EAU

NOVEMBER 2025

PROJECT ID: 8949-00-73

WITH: N/A

COUNTY: ST. CROIX

ORDER OF SHEETS

TOTAL SHEETS =

N

37

DESIGN DESIGNATION

A.A.D.T.	2026	=	2,370
A.A.D.T.	2046	=	2,370
D.H.V.	2046	=	17.9
D.D.		=	60/40
T.		=	21.3%
DESIGN SPEED		=	60 MPH
ESALS		=	680,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

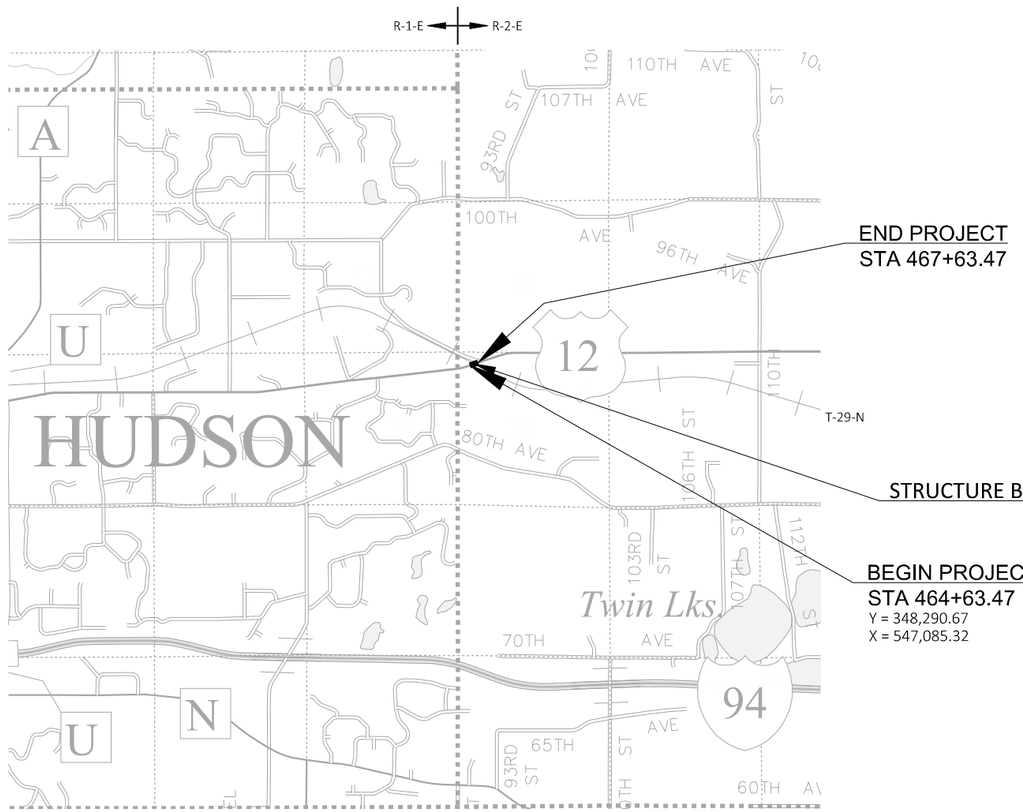
HUDSON - BALDWIN

CNW RR BRIDGE B-55-0076

USH 12

ST. CROIX COUNTY

STATE PROJECT NUMBER
8949-00-73



LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.057 MI

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

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12 B

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8949-00-73	WISC 2026050	1

ORIGINAL PLANS PREPARED BY

MSA

1702 Pankratz Street, Madison, WI 53704
608-242-7779 1-800-446-0679 Fax: 608-242-5664

WISCONSIN JOSHUA R. SWENO E-44384 WAUNAKEE WI PROFESSIONAL ENGINEER

DATE: 7/22/2025 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT
Designer	MSA PROFESSIONAL SERVICES, INC.
Project Manager	BILL BIESMANN, P.E.
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	REGIONAL SUPERVISOR

APPROVED FOR THE DEPARTMENT

DATE: 7/22/2025 Nicole Passuello (Signature)

Digitally signed by Nicole Passuello
DN: C=US, E=nicole.passuello@dot.wi.gov, O=WISDOT, OU=FDS Supervisor NW Region, CN=Nicole Passuello
Date: 2025.07.22 14:12:04-05'00'

E

GENERAL NOTES

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE AREA THAT ARE NOT SHOWN.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT APPROXIMATE LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

DESIGN CONTACT
MSA PROFESSIONAL SERVICES, INC.
ATTN: JOSH SWENO, P.E.
1702 PANKRATZ STREET
MADISON, WI 53704
PHONE: (608) 355-8852
EMAIL: JSWENO@MSA-PS.COM

WISDOT CONTACT
WISCONSIN DEPARTMENT OF TRANSPORTATION
ATTN: BILL BIESMANN, PROJECT MANAGER
W7102 GREEN VALLEY ROAD
SPOONER, WI 54801
PHONE: (608) 663-1218 EXT. 286
EMAIL: BBIESMANN@KLENGINEERING.COM

DNR LIAISON
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
ATTN: AMY LESIK
DNR WEST CENTRAL REGION HEADQUARTERS
1300 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
PHONE: (715) 836-6571
EMAIL: AMYL.LESIK@WISCONSIN.GOV

UTILITIES

ELECTRIC
XCEL ENERGY
ATTN: DARREN NORDSKOG
2001 OLD HIGHWAY 35 SOUTH
HUDSON, WI 54016
PHONE: (715) 410-3755
EMAIL: DARREN.M.NORDSKOG@XCELENERGY.COM

COMMUNICATIONS
AT&T WISCONSIN
ATTN: RICK PODOLAK
304 S DEWEY ST
EAU CLAIRE, WI 54701
PHONE: (715) 410-0656
EMAIL: RP4514@ATT.COM

COMMUNICATIONS
BALDWIN TELECOM, INC
ATTN: MATT KNEGENDORF
930 MAPLE ST
BALDWIN, WI 54002
PHONE: (715) 688-1034
EMAIL: MKNEGENDORF@LSWI.NET

COMMUNICATIONS
LUMEN
ATTN: PAUL POLK
425 MONROE STREET
ANOKA, MN 55303
PHONE: (952) 351-2330
EMAIL: PAUL.POLK@LUMEN.COM

2

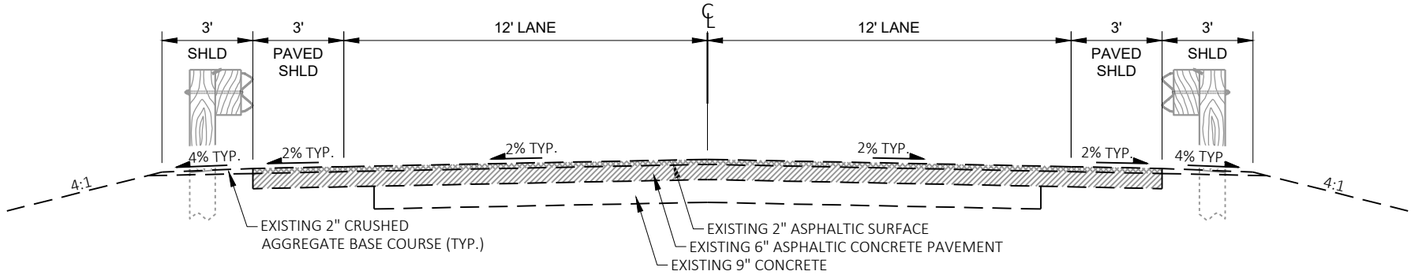
RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN 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											

TOTAL PROJECT AREA = 1.04 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.17 ACRES

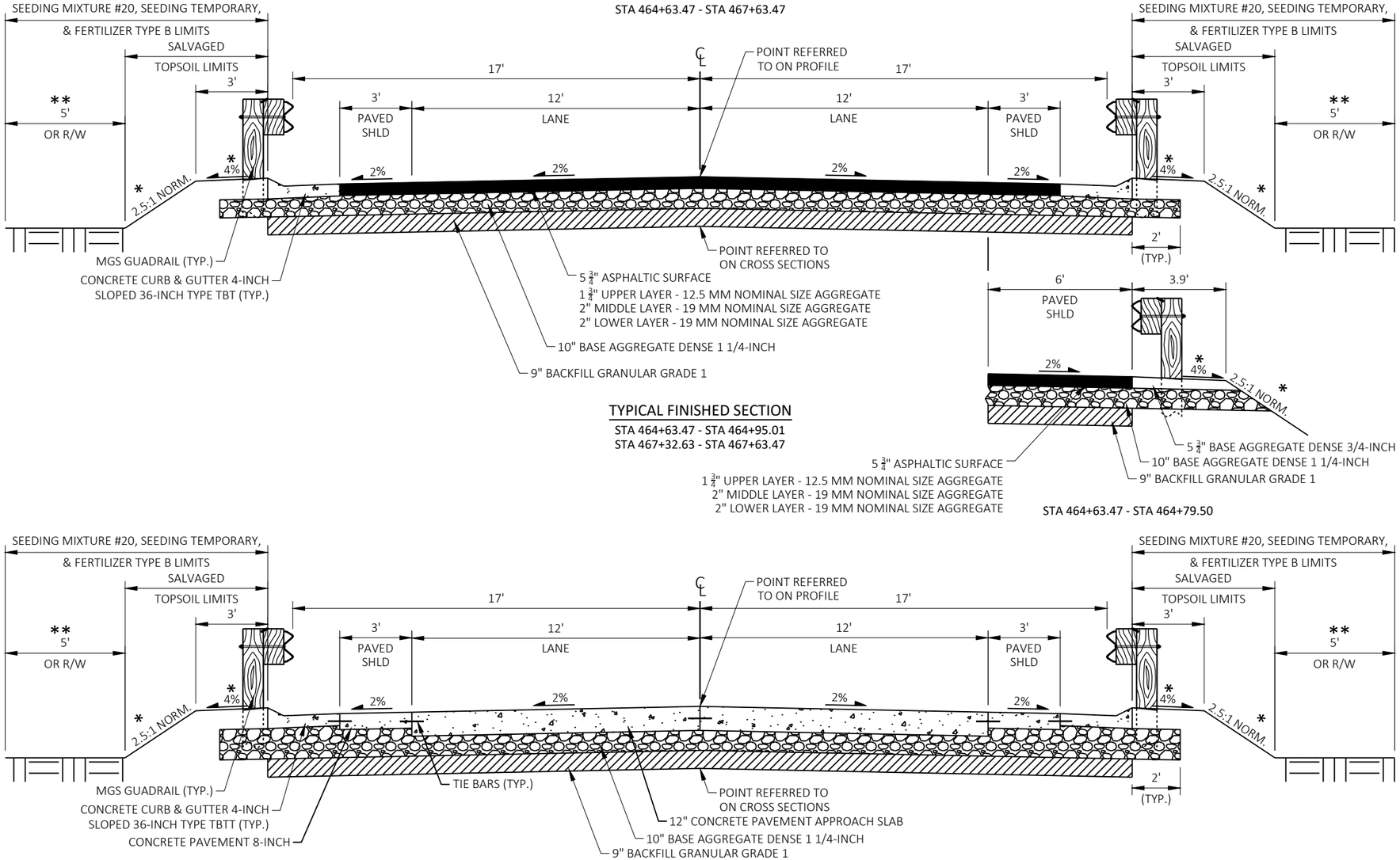
*DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

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



EXISTING TYPICAL SECTION

STA 464+63.47 - STA 467+63.47



TYPICAL FINISHED SECTION

STA 464+63.47 - STA 464+95.01
STA 467+32.63 - STA 467+63.47

STA 464+63.47 - STA 464+79.50

TYPICAL FINISHED SECTION

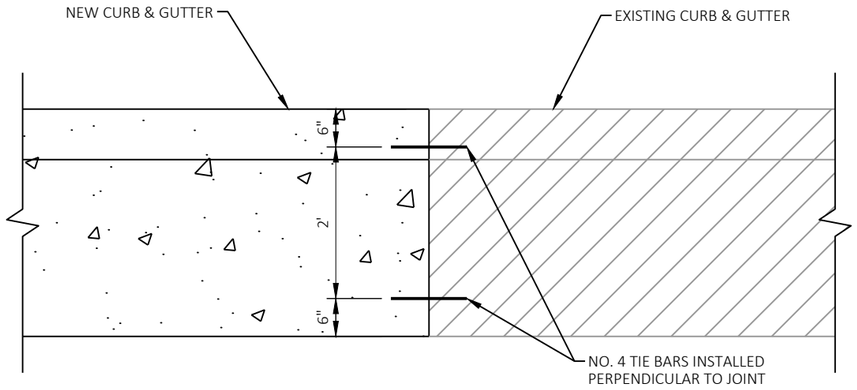
STA 464+95.01 - STA 465+22.09
STA 467+05.55 - STA 467+32.63

* SEE EROSION CONTROL PAGE FOR EROSION MAT TYPE AND LIMITS

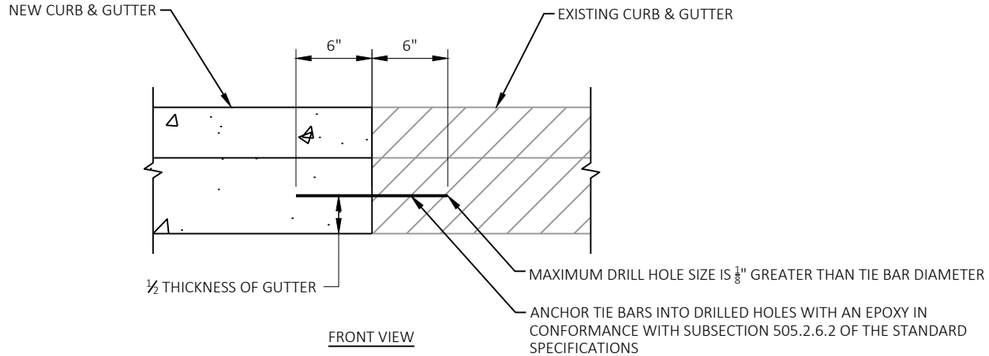
** MULCHING

PROJECT NO: 8949-00-73	HWY: USH 12	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 3	E

2



TOP VIEW



FRONT VIEW

CURB & GUTTER DRILLED TIE BARS DETAIL

NOT TO SCALE

2

N

ROULEAU LAND COMPANY, LLC

EXISTING RR R/W

EXISTING R/W

ALEXANDER ROAD

UP RR

FO

OH

ROULEAU LAND COMPANY, LLC

EXISTING RR R/W

EXISTING R/W

SLOPE INTERCEPT (TYP.)

469+00

468+00

467+00

466+00

465+00

464+00

463+00

USH 12

Pt. 463+17.68

JEFFREY HUNTER

EXISTING R/W

EXISTING RR R/W

GUY

UP RR

EXISTING R/W

EXISTING RR R/W

WILLIAM R & KAREN D TRUST O'MALLEY

LEGEND

EROSION MAT CLASS I, TYPE B

SILT FENCE

SURFACE WATER FLOW

RIPRAP MEDIUM

2

PROJECT NO: 8949-00-73	HWY: USH 12	COUNTY: ST. CROIX	EROSION CONTROL	SHEET 5	E

FILE NAME : G:\00\00093\00093705\CADD\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022001-ec

PLOT DATE : 6/24/2025 10:26 AM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

N

Hudson

WARREN

HUDSON

Roberts

Three Lakes

Dry Dam L.

Lit. Falls L.

WILLOW RIVER

Willow R.

L. Mallalieu

St. Croix R.

L. St. Croix

Twin Lks.

OLD HWY 35

80TH AVE

100TH ST

SEE TRAFFIC CONTROL DETOUR DETAIL 1 FOR TRAFFIC CONTROL IN THIS AREA

PROJECT LOCATION

SEE TRAFFIC CONTROL DETOUR DETAIL 4 FOR TRAFFIC CONTROL IN THIS AREA

SEE TRAFFIC CONTROL DETOUR DETAIL 5 FOR TRAFFIC CONTROL IN THIS AREA

SEE TRAFFIC CONTROL DETOUR DETAIL 3 FOR TRAFFIC CONTROL IN THIS AREA

SEE TRAFFIC CONTROL DETOUR DETAIL 2 FOR TRAFFIC CONTROL IN THIS AREA

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TYPE A WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- 12 — EXISTING SIGN
- EXISTING SIGN TO BE COVERED

DETOUR EAST 12 — M4-8 36"X18", M3-2 36"X18", M1-4 36"X36" — 18

DETOUR WEST 12 — M4-8 36"X18", M3-4 36"X18", M1-4 36"X36" — 19

PCMS MESSAGE:

1ST LINE:	USH 12
2ND LINE:	TO CLOSE
3RD LINE:	X/XX/XX

NOTE:

* UTILIZE S.D.D. "BARRICADES & SIGNS FOR MAINLINE CLOSURES" AT PROJECT ENDS.

TRAFFIC CONTROL SIGNING GENERAL NOTES

1. DRAWINGS SHOW TRAFFIC CONTROL DETOUR FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON SITE CONDITIONS AS DIRECTED BY THE ENGINEER. ALL CHANGES TO THE TRAFFIC CONTROL DETOUR PLAN SHALL BE REVIEWED WITH THE PROJECT ENGINEER.

2. TRAFFIC CONTROL PLANS ARE NOT TO SCALE.

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

4. COVER, REMOVE, OR ALTER ANY EXISTING OR PROPOSED SIGNS THAT DISPLAY A CONFLICTING MESSAGE WITH THE PROPOSED DETOUR ROUTE FOR THE PHASE THAT IS ACTIVE.

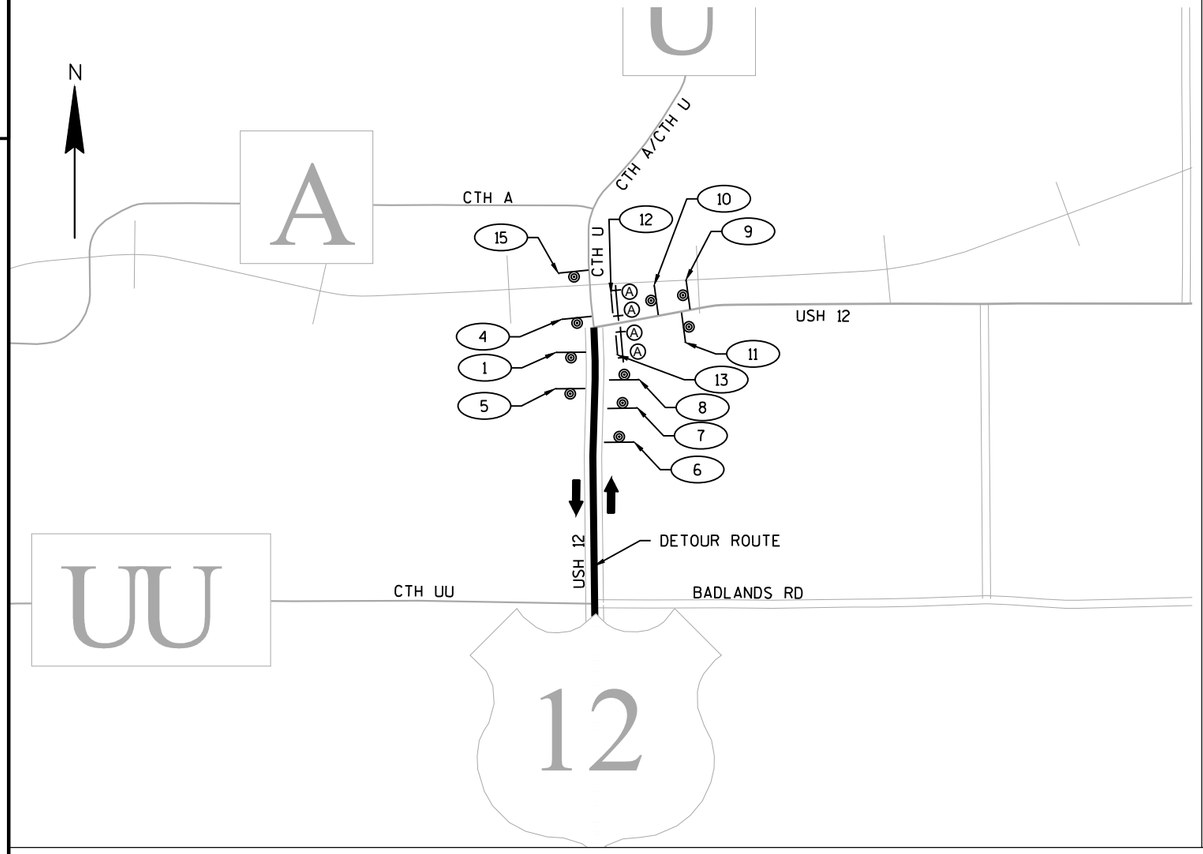
5. MAINTAIN ACCESS TO DRIVEWAYS AND DEAD END SIDE ROADS AT ALL TIMES.

PROJECT NO: 8949-00-73	HWY: USH 12	COUNTY: ST. CROIX	TRAFFIC CONTROL DETOUR ROUTE	SHEET 6	E

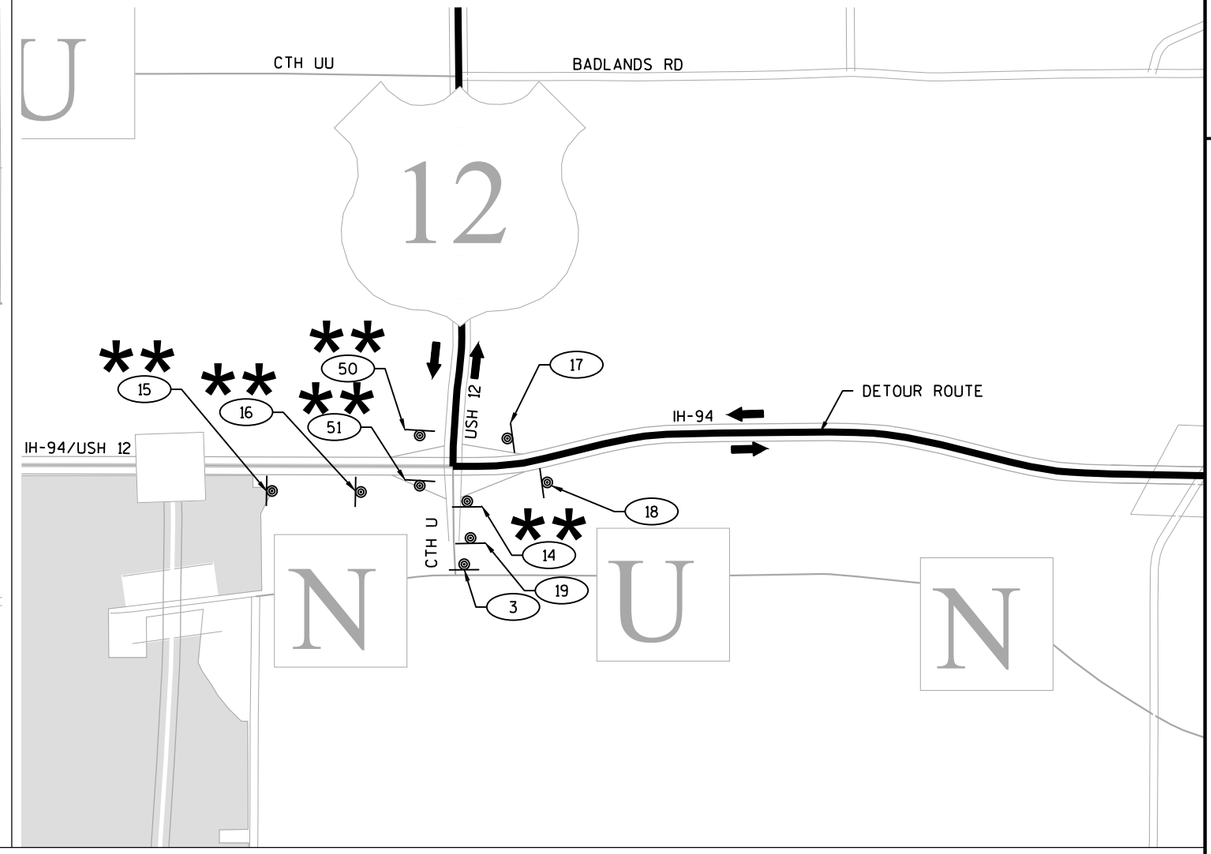
FILE NAME : G:\00\00093\00093705\CADD\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027001-dt
PLOT DATE : 7/22/2025 2:44 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:1 MI
WISDOT/CADDS SHEET 42

2

TRAFFIC CONTROL DETOUR DETAIL 1



TRAFFIC CONTROL DETOUR DETAIL 2



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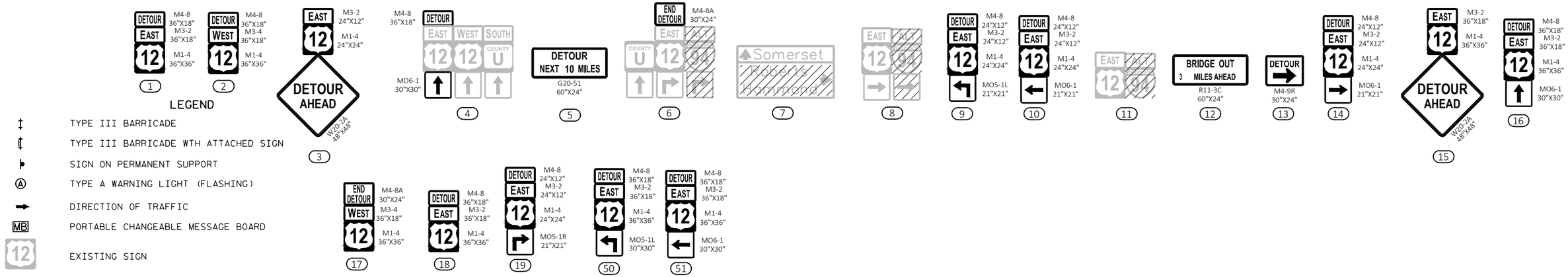


LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- 12 EXISTING SIGN
- 12 EXISTING SIGN TO BE COVERED

NOTES:

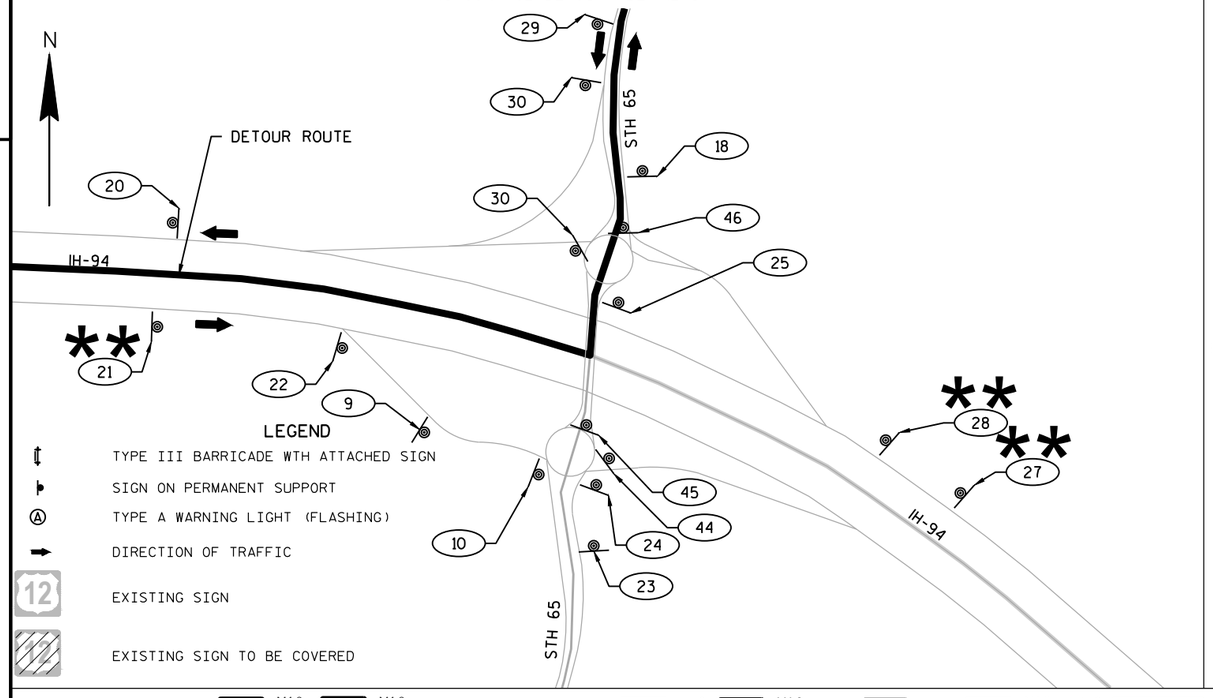
SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
SEE SDD "DETOUR SIGNING FOR MAINLINE CLOSURES"

** PLACE SIGNS ON BOTH THE MEDIAN AND RIGHT SIDE OF THE ROADWAY.

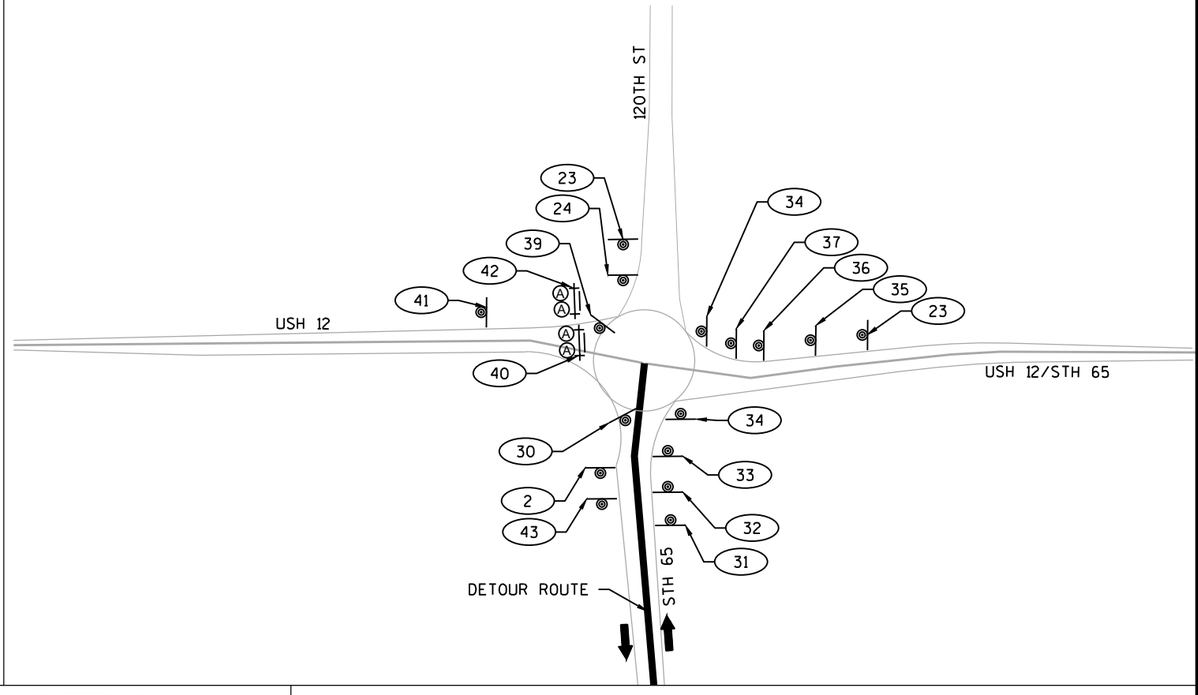
PROJECT NO: 8949-00-73	HWY: USH 12	COUNTY: ST. CROIX	TRAFFIC CONTROL DETOUR DETAILS 1 & 2	SHEET 7	E

FILE NAME : G:\00\00093\00093705\CADD\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027002-dt
PLOT DATE : 7/22/2025 2:44 PM
PLOT BY : CONNOR GIRTEN
PLOT NAME :
PLOT SCALE : 1 IN:2000 FT
WISDOT/CADDS SHEET 42

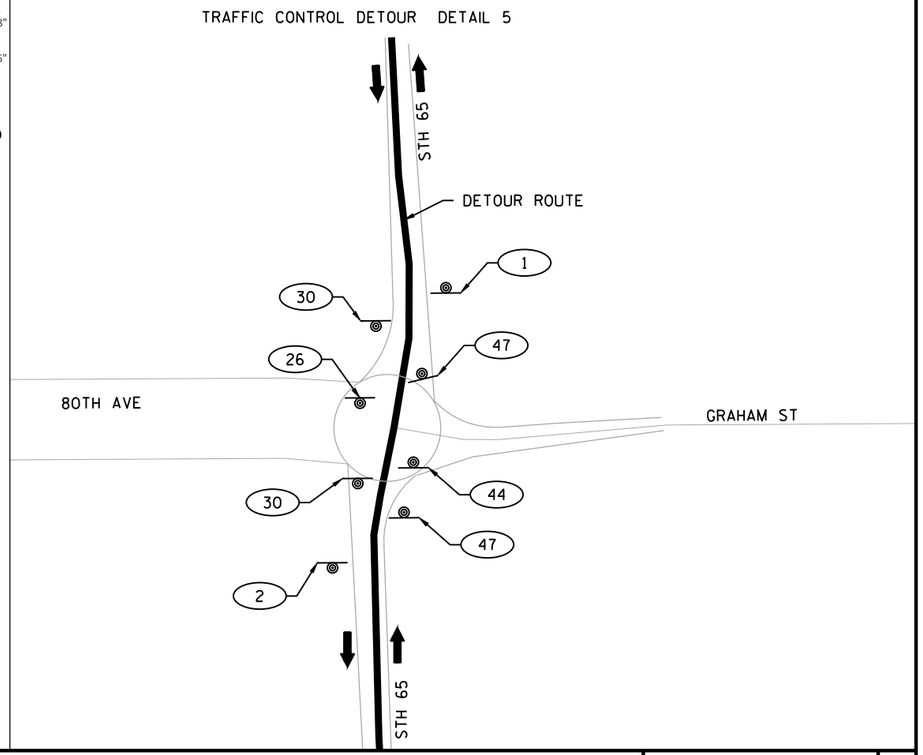
TRAFFIC CONTROL DETOUR DETAIL 3

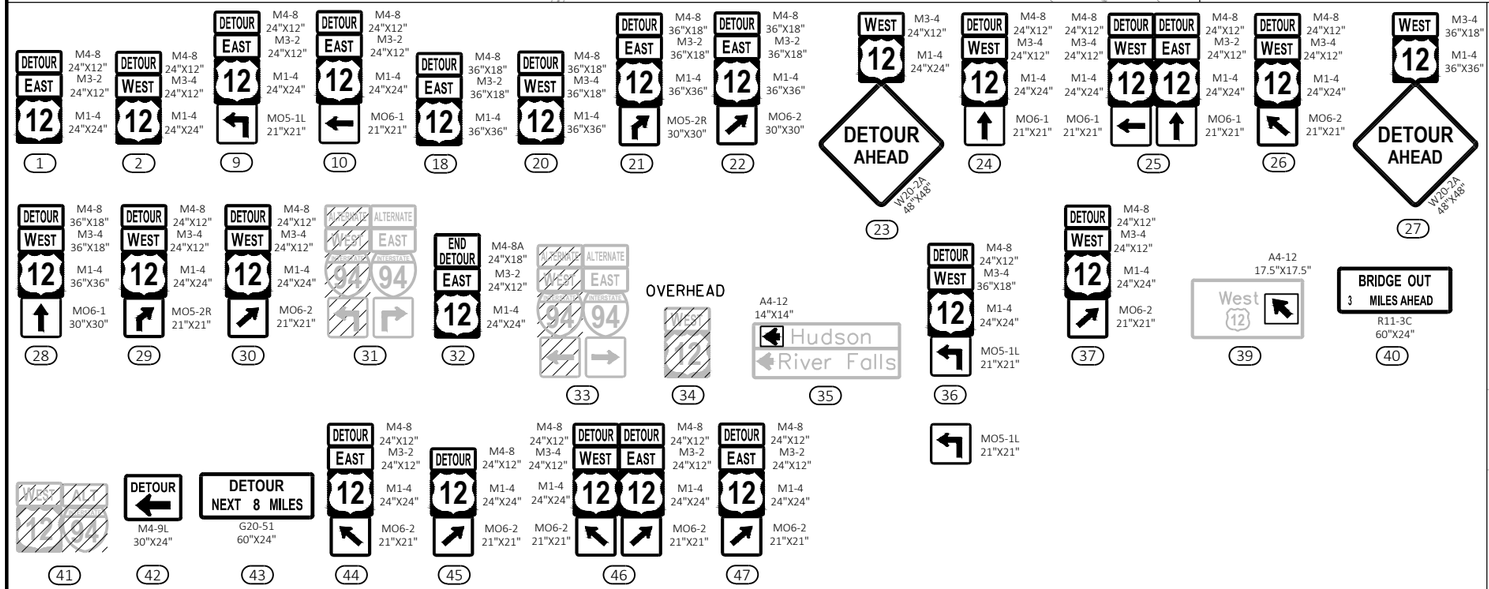


TRAFFIC CONTROL DETOUR DETAIL 4



TRAFFIC CONTROL DETOUR DETAIL 5





NOTES:

SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"
SEE SDD "DETOUR SIGNING FOR MAINLINE CLOSURES"

** PLACE SIGNS ON BOTH THE MEDIAN AND RIGHT SIDE OF THE ROADWAY.

PROJECT NO: 8949-00-73	HWY: USH 12	COUNTY: ST. CROIX	TRAFFIC CONTROL DETOUR DETAILS 3, 4, & 5	SHEET 8	E

2

Hudson

N

SEE TRAFFIC CONTROL DETOUR DETAIL 1
FOR TRAFFIC CONTROL IN THIS AREA

SEE TRAFFIC CONTROL DETOUR DETAIL 3
FOR TRAFFIC CONTROL IN THIS AREA

SEE TRAFFIC CONTROL DETOUR DETAIL 2
FOR TRAFFIC CONTROL IN THIS AREA

HUDSON

Roberts

TROY

KINNICKINNIC

River Falls

L. Mallalieu

Twin Lks.

L. St. Croix

St. Croix

A U 12 UU TT N U N N SS F MM M J JJ W

94 35 65 50 51

ALTERNATE INTERSTATE 94 M4-1 36"X18" M1-1 36"X36" 50

ALTERNATE INTERSTATE 94 M4-1 24"X12" M1-1 24"X24" 51

LEGEND

I-94 TEMPORARY ALTERNATE ROUTE

POST MOUNTED ALTERNATE ROUTE SIGN

PROJECT NO: 8949-00-73	HWY: USH 12	COUNTY: ST. CROIX	TRAFFIC CONTROL IH-94 TEMPORARY ALTERNATE ROUTE OVERVIEW	SHEET 9	E

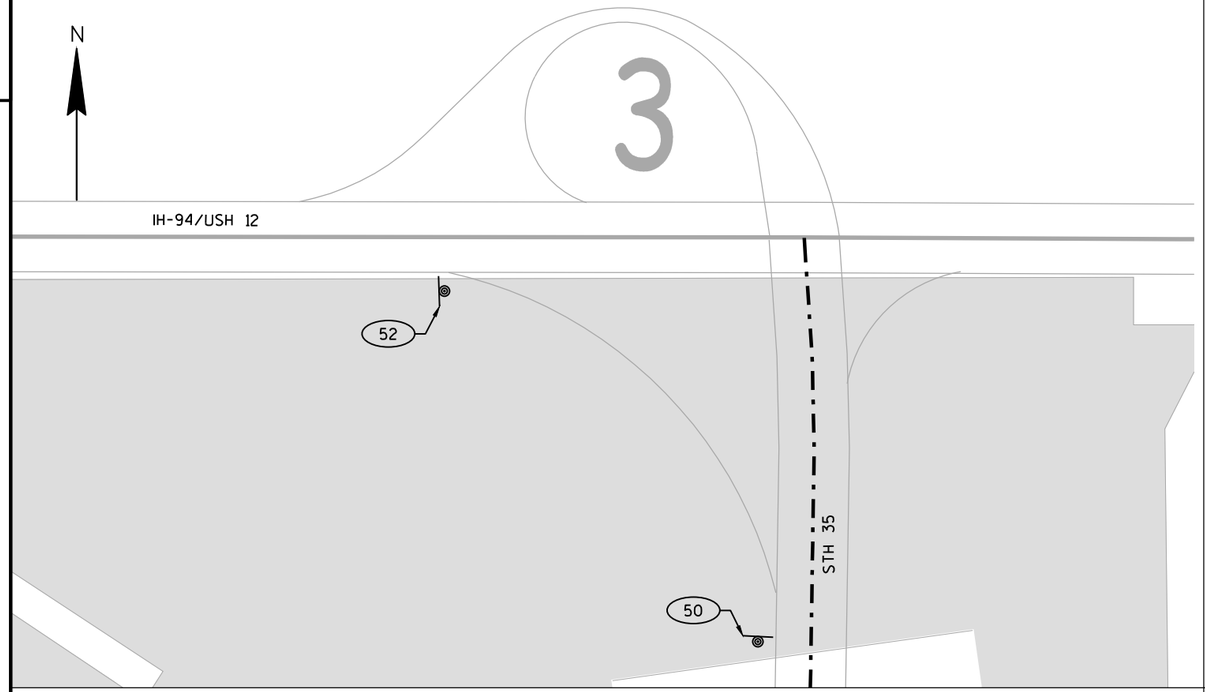
FILE NAME : G:\00\00093\00093705\CADD\SHEETSPLAN\027002-DT.DWG
LAYOUT NAME - 027005-dt

PLOT DATE : 6/6/2025 3:54 PM PLOT BY : CONNOR GIRTEN PLOT NAME : PLOT SCALE : 1 IN:1 MI

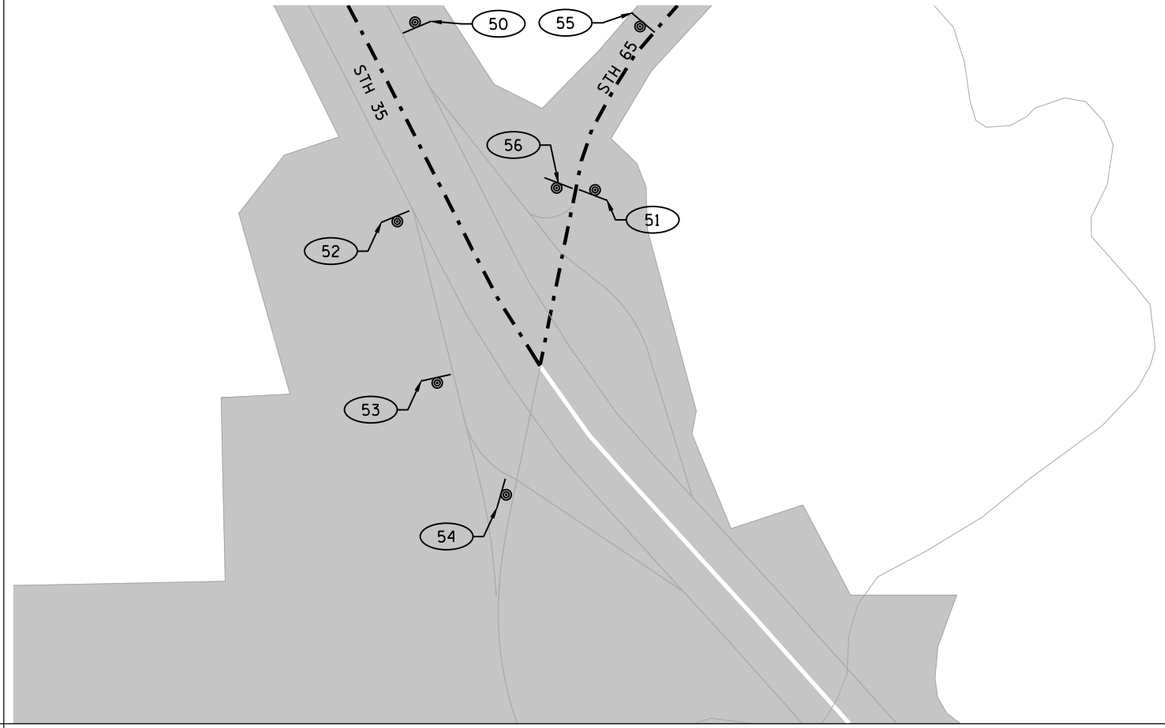
WISDOT/CADDS SHEET 42

2

TRAFFIC CONTROL DETOUR DETAIL 1



TRAFFIC CONTROL DETOUR DETAIL 2



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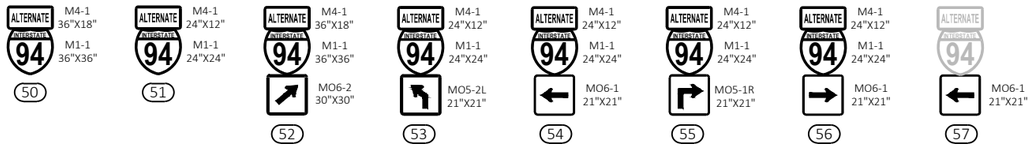
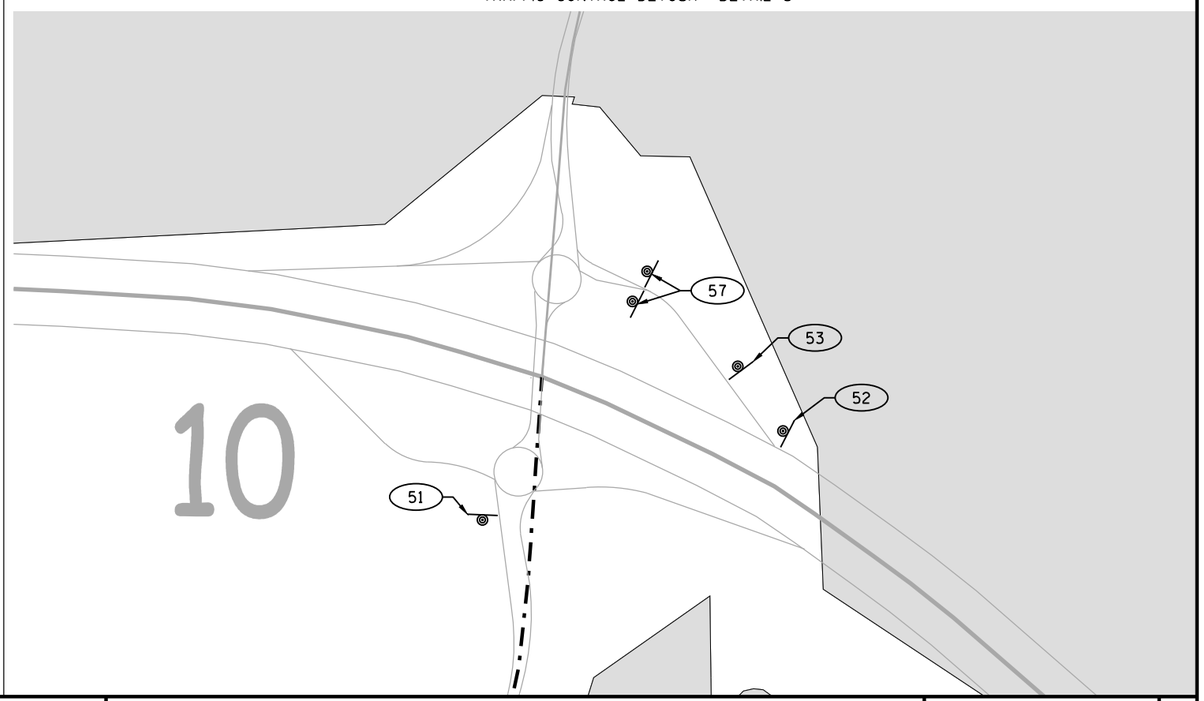


TRAFFIC CONTROL DETOUR DETAIL 3



LEGEND

— · — I-94 TEMPORARY ALTERNATE ROUTE

POST MOUNTED ALTERNATE ROUTE SIGN

NOTE:

** PLACE SIGNS ON BOTH THE MEDIAN AND RIGHT SIDE OF THE ROADWAY.

PROJECT NO: 8949-00-73	HWY: USH 12	COUNTY: ST. CROIX	IH-94 TEMPORARY ALTERNATIVE DETAILS 1, 2, & 3	SHEET 10	E

FILE NAME : G:\00\00093\00093705\CADD\SHEETSPLAN\027002-DT.DWG
LAYOUT NAME - 027006-dt
PLOT DATE : 6/6/2025 3:54 PM
PLOT BY : CONNOR GIRTEN
PLOT NAME :
PLOT SCALE : 1 IN:500 FT
WISDOT/CADDS SHEET 42

Estimate Of Quantities

8949-00-73

Line	Item	Item Description	Unit	Total	Qty
0002	203.0211.S	Abatement of Asbestos Containing Material (structure) 01. B-55-76	EACH	1.000	1.000
0004	203.0220	Removing Structure (structure) 01. B-55-76	EACH	1.000	1.000
0006	203.0330	Debris Containment (structure) 01. B-55-76	EACH	1.000	1.000
0008	204.0100	Removing Concrete Pavement	SY	377.000	377.000
0010	204.0165	Removing Guardrail	LF	160.000	160.000
0012	205.0100	Excavation Common	CY	450.000	450.000
0014	206.1001	Excavation for Structures Bridges (structure) 01. B-55-76	EACH	1.000	1.000
0016	209.1500	Backfill Granular Grade 1	TON	210.000	210.000
0018	210.1500	Backfill Structure Type A	TON	20.000	20.000
0020	213.0100	Finishing Roadway (project) 01. 8949-00-73	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	3.000	3.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	326.000	326.000
0026	415.0080	Concrete Pavement 8-Inch	SY	82.000	82.000
0028	415.0410	Concrete Pavement Approach Slab	SY	114.000	114.000
0030	416.0610	Drilled Tie Bars	EACH	4.000	4.000
0032	455.0605	Tack Coat	GAL	24.000	24.000
0034	465.0105	Asphaltic Surface	TON	75.000	75.000
0036	502.0100	Concrete Masonry Bridges	CY	260.000	260.000
0038	502.3101	Expansion Device	LF	49.000	49.000
0040	502.3200	Protective Surface Treatment	SY	711.000	711.000
0042	502.3210	Pigmented Surface Sealer	SY	213.000	213.000
0044	502.4205	Adhesive Anchors No. 5 Bar	EACH	111.000	111.000
0046	502.4206	Adhesive Anchors No. 6 Bar	EACH	42.000	42.000
0048	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	66,310.000	66,310.000
0050	506.2610	Bearing Pads Elastomeric Laminated	EACH	5.000	5.000
0052	506.4000	Steel Diaphragms (structure) 01. B-55-76	EACH	12.000	12.000
0054	506.7050.S	Removing Bearings (structure) 01. B-55-76	EACH	5.000	5.000
0056	509.1500	Concrete Surface Repair	SF	42.000	42.000
0058	516.0500	Rubberized Membrane Waterproofing	SY	16.000	16.000
0060	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	127.000	127.000
0062	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	69.000	69.000
0064	602.3010	Concrete Surface Drains	CY	3.000	3.000
0066	606.0200	Riprap Medium	CY	6.000	6.000
0068	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0070	614.0400	Adjusting Steel Plate Beam Guard	LF	100.000	100.000
0072	614.0950	Replacing Guardrail Posts and Blocks	EACH	12.000	12.000
0074	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0076	618.0100	Maintenance and Repair of Haul Roads (project) 01. 8949-00-73	EACH	1.000	1.000
0078	619.1000	Mobilization	EACH	1.000	1.000
0080	624.0100	Water	MGAL	12.000	12.000
0082	625.0500	Salvaged Topsoil	SY	244.000	244.000
0084	627.0200	Mulching	SY	190.000	190.000
0086	628.1504	Silt Fence	LF	426.000	426.000
0088	628.1520	Silt Fence Maintenance	LF	426.000	426.000
0090	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0092	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0094	628.2004	Erosion Mat Class I Type B	SY	244.000	244.000
0096	629.0210	Fertilizer Type B	CWT	0.500	0.500
0098	630.0120	Seeding Mixture No. 20	LB	23.000	23.000

8949-00-73

Line	Item	Item Description	Unit	Total	Qty
0100	630.0200	Seeding Temporary	LB	15.000	15.000
0102	630.0500	Seed Water	MGAL	11.000	11.000
0104	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0106	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	2.000	2.000
0108	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0110	638.2102	Moving Signs Type II	EACH	2.000	2.000
0112	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0114	642.5001	Field Office Type B	EACH	1.000	1.000
0116	643.0420	Traffic Control Barricades Type III	DAY	2,178.000	2,178.000
0118	643.0705	Traffic Control Warning Lights Type A	DAY	3,564.000	3,564.000
0120	643.0900	Traffic Control Signs	DAY	27,918.000	27,918.000
0122	643.0910	Traffic Control Covering Signs Type I	EACH	2.000	2.000
0124	643.0920	Traffic Control Covering Signs Type II	EACH	7.000	7.000
0126	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0128	643.5000	Traffic Control	EACH	1.000	1.000
0130	645.0120	Geotextile Type HR	SY	24.000	24.000
0132	646.2020	Marking Line Epoxy 6-Inch	LF	1,320.000	1,320.000
0134	650.4500	Construction Staking Subgrade	LF	142.000	142.000
0136	650.5000	Construction Staking Base	LF	88.000	88.000
0138	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	127.000	127.000
0140	650.6501	Construction Staking Structure Layout (structure) 01. B-55-0076	EACH	1.000	1.000
0142	650.7000	Construction Staking Concrete Pavement	LF	68.000	68.000
0144	650.9911	Construction Staking Supplemental Control (project) 01. 8949-00-73	EACH	1.000	1.000
0146	650.9920	Construction Staking Slope Stakes	LF	142.000	142.000
0148	690.0150	Sawing Asphalt	LF	100.000	100.000
0150	690.0250	Sawing Concrete	LF	6.000	6.000
0152	715.0502	Incentive Strength Concrete Structures	DOL	1,560.000	1,560.000
0154	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0156	801.0117	Railroad Flagging Reimbursement	DOL	25,000.000	25,000.000
0158	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 466+17	EACH	1.000	1.000
0160	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
0162	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000
0164	SPV.0165	Special 01. Fiber Wrap Reinforcing Non-Structural	SF	67.000	67.000

3

REMOVALS

CATEGORY	STATION	TO	STATION	LOCATION	204.0100 REMOVING CONCRETE PAVEMENT SY	204.0165 REMOVING GUARDRAIL LF	REMARKS
0010	464+50.89	-	464+90.29	LT	---	40	
0010	464+92.13	-	465+31.53	RT	---	40	
0010	464+63.47	-	465+39.38	LT & RT	205	---	INCLUDES UNDERLYING PAVEMENT, CURB & GUTTER AND FLUME
0010	466+88.51	-	467+63.47	LT & RT	172	---	INCLUDES UNDERLYING PAVEMENT
0010	466+95.51	-	467+34.91	LT	---	40	
0010	467+36.75	-	467+76.15	RT	---	40	
				TOTAL 0010	377	160	

BASE AGGREGATE DENSE

CATEGORY	STATION	TO	STATION	209.1500 BACKFILL GRANULAR GRADE 1 TON	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
0010	464+63.47	-	465+39.38	101	3	154	6
0010	466+88.43	-	467+88.07	109	---	172	6
			TOTAL 0010	210	3	326	12

ASPHALTIC SURFACE

CATEGORY	STATION	TO	STATION	LOCATION	THICKNESS	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
0010	464+63.47	-	464+95.01	LOWER LAYER	2.00	---	13
0010	464+63.47	-	464+95.01	MIDDLE LAYER	2.00	6	13
0010	464+63.47	-	464+95.01	UPPER LAYER	1.75	6	11
0010	467+32.60	-	467+88.07	LOWER LAYER	2.00	---	13
0010	467+32.60	-	467+88.07	MIDDLE LAYER	2.00	6	13
0010	467+32.60	-	467+88.07	UPPER LAYER	1.75	6	12
				TOTAL 0010		24	75

SURFACE DRAINS

CATEGORY	STATION	LOCATION	602.3010 CONCRETE SURFACE DRAINS CY
0010	464+87	RT	1
0010	467+39	LT	1
0010	467+80	RT	1
		TOTAL 0010	3

RIPRAP

CATEGORY	STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY
0010	464+85	RT	2	8
0010	467+39	LT	2	8
0010	467+80	RT	2	8
		TOTAL 0010	6	24

EARTHWORK SUMMARY

CATEGORY	STATION	TO	STATION	205.0100 EXCAVATION COMMON CY (3)	FILL CY (1)	EXPANDED FILL CY (1)(2)	WASTE CY (1)
0010	464+63.47	-	465+22.09	214	1	1	213
0010	467+05.45	-	467+88.07	236	24	30	206
			TOTAL 0010	450	25	31	419

(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.
(2) - FILL EXPANSION 30%
(3) - EXISTING ASPHALTIC AND CONCRETE PAVEMENT IS INCLUDED IN COMMON EXCAVATION TOTALS. SEE EARTHWORK TABLE.

CONCRETE PAVEMENT

CATEGORY	STATION	TO	STATION	415.0080 CONCRETE PAVEMENT 8-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
0010	464+87.79	-	465+39.21	41	57
0010	466+88.43	-	467+39.25	41	57
			TOTAL 0010	82	114

CURB & GUTTER

CATEGORY	STATION	TO	STATION	LOCATION	416.0610 DRILLED TIE BARS EACH	601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF	601.0590 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	REMARKS
0010	464+63.47	-	464+87.79	LT	2	24	---	24	DRILLED TIES FOR CONNECTION TO EXISTING CURB & GUTTER
0010	464+63.47	-	465+29.03	RT	---	16	34	16	
0010	466+98.01	-	467+70.09	LT	2	38	35	38	DRILLED TIES FOR CONNECTION TO EXISTING CURB & GUTTER
0010	467+39.25	-	467+88.07	RT	---	49	---	49	
				TOTAL 0010	4	127	69	127	

GUARDRAIL ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	614.0400 ADJUSTING STEEL PLATE BEAM GUARD LF	614.0950 REPLACING GUARDRAIL POSTS AND BLOCKS EACH	614.2500 MGS THRIE BEAM TRANSITION LF
0010	464+50.89	-	464+90.29	LT	25	3	39.4
0010	464+95.01	-	465+31.53	RT	25	3	39.4
0010	466+95.51	-	467+34.91	LT	25	3	39.4
0010	467+36.75	-	467+76.15	RT	25	3	39.4
				TOTAL 0010	100	12	157.6

3

RESTORATION ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	628.2004 EROSION MAT CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
0010	464+63.47	-	464+87.79	LT	12	14	12	0.1	2	1	1
0010	464+63.47	-	465+29.03	RT	51	67	51	0.1	6	4	3
0010	466+98.01	-	467+69.83	LT	82	40	82	0.1	6	4	3
0010	467+39.25	-	467+88.07	RT	50	31	50	0.1	4	3	2
0010	---	-	---	UNDISTRIBUTED	49	38	49	0.1	5	3	2
				TOTAL 0010	244	190	244	0.5	23	15	11

SILT FENCE

CATEGORY	STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
0010	464+55.97	-	464+97.53	LT	45	45
0010	464+61.31	-	465+28.81	RT	112	112
0010	466+86.51	-	467+74.28	LT	104	104
0010	467+22.32	-	467+92.54	RT	80	80
0010	---	-	---	UNDISTRIBUTED	85	85
				TOTAL 0010	426	426

EROSION CONTROL MOBILIZATIONS

CATEGORY	PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	8949-00-73	3	3
	TOTAL 0010	3	3

3

SIGNING ITEMS

CATEGORY	STATION	LOCATION	634.0612 POSTS WOOD 4X6-INCH X 12-FT EACH	634.0614 POSTS WOOD 4X6-INCH X 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2102 MOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	464+86	LT	1	---	3	---	1	W5-52L
0010	465+78	RT	1	---	3	---	1	W5-52R
0010	466+99	LT	1	---	3	---	1	W5-52R
0010	467+40	RT	1	---	3	---	1	W5-52L
0010	467+43	LT	---	1	---	1	1	ADOPT-A-HIGHWAY
0010	467+78	RT	---	1	---	1	1	ADOPT-A-HIGHWAY
		TOTAL 0010	4	2	12	2	6	

TRAFFIC CONTROL ALTERNATE ROUTE

CATEGORY	LOCATION	DAYS	TRAFFIC CONTROL SIGNS EACH	* 643.0900 TRAFFIC CONTROL SIGNS DAY
0010	IH-94 & STH 35 (DETAIL 1)	99	5	495
0010	STH 35	99	4	396
0010	STH 35 & STH 65 (DETAIL 2)	99	19	1,881
0010	STH 65	99	12	1,188
0010	STH 65 & IH-94 (DETAIL 3)	99	10	990
		TOTAL 0010		4,950

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

TRAFFIC CONTROL

CATEGORY	LOCATION	DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0900 * TRAFFIC CONTROL SIGNS EACH	643.0900 * TRAFFIC CONTROL SIGNS DAY	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	NUMBER OF CYCLES TYPE I	NUMBER OF SIGNS TYPE I	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	NUMBER OF CYCLES TYPE II	NUMBER OF SIGNS TYPE II	TRAFFIC CONTROL SIGNS PCMS EACH	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	643.5000 TRAFFIC CONTROL EACH
0010	BEGINNING OF PROJECT	99	7	693	10	990	4	396	---	---	---	---	---	---	---	---	---
0010	BEGINNING OF PROJECT	7	---	---	---	---	---	---	---	---	---	---	---	---	1	7	---
0010	END OF PROJECT	99	7	693	10	990	4	396	---	---	---	---	---	---	---	---	---
0010	END OF PROJECT	7	---	---	---	---	---	---	---	---	---	---	---	---	1	7	---
0010	USH 12 & LA BARGE ROAD	99	2	198	4	396	3	297	---	---	---	---	---	---	---	---	---
0010	USH 12 & 110TH STREET	99	2	198	4	396	3	297	---	---	---	---	---	---	---	---	---
0010	USH 12 & CTH U (DETAIL 1)	99	2	198	4	396	20	1,980	---	---	---	4	1	4	---	---	---
0010	USH 12 & IH-94 (DETAIL 2)	99	---	---	---	---	47	4,653	---	---	---	---	---	---	---	---	---
0010	IH-94 EASTBOUND & WESTBOUND	99	---	---	---	---	6	594	---	---	---	---	---	---	---	---	---
0010	IH-94 & STH 65 (DETAIL 3)	99	---	---	---	---	82	8,118	---	---	---	---	---	---	---	---	---
0010	STH 65 & USH 12 (DETAIL 4)	99	2	198	4	396	33	3,267	2	1	2	3	1	3	---	---	---
0010	STH 65 & GRAHAM ST (DETAIL 5)	99	---	---	---	---	30	2,970	---	---	---	---	---	---	---	---	---
0010	PROJECT 8949-00-73	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1
		TOTAL 0010		2,178		3,564		22,968	2			7				14	1

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

3

PAVEMENT MARKING

CATEGORY	STATION	TO	STATION	LOCATION	646.2020 MARKING LINE EPOXY 6-INCH LF
0010	464+60	-	467+90	CENTERLINE - YELLOW	660
0010	464+60	-	467+90	EDGELINES - WHITE	660
				TOTAL 0010	1,320

STAKING ITEMS

CATEGORY	STATION	TO	STATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-55-0076) EACH	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT LF	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 8949-00-73) EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	464+63.47	-	465+22.09	59	32	---	34	---	59
0010	467+05.55	-	467+88.07	83	56	---	34	---	83
0010	464+63.47	-	467+88.07	---	---	1	---	1	---
			TOTAL 0010	142	88	1	68	1	142

SAWING ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
0010	464+63.47	-	---	LT & RT	33	3
0010	467+63.47	-	467+88.07	LT & RT	67	3
				TOTAL 0010	100	6

BIRD DETERRENT SYSTEM

CATEGORY	LOCATION	999.2000.S.01 INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM (STATION) (01. 466+17) EACH
0010	B-55-0076	1
	TOTAL 0010	1

CONTROL POINTS				
NO.	STATION, OFFSET	DESCRIPTION	Y	X
900	467+49.89, 14.87' LT	PK NAIL	348,394.13	547,352.83
902	466+55.26, 59.60' RT	NAIL	348,293.86	547,286.14
903	465+66.28, 30.02' LT	NAIL	348,351.26	547,173.66
910	473+70.10, 33.14' LT	3/4" IRON ROD	348,604.91	547,936.41
911	458+19.68, 33.43' RT	3/4" IRON ROD	348,116.82	546,463.12

LEGEND
- RIPRAP MEDIUM
- CONCRETE PAVEMENT APPROACH SLAB
- CONCRETE PAVEMENT 8-INCH

UP RR
RAILROAD R/W
ALEXANDER ROAD
EXISTING R/W
PI: 463+17.68
140'
℄ USH 12 (ASPHALT)
N71°49'42"E
CP-903
CP-902
CP-900
BM-1
463+00
464+00
465+00
466+00
467+00
468+00
469+00

CONNECT TO EXISTING MGS GUARDRAIL STA 464+51, LT
UTILIZE ADJUSTING STEEL PLATE BEAM GUARD AND REPLACING GUARDRAIL POSTS AND BLOCKS FOR CONNECTION TO EXISTING BEAM GUARD.
EXISTING CURB & GUTTER AND SURFACE DRAIN TO REMAIN
EXISTING GUARDRAIL TO REMAIN
SAWING CONCRETE
SAWING ASPHALT
BURIED FIBER OPTIC (AT&T WISCONSIN)
DRILLED TIE BARS REQ'D
CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT
UTILIZE ADJUSTING STEEL PLATE BEAM GUARD AND REPLACING GUARDRAIL POSTS AND BLOCKS FOR CONNECTION TO EXISTING BEAM GUARD AND LAYOUT OF CONCRETE SURFACE DRAIN.
CONNECT TO EXISTING MGS GUARDRAIL STA 464+92, RT
OVERHEAD ELECTRIC (XCEL ENERGY)
BURIED ELECTRIC (XCEL ENERGY)
CONCRETE SURFACE DRAIN FIELD VERIFY LOCATION OF SURFACE DRAIN BETWEEN NEW THRIE BEAM AND EXISTING BEAM GUARD POSTS.
BURIED FIBER OPTIC (BALDWIN TELECOM, INC)
CONCRETE SURFACE DRAIN FIELD VERIFY LOCATION OF SURFACE DRAIN BETWEEN NEW THRIE BEAM AND EXISTING BEAM GUARD POSTS.
CONNECT TO EXISTING MGS GUARDRAIL STA 467+35, LT
MGS THRIE BEAM TRANSITION (TYP)
DRILLED TIE BARS REQ'D
SAWING CONCRETE
SAWING ASPHALT
EXISTING GUARDRAIL AND CURB & GUTTER TO REMAIN
BURIED FIBER OPTIC (LUMEN)
EXISTING STRUCTURE B-55-0076 (SEE STRUCTURE PLANS)
SLOPE INTERCEPT (TYP.)
END CONSTRUCTION STA 467+88.07
EXISTING GUARDRAIL TO REMAIN
CONNECT TO EXISTING MGS GUARDRAIL STA 467+76, RT
RIPRAP AT SOUTHWEST WING SHALL BE RELOCATED TO SUPPLEMENT RIPRAP AT FLUME LOCATIONS. REMOVE EXISTING UNDERLYING FABRIC. WORK SHALL BE INCIDENTAL TO THE RIPRAP MEDIUM BID ITEM.

BEGIN PROJECT
STA 464+63.47
Y = 348,290.67
X = 547,085.32

END PROJECT
STA 467+63.47
Y = 348,384.23
X = 547,370.37

N

BENCH MARKS			
NO.	STATION, OFFSET	DESCRIPTION	ELEV.
1	465+33.79, 18.57' RT	BRASS DISK IN CONC.	1,041.53

1050
1045
1040
1035

STA 464+63.47 EL 1037.68
STA 465+22.09 EL 1039.09
STA 467+05.55 EL 1042.84
STA 467+63.47 EL 1043.82

2.40%
2.05%
1.69%

EXISTING C/L PROFILE
FINISHED C/L PROFILE

EARTHWORK SUMMARY	
STA 464+63.47 - STA 467+88.07	
EXC. COMMON	450 CY
FILL	25 CY
FILL EXPANSION	30%
WASTE	419 CY

	EXISTING	1035.53	1036.02	1036.65	1037.45	1038.44	1038.55	1039.51	1039.66	1040.52	1040.68	1041.50	1041.70	1042.49	1042.73	1043.57	1043.59	1044.58	1045.71	1046.93
	PROPOSED																			

463 464 465 466 467 468 469

PROJECT NO: 8949-00-73	HWY: USH 12	COUNTY: ST. CROIX	PLAN AND PROFILE: USH 12	SHEET 16	E

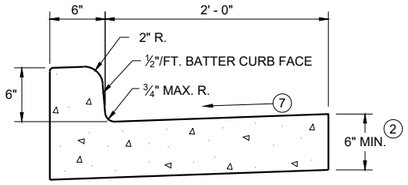
FILE NAME : G:\00\00093\00093705\CADD\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 050101-pp
PLOT DATE : 9/23/2025 7:40 AM
PLOT BY : CONNOR GIRTEN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

Standard Detail Drawing List

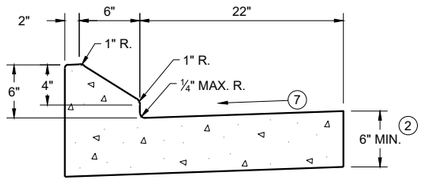
08D01-24A	CONCRETE CURB & GUTTER
08D01-24B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-08A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
13A03-07	CONCRETE PAVEMENT SHOULDERS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C19-03	HMA LONGITUDINAL JOINTS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

6

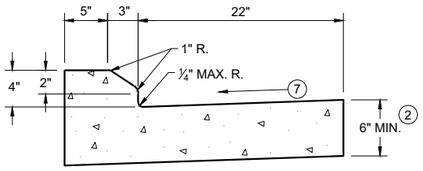
6



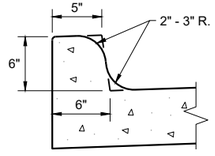
TYPES A (1) & D



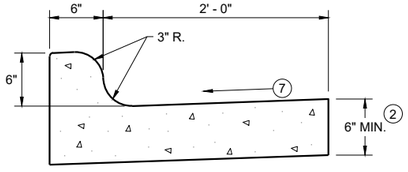
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

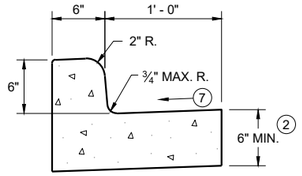


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



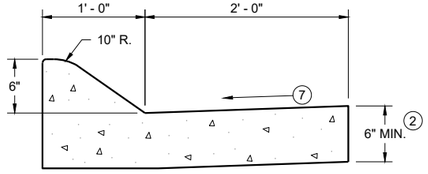
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

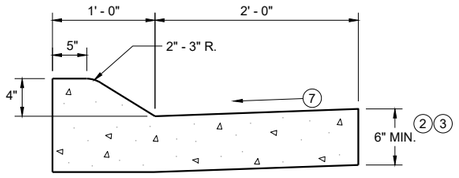


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

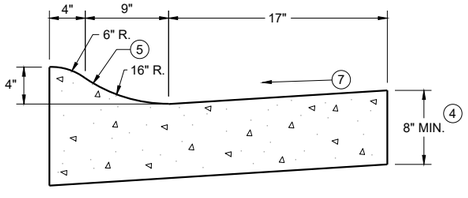


6" SLOPED CURB TYPES A (1) & D



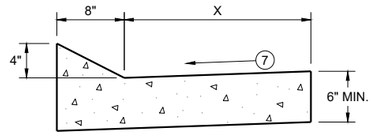
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T
CONCRETE CURB AND GUTTER 30"

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

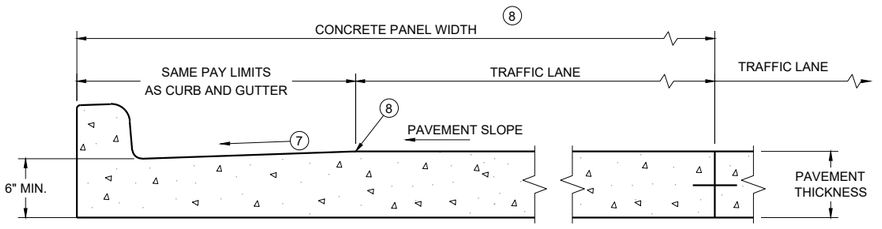


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

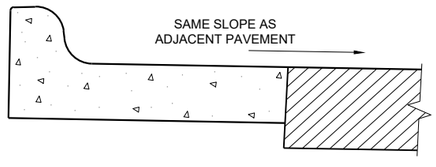
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB AND GUTTER *

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

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

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

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

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

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

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

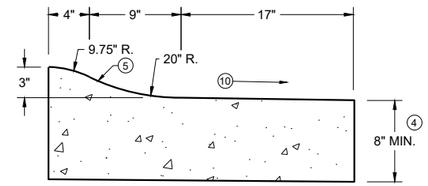
(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

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

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

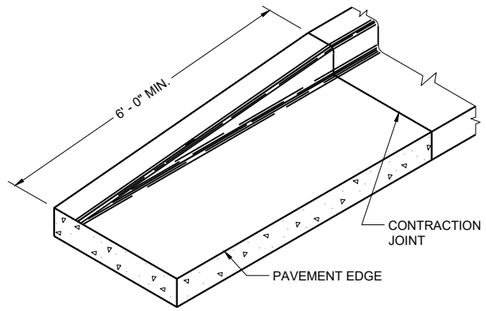
(9) SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY



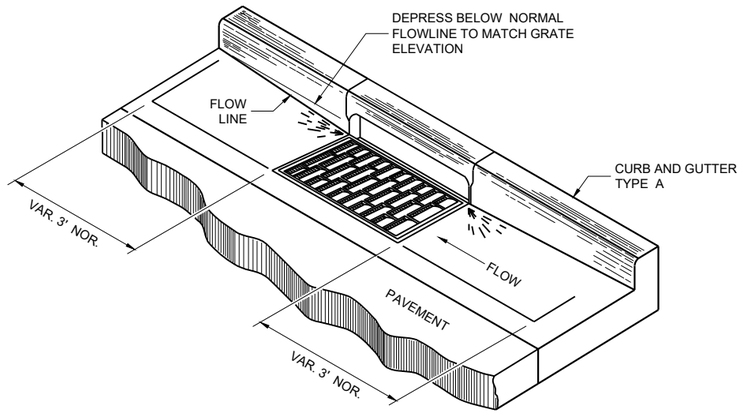
3" SLOPED CURB TYPES R (1) & T

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

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

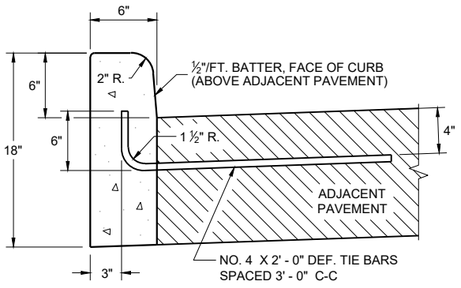
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

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

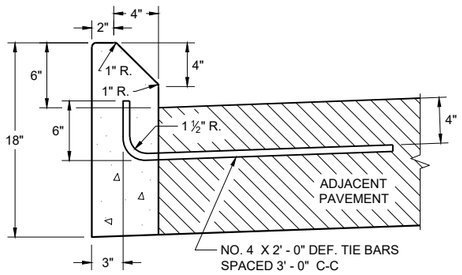
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(10) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

(11) PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

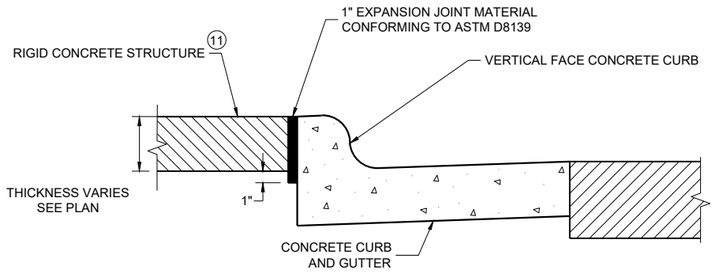


TYPES A (1) & D

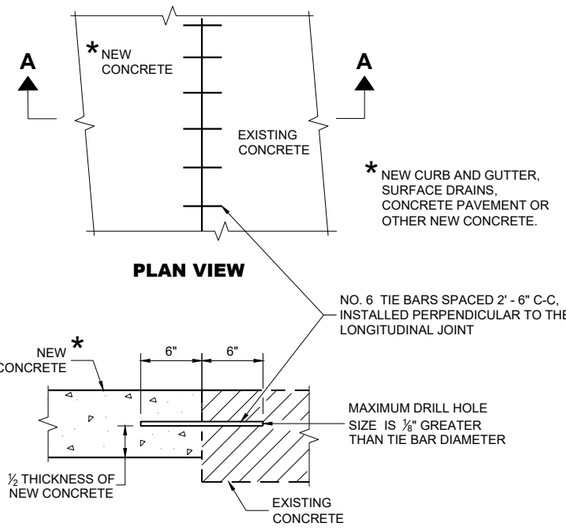


TYPES G (1) & J

CONCRETE CURB



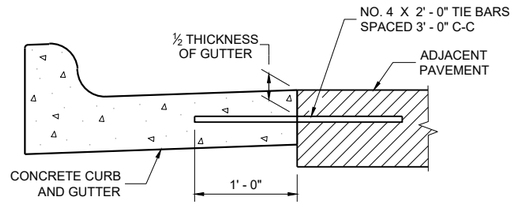
EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)



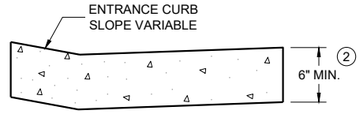
PLAN VIEW

SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (10)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

6

SDD 08D01-24b

SDD 08D01-24b

GENERAL NOTES

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

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

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

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

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

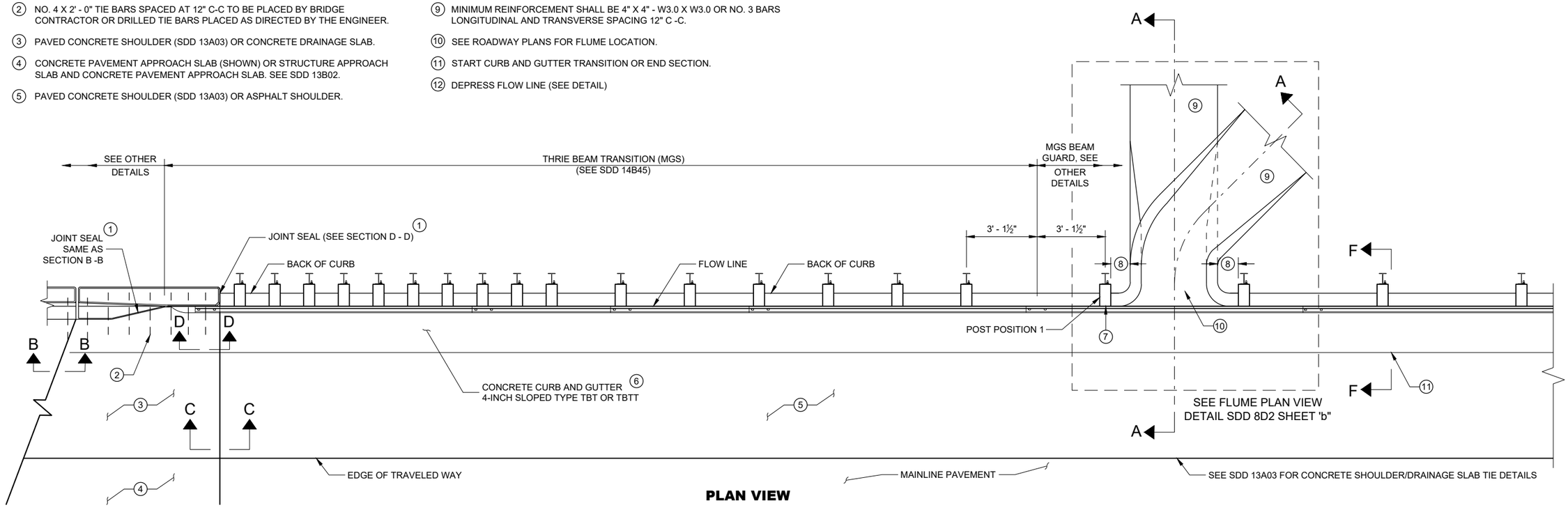
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

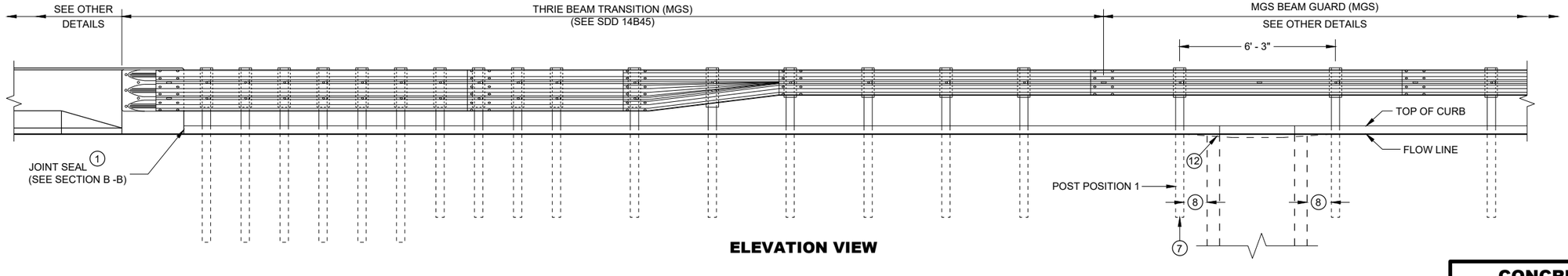
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

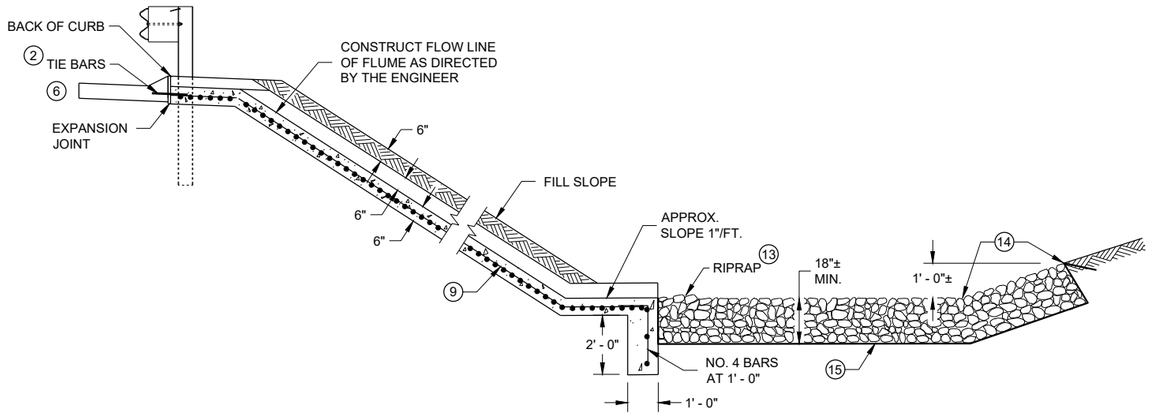
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

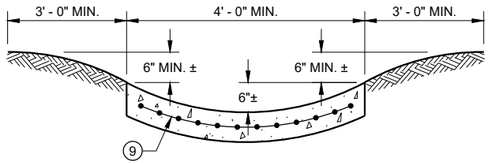
SDD 08D02 - 08a

6

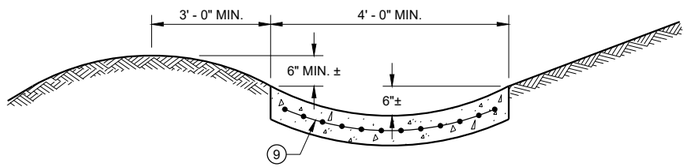
SDD 08D02 - 08a



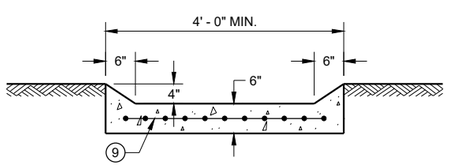
SECTION A - A



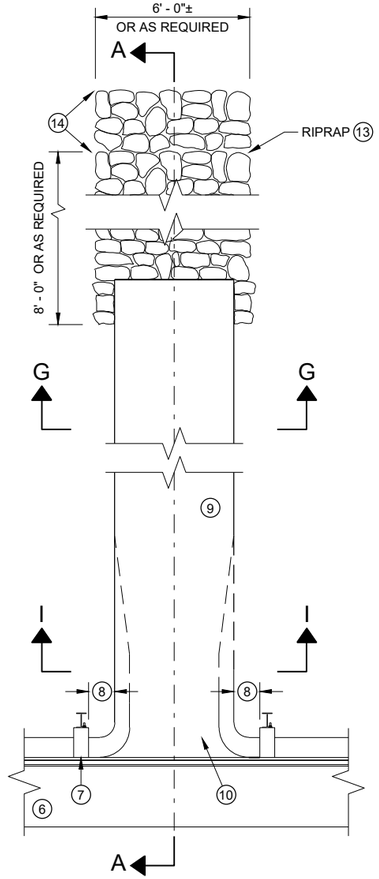
SECTION G - G



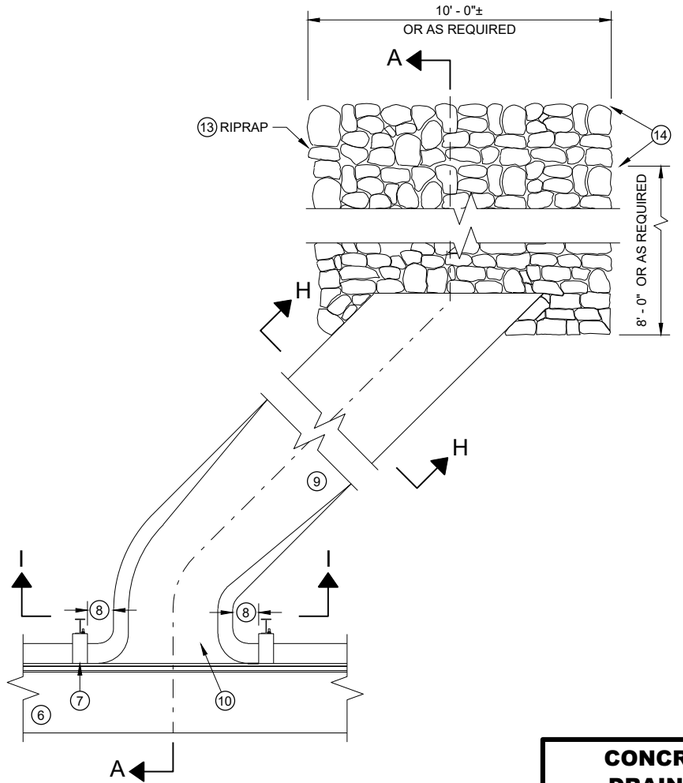
SECTION H - H



SECTION I - I



PLAN VIEW PERPENDICULAR FLUME



PLAN VIEW SKEWED FLUME

GENERAL NOTES

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

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

1. USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
2. NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
3. PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
4. CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
5. PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
6. CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
7. PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
8. CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
9. MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.
10. SEE ROADWAY PLANS FOR FLUME LOCATION.
11. START CURB AND GUTTER TRANSITION OR END SECTION.
12. DEPRESS FLOW LINE (SEE DETAIL)
13. MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
14. LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
15. GEOTEXTILE TYPE HR.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

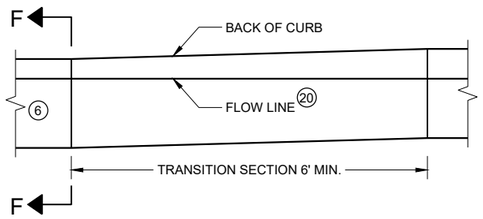
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

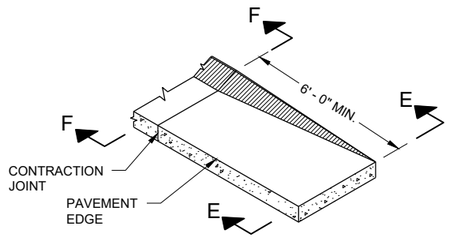
SDD 08D02 - 08b

6

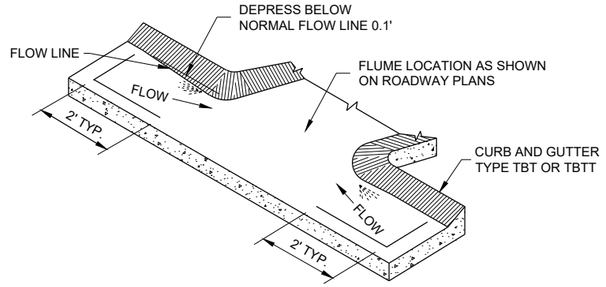
SDD 08D02 - 08b



CURB AND GUTTER TRANSITION SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT



CURB AND GUTTER END SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT



CURB AND GUTTER FLOW LINE DEPRESSION AT FLUMES CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT

GENERAL NOTES

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

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

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

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

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

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

(15) GEOTEXTILE TYPE HR.

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

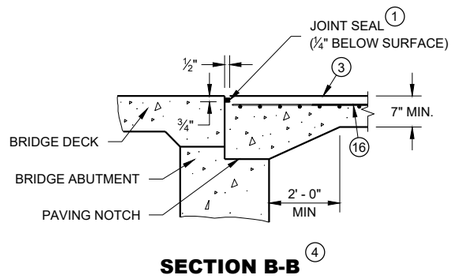
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(18) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

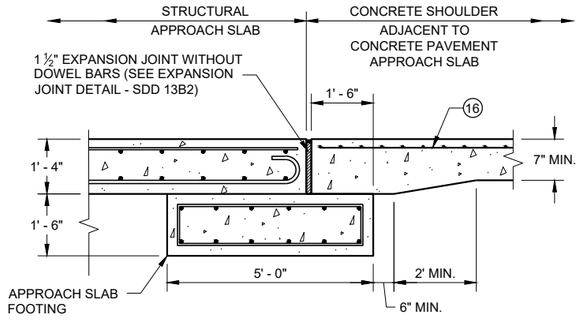
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

(20) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

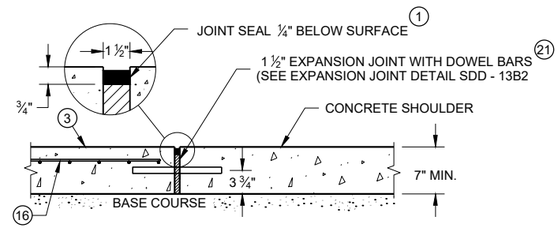
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



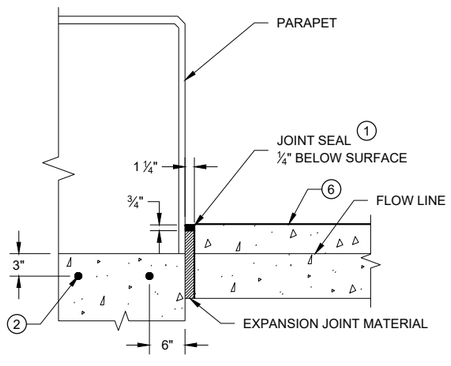
SECTION B-B



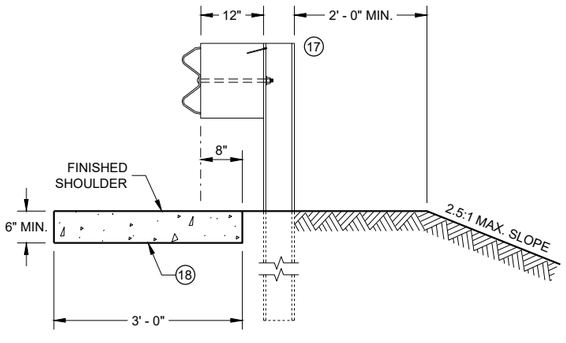
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



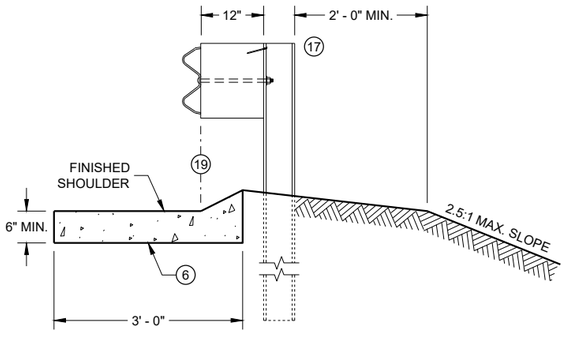
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

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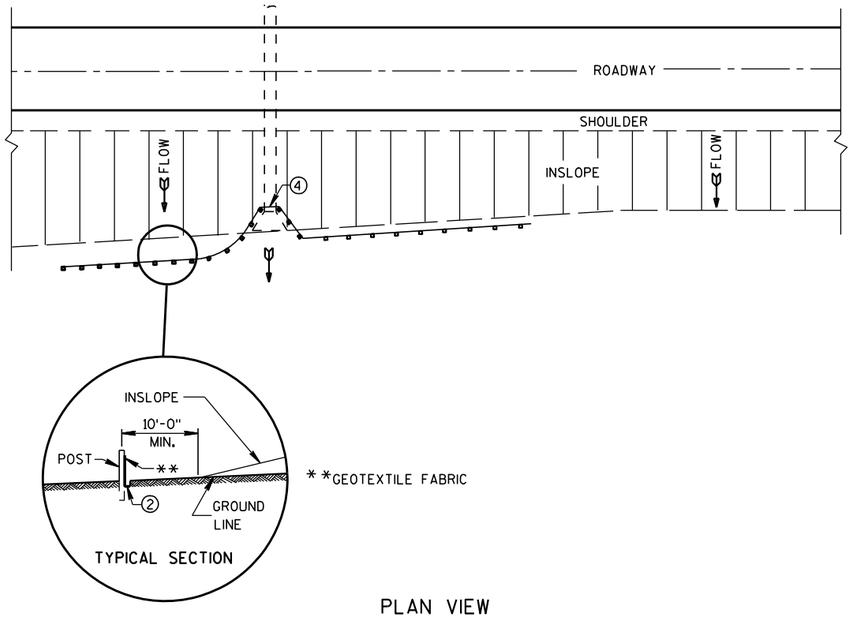
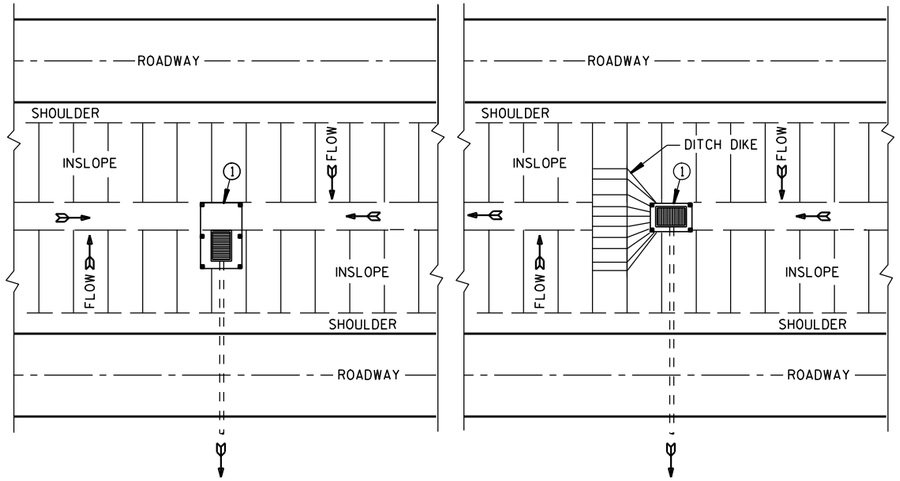
SDD 08D02 - 08c



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

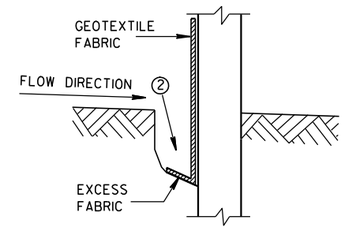
(1) HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

(2) FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

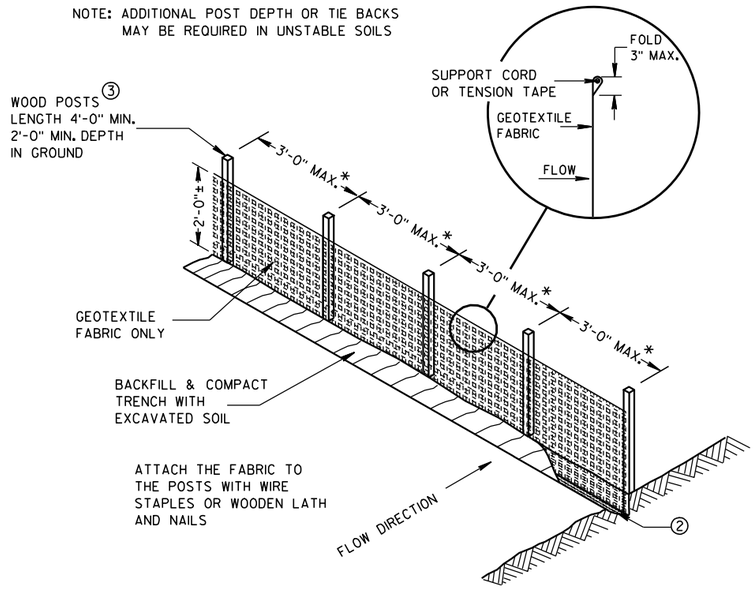
(3) WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

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

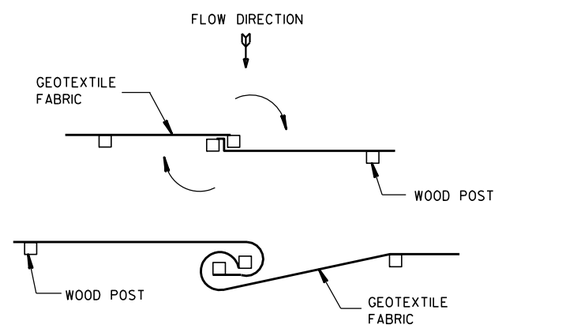


TRENCH DETAIL

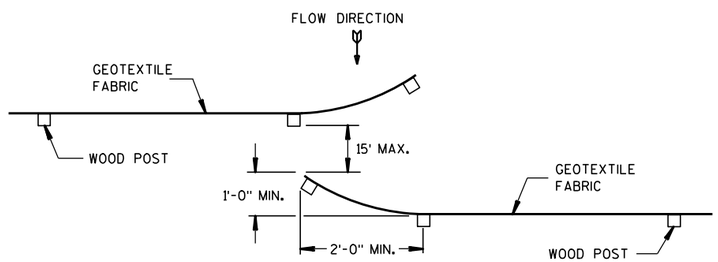


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

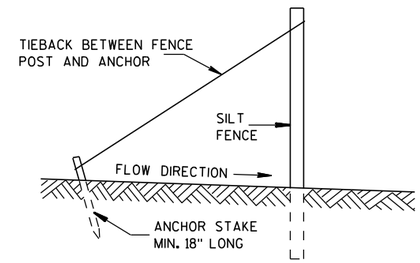


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 8 E 9-6

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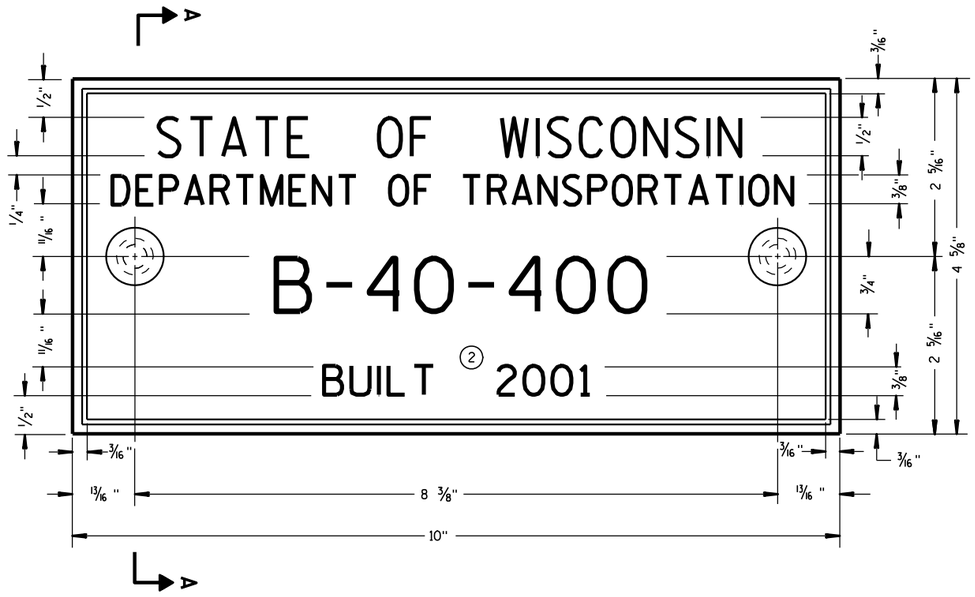
S.D.D. 8 E 9-6



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

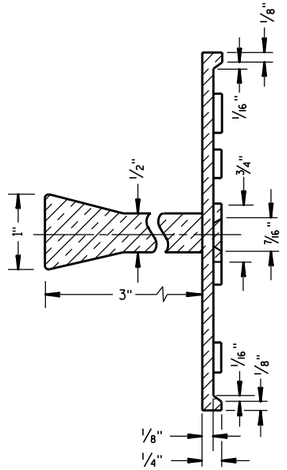
GENERAL NOTES

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

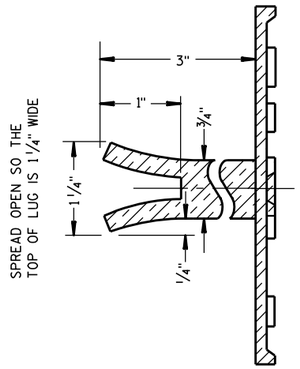
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

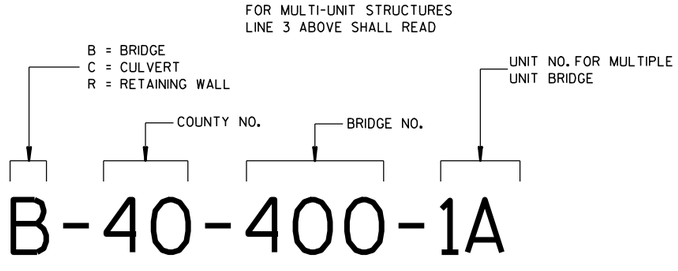
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



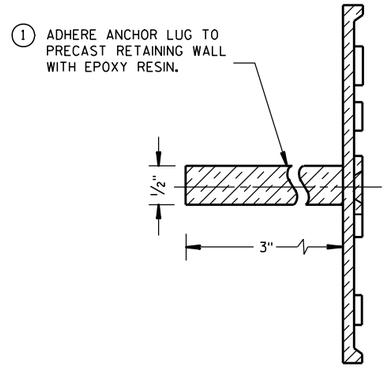
SECTION A-A



ALTERNATE LUG



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA

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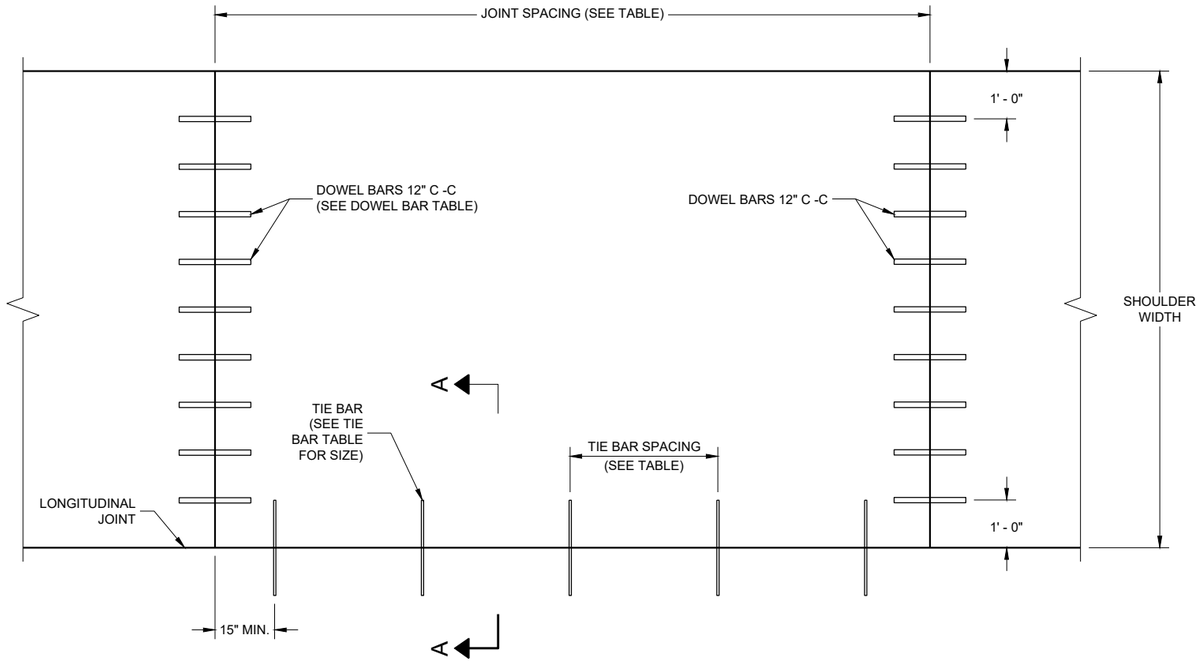
S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

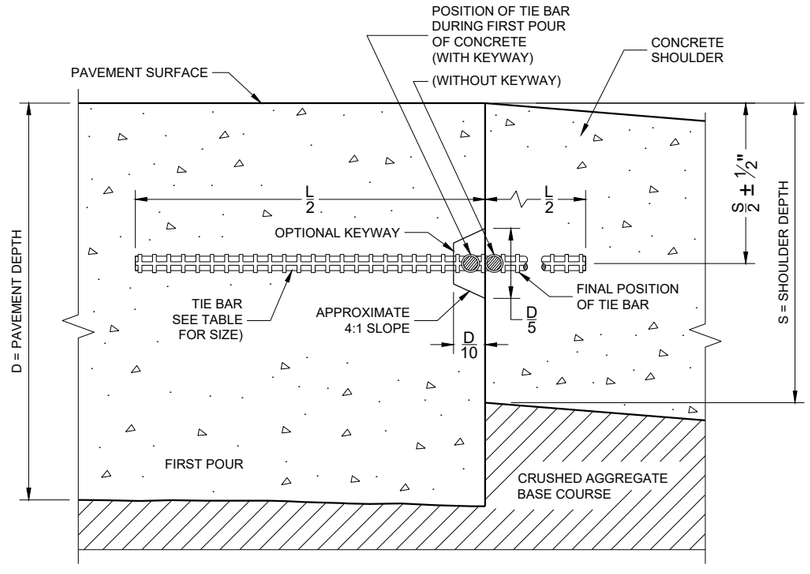
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

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

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



SECTION A - A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

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

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

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

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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

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

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Peter Kemp
PAVEMENT SUPERVIS

FHWA

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SDD 13A03 - 07

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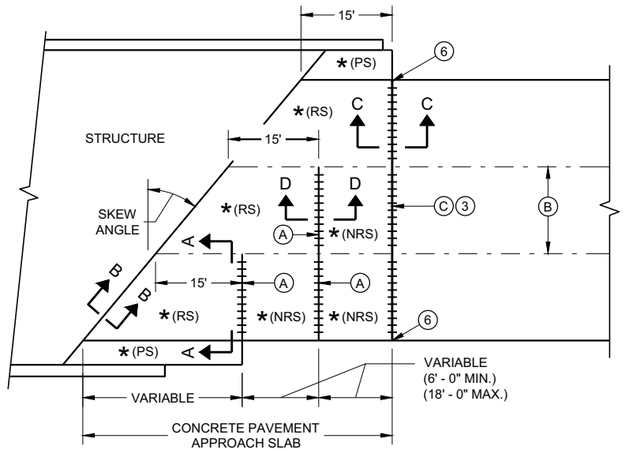
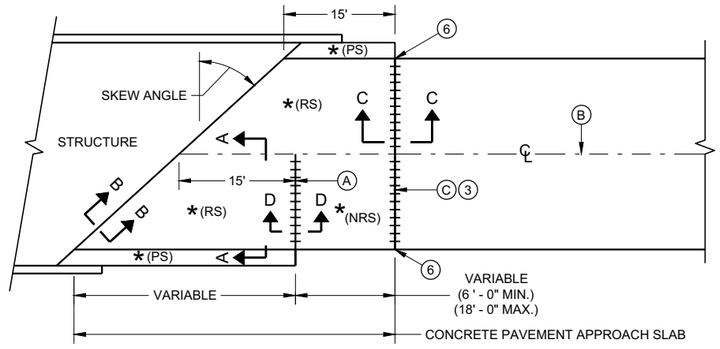
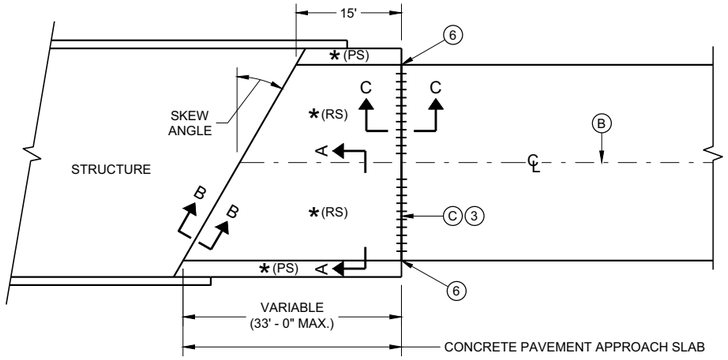
SDD 13A03 - 07



SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

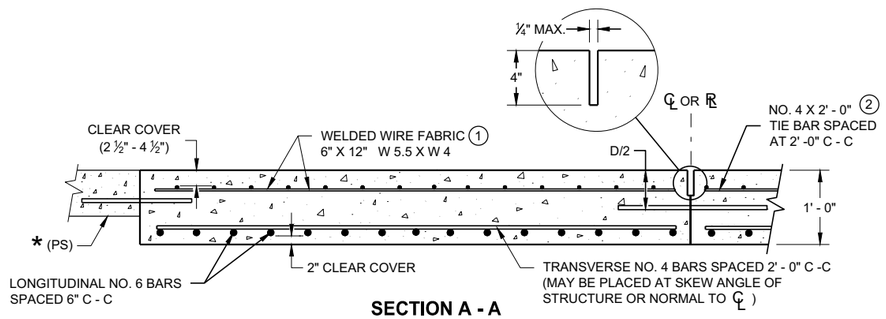
APPROACH SLAB AND ADJACENT PAVEMENT

* (RS) = REINFORCED CONCRETE SLAB

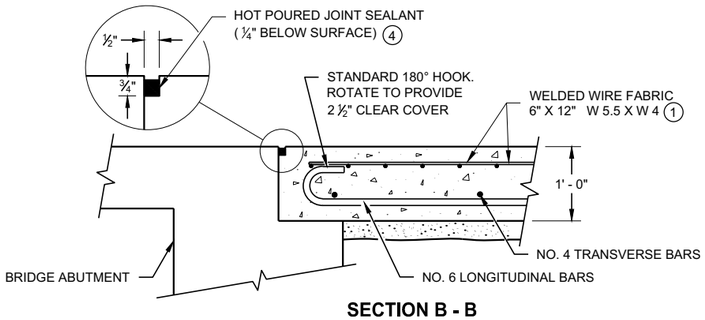
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

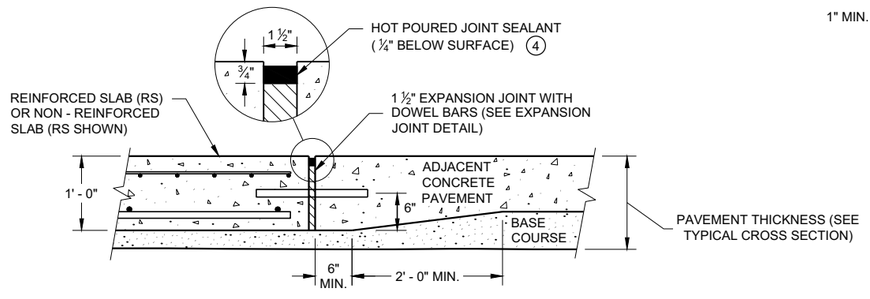
*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

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

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

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

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

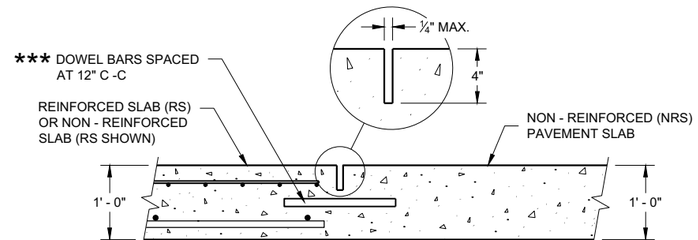
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

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

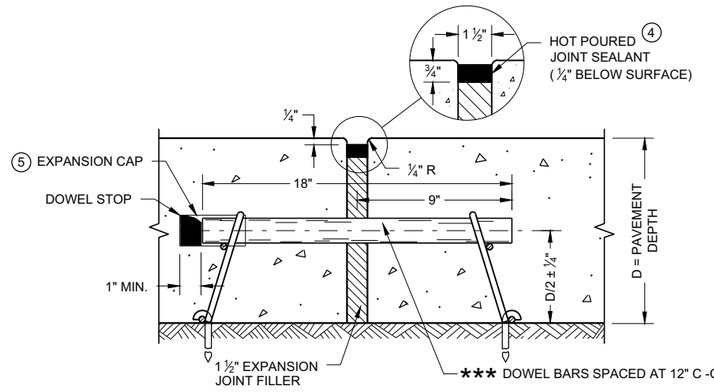
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

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



SECTION D - D
CONTRACTION JOINT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

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

FHWA

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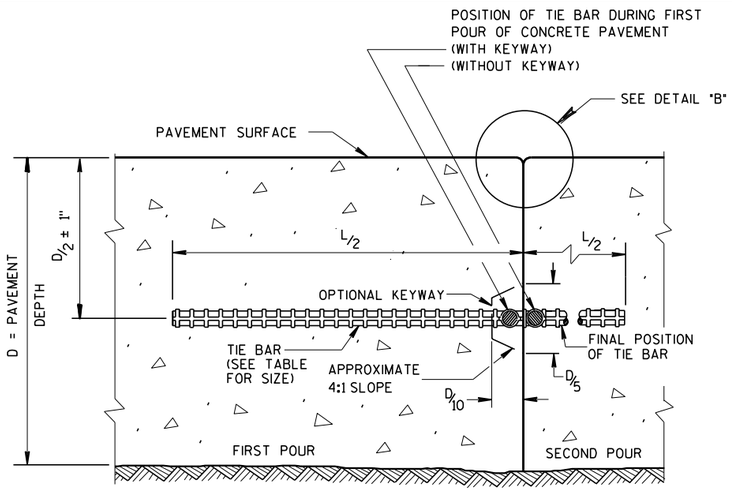
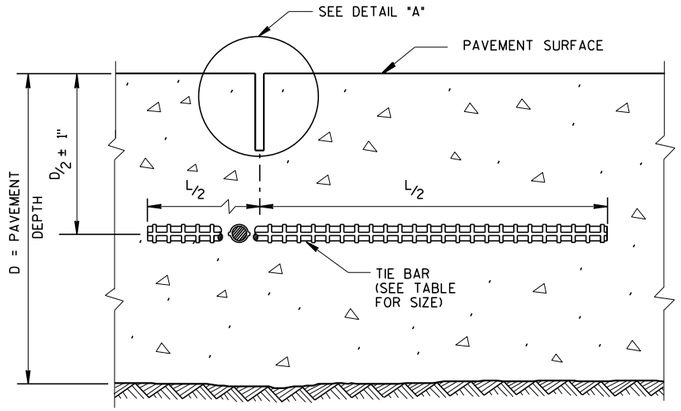
SDD 13B02 - 09a



CONSTRUCTION JOINT



SAWED JOINT

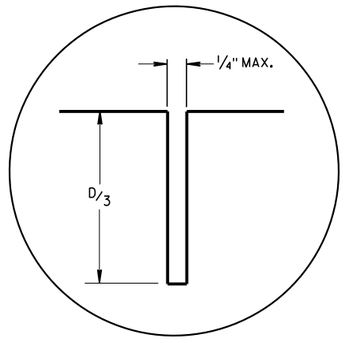
GENERAL NOTES

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

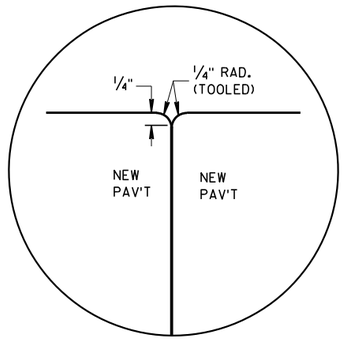
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

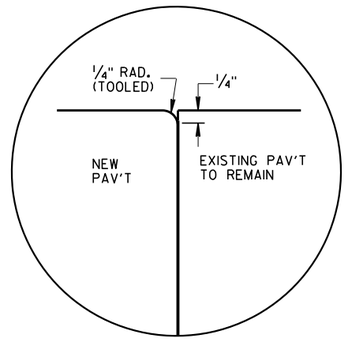
(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.



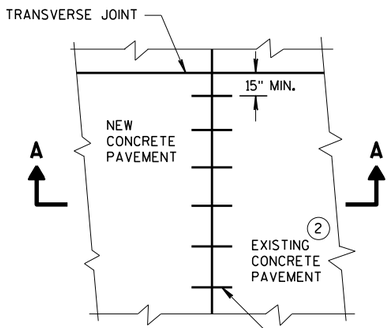
DETAIL "A"



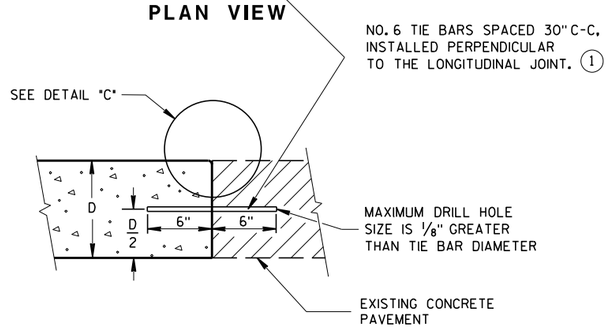
DETAIL "B"



DETAIL "C"



PLAN VIEW



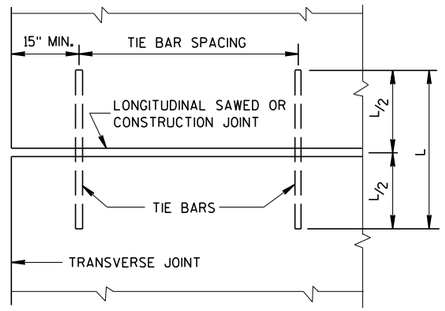
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

TIE BAR TABLE

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

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

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



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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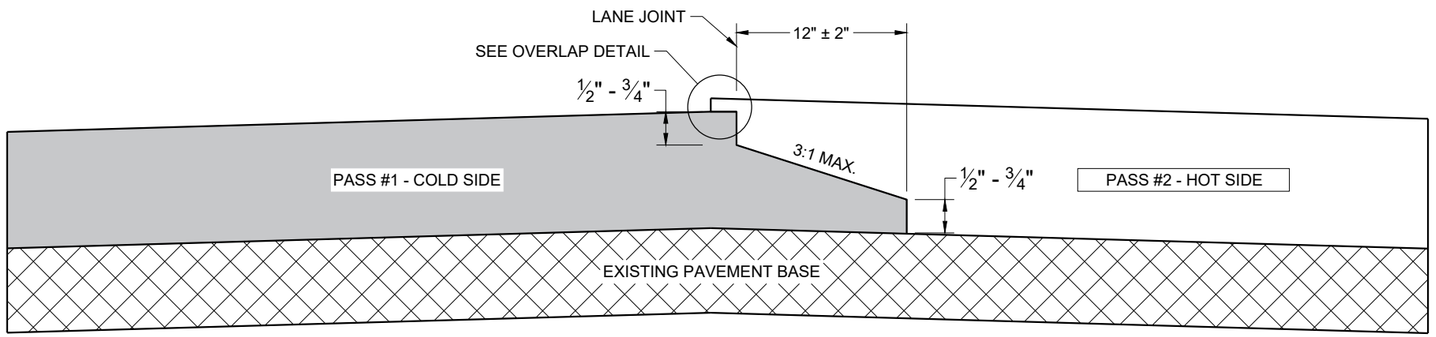
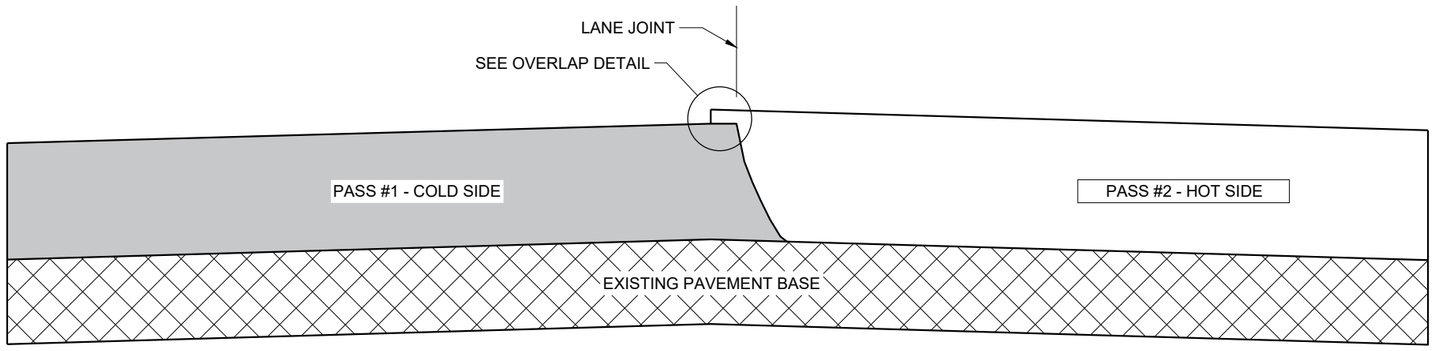
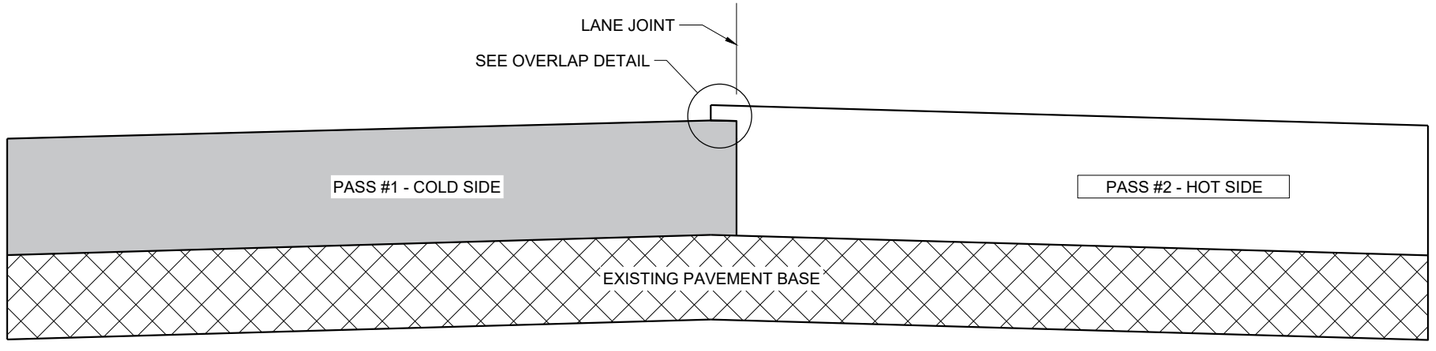
S.D.D. 13 C 1-19



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

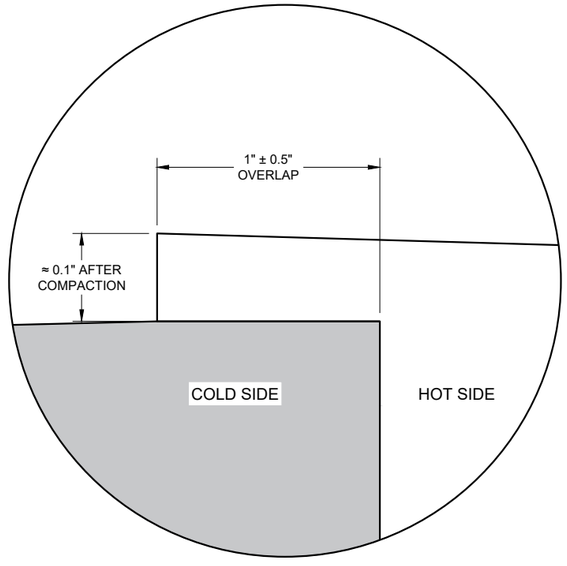
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

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

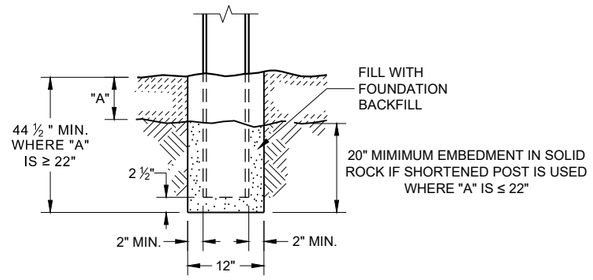
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

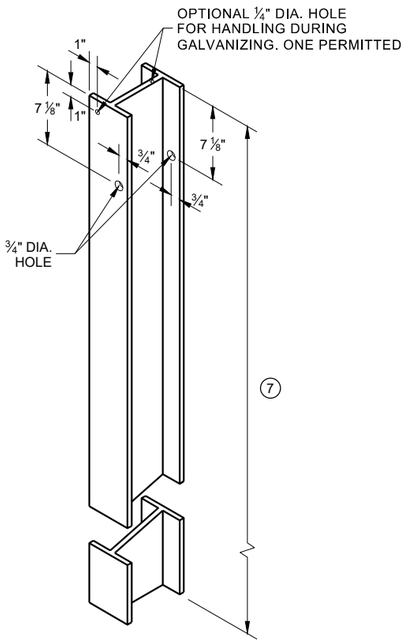
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

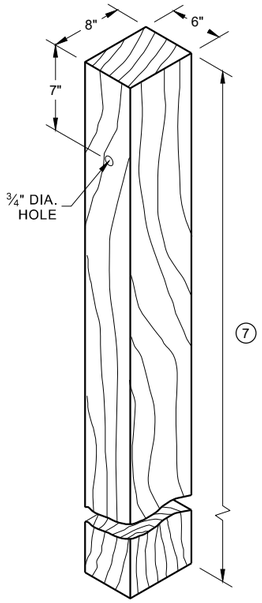
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



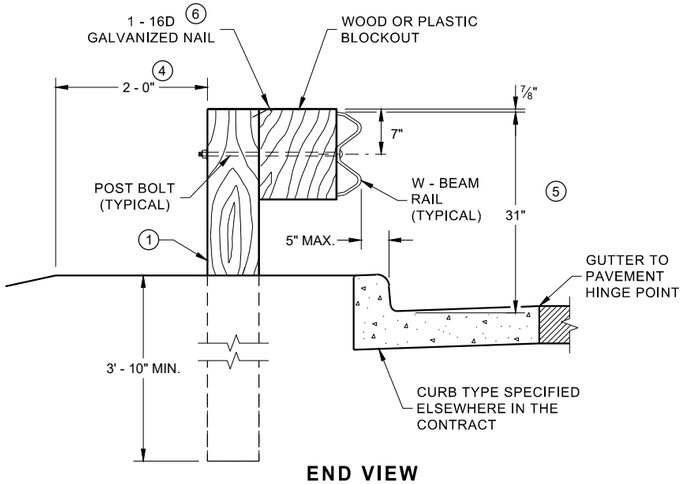
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



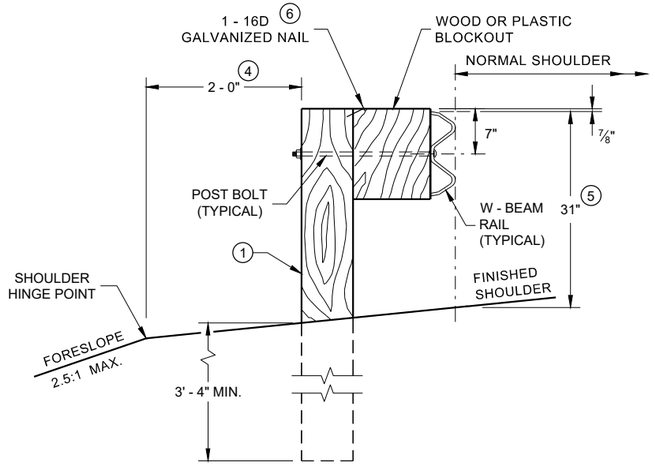
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



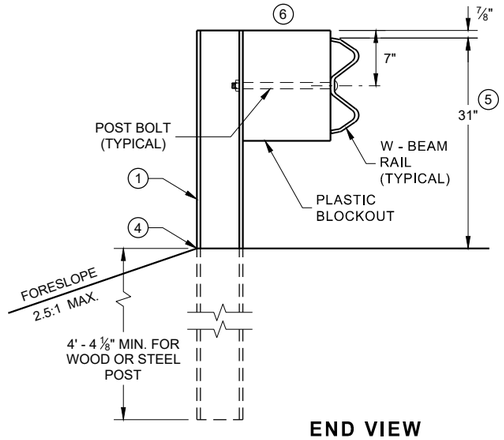
WOOD POST (6" X 8") NOMINAL (1)



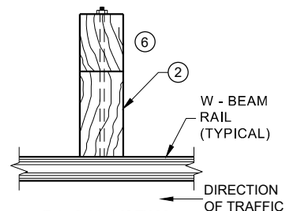
END VIEW
LOCATED ALONG A CURBED ROADWAY



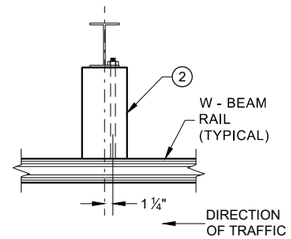
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



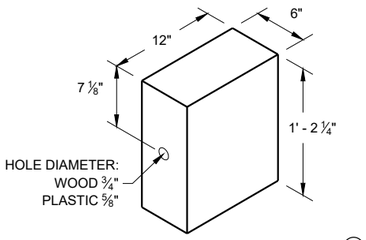
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

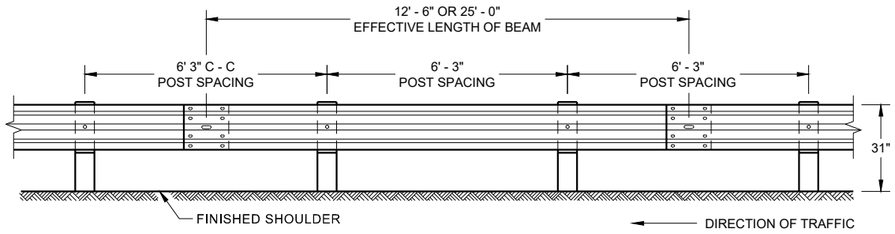
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

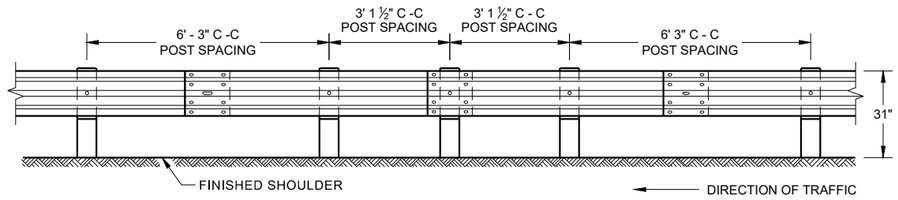
SDD 14B42 - 07a

6

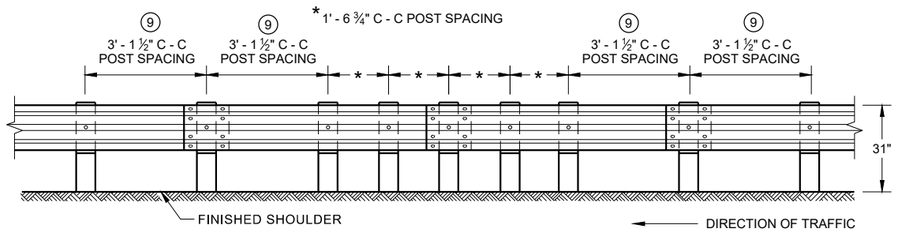
SDD 14B42 - 07a



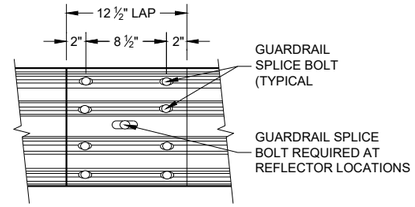
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

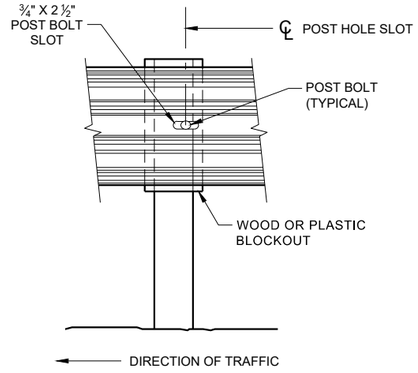
GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

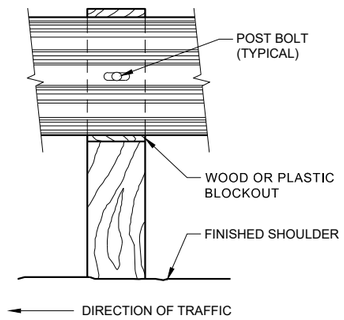
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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

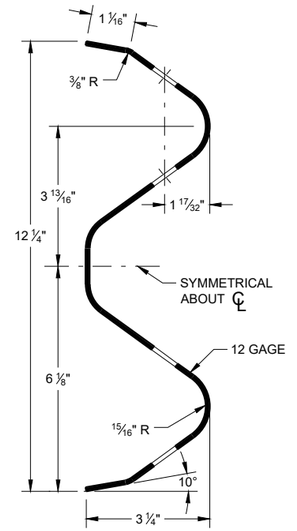
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



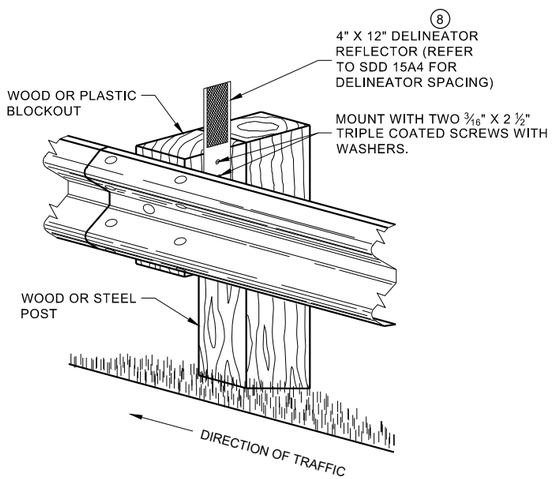
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



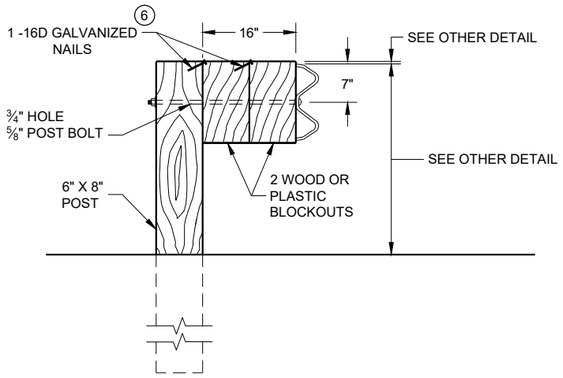
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

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

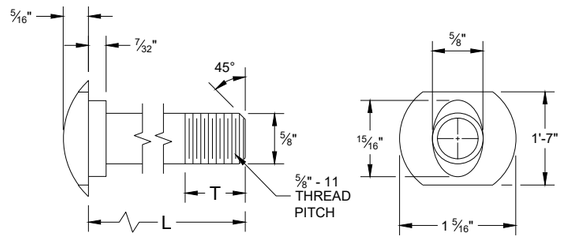


DETAIL FOR 16" BLOCKOUT DEPTH

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

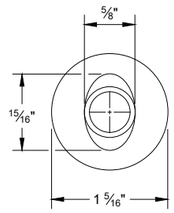
NOTE:

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

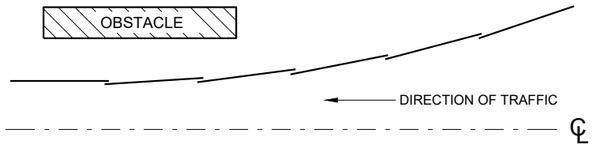


POST BOLT TABLE

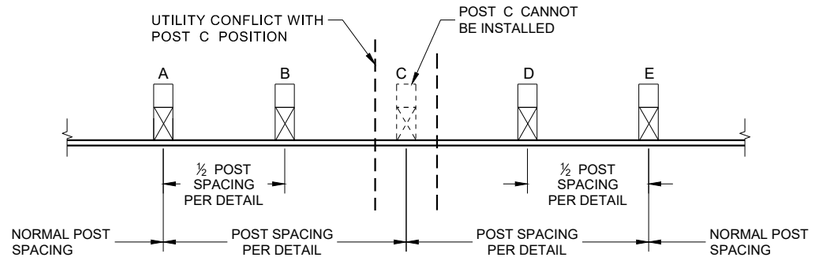
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



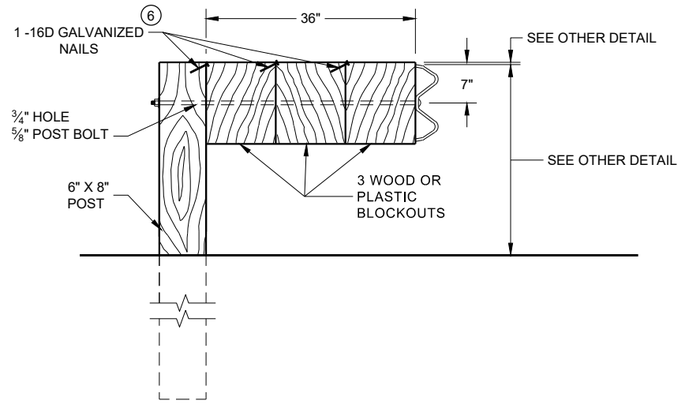
ALTERNATE BOLT HEAD



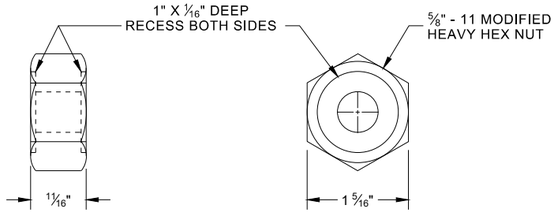
PLAN VIEW
BEAM LAPPING DETAIL



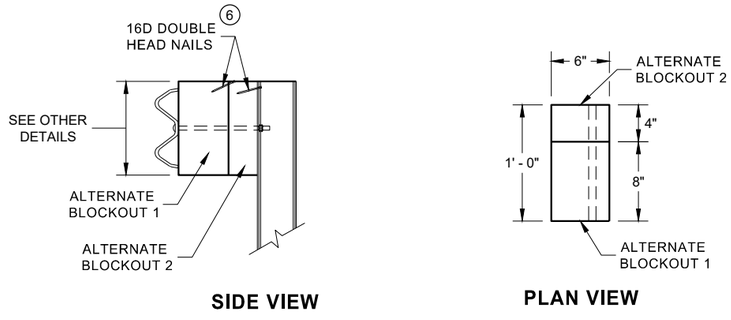
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW PLAN VIEW

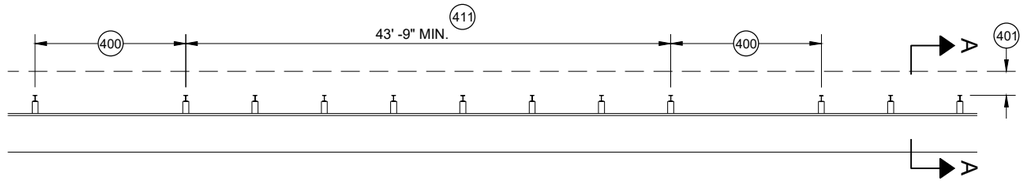
ALTERNATE WOOD BLOCKOUT DETAIL

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

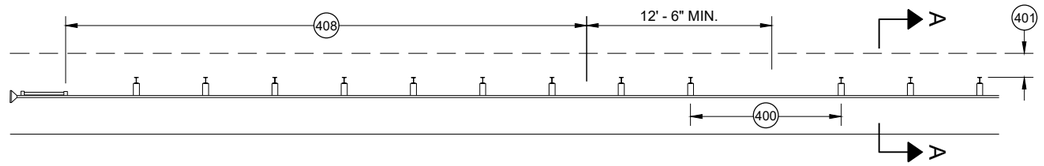
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

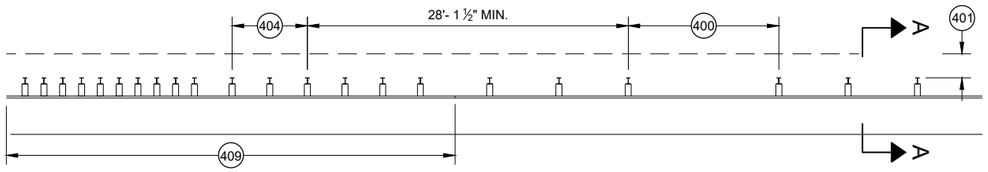
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



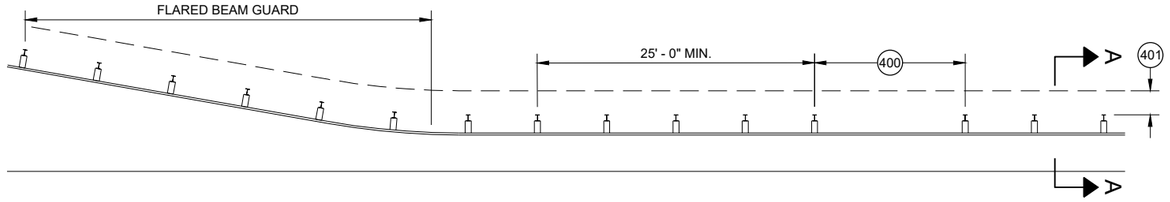
MISSING POST IN MGS GUARDRAIL



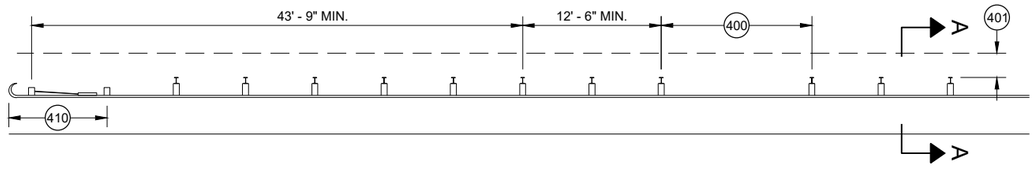
MISSING POST IN MGS GUARDRAIL NEAR EAT



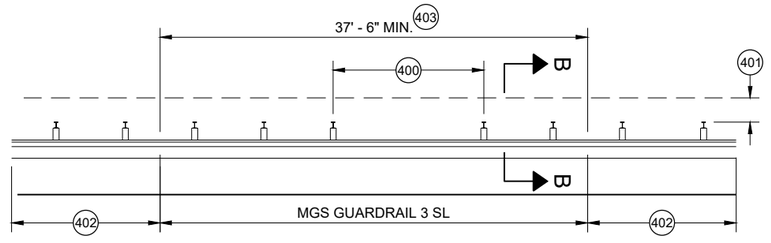
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

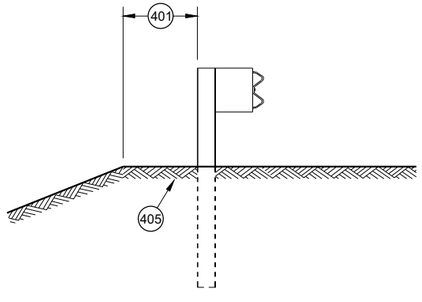


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

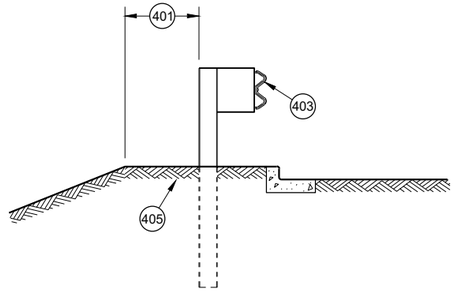


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

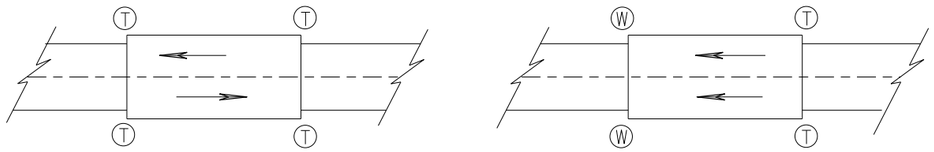
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B42 - 07d



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

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

TRANSITION USES STEEL POSTS ONLY.

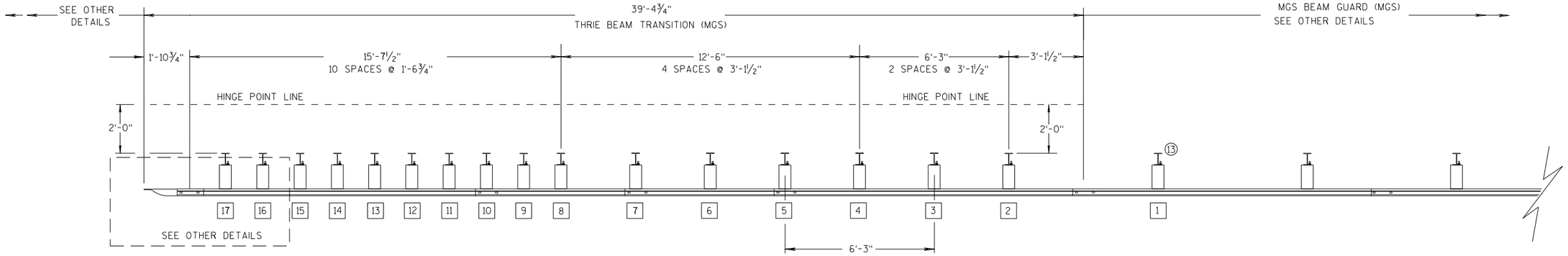
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

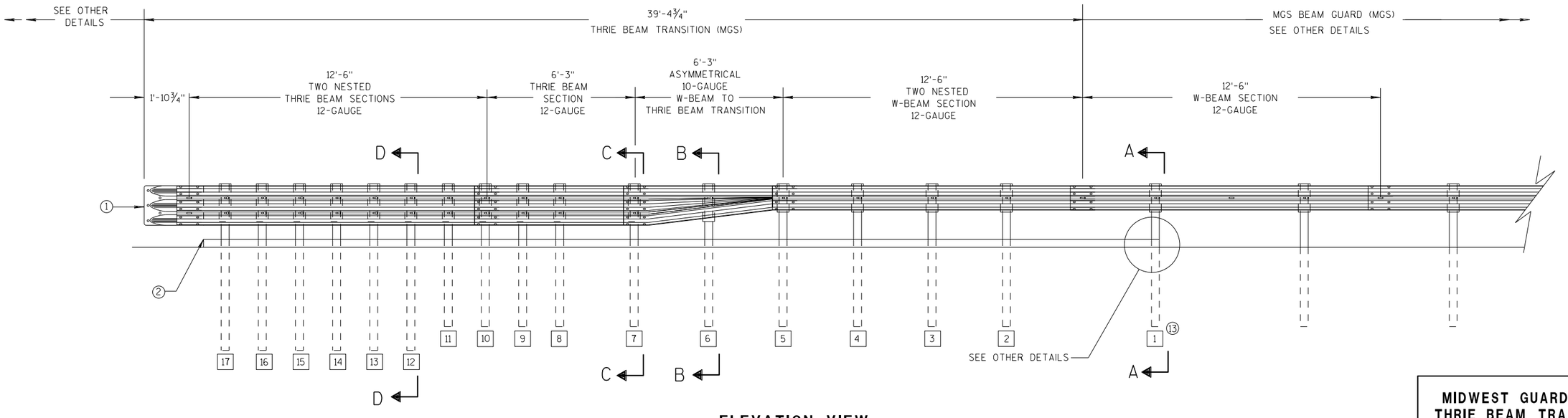
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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

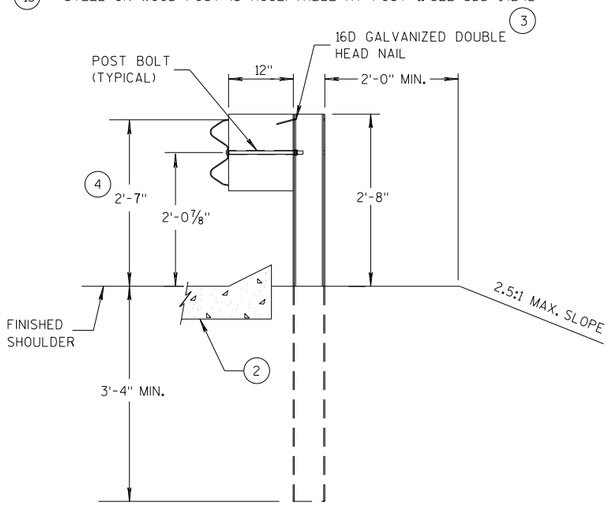
GENERAL NOTES

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

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

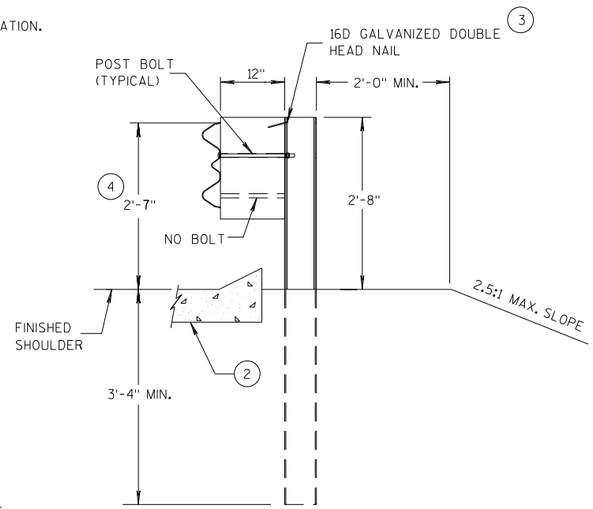
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



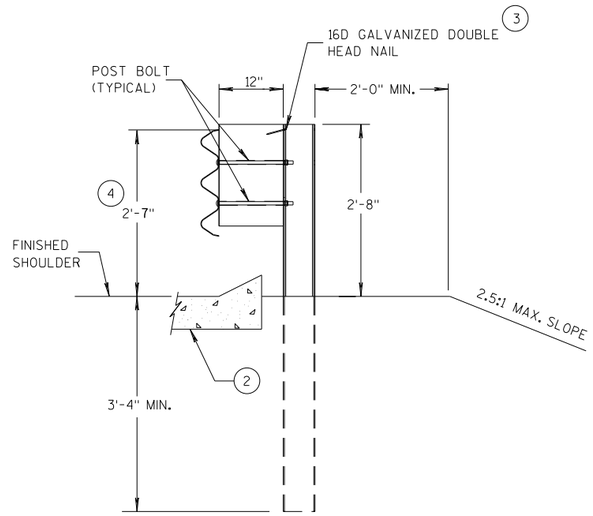
SECTION A-A (13)

POSTS 1-5



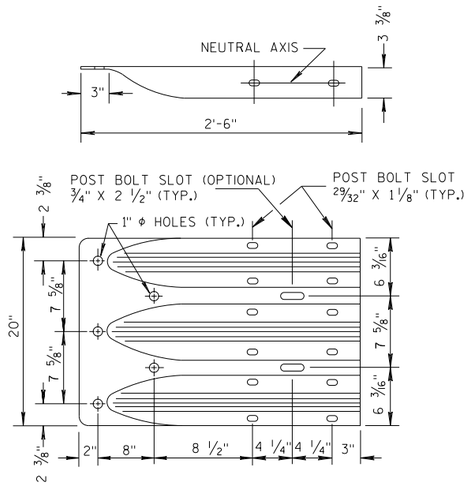
SECTION B-B

POST 6

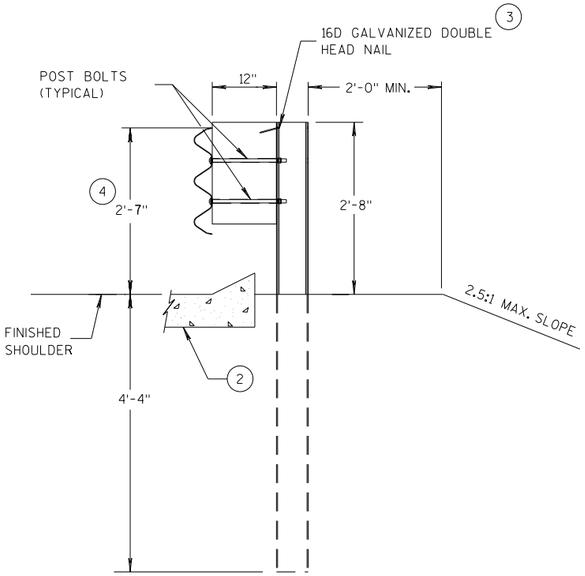


SECTION C-C

POSTS 7-11

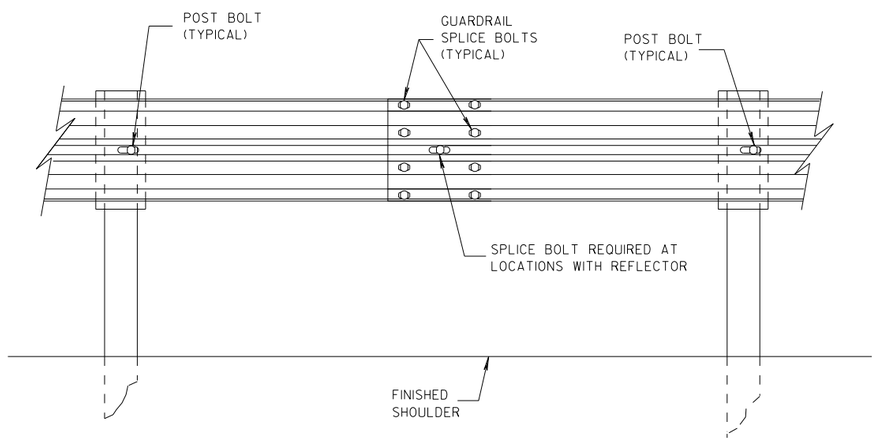


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

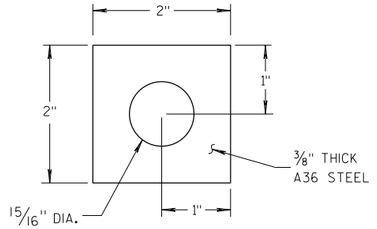
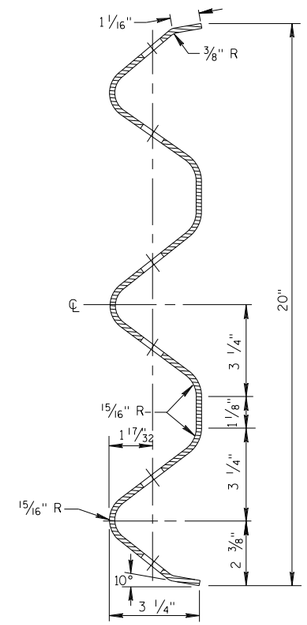


PLATE WASHER DETAIL



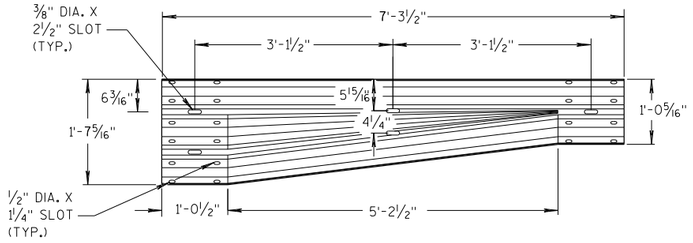
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

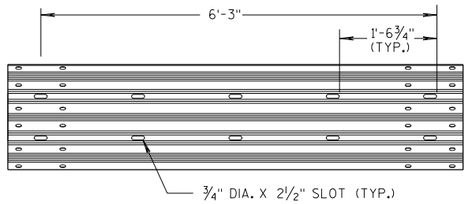
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

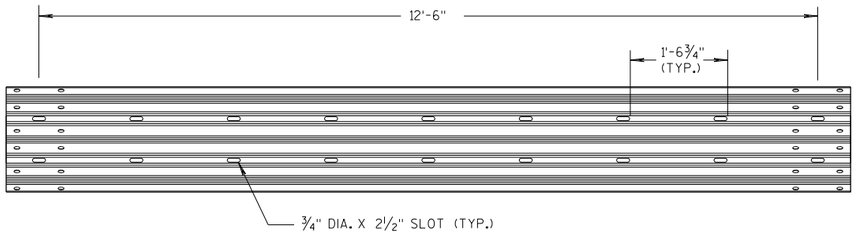
S.D.D. 14 B 45-5b



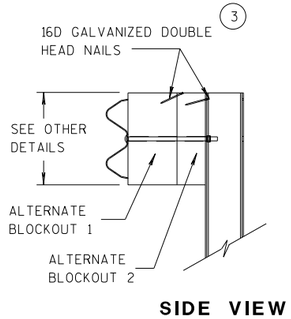
W-BEAM TO THRIE BEAM TRANSITION SECTION



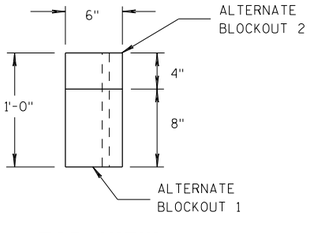
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

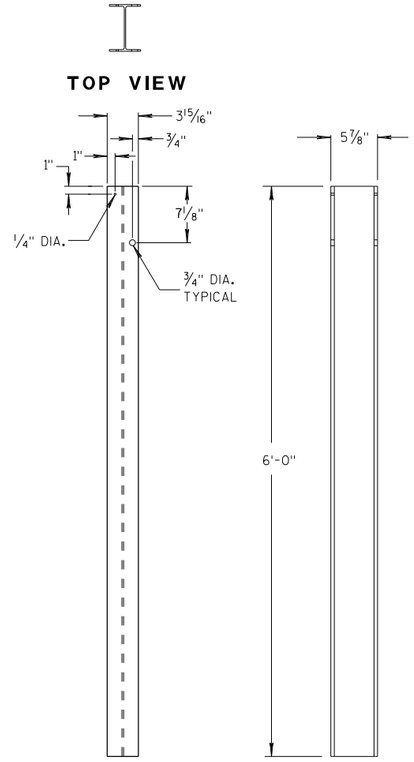


SIDE VIEW



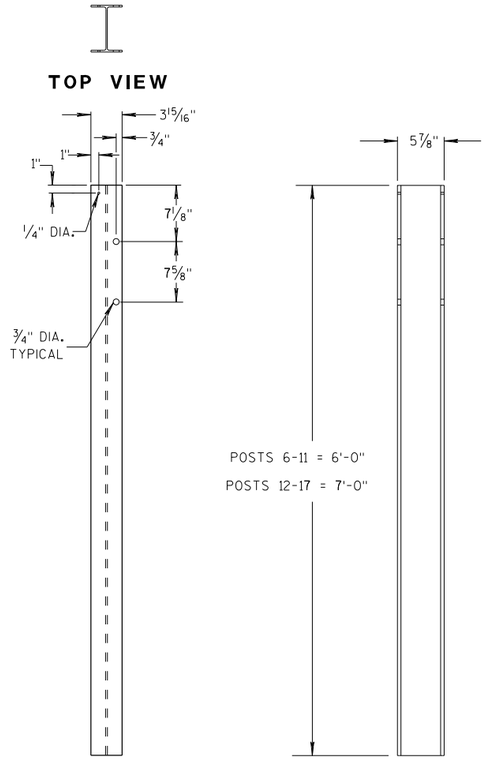
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



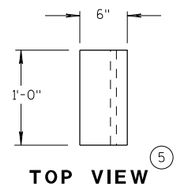
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

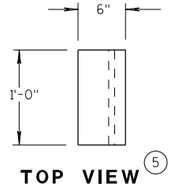


FRONT VIEW SIDE VIEW

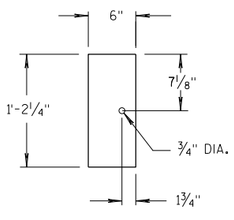
STEEL POSTS 6-17



TOP VIEW (5)

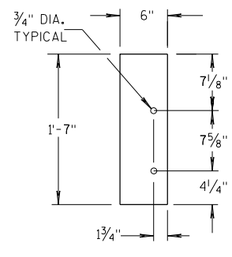


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

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

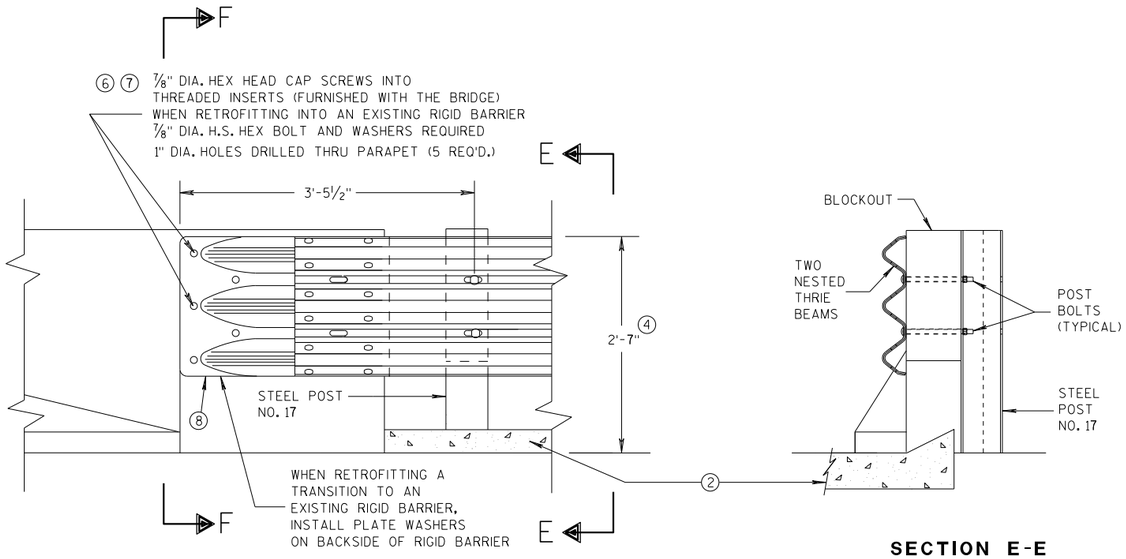
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

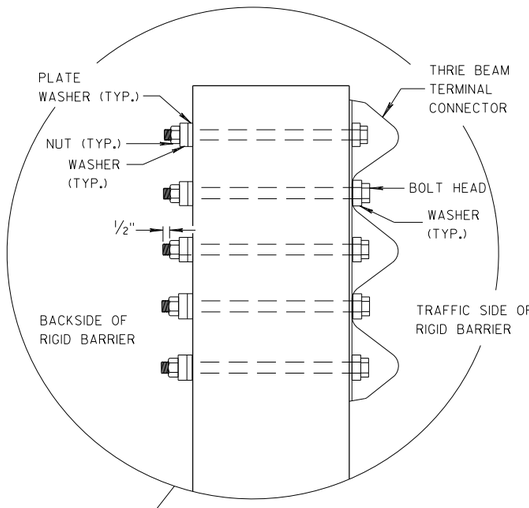
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

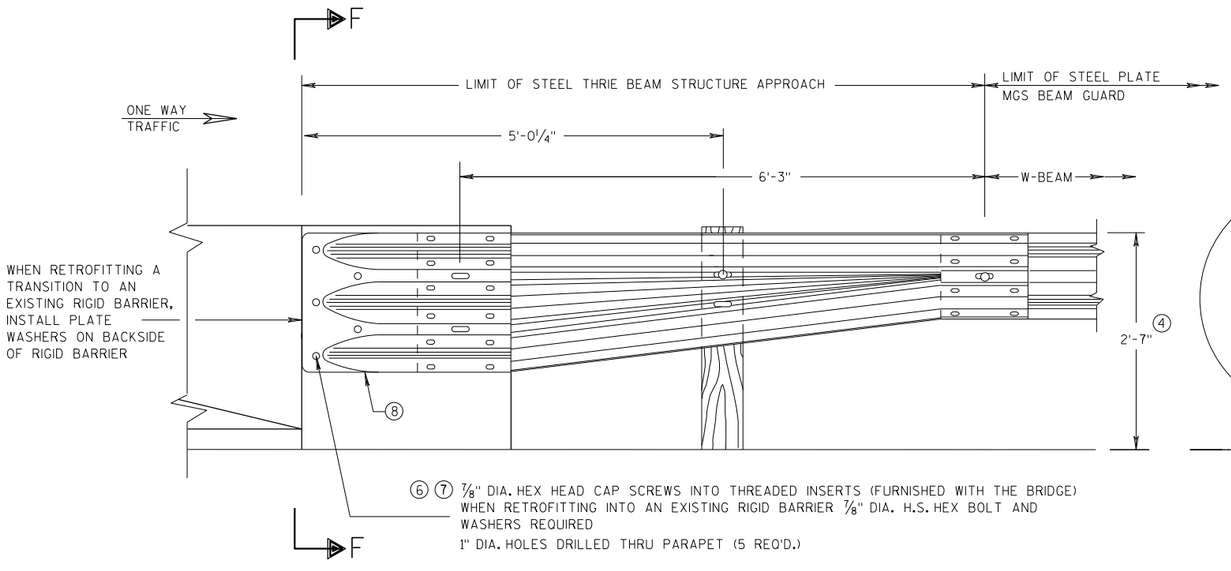
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

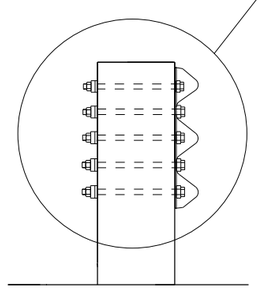
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

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

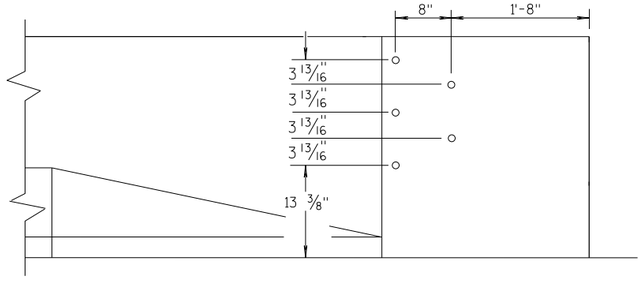




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

GENERAL NOTES

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

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

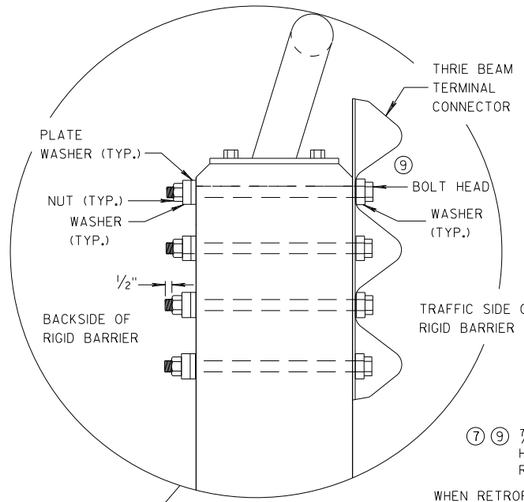
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

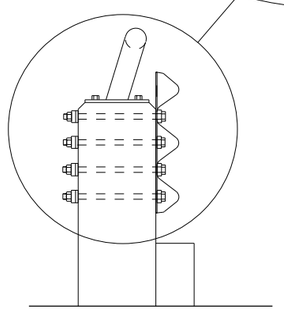
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

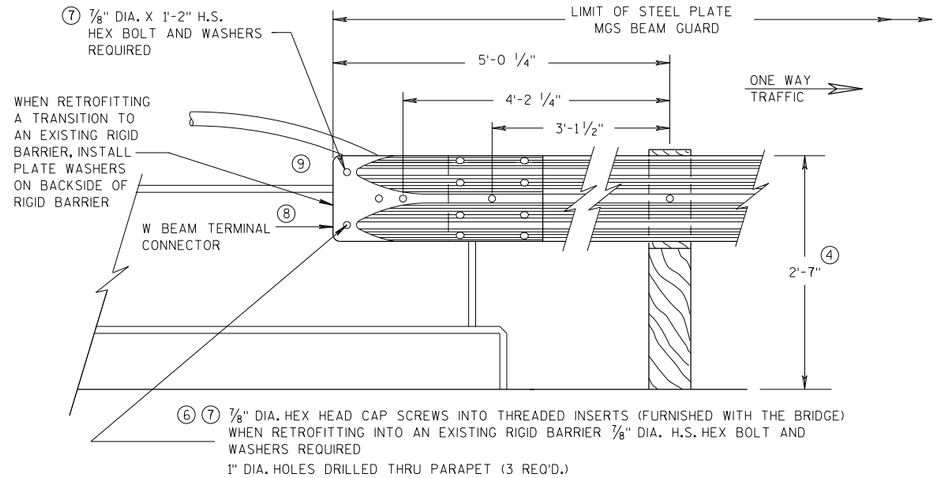
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.





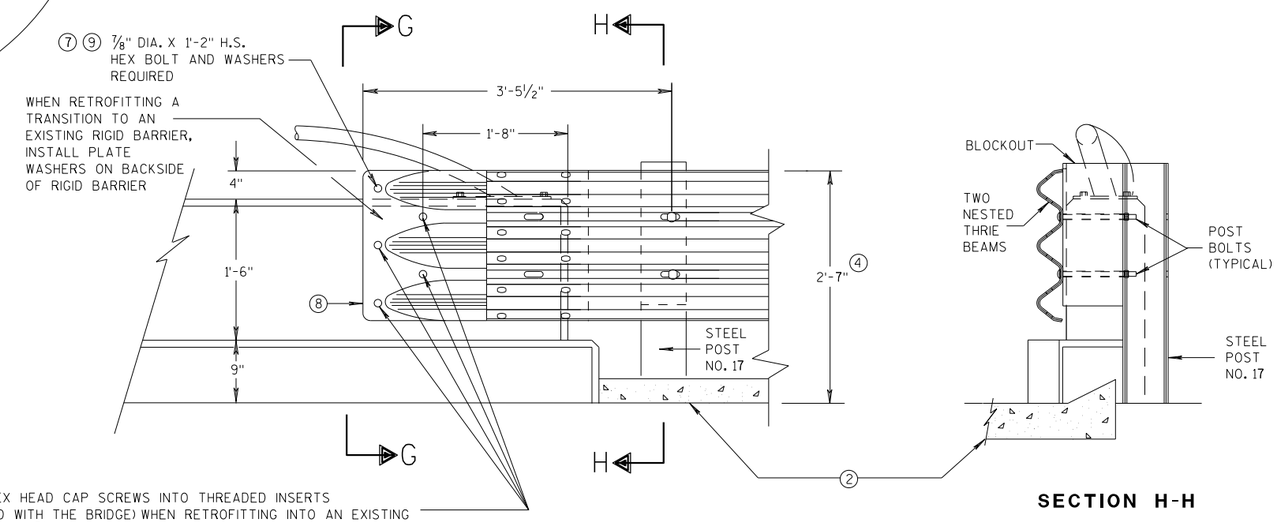
SECTION G-G



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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07/2018 — DATE
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S.D.D. 14 B 45-5e

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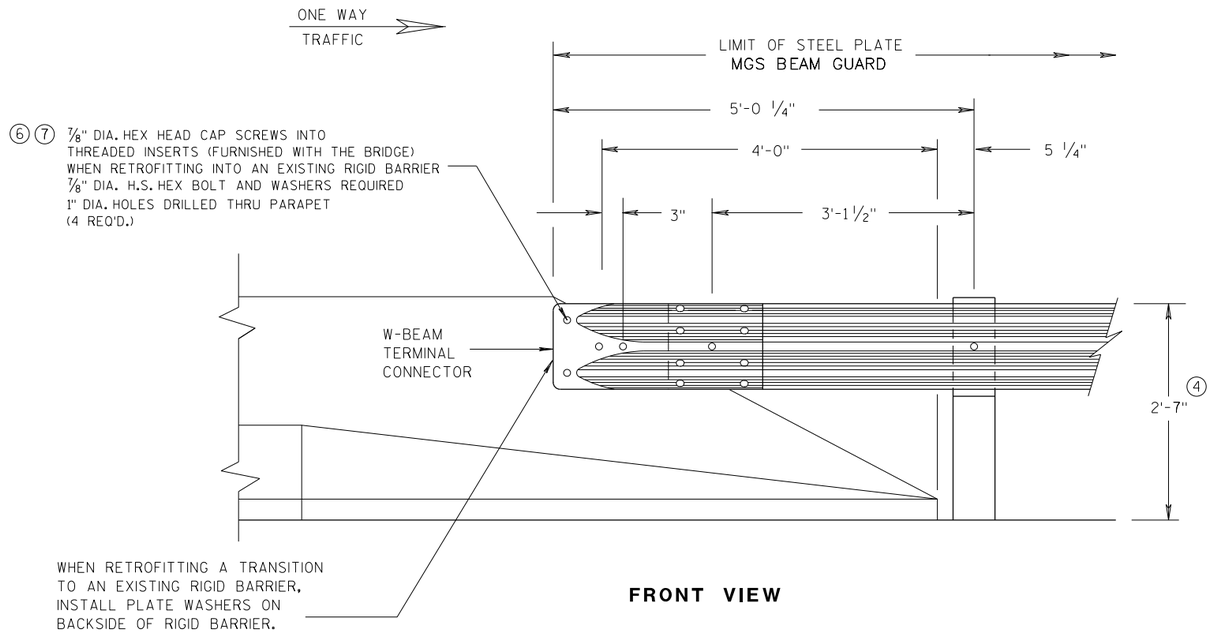


FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

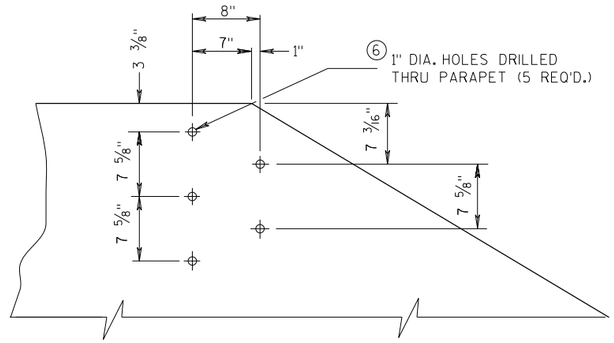
GENERAL NOTES

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

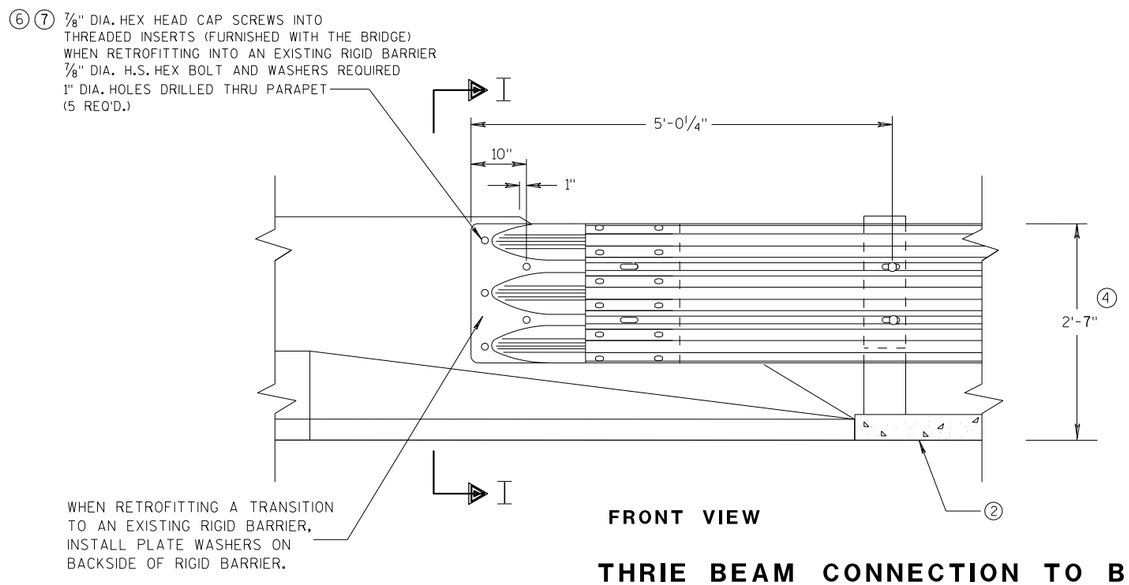
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

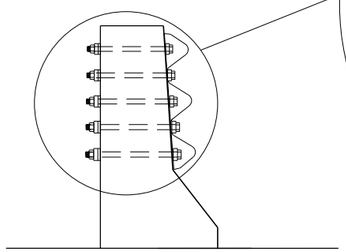
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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



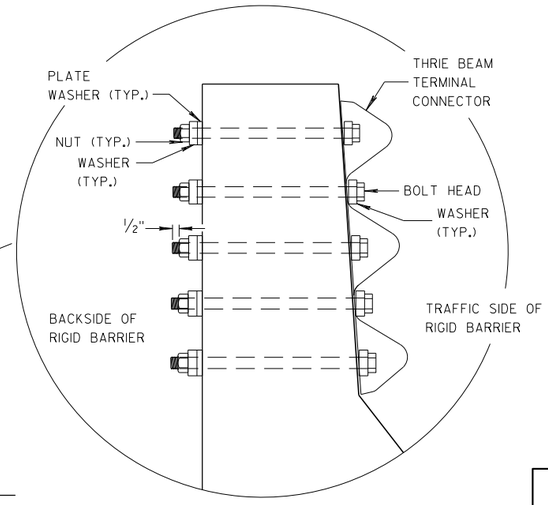
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS I[illegible]ENT UNIT SUPERVI
FHWA

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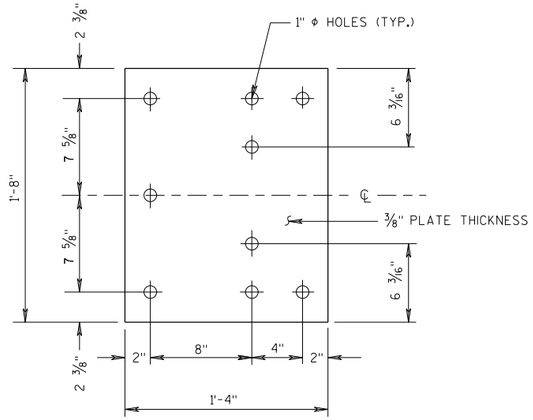
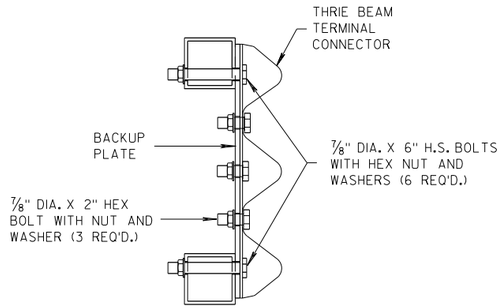
S.D.D. 14 B 45-5f



BACK-UP PLATE DETAIL

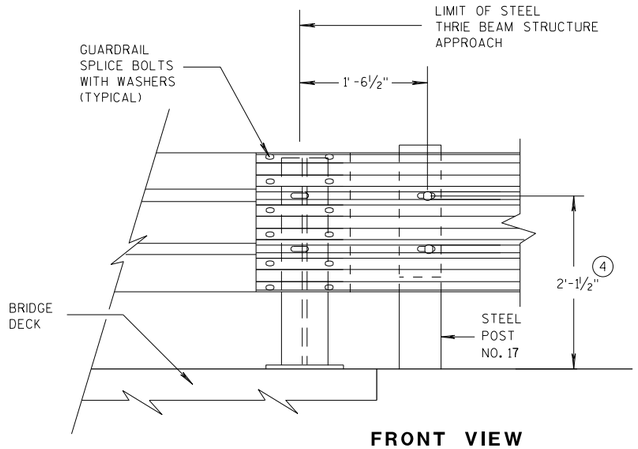


SECTION J-J

GENERAL NOTES

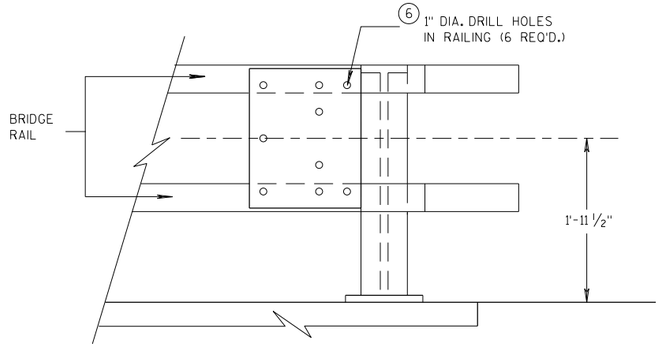
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(6) DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

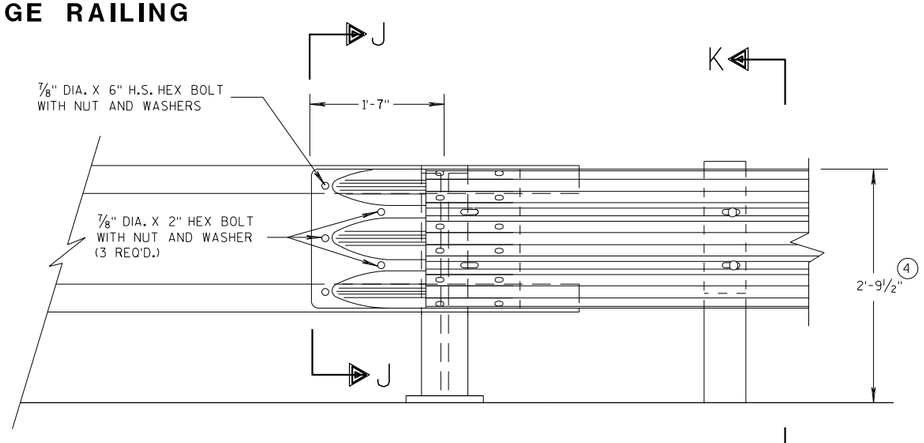


FRONT VIEW

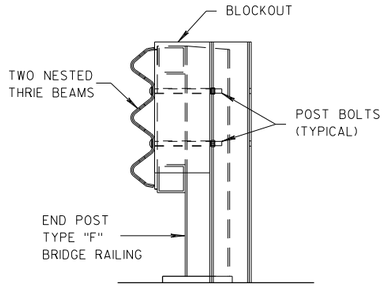
THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE
FHWA

/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

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

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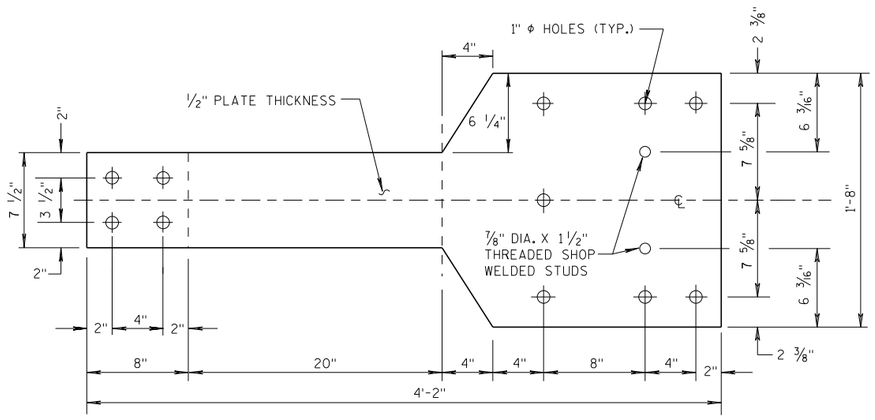
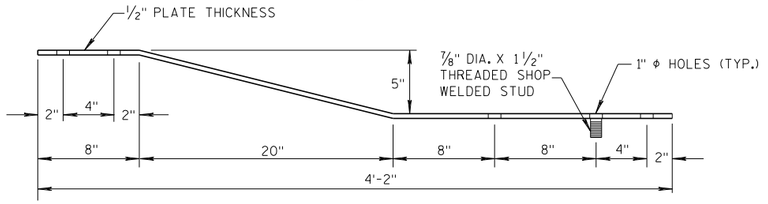
S.D.D. 14 B 45-5g

GENERAL NOTES

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

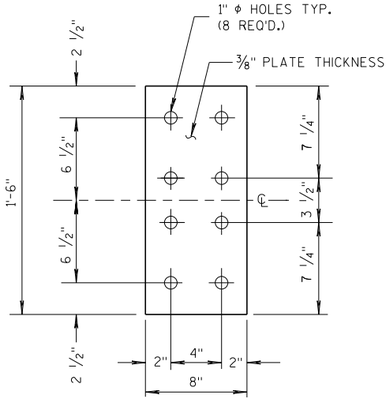


FRONT VIEW



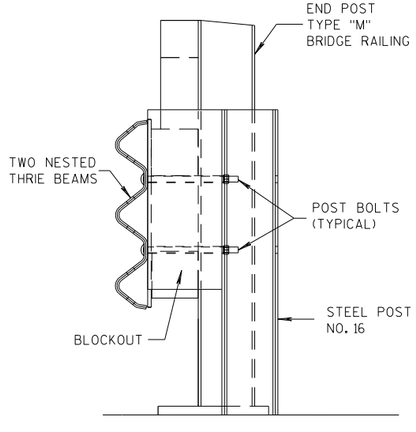
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

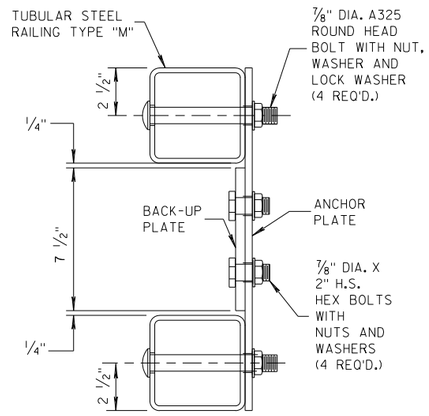


FRONT VIEW

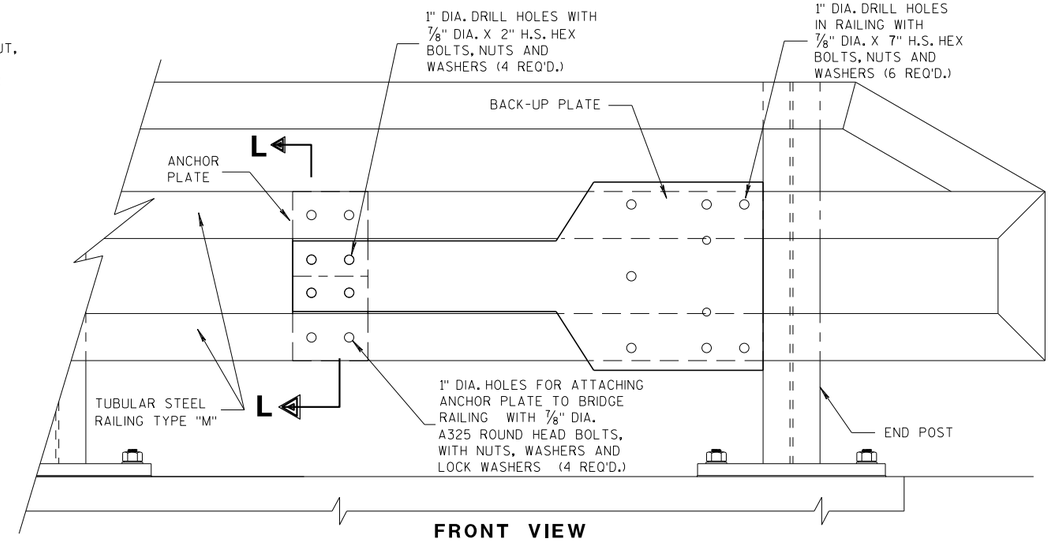
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

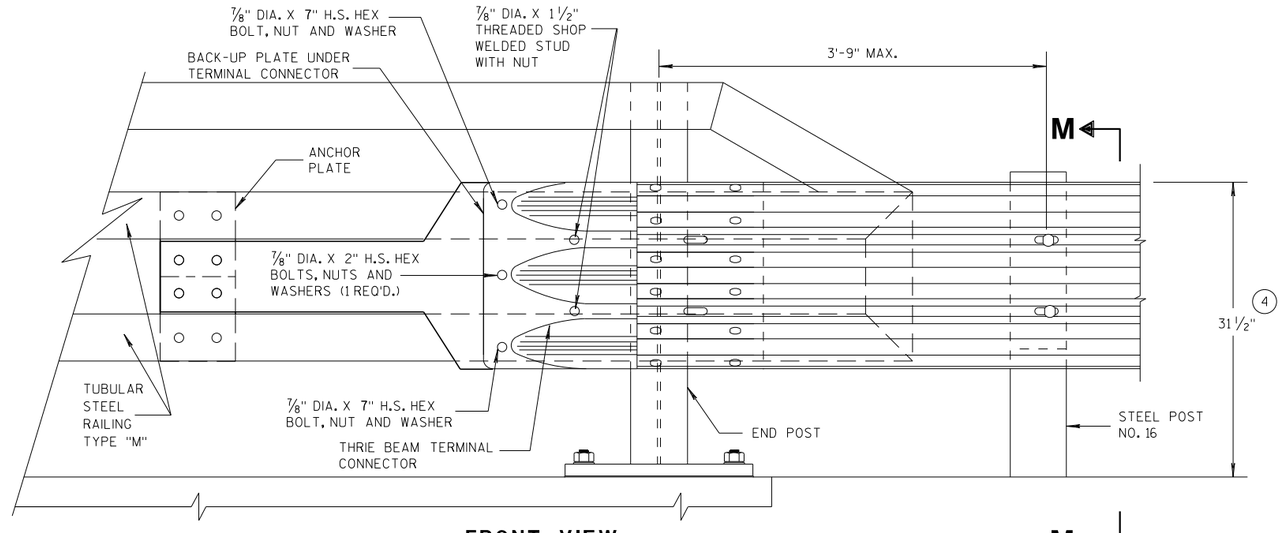


SECTION L-L

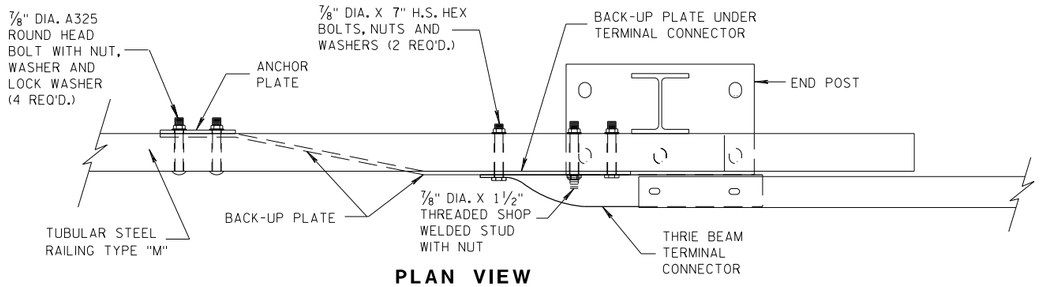


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

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

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

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

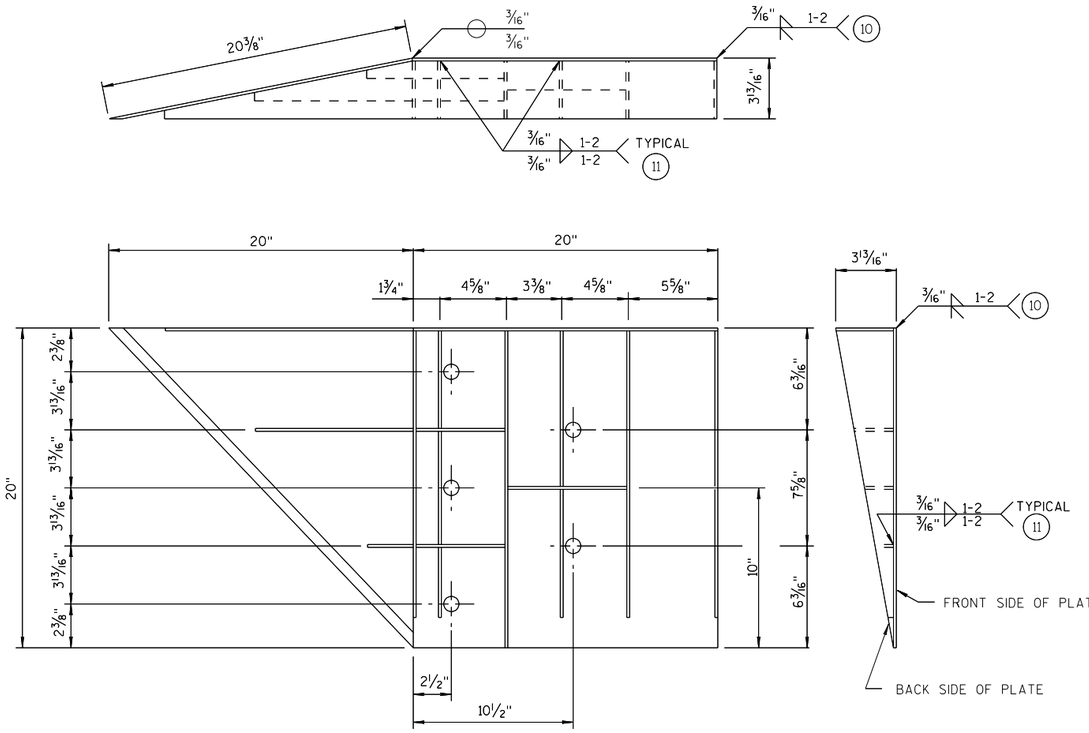
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

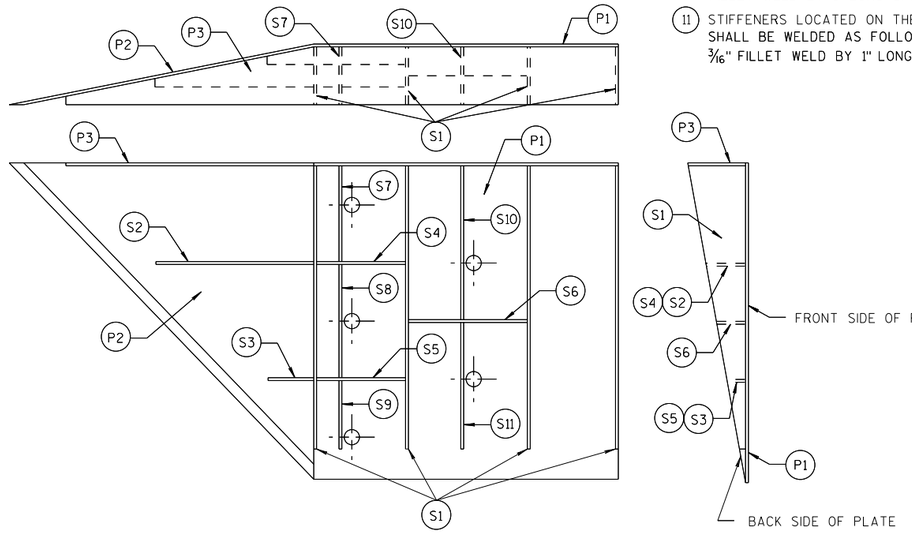


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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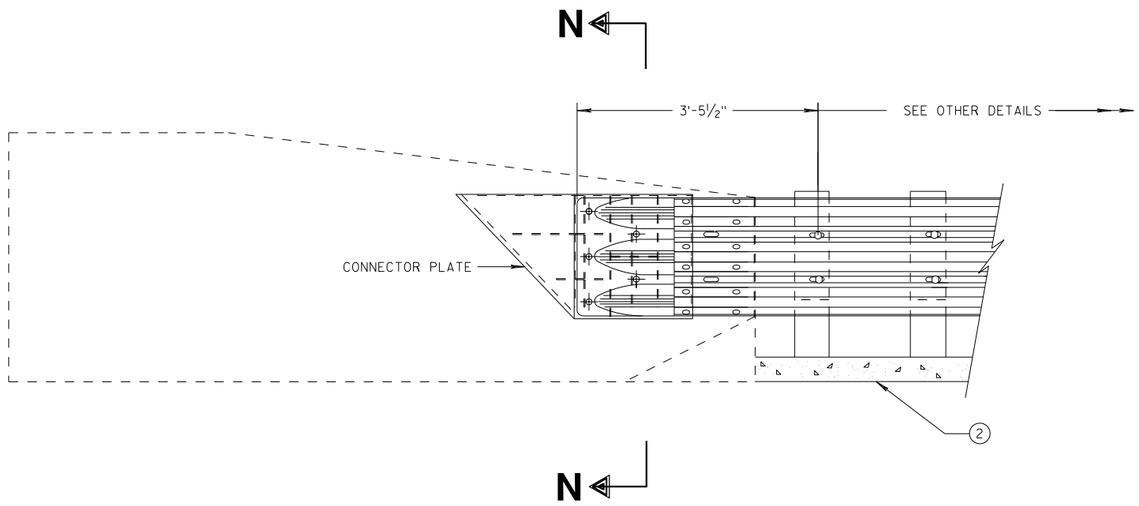
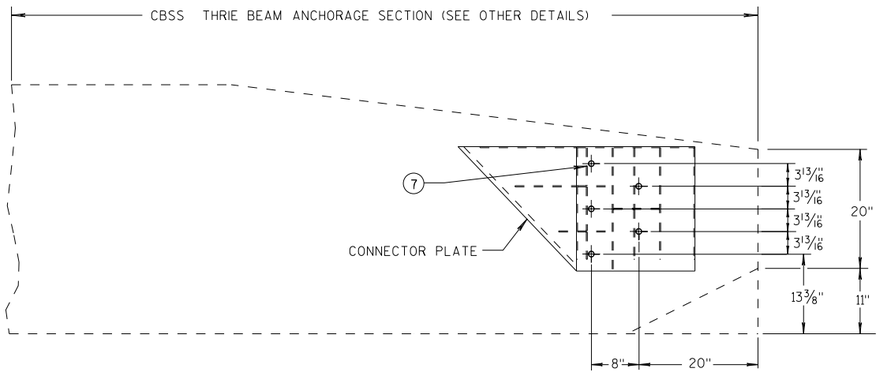


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



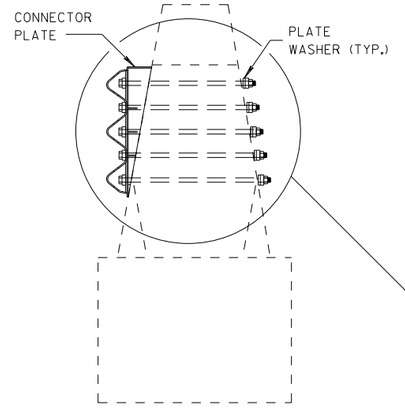
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

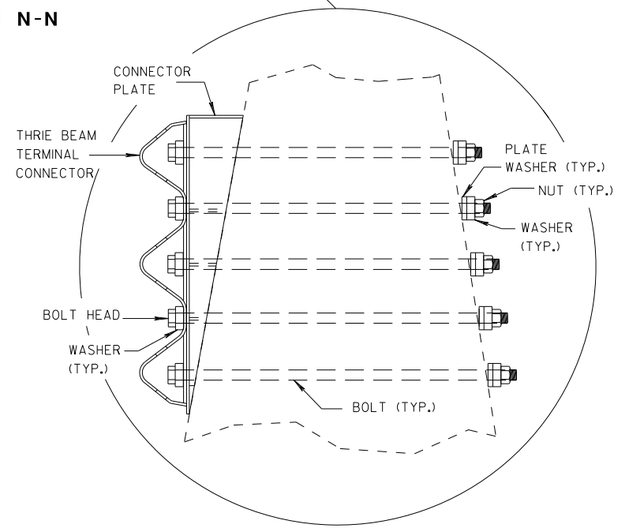
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

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



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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7/2018
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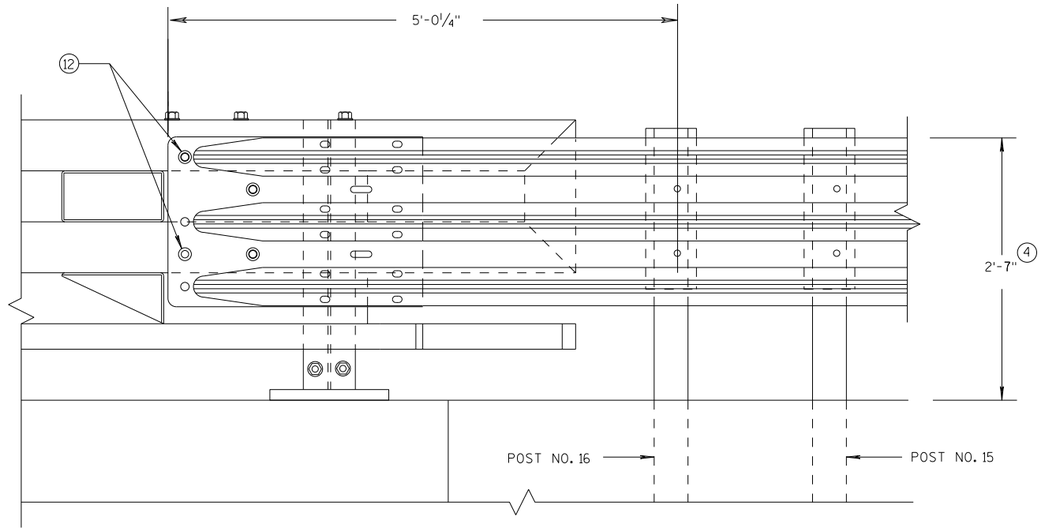
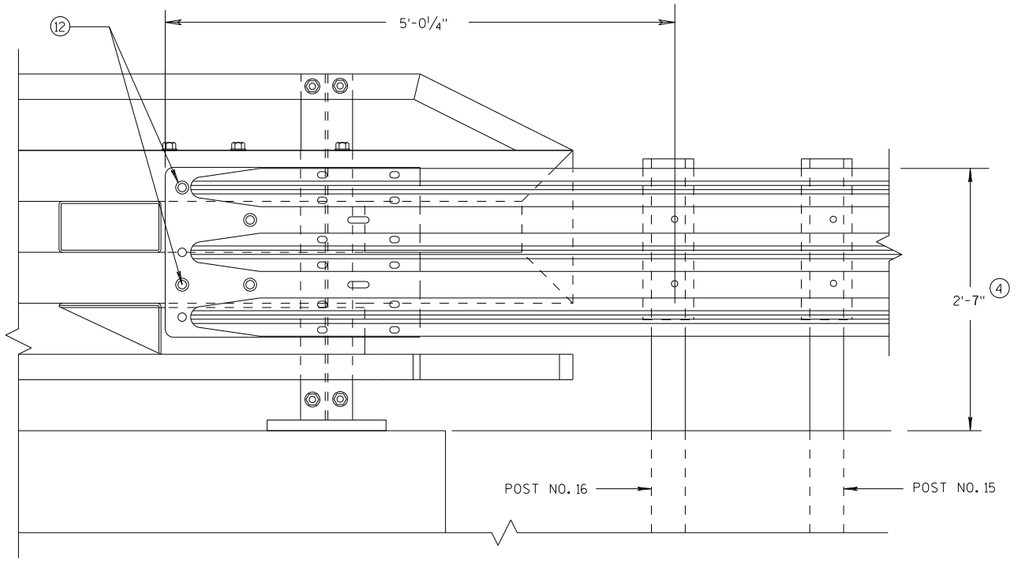
/S/ Rodney Taylor
ROADWAY STANDARDS DI
UNIT SUPERVIS
NT
FHWA



ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

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

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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7/2018
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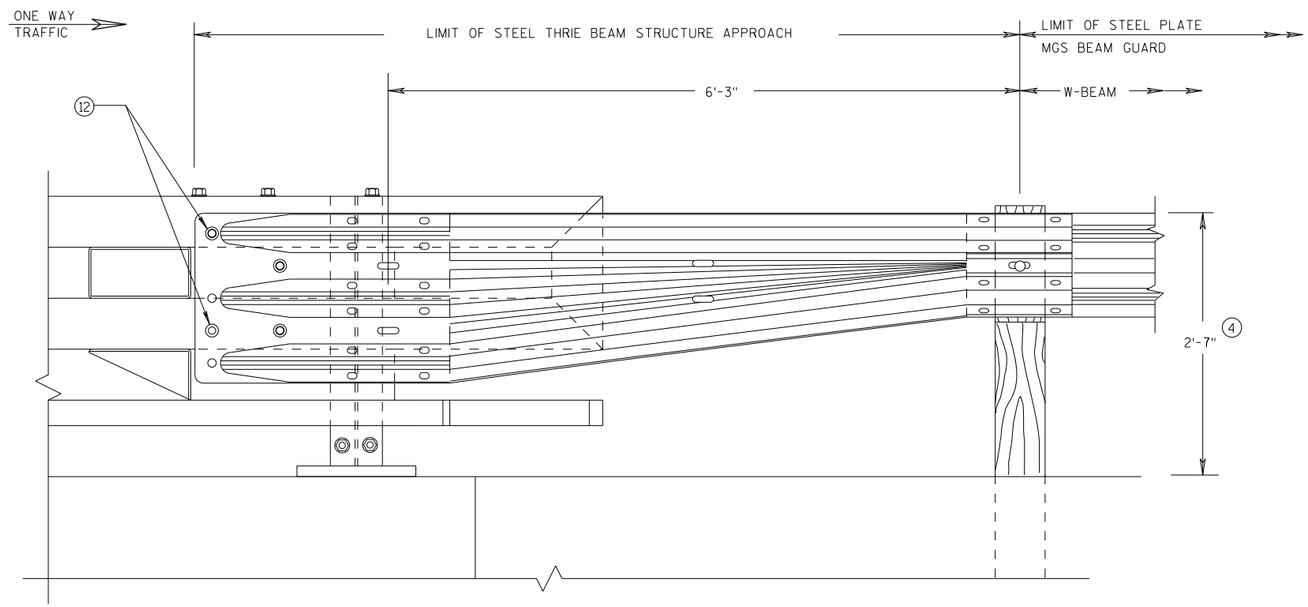


FRONT VIEW

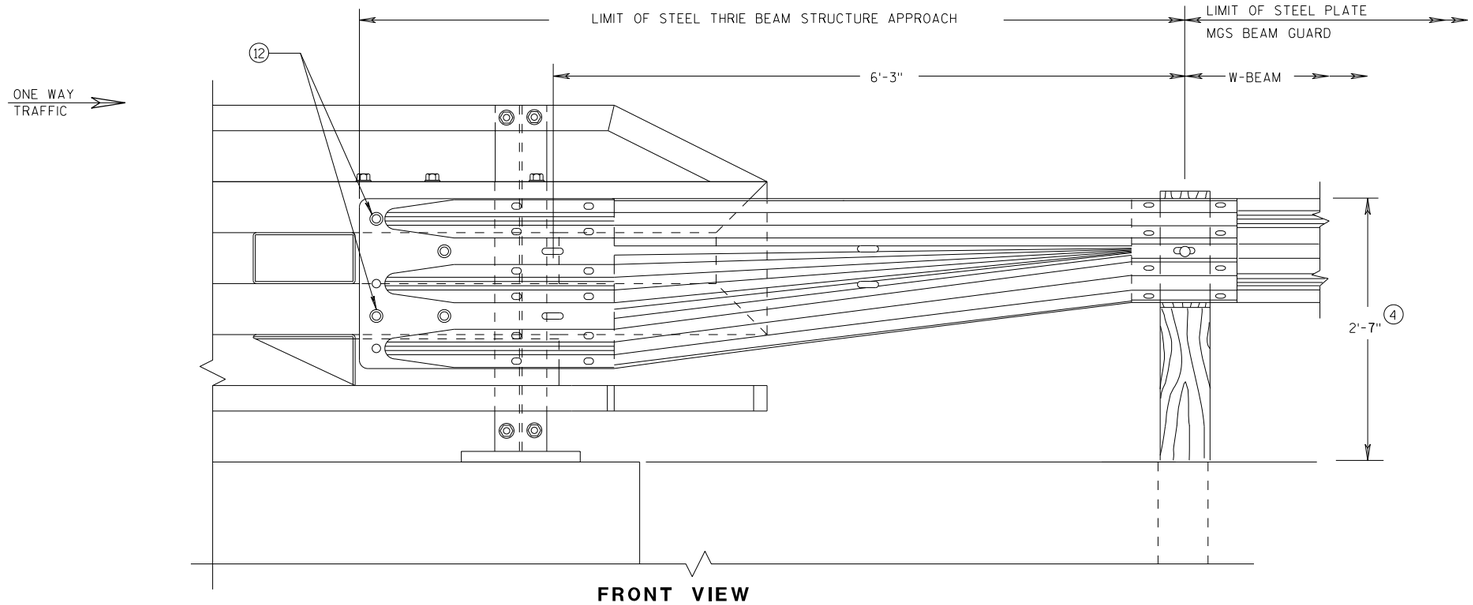
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

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

GENERAL NOTES

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

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND $\frac{1}{2}$-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

(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

7/2018
DATE

/S/ Rodney Taylor
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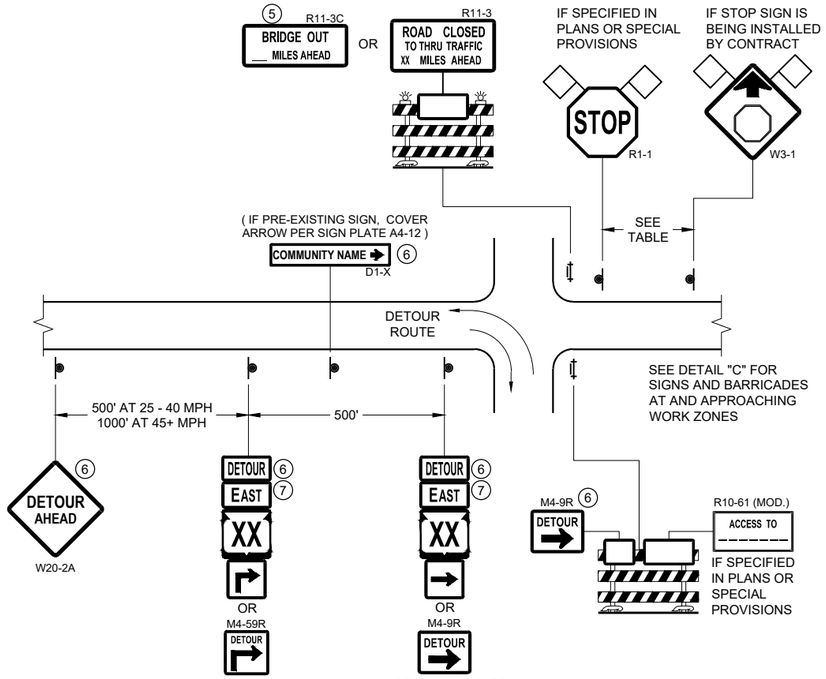
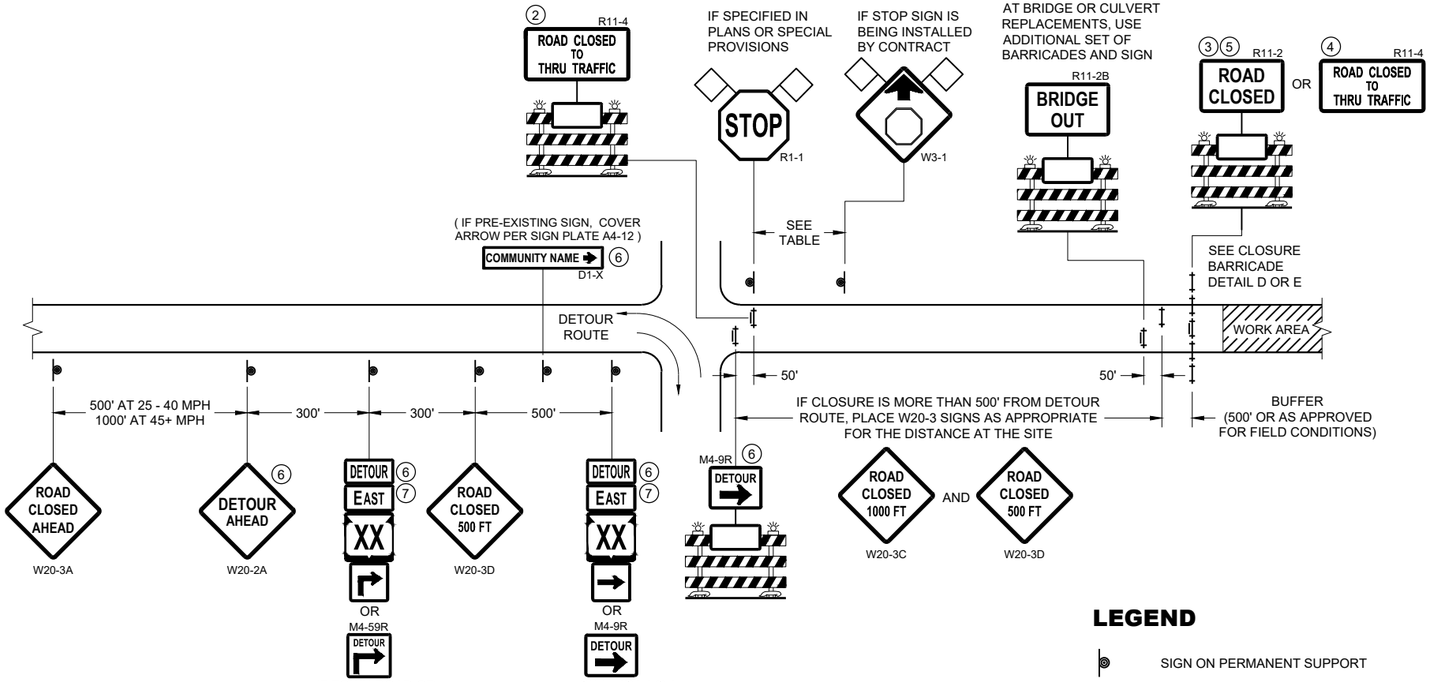


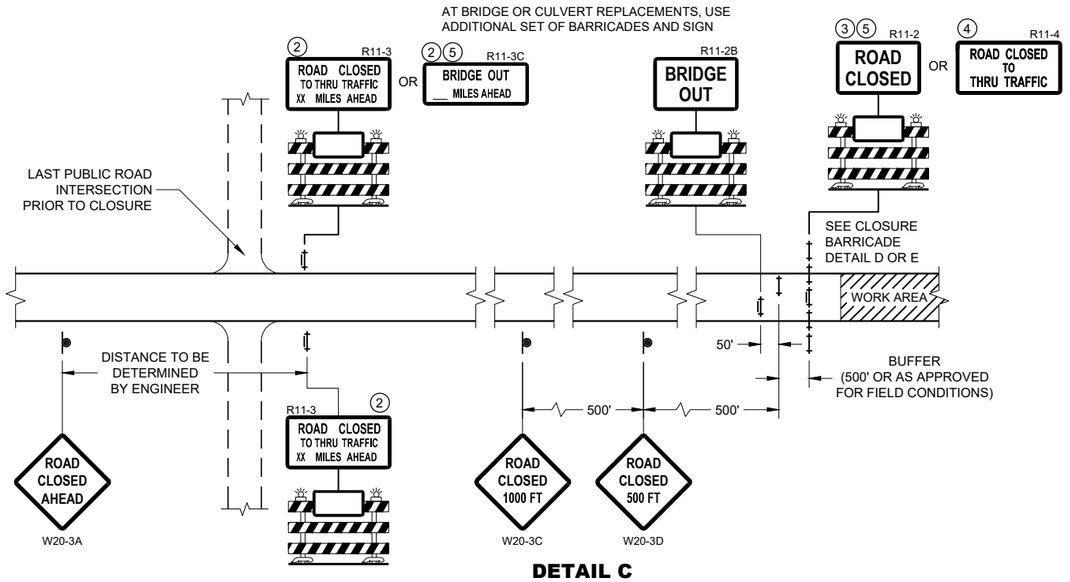


DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

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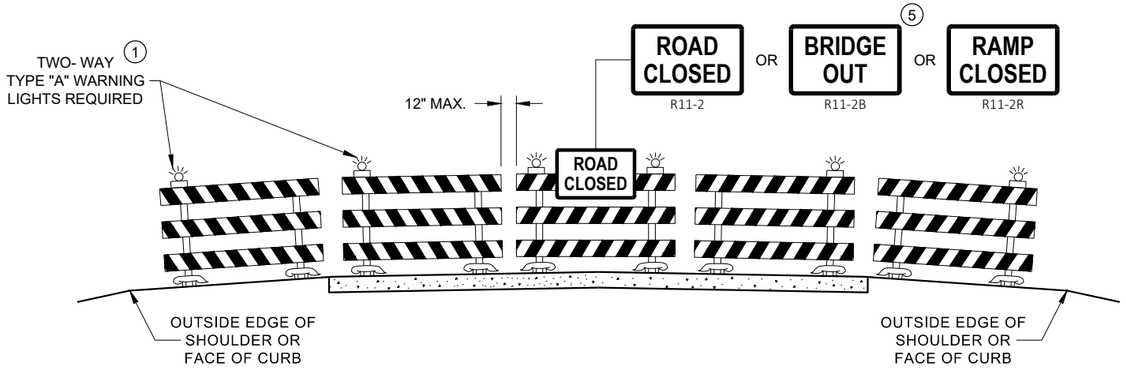
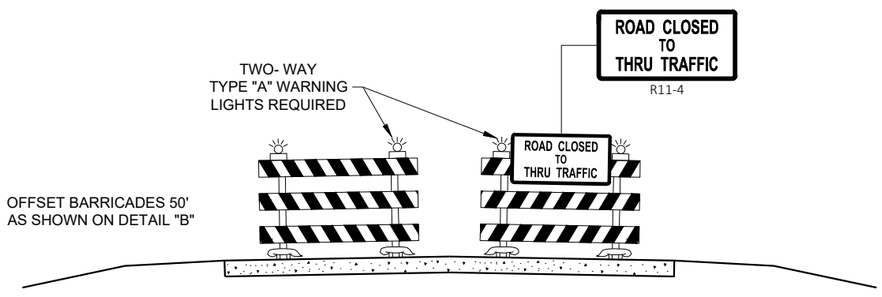
SDD 15C02 - 09a

SDD 15C02 - 09a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
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THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

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

GENERAL NOTES

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

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

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

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

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

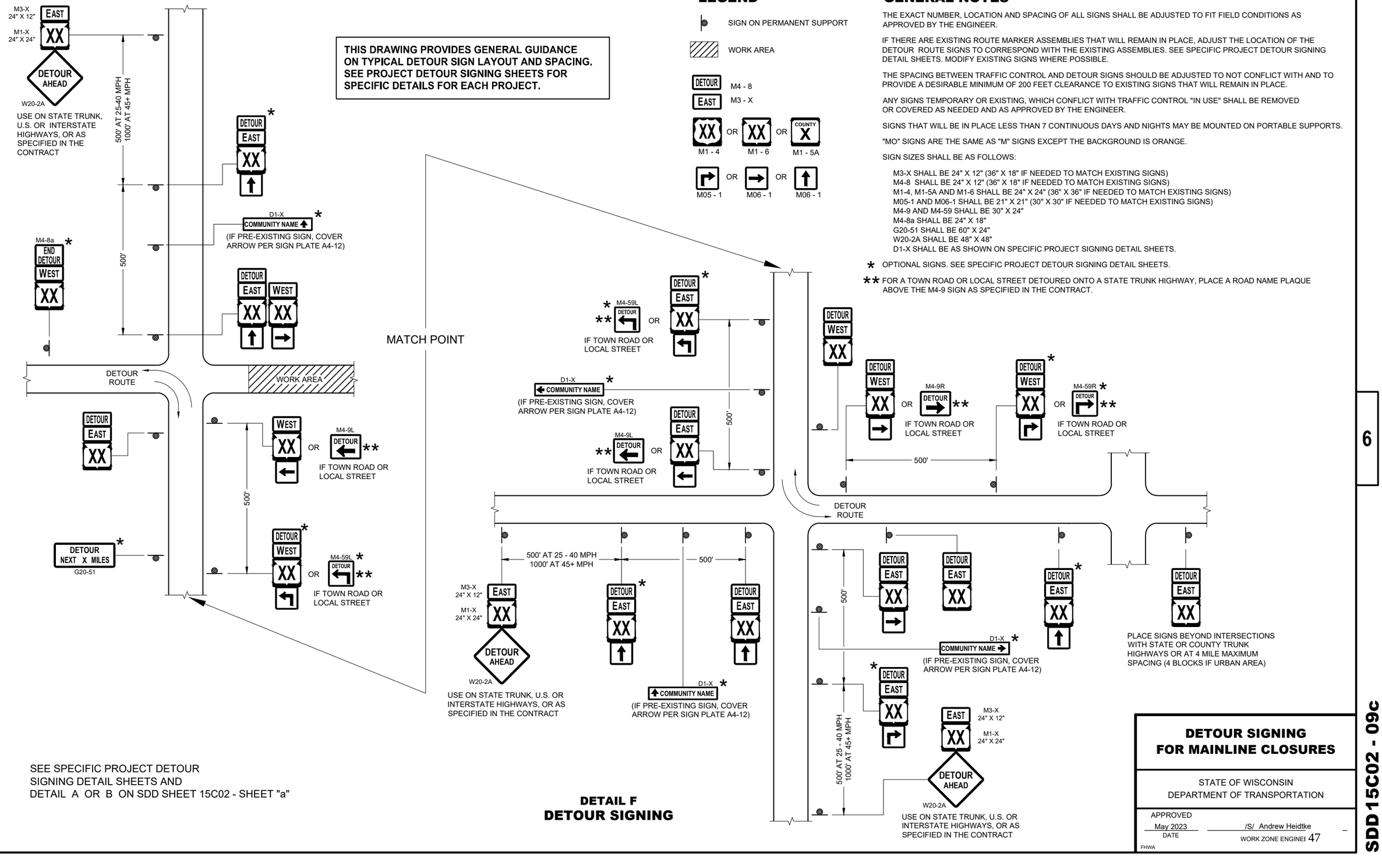
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

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

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



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

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

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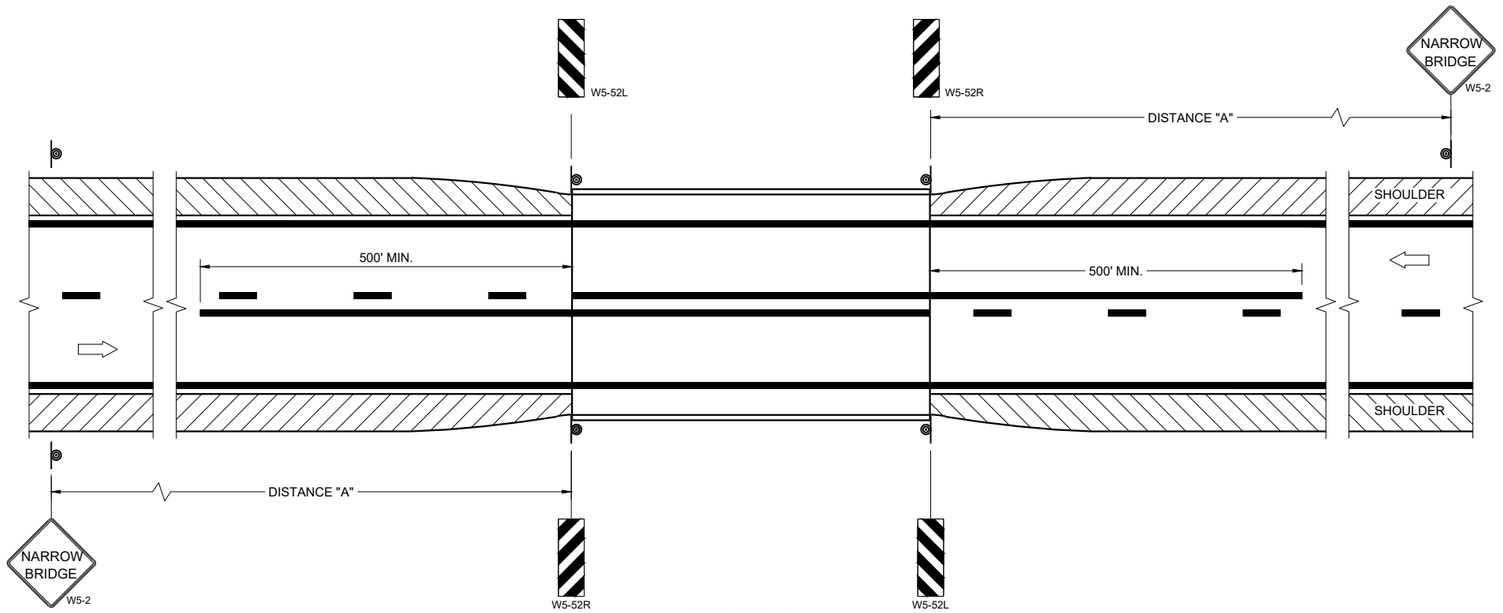
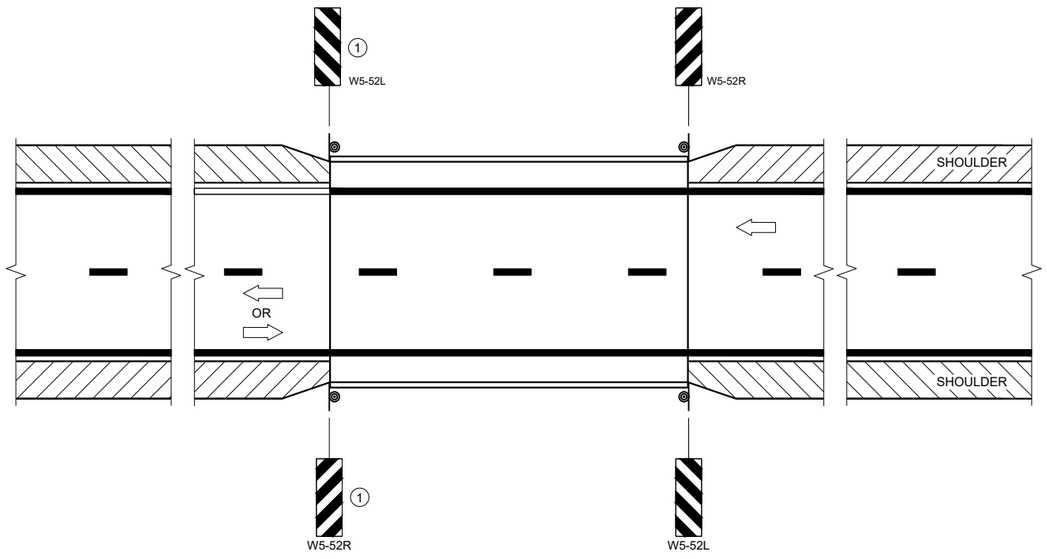
SDD 15C02 - 09c



SITUATION 1

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



SITUATION 2

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

GENERAL NOTES

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

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

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

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

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

SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
SDD 15C06-12

GENERAL NOTES

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

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

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

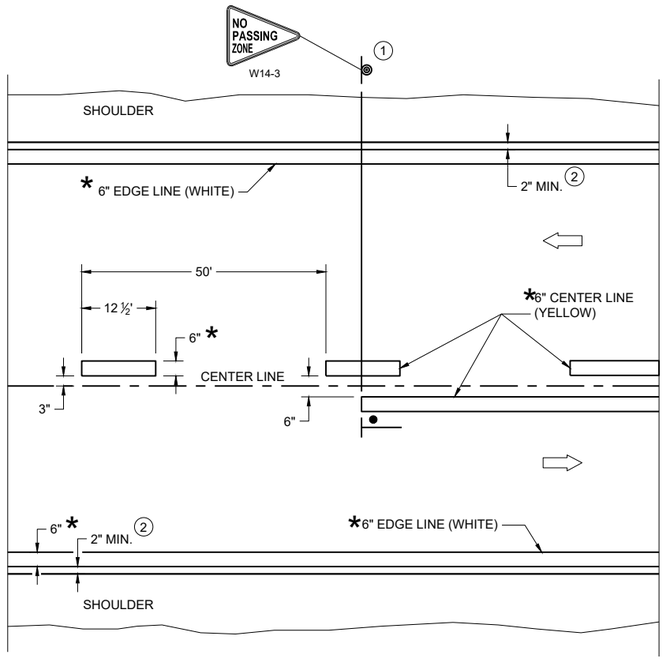
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

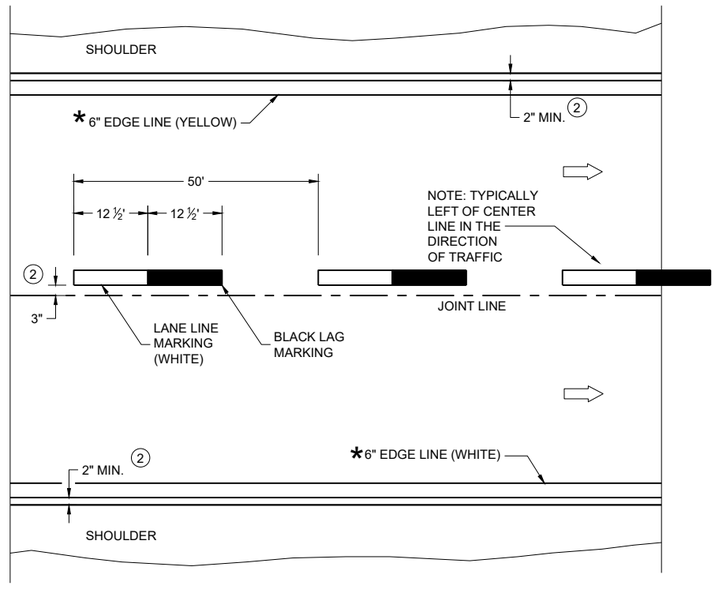
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

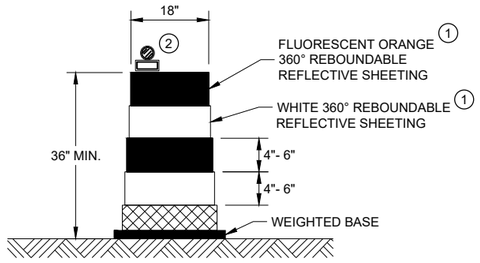
PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2024 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	

6
SDD 15C08-24a

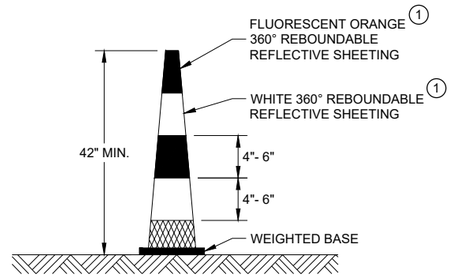
GENERAL NOTES

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



DRUM

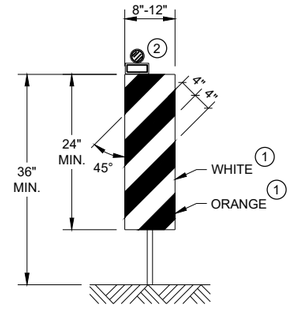
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

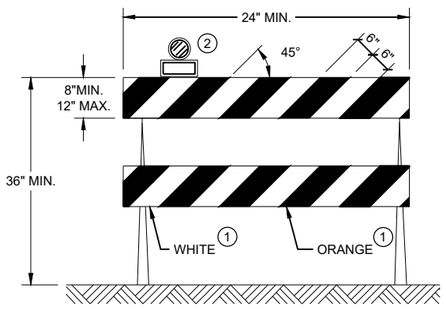
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



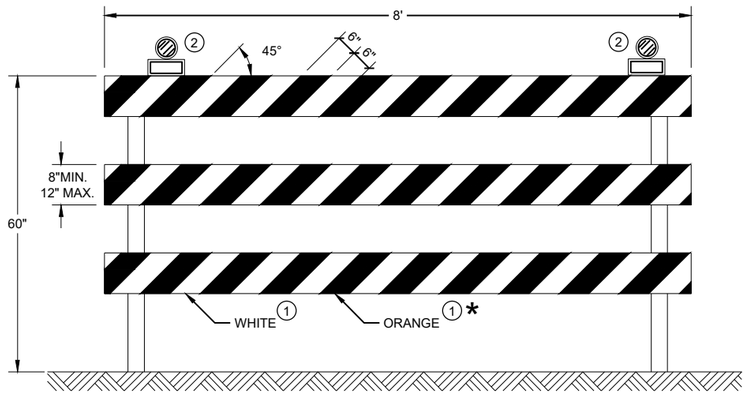
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

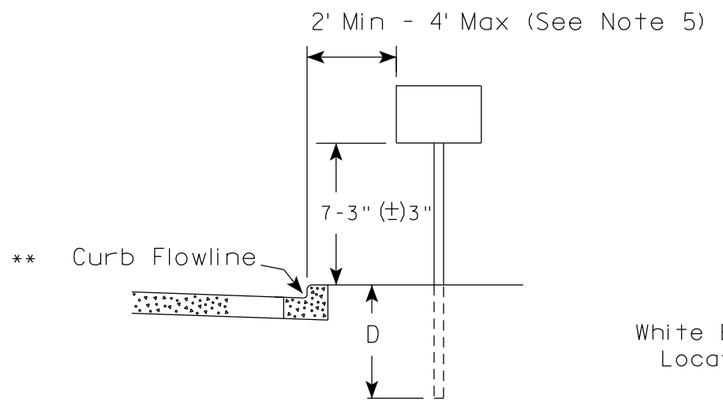
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

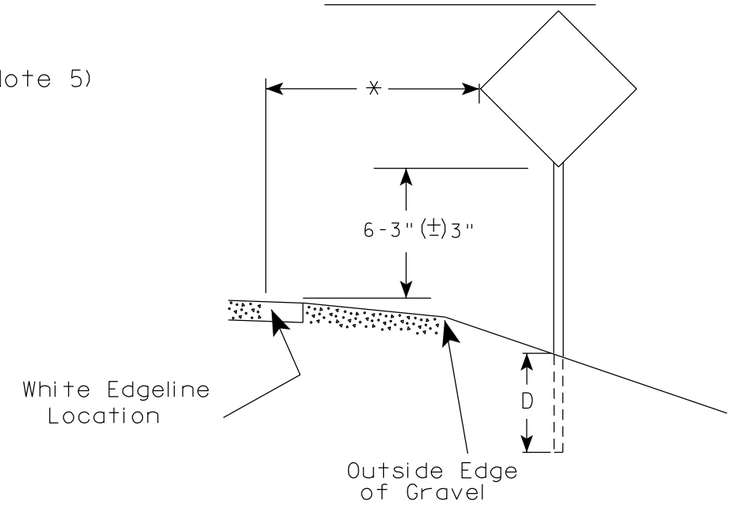
6

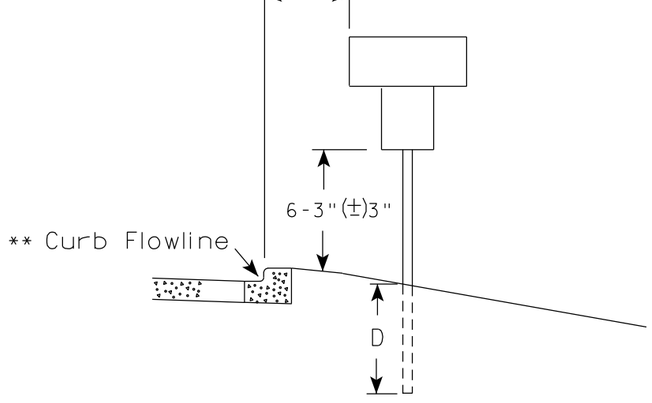
SDD 15C11 - 10b
SDD 15C11 - 10b

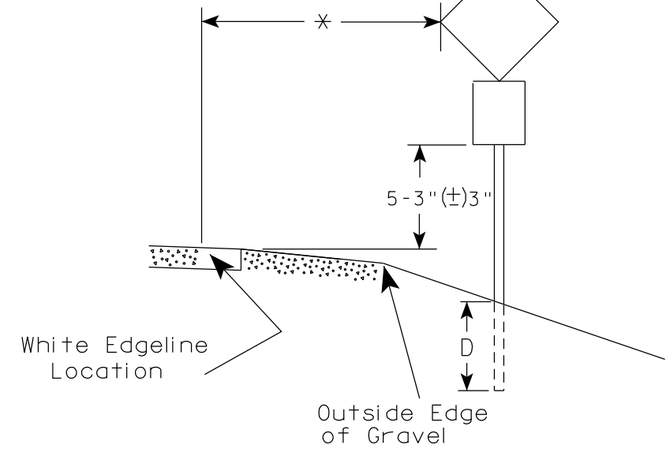
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

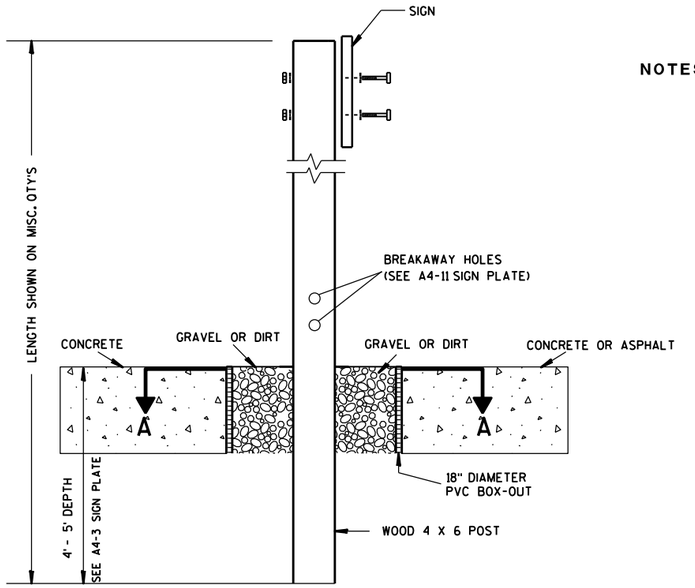
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

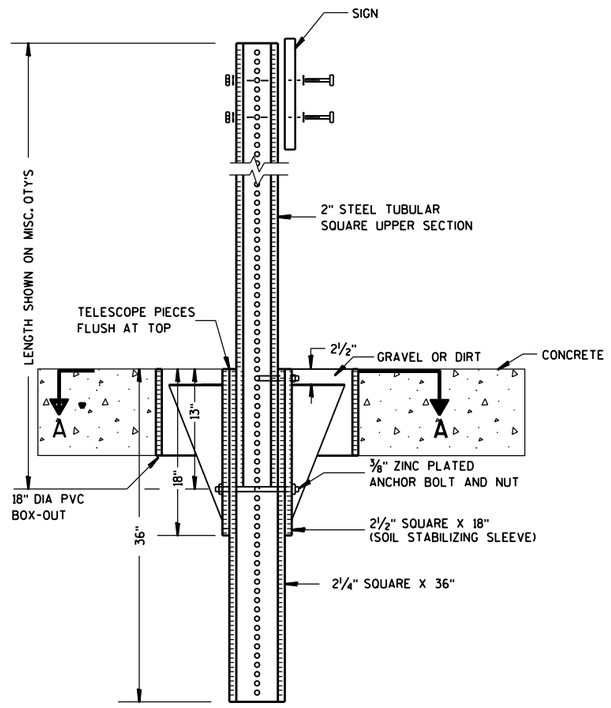
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 51	E



ELEVATION VIEW

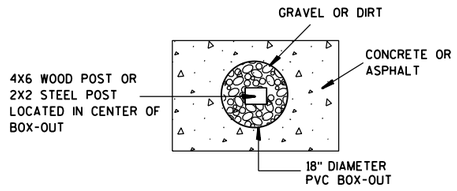
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

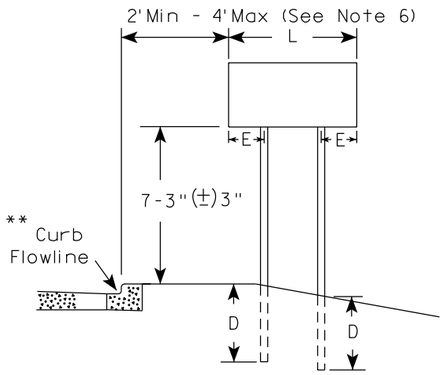
APPROVED Matthew R Rauch
for State Traffic Engineer

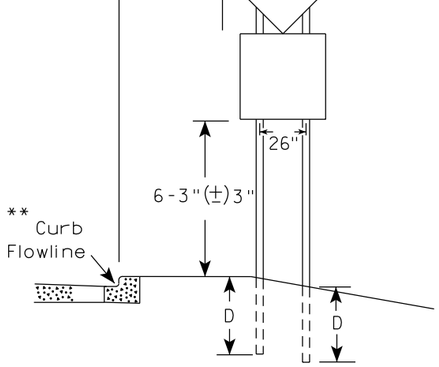
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

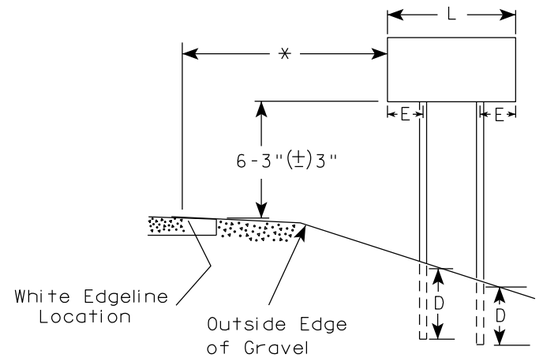
URBAN AREA

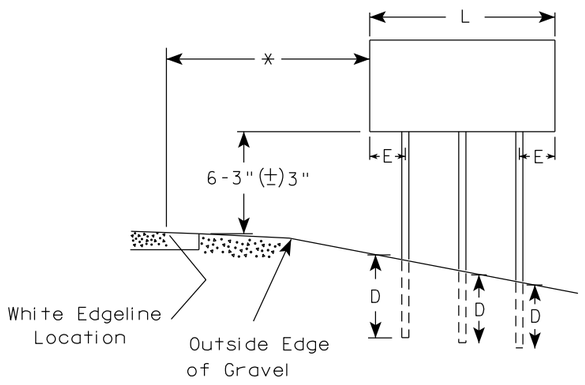


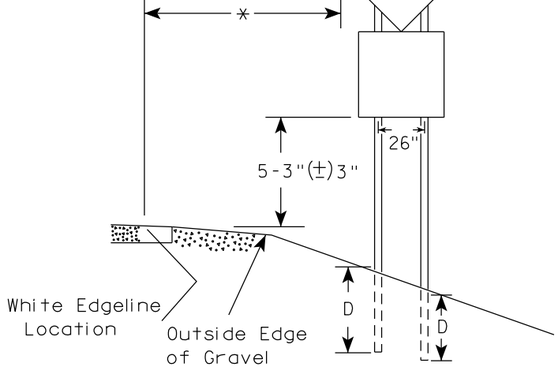


48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

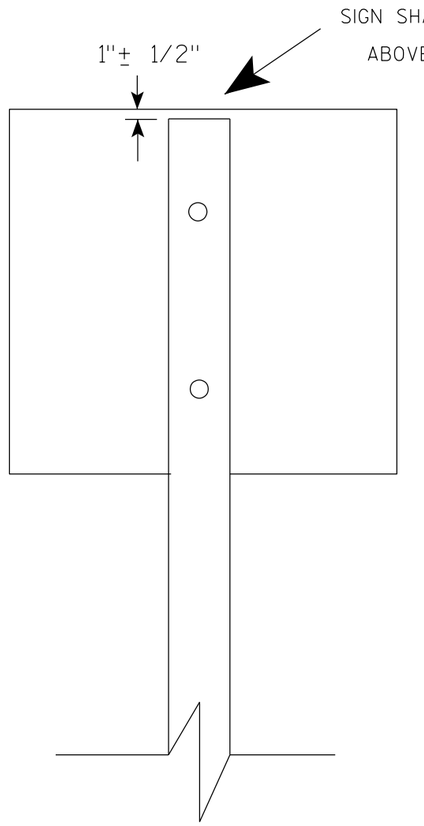
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

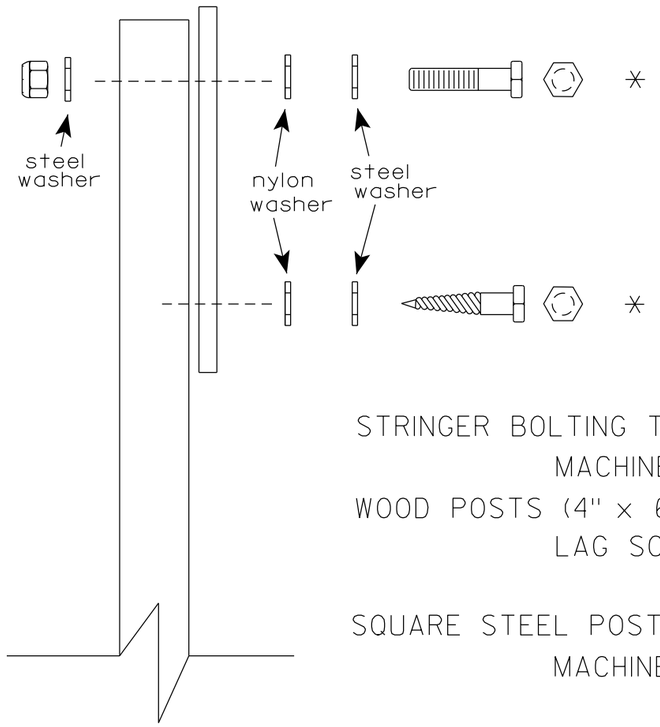
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 53	E





Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

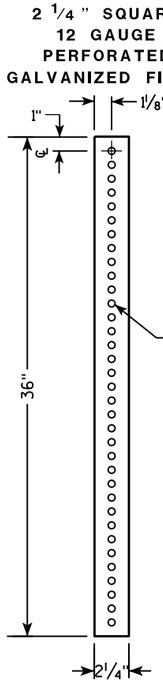
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

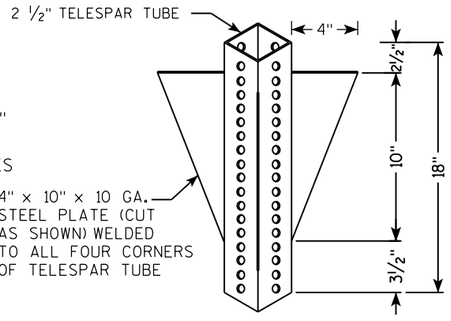
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

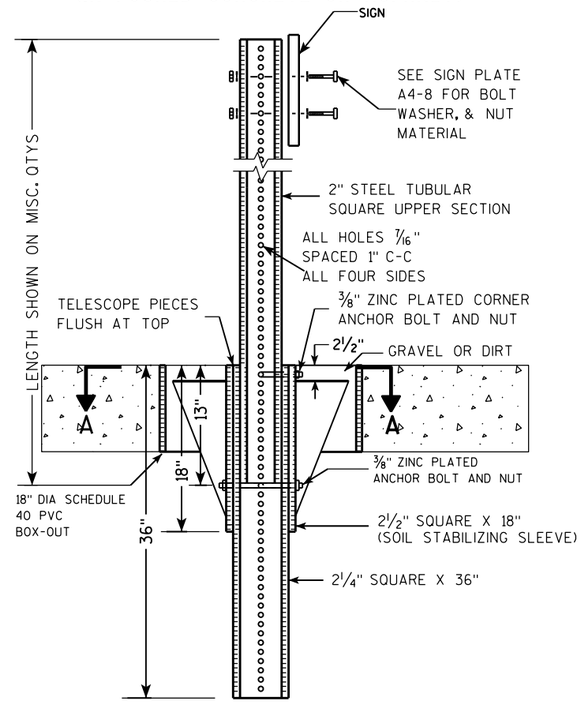
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



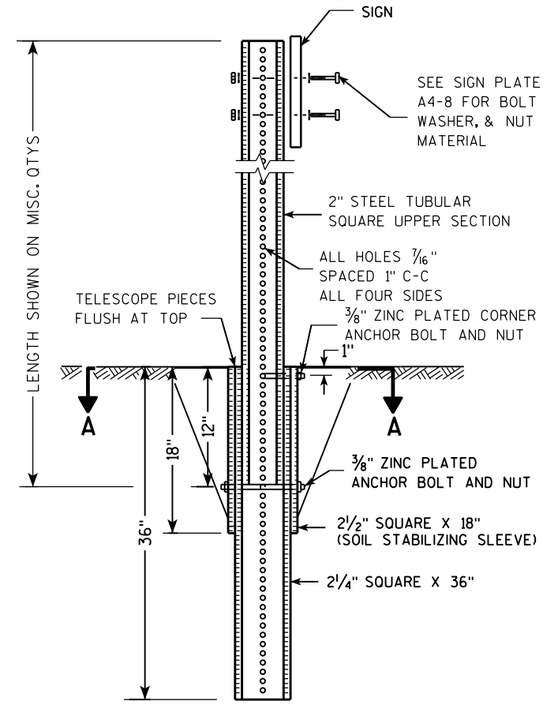
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

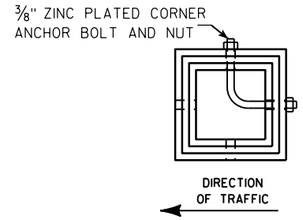


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

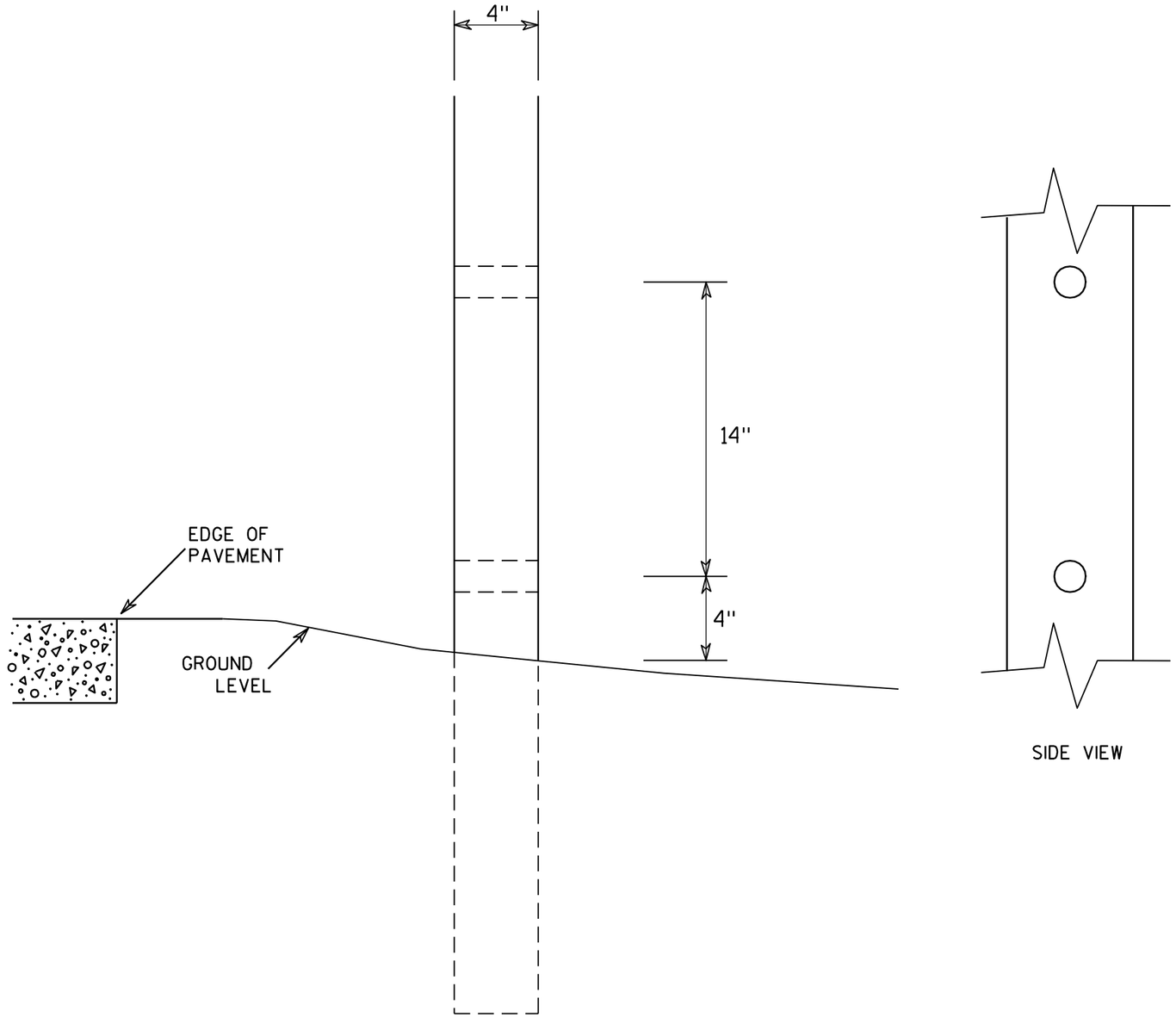
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 55 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

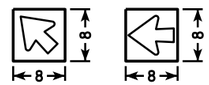
WISCONSIN DEPT OF TRANSPORTATION

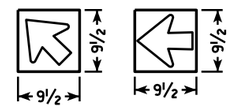
APPROVED Chester J Spang for State Traffic Engineer

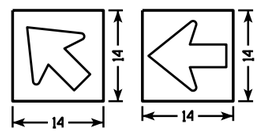
DATE 3/27/97 PLATE NO. A4-11.2

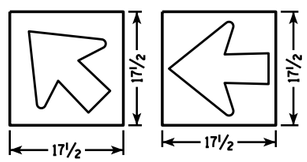
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 56	E

SIGN LAYOUT WITH VARIOUS SIZED MESSAGES







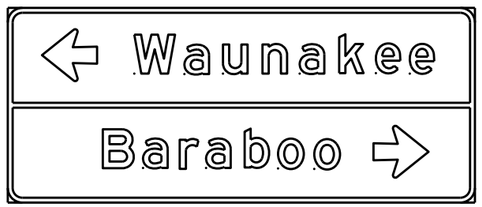


GENERAL NOTES

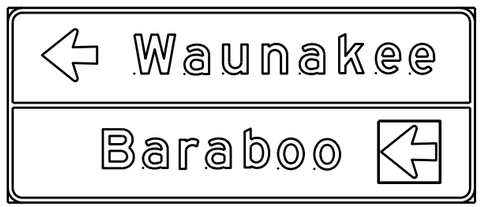
1. Materials shall conform to Standard Specification Section 637.
   Base - Sheet Aluminum 0.040" Thickness
   Sheeting - Orange Type F Reflective
   Arrow - Black Non-Reflective
2. Arrow signs shall be fastened to permanent sign by either aluminum rivets or aluminum self-tapping sheet metal screws. There shall be a minmum of 2 fasteners used per arrow sign.
3. There shall be a spacer consisting of a 0.08" nylon washer between the back of the arrow sign and the face of the permanent sign.
4. Arrows are per standard plate A1-2
5. Use separate arrow sign for each destination
6. Tilt arrow is always at 45 degrees
7. Arrow is centered on arrow sign

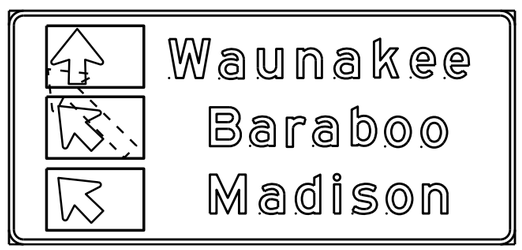
Lower Case Copy Size	Standard Width (Single Arrow)	2 Line Tilt Arrow Cover Width	3 Line Tilt Arrow Cover Width	Height
3¾" Series C	8	9 ½	14 ½	8
4½" Series D & E	9 ½	10	15	9 ½
6" Series D & E	14	16	20 ½	14
8" Series E	17 ½	20 ½	25	17 ½

BEFORE



AFTER





DESTINATION DIRECTIONAL ARROW FOR DETOUR SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/08/14

A4-12.2

PROJECT NO:

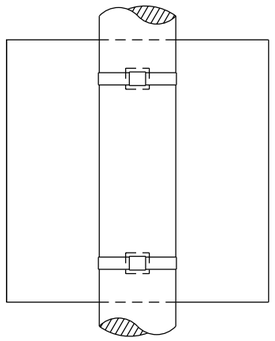
SHEET NO: E

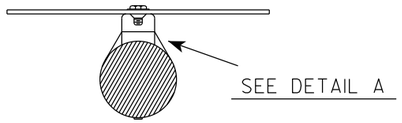
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A412.DGN PLOT DATE : 08-OCT-2014 11:50 PLOT BY : mscsja

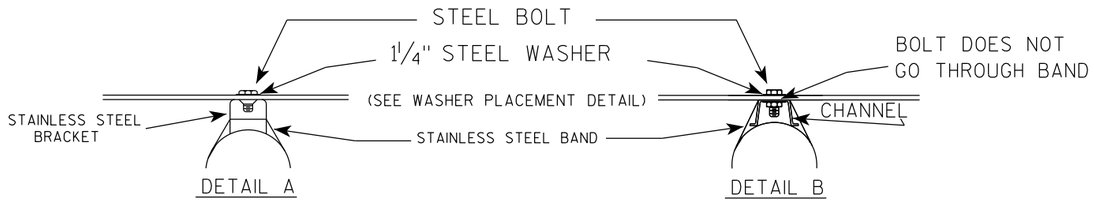
WISDOT/CADDS SHEET 42

BANDING

SINGLE SIGN



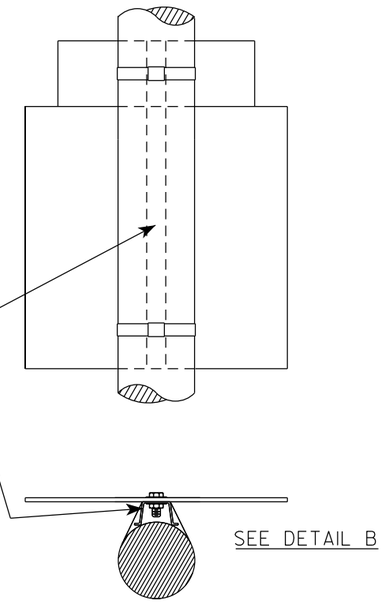




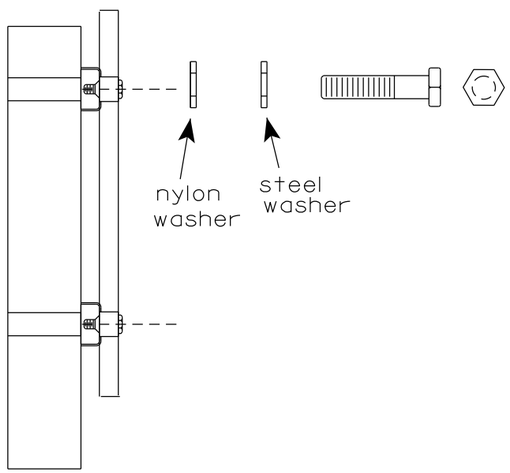
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



WASHER PLACEMENT



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

STANDARD SIGN
SIGN BANDING DETAILS

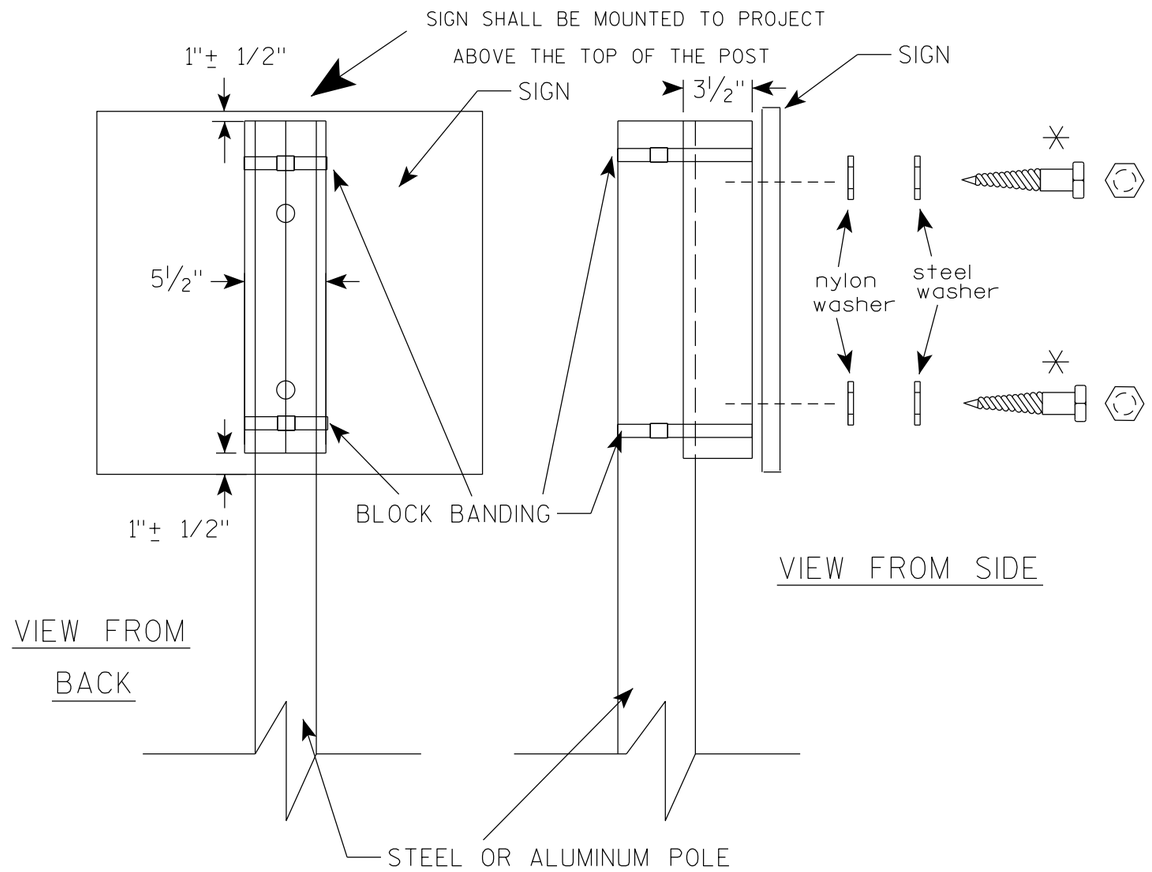
WISCONSIN DEPT OF TRANSPORTATION

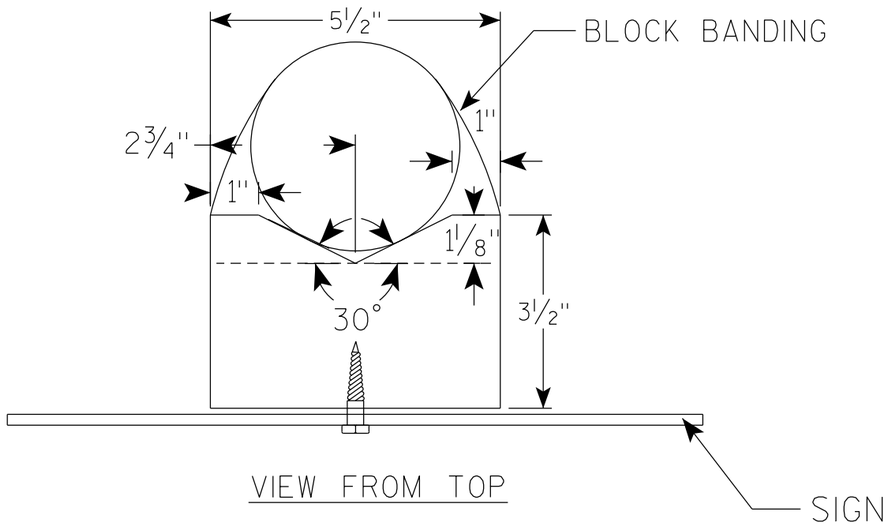
APPROVED Matthew R Rauch
for State Traffic Engineer

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

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

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





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

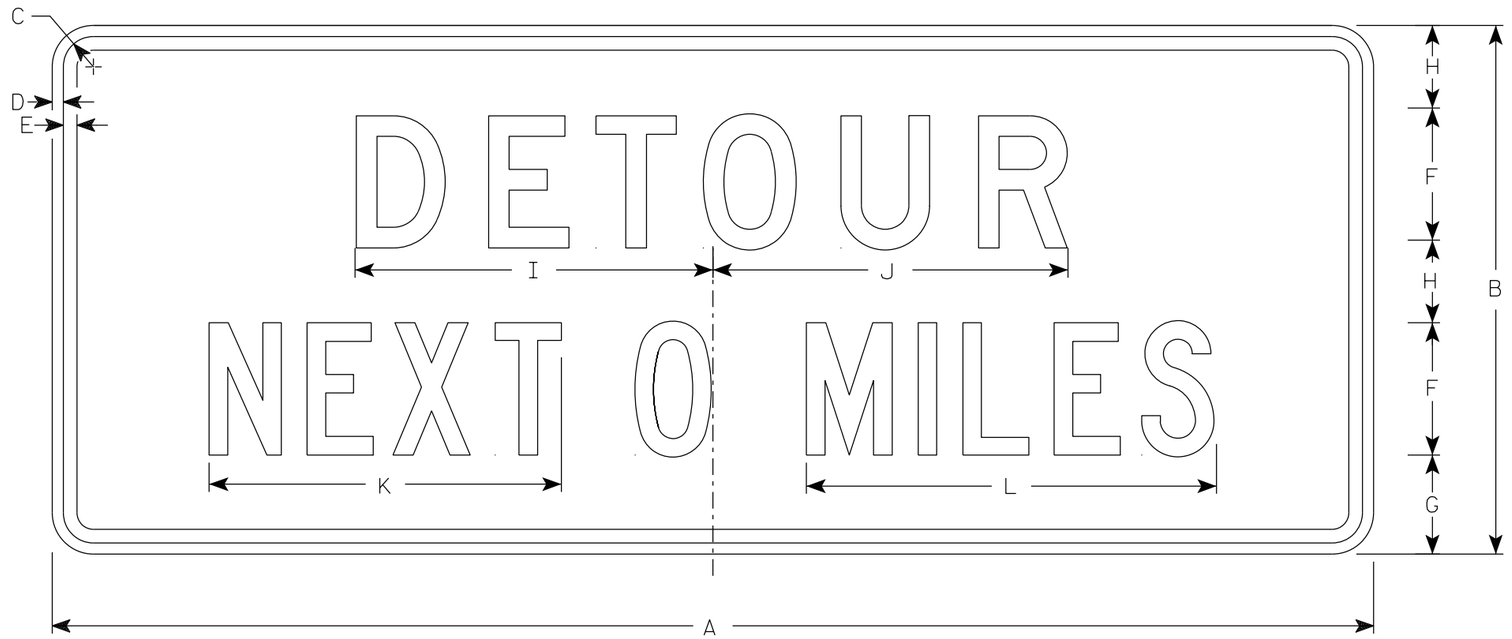
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: 59 E



G20-51

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	60	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	16 1/4	16 1/8	16	18 5/8															10.0
2M	60	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	16 1/4	16 1/8	16	18 5/8															10.0
3	60	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	16 1/4	16 1/8	16	18 5/8															10.0
4	60	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	16 1/4	16 1/8	16	18 5/8															10.0
5	60	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	16 1/4	16 1/8	16	18 5/8															10.0

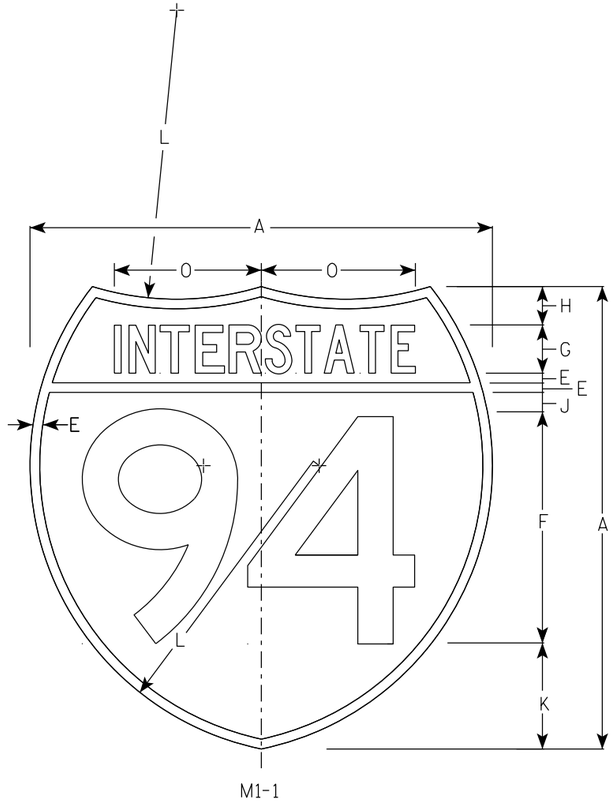
STANDARD SIGN
G20-51

WISCONSIN DEPT OF TRANSPORTATION

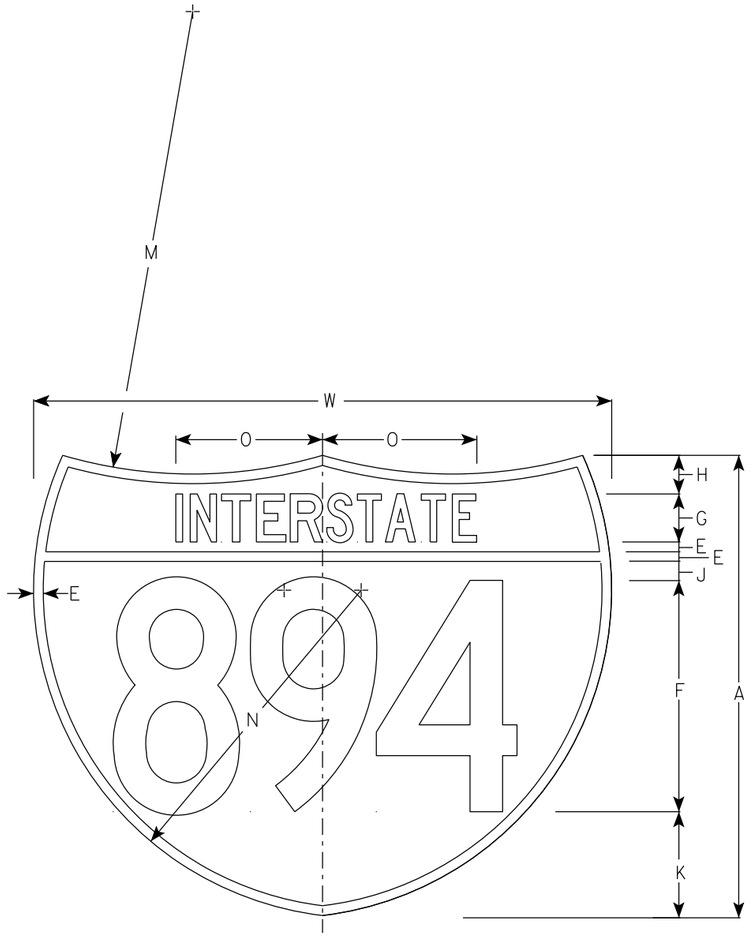
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/26/2023 PLATE NO. G20-51.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 60	E



M1-1



M1-1A

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - Top Red - Bottom Blue
   Message - White
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	M1-1 Area sq. ft.	M1-1A Area sq. ft.
1																											
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91
2M	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79

INTERSTATE ROUTE MARKER M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

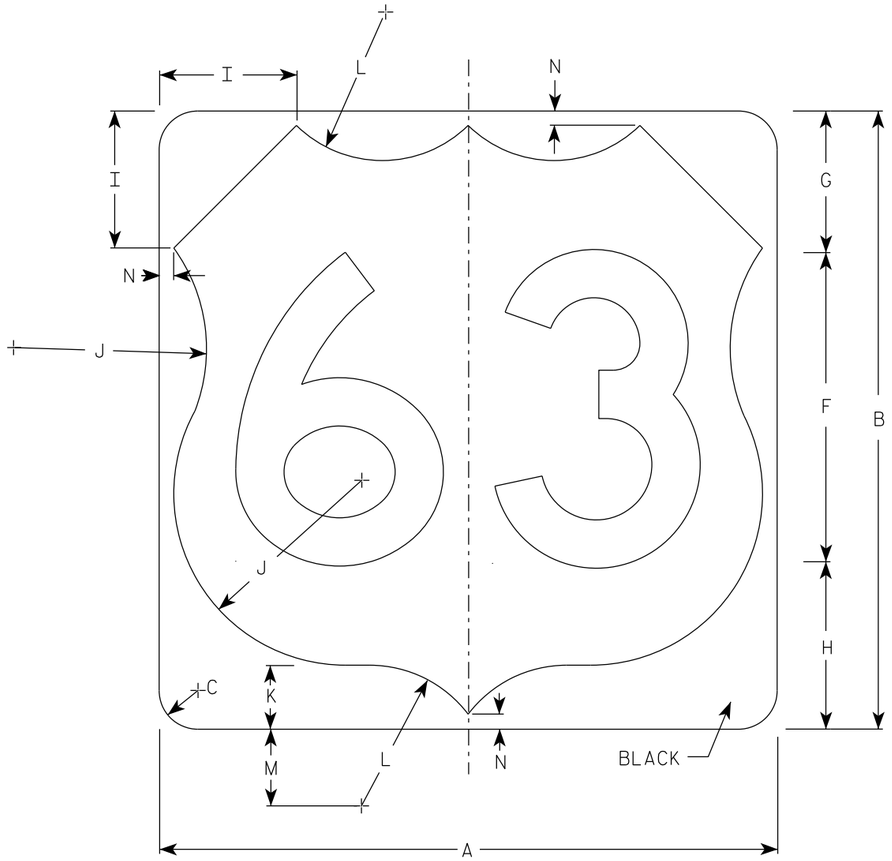
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 11/7/2022 PLATE NO. M1-1.9

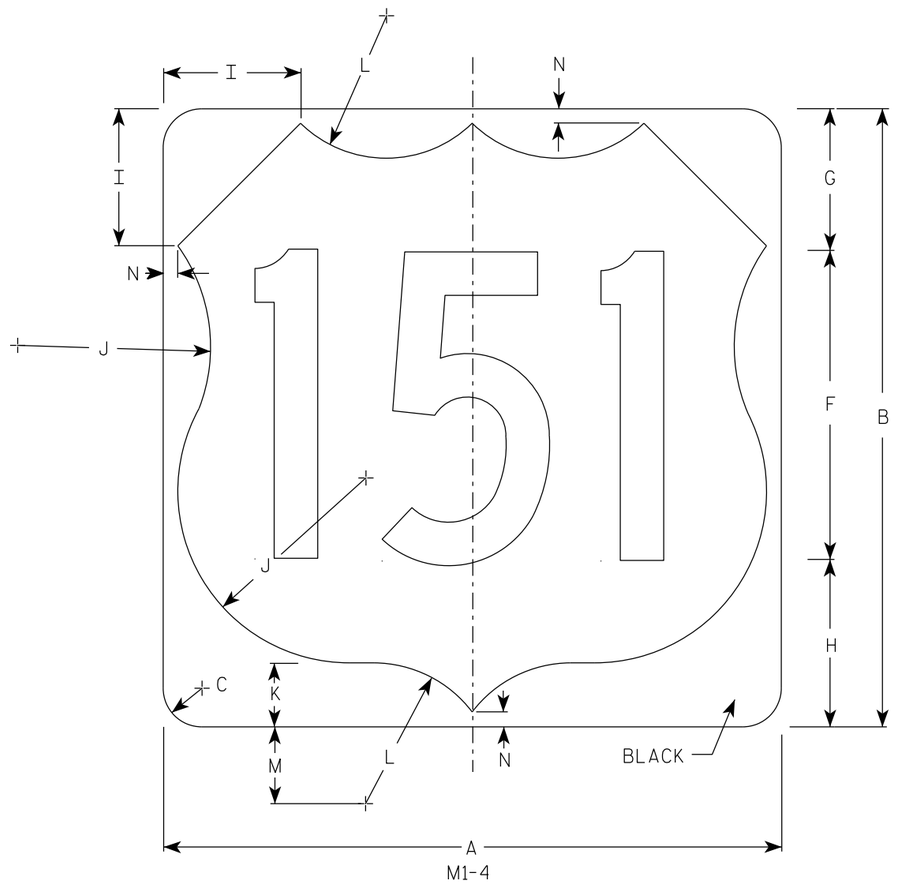
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 61 E

NOTES

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



M1-4



M1-4

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

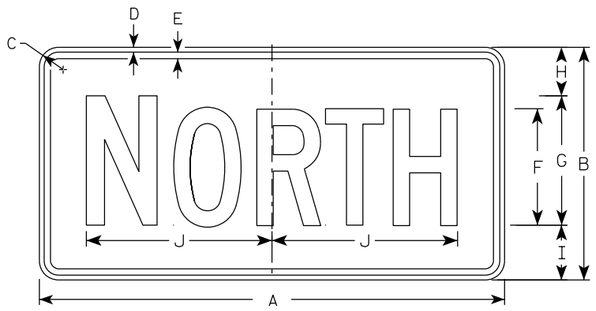
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

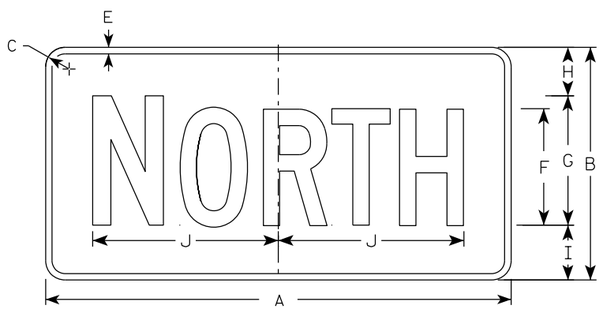
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/20/22 PLATE NO. M1-4.11

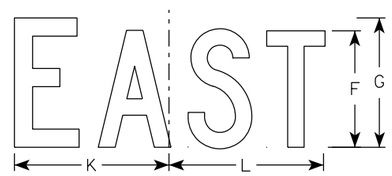
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 62	E



M3-1
MM3-1
MP3-1

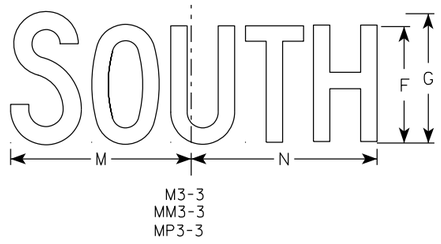


MB3-1
MK3-1
MN3-1

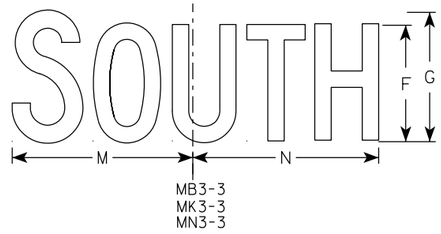


M3-2
MM3-2
MP3-2

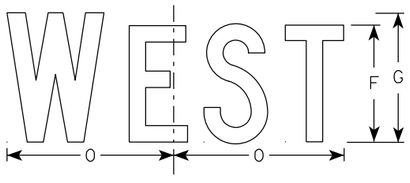
MB3-2
MK3-2
MN3-2



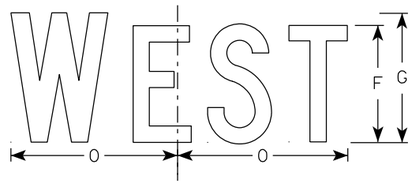
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

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

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

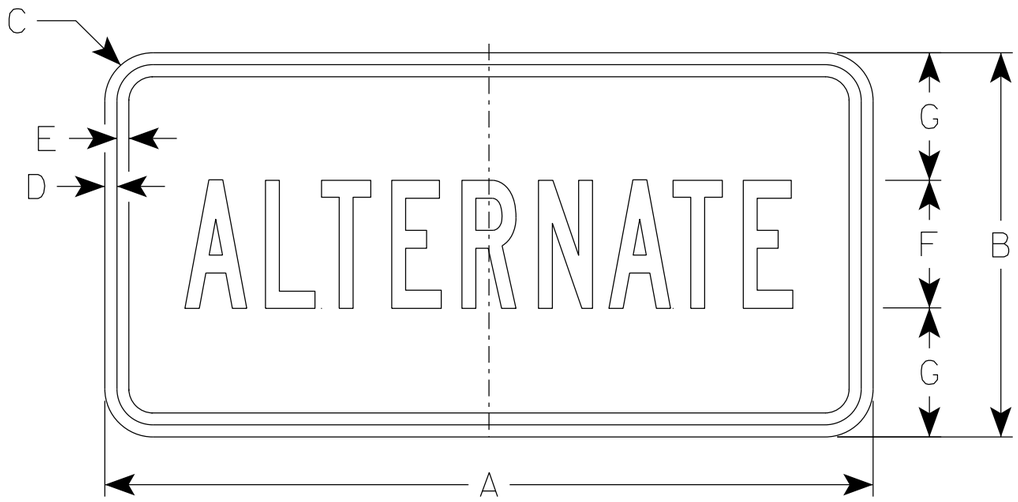
STANDARD SIGNS
M3-1 THRU M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 63 | E



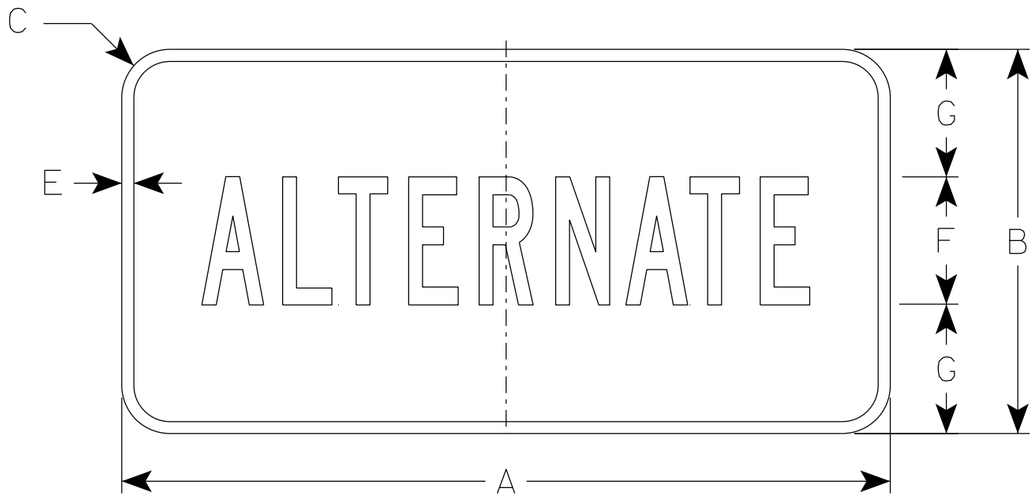
M4-1
MO4-1

NOTES

1. Sign is Type II - Type H Reflective except as Shown
2. Color:
   Background - See Note 5
   Message - See note 5
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-1 Background - White
   Message - Black

   MB4-1 Background - Blue
   Message - White

   MO4-1 Background - Orange - Type F Reflective
   Message - Black



MB4-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/2	3/8	3/8	4	4	9 3/4	9 1/2																		2.00
2M	24	12	1 1/2	3/8	3/8	4	4	9 3/4	9 1/2																		2.00
3	36	18	1 1/2	3/8	1/2	7	5 1/2	16 3/8	16 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	7	5 1/2	16 3/8	16 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	7	5 1/2	16 3/8	16 1/2																		4.5

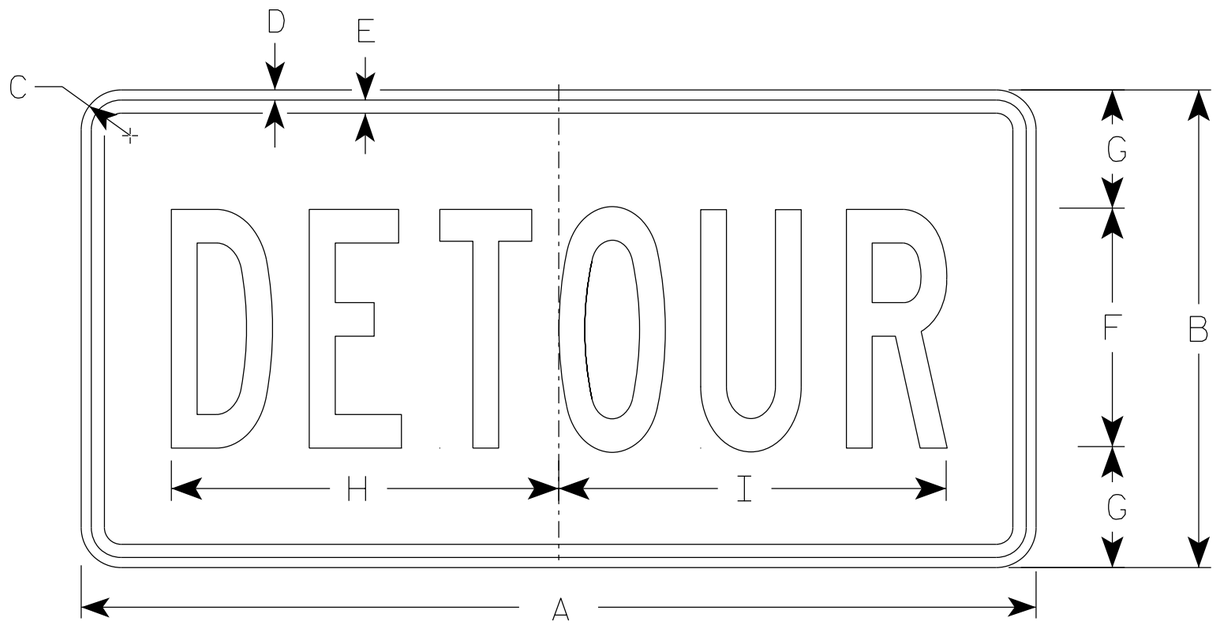
STANDARD SIGN
M4-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/8/2023 PLATE NO. M4-1.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 64 | E



M4-8

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
2M	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5

STANDARD SIGN
M4-8

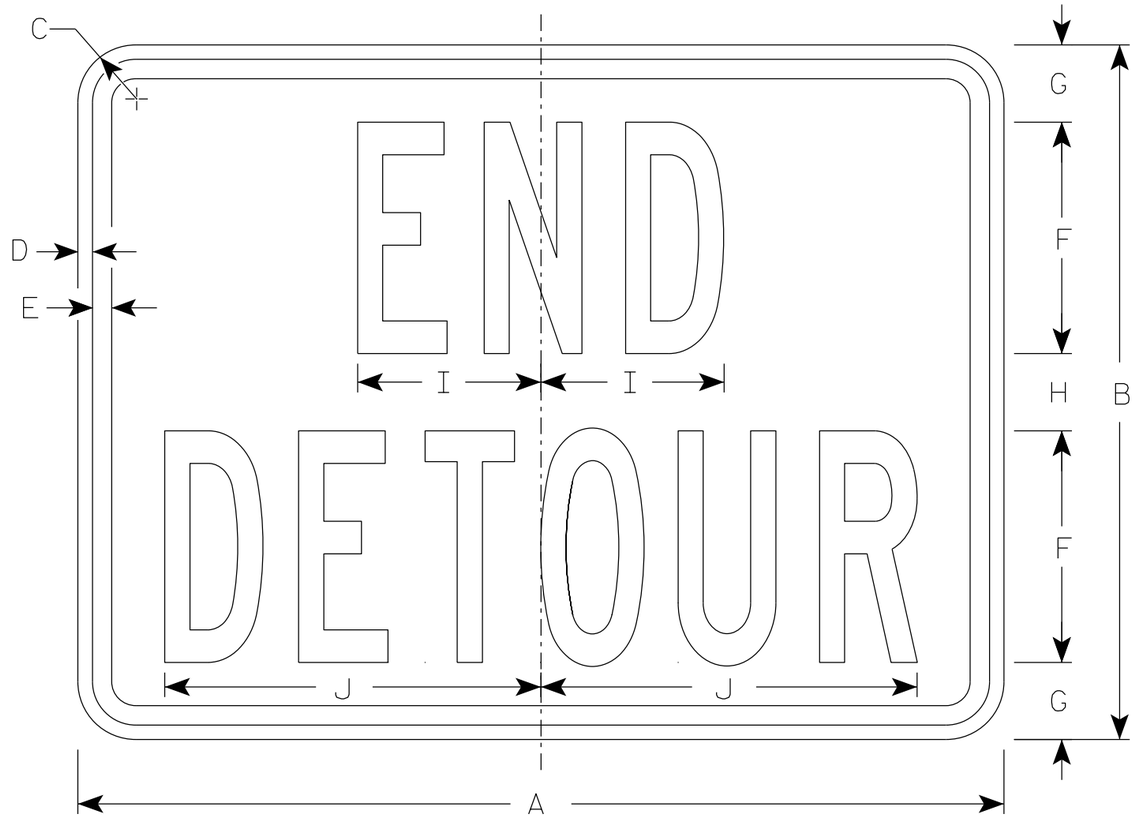
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M48.dgn PLOT DATE : 9-FEB 2023 7:38 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



M4-8A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
2M	24	18	1 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
3	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
4	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
5	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0

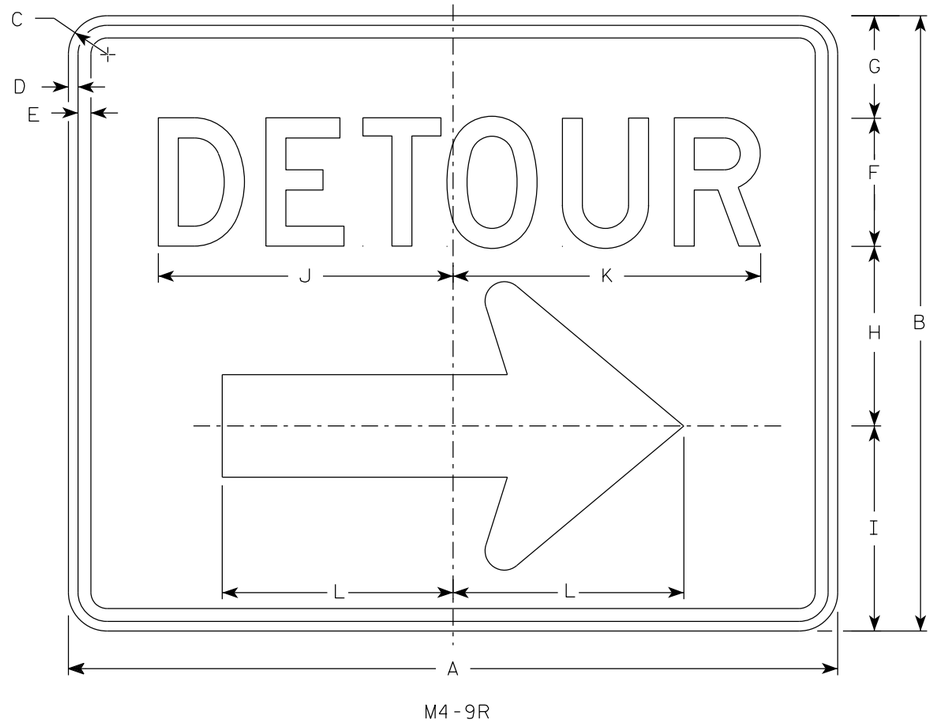
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

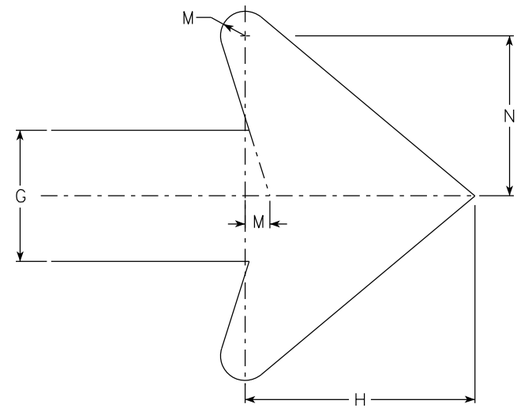
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 66 | E



M4-9R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
2M	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

STANDARD SIGN
M4-9 R & L

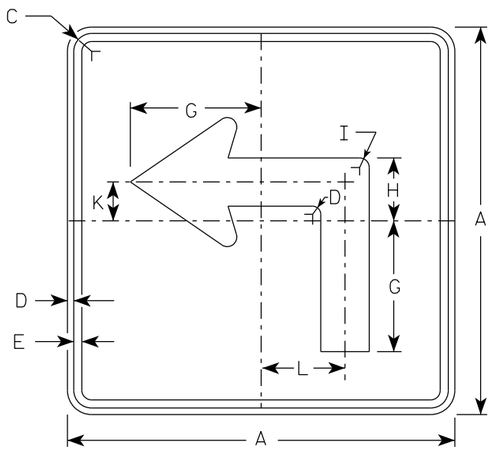
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

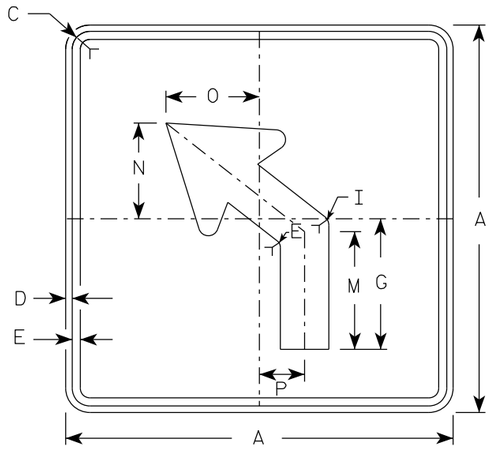
DATE 2/9/2023 PLATE NO. M4-9R.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

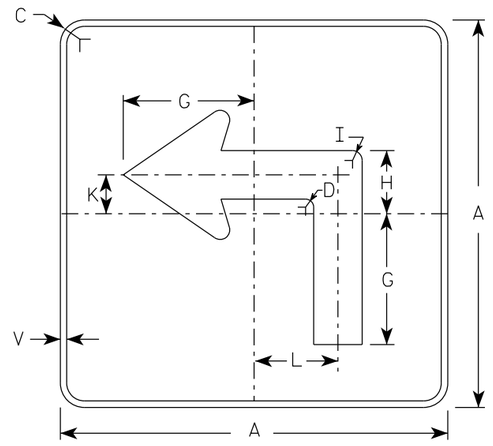
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M49R.dgn PLOT DATE : 21-MARCH 2023 1:40 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



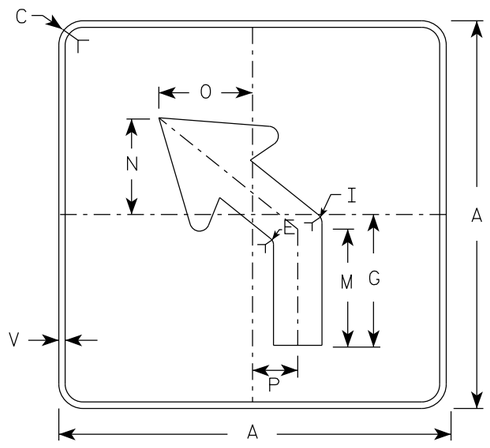
M5-1L
MM5-1L
MO5-1L
MP5-1L



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



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

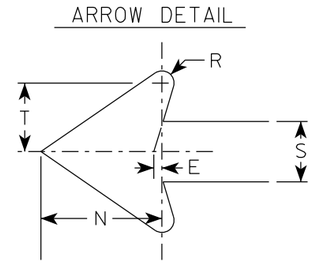


MB5-2L
MK5-2L
MN5-2L
MR5-2L

NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

ARROW DETAIL



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

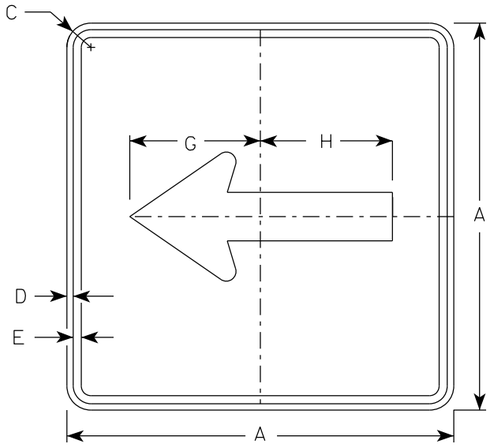
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

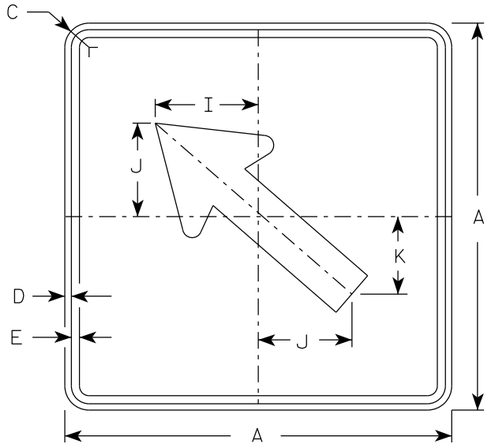
APPROVED Matthew R Rauch
for State Traffic Engineer

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

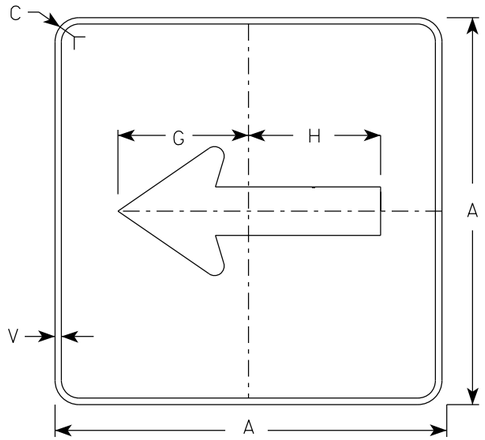
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 68 | E



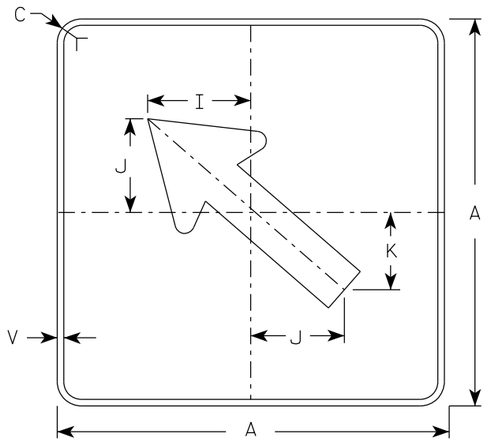
M6-1
MM6-1
MO6-1
MP6-1



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



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

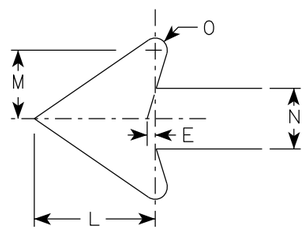


MB6-2
MK6-2
MN6-2
MR6-2

NOTES

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

ARROW DETAIL



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

STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

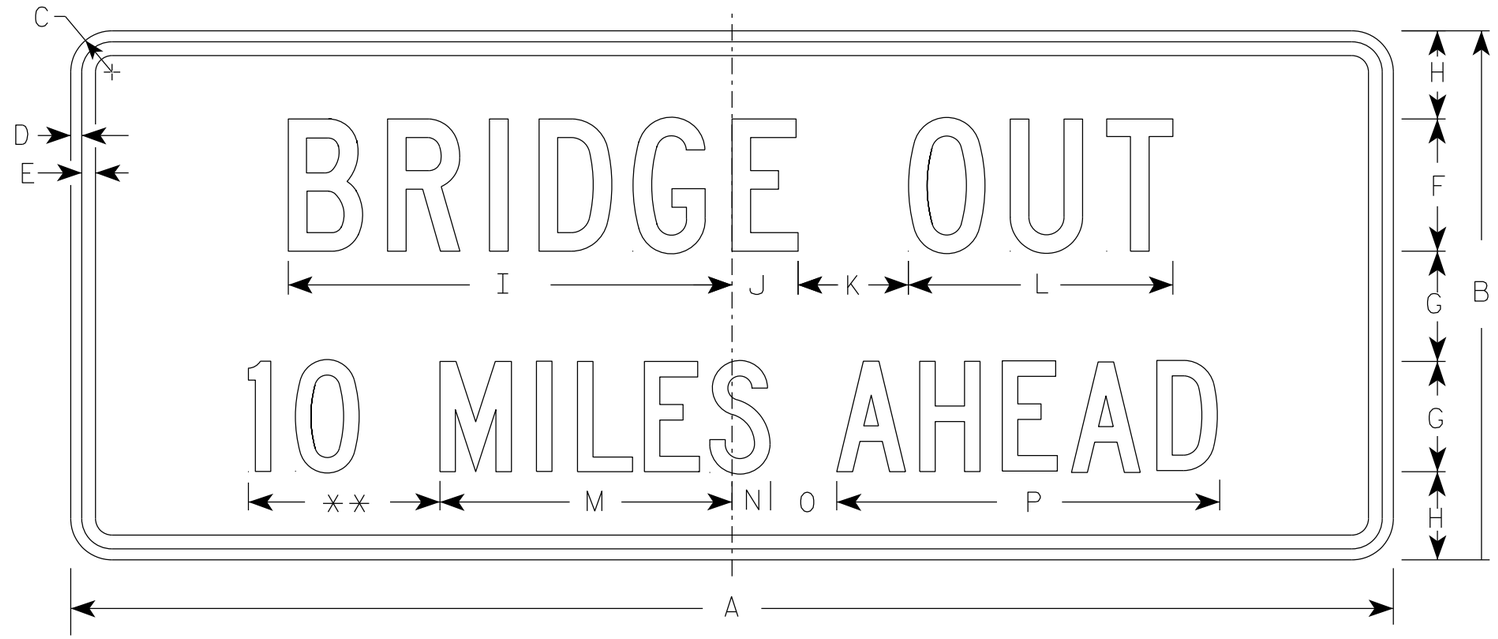
APPROVED Matthew R Rauch
For State Traffic Engineer

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

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

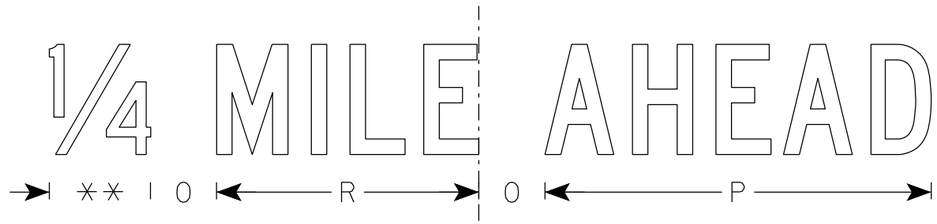
NOTES

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



R11-3C

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 1/2	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

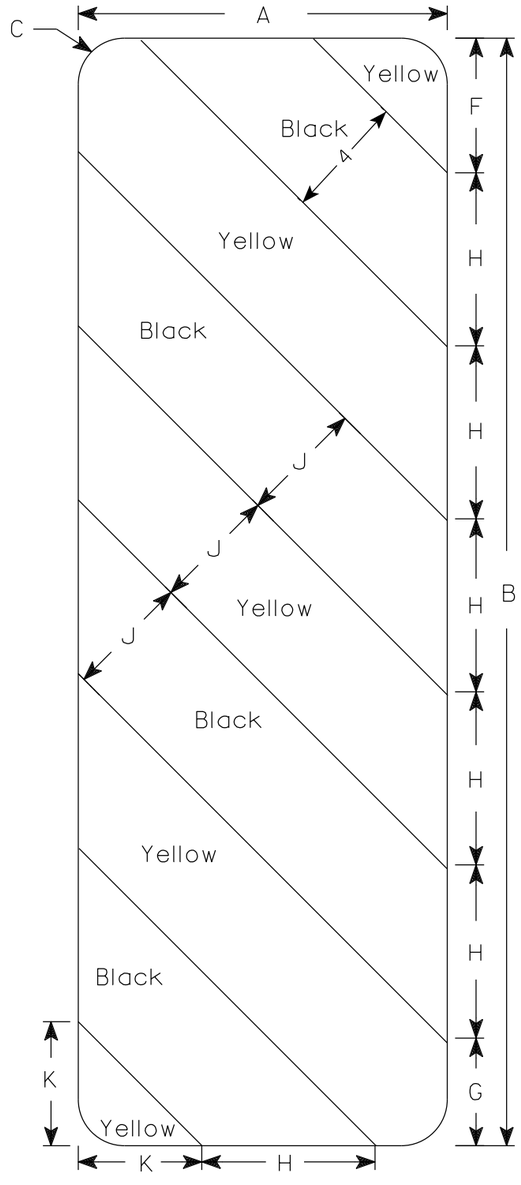
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

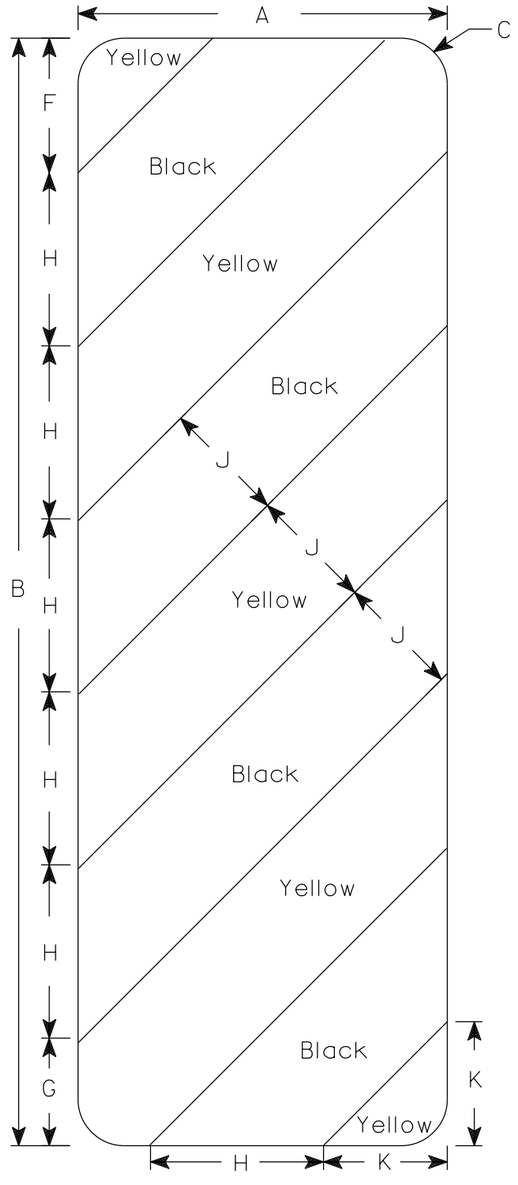
DATE 2/5/24 PLATE NO. R11-3C.4

PROJECT NO:

SHEET NO: 70 E



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Alternate colors of stripes as shown.

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

STANDARD SIGN

W5-52L & W5-52R

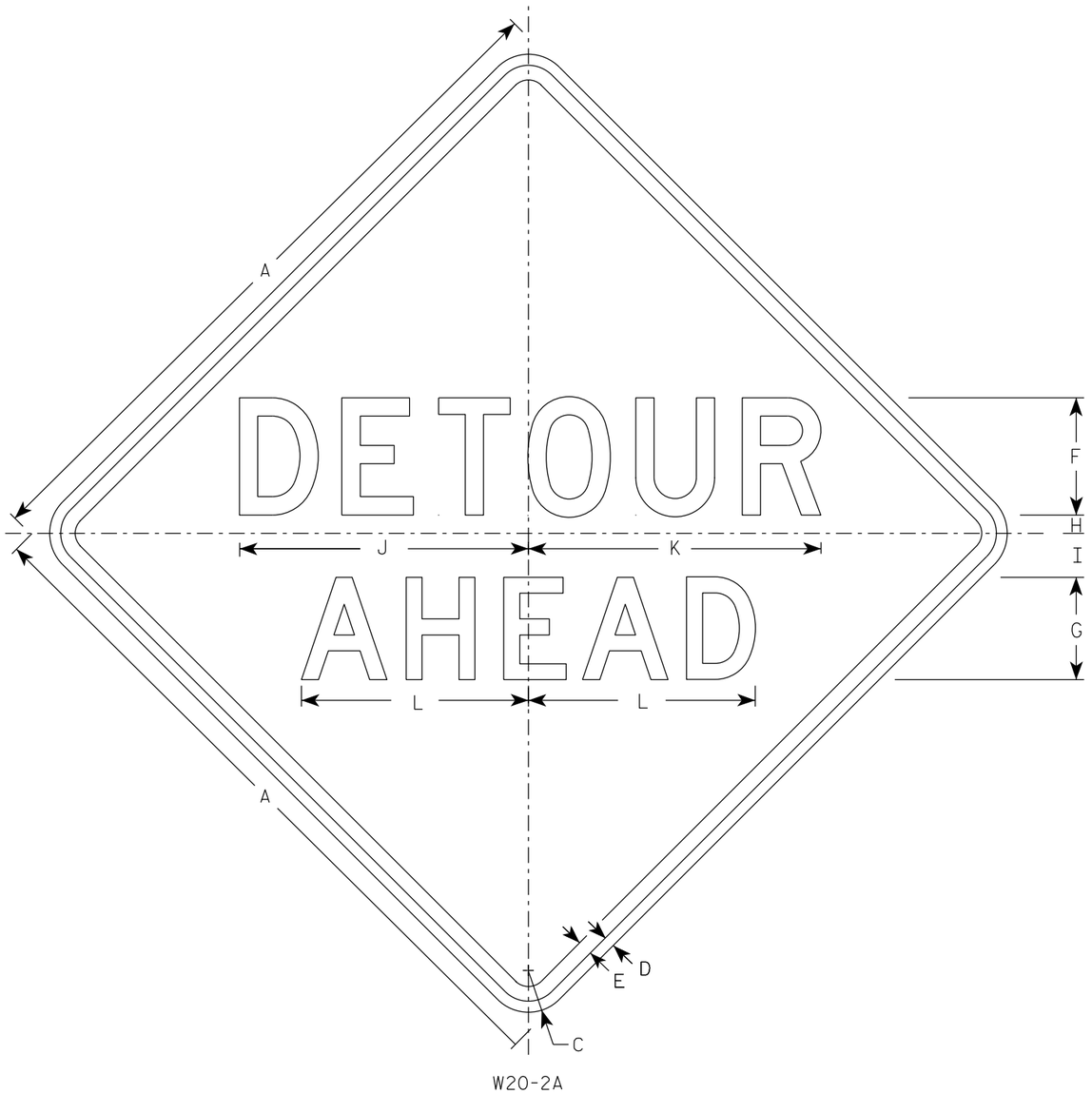
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

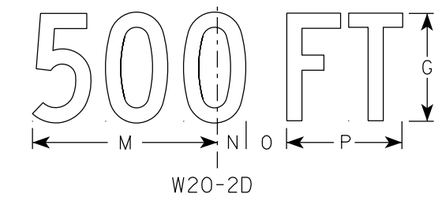
DATE 3/4/2024 PLATE NO. W5-52.10

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

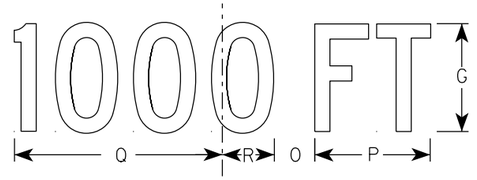
FILE NAME : C:\CAEfiles\Projects\tr_stdplate_W552.dgn PLOT DATE : 4-MARCH 2024 11:57 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



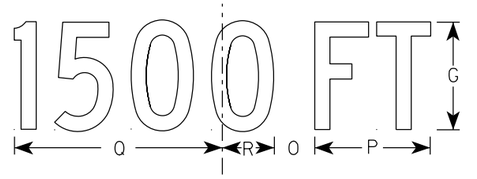
W20-2A



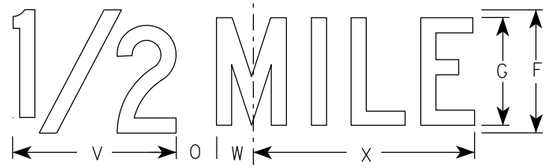
W20-2D



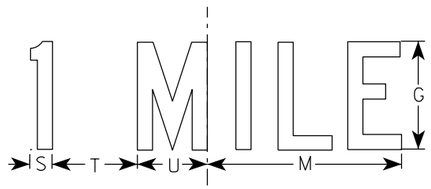
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
   Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

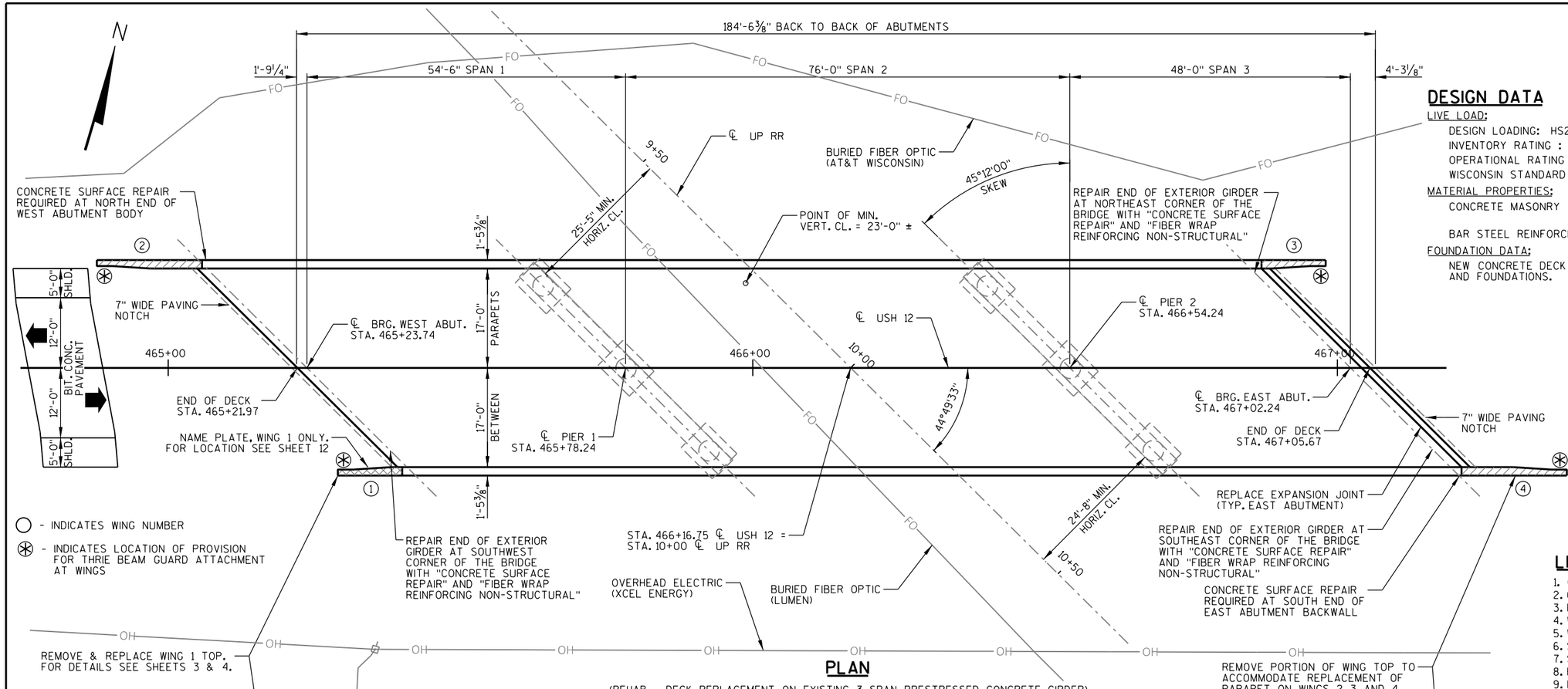
DATE 1/10/2024 PLATE NO. W20-2.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W202.DGN PLOT DATE : 10-JAN 2024 11:36 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

STATE PROJECT NUMBER

8949-00-73

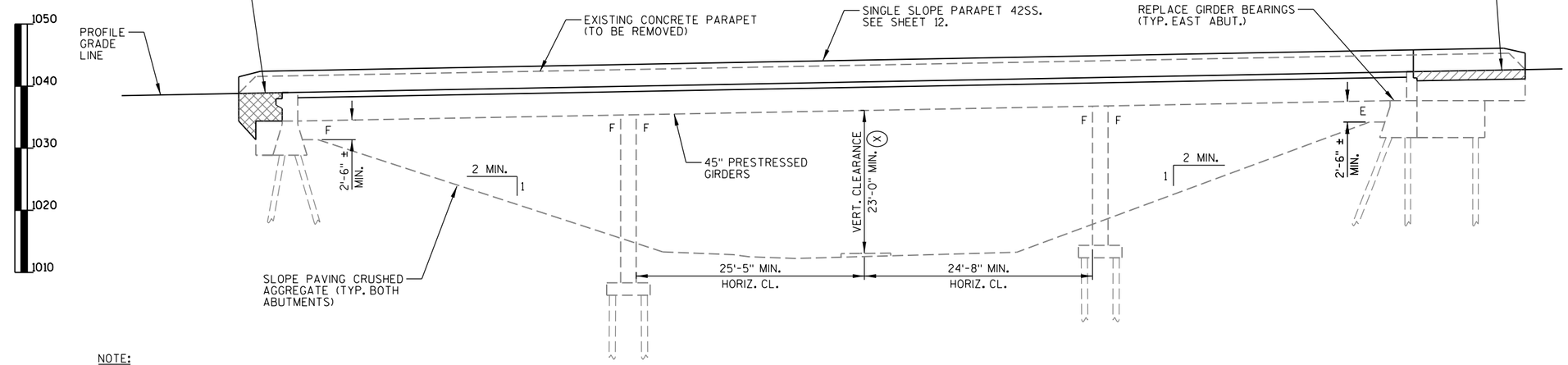


○ - INDICATES WING NUMBER

⊛ - INDICATES LOCATION OF PROVISION FOR THRIE BEAM GUARD ATTACHMENT AT WINGS

PLAN

(REHAB - DECK REPLACEMENT ON EXISTING 3 SPAN PRESTRESSED CONCRETE GIRDER)



ELEVATION

(LOOKING NORTH)

NOTE:

THE PROPOSED DECK REPLACEMENT WILL NOT CHANGE ANY EXISTING VERTICAL OR HORIZONTAL CLEARANCE TO THE RAILROAD TRACKS.

(X) - VERTICAL CLEARANCE TAKEN FROM ROUTINE INSPECTION REPORT ON HSI, DATED 9/28/2022.

DESIGN DATA

LIVE LOAD:
- DESIGN LOADING: HS20
- INVENTORY RATING : HS23
- OPERATIONAL RATING : HS44
- WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

TRAFFIC DATA:
- A.A.D.T. (2026) = 2,370
- A.A.D.T. (2046) = 2,370
- R.D.S = 60 MPH

MATERIAL PROPERTIES:
- CONCRETE MASONRY - SUPERSTRUCTURE —— f'c = 4,000 P.S.I.
- CONCRETE MASONRY - ALL OTHER —— f'c = 3,500 P.S.I.
- BAR STEEL REINFORCEMENT HS COATED BRIDGES — fy = 60,000 P.S.I.

FOUNDATION DATA:
- NEW CONCRETE DECK SUPPORTED ON EXISTING GIRDERS AND FOUNDATIONS.

WISCONSIN
JOSHUA R. SWENO
E-44384
WAUNAKEE
WI
PROFESSIONAL ENGINEER
Joshua R. Sweno
9/16/2025

LIST OF DRAWINGS

NO.	DATE	REVISION	BY

MSA
ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
1702 PANKRATZ STREET, MADISON WI 53704
(608) 242-7779 www.msa-ps.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED JLR 09/17/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-55-76

USH 12 OVER CNW RAILROAD

COUNTY	TOWN/~~CITY/VILLAGE~~
ST. CROIX	WARREN

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY JDH/AJN	DESIGN CK'D. NRT	DRAWN BY RLR/EKK	PLANS CK'D. JRS/JDH

GENERAL PLAN

SHEET 1 OF 13
73

CONSULTANT DESIGN CONTACT:
JOSHUA SWENO
(608) 355-8852

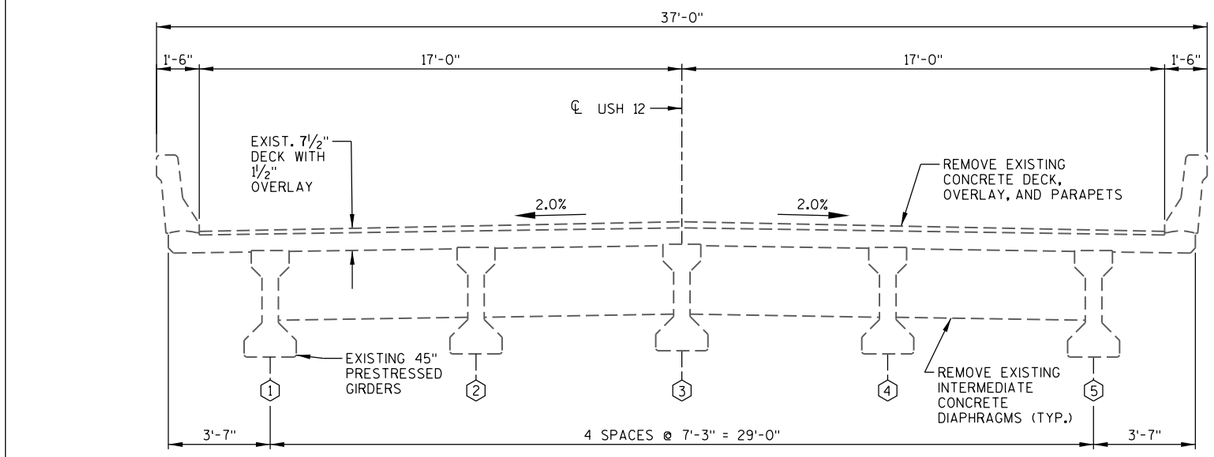
BRIDGE OFFICE CONTACT:
AARON BONK
(608) 261-0261

8

8

FILE= 93705_B-55-76_01.DGN

93705_B-55-76_01.dgn 9/16/2025 2:41:16 PM ekazadi

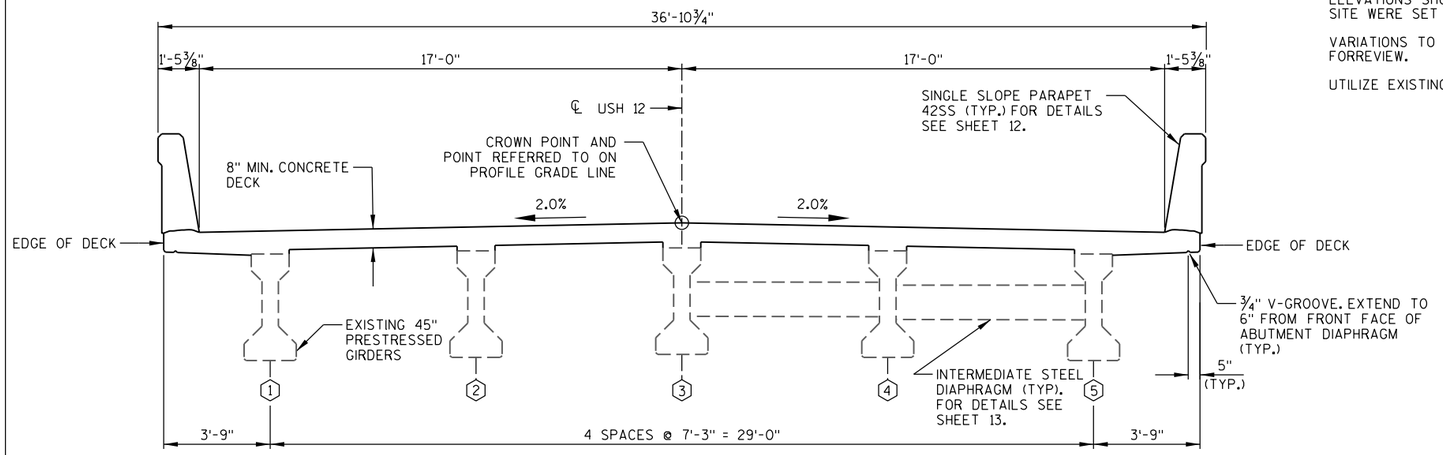


⬡ - INDICATES EXISTING GIRDER NUMBER

CROSS SECTION THRU EXISTING BRIDGE

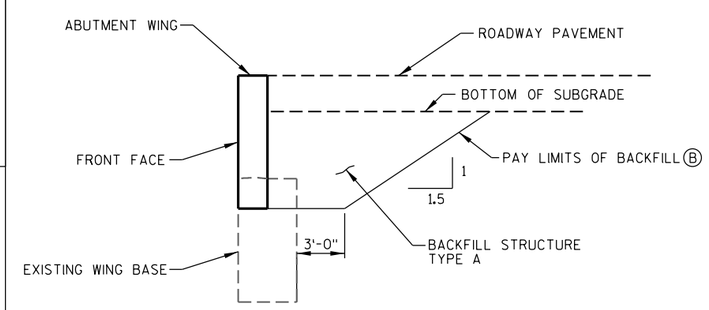
(LOOKING EAST)

NOTE
EXISTING CONCRETE DIAPHRAGMS AT PIERS TO REMAIN (NOT SHOWN)



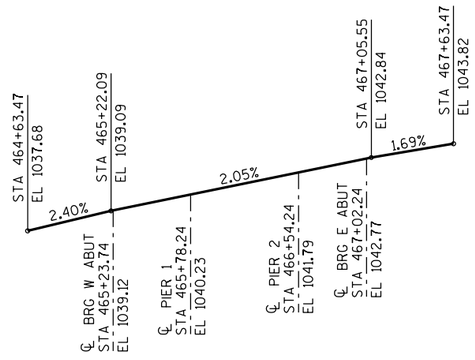
CROSS SECTION THRU BRIDGE

(LOOKING EAST)



STRUCTURE BACKFILL DETAIL

(WING 1 ONLY)



PROFILE GRADE LINE USH 12

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL 1980 STRUCTURE PLANS AND THE 2002 CONCRETE OVERLAY PLANS.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" SHALL BE THE EXISTING GROUNDLINE.

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

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A ½ INCH DEEP SAW CUT, UNLESS SPECIFIED OTHERWISE.

Ⓑ BACKFILL PAY LIMITS, BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

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

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE DECK, TO THE TOP OF THE PAVING BLOCKS AND TO THE FACE AND TOP OF PAVING NOTCHES.

APPLY PIGMENTED SURFACE SEALER TO INSIDE FACES, THE TOP FACES, AND THE ENDS OF THE PARAPETS.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR OF 1980.

THIS PROJECT WILL REHABILITATE EXISTING STRUCTURE B-55-76, A THREE SPAN, 183.7' LONG PRESTRESSED CONCRETE GIRDER BRIDGE SET ON CONCRETE ABUTMENTS AND MULTI-COLUMN PIERS.

THE CONTRACTOR SHALL EXERCISE CAUTION WHEN REMOVING THE OLD DECK AS TO NOT DAMAGE THE EXISTING GIRDERS, INCLUDING SHEAR STIRRUPS. SAW CUTTING OF THE EXISTING SHEAR STIRRUPS IS NOT ALLOWED.

CONTRACTOR IS RESPONSIBLE FOR GIRDER STABILITY DURING REMOVAL AND REPLACEMENT OF THE GIRDER DIAPHRAGMS AND THROUGHOUT CONSTRUCTION OF DECK AND PARAPETS.

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

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE USGS NAVD 88 (2012) ADJUSTED. BENCHMARK REFERENCES AT THE PROJECT SITE WERE SET BY THE DEPARTMENT USING GPS TECHNOLOGY.

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

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

TOTAL ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEM	UNIT	W. ABUT.	E. ABUT.	SUPER.	TOTAL
	203.0211.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-55-76	EACH	-	-	-	1
	203.0220	REMOVING STRUCTURE B-55-76	EACH	-	-	-	1
	203.0330	DEBRIS CONTAINMENT B-55-76	EACH	-	-	-	1
	206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-55-76	EACH	-	-	-	1
Ⓑ	210.1500	BACKFILL STRUCTURE TYPE A	TON	20	-	-	20
	502.0100	CONCRETE MASONRY BRIDGES	CY	8.4	6.5	244.9	260
	502.3101	EXPANSION DEVICE	LF	-	-	49	49
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	711	711
	502.3210	PIGMENTED SURFACE SEALER	SY	16	16	181	213
	502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	27	35	49	111
	502.4206	ADHESIVE ANCHORS NO. 6 BAR	EACH	20	22	-	42
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	700	560	65,050	66,310
	506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	-	-	5	5
	506.4000	STEEL DIAPHRAGMS B-55-76	EACH	-	-	12	12
	506.7050.S	REMOVING BEARINGS B-55-76	EACH	-	-	5	5
✳	509.1500	CONCRETE SURFACE REPAIR	SF	10	10	22	42
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	8	8	-	16
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	-	-	4	4
	SPV.0165	FIBER WRAP REINFORCING NON-STRUCTURAL	SF	-	-	67	67
		NON-BID ITEMS					
		PREFORMED FILLER	SIZE				½"

✳ — THE CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION OF ALL SURFACE REPAIR LOCATIONS WITH THE ENGINEER.

STATE PROJECT NUMBER

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-55-76

DRAWN BY EKK | PLANS CK'D. JRS/JDH

CROSS SECTIONS, QUANTITIES & NOTES

SHEET 2
74

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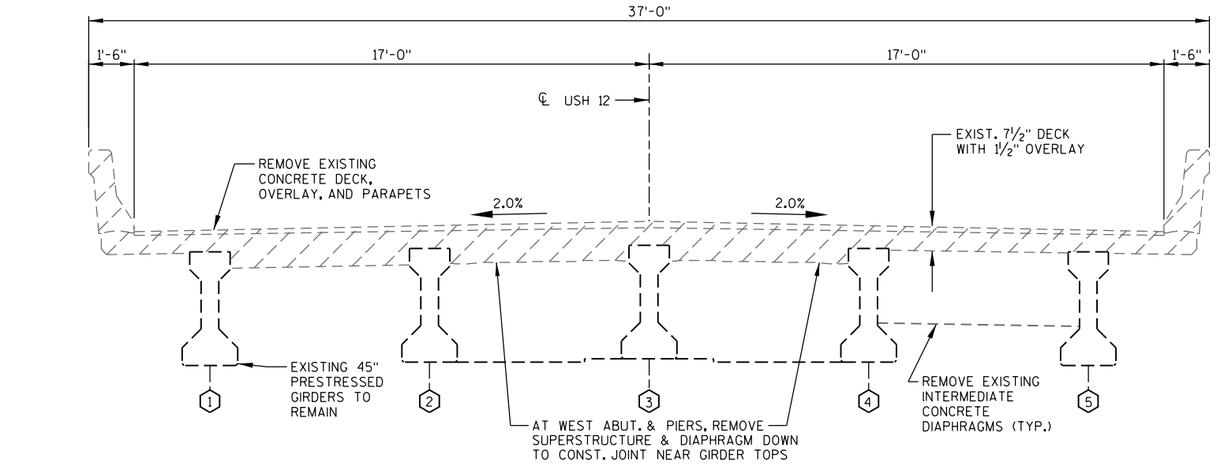
STATE PROJECT NUMBER
8949-00-73



⬡ - INDICATES EXISTING GIRDER NUMBER

CROSS SECTION THRU EXISTING BRIDGE

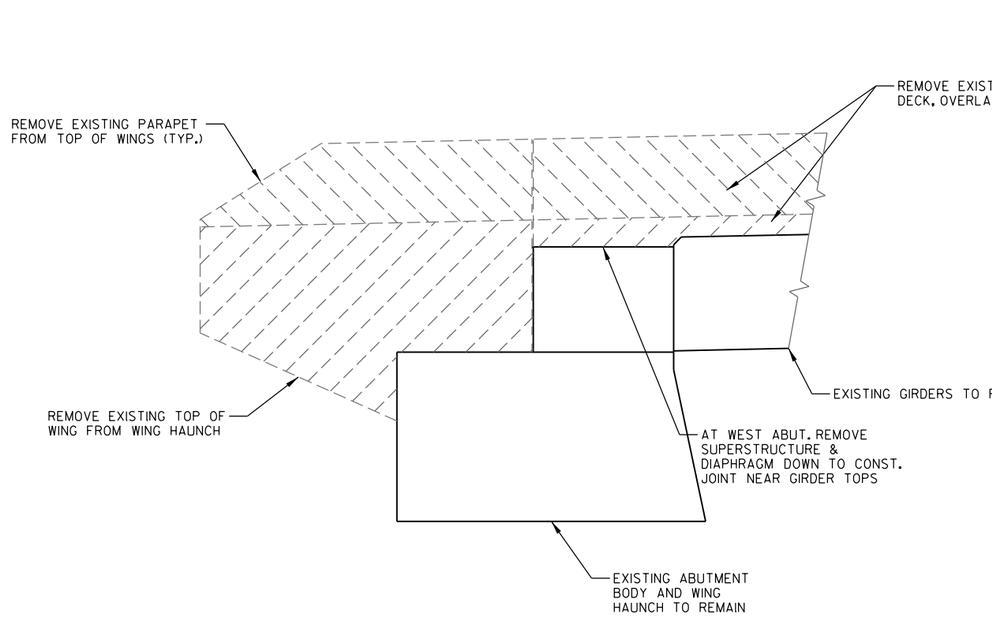
(LOOKING EAST)

NOTE
EXISTING CONCRETE DIAPHRAGMS AT PIERS TO REMAIN (NOT SHOWN)

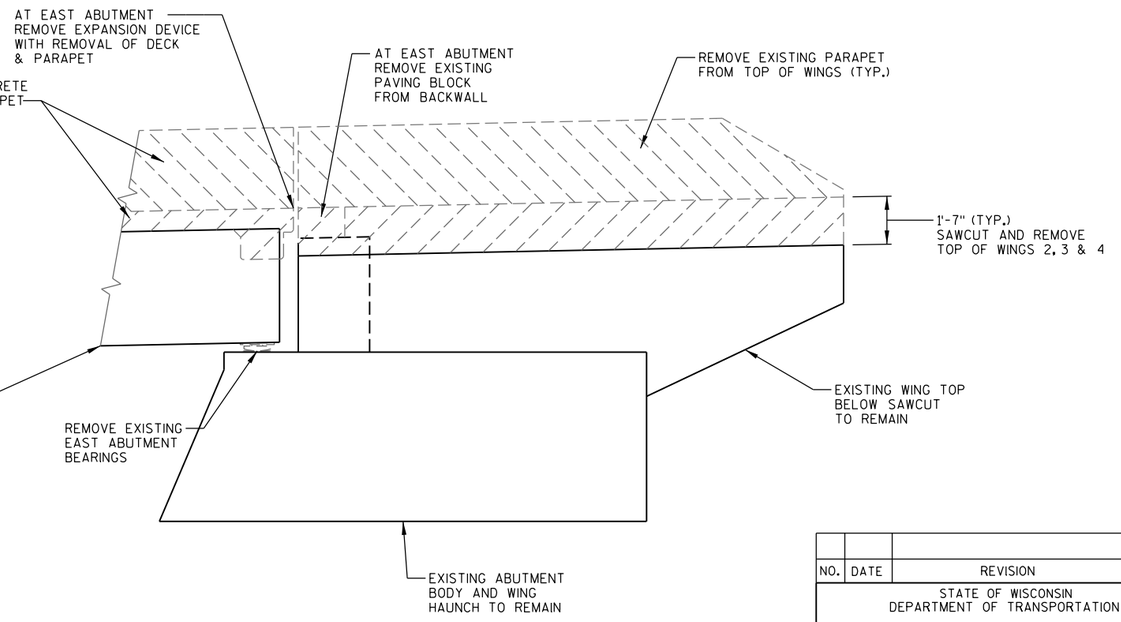
BEARING REMOVAL NOTES

REMOVE EXISTING BEARING ASSEMBLIES AT THE EAST ABUTMENT, INCLUDING EXISTING PLATE ATTACHED TO UNDERSIDE OF GIRDER BOTTOM FLANGE. BURN OFF EXISTING ANCHOR BOLTS AND REMOVE TO 2" BELOW EXISTING CONCRETE BEARING SURFACE. FILL VOID FLUSH WITH CONCRETE BEARING SURFACE WITH NON-SHRINK GROUT AND GRIND SMOOTH.

GRIND OFF THE EXISTING WELD THAT ATTACHED THE EXISTING TOP PLATE TO THE EXISTING BOTTOM FLANGE. GRIND AFFECTED AREAS SMOOTH.



REMOVAL DETAIL - WING 1



REMOVAL DETAIL - WINGS 2, 3 & 4

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-55-76

DRAWN BY RLR | PLANS CK'D. JDH

REMOVAL DETAILS

SHEET 3
75

8

8

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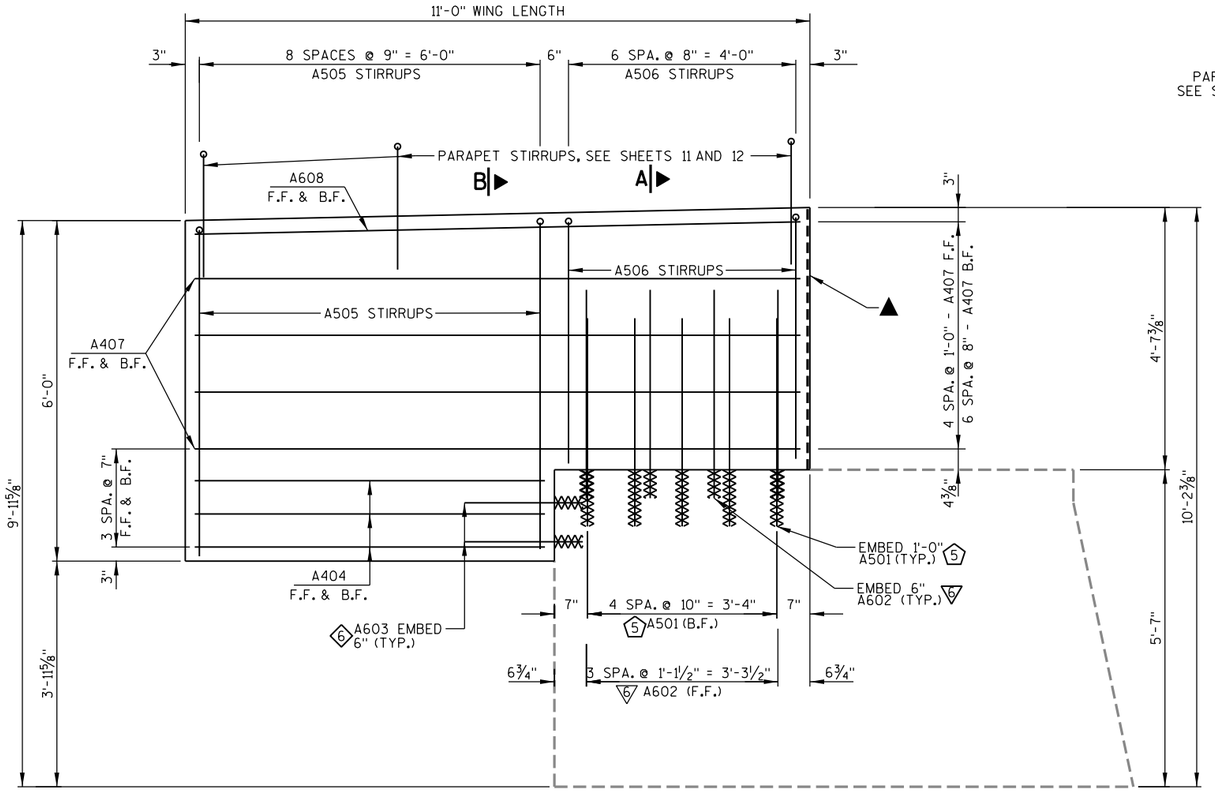
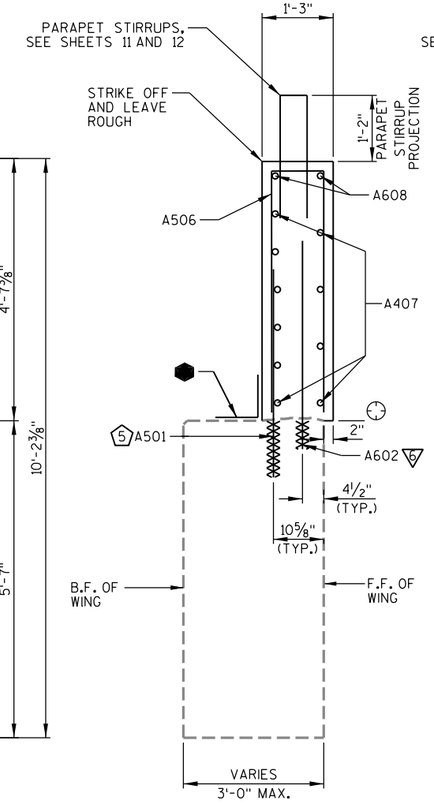
STATE PROJECT NUMBER

8949-00-73

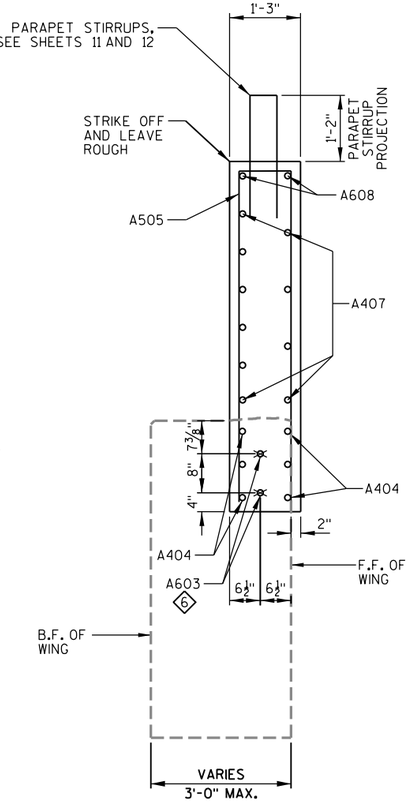


B▶ A▶

ELEVATION WING 1



SECTION A-A THRU WING 1



SECTION B-B THRU WING 1

LEGEND

5 — ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-0" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.

6 — ADHESIVE ANCHORS NO. 6 BAR. EMBED 6" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.

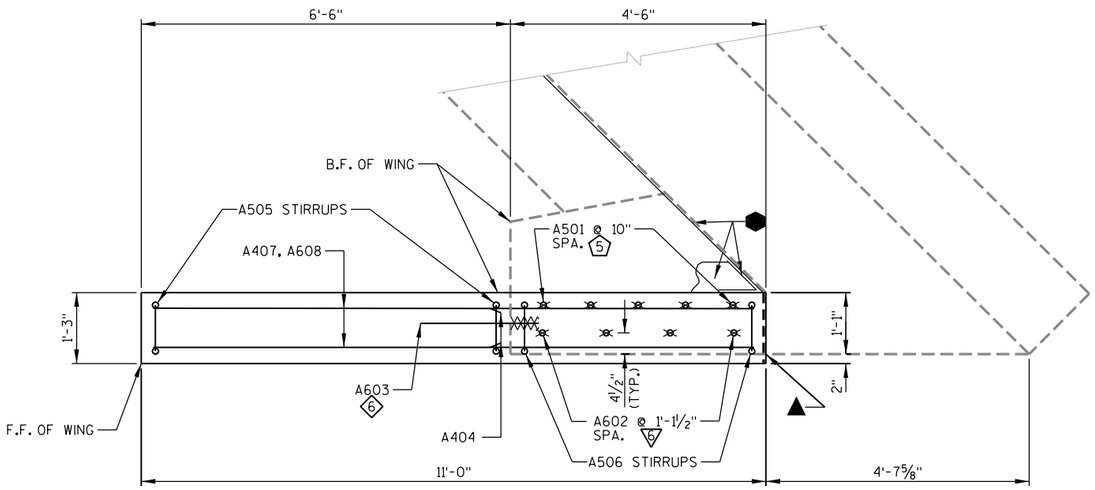
6 — ADHESIVE ANCHORS NO. 6 BAR. EMBED 6" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.

⬢ — 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERTICAL JOINTS AT BACK FACE.

▲ — ½" FILLER (INCLUDED IN WING LENGTH). SEAL ALL EXPOSED HORIZONTAL & VERTICAL SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

⊕ — SAW OFF ORIGINAL VERTICAL BAR STEEL FLUSH WITH JOINT AND COAT EXPOSED BAR STEEL WITH EPOXY IN ACCORDANCE WITH SECTION 505.2.4.2 OF THE STANDARD SPECIFICATION.

F.F. - FRONT FACE B.F. - BACK FACE

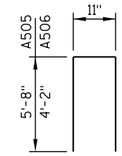


PLAN WING 1

BILL OF BARS

MARK	NUMBER REQ'D.	LENGTH	BENT	LOCATION
A501	5	3'-8"		WING 1 - B.F. - VERT. ANCHOR
A602	4	3'-8"		WING 1 - F.F. - VERT. ANCHOR
A603	2	2'-1"		WING 1 - HORIZ. ANCHOR
A404	6	6'-2"		WING 1 - LOWER TIP - F.F. & B.F. - HORIZ.
A505	9	12'-0"	X	WING 1 - TIP - STIRRUP - VERT.
A506	7	9'-0"	X	WING 1 - STIRRUP - VERT.
A407	10	10'-7"		WING 1 - F.F. & B.F. - HORIZ.
A608	2	10'-7"		WING 1 - TOP - F.F. & B.F. - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
EPOXY COAT ALL BAR STEEL REINFORCEMENT.



A505, A506

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-55-76

DRAWN BY RLR | PLANS CK'D. JDH

WING 1 TOP REPLACEMENT DETAILS

SHEET 4
76

8

8

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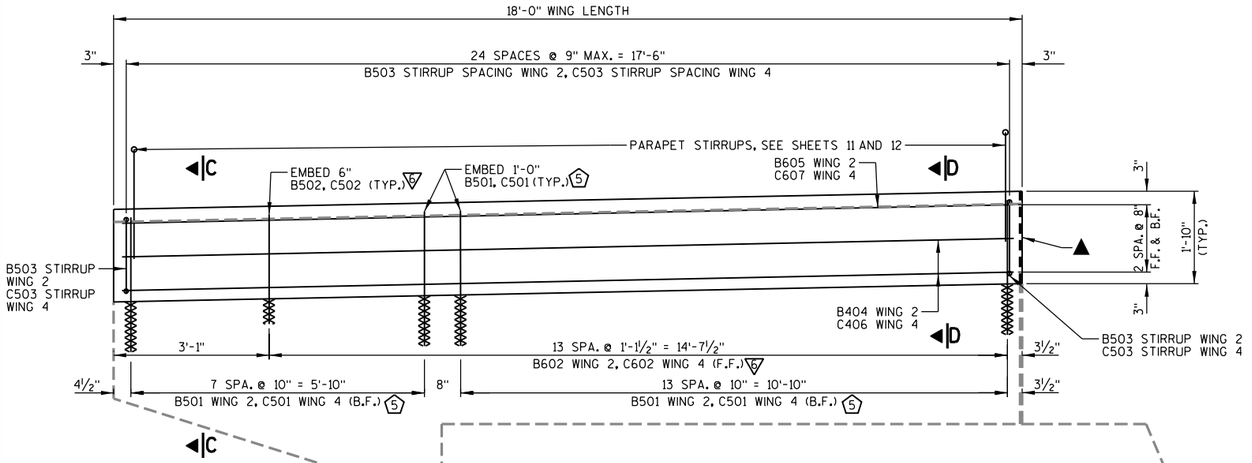
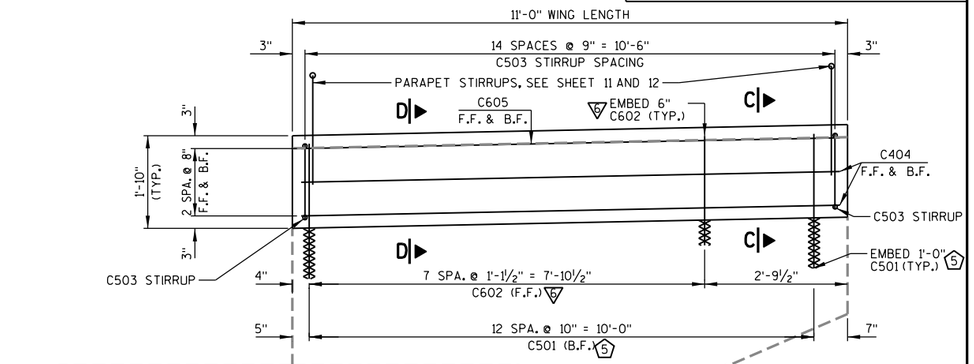
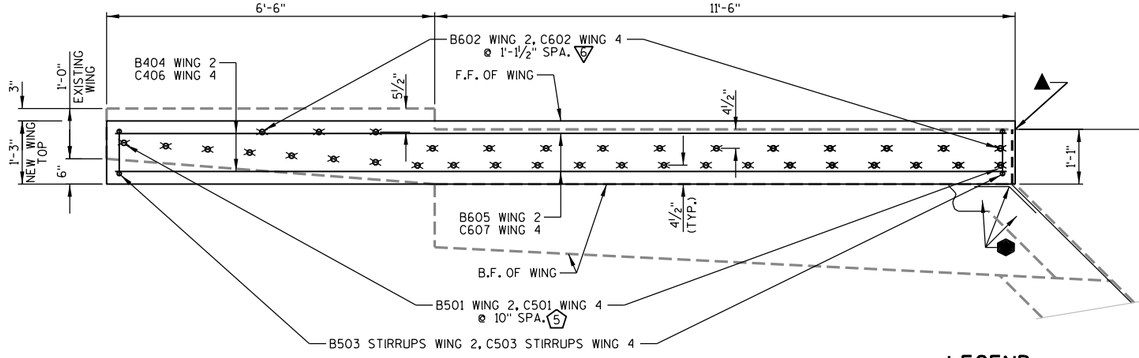


ELEVATION WING 2

WING 4 SIMILAR

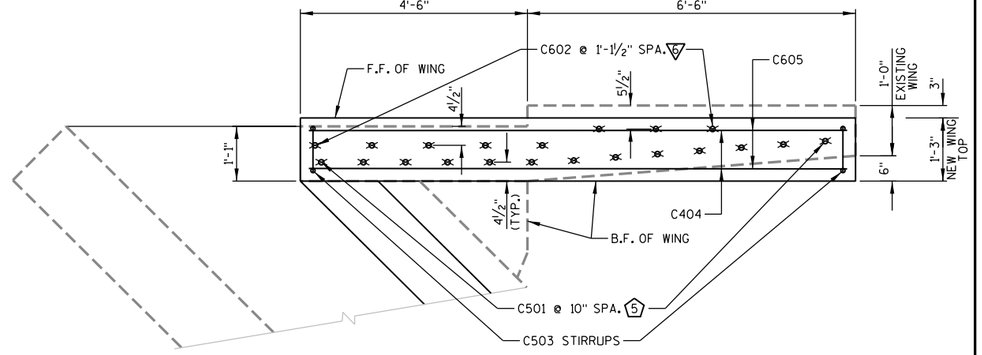


ELEVATION WING 3

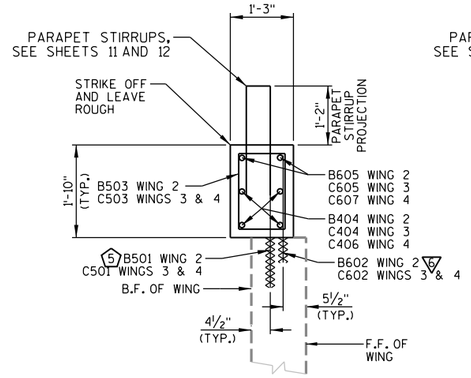


PLAN WING 2

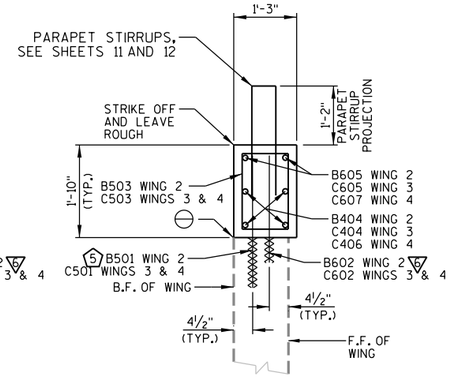
WING 4 SIMILAR



PLAN WING 3



SECTION C-C THRU WINGS



SECTION D-D THRU WINGS

LEGEND

5 — ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-0" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.

6 — ADHESIVE ANCHORS NO. 6 BAR. EMBED 6" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.

⬢ — 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERTICAL JOINTS AT BACK FACE.

▲ — ½" FILLER (INCLUDED IN WING LENGTH). SEAL ALL EXPOSED HORIZONTAL & VERTICAL SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

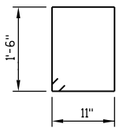
⊖ — 4" DEEP SAW CUT F.F. & BF. CUT OFF ORIGINAL VERTICAL BAR STEEL AND COAT EXPOSED BAR STEEL WITH EPOXY IN ACCORDANCE WITH SECTION 505.2.4.2 OF THE STANDARD SPECIFICATION.

F.F. - FRONT FACE B.F. - BACK FACE

BILL OF BARS

	MARK	NUMBER REQ'D.	LENGTH	BENT	LOCATION
5	B501	22	2'-8"		WING 2 - B.F. - VERT. ANCHOR
6	B602	14	2'-2"		WING 2 - F.F. - VERT. ANCHOR
	B503	25	5'-6"	X	WING 2 - STIRRUP - VERT.
	B404	4	17'-7"		WING 2 - F.F. & B.F. - HORIZ.
	B605	2	17'-7"		WING 2 - TOP - F.F. & B.F. - HORIZ.
5	C501	35	2'-8"		WINGS 3 & 4 - B.F. - VERT. ANCHOR
6	C602	22	2'-2"		WINGS 3 & 4 - F.F. - VERT. ANCHOR
	C503	40	5'-6"	X	WINGS 3 & 4 - STIRRUP - VERT.
	C404	4	10'-8"		WING 3 - F.F. & B.F. - HORIZ.
	C605	2	10'-8"		WING 3 - TOP - F.F. & B.F. - HORIZ.
	C406	4	17'-8"		WING 4 - F.F. & B.F. - HORIZ.
	C607	2	17'-8"		WING 4 - TOP - F.F. & B.F. - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
EPOXY COAT ALL BAR STEEL REINFORCEMENT.



B503, C503

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-55-76

DRAWN BY RLR | PLANS CK'D. JDH

WINGS 2 - 4 TOP REPLACEMENT DETAILS

SHEET 5
77

8

8

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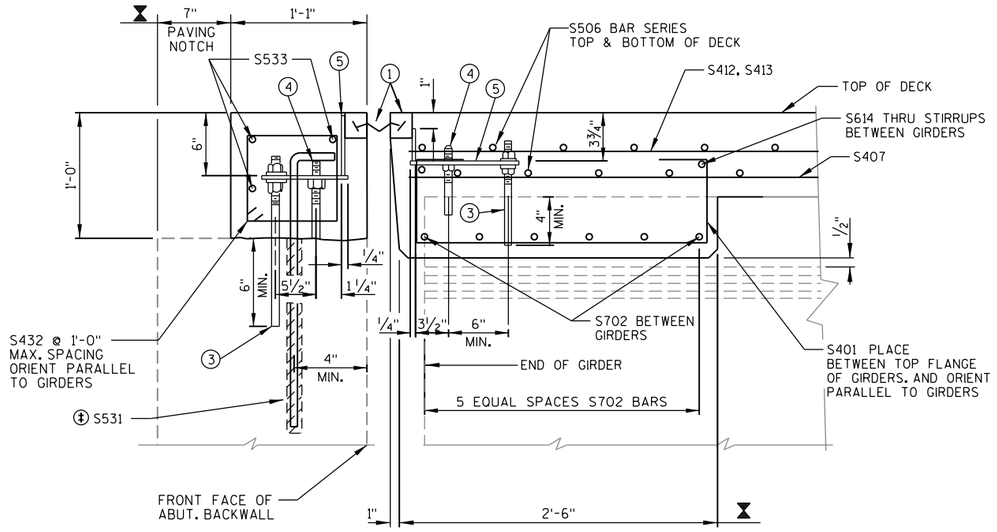
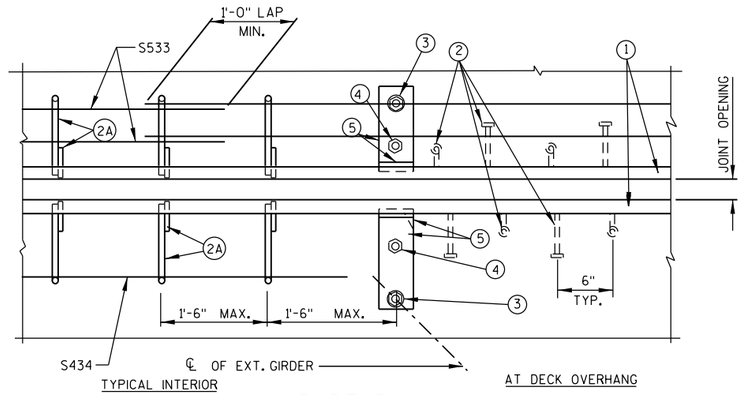
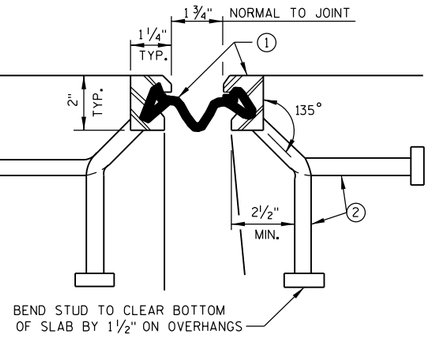


SECTION THRU JOINT AT ABUTMENTS

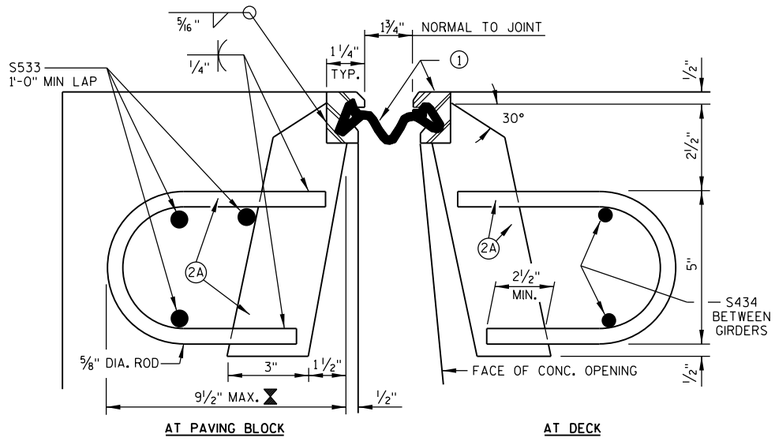


PART PLAN



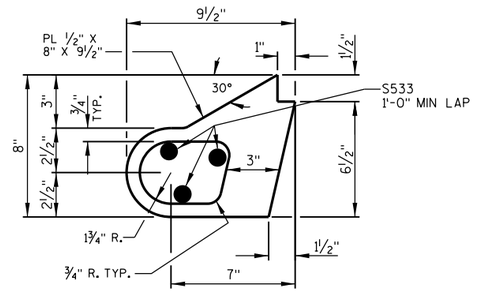
SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK & AT PARAPETS



SECTION THRU JOINT

AT INTERIOR BAYS BETWEEN EXTERIOR GIRDERS.



ALTERNATE STRIP SEAL ANCHOR

AT INTERIOR BAYS BETWEEN EXTERIOR GIRDERS.

LEGEND

Ⓣ - REMOVE EXISTING VERTICAL REINFORCING BARS DURING REMOVAL OF PAVING BLOCK. REPLACE WITH S531 "ADHESIVE ANCHORS NO. 5 BAR" SPACED AT 1'-0". EMBED ADHESIVE ANCHORS NO. 5 BAR 1'-0" IN CONCRETE. ANCHOR HOLES SHALL BE 4" CLEAR MIN. TO FACE OF EXISTING CONCRETE. TURN 10" HORIZONTAL LEG OF S531 BARS AS NECESSARY TO FIT.

⧗ - DIMENSION IS GIVEN NORMAL TO THE ℄ OF ABUTMENT.

(1) NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS. SET JOINT OPENING AT 1¾". JOINT OPENING GIVEN NORMAL TO JOINT.

(2) STUDS ⅝" DIA. X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING. SEE SHEET 7.

(2A) ½" THICK ANCHOR PLATE WITH ⅝" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR). PLATE TO NO. 1 AT 1'-6" CTRS. MAX. BETWEEN GIRDERS.

(3) ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED RODS INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN AND ON ℄ OF GIRDERS.

(4) ¾" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" DIA. HOLE FOR NO. 3 & 1" DIA. HOLE FOR NO. 4.

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-55-76

DRAWN BY RLR | PLANS CK'D. JDH

STRIP SEAL EXPANSION JOINT

SHEET 6
78

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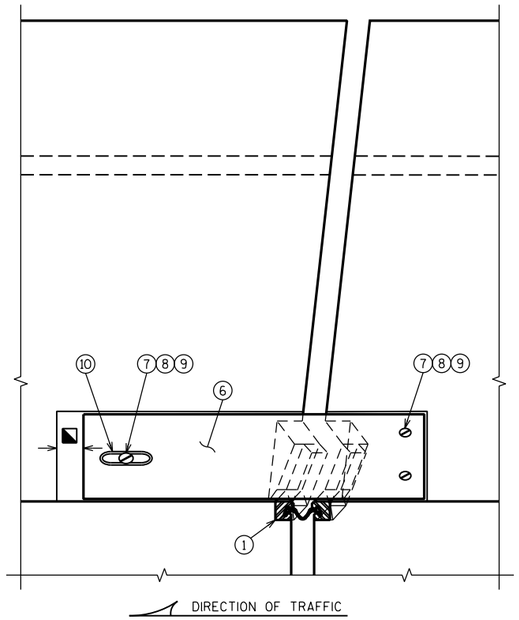
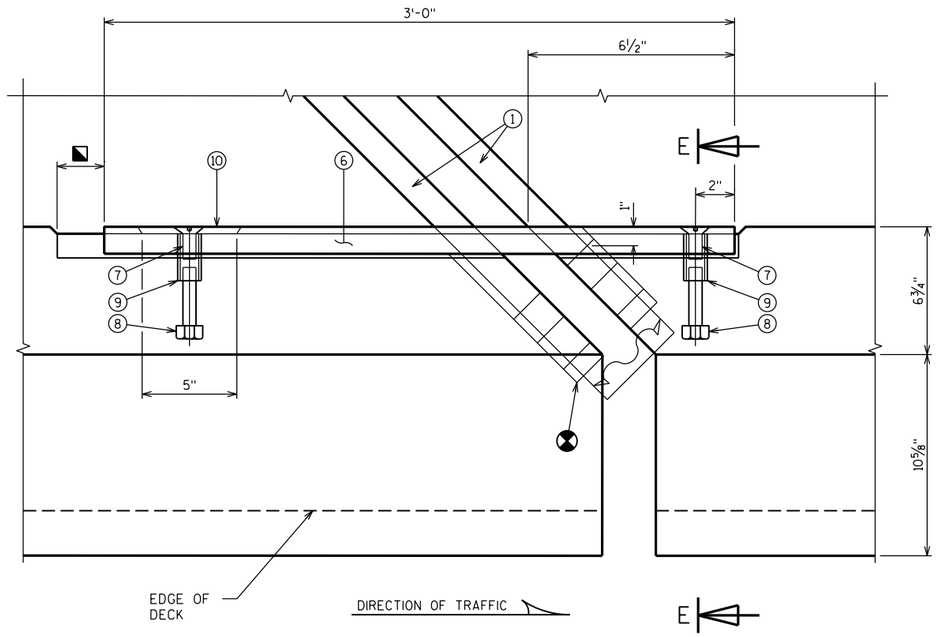
STATE PROJECT NUMBER

8949-00-73



ELEVATION VIEW OF PARAPET PLATES FROM ROADWAY



PLAN AT PARAPET

LEGEND

(1) NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS. SET JOINT OPENING AT 1 ¾". JOINT OPENING GIVEN NORMAL TO JOINT.

(2) STUDS ⅝" DIA. X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CTRS. BETWEEN GIRDERS.

(3) ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED RODS INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN AND ON ℄ OF GIRDERS.

(4) ¾" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" DIA. HOLE FOR NO. 3 & 1" DIA. HOLE FOR NO. 4.

(6) GALVANIZED PLATE ⅜" × 10" × 3'-0" LONG WITH HOLES FOR NO. 7.

(7) ¾" DIA. × 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) ¾" DIA. × 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) ¾" DIA. × 2¼" GALVANIZED THREADED COUPLING.

(10) 1" × 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR HANDLING OR GALVANIZING REQUIREMENTS. IF USED, ANCHOR PLATES SHALL BE PROVIDED 3" FROM EACH SIDE OF THE FIELD SPLICE. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

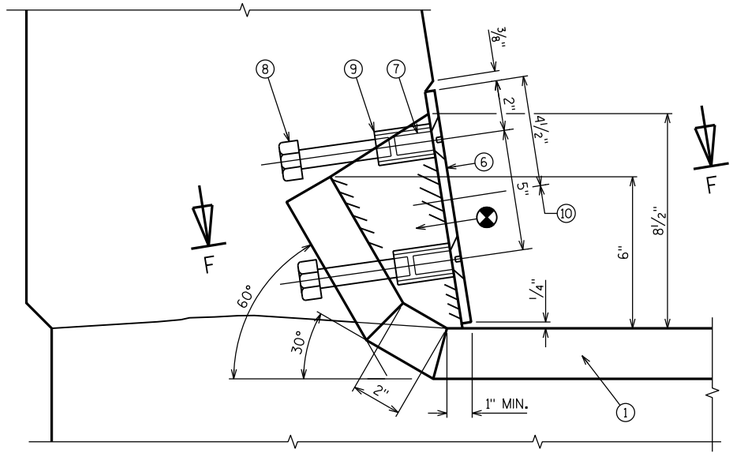
ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE", LF.

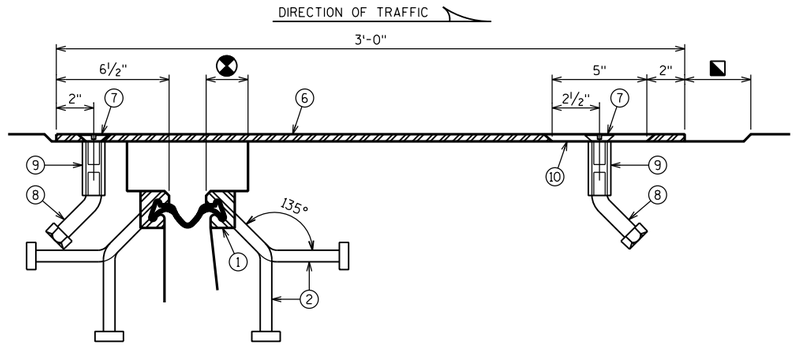
ALL S533 BAR STEEL SHALL BE PLACED PARALLEL TO THE JOINT.

⊗ — BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING

◥ — JOINT OPENING DIMENSION ALONG SKEW PLUS ½"



SECTION E-E



SECTION F-F

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-55-76

DRAWN BY RLR | PLANS CK'D. JDH

STRIP SEAL COVER PLATE DETAILS

SHEET 7
79

FILE= 93705_B-55-76_07.DGN

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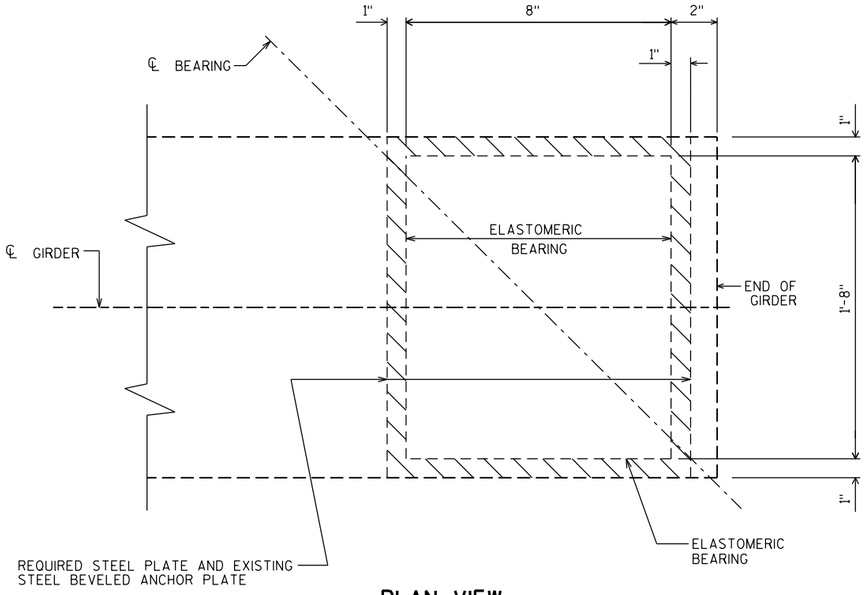
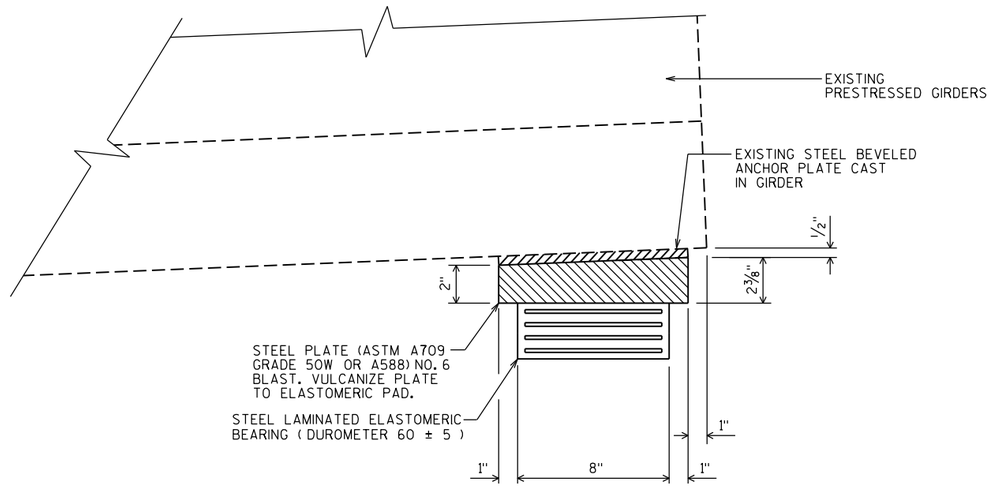
STATE PROJECT NUMBER
8949-00-73



PLAN VIEW



SIDE VIEW AT EAST ABUT. GIRDER END

TAPER STEEL PLATES FROM 2" TO 2⅜" WEST TO EAST
BID ITEM "BEARING PADS ELASTOMERIC LAMINATED"
(5 REQUIRED TOTAL)

BEARING NOTES

GRIND THE EXISTING WELD THAT ATTACHED THE EXISTING TOP PLATE TO EXISTING BOTTOM FLANGE. GRIND AFFECTED AREAS SMOOTH.

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEMS "BEARING PADS ELASTOMERIC LAMINATED".

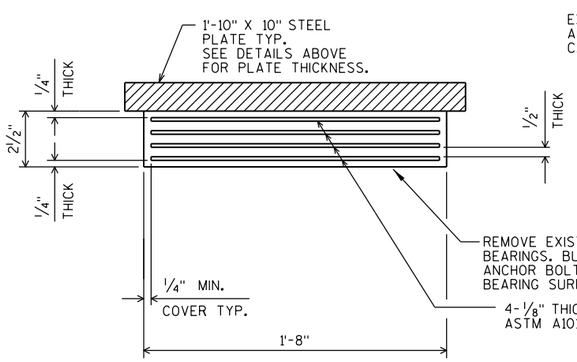
ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

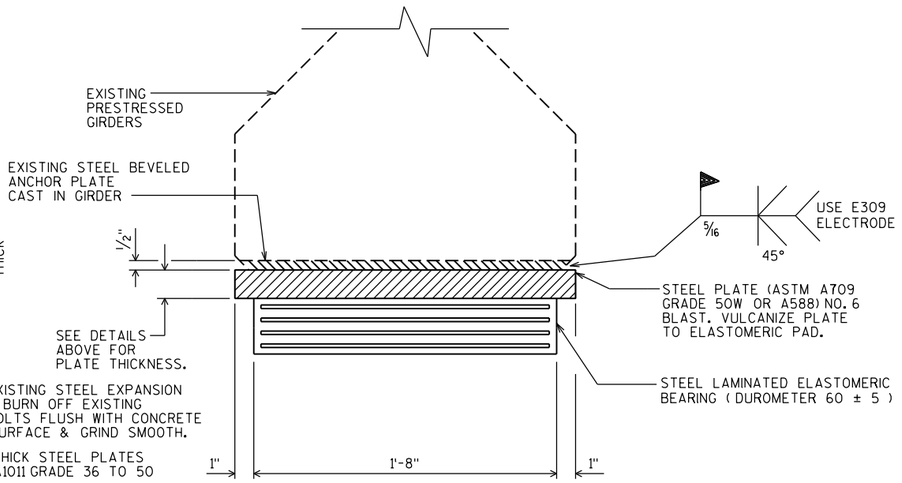
TOP PLATE SHALL CONFORM TO ASTM A709 GRADE 50W OR A588 AND SHALL BE PAINTED IN ACCORDANCE WITH SECTION 506.2.8.1 OF THE STANDARD SPECIFICATION.

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 85° F.

REMOVE THE PAINT FROM TOP PLATE SURFACES THAT REQUIRE FIELD WELDING. AFTER WELDING, PROVIDE ONE COAT OF ORGANIC ZINC-RICH PRIMER AND ONE COAT OF HIGH-BUILD BROWN EPOXY PAINT IN ACCORDANCE WITH SECTION 517.3.1.8.2 OF THE STANDARD SPECIFICATIONS. FIELD APPLIED PAINT SHALL EXTEND BEYOND THE DAMAGED PAINTED SURFACES.



SECTION THRU ELASTOMERIC BEARING



END VIEW

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-55-76

DRAWN BY RLR | PLANS CK'D. JDH

PRESTRESSED GIRDER BEARINGS

SHEET 8
80

8

8

FILE= 93705_B-55-76_08.DGN

93705_B-55-76_08 BEARING.dgn 6/18/2025 10:57:18 AM ekazadi

STATE PROJECT NUMBER

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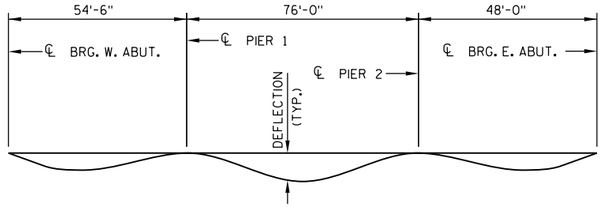


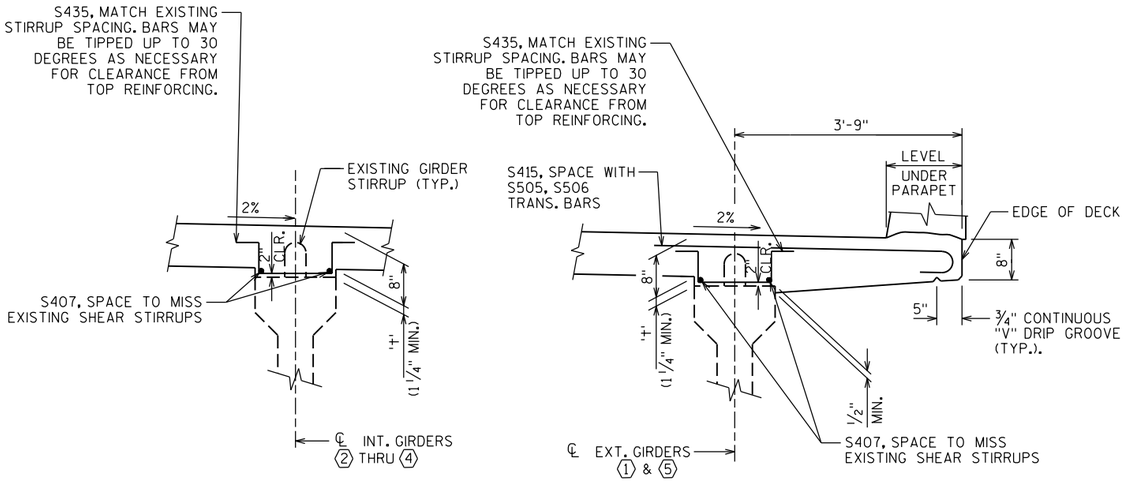
DEFLECTION DIAGRAM

(DEFLECTION DUE TO CONCRETE)

TOP OF DECK ELEVATIONS

** EDGE OF DECK ELEVATION IS THE SAME AS THE INSIDE FACE OF THE PARAPET

LOCATION	SPAN POINT	** NORTH EDGE OF DECK	C/L GIRDER 1	C/L GIRDER 2	C/L GIRDER 3 & USH 12	C/L GIRDER 4	C/L GIRDER 5	** SOUTH EDGE OF DECK	DEAD LOAD DEFLECTION (IN)
W. ABUT.	1.0	1038.34	1038.48	1038.80	1039.12	1039.12	1039.13	1039.16	0.00
	1.1	1038.47	1038.61	1038.94	1039.23	1039.23	1039.24	1039.27	0.07
	1.2	1038.61	1038.75	1039.05	1039.34	1039.35	1039.35	1039.38	0.14
	1.3	1038.74	1038.86	1039.16	1039.45	1039.46	1039.46	1039.49	0.19
	1.4	1038.85	1038.98	1039.27	1039.57	1039.57	1039.57	1039.60	0.23
	1.5	1038.96	1039.09	1039.38	1039.68	1039.68	1039.69	1039.71	0.23
	1.6	1039.07	1039.20	1039.49	1039.79	1039.79	1039.80	1039.82	0.22
	1.7	1039.18	1039.31	1039.61	1039.90	1039.90	1039.91	1039.94	0.19
	1.8	1039.30	1039.42	1039.72	1040.01	1040.02	1040.02	1040.05	0.13
	1.9	1039.41	1039.53	1039.83	1040.12	1040.13	1040.13	1040.16	0.07
PIER 1	2.0	1039.52	1039.65	1039.94	1040.23	1040.24	1040.24	1040.27	0.00
	2.1	1039.67	1039.80	1040.10	1040.39	1040.39	1040.40	1040.43	0.26
	2.2	1039.83	1039.96	1040.25	1040.55	1040.55	1040.55	1040.58	0.52
	2.3	1039.98	1040.11	1040.41	1040.70	1040.71	1040.71	1040.74	0.72
	2.4	1040.14	1040.27	1040.56	1040.86	1040.86	1040.87	1040.89	0.85
	2.5	1040.30	1040.42	1040.72	1041.01	1041.02	1041.02	1041.05	0.89
	2.6	1040.45	1040.58	1040.87	1041.17	1041.17	1041.18	1041.20	0.85
	2.7	1040.61	1040.73	1041.03	1041.32	1041.33	1041.33	1041.36	0.72
	2.8	1040.76	1040.89	1041.18	1041.48	1041.48	1041.49	1041.51	0.52
	2.9	1040.92	1041.05	1041.34	1041.63	1041.64	1041.64	1041.67	0.26
PIER 2	3.0	1041.07	1041.20	1041.50	1041.79	1041.79	1041.80	1041.83	0.00
	3.1	1041.17	1041.30	1041.59	1041.89	1041.89	1041.90	1041.92	0.04
	3.2	1041.27	1041.40	1041.69	1041.99	1041.99	1042.00	1042.02	0.08
	3.3	1041.37	1041.50	1041.79	1042.08	1042.09	1042.09	1042.12	0.11
	3.4	1041.47	1041.59	1041.89	1042.18	1042.19	1042.19	1042.22	0.13
	3.5	1041.56	1041.69	1041.99	1042.28	1042.29	1042.29	1042.32	0.14
	3.6	1041.66	1041.79	1042.08	1042.38	1042.38	1042.39	1042.42	0.13
	3.7	1041.76	1041.89	1042.18	1042.48	1042.48	1042.49	1042.51	0.11
	3.8	1041.86	1041.99	1042.28	1042.58	1042.58	1042.58	1042.59	0.08
	3.9	1041.96	1042.09	1042.38	1042.67	1042.68	1042.66	1042.67	0.04
E. ABUT.	4.0	1042.06	1042.18	1042.48	1042.77	1042.76	1042.74	1042.75	0.00



DECK HAUNCH DETAIL

TO DETERMINE 't', ELEV. OF TOP OF GIRDERS AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF THE SPAN SHALL BE TAKEN. TO DETERMINE THE TOP OF DECK ELEVATION FOR POINT REFERRED USE TABLE ON THIS SHEET AND ADJUST FOR CROSS SLOPE OVER GIRDER. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION (SEE THIS SHEET)
- DECK THICKNESS

= HAUNCH HEIGHT 't'

IF 1 1/4" MINIMUM HAUNCH HEIGHT 't' 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 AND PROFILE BY MORE THAN 1/4" OR IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

NOTE: AN AVERAGE HAUNCH ("t") OF 2 5/8" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES."

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-55-76

DRAWN BY RLR | PLANS CK'D. JDH

DECK FORMING DETAILS

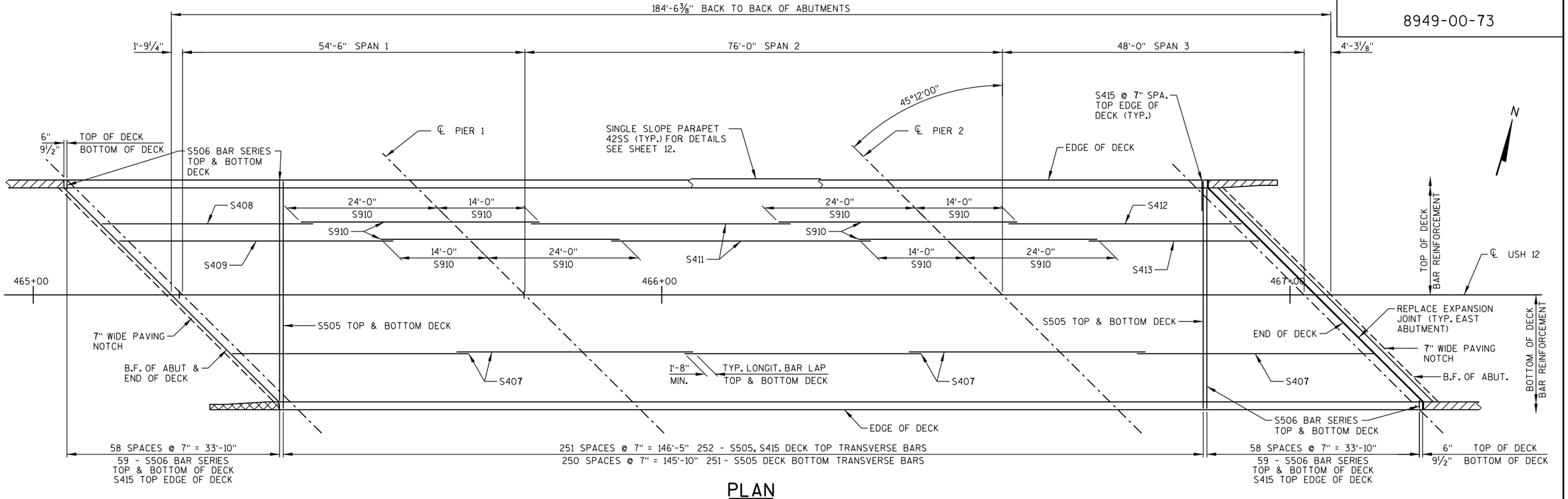
SHEET 9
81

FILE= 93705_B-55-76_09.DGN

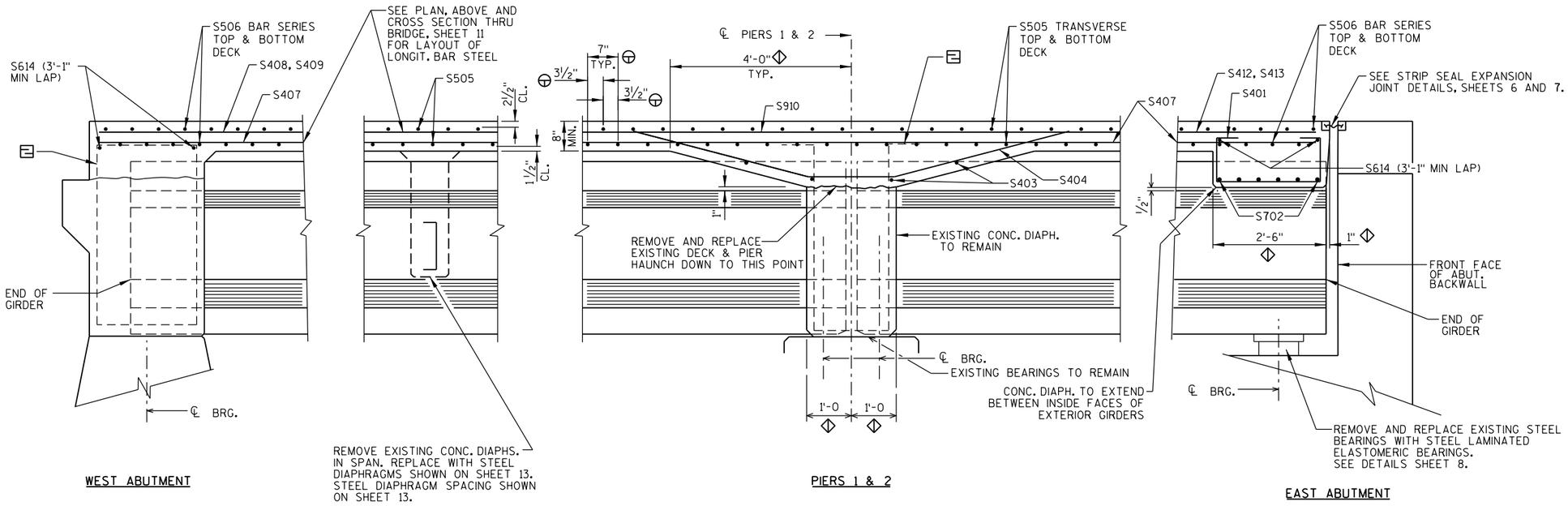
93705_B-55-76_09 DECK FORMING.dgn 9/16/2025 7:06:06 AM ekazadi

STATE PROJECT NUMBER

8949-00-73



PLAN



PART LONGITUDINAL SECTION

LEGEND

- AT WEST ABUT. AND PIER DIAPHRAGMS SALVAGE EXISTING REINF. STEEL. ANY SALVAGED EXISTING REINF. MUST BE CLEANED OF RUST AND LOCATED 2" MIN. CLEAR OF FACE OF CONCRETE. REPLACE EXISTING REINF. NOT SALVAGED WITH ADHESIVE ANCHORS NO. 5 BARS, PLACED AND BENT INTO NEW WORK AS DIRECTED BY THE ENGINEER. MATERIALS AND WORK ARE INCLUDED IN THE BID ITEM "REMOVING STRUCTURE B-55-76".
- ◇ DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.
- ⊕ DIMENSION IS TAKEN NORMAL TO ℄ GIRDER.

F.F. - FRONT FACE B.F. - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-55-76

DRAWN BY RLR | PLANS CK'D. JDH

SUPERSTRUCTURE

SHEET 10
82

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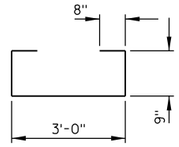
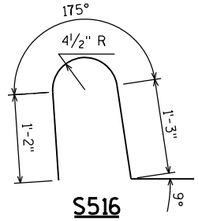


S401
(STIRRUP)



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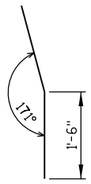

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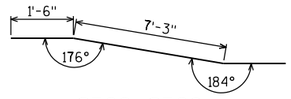

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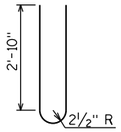

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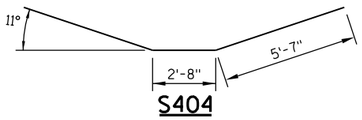

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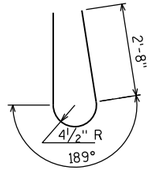
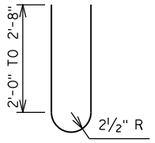


S518

S524, S530



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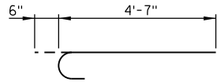
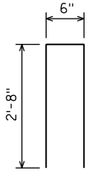


S415
STD. 180° HOOK



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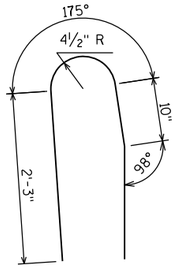

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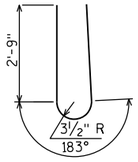

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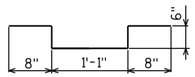
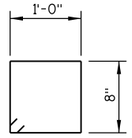


S435



S432
(STIRRUP)

S531

BILL OF BARS

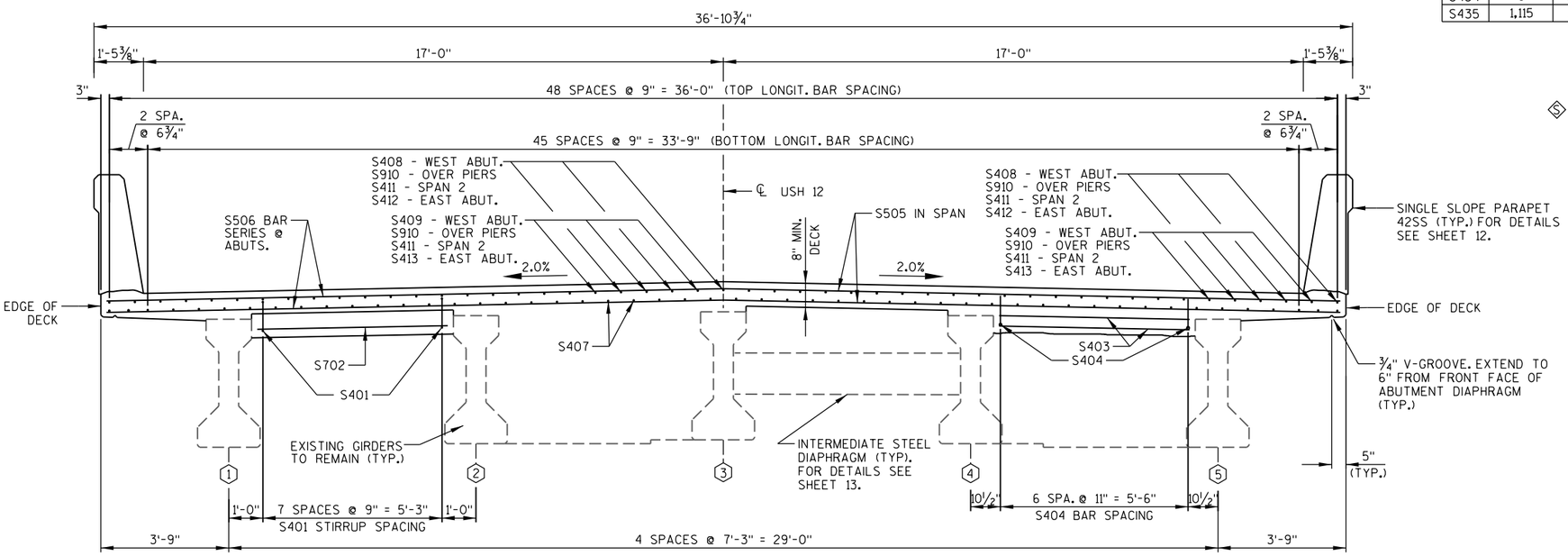
MARK	NUMBER REQUIRED	LENGTH	BENT	BAR SERIES	DESCRIPTION
S401	32	5'-6"	X		DIAPH. @ EAST ABUT. - STIRRUP - VERT.
S702	24	7'-10"			DIAPH. @ EAST ABUT. - TRANS.
S403	32	7'-10"			HAUNCH @ PIERS - HORIZ.
S404	56	13'-10"	X		HAUNCH @ PIERS - LONGIT.
S505	503	36'-2"			DECK - TOP & BOTTOM - TRANS.
S506	236	17'-10"		Ⓢ	DECK @ ABUT. - TOP & BOTTOM - TRANS.
S407	300	37'-8"			DECK - BOTTOM - LONGIT.
S408	25	33'-8"			DECK - TOP - SPAN 1 - LONGIT.
S409	24	43'-10"			DECK - TOP - SPAN 1 - LONGIT.
S910	98	38'-0"			DECK - TOP - OVER PIERS - LONGIT.
S411	49	41'-4"			DECK - TOP - SPAN 2 - LONGIT.
S412	25	37'-2"			DECK - TOP - SPAN 3 - LONGIT.
S413	24	27'-2"			DECK - TOP - SPAN 3 - LONGIT.
S614	8	27'-3"			DIAPH. @ ABUT. - TRANS.
S415	622	5'-1"	X		DECK - TOP @ EDGE - TRANS.
S516	546	4'-5"	X		PARAPET INTO DECK - STIRRUP - VERT.
S517	80	37'-9"			PARAPET ON DECK - LONGIT.
S518	584	6'-8"	X		PARAPET ON DECK & WINGS - STIRRUP - VERT.
S519	68	5'-7"	X		PARAPET INTO WINGS - END - STIRRUP - VERT.
S520	48	3'-0"	X		PARAPET INTO WINGS - STIRRUP - VERT.
S521	38	5'-10"	X		PARAPET INTO WINGS - STIRRUP - VERT.
S522	2	10'-7"	X		PARAPET ON WINGS 1 & 3 - LONGIT.
S523	10	10'-7"			PARAPET ON WINGS 1 & 3 - LONGIT.
S524	4	10'-7"	X		PARAPET ON WINGS 1 & 3 - TOP - LONGIT.
S525	24	6'-6"	X		PARAPET ON WINGS - STIRRUP - VERT.
S526	20	6'-5"	X		PARAPET ON WINGS - STIRRUP - VERT.
S527	24	5'-5"	X	Ⓢ	PARAPET ON WINGS - END - STIRRUP - VERT.
S528	2	17'-7"	X		PARAPET ON WINGS 2 & 4 - LONGIT.
S529	10	17'-7"			PARAPET ON WINGS 2 & 4 - LONGIT.
S530	4	17'-7"	X		PARAPET ON WINGS 2 & 4 - TOP - LONGIT.
S531	49	2'-5"	X		EXP. JOINT @ E. ABUT. - PAVING BLOCK ANCHOR - VERT.
S432	49	3'-10"	X		EXP. JOINT @ E. ABUT. - PAVING BLOCK STIRRUP - VERT.
S533	24	7'-4"			EXP. JOINT @ E. ABUT. - THRU STRIP SEAL - TRANS.
S434	8	7'-10"			EXP. JOINT @ E. ABUT. - THRU STRIP SEAL - TRANS.
S435	1,115	3'-1"	X		DECK - OVER GIRDERS - HAT BARS - VERT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
EPOXY COAT ALL SUPERSTRUCTURE BAR STEEL REINFORCEMENT.
Ⓢ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS. BEND BAR AFTER CUTTING.

BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
S506	4 SERIES OF 59	1'-0" TO 34'-7"
S527	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.



AT EAST ABUT. AT WEST ABUT. IN SPAN AT PIERS

CROSS SECTION THRU BRIDGE
(LOOKING EAST)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-55-76

DRAWN BY RLR | PLANS CK'D. JDH

SUPERSTRUCTURE CROSS SECTION & DETAILS

SHEET 11
83

FILE= 93705_B-55-76_11.DGN

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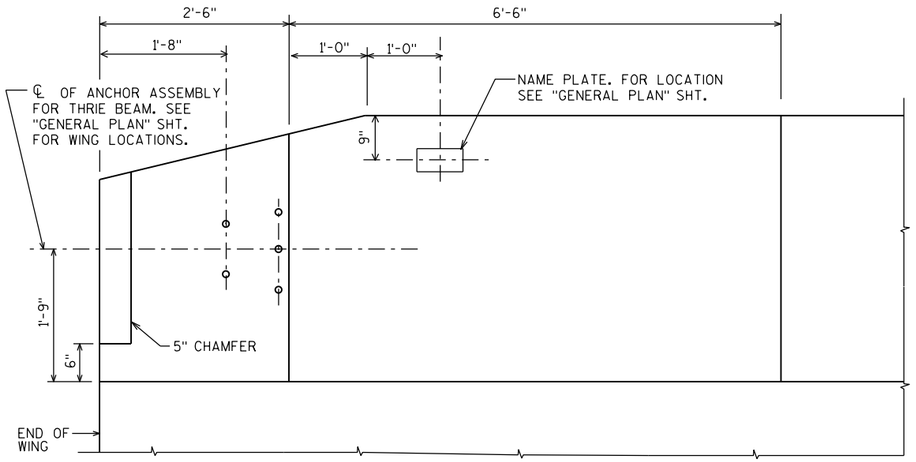
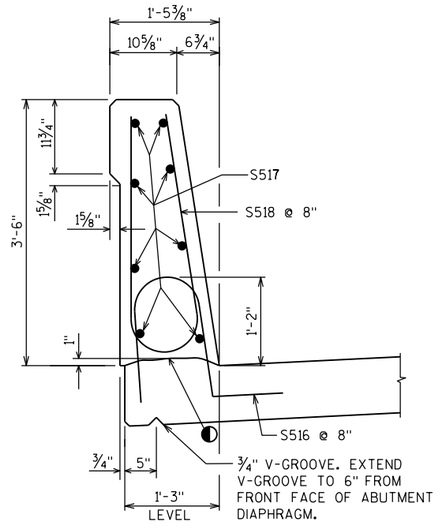
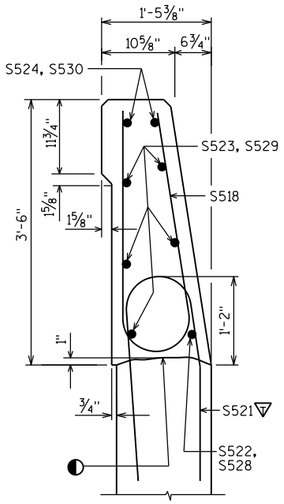
STATE PROJECT NUMBER

8949-00-73

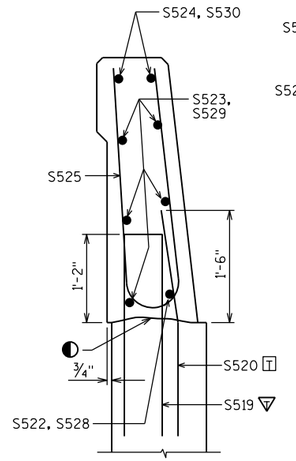


INSIDE ELEVATION

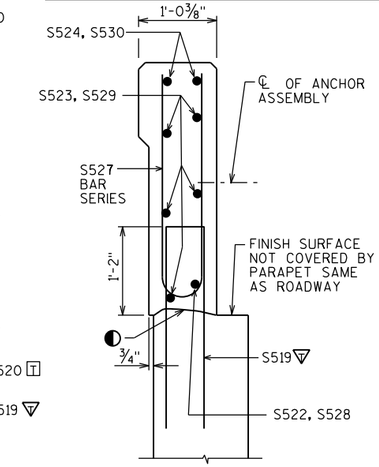




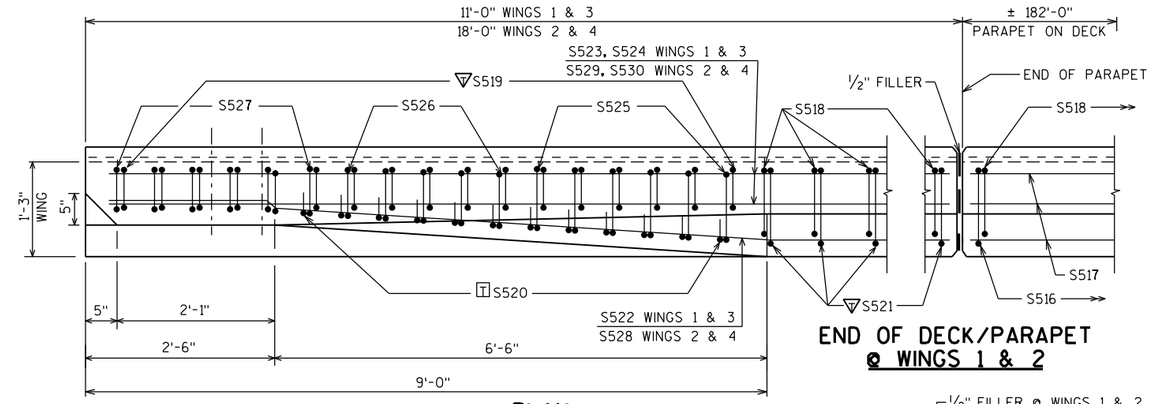
SECTION I-I
ON WING



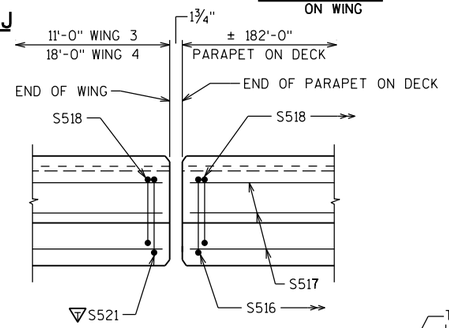
SECTION H-H
ON WING



SECTION G-G
AT END OF WING



SECTION J-J
ON DECK



END OF DECK/PARAPET @ WINGS 1 & 2

END OF DECK/PARAPET @ WINGS 3 & 4

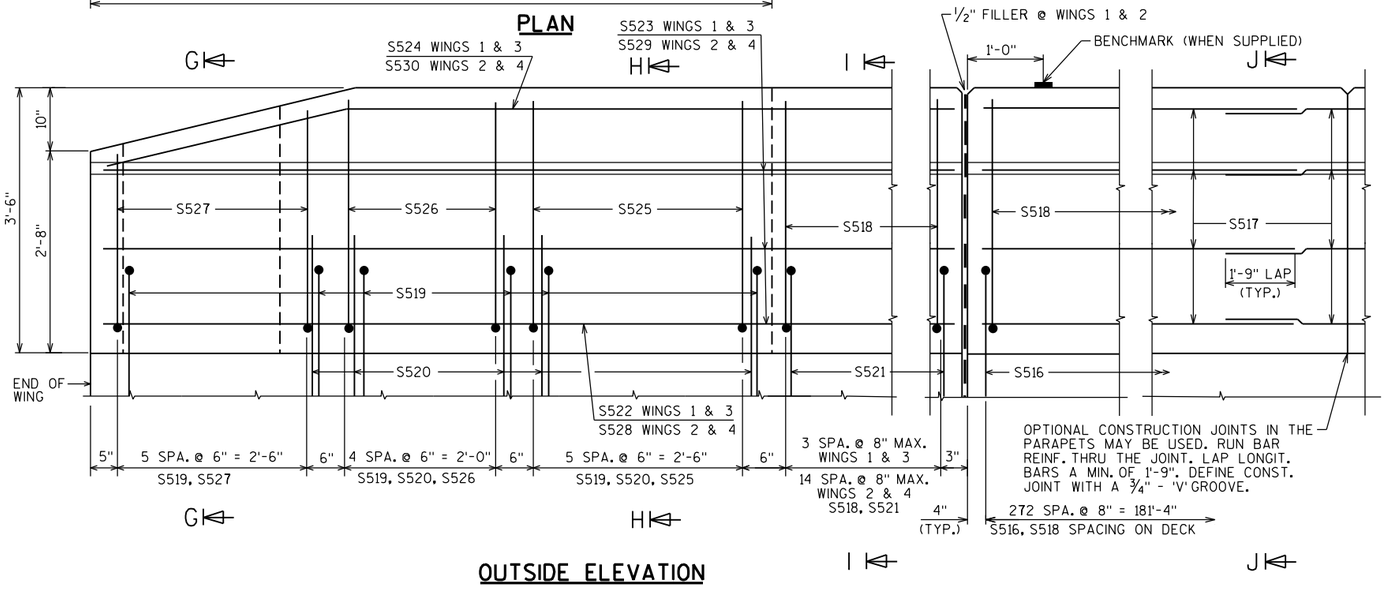
LEGEND

◐ CONSTRUCTION JOINT STRIKE OFF AS SHOWN.

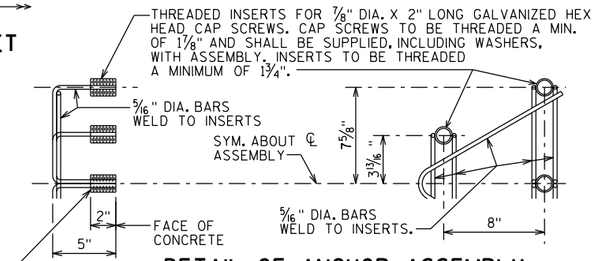
▽ S519 AND S521 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

T S520 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE S520 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

PLAN



OUTSIDE ELEVATION



DETAIL OF ANCHOR ASSEMBLY

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

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

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-55-76

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SINGLE SLOPE PARAPET 42SS

SHEET 12
84

8

8

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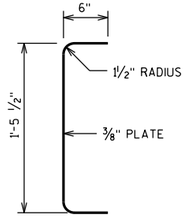
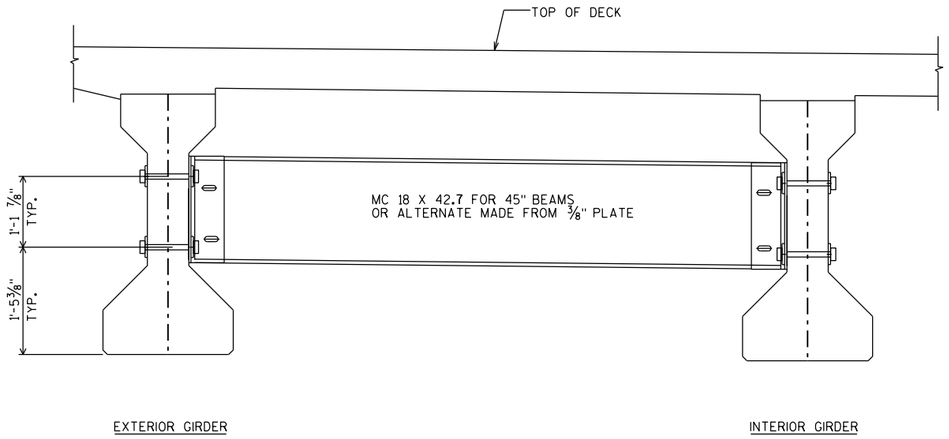
93705_B-55-76_12 42ss.dgn 6/23/2025 2:59:13 PM ekazadi

STATE PROJECT NUMBER

8949-00-73



SECTION THRU ALTERNATE DIAPHRAGM



PART TRANSVERSE SECTION AT DIAPHRAGM

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-55-76", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

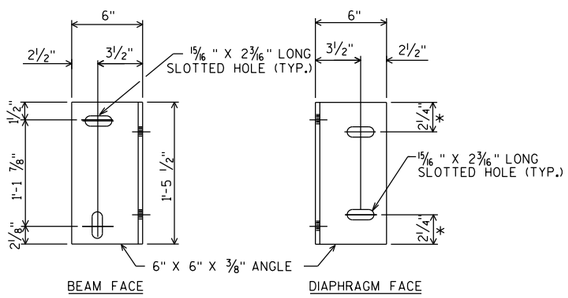
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

ADJUST LOCATION OF CORED HOLES TO AVOID REINFORCEMENT AND ORIGINAL HARDWARE IN THE CONCRETE GIRDERS. CORED HOLES ARE INCLUDED IN THE BID ITEM "STEEL DIAPHRAGMS B-55-76".

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

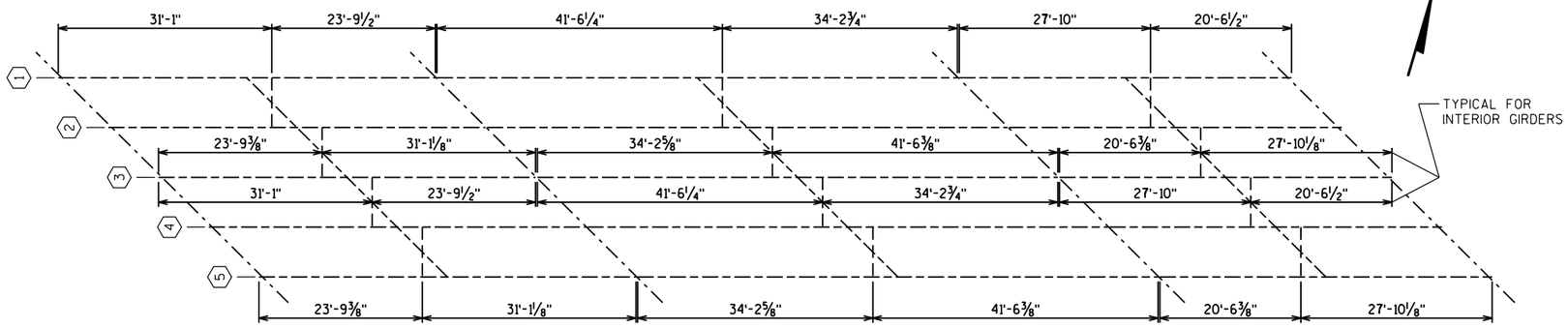
STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS ¼ TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.



DIAPHRAGM SUPPORT

*2½" FOR ALTERNATE PLATE DIAPHRAGM

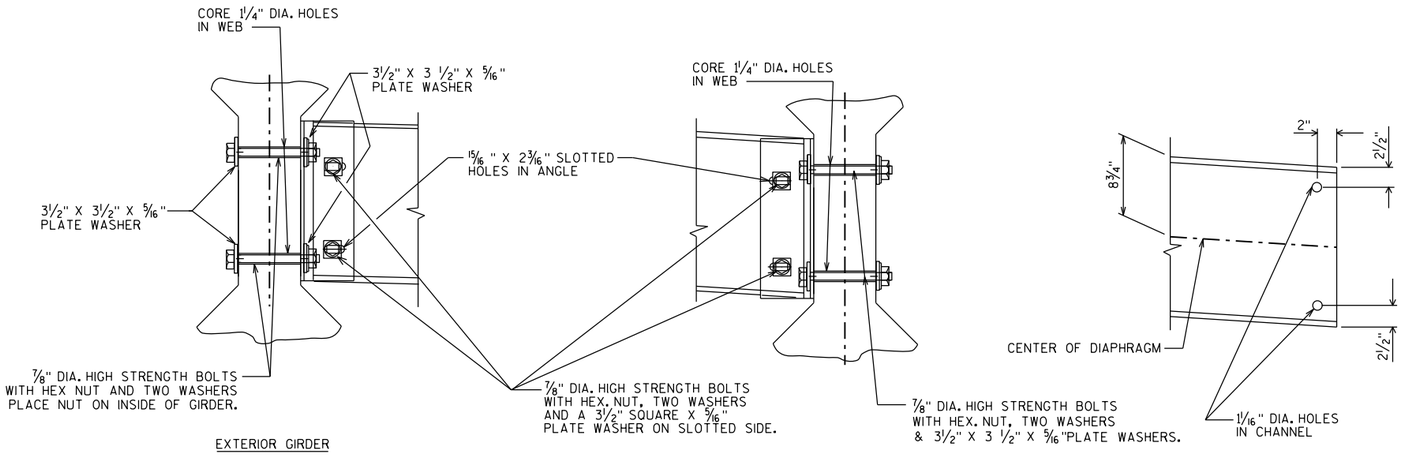


DIAPHRAGM LOCATION PLAN

DIAPHRAGM LOCATION PLAN NOTES

DIAPHRAGM LOCATION MEASUREMENTS ARE TO ENDS OF GIRDERS.

⟨1⟩ — INDICATES GIRDER NUMBER.



CONNECTION DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-55-76

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STEEL DIAPHRAGM

SHEET 13
85

8

8

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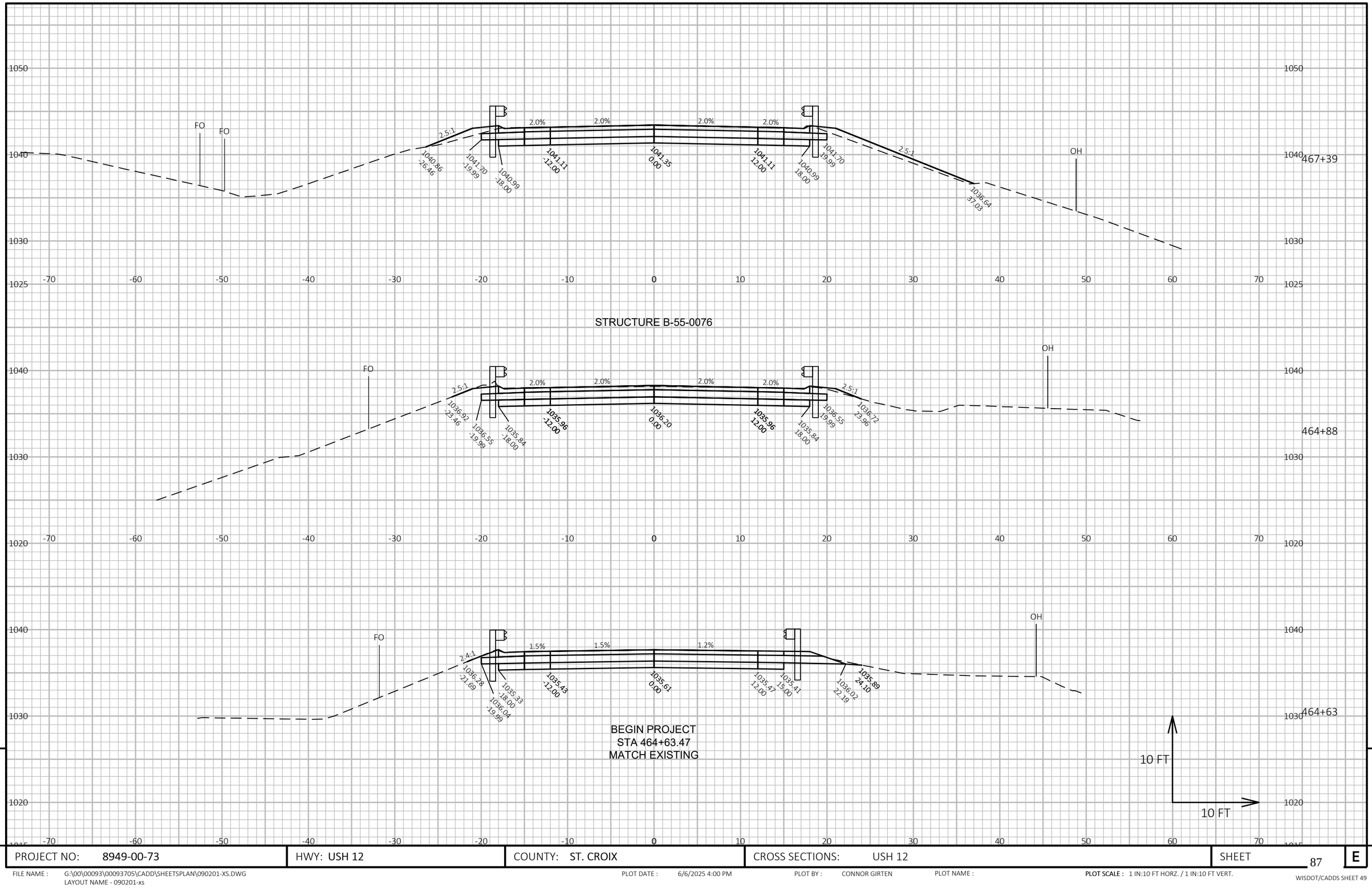
PROJECT I.D. 8949-00-73 EARTHWORK SUMMARY

STA	EXCAVATION COMMON CY	FILL (1) CY	EXPANDED FILL (1)(2) CY	WASTE (1) CY
464+63.47				
	71	0	0	71
464+87.78				
	0	0	0	0
464+87.80				
	54	0	0	54
465+05.36				
	89	1	1	88
465+22.09				
STRUCTURE B-55-0076				
467+05.45				
	92	10	13	79
467+20.46				
	59	4	5	54
467+39.23				
	1	1	1	0
467+39.25				
	71	8	10	61
467+63.47				
	0	0	0	0
467+63.50				
	13	1	1	12
467+88.07				
SUBTOTALS				
WEST APPROACH	214	1	1	213
EAST APPROACH	236	24	30	206
UNUSABLE PAVEMENT (1)(3)				149
TOTALS	**450**	**25**	**31**	**419**

(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.
(2) - FILL EXPANSION 30%
(3) - EXISTING ASPHALTIC SURFACE BASED ON AVE THK OF 8" AND EXISTING CONCRETE PAVMENET BASED ON AVE THK OF 9" PER ASBUILTS.

9

9



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9

PROJECT NO: 8949-00-73	HWY: USH 12	COUNTY: ST. CROIX	CROSS SECTIONS: USH 12	SHEET 87	E

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LAYOUT NAME - 090201-xs

PLOT DATE : 6/6/2025 4:00 PM

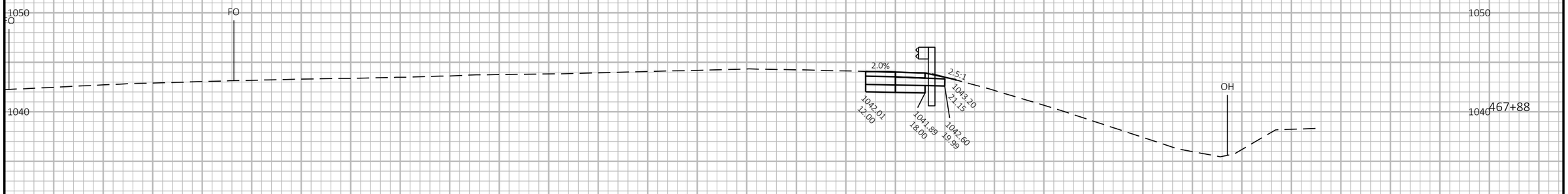
PLOT BY : CONNOR GIRTEN

PLOT NAME :

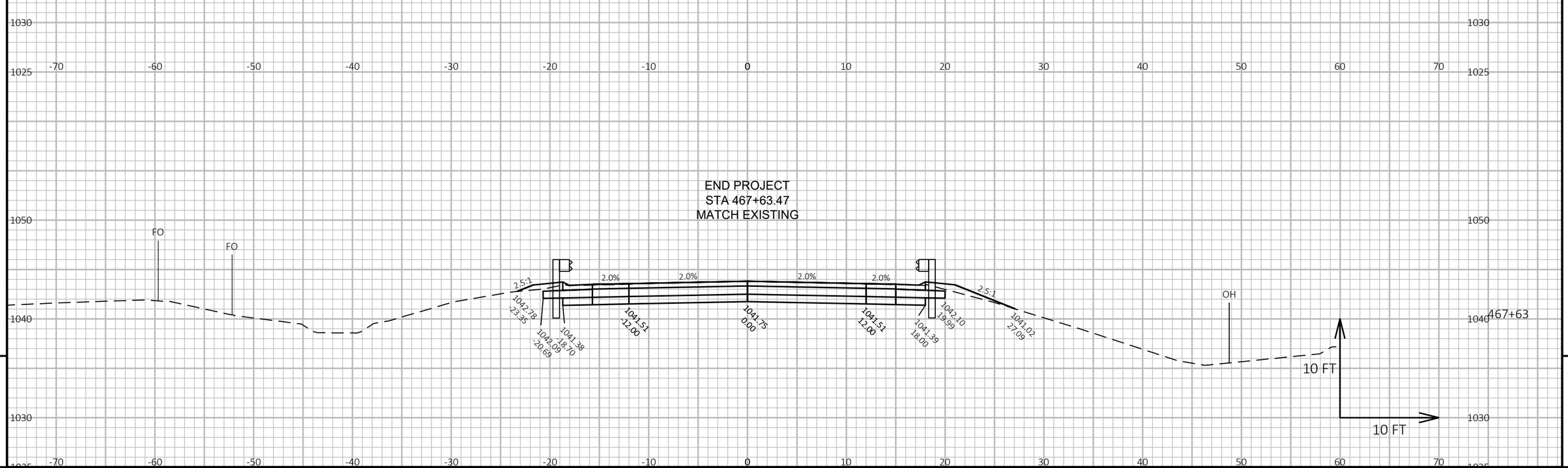
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

END CONSTRUCTION
STA 467+88.07



END PROJECT
STA 467+63.47
MATCH EXISTING



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PROJECT NO: 8949-00-73	HWY: USH 12	COUNTY: ST. CROIX	CROSS SECTIONS: USH 12	SHEET 88	E

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LAYOUT NAME - 090202-xs

PLOT DATE : 6/6/2025 3:55 PM

PLOT BY : CONNOR GIRTEN

PLOT NAME :

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

WISDOT/CADDS SHEET 49

Notes

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