WIS

JANUARY 2018

ORDER OF SHEETS

TOTAL SHEETS = 82

PROJECT ID: 6844-14-70

WITH: N/A

COUNTY: WAUPACA

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6844-14-70	WISC 2018052	1

EVANS STREET - SHADOW LAKE ROAD

CRYSTAL RIVER ARCH BRIDGE B-68-0139

CTH E

WAUPACA COUNTY

STATE PROJECT NUMBER
6844-14-70

2020

DESIGN DESIGNATION

A.A.D.T.	2018	= 6,100
A.A.D.T.	2038	= 6,700
D.H.V.		= 777
D.D.		= 59/41
T.		= 3.9%
DESIGN SPEED		= 30 MPH
ESALS		= 570,000

CONVENTIONAL SYMBOLS

PLAN

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

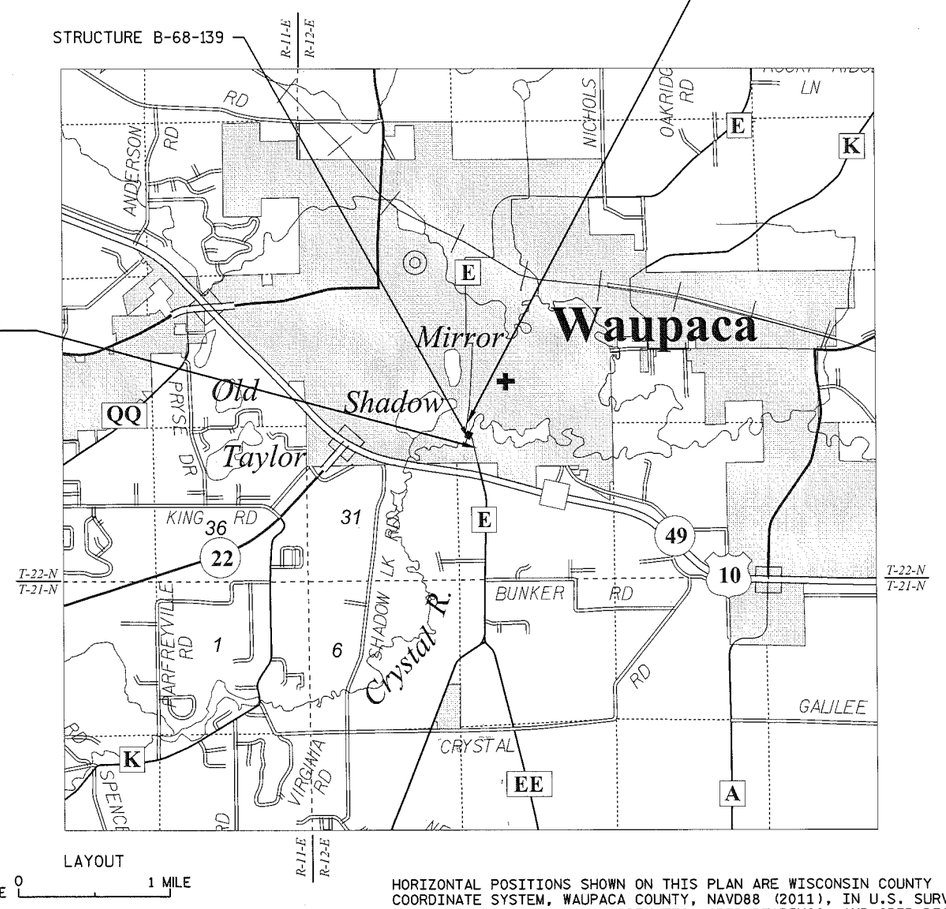
UTILITIES

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

STRUCTURE B-68-139

END PROJECT 6844-14-70
STA 17+00.00

BEGIN PROJECT 6844-14-70
STA 12+40.00
Y= 336627.927
X= 537964.958



LAYOUT

SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.087 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATE SYSTEM, WAUPACA COUNTY, NAVD88 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES. VERTICAL DATUM IS NAVD 88.

ACCEPTED FOR
WAUPACA COUNTY

DATE: 7/25/17 (Signature) ON BEHALF OF CASEY BECKSTROM

Engineering Specialist
TITLE

ORIGINAL PLANS PREPARED BY

OMNNI ASSOCIATES

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON, WI
PROFESSIONAL ENGINEER
7/21/17

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	OMNNI ASSOCIATES
Designer	OMNNI ASSOCIATES
Management Consultant	CEDAR CORP.

APPROVED FOR THE DEPARTMENT

DATE: 7-31-2017 MANAGEMENT CONSULTANT SIGNATURE

E

GENERAL NOTES

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

FILL AS SHOWN ON THE PLANS PERTAINS TO EMBANKMENTS CONSTRUCTED FROM COMMON EXCAVATION. THE ALLOWANCE USED FOR EXPANDING THE FILLS TO COMPUTE THE VOLUME OF MATERIAL REQUIRED IS 25 PERCENT. ALL FILL VOLUMES SHOWN ARE THE ACTUAL VOLUMES.

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

CONSTRUCT HMA PAVEMENT 4 1/4" DEPTH AS FOLLOWS:
- 1 3/4" UPPER LAYER (TYPE 4 LT 58-28 S)
- 2 1/2" LOWER LAYER (TYPE 3 LT 58-28 S)

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

ALL DISTURBED AREAS, NOT OTHERWISE SURFACED ARE TO BE TOPSOILED, FERTILIZED, SEEDED AND COVERED WITH EROSION MAT.

USE SEED MIXTURE NO. 40 ON LAWN AREAS. USE SEED MIXTURE NO. 20 ON ALL OTHER DISTURBED AREAS, EXCEPT SEED WETLAND AREAS WITH MIXTURE NO. 60.

WETLAND AREAS ARE SHOWN ON THE PLANS. CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO WORK WITHIN THE SLOPE INTERCEPTS IN THE WETLAND AREAS.

THE EXACT LOCATIONS OF ALL EROSION CONTROL ITEMS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

DISTANCES SHOWN ON THIS PLAN ARE GROUND DISTANCES.

PLAN ELEVATIONS = USGS DATUM, NAVD 88

EROSION CONTROL NOTES

RUNOFF COEFFICIENTS FOR THIS PROJECT: EXISTING PAVEMENT 0.95, EXISTING SLOPES 0.30, NEW PAVEMENT 0.95, NEW SLOPES 0.30.

TOTAL PROJECT AREA = 0.90 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.63 ACRES

UTILITIES

GAS
WE ENERGIES
333 WEST EVERETT STREET, A299
MILWAUKEE, WI 53203
ATTN: DAN SANDE
TELEPHONE: (414) 550-4993
EMAIL: dan.sande@we-energies.com

ELECTRIC
WISCONSIN PUBLIC SERVICE
700 N ADAMS STREET
PO BOX 19001
GREEN BAY, WI 54307
ATTN: LORI BUTRY
TELEPHONE: (920) 433-1703
EMAIL: LAButry@integrysgroup.com

COMMUNICATIONS
CHARTER COMMUNICATIONS
5024 HEFFRON STREET
STEVENS POINT, WI 54481
ATTN: RUDI RUDIGER
TELEPHONE: (715) 302-1550
EMAIL: rrudiger@chartercom.com

COMMUNICATIONS
AT & T - WISCONSIN
221 W. WASHINGTON ST. FLOOR 4
APPLETON, WI 54911
ATTN: VINCENT LEBRUN
TELEPHONE: (920) 735-3076
EMAIL: vl1253@att.com

CONTACTS

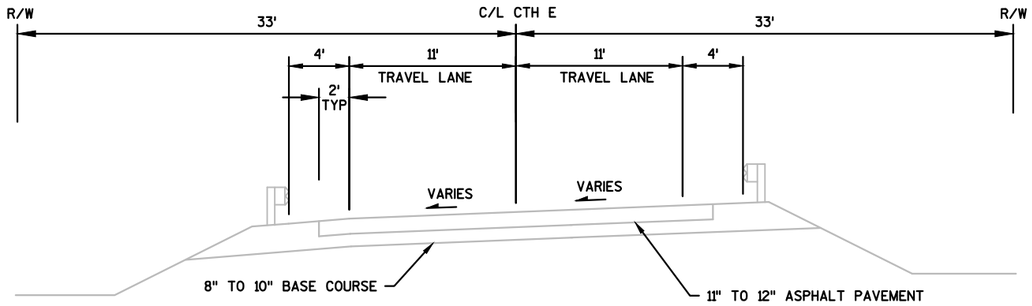
CITY OF WAUPACA
JUSTIN BERRENS, DIRECTOR OF PUBLIC WORKS
111 SOUTH MAIN STREET
WAUPACA, WI 54981
TELEPHONE: (715) 258-4420
EMAIL: jberrens@cityofwaupaca.org

WAUPACA COUNTY
CASEY BEYERSDORF, HIGHWAY COMMISSIONER
515 EAST FULTON STREET
WAUPACA, WI 54981
TELEPHONE: 715-258-7152
EMAIL: casey.beyersdorf@co.waupaca.wi.us

DESIGN CONSULTANT
KRISTOFER OLSON, P.E.
OMNNI ASSOCIATES, INC.
ONE SYSTEMS DRIVE
APPLETON, WI 54914
TELEPHONE: 920-830-6123
EMAIL: kris.olson@omnni.com

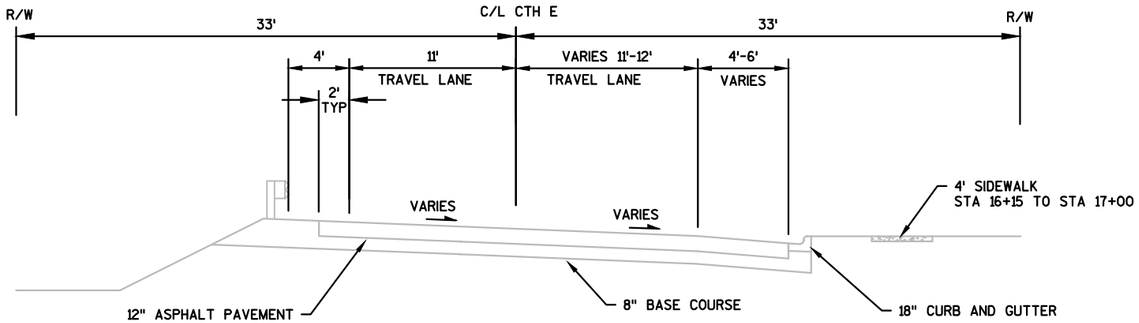
DNR LIAISON
MARC HERSHFIELD
DEPARTMENT OF NATURAL RESOURCES
473 GRIFFITH AVENUE
WISCONSIN RAPIDS, WI 54494
TELEPHONE: 715-421-7867
EMAIL: marc.hershfield@wisconsin.gov

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



EXISTING TYPICAL SECTION

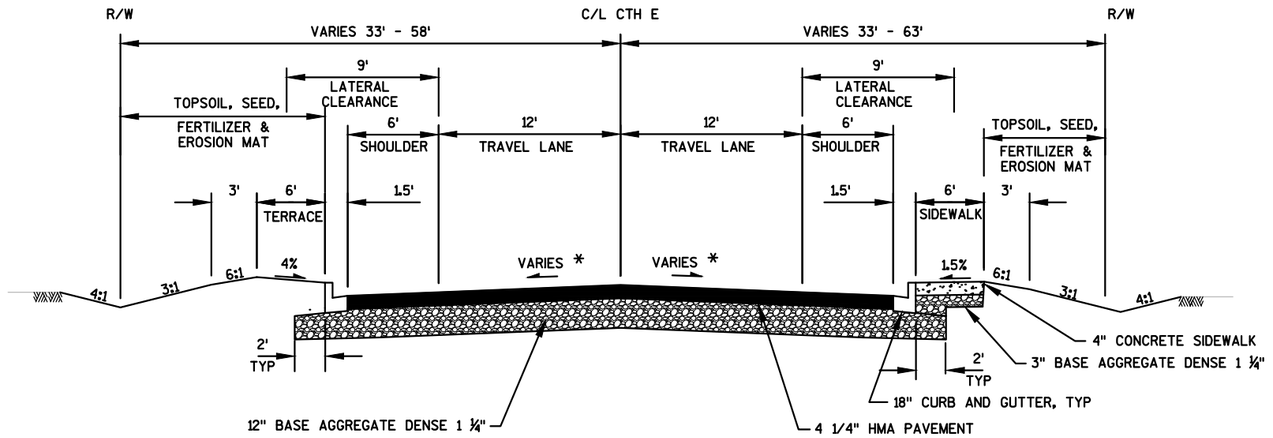
STA. 12+40 TO STA 15+08



EXISTING TYPICAL SECTION

STA. 15+08 TO STA. 17+00

PROJECT NO: 6844-14-70	HWY: CTH E	COUNTY: WAUPACA	TYPICAL SECTIONS	SHEET 3	E



FINISHED TYPICAL SECTION

STA 12+40 TO STA 14+22.19
STA 14+85.02 TO STA 17+00.00

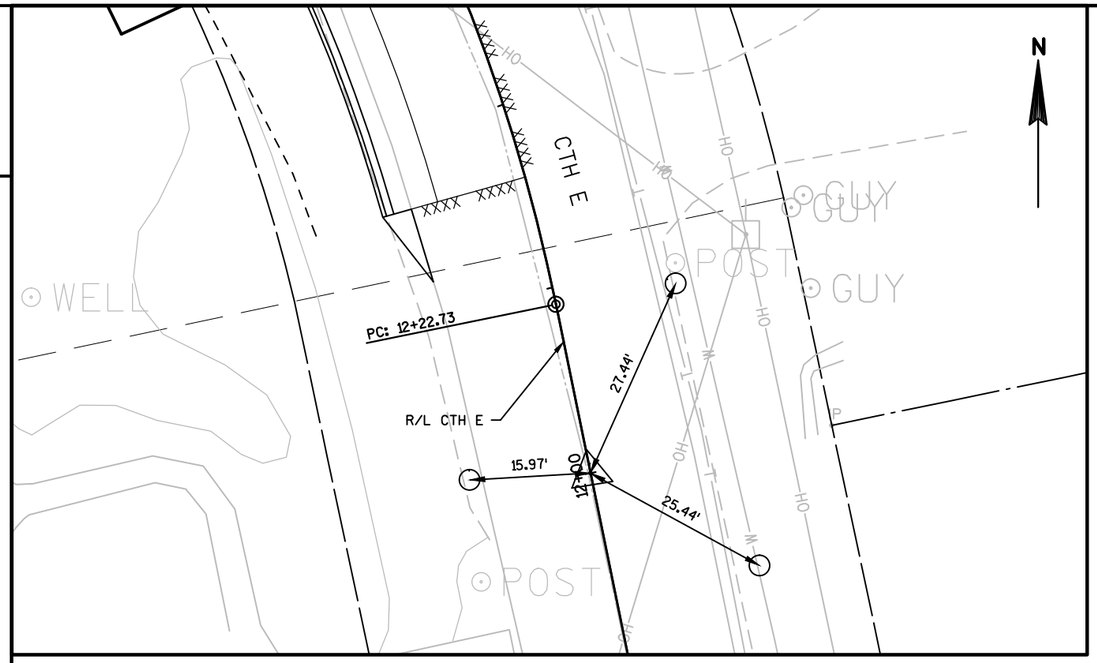
*FOR SUPERELEVATIONS, SEE PAVING GRADE DETAILS AND CROSS SECTIONS

CLEAR ZONE = 12'

PROJECT NO: 6844-14-70	HWY: CTH E	COUNTY: WAUPACA	TYPICAL SECTIONS	SHEET 4	E

FILE NAME : F:\TR\JOBS\E2145A15\CIVIL 3D 2014\SHEETSPLAN\68441470-020301-TS.DWG PLOT DATE : 6/14/2017 9:19 AM PLOT BY : MATT TOMSOVIC PLOT NAME : _____ PLOT SCALE : 1" = 10'

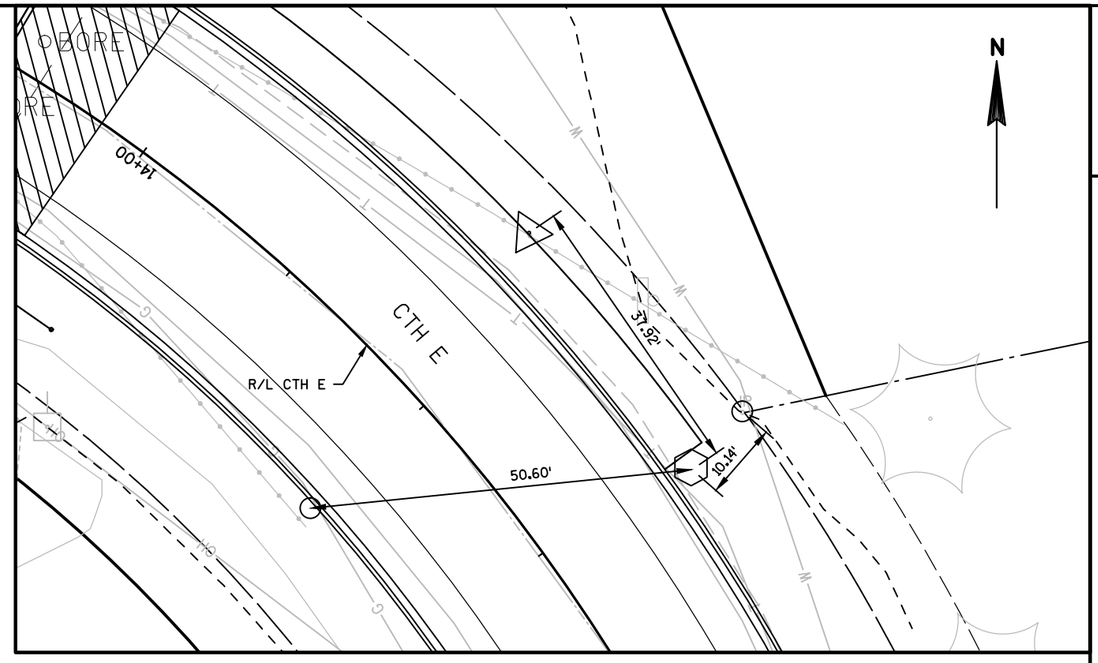
WISDOT/CADDS SHEET 42



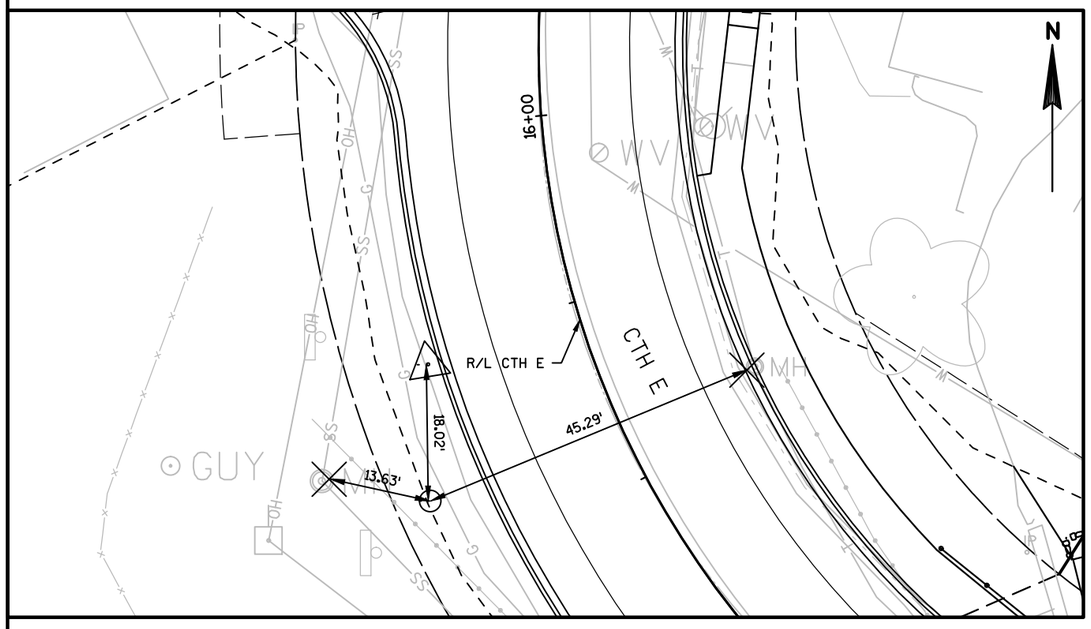
PI STA 12+00
Y=336588.880
X=537973.589

LEGEND

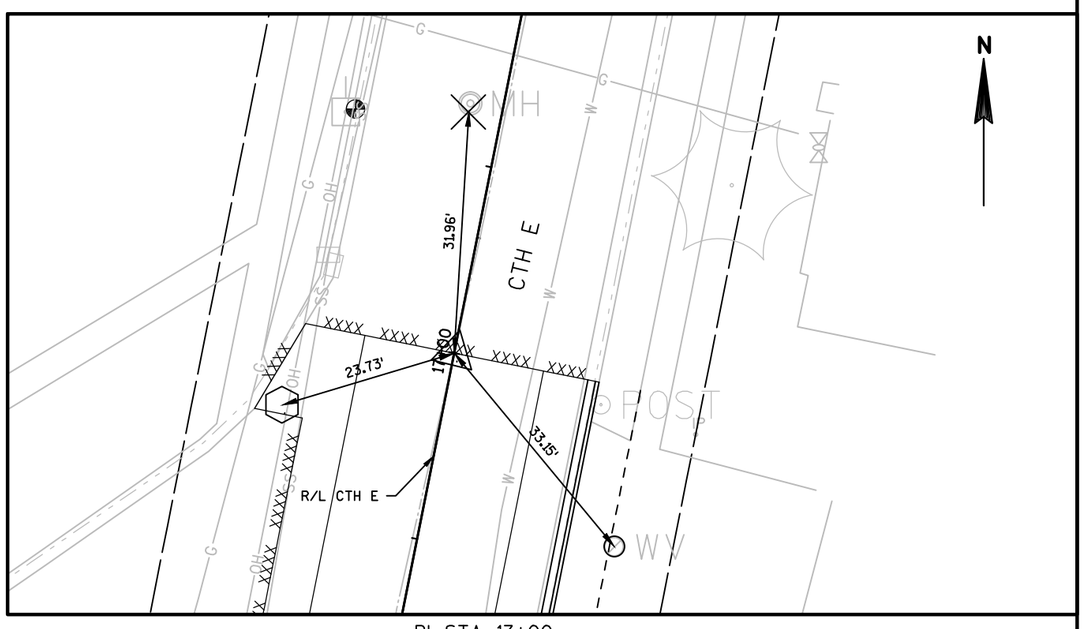
- MAG SPIKE
- IRON PIPE
- 3/4-INCH REBAR
- CHISELED X
- CENTER NOT WATER SERVICE VALVE



PI STA 13+28.76
Y=336515.018
X=537947.757

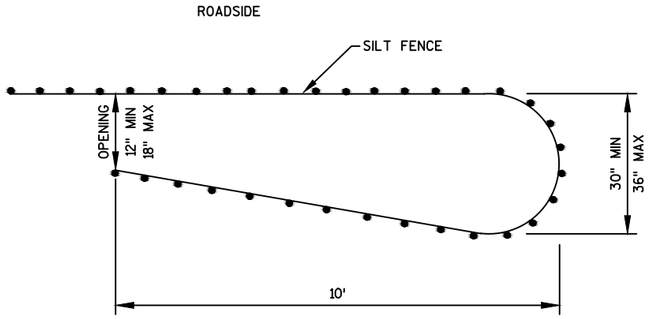


PI STA 15+69.65
Y=336844.539
X=537730.109



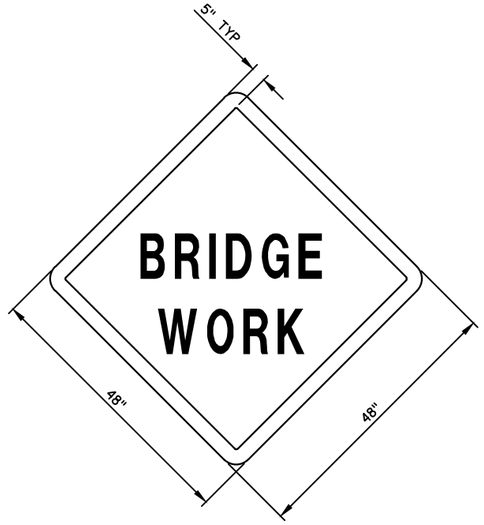
PI STA 17+00
Y=336993.931
X=537759.914

PROJECT NO:6844-14-70	HWY: CTH E	COUNTY: WAUPACA	ALIGNMENT TIES	SHEET 5	E



NOTES:
SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.

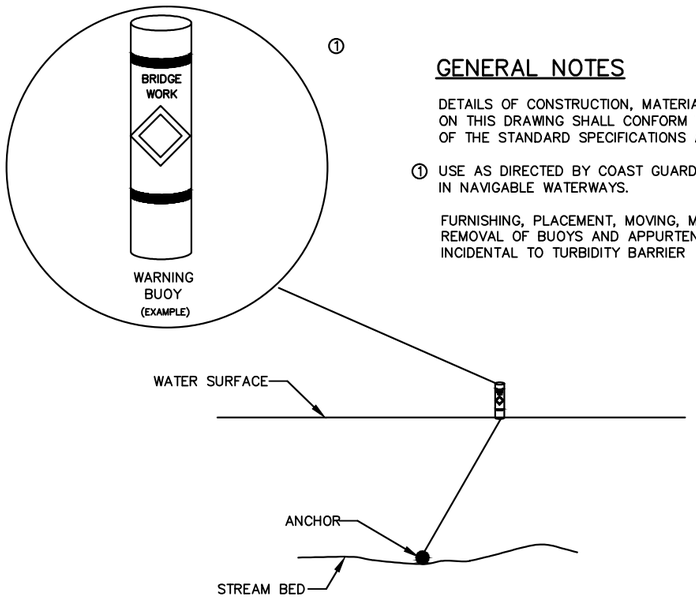
TEMPORARY SMALL ANIMAL BARRIER



TEMPORARY SIGN DETAILS

12-INCH BLACK BLOCK LETTERING.

ALL SIGNS SHALL CONFORM TO THE UNIFORM WATERWAY MARKING SYSTEM SET FORTH IN SECTION NR 5.09 WISCONSIN ADMINISTRATIVE CODE.



GENERAL NOTES

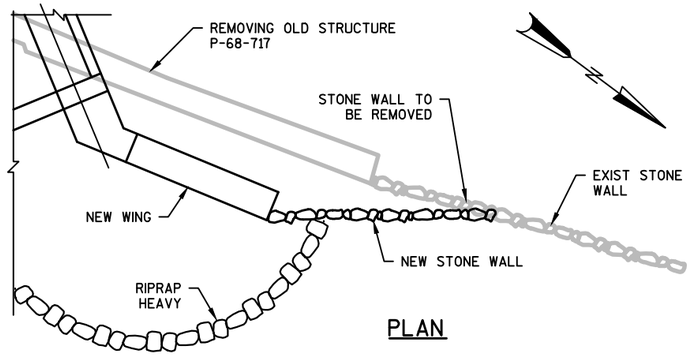
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

① USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.

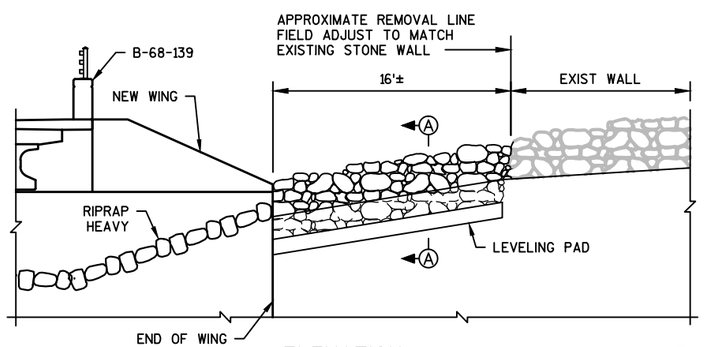
FURNISHING, PLACEMENT, MOVING, MAINTENANCE AND REMOVAL OF BUOYS AND APPURTENANCES WIL BE CONSIDERED INCIDENTAL TO TURBIDITY BARRIER

WARNING BUOY DETAIL

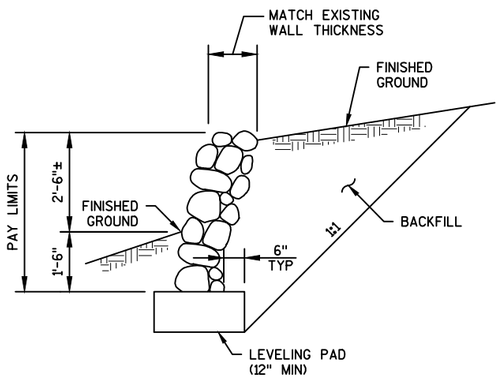
PLACE WARNING BUOYS AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER



PLAN



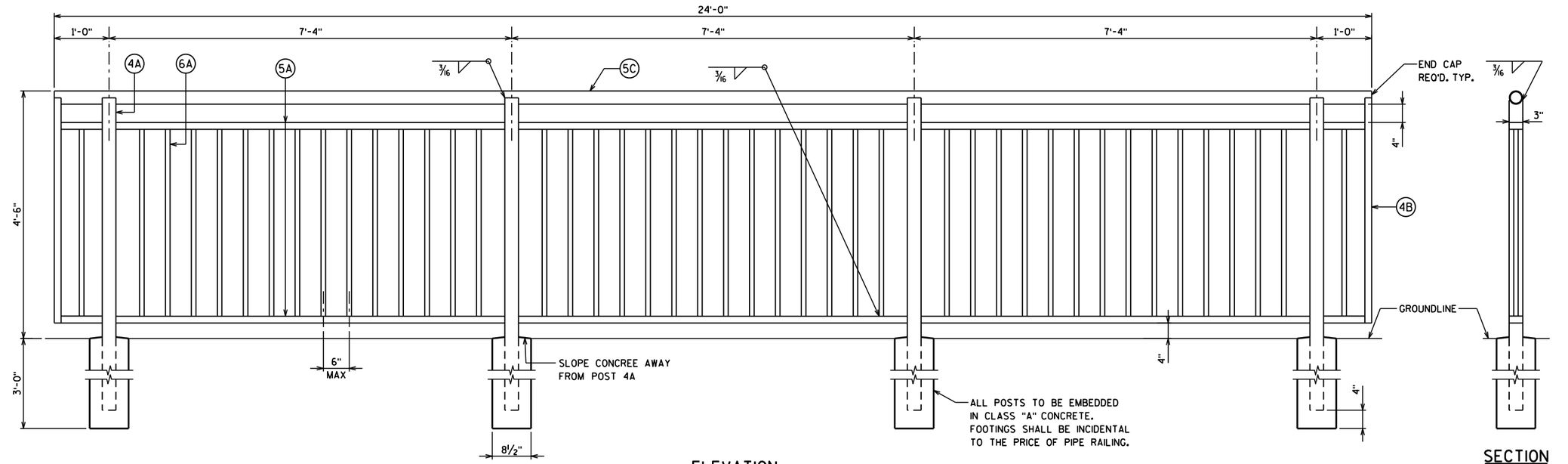
ELEVATION



SECTION A-A

STONE WALL

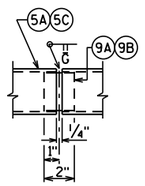
PROJECT NO: 6844-14-70	HWY: CTH E	COUNTY: WAUPACA	CONSTRUCTION DETAILS	SHEET 6	E



ELEVATION

SECTION THRU RAIL

RAILING AT EACH CORNER OF BRIDGE B-68-139



SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)

RAILING NOTES

BID ITEM SHALL BE "RAILING STEEL PEDESTRIAN TYPE C2 SIDEWALK", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN.

ALL PLATES, BARS, AND RECTANGULAR SLEEVES SHALL CONFORM TO ASTM A709 GRADE 36. ALL STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B.

ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED FEDERAL COLOR NO. 20059, BROWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

VENT HOLES SHALL BE DRILLED IN POST AND RAIL MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

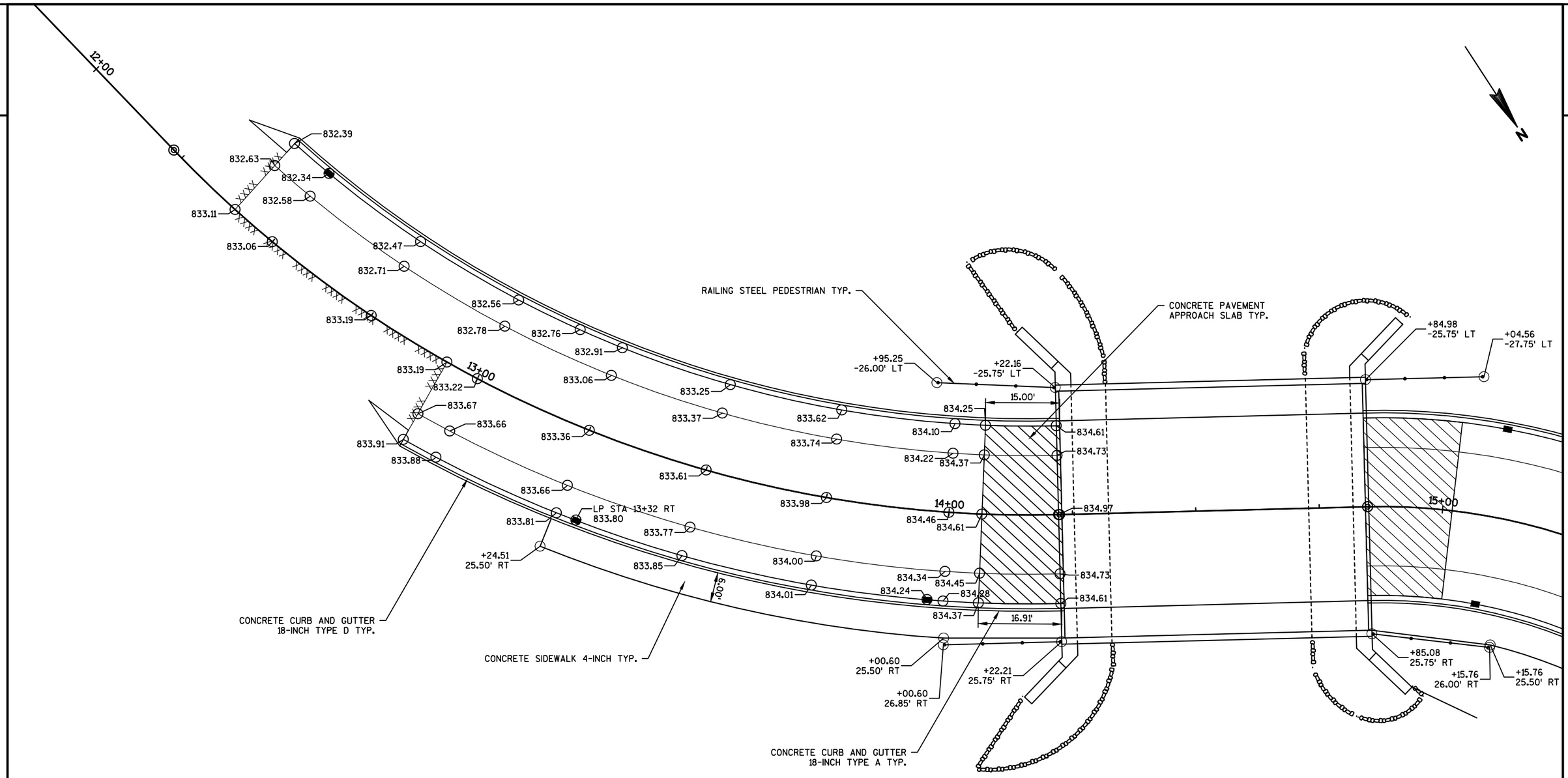
TOUCH-UP PAINTING TO BE DONE AT COMPLETION OF STEEL RAILING INSTALLATION TO THE SATISFACTION OF THE ENGINEER AT NO EXTRA COST.

LEGEND

- (4A) STRUCTURAL TUBING 3" X 3" X 3/16". PLACE VERTICAL. WELD TO NO. 5.
- (4B) STRUCTURAL TUBING 3" X 1½" X 3/16". PLACE VERTICAL. WELD TO NO. 5.
- (5A) STRUCTURAL TUBING 3" X 1½" X 3/16" RAILS. WELD TO NO. 4. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.
- (5C) STRUCTURAL TUBING 2½" DIA. (STANDARD SIZE) (2.875" O.D.). WELD TO NO. 4. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.
- (6A) BAR 1" X 1" PICKETS. WELD TO NO. 5. PLACE VERTICAL.
- (9A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. PROVIDE "SLIDING FIT".
- (9B) CIRCULAR SLEEVE FABRICATED FROM STRUCTURAL TUBING 2" DIA. (STANDARD SIZE) (2.375" O.D.)

PROJECT NO: 6844-14-70	HWY: CTH E	COUNTY: WAUPACA	SPECIAL RAILING DETAIL	SHEET 7	E

2



PROJECT NO: 6844-14-70	HWY: CTH E	COUNTY: WAUPACA	PAVING GRADES	SHEET 8	E

FILE NAME : F:\TR\JOBS\E2145A15\CIVIL 3D 2014\SHEETSPLAN\68441470-021201-PG.DWG
LAYOUT NAME - 68441470-021201-PG
PLOT DATE : 6/20/2017 3:05 PM PLOT BY : DREW BALKEN PLOT NAME : PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

N

+99
-47.00' LT

R27.50'

CONCRETE CURB AND GUTTER
18-INCH TYPE D TYP.

CONCRETE CURB AND GUTTER
18-INCH TYPE A TYP.

+04.56
-27.75' LT

+84.98
-25.75' LT

20.13'

15+00

16+00

17+00

14+00

6.00'

15.00'

4.00'

843.17
842.78
842.61
842.31
842.54
842.31
842.77
842.53
843.35
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840.60
839.50
839.60
840.23
839.29
838.40
838.38
838.34
839.86
839.05
838.93
838.10
840.69
840.41
841.24
841.57
841.44
841.33
839.67
+88.71
19.50' RT
+88.71
25.50' RT
+12.36
28.92' RT
837.29
837.35
837.47
836.48
836.81
837.23
836.85
837.98
837.42
837.11
836.81
836.49
+15.76
25.50' RT
+15.76
26.00' RT
+85.08
25.75' RT
+22.16
-25.75' LT
+95.25
-26.00' LT
+22.21
25.75' RT
+00.60
25.50' RT
+00.60
26.85' RT

CONCRETE SIDEWALK 4-INCH TYP.

RAILING STEEL PEDESTRIAN TYP.

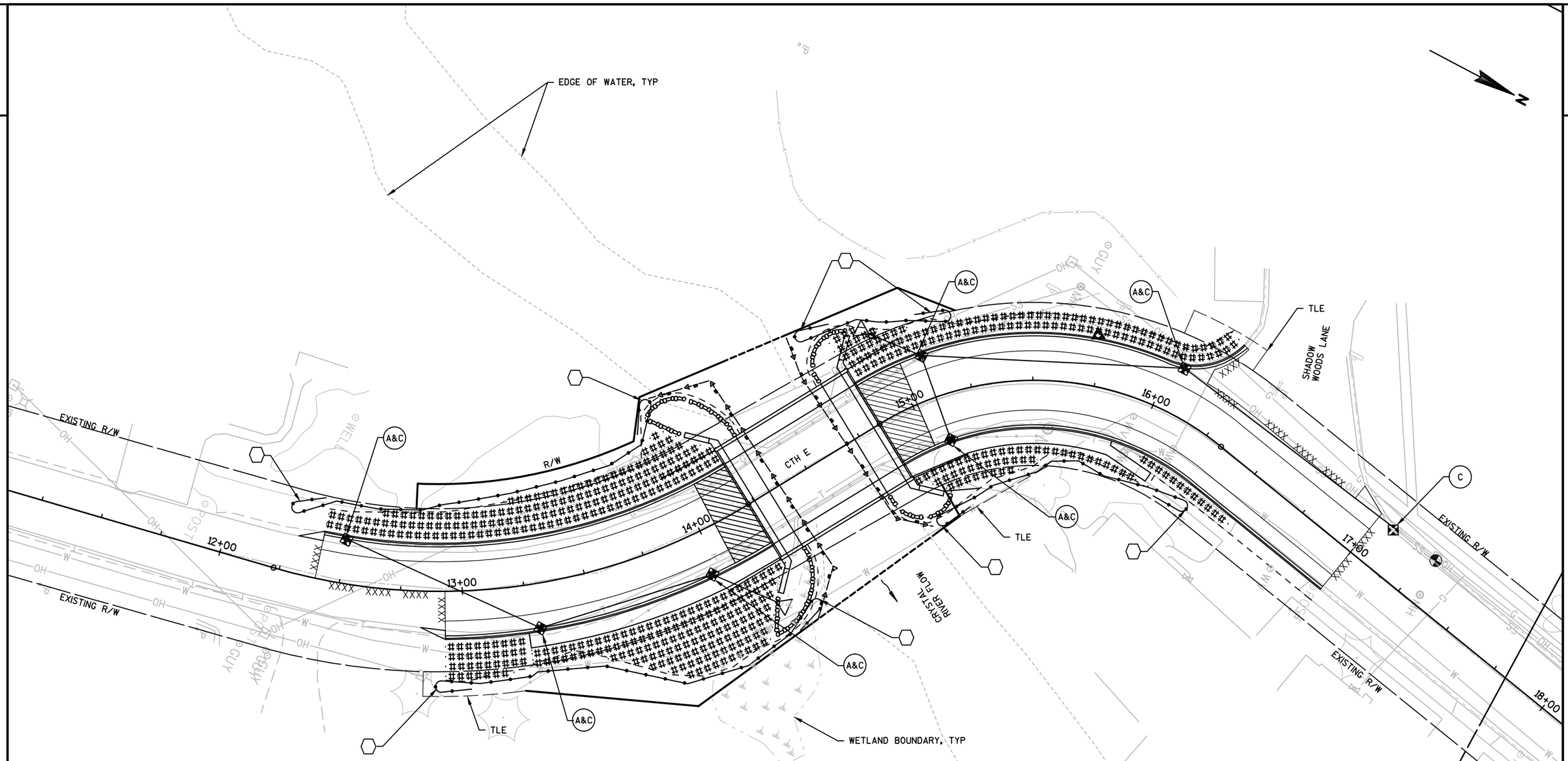
CONCRETE PAVEMENT
APPROACH SLAB TYP.

EXISTING SIDEWALK

CURB RAMP TYPE 7B
DETECTABLE WARNING FIELD
NATURAL PATINA CONCRETE
SIDEWALK 4-INCH

PROJECT NO: 6844-14-70	HWY: CTH E	COUNTY: WAUPACA	PAVING GRADES	SHEET 9	E

2



LEGEND

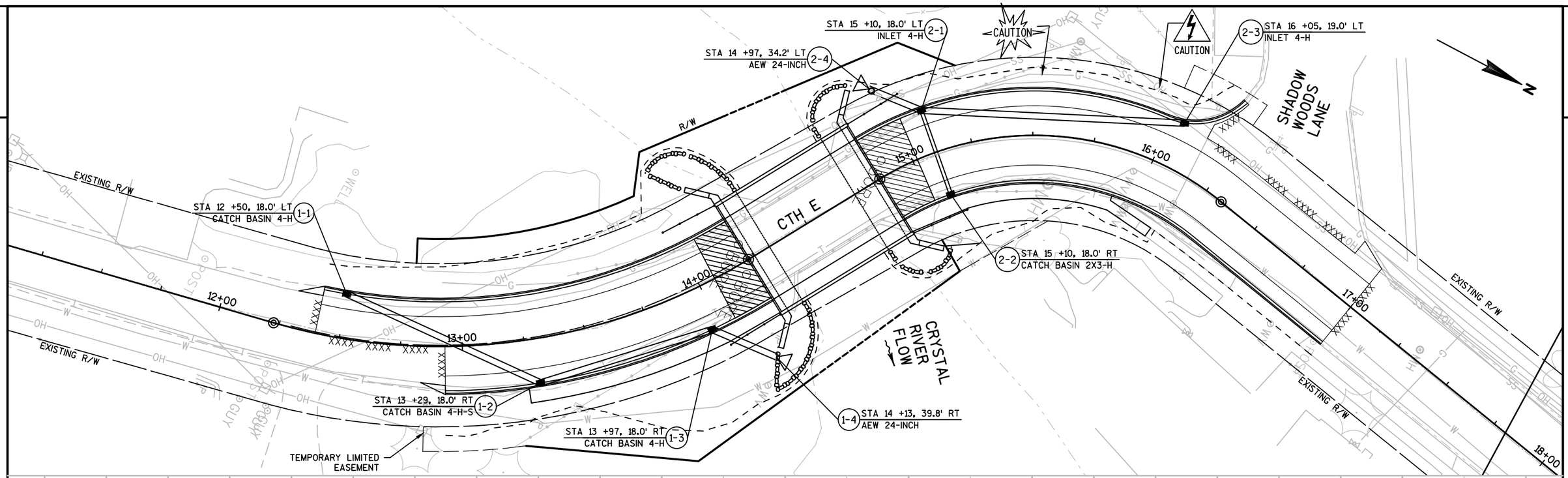
- EROSION MAT URBAN CLASS I TYPE B
- RIPRAP
- SILT FENCE
- TURBIDITY BARRIER
- INLET PROTECTION
- DIRECTION OF FLOW
- SMALL ANIMAL BARRIER

NOTE: USE SEED MIXTURE NO. 60 AT THE TOE OF SLOPE ADJOINING WETLANDS. USE SEED MIXTURE NO. 40 ON LAWN AREAS AND SEED NO. 20 AT ALL OTHER LOCATIONS.

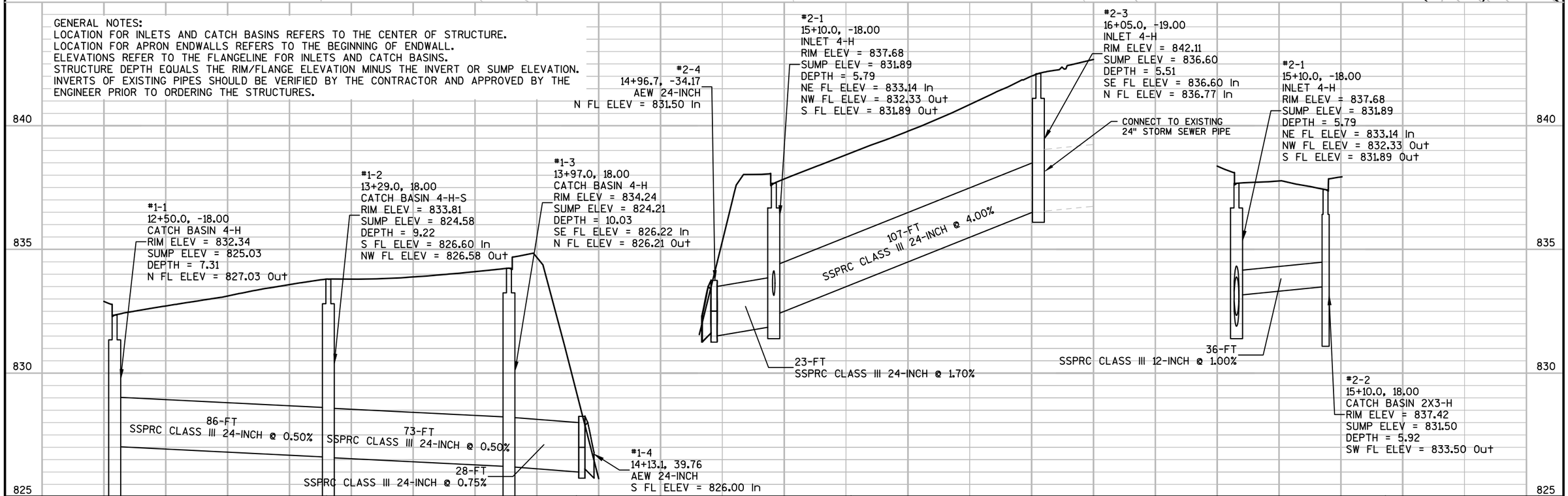
PROJECT NO: 6844-14-70	HWY: CTH E	COUNTY: WAUPACA	EROSION CONTROL	SHEET 10	E

FILE NAME : F:\TR\JOBS\E2145A15\CIVIL 3D 2014\SHEETSPLAN\68441470-022001-EC.DWG
LAYOUT NAME - 68441470-022001-EC

PLOT DATE : 6/14/2017 9:59 AM PLOT BY : MATT TOMSOVIC PLOT NAME : PLOT SCALE : 1 IN:40 FT



GENERAL NOTES:
LOCATION FOR INLETS AND CATCH BASINS REFERS TO THE CENTER OF STRUCTURE.
LOCATION FOR APRON ENDWALLS REFERS TO THE BEGINNING OF ENDWALL.
ELEVATIONS REFER TO THE FLANGELINE FOR INLETS AND CATCH BASINS.
STRUCTURE DEPTH EQUALS THE RIM/FLANGE ELEVATION MINUS THE INVERT OR SUMP ELEVATION.
INVERTS OF EXISTING PIPES SHOULD BE VERIFIED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO ORDERING THE STRUCTURES.



PROJECT NO: 6844-14-70	HWY: CTH E	COUNTY: WAUPACA	STORM SEWER	SHEET 11	E

2

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON POST(S)

XXX PROPOSED SIGN

RXXX REMOVE EXISTING SIGN

N

CTH E

ACCESS

SHADOW WOODS LANE

TLE

EXISTING R/W

R/W

12+00

13+00

14+00

15+00

16+00

17+00

18+00

XXXX XXXX XXXX

XXXX XXXX XXXX

CRYSTAL RIVER FLOW

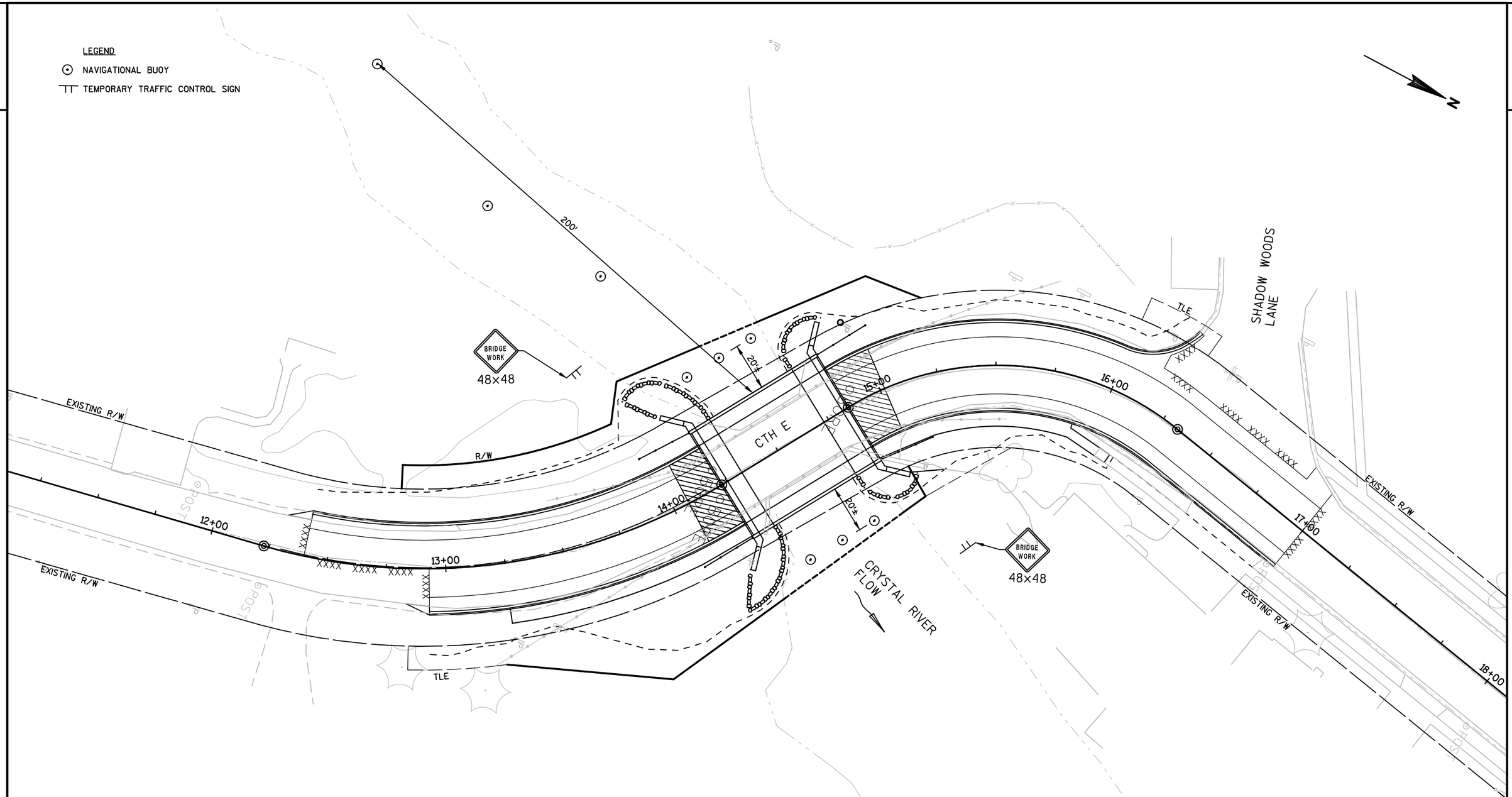
100	W1-3L 36" X 36"	15 M.P.H. W13-1 18" X 18"		
101	W1-8 18" X 24"			
102	W1-8 18" X 24"			
103	W1-8 18" X 24"			
104	W1-8 18" X 24"			
105	W1-6L 48" X 24"			
106	W1-6R 48" X 24"			
107	W1-8 18" X 24"			
108	W1-8 18" X 24"			
109	W1-8 18" X 24"			
R100				
110	W1-8 18" X 24"			
111	W1-8 18" X 24"			
112	W1-8 18" X 24"			
113	W5-52R 12" X 36"			
R101				
R104				
115	W5-52L 12" X 36"			
114	W5-52L 12" X 36"			
R102				
R103				
116	W5-52R 12" X 36"			
117	W1-8 18" X 24"			
118	W1-8 18" X 24"			
119	W1-8 18" X 24"			
120	W1-8 18" X 24"			
121	W1-6R 48" X 24"			
122	W1-6L 48" X 24"			
123	W1-8 18" X 24"			
124	W1-8 18" X 24"			
R105				
R106	NARROW BRIDGE			
125	W1-3L 36" X 36"	15 M.P.H. W13-1 18" X 18"		

PROJECT NO: 6844-17-70	HWY: CTH E	COUNTY: WAUPACA	PERMANENT SIGNING	SHEET 12	E

LEGEND

NAVIGATIONAL BUOY

TEMPORARY TRAFFIC CONTROL SIGN



GENERAL NOTES

1. EXISTING CONDITIONS SHOWN ARE APPROXIMATE. VERIFY CONDITIONS IN FIELD.
2. SEE ADDITIONAL STANDARD DETAIL DRAWINGS FOR OTHER TRAFFIC CONTROL REQUIREMENTS.
3. SEE SIGN DETAIL AND WARNING BUOY DETAILS FOR ADDITIONAL INFORMATION.

PROJECT NO: 6844-17-70	HWY: CTH E	COUNTY: WAUPACA	MARINE TRAFFIC CONTROL	SHEET 13	E

FILE NAME : F:\TR\JOBS\E2145A15\CIVIL 3D 2014\SHEETSPLAN\68441470-025001-TC.DWG
LAYOUT NAME - 68441470-025001-TC

PLOT DATE : 6/22/2017 11:11 AM PLOT BY : JAIRO MAZARIEGOS PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

6844-14-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	3.000	3.000
0004	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 14+54	LS	1.000	1.000
0006	204.0155	Removing Concrete Sidewalk	SY	10.000	10.000
0008	204.0210	Removing Manholes	EACH	1.000	1.000
0010	204.0245	Removing Storm Sewer (size) 01. 24-inch	LF	155.000	155.000
0012	205.0100	Excavation Common **P**	CY	800.000	800.000
0014	206.1000	Excavation for Structures Bridges (structure) 01. B-68-139	LS	1.000	1.000
0016	210.1500	Backfill Structure Type A	TON	1,100.000	1,100.000
0018	213.0100	Finishing Roadway (project) 01. 6844-14-70	EACH	1.000	1.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,265.000	1,265.000
0022	415.0410	Concrete Pavement Approach Slab	SY	135.000	135.000
0024	455.0605	Tack Coat	GAL	100.000	100.000
0026	460.2000	Incentive Density HMA Pavement	DOL	220.000	220.000
0028	460.5223	HMA Pavement 3 LT 58-28 S	TON	195.000	195.000
0030	460.5224	HMA Pavement 4 LT 58-28 S	TON	140.000	140.000
0032	502.0100	Concrete Masonry Bridges	CY	318.000	318.000
0034	502.3200	Protective Surface Treatment	SY	370.000	370.000
0036	503.0137	Prestressed Girder Type I 36W-Inch	LF	300.000	300.000
0038	505.0400	Bar Steel Reinforcement HS Structures	LB	9,100.000	9,100.000
0040	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	29,240.000	29,240.000
0042	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	10.000	10.000
0044	506.4000	Steel Diaphragms (structure) 01. B-68-139	EACH	4.000	4.000
0046	513.7011	Railing Steel Type C2 (structure) 01. B-68-139	LF	126.000	126.000
0048	513.8011	Railing Steel Pedestrian Type C2 (structure) 01. (Sidewalk)	LF	96.000	96.000
0050	516.0500	Rubberized Membrane Waterproofing	SY	34.000	34.000
0052	517.1015.S	Concrete Staining Multi-Color (structure) 01. B-68-139	SF	566.000	566.000
0054	517.1050.S	Architectural Surface Treatment (structure) 01. B-68-139	SF	566.000	566.000
0056	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	2.000	2.000
0058	550.0010	Pre-Boring Unconsolidated Materials	LF	440.000	440.000
0060	550.2124	Piling CIP Concrete 12 3/4 X 0.25-Inch	LF	1,200.000	1,200.000
0062	601.0405	Concrete Curb & Gutter 18-Inch Type A	LF	68.000	68.000
0064	601.0407	Concrete Curb & Gutter 18-Inch Type D	LF	600.000	600.000
0066	602.0405	Concrete Sidewalk 4-Inch	SF	1,280.000	1,280.000
0068	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	10.000	10.000
0070	606.0300	Riprap Heavy	CY	205.000	205.000
0072	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-	LF	36.000	36.000

6844-14-70

Line	Item	Item Description	Unit	Total	Qty
		Inch			
0074	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	317.000	317.000
0076	611.0624	Inlet Covers Type H	EACH	5.000	5.000
0078	611.0639	Inlet Covers Type H-S	EACH	1.000	1.000
0080	611.1004	Catch Basins 4-FT Diameter	EACH	3.000	3.000
0082	611.1230	Catch Basins 2x3-FT	EACH	1.000	1.000
0084	611.3004	Inlets 4-FT Diameter	EACH	2.000	2.000
0086	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	180.000	180.000
0088	614.0920	Salvaged Rail	LF	410.000	410.000
0090	619.1000	Mobilization	EACH	1.000	1.000
0092	624.0100	Water	MGAL	7.400	7.400
0094	625.0100	Topsoil	SY	1,090.000	1,090.000
0096	628.1504	Silt Fence	LF	810.000	810.000
0098	628.1520	Silt Fence Maintenance	LF	810.000	810.000
0100	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0102	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0104	628.2008	Erosion Mat Urban Class I Type B	SY	1,090.000	1,090.000
0106	628.6005	Turbidity Barriers	SY	320.000	320.000
0108	628.7005	Inlet Protection Type A	EACH	6.000	6.000
0110	628.7015	Inlet Protection Type C	EACH	7.000	7.000
0112	628.7504	Temporary Ditch Checks	LF	20.000	20.000
0114	629.0210	Fertilizer Type B	CWT	0.700	0.700
0116	630.0120	Seeding Mixture No. 20	LB	13.000	13.000
0118	630.0140	Seeding Mixture No. 40	LB	11.000	11.000
0120	630.0160	Seeding Mixture No. 60	LB	5.000	5.000
0122	630.0200	Seeding Temporary	LB	15.000	15.000
0124	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	14.000	14.000
0126	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	2.000	2.000
0128	637.2230	Signs Type II Reflective F	SF	118.000	118.000
0130	638.2602	Removing Signs Type II	EACH	7.000	7.000
0132	638.3000	Removing Small Sign Supports	EACH	7.000	7.000
0134	642.5001	Field Office Type B	EACH	1.000	1.000
0136	643.0420	Traffic Control Barricades Type III	DAY	2,100.000	2,100.000
0138	643.0705	Traffic Control Warning Lights Type A	DAY	3,360.000	3,360.000
0140	643.0900	Traffic Control Signs	DAY	1,680.000	1,680.000
0142	643.5000	Traffic Control	EACH	1.000	1.000
0144	645.0111	Geotextile Type DF Schedule A	SY	150.000	150.000
0146	645.0120	Geotextile Type HR	SY	310.000	310.000
0148	646.1020	Marking Line Epoxy 4-Inch	LF	1,840.000	1,840.000

6844-14-70

Line	Item	Item Description	Unit	Total	Qty
0150	650.4000	Construction Staking Storm Sewer	EACH	8.000	8.000
0152	650.4500	Construction Staking Subgrade	LF	397.000	397.000
0154	650.5000	Construction Staking Base	LF	397.000	397.000
0156	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	668.000	668.000
0158	650.6500	Construction Staking Structure Layout (structure) 01. B-68-139	LS	1.000	1.000
0160	650.9910	Construction Staking Supplemental Control (project) 01. 6844-14-70	LS	1.000	1.000
0162	650.9920	Construction Staking Slope Stakes	LF	397.000	397.000
0164	690.0150	Sawing Asphalt	LF	92.000	92.000
0166	690.0250	Sawing Concrete	LF	5.000	5.000
0168	715.0502	Incentive Strength Concrete Structures	DOL	1,908.000	1,908.000
0170	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
0172	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0174	SPV.0165	Special 01. Stone Wall	SF	64.000	64.000

3

EARTHWORK

Division	From/To Station	Location	205.0100 Common Excavation	Unexpanded Fill	Expanded Fill Factor 1.25	Mass Ordinate +/- (14)	Waste
SOUTH OF B-68-139	12+40/14+22	CTH E	303	207	258	44	44
NORTH OF B-68-139	14+85/17+00	CTH E	494	67	84	410	410
Grand Total			797	274	342	455	455
Rounded Common Exc			800				

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

3

GRUBBING

STATION	LOCATION	201.0205 GRUBBING STATION
13+00 - 16+00	CTH E	3
	TOTALS	**3**

REMOVING STORM SEWER STRUCTURES

STATION	LOCATION	204.0210 REMOVING MANHOLES EA
15+65, LT	CTH E	1
	TOTALS	**1**

REMOVING STORM SEWER

STATION	TO	STATION	DIR	LOCATION	204.0245 REMOVING STORM SEWER 24-INCH LF
14+87	-	15+65	LT	CTH E	100
15+65	-	16+04	LT	CTH E	55
				TOTALS	**155**

REMOVING CONCRETE SIDEWALK

STATION	LOCATION	204.0155 REMOVING CONCRETE SIDEWALK SY
16+06 - 16+15, RT	CTH E	3
16+50, RT	CTH E	7
	TOTALS	**10**

BASE AGGREGATE DENSE AND WATER

STATION TO STATION	LOCATION	305.0120 ** BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
12+40 - STRUCTURE	CTH E	520	3.1
STRUCTURE - 17+00	CTH E	710	4.3
	TOTALS	**1,230**	**7.4**

**ADDITIONAL QUANTITY SHOWN ON SIDEWALK TABLE

ASPHALTIC ITEMS

STATION TO STATION	LOCATION	455.0605 TACK COAT GAL	460.5223 HMA PAVEMENT 3 LT 58-28 S TON	460.5224 HMA PAVEMENT 4 LT 58-28 S TON
13+00- STRUCTURE	CTH E	60	115	85
STRUCTURE - 16+15	CTH E	40	80	55
	TOTALS	**100**	**195**	**140**

CONCRETE PAVEMENT

STATION	TO	STATION	LOCATION	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
14+06	-	14+22	CTH E	65
14+85	-	15+02	CTH E	70
			TOTALS	**135**

CONCRETE CURB & GUTTER

STATION	TO	STATION	DIR	LOCATION	601.0405 CONCRETE CURB & GUTTER 18-INCH TYPE A LF	601.0407 CONCRETE CURB & GUTTER 18-INCH TYPE D LF
12+40	-	14+22	LT	CTH E	15	153
12+93	-	14+22	RT	CTH E	18	123
14+85	-	16+19	LT	CTH E	20	146
14+85	-	17+00	RT	CTH E	15	178
				TOTALS	**68**	**600**

CONCRETE SIDEWALK

STATION	TO	STATION	LOCATION	305.0120 ** BASE AGGREGATE DENSE 1 1/4-INCH TON	602.0405 CONCRETE SIDEWAK 4-INCH SF	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA SF
13+25	-	14+22	CTH E	14	590	---
14+85	-	16+15	CTH E	18	595	---
16+50 RT CURB RAMP			CTH E	3	95	10
			TOTALS	**35**	**1280**	**10**

**ADDITIONAL QUANTITY SHOWN ON BASE AGGREGATE TABLE

SALVAGED RAIL

STATION	TO	STATION	DIR	LOCATION	614.0920 SALVAGED RAIL LF
13+16	-	14+35	RT	CTH E	132
13+48	-	14+35	LT	CTH E	85
14+75	-	15+55	RT	CTH E	68
14+70	-	15+71	LT	CTH E	125
				TOTALS	**410**

STORM SEWER PIPE

STRUCTURE FROM	STRUCTURE TO	608.0312 REIN. CONC. CLASS III 12-INCH LF	608.0324 REIN. CONC. CLASS III 24-INCH LF
PROJECT 6844-14-70 CATEGORY 0010			
CB 1-1	CB 1-2	---	86
CB 1-2	CB 1-3	---	73
CB 1-3	AEW 1-4	---	28
CB 2-2	MH 2-1	36	---
INL 2-3	MH 2-1	---	107
MH 2-1	AEW 2-4	---	23
	PROJECT TOTALS	36	317

STORM SEWER STRUCTURES

STRUCT NUM	STA	LOCATION	DIST.	DIR	522.1024 APRON ENDWALLS FOR CPRC 24-INCH EACH	611.0624 INLET COVERS TYPE H EACH	611.0639 INLET COVERS TYPE H-S EACH	611.1004 CATCH BASIN 4-FT DIA EACH	611.1230 CATCH BASIN 2X3-FT EACH	611.3004 INLETS 4-FT DIA EACH
PROJECT 6844-14-70 CATEGORY 0010										
CB 1-1	12+50	CTH E	18.0	LT	---	1	---	1	---	---
CB 1-2	13+29	CTH E	18.0	RT	---	---	1	1	---	---
CB 1-3	13+97	CTH E	18.0	RT	---	1	---	1	---	---
AEW 1-4	14+13	CTH E	39.8	RT	1	---	---	---	---	---
INL 2-1	15+10	CTH E	18.0	LT	---	1	---	---	---	1
CB 2-2	15+10	CTH E	18.0	RT	---	1	---	---	1	---
INL 2-3	16+05	CTH E	19.0	LT	---	1	---	---	---	1
AEW 2-4	14+97	CTH E	34.2	LT	1	---	---	---	---	---
				PROJECT TOTALS	2	5	1	3	1	2

3

TURBIDITY BARRIER

STATION	LOCATION	628.6005 TURBIDITY BARRIER SY
14+35	CTH E	190
14+70	CTH E	130
	TOTAL	**320**

LANDSCAPING

STATION TO STATION	LOCATION	625.0100 TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	630.0120 SEEDING NO 20 LB	630.0140 SEEDING NO 40 LB	630.0160 SEEDING NO 60 LB	630.0200 SEEDING TEMPORARY LB	629.0210 FERTILIZER TYPE B CWT
12+40 - STR	RT	290	290	6	1	---	4	0.18
12+40 - STR	LT	270	270	3	3	---	4	0.17
STR - 17+00	RT	140	140	1	2	---	2	0.09
STR - 17+00	LT	170	170	1	3	---	2	0.10
UNDISTRIBUTED		220	220	3	2	5	3	0.14
	TOTALS	**1,090**	**1,090**	**13**	**11**	**5**	**15**	**0.7**

INLET PROTECTION

STR	STATION	DIR	LOCATION	628.7005 INLT PROTECTION TYPE A EA	628.7015 INLT PROTECTION TYPE C EA
CB 1-1	12+50	LT	CTH E	1	1
CB 1-2	13+29	RT	CTH E	1	1
CB 1-3	13+97	RT	CTH E	1	1
INL 2-1	15+10	LT	CTH E	1	1
CB 2-2	15+10	RT	CTH E	1	1
INL 2-3	16+05	LT	CTH E	1	1
EXIST	17+07	LT	CTH E	---	1
			TOTALS	**6**	**7**

EROSION CONTROL ITEMS

STATION TO STATION	DIR	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7504 TEMPORARY DITCH CHECKS LF
12+40 - STR	RT	CTH E	200	200	---	---	---
12+40 - STR	LT	CTH E	200	200	---	---	---
STR - 17+00	RT	CTH E	150	150	---	---	---
STR - 17+00	LT	CTH E	100	100	---	---	---
UNDISTRIBUTED		CTH E	160	160	4	2	20
		TOTALS	**810**	**810**	**4**	**2**	**20**

REMOVING SIGNS TYPE II AND REMOVING SMALL SIGN SUPPORTS

SIGN NO.	STATION	DIR	LOCATION	DESCRIPTION	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
R100	13+42	RT	CTH E	LT CAUTION ARROW	1	1
R101	14+25	RT	CTH E	OBJECT MARKER	1	1
R102	14+25	LT	CTH E	OBJECT MARKER	1	1
R103	14+78	LT	CTH E	OBJECT MARKER	1	1
R104	14+78	RT	CTH E	OBJECT MARKER	1	1
R105	15+56	LT	CTH E	LT CAUTION ARROW	1	1
R106	15+78	LT	CTH E	NARROW BRIDGE	1	1
				TOTALS	**7**	**7**

3

SIGNS REFLECTIVE TYPE II & POSTS WOOD

SIGN NUMBER	STATION	DIR	LOCATION	CODE	SIGN SIZE HORIZ X VERT IN X IN	634.0614 POSTS WOOD 4X6-INCH X 14-FT EACH	634.0616 POSTS WOOD 4X6-INCH X 16-FT EACH	637.2230 SIGNS TYPE II RELFECTIVE F SF
100	11+22	RT	CTH E	W1-3L	36 X 36	--	1	9
				W13-1	24 X 24	--	--	4
101	12+22	RT	CTH E	W1-8	18 X 24	1	--	3
102	12+22	RT	CTH E	W1-8	18 X 24	--	--	3
103	12+62	RT	CTH E	W1-8	18 X 24	1	--	3
104	12+62	RT	CTH E	W1-8	18 X 24	--	--	3
105	12+82	RT	CTH E	W1-6L	48 X 24	1	--	8
106	12+82	RT	CTH E	W1-6R	48 X 24	--	--	8
107	13+02	RT	CTH E	W1-8	18 X 24	1	--	3
108	13+02	RT	CTH E	W1-8	18 X 24	--	--	3
109	13+42	RT	CTH E	W1-8	18 X 24	1	--	3
110	13+42	RT	CTH E	W1-8	18 X 24	--	--	3
111	13+82	RT	CTH E	W1-8	18 X 24	1	--	3
112	13+82	RT	CTH E	W1-8	18 X 24	--	--	3
113	14+20	RT	CTH E	W5-52R	12 X 36	1	--	3
114	14+20	LT	CTH E	W5-52L	12 X 36	1	--	3
115	14+86	RT	CTH E	W5-52L	12 X 36	1	--	3
116	14+86	LT	CTH E	W5-52R	12 X 36	1	--	3
117	15+24	LT	CTH E	W1-8	18 X 24	1	--	3
118	15+24	LT	CTH E	W1-8	18 X 24	--	--	3
119	15+64	LT	CTH E	W1-8	18 X 24	1	--	3
120	15+64	LT	CTH E	W1-8	18 X 24	--	--	3
121	15+84	LT	CTH E	W1-6R	48 X 24	1	--	8
122	15+84	LT	CTH E	W1-6L	48 X 24	--	--	8
123	16+04	LT	CTH E	W1-8	18 X 24	1	--	3
124	16+04	LT	CTH E	W1-8	18 X 24	--	--	3
125	17+33	LT	CTH E	W1-3L	36 X 36	--	1	9
				W13-1	24 X 24	--	--	4
					TOTALS	**14**	**2**	**118**

3

MARKING LINE EPOXY 4-INCH

STATION	TO	STATION	LOCATION	646.1020 DOUBLE YELLOW LF	646.1020 WHITE EDGE LINE LF
12+40	-	17+00	CTH E	920	920
			TOTAL	**1,840**	

CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	650.4000 STORM SEWER EA	650.4500 SUBGRADE LF	650.5000 BASE LF	650.5500 CURB & GUTTER LF	CATEGORY 0020 650.6500 STRUCTURE LAYOUT LS	650.9910 SUPPLEMENTAL CONTROL LS	650.9920 SLOPE STAKES LF
12+40	-	14+22	CTH E	4	182	182	309	---	---	182
14+22	-	14+85	CTH E	---	---	---	---	1	---	---
14+85	-	17+00	CTH E	4	215	215	359	---	---	215
PROJECT			CTH E	---	---	---	---	---	1	---
			TOTALS	**8**	**397**	**397**	**668**	**1**	**1**	**397**

TRAFFIC CONTROL ROAD CLOSURE

LOCATION	APROX. SERVICE PERIOD	643.0420 BARRICADES TYPE III EACH NO.	643.0420 BARRICADES TYPE III EACH DAYS	643.0705 WARNING LIGHTS TYPE A EACH NO.	643.0705 WARNING LIGHTS TYPE A EACH DAYS	643.0900 SIGNS EACH NO.	643.0900 SIGNS EACH DAYS
NORTH OF PROJECT	105	10	1050	16	1680	7	735
SOUTH OF PROJECT	105	10	1050	16	1680	7	735
CRYSTAL RIVER	105	--	--	--	--	2	210
TOTALS			**2,100**		**3,360**		**1,680**

SAWING

STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
12+40	CTH E	92	---
16+15	CTH E	---	5
16+15 - 17+00	CTH E	160	---
TOTAL		**92**	**5**

RAILING STEEL PEDESTRIAN TYPE C2 SIDEWALK

STATION	TO	STAION	DIR	LOCATION	513.8011.01 RAILING STEEL PEDESTRIAN TYPE C2 SIDEWALK LF	COMMENTS
13+95	-	14+22	LT	CTH E	24	SW QUADRANT OF THE BRIDGE APPRAOCH
14+00	-	14+22	RT	CTH E	24	SE QUADRANT OF THE BRIDGE APPRAOCH
14+85	-	15+05	LT	CTH E	24	NW QUADRANT OF THE BRIDGE APPRAOCH
14+85	-	15+16	RT	CTH E	24	NE QUADRANT OF THE BRIDGE APPRAOCH
				TOTAL	**96**	

STONE WALL

STATION/STATION	LOCATION	SPV.0165.01 SF
14+96 - 15+17	CTH E	64
	TOTAL	**64**

Conventional Signs and Abbreviations

- SECTION LINE
- QUARTER LINE
- TOWNSHIP AND RANGE LINE
- PROPOSED OR NEW CENTERLINE
- PROPOSED OR NEW R/W LINE
- EXISTING R/W LINE
- LOT LINE
- P.L. PROPERTY LINE
- COUNTY LIMITS LINE
- SLOPE INTERCEPTS
- EXISTING MONUMENTATION
- X X FENCE
- SECTION OR QUARTER CORNER
- T T TELEPHONE
- G G GAS
- W W WATER
- E E ELECTRIC
- FO FO FIBER OPTIC
- SAN SAN SANITARY
- SS SS STORM SEWER
- NO ACCESS (BY ACQUISITION)
- NO ACCESS (BY STATUTORY AUTHORITY)
- NO ACCESS (BY PREVIOUS PROJECT)
- TEMPORARY LIMITED EASEMENT
- PERMANENT LIMITED EASEMENT
- FEE TITLE
- RIGHT-OF-WAY MONUMENTS SET AT NEWLY ACQUIRED R/W ANGLE POINTS
- (6) PARCEL NUMBER
- (92) UTILITY PARCEL NUMBER
- R/W POINT NUMBER
- PLE POINT NUMBER

AC	ACRES	R	RADIUS
△	CENTRAL ANGLE	R.	RANGE
C/L	CENTERLINE	R/L	REFERENCE LINE
COR.	CORNER	R/W	RIGHT OF WAY
CTH	COUNTY TRUNK HIGHWAY	¼LINE	QUARTER LINE
D	DEGREE OF CURVE	⅛LINE	SIXTEENTH LINE
E.	EAST	S.	SOUTH
L	LENGTH OF CURVE	SEC	SECTION
LC	LONG CHORD	SEC LINE	SECTION LINE
LCB	LONG CHORD BEARING	STH	STATE TRUNK HIGHWAY
MI	MILE	SF	SQUARE FEET
N.	NORTH	STA	STATION
N.T.S.	NOT TO SCALE	T.	TOWN
PC	POINT OF CURVATURE	T	TANGENT LENGTH OF CURVE
PI	POINT OF INTERSECTION	TLE	TEMPORARY LIMITED EASEMENT
PT	POINT OF TANGENCY	USH	UNITED STATES HIGHWAY
PLE	PERMANENT LIMITED EASEMENT	W.	WEST
P/L	PROPERTY LINE		
PC LINE	PRIVATE CLAIM LINE		

Notes:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, WAUPACA COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 3/4 X 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

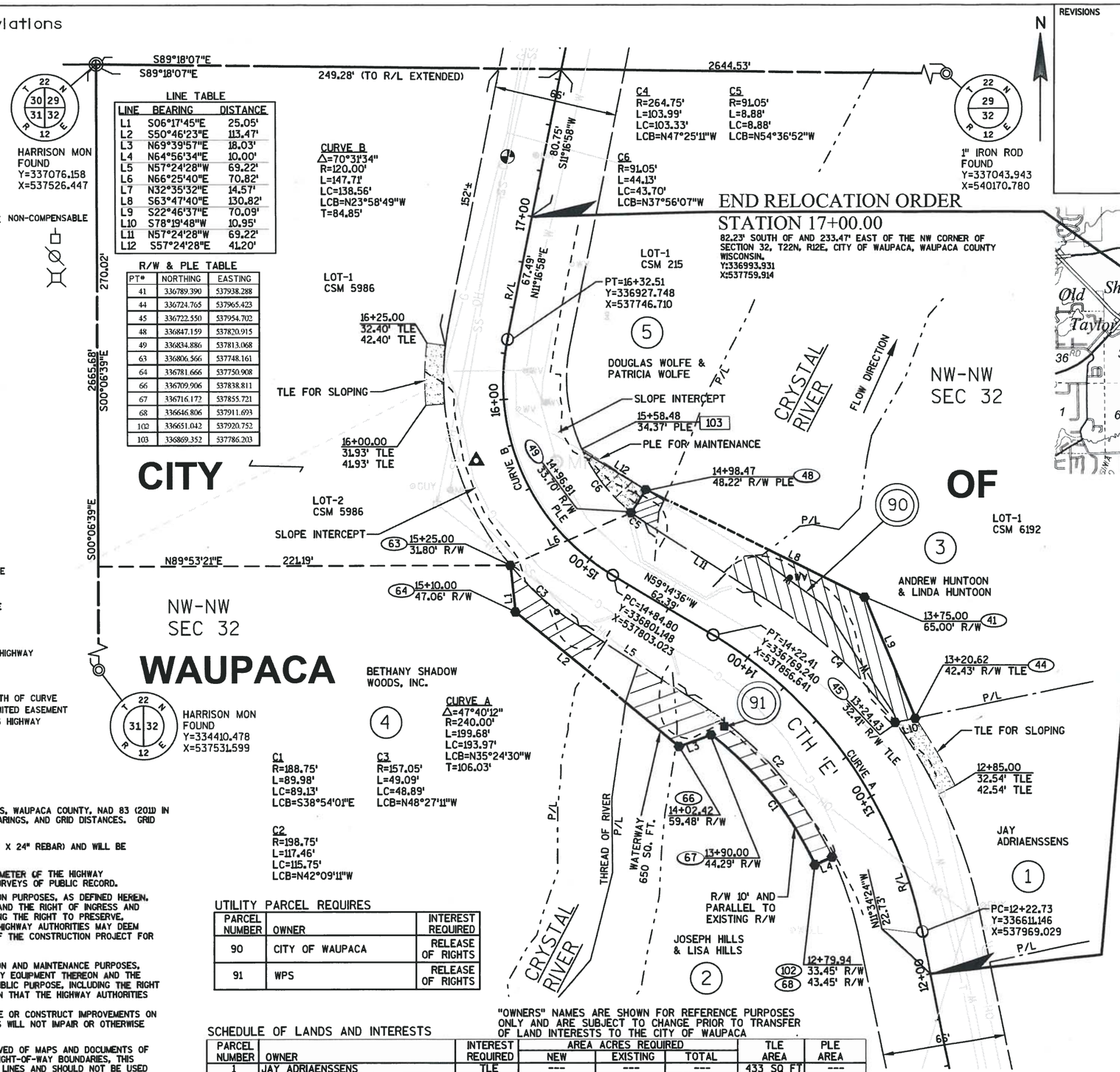
A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

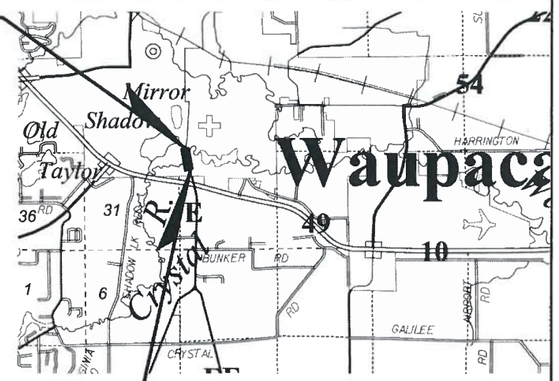
A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, ASDEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE THE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT,REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED OF MAPS AND DOCUMENTS OF PUBLIC RECORD AND/ OR EXISTING OCCUPATION LINES. EXCLUDING RIGHT-OF-WAY BOUNDARIES, THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

DIMENSIONS FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

EXISTING RIGHT-OF-WAY WAS ESTABLISHED FROM WAUPACA COUNTY, CSM NO. 215, 3009, 5986, 6192.





UTILITY PARCEL REQUIRES

PARCEL NUMBER	OWNER	INTEREST REQUIRED
90	CITY OF WAUPACA	RELEASE OF RIGHTS
91	WPS	RELEASE OF RIGHTS

"OWNERS" NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE CITY OF WAUPACA

SCHEDULE OF LANDS AND INTERESTS

PARCEL NUMBER	OWNER	INTEREST REQUIRED	AREA ACRES REQUIRED NEW	EXISTING	TOTAL	TLE AREA	PLE AREA
1	JAY ADRIAENSSENS	TLE	---	---	---	433 SQ FT	---
2	JOSEPH HILLS & LISA HILLS	FEE	2020 SQ FT	---	2020 SQ FT	---	---
3	ANDREW HUNTOON & LINDA HUNTOON	FEE	2926 SQ FT	---	2926 SQ FT	---	---
4	BETHANY SHADOW WOODS, INC.	FEE TLE	879 SQ FT	---	879 SQ FT	327 SQ FT	---
5	DOUGLAS WOLFE & PATRICIA WOLFE	FEE PLE	205 SQ FT	---	205 SQ FT	---	377 SQ FT

REVISIONS	R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
	6844-14-00	4.1	1
	FEDERAL PROJECT NUMBER ----------		

PLAT OF RIGHT-OF-WAY REQUIRED FOR

EVANS STREET-SHADOW LAKE ROAD
CRYSTAL RIVER ARCH BRIDGE B-68-0139

CTH E — WAUPACA COUNTY

CONSTRUCTION PROJECT NUMBER
6844-14-70

ACCEPTED FOR

WAUPACA COUNTY

June 19, 2017 (Date) — Casey H. Bywood, WAUPACA COUNTY HIGHWAY COMMISSIONER (Signature & Title of Official)

ORIGINAL PLANS PREPARED BY

OMNI ASSOCIATES
APPLETON, WISCONSIN

WISCONSIN PROFESSIONAL LAND SURVEYOR
DAVID A. YURK
S-2648
OSHKOSH, WI

6-15-2017 (Date) — David A. Yurk (Signature)

WAUPACA COUNTY

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
BM1	12+26, 26'RT	60 D SPIKE IN PP*75-CC12	834.68
		SOUTH OF ENTRANCE TO	
		HOUSE *1315	
BM2	13+87, 36'LT	60D SPIKE IN PP*75-AA12	832.10
		SOUTH OF BRIDGE	

NO.	STATION	DESCRIPTION	ELEV.
BM3	17+28, 20'LT	60 D SPIKE IN PP*75 CI WEST	844.66
		R/W NORTH OF BETHANY	
		HOMES ENTRANCE	
BM4	15+61, 48'LT	60D SPIKE IN PP* 75 DD12	841.95
		WEST R/W SOUTH OF BETHANY	
		HOMES ENTRANCE	

BEGIN PROJECT
STA 12+40.00
Y = 336627.927
X = 537964.958

END PROJECT
STA 17+00.00

PI STA = 13+28.76
Y = 336715.018
X = 537947.757
DELTA = 47°40'12"
D = 23°52'24"
T = 106.03'
L = 199.68'
R = 240.00'
PC STA = 12+22.73
Y = 336611.146
X = 537969.029
PT STA = 14+22.41
Y = 336769.240
X = 537856.642
BK = N11°34'24"W
AH = N59°14'36"W

PI STA = 15+69.65
Y = 336844.539
X = 537730.109
DELTA = 70°31'34"
D = 47°44'47"
T = 84.85'
L = 147.71'
R = 120.00'
PC STA = 14+84.80
Y = 336801.148
X = 537803.023
PT STA = 16+32.51
Y = 336927.748
X = 537746.710
BK = N59°14'36"W
AH = N11°16'58"E

BM 1 — BM 2 — BM 3 — BM 4

CTH E — C/L CTH E — SHADOW WOODS LANE — BETHANY HOME INC

EXISTING R/W — R/W — PC: 12+22.73 — PT: 14+22.41 — PC: 14+84.80 — PT: 16+32.51

JOSEPH & LISA HILLS — WPS & CHARTER — JAY ADRIAENSSENS — CITY OF WAUPACA — TEMPORARY LIMITED EASEMENT — ANDREW & LINDA HUNTOON — BETHANY SHADOW WOODS — DOUGLAS & PATRICIA WOLFE — WE ENERGIES

SLOPE INTERCEPT — REMOVING OLD STRUCTURE P-68-717 — RAILING STEEL PEDESTRIAN, TYP. — 4 INCH CONC SIDEWALK TYP — CONCRETE CURB AND GUTTER, 18 INCH TYP — AT&T — STRUCTURE B-68-139 — STONE WALL — REMOVING CONCRETE SIDEWALK — CRYSTAL RIVER FLOW

CAUTION — REMOVE MANHOLE — REMOVE STORM SEWER — CONCRETE PAVEMENT APPROACH SLAB, TYP — TEMPORARY LIMITED EASEMENT — SAWCUT AND MATCH EXISTING — SAWCUT AND MATCH EXISTING — ASPH

YARDAGE SUMMARY
EXC COMMON = 303 CY
FILL = 258 CY
WASTE = 44 CY

YARDAGE SUMMARY
EXC COMMON = 494 CY
FILL = 84 CY
WASTE = 410 CY

VPC ELEV = 833.24 — VPC STA = 13+05.00
VPT ELEV = 834.36 — VPT STA = 13+95.00 — VPC ELEV = 834.41 — VPC STA = 13+97.50
VPT ELEV = 837.49 — VPT STA = 15+02.50 — VPC ELEV = 837.52 — VPC STA = 15+03.19

FINISHED PROFILE ON C/L — EXISTING GROUND

0.40% — 2.08% — 3.79% — 3.77% — 3.10% — 2.80% — 2.00% — 1.57%

VPI STA = 13+50.00
VPI ELEV = 833.42
g1 = 0.40%
g2 = 2.08%
L = 90.00
K = 54

VPI STA = 14+50.00
VPI ELEV = 835.50
g1 = 2.08%
g2 = 3.79%
L = 105.00
K = 61

VPI STA = 15+58.19
VPI ELEV = 839.60
g1 = 3.79%
g2 = 3.77%
L = 110.00
K = 4530

PVI ELEV = 833.19 — PVI STA = 12+93.00

VPT ELEV = 841.67 — VPT STA = 16+13.19 — PVI ELEV = 841.74 — PVI STA = 16+15.00 — PVI ELEV = 842.05 — PVI STA = 16+25.00 — PVI ELEV = 842.75 — PVI STA = 16+50.00 — PVI ELEV = 843.25 — PVI STA = 16+75.00 — PVI ELEV = 843.64 — PVI STA = 17+00.00

HW100=828.77

REMOVE STRUCTURE P-68-717
CONCRETE MASONRY ARCH
30' LONG; 29' WIDE

STRUCTURE B-68-139
SINGLE SPAN 36W' PPC GIRDER BRIDGE
62.8' BACK TO BACK ABUTMENTS
38' CLEAR ROADWAY
SEE BRIDGE DRAWINGS 1-13

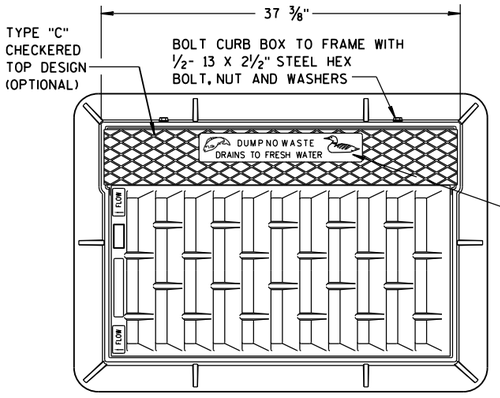
850	845	840	835	830	825	820	815

833.8	833.6	833.4	833.2	833.1	833.2	833.22	833.36	833.61	833.98	834.46	835.04	835.72	836.51	837.40	838.34	839.29	840.23	841.17	842.05	842.75	843.25	843.64	843.8	844.0
11+50	11+75	12+00	12+25	12+50	12+75	13+00	13+25	13+50	13+75	14+00	14+25	14+50	14+75	15+00	15+25	15+50	15+75	16+00	16+25	16+50	16+75	17+00	17+25	17+50

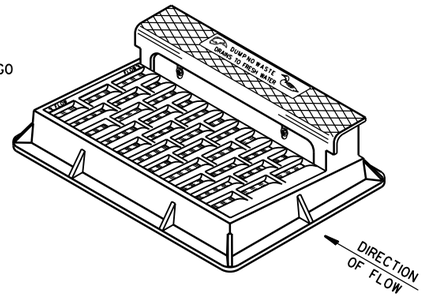
PROJECT NO: 6844-14-70	HWY: CTH E	COUNTY: WAUPACA	PLAN AND PROFILE: CTH E	SHEET 23	E

Standard Detail Drawing List

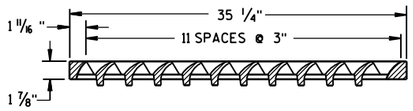
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A08-02	CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER
08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-19	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-18A	CURB RAMPS TYPES 1 AND 1-A
08D05-18B	CURB RAMPS TYPES 2 AND 3
08D05-18C	CURB RAMPS TYPES 4A AND 4A1
08D05-18D	CURB RAMPS TYPE 4B AND 4B1
08D05-18E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F10-01	CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH
12A03-10	NAME PLATE (STRUCTURES)
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13B02-08B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15C08-17B	PAVEMENT MARKING (TURN LANES)
15C35-01A	PAVEMENT MARKING (INTERSECTIONS)

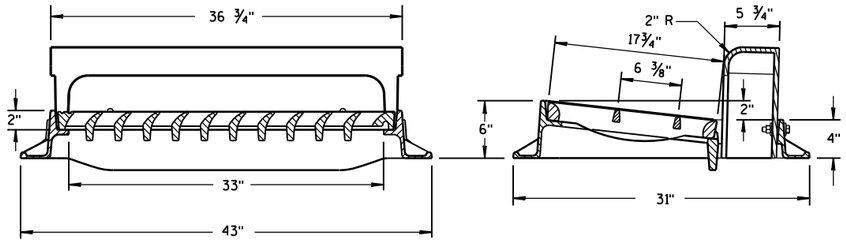


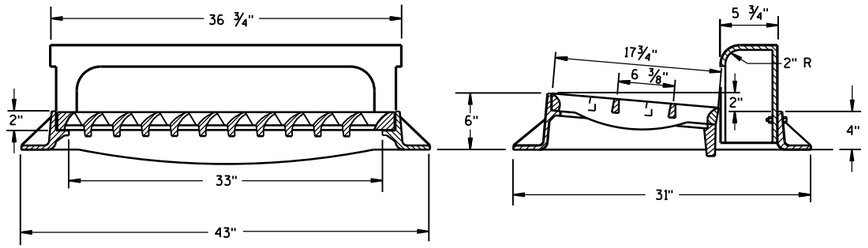
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

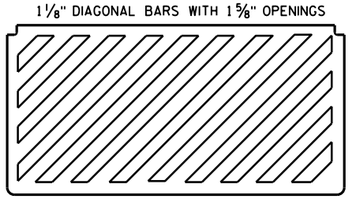






TYPE "H"

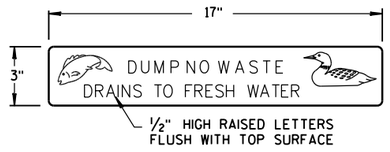
NOTE: EITHER CASTING IS ACCEPTABLE



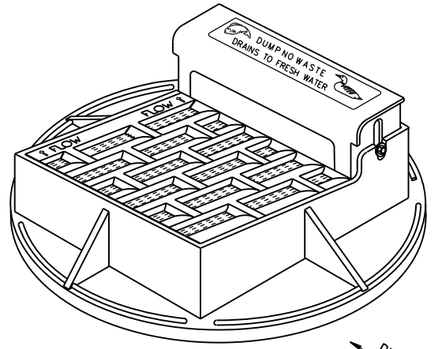
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

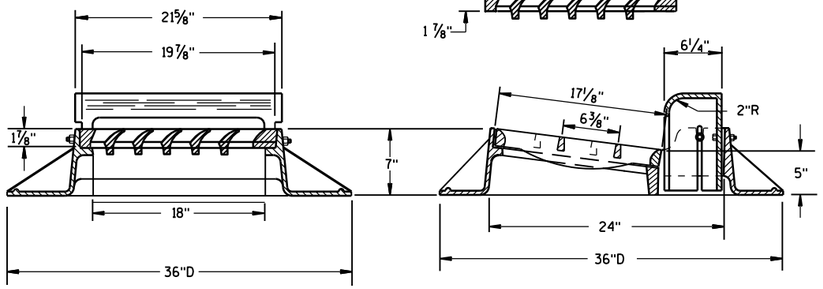


LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



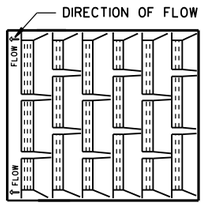
TYPE "A"

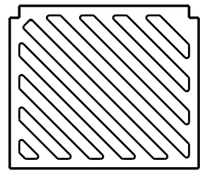
GENERAL NOTES

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

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

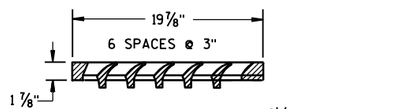


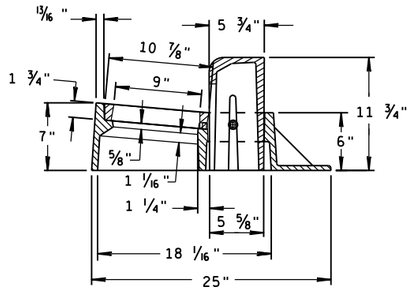


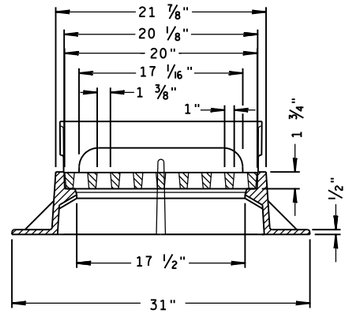
SPECIAL GRATE FOR TYPE "A" COVER

(MEASURES 19 3/4" X 17" X 1 7/8")

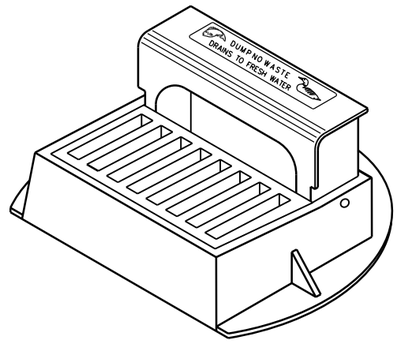
(NOTED AS TYPE A-S ON DRAINAGE TABLE)







TYPE "Z"



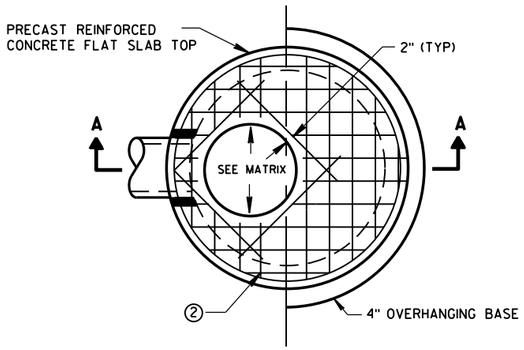
INLET COVERS
TYPE A, H, A-S, H-S & Z

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

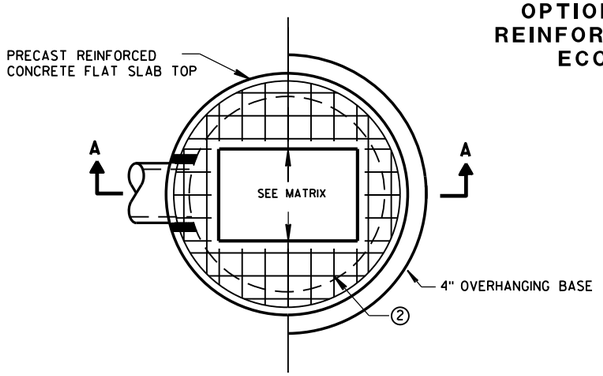
APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

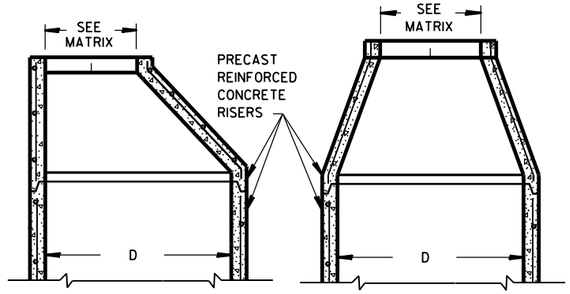
S.D.D. 8 A 5-19a



PLAN VIEW CIRCULAR OPENING

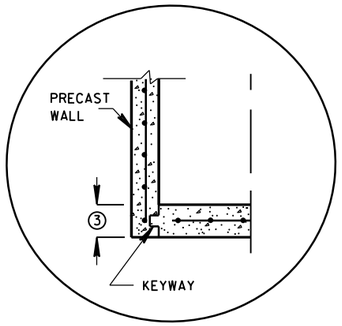


PLAN VIEW RECTANGULAR OPENING



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

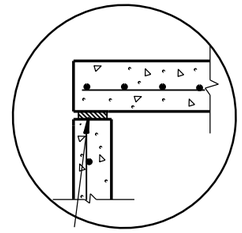
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



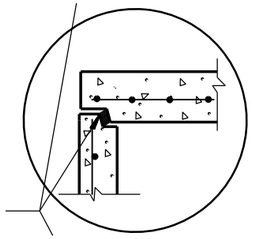
PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"

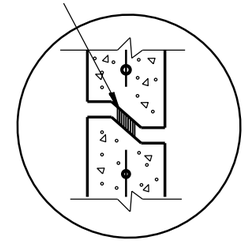


TOP WITH PLAIN END JOINT



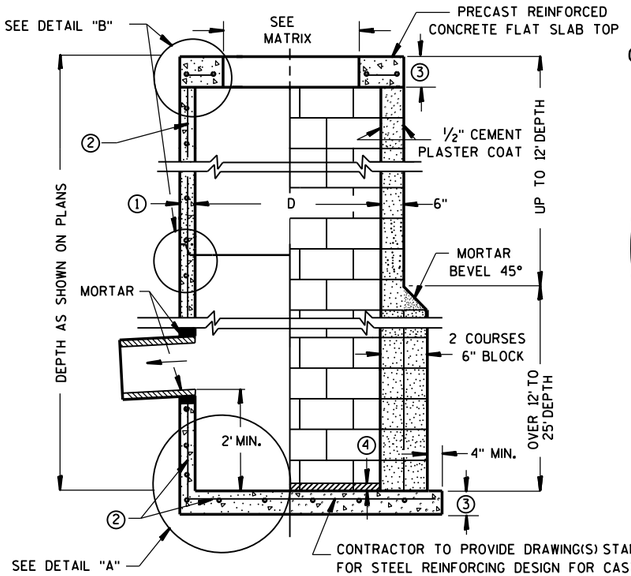
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

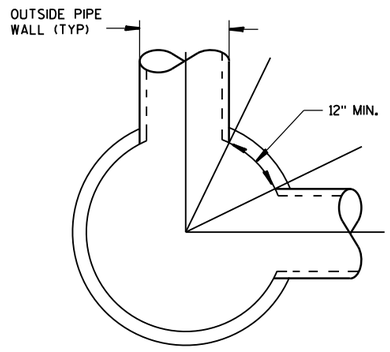


CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES

SECTION A-A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②



DETAIL "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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½ INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT AND 7 INCHES FOR 6-FT DIAMETER PRECAST CATCH BASINS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

④ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER OPENING MATRIX

CATCH BASIN SIZE	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
	OPENING SIZE (FT)											
3-FT	2X2	X	X					X		X		
	2 DIA.				X							X
4-FT-6-FT	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2 DIA.				X							X
	2X3						X					
	2.5X3					X						

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	30

CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

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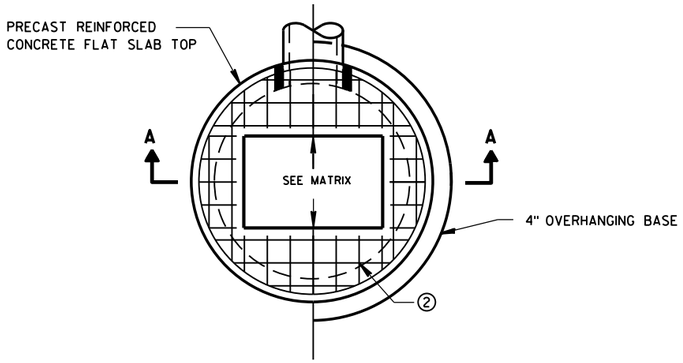
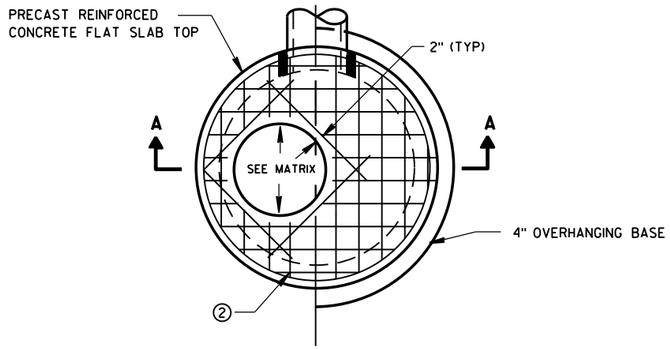
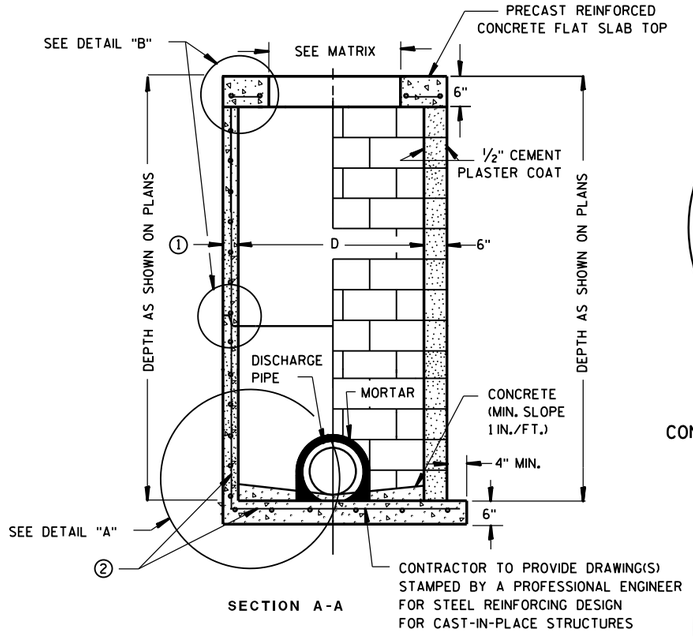


PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

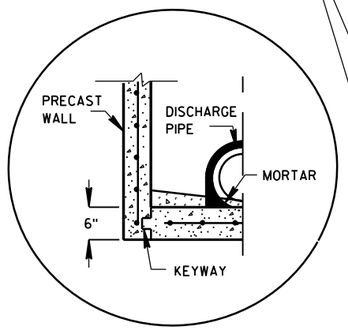


SECTION A-A

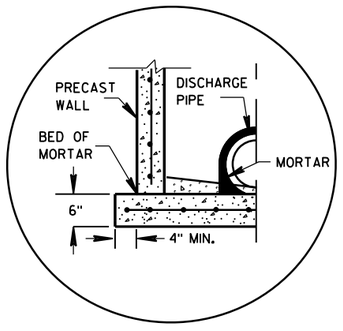
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

CIRCULAR INLETS W/ FLAT TOP

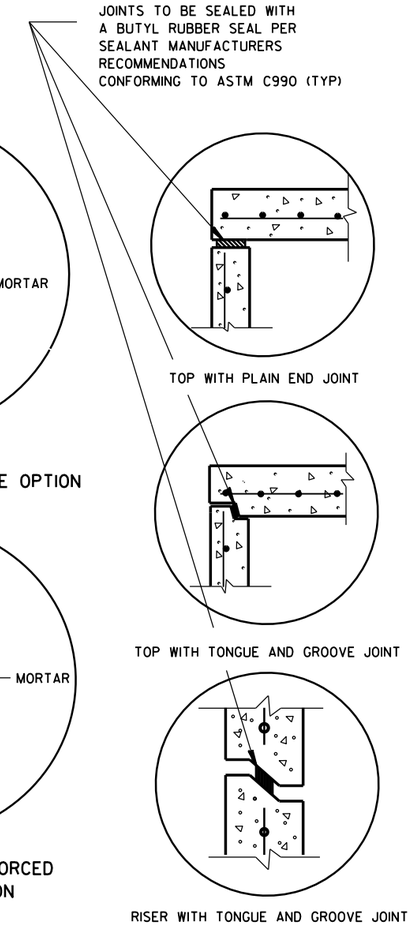


PRECAST REINFORCED
CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED
CONCRETE BASE OPTION

DETAIL "A"



DETAIL "B"

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

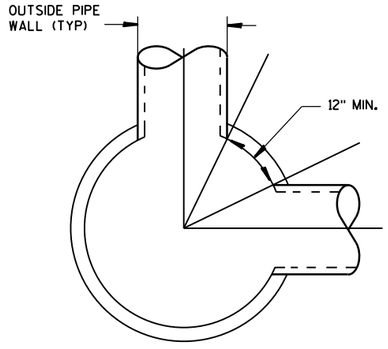
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2X3						X					
	2.5X3					X						



DETAIL "C"

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

INLETS 3-FT AND 4-FT DIAMETER

INLETS 3-FT
AND 4-FT DIAMETER

STATE OF WISCONSIN
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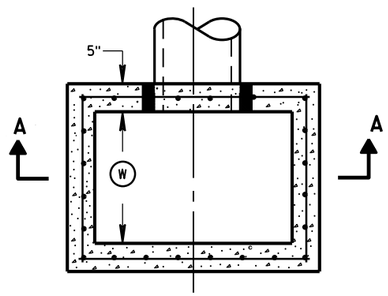
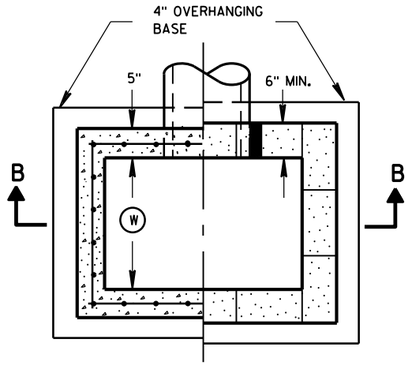
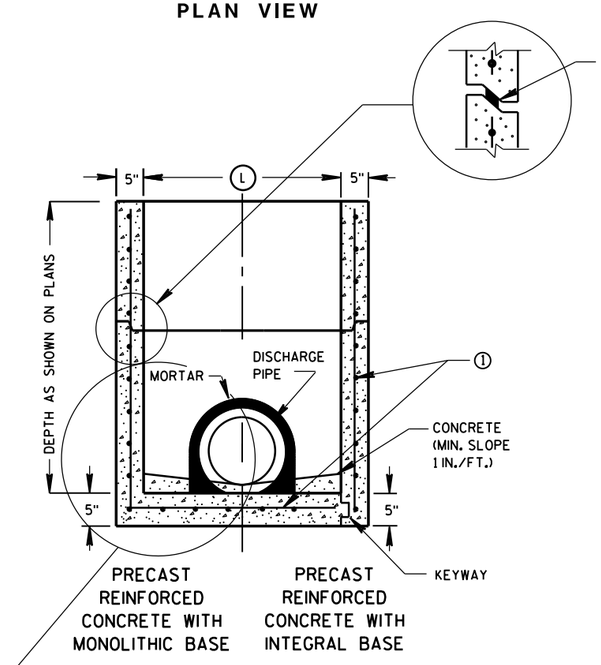


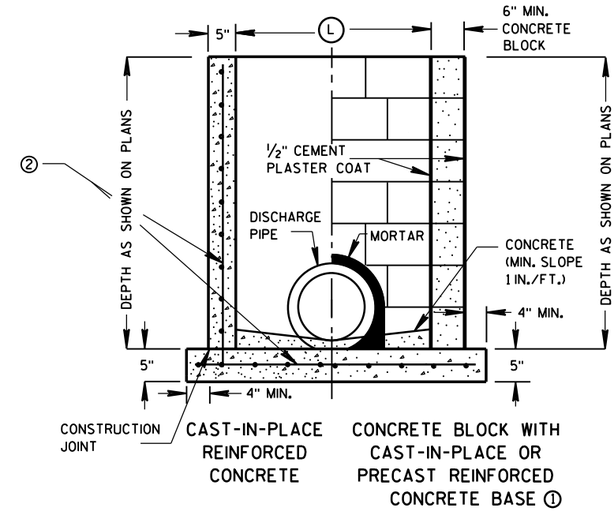
PLAN VIEW



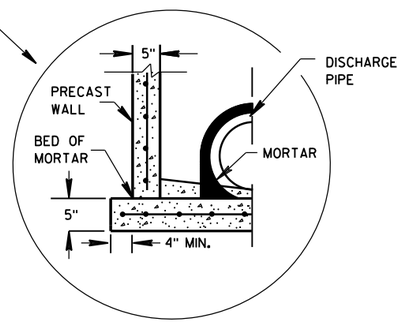
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

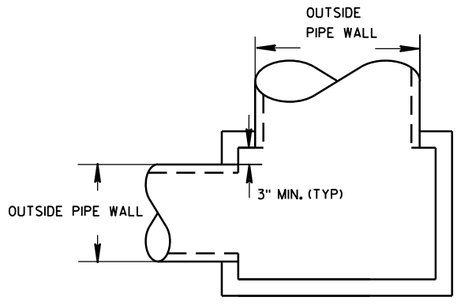
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

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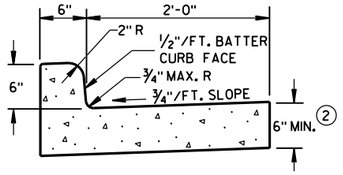
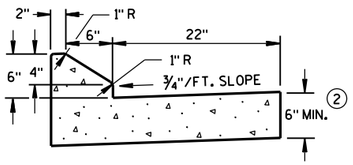
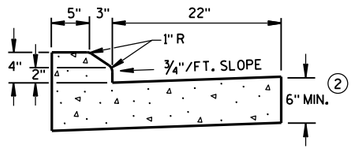


TYPES A & D ①

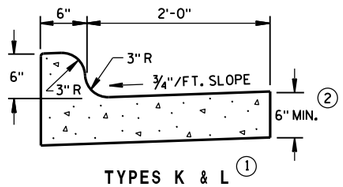


6" SLOPED CURB TYPES G & J ①

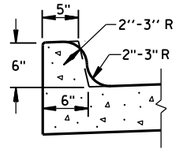


4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

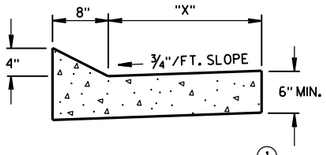


TYPES K & L ①



OPTIONAL CURB SHAPE FOR TYPES K & L ①

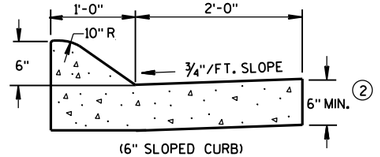
CONCRETE CURB & GUTTER 30"



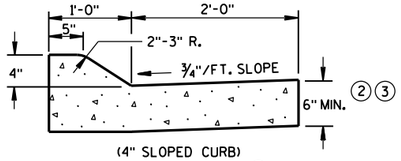
TYPES TBT & TBTT ①

CONCRETE CURB & GUTTER

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

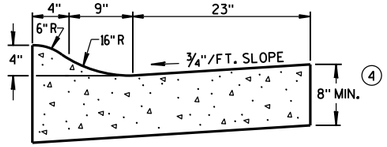


(6" SLOPED CURB)



(4" SLOPED CURB)

TYPES A & D ①



4" SLOPED CURB TYPES R & T ①⑤

CONCRETE CURB & GUTTER 36"

GENERAL NOTES

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

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

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

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

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

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

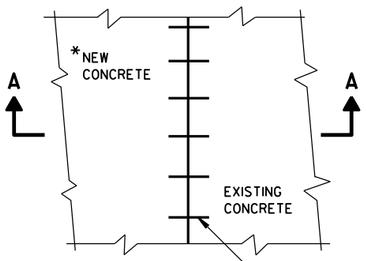
② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

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

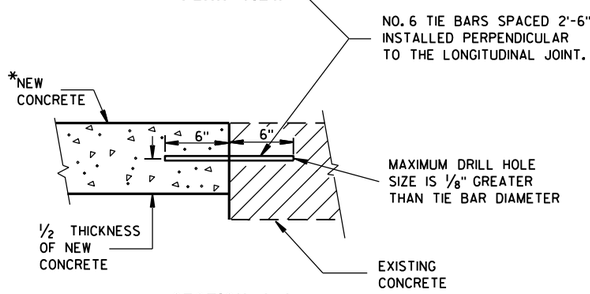
⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

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



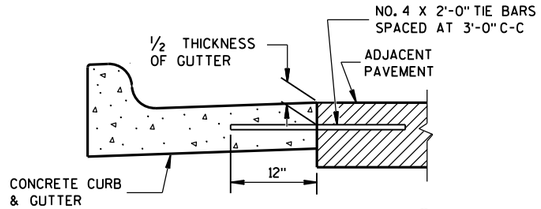
PLAN VIEW

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

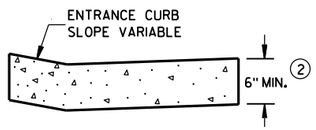


SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT

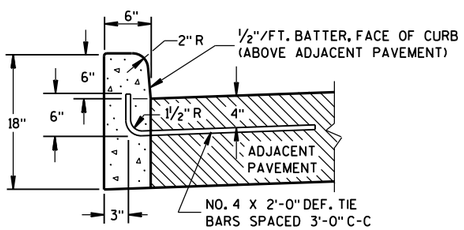


TYPICAL TIE BAR LOCATION ①

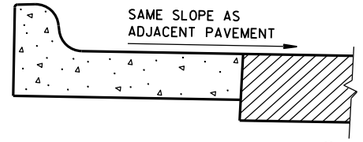


DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)

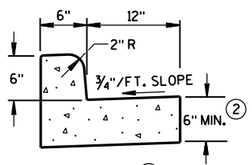


① TYPES A & D



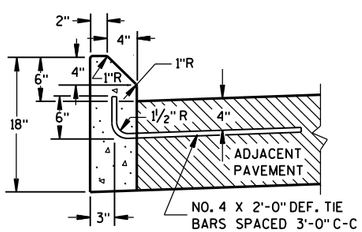
⑥ REVERSE SLOPE GUTTER

(TYPICAL FOR ALL CURB & GUTTER TYPES)



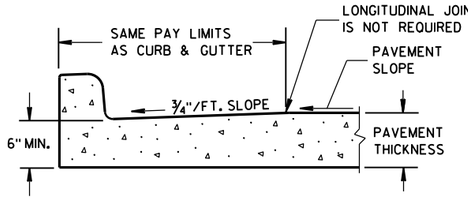
① TYPES A & D

CONCRETE CURB & GUTTER 18"

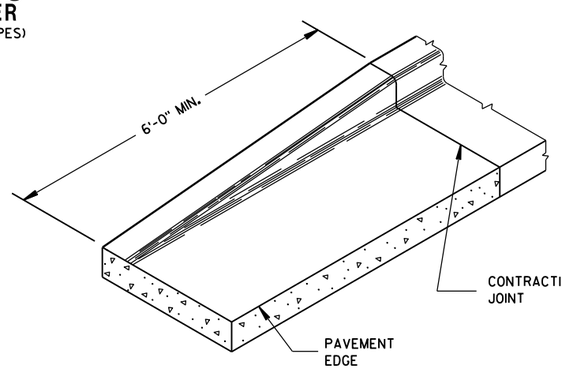


① TYPES G & J

CONCRETE CURB



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

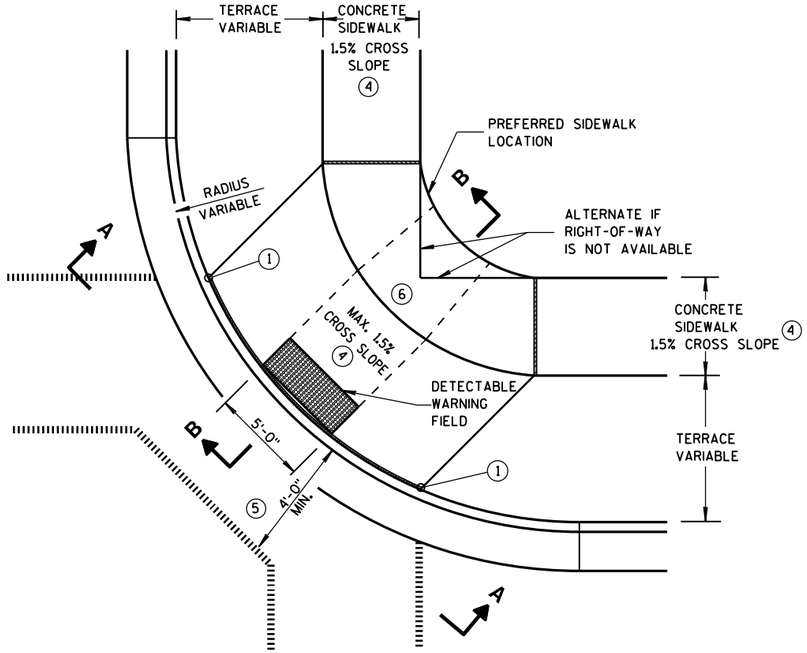
June, 2016 — DATE

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

FHWA

6

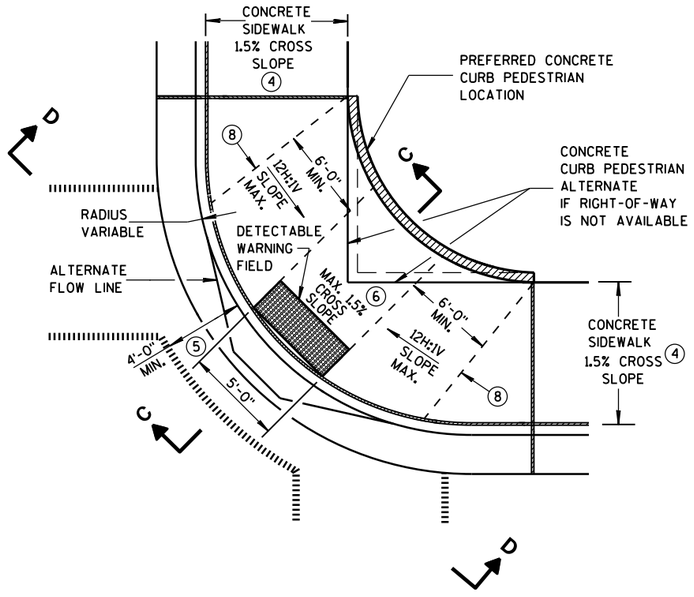
S.D.D. 8 D 1-19



PLAN VIEW

TYPE 1 RAMP

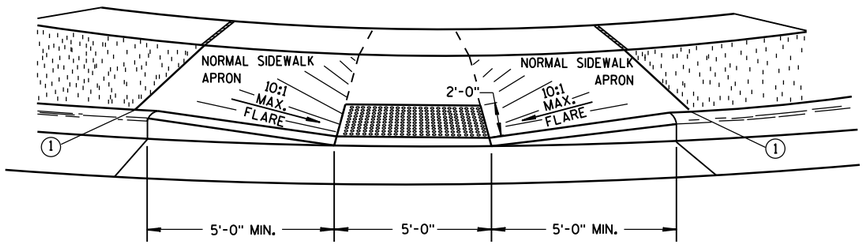
(CENTER OF CORNER RADIUS)



PLAN VIEW

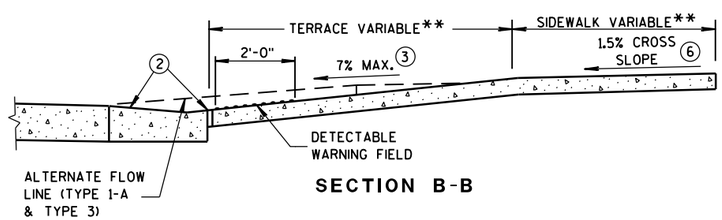
TYPE 1-A RAMP

(NO TERRACE)

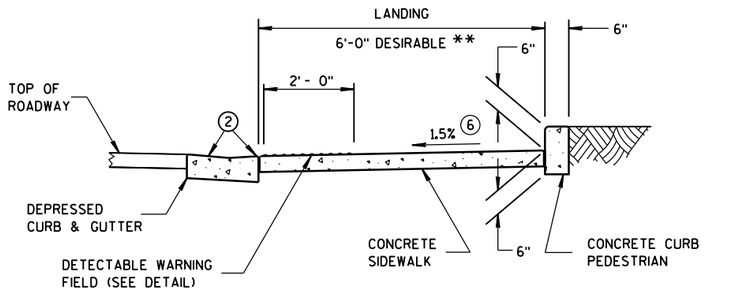


VIEW A-A

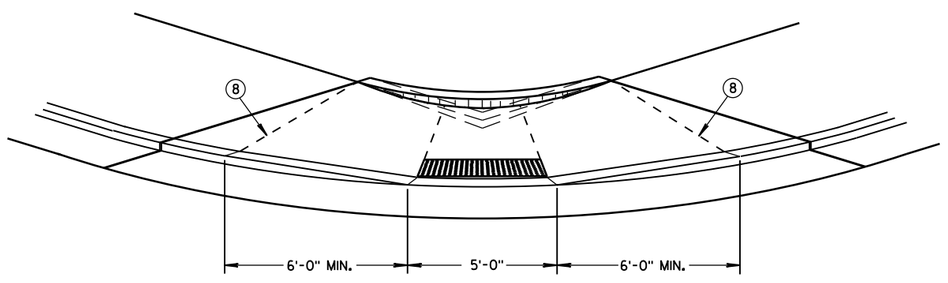
** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B



SECTION C-C



VIEW D-D

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.

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

(1) THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(5) PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA. (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

LEGEND

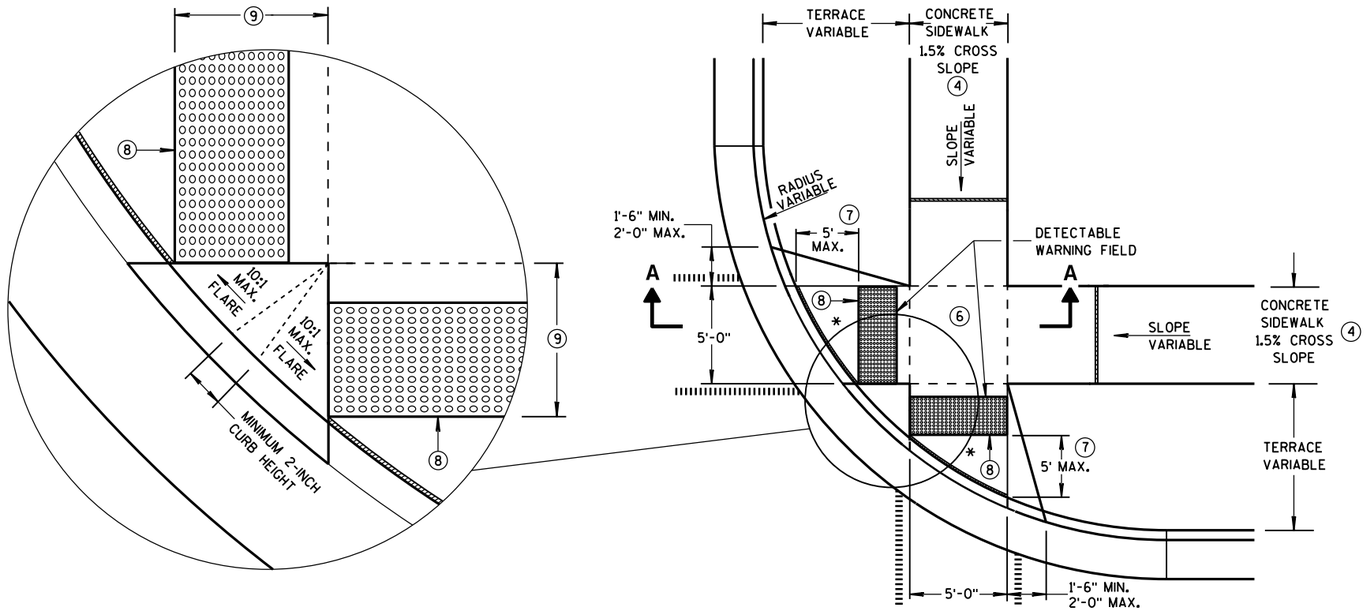
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

CURB RAMPS TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 8 D 5-18a

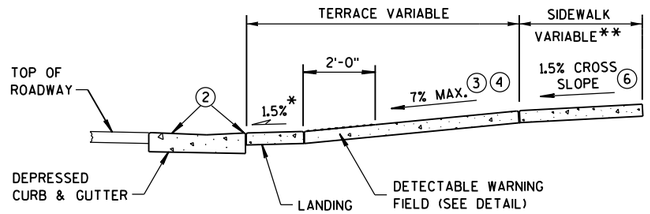


PLAN VIEW

TYPE 2 RAMP

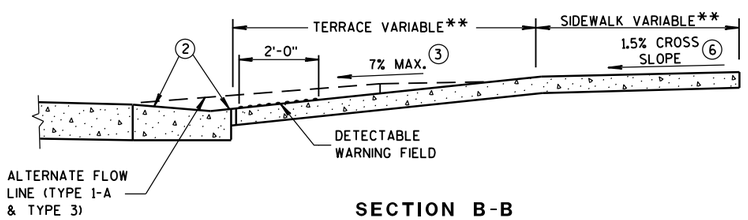
(ON LINE WITH SIDEWALK)

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK



SECTION A-A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B

GENERAL NOTES

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

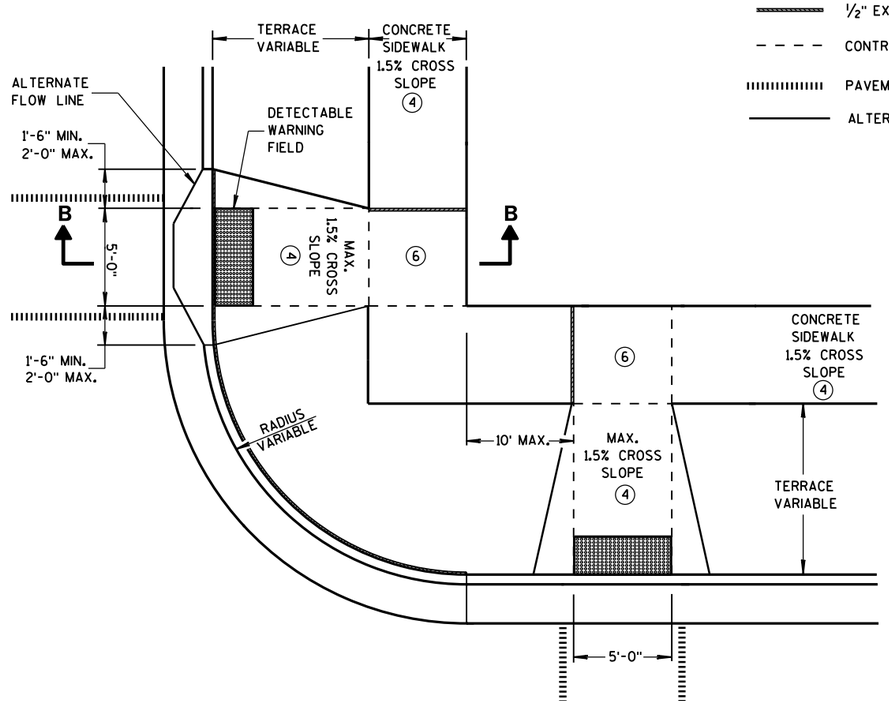
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. USE EQUAL-SIZE PANELS TO DEVELOP OVERLAPPING, STAGGERED ROWS. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION OF PEDESTRIAN TRAVEL.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(9) WHEN THIS DISTANCE IS LESS THAN 6'-0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



PLAN VIEW

TYPE 3 RAMP

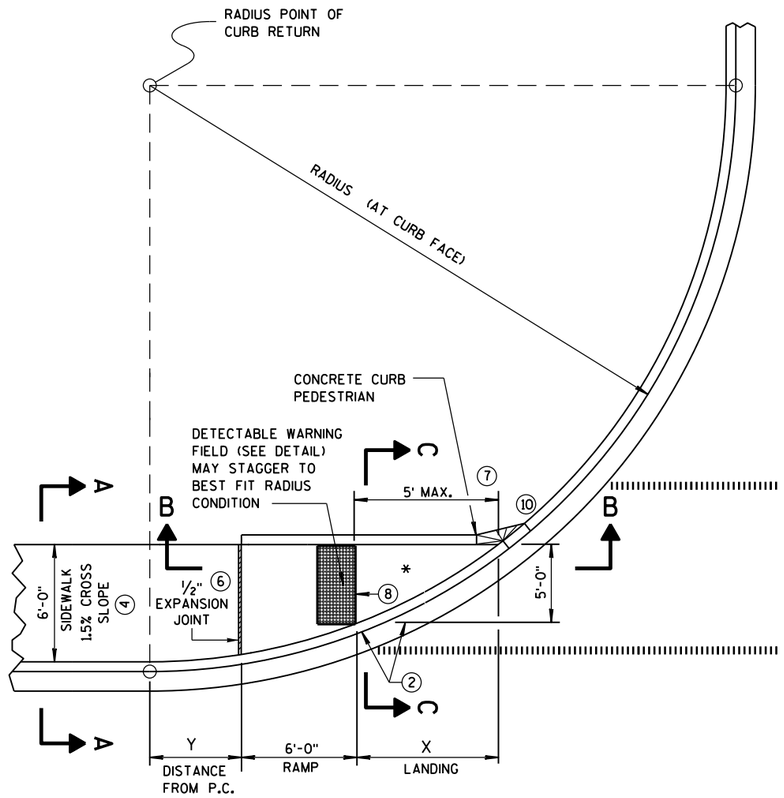
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

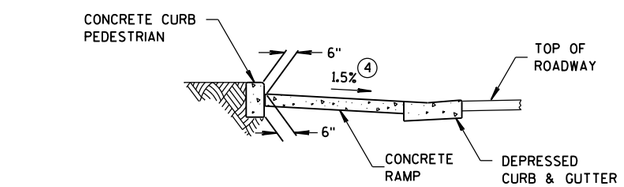
S.D.D. 8 D 5-18b



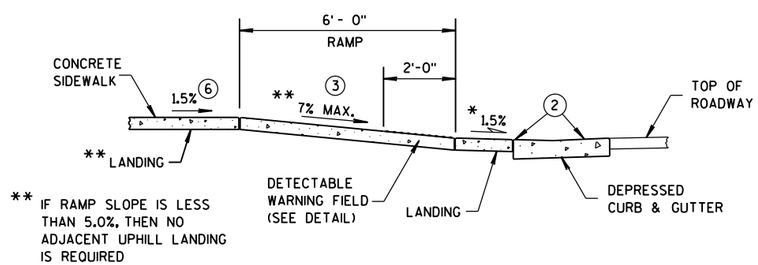
CURB RAMP TYPE 4A
PLAN VIEW

RADIUS (AT CURB FACE)	X	Y
20 FEET	7'-11"	0'-2"
30 FEET	10'-2¾"	1'-7½"
40 FEET	12'-1¼"	2'-10"
50 FEET	13'-8¾"	3'-10¾"
60 FEET	15'-2"	4'-10¼"

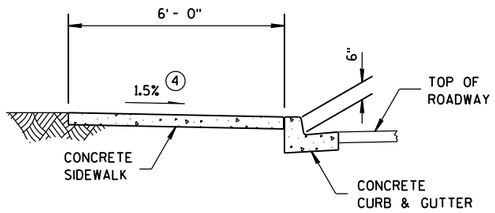
INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION C-C FOR TYPE 4A

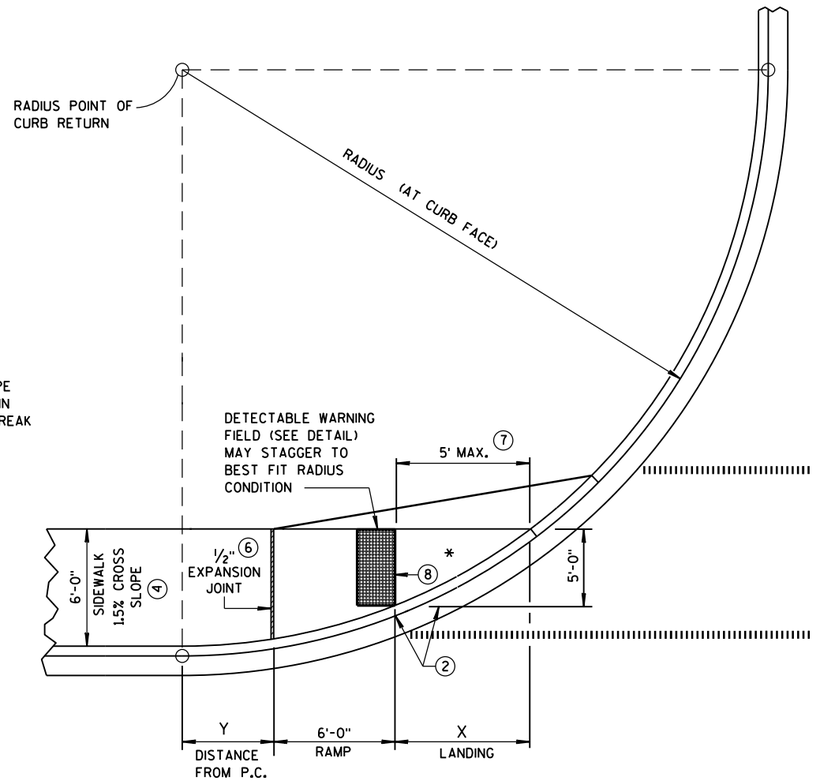


SECTION B-B FOR TYPE 4A



SECTION A-A FOR TYPE 4A

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK



CURB RAMP TYPE 4A1
PLAN VIEW

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

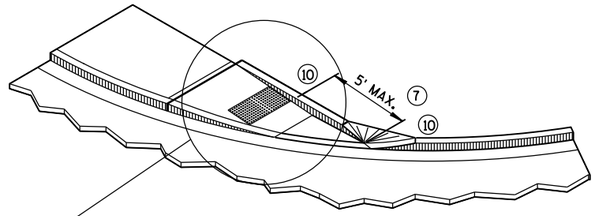
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

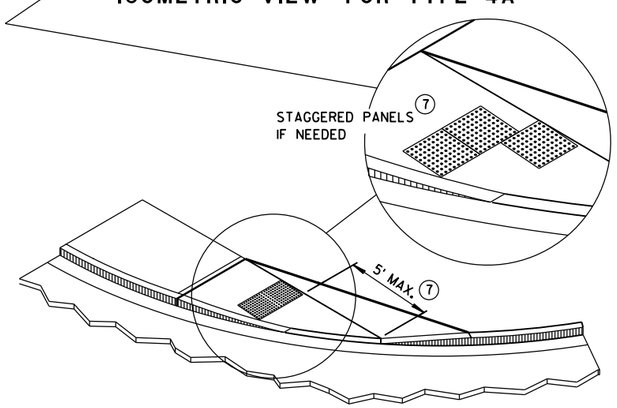
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. USE EQUAL-SIZE PANELS TO DEVELOP OVERLAPPING, STAGGERED ROWS. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION OF PEDESTRIAN TRAVEL.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4A



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

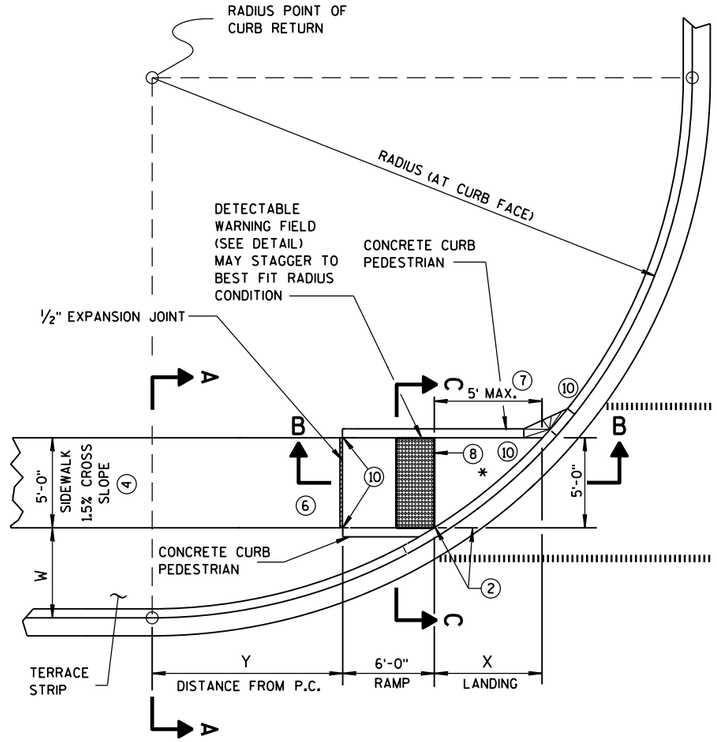
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

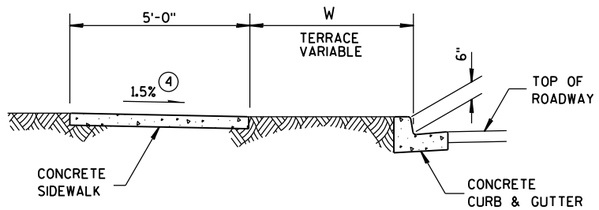
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

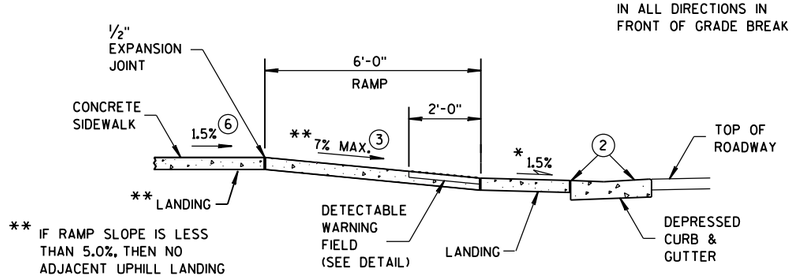
S.D.D. 8 D 5-18c



CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

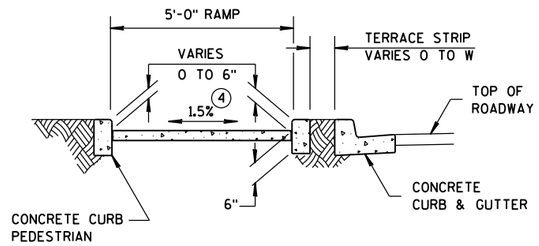
SECTION B-B FOR TYPE 4B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)



SECTION C-C FOR TYPE 4B

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-9¾"	3'-6½"	4'-11½"	5'-1¾"	4'-3¼"	6'-5½"	3'-8¾"	7'-6¾"	3'-3"	8'-6¼"
30 FEET	7'-9¼"	5'-10½"	6'-9½"	7'-11¼"	6'-0¼"	9'-8"	5'-5"	11'-1¾"	4'-10¾"	12'-5¾"
40 FEET	9'-4"	7'-10"	8'-2¾"	10'-3"	7'-4¾"	12'-3¾"	6'-8½"	14'-1¼"	6'-1¾"	15'-8½"
50 FEET	10'-8"	9'-6½"	9'-5½"	12'-3¼"	8'-6½"	14'-7½"	7'-9¾"	16'-8¼"	7'-2½"	18'-6¼"
60 FEET	11'-10¼"	11'-0¾"	10'-6½"	14'-1¼"	9'-6½"	16'-8½"	8'-9¼"	18'-11¾"	8'-1½"	21'-0½"

INTERMEDIATE RADII CAN BE INTERPOLATED

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

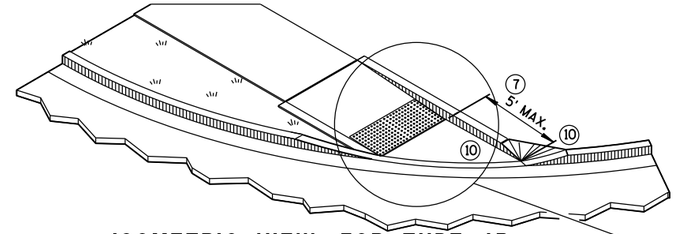
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

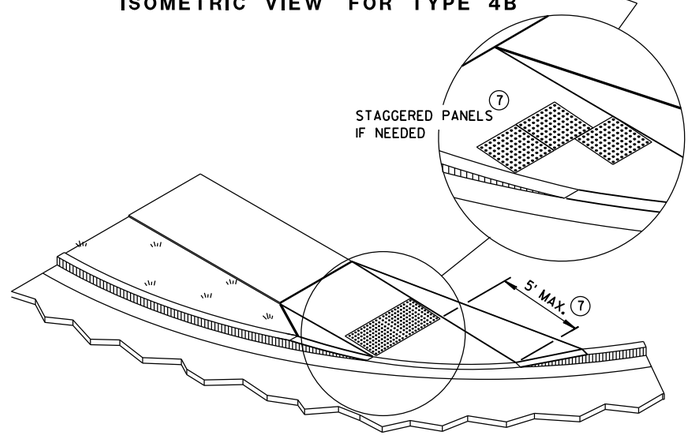
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. USE EQUAL-SIZE PANELS TO DEVELOP OVERLAPPING, STAGGERED ROWS. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION OF PEDESTRIAN TRAVEL.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

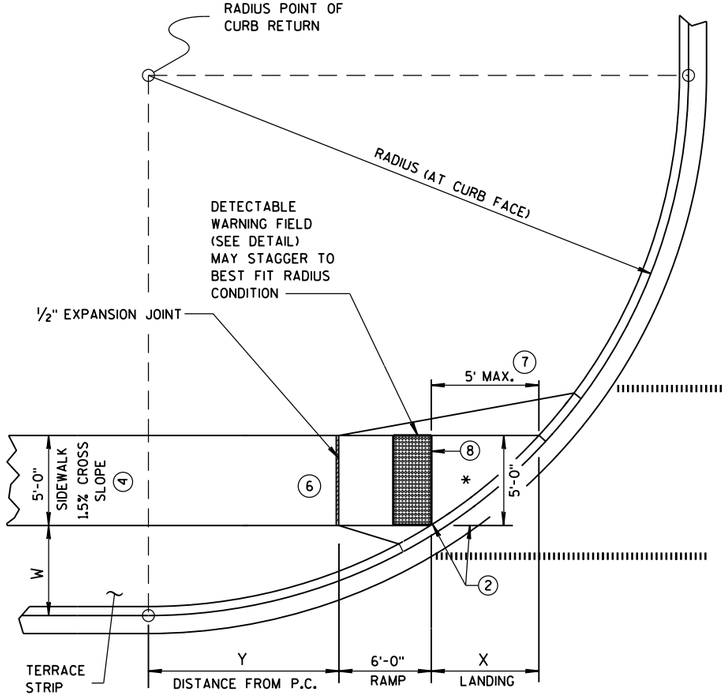
(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1



CURB RAMP TYPE 4B1
PLAN VIEW

CURB RAMPS
TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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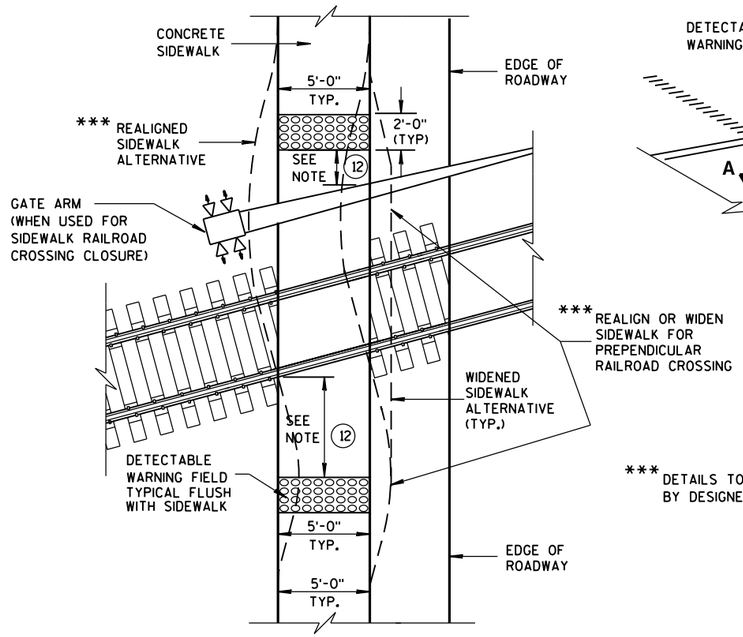
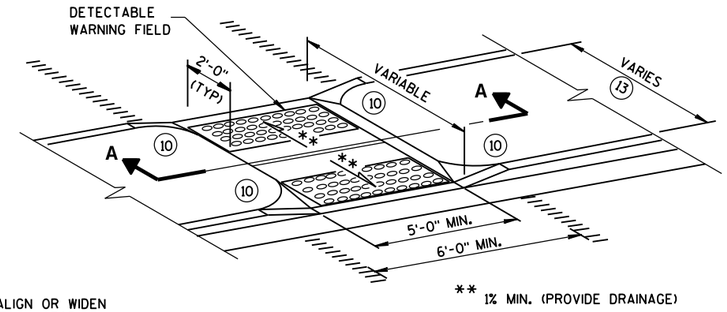
S.D.D. 8 D 5-18d



*** DETAILS TO BE DETERMINED BY DESIGNER

TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

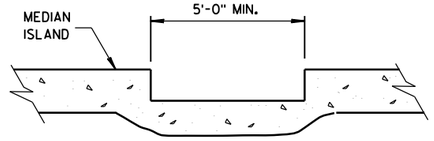
(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

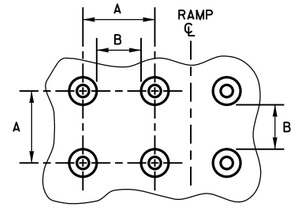
(13) DO NOT INSTALL DETECTABLE WARNING FIELDS IF MEDIAN WIDTH BETWEEN BACK OF CURBS IS LESS THAN 6 FEET.



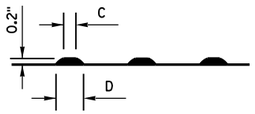
SECTION A-A

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

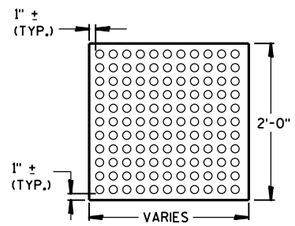


PLAN VIEW



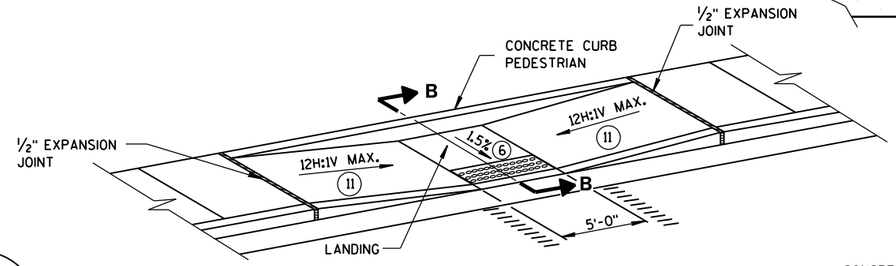
ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

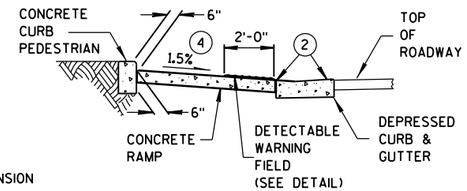


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)

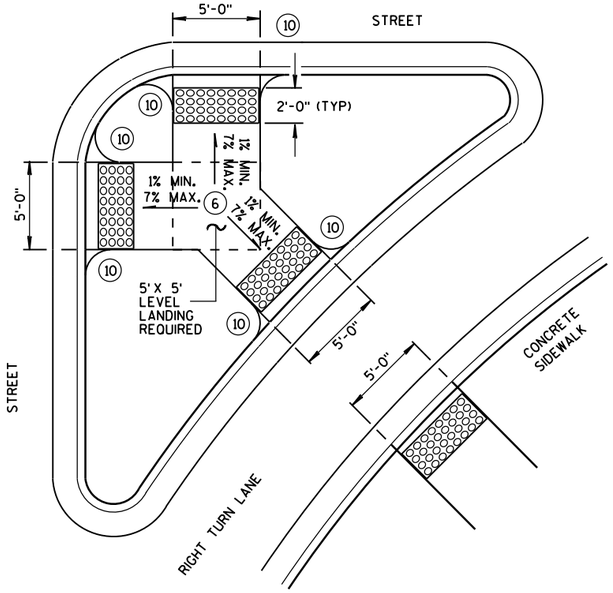


MID-BLOCK CROSSING
TYPE 7A

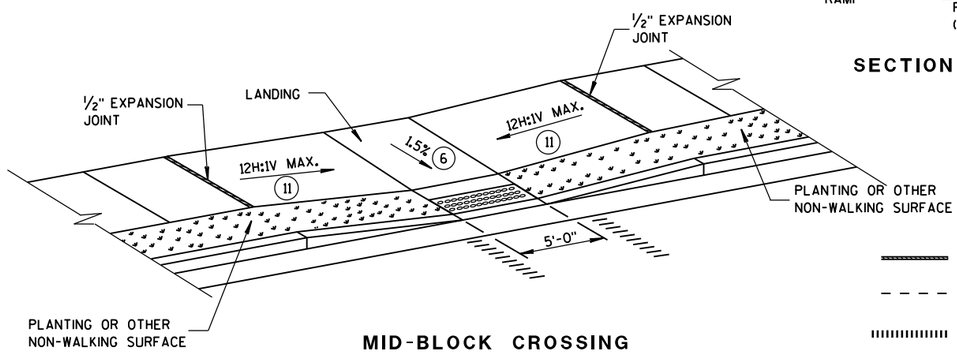


SECTION B-B

REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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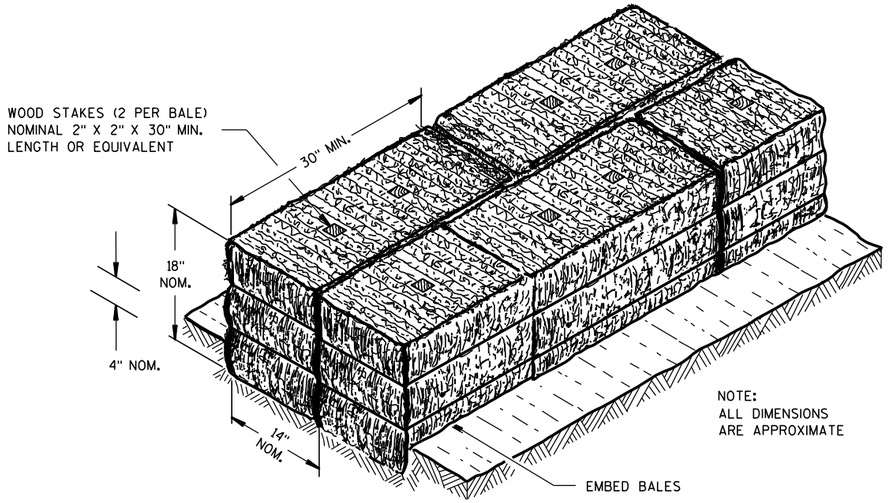
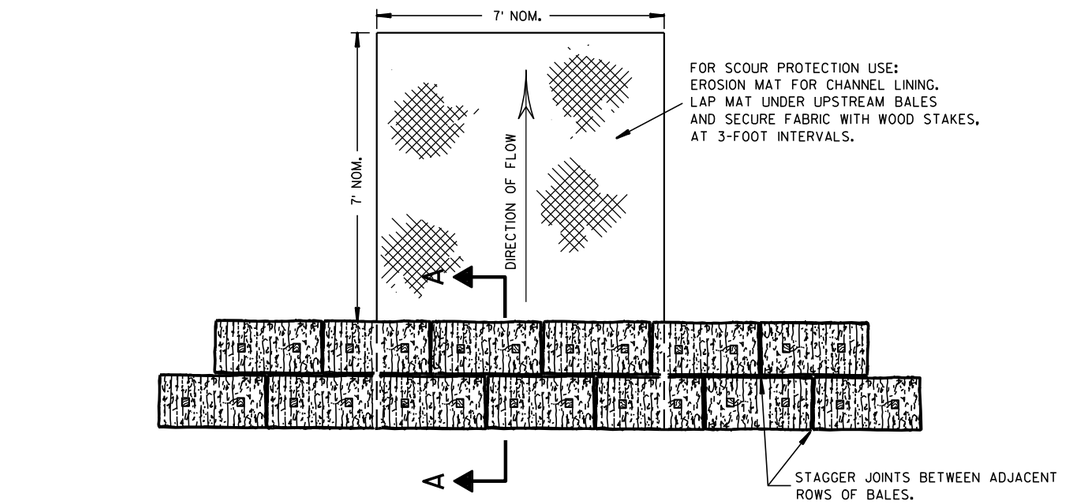
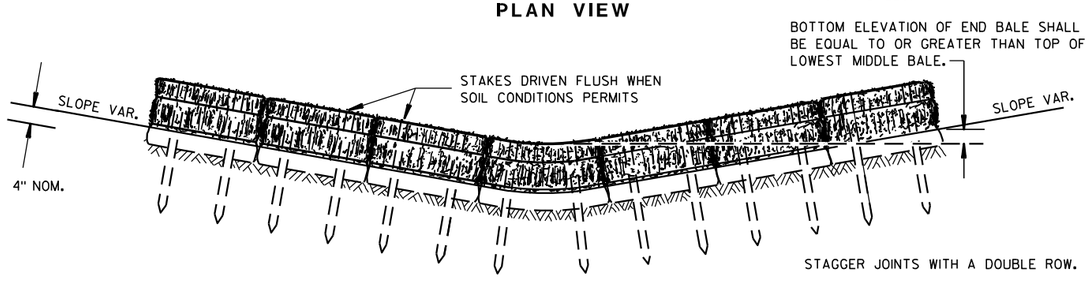
S.D.D. 8 D 5-18e



SECTION A-A



PLAN VIEW



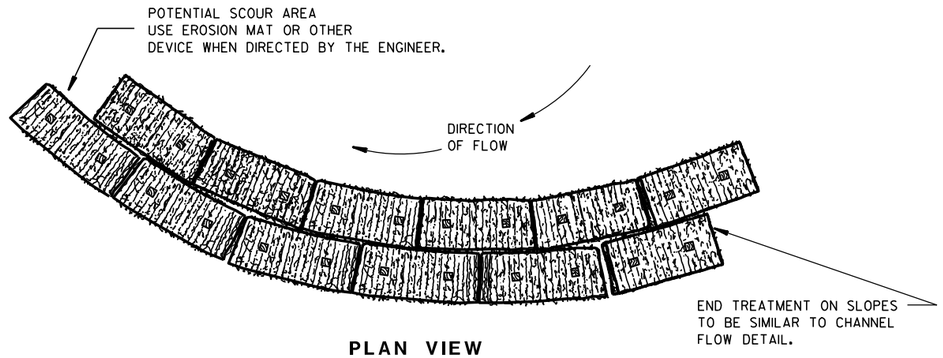
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

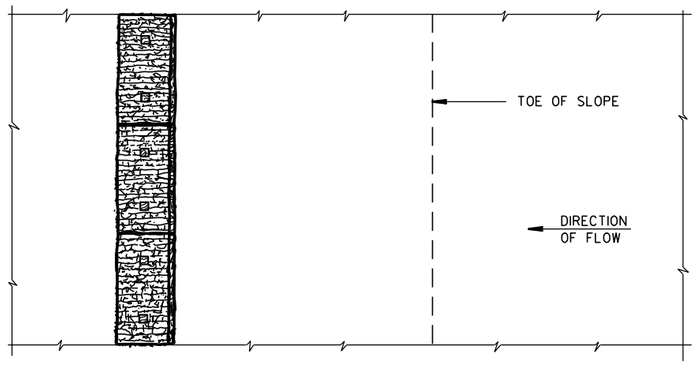
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

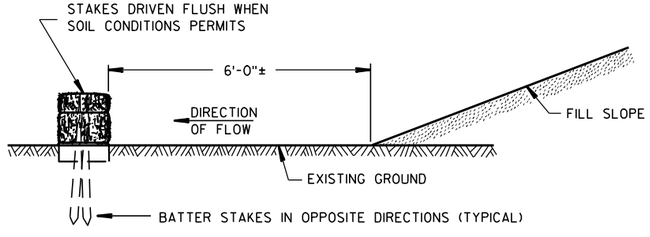


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

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S.D.D. 8 E 8-3

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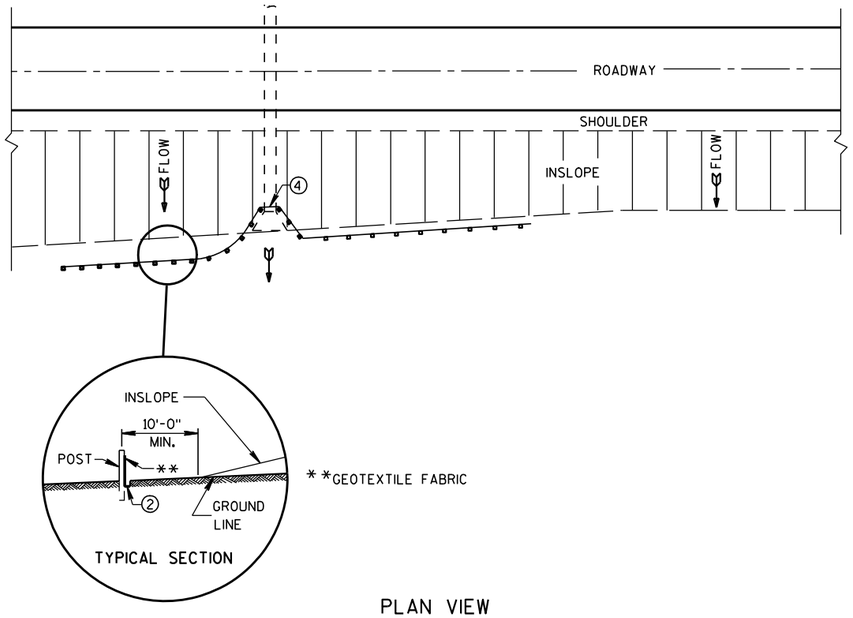
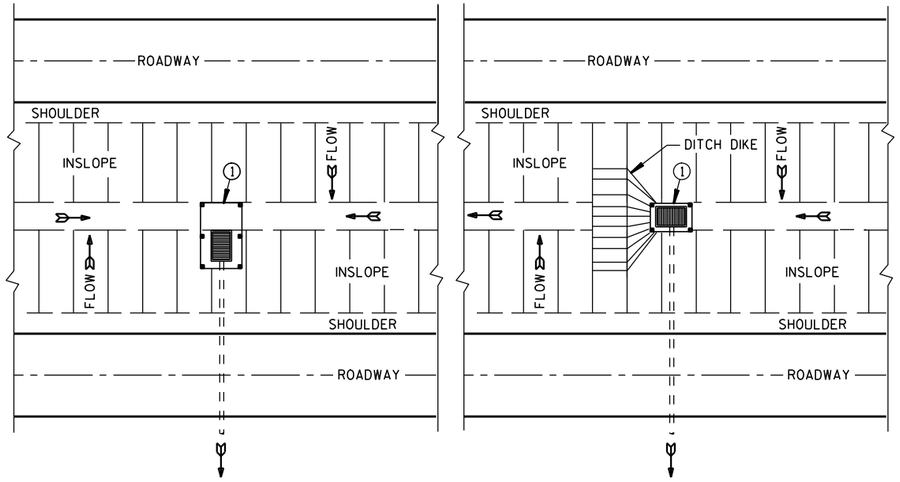
S.D.D. 8 E 8-3



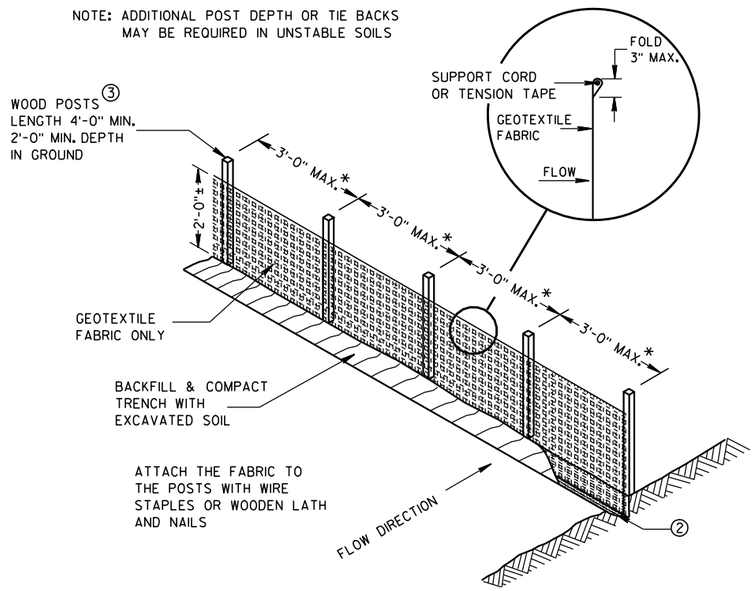
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



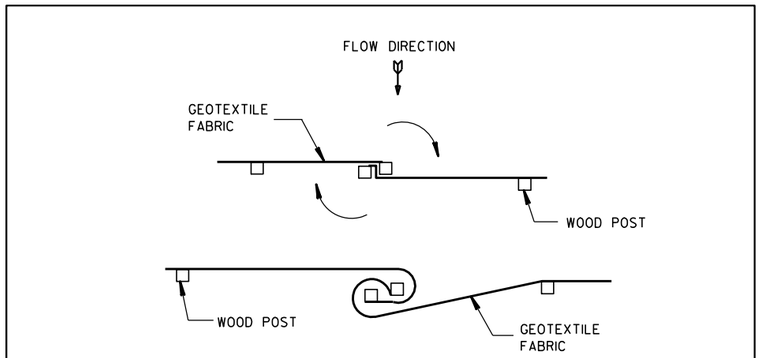
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS



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

SILT FENCE

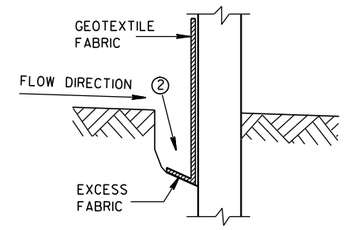


JOINING TWO LENGTHS OF SILT FENCE 5

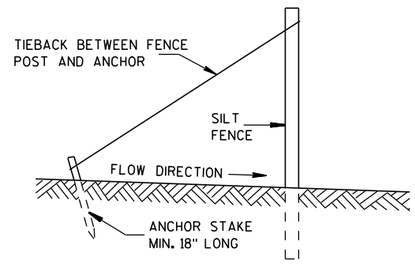
GENERAL NOTES

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

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



TRENCH DETAIL



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 9-6

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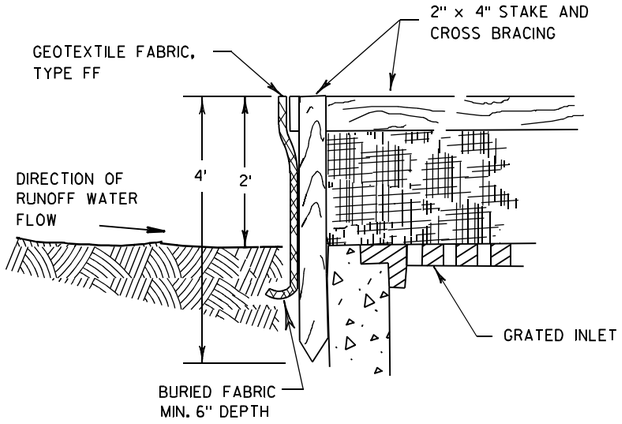
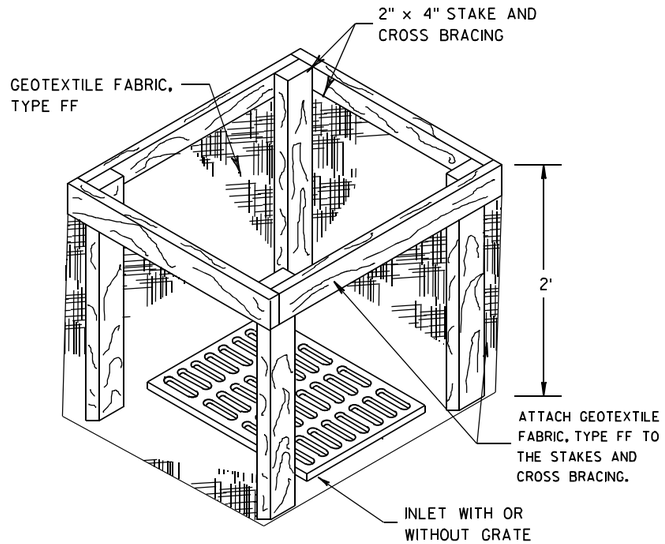
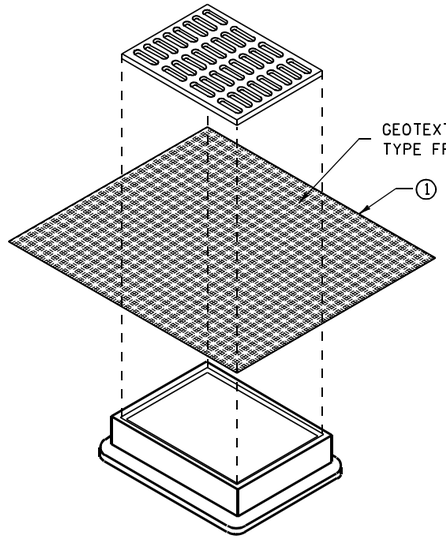
S.D.D. 8 E 9-6



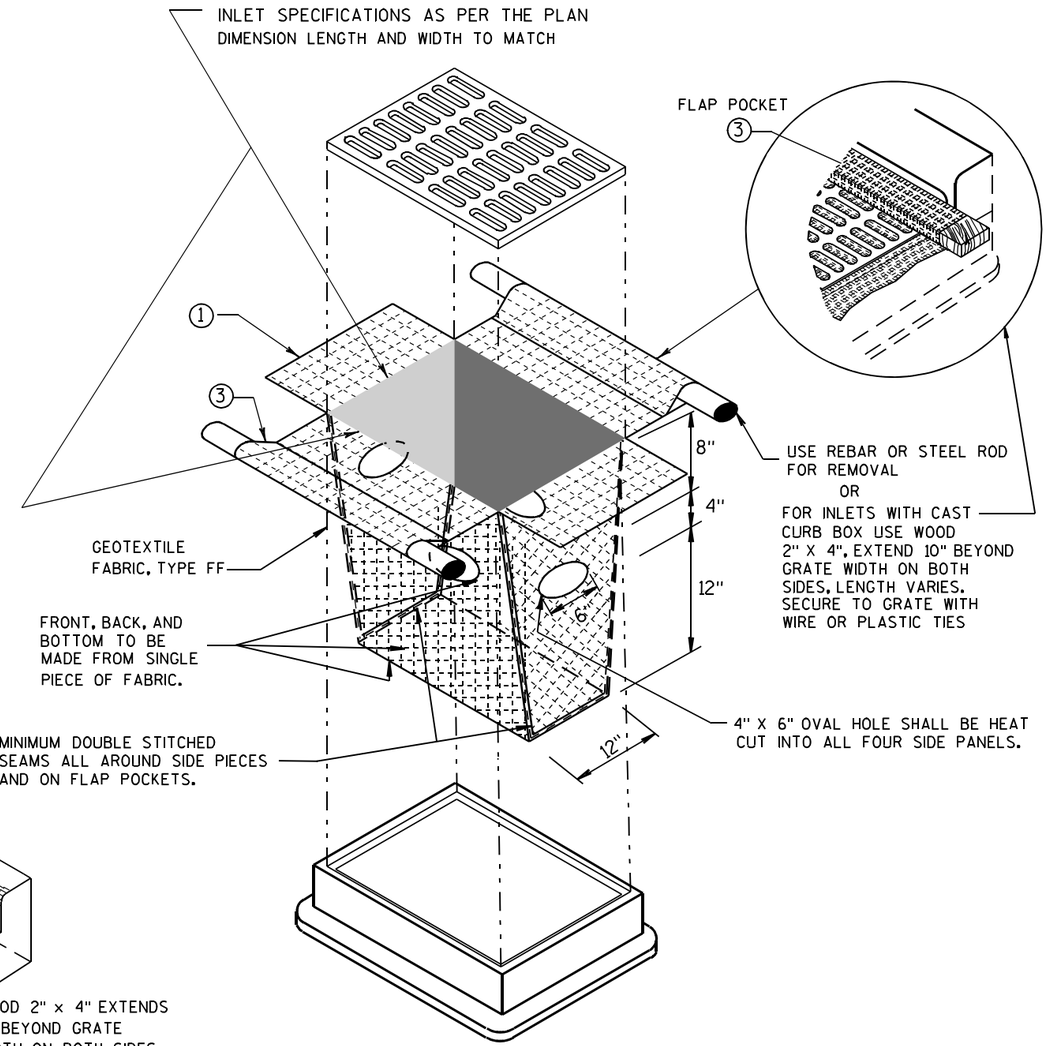


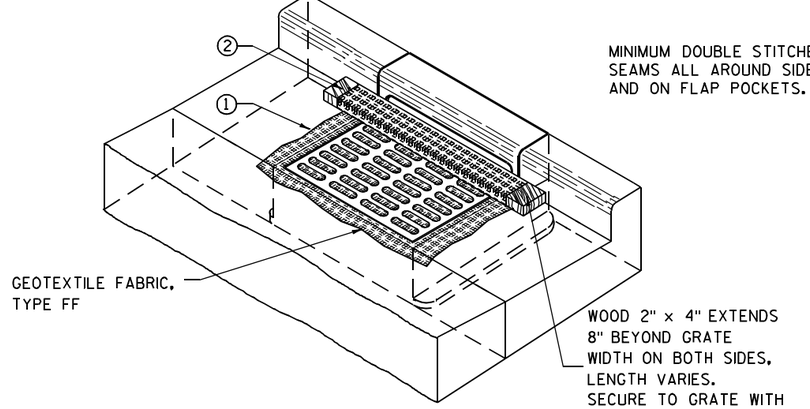
INLET PROTECTION, TYPE A



INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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





INLET PROTECTION, TYPE C (WITH CURB BOX)

INLET PROTECTION, TYPE D

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

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

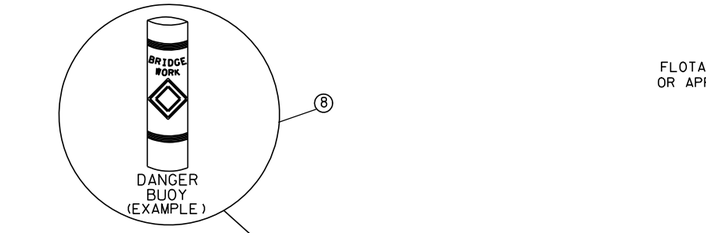
APPROVED

10/16/02
DATE

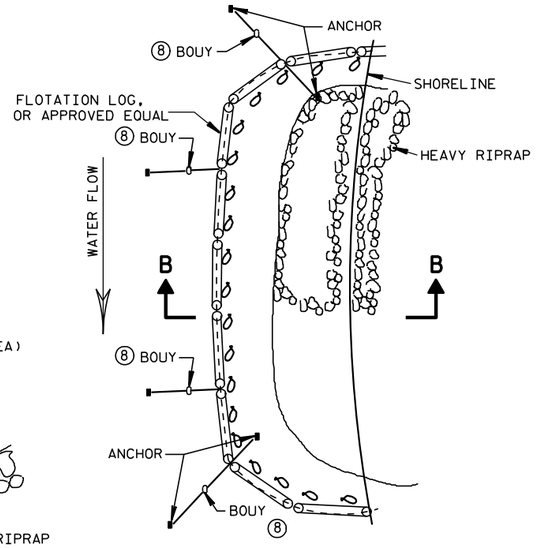
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

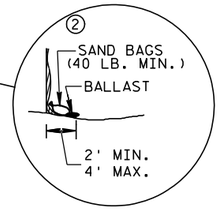
FHWA

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

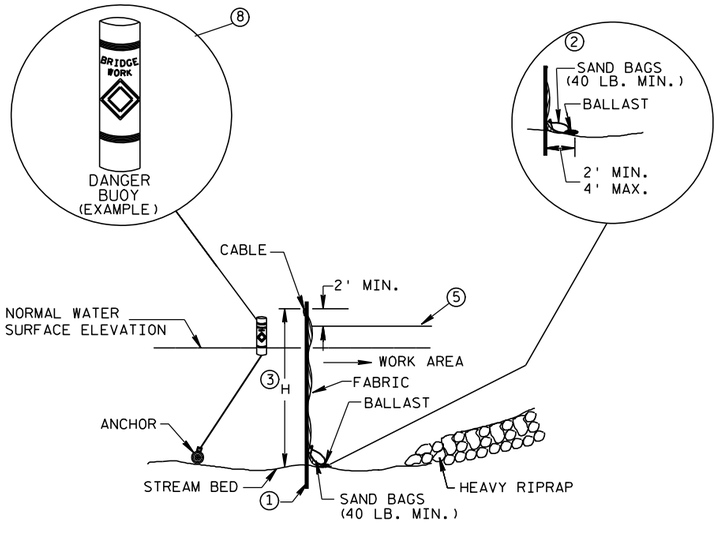


SECTION B-B

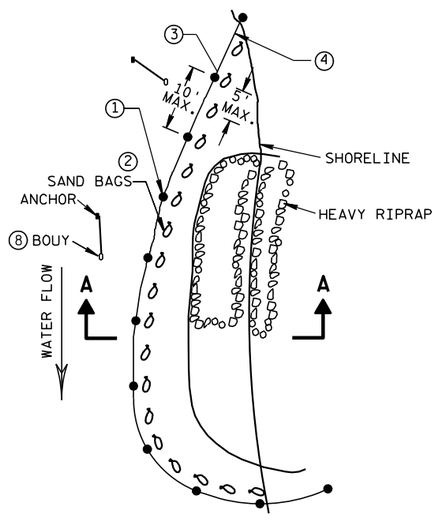




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

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

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

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

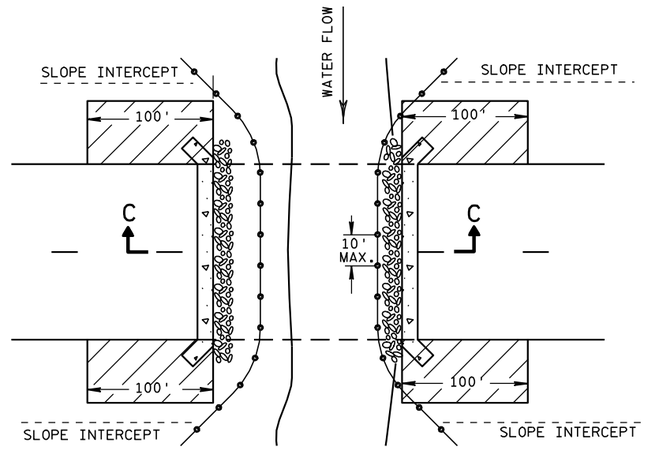
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

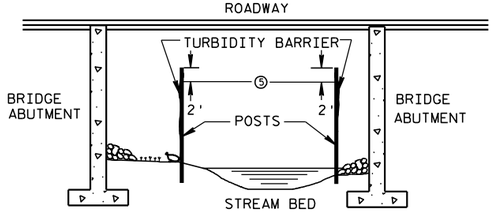
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

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



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 11-2

6

S.D.D. 8 E 11-2

METAL APRON ENDWALLS

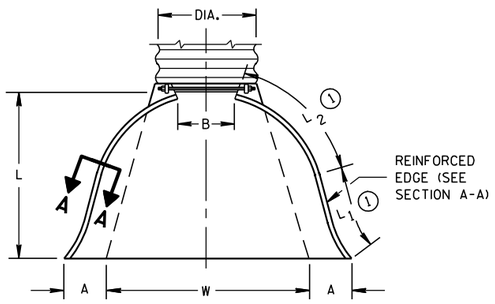
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

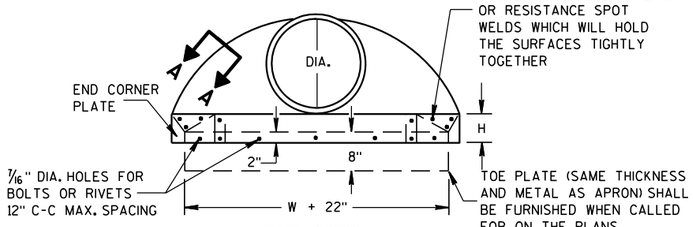
REINFORCED CONCRETE APRON ENDWALLS

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

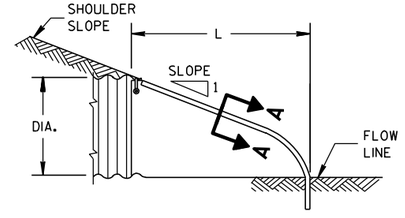
*MINIMUM
**MAXIMUM



PLAN VIEW

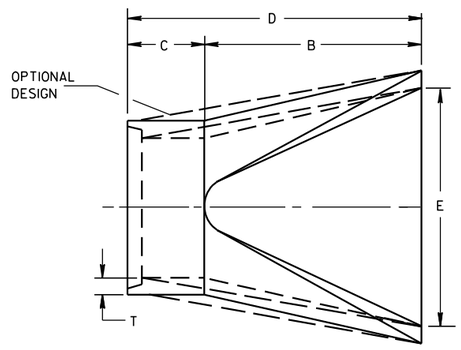


END VIEW

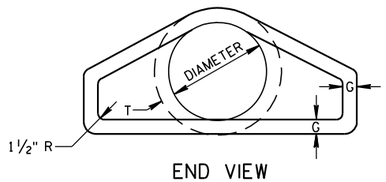


SIDE ELEVATION

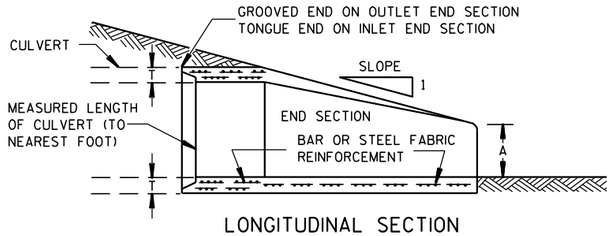
METAL ENDWALLS



PLAN

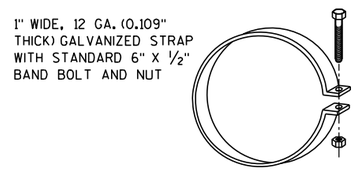


END VIEW



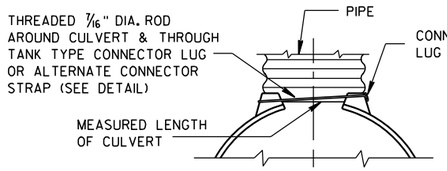
LONGITUDINAL SECTION

CONCRETE ENDWALLS

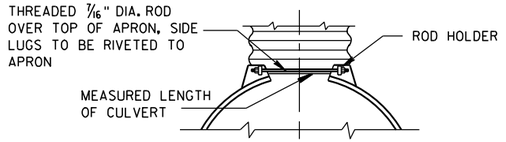


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

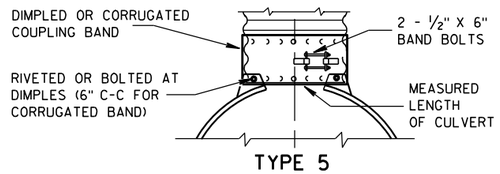


TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE

TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

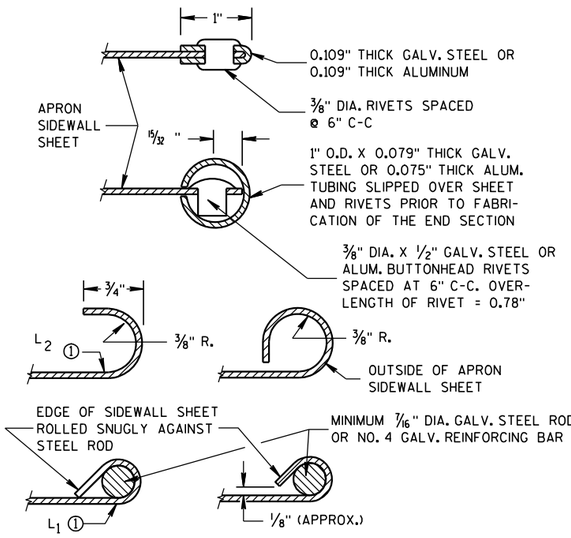
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

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

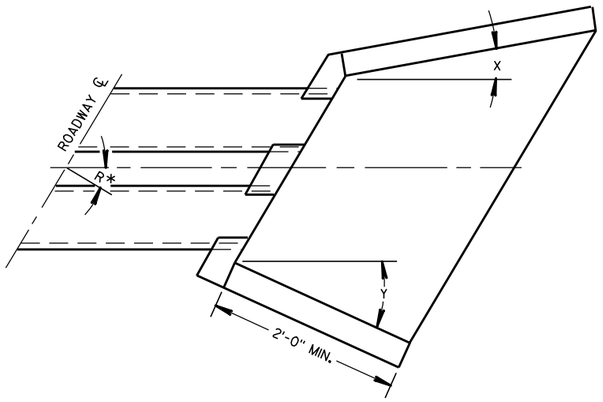
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 F 1-11



WINGWALL ANGLE DETAILS

INLET			OUTLET		
R*	X	Y	R*	X	Y
0 - 7°	30°	30°	0 - 15°	15°	15°
8 - 22°	25°	"	16 - 45°	10°	"
23 - 37°	20°	"	46 - 75°	5°	"
38 - 52°	15°	"	OVER 75°	0°	"
53 - 67°	10°	"			
68 - 82°	5°	"			
OVER 82°	0°	"			

*R = NUMBER OF DEGREES RIGHT OR LEFT HAND FORWARD

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.

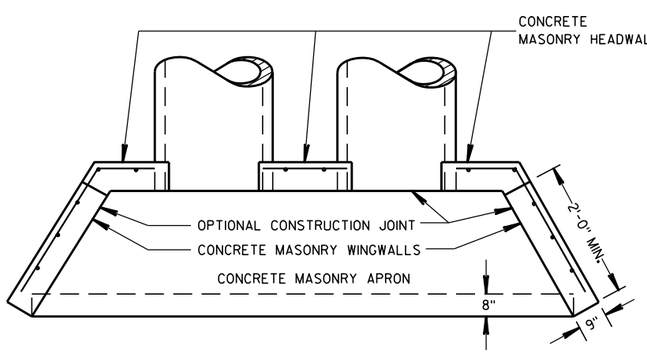
FILL SLOPES FLATTER THAN 2 ½:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGWALLS.

ALL STEEL REINFORCEMENT AND WELDED STEEL WIRE FABRIC SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE NOTED.

(1) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS SPACED 12" C-C IN BOTH DIRECTIONS.

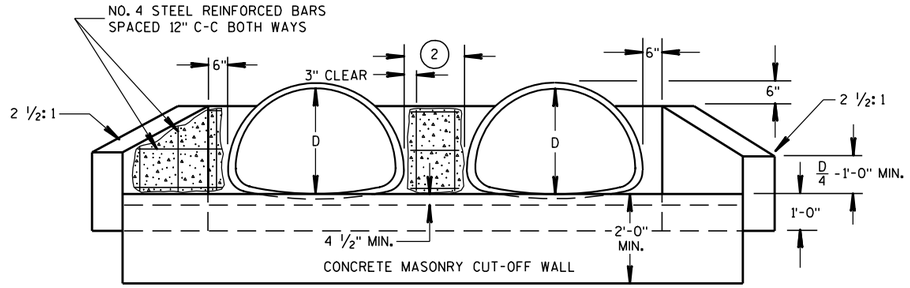
(2) THE SPACE BETWEEN PIPES SHALL BE AS FOLLOWS:

DIAMETER OR SPAN	SPACE
UP TO AND INCLUDING 48"	2'-0"
OVER 48" TO 72"	½ DIA. OR SPAN
OVER 72"	3'-0"



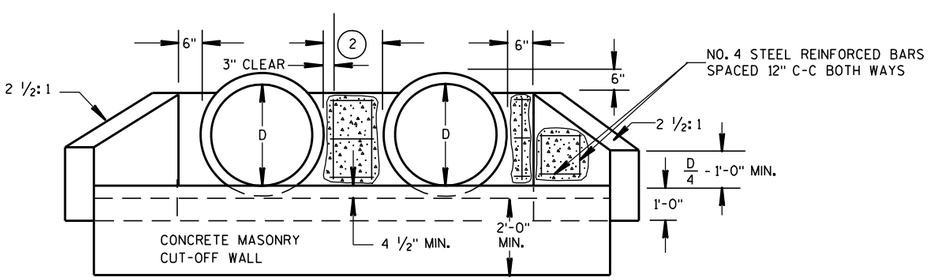
PLAN VIEW

CULVERT PIPE AND PIPE ARCH



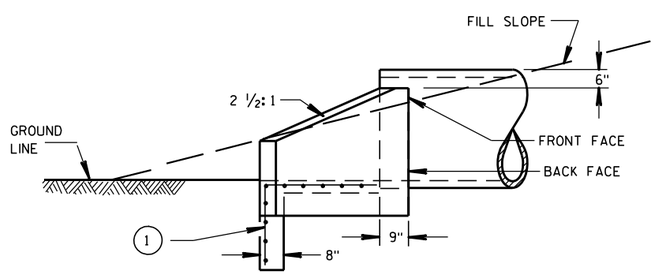
END ELEVATION

PIPE ARCH



END ELEVATION

CULVERT PIPE



SIDE ELEVATION

CULVERT PIPE AND PIPE ARCH

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

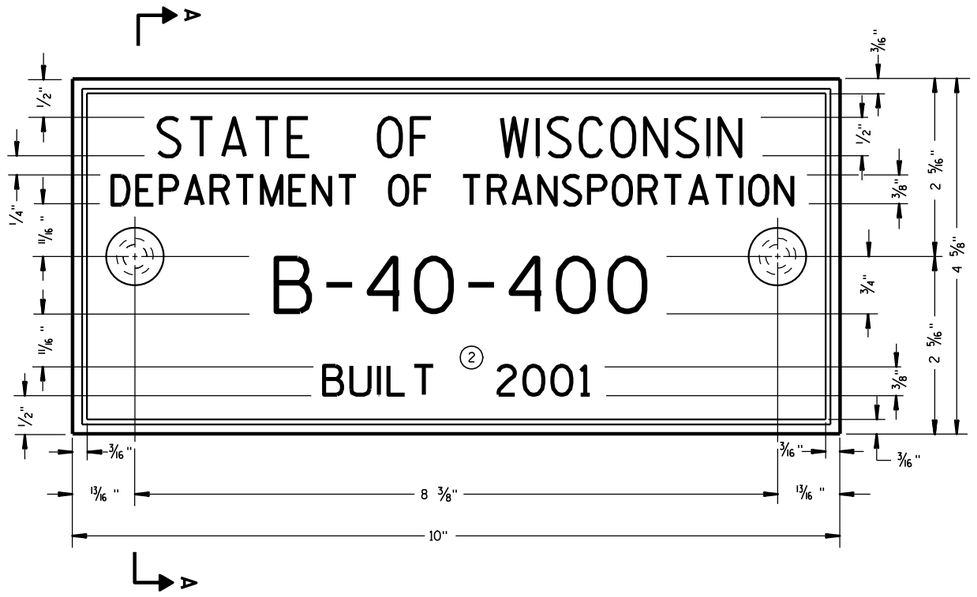
9/14/98 — DATE

/S/ Rory L. Rhinehart — CHIEF ROADWAY DEVELOPMENT ENGINEER

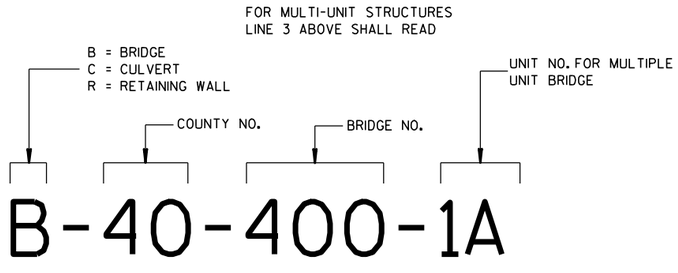
FHWA

6

S.D.D. 8 F 10-1



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



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

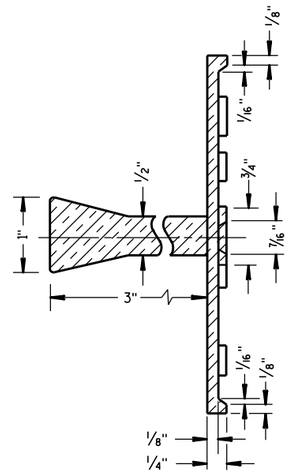
GENERAL NOTES

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

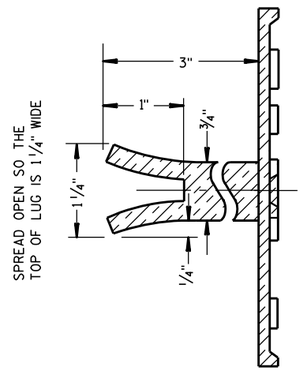
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

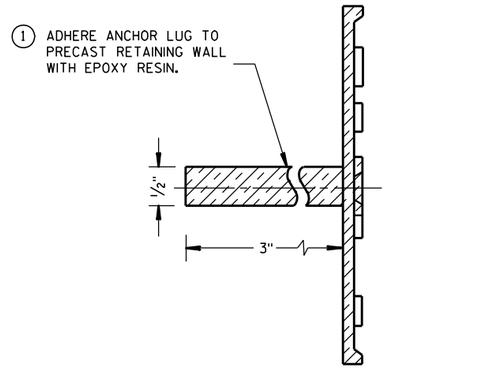
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

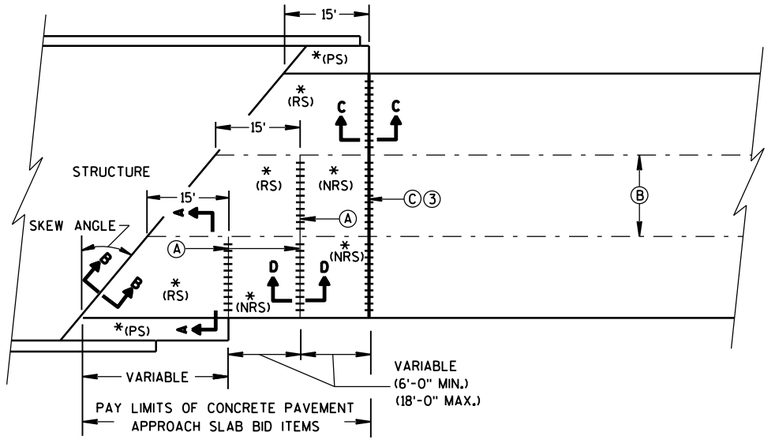
3/26/10 DATE

/S/ Scot Beck CHIEF STRUCTURAL DEVELOPMENT ENGINEER

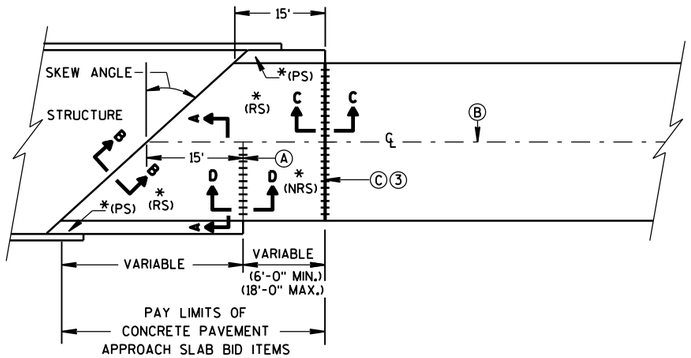
FHWA

6

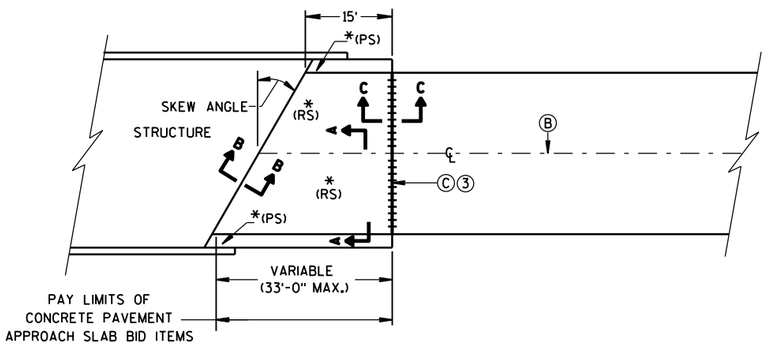
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

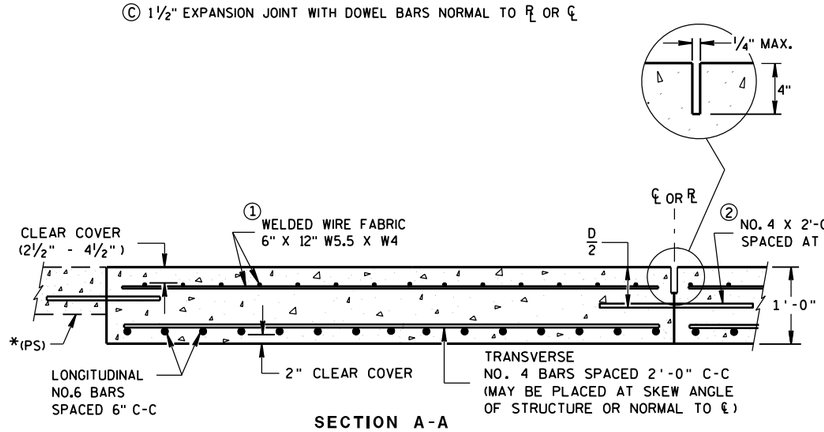
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

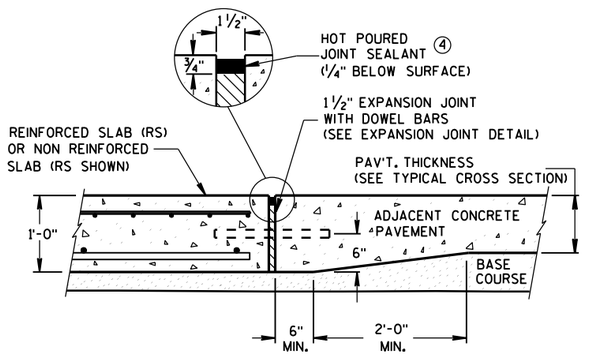
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

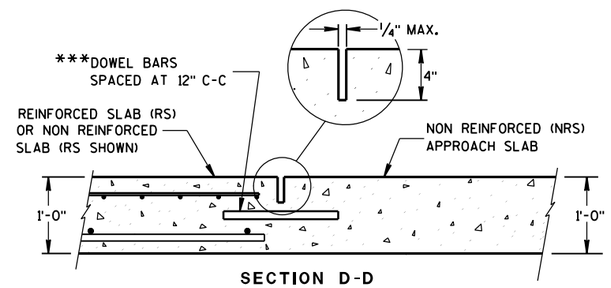
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

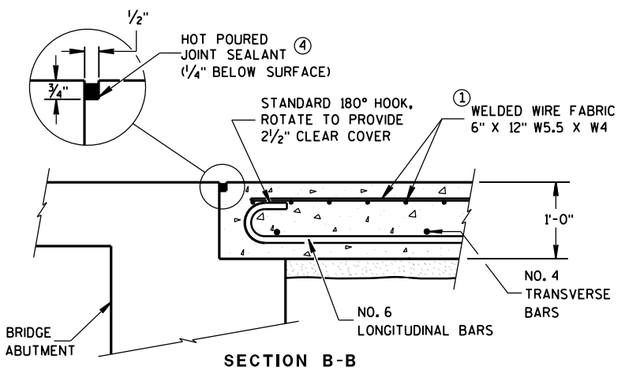
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

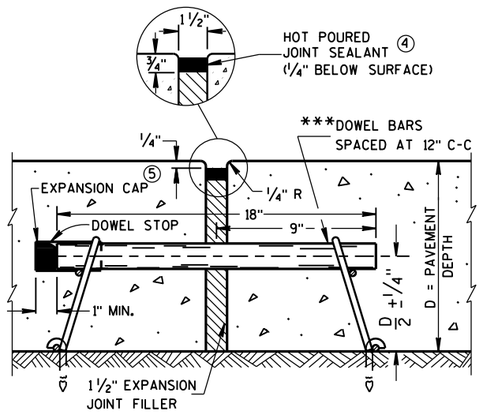
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

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

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



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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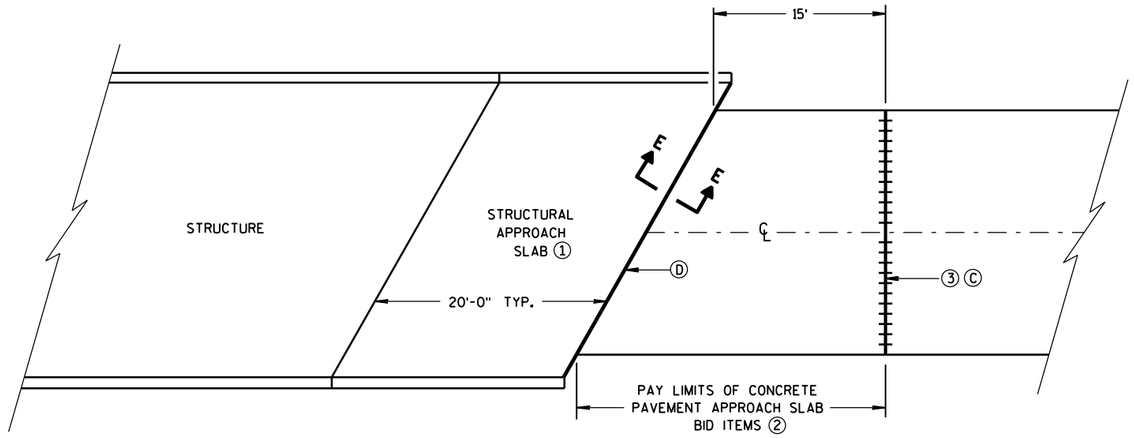
S.D.D. 13 B 2-8a

6

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



GENERAL NOTES

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

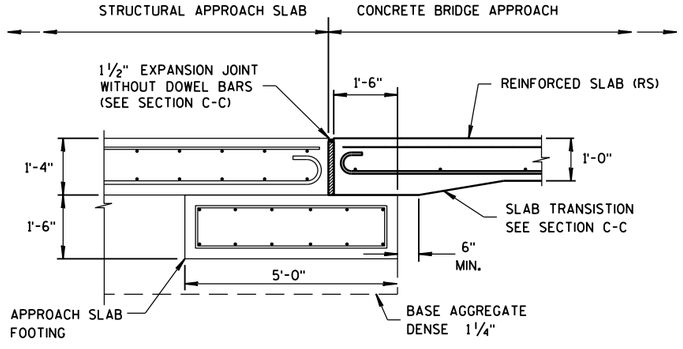
① SEE BRIDGE PLAN.

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

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

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

Ⓓ 1½" EXPANSION JOINT (NO DOWELS)



SECTION E-E

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

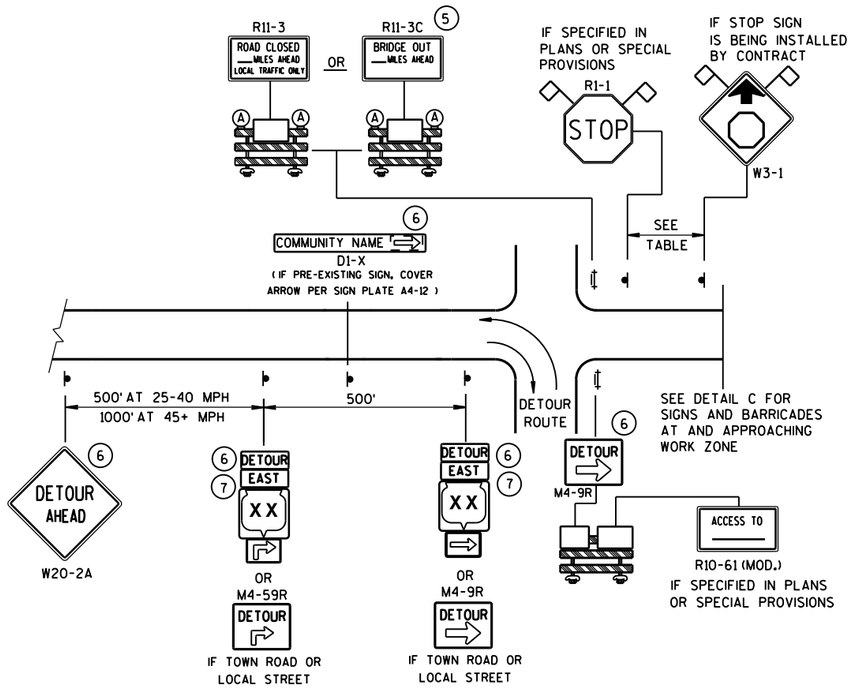
STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

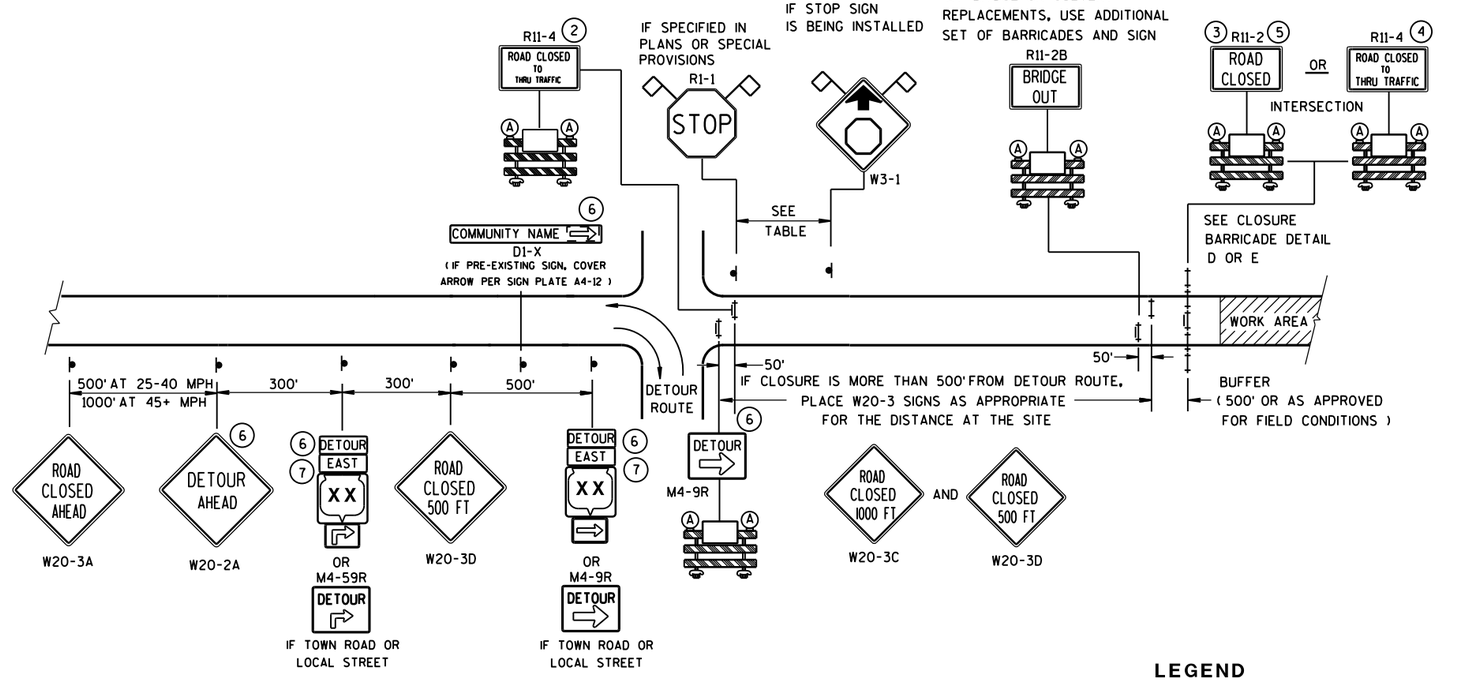
6

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



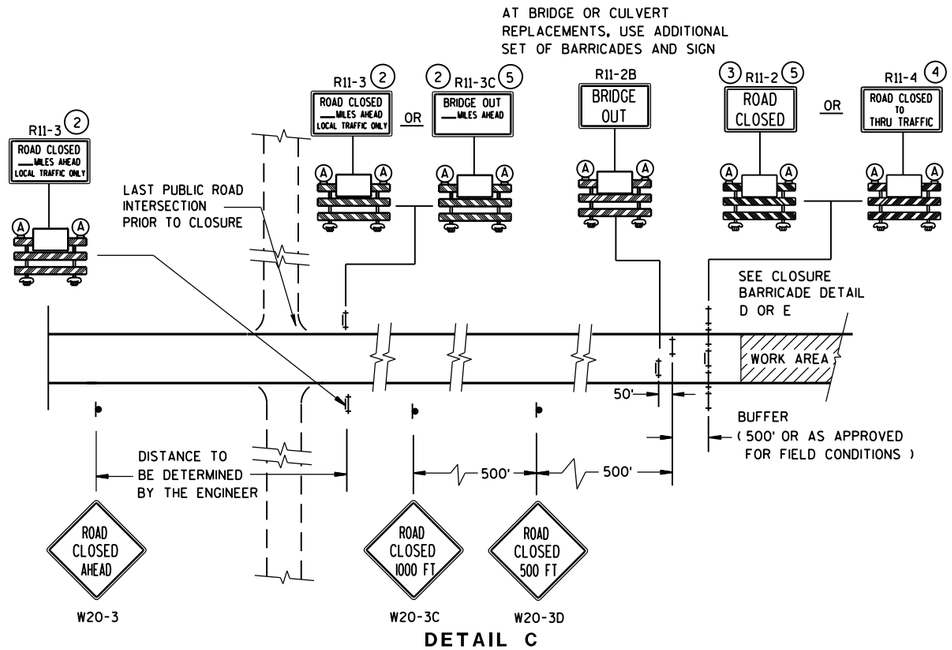
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

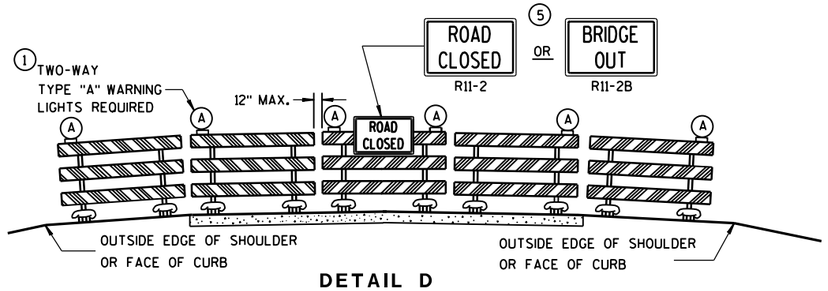
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

6

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

6

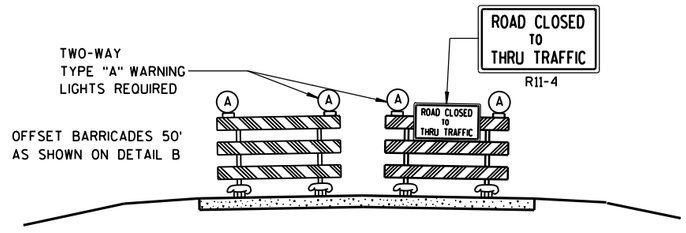
S.D.D. 15 C 2-6a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

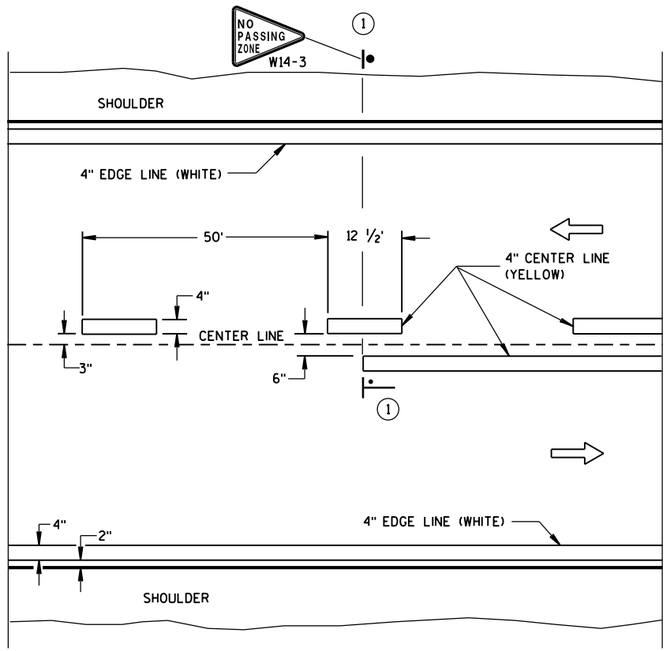
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

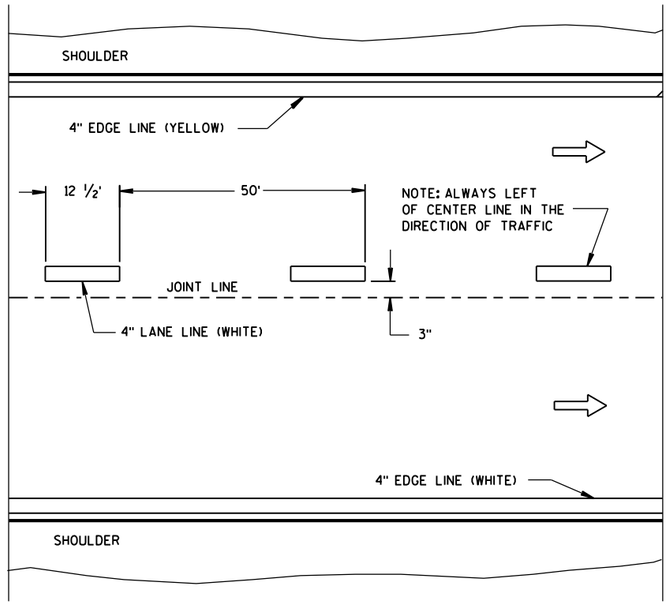
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI — FHWA — FIC

6

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



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) NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

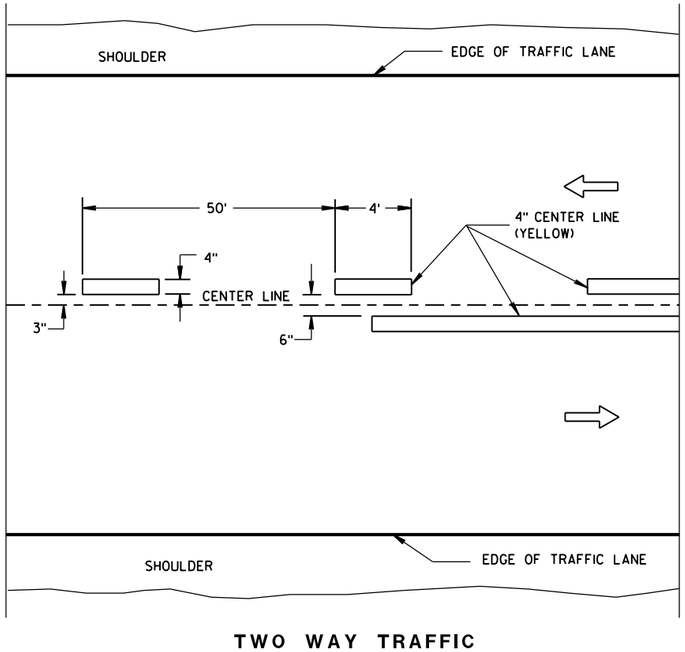
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

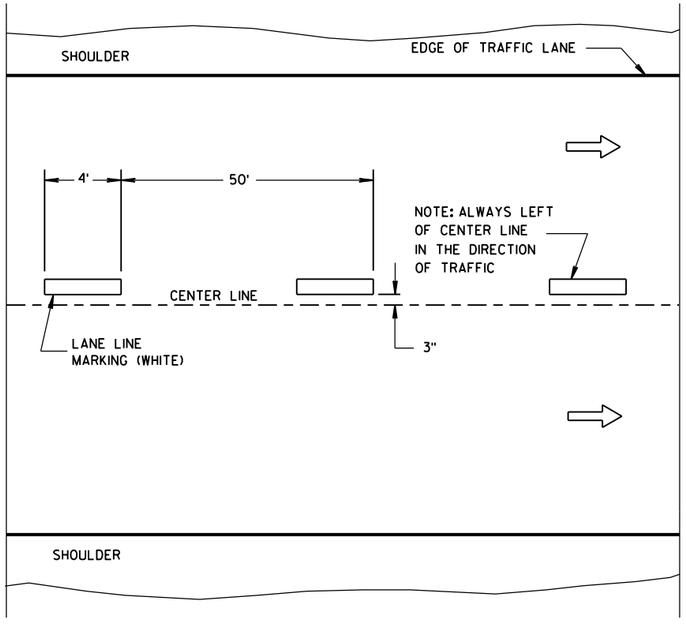
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



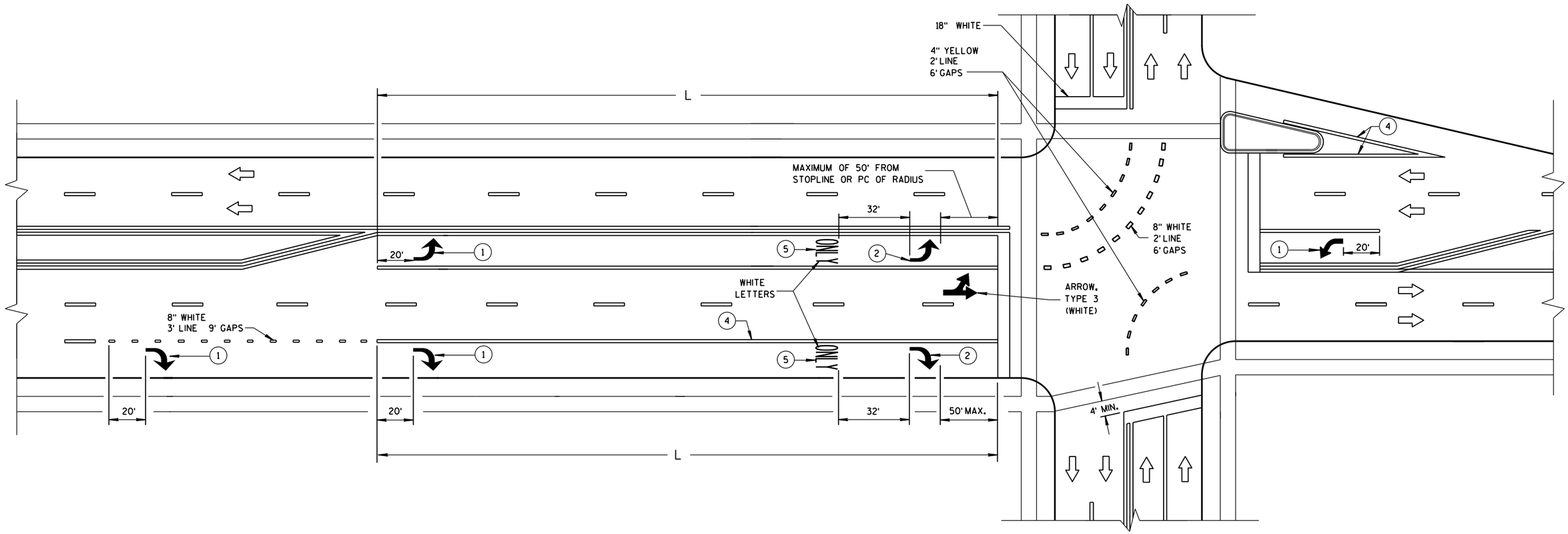
ONE WAY TRAFFIC

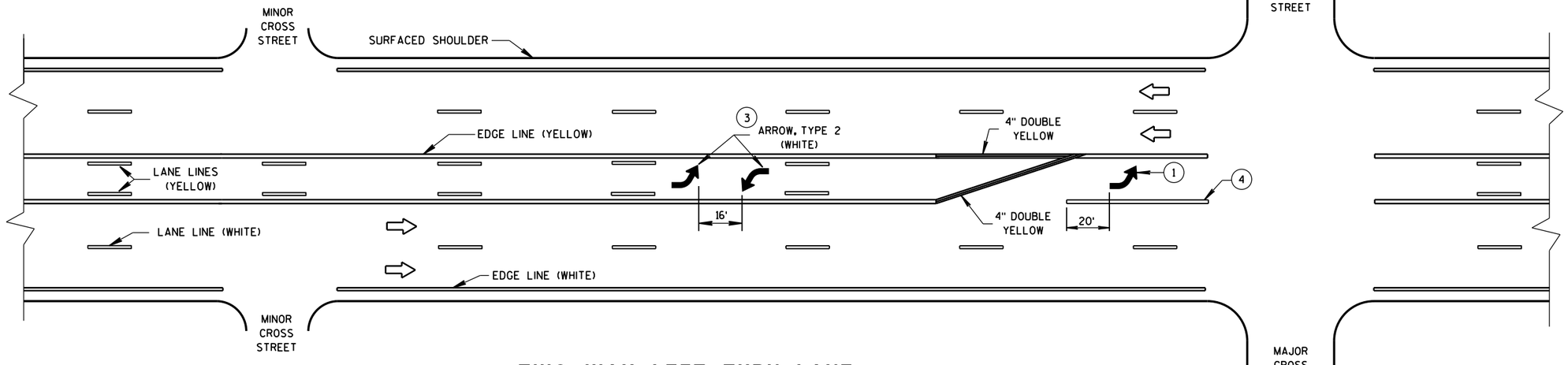
TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
Sept., 2016	/S/ Matthew R. Rauch
DATE	STATE SIGNING AND MAR ENGINEER
FHWA	

6

S.D.D. 15 C 8-17a





GENERAL NOTES

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

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

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

(4) 8" WHITE

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

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL

L = LENGTH OF TURN BAY

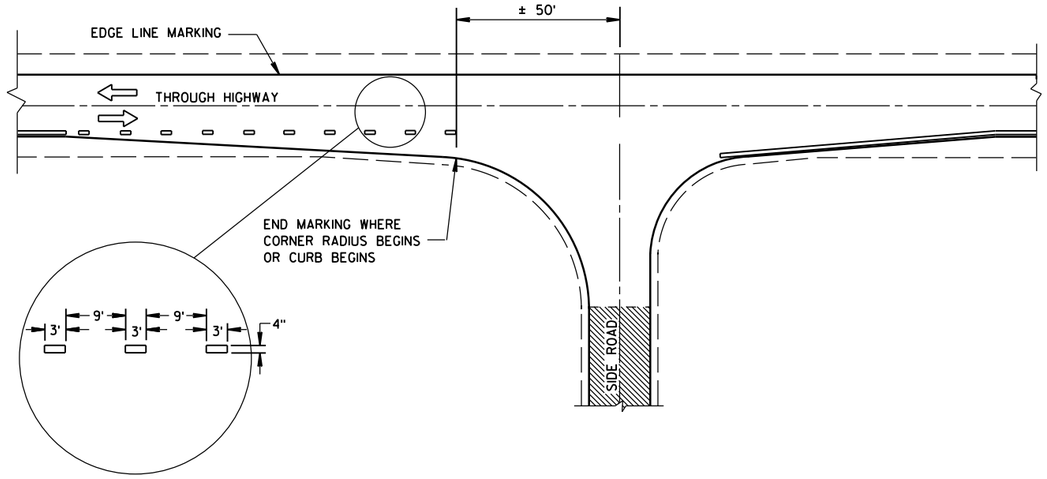
TWO WAY LEFT TURN LANE

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 C 8-17b



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

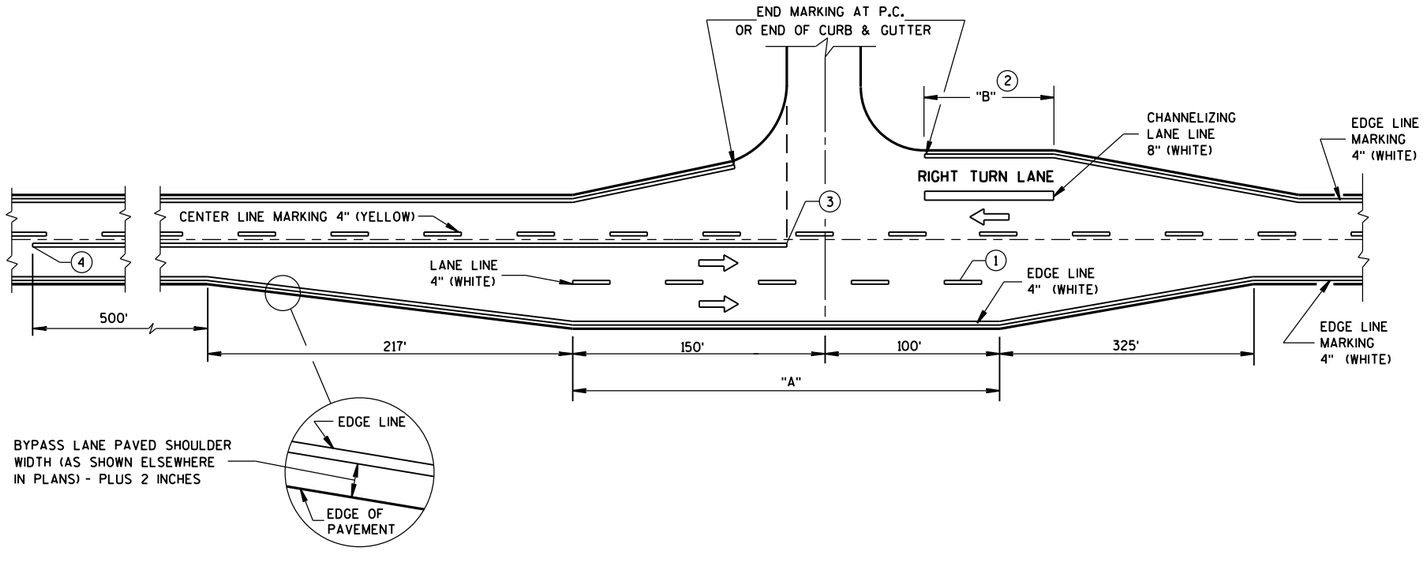
(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

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

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

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

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



MAJOR INTERSECTIONS

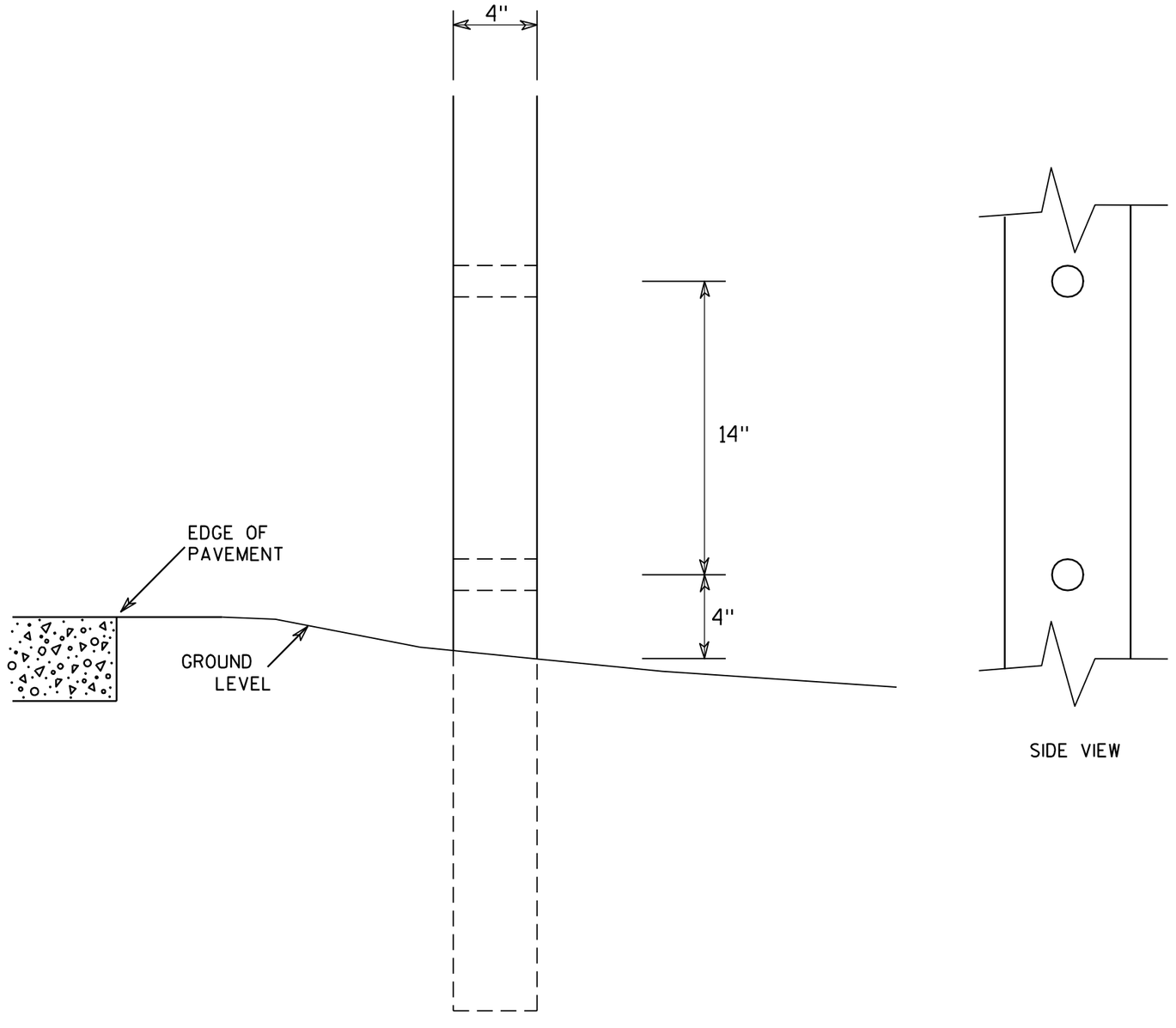
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 C 35-1a



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

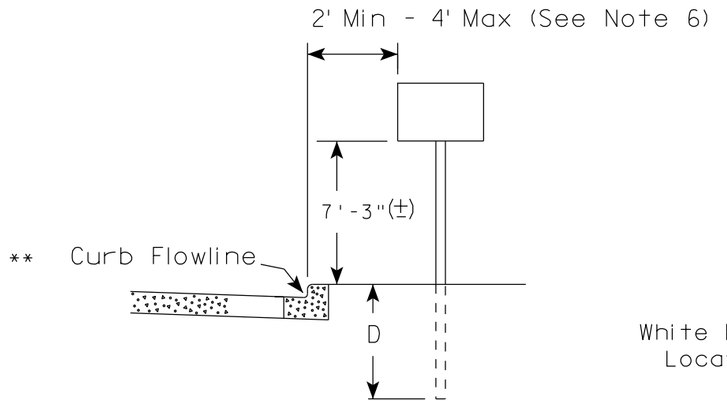
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

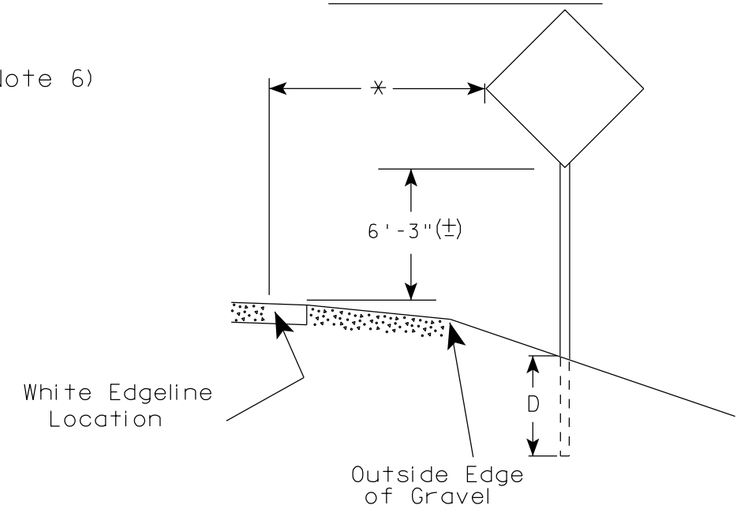
DATE 3/27/97 PLATE NO. A4-11.2

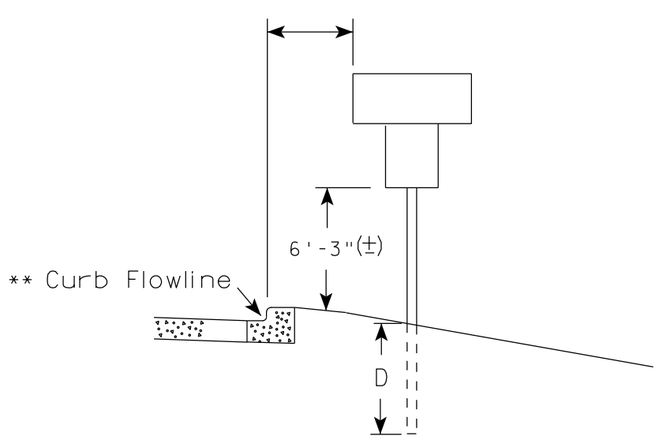
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 49	E

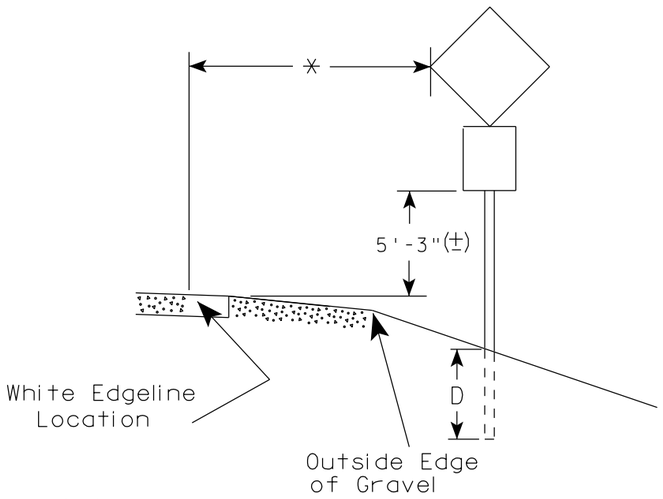
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

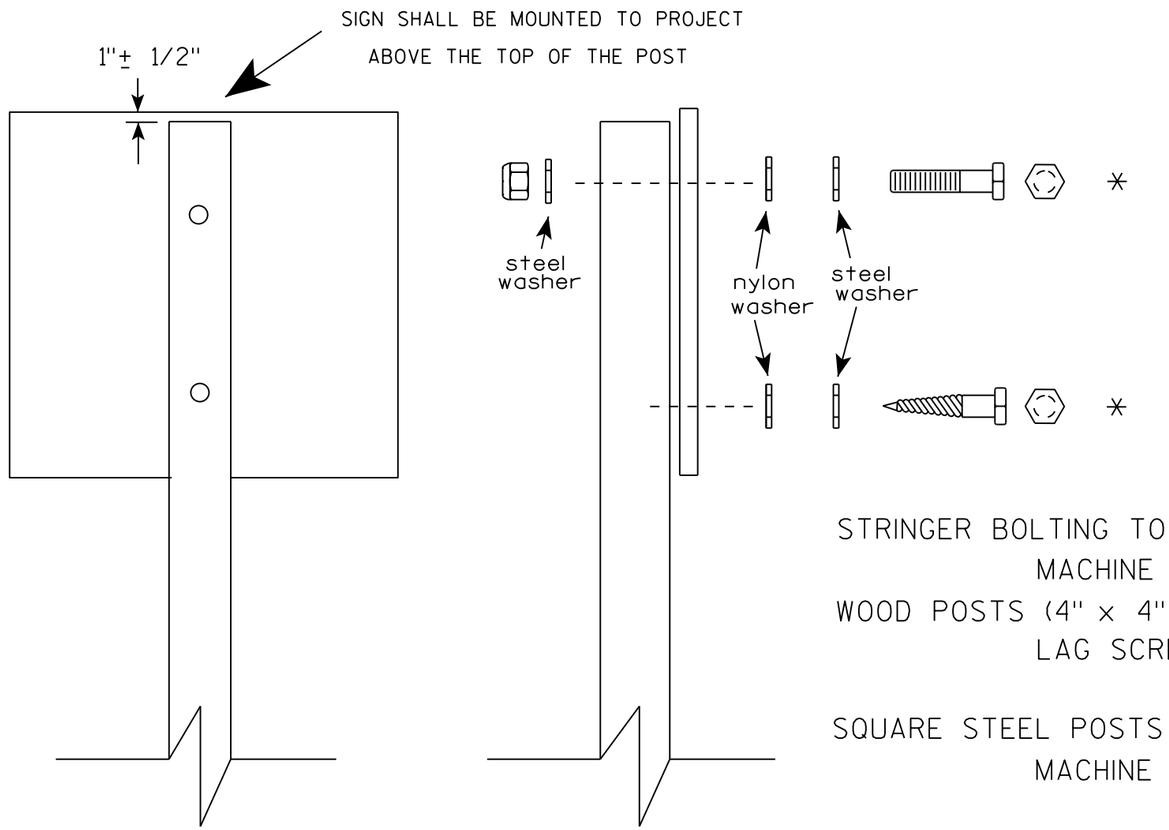
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A43.DGN PLOT DATE : 23-JUL-2015 15:21 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 99.237937:1.000000 WISDOT/CADDS SHEET 42



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)
SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

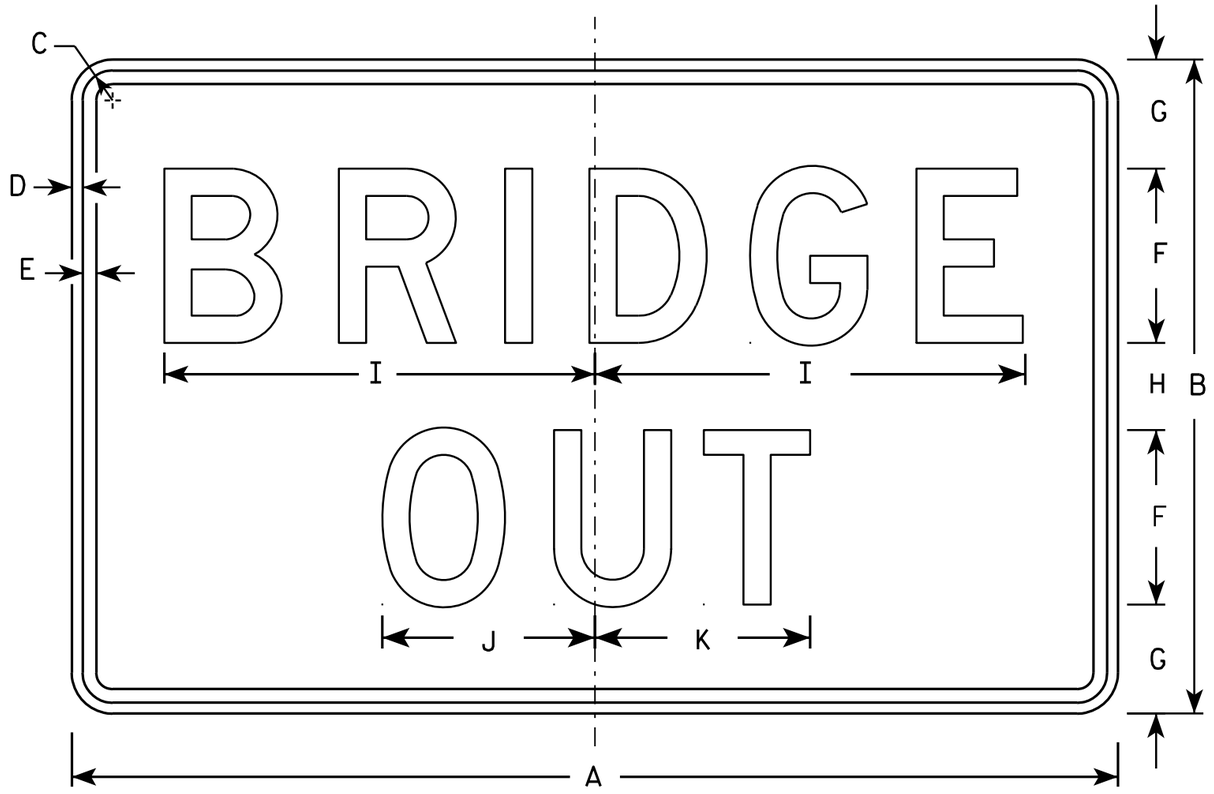
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$



R11-2B

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

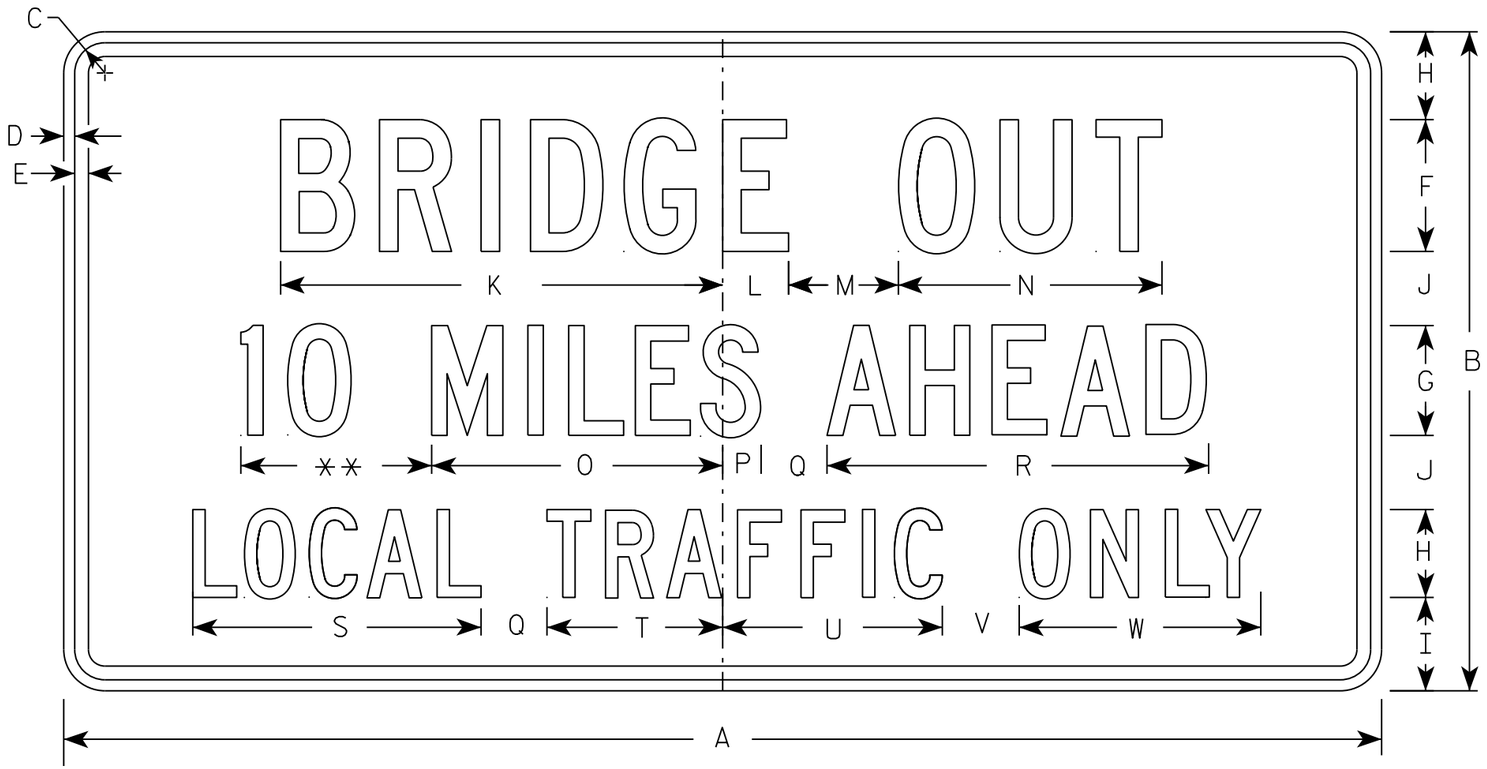
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2B.2

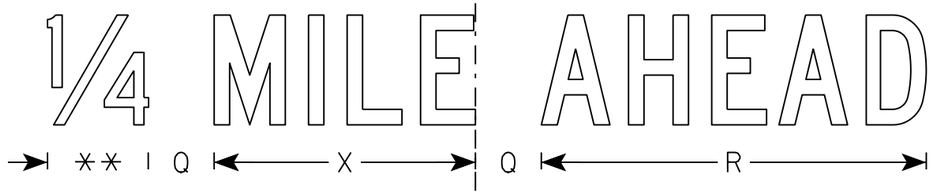
PROJECT NO:

SHEET NO: 52 E



R11-3B

** See Note 5



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

STANDARD SIGN
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

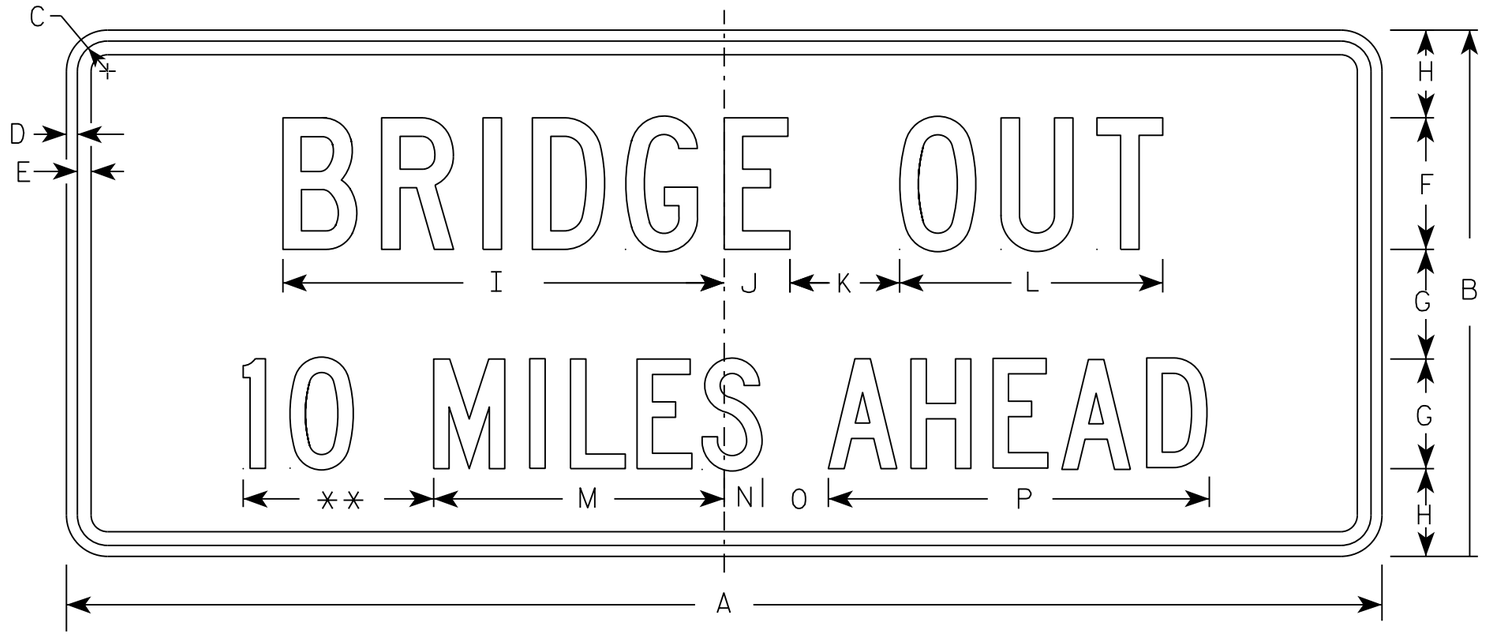
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. R11-3B.3

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

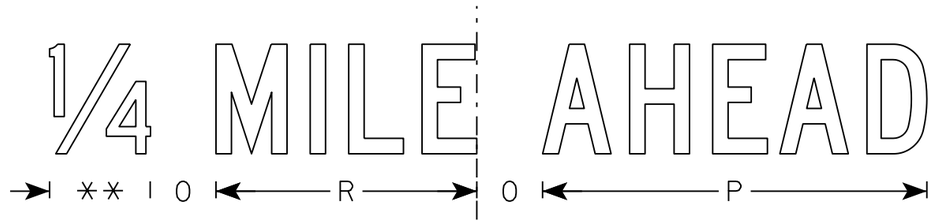
NOTES

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



R11-3C

** See Note 5



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

STANDARD SIGN
R11-3C

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/28/16 PLATE NO. R11-3C.3

PROJECT NO:

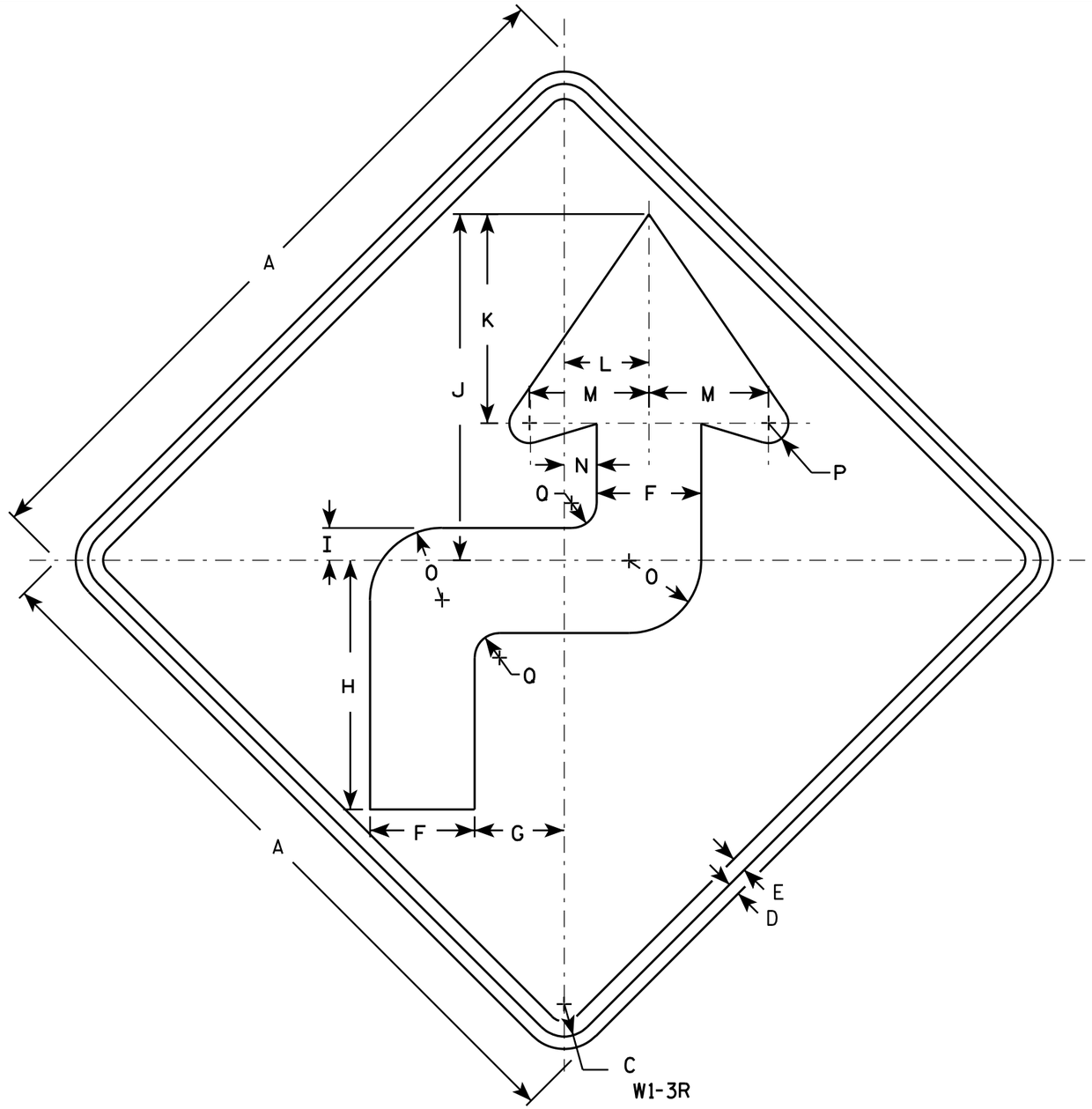
SHEET NO: 54 E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R113C.DGN PLOT DATE : 15-MAR-2017 15:33 PLOT BY : $$...plotuser...$$

WISDOT/CADDS SHEET 42

7

7



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-3L is the same as W1-3R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	3 1/2	3	8 3/8	1 1/8	11 5/8	7	2 3/4	4	1 1/8	2 1/2	5/8	7/8										4.0
2S	36		1 5/8	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
2M	36		1 5/8	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
3	36		1 5/8	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
4	36		1 5/8	5/8	3/4	5 1/4	6	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
5	48		2 1/4	3/4	1	7	6	16 5/8	2 1/4	23 1/4	14	5 5/8	8	2 1/8	4 7/8	1 1/4	1 5/8										16.0

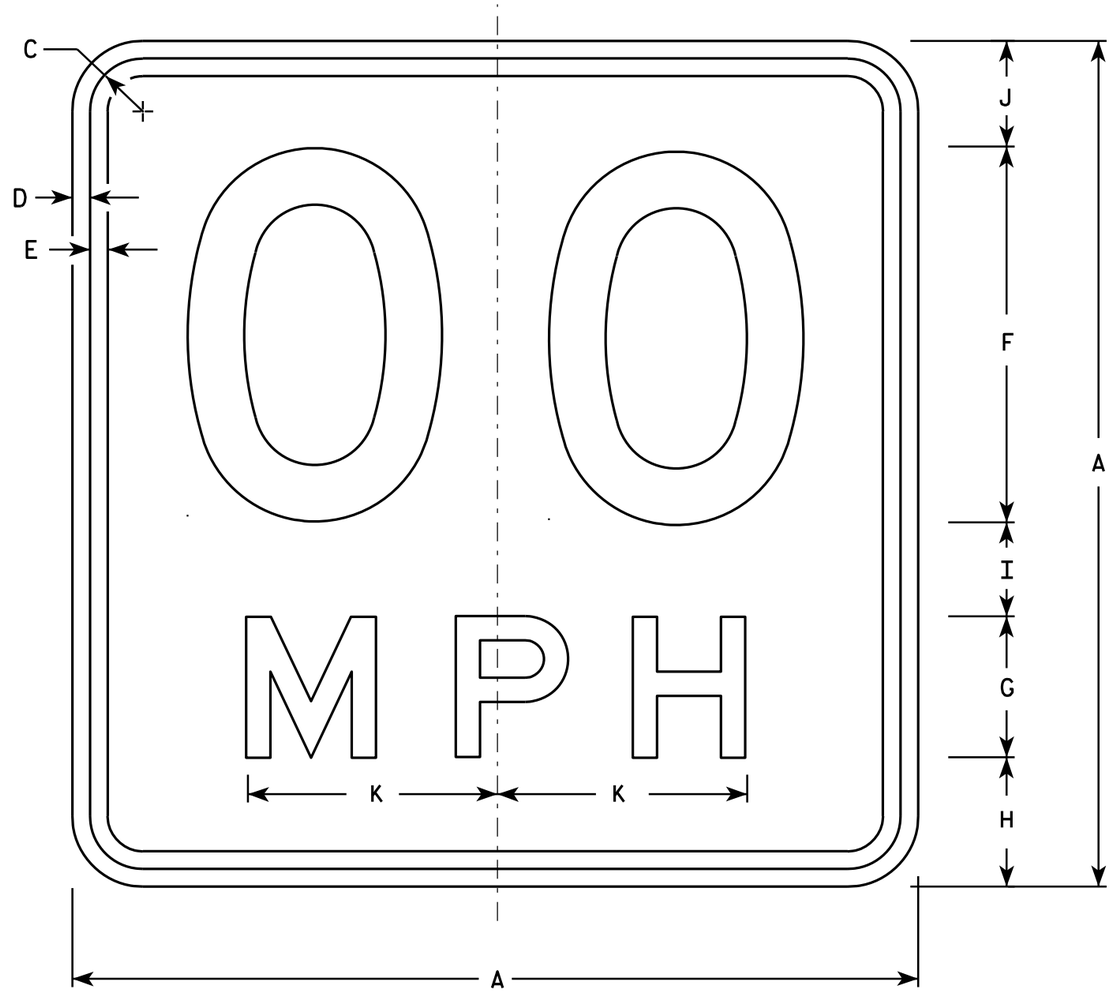
STANDARD SIGN
W1-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/17/12 PLATE NO. W1-3.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 55 | E



W13-1

* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

NOTES

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

	SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
	1	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
	3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
	4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
	5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN
W13-1

WISCONSIN DEPT OF TRANSPORTATION

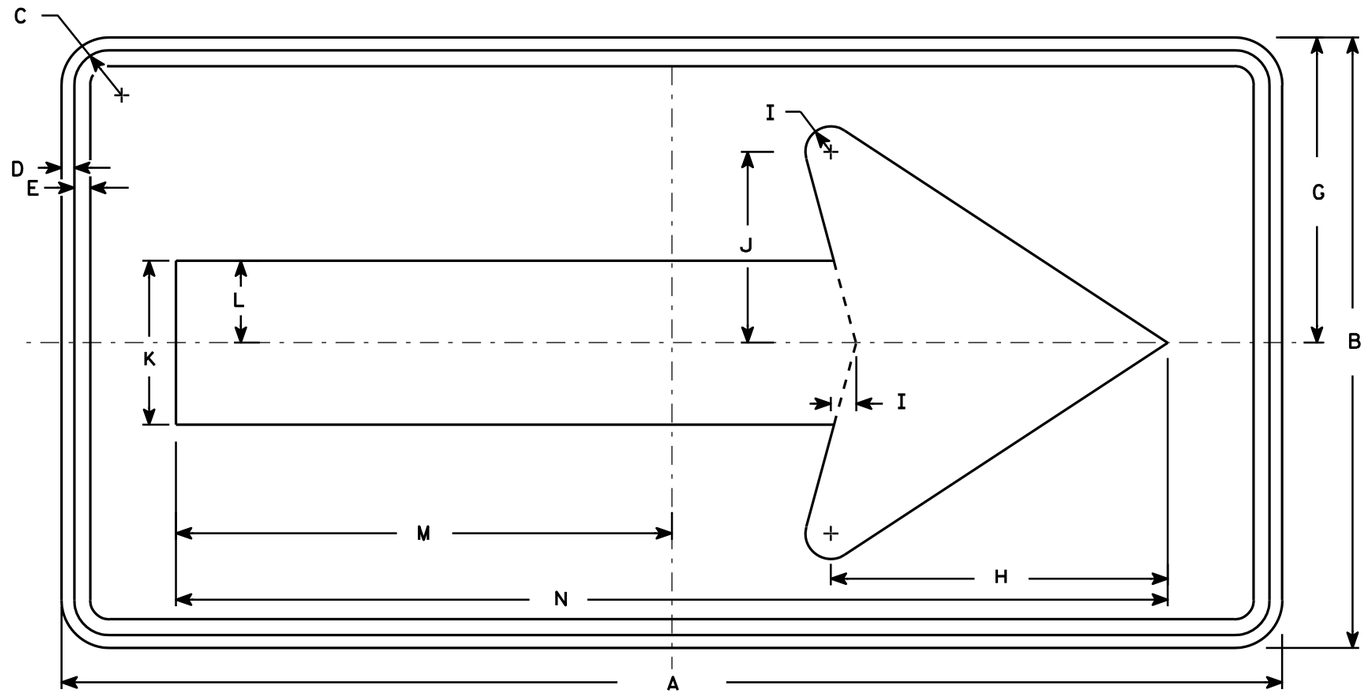
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

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

NOTES

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



W1-6

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	96	48	2 1/4	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

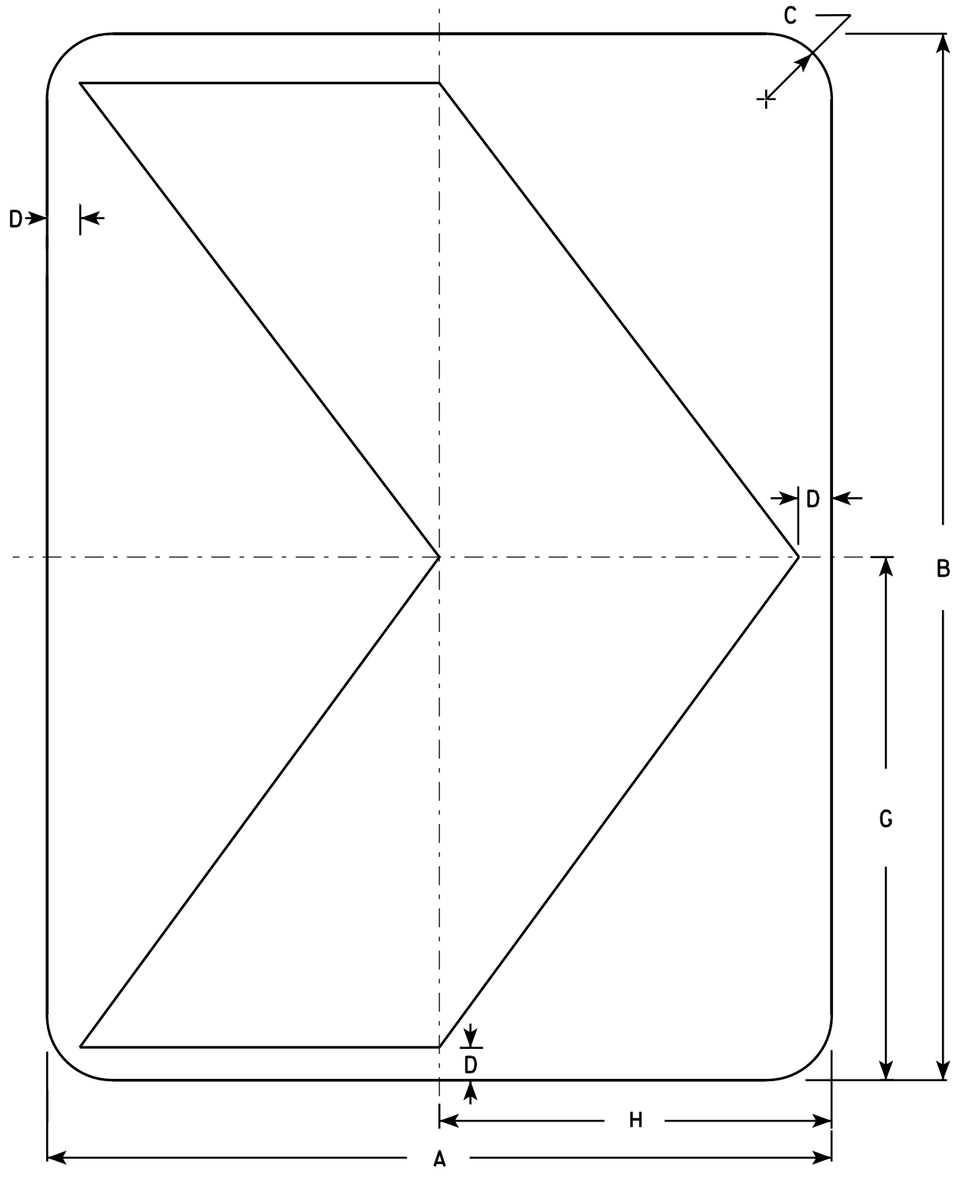
STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-6.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 57



NOTES

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

W1-8

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 ½	½			9	6																			1.5
2S	18	24	1 ½	¾			12	9																			3.0
2M	18	24	1 ½	¾			12	9																			3.0
3	24	30	1 ½	1			15	12																			5.0
4	30	36	1 ⅞	1 ¼			18	15																			7.5
5	36	48	2 ¼	1 ½			24	18																			12.0

STANDARD SIGN
W1-8

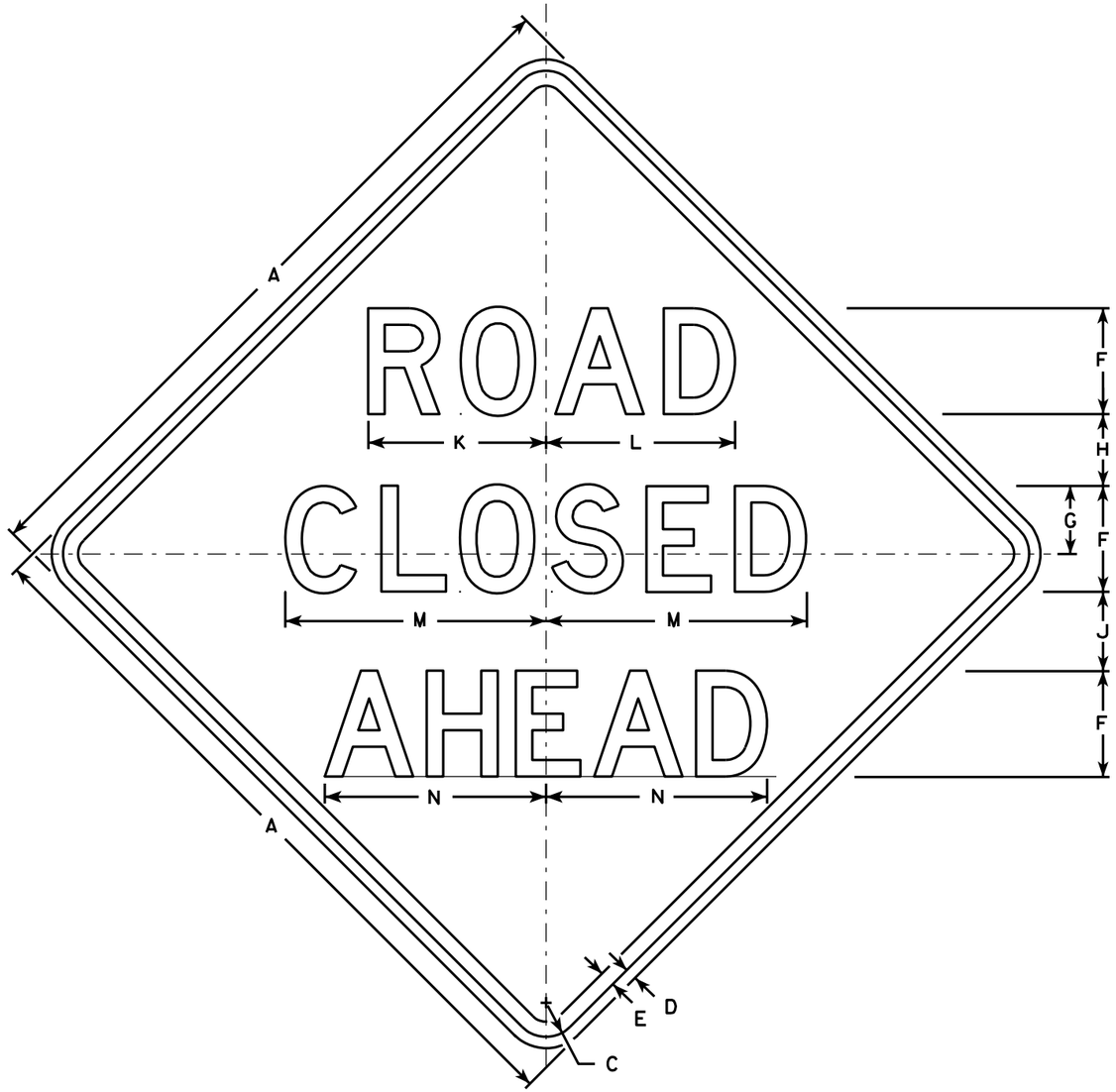
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

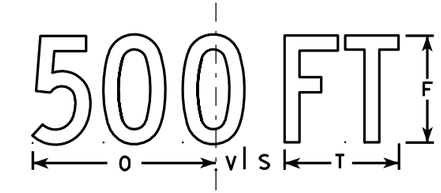
DATE 6/7/10 PLATE NO. W1-8.6

PROJECT NO:

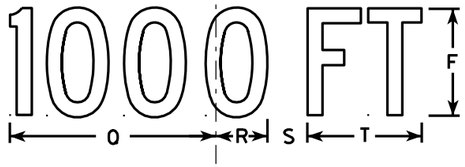
SHEET NO: 58 E



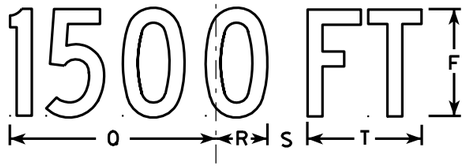
W20-3A



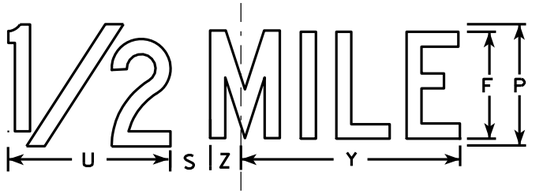
W20-3D



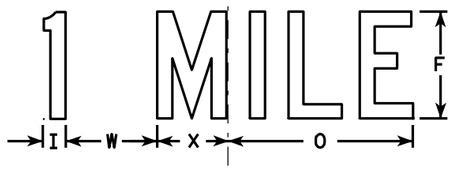
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

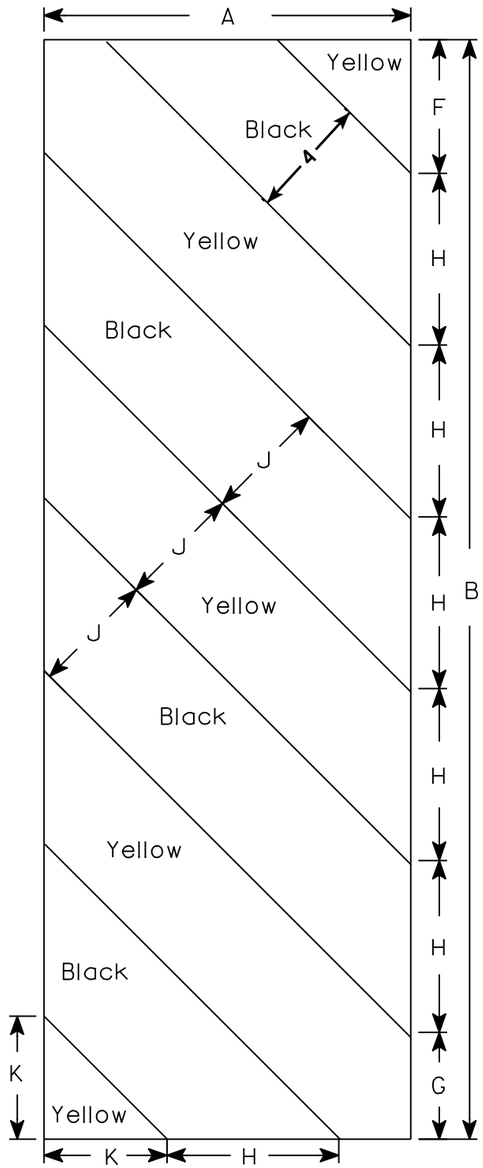
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 59 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000

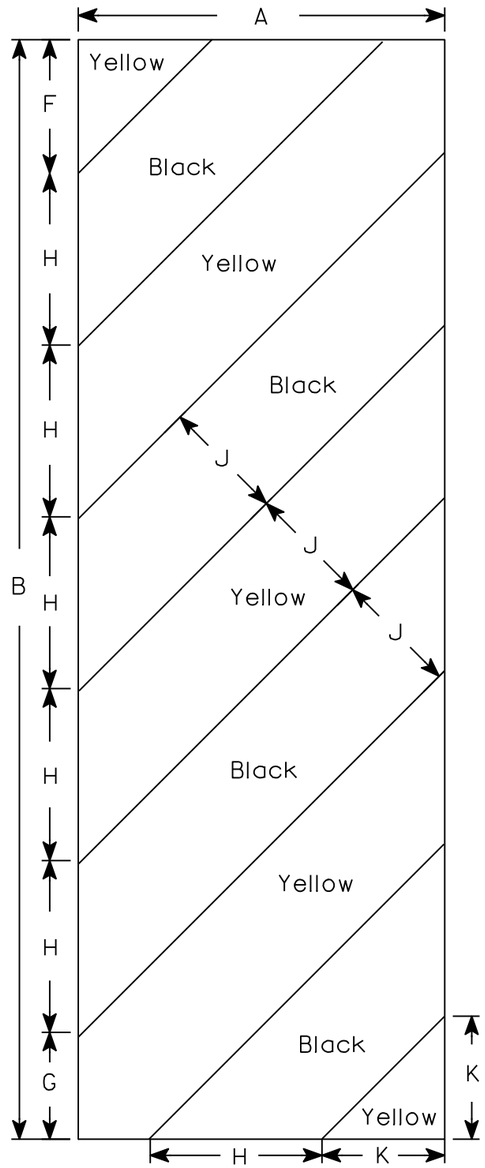
WISDOT/CADDS SHEET 42

7

7



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

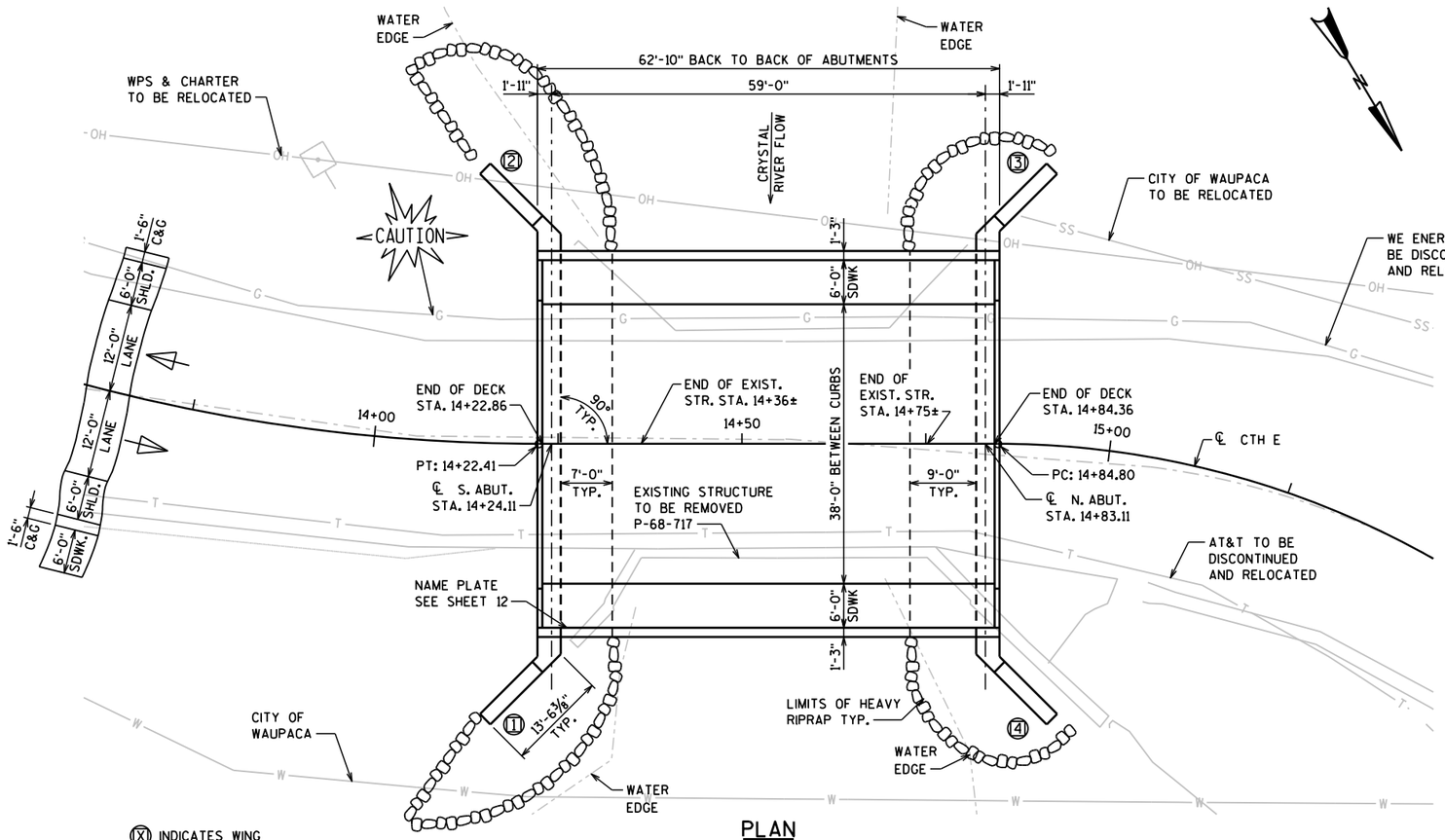
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

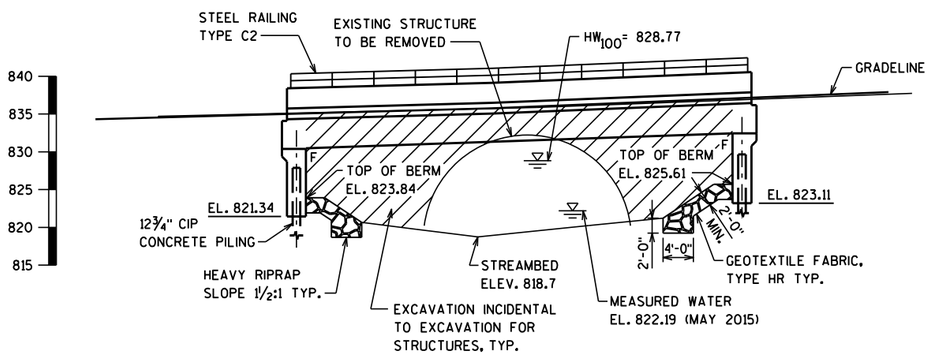
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 60	E



PLAN

SINGLE SPAN 36W" PRESTRESSED GIRDER BRIDGE

Ⓧ INDICATES WING NUMBER



ELEVATION

(LOOKING WEST)

TRAFFIC DATA

ADT = 6,100 (2018)
6,700 (2038)
RDS = 30 M.P.H.

STATE PROJECT NUMBER
6844-14-70

DESIGN DATA

STRUCTURE IS DESIGNED FOR FUTURE WEARING SURFACE OF 20#/SQ. FT.

LIVE LOAD:

DESIGN LOADING — HL-93
INVENTORY RATING FACTOR — RF = 1.18
OPERATING RATING FACTOR — RF = 1.54
WISCONSIN STANDARD PERMIT
VEHICLE (Wis-SPV) — 250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY
DECK — f'c = 4,000 P.S.I.
ALL OTHER — f'c = 3,500 P.S.I.
36W" PRESTRESSED
GIRDERS CONCRETE MASONRY — f'c = 8,000 P.S.I.
HIGH STRENGTH BAR STEEL
REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.
PRESTRESSED STRANDS - 0.6" DIA.
WITH ULTIMATE TENSILE STRENGTH — fy = 270,000 P.S.I.

HYDRAULIC DATA

Q_{100} — 1,500 C.F.S.
$Q_{REGULATORY}$ — 1,180 C.F.S.
VELOCITY — 3.74 F.P.S.
HIGH WATER — EL. 828.77 (100 YEAR)
HIGH WATER — EL. 827.64 (REGULATORY)
HIGH WATER — EL. 824.87 (2 YEAR)
WATERWAY AREA — 401 S.F.
DRAINAGE AREA — 90.8 SQ. MILES
OVERTOPPING FREQUENCY = N/A
SCOUR CRITICAL CODE = 8

LIST OF DRAWINGS

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON 12 3/4 X 0.25-INCH CIP CONCRETE PILING. PILES SHALL BE PREBORED TO ELEVATION 800 AND THEN DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 160 TONS ** PER PILE.
ESTIMATED LENGTH = 60' AT SOUTH ABUTMENT.
ESTIMATED LENGTH = 60' AT NORTH ABUTMENT.

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

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON, WI
PROFESSIONAL ENGINEER
8/11/17

CONSULTANT CONTACT

KRISTOFER OLSON
OMNNI ASSOCIATES, INC.
(920) 735-6900

BRIDGE OFFICE CONTACT

WILLIAM DREHER
(608) 266-8489

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 11/07/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-68-139

CTH E OVER CRYSTAL RIVER

COUNTY	CITY
WAUPACA	WAUPACA

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS — LOAD HL-93

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BRE	KRO	BRE	KRO

GENERAL PLAN

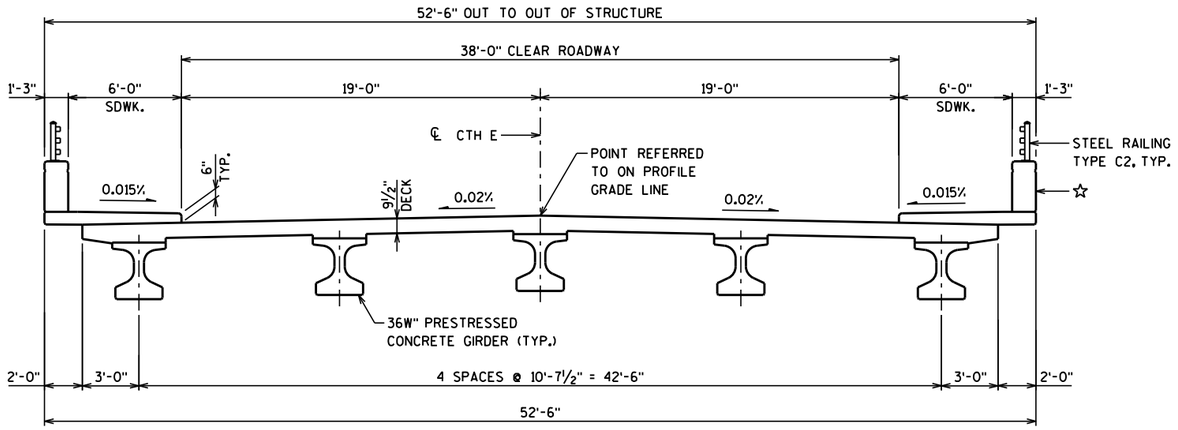
SHEET 1 OF 13

61

8

8

FILE NAME : F:±TR±JOBS±E2145A15±Sheets±B-68-139 01 gp.dgn PLOT BY : EpleyB PLOT DATE: 8/11/2017 8:26:34 AM



☆ MODIFIED VERTICAL FACE PARAPET 'TYPE A' WITH FORMLINER AND STAIN. SEE SHEET 12 FOR DETAILS.

CROSS SECTION

(LOOKING NORTH)

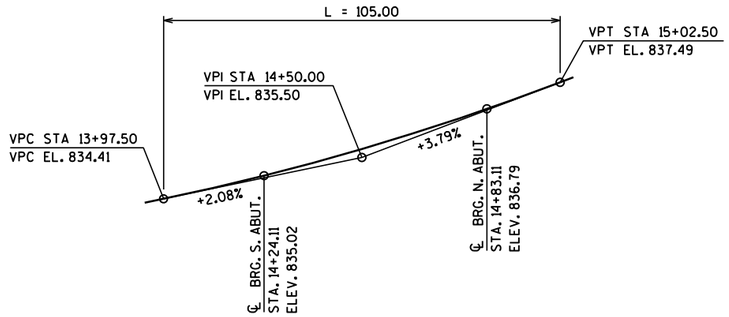
BENCH MARKS

(NAVD 88)

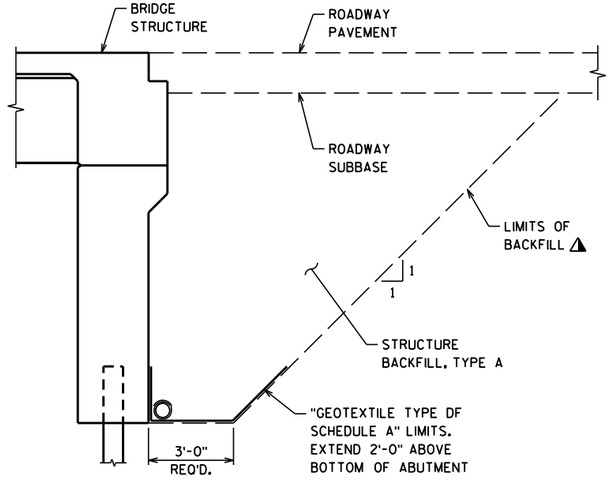
NO.	STATION	DESCRIPTION	ELEV.
1	STA 12+26, 26' RT.	60D SPIKE IN PP* 75-CC12	834.68
2	STA 13+87, 36' LT.	60D SPIKE IN PP* 75-AA12	832.10
3	STA 17+28, 20' LT.	60D SPIKE IN PP* 75-C1	844.66
4	STA 15+61, 48' LT.	60D SPIKE IN PP* 75-DD12	841.95

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	SUPER.	SOUTH ABUT.	NORTH ABUT.	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA 14+54	LS	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-68-139	LS	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	-----	550	550	1,100
502.0100	CONCRETE MASONRY BRIDGES	CY	169	75	74	318
502.3200	PROTECTIVE SURFACE TREATMENT	SY	370	-----	-----	370
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	300	-----	-----	300
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	-----	4,550	4,550	9,100
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	24,820	2,200	2,220	29,240
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	10	-----	-----	10
506.4000	STEEL DIAPHRAGMS B-68-139	EACH	4	-----	-----	4
513.7011	RAILING STEEL TYPE C2 B-68-139	LF	126	-----	-----	126
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-----	17	17	34
517.1015.S	CONCRETE STAINING MULTI-COLOR B-68-139	SF	566	-----	-----	566
517.1050.S	ARCHITECTURAL SURFACE TREATMENT B-68-139	SF	566	-----	-----	566
550.0010	PRE-BORING UNCONSOLIDATED MATERIALS	LF	-----	210	230	440
550.2124	PILING CIP CONCRETE 12 3/4 X 0.25-INCH	LF	-----	600	600	1,200
606.0300	RIPRAP HEAVY	CY	-----	90	115	205
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-----	90	90	180
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	-----	75	75	150
645.0120	GEOTEXTILE TYPE HR	SY	-----	135	175	310
	NON-BID ITEMS					
	FILLER	SIZE	-----	-----	-----	½" & ¾"



PROFILE GRADE LINE



TYPICAL SECTION THRU ABUTMENT

GENERAL NOTES:

DRAWING 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.

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

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAIL SHEET, WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

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

APPLY PROTECTIVE SURFACE TREATMENT TO THE FOLLOWING COMPLETED SURFACES: TOP OF DECK, TOP AND SIDES OF SIDEWALKS, TOP OF PARAPETS, AND BORDER OF THE FRONT FACE OF THE PARAPETS. DO NOT APPLY PROTECTIVE SURFACE TREATMENT TO THE PARAPET AREA WITH ARCHITECTURAL SURFACE TREATMENT.

ALL VOIDS BETWEEN HEAVY RIPRAP FROM THE OBSERVED WATER SURFACE ELEVATION TO THE TOP OF BERM AND INCLUDING THE HORIZONTAL SURFACE OF THE BERM SHALL BE "FILLED" USING 1 TO 3 INCH STONE, INCIDENTAL TO HEAVY RIPRAP, IN ACCORDANCE WITH THE SPECIAL PROVISION.

THIS BRIDGE WILL REPLACE THE EXISTING MASONRY SPANDREL ARCH BRIDGE. THE STRUCTURE WAS BUILT IN 1906.

ALL RAILINGS, POSTS AND ASSOCIATED HARDWARE SHALL BE PAINTED BROWN (FEDERAL COLOR NO.20059). IF REQUIRED, TOUCH-UP PAINTING IS TO BE DONE AFTER INSTALLATION IS COMPLETE TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST. WORK SHALL BE PAID FOR UNDER THE BID ITEM "RAILING STEEL TYPE C2 B-68-139".

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

STATE PROJECT NUMBER

6844-14-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-68-139

DRAWN BY BRE | PLANS CK'D. KRO

CROSS SECTION & QUANTITIES

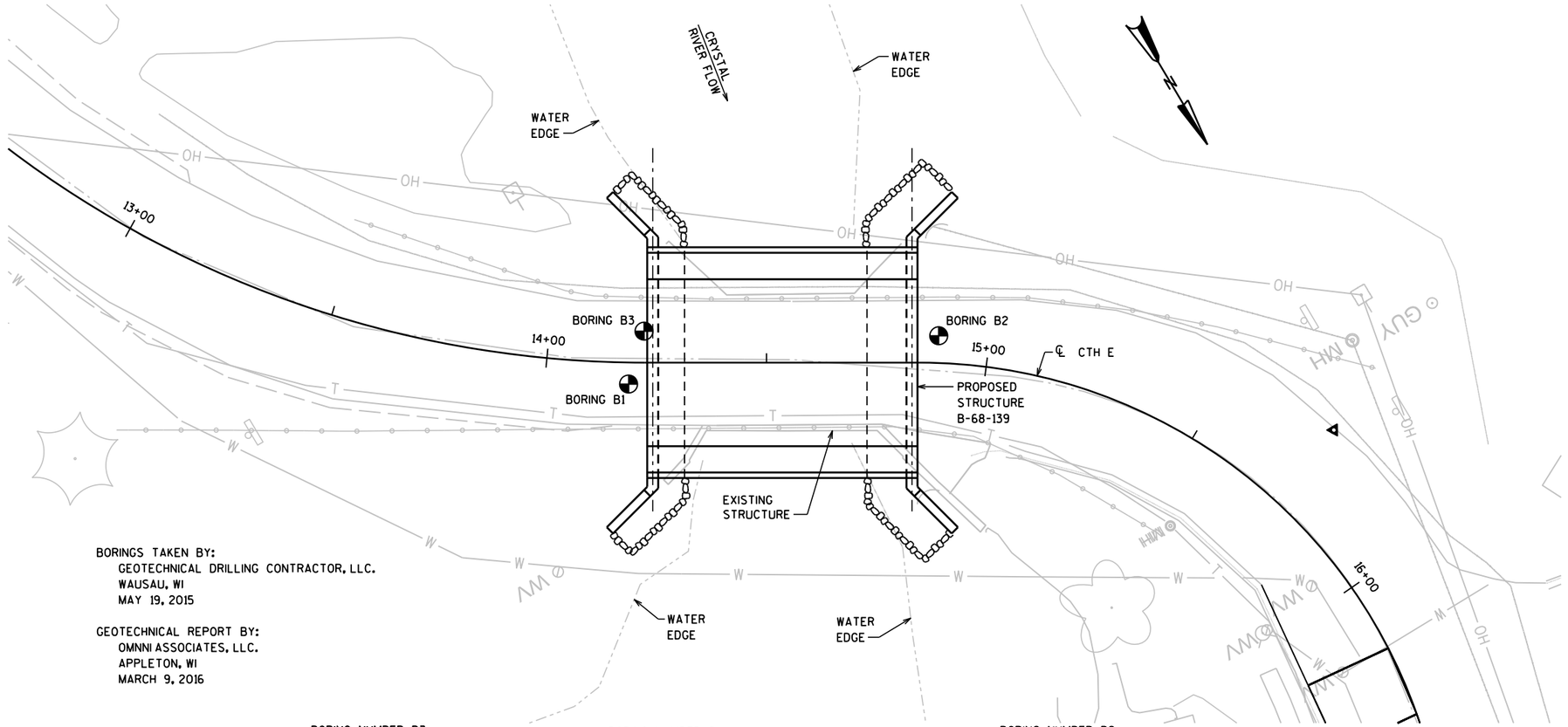
SHEET 2 OF 13

62

8

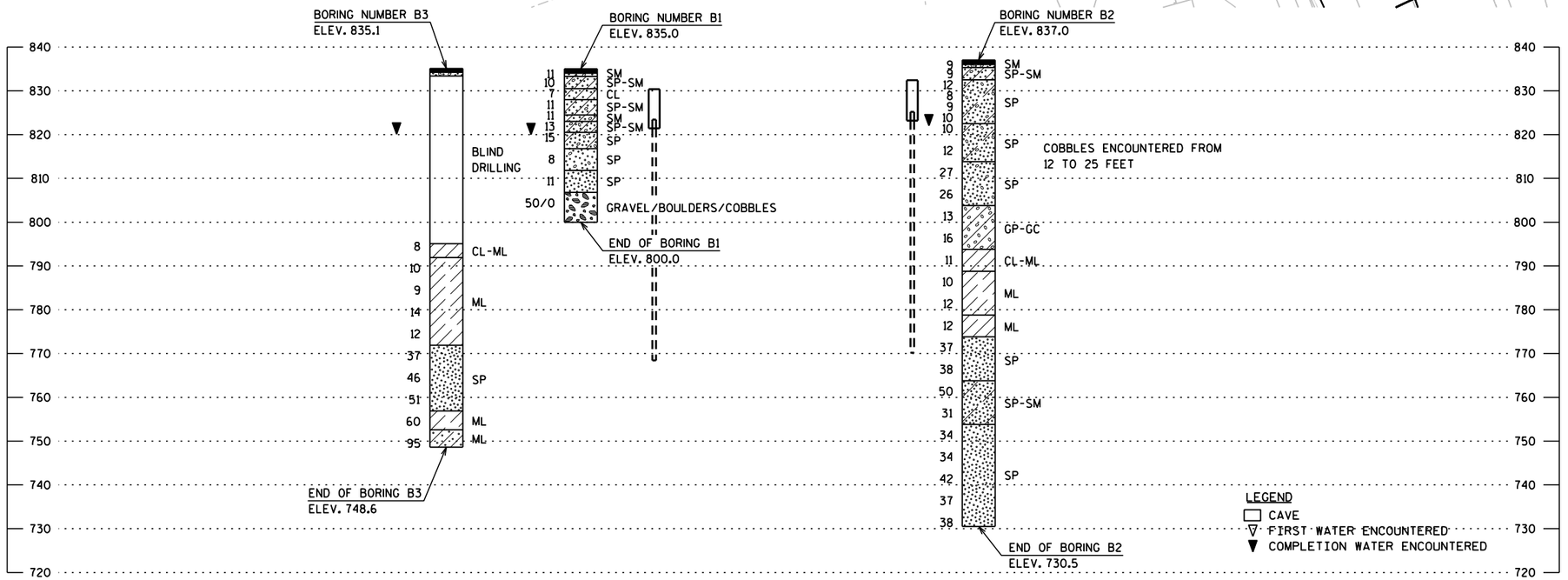
8

STATE PROJECT NUMBER
6844-14-70



BORINGS TAKEN BY:
GEOTECHNICAL DRILLING CONTRACTOR, LLC.
WAUSAU, WI
MAY 19, 2015

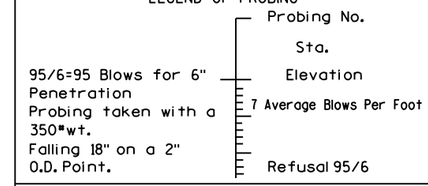
GEOTECHNICAL REPORT BY:
OMNNI ASSOCIATES, LLC.
APPLETON, WI
MARCH 9, 2016



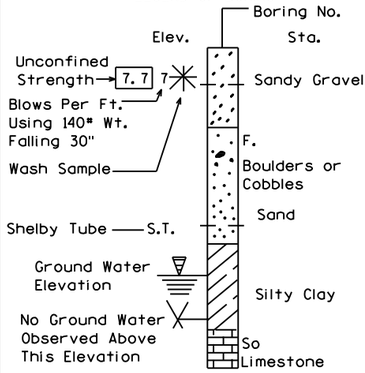
ABBREVIATIONS
F — Fine M — Medium C — Coarse
Ws — Weathered So — Sound

MATERIAL SYMBOLS
Topsoil, Silt, Sandstone
Sand, Peat, Limestone
Gravel, Clay, Igneous Rock

LEGEND OF PROBING



LEGEND OF BORING



Unless otherwise specified, the blows per foot at the locations indicated are based on driving a O.D. x 1. 4" I.D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways does not warrant conditions below the depths investigated or that the classification of material encountered in these investigations is necessarily typical of the entire site.

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-68-139

DRAWN BY BRE | PLANS CK'D. KRO

SUBSURFACE EXPLORATION

SHEET 3 OF 13

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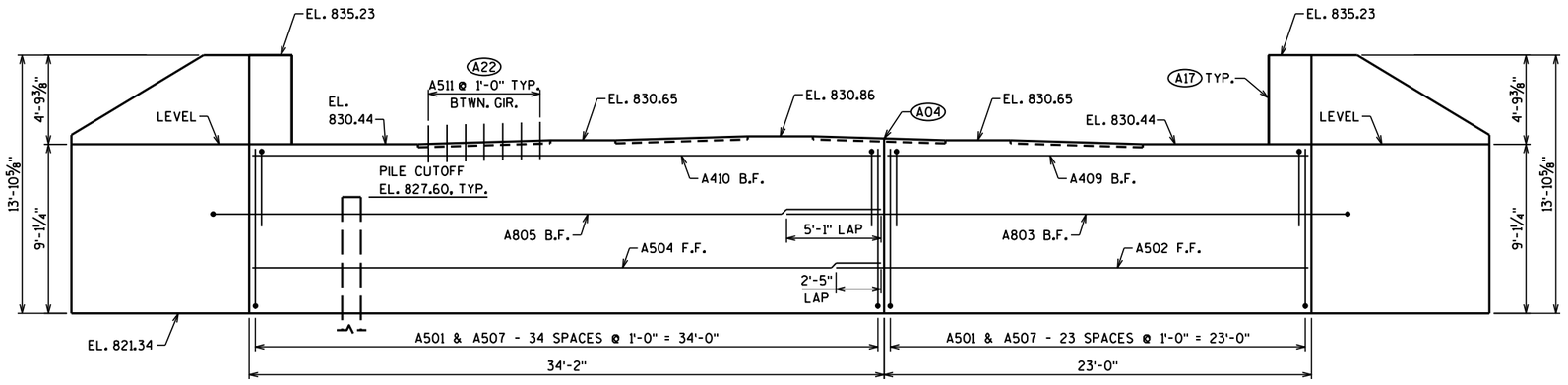
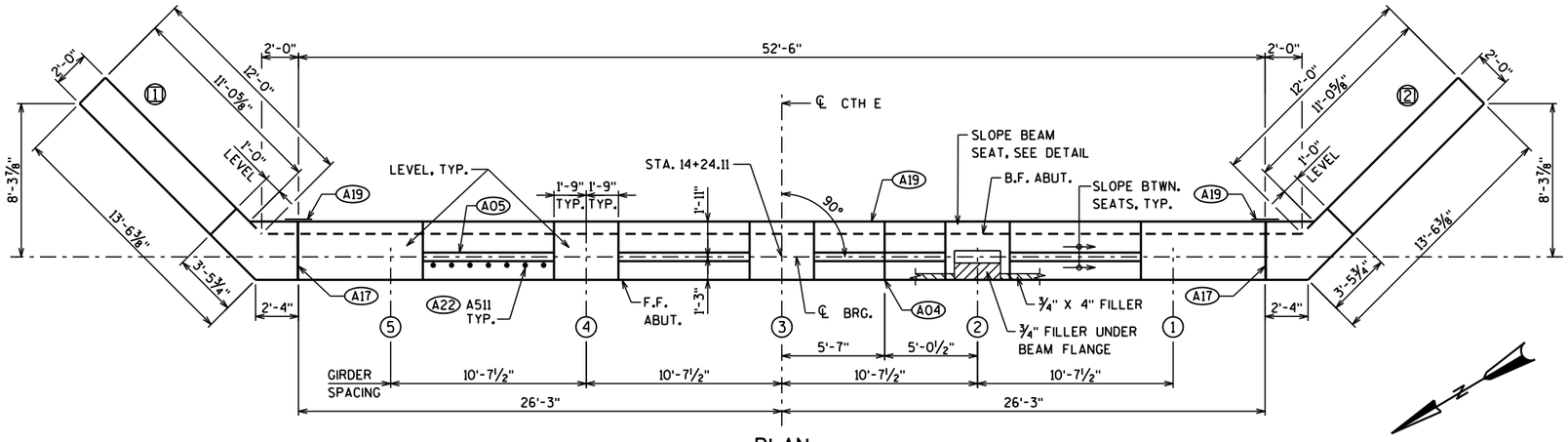
STATE PROJECT NUMBER
6844-14-70

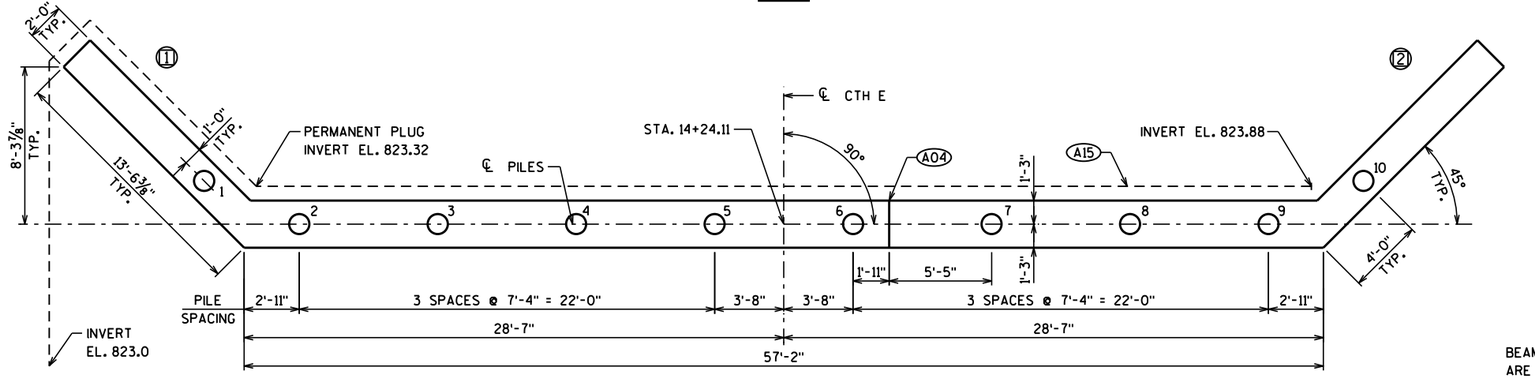


NOTE: SPACE A501 TO MISS PILING

ELEVATION
(LOOKING SOUTH)



PLAN



PILE PLAN

LEGEND

(A04) VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. ¾" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE. SEE SHEET 7 FOR ALTERNATE CONSTRUCTION JOINT.

(A05) CONSTRUCTION JOINT-FORMED BY BEVELED 2 x 6 BETWEEN BEAM SEATS.

(A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN (SEE SHEET 5 FOR DETAILS).

(A17) ½" FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

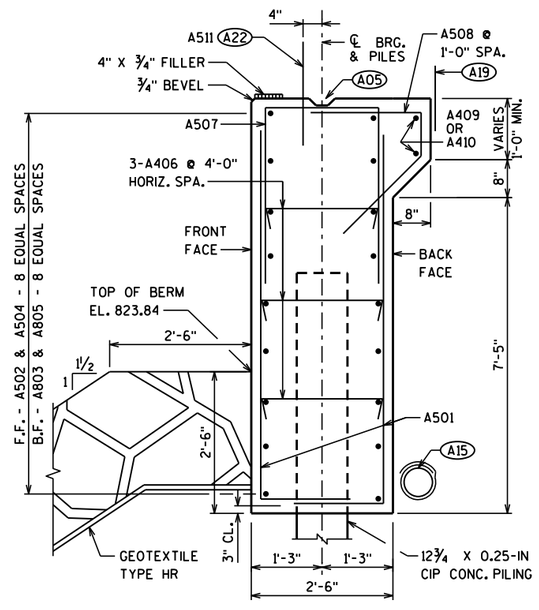
(A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

(A22) A511 BARS SPACED @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

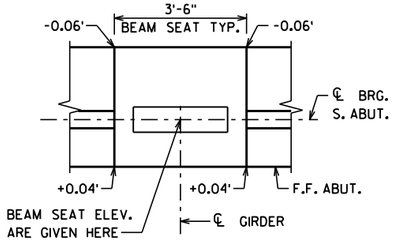
(X) DENOTES WING NUMBER

SOUTH ABUTMENT TO BE SUPPORTED ON 12 3/4 X 0.25-INCH CIP CONCRETE PILING. PILES SHALL BE PREBORED TO ELEVATION 800.0 AND THEN DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE, ESTIMATED 60'-0" LONG.

SEE SHEET 5 FOR WINGWALL DETAILS, BILL OF BARS, AND BAR BENDING DIAGRAMS.



SECTION THRU BODY



SLOPED BEAM SEAT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-68-139

DRAWN BY BRE | PLANS CK'D. KRO

SOUTH ABUTMENT

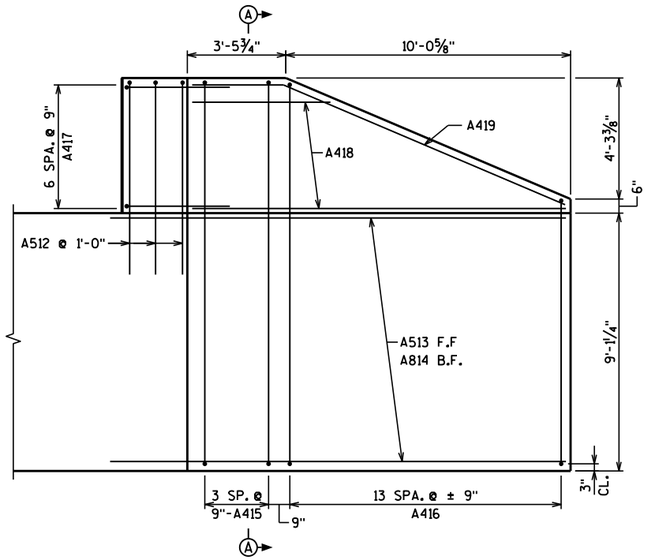
SHEET 4 OF 13

64

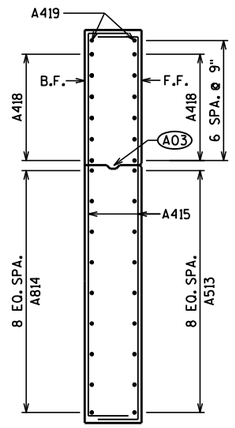
8

8

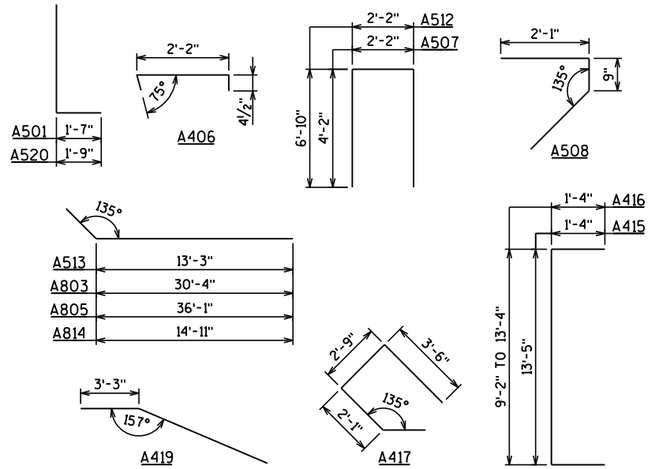
STATE PROJECT NUMBER
6844-14-70



WING 1



SECTION A-A



BAR BENDING DIAGRAMS

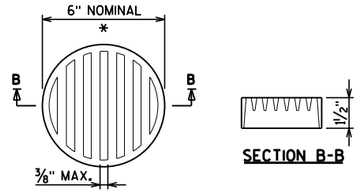
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	SERIES	LOCATION
A501		118	10'-2"	X		BODY - VERTICAL
A502		9	25'-5"			BODY - HORIZONTAL
A803		9	31'-10"	X		BODY - HORIZONTAL
A504		9	33'-10"			BODY - HORIZONTAL
A805		9	37'-7"	X		BODY - HORIZONTAL
A406		45	2'-9"	X		BODY - HORIZ. TIE BARS
A507		59	10'-3"	X		BODY - VERTICAL
A508		59	4'-8"	X		BODY - VERTICAL
A409		2	23'-0"			BODY - HORIZONTAL
A410		2	34'-2"			BODY - HORIZONTAL
A511	X	28	2'-0"			BODY - VERTICAL, DOWEL
A512	X	6	15'-7"	X		WINGS - VERTICAL
A513	X	18	14'-10"	X		WINGS - HORIZONTAL
A814	X	18	16'-6"	X		WINGS - HORIZONTAL
A415	X	14	15'-11"	X		WINGS - VERTICAL
A416	X	56	13'-9"	X	△	WINGS - VERTICAL
A417	X	14	9'-8"	X		WINGS - HORIZONTAL
A418	X	24	9'-1"		△	WINGS - HORIZONTAL
A419	X	4	14'-0"	X		WINGS - HORIZONTAL
A520	X	6	6'-1"	X		WINGS - VERTICAL

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

BAR SERIES

BAR NO.	NO. REQ'D.	LENGTH
A416	4 SERIES OF 14	11'-8" TO 15'-10"
A418	4 SERIES OF 6	4'-11" TO 13'-3"



RODENT SCREEN DETAIL

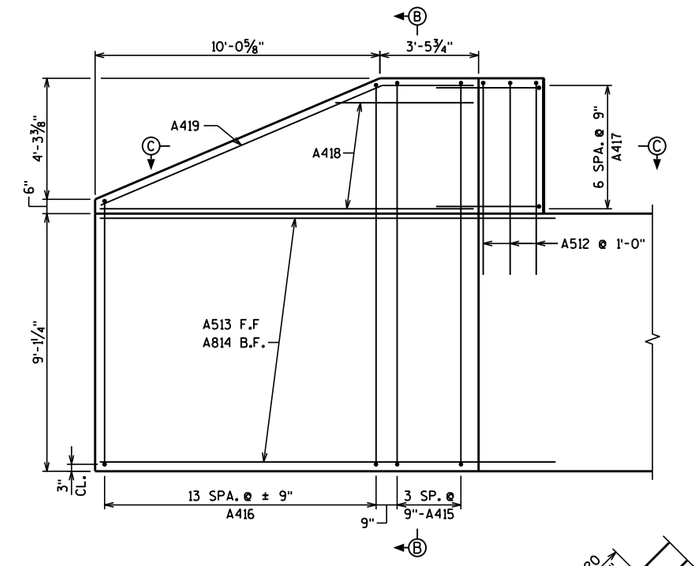
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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

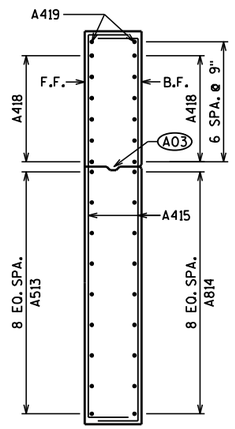
THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X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

LEGEND

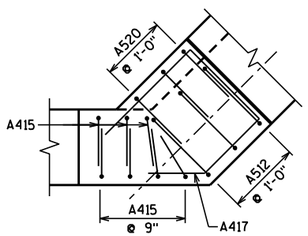
(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" R.M.W. @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).



WING 2



SECTION B-B



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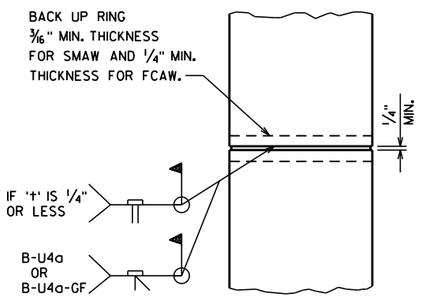
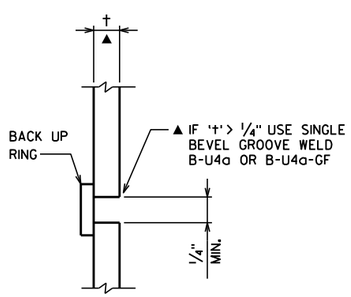


CAST-IN-PLACE 'PIPE PILE'



C.I.P. PILE WELD DETAIL

PILE SPLICE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-68-139

DRAWN BY BRE | PLANS CK'D. KRO

SOUTH ABUTMENT DETAILS

SHEET 5 OF 13

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STATE PROJECT NUMBER
6844-14-70

LEGEND

(A04) VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. ¾" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE. SEE SHEET 7 FOR ALTERNATE CONSTRUCTION JOINT.

(A05) CONSTRUCTION JOINT-FORMED BY BEVELED 2 x 6 BETWEEN BEAM SEATS.

(A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN (SEE SHEET 5 FOR DETAILS).

(A17) ½" FILLER INCLUDED IN WING LENGTH, SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

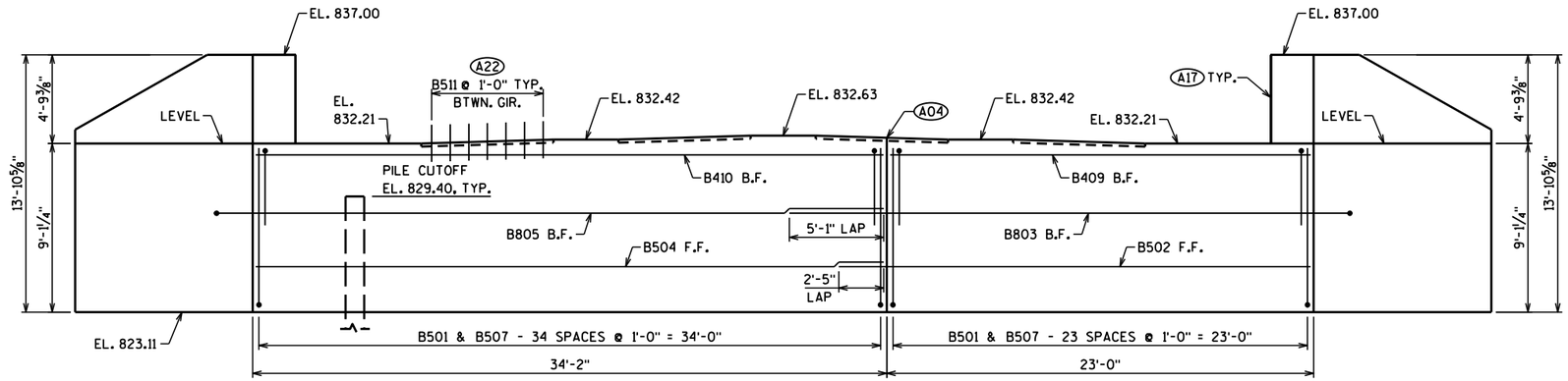
(A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

(A22) B511 BARS SPACED @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(X) DENOTES WING NUMBER

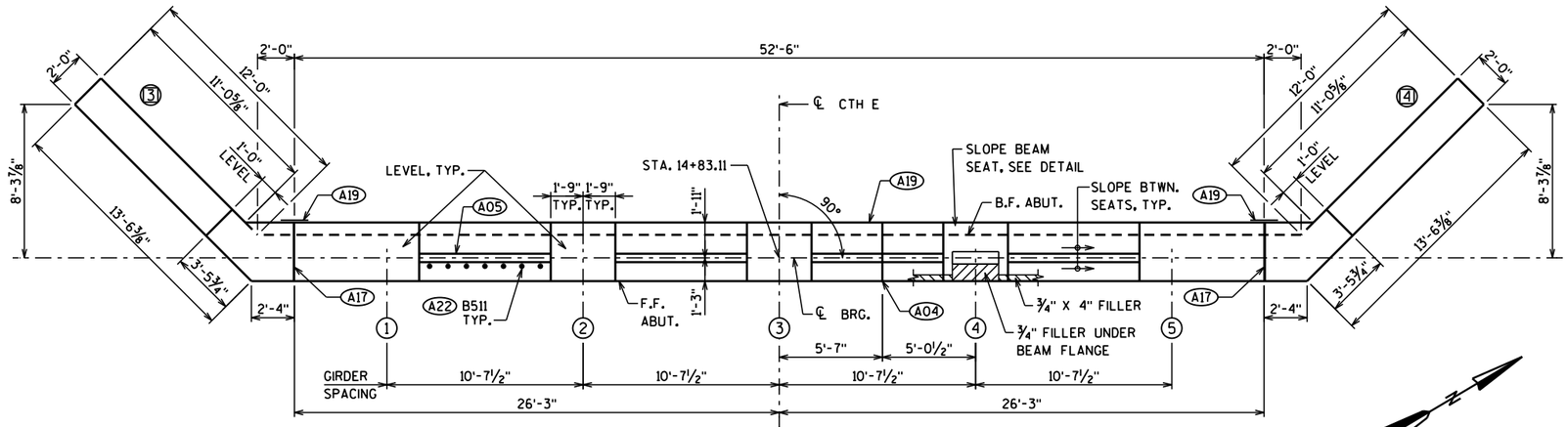
NORTH ABUTMENT TO BE SUPPORTED ON 12 3/4 X 0.25-INCH CIP CONCRETE PILING. PILES SHALL BE PREBORED TO ELEVATION 800.0 AND THEN DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE, ESTIMATED 60'-0" LONG.

SEE SHEET 7 FOR WINGWALL DETAILS, BILL OF BARS, AND BAR BENDING DIAGRAMS. SEE SHEET 5 FOR PILE SPLICE DETAILS.

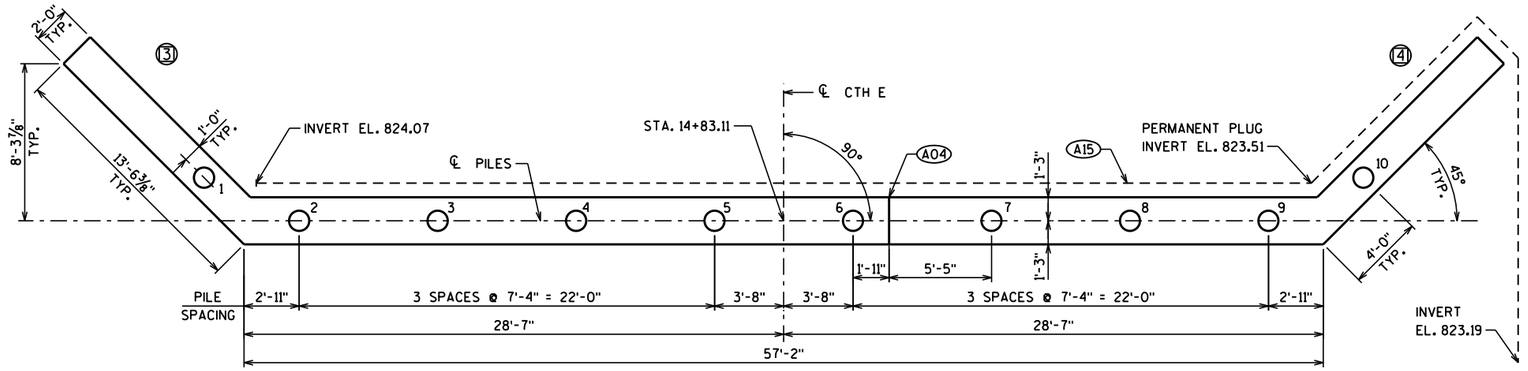


NOTE: SPACE B501 TO MISS PILING

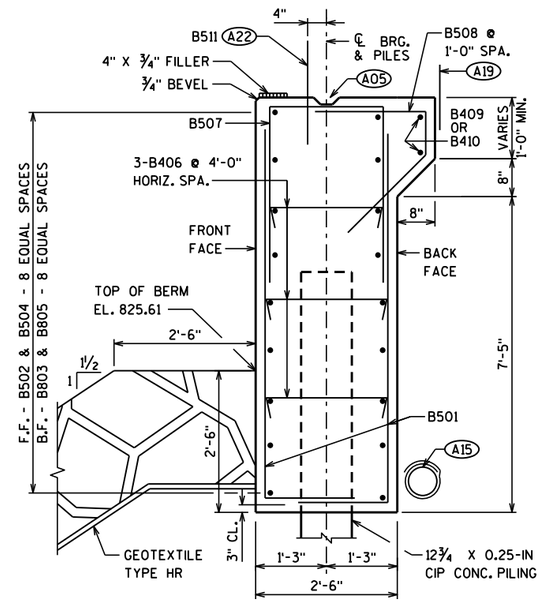
ELEVATION
(LOOKING NORTH)



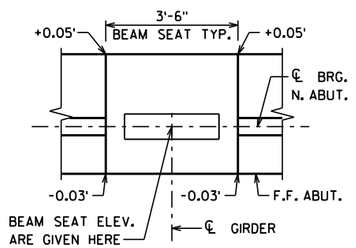
PLAN



PILE PLAN



SECTION THRU BODY



SLOPED BEAM SEAT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-68-139

DRAWN BY: BRE | PLANS CK'D.: KRO

NORTH ABUTMENT

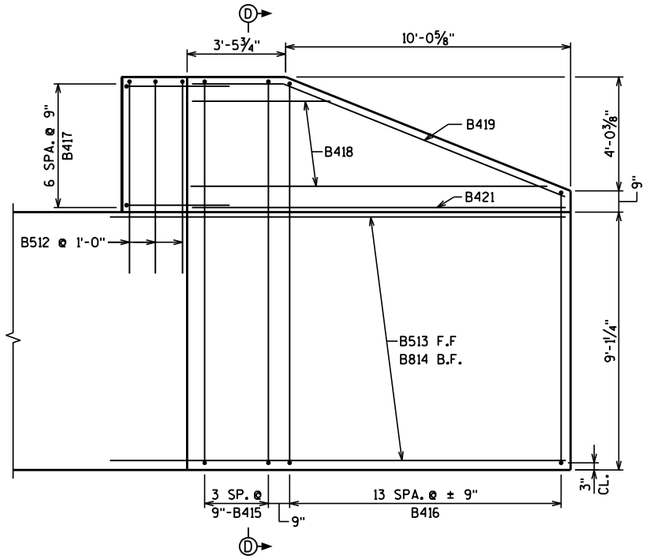
SHEET 6 OF 13

8

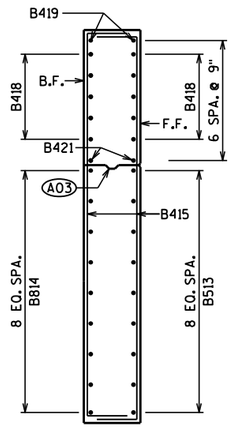
8

FILE NAME : F:±TR±JOBS±E2145A15±Sheets±B-68-139 06 n abut.dgn PLOT BY : EpleyB PLOT DATE: 8/10/2017 9:46:02 AM

STATE PROJECT NUMBER
6844-14-70



WING 4



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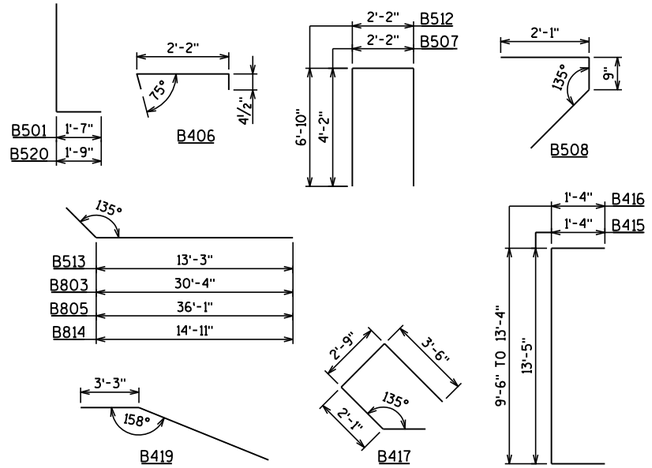


BAR BENDING DIAGRAMS

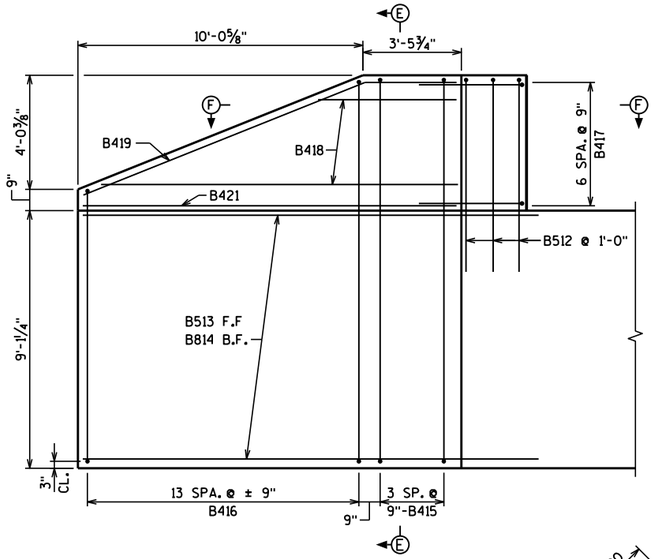
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	SERIES	LOCATION
B501		118	10'-2"	X		BODY - VERTICAL
B502		9	25'-5"			BODY - HORIZONTAL
B803		9	31'-10"	X		BODY - HORIZONTAL
B504		9	33'-10"			BODY - HORIZONTAL
B805		9	37'-7"	X		BODY - HORIZONTAL
B406		45	2'-9"	X		BODY - HORIZ. TIE BARS
B507		59	10'-3"	X		BODY - VERTICAL
B508		59	4'-8"	X		BODY - VERTICAL
B409		2	23'-0"			BODY - HORIZONTAL
B410		2	34'-2"			BODY - HORIZONTAL
B511	X	28	2'-0"			BODY - VERTICAL, DOWEL
B512	X	6	15'-7"	X		WINGS - VERTICAL
B513	X	18	14'-10"	X		WINGS - HORIZONTAL
B814	X	18	16'-6"	X		WINGS - HORIZONTAL
B415	X	14	15'-11"	X		WINGS - VERTICAL
B416	X	56	13'-11"	X	△	WINGS - VERTICAL
B417	X	14	9'-8"	X		WINGS - HORIZONTAL
B418	X	20	8'-10"		△	WINGS - HORIZONTAL
B419	X	4	13'-11"	X		WINGS - HORIZONTAL
B520	X	6	6'-1"	X		WINGS - VERTICAL
B421	X	4	13'-3"			WINGS - HORIZONTAL

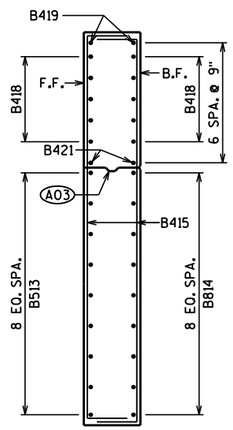
△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES

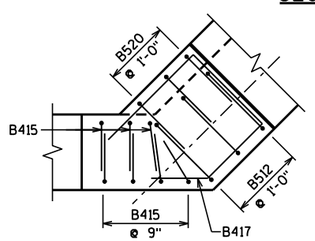
BAR NO.	NO. REQ'D.	LENGTH
B416	4 SERIES OF 14	12'-0" TO 15'-10"
B418	4 SERIES OF 5	5'-1" TO 12'-7"



WING 3



SECTION E-E

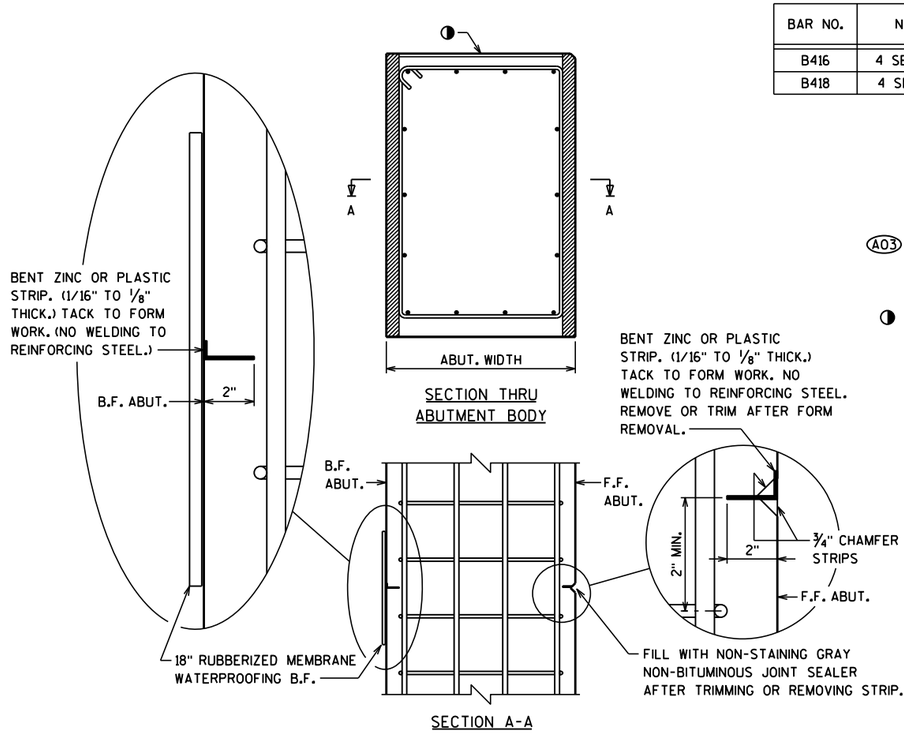


SECTION F-F

LEGEND

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" R.M.W. @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).

◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.



ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

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NORTH ABUTMENT DETAILS

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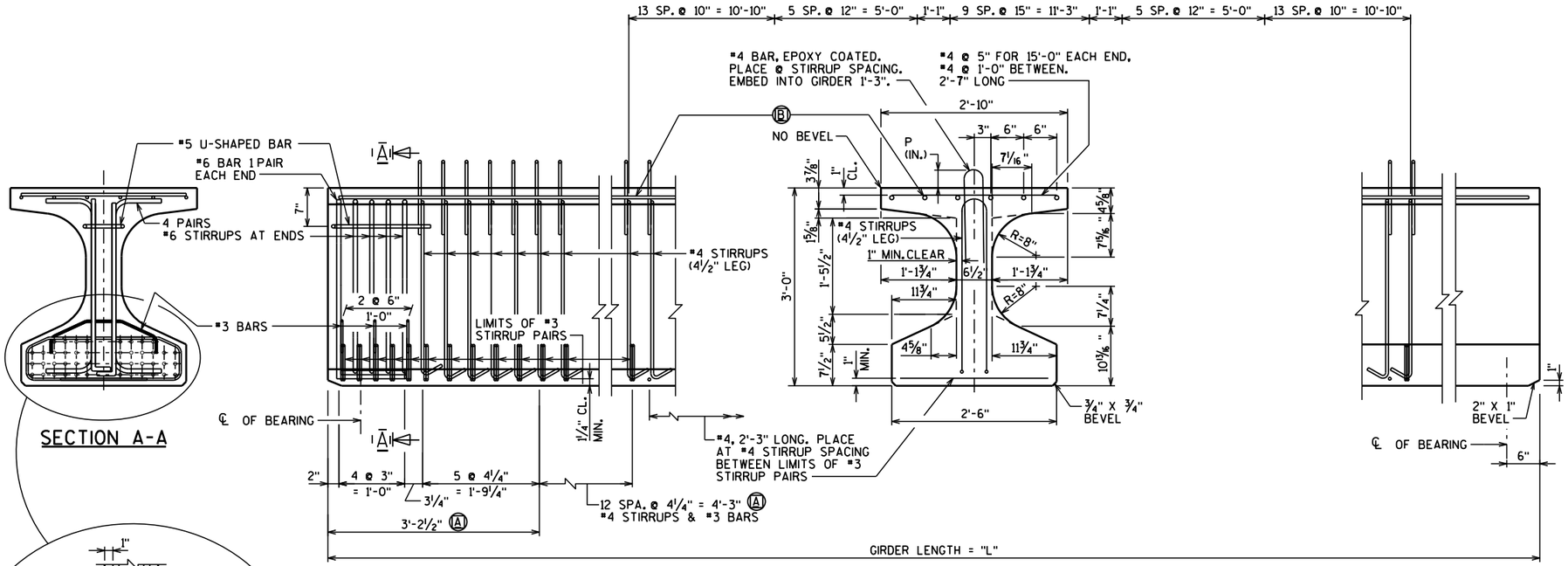
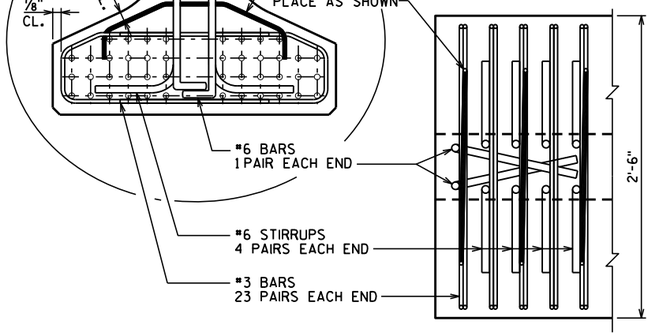


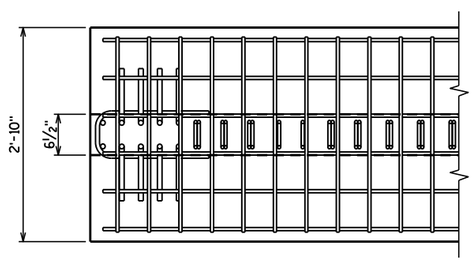
SIDE VIEW & TYPICAL SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

Ⓑ 6 *4 BARS, FULL LENGTH, MIN. LAP = 1'-11"



BOTTOM FLANGE

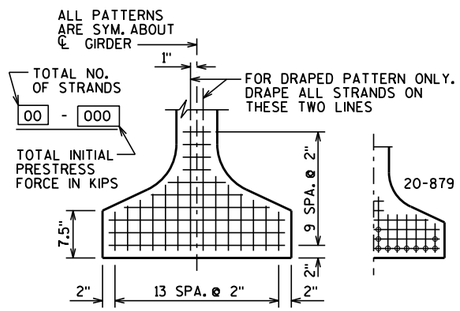


TOP FLANGE

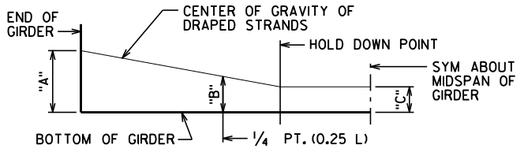
* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	1.24

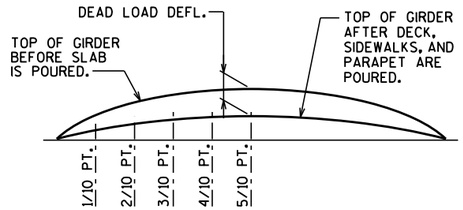
THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



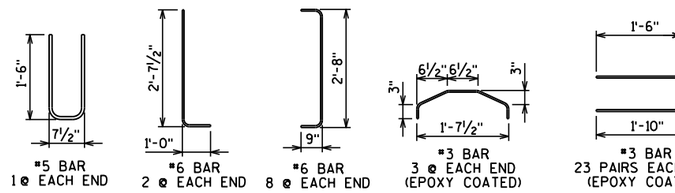
TYP. STRAND PATTERN



DRAPED STRAND PROFILE



DEAD LOAD DEFLECTION DIAGRAM



GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

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

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECT. 503.3.3 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

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

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

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

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

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

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

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

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f'c (P.S.I.)	"P" 1ST ⅓ OF GIRDER	"P" MID ⅓ OF GIRDER	"P" END ⅓ OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN						UNDRAPED PATTERN	
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10						TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	ALL	60.0'	0.19	0.38	0.52	0.62	0.65	0.62	0.52	0.38	0.19	8,000	8"	7"	8"	0.6	20	6,800	32	11½"	14½"	4	---	---

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36W" PRESTRESSED GIRDER DETAILS

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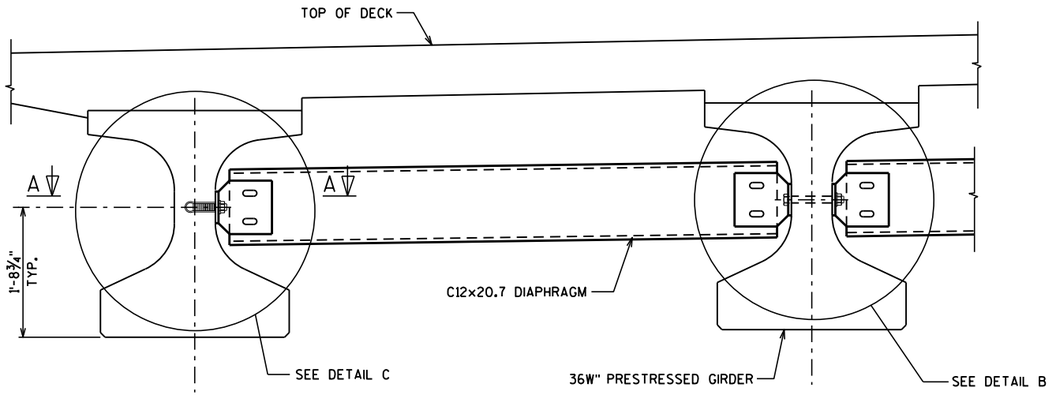


PART TRANSVERSE SECTION AT DIAPHRAGM

NOTES

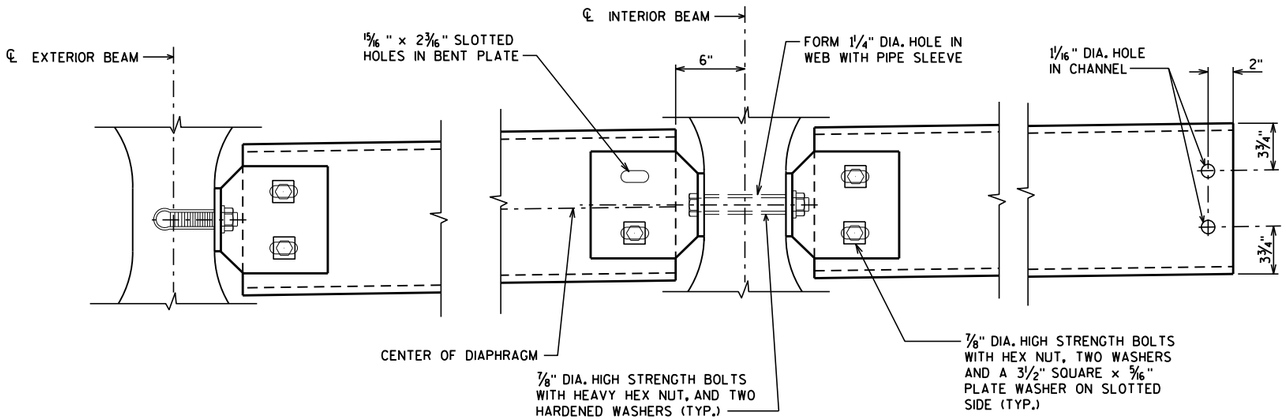
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-68-139", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

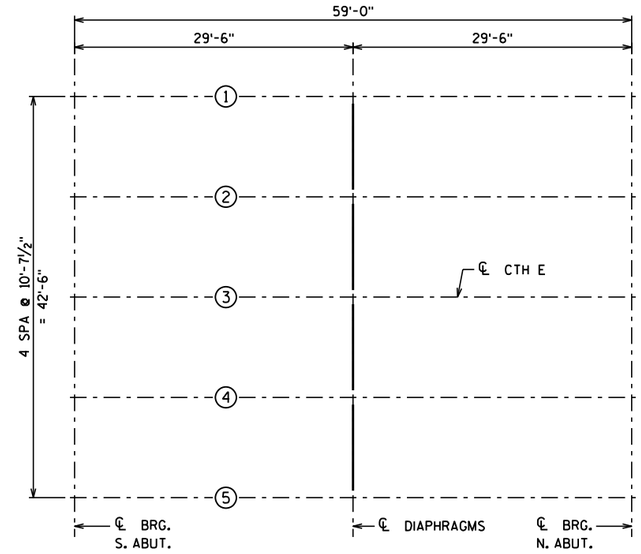
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

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

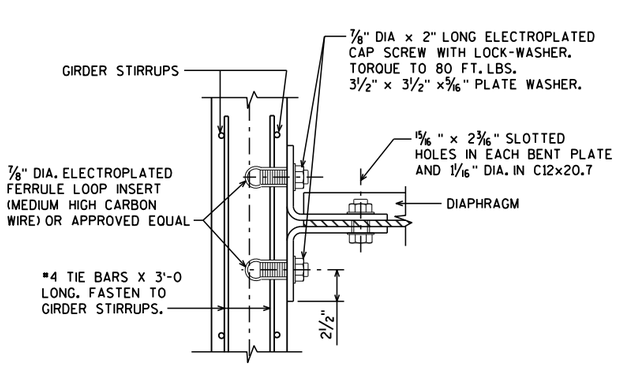


DETAIL C

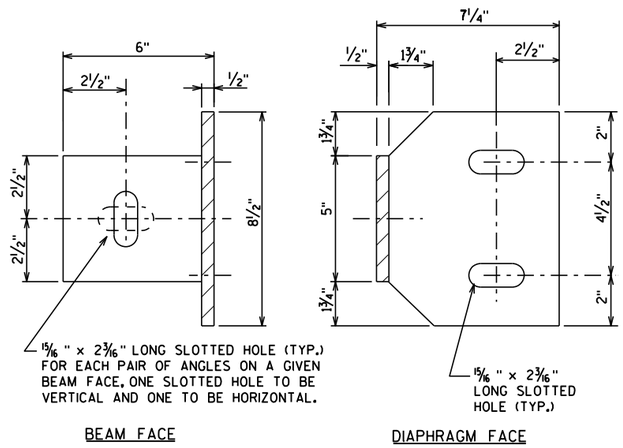
DETAIL B



FRAMING PLAN

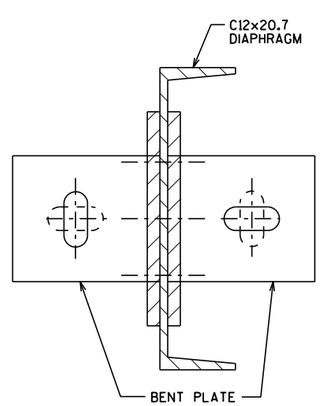


SECTION A-A
(FOR EXTERIOR ATTACHMENT)



BEAM FACE

DIAPHRAGM FACE



ATTACHMENT TO CHANNEL

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STEEL DIAPHRAGMS

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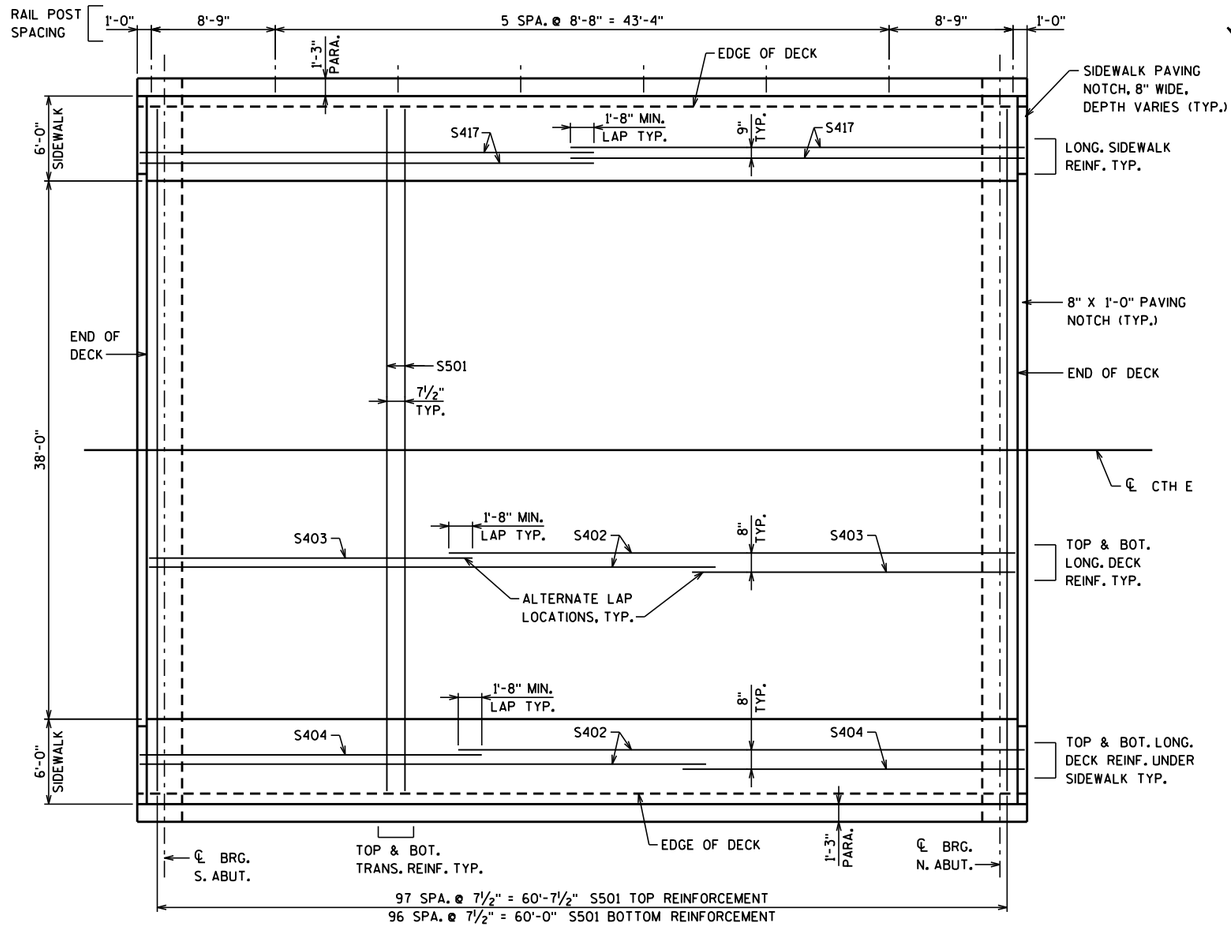
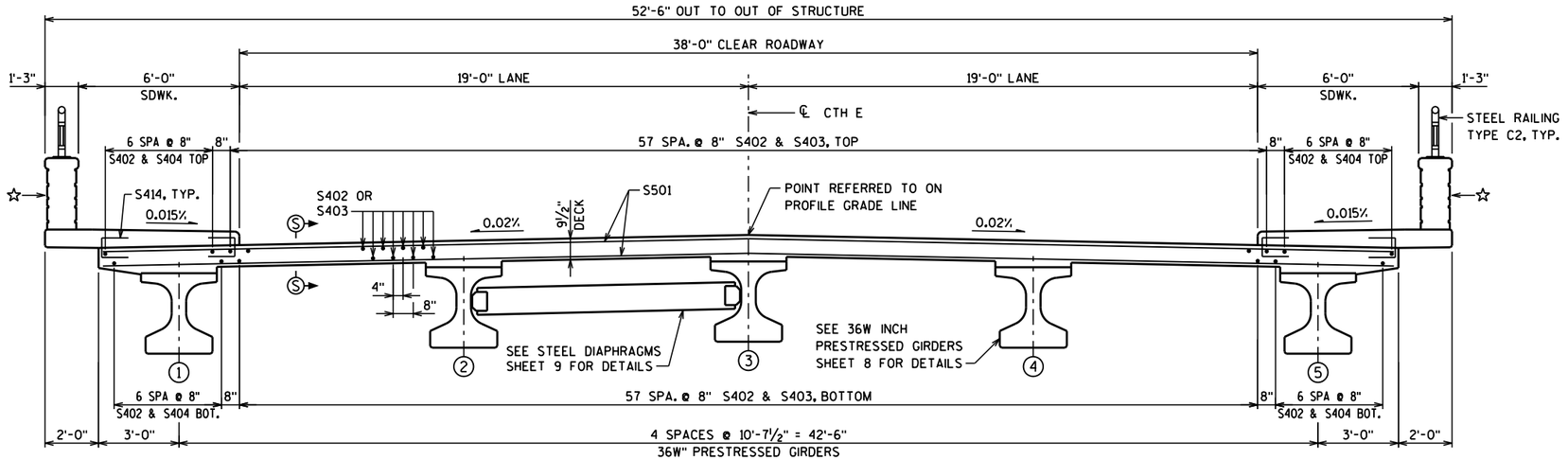
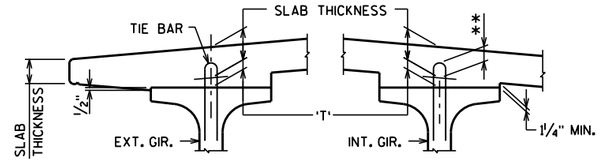


PLAN



CROSS SECTION

(LOOKING NORTH)



DECK HAUNCH DETAIL

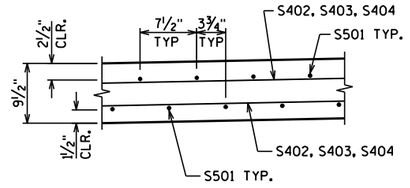
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

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

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 2.9" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



SECTION S-S

NOTES:

☆ MODIFIED VERTICAL FACE PARAPET 'TYPE A' WITH FORMLINER AND STAIN. SEE SHEET 12 FOR DETAILS.

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SUPERSTRUCTURE

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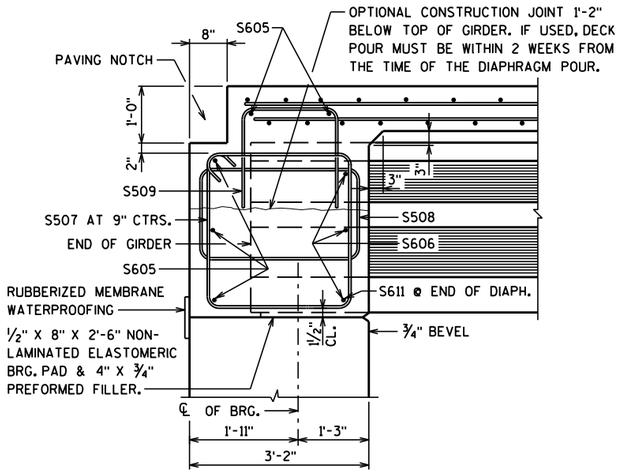
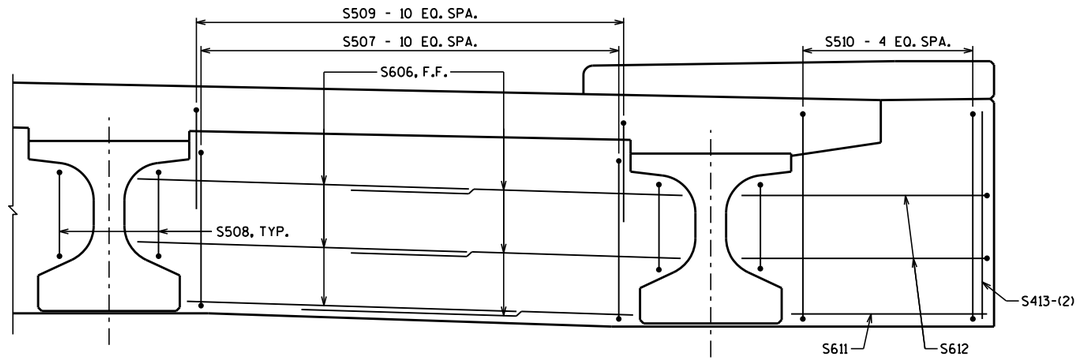


AT ABUTMENTS

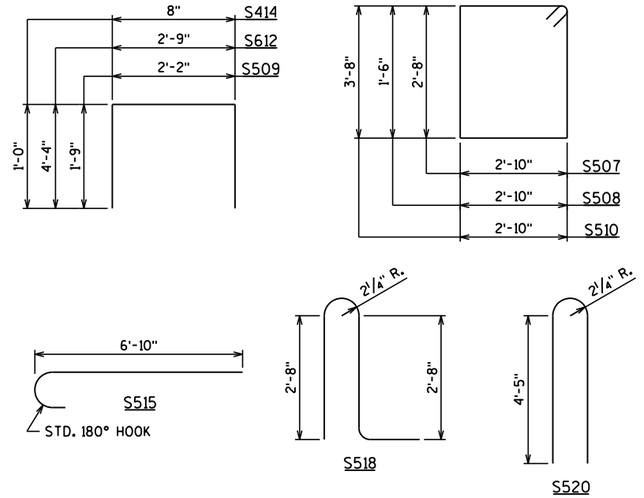
PART LONGIT. SECTION



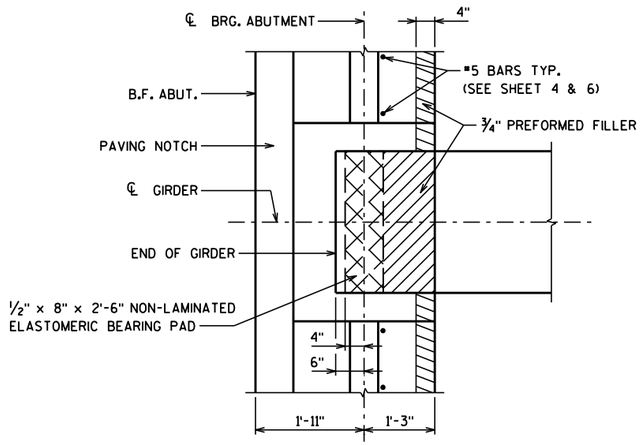
DIAPHRAGM DETAILS AT ABUTMENT

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
S501	X	195	48'-2"		TRANS. TOP & BOT.
S402	X	145	40'-0"		LONG. TOP & BOTTOM
S403	X	117	22'-10"		LONG. TOP & BOTTOM
S404	X	28	24'-2"		LONG. TOP & BOTTOM
S605	X	10	52'-2"		DIAPH. HORIZONTAL, B.F. & TOP
S606	X	48	5'-10"		DIAPH. HORIZONTAL, F.F.
S507	X	88	11'-8"	X	DIAPH. STIRRUPS VERTICAL
S508	X	20	9'-4"	X	DIAPH. STIRRUPS VERTICAL
S509	X	88	5'-5"	X	DIAPH. TOP
S510	X	20	13'-8"	X	DIAPH. STIRRUPS VERTICAL
S611	X	4	3'-5"		DIAPH. HORIZONTAL, ENDS
S612	X	8	8'-10"	X	DIAPH. HORIZONTAL, ENDS
S413	X	8	3'-8"		DIAPH. VERTICAL, ENDS
S414	X	496	2'-6"	X	SIDEWALK TIES
S515	X	248	7'-5"	X	SIDEWALK TRANSVERSE
S416	X	84	2'-10"		SIDEWALK TRANSVERSE
S417	X	52	31'-5"		SIDEWALK LONGITUDINAL
S518	X	132	6'-8"	X	PARAPET VERTICAL
S419	X	24	32'-5"		PARAPET LONGITUDINAL
S520	X	8	9'-5"	X	PARAPET VERTICAL ENDS



BAR BEND DIAGRAMS



BEARING PAD DETAIL

TOP OF DECK ELEVATIONS

LOCATION	S. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	N. ABUT.
W. EDGE	834.53	834.69	834.84	835.00	835.17	835.35	835.53	835.71	835.90	836.10	836.30
GIRDER 1	834.59	834.75	834.90	835.06	835.23	835.41	835.59	835.77	835.96	836.16	836.36
GIRDER 2	834.81	834.96	835.11	835.28	835.45	835.62	835.80	835.98	836.17	836.37	836.57
GIRDER 3	835.02	835.17	835.33	835.49	835.66	835.83	836.01	836.20	836.39	836.58	836.79
GIRDER 4	834.81	834.96	835.11	835.28	835.45	835.62	835.80	835.98	836.17	836.37	836.57
GIRDER 5	834.59	834.75	834.90	835.06	835.23	835.41	835.59	835.77	835.96	836.16	836.36
E. EDGE	834.53	834.69	834.84	835.00	835.17	835.35	835.53	835.71	835.90	836.10	836.30

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SUPERSTRUCTURE DETAILS

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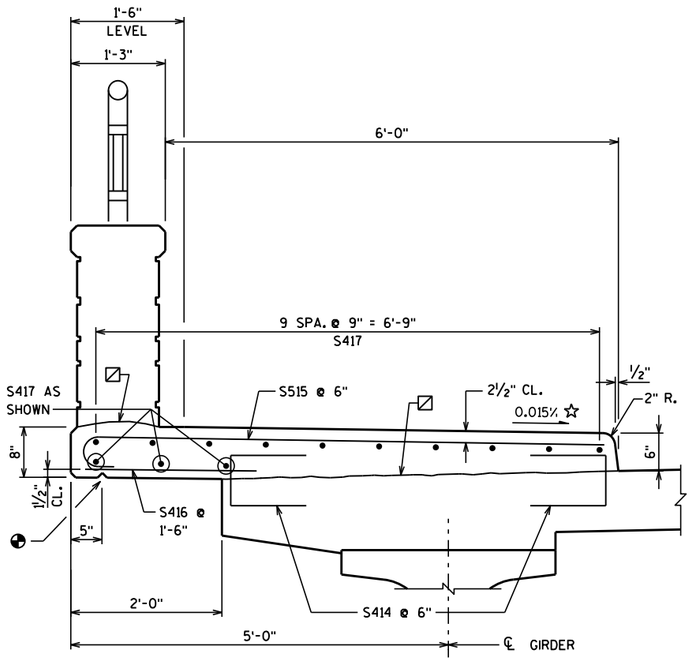
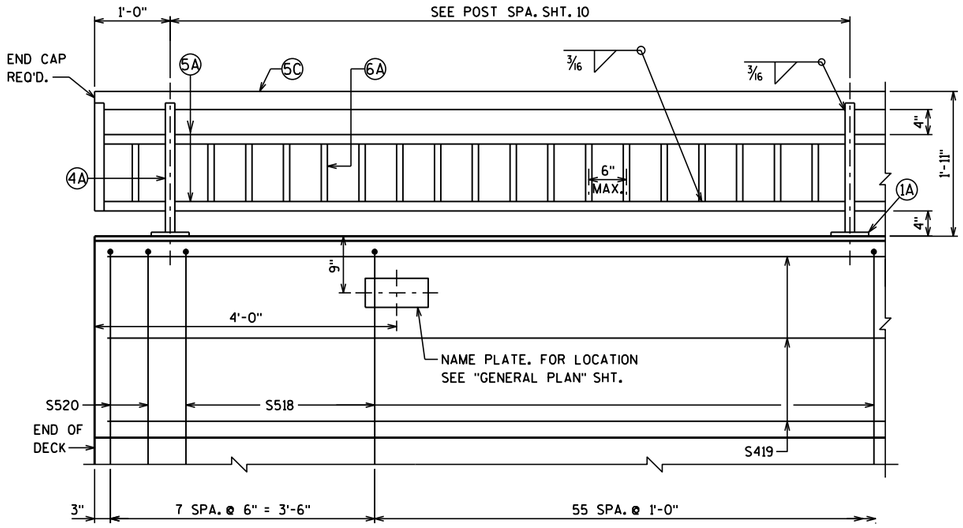
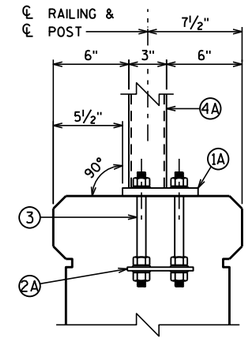


SECTION THRU SIDEWALK



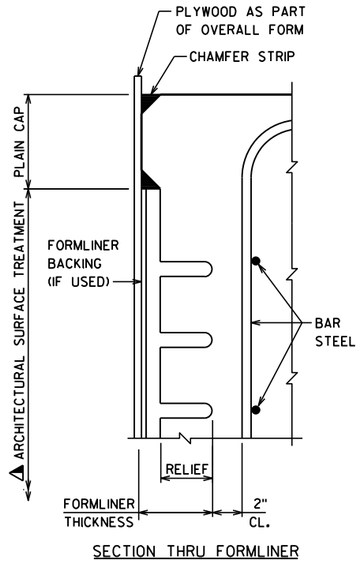
ELEVATION OF PARAPET

NOTE: SEE SHEET 13 FOR RAILING DETAILS

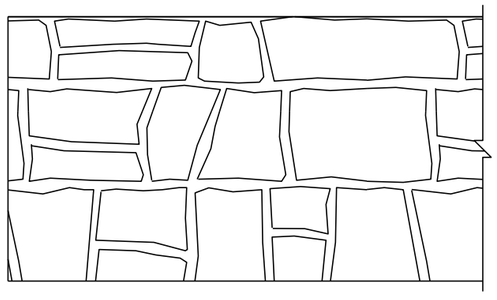


RAILING BASE PLATE DETAIL

NOTE: SEE SHEET 13 FOR RAILING DETAILS.

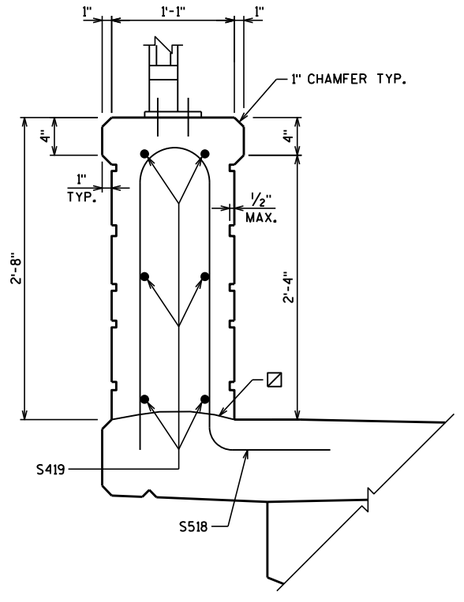


SECTION THRU FORMLINER

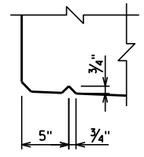


DRYSTACK STONE FORMLINER
SIZE = 3" TO 24"
MAX. RELIEF = ½"

ARCHITECTURAL SURFACE TREATMENT



SECTION THRU PARAPET ON BRIDGE



¾" V-GROOVE DETAIL

LEGEND

- ☐ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR SLAB POUR, MATCH BRIDGE CROSS SLOPE.
- ◒ 3/4" V-GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.
- ◭ LIMITS OF ARCHITECTURAL SURFACE TREATMENT AND CONCRETE STAINING MULTICOLOR, EA. FACE.
- ☆ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

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STRUCTURE B-68-139

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SIDEWALK AND VERTICAL PARAPET

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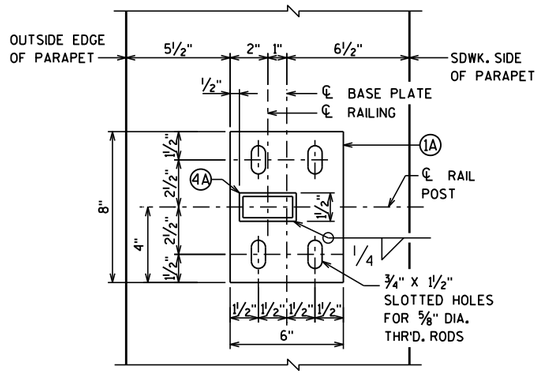
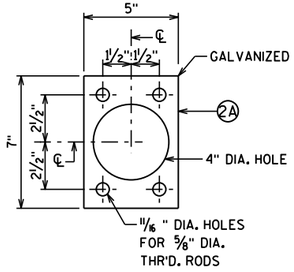
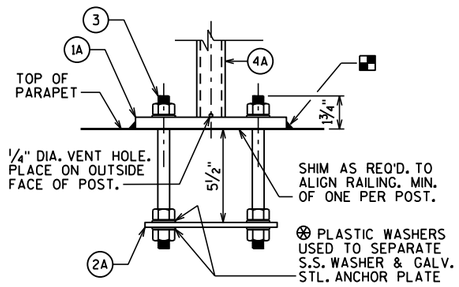


TYPICAL RAIL POST BASE PLATE

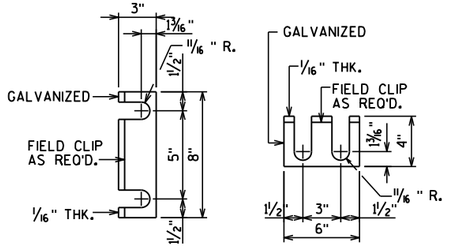


ANCHOR PLATE



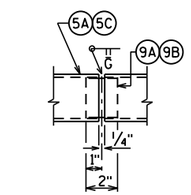
ANCHORAGE FOR RAIL POSTS

NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



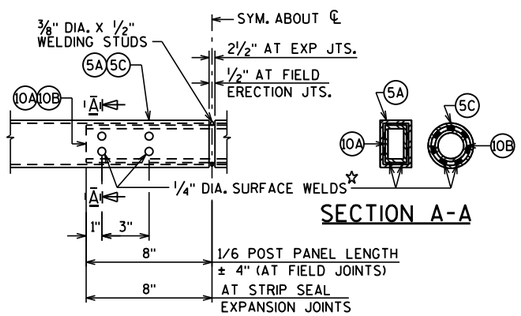
RAIL POST SHIM DETAIL

(2 SETS PER POST)



SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



FIELD ERECTION JOINT DETAIL

☆ MIN. ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

SECTION A-A

STATE PROJECT NUMBER

6844-14-70

LEGEND

(1A) PLATE ⅝" X 6" X 8" WITH ¾" X 1½" SLOTTED HOLES.

(2A) ¼" X 5" X 7" ANCHOR PLATE WITH 11/16 " DIA. HOLES FOR THR'D. RODS NO. 3.

(3) ⅝" DIA. X 9" LONG, TYPE 316 STAINLESS STEEL THREADED RODS (MIN. TENSILE STRENGTH = 70 KSI) WITH NUT AND WASHERS OF SAME ALLOY GROUP. ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS ⅝-INCH. EMBED 7" IN CONCRETE FOR RAIL POSTS. EMBED 5" IN CONCRETE FOR END RAILS. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.

(4A) STRUCTURAL TUBING 3" X 1½" X 3/16". PLACE VERTICAL. WELD TO NO. 1 & 5.

(5A) STRUCTURAL TUBING 3" X 1½" X 3/16" RAILS. WELD TO NO. 1. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.

(5C) STRUCTURAL TUBING 2½" DIA. (STANDARD SIZE) (2.875" O.D.). WELD TO NO. 1. INSIDE OF TUBE TO BE PAINTED AT ALL FIELD ERECTION & EXPANSION JOINTS.

(6A) BAR 1" X 1" PICKETS. WELD TO NO. 5. PLACE VERTICAL.

(9A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. PROVIDE "SLIDING FIT".

(9B) CIRCULAR SLEEVE FABRICATED FROM STRUCTURAL TUBING 2" DIA. (STANDARD SIZE) (2.375" O.D.)

(10A) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL JTS.)

(10B) CIRCULAR SLEEVE FABRICATED FROM STRUCTURAL TUBING 2" DIA. (STANDARD SIZE) (2.375" O.D.) (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL EXP. JTS.)

RAILING NOTES

BID ITEM SHALL BE "RAILING STEEL TYPE C2 B-68-139", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL PLATES, BARS, AND RECTANGULAR SLEEVES SHALL CONFORM TO ASTM A709 GRADE 36. ALL STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET NORMAL TO GRADE.

CUT BOTTOM OF POST TO MAKE POST VERTICAL IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTION.

STEEL SHIMS SHALL BE PROVIDED & USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.

▪ CAULK AROUND PERIMETER OF BASE PLATES, NO. 1, AND FILL BOLT SLOT OPENINGS IN SHIMS AND BASE PLATES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

ALL JOINTS AND RECESSES IN CONCRETE PARAPET ARE TO BE VERTICAL.

ALL MATERIAL (EXCEPT NO. 3 & 12) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS. PAINT OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED FEDERAL COLOR NO. 20059, BROWN.

VENT HOLES SHALL BE DRILLED IN POST AND RAIL MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

TOUCH-UP PAINTING TO BE DONE AT COMPLETION OF STEEL RAILING INSTALLATION TO THE SATISFACTION OF THE ENGINEER AT NO EXTRA COST.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-68-139

DRAWN BY KRO | PLANS CK'D. BRE

COMBINATION RAIL TYPE 'C2'

SHEET 13 OF 13

73

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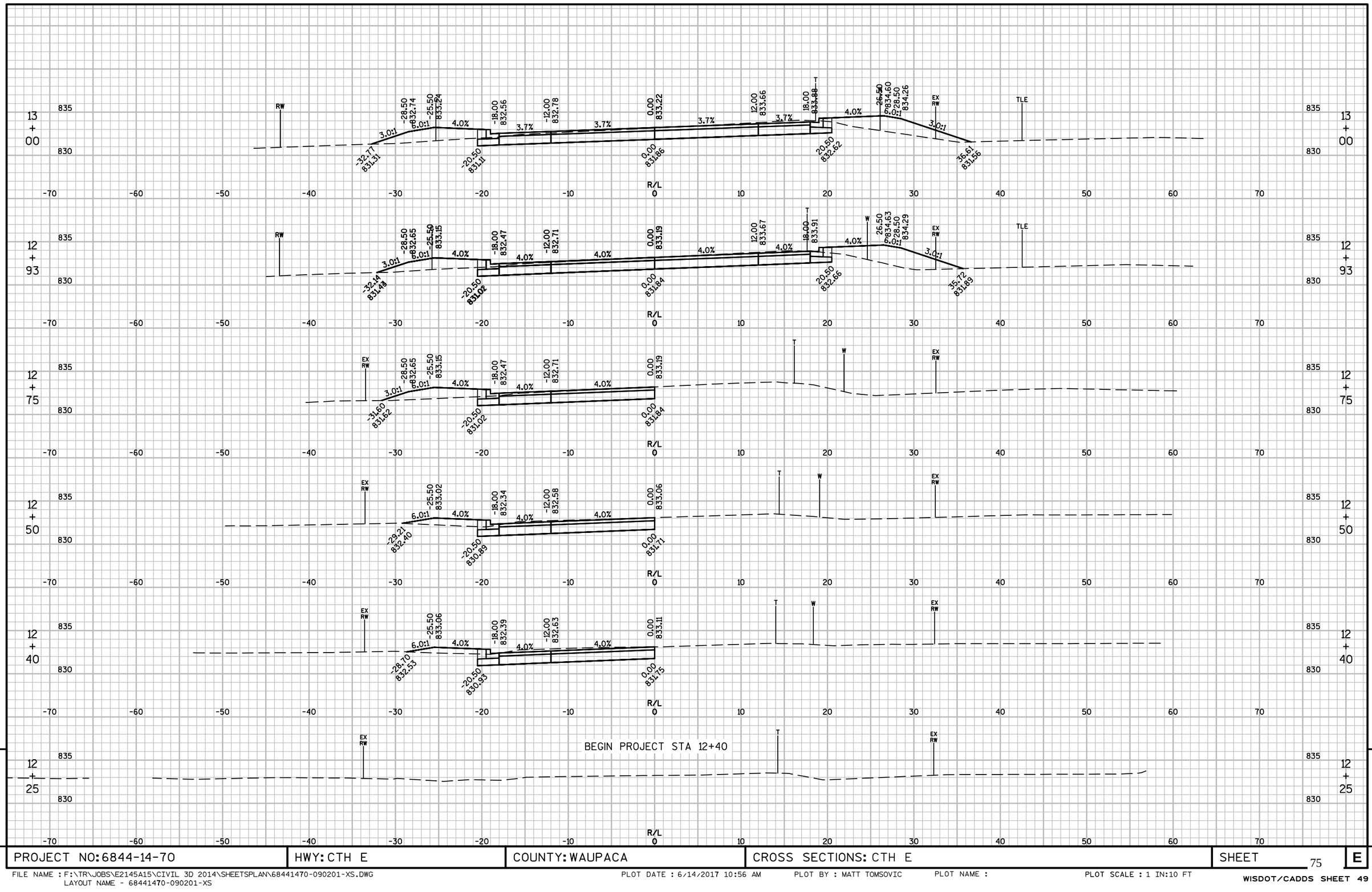
EARTHWORK

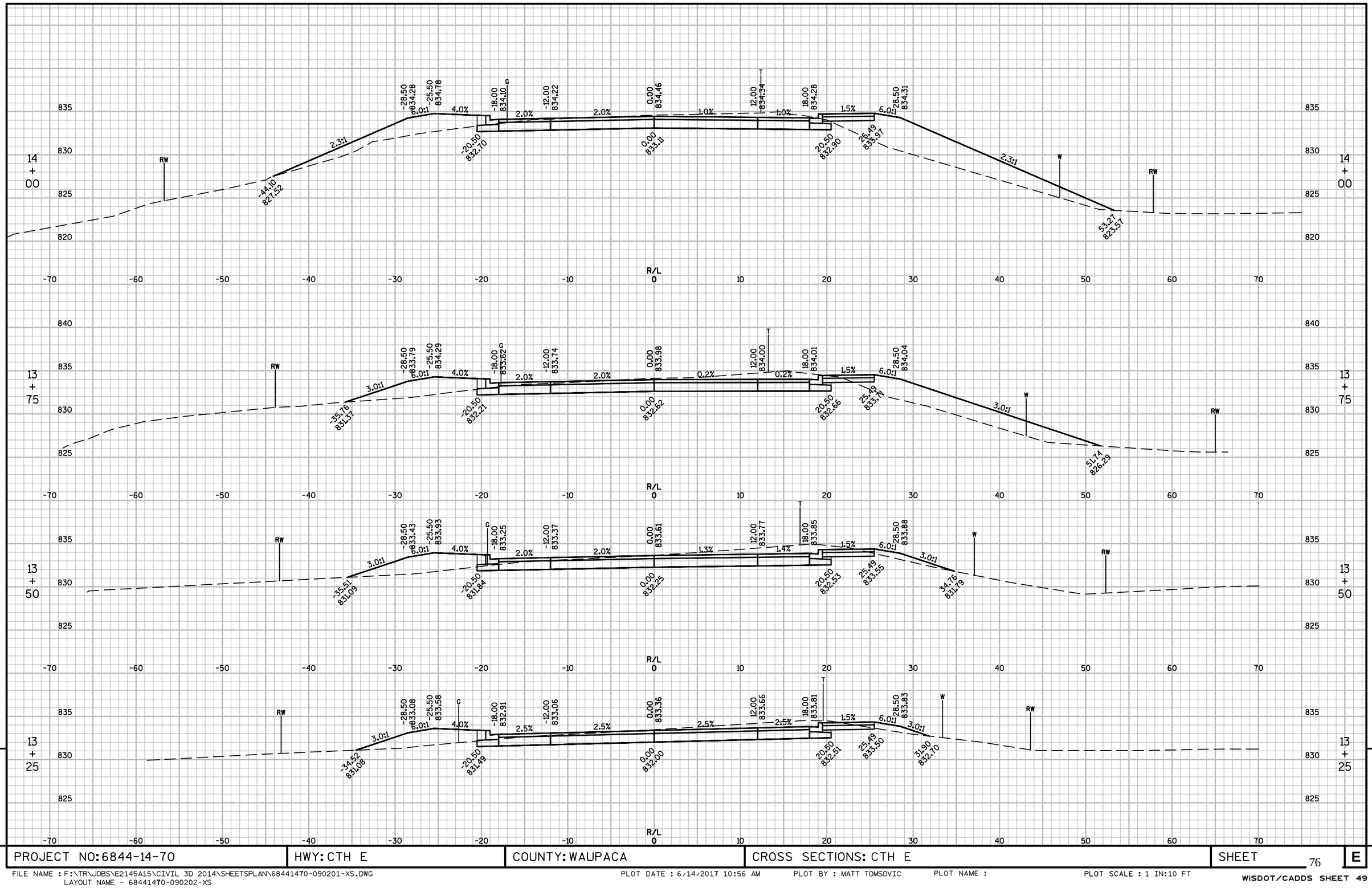
STATION	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		MASS ORDINATE
	CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	
12+40	30.46	4.22	0	0	0	0	0.00
12+50	28.28	5.40	11	2	11	2	8.65
12+75	25.46	10.35	25	7	36	11	24.41
12+93	53.77	33.98	26	15	62	30	32.35
13+00	52.85	33.39	14	9	76	41	35.26
13+25	61.61	22.63	53	26	129	73	55.83
13+50	64.42	27.72	58	23	187	102	85.04
13+75	63.12	70.23	59	45	246	159	87.40
14+00	58.61	101.58	56	80	303	258	44.33
14+22.41	0.00	0.00	0	0	303	258	44.33
STRUCTURE B-68-139							
14+84.8	0.00	0.00	0	0	0	0	0.00
15+00	58.88	55.43	17	16	17	20	-2.93
15+25	70.39	18.73	60	34	76	62	14.00
15+50	78.31	4.69	69	11	145	76	69.29
15+75	78.47	0.30	73	2	218	79	138.98
16+00	73.34	0.05	70	0	288	79	209.06
16+15	69.43	5.55	40	2	328	81	246.77
16+25	53.67	1.52	23	1	351	83	267.93
16+50	51.47	0.03	49	1	399	84	315.71
16+75	51.78	0.23	48	0	447	84	363.36
17+00	50.36	0.17	47	0	494	84	410.41



PROJECT NO: 6844-14-70	HWY: CTH E	COUNTY: WAUPACA	CROSS SECTIONS: CTH E	SHEET 75	E

FILE NAME : F:\TR\JOBS\E2145A15\CIVIL 3D 2014\SHEETSPLAN\68441470-090201-XS.DWG
LAYOUT NAME - 68441470-090201-XS

PLOT DATE : 6/14/2017 10:56 AM PLOT BY : MATT TOMSOVIC PLOT NAME : PLOT SCALE : 1 IN:10 FT



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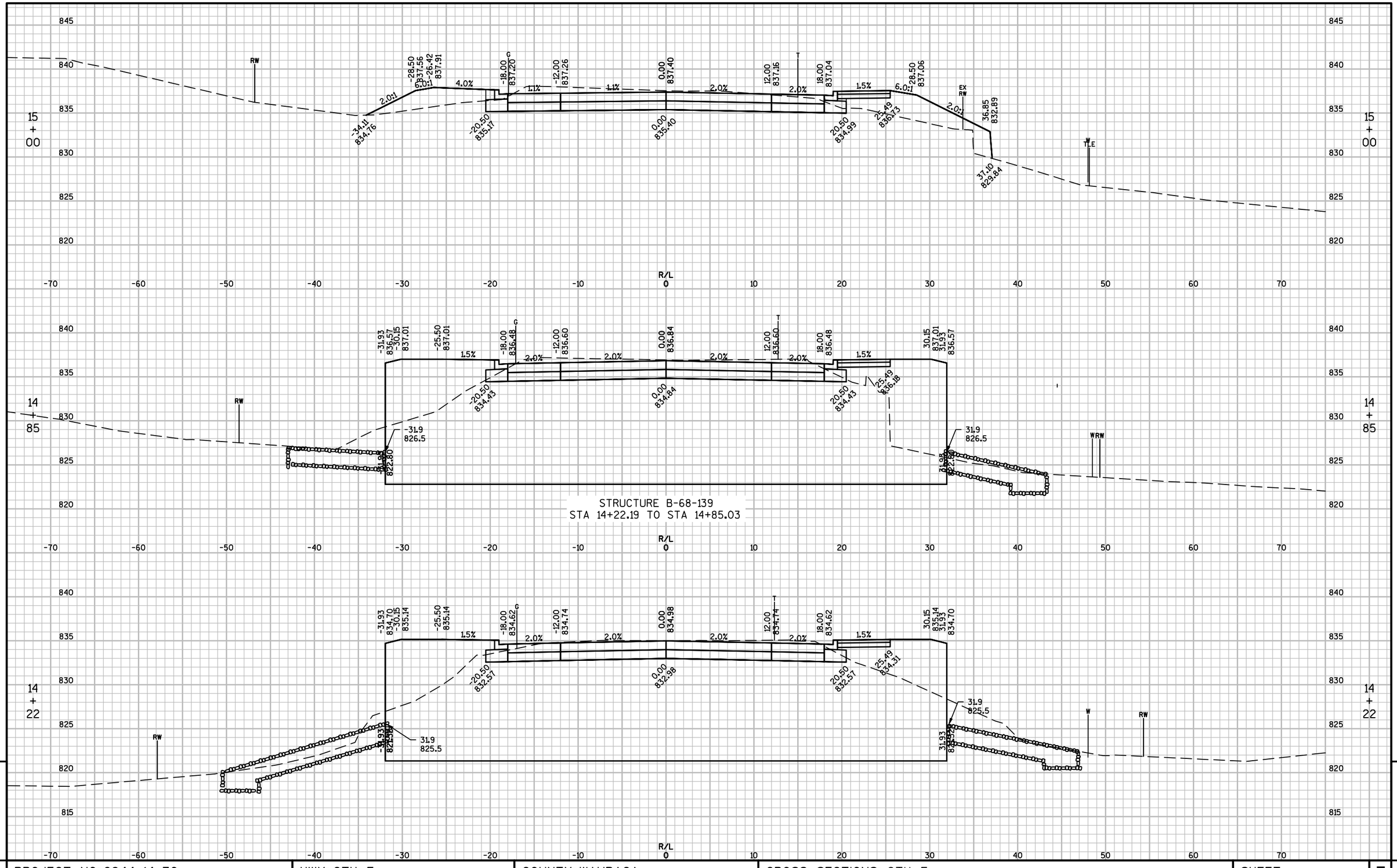
PROJECT NO: 6844-14-70	HWY: CTH E	COUNTY: WAUPACA	CROSS SECTIONS: CTH E	SHEET 76	E



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PROJECT NO: 6844-14-70	HWY: CTH E	COUNTY: WAUPACA	CROSS SECTIONS: CTH E	SHEET 77	E

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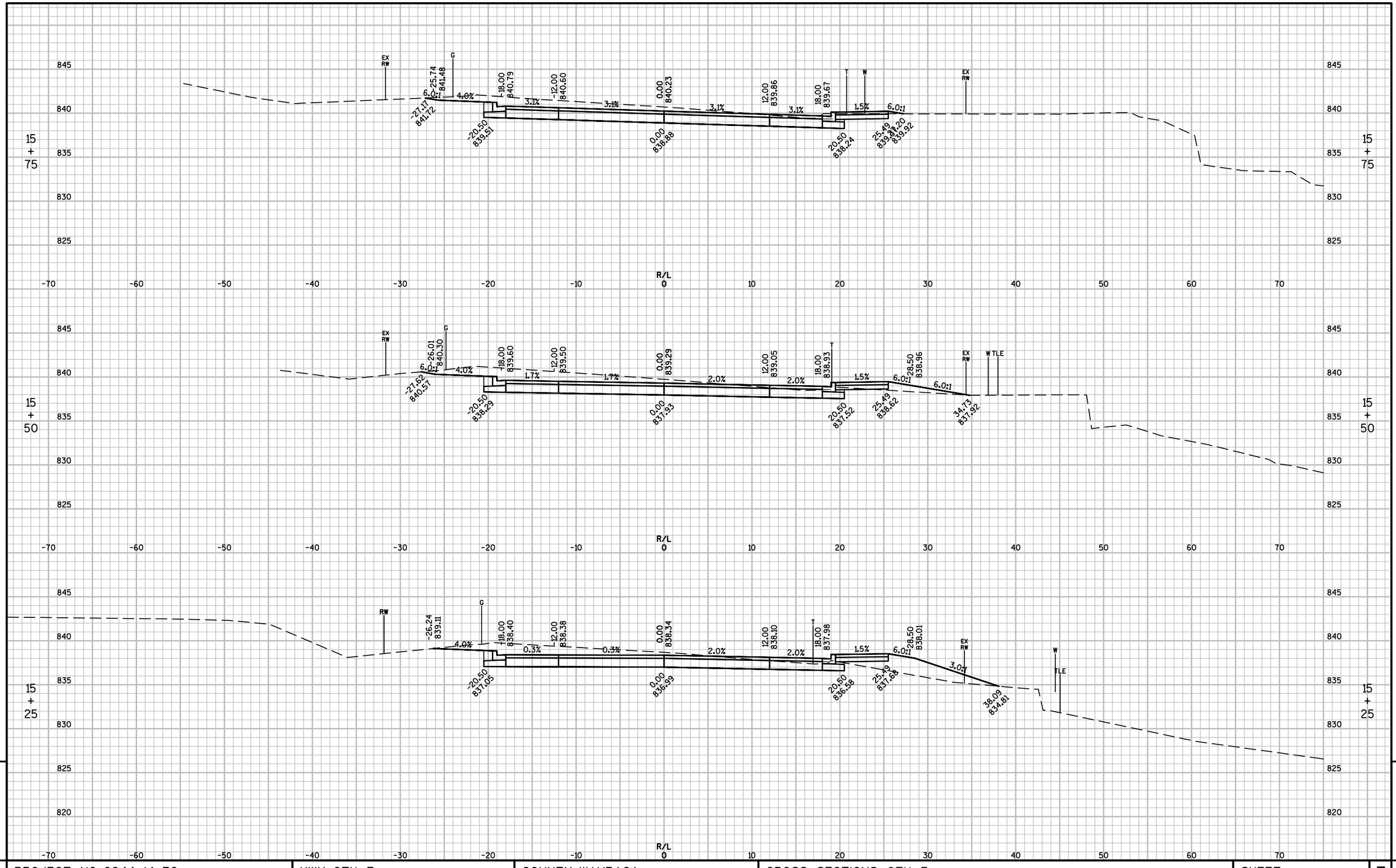
LAYOUT NAME - 68441470-090203-XS

PLOT DATE : 6/14/2017 10:56 AM PLOT BY : MATT TOMSOVIC PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



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PROJECT NO: 6844-14-70	HWY: CTH E	COUNTY: WAUPACA	CROSS SECTIONS: CTH E	SHEET 78	E

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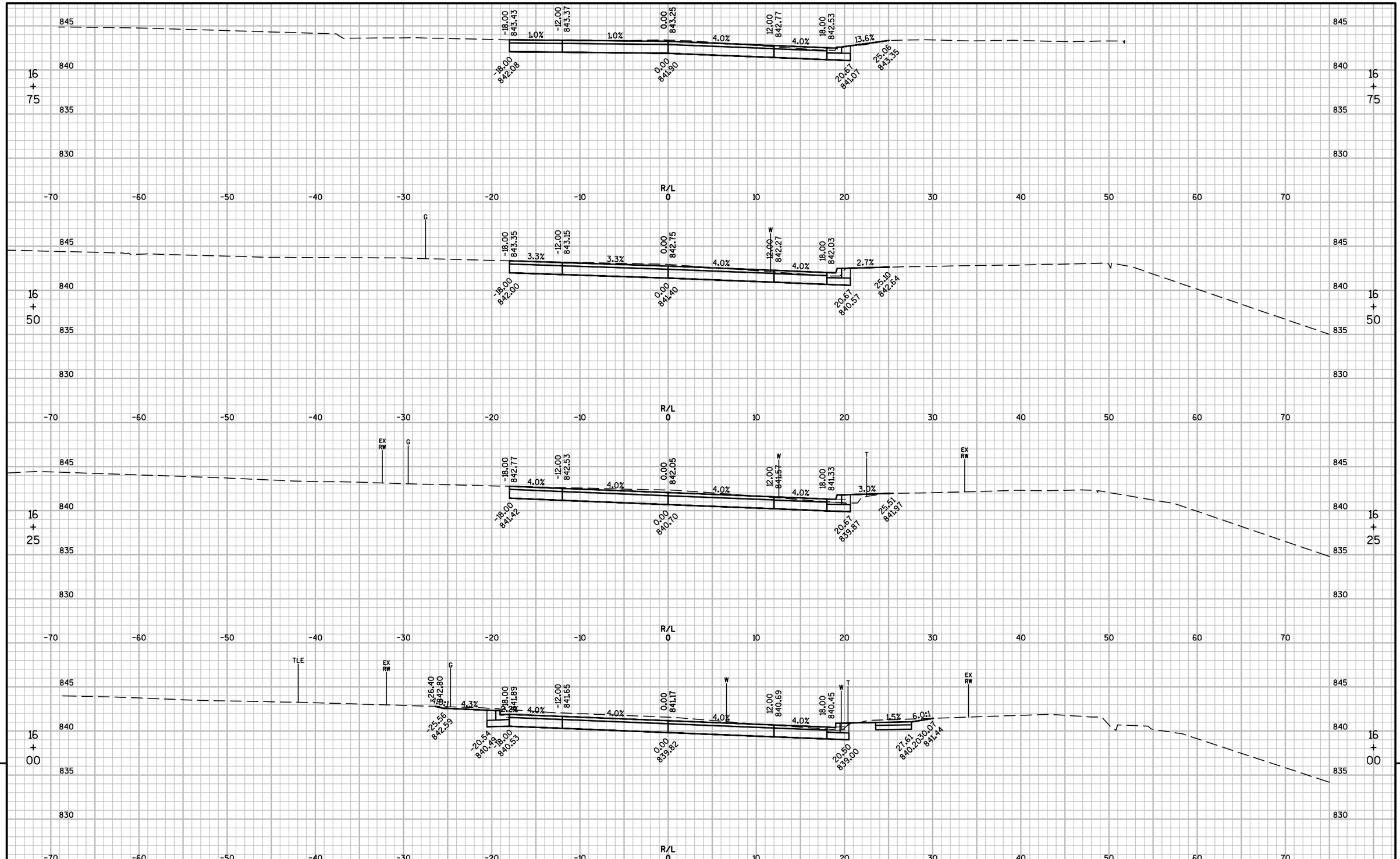

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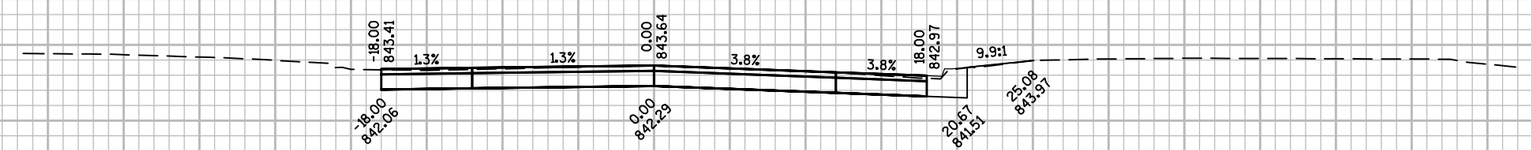
PROJECT NO: 6844-14-70	HWY: CTH E	COUNTY: WAUPACA	CROSS SECTIONS: CTH E	SHEET 79	E

FILE NAME : F:\TR\JOBS\E2145A15\CIVIL 3D 2014\SHEETSPLAN\68441470-090201-XS.DWG
LAYOUT NAME - 68441470-090205-XS
PLOT DATE : 6/14/2017 10:56 AM PLOT BY : MATT TOMSOVIC PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 49

END PROJECT STA 17+00



17 + 00

17 + 00

-70 -60 -50 -40 -30 -20 -10 R/L 0 10 20 30 40 50 60 70

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PROJECT NO: 6844-14-70	HWY: CTH E	COUNTY: WAUPACA	CROSS SECTIONS: CTH E	SHEET 80	E

FILE NAME : F:\TR\JOBS\E2145A15\CIVIL 3D 2014\SHEETSPLAN\68441470-090201-XS.DWG
LAYOUT NAME - 68441470-090206-XS

PLOT DATE : 6/14/2017 10:56 AM PLOT BY : MATT TOMSOVIC PLOT NAME : PLOT SCALE : 1 IN:10 FT

Notes

Wisconsin Department of Transportation

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