LAX

AUGUST 2019

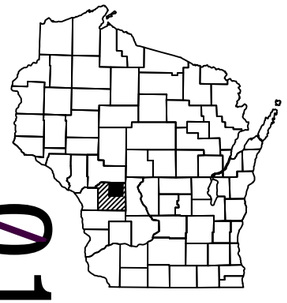
PROJECT ID: 1023-06-72

WITH:

COUNTY: MONROE

ORDER OF SHEETS

TOTAL SHEETS = 94



01

DESIGN DESIGNATION

A.A.D.T.	2014	=	23,700
A.A.D.T.	2030	=	27,900
D.H.V.		=	13.3
D.D.		=	58/42
T.		=	22.2%
DESIGN SPEED		=	70 MPH
ESALS		=	29,000,000

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

BLACK RIVER FALLS - TOMAH

B-41-0062, 0064, 0066, & 0068

IH 94

MONROE

STATE PROJECT NUMBER
1023-06-72

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1023-06-72	WISC 2019574	1

BEGIN PROJECT
STATION 2450+45
X=695305.93 Y=453848.28

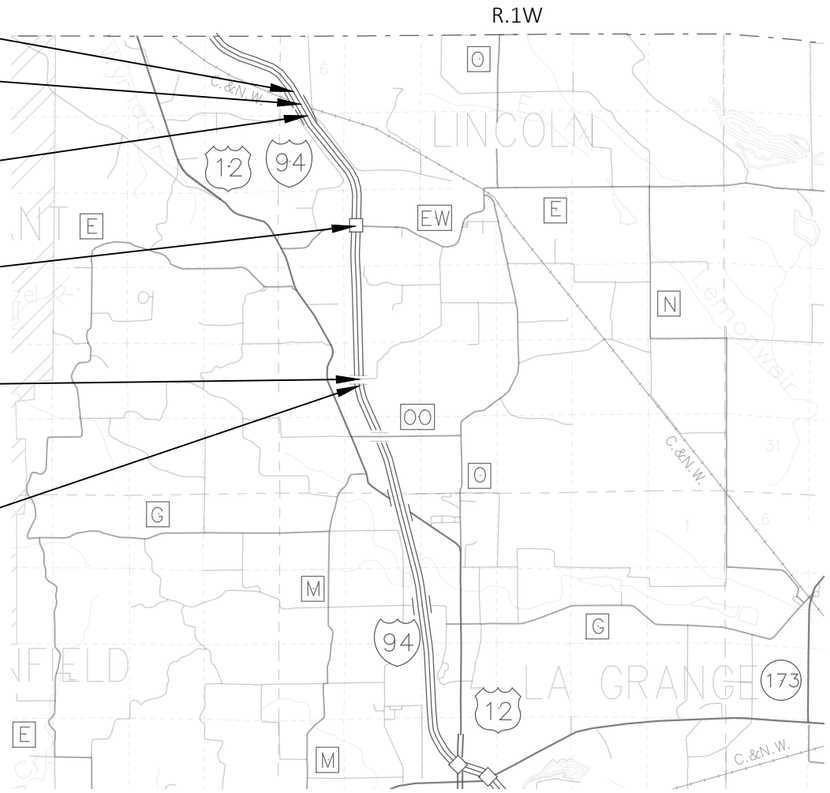
B-41-0062
BEGIN CONSTRUCTION, STATION 2450+45
X=695305.93 Y=453848.28
END CONSTRUCTION, STATION 2453+05

B-41-0064
BEGIN CONSTRUCTION, STATION 2462+90
X=695922.37 Y=452766.76
END CONSTRUCTION, STATION 2464+60

B-41-0066
BEGIN CONSTRUCTION, STATION 2547+90
X=699331.21 Y=445383.44
END CONSTRUCTION, STATION 2549+50

B-41-0068
BEGIN CONSTRUCTION, STATION 17+40B
X=699398.05 Y=434549.63
END CONSTRUCTION, STATION 23+10B

END PROJECT
STATION 2656+50



LAYOUT
SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.000

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), MONROE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

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

PREPARED BY

Surveyor	WISDOT
Designer	BRANDYN MECUM
Project Manager	BRIAN MEYER
Regional Examiner	SW REGION
Regional Supervisor	JIM SAVOLDELLI

APPROVED FOR THE DEPARTMENT
DATE: 4/09/2019 (Signature)

E

FILE NAME : N:\PDS\C3D\10230602\SHEETSPLAN\010101_TI.DWG PLOT DATE : 4/23/2018 1:52 PM PLOT BY : MECUM, BRANDYN W PLOT NAME :

GENERAL NOTES

- THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.
- ALL RADII ARE MEASURED TO EDGE OF PAVEMENT UNLESS OTHERWISE SHOWN OR NOTED ON THE PLAN.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES EXCEPT WHEN CONSTRUCTION OPERATIONS REQUIRE THE DRIVEWAY TO BE CLOSED. ACCESS TO DRIVEWAY SHALL BE RE-ESTABLISHED IMMEDIATELY AFTERCONSTRUCTION IN DRIVEWAY AREA IS COMPLETED. ACCESS SHALL BE PROVIDED DURING ALL NON-WORKING HOURS.
- PRIOR TO THE PLACEMENT OF STEEL PLATE BEAM GUARD, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.
- THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, BIKE OR PARKING LANE.
- HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.
- CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY HIS OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

STANDARD ABBREVIATIONS

AC	ACRE
AGG	AGGREGATE
<	ANGLE
AE, AEW	APRON ENDWALL
ASPH.	ASPHALTIC
A.D.T.	AVERAGE DAILY TRAFFIC
A.A.D.T.	ANNUAL AVERAGE DAILY TRAFFIC
B.F.	BACK FACE
BM	BENCHMARK
BTWN	BETWEEN
CTR.	CENTER
C/L	CENTER LINE
Δ	CENTRAL ANGLE OR DELTA
C.E.	COMMERCIAL ENTRANCE
CONST.	CONSTRUCTION
CMCP	CORRUGATED METAL CULVERT PIPE
CMP	CORRUGATED METAL PIPE
CO.	COUNTY
CTH	COUNTY TRUNK HIGHWAY
CR.	CREEK
CABC	CRUSHED AGGREGATE BASE COURSE
CY	CUBIC YARD
CP	CONTROL POINT OR CULVERT PIPE
C&G	CURB AND GUTTER
D	DEGREE OF CURVE
D.H.V.	DESIGN HOURLY VOLUME
DIA.	DIAMETER
D.D.	DIRECTIONAL DISTRIBUTION
DISCH.	DISCHARGE
DMS	DYNAMIC MESSAGE SIGN
EA	EACH
E	EAST
EB	EASTBOUND
ELEC.	ELECTRIC(AL), ELEC. CABLE
EL., ELEV.	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC.	EXCAVATION
EXIST	EXISTING
F.F.	FACE TO FACE
FERT.	FERTILIZER
F.E.	FIELD ENTRANCE
F/L, F.L.	FLOW LINE
GALV.	GALVANIZE
H.S.	HIGH STRENGTH
CWT	HUNDRED WEIGHT
INL	INLET
INTER.	INTERSECTION
IH	INTERSTATE HIGHWAY
JT.	JOINT
LT	LEFT
L.H.F.	LEFT HAND FORWARD
L.	LENGTH OF CURVE
L.F.	LINEAR FOOT(FEET)
LC.	LONG CHORD
LS	LUMP SUM
M.P.	MARKER POST
MGAL	1000 GALLONS
N.C.	NORMAL CROWN
N	NORTH
NB	NORTHBOUND
NOR	NORMAL
NO.	NUMBER
PAV'T	PAVEMENT
P.L.E.	PERMANENT LIMITED EASEMENT
P.C.	POINT OF CURVATURE
P.I.	POINT OF INTERSECTION
P.T.	POINT OF TANGENCY
PCC	PORTLAND CEMENT CONCRETE
P.E.	PRIVATE ENTRANCE
PGL	PROFILE GRADE LINE
P.L.	PROPERTY LINE
R	RADIUS OR RANGE
R/L	REFERENCE LINE
R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
REQ'D	REQUIRED
RT	RIGHT
R.H.F.	RIGHT HAND FORWARD
R/W	RIGHT OF WAY
RD.	ROAD
SHLD.	SHOULDER(S)
SHR.	SHRINKAGE
S	SOUTH
SB	SOUTHBOUND
S.F.	SQUARE FOOT (FEET)
SDD	STANDARD DETAIL DRAWING(S)
STH	STATE TRUNK HIGHWAY
STA.	STATION
S.E.	SUPERELEVATION
S/L	SURVEY LINE
SYM	SYMMETRICAL
T.	PERCENT TRUCKS
TEL.	TELEPHONE
TEMP.	TEMPORARY
T.L.E.	TEMPORARY LIMITED EASEMENT
T.O.C.	TOP OF CURB
TYP	TYPICAL
UNCL.	UNCLASSIFIED
U.G.	UNDERGROUND (CABLE)
VAR	VARIABLE
V.C.	VERTICAL CURVE
V.P.C.	VERTICAL POINT OF CURVATURE
V.P.I.	VERTICAL POINT OF INTERSECTION
V.P.T.	VERTICAL POINT OF TANGENCY
Wt.	WEIGHT
W	WEST
WB	WESTBOUND

UTILITY CONTACTS

Kenneth Colwell
AT&T Legacy - Communication Line
866 Rock Creek Rd.
Plano, IL 60545
(210) 246-8099
kc1298@att.com

Michael Brolin
Alliant Energy - Electricity
4902 N Biltmore Lane
Madison, WI 53718
(608) 458-4871
MichaelBrolin@alliantenergy.com

James Burton
Sprint Communications Co LP - Communication Line
1901 N. Roselle Rd., Suite 500
Schaumburg, IL 60195
(708) 955-6659
james.m.burton@sprint.com

Mike Olsen
ATC Management, Inc. - Electricity-transmission
801 O'keefe Rd
P.O. Box 6113
De Pere, WI 54115-6113
(920) 338-6582
molsen@atcllc.com

Ryan Niemeier
CenturyLink - Communication Line
333 N Front St
La Crosse, WI 54601
(608) 796-5190
ryan.niemeier@centurylink.com

DESIGN CONTACTS

BRIAN MEYER
PROJECT MANAGER
WISDOT SW REGION
3550 MORMON COULEE RD
LA CROSSE, WI 54601
608-789-5676

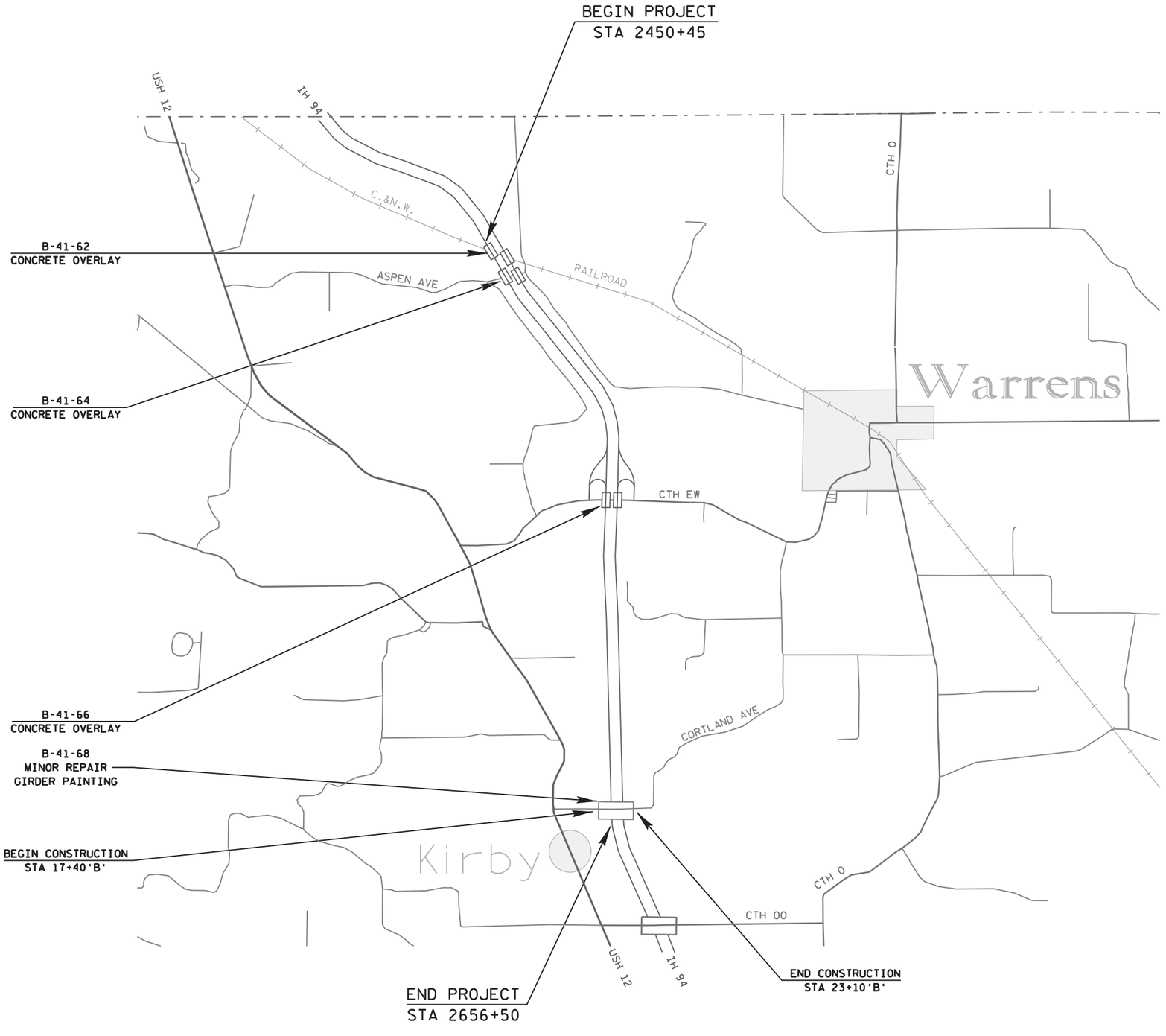
BRANDYN MECUM
PROJECT DESIGNER
WISDOT SW REGION
3550 MORMON COULEE RD
LA CROSSE, WI 54601
608-785-9070

DNR LIAISON

KAREN KALVELAGE
ENVIRONMENTAL ANALYSIS & REVIEW SPECIALIST
WISCONSIN DEPT. OF NATURAL RESOURCES
WEST CENTRAL REGION
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
608-785-9115

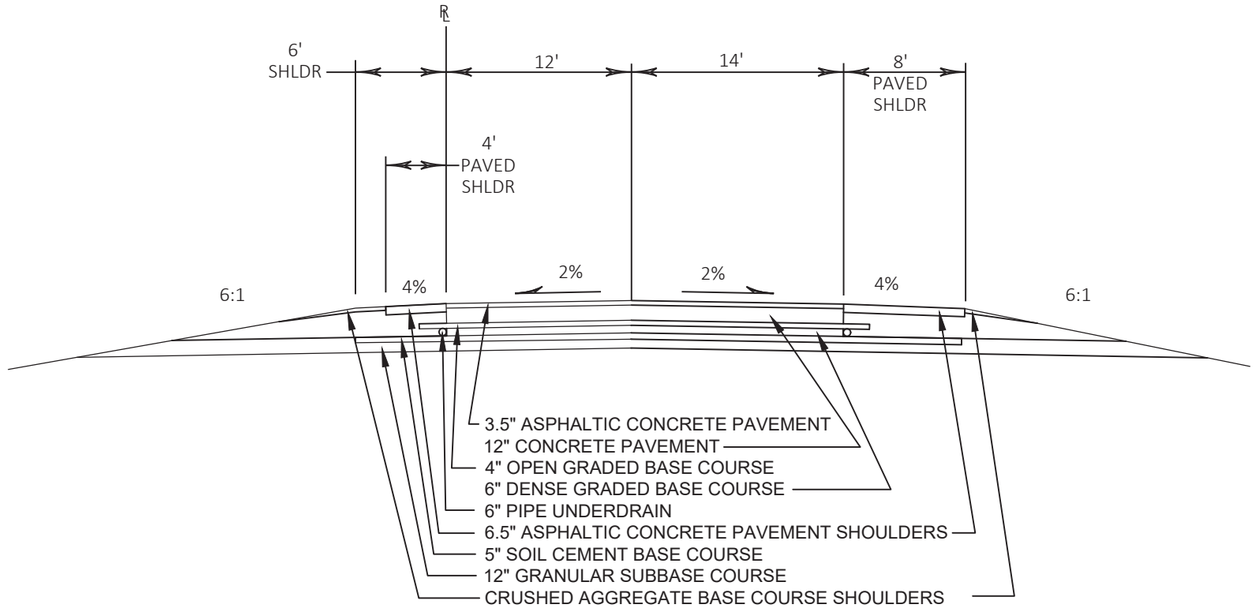
DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

2



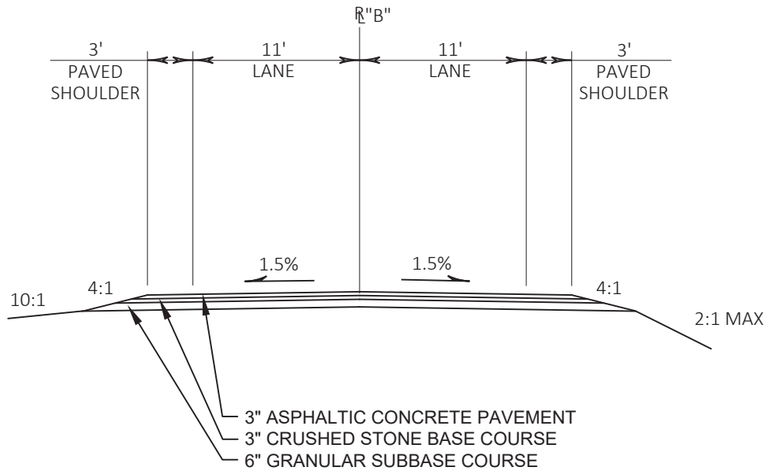
PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	PROJECT OVERVIEW	SHEET 4	E

2



TYPICAL EXISTING SECTION - IH 94 EB

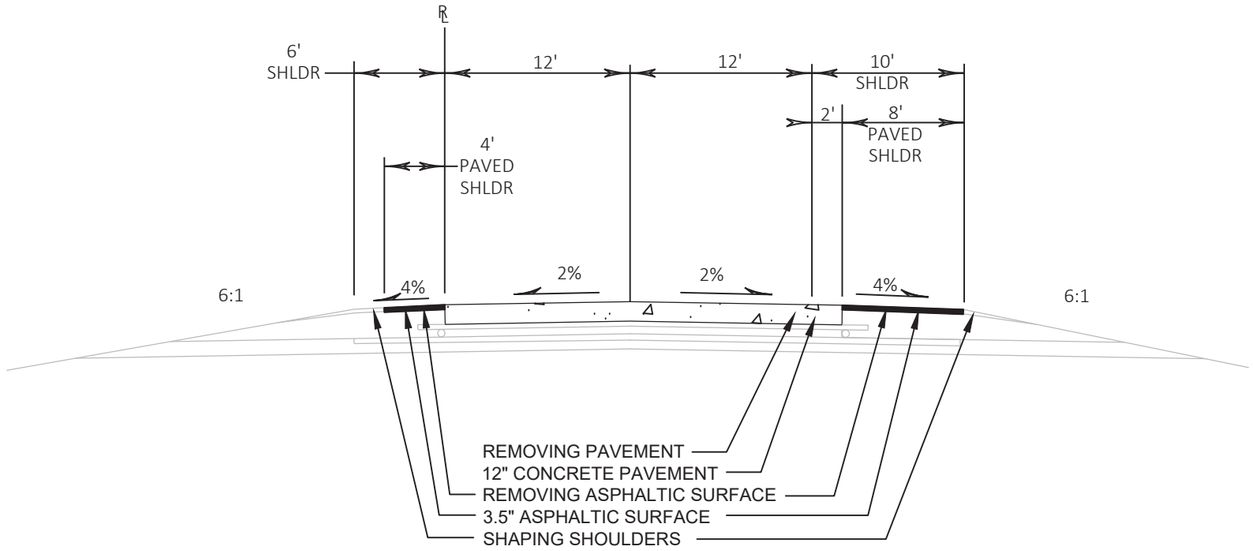
ADJACENT TO B-41-62, B-41-64, B-41-66



TYPICAL EXISTING SECTION - CORTLAND AVE

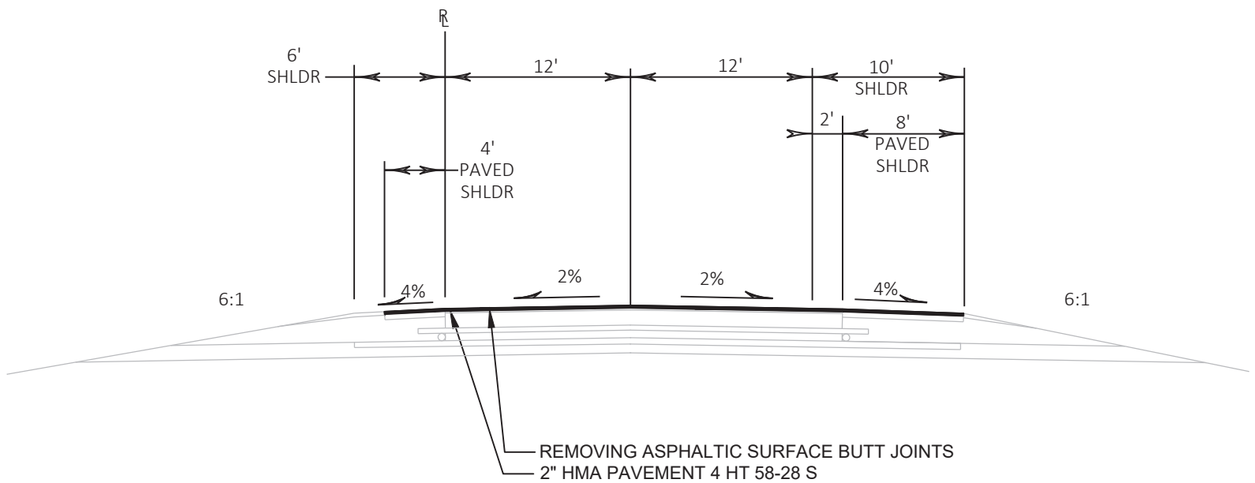
ADJACENT TO B-41-68

PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	TYPICAL SECTIONS	SHEET 5	E



PROPOSED TYPICAL SECTION - IH 94 EB

ADJACENT TO B-41-62
STATION 2450+44 TO STATION 2450+91
STATION 2452+56 TO STATION 2453+03

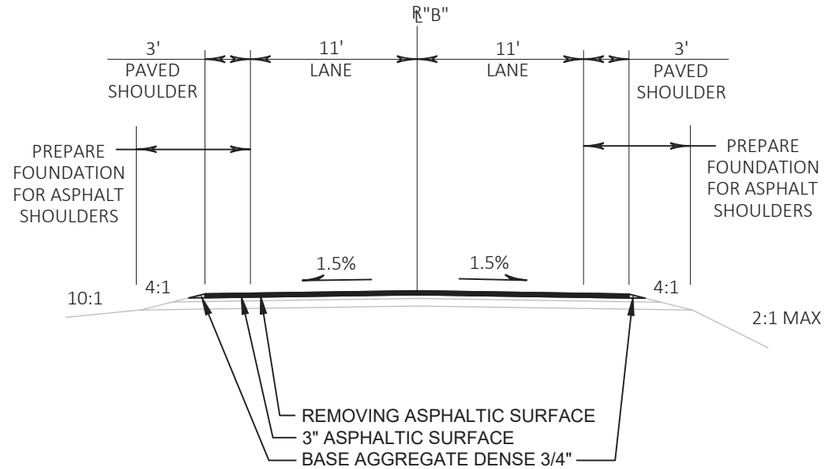


PROPOSED TYPICAL SECTION - IH 94 EB

ADJACENT TO B-41-62
STATION 2449+81 TO STATION 2450+45
STATION 2453+03 TO STATION 2453+65

ADJACENT TO B-41-64
STATION 2462+54 TO STATION 2463+25
STATION 2464+14 TO STATION 2464+89

ADJACENT TO B-41-66
STATION 2547+53 TO STATION 2548+18
STATION 2549+23 TO STATION 2549+87



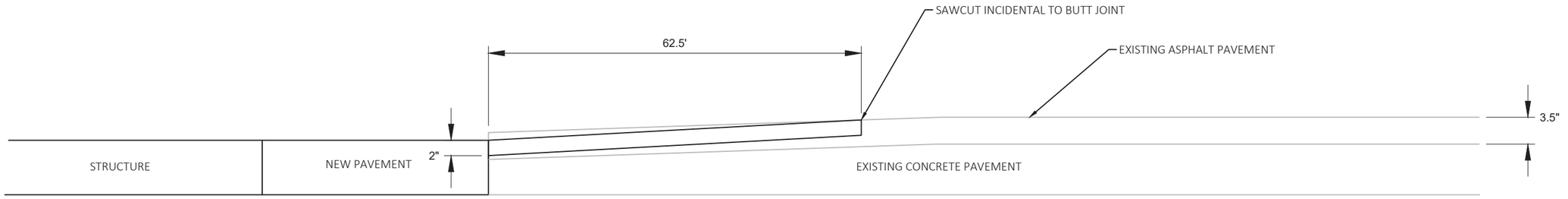
PROPOSED TYPICAL SECTION - CORTLAND AVE

ADJACENT TO B-41-68
STATION 17+41B TO STATION 19+32B
STATION 21+23B TO STATION 21+44B

PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	TYPICAL SECTIONS	SHEET 6	E

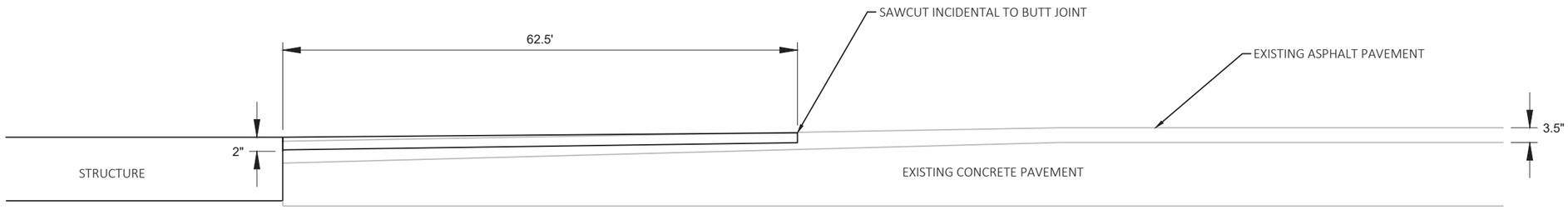
EXISTING BUTT JOINT DETAIL

B-41-62



PROPOSED BUTT JOINT DETAIL

B-41-62



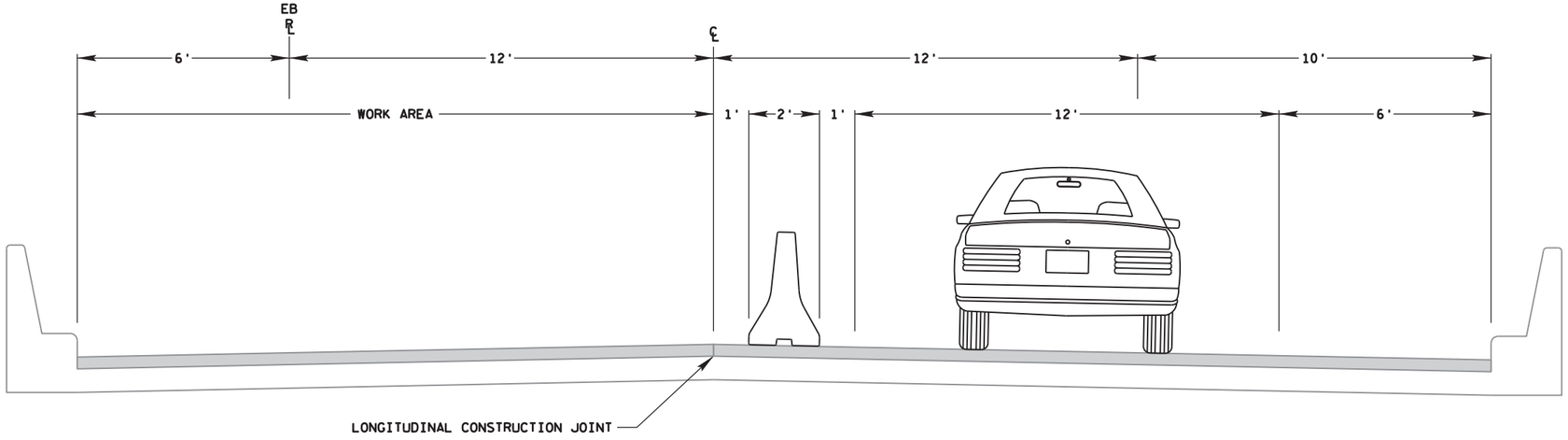
PROPOSED BUTT JOINT DETAIL

B-41-64
B-41-66

NOT TO SCALE

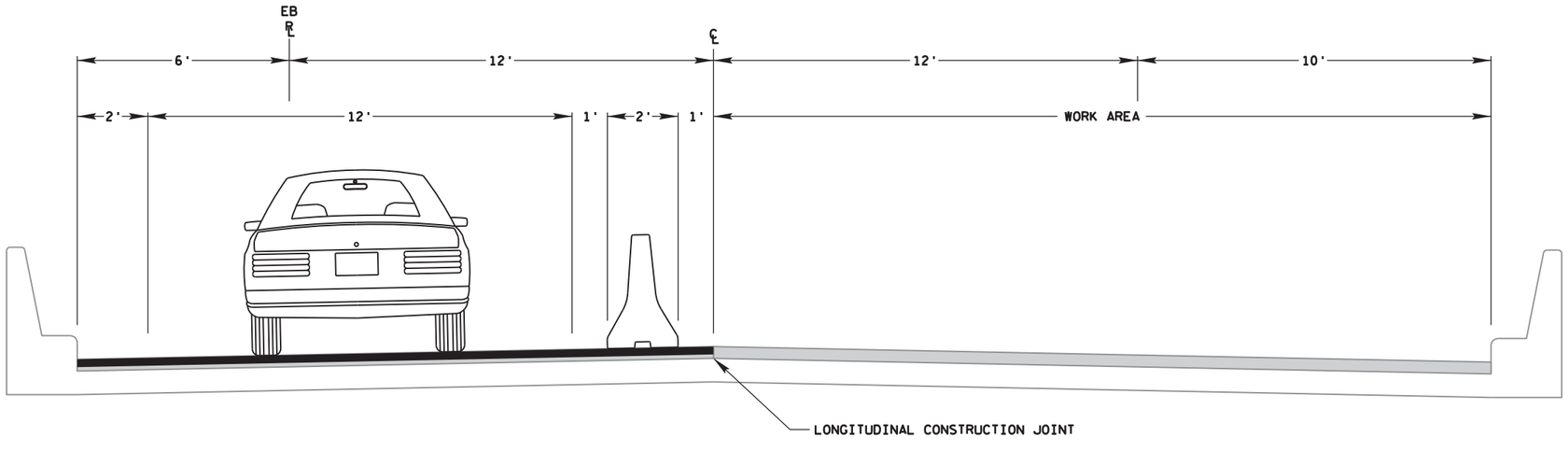
PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	PLAN: CONSTRUCTION DETAIL	SHEET 7	E

2



EB IH 94 STAGE 1

B-41-062, B-41-064 LOOKING SOUTH

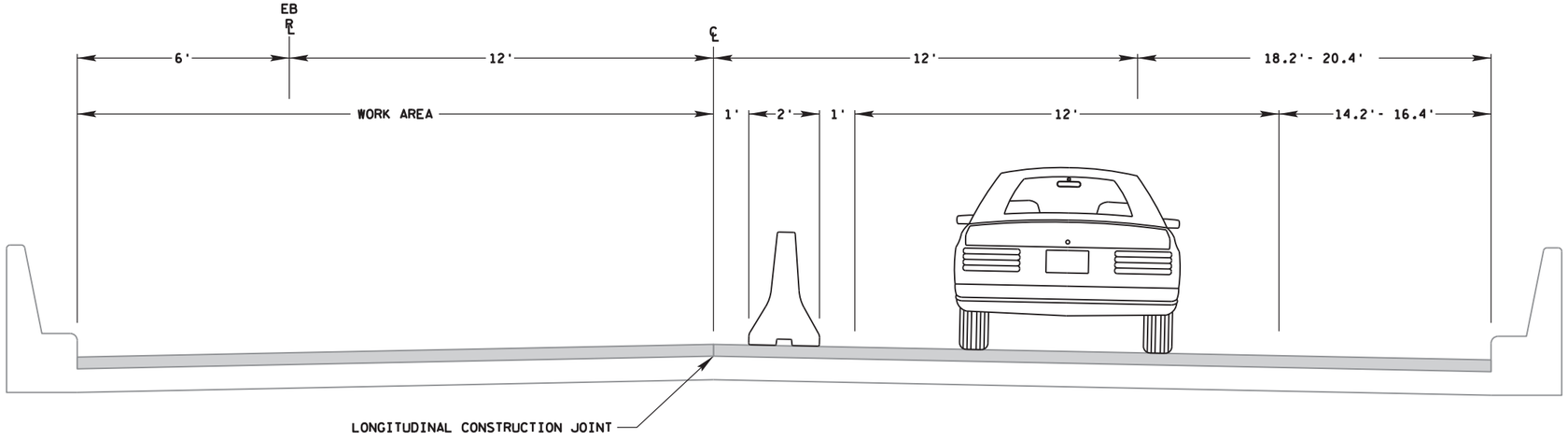


EB IH 94 STAGE 2

B-41-062, B-41-064 LOOKING SOUTH

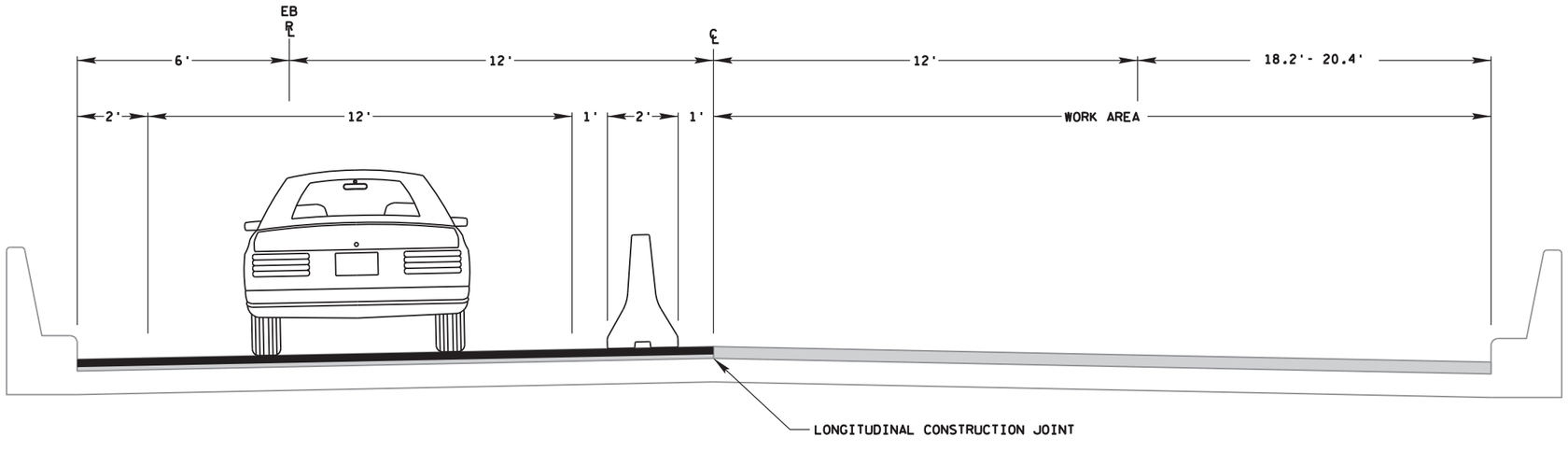
PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	TRAFFIC CONTROL	SHEET	E

2



EB IH 94 STAGE 1

B-41-066 LOOKING SOUTH



EB IH 94 STAGE 2

B-41-066 LOOKING SOUTH

PROJECT NO:1023-06-72	HWY: IH 94	COUNTY:MONROE	TRAFFIC CONTROL	SHEET	E

2

N

EAST
M3-2
36" X 18"

94
M1-1
36" X 36"

MAX.
14'
WIDTH
W12-52
48" X 48"

6 MILES
AHEAD
W57-52
48" X 36"

**LOADS EXCEEDING
14 FT MUST USE
EXIT 128**

Millston
Warrens
Norway
Ridge
Kirby
Valley
Jct
Wyeville
Shennington
Fort
McCoy
Tunnel
City
Tomah

C.&N.W.

PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	TRAFFIC CONTROL	SHEET 10	E

FILE NAME : N:\PDS\c3d\10230602\SheetsPlan\025005_tc.dgn PLOT DATE : 22-MAR-2018 14:53 PLOT BY : dotj3j PLOT NAME : PLOT SCALE : 8000.000000:1.000000

GENERAL NOTES

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE- MIRROR IT FOR CLOSING LEFT LANE.

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

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

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. "WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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

CONSIDER ROADWAY GEOMETRIC'S WHEN LOCATING SIGNS SO THE DRIVER HAS A CLEAR VIEW OF LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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

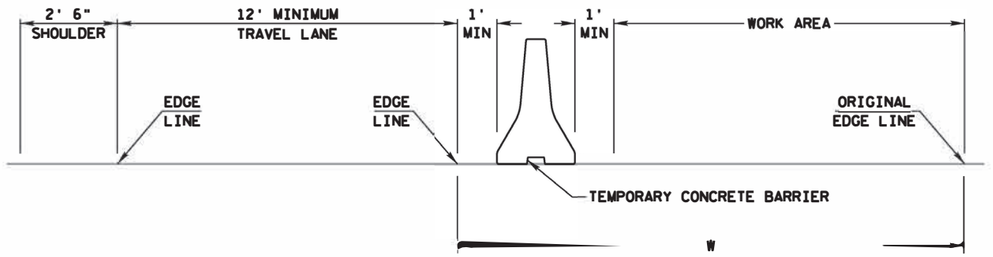
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

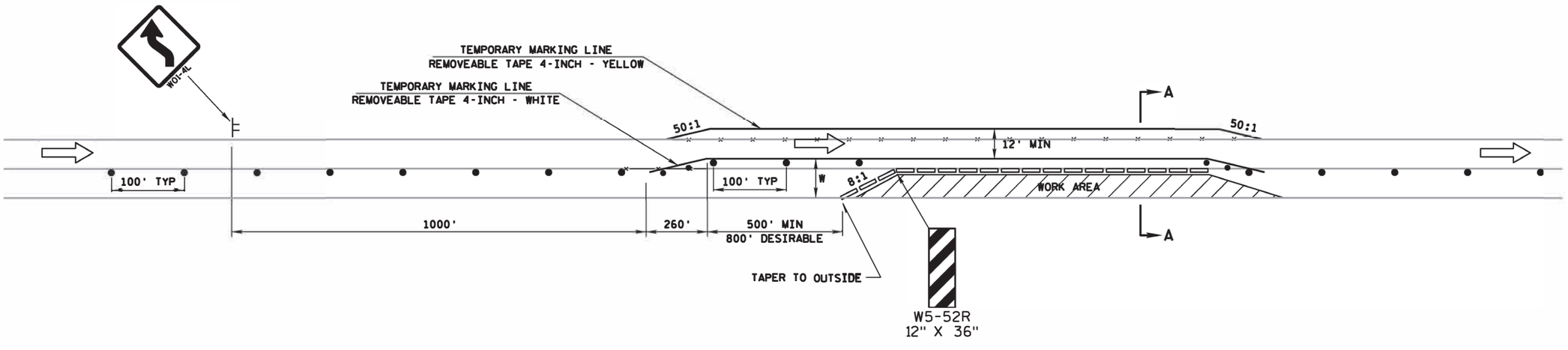
ADJUSTMENTS IN BUFFER SPACE NEEDS TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIST OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE BEFORE AND EXIT RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- MARKING REMOVAL
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA



SECTION A-A



LANE SHIFT FOR BARRIER INSIDE LANE CLOSURE

B-41-64, B-41-66

PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	TRAFFIC CONTROL	SHEET E

FILE NAME : N:\PDS\c3d\10230602\SheetsPlan\025007_tc.dgn PLOT DATE : 22-MAR-2018 14:58 PLOT BY : dotjj PLOT NAME : PLOT SCALE : 4.000000:1.000000 WISDOT/CADDS SHEET 42

2

2

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH WARNING LIGHT TYPE C
- TRAFFIC CONTROL BARRICADE
- TRAFFIC CONTROL BARRICADE WITH SIGN

N

RAMP CLOSED
R11-2R
48"X30"

RAMP CLOSED
R11-2R
48"X30"

25'

SIGN

SIGN

SIGN

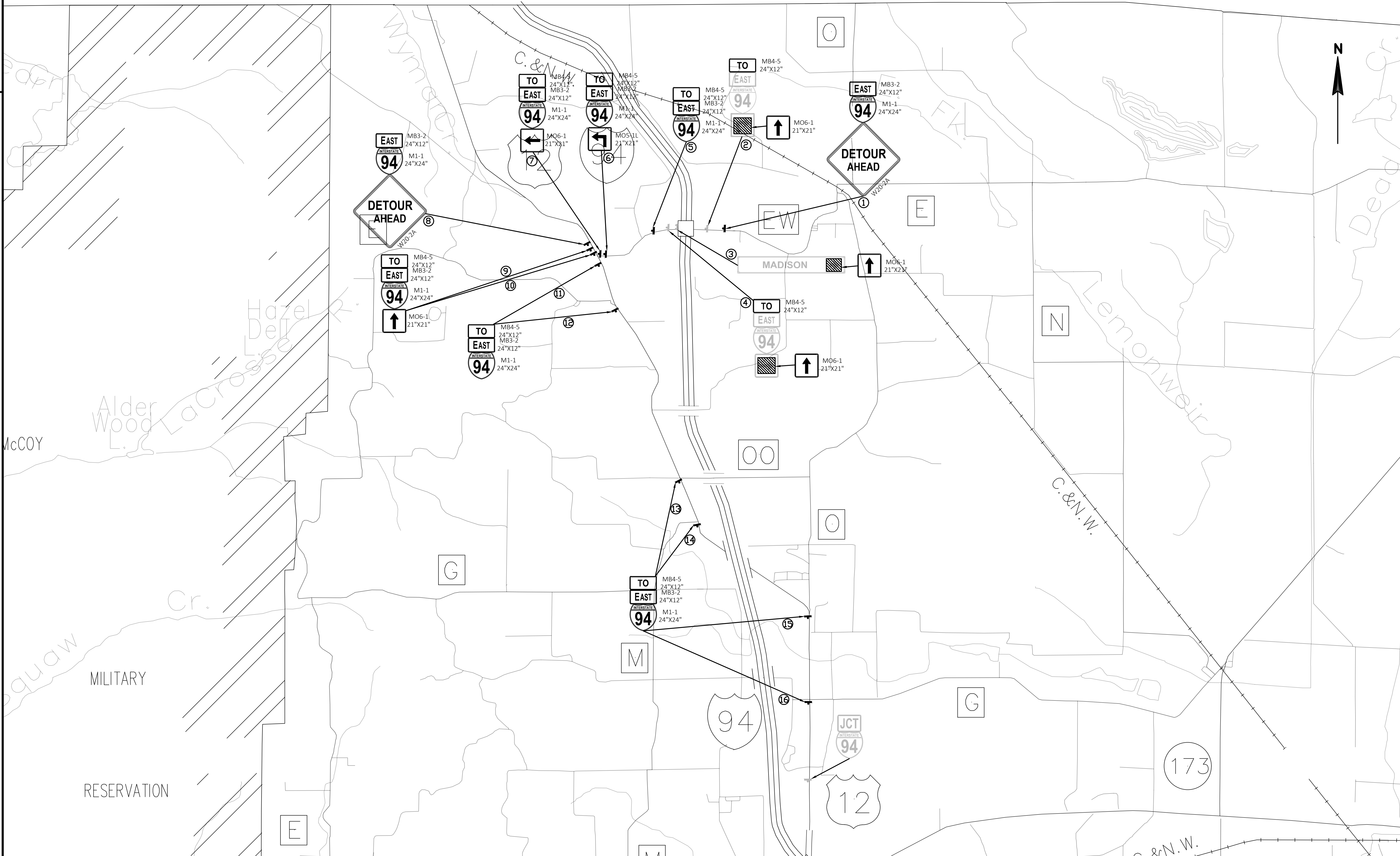
SIGN

CTH "EM"

PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	TRAFFIC CONTROL - RAMP CLOSURE	SHEET 12	E

FILE NAME : N:\PDS\C3D\10230602\SHEETSPLAN\025008_TC.DWG
LAYOUT NAME - Plan 1 IN 40 FT

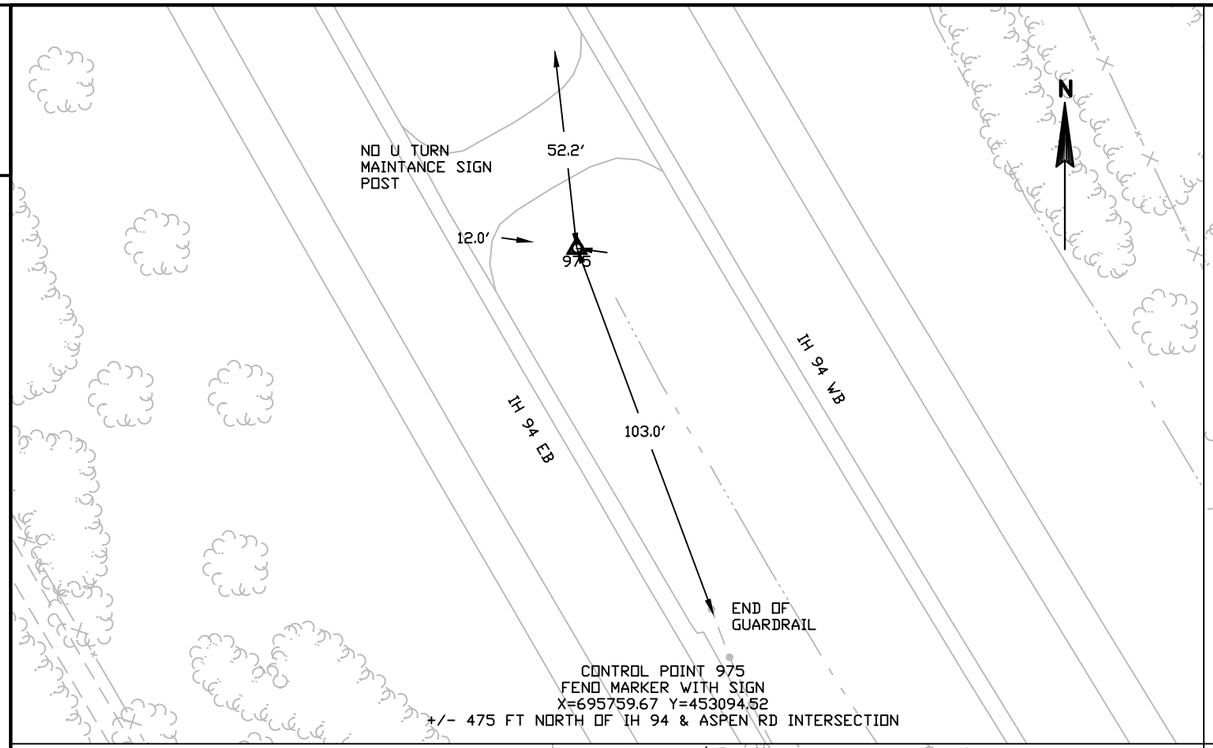
PLOT DATE : 3/28/2018 9:41 AM PLOT BY : MECUM, BRANDYN W PLOT NAME : PLOT SCALE : 1 IN:40 FT



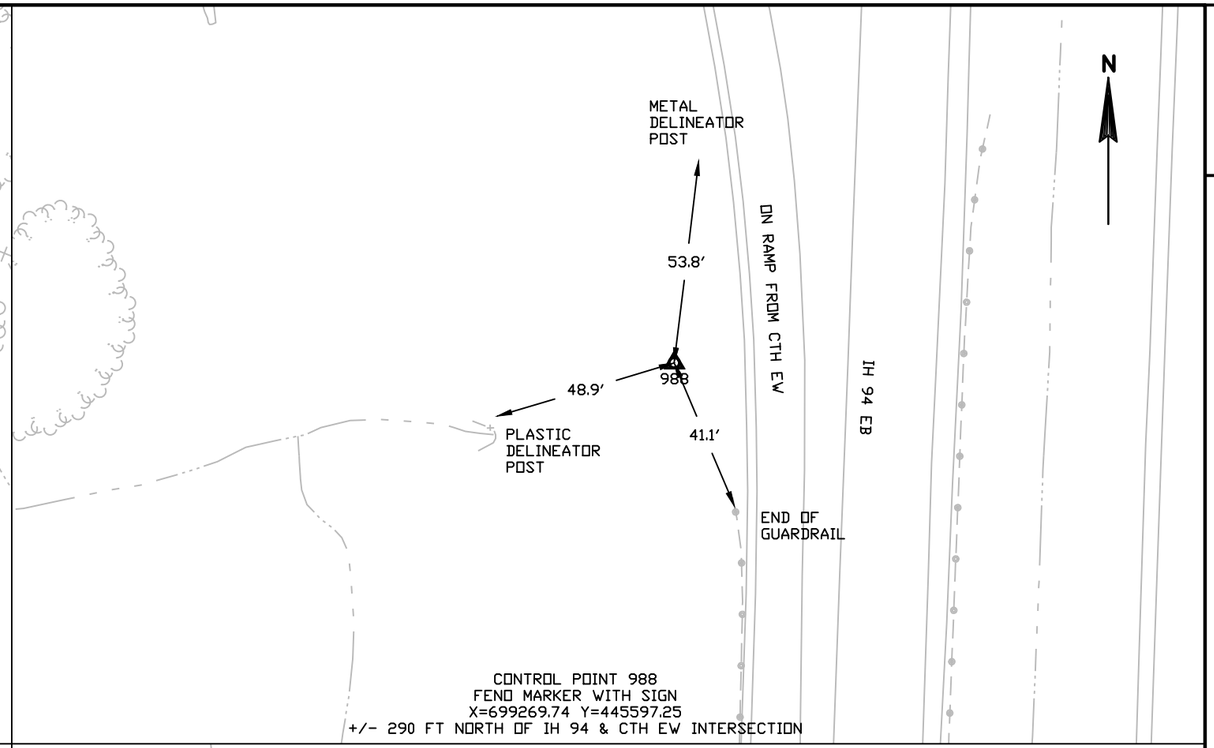
PROJECT NO: 1023-06-72 | HWY: IH 94 | COUNTY: MONROE | TRAFFIC CONTROL - DETOUR SIGNING | SHEET 13 | E

FILE NAME : N:\PDS\C3D\10230602\SHEETSPLAN\027001_DT.DWG
LAYOUT NAME - Plan 1 IN 100 FT
PLOT DATE : 3/28/2018 9:43 AM
PLOT BY : MECUM, BRANDYN W
PLOT NAME :
PLOT SCALE : 1 IN:1 MI
WISDOT/CADDS SHEET 42

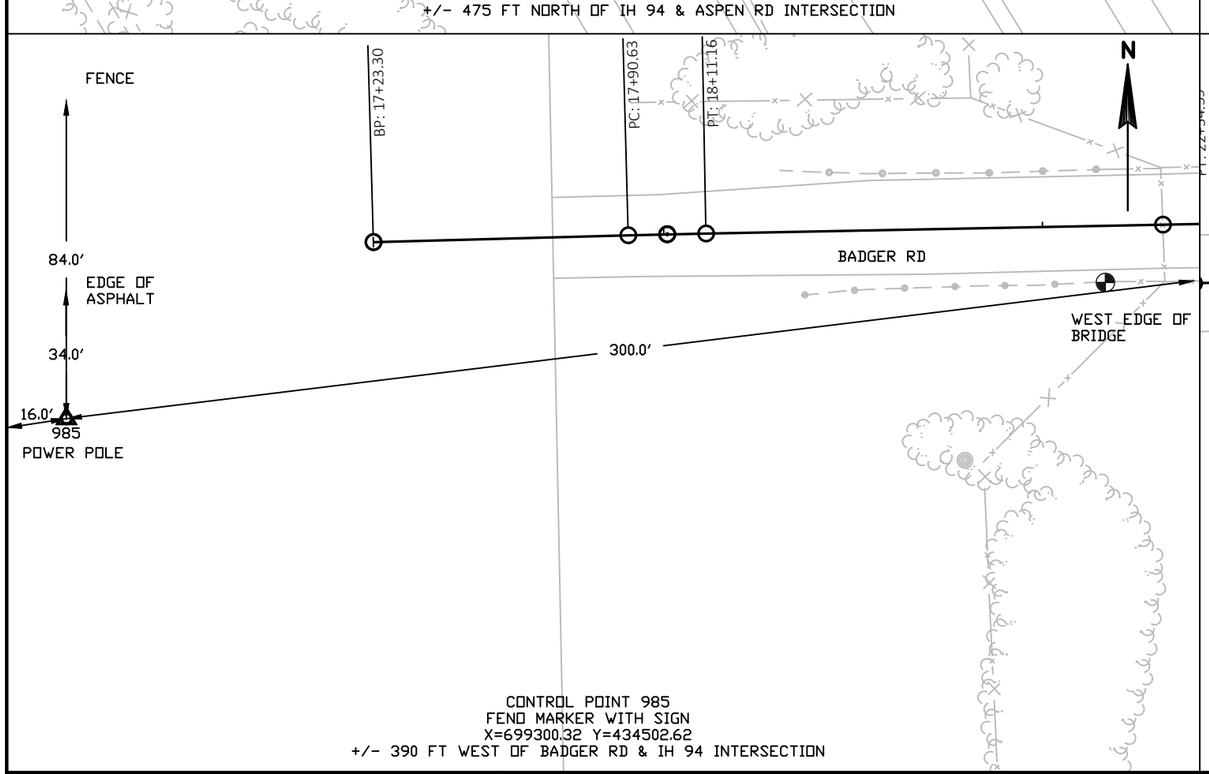
2



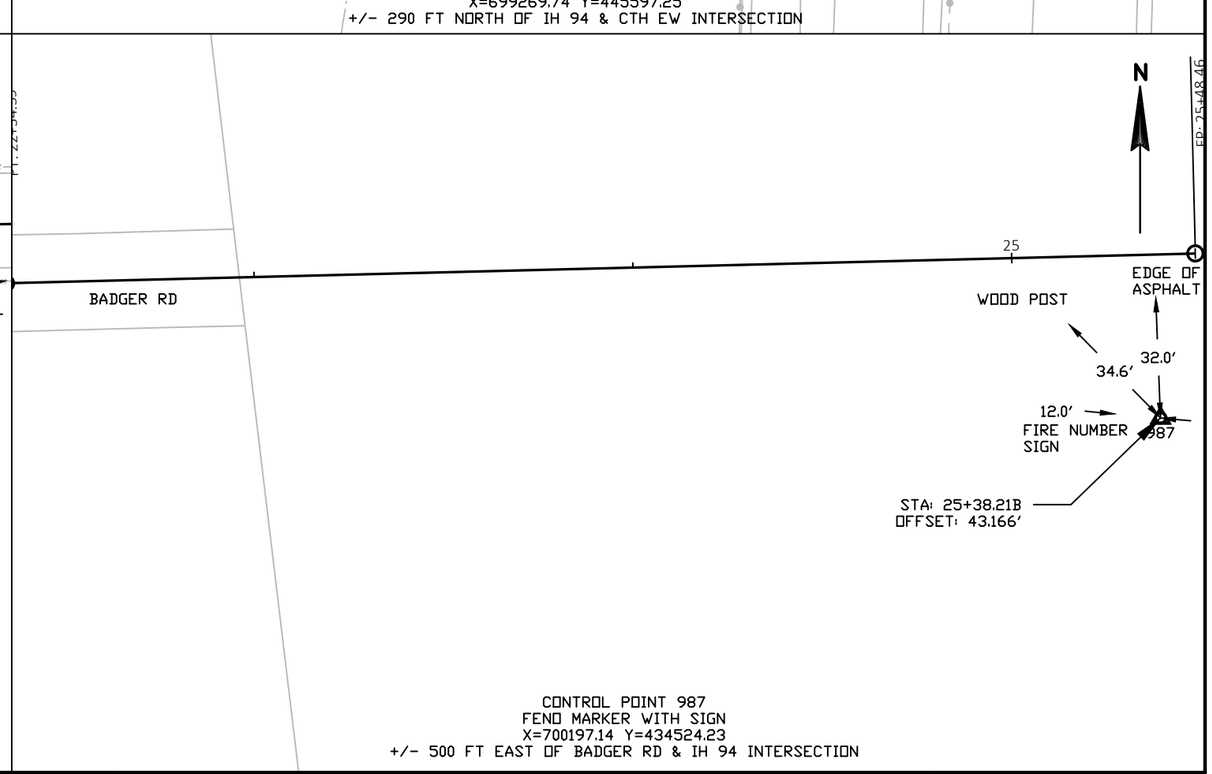
CONTROL POINT 975
FEND MARKER WITH SIGN
X=695759.67 Y=453094.52
+/- 475 FT NORTH OF IH 94 & ASPEN RD INTERSECTION



CONTROL POINT 988
FEND MARKER WITH SIGN
X=699269.74 Y=445597.25
+/- 290 FT NORTH OF IH 94 & CTH EW INTERSECTION



CONTROL POINT 985
FEND MARKER WITH SIGN
X=699300.32 Y=434502.62
+/- 390 FT WEST OF BADGER RD & IH 94 INTERSECTION



CONTROL POINT 987
FEND MARKER WITH SIGN
X=700197.14 Y=434524.23
+/- 500 FT EAST OF BADGER RD & IH 94 INTERSECTION

PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	ALIGNMENT TIES	SHEET 14	E

1023-06-72

Line	Item	Item Description	Unit	Total	Qty
0002	203.0210.S	Abatement of Asbestos Containing Material (structure) 01. B-41-0068	LS	1.000	1.000
0004	203.0225.S	Debris Containment (structure) 01. B-41-62	LS	1.000	1.000
0006	204.0100	Removing Pavement	SY	261.000	261.000
0008	204.0110	Removing Asphaltic Surface	SY	641.000	641.000
0010	204.0115	Removing Asphaltic Surface Butt Joints	SY	1,787.000	1,787.000
0012	204.0165	Removing Guardrail	LF	334.000	334.000
0014	204.0170	Removing Fence	LF	23.000	23.000
0016	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	8.000	8.000
0018	213.0100	Finishing Roadway (project) 01. 1023-06-72	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	3.000	3.000
0022	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	9.000	9.000
0024	305.0500	Shaping Shoulders	STA	4.000	4.000
0026	415.0090	Concrete Pavement 9-Inch	SY	19.000	19.000
0028	415.0120	Concrete Pavement 12-Inch	SY	38.000	38.000
0030	415.0410	Concrete Pavement Approach Slab	SY	161.000	161.000
0032	416.0610	Drilled Tie Bars	EACH	20.000	20.000
0034	416.0620	Drilled Dowel Bars	EACH	19.000	19.000
0036	416.1010	Concrete Surface Drains	CY	4.600	4.600
0038	455.0605	Tack Coat	GAL	44.700	44.700
0040	460.2000	Incentive Density HMA Pavement	DOL	130.000	130.000
0042	460.7224	HMA Pavement 4 HT 58-28 S	TON	207.000	207.000
0044	465.0105	Asphaltic Surface	TON	129.000	129.000
0046	465.0400	Asphaltic Shoulder Rumble Strips	LF	6,972.000	6,972.000
0048	502.0100	Concrete Masonry Bridges	CY	1.000	1.000
0050	502.3100	Expansion Device (structure) 01. B-41-68	LS	1.000	1.000
0052	502.3200	Protective Surface Treatment	SY	2,574.000	2,574.000
0054	502.3210	Pigmented Surface Sealer	SY	503.000	503.000
0056	502.4205	Adhesive Anchors No. 5 Bar	EACH	31.000	31.000
0058	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	960.000	960.000
0060	509.0301	Preparation Decks Type 1	SY	39.000	39.000
0062	509.0302	Preparation Decks Type 2	SY	23.000	23.000
0064	509.0310.S	Sawing Pavement Deck Preparation Areas	LF	1.000	1.000
0066	509.0500	Cleaning Decks	SY	1,929.000	1,929.000
0068	509.1000	Joint Repair	SY	14.000	14.000
0070	509.1200	Curb Repair	LF	10.000	10.000
0072	509.1500	Concrete Surface Repair	SF	166.000	166.000
0074	509.2000	Full-Depth Deck Repair	SY	3.000	3.000
0076	509.2100.S	Concrete Masonry Deck Repair	CY	3.000	3.000
0078	509.2500	Concrete Masonry Overlay Decks	CY	107.000	107.000

1023-06-72

Line	Item	Item Description	Unit	Total	Qty
0080	509.9050.S	Cleaning Parapets	LF	1,592.000	1,592.000
0082	517.3000.S	Structure Overcoating Cleaning and Priming (structure) 01. B-41-68	LS	1.000	1.000
0084	517.4000.S	Containment and Collection of Waste Materials (structure) 01. B-41-68	LS	1.000	1.000
0086	517.6001.S	Portable Decontamination Facility	EACH	1.000	1.000
0088	520.8700	Cleaning Culvert Pipes	EACH	3.000	3.000
0090	603.8000	Concrete Barrier Temporary Precast Delivered	LF	1,137.500	1,137.500
0092	603.8125	Concrete Barrier Temporary Precast Installed	LF	2,275.000	2,275.000
0094	604.0400	Slope Paving Concrete	SY	9.000	9.000
0096	611.8115	Adjusting Inlet Covers	EACH	1.000	1.000
0098	611.9710	Salvaged Inlet Covers	EACH	1.000	1.000
0100	614.0200	Steel Thrie Beam Structure Approach	LF	82.400	82.400
0102	614.0305	Steel Plate Beam Guard Class A	LF	275.000	275.000
0104	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	4.000	4.000
0106	614.0920	Salvaged Rail	LF	264.000	264.000
0108	616.0100	Fence Woven Wire (height) 01. 4 FT	LF	23.000	23.000
0110	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1023-06-72	EACH	1.000	1.000
0112	619.1000	Mobilization	EACH	1.000	1.000
0114	624.0100	Water	MGAL	0.500	0.500
0116	628.7015	Inlet Protection Type C	EACH	2.000	2.000
0118	642.5201	Field Office Type C	EACH	1.000	1.000
0120	643.0300	Traffic Control Drums	DAY	10,248.000	10,248.000
0122	643.0420	Traffic Control Barricades Type III	DAY	976.000	976.000
0124	643.0705	Traffic Control Warning Lights Type A	DAY	1,952.000	1,952.000
0126	643.0715	Traffic Control Warning Lights Type C	DAY	1,450.000	1,450.000
0128	643.0800	Traffic Control Arrow Boards	DAY	132.000	132.000
0130	643.0900	Traffic Control Signs	DAY	2,962.000	2,962.000
0132	643.0920	Traffic Control Covering Signs Type II	EACH	2.000	2.000
0134	643.1000	Traffic Control Signs Fixed Message	SF	40.000	40.000
0136	643.5000	Traffic Control	EACH	1.000	1.000
0138	646.1020	Marking Line Epoxy 4-Inch	LF	8,486.000	8,486.000
0140	646.3020	Marking Line Epoxy 8-Inch	LF	967.000	967.000
0142	646.9000	Marking Removal Line 4-Inch	LF	7,543.000	7,543.000
0144	646.9100	Marking Removal Line 8-Inch	LF	966.000	966.000
0146	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	18,097.000	18,097.000
0148	649.0250	Temporary Marking Line Removable Tape 8-Inch	LF	787.000	787.000
0150	650.9910	Construction Staking Supplemental Control (project) 01. 1023-06-72	LS	1.000	1.000
0152	690.0150	Sawing Asphalt	LF	66.000	66.000

1023-06-72

Line	Item	Item Description	Unit	Total	Qty
0154	690.0250	Sawing Concrete	LF	150.000	150.000
0156	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0158	715.0502	Incentive Strength Concrete Structures	DOL	642.000	642.000
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	1,200.000	1,200.000
0164	SPV.0060	Special 01. Embedded Galvanic Anodes	EACH	10.000	10.000
0166	SPV.0060	Special 02. Strapping B-41-62	EACH	6.000	6.000
0168	SPV.0090	Special 01. Filling Rumble Strips	LF	6,531.000	6,531.000
0170	SPV.0165	Special 01. Fiber Wrap Reinforcing Non-Structural	SF	79.000	79.000
0172	SPV.0180	Special 01. Seal Aggregate Shoulder	SY	93.600	93.600

3

REMOVING PAVEMENT SUMMARY

CAT.	STATION	TO	STATION	LOCATION	204.0100 REMOVING PAVEMENT SY	204.0110 REMOVING ASPHALTIC SURFACE SY	REMARKS
0010	2450+45	-	2450+99	IH 94 EB LT LANE	61	33	STAGE 1
0010	2452+70	-	2453+03	IH 94 EB LT LANE	49	3	STAGE 1
0010	2450+45	-	2450+80	IH 94 EB RT LANE	65	6	STAGE 2
0010	2452+47	-	2453+02	IH 94 EB RT LANE	68	43	STAGE 2
0010	2463+19	-	2463+29	IH 94 EB LT LANE	6	-	STAGE 1
0010	2462+95	-	2463+10	IH 94 EB RT LANE	12	-	STAGE 2
0010	17+41B	-	19+32B	CORTLAND AVE	-	495	STAGE 3
0010	21+23B	-	21+44B	CORTLAND AVE	-	61	STAGE 3
				TOTAL 0010	261	641	

REMOVING ASPHALTIC SURFACE BUTT JOINTS

CAT.	STATION	TO	STATION	LOCATION	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	REMARKS
0010	2449+81	-	2450+45	IH 94 EB LT LANE	126	STAGE 1
0010	2453+03	-	2453+65	IH 94 EB LT LANE	121	STAGE 1
0010	2449+81	-	2450+45	IH 94 EB RT LANE	147	STAGE 2
0010	2453+03	-	2453+65	IH 94 EB RT LANE	154	STAGE 2
0010	2462+54	-	2463+25	IH 94 EB LT LANE	129	STAGE 1
0010	2464+28	-	2464+89	IH 94 EB LT LANE	109	STAGE 1
0010	2462+54	-	2463+18	IH 94 EB RT LANE	131	STAGE 2
0010	2464+14	-	2464+89	IH 94 EB RT LANE	171	STAGE 2
0010	2547+53	-	2548+16	IH 94 EB LT LANE	131	STAGE 1
0010	2549+23	-	2549+87	IH 94 EB LT LANE	125	STAGE 1
0010	2547+53	-	2548+18	IH 94 EB RT LANE	234	STAGE 2
0010	2549+25	-	2549+87	IH 94 EB RT LANE	209	STAGE 2
				TOTAL 0010	1787	

GUARDRAIL SUMMARY

CAT.	STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	614.0305 STEEL PLATE BEAM GUARD CLASS A LF	614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL EACH	REMARKS
0010	17+46B	-	19+17B	CORTLAND AVE RT	79	20.6	100.0	1	STAGE 3
0010	18+09B	-	19+17B	CORTLAND AVE LT	85	20.6	37.5	1	STAGE 3
0010	21+40B	-	22+48B	CORTLAND AVE RT	84	20.6	37.5	1	STAGE 3
0010	21+40B	-	23+10B	CORTLAND AVE LT	86	20.6	100.0	1	STAGE 3
				TOTAL 0010	334	82.4	275.0	4	

FENCE SUMMARY

CAT.	STATION	TO	STATION	LOCATION	204.0170 REMOVING FENCE LF	616.0100 FENCE WOVEN WIRE (4 FT) LF	REMARKS
0010	2449+96	-	2450+60	IH 94 RT	23	23	
				TOTAL 0010	23	23	

PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	MISCELLANEOUS QUANTITIES	SHEET NO: 18	E

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ ORG DATE : _____ ORIGINATOR : DIST _ PLOT SCALE : 1:1

3

ASPHALTIC SURFACE SUMMARY

CAT.	STATION	TO	STATION	LOCATION	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA	465.0105 ASPHALTIC SURFACE TON	REMARKS
0010	2450+45	-	2451+00	IH 94 EB LT	-	7.7	STAGE 1
0010	2452+81	-	2453+03	IH 94 EB LT	-	3.0	STAGE 1
0010	2450+35	-	2450+66	IH 94 EB RT	-	0.8	STAGE 2
0010	2452+47	-	2453+03	IH 94 EB RT	-	9.6	STAGE 2
0010	17+44B	-	19+32B	CORTLAND AVE	6	97.6	STAGE 3
0010	21+23	-	21+44	CORTLAND AVE	2	10.3	STAGE 3
				TOTAL 0010	8	129.0	

BASE AGGREGATE DENSE SUMMARY

CAT.	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL	REMARKS
0010	2450+88	-	2451+00	IH 94 EB LT	-	2	0.1	CHANGE OF PAVEMENT THICKNESS
0010	2452+81	-	2453+00	IH 94 EB LT	-	5	0.1	CHANGE OF PAVEMENT THICKNESS
0010	2452+47	-	2452+57	IH 94 EB RT	-	2	0.1	CHANGE OF PAVEMENT THICKNESS
0010	17+41B	-	19+32B	CORTLAND AVE	2	-	0.1	
0010	21+23	-	21+44	CORTLAND AVE	1	-	0.1	
				TOTAL 0010	3	9	0.5	

3

SHAPING SHOULDERS

CAT.	STATION	TO	STATION	LOCATION	305.0500 SHAPING SHOULDERS STA	REMARKS
0010	2450+44	-	2451+00	IH 94 EB LT	1	
0010	2452+81	-	2453+02	IH 94 EB LT	1	
0010	2450+35	-	2450+61	IH 94 EB RT	1	
0010	2452+47	-	2453+02	IH 94 EB RT	1	
				TOTAL 0010	4	

CONCRETE PAVEMENT SUMMARY

CAT.	STATION	TO	STATION	LOCATION	415.0090 CONCRETE PAVEMENT 9-INCH SY	415.0120 CONCRETE PAVEMENT 12-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	416.0610 DRILLED TIE BARS SY	416.0620 DRILLED DOWEL BARS SY	REMARKS
0010	2450+45	-	2450+92	IH 94 EB LT LANE	-	9	46	5	-	STAGE 1
0010	2452+69	-	2453+03	IH 94 EB LT LANE	-	9	28	5	-	STAGE 1
0010	2450+45	-	2450+80	IH 94 EB RT LANE	-	10	34	5	-	STAGE 2
0010	2452+56	-	2453+03	IH 94 EB RT LANE	-	10	53	5	-	STAGE 2
0010	2463+19	-	2463+29	IH 94 EB LT LANE	6	-	-	-	5	STAGE 1
0010	2462+95	-	2463+10	IH 94 EB RT LANE	13	-	-	-	14	STAGE 2
				TOTAL 0010	19	38	161	20	19	

3

CONCRETE SURFACE DRAINS

CAT.	STATION	TO	STATION	LOCATION	416.1010 CONCRETE SURFACE DRAINS CY	REMARKS
0010	2450+38	-	2450+61	IH 94 EB RT	4.6	
				TOTAL 0010	4.6	

HMA PAVEMENT SUMMARY

CAT.	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	460.7224 HMA PAVEMENT 4 HT 58-28 S TON	REMARKS
0010	2450+25	-	2450+45	IH 94 EB LT LANE	3.1	15	
0010	2453+03	-	2453+23	IH 94 EB LT LANE	3.0	14	
0010	2450+25	-	2450+45	IH 94 EB RT LANE	3.7	17	
0010	2453+03	-	2453+23	IH 94 EB RT LANE	3.9	18	
0010	2462+90	-	2463+25	IH 94 EB LT LANE	3.2	15	
0010	2464+28	-	2464+55	IH 94 EB LT LANE	2.7	13	
0010	2462+90	-	2463+18	IH 94 EB RT LANE	3.3	15	
0010	2464+14	-	2464+55	IH 94 EB RT LANE	4.3	20	
0010	2547+95	-	2548+16	IH 94 EB LT LANE	3.3	15	
0010	2549+23	-	2549+47	IH 94 EB LT LANE	3.1	14	
0010	2547+95	-	2548+18	IH 94 EB RT LANE	5.8	27	
0010	2549+25	-	2549+47	IH 94 EB RT LANE	5.2	24	
				TOTAL 0010	44.7	207	

3

RUMBLE STRIP SUMMARY

CAT.	STATION	TO	STATION	LOCATION	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF	SPV.0090.01 FILLING RUMBLE STRIPS LF	REMARKS
			STAGE 1				
0010	2439+27	-	2450+47	IH 94 EB RT	1120	1120	
0010	2452+57	-	2462+94	IH 94 EB RT	1037	1037	
0010	2464+21	-	2466+68	IH 94 EB RT	247	247	
0010	2536+86	-	2544+75	IH 94 EB RT	789	789	
			STAGE 2				
0010	2439+27	-	2450+92	IH 94 EB LT	1165	1055	
0010	2452+88	-	2463+19	IH 94 EB LT	1031	882	
0010	2464+40	-	2466+68	IH 94 EB LT	228	171	
0010	2536+86	-	2548+14	IH 94 EB LT	1128	1067	
0010	2549+24	-	2551+51	IH 94 EB LT	227	163	
				TOTAL 0010	6972	6531	

CLEANING CULVERT PIPES

CAT.	STATION	LOCATION	520.8700 CLEANING CULVERT PIPES EACH	REMARKS
0010	2548+01	IH 94 RT	1	
0010	21+51B	CORTLAND AVE RT	1	
0010	21+51B	CORTLAND AVE LT	1	
		TOTAL 0010	3	

3

CONCRETE BARRIER SUMMARY

CAT.	STATION TO		STATION	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	REMARKS
0010	2448+85	-	2453+65	IH 94 EB	462.5	925.0	
0010	2461+40	-	2464+89	IH 94 EB	350.0	700.0	
0010	2546+50	-	2549+87	IH 94 EB	325.0	650.0	
				TOTAL 0010	1137.5	2275	

INLET COVERS SUMMARY

CAT.	STATION	LOCATION	611.8115 ADJUSTING INLET COVERS EACH	611.9710 SALVAGED INLET COVERS EACH	REMARKS
0010	2450+47	IH 94 EB RT	1	1	
		TOTAL 0010	1	1	

INLET PROTECTION TYPE C

CAT.	STATION	LOCATION	628.7015 INLET PROTECTION TYPE C EACH	REMARKS
0010	2450+47	IH 94 EB RT	1	
0010	2548+02	IH 94 EB RT	1	
		TOTAL 0010	2	

SALVAGED RAIL

CAT.	STATION TO		STATION	LOCATION	614.0920 SALVAGED RAIL LF	REMARKS
0010	2450+11	-	2450+50	IH 94 EB RT	39.5	STAGE 2
0010	2452+54	-	2453+24	IH 94 EB RT	70.5	STAGE 2
0010	2450+15	-	2450+92	IH 94 EB LT	77.0	STAGE 1
0010	2462+82	-	2462+94	IH 94 EB RT	12.5	STAGE 2
0010	2462+79	-	2463+18	IH 94 EB LT	39.5	STAGE 1
0010	2547+96	-	2548+08	IH 94 EB RT	12.5	STAGE 2
0010	2547+95	-	2548+07	IH 94 EB LT	12.5	STAGE 1
				TOTAL 0010	264.0	

3

TRAFFIC CONTROL SUMMARY

CAT.	STATION TO		STATION	LOCATION	DAYS	TRAFFIC CONTROL DRUMS EACH	643.0300 TRAFFIC CONTROL DRUMS DAY	TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	TRAFFIC CONTROL ARROW BOARDS EACH	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	TRAFFIC CONTROL SIGNS EACH	643.0900 TRAFFIC CONTROL SIGNS DAY	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	REMARKS
0010	2425+62	-	2549+70	IH 94 EB RT LANE	3	168	504	9	27	18	54	19	57	2	6	19	57	1*	20	SINGLE LANE CLOSURE SET UP
0010	2425+62	-	2549+70	IH 94 EB LT LANE	25	143	3575	8	200	16	400	21	525	2	50	23	575	-	-	SINGLE LANE CLOSURE STAGE 1
0010	2425+62	-	2549+70	IH 94 EB RT LANE	25	167	4175	9	225	18	450	29	725	2	50	24	600	1*	20	SINGLE LANE CLOSURE STAGE 2
0010	2425+62	-	2549+70	IH 94 EB LT LANE	3	144	432	8	24	16	48	11	33	2	6	18	54	-	-	SINGLE LANE CLOSURE FINISH
0010	17+44B	-	23+14B	CORTLAND AVE	20	-	-	18	360	36	720	-	-	-	-	12	240	-	-	ROAD CLOSURE
0010	2632+37	-	2661+27	IH 94 EB RT LANE	3	34	102	1	3	2	6	11	33	2	6	11	33	-	-	SINGLE LANE CLOSURE
0010	2632+37	-	2661+27	IH 94 EB LT LANE	2	34	68	1	2	2	4	11	22	2	4	11	22	-	-	SINGLE LANE CLOSURE
0010	2651+39A	-	2680+29A	IH 94 WB RT LANE	2	34	68	1	2	2	4	11	22	2	4	11	22	-	-	SINGLE LANE CLOSURE
0010	2651+39A	-	2680+29A	IH 94 WB LT LANE	3	34	102	1	3	2	6	11	33	2	6	11	33	-	-	SINGLE LANE CLOSURE
0010	ON RAMP CLOSURE			IH 94 ON RAMP	26	47	1222	5	130	10	260	-	-	-	-	3	78	-	-	ON RAMP CLOSURE
0010	DETOUR				26	-	-	-	-	-	-	-	-	-	-	48	1248	-	-	ON RAMP DETOUR
				TOTAL 0010			10248		976		1952		1450		132		2962	0	40	

*NOTE: ONE CYCLE FOR EACH COVERING

TRAFFIC CONTROL DETOUR SIGNS

CAT.	NUMBER	LOCATION	SIGN CODE	SIGN SIZE IN INCHES	SIGN DESCRIPTION	TRAFFIC CONTROL SIGNS EACH	MOUNTED ON SAME POST AS SIGN NUMBER	REMARKS
		IH 94 ON RAMP FROM CTH EW CLOSED						
0010	1	CTH EW 1000' EAST OF IH 94 ON RAMP, RIGHT	MB3-2	24 X 12	(BLUE) EAST CARDINAL MARKER	1	-	
0010			M1-1	24 X 24	INTERSTATE ROUTE MARKER, 94	1	1	
0010			W20-2A	48 X 48	DETOUR AHEAD	1	1	
0010	2	CTH EW 850' EAST OF IH 94 ON RAMP, RIGHT	MB4-5	24 X 12	TO	1	-	
0010			MB3-2	24 X 12	(BLUE) EAST CARDINAL MARKER	-	2	
0010			M1-1	24 X 24	INTERSTATE ROUTE MARKER, 94	-	2	
0010			MB5-1R	21 X 21	(BLUE) RIGHT TURN ARROW	-	2	COVER WITH MO6-1
0010			MO6-1	21 X 21	(ORANGE) AHEAD ARROW	1	2	COVER RIGHT TURN ARROW
0010	3	CTH EW 400' EAST OF IH 94 ON RAMP, RIGHT	-	-	MADISON, RIGHT ARROW	-	-	COVER RIGHT ARROW WITH MO6-1
0010			MO6-1	21 X 21	(ORANGE) AHEAD ARROW	1	3	COVER RIGHT ARROW
0010	4	CTH EW AT IH 94 ON RAMP, RIGHT	MB4-5	24 X 12	TO	1	-	
0010			MB3-2	24 X 12	(BLUE) EAST CARDINAL MARKER	-	4	
0010			M1-1	24 X 24	INTERSTATE ROUTE MARKER, 94	-	4	
0010			MB6-1	21 X 21	(BLUE) RIGHT ARROW	-	4	COVER WITH MO6-1
0010			MO6-1	21 X 21	(ORANGE) AHEAD ARROW	1	4	COVER RIGHT ARROW
0010	5	CTH EW 100' WEST OF IH 94 ON RAMP, RIGHT	MB4-5	24 X 12	TO	1	-	
0010			MB3-2	24 X 12	(BLUE) EAST CARDINAL MARKER	1	5	
0010			M1-1	24 X 24	INTERSTATE ROUTE MARKER, 94	1	5	
0010	6	CTH EW 500' EAST OF USH 12, RIGHT	MB4-5	24 X 12	TO	1	-	
0010			MB3-2	24 X 12	(BLUE) EAST CARDINAL MARKER	1	6	
0010			M1-1	24 X 24	INTERSTATE ROUTE MARKER, 94	1	6	
0010			MO5-1L	21 X 21	(ORANGE) LEFT TURN ARROW	1	6	
0010	7	CTH EW AT USH 12, RIGHT	MB4-5	24 X 12	TO	1	-	
0010			MB3-2	24 X 12	(BLUE) EAST CARDINAL MARKER	1	7	
0010			M1-1	24 X 24	INTERSTATE ROUTE MARKER, 94	1	7	
0010			MO6-1	21 X 21	(ORANGE) LEFT ARROW	1	7	
0010	8	USH 12 EAST BOUND 1000' NORTH OF CTH EW, RIGHT	MB3-2	24 X 12	(BLUE) EAST CARDINAL MARKER	1	-	
0010			M1-1	24 X 24	INTERSTATE ROUTE MARKER, 94	1	8	
0010			W20-2A	48 X 48	DETOUR AHEAD	1	8	
					SUBTOTAL	22		

TRAFFIC CONTROL DETOUR SIGNS CONTINUED

CAT.	NUMBER	LOCATION	SIGN CODE	SIGN SIZE IN INCHES	SIGN DESCRIPTION	TRAFFIC CONTROL SIGNS EACH	MOUNTED ON SAME POST AS SIGN NUMBER	REMARKS
0010	9	USH 12 EAST BOUND 500' NORTH OF CTH EW, RIGHT	MB4-5	24 X 12	TO	1	-	
0010			MB3-2	24 X 12	(BLUE) EAST CARDINAL MARKER	1	9	
0010			M1-1	24 X 24	INTERSTATE ROUTE MARKER, 94	1	9	
0010			MO6-1	21 X 21	(ORANGE) AHEAD ARROW	1	9	
0010	10	USH 12 EAST BOUND AT CTH EW , RIGHT	MB4-5	24 X 12	TO	1	-	
0010			MB3-2	24 X 12	(BLUE) EAST CARDINAL MARKER	1	10	
0010			M1-1	24 X 24	INTERSTATE ROUTE MARKER, 94	1	10	
0010			MO6-1	21 X 21	(ORANGE) AHEAD ARROW	1	10	
0010	11	USH 12 EAST BOUND 100' SOUTH OF CTH EW, RIGHT	MB4-5	24 X 12	TO	1	-	
0010			MB3-2	24 X 12	(BLUE) EAST CARDINAL MARKER	1	11	
0010			M1-1	24 X 24	INTERSTATE ROUTE MARKER, 94	1	11	
0010	12	USH 12 EAST BOUND 100' SOUTH OF CTH E, RIGHT	MB4-5	24 X 12	TO	1	-	
0010			MB3-2	24 X 12	(BLUE) EAST CARDINAL MARKER	1	12	
0010			M1-1	24 X 24	INTERSTATE ROUTE MARKER, 94	1	12	
0010	13	USH 12 EAST BOUND 100' SOUTH OF CTH OO, RIGHT	MB4-5	24 X 12	TO	1	-	
0010			MB3-2	24 X 12	(BLUE) EAST CARDINAL MARKER	1	13	
0010			M1-1	24 X 24	INTERSTATE ROUTE MARKER, 94	1	13	
0010	14	USH 12 EAST BOUND 100' SOUTH OF CTH M, RIGHT	MB4-5	24 X 12	TO	1	-	
0010			MB3-2	24 X 12	(BLUE) EAST CARDINAL MARKER	1	14	
0010			M1-1	24 X 24	INTERSTATE ROUTE MARKER, 94	1	14	
0010	15	USH 12 EAST BOUND 100' SOUTH OF CTH O, RIGHT	MB4-5	24 X 12	TO	1	-	
0010			MB3-2	24 X 12	(BLUE) EAST CARDINAL MARKER	1	15	
0010			M1-1	24 X 24	INTERSTATE ROUTE MARKER, 94	1	15	
0010	16	USH 12 EAST BOUND 100' SOUTH OF CTH G, RIGHT	MB4-5	24 X 12	TO	1	-	
0010			MB3-2	24 X 12	(BLUE) EAST CARDINAL MARKER	1	16	
0010			M1-1	24 X 24	INTERSTATE ROUTE MARKER, 94	1	16	
					SUBTOTAL	26		
					TOTAL 0010	48		

Note: Quantity shown in Traffic Control

PERMANENT PAVEMENT MARKING SUMMARY

CAT.	STATION	TO	STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH LF	646.3020 MARKING LINE EPOXY 8-INCH LF	REMARKS
0010	2430+87	-	2441+27	IH 94 EB CENTER LINE	260	-	WHITE
0010	2439+27	-	2466+68	IH 94 EB RT LINE	2741	-	WHITE
0010	2439+27	-	2466+68	IH 94 EB LT LINE	2741	-	YELLOW
0010	2449+80	-	2453+65	IH 94 EB CENTER LINE	100	-	WHITE
0010	2462+54	-	2464+89	IH 94 EB CENTER LINE	63	-	WHITE
0010	2526+94	-	2530+94	IH 94 EB CENTER LINE	100	-	WHITE
0010	2536+26	-	2538+86	IH 94 EB CENTER LINE	65	-	WHITE
0010	2536+86	-	2551+51	IH 94 EB RT LINE	738	967	WHITE
0010	2536+86	-	2551+51	IH 94 EB LT LINE	1465	-	YELLOW
0010	2547+52	-	2549+87	IH 94 EB CENTER LINE	63	-	WHITE
0010	2547+95	-	2549+45	IH 94 EB RT LINE	150	-	WHITE
				TOTAL 0010	8486	967	

TEMPORARY PAVEMENT MARKING SUMMARY

CAT.	STATION	TO	STATION	LOCATION	646.9000 MARKING REMOVAL LINE 4-INCH LF	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH LF	649.0250 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH LF	646.9100 MARKING REMOVAL LINE 8-INCH LF	REMARKS
	STAGE 1								
0010	2430+87	-	2466+68	IH 94 EB RT	260	3581	-	-	YELLOW
0010	2439+27	-	2466+68	IH 94 EB RT	2741	2741	-	-	WHITE
0010	2536+26	-	2551+51	IH 94 EB RT	65	1525	-	-	YELLOW
0010	2536+86	-	2551+51	IH 94 EB RT	740	738	387	966	WHITE, ENTRANCE RAMP
	STAGE 2								
0010	2430+87	-	2466+68	IH 94 EB RT	-	3581	-	-	WHITE
0010	2439+27	-	2466+68	IH 94 EB LT	2321	2741	-	-	YELLOW
0010	2526+94	-	2534+44	IH 94 EB RT	100	200	400	-	WHITE, EXIT RAMP
0010	2536+26	-	2551+51	IH 94 EB RT	-	1525	-	-	WHITE
0010	2536+86	-	2551+51	IH 94 EB LT	1316	1465	-	-	YELLOW
				TOTAL 0010	7543	18097	787	966	

SAWING SUMMARY

CAT.	STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF	REMARKS
0010	2450+35		-	IH 94 EB	6	12	STAGE 1
0010	2450+45	-	2450+80	IH 94 EB	-	35	STAGE 1
0010	2452+69	-	2453+02	IH 94 EB	-	33	STAGE 1
0010	2453+03		-	IH 94 EB	6	12	STAGE 1
0010	2450+35		-	IH 94 EB	4	-	STAGE 2
0010	2450+35	-	2450+45	IH 94 EB	-	10	STAGE 2
0010	2450+45		-	IH 94 EB	-	14	STAGE 2
0010	2453+03		-	IH 94 EB	8	14	STAGE 2
0010	2463+19	-	2463+25	IH 94 EB	-	5	STAGE 1
0010	2462+95	-	2463+10	IH 94 EB	-	15	STAGE 2
0010	17+41B		-	CORTLAND AVE	21	-	
0010	21+44B		-	CORTLAND AVE	21	-	
				TOTAL 0010	66	150	

SEAL AGGREGATE SHOULDER

CAT.	STATION	TO	STATION	LOCATION	SPV.0180.01 SEAL AGGREGATE SHOULDER SY	REMARKS
0010	2450+83	-	2450+93	IH 94 EB LT	7.8	STAGE 1
0010	2453+01	-	2453+11	IH 94 EB LT	7.8	STAGE 1
0010	2452+54	-	2452+64	IH 94 EB RT	7.8	STAGE 2
0010	2463+13	-	2463+23	IH 94 EB LT	7.8	STAGE 1
0010	2464+51	-	2464+61	IH 94 EB LT	7.8	STAGE 1
0010	2462+85		2462+95	IH 94 EB RT	7.8	STAGE 2
0010	2464+20	-	2464+30	IH 94 EB RT	7.8	STAGE 2
0010	2547+96	-	2548+04	IH 94 EB LT	7.8	STAGE 1
0010	2549+32	-	2549+42	IH 94 EB LT	7.8	STAGE 1
0010	2549+34	-	2549+44	IH 94 EB RT	7.8	STAGE 2
0010	19+10B	-	19+20B	CORTLAND AVE RT	7.8	STAGE 3
0010	19+10B	-	19+20B	CORTLAND AVE RT	7.8	STAGE 3
				TOTAL 0010	93.6	

5

5

SALVAGE RAIL
POSTS TO REMAIN

REMOVING ASPHALTIC SURFACE
NEW: ASPHALTIC SURFACE

SAWING ASPHALT/CONCRETE
STA: 2450+44

SEAL AGGREGATE SHOULDER

REMOVING CONCRETE PAVEMENT

REMOVING ASPHALTIC SURFACE
NEW: ASPHALTIC SURFACE

REMOVING CONCRETE PAVEMENT
NEW: CONCRETE PAVEMENT 12-INCH

2450

2455

REMOVING CONCRETE PAVEMENT
NEW: CONCRETE PAVEMENT 12-INCH

REMOVING ASPHALTIC
SURFACE BUTT JOINTS
STA: 2449+81 TO 2450+45

REMOVING CONCRETE PAVEMENT
NEW: CONCRETE PAVEMENT APPROACH SLAB

REMOVING ASPHALTIC
SURFACE BUTT JOINTS
STA: 2453+03 TO 2453+65

REMOVING ASPHALTIC SURFACE
NEW: ASPHALTIC SURFACE

SAWING ASPHALT /CONCRETE
STA: 2450+35

NEW: CONCRETE SURFACE DRAIN
ADJUSTING INLET COVERS
SALVAGE INLET COVERS

SALVAGE RAIL
POSTS TO REMAIN

REMOVING CONCRETE PAVEMENT

REMOVING FENCE
NEW: FENCE WOVEN WIRE

BM 1002

STRUCTURE B-41-62
CONCRETE OVERLAY REQUIRED
SEE STRUCTURE PLANS

SAWING ASPHALT/CONCRETE
STA: 2453+03

REMOVING ASPHALTIC SURFACE
NEW: ASPHALTIC SURFACE

SALVAGE RAIL
POSTS TO REMAIN

SEAL AGGREGATE SHOULDER

I 94

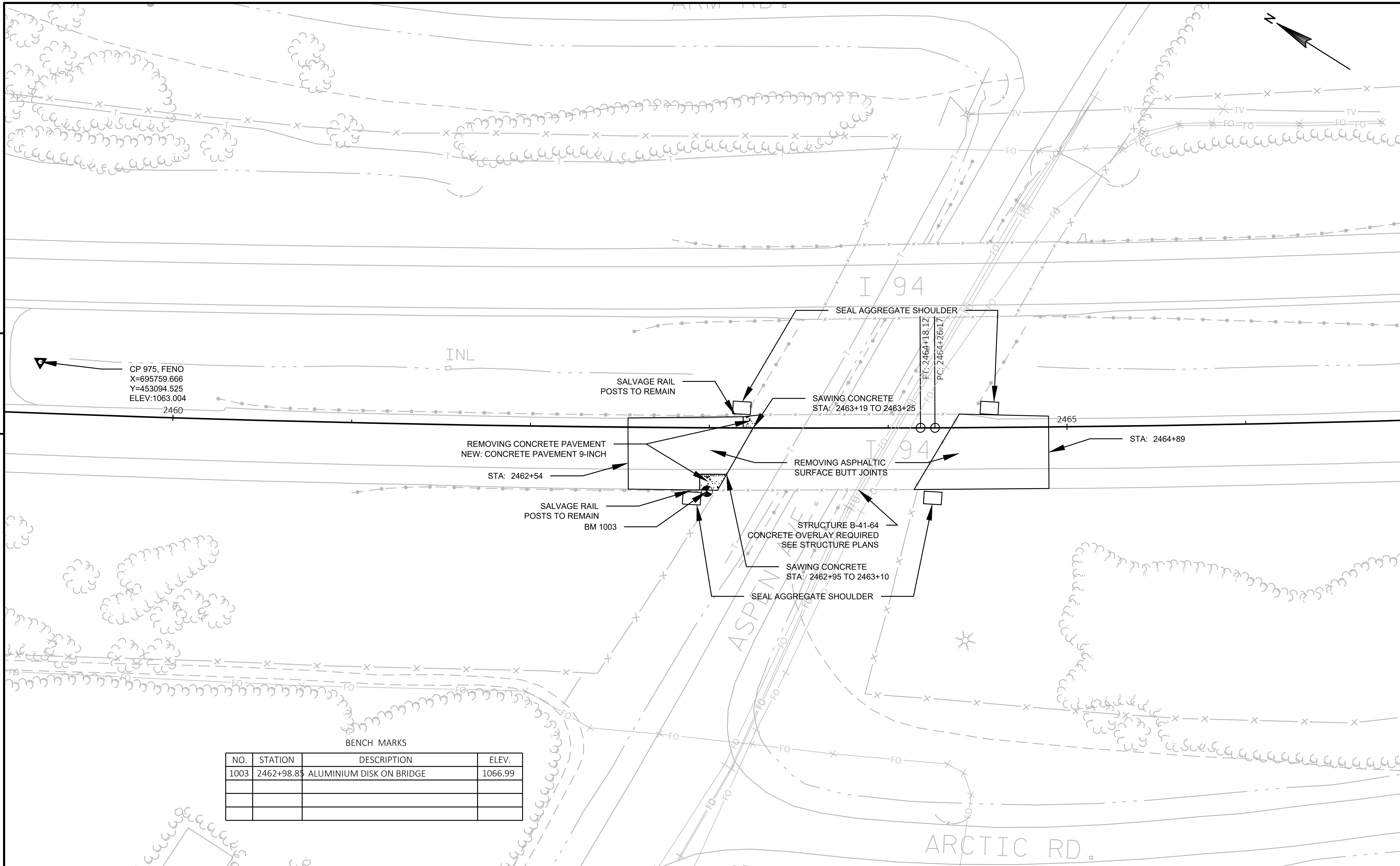
INL

UNION PACIFIC

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1002	2450+52.12	ALUMINIUM DISK ON BRIDGE	1062.44

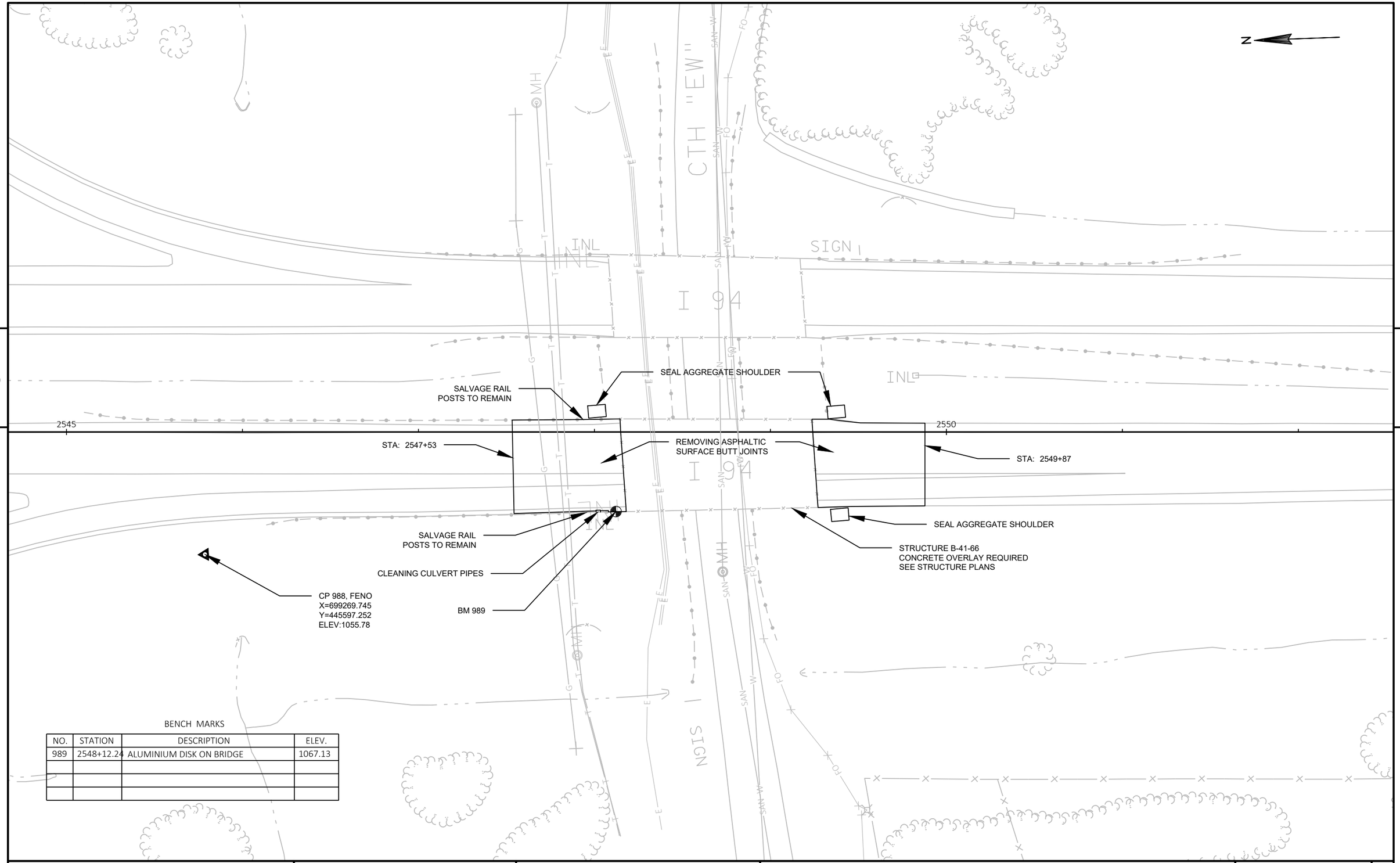
PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	PLAN - B-41-62	SHEET 24	E



I 94
ASPEN AVE.
ARCTIC RD.
INL
CP 975, FENO
X=695759.666
Y=453094.525
ELEV:1063.004
2460
2465
5
5
SEAL AGGREGATE SHOULDER
PT: 2464+18.12
PC: 2464+26.17
SALVAGE RAIL
POSTS TO REMAIN
SAWING CONCRETE
STA: 2463+19 TO 2463+25
REMOVING CONCRETE PAVEMENT
NEW: CONCRETE PAVEMENT 9-INCH
STA: 2464+89
REMOVING ASPHALTIC
SURFACE BUTT JOINTS
STA: 2462+54
SALVAGE RAIL
POSTS TO REMAIN
BM 1003
STRUCTURE B-41-64
CONCRETE OVERLAY REQUIRED
SEE STRUCTURE PLANS
SAWING CONCRETE
STA: 2462+95 TO 2463+10
SEAL AGGREGATE SHOULDER

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1003	2462+98.85	ALUMINIUM DISK ON BRIDGE	1066.99

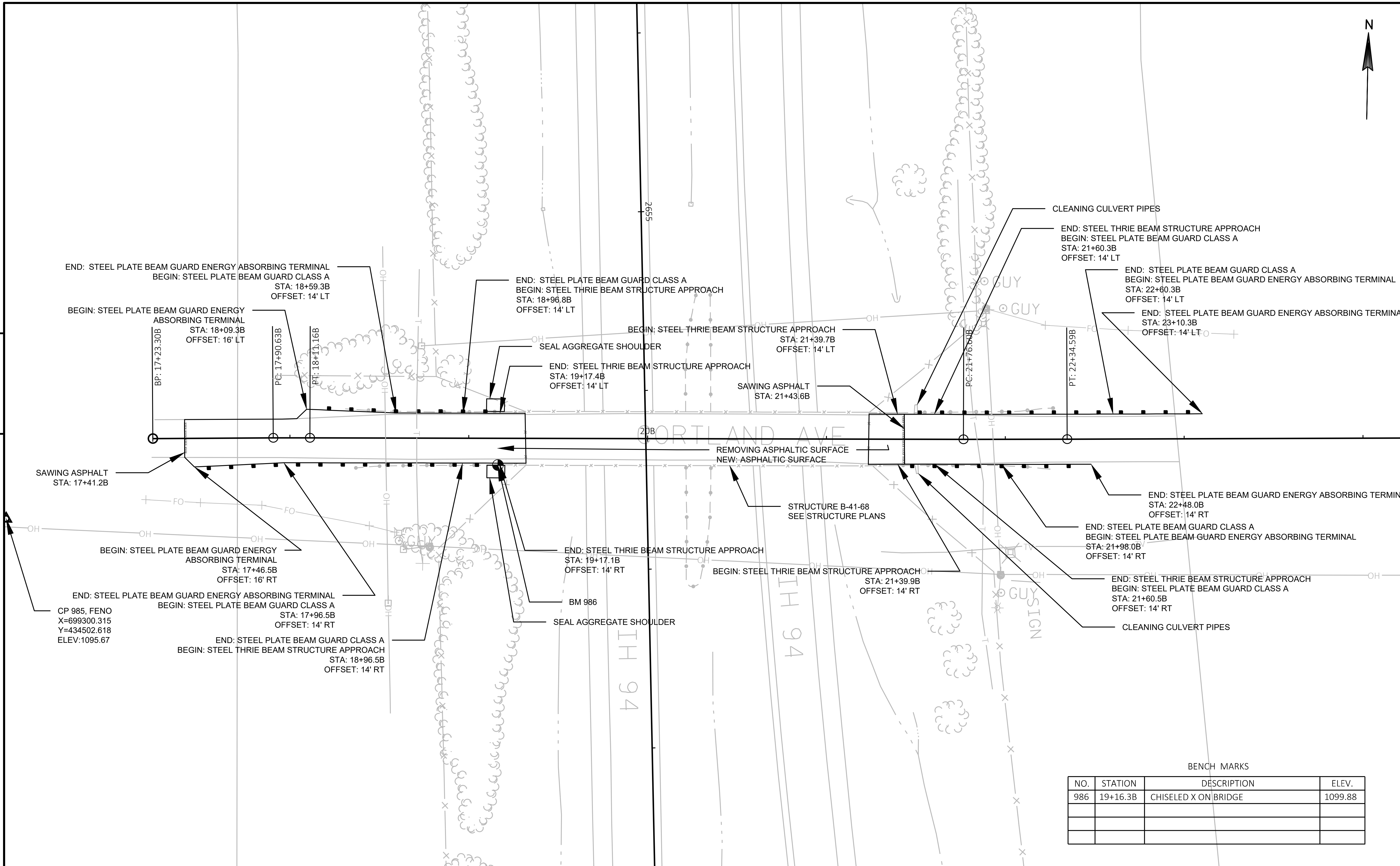


BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
989	2548+12.24	ALUMINIUM DISK ON BRIDGE	1067.13

PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	PLAN - B-41-66	SHEET 26	E

FILE NAME : N:\PDS\C3D\10230602\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - S941
PLOT DATE : 2/20/2019 1:29 PM
PLOT BY : MECUM, BRANDYN W
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44



BENCH MARKS

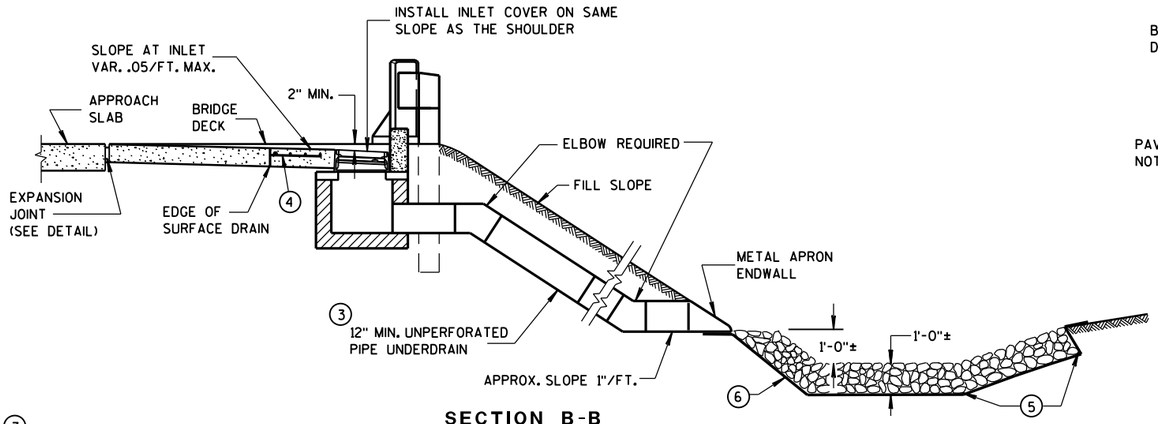
NO.	STATION	DESCRIPTION	ELEV.
986	19+16.3B	CHISELED X ON BRIDGE	1099.88

PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	PLAN - B-41-68	SHEET 27	E

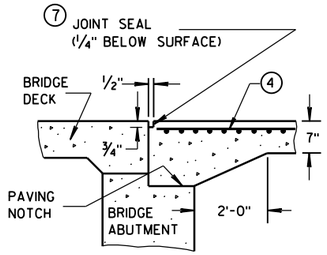
FILE NAME : N:\PDS\C3D\10230602\SHEETSPLAN\050201_PN.DWG
LAYOUT NAME - Cortland1
PLOT DATE : 3/28/2018 9:47 AM
PLOT BY : MECUM, BRANDYN W
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

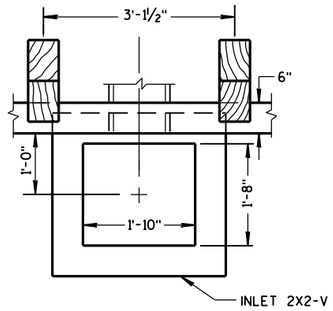
08D03-07	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08E10-02	INLET PROTECTION TYPE A, B, C AND D
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B20-11C	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS
14B20-11D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B20-11E	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"
14B20-11F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B20-11H	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
14B24-09A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C31-03A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-03C	PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP
15D03-05	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D12-07A	TRAFFIC CONTROL, LANE CLOSURE
15D12-07B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D15-04A	TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-04B	TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-04C	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-04D	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-04E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D16-04	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



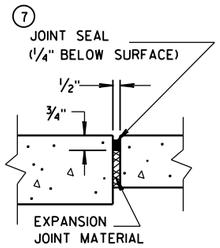
SECTION B-B



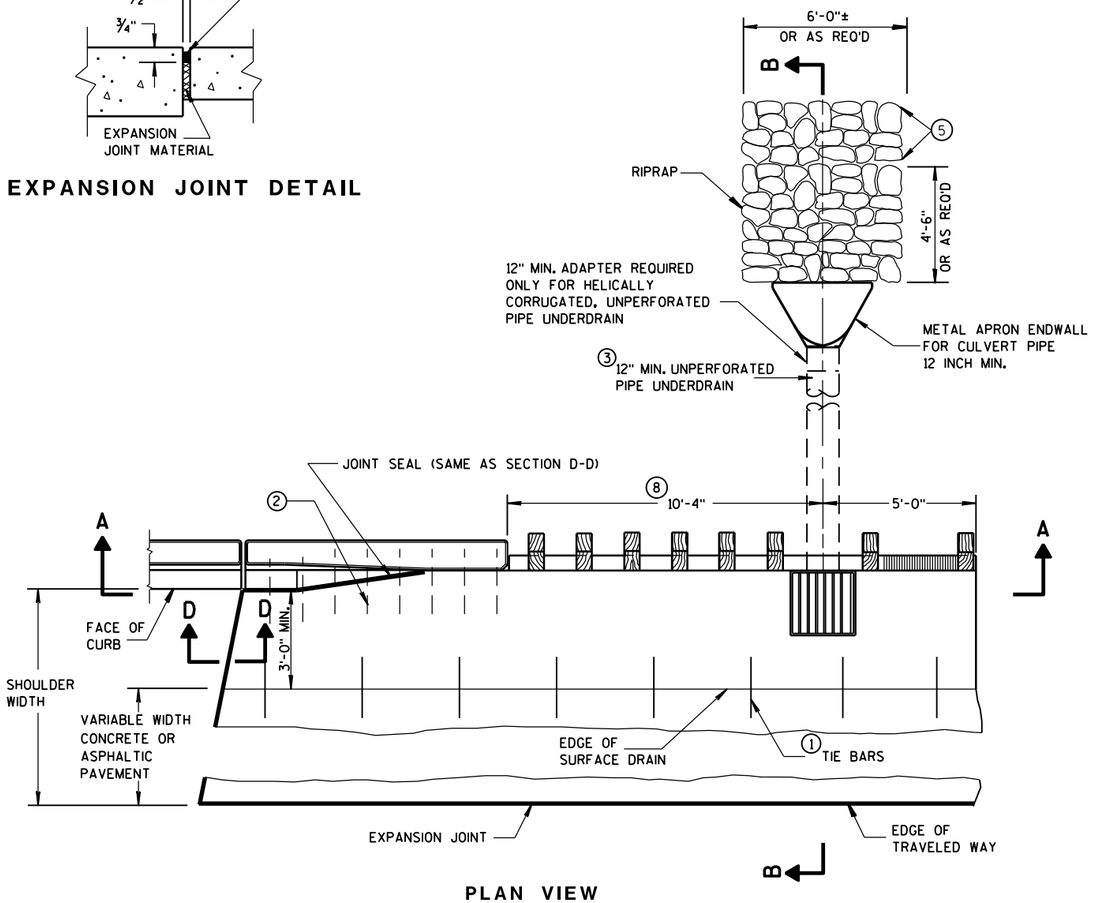
SECTION D-D



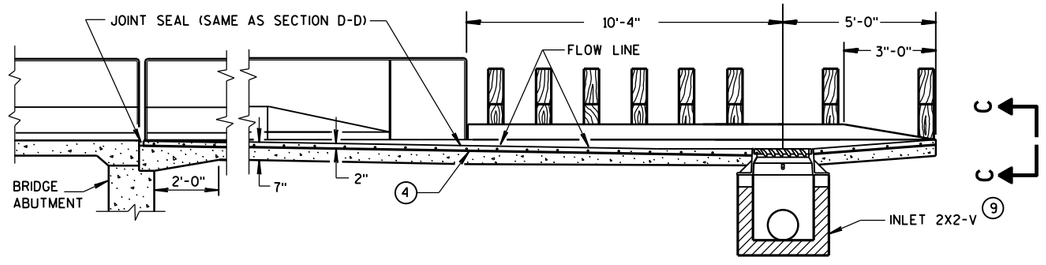
PLAN VIEW



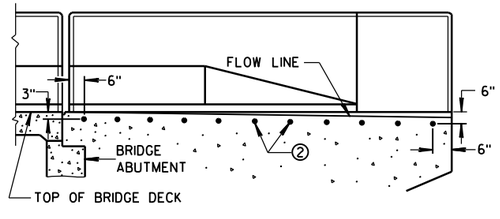
EXPANSION JOINT DETAIL



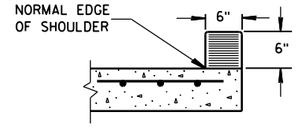
PLAN VIEW



SECTION A-A



LOCATION OF TIE BARS IN WINGWALL



SECTION C-C

GENERAL NOTES

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

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

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

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

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

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

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

(6) GEOTEXTILE FABRIC.

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

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

(9) SEE CURRENT STANDARD DETAIL DRAWINGS 8A5 AND 8C7 FOR DETAILS.

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

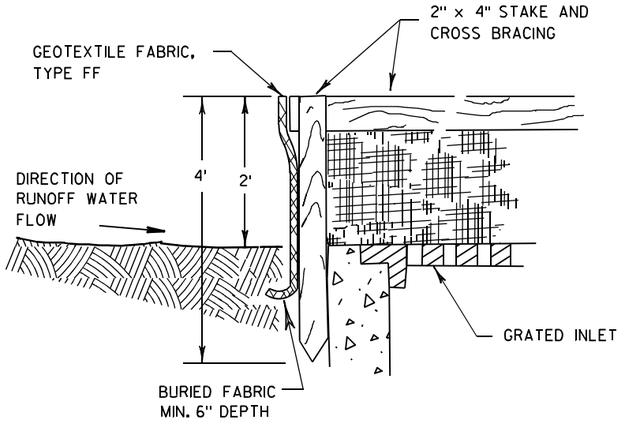
APPROVED
June 2017 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERV... ...IENT
FHWA

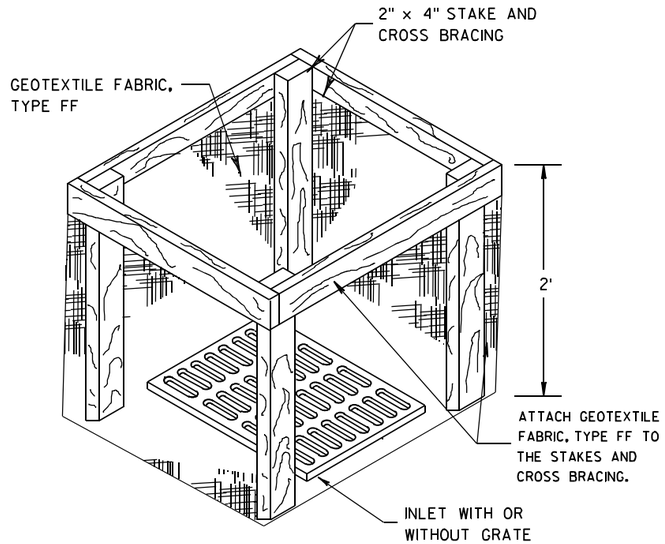
6

S.D.D. 8 D 3-7

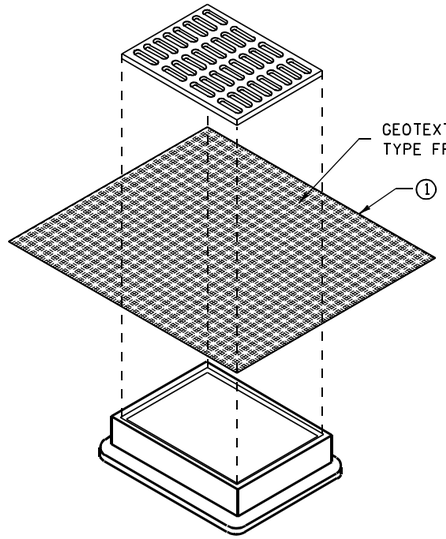
6

S.D.D. 8 D 3-7



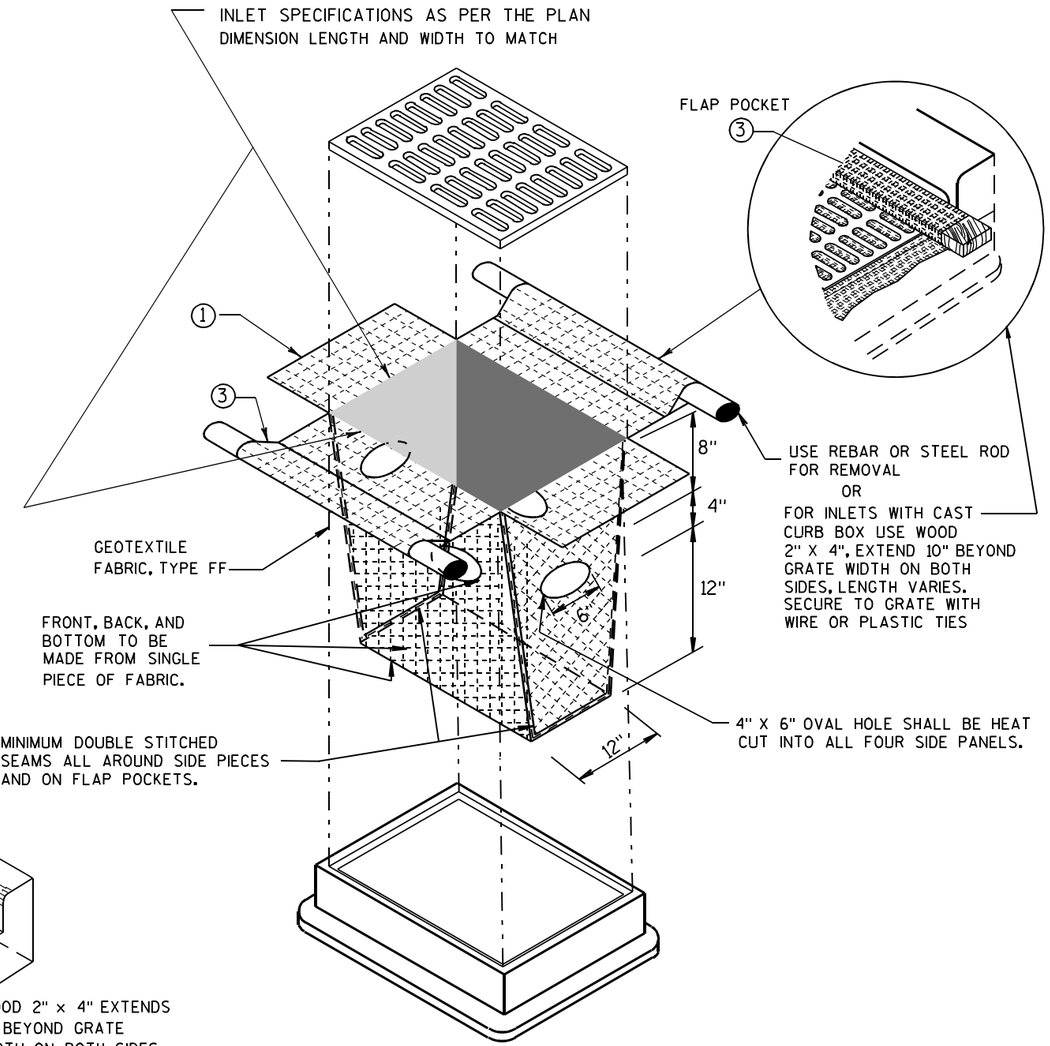


INLET PROTECTION, TYPE A



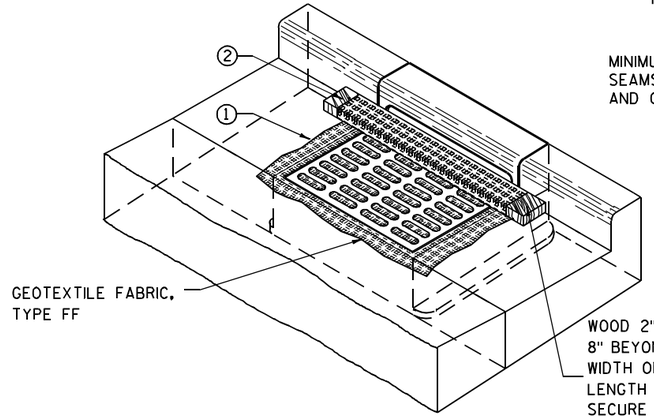
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

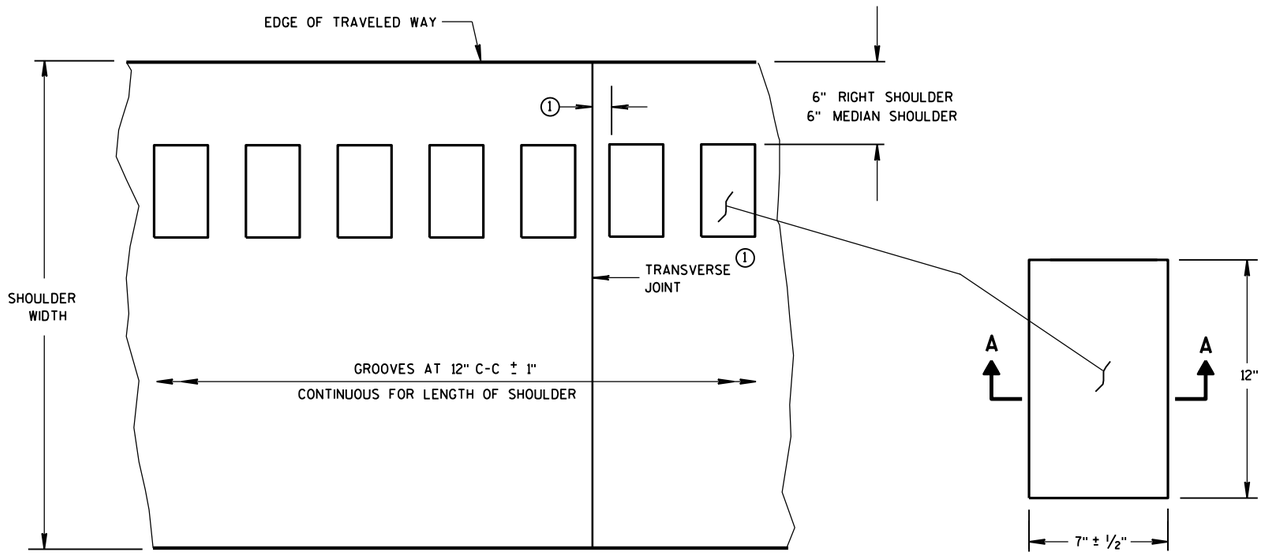
FHWA

6

S.D.D. 8 E 10-2

6

S.D.D. 8 E 10-2



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

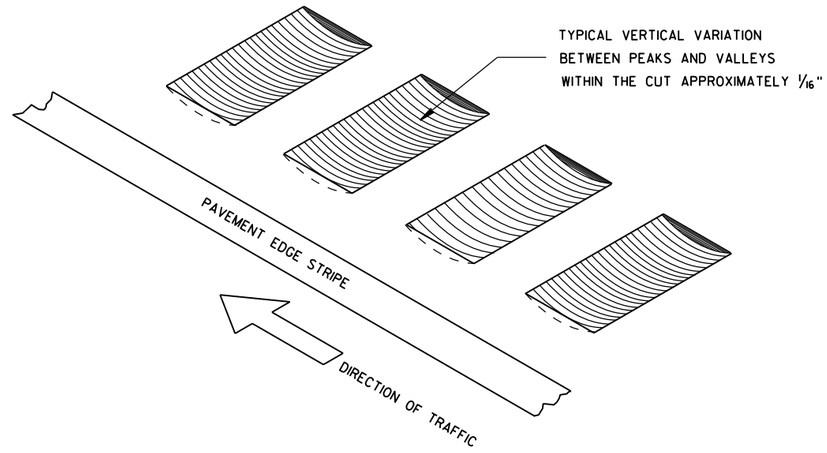
GENERAL NOTES

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

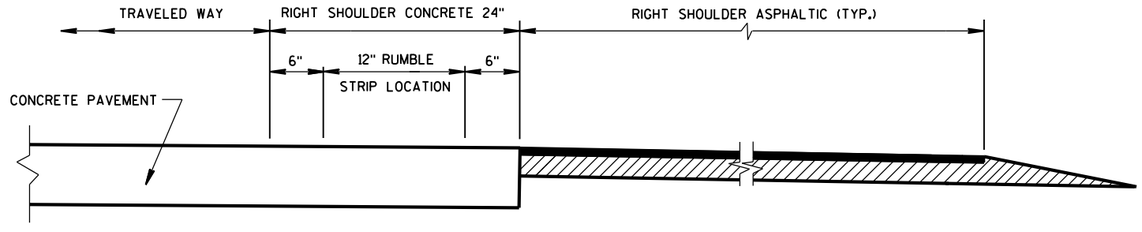
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

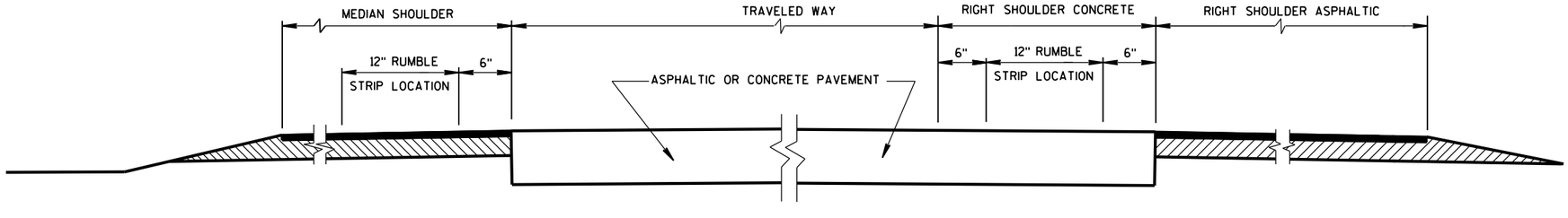
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



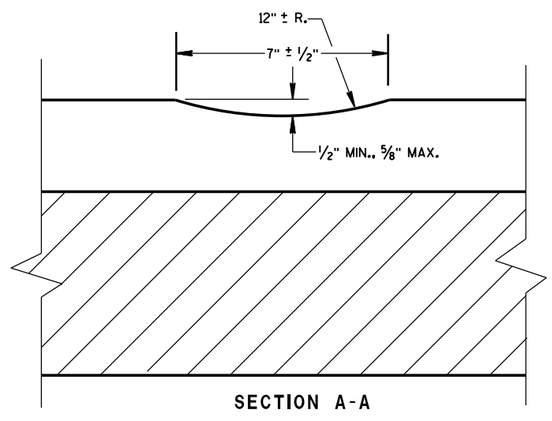
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

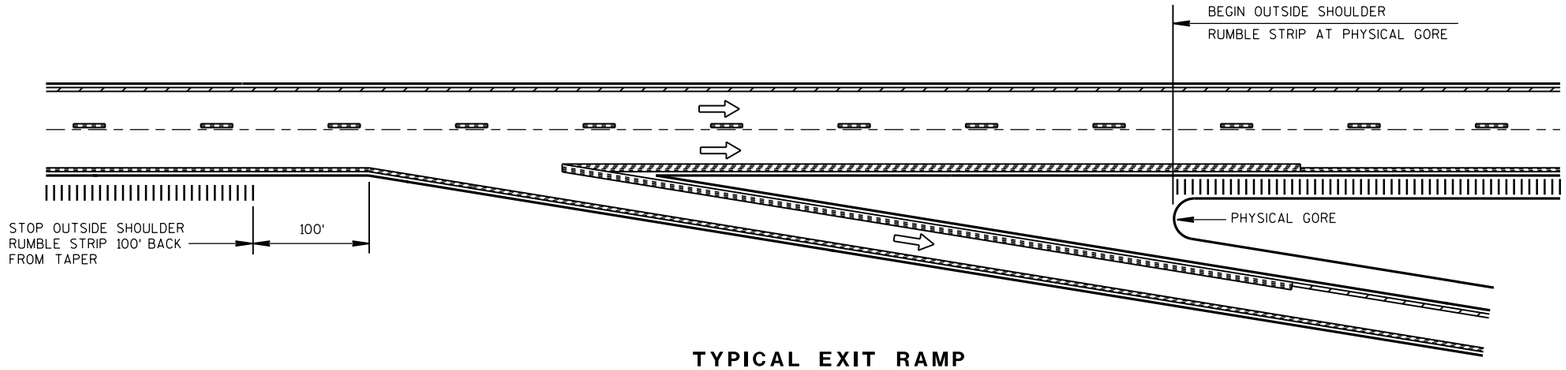
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 13 A 5-5a

6

S.D.D. 13 A 5-5a



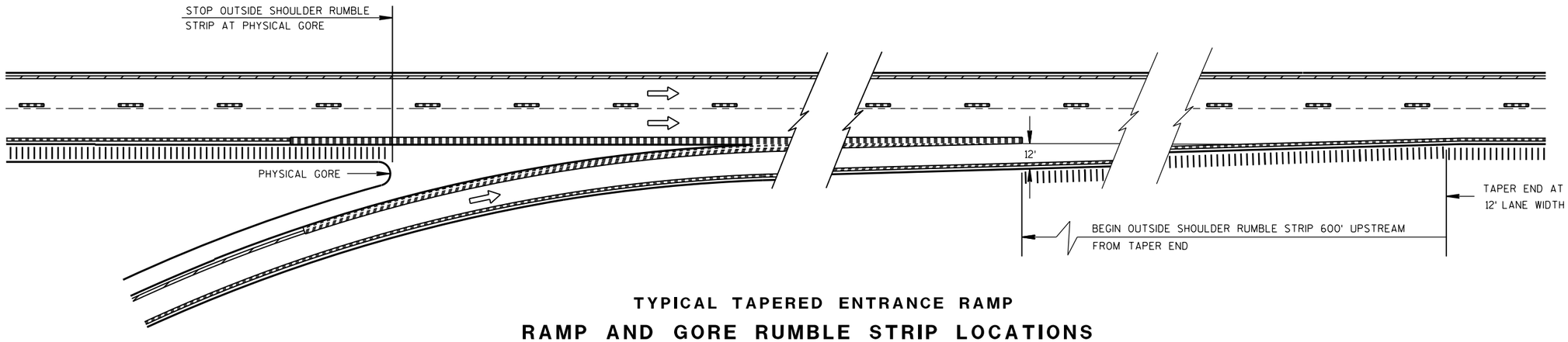
TYPICAL EXIT RAMP

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

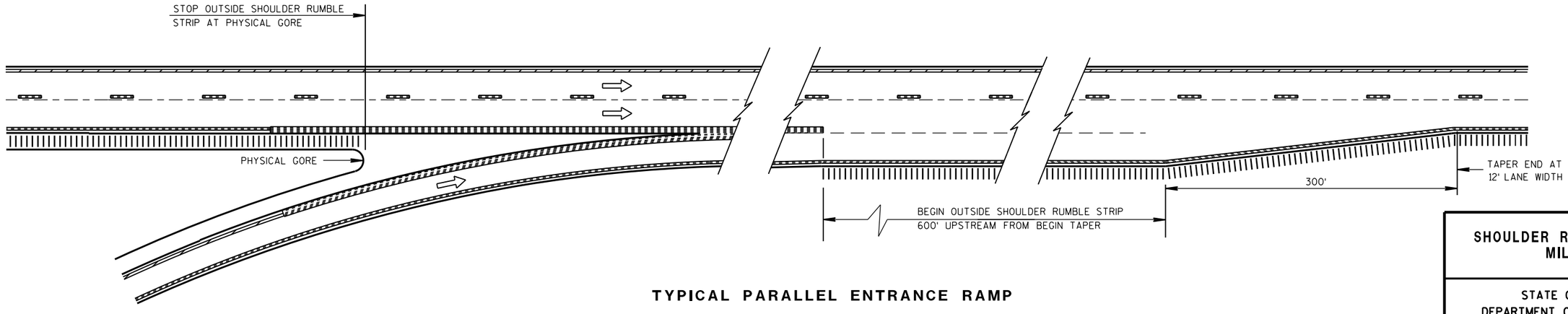
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

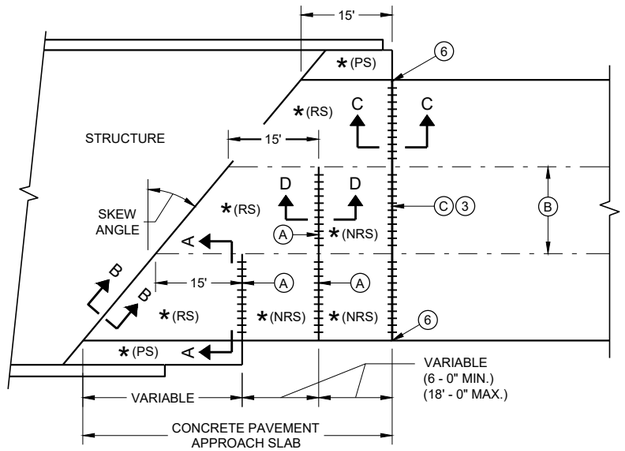
SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

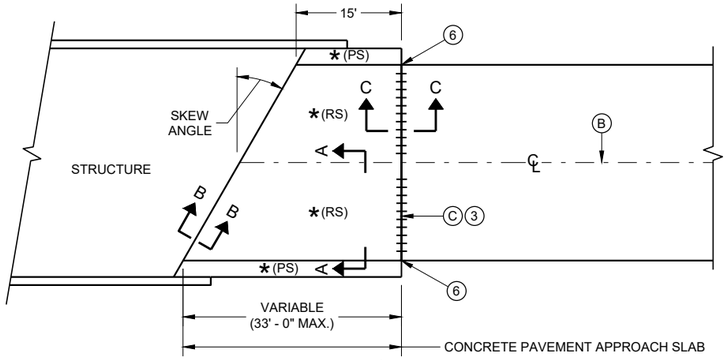
APPROVED
12/17/2012 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 13 A 5-5b



SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')

SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

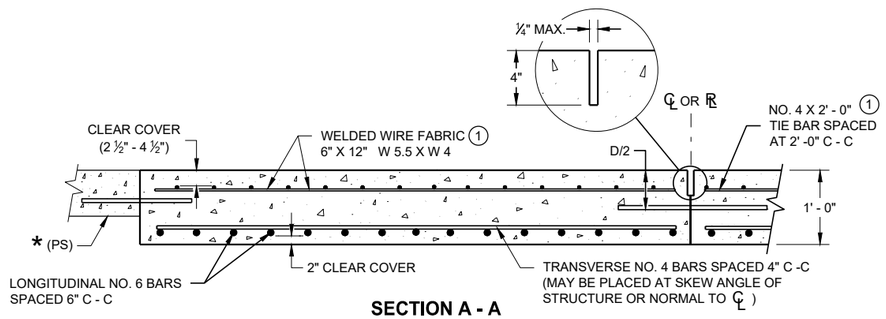
APPROACH SLAB AND ADJACENT PAVEMENT

* (RS) = REINFORCED CONCRETE SLAB

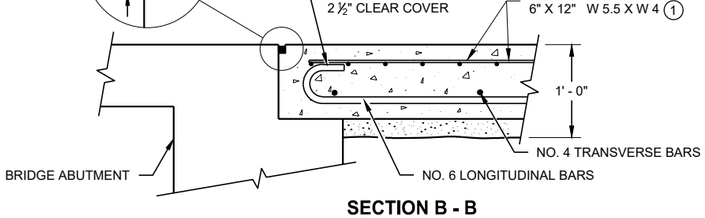
* (PS) = PAVECD CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

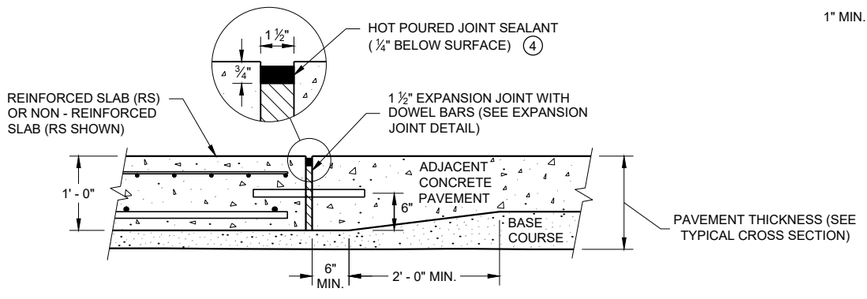
*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



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 MEETING THE REQUIREMENTS OF ASTM D6690.

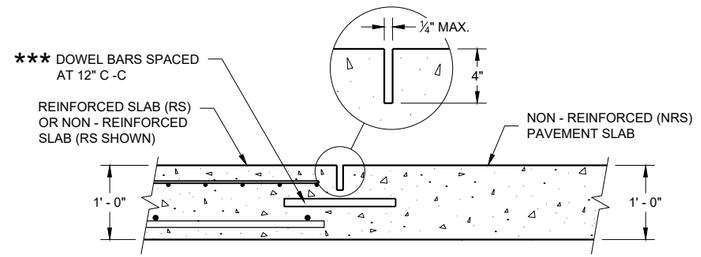
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

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

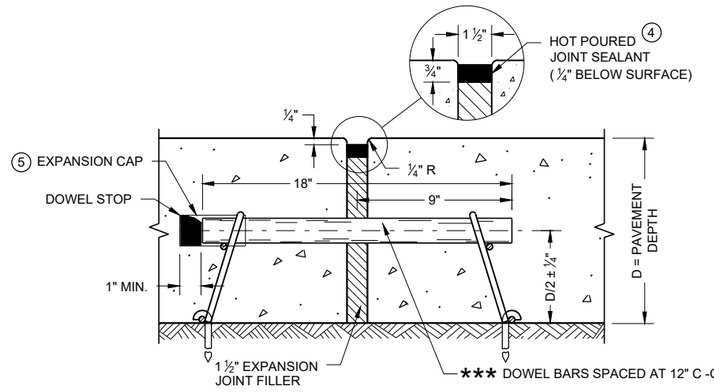
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 ½" EXPANSIONT 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

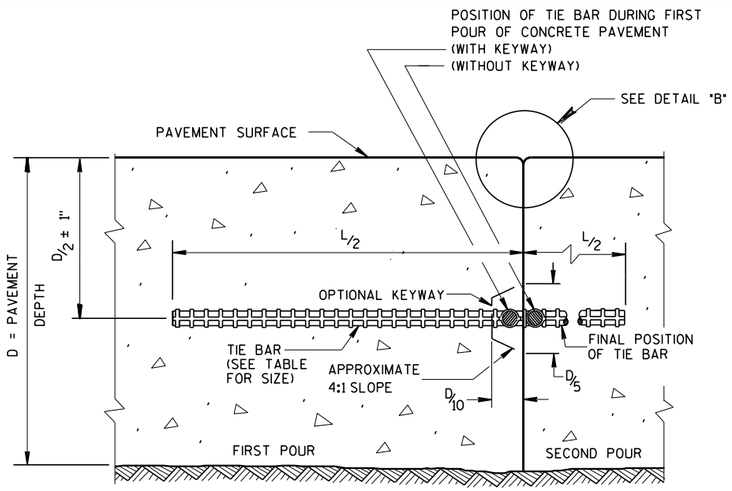
APPROVED
November 2018
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

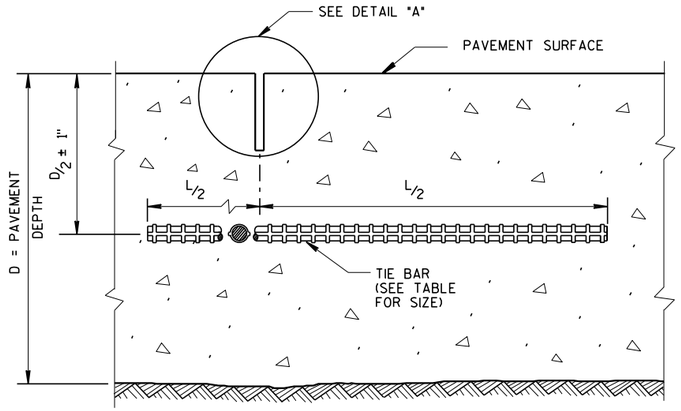
FHWA

6

SDD 13B02 - 09a



CONSTRUCTION JOINT



SAWED JOINT

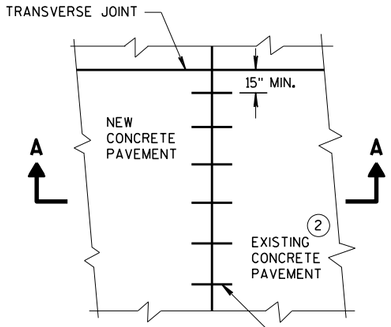
GENERAL NOTES

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

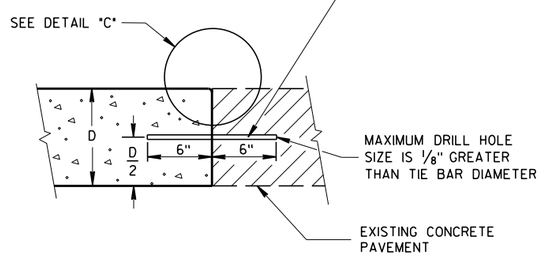
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

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

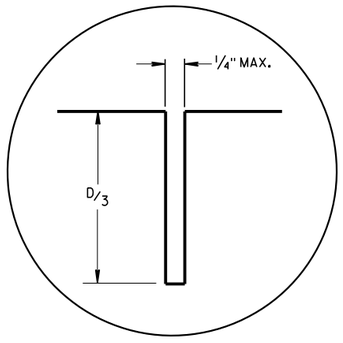


PLAN VIEW

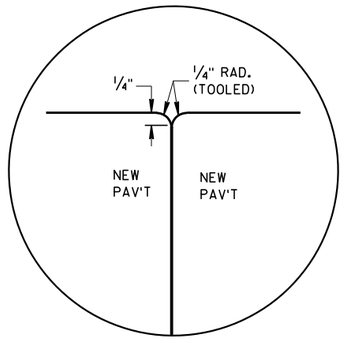


SECTION A-A

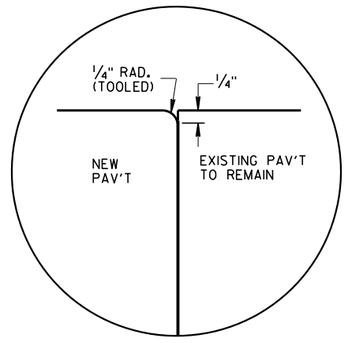
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



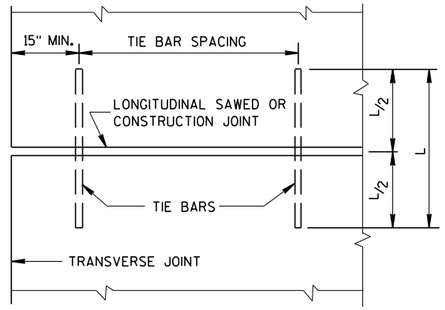
DETAIL "C"

TIE BAR TABLE

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

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

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



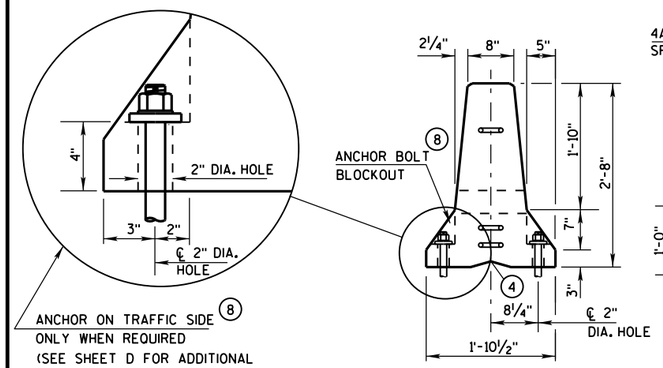
PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

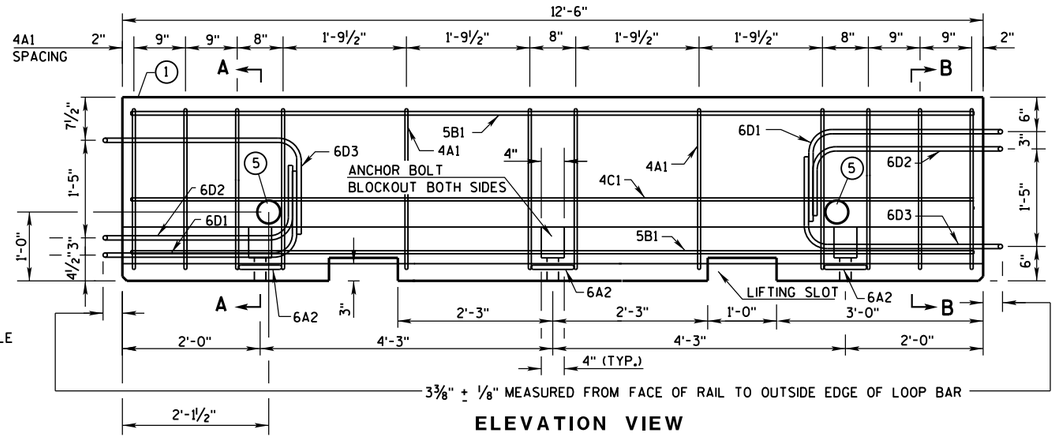
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

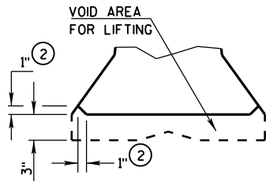
6
S.D.D. 13 C 1-19



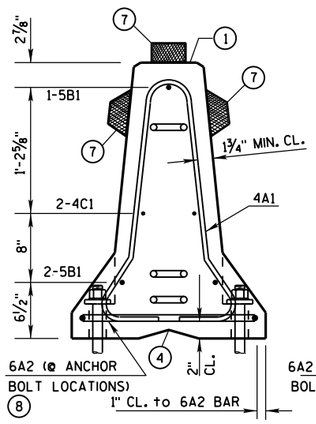
END VIEW



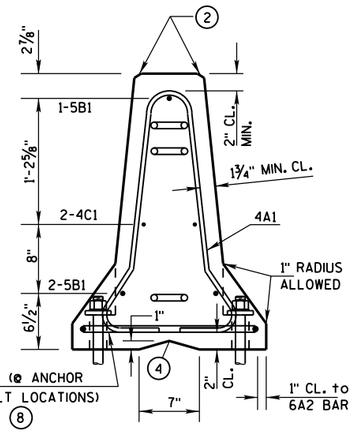
ELEVATION VIEW



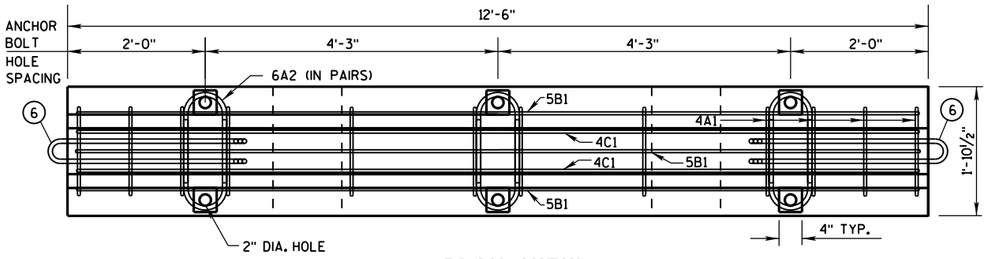
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)



PLAN VIEW

DETAILS OF BARRIER SECTION

GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-15(a) THRU 14B7-15(i).

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

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

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

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

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

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

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

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

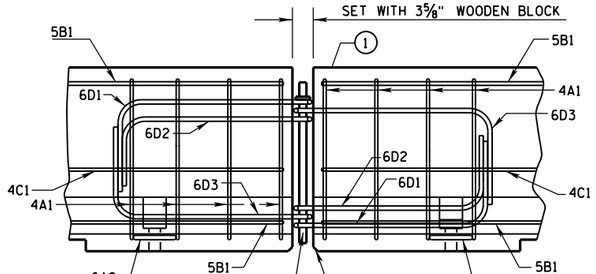
(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

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

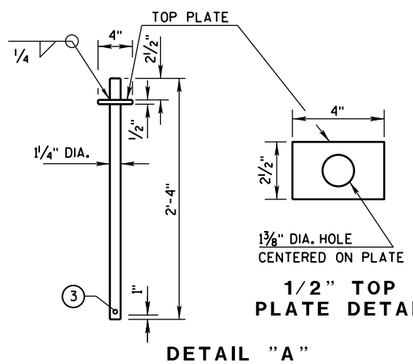
(8) SEE SHEET D FOR HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.

(9) 1" CHAMFER OPTIONAL.

f'c = 4,000 psi

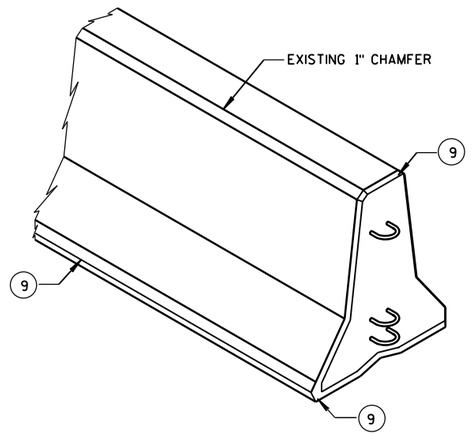


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

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

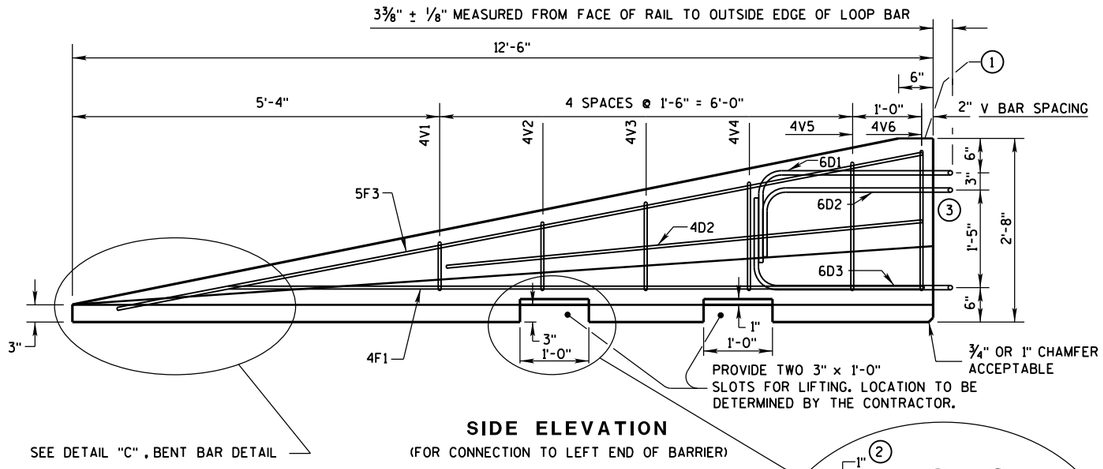


CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

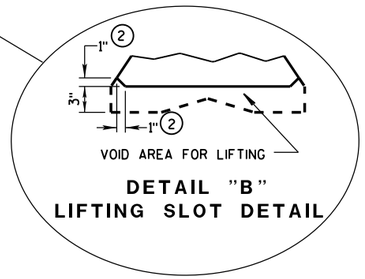
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 35

S.D.D. 14 B 7-15a

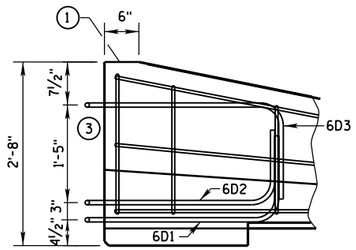
6



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



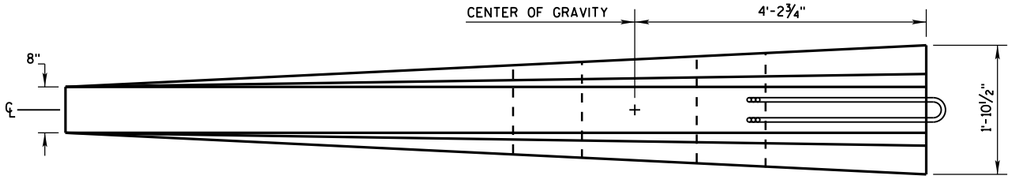
DETAIL "B"
LIFTING SLOT DETAIL



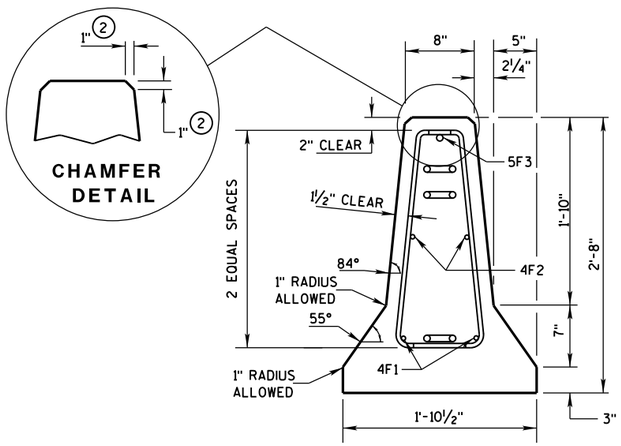
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

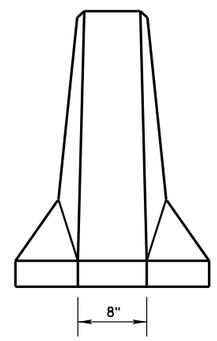
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



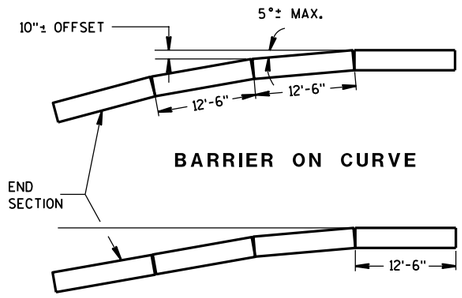
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

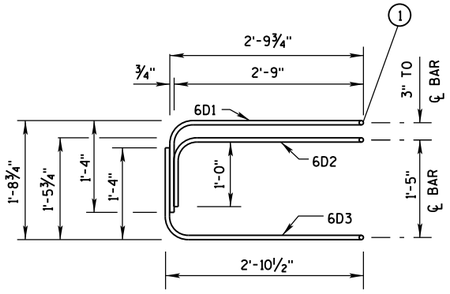
6

S.D.D. 14 B 7-15b

BARRIER TAPER SECTION BILL OF MATERIALS

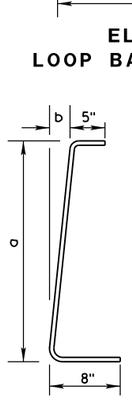
(PER 12'-6" BARRIER TAPER SECTION)

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



ELEVATION
LOOP BAR ASSEMBLY

DETAIL "C"
BENT BAR DETAIL



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

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

GENERAL NOTES

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

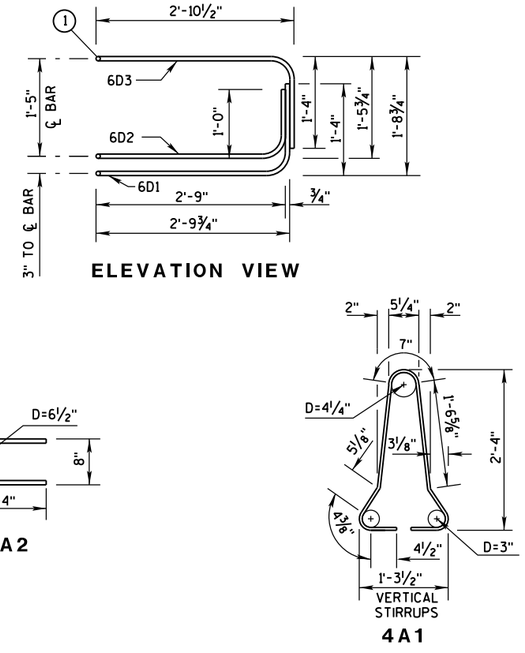
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

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

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

6A2



ELEVATION VIEW

4A1

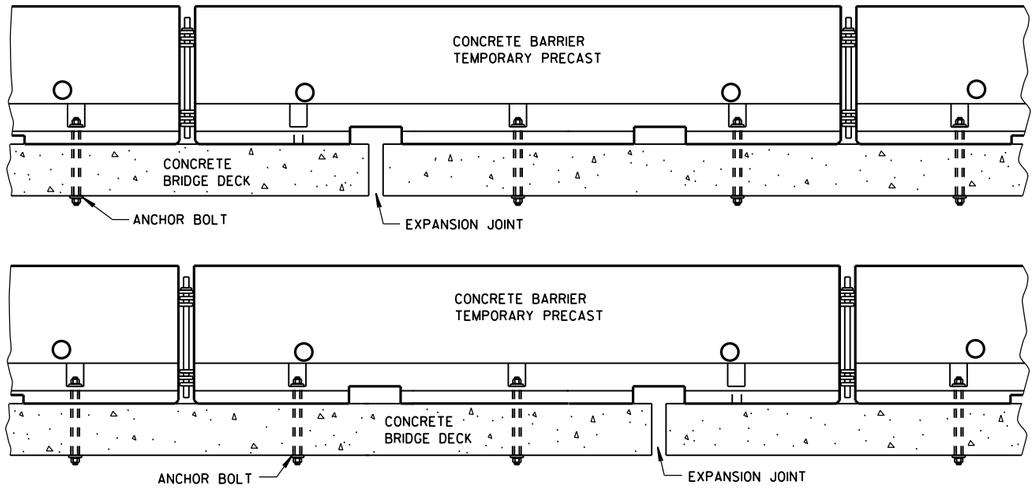
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 7-15c



TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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

GENERAL NOTES

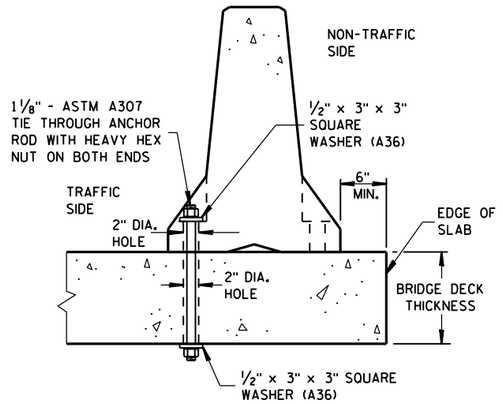
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERICAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

(1) 1⅛" DIAMENTER A307 THREADED ROD. ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL. ASTM A563A HEAVY HEX NUT.

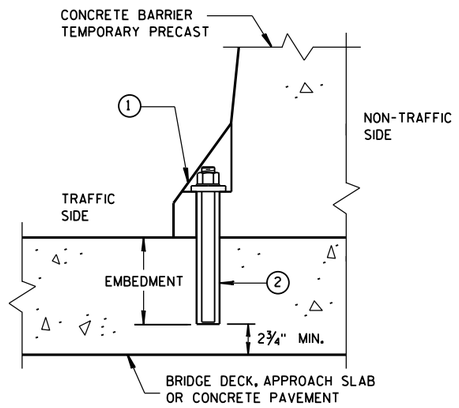
(2) ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

(3) ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THAN DRIVE ASPHALT ANCHOR PIN.



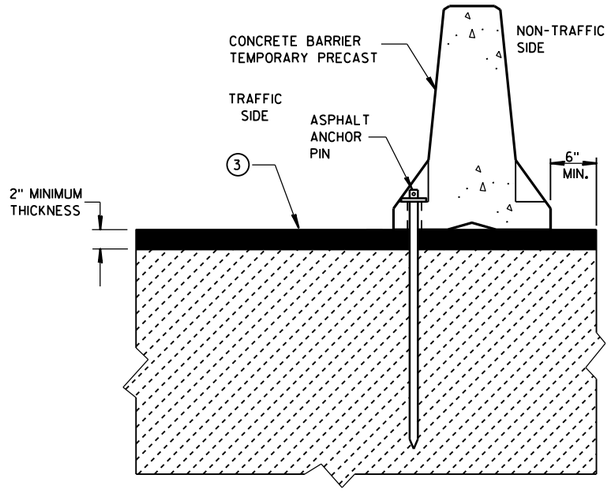
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)

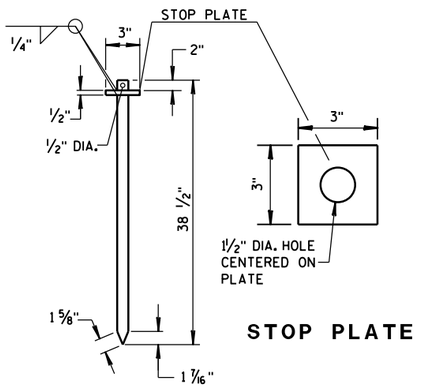


REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



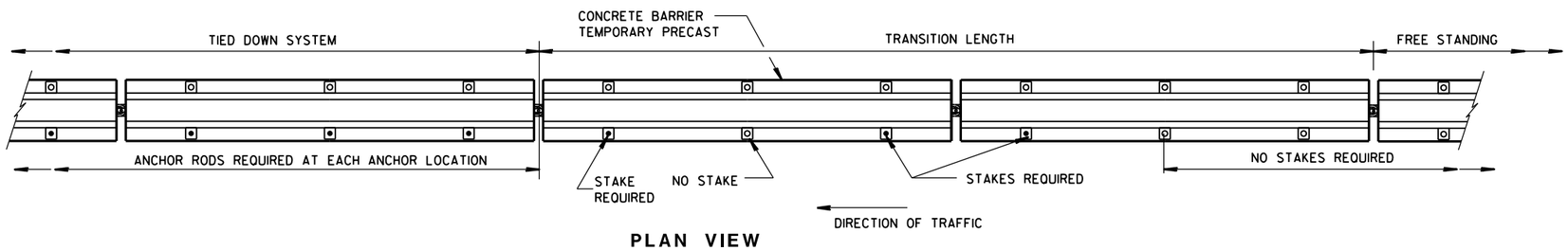
STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE



STOP PLATE

ASPHALT ANCHOR PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

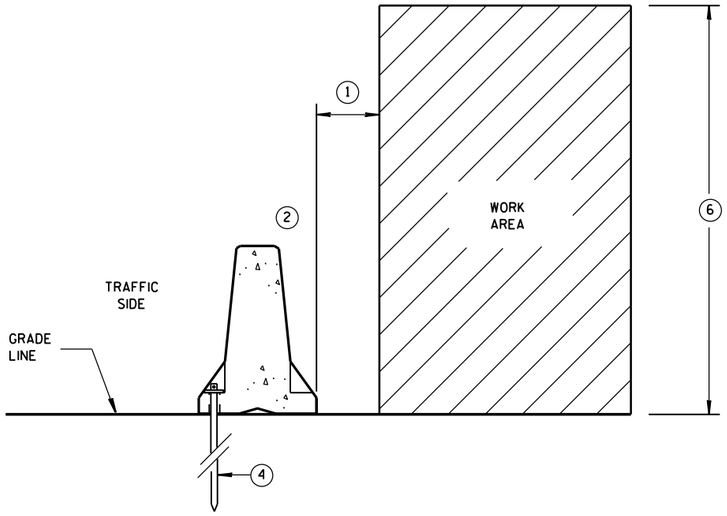
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

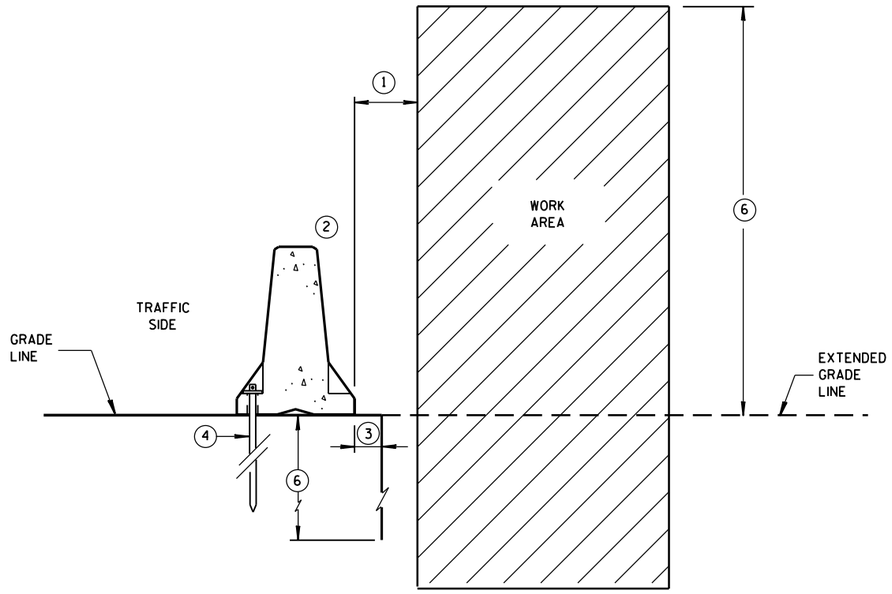
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-15d



ANCHORED BARRIER SPACE REQUIREMENTS FOR HAZARDS EXTENDED ABOVE THE GRADE LINE

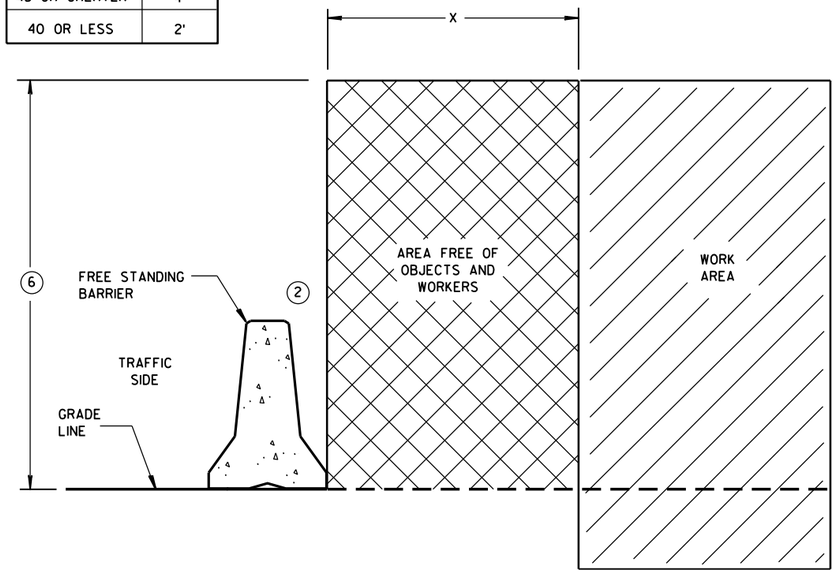


ANCHORED BARRIER SPACE REQUIREMENTS ON VERTICAL DROP OFFS

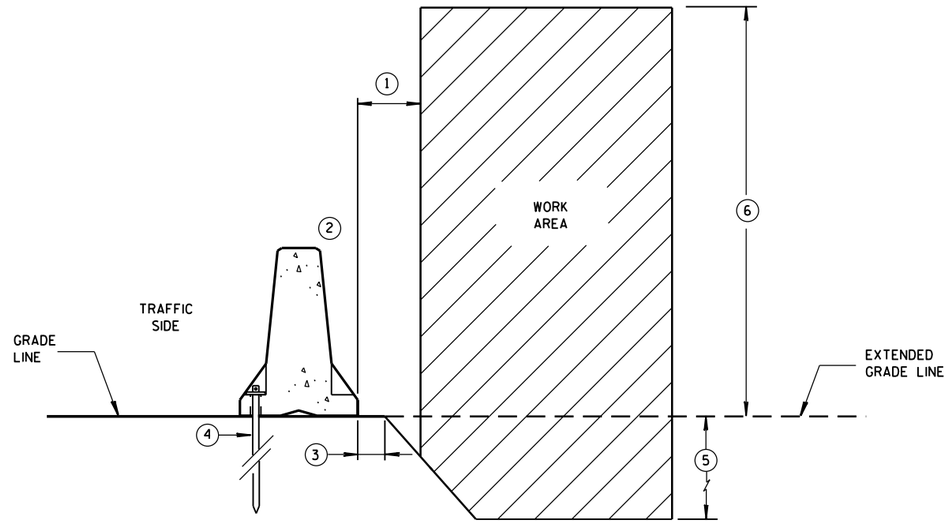
GENERAL NOTES

1. WHEN OBJECTS EXTEND ABOVE THE GRADE, A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT. SEE OTHER DETAILS FOR FOR THE MINIMUM OFFSET FROM BACK OF BARRIER TO SLOPES OR VERTICAL DROPS.
2. OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR LEANED AGAINST THE BARRIER WITHOUT PERMISSION OF THE PROJECT ENGINEER.
3. SEE OTHER DETAIL ON SHEET "D" FOR SPACE REQUIREMENTS.
4. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR A STAKE DOWN FOR ASPHALTIC SURFACE TREATMENT DETAILS. ASPHALTIC ANCHOR SHOWN.
5. DEPTH OF 3 FEET OR MORE.
6. Y = 6'-6".

POSTED SPEED MPH	X
45 OR GREATER	4'
40 OR LESS	2'



FREE STANDING BARRIER SPACE REQUIREMENTS



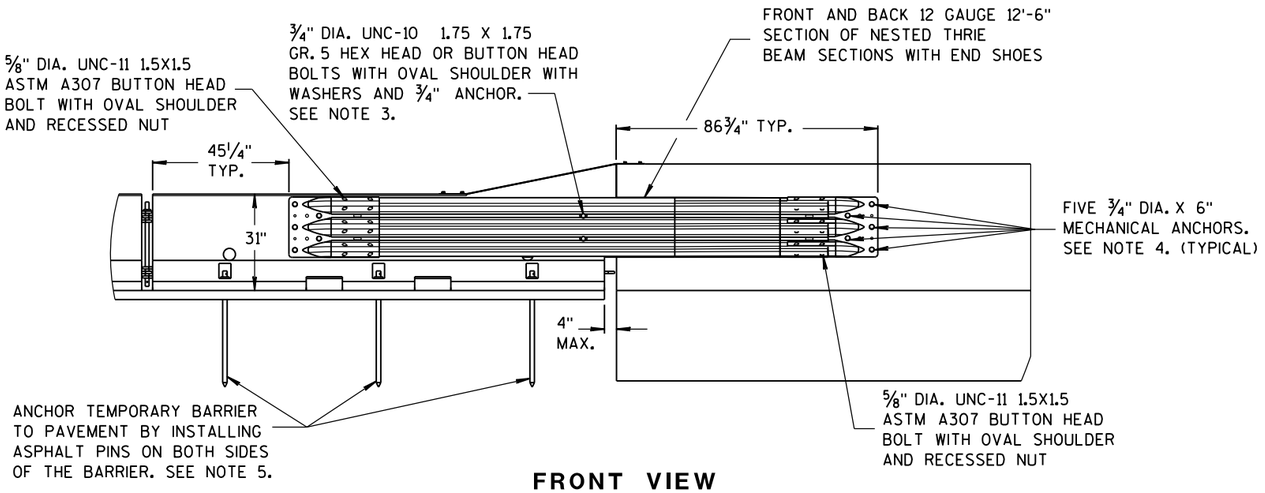
ANCHORED BARRIER SPACE REQUIREMENTS ON SLOPES

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

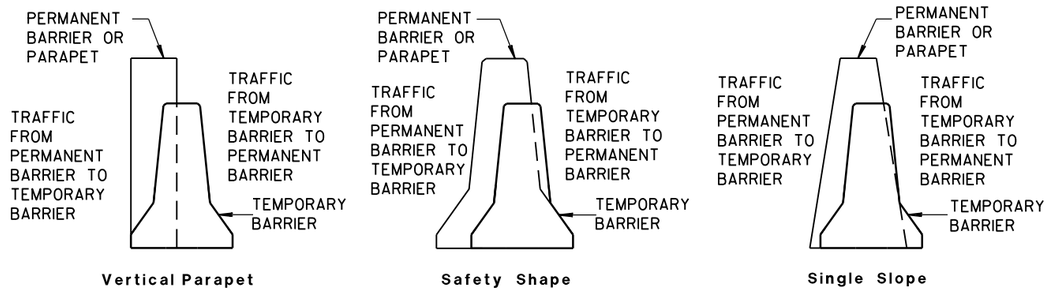
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-15e



FRONT VIEW

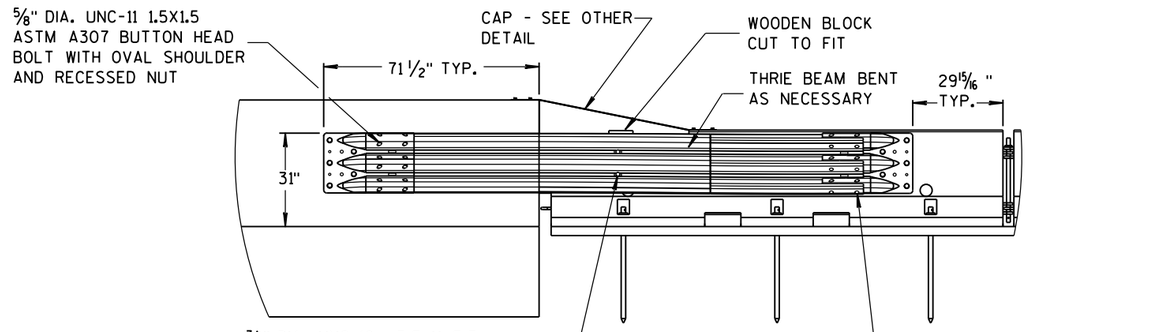


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

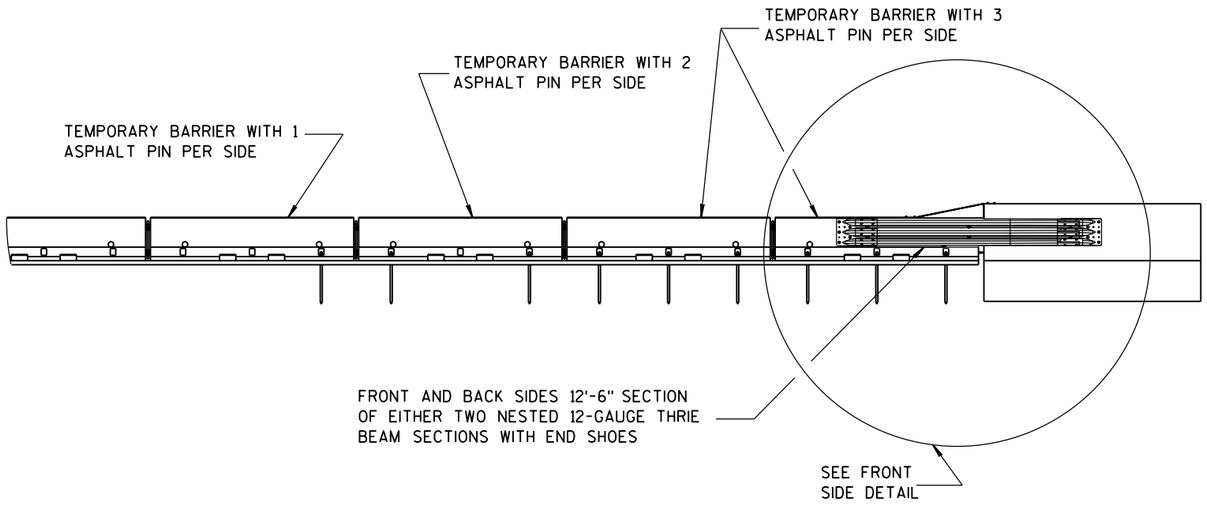
NOTES

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

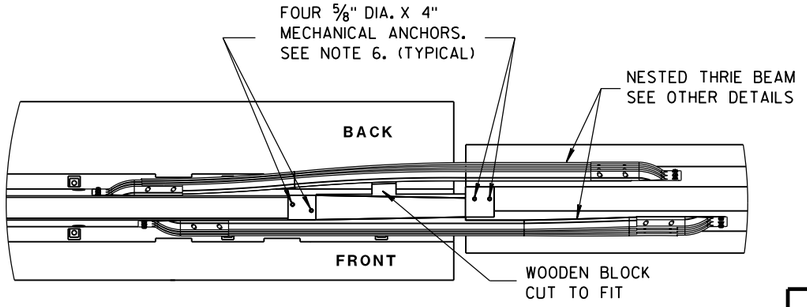
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD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



BACK VIEW



FRONT VIEW



PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 7-15f

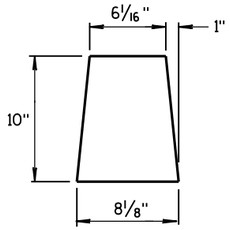
GUSSET 1

GUSSET 2

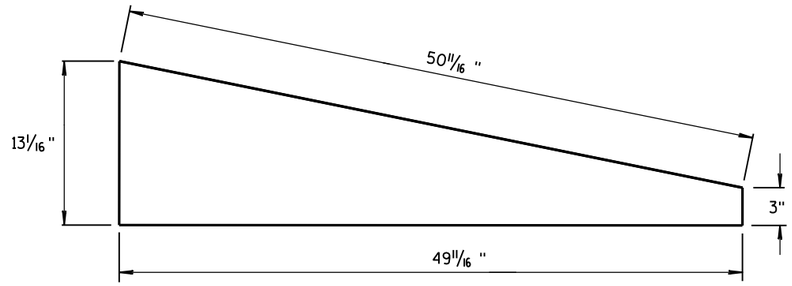
GUSSET 3

GUSSET 4

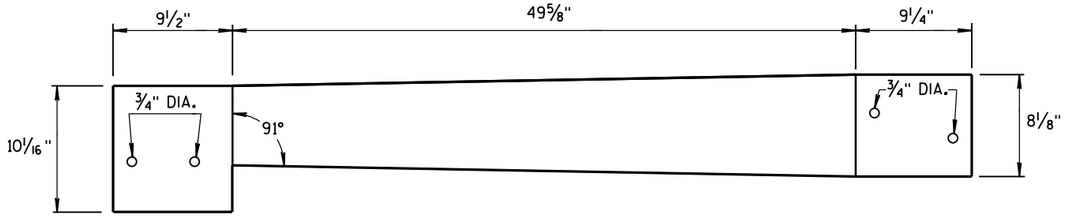
GUSSETS

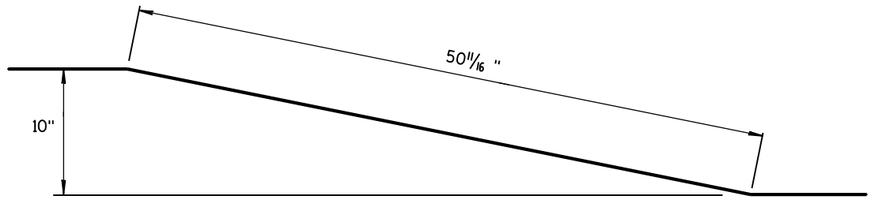


END PLATE

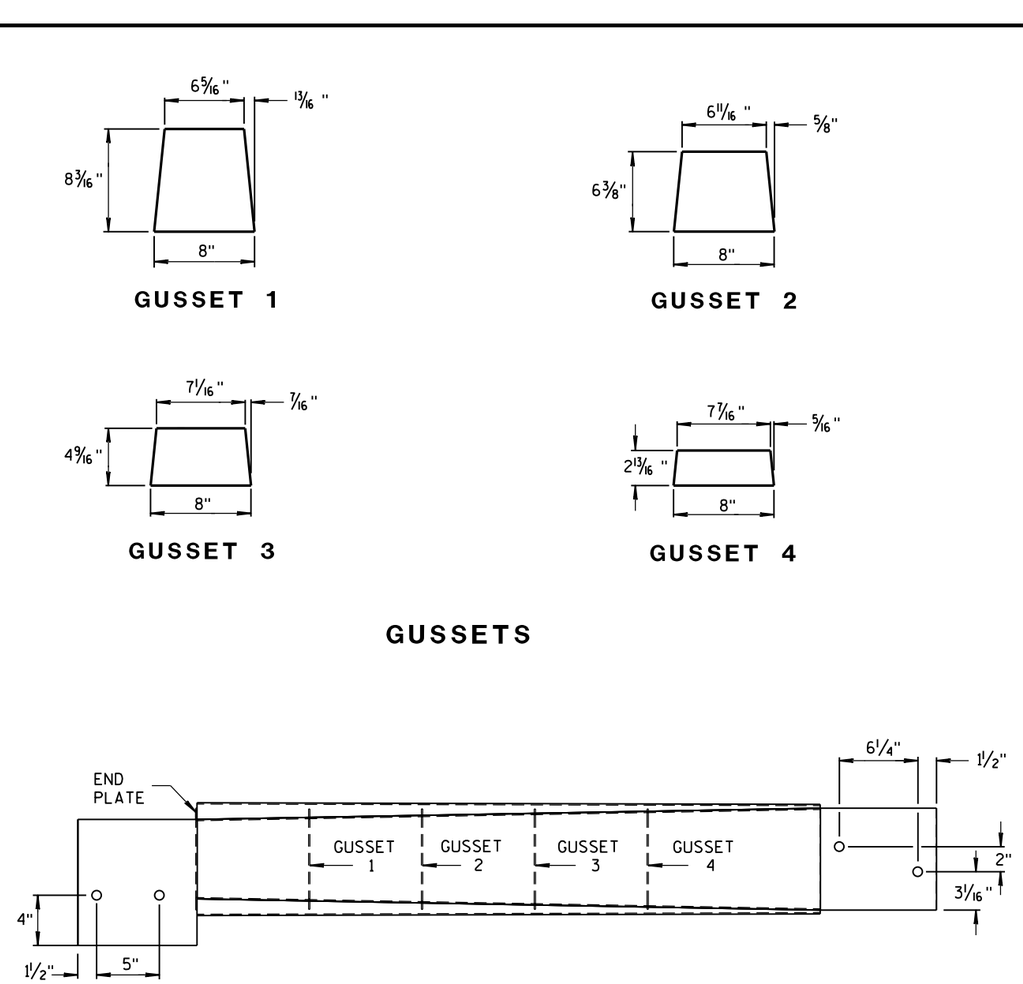


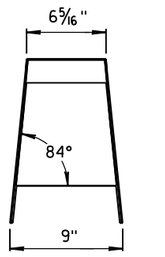
SIDE PLATE





TOP PLATE





SECTION C-C

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

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

NOTES

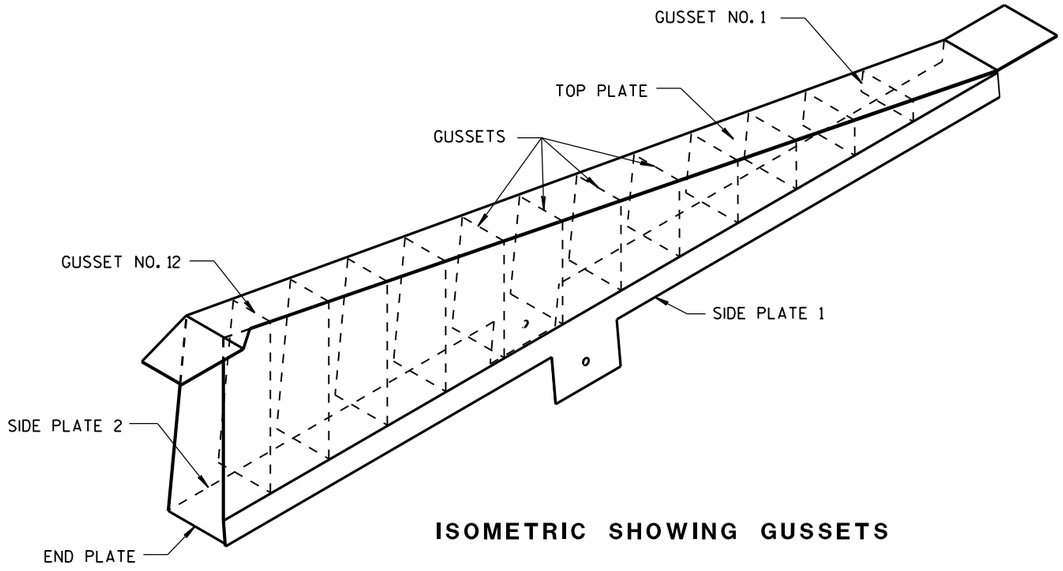
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

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

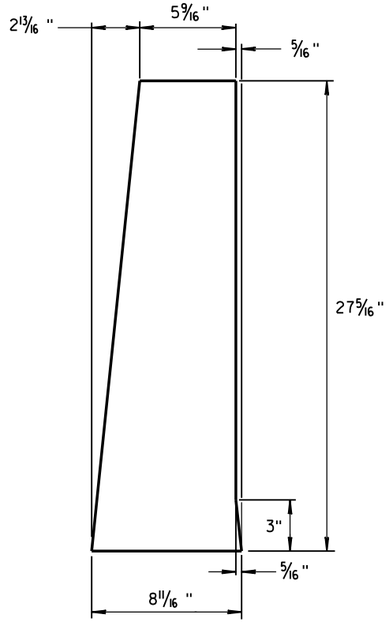
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-15g

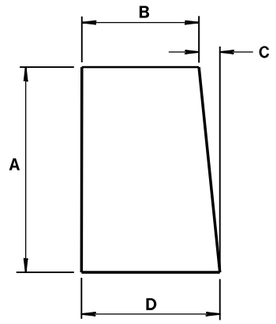


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



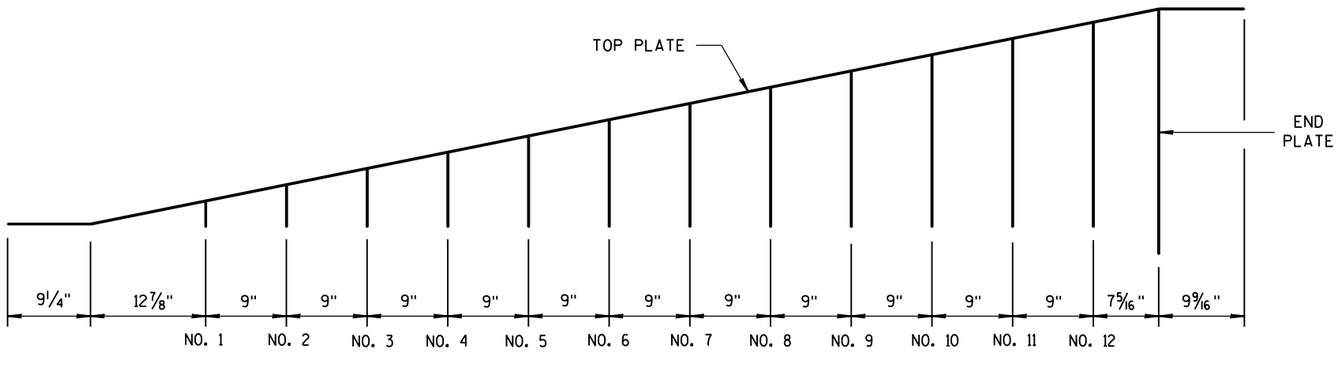
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

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

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

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



GUSSET LOCATION

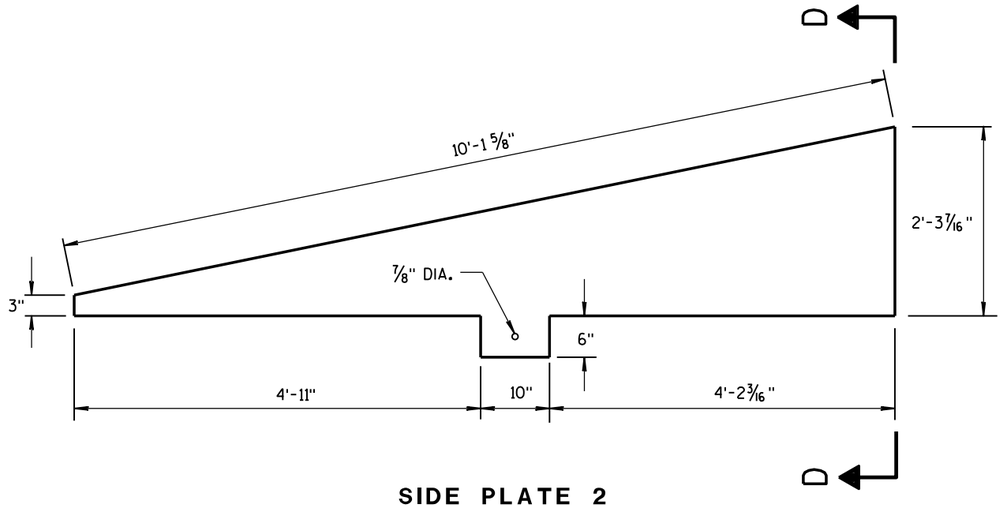
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

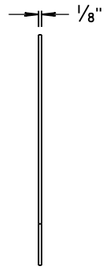
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

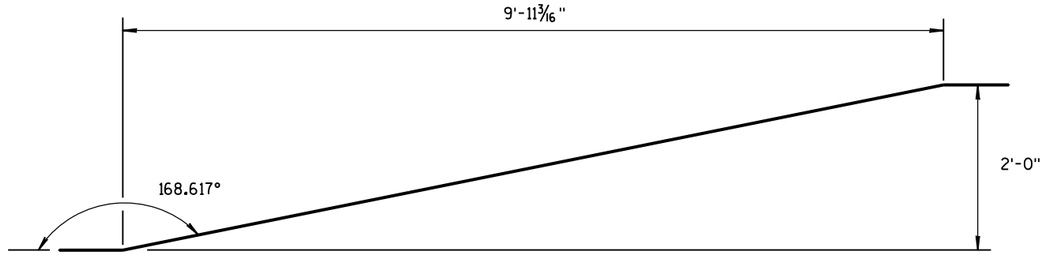
S.D.D. 14 B 7-15h



SIDE PLATE 2

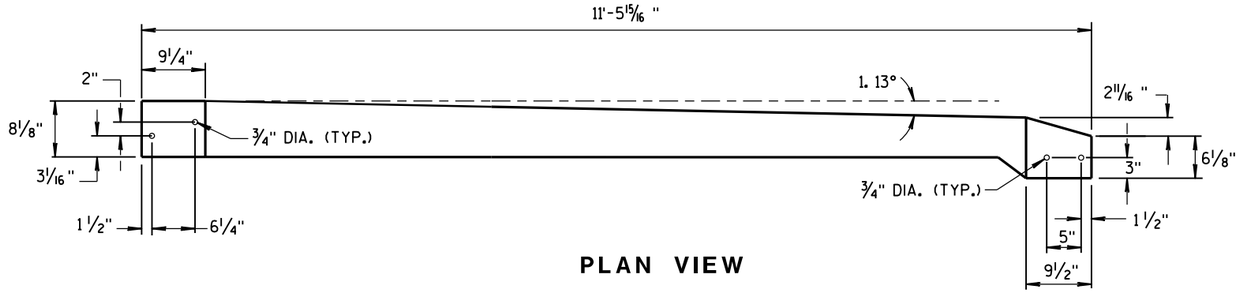


END VIEW



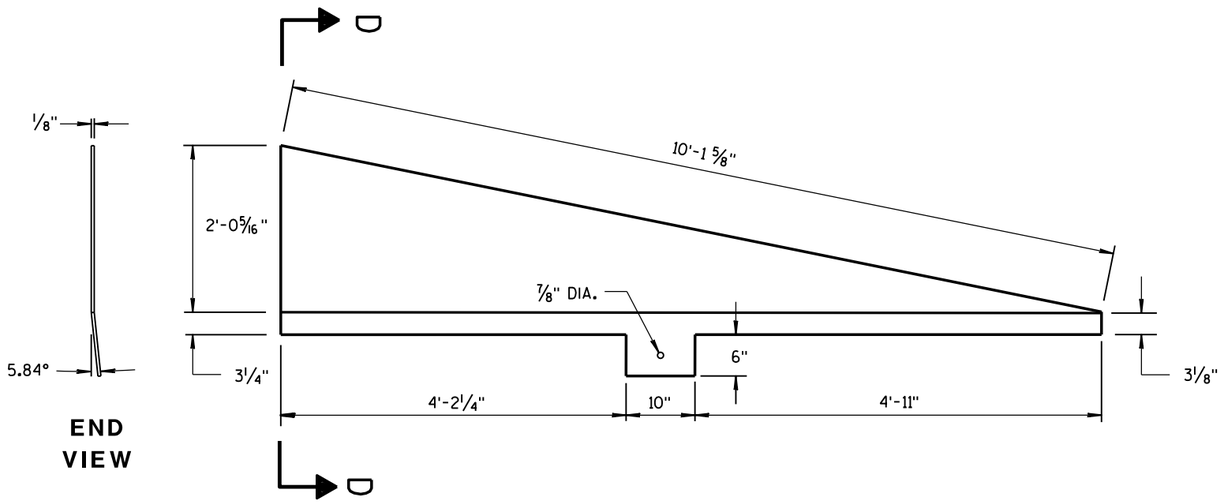
SIDE VIEW

TOP PLATE



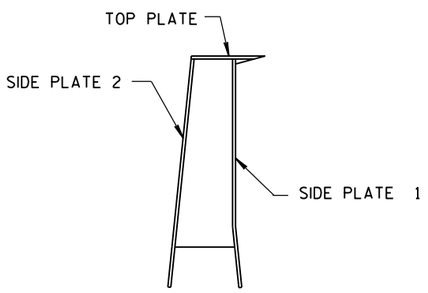
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERV

FHWA

ENT

6

S.D.D. 14 B 7-15i

6

S.D.D. 14 B 7-15i

GENERAL NOTES

(1) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

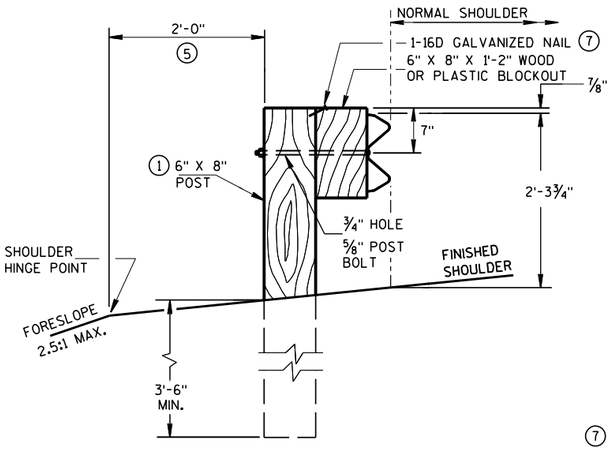
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

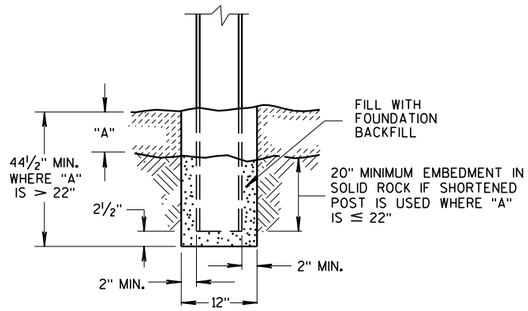
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

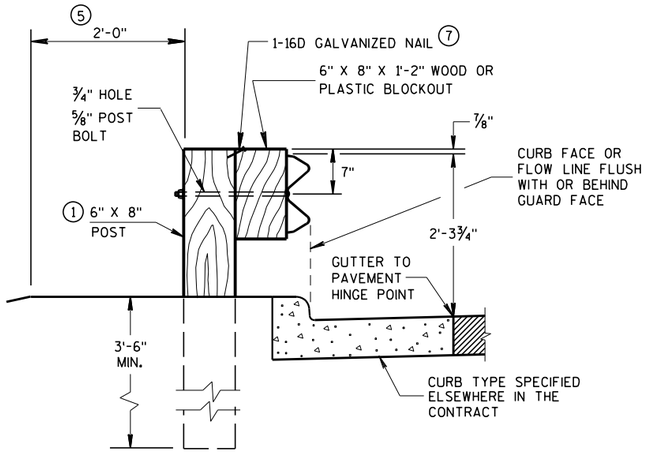
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



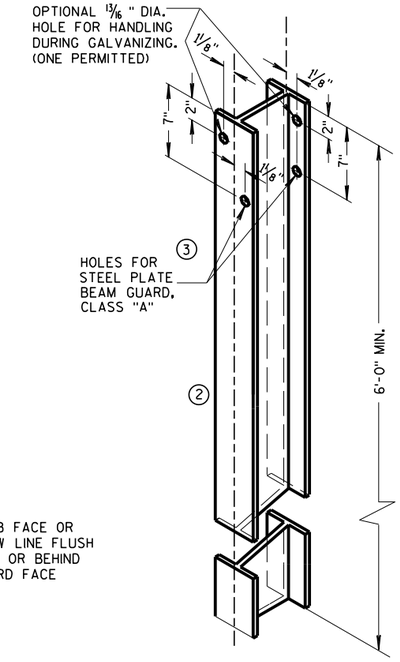
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)

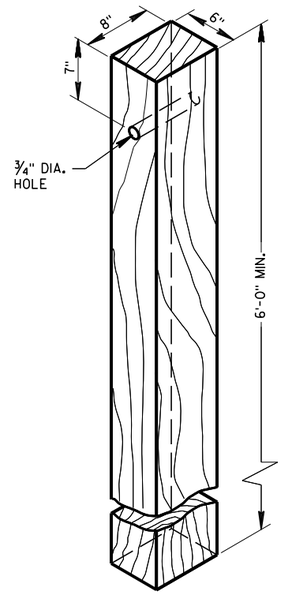


END VIEW
LOCATED ALONG A CURBED ROADWAY

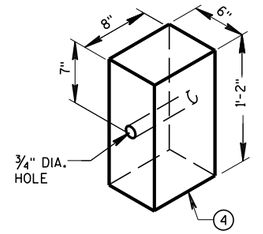


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

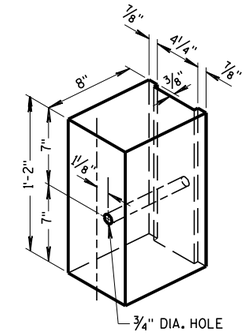
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



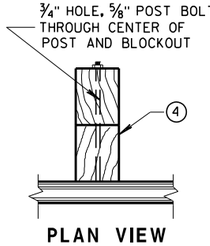
WOOD POST
(6"X8") NOMINAL



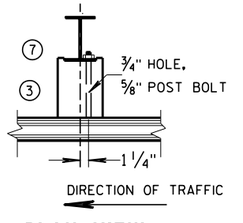
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



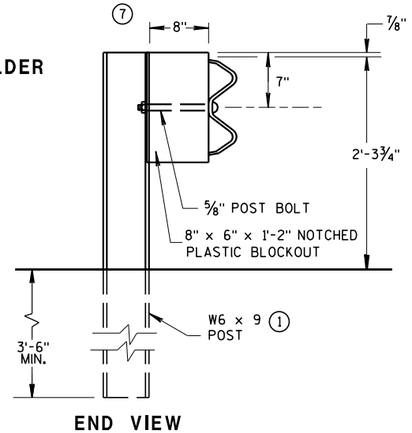
TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS (1)



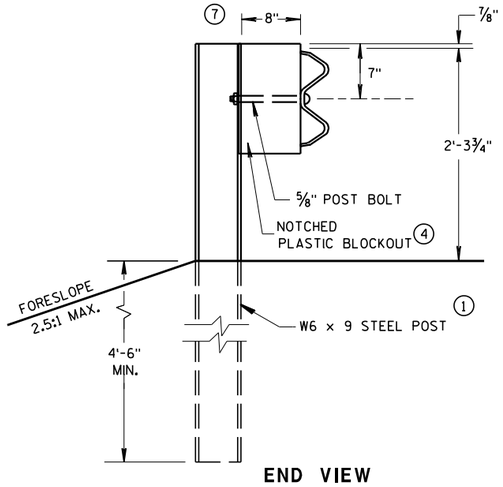
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



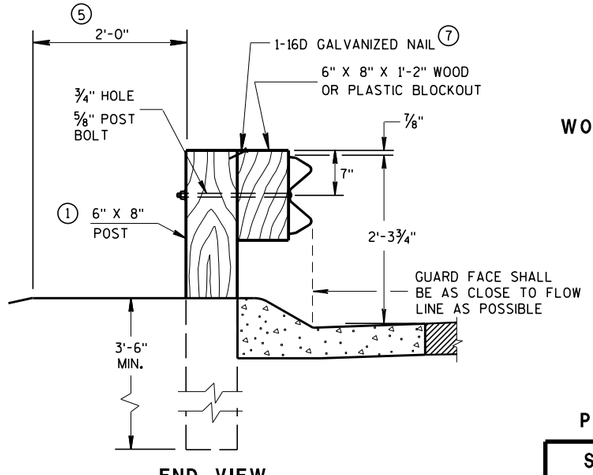
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)



END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

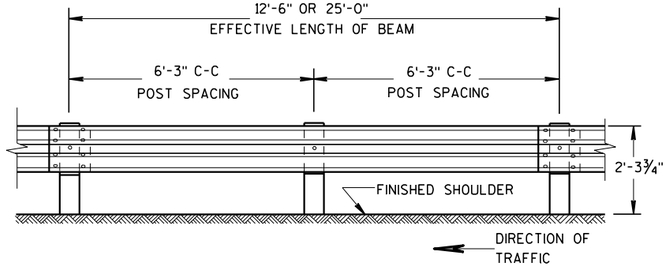
TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

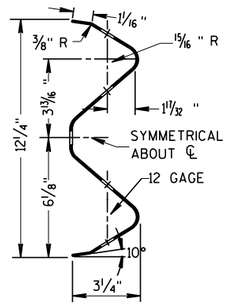
S.D.D. 14 B 15-11a

S.D.D. 14 B 15-11a

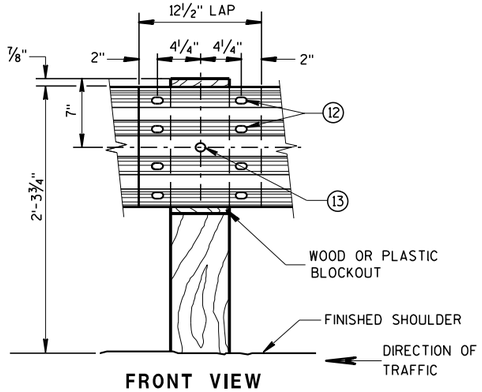


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

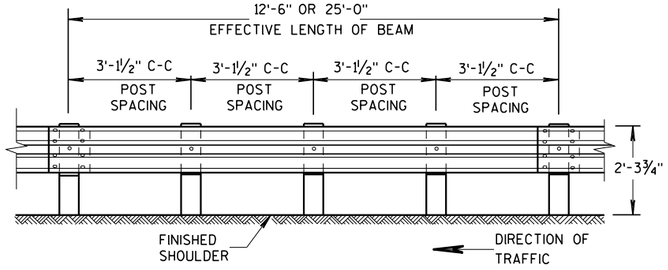
GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

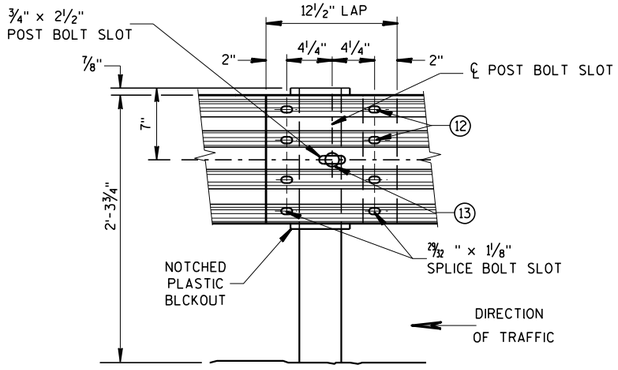
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) ⅝" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH ⅝" DIA. F844 FLAT WASHER UNDER NUT.



FRONT VIEW

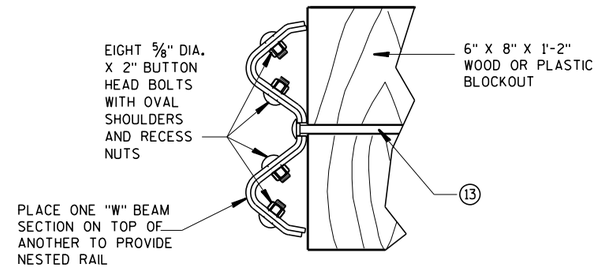
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

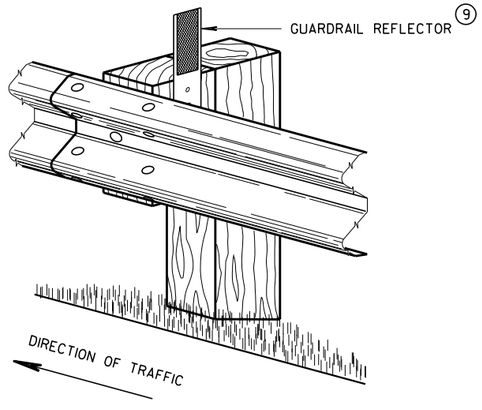
TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD



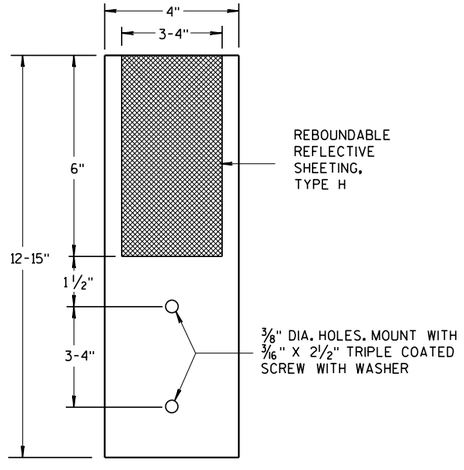
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



4" X 12" GUARDRAIL REFLECTOR DETAIL AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

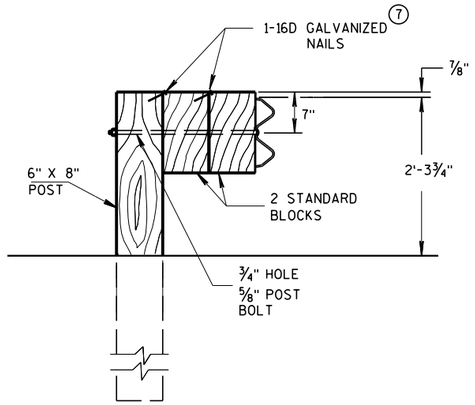
STATE OF WISCO 45
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 15-11b

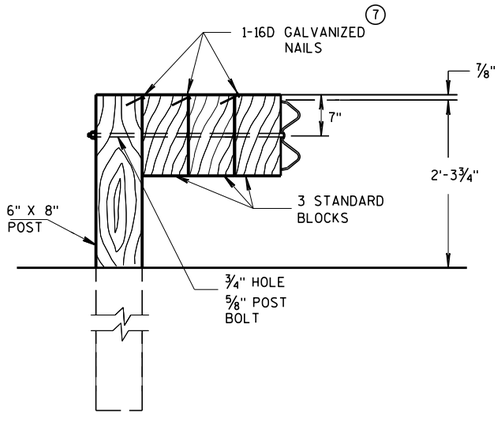
6

S.D.D. 14 B 15-11b



DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

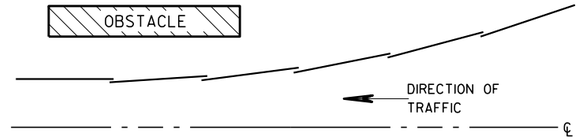


DETAIL FOR TRIPLE BLOCKS

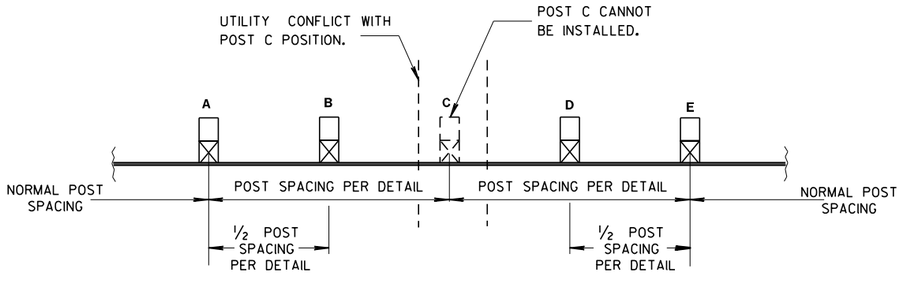
TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.



PLAN VIEW
BEAM LAPPING DETAIL



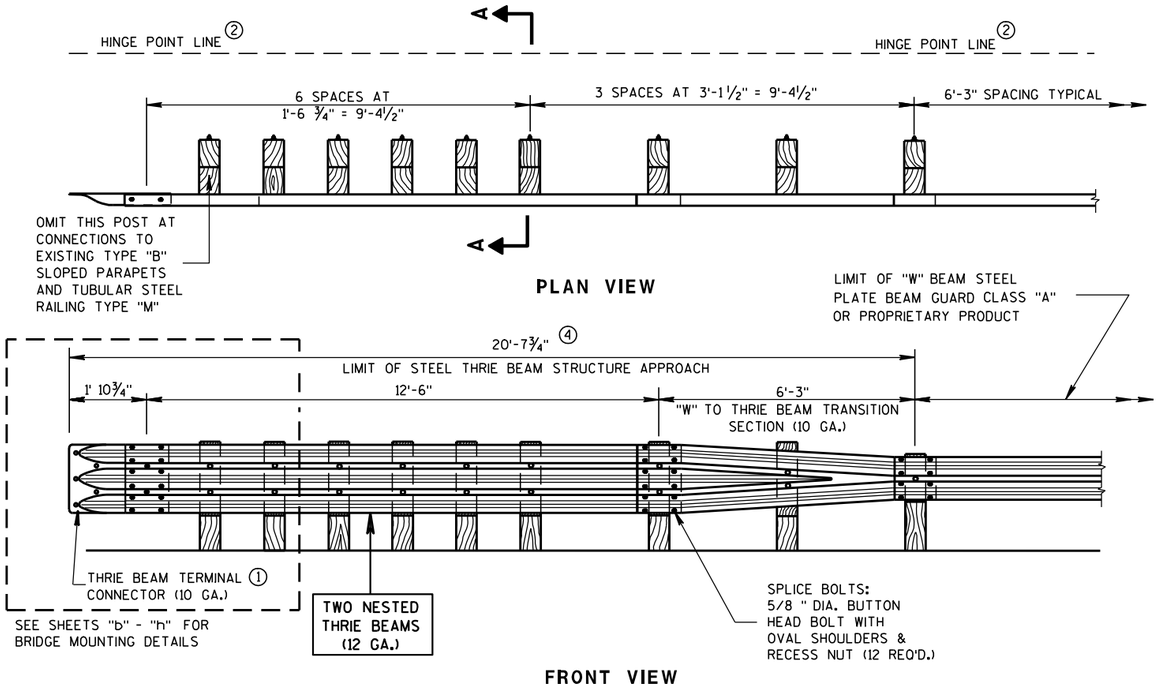
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

6
S.D.D. 14 B 15-11c



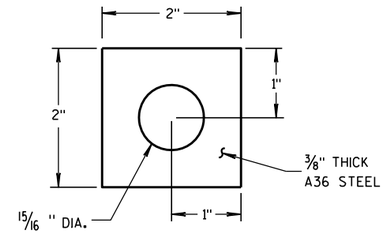


PLATE WASHER DETAIL

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

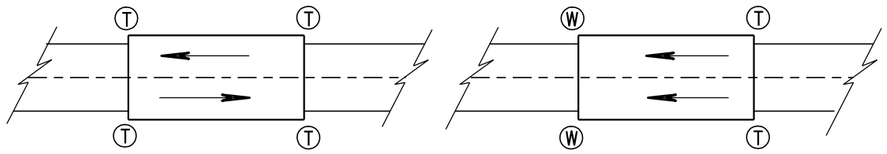
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



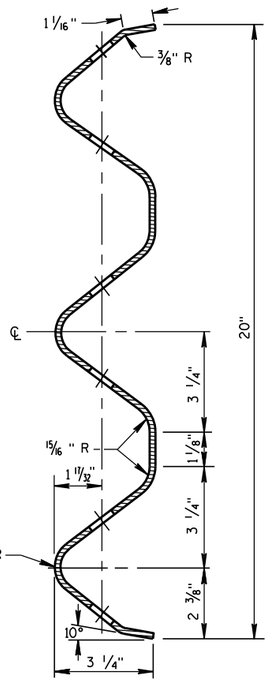
TWO WAY TRAFFIC

ONE WAY TRAFFIC

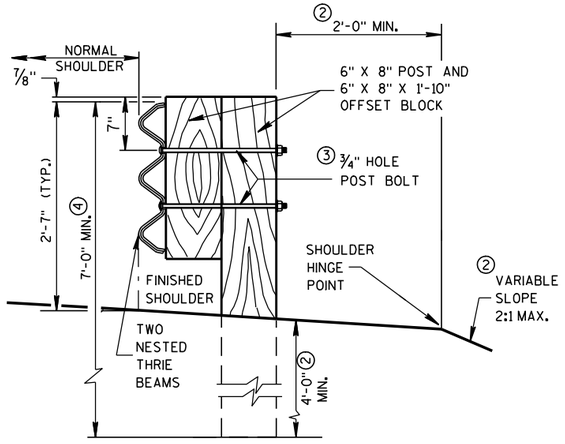
Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

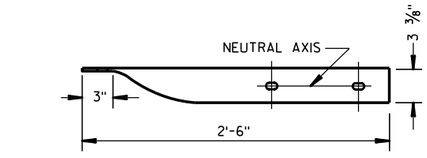
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

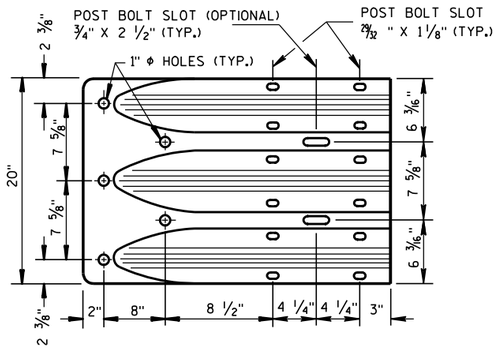


SECTION THRU THRIE BEAM RAIL ELEMENT

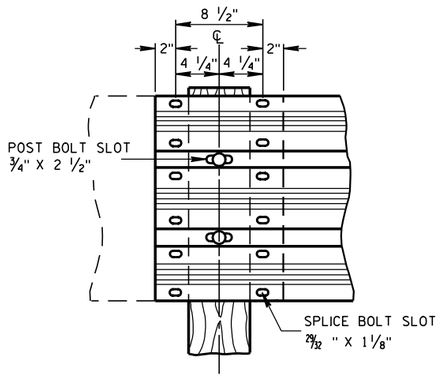


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

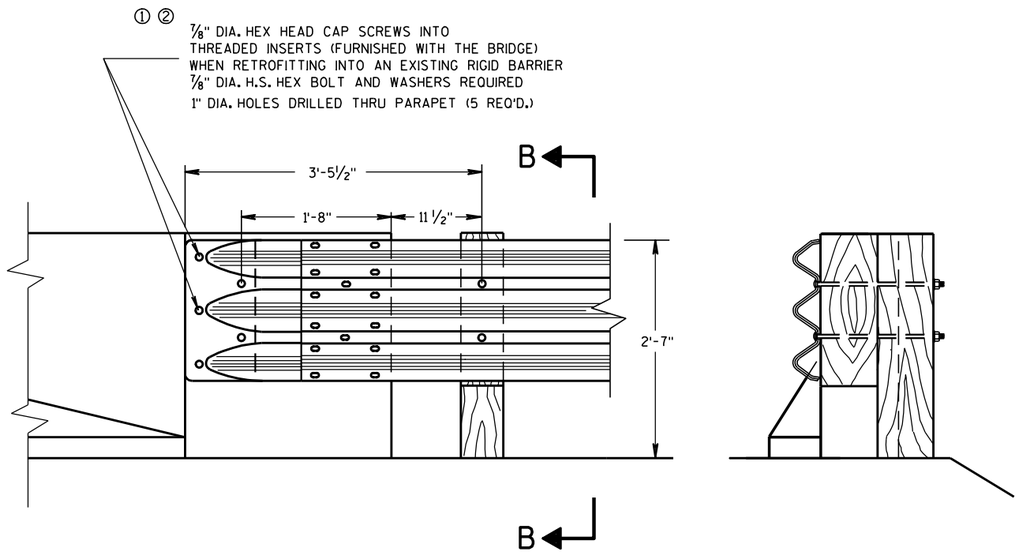
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

FHWA



FRONT VIEW

SECTION B-B

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.

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

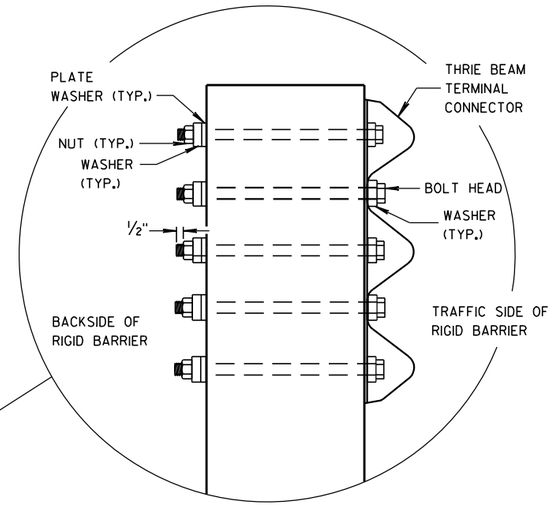
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

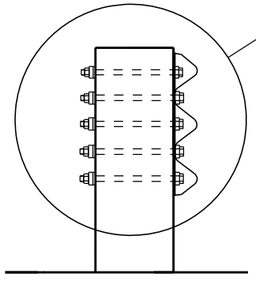
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ 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".

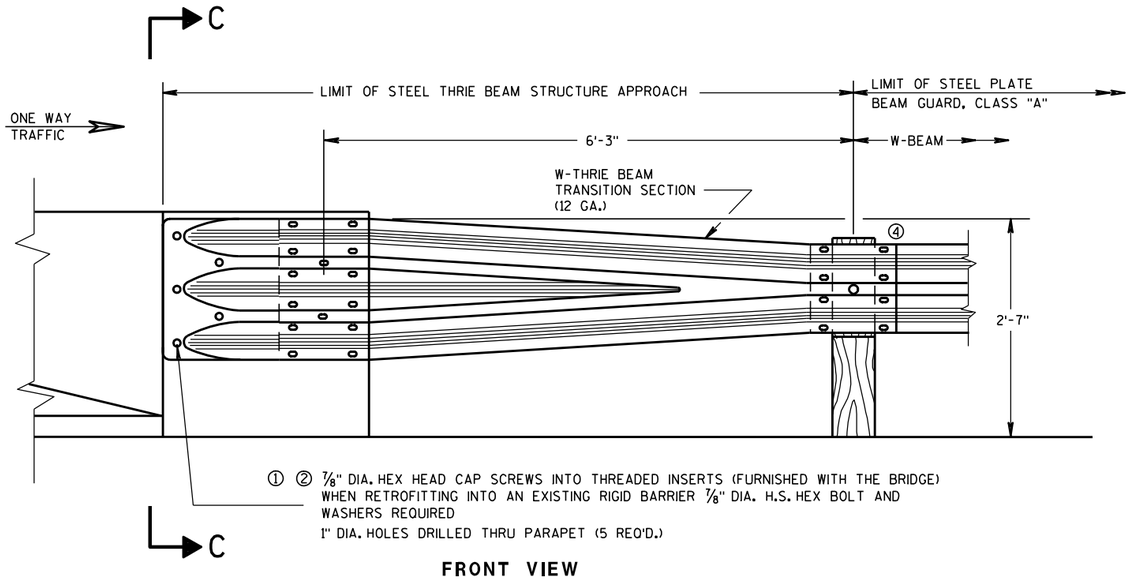
④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.





SECTION C-C



① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D.)

FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

GENERAL NOTES

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

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

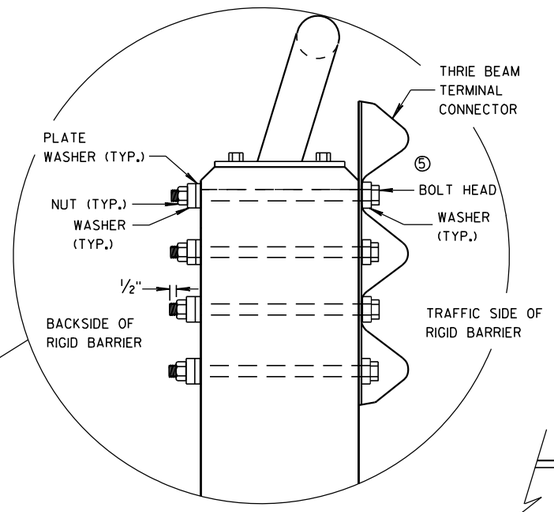
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

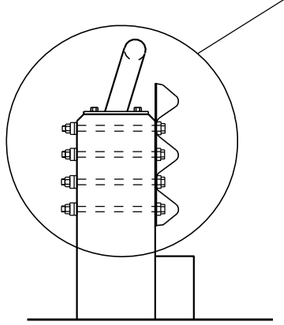
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

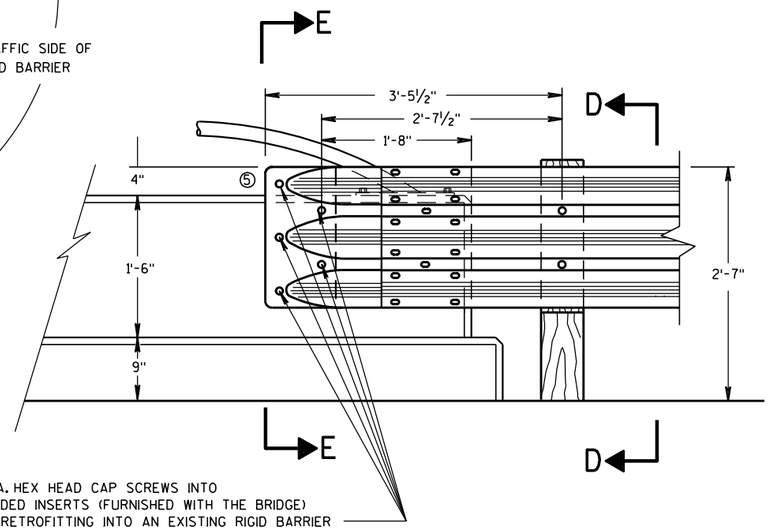
⑤ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.





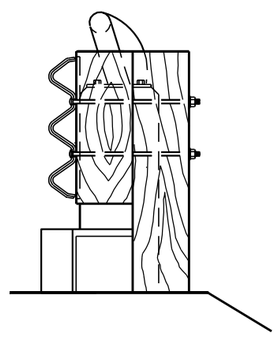
SECTION E-E



①② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED

1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

FRONT VIEW

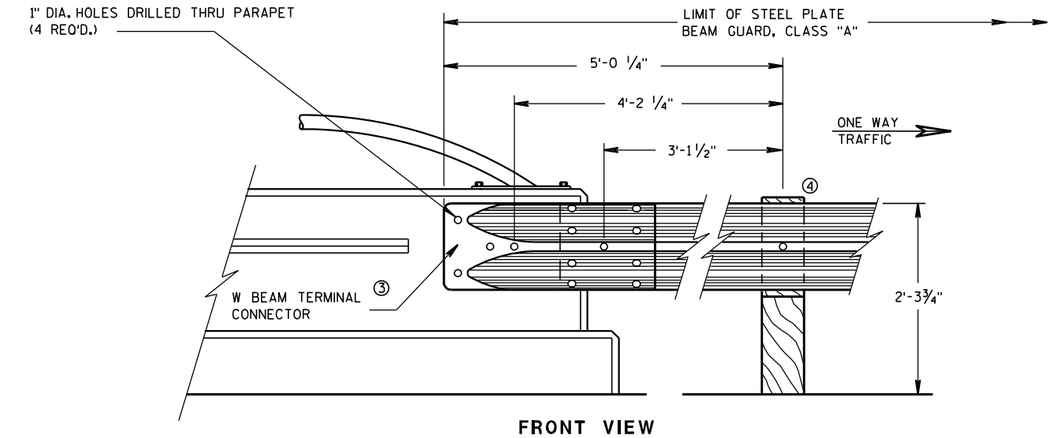


SECTION D-D

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

①② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED

1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

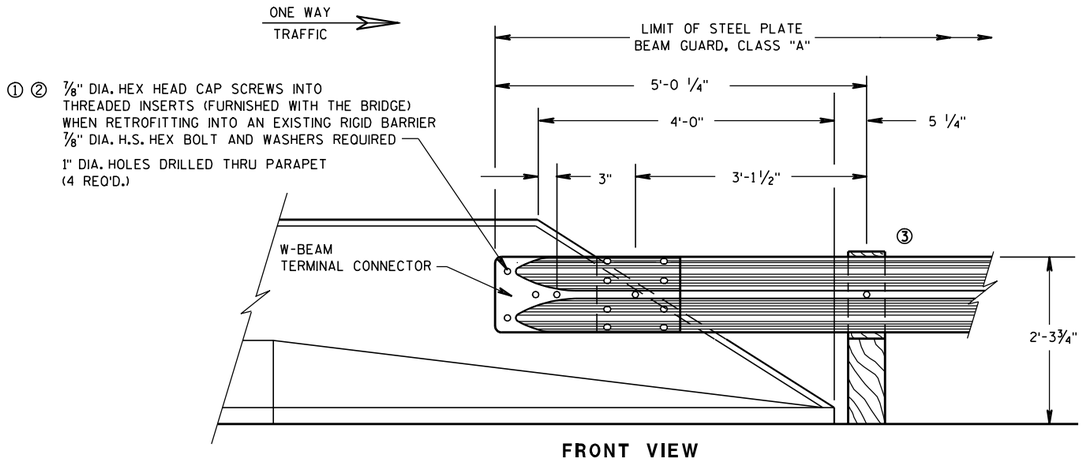
APPROVED
8/31/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 20-11c

6

S.D.D. 14 B 20-11c



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

GENERAL NOTES

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

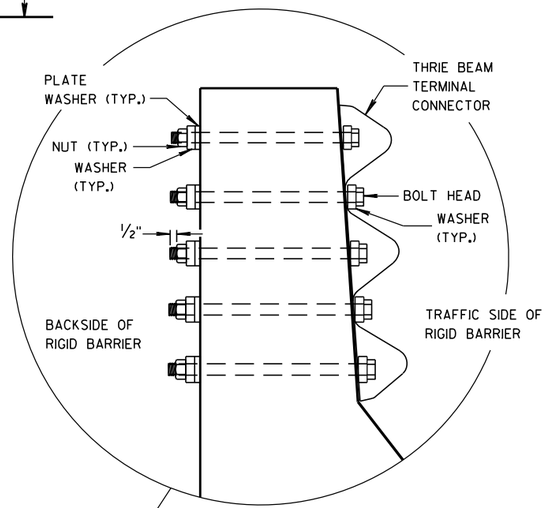
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

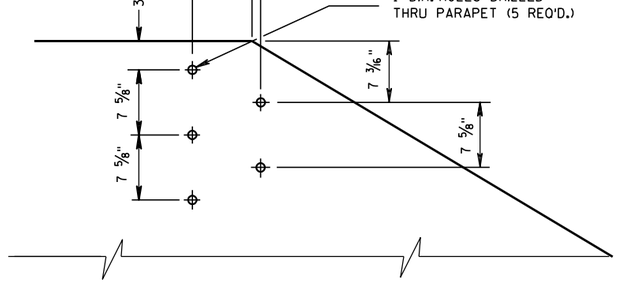
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② 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 TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

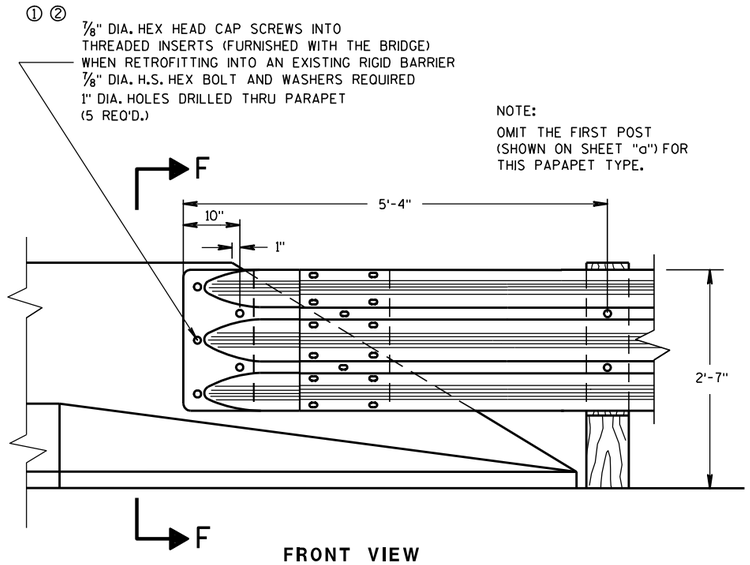
③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

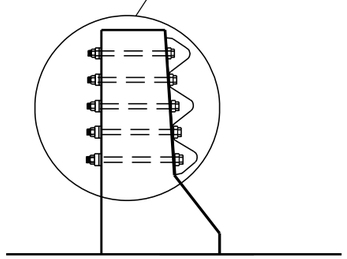




DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION F-F

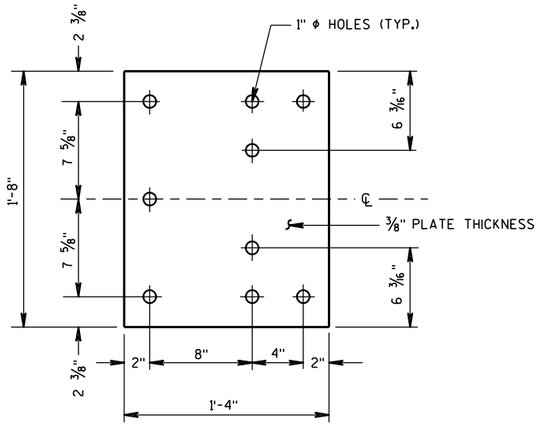
THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS

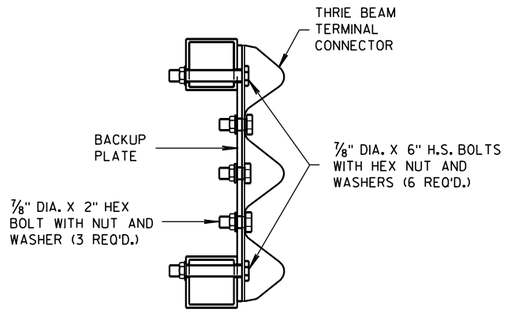
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. Zaas — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 14 B 20-11d



BACK-UP PLATE DETAIL



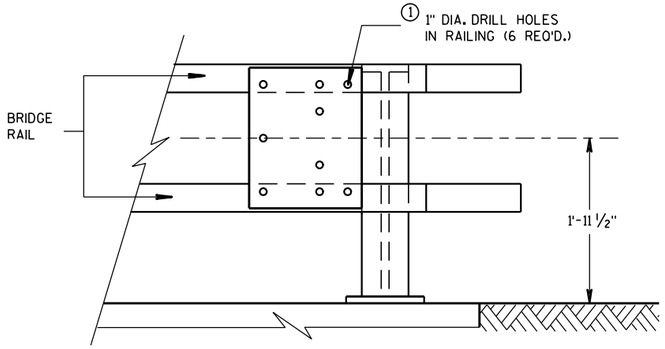
SECTION G-G

GENERAL NOTES

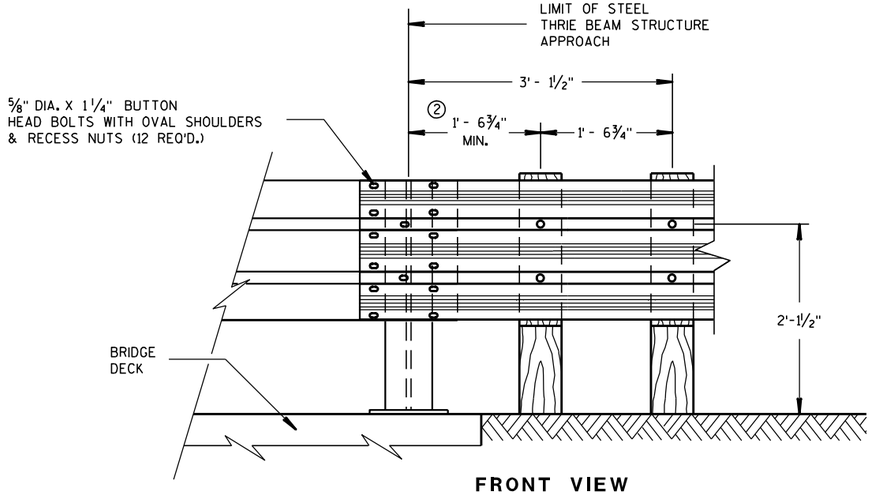
BOLTS, PLATES, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 325 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL AS CLOSE AS FEASIBLE TO THE STEEL END POST.

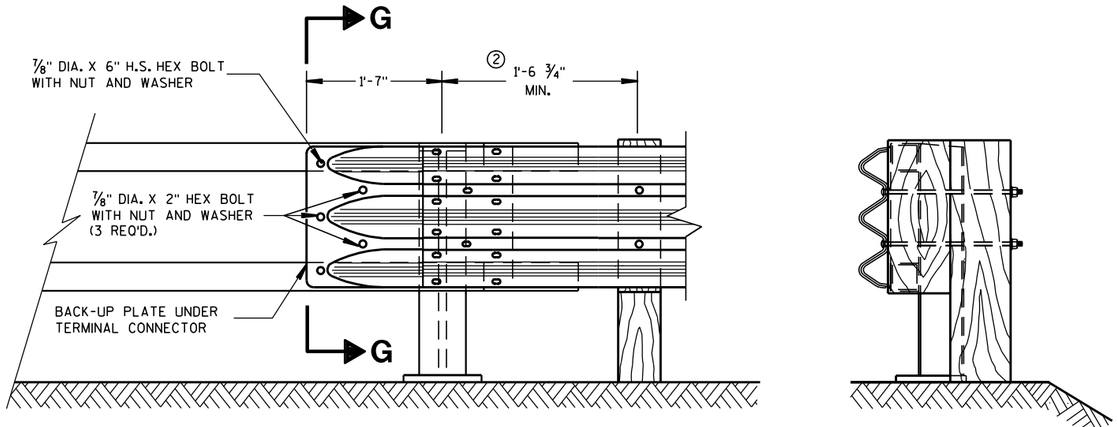


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW

END VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H ____ — ROADWAY STANDARDS ENGINEER — ENT

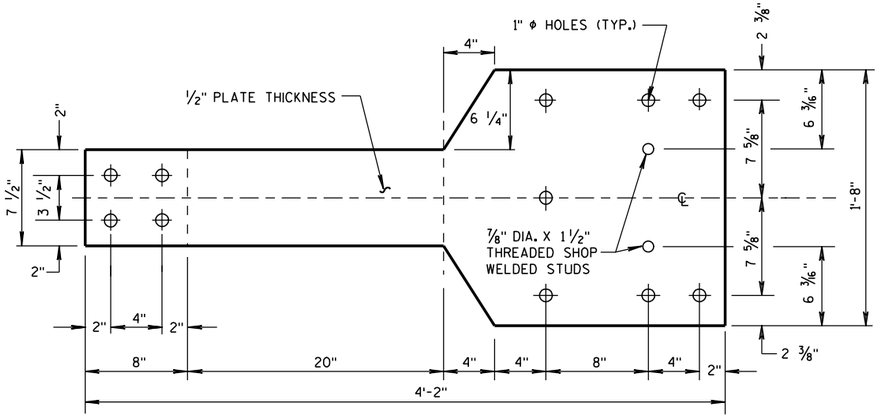
FHWA

6

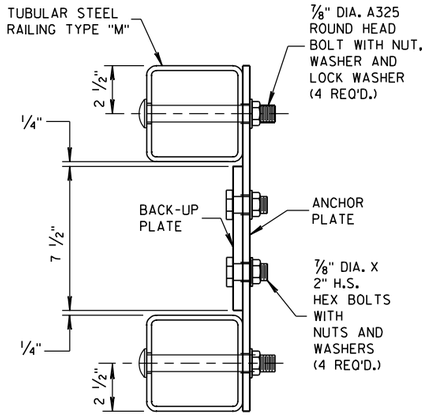
S.D.D. 14 B 20-11e

GENERAL NOTES

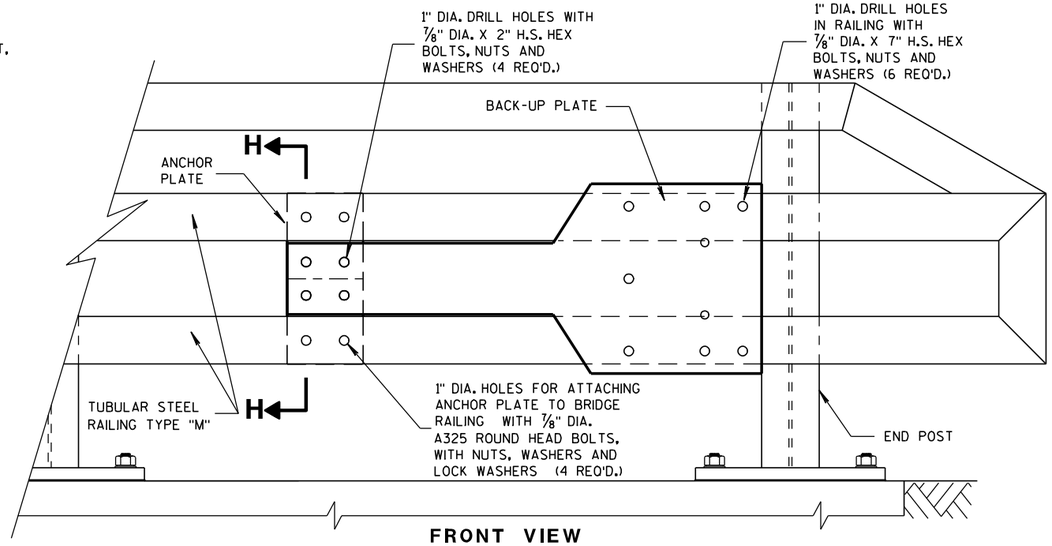
① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.



FRONT VIEW

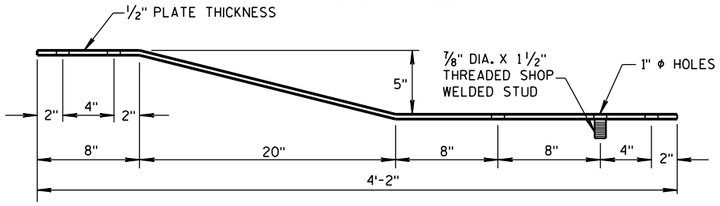


SECTION H-H



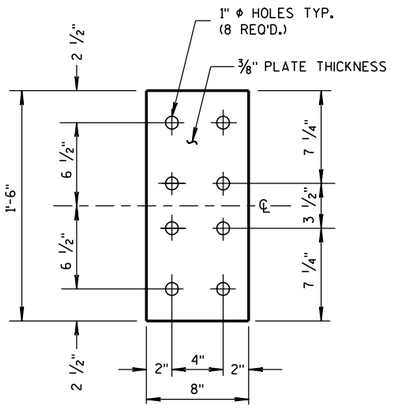
FRONT VIEW

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



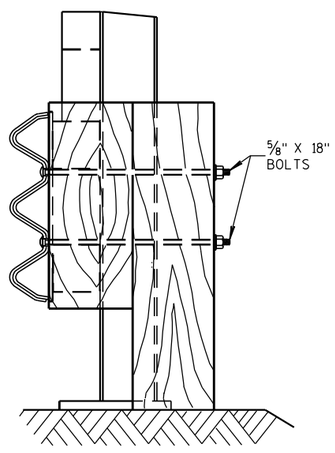
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

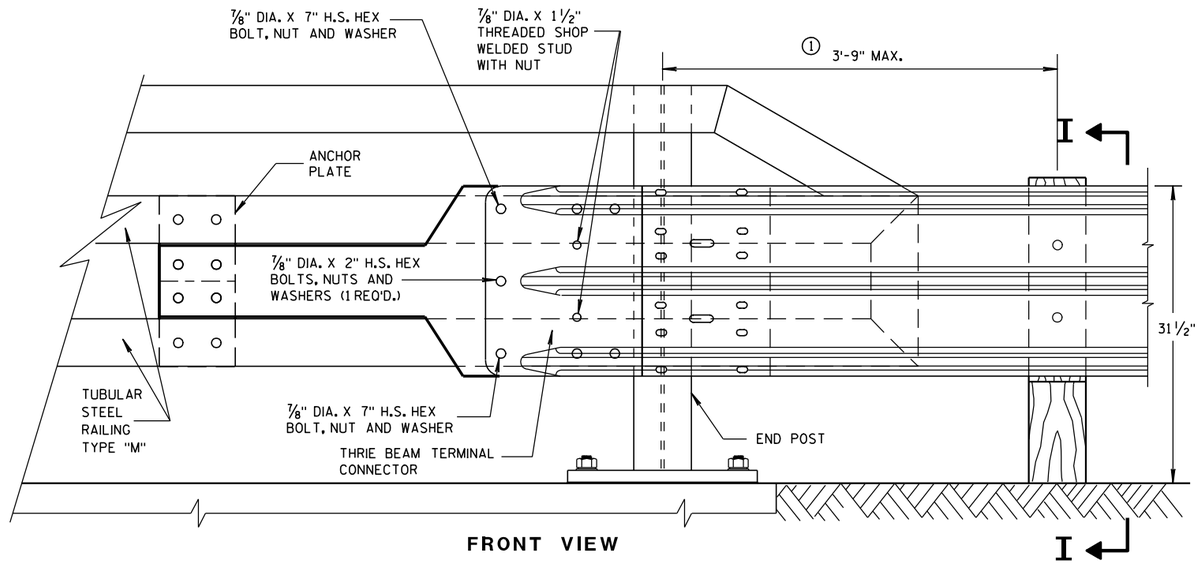


FRONT VIEW

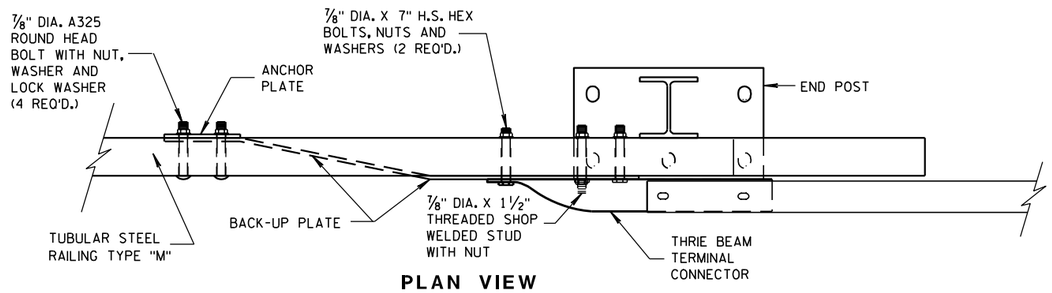
ANCHOR PLATE DETAIL, TYPE "M"



SECTION I-I



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER

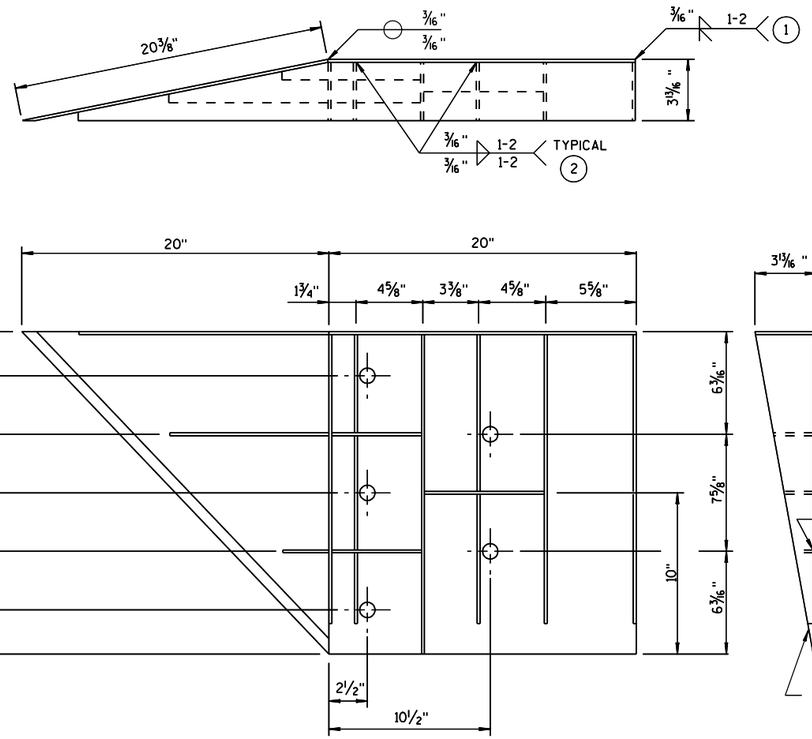
FHWA

6

S.D.D. 14 B 20-11f

6

S.D.D. 14 B 20-11f



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

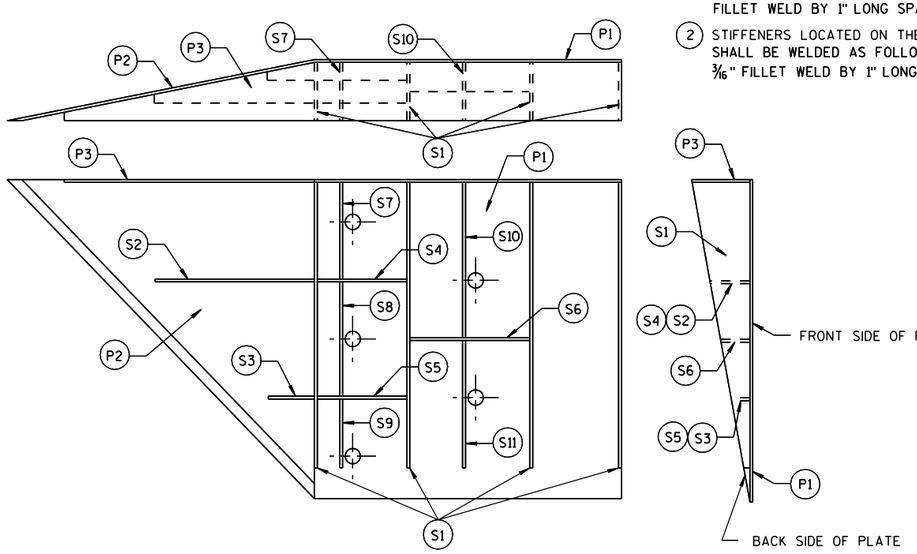


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

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.

(1) 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.

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

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

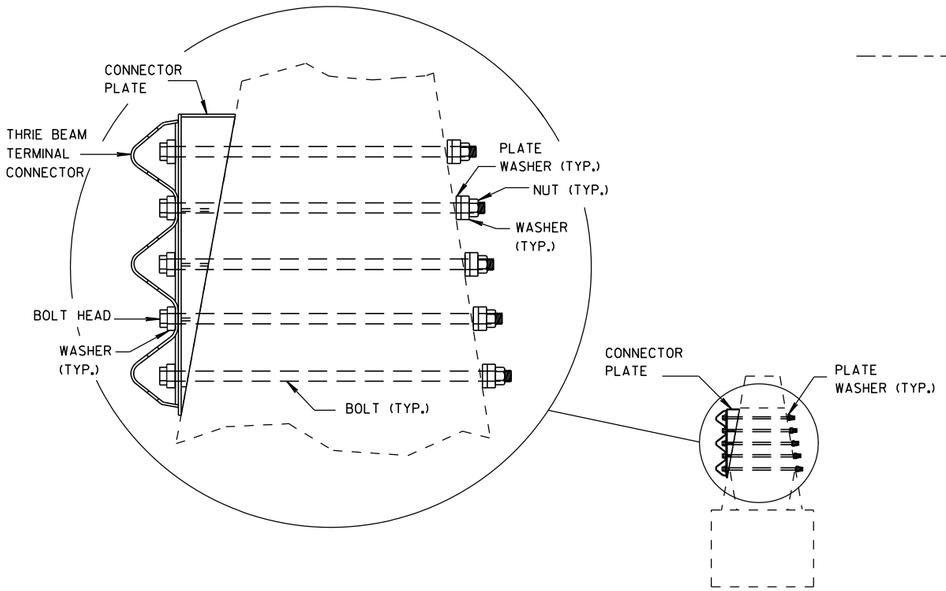
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
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"

STEEL THRIE BEAM STRUCTURE APPROACH

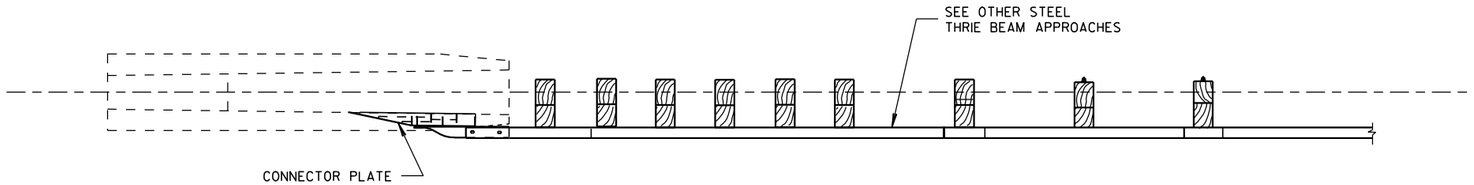
STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

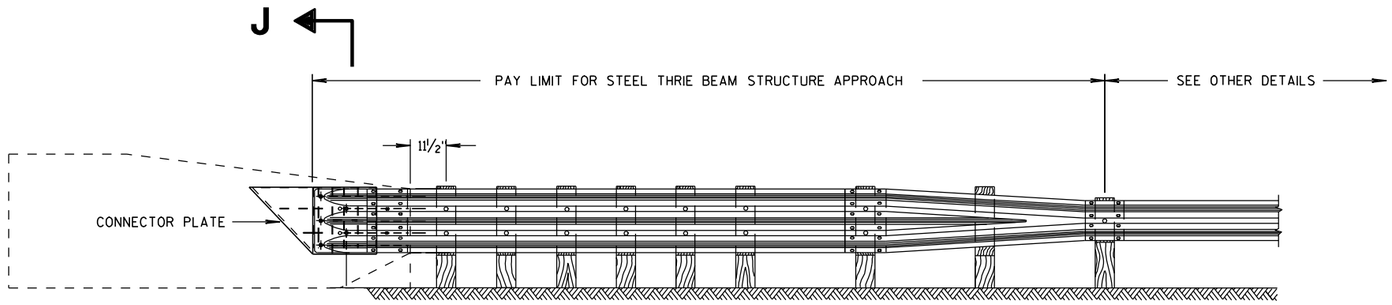
APPROVED
8/31/2012 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER
FHWA



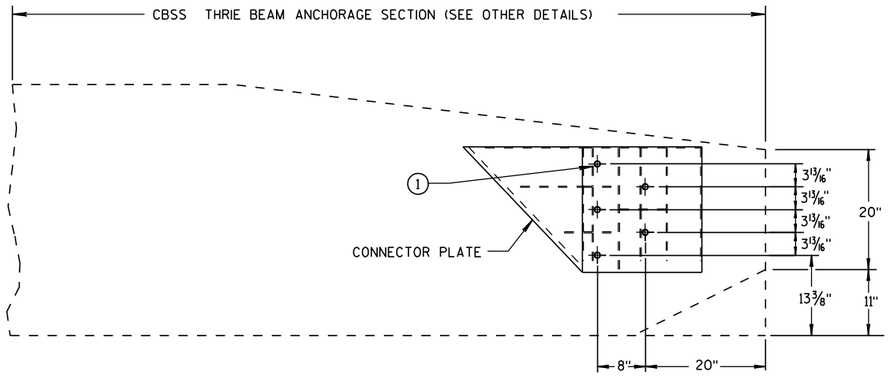
SECTION J-J



PLAN VIEW



FRONT VIEW



CONNECTOR PLATE LOCATION

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 614.

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

(1) 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 TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

6

S.D.D. 14 B 20-11h

6

S.D.D. 14 B 20-11h

BILL OF MATERIALS

NOTE NO.	DESCRIPTION
①	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
②	STEEL TUBE TS 8" X 6" X 0.188", 6'-0"
④	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
⑦	BEARING PLATE
⑧	BCT CABLE ASSEMBLY
⑨	CABLE ANCHOR BOX
⑩	STRUT & YOKE
⑪	STEEL PLATE BEAM, END PANEL 12 GA.
⑫	STEEL PLATE BEAM: 12 GA. 13'-6½"
⑬	IMPACT HEAD
⑭	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

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

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

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

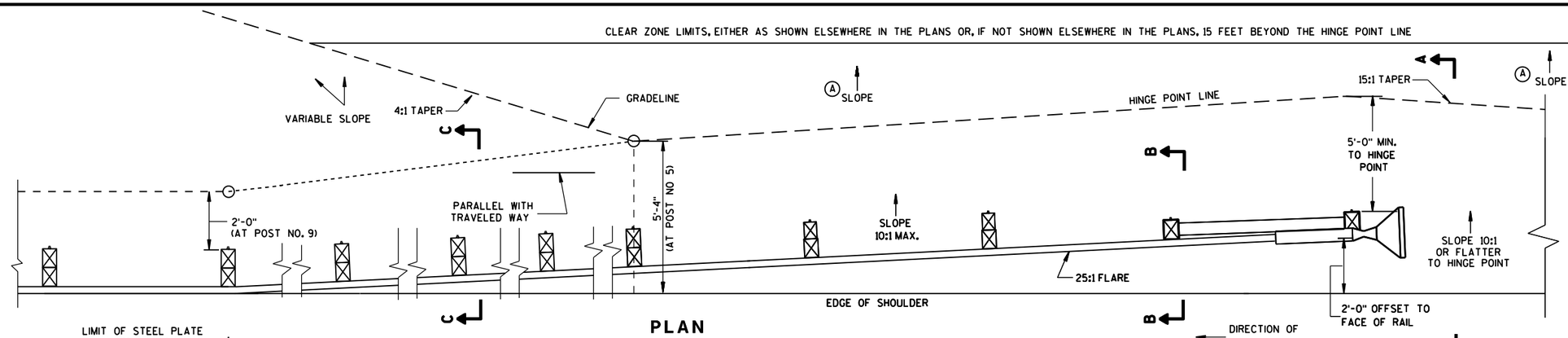
(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

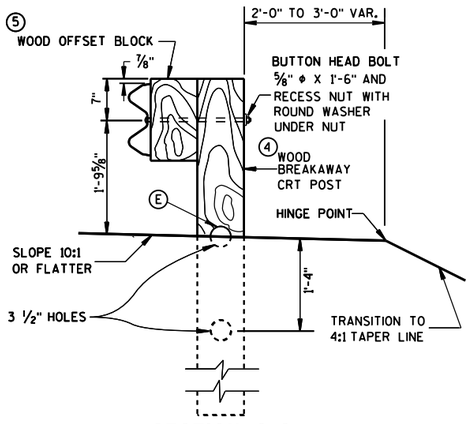
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

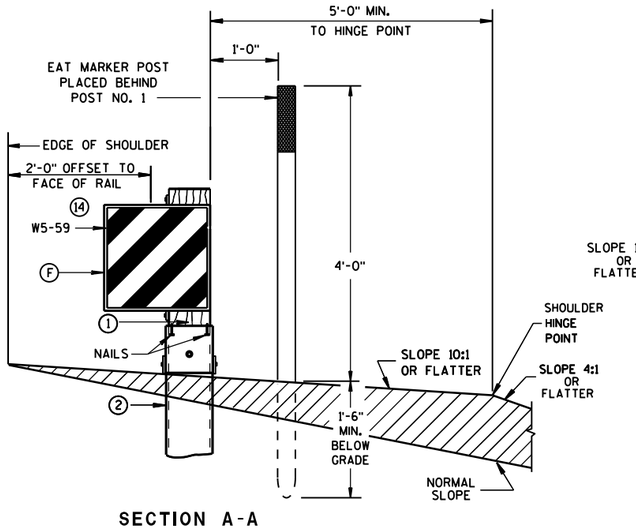
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

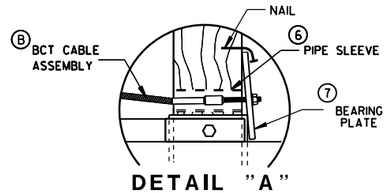




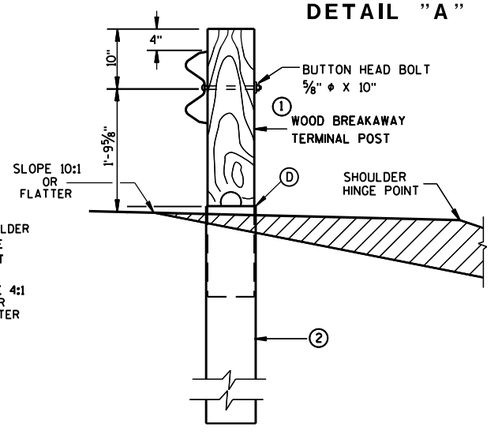
SECTION C-C
TYPICAL AT POST NOS. 6, 8



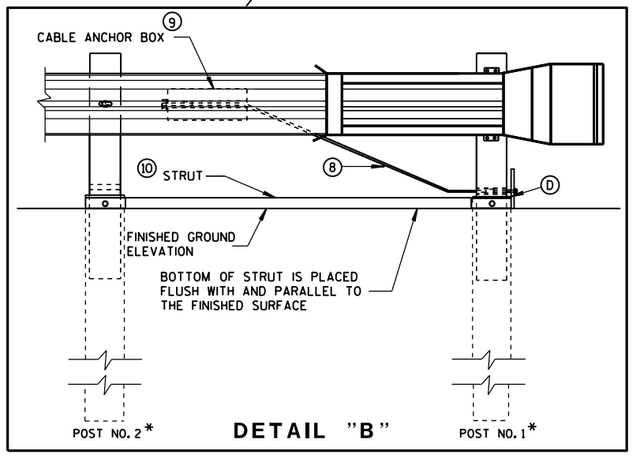
SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



SECTION B-B
TYPICAL AT POST NO. 2*



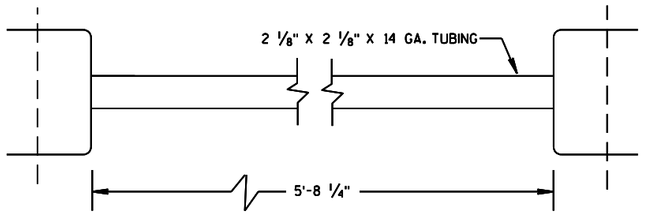
DETAIL "B"

STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL

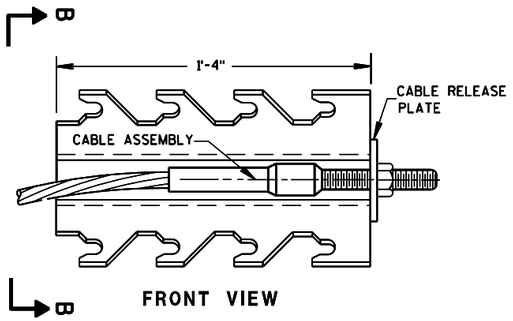
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

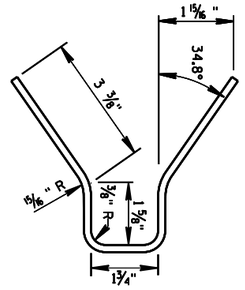
S.D.D. 14 B 24-9a



⑩ STRUT DETAIL

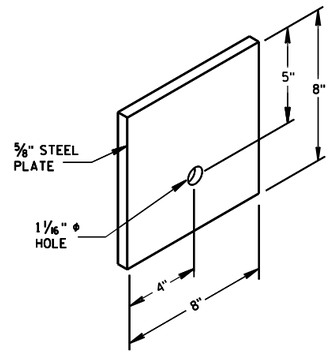


FRONT VIEW



SECTION B-B

⑨ CABLE ANCHOR BOX



⑦ STEEL BEARING PLATE

6

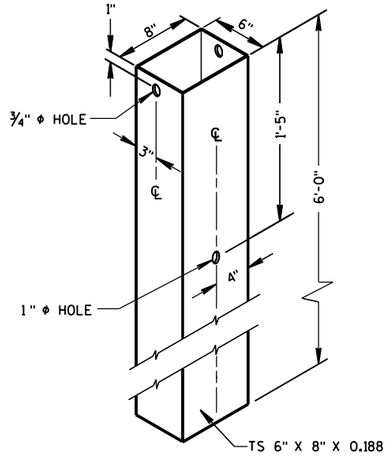
6

S.D.D. 14 B 24-9b

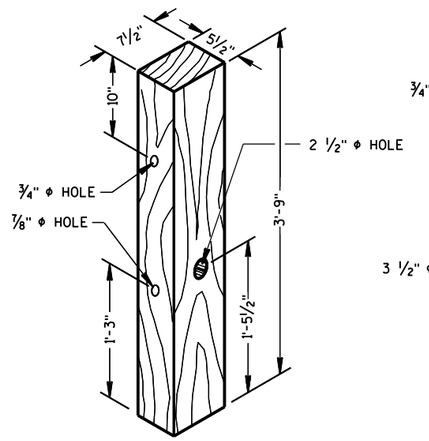
S.D.D. 14 B 24-9b

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

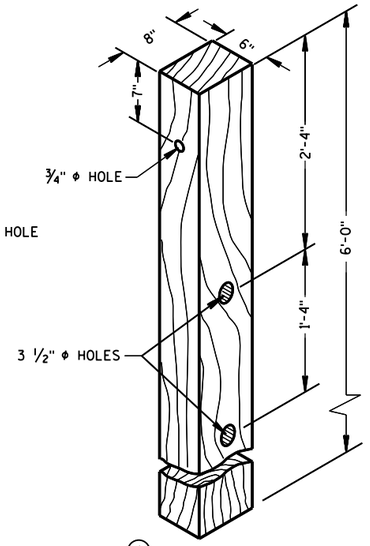
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



② 72" STEEL TUBE
(POSTS NO. 1-4



① TERMINAL POST

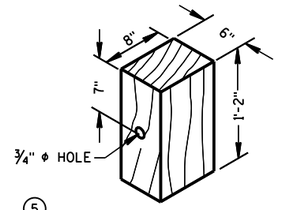


④ CRT POST
(POSTS NO'S 5-8)

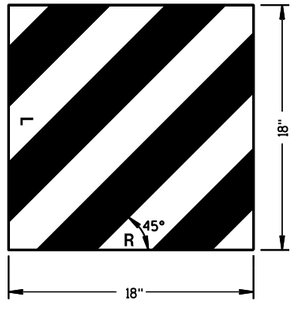
WOOD BREAKAWAY POSTS

GENERAL NOTES

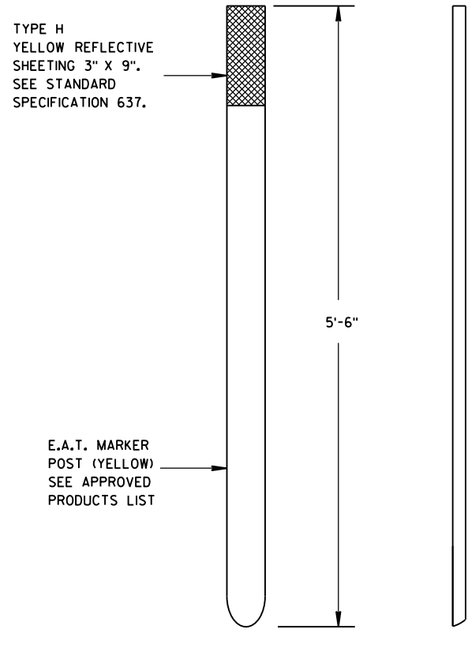
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 ½" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.



⑤ WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



⑭ REFLECTIVE SHEETING DETAILS



E.A.T. MARKER POST

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERV.
57
ENT

6

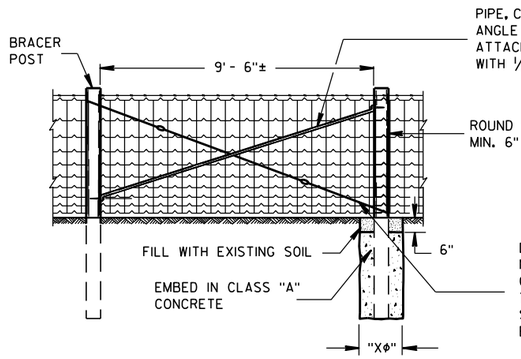
S.D.D. 14 B 24-9c

6

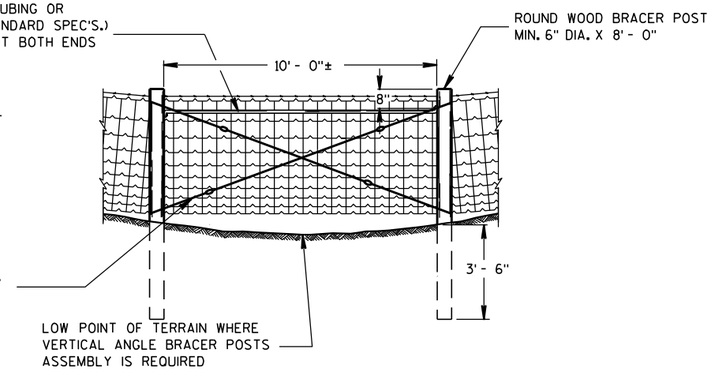
S.D.D. 14 B 24-9c

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY



VERTICAL ANGLE BRACER POSTS ASSEMBLY

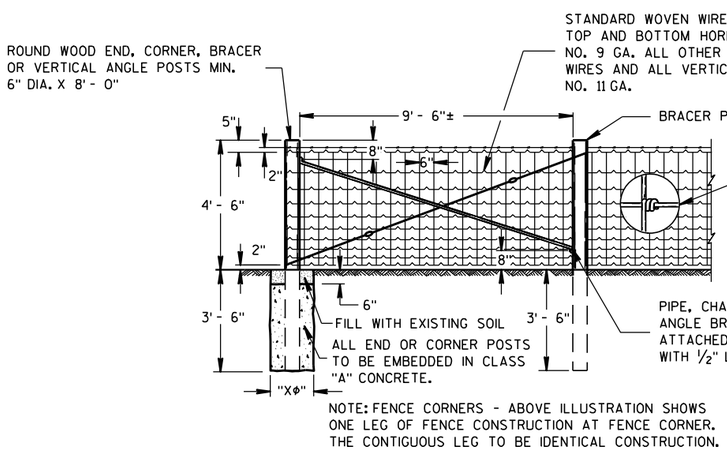
GENERAL NOTES

"XΦ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

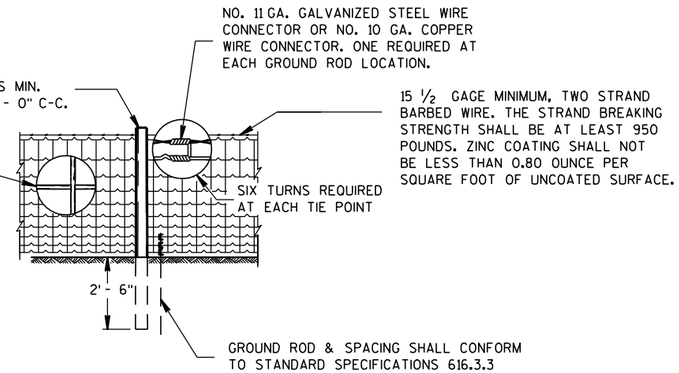
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.



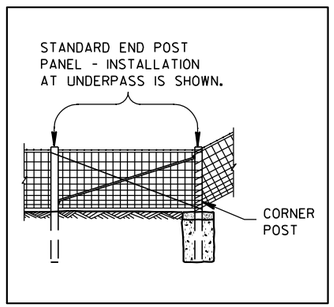
NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY

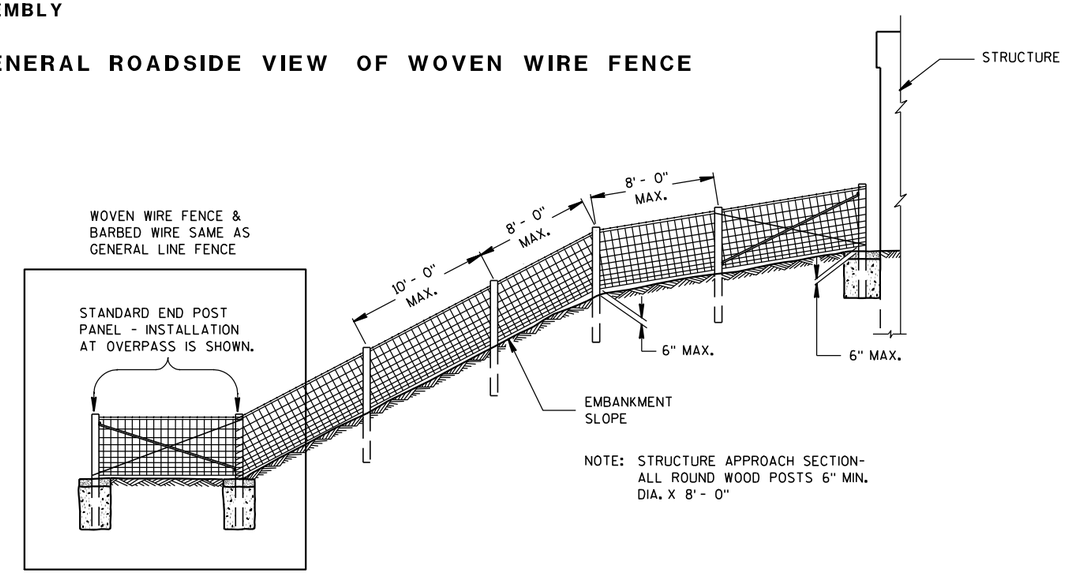


LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



NOTE: STRUCTURE APPROACH SECTION- ALL ROUND WOOD POSTS 6" MIN. DIA. X 8' - 0"

FENCE DESIGN AT STRUCTURE APPROACH

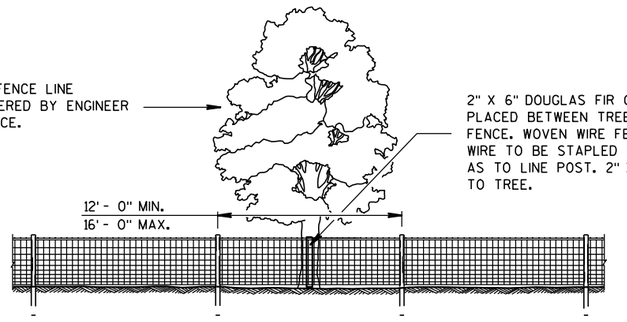
FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

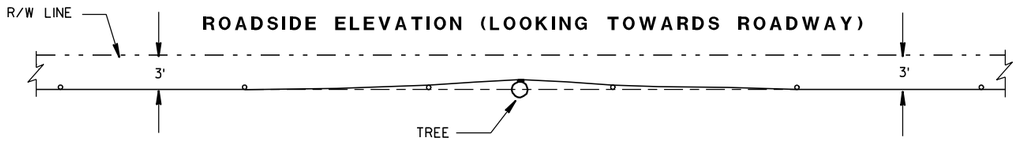
6
S.D.D. 15 B 1-8a

NOTE: TREE IN NORMAL FENCE LINE SPECIFICALLY ORDERED BY ENGINEER TO REMAIN IN PLACE.

2" X 6" DOUGLAS FIR OR SO. YELLOW PINE PLACED BETWEEN TREE AND WOVEN WIRE FENCE. WOVEN WIRE FENCE AND BARBED WIRE TO BE STAPLED TO 2" X 6" LIKE AS TO LINE POST. 2" X 6" NOT FASTENED TO TREE.

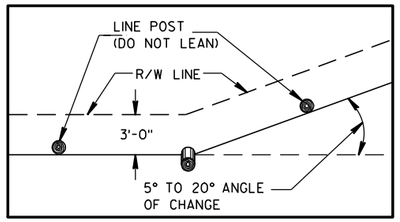


ROADSIDE ELEVATION (LOOKING TOWARDS ROADWAY)

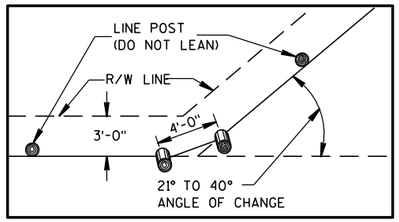


PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



PLAN VIEW
SINGLE POST CORNER

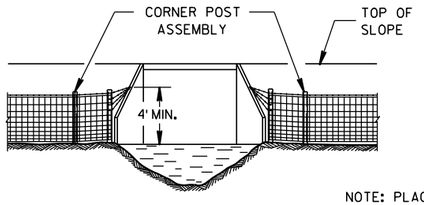


PLAN VIEW
DOUBLE POST CORNER

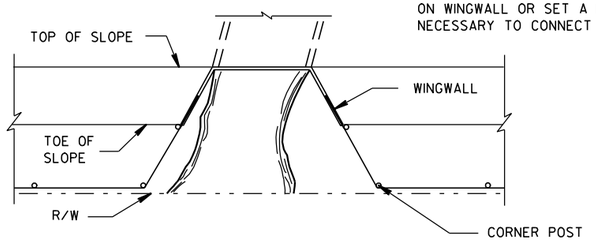
RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

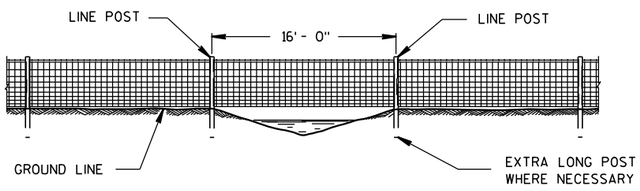
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



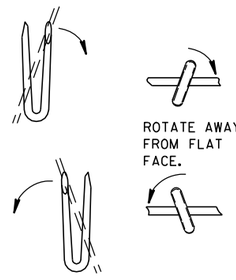
NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



FENCE INSTALLATION TO WINGWALLS

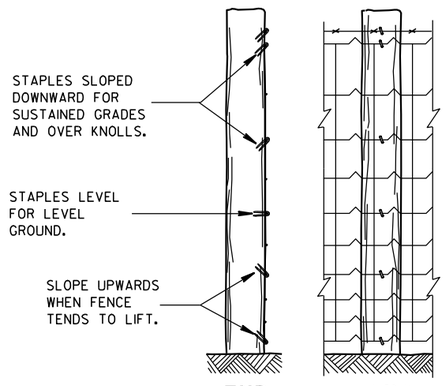


FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH



LINE POST

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.

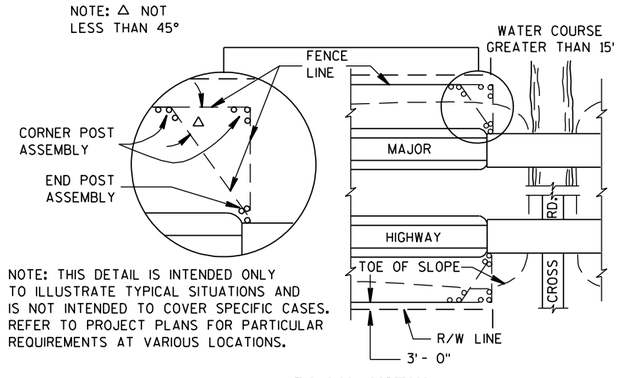


END ELEVATION

FARM SIDE ELEVATION

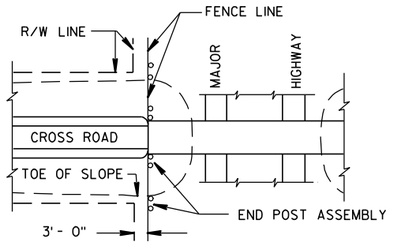
FENCE MOUNTING DETAIL

NOTE: △ NOT LESS THAN 45°



NOTE: THIS DETAIL IS INTENDED ONLY TO ILLUSTRATE TYPICAL SITUATIONS AND IS NOT INTENDED TO COVER SPECIFIC CASES. REFER TO PROJECT PLANS FOR PARTICULAR REQUIREMENTS AT VARIOUS LOCATIONS.

PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE CROSSING OF GREATER THAN 15 FT. IN WIDTH



PLAN VIEW
MAJOR HIGHWAY UNDERPASS

FENCE LOCATION AT STRUCTURES

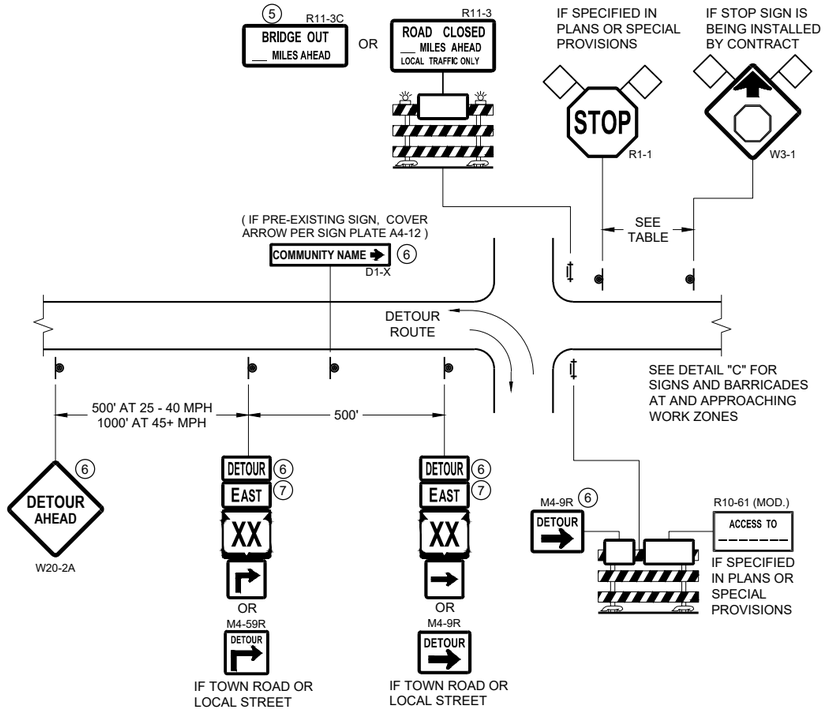
FENCE WOVEN WIRE

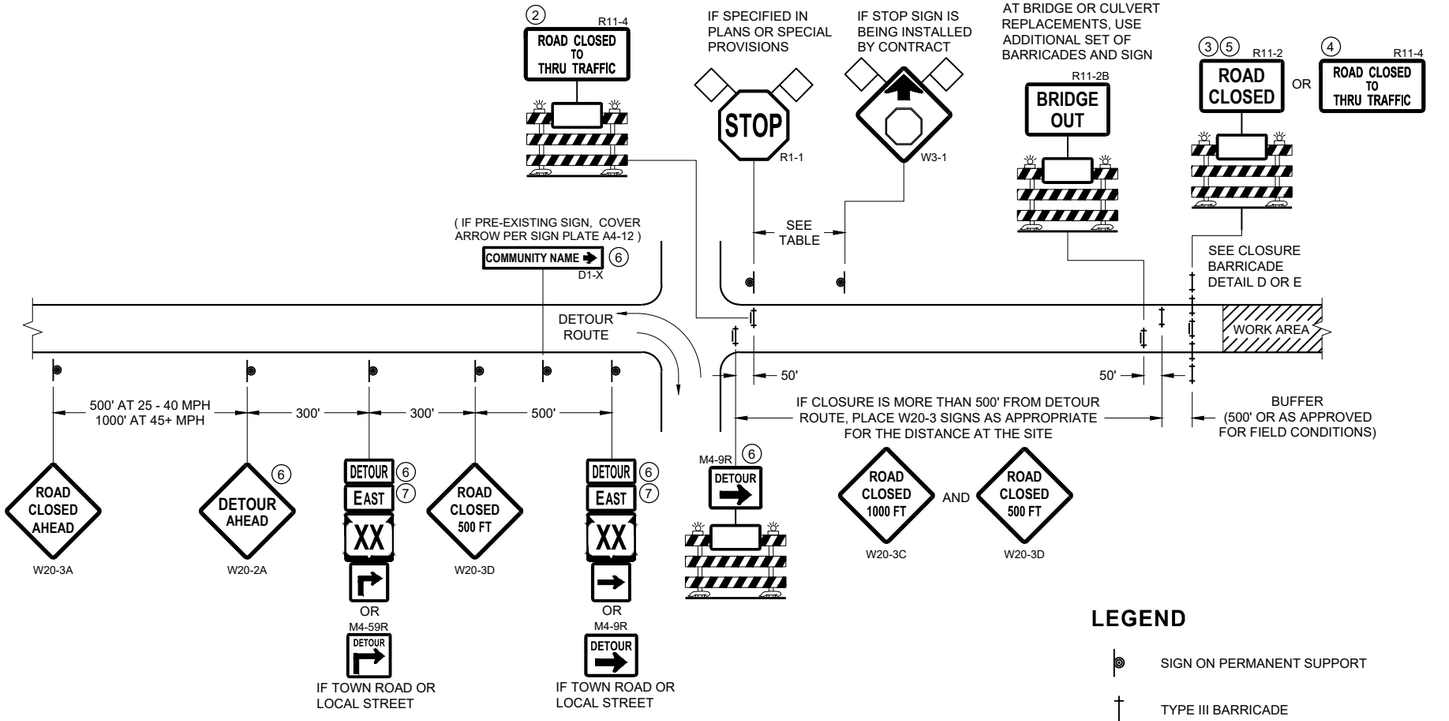
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/4/2008
DATE
/S/ Jerry H. Zinn
ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 15 B 1-8b



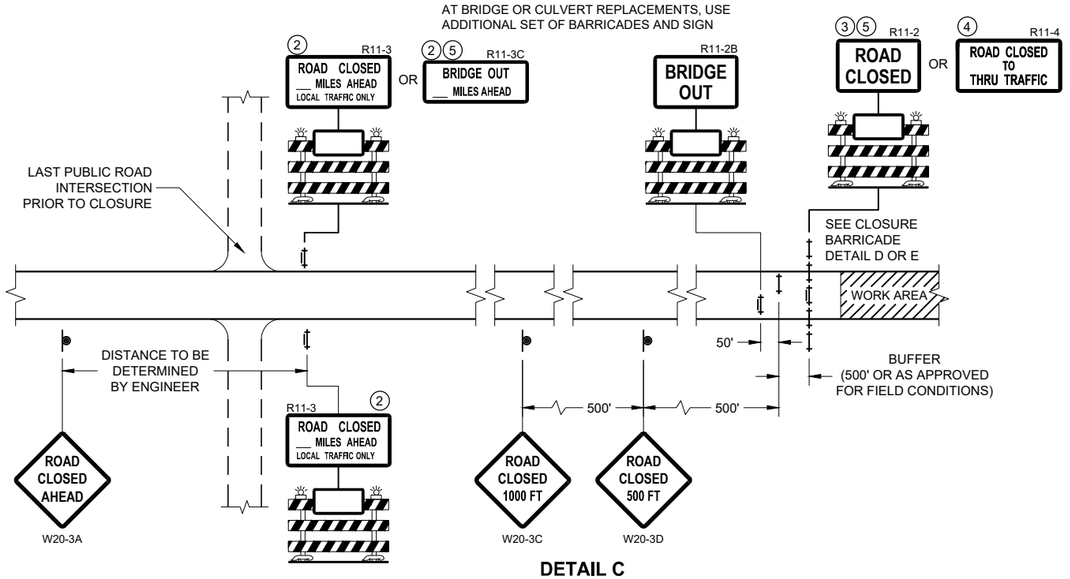


DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

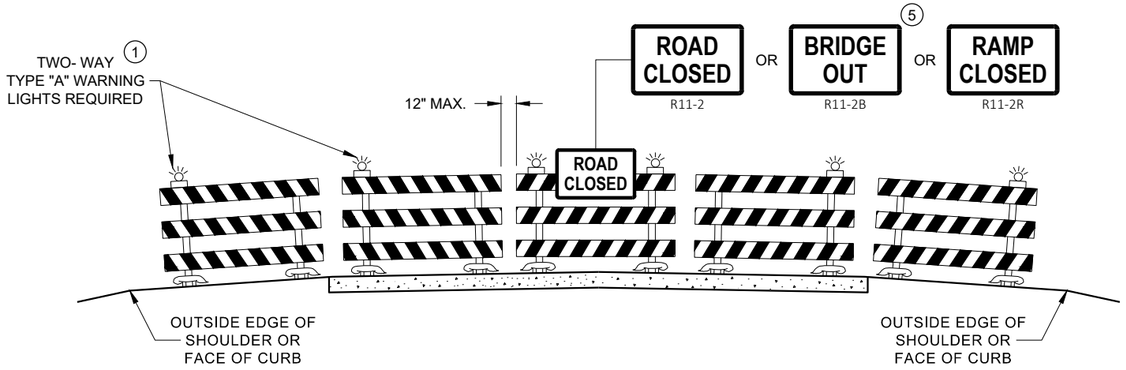
APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

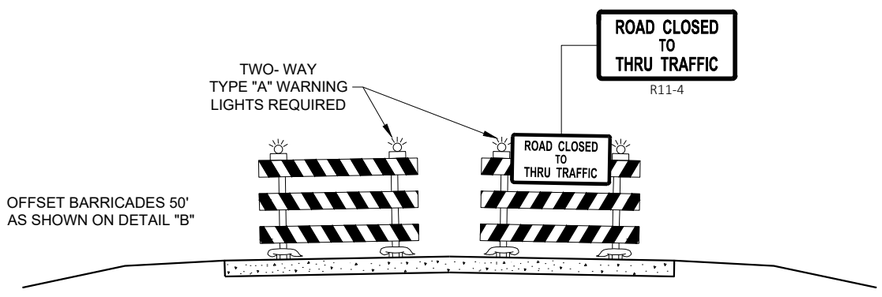
6

SDD 15C02 - 07a

SDD 15C02 - 07a



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

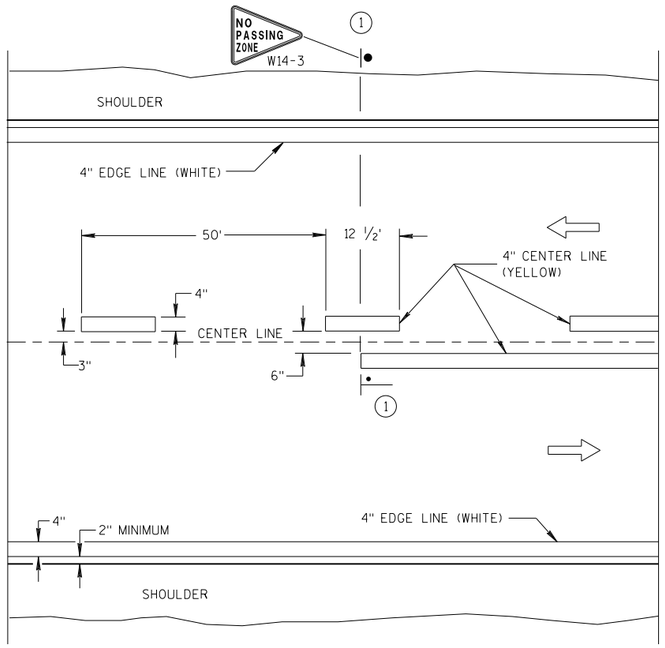
APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA

6

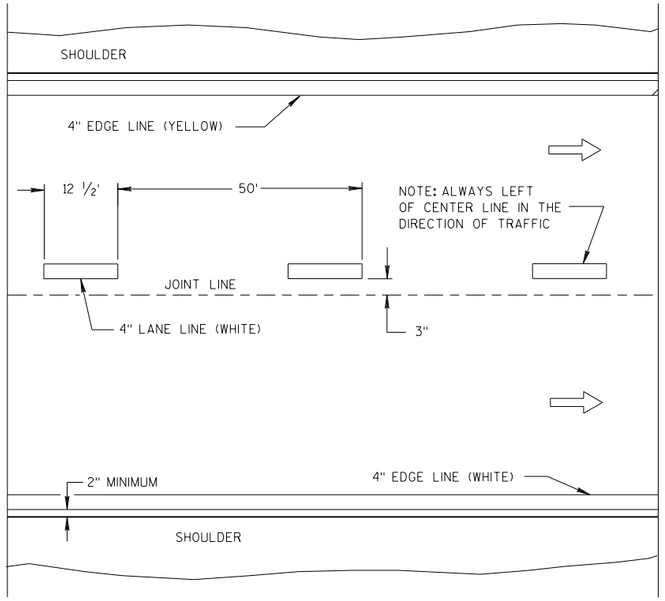
SDD 15C02 - 07b

6

SDD 15C02 - 07b



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

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

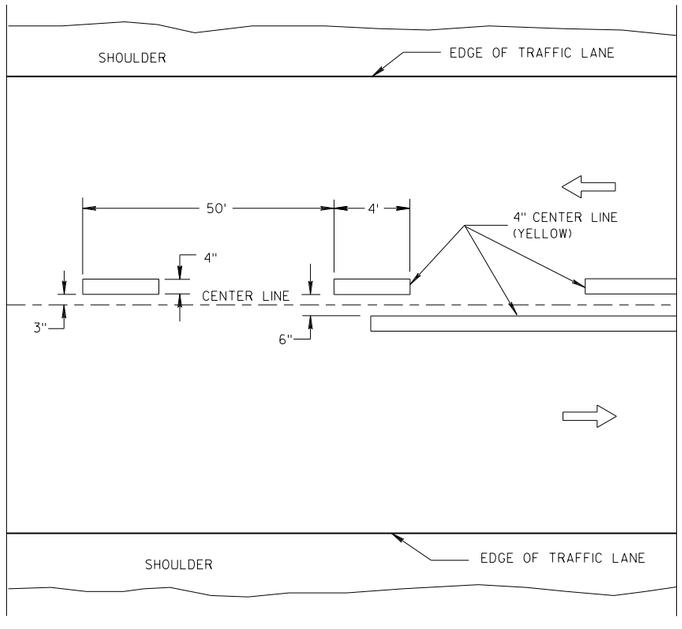
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

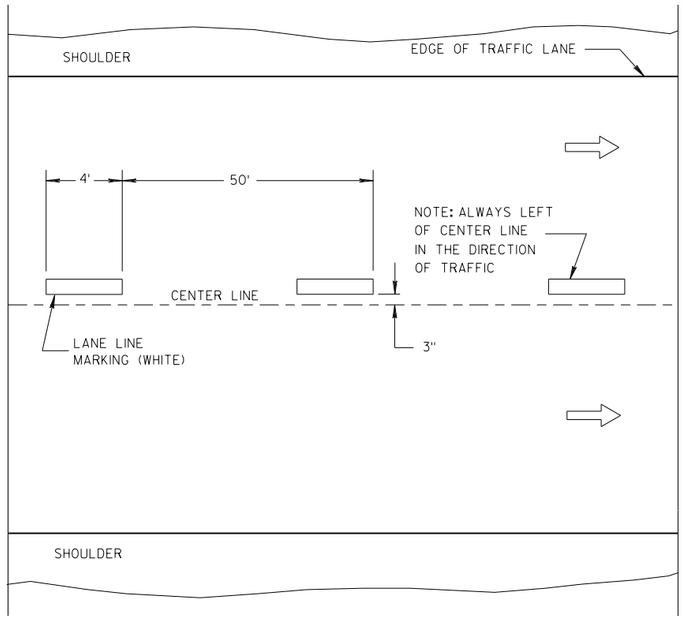
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018 — DATE

/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER

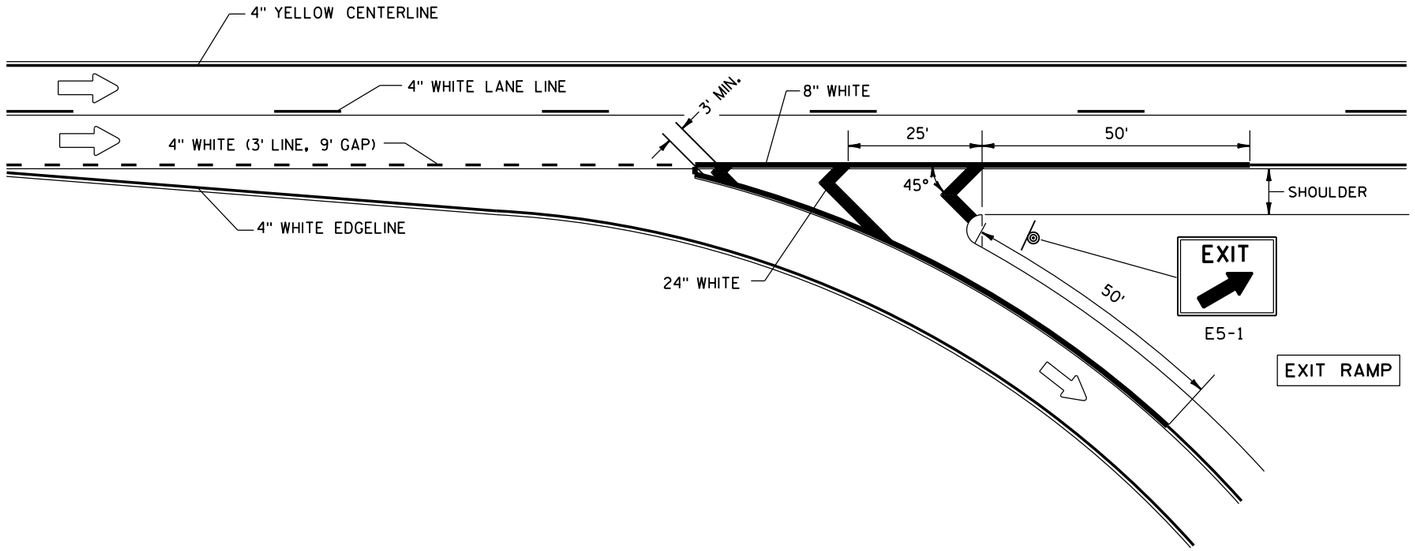
FHWA

6

S.D.D. 15 C 8-19a

6

S.D.D. 15 C 8-19a



PAVEMENT MARKING FOR EXIT RAMP

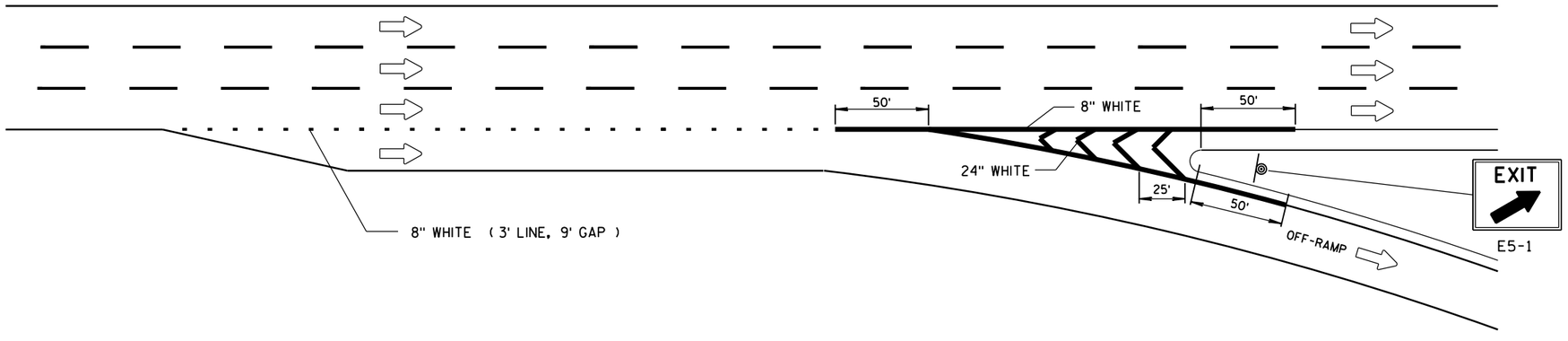
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

DIRECTION OF TRAVEL

SIGN ON PERMANENT SUPPORT



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

6

S.D.D. 15 C 31-3a

PAVEMENT MARKING (RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

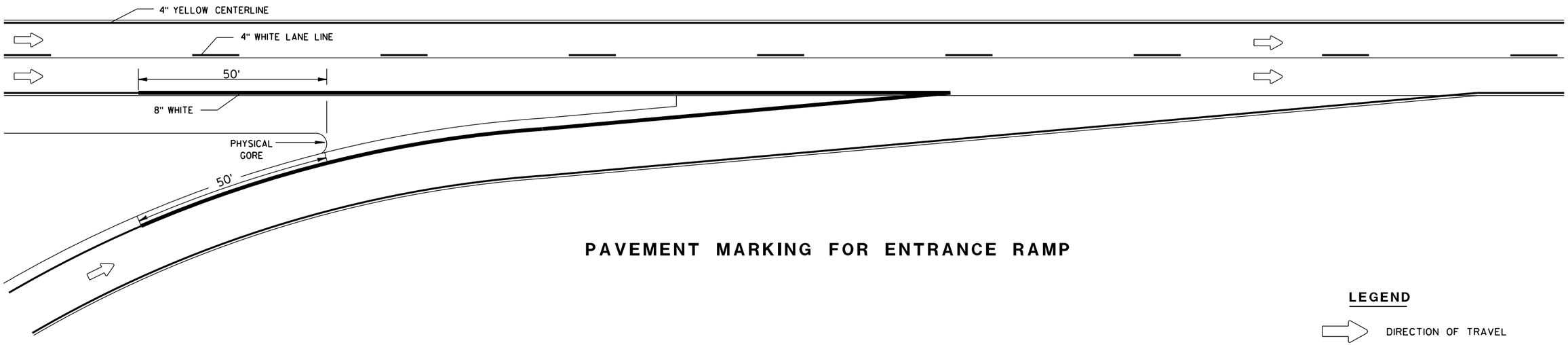
6

S.D.D. 15 C 31-3a

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

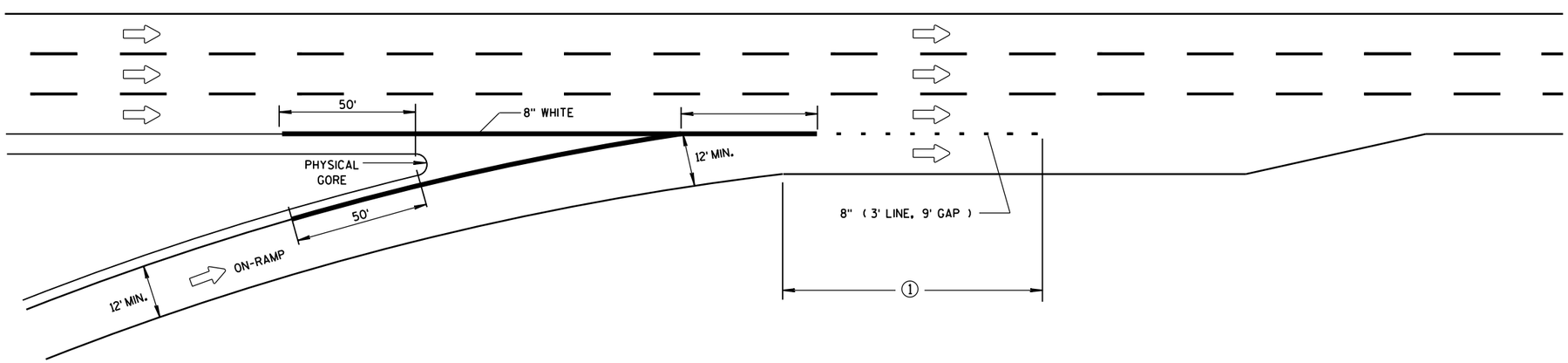
① ½ LENGTH OF FULL WIDTH ACCELERATION LANE.



PAVEMENT MARKING FOR ENTRANCE RAMP

LEGEND

DIRECTION OF TRAVEL



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE-RAMP

PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2017
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

6

S.D.D. 15 C 31-3c

6

S.D.D. 15 C 31-3c

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

(2) IF NEEDED. USE ONLY IF DESIGN SPEED IS 10 MPH LESS THAN POSTED SPEED.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

OR

LOCATED 400 FEET BEYOND THE W20- 5G SIGN.

SEE SDD 15D12b FOR SIGN PLACEMENT.

R2-1
48"X60"

OR

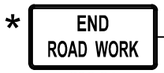
R2-1
48"X60"

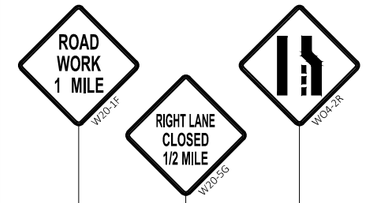
(BLACK AND WHITE)

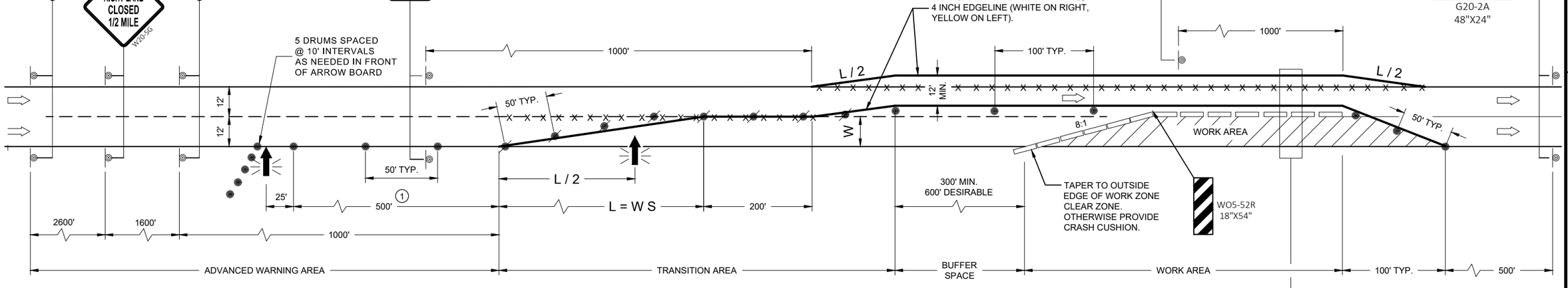
LOCATED 700 FEET BEYOND W03-5 SIGN

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES.

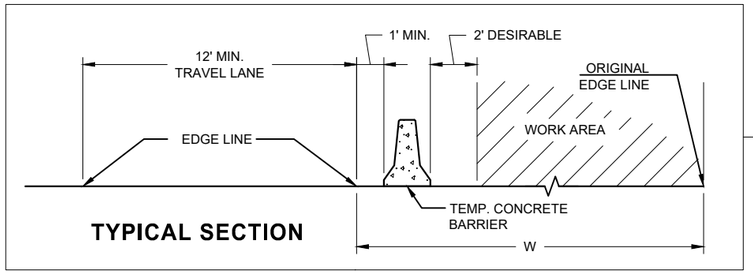
* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.







L, TAPER LENGTH (MPH)												
SPEED (MPH)	W, LATERAL OFFSET (FT)											
	1	2	3	4	5	6	7	8	9	10	11	12
45	45	90	135	180	225	270	315	360	405	450	495	540
50	50	100	150	200	250	300	350	400	450	500	550	600
55	55	110	165	220	275	330	385	440	495	550	605	660
60	60	120	180	240	300	360	420	480	540	600	660	720
65	65	130	195	260	325	390	455	520	585	650	715	780
70	70	140	210	280	350	420	490	560	630	700	770	840



TYPICAL SECTION

TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINE

FHWA

SDD 15D03-05

SDD 15D03-05

GENERAL NOTES

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

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

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

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

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

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

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

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

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

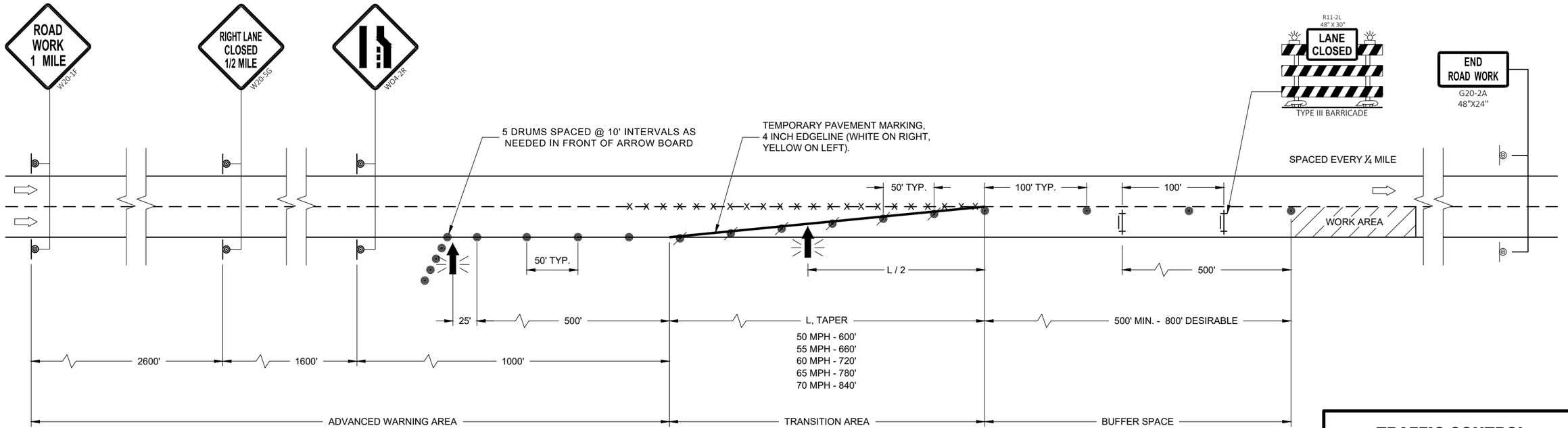
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

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

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD



TRAFFIC CONTROL LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D12 - 07a

6

SDD 15D12 - 07a

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

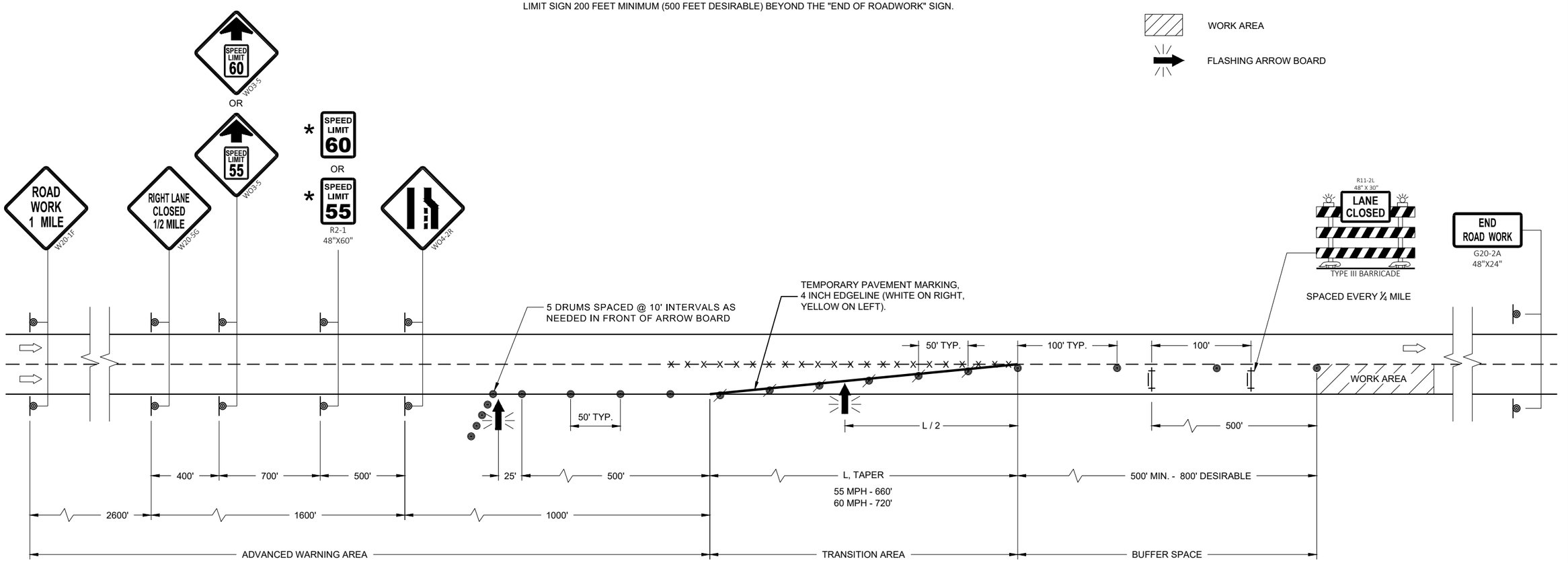
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

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

* A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

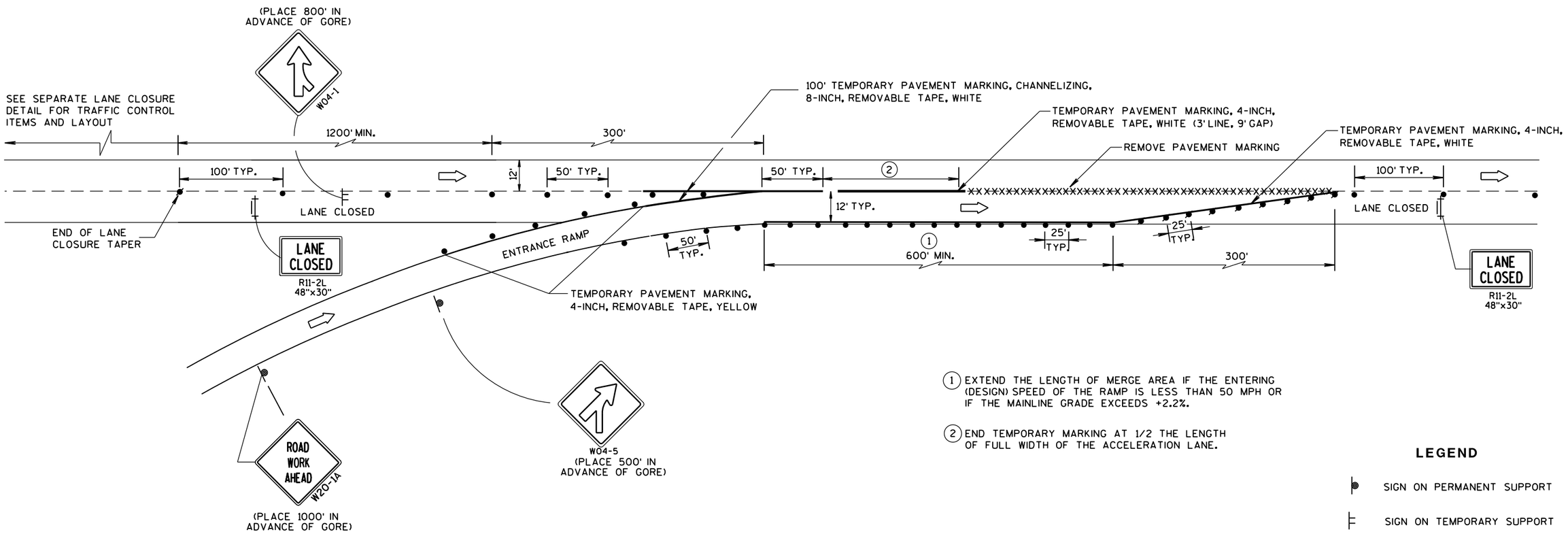
APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D12 - 07b

6
SDD 15D12 - 07b

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE



1. EXTEND THE LENGTH OF MERGE AREA IF THE ENTERING (DESIGN) SPEED OF THE RAMP IS LESS THAN 50 MPH OR IF THE MAINLINE GRADE EXCEEDS +2.2%.

2. END TEMPORARY MARKING AT 1/2 THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC

PARALLEL ENTRANCE RAMP

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

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

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

TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE

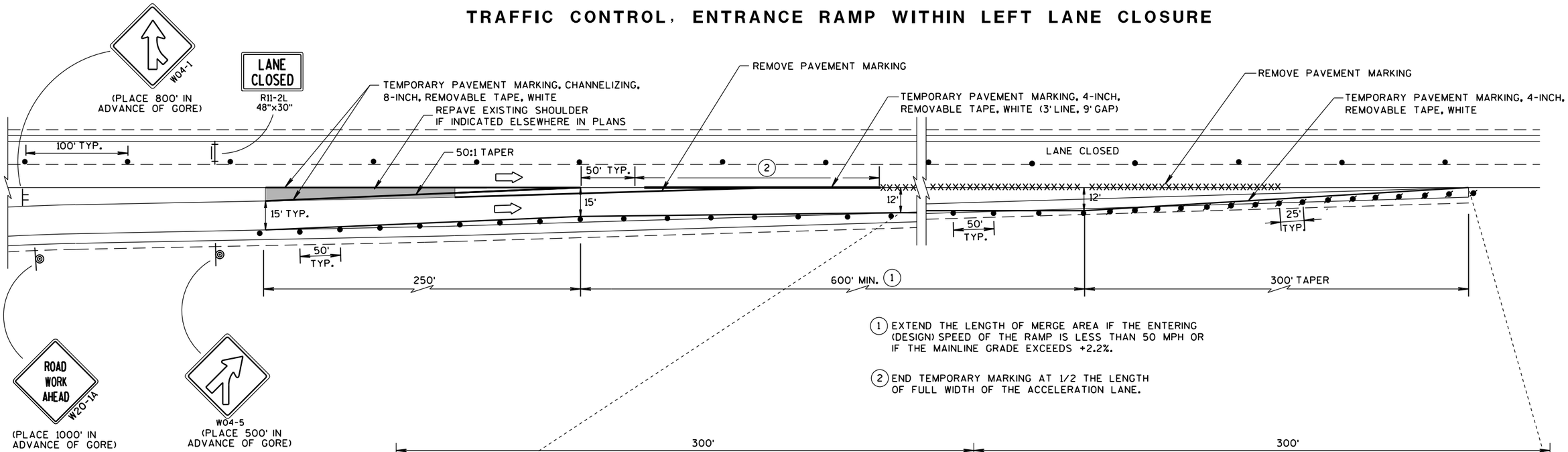
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENG
FHWA

6

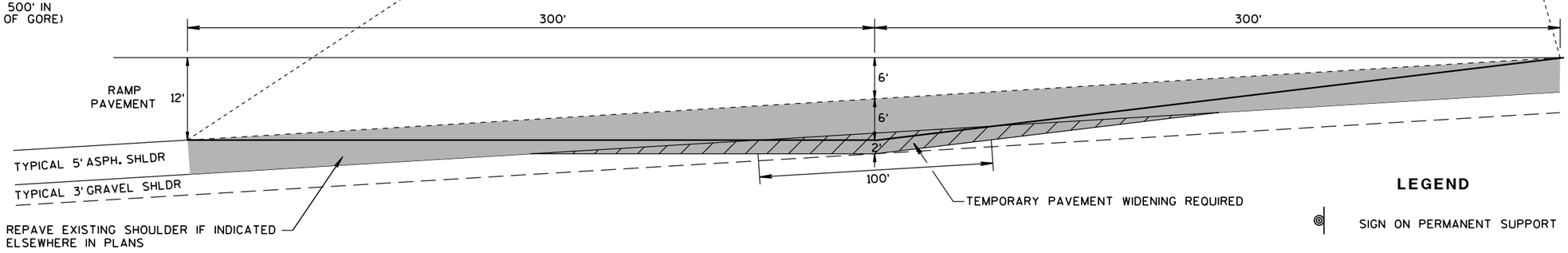
S.D.D. 15 D 15-4a

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LEFT LANE CLOSURE



(1) EXTEND THE LENGTH OF MERGE AREA IF THE ENTERING (DESIGN) SPEED OF THE RAMP IS LESS THAN 50 MPH OR IF THE MAINLINE GRADE EXCEEDS +2.2%.

(2) END TEMPORARY MARKING AT 1/2 THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.



TEMPORARY PAVEMENT DETAIL

(EXISTING RAMP DIMENSIONS MAY VARY. ADJUST TEMPORARY PAVEMENT ACCORDINGLY)

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- XXXXX REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

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.

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

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

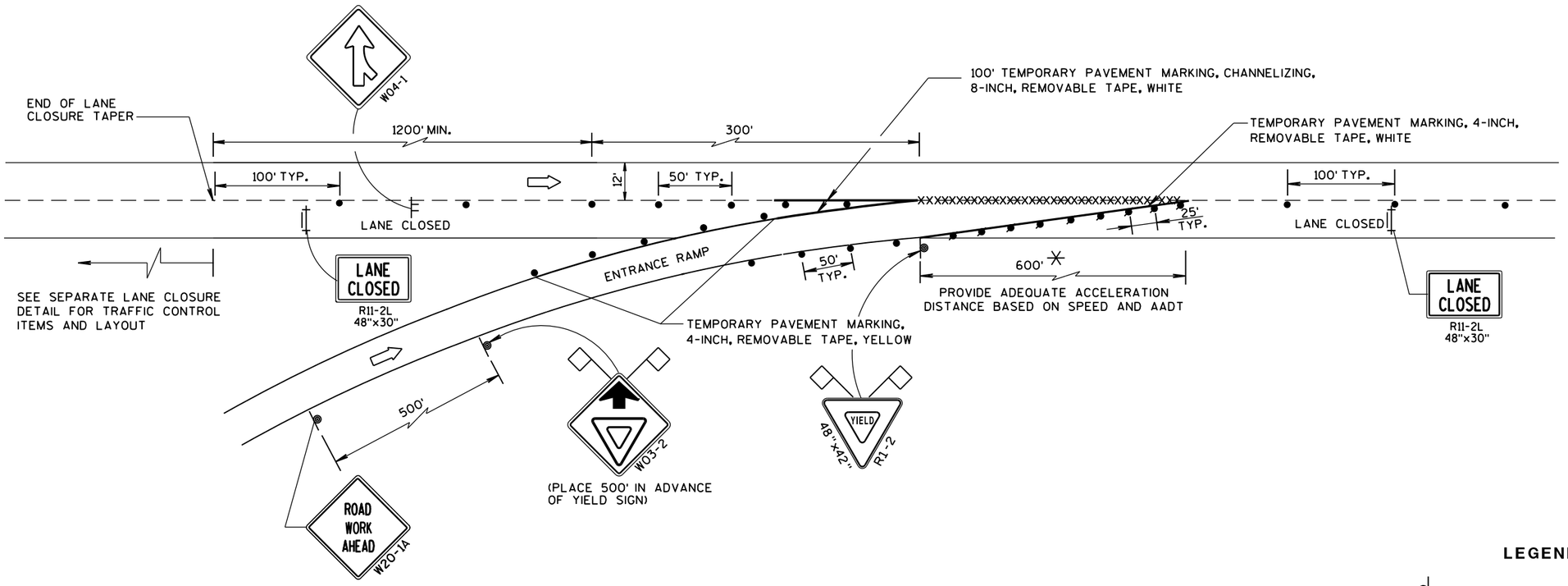
TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

6

S.D.D. 15 D 15-4b



TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

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

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

* CONSULT WITH REGIONAL WORK ZONE ENGINEER IF NEED TO REDUCE LENGTH EXISTS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

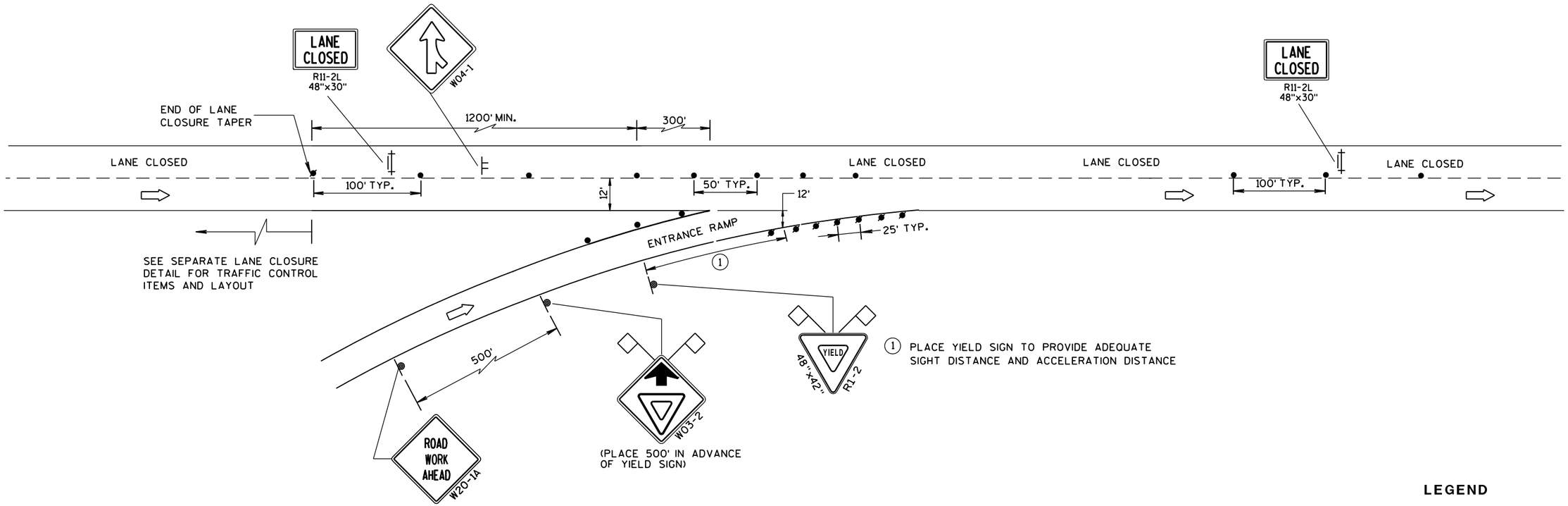
TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

6

S.D.D. 15 D 15-4c



TAPERED ENTRANCE RAMP WITHIN LEFT LANE CLOSURE

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

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

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

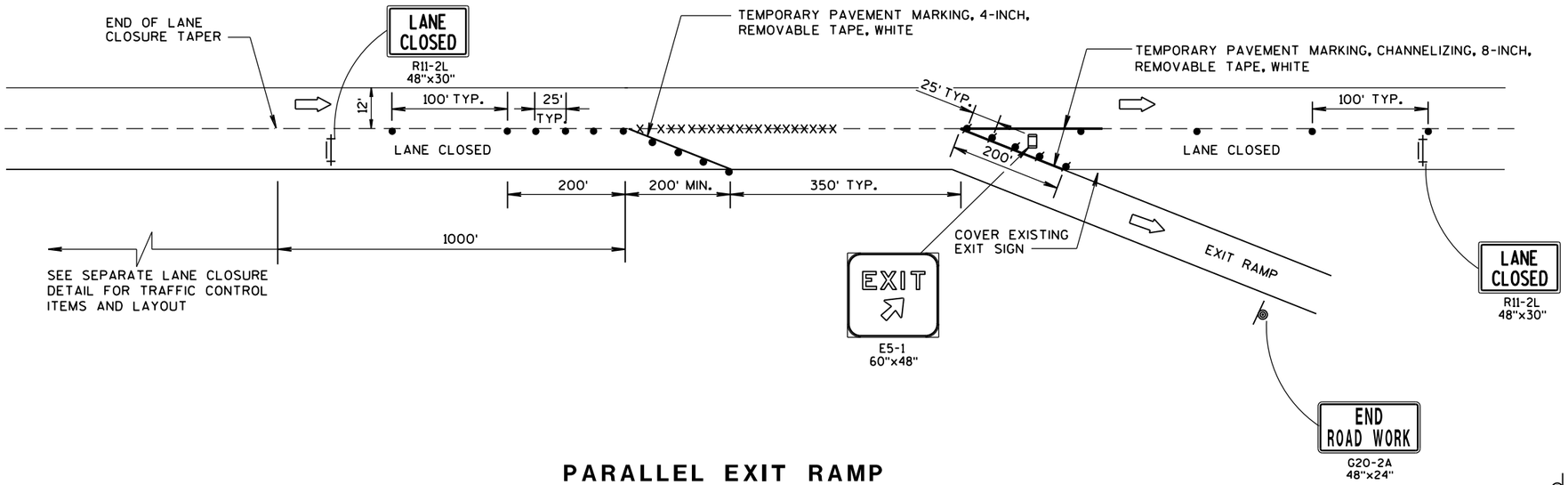
LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 — DATE
/S/ Andrew Heidtke — WORK ZONE EN(
FHWA



PARALLEL EXIT RAMP

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 — DATE
/S/ Andrew Heidtke — WORK ZONE ENG
FHWA

6

S.D.D. 15 D 15-4e

LEGEND

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

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

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

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

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

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

PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

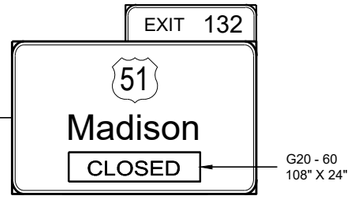
WORK AREAS WITH A DROP OFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12 - HOUR DURATION.

* W20 - 1A AND G20 - 2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

** PLACE "RAMP CLOSED BEGINNING" SIGN OR PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

OR



PLACE SIGN G20 - 60 OVER MILEAGE ON EXISTING E1 - 1A SIGN

COVER ARROW ON EXISTING E4 - 1 SIGN (COVERING SIGNS TYPE I)

G20 - 61
120 ' X 30"

OR

PCMS MESSAGING

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

TRAFFIC CONTROL EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

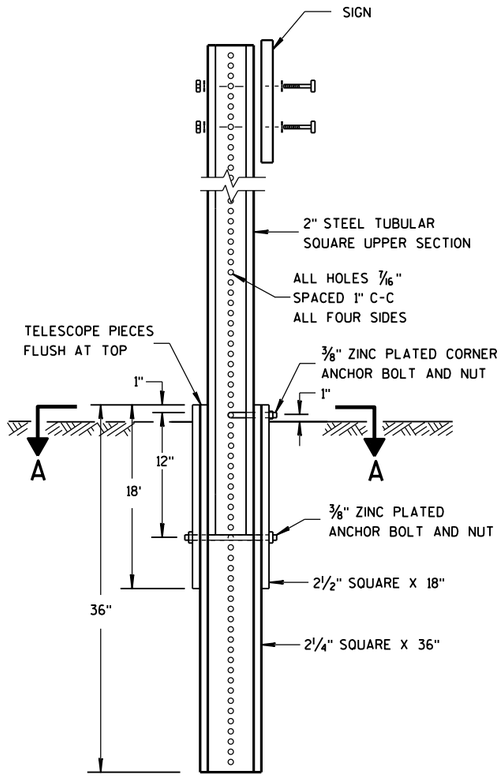
APPROVED
November 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

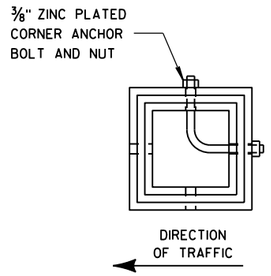
FHWA

SDD 15D16 - 04

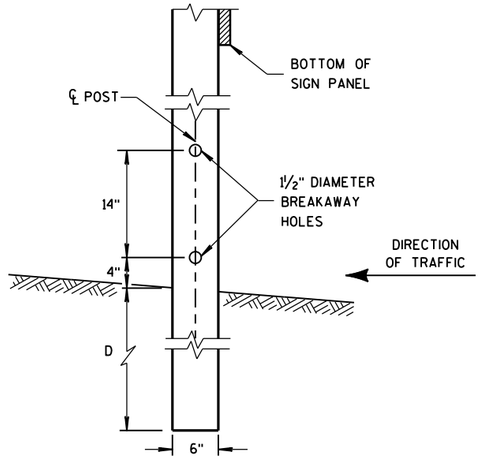
6
SDD 15D16 - 04



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



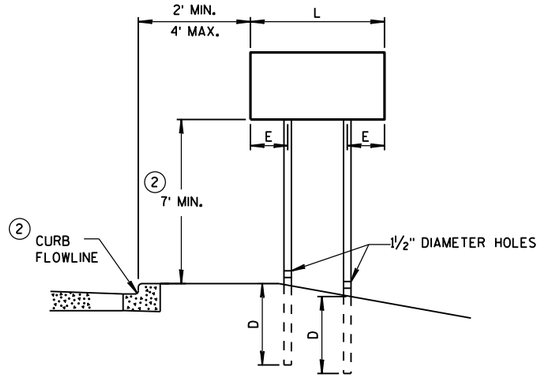
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

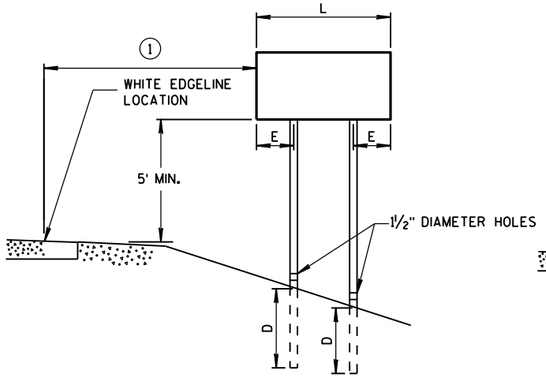
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

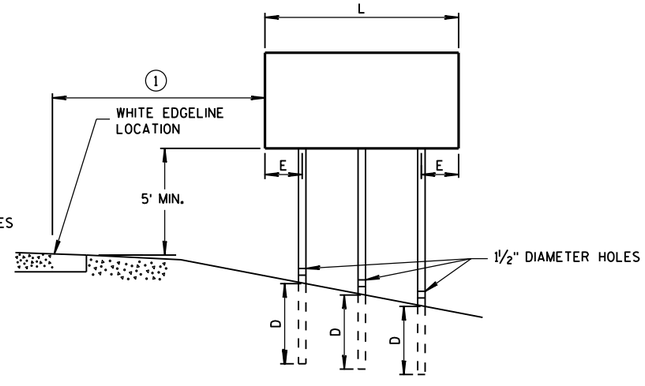
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

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



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

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

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

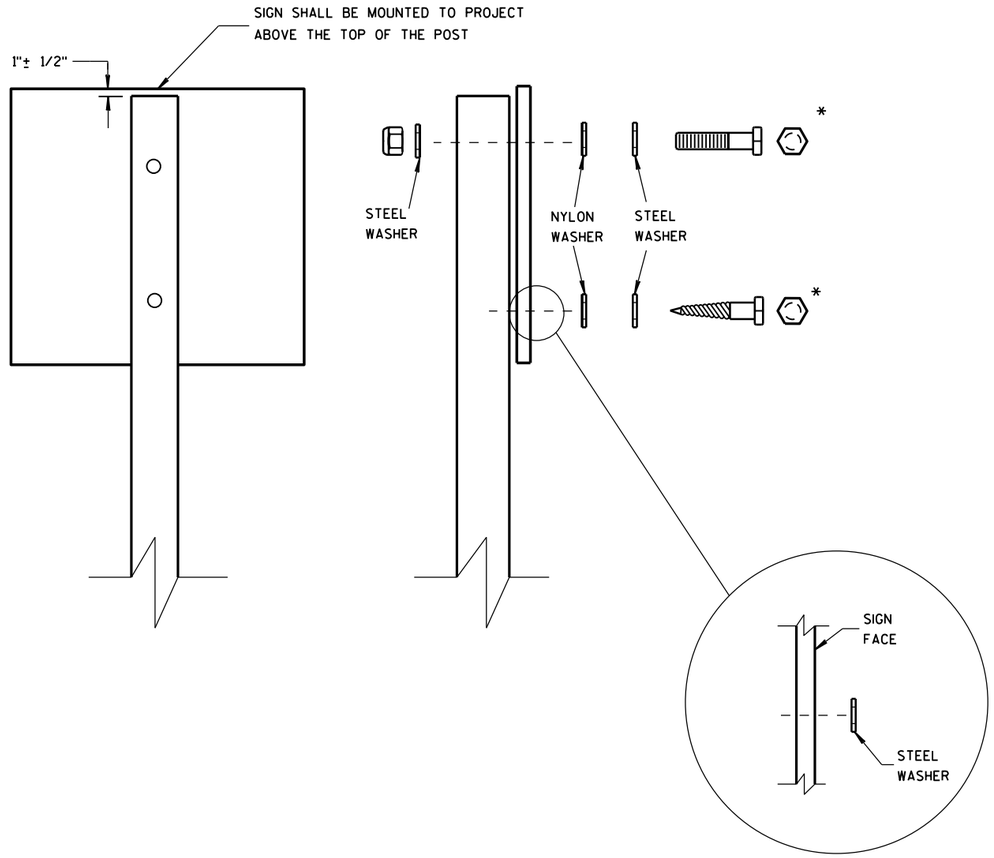
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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



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

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

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

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

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

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

LAG SCREWS - 3/8" X 3"

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

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

6

6

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

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

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

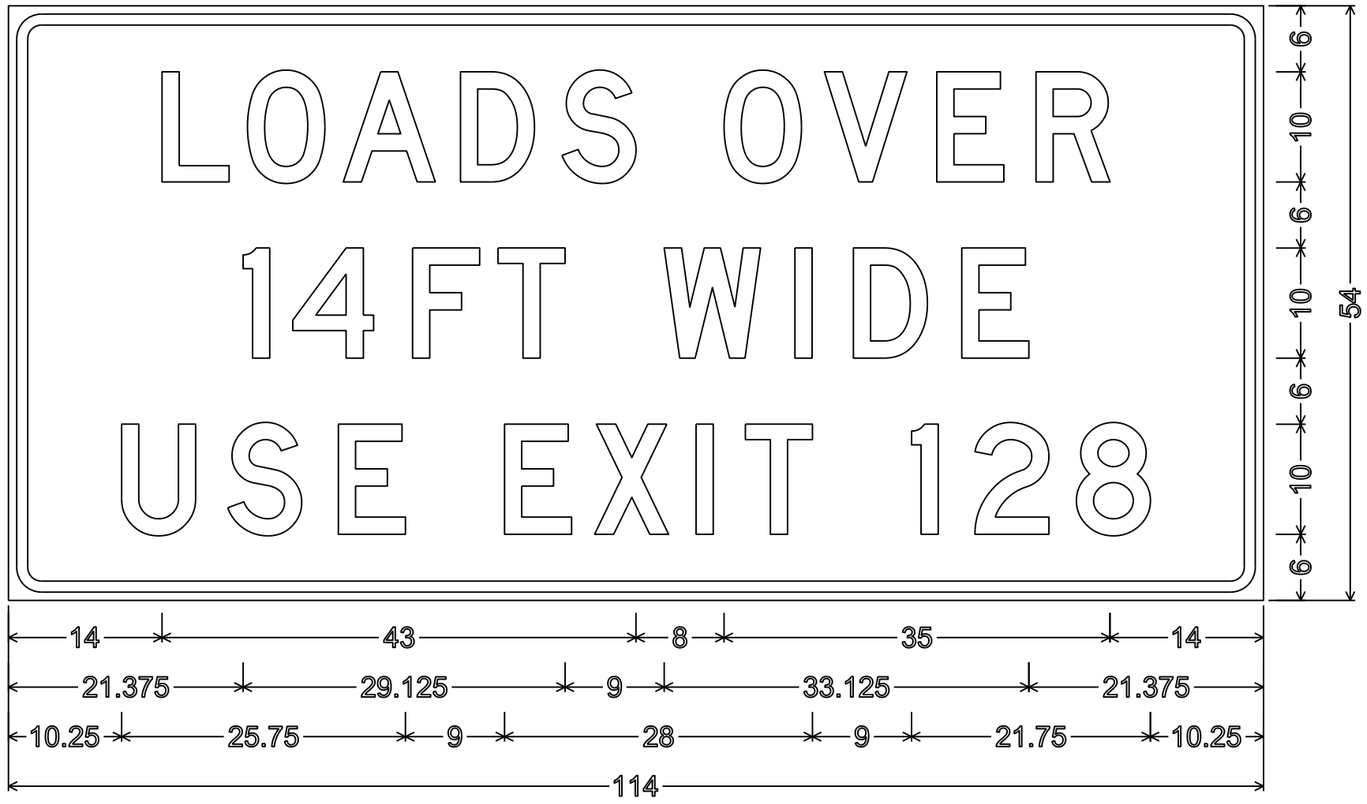
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

FHWA

NOTES

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



3.000" Radius, 1.000" Border, 0.750" Indent

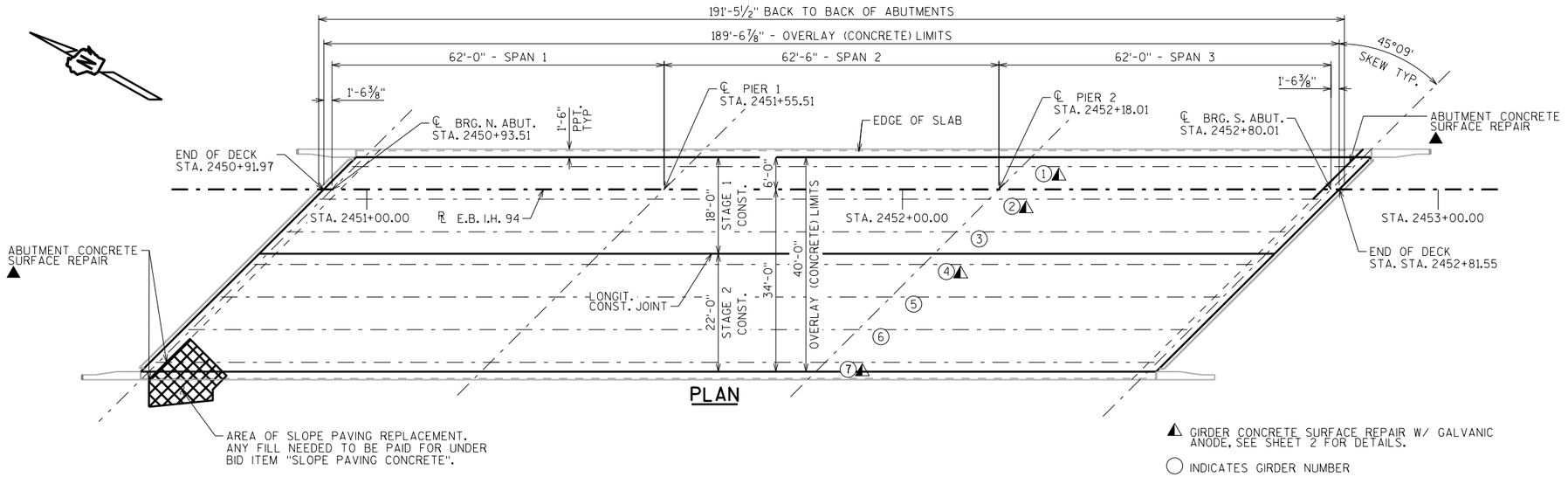
7

7

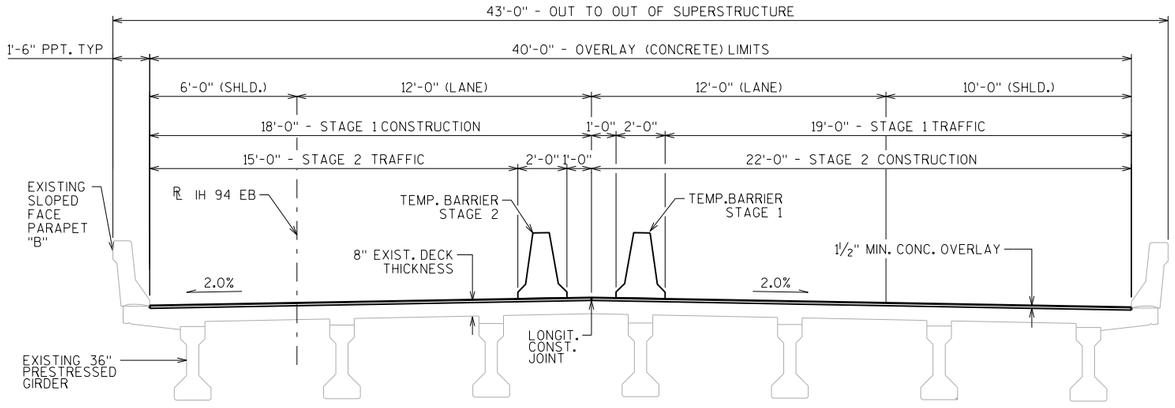
PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	TEMPORARY SIGNING	SHEET NO: 76	E

STATE PROJECT NUMBER

1023-06-72



PLAN



CROSS SECTION THRU ROADWAY

LOOKING SOUTH

DESIGN DATA

LIVE LOAD:

INVENTORY RATING; HS- 19
OPERATING RATING; HS- 38
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 220 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY OVERLAY DECKS — f'c = 4,000 P.S.I.
CONCRETE MASONRY / OTHER — f'c = 3,500 P.S.I.

TRAFFIC VOLUME:

IH 94

A.D.T. = 25,300 (2020)
R.D.S. = 70 M.P.H.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

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

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE TOP AND FRONT FACES OF PARAPETS INCLUDING PARAPETS ON ABUTMENT WINGS.

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

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

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

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

FIELD ENGINEER TO DETERMINE EXACT AREAS OF SLOPE PAVING TO BE REPLACED AND FILLED

▲ CONCRETE SURFACE REPAIR AS SHOWN ON THE PLANS AT THE ENDS OF THE NORTH & SOUTH ABUTMENTS. ENGINEER TO IDENTIFY OTHER LOCATIONS ON THE STRUCTURE IN NEED OF CONCRETE SURFACE REPAIR.

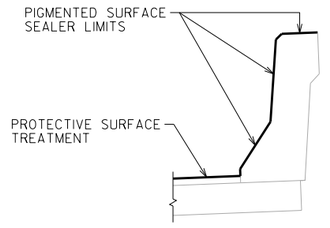
STRUCTURE DESIGN CONTACTS:

AIHAM ALSKIF (608) 261-6113
AARON BONK (608) 261-0261

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
	203.0225.S	DEBRIS CONTAINMENT (B-41-62)	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	843
	502.3210	PIGMENTED SURFACE SEALER	SY	168
	509.0301	PREPARATION DECKS TYPE 1	SY	24
	509.0302	PREPARATION DECKS TYPE 2	SY	16
	509.0500	CLEANING DECKS	SY	843
▲	509.1500	CONCRETE SURFACE REPAIR	SF	37
	509.2000	FULL-DEPTH DECK REPAIR	SY	1
	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	47
	509.9050.S	CLEANING PARAPETS	LF	423
	604.0400	SLOPE PAVING CONCRETE	SY	9
**	SPV.0060	EMBEDDED GALVANIC ANODES	EACH	10
	SPV.0060	STRAPPING B-41-62	EACH	6

** THIS QUANTITY IS FOR INFORMATIONAL PURPOSES ONLY. FIELD ENGINEER TO VERIFY THE EXACT NUMBER OF ANODES REQUIRED AT EACH INDIVIDUAL SURFACE REPAIR LOCATION PRIOR TO ANODE INSTALLATION.



PROTECTIVE SURFACE TREATMENT LIMITS

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. ABUTMENT REPAIR
3. CATHODIC PROTECTION

NO.	DATE	REVISION	BY

WISCONSIN DEPARTMENT OF TRANSPORTATION — BUREAU OF STRUCTURES

ACCEPTED William C. Dreher AMD — CHIEF STRUCTURES DESIGN ENGINEER — 5/2/19 DATE

STRUCTURE B-41-62

IH 94 EB OVER UP RAILROAD

COUNTY	TOWN
MONROE	LINCOLN

DESIGN SPEC. REHABILATION N/A

DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
AA	SEW	AA	NAR

CONCRETE OVERLAY

SHEET 1 OF 3

77

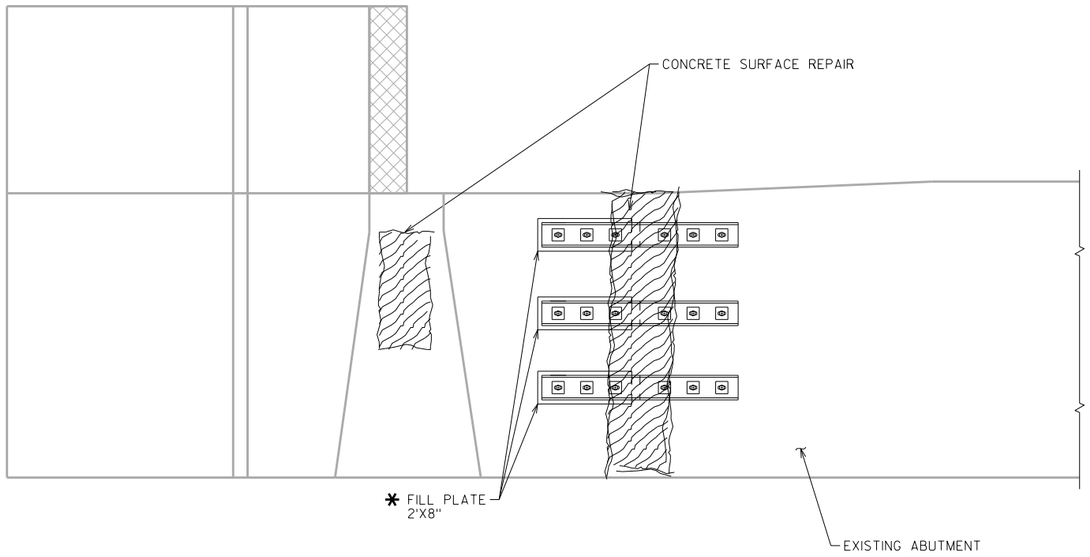
I.D. 1023-06-02A

DATE: MAR. 2018

SCALE = 6.00

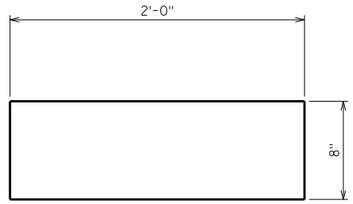
STATE PROJECT NUMBER

1023-06-72



NORTH ABUTMENT ELEVATION

LOOKING NORTH



FILL PLATE DETAILS

* USE 1/4" FILL PLATE AS NEEDED TO CLOSE THE GAP BETWEEN THE CHANNEL AND THE ABUTMENT AT THE LOCATION OF DIFFERENTIAL MOVEMENT.

NOTES

REMOVE ANY/ALL LOOSE CONCRETE AT ABUTMENTS UNDER BID ITEMS "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSH CLEANED PRIOR TO THE CONCRETE SURFACE REPAIRS BEING COMPLETED.

REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

BID ITEM SHALL BE "STRAPPING B-41-62" WHICH INCLUDES ALL ITEMS SHOWN.

WISDOT REGIONAL BRIDGE MAINTENANCE ENGINEER TO APPROVE USE OF DETAIL PRIOR TO INSTALLATION.

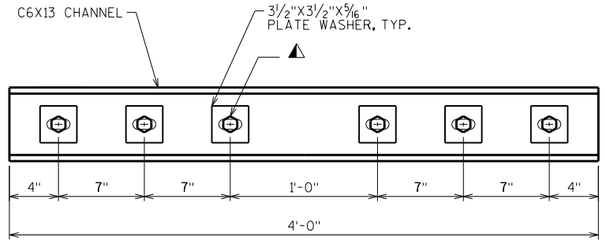
ALL PROVIDED STEEL MATERIAL SHALL CONFORM TO ASTM A36.

ALL STRUCTURAL STEEL SHOWN SHALL BE GALVANIZED. THREADED RODS, MASONRY ANCHORS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C.

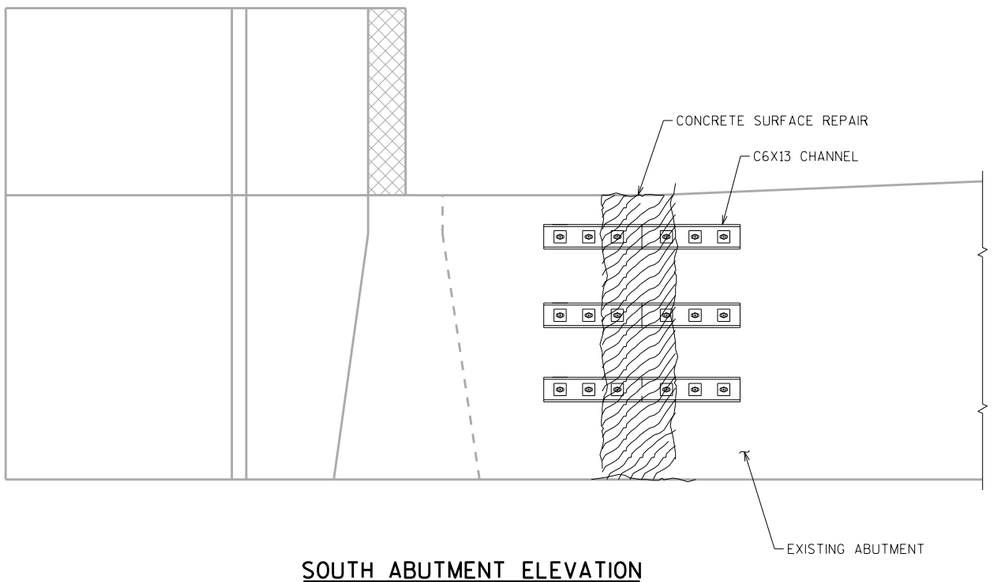
CUTTING AND DRILLING OF CHANNEL SHALL BE DONE IN FABRICATION SHOP, PRIOR TO GALVANIZING.

IF WELDING COVER PLATE IN FIELD, PRIOR TO WELDING, REMOVE GALVANIZING FROM AREA TO BE WELDED. TOUCH UP WITH PAINT ALL AREAS LACKING GALVANIZING WHEN COMPLETE.

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

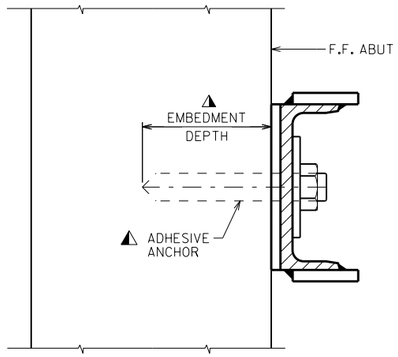


C6X13 CHANNEL DETAILS



SOUTH ABUTMENT ELEVATION

LOOKING SOUTH



DETAILS "A"

SECTION THRU CHANNEL

ADHESIVE ANCHOR 1-INCH. EMBED 10" IN CONCRETE. SEE DETAIL "A"

USE 11"16" X 21"2" LONG SLOTTED HOLES

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-62

DRAWN BY AA | PLANS CK'D. NAR

ABUTMENT REPAIRS

SHEET 2

78

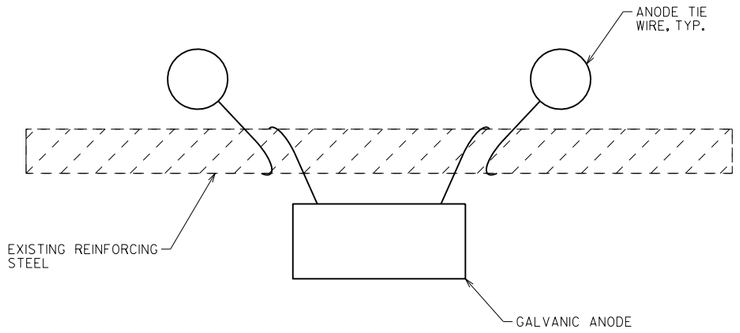
SCALE = 3.00

8

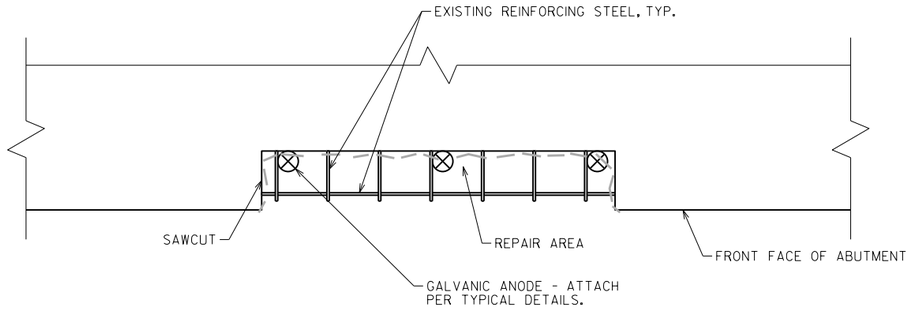
8

STATE PROJECT NUMBER

1023-06-72



TYPICAL INSTALLATION FOR BAR STEEL



PART. PLAN TYPICAL REPAIR DETAIL

PATCH/ REPAIR ABUTMENTS:

NORTH ABUTMENT WEST END

SOUTH ABUTMENT EAST END

NOTES:

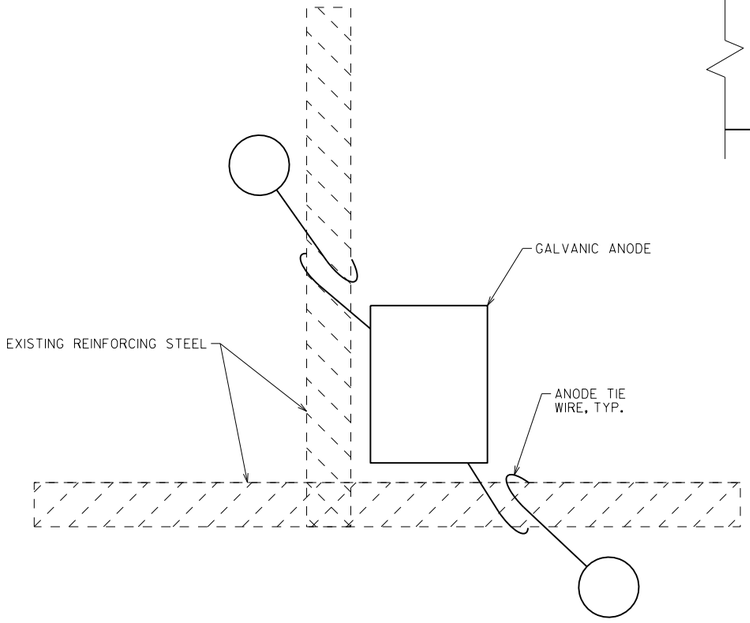
SEE SPECIAL PROVISION "EMBEDDED GALVANIC ANODES" FOR DESCRIPTION, MATERIALS, CONSTRUCTION, MEASUREMENT, AND PAYMENT INFORMATION.

ANODES NEAREST TO EDGE OF REPAIR TO BE WITHIN 6" OF EDGE.

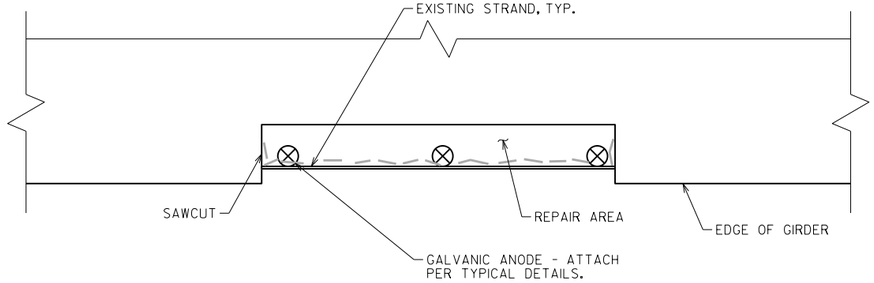
AFTER PLACEMENT, GALVANIC ANODES SHOULD MAINTAIN A MINIMUM TOP COVER OF 1½" AND A MINIMUM BOTTOM COVER OF ¾".

EXISTING REINFORCING STEEL TO BE COMPLETELY CLEANED OF CORRODED MATERIAL PRIOR TO INSTALLATION OF GALVANIC ANODES.

FIELD ENGINEER TO DETERMINE EXACT REPAIR LOCATIONS



TYPICAL INSTALLATION AT BAR STEEL INTERSECTION



PART. PLAN TYPICAL REPAIR DETAIL

PATCH/ REPAIR GIRDERS:

SPAN 1: GIRDER 7 - BOTTOM FLANGE

SPAN 2: GIRDER 1 - BOTTOM FLANGE
GIRDER 2 - TOP FLANGE
GIRDER 4 - TOP FLANGE

MAXIMUM GALVANIC ANODE SPACING

STEEL DENSITY RATIO (SQ. IN. PER FT.)	MAXIMUM ANODE SPACING (INCHES)
<= 0.3	24
0.31-0.50	20
0.51-0.60	18
0.61-0.80	16
0.81-0.90	15
0.91-1.00	14
1.01-1.20	12
>=1.20	*

NOTES:

*AT STEEL DENSITY RATIOS GREATER THAN 1.20, CONSULT THE ENGINEER TO DETERMINE MAXIMUM ANODE SPACING AND ANODE LAYOUT

STEEL DENSITY RATIO IS THE RATIO OF STEEL REINFORCING BAR SURFACE AREA TO EXPOSED CONCRETE SURFACE AREA WITHIN THE REPAIR AREA.

TABLE IS BASED ON HIGH CORROSION RISK WITHIN THE SURFACE REPAIR AREA, A MINIMUM ZINC MASS OF 38 GRAMS AND AN APPROXIMATE SERVICE LIFE OF 10-20 YEARS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-62

DRAWN BY AA | PLANS CK'D. NAR

CATHODIC PROTECTION

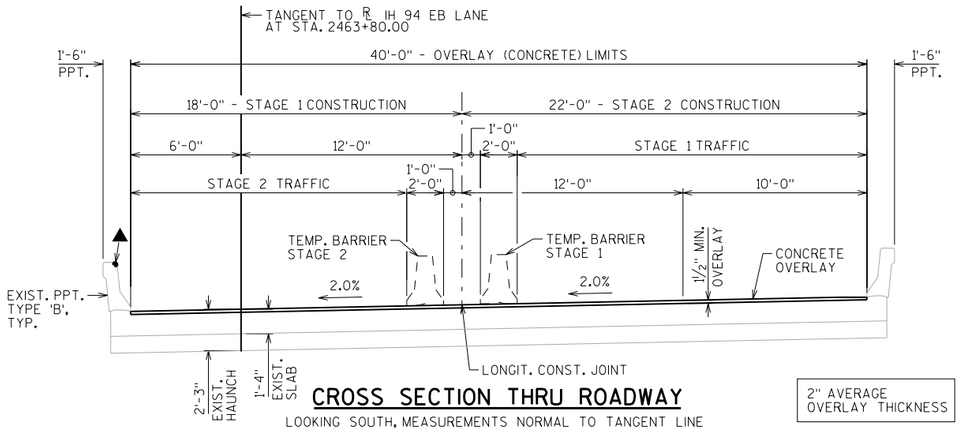
SHEET 3

79

SCALE = 2.50

STATE PROJECT NUMBER

1023-06-72



CROSS SECTION THRU ROADWAY

LOOKING SOUTH, MEASUREMENTS NORMAL TO TANGENT LINE

2" AVERAGE OVERLAY THICKNESS

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
502.3200	PROTECTIVE SURFACE TREATMENT	SY	491
502.3210	PIGMENTED SURFACE SEALER	SY	106
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	3
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	5
509.0301	PREPARATION DECKS TYPE 1	SY	4
509.0302	PREPARATION DECKS TYPE 2	SY	1
509.0500	CLEANING DECKS	SY	491
▲ 509.1500	CONCRETE SURFACE REPAIR	SF	70
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	27
509.9050.S	CLEANING PARAPETS	LF	264

DESIGN DATA

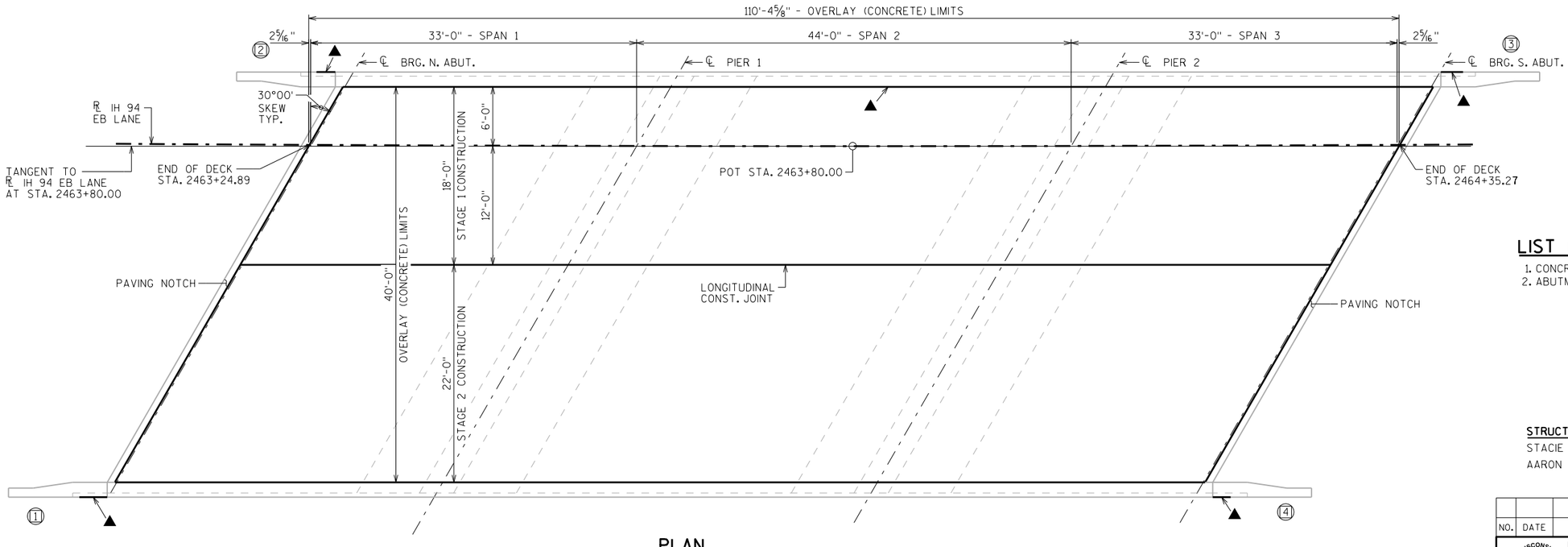
LIVE LOAD:

INVENTORY RATING: HS-25
OPERATING RATING: HS- 41
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 250 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY:
OVERLAY & PARAPETS — f'c = 4,000 P.S.I.
ALL OTHER — f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT:
GRADE 60 — fy = 60,000 P.S.I.



PLAN

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. ABUTMENT REPAIRS

STRUCTURE DESIGN CONTACTS:

STACIE WEIS	(608) 261-6109
AARON BONK	(608) 261-0261

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

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

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

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

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

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

▲ CONCRETE SURFACE REPAIR AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE NORTH & SOUTH ABUTMENTS, AND ALONG THE TOP OF THE EAST PARAPET. SEE SHEET 2 FOR DETAILS.

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

⬡ INDICATES WING NUMBER

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 5/2/19
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-41-64

IH 94 EB OVER ASPEN AVENUE

COUNTY	TOWN
MONROE	LINCOLN

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
SEW	NAR	SEW	NAR

CONCRETE OVERLAY

SHEET 1 OF 2

80

I.D. 1023-06-02B

DATE: FEB. 2018

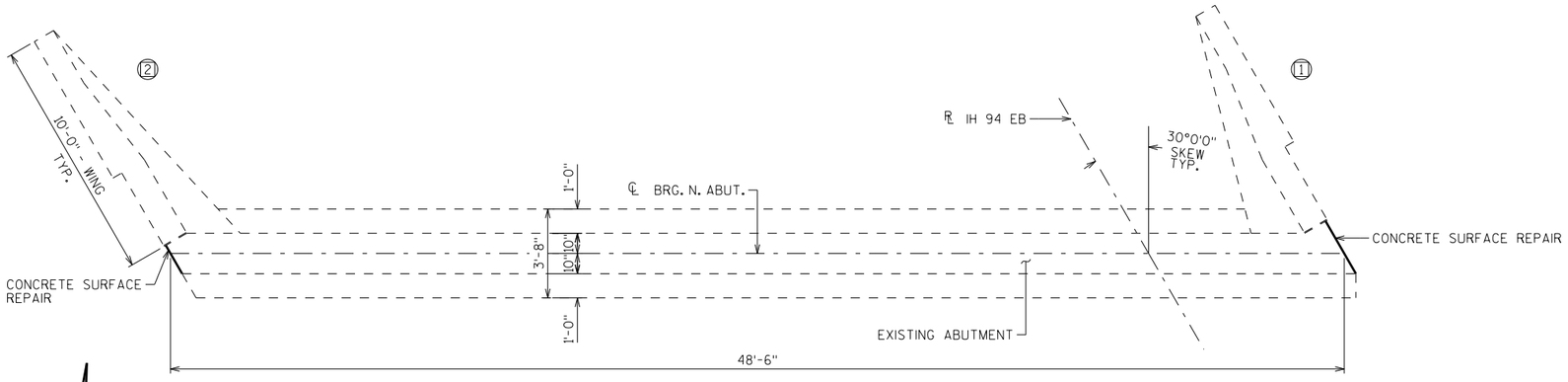
SCALE = 6.00

8

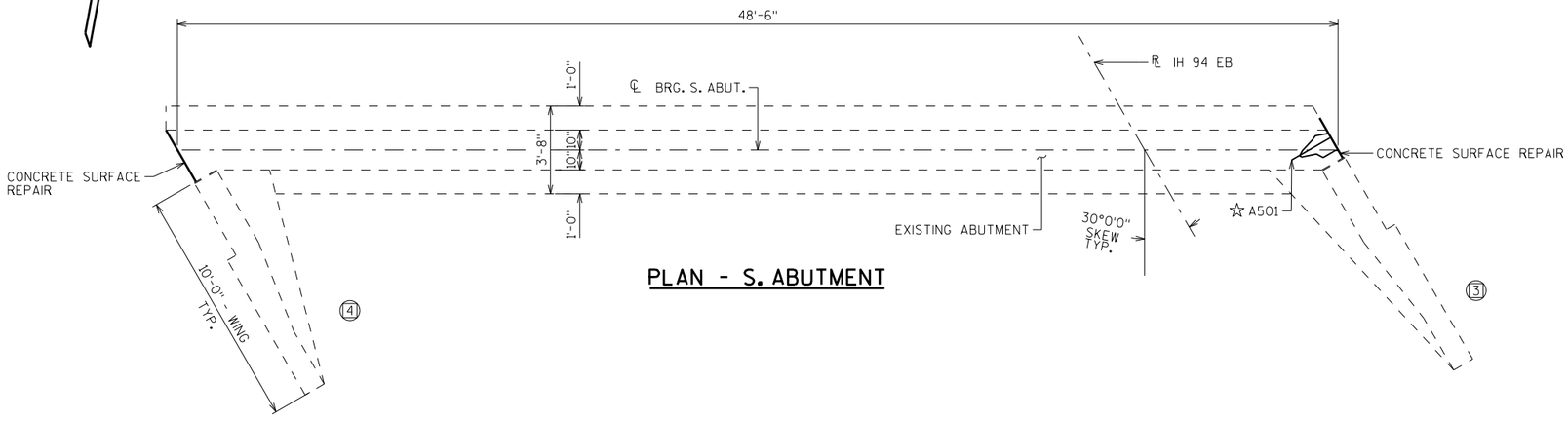
8

STATE PROJECT NUMBER

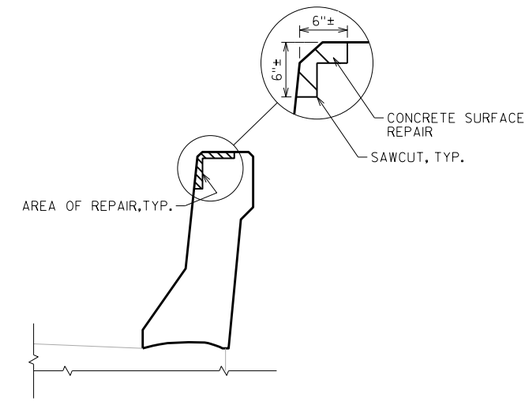
1023-06-72



PLAN - N. ABUTMENT



PLAN - S. ABUTMENT



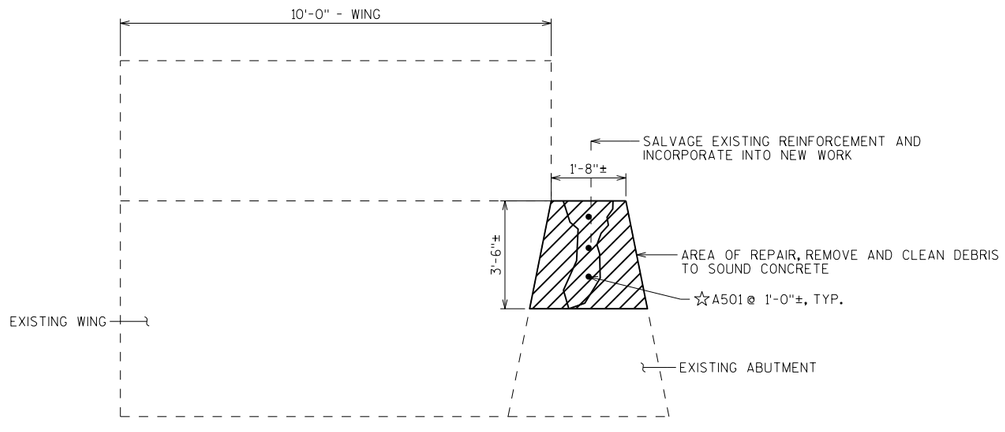
SECTION THRU PARAPET ON BRIDGE

BILL OF BARS

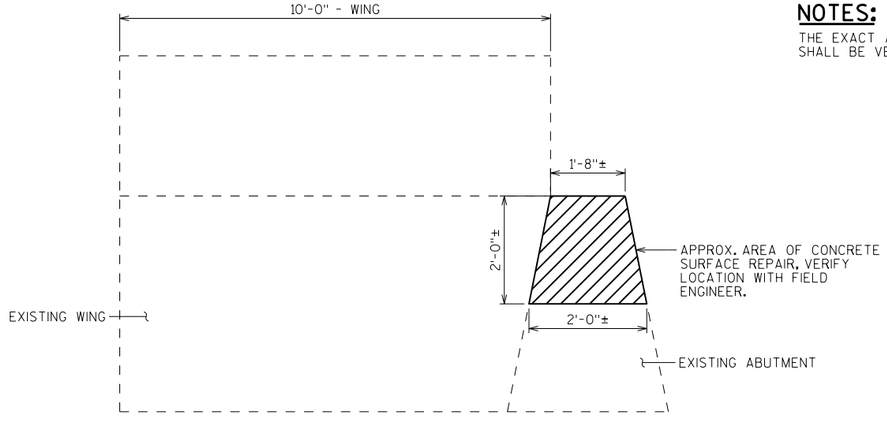
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
☆	A501	X	3	1'-3"			ANCHORAGE BARS - SE ABUT. CORNER

☆ ADHESIVE ANCHORS NO. 5 EMBED 7" IN SOUND CONCRETE



WING 3 ELEVATION



WING ELEVATION

(WING 2 SHOWN, WINGS 1 & 4 SIMILAR)

NOTES:

THE EXACT AMOUNT AND LOCATIONS OF SURFACE REPAIR SHALL BE VERIFIED BY THE FIELD ENGINEER.

INDICATES WING NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-64

DRAWN BY SEW | PLANS CK'D. NAR

ABUTMENT REPAIRS

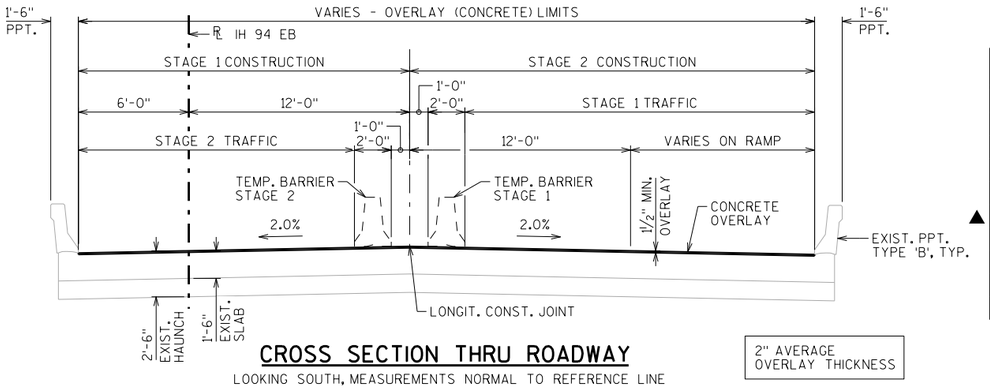
SHEET 2

81

SCALE = 3.00

8

8



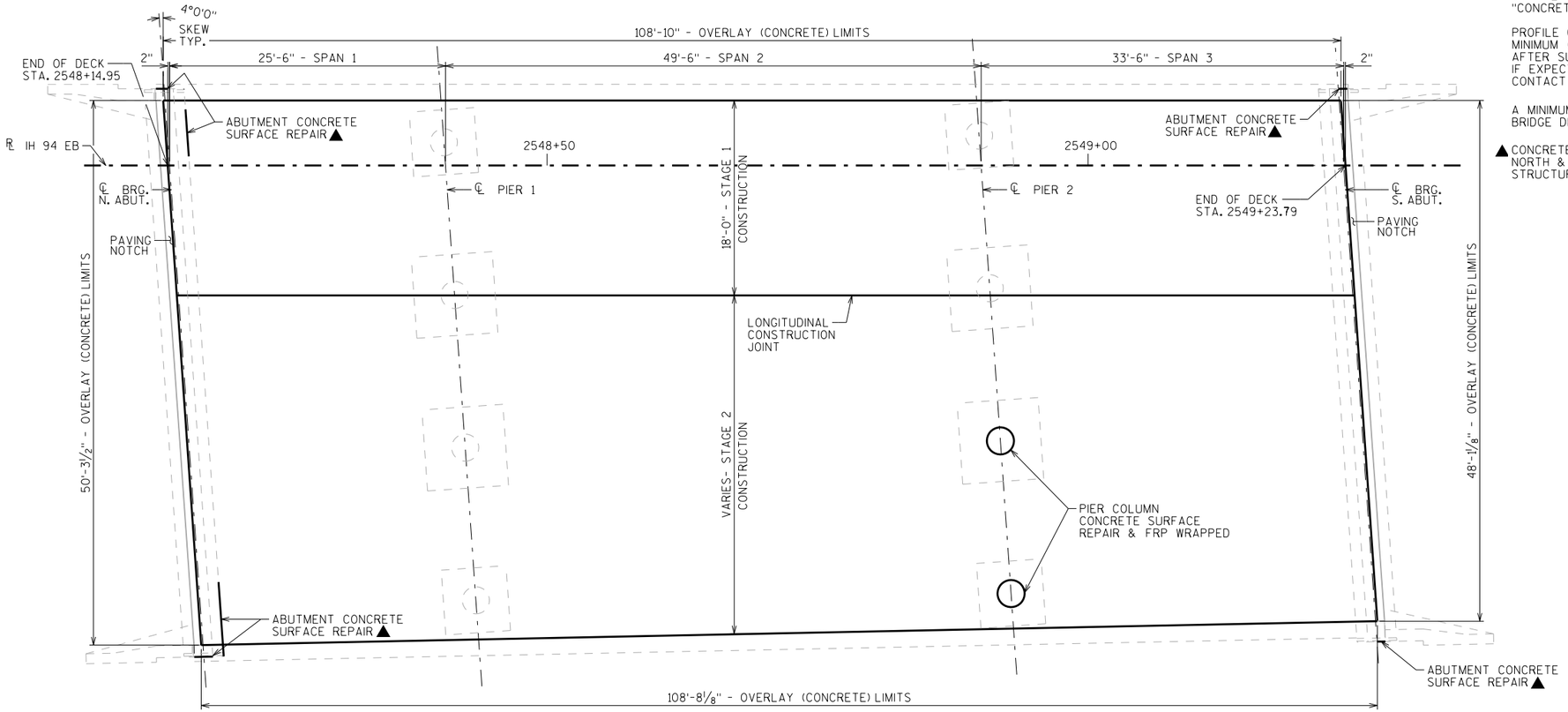
CROSS SECTION THRU ROADWAY

LOOKING SOUTH, MEASUREMENTS NORMAL TO REFERENCE LINE

2" AVERAGE OVERLAY THICKNESS

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
502.3200	PROTECTIVE SURFACE TREATMENT	SY	595
502.3210	PIGMENTED SURFACE SEALER	SY	104
509.0301	PREPARATION DECKS TYPE 1	SY	10
509.0302	PREPARATION DECKS TYPE 2	SY	5
509.0500	CLEANING DECKS	SY	595
509.1500	CONCRETE SURFACE REPAIR	SF	45
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	33
509.9050.S	CLEANING PARAPETS	LF	260
SPV.0165	FIBER WRAP REINFORCING NON-STRUCTURAL	SF	79



PLAN

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. PIER 2 REPAIRS

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-24
OPERATING RATING: HS- 40
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 250 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY:
OVERLAY — f'c = 4,000 P.S.I.
ALL OTHER — f'c = 3,500 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF NEW CONCRETE OVERLAY.

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

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

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

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

▲ CONCRETE SURFACE REPAIR AS SHOWN ON THE PLANS AT THE ENDS OF THE NORTH & SOUTH ABUTMENTS. ENGINEER TO IDENTIFY OTHER LOCATIONS ON THE STRUCTURE IN NEED OF CONCRETE SURFACE REPAIR.

STATE PROJECT NUMBER

1023-06-72

STRUCTURE DESIGN CONTACTS:

STACIE WEIS (608) 261-6109
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

WISCONSIN DEPARTMENT OF TRANSPORTATION
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher AMB — CHIEF STRUCTURES DESIGN ENGINEER — 5/2/19 DATE

STRUCTURE B-41-66

IH 94 EB OVER CTH EW

COUNTY	CITY
MONROE	TOMAH

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
SEW	NAR	SEW	NAR

CONCRETE OVERLAY

SHEET 1 OF 2

82

I.D. 1023-06-02C DATE: FEB. 2018

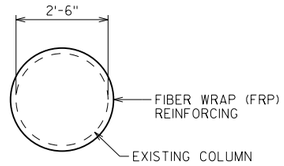
SCALE = 6.00

8

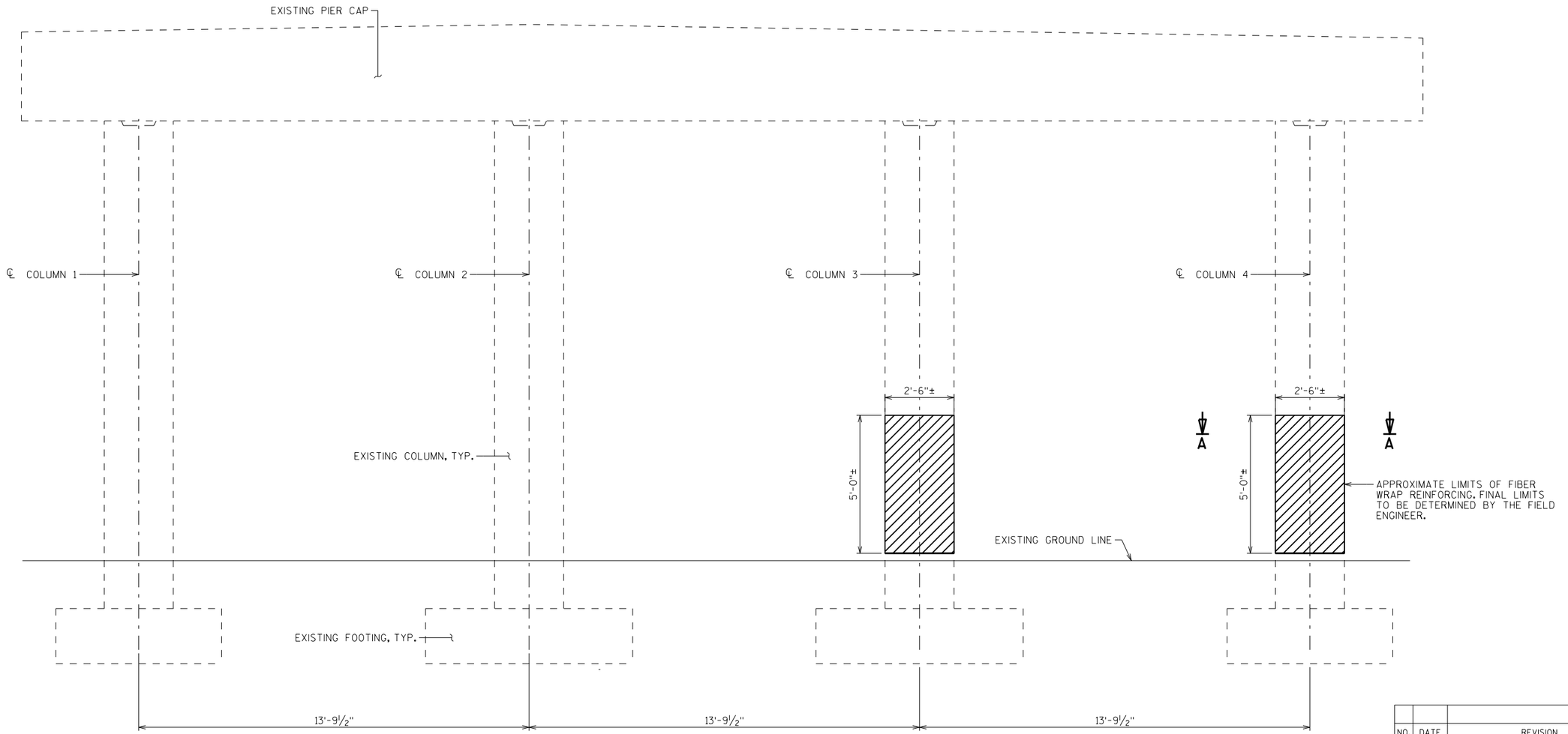
8

STATE PROJECT NUMBER

1023-06-72



SECTION A-A



PIER 2 ELEVATION

LOOKING SOUTH

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-66

DRAWN BY SEW | PLANS CK'D. NAR

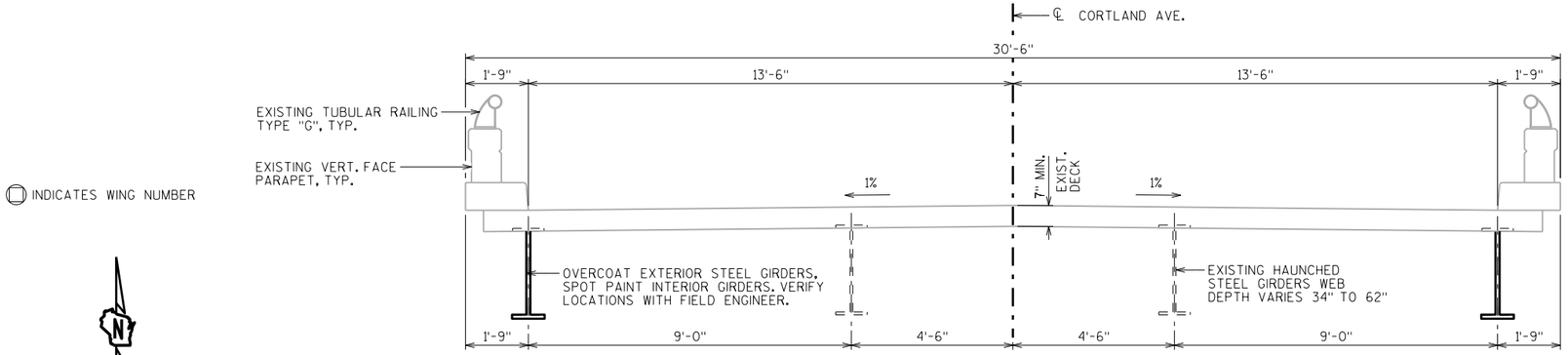
PIER 2 REPAIRS

SHEET 2

83

SCALE = 2.00

STATE PROJECT NUMBER
1023-06-72



CROSS-SECTION THRU DECK

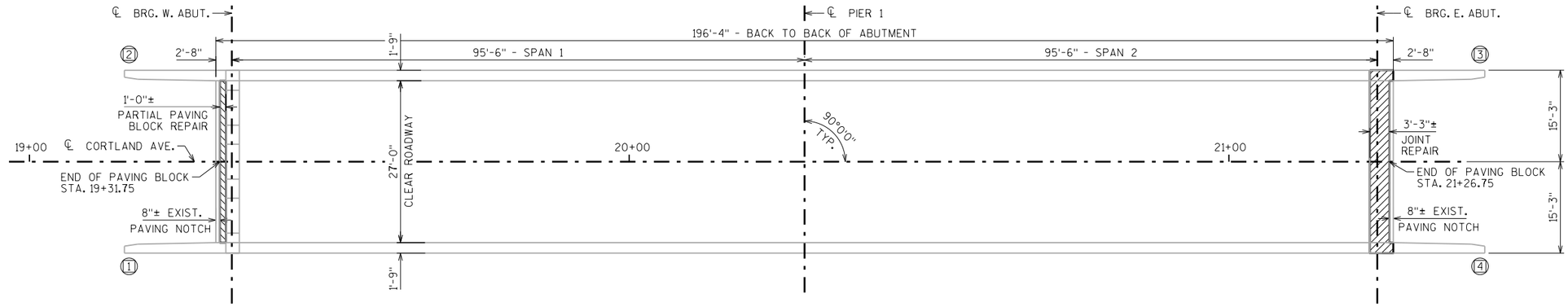
LOOKING EAST

MATERIAL PROPERTIES:

CONCRETE MASONRY:
- SUPERSTRUCTURE — f'c = 4,000 P.S.I.
- ALL OTHER — f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT:
- GRADE 60 — fy = 60,000 P.S.I.

LIST OF DRAWINGS



PLAN

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-41-68	LS	1
◐ 502.0100	CONCRETE MASONRY BRIDGES	CY	1
502.3100	EXPANSION DEVICE B-41-68	LS	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	645
502.3210	PIGMENTED SURFACE SEALER	SY	125
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	28
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	955
509.0301	PREPARATION DECKS TYPE 1	SY	1
509.0302	PREPARATION DECKS TYPE 2	SY	1
509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	1
509.1000	JOINT REPAIR	SY	14
509.1200	CURB REPAIR	LF	10
509.1500	CONCRETE SURFACE REPAIR	SF	14
◭ 509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	3
509.9050.S	CLEANING PARAPETS	LF	645
517.3000.S	STRUCTURE OVERCOATING CLEANING AND PRIMING B-41-68	LS	1
517.4000.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-41-68	LS	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	LS	1
	NON-BID ITEM		
	BRIDGE SEAT PROTECTION	LS	1
	HOT POURED ELASTIC TYPE JOINT SEALER	LS	1
	FILLER	SIZE	¼"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

THE EXISTING DECK, ABUTMENTS, AND PARAPETS REQUIRE CONCRETE SURFACE REPAIR, AREAS SHOULD BE DETERMINED BY THE ENGINEER IN THE FIELD.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPES 2, CURB REPAIR AND CONCRETE SURFACE REPAIR AREAS ARE FOR INFORMATIONAL PURPOSES ONLY AND FINAL AREAS TO BE DETERMINED BY THE FIELD ENGINEER.

JOINT REPAIR QUANTITY INCLUDES INCLUDES PARTIAL PAVING BLOCK REPAIR AND JOINT REPAIR AREAS AS DEFINED ON THIS SHEET.

◐ CONCRETE MASONRY BRIDGES QUANTITY INCLUDES CURB AND PARAPET CONCRETE QUANTITIES WITHIN THE JOINT REPAIR AREAS

◭ CONCRETE MASONRY DECK REPAIR QUANTITIES INCLUDE ALL CONCRETE WITHIN THE JOINT REPAIR AREAS, EXCEPT THE CURB AND PARAPET CONCRETE. ALSO INCLUDED IN THE CONCRETE MASONRY DECK REPAIR QUANTITIES IS THE CONCRETE FOR THE PREPARATION DECKS TYPE 1 & 2 AREAS AND THE CURB REPAIR AREAS NOT WITHIN THE JOINT REPAIR AREAS.

CLEAN AND PAINT EXTERIOR GIRDERS, CLEAN AND SPOT PAINT INTERIOR GIRDERS. THE COLOR SHALL BE GRAY (FEDERAL COLOR #26293) OR SIMILAR COLOR APPROVED BY THE FIELD ENGINEER.

ANY EXCAVATION NECESSARY TO COMPLETE THE PAVING BLOCK REPAIR OR JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "JOINT REPAIR".

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK AND CURBS.

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

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF BOTH ABUTMENTS, WORK TO BE INCIDENTAL TO "JOINT REPAIR".

STRUCTURE DESIGN CONTACTS:

STACIE WEIS (608) 261-6109
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

WISCONSIN DEPARTMENT OF TRANSPORTATION — BUREAU OF STRUCTURES

ACCEPTED William C. Dreher — CHIEF STRUCTURES DESIGN ENGINEER — 5/2/19 DATE

STRUCTURE B-41-68

CORTLAND AVE. OVER IH 94

COUNTY	CITY
MONROE	TOMAH

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
SEW	NAR	SEW	NAR

JOINT REPAIR

SHEET 1 OF 5

84

I.D. 1023-06-02D DATE: FEB. 2018

SCALE = 10.00

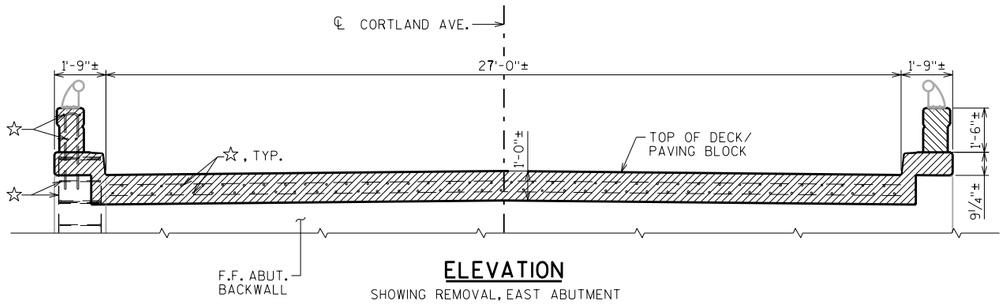
8

8

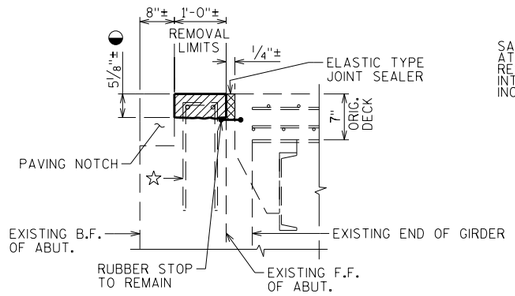
STATE PROJECT NUMBER
1023-06-72

◐ DO NOT REMOVE EXISTING PAVING BLOCK BELOW EXISTING RUBBER STOP. PAVING BLOCK REMOVAL DEPTH TO BE DETERMINED BY THE FIELD ENGINEER.

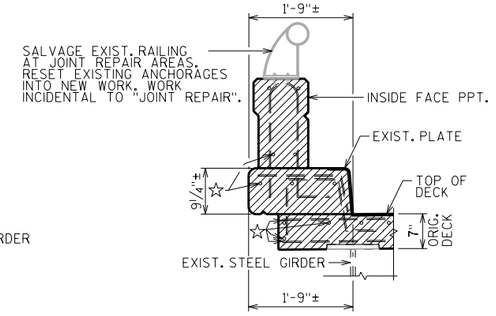
☆ SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK TRIM REBAR AS NECESSARY TO ACCOMMODATE NEW JOINT OPENING.



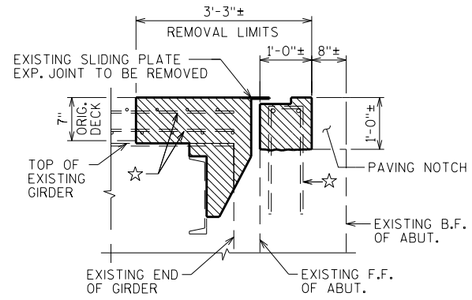
ELEVATION
SHOWING REMOVAL, EAST ABUTMENT



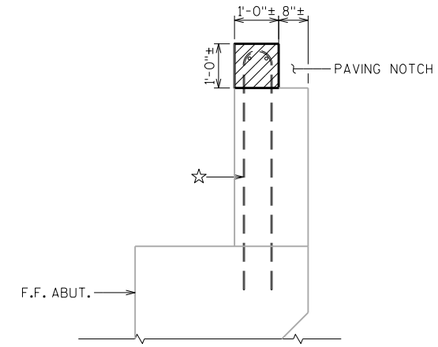
EXISTING SECTION THRU JOINT REPAIR
SHOWING REMOVAL, WEST ABUTMENT



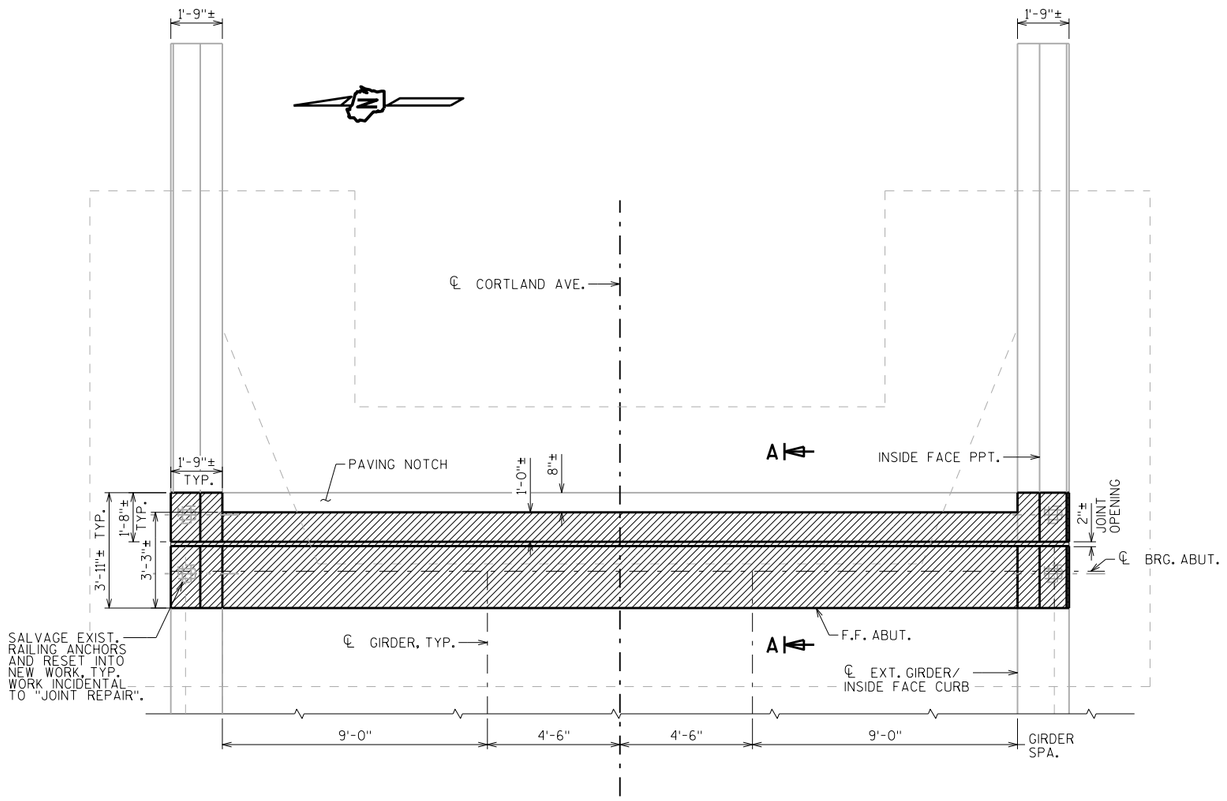
SECTION THRU EXISTING CURB AT JOINT
SHOWING REMOVAL, EAST ABUTMENT



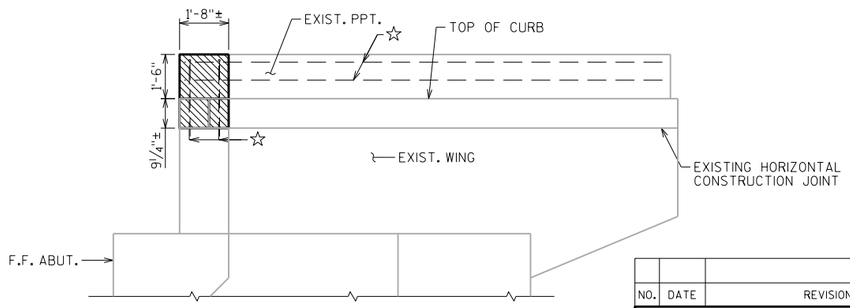
EXISTING SECTION THRU JOINT REPAIR
SHOWING REMOVAL, EAST ABUTMENT



SECTION A-A
SHOWING REMOVAL, EAST ABUTMENT



PLAN
SHOWING REMOVAL, EAST ABUTMENT



EXISTING WING ELEVATION
SHOWING REMOVAL, EAST ABUTMENT
(WING 4 SHOWN, WING 3 SIMILAR)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-68

DRAWN BY SEW | PLANS CK'D. NAR

STRUCTURE REMOVALS

SHEET 2

85

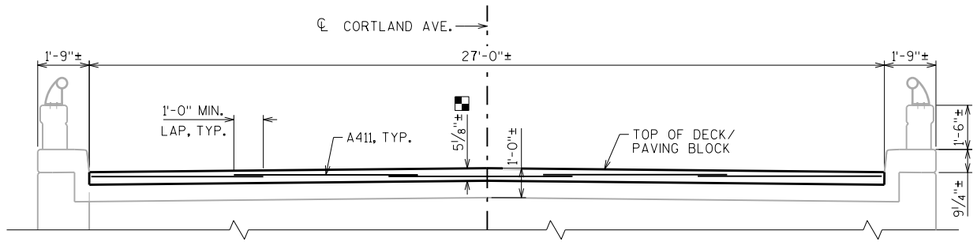
SCALE = 2.50

8

8

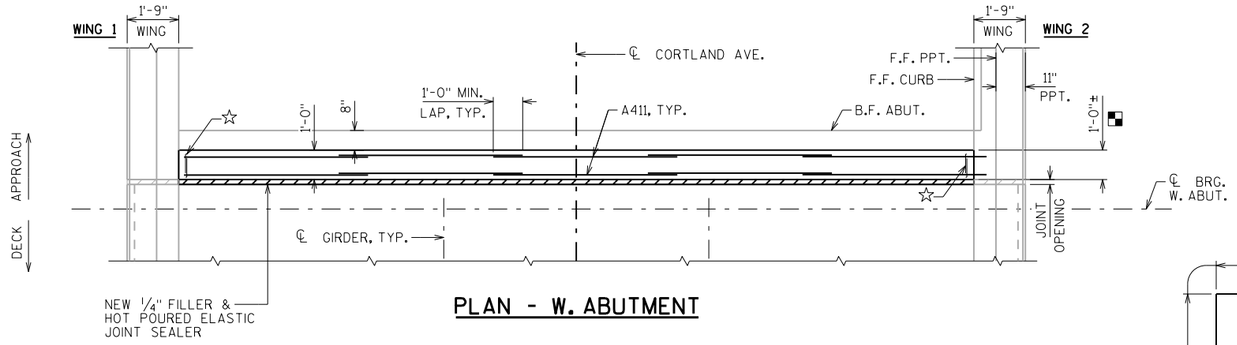
STATE PROJECT NUMBER

1023-06-72

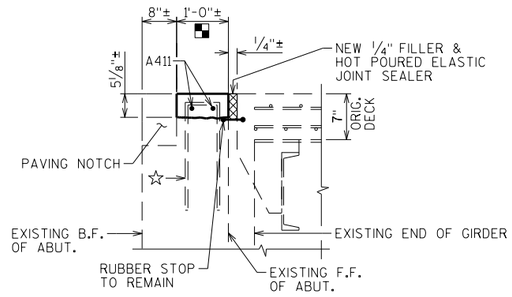


ELEVATION

SHOWING PROPOSED WORK, WEST ABUTMENT

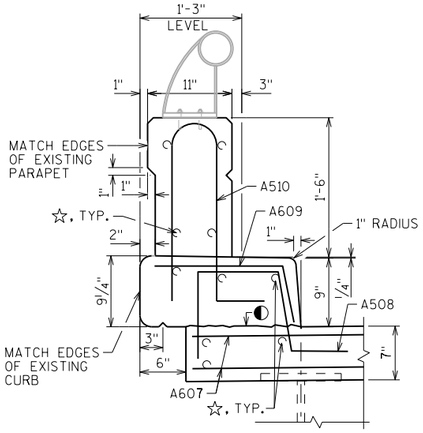


PLAN - W. ABUTMENT



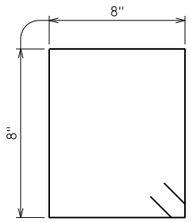
SECTION THRU PAVING BLOCK

WEST ABUTMENT

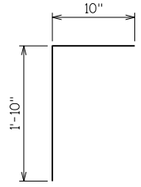


SECTION THRU NEW PARAPET/CURB AT JOINT

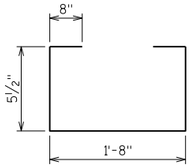
SHOWING SUPERSTRUCTURE SIDE OF JOINT



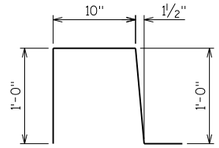
A401



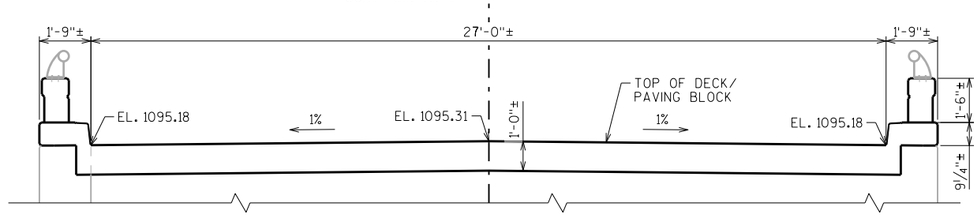
A502



A403

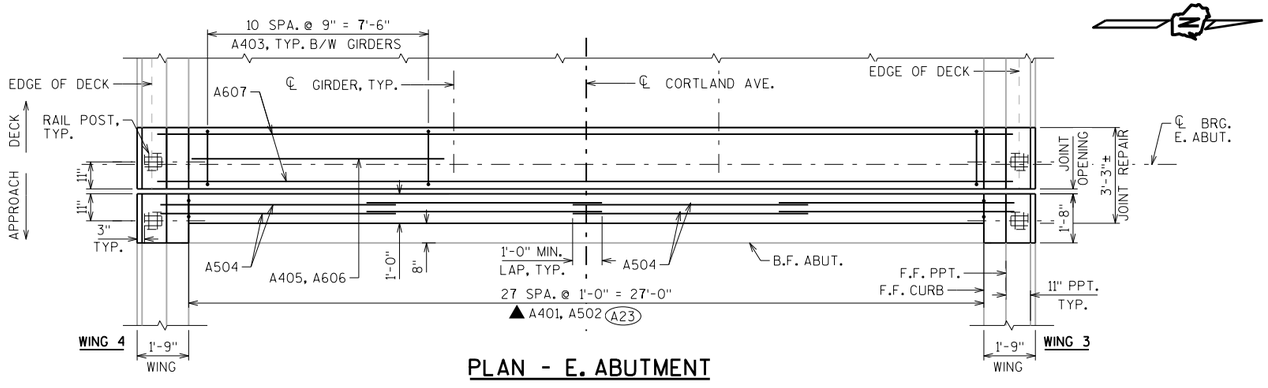


A508

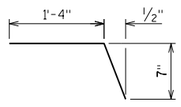


ELEVATION

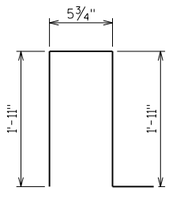
SHOWING PROPOSED WORK, EAST ABUTMENT



PLAN - E. ABUTMENT



A609



A510

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401	X	28	3'-2"	X		ABUT. PAVING BLOCK - STIRRUP
(A23) A502	X	28	2'-7"	X		ABUT. PAVING BLOCK - VERT. - LONGIT.
A403	X	33	3'-7"	X		ABUT. DIAPH. - VERT.
A504	X	12	7'-8"			EAST PAVING BLOCK - HORIZ.
A405	X	6	8'-7"			EXPANSION DEVICE - HORIZ. - B/W GIRDERS
A606	X	15	8'-7"			ABUT. DIAPH. - HORIZ.
A607	X	7	29'-2"			DECK.- HORIZ. - TRANS. - TOP & BOT.
A508	X	6	3'-9"	X		PPT. - VERT. - TRANS. - DECK
A609	X	6	1'-9"	X		PPT. - VERT. - TRANS. - DECK
A510	X	6	4'-9"	X		PPT. - VERT. - TRANS. - DECK
A411	X	10	6'-3"			W. PAVING BLOCK - HORIZ. - TRANS.

(A23) ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" INTO EXIST. CONCRETE. TURN LEG AS NECESSARY TO FIT.

☆ SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK TRIM REBAR AS NECESSARY TO ACCOMMODATE NEW JOINT OPENING.

▩ PARTIAL PAVING BLOCK REPAIR

▲ SHIFT AS NECESSARY TO AVOID EXPANSION JOINT HARDWARE.

◐ CONSTRUCTION JOINT TO BE LEFT ROUGH

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-68

DRAWN BY SEW | PLANS CK'D. NAR

PROPOSED WORK

SHEET 3

86

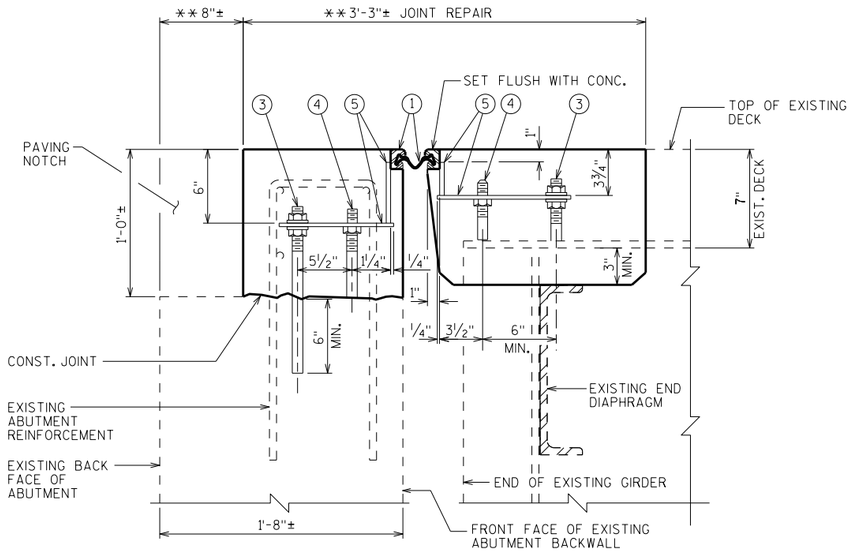
SCALE = 2.50

8

8

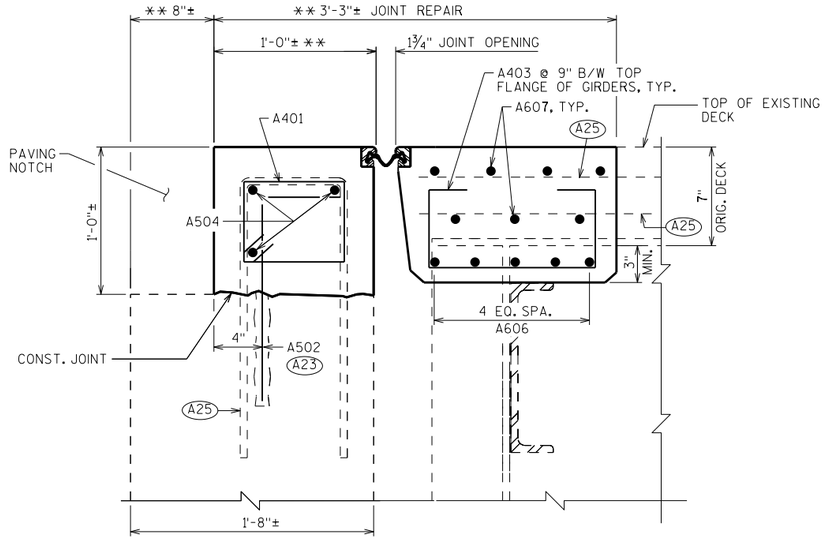
STATE PROJECT NUMBER

1023-06-72



SECTION THRU JOINT AT ABUTMENT

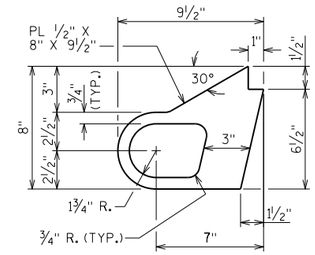
NORMAL TO ℄ SUBSTRUCTURE
AT EAST ABUTMENT



SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE
AT EAST ABUTMENT

** DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE



ALTERNATE STRIP SEAL ANCHOR

LEGEND

(1) NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

(2) STUDS ⅝" DIA. X 6⅜" LONG WELD TO EXTRUSIONS.

(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" CENTERS BETWEEN GIRDERS.

(3) ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(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.

(A23) ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" INTO EXIST. CONCRETE. TURN HORIZ. LEG AS NECESSARY TO FIT.

(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

GENERAL NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

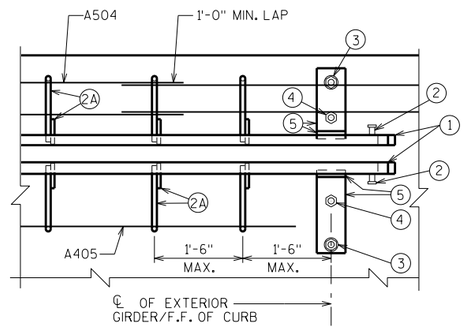
AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

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

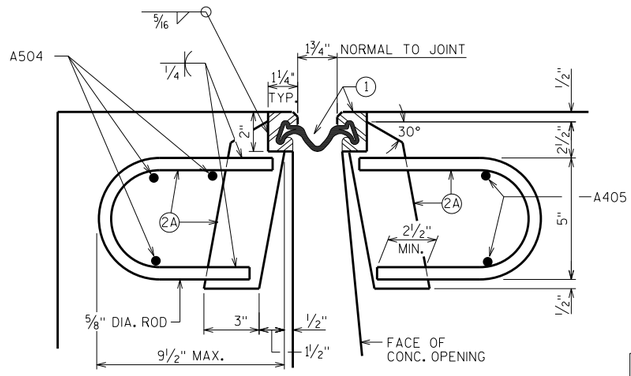
SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

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.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-41-68".



PART PLAN



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS/CURBS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-68

DRAWN BY SEW | PLANS CK'D. NAR

EXPANSION DEVICE

SHEET 4

87

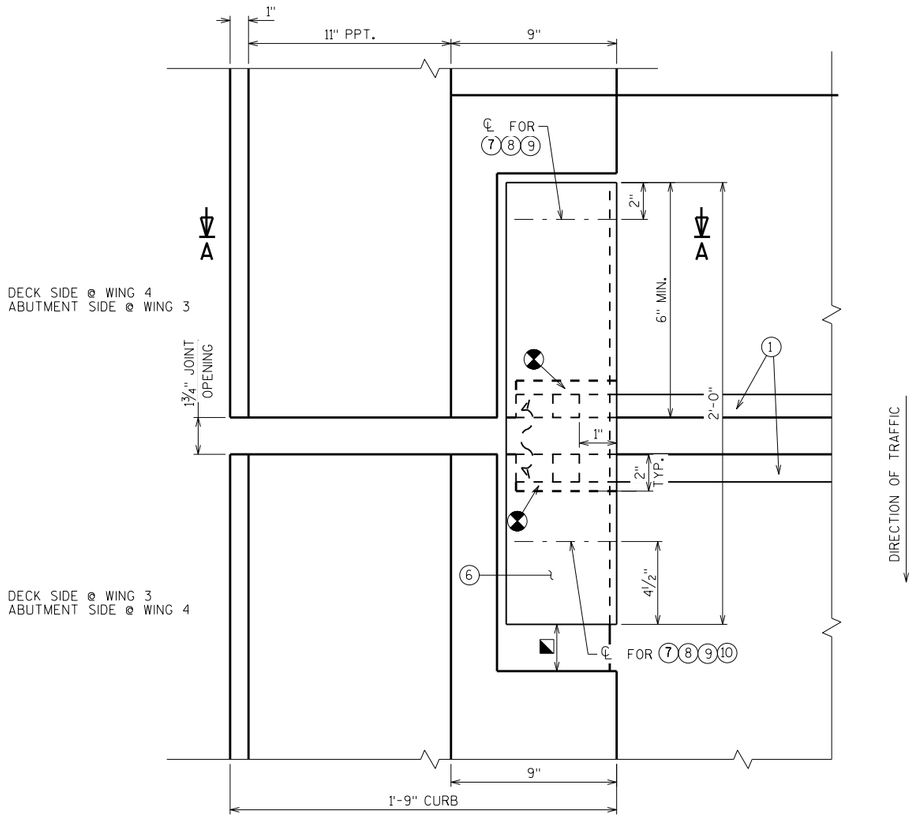
SCALE = 1.00

8

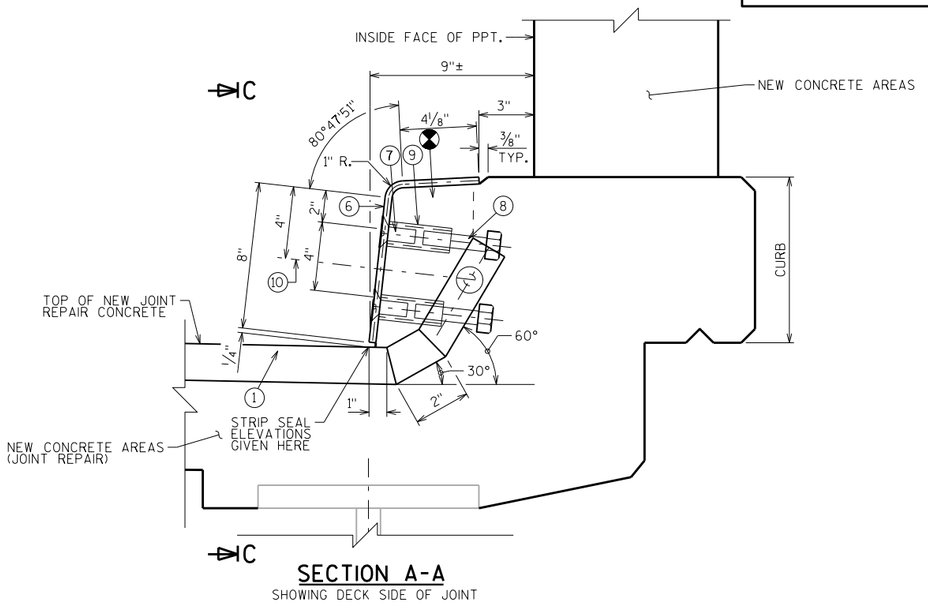
8

STATE PROJECT NUMBER

1023-06-72



PLAN DETAIL AT COVER PLATE

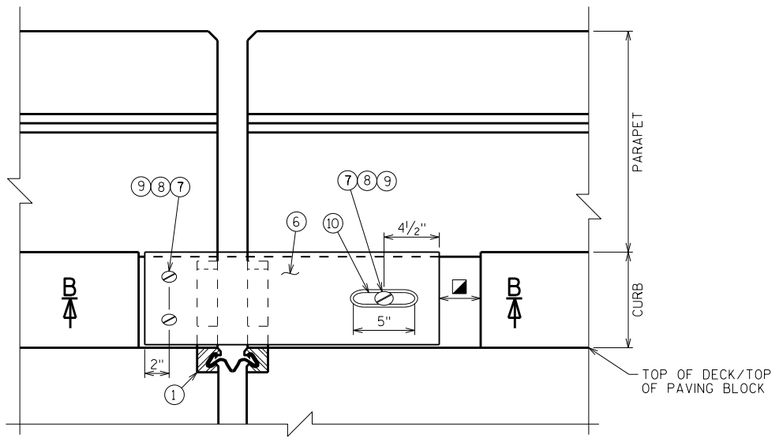


SECTION A-A

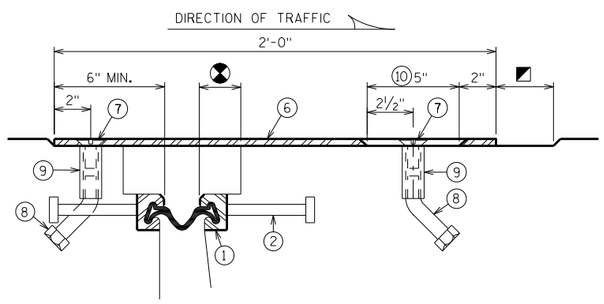
SHOWING DECK SIDE OF JOINT

NOTES:
REBUILD NEW CURB, WING AND DECK AREAS TO MATCH THE EXISTING CURB, WING AND DECK.

#6 GALVANIZED PLATE BENDS SHALL MATCH THE EXTERIOR EDGES OF CURB SURFACES.



SECTION C-C
VIEW OF CURB PLATE
FROM ROADWAY



SECTION B-B

LEGEND

1. NEOPRENE STRIP SEAL (4 INCH) & STEEL EXTRUSIONS.
2. STUDS ⅝"Φ X 6⅜" LONG WELD TO EXTRUSIONS AS SHOWN.
6. GALVANIZED PLATE ⅜" X LIMITS SHOWN WITH HOLES FOR #7. BEND AS SHOWN.
7. ¾"Φ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾"Φ X 2¼" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED CSK. HOLE FOR #7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.

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

◪ JOINT OPENING DIM. ALONG SKEW PLUS ½".

NOTE:

ANCHOR SYSTEM #8 & #9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-68

DRAWN BY SEW | PLANS CK'D. NAR

COVER PLATE DETAILS

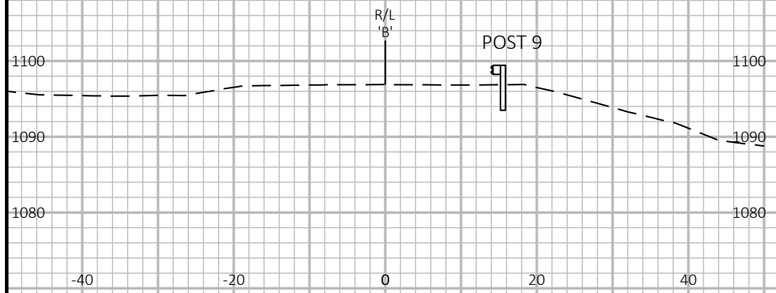
SHEET 5

88

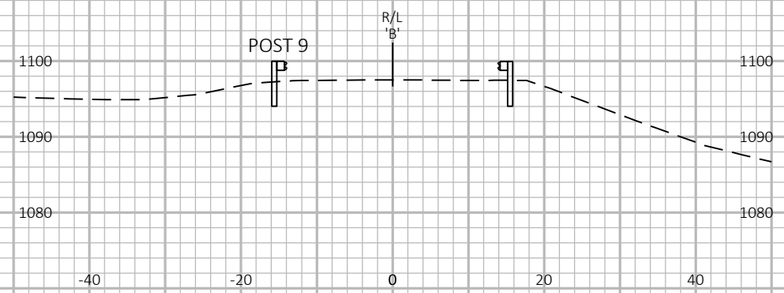
SCALE = 1.00

8

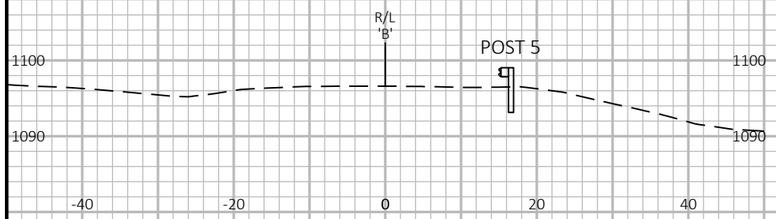
8



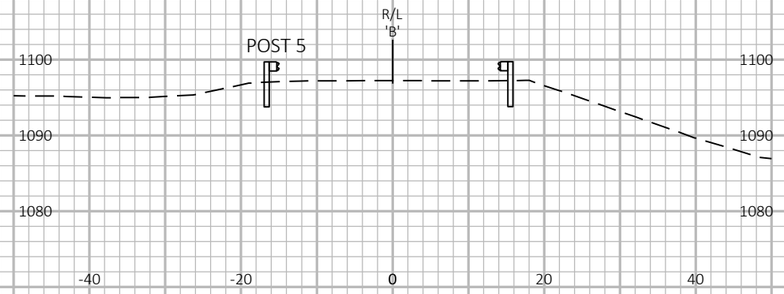
17+97B



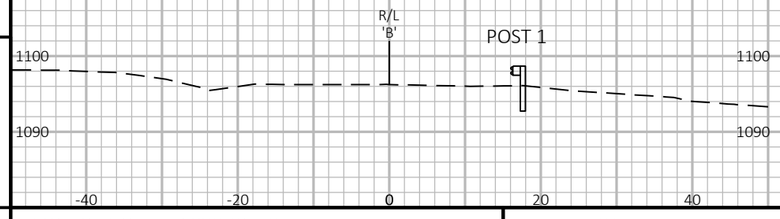
18+59B



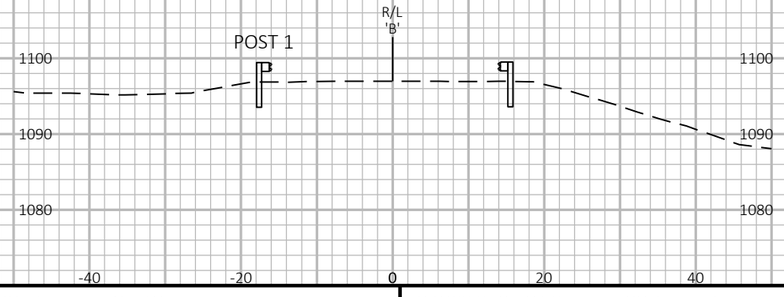
17+72B



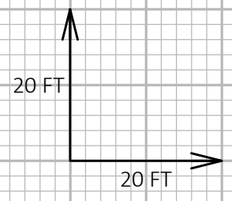
18+34B



17+47B



18+09B



9

9

PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	CROSS SECTIONS: CORTLAND AVE	SHEET 89	E

FILE NAME : N:\PDS\C3D\10230602\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - Section Sheet - (1)

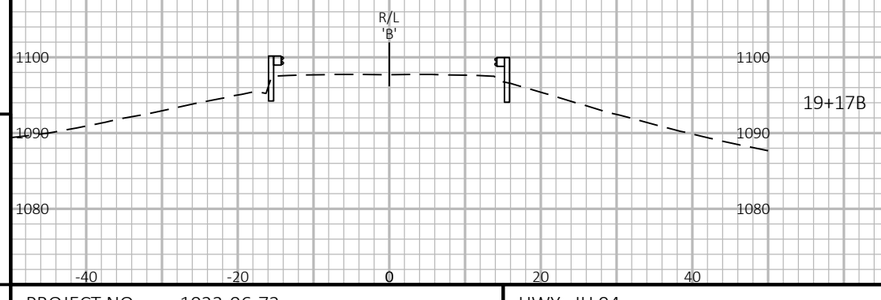
PLOT DATE : 4/26/2017 3:12 PM

PLOT BY : MECUM, BRANDYN W

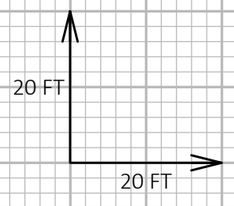
PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



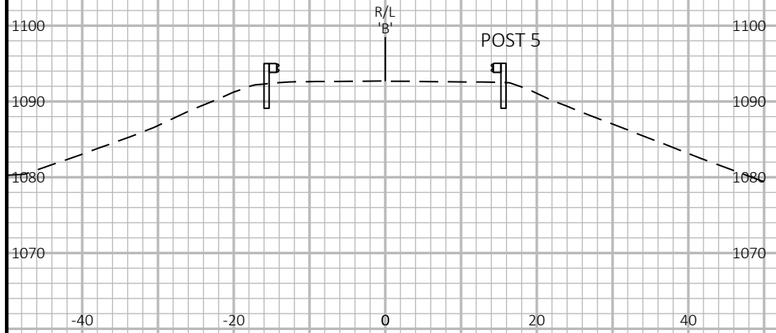
19+17B



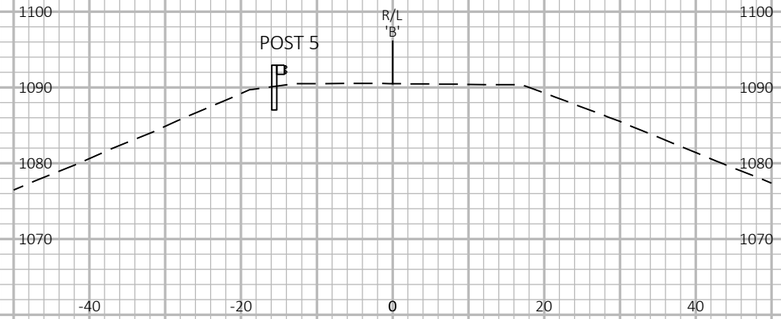
9

9

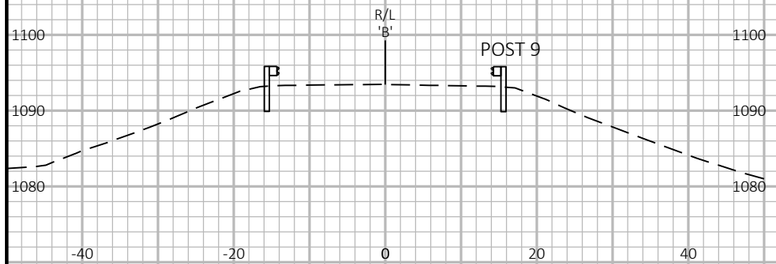
PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	CROSS SECTIONS: CORTLAND AVE	SHEET 90	E



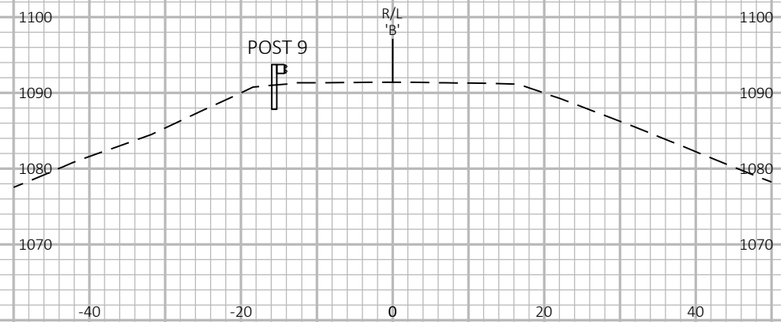
22+23B



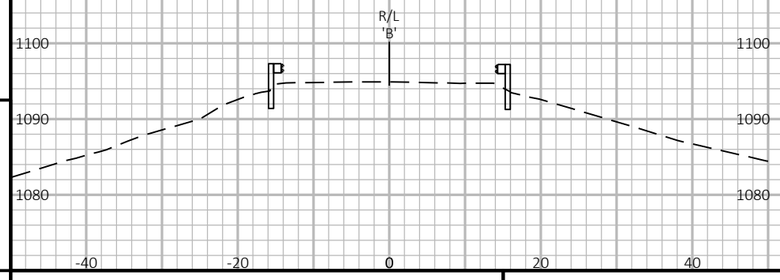
22+85B



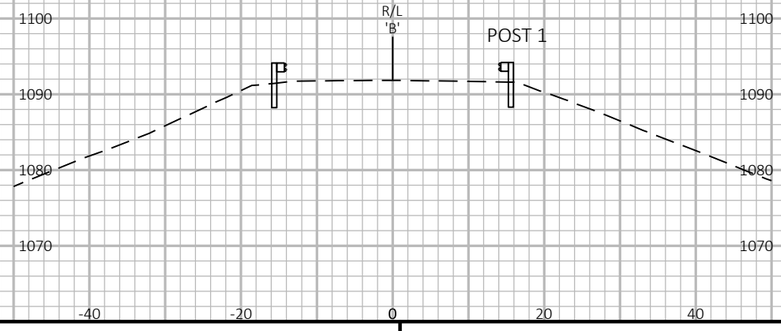
21+98B



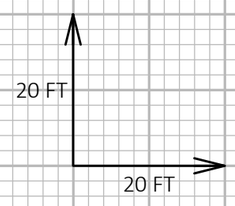
22+60B



21+40B



22+48B



9

9

PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	CROSS SECTIONS: CORTLAND AVE	SHEET 91	E

FILE NAME : N:\PDS\C3D\10230602\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - Section Sheet - (3)

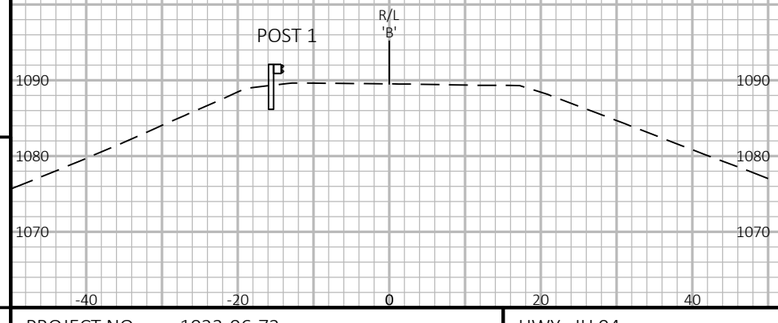
PLOT DATE : 4/26/2017 3:12 PM

PLOT BY : MECUM, BRANDYN W

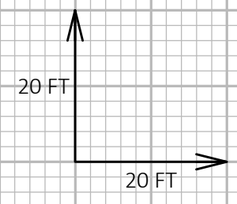
PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



23+10B



9

9

PROJECT NO: 1023-06-72	HWY: IH 94	COUNTY: MONROE	CROSS SECTIONS: CORTLAND AVE	SHEET 92	E

FILE NAME : N:\PDS\C3D\10230602\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - Section Sheet - (4)

PLOT DATE : 4/26/2017 3:12 PM PLOT BY : MECUM, BRANDYN W PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov