EAU MAY 2016

PROJECT ID: 1630-02-70
WITH: 7905-03-72

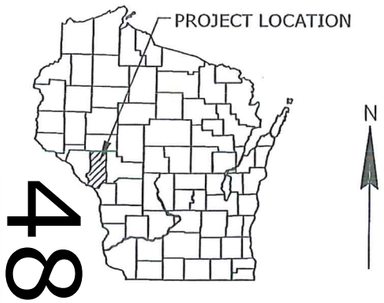
COUNTY: TREMPEALEAU

48

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.	-	Right of Way Plat
Section No.	5	Plan and Profile (Includes Erosion Control Plan)
Section No.	6	Standard Detail Drawings
Section No.	-	Sign Plates
Section No.	8	Structure Plans
Section No.	-	Computer Earthwork Data
Section No.	-	Cross Sections

TOTAL SHEETS = 22



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

VILLAGE OF PIGEON FALLS, EKERN STREET

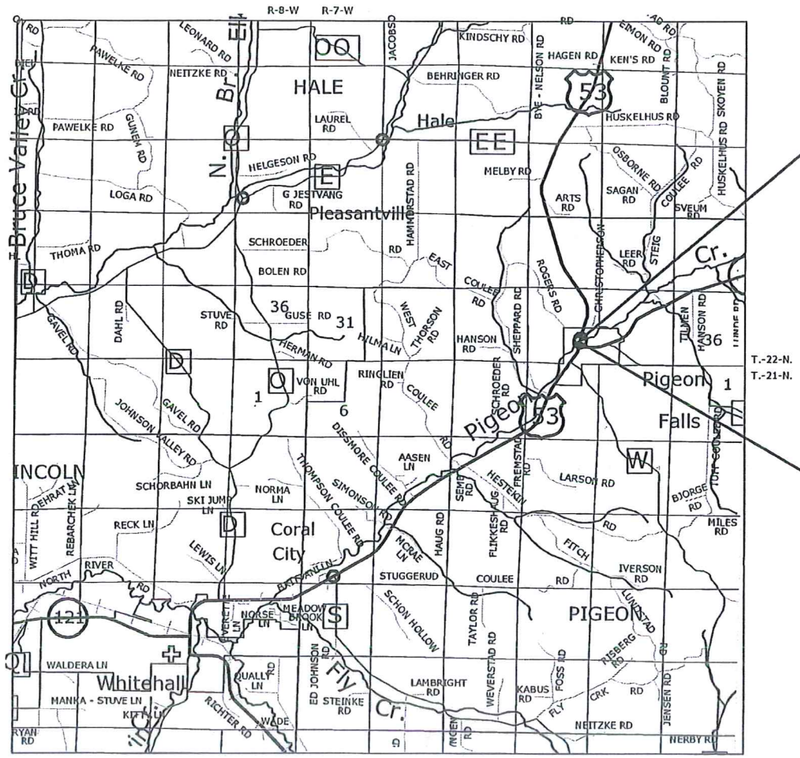
PIGEON CREEK BRIDGE B-61-0058

USH 53

TREMPEALEAU COUNTY

STATE PROJECT NUMBER
1630-02-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1630-02-70	WISC 2015015	1



END PROJECT
STA. 3+33.42
Y = 461,664.98
X = 883,768.39

EQ STA 314+53.72 BK
= STA 1+54.00 AH

BEGIN PROJECT
STA 314+08.10
Y = 461,442.61
X = 883,733.84

DESIGN DESIGNATION

A.D.T. (2015)	= 2,850
A.D.T. (2035)	= 3,375
D.H.V. (2035)	= 189 (5.6%)
D.D.	= 60 - 40
T. (A.D.T.)	= 8.4%
DESIGN SPEED	= 35 MPH
ESALS	= 773,800

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE		ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
		TELEPHONE	T
MARSH AREA		WATER	W
		UTILITY PEDESTAL	
WOODED OR SHRUB AREA		POWER POLE	
		TELEPHONE POLE	

LAYOUT
SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.043 MI.

COORDINATE NOTE:
COORDINATES ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, TREMPEALEAU COUNTY.

PREPARED BY

WISCONSIN PROFESSIONAL ENGINEER
JACOB A. FRIBERG
E-43328
RICE LAKE
WI
11-24-15

COOPER ENGINEERING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	COOPER ENGINEERING
Designer	COOPER ENGINEERING
Regional Examiner	CHRISTINE KOSKI
Regional Supervisor	TIMOTHY MASON
C.O. Examiner	

APPROVED FOR DEPARTMENT
DATE: 2/10/2016 (Signature)

E

FILE NAME: G:\2012-proj\12445022\dwg\PLAN SET\010101_tl.dwg PLOT DATE: Nov 24, 2015 - 11:21am PLOT BY:owner PLOT NAME: CEC-PLAN ORG. DATE: Dec 05, 2007 Originator : Originator PLOT SCALE : Half-Scale

LIST OF STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AC	ACRES
AGG	AGGREGATE
AH	AHEAD
ADT	AVERAGE DAILY TRAFFIC
AVG.	AVERAGE
ASPH	ASPHALTIC
BK.	BACK
BM	BENCHMARK
△	CENTRAL ANGLE OR DELTA
℄, C/L	CENTERLINE
C & G	CURB AND GUTTER
CABC	CRUSHED AGGREGATE BASE COURSE
CONC.	CONCRETE
COR	CORNER
CORR	CORRUGATED
CSCP	CORRUGATED STEEL CULVERT PIPE
CSPA	CORRUGATED STEEL PIPE ARCH
CTH	COUNTY TRUNK HIGHWAY
CP.	CULVERT PIPE
CY	CUBIC YARD
CWT.	HUNDREDWEIGHT
DIA	DIAMETER
D	DEGREE OF CURVE
DHV	DESIGN HOURLY VOLUME
DWY	DRIVEWAY
EBS	EXC. BELOW SUB GRADE
ELEV., EL	ELEVATION
ELEC.	ELECTRIC
EXC	EXCAVATION
EXIST	EXISTING
E	EAST
FE	FIELD ENTRANCE
FF.	FACE TO FACE
FL, F/L	FLOW LINE
FS	FULL SUPERELEVATION
G	GARAGE
GN	GRID NORTH
H	HOUSE
HYD	HYDRANT
I	INTERSECTION ANGLE
INTERS	INTERSECTION
INV.	INVERT
IP	IRON PIN OR PIPE
LC	LONG CHORD OF CURVE
LF	LINEAR FOOT
LHF	LEFT HAND FORWARD
L	LENGTH OF CURVE
LT.	LEFT
LS	LUMP SUM
MH	MANHOLE
N	NORTH
NC	NORMAL CROWN
PAVT	PAVEMENT
PC	POINT OF CURVATURE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PP	POWER POLE
PT	POINT OF TANGENCY
R	RANGE , RADIUS
RCCP	REINFORCED CONCRETE CULVERT PIPE
RD	ROAD
REBAR	REINFORCEMENT BAR
REQD	REQUIRED
RDWY	ROADWAY
RHF	RIGHT HAND FORWARD
RL, R/L	REFERENCE LINE
RR	RAILROAD
RT.	RIGHT
R/W	RIGHT-OF-WAY
S	SOUTH
SAN S	SANITARY SEWER
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION
SF.	SQUARE FEET
SHLDR	SHOULDER
SPECS	SPECIFICATIONS
SQ.	SQUARE
SS.	STORM SEWER
SY.	SQUARE YARD
STH	STATE TRUNK HIGHWAY
ST.	STREET
STA.	STATION
SW	SIDEWALK
T	TANGENT
TC	TOP OF CURB
℡, T/L	TRANSIT LINE
TEL	TELEPHONE
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
TYP	TYPICAL
USH	UNITED STATES HIGHWAY
UG	UNDERGROUND
V	DESIGN SPEED
VAR.	VARIABLE
VERT	VERTICAL
YD	YARD

UTILITY CONTACTS

COMMUNICATIONS

TRI-COUNTY COMMUNICATIONS COOP
ATTN.: BUCK WEBB
P.O. BOX 578
STRUM, WI 54770
TEL.: (715) 695-2691
EMAIL: BWEBB@TCC.COOP

WATER & SANITARY

VILLAGE OF PIGEON FALLS
ATTN.: GEORGE EVERSON
P.O. BOX 335
PIGEON FALLS, WI 54760
TEL.: (715) 983-2214
EMAIL: VILPIGEONFALLS@TCC.COOP

ELECTRIC

XCEL ENERGY - ELECTRIC
ATTN.: KAYE CROOK
1003 S BLACK RIVER ST
SPARTA, WI 54656
TEL.: (608) 789-3677 EXT. 14
EMAIL: kaye.m.crook@Xcelenergy.com

NATURAL GAS

WE ENERGIES
ATTN.: BILL GARSKI
1921 8TH ST SOUTH
WISCONSIN RAPIDS, WI 54494
TEL.: (715) 421-7259
EMAIL: bill.garski@we-energies.com
24-HOUR EMEGENCY (GAS) 800-261-5325

ALL UTILITIES LISTED ARE MEMBERS OF DIGGERS HOTLINE

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

OTHER CONTACTS

DESIGN CONSULTANT

COOPER ENGINEERING CO. INC.
2600 COLLEGE DRIVE
RICE LAKE, WI. 54868
PHONE (715) 234-7008

DNR NORTHERN REGIONAL HQ

DNR/DOT LIAISON
ATTN.: KAREN KALVELAGE
3550 MORMON COULEE RD
LA CROSSE, WI 54601
TEL.: (608) 785-9115
EMAIL: KAREN.KALVELAGE@WISCONSIN.GOV

GENERAL NOTES:

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

ACCESS TO ALL RESIDENCES SHALL BE MAINTAINED DURING CONSTRUCTION.

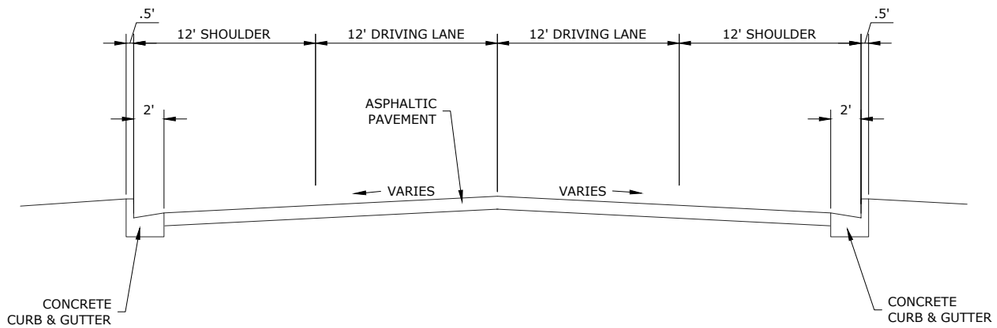
THE LOCATION OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOW SHOWN.

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

PAVEMENT MARKING SHALL MEET MUTCD STANDARDS.

RUNOFF COEFFICIENT TABLE

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

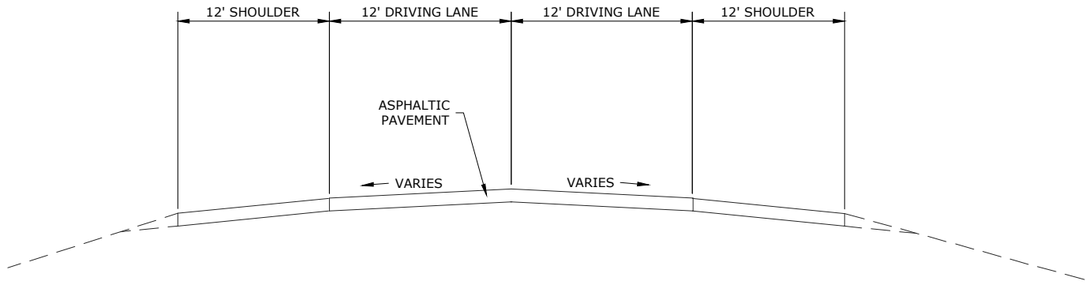


TYPICAL EXISTING SECTION

USH 53

STA 314+08.10 TO STA 1+54.84

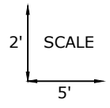
(EQ STA 314+53.72 BK = STA 1+54.00 AH)



TYPICAL EXISTING SECTION

USH 53

STA 2+85.16 TO STA 3+33.42



PROJECT NUMBER: 1630-02-70	HWY: USH 53	COUNTY: TREMPEALEAU	USH 53 TYPICAL SECTION SHEET	SHEET NO: 3	E

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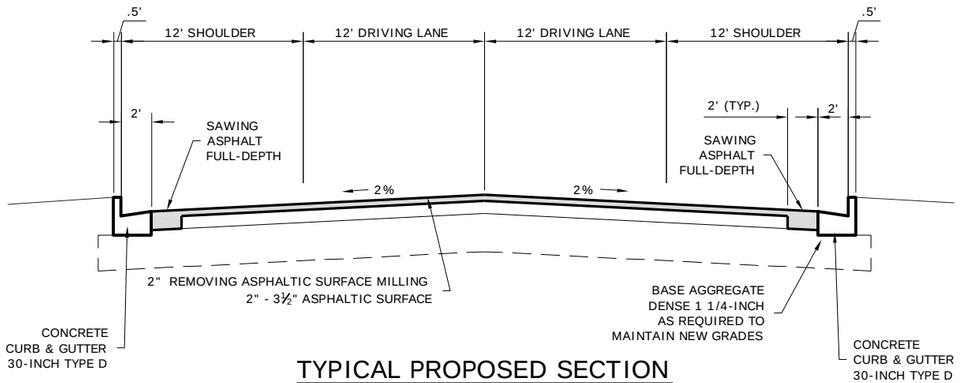
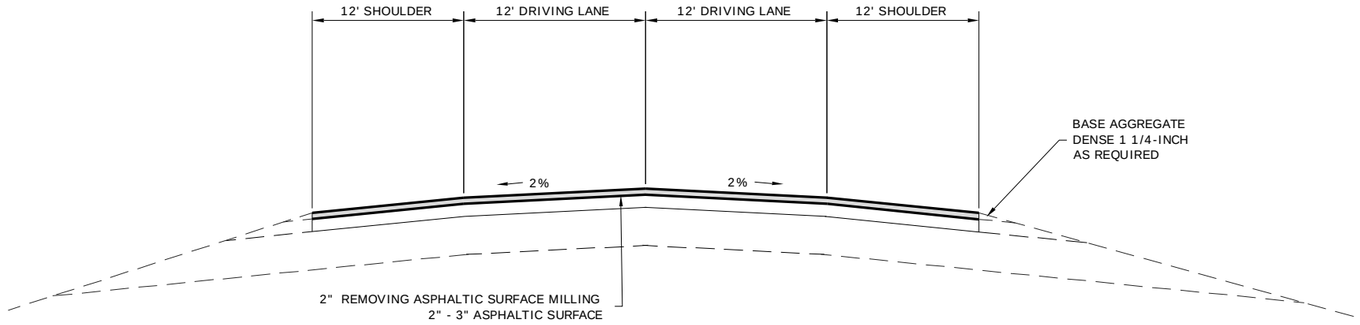
WISDOT/CADDS SHEET 42



TYPICAL PROPOSED SECTION

USH 53

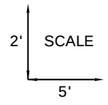
STA 314+08.10 TO STA 314+33.10



TYPICAL PROPOSED SECTION

USH 53

STA 3+08.42 TO STA 3+33.42



PROJECT NUMBER: 1630-02-70	HWY: USH 53	COUNTY: TREMPEALEAU	**USH 53 TYPICAL SECTION SHEET**	SHEET NO: 4	E

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SEE DETAIL 2

SEE DETAIL 1

SEE DETAIL 7

DETOUR LIMITS

PROJECT LOCATION

SEE DETAIL 3

SEE DETAIL 4

SEE DETAIL 5

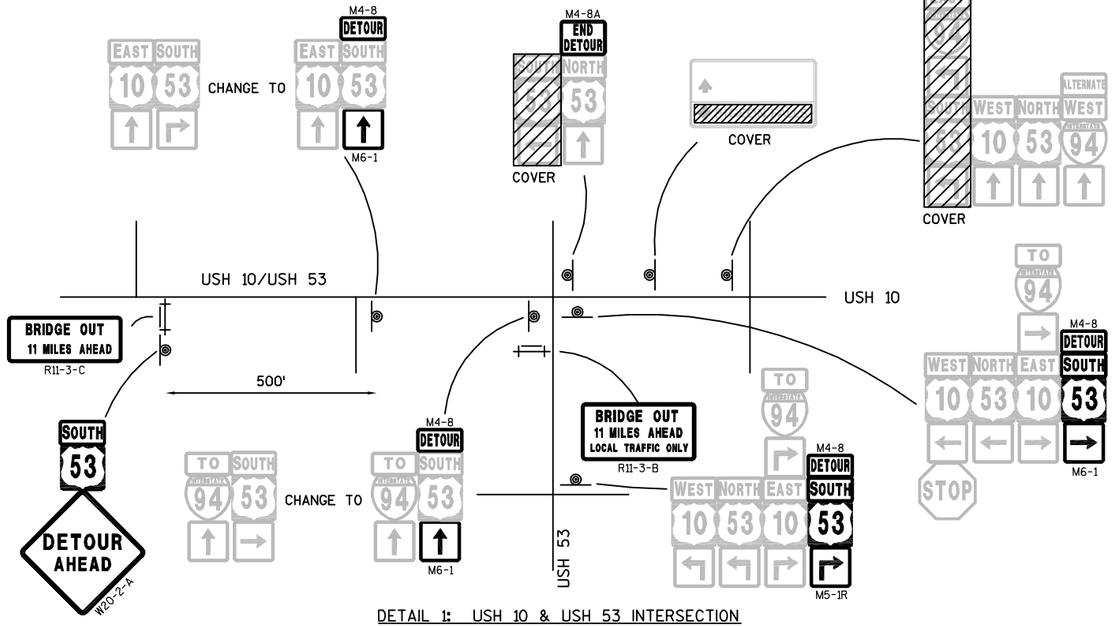
SEE DETAIL 6

- DETOUR ROUTE - STH 121, IH 94, USH 10
- ALT IH 94 ROUTE - STH 121, USH 12/STH 27, USH 10

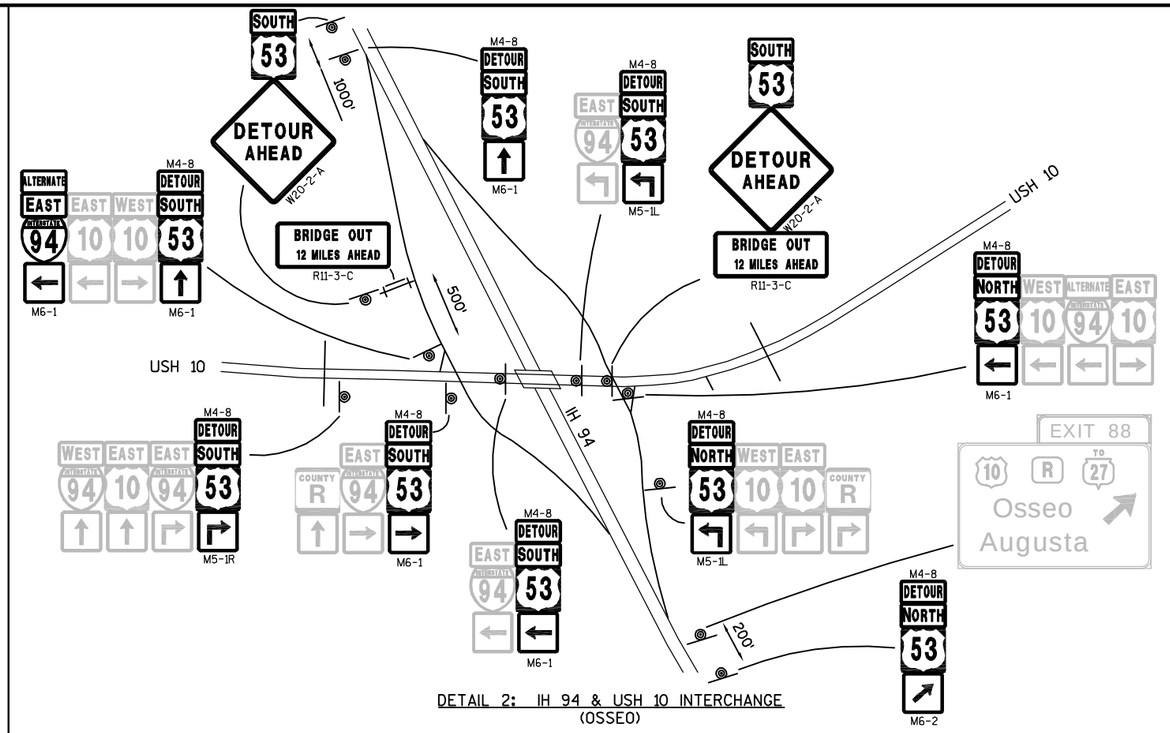
DETOUR ROUTE

1. ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF TRAFFIC CONTROL DEVICES (WMUTCD)
2. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
3. DURING HOURS OF DARKNESS, ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH TYPE "A" (LOW-INTENSITY FLASHING) LIGHTS AND DEVICES USED TO DELINEATE A TRAVEL PATH SHALL BE EQUIPPED WITH TYPE "C" (STEADY BURN) LIGHTS.
4. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACK-GROUND SHALL BE ORANGE
5. ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED
6. ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.
7. ALL ALTERNATE ROUTE SIGNS SHALL BE INTERSTATE BLUE

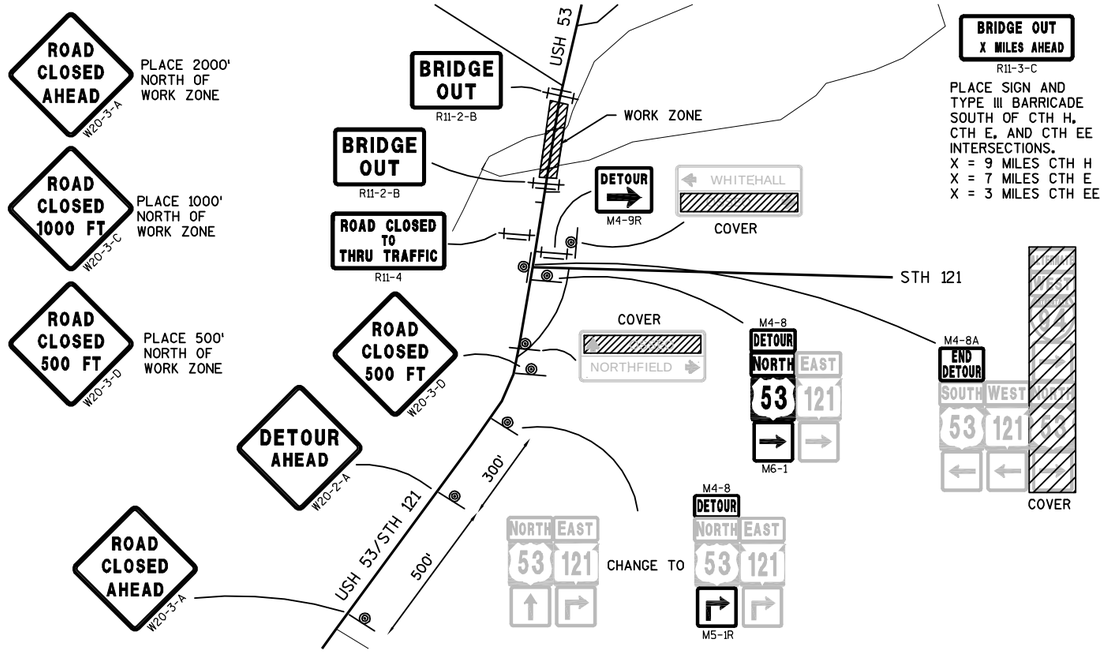
PROJECT NO: 1630-02-70	HWY: USH 53	COUNTY: TREMPEALEAU	PLAN: DETOUR & ALTERNATE ROUTE PLAN	SHEET 5	E



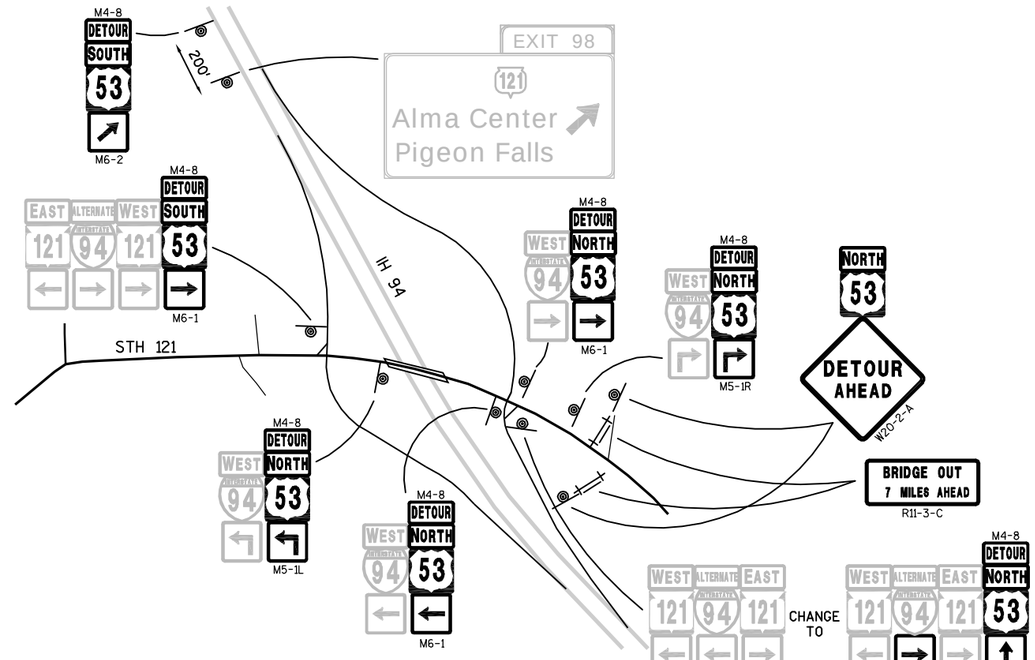
DETAIL 1: USH 10 & USH 53 INTERSECTION
(OSSEO)



DETAIL 2: IH 94 & USH 10 INTERCHANGE
(OSSEO)



DETAIL 3: USH 53 & STH 121 INTERSECTION
(PIGEON FALLS)

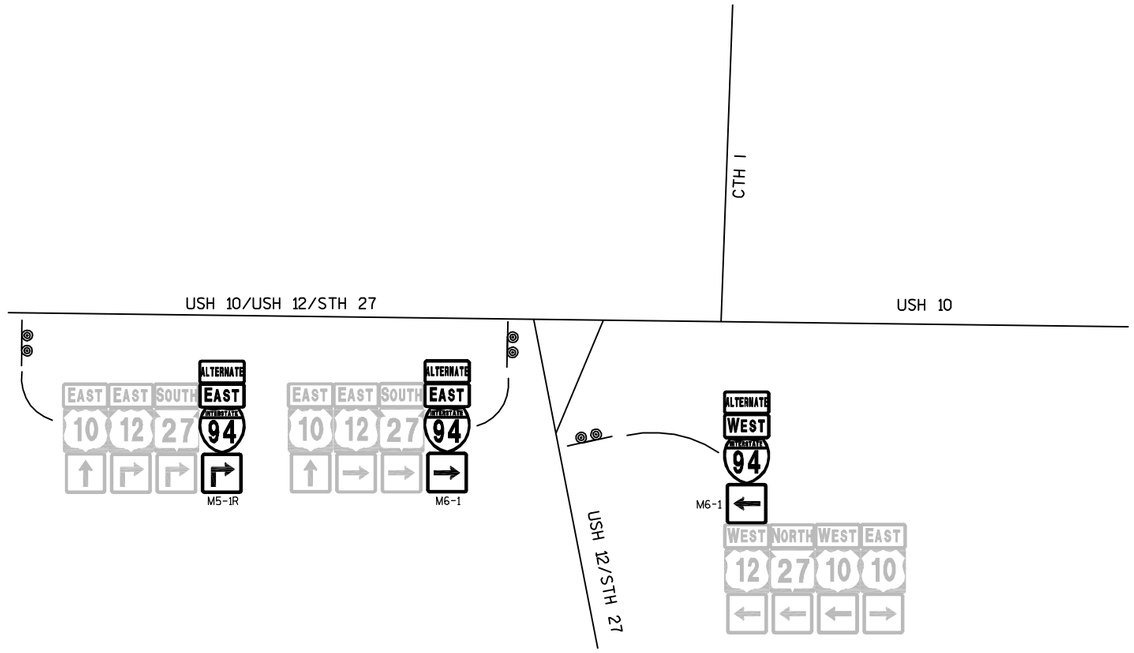


DETAIL 4: IH 94 & STH 121 INTERCHANGE
(NORTHFIELD)

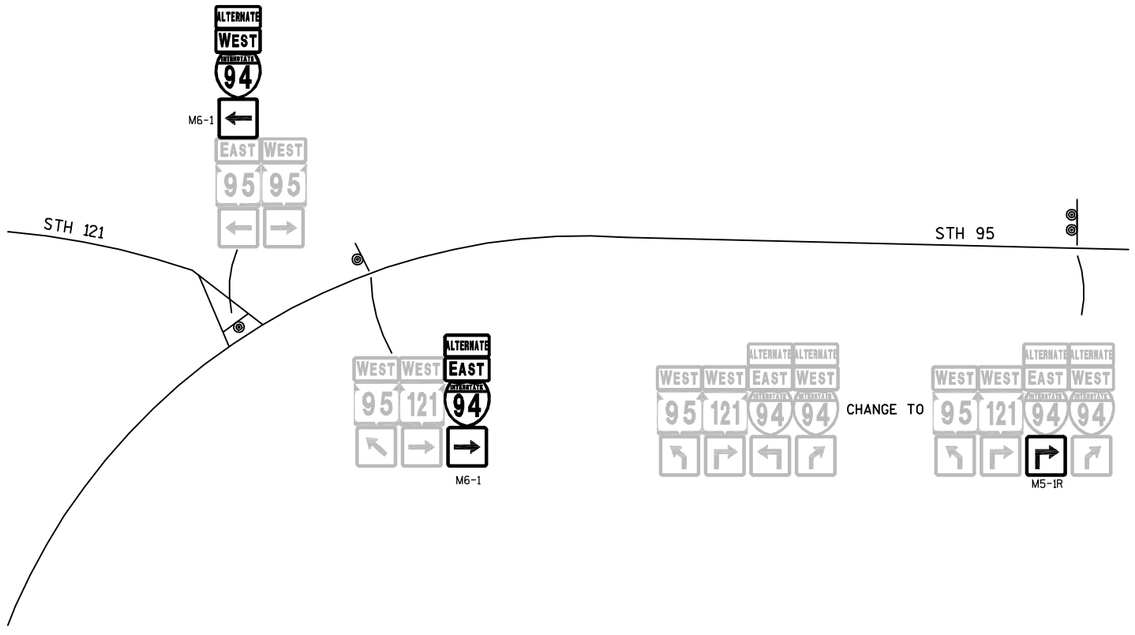
PROJECT NO: 1630-02-70	HWY: USH 53	COUNTY: TREMPEALEAU	DETOUR & ALTERNATE ROUTE PLAN	SHEET 6	E

PLACE 2 SETS OF REASSURANCE SIGNING EACH DIRECTION ALONG USH 94 BETWEEN EXITS 88 & 98. PLACE REASSURANCE SIGNING AT DOWNSTREAM END (EACH DIRECTION) OF CTH FF, CTH G, AND CTH P. 30 TOTAL SIGNS REQUIRED.

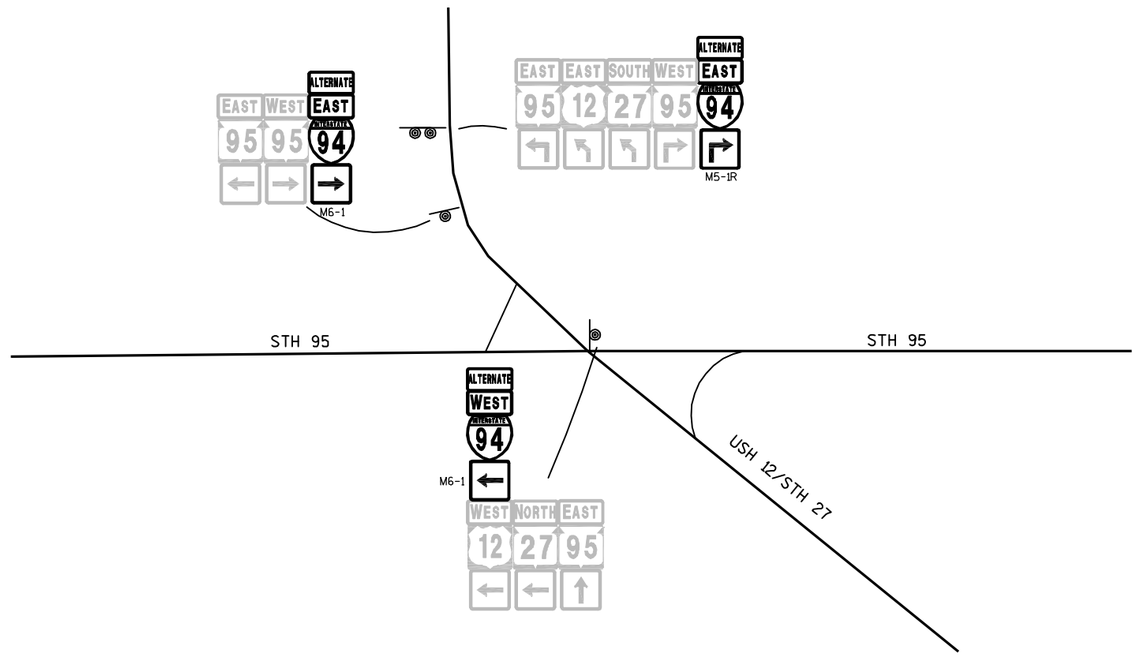
PLACE REASSURANCE SIGNING AT DOWNSTREAM END (EACH DIRECTION) OF CTH R, CTH G, CTH M, CTH T, USH 12/STH 27 NORTH, CTH B (WEST), CTH F (HUMBIRD), CTH B (EAST), CHERRY ROAD, CTH F (ALMA CENTER), HIXTON LEWIS ROAD, AND CTH FF. 72 TOTAL SIGNS REQUIRED.



DETAIL 7: USH 12/STH 27 & USH 10 INTERSECTION
(FAIRCHILD)



DETAIL 5: STH 121 & STH 95 INTERSECTION
(ALMA CENTER)



DETAIL 6: USH 12/STH 27 & STH 95 INTERSECTION
(MERRILLAN)

PROJECT NO: 1630-02-70	HWY: USH 53	COUNTY: TREMPEALEAU	DETOUR & ALTERNATE ROUTE PLAN	SHEET 7	E

DATE 15MAR16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1630-02-70 QUANTITY
0030	204.0110	Removing Asphaltic Surface	SY	230.000	230.000
0040	204.0120	Removing Asphaltic Surface Milling	SY	270.000	270.000
0050	204.0150	Removing Curb & Gutter	LF	95.000	95.000
0060	204.0155	Removing Concrete Sidewalk	SY	15.000	15.000
0100	213.0100	Finishing Roadway (project) 01. 1630-02-70	EACH	1.000	1.000
0130	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	95.000	95.000
0140	415.0070	Concrete Pavement 7-Inch	SY	110.000	110.000
0150	415.0410	Concrete Pavement Approach Slab	SY	120.000	120.000
0160	455.0605	Tack Coat	GAL	20.000	20.000
0170	465.0105	Asphaltic Surface	TON	40.000	40.000
0220	502.3200	Protective Surface Treatment	SY	710.000	710.000
0260	509.0301	Preparation Decks Type 1	SY	90.000	90.000
0270	509.0302	Preparation Decks Type 2	SY	30.000	30.000
0280	509.0500	Cleaning Decks	SY	695.000	695.000
0290	509.1200	Curb Repair	LF	130.000	130.000
0300	509.1500	Concrete Surface Repair	SF	10.000	10.000
0310	509.2000	Full-Depth Deck Repair	SY	1.000	1.000
0320	509.2500	Concrete Masonry Overlay Decks	CY	54.000	54.000
0330	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	45.000	45.000
0340	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	50.000	50.000
0350	602.0415	Concrete Sidewalk 6-Inch	SF	110.000	110.000
0420	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1630-02-70	EACH	1.000	1.000
0440	619.1000	Mobilization	EACH	0.350	0.350
0470	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0480	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0500	628.7015	Inlet Protection Type C	EACH	2.000	2.000
0530	642.5001	Field Office Type B	EACH	0.500	0.500
0540	643.0100	Traffic Control (project) 01. 1630-02-70	EACH	1.000	1.000
0570	643.0420	Traffic Control Barricades Type III	DAY	990.000	990.000
0580	643.0705	Traffic Control Warning Lights Type A	DAY	1,530.000	1,530.000
0600	643.0900	Traffic Control Signs	DAY	765.000	765.000
0610	643.0920	Traffic Control Covering Signs Type II	EACH	6.000	6.000
0620	643.2000	Traffic Control Detour (project) 01. 1630-02-70	EACH	1.000	1.000
0640	643.3000	Traffic Control Detour Signs	DAY	10,980.000	10,980.000
0650	646.0106	Pavement Marking Epoxy 4-Inch	LF	730.000	730.000
0710	650.9910	Construction Staking Supplemental Control (project) 01. 1630-02-70	LS	1.000	1.000
0740	690.0150	Sawing Asphalt	LF	150.000	150.000
0750	715.0415	Incentive Strength Concrete Pavement	DOL	610.000	610.000
0770	SPV.0060	Special 01. Grading, Shaping, And Finishing Structure Approaches B-61-0058	EACH	1.000	1.000

3

CATEGORY	STATION TO STATION	SIDE	WIDTH (FT)	THICKNESS (IN)	LAYERS	REMOVING ASPHALTIC SURFACE 204.0110 SY	REMOVING ASPHALTIC SURFACE MILLING 204.0120 SY	CONCRETE PAVEMENT 7-INCH 415.0070 SY	CONCRETE APPROACH SLAB 415.0410 SY	TACK COAT 455.0605 GAL	ASPHALTIC SURFACE 465.0105 TON	SAWING ASPHALT 690.0150 LF
0010	314+08 - 314+33	LT/RT	44	2.0 - 3.5	1	-	122	-	-	9	19	51
0010	314+33 - 1+55	LT/RT	46			110	-	51	58	-	-	46
0010	2+85 - 3+08	LT/RT	46			120	-	59	62	-	-	53
0010	3+08 - 3+33	LT/RT	53	2.0 - 3.0	1	-	148	-	-	11	21	-
0010	UNDISTRIBUTED					-	-	-	-	-	-	-
					TOTAL 0010	230	270	110	120	20	40	150

CATEGORY	STATION TO	STATION	LOCATION	REMOVING CURB & GUTTER 204.0150 LF	REMOVING CONCRETE SIDEWALK 204.0155 SY	CONCRETE CURB & GUTTER 30-INCH TYPE A 601.0409 LF	CONCRETE CURB & GUTTER 30-INCH TYPE D 601.0411 LF	CONCRETE SIDEWALK 6-INCH 602.0415 SF	INLET PROTECTION TYPE C 628.7015 EA
0010	314+08 -	314+33	LT/RT	50	-	-	50	-	-
0010	314+33 -	1+64	RT	31	7	31	-	52	-
0010	2+95 -	3+08	RT	14	8	14	-	58	-
0010	UNDISTRIBUTED			-	-	-	-	-	2
			TOTAL 0010	95	15	45	50	110	2

CATEGORY	STATION TO STATION	SIDE	BASE AGGREGATE DENSE 1 1/4-INCH 305.0120 TON	REMARKS
0010	314+08 - 314+33	LT/RT	8	CURB & GUTTER
0010	314+33 - 1+55	LT/RT	44	CURB & GUTTER/SIDEWALK/APPROACH SLABS
0010	2+85 - 3+08	LT/RT	43	CURB & GUTTER/SIDEWALK/APPROACH SLABS
0010	UNDISTRIBUTED			
		TOTAL 0010	95	

CATEGORY	DAYS	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 #	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAYS	TRAFFIC CONTROL WARNING LIGHTS TYPE A 643.0705 #	TRAFFIC CONTROL WARNING LIGHTS TYPE A 643.0705 DAYS	TRAFFIC CONTROL SIGNS 643.0900 #	TRAFFIC CONTROL SIGNS 643.0900 DAYS	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 EA	TRAFFIC CONTROL DETOUR SIGNS 643.3000 #	TRAFFIC CONTROL DETOUR SIGNS 643.3000 DAYS	REMARKS
0010	45	22	990	34	1,530	17	765	6	244	10,980	
			990		1,530		765	6		10,980	

CATEGORY	STATION TO STATION	SIDE	PAVEMENT MARKING EPOXY 4-INCH 646.0106 LF	REMARKS
0010	314+08 - 3+33	LT	225	LT WHITE EDGELINE
0010	314+08 - 3+33	RT	225	RT WHITE EDGELINE
0010	314+08 - 3+33	CL	280	YELLOW CENTERLINE
		TOTAL	730	

CATEGORY	LOCATION	GRADING, SHAPING, AND FINISHING STRUCTURE APPROACHES, B-61-58 SPV.0060.01 EA	EXCAVATION COMMON ** CY	TOPSOIL ** SY	FERTILIZER TYPE B ** CWT	SEEDING MIX NO. 40 ** LB
0010	B-61-58	1	90	5	0.01	1
	TOTAL 0010	1	90	5	0.01	1

**ITEMS AND QUANTITIES LISTED FOR INFORMATION ONLY; NON-BID ITEMS

PROJECT NUMBER: 1630-02-70	HWY: USH 53	COUNTY: TREMPEALEAU	MISCELLANEOUS QUANTITIES	SHEET NO: 9	E

FILE NAME: G:\2012-proj\12445022\dwg\PLAN SET\030101_mq.dwg PLOT DATE: Feb 11, 2016 - 08:45am PLOT BY:owner PLOT NAME: MISQ(1 ORG. DATE: Oct 19, 1999 Originator : J.A.F. PLOT SCALE : NONE

WISDOT/CADDS SHEET 42

XCEL ENERGY ELECTRIC DISTRIBUTION LINE

SAWING ASPHALT FULL-DEPTH

BEGIN PROJECT
STA 314+08.10
Y = 461,442.61
X = 883,733.84

REMOVING CURB & GUTTER
CONCRETE CURB & GUTTER 30" TYPE D

REMOVING ASPHALTIC SURFACE

PIGEON CREEK

21°30' SKEW

EQ STA 314+53.72 BK
= STA 1+54.00 AH

EXISTING DRIVEWAY

INSTALL INLET PROTECTION TYPE C AT THE NEAREST INLET

B-61-58 (SEE BRIDGE PLAN)

CONCRETE PAVEMENT APPROACH SLAB

312+50 313+00 314+00 2+00 3+00 3+90

USH 53

N8°49'49"E

CONCRETE PAVEMENT 7-INCH

INSTALL INLET PROTECTION TYPE C AT THE NEAREST INLET

WE ENERGIES GAS LINE

EXISTING CURB & GUTTER

REMOVING ASPHALTIC SURFACE MILLING ASPHALTIC SURFACE

EXISTING DRIVEWAY

PROVIDE ACCESS TO VILLAGE OF PIGEON FALLS FIRE HYDRANT AT ALL TIMES

REMOVING CURB & GUTTER
CONCRETE CURB & GUTTER 30" TYPE A

REMOVING CONCRETE SIDEWALK
CONCRETE SIDEWALK 6-INCH

TRI-COUNTY COMMUNICATIONS

CONCRETE CURB & GUTTER 30" TYPE A

EDGE OF EXISTING GRAVEL

SAWING ASPHALT FULL-DEPTH

END PROJECT
STA 3+33.42
Y = 461,664.98
X = 883,768.39

EDGE OF EXISTING ASPHALT

REMOVING CONCRETE SIDEWALK
CONCRETE SIDEWALK 6-INCH

WATERS EDGE

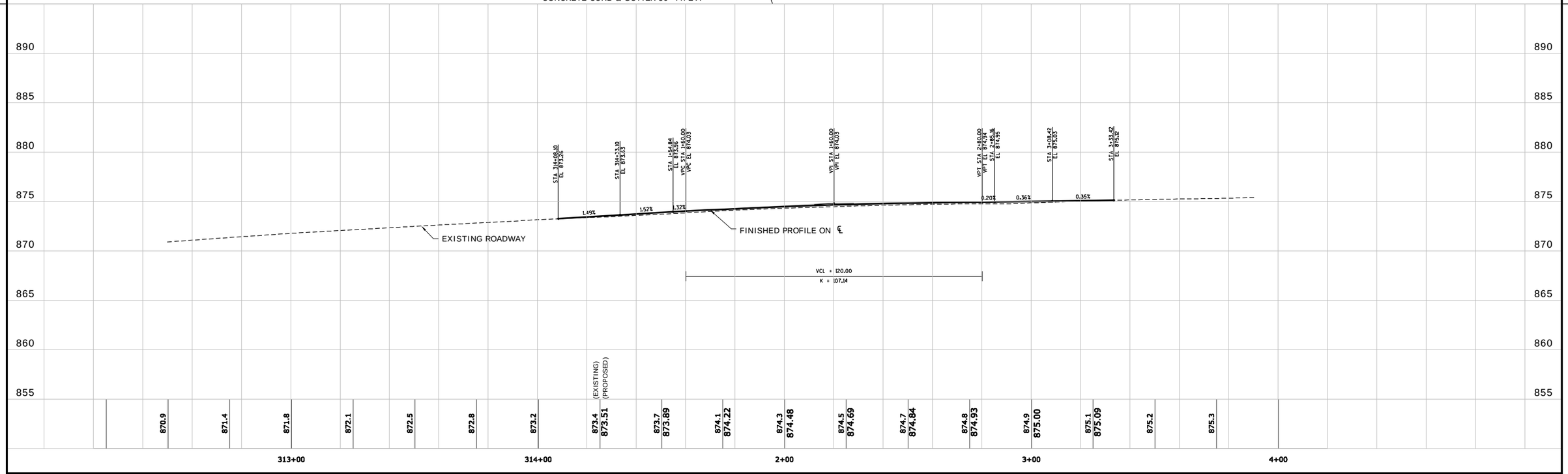
REMOVING ASPHALTIC SURFACE MILLING
ASPHALTIC SURFACE

EVENSON ROAD

EXISTING ASPHALTIC FLUME (TYP.)

EXISTING STEEL PLATE BEAM GUARD CLASS "A" W/ EAT TO REMAIN IN PLACE (TYP.)

SCALE
0' 10' 20' 40'



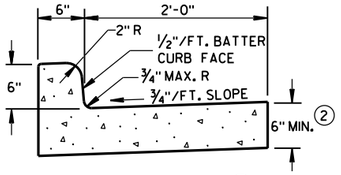
PROJECT NUMBER: 1630-02-70	HWY: USH 53	COUNTY: TREMPEALEAU	PLAN & PROFILE	SHEET NO: 10	E

FILE NAME: G:\2012-proj\12445022\dwg\PIGEON-CR-BASE.dwg PLOT DATE: Feb 11, 2016 - 08:50am PLOT BY:owner PLOT NAME: CEC-PP ORG. DATE: Jul 10, 2012 Originator : PLOT SCALE :

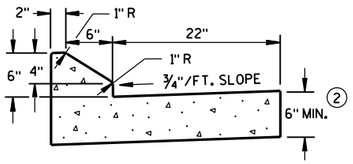
WISDOT/CADDS SHEET 42

Standard Detail Drawing List

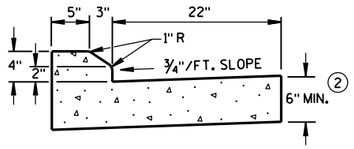
08D01-18	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08E10-02	INLET PROTECTION TYPE A, B, C AND D
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C08-16A	PAVEMENT MARKING (MAINLINE)



TYPES A & D ①

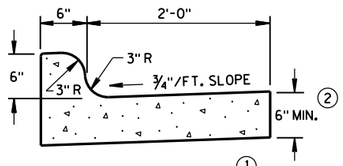


6" SLOPED CURB TYPES G & J ①

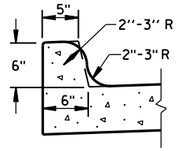


4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

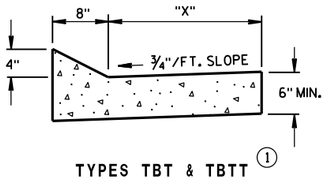


TYPES K & L ①



OPTIONAL CURB SHAPE FOR TYPES K & L ①

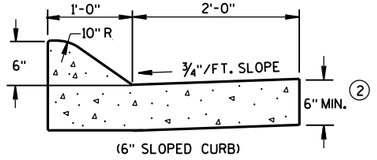
CONCRETE CURB & GUTTER 30"



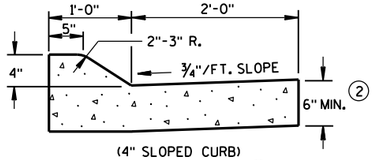
TYPES TBT & TBTT ①

CONCRETE CURB & GUTTER

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

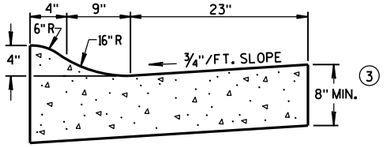


(6" SLOPED CURB)



(4" SLOPED CURB)

TYPES A & D ①



4" SLOPED CURB TYPES R & T ① ④

CONCRETE CURB & GUTTER 36"

GENERAL NOTES

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

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

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

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

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

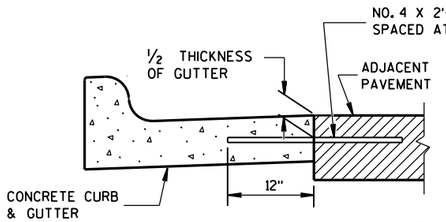
① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

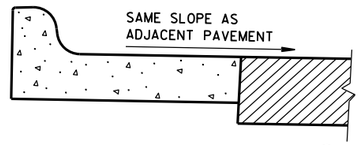
③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

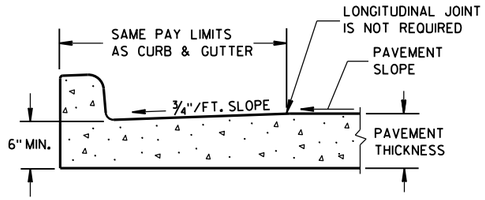
⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



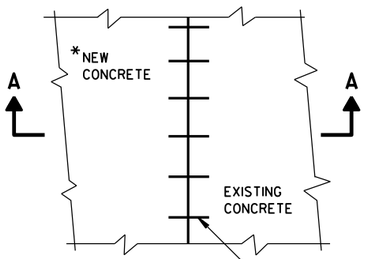
TYPICAL TIE BAR LOCATION ①



REVERSE SLOPE GUTTER ⑤
(TYPICAL FOR ALL CURB & GUTTER TYPES)

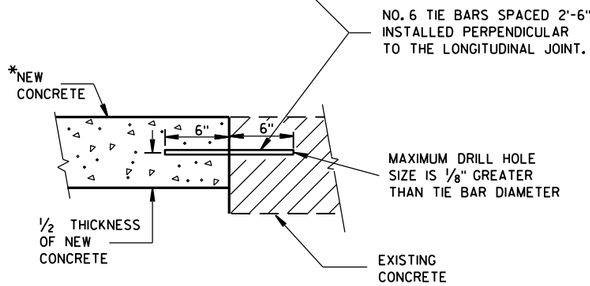


PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



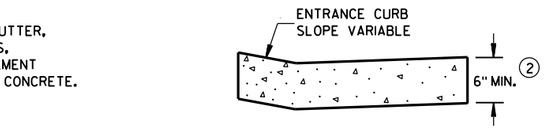
PLAN VIEW

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

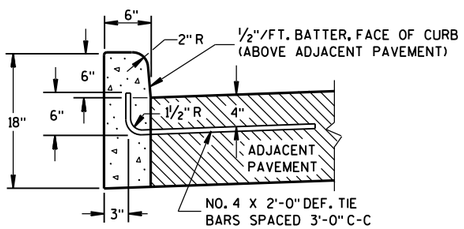


SECTION A-A

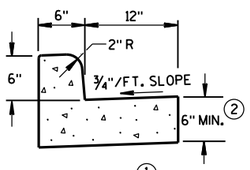
TIE BARS DRILLED
INTO EXISTING PAVEMENT



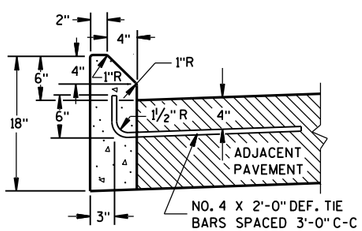
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



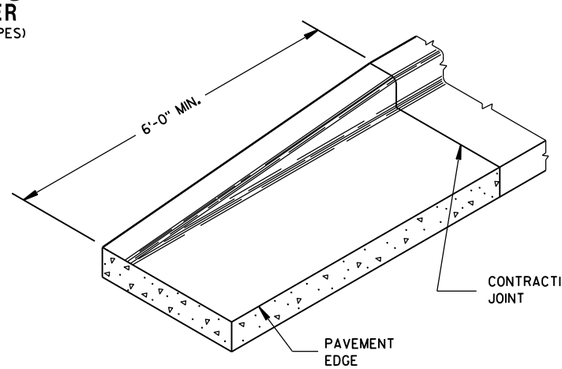
① TYPES A & D



① TYPES A & D
CONCRETE CURB & GUTTER 18"



① TYPES G & J



END SECTION CURB & GUTTER

CONCRETE CURB

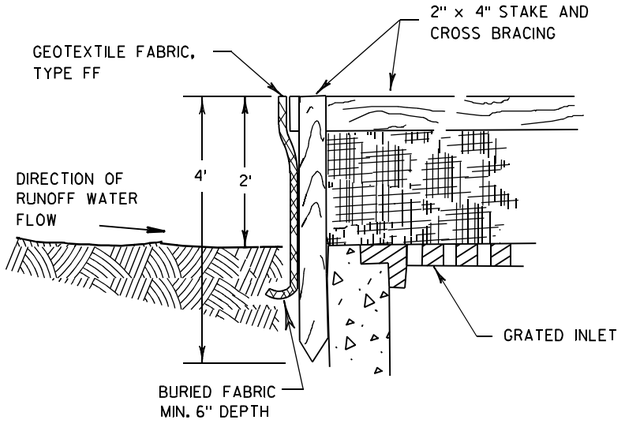
CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

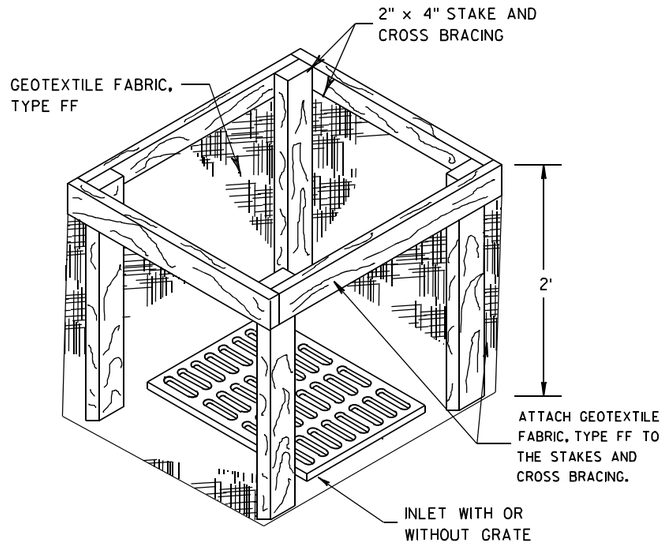
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

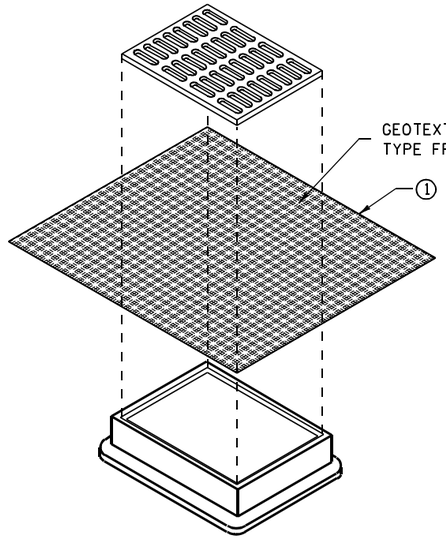
6

S.D.D. 8 D 1-18



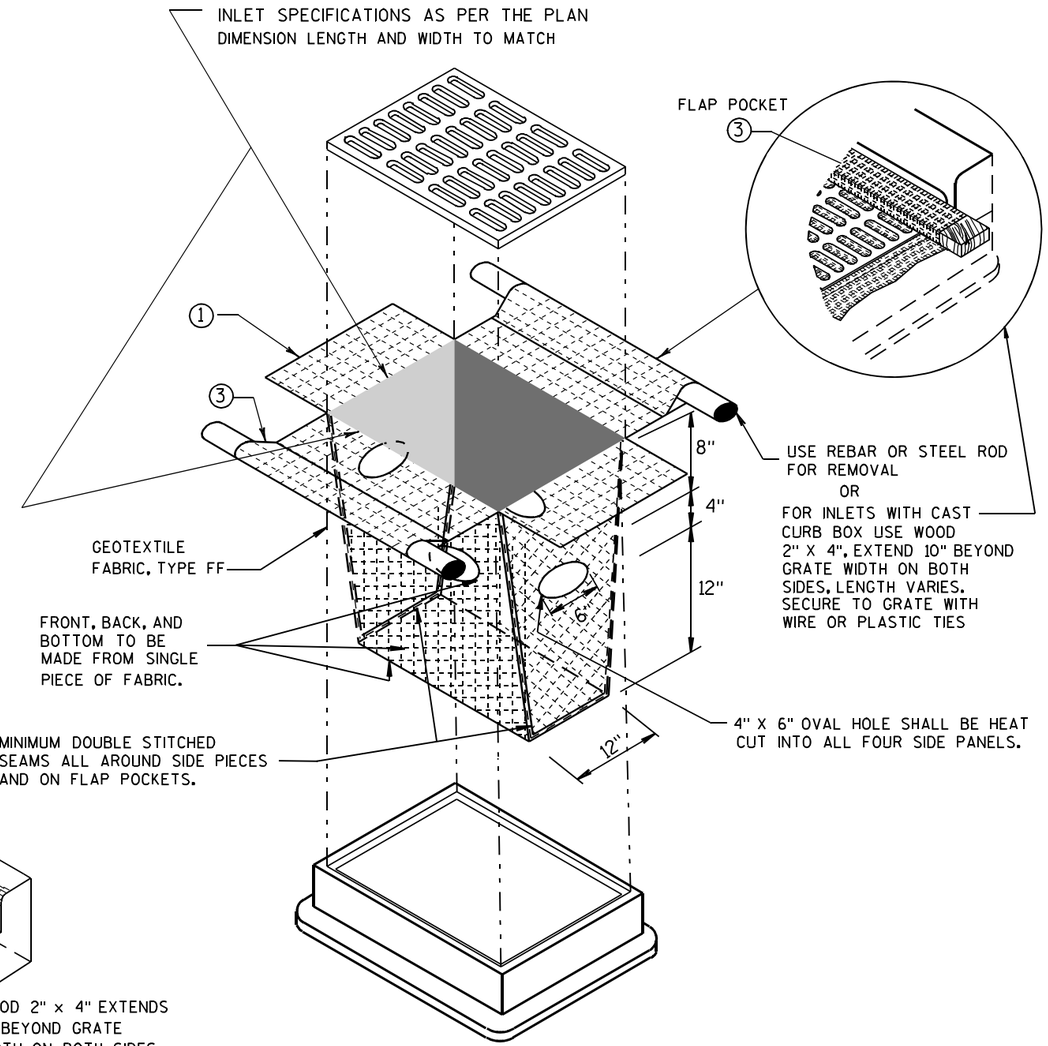


INLET PROTECTION, TYPE A



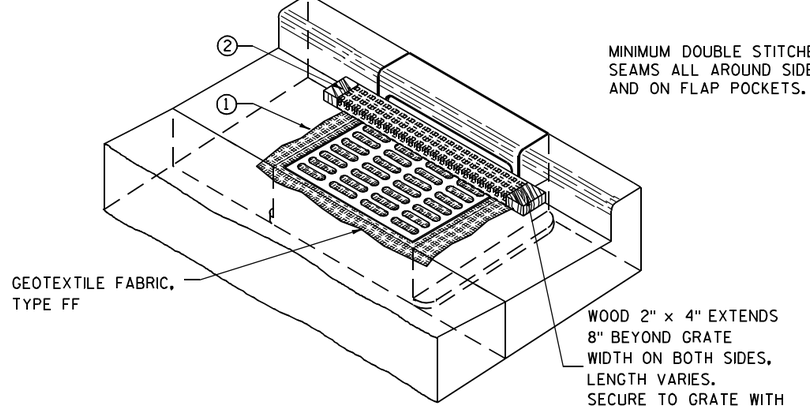
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

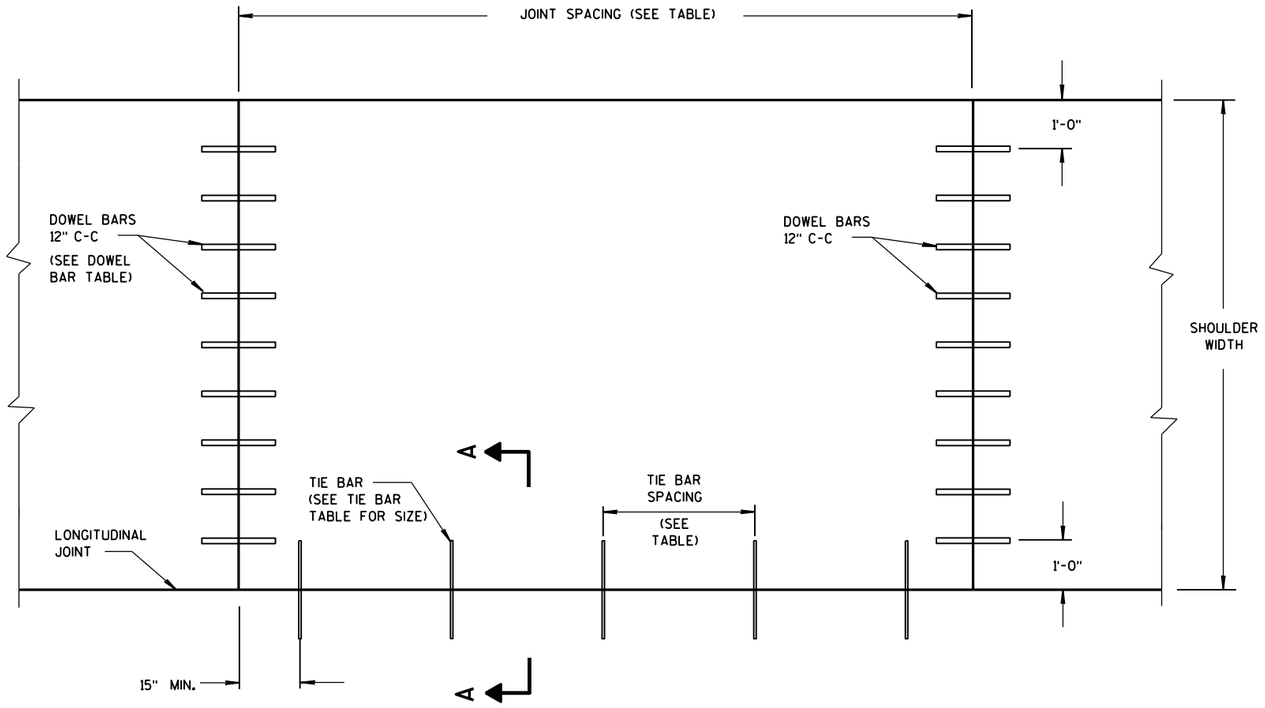
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 E 10-2



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

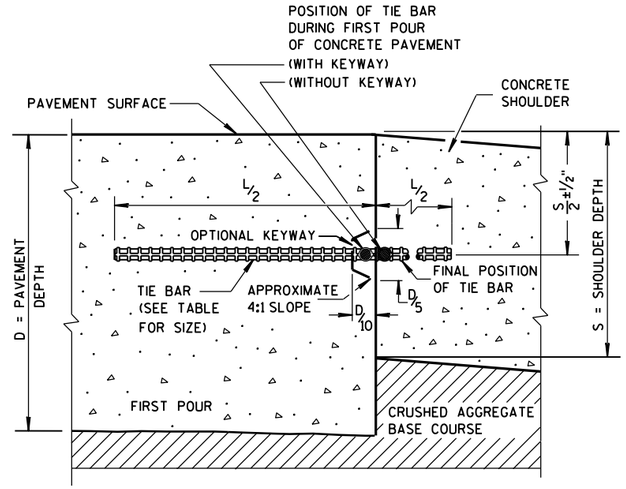
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

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

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



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

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

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

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

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

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

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

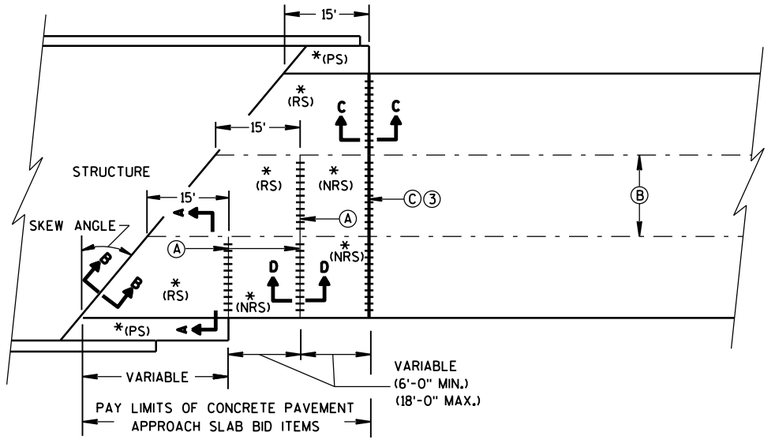
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPERINTENDENT
FHWA

6

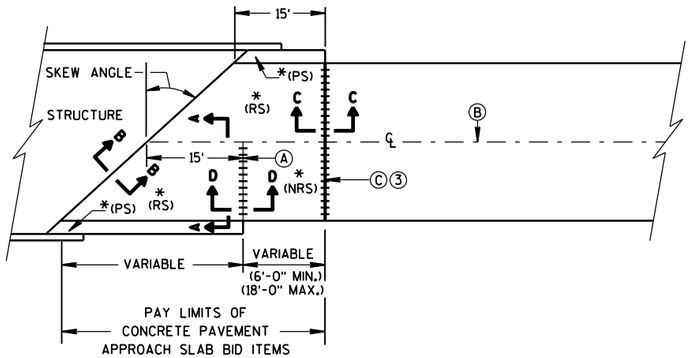
S.D.D. 13 A 3-6

6

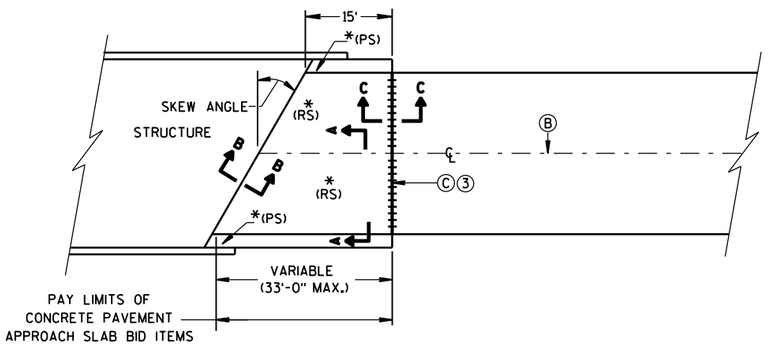
S.D.D. 13 A 3-6



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

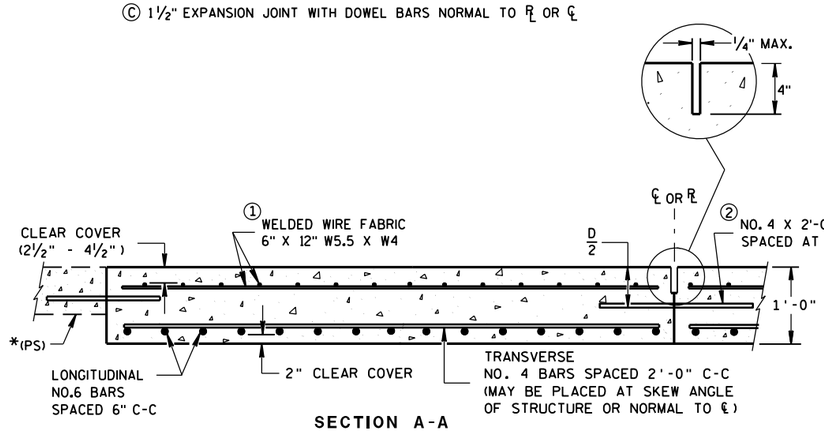
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

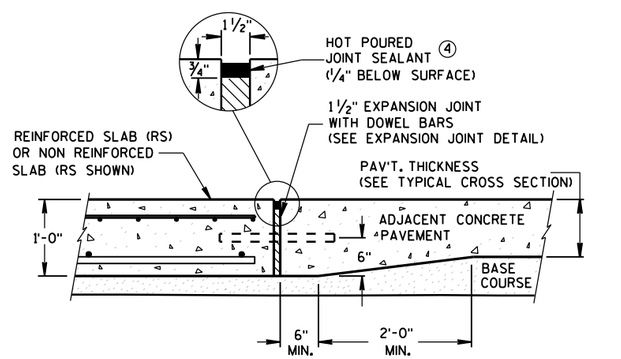
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

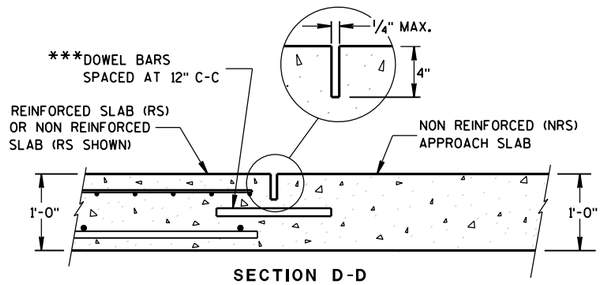
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



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.

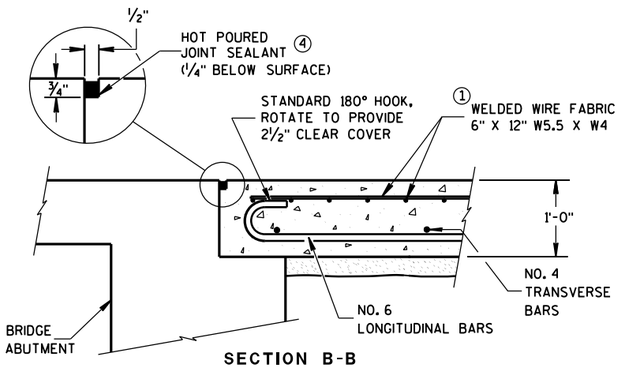
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

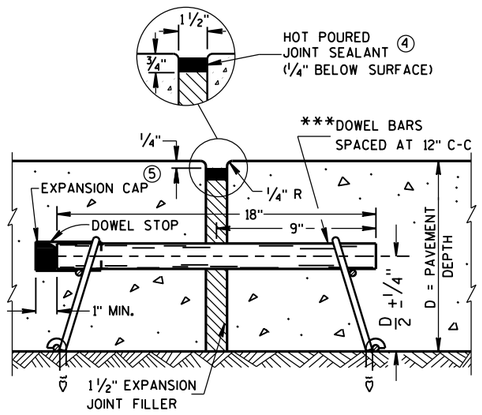
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

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 SUPE
FHWA

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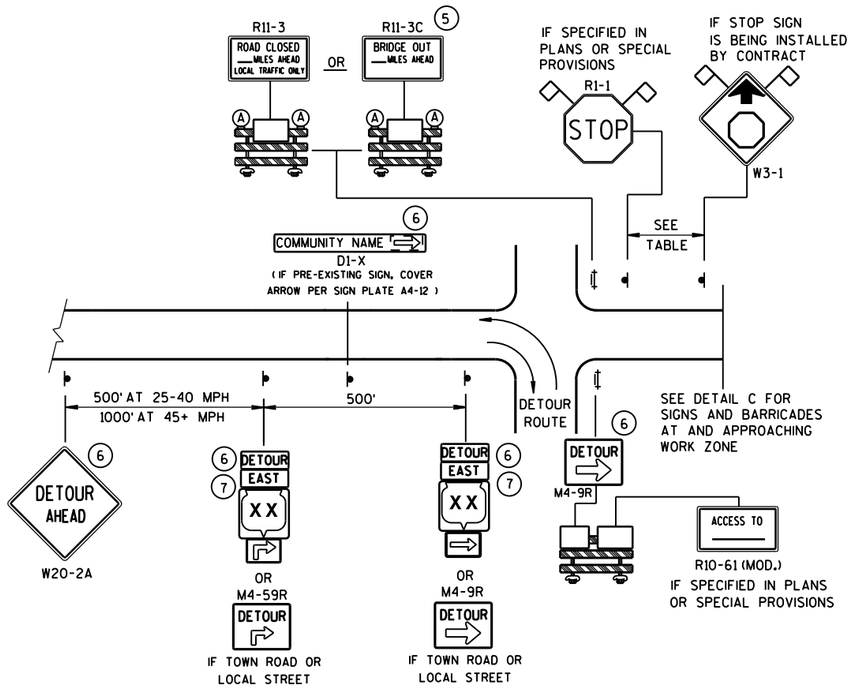
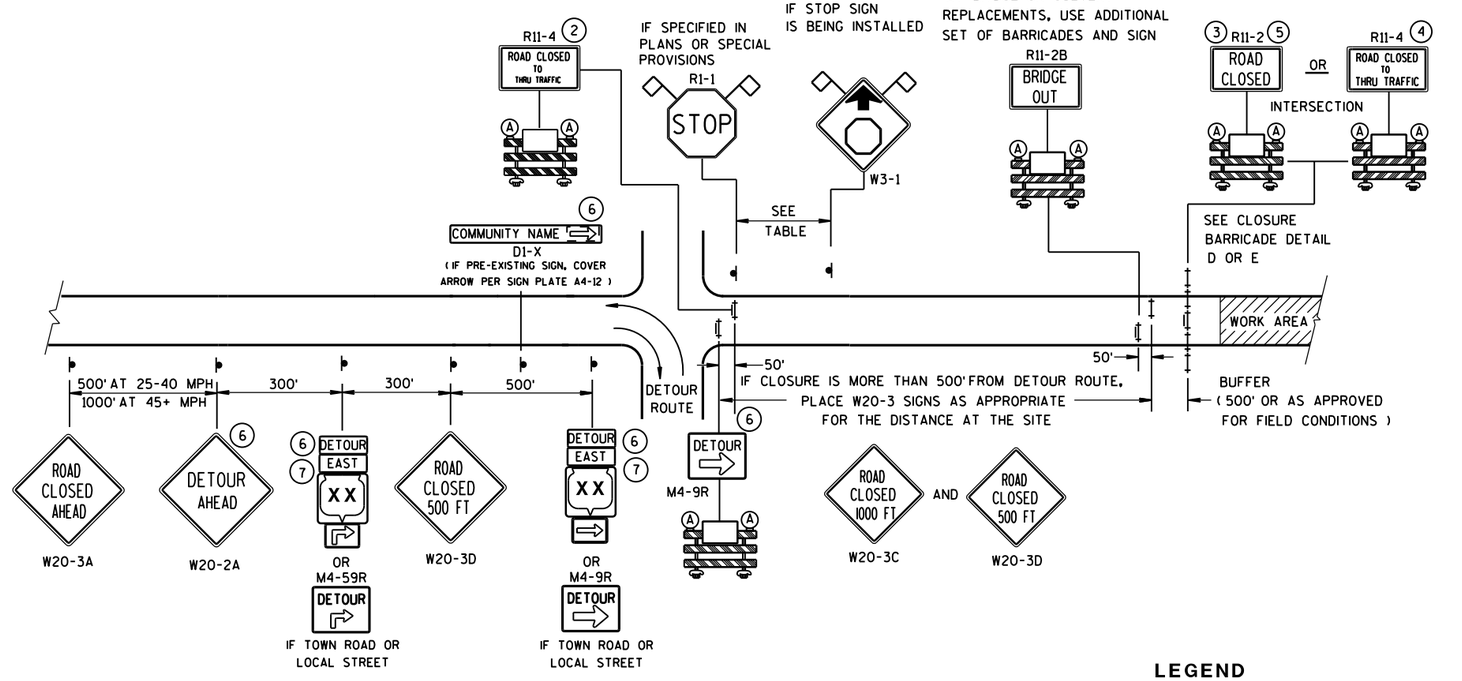
S.D.D. 13 B 2-8a



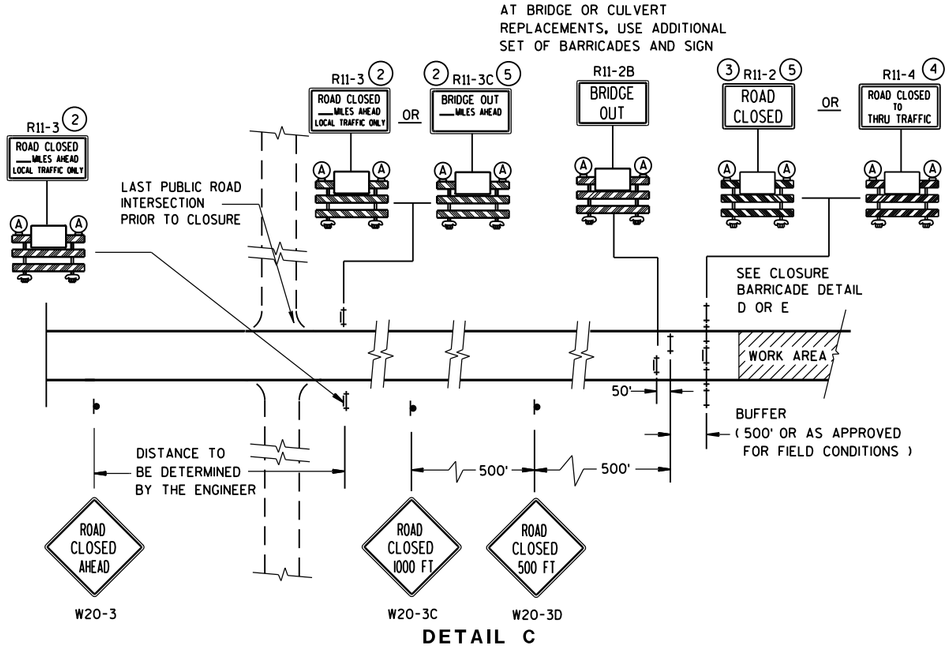
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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)

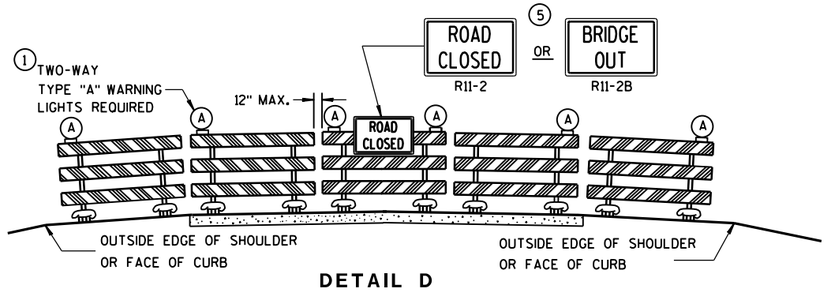
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

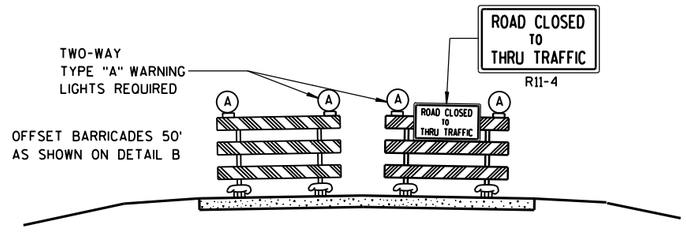
S.D.D. 15 C 2-6a



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 FIC

FHWA

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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.

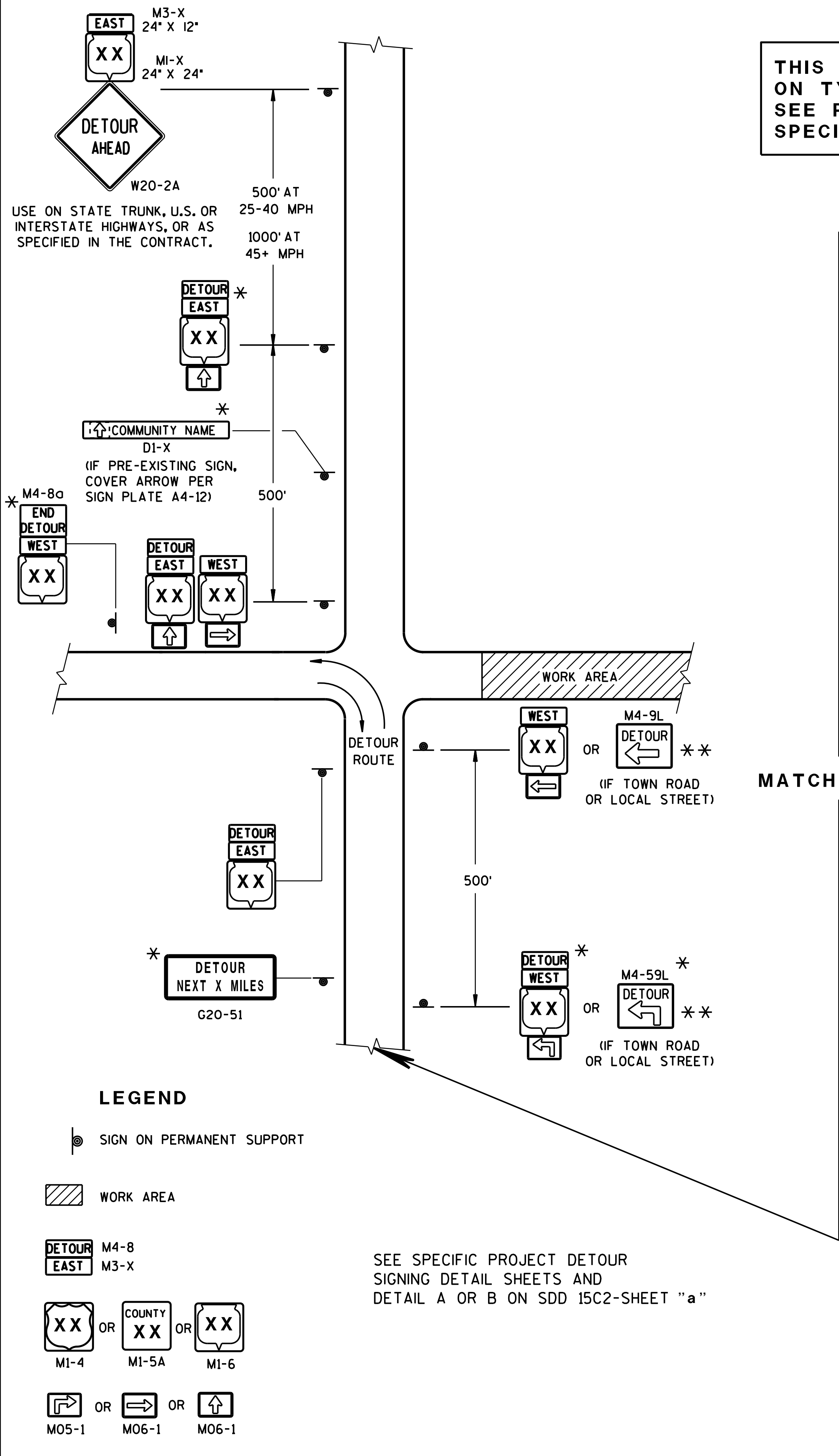
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

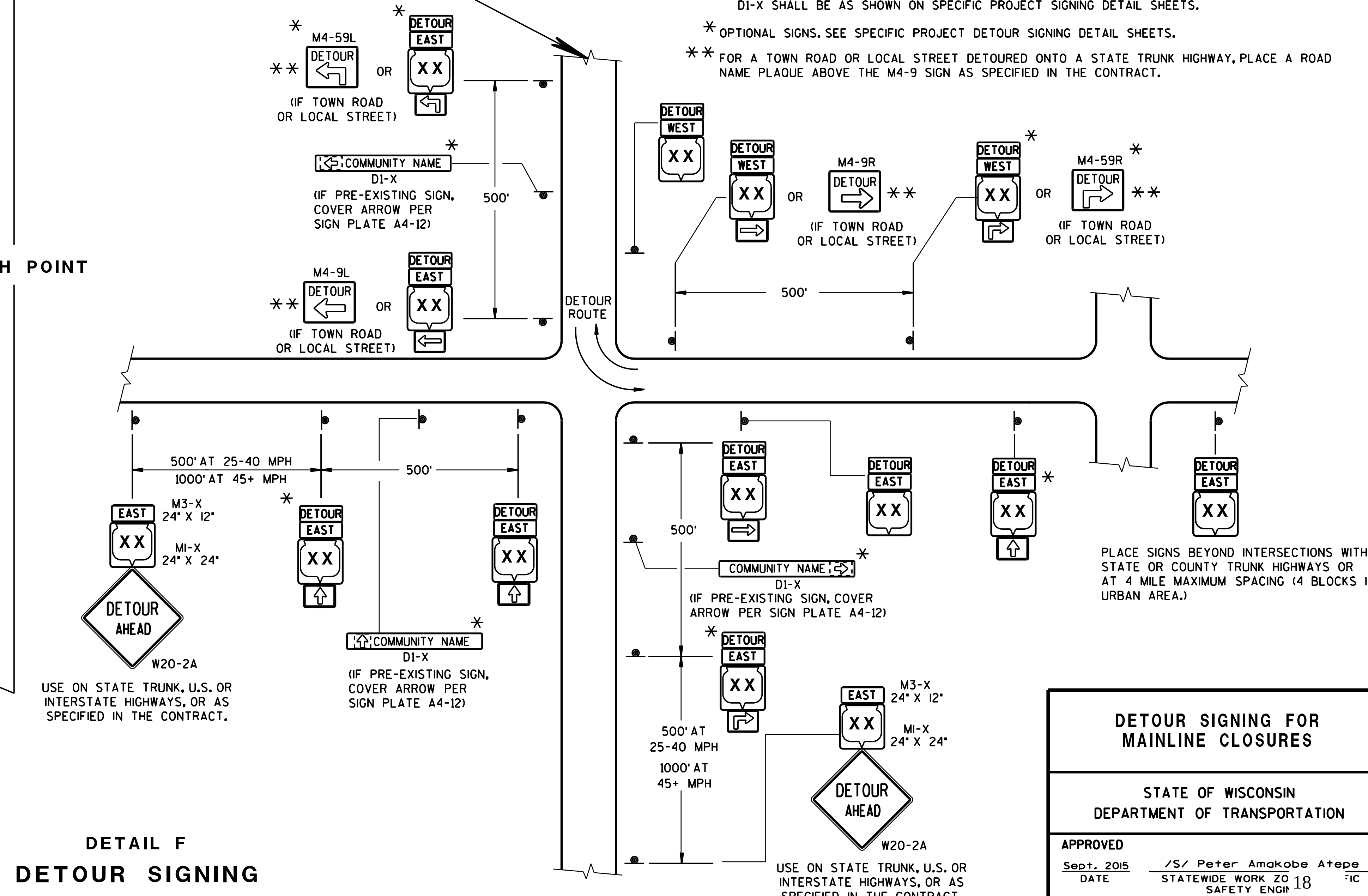
SIGN SIZES SHALL BE AS FOLLOWS:

- 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.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.





DETAIL F

DETOUR SIGNING

6

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

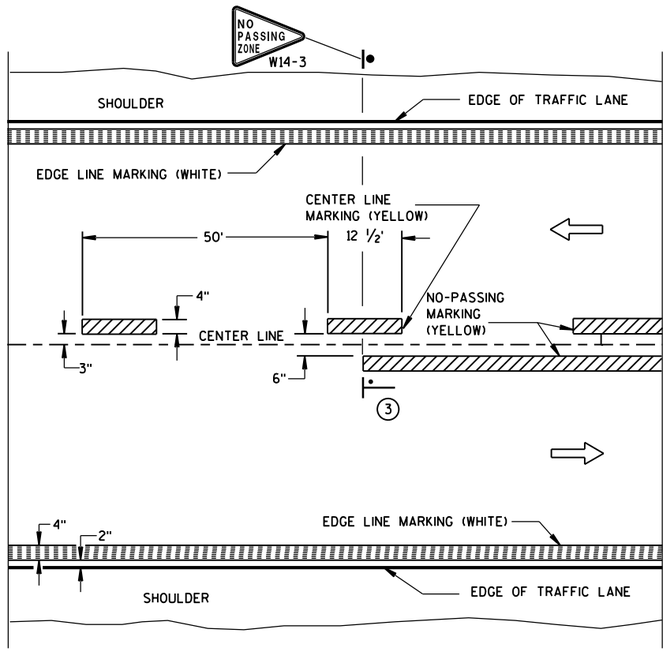
APPROVED

Sept. 2015 — DATE

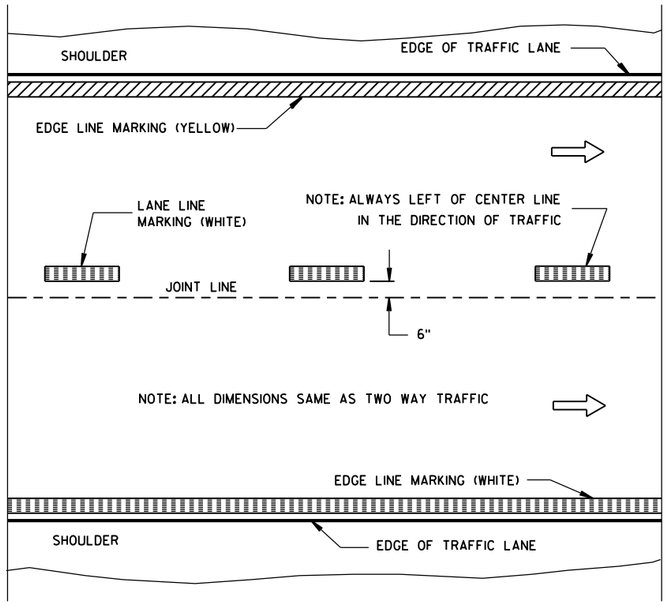
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

FHWA

S.D.D. 15 C 2-6c

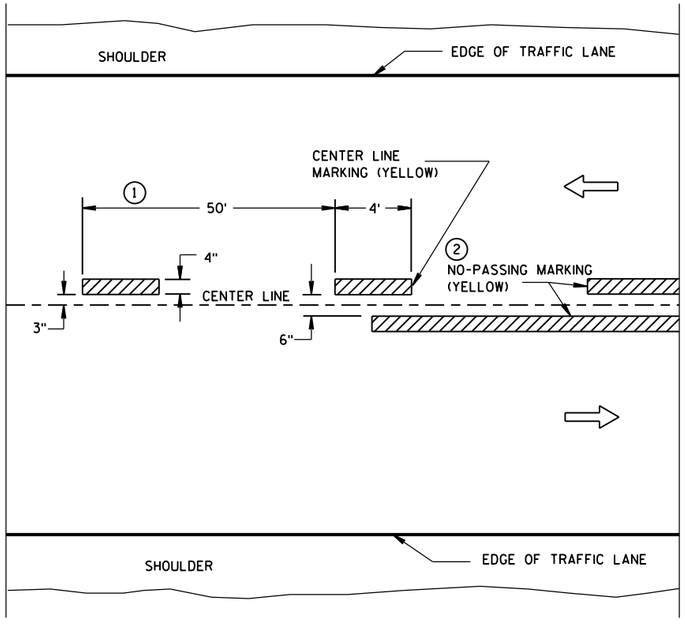


TWO WAY TRAFFIC

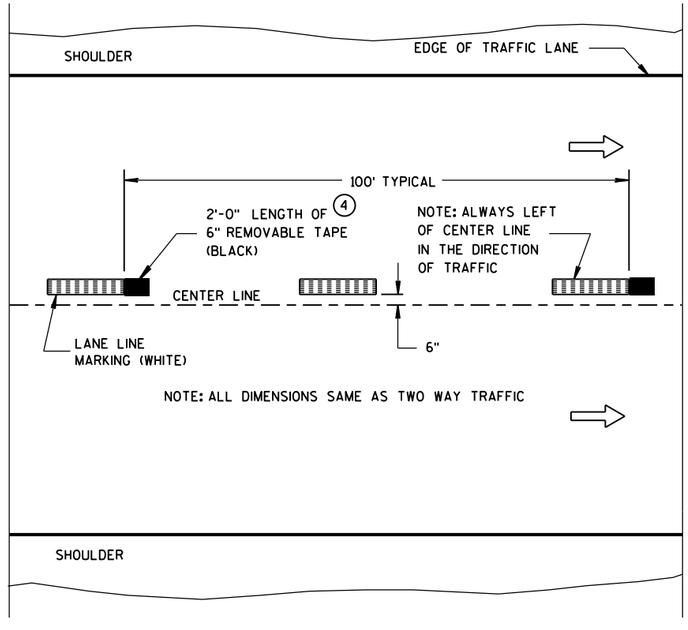


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

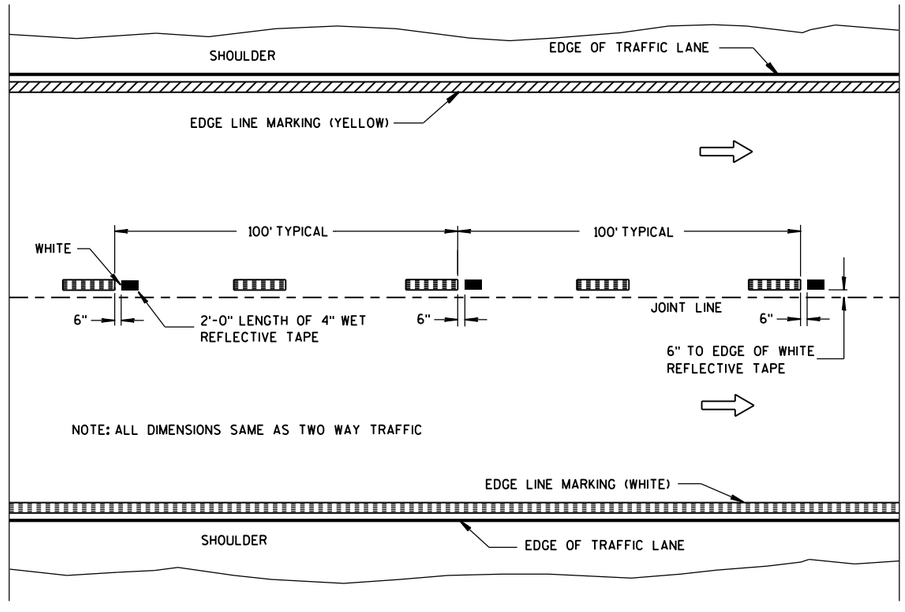
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC E

FHWA

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S.D.D. 15 C 8-16a

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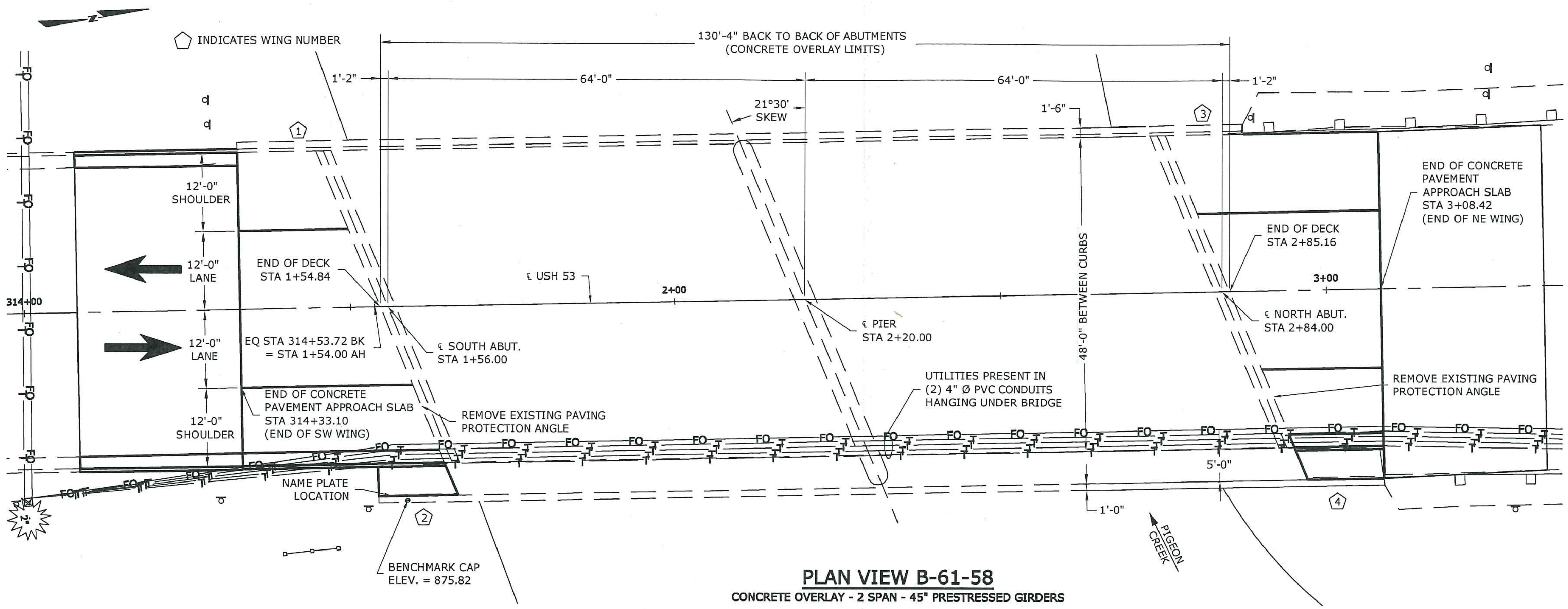
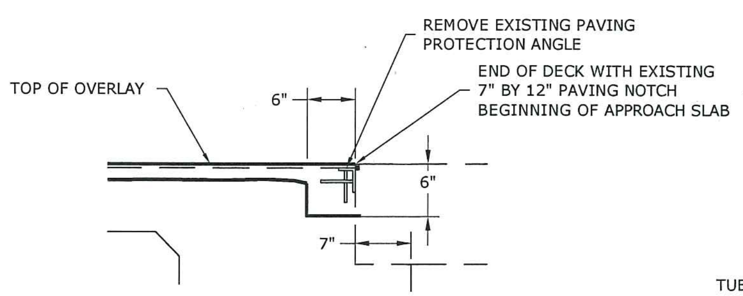
S.D.D. 15 C 8-16a

STATE PROJECT NUMBER
1630-02-70

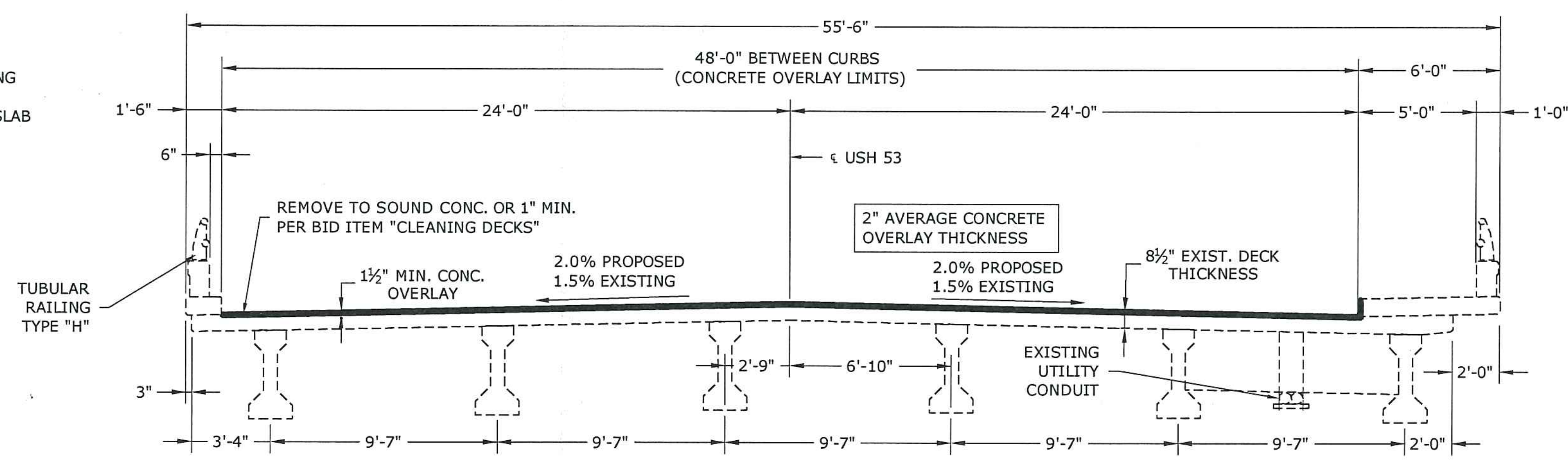


PLAN VIEW B-61-58

CONCRETE OVERLAY - 2 SPAN - 45" PRESTRESSED GIRDERS



SECTION AT END OF DECK



CROSS SECTION THRU ROADWAY - USH 53

(LOOKING NORTH)

GENERAL NOTES

THE BRIDGE WILL BE CLOSED TO ALL TRAFFIC DURING CONSTRUCTION.

THE WORK INCLUDES CONCRETE MILL AND OVERLAY, CURB REPAIR, AND CONCRETE SURFACE REPAIR.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT THE ABUTMENTS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, FULL-DEPTH DECK REPAIR, AND CONCRETE SURFACE REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

ALL REMOVAL LINES NOT COVERED WITH AN OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT AT THE CONCRETE SURFACES.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY AND TO THE CONCRETE CURB REPAIR.

ELEVATIONS ARE REFERENCE TO THE NAVD88 DATUM.

DESIGN DATA

LIVE LOAD:

- INVENTORY RATING — HS17
- OPERATING RATING — HS28
- MAX. STD. PERMIT VEHICLE LOAD — 190 KIPS

MATERIAL PROPERTIES:

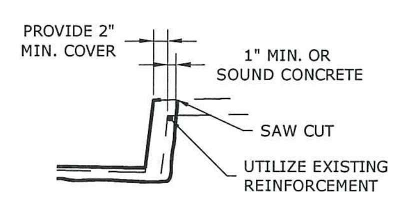
- CONCRETE MASONRY OVERLAY DECKS — f'c = 4000psi

TRAFFIC DATA:

- A.D.T. (2015) = 2,850
- A.D.T. (2035) = 3,375
- D.H.V. (2035) = 189 (5.6%)
- D.D. = 60 - 40
- T. (A.D.T.) = 8.4%
- DESIGN SPEED = 35 MPH
- ESALS = 773,800

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	710
509.0301	PREPARATION DECKS TYPE 1	SY	90
509.0302	PREPARATION DECKS TYPE 2	SY	30
509.0500	CLEANING DECKS	SY	695
509.1200	CURB REPAIR	LF	130
509.1500	CONCRETE SURFACE REPAIR	SF	10
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	54



CURB REPAIR DETAIL

WISCONSIN PROFESSIONAL ENGINEER
JACOB A. FRIBERG
E-43328
RICE LAKE
WI
11-24-15

LIST OF DRAWINGS

1. CONCRETE OVERLAY

BENCH MARK

EXISTING BENCH MARK ON B-61-0058
ELEVATION = 875.82

WISDOT BRIDGE OFFICE CONTACT:
WILLIAM DREHER (608) 266-8489

DESIGN CONSULTANT CONTACT:
STEVE POETHKE (715) 234-7008

NO.	DATE	REVISION	BY

COOPER ENGINEERING
2600 COLLEGE DRIVE, P.O. BOX 230
RICE LAKE, WISCONSIN 54868-0230
TELEPHONE (715) 234-7008
FAX (715) 234-1025

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR — 02/10/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-61-58

USH 53 BRIDGE OVER PIGEON CREEK

COUNTY: TREMPEALEAU — ~~TOWN/CITY/~~VILLAGE: PIGEON FALLS

DESIGN SPEC.: REHABILITATION N/A

DESIGNED BY SKP | DESIGN CK'D. JAF | DRAWN BY JAF | PLANS CK'D. SKP

CONCRETE OVERLAY — SHEET 1 OF 1

8

8

FILE NAME: G:\2012-proj\12445022\dwg\PIGEON-CR-BASE.dwg — PLOT DATE: Nov 24, 2015 - 11:20am — PLOT BY:owner — PLOT NAME: CONCRETE OVERLAY — ORG. DATE: Jul 10, 2012 — Originator : — PLOT SCALE :

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

EAU MAY 2016

PROJECT ID: 7905-03-72
WITH: 1630-02-70

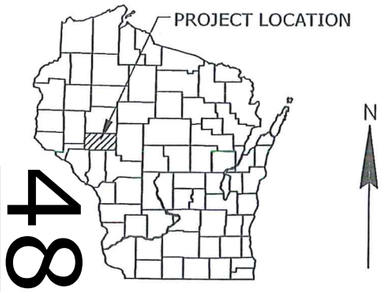
COUNTY: EAU CLAIRE

48

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.	-	Right of Way Plat
Section No.	5	Plan and Profile (Includes Erosion Control Plan)
Section No.	6	Standard Detail Drawings
Section No.	-	Sign Plates
Section No.	8	Structure Plans
Section No.	-	Computer Earthwork Data
Section No.	-	Cross Sections

TOTAL SHEETS = 52



DESIGN DESIGNATION

A.D.T. (2015)	= 2,775
A.D.T. (2035)	= 3,300
D.H.V. (2035)	= 132 (4%)
D.D.	= 60-40
T. (A.D.T.)	= 6.0%
DESIGN SPEED	= 55 MPH
ESALS	= 518,300

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (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

OSSEO - EAU CLAIRE

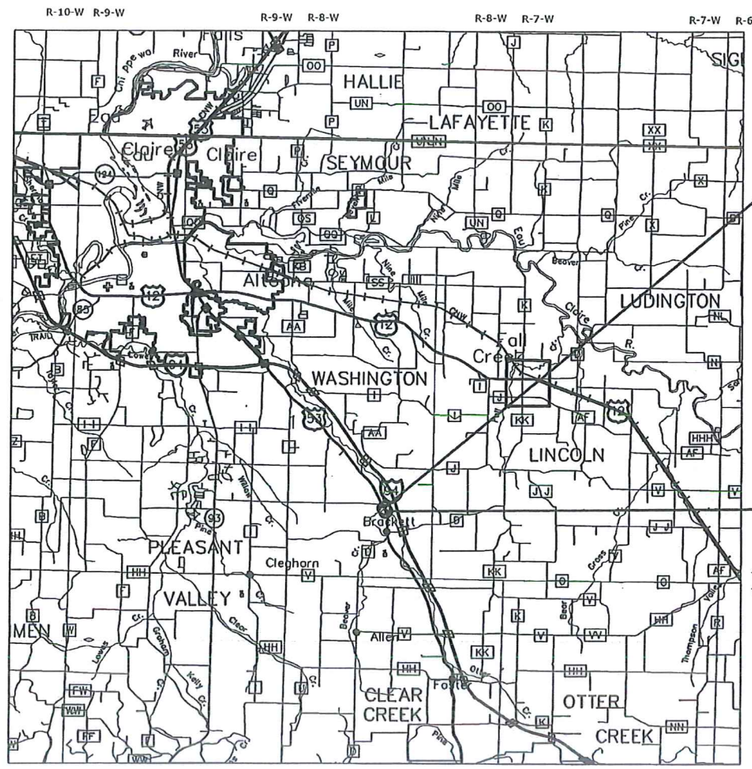
BEAVER CREEK BRIDGE B-18-0087

USH 53

EAU CLAIRE COUNTY

STATE PROJECT NUMBER
7905-03-72

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7905-03-72	WISC 2015017	1



END PROJECT
STA. 427+15.33
Y = 241,855.66
X = 377,337.27

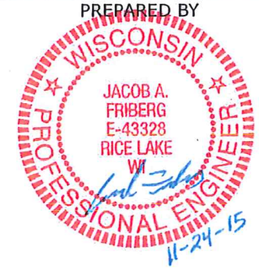
BEGIN PROJECT
STA 423+89.68
Y = 241,576.20
X = 377,504.44

LAYOUT SCALE 0 — 2 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.062 MI.

COORDINATE NOTE:
COORDINATES ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, EAU CLAIRE COUNTY.

PREPARED BY



COOPER ENGINEERING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	COOPER ENGINEERING
Designer	COOPER ENGINEERING
Regional Examiner	CHRISTINE KOSKI
Regional Supervisor	TIMOTHY MASON
C.O. Examiner	

APPROVED FOR DEPARTMENT
DATE: 2/10/2016 (Signature)

E

FILE NAME: G:\2012-proj\12445023\dwg\Plan Set\010101_ti.dwg PLOT DATE: Nov 24, 2015 - 12:53pm PLOT BY:owner PLOT NAME: CEC-PLAN ORG. DATE: Dec 05, 2007 Originator : Originator PLOT SCALE : Half-Scale

LIST OF STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AC	ACRES
AGG	AGGREGATE
AH	AHEAD
ADT	AVERAGE DAILY TRAFFIC
AVG.	AVERAGE
ASPH	ASPHALTIC
BK.	BACK
BM	BENCHMARK
△	CENTRAL ANGLE OR DELTA
℄ , C/L	CENTERLINE
C & G	CURB AND GUTTER
CABC	CRUSHED AGGREGATE BASE COURSE
CONC.	CONCRETE
COR	CORNER
CORR	CORRUGATED
CSCP	CORRUGATED STEEL CULVERT PIPE
CSPA	CORRUGATED STEEL PIPE ARCH
CTH	COUNTY TRUNK HIGHWAY
CP.	CULVERT PIPE
CY	CUBIC YARD
CWT.	HUNDREDWEIGHT
DIA	DIAMETER
D	DEGREE OF CURVE
DHV	DESIGN HOURLY VOLUME
DWY	DRIVEWAY
EBS	EXC. BELOW SUB GRADE
ELEV., EL	ELEVATION
ELEC.	ELECTRIC
EXC	EXCAVATION
EXIST	EXISTING
E	EAST
FE	FIELD ENTRANCE
FF.	FACE TO FACE
FL, F/L	FLOW LINE
G	GARAGE
GN	GRID NORTH
H	HOUSE
HYD	HYDRANT
I	INTERSECTION ANGLE
INTERS	INTERSECTION
INV.	INVERT
IP	IRON PIN OR PIPE
LC	LONG CHORD OF CURVE
LF	LINEAR FOOT
LHF	LEFT HAND FORWARD
L	LENGTH OF CURVE
LT.	LEFT
LS	LUMP SUM
MH	MANHOLE
N	NORTH
PAVT	PAVEMENT
PC	POINT OF CURVATURE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PP	POWER POLE
PT	POINT OF TANGENCY
R	RANGE , RADIUS
RCCP	REINFORCED CONCRETE CULVERT PIPE
RD	ROAD
REBAR	REINFORCEMENT BAR
REQD	REQUIRED
RDWY	ROADWAY
RHF	RIGHT HAND FORWARD
RL, R/L	REFERENCE LINE
RR	RAILROAD
RT.	RIGHT
R/W, ROW	RIGHT-OF-WAY
S	SOUTH
SAN S	SANITARY SEWER
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION
SF.	SQUARE FEET
SHLDR	SHOULDER
SPECS	SPECIFICATIONS
SQ.	SQUARE
SS.	STORM SEWER
SY.	SQUARE YARD
STH	STATE TRUNK HIGHWAY
ST.	STREET
STA.	STATION
SW	SIDEWALK
T	TANGENT
TC	TOP OF CURB
℡ , T/L	TRANSIT LINE
TEL	TELEPHONE
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
TYP	TYPICAL
USH	UNITED STATES HIGHWAY
UG	UNDERGROUND
V	DESIGN SPEED
VAR.	VARIABLE
VERT	VERTICAL
YD	YARD

UTILITIES

COMMUNICATIONS
CENTURYLINK
ATTN.: DONNA SMOTHERS
835 RED IRON ROAD
BLACK RIVER FALLS, WI 54615
TEL.: 715-284-4375
EMAIL: donna.smothers@centurylink.com
24-HOUR EMERGENCY REPAIR 1-800-824-2877

ELECTRIC
EAU CLAIRE ENERGY COOP
ATTN.: DON DRAEGER
8214 USH 12
FALL CREEK, WI 54742
TEL.: 715-832-1603
EMAIL: ddraeger@ecec.com

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

** NOT A MEMBER OF DIGGERS HOTLINE.

OTHER CONTACTS

D.N.R. ENVIRONMENTAL REVIEW COORDINATOR
CHRIS WILLGER
1300 W. CLAIREMONT AVENUE
EAU CLAIRE, WI 54702
TEL.: 715-839-1609
EMAIL: christopherj.willger@wisconsin.gov

DESIGN CONSULTANT
COOPER ENGINEERING
2600 COLLEGE DRIVE, P.O.B. 230
RICE LAKE, WISCONSIN 54868-0230
TELEPHONE (715) 234-7008
FAX (715) 234-1025

GENERAL NOTES:

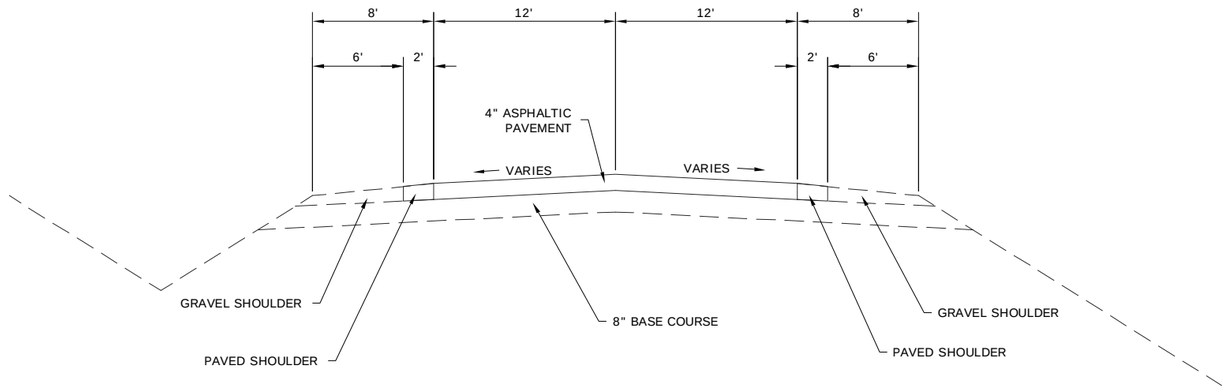
NO TREES OR SHRUBS SHALL BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE BEEN DESIGNATED FOR REMOVAL BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED, FERTILIZED, E-MATED, AND SEEDED AS DIRECTED BY THE ENGINEER.

PLAN SHEETS SHOW EXISTING UTILITIES THAT ARE WITHIN THE LIMITS OF THE PROPOSED CONSTRUCTION. THERE MAY BE UTILITIES WITHIN THE RIGHT OF WAY THAT ARE NOT SHOWN ON THE PLANS.

RUNOFF COEFFICIENT TABLE

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

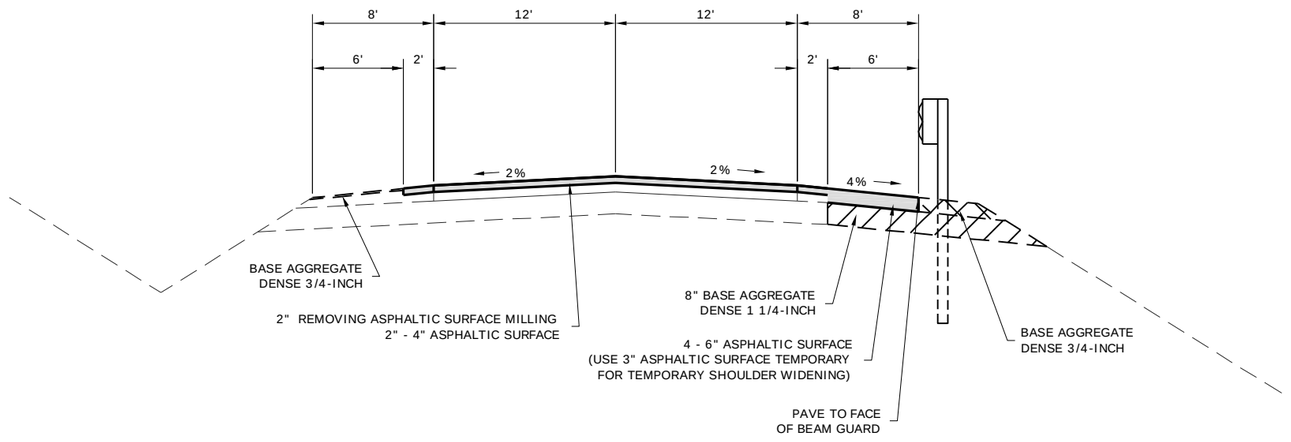


TYPICAL EXISTING SECTION

USH 53

STA 423+89.68 - STA 425+14.05

STA 425+83.51 - STA 427+15.33



TYPICAL PROPOSED SECTION

USH 53

STA 423+89.68 - STA 424+95.82

STA 426+01.80 - STA 427+15.33

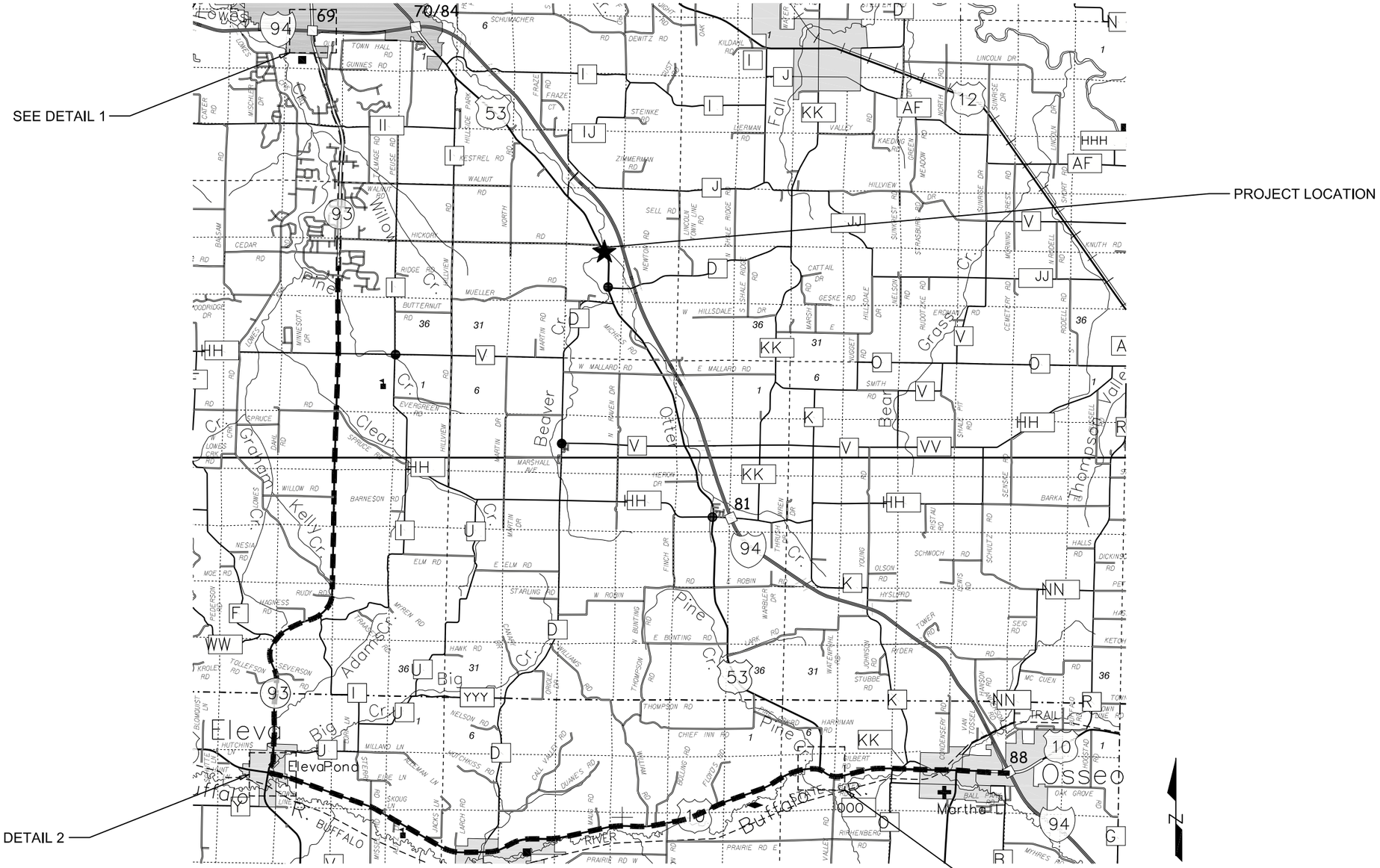
2' SCALE 5'

PROJECT NUMBER: 7905-03-72	HWY: USH 53	COUNTY: EAU CLAIRE	**USH 53 TYPICAL SECTION SHEET**	SHEET NO: 3	E

FILE NAME: G:\2012-proj\12445023\dwg\Plan Set\020301_ts.dwg PLOT DATE: Feb 11, 2016 - 08:56am PLOT BY:owner PLOT NAME: Layout1 ORG. DATE: Oct 18, 1999 Originator : J.C.A. PLOT SCALE :

WISDOT/CADDS SHEET 42

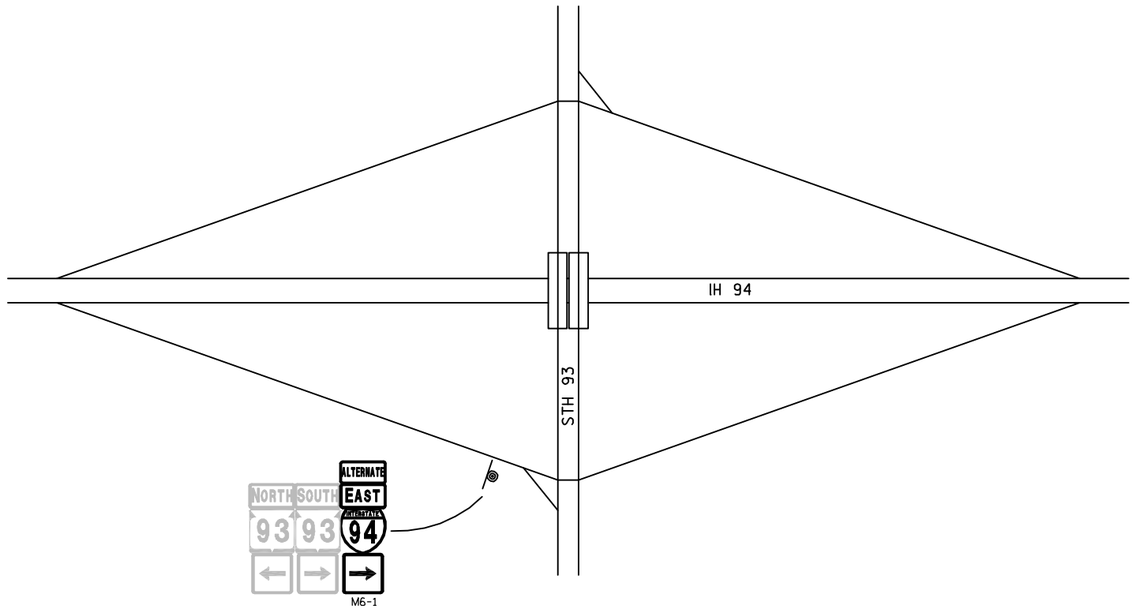
2



ALTERNATE ROUTE

1. ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF TRAFFIC CONTROL DEVICES (WMUTCD)
2. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
3. ALL SIGNS SHALL BE INTERSTATE BLUE
4. ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

PROJECT NO: 7905-03-72	HWY: USH 53	COUNTY: EAU CLAIRE	PLAN: ALTERNATE ROUTE PLAN	SHEET 4	E



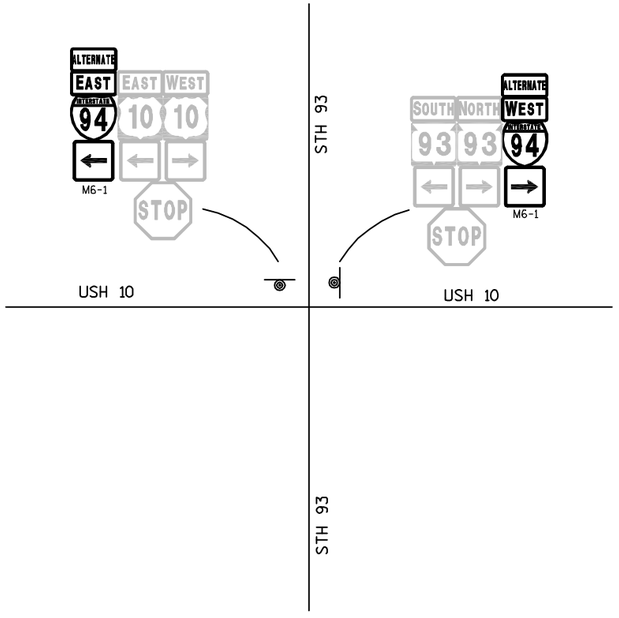
DETAIL 1: IH94 & STH 93 INTERCHANGE
(EAU CLAIRE)

ADD REASSURANCE ASSEMBLIES FOR ALTERNATE ROUTE AT ANY EXISTING STH REASSURANCE SIGNS.

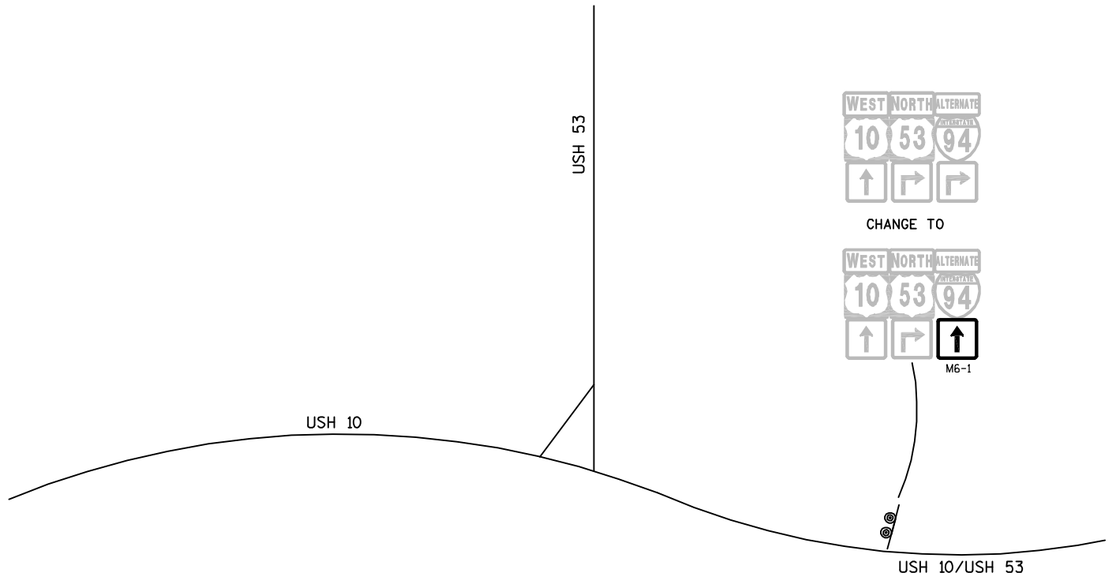
PLACE REASSURANCE SIGNING AT DOWNSTREAM END (EACH DIRECTION) OF CTH D (STRUM), CTH U (ELEVA), CTH F, CTH I, & CTH HH.

UNDISTRIBUTED SETS:
1 BETWEEN USH 10 & USH 53 INTERSECTION AND CTH D (STRUM).
1 BETWEEN CTH I AND CTH HH.
1 BETWEEN CTH HH AND STH 93 & IH 94 INTERCHANGE.

48 TOTAL ESTIMATED SIGNS.



DETAIL 2: STH 93 & USH 10 INTERSECTION
(ELEVA)



DETAIL 3: USH 10 & USH 53 INTERSECTION
(OSSEO)

PROJECT NO: 7905-03-72	HWY: USH 53	COUNTY: EAU CLAIRE	ALTERNATE ROUTE PLAN	SHEET 5	E

DATE 15MAR16 — E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	7905-03-72 QUANTITY
0010	203.0210.S	Abatement of Asbestos Containing Material (structure) 01. B-18-0087	LS	1.000	1.000
0020	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 425+50	LS	1.000	1.000
0030	204.0110	Removing Asphaltic Surface	SY	160.000	160.000
0040	204.0120	Removing Asphaltic Surface Milling	SY	690.000	690.000
0070	204.0165	Removing Guardrail	LF	630.000	630.000
0080	206.1000	Excavation for Structures Bridges (structure) 01. B-18-0087	LS	1.000	1.000
0090	210.0100	Backfill Structure	CY	10.000	10.000
0110	213.0100	Finishing Roadway (project) 02. 7905-03-72	EACH	1.000	1.000
0120	305.0110	Base Aggregate Dense 3/4-Inch	TON	85.000	85.000
0130	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	350.000	350.000
0140	415.0070	Concrete Pavement 7-Inch	SY	70.000	70.000
0150	415.0410	Concrete Pavement Approach Slab	SY	100.000	100.000
0160	455.0605	Tack Coat	GAL	60.000	60.000
0170	465.0105	Asphaltic Surface	TON	155.000	155.000
0180	465.0125	Asphaltic Surface Temporary	TON	110.000	110.000
0190	465.0310	Asphaltic Curb	LF	90.000	90.000
0200	465.0315	Asphaltic Flumes	SY	40.000	40.000
0210	502.0100	Concrete Masonry Bridges	CY	100.000	100.000
0220	502.3200	Protective Surface Treatment	SY	310.000	310.000
0230	502.3210	Pigmented Surface Sealer	SY	60.000	60.000
0240	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	21,620.000	21,620.000
0250	506.4000	Steel Diaphragms (structure) 01. B-18-0087	EACH	4.000	4.000
0300	509.1500	Concrete Surface Repair	SF	10.000	10.000
0360	603.8000	Concrete Barrier Temporary Precast Delivered	LF	425.000	425.000
0370	603.8125	Concrete Barrier Temporary Precast Installed	LF	850.000	850.000
0380	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0390	614.2300	MGS Guardrail 3	LF	75.000	75.000
0400	614.2500	MGS Thrie Beam Transition	LF	156.000	156.000
0410	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0430	618.0100	Maintenance And Repair of Haul Roads (project) 02. 7905-03-72	EACH	1.000	1.000
0440	619.1000	Mobilization	EACH	0.650	0.650
0450	628.1504	Silt Fence	LF	500.000	500.000
0460	628.1520	Silt Fence Maintenance	LF	500.000	500.000
0470	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0480	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0490	628.2008	Erosion Mat Urban Class I Type B	SY	570.000	570.000
0510	638.2102	Moving Signs Type II	EACH	4.000	4.000
0520	638.4000	Moving Small Sign Supports	EACH	4.000	4.000
0530	642.5001	Field Office Type B	EACH	0.500	0.500
0550	643.0100	Traffic Control (project) 02. 7905-03-72	EACH	1.000	1.000
0560	643.0300	Traffic Control Drums	DAY	1,500.000	1,500.000
0570	643.0420	Traffic Control Barricades Type III	DAY	75.000	75.000
0580	643.0705	Traffic Control Warning Lights Type A	DAY	150.000	150.000
0590	643.0715	Traffic Control Warning Lights Type C	DAY	750.000	750.000
0600	643.0900	Traffic Control Signs	DAY	1,575.000	1,575.000

3

DATE 15MAR16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	7905-03-72 QUANTITY
0630	643.2000	Traffic Control Detour (project) 02. 7905-03-72	EACH	1.000	1.000
0640	643.3000	Traffic Control Detour Signs	DAY	4,575.000	4,575.000
0650	646.0106	Pavement Marking Epoxy 4-Inch	LF	1,205.000	1,205.000
0660	646.0406	Pavement Marking Same Day Epoxy 4-Inch	LF	725.000	725.000
0670	646.0600	Removing Pavement Markings	LF	1,200.000	1,200.000
0680	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	2,890.000	2,890.000
0690	649.1400	Temporary Pavement Marking Stop Line Removable Tape 24-Inch	LF	24.000	24.000
0700	650.6500	Construction Staking Structure Layout (structure) 01. B-18-0087	LS	1.000	1.000
0720	650.9910	Construction Staking Supplemental Control (project) 02. 7905-03-72	LS	1.000	1.000
0730	661.0100	Temporary Traffic Signals for Bridges (structure) 01. B-18-0087	LS	1.000	1.000
0740	690.0150	Sawing Asphalt	LF	68.000	68.000
0750	715.0415	Incentive Strength Concrete Pavement	DOL	470.000	470.000
0760	715.0502	Incentive Strength Concrete Structures	DOL	1,000.000	1,000.000
0780	SPV.0060	Special 02. Grading, Shaping, And Finishing Structure Approaches B-18-0087	EACH	1.000	1.000

CATEGORY	STATION TO STATION	SIDE	WIDTH (FT)	THICKNESS (IN)	LAYERS	REMOVING ASPHALTIC SURFACE 204.0110 SY	REMOVING ASPHALTIC SURFACE MILLING 204.0120 SY	BASE AGGREGATE DENSE 3/4-INCH 305.0110 TON	BASE AGGREGATE DENSE 1 1/4-INCH 305.0120 TON	CONCRETE PAVEMENT 7-INCH 415.0070 SY	CONCRETE APPROACH SLAB 415.0410 SY	TACK COAT 455.0605 GAL	ASPHALTIC SURFACE 465.0105 TON	ASPHALTIC SURFACE TEMPORARY 465.0125 TON	ASPHALT CURB 465.0310 LF	ASPHALT FLUMES 465.0315 SY	SAWING ASPHALT 690.0150 LF	REMARKS
0010	423+90 - 424+96	LT/RT	28	2 - 4	1	-	335	-	-	-	-	23	55	-	-	-	-	MILL AND OVERLAY
0010	423+90 - 424+96	RT	VARIES	4 - 6	2	-	-	15	55	-	-	4	15	-	-	-	-	WIDEN SHOULDER TO FACE OF BEAM GUARD
0010	424+12 - 424+96	LT	VARIES	4 - 6	2	-	-	10	45	-	-	3	10	-	-	-	-	WIDEN SHOULDER TO FACE OF BEAM GUARD
0010	424+96 - 425+14	LT/RT	40			80	-	5	50	35	50	-	-	-	45	20	34	REMOVE AND REPLACE WITH CONCRETE
0010	425+84 - 426+02	LT/RT	40			80	-	5	50	35	50	-	-	-	45	20	34	REMOVE AND REPLACE WITH CONCRETE
0010	426+02 - 427+15	LT/RT	28	2 - 3	1	-	355	-	-	-	-	24	50	-	-	-	-	MILL AND OVERLAY
0010	426+02 - 426+81	RT	VARIES	4 - 5	2	-	-	10	40	-	-	2	10	-	-	-	-	WIDEN SHOULDER TO FACE OF BEAM GUARD
0010	426+02 - 427+15	LT	VARIES	4 - 5	2	-	-	15	60	-	-	4	15	-	-	-	-	WIDEN SHOULDER TO FACE OF BEAM GUARD
0010	422+50 - 425+08	LT	6	3	1	-	-	-	-	-	-	-	-	30	-	-	-	STAGE 1 TEMPORARY SHOULDER WIDENING
0010	425+90 - 428+55	LT	6	3	1	-	-	-	-	-	-	-	-	30	-	-	-	STAGE 1 TEMPORARY SHOULDER WIDENING
0010	422+50 424+42	RT	6	3	1	-	-	-	-	-	-	-	-	25	-	-	-	STAGE 2 TEMPORARY SHOULDER WIDENING
0010	426+29 - 428+55	RT	6	3	1	-	-	-	-	-	-	-	-	25	-	-	-	STAGE 2 TEMPORARY SHOULDER WIDENING
0010	UNDISTRIBUTED					-	-	25	50	-	-	-	-	-	-	-	-	GRADING, SHAPING, FOR BARRIER TERMINALS
		TOTAL 0010				160	690	85	350	70	100	60	155	110	90	40	68	

CATEGORY	STATION TO	STATION	LOCATION	REMOVING GUARDRAIL 204.0165 LF	MGS GUARDRAIL 3 614.2300 LF	MGS THRIE BEAM TRANSITION 614.2500 LF	MGS GUARDRAIL TERMINAL EAT 614.2610 EA
0010	423+85 -	427+00	LT	315	-	-	-
0010	423+99 -	427+16	RT	315	-	-	-
0010	423+92 -	424+45	RT	-	-	-	1
0010	424+18 -	424+72	LT	-	-	-	1
0010	424+45 -	424+83	RT	-	37.5	-	-
0010	424+72 -	425+11	LT	-	-	39	-
0010	424+83 -	425+22	RT	-	-	39	-
0010	425+75 -	426+15	LT	-	-	39	-
0010	425+87 -	426+26	RT	-	-	39	-
0010	426+15 -	426+52	LT	-	37.5	-	-
0010	426+26 -	426+79	RT	-	-	-	1
0010	426+52 -	427+05	LT	-	-	-	1
		TOTAL 0010		630	75	156	4

CATEGORY	STATION TO	STATION	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED 603.8000 LF	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED 603.8125 LF
0010	423+40 -	427+65	425	850
	TOTAL 0010		425	850

CATEGORY	LOCATION	SILT FENCE 628.1504 LF	SILT FENCE MAINTENANCE 628.1520 LF	EROSION MAT URBAN CLASS I TYPE B 628.2008 SY
0010	B-18-87 SE	135	135	145
0010	B-18-87 SW	125	125	115
0010	B-18-87 NE	135	135	140
0010	B-18-87 NW	105	105	170
	TOTAL 0010	500	500	570

CATEGORY	STATION	SIDE	MOVING SIGNS TYPE II 638.2102 EA	MOVING SMALL SIGN SUPPORTS 638.4000 EA	REMARKS
0010	425+08	LT	1	1	W5-52L
0010	425+19	RT	1	1	W5-52R
0010	425+78	LT	1	1	W5-52L
0010	425+90	RT	1	1	W5-52R
	TOTAL 0010		4	4	

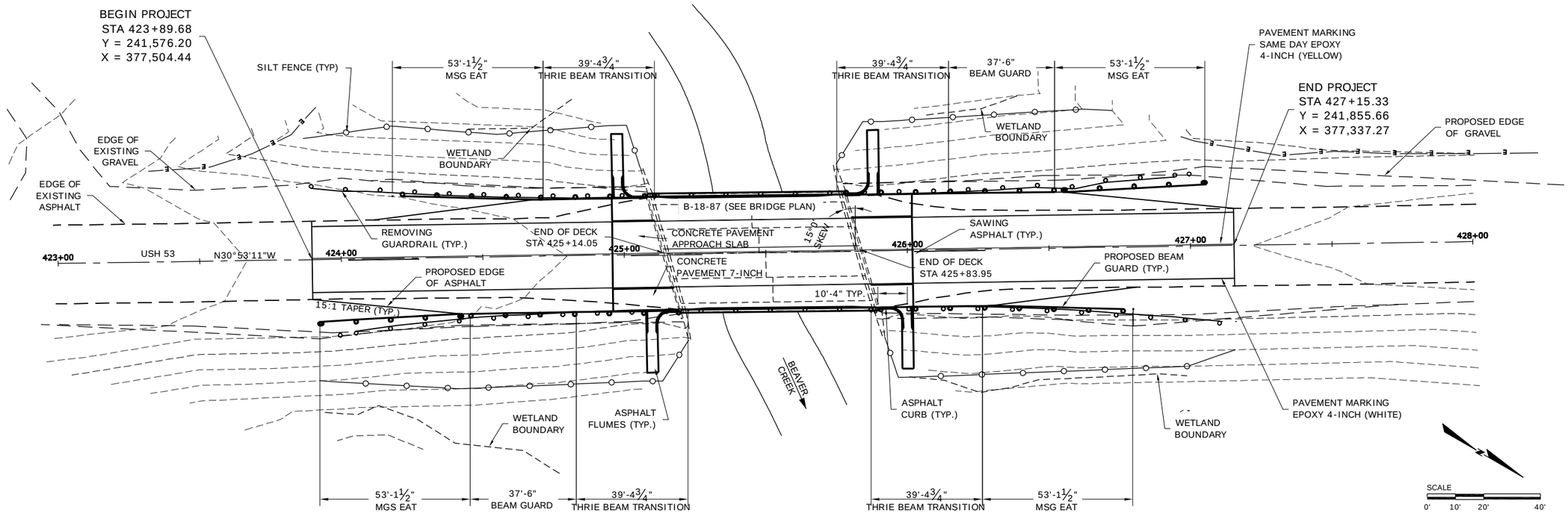
CATEGORY	STATION TO	STATION	SIDE	PAVEMENT MARKING EPOXY 4-INCH 646.0106 LF	PAVEMENT MARKING SAME DAY EPOXY 4-INCH 646.0406 LF	REMOVING PAVEMENT MARKINGS 646.0600 LF	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH 649.0400 LF	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 24-INCH 649.1400 LF	REMARKS
0010	418+60 -	422+50	CL	-	-	-	305	-	YELLOW CL SKIPS ONLY
0010	422+50		RT	-	-	-	-	12	STOP LINE
0010	422+50 -	423+90	CL	-	160	160	-	-	YELLOW CENTERLINE
0010	422+50 -	428+55	LT	600	-	600	600	-	LT WHITE EDGELINE
0010	423+40 -	427+65	LT	-	-	-	425	-	RT BARRIER EDGELINE
0010	427+15 -	428+55	CL	-	160	160	-	-	YELLOW CENTERLINE
0010	428+55		LT	-	-	-	-	12	STOP LINE
0010	428+55 -	432+05	CL	-	-	-	530	-	YELLOW CL SKIPS ONLY
0010	422+50 -	423+90	RT	-	-	140	-	-	STAGE 2 EDGELINE REMOVAL
0010	422+50 -	428+55	RT	605	-	-	605	-	STAGE 2 WHITE EDGELINE
0010	423+40 -	427+65	RT	-	-	-	425	-	STAGE 2 BARRIER EDGELINE
0010	427+15 -	428+55	RT	-	-	140	-	-	STAGE 2 EDGELINE REMOVAL
0010	423+90 -	427+15	CL	-	405	-	-	-	YELLOW CENTERLINE
			TOTAL	1205	725	1200	2890	24	

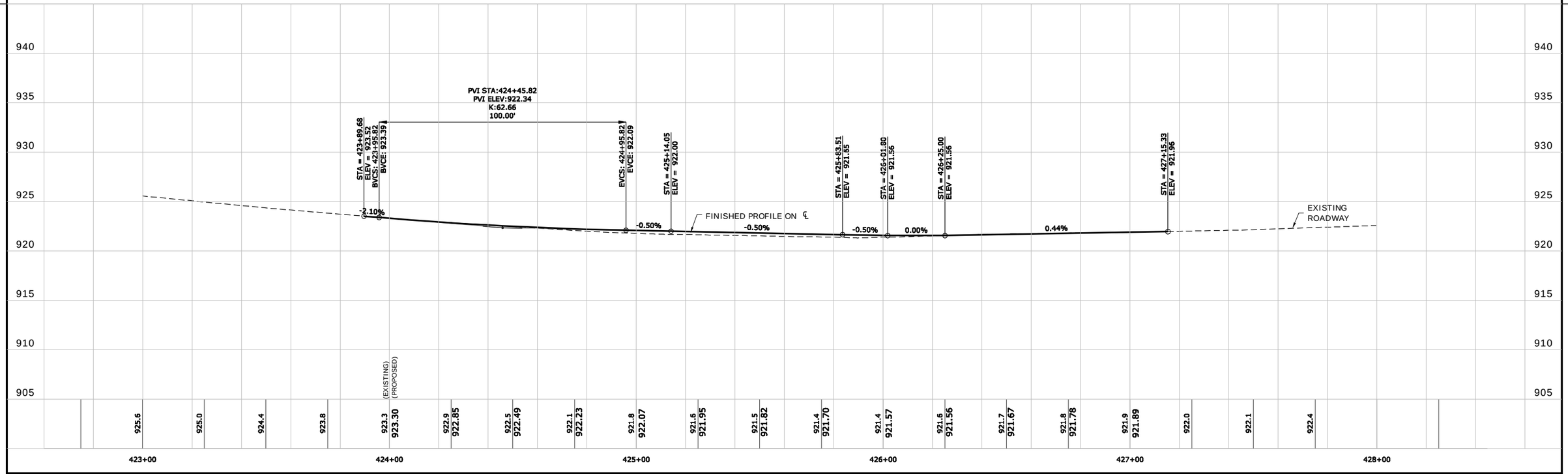
CATEGORY	DAYS	TRAFFIC CONTROL DRUMS 643.0300 #	TRAFFIC CONTROL DRUMS 643.0300 DAYS	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 #	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAYS	TRAFFIC CONTROL WARNING LIGHTS TYPE A 643.0705 #	TRAFFIC CONTROL WARNING LIGHTS TYPE A 643.0705 DAYS	TRAFFIC CONTROL WARNING LIGHTS TYPE C 643.0715 #	TRAFFIC CONTROL WARNING LIGHTS TYPE C 643.0715 DAYS	TRAFFIC CONTROL SIGNS 643.0900 #	TRAFFIC CONTROL SIGNS 643.0900 DAYS	TRAFFIC CONTROL DETOUR SIGNS 643.3000 #	TRAFFIC CONTROL DETOUR SIGNS 643.3000 DAYS	TEMPORARY TRAFFIC SIGNALS FOR BRIDGES 661.0100 LS
0010	75	20	1,500	1	75	2	150	10	750	21	1,575	61	4,575	1
			1,500		75		150		750		1,575		4,575	1

CATEGORY	LOCATION	GRADING, SHAPING, AND FINISHING STRUCTURE APPROACHES, B-18-87 SPV.0060.02 EA	EXCAVATION COMMON ** CY	TOPSOIL ** SY	FERTILIZER TYPE B ** CWT	SEEDING MIX NO. 30 ** LB	SOD LAWN ** SY
0010	B-18-87	1	220	570	1	20	22
	TOTAL 0010	1	220	570	1	20	22

**ITEMS AND QUANTITIES LISTED FOR INFORMATION ONLY; NON-BID ITEMS

PROJECT NUMBER: 7905-03-72	HWY: USH 53	COUNTY: EAU CLAIRE	MISCELLANEOUS QUANTITIES	SHEET NO: 8	E





PROJECT NUMBER: 7905-03-72	HWY: USH 53	COUNTY: EAU CLAIRE	**PLAN & PROFILE**	SHEET NO: 9	E

FILE NAME: G:\2012-proj\12445023\dwg\BEAVER-CR-BASE.dwg PLOT DATE: Jan 20, 2016 - 01:34pm PLOT BY:owner PLOT NAME: CEC-PP ORG. DATE: Jun 15, 2012 Originator : PLOT SCALE :

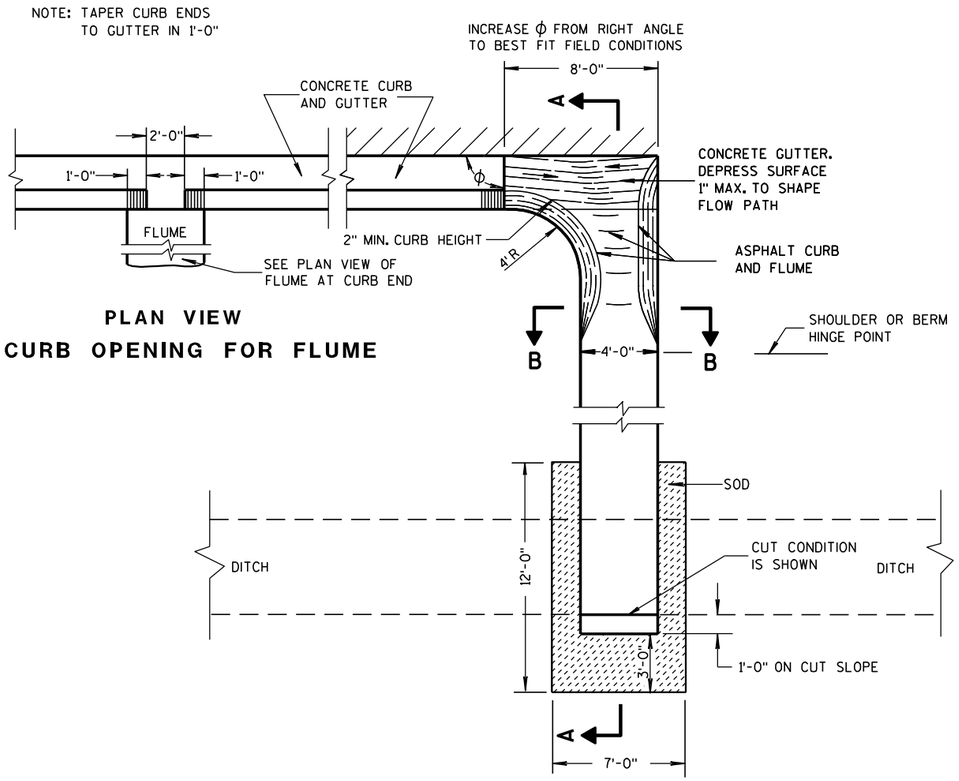
WISDOT/CADDS SHEET 42

Standard Detail Drawing List

08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E09-06	SILT FENCE
09G02-03A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-03B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-03C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	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)
15C08-16A	PAVEMENT MARKING (MAINLINE)
15D33-04	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

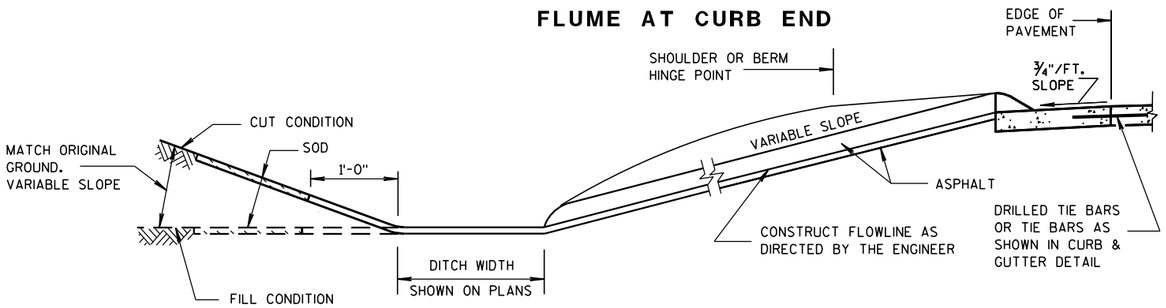
6

ASPHALTIC FLUME

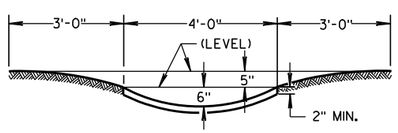


PLAN VIEW
CURB OPENING FOR FLUME

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.

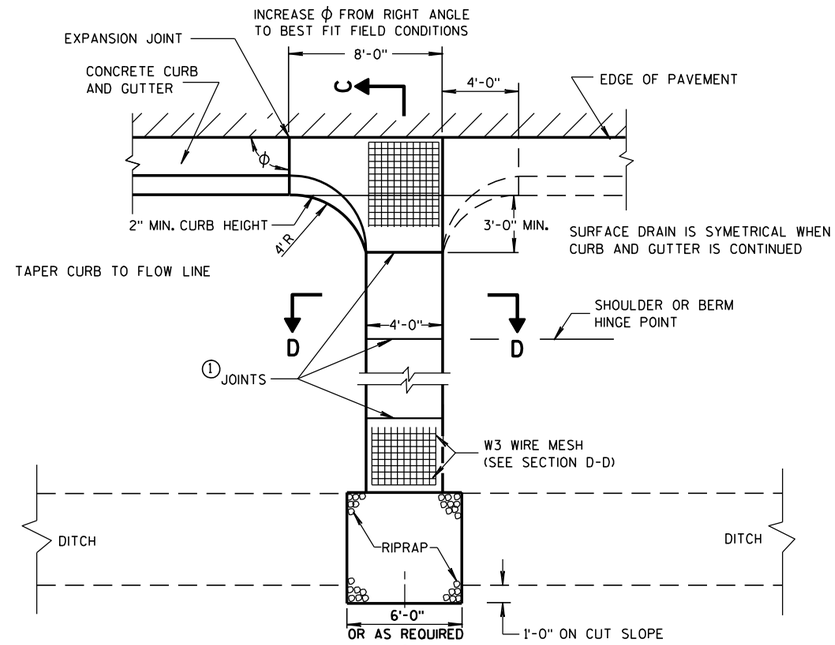
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

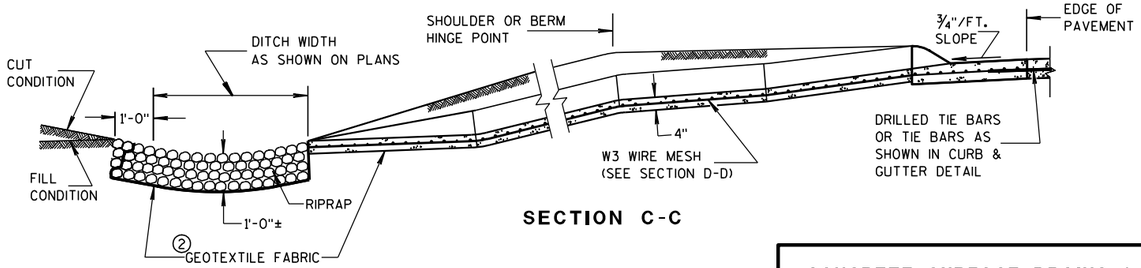
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

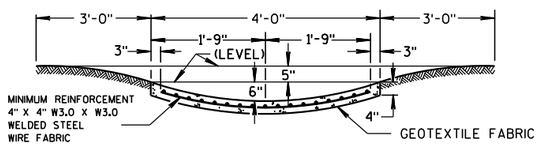
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
11
MENT
FHWA

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S.D.D. 8 D 4-5

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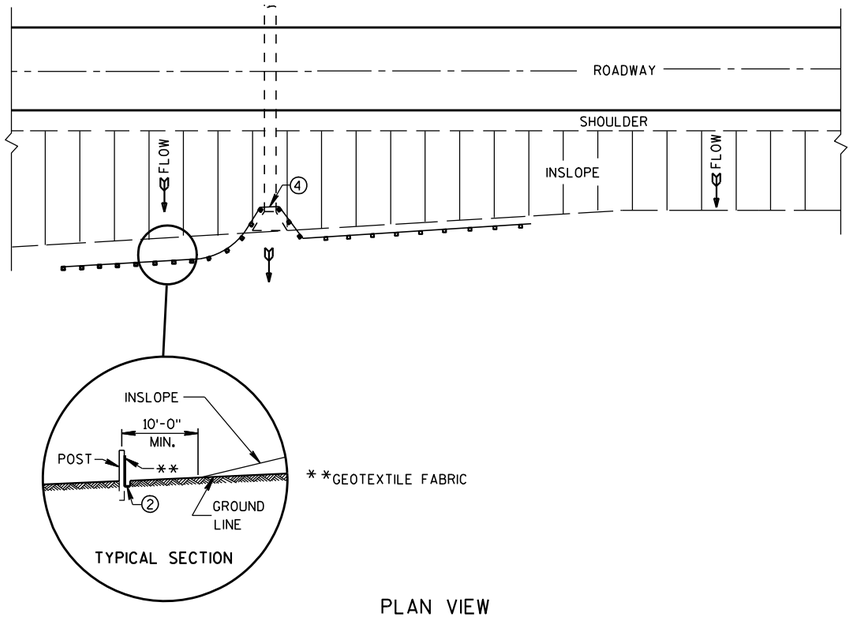
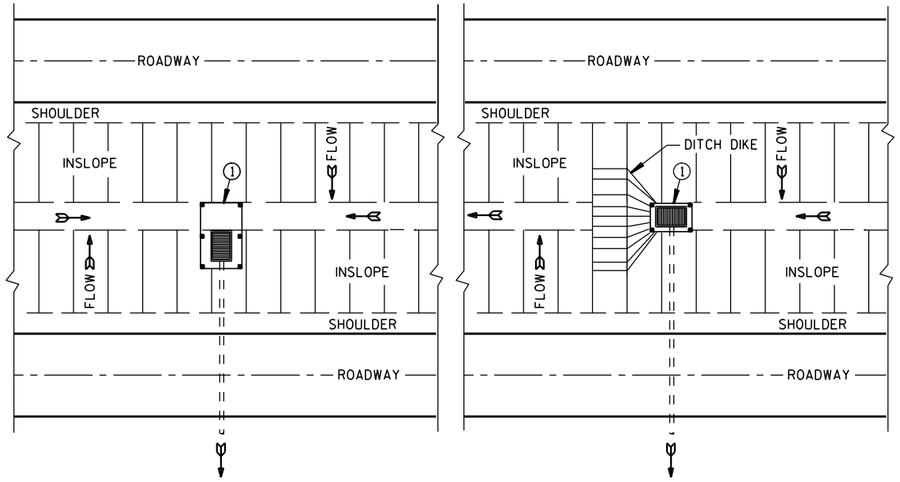
S.D.D. 8 D 4-5



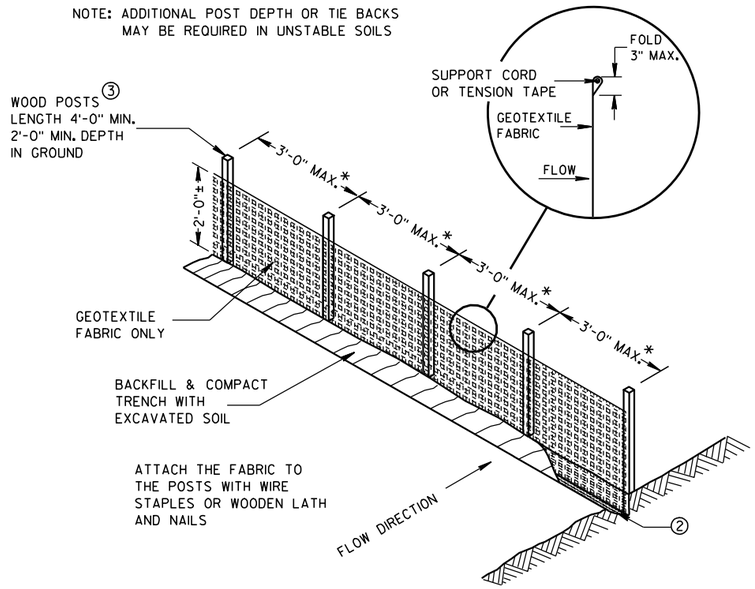
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



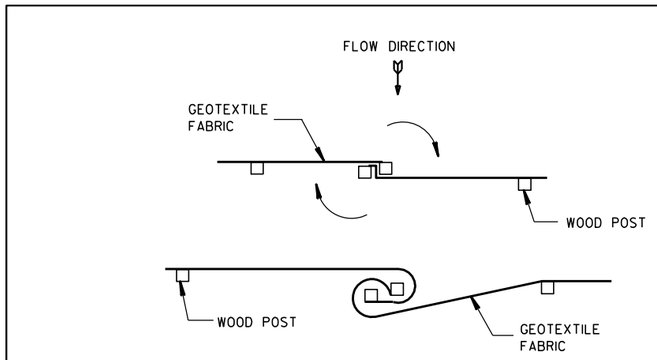
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS



*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

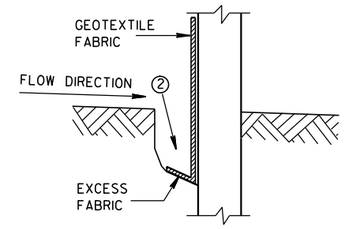


JOINING TWO LENGTHS OF SILT FENCE 5

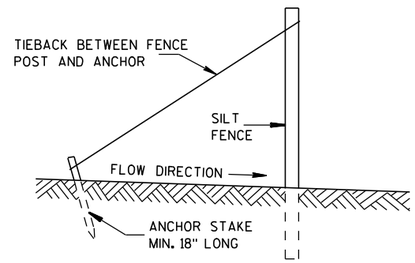
GENERAL NOTES

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 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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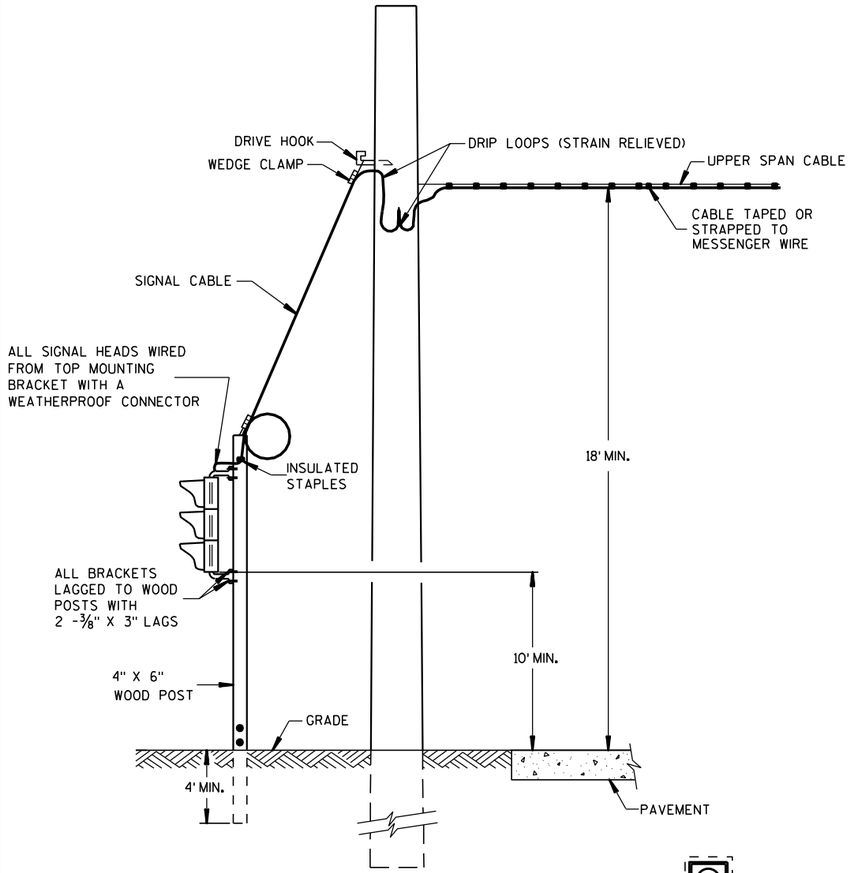
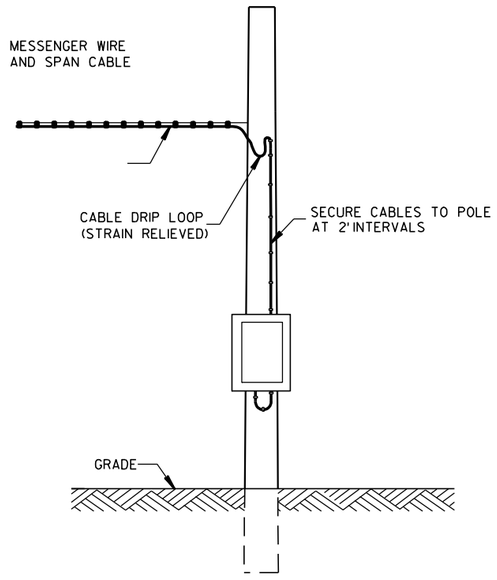
S.D.D. 8 E 9-6



TYPICAL DROP TO TRAFFIC SIGNAL FACE



POLE MOUNT CABINET INSTALLATION

GENERAL NOTES

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

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

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

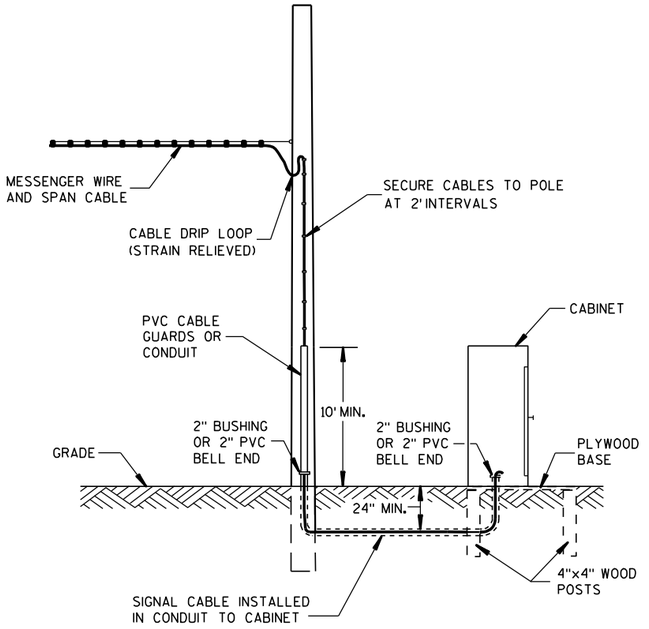
WOOD POLES (NONBREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAMGUARD, ETC.).

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

VERTICAL CLEARANCE ETC. PER NEC.

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

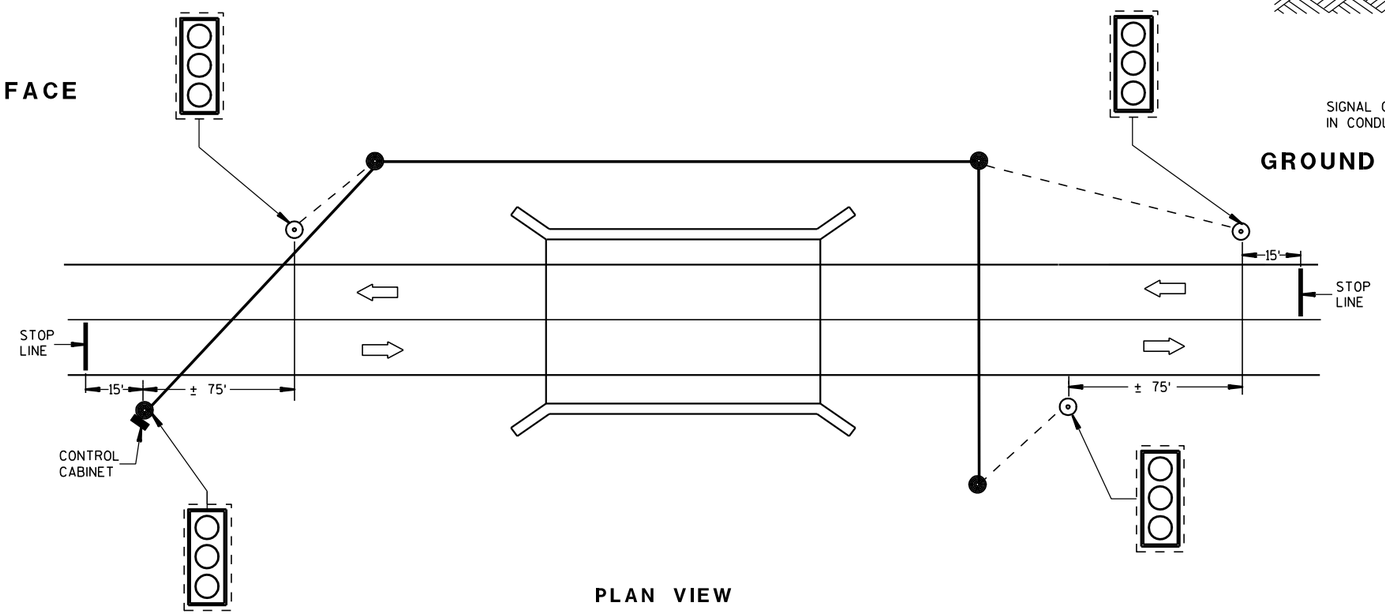
EACH TRAFFIC SIGNAL FACE SHALL HAVE A BACKPLATE.



GROUND MOUNT CABINET INSTALLATION

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

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



PLAN VIEW

TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION

LEGEND

- WOOD POLE (NONBREAKAWAY)
- WOOD POST (BREAKAWAY)
- SIGNAL CABLE
- SIGNAL CABLE W/MESSENGER
- LED TRAFFIC SIGNAL FACE WITH BACKPLATE (3-12")
- DIRECTION OF TRAFFIC

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

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 DATE

/S/ Thomas J. Gardina STATE ELECTRICAL ENGI

FHWA HWYS

6

S.D.D. 9 G 2-3a

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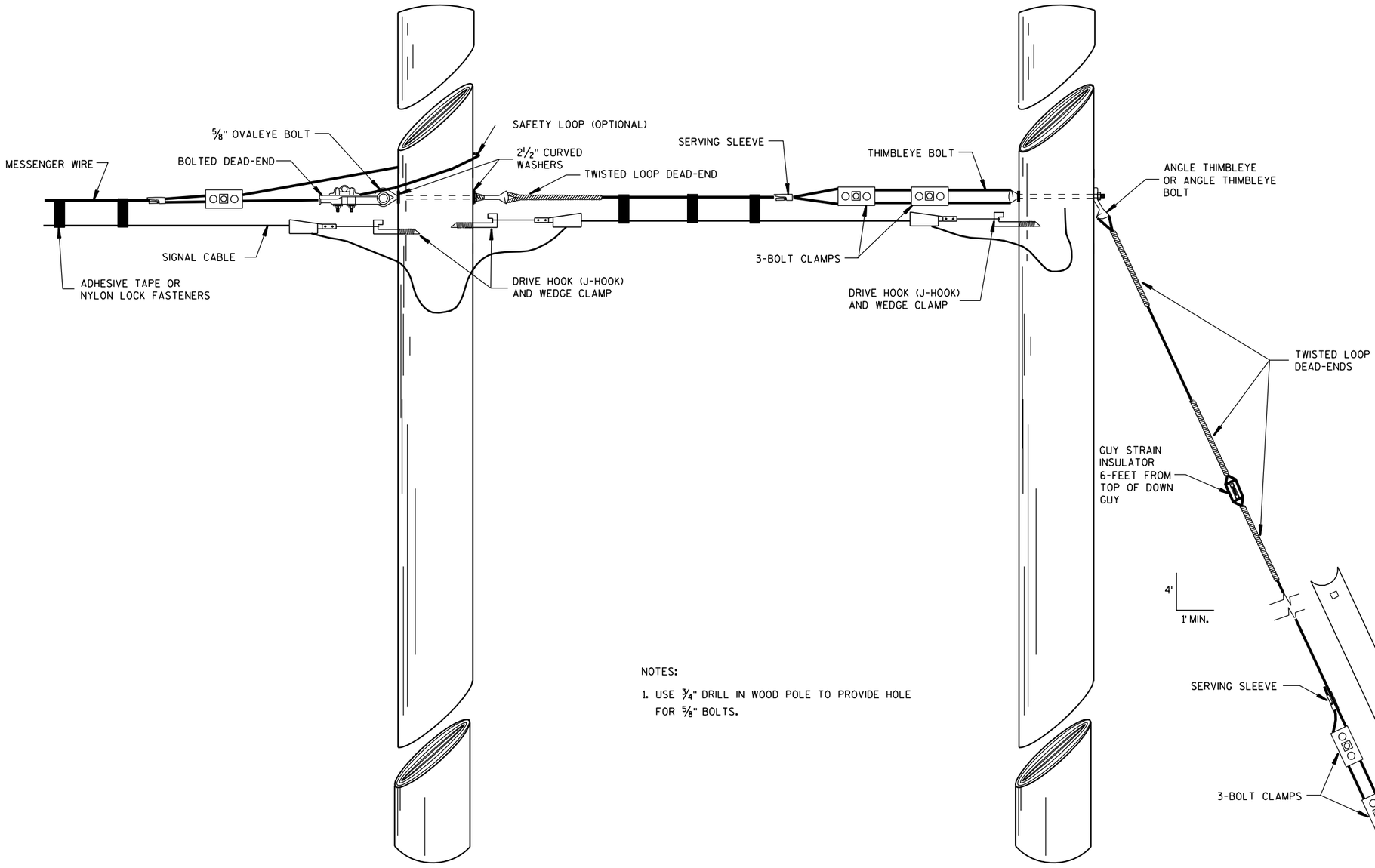
S.D.D. 9 G 2-3a



SPAN WIRE POLE

GUY POLE

NOTES:

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

TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 DATE

/S/ Thomas J. G... STATE ELECTRICAL ENGI

HWYS

FHWA

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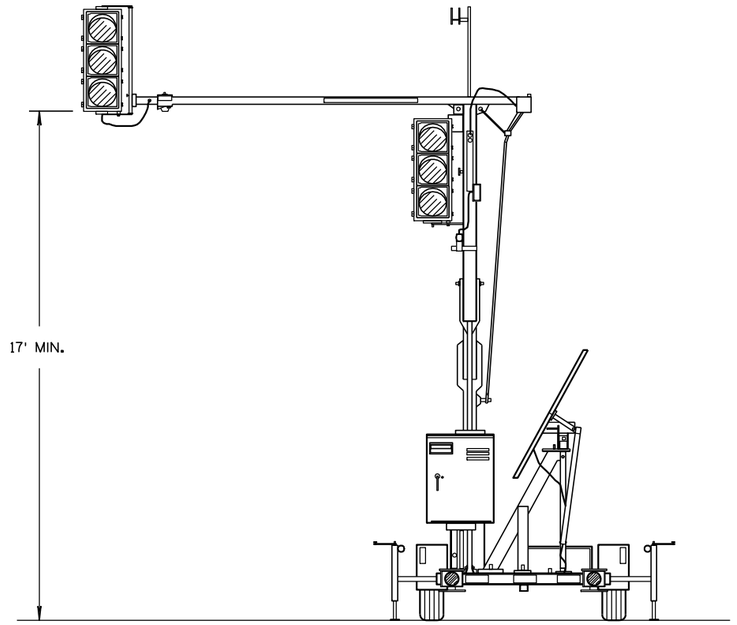
S.D.D. 9 G 2-3b

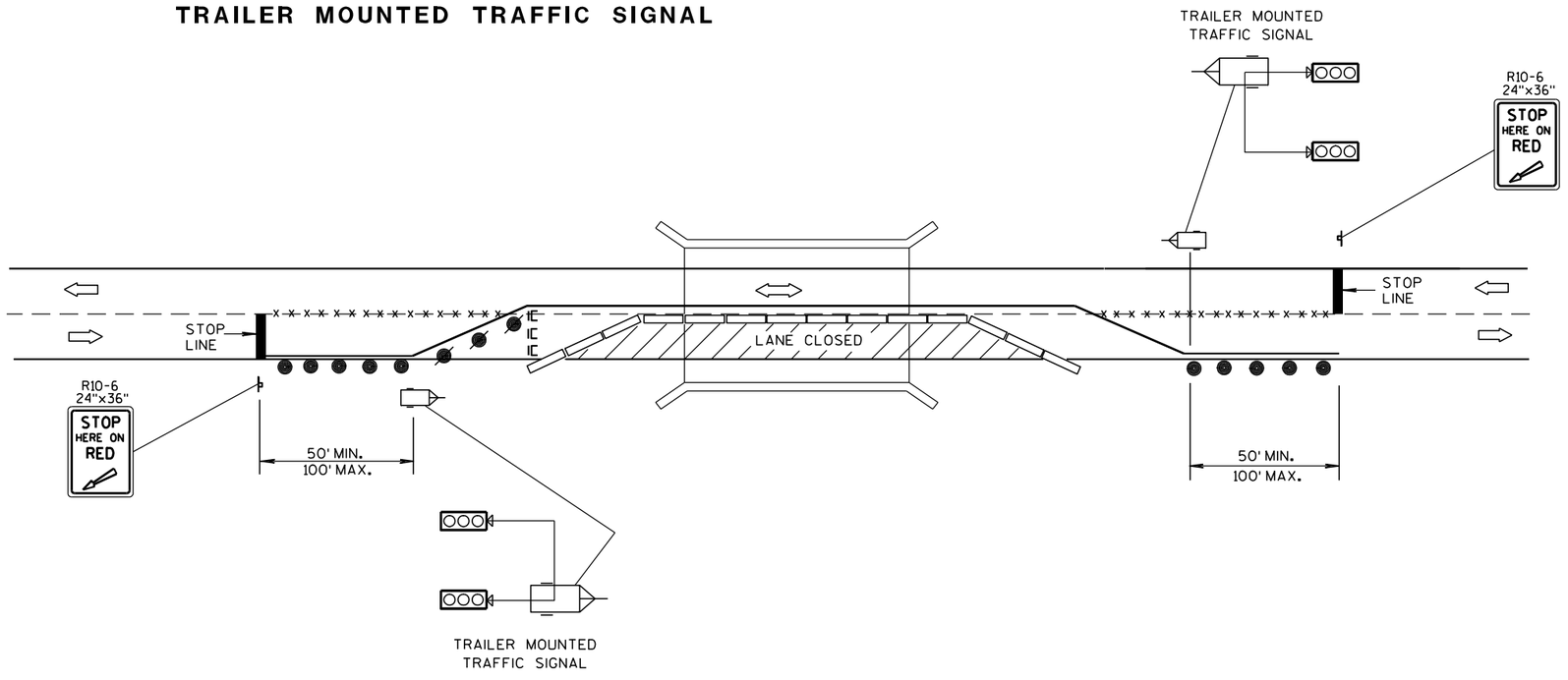


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

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

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15 D 33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

LEGEND

- POST MOUNTED SIGN
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH SIGN
- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- TEMPORARY PRECAST CONCRETE BARRIER
- TRAILER MOUNTED TRAFFIC SIGNAL
- DIRECTION OF TRAFFIC FLOW

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 — DATE

/S/ Thomas J. Gosling — STATE ELECTRICAL ENGI

FHWA

HWYS

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S.D.D. 9 G 2-3c

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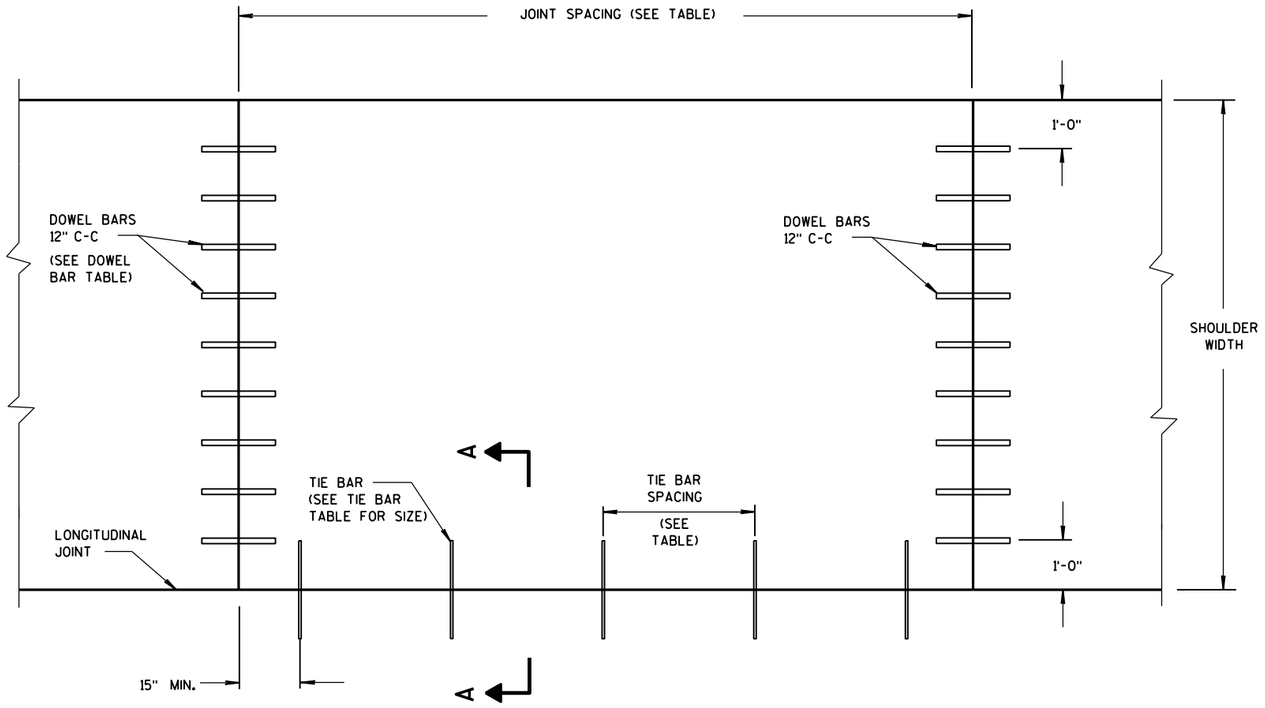
S.D.D. 9 G 2-3c



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

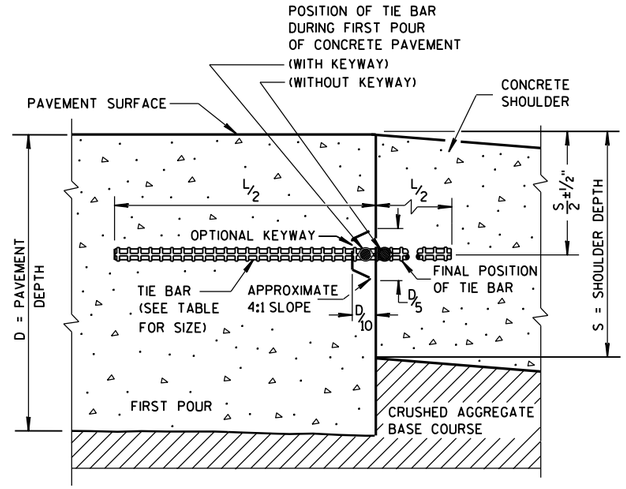
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

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

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



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

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

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

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

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

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

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 13 A 3-6

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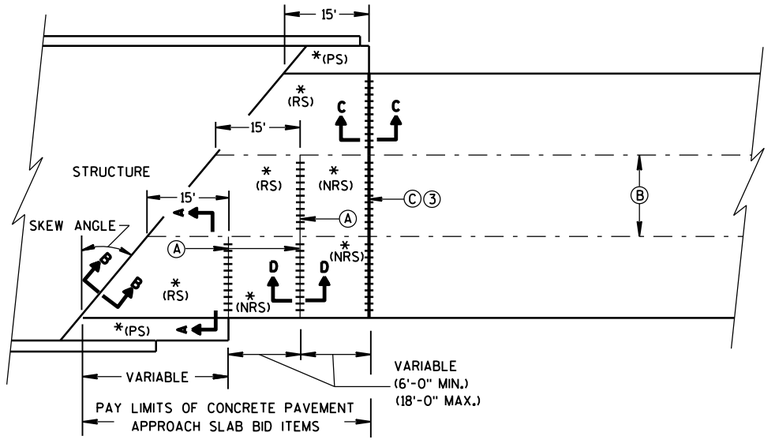
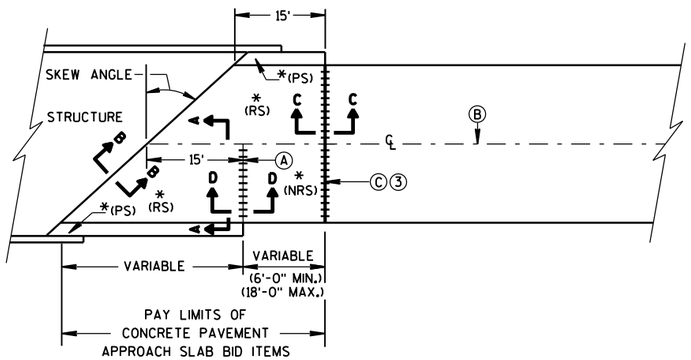
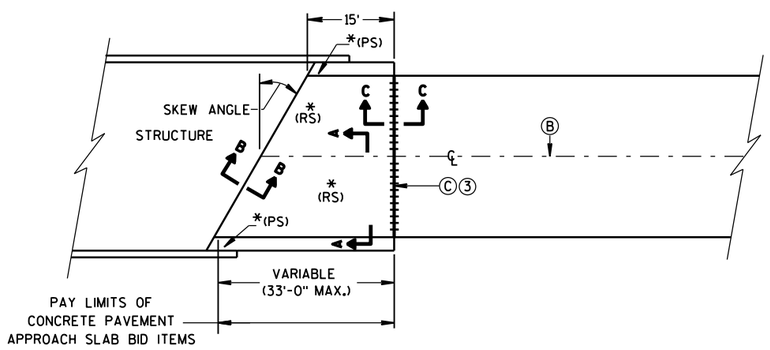
S.D.D. 13 A 3-6



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

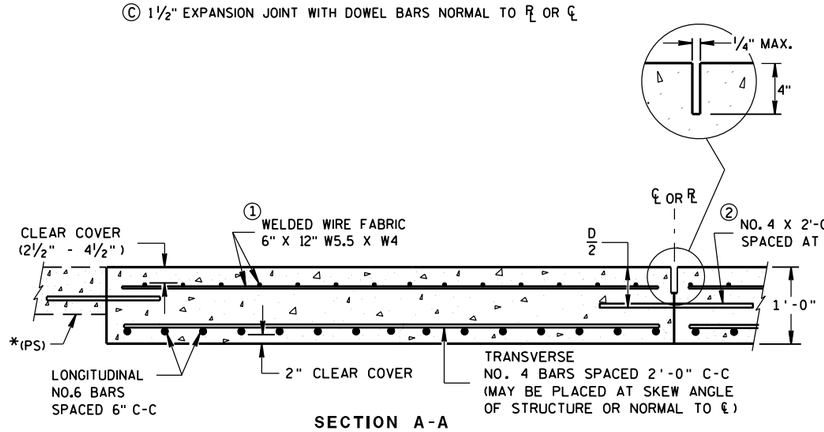
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

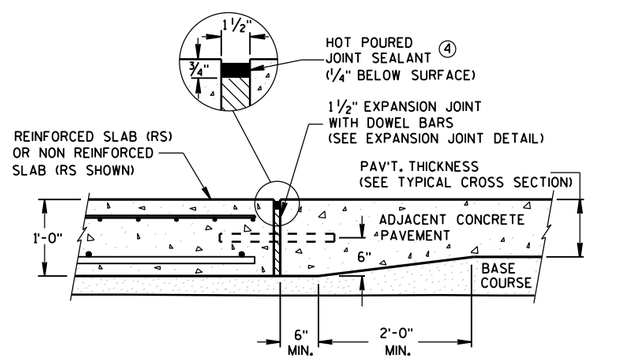
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

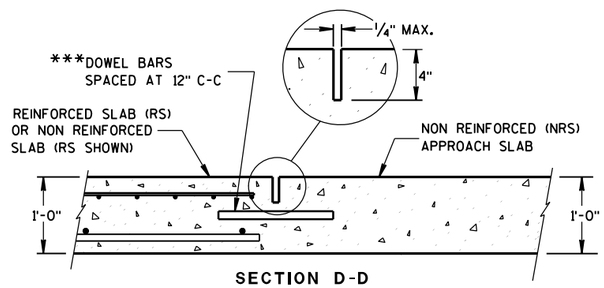
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



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.

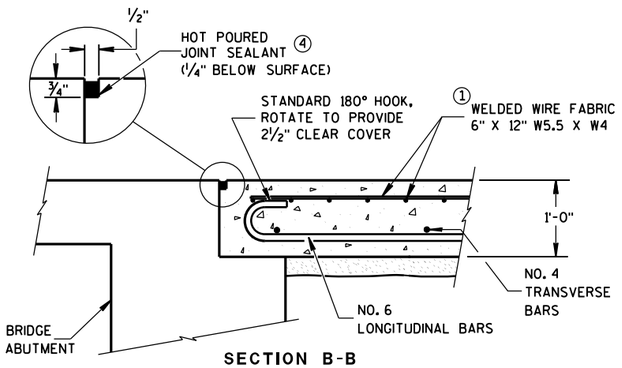
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

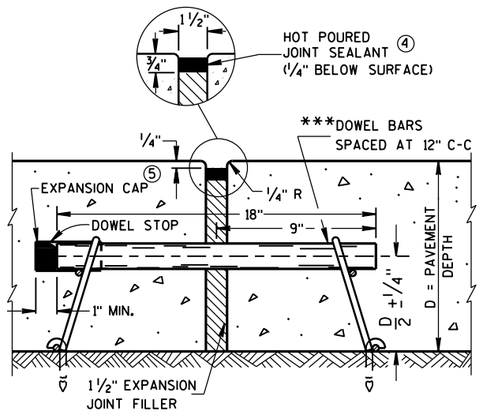
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

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 SUPE
FHWA

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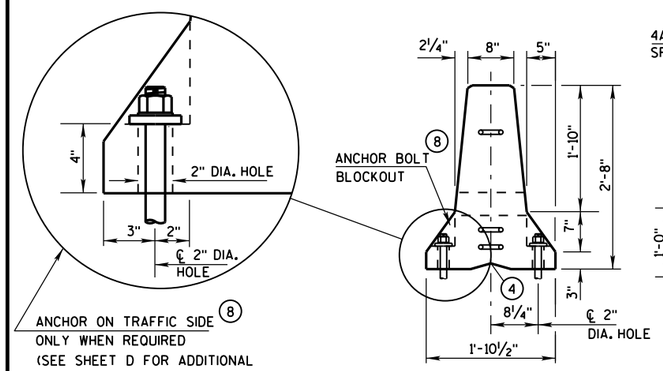
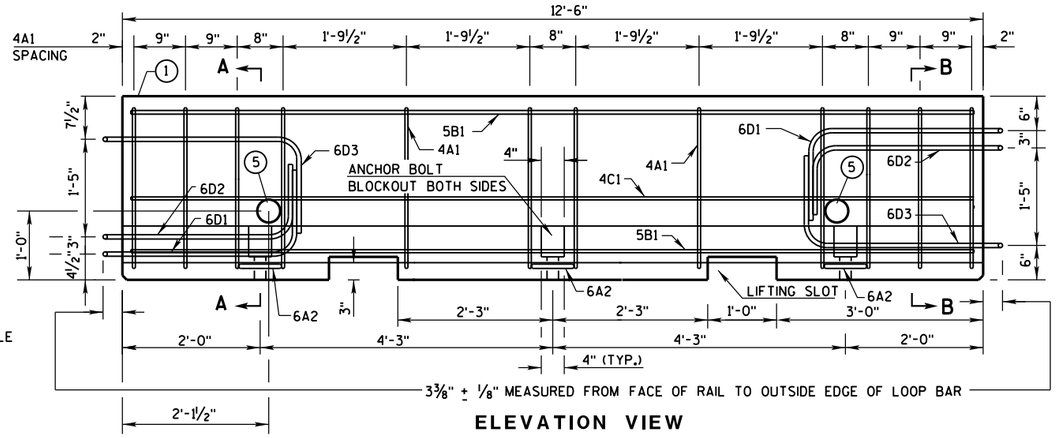
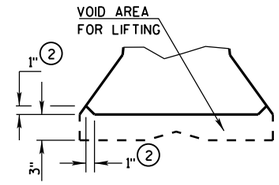
S.D.D. 13 B 2-8a



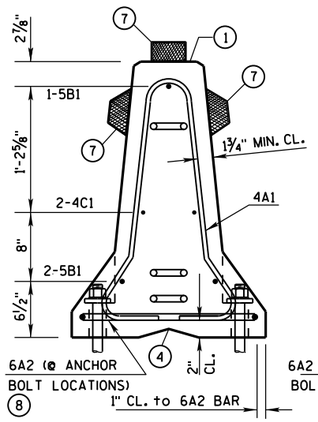
END VIEW



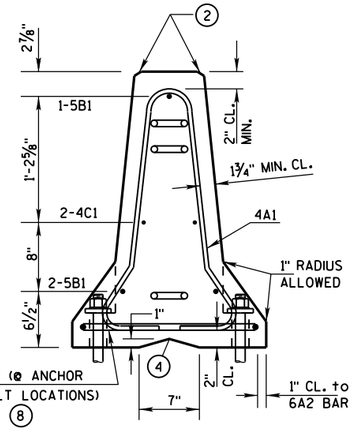
ELEVATION VIEW



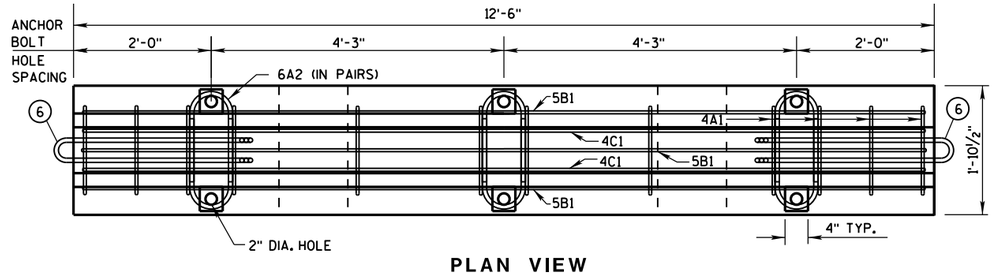
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)



PLAN VIEW

DETAILS OF BARRIER SECTION

GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(a) THRU 14B7-14(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

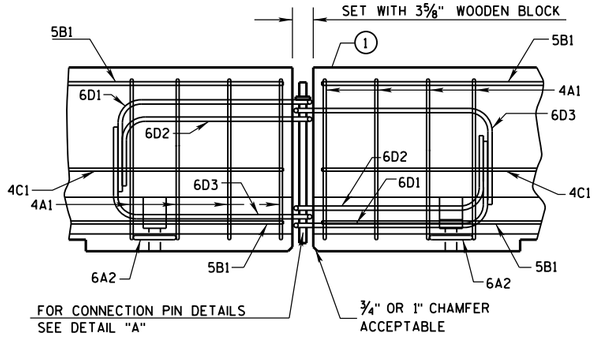
(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

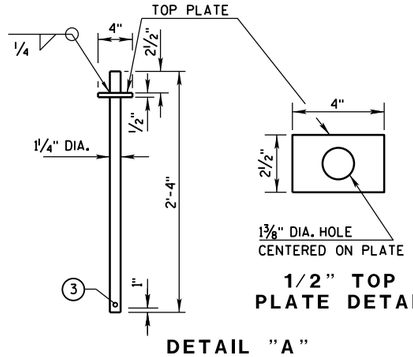
(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.

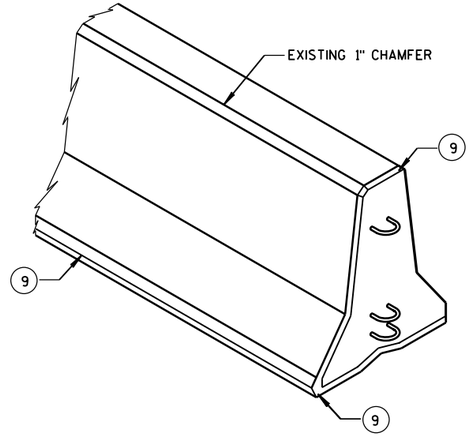


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

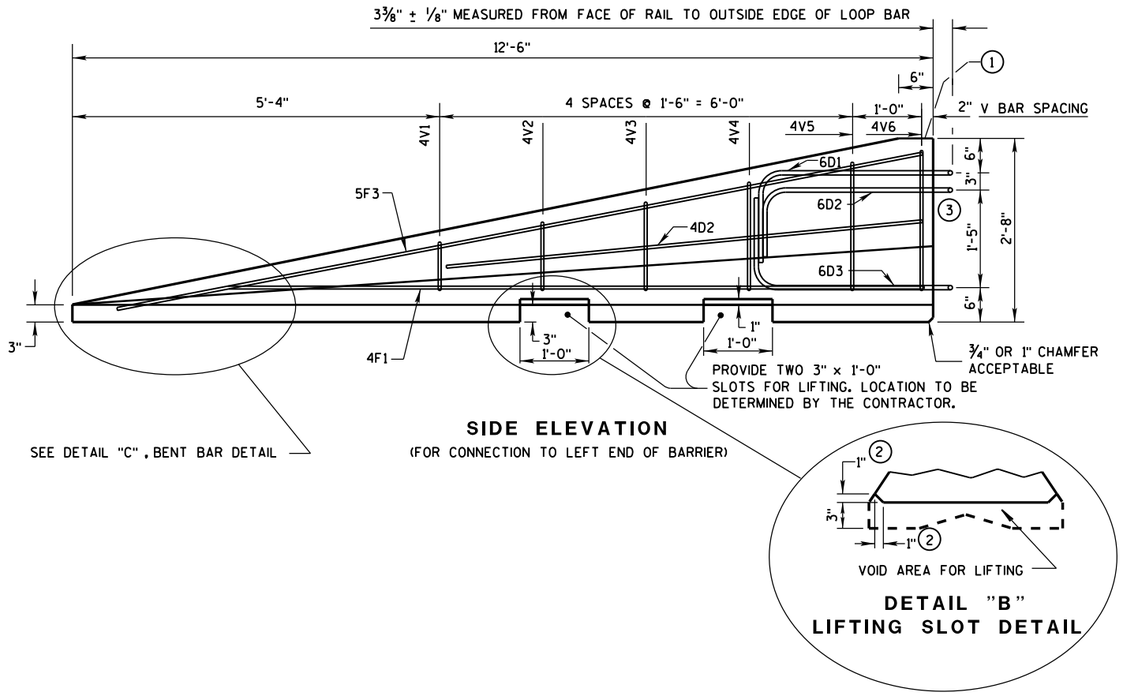
DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))

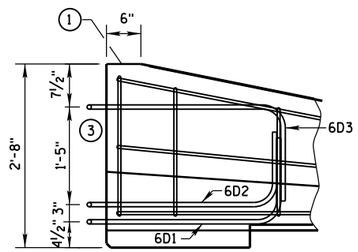


CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

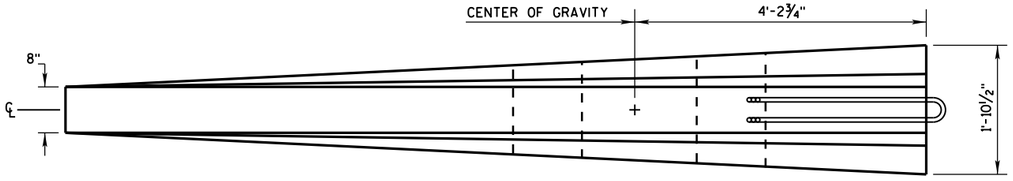
6
S.D.D. 14 B 7-14a

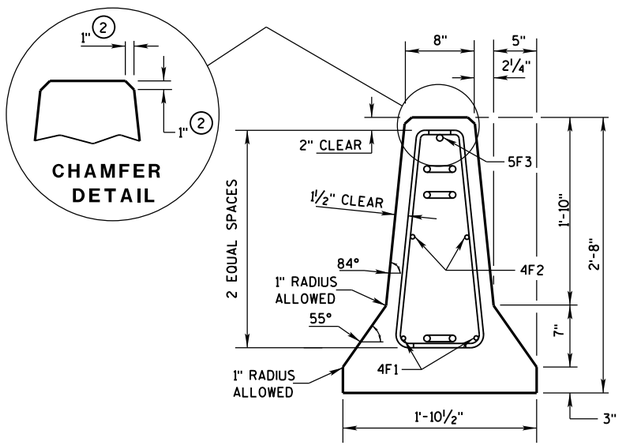


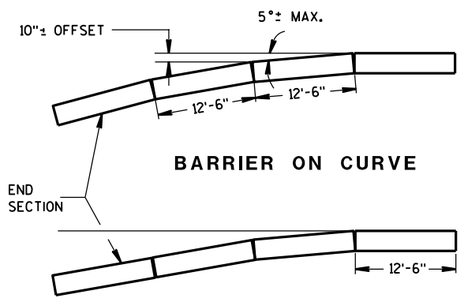


GENERAL NOTES

1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.







POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

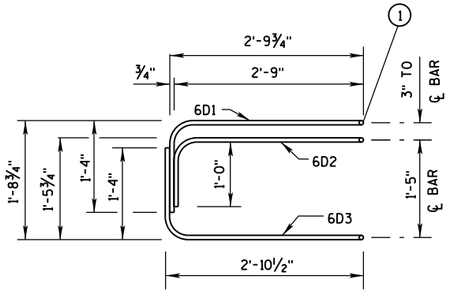
6

S.D.D. 14 B 7-14b

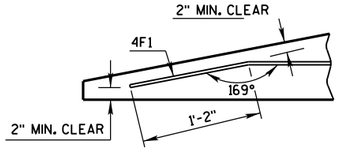
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

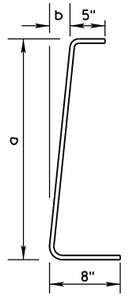
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

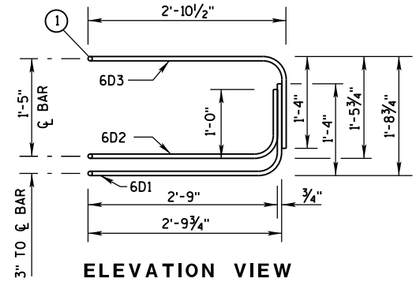
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

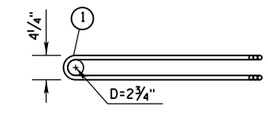
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

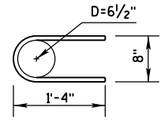
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



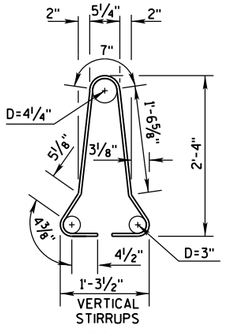
ELEVATION VIEW



PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



4A1

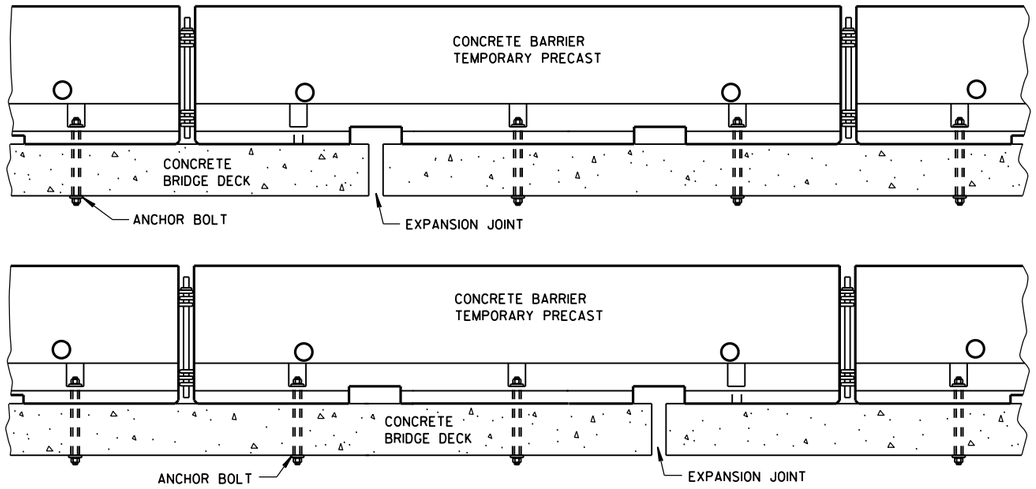
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

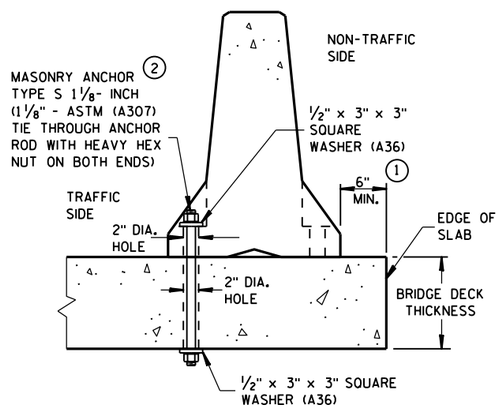
6

S.D.D. 14 B 7-14c



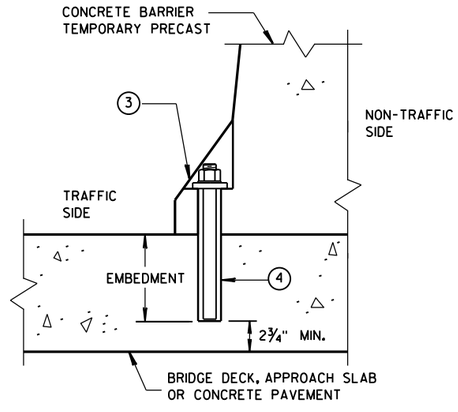
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT ②

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

① CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT. IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

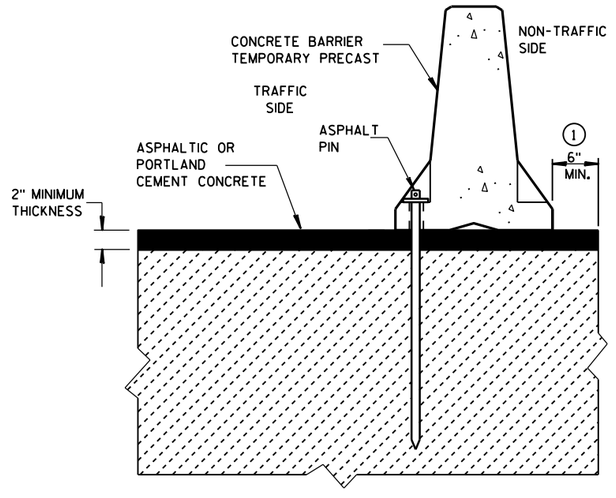
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

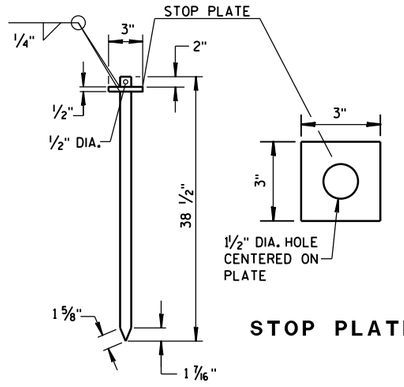
③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

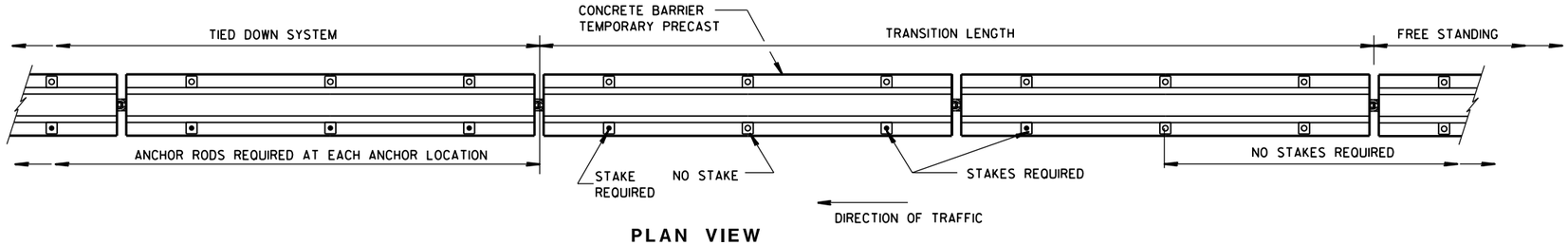
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

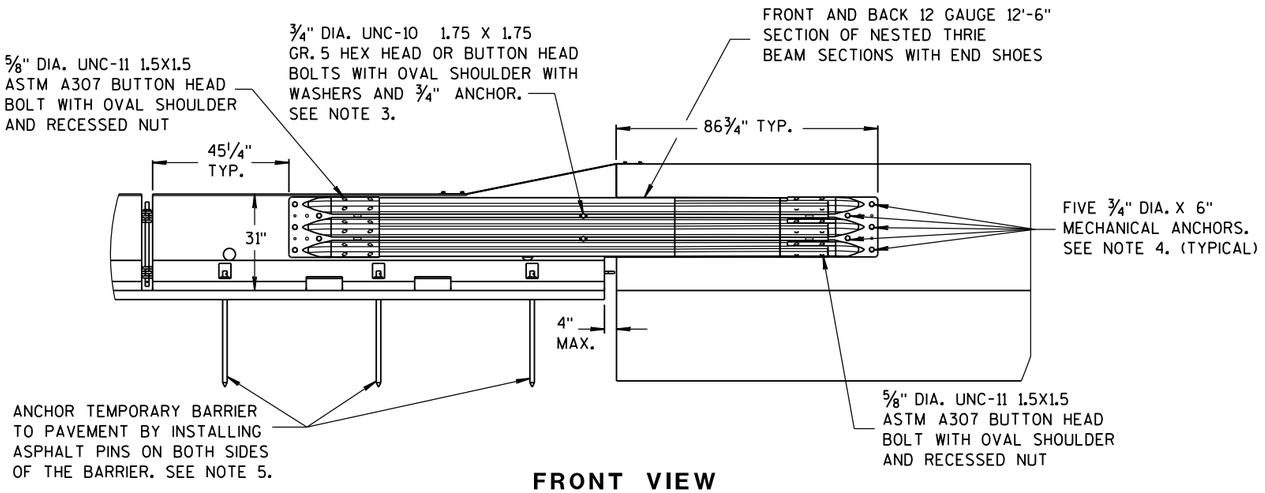
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

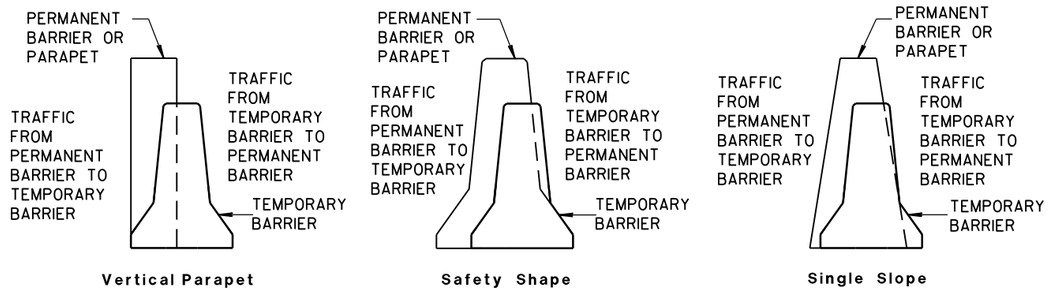
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-14d



FRONT VIEW

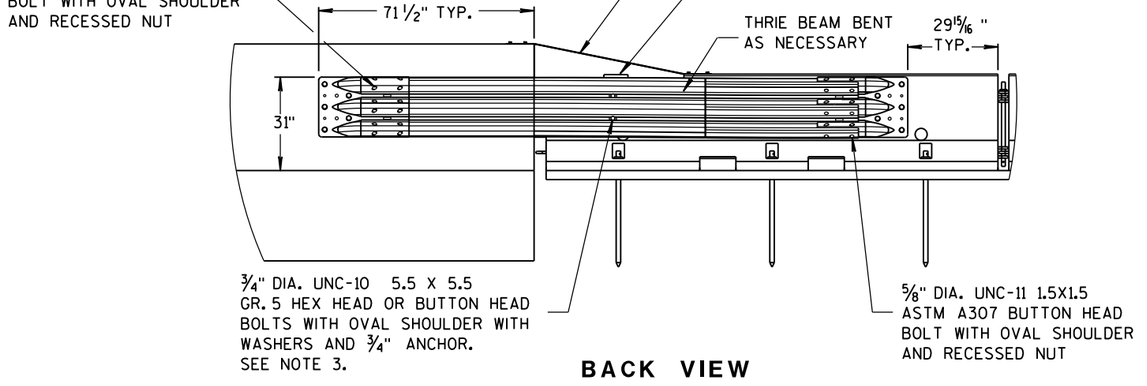


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

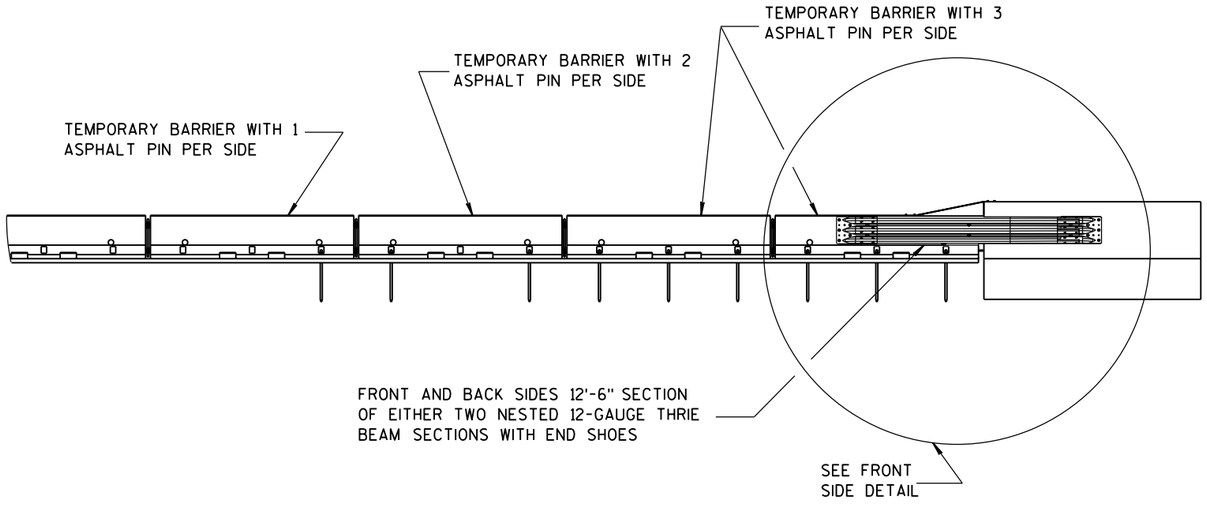
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

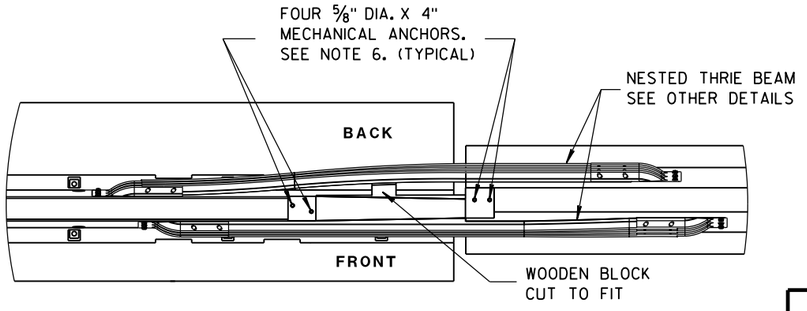
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



BACK VIEW



FRONT VIEW



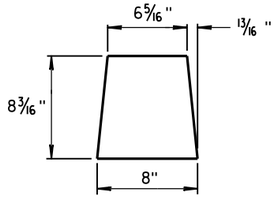
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

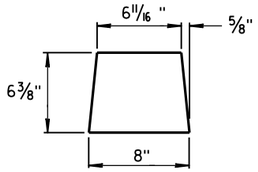
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

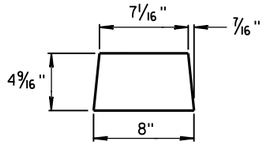
6
S.D.D. 14 B 7-14e



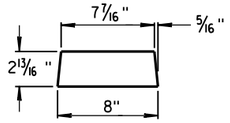
GUSSET 1



GUSSET 2

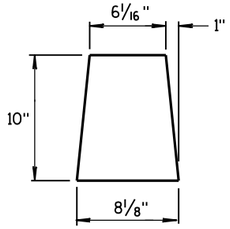


GUSSET 3

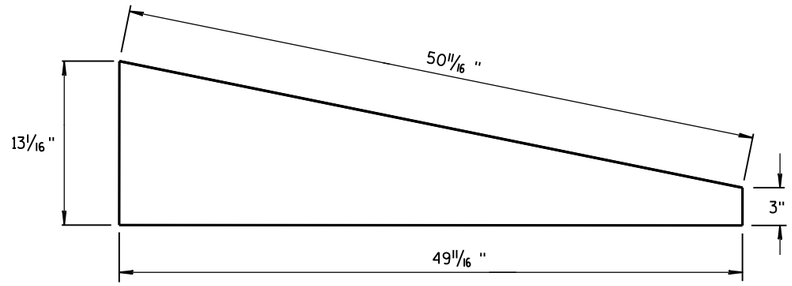


GUSSET 4

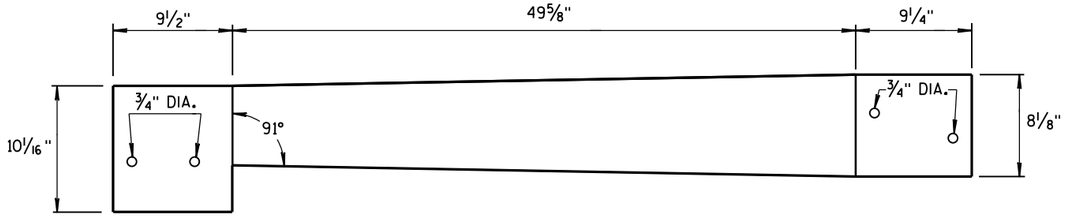
GUSSETS

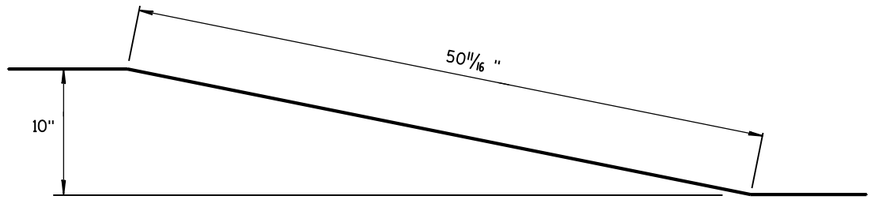


END PLATE



SIDE PLATE

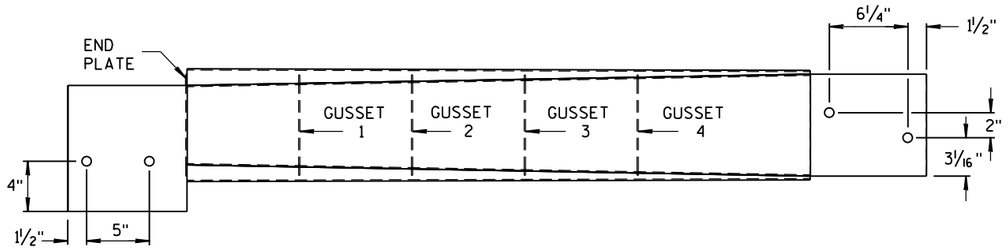


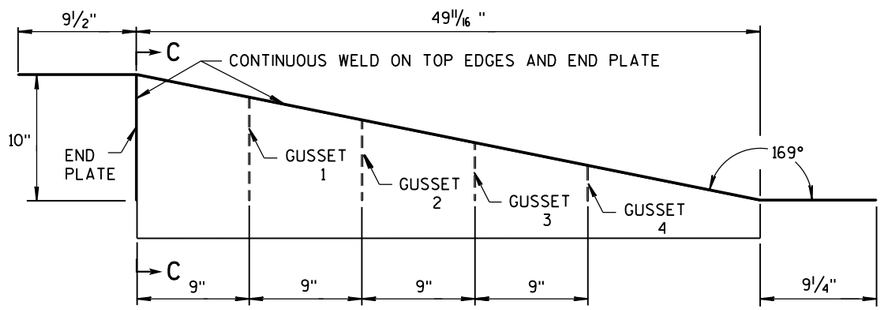


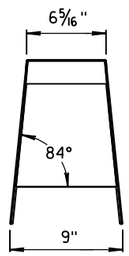
TOP PLATE

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.







SECTION C-C

NOTES

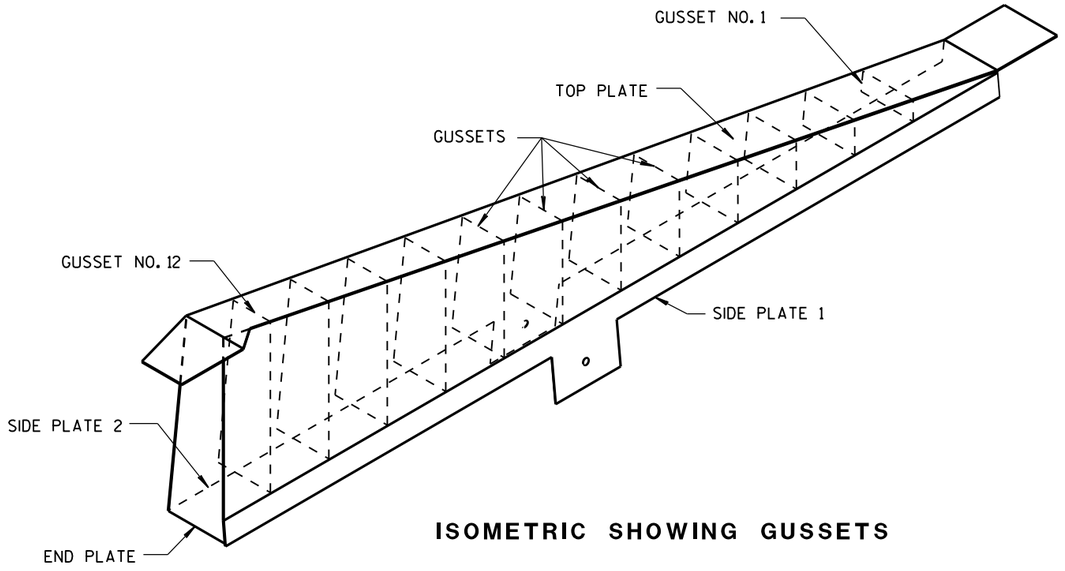
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

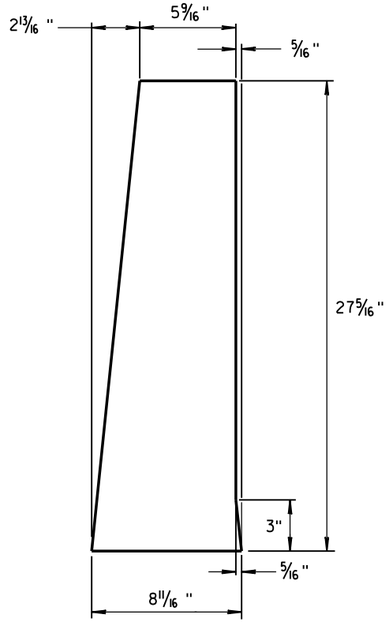
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14f

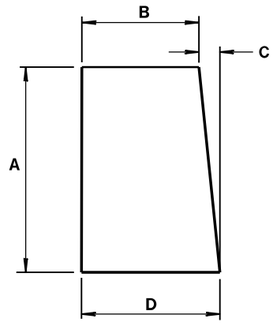


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



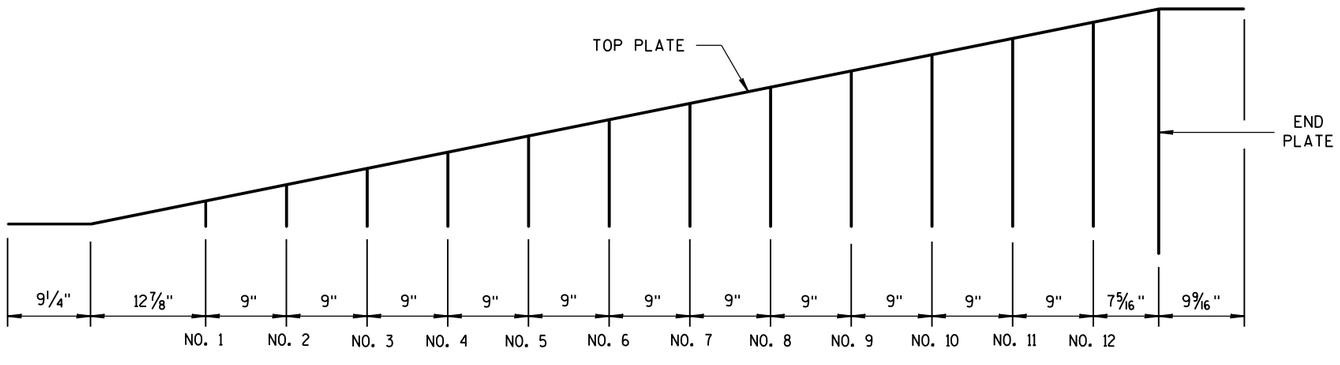
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

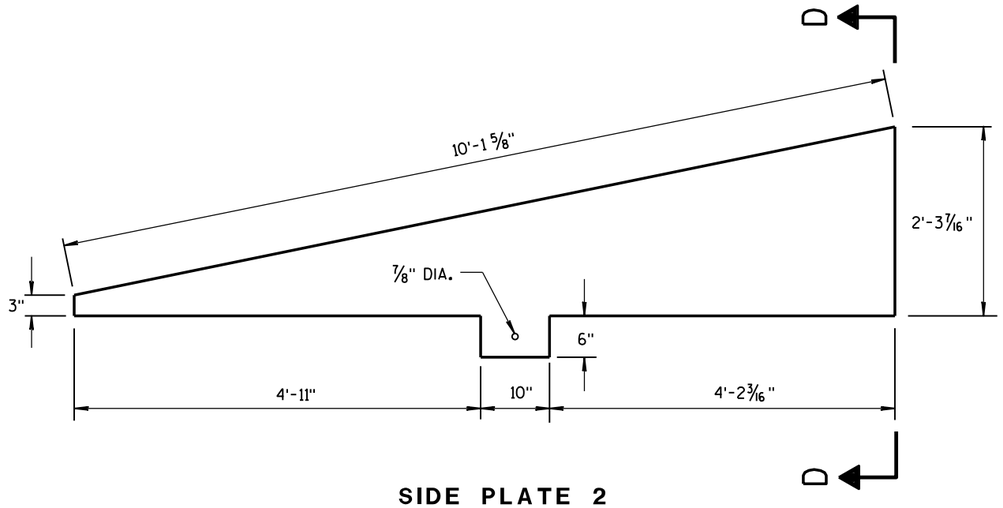
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

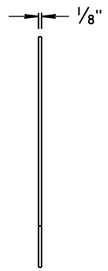
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

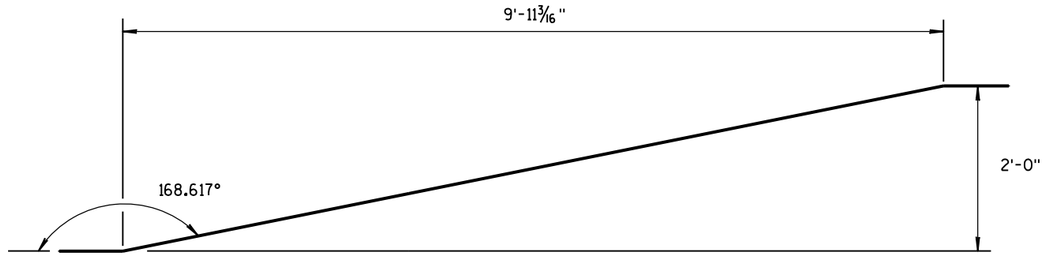
S.D.D. 14 B 7-14g



SIDE PLATE 2

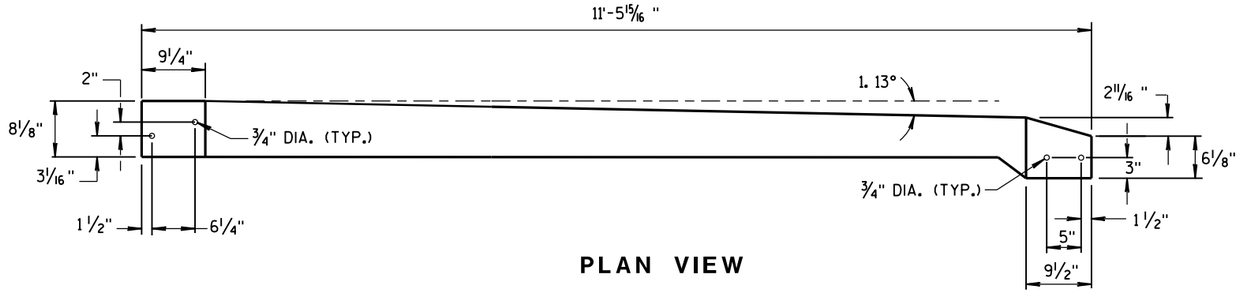


END VIEW



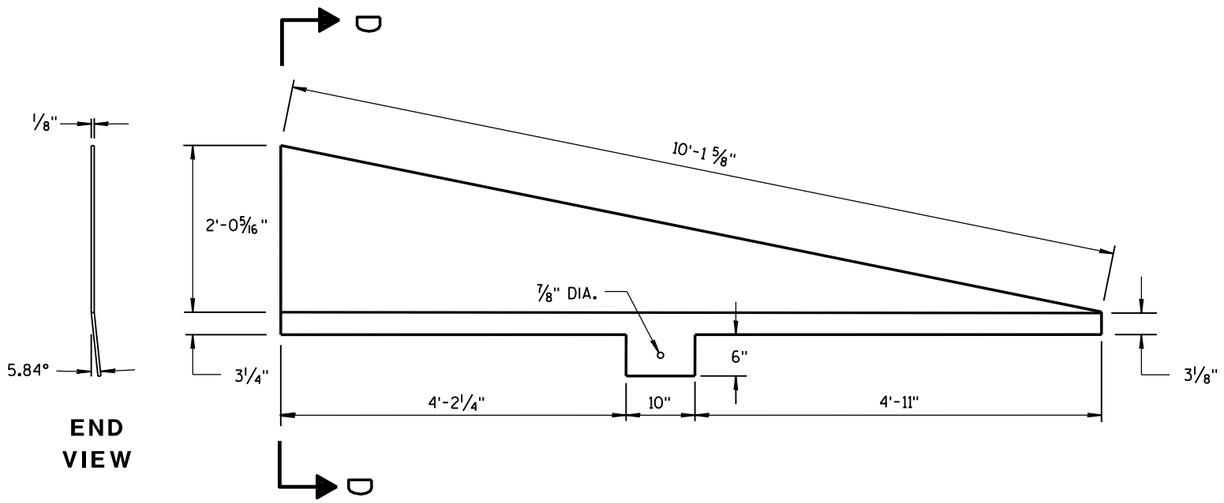
SIDE VIEW

TOP PLATE



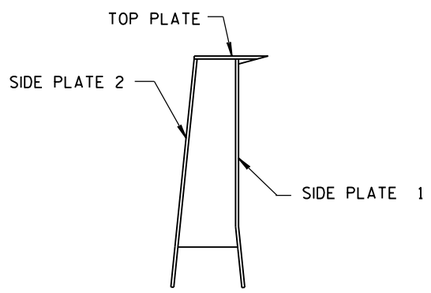
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 7-14h

6

S.D.D. 14 B 7-14h

GENERAL NOTES

(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.

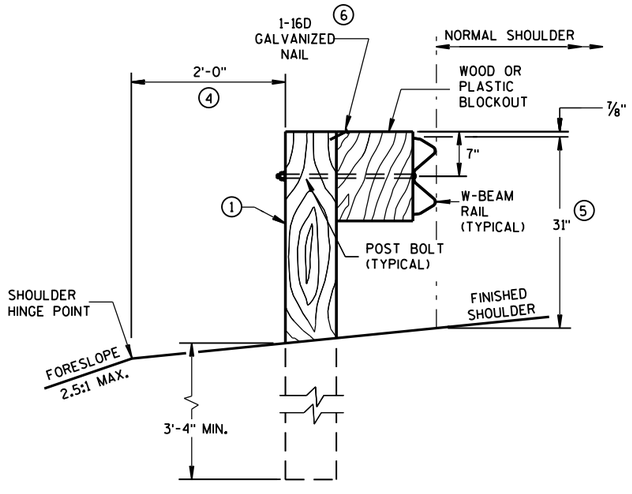
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(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).

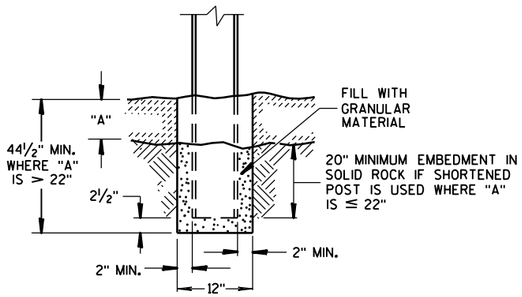
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

(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.



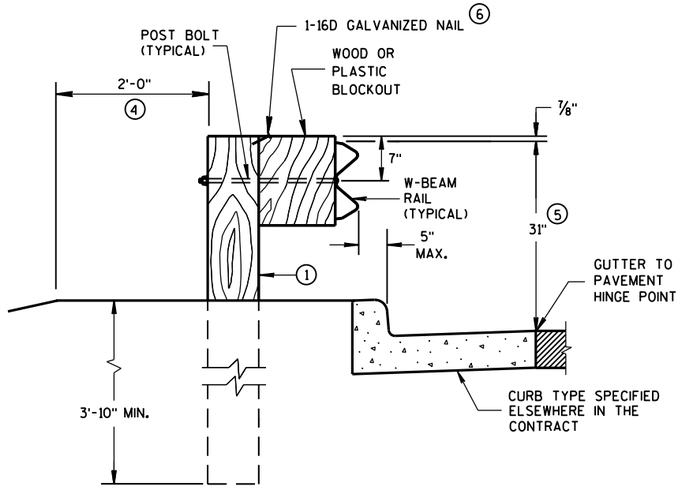
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



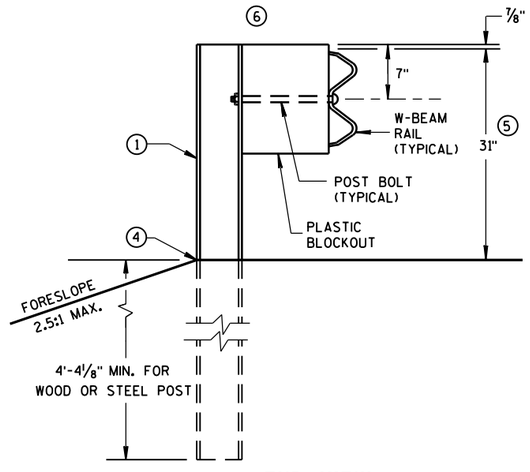
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



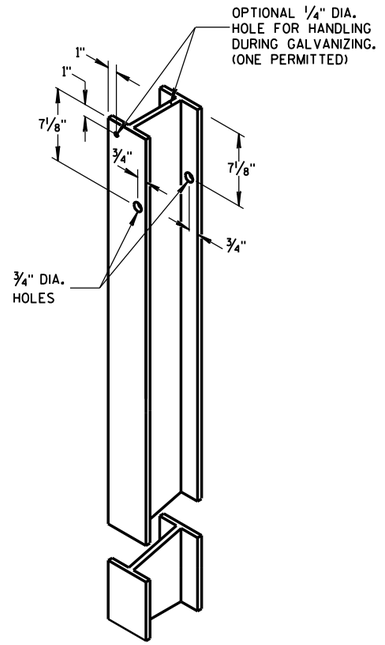
END VIEW

LOCATED ALONG A CURBED ROADWAY

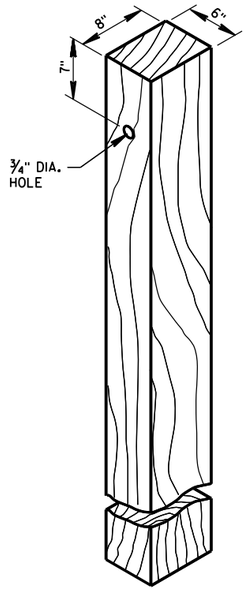


END VIEW

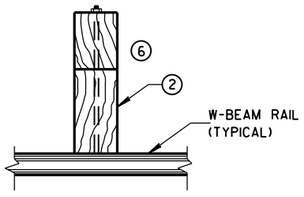
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



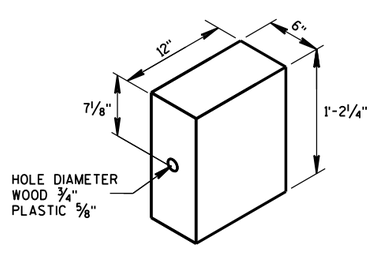
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



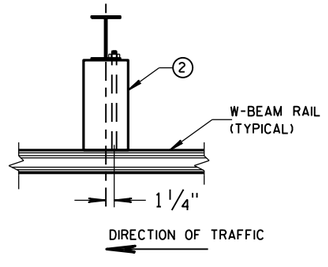
WOOD POST
(6" X 8") NOMINAL (1)



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

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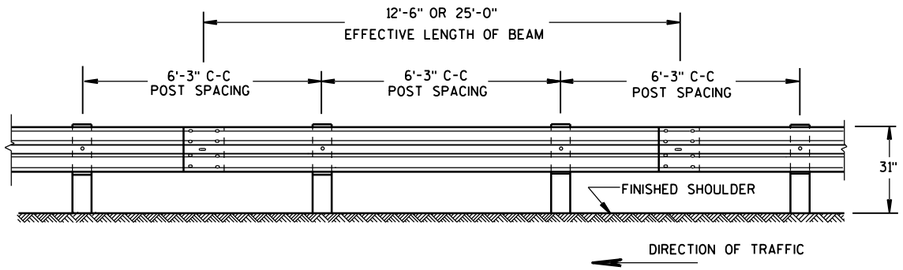
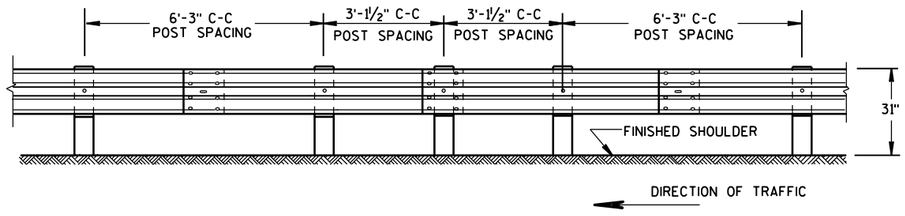
S.D.D. 14 B 42-3a



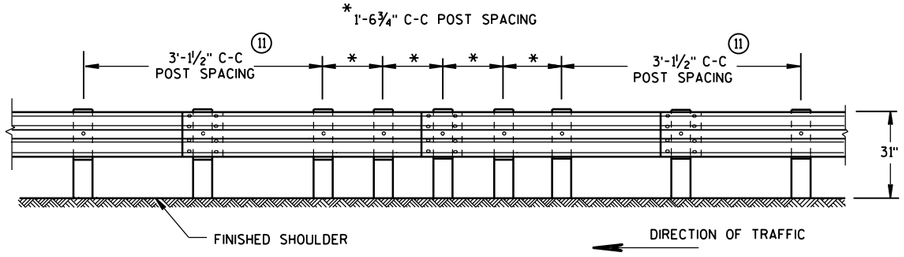
FRONT VIEW

POST SPACING STANDARD INSTALLATION



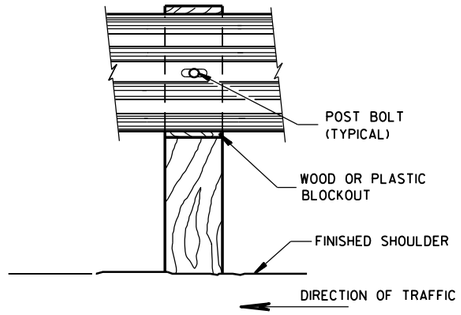
FRONT VIEW

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

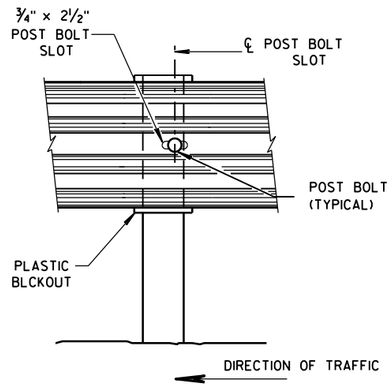


FRONT VIEW

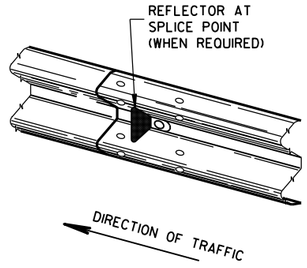
QUARTER POST SPACING (QS)

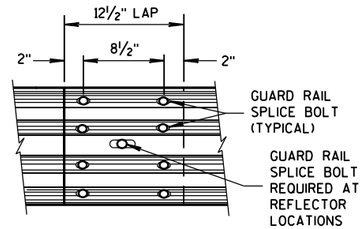


FRONT VIEW AT WOOD POST

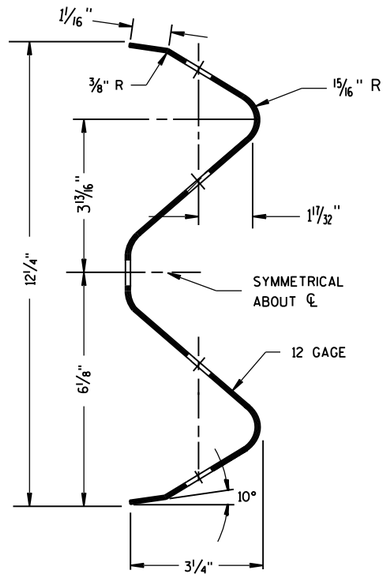


FRONT VIEW AT STEEL POST

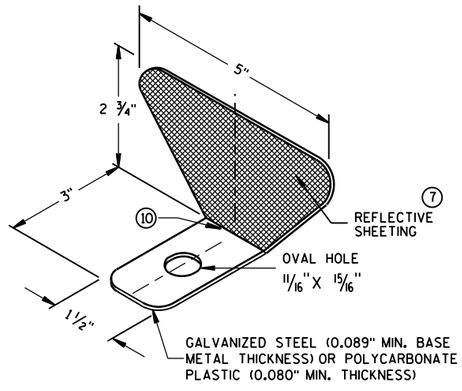




FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

GENERAL NOTES

⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

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.

⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

⑩ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

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

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

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

REFLECTOR SPACING ⑧

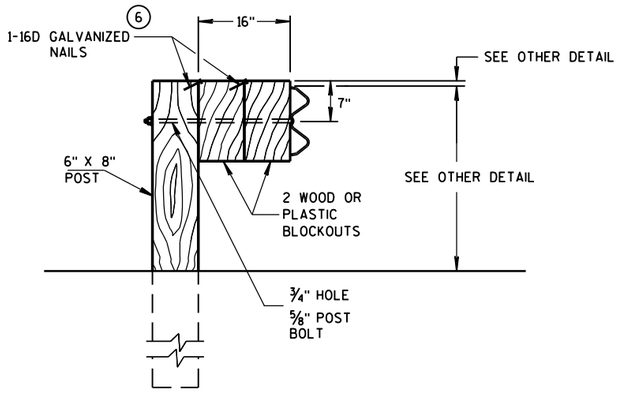
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 ⑨ 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 ⑩	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

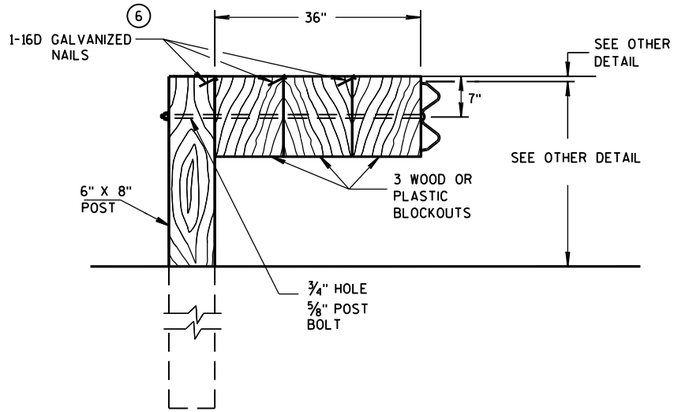
6

S.D.D. 14 B 42-3b



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.

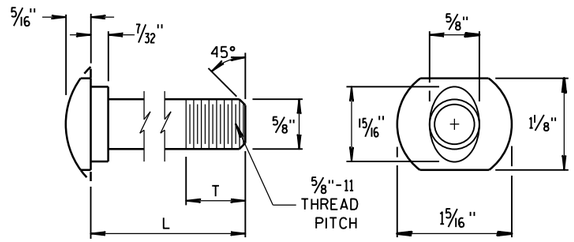


DETAIL FOR 36" BLOCKOUT DEPTH

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.

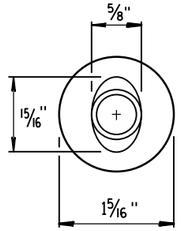
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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.

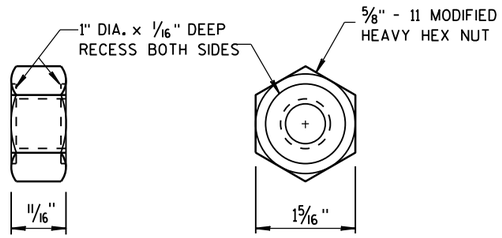


POST BOLT TABLE

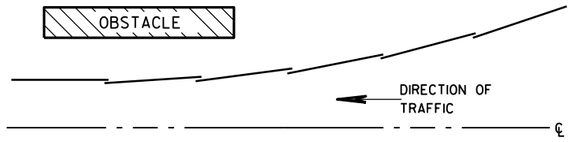
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

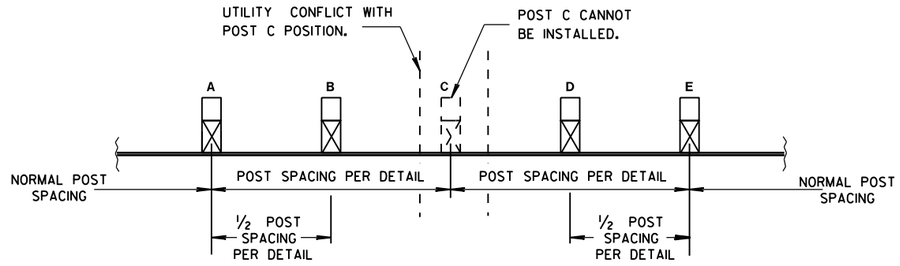


POST BOLT AND RECESS NUT

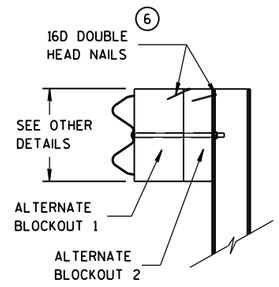


PLAN VIEW

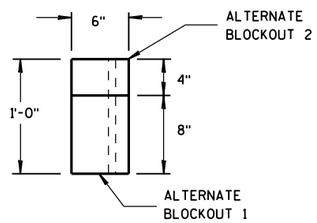
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 14 B 42-3c

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.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

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

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

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

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

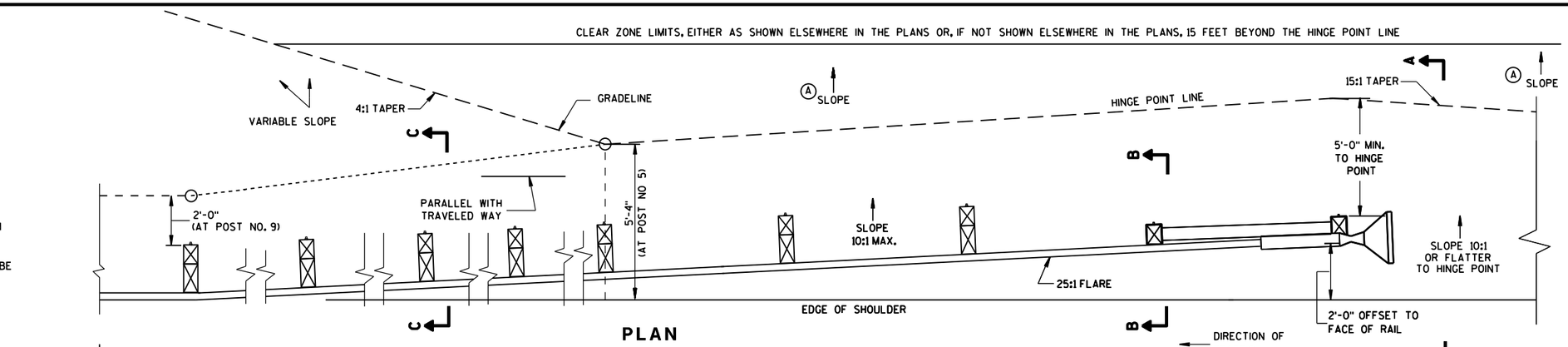
SEE SDD 14B42 FOR MORE INFORMATION.

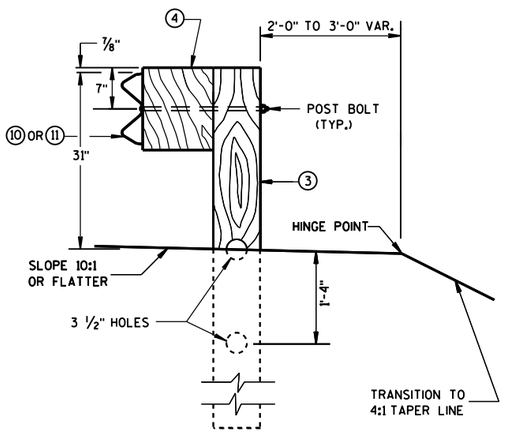
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

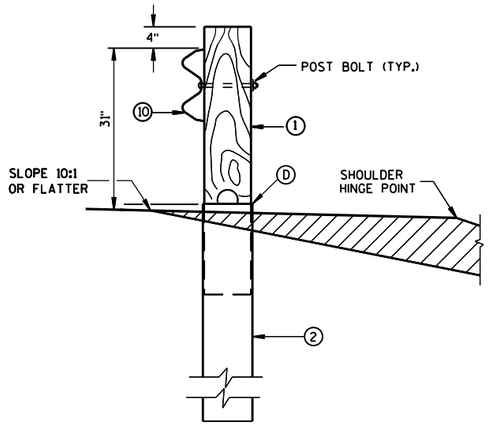
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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.

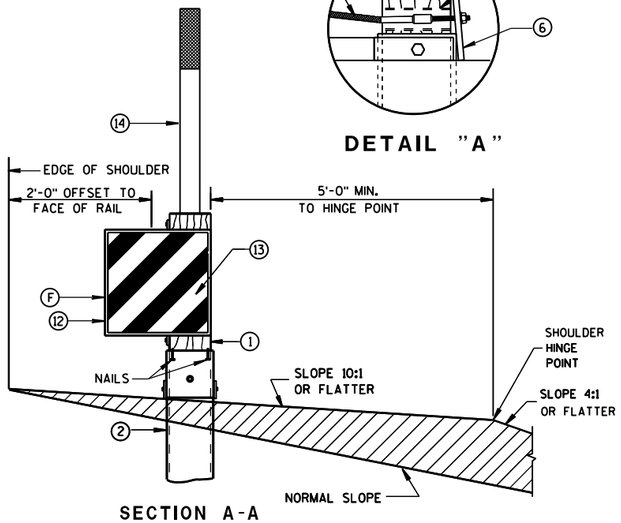




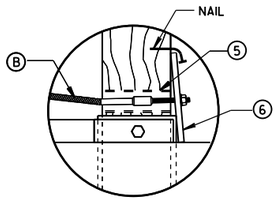
SECTION C-C
TYPICAL AT POST NOS. 3-9



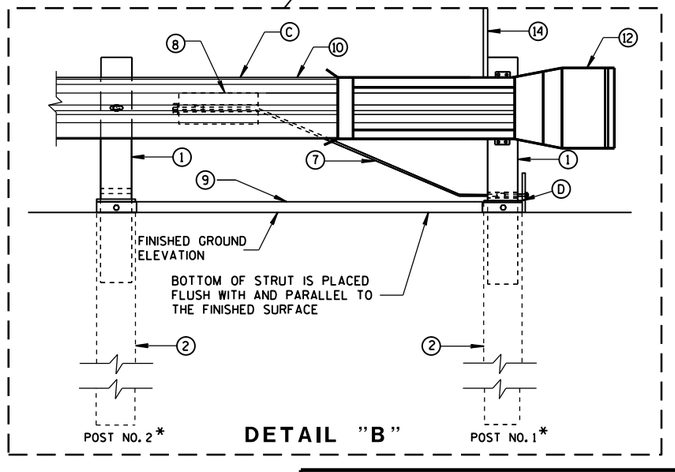
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



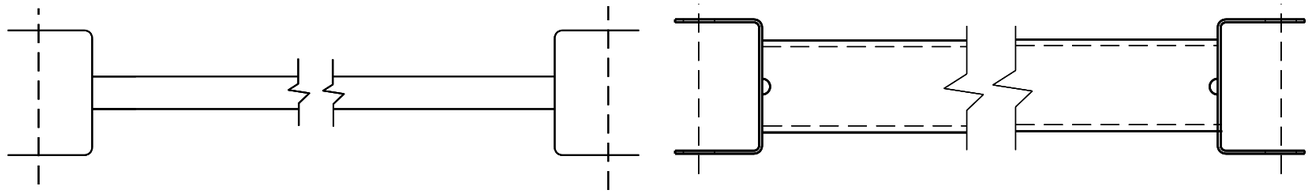
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 14 B 44-2a

S.D.D. 14 B 44-2a

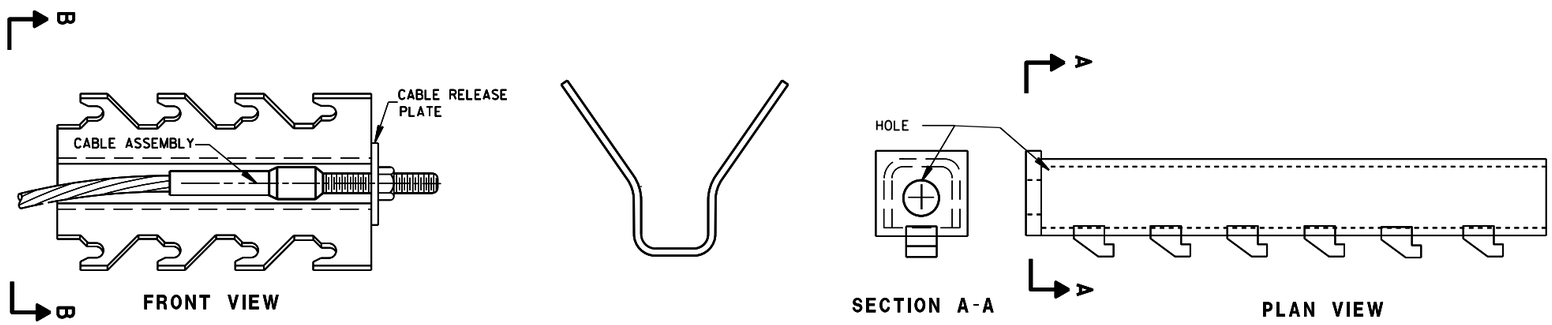


⑨ Ⓗ

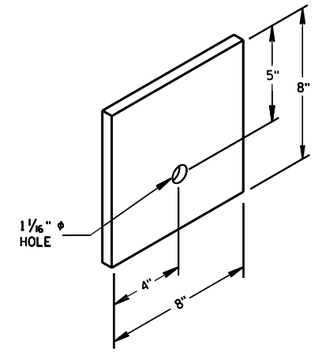
GENERIC GROUND STRUT

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
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	END SECTION EAT
⑬	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX ⑧ Ⓗ



BEARING PLATE ⑥

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

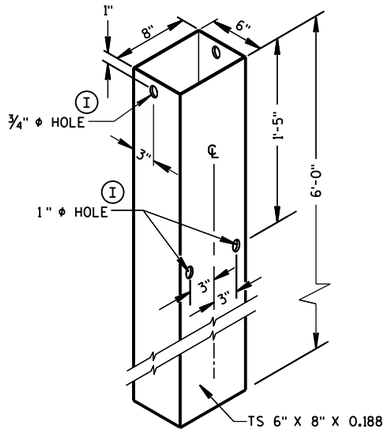
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

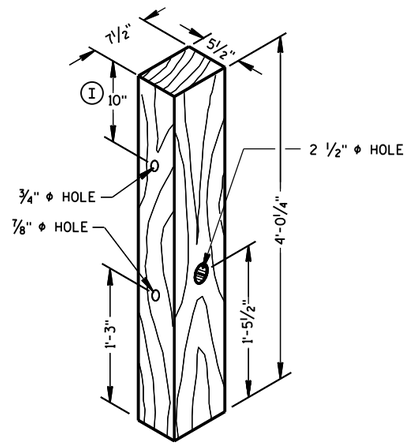
S.D.D. 14 B 44-2b

6

S.D.D. 14 B 44-2b

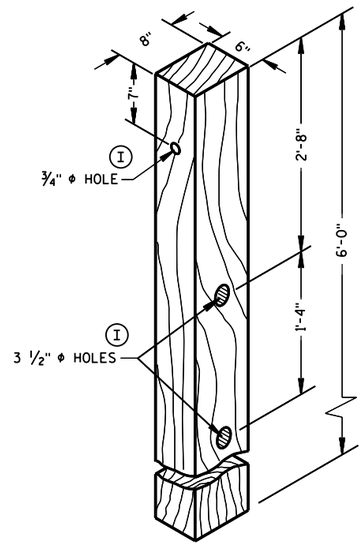


FOUNDATION TUBE (2)



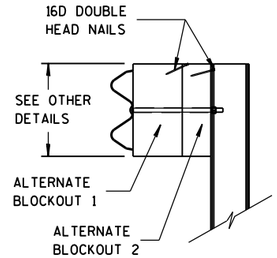
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

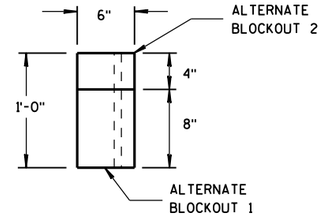


POSTS NUMBER 3-9

WOOD CRT POST (3)

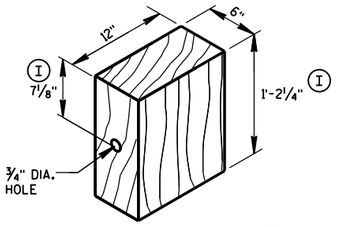


SIDE VIEW



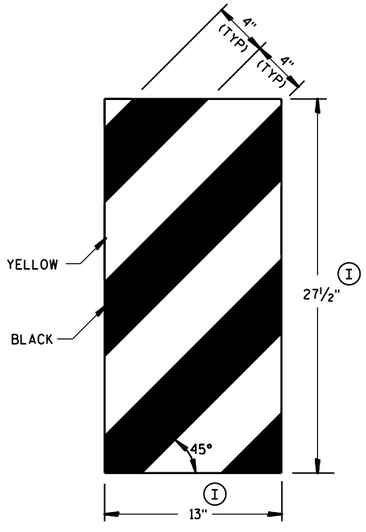
TOP VIEW

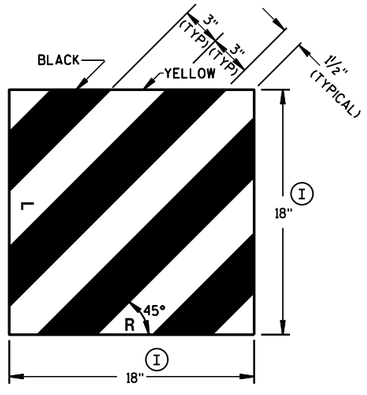
ALTERNATE WOOD BLOCKOUT DETAIL



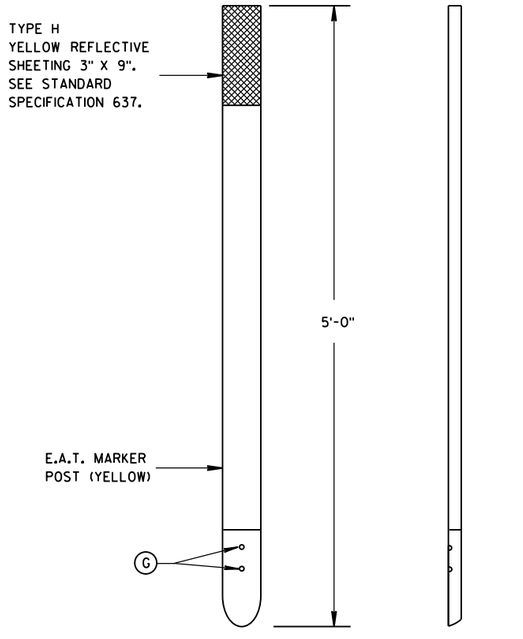
WOOD BLOCKOUT (4)

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





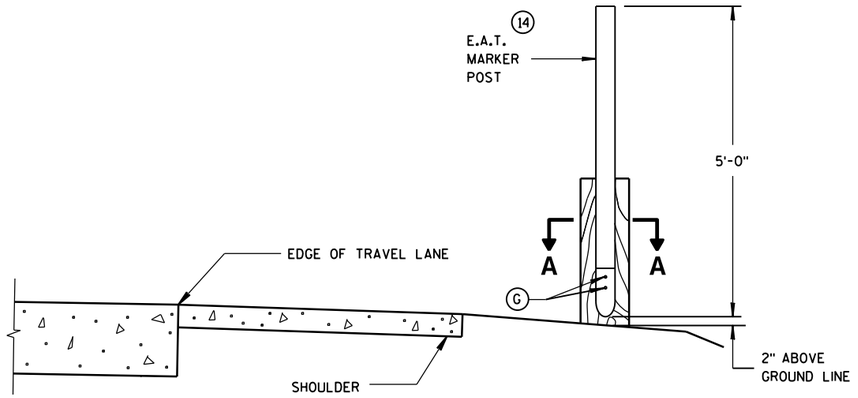
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

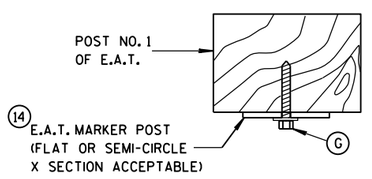
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)

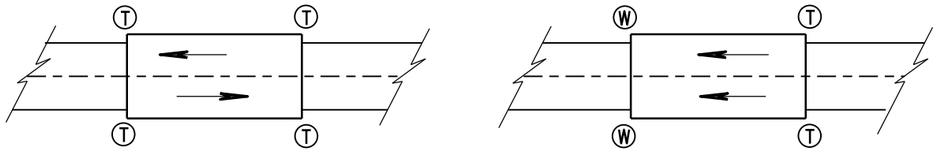


SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

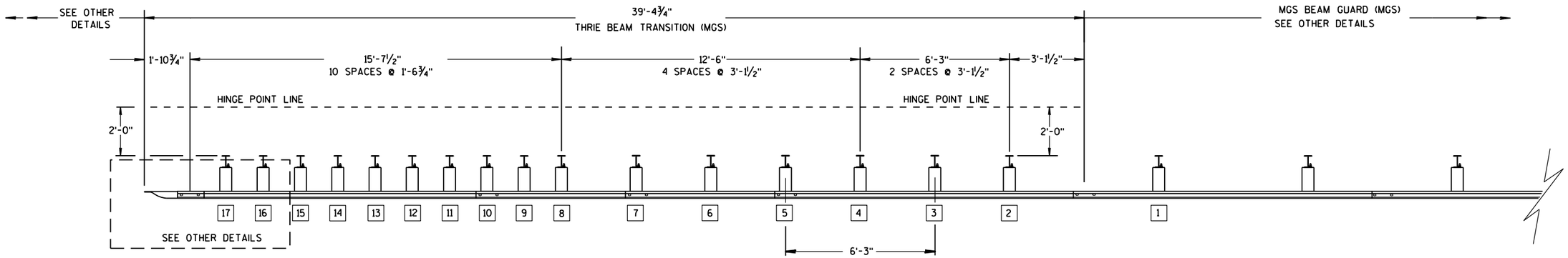
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

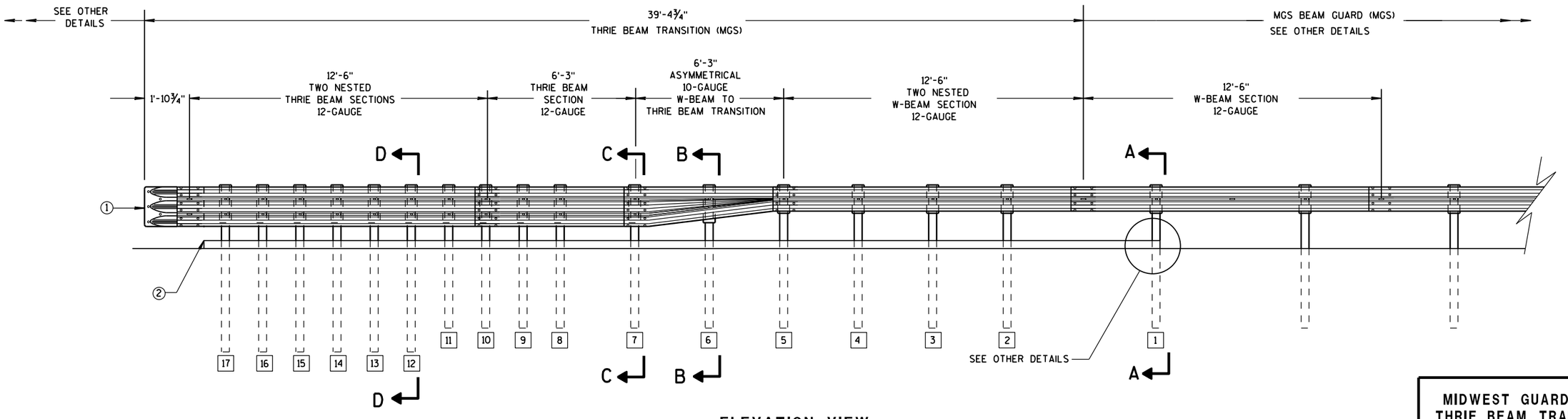
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

(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 TRANSPOI

6

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

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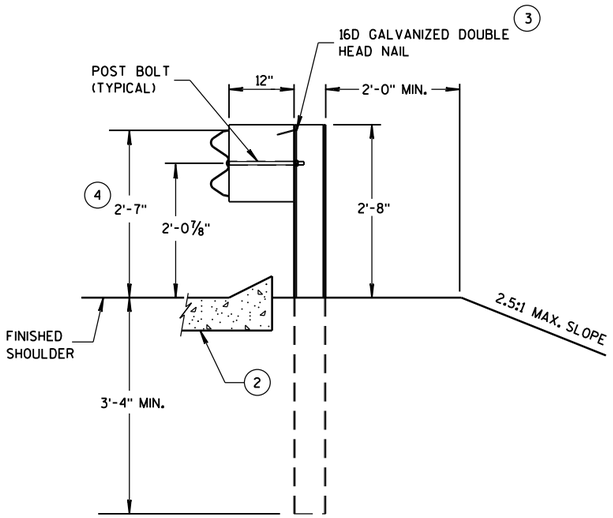
S.D.D. 14 B 45-4a

GENERAL NOTES

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

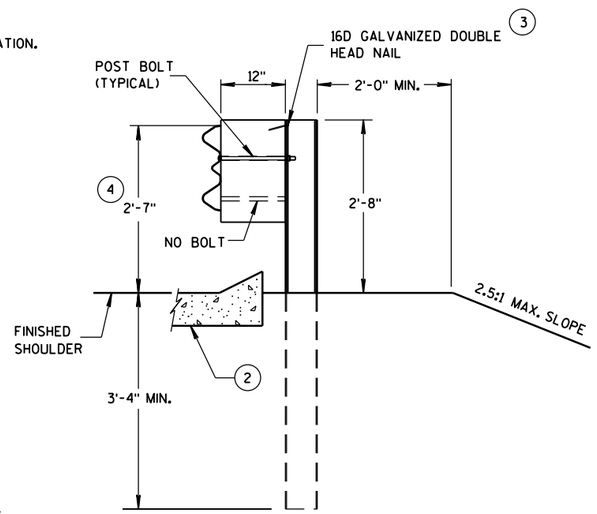
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



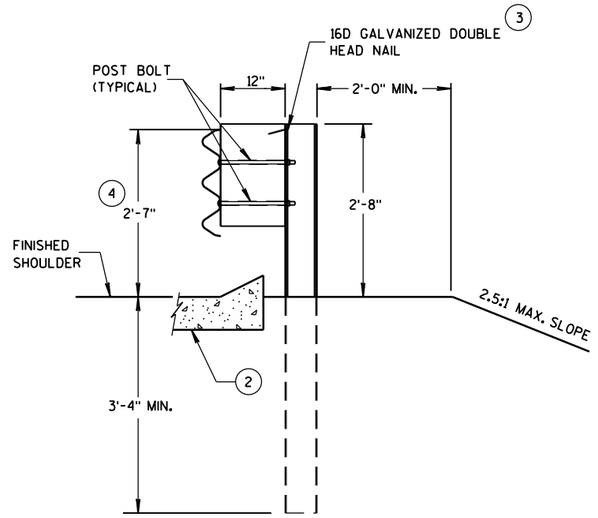
SECTION A-A

POSTS 1-5



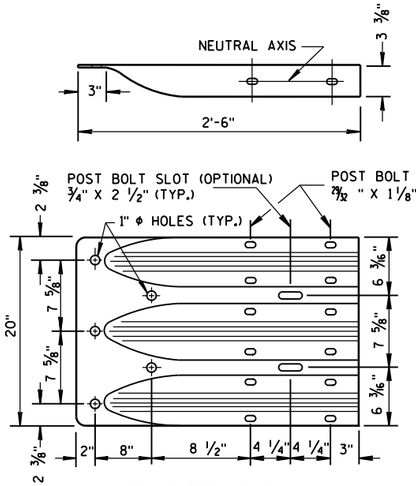
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

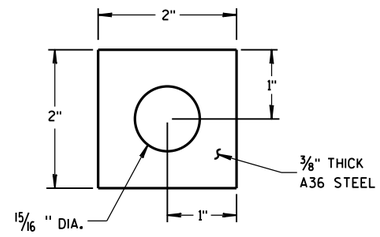
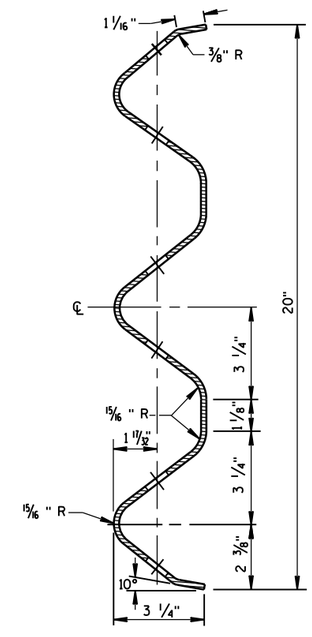
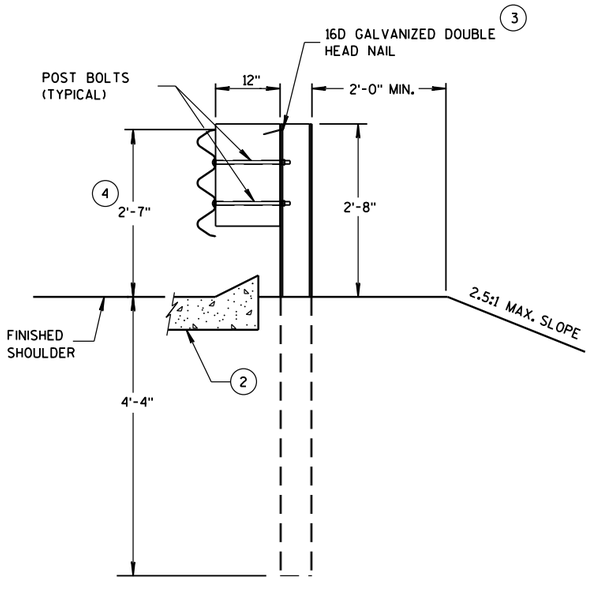


PLATE WASHER DETAIL

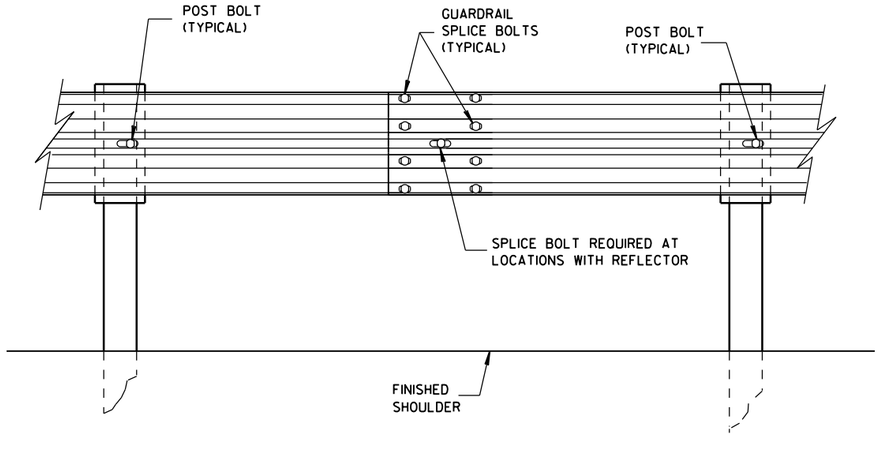


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

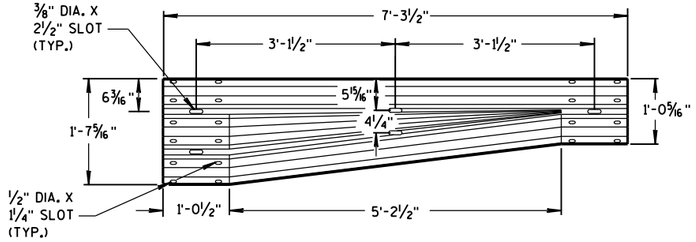
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

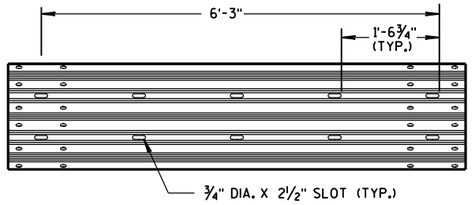
S.D.D. 14 B 45-4b

6

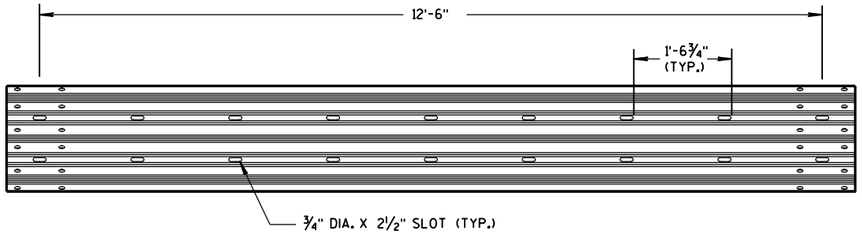
S.D.D. 14 B 45-4b



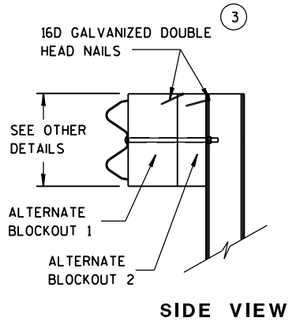
W-BEAM TO THRIE BEAM TRANSITION SECTION



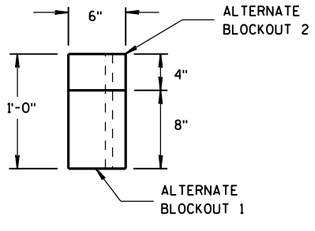
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

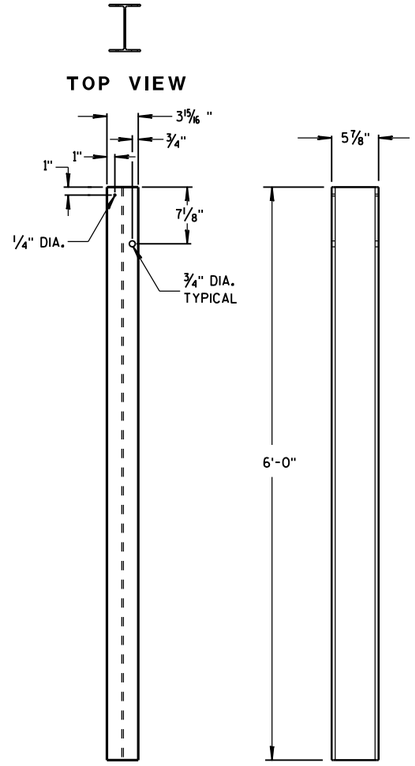


SIDE VIEW



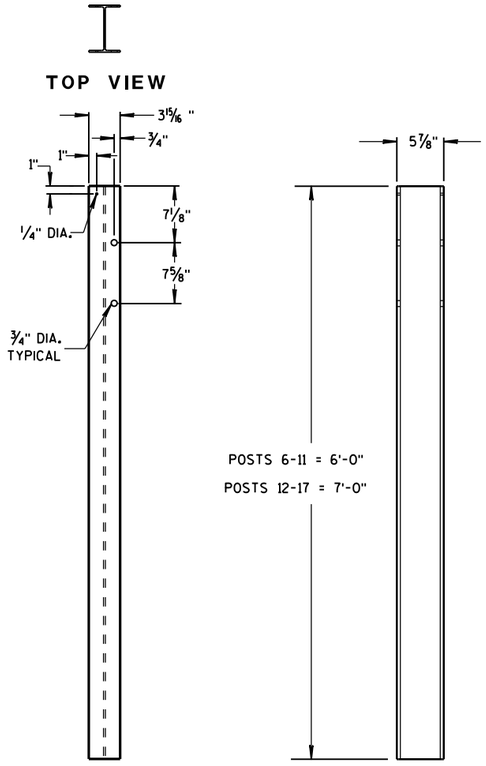
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



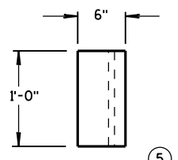
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5

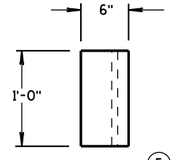


FRONT VIEW SIDE VIEW

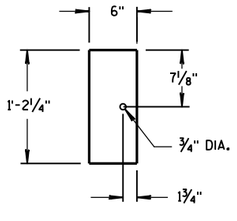
STEEL POSTS 6-17



TOP VIEW (5)

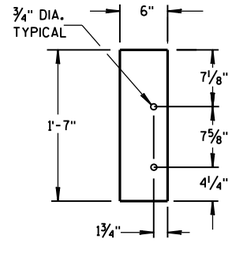


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

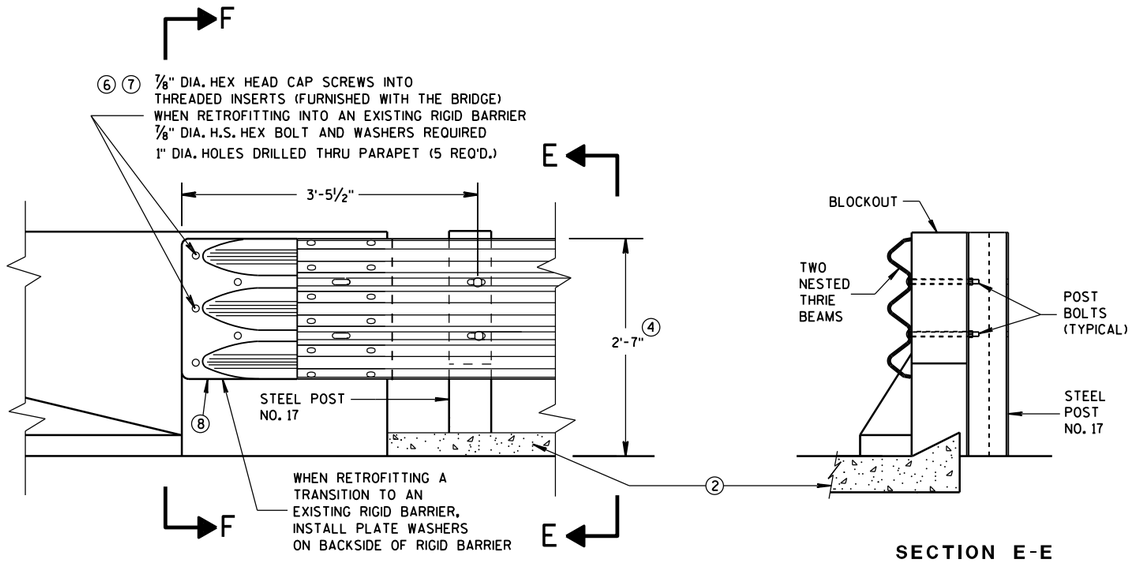
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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.

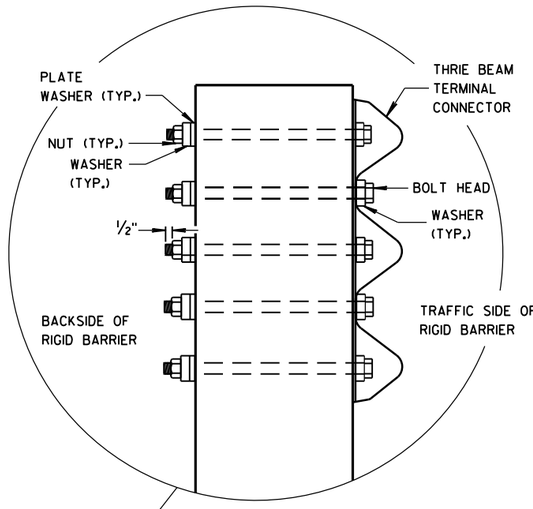
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

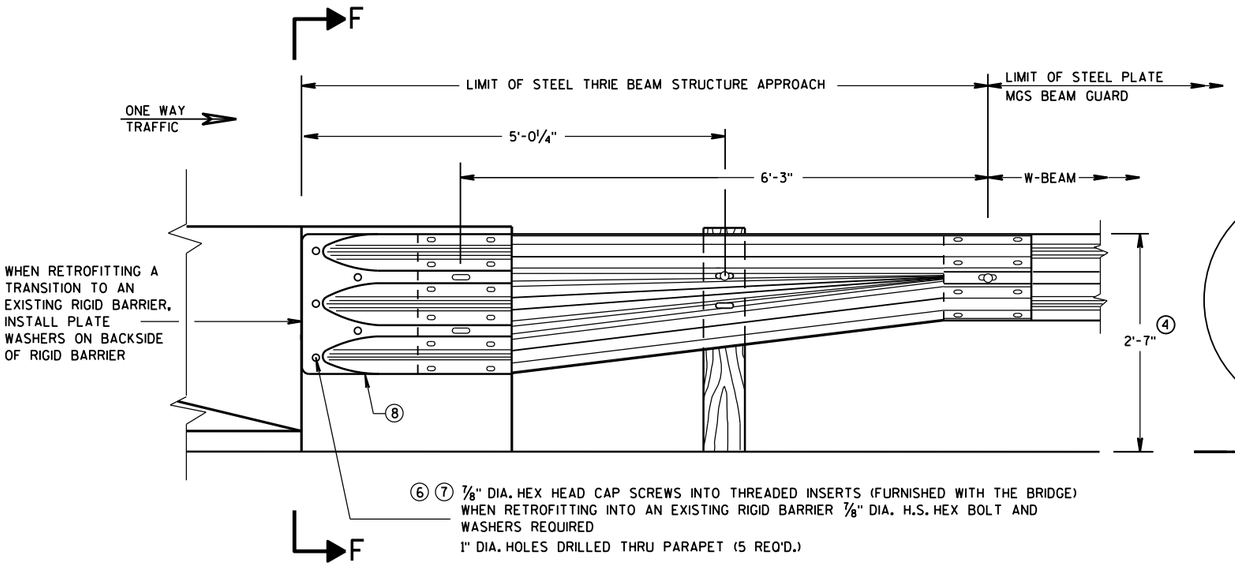
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

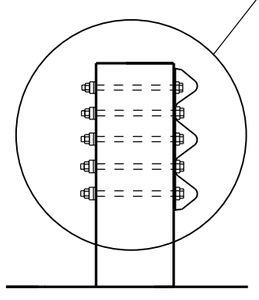
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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".

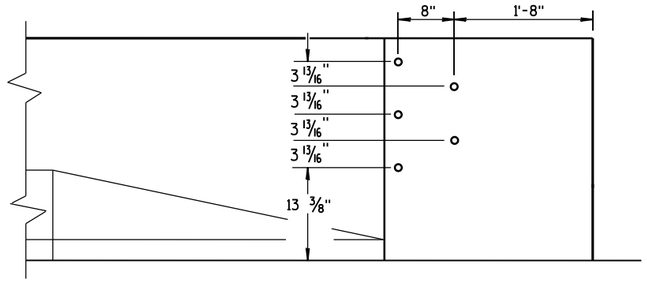




FRONT VIEW



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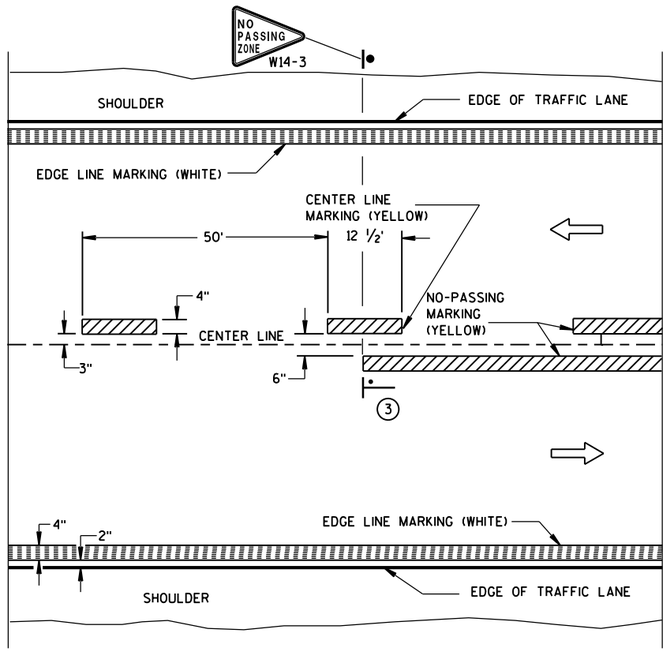
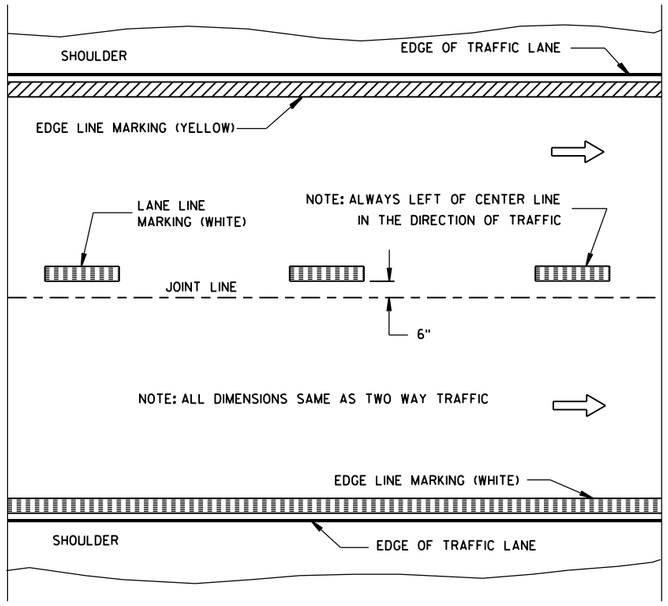
S.D.D. 14 B 45-4d

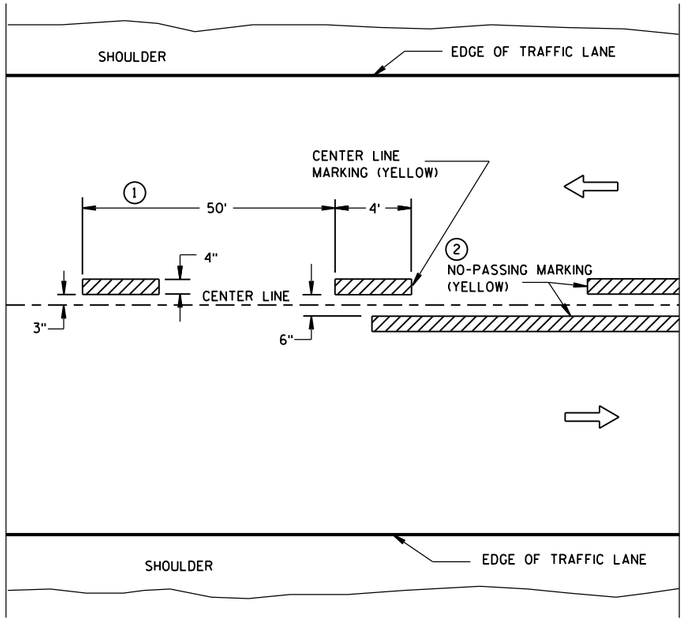


TWO WAY TRAFFIC

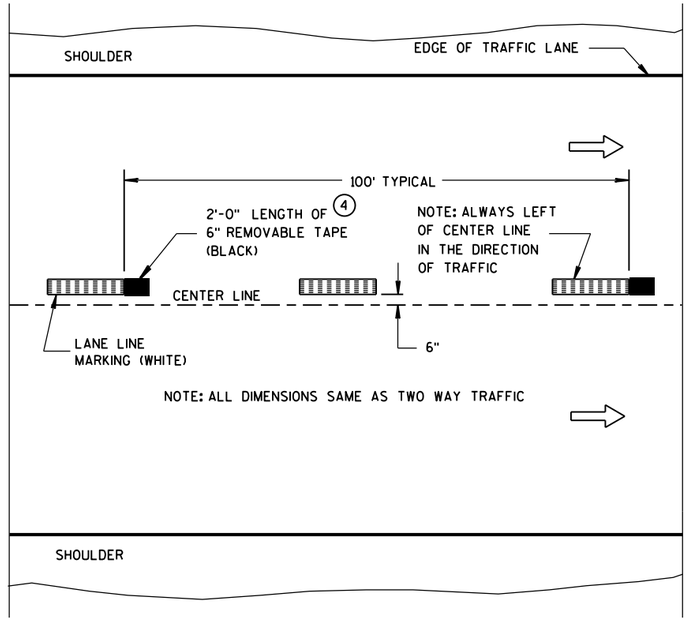


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

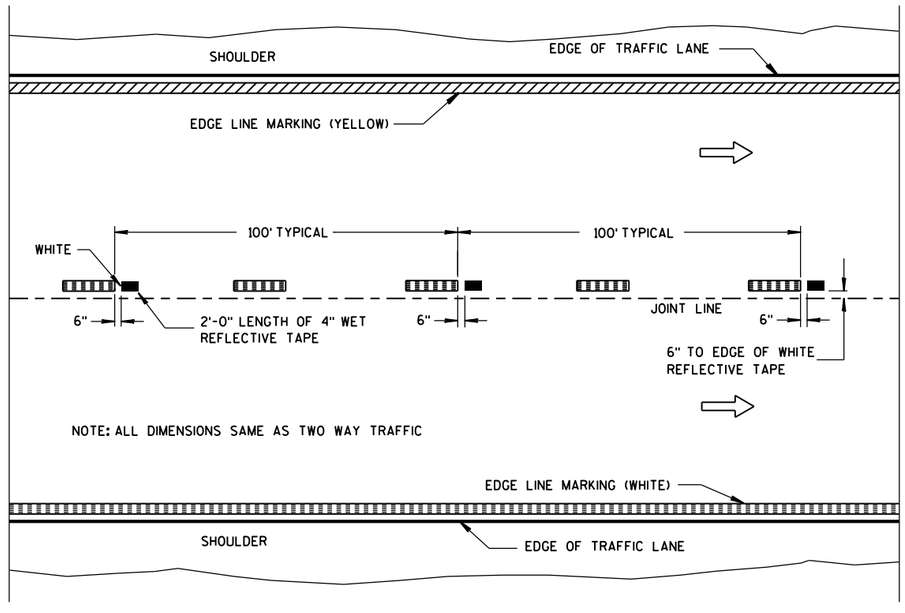
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

FHWA

6

S.D.D. 15 C 8-16a

6

S.D.D. 15 C 8-16a

LEGEND

- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- FLAGS, 16" x 16" MIN., (ORANGE)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC
- 4" X 6" WOOD POST
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE

W057-52
36"x24"

INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET.)

GENERAL NOTES

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

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.

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

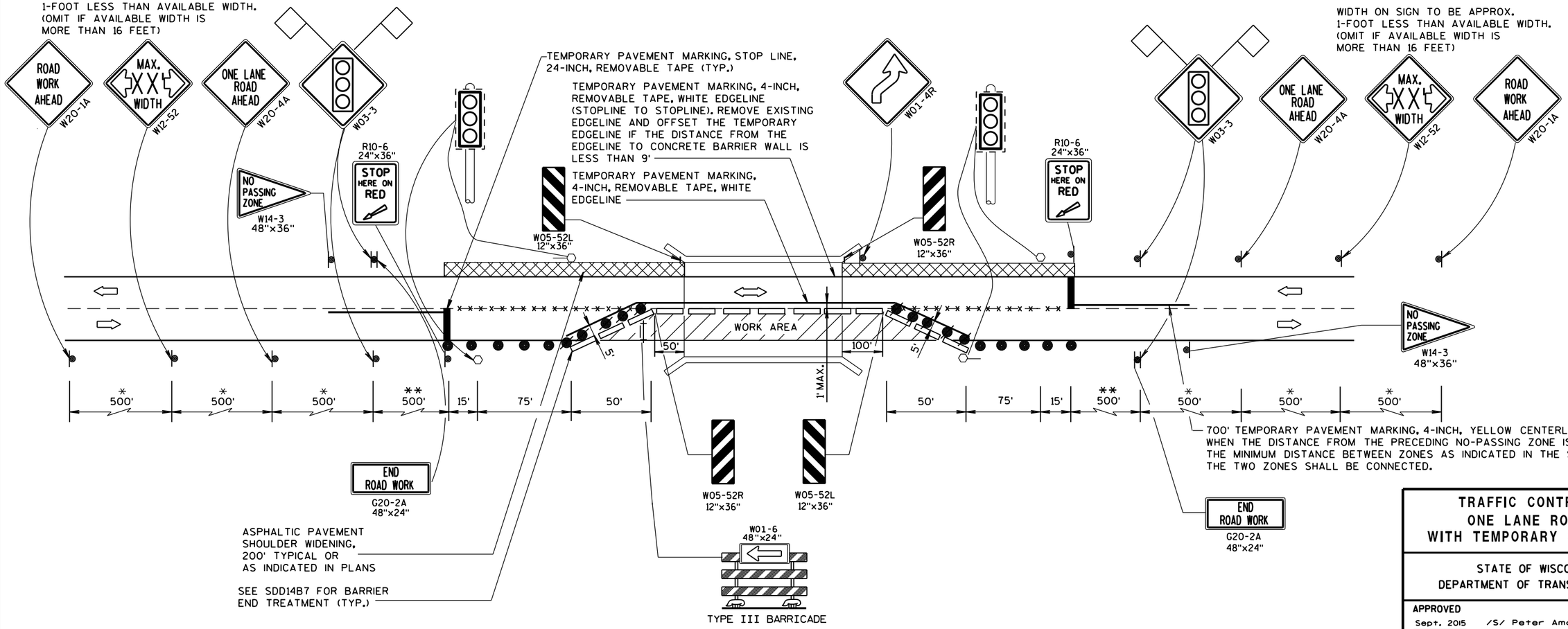
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

* 500-FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350-FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200-FOOT TYPICAL SPACING.

** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.



TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER

FHWA

C

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S.D.D. 15 D 33-4

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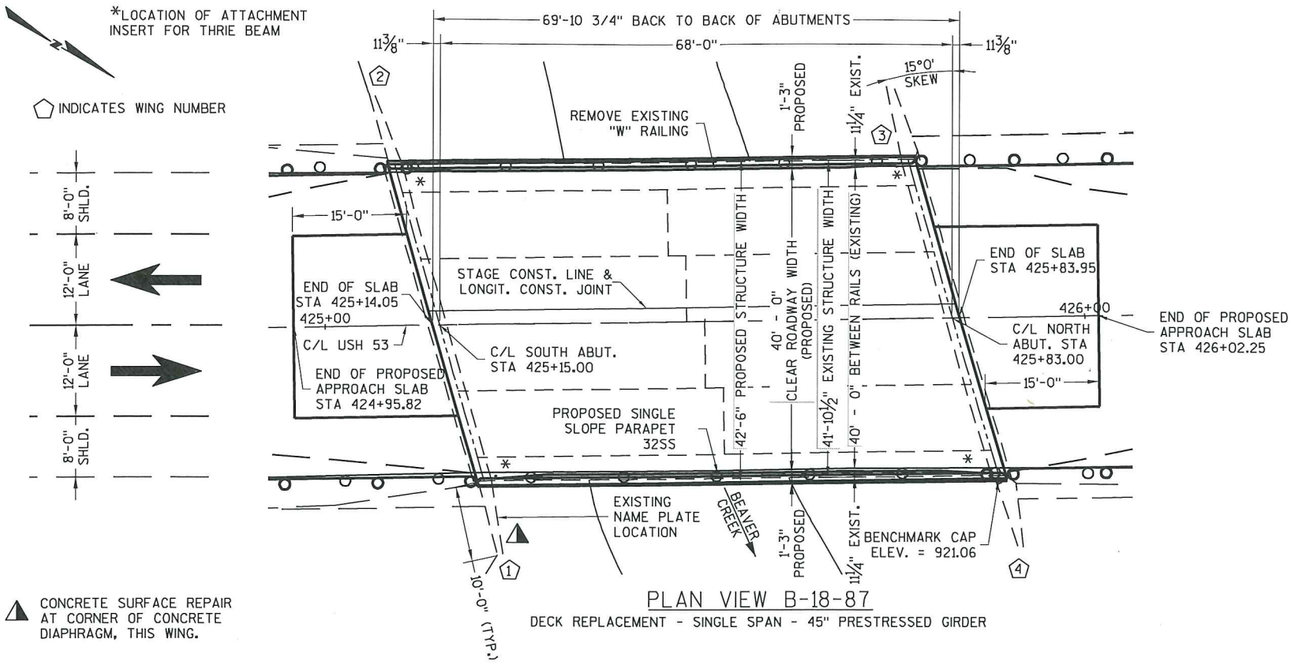
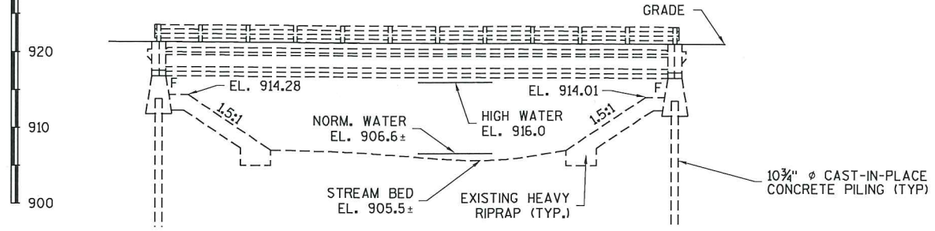
S.D.D. 15 D 33-4

STATE PROJECT NUMBER
7905-03-72

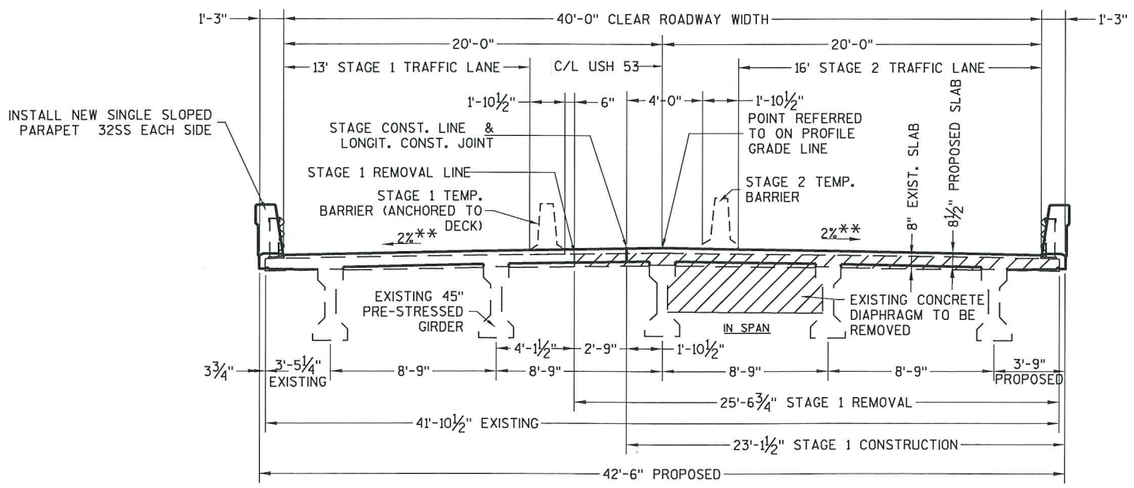


PLAN VIEW B-18-87

DECK REPLACEMENT - SINGLE SPAN - 45" PRESTRESSED GIRDER



EXISTING ELEVATION VIEW B-18-87



** EXISTING CROSS SLOPE = 1.5%

CROSS SECTION THRU ROADWAY - USH 53

(LOOKING NORTH)

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	_____	HS21
OPERATING RATING	_____	HS34
MAX. STD. PERMIT VEHICLE LOAD	_____	190 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY SUPERSTRUCTURE	F'C = 4000PSI
ALL OTHER	F'C = 3500PSI
BAR STEEL REINFORCEMENT HS BRIDGES	FY = 60,000PSI

TRAFFIC DATA:

A.D.T.	(2015)	= 2,775
A.D.T.	(2035)	= 3,300
D.H.V.	(2035)	= 132 (4.0%)
D.D.		= 60 - 40
T.	(A.D.T.)	= 6.0%
DESIGN SPEED		= 55 MPH
ESALS		= 518,300

LIST OF DRAWINGS

1. DECK REPLACEMENT
2. SUPERSTRUCTURE
3. SUPERSTRUCTURE DETAILS
4. STEEL DIAPHRAGM
5. SINGLE SLOPE PARAPET 32SS

GENERAL NOTES

THE WORK INCLUDES REPLACING THE DECK & DIAPHRAGMS, NEW PARAPET, AND CONCRETE SURFACE REPAIR.

DRAWINGS SHALL NOT BE SCALED.

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

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

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE SUPERSTRUCTURE DETAILS SHEET.

ALL STATIONS AND ALL ELEVATIONS ARE IN FEET

DIMENSIONS ARE BASED ON ORIGINAL DRAWINGS.

CLEAN, STRAIGHTEN, AND EXTEND EXISTING BAR STEEL REINFORCEMENT A MINIMUM OF 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE DECK.

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO FRONT FACE AND TOP SURFACES OF THE PARAPETS.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

ELEVATIONS ARE REFERENCE TO THE NAVD88 DATUM.

BENCH MARK

EXISTING BENCH MARK ON B-61-0058
ELEVATION = 921.06

WISDOT BRIDGE OFFICE CONTACT:
WILLIAM DREHER (608) 266-8489

DESIGN CONSULTANT CONTACT:
STEVE POETHKE (715) 234-7008

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	TOTAL
203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (B-18-87)	LS	1
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STA	LS	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES (B-18-87)	LS	1
210.0100	BACKFILL STRUCTURE	CY	10
502.0100	CONCRETE MASONRY BRIDGES	CY	100
502.3200	PROTECTIVE SURFACE TREATMENT	SY	310
502.3210	PIGMENTED SURFACE SEALER	SY	60
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	21,620
506.4000	STEEL DIAPHRAGMS (B-18-87)	EA	4
509.1500	CONCRETE SURFACE REPAIR	SF	10
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EA	4

NO.	DATE	REVISION	BY

COOPER ENGINEERING
2600 COLLEGE DRIVE, P.O. BOX 230
RICE LAKE, WISCONSIN 54868-0230
TELEPHONE (715) 234-7008
FAX (715) 234-1025

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 02/08/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-18-87

USH 53 BRIDGE OVER BEAVER CREEK

COUNTY	TOWN ~~CITY/VILLAGE~~
EAU CLAIRE	WASHINGTON

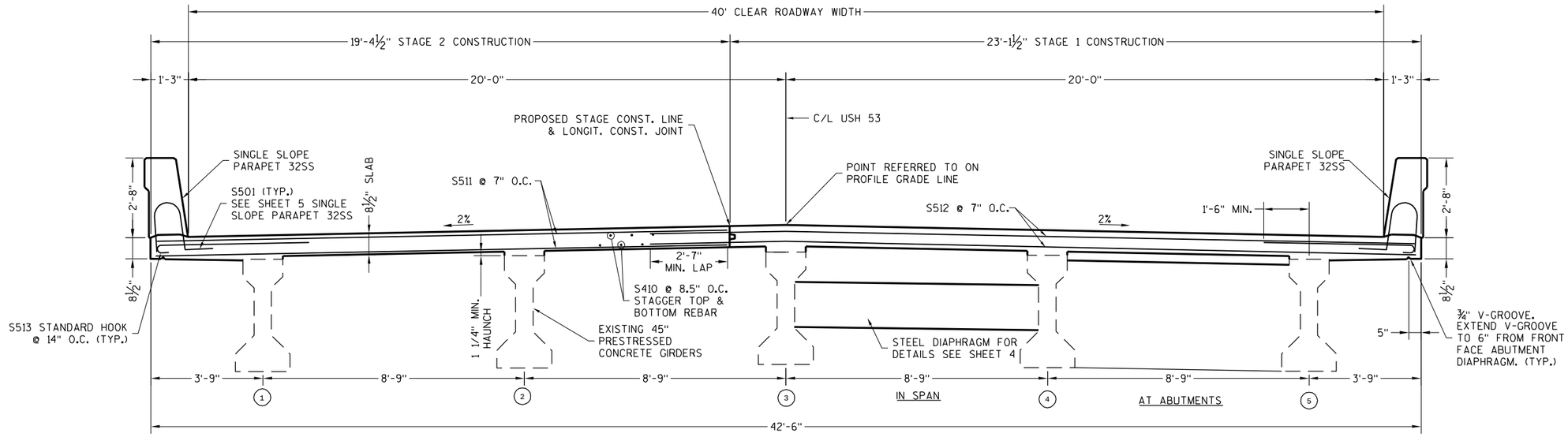
DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JAF	SKP	JAF	SKP

DECK REPLACEMENT

SHEET 38 5

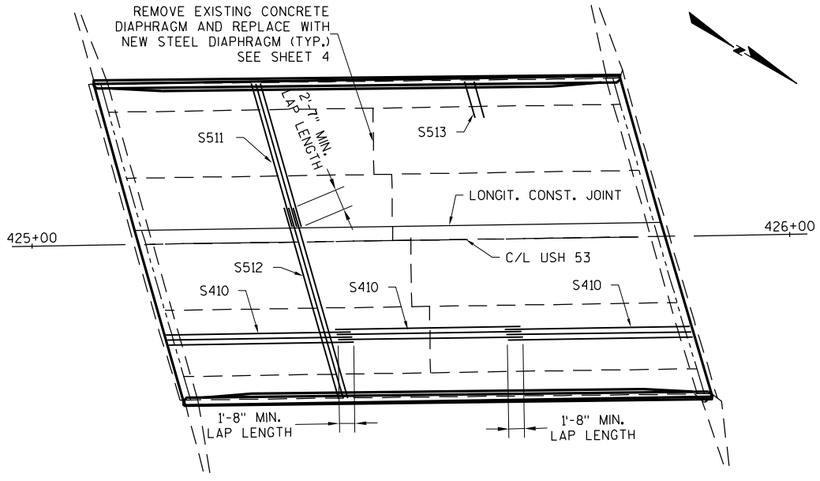
STATE PROJECT NUMBER
7905-03-72



PROPOSED CROSS SECTION THRU ROADWAY - USH 53

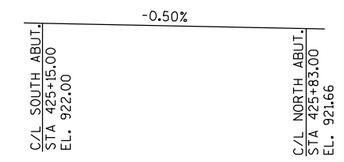
(LOOKING NORTH)

SEE SHEET 5 SINGLE SLOPE PARAPET 32SS FOR SUPERSTRUCTURE BILL OF BARS

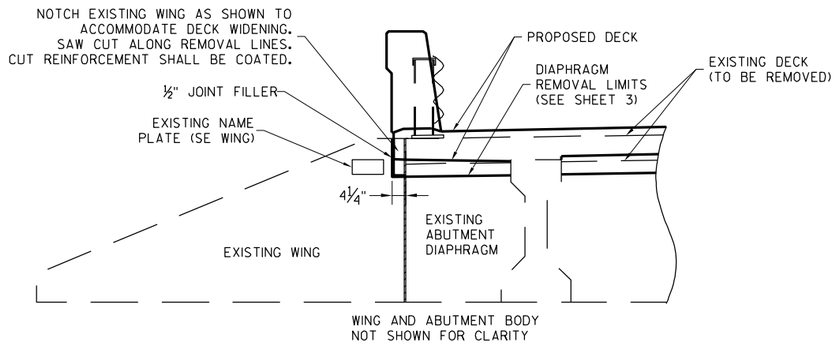


PLAN VIEW B-18-87

SINGLE SPAN - 45" PRESTRESSED GIRDERS



PROFILE GRADE LINE USH 53



WING MODIFICATION FOR DECK WIDENING DETAIL

TOP OF DECK GRADES

		SPAN 1									
	CL S. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CL N. ABUT.
WEST E.O.D.	921.60	921.57	921.54	921.50	921.47	921.44	921.40	921.37	921.33	921.30	921.27
GIRDER 1	921.67	921.63	921.60	921.57	921.53	921.50	921.47	921.43	921.40	921.36	921.33
GIRDER 2	921.83	921.80	921.76	921.73	921.70	921.66	921.63	921.60	921.56	921.53	921.49
GIRDER 3/CL	922.00	921.96	921.93	921.89	921.86	921.83	921.79	921.76	921.73	921.69	921.66
GIRDER 4	921.81	921.77	921.74	921.71	921.67	921.64	921.61	921.57	921.54	921.50	921.47
GIRDER 5	921.62	921.59	921.55	921.52	921.49	921.45	921.42	921.38	921.35	921.32	921.28
EAST E.O.D.	921.55	921.51	921.48	921.45	921.41	921.38	921.35	921.31	921.28	921.24	921.21

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-18-87

DRAWN BY JAF | PLANS CK'D.

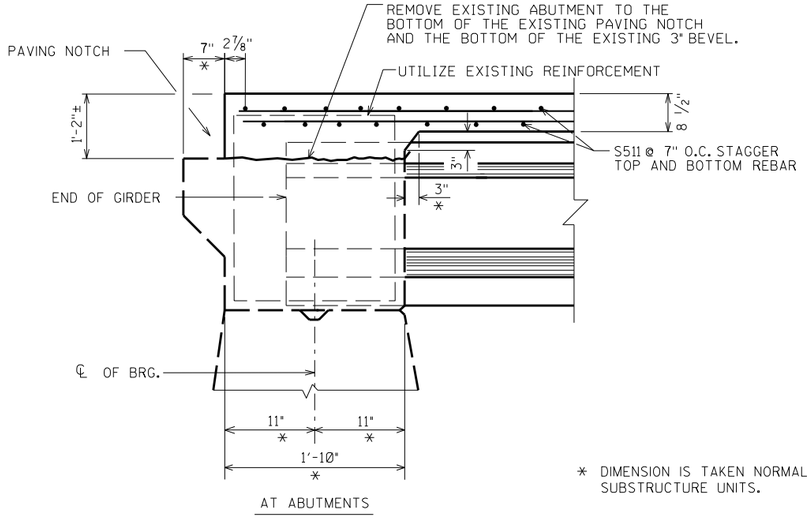
SUPERSTRUCTURE

8

8

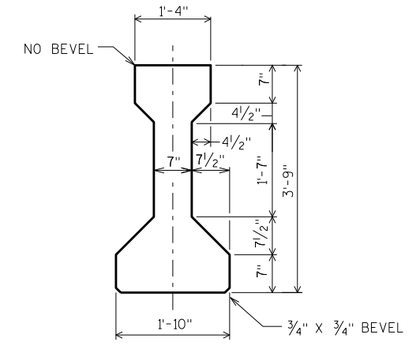
STATE PROJECT NUMBER

7905-03-72

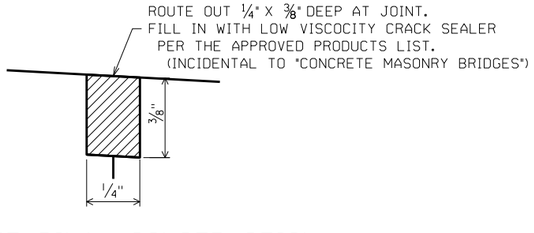


* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

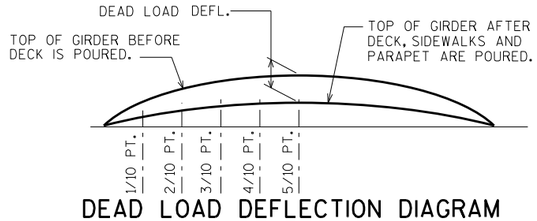
PART LONGIT. SECTION



EXISTING 45" GIRDERS



LONGITUDINAL CONSTRUCTION JOINT DETAIL

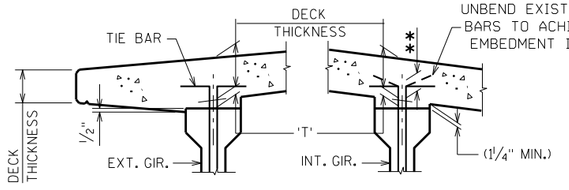


DEAD LOAD DEFLECTION DIAGRAM

DEAD LOAD DEFLECTION

	1/10	2/10	3/10	4/10	5/10
SPAN 1	1/4	3/8	5/8	5/8	3/4

ALL VALUES IN INCHES.
VALUES ARE SYMMETRICAL.



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 3 5/8" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-87

DRAWN BY J.A.F. | PLANS CK'D. S.K.P.

SUPERSTRUCTURE DETAILS

SHEET 3 OF 5

40

G45DET
7-14

SCALE =

8 10 123

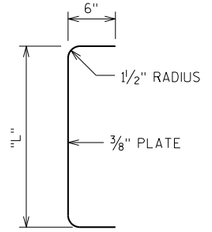
8

STATE PROJECT NUMBER

7905-03-72

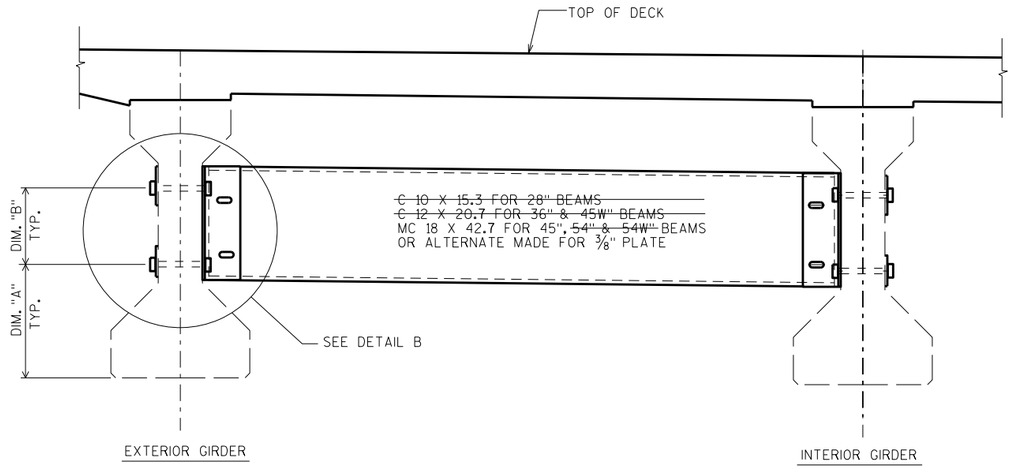
TABLE

GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	* DIM. "X"
~~28"~~	~~1'-0 7/8"~~	~~5 7/8"~~	~~9 1/2"~~	~~2 1/4"~~
~~36"~~	~~1'-2 7/8"~~	~~9 7/8"~~	~~1'-1 1/2"~~	~~3 1/4"~~
45"	1'-5 3/8"	1'-1 7/8"	1'-5 1/2"	2 1/4"
~~45W"~~	~~1'-9 1/8"~~	~~8 7/8"~~	~~1'-0 1/2"~~	~~2 3/4"~~
~~54"~~	~~1'-7 7/8"~~	~~1'-5 7/8"~~	~~1'-9 1/2"~~	~~4 1/4"~~
~~54W"~~	~~1'-9 1/8"~~	~~1'-5 7/8"~~	~~1'-9 1/2"~~	~~4 1/4"~~

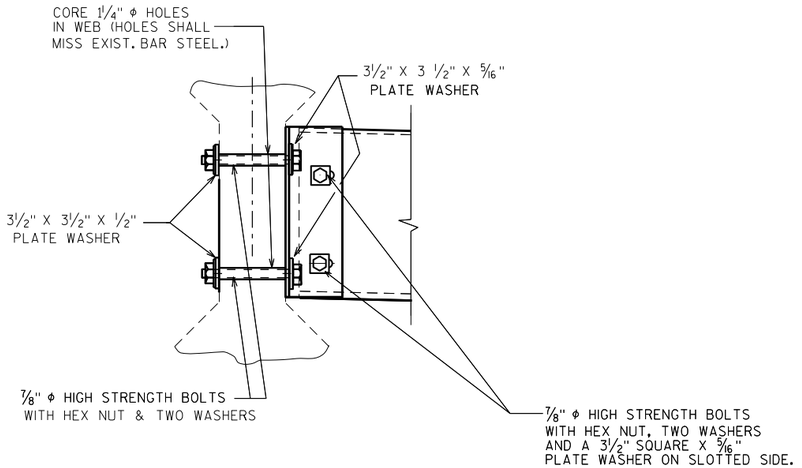


SECTION THRU ALTERNATE DIAPHRAGM

*DIM "X" = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM



PART TRANSVERSE SECTION AT DIAPHRAGM



(FOR EXTERIOR GIRS. & STAGGERED DIAPHRAGMS)

DETAIL B

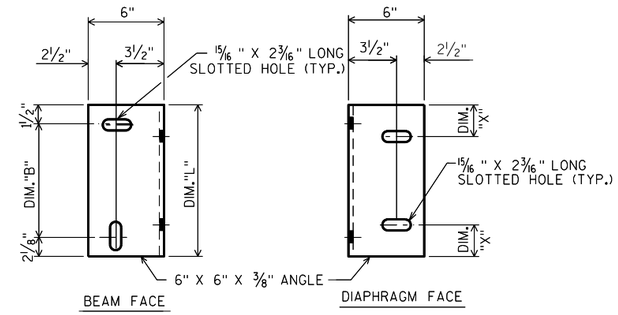
NOTES

ALL DIAPHRAGM MATERIAL AND CORED HOLES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-18-87", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.



DIAPHRAGM SUPPORT

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-87

DRAWN BY J.A.F. | PLANS CK'D. S.K.P.

STEEL DIAPHRAGM

SHEET 4 OF 5

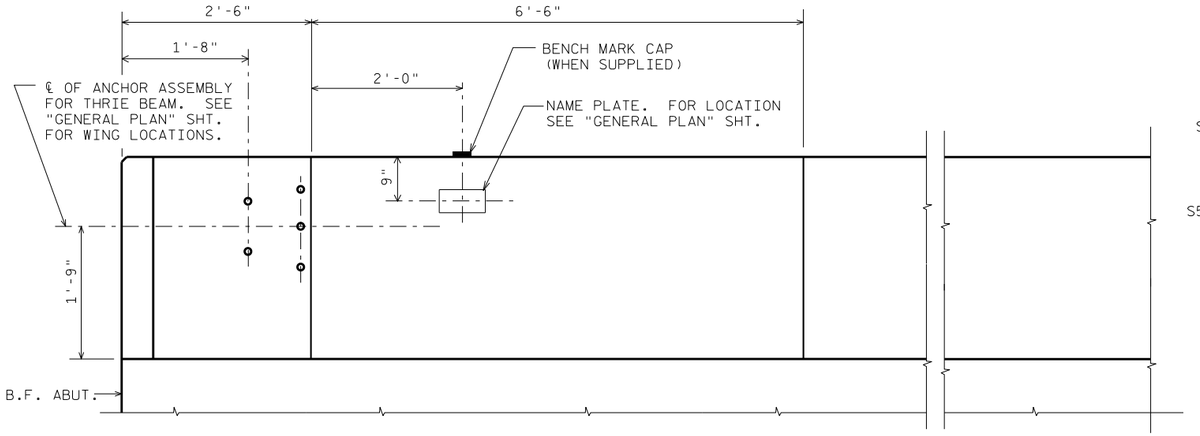
41

SCALE =

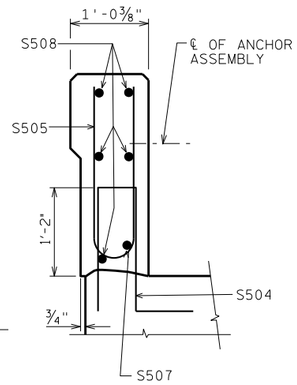
GSTDIAMT
1-12

STATE PROJECT NUMBER

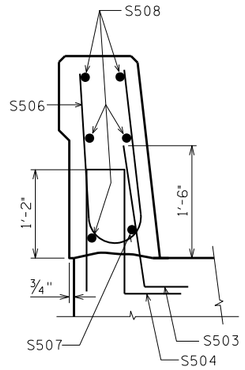
7905-03-72



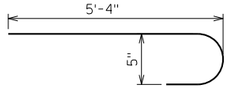
INSIDE ELEVATION



SECTION A



SECTION B

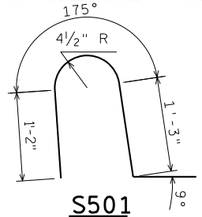


S513

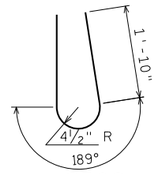
BILL OF BARS

BAR MARK	COAT	NO. REQ'D		LENGTH	BENT	BAR SERIES	LOCATION
S501	X	158		4-5	X		PARAPET VERT.
S502	X	158		5-0	X		PARAPET VERT.
S503	X	48		2-9	X		PARAPET-VERT.
S504	X	68		4-4	X		PARAPET-VERT.
S505	X	44		4-9	X		PARAPET-VERT.
S506	X	24		4-10	X		PARAPET-VERT.
S507	X	4		10-5	X		PARAPET-HORIZ.
S508	X	20		10-5			PARAPET HORIZ.
S509	X	24		27-7			PARAPET HORIZ.
S410	X	366		24-5			SLAB LONGITUD. TOP & BOT.
S511	X	240		19-10			SLAB TRANS. STAGE 2
S512	X	240		26-7			SLAB TRANS. STAGE 1
S513	X	120		5-11	X		180° STND HOOK AT EDGE OF DECK

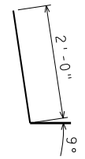
SEE SHEET 2 FOR LOCATION OF S410, S511, S512, & S513 BARS



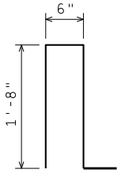
S501



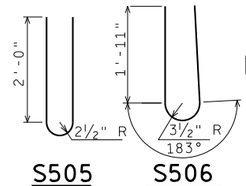
S502



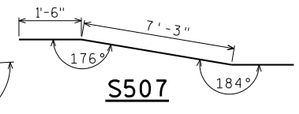
S503



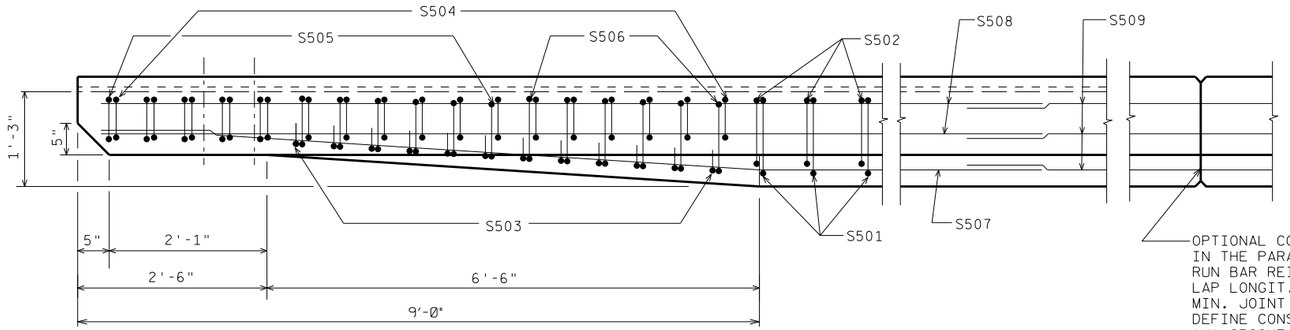
S504



S505 S506

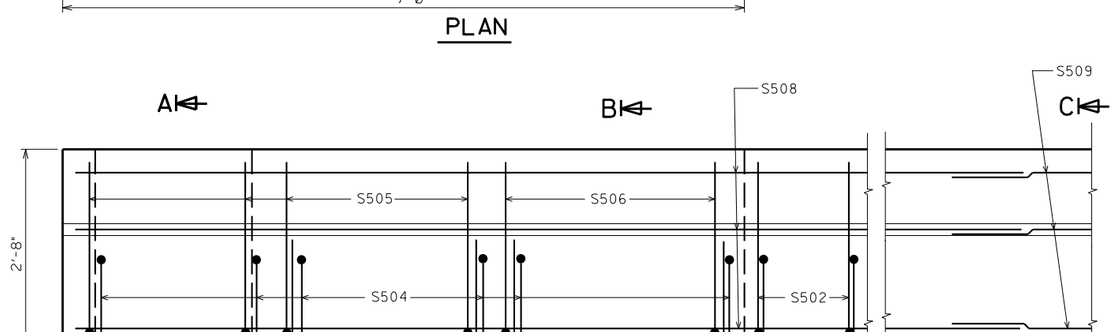


S507

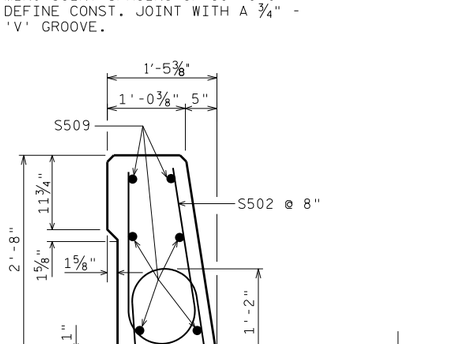


PLAN

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE.

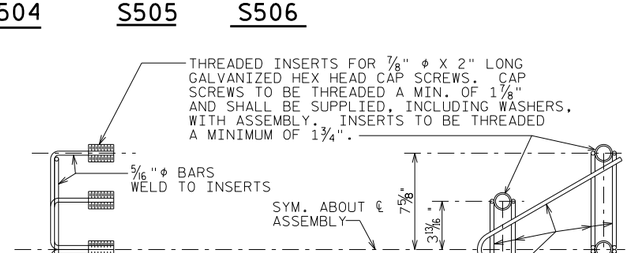


OUTSIDE ELEVATION



SECTION C

◐ CONST. JOINT - STRIKE OFF AS SHOWN.



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.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-18-87

DRAWN BY J.A.F. | PLANS CK'D.

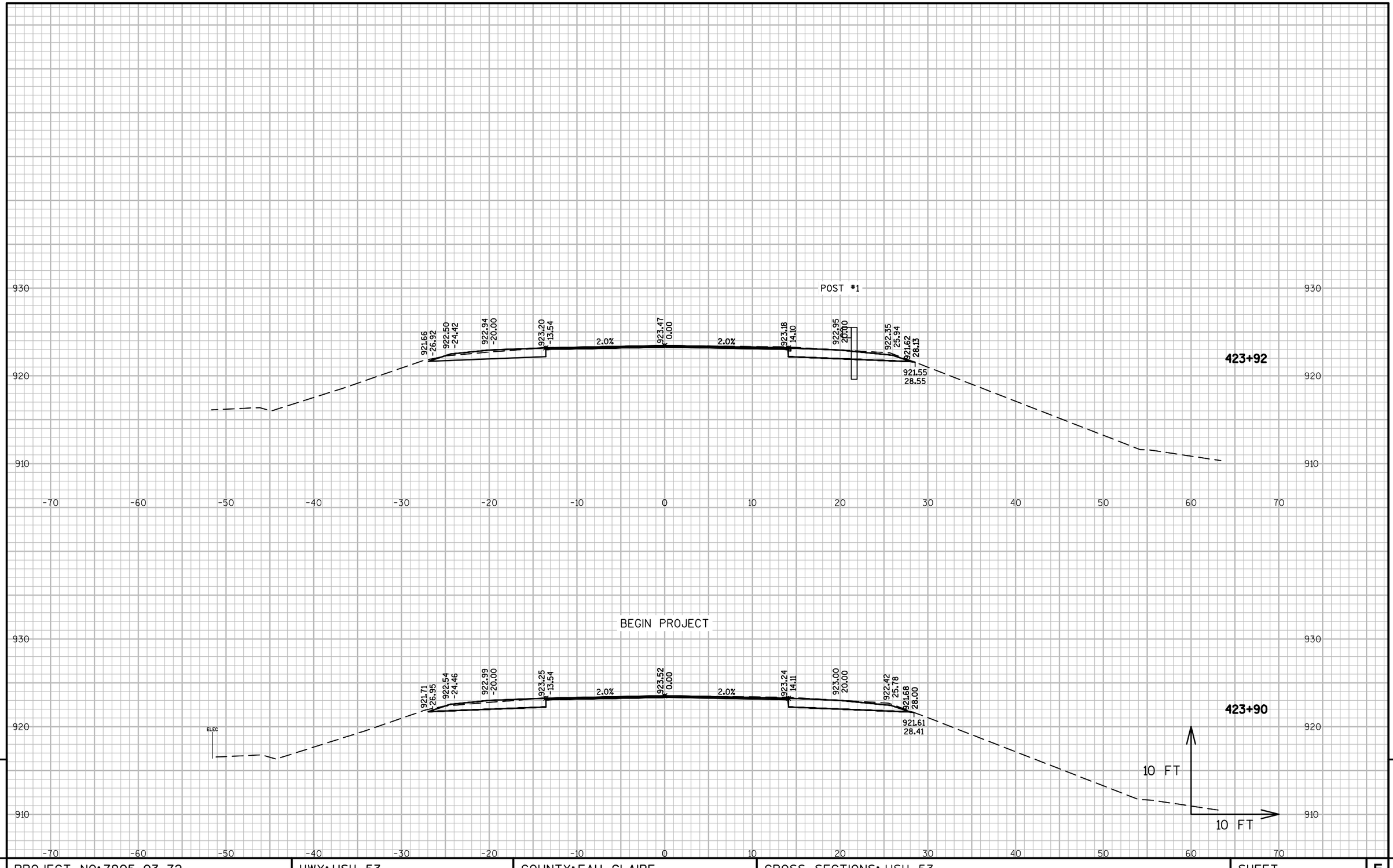
SINGLE SLOPE PARAPET 32SS

SHEET 5 OF 5

42

32SSDEC

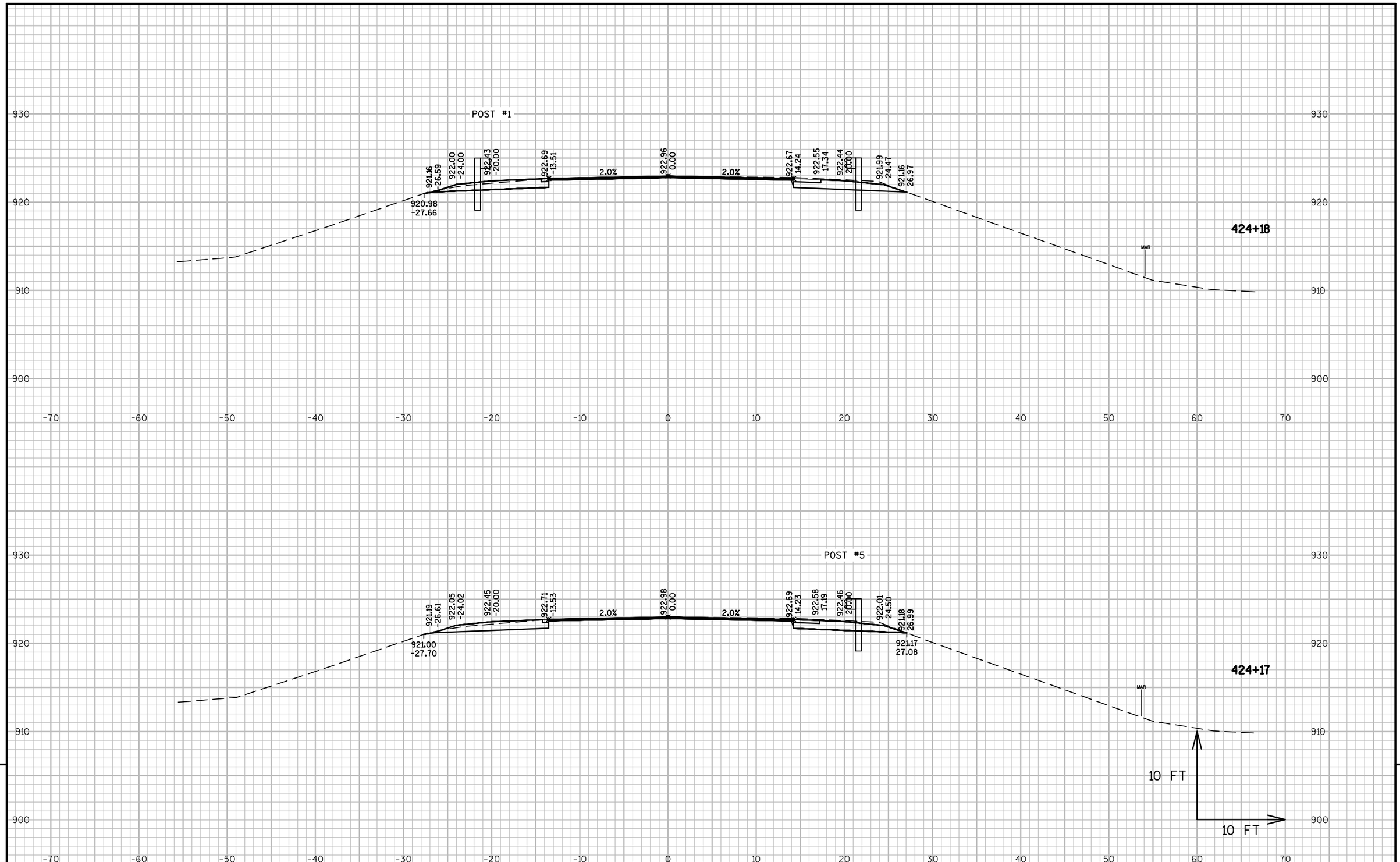
SCALE = 1



9

9

PROJECT NO: 7905-03-72	HWY: USH 53	COUNTY: EAU CLAIRE	CROSS SECTIONS: USH 53	SHEET 43	E



PROJECT NO: 7905-03-72	HWY: USH 53	COUNTY: EAU CLAIRE	CROSS SECTIONS: USH 53	SHEET 44	E

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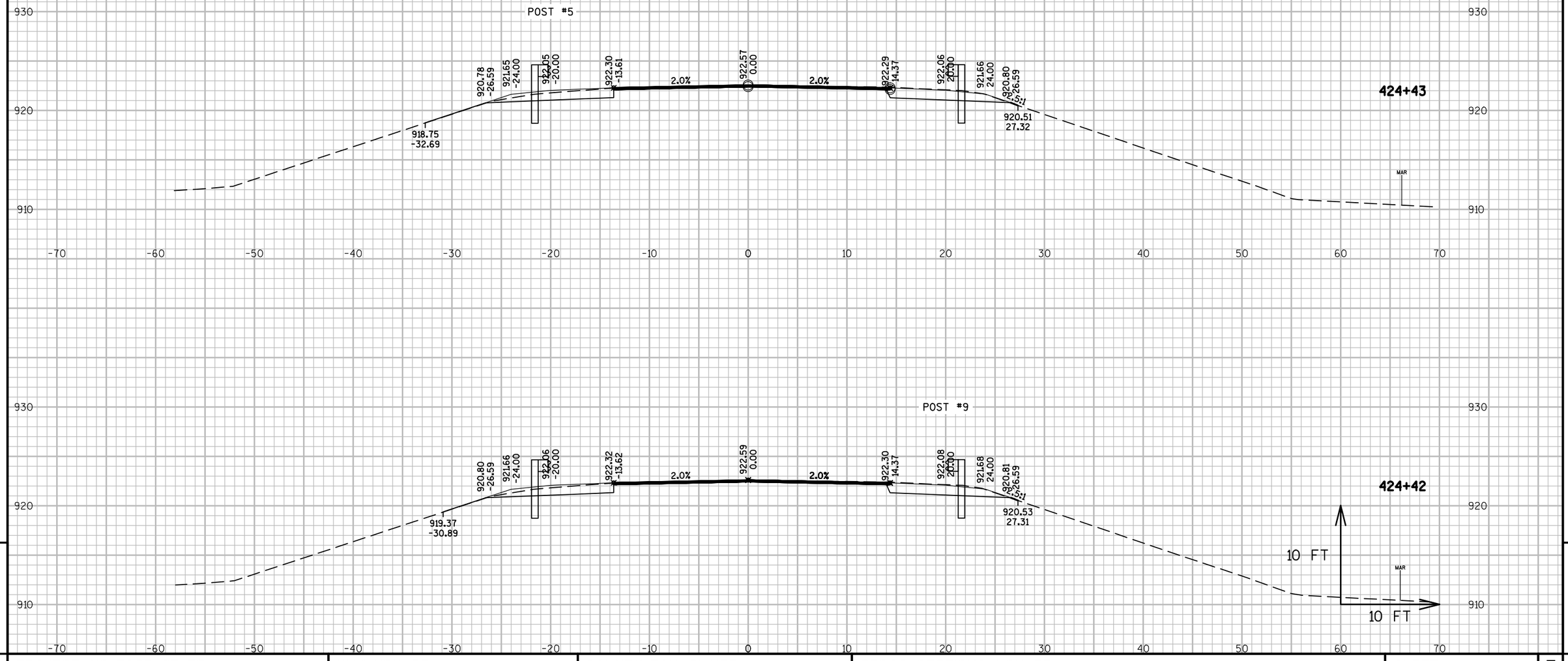
PLOT DATE : 1/25/2016 10:01 AM PLOT BY : OWNER PLOT NAME : PLOT SCALE : 1 IN:10 FT



PROJECT NO: 7905-03-72	HWY: USH 53	COUNTY: EAU CLAIRE	CROSS SECTIONS: USH 53	SHEET 45	E

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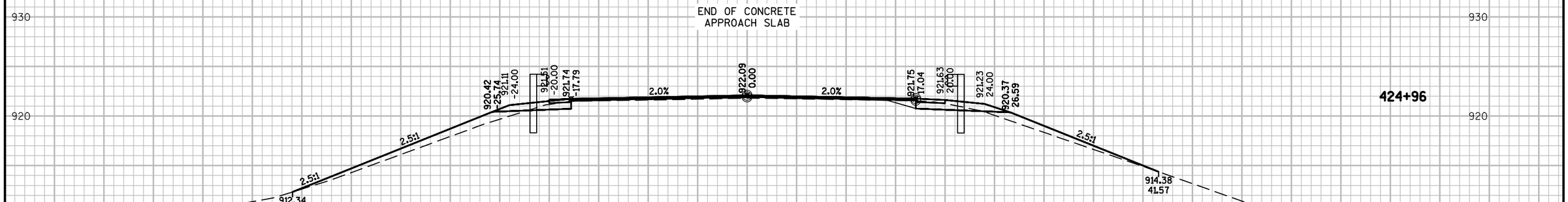
LAYOUT NAME - SECTION SHEET - (3)

PLOT DATE : 1/25/2016 10:01 AM PLOT BY : OWNER PLOT NAME : PLOT SCALE : 1 IN:10 FT

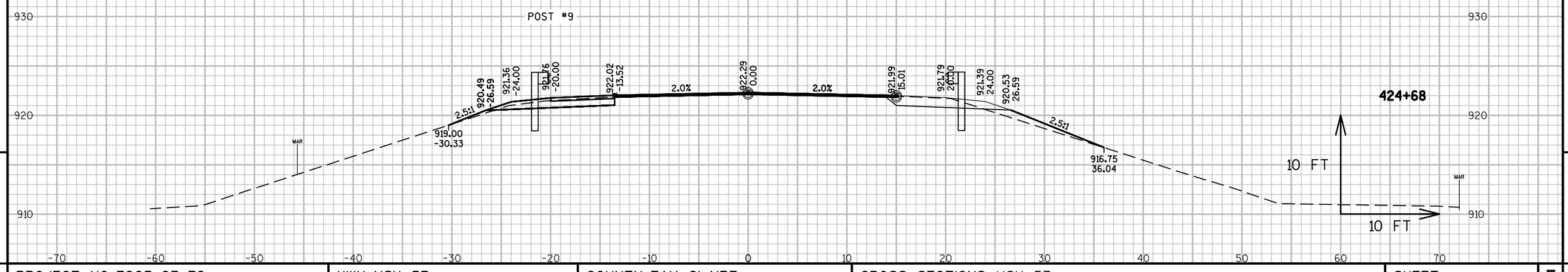
WISDOT/CADDS SHEET 49

END OF CONCRETE
APPROACH SLAB



424+96

POST #9



424+68

9

9

PROJECT NO: 7905-03-72	HWY: USH 53	COUNTY: EAU CLAIRE	CROSS SECTIONS: USH 53	SHEET 46	E

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LAYOUT NAME - SECTION SHEET - (4)

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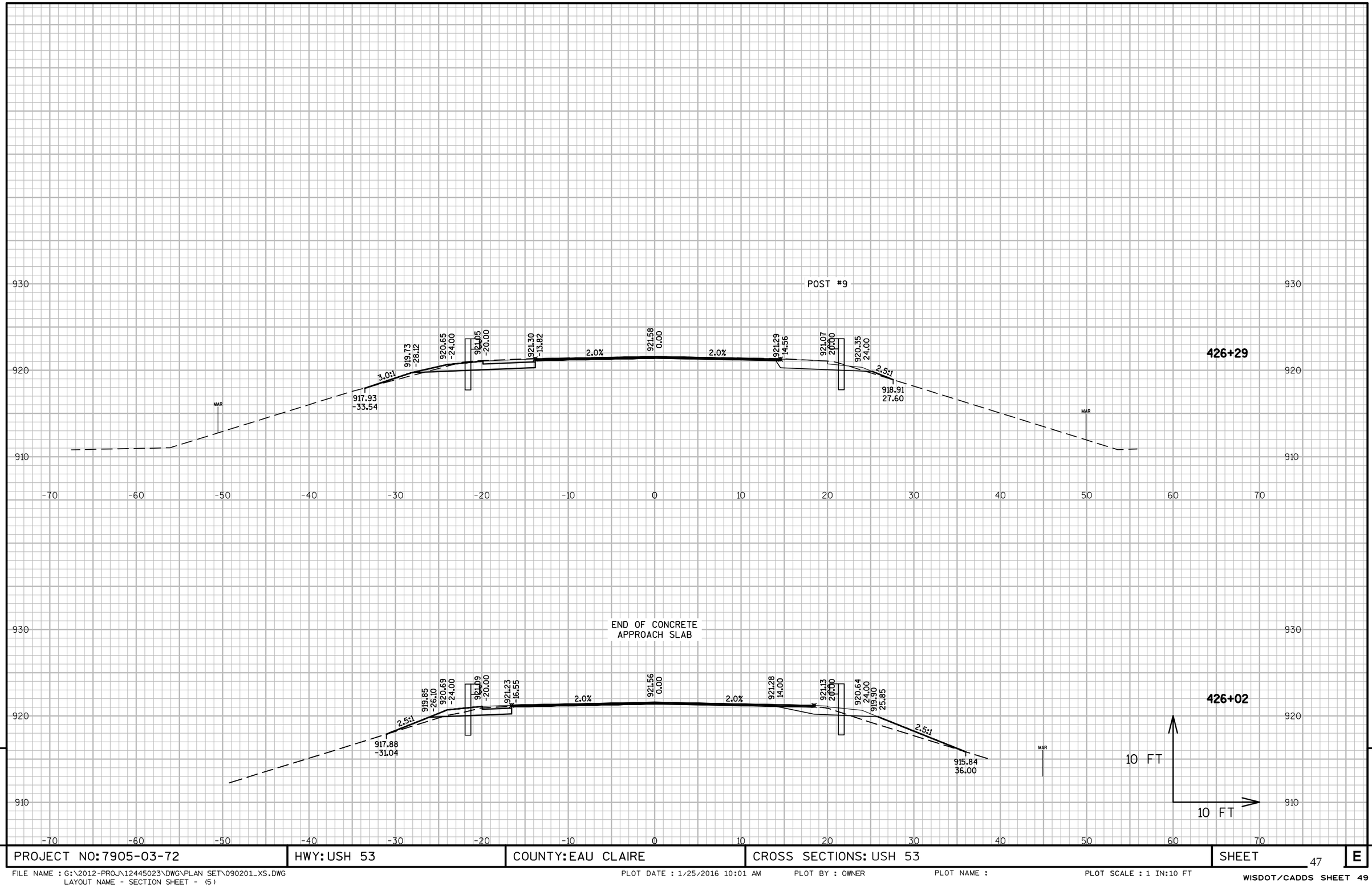

9

9

PROJECT NO: 7905-03-72	HWY: USH 53	COUNTY: EAU CLAIRE	CROSS SECTIONS: USH 53	SHEET 47	E

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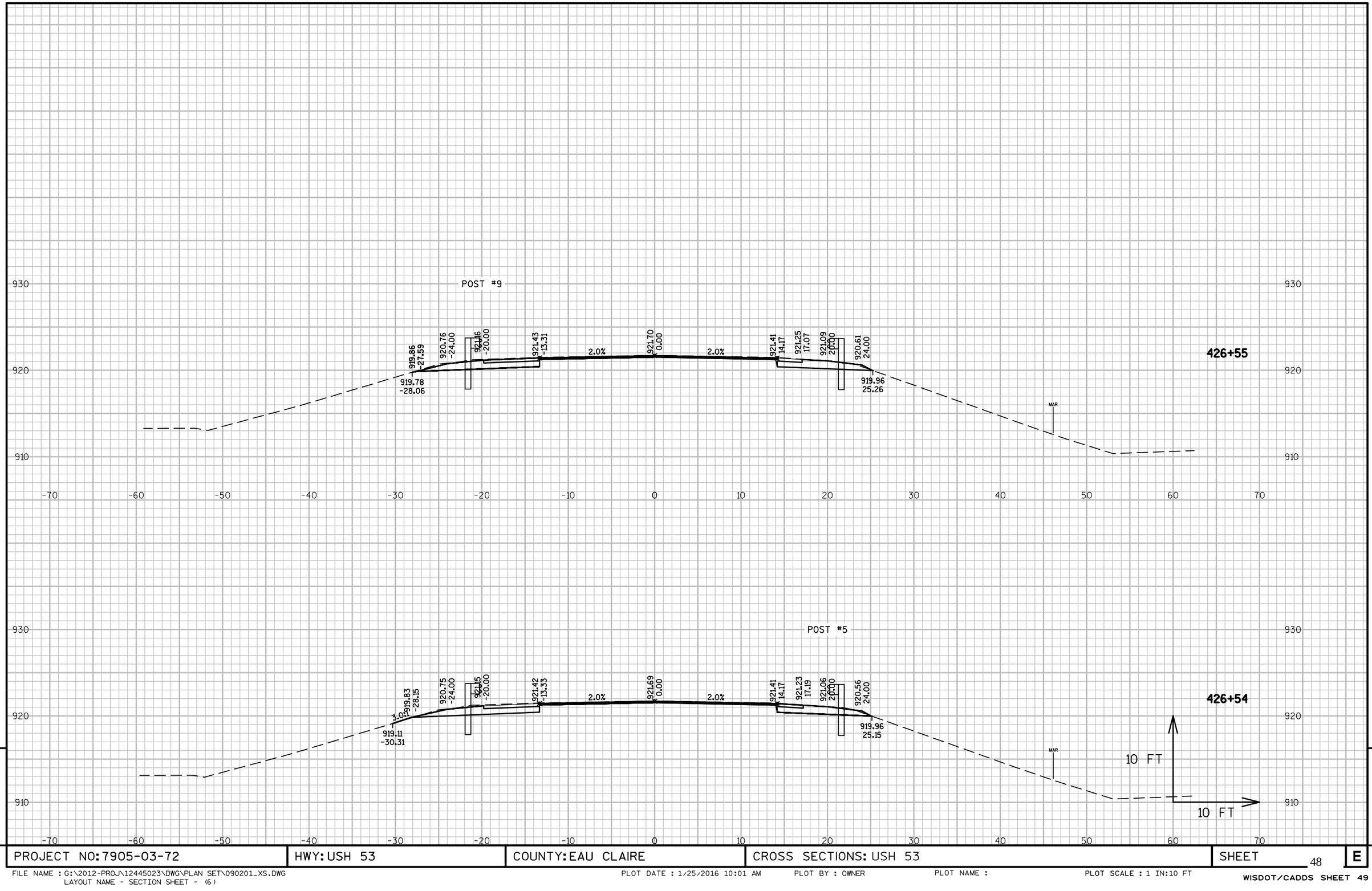
LAYOUT NAME - SECTION SHEET - (5)

PLOT DATE : 1/25/2016 10:01 AM PLOT BY : OWNER PLOT NAME : PLOT SCALE : 1 IN:10 FT

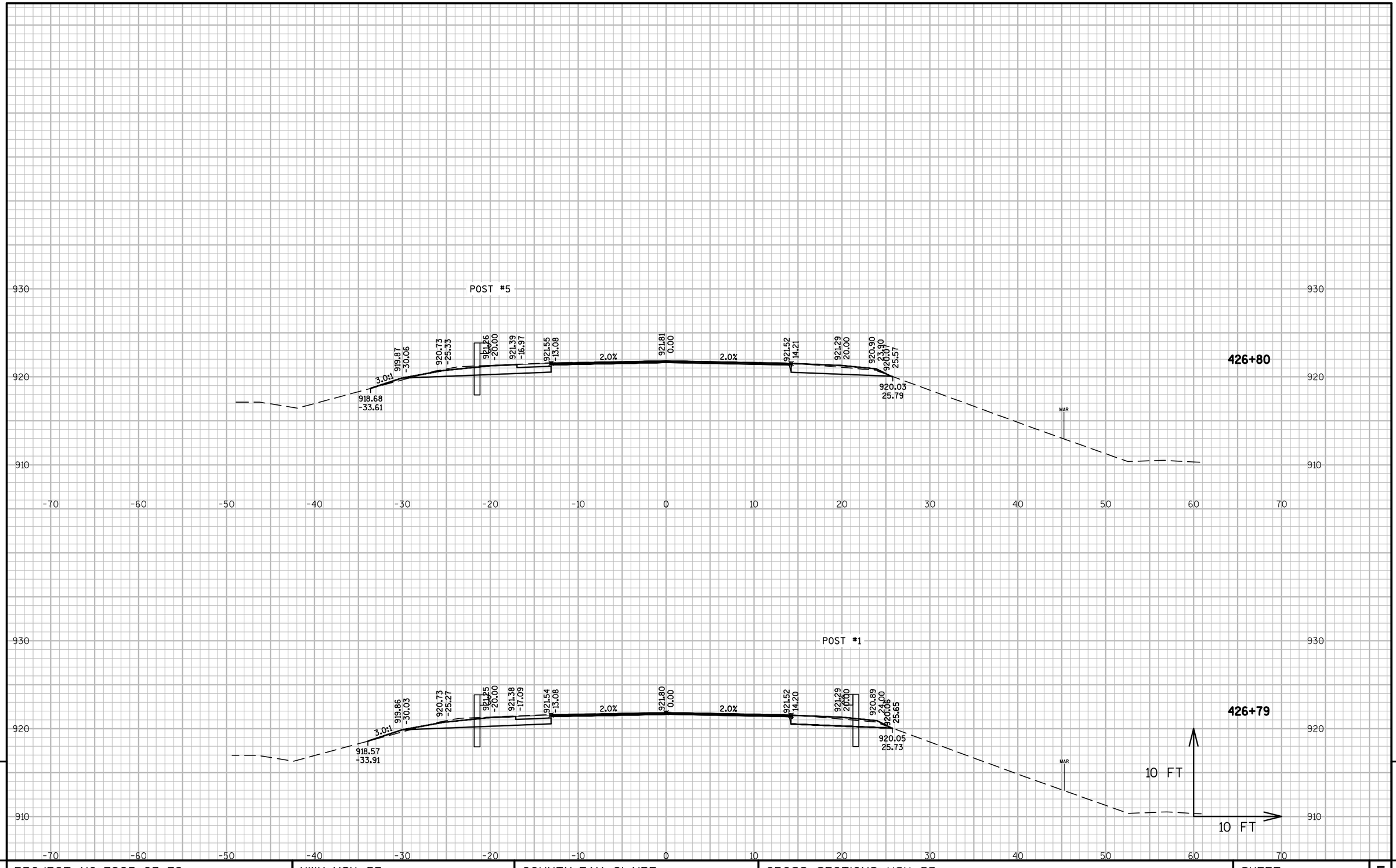
WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 7905-03-72	HWY: USH 53	COUNTY: EAU CLAIRE	CROSS SECTIONS: USH 53	SHEET 48	E



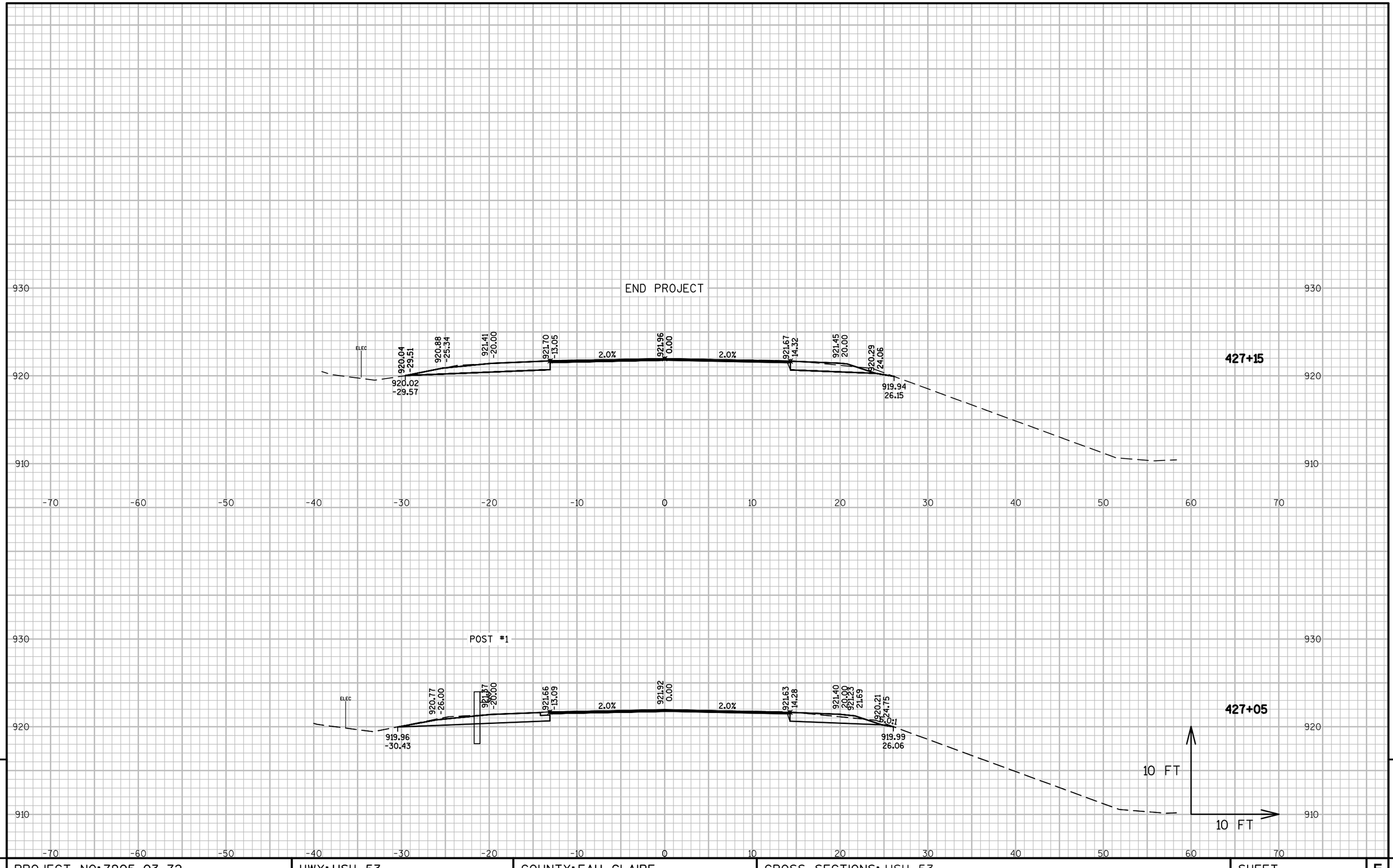
9

9

PROJECT NO: 7905-03-72	HWY: USH 53	COUNTY: EAU CLAIRE	CROSS SECTIONS: USH 53	SHEET 49	E

FILE NAME : G:\2012-PROJ\12445023\DWG\PLAN SET\090201_XS.DWG
LAYOUT NAME - SECTION SHEET - (7)

PLOT DATE : 1/25/2016 10:01 AM PLOT BY : OWNER PLOT NAME : PLOT SCALE : 1 IN:10 FT



9

9

PROJECT NO: 7905-03-72	HWY: USH 53	COUNTY: EAU CLAIRE	CROSS SECTIONS: USH 53	SHEET 50	E

FILE NAME : G:\2012-PROJ\12445023\DWG\PLAN SET\090201_XS.DWG
LAYOUT NAME - SECTION SHEET - (8)

PLOT DATE : 1/25/2016 10:01 AM PLOT BY : OWNER PLOT NAME : PLOT SCALE : 1 IN:10 FT

Notes

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