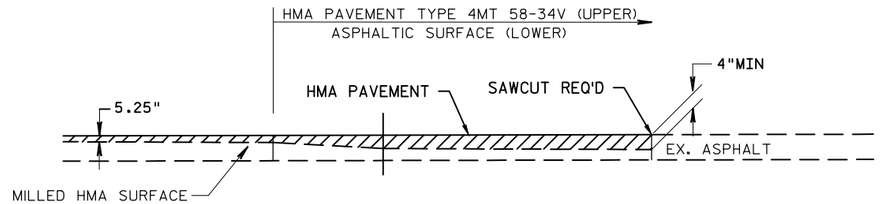
TYPICAL DRIVEWAY DETAIL

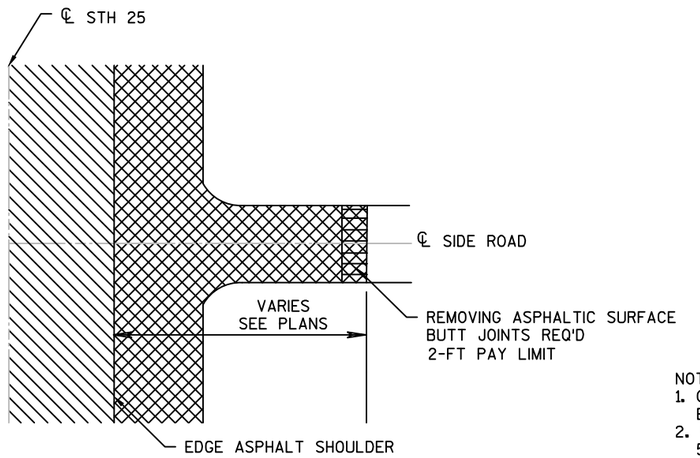
(COMMERCIAL RURAL)



BUTT JOINT DETAIL AT STRUCTURE & PROJECT LIMITS

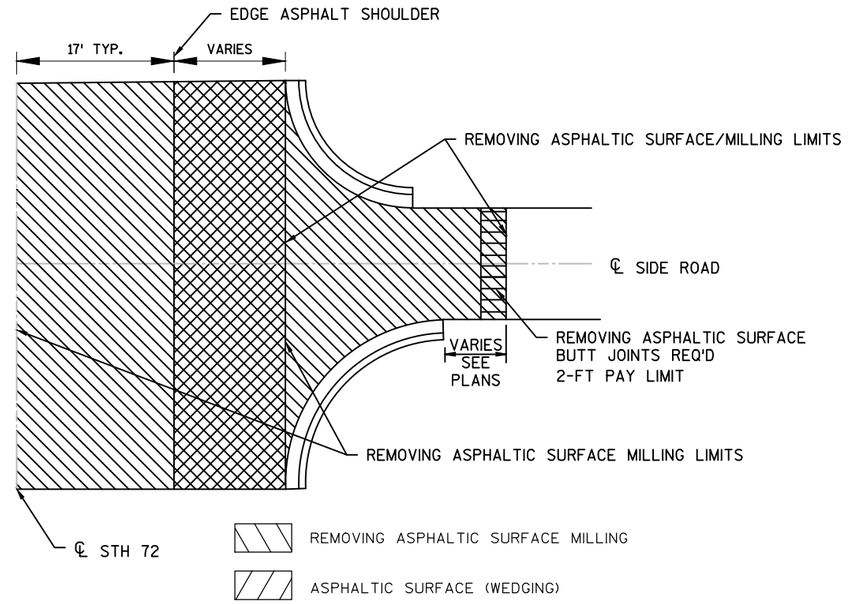






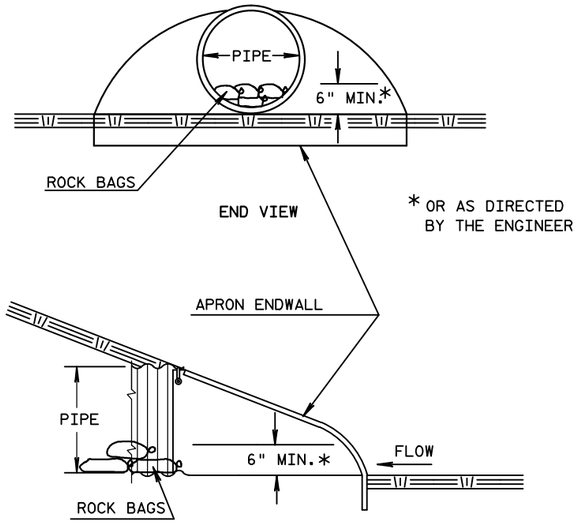
NOTES:
1. OVERLAY PAVEMENT SHALL MEET EXISTING ELEVATION AT SAWCUT.
2. WHEN EX. ASPHALT THICKNESS IS LESS THAN 5.25", MILL/REMOVE EX. PAVEMENT FULL DEPTH.

SIDE ROAD DETAIL - NO CURB & GUTTER



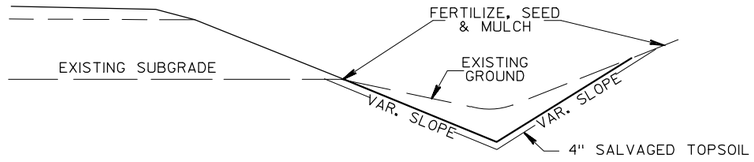
SIDEROAD DETAIL - CURB & GUTTER TO REMAIN

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PLAN: CONSTRUCTION DETAILS	SHEET 7	E

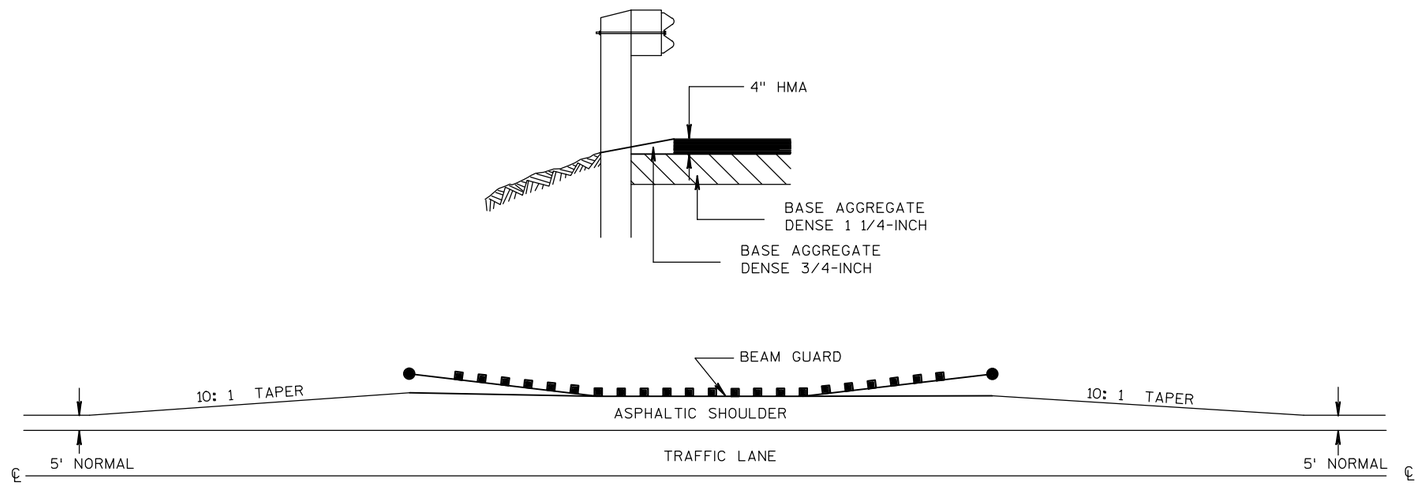


SIDE VIEW

CULVERT PIPE CHECK



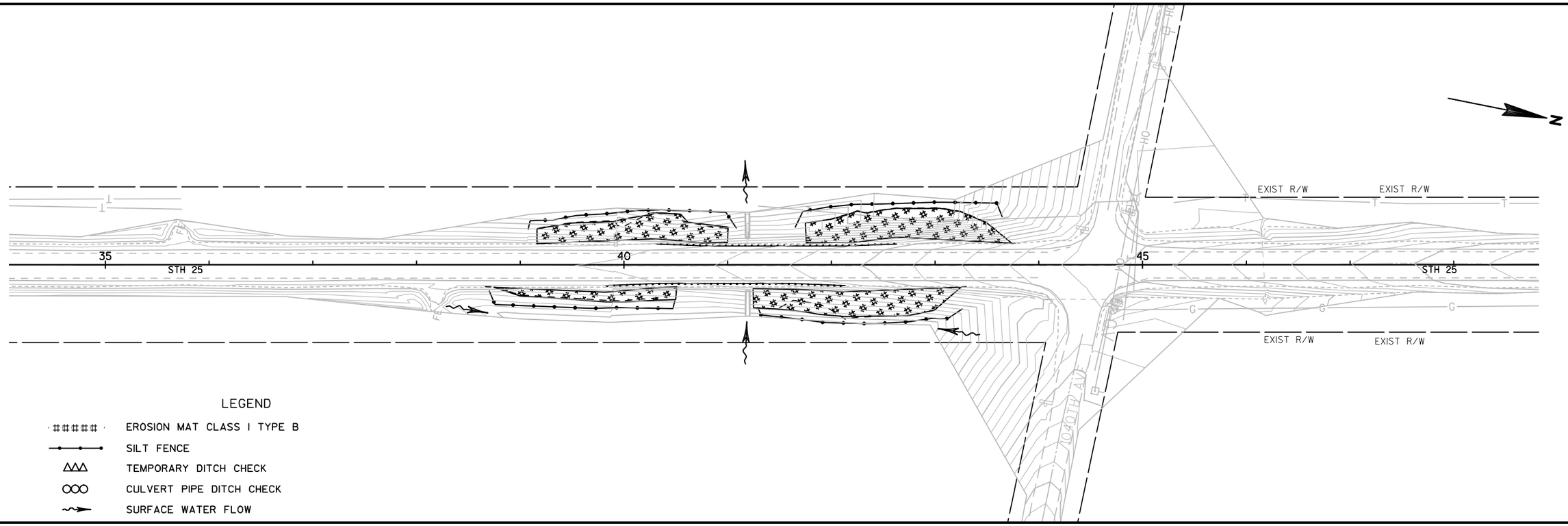
DITCH CLEANING DETAIL

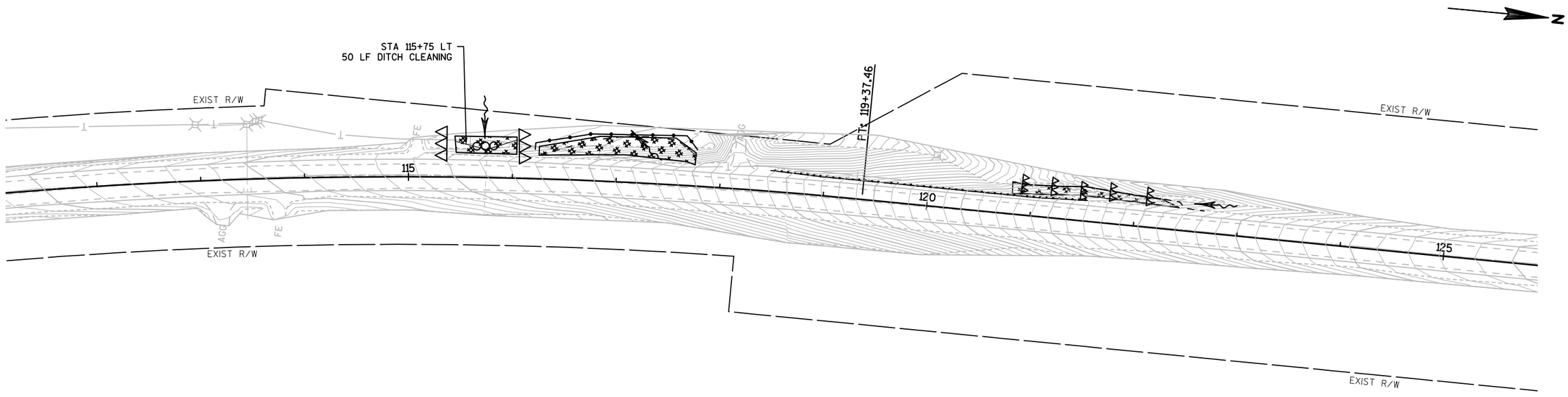


DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD

PROJECT NO:8090-00-70	HWY: STH 25	COUNTY: DUNN	PLAN: CONSTRUCTION DETAILS	SHEET 8	E

2



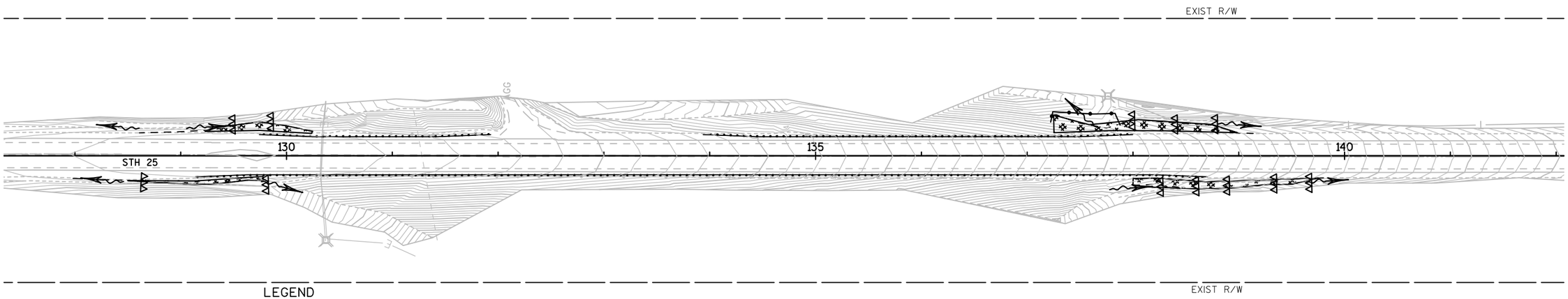


PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	EROSION CONTROL	SHEET 9	E

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LAYOUT NAME - 022001_EC

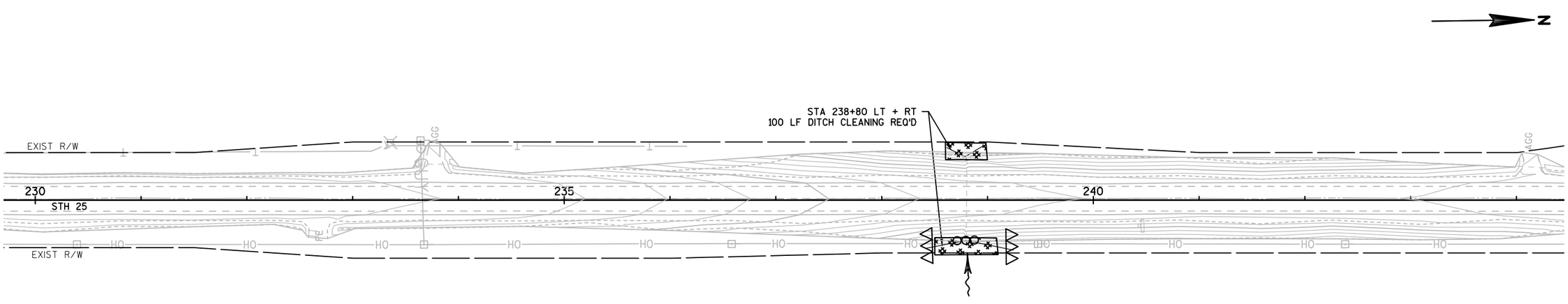
PLOT DATE : 2/6/2018 9:40 AM PLOT BY : MATT GUNDRY PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



LEGEND

- EROSION MAT CLASS I TYPE B
- SILT FENCE
- TEMPORARY DITCH CHECK
- CULVERT PIPE DITCH CHECK
- SURFACE WATER FLOW



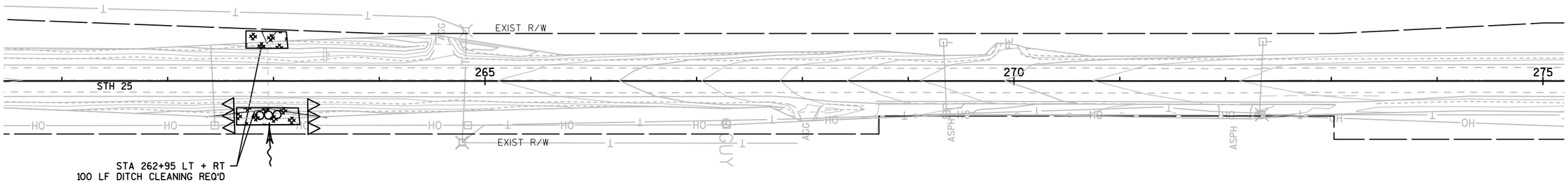
PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	EROSION CONTROL	SHEET 10	E

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LAYOUT NAME - 022002_EC

PLOT DATE : 2/6/2018 10:08 AM PLOT BY : MATT GUNDRY PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

N

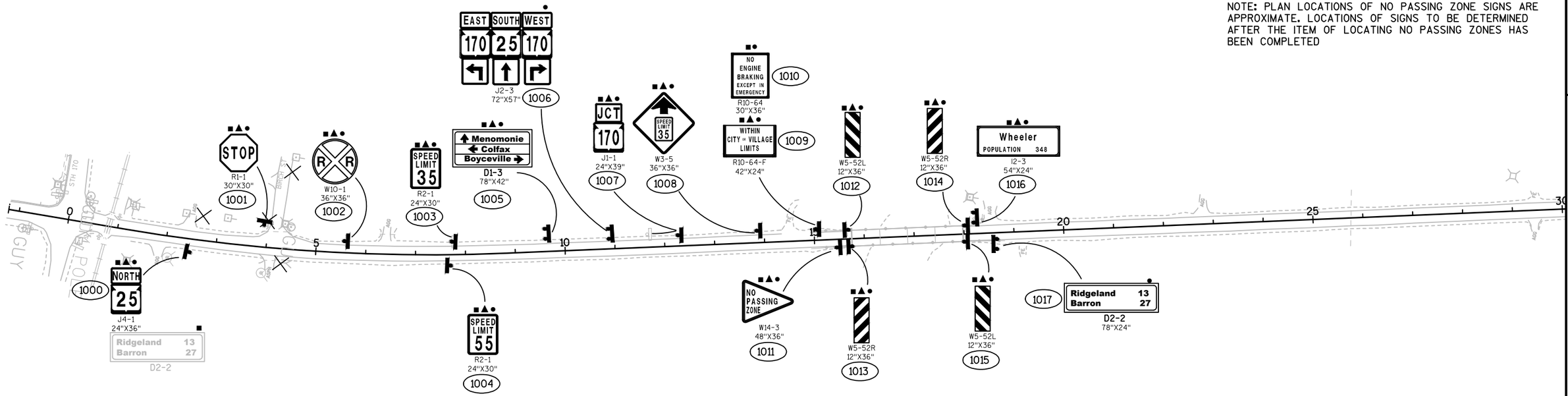


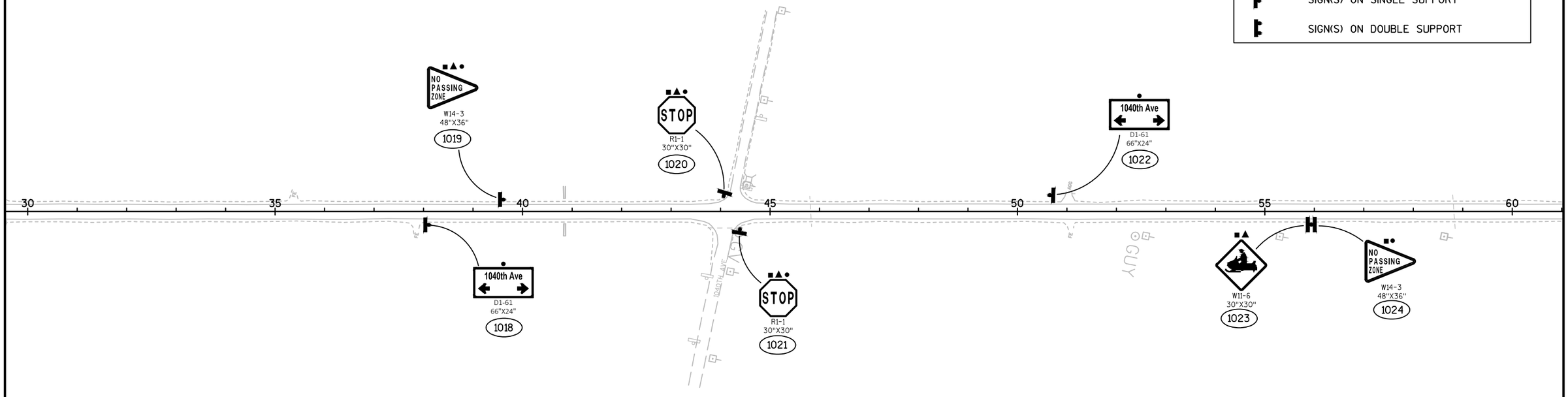
LEGEND

- EROSION MAT CLASS I TYPE B
- SILT FENCE
- TEMPORARY DITCH CHECK
- CULVERT PIPE DITCH CHECK
- SURFACE WATER FLOW

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	EROSION CONTROL	SHEET 11	E

NOTE: PLAN LOCATIONS OF NO PASSING ZONE SIGNS ARE APPROXIMATE. LOCATIONS OF SIGNS TO BE DETERMINED AFTER THE ITEM OF LOCATING NO PASSING ZONES HAS BEEN COMPLETED

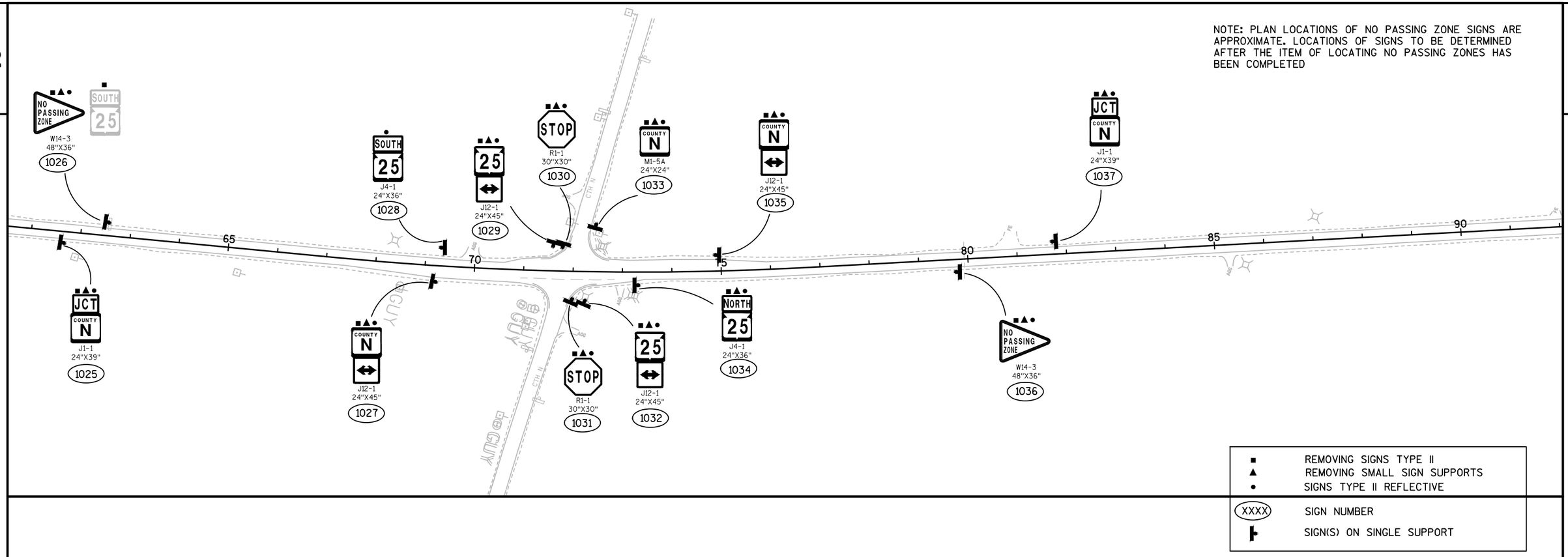




- ■ REMOVING SIGNS TYPE II
- ▲ REMOVING SMALL SIGN SUPPORTS
- ● SIGNS TYPE II REFLECTIVE
- (XXXX) SIGN NUMBER
- SIGN(S) ON SINGLE SUPPORT
- SIGN(S) ON DOUBLE SUPPORT

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PERMANENT SIGNING	SHEET 12	E

NOTE: PLAN LOCATIONS OF NO PASSING ZONE SIGNS ARE APPROXIMATE. LOCATIONS OF SIGNS TO BE DETERMINED AFTER THE ITEM OF LOCATING NO PASSING ZONES HAS BEEN COMPLETED

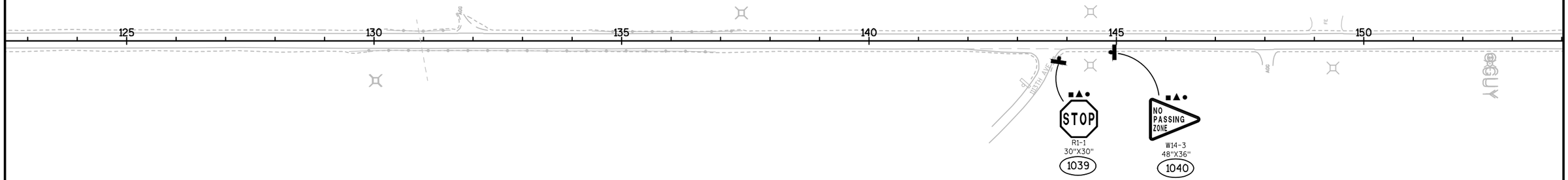


- ■ REMOVING SIGNS TYPE II
- ▲ REMOVING SMALL SIGN SUPPORTS
- ● SIGNS TYPE II REFLECTIVE
- (XXXX) SIGN NUMBER
- SIGN(S) ON SINGLE SUPPORT

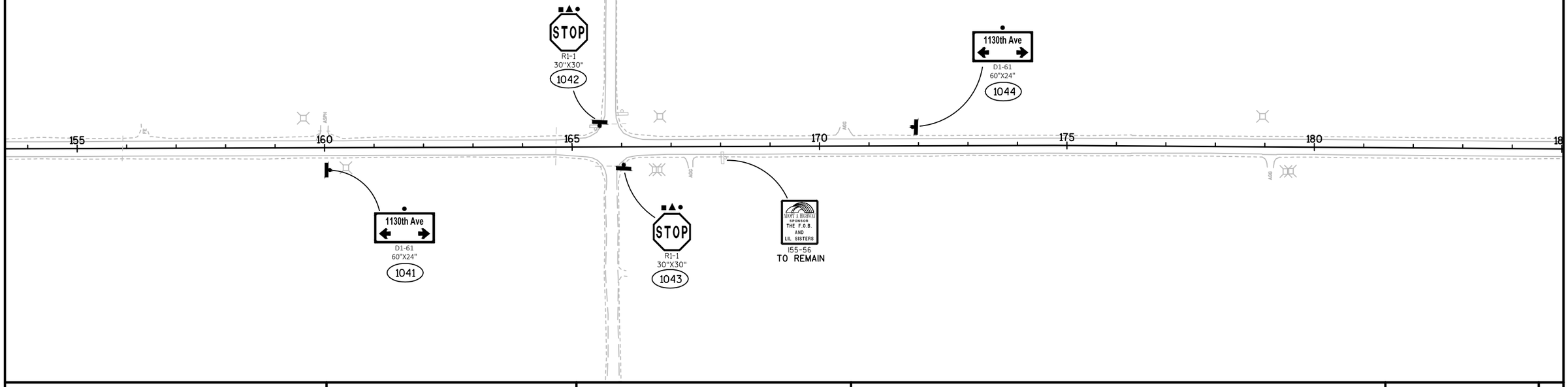
PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PERMANENT SIGNING	SHEET 13	E

2

NOTE: PLAN LOCATIONS OF NO PASSING ZONE SIGNS ARE APPROXIMATE. LOCATIONS OF SIGNS TO BE DETERMINED AFTER THE ITEM OF LOCATING NO PASSING ZONES HAS BEEN COMPLETED



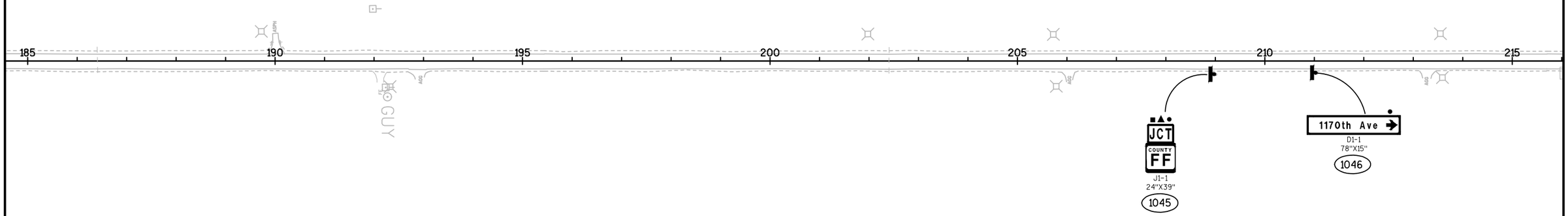
- ■ REMOVING SIGNS TYPE II
- ▲ REMOVING SMALL SIGN SUPPORTS
- ● SIGNS TYPE II REFLECTIVE
- (XXXX) SIGN NUMBER
- SIGN(S) ON SINGLE SUPPORT



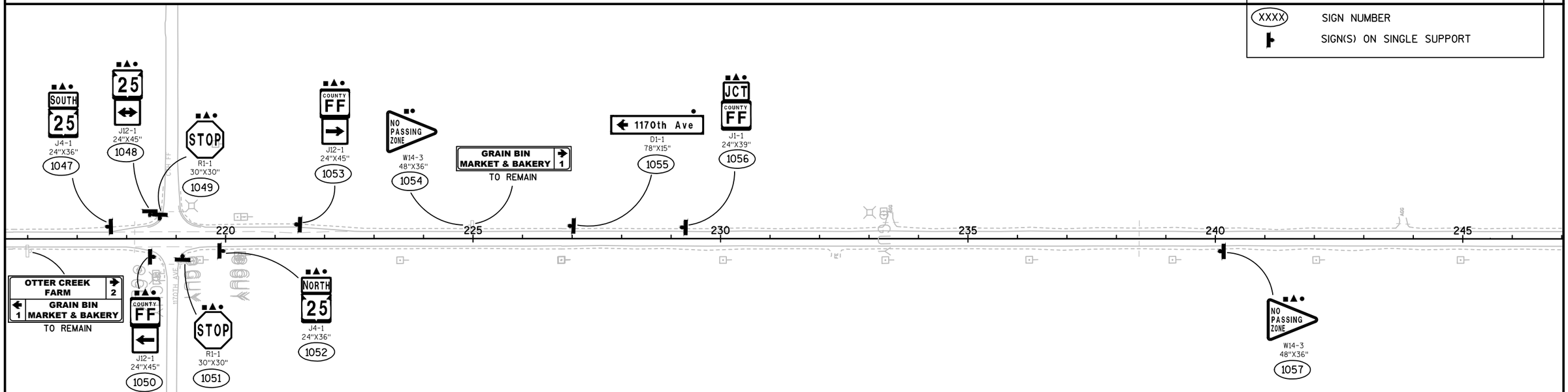
PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PERMANENT SIGNING	SHEET 14	E

2

NOTE: PLAN LOCATIONS OF NO PASSING ZONE SIGNS ARE APPROXIMATE. LOCATIONS OF SIGNS TO BE DETERMINED AFTER THE ITEM OF LOCATING NO PASSING ZONES HAS BEEN COMPLETED



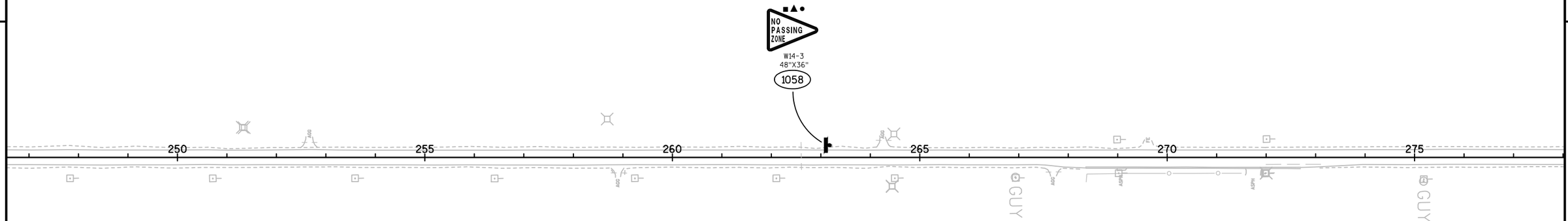
■	REMOVING SIGNS TYPE II
▲	REMOVING SMALL SIGN SUPPORTS
●	SIGNS TYPE II REFLECTIVE
XXXX	SIGN NUMBER
	SIGN(S) ON SINGLE SUPPORT



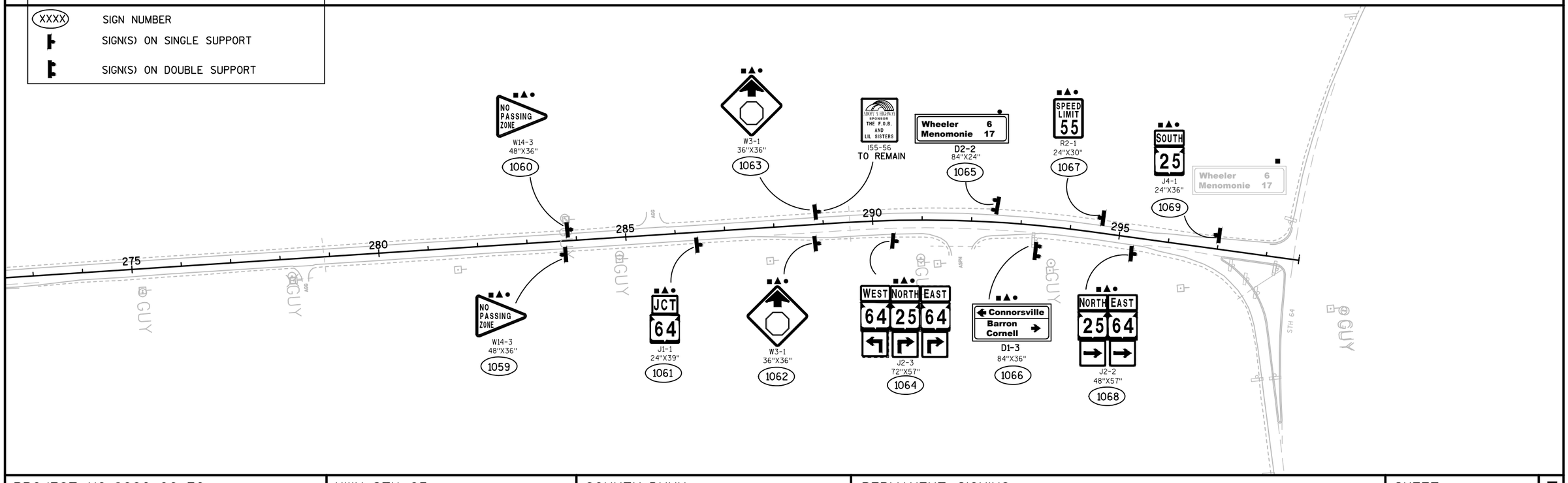
PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PERMANENT SIGNING	SHEET 15	E

2

NOTE: PLAN LOCATIONS OF NO PASSING ZONE SIGNS ARE APPROXIMATE. LOCATIONS OF SIGNS TO BE DETERMINED AFTER THE ITEM OF LOCATING NO PASSING ZONES HAS BEEN COMPLETED



- ■ REMOVING SIGNS TYPE II
- ▲ REMOVING SMALL SIGN SUPPORTS
- ● SIGNS TYPE II REFLECTIVE
- (XXXX) SIGN NUMBER
- SIGN(S) ON SINGLE SUPPORT
- SIGN(S) ON DOUBLE SUPPORT



PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PERMANENT SIGNING	SHEET 16	E

SOUTH
M3-3
24"X12"
25
M1-6
24"X24"
ROAD WORK AHEAD
W20-1-A
A

NORTH
M3-1
24"X12"
25
M1-6
24"X24"
ROAD WORK AHEAD
W20-1-A
E

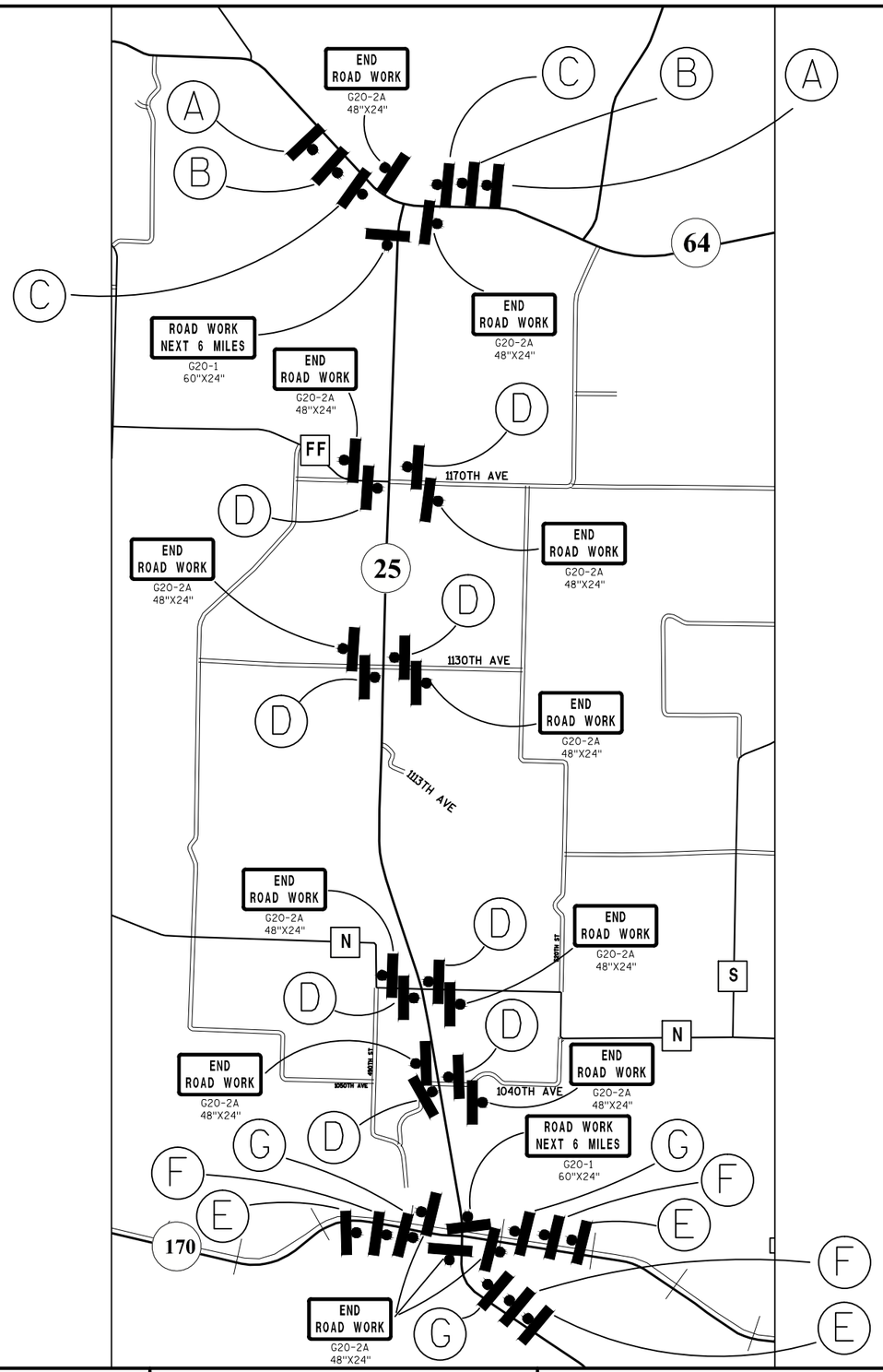
SOUTH
M3-3
24"X12"
25
M1-6
24"X24"
ROAD WORK 1000 FT
W20-1-C
B

NORTH
M3-1
24"X12"
25
M1-6
24"X24"
ROAD WORK 1000 FT
W20-1-C
F

SOUTH
M3-3
24"X12"
25
M1-6
24"X24"
ROAD WORK 500 FT
W20-1-D
C

NORTH
M3-1
24"X12"
25
M1-6
24"X24"
ROAD WORK 500 FT
W20-1-D
G

ROAD WORK 500 FT
W20-1-D
D



NOTES:

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

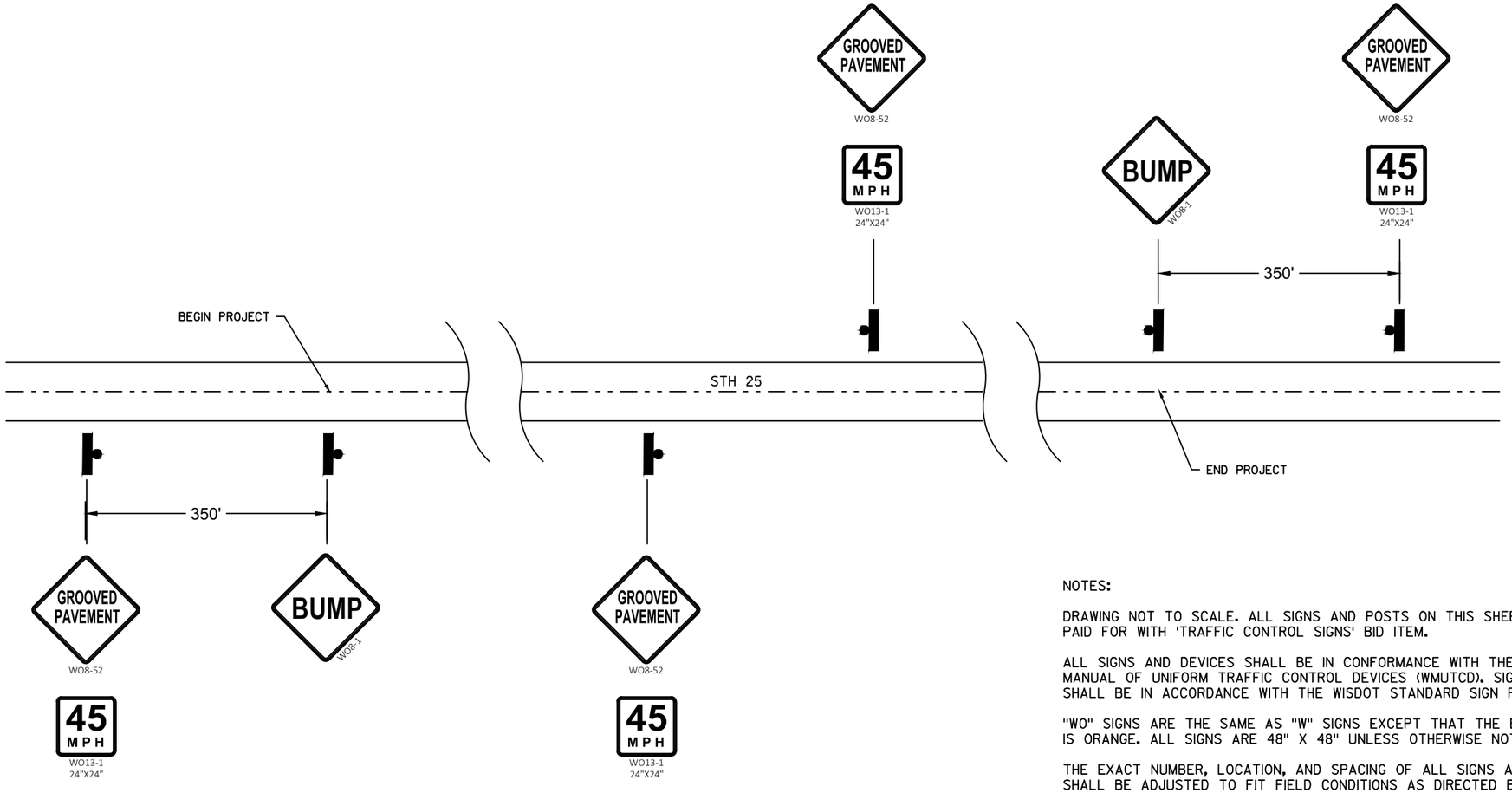
THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

2

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL	SHEET 17	E

2

PLACE SIGNS 350' IN ADVANCE
OF MILLED SURFACES AND AT
1-MILE INTERVALS, OR AS
DIRECTED BY THE ENGINEER



PLACE SIGNS 350' IN ADVANCE
OF MILLED SURFACES AND AT
1-MILE INTERVALS, OR AS
DIRECTED BY THE ENGINEER

NOTES:

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM.

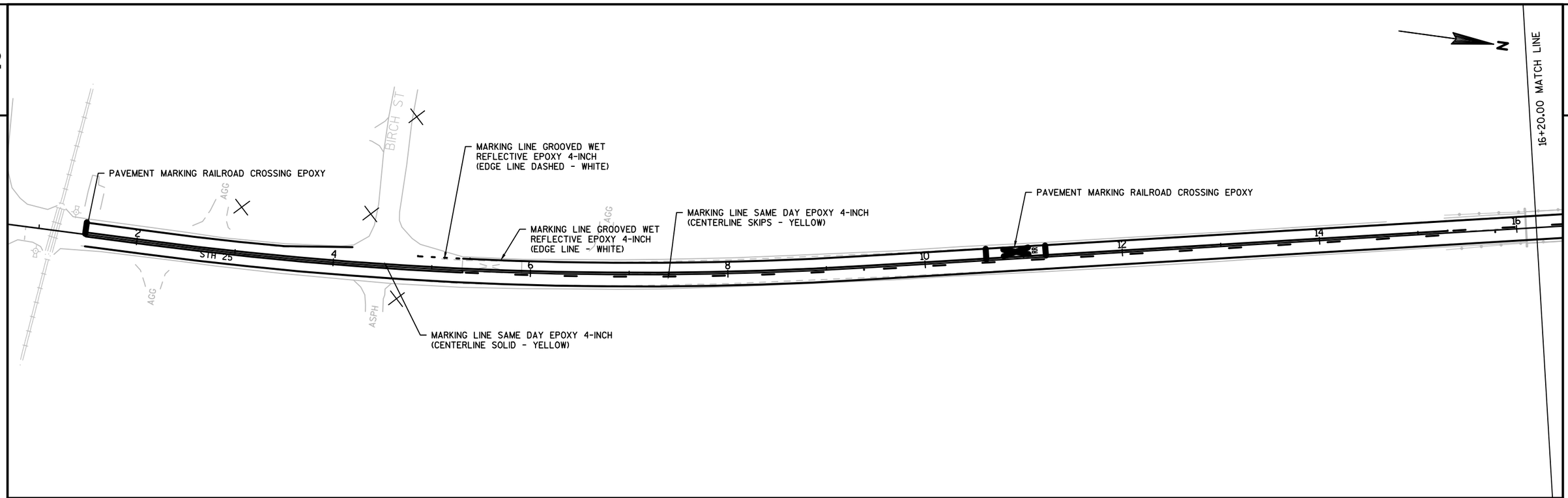
ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

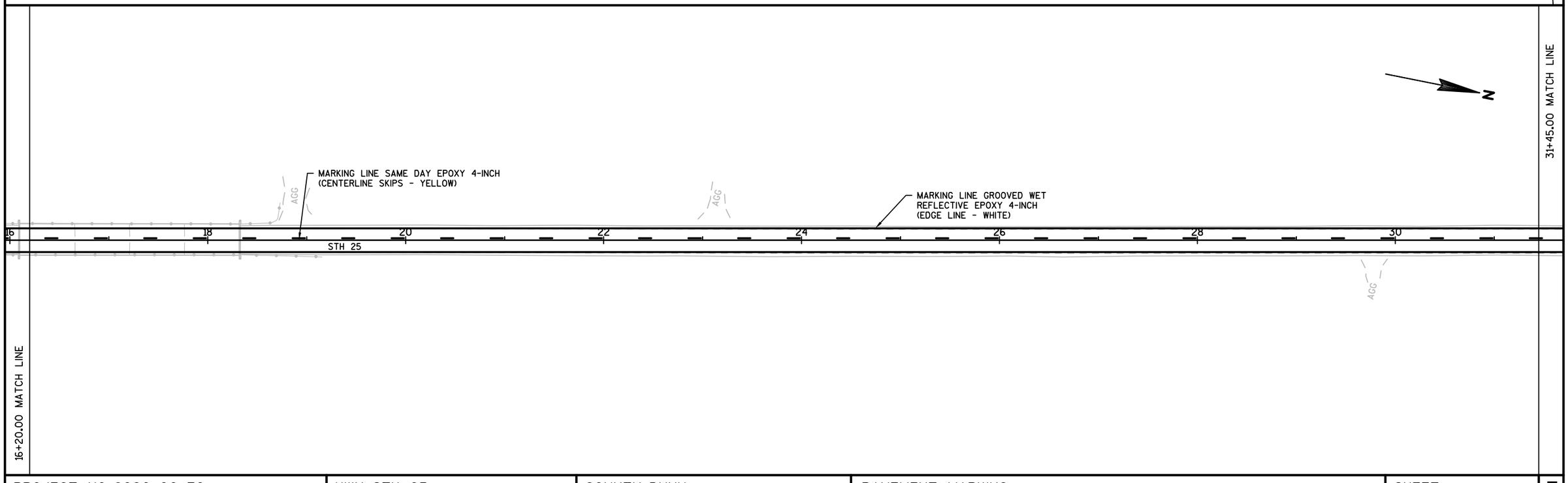
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

DETAIL FOR SIGNING ON MAINLINE MILLED SURFACES

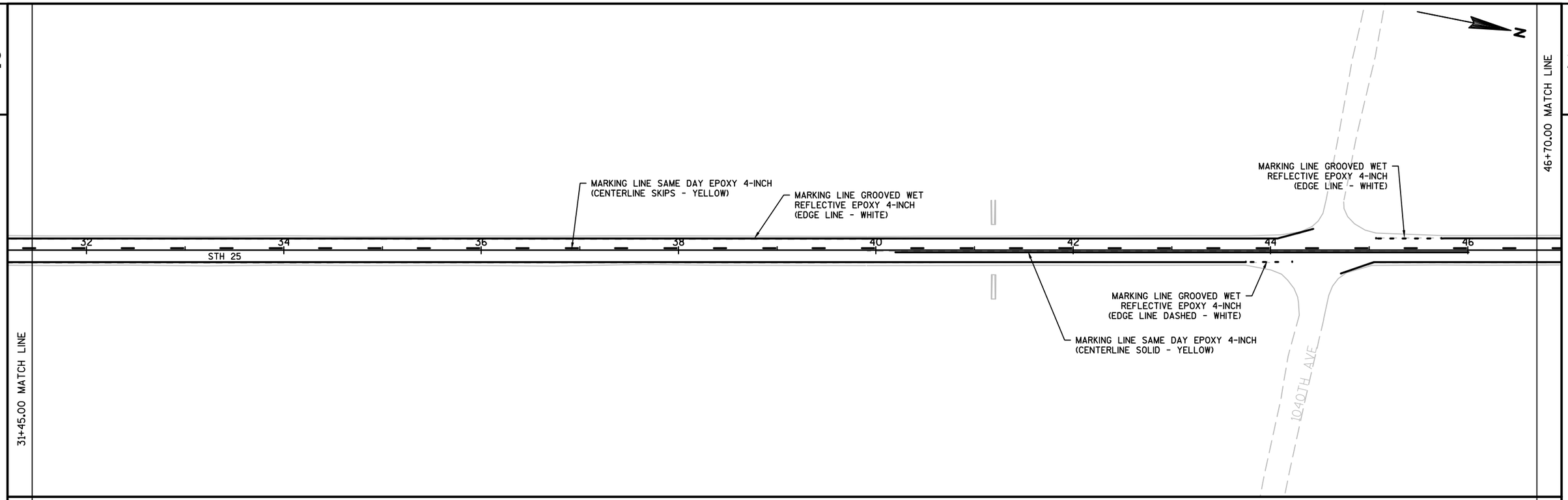
2





PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PAVEMENT MARKING	SHEET 19	E

2



PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PAVEMENT MARKING	SHEET 20	E

2

2

61+95.00 MATCH LINE

77+20.00 MATCH LINE

N

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SKIPS - YELLOW)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE - WHITE)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 8-INCH
(CHANNELIZING LANE - WHITE)

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SOLID - YELLOW)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 8-INCH
(CHANNELIZING LANE - WHITE)

62 64 66 68 70 72 74 76

AGG

CTH N

77+20.00 MATCH LINE

92+45.00 MATCH LINE

N

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SOLID - YELLOW)

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SKIPS - YELLOW)

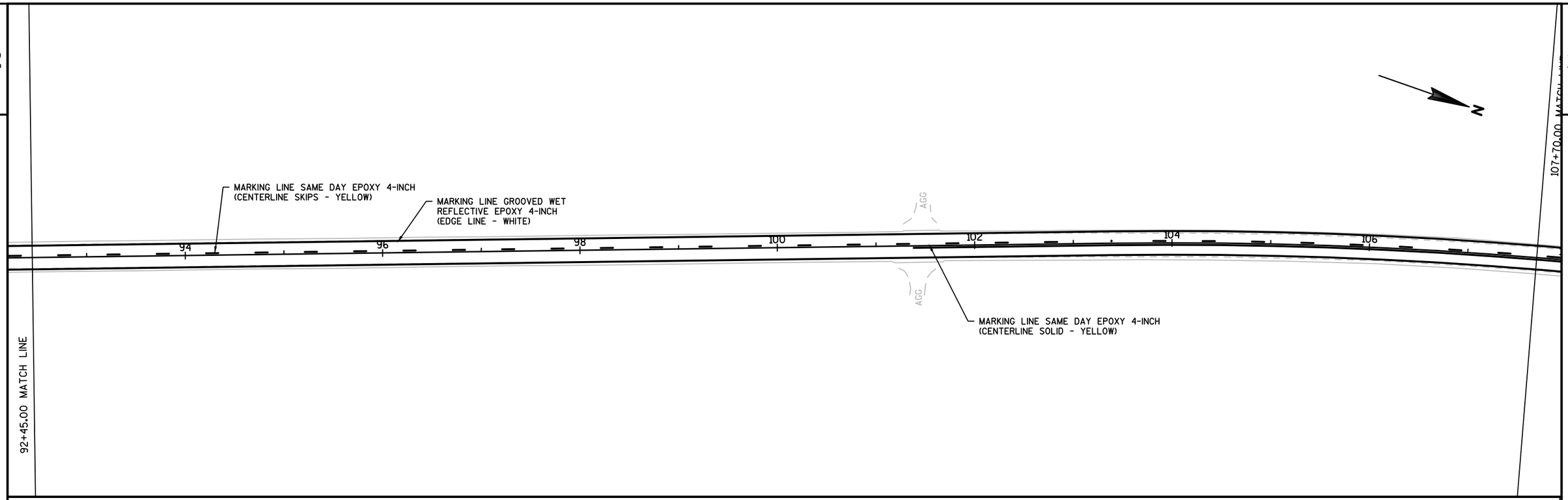
MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE - WHITE)

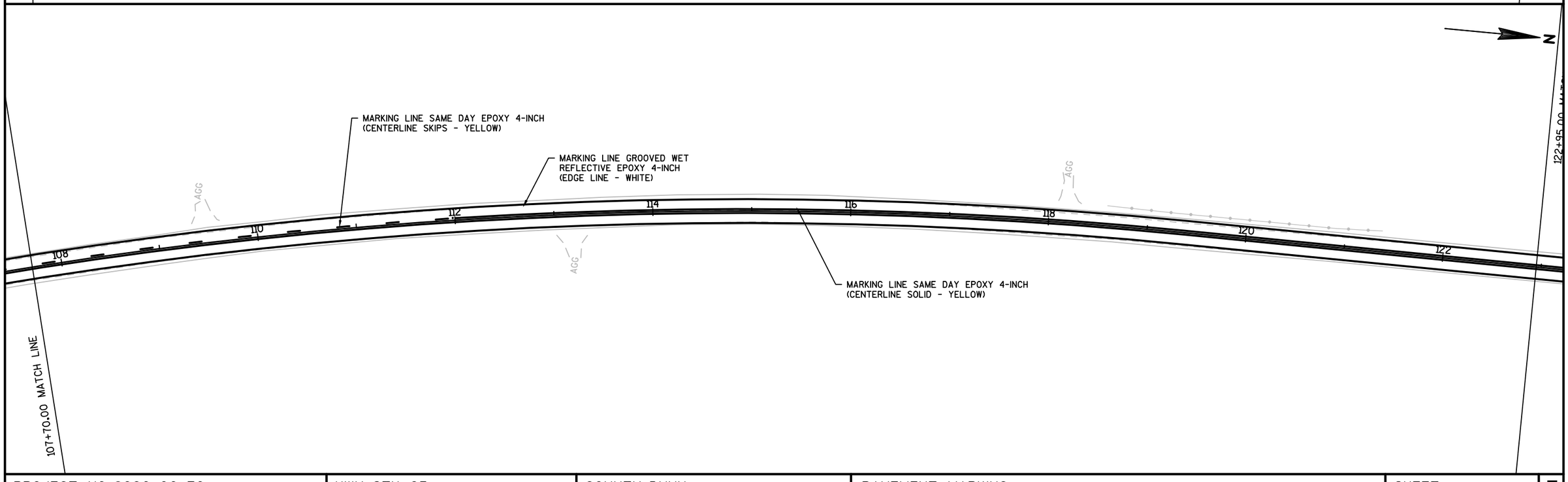
78 80 82 84 86 88 90 92

AGG

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PAVEMENT MARKING	SHEET 21	E

2





PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PAVEMENT MARKING	SHEET 22	E

2

122+95.00 MATCH LINE

N

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SOLID - YELLOW)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE - WHITE)

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SKIPS - YELLOW)

124 126 128 130 132 134 136 138

138+20.00 MATCH LINE

2

138+20.00 MATCH LINE

N

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SOLID - YELLOW)

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SKIPS - YELLOW)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE - WHITE)

FE

38 140 142 144 146 148 150 152

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE DASHED - WHITE)

113TH AVE

AGG

153+45.00 MATCH LINE

138+20.00 MATCH LINE

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PAVEMENT MARKING	SHEET 23	E

2

153+45.00 MATCH LINE

N

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SKIPS - YELLOW)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE - WHITE)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE DASHED - WHITE)

154 156 158 160 162 164 166 168

AGG

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE DASHED - WHITE)

168+70.00 MATCH LINE

2

N

183+95.00 MATCH LINE

AGG

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SKIPS - YELLOW)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE - WHITE)

170 172 174 176 178 180 182 184

AGG

168+70.00 MATCH LINE

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PAVEMENT MARKING	SHEET	E

FILE NAME : F:\DRAWINGS\2014-114\0002\80900000\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 024506_PM

PLOT DATE : 6/22/2018 10:22 AM PLOT BY : MATT GUNDRY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

N

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SKIPS - YELLOW)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE - WHITE)

ASPH

184 186 188 190 192 194 196 198

STH 25

FE

AGG

183+95.00 MATCH LINE

199+20.00 MATCH LINE

2

N

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SKIPS - YELLOW)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE - WHITE)

200 202 204 206 208 210 212 214

STH 25

AGG

AGG

199+20.00 MATCH LINE

214+45.00 MATCH LINE

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PAVEMENT MARKING	SHEET 25	E

2

214+45.00 MATCH LINE

C.T.H. EE

1170TH AVE

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SKIPS - YELLOW)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE - WHITE)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 8-INCH
(CHANNELIZING LANE - WHITE)

216 218 220 222 224 226 228

STH 25

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE DASHED - WHITE)

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SOLID - YELLOW)

229+70.00 MATCH LINE

2

N

229+70.00 MATCH LINE

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SKIPS - YELLOW)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE - WHITE)

AGG

230 232 234 236 238 240 242 244

STH 25

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SOLID - YELLOW)

244+95.00 MATCH LINE

N

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PAVEMENT MARKING	SHEET	E

FILE NAME : F:\DRAWINGS\2014-114\0002\80900000\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 024508_PM
PLOT DATE : 6/22/2018 10:23 AM PLOT BY : MATT GUNDRY PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2

N

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SKIPS - YELLOW)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE - WHITE)

AGG

246 248 250 252 254 256 258 260

STH 25

STH 25

AGG

244+95.00 MATCH LINE

260+20.00 MATCH LINE

2

N

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SKIPS - YELLOW)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE - WHITE)

AGG

60 262 264 266 268 270 272 274

STH 25

STH 25

AGG

ASPH

ASPH

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SOLID - YELLOW)

260+20.00 MATCH LINE

275+45.00 MATCH LINE

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PAVEMENT MARKING	SHEET	E

FILE NAME : F:\DRAWINGS\2014-114\0002\80900000\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 024509_PM

PLOT DATE : 6/22/2018 10:23 AM PLOT BY : MATT GUNDRY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

N

2

275+45.00 MATCH LINE

290+70.00 MATCH LINE

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SKIPS - YELLOW)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE - WHITE)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 8-INCH
(CHANNELIZING LANE - WHITE)

276 278 280 282 284 286 288 290

STH 25

AGG

AGG

STH 25

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SOLID - YELLOW)

N

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SKIPS - YELLOW)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE - WHITE)

MARKING LINE SAME DAY EPOXY 4-INCH
(CENTERLINE SOLID - YELLOW)

292 294 296 298

MARKING STOP LINE EPOXY 18-INCH

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 4-INCH
(EDGE LINE - WHITE)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 8-INCH
(WHITE)

MARKING LINE GROOVED WET
REFLECTIVE EPOXY 8-INCH
(CHANNELIZING LANE - WHITE)

ASPH

290+70.00 MATCH LINE

STH 64

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PAVEMENT MARKING	SHEET 28	E

FILE NAME : F:\DRAWINGS\2014-114\0002\80900000\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 024510_PM

PLOT DATE : 6/22/2018 10:23 AM PLOT BY : MATT GUNDRY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

					8090-00-70	8090-00-71
Line	**Item**	**Item Description**	**Unit**	**Total**	**Qty**	**Qty**
0002	201.0105	Clearing	STA	11.000	11.000	
0004	201.0205	Grubbing	STA	11.000	11.000	
0010	204.0115	Removing Asphaltic Surface Butt Joints	SY	460.000	460.000	
0012	204.0120	Removing Asphaltic Surface Milling	SY	98,625.000	98,625.000	
0014	204.0180	Removing Delineators and Markers	EACH	13.000	13.000	
0024	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 8090-00-70	LS	1.000	1.000	
0026	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	560.000	560.000	
0028	213.0100	Finishing Roadway (project) 01. 8090-00-70	EACH	1.000	1.000	
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,600.000	1,600.000	
0036	305.0500	Shaping Shoulders	STA	560.000	560.000	
0042	440.4410	Incentive IRI Ride	DOL	21,200.000	21,200.000	
0046	455.0605	Tack Coat	GAL	11,135.000	9,890.000	1,245.000
0048	460.2000	Incentive Density HMA Pavement	DOL	1,430.000		1,430.000
0050	460.2005	Incentive Density PWL HMA Pavement	DOL	25,225.000	25,225.000	
0052	460.2010	Incentive Air Voids HMA Pavement	DOL	25,225.000	25,225.000	
0054	460.4110.S	Reheating HMA Pavement Longitudinal Joints	LF	55,850.000	55,850.000	
0056	460.6223	HMA Pavement 3 MT 58-28 S	TON	13,310.000	13,310.000	
0060	460.6644	HMA Pavement 4 MT 58-34 V	TON	12,250.000	10,885.000	1,365.000
0062	465.0105	Asphaltic Surface	TON	3,030.000	1,665.000	1,365.000
0064	465.0110	Asphaltic Surface Patching	TON	300.000	300.000	
0070	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	41,810.000		41,810.000
0072	465.0450	Asphaltic Intersection Rumble Strips	SY	80.000	80.000	
0074	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	26,720.000	26,720.000	
0096	520.8700	Cleaning Culvert Pipes	EACH	9.000	9.000	
0098	520.9700.S	Culvert Pipe Liners (size) 01. 36-Inch	LF	62.000	62.000	
0100	520.9750.S	Cleaning Culvert Pipes for Liner Verification	EACH	1.000	1.000	
0102	521.1024	Apron Endwalls for Culvert Pipe Steel 24-Inch	EACH	2.000	2.000	
0104	521.1030	Apron Endwalls for Culvert Pipe Steel 30-Inch	EACH	1.000	1.000	
0106	521.1036	Apron Endwalls for Culvert Pipe Steel 36-Inch	EACH	2.000	2.000	
0114	614.0010	Barrier System Grading Shaping Finishing	EACH	6.000	6.000	
0118	614.0920	Salvaged Rail	LF	1,450.000	1,450.000	
0120	614.2300	MGS Guardrail 3	LF	1,713.000	1,713.000	
0124	614.2610	MGS Guardrail Terminal EAT	EACH	12.000	12.000	
0126	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8090-00-70	EACH	1.000	1.000	
0130	619.1000	Mobilization	EACH	0.330	0.310	0.020
0132	624.0100	Water	MGAL	25.000	25.000	
0138	628.1504	Silt Fence	LF	1,200.000	1,200.000	
0140	628.1520	Silt Fence Maintenance	LF	1,200.000	1,200.000	

					8090-00-70	8090-00-71
Line	**Item**	**Item Description**	**Unit**	**Total**	**Qty**	**Qty**
0142	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000	
0144	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000	
0146	628.2004	Erosion Mat Class I Type B	SY	2,880.000	2,880.000	
0150	628.7504	Temporary Ditch Checks	LF	360.000	360.000	
0152	628.7555	Culvert Pipe Checks	EACH	9.000	9.000	
0160	633.5200	Markers Culvert End	EACH	16.000	16.000	
0162	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	54.000	54.000	
0164	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	50.000	50.000	
0166	637.2210	Signs Type II Reflective H	SF	570.360	570.360	
0168	637.2230	Signs Type II Reflective F	SF	156.000	156.000	
0170	638.2602	Removing Signs Type II	EACH	91.000	91.000	
0172	638.3000	Removing Small Sign Supports	EACH	78.000	78.000	
0174	642.5001	Field Office Type B	EACH	0.330	0.330	
0176	643.0300	Traffic Control Drums	DAY	1,200.000	1,200.000	
0178	643.0310.S	Temporary Portable Rumble Strips	LS	1.000	1.000	
0184	643.0715	Traffic Control Warning Lights Type C	DAY	1,000.000	1,000.000	
0186	643.0900	Traffic Control Signs	DAY	1,050.000	1,050.000	
0190	643.5000	Traffic Control	EACH	0.500	0.500	
0196	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	58,110.000	58,110.000	
0198	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	965.000	965.000	
0200	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	22,015.000	22,015.000	
0202	646.5320	Marking Railroad Crossings Epoxy	EACH	1.000	1.000	
0204	646.6120	Marking Stop Line Epoxy 18-Inch	LF	14.000	14.000	
0206	648.0100	Locating No-Passing Zones	MI	5.580	5.580	
0208	649.0105	Temporary Marking Line Paint 4-Inch	LF	22,015.000	22,015.000	
0216	650.8000	Construction Staking Resurfacing Reference	LF	27,916.000	27,916.000	
0218	650.9910	Construction Staking Supplemental Control (project) 01. 8090-00-70	LS	1.000	1.000	
0230	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,400.000	2,400.000	
0232	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	990.000	990.000	
0234	SPV.0060	Special 01. HMA Pavement PWL Test Strip Volumetrics	EACH	2.000	2.000	
0236	SPV.0060	Special 02. HMA Pavement PWL Test Strip Density	EACH	2.000	2.000	
0238	SPV.0090	Special 01. Ditch Cleaning	LF	250.000	250.000	
0240	SPV.0105	Special 01. Material Transfer Vehicle	LS	1.000	1.000	

*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

CLEARING AND GRUBBING					
				201.0105 CLEARING	201.0205 GRUBBING
STATION	TO	STATION	LOCATION	STA	STA
38+70	TO	43+70	LT & RT	5	5
118+25	TO	119+25	LT	1	1
121+50	TO	122+50	LT	1	1
129+00	TO	130+00	LT & RT	1	1
132+00	TO	133+00	LT	1	1
137+20	TO	139+20	LT & RT	2	2
ITEM TOTAL				11	11

REMOVING ASPHALTIC SURFACE BUTT JOINTS				204.0115
STATION	TO	STATION	LOCATION	SY
1+50	TO	2+00	BEGIN PROJECT	190
4+52			BIRCH ST LT	6
44+55			1040TH AVE INTERSECTION RT	7
44+55			1040TH AVE INTERSECTION LT	7
72+25			CTH N INTERSECTION RT	10
72+25			CTH N INTERSECTION LT	10
143+93			1113TH AVE INTERSECTION RT	6
166+11			1130TH AVE INTERSECTION RT	7
166+11			1130TH AVE INTERSECTION LT	7
219+25			CTH FF INTERSECTION RT	10
219+25			CTH FF INTERSECTION LT	10
295+66	TO	296+16	END PROJECT	190
ITEM TOTAL				460

REMOVING ASPHALTIC SURFACE MILLING				204.0120
STATION	TO	STATION	LOCATION	SY
1+50	TO	8+00	MAINLINE	2170
23+50	TO	296+16	MAINLINE	90890
4+42			DRIVEWAY RT	50
4+52			BIRCH ST LT	242
44+55			1040TH AVE INTERSECTION RT	272
44+55			1040TH AVE INTERSECTION LT	160
72+25			CTH N INTERSECTION RT	866
72+25			CTH N INTERSECTION LT	906
143+93			1113TH AVE INTERSECTION RT	231
160+32			DRIVEWAY LT	45
166+11			1130TH AVE INTERSECTION RT	260
166+11			1130TH AVE INTERSECTION LT	295
190+35			DRIVEWAY LT	54
219+25			CTH FF INTERSECTION RT	284
219+25			CTH FF INTERSECTION LT	764
269+40			DRIVEWAY LT	289
292+15			DRIVEWAY RT	847
ITEM TOTAL				98625

REMOVING DELINEATORS AND MARKERS				204.0180
STATION	TO	STATION	LOCATION	EACH
1+50	TO	296+16	LT & RT	13
ITEM TOTAL				13

PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) 8090-00-70				211.0100
STATION	TO	STATION	LOCATION	LS
1+50	TO	296+16	PROJECT	1
ITEM TOTAL				1

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS				211.0400
STATION	TO	STATION	LOCATION	STA
1+50	TO	8+00	RT SHOULDER	7
1+50	TO	8+00	LT SHOULDER	7
23+50	TO	296+50	RT SHOULDER	273
23+50	TO	296+16	LT SHOULDER	273
ITEM TOTAL				560

FINISHING ROADWAY (PROJECT) 8090-00-70				213.0100
STATION	TO	STATION	LOCATION	EACH
1+50	TO	296+16	PROJECT	1
ITEM TOTAL				1

BASE AGGREGATE DENSE 3/4-INCH				305.0110
STATION	TO	STATION	LOCATION	TON
1+50	TO	4+25	SHOULDER RT	8
4+55	TO	8+00	SHOULDER RT	10
23+50	TO	44+25	SHOULDER RT	60
44+61	TO	71+50	SHOULDER RT	75
72+80	TO	143+75	SHOULDER RT	200
144+05	TO	166+00	SHOULDER RT	65
166+25	TO	219+11	SHOULDER RT	150
219+40	TO	268+69	SHOULDER RT	140
273+03	TO	291+90	SHOULDER RT	56
292+40	TO	296+50	SHOULDER RT	11
1+50	TO	4+40	SHOULDER LT	8
4+65	TO	8+00	SHOULDER LT	9
23+50	TO	44+52	SHOULDER LT	58
44+75	TO	71+69	SHOULDER LT	75
73+06	TO	160+23	SHOULDER LT	245
160+45	TO	165+95	SHOULDER LT	15
166+33	TO	190+23	SHOULDER LT	70
190+45	TO	218+76	SHOULDER LT	80
219+84	TO	296+50	SHOULDER LT	215
			UNDISTRIBUTED	50
ITEM TOTAL				1600

SHAPING SHOULDERS				305.0500
STATION	TO	STATION	LOCATION	STA
1+50	TO	8+00	SHOULDER RT	7
1+50	TO	8+00	SHOULDER LT	7
23+50	TO	296+50	SHOULDER RT	273
23+50	TO	296+50	SHOULDER LT	273
ITEM TOTAL				560

TACK COAT				455.0605
STATION	TO	STATION	LOCATION	GAL
1+50	TO	8+00	MAINLINE	220
23+50	TO	296+16	MAINLINE	9090
4+52			BIRCH ST LT	24
44+55			1040TH AVE INTERSECTION RT	27
44+55			1040TH AVE INTERSECTION LT	16
72+25			CTH N INTERSECTION RT	90
72+25			CTH N INTERSECTION LT	91
143+93			1113TH AVE INTERSECTION RT	23
166+11			1130TH AVE INTERSECTION RT	26
166+11			1130TH AVE INTERSECTION LT	29
219+25			CTH FF INTERSECTION RT	30
219+25			CTH FF INTERSECTION LT	76
267+90	TO	274+35	WIDENING RT	33
292+15			CE RT - COUNTY SHOP	85
			BEAMGUARD WIDENINGS	30
ITEM TOTAL				9890

REHEATING HMA PAVEMENT LONGITUDINAL JOINTS				460.4110.S
STATION	TO	STATION	LOCATION	LF
1+50	TO	8+00	CL	1300
23+50	TO	296+16	CL	54550
ITEM TOTAL				55850

*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

HMA PAVEMENT 3 MT 58-28 S				460.6223
STATION	TO	STATION	LOCATION	TON
1+50	TO	8+00	MAINLINE	310
23+50	TO	296+16	MAINLINE	13000
ITEM TOTAL				13310

HMA PAVEMENT 4 MT 58-34 V				460.6644
STATION	TO	STATION	LOCATION	TON
1+50	TO	8+00	MAINLINE	240
23+50	TO	296+50	MAINLINE	10010
4+52			BIRCH ST LT	27
44+55			1040TH AVE INTERSECTION RT	30
44+55			1040TH AVE INTERSECTION LT	17
72+25			CTH N INTERSECTION RT	95
72+25			CTH N INTERSECTION LT	100
143+93			1113TH AVE INTERSECTION RT	25
166+11			1130TH AVE INTERSECTION RT	30
166+11			1130TH AVE INTERSECTION LT	32
219+25			CTH FF INTERSECTION RT	31
219+25			CTH FF INTERSECTION LT	84
267+90	TO	274+35	WIDENING RT	36
292+15			CE RT - COUNTY SHOP	93
			BEAMGUARD WIDENINGS	35
ITEM TOTAL				10885

ASPHALTIC SURFACE				465.0105
STATION	TO	STATION	LOCATION	TON
1+50	TO	8+00	SHOULDER LOWER LAYER	24
23+50	TO	296+50	SHOULDER LOWER LAYER	1005
4+52			BIRCH ST LT	45
44+55			1040TH AVE INTERSECTION RT	50
44+55			1040TH AVE INTERSECTION LT	30
72+25			CTH N INTERSECTION RT	155
72+25			CTH N INTERSECTION LT	162
143+93			1113TH AVE INTERSECTION RT	40
166+11			1130TH AVE INTERSECTION RT	45
166+11			1130TH AVE INTERSECTION LT	53
219+25			CTH FF INTERSECTION RT	50
219+25			CTH FF INTERSECTION LT	137
267+90	TO	274+35	WIDENING RT	58
292+15			CE RT - COUNTY SHOP	150
			BEAMGUARD WIDENINGS	55
23+50	TO	296+50	DRIVEWAYS	1
ITEM TOTAL				1665

ASPHALTIC SURFACE PATCHING				465.0110
STATION	TO	STATION	LOCATION	TON
1+50	TO	296+16	UNDISTRIBUTED	300
ITEM TOTAL				300

ASPHALTIC INTERSECTION RUMBLE STRIPS				465.0450
STATION	TO	STATION	LOCATION	SY
288+75	TO	294+75	MAINLINE	80
ITEM TOTAL				80

ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL				465.0475
STATION	TO	STATION	LOCATION	LF
1+50	TO	15+80	MAINLINE	1030
19+10	TO	296+00	MAINLINE	25690
ITEM TOTAL				26720

CULVERT PIPE AND APRON ENDWALLS								
STATION	LOCATION	520.8700 CLEANING CULVERT PIPES EACH	520.9700.S CULVERT PIPE LINERS (INCH) 01. 36-INCH LF	520.9750.S CLEANING CULVERT PIPES FOR LINER VERIFICATION EACH	521.1024 APRON ENDWALLS FOR CP STEEL 24-INCH EACH	521.1030 APRON ENDWALLS FOR CP STEEL 30-INCH EACH	521.1036 APRON ENDWALLS FOR CP STEEL 36-INCH EACH	633.5200 MARKERS CULVERT END EACH
26+10	LT & RT	--	--	--	2	--	--	2
46+15	LT	--	--	--	--	1	--	--
59+15	STH 25	1	--	--	--	--	--	--
80+25	STH 25	--	62	1	--	--	2	--
93+35	STH 25	1	--	--	--	--	--	2
149+05	STH 25	1	--	--	--	--	--	2
156+25	STH 25	1	--	--	--	--	--	2
165+00	STH 25	1	--	--	--	--	--	2
186+75	STH 25	1	--	--	--	--	--	2
202+75	STH 25	1	--	--	--	--	--	2
218+50	STH 25	1	--	--	--	--	--	2
298+00	RT	1	--	--	--	--	--	--
ITEM TOTAL		9	62	1	2	1	2	16

*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

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GUARDRAIL SUMMARY						
STATION	TO	STATION	LOCATION	614.0920 SALVAGED RAIL LF	614.2300 MGS GUARDRAIL 3 LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
39+82.0	TO	42+13.3	RT	--	125.0	2
40+31.5	TO	42+62.8	LT	--	125.0	2
118+47.8	TO	121+53.7	LT	275	200.0	2
129+13.9	TO	138+70.1	RT	750	850.0	2
129+74.3	TO	131+93	LT	125	112.5	2
133+93.6	TO	137+99.8	LT	300	300.0	2
ITEM TOTAL				1450	1713	12

SILT FENCE					
STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
39+82.0	TO	42+13.3	RT	425	425
40+31.5	TO	42+62.8	LT	425	425
116+25	TO	117+80	LT	170	170
137+20	TO	139+00	LT	80	80
UNDISTRIBUTED				100	100
ITEM TOTAL				1200	1200

EROSION MAT CLASS I TYPE B				628.2004
STATION	TO	STATION	LOCATION	SY
UNDISTRIBUTED			AS NEEDED IN BSGSF AREAS	2880
ITEM TOTAL				2880

BARRIER SYSTEM GRADING SHAPING FINISHING										614.0010
STATION	TO	STATION	LOCATION	* EXCAVATION COMMON CY	* BORROW CY	* SALVAGED TOPSOIL SY	* MULCHING SY	* FERTILIZER TYPE B CWT	* SEEDING MIXTURE NO. 20 LB	EACH
39+82.0	TO	42+13.3	RT	1	255	560	771	0.4	15	1
40+31.5	TO	42+62.8	LT	0	670	820	1031	0.5	22	1
118+47.8	TO	121+53.7	LT	8	110	443	654	0.3	13	1
129+13.9	TO	138+70.1	RT	3	95	152	363	0.1	5	1
129+74.3	TO	131+93	LT	2	135	175	386	0.1	5	1
133+93.6	TO	137+99.8	LT	1	75	465	675	0.3	13	1
ITEM TOTAL				15	1340	2615	3880	2	73	6

* INCLUDED FOR ESTIMATING PURPOSES ONLY.
ITEMS ARE INCIDENTAL TO BARRIER SYSTEM GRADING SHAPING FINISHING.

TEMPORARY DITCH CHECKS				628.7504
STATION	TO	STATION	LOCATION	LF
115+75			LT	30
120+80	TO	122+45	LT	75
128+50	TO	129+90	RT	15
129+25	TO	130+25	LT	30
137+20	TO	139+00	LT	45
138+00	TO	139+90	RT	75
238+80			LT & RT	30
262+95			LT & RT	30
UNDISTRIBUTED				30
ITEM TOTAL				360

MOBILIZATION				619.1000
STATION			LOCATION	EACH
1+50	TO	296+16	PROJECT	0.31
ITEM TOTAL				0.31

WATER				624.0100
STATION			LOCATION	MGAL
1+50	TO	296+16	PROJECT	25
ITEM TOTAL				25

MOBILIZATIONS EROSION CONTROL			
STATION TO STATION	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT LIMITS	8090-00-70	2	2
ITEM TOTAL		2	2

CULVERT PIPE CHECKS				628.7555
STATION	TO	STATION	LOCATION	EACH
115+75			LT	3
238+80			LT & RT	3
262+95			LT & RT	3
ITEM TOTAL				9

*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

FIELD OFFICE TYPE B	642.5001
LOCATION	EACH
PROJECT	0.33
ITEM TOTAL	0.33

TRAFFIC CONTROL	643.5000
LOCATION	EACH
PROJECT	
ITEM TOTAL	0.5

TRAFFIC CONTROL SIGNS			643.0900
STATION TO STATION		LOCATION	DAYS
1+50 TO 296+16		PROJECT	1050
ITEM TOTAL			1050

TRAFFIC CONTROL DRUMS			643.0300
STATION TO STATION		LOCATION	DAYS
1+50 TO 296+16		BEAMGUARD REMOVALS	1200
ITEM TOTAL			1200

TRAFFIC CONTROL WARNING LIGHTS TYPE C			643.0715
STATION TO STATION		LOCATION	DAYS
1+50 TO 296+16		BEAMGUARD REMOVALS	1000
ITEM TOTAL			1000

MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH			646.1040
STATION TO STATION		LOCATION	LF
1+50 TO 296+16		WHITE EDGE LINES	57903
1+50 TO 296+16		WHITE DASHES INTS	207
ITEM TOTAL			58110

MARKING LINE GROOVED WET REFLECTIVE EPOXY 8-INCH			646.3040
STATION TO STATION		LOCATION	LF
1+50 TO 296+16		WHITE LN CHAN	925
297+50		WHITE ISLAND GORE	40
ITEM TOTAL			965

MARKING LINE SAME DAY EPOXY 4-INCH			646.4520
STATION TO STATION		LOCATION	LF
1+50 TO 296+16		YELLOW SOLID CL	15290
1+50 TO 296+16		YELLOW DASHES CL	6725
ITEM TOTAL			22015

MARKING RAILROAD CROSSING EPOXY		646.5320
STATION	LOCATION	EACH
11+00	SB LANE	1
ITEM TOTAL		1

MARKING STOP LINE EPOXY 18-INCH			646.6120
STATION TO STATION		LOCATION	LF
298+60		INT STH 64	14
ITEM TOTAL			14

TEMPORARY MARKING LINE PAINT 4-INCH			649.0105
STATION TO STATION		LOCATION	LF
1+50 TO 296+16		YELLOW SOLID CL	15290
1+50 TO 296+16		YELLOW DASHES CL	6725
ITEM TOTAL			22015

LOCATING NO-PASSING ZONES			648.0100
STATION TO STATION		LOCATION	MI
1+50 TO 296+16		MAINLINE	5.58
ITEM TOTAL			5.58

CONSTRUCTION STAKING RESURFACING REFERENCE			CAL:	650.8000
STATION TO STATION		LOCATION	LENGTH LF	LF
1+50 TO 8+00		MAINLINE	650.0	650
23+50 TO 296+16		MAINLINE	27266.0	27266
ITEM TOTAL				27916

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 8090-00-70			CAL:	650.9910
STRUCTURE		LOCATION	L.S.	LS
1+50 TO 296+16		PROJECT	1.0	1
ITEM TOTAL				1

STATION	SIGN NUMBER	SIGN CODE	SIGN DESCRIPTION	WIDTH INCHES	HEIGHT INCHES	637.2210 SIGNS, TYPE II, REFLECTIVE H SF	637.2230 SIGNS, TYPE II, REFLECTIVE F SF	634.0614 WOOD POSTS, 4X6-INCH X 14 FT EACH	634.0616 WOOD POSTS, 4X6-INCH X 16 FT EACH	638.2602 REMOVING SIGNS, TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
2+46	1000	J4-1	NORTH STH 25	24	36	6.00	--	1	--	2	--
3+98	1001	R1-1	STOP	30	30	6.25	--	1	--	1	1
5+55	1002	W10-1	RAILROAD CROSSING	36	36	--	9.00	1	--	1	1
7+70	1003	R2-1	SPEED LIMIT 35	24	30	5.00	--	1	--	1	1
7+70	1004	R2-1	SPEED LIMIT 55	24	18	3.00	--	1	--	1	1
9+68	1005	D1-3	ARROW AHEAD, MENOMONIE ARROW LEFT, COLFAX BOYCEVILLE, ARROW RIGHT	78	42	22.75	--	--	2	--	--
11+07	1006	J2-3	EAST - SOUTH - WEST 170 - 25 - 170 LT - UA - RT	72	57	28.50	--	--	2	1	1
12+46	1007	J1-1	JUNCTION STH 170	24	39	6.50	--	--	1	1	1
13+86	1008	W3-5	REDUCE SPEED AGAIN 35	24	30	5.00	--	1	--	1	1
15+02	1009	R10-64-F	WITHIN CITY OR VILLAGE LIMITS	42	24	7.00	--	--	1	1	1
15+02	1010	R10-64	NO ENGINE BRAKING	30	36	7.50	--	--	--	1	--
15+46	1011	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1
15+70	1012	W5-52L	CLEARANCE STRIPER DOWN RIGHT	12	36	--	3.00	1	--	1	1
15+74	1013	W5-52R	CLEARANCE STRIPER DOWN LEFT	12	36	--	3.00	1	--	1	1
18+00	1014	W5-52R	CLEARANCE STRIPER DOWN LEFT	12	36	--	3.00	1	--	1	1
17+99	1015	W5-52L	CLEARANCE STRIPER DOWN RIGHT	12	36	--	3.00	1	--	1	1
18+20	1016	I2-3	WHEELER POPULATION 348	54	24	9.00	--	--	2	1	1
18+20	1017	D2-2	RIDGELAND 13 BARRON 27	78	24	13.00	--	--	2	--	--
38+00	1018	D1-61	1040TH AVE ARROWS	66	24	11.00	--	--	2	--	--
39+60	1019	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1
44+07	1020	R1-1	STOP	30	30	6.25	--	1	--	1	1
44+36	1021	R1-1	STOP	30	30	6.25	--	1	--	1	1
50+85	1022	D1-61	1040TH AVE ARROWS	66	24	11.00	--	--	2	--	--
55+94	1023	W11-6	SNOWMOBILE CROSSING	--	--	--	--	--	--	1	1
55+94	1024	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	--
61+67	1025	J1-1	JUNCTION COUNTY N	24	39	6.50	--	--	1	1	1
62+51	1026	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	2	1
69+22	1027	J12-1	CTH N DIRECTIONAL ARROW LEFT OR RIGHT	24	45	7.50	--	--	1	1	1
62+51	1028	J4-1	SOUTH STH 25	24	36	6.00	--	--	--	--	--
71+76	1029	J12-1	STH 25 DIRECTIONAL ARROW LEFT OR RIGHT	24	45	7.50	--	--	1	1	1
71+80	1030	R1-1	STOP	30	30	6.25	--	1	--	1	1
71+98	1031	R1-1	STOP	30	30	6.25	--	1	--	1	1
72+02	1032	J12-1	STH 25 DIRECTIONAL ARROW LEFT OR RIGHT	24	45	7.50	--	--	1	1	1

STATION	SIGN NUMBER	SIGN CODE	SIGN DESCRIPTION	WIDTH INCHES	HEIGHT INCHES	637.2210 SIGNS, TYPE II, REFLECTIVE H SF	637.2230 SIGNS, TYPE II, REFLECTIVE F SF	634.0614 WOOD POSTS, 4X6-INCH X 14 FT EACH	634.0616 WOOD POSTS, 4X6-INCH X 16 FT EACH	638.2602 REMOVING SIGNS, TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
72+46	1033	M1-5A	CTH N	24	24	4.00	--	1	--	1	1
73+31	1034	J4-1	NORTH STH 25	24	36	6.00	--	--	--	1	--
74+89	1035	J12-1	CTH N DIRECTIONAL ARROW LEFT OR RIGHT	24	45	7.50	--	--	1	1	1
79+76	1036	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1
81+72	1037	J1-1	JUNCTION COUNTY N	24	39	6.50	--	--	1	1	1
101+48	1038	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1
143+85	1039	R1-1	STOP	30	30	6.25	--	1	--	1	1
144+88	1040	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1
160+00	1041	D1-61	1130TH AVE ARROWS	60	24	10.00	--	--	2	--	--
165+55	1042	R1-1	STOP	30	30	6.25	--	1	--	1	1
166+03	1043	R1-1	STOP	30	30	6.25	--	1	--	1	1
172+00	1044	D1-61	1130TH AVE ARROWS	60	24	10.00	--	--	2	--	--
208+97	1045	J1-1	JUNCTION COUNTY FF	24	39	6.50	--	--	1	1	1
211+00	1046	D1-1	1130TH AVE RT	78	15	8.13	--	--	2	--	--
217+60	1047	J4-1	SOUTH STH 25	24	36	6.00	--	--	--	1	--
218+61	1048	J12-1	STH 25 DIRECTIONAL ARROW LEFT OR RIGHT	24	45	7.50	--	--	1	1	1
218+67	1049	R1-1	STOP	30	30	6.25	--	1	--	1	1
218+54	1050	J12-1	CTH FF DIRECTIONAL ARROW LEFT	24	45	7.50	--	--	1	1	1
219+14	1051	R1-1	STOP	30	30	6.25	--	1	--	1	1
219+95	1052	J4-1	NORTH STH 25	24	36	6.00	--	1	--	1	1
221+43	1053	J12-1	CTH FF DIRECTIONAL ARROW RIGHT	24	45	7.50	--	--	1	1	1
224+93	1054	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1
227+00	1055	D1-1	1130TH AVE LT	78	15	8.13	--	--	2	--	--
229+22	1056	J1-1	JUNCTION CTH FF	24	39	6.50	--	--	--	1	--
240+10	1057	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1
263+17	1058	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1
283+69	1059	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1
283+90	1060	W14-3	NO PASSING ZONE	48	36	--	6.00	1	--	1	1
286+48	1061	J1-1	JUNCTION STH 64	24	39	6.50	--	--	--	1	--
288+88	1062	W3-1	STOP AHEAD	36	36	--	9.00	1	--	1	1
288+92	1063	W3-1	STOP AHEAD	36	36	--	9.00	1	--	1	1
290+20	1064	J2-3	WEST - NORTH - EAST 64 - 25- 64 LT - RT - RT	72	57	28.50	--	--	2	1	1
292+85	1065	D2-2	WHEELER 6 MENOMONIE 17	84	24	14.00	--	--	2	--	--
293+33	1066	D1-3	ARROW LEFT, CONNORSVILLE BARRON , ARROW RIGHT CORNELL	84	36	21.00	--	--	2	1	1
294+56	1067	R2-1	SPEED LIMIT 55	24	18	3.00	--	1	--	1	1
295+36	1068	J2-2	NORTH - EAST 25 - 64 RA - RA	48	57	19.00	--	1	--	1	1
297+00	1069	J4-1	SOUTH STH 25	24	36	6.00	--	--	1	2	1
GRAND TOTAL						570.36	156.00	54.00	50.00	91.00	78.00

*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

SPECIAL 01. DITCH CLEANING		SPV.0090.01
STATION	LOCATION	LF
115+75	LT	50
238+80	LT & RT	100
262+95	LT & RT	100
ITEM TOTAL		250

SPECIAL 01. HMA PAVEMENT PWL TEST STRIP VOLUMETRICS		SPV.0060.01
STATION	LOCATION	EACH
1+50 TO 269+16	PROJECT	2
ITEM TOTAL		2

SPECIAL 02. HMA PAVEMENT PWL TEST STRIP DENSITY		SPV.0060.02
STATION	LOCATION	EACH
1+50 TO 269+16	PROJECT	2
ITEM TOTAL		2

Location	Station	Mixture Use	Underlying Surface	Bid Item	Tons	Thickness	Quality Management Program to be used for:	
							Mixture Acceptance	Density Acceptance
12 foot driving lane	1+50 to 8+00 23+50 to 296+16	Lower Layer	Milled existing / existing base agg.	3 MT 58-28 S	13310	3.25"	460.2010 – Incentive Air Voids PWL HMA Pavement	460.2005 – Incentive Density PWL HMA Pavement
12 foot driving lane	1+50 to 8+00 23+50 to 296+16	Upper Layer	3 MT 58-28 S	4 MT 58-34 V	8200	2.00"	460.2010 – Incentive Air Voids PWL HMA Pavement	460.2005 – Incentive Density PWL HMA Pavement
5 foot shoulder	1+50 to 8+00 23+50 to 296+16	Upper Layer & Misc. Side Roads	Asphaltic Surface	4 MT 58-34 V	4050	2.00"	460.2010 – Incentive Air Voids PWL HMA Pavement	Acceptance testing by the department; Not eligible for incentive
5 foot shoulder	1+50 to 8+00 23+50 to 296+16	Lower Layer & Misc. Side Roads	Milled existing / existing base agg.	Asphaltic Surface 4 MT 58-28S or higher	3030	2.00"	Acceptance per SS 465	Acceptance per SS 465

*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

** ALL ITEMS ON THIS SHEET, AND ONLY THIS SHEET, ARE UNDER PROJECT 8090-00-71

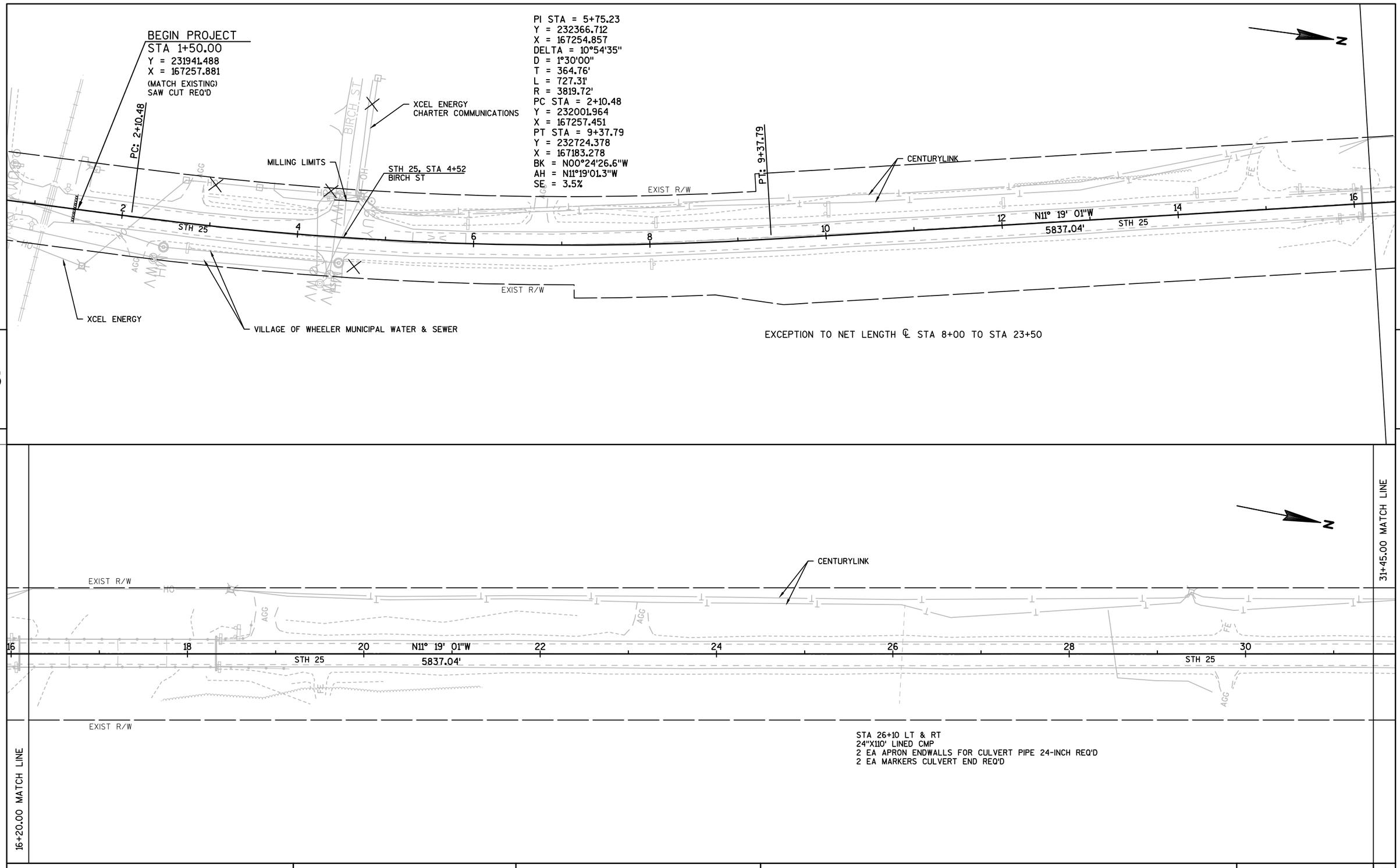
TACK COAT				455.0605
STATION	TO	STATION	LOCATION	GAL
1+50	TO	8+00	SHOULDERS	30
23+50	TO	296+16	SHOULDERS	1215
ITEM TOTAL				1245

HMA PAVEMENT 4 MT 58-34 V				460.6644
STATION	TO	STATION	LOCATION	TON
1+50	TO	8+00	SHOULDERS UPPER LAYER	32
23+50	TO	296+16	SHOULDERS UPPER LAYER	1333
ITEM TOTAL				1365

ASPHALTIC SURFACE				465.0105
STATION	TO	STATION	LOCATION	TON
1+50	TO	8+00	SHOULDERS LOWER LAYER	32
23+50	TO	296+16	SHOULDERS LOWER LAYER	1333
ITEM TOTAL				1365

ASPHALTIC SHOULDER RUMBLE STRIP 2-LANE RURAL				465.0425
STATION	TO	STATION	LOCATION	LF
7+25	TO	15+80	SHOULDERS	1440
19+10	TO	296+00	SHOULDERS	40370
ITEM TOTAL				41810

MOBILIZATION				619.1000
STATION			LOCATION	EACH
1+50	TO	296+16	PROJECT	0.02
ITEM TOTAL				0.02



PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PLAN	SHEET	E

FILE NAME : F:\DRAWINGS\2014-114\0002\80900000\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - 050201_PN - 050201_PN
PLOT DATE : 6/25/2018 10:09 PM PLOT BY : MATT GUNDRY PLOT NAME : ---------- PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

STA 40+31.5 TO STA 42+62.8 LT
125 LF MGS GUARDRAIL 3
2 EA MGS GUARDRAIL TERMINAL EAT

STA 46+15 LT
1 EA APRON ENDWALS FOR CULVERT PIPE 30-INCH REQ'D

STA 41+15 LT
1 EA REMOVING DELINEATORS AND MARKERS

MILLING LIMITS

POST 1 (FF RAIL)
40+31.5, 20.00' LT

POST 1 (FF RAIL)
42+62.8, 20.00' LT

CENTURYLINK

XCEL ENERGY TRANS.

EXIST R/W

SI

STH 25, STA 44+59
1040TH AVE

32 N11° 19' 01"W 34 36 38 40 42 44 46

5837.04'

STH 25

STH 25

SI

POST 1 (FF RAIL)
39+82.0, 20.00' RT

POST 1 (FF RAIL)
42+13.3, 20.00' RT

SI

WE ENGERGIES

EXIST R/W

EXIST R/W

MILLING LIMITS

STA 39+82 TO STA 42+13.3 RT
125 LF MGS GUARDRAIL 3
2 EA MGS GUARDRAIL TERMINAL EAT

STA 46+10
1 EA REMOVING DELINEATORS AND MARKERS
2 EA MARKERS CULVERT END REQ'D

31+45.00 MATCH LINE

46+70.00 MATCH LINE

5

5

CENTURYLINK

EXIST R/W

EXIST R/W

48 50 52 54 56 58 60 62

STH 25

WE ENGERGIES

DUNN ENERGY COOPERATIVE

STA 59+15
1 EA CLEANING CULVERT PIPES REQ'D
1 EA REMOVING DELINEATORS AND MARKERS REQ'D
2 EA MARKERS CULVERT END REQ'D

46+70.00 MATCH LINE

61+95.00 MATCH LINE

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PLAN	SHEET 40	E

FILE NAME : F:\DRAWINGS\2014-114\0002\80900000\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - 050201_PN - 050202_PN

PLOT DATE : 6/25/2018 10:09 PM PLOT BY : MATT GUNDRY PLOT NAME : _____ PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

PI STA = 72+33.71
Y = 238897.888
X = 165947.780
DELTA = 8°35'17"
D = 0°56'15"
T = 458.89'
L = 916.06'
R = 6111.55'
PC STA = 67+74.82
Y = 238447.922
X = 166037.831
PT STA = 76+90.88
Y = 239329.361
X = 165791.546
BK = N11°19'01.3"W
AH = N19°54'18.3"W
SE = 3.8%

61+95.00 MATCH LINE

CENTURYLINK

PC: 67+74.82

EXIST R/W

62 N11° 19' 01"W 64 66 68 70 72 74 76

5837.04'

STH 25, STA 72+25
CTH N

PT: 76+90.88

77+20.00 MATCH LINE

MILLING LIMITS

CENTURYLINK

EXIST R/W

WE ENERGIES

DUNN ENERGY COOPERATIVE

EXIST R/W

WE ENERGIES

MILLING LIMITS

DUNN ENERGY COOPERATIVE

5

5

77+20.00 MATCH LINE

EXIST R/W

78 N19° 54' 18"W 80 82 84 86 88 90 92

2647.82'

STH 25

EXIST R/W

VIKING GAS

CENTURYLINK

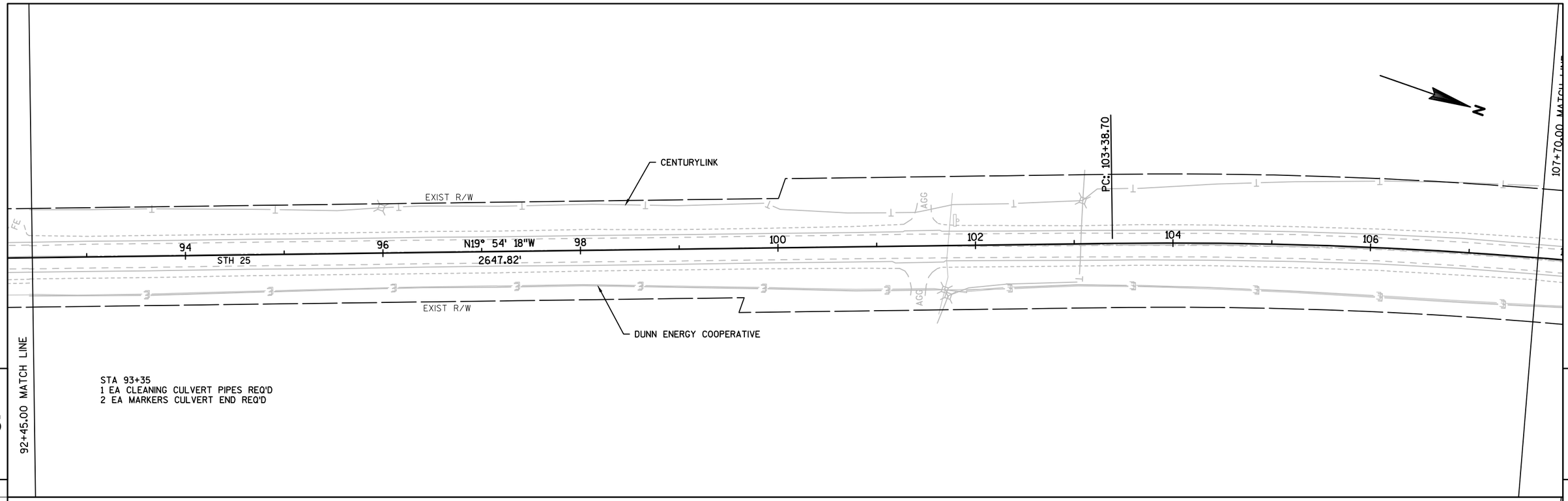
DUNN ENERGY COOPERATIVE

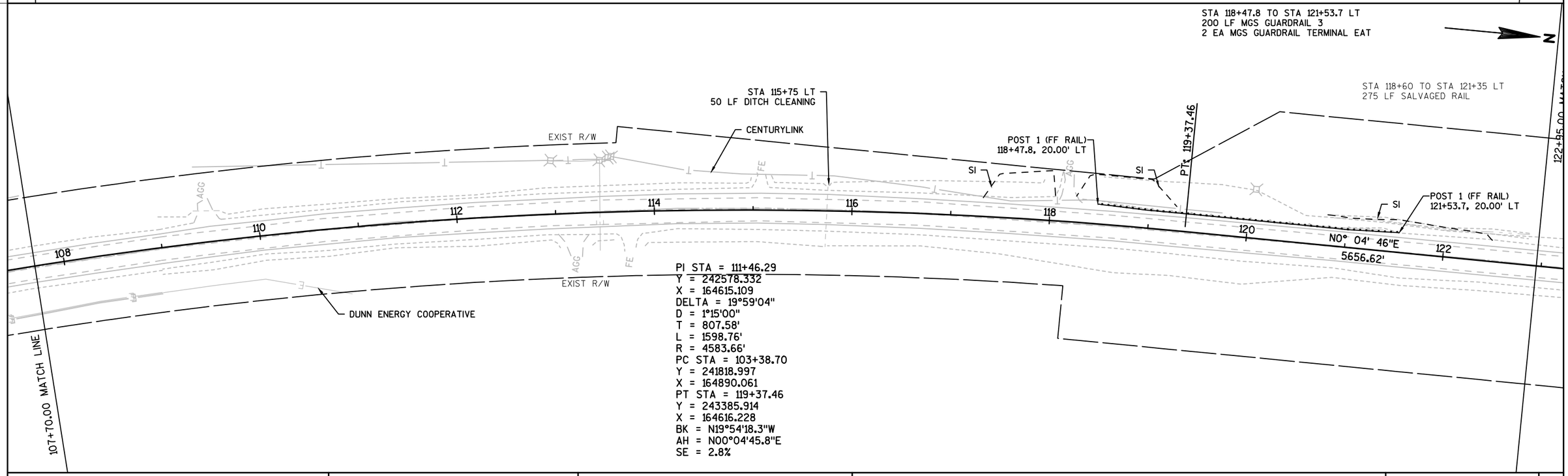
92+45.00 MATCH LINE

STA 80+25
36"X62' CMP
1 EACH CLEANING CULVERT PIPES FOR LINER VERIFICATION
62 LF CULVERT PIPE LINERS 36-INCH REQ'D
2 EA APRON ENDWALLS FOR PIPE CULVERTS 36-INCH REQ'D
2 EA MARKERS CULVERT END REQ'D

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PLAN	SHEET	E

FILE NAME : F:\DRAWINGS\2014-114\0002\80900000\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - 050201_PN - 050203_PN
PLOT DATE : 6/25/2018 10:10 PM PLOT BY : MATT GUNDRY PLOT NAME : ---------- PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44





PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PLAN	SHEET 42	E

STA 129+74.3 TO STA 131+93 LT
112.5 LF MGS GUARDRAIL 3
2 EA MGS GUARDRAIL TERMINAL EAT

STA 133+93.6 TO STA 137+99.8 LT
300 LF MGS GUARDRAIL 3
2 EA MGS GUARDRAIL TERMINAL EAT

N

STA 130+65 TO STA 131+90 LT
125 LF SALVAGED RAIL

STA 134+80 TO STA 137+80 LT
300 LF SALVAGED RAIL

EXIST R/W

POST 1 (FF RAIL)
129+74.3, 20.00' LT

POST 1 (FF RAIL)
131+93.0, 20.00' LT

POST 1 (FF RAIL)
133+93.6, 20.00' LT

POST 1 (FF RAIL)
137+99.8, 20.00' LT

SI

AGG

124 N0° 04' 46"E 126 128 130 132 134 136 138

5656.62'

STH 25

POST 1 (FF RAIL)
129+13.9, 20.00' RT

138+20.00 MATCH LINE

122+95.00 MATCH LINE

EXIST R/W

DUNN ENERGY COOPERATIVE

STA 129+14.2 TO STA 138+70.1 RT
850 LF MGS GUARDRAIL 3
2 EA MGS GUARDRAIL TERMINAL EAT

STA 129+80 TO STA 137+30 RT
750 LF SALVAGED RAIL

5

5

N

EXIST R/W

CENTURYLINK

SI

STH 25, STA 143+94
113TH AVE

FE

138 140 142 144 146 148 150 152

STH 25

POST 1 (FF RAIL)
138+70.1, 20.00' RT

MILLING LIMITS

113TH AVE

AGG

DUNN ENERGY COOPERATIVE

STA 149+05
1 EA CLEANING CULVERT PIPES REQ'D
2 EA MARKERS CULVERT END REQ'D

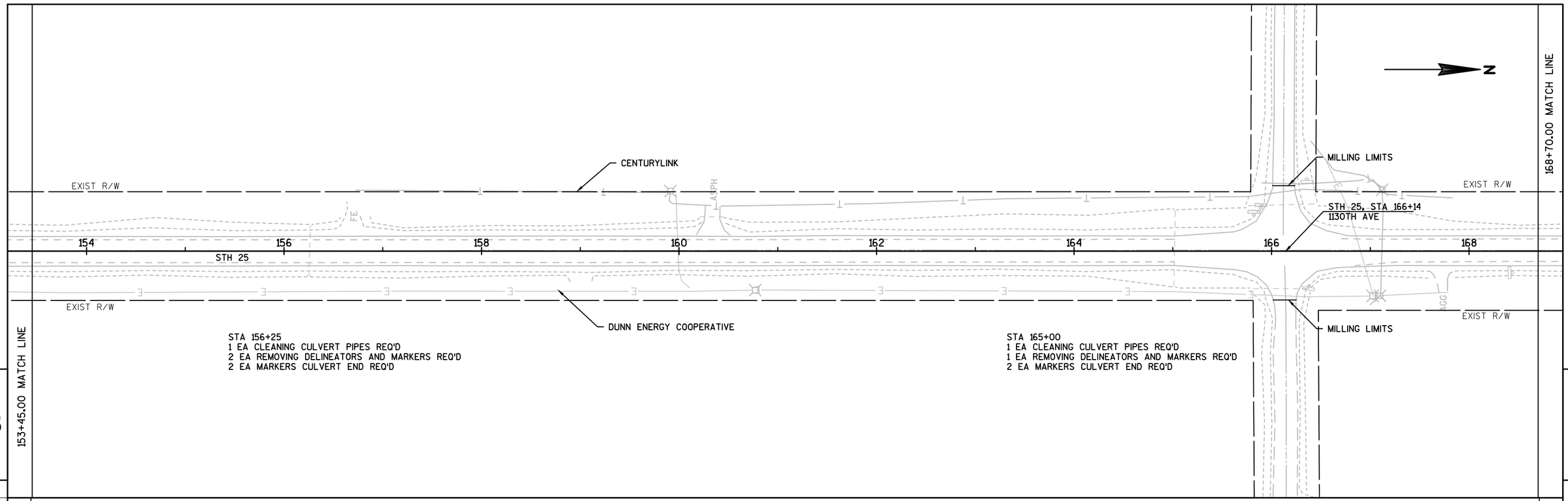
153+45.00 MATCH LINE

138+20.00 MATCH LINE

EXIST R/W

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PLAN	SHEET	E

FILE NAME : F:\DRAWINGS\2014-114\0002\80900000\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - 050201_PN - 050205_PN
PLOT DATE : 6/25/2018 10:11 PM PLOT BY : MATT GUNDRY PLOT NAME : ---------- PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

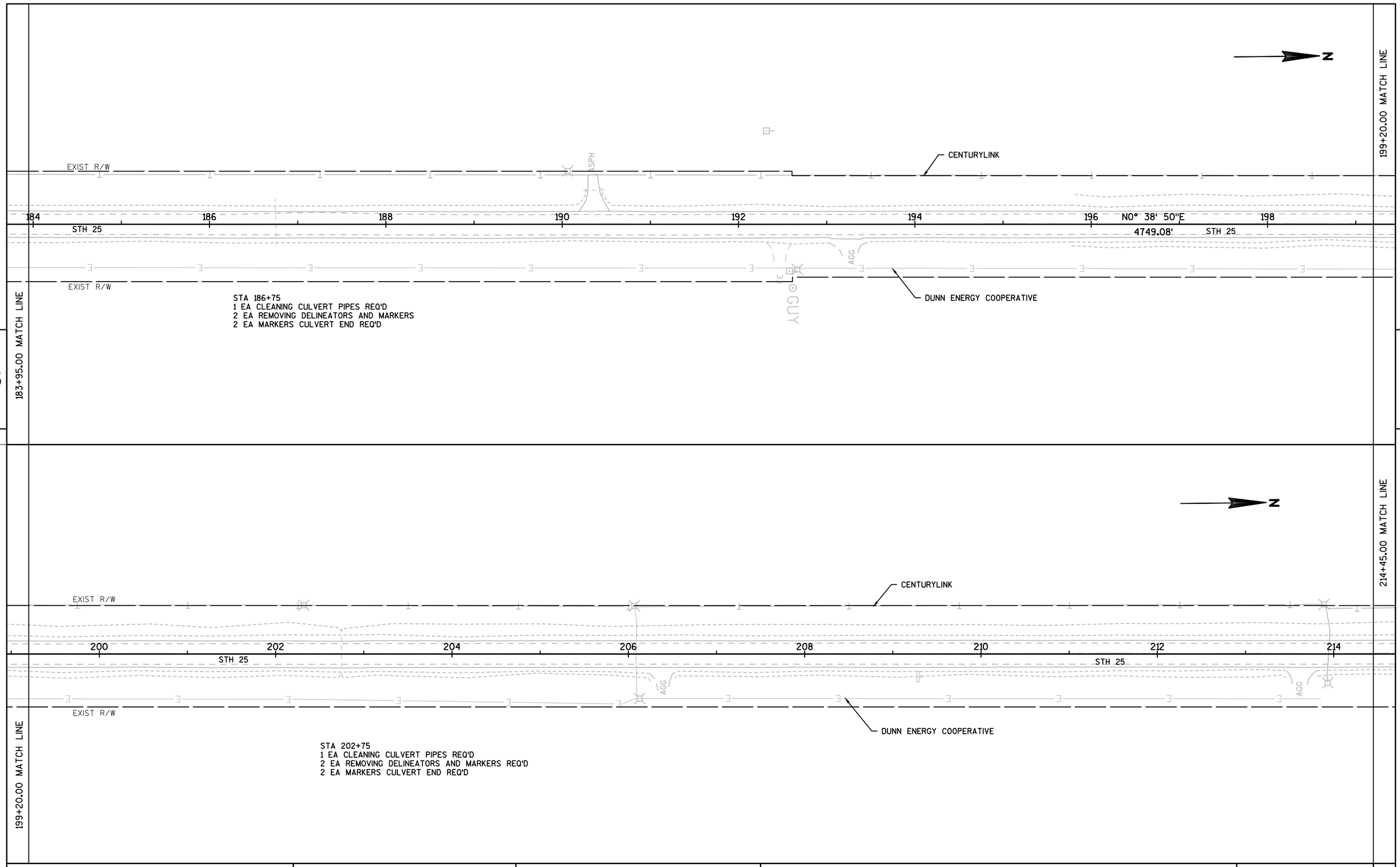


PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PLAN	SHEET 44	E

FILE NAME : F:\DRAWINGS\2014-114\0002\80900000\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - 050201_PN - 050206_PN

PLOT DATE : 6/25/2018 10:11 PM PLOT BY : MATT GUNDRY PLOT NAME : _____ PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



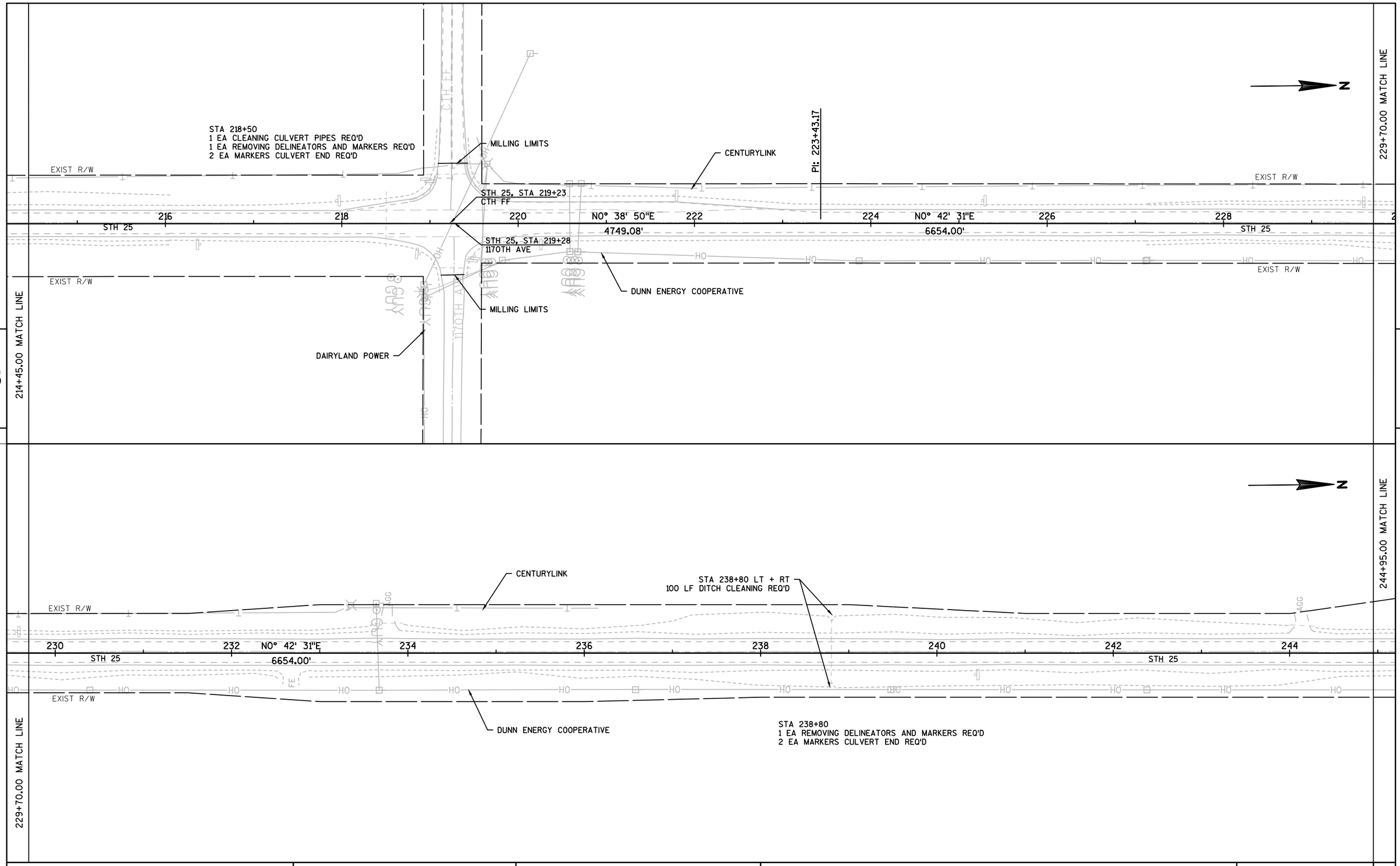
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PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PLAN	SHEET	E

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LAYOUT NAME - 050201_PN - 050207_PN

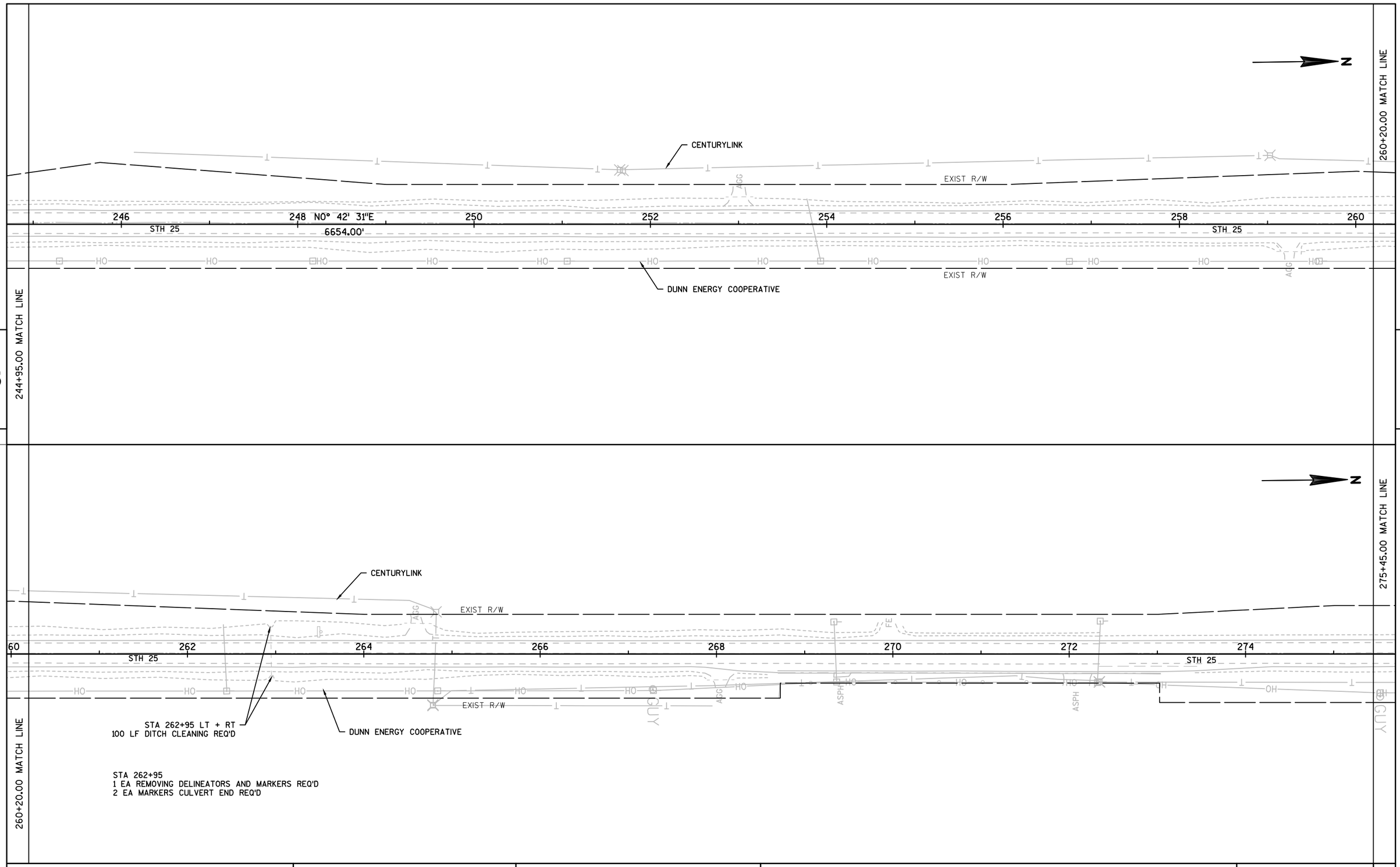
PLOT DATE : 6/25/2018 10:12 PM PLOT BY : MATT GUNDRY PLOT NAME : _____ PLOT SCALE : 1 IN:100 FT



PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PLAN	SHEET	E

FILE NAME : F:\DRAWINGS\2014-114\0002\80900000\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - 050201_PN - 050208_PN

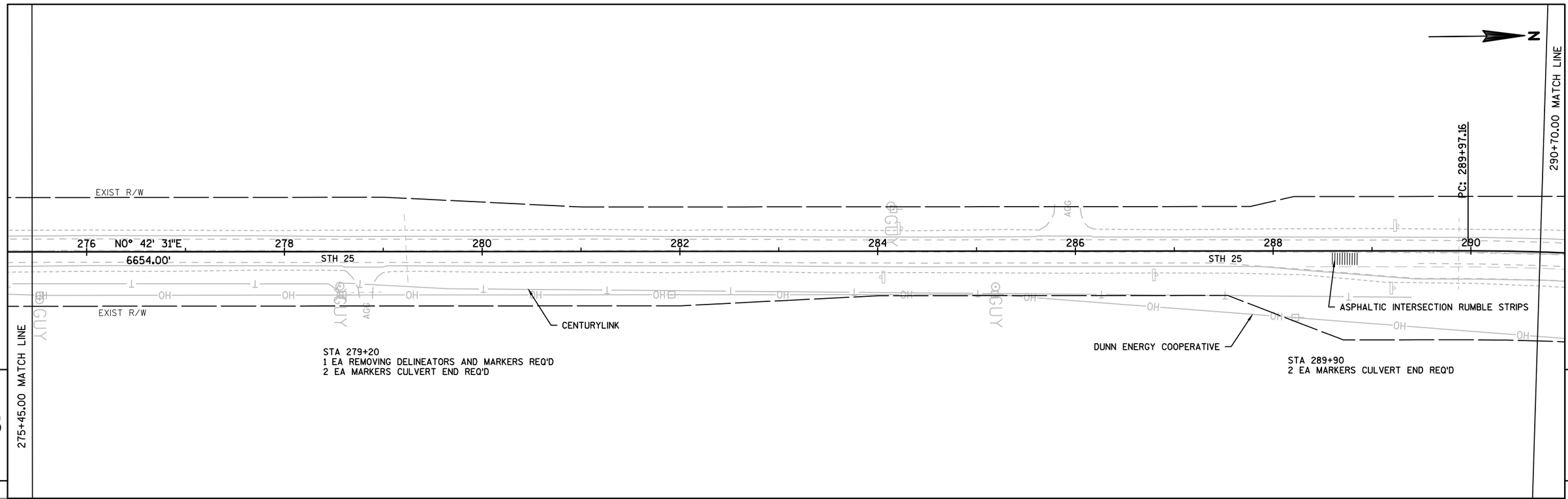
PLOT DATE : 6/25/2018 10:12 PM PLOT BY : MATT GUNDRY PLOT NAME : ---------- PLOT SCALE : 1 IN:100 FT

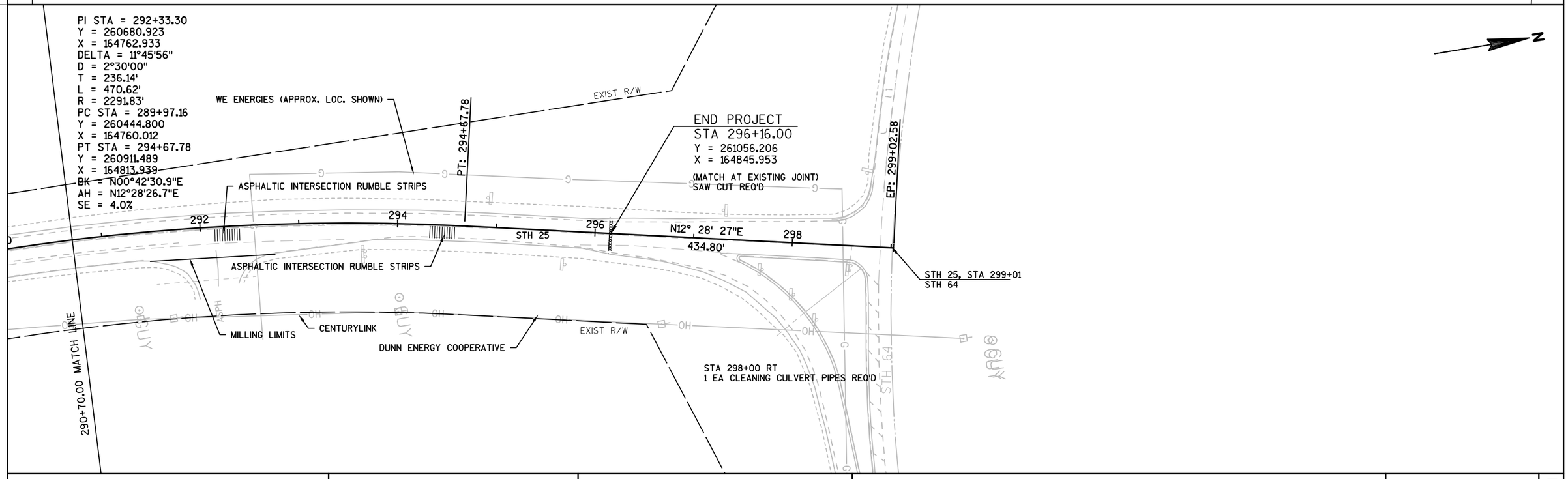


PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PLAN	SHEET	E

FILE NAME : F:\DRAWINGS\2014-114\0002\80900000\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - 050201_PN - 050209_PN

PLOT DATE : 6/25/2018 10:12 PM PLOT BY : MATT GUNDRY PLOT NAME : _____ PLOT SCALE : 1 IN:100 FT





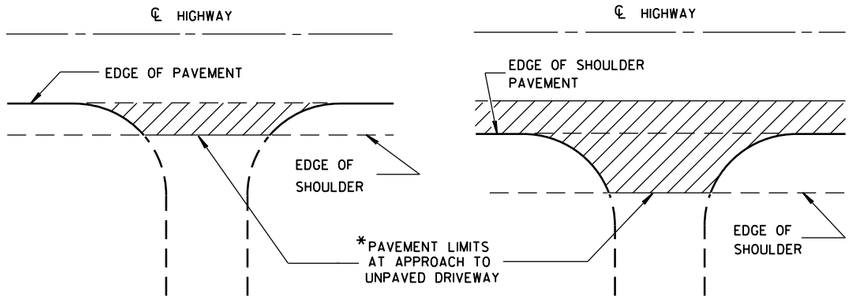
PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PLAN	SHEET	E

FILE NAME : F:\DRAWINGS\2014-114\0002\80900000\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - 050201_PN - 050210_PN
PLOT DATE : 6/25/2018 10:13 PM PLOT BY : MATT GUNDRY PLOT NAME : ---------- PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
13A08-01	ASPHALTIC RUMBLE STRIPS AT INTERSECTION
13A10-01A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-01B	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-01C	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-01D	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A11-02A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-02B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
14B42-05A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-05B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-05C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-05D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-03A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-03B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-03C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-04	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-04	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-18A	LONGITUDINAL MARKING (MAINLINE)
15C08-18B	PAVEMENT MARKING (TURN LANES)
15C09-11A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15C11-07A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C12-06	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-05A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C27-02B	PAVEMENT MARKING (ISLANDS)
15C33-03	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-02A	PAVEMENT MARKING (INTERSECTIONS)
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING

6

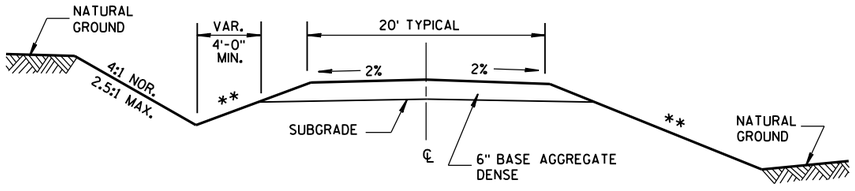


*WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT.

PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB & GUTTER OR SIDEWALK)

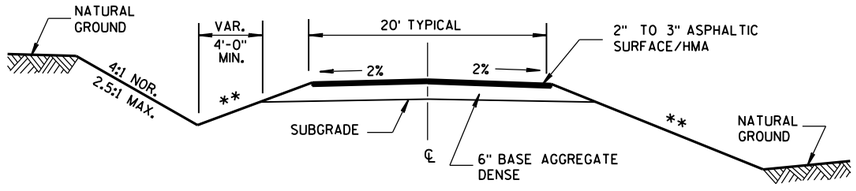


IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

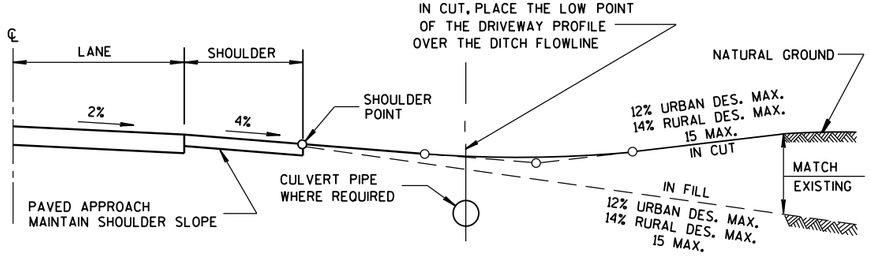
** SLOPE CAN VARY WITH SPEED. SEE 11-45-2.6.2.

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



IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE



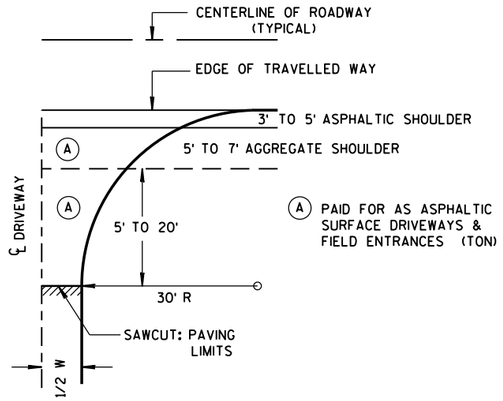
TYPICAL DRIVEWAY PROFILES

DRIVEWAYS WITHOUT CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

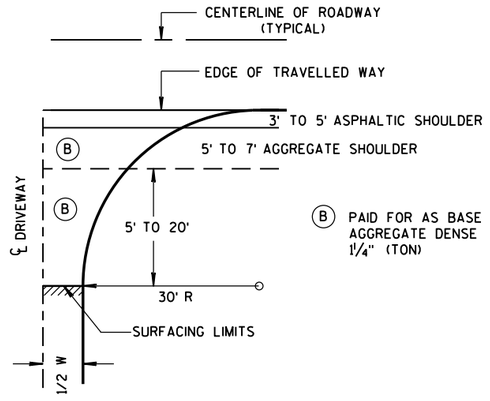
APPROVED
December, 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS UNIT SUPERV
FHWA

6 S.D.D. 8 D 21-1



PLAN VIEW
HALF SECTION

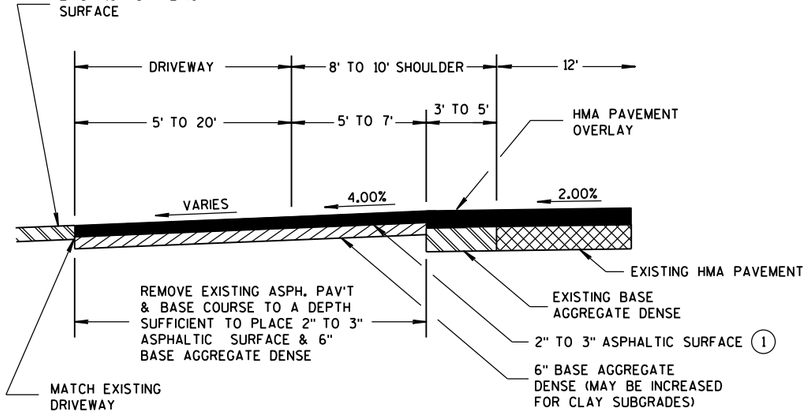
W MIN. = 16'
W MAX. = 24'



PLAN VIEW
HALF SECTION

GENERAL NOTES

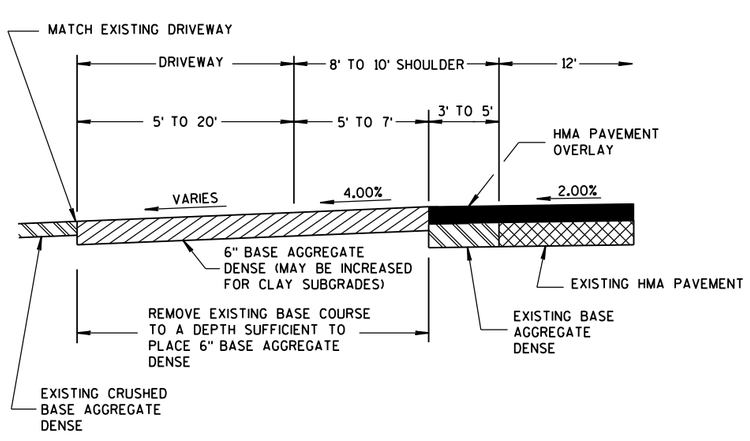
(1) DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.



PROFILE VIEW

RURAL ENTRANCE WITH ASPHALTIC SURFACE

RESURFACING PROJECTS



PROFILE VIEW

RURAL ENTRANCE WITH AGGREGATE SURFACE

6" BASE AGGREGATE DENSE
RESURFACING PROJECTS

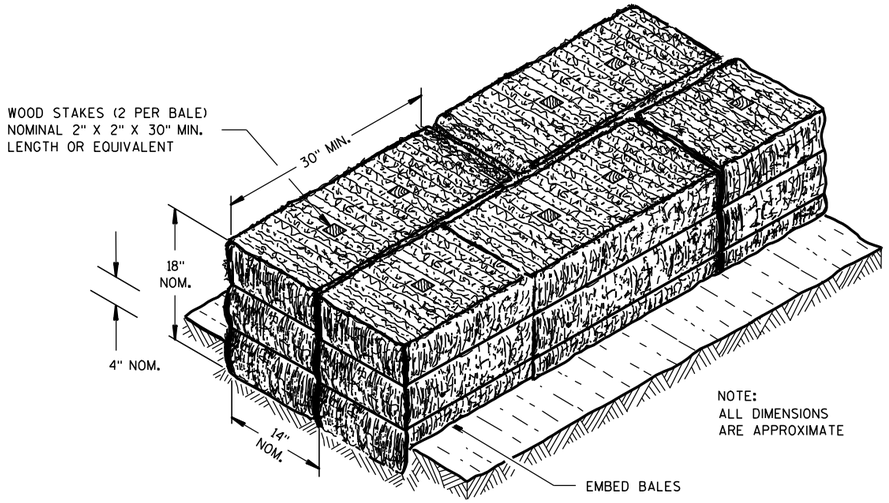
DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

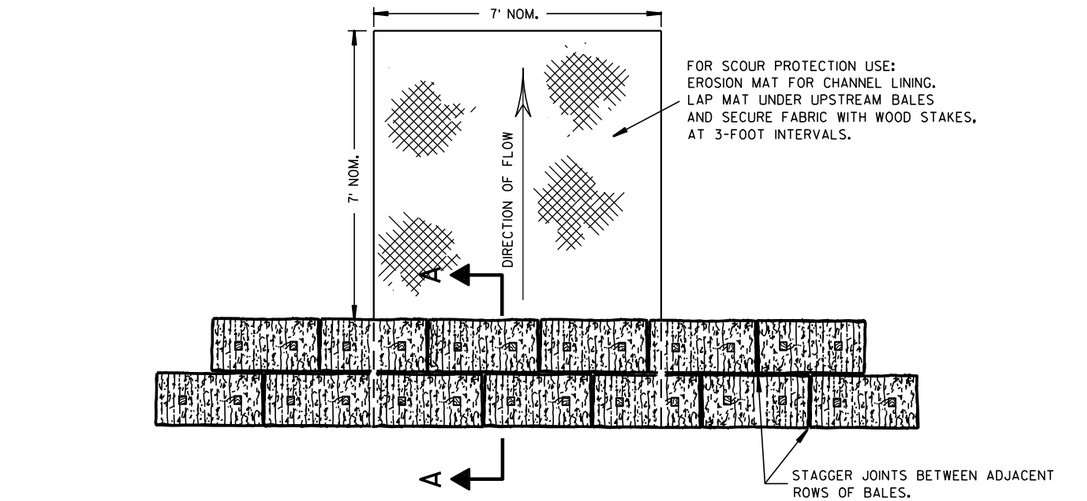
APPROVED
December, 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERV
ENT
FHWA

6

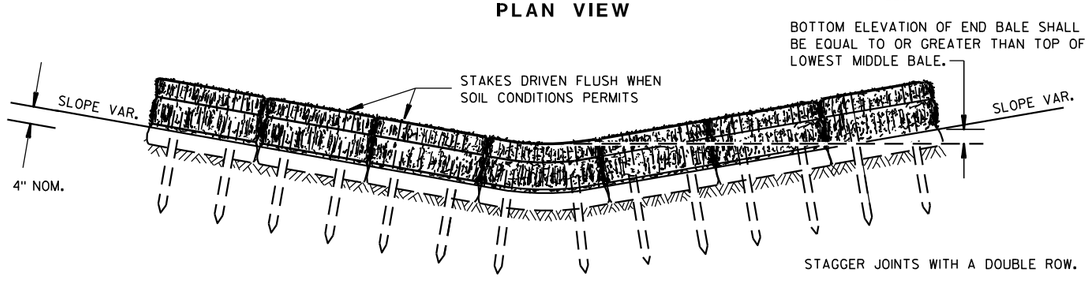
S.D.D. 8 D 22-1



SECTION A-A



PLAN VIEW



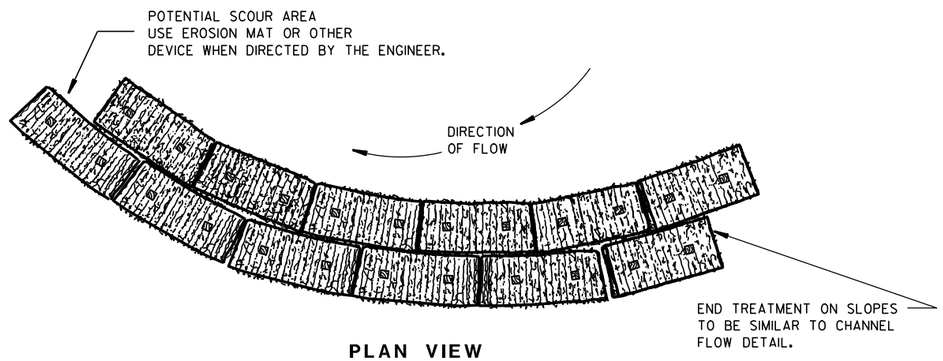
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

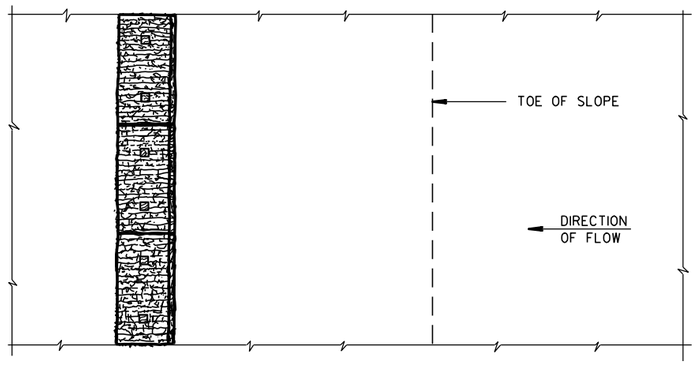
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

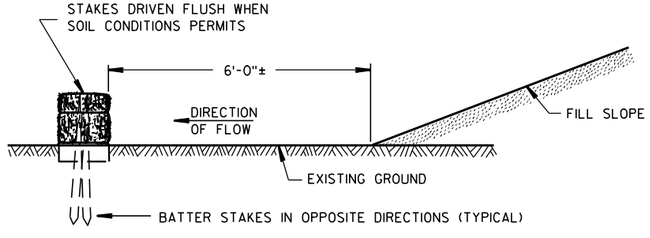


PLAN VIEW

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

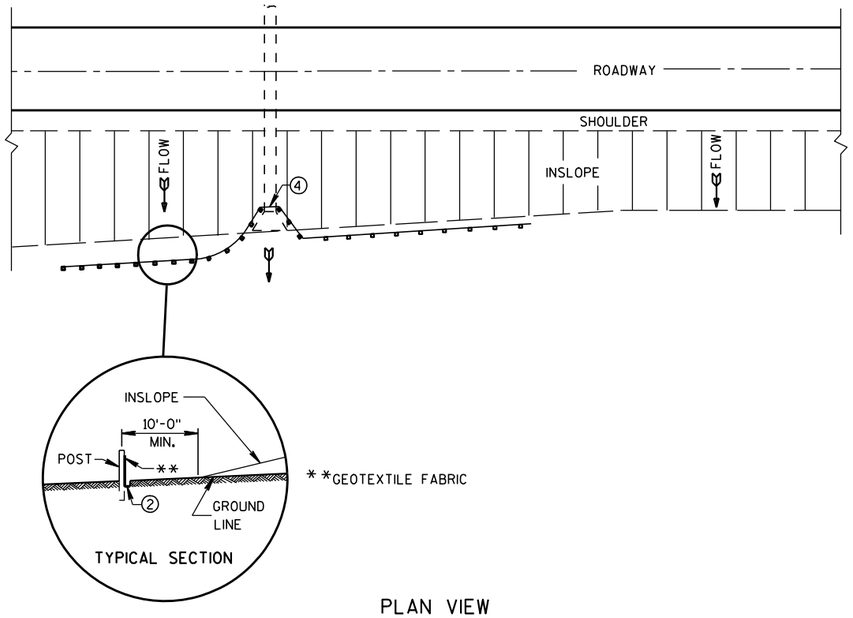
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 — DATE

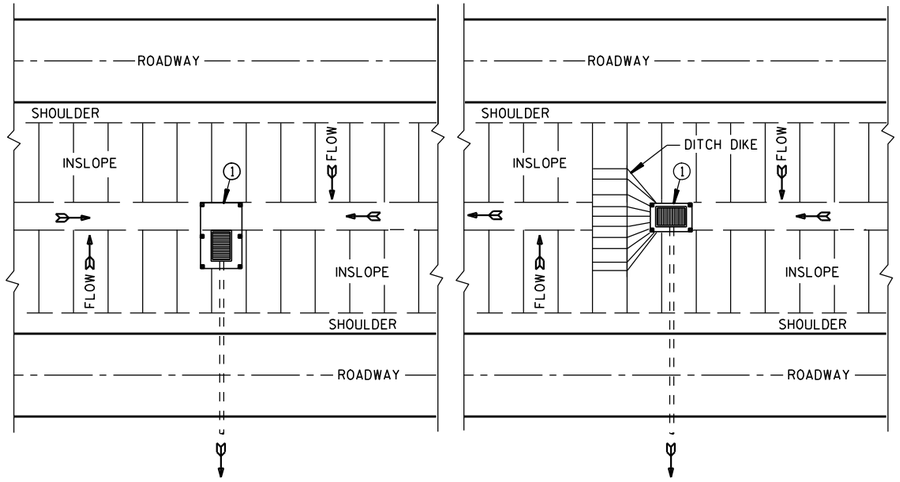
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



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.

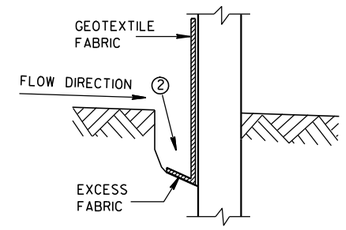
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

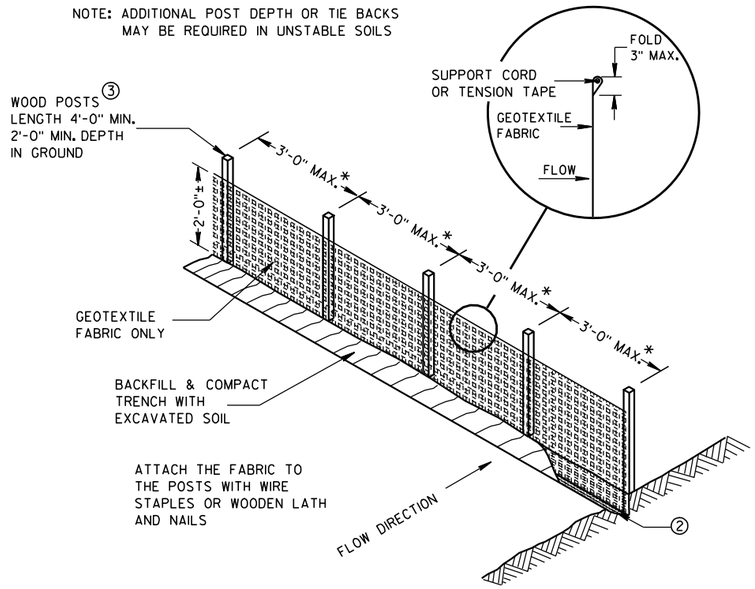
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

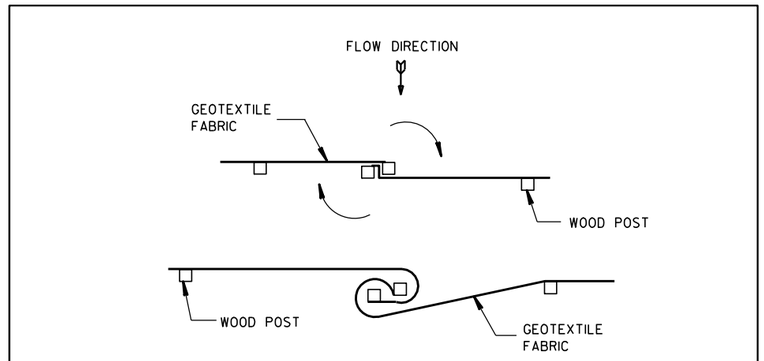
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



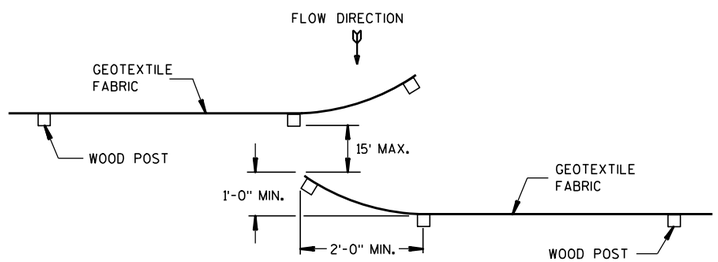
TRENCH DETAIL



SILT FENCE

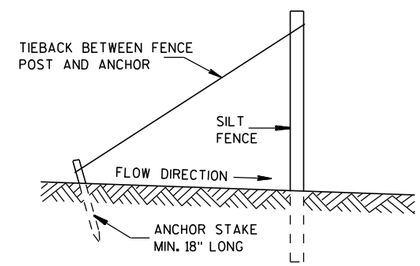


TWIST METHOD



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

6

S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

METAL APRON ENDWALLS

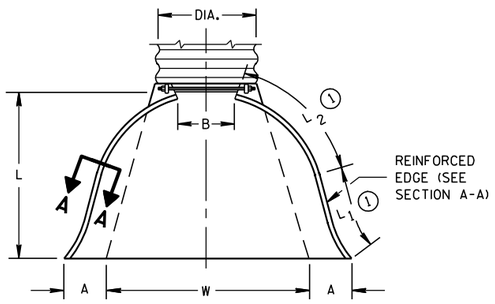
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

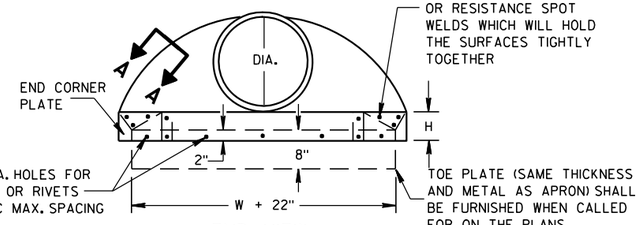
REINFORCED CONCRETE APRON ENDWALLS

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

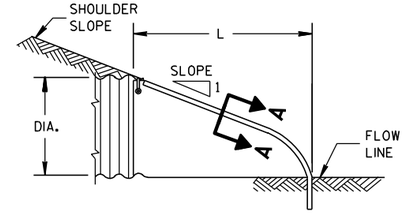
* MINIMUM
** MAXIMUM



PLAN VIEW

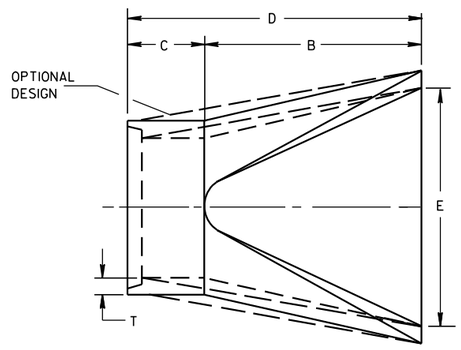


END VIEW

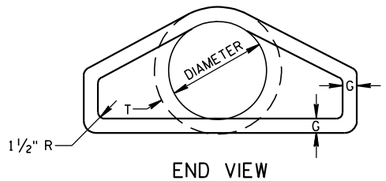


SIDE ELEVATION

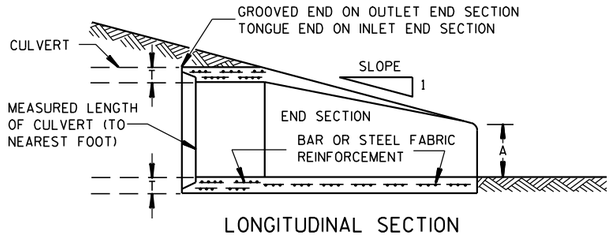
METAL ENDWALLS



PLAN

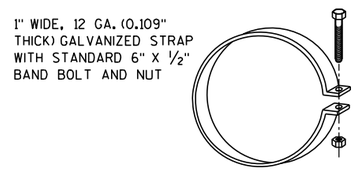


END VIEW



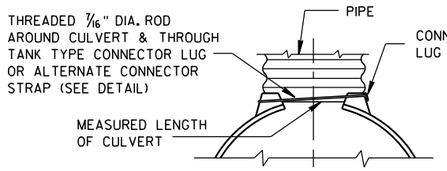
LONGITUDINAL SECTION

CONCRETE ENDWALLS

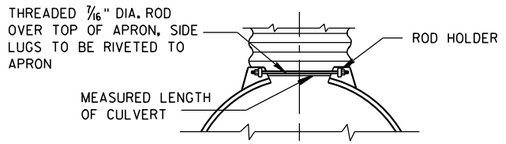


ALTERNATE FOR TYPE 1 CONNECTION

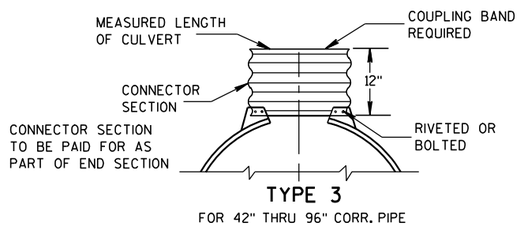
END SECTION CONNECTOR STRAP



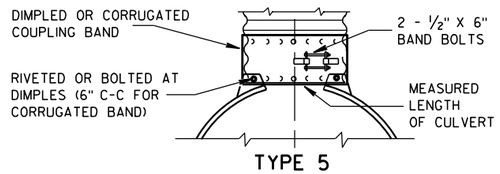
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

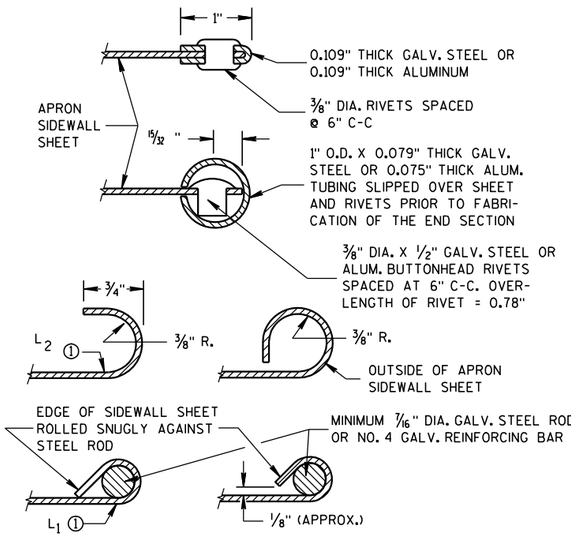
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

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

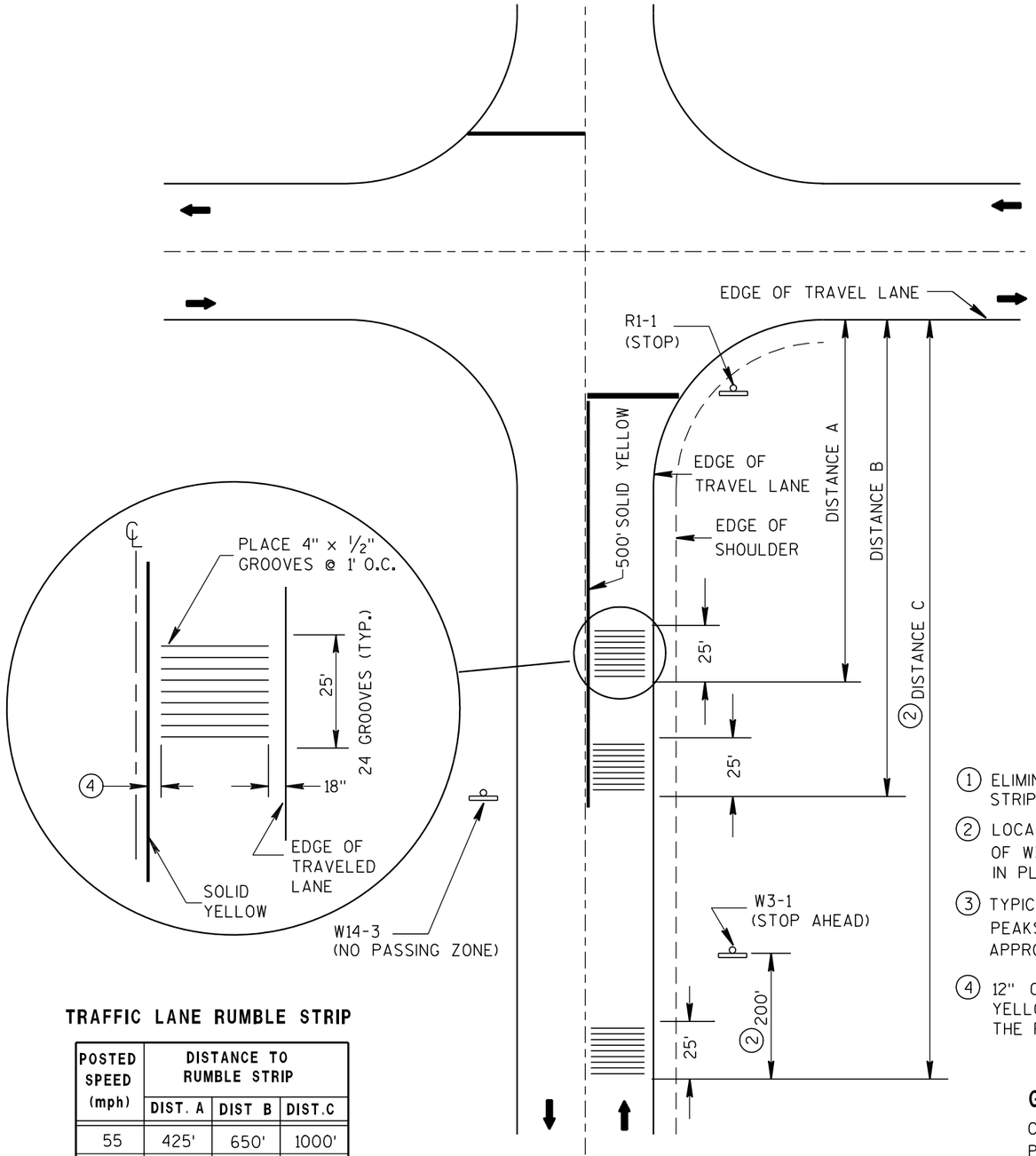
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 F 1-11



ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

PLAN VIEW

RUMBLE STRIP LOCATION

TRAFFIC LANE RUMBLE STRIP

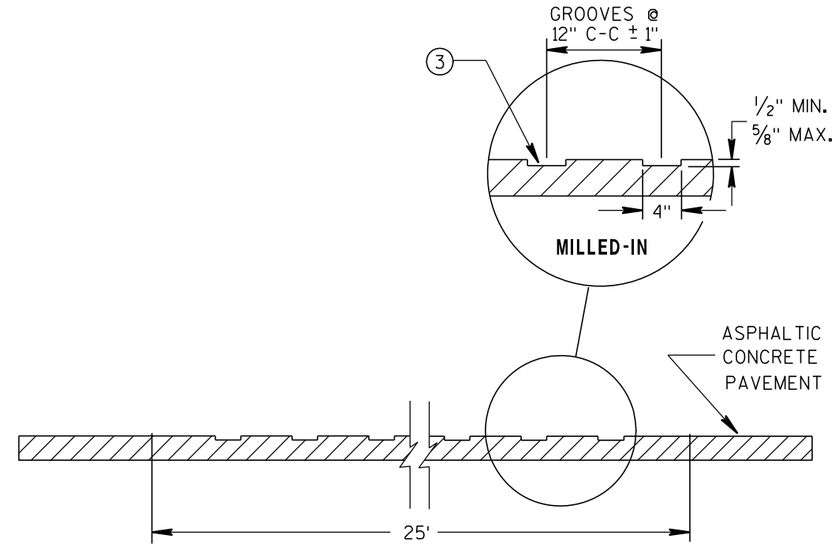
POSTED SPEED (mph)	DISTANCE TO RUMBLE STRIP		
	DIST. A	DIST B	DIST.C
55	425'	650'	1000'
50	325'	450'	800'
45	275'	400'	650'
40	225'	(1)	550'
35	175'	(1)	475'
≤ 30	125'	(1)	425'

(1) ELIMINATE THE MIDDLE SET OF RUMBLE STRIPS.

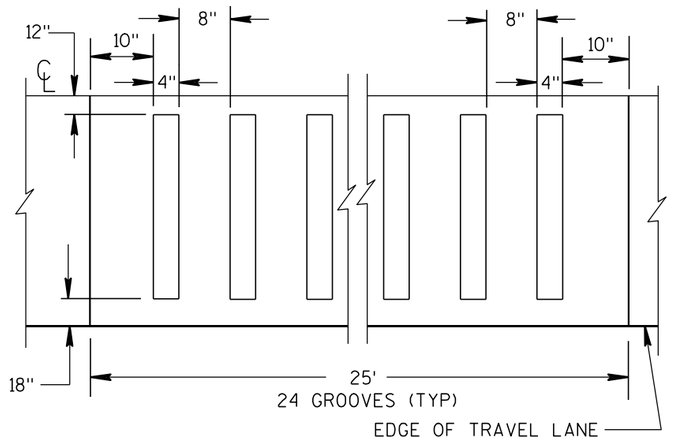
(2) LOCATE RUMBLE STRIP 200' IN ADVANCE OF W3-1 SIGN AS SHOWN. IF W3-1 IS NOT IN PLACE, USE DISTANCE C.

(3) TYPICAL VERTICAL VARIATION BETWEEN PEAKS AND VALLEYS WITHIN THE CUT APPROXIMATELY 1/16"

(4) 12" CLEAR BETWEEN THE SOLID YELLOW LINE AND THE EDGE OF THE RUMBLE.



ELEVATION VIEW



PLAN VIEW

ASPHALTIC PAVEMENT MILLED-IN

GENERAL NOTES

CONTRACTOR SHALL CONFIRM RUMBLE STRIP LOCATION WITH THE ENGINEER PRIOR TO INSTALLATION. THE ENGINEER MAY MODIFY THE RUMBLE STRIP LOCATION AS FIELD CONDITIONS DICTATE.

WHEN ASPHALTIC PAVEMENT IS NEW IN THE RUMBLE AREA THE CONTRACTOR SHALL ALLOW THE PAVEMENT TO CURE A MINIMUM OF 7 DAYS PRIOR TO RUMBLE INSTALLATION.

PAVEMENT MARKING AND SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

ASPHALTIC RUMBLE STRIPS AT INTERSECTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/17/2011
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS I 55
ENGINEER

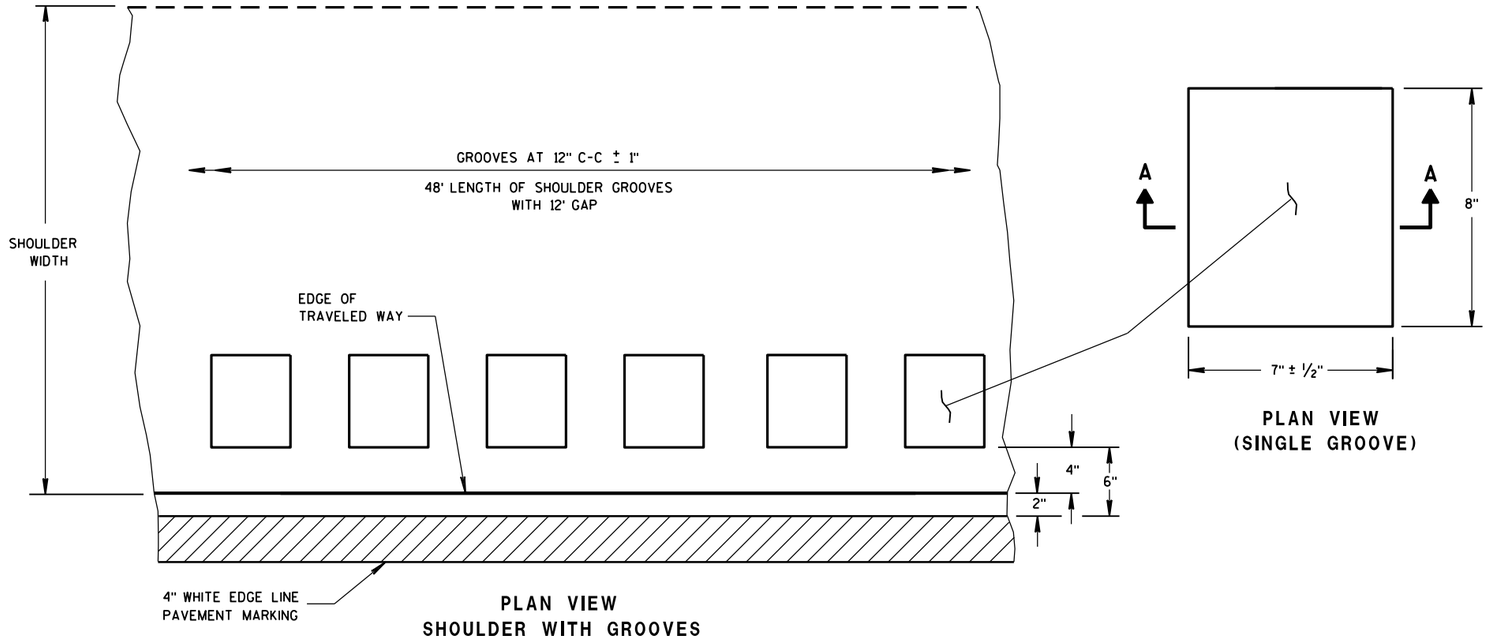
FHWA

6

S.D.D. 13 A 8-1

6

S.D.D. 13 A 8-1



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

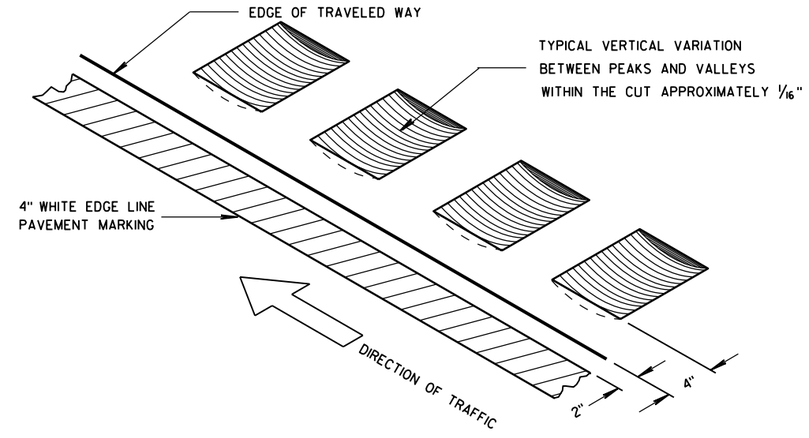
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

GENERAL NOTES

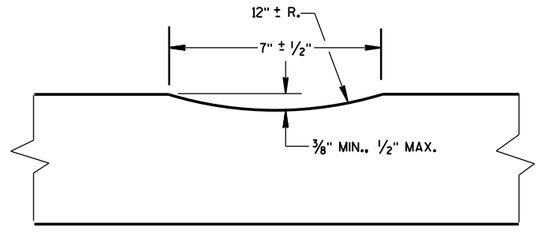
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

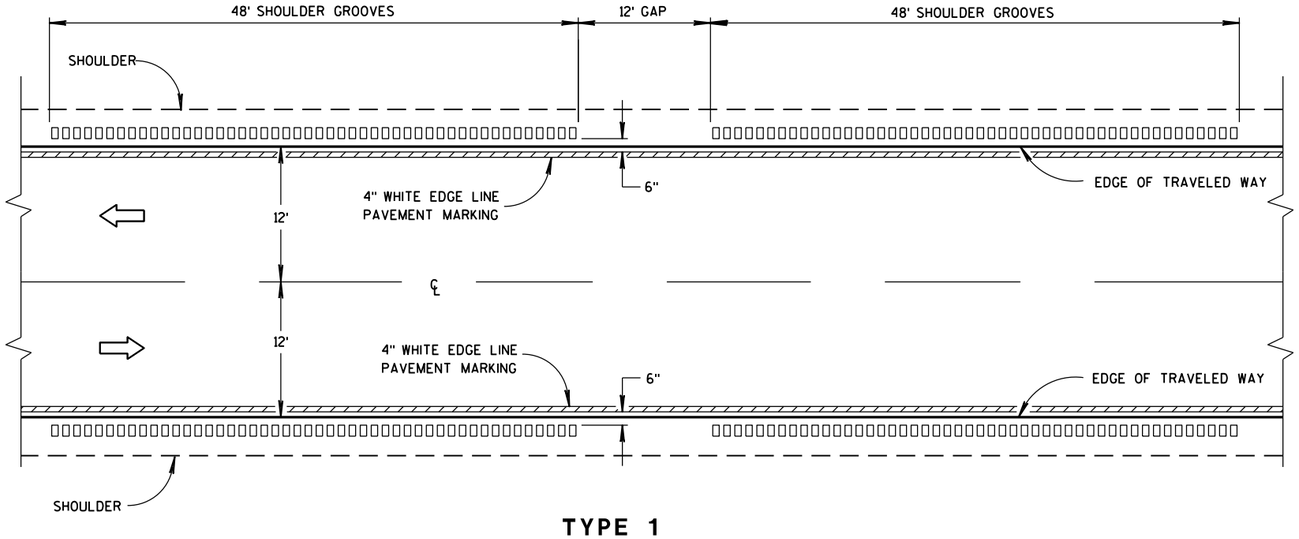
(1) SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



ISOMETRIC



SECTION A-A

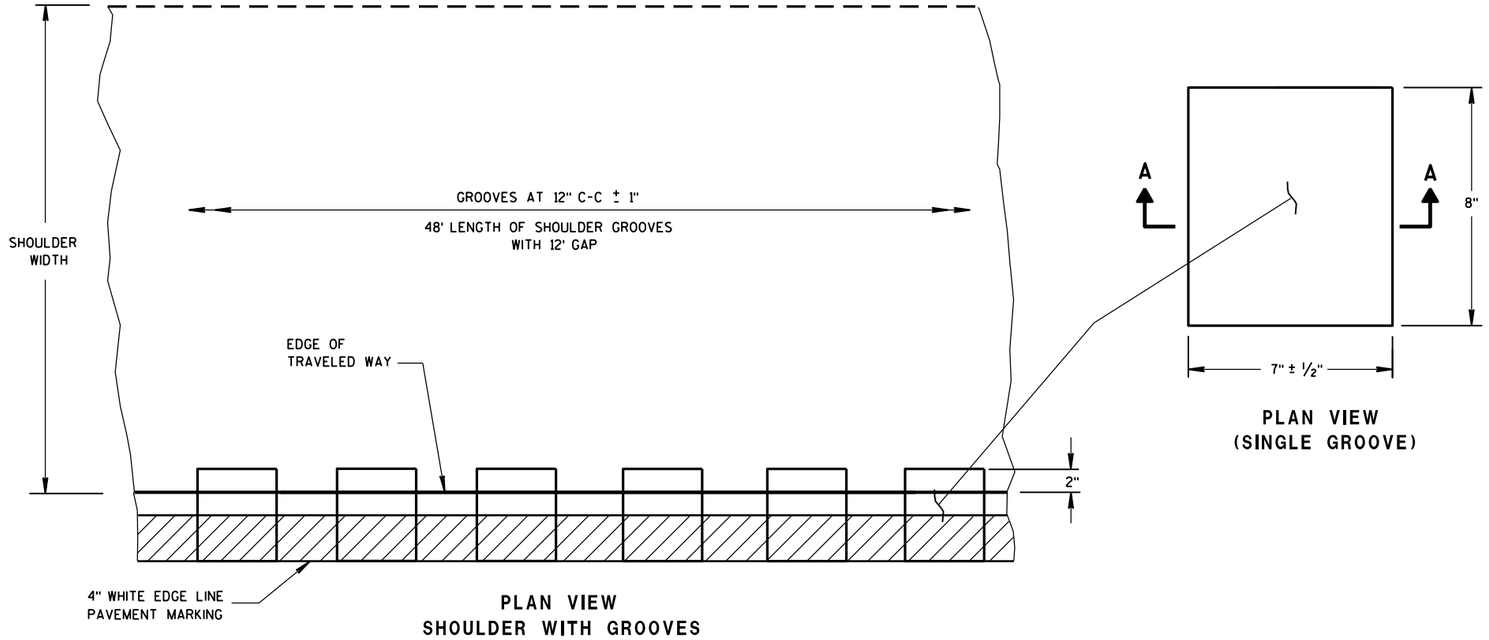


TYPE 1
2-LANE SHOULDER RUMBLE STRIP

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 13 A 10-1a



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

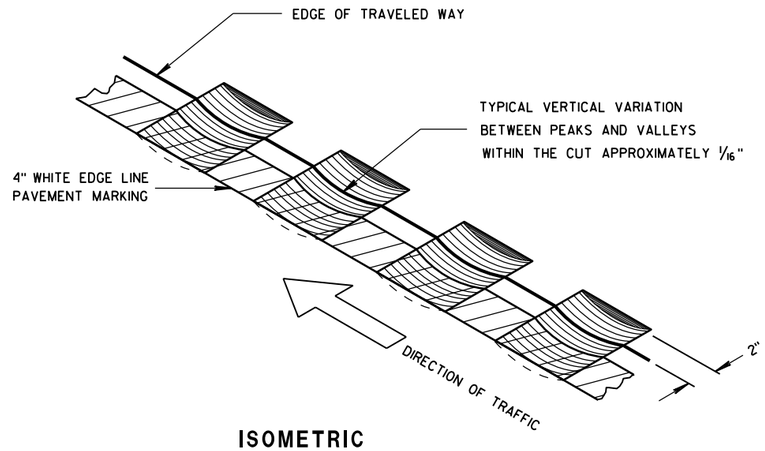
PLACEMENT DETAIL FOR TYPE 2 MILLED RUMBLE STRIP

GENERAL NOTES

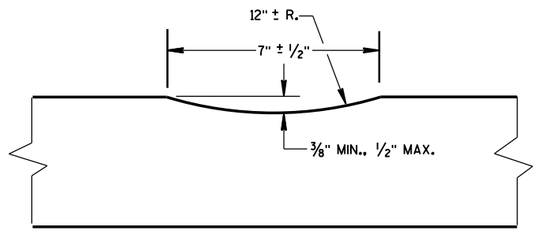
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

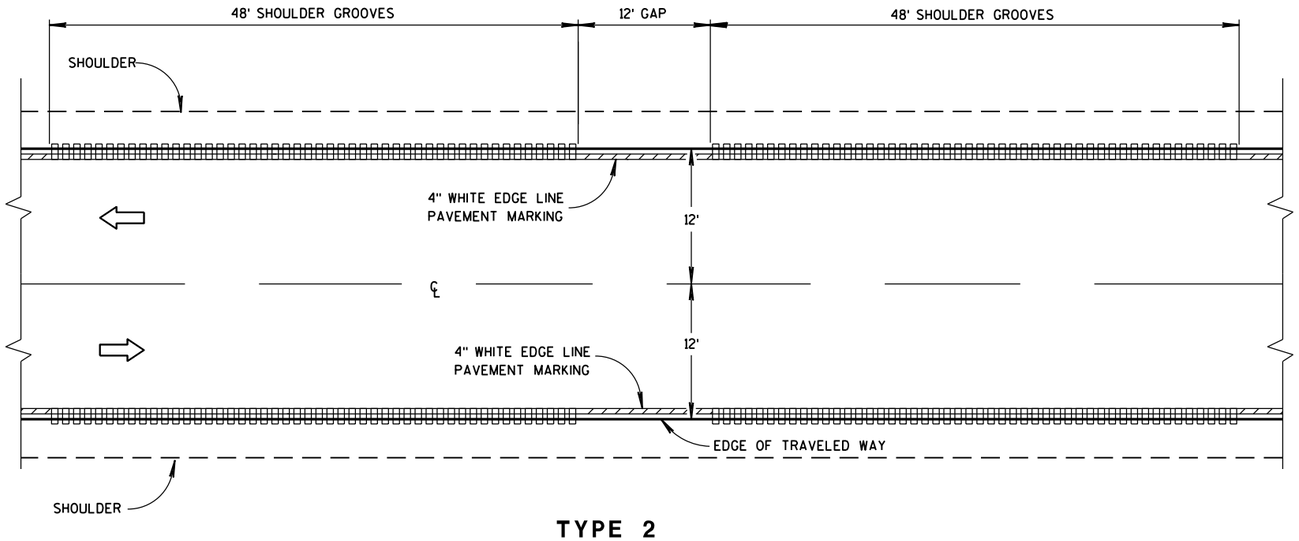
(1) SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



ISOMETRIC



SECTION A-A



TYPE 2
2-LANE SHOULDER RUMBLE STRIP

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

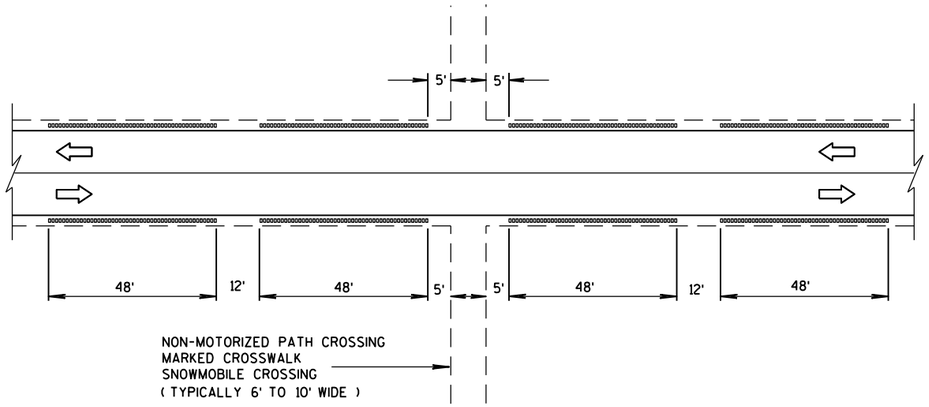
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

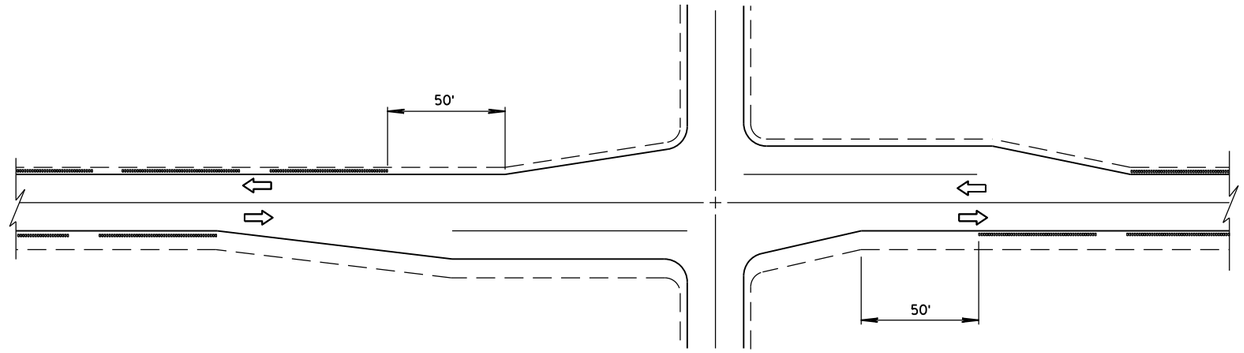
S.D.D. 13 A 10-1b

6

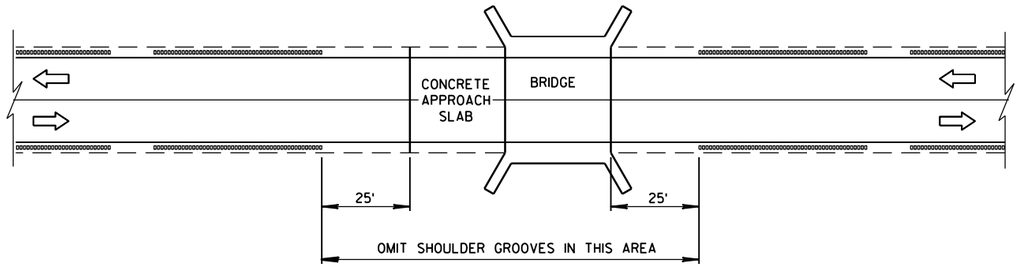
S.D.D. 13 A 10-1b



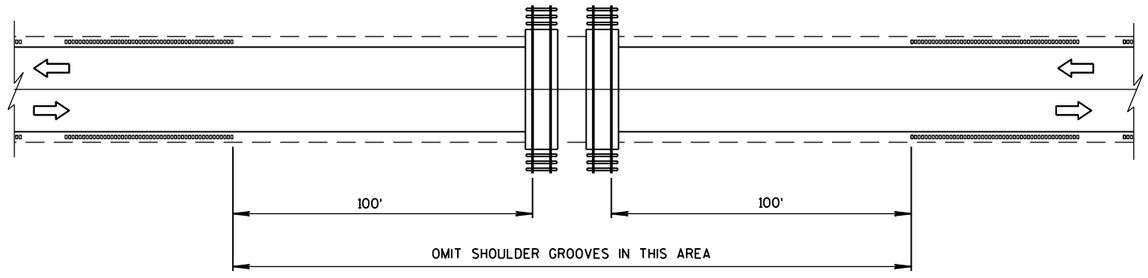
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



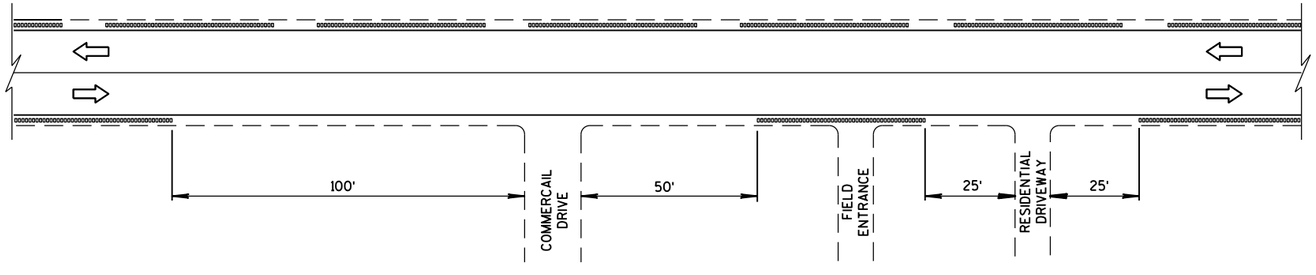
SHOULDER GROOVES AT INTERSECTIONS



SHOULDER GROOVES AT BRIDGES



SHOULDER GROOVES AT RAILROADS



SHOULDER GROOVES AT DRIVEWAYS (1)

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

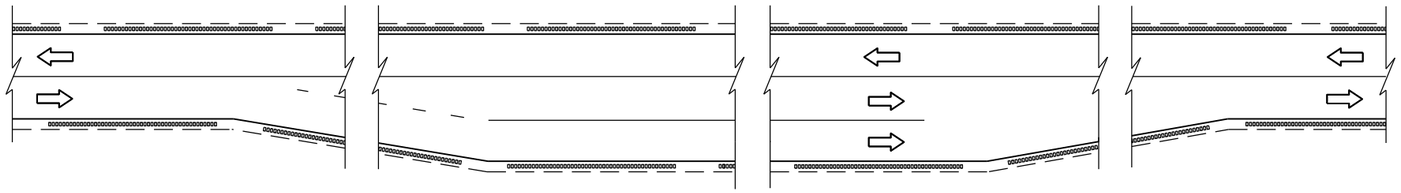
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

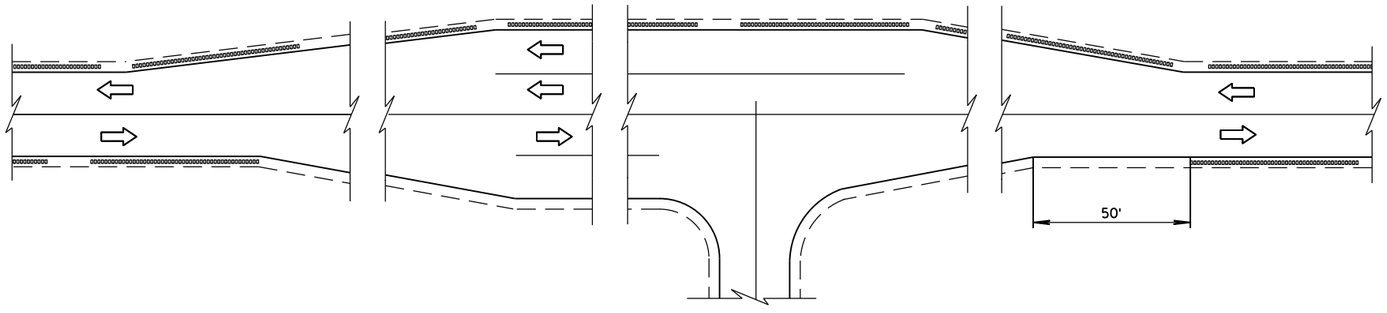
S.D.D. 13 A 10-1c

6

S.D.D. 13 A 10-1c



SHOULDER GROOVES AT PASSING AND CLIMBING LANES



SHOULDER GROOVES AT BYPASS LANES

6

6

S.D.D. 13 A 10-1d

S.D.D. 13 A 10-1d

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

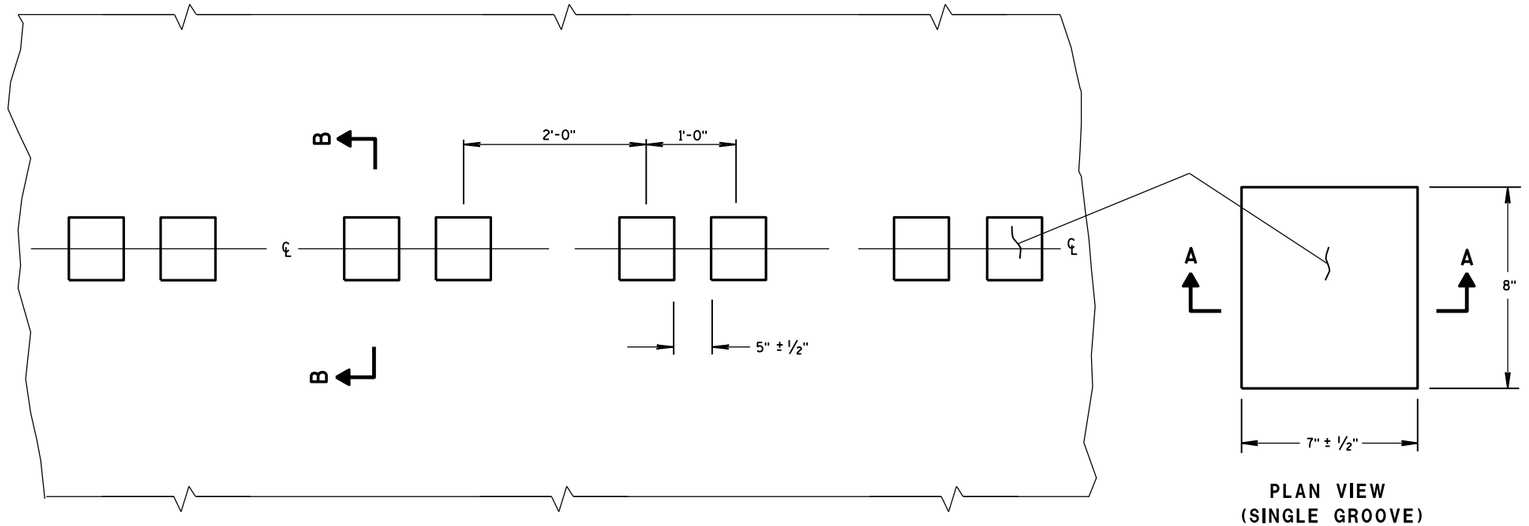
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/17/2012
DATE

/S/ Jerry H. Zoga
ROADWAY STANDARDS ENGINEER

FHWA



PLAN VIEW
CENTER LINE WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

GENERAL NOTES

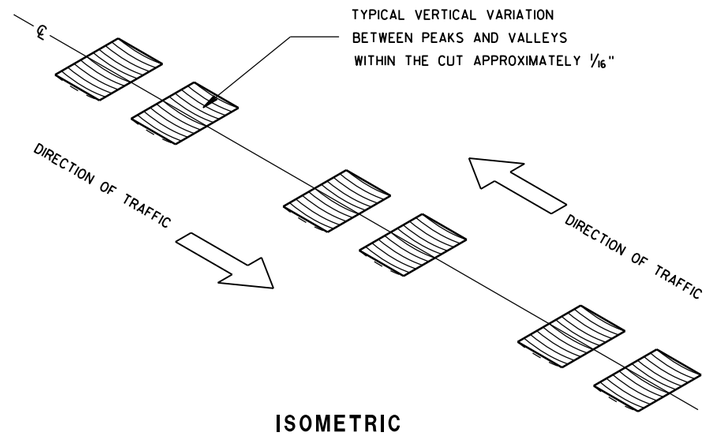
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

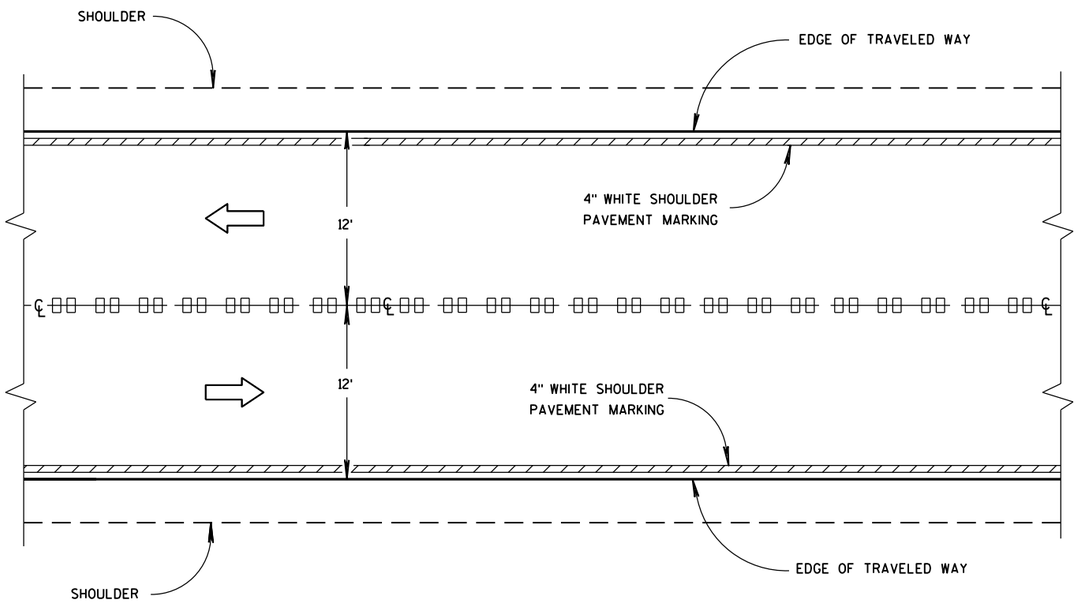
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

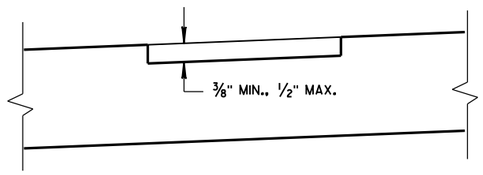
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



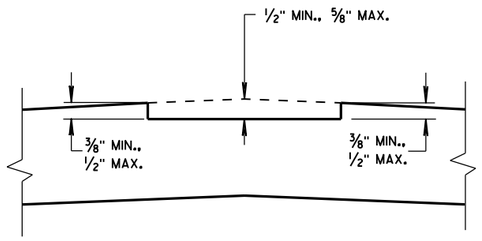
ISOMETRIC



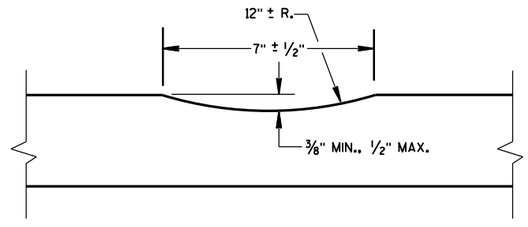
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B
SUPERELEVATED ROADWAY



SECTION B-B
CROWNED ROADWAY



SECTION A-A

6

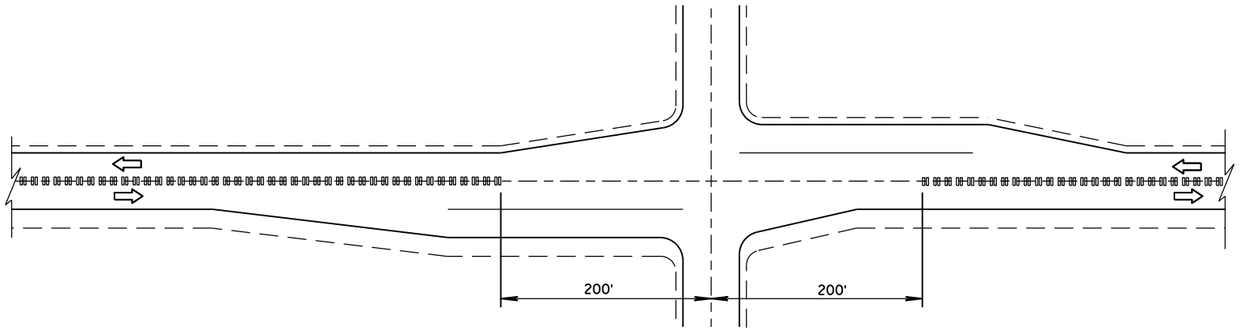
S.D.D. 13 A 11-2a

2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

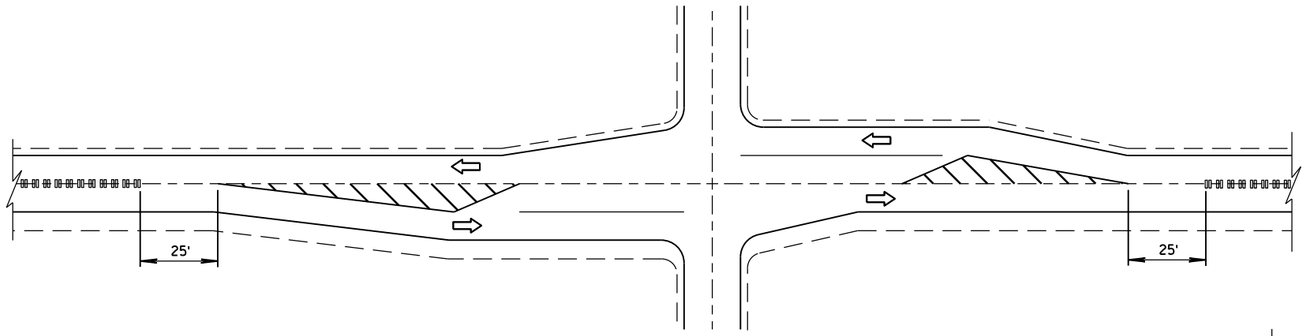
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

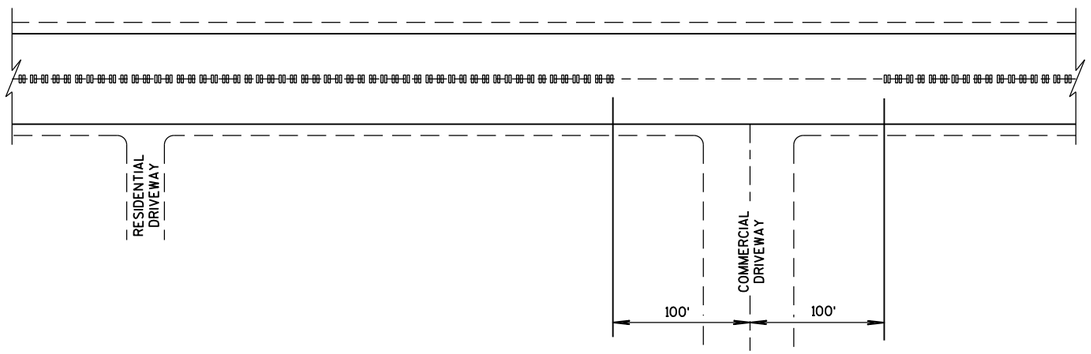
S.D.D. 13 A 11-2a



CENTER LINE GROOVES AT INTERSECTIONS

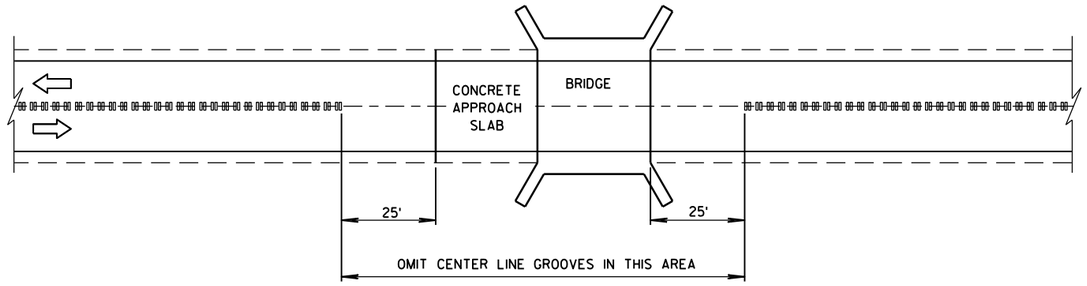


CENTER LINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)

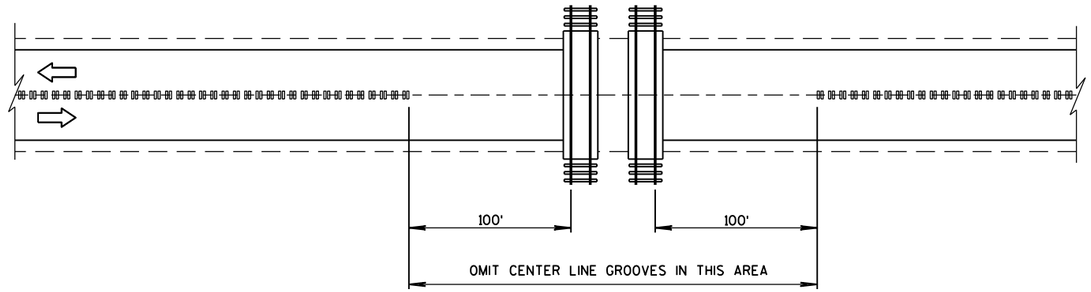


CENTER LINE GROOVES AT DRIVEWAYS (1)

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



CENTER LINE GROOVES AT BRIDGES



CENTER LINE GROOVES AT RAILROADS

6

S.D.D. 13 A 11-2b

6

S.D.D. 13 A 11-2b

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/15/2013 — DATE

/S/ Jerry H. Zoda — ROADWAY STANDARDS DEVELOPMENT ENGINEER

NT

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.

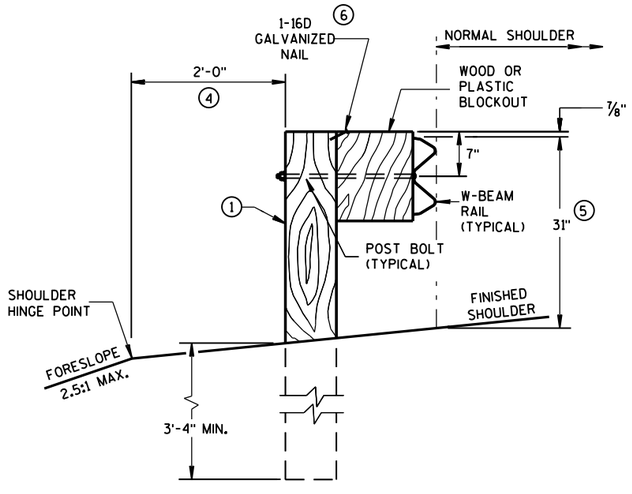
② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ 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).

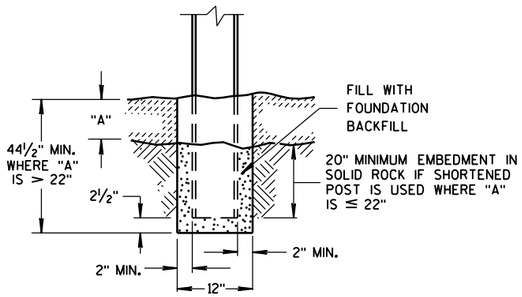
⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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.



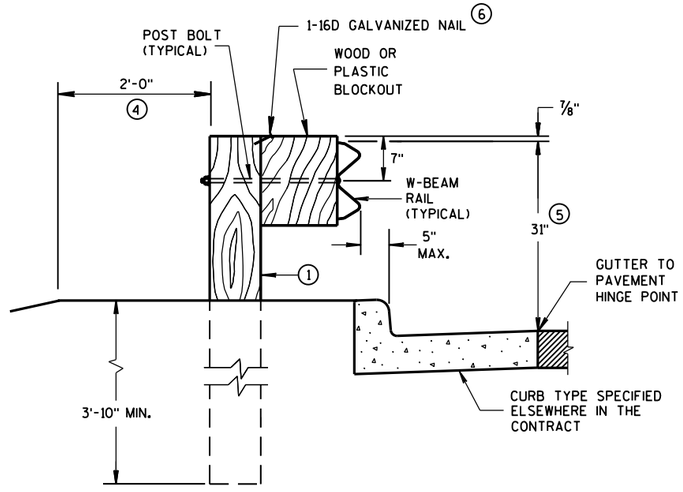
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



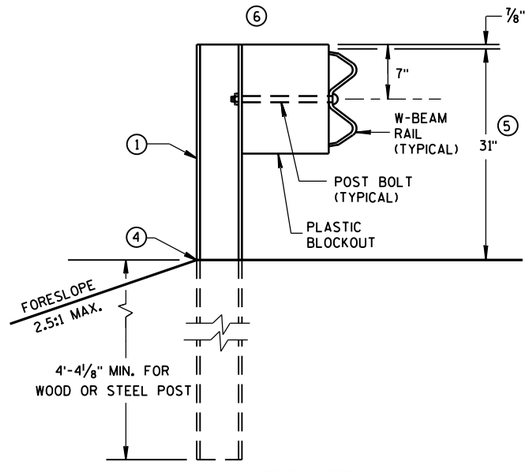
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③



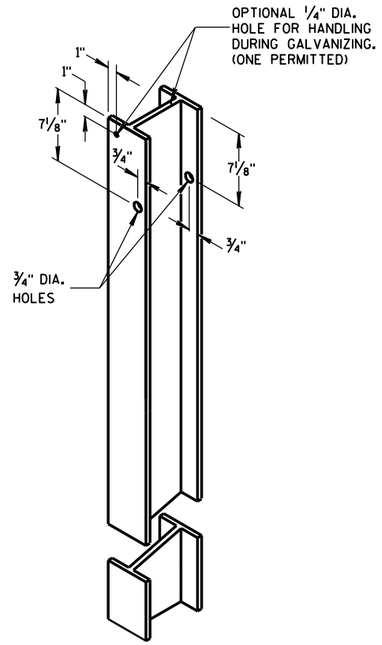
END VIEW

LOCATED ALONG A CURBED ROADWAY

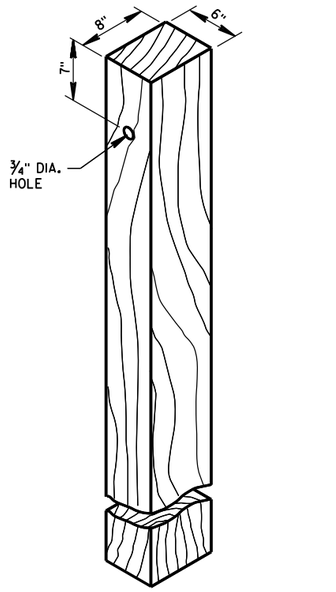


END VIEW

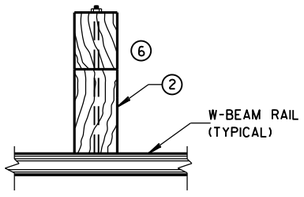
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



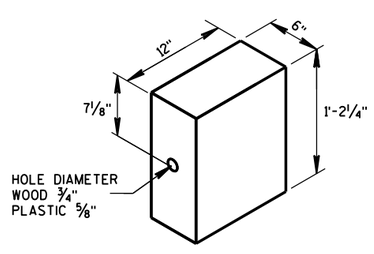
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



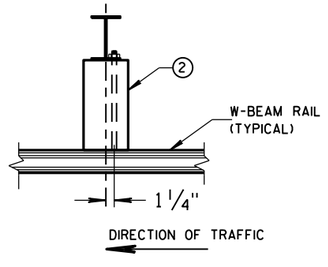
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②

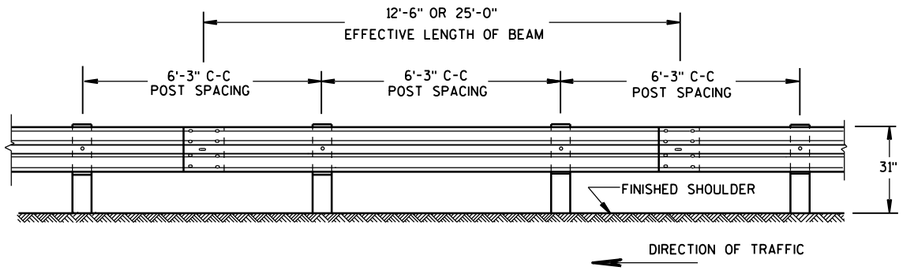


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

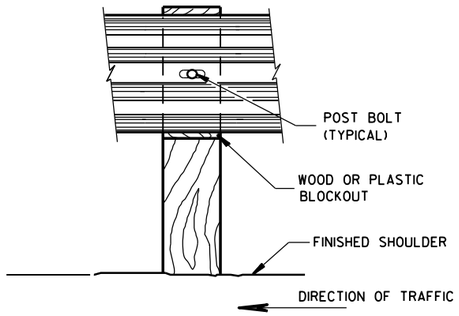
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 42-5a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

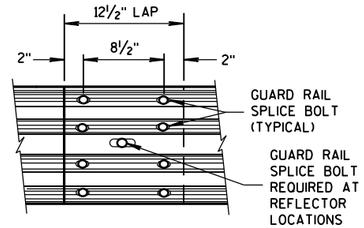
GENERAL NOTES

(8) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

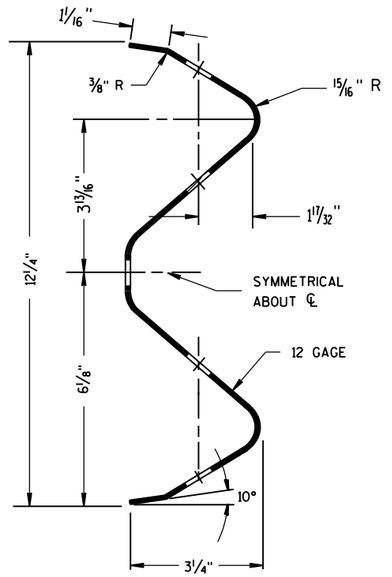
(11) 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

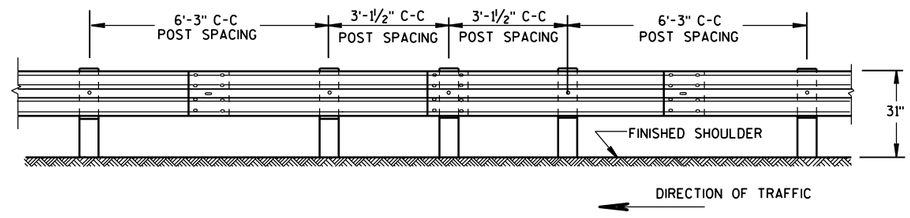
GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



FRONT VIEW
MID-SPAN BEAM SPLICE

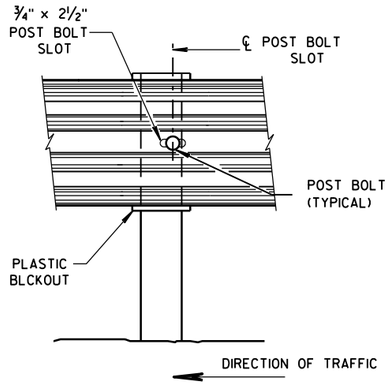


SECTION THRU W-BEAM RAIL

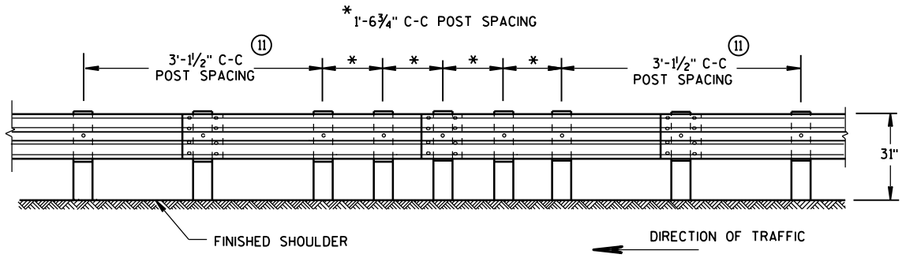


FRONT VIEW

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

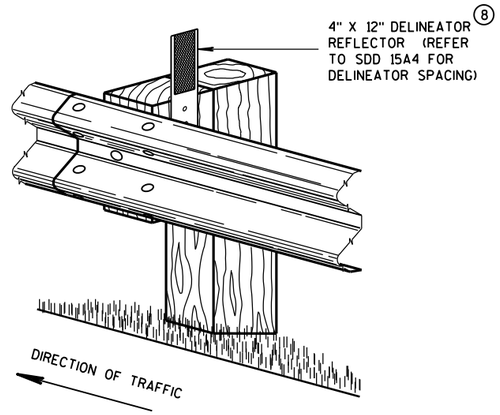


FRONT VIEW AT STEEL POST



FRONT VIEW

QUARTER POST SPACING (QS)



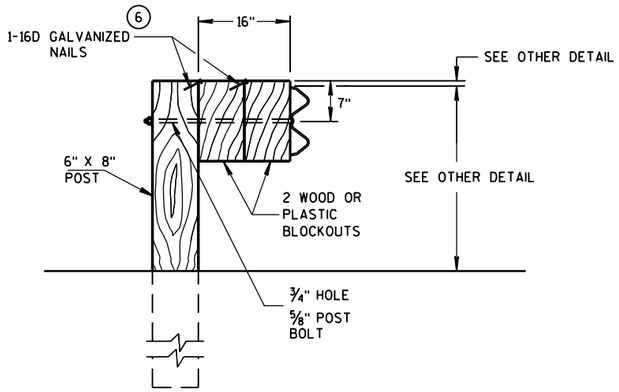
ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

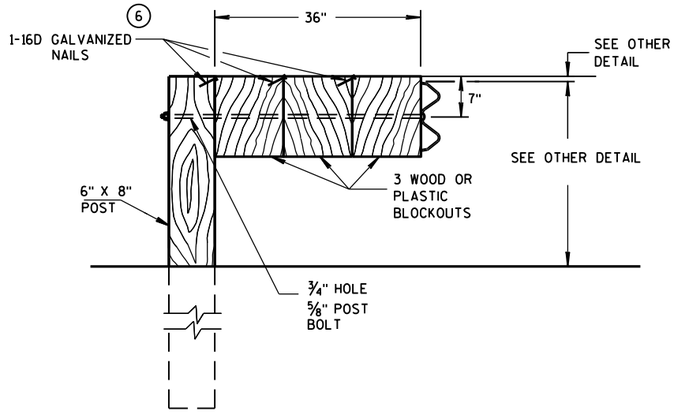
6

S.D.D. 14 B 42-5b



DETAIL FOR 16" BLOCKOUT DEPTH

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

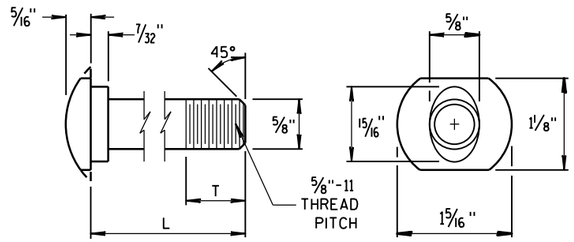


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

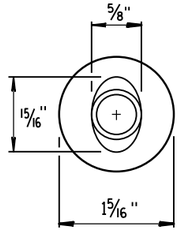
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

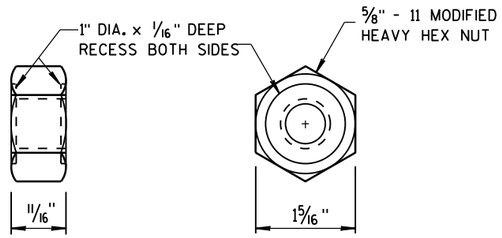


POST BOLT TABLE

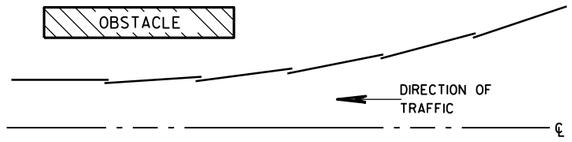
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

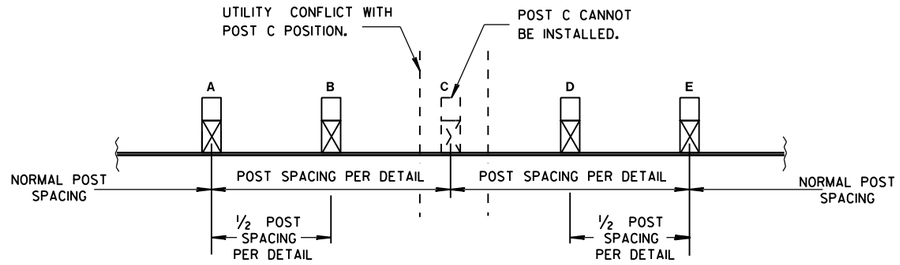


POST BOLT, SPLICE BOLT AND RECESS NUT

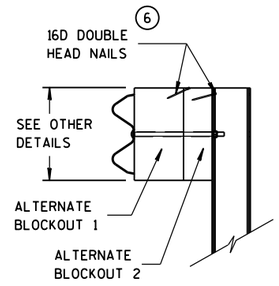


PLAN VIEW

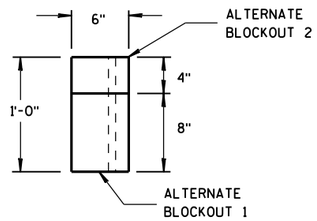
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

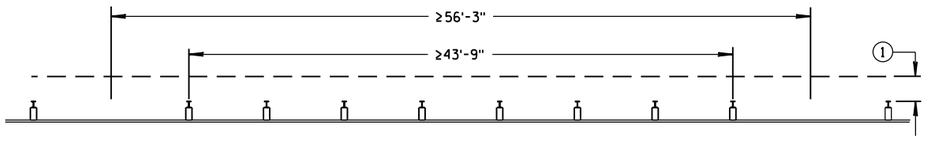
ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

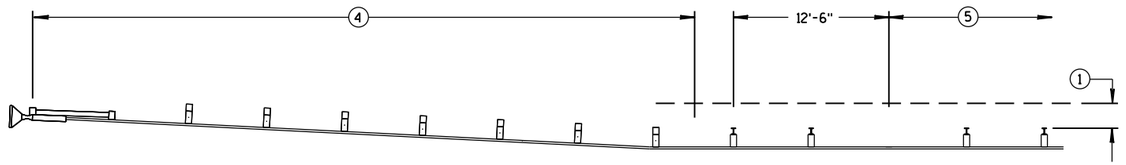
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

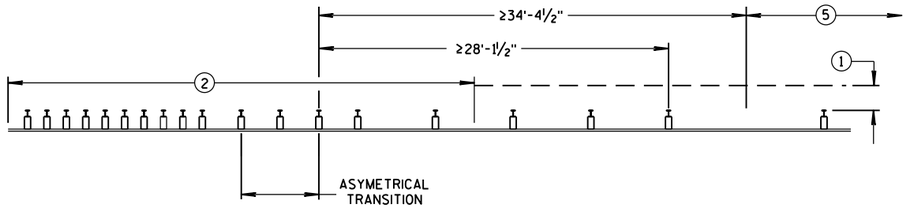
S.D.D. 14 B 42-5c



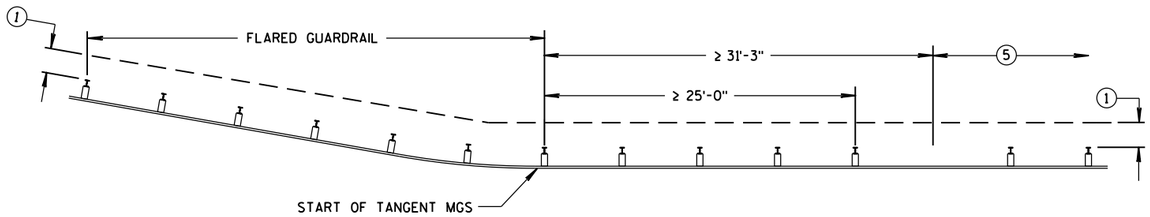
MISSING POST IN NORMAL BEAM GUARD RUN



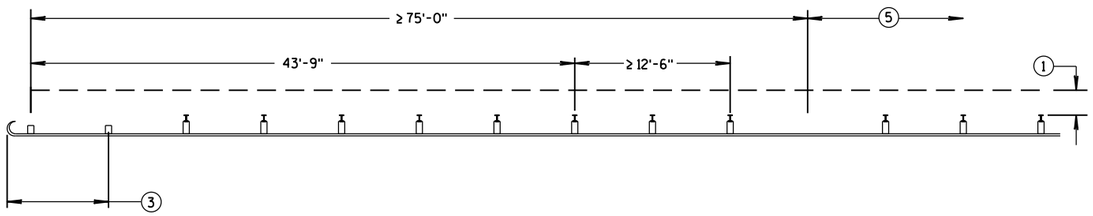
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



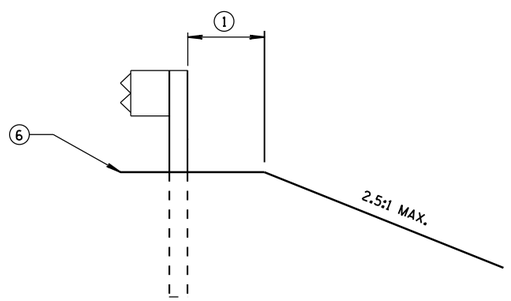
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN
NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN
NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

(1) MINIMUM OF 2 FEET OF GRADING BEHIND POST.

(2) SEE SDD 14B45 FOR MORE DETAILS.

(3) SEE SDD 14B47 FOR MORE DETAILS.

(4) SEE SDD 14B44 FOR MORE DETAILS.

(5) SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.

(6) SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

6

S.D.D. 14 B 42-5d

6

S.D.D. 14 B 42-5d

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 MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

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

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

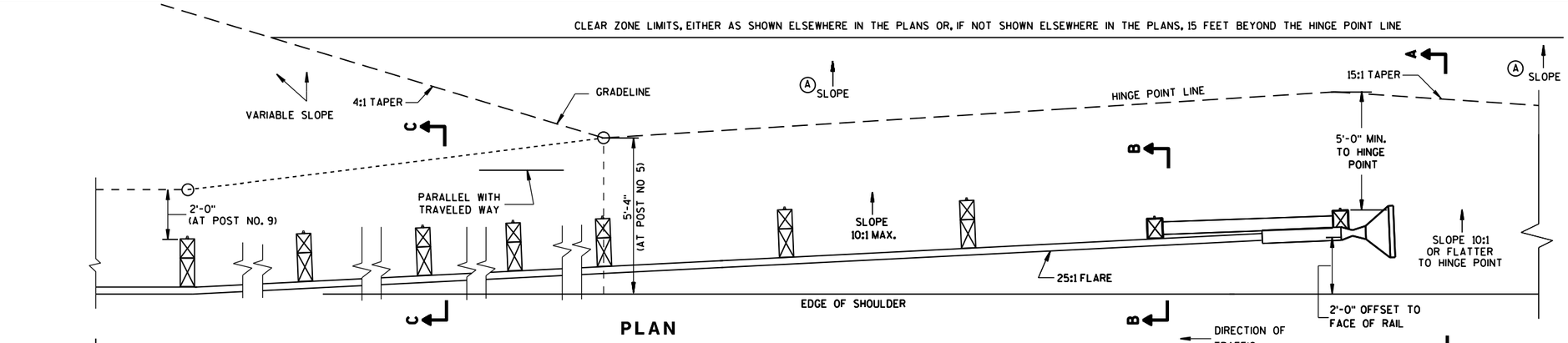
SEE SDD 14B42 FOR MORE INFORMATION.

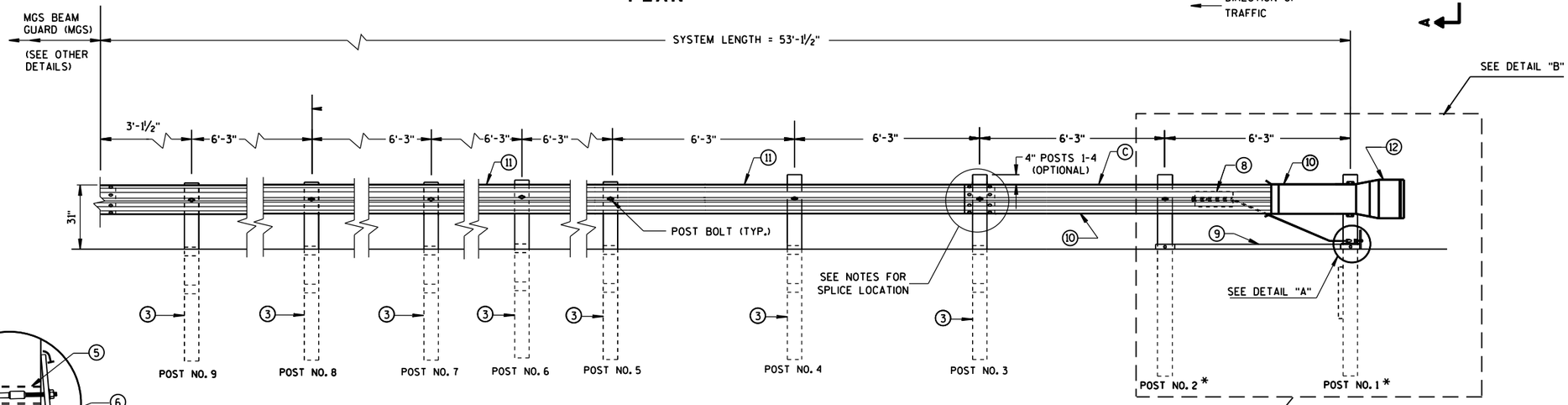
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

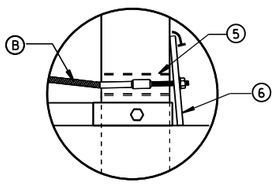
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

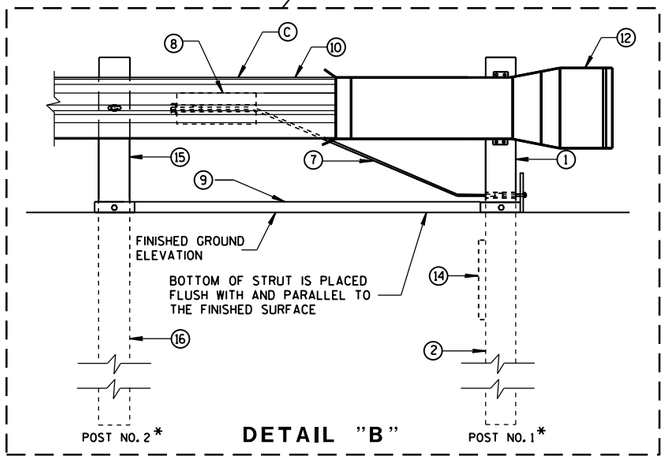
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

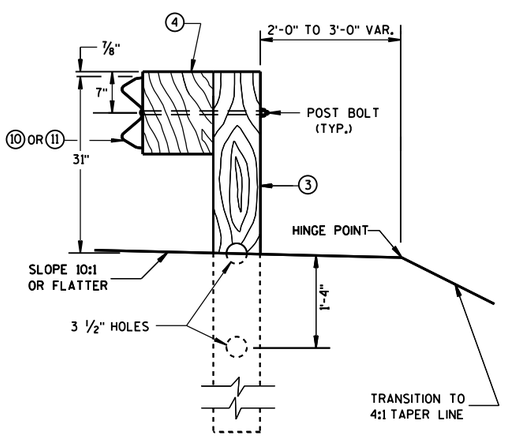
THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.



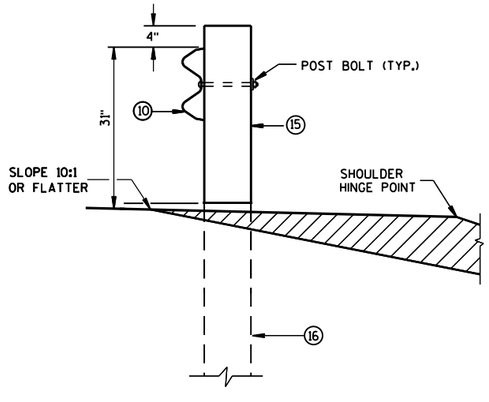




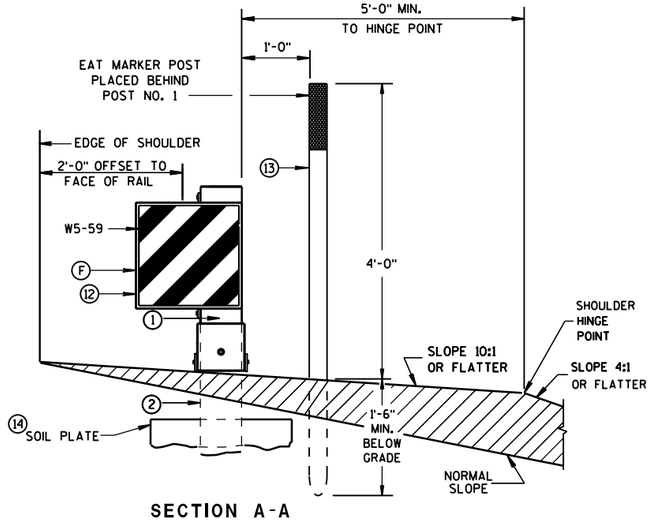




SECTION C-C
TYPICAL AT POST NOS. 3-9



SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*

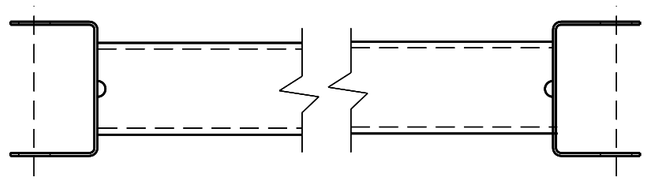
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPO	66

6

S.D.D. 14 B 44-3a

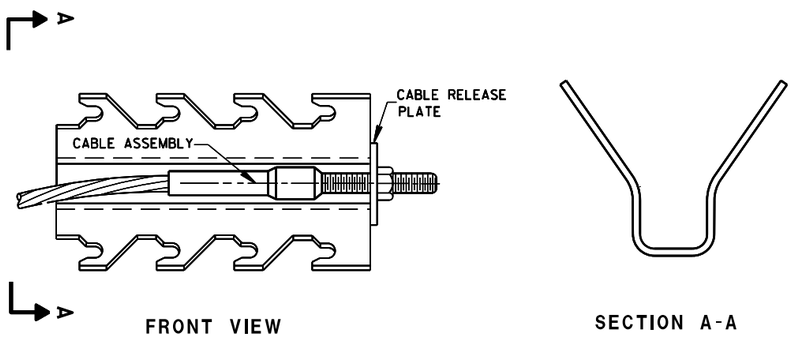
6

S.D.D. 14 B 44-3a



(9) (H)

GENERIC GROUND STRUT



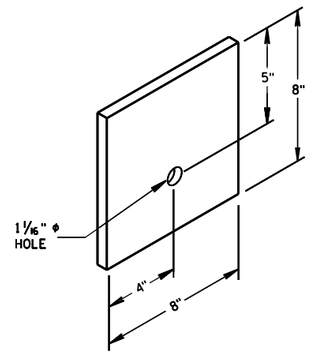
FRONT VIEW

SECTION A-A

GENERIC ANCHOR CABLE BOX (8) (H)

BILL OF MATERIALS

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



BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

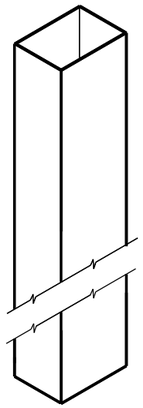
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

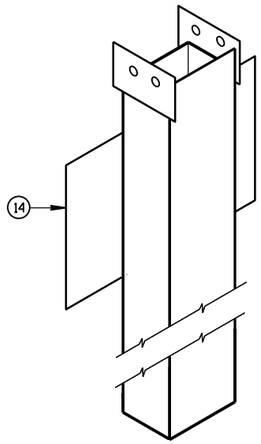
S.D.D. 14 B 44-3b

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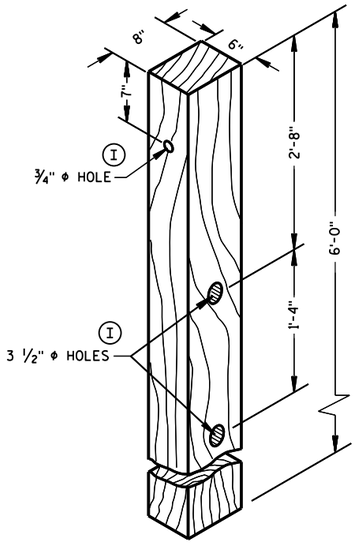
S.D.D. 14 B 44-3b



UPPER POST NO. 1 (1)

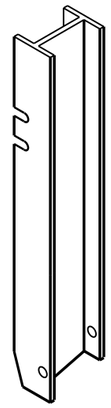


LOWER POST NO. 1 (2)

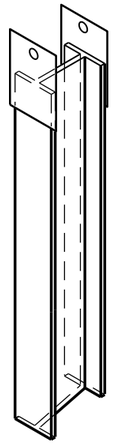


POSTS NUMBER 3-9

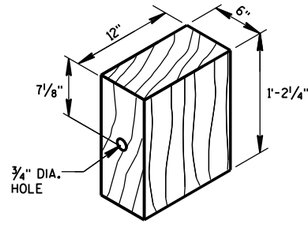
WOOD CRT POST (3)



UPPER POST NO. 2 (15)

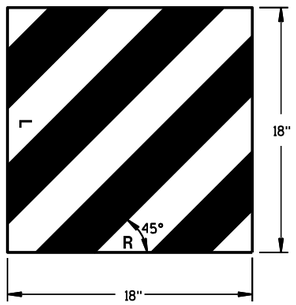


LOWER POST NO. 2 (16)



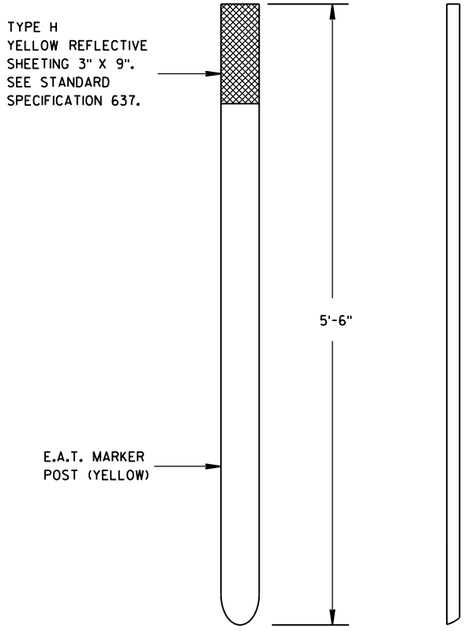
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



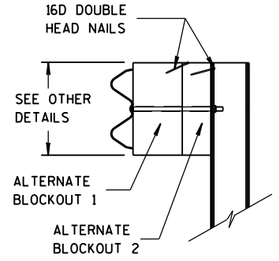
W5-59

REFLECTIVE SHEETING DETAIL (H)

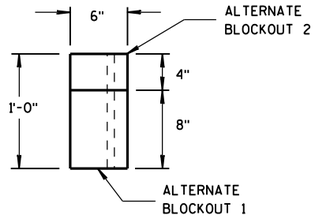


FRONT VIEW SIDE VIEW

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

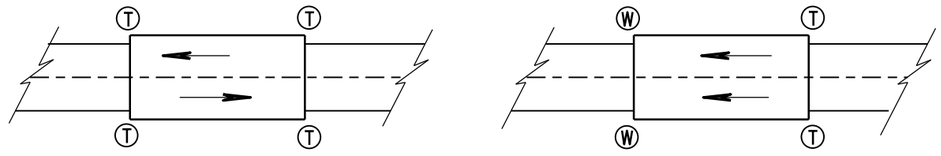
June 2017
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS
UNIT SUPERVISOR

FHWA

6

S.D.D. 14 B 44-3c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

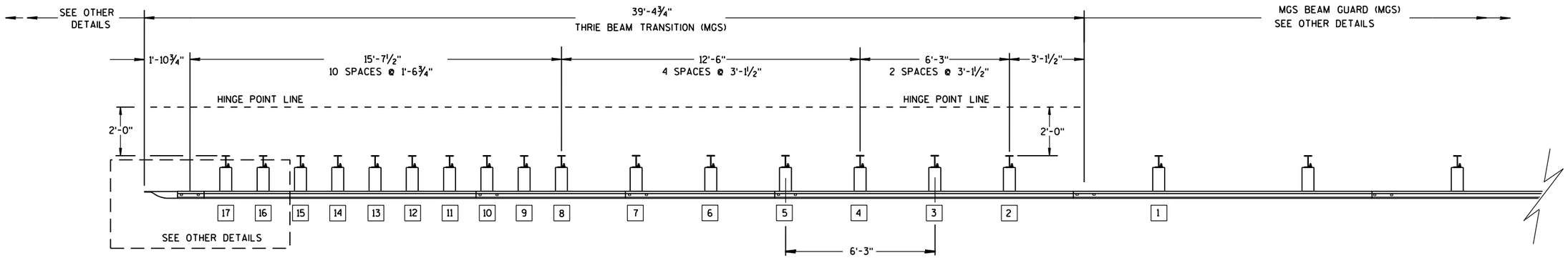
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

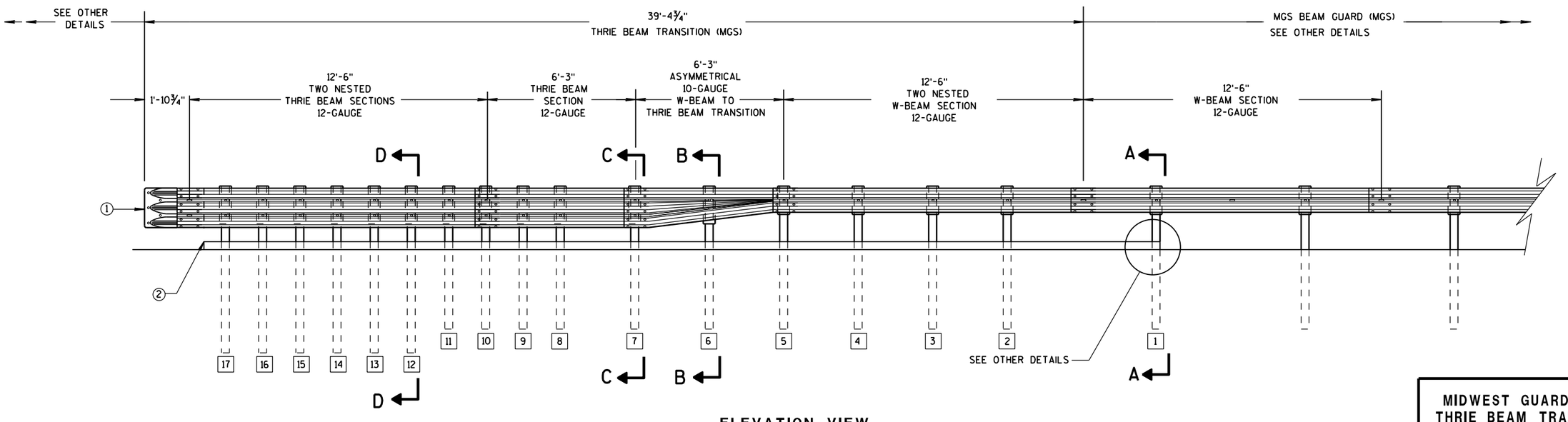
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

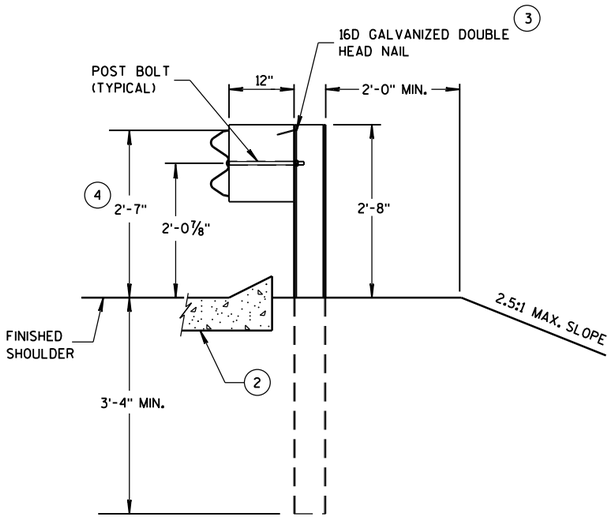
S.D.D. 14 B 45-4a

GENERAL NOTES

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

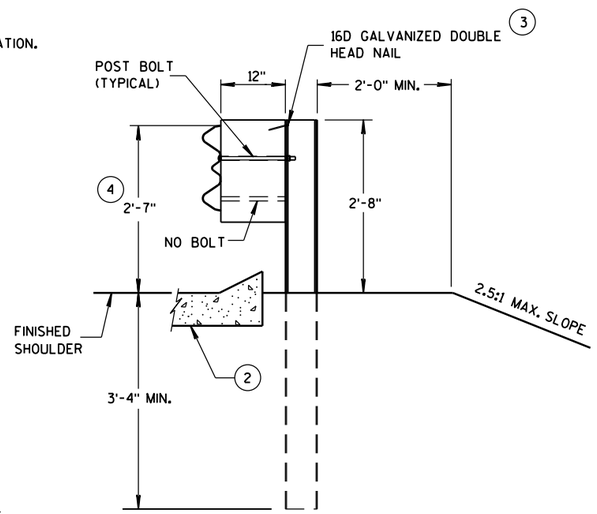
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



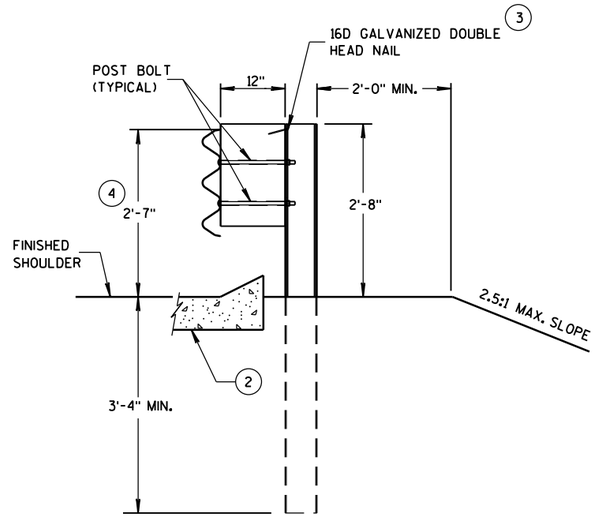
SECTION A-A

POSTS 1-5



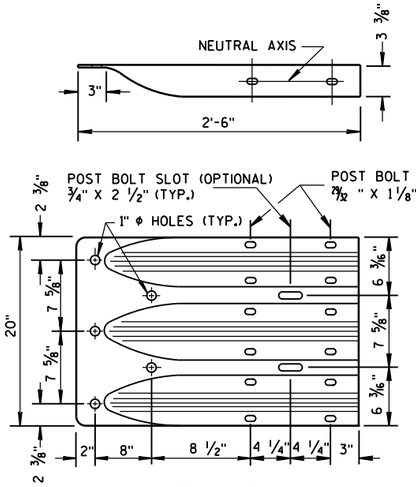
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

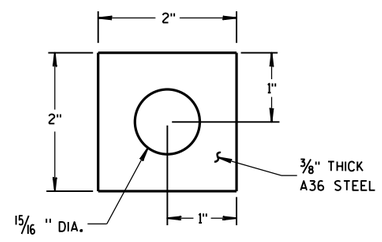
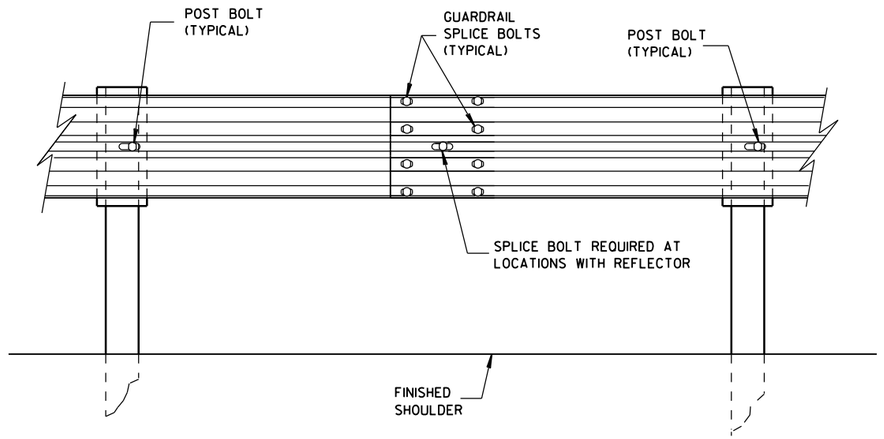
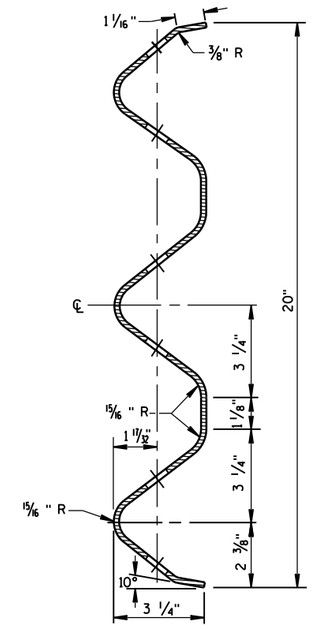


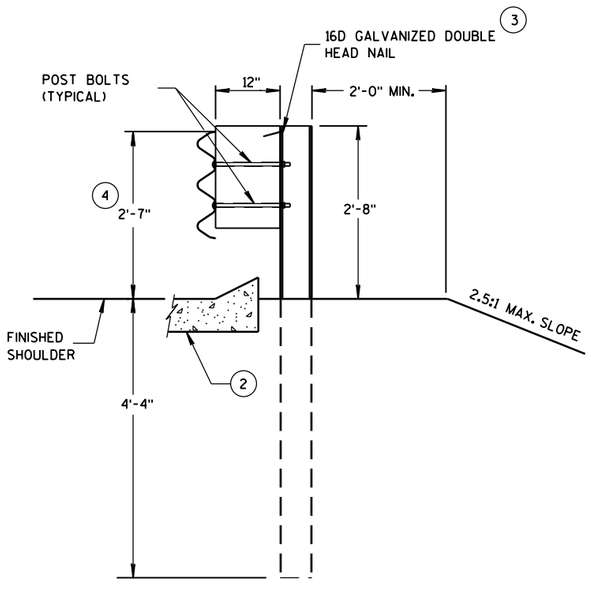
PLATE WASHER DETAIL



SPLICE DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

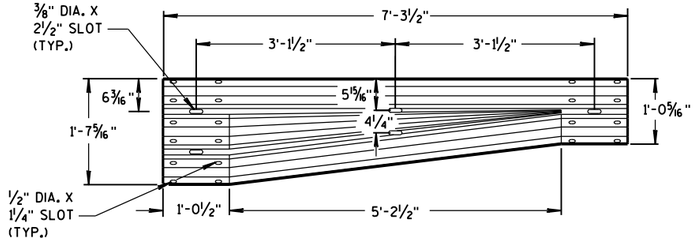
POSTS 12-17

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

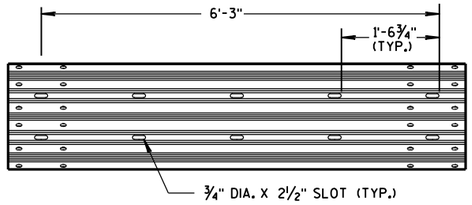
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

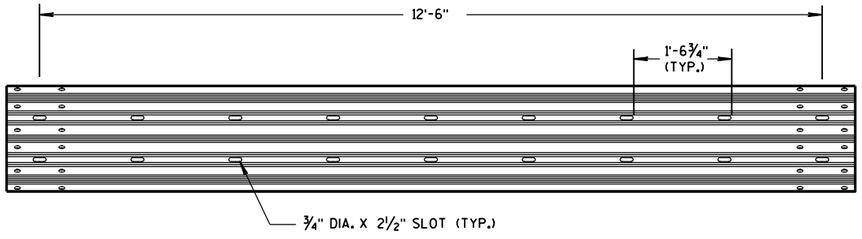
S.D.D. 14 B 45-4b



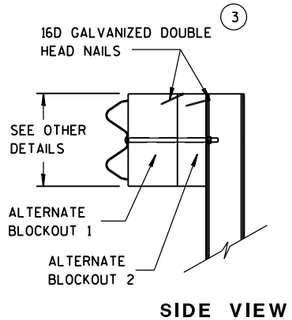
W-BEAM TO THRIE BEAM TRANSITION SECTION



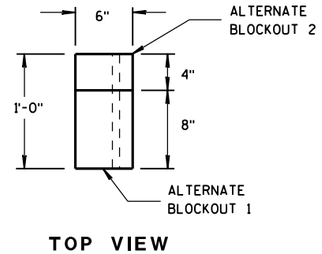
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

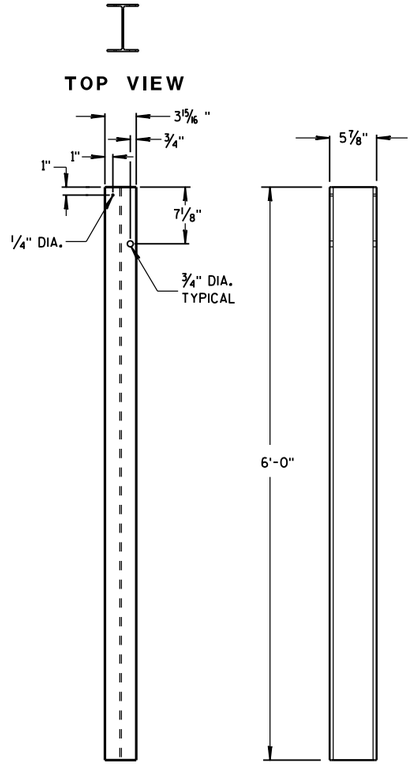


SIDE VIEW

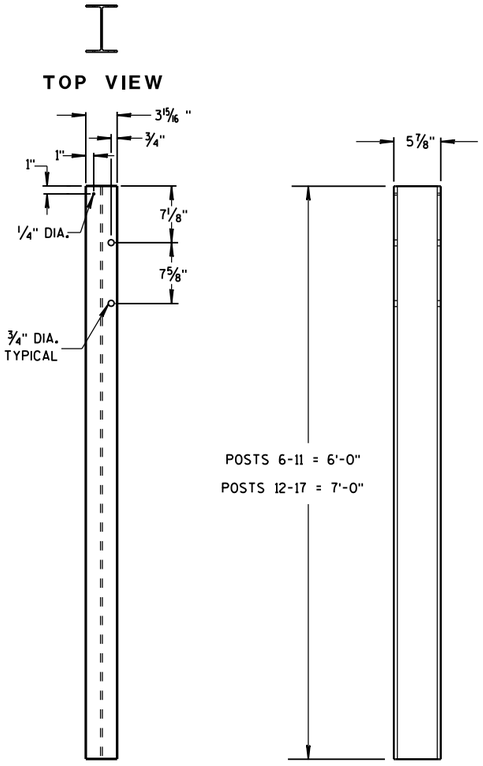


TOP VIEW

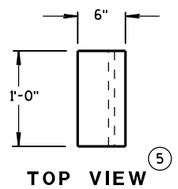
ALTERNATE WOOD BLOCKOUT DETAIL



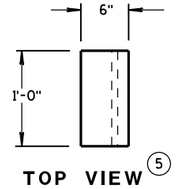
STEEL POSTS 1-5



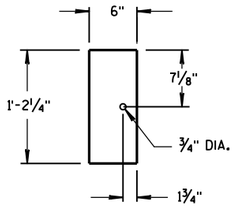
STEEL POSTS 6-17



TOP VIEW (5)

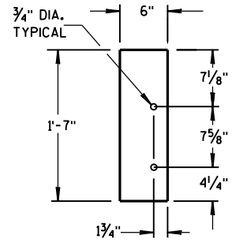


TOP VIEW (5)



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.

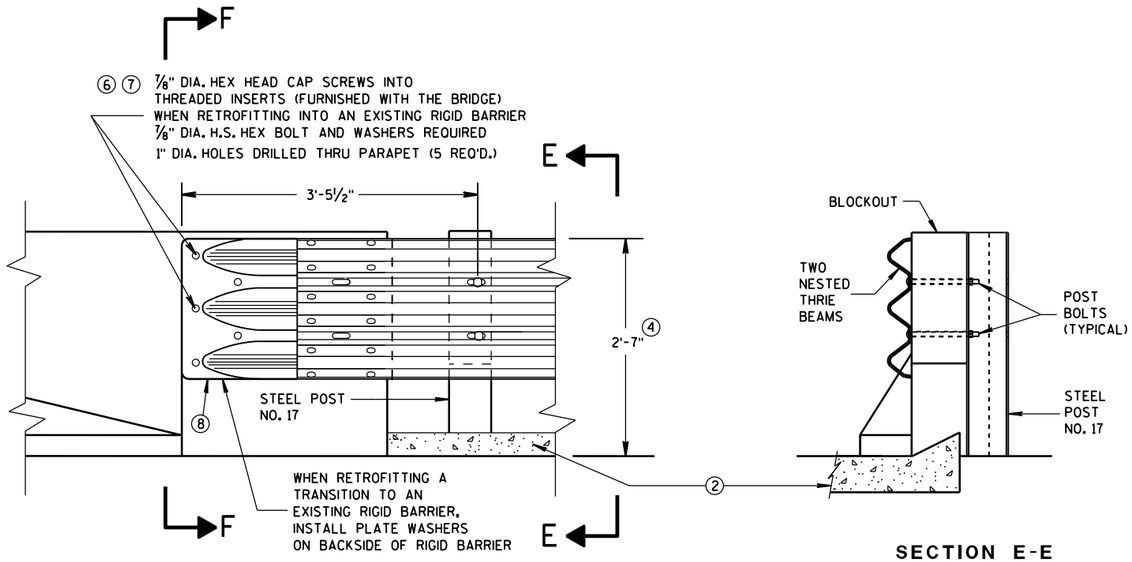
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 45-4c



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.

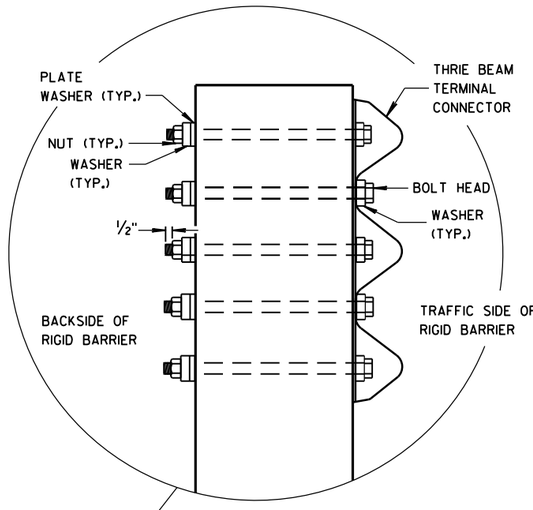
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

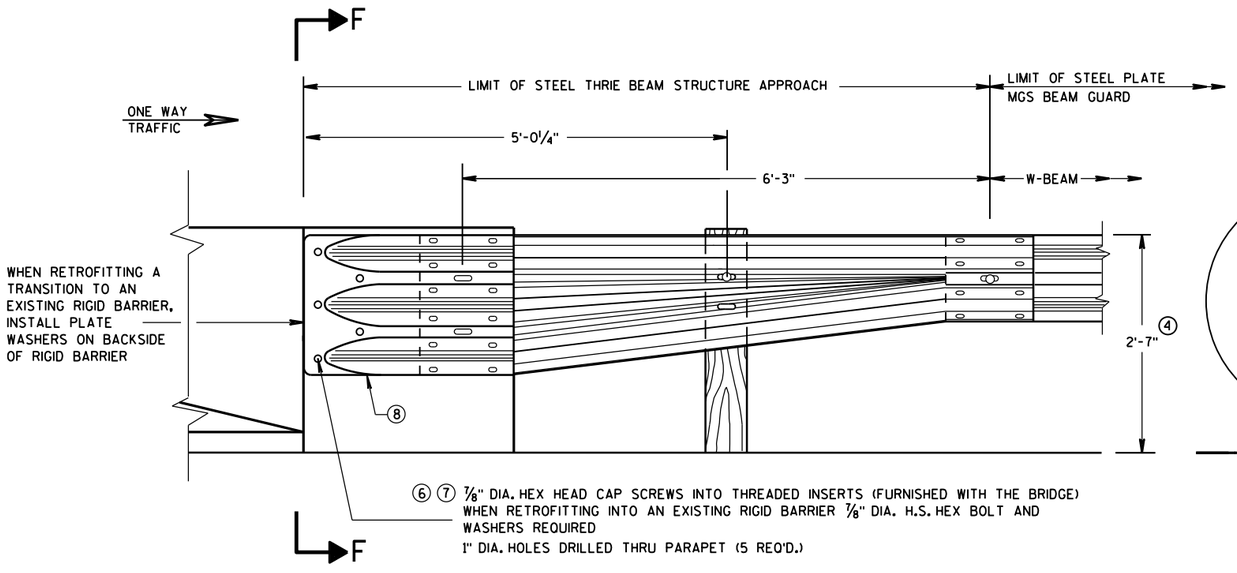
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

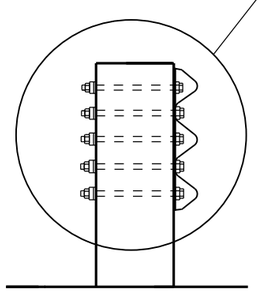
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" 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".

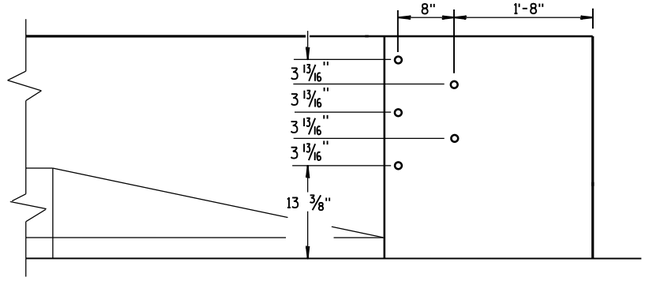




FRONT VIEW



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
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

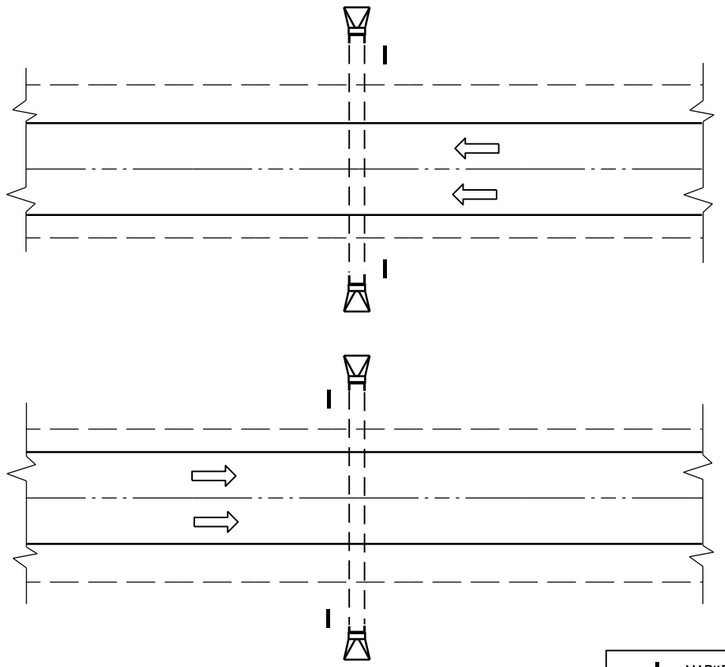
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S.D.D. 14 B 45-4d

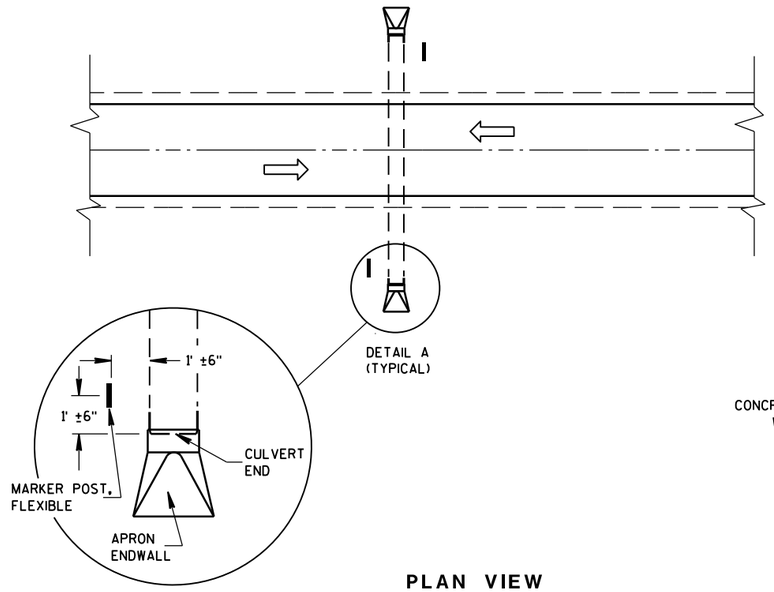
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S.D.D. 14 B 45-4d



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

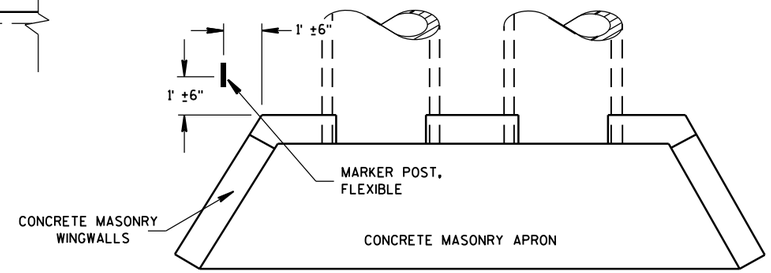
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

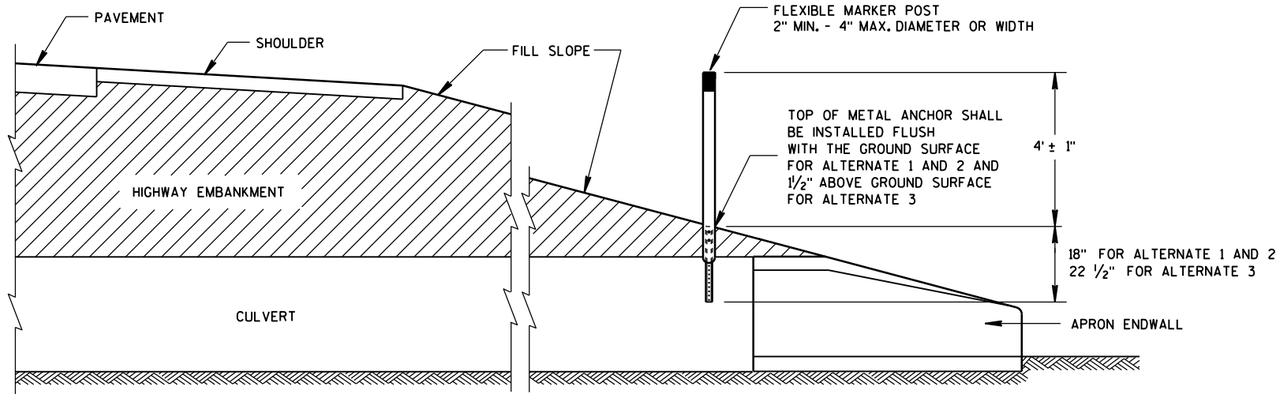
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

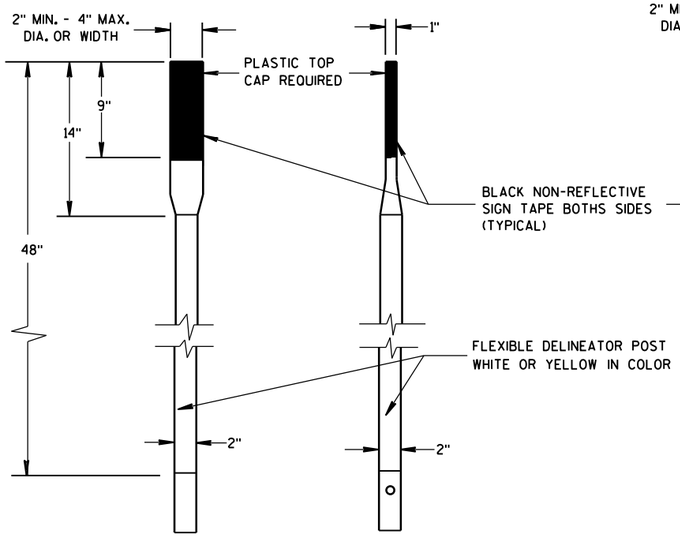
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

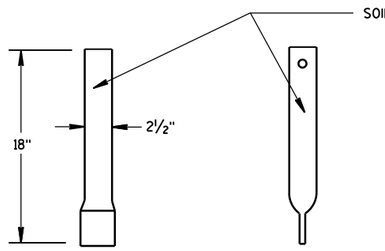
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S.D.D. 15 A 3-2a

6

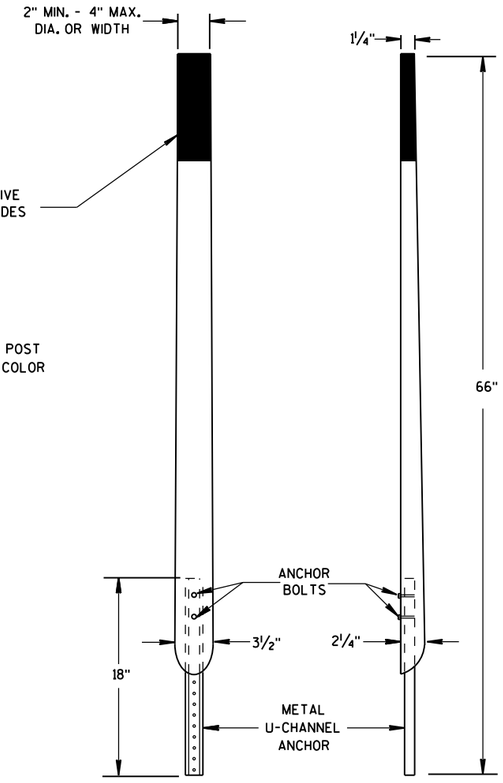
S.D.D. 15 A 3-2a





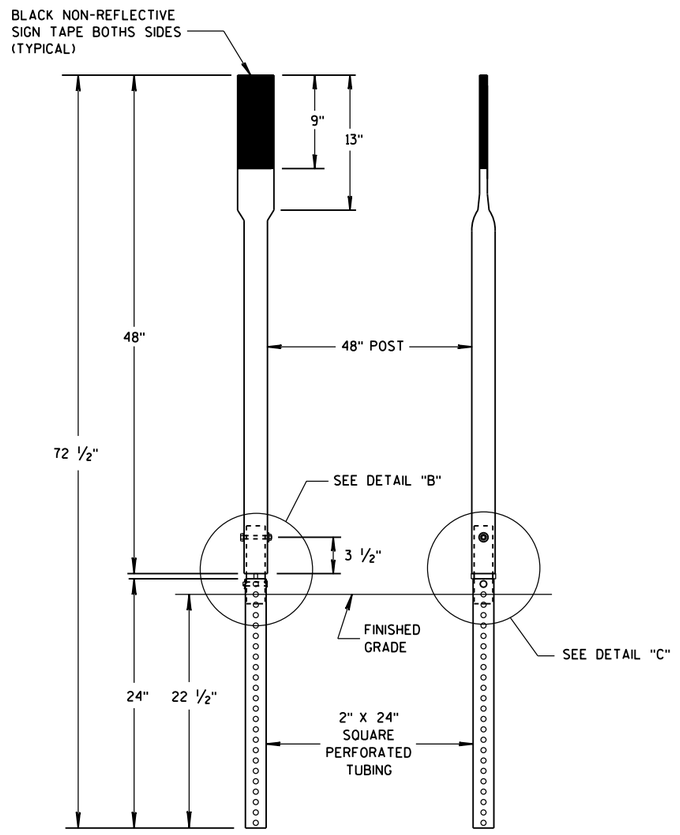
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

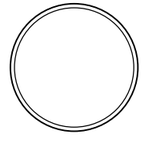
ALTERNATE 2



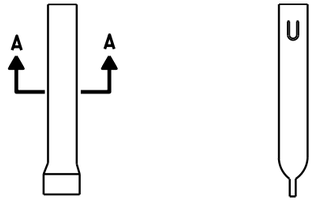
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POSTS

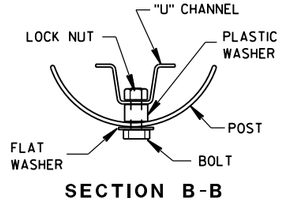


SECTION A-A

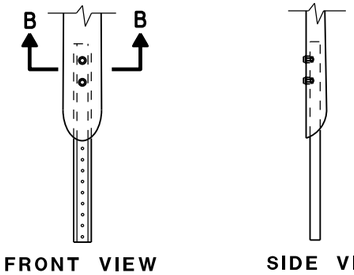


FRONT VIEW SIDE VIEW

ALTERNATE 1

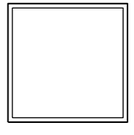


SECTION B-B

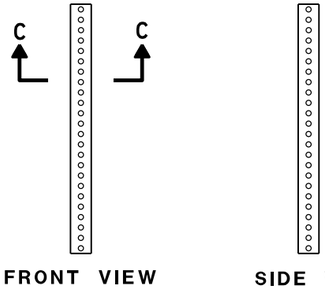


FRONT VIEW SIDE VIEW

ALTERNATE 2



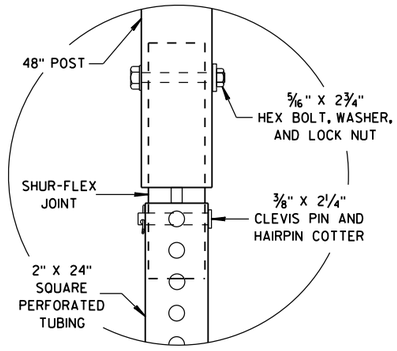
SECTION C-C



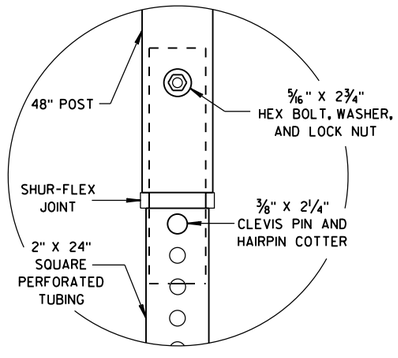
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

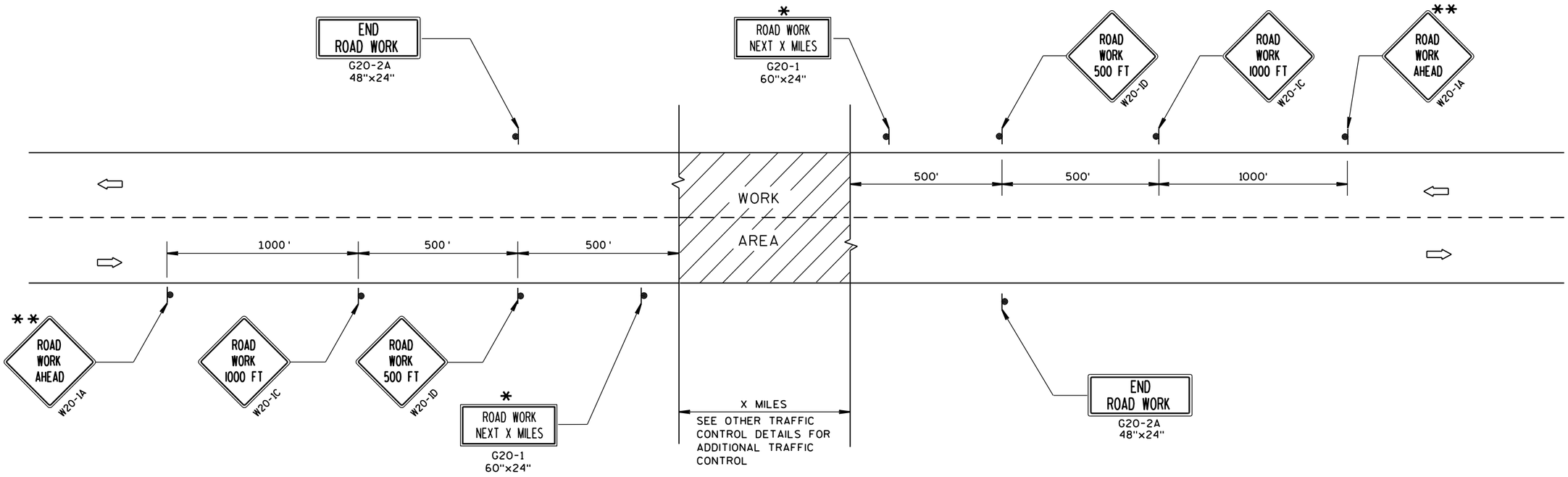
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
IGN
FHWA

6
S.D.D. 15 A 3-2b

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

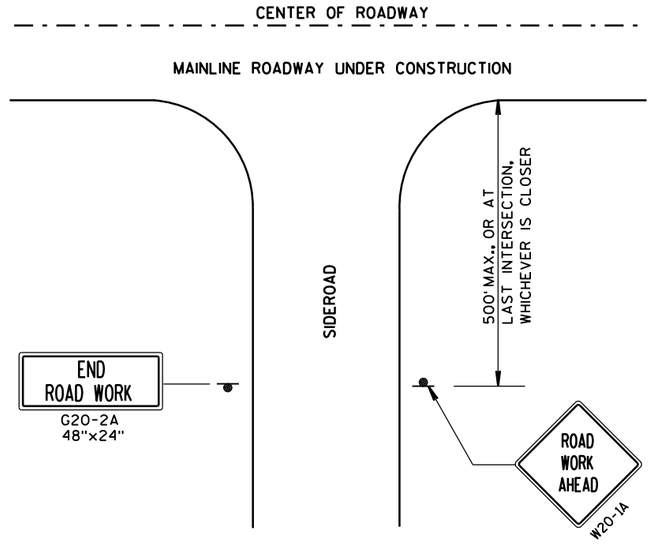
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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



LEGEND

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

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

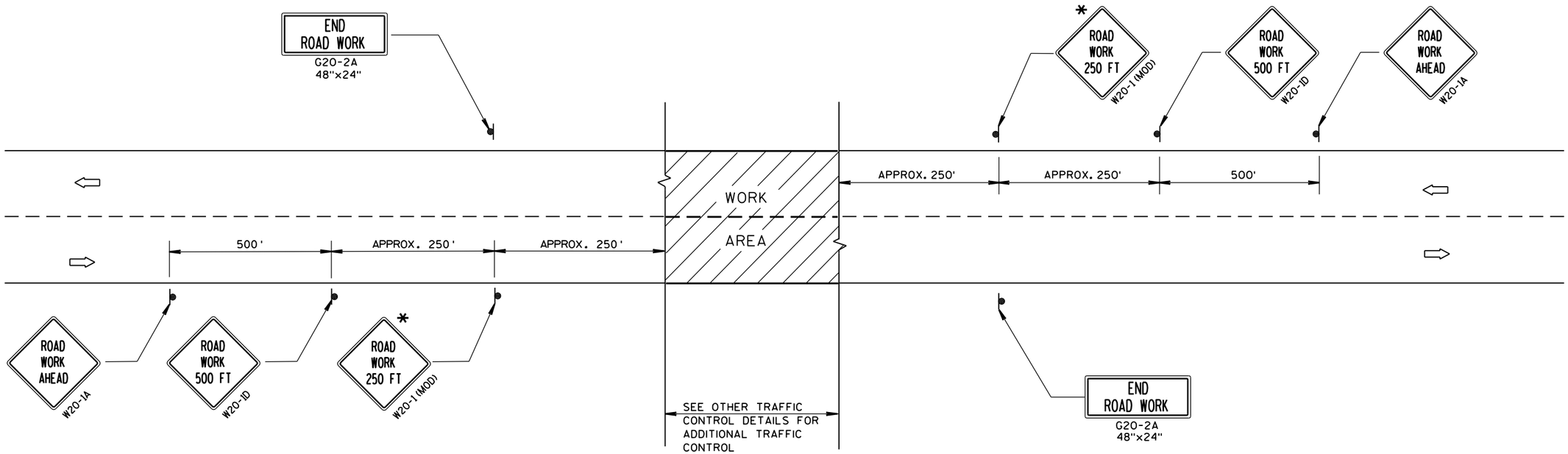
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TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

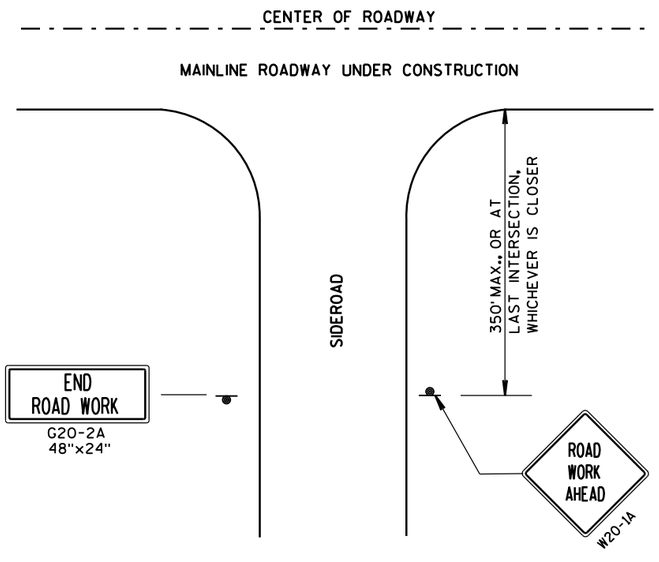
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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



LEGEND

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

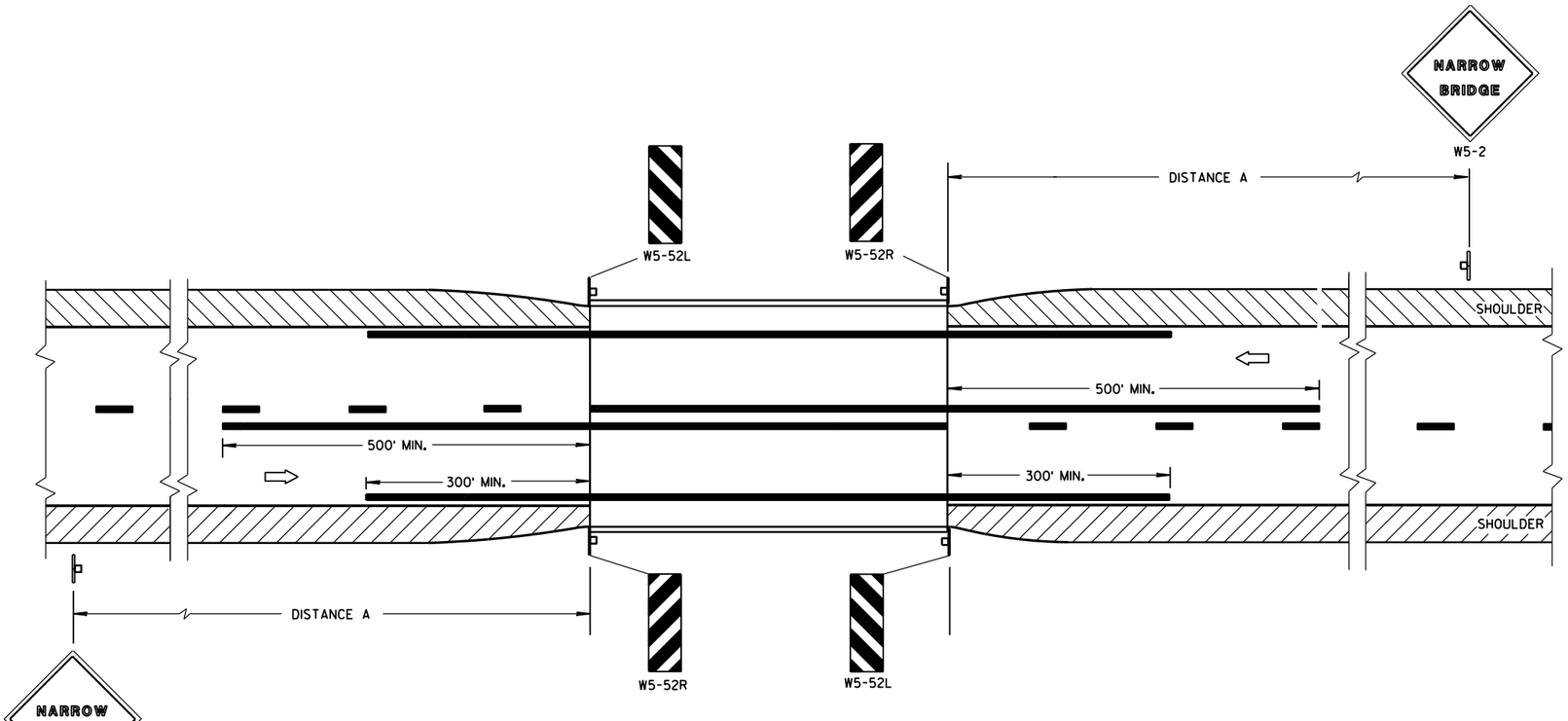
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

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SITUATION 1

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

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

GENERAL NOTES

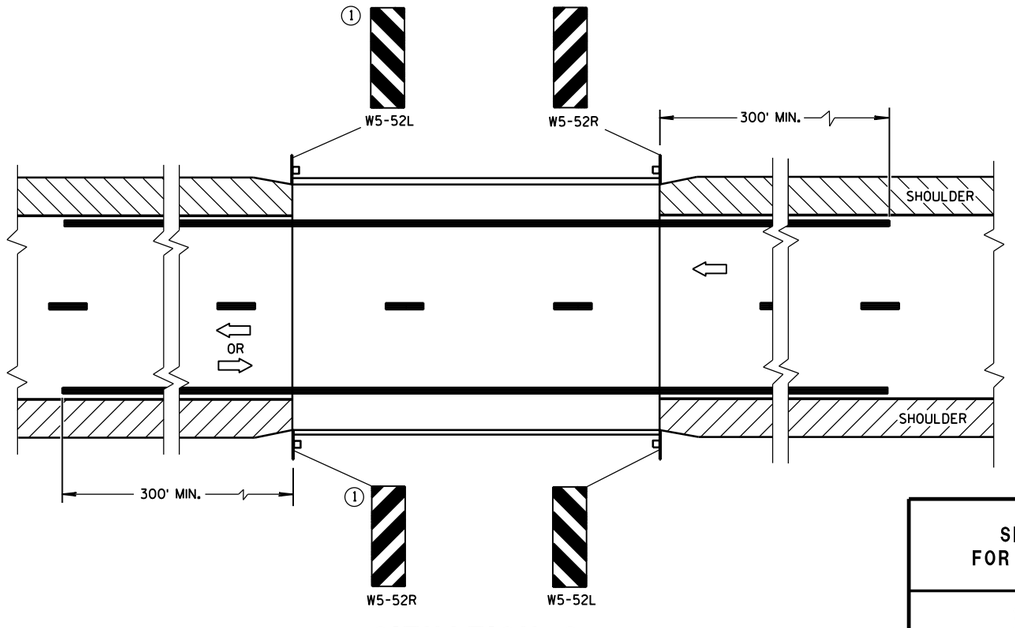
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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.

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

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

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
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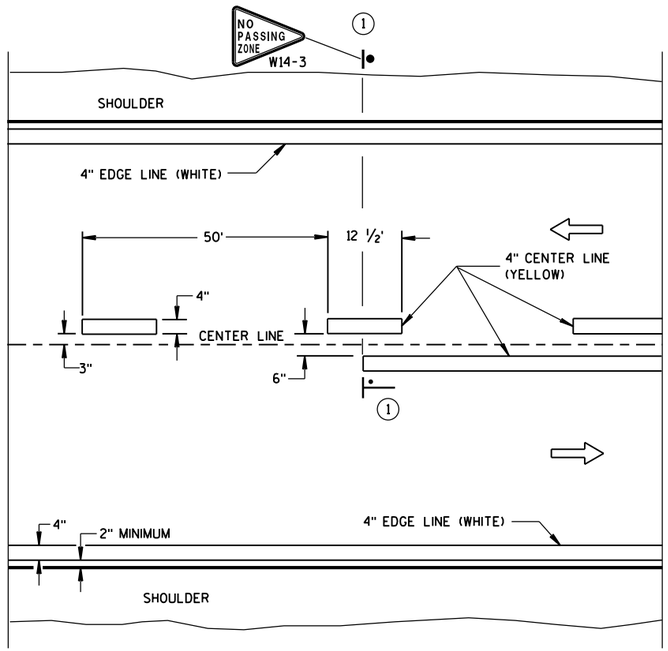
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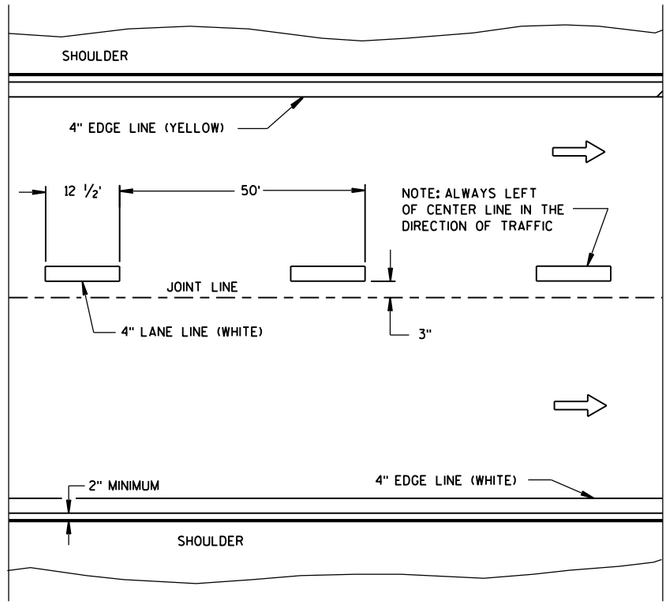
S.D.D. 15 C 6-9

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S.D.D. 15 C 6-9



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

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

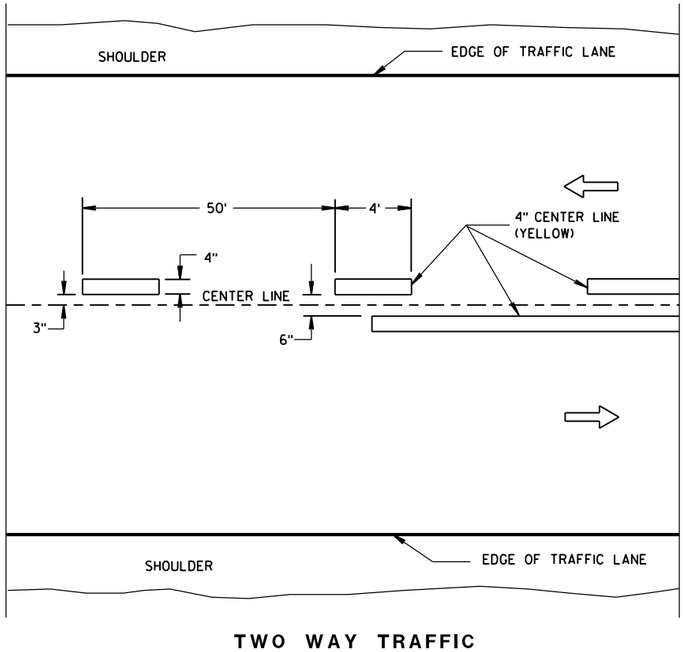
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

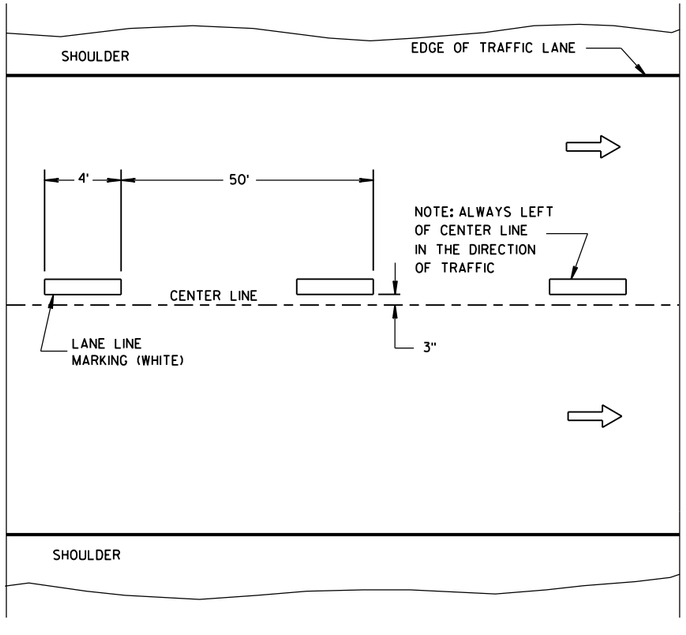
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



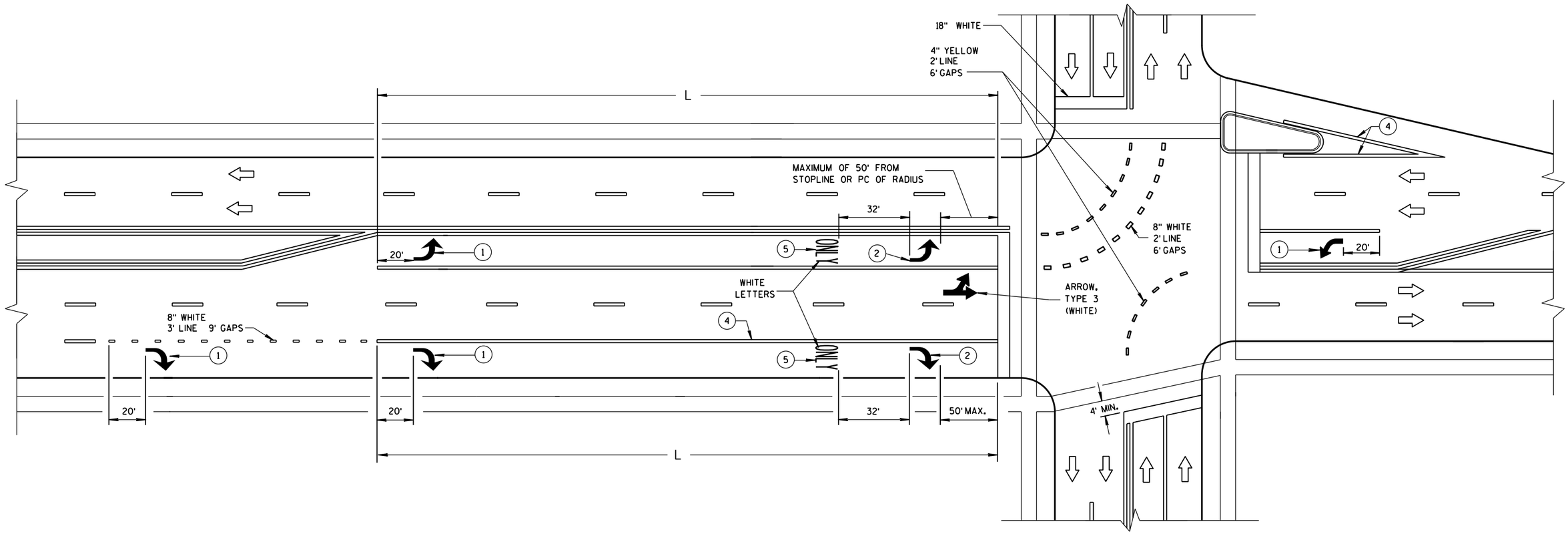
ONE WAY TRAFFIC

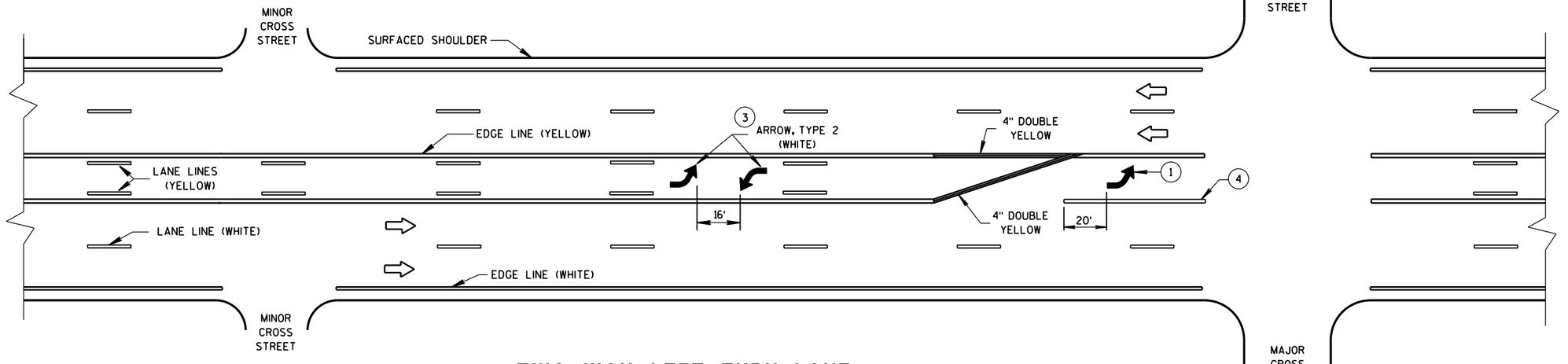
TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
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FHWA	

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S.D.D. 15 C 8-18a





TWO WAY LEFT TURN LANE

GENERAL NOTES

(1) REQUIRED ARROW, TYPE 2 (WHITE).

(2) REQUIRED ARROW, TYPE 2 (WHITE) WHEN L IS GREATER THAN 78 FEET AND LESS THAN OR EQUAL TO 166 FEET.

(3) A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.

(4) 8" WHITE

(5) REQUIRED WORD ONLY WHEN L IS GREATER THAN 166 FEET.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL

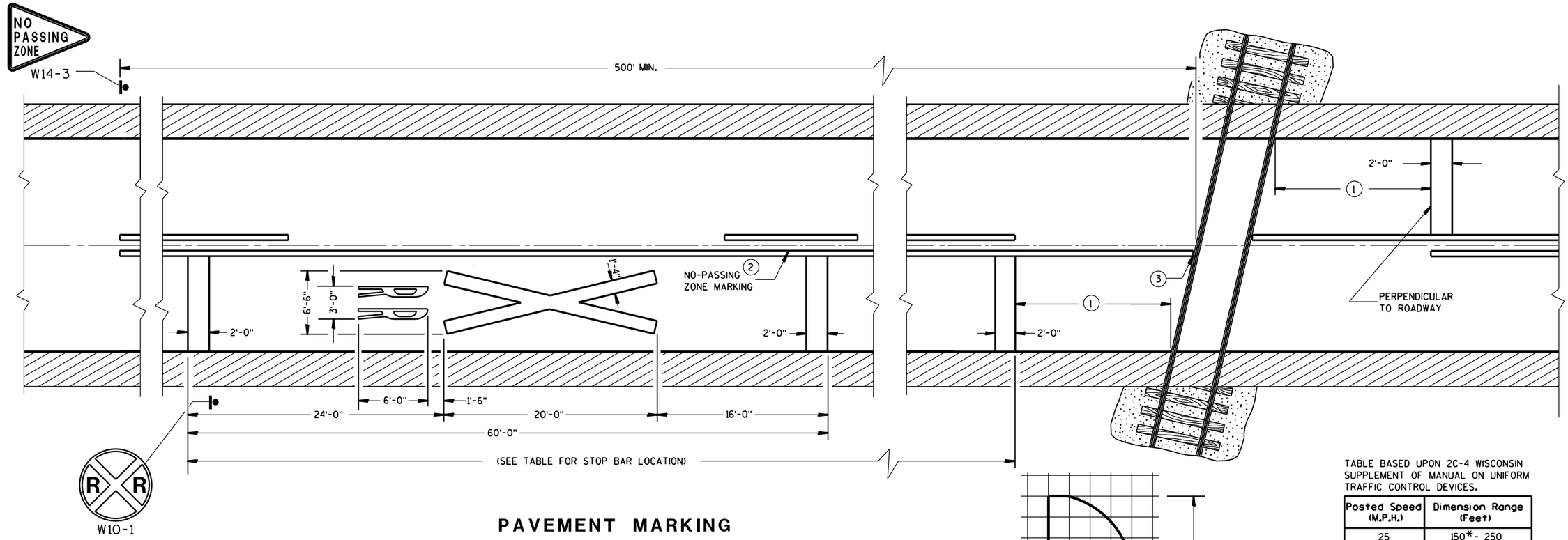
L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
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S.D.D. 15 C 8-18b



PAVEMENT MARKING

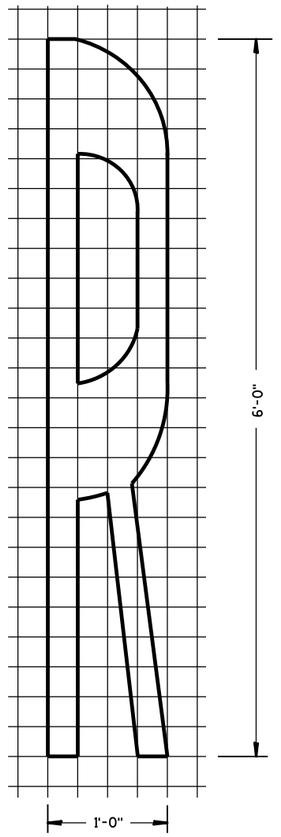


TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

Posted Speed (M.P.H.)	Dimension Range (Feet)
25	150*- 250
30	200*- 300
35	250*- 450
40	300*- 500
45	400*- 650
50	550*- 800
55	750*- 1000
60	1000*- 1250
65	1000*- 1250

* THE MINIMUM DISTANCES IN THE TABLE ARE DESIRABLE AND SHOULD BE USED. THE DISTANCES MAY BE INCREASED UP TO THE MAXIMUM TO ALLOW FOR FIELD CONDITIONS SUCH AS THE CLOSE PROXIMITY OF DRIVEWAYS, BRIDGES, SIDEROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.

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.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

RETRACE EXISTING SYMBOL WHERE EXISTING SYMBOLS ARE PLACED.

(1) MINIMUM 8' FROM ANY RAILROAD WARNING DEVICES (SIGNALS, GATES, ETC.) OR 25' FROM THE NEAREST RAIL, WHICHEVER DISTANCE IS GREATER.

(2) 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.

(3) FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS

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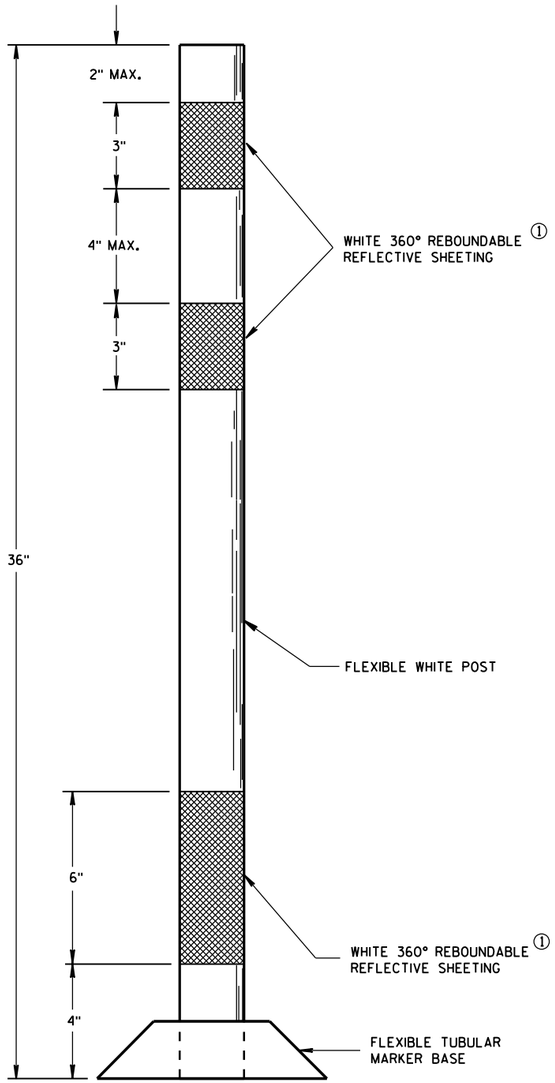
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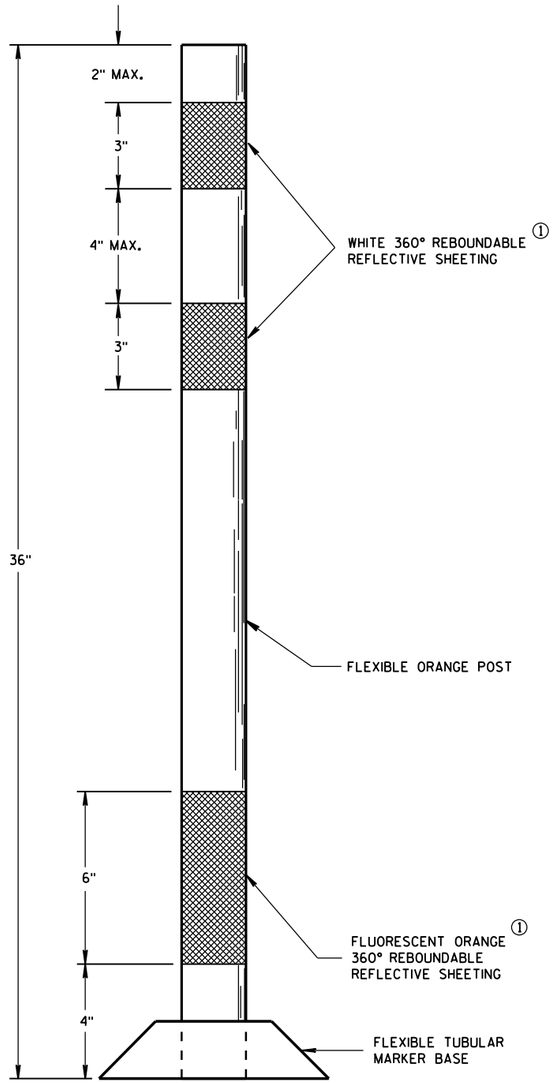
S.D.D. 15 C 9-11a

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S.D.D. 15 C 9-11a



FLEXIBLE
TUBULAR MARKER POST
PERMANENT CROSSOVER



FLEXIBLE
TUBULAR MARKER POST
WORK ZONE

GENERAL NOTES

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

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

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

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

CHANNELIZING DEVICES
FLEXIBLE TUBULAR MARKER POST

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S.D.D. 15 C 11-7a

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

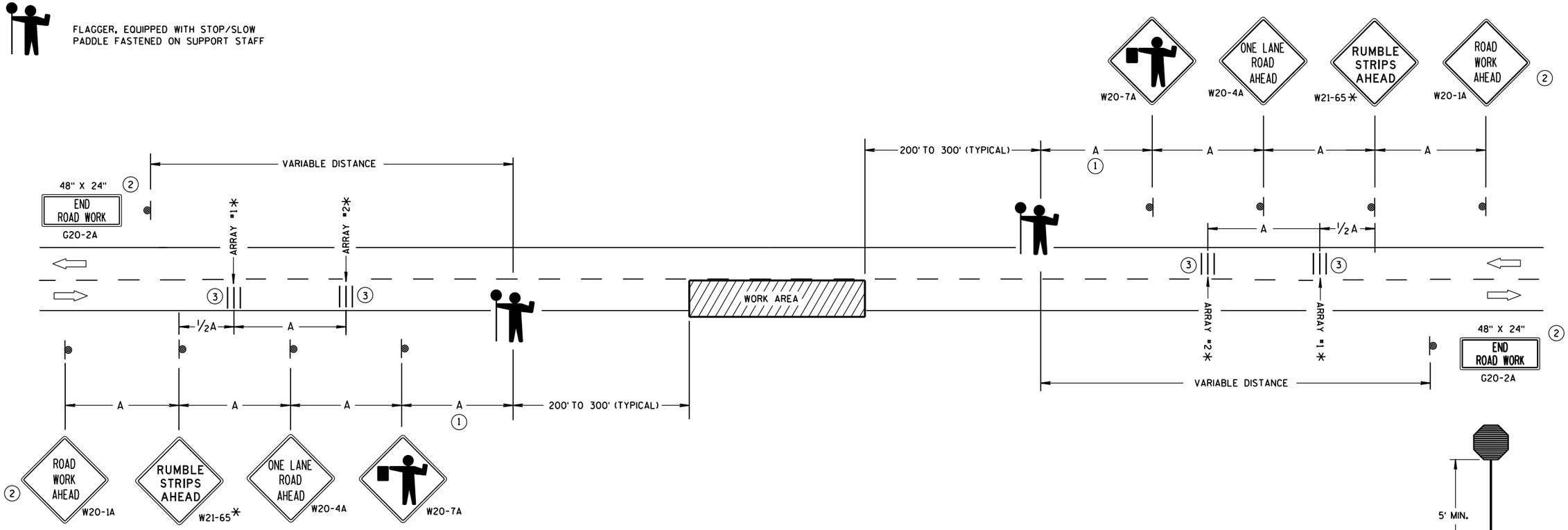
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

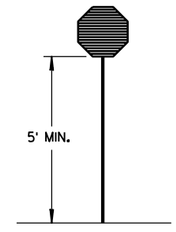
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



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





STOP/SLOW PADDLE ON SUPPORT STAFF

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

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

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

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

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

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

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

* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

(1) FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

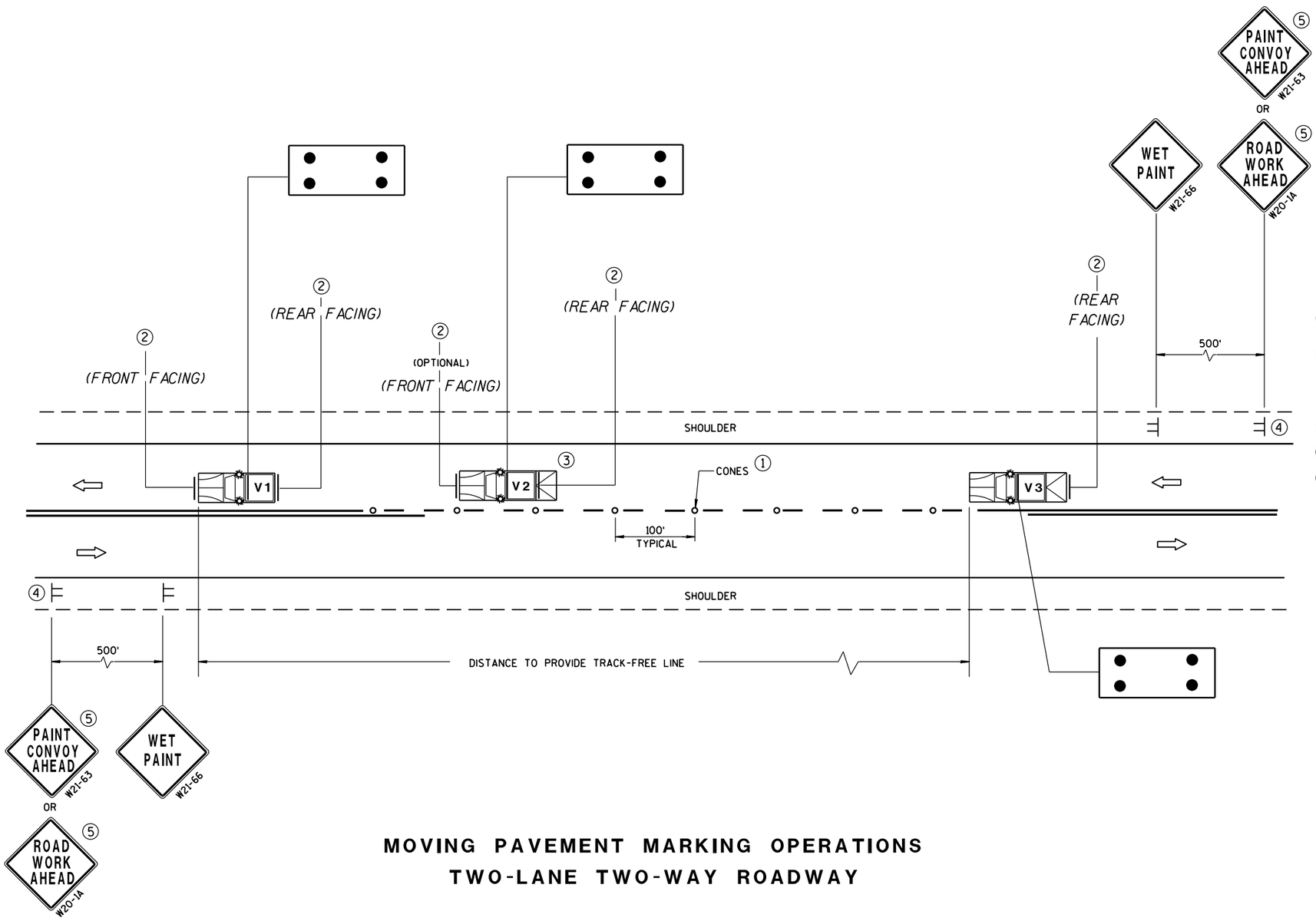
(3) EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

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MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

(1) CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

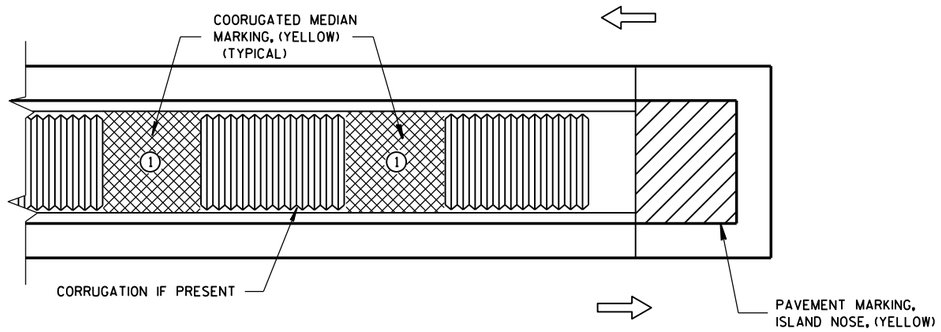
(4) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(5) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

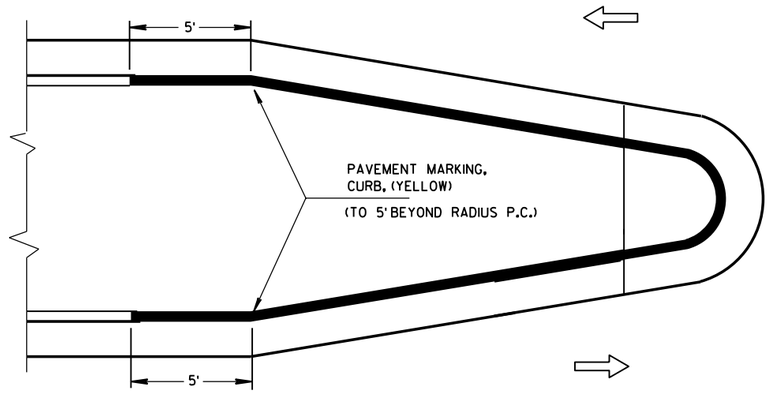
LEGEND

- **V1** LEAD VEHICLE
- **V2** SHADOW VEHICLE
- **V3** TRAIL VEHICLE WITH TMA
- **TMA** TRUCK-MOUNTED ATTENUATOR
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- CONES
- FLASHING ARROW PANEL (CAUTION)

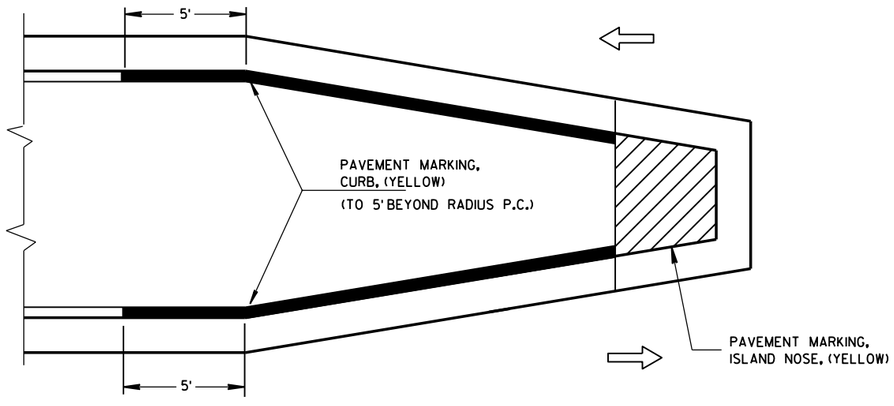
MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
Sept., 2017 DATE	/S/ Andrew Heldtke WORK ZONE ENGR
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MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

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

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

STATE OF WISCONSIN
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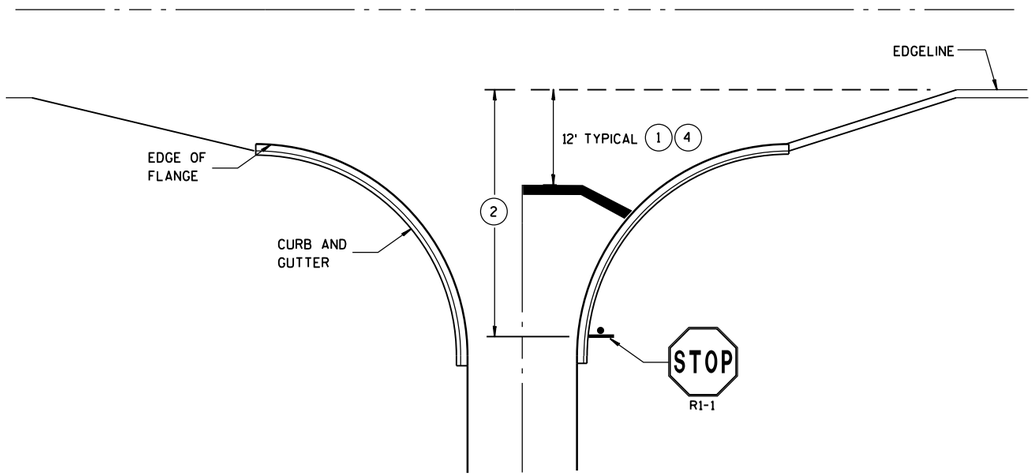
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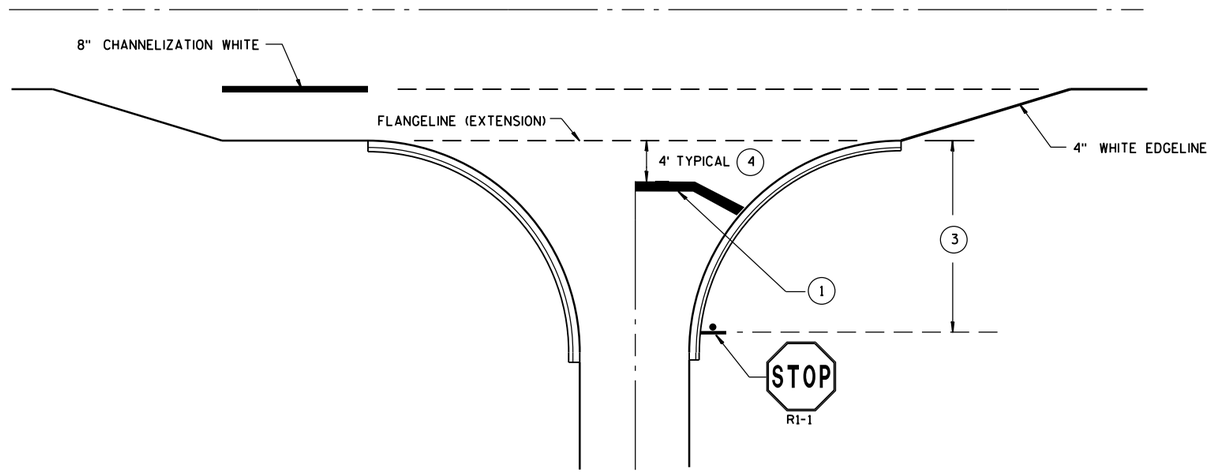
S.D.D. 15 C 27-2b

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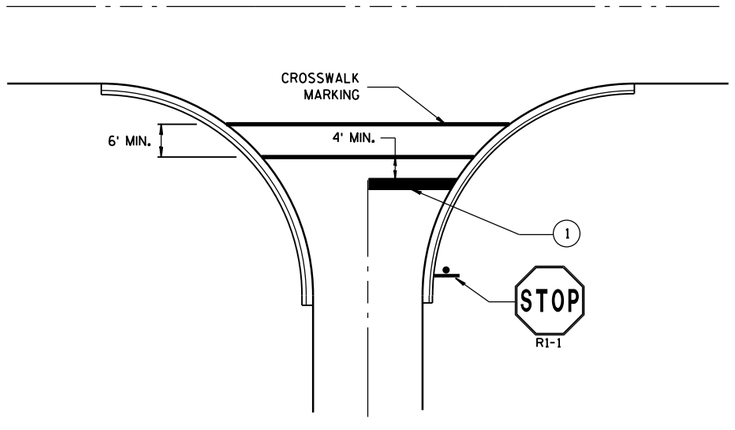
S.D.D. 15 C 27-2b



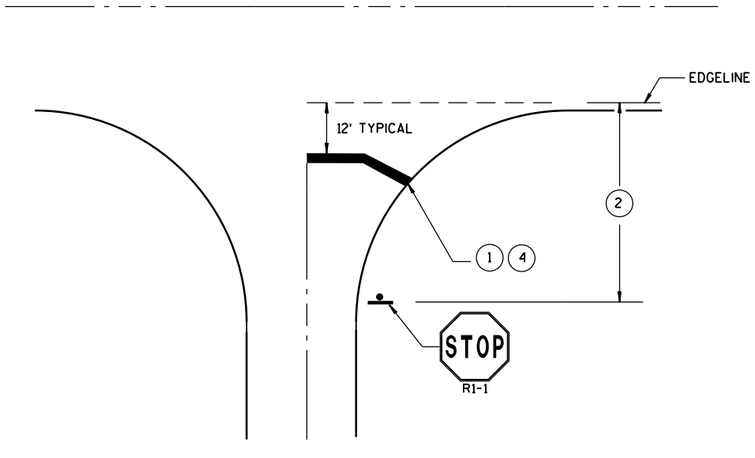
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

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

(1) 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.

(2) IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.

(3) IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.

(4) MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

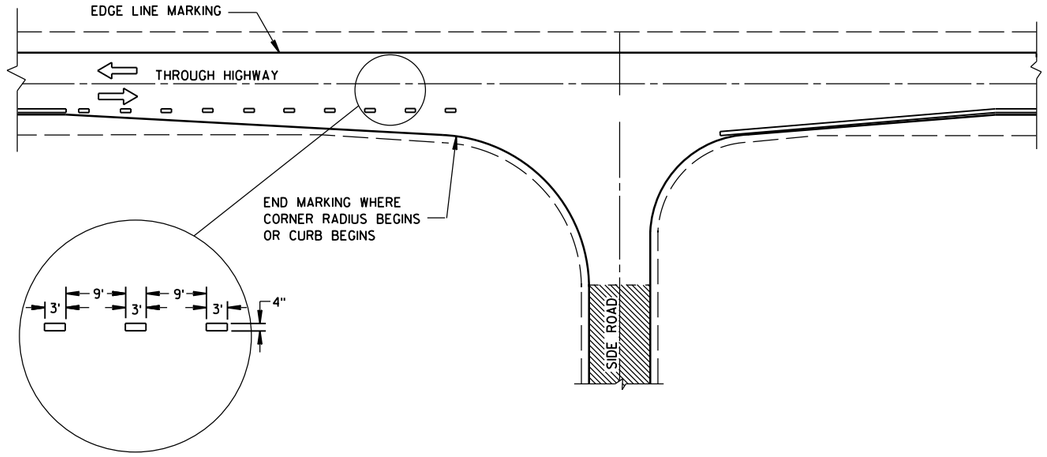
Sept., 2017 — DATE

/S/ Matthew R. Rauch — STATE SIGNING AND MAR[illegible]

FHWA

6

S.D.D. 15 C 33-3



MINOR INTERSECTION

GENERAL NOTES

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

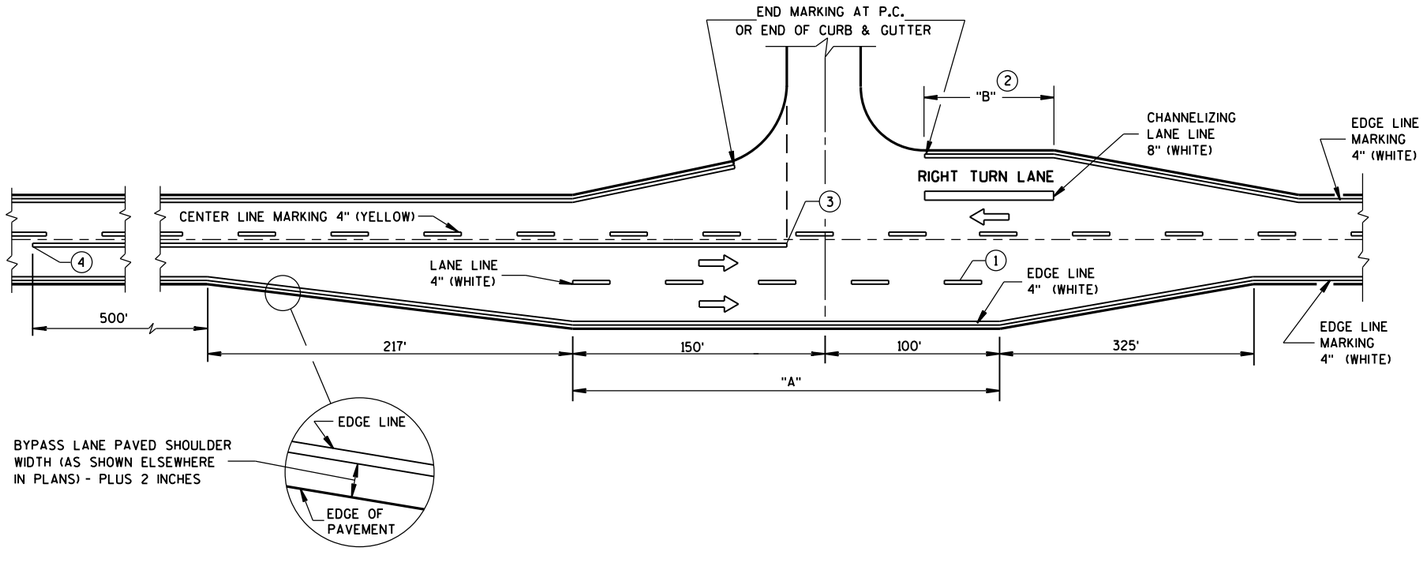
(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(4) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 C 35-2a

GENERAL NOTES

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

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

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

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

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.

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

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

TABLE A

SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S \ W	4	6	8	10	
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

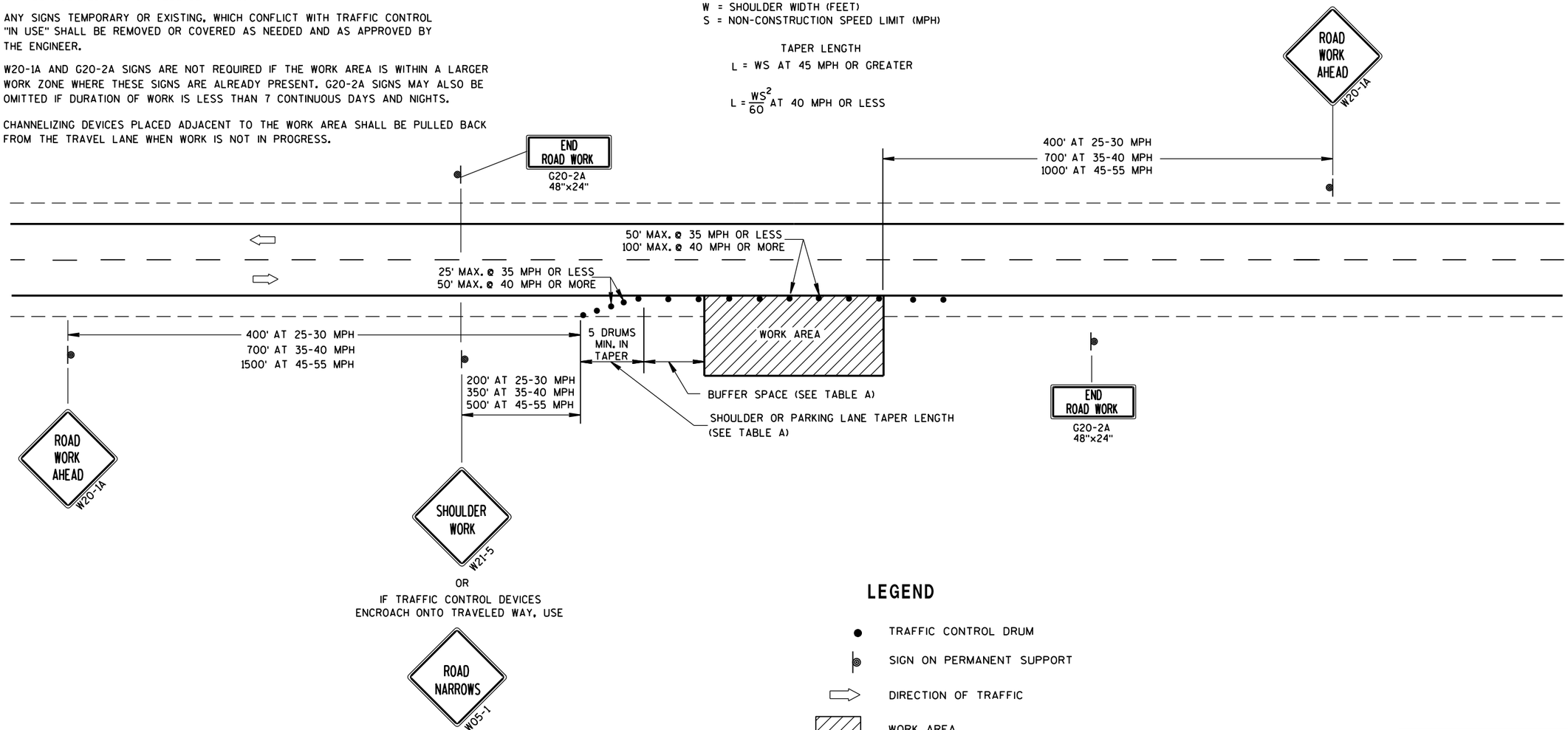
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = $\frac{1}{3}L$



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

July 14, 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible] — FIC

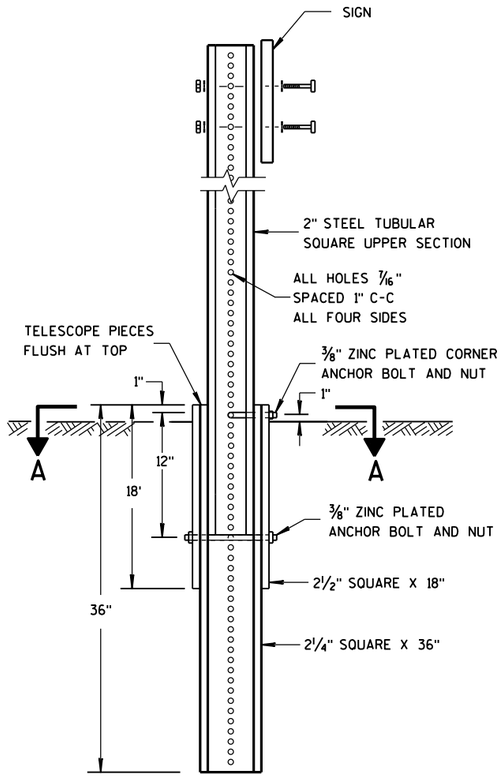
FHWA

6

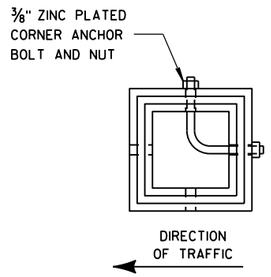
S.D.D. 15 D 28-3

6

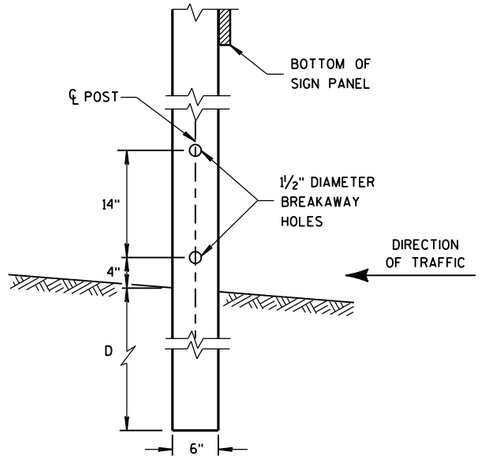
S.D.D. 15 D 28-3



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



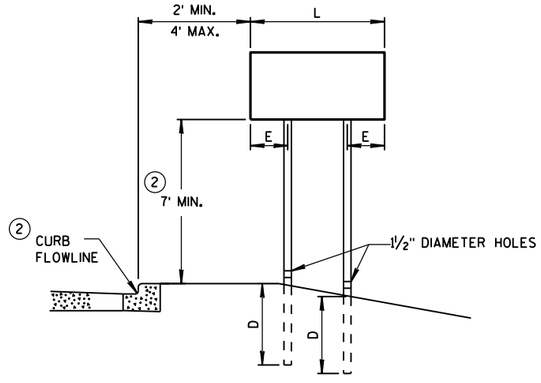
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

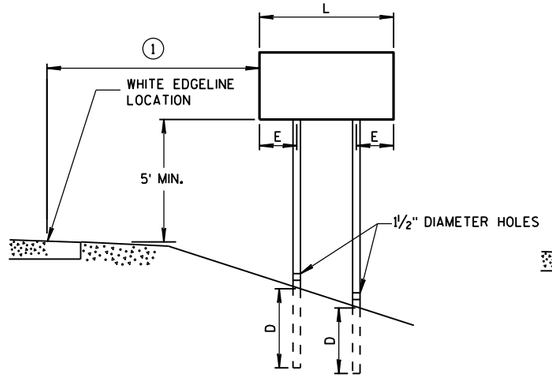
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

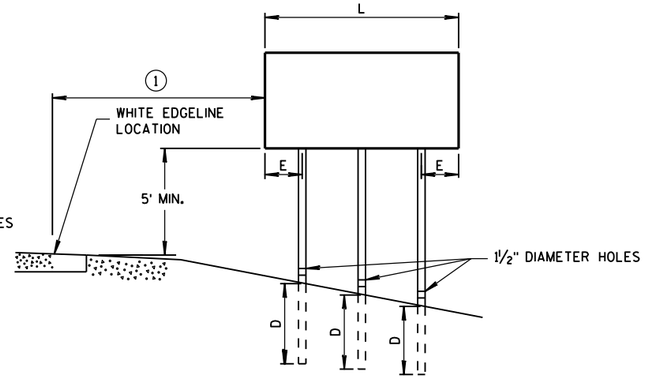
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

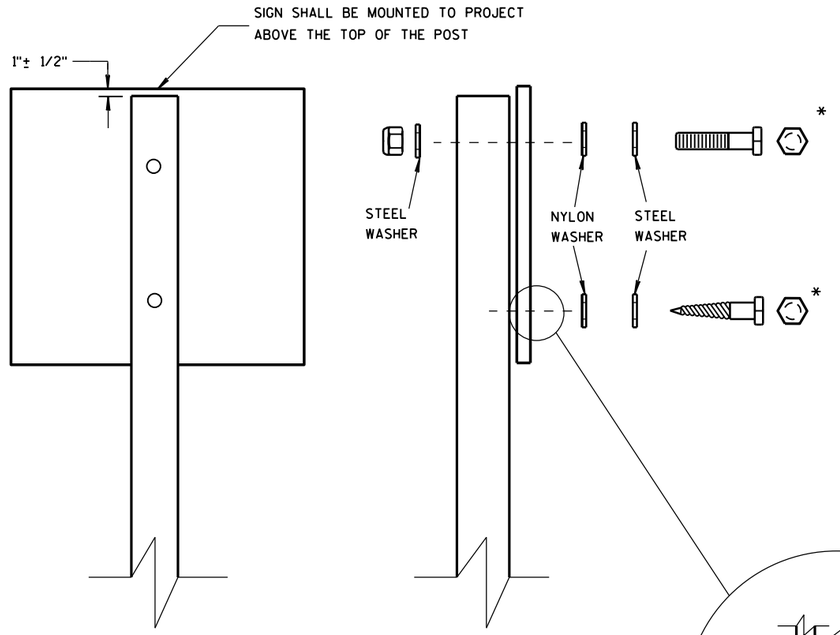
SEE NOTE (3)

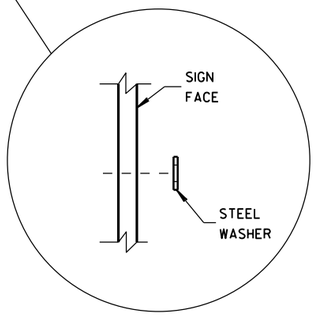
TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 38-2a





WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

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

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

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

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

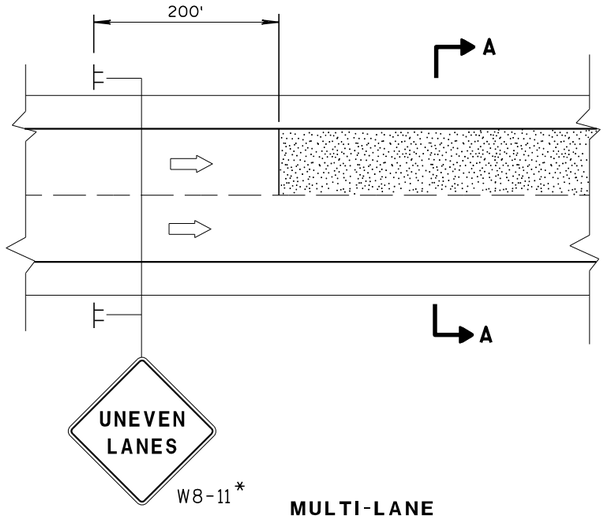
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

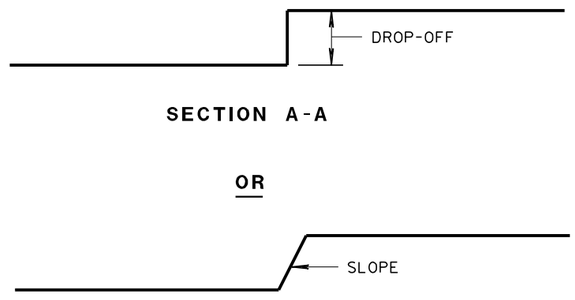
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

FHWA



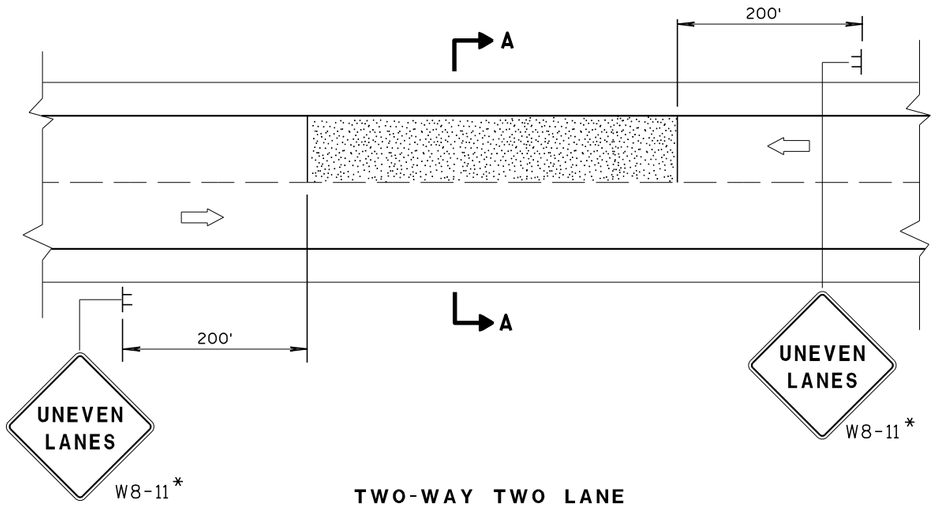
MULTI-LANE



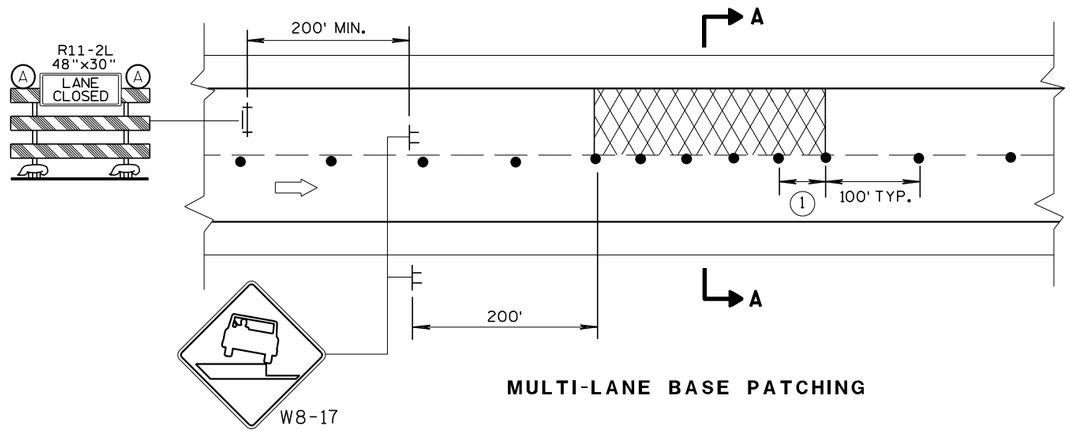
SECTION A-A

OR

SECTION A-A

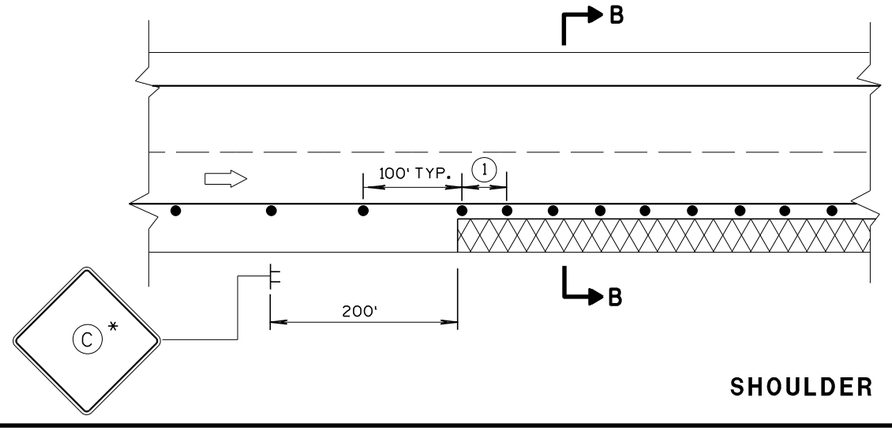


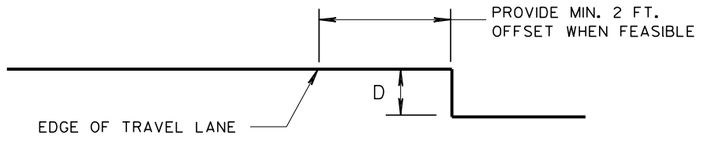
TWO-WAY TWO LANE



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS





SECTION B-B

SHOULDER DROP-OFFS

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

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

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

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

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EACH ENTRANCE RAMP.

(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP-OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Andrew H — WORK ZONE EN
FHWA

6

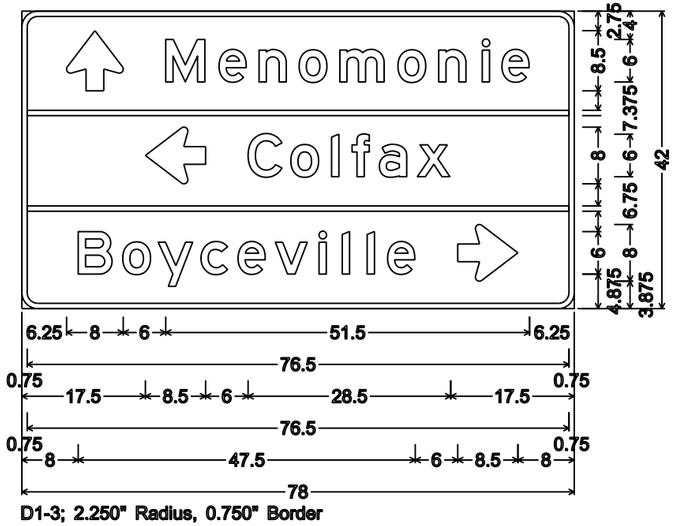
S.D.D. 15 D 39-2

6

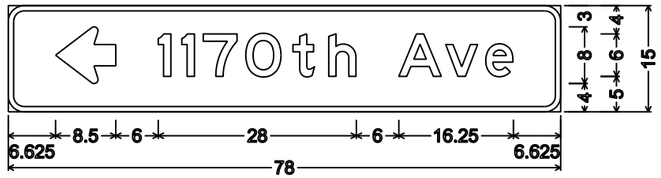
S.D.D. 15 D 39-2

NOTES

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



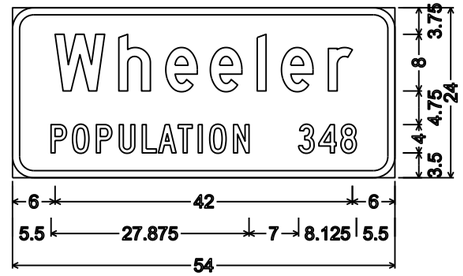
D1-3; 2.250" Radius, 0.750" Border



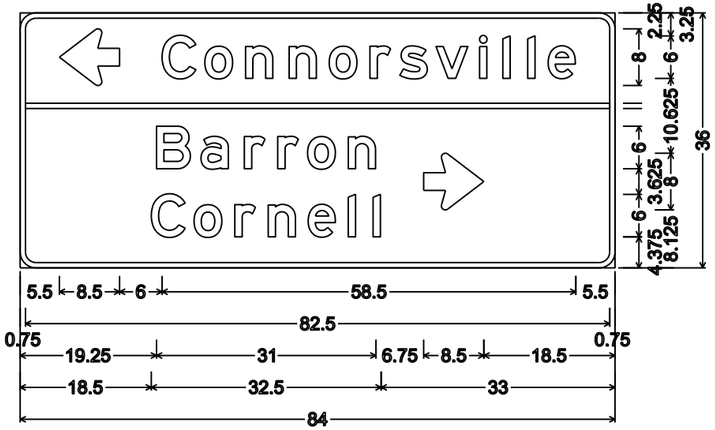
D1-1; 2.250" Radius, 0.750" Border



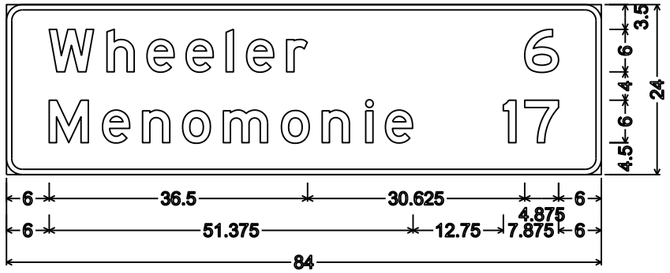
D1-1; 2.250" Radius, 0.750" Border



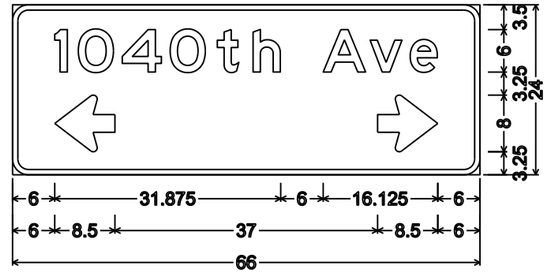
I2-3;
3.000" Radius, 1.000" Border,
"Wheeler" D; "POPULATION" C; "348" C



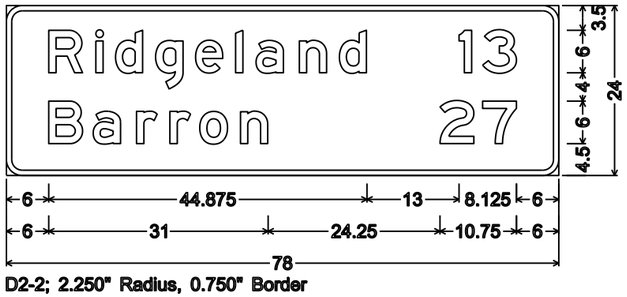
D1-3; 2.250" Radius, 0.750" Border



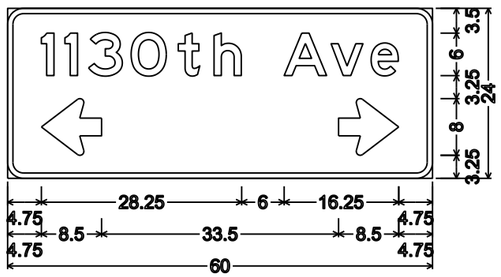
D2-2; 2.250" Radius, 0.750" Border



D1-61;
2.250" Radius, 0.750" Border



D2-2; 2.250" Radius, 0.750" Border



D1-61;
2.250" Radius, 0.750" Border

7

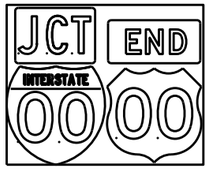
7

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	PERMANENT SIGNING	SHEET NO: 91	E

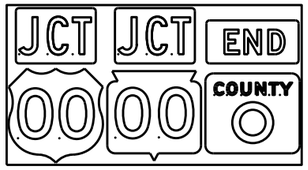
TYPICAL ASSEMBLIES



J1-1



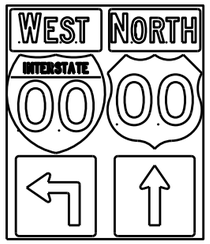
J1-2



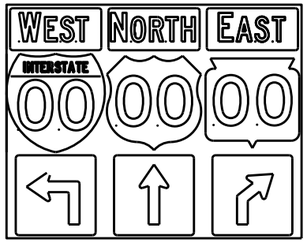
J1-3



J2-1



J2-2

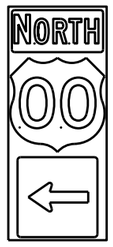


J2-3

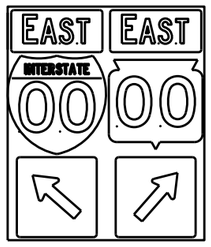


JV

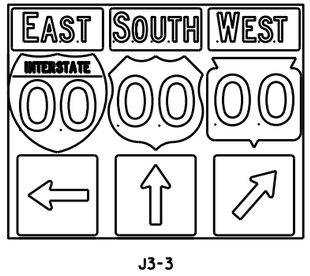
(Typical Vertical J-Assembly
See Note 10 and 11)



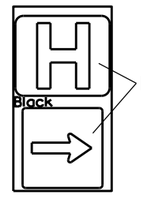
J3-1



J3-2



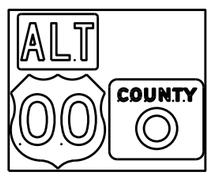
J3-3



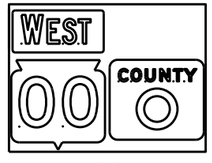
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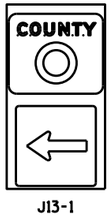
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

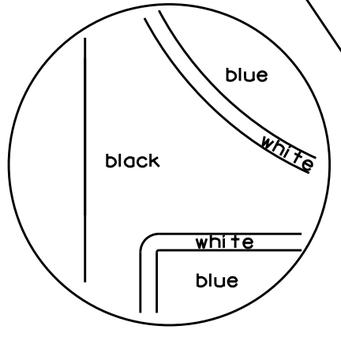


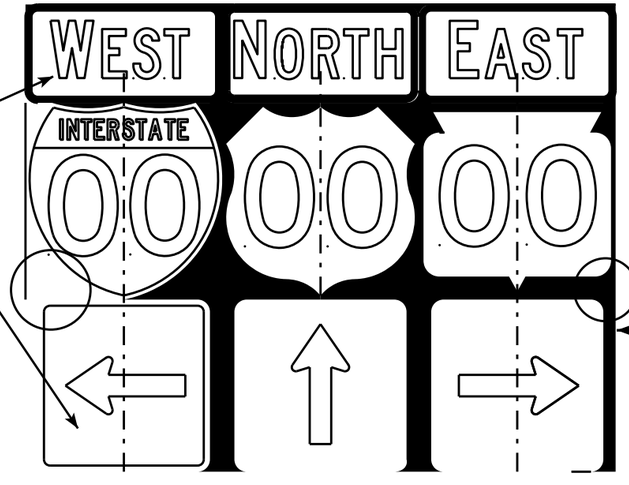
J23-1

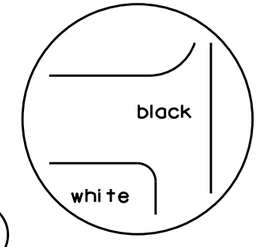


J22-1

blue background
with interstate







black background

NOTES

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

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

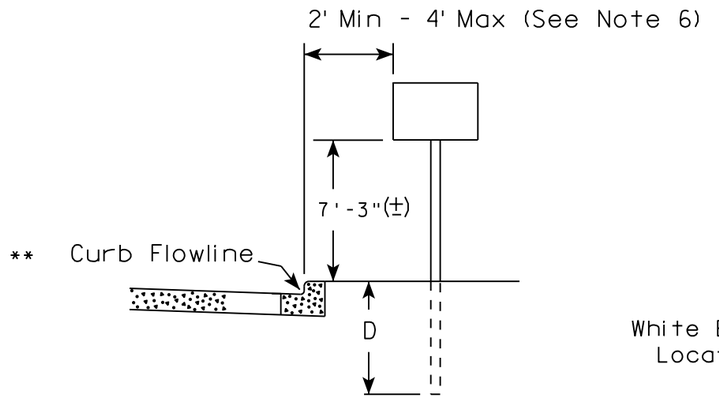
DATE 2/06/14 PL... A2-1S.8

PROJECT NO: | SHEET NO: E

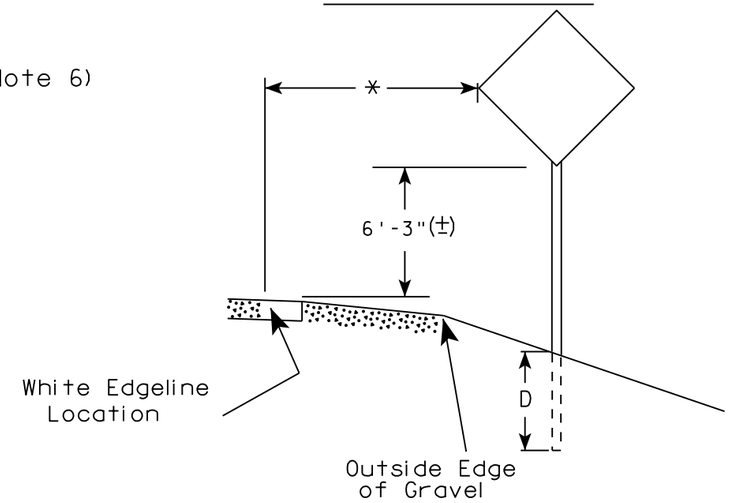
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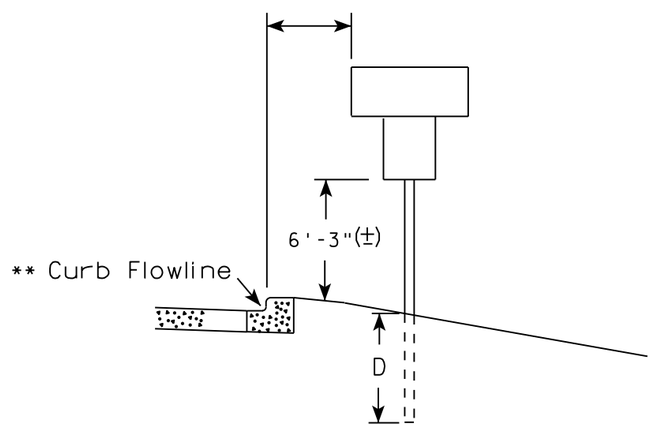
WISDOT/CADDS SHEET 42

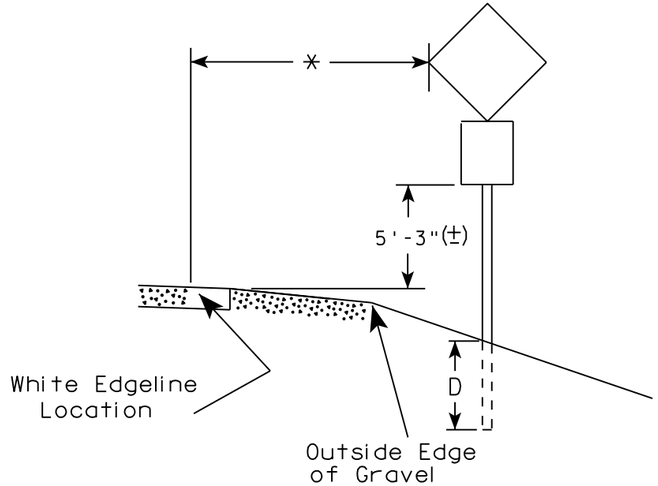
URBAN AREA



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 barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

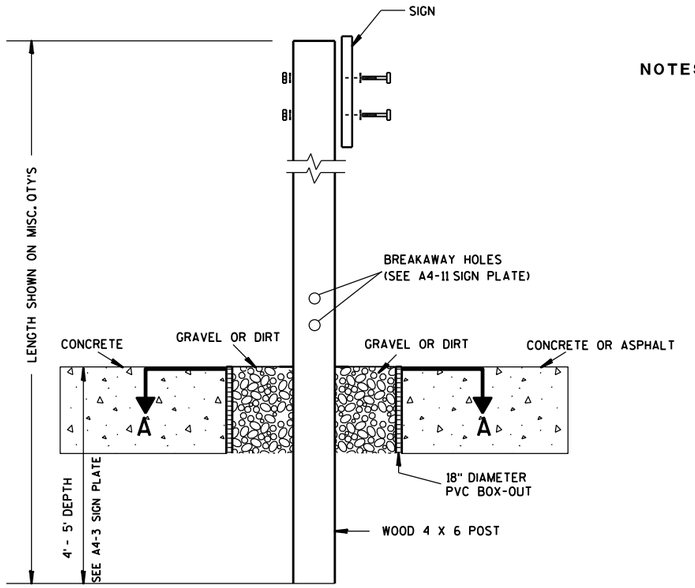
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

7

7

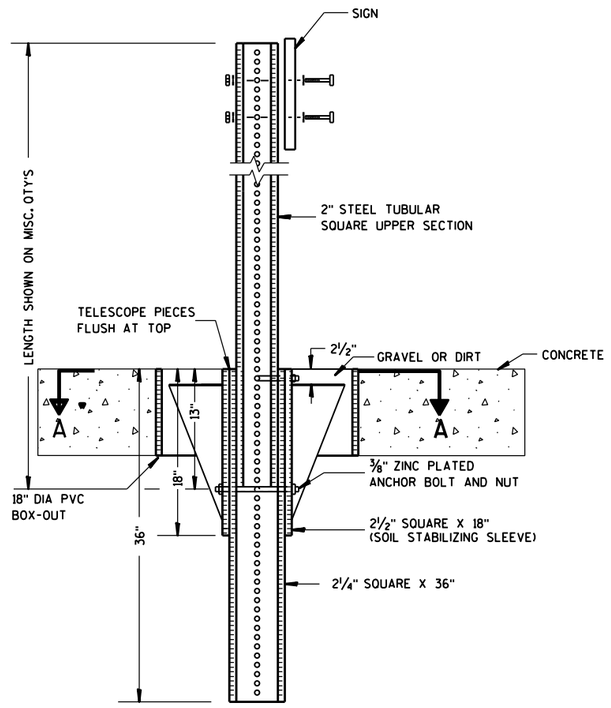
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 93	E



ELEVATION VIEW

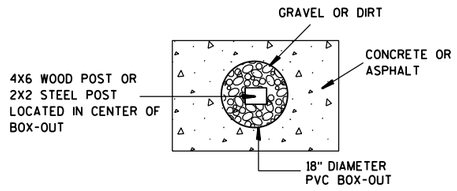
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

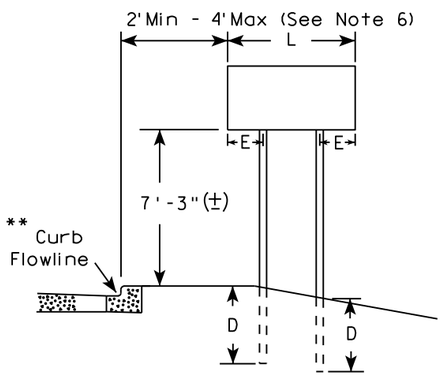
APPROVED Matthew R Rauch
for State Traffic Engineer

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

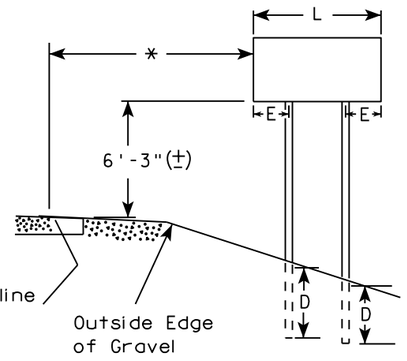
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

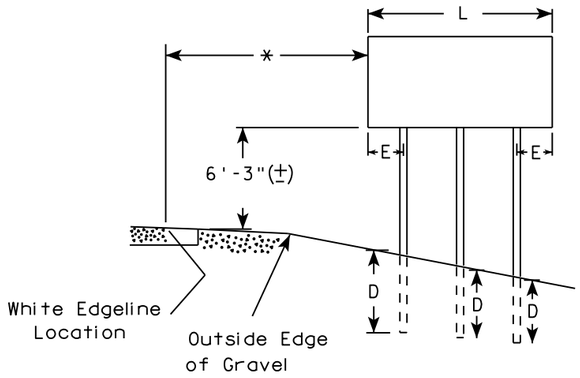
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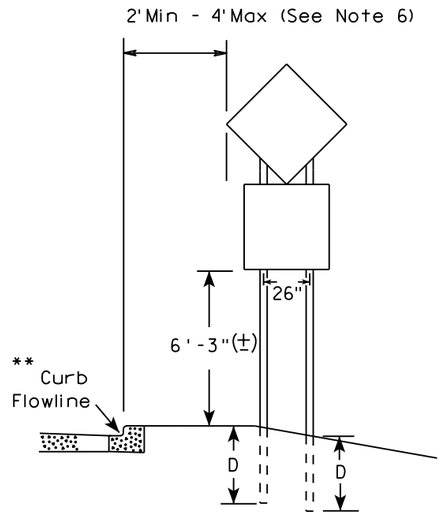
URBAN AREA



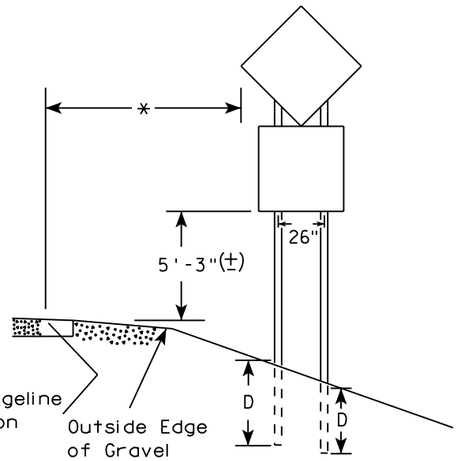
RURAL AREA (See Note 3)







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" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

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

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

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

POST EMBEDMENT DEPTH

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

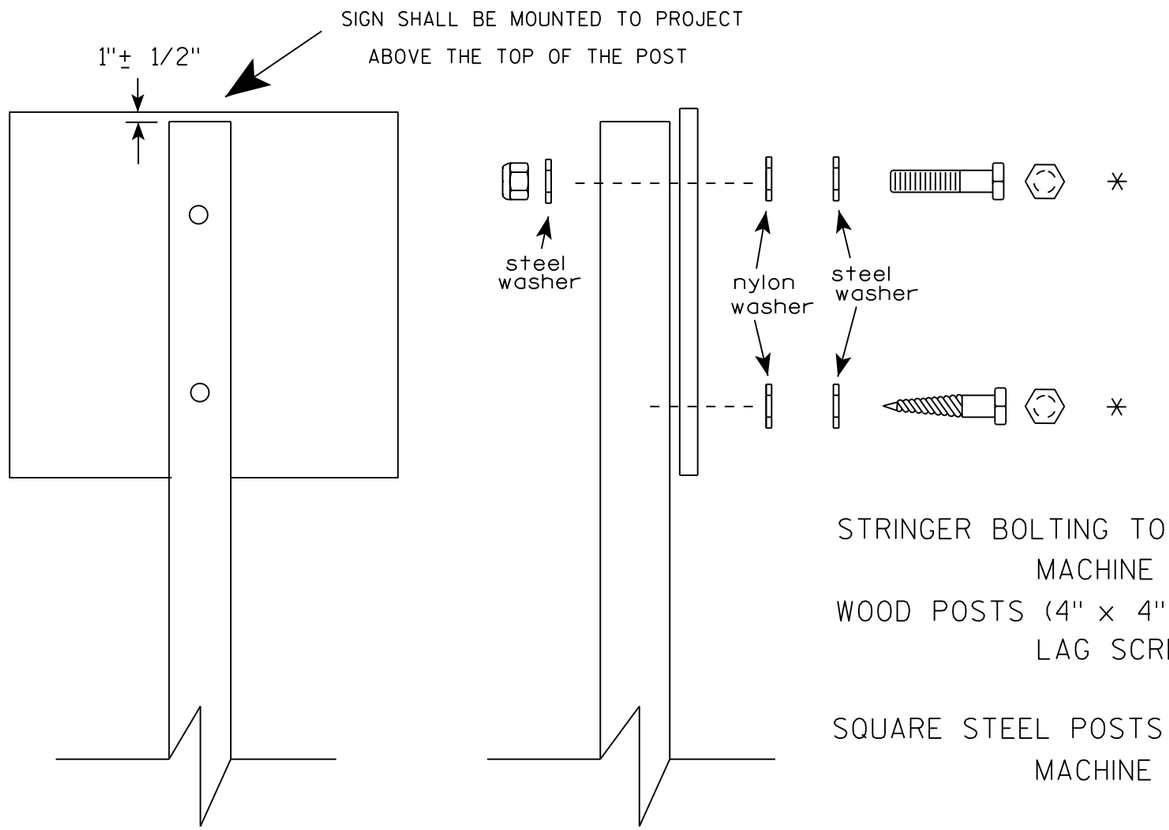
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 95	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 4" or 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 8/11/16 PLATE NO. A4-8.8

7

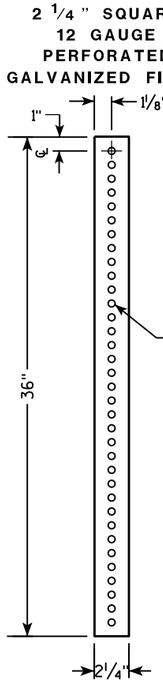
PROJECT NO:

SHEET NO: E

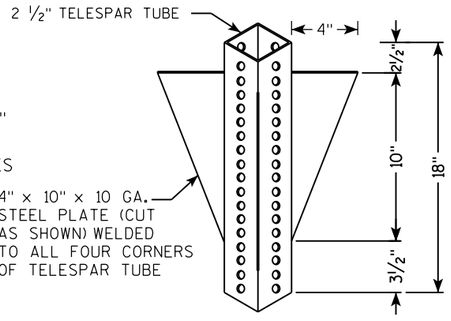
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TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

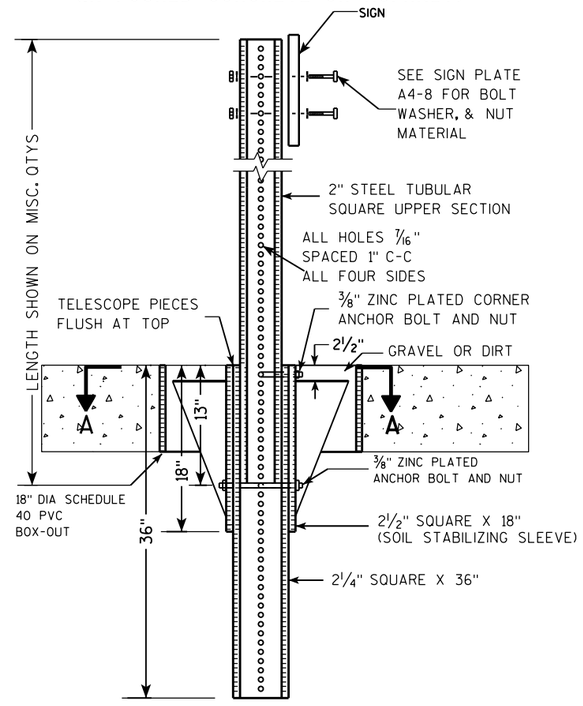
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



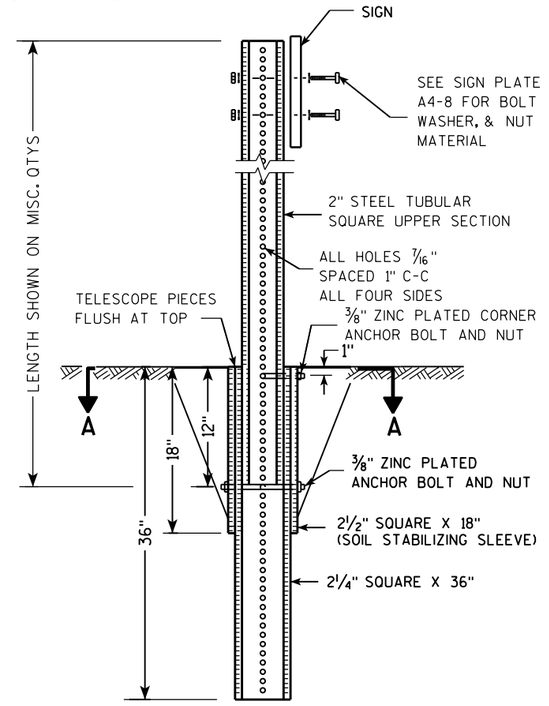
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

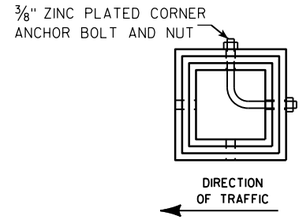


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

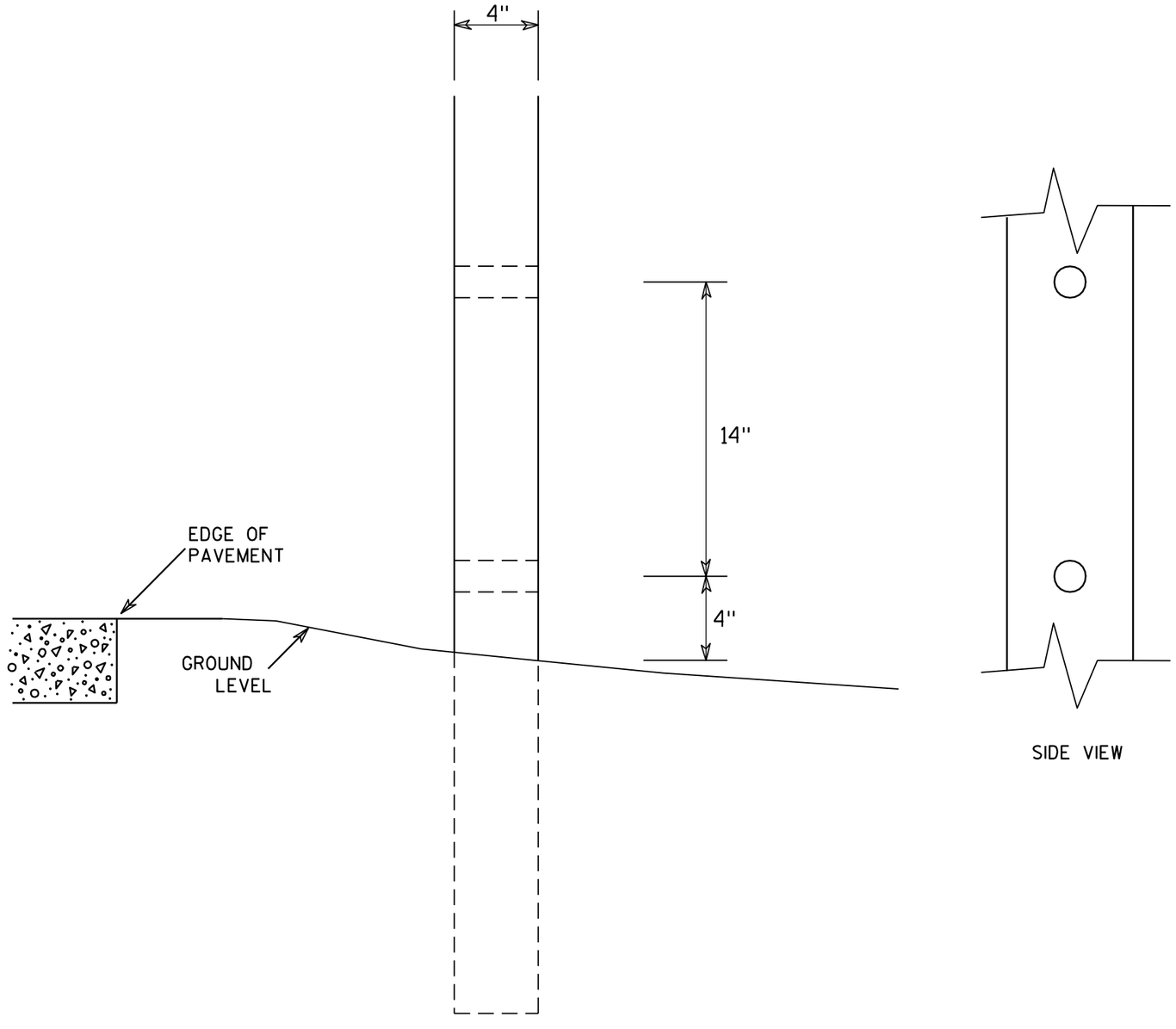
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 97 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.

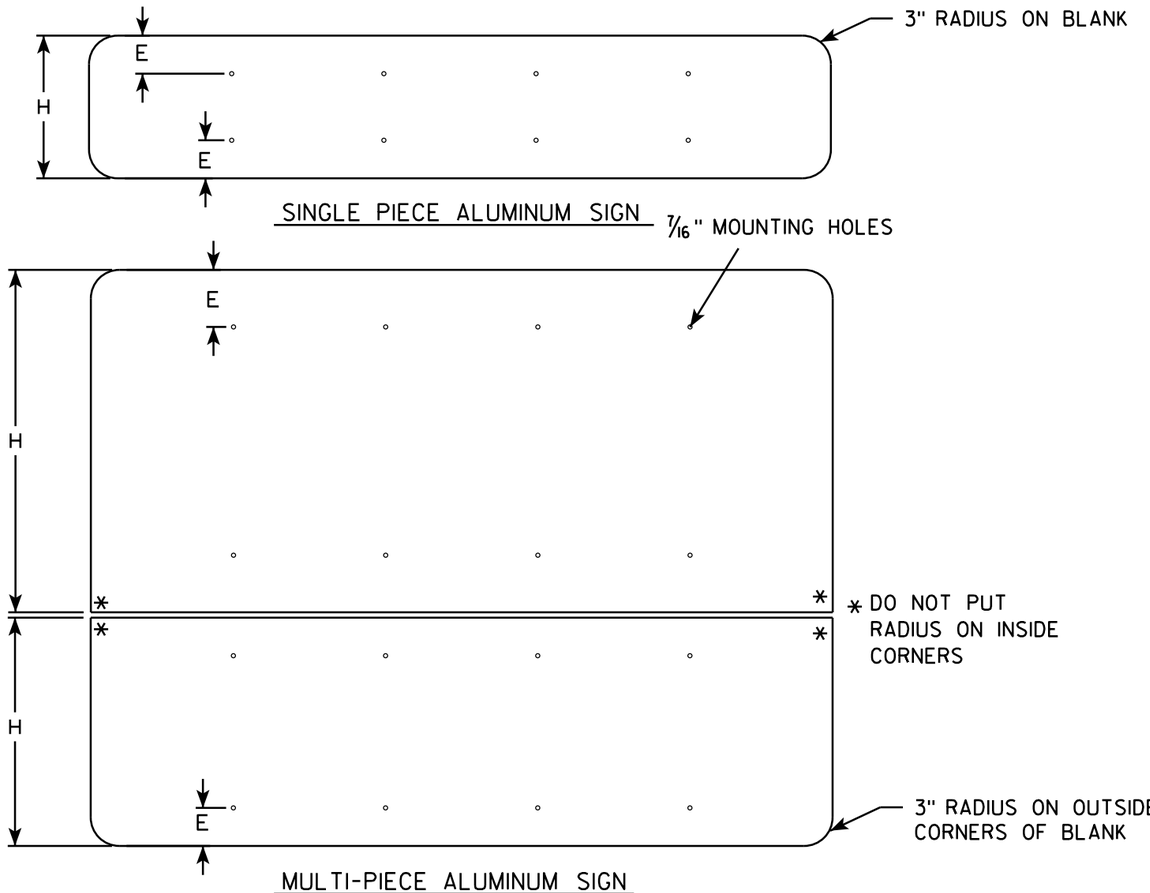
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

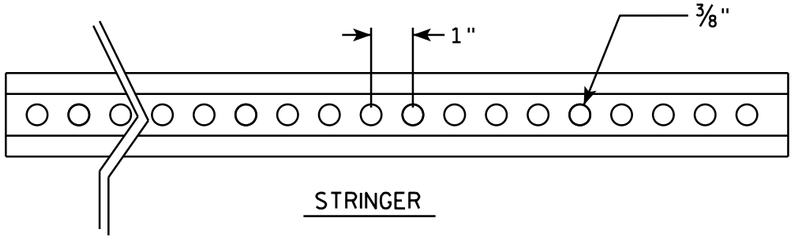
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 98	E



GENERAL NOTES

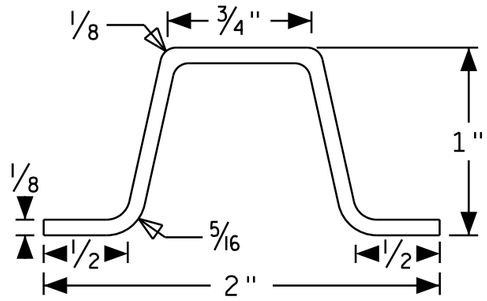
- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER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

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES
78"	72"	2	16"	15" 31" 47" 63"
84"	72"	2	17"	16½" 33½" 50½" 67½"
90"	72"	2	18"	18" 36" 54" 72"
96"	90"	2	19"	19½" 38½" 57½" 76½"
102"	90"	2	20"	21" 41" 61" 81"
108"	90"	2	21"	22½" 43½" 64½" 85½"
114"	108"	3	15"	12" 27" 42" 57" 72" 87" 102"
120"	108"	3	16"	12" 28" 44" 60" 76" 92" 108"
126"	108"	3	17"	12" 29" 46" 63" 80" 97" 114"
132"	126"	3	18"	12" 30" 48" 66" 84" 102" 120"
138"	126"	3	19"	12" 31" 50" 69" 88" 107" 126"
144"	126"	3	20"	12" 32" 52" 72" 92" 112" 132"

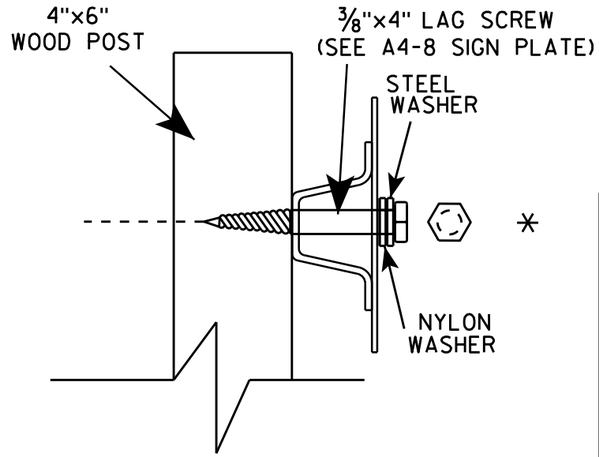


STRINGER

CROSS SECTION VIEW OF CHANNEL



POST MOUNTING



SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

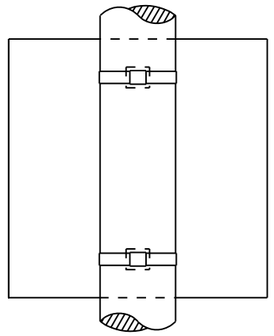
DATE 4/26/16 PLATE NO A4-18.1

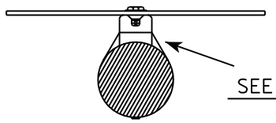
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A418.dgn PLOT DATE : 27-APR-2016 13:56 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 41.805205:1.000000 WISDOT/CADDS SHEET 42

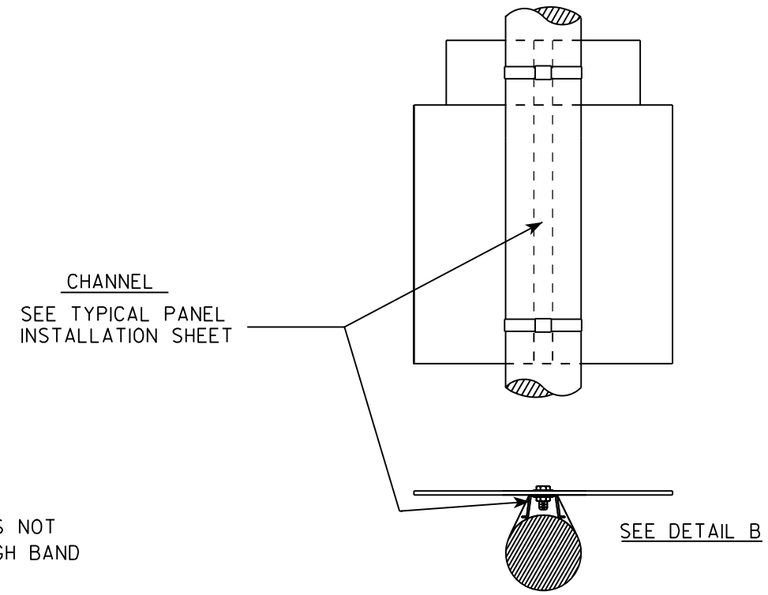
BANDING

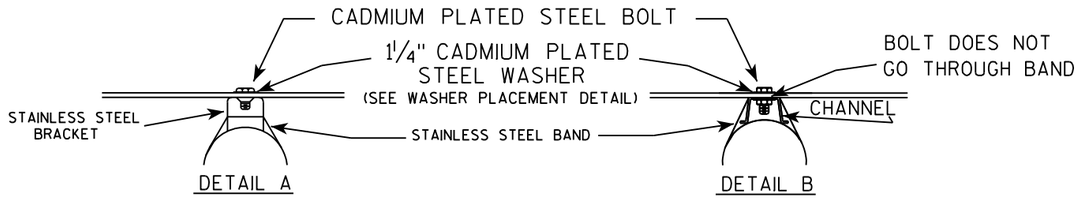
SINGLE SIGN



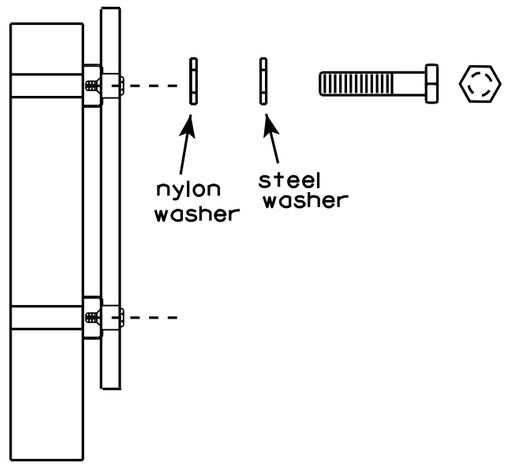


"J" ASSEMBLY





WASHER PLACEMENT



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

GENERAL NOTES

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

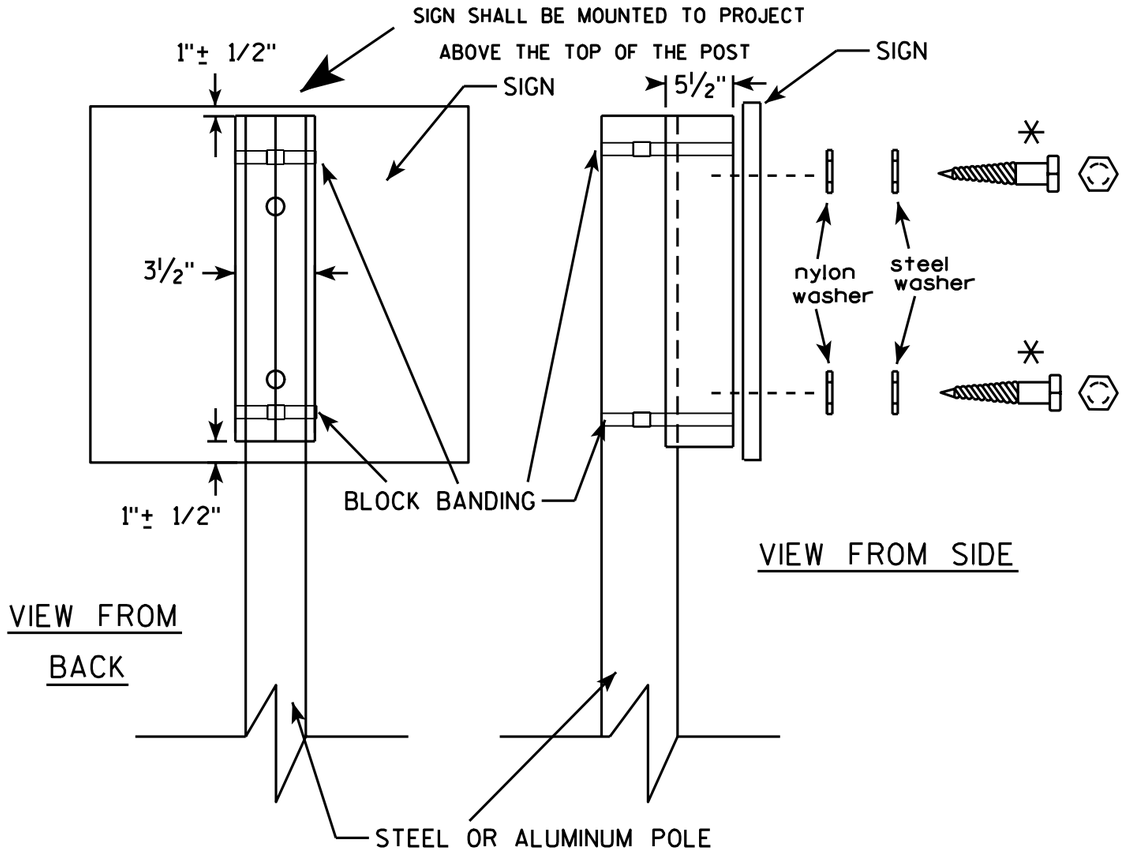
STANDARD SIGN
SIGN BANDING DETAILS

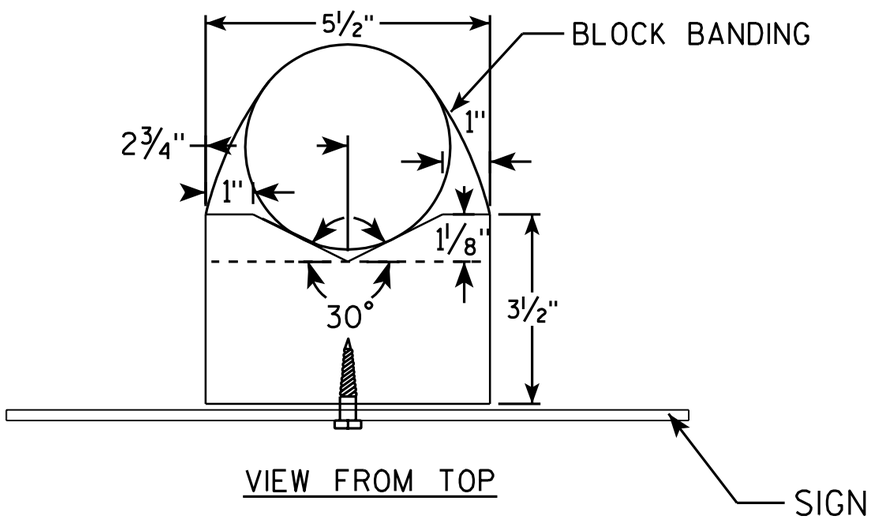
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 100	E





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, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. 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

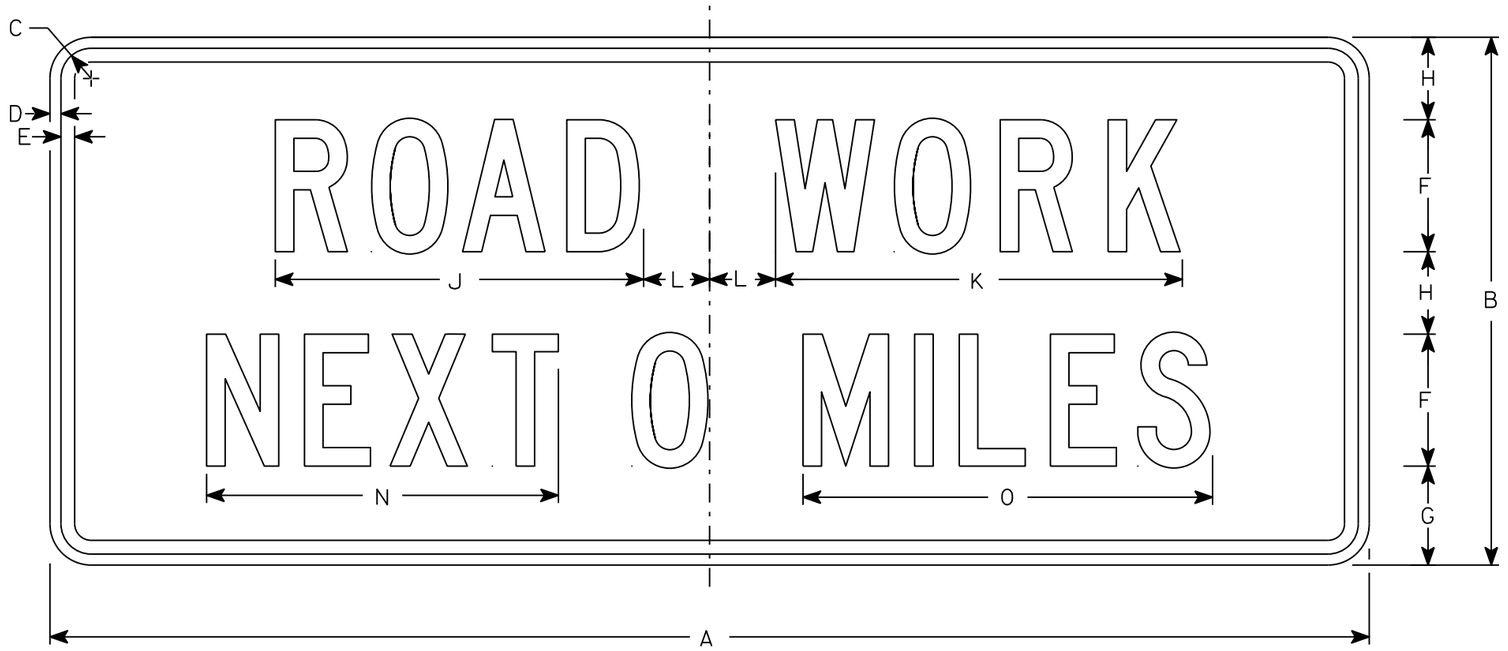
DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

SHEET NO: 101 E

FILE NAME : C:\Users\Projects\tr_stdplate\A510.dgn PLOT DATE : 06-AUG-2007 13:37 PLOT BY : ditjph

WISDOT/CADDS SHEET 42



G20-1

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10
3																											
4	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10
5																											

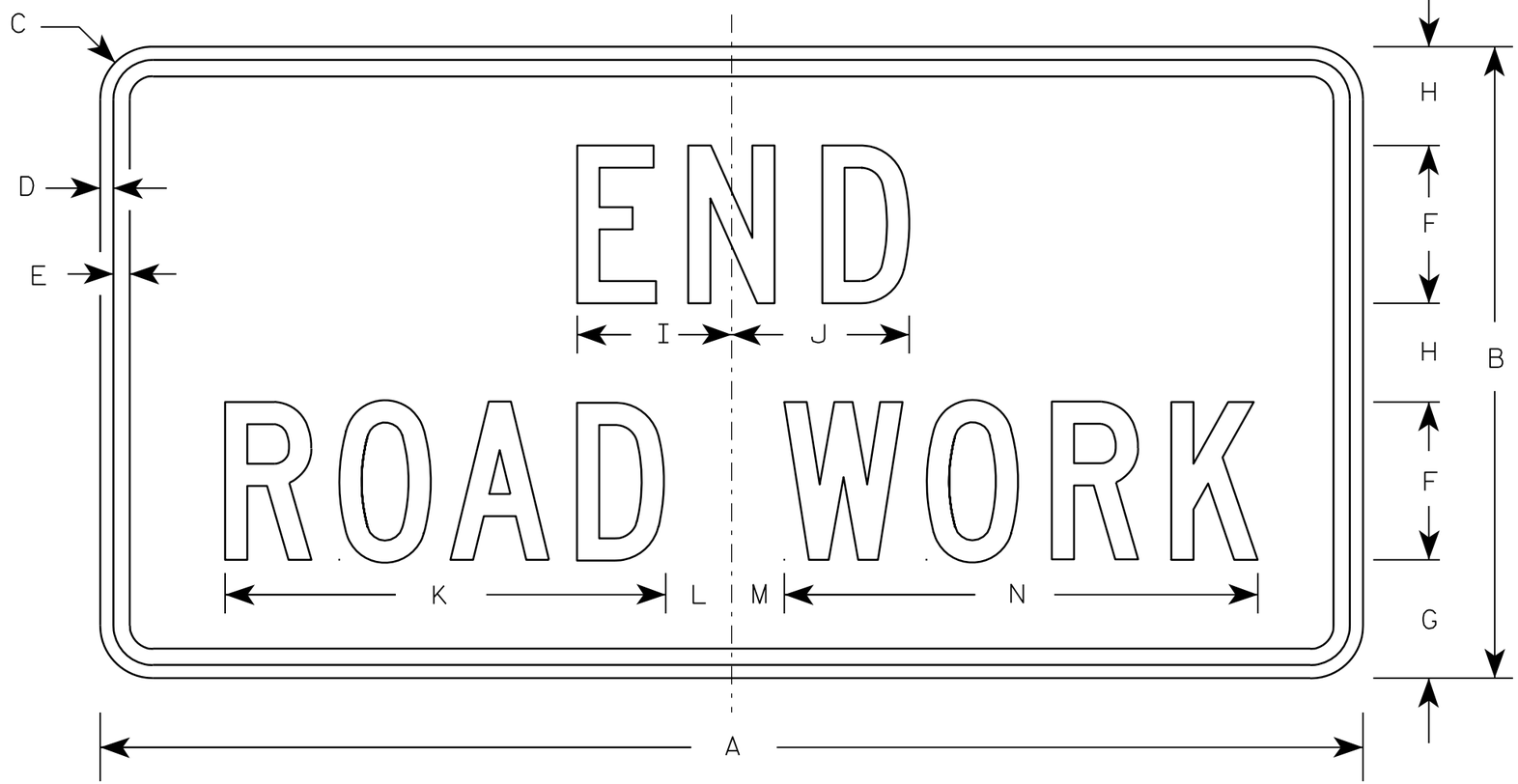
STANDARD SIGN
G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/14/17 PLATE NO. G20-1.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 102 | E



G20-2A

NOTES

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

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

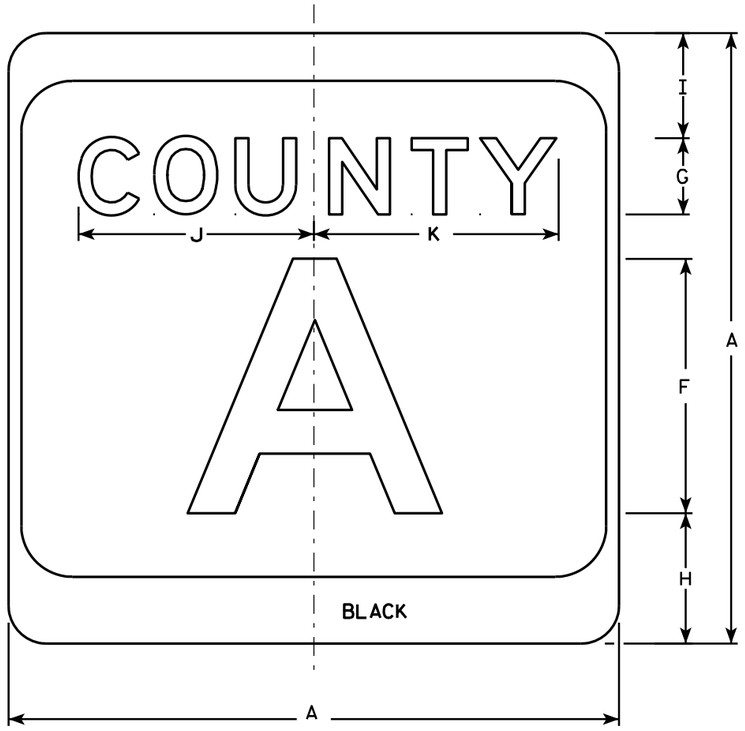
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

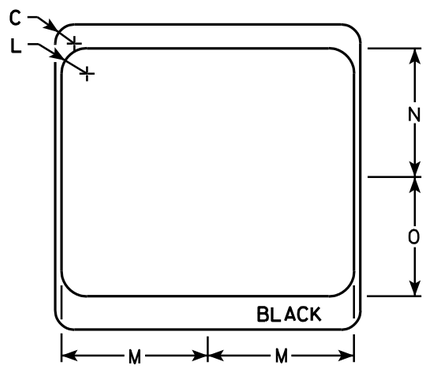
APPROVED Matthew R Rauch
for State Traffic Engineer

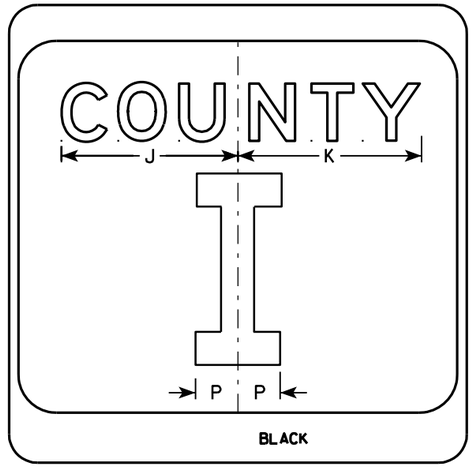
DATE 9/30/09 PLATE NO. G20-2A.8

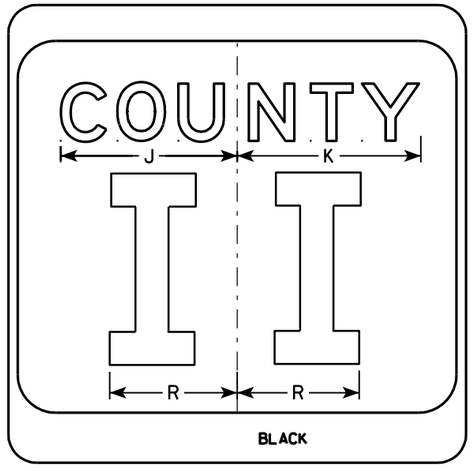
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 103	E



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   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. 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.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

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

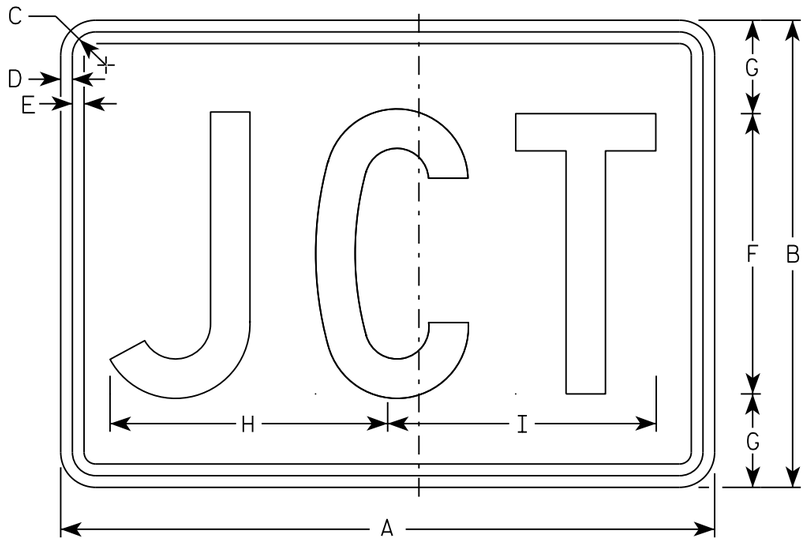
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

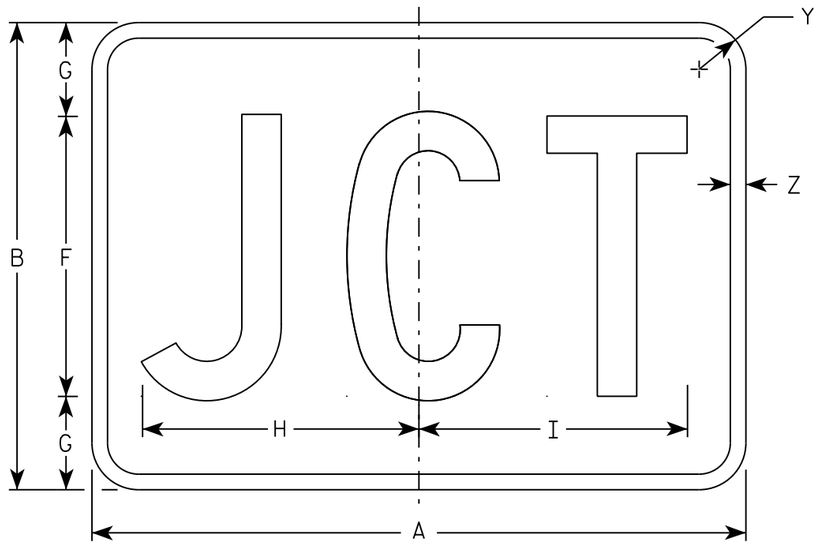
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 104 | E



M2-1
MM2-1
MP2-1



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

NOTES

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

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

STANDARD SIGN
M2-1

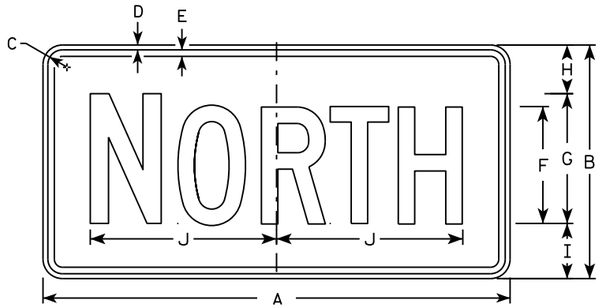
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

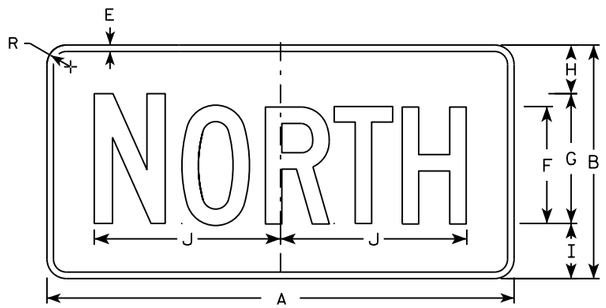
DATE 10/15/15 PLATE 105 12-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M21.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 4.864603:1.000000



M3-1
MM3-1
MP3-1



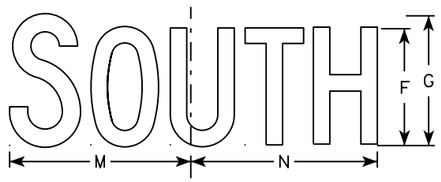
MB3-1
MK3-1
MN3-1



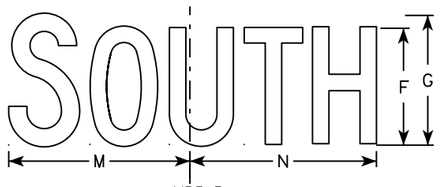
M3-2
MM3-2
MP3-2



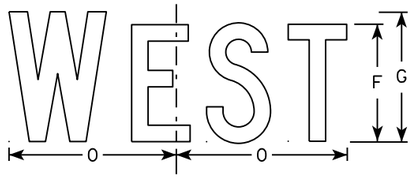
MB3-2
MK3-2
MN3-2



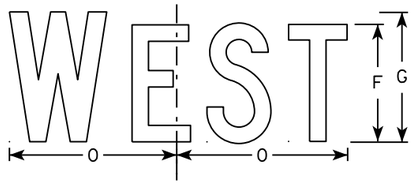
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

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

STANDARD SIGNS
M3-1 thur M3-4
SERIES

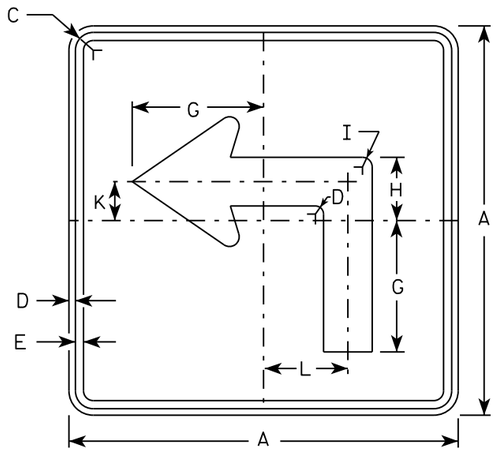
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

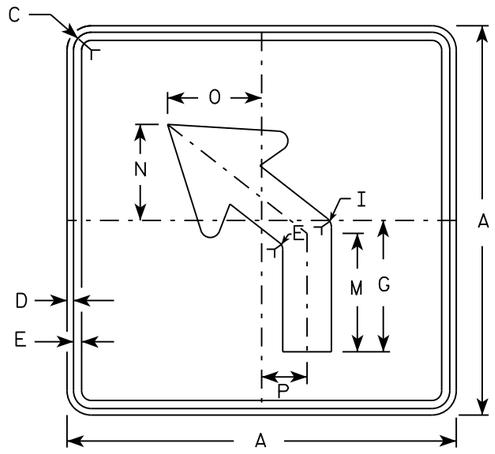
DATE 10/15/15 PLATE NO M3-1.14

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

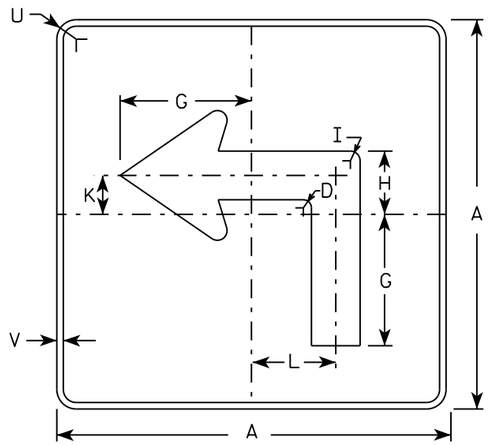
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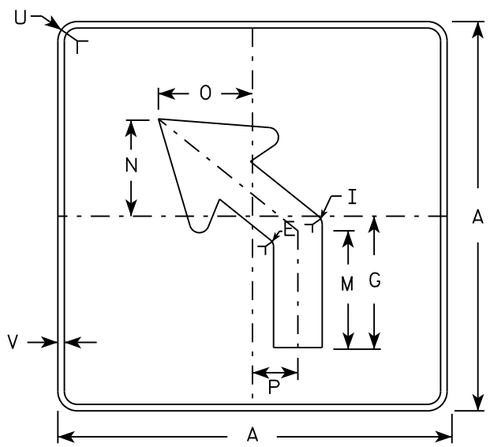
M5-1L
MM5-1L
MO5-1L
MP5-1L



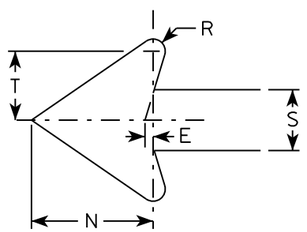
M5-2L
MM5-2L
MO5-2L
MP5-2L



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 - Type H Reflective
   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.

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

STANDARD SIGN
M5-1 & M5-2

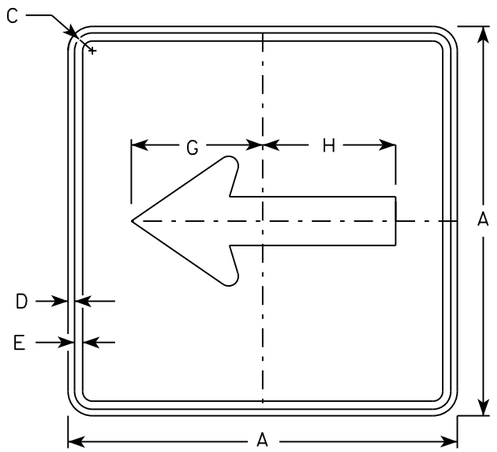
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

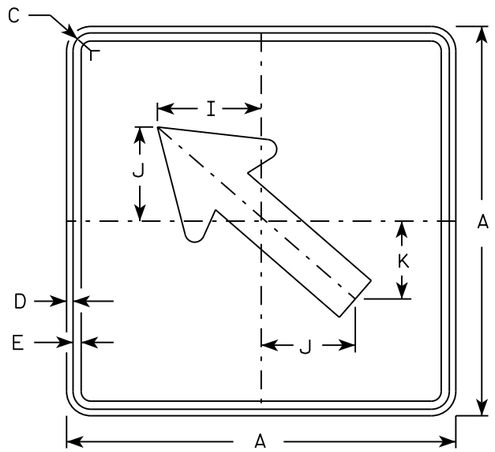
DATE 10/15/15 PLATE NO. M5-1.13

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



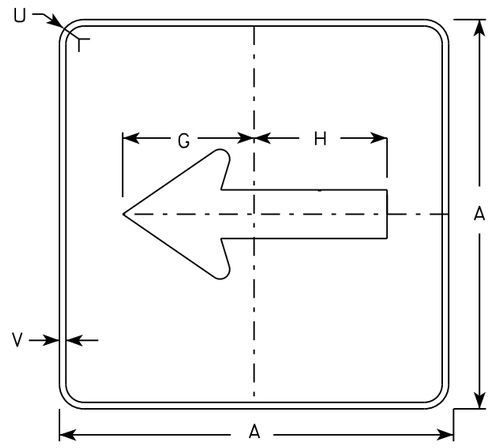
M6-1
MM6-1
MO6-1
MP6-1



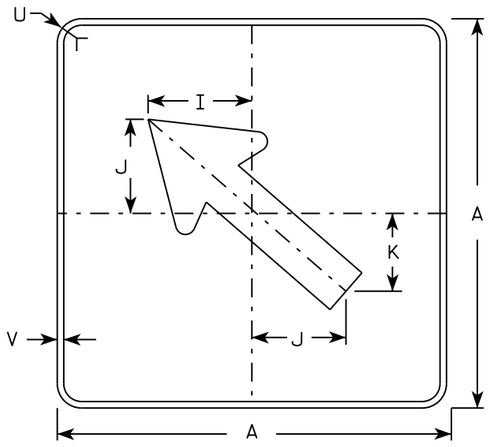
M6-2
MM6-2
MO6-2
MP6-2

NOTES

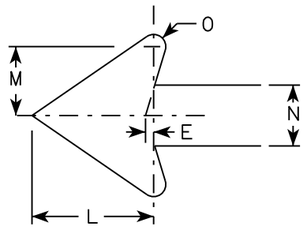
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - 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



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



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



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

STANDARD SIGN
M6-1 & M6-2
SERIES

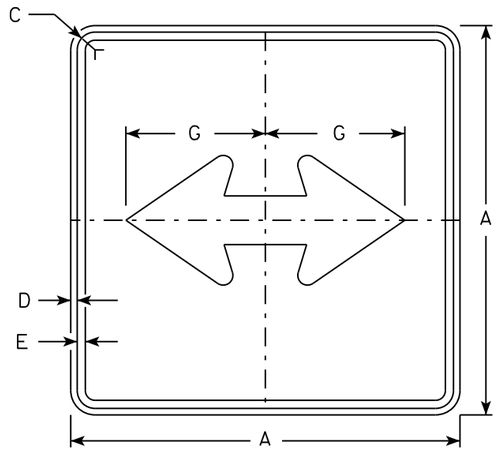
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

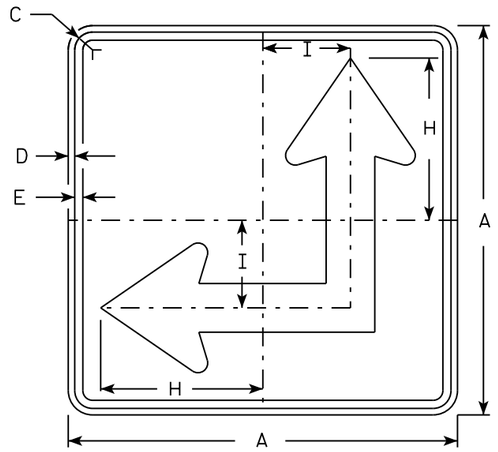
DATE 10/15/15 PLATE 108 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



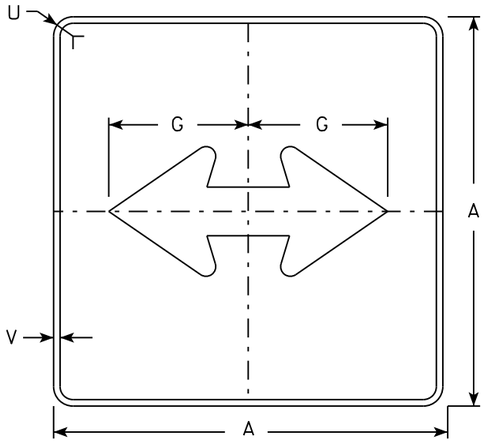
M6-4
MM6-4
MO6-4
MP6-4



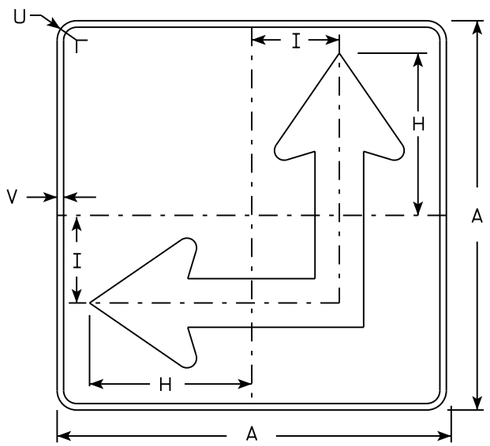
M6-6
MM6-6
MO6-6
MP6-6

NOTES

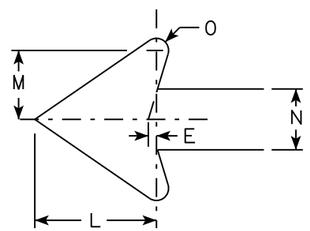
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White
   MK6-4 and MK6-6 Background - Green
   Message - White
   MM6-4 and MM6-6 Background - White
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow
5. M6-6R same as M6-6L except arrow points ahead and right.



MB6-4
MK6-4
MN6-4
MR6-4



MB6-6
MK6-6
MN6-6
MR6-6



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

STANDARD SIGN
M6-4 & M6-6
SERIES

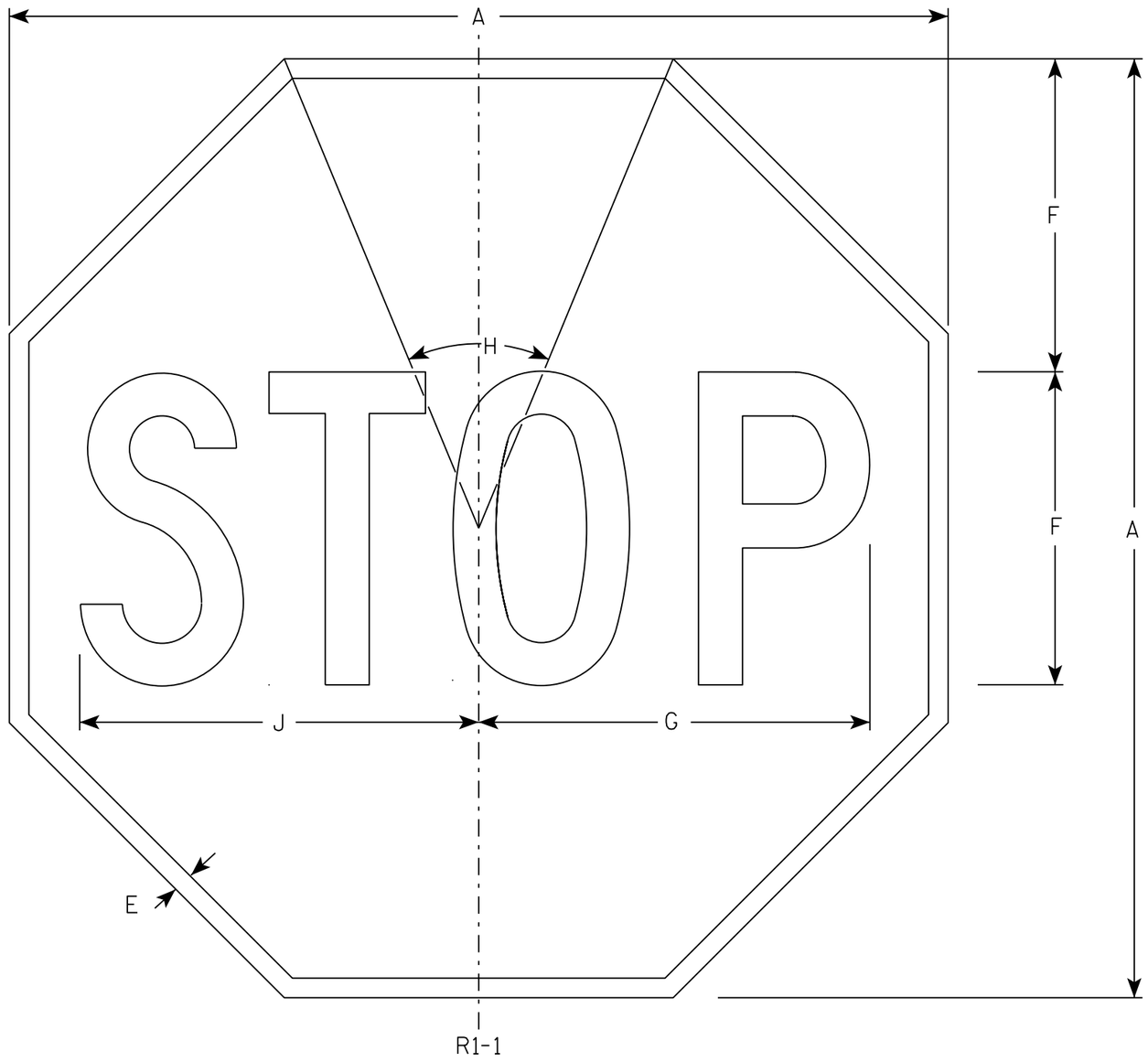
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 109 M6-4.10

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M64.DGN PLOT DATE : 01-DEC-2015 17:58 PLOT BY : $$ platuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



NOTES

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

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

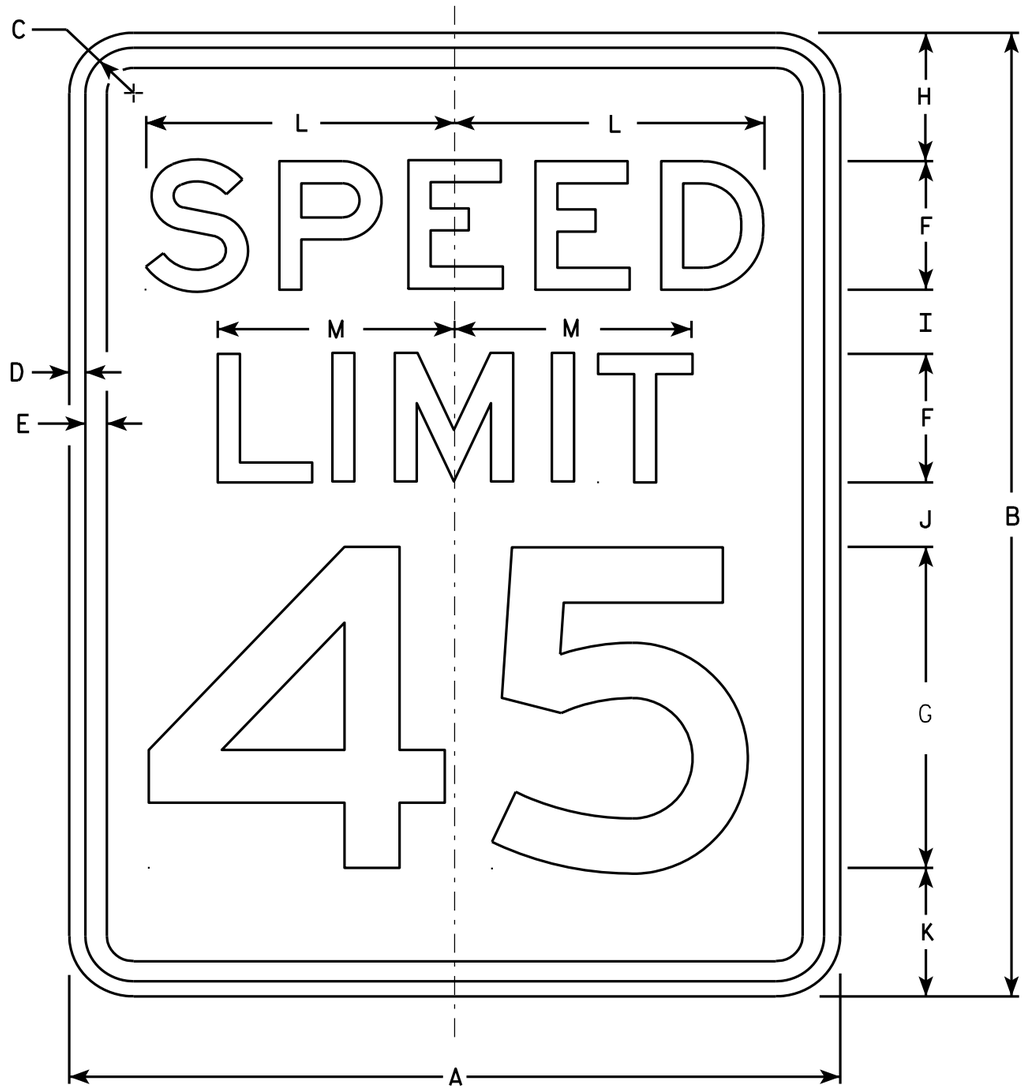
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 110	E



R2-1

NOTES

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

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

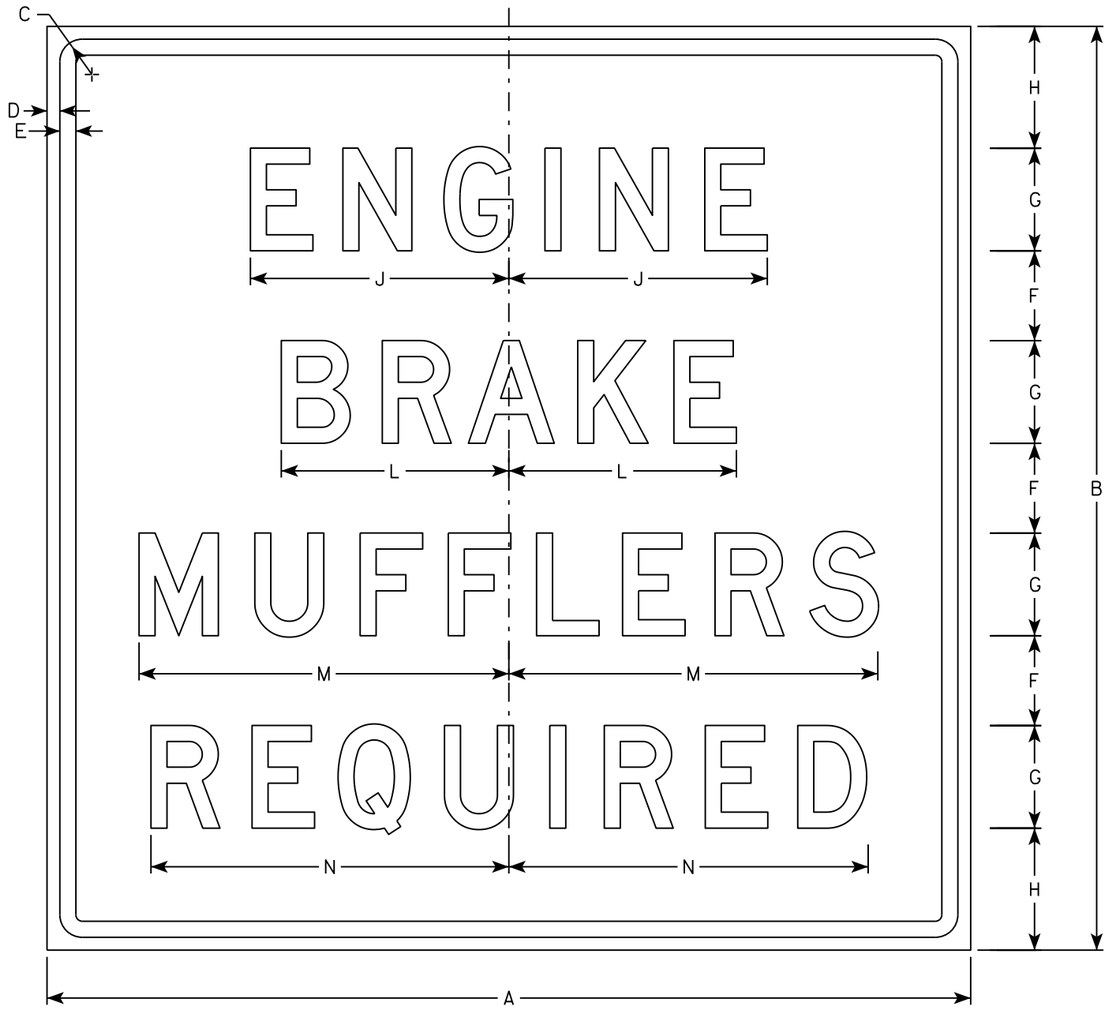
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 111 | E



R10-64

NOTES

1. Signs are Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D See note 5
4. Corners shall be rounded when base material is metal

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	36	1 3/8	1/2	5/8	3 1/2	4	4 3/4	2	10 1/8	3 1/2	8 7/8	14 3/8	14													9.0
2S	36	36	1 3/8	1/2	5/8	3 1/2	4	4 3/4	2	10 1/8	3 1/2	8 7/8	14 3/8	14													9.0
2M	36	36	1 3/8	1/2	5/8	3 1/2	4	4 3/4	2	10 1/8	3 1/2	8 7/8	14 3/8	14													9.0
3	42	42	1 3/8	1/2	5/8	4	5	5	3	12 5/8	4	11 1/8	18	17 3/8													12.25
4																											
5																											

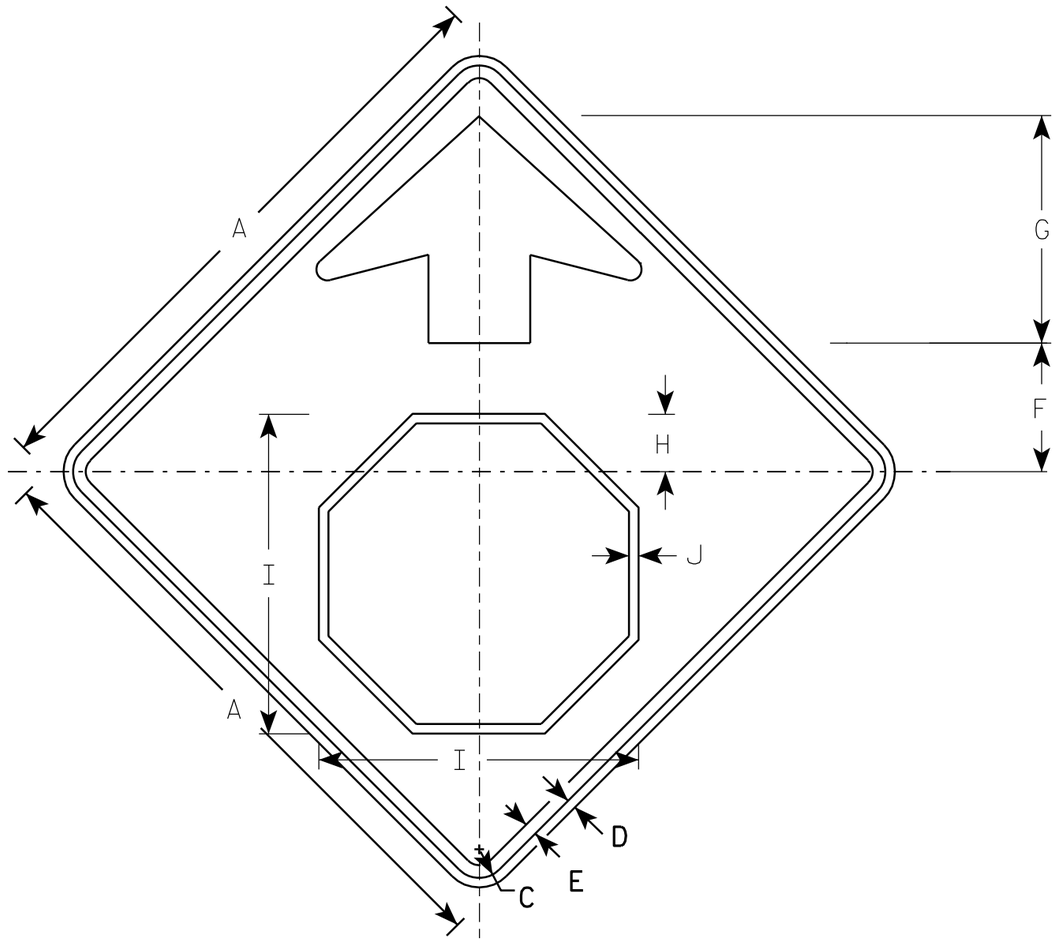
STANDARD SIGN
R10-64

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/3/18 PLATE NO. R10-64.8

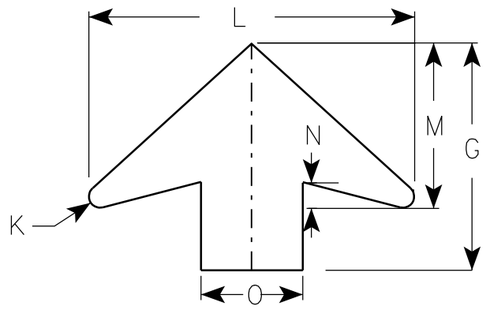
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 112 | E



W3-1

NOTES

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



ARROW DETAIL

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

STANDARD SIGN
W3-1

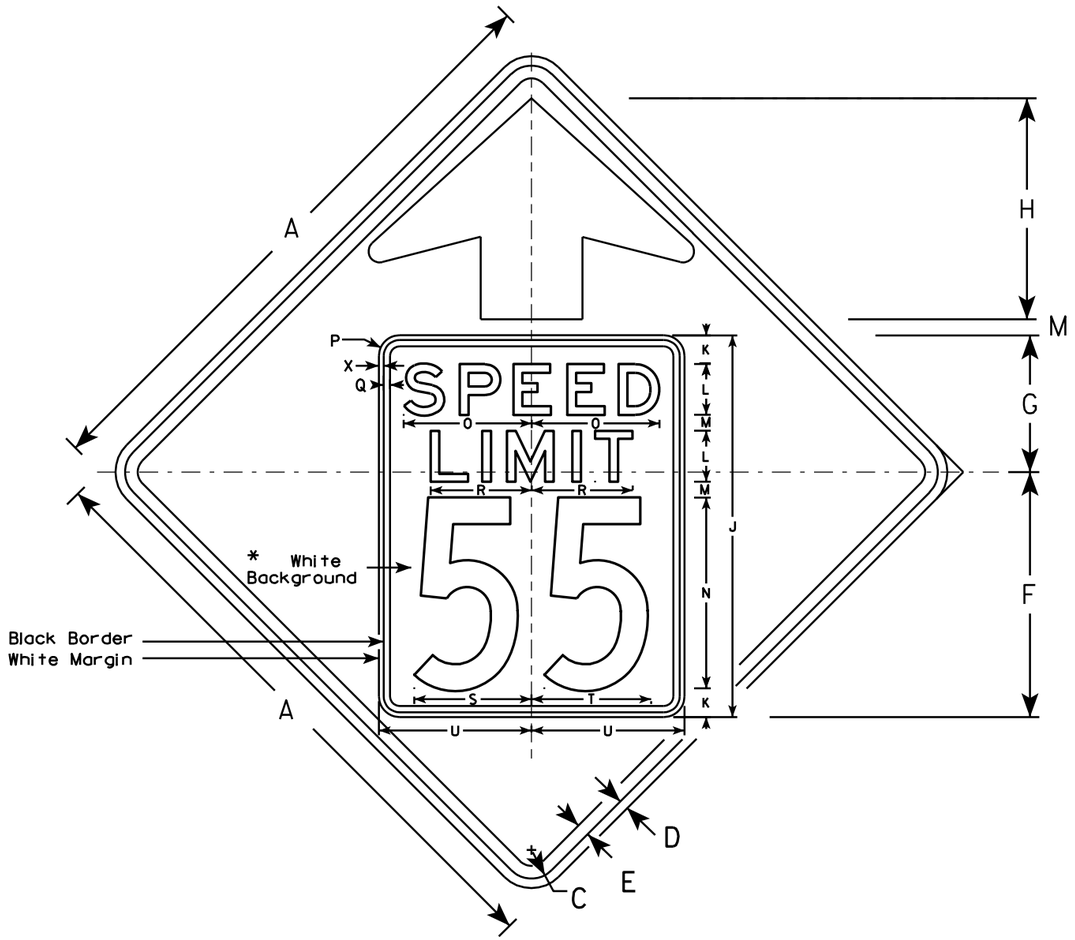
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-1.12

PROJECT NO:

SHEET NO: 113 E

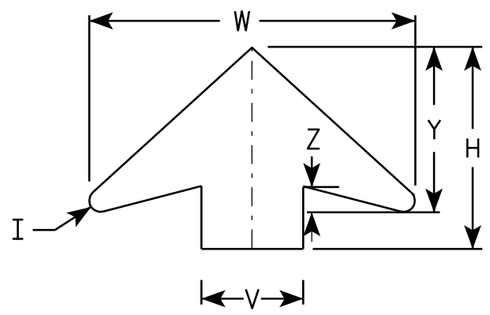


W3-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - YELLOW*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2M	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
3	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W3-5

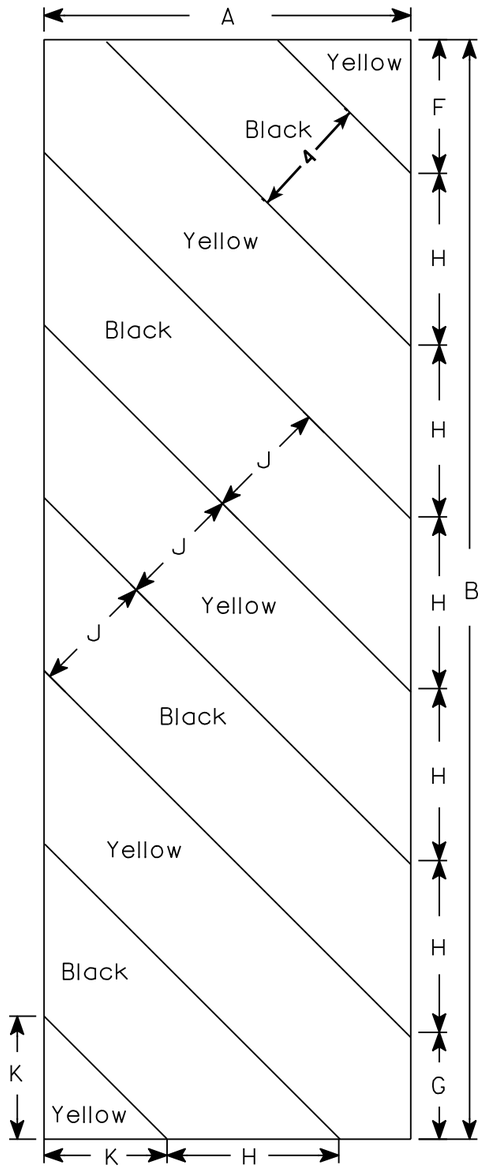
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

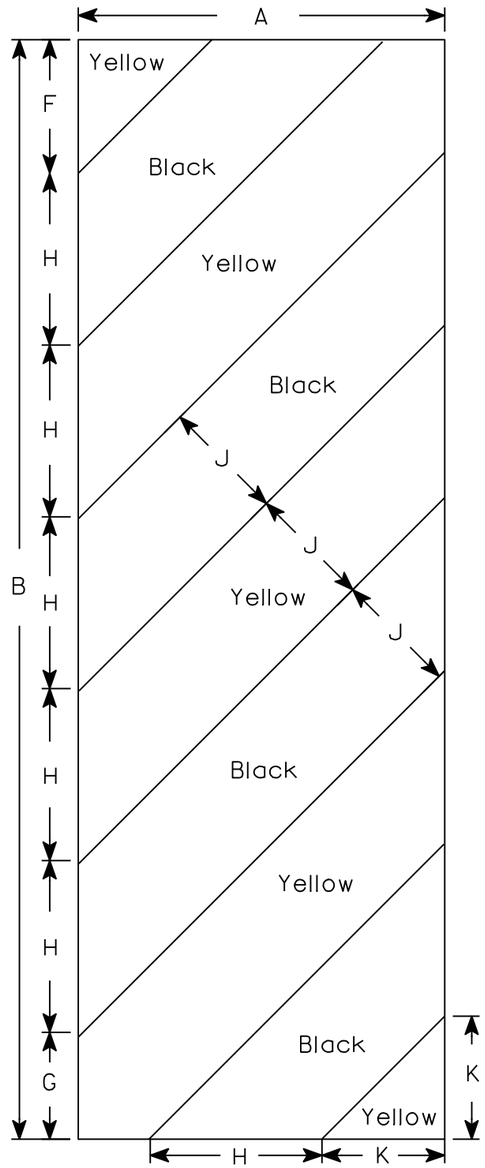
DATE 5/29/12 PLATE NO. W3-5.5

PROJECT NO:

SHEET NO: 114 E



W5-52L



W5-52R

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

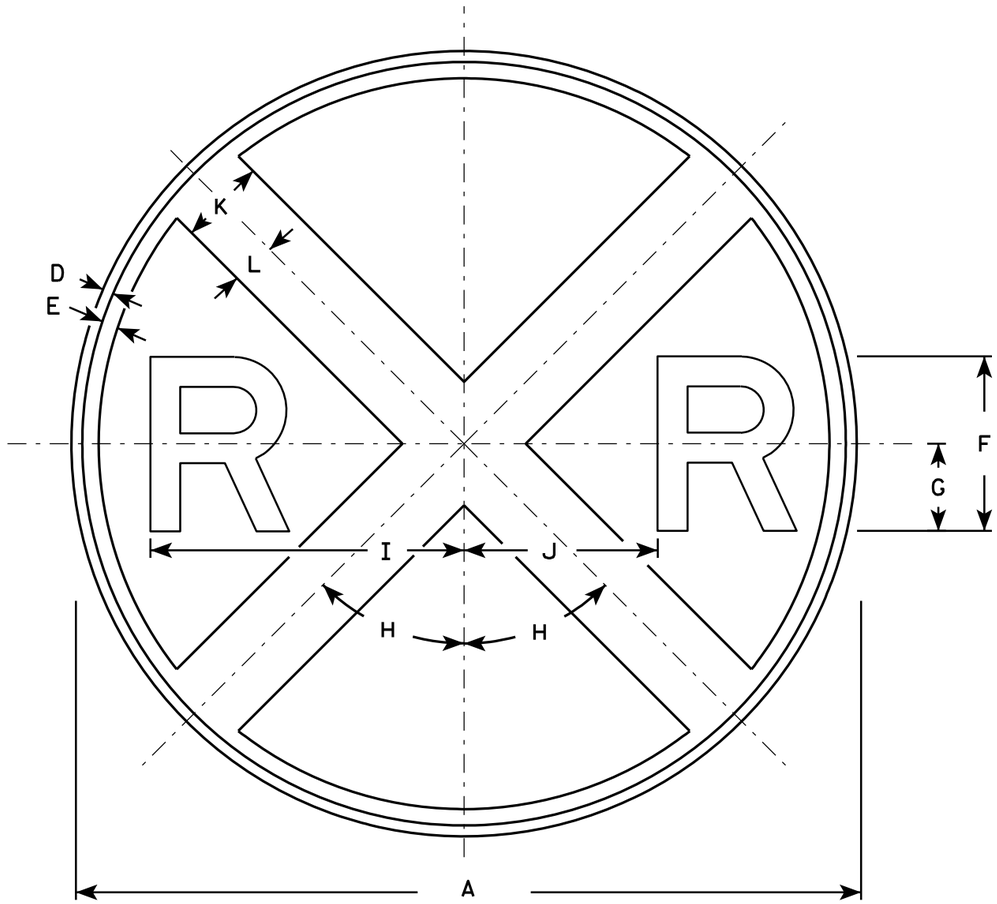
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 115 | E



W10-1

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30			3/8	5/8	7	3 1/2	45°	12 3/8	7 1/8	3	1 1/2															4.91
2S	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
2M	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
3																											
4	48			3/4	1 1/4	10	5	45°	18 3/8	11 5/8	5	2 1/2															12.57
5																											

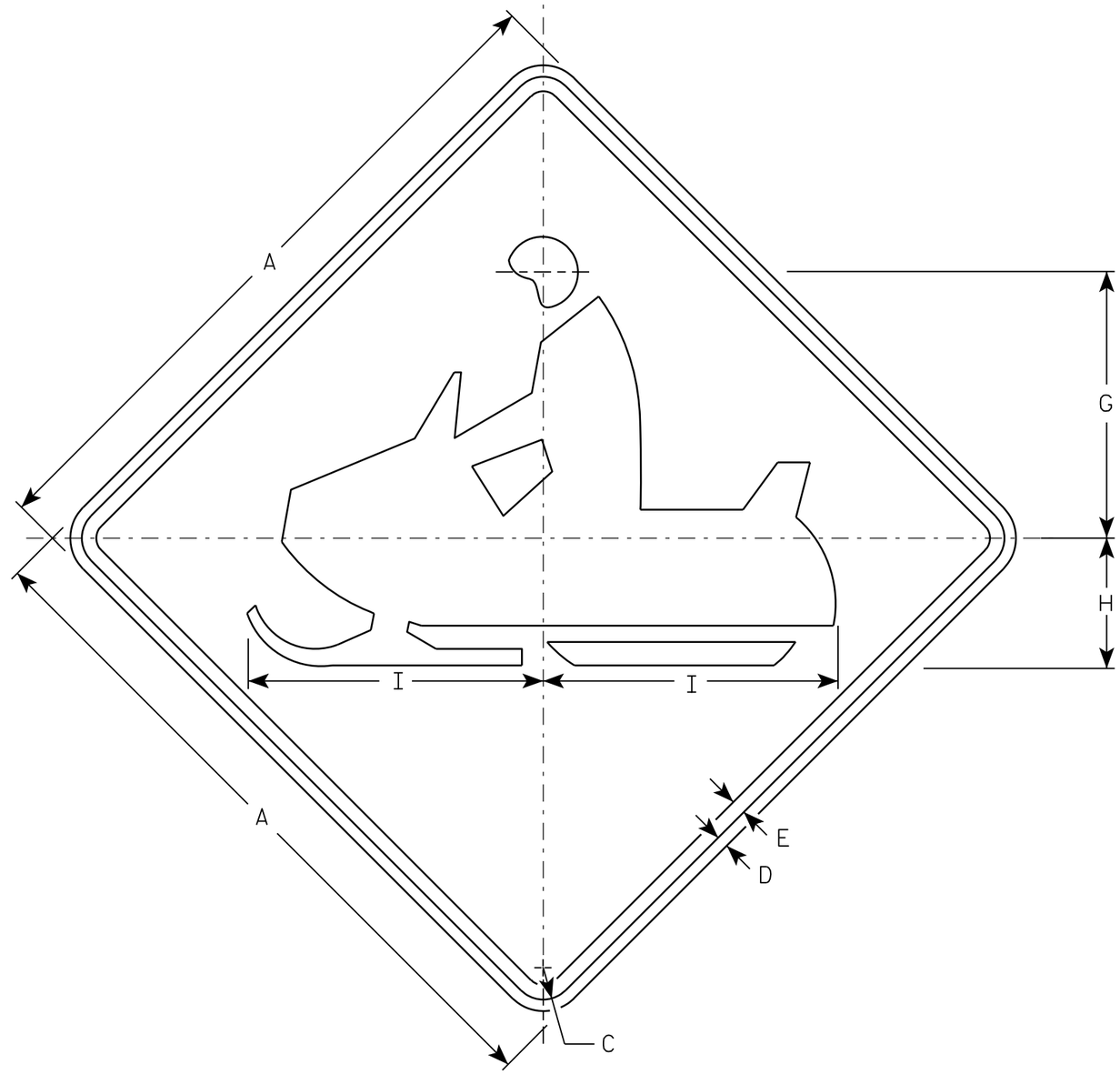
STANDARD SIGN
W10-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/13/13 PLATE NO. W10-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 116	E



W11-6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. 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	24		1 1/8	3/8	1/2		9 1/2	4 1/2	10 1/4																		4.0
2S	30		1 3/8	1/2	5/8		11 1/2	5 5/8	12 3/4																		6.25
2M	30		1 3/8	1/2	5/8		11 1/2	5 5/8	12 3/4																		6.25
3	36		1 5/8	5/8	3/4		14 1/8	6 3/4	15 1/4																		9.0
4	48		2 1/4	3/4	1		19	9	20 1/2																		16.0
5																											

STANDARD SIGN
W11-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

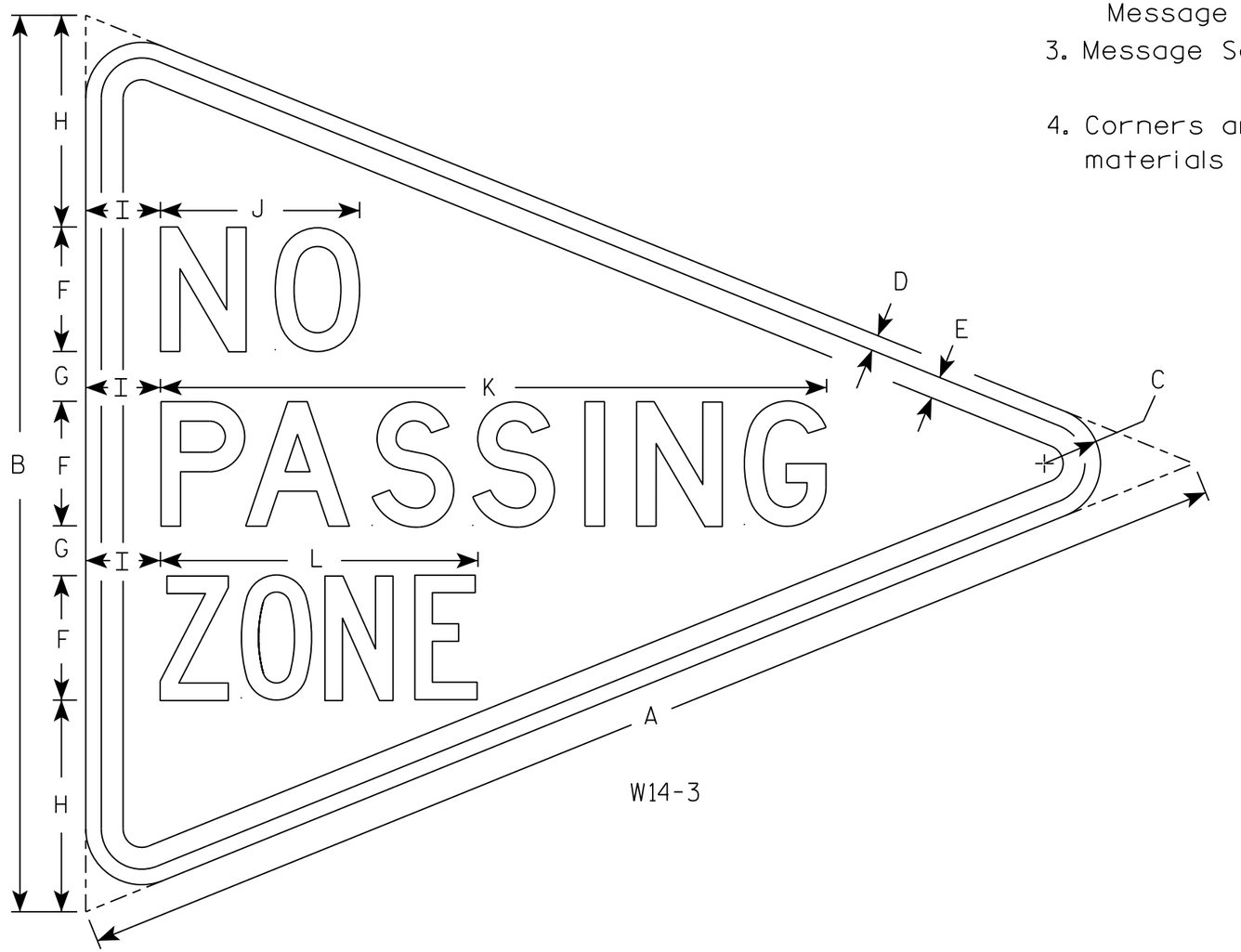
DATE 3/13/13 PLATE NO. W11-6.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 117 | E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W116.DGN PLOT DATE : 13-MAR-2013 12:57 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.954276:1.000000
WISDOT/CADDS SHEET 42

NOTES

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



W14-3

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															5.56
2M																											
3																											
4																											
5																											

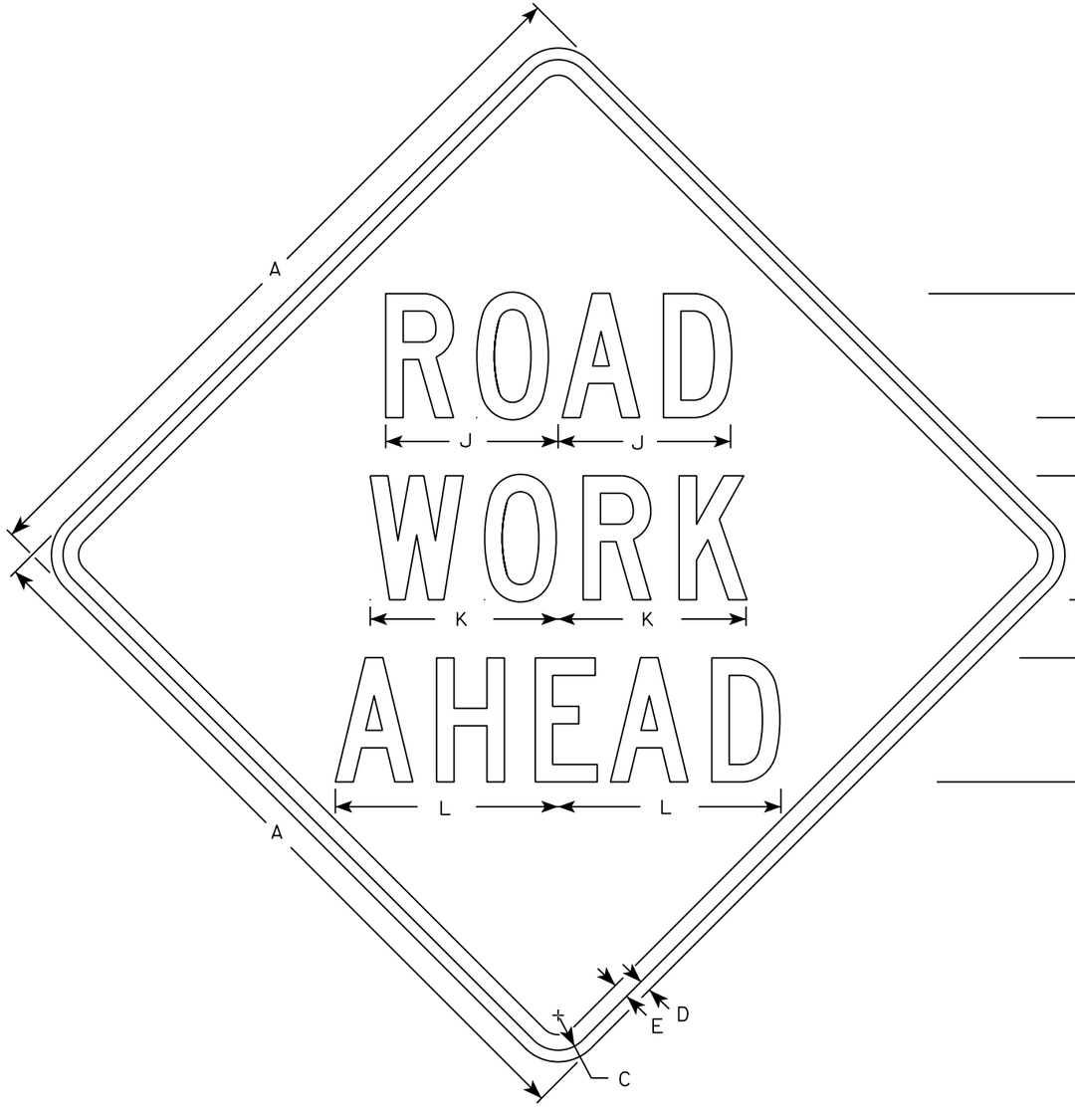
STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

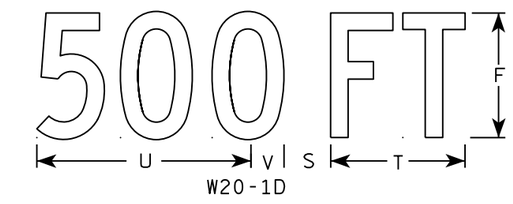
APPROVED Matthew R Rauch
for State Traffic Engineer

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

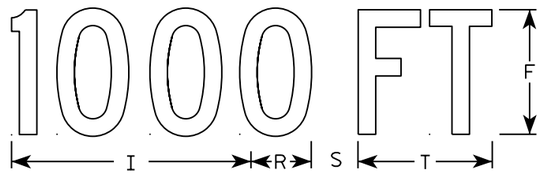
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 118 | E



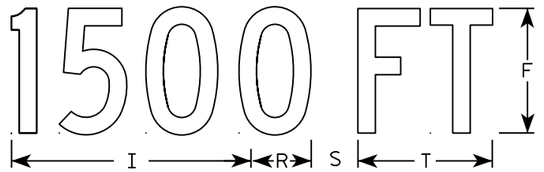
W20-1A



W20-1D



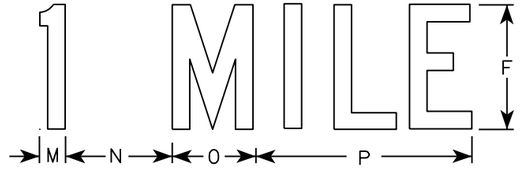
W20-1C



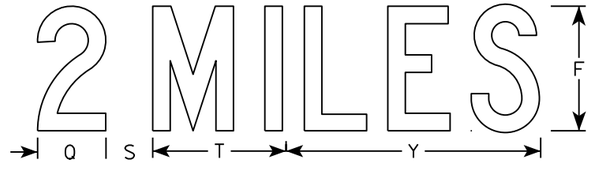
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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

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

WISCONSIN DEPT OF TRANSPORTATION

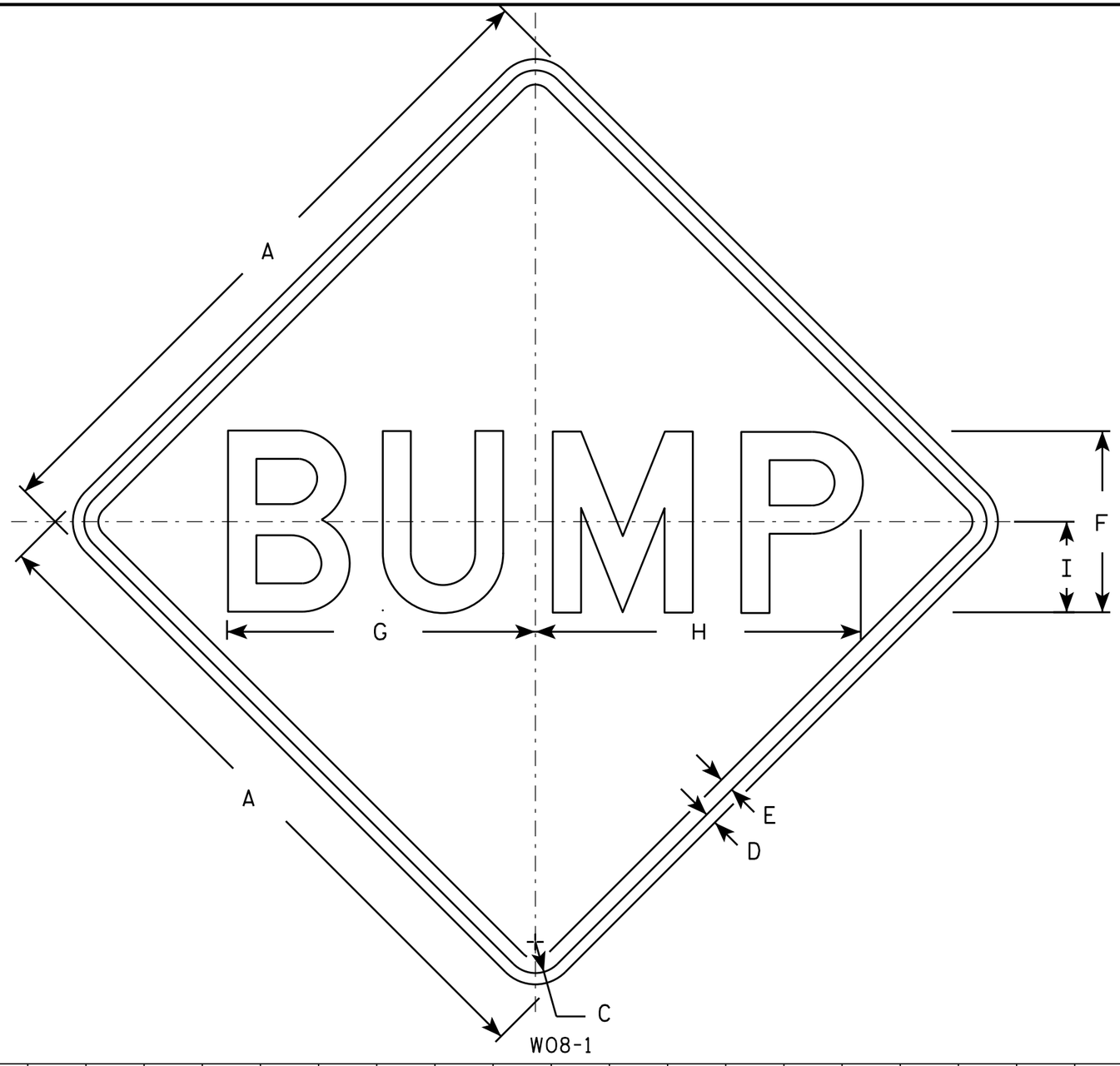
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

PROJECT NO:

SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - 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	36		1 5/8	5/8	3/4	10	16 7/8	17 7/8	5																		9.0
2S	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0
2M	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0
3	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0
4	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0
5	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0

STANDARD SIGN
W08-1

WISCONSIN DEPT OF TRANSPORTATION

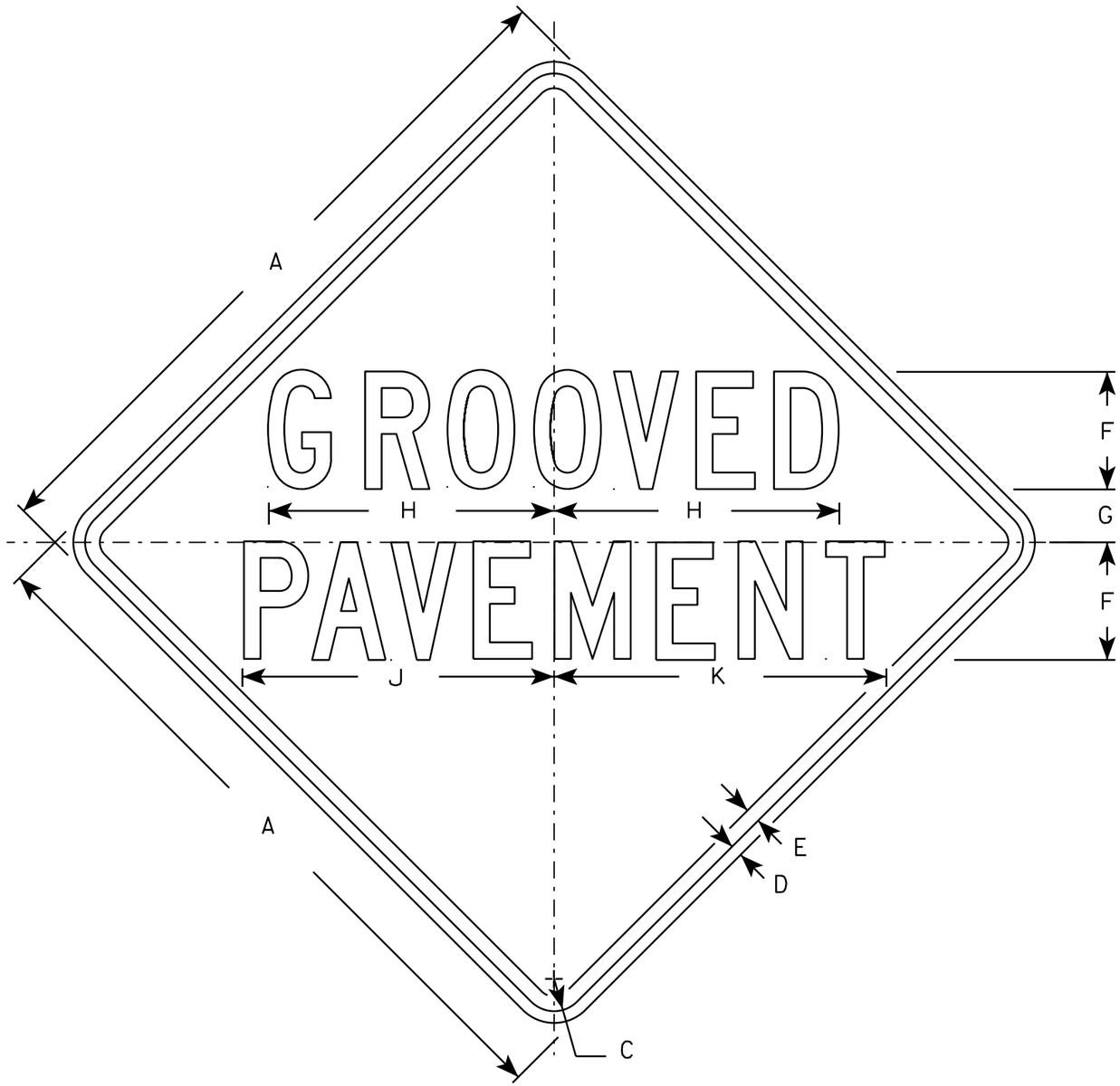
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 120 W08-1.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W081.DGN PLOT DATE : 20-NOV-2013 12:24 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 6.688833:1.000000 WISDOT/CADDS SHEET 42



W08-52

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	2 5/8	14 1/2		15 7/8	17																9.0
2S	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0
2M	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0
3	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0
4	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0
5	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0

STANDARD SIGN
W08-52

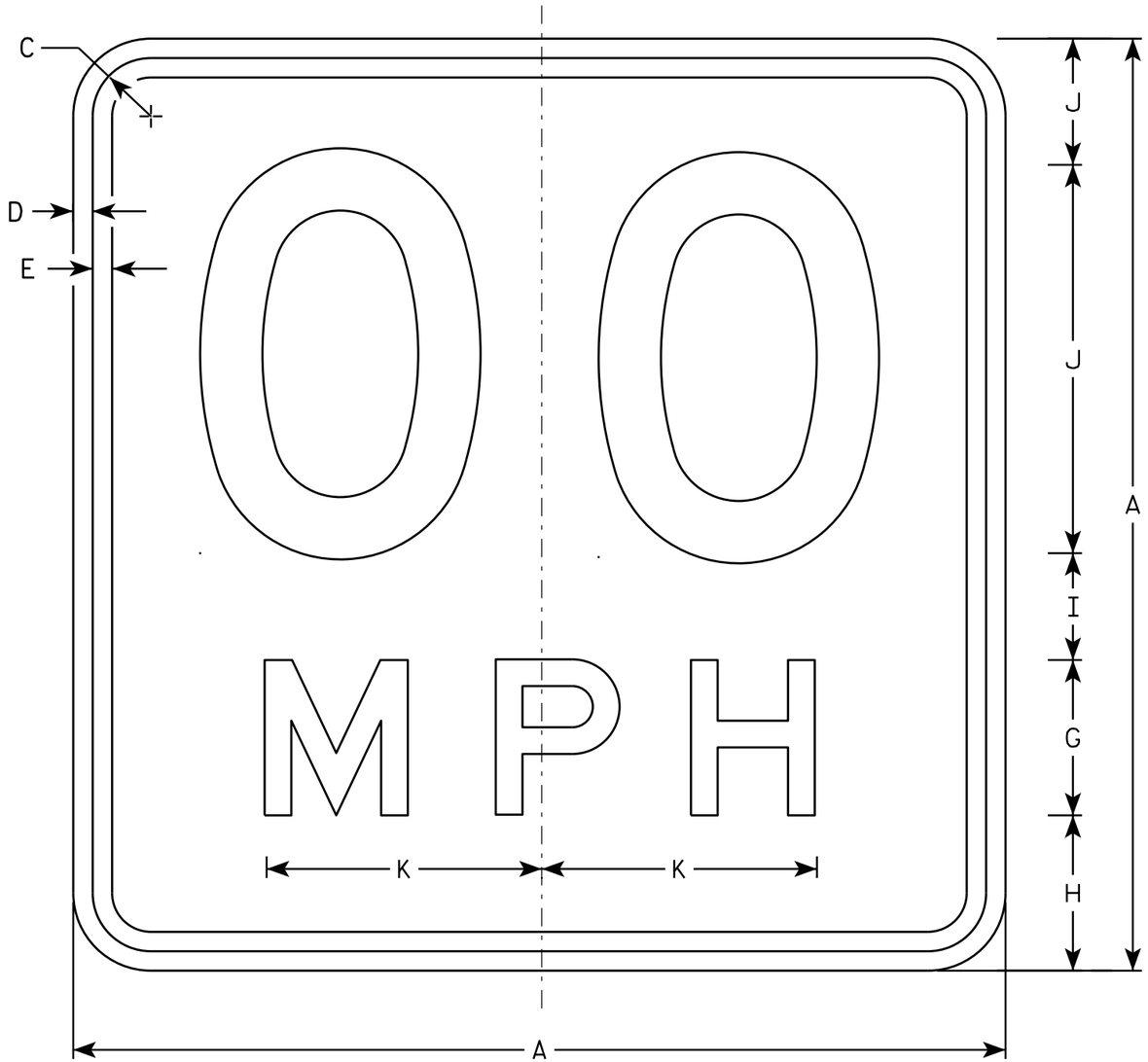
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 11/20/13 PLATE NO W08-52.1

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W0852.DGN PLOT DATE : 28-FEB-2014 11:41 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.997243:1.000000
WISDOT/CADDS SHEET 42



W013-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	7 1/8																4.00
2S	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
2M	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
3	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

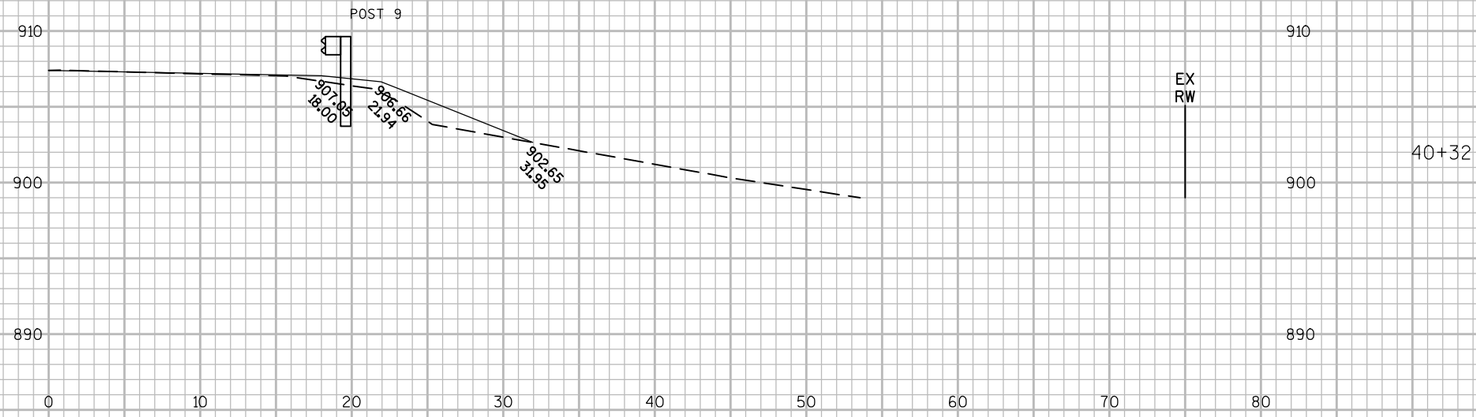
STANDARD SIGN
W013-1

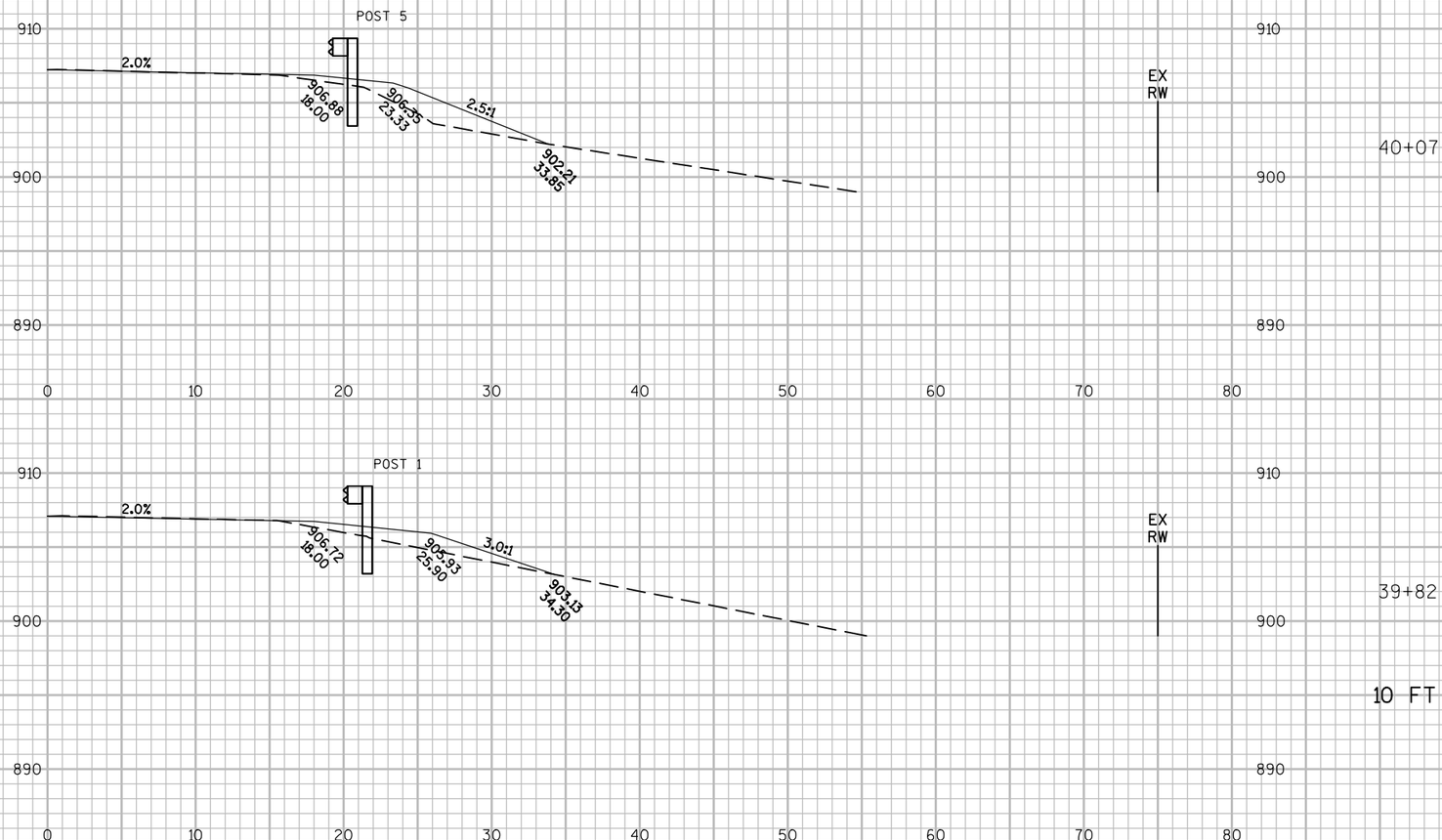
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/21/13 PLATE 122 W013-1.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

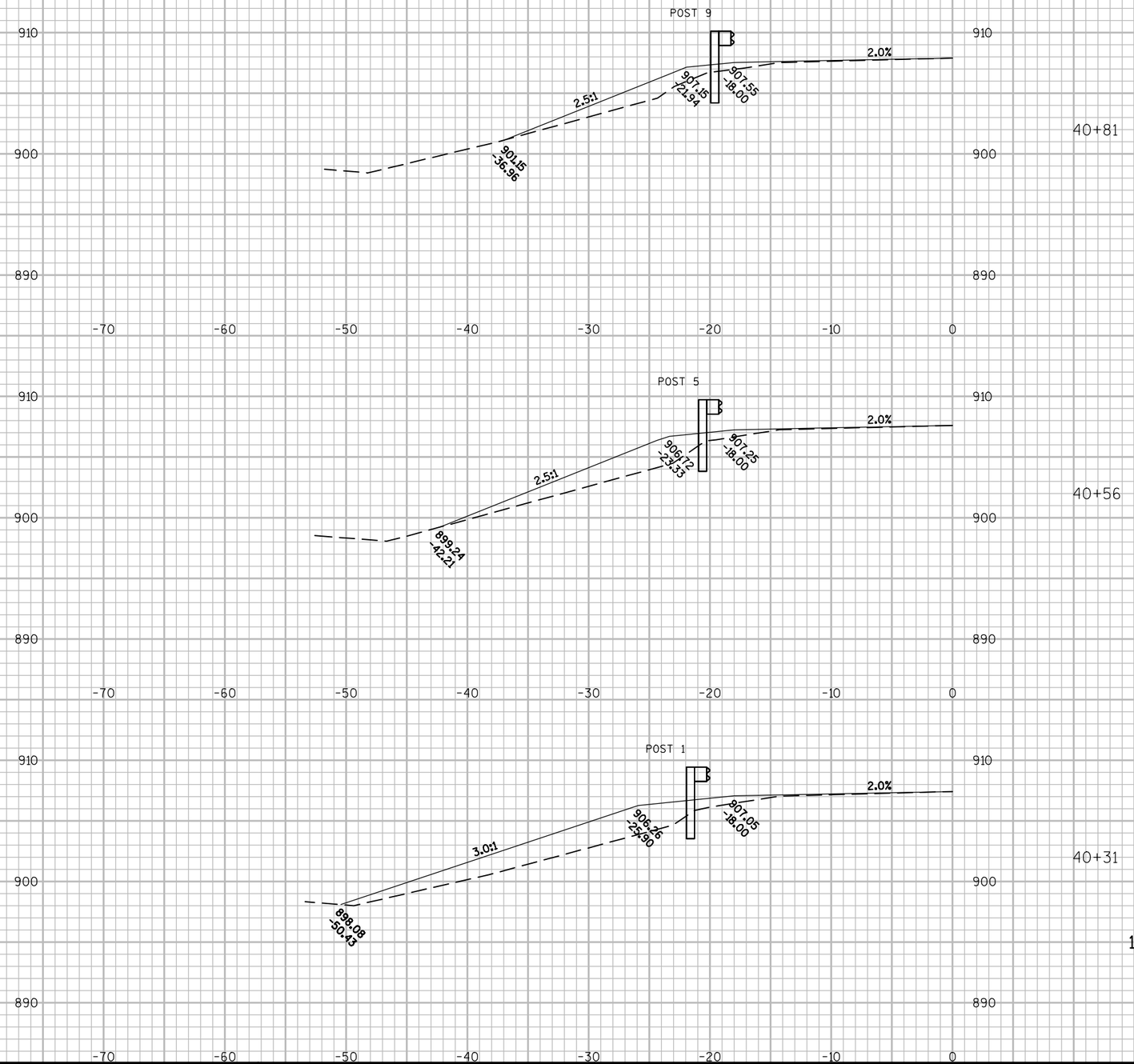


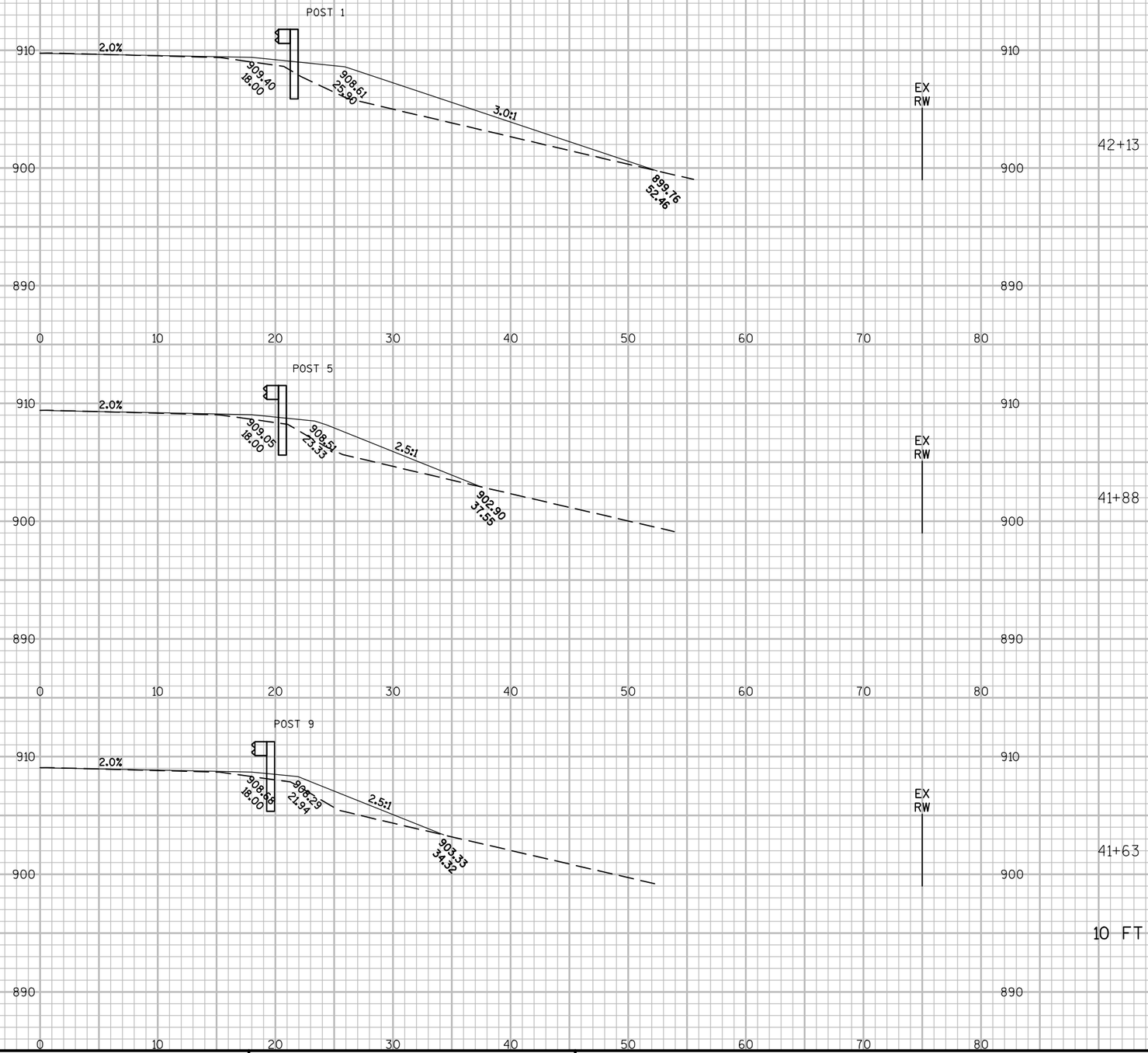


9

9

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 123	E

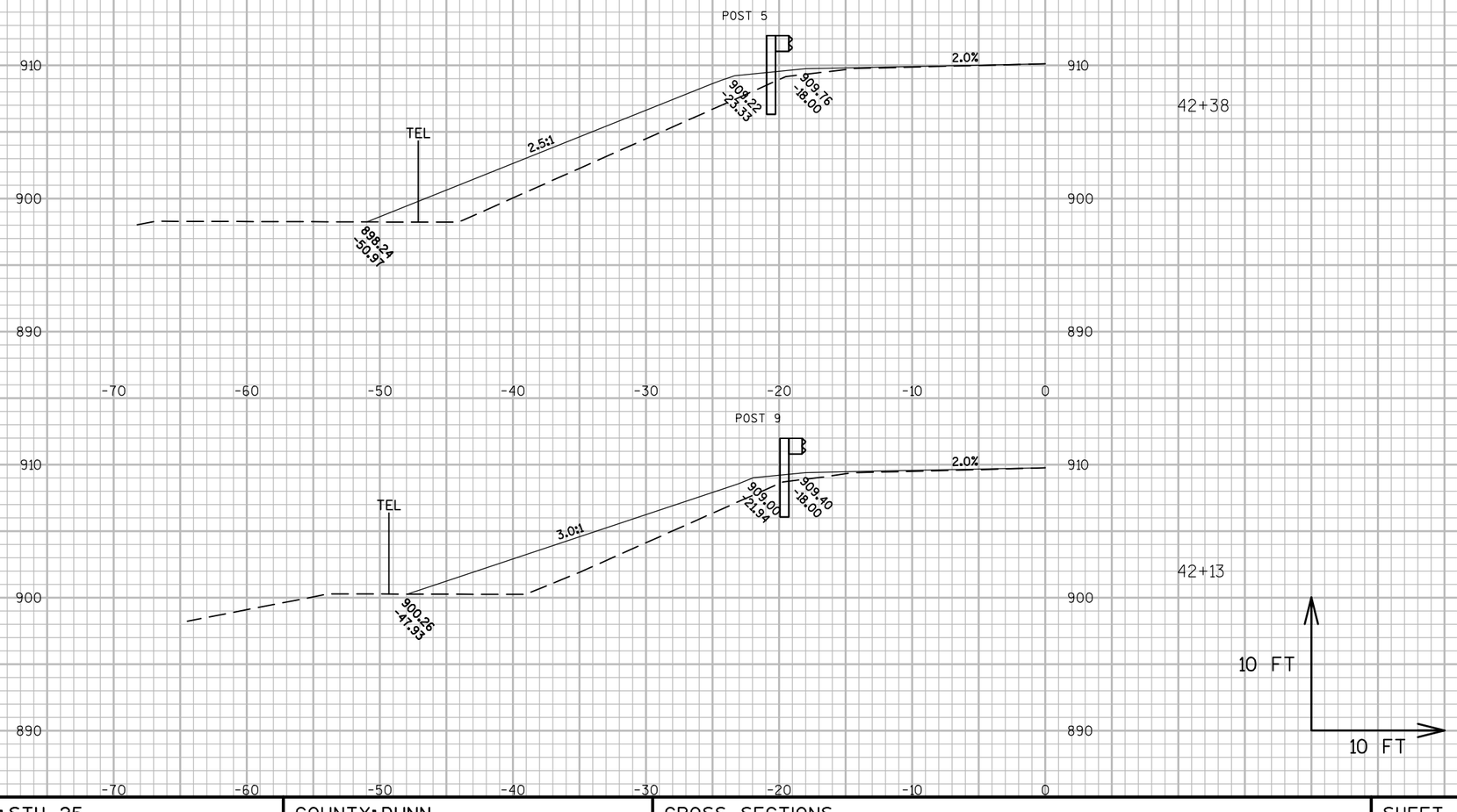

POST 9
910
900
890
-70
-60
-50
-40
-30
-20
-10
0
2.0%
2.5:1
907.45
-21.94
907.55
-18.00
901.45
-36.96
40+81
POST 5
2.0%
2.5:1
906.72
-23.33
907.25
-18.00
899.24
-42.21
40+56
POST 1
2.0%
3.0:1
906.26
-25.90
907.05
-18.00
898.08
-50.43
40+31
10 FT
10 FT



9

9

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 125	E



9

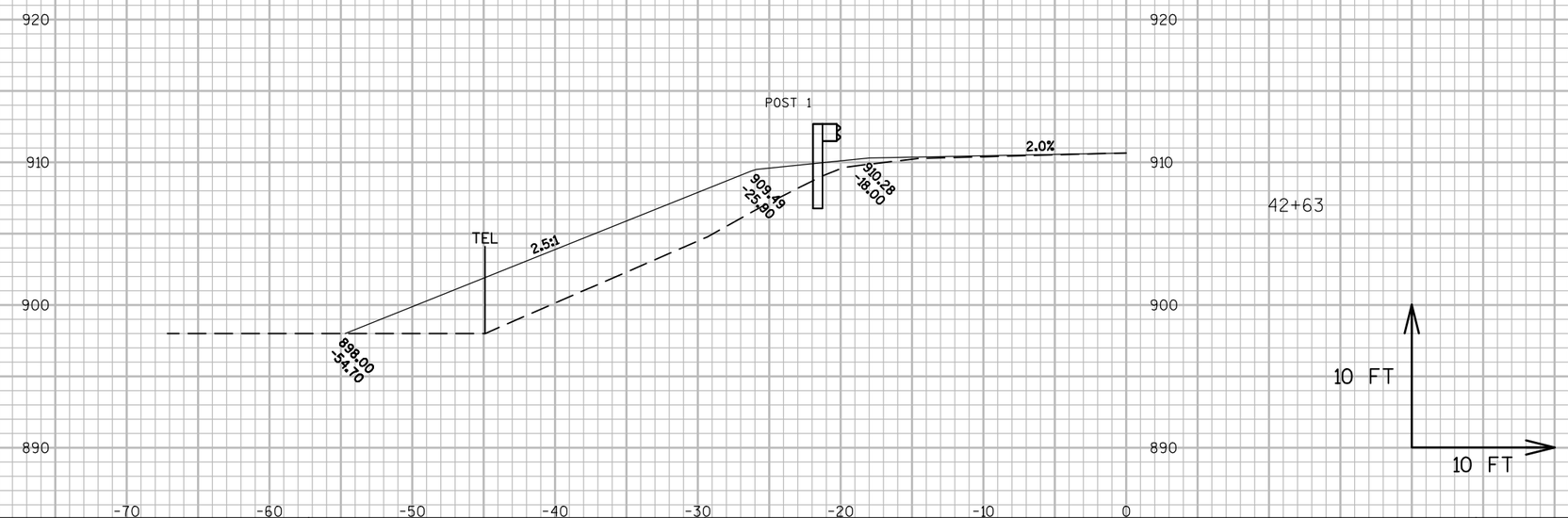
9

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET	E

FILE NAME : F:\PROJECTS\2014-114\0002\DRAWINGS\80900000\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090204_XS

PLOT DATE : 12/3/2017 9:43 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

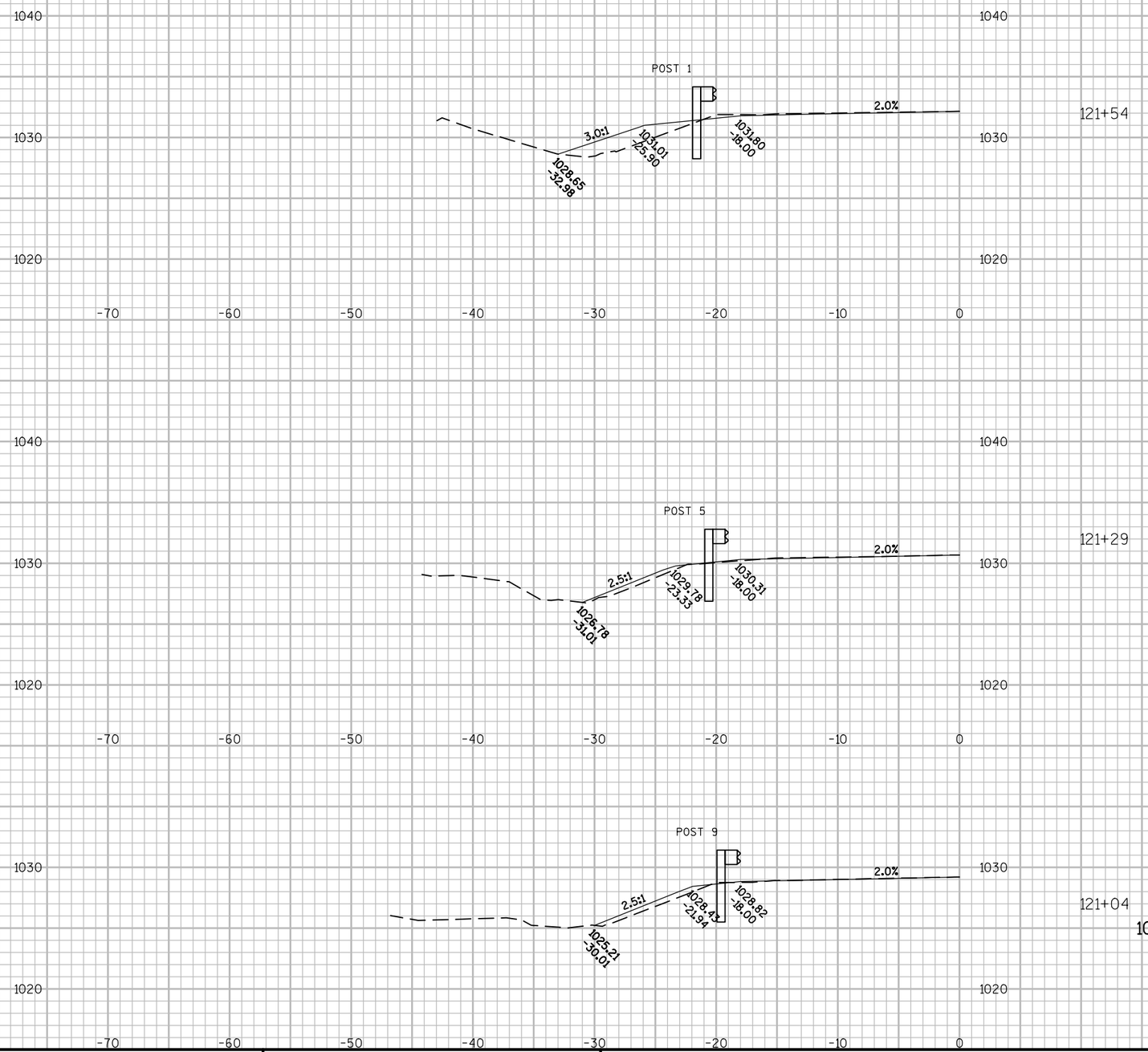
9

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 127	E

FILE NAME : F:\PROJECTS\2014-114\0002\DRAWINGS\80900000\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090205_XS

PLOT DATE : 12/3/2017 9:43 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

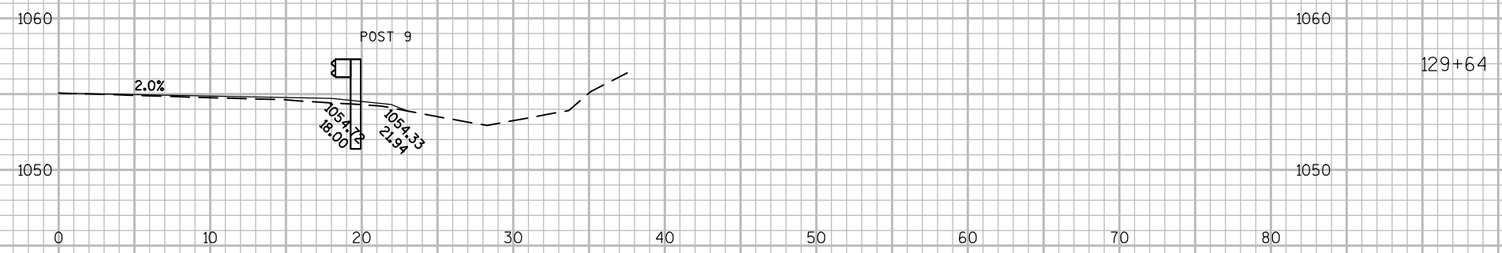
9

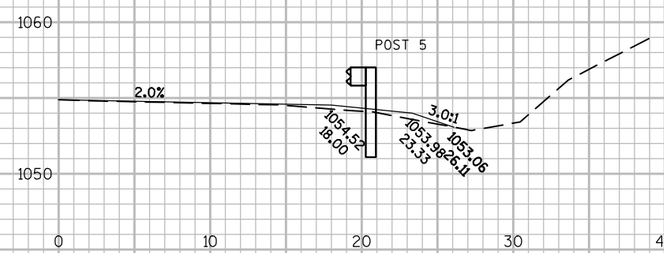
PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 128	E

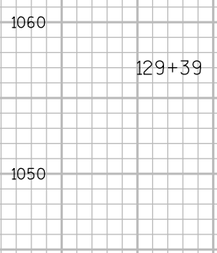
FILE NAME : F:\PROJECTS\2014-114\0002\DRAWINGS\80900000\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090206_XS

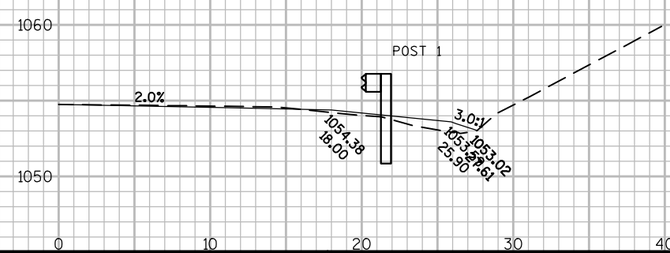
PLOT DATE : 12/3/2017 9:43 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:10 FT

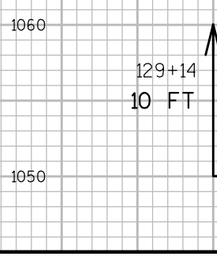
WISDOT/CADDS SHEET 49







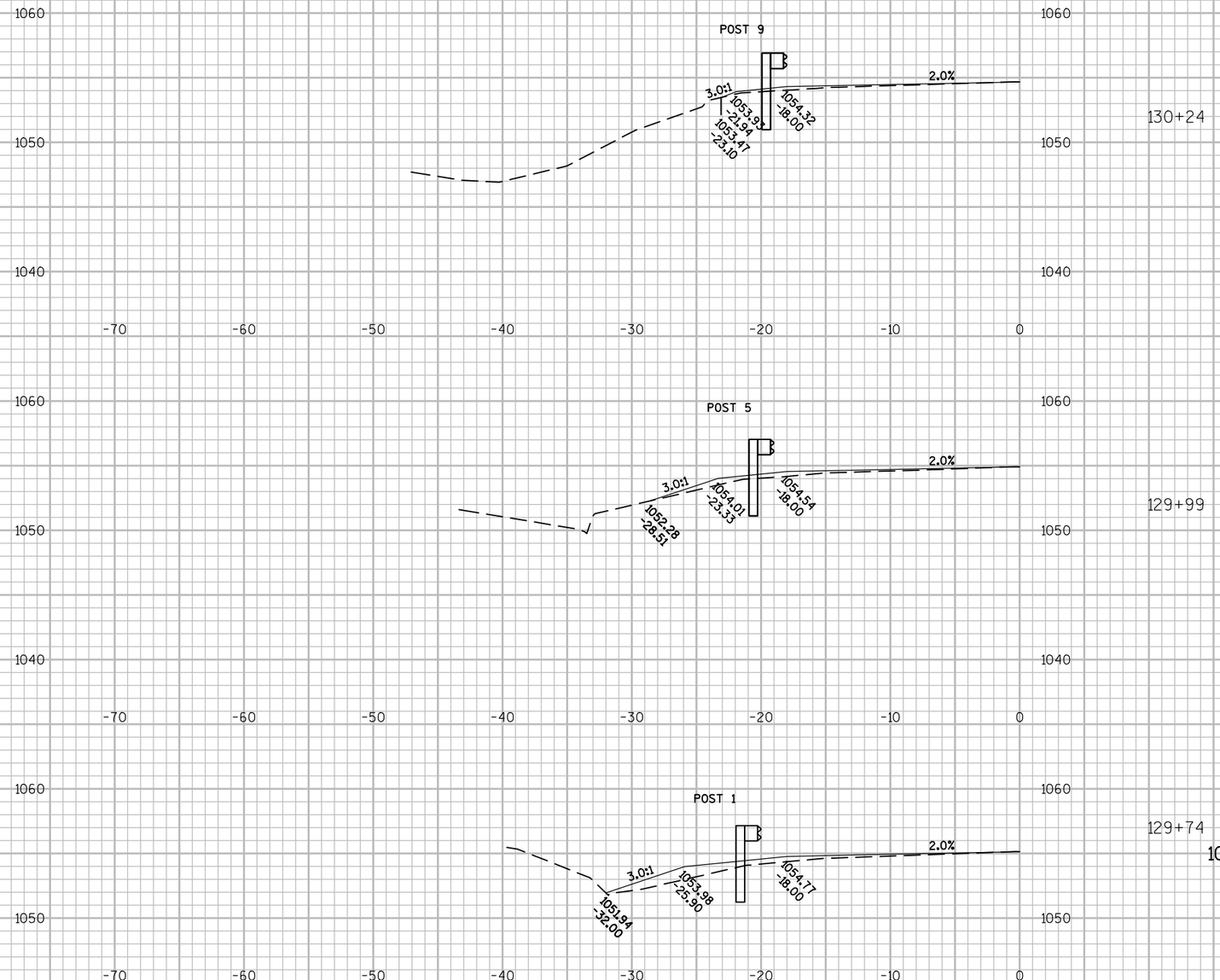




9

9

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 129	E



9

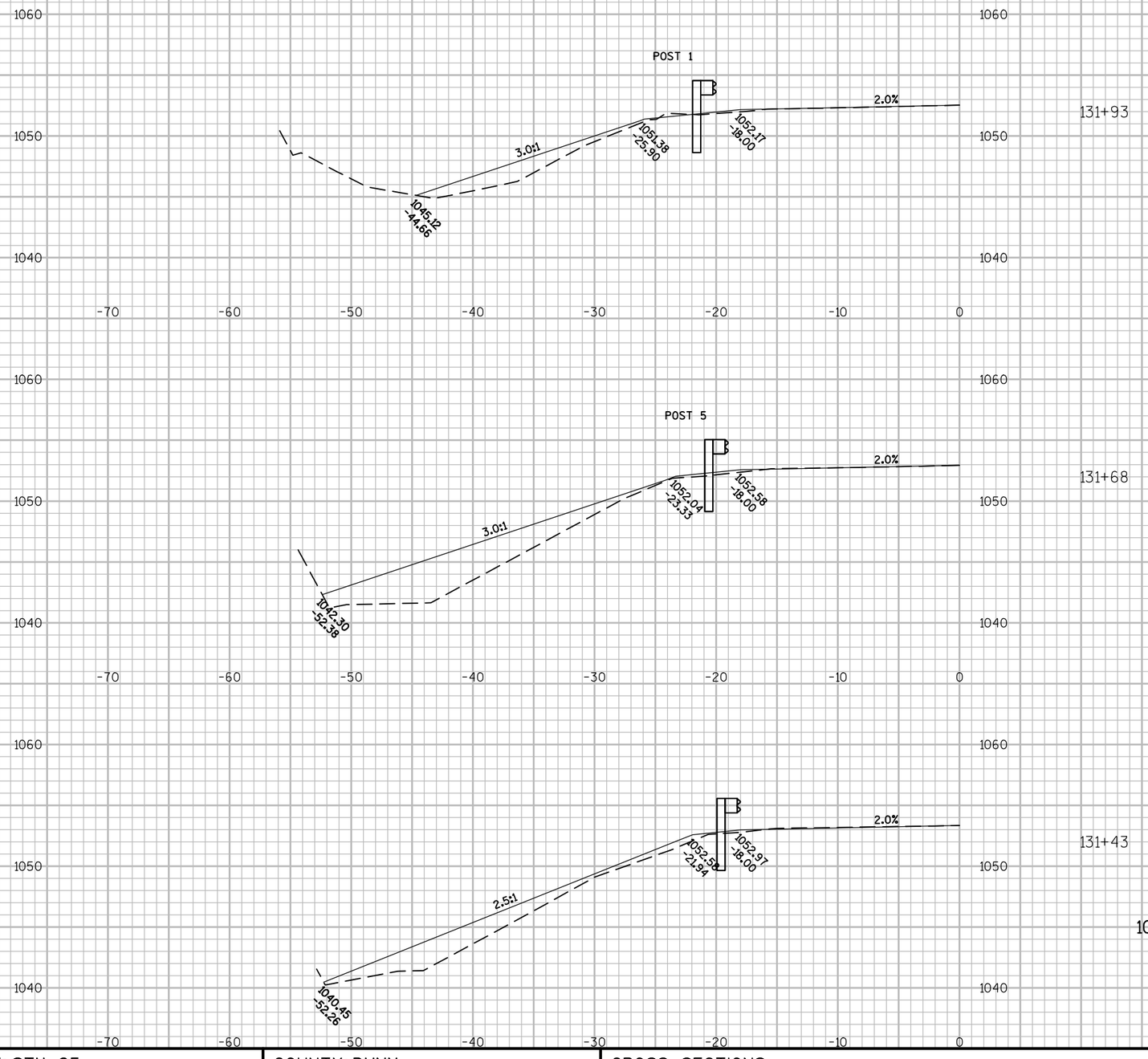
9

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 130	E

FILE NAME : F:\PROJECTS\2014-114\0002\DRAWINGS\80900000\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090209_XS

PLOT DATE : 12/3/2017 9:44 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

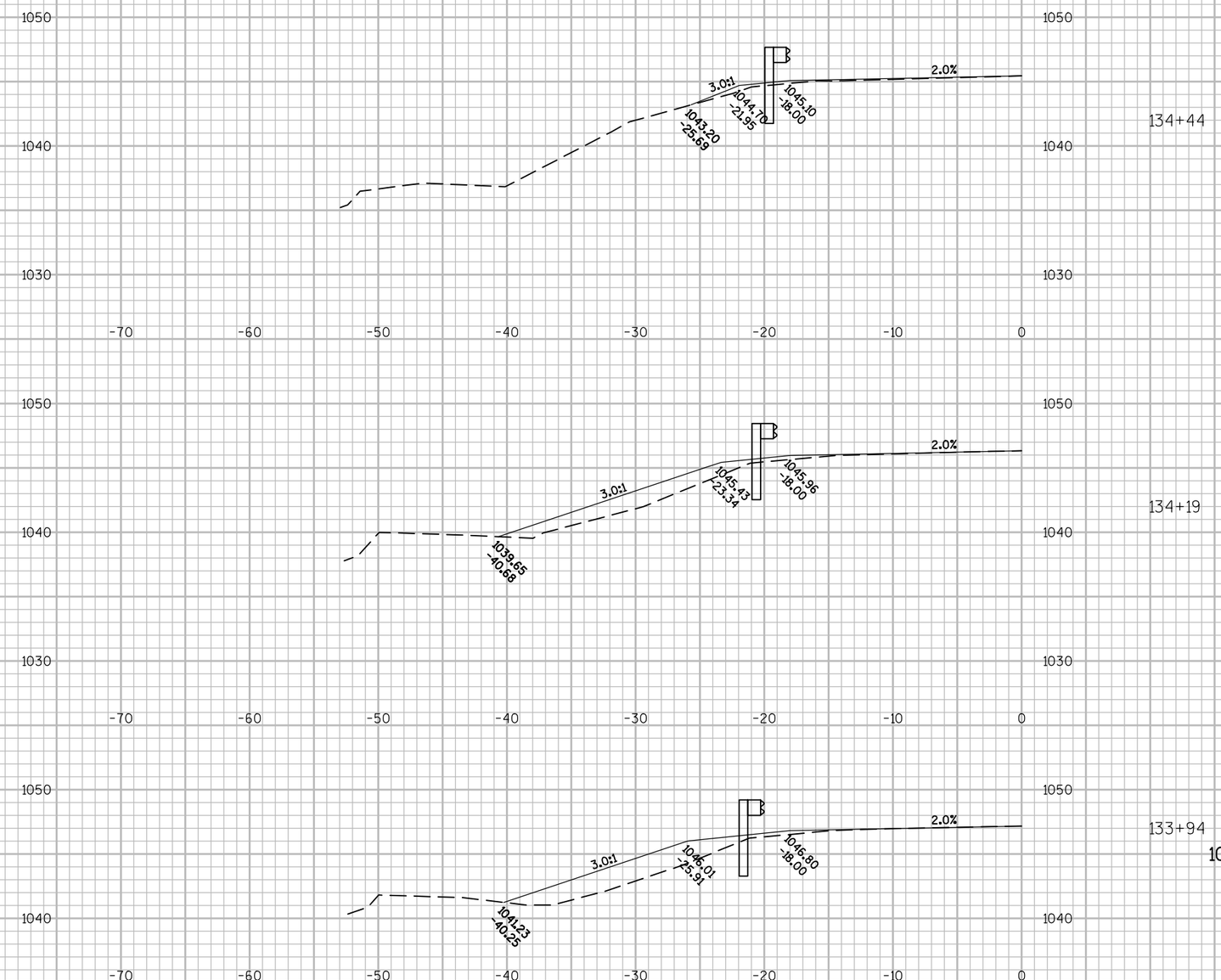


PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 131	E

FILE NAME : F:\PROJECTS\2014-114\0002\DRAWINGS\80900000\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090210_XS

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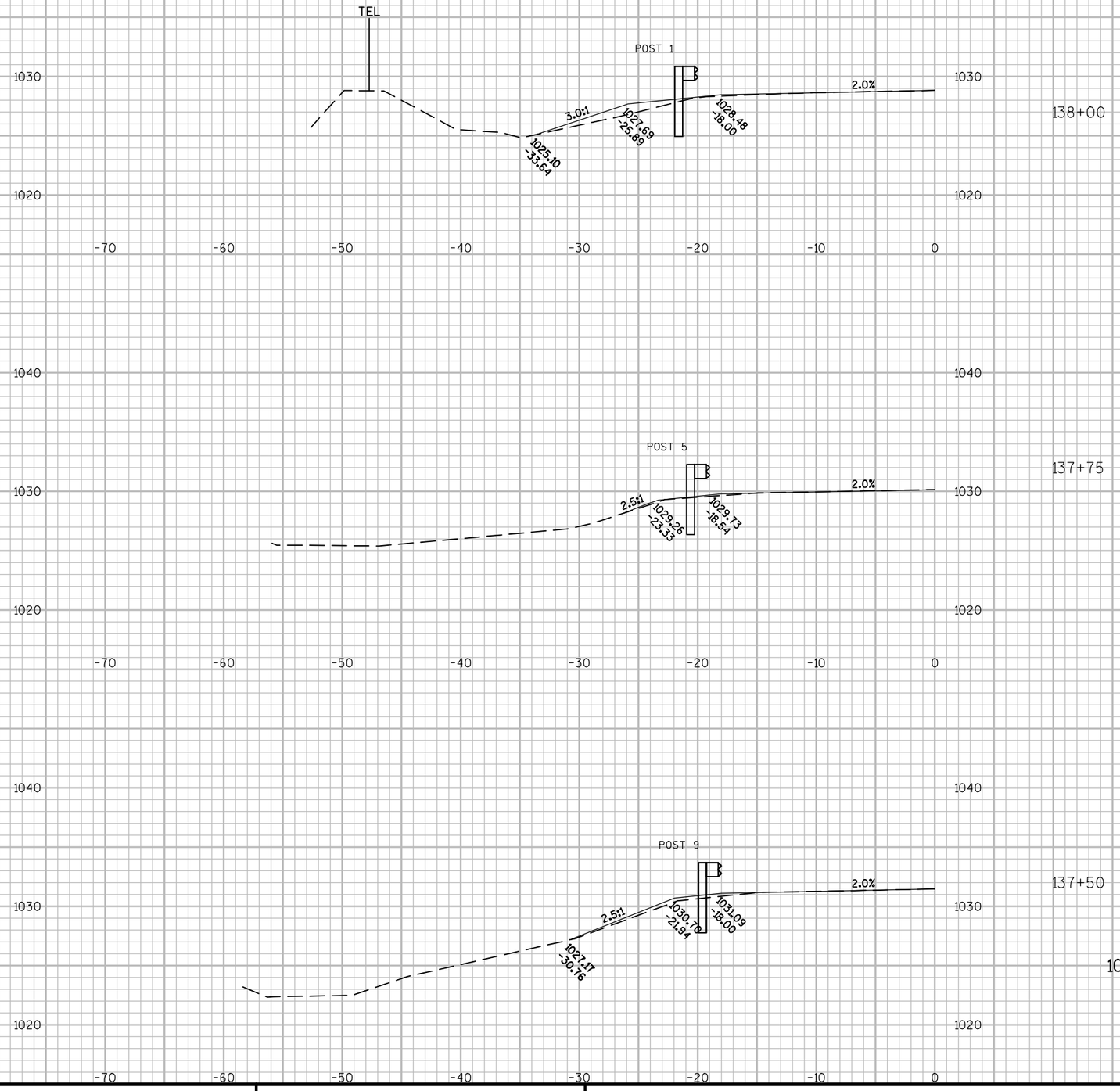
WISDOT/CADDS SHEET 49



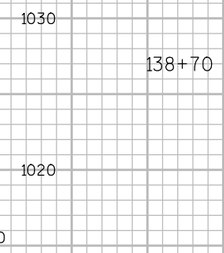
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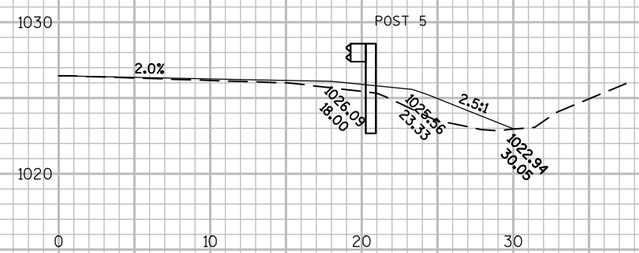
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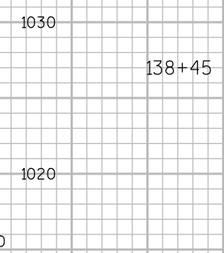
PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 132	E

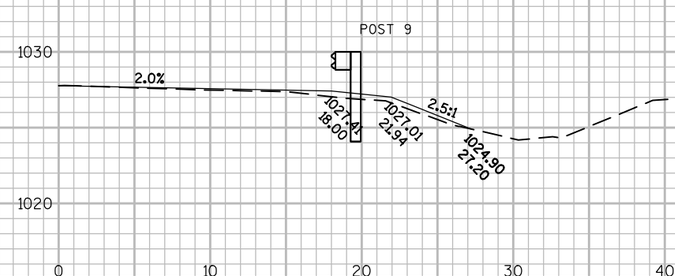

TEL
POST 1
1030
1020
2.0%
3.0:1
1027.69
-25.89
1028.48
-18.00
1025.10
-33.64
-70
-60
-50
-40
-30
-20
-10
0
138+00
1040
POST 5
2.5:1
1029.26
-23.33
1029.73
-19.54
137+75
POST 9
2.5:1
1027.17
-30.16
1030.78
-21.94
1031.09
-18.00
137+50
10 FT
10 FT

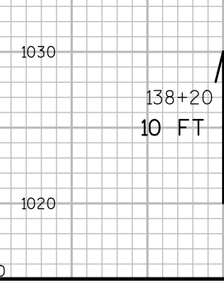












9

9

PROJECT NO: 8090-00-70	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 134	E

FILE NAME : F:\PROJECTS\2014-114\0002\DRAWINGS\80900000\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090213_XS
PLOT DATE : 12/3/2017 9:44 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

EAU

PROJECT ID: 8100-01-71

WITH: 8090-00-70

COUNTY: DUNN

NOVEMBER 2018

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
~~Section No.~~	~~4~~	~~Right of Way 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 = 82



37

N

DESIGN DESIGNATION 8100-01-01

A.A.D.T.	2019	= 3500
A.A.D.T.	2039	= 4300
D.H.V.		= 7.9%
D.D.		= 60/40
T.		= 9.4%
DESIGN SPEED		= 60 MPH
ESALS		= 810,000

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'REF)
- 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

MENOMONIE - RIDGELAND

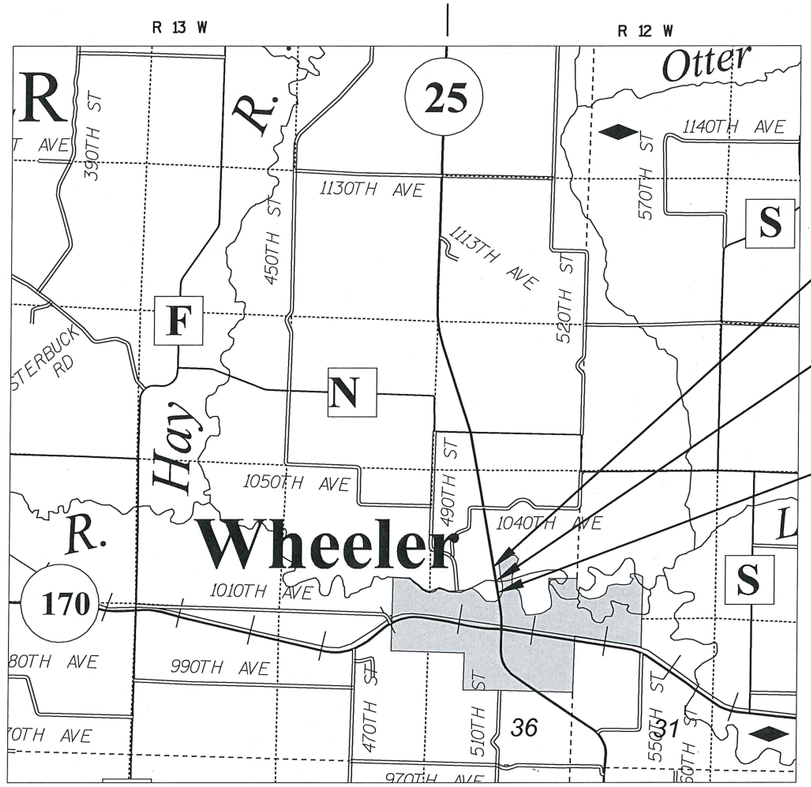
HAY RIVER BRIDGE B-17-0225

STH 25

DUNN

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8100-01-71	WISC 2018460	1

STATE PROJECT NUMBER
8100-01-71



LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.294

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, DUNN COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

WISCONSIN
MATTHEW J. GUNDRY
36517
EAU CLAIRE
WI
PROFESSIONAL ENGINEER
2-1-18

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	FAA, INC
Designer	FAA, INC
Project Manager	TYLER RONGSTAD
Regional Examiner	TOU YANG
Regional Supervisor	TIM MASON

APPROVED FOR THE DEPARTMENT

DATE: 2/1/18 (Signature)

E

FILE NAME : F:\DRAWINGS\2014-114\0005\81000101\SHEETSPLAN\010101_TI.DWG
LAYOUT NAME - 010101_TI

PLOT DATE : 2/1/2018 8:52 AM

PLOT BY : MATT GUNDRY

PLOT NAME :

2

GENERAL NOTES

NO TREES OR SHRUBS SHALL BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE BEEN DESIGNATED FOR REMOVAL BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOIL, FERTILIZED, SEEDED AND EROSION MAT AS DIRECTED BY THE ENGINEER.

ALL PRIVATE DRIVEWAYS AND COMMERCIAL ENTRANCES SHALL BE RESTORED IN KIND. LIMITS TO BE DETERMINED BY THE ENGINEER.

PAVING LIMITS ARE TO BE DETERMINED BY THE ENGINEER.

LOCATION OF UNDERGROUND UTILITIES AS SHOWN ON THE PLAN ARE APPROXIMATE, THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

ALL RADII ARE MEASURED TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED ON THE PLAN.

CURVE DATA IS BASED ON THE ARC DEFINITION.

PRIOR TO THE PLACEMENT OF MGS GUARDRAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.

THE EROSION CONTROL FEATURES AS SHOWN ON THE PLAN DETAILS ARE AT SUGGESTED LOCATIONS, THEIR EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

WETLANDS MAY EXIST IN LOCATIONS THAT ARE NOT SHOWN IN THE PLANS. DO NOT STAGE IN OR DISTURB WETLANDS AREAS.

WHEN THE QUANTITY OF BASE AGGREGATE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

6-INCH HMA PAVEMENT SHALL CONSIST OF TWO 2¼-INCH LOWER LAYERS OF 3MT58-28S AND A 1½-INCH UPPER LAYER OF 5MT58-34H.

STANDARD ABBREVIATIONS

A.A.D.T.	ANNUAL AVERAGE DAILY TRAFFIC
B.A.D.	BASE AGGREGATE DENSE
C/L	CENTERLINE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CMCP	CORRUGATED METAL CULVERT PIPE
CY	CUBIC YARD
D.D.	DAILY DIRECTIONAL SPLIT (TRAFFIC VOLUME)
D.H.V.	DAILY HOURLY TRAFFIC
EAT	ENERGY ABSORBING TERMINAL
EB	EASTBOUND
EL.	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
FO	FIBER OPTIC
INV	INVERT
LB	POUND
LF OR L.F.	LINEAR FEET
LT.	LEFT
MAX.	MAXIMUM
MIN.	MINIMUM
NB	NORTHBOUND
NPZ	NO PASSING ZONE
OH	OVERHEAD
P.E.	PRIVATE ENTRANCE
REQ'D	REQUIRED
R/L OR RL	REFERENCE LINE
RT.	RIGHT
R/W	RIGHT OF WAY
SB	SOUTHBOUND
S.D.D.	STANDARD DETAIL DRAWING
STA.	STATION
SF	SQUARE FOOT
STH	STATE HIGHWAY
SY	SQUARE YARD
T.	PERCENT OF TRUCK TRAFFIC
T.L.E.	TEMPORARY LIMITED EASEMENT
TYP.	TYPICAL
VAR.	VARIES
WB	WESTBOUND

WISDOT REGIONAL CONTACT

TYLER RONGSTAD
WISDOT NORTHWEST REGION
EAU CLAIRE OFFICE
718 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
(715) 461-0372

DNR LIASON

CHRIS WILLGER
DNR WEST CENTRAL REGION HQ
1300 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54702
(715) 839-1609

DESIGN CONTACT

FLEMING, ANDRE & ASSOCIATES, INC.
MATT GUNDRY
3615 N. HASTINGS WAY - STE. 100
EAU CLAIRE, WI 54703
(715) 832-8400
mjgundry@faa-engineers.com

UTILITIES

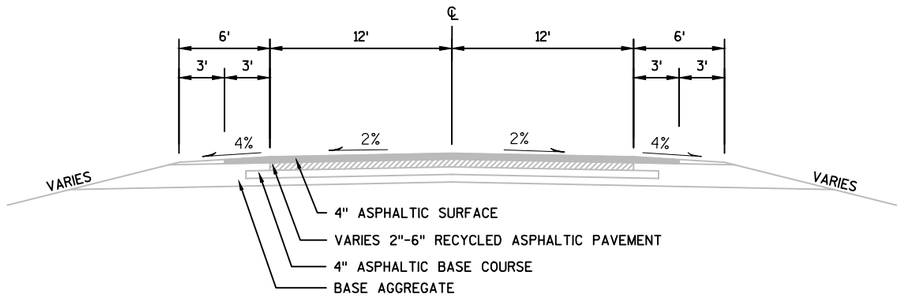
COMMUNICATIONS

KYLE SCHLAMPP
CENTURYLINK - COMMUNICATION LINE
20 S WILSON AVE
RICE LAKE, WI 54868
(715) 234-5573
kyle.schlampp@centurylink.com

ELECTRICITY TRANSMISSION

BRUCE ZEMKE
XCEL ENERGY - ELECTRICITY TRANSMISSION
414 NICOLET MALL
MINNEAPOLIS, MN 55401
(612) 330-7815
bruce.m.zemke@xcelenergy.com

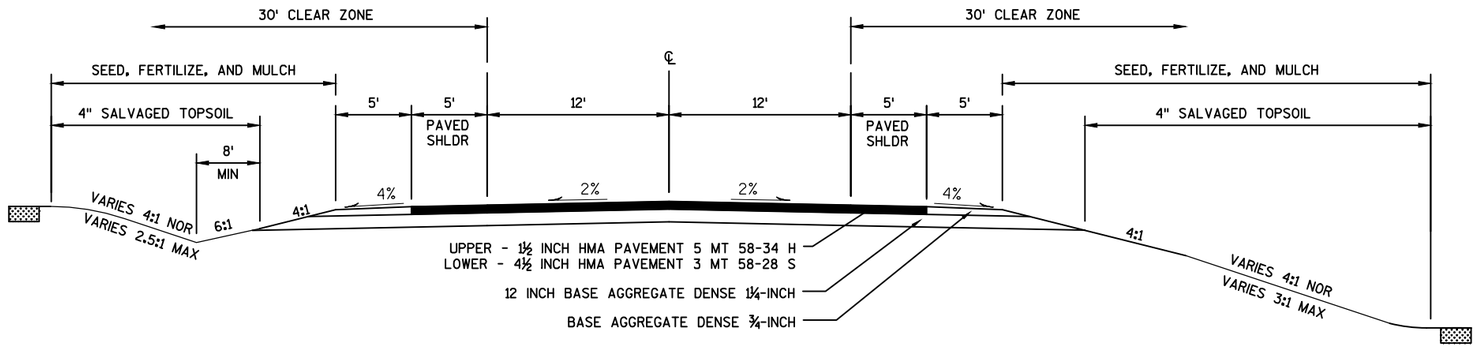
DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com



EXISTING TYPICAL SECTION

STA 8+00 TO STA 16+09

STA 18+33 TO STA 23+50

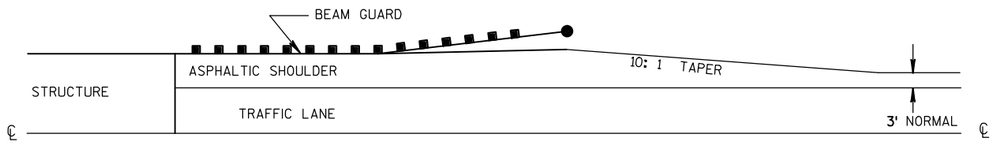


FINISHED TYPICAL SECTION

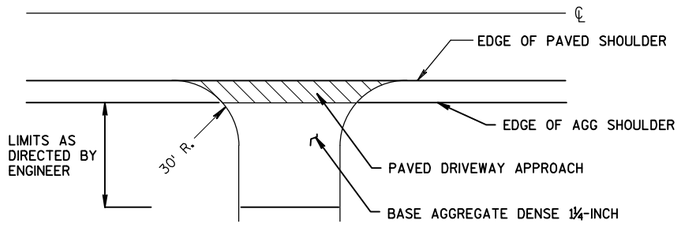
STA 8+00 TO STA 16+24

STA 18+68 TO STA 23+50

PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	PLAN: TYPICAL SECTIONS	SHEET 3	E



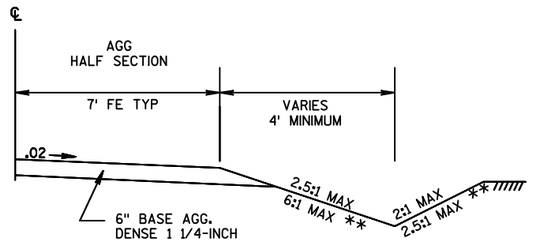
DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD



NOTE:

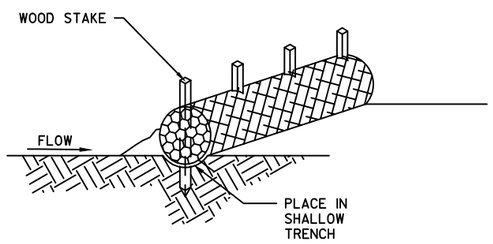
ANY ADDITIONAL BASE AGG. DENSE REQ'D. SHALL BE PAID UNDER ITEM - "BASE AGGREGATE DENSE 1¼ -INCH"

RURAL DRIVEWAY DETAIL - AGG



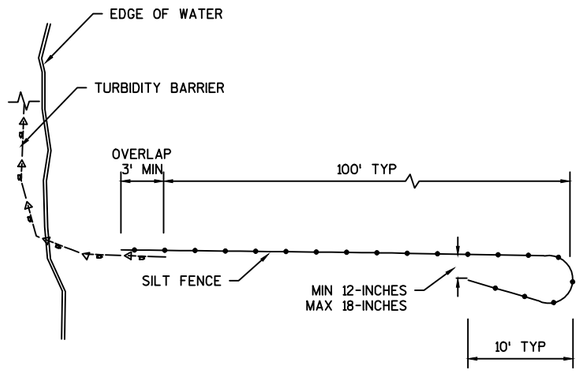
** WITHIN CLEAR ZONE

TYPICAL SECTION
FOR RURAL DRIVEWAYS - AGG



TEMPORARY DITCH CHECKS

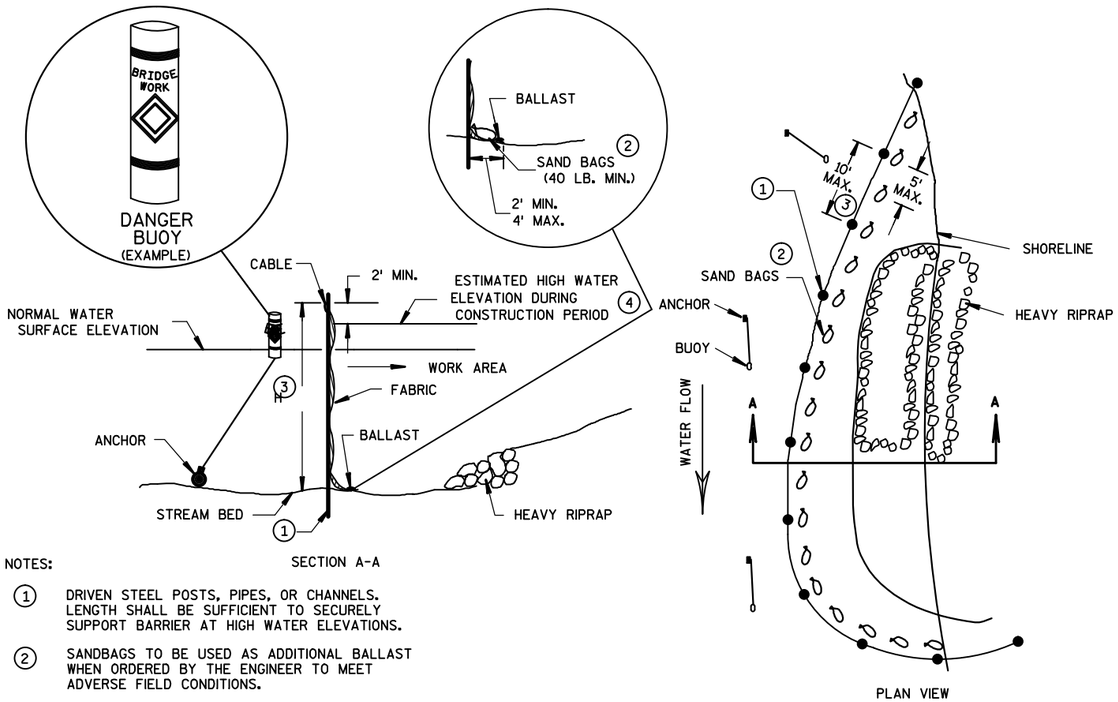
SHOWING TYPICAL SEDIMENT LOG INSTALLATION. SEE SDD 8E8-3 "TYPICAL INSTALLATIONS OF EROSION BALES/TEMPORARY DITCH CHECKS" FOR ADDITIONAL INFORMATION AND ALTERNATIVES



EXCLUSTION FENCING TURN-AROUND

PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	PLAN: CONSTRUCTION DETAILS	SHEET 4	E

2



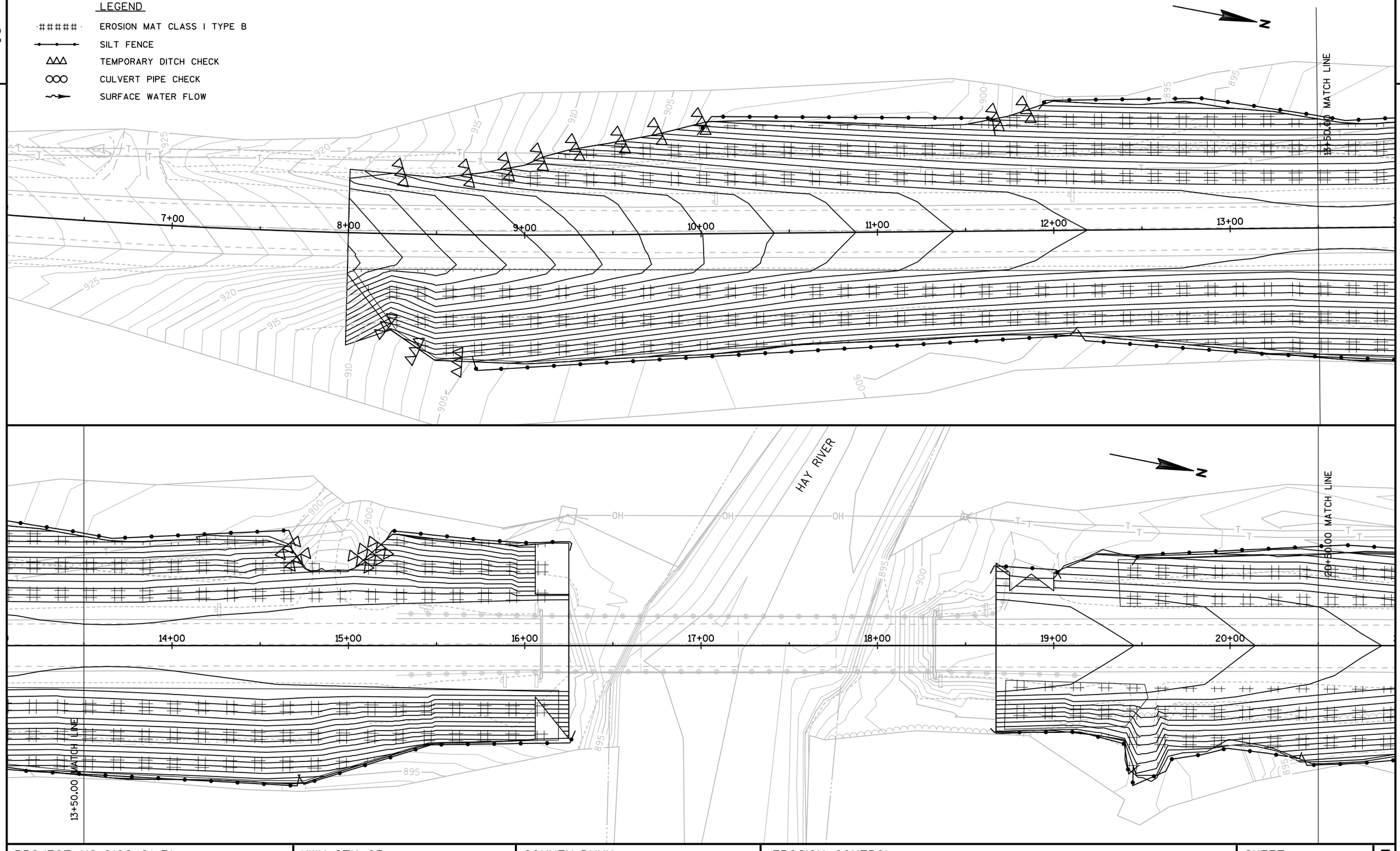
NOTES:

1. DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
2. SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS.
3. WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
4. ELEVATION VALUE TO BE ESTABLISHED BY THE CONTRACTOR BASED ON THE TIME OF YEAR AND DURATION OF THE ACTIVITY.

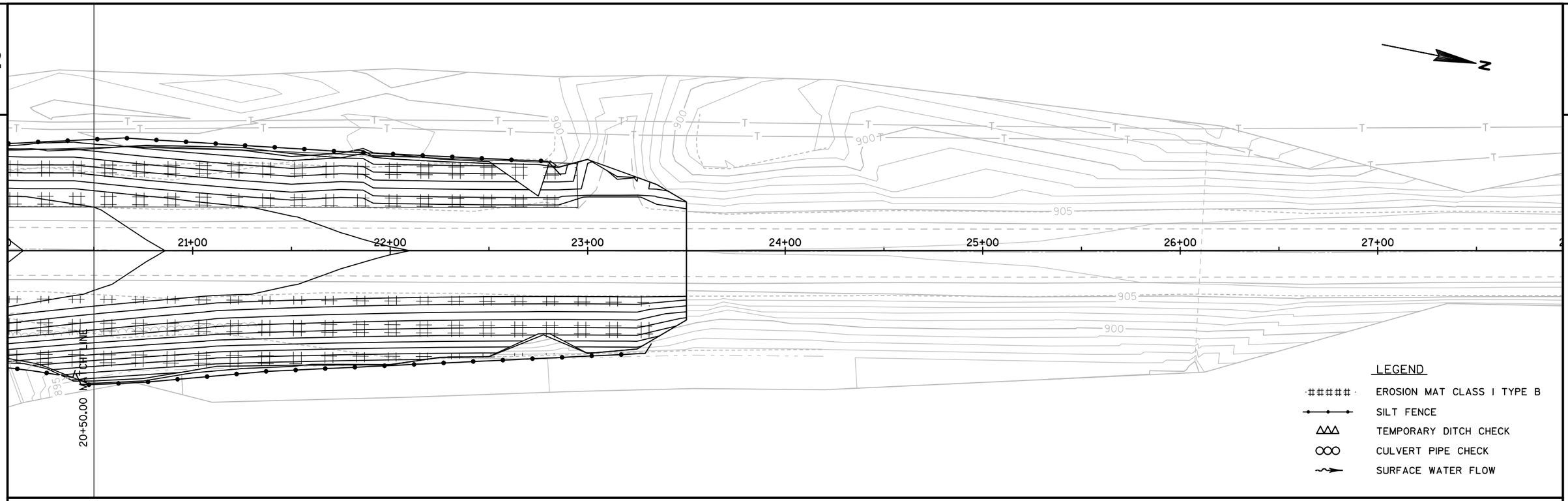
TURBIDITY BARRIER DETAIL

LEGEND

- EROSION MAT CLASS I TYPE B
- SILT FENCE
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW



PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	EROSION CONTROL	SHEET 6 E



PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	EROSION CONTROL	SHEET 7	E

FILE NAME : F:\DRAWINGS\2014-114\0005\81000101\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022002_EC

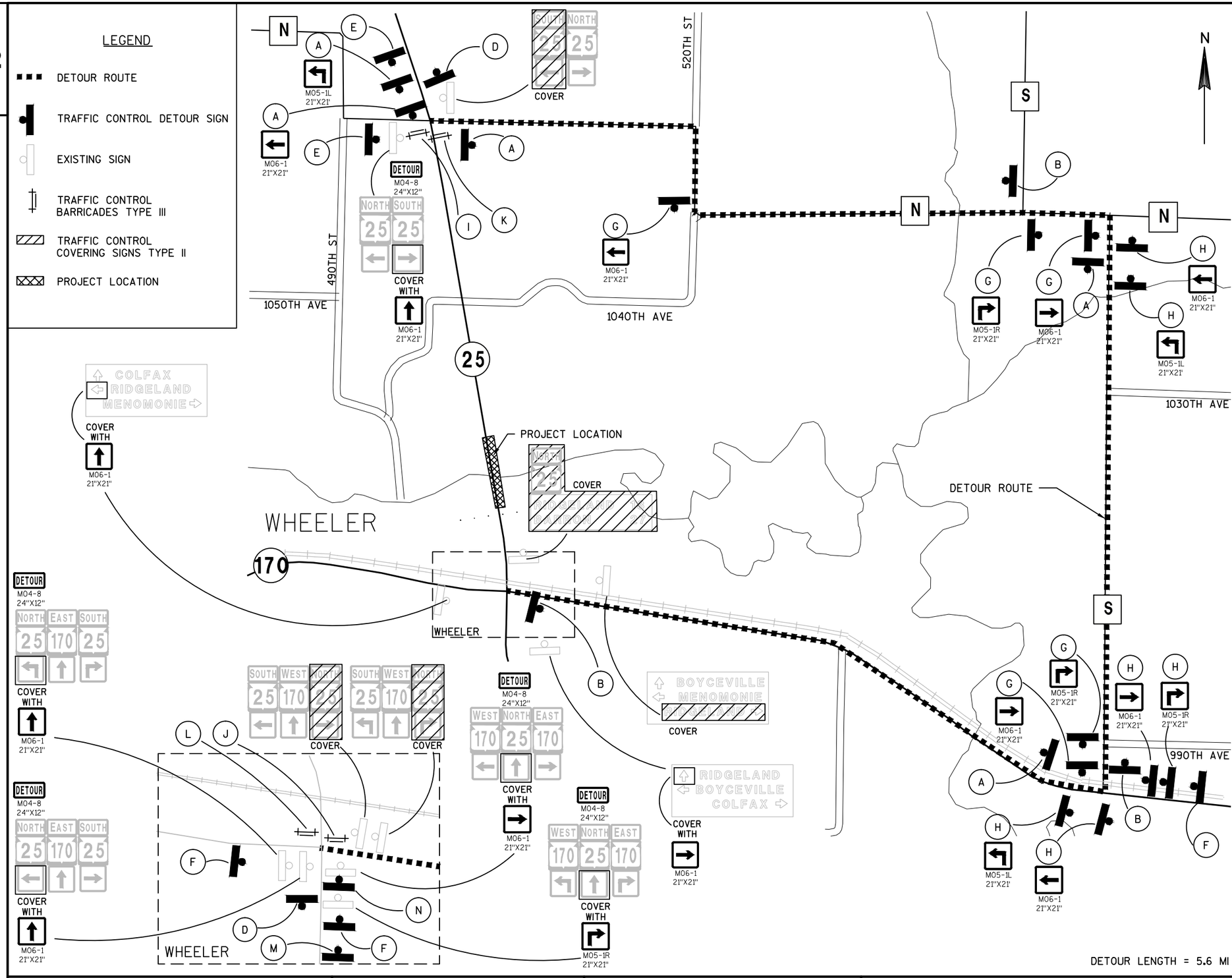
PLOT DATE : 6/27/2018 9:49 AM PLOT BY : MATT GUNDRY PLOT NAME : PLOT SCALE : 1 IN:50 FT

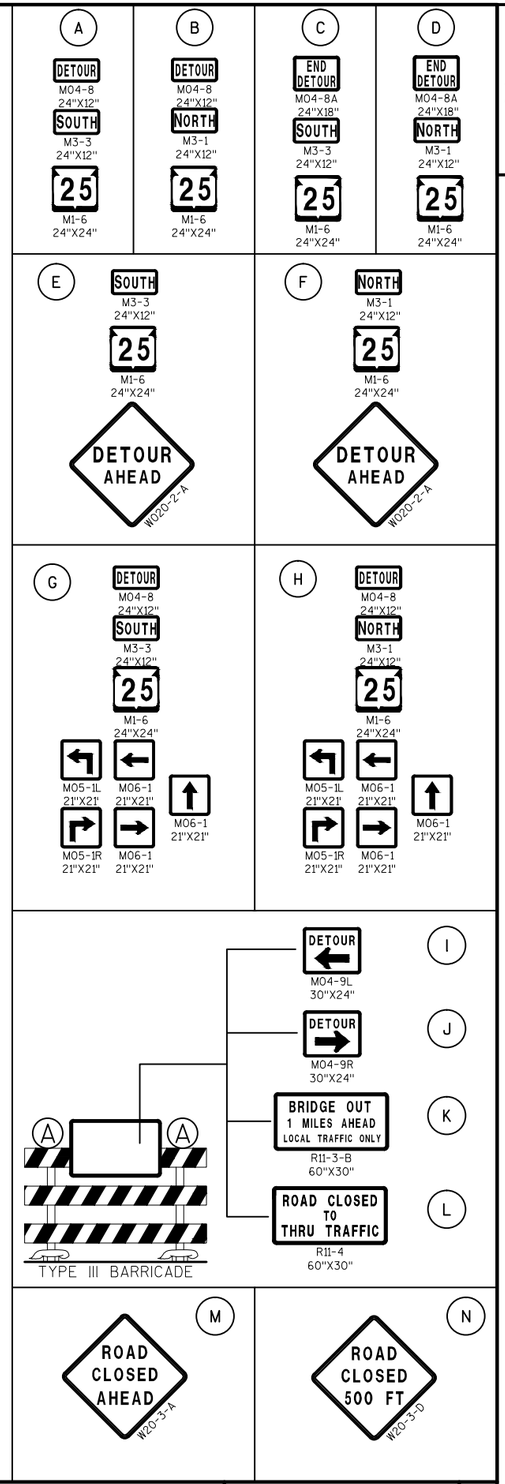
WISDOT/CADDS SHEET 44

2

LEGEND

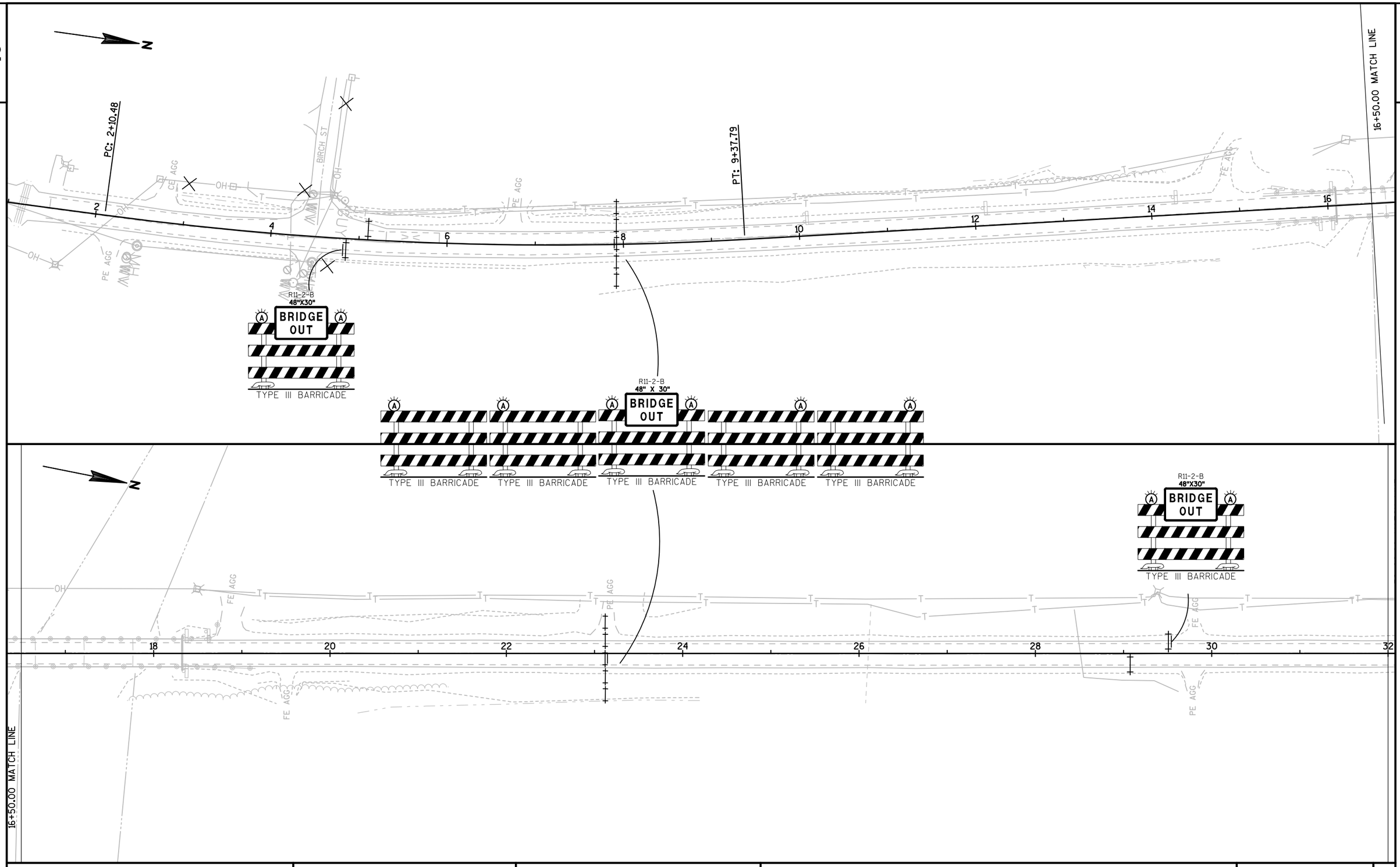
- DETOUR ROUTE
- TRAFFIC CONTROL DETOUR SIGN
- EXISTING SIGN
- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL COVERING SIGNS TYPE II
- PROJECT LOCATION





PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL: DETOUR ROUTE	SHEET 8	E

FILE NAME : F:\PROJECTS\2014-114\0005\DRAWINGS\81000101\SHEETSPLAN\025001_TC.DWG
LAYOUT NAME - 025001_TC
PLOT DATE : 2/1/2018 1:31 PM
PLOT BY : RYAN JARVIS
PLOT NAME :
PLOT SCALE : **********
WISDOT/CADDS SHEET 42

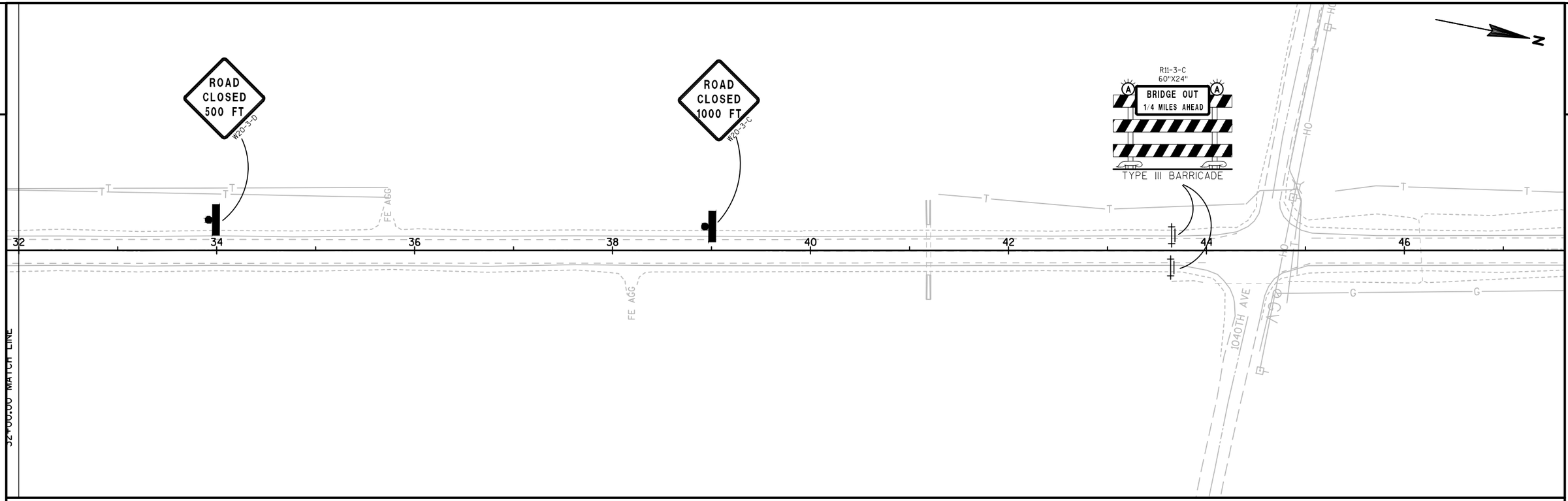


PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL PLAN	SHEET 9	E

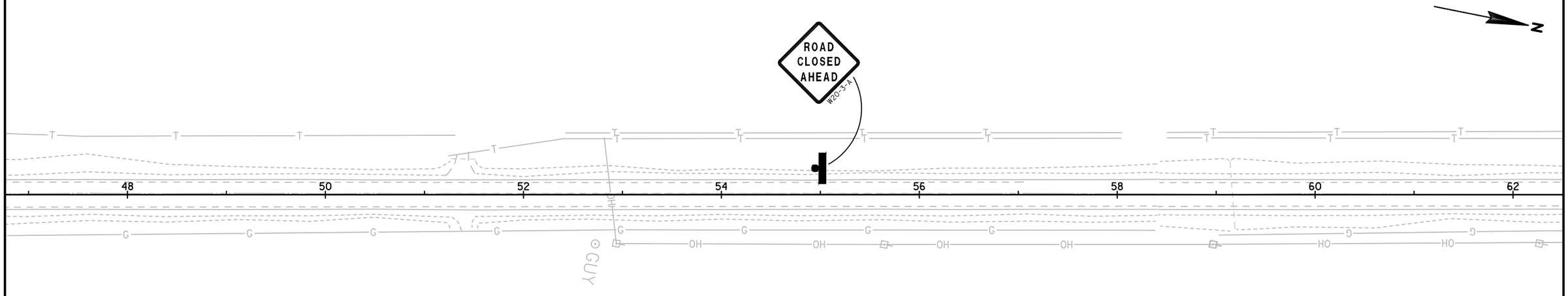
FILE NAME : F:\PROJECTS\2014-114\0005\DRAWINGS\81000101\SHEETSPLAN\025002_TC.DWG
LAYOUT NAME - 025002_TC

PLOT DATE : 2/1/2018 1:31 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



32+00.00 MATCH LINE



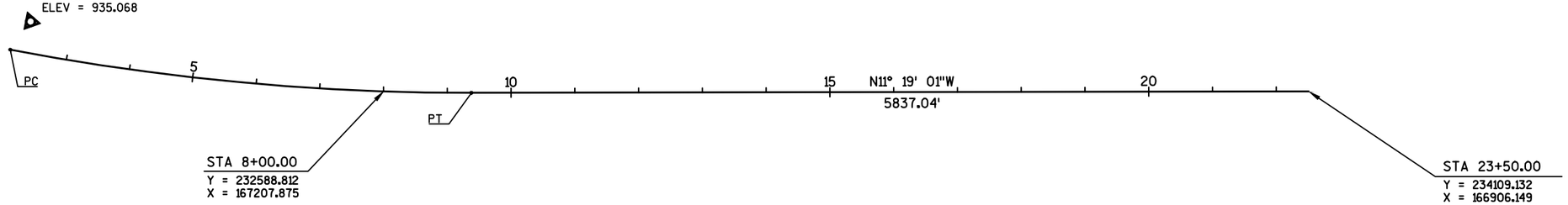
2

PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	TRAFFIC CONTROL	SHEET 10	E

PI STA = 5+75.23
Y = 232366.712
X = 167254.857
DELTA = 10°54'35"
D = 1°30'00"
T = 364.76'
L = 727.31'
R = 3819.72'
PC STA = 2+10.48
Y = 232001.964
X = 167257.451
PT STA = 9+37.79
Y = 232724.378
X = 167183.278
BK = N00°24'26.6"W
AH = N11°19'01.3"W
SE = 3.7%

CP100

STA 2+34.08, 49.19 LT
Y = 232024.915
X = 167208.028
ELEV = 935.068



PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	ALIGNMENT CONTROL	SHEET 11	E

8100-01-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	14.000	14.000
0004	201.0205	Grubbing	STA	14.000	14.000
0006	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 17+21	LS	1.000	1.000
0008	204.0110	Removing Asphaltic Surface	SY	4,450.000	4,450.000
0016	205.0100	Excavation Common	CY	795.000	795.000
0018	206.1000	Excavation for Structures Bridges (structure) 01. B-17-0225	LS	1.000	1.000
0020	208.1100	Select Borrow	CY	13,175.000	13,175.000
0022	210.1100	Backfill Structure Type A	CY	224.000	224.000
0030	213.0100	Finishing Roadway (project) 01. 8100-01-71	EACH	1.000	1.000
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	650.000	650.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	5,244.000	5,244.000
0038	415.0410	Concrete Pavement Approach Slab	SY	126.000	126.000
0040	416.1010	Concrete Surface Drains	CY	6.000	6.000
0042	440.4410	Incentive IRI Ride	DOL	961.000	961.000
0044	450.4000	HMA Cold Weather Paving	TON	1,790.000	1,790.000
0046	455.0605	Tack Coat	GAL	390.000	390.000
0048	460.2000	Incentive Density HMA Pavement	DOL	1,150.000	1,150.000
0056	460.6223	HMA Pavement 3 MT 58-28 S	TON	450.000	450.000
0058	460.6445	HMA Pavement 5 MT 58-34 H	TON	1,340.000	1,340.000
0066	465.0115	Asphaltic Surface Detours	TON	500.000	500.000
0068	465.0315	Asphaltic Flumes	SY	40.000	40.000
0076	502.0100	Concrete Masonry Bridges	CY	891.000	891.000
0078	502.3200	Protective Surface Treatment	SY	1,406.000	1,406.000
0080	502.3210	Pigmented Surface Sealer	SY	234.000	234.000
0082	503.0128	Prestressed Girder Type I 28-Inch	LF	1,912.000	1,912.000
0084	505.0400	Bar Steel Reinforcement HS Structures	LB	6,160.000	6,160.000
0086	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	118,890.000	118,890.000
0088	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	1,600.000	1,600.000
0090	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	64.000	64.000
0092	506.4000	Steel Diaphragms (structure) 01. B-17-0225	EACH	28.000	28.000
0094	516.0500	Rubberized Membrane Waterproofing	SY	24.000	24.000
0108	550.2124	Piling CIP Concrete 12 3/4 X 0.25-Inch	LF	4,920.000	4,920.000
0110	606.0300	Riprap Heavy	CY	410.000	410.000
0112	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	190.000	190.000
0116	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0118	614.0920	Salvaged Rail	LF	305.000	305.000
0120	614.2300	MGS Guardrail 3	LF	150.000	150.000
0122	614.2500	MGS Thrie Beam Transition	LF	158.000	158.000

8100-01-71

Line	Item	Item Description	Unit	Total	Qty
0124	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0128	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8100-01-71	EACH	1.000	1.000
0130	619.1000	Mobilization	EACH	0.670	0.670
0132	624.0100	Water	MGAL	150.000	150.000
0134	625.0500	Salvaged Topsoil	SY	9,000.000	9,000.000
0136	627.0200	Mulching	SY	10,500.000	10,500.000
0138	628.1504	Silt Fence	LF	3,100.000	3,100.000
0140	628.1520	Silt Fence Maintenance	LF	3,100.000	3,100.000
0142	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0144	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0146	628.2004	Erosion Mat Class I Type B	SY	8,800.000	8,800.000
0148	628.6005	Turbidity Barriers	SY	400.000	400.000
0150	628.7504	Temporary Ditch Checks	LF	150.000	150.000
0154	629.0210	Fertilizer Type B	CWT	6.000	6.000
0156	630.0120	Seeding Mixture No. 20	LB	290.000	290.000
0158	630.0200	Seeding Temporary	LB	290.000	290.000
0174	642.5001	Field Office Type B	EACH	0.670	0.670
0176	643.0300	Traffic Control Drums	DAY	200.000	200.000
0180	643.0420	Traffic Control Barricades Type III	DAY	1,800.000	1,800.000
0182	643.0705	Traffic Control Warning Lights Type A	DAY	2,550.000	2,550.000
0186	643.0900	Traffic Control Signs	DAY	10,900.000	10,900.000
0188	643.0920	Traffic Control Covering Signs Type II	EACH	5.000	5.000
0190	643.5000	Traffic Control	EACH	0.500	0.500
0192	645.0111	Geotextile Type DF Schedule A	SY	82.000	82.000
0194	645.0120	Geotextile Type HR	SY	653.000	653.000
0210	650.4500	Construction Staking Subgrade	LF	1,305.000	1,305.000
0212	650.5000	Construction Staking Base	LF	1,305.000	1,305.000
0214	650.6500	Construction Staking Structure Layout (structure) 01. B-17-0225	LS	1.000	1.000
0220	650.9910	Construction Staking Supplemental Control (project) 01. 8100-01-71	LS	1.000	1.000
0222	650.9920	Construction Staking Slope Stakes	LF	1,305.000	1,305.000
0224	690.0150	Sawing Asphalt	LF	60.000	60.000
0226	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0228	715.0502	Incentive Strength Concrete Structures	DOL	5,346.000	5,346.000
0230	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,000.000	2,000.000
0232	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	630.000	630.000

CLEARING AND GRUBBING					
				201.0105 CLEARING	201.0205 GRUBBING
STATION	TO	STATION	LOCATION	STA	STA
8+00	TO	16+00	LT & RT	8	8
18+33	TO	23+50	RT	6	6
ITEM TOTAL				14	14

REMOVING ASPHALTIC SURFACE				204.0110
STATION	TO	STATION	LOCATION	SY
8+00	TO	16+09	MAINLINE	2700
18+33	TO	23+50	MAINLINE	1750
ITEM TOTAL				4450

FINISHING ROADWAY (PROJECT) 8100-01-71				213.0100
STATION	TO	STATION	LOCATION	EACH
8+00	TO	23+50	MAINLINE	1
ITEM TOTAL				1

BASE AGGREGATE DENSE 3/4-INCH				305.0110
STATION	TO	STATION	LOCATION	TON
8+00	TO	16+24	MAINLINE	400
18+68	TO	23+50	MAINLINE	250
ITEM TOTAL				650

BASE AGGREGATE DENSE 1 1/4-INCH				305.0120
STATION	TO	STATION	LOCATION	TON
8+00	TO	16+24	MAINLINE	3050
18+68	TO	23+50	MAINLINE	1825
14+50			FE LT	30
19+25			FE LT	20
19+73			FE RT	25
ITEM TOTAL				4950

CONCRETE PAVEMENT APPROACH SLAB				415.0410
STATION	TO	STATION	LOCATION	SY
15+91	TO	16+06	MAINLINE	63
18+87	TO	19+02	MAINLINE	63
ITEM TOTAL				126

CONCRETE SURFACE DRAINS				416.1010
STATION	TO	STATION	LOCATION	CY
16+00			APPROACH SLAB LT	1.5
16+00			APPROACH SLAB RT	1.5
18+90			APPROACH SLAB LT	1.5
18+90			APPROACH SLAB RT	1.5
ITEM TOTAL				6.0

HMA COLD WEATHER PAVING				450.4000
STATION	TO	STATION	LOCATION	TON
8+00	TO	16+68	MAINLINE	1110
18+68	TO	23+50	MAINLINE	680
ITEM TOTAL				1790

TACK COAT				455.0605
STATION	TO	STATION	LOCATION	GAL
37+50	TO	48+43	MAINLINE	240
50+86	TO	55+00	MAINLINE	150
ITEM TOTAL				390

HMA PAVEMENT 3 MT 58-28 S				460.6223
STATION	TO	STATION	LOCATION	TON
8+00	TO	16+68	MAINLINE	280
18+68	TO	23+50	MAINLINE	170
ITEM TOTAL				450

HMA PAVEMENT 5 MT 58-34 H				460.6445
STATION	TO	STATION	LOCATION	TON
8+00	TO	16+68	MAINLINE	830
18+68	TO	23+50	MAINLINE	510
ITEM TOTAL				1340

ASPHALTIC SURFACE DETOURS	465.0115
LOCATION	TON
DETOUR ROUTE	500
ITEM TOTAL	500

ASPHALT FLUMES				465.0315
STATION	TO	STATION	LOCATION	SY
15+95			MAINLINE	22
18+97			MAINLINE	18
ITEM TOTAL				40

MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 8100-01-71				618.0100
STATION	TO	STATION	LOCATION	EACH
8+00	TO	23+50	PROJECT	1
ITEM TOTAL				1

MOBILIZATION				619.1000	
STATION	TO	STATION	LOCATION	EACH	CATEGORY
8+00	TO	23+50	ROADWAY	0.20	010
17+47			B-17-0225	0.47	020
ITEM TOTAL				0.67	

DIVISION	FROM/TO STATION	LOCATION	EXCAVATION COMMON (ITEM 205.0100) CUT (2)	SALVAGED/ UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13) FACTOR 1.25	MASS ORDINATE +/- (14)	WASTE	SELECT BORROW (ITEM *208.1100)
DIVISION 1	8+00 - 16+27	Mainline	431	0	431	8967	11209	-10778		10778
DIVISION 2	18+64 - 2350	Mainline	364	0	364	2209	2761	-2397		2397
STH 25 Subtotal			795	0	795	11176	13970	-13175	0	13175
GRAND TOTAL			795	0	795	11176	13970	-13175	0	13175

1) Excavation Common is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is not included in Cut.
4) Salvaged/Unsuable Pavement Material
5) Available Material = Cut
13) Expanded Fill. Factor = 1.25

$$\text{Expanded Fill} = \text{Unexpanded Fill} * \text{Fill Factor}$$

14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

WATER				624.0100
STATION	TO	STATION	LOCATION	MGAL
8+00	TO	23+50	COMPACTION	75
8+00	TO	23+50	DUST CONTROL	75
ITEM TOTAL				150

SILT FENCE & SILT FENCE MAINTENANCE					
STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
8+00	TO	16+09	LT & RT	1710	1710
18+33	TO	23+50	LT & RT	1160	1160
UNDISTRIBUTED				230	230
ITEM TOTAL				3100	3100

MOBILIZATIONS EROSION CONTROL				628.1905
STATION	TO	STATION	LOCATION	EACH
8+00	TO	23+50	PROJECT	3
ITEM TOTAL				3

MOBILIZATIONS EMERGENCY EROSION CONTROL				628.1910
STATION	TO	STATION	LOCATION	EACH
8+00	TO	23+50	PROJECT	4
ITEM TOTAL				4

EROSION MAT CLASS I TYPE B				628.2004
STATION	TO	STATION	LOCATION	SY
8+00	TO	16+09		6200
18+33	TO	23+50		2100
UNDISTRIBUTED				500
ITEM TOTAL				8800

TURBIDITY BARRIERS			628.6005
STATION TO STATION		LOCATION	SY
16+24		SOUTH BANK	180
18+33		NORTH BANK	180
UNDISTRIBUTED			40
ITEM TOTAL			400

TEMPORARY DITCH CHECKS			628.7504
STATION	TO	STATION	LOCATION	LF
14+50			FE LT	60
19+73			FE RT	60
UNDISTRIBUTED				30
ITEM TOTAL				150

GUARDRAIL SUMMARY							
STATION	TO	STATION	LOCATION	614.0920 SALVAGE RAIL LF	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
14+54	TO	16+06	RT	--	62.5	39.4	1
15+04	TO	16+06	LT	--	12.5	39.4	1
18+87	TO	19+90	RT	--	12.5	39.4	1
18+87	TO	20+40	LT	--	62.5	39.4	1
15+27	TO	16+09	LT & RT	165	--	--	--
18+33	TO	19+15	LT & RT	140	--	--	--
ITEM TOTAL				305	150	158	4

SALVAGED TOPSOIL, MULCHING, FERTILIZING, & SEEDING								
STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LBS	630.0200 SEEDING TEMPORARY LB
8+00	TO	16+24	LT & RT	6300	7220	4.0	190	190
18+86	TO	23+50	LT & RT	2160	2680	1.5	80	80
UNDISTRIBUTED				540	600	0.5	20	20
ITEM TOTAL				9000	10500	6.0	290	290

*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

FIELD OFFICE TYPE B		642.5001
STATION TO STATION	LOCATION	EACH
8+00 TO 23+50	PROJECT	0.67
ITEM TOTAL		0.67

SAWING ASPHALT		690.0150
STATION TO STATION	LOCATION	LF
8+00	PROJECT LIMITS	30
23+50	PROJECT LIMITS	30
ITEM TOTAL		60

TRAFFIC CONTROL ITEMS							
LOCATION	LOCATION	643.5000 TRAFFIC CONTROL EACH	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II (ONE CYCLE) EACH
STH 125	SEE TRAFFIC CONTROL SHEETS	0.5	200	1440	1800	900	--
DETOUR ROUTE	SEE TRAFFIC CONTROL SHEETS	--	--	360	750	10000	5
ITEM TOTAL		0.5	200	1800	2550	10900	5

CONSTRUCTION STAKING							
STATION TO STATION	LOCATION	650.4500 CATEGORY 010 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CATEGORY 010 CONSTRUCTION STAKING BASE LF	650.6500 CATEGORY 020 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) B-55-258 LS	650.9910 CATEGORY 010 CONSTRUCTION STAKING SUPPLIMENTAL CONTROL (PROJECT) 8100-01-71 LS	650.9920 CATEGORY 010 CONSTRUCTION STAKING SLOPE STAKES LF	CATEGORY
8+00 TO 23+50	STH 25	1305	1305	--	1	1305	010
18+33 TO 23+50	B-17-225	--	--	1	--	--	020
ITEM TOTAL		1305	1305	1	1	1305	

WETLAND IMPACT SUMMARY

SHEET TOTAL

WETLAND IMPACT: RPF - 0.175 ACRES

PROJECT TOTAL

WETLAND IMPACT: RPF - 0.175 ACRES
WETLAND IMPACT: OB - 0.049 ACRES

PI STA = 5+75.23
Y = 232366.712
X = 167254.857
DELTA = 10°54'35"
D = 1°30'00"
T = 364.76'
L = 727.31'
R = 3819.72'
PC STA = 2+10.48
Y = 232001.964
X = 167257.451
PT STA = 9+37.79
Y = 232724.378
X = 167183.278
BK = N00°24'26.6"W
AH = N11°19'01.3"W

PT: 9+37.79

30 LF SAWING ASPHALT

55'

EXIST R/W

STH 25

EXIST R/W

45'

150'

WETLAND IMPACT RPF:
0.065 AC

WETLAND BOUNDARY

N11° 19' 01"W
5837.04'

PROPOSED R/W

EXIST R/W

SLOPE INTERCEPT

90'

WETLAND IMPACT RPF:
0.100 AC

PROPOSED R/W

EXIST R/W

BEGIN PROJECT
STA 8+00.00
Y = 232588.812
X = 167207.875

STA 15+04 TO STA 16+06 LT
12.5 LF MGS GUARDRAIL 3
39.4 LF MGS THRIE BEAM TRANSITION
1 EA MGS GUARDRAIL TERMINAL EAT

STA 15+27 - STA 16+09 LT & RT
165 LF SALVAGED RAIL

HAY RIVER

N

19+00.00 MATCH LINE

SLOPE INTERCEPT

WETLAND BOUNDARY

WETLAND IMPACT RPF:
0.010 AC

PROPOSED STRUCTURE
B-17-0225

END OF DECK
STA 16+26.00

END OF APPROACH
SLAB STA 16+06.00

WETLAND BOUNDARY

STATION 17+21
REMOVE STRUCTURE B-17-0607
4-SPAN STEEL DECK GIRDER
223.4' OVERALL LENGTH
32' OVERALL WIDTH

STA 15+91 TO 16+06
CONSTRUCT CONCRETE APPROACH SLAB

STA 16+00 LT & RT
CONSTRUCT CONCRETE SURFACE DRAINS
ASPHALT FLUMES REQ'D

STA 14+54 TO STA 16+06 RT
62.5 LF MGS GUARDRAIL 3
39.4 LF MGS THRIE BEAM TRANSITION
1 EA MGS GUARDRAIL TERMINAL EAT

TRANSITION TABLE		
CROWN	STATIONS	CROWN
-0.020	0+90.96	-0.020
-0.020	1+04.36	-0.015
-0.020	1+17.72	-0.010
-0.020	1+31.10	-0.005
-0.020	1+44.48	0.000
-0.020	1+56.50	0.005
-0.020	1+71.24	0.010
-0.020	1+84.61	0.015
-0.020	1+97.99	0.020
-0.025	2+11.37	0.025
-0.030	2+24.75	0.030
-0.035	2+38.13	0.035
-0.037	2+43.48	0.037

TRANSITION TABLE		
CROWN	STATIONS	CROWN
-0.037	9+04.8	0.037
-0.035	9+10.15	0.035
-0.030	9+23.53	0.030
-0.025	9+36.90	0.025
-0.020	9+50.28	0.020
-0.020	9+63.66	0.015
-0.020	9+77.04	0.010
-0.020	9+91.77	0.005
-0.020	10+03.80	0.000
-0.020	10+17.17	-0.005
-0.020	10+30.55	-0.010
-0.020	10+43.93	-0.015
-0.020	10+57.31	-0.020

STA 7+50.00
EL 923.77
-4.08%

VCL = 600.00
K = 138.28

VPC STA 8+00.00
VPC EL 921.73

VPI STA 11+00.00
VPI EL 909.50

VPT STA 14+00.00
VPT EL 910.28

VPC STA 16+00.00
VPC EL 910.81

VPI STA 18+00.00
VPI EL 911.33

PROPOSED PROFILE

EXISTING PROFILE

PROPOSED STRUCTURE
B-17-0225

0.26%

VCL = 400.00
K = 220.25

| | | |

STA 18+87 TO STA 20+40 LT
62.5 LF MGS GUARDRAIL 3
39.4 LF MGS THRIE BEAM TRANSITION
1 EA MGS GUARDRAIL TERMINAL EAT

STA 18+33 - STA 19+15 LT & RT
140 LF SALVAGED RAIL

END OF DECK
STA 18+67.25

SLOPE INTERCEPT

150'

EXIST R/W

30LF SAWING APHALT

18 20 22 24 26 STH 25 28 30 N11° 19' 01"W 32

5837.04'

WETLAND BOUNDARY

END OF APPROACH
SLAB STA 18+87.25

WETLAND IMPACT OB:
0.049 AC

SLOPE INTERCEPT

EXIST R/W

19+00.00 MATCH LINE

END PROJECT
STA 23+50.00
Y = 234109.132
X = 166906.149

STA 18+87 TO 19+02
CONSTRUCT CONCRETE APPROACH SLAB

STA 18+90 LT & RT
CONSTRUCT CONCRETE SURFACE DRAINS
ASPHALT FLUMES REQ'D

STA 18+87 TO STA 19+90 RT
12.5 LF MGS GUARDRAIL 3
39.4 LF MGS THRIE BEAM TRANSITION
1 EA MGS GUARDRAIL TERMINAL EAT

WETLAND IMPACT SUMMARY

SHEET TOTAL

WETLAND IMPACT: OB - 0.049 ACRES

PROJECT TOTAL

WETLAND IMPACT: RPF - 0.175 ACRES
WETLAND IMPACT: OB - 0.049 ACRES

VPI STA 18+00.00
VPI EL 911.33

VPT STA 20+00.00
VPT EL 908.22

VCL = 300.00
K = 164.65

STA 23+50.00
EL 905.97

PROPOSED PROFILE

-1.55%

0.27%

EXISTING PROFILE

VCL = 400.00
K = 220.25

VPC STA 20+25.00
VPC EL 907.83

VPI STA 21+75.00
VPI EL 905.50

VPT STA 23+25.00
VPT EL 905.90

18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
898.05	907.24	906.89	906.37	906.07	905.90	905.80	905.62	905.59	905.67	905.84	905.97	906.03	906.05	906.10	906.22	906.41	906.59	906.77	906.88	906.81	906.70	906.62	906.69	906.66	906.63	906.59	906.67	906.70	906.70	906.80
909.50	909.06	908.54	907.94	907.33	906.72	906.20	905.86	905.71	905.73	905.84																				

PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	PLAN AND PROFILE: STH 25	SHEET 18	E

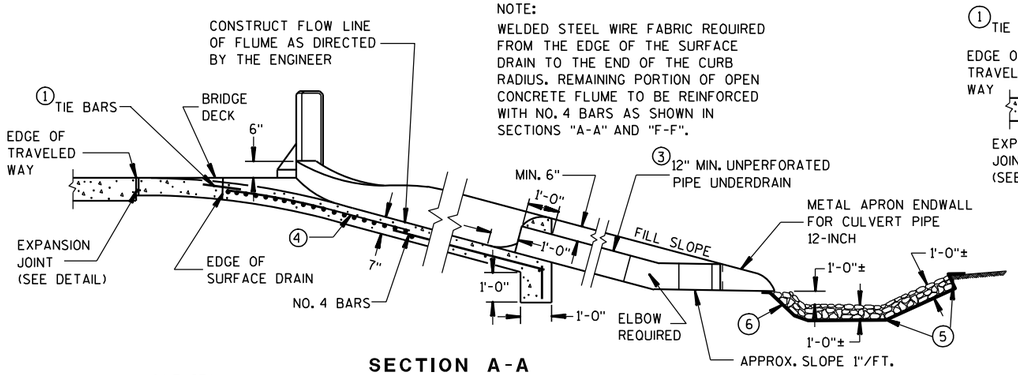
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PLOT DATE : 2/1/2018 1:34 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:100 FT

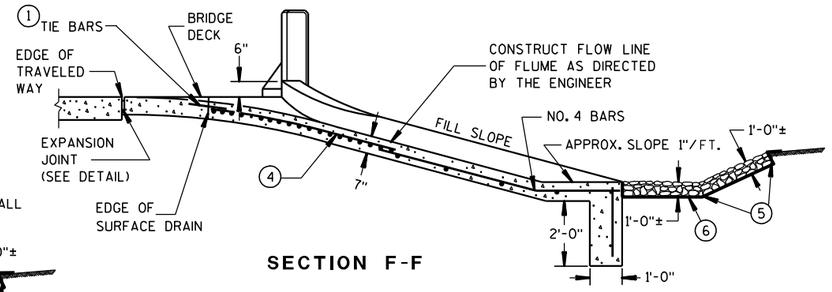
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13B02-08B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
14B42-05A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-05B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-05C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-05D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-03A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-03B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-03C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



SECTION A-A



SECTION F-F

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.

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

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PIPE UNDERDRAIN MAY BE ANY OF THE MATERIALS LISTED IN SECTION 612.2 OF THE STANDARD SPECIFICATIONS EXCEPT DRAIN TILE.

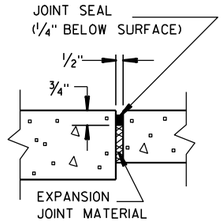
(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

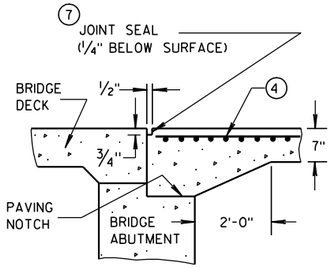
(6) GEOTEXTILE FABRIC, TYPE 'R"

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

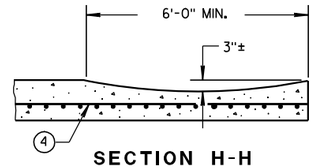
(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".



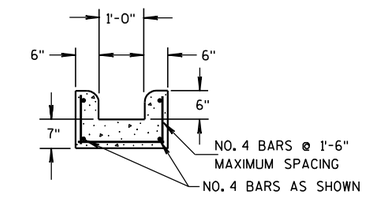
EXPANSION JOINT DETAIL



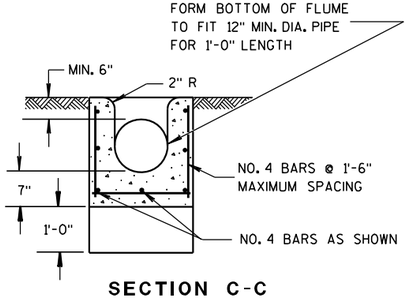
SECTION D-D



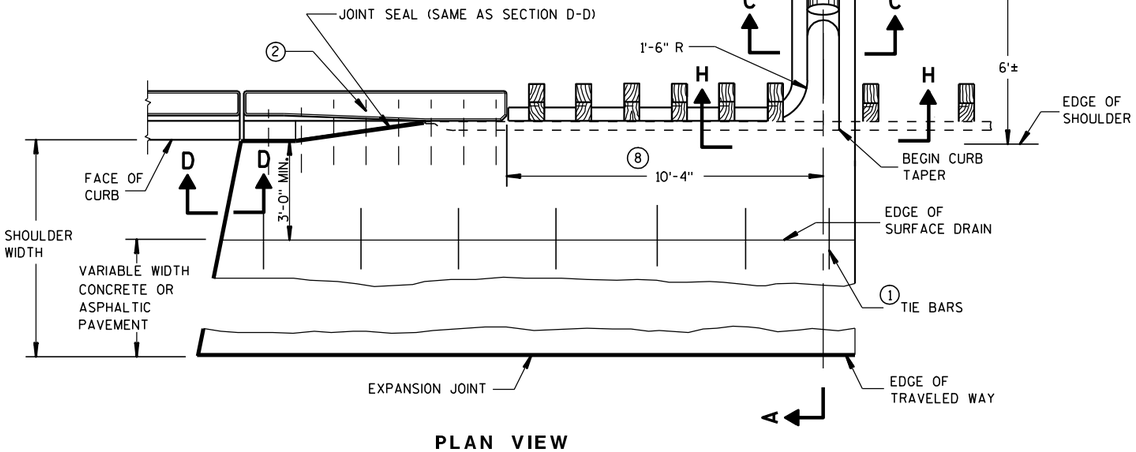
SECTION H-H



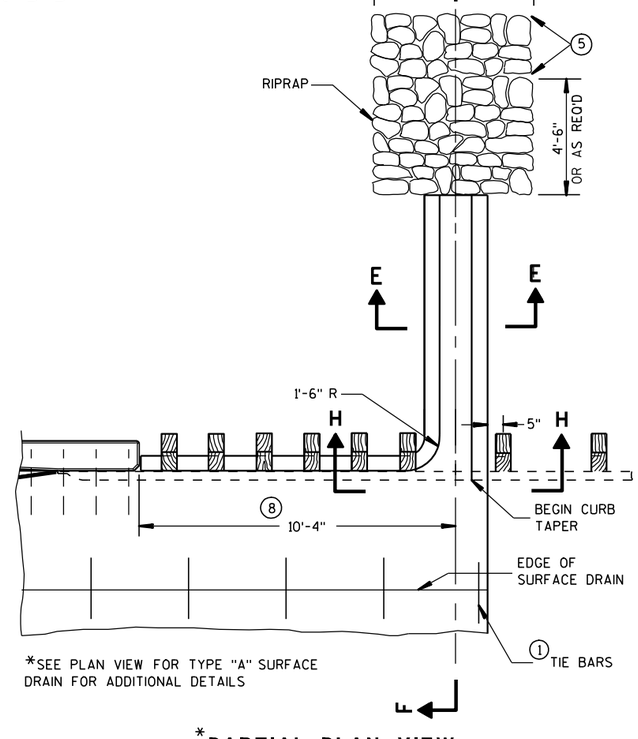
SECTION E-E



SECTION C-C

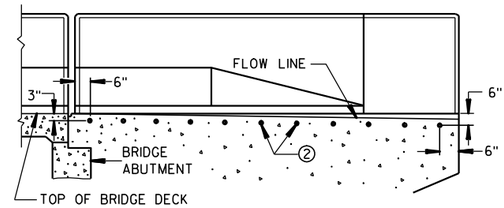


PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"



*SEE PLAN VIEW FOR TYPE "A" SURFACE DRAIN FOR ADDITIONAL DETAILS

*PARTIAL PLAN VIEW
SURFACE DRAIN WITHOUT PIPE
TYPE "B"



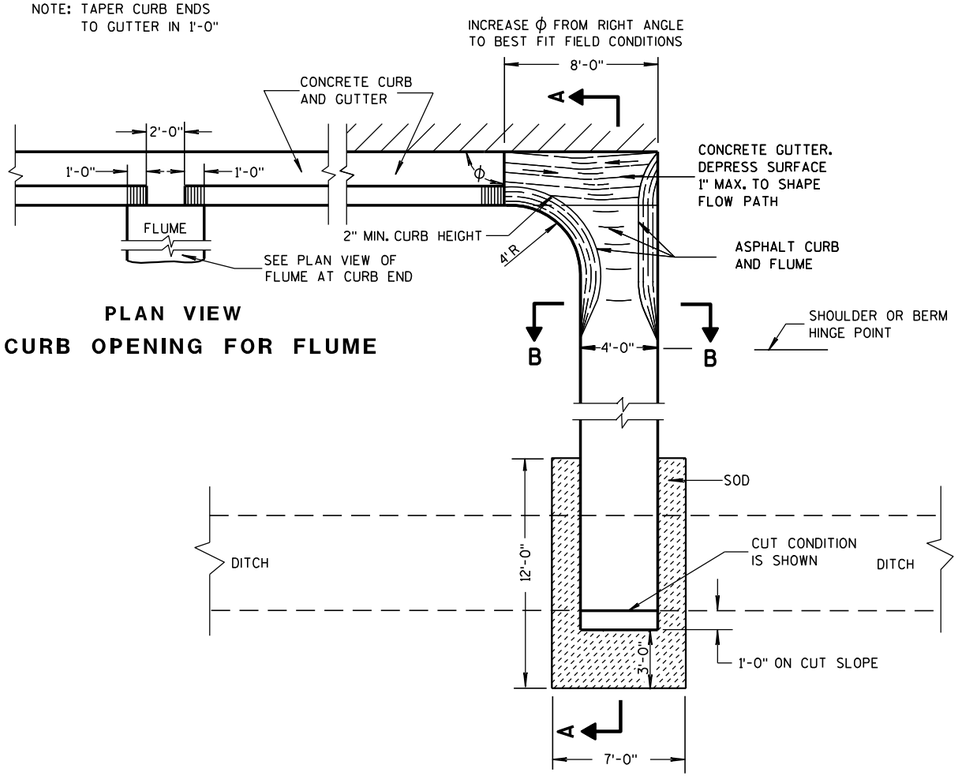
LOCATION OF
TIE BARS IN WINGWALL

CONCRETE SURFACE DRAINS
FLUME TYPE
AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

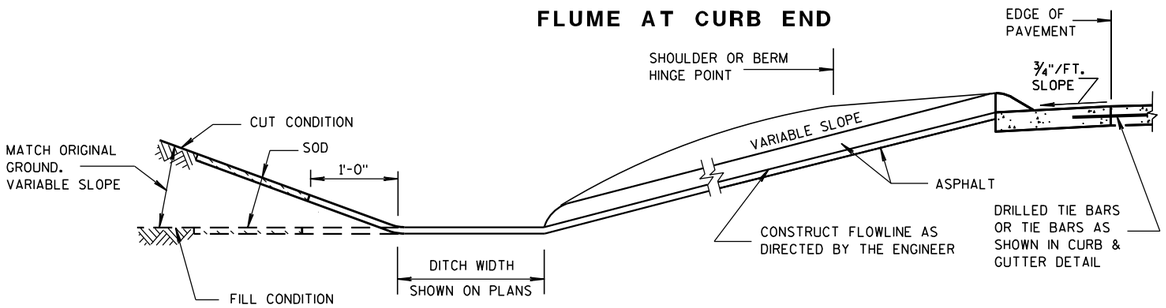
APPROVED
9/4/08
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

ASPHALTIC FLUME

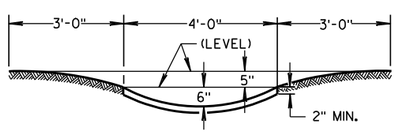


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

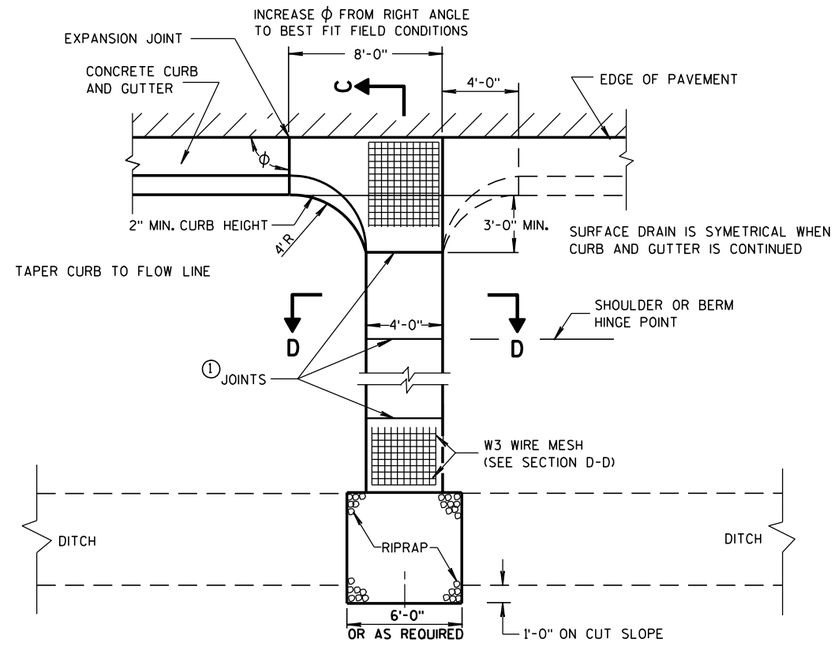
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE ⅛ TO ¼ INCH WIDE BY 1½ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

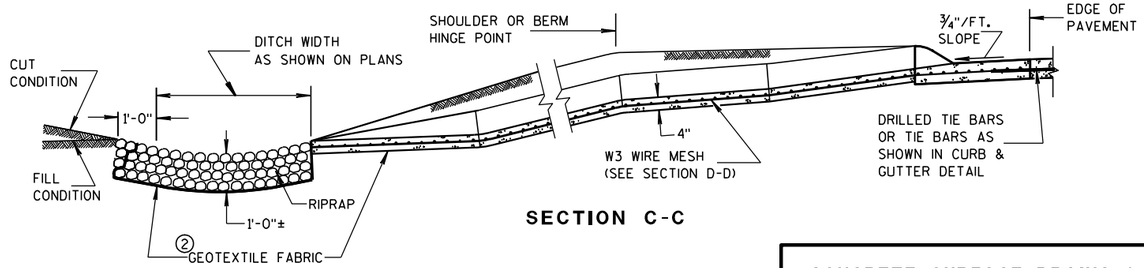
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

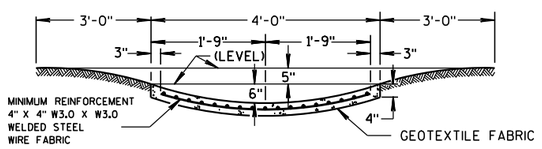
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
MENT

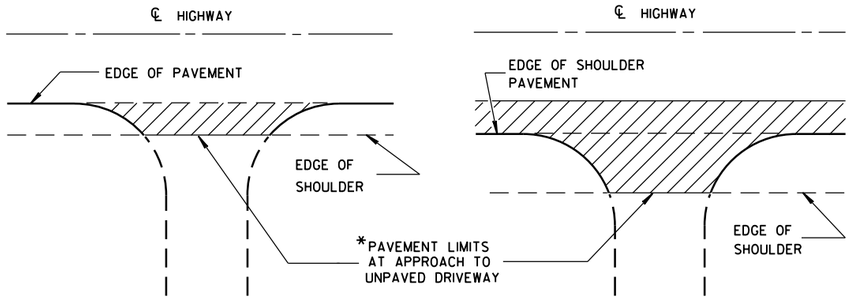
FHWA

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S.D.D. 8 D 4-5

6

S.D.D. 8 D 4-5

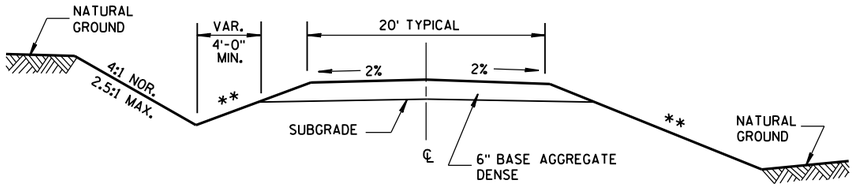


*WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT.

PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB & GUTTER OR SIDEWALK)

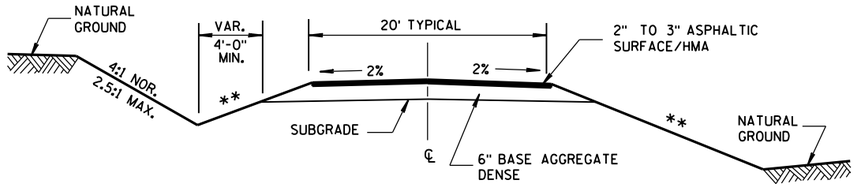


IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

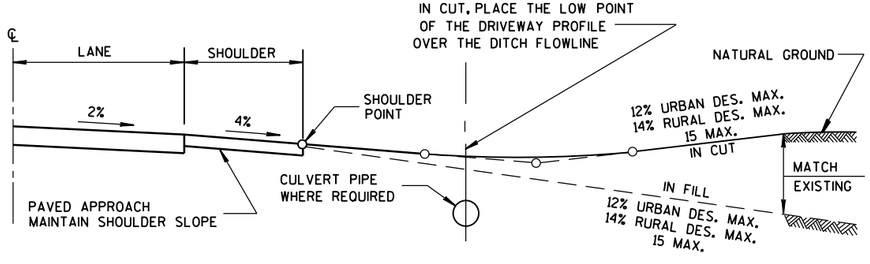
** SLOPE CAN VARY WITH SPEED. SEE 11-45-2.6.2.

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



IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE



TYPICAL DRIVEWAY PROFILES

DRIVEWAYS WITHOUT CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

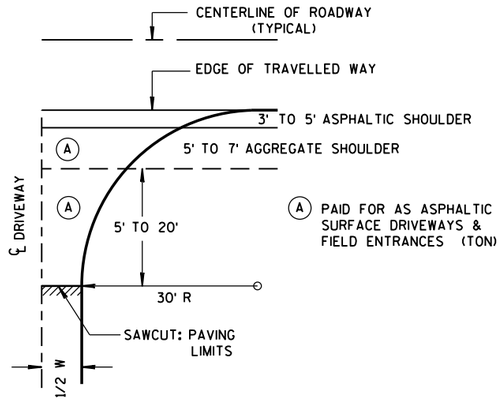
APPROVED
December, 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS UNIT SUPERV
FHWA

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S.D.D. 8 D 21-1

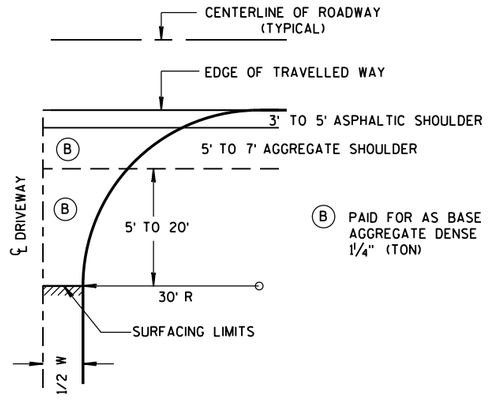
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S.D.D. 8 D 21-1



PLAN VIEW
HALF SECTION

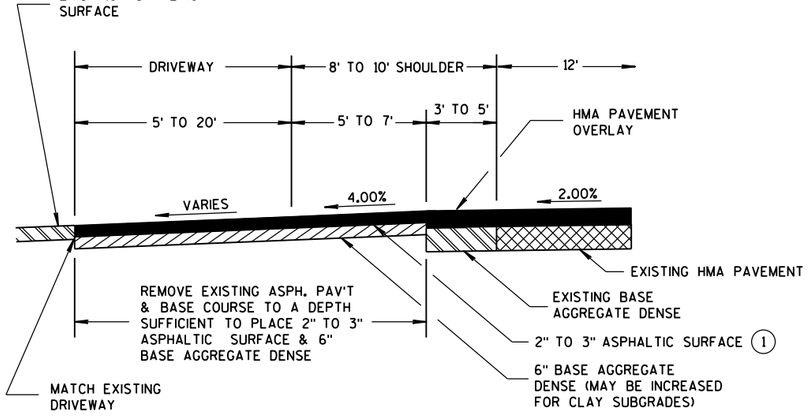
W MIN. = 16'
W MAX. = 24'



PLAN VIEW
HALF SECTION

GENERAL NOTES

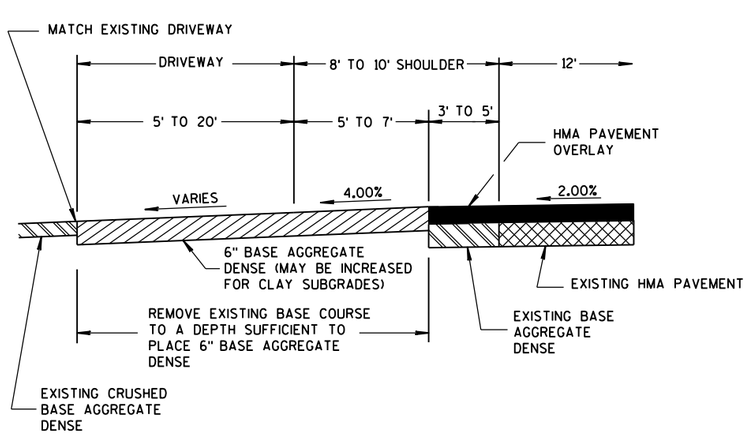
(1) DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.



PROFILE VIEW

RURAL ENTRANCE WITH ASPHALTIC SURFACE

RESURFACING PROJECTS



PROFILE VIEW

RURAL ENTRANCE WITH AGGREGATE SURFACE

6" BASE AGGREGATE DENSE
RESURFACING PROJECTS

DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

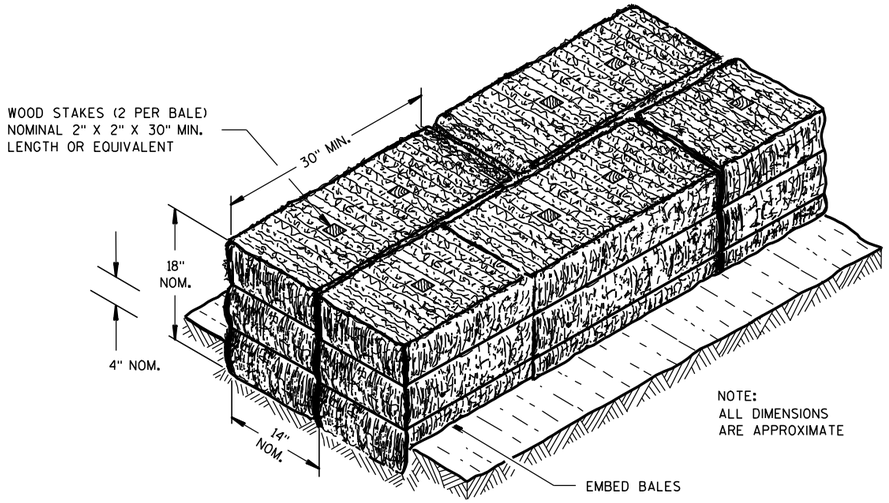
APPROVED
December, 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERV
ENT
FHWA

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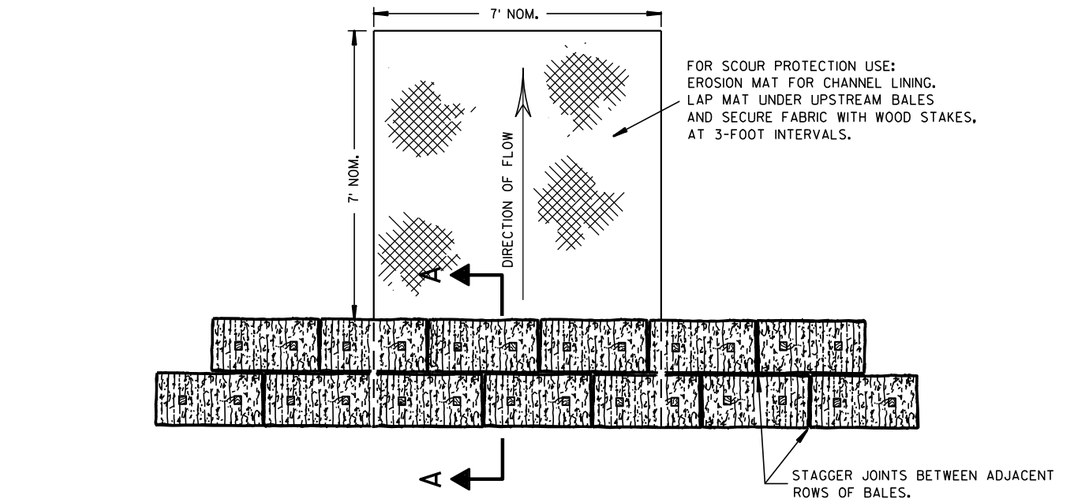
S.D.D. 8 D 22-1

6

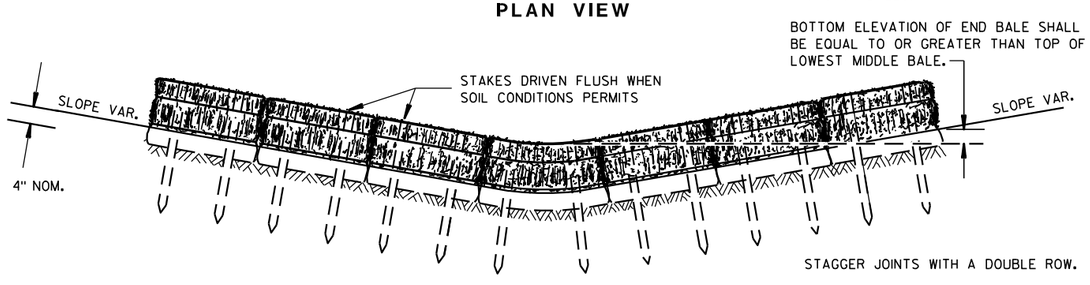
S.D.D. 8 D 22-1



SECTION A-A



PLAN VIEW



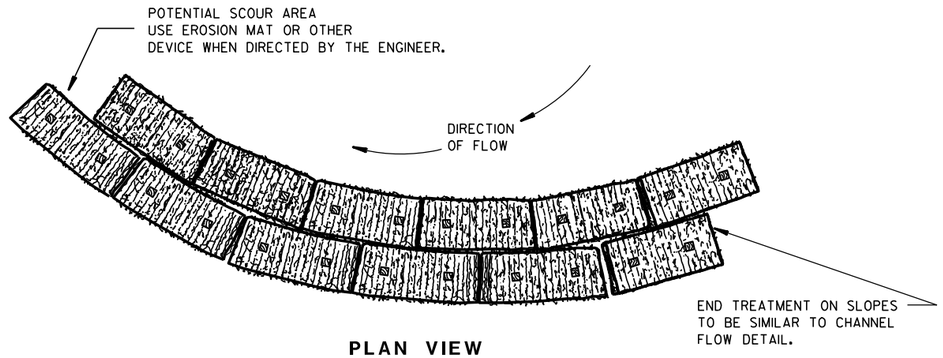
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

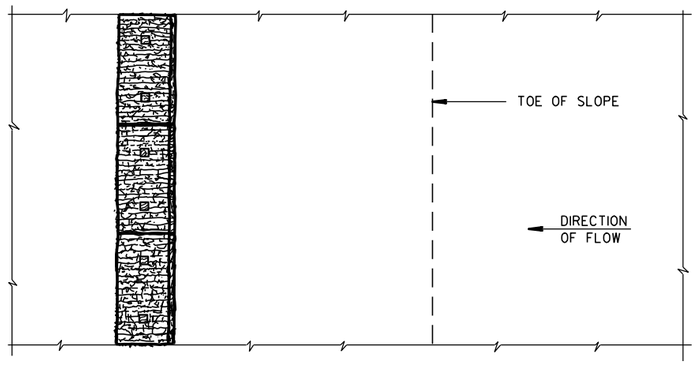
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

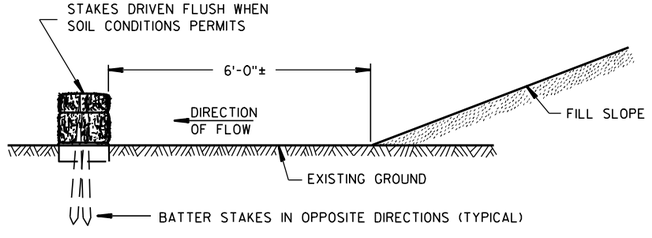


PLAN VIEW

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

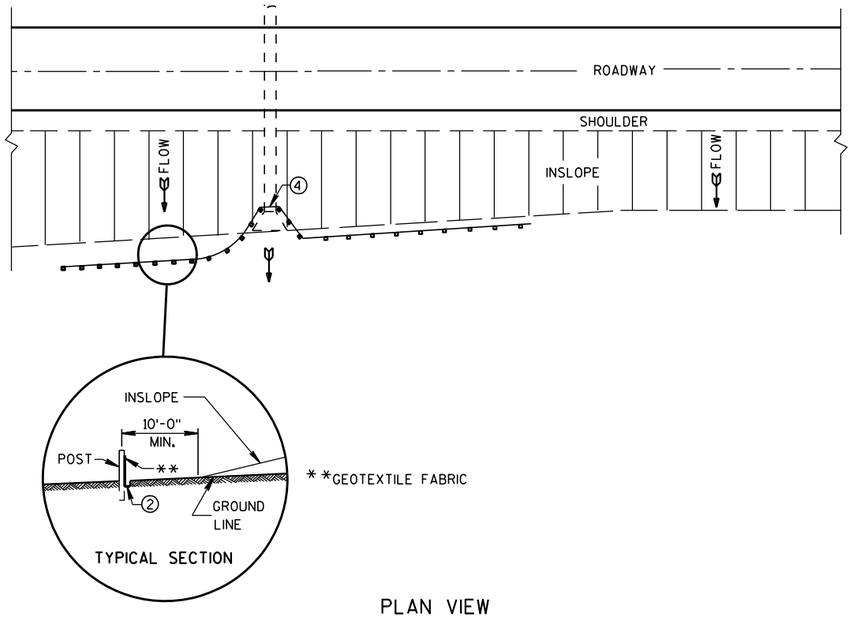
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

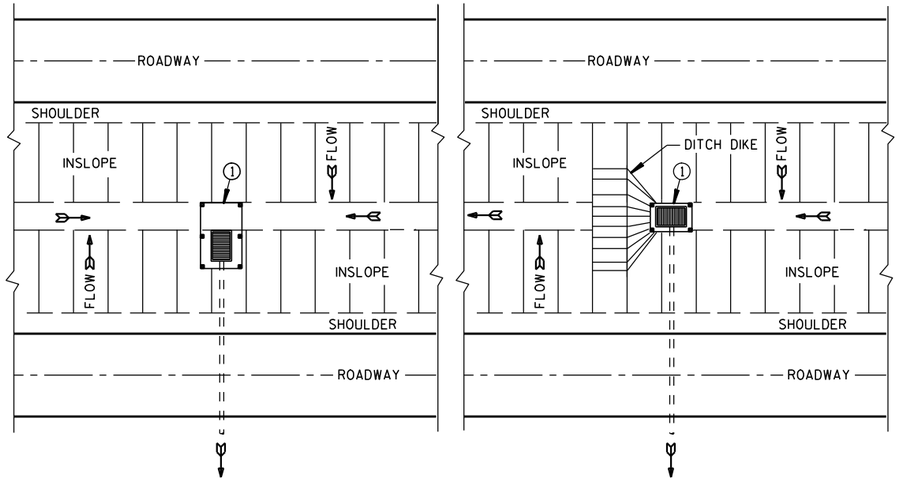
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S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



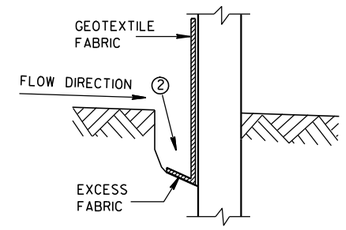
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

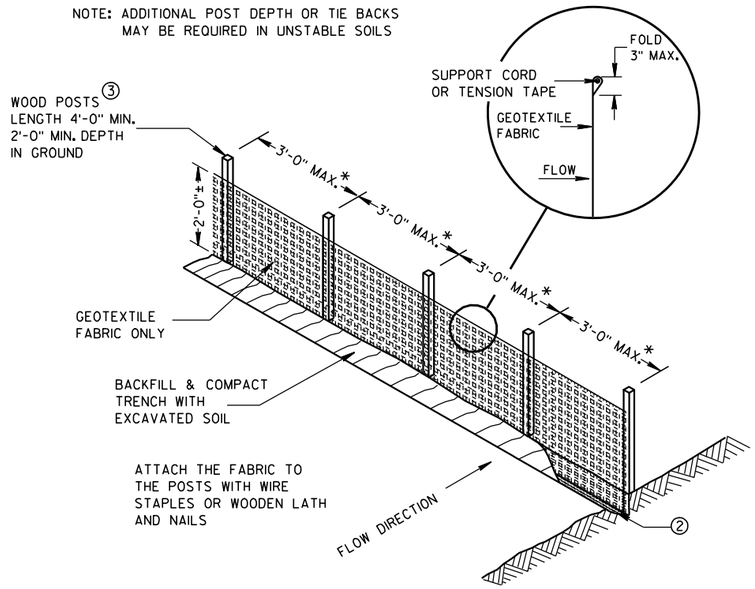
GENERAL NOTES

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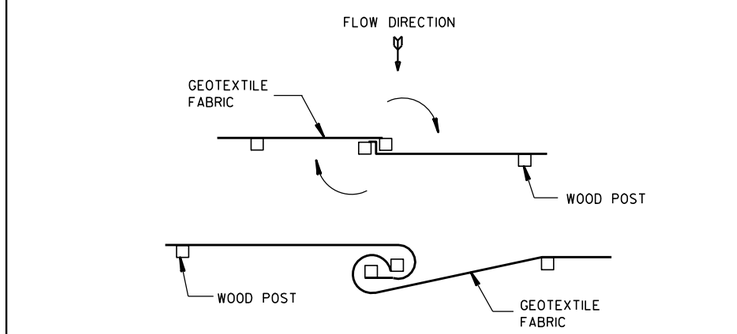
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL 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.



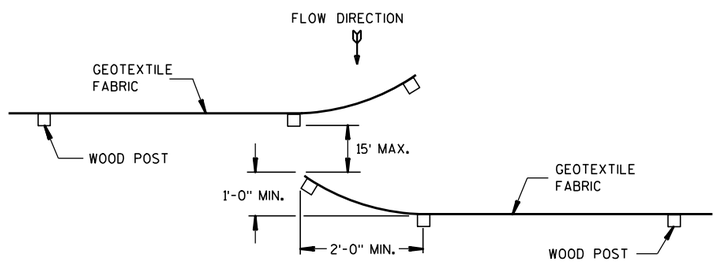
TRENCH DETAIL



SILT FENCE

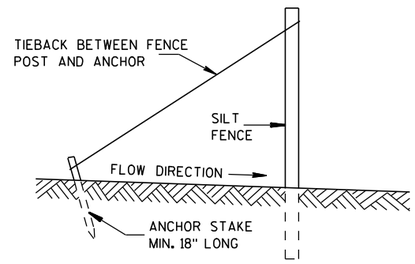


TWIST METHOD



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

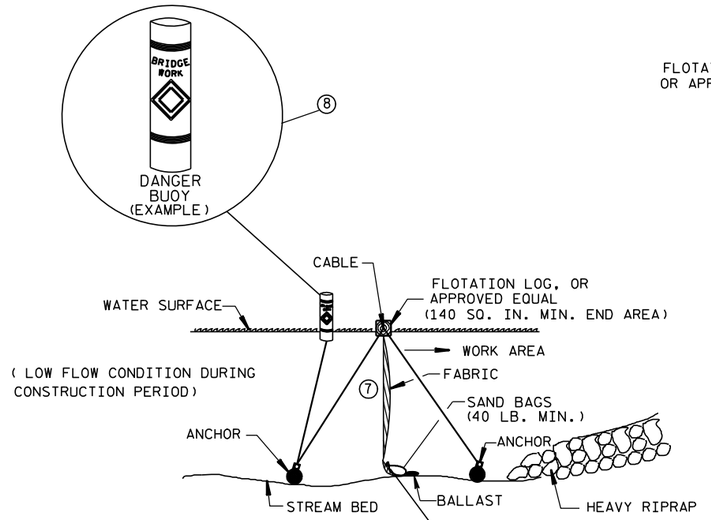
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

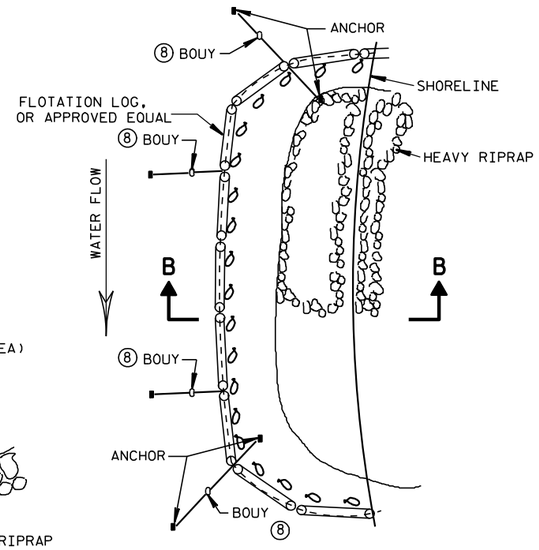
S.D.D. 8 E 9-6

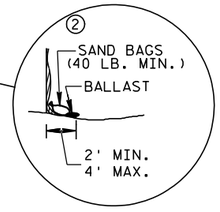
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S.D.D. 8 E 9-6

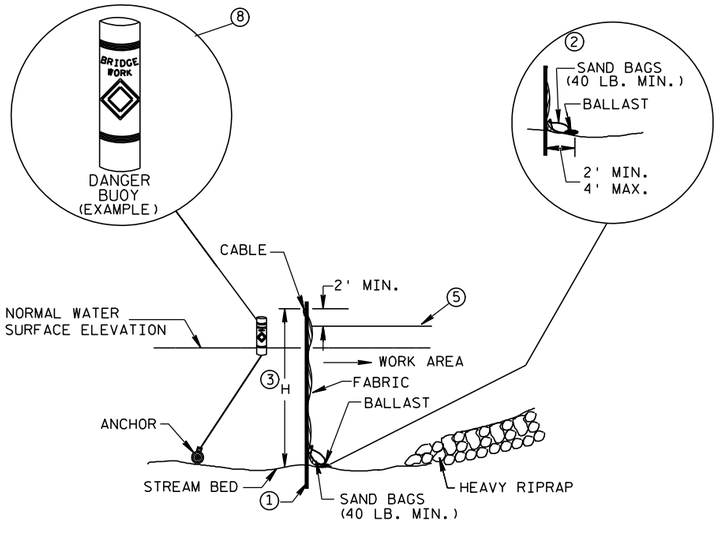


SECTION B-B

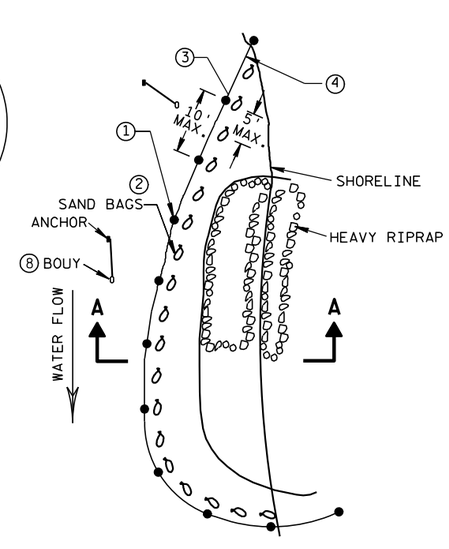




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



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 SANDBAGS 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 FT., POST SPACING MAY NEED TO BE DECREASED.

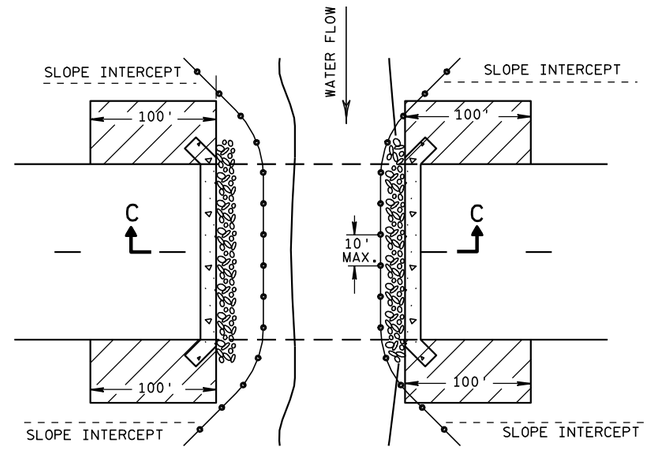
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

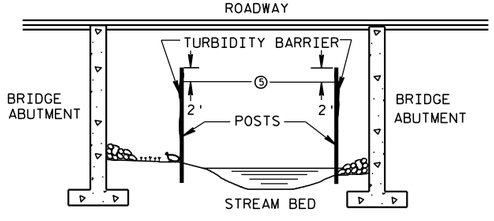
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

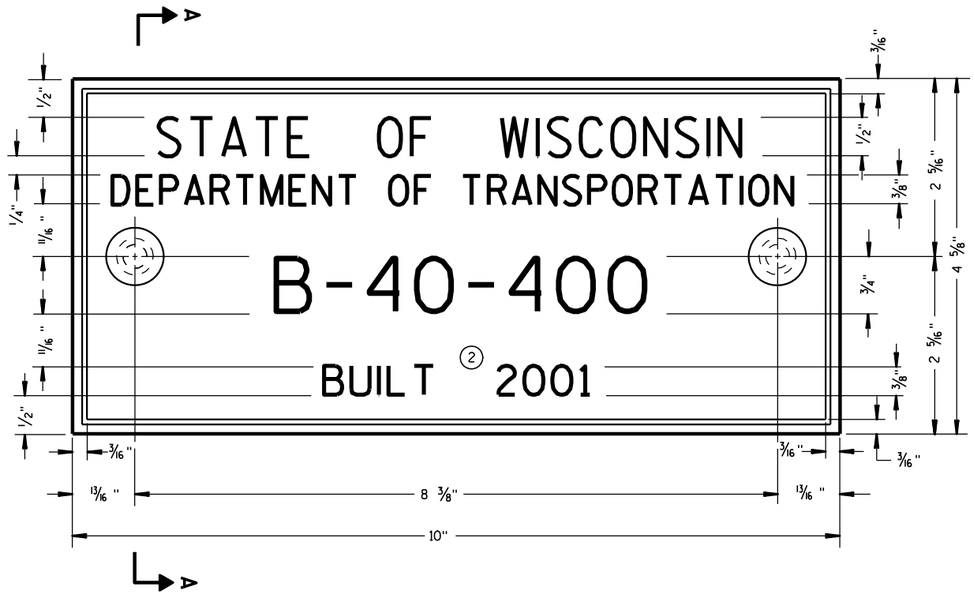
APPROVED
6/04/02 DATE
/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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S.D.D. 8 E 11-2

6

S.D.D. 8 E 11-2



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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

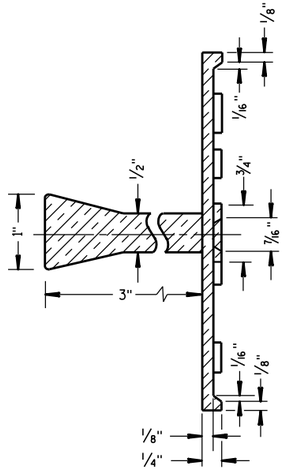
GENERAL NOTES

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.

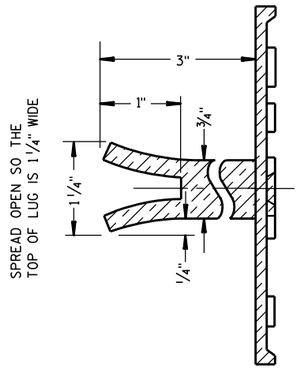
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

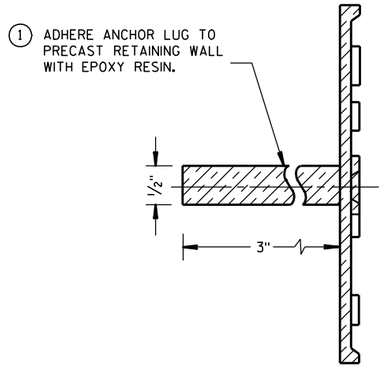
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



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 DEVELOPMENT ENGINEER

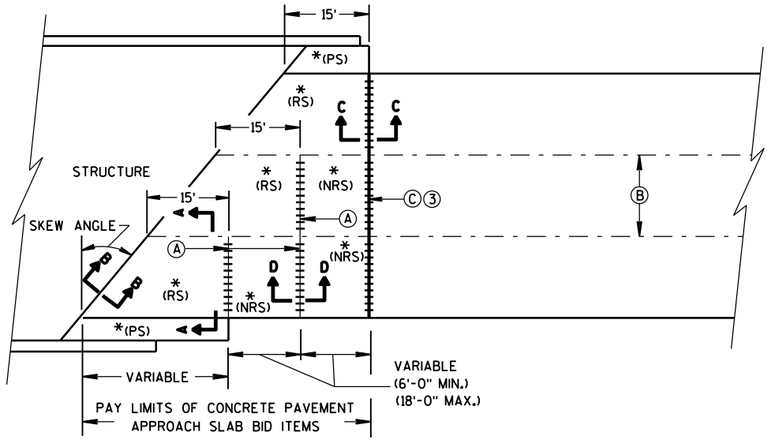
FHWA

6

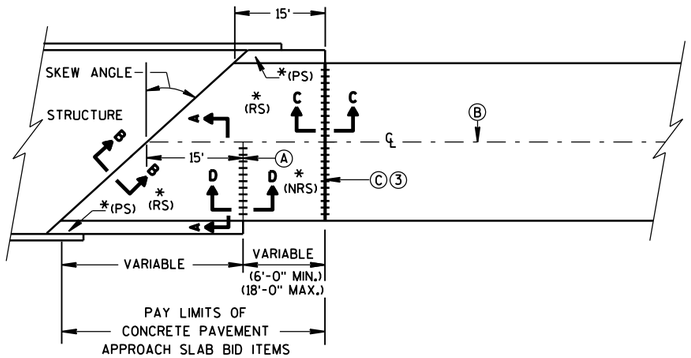
S.D.D. 12 A 3-10

6

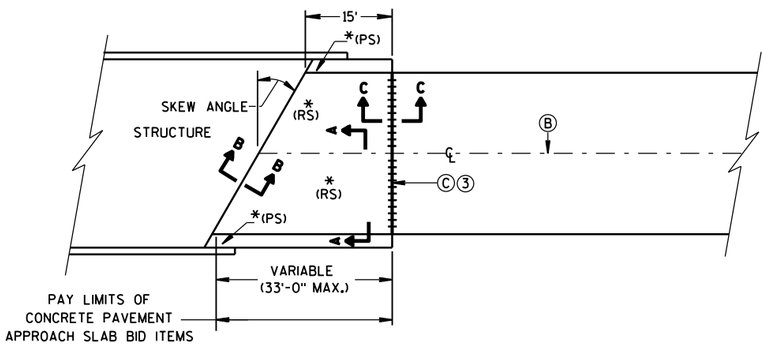
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

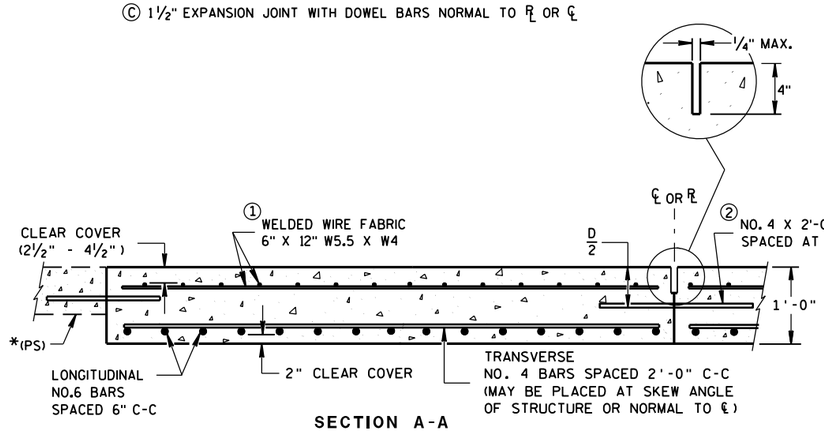
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

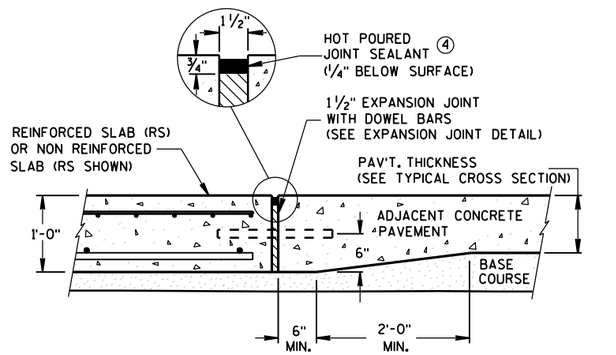
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

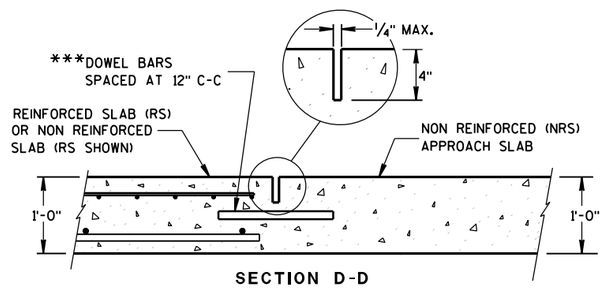
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

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.

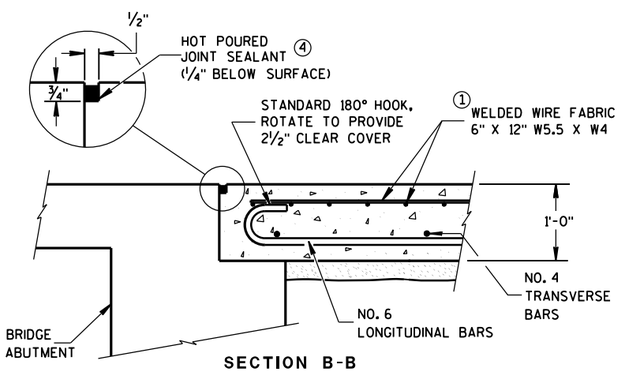
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

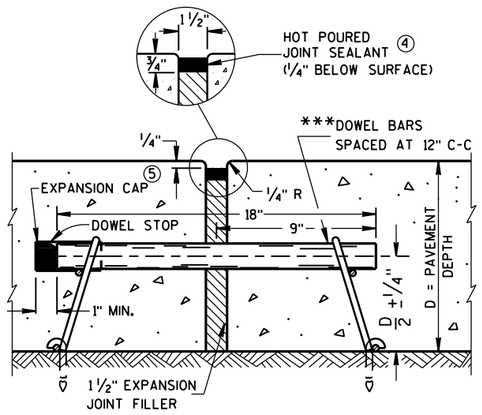
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

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.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

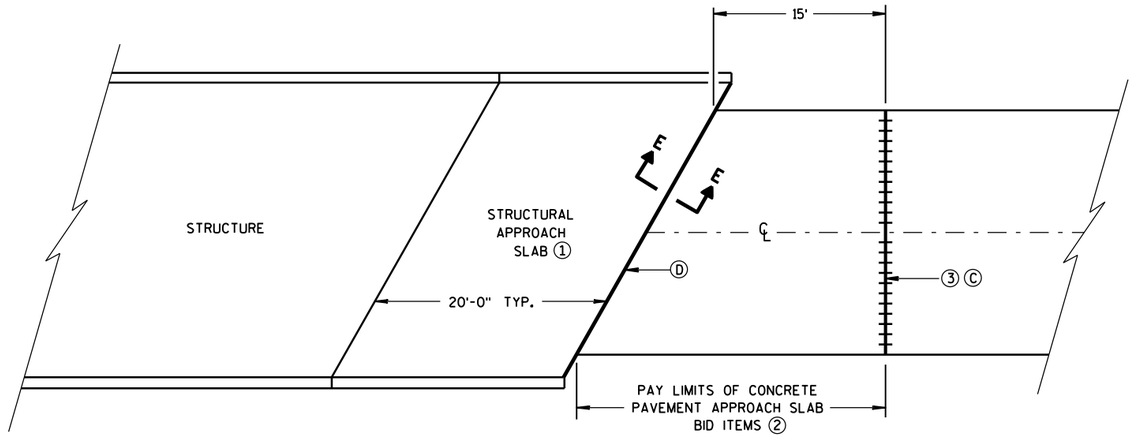
6

S.D.D. 13 B 2-8a

6

S.D.D. 13 B 2-8a

BRIDGE APPROACHES



GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

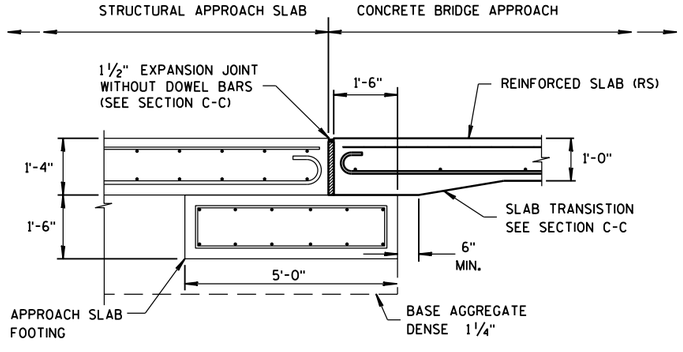
① SEE BRIDGE PLAN.

② CONFORM TO SHEET 13 B 2(A) FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS.

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

Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄

Ⓓ 1½" EXPANSION JOINT (NO DOWELS)



SECTION E-E

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 13 B 2-8b

(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.

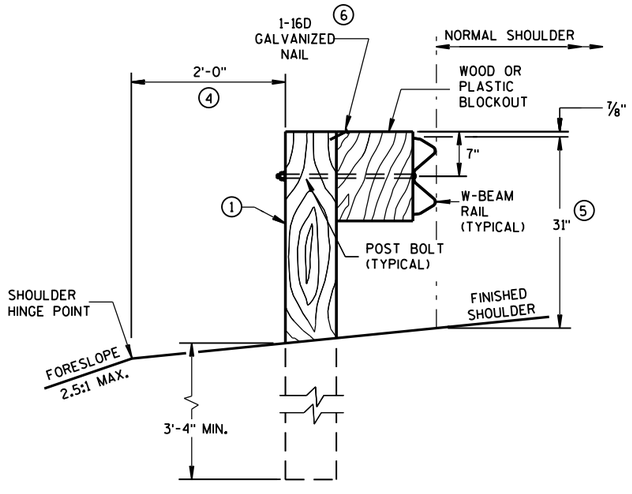
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ 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).

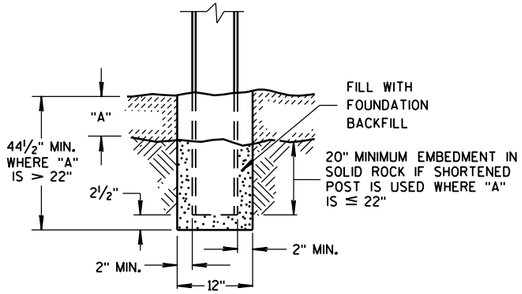
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

(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.



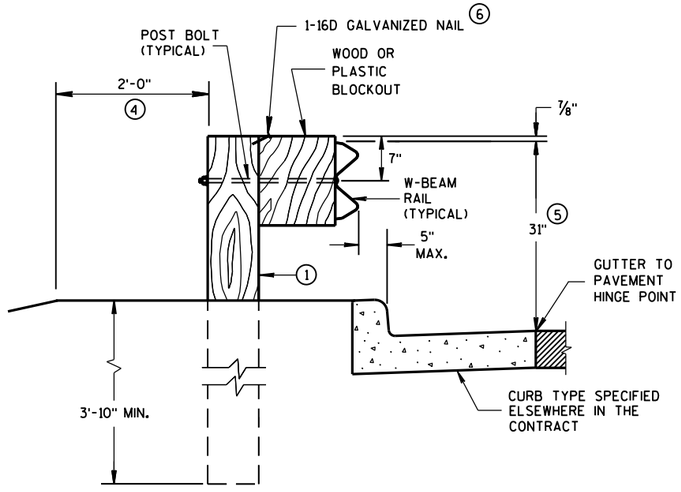
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



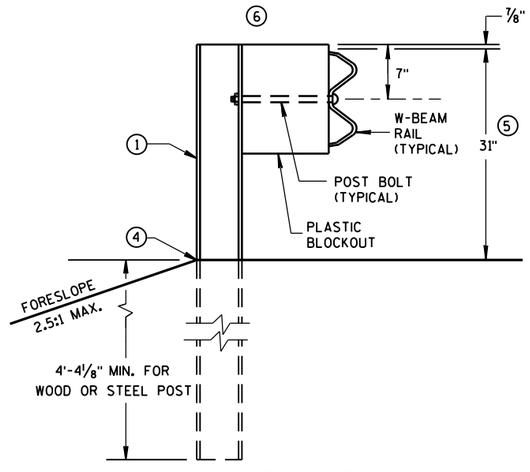
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



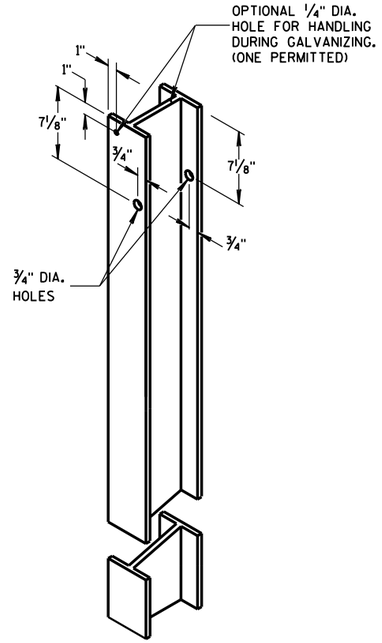
END VIEW

LOCATED ALONG A CURBED ROADWAY

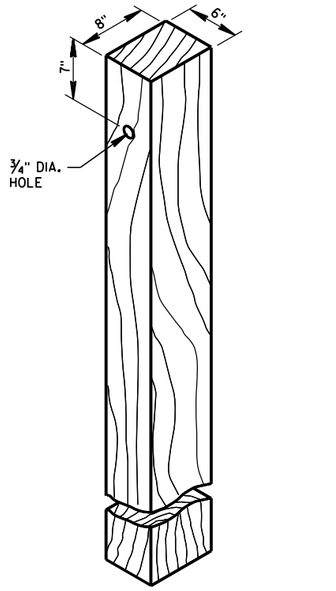


END VIEW

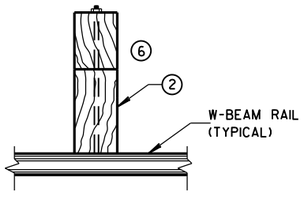
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



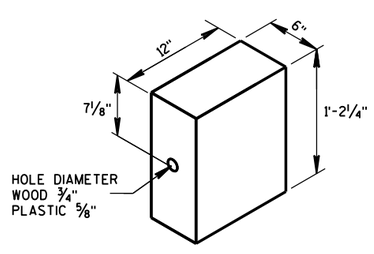
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



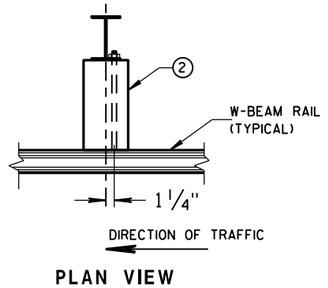
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)

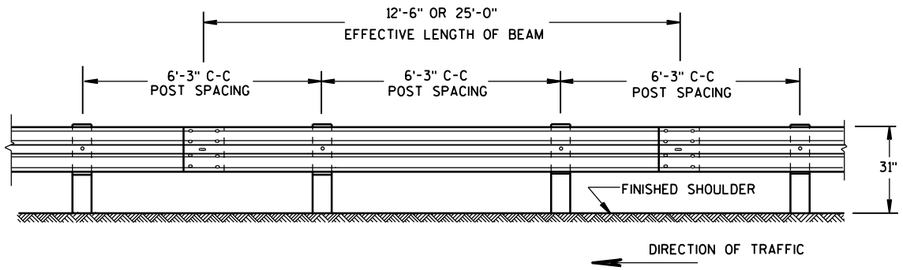


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

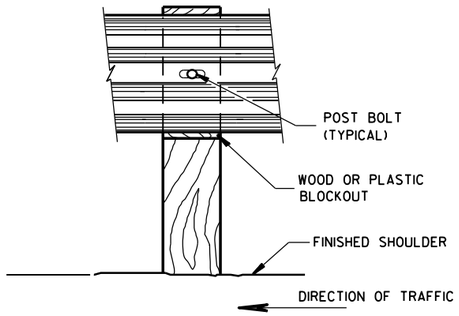
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 42-5a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

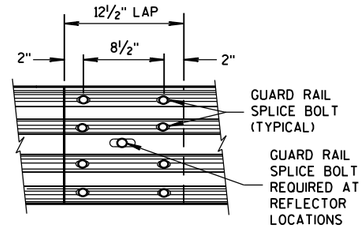
GENERAL NOTES

(8) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

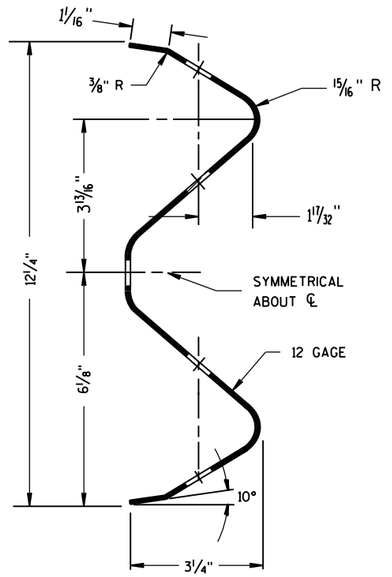
(11) 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

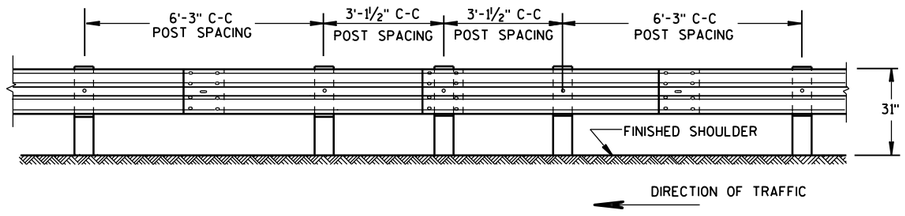
GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



FRONT VIEW
MID-SPAN BEAM SPLICE

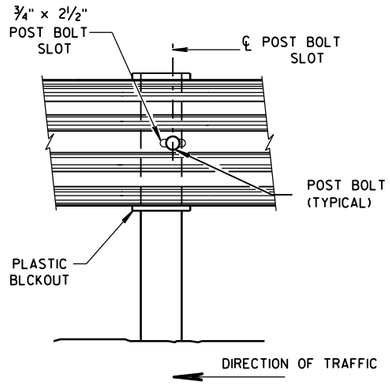


SECTION THRU W-BEAM RAIL

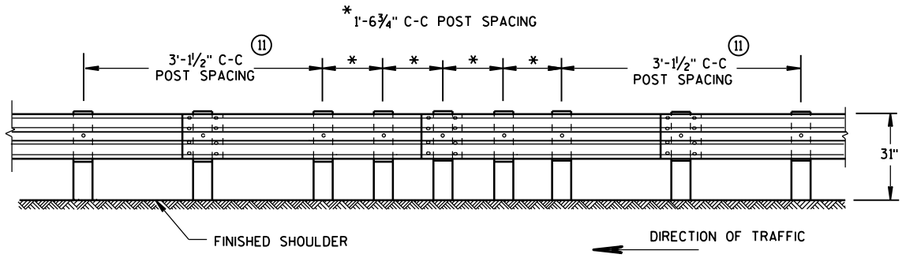


FRONT VIEW

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

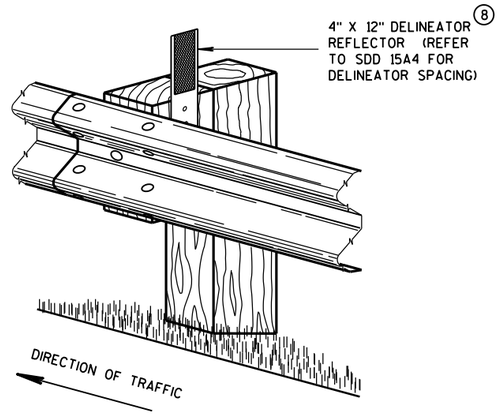


FRONT VIEW AT STEEL POST



FRONT VIEW

QUARTER POST SPACING (QS)



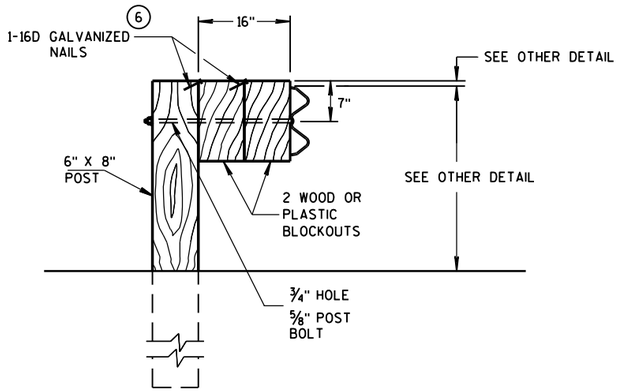
ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

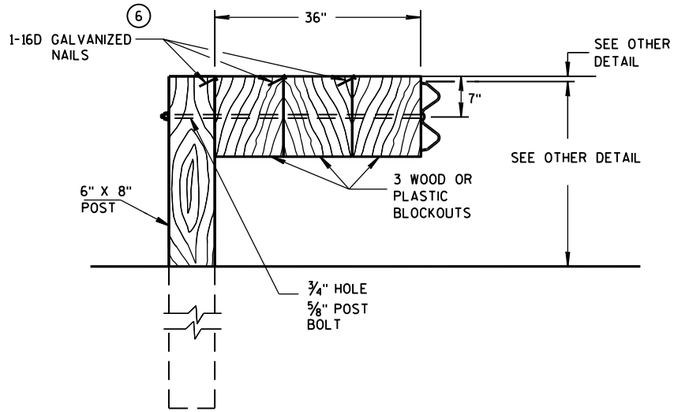
6

S.D.D. 14 B 42-5b



DETAIL FOR 16" BLOCKOUT DEPTH

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

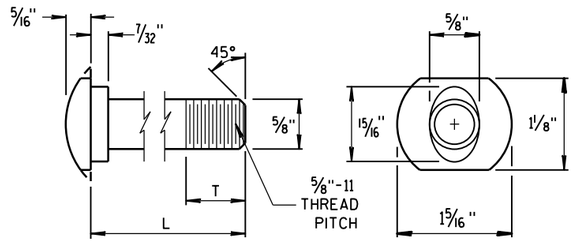


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

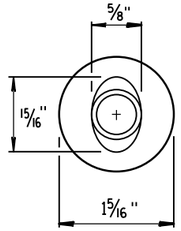
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

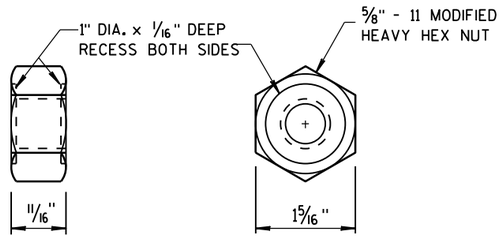


POST BOLT TABLE

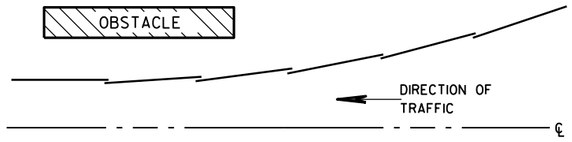
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

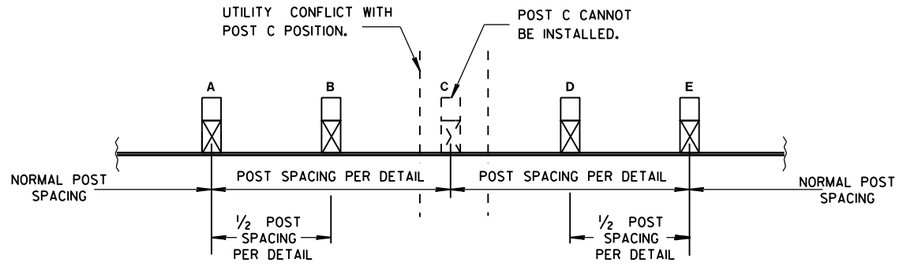


POST BOLT, SPLICE BOLT AND RECESS NUT

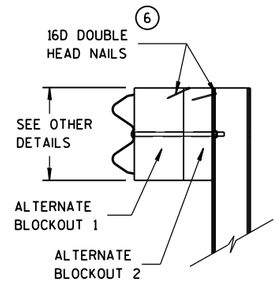


PLAN VIEW

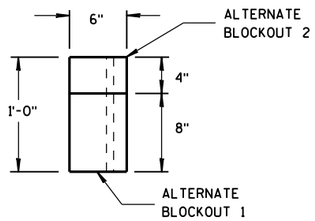
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

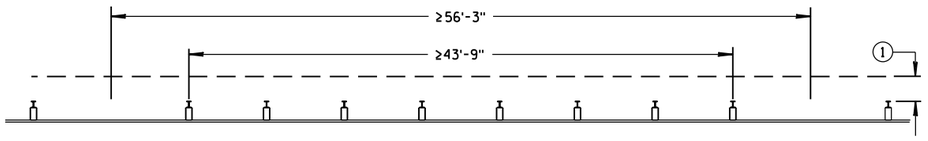
ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

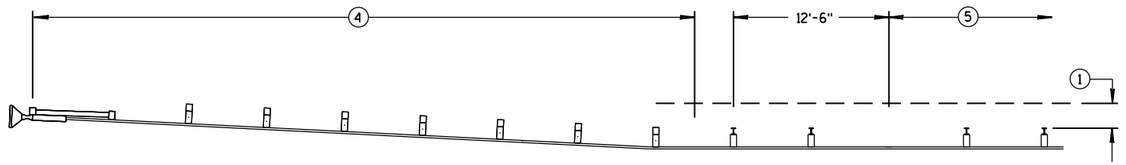
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

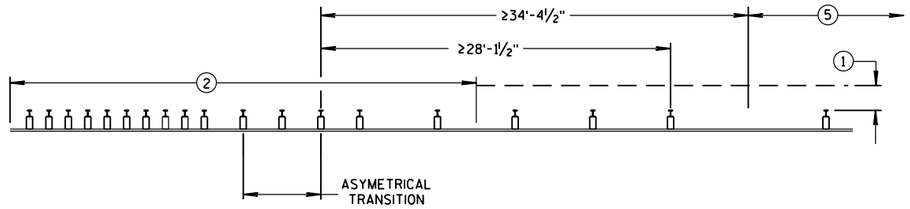
S.D.D. 14 B 42-5c



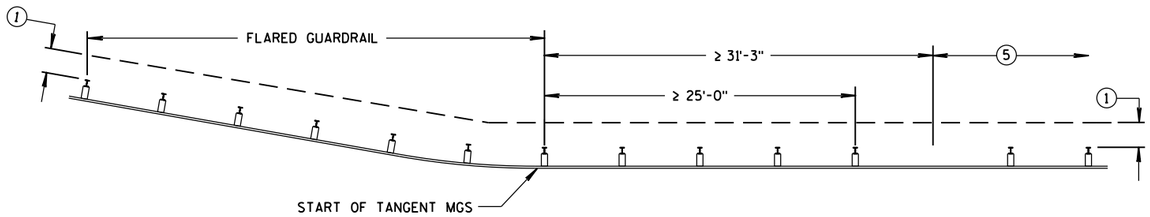
MISSING POST IN NORMAL BEAM GUARD RUN



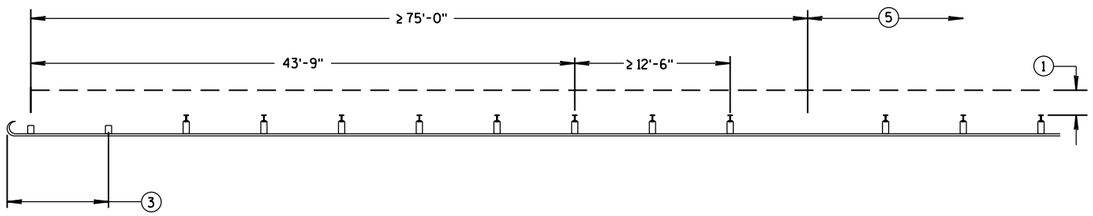
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



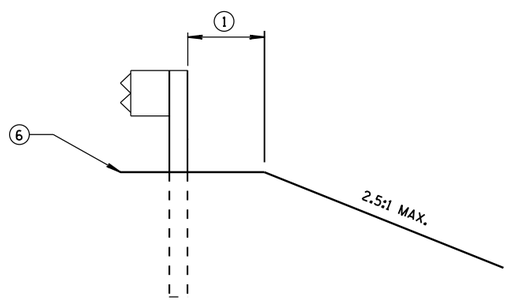
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN
NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN
NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

(1) MINIMUM OF 2 FEET OF GRADING BEHIND POST.

(2) SEE SDD 14B45 FOR MORE DETAILS.

(3) SEE SDD 14B47 FOR MORE DETAILS.

(4) SEE SDD 14B44 FOR MORE DETAILS.

(5) SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.

(6) SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

6

S.D.D. 14 B 42-5d

6

S.D.D. 14 B 42-5d

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 MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

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

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

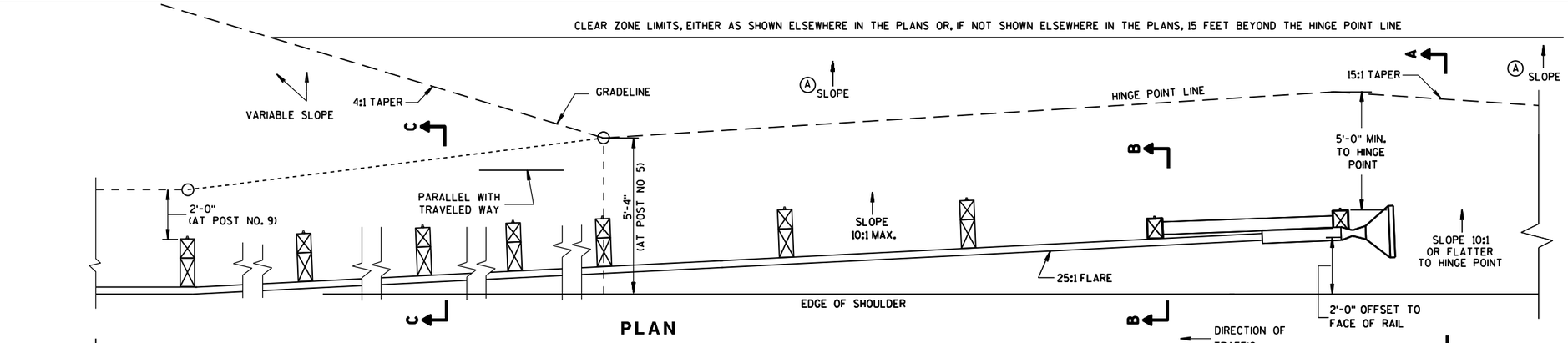
SEE SDD 14B42 FOR MORE INFORMATION.

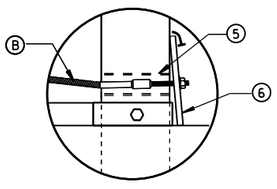
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

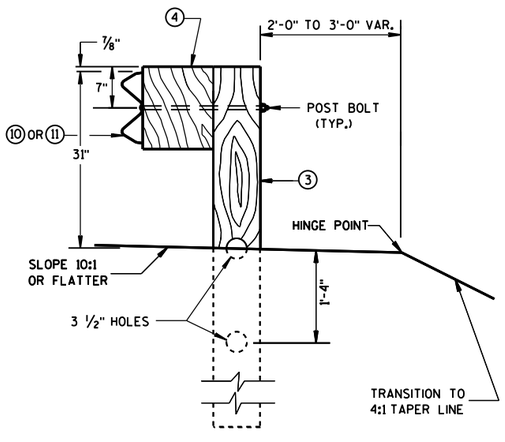
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

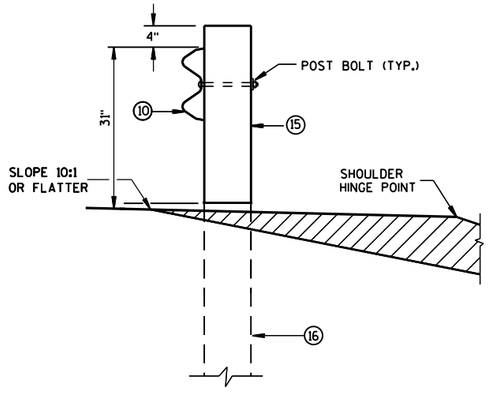
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

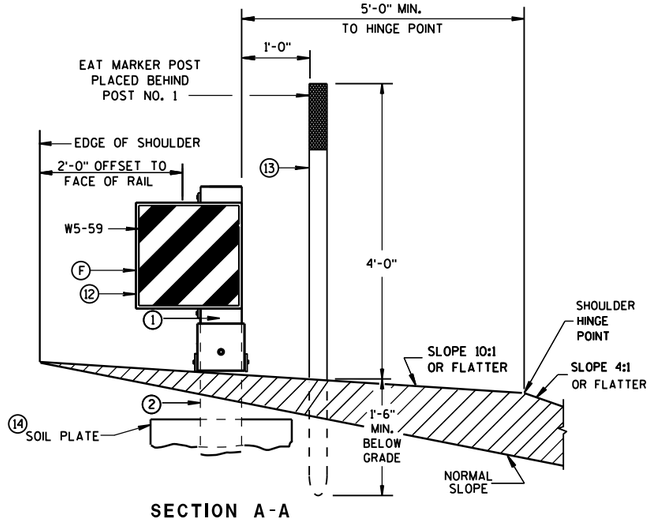
THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

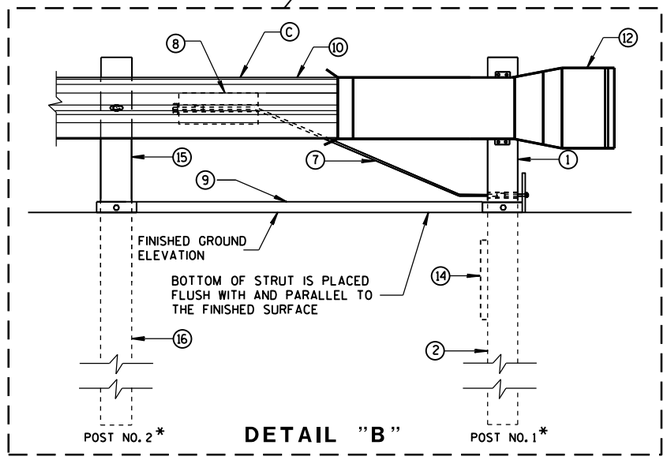








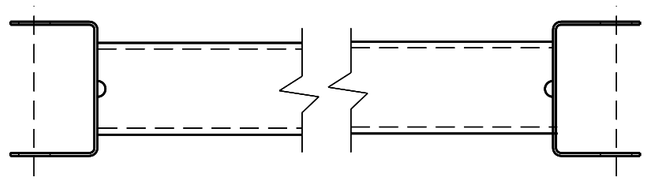




MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

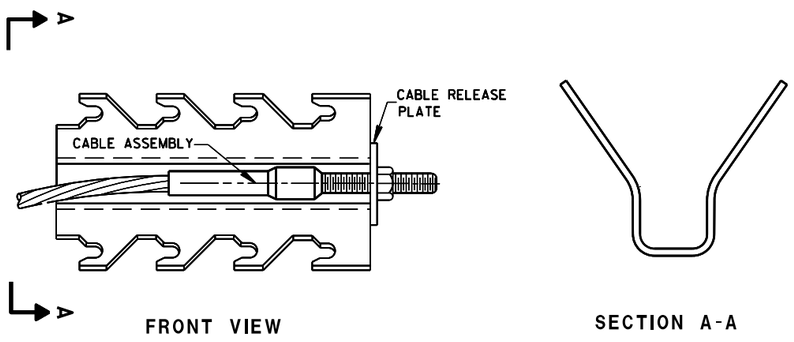
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 44-3a



(9) (H)

GENERIC GROUND STRUT



FRONT VIEW

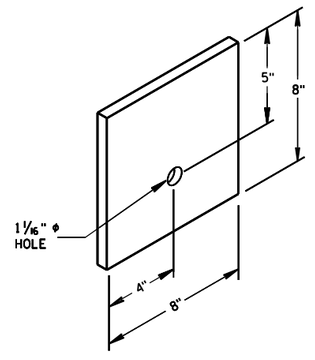
SECTION A-A

(8) (H)

GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

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



(6)

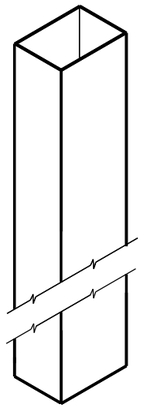
BEARING PLATE

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

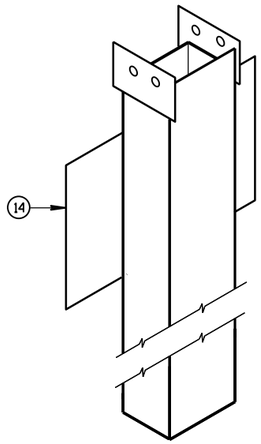
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

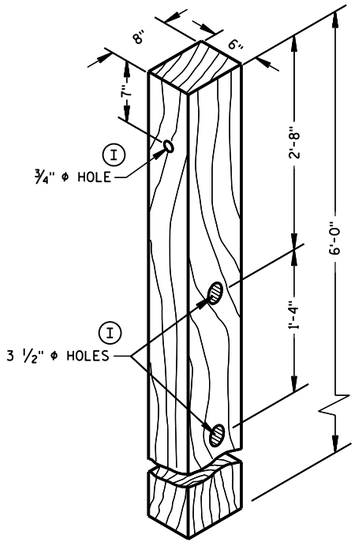
S.D.D. 14 B 44-3b



UPPER POST NO. 1 (1)

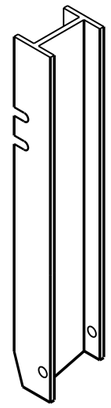


LOWER POST NO. 1 (2)

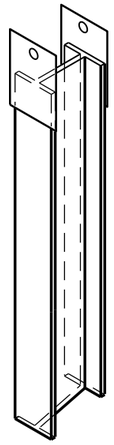


POSTS NUMBER 3-9

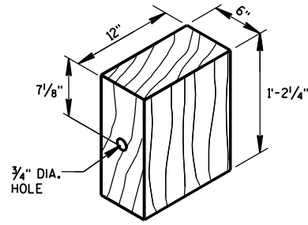
WOOD CRT POST (3)



UPPER POST NO. 2 (15)

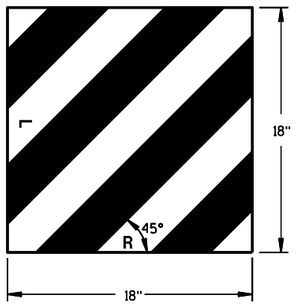


LOWER POST NO. 2 (16)



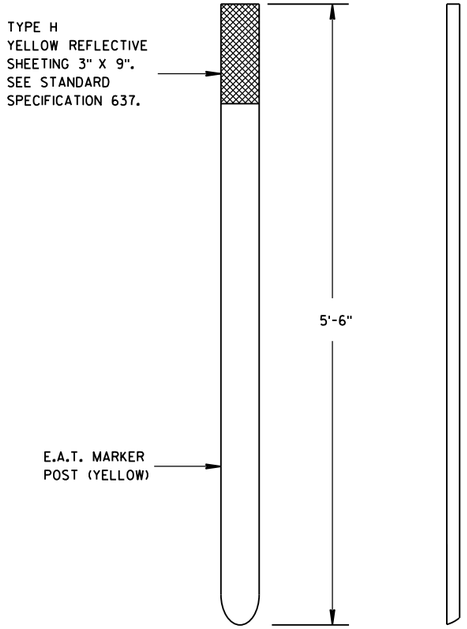
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



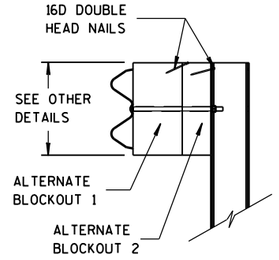
W5-59

REFLECTIVE SHEETING DETAIL (H)

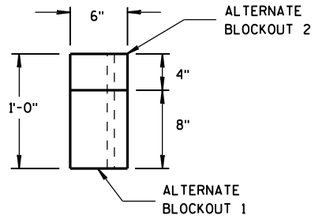


FRONT VIEW SIDE VIEW

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

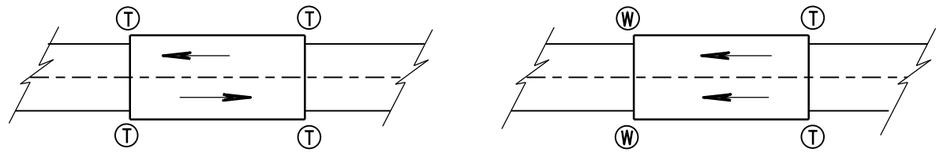
June 2017
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS
UNIT SUPERVISOR

FHWA

6

S.D.D. 14 B 44-3c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

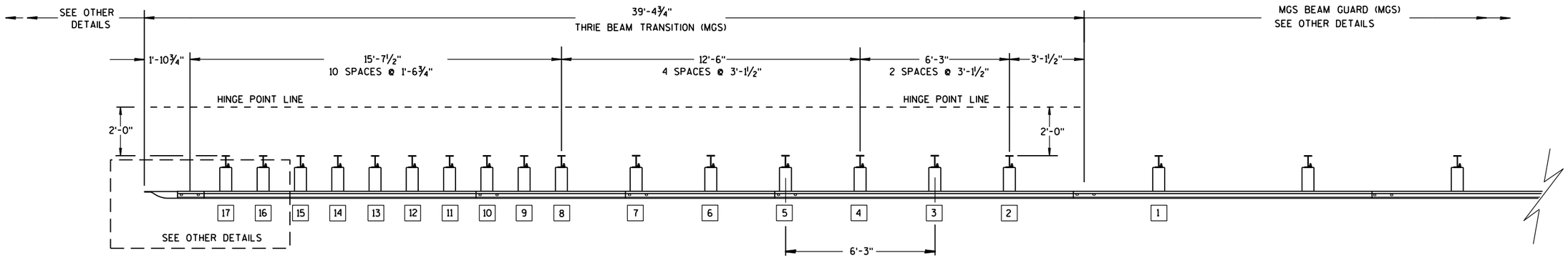
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

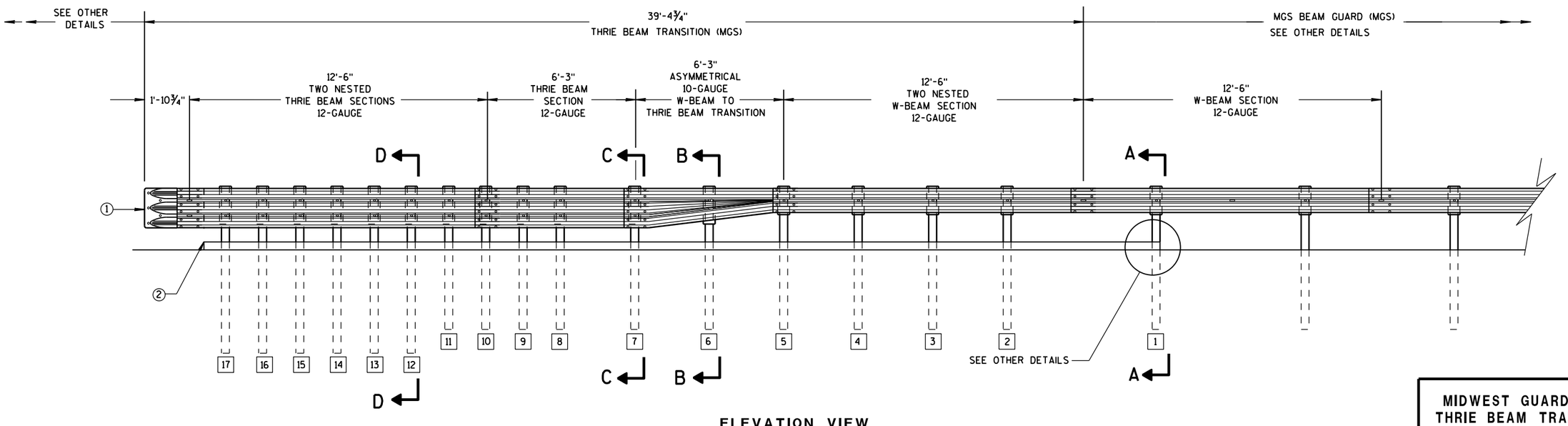
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

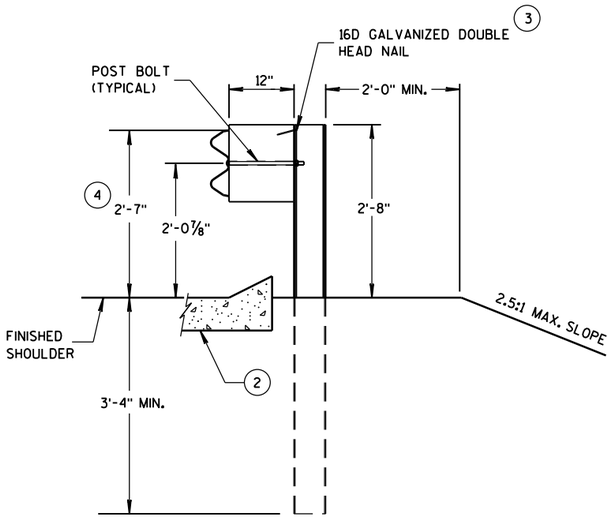
S.D.D. 14 B 45-4a

GENERAL NOTES

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

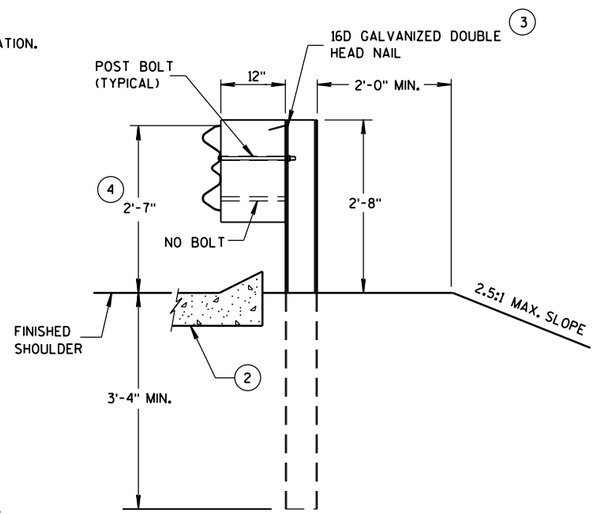
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



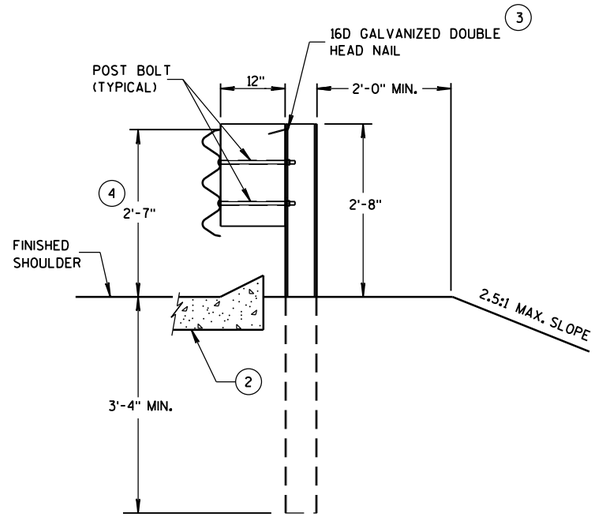
SECTION A-A

POSTS 1-5



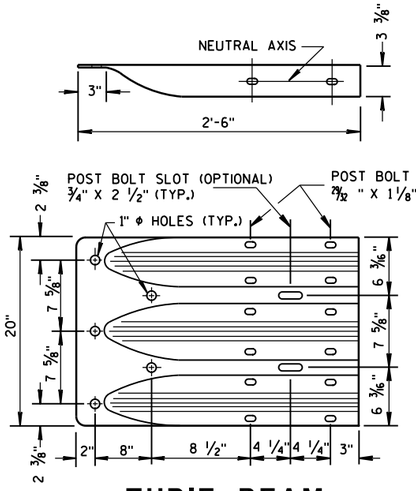
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

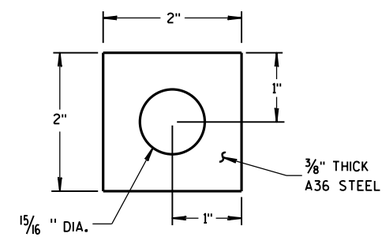
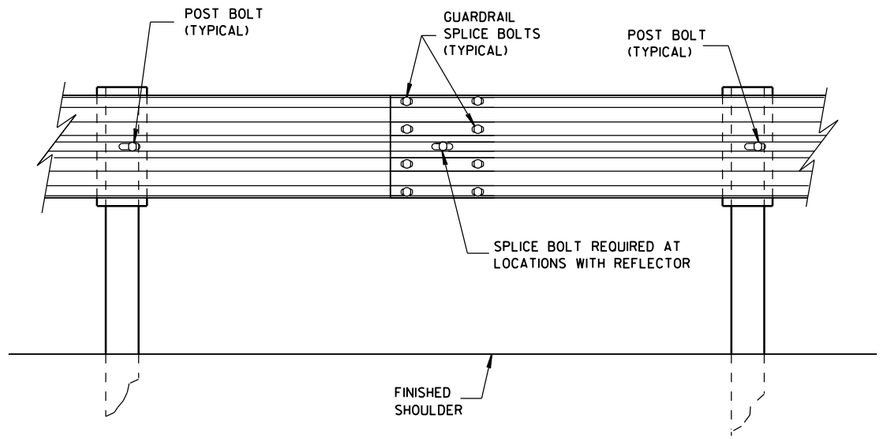
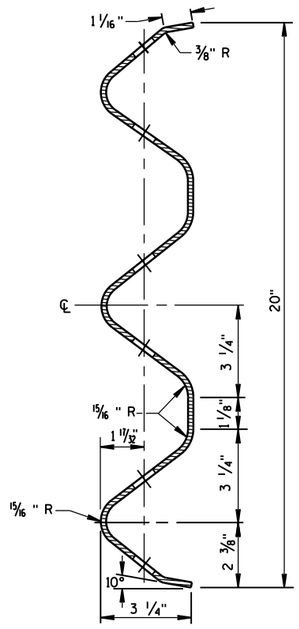


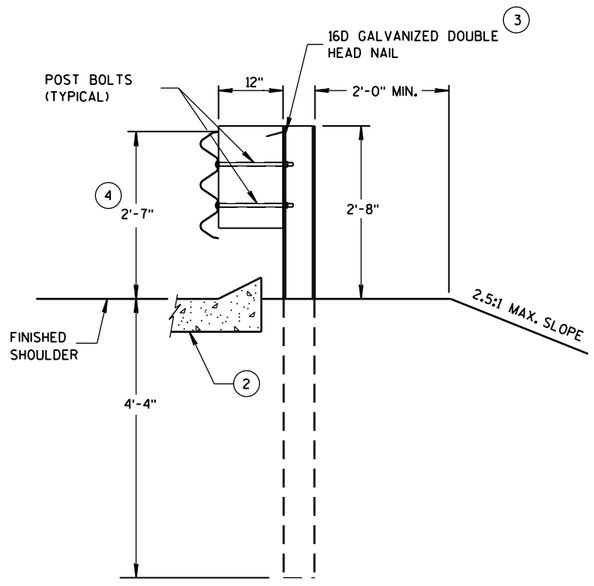
PLATE WASHER DETAIL



SPLICE DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

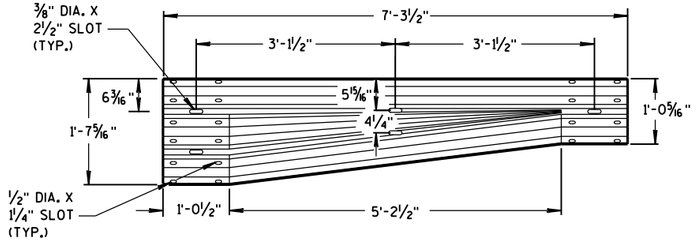
POSTS 12-17

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

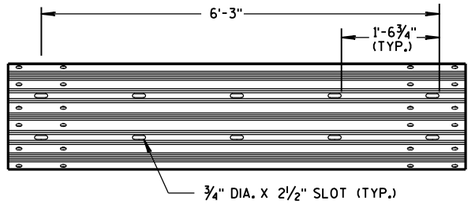
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

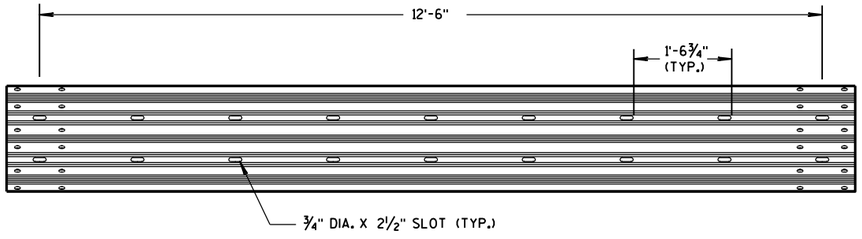
S.D.D. 14 B 45-4b



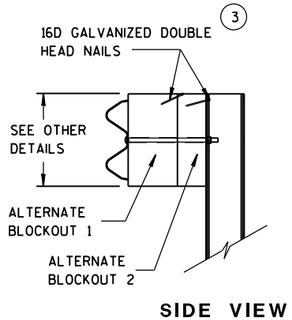
W-BEAM TO THRIE BEAM TRANSITION SECTION



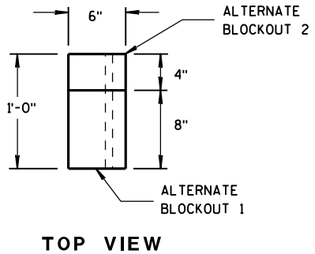
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

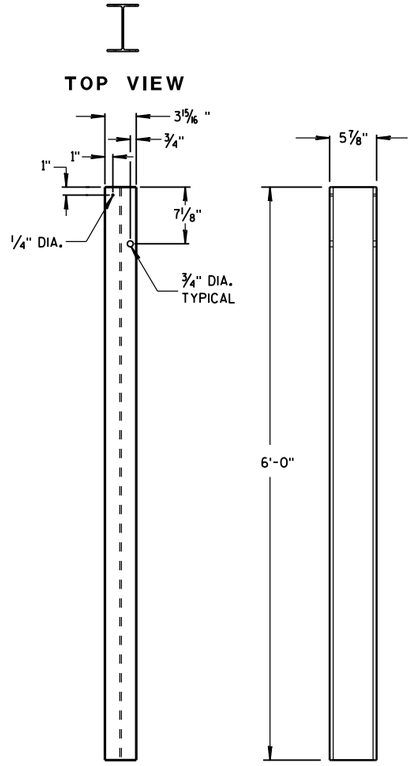


SIDE VIEW

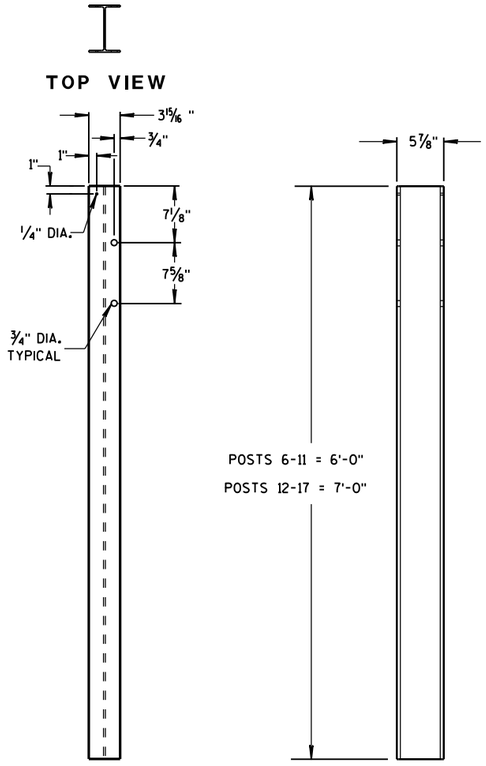


TOP VIEW

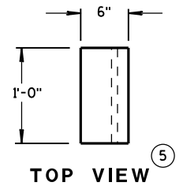
ALTERNATE WOOD BLOCKOUT DETAIL



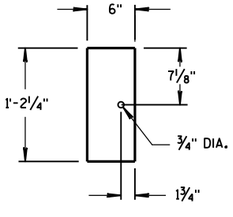
STEEL POSTS 1-5



STEEL POSTS 6-17

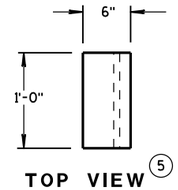


TOP VIEW (5)

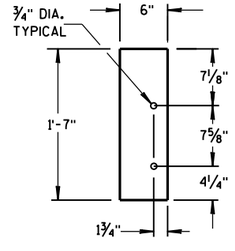


FRONT VIEW

BLOCKOUT POSTS 1-5



TOP VIEW (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.

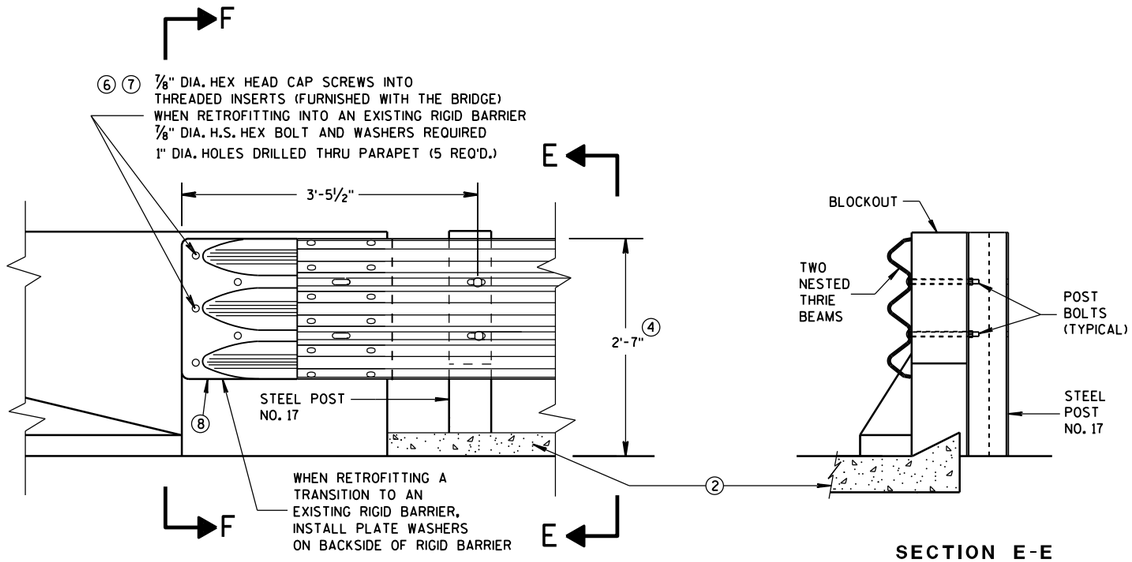
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 14 B 45-4c



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.

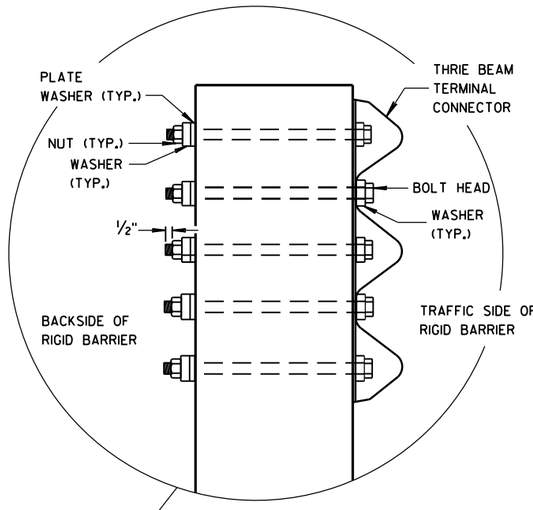
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

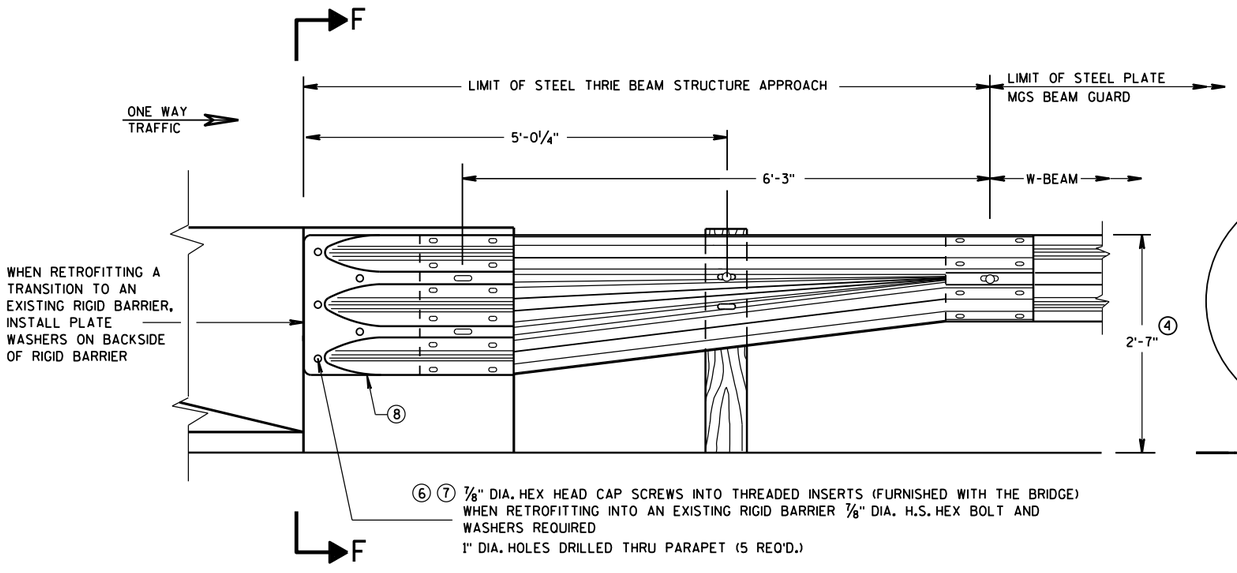
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

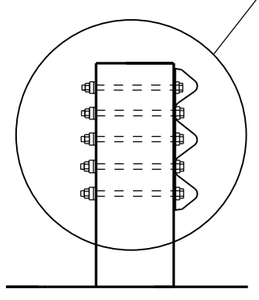
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" 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".

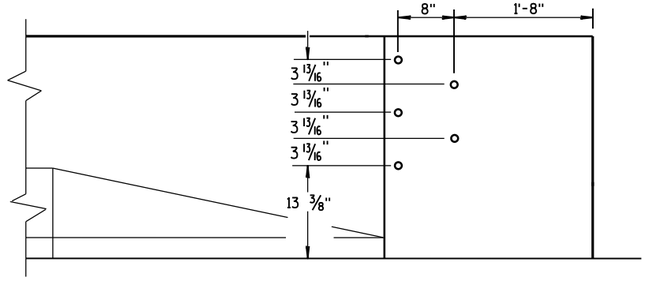




FRONT VIEW



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

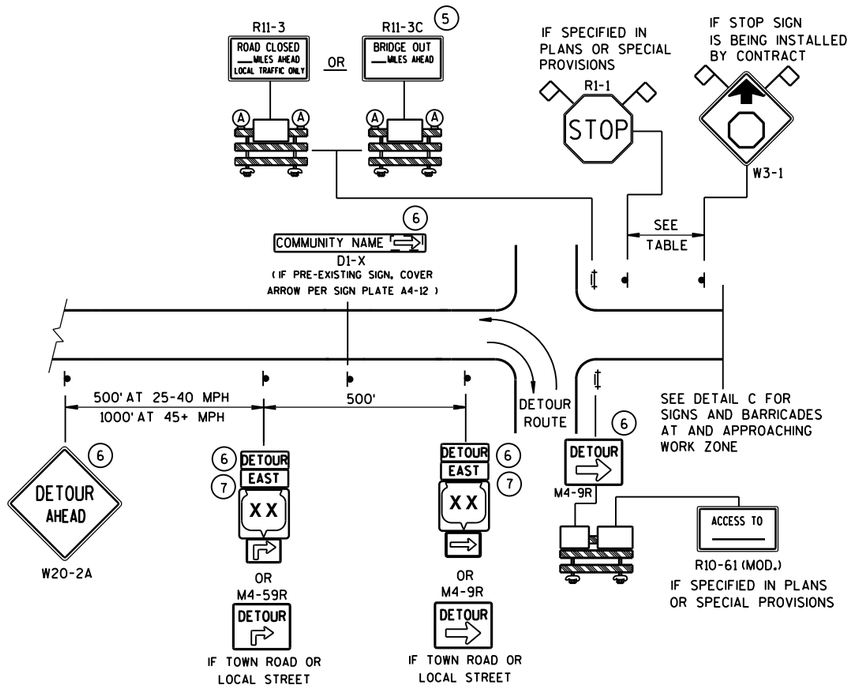
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA
NT

6

S.D.D. 14 B 45-4d

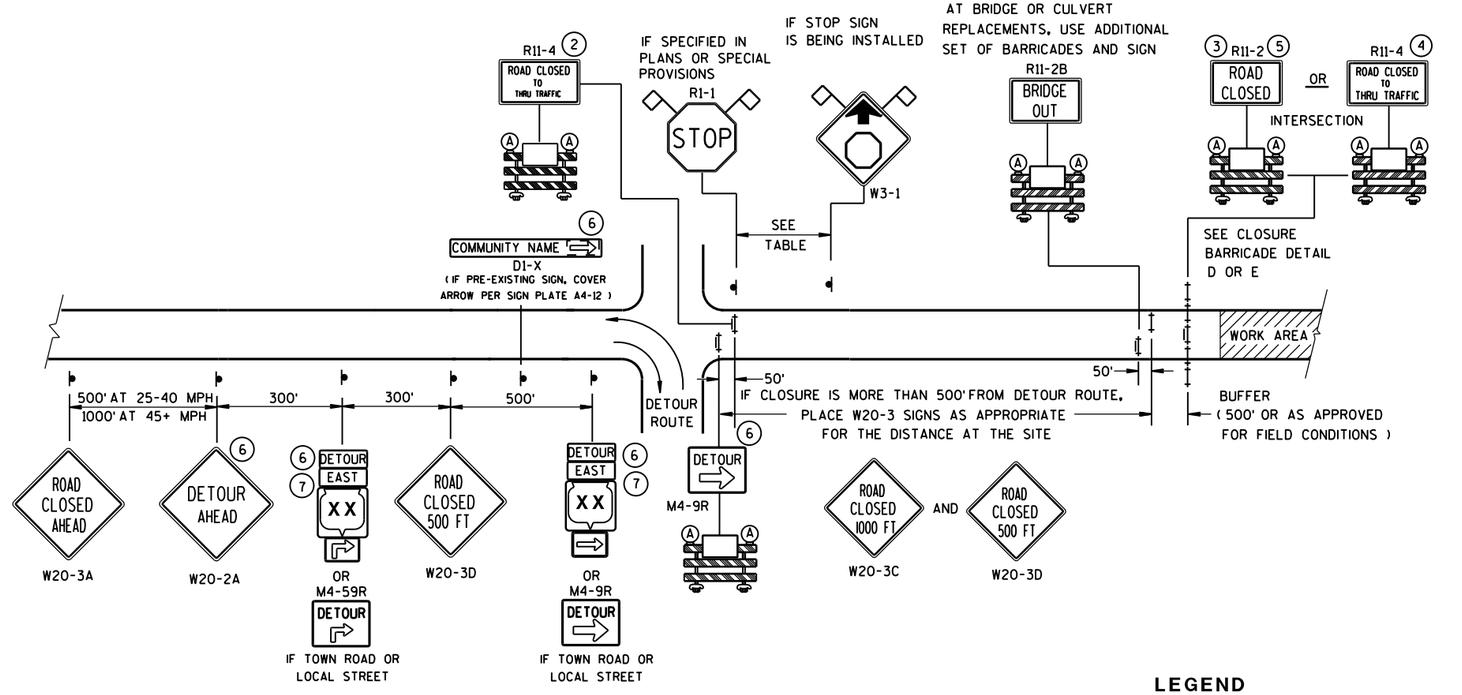
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S.D.D. 14 B 45-4d



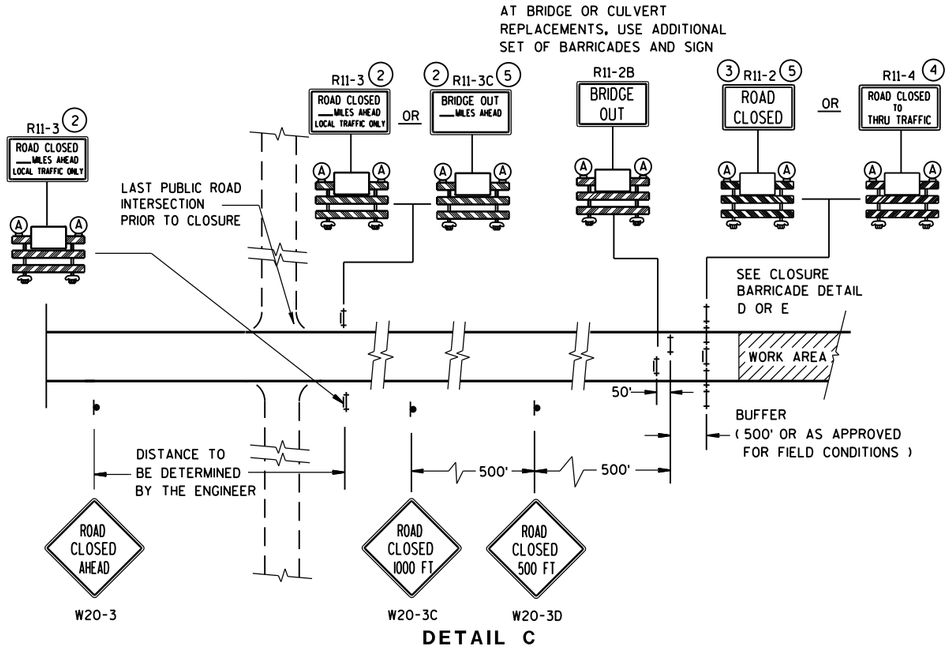
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN 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)



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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

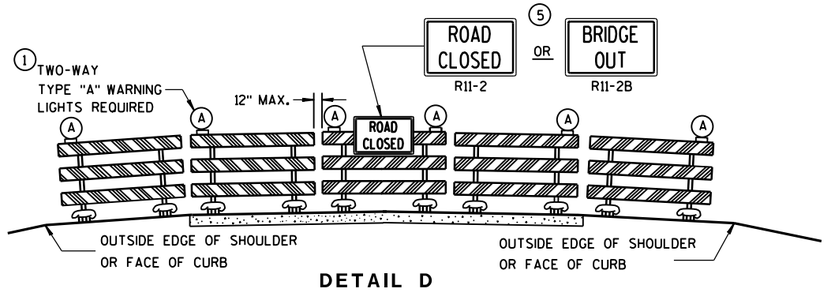
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

6

S.D.D. 15 C 2-6a

6

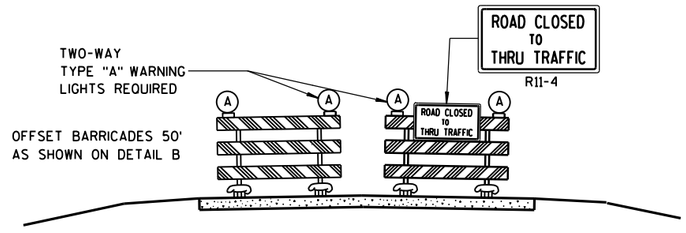
S.D.D. 15 C 2-6a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO... SAFETY ENGI... — FHWA — FIC

6

S.D.D. 15 C 2-6b

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

GENERAL NOTES

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

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

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

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

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

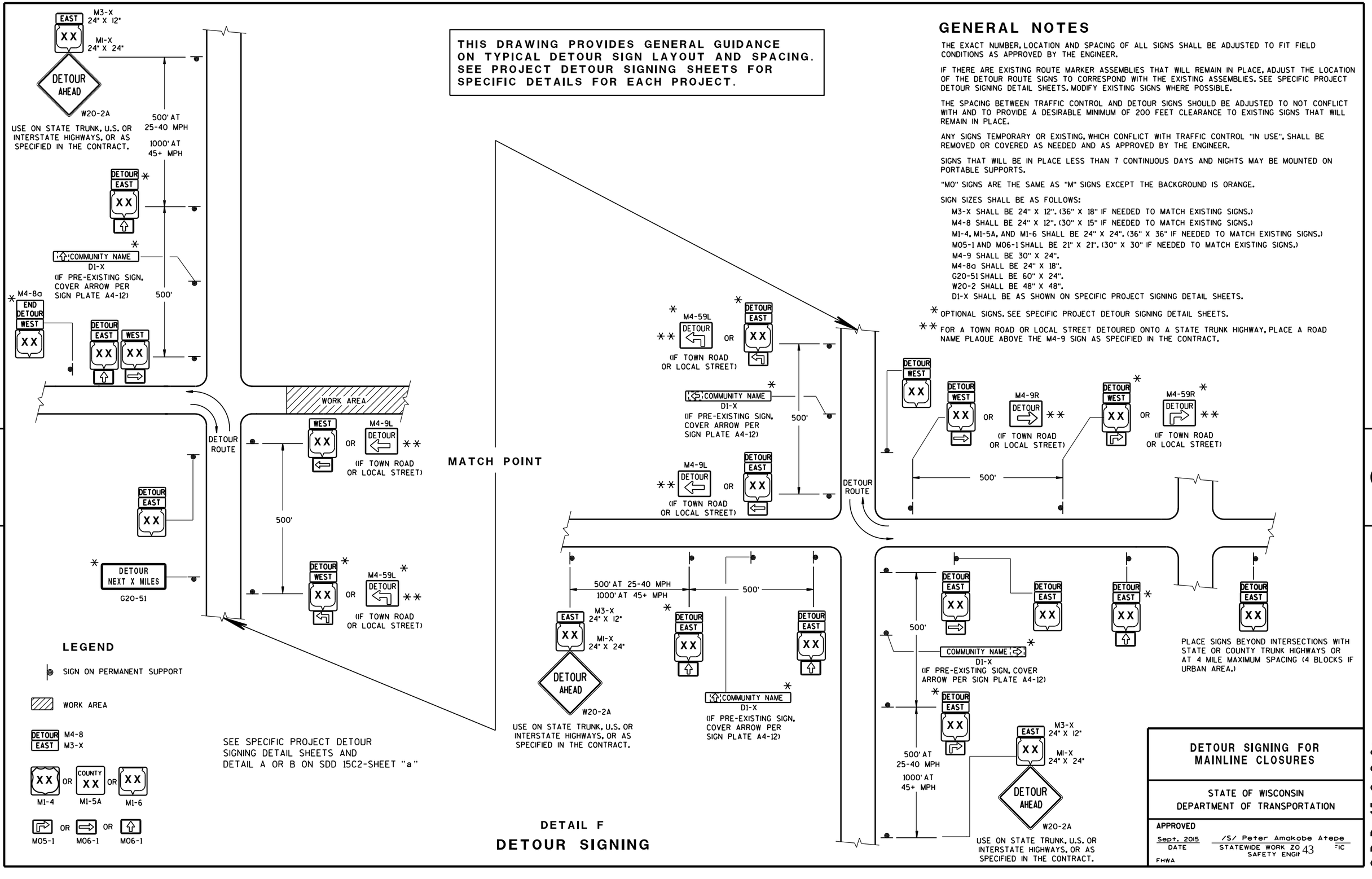
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- 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.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



DETAIL F

DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

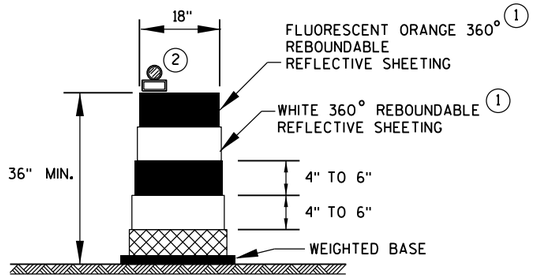
Sept. 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO... SAFETY ENGI... FIC

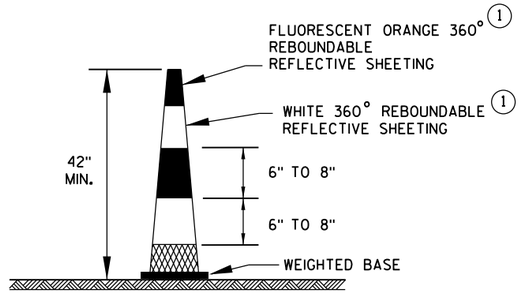
FHWA

S.D.D. 15 C 2-6c

6



DRUM

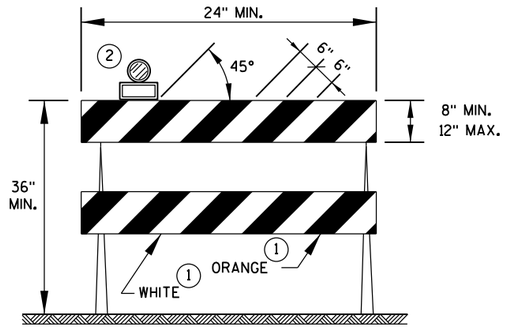


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

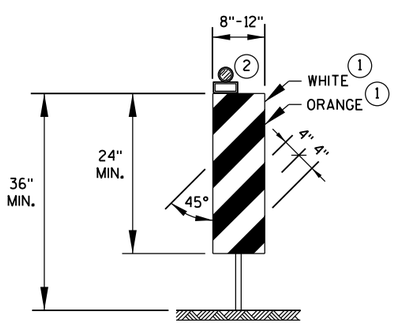
GENERAL NOTES

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.



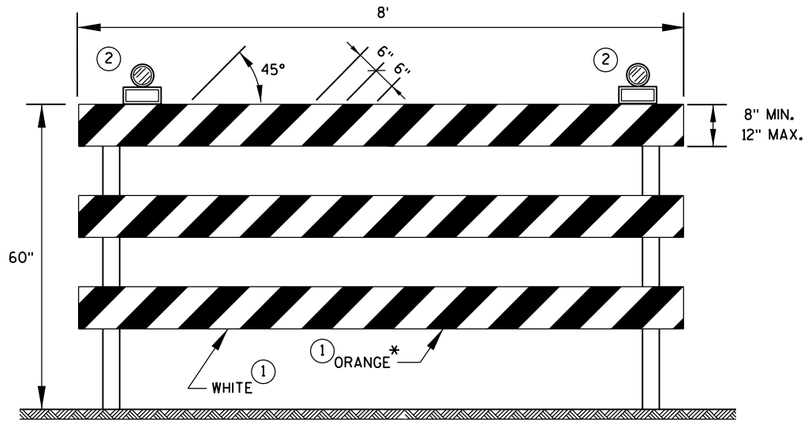
TYPE 2 BARRICADE

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



VERTICAL PANEL

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



TYPE 3 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

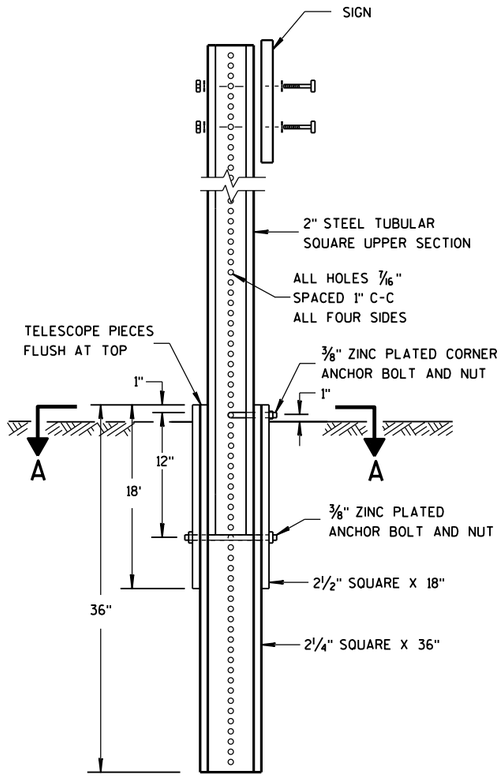
June 2017 — DATE

/S/ Andrew Heidtke — WORK ZONE ENG

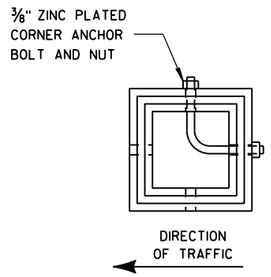
FHWA

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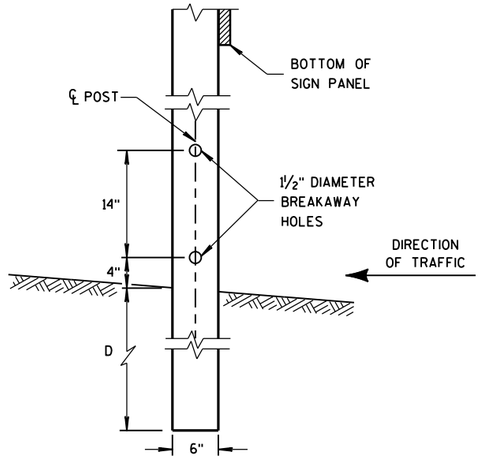
S.D.D. 15 C 11-7b



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



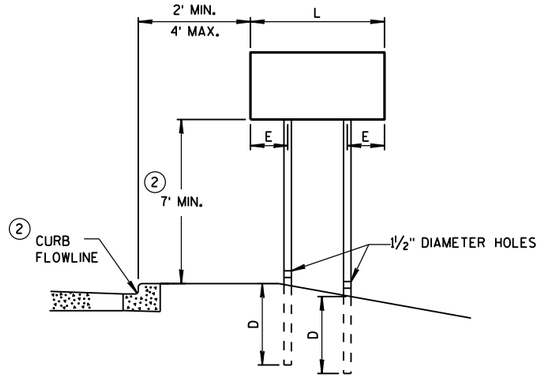
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

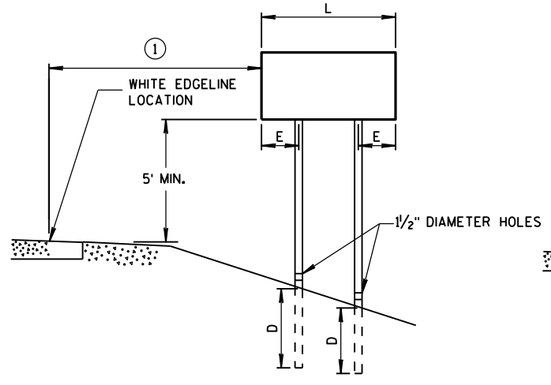
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

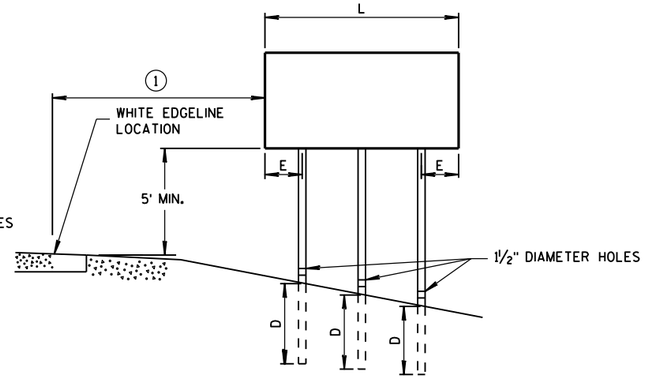
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

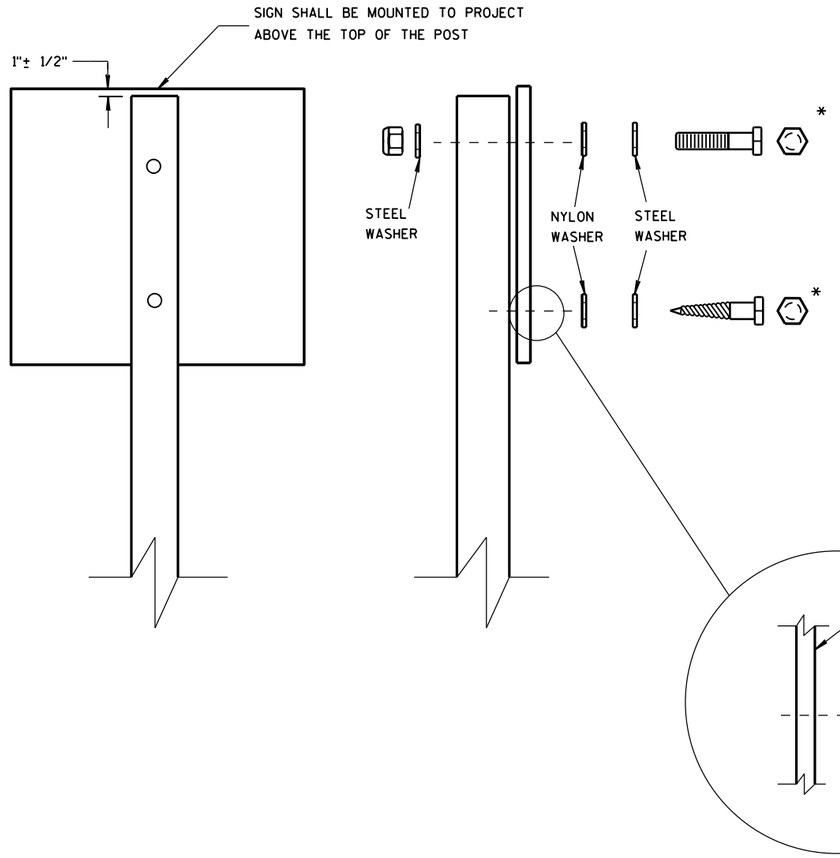
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 38-2a
S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

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

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

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

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

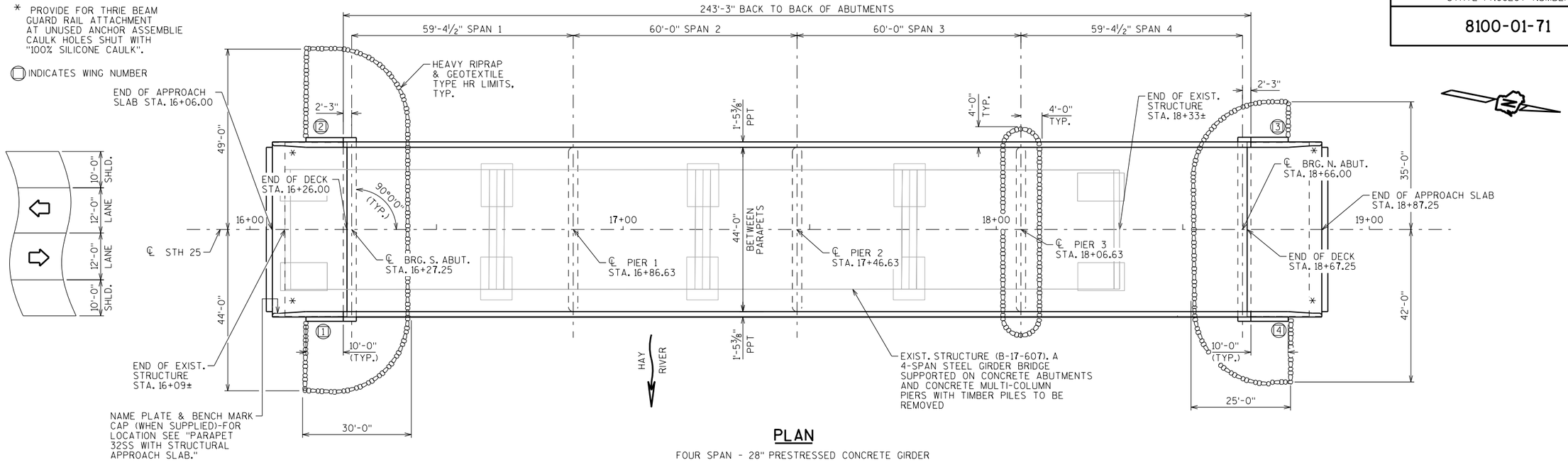
FHWA

STATE PROJECT NUMBER

8100-01-71

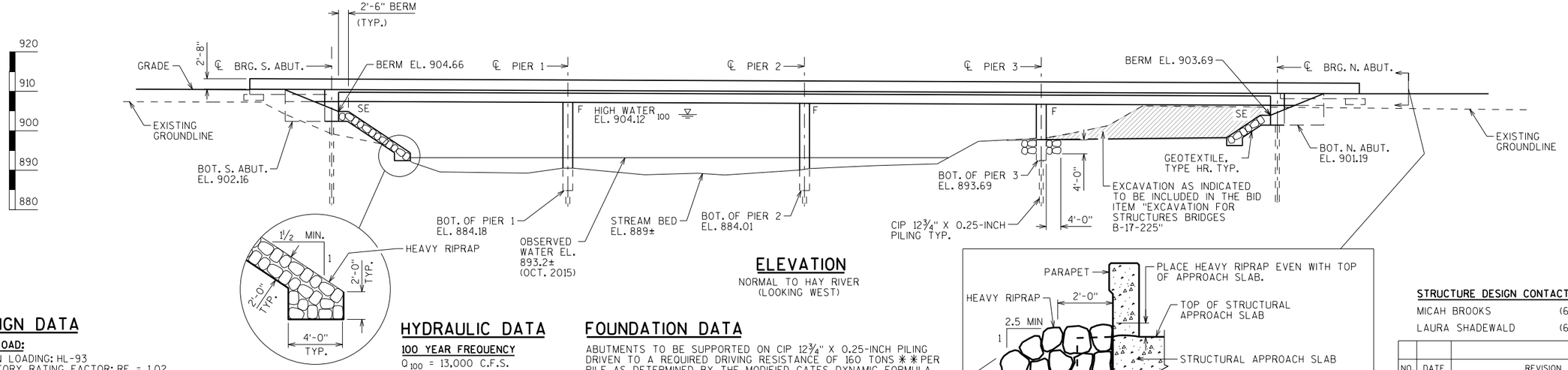
* PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT AT UNUSED ANCHOR ASSEMBLIE CAULK HOLES SHUT WITH "100% SILICONE CAULK".

(1) INDICATES WING NUMBER



PLAN

FOUR SPAN - 28" PRESTRESSED CONCRETE GIRDER



ELEVATION

NORMAL TO HAY RIVER (LOOKING WEST)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.02
OPERATING RATING FACTOR: RF = 1.32
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

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

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE — f'c = 4,000 P.S.I.
ALL OTHER — f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT:
GRADE 60 — fy = 60,000 P.S.I.
STAINLESS, GRADE 60 — fy = 60,000 P.S.I.

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

HYDRAULIC DATA

100 YEAR FREQUENCY

Q_{100} = 13,000 C.F.S.
VEL. = 5.7 F.P.S.
$HW_{.100}$ = EL. 904.12
WATERWAY AREA = 2,271 SQ. FT.
DRAINAGE AREA = 420.6 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

2 YEAR FREQUENCY

Q_2 = 4860 C.F.S.
HW_2 = EL. 899.44

TRAFFIC VOLUME

STH 25

ADT = 4,400 (2041)
R.D.S. = 60 M.P.H.

FOUNDATION DATA

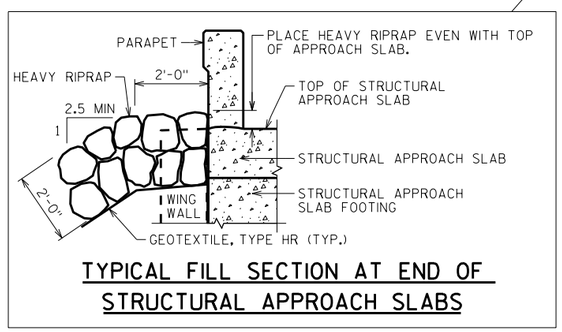
ABUTMENTS TO BE SUPPORTED ON CIP 12¾" X 0.25-INCH PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 160 TONS ✱✱ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 100' LONG.

PIER TO BE SUPPORTED ON CIP 12¾" X 0.25-INCH PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 160 TONS ✱✱ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 80' LONG AT PIER 1 AND 2, 90' LONG AT PIER 3.

✱✱ 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 DRIVEN PILE CAPACITY.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION
3. QUANTITIES
4. SUBSURFACE EXPLORATION
5. SOUTH ABUTMENT
6. SOUTH ABUTMENT DETAILS
7. NORTH ABUTMENT
8. NORTH ABUTMENT DETAILS
9. PIER 1
10. PIER 2
11. PIER 3
12. 28" PRESTRESSED GIRDER DETAILS
13. STEEL DIAPHRAGM
14. SUPERSTRUCTURE CROSS SECTION
15. SUPERSTRUCTURE PLAN
16. SUPERSTRUCTURE DETAILS
17. STRUCTURAL APPROACH SLAB
18. PARAPET 32SS WITH STRUCTURAL APPROACH SLAB



TYPICAL FILL SECTION AT END OF STRUCTURAL APPROACH SLABS

STRUCTURE DESIGN CONTACTS:

MICAH BROOKS (608) 266-5080
LAURA SHADEWALD (608) 267-9592

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher LLS 5/17/18
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-17-225

STH 25 OVER HAY RIVER

COUNTY	TOWN
DUNN	HAY RIVER

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
MWB	MJL	MJH	DMB

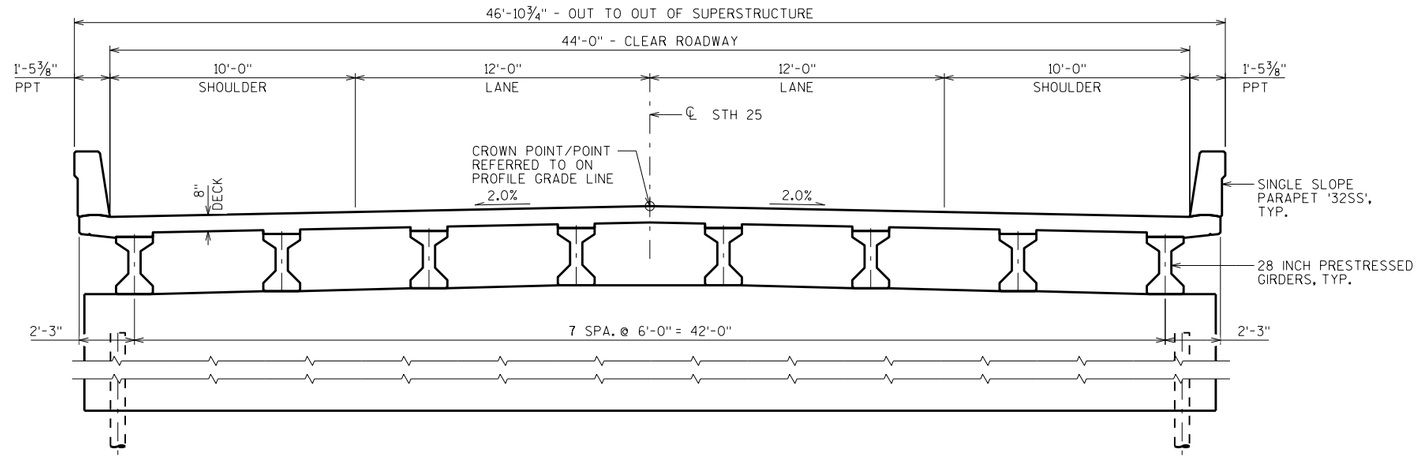
GENERAL PLAN

SHEET 1 OF 18

47

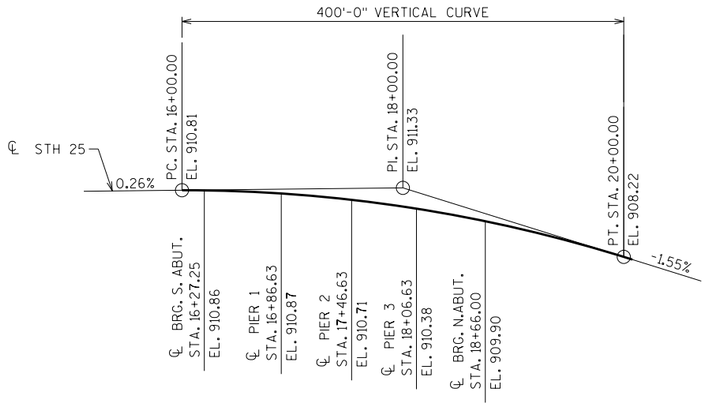
I.D. 8100-01-01A DATE: MAY 2018

SCALE = 14.00

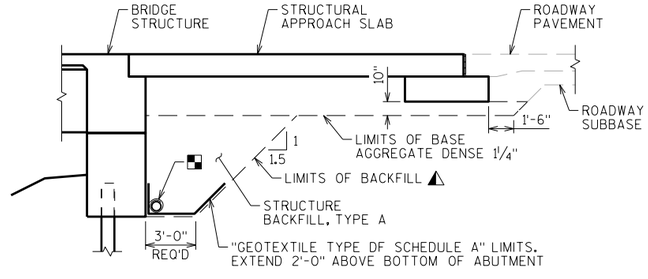


CROSS SECTION THRU ROADWAY

LOOKING NORTH



PROFILE GRADE LINE - STH 25



TYPICAL SECTION THRU ABUTMENT

◭ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL 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.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

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

AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL. ALSO EXCLUDED IS THE "BASE AGGREGATE DENSE 1 1/4-INCH" AS DETAILED ON THE STRUCTURAL APPROACH SLAB SHEETS.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

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

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE INSIDE FACE AND TOP OF PARAPETS, INCLUDING PARAPETS ON STRUCTURAL APPROACH SLABS.

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.

THE EXISTING STREAM BED SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

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

STATE PROJECT NUMBER

8100-01-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

DRAWN BY MJH | PLANS CK'D. DMB

CROSS SECTION

SHEET 2

48

8

8

SCALE = 3.00

STATE PROJECT NUMBER

8100-01-71

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	SOUTH APPROACH	SOUTH ABUT.	PIER 1	PIER 2	PIER 3	NORTH ABUT.	NORTH APPROACH	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 17+21	LS	———	———	———	———	———	———	———	———	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-17-225	LS	———	———	———	———	———	———	———	———	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	———	———	112	———	———	———	112	———	224
305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	———	147	———	———	———	———	———	147	294
502.0100	CONCRETE MASONRY BRIDGES	CY	413	64	49	98	98	56	49	64	891
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,204	101	———	———	———	———	———	101	1,406
502.3210	PIGMENTED SURFACE SEALER	SY	200	17	———	———	———	———	———	17	234
503.0128	PRESTRESSED GIRDER TYPE I 28-INCH	LF	1,912	———	———	———	———	———	———	———	1,912
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	———	———	3,080	———	———	———	3,080	———	6,160
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	82,890	11,050	1,290	4,420	4,420	2,480	1,290	11,050	118,890
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	1,600	———	———	———	———	———	———	———	1,600
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	64	———	———	———	———	———	———	———	64
506.4000	STEEL DIAPHRAGMS B-17-225	EACH	28	———	———	———	———	———	———	———	28
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	———	———	12	———	———	———	12	———	24
550.2124	PILING CIP CONCRETE 12¾X 0.25-INCH	LF	———	———	800	1,120	1,120	1,080	800	———	4,920
606.0300	RIPRAP HEAVY	CY	———	———	220	———	———	35	155	———	410
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	———	———	95	———	———	———	95	———	190
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4	———	———	———	———	———	———	———	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	———	———	41	———	———	———	41	———	82
645.0120	GEOTEXTILE TYPE HR	SY	———	———	355	———	———	46	252	———	653
	NON-BID ITEMS										
	FILLER	SIZE	———	———	———	———	———	———	———	———	½", ¾", 1½"

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

DRAWN BY MJH | PLANS CK'D. DMB

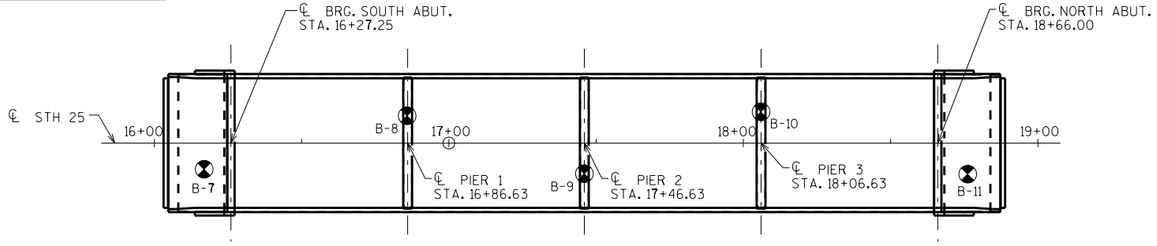
QUANTITIES

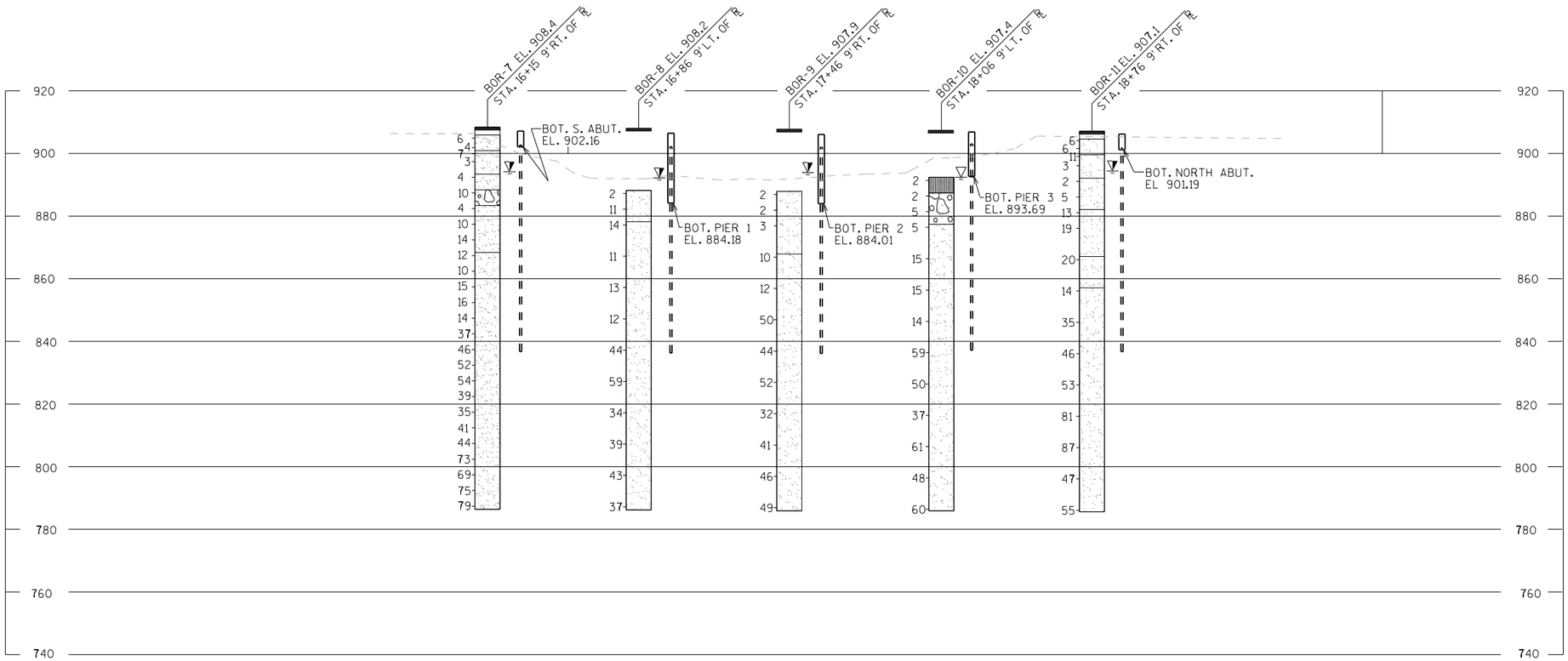
SHEET 3

49

SCALE = 3.00

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-7	MARCH 9, 2017	233390	167060
B-8	JUNE 26, 2017	233455	167030
B-9	JUNE 30, 2017	233520	167035
B-10	JUNE 29, 2017	233575	167000
B-11	MARCH 9, 2017	233645	167010
BORINGS COMPLETED BY: PSI, INC.			
REPORT COMPLETED BY: JEFFREY A. MANNINEN, PSI, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DUNN COUNTY			





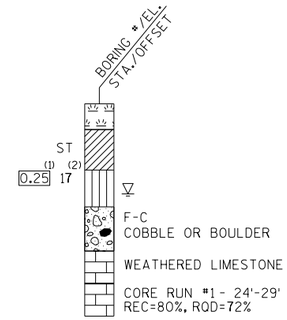
STATE PROJECT NUMBER

8100-01-71

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.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

DRAWN BY MJH | PLANS CK'D. DMB

SUBSURFACE EXPLORATION

SHEET 4

50

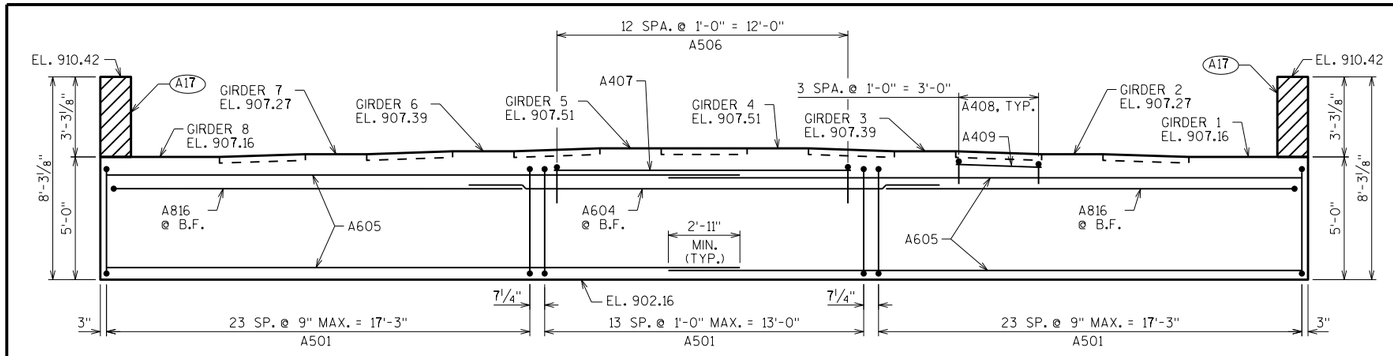
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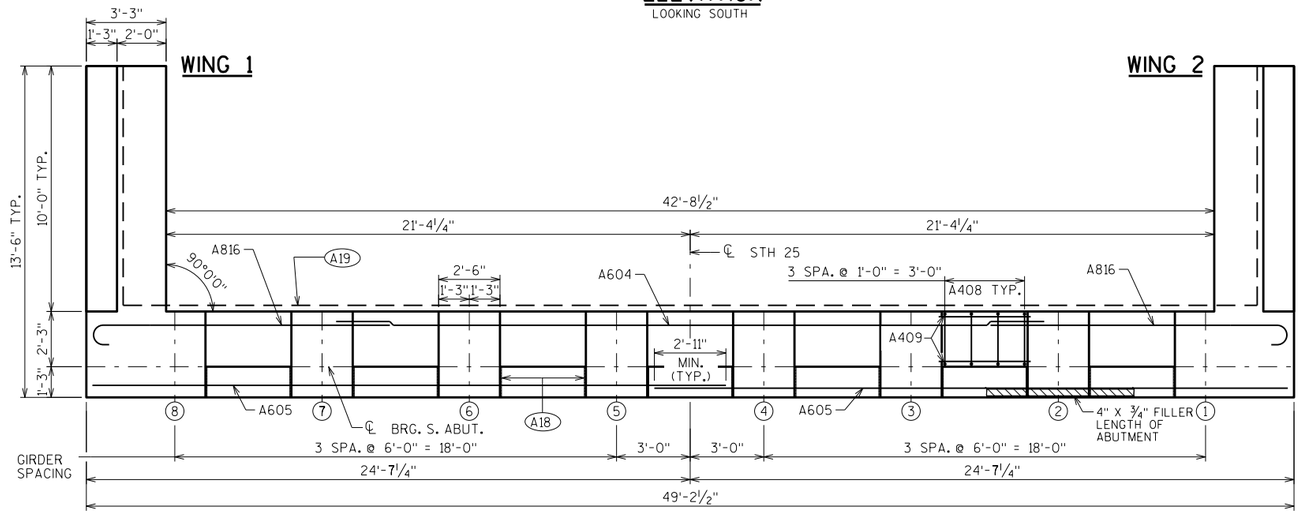
STATE PROJECT NUMBER

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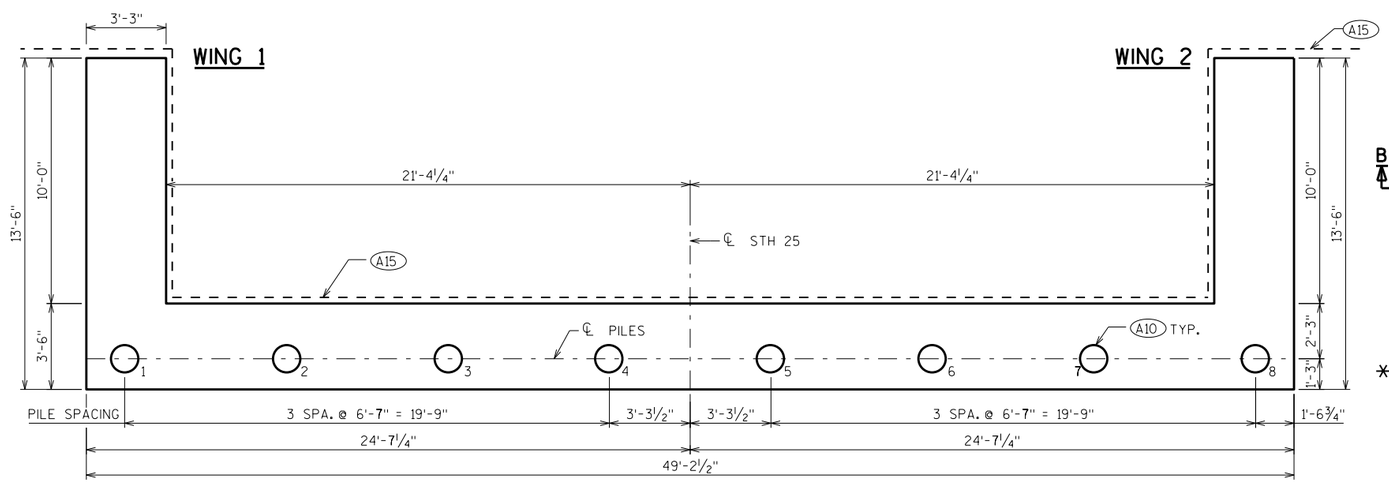


ELEVATION

LOOKING SOUTH

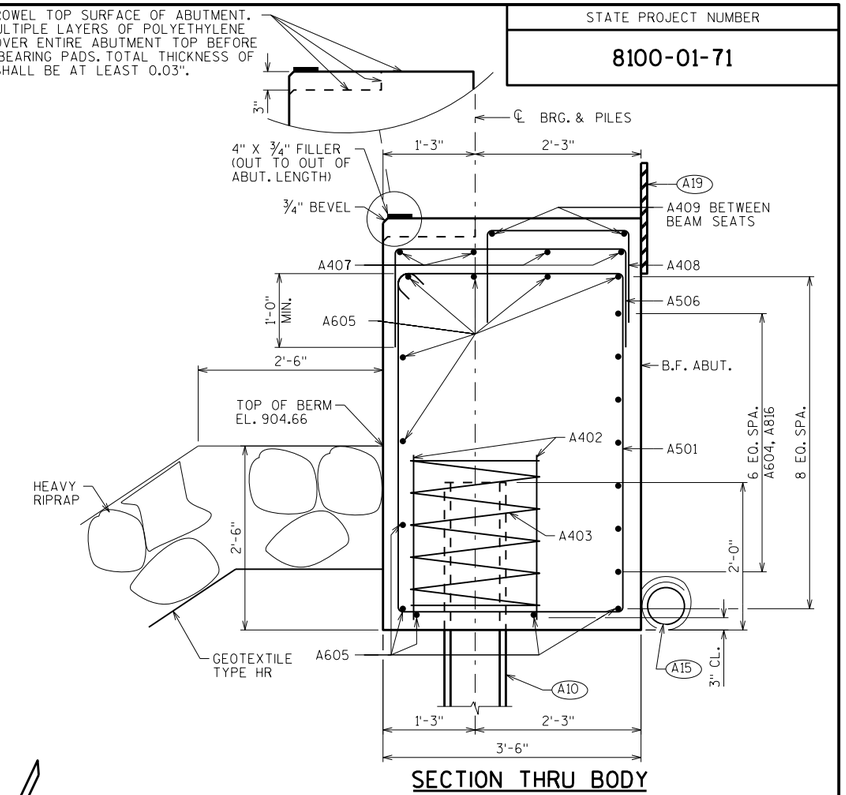


PLAN

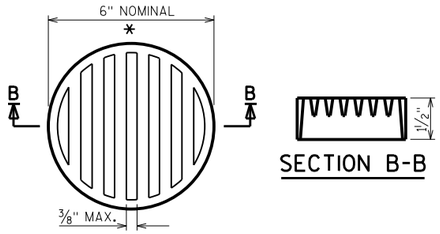


PILE PLAN

STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".



SECTION THRU BODY



RODENT SHIELD DETAIL

SECTION B-B

* 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 INCULDED WITH 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.

◯ INDICATES GIRDER NUMBER

(A10) SUPPORT ABUTMENT ON 12 3/4" DIA. X 0.25" CIP CONCRETE PILING, ESTIMATED 100'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

DRAWN BY MJH | PLANS CK'D. DMB

SOUTH ABUTMENT

SHEET 5

51

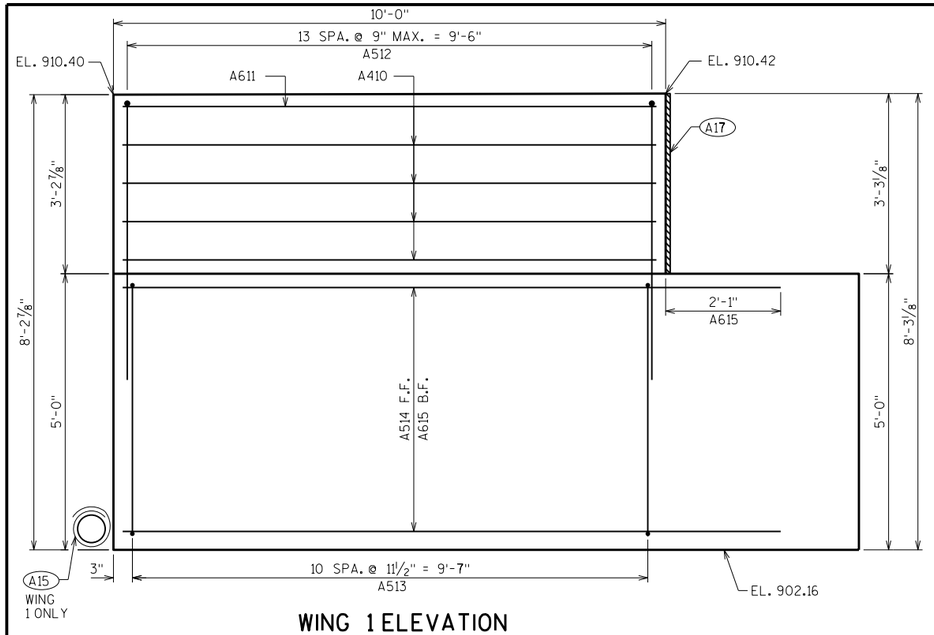
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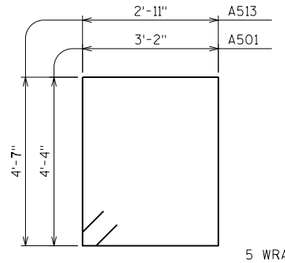
STATE PROJECT NUMBER

8100-01-71

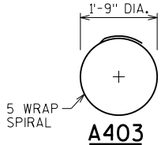


WING 1 ELEVATION

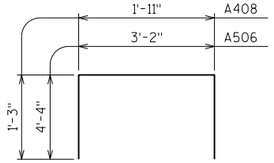
WING 2 SIMILAR



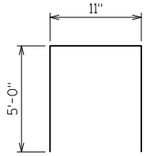
A501, A513



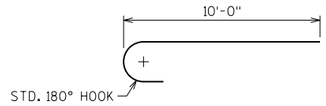
A403



A506, A408



A512

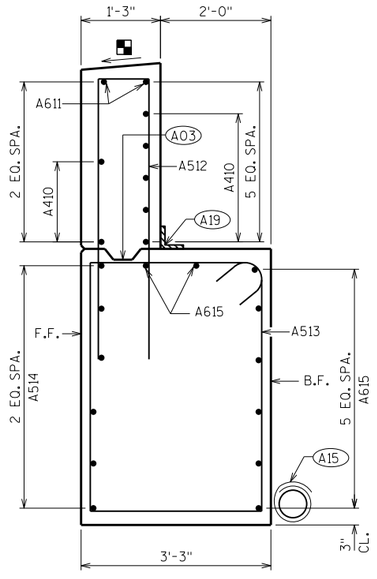


A816

BILL OF BARS

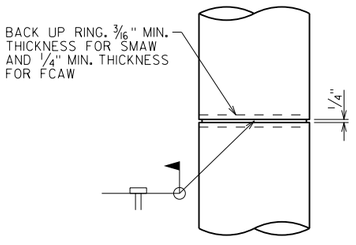
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
A501		62	15'-8"	X	BODY - STIRRUPS
A402		16	2'-3"		PILES - 2 PER BODY PILE
A403		8	28'-0"	X	PILES - 1 PER BODY PILE
A604		7	33'-0"		BODY - HORIZONTAL - BF
A605		22	27'-1"		BODY - HORIZONTAL
A506		13	7'-0"	X	BODY - UNDER BEAM SEATS
A407		4	12'-0"		BODY - UNDER BEAM SEATS
A408		28	4'-3"	X	BODY - VERTICAL BTWN. BEAM SEATS
A409		14	3'-6"		BODY - HORIZONTAL BTWN. BEAM SEATS
A410	X	18	9'-6"		WING 1 & 2 - HORIZONTAL - UPPER WING
A611	X	4	9'-6"		WING 1 & 2 - HORIZONTAL - UPPER WING
A512	X	28	10'-8"	X	WING 1 & 2 - VERTICAL - UPPER WING
A513	X	22	15'-8"	X	WING 1 & 2 - STIRRUP - LOWER WING
A514	X	12	13'-0"		WING 1 & 2 - HORIZONTAL - F.F. - LOWER WING
A615	X	16	11'-10"		WING 1 & 2 - HORIZONTAL - B.F. - LOWER WING
A816		14	10'-11"	X	BODY - HORIZONTAL - B.F.

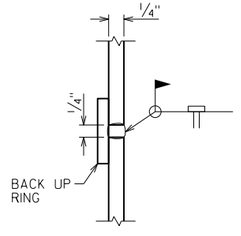


WING 1 SECTION

WING 2 SIMILAR



CAST-IN-PLACE 'PIPE PILE'



C.I.P. PILE WELD DETAIL

PILE DETAILS

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

SLOPE 1% FOR DRAINAGE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

DRAWN BY MJH | PLANS CK'D. DMB

SOUTH ABUTMENT DETAILS

SHEET 6

52

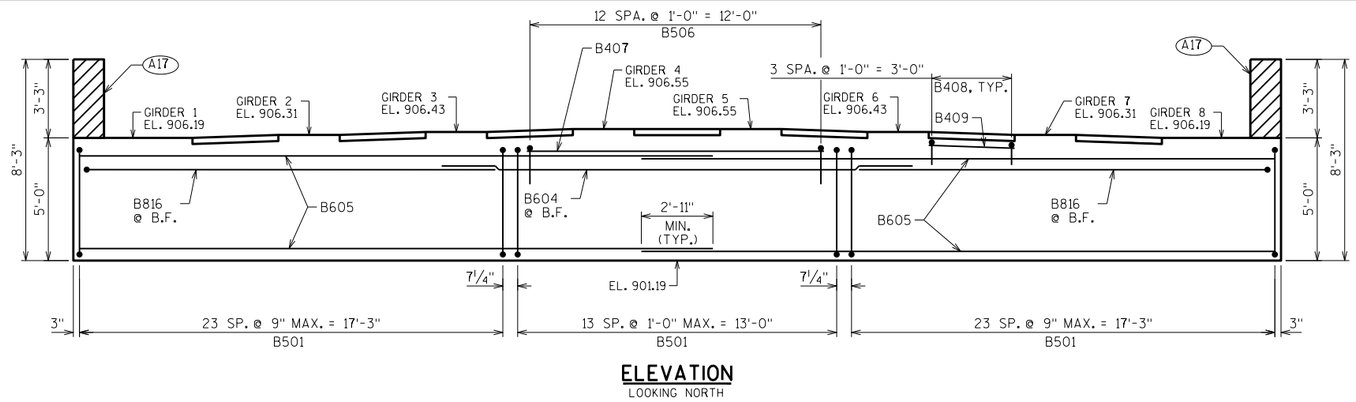
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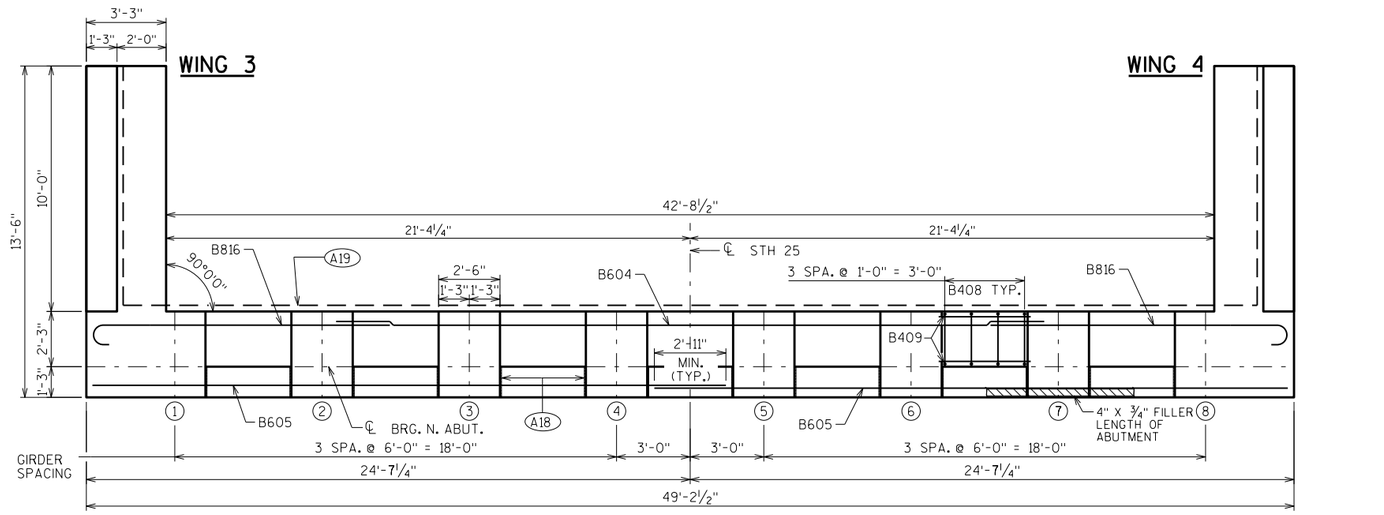
STATE PROJECT NUMBER

8100-01-71

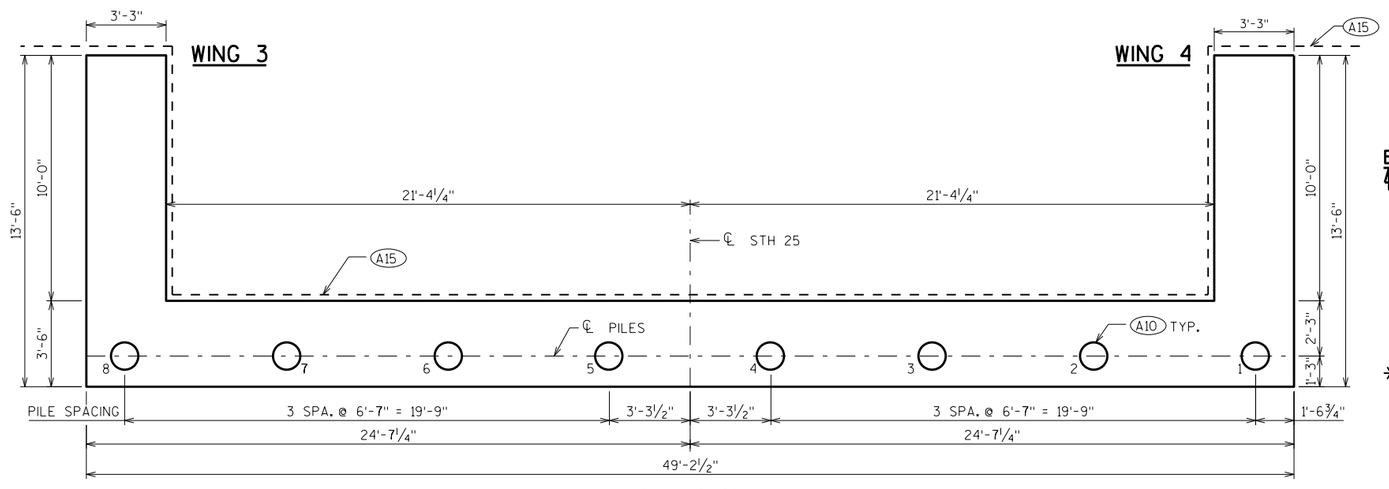


ELEVATION

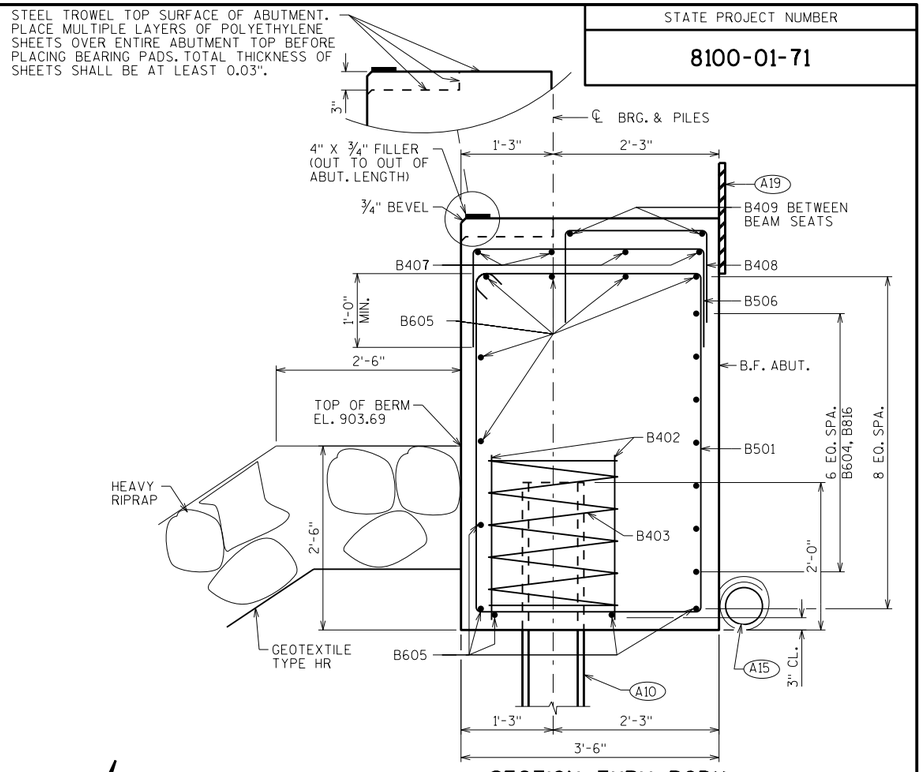
LOOKING NORTH



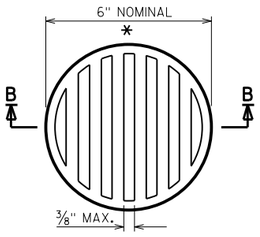
PLAN



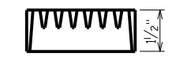
PILE PLAN



SECTION THRU BODY



RODENT SHIELD DETAIL



SECTION B-B

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

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◯ INDICATES GIRDER NUMBER

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

DRAWN BY MJH | PLANS CK'D. DMB

NORTH ABUTMENT

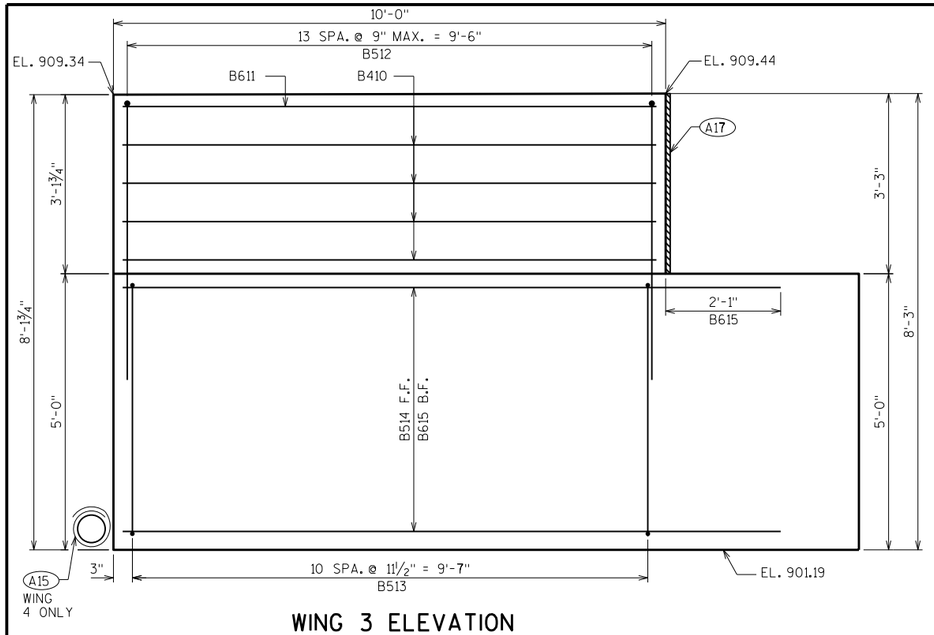
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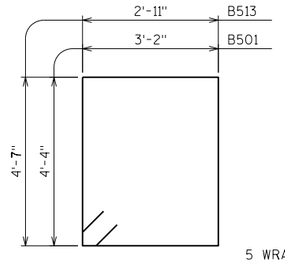
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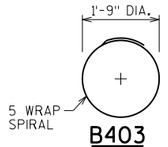


WING 3 ELEVATION

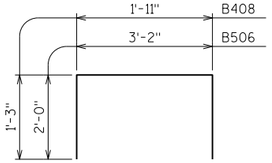
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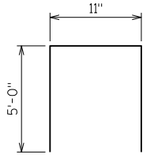
B501, B513



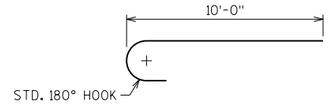
B403



B506, B408



B512

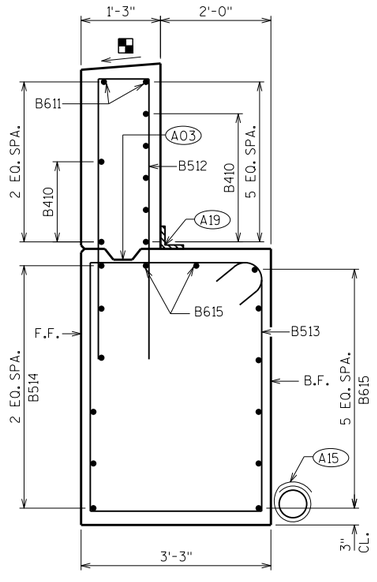


B816

BILL OF BARS

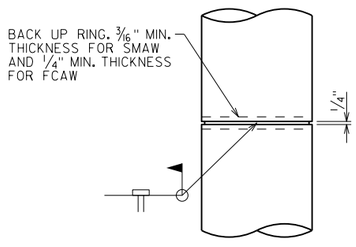
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B410	X	18	9'-6"		WING 3 & 4 - HORIZONTAL - UPPER WING
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B513	X	22	15'-8"	X	WING 3 & 4 - STIRRUP - LOWER WING
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B615	X	16	11'-10"		WING 3 & 4 - HORIZONTAL - B.F. - LOWER WING
B816		14	10'-11"	X	BODY - HORIZONTAL - B.F.

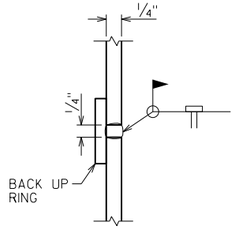


WING 3 SECTION

WING 4 SIMILAR



CAST-IN-PLACE 'PIPE PILE'



C.I.P. PILE WELD DETAIL

PILE DETAILS

A03 OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

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A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

SLOPE 1% FOR DRAINAGE

NO.	DATE	REVISION	BY

STATE PROJECT NUMBER

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

DRAWN BY MJH | PLANS CK'D. DMB

NORTH ABUTMENT DETAILS

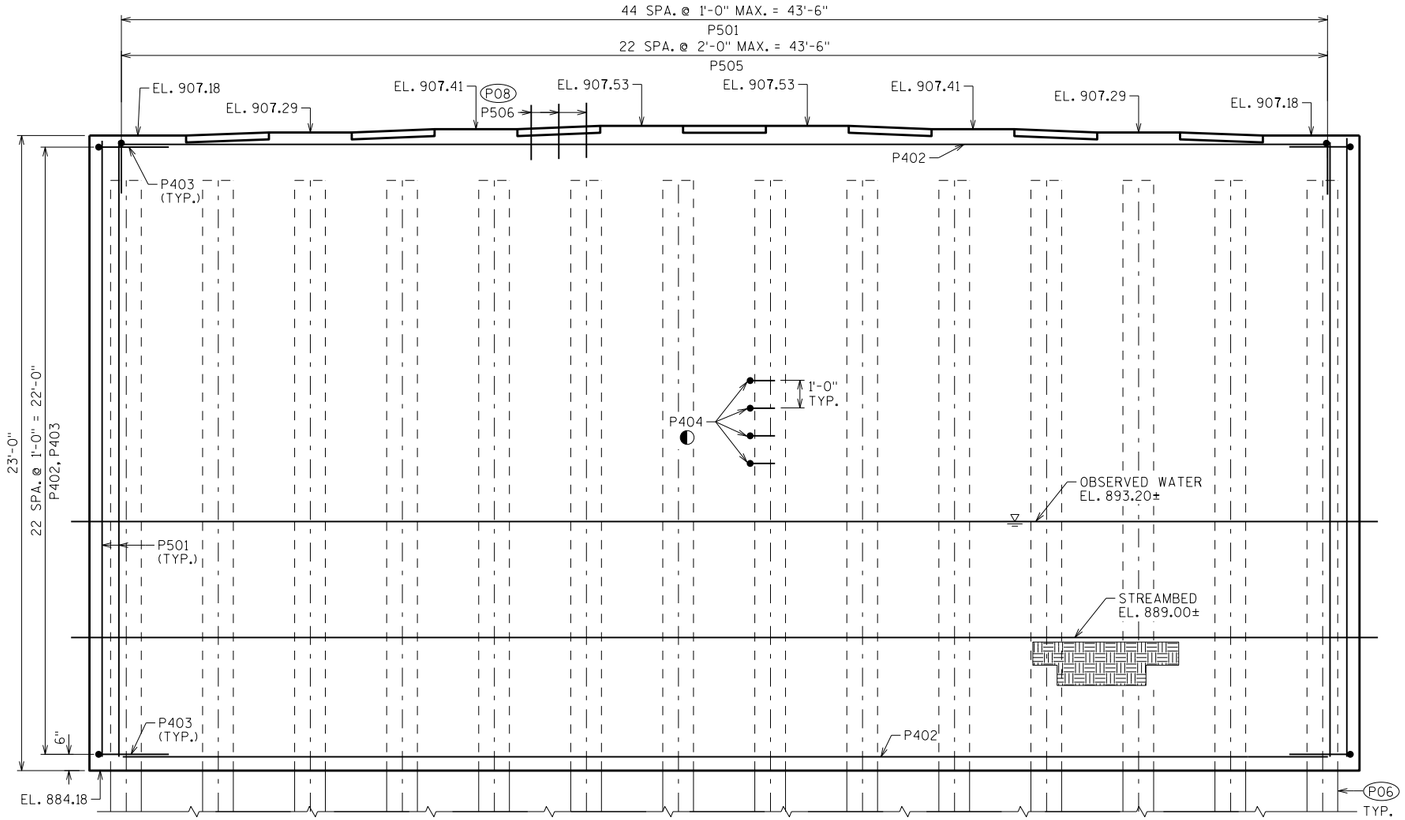
SHEET 8

54

SCALE = 2.67

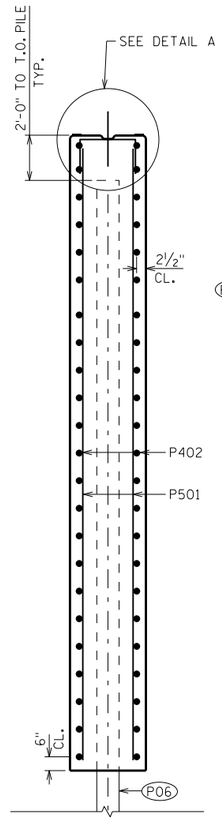
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ELEVATION

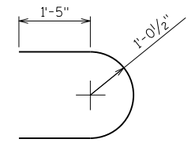
LOOKING NORTH



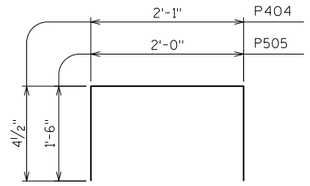
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

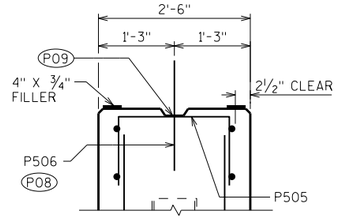
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
P501	X	96	22'-2"			PIER - VERTICAL
P402	X	46	43'-3"			PIER - HORIZONTAL
P403	X	46	5'-3"	X		PIER - HORIZONTAL - ENDS
◐ P404	X	308	2'-8"	X		PIER - HORIZONTAL PILE BARS
P505	X	23	4'-9"	X		PIER - VERTICAL - TOP
P08 P506	X	21	2'-0"			PIER - VERTICAL - DOWEL BARS



P403



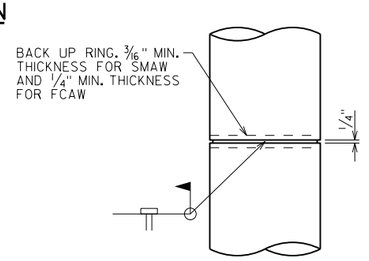
P404, P505



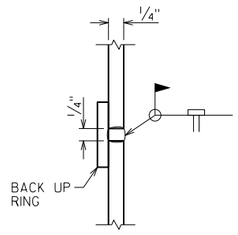
DETAIL A

PIER SECTION

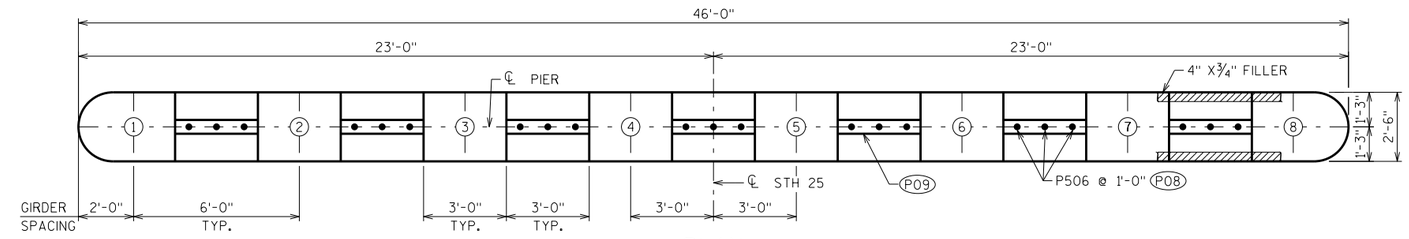




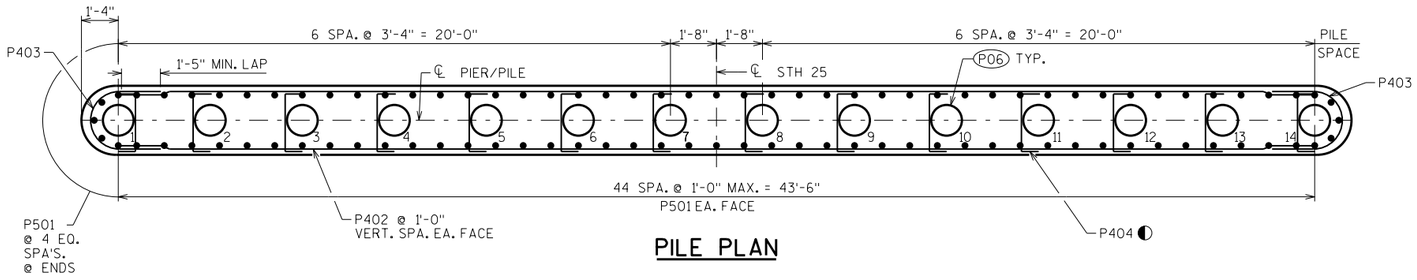
CAST-IN-PLACE 'PIPE PILE'



C.I.P. PILE WELD DETAIL



PLAN



PILE PLAN

◯ INDICATES GIRDER NUMBER

P06 SUPPORT PIER ON 12¾" DIA. X 0.25" CIP CONCRETE PILING, ESTIMATED 80'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE.

P08 P506 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

P09 KEYED CONST. JOINT-FORMED BY BEVELED 2 x 6 BETWEEN BEAM SEATS.

◐ ADJACENT TO EACH PILE (ONE SIDE ONLY) AND VERT. @ 1'-0" SPA. TYP.

PILE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

DRAWN BY MJH | PLANS CK'D. DMB

PIER 1

SHEET 9

55

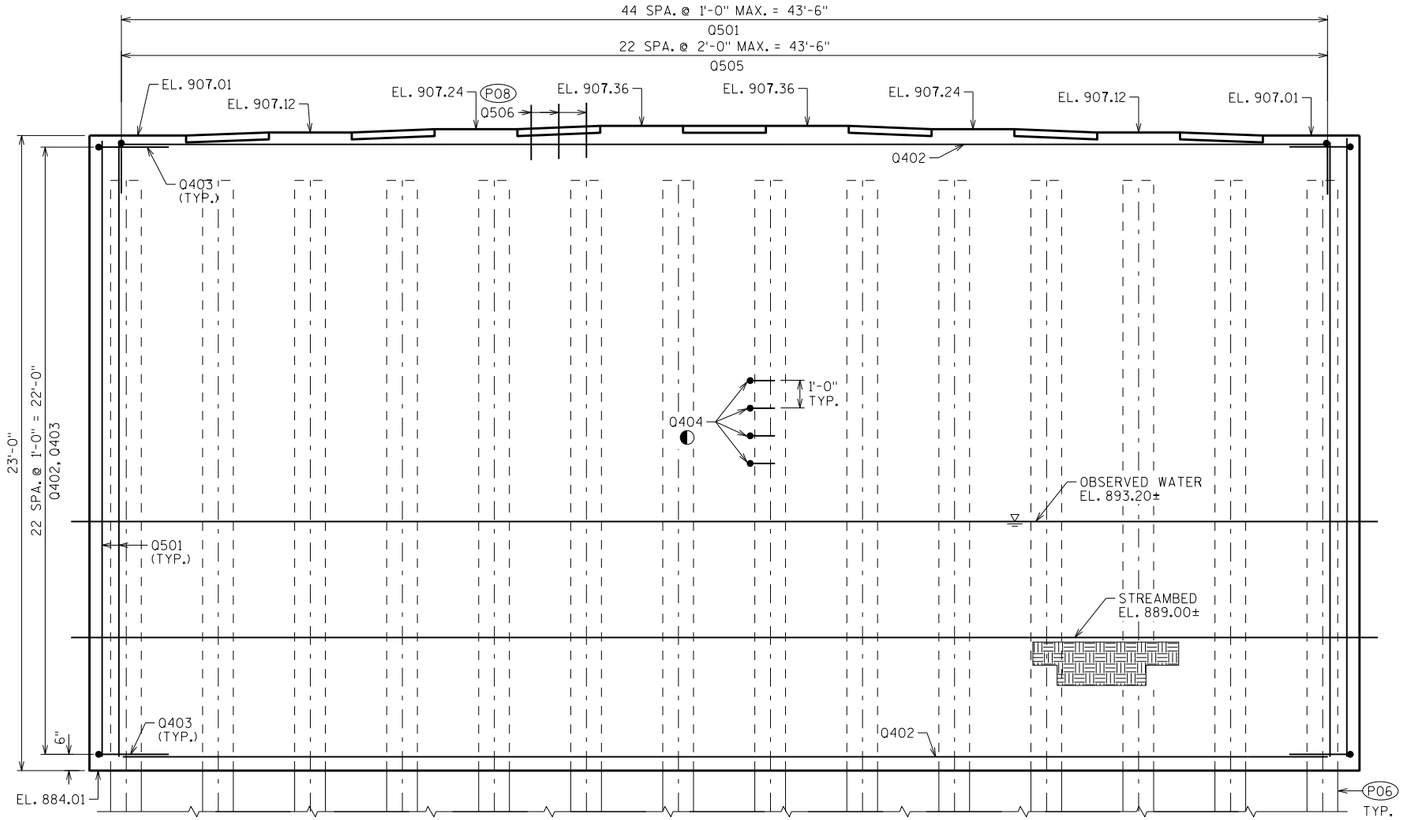
STATE PROJECT NUMBER

8100-01-71

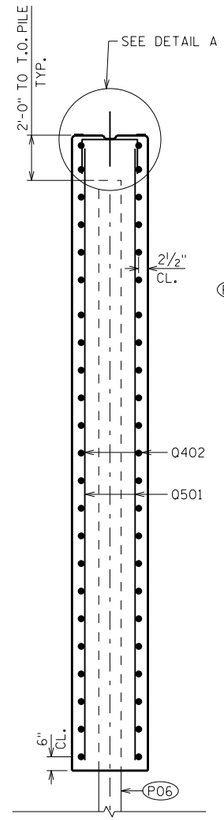
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SCALE = 2.67



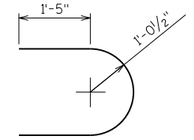
ELEVATION
LOOKING NORTH



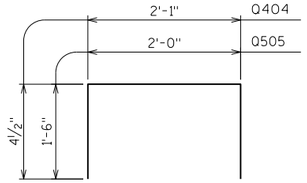
BILL OF BARS

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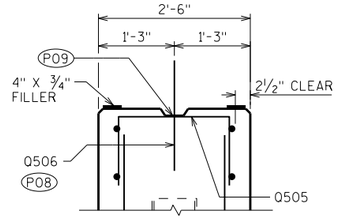
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
Q501	X	96	22'-2"			PIER - VERTICAL
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P08 Q506	X	21	2'-0"			PIER - VERTICAL - DOWEL BARS



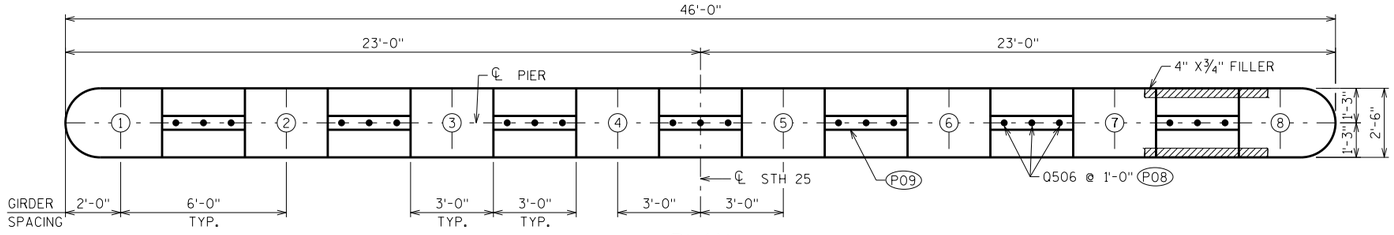
Q403



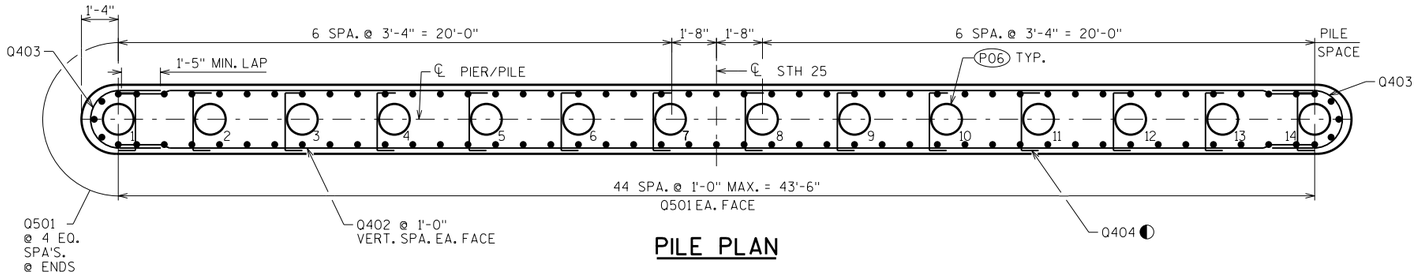
Q404, Q505



DETAIL A



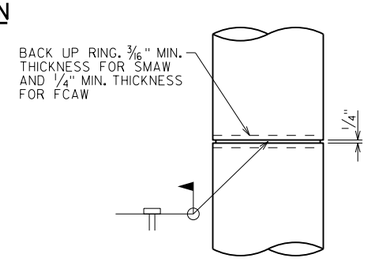
PLAN



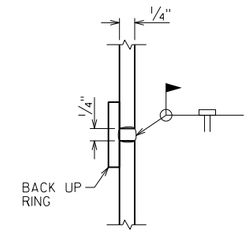
PILE PLAN

PIER SECTION





CAST-IN-PLACE 'PIPE PILE'



C.I.P. PILE WELD DETAIL

PILE DETAILS

◯ INDICATES GIRDER NUMBER

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STATE PROJECT NUMBER

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

DRAWN BY MJH | PLANS CK'D. DMB

PIER 2

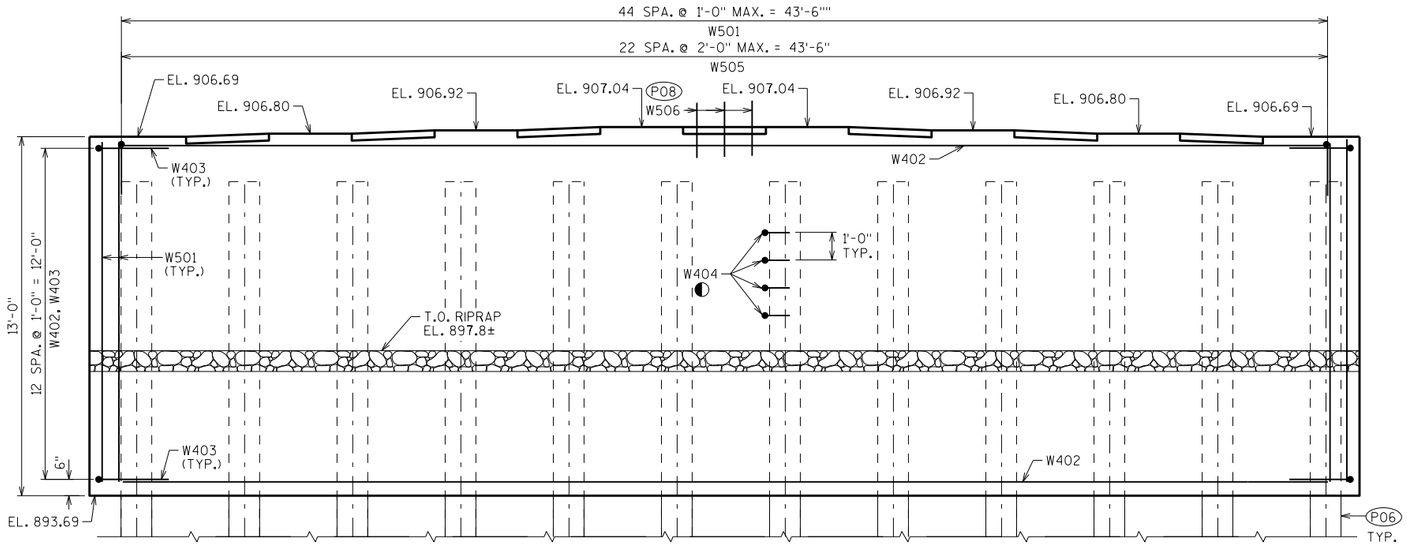
SHEET 10

56

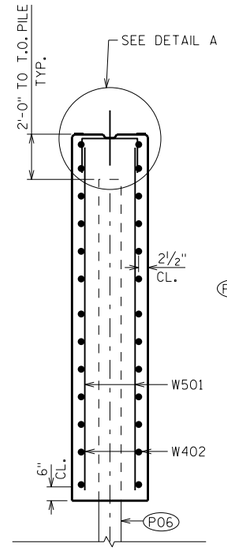
SCALE = 2.67

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8



ELEVATION
LOOKING NORTH



PIER SECTION

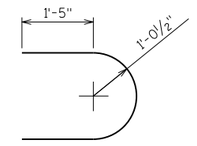
STATE PROJECT NUMBER

8100-01-71

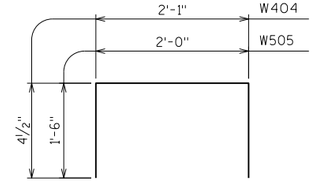
BILL OF BARS

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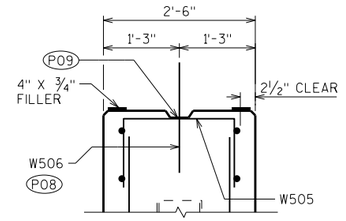
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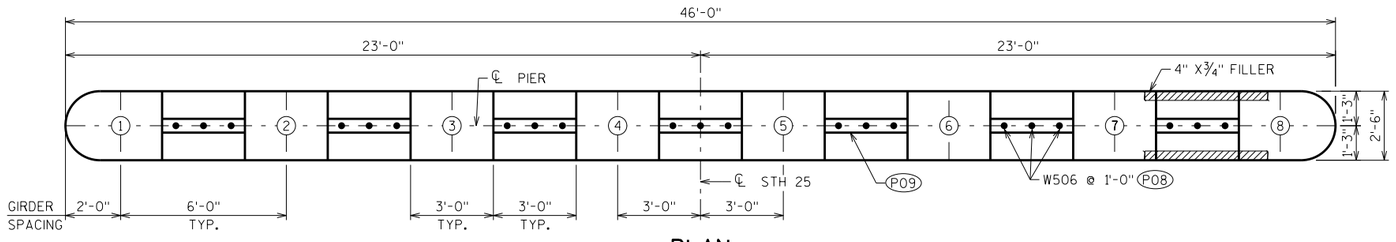
W403



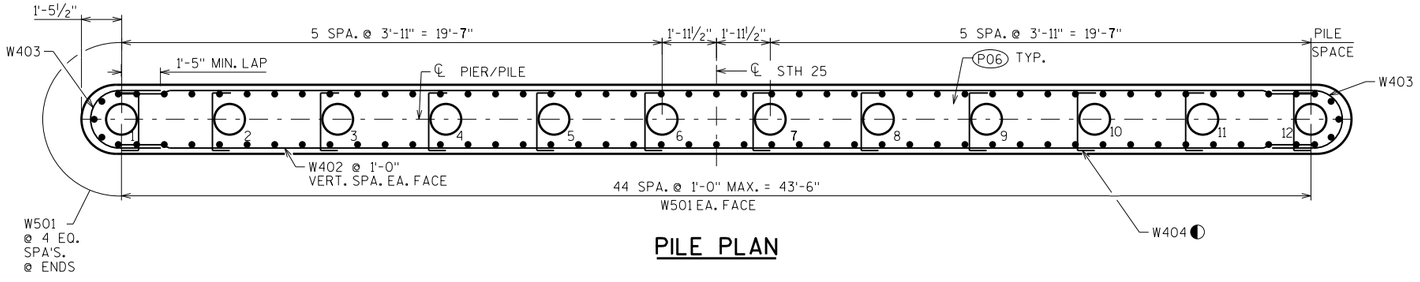
W404, W505



DETAIL A

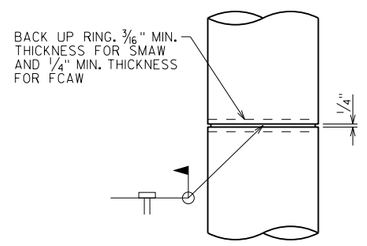


PLAN

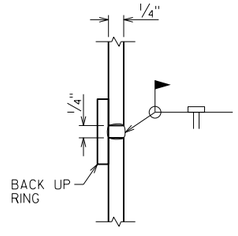


PILE PLAN





CAST-IN-PLACE 'PIPE PILE'



C.I.P. PILE WELD DETAIL

PILE DETAILS

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

DRAWN BY MJH | PLANS CK'D. DMB

PIER 3

SHEET 11

57

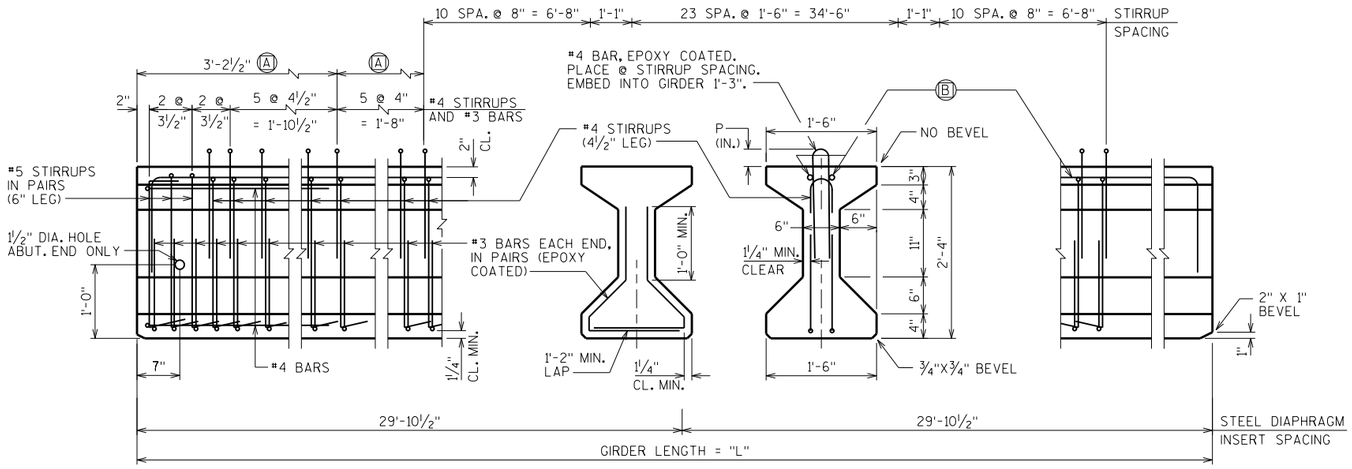
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8

STATE PROJECT NUMBER

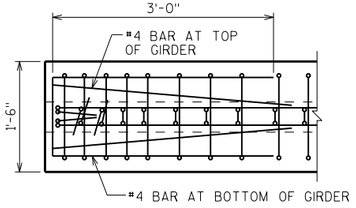
8100-01-71



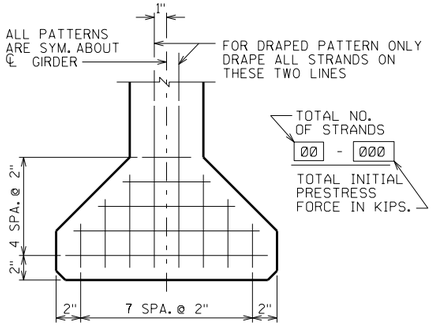
SIDE VIEW & TYPICAL SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

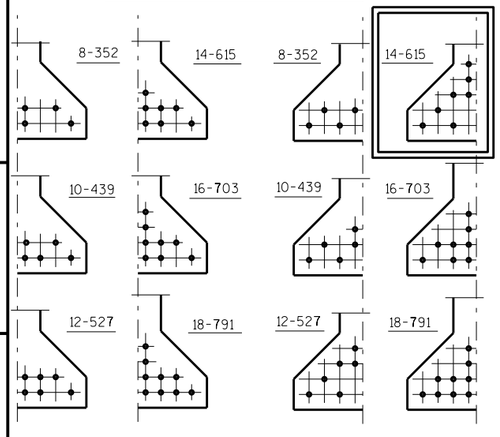
Ⓑ 2-BARS BEND DOWN 16 BAR DIA. AT ENDS



TOP VIEW OF GIRDER ENDS

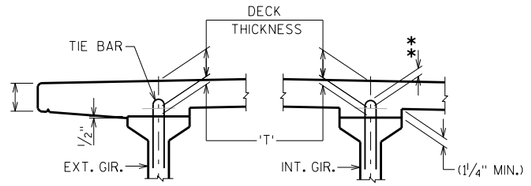


TYP. STRAND PATTERN



DRAPED PATTERN 0.6"ϕ STRANDS

UNDRAPED PATTERN 0.6"ϕ STRANDS



DECK HAUNCH DETAIL

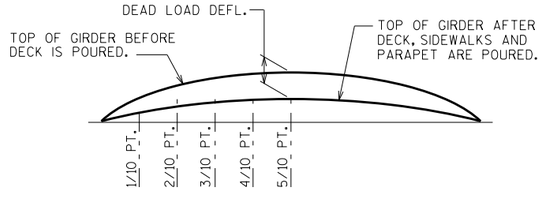
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

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

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 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 2.5" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



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	1.95
2	1.95
3	1.95
4	1.95

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

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

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. 503.3.3 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 ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

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.

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

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1 & 8	59.75	0.3	0.6	0.8	0.9	0.9	0.9	0.8	0.6	0.3	8,000	6	6	6	0.6							14	6,400
1	2-7	59.75	0.3	0.6	0.8	1.0	1.0	1.0	0.8	0.6	0.3	8,000	6	6	6	0.6							14	6,400
2	1 & 8	59.75	0.3	0.6	0.8	0.9	1.0	0.9	0.8	0.6	0.3	8,000	6	6	6	0.6							14	6,400
2	2-7	59.75	0.3	0.6	0.8	1.0	1.0	1.0	0.9	0.6	0.3	8,000	6	6	6	0.6							14	6,400
3	1 & 8	59.75	0.3	0.6	0.8	0.9	1.0	0.9	0.8	0.6	0.3	8,000	6	6	6	0.6							14	6,400
3	2-7	59.75	0.3	0.6	0.9	1.0	1.0	1.0	1.0	0.6	0.3	8,000	6	6	6	0.6							14	6,400
4	1 & 8	59.75	0.3	0.6	0.8	0.9	0.9	0.9	0.8	0.6	0.3	8,000	6	6	6	0.6							14	6,400
4	2-7	59.75	0.3	0.6	0.8	1.0	1.0	1.0	0.8	0.6	0.3	8,000	6	6	6	0.6							14	6,400

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

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28" PRESTRESSED GIRDER DETAILS

SHEET 12

58

SCALE = 1.00

8

8

STATE PROJECT NUMBER

8100-01-71

NOTES

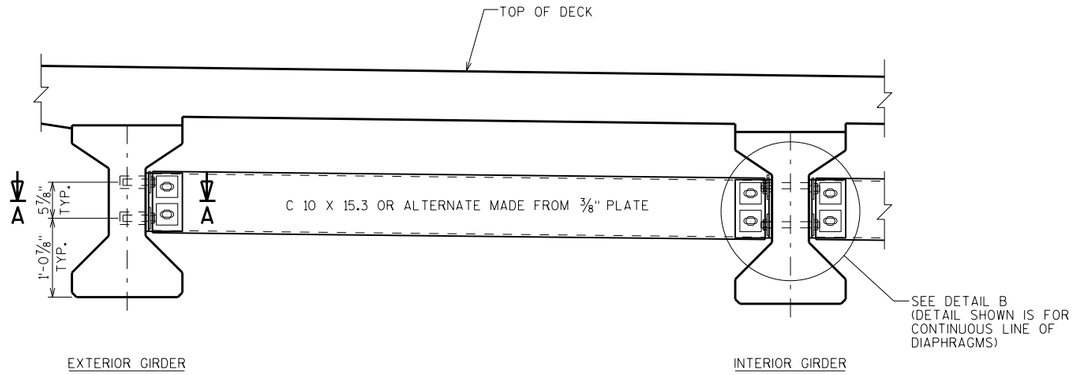
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-17-225", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

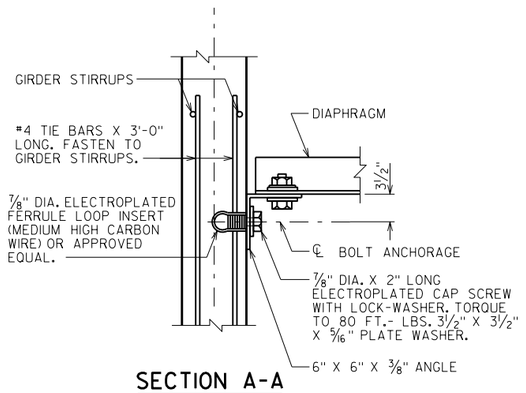
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

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.

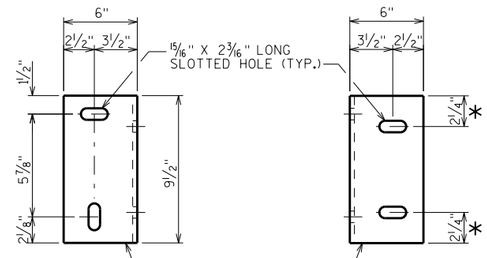


PART TRANSVERSE SECTION AT DIAPHRAGM



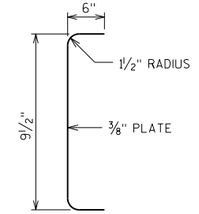
SECTION A-A

(FOR EXTERIOR ATTACHMENT)

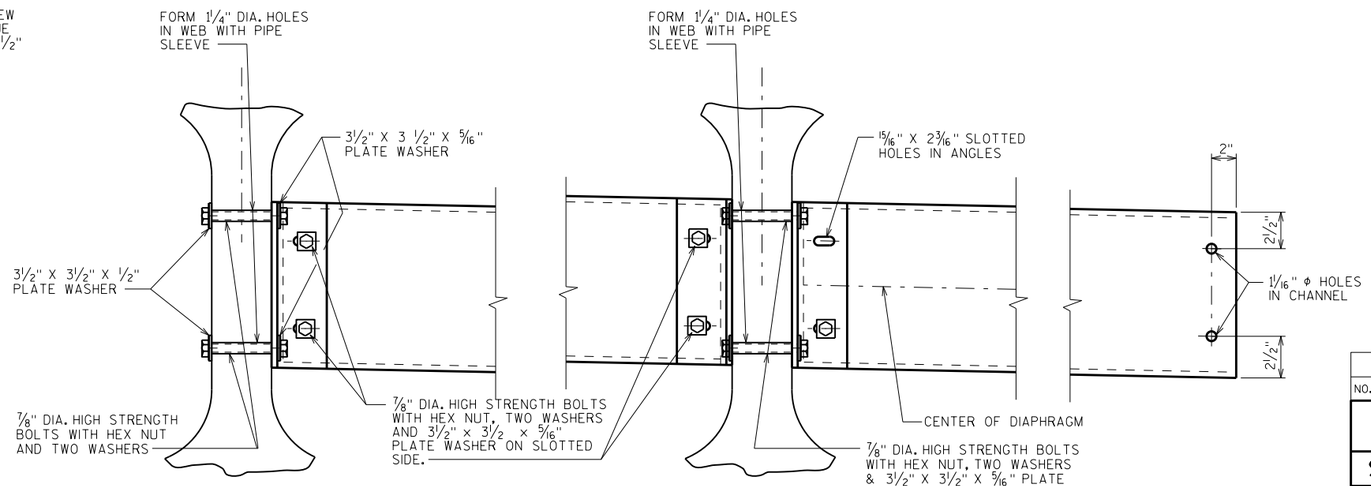


DIAPHRAGM SUPPORT

* 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM



SECTION THRU ALTERNATE DIAPHRAGM



(FOR STAGGERED DIAPHRAGM)

(FOR CONTINUOUS LINE OF DIAPHRAGMS)

DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

DRAWN BY ABS | PLANS CK'D. DMB

STEEL DIAPHRAGM

SHEET 13

59

SCALE = 1.00

8

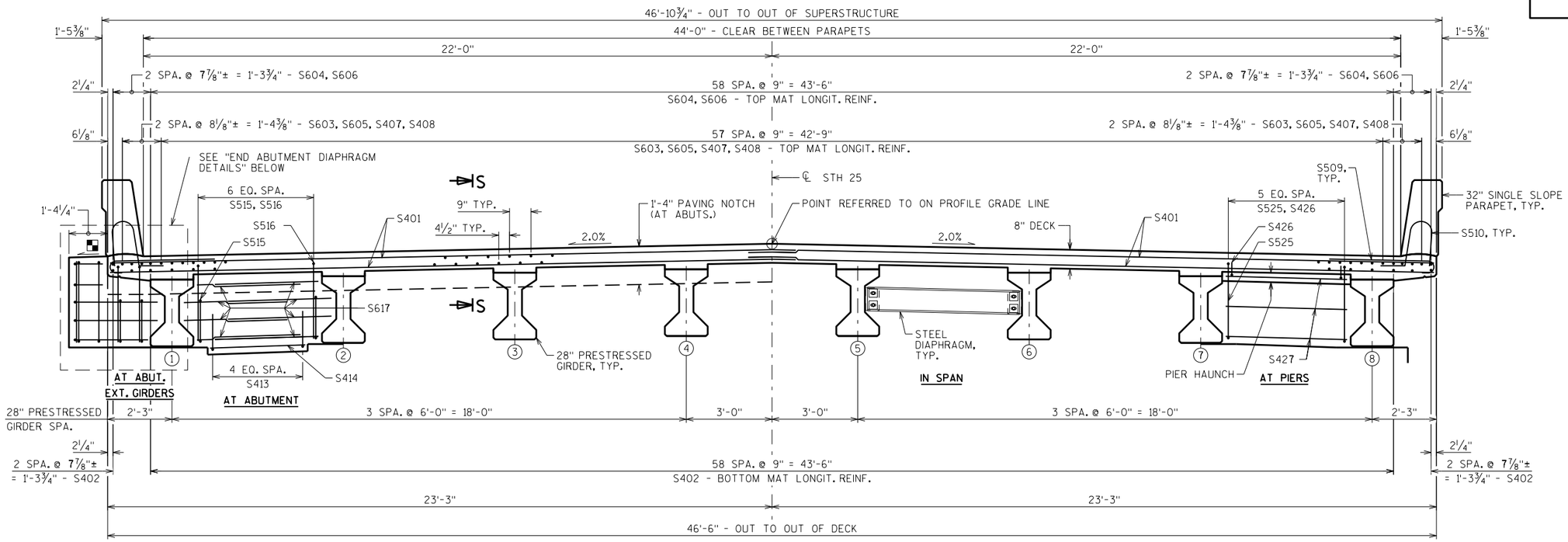
8

STATE PROJECT NUMBER

8100-01-71

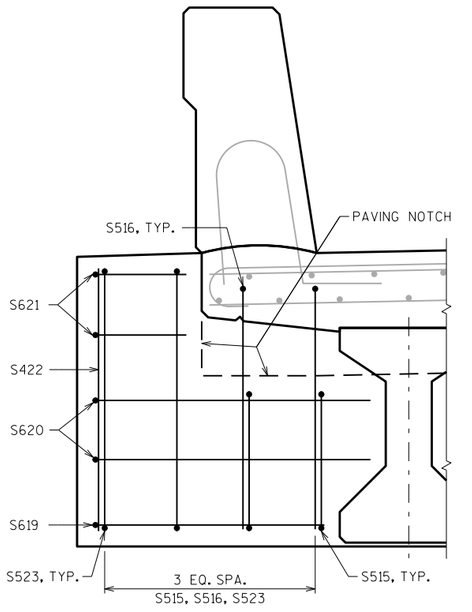
SLOPE TO DRAIN

(#) GIRDER NUMBER

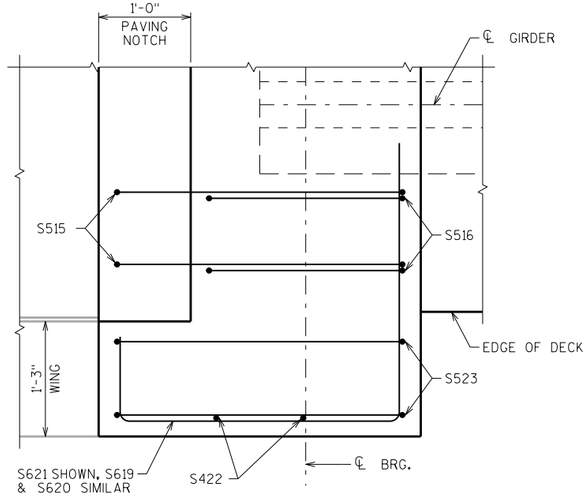


CROSS SECTION THRU ROADWAY

LOOKING NORTH

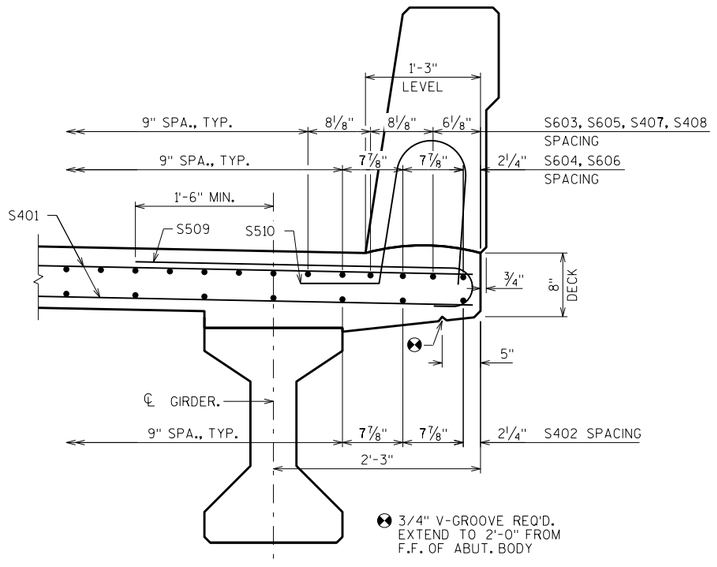


END ABUTMENT DIAPHRAGM DETAILS

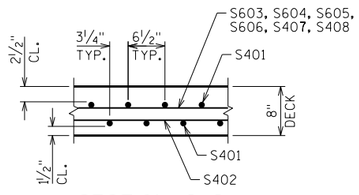


END ABUTMENT DIAPHRAGM - PLAN VIEW

WING 1 CORNER SHOWN, OTHERS SIMILAR



SECTION THRU EDGE OF DECK



SECTION S-S

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

DRAWN BY ABS | PLANS CK'D. DMB

SUPERSTRUCTURE CROSS SECTION

SHEET 14

60

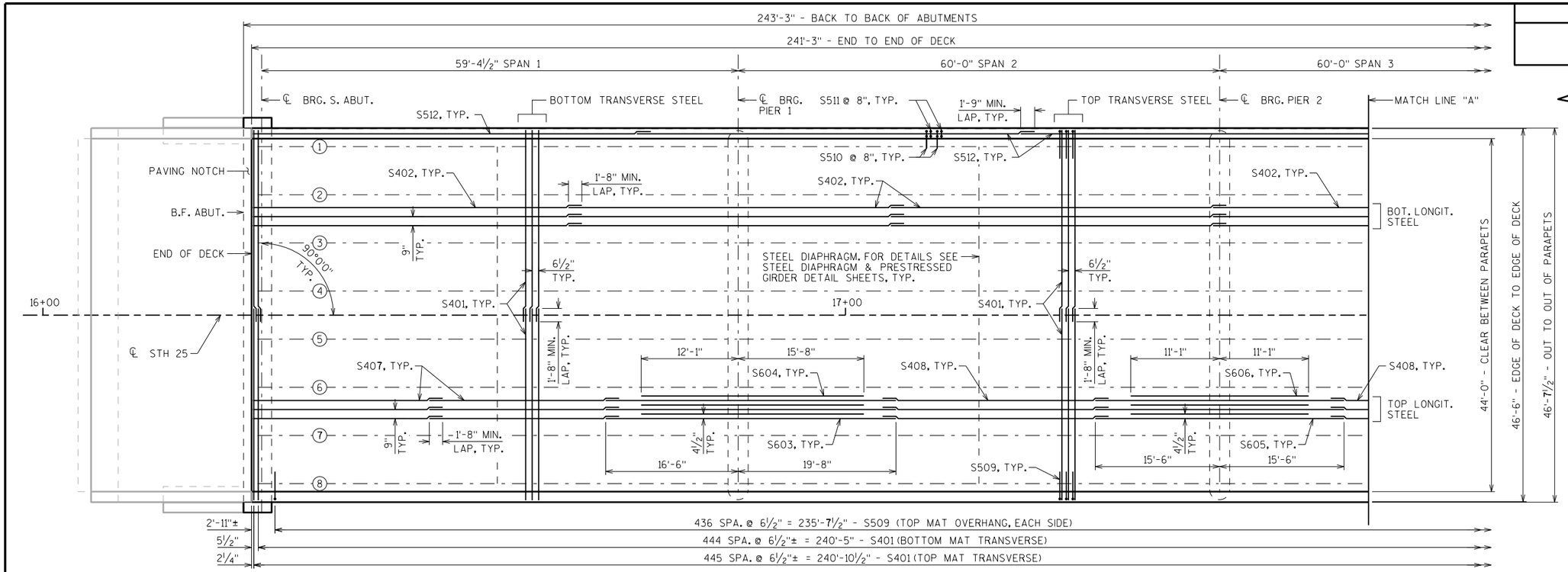
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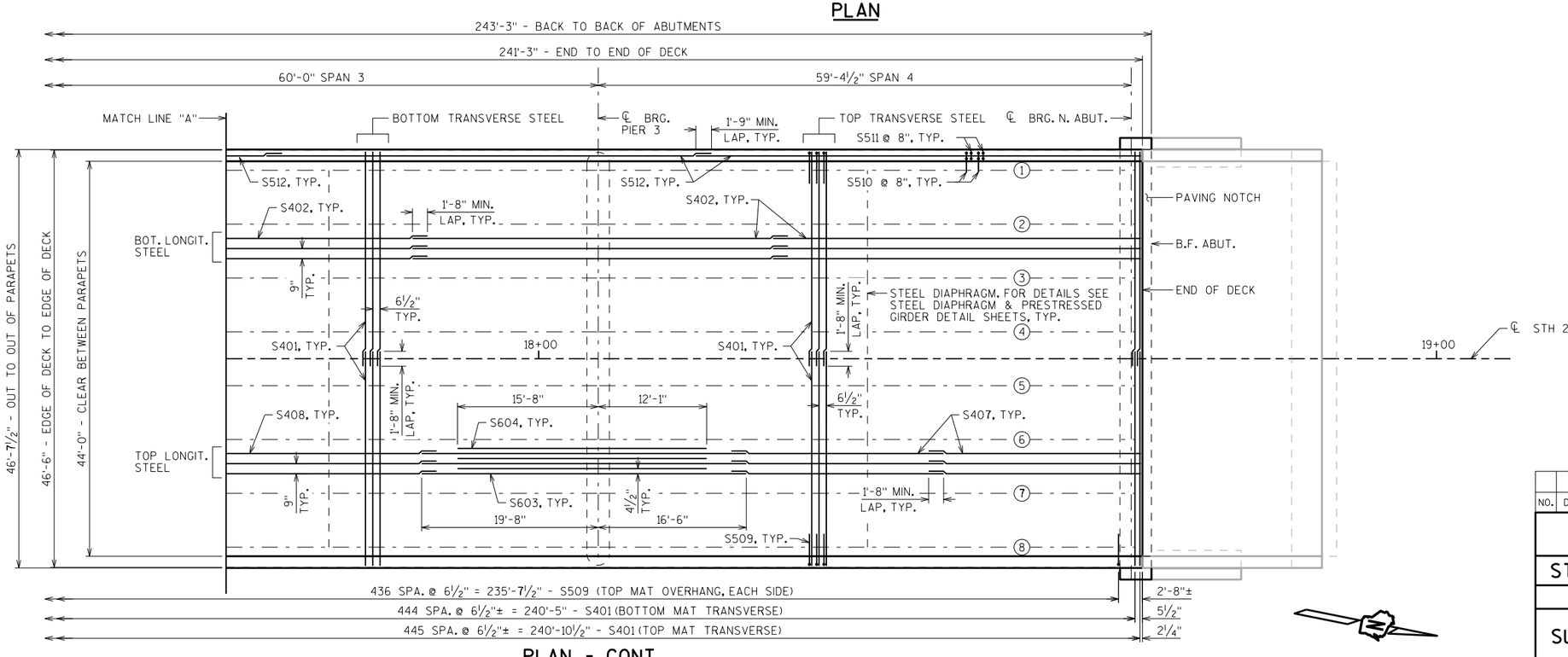
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STATE PROJECT NUMBER

8100-01-71



PLAN



PLAN - CONT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

DRAWN BY ABS | PLANS CK'D. DMB

SUPERSTRUCTURE PLAN

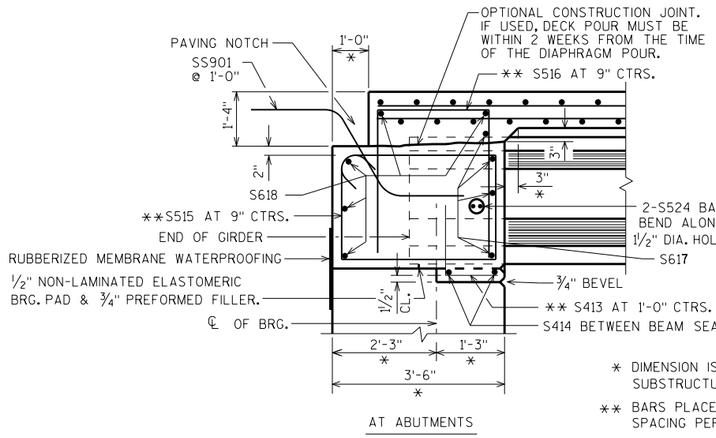
SHEET 15

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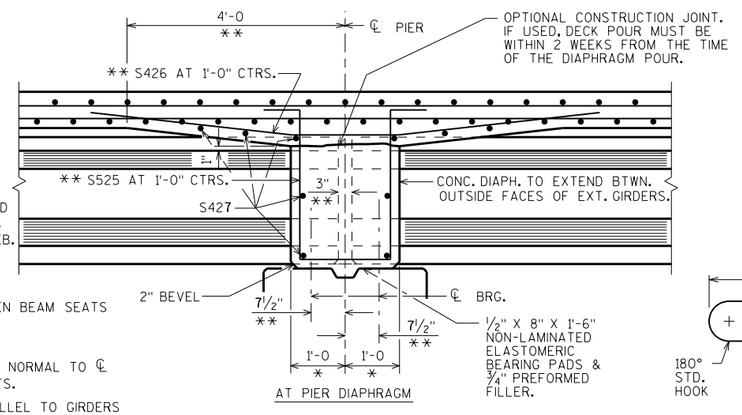
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8



AT ABUTMENTS

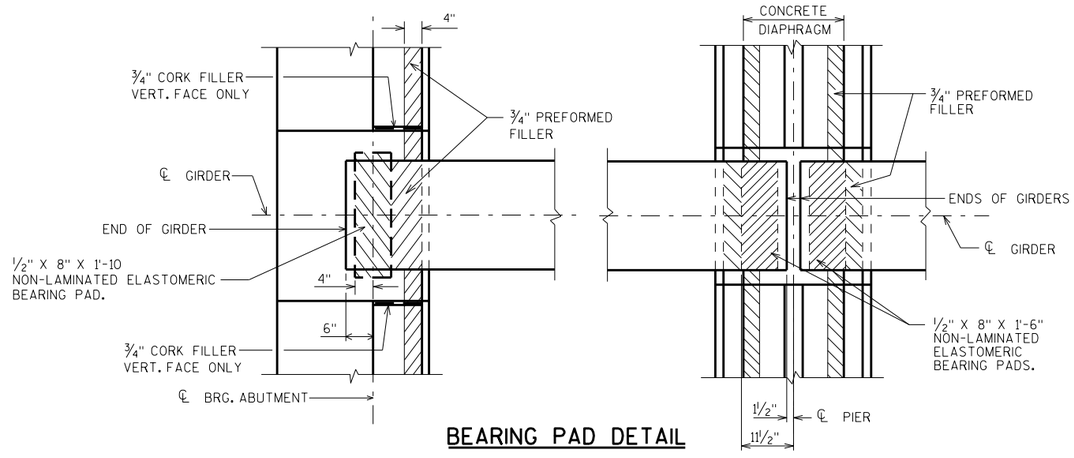


AT PIER DIAPHRAGM

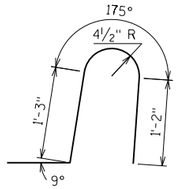
* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS

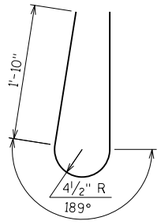
PART LONGIT. SECTION



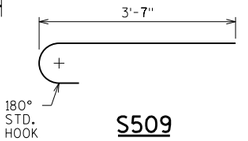
BEARING PAD DETAIL



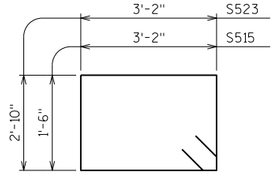
S510



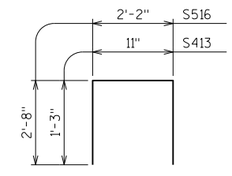
S511



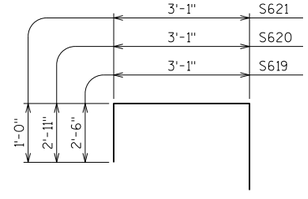
S509



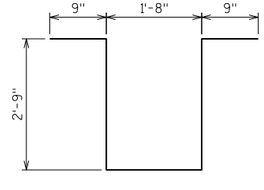
S515, S523



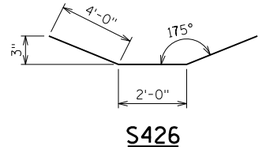
S413, S516, S621



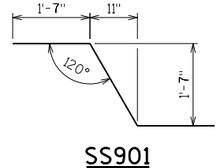
S619, S620



S525



S426



SS901

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	1782	24'-0"			DECK - TRANS. - TOP & BOTTOM
S402	X	378	41'-7"			DECK - BOT. - LONG.
S603	X	124	36'-2"			DECK - TOP - LONG. - OVER PIERS 1 & 3
S604	X	126	27'-9"			DECK - TOP - LONG. - OVER PIERS 1 & 3
S605	X	62	31'-0"			DECK - TOP - LONG. - OVER PIER 2
S606	X	63	22'-2"			DECK - TOP - LONG. - OVER PIER 2
S407	X	248	23'-8"			DECK - TOP - LONG. - SPANS 1 & 4
S408	X	124	28'-2"			DECK - TOP - LONG. - SPANS 2 & 3
S509	X	874	4'-2"	X		DECK - TOP - TRANS. - OVERHANG
S510	X	726	4'-5"	X		32SS PARAPET - VERT.
S511	X	726	5'-0"	X		32SS PARAPET - VERT.
S512	X	60	49'-7"			32SS PARAPET - HORIZ.
S413	X	70	3'-3"	X		ABUT. DIAPH - VERT. - BOT.
S414	X	28	3'-3"			ABUT. DIAPH - HORIZ. - BOT.
S515	X	106	10'-0"	X		ABUT. DIAPH - VERT.
S516	X	106	7'-3"	X		ABUT. DIAPH - VERT.
S617	X	112	3'-7"			ABUT. DIAPH - HORIZ. - F.F.
S618	X	20	26'-2"			ABUT. DIAPH - HORIZ. - B.F. & TOP.
S619	X	4	8'-4"	X		ABUT. DIAPH. ENDS - HORIZ.
S620	X	8	8'-9"	X		ABUT. DIAPH. ENDS - HORIZ.
S621	X	8	6'-3"	X		ABUT. DIAPH. ENDS - HORIZ.
S422	X	8	2'-10"			ABUT. DIAPH. ENDS - VERT.
S523	X	8	12'-8"	X		ABUT. DIAPH. ENDS - VERT.
S524	X	32	6'-0"			ABUT. DIAPH. - HORIZ. - THRU GIRS.
S525	X	126	8'-2"	X		PIER DIAPH. - VERT.
S426	X	126	10'-0"	X		PIER DIAPH. - HAUNCH - LONG.
S427	X	210	4'-2"			PIER DIAPH. - HORIZ.
STAINLESS STEEL → SS901		94	5'-0"	X		CONC. ABUT. DIAPH. TO APPROACH SLAB

TOP OF DECK ELEVATIONS

	℄ BRG. S. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ PIER 1	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ PIER 2
L EOD	910.42	910.43	910.44	910.44	910.44	910.44	910.44	910.44	910.44	910.43	910.43	910.42	910.41	910.39	910.38	910.37	910.35	910.33	910.31	910.29	910.26
GIRDER 1	910.44	910.45	910.46	910.46	910.46	910.46	910.46	910.46	910.46	910.45	910.45	910.44	910.43	910.41	910.40	910.39	910.37	910.35	910.33	910.31	910.28
GIRDER 2	910.56	910.57	910.58	910.58	910.58	910.58	910.58	910.58	910.58	910.57	910.57	910.56	910.55	910.53	910.52	910.51	910.49	910.47	910.45	910.43	910.40
GIRDER 3	910.68	910.69	910.70	910.70	910.70	910.70	910.70	910.70	910.70	910.69	910.69	910.68	910.67	910.65	910.64	910.63	910.61	910.59	910.57	910.55	910.52
GIRDER 4	910.80	910.81	910.82	910.82	910.82	910.82	910.82	910.82	910.82	910.81	910.81	910.80	910.79	910.77	910.76	910.75	910.73	910.71	910.69	910.67	910.64
CROWN	910.86	910.87	910.88	910.88	910.88	910.88	910.88	910.88	910.88	910.87	910.87	910.86	910.85	910.83	910.82	910.81	910.79	910.77	910.75	910.73	910.70
GIRDER 5	910.80	910.81	910.82	910.82	910.82	910.82	910.82	910.82	910.82	910.81	910.81	910.80	910.79	910.77	910.76	910.75	910.73	910.71	910.69	910.67	910.64
GIRDER 6	910.68	910.69	910.70	910.70	910.70	910.70	910.70	910.70	910.70	910.69	910.69	910.68	910.67	910.65	910.64	910.63	910.61	910.59	910.57	910.55	910.52
GIRDER 7	910.56	910.57	910.58	910.58	910.58	910.58	910.58	910.58	910.58	910.57	910.57	910.56	910.55	910.53	910.52	910.51	910.49	910.47	910.45	910.43	910.40
GIRDER 8	910.44	910.45	910.46	910.46	910.46	910.46	910.46	910.46	910.46	910.45	910.45	910.44	910.43	910.41	910.40	910.39	910.37	910.35	910.33	910.31	910.28
R EOD	910.42	910.43	910.44	910.44	910.44	910.44	910.44	910.44	910.44	910.43	910.43	910.42	910.41	910.39	910.38	910.37	910.35	910.33	910.31	910.29	910.26

	℄ PIER 2	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ PIER 3	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ BRG. N. ABUT.
L EOD	910.26	910.24	910.21	910.18	910.15	910.12	910.09	910.06	910.02	909.98	909.94	909.90	909.86	909.81	909.76	909.72	909.67	909.61	909.56	909.51	909.45
GIRDER 1	910.28	910.26	910.23	910.20	910.17	910.14	910.11	910.08	910.04	910.00	909.96	909.92	909.88	909.83	909.78	909.74	909.69	909.63	909.58	909.53	909.47
GIRDER 2	910.40	910.38	910.35	910.32	910.29	910.26	910.23	910.20	910.16	910.12	910.08	910.04	910.00	909.95	909.90	909.86	909.81	909.75	909.70	909.65	909.59
GIRDER 3	910.52	910.50	910.47	910.44	910.41	910.38	910.35	910.32	910.28	910.24	910.20	910.16	910.12	910.07	910.02	909.98	909.93	909.87	909.82	909.77	909.71
GIRDER 4	910.64	910.62	910.59	910.56	910.53	910.50	910.47	910.44	910.40	910.36	910.32	910.28	910.24	910.19	910.14	910.10	910.05	909.99	909.94	909.89	909.83
CROWN	910.70	910.68	910.65	910.62	910.59	910.56	910.53	910.50	910.46	910.42	910.38	910.34	910.30	910.25	910.20	910.16	910.11	910.05	910.00	909.95	909.89
GIRDER 5	910.64	910.62	910.59	910.56	910.53	910.50	910.47	910.44	910.40	910.36	910.32	910.28	910.24	910.19	910.14	910.10	910.05	909.99	909.94	909.89	909.83
GIRDER 6	910.52	910.50	910.47	910.44	910.41	910.38	910.35	910.32	910.28	910.24	910.20	910.16	910.12	910.07	910.02	909.98	909.93	909.87	909.82	909.77	909.71
GIRDER 7	910.40	910.38	910.35	910.32	910.29	910.26	910.23	910.20	910.16	910.12	910.08	910.04	910.00	909.95	909.90	909.86	909.81	909.75	909.70	909.65	909.59
GIRDER 8	910.28	910.26	910.23	910.20	910.17	910.14	910.11	910.08	910.04	910.00	909.96	909.92	909.88	909.83	909.78	909.74	909.69	909.63	909.58	909.53	909.47
R EOD	910.26	910.24	910.21	910.18	910.15	910.12	910.09	910.06	910.02	909.98	909.94	909.90	909.86	909.81	909.76	909.72	909.67	909.61	909.56	909.51	909.45

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

DRAWN BY ABS | PLANS CK'D. DMB

SUPERSTRUCTURE DETAILS

SHEET 16

62

STATE PROJECT NUMBER

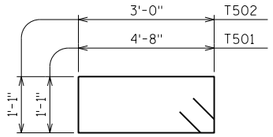
8100-01-71

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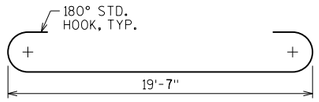
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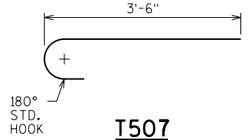
STATE PROJECT NUMBER
8100-01-71



T501, T502



T804

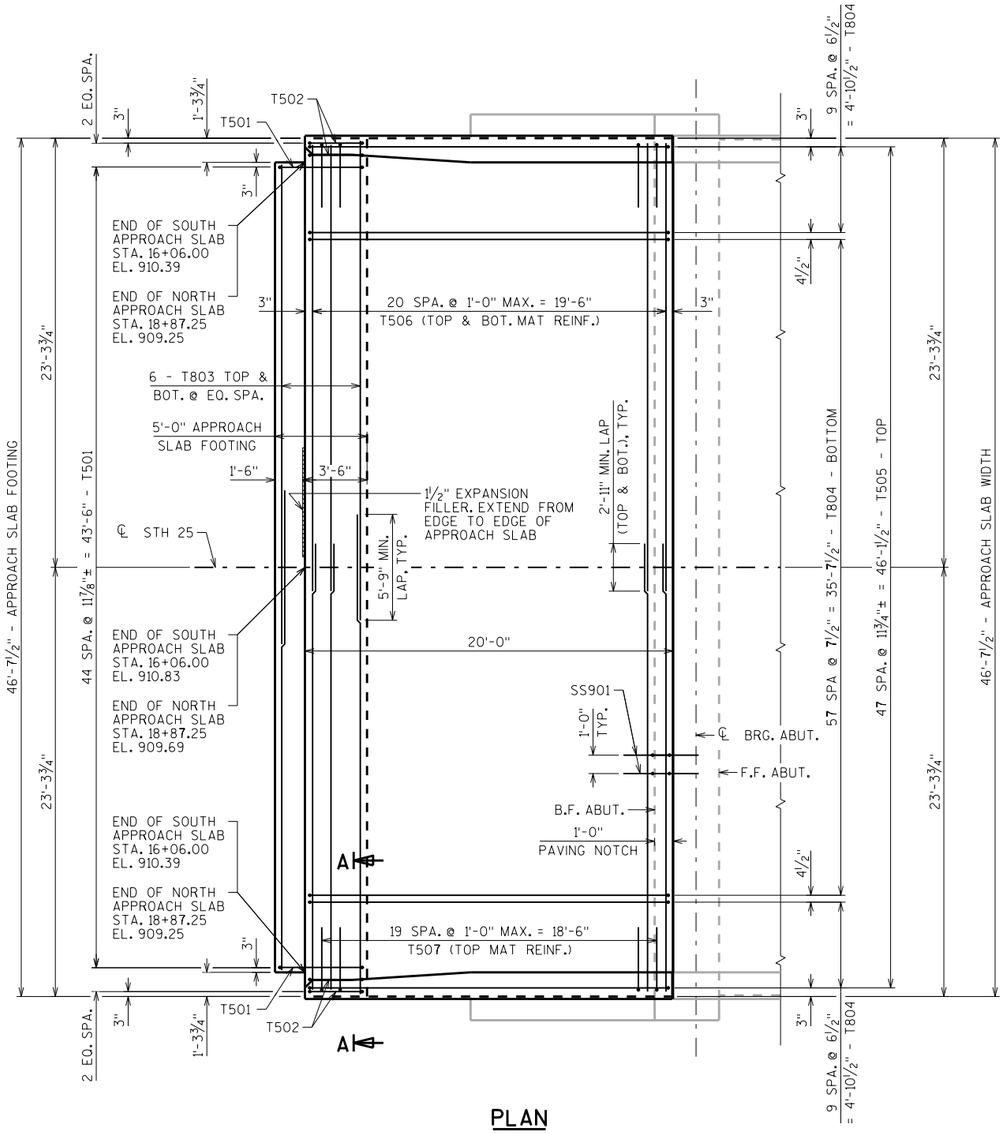


T507

BILL OF BARS

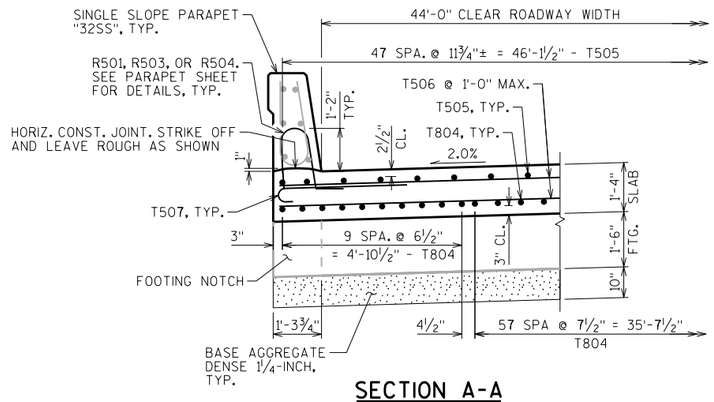
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	COAT	NO. REQ'D. SOUTH	NO. REQ'D. NORTH	LENGTH	BENT	BAR SERIES	LOCATION
T501	X	45	45	12'-2"	X		FOOTING - STIRRUP
T502	X	4	4	8'-10"	X		FOOTING - STIRRUP
T803	X	24	24	26'-1"			FOOTING - HORIZ.
T804	X	78	78	21'-6"	X		APP. SLAB - BOTTOM - LONGITUDINAL
T505	X	48	48	19'-8"			APP. SLAB - TOP - LONGITUDINAL
T506	X	84	84	24'-8"			APP. SLAB - TOP & BOT. TRANSVERSE
T507	X	40	40	4'-1"	X		APP. SLAB - TRANSVERSE - EDGES

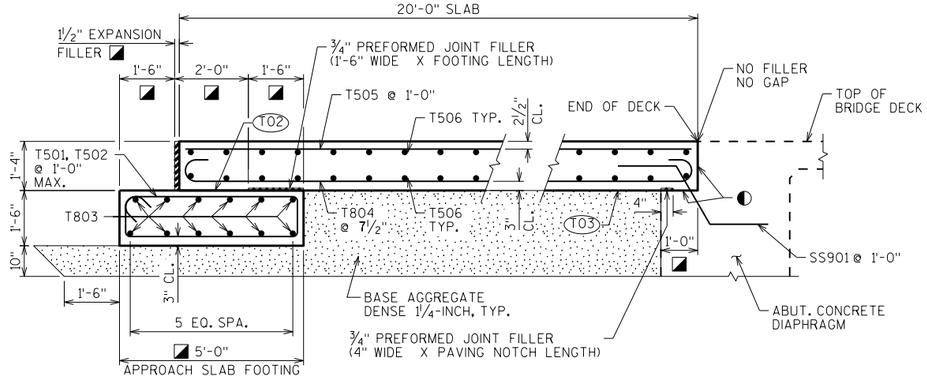


PLAN

SOUTH APPROACH SLAB SHOWN
NORTH APPROACH SLAB SIMILAR



SECTION A-A



SECTION THRU APPROACH SLAB

◐ APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH SURFACES PRIOR TO POURING STRUCTURAL APPROACH SLAB.

◪ MEASURED NORMAL TO ABUTMENT

(T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.

(T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

DRAWN BY ABS | PLANS CK'D. DMB

STRUCTURAL APPROACH SLAB

SHEET 17

63

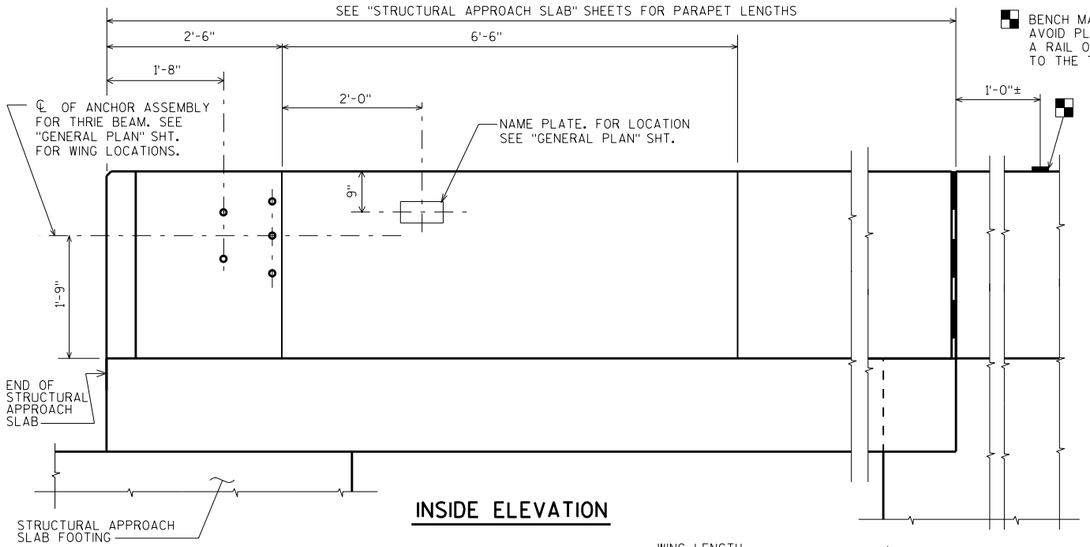
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SCALE = 4.00

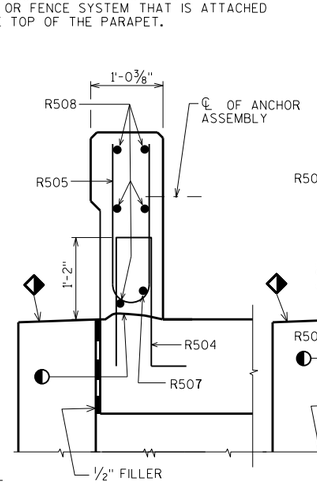
STATE PROJECT NUMBER

8100-01-71

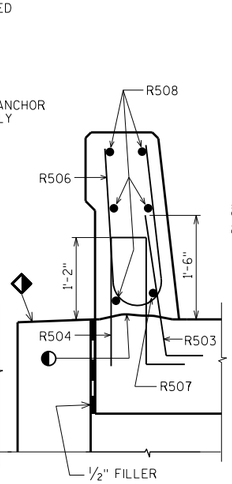


INSIDE ELEVATION

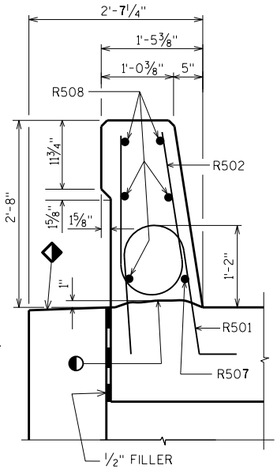
BENCH MARK CAP (WHEN SUPPLIED). AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.



SECTION A



SECTION B

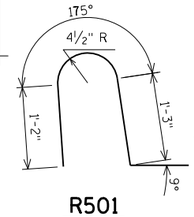


SECTION C

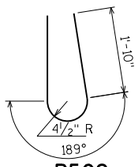
BILL OF BARS

FOR STRUCTURAL APPROACH SLAB PARAPETS

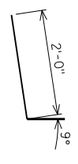
BAR MARK	COAT	S. ABUT.	N. ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	34	34	4-5	X		PARAPET VERT.
R502	X	34	34	5-0	X		PARAPET VERT.
R503	X	24	24	2-9	X		PARAPET VERT.
R504	X	34	34	4-4	X		PARAPET VERT.
R505	X	22	22	4-9	X		PARAPET VERT.
R506	X	12	12	4-10	X		PARAPET VERT.
R507	X	2	2	19-8	X		PARAPET HORIZ.
R508	X	10	10	19-8			PARAPET HORIZ.



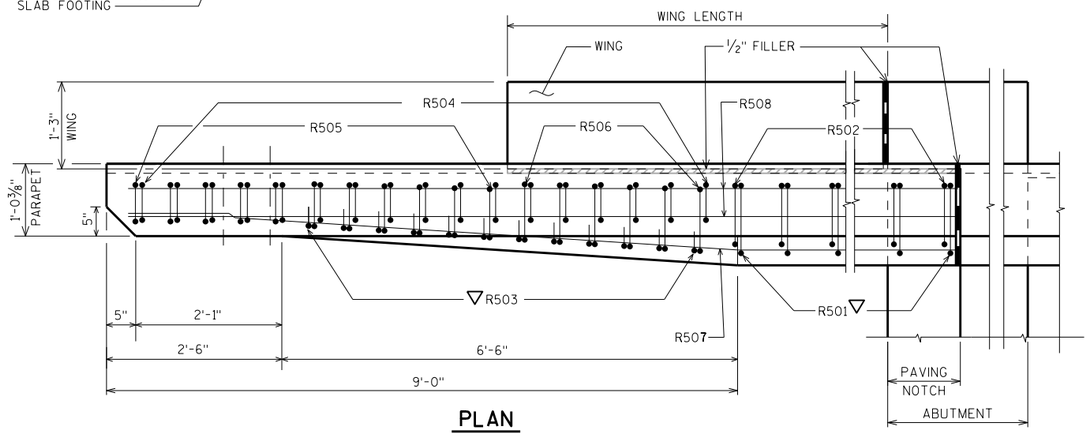
R501



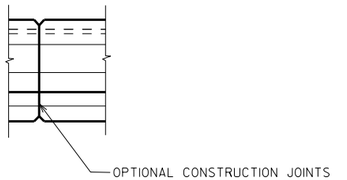
R502

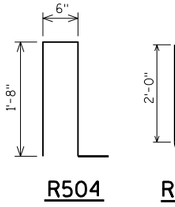


R503

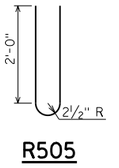


PLAN

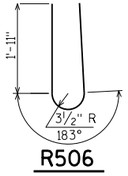




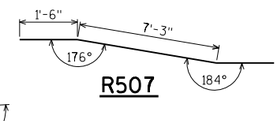
R504



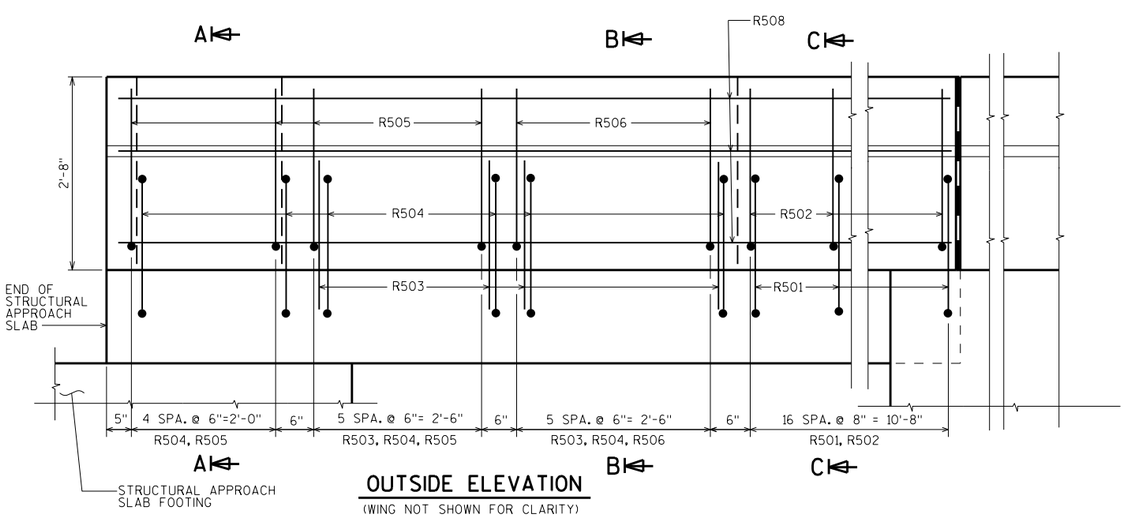
R505



R506

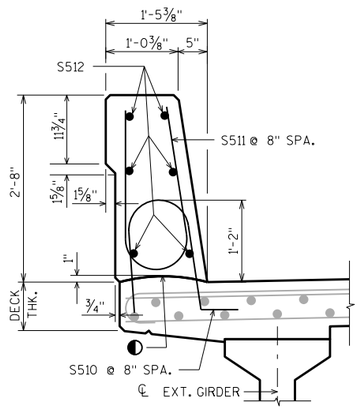


R507

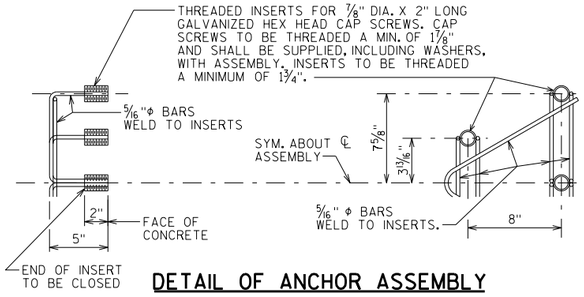


OUTSIDE ELEVATION

(WING NOT SHOWN FOR CLARITY)



SECTION ON DECK



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

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

◆ SLOPE FOR DRAINAGE

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

▽ R501, R503 AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-17-225

DRAWN BY ABS | PLANS CK'D. DMB

PARAPET 32SS WITH STRUCTURAL APPROACH SLAB

SHEET 18

64

8

8

SCALE = 1.05

DIVISION 1												
			AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)			
STATION	REAL STATION	DISTANCE	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXP. FILL		MASS ORD
						NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.25		NOTE 8
8+00	800		29	0	123	0	0	0	0	0		0
8+50	850	50	28	0	219	53	0	317	53	396		-344
9+00	900	50	24	0	249	48	0	433	101	938		-837
9+50	950	50	17	0	288	38	0	498	139	1560		-1422
10+00	1000	50	16	0	333	31	0	576	170	2280		-2111
10+50	1050	50	20	0	295	34	0	582	204	3008		-2805
11+00	1100	50	17	0	281	34	0	534	238	3675		-3439
11+50	1150	50	14	0	268	28	0	509	266	4311		-4047
12+00	1200	50	14	0	360	26	0	582	292	5039		-4749
12+50	1250	50	16	0	317	28	0	627	320	5823		-5505
13+00	1300	50	16	0	335	30	0	604	350	6578		-6230
13+50	1350	50	16	0	332	30	0	618	380	7350		-6973
14+00	1400	50	14	0	360	28	0	641	408	8151		-7745
14+50	1450	50	6	0	297	19	0	609	427	8913		-8487
14+53	1453	3	5	0	302	1	0	39	428	8961		-8535
14+78	1478	25	1	0	279	3	0	269	431	9298		-8869
15+00	1500	22	0	0	211	0	0	195	431	9541		-9112
15+03	1503	3	1	0	211	0	0	27	431	9575		-9146
15+28	1528	25	0	0	259	0	0	217	431	9846		-9417
15+50	1550	22	0	0	255	0	0	205	431	10103		-9673
15+53	1553	3	0	0	251	0	0	33	431	10144		-9715
16+00	1600	47	0	0	283	0	0	460	431	10719		-10290
16+06	1606	6	0	0	306	0	0	65	431	10800		-10371
16+24	1624	18	0	0	688	0	0	327	431	11209		-10780
				COLUMN TOTALS		431	0	8967				

DIVISION 2											
			AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
STATION	REAL STATION	DISTANCE	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXP. FILL	MASS ORD.
						NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.25	NOTE 8
18+68	1868		0	0	199	0	0	0	0	0	0
18+87	1887	19	0	0	153	0	0	124	0	155	-155
19+00	1900	13	0	0	140	0	0	69	0	241	-241
19+25	1925	25	0	0	287	0	0	198	0	489	-489
19+50	1950	25	18	0	140	8	0	197	8	735	-727
19+73	1973	23	0	0	195	8	0	142	16	913	-896
19+93	1993	20	0	0	194	0	0	147	16	1096	-1080
20+00	2000	7	0	0	191	0	0	47	16	1155	-1139
20+18	2018	18	0	0	195	0	0	132	16	1320	-1304
20+27	2027	8	0	0	203	0	0	60	16	1395	-1379
20+43	2043	17	0	0	231	0	0	136	16	1565	-1549
20+50	2050	7	1	0	237	0	0	57	16	1636	-1620
20+52	2052	2	2	0	237	0	0	13	16	1653	-1636
20+77	2077	25	10	0	216	5	0	210	21	1915	-1893
21+00	2100	23	13	0	170	10	0	168	31	2125	-2093
21+50	2150	50	15	0	101	26	0	252	57	2440	-2382
22+00	2200	50	19	0	61	31	0	151	88	2629	-2540
22+50	2250	50	72	0	17	84	0	72	172	2719	-2546
23+00	2300	50	53	0	10	116	0	25	288	2750	-2462
23+15	2315	15	51	0	6	29	0	4	317	2755	-2438
23+50	2350	35	22	0	2	47	0	5	364	2761	-2397
				COLUMN TOTALS		364	0	2209			

9

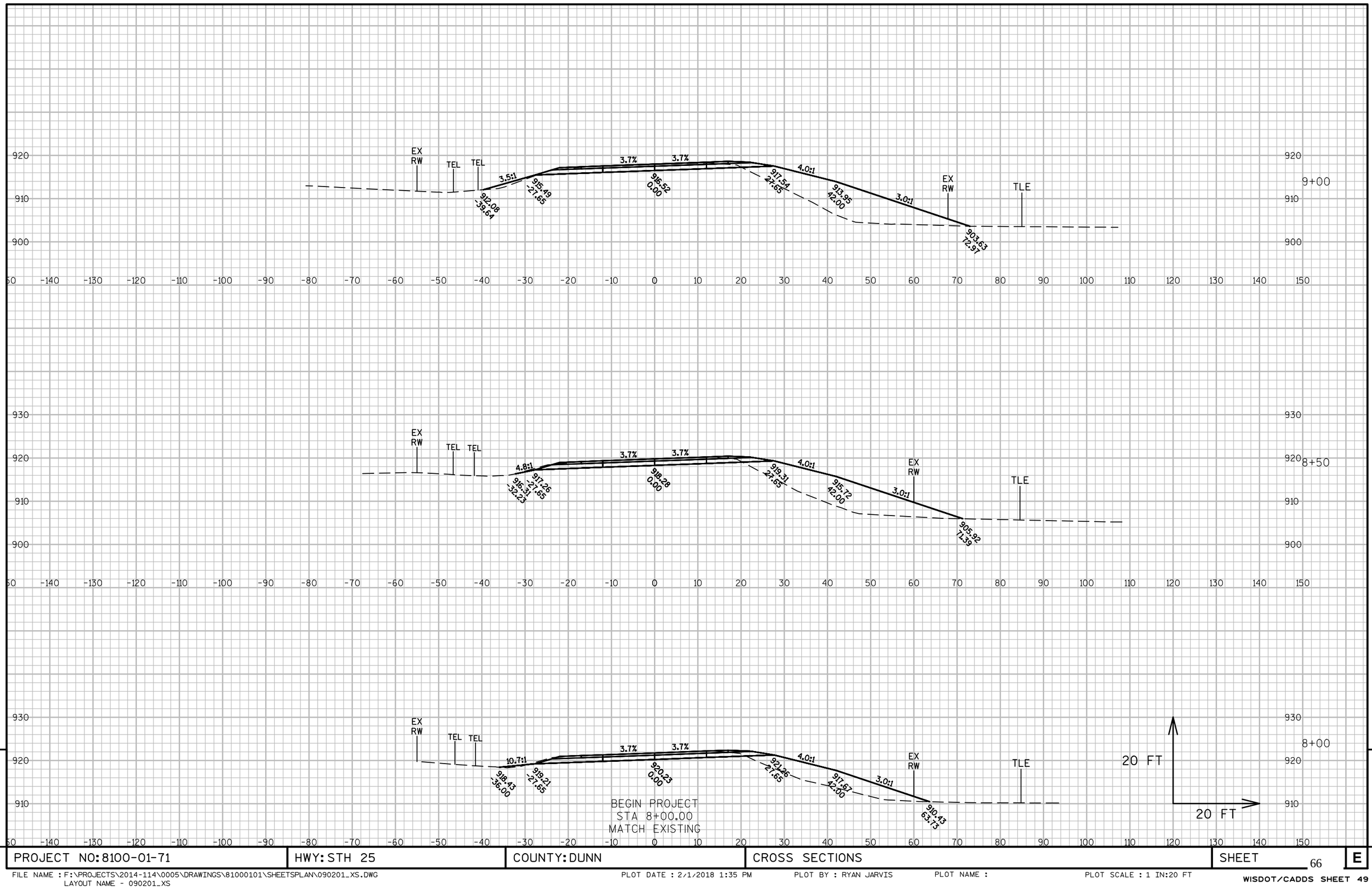
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PROJECT NO: 8100-01-71 | HWY: STH 25 | COUNTY: DUNN | EARTHWORK | SHEET 65 | E

FILE NAME : F:\DRAWINGS\2014-114\0005\81000101\SHEETSPLAN\090101_EW.DWG
LAYOUT NAME - 090101_EW

PLOT DATE : 6/27/2018 11:35 AM PLOT BY : MATT GUNDRY PLOT NAME : PLOT SCALE : **********

WISDOT/CADDS SHEET 49

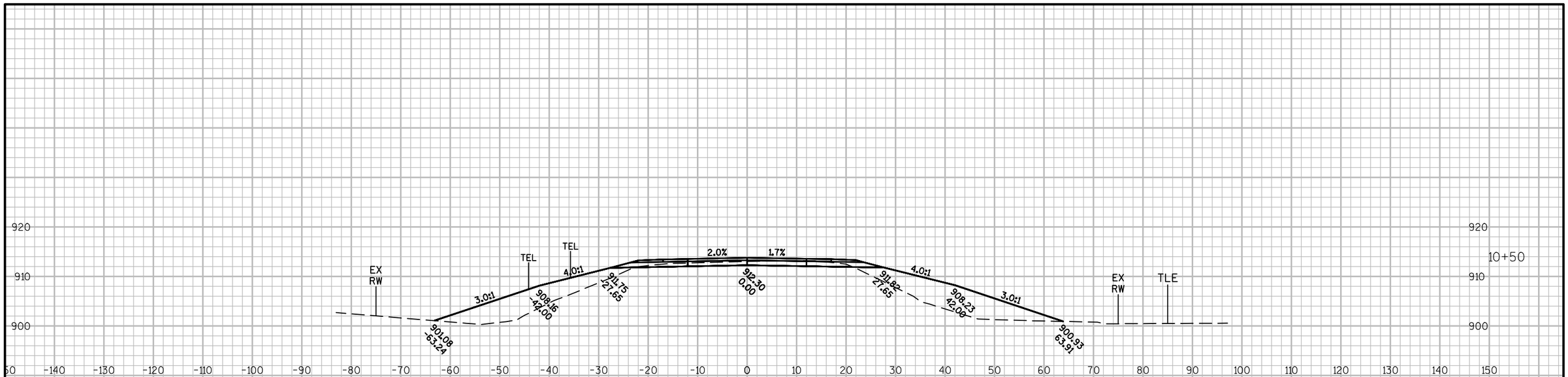


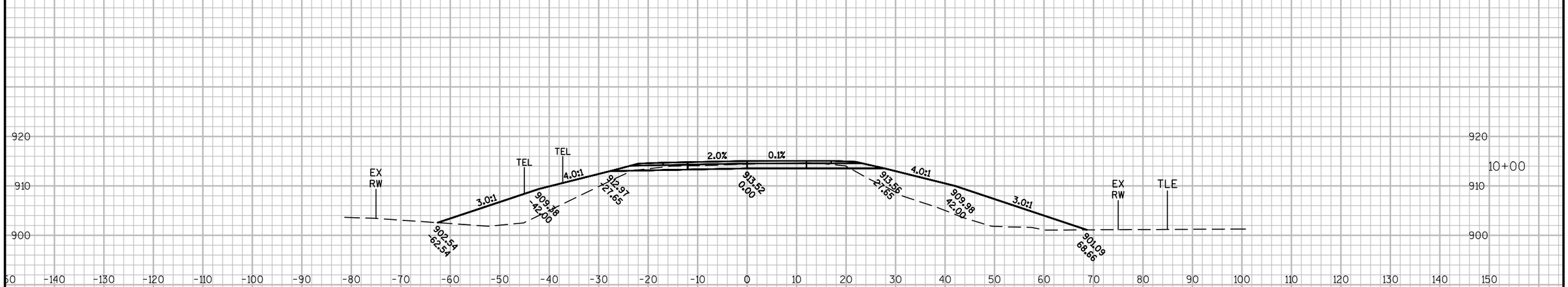
PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 66	E

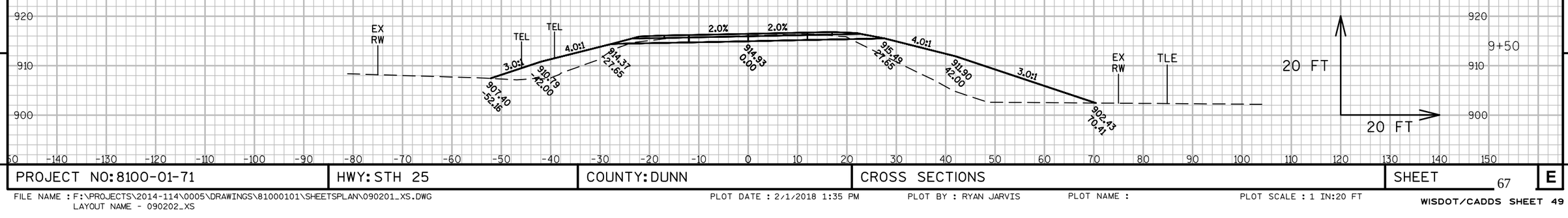
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LAYOUT NAME - 090201_XS

PLOT DATE : 2/1/2018 1:35 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49







9

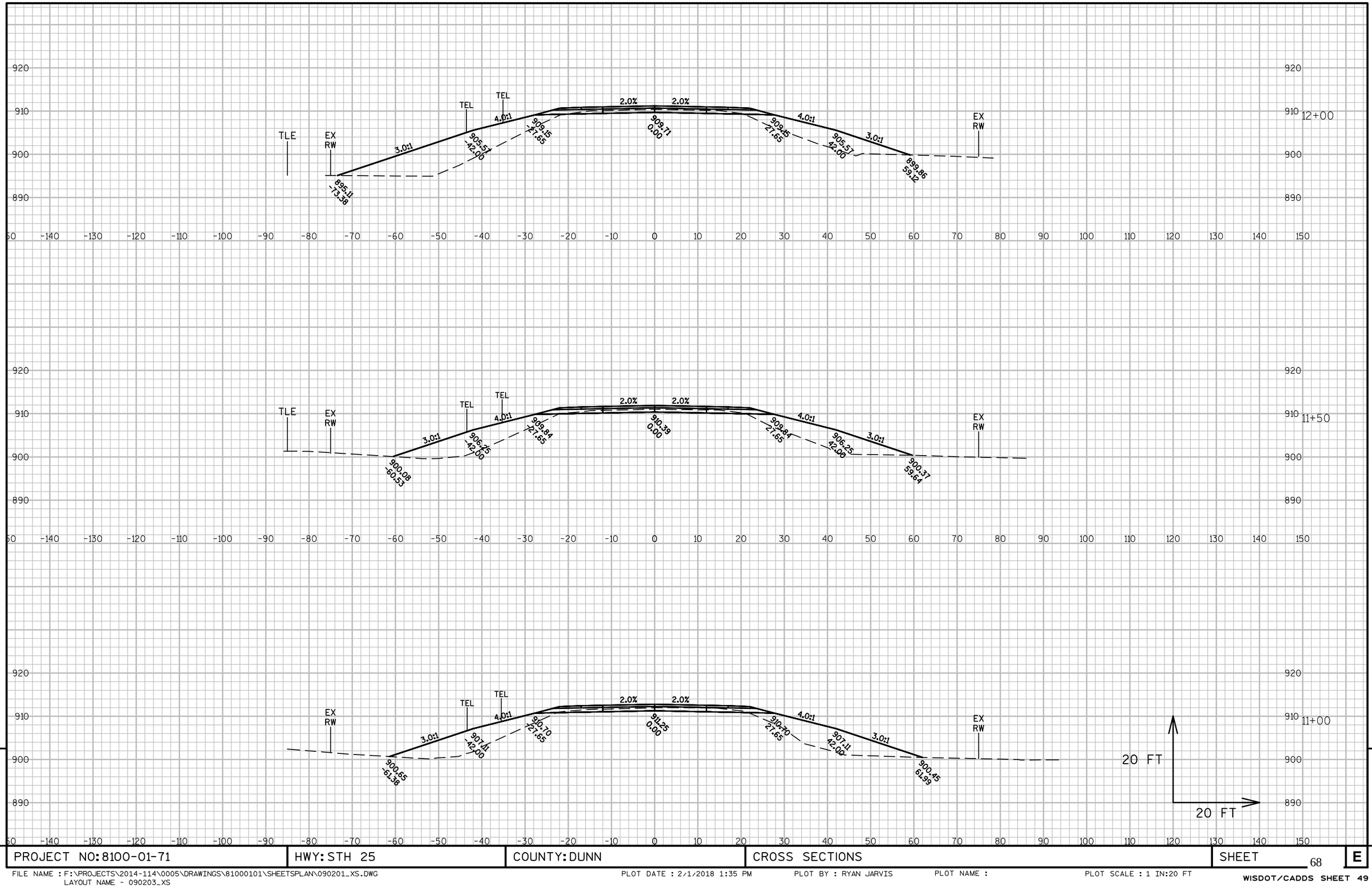
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PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 67	E

FILE NAME : F:\PROJECTS\2014-114\0005\DRAWINGS\81000101\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090202_XS

PLOT DATE : 2/1/2018 1:35 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



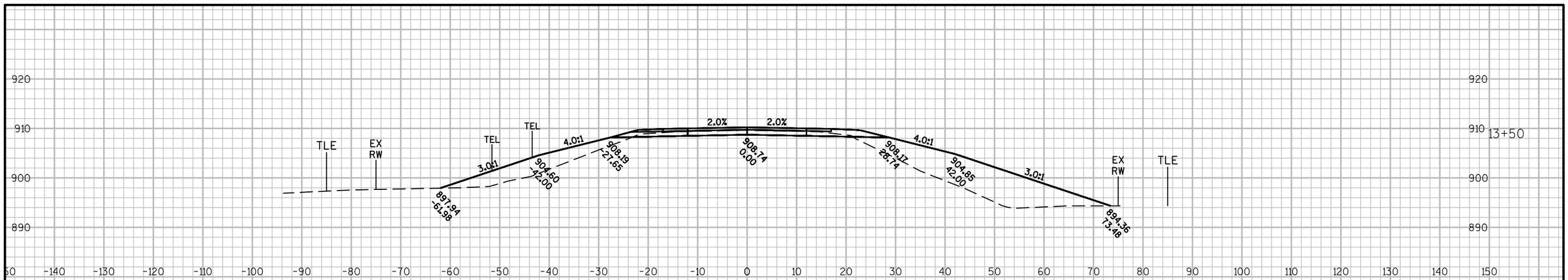
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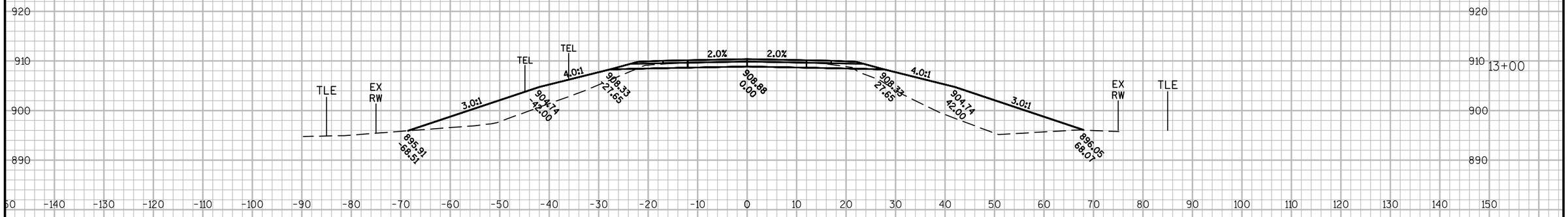
PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 68	E

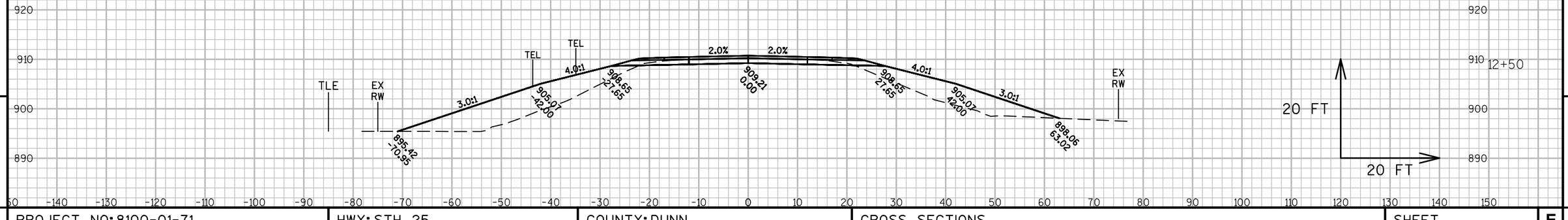
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LAYOUT NAME - 090203_XS

PLOT DATE : 2/1/2018 1:35 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49







9

9

PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 69	E

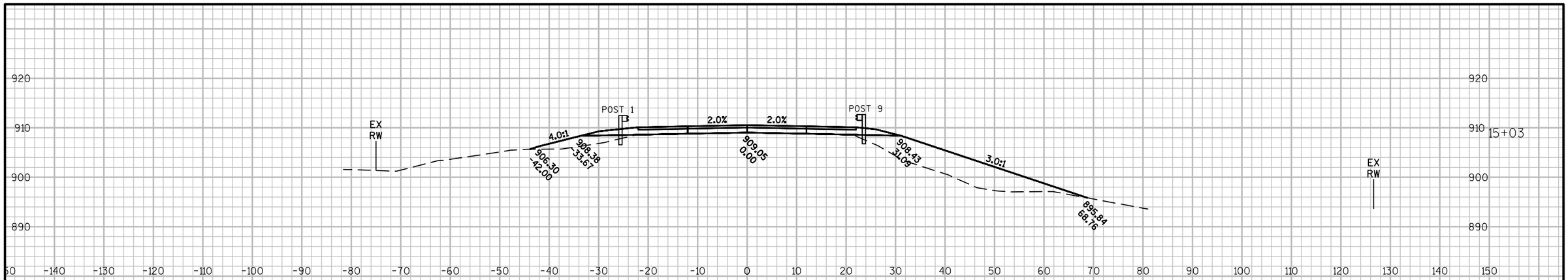
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LAYOUT NAME - 090204_XS
PLOT DATE : 2/1/2018 1:36 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 49

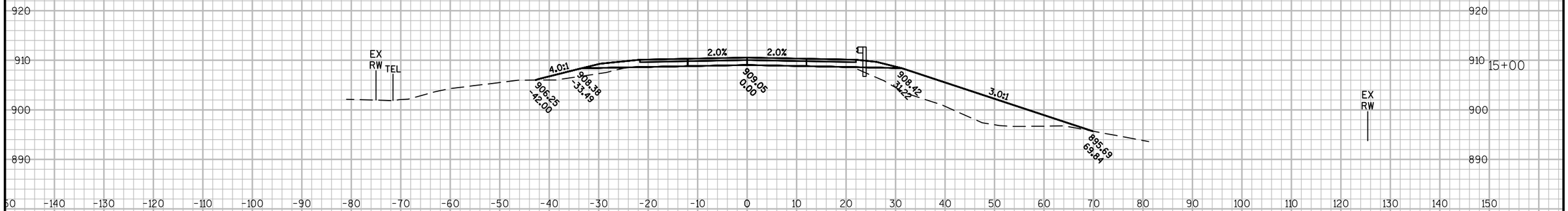
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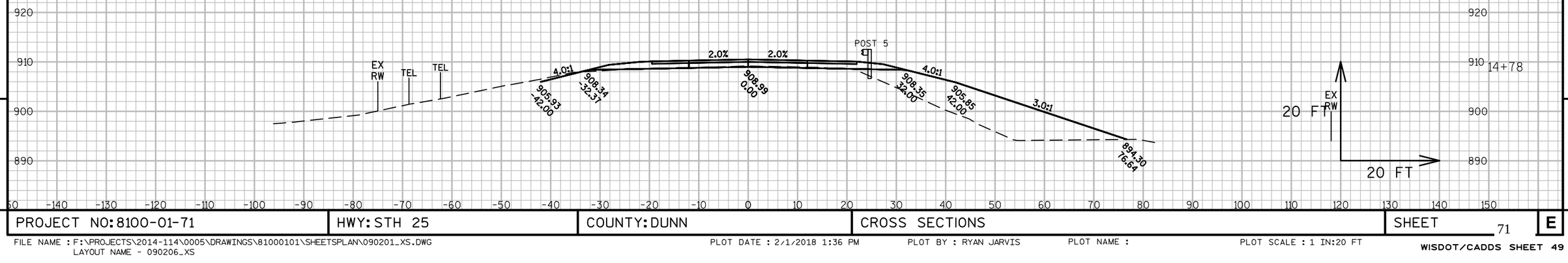
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PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 70	E

FILE NAME : F:\PROJECTS\2014-114\0005\DRAWINGS\81000101\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090205_XS
PLOT DATE : 2/1/2018 1:36 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 49







9

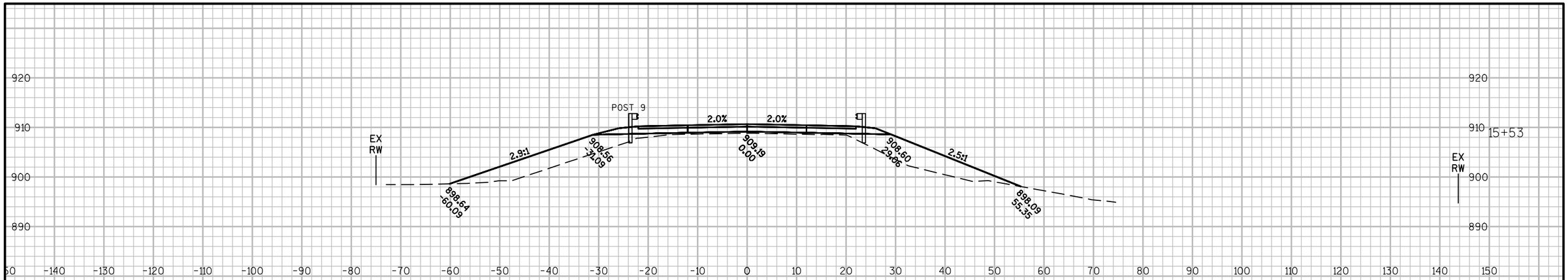
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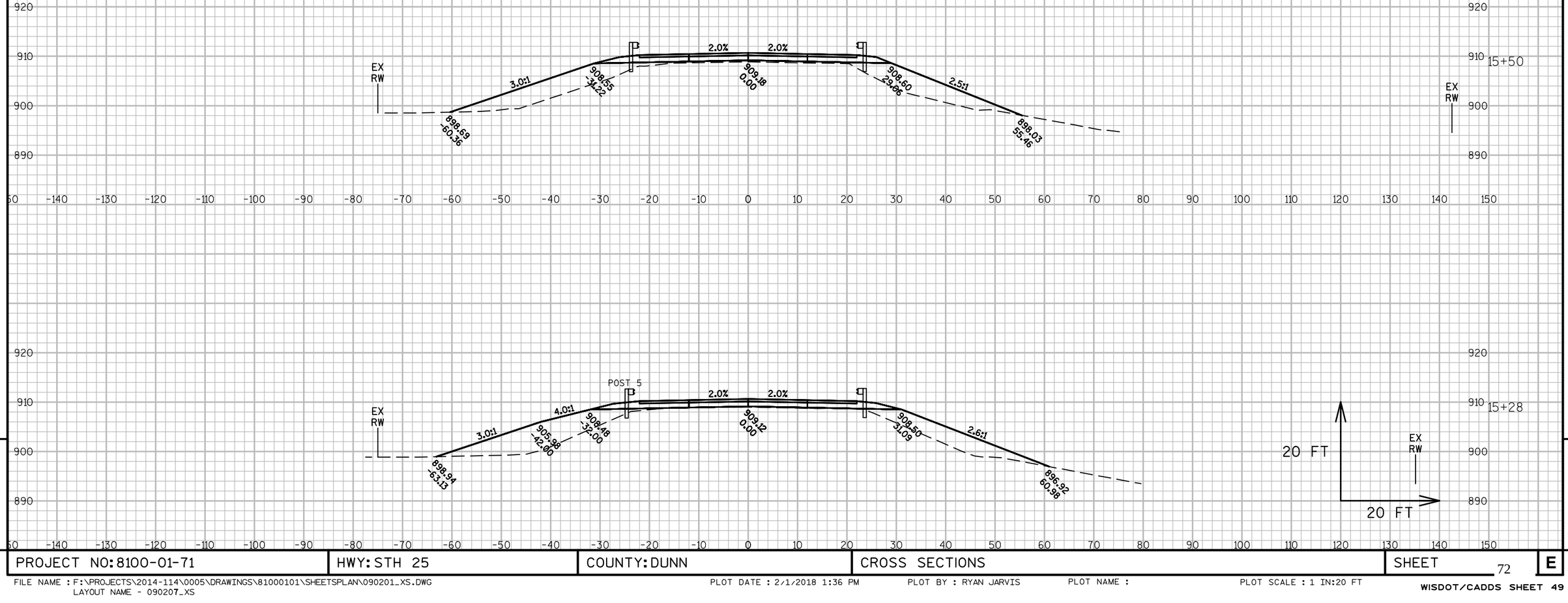
PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 71	E

FILE NAME : F:\PROJECTS\2014-114\0005\DRAWINGS\81000101\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090206_XS

PLOT DATE : 2/1/2018 1:36 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49





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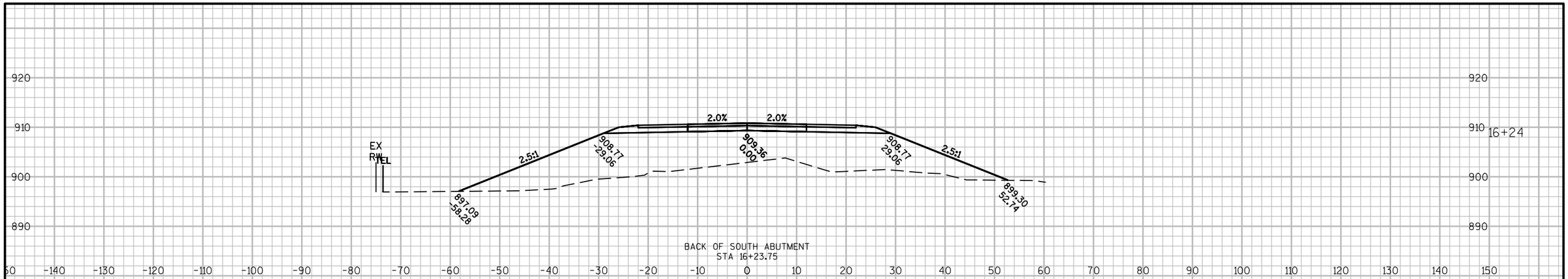
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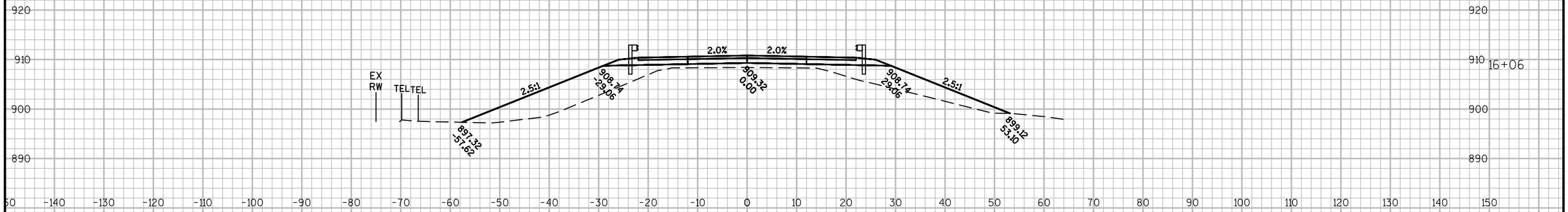
PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET	E

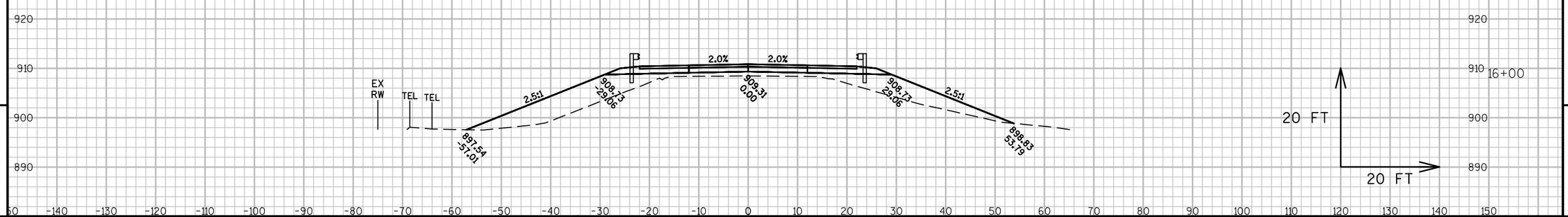
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LAYOUT NAME - 090207_XS

PLOT DATE : 2/1/2018 1:36 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49







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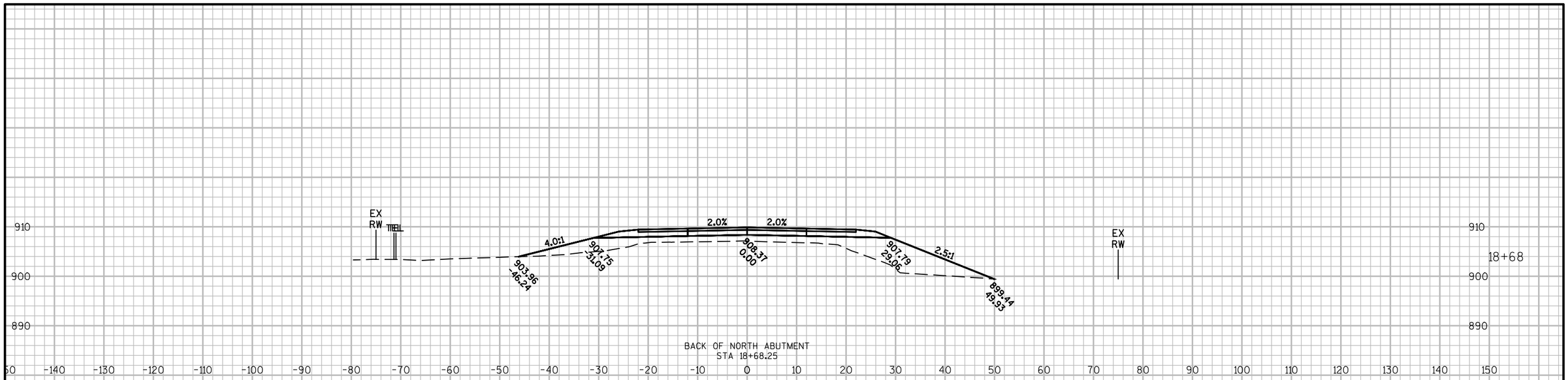
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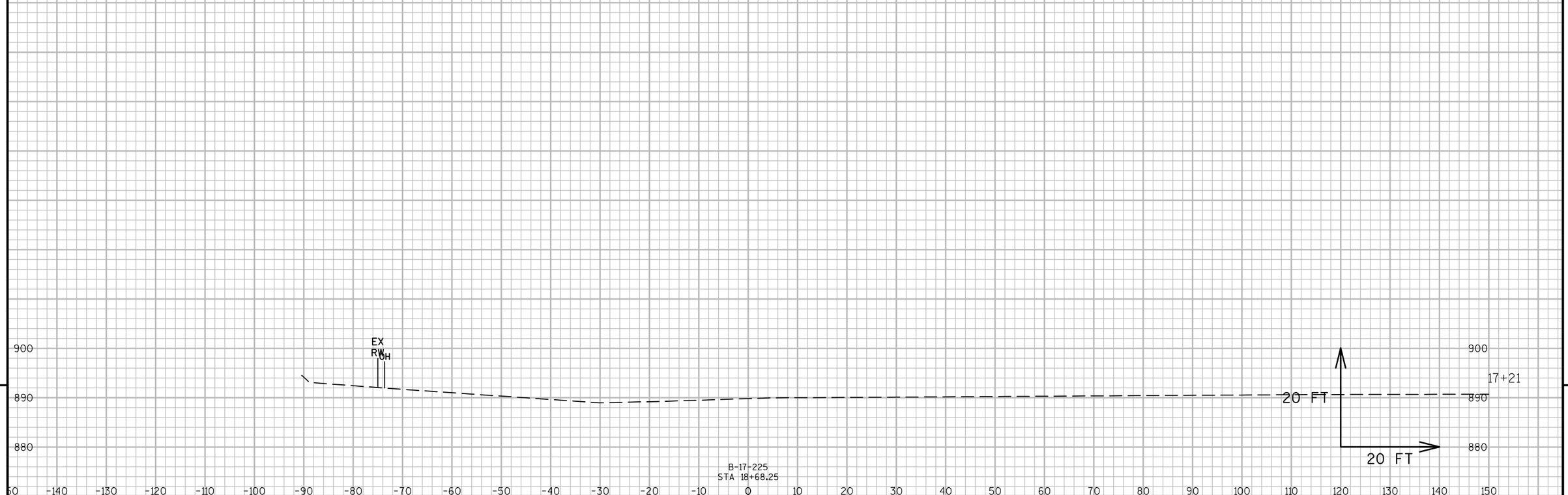
PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 73	E

FILE NAME : F:\PROJECTS\2014-114\0005\DRAWINGS\81000101\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090208_XS

PLOT DATE : 2/1/2018 1:36 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49





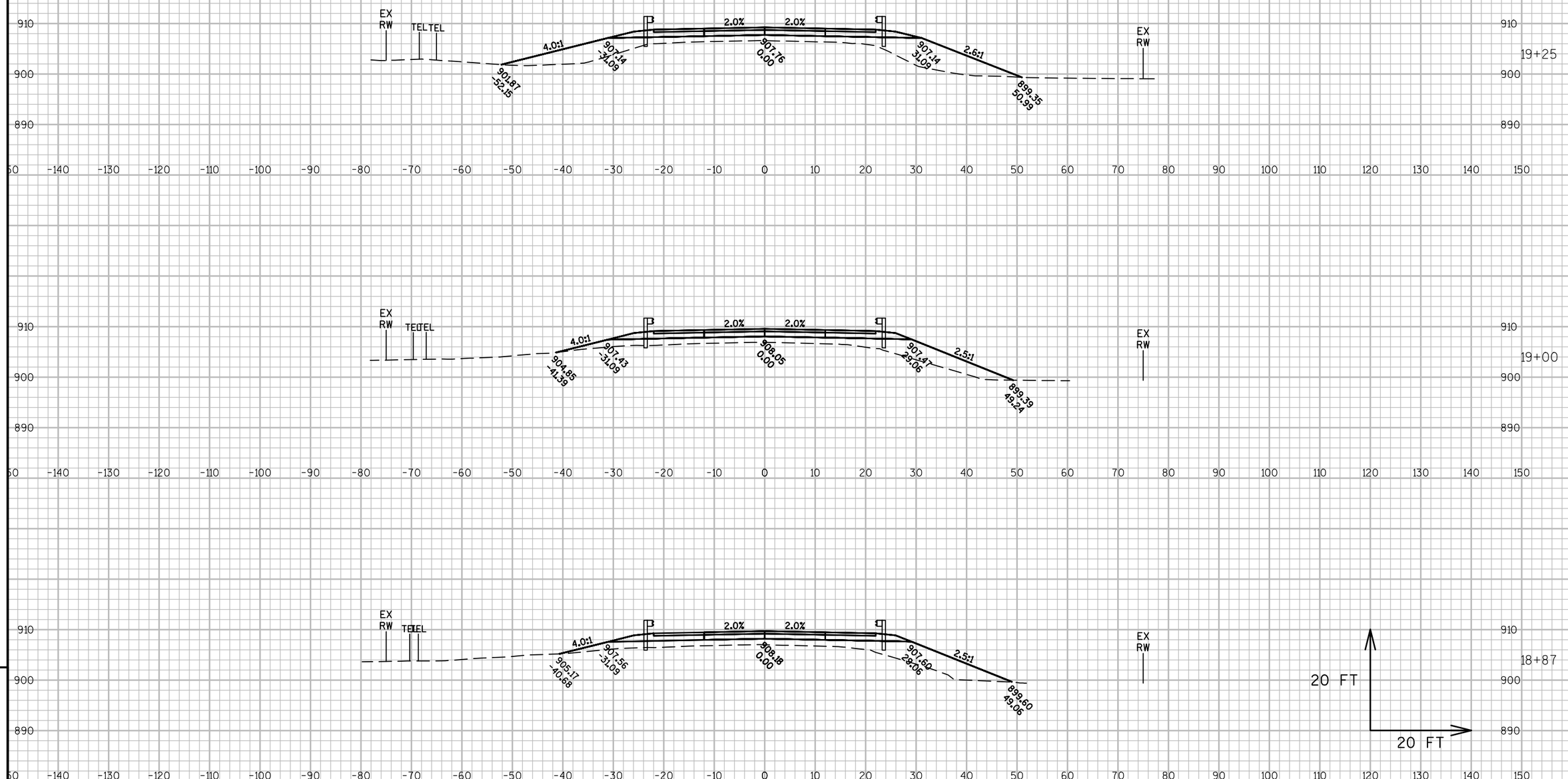
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PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 74	E

FILE NAME : F:\PROJECTS\2014-114\0005\DRAWINGS\81000101\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090209_XS

PLOT DATE : 2/1/2018 1:36 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49

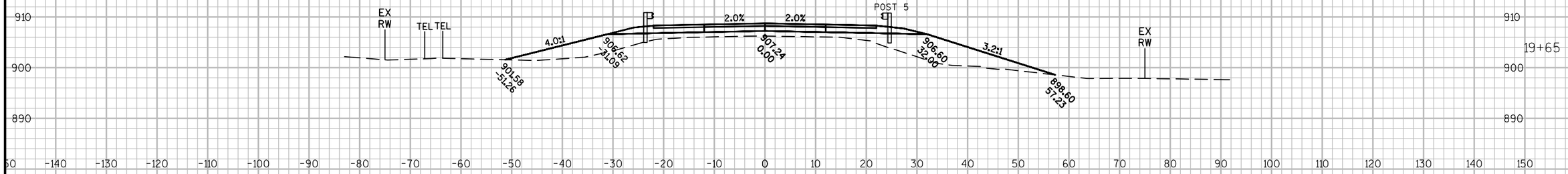


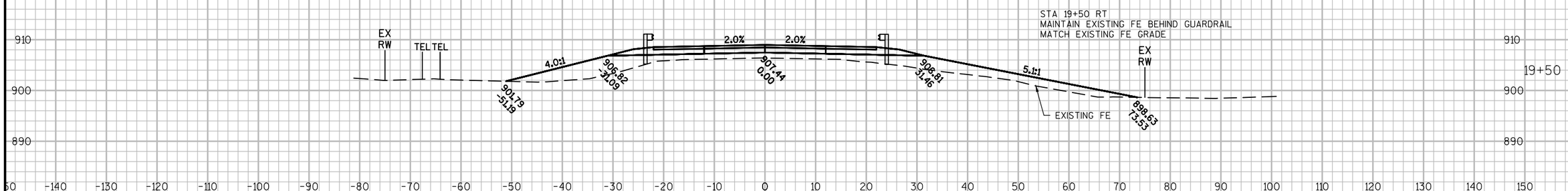
PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 75	E

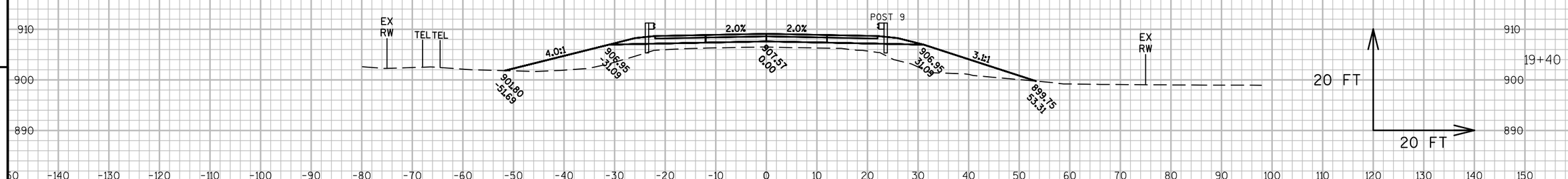
FILE NAME : F:\PROJECTS\2014-114\0005\DRAWINGS\81000101\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090210_XS

PLOT DATE : 2/1/2018 1:37 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49







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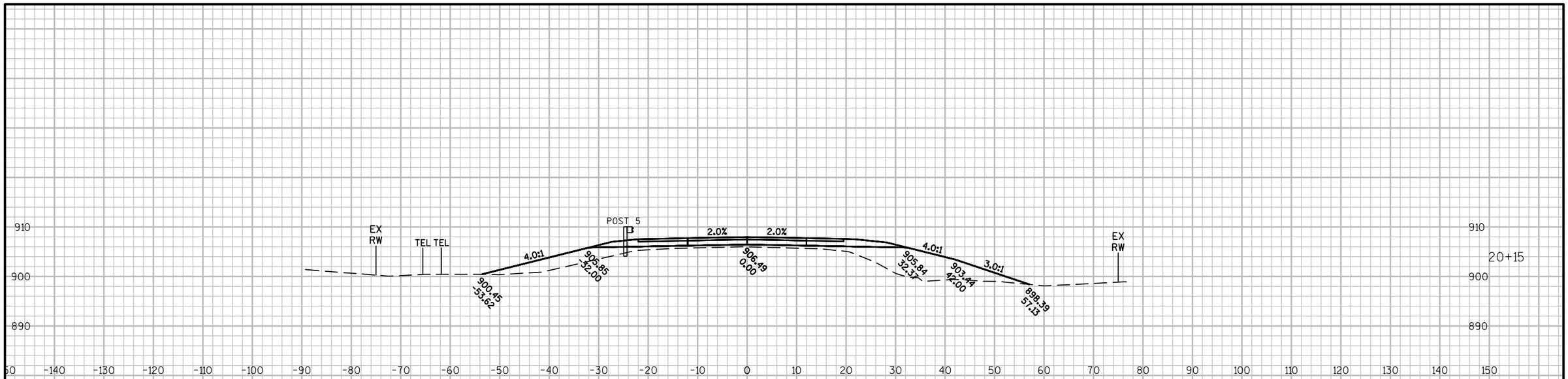
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PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 76	E

FILE NAME : F:\PROJECTS\2014-114\0005\DRAWINGS\81000101\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090211_XS

PLOT DATE : 2/1/2018 1:37 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



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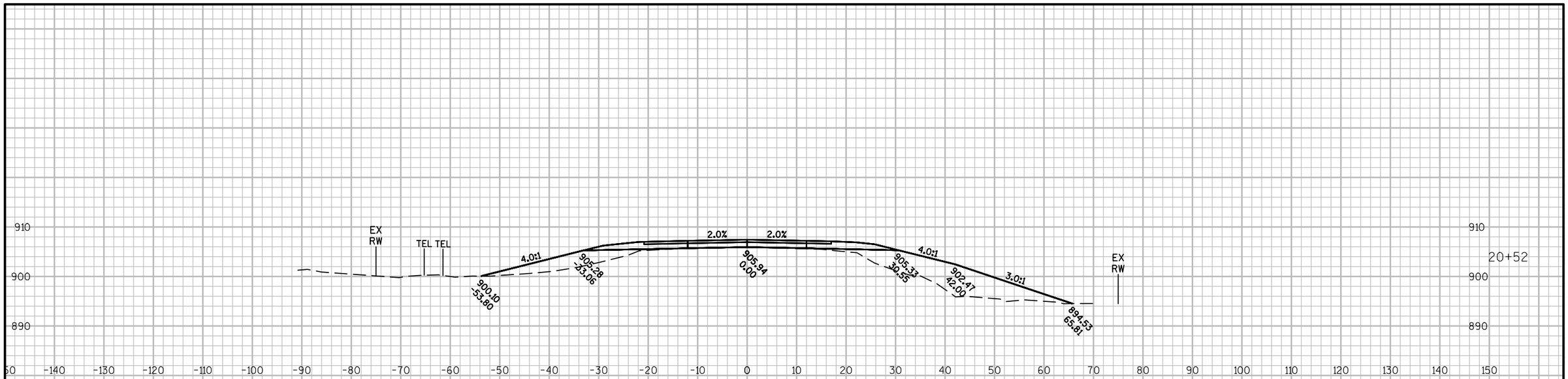
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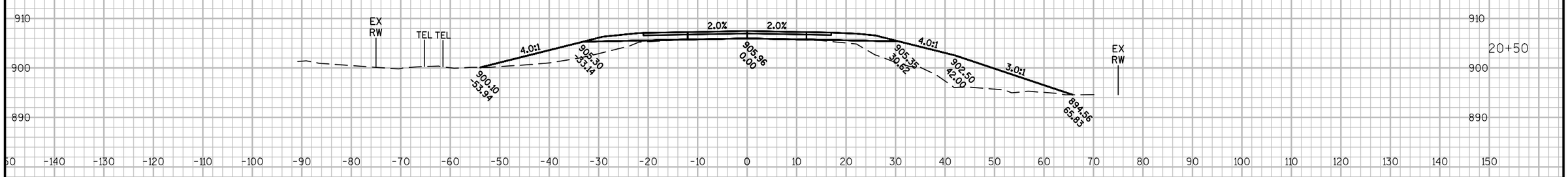
PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 77	E

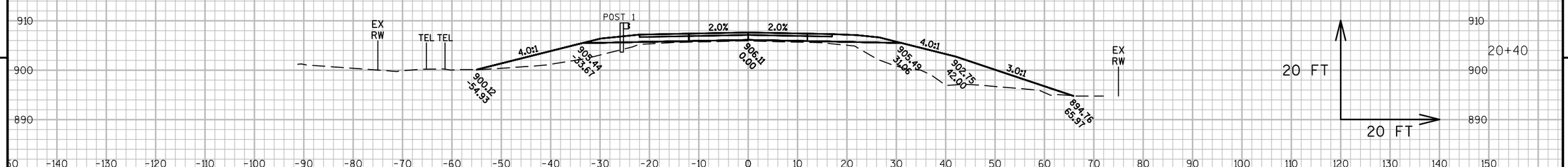
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LAYOUT NAME - 090212_XS

PLOT DATE : 2/1/2018 1:37 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49







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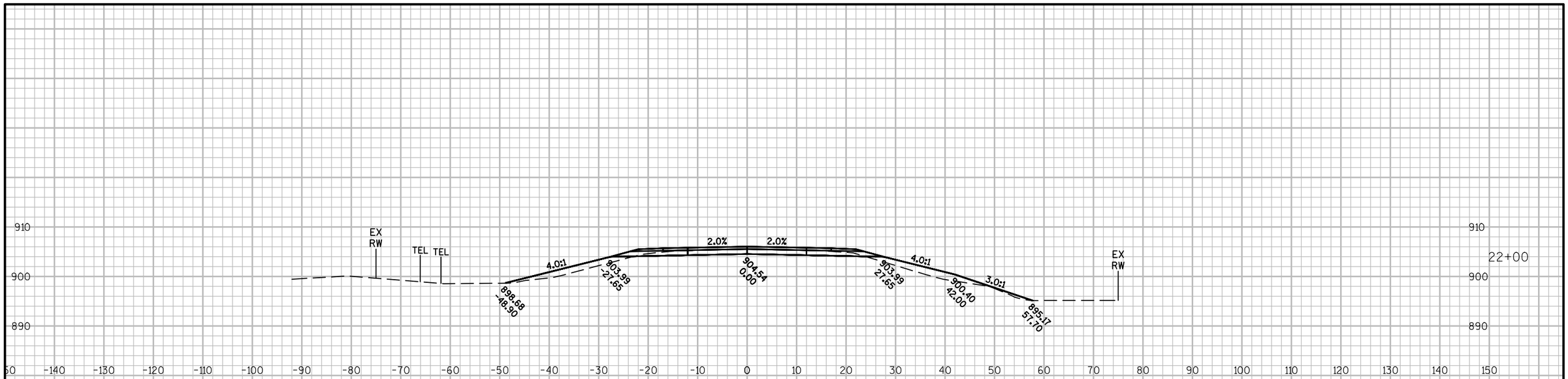
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PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 78	E

FILE NAME : F:\PROJECTS\2014-114\0005\DRAWINGS\81000101\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090213_XS

PLOT DATE : 2/1/2018 1:37 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49



9

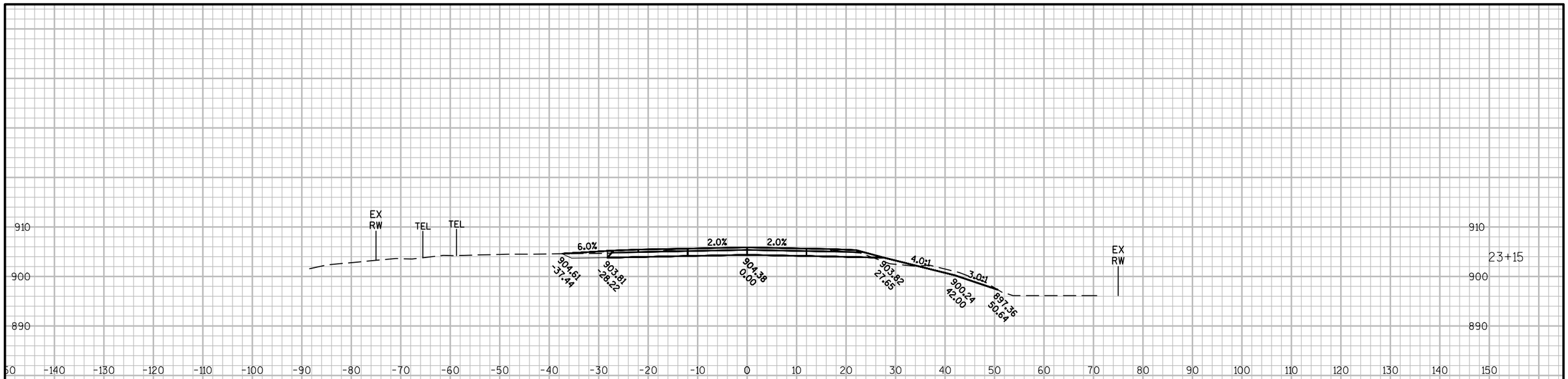
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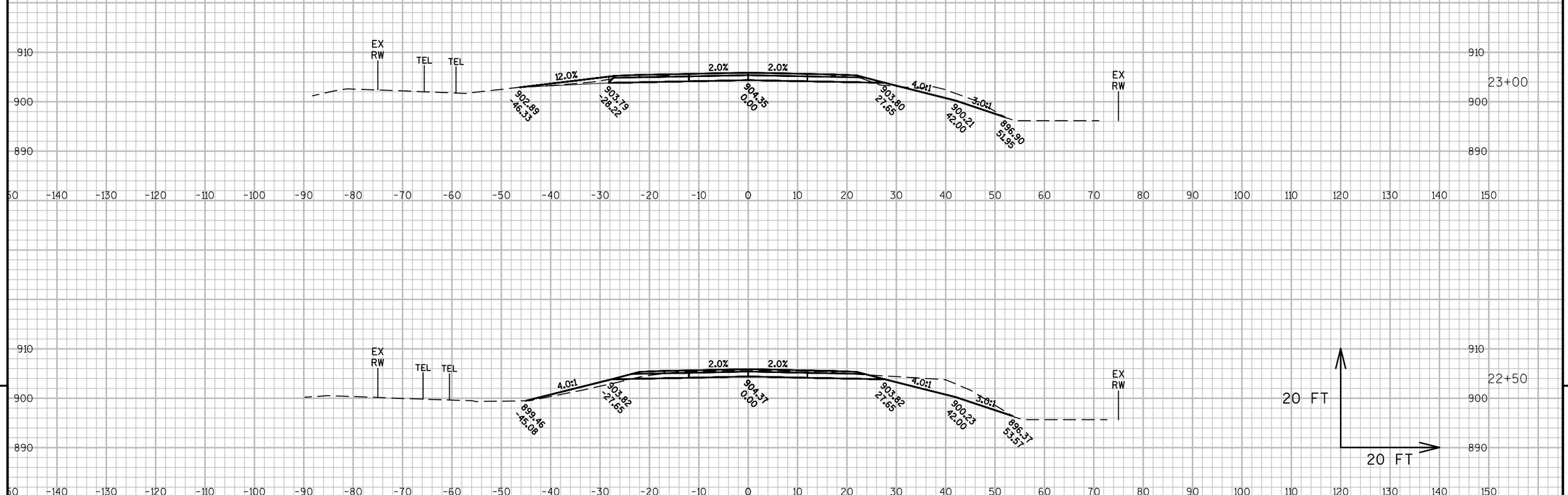
PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 79	E

FILE NAME : F:\PROJECTS\2014-114\0005\DRAWINGS\81000101\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090214_XS

PLOT DATE : 2/1/2018 1:37 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49





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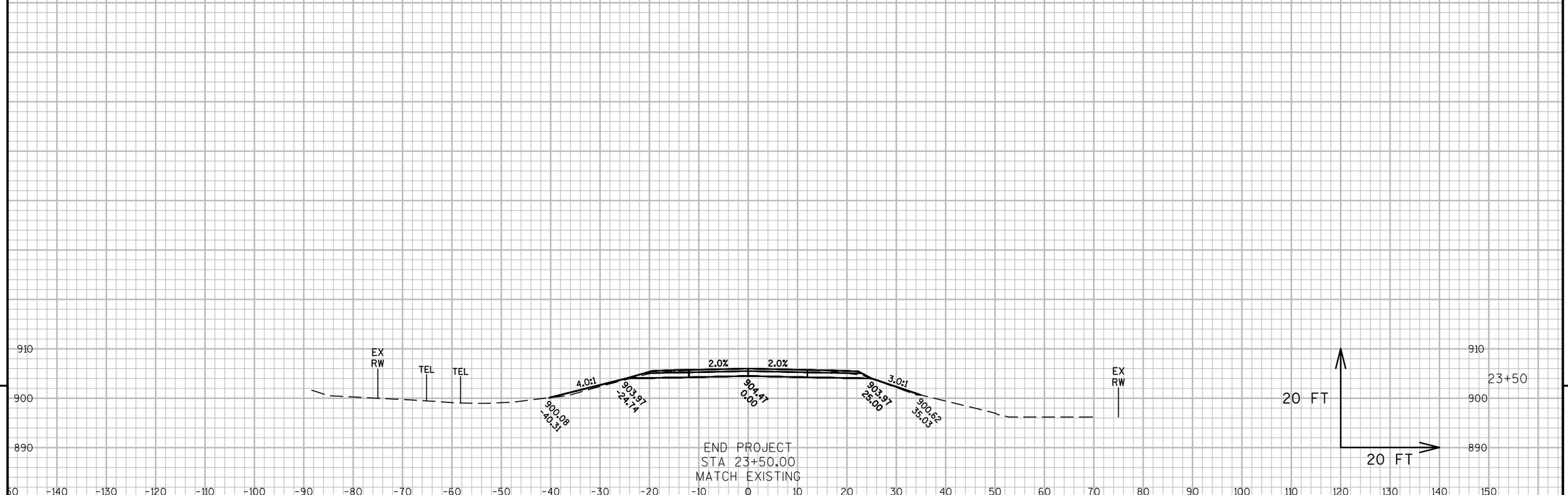
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PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 80	E

FILE NAME : F:\PROJECTS\2014-114\0005\DRAWINGS\81000101\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090215_XS

PLOT DATE : 2/1/2018 1:37 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:20 FT

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9 9

PROJECT NO: 8100-01-71	HWY: STH 25	COUNTY: DUNN	CROSS SECTIONS	SHEET 81	E

FILE NAME : F:\PROJECTS\2014-114\0005\DRAWINGS\81000101\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090216_XS

PLOT DATE : 2/1/2018 1:37 PM PLOT BY : RYAN JARVIS PLOT NAME : PLOT SCALE : 1 IN:20 FT

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