GRE

DECEMBER 2017

PROJECT ID: 4308-08-71

WITH: NA

COUNTY: MANITOWOC

ORDER OF SHEETS

TOTAL SHEETS = 40

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T. CENTERVILLE, CENTER ROAD

CENTERVILLE CREEK BRIDGE

LOCAL STREET

MANITOWOC COUNTY

STATE PROJECT NUMBER
4308-08-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4308 08 71	WISC 2018014	1

ACCEPTED FOR

COUNTY OF MANITOWOC

7/17/17 (DATE) (SIGNATURE & TITLE OF OFFICIAL)

LYNCH & ASSOCIATES

ORIGINAL PLANS PREPARED BY

WISCONSIN PROFESSIONAL ENGINEER
RYAN D. ERDMANN
43579
DEPERE
WI

7/17/17 (DATE) (SIGNATURE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor: LYNCH & ASSOCIATES

Designer: LYNCH & ASSOCIATES

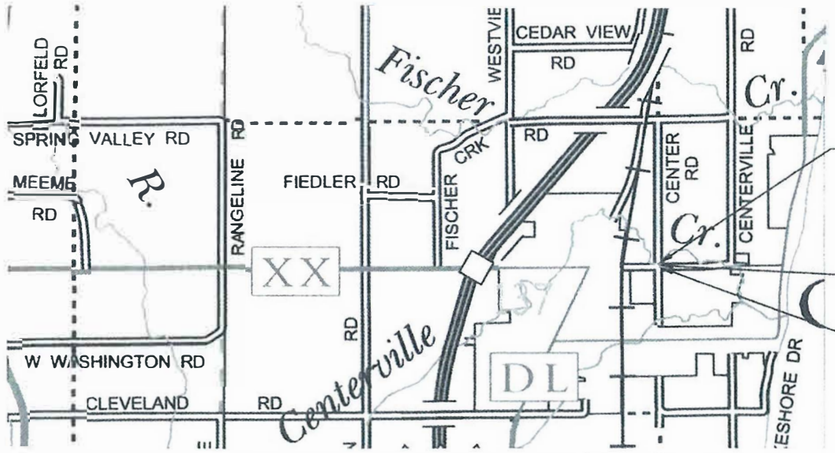
Management Consultant: IT ENGINEERING, INC.

APPROVED FOR THE DEPARTMENT

DATE 7/17/17 (Management Consultant Signature)

E

T-17-N



R-23-E

DESIGN DESIGNATION

A.A.D.T.	2017	=	60
A.A.D.T.	2037	=	70
D.H.V.		=	35
D.D.		=	10%
T		=	9.4%
DESIGN SPEED		=	35 MPH
ESALS		=	7,300

CONVENTIONAL SYMBOLS

PLAN

- WISDOT CLASS I TYPE B URBAN EROSION MAT
- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA
- TURBIDITY BARRIER
- CLEARING AND GRUBBING

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (955.36)
- CULVERT (Profile View)

UTILITIES

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

LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.035 MILES

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

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD-88)

FILE NAME C:\EGNYTE\SHARED\1 PROJECTS\2016\16 4002 MANITOWOC CTY HWY CENTER RD BRIDGE\CAD\SHEETS\43080871_TS.DWG PLOT DATE 6/28/2017 1:16 PM PLOT BY RYAN ERDMANN PLOT NAME

2

GENERAL NOTES

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. CONTRACTOR IS TO CONTACT DIGGERS HOTLINE AND ANY OTHER MUNICIPAL UTILITIES THAT ARE NOT PART OF DIGGERS HOTLINE TO HAVE THEM LOCATE UTILITIES. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE UTILITIES IN THE FIELD.
2. EXISTING ROADWAY REMOVALS SHALL BE NEATLY DELINEATED WITH A SAWCUT THROUGH THE EXISTING PAVEMENT SUCH THAT REMOVAL OF THE PAVEMENT WILL BE ACCOMPLISHED WITHOUT DAMAGE TO THE REMAINING PORTIONS. ANY DAMAGE TO THE REMAINING PORTIONS WILL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
3. NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.
4. TRAFFIC CONTROL LOCATIONS AS SHOWN ON THE PLAN ARE SUGGESTED LOCATIONS. EXACT LOCATIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
5. EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO CONSTRUCTION OPERATIONS. EROSION CONTROL ITEMS ON THE PLANS ARE AT SUGGESTED LOCATIONS. THE EXACT LOCATIONS AND DIMENSIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD. ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER IN THE FIELD DEEMS THE DEVICES NO LONGER NECESSARY.
6. ALL DISTURBED AREAS SHOWN WITHIN THE RIGHT-OF-WAY SHALL RECEIVE TOPSOIL, FERTILIZER TYPE B AND SEED AS DIRECTED BY THE ENGINEER IN THE FIELD.
7. FILL EXPANSION OF EARTHWORK IS ESTIMATED AT 25%.
8. CENTER ROAD WILL BE CLOSED DURING CONSTRUCTION. CONTRACTOR RESPONSIBLE FOR ALL ROAD CLOSURE ITEMS. NO DETOUR WILL BE POSTED.
9. WETLANDS EXISTING IN THE PROJECT AREA. THE CONTRACTOR SHALL NOT DISTURB OUTSIDE OF THE SLOPE INTERCEPTS IN THOSE AREAS.
10. DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATER BODY OR WETLAND.

ABBREVIATIONS

ASPH	ASPHALT PAVEMENT
BAD	BASE AGGREGATE DENSE
BL	BASELINE
BLDG	BUILDING
BOC	BACK OF CURB
CONC	CONCRETE
COR	CORNER
CP	CULVERT PIPE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CSCP	CORRUGATED STEEL CULVERT PIPE
C.E.	COMMERCIAL ENTRANCE
C/L, CL	CENTER LINE
CSW	CONCRETE SIDEWALK
DHV	DESIGN HOURLY VOLUME
V	DESIGN SPEED
DIA	DIAMETER
E	EAST
EB	EASTBOUND
ECIP	EROSION CONTROL IMPLEMENTATION PLAN
EL OR ELEV	ELEVATION
ESAL	EQUIVALENT SINGLE AXLE LOAD
EOP	EDGE OF PAVEMENT
FE	FIELD ENTRANCE
FL	FLOW LINE
FO	FIBER OPTIC
FOC	FACE OF CURB
G	GARAGE
H	HOUSE
HMA	HOT MIX ASPHALT
I.E.	INVERT ELEVATION
D	LANE DISTRIBUTION
L	LENGTH (OF CURVE)
LHF	LEFT HAND FORWARD
LC	LONG CHORD
LP	LOW POINT
LT	LEFT
LTE	LIMITED TEMPORARY EASEMENT
MAR	WETLAND BOUNDARY
NOR	NORMAL
N	NORTH
NC	NORMAL CROWN
OH	OVERHEAD ELECTRIC
T	PERCENT OF TRUCKS
P.E.	PRIVATE ENTRANCE
PGL	PROFILE GRADE LINE
PL	PROPERTY LINE
R	RADIUS
RC	REVERSE CROWN
REQ'D	REQUIRED
RHF	RIGHT HAND FORWARD
RD	ROAD
R/L, RL	REFERENCE LINE
RT	RIGHT
R/W	RIGHT OF WAY
S	SHED
SD	SPECIAL DITCH
SE	SUPER ELEVATION
SHLD	SHOULDER
SS	STORM SEWER
SSPRC	STORM SEWER PIPE REINFORCED
TEL	TELEPHONE
T.L.E.	TEMPORARY LIMITED EASEMENT
TYP	TYPICAL
ULO	UTILITY LINE OPENING
VOL	VOLUME
W	WEST
WB	WESTBOUND

ORDER OF SECTION 2 SHEETS

2

UTILITIES

TDS TELECOM
MR. NICK PINGEL
1140 W WASHINGTON AVE
CLEVELAND, WI 53015
O: 920-428-3234
nick.pingel@tdstelecom.com

We ENERGIES (ELECTRIC)
MR. AL SCHMITT
245 SAND DR.
WEST BEND, WI 53095
O: 262.268.3652
alan.schmitt@we-energies.com

VILLAGE OF CLEVELAND-WATER MAIN
MR. CHRIS JOST
1150 WEST WASHINGTON AVE.
P.O. BOX 87
CLEVELAND, WI 53015
O: 920.693.8236
cjost@clevelandwi.gov

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

DNR LIAISON

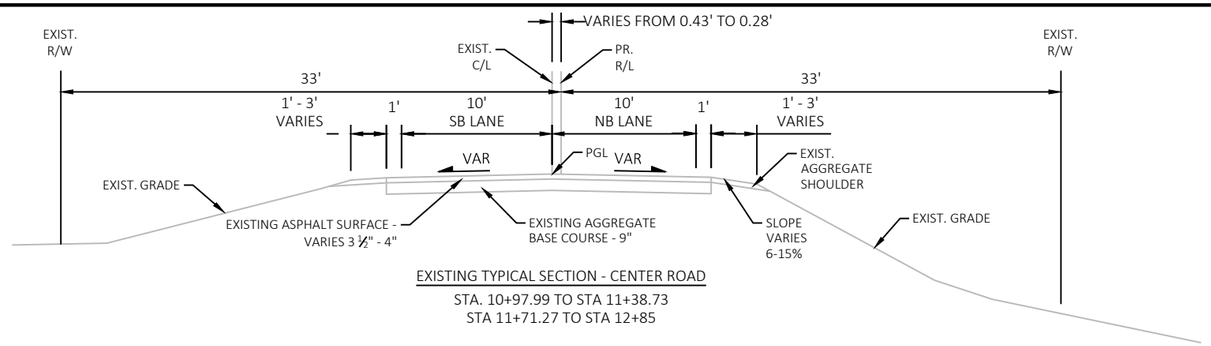
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
NORTHEAST REGION
MR. MATT SCHAEVE
ENVIRONMENTAL ANALYSIS & REVIEW SPECIALIST
2984 SHAWANO AVE.
GREEN BAY, WI 54313
O: 920.366.1544
matthew.schaeve@wisconsin.gov

RUNOFF COEFFICIENT TABLE

	Hydrologic Soil Group											
	A			B			C			D		
	Slope Range (Percent)			Slope Range (Percent)			Slope Range (Percent)			Slope Range (Percent)		
Land Use:	0 - 2	2 - 6	6 & Over	0 - 2	2 - 6	6 & Over	0 - 2	2 - 6	6 & Over	0 - 2	2 - 6	6 & Over
Row Crops	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
Median Strip Turf	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
Side Slope Turf			.25 .32			.27 .34			.28 .36			.30 .38
Pavement												
Asphalt	.70 - .95											
Concrete	.80 - .95											
Brick	.70 - .80											
Drives, Walks	.75 - .85											
Roofs	.75 - .95											
Gravel Roads, Shoulders	.40 - .60											

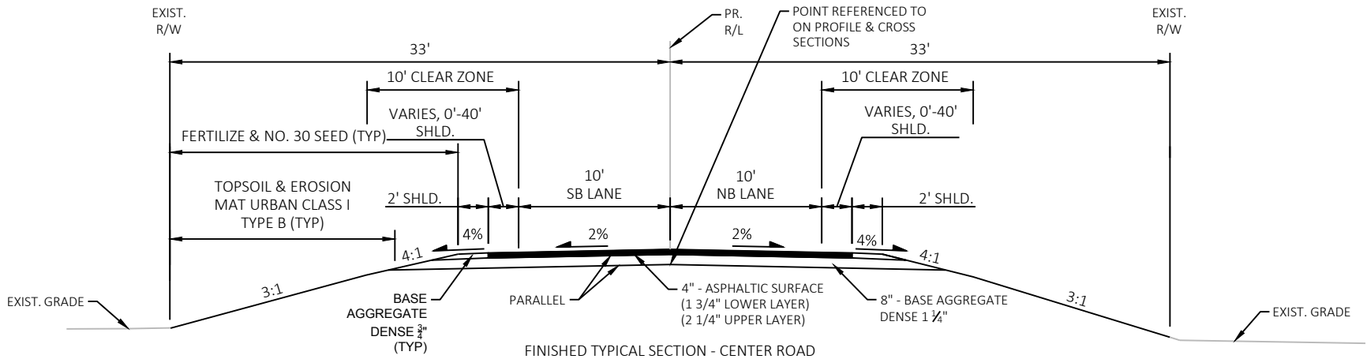
Total Project Area = 0.4 Acres
Total Area Expected To Be Disturbed By Construction Activities = 0.3 Acres

PROJECT NO: 4308-08-71	HWY: CENTER ROAD	COUNTY: MANITOWOC	PLAN: GENERAL NOTES	SHEET - 2	E



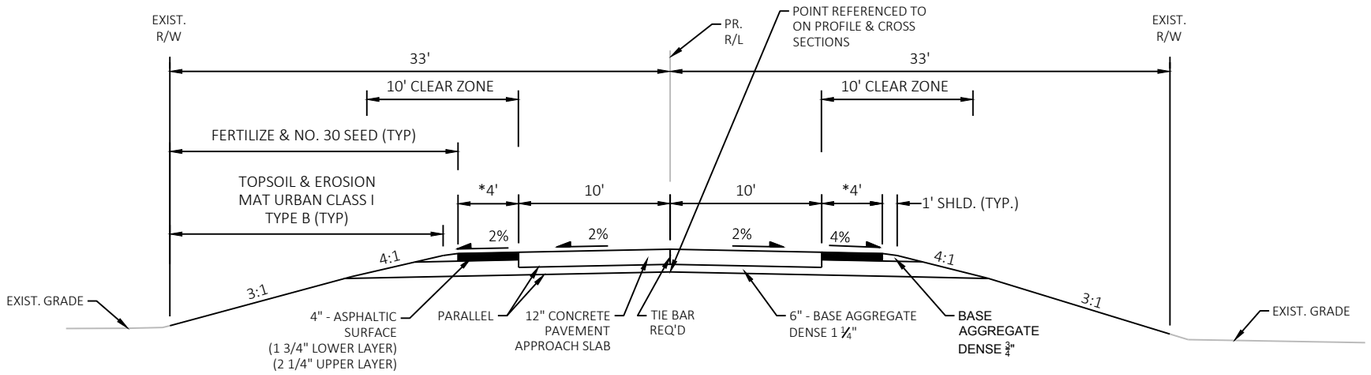
EXISTING TYPICAL SECTION - CENTER ROAD

STA. 10+97.99 TO STA 11+38.73
STA 11+71.27 TO STA 12+85



FINISHED TYPICAL SECTION - CENTER ROAD

STA. 10+97.99 TO STA 11+21.97
STA 11+88.03 TO STA 12+85



FINISHED TYPICAL SECTION - CENTER ROAD

STA. 11+21.97 TO STA 11+38.73*
STA 11+71.27 TO STA 11+88.03

* VARIABLE WIDTH ASPHALT SHOULDER REQUIRED ADJACENT TO CONCRETE PAVEMENT TO CREATE RADIUS, SEE PLAN & PROFILE SHEET

PROJECT NO: 4308-08-71	HWY: CENTER ROAD	COUNTY: MANITOWOC	PLAN: TYPICAL SECTIONS	SHEET - 3	E

2

N

NORTH AVE.

R/W

DITCH CHECK

DITCH CHECKS

TLE

TDS TELECOM

WE ENERGIES

SILT FENCE (TYP.)

R/W

LIMITS OF RIP-RAP (TYP.)

TRACKING PAD

TRACKING PAD

11+00

12+00

13+00

CENTER RD.

STA 10+98
BEGIN PAVEMENT CONSTRUCTION
X: 211549.25
Y: 238718.61

STA 12+85
END PAVEMENT CONSTRUCTION
END PAVED SHOULDER

R/W

SILT FENCE (TYP.)

DITCH CHECK

TLE

TURBIDITY BARRIER
Q_2 EL. = 619.65

DITCH CHECK

EXISTING EDGE OF WATER

R/W

CENTERVILLE CREEK FLOWLINE

PROJECT NO: 4308-08-71	HWY: CENTER ROAD	COUNTY: MANITOWOC	GRADING DETAIL & EROSION CONTROL PLAN	SHEET - 4	E

FILE NAME : C:\EGNYTE\SHARED\1 - PROJECTS\2016\16.4002 MANITOWOC CTY HWY-CENTER RD BRIDGE\CAD\SHEETS\43080871_GR.DWG
LAYOUT NAME - - GRADING DETAIL & EROSION CONTROL PLAN
PLOT DATE : 6/28/2017 1:24 PM PLOT BY : RYAN ERDMANN PLOT NAME : PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

EEK RD

Fischer Creek

FISHER CREEK RD

WESTVIEW RD

43

SEE SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURE NO POSTED DETOUR 15C2, DETAIL C

SEE SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURE NO POSTED DETOUR 15C2, DETAIL C

DAIRYLAND DR

CENTER RD

CENTERVILLE RD

N

SEE SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURE NO POSTED DETOUR 15C2, DETAIL C

WORK ZONE

SEE SDD BARRICADES & SIGNS FOR SIDEROAD CLOSURES 15C3, DETAIL 2

NORTH AVE

N WESTVIEW ST

ALPINE CT

PARKWAY ST

JUNIPER ST

HAZEL ST

Dairyland Park

E MADISON

RST

1 ROAD CLOSED AHEAD W20-3A 48" x48"

2 ROAD CLOSED 1000 FT W20-3C 48" x48"

3 ROAD CLOSED 500 FT W20-3D 48" x48"

4 R11-3C 60" x 30" BRIDGE OUT 1 MILE AHEAD

5 R11-2B 48" x 30" BRIDGE OUT

6 ROAD WORK AHEAD W20-1A 48" x48"

2

PROJECT NO: 4308-08-71	HWY: CENTER ROAD	COUNTY: MANITOWOC	TRAFFIC CONTROL PLAN	SHEET 5	E

FILE NAME : C:\EGNYTE\SHARED\1 - PROJECTS\2016\16.4002 MANITOWOC CTY HWY-CENTER RD BRIDGE\CAD\SHEETS\43080871_TCP.DWG
LAYOUT NAME - TRAFFIC CONTROL PLAN

PLOT DATE : 6/28/2017 1:28 PM PLOT BY : RYAN ERDMANN PLOT NAME : PLOT SCALE : 1:750

WISDOT/CADDS SHEET 42

4308-08-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0500.S	Removing Old Structure Over Waterway (station) 01. 11+58.6	LS	1.000	1.000
0008	205.0100	Excavation Common **P**	CY	183.000	183.000
0010	206.1000	Excavation for Structures Bridges (structure) 01. B-36-0221	LS	1.000	1.000
0012	210.1500	Backfill Structure Type A	TON	340.000	340.000
0014	213.0100	Finishing Roadway (project) 01. 4308-08-71	EACH	1.000	1.000
0016	305.0110	Base Aggregate Dense 3/4-Inch	TON	35.000	35.000
0018	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	251.000	251.000
0020	415.0410	Concrete Pavement Approach Slab	SY	75.000	75.000
0022	455.0605	Tack Coat	GAL	26.000	26.000
0024	465.0105	Asphaltic Surface	TON	105.000	105.000
0026	502.0100	Concrete Masonry Bridges	CY	127.000	127.000
0028	502.3200	Protective Surface Treatment	SY	163.000	163.000
0030	505.0400	Bar Steel Reinforcement HS Structures	LB	4,880.000	4,880.000
0032	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	13,690.000	13,690.000
0034	511.1200	Temporary Shoring (structure) 01. B-36-0221	SF	120.000	120.000
0036	513.4061	Railing Tubular Type M (structure) 01. B-36-0221	LF	68.000	68.000
0038	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0040	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	560.000	560.000
0042	606.0300	Riprap Heavy	CY	140.000	140.000
0044	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	180.000	180.000
0046	619.1000	Mobilization	EACH	1.000	1.000
0048	624.0100	Water	MGAL	4.000	4.000
0050	625.0100	Topsoil	SY	776.000	776.000
0052	628.1504	Silt Fence	LF	386.000	386.000
0054	628.1520	Silt Fence Maintenance	LF	386.000	386.000
0056	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0058	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0060	628.2008	Erosion Mat Urban Class I Type B	SY	776.000	776.000
0062	628.6005	Turbidity Barriers	SY	130.000	130.000
0064	628.7504	Temporary Ditch Checks	LF	60.000	60.000
0066	628.7560	Tracking Pads	EACH	2.000	2.000
0068	628.7570	Rock Bags	EACH	25.000	25.000
0070	629.0210	Fertilizer Type B	CWT	0.500	0.500
0072	630.0130	Seeding Mixture No. 30	LB	15.000	15.000
0074	630.0200	Seeding Temporary	LB	21.000	21.000
0076	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	5.000	5.000

4308-08-71

Line	Item	Item Description	Unit	Total	Qty
0078	637.2230	Signs Type II Reflective F	SF	21.000	21.000
0080	638.2102	Moving Signs Type II	EACH	1.000	1.000
0082	638.2602	Removing Signs Type II	EACH	6.000	6.000
0084	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0086	642.5001	Field Office Type B	EACH	1.000	1.000
0088	643.0300	Traffic Control Drums	DAY	600.000	600.000
0090	643.0420	Traffic Control Barricades Type III	DAY	960.000	960.000
0092	643.0900	Traffic Control Signs	DAY	840.000	840.000
0094	643.0920	Traffic Control Covering Signs Type II	EACH	4.000	4.000
0096	643.5000	Traffic Control	EACH	1.000	1.000
0098	645.0111	Geotextile Type DF Schedule A	SY	90.000	90.000
0100	645.0120	Geotextile Type HR	SY	280.000	280.000
0102	650.4500	Construction Staking Subgrade	LF	156.000	156.000
0104	650.5000	Construction Staking Base	LF	156.000	156.000
0106	650.6500	Construction Staking Structure Layout (structure) 01. B-36-221	LS	1.000	1.000
0108	650.9910	Construction Staking Supplemental Control (project) 01. 4308-08-71	LS	1.000	1.000
0110	650.9920	Construction Staking Slope Stakes	LF	156.000	156.000
0112	690.0150	Sawing Asphalt	LF	122.000	122.000
0114	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0116	715.0502	Incentive Strength Concrete Structures	DOL	768.000	768.000
0118	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	150.000	150.000
0120	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000

CLEARING AND GRUBBING

STATION	to	STATION	LOCATION	CLEARING 201.0105 STA	GRUBBING 201.0205 STA
11+83	-	12+85	CENTER RD, LT & RT	2	2
			TOTAL	**2**	**2**

Division	From/To Station	Location	Common Excavation (1) (item # 205.0100) Cut (2)	EBS Excavation (3)	Salvaged/Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill Factor 1.25	Mass Ordinate +/- (6)	Waste
1	10+98 - 11+55	Center Rd.	71	0	22	49	7	9	40	
Division 1 Subtotal			71	0	22	49	7	9	40	40
2	11+55 - 12+76	Center Rd.	92	0	32	60	45	56	5	
Division 2 Subtotal			92	0	32	60	45	56	5	5
Undistributed		Center Rd.		20						
Grand Total			163	20	54	109	52	65	45	45
			Total Common Exc	183						

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with cut.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusable Pavement Material
6) 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.

BASE AGGREGATE DENSE

STATION	to	STATION	LOCATION	3/4-INCH 305.0110 TON	1 1/4-INCH 305.0120 TON	WATER 624.0100 MGAL
10+98	-	11+22	CENTER RD	12	50	1
11+22	-	11+39	CENTER RD	2	22	1
11+71	-	11+88	CENTER RD	2	20	1
11+88	-	12+96	CENTER RD	19	160	1
			TOTAL	**35**	**251**	**4**

CONCRETE PAVEMENT

STATION	to	STATION	CATEGORY	LOCATION	APPROACH SLAB 415.0410 SY
11+22	-	11+39	0030	CENTER RD	37
11+71	-	11+88	0030	CENTER RD	37
				TOTAL	**75**

ASPHALT PAVEMENT SUMMARY

STATION	to	STATION	LOCATION	TACK COAT 455.0605 GAL	ASPHALTIC SURFACE 465.0105 TON
10+89	-	11+22	CENTER RD	10	39
11+88	-	12+76	CENTER RD	16	66
			TOTAL	**26**	**105**

EROSION CONTROL

STATION	to	STATION	LOCATION	TOPSOIL 625.0100 SY	SILT FENCE 628.1504 LF	SILT FENCE MAINTENANCE 628.1520 LF	EROSION MAT URBAN CLASS I TYPE B 628.2008 SY	TURBIDITY BARRIER 628.6005 SY	TEMPORARY DITCH CHECKS 628.7504 LF	TRACKING PADS 628.7560 EACH	ROCK BAGS 628.7570 EACH	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIXTURE NO. 30 630.0130 LB	SEEDING TEMPORARY 630.0200 LB
10+98	-	11+50	CENTER RD, LT	70	45	45	70	34	10	1	-	0.05	1	2
10+98	-	11+50	CENTER RD, RT	100	72	72	100	29	10	-	-	0.05	2	3
11+50	-	12+76	CENTER RD, LT	216	128	128	216	42	10	-	-	0.15	4	6
11+50	-	12+76	CENTER RD, RT	235	140	140	235	25	10	1	-	0.15	4	6
UNDISTRIBUTED				155	-	-	155	-	20	-	25	0.10	4	4
			TOTAL	**776**	**386**	**386**	**776**	**130**	**60**	**2**	**25**	**0.5**	**15**	**21**

ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE SPECIFIED.

3

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 EACH
PROJECT 4308-08-71	5
TOTAL	**5**

MOBILIZATIONS EMERGENCY EROSION CONTROL

LOCATION	628.1910 EACH
PROJECT 4308-08-71	3
TOTAL	**3**

PERMANENT SIGNING

STATION	LOCATION	POSTS WOOD 4X6-INCH X 12-FT 634.0612 EACH	SIGNS TYPE II RELECTIVE TYPE F 637.2230 SF	MOVING SIGNS TYPE II 638.2102 EACH	SIGN CODE
11+20	CENTER RD, LT	-	-	1	R1-1
11+36	CENTER RD, LT	1	3	-	W5-52L
11+41	CENTER RD, RT	1	3	-	W5-52R
11+69	CENTER RD, LT	1	3	-	W5-52R
11+74	CENTER RD, RT	1	3	-	W5-52L
16+15	CENTER RD, LT	1	9	-	W3-1
	TOTAL	**5**	**21**	**1**	

REMOVING SIGNS

STATION	LOCATION	REMOVING SIGNS TYPE II 638.2602 EACH	REMOVING SMALL SIGN SUPPORTS 638.3000 EACH	REMARKS
11+40	CENTER RD, RT	1	1	15 TON SIGN
11+44	CENTER RD, LT	1	1	BRIDGE HASH MARKS
11+45	CENTER RD, RT	1	1	BRIDGE HASH MARKS
11+71	CENTER RD, LT	1	1	BRIDGE HASH MARKS
11+71	CENTER RD, RT	1	1	BRIDGE HASH MARKS
11+71	CENTER RD, RT	1	1	15 TON SIGN
	TOTAL	**6**	**6**	

TRAFFIC CONTROL

LOCATION	DAYS	DRUMS 643.0300 DAY	BARRICADES TYPE III 643.0420 DAY	SIGNS 643.0900 DAY	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 # of CYCLES	EACH	REMARKS
FISHER CREEK RD	60	-	-	-	1	2	ADVANCED NOTICE "CENTER ROAD" SIGNS
NORTH AVE.	60	600	-	120	1	2	ADVANCED NOTICE "CENTER ROAD" SIGNS
PROJECT 4308-08-71	60	-	960	720	-	-	
TOTAL	**60**	**600**	**960**	**840**		**4**	

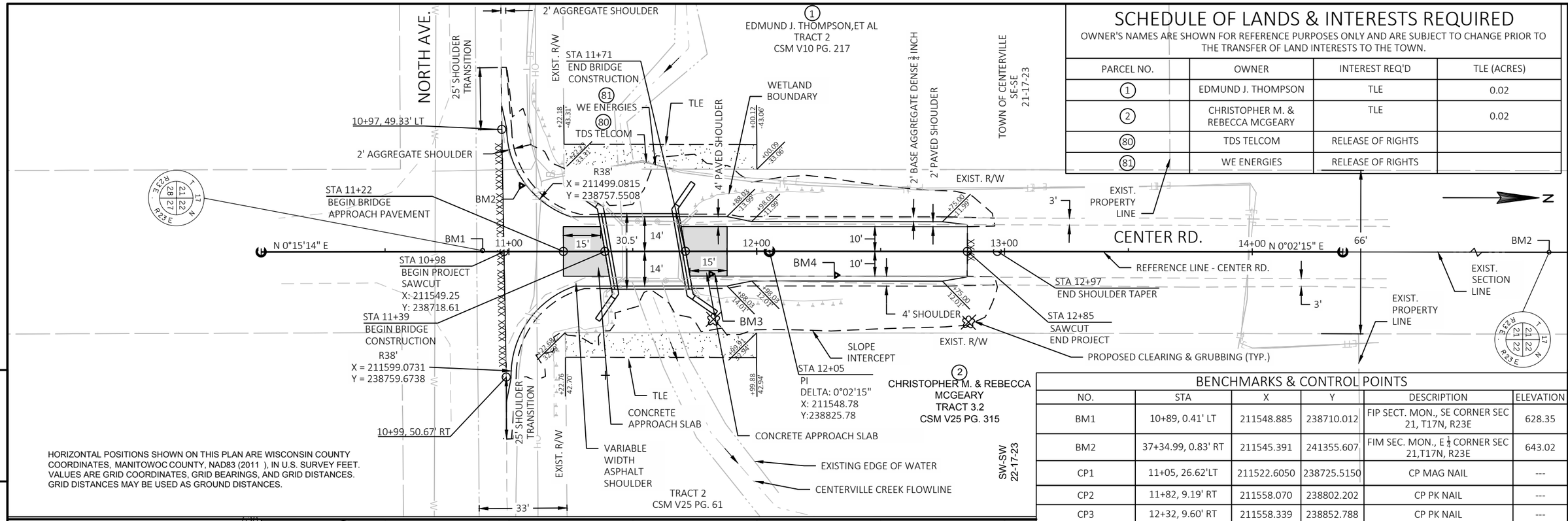
CONSTRUCTION STAKING

STATION	to	STATION	LOCATION	SUBGRADE 650.4500 LF	BASE 650.5000 LF	STRUCTURE LAYOUT 650.6500 LS	SUPPLEMENTAL CONTROL 650.9910 LS	SLOPE STAKES 650.9920 LF
10+98	-	11+39	CENTER RD	41	41	-	-	41
11+39	-	11+70	CENTER RD	-	-	1	-	-
11+70	-	12+85	CENTER RD	115	115	-	-	115
PROJECT 4308-08-71				-	-	-	1	-
			TOTAL	**156**	**156**	**1**	**1**	**156**

SAWING ASPHALT

STATION	LOCATION	690.0150 LF
10+89	CENTER RD	100
12+85	CENTER RD	22
	TOTAL	**122**

ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE SPECIFIED.



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

SCHEDULE OF LANDS & INTERESTS REQUIRED

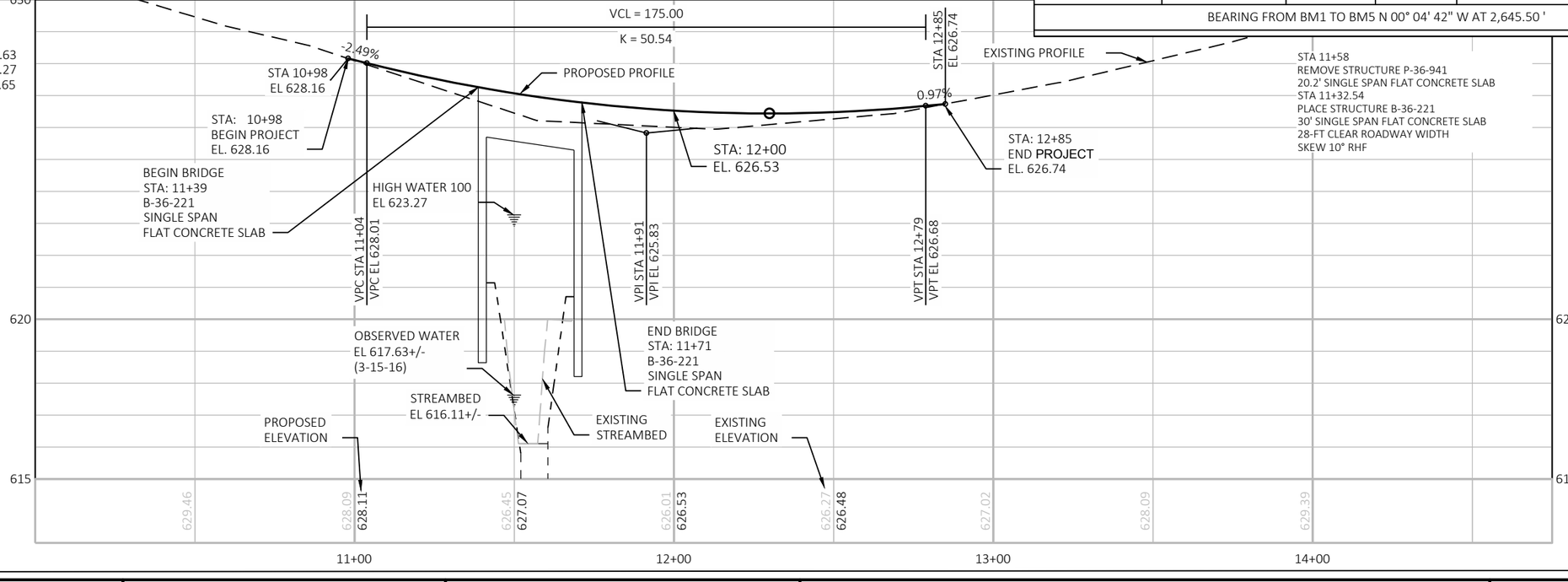
OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE TOWN.

PARCEL NO.	OWNER	INTEREST REQ'D	TLE (ACRES)
1	EDMUND J. THOMPSON	TLE	0.02
2	CHRISTOPHER M. & REBECCA MCGEARY	TLE	0.02
80	TDS TELCOM	RELEASE OF RIGHTS	
81	WE ENERGIES	RELEASE OF RIGHTS	

BENCHMARKS & CONTROL POINTS

NO.	STA	X	Y	DESCRIPTION	ELEVATION
BM1	10+89, 0.41' LT	211548.885	238710.012	FIP SECT. MON., SE CORNER SEC 21, T17N, R23E	628.35
BM2	37+34.99, 0.83' RT	211545.391	241355.607	FIM SEC. MON., E ¼ CORNER SEC 21,T17N, R23E	643.02
CP1	11+05, 26.62'LT	211522.6050	238725.5150	CP MAG NAIL	---
CP2	11+82, 9.19' RT	211558.070	238802.202	CP PK NAIL	---
CP3	12+32, 9.60' RT	211558.339	238852.788	CP PK NAIL	---
BEARING FROM BM1 TO BM5 N 00° 04' 42" W AT 2,645.50 '					

HYDRAULIC DATA:
100 YEAR FREQUENCY
OBSERVED WATER ELEVATION:-----617.63
HIGH WATER$_{100}$ ELEVATION:---------623.27
Q_2 ELEVATION(120 C.F.S):----------619.65



PROJECT NO: 4308-08-71	HWY: CENTER ROAD	COUNTY: MANITOWOC	PLAN AND PROFILE: CENTER ROAD	SHEET -

E

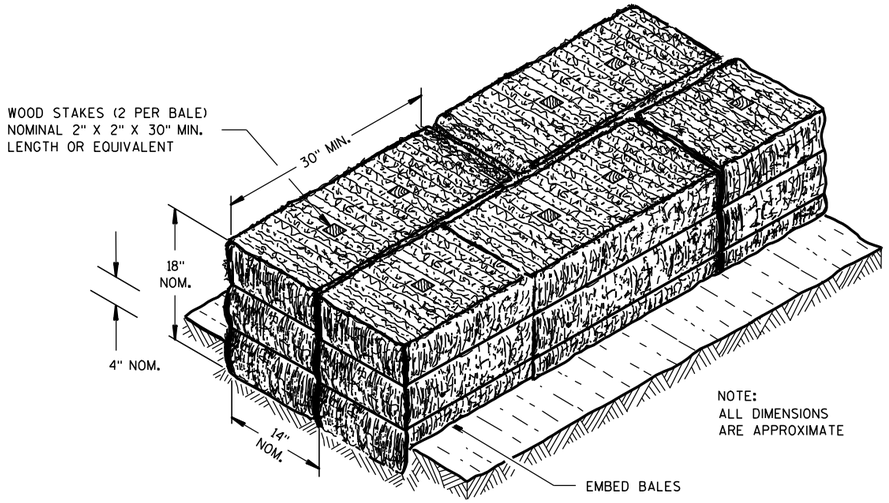
FILE NAME : C:\EGNYTE\SHARED\1 - PROJECTS\2016\16.4002 MANITOWOC CTY HWY-CENTER RD BRIDGE\CAD\SHEETS\43080871_PP.DWG
LAYOUT NAME - 5 CENTER ROAD PLAN & PROFILE

PLOT DATE : 7/11/2017 11:17 AM PLOT BY : RYAN ERDMANN PLOT NAME : PLOT SCALE : 1 IN:40 FT

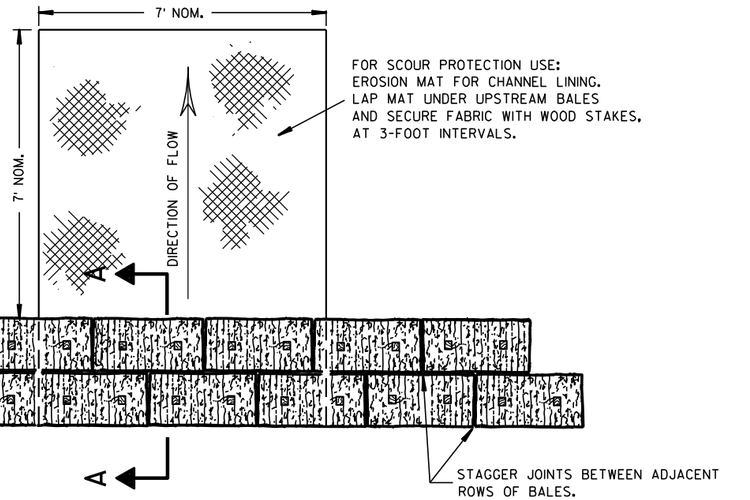
Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
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
15C03-03	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C06-08	SIGNING & MARKING FOR TWO LANE BRIDGES

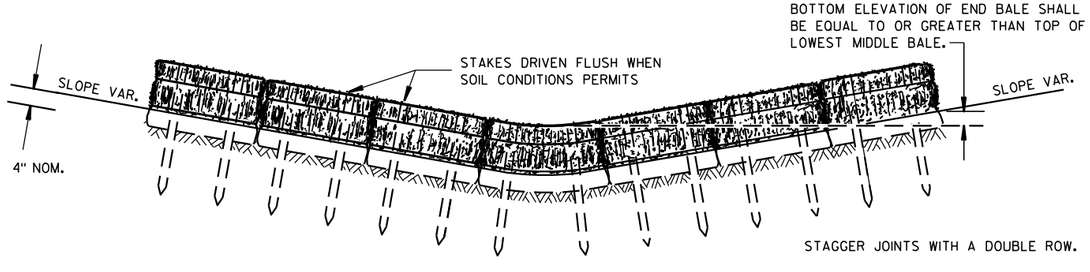
6



SECTION A-A



PLAN VIEW



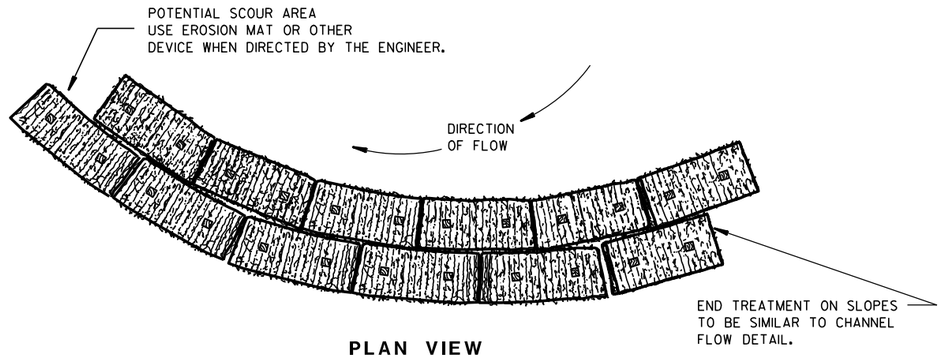
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

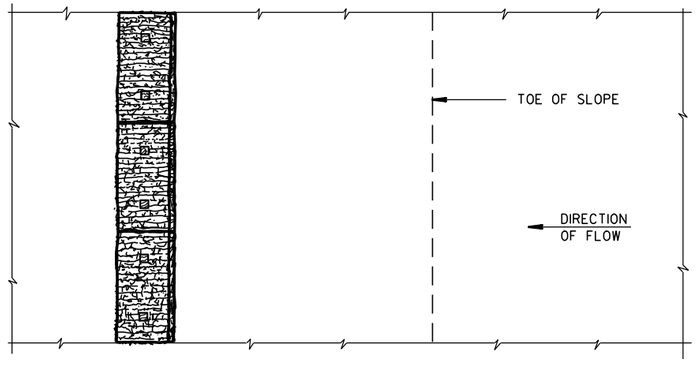
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

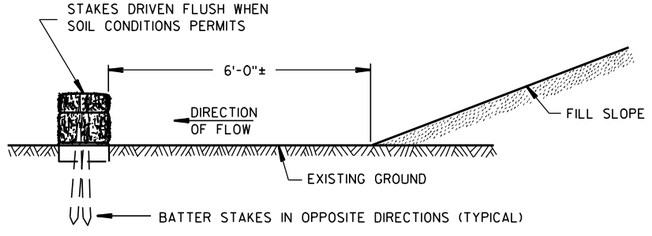


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

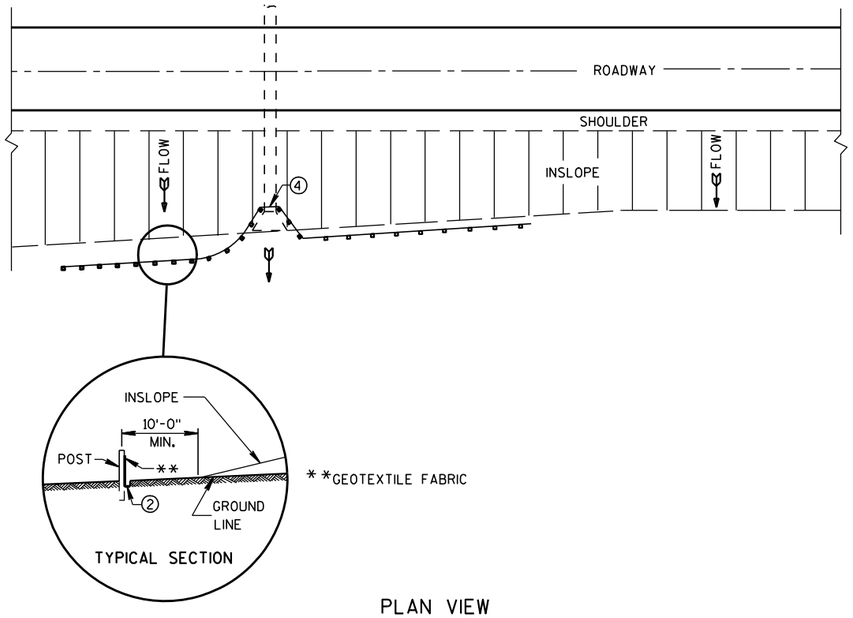
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

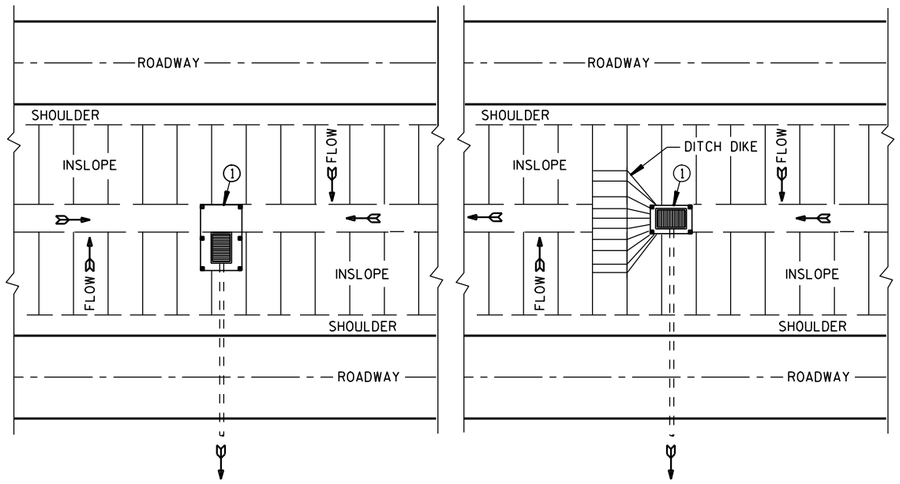
6

S.D.D. 8 E 8-3



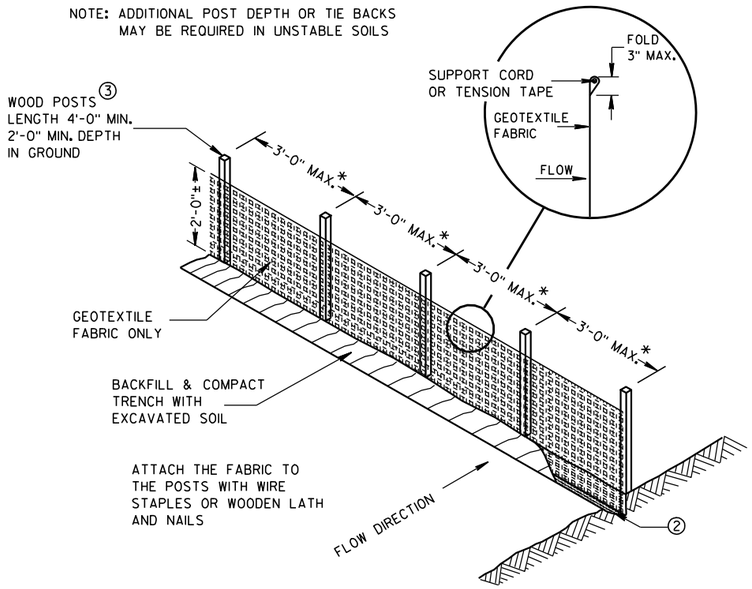
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



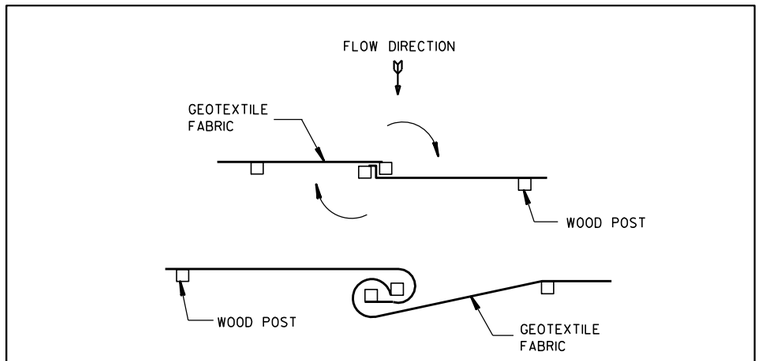
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

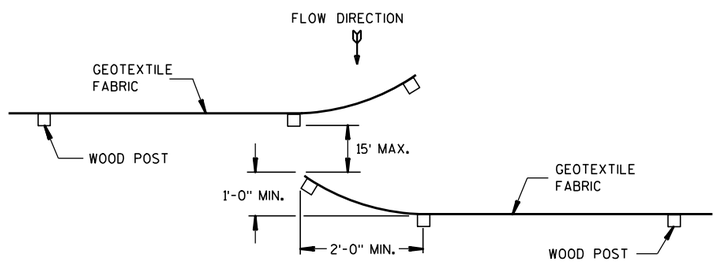


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE



TWIST METHOD



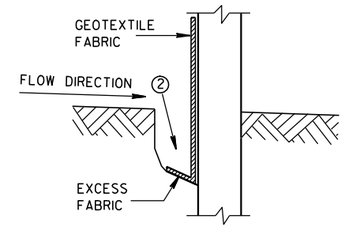
HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5

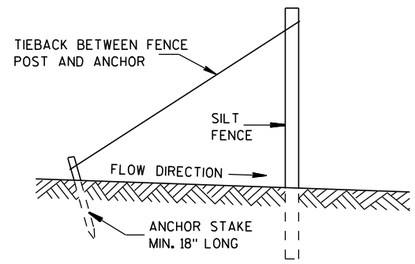
GENERAL NOTES

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)

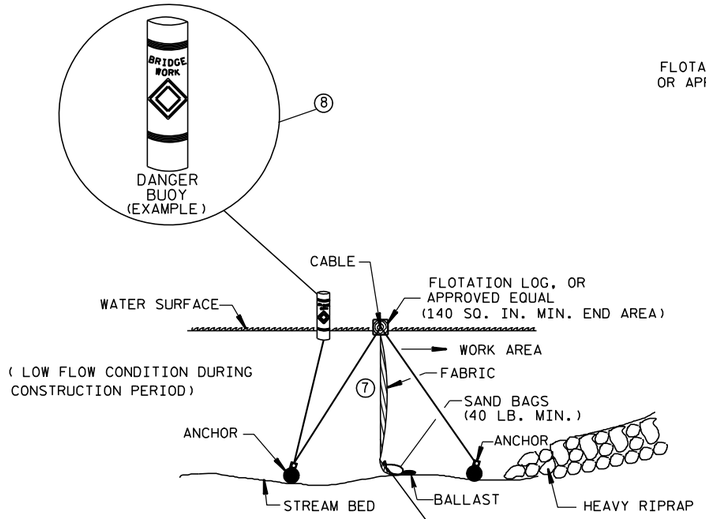
SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

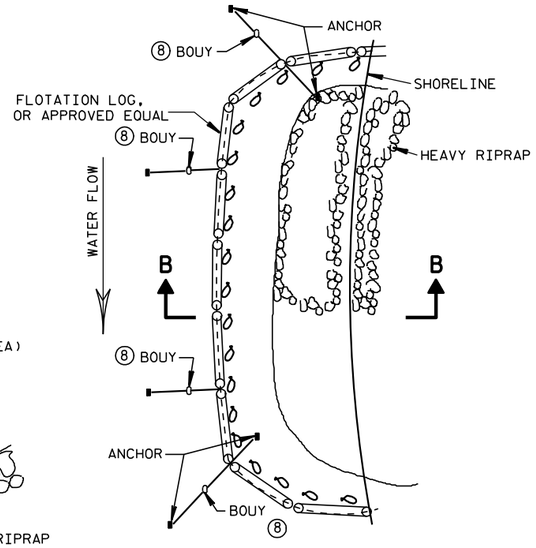
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

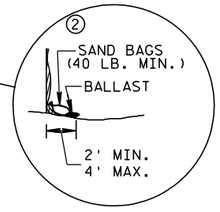
S.D.D. 8 E 9-6

S.D.D. 8 E 9-6

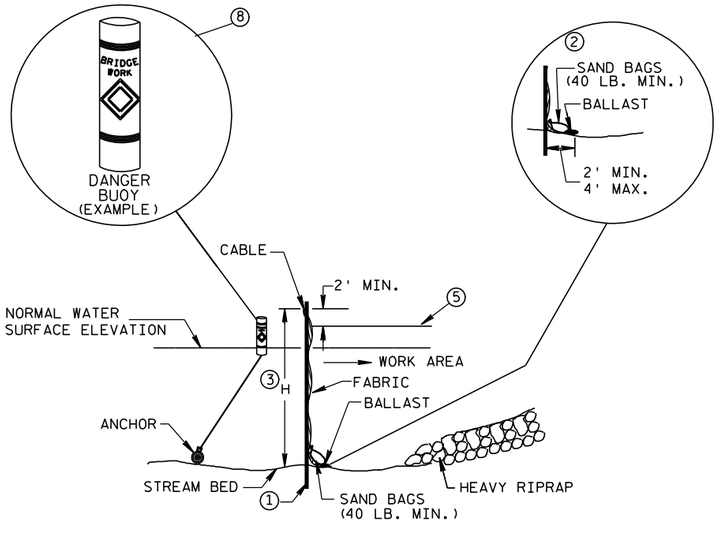


SECTION B-B

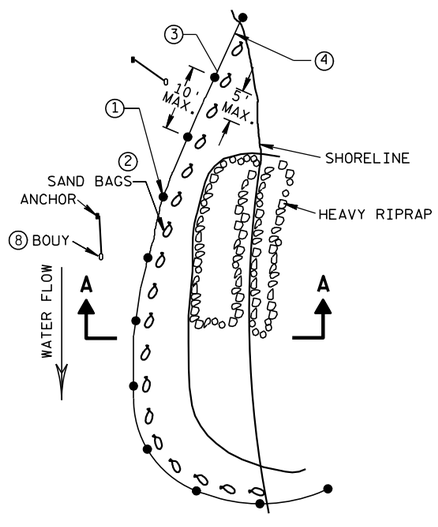




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

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

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

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

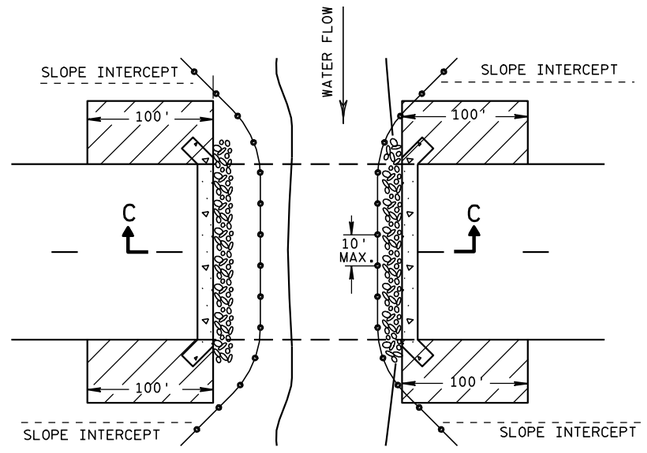
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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

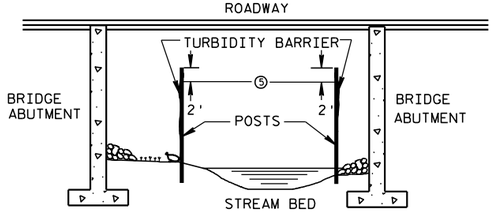
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

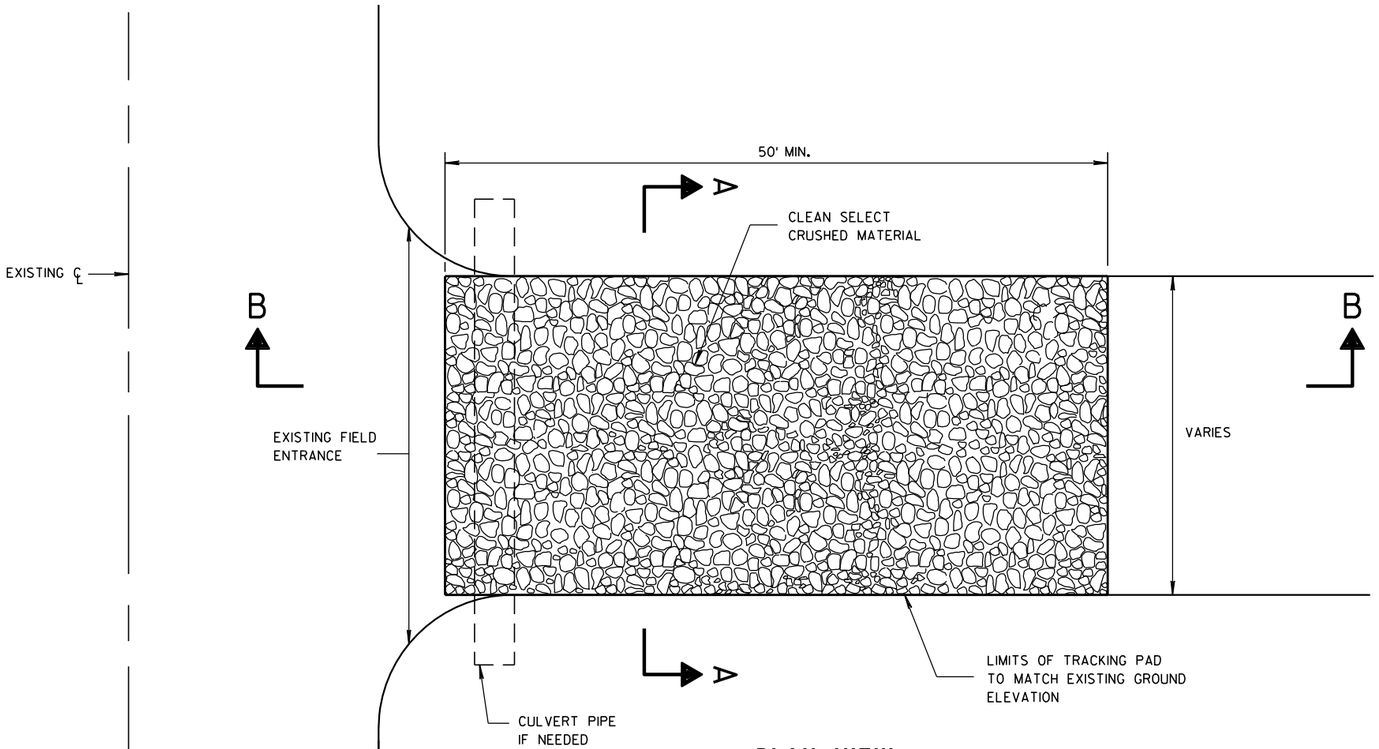
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

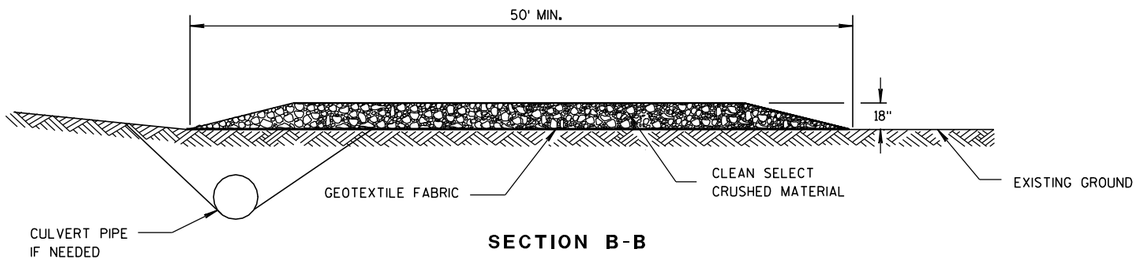
S.D.D. 8 E 11-2

6

S.D.D. 8 E 11-2



PLAN VIEW



SECTION B-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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

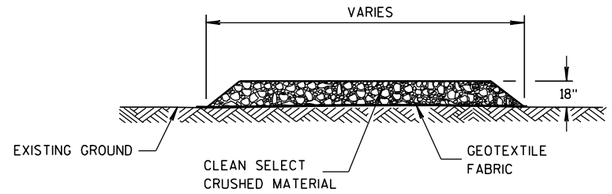
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



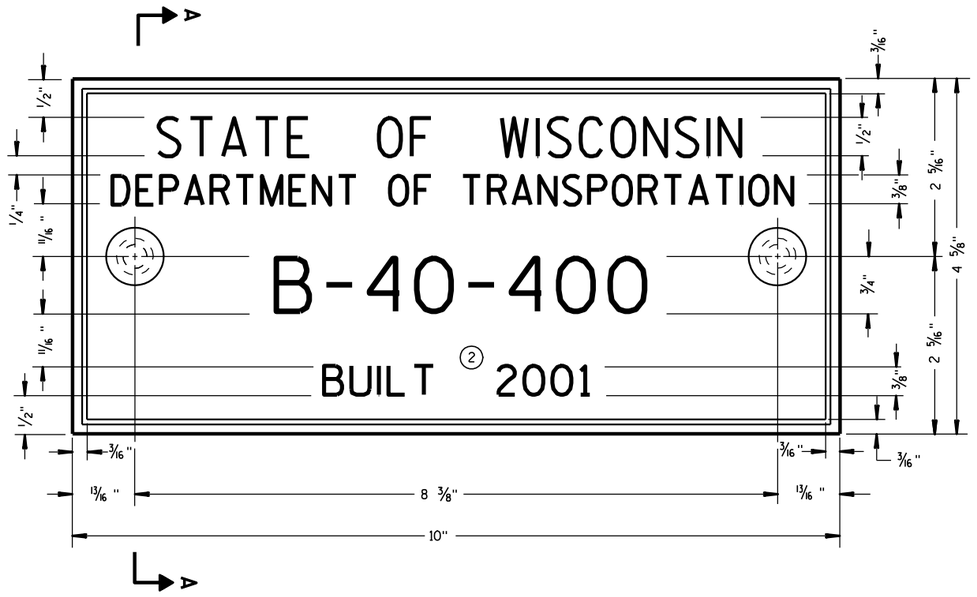
SECTION A-A

TRACKING PAD

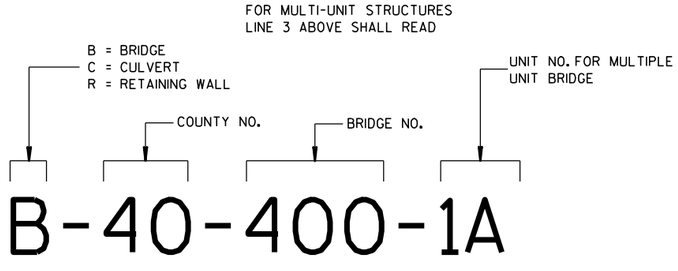
TRACKING PAD	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 3/24/2011 DATE FHWA	/S/ Jerry H. Zoda ROADWAY STANDARDS ENGINEER

6

S.D.D. 8 E 14-1



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



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

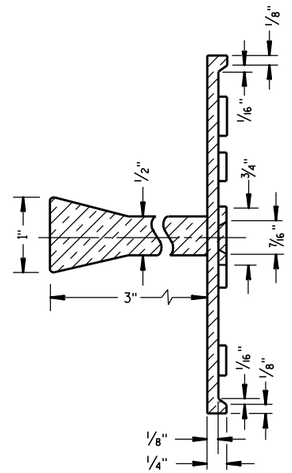
GENERAL NOTES

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.

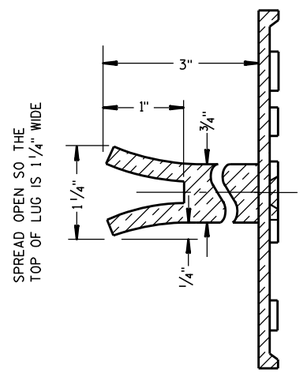
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

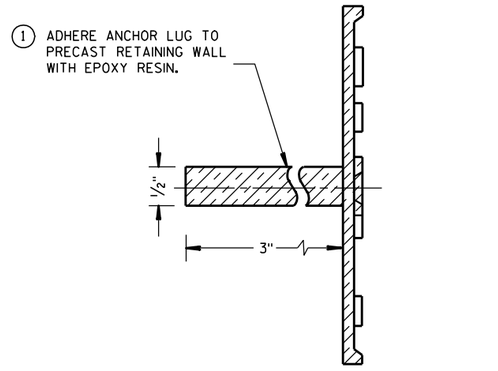
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



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 DEVELOP ENGINEER

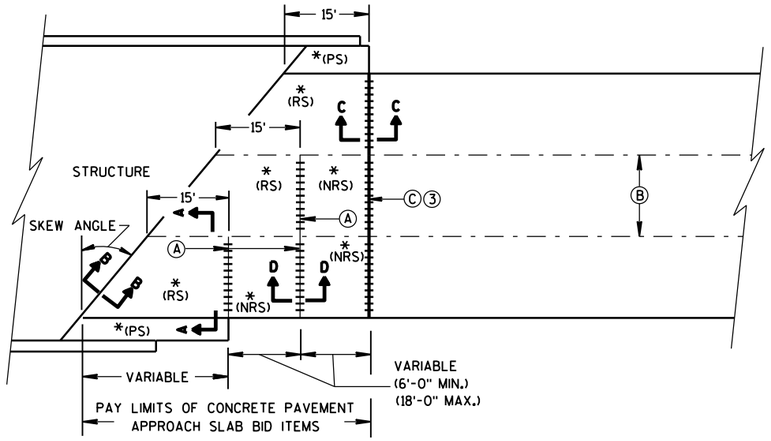
FHWA

6

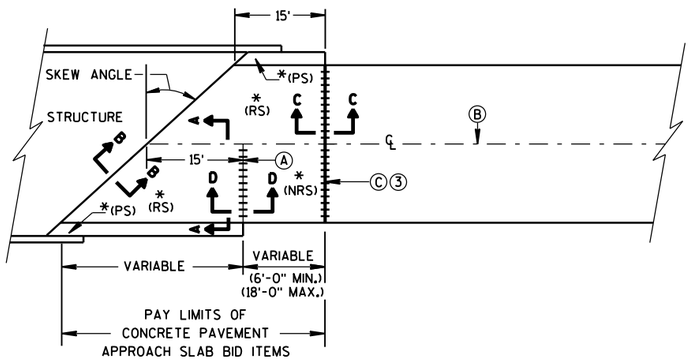
S.D.D. 12 A 3-10

6

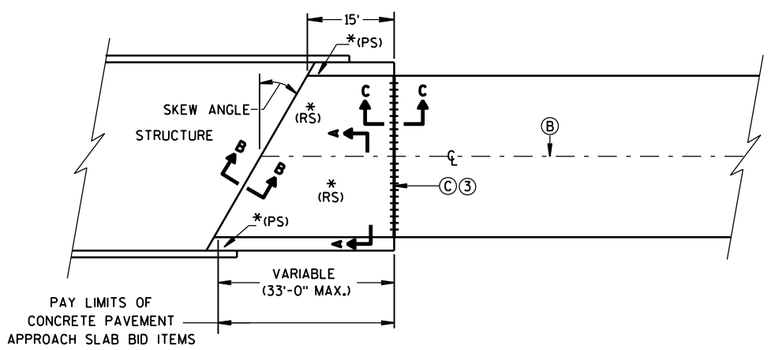
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

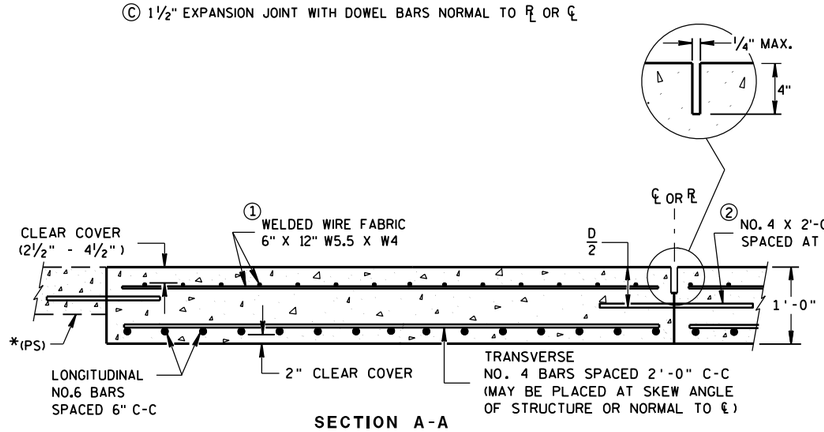
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

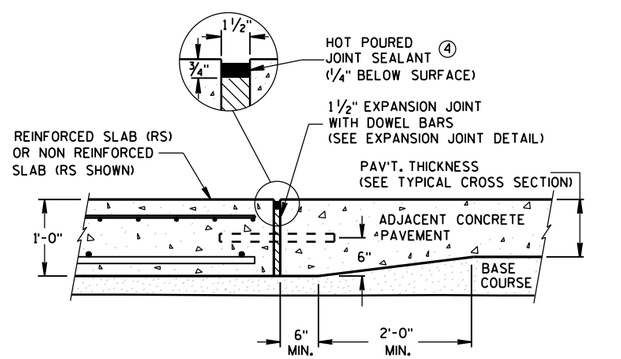
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

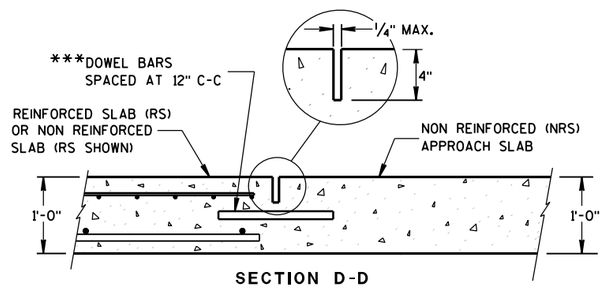
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

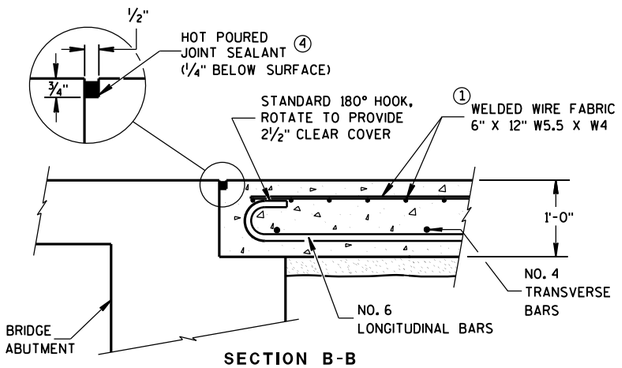
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

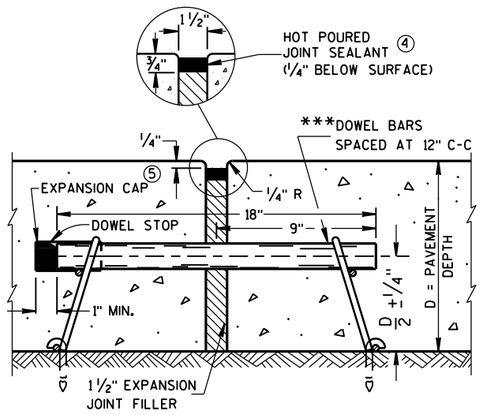
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

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

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



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

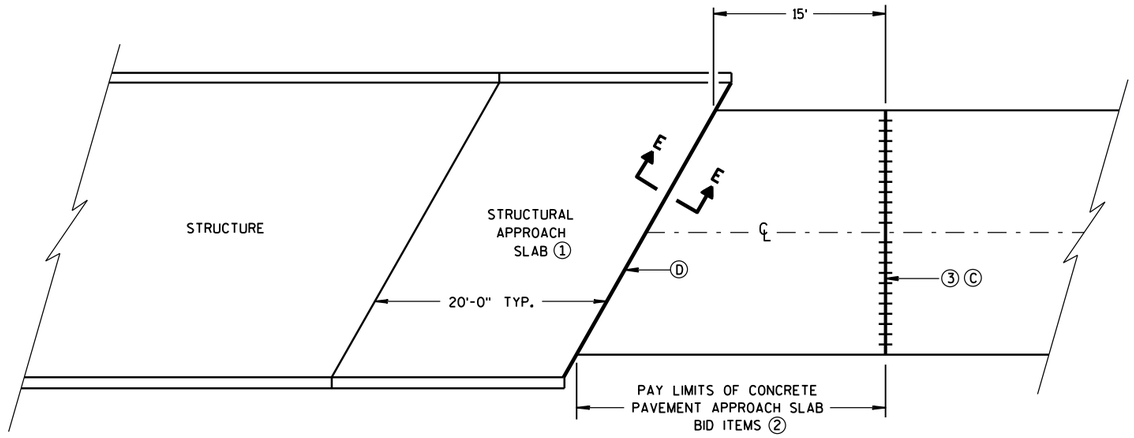
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

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

BRIDGE APPROACHES



GENERAL NOTES

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

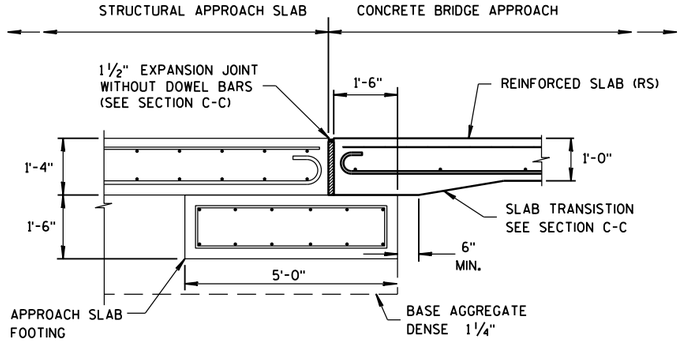
① SEE BRIDGE PLAN.

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

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

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

Ⓓ 1½" EXPANSION JOINT (NO DOWELS)



SECTION E-E

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

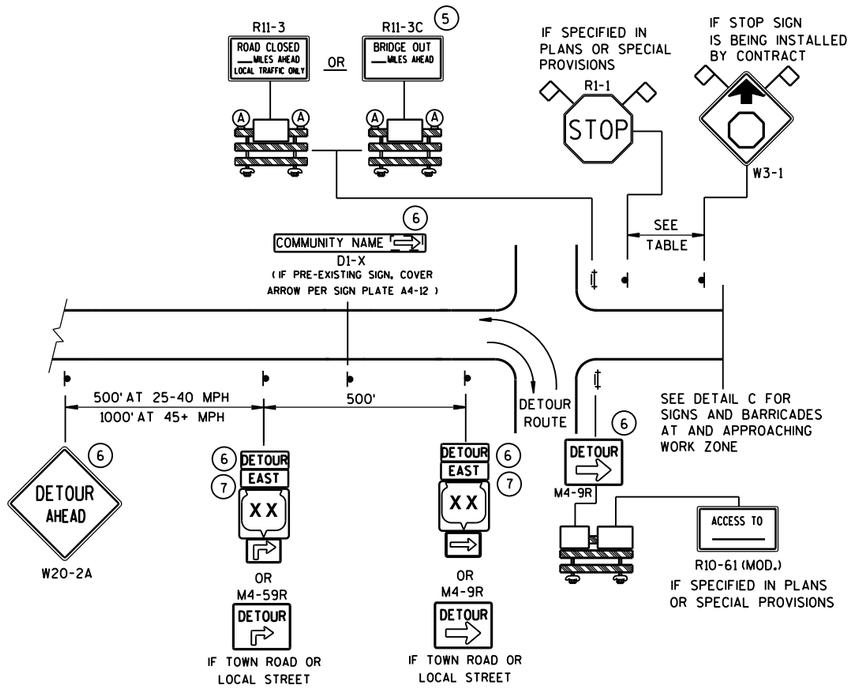
STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

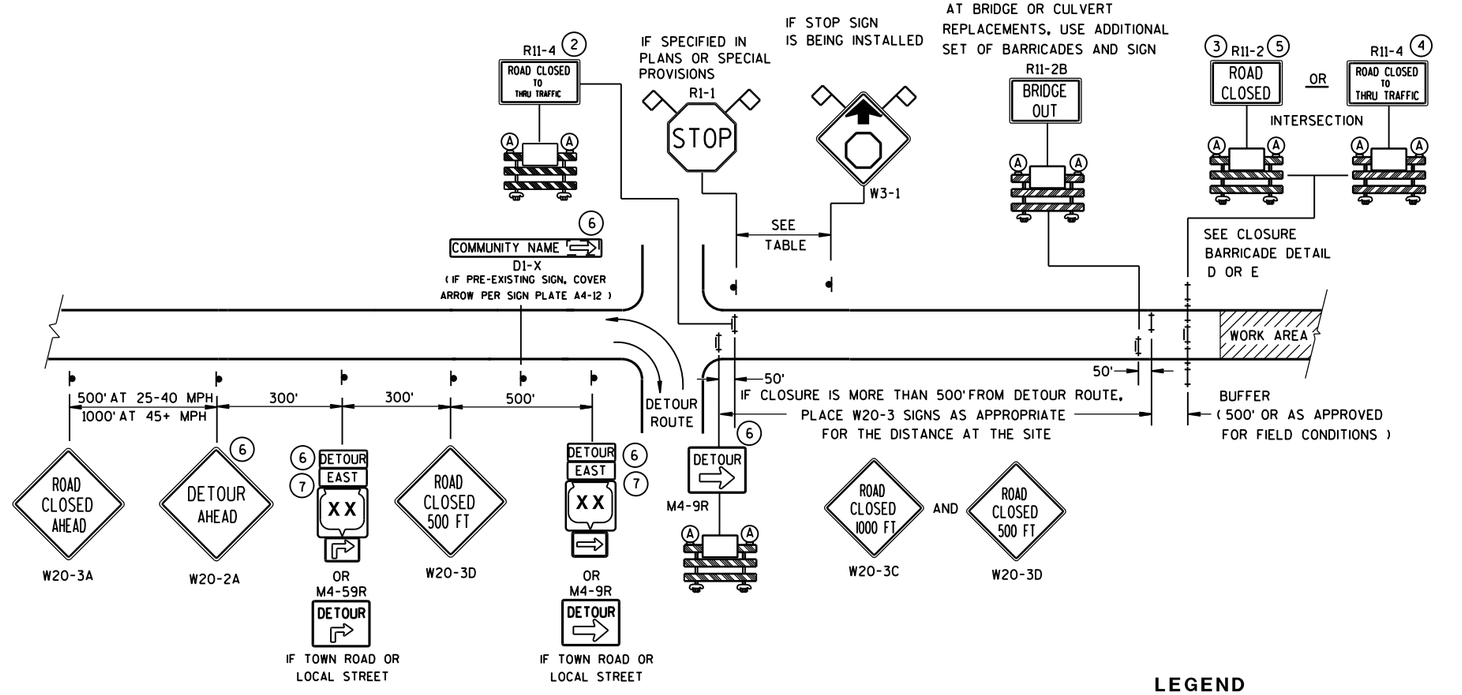
S.D.D. 13 B 2-8b



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

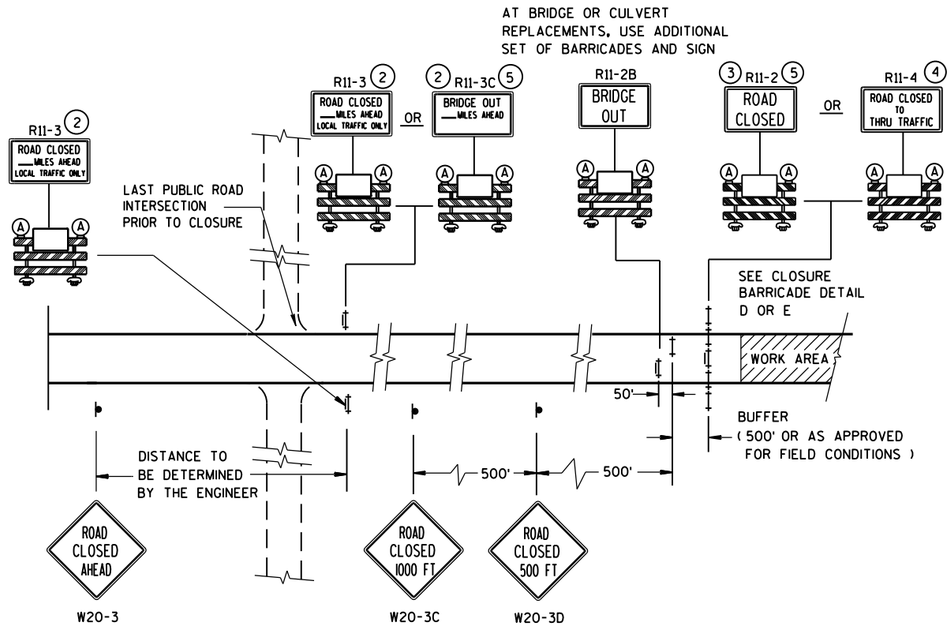
WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



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

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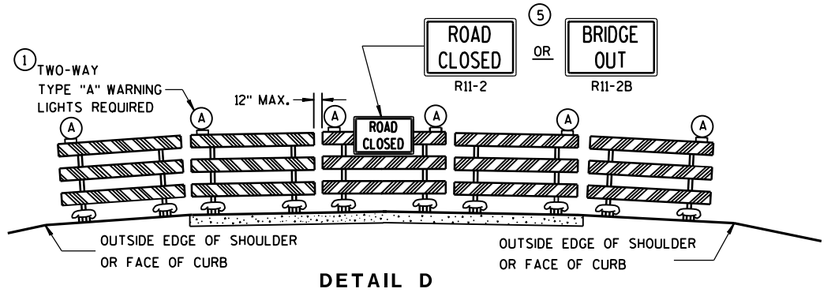
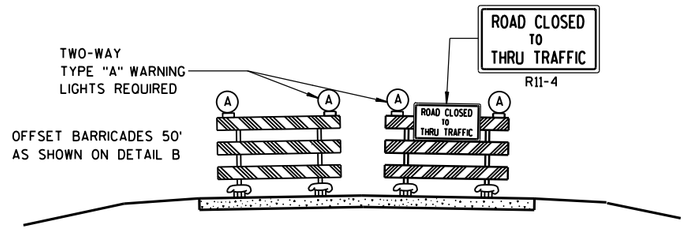
S.D.D. 15 C 2-6a



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

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

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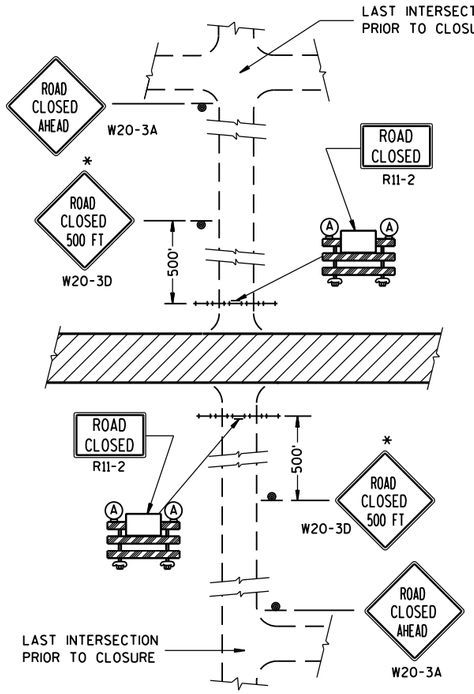
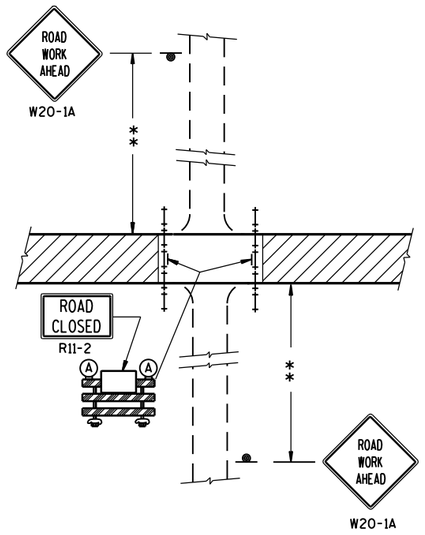
S.D.D. 15 C 2-6b



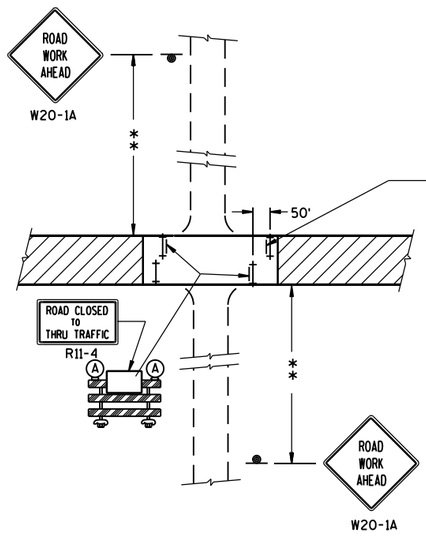
DETAIL 1

(NO ACCESS TO PROJECT)



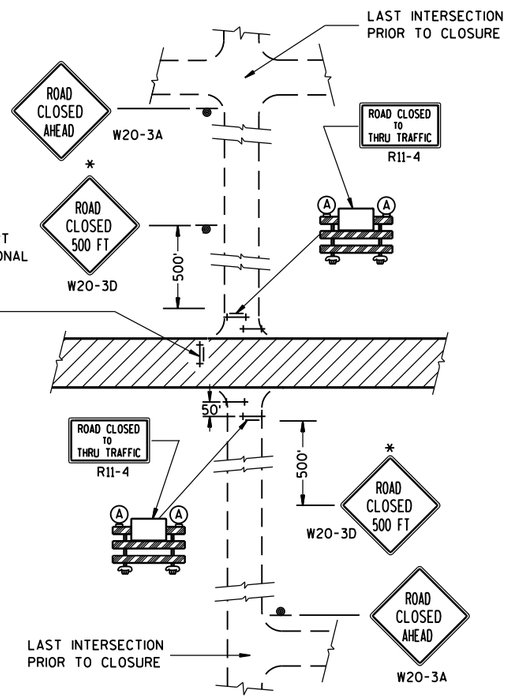
DETAIL 2

(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).



DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

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.

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

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 AND R11-4 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.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible]FIC SAFETY ENGI[illegible]
FHWA

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S.D.D. 15 C 3-3

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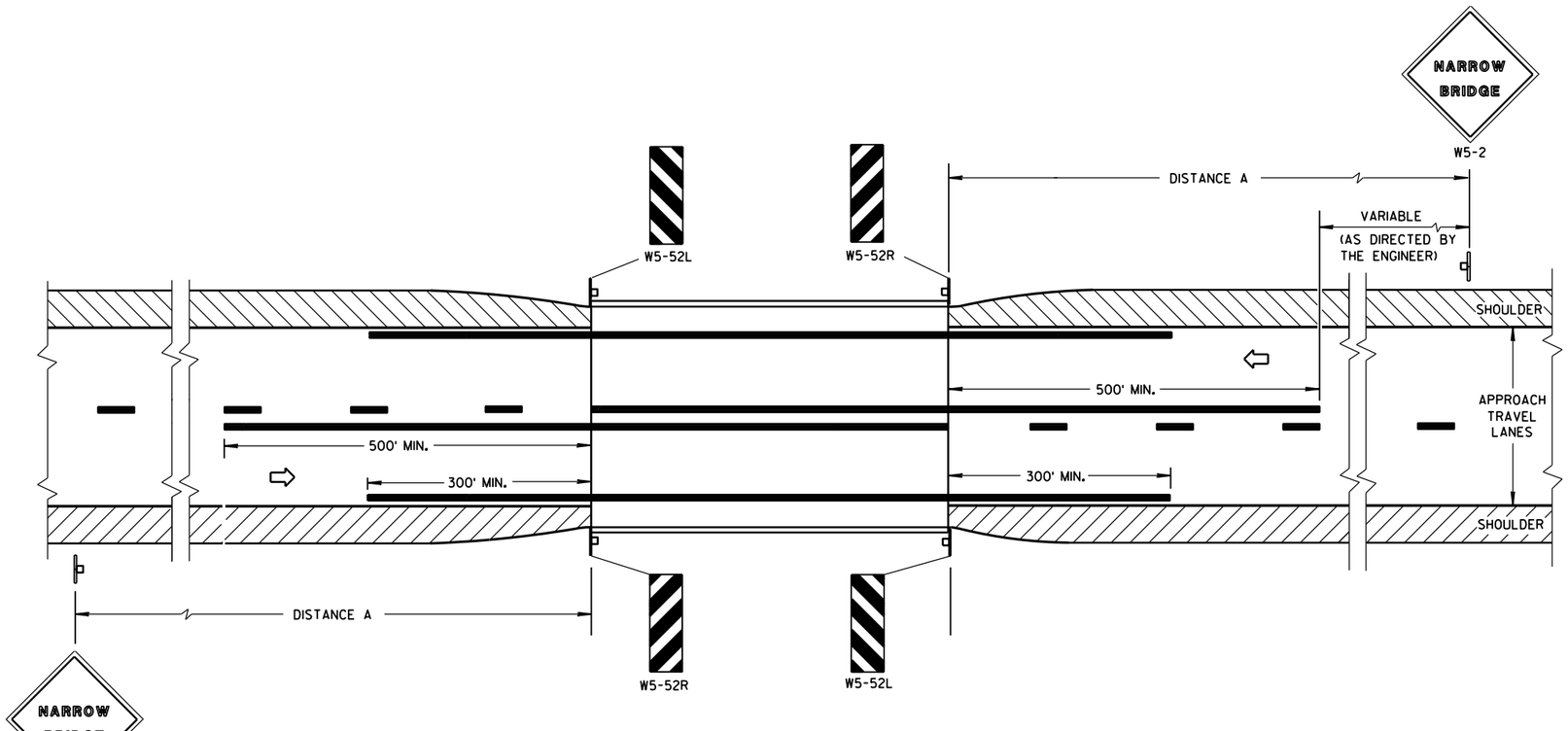
S.D.D. 15 C 3-3



SITUATION 1

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

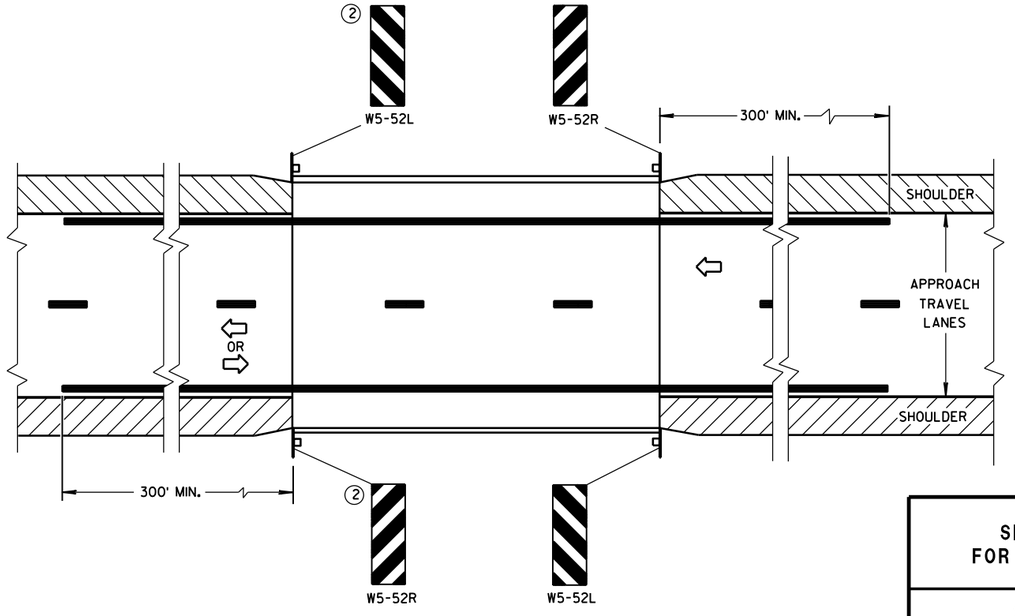
DISTANCE TABLE

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

GENERAL NOTES

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

1. LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.
2. OMIT ON ONE-WAY TRAVELLED WAYS.
3. EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.



SITUATION 2

WARRANTING CRITERIA:

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

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

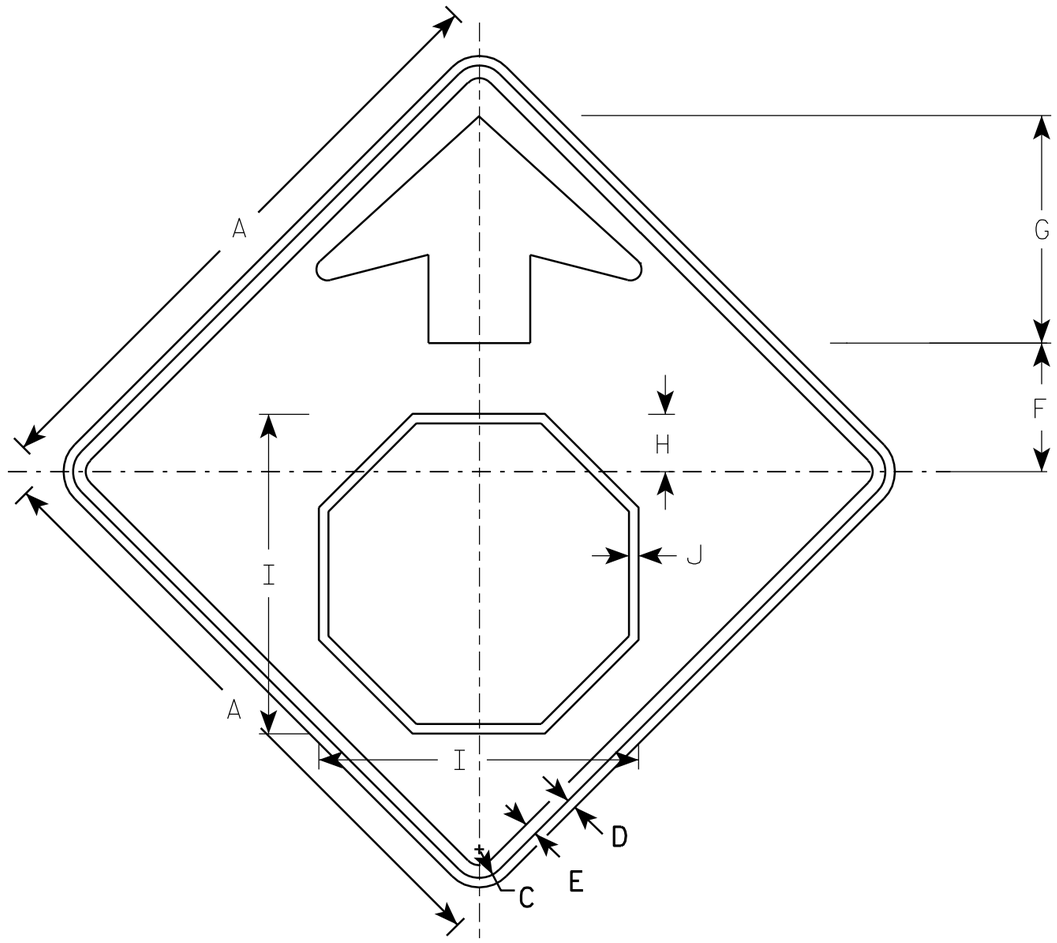
APPROVED
4-18-16 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

S.D.D. 15 C 6-8

6

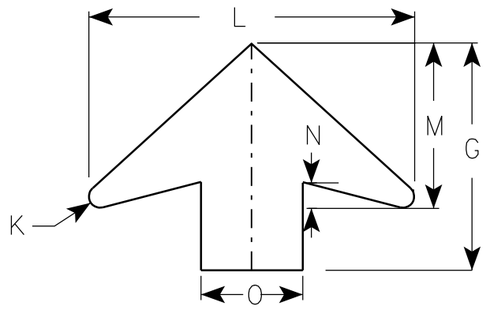
S.D.D. 15 C 6-8



W3-1

NOTES

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



ARROW DETAIL

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

STANDARD SIGN
W3-1

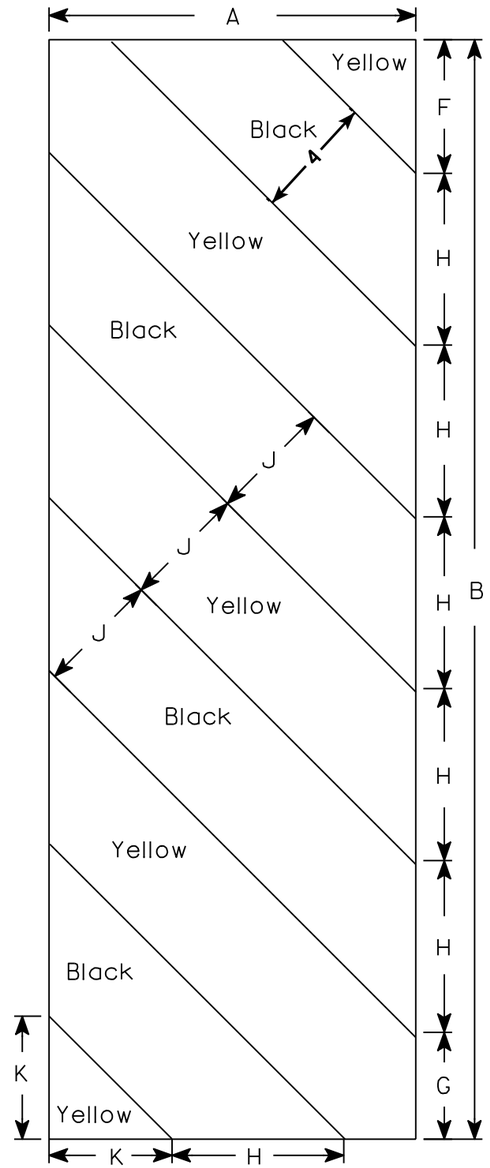
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

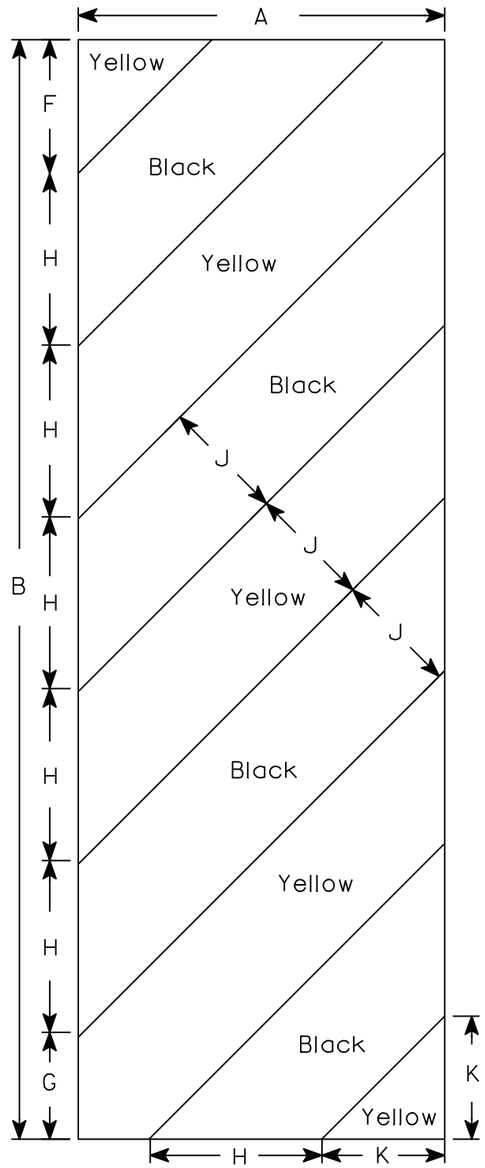
DATE 6/7/10 PLATE NO. W3-1.12

PROJECT NO:

SHEET NO: 23 E



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

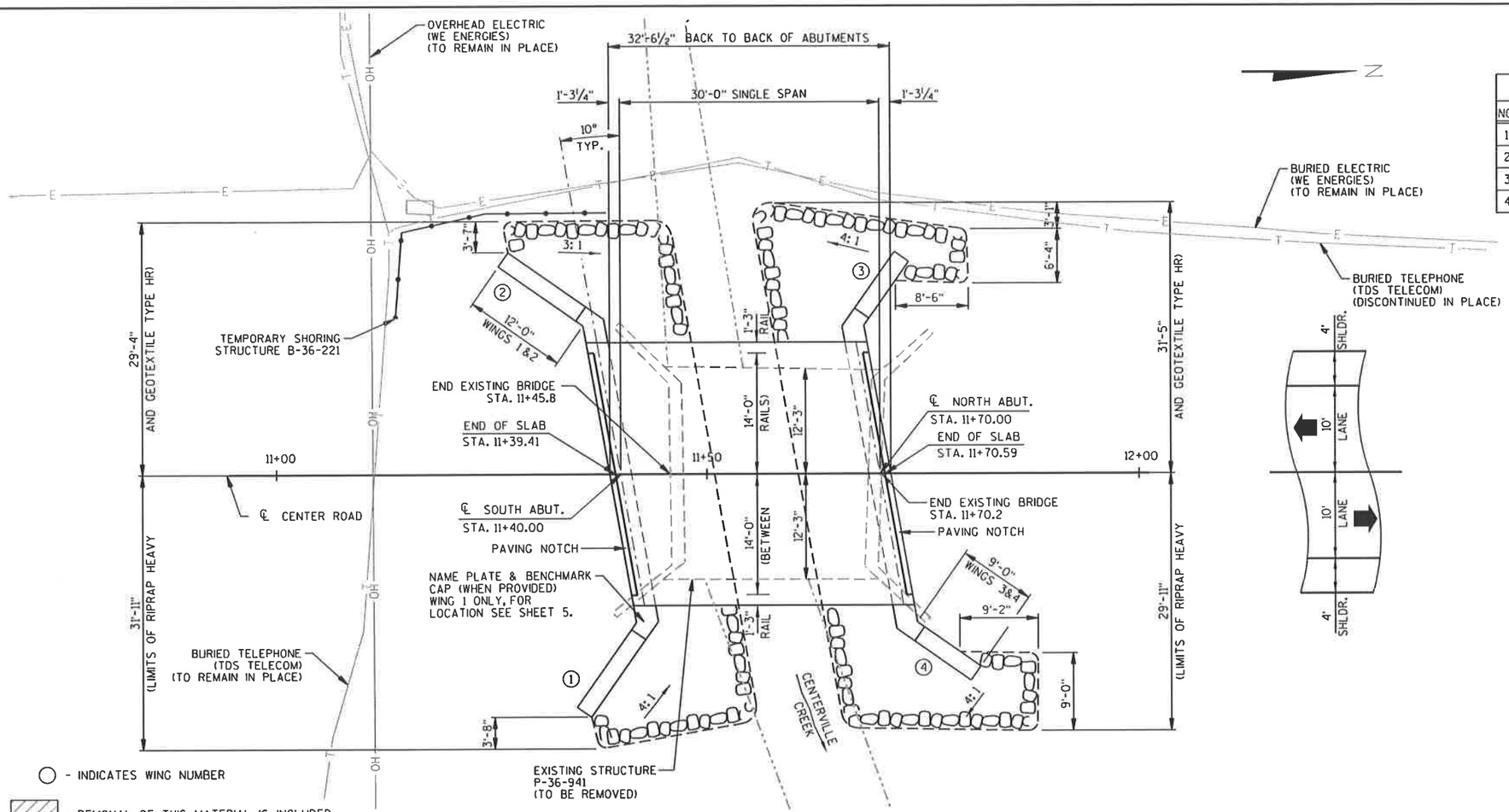
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

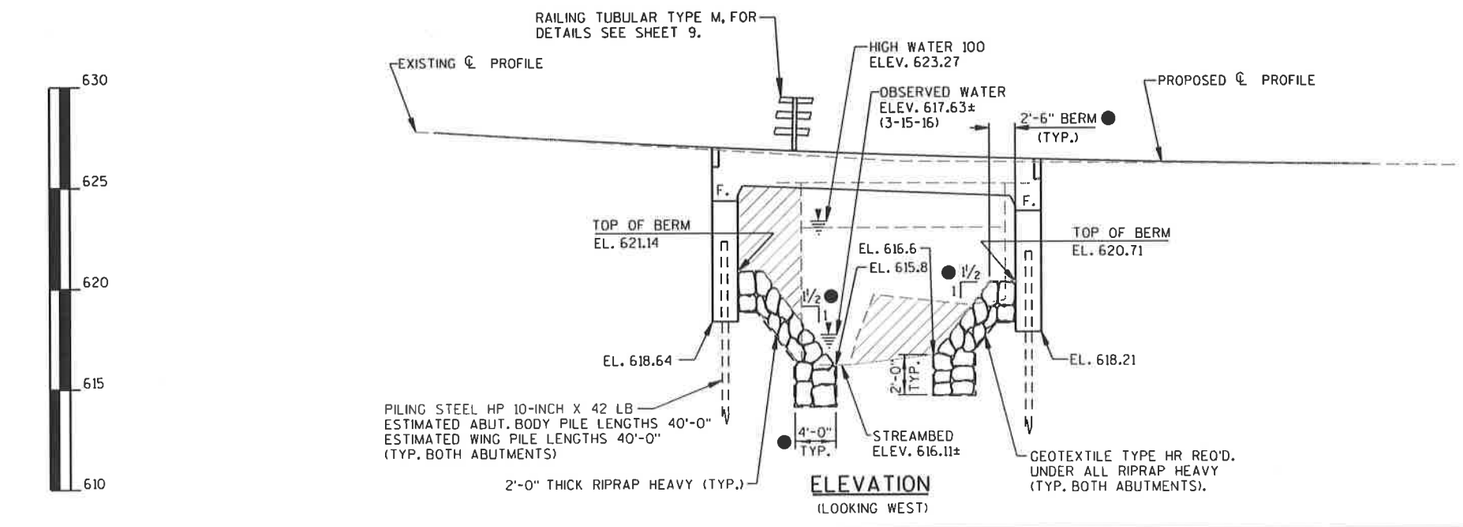
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 24 | E



PLAN
(SINGLE SPAN FLAT CONCRETE SLAB)



ELEVATION
(LOOKING WEST)

STATE PROJECT NUMBER
4308-08-71

BENCHMARKS

NO.	STA./OFFSET	X	Y	DESCRIPTION	ELEV.
1	10+89.39, 0.41' LT	211548.885	238710.012	FIP SECTION MONUMENT	628.353
2	11+05.01, 26.62' LT	211522.605	238725.515	CP MAG NAIL	627.635
3	11+81.54, 9.19' RT	211558.070	238802.202	CP PK NAIL	625.800
4	12+32.15, 9.60' RT	211558.339	238852.788	CP PK NAIL	625.975

DESIGN DATA

LIVE LOAD:

DESIGN LOADING : HL-93
INVENTORY RATING FACTOR : 1.12
OPERATIONAL RATING FACTOR : 1.46

TRAFFIC DATA:
A.A.D.T. (2017) = 60
A.A.D.T. (2037) = 70
R.D.S. = 35 MPH

WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS.

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY, SUPERSTRUCTURE ——— f'_c = 4,000 P.S.I.
ALL OTHER ——— f'_c = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 ——— f_y = 60,000 P.S.I.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ✳ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED ABUT. BODY AND WING PILE LENGTHS ARE 40'-0" AT BOTH ABUTMENTS.

✳ 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.

HYDRAULIC DATA: (BY LYNCH ASSOCIATES)

100 YEAR FREQUENCY

DRAINAGE AREA ——— 3.5 SQ. MI.
Q_{100} ——— 790 C.F.S.
VELOCITY ——— 9.91 FT./SEC.
WATERWAY AREA ——— 80 SQ. FT.
SCOUR CRITICAL CODE ——— 8
HIGH WATER $_{100}$ ELEVATION ——— 623.27
Q_2 ELEVATION (120 C.F.S.) ——— 619.65
VELOCITY $_2$ ——— 3.75 FT./SEC.

ROADWAY OVERFLOW DESIGN FREQUENCY

OVERTOPPING FREQUENCY ——— > 100 YEARS

LIST OF DRAWINGS

CONSULTANT DESIGN CONTACT:
JOLIE SNYDER
(608) 355-8912

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

WISCONSIN
JOLIE A. SNYDER
E-45364
LODI
WI
PROFESSIONAL ENGINEER
John A. Snyder
5/30/2017

NO.	DATE	REVISION	BY

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL
DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4565 Fax: 608-356-2770

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 08/18/17
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-36-221

CENTER ROAD OVER CENTERVILLE CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
MANITOWOC	CENTERVILLE

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPEC.

DESIGNED BY	JRS	DESIGN CK'D.	JAS	DRAWN BY	RLR	PLANS CK'D.	JAS

GENERAL PLAN

SHEET 1 OF 9
25

8

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DATE= 5/30/2017

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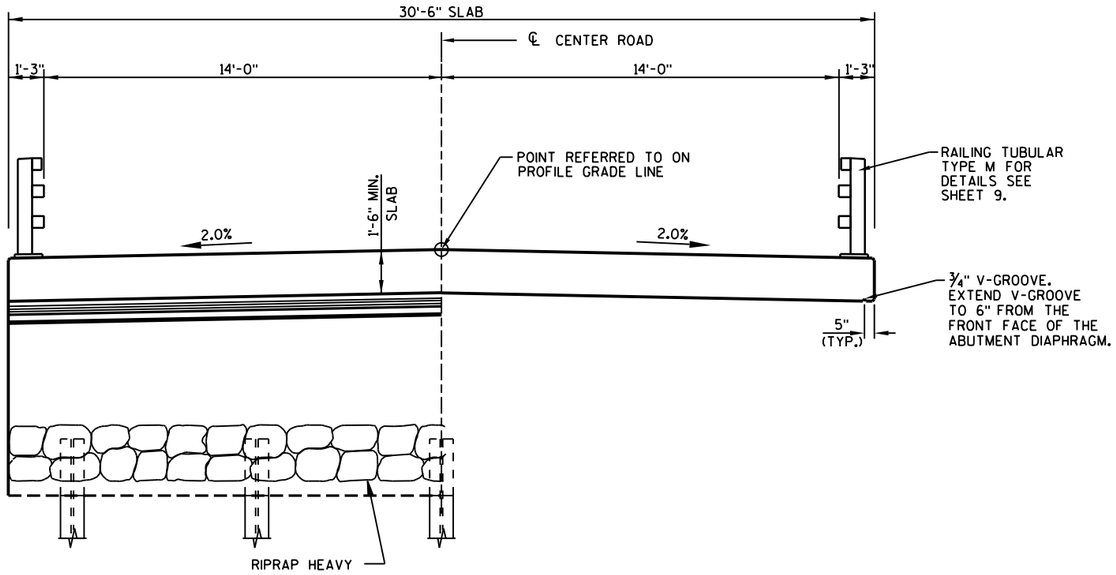
STATE PROJECT NUMBER

4308-08-71



AT ABUTMENTS IN SPAN

CROSS SECTION THRU BRIDGE

(LOOKING NORTH)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.

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

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THIS STRUCTURE WILL REPLACE THE EXISTING STRUCTURE, P-36-941, A 24.0 FT. LONG, SINGLE SPAN CONCRETE FLAT SLAB ON CONCRETE ABUTMENTS WITH 23.6 FT. CLEAR ROAD WIDTH.

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

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

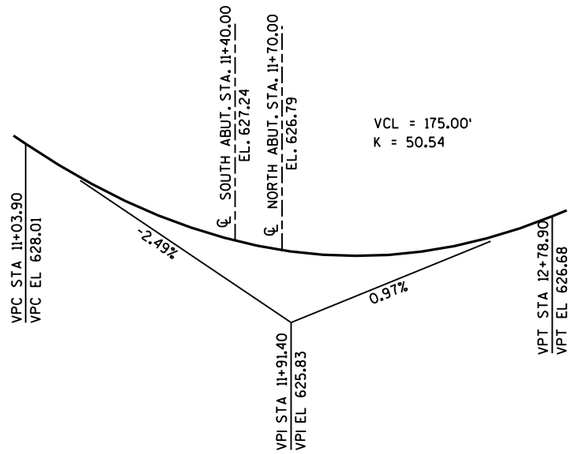
DO NOT PLACE FILL ABOVE 3'-0" FROM THE BOTTOM OF ABUTMENT UNTIL THE SUPERSTRUCTURE IS IN PLACE.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP AND EDGES OF SLAB, TO THE OUTSIDE 1'-0" OF THE UNDERSIDE OF SLAB, TO THE TOPS OF WINGS, AND TO THE EXPOSED FRONT FACES OF WINGS.

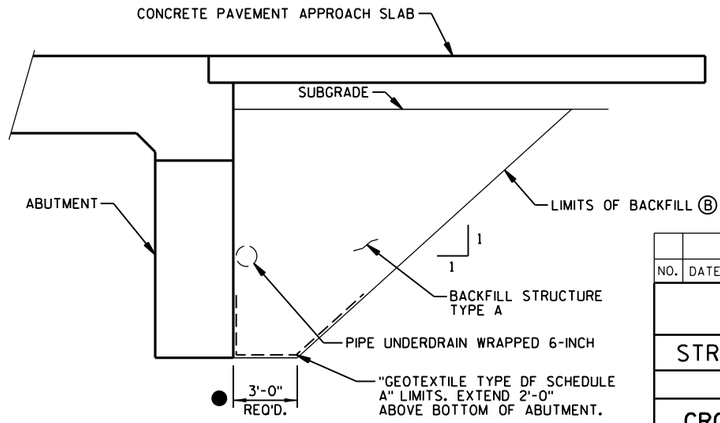
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 GEOID WI-12A. BENCHMARK REFERENCES AT THE PROJECT SITE WERE SET BY THE CONSULTANT USING GPS TECHNOLOGY.

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	NORTH ABUT.	SUPER	TOTAL
203.0500.S.01	REMOVING OLD STRUCTURE OVER WATERWAY STATION 11+58.60	LS	-	-	-	1
206.1000.01	EXCAVATION FOR STRUCTURES BRIDGES B-36-221	LS	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	175	165	-	340
502.0100	CONCRETE MASONRY BRIDGES	CY	37	32	58	127
502.3200	PROTECTIVE SURFACE TREATMENT	SY	21	17	125	163
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2440	2440	-	4880
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1860	1490	10340	13690
511.1200.01	TEMPORARY SHORING B-36-221	SF	120	-	-	120
513.4061.01	RAILING TUBULAR TYPE M B-36-221	LF	-	-	68	68
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	6	-	12
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	280	280	-	560
606.0300	RIPRAP HEAVY	CY	70	70	-	140
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	95	85	-	180
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	50	40	-	90
645.0120	GEOTEXTILE TYPE HR	SY	135	145	-	280
	NON-BID ITEMS					
	PREFORMED FILLER	SIZE	-	-	-	½" & ¾"



PROFILE GRADE LINE - CENTER ROAD



STRUCTURE BACKFILL DETAIL

● - NORMAL TO ℄ OF SUBSTRUCTURE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-221

DRAWN BY RLR | PLANS CK'D. DHW

CROSS SECTION, QUANTITIES & NOTES

SHEET 2 OF 9

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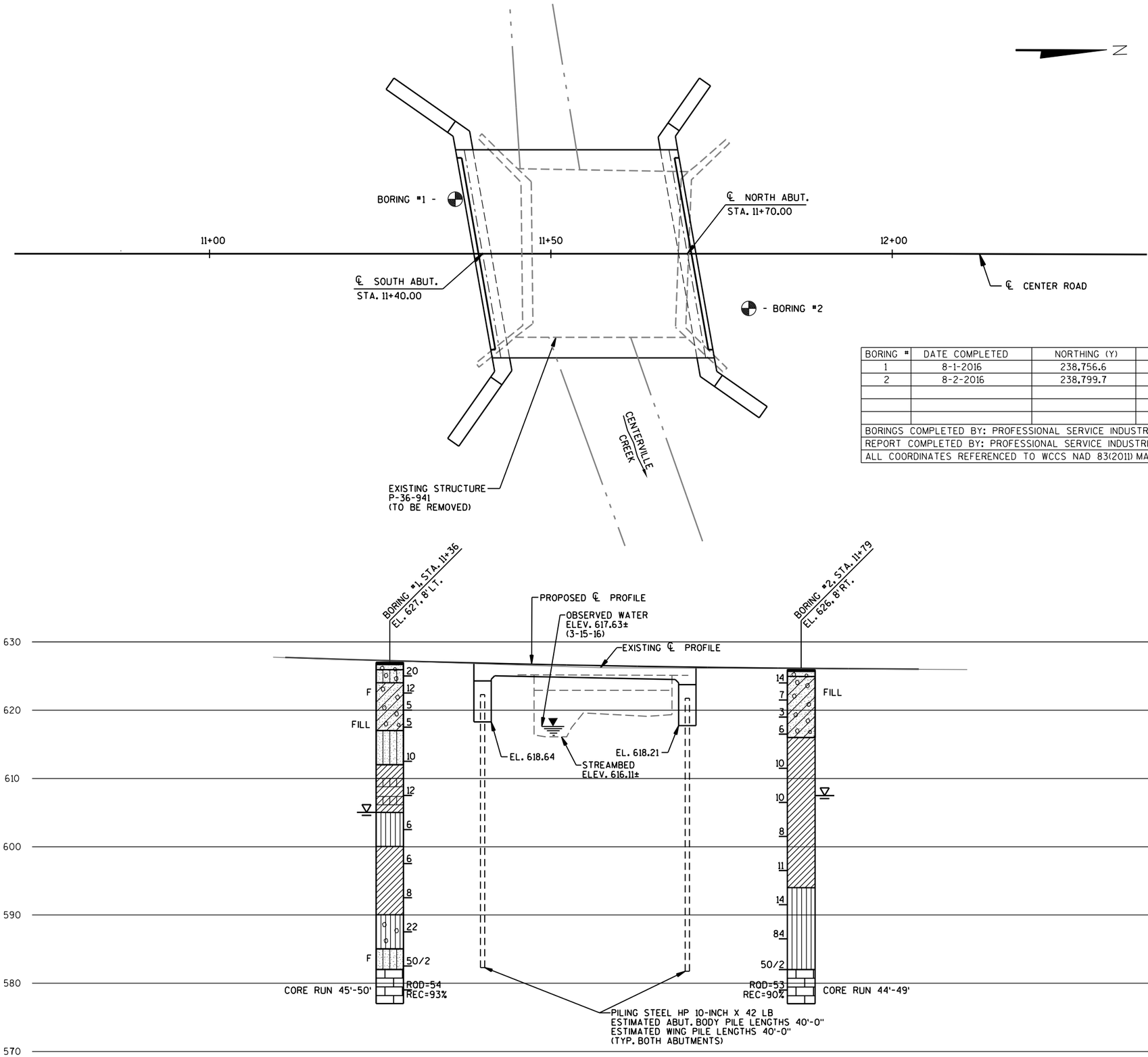
STATE PROJECT NUMBER

4308-08-71

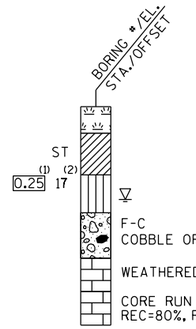
MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META



BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	8-1-2016	238,756.6	211,541.1
2	8-2-2016	238,799.7	211,556.9
BORINGS COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC.			
REPORT COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) MANITOWOC COUNTY			

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-221

DRAWN BY RLR | PLANS CK'D. DHW

SUBSURFACE EXPLORATION

SHEET 3 OF 9
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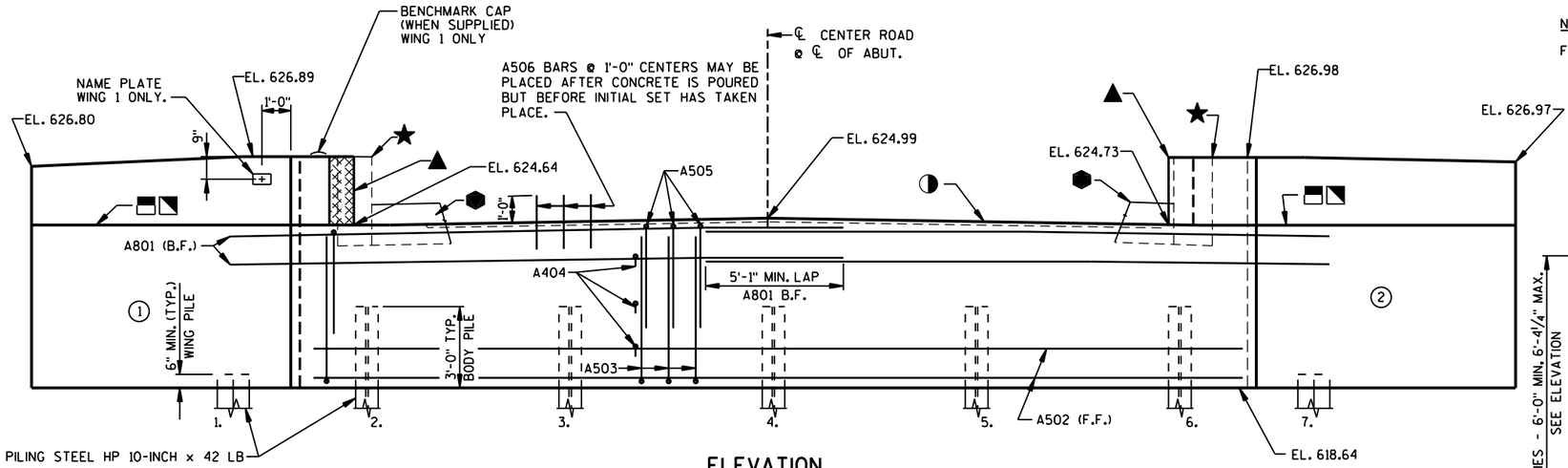
STATE PROJECT NUMBER

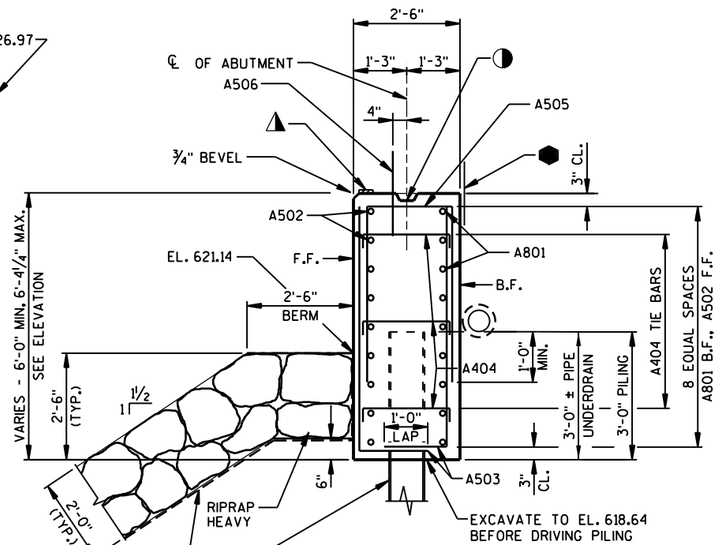
4308-08-71



ELEVATION
(LOOKING SOUTH)

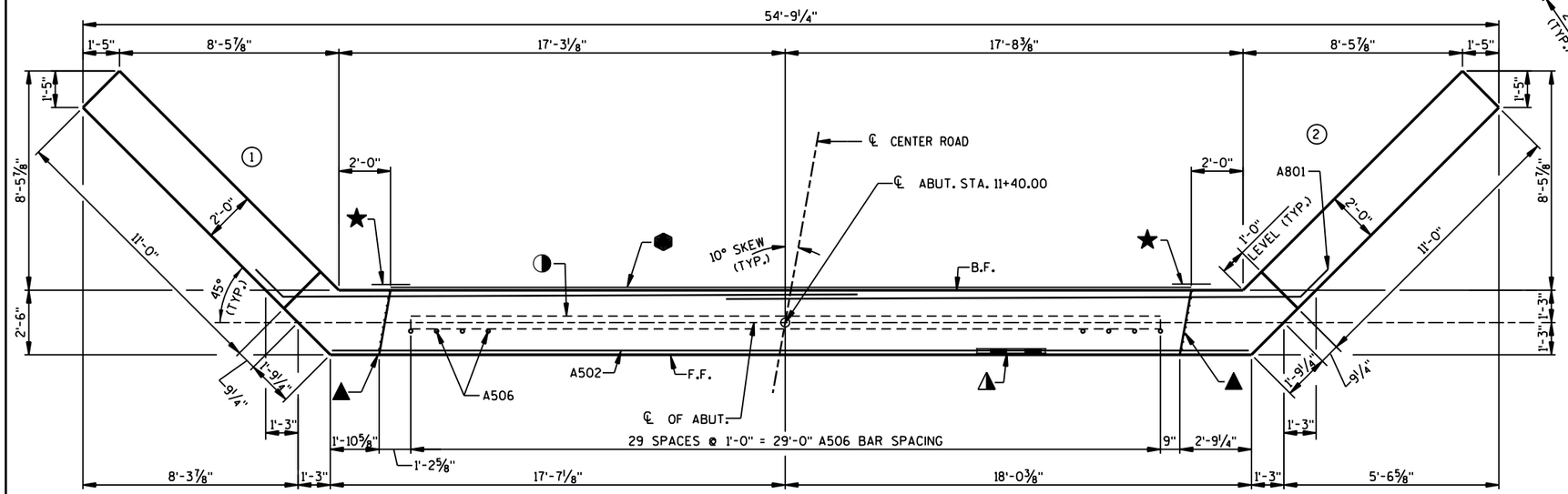
NOTE:

FOR WING DETAILS, SEE SHEET 5.



ABUTMENT AND WINGS TO BE SUPPORTED ON PILING STEEL HP 10-INCH x 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATED PILE LENGTHS ARE 40'-0" AT THE ABUTMENT BODY AND 40'-0" AT THE WING PILES (1 & 7). SEE SHEET 7 FOR PILE SPLICE DETAILS.

TYPICAL SECTION THRU ABUTMENT

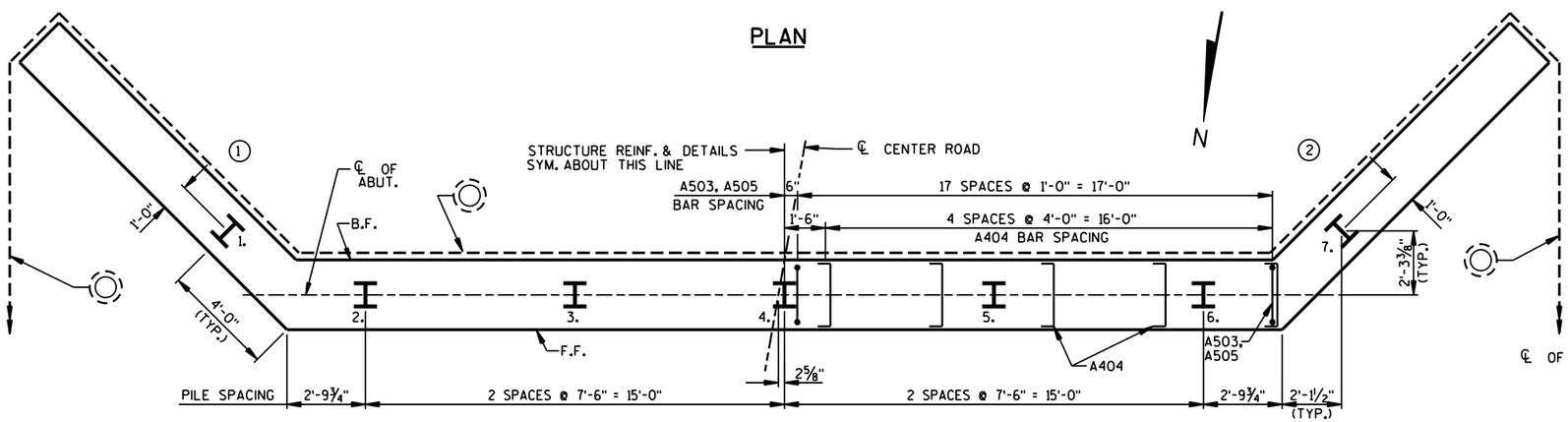


PLAN

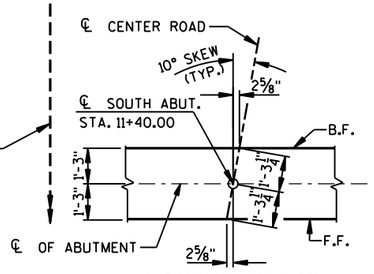
LEGEND

- ◑ — KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2×6.
- ▲ — ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).
- ◭ — 4"× ¾" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- ⬢ — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
- ◧ — OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6. IF JOINT IS USED, PLACE ⬢ ON B.F. OF WING. COST OF ⬢ IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES".
- ◥ — ¾" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
- ◎ — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE TYPE HR AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT SHIELD AT ENDS OF PIPE. FOR RODENT DETAILS, SEE SHEET 5.
- ○ — INDICATES WING NUMBER

F.F.— FRONT FACE B.F.—BACK FACE CL.— CLEAR



PILE PLAN



LAYOUT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-221

DRAWN BY	RLR	PLANS CK'D.	JAS

SOUTH ABUTMENT

SHEET 4 OF 9
28

FILE= 9306025_04.DGN
DATE=5/30/2017

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STATE PROJECT NUMBER

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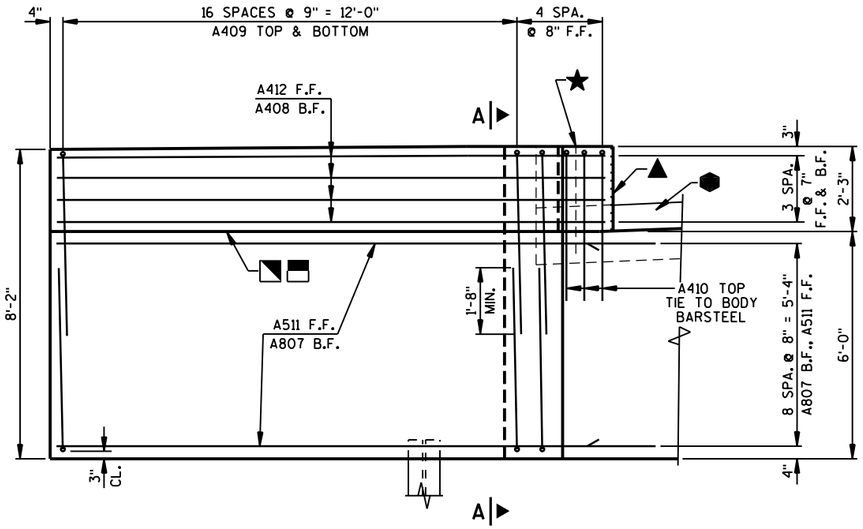
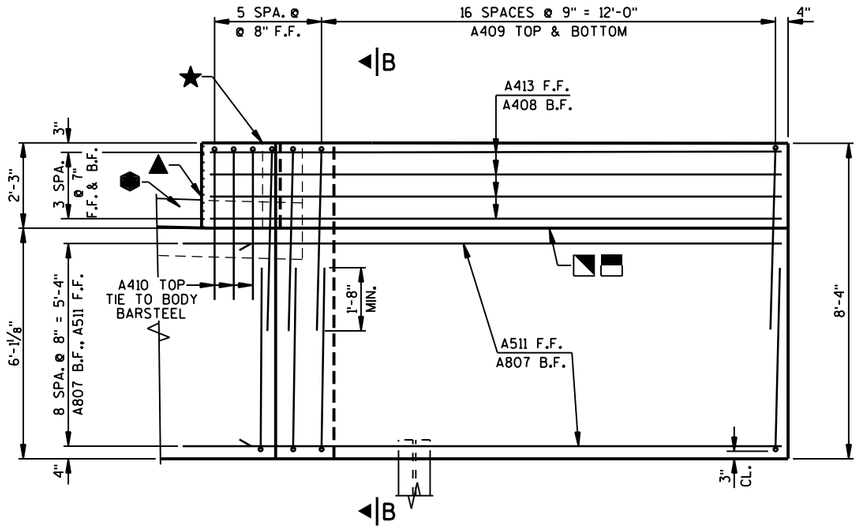


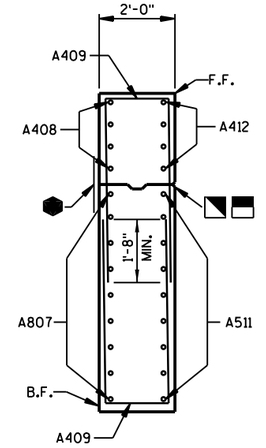
ELEVATION - WING 1

(LOOKING AT F.F. OF WING)

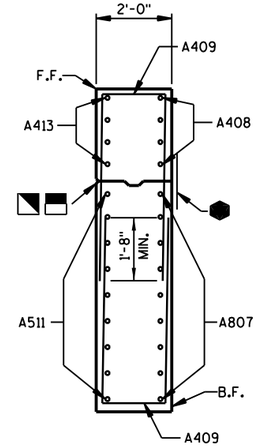


ELEVATION - WING 2

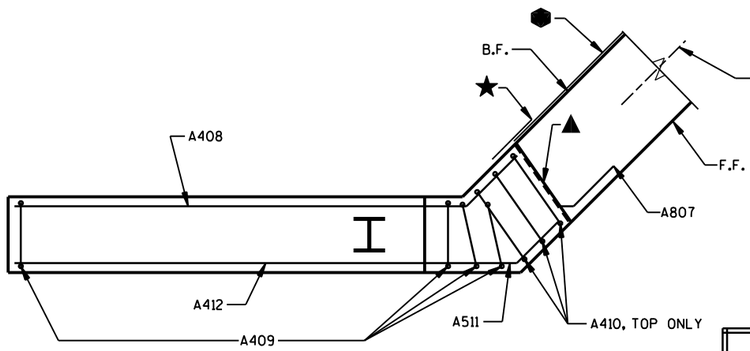
(LOOKING AT F.F. OF WING)



SECTION A-A
THRU WING 1

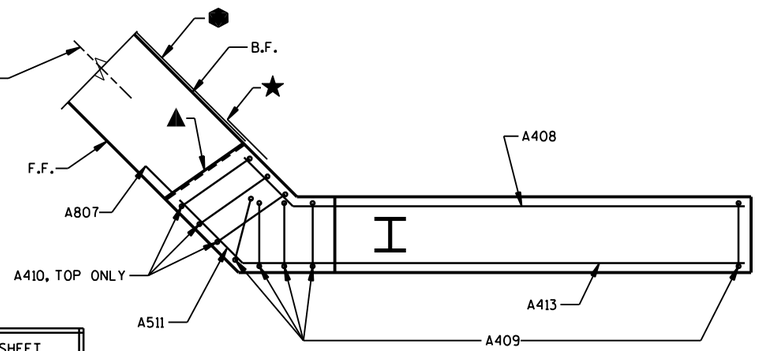


SECTION B-B
THRU WING 2



PLAN - WING 1

SEE LEGEND ON SHEET 4 FOR DESCRIPTION OF ★ ⬢ ◥ ▬ ▲



PLAN - WING 2

BILL OF BARS (1 ABUTMENT)

COATED 1860 LBS.
UNCOATED 2440 LBS.

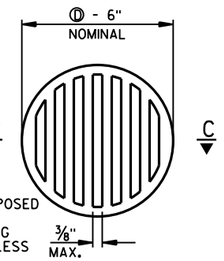
MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	LOCATION
A801	-	18	23'-8"	X	ABUTMENT BODY - B.F. - HORIZ.
A502	-	9	35'-5"		ABUTMENT BODY - F.F. - HORIZ.
A503	-	72	7'-0"	X	ABUTMENT BODY - F.F. & B.F. - VERT.
A404	-	30	2'-9"	X	ABUTMENT BODY - TIES - HORIZ.
A505	-	36	10'-3"	X	ABUTMENT BODY - TOP - VERT.
A506	30	-	2'-0"		ABUTMENT BODY - TOP DOWELS - VERT.
A807	18	-	16'-1"	X	WINGS - B.F. - HORIZ.
A408	8	-	13'-9"	X	WINGS - B.F. - TOP - HORIZ.
A409	74	-	11'-2"	X	WINGS - TOP & BOTTOM - VERT.
A410	6	-	10'-0"	X	WINGS - TOP - VERT.
A511	18	-	14'-8"	X	WINGS - F.F. - HORIZ.
A412	4	-	14'-8"	X	WING 1 - F.F. - TOP - HORIZ.
A413	4	-	15'-6"	X	WING 2 - F.F. - TOP - HORIZ.

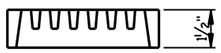
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

RODENT SHIELD NOTES:

ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER.
A PIPE COUPLING IS REQUIRED FOR THE ATTACHEMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. THE RODENT SHIELD, PIPE COUPLING AND SCREWS, SHALL BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

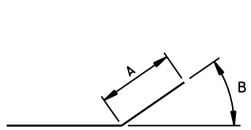




SECTION C-C

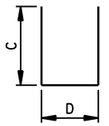
RODENT SHIELD

Ⓓ - DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



MARK	A	B
A801 A807 A511 A412	1'-6"	45°
A408	1'-10"	45°
A413	2'-4"	45°

STIRRUPS AND TIES



MARK	C	D
A404	4½"	2'-2"
A505	4'-2"	2'-2"
A409	4'-10"	1'-8"
A410	4'-0"	2'-2"

A503

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-221

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SOUTH ABUTMENT DETAILS

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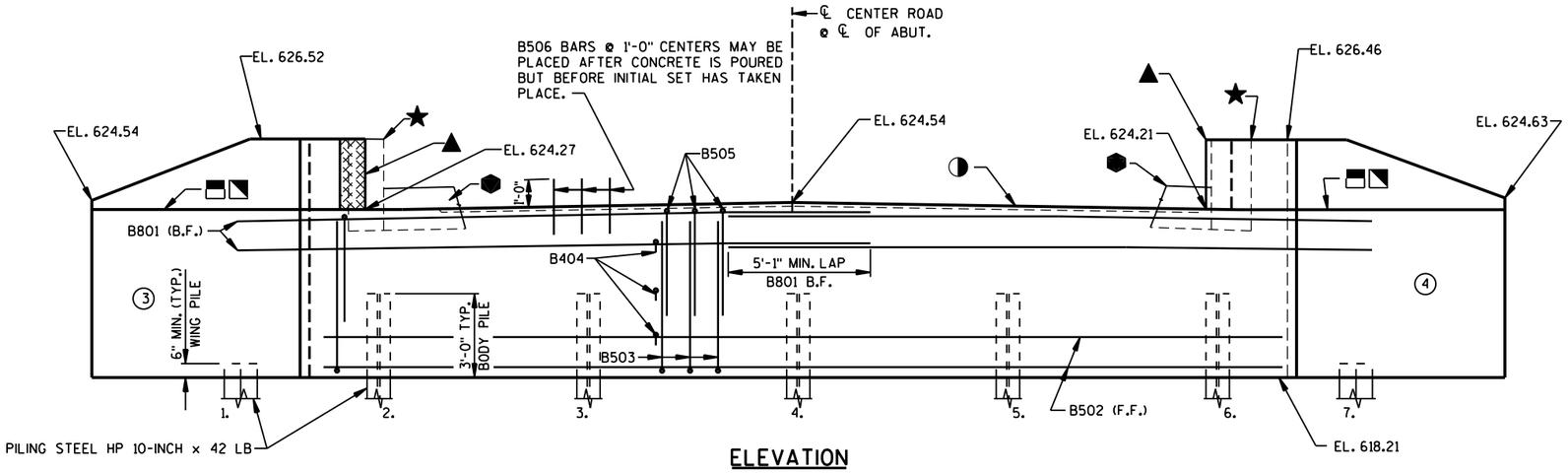
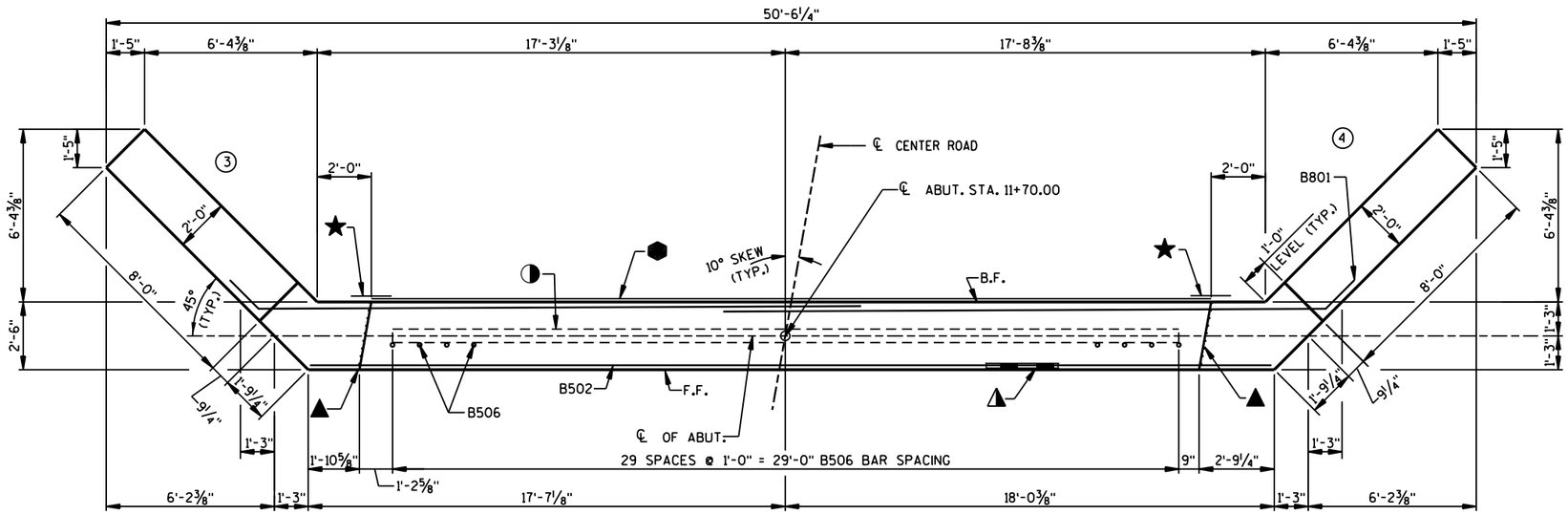
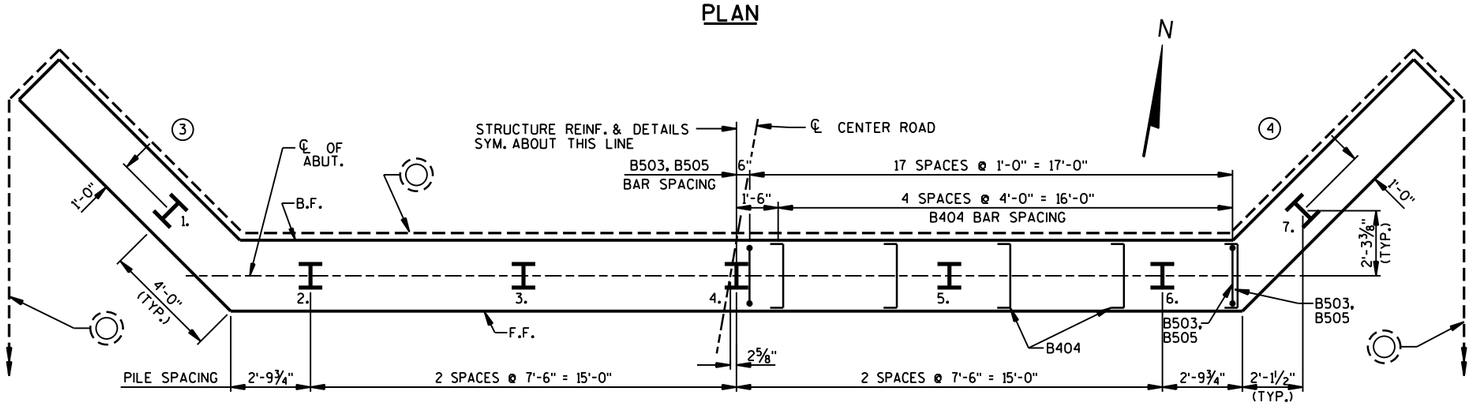


ELEVATION
(LOOKING NORTH)



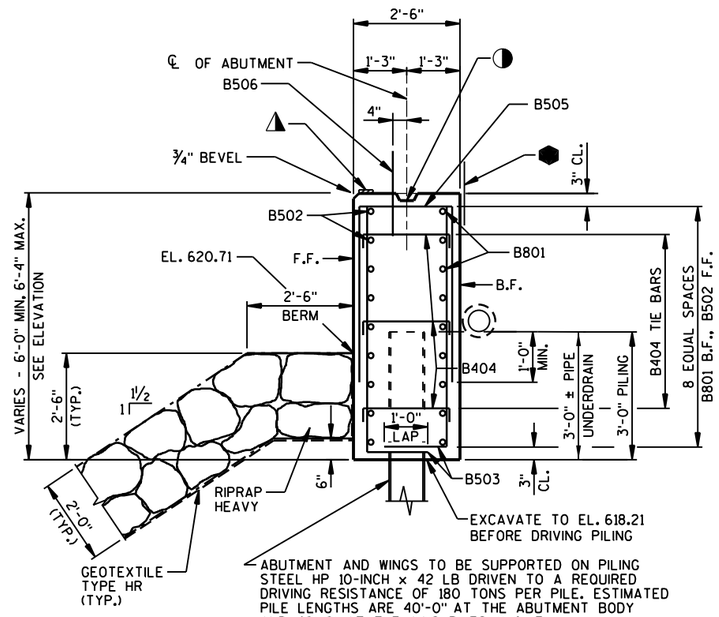
PLAN



PILE PLAN

NOTE:

FOR WING DETAILS, SEE SHEET 7.

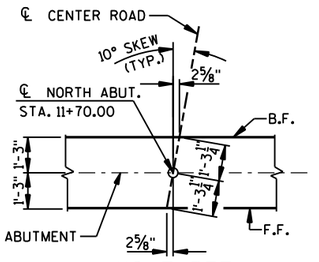


TYPICAL SECTION THRU ABUTMENT

LEGEND

- — KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2×6.
- — ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).
- — 4"× ¾" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
- — OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6. IF JOINT IS USED, PLACE ⬢ ON B.F. OF WING. COST OF ⬢ IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES".
- — ¾" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
- — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE TYPE HR AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT SHIELD AT ENDS OF PIPE. FOR RODENT DETAILS, SEE SHEET 5.
- ◯ — INDICATES WING NUMBER

F.F.— FRONT FACE B.F.—BACK FACE CL.—CLEAR



LAYOUT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-221

DRAWN BY RLR | PLANS CK'D. JAS

NORTH ABUTMENT

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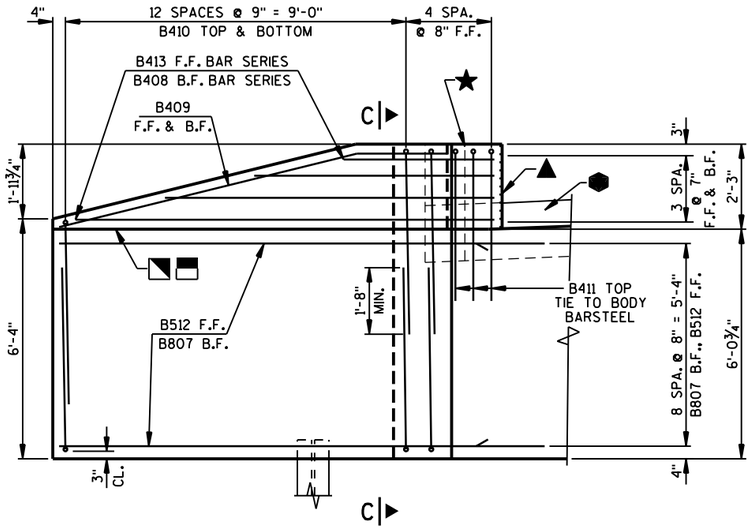
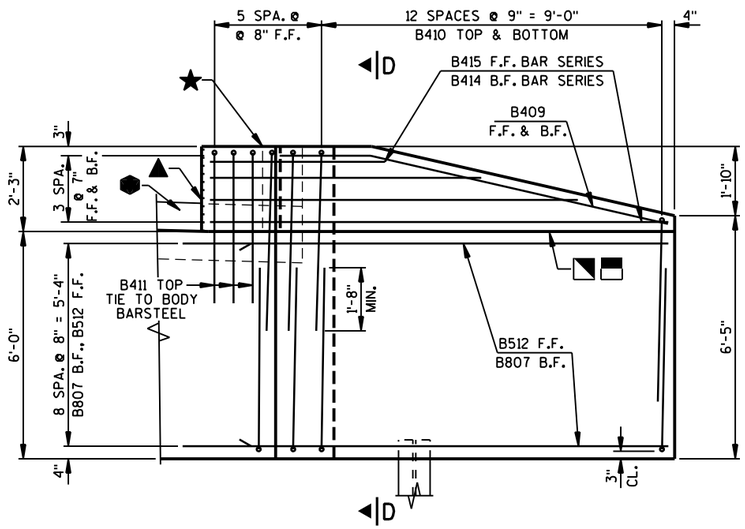


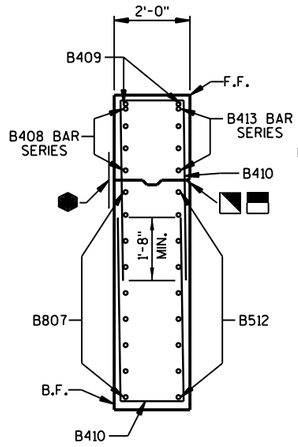
ELEVATION - WING 3

(LOOKING AT F.F. OF WING)

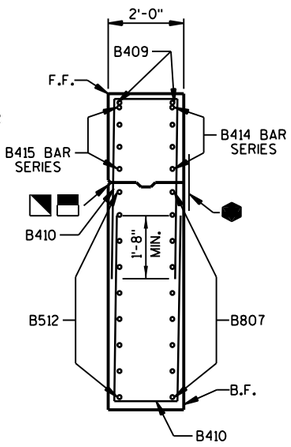


ELEVATION - WING 4

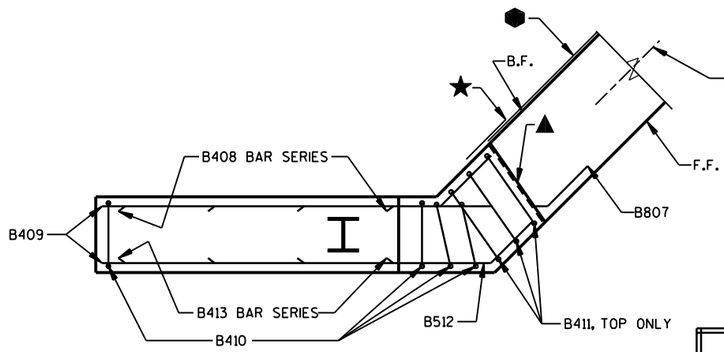
(LOOKING AT F.F. OF WING)



SECTION C-C
THRU WING 3

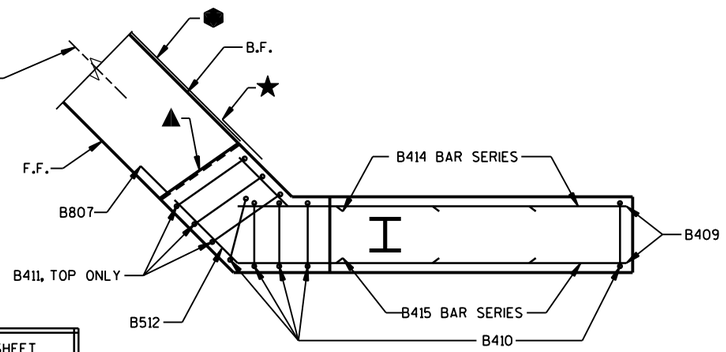


SECTION D-D
THRU WING 4



PLAN - WING 3

SEE LEGEND ON SHEET 6 FOR DESCRIPTION OF ★ ⬢ ◥ ⬓ ▲



PLAN - WING 4

BILL OF BARS (1 ABUTMENT)

COATED 1490 LBS.
UNCOATED 2440 LBS.

MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION
B801	-	18	23'-8"	X		ABUTMENT BODY - B.F. - HORIZ.
B502	-	9	35'-5"			ABUTMENT BODY - F.F. - HORIZ.
B503	-	72	7'-0"	X		ABUTMENT BODY - F.F. & B.F. - VERT.
B404	-	30	2'-9"	X		ABUTMENT BODY - TIES - HORIZ.
B505	-	36	10'-3"	X		ABUTMENT BODY - TOP - VERT.
B506	30	-	2'-0"			ABUTMENT BODY - TOP DOWEL - VERT.
B807	18	-	13'-1"	X		WINGS - B.F. - HORIZ.
B408	4	-	6'-9"	X	Ⓢ	WING 3 - B.F. - TOP - HORIZ.
B409	4	-	10-5"	X		WINGS - F.F. & B.F. - TOP - HORIZ.
B410	58	-	11'-2"	X		WINGS - TOP & BOTTOM - VERT.
B411	6	-	10'-0"	X		WINGS - TOP ⊠ ABUT. CORNER - VERT.
B512	18	-	11'-8"	X		WINGS - F.F. - HORIZ.
B413	4	-	7'-9"	X	Ⓢ	WING 3 - F.F. - TOP - HORIZ.
B414	4	-	7'-0"	X	Ⓢ	WING 4 - B.F. - TOP - HORIZ.
B415	4	-	8'-10"	X	Ⓢ	WING 4 - F.F. - TOP - HORIZ.

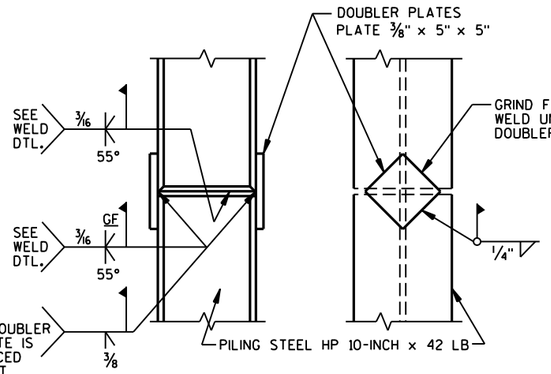
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

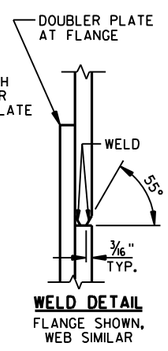
Ⓢ - LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BENT BARS IF USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.

BAR MARK	NO. REQ'D.	LENGTH
B408	1 SERIES OF 4	3'-3" TO 10'-3"
B413	1 SERIES OF 4	4'-3" TO 11'-3"
B414	1 SERIES OF 4	3'-3" TO 10'-9"
B415	1 SERIES OF 4	5'-1" TO 12'-7"

BAR SERIES TABLE

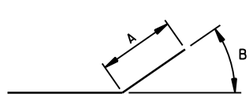




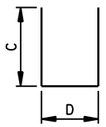
WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE SPLICE DETAILS



MARK	A	B
B801 B807 B512 B413	1'-6"	45°
B408 B414	1'-10"	45°
B409	2'-5"	13°
B415	2'-5"	45°



STIRRUPS AND TIES

MARK	C	D
B404	4½"	2'-2"
B505	4'-2"	2'-2"
B410	4'-10"	1'-8"
B411	4'-0"	2'-2"

B503

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-221

DRAWN BY RLR | PLANS CK'D. JAS

NORTH ABUTMENT DETAILS

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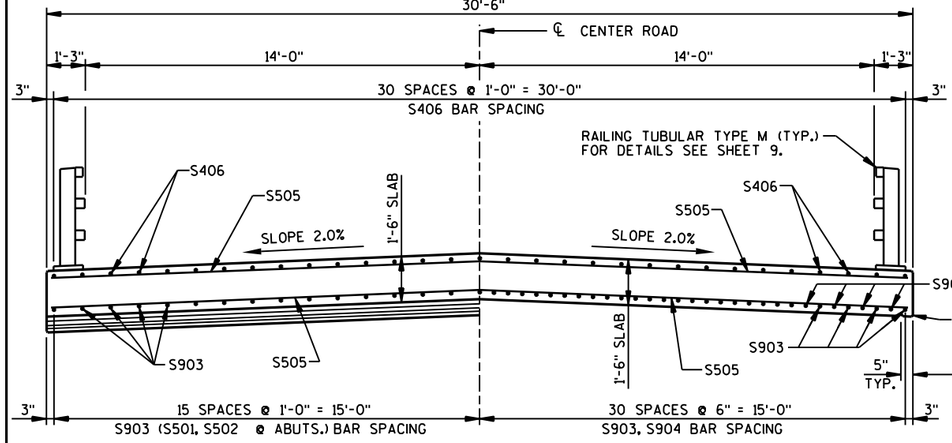
BILL OF BARS (COATED) 10,340 LBS.

MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
S501	62	6'-2"	X	DIAPHRAGM @ ABUTS. - LONGIT.
S502	62	3'-4"	X	DIAPHRAGM @ ABUTS. - LONGIT.
S903	31	32'-2"		SLAB BOTTOM - LONGIT.
S904	30	23'-11"		SLAB BOTTOM - LONGIT.
S505	75	30'-7"		SLAB TOP & BOTTOM - TRANS.
S406	31	30'-10"		SLAB TOP - LONGIT.
S607	24	12'-0"	X	SLAB TOP @ RAIL POST, 2 PER POST
S608	32	6'-0"		SLAB TOP @ RAIL POST, 4 PER POST
S609	16	6'-0"	X	SLAB TOP @ RAIL END POST AS NOTED

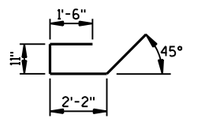
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
EPOXY COAT ALL SUPERSTRUCTURE BAR STEEL REINFORCEMENT.



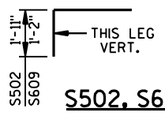
AT ABUTMENTS IN SPAN

CROSS SECTION THRU BRIDGE

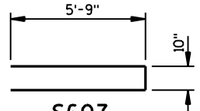
(LOOKING NORTH)



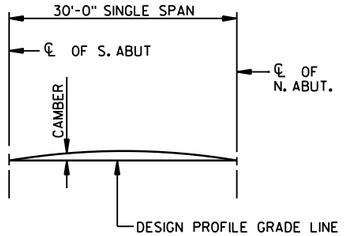
S501



S502, S609



S607



CAMBER DIAGRAM

CAMBER SPANS AS SHOWN ABOVE AND IN THE TABLE OF VALUES TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. DEAD LOAD DEFLECTION APPROXIMATES 1/3 OF CAMBER VALUES SHOWN.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE, FOLLOW THIS PROCEDURE:

TOP OF SLAB ELEVATION AT FINAL GRADE

- SLAB THICKNESS

+ CAMBER

+ FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)

= TOP OF SLAB FALSEWORK ELEVATION

GENERAL NOTES

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED ON THE SKEW.

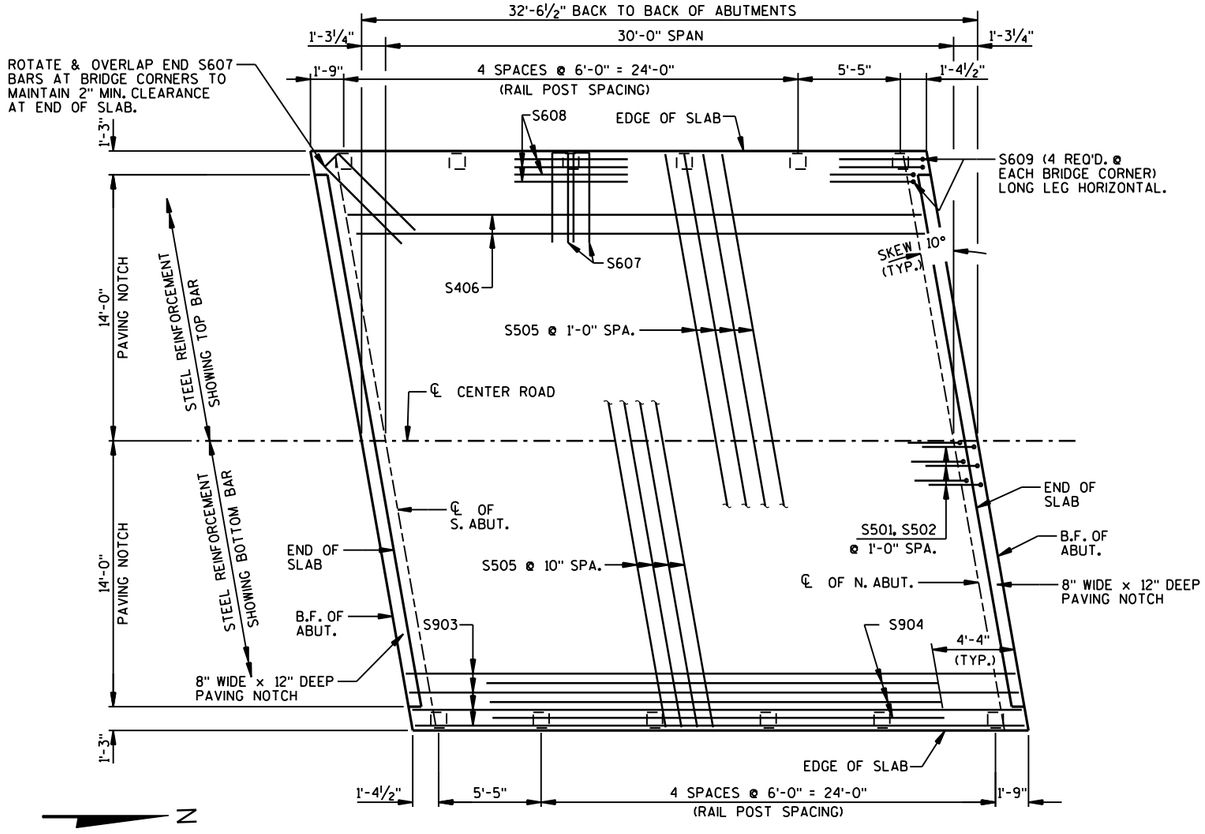
SURVEY TOP OF SLAB ELEVATIONS

LOCATION	SPAN POINT	WEST SLAB EDGE	C/L CENTER ROAD	EAST SLAB EDGE
SOUTH ABUT.	1.0			
	1.5			
NORTH ABUT.	2.0			

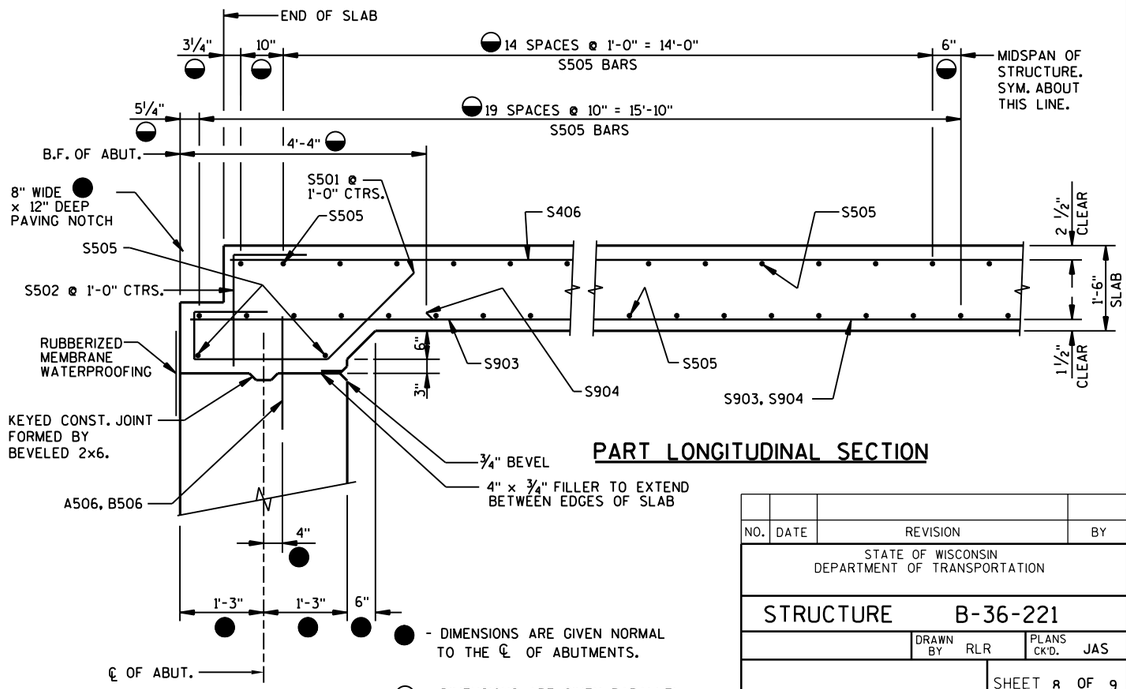
PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT THE 0.5 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR ℄. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

TOP OF SLAB ELEVATIONS AND CAMBER VALUES

LOCATION	SPAN POINT	EAST SLAB EDGE	C/L CENTER ROAD	WEST SLAB EDGE	CAMBER VALUE (INCHES)
SOUTH ABUT.	1.0	626.89	627.24	626.98	0.0
	1.1	626.84	627.19	626.93	0.2
	1.2	626.79	627.14	626.88	0.4
	1.3	626.74	627.09	626.83	0.5
	1.4	626.69	627.04	626.78	0.6
	1.5	626.65	626.99	626.73	0.6
	1.6	626.61	626.95	626.68	0.6
	1.7	626.57	626.91	626.64	0.5
	1.8	626.53	626.87	626.60	0.4
	1.9	626.49	626.83	626.56	0.2
NORTH ABUT.	2.0	626.46	626.79	626.52	0.0



PLAN



PART LONGITUDINAL SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-221

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SUPERSTRUCTURE

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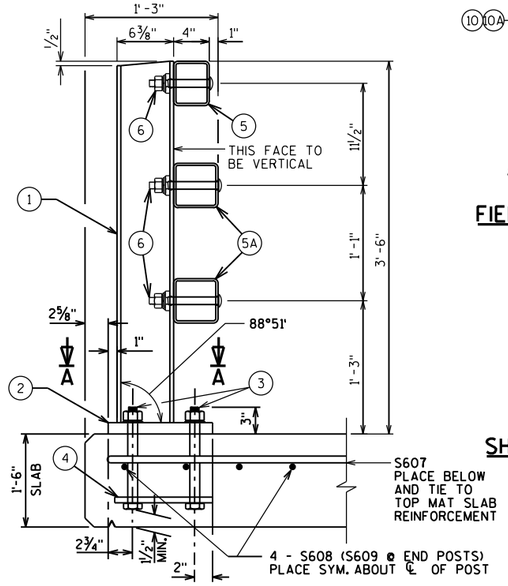
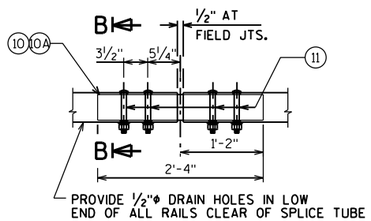
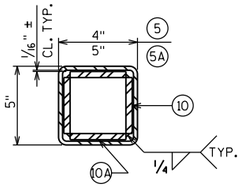


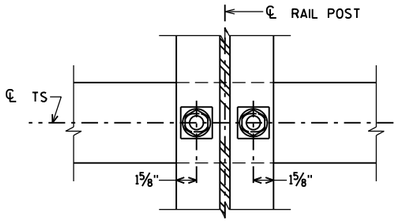
SECTION THRU RAILING ON SLAB



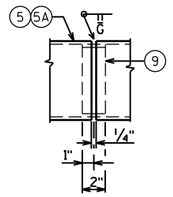
FIELD ERECTION JOINT DETAIL



SECTION B-B

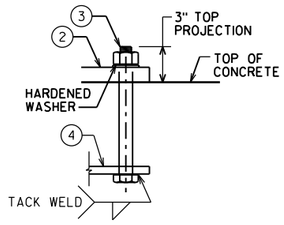


SECTION THRU POST WEB

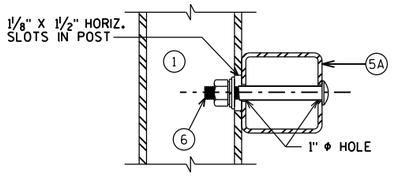


SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



ANCHOR BOLTS



SECTION THRU RAIL

NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

LEGEND

(1) W6 x 25 WITH 1 1/8" X 1 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

(2) PLATE 1 1/4" x 11 3/4" x 1'-8" WITH 1 5/16" X 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

(3) ASTM A449 - 1" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-3" LONG.

(4) 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 13/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3

(5) TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

(5A) TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

(6) 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" X 1 5/8" X 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)

✳ (7) 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" X 1 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.

✳ (8) 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.

(9) SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".

(10) 3/8" X 3 5/8" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

(10A) 3/8" X 2 5/8" X 2'-4" PLATE USED IN NO. 5, 3/8" X 3 5/8" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.

(11) 7/8" ϕ A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 5/8 " X 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS IN PLATE NO. 10A.

✳ (12) 7/8" DIA. X 1 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).

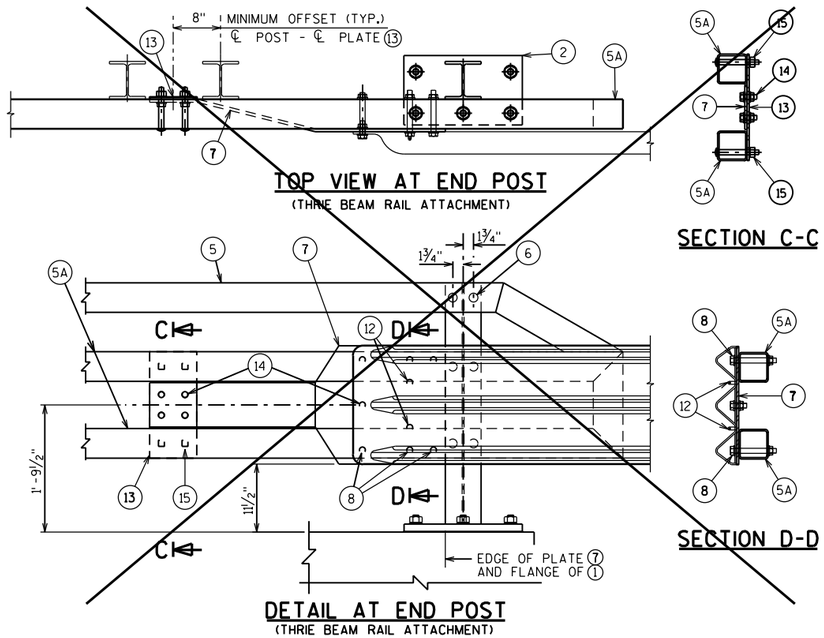
✳ (13) 3/8" X 8" X 1'-6" ANCHOR PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.

✳ (14) 7/8" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQUIRED).

✳ (15) 1" ϕ HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-36-221" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. 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 CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
10. PAINTING IS NOT REQUIRED.
11. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
12. ✳ DO NOT FURNISH ITEMS 7, 8, 12, 13, 14 AND 15. THRIE BEAM RAIL ATTACHMENT IS NOT INCLUDED.



TOP VIEW AT END POST

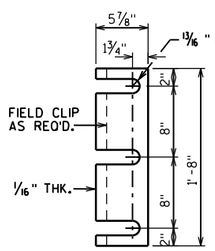
(THRIE BEAM RAIL ATTACHMENT)

DETAIL AT END POST

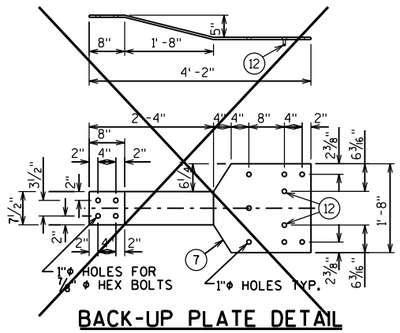
(THRIE BEAM RAIL ATTACHMENT)

ANCHOR PLATE

AT RAIL TO DECK ATTACHMENT

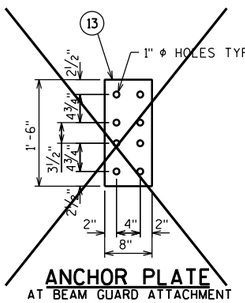


POST SHIM DETAIL



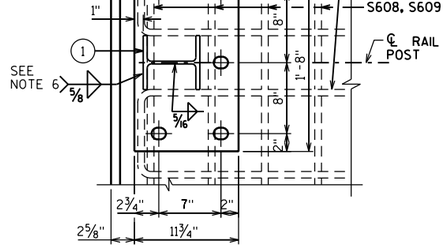
BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT

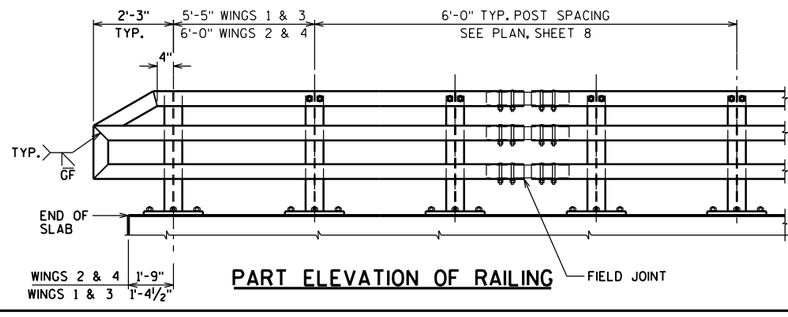


ANCHOR PLATE

AT BEAM GUARD ATTACHMENT



SECTION A-A



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-36-221

DRAWN BY RLR | PLANS CK'D. JAS

RAILING TUBULAR TYPE M

SHEET 9 OF 9

33

FILE= 9306025_09.DGN
DATE=5/1/2017

8

8

9306025_09.dgn 5/1/2017 2:35:37 PM rrabska

NOTES:

1. CUT - CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL

2. SALVAGED/UNUSABLE PAVEMENT MATERIAL - THIS DOES NOT SHOW UP IN CROSS SECTIONS.

3. FILL - DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL

4. MASS ORDINATE - PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE STATION RANGE, MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE STATION RANGE.

CENTER ROAD - DIVISION 1

Station	Distance	Area (SF) Cut	Area (SF) Salvaged/Unusable Pavement Material	Area (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate Note 4
10+98		82	41	0	0	0	0	0	0	0
11+00	2	82	26	0	6	2	0	6	0	4
11+22	22	32	10	2	46	15	1	52	1	34
11+36	14	28	7	16	16	4	5	68	7	40
11+39	3	28	7	16	3	1	2	71	9	40
					71	22	7			

CENTER ROAD - DIVISION 2

Station	Distance	Area (SF) Cut	Area (SF) Salvaged/Unusable Pavement Material	Area (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate Note 4
11+71		21	8	21	0	0	0	0	0	0
11+75	4	21	8	21	3	1	3	3	4	-2
11+88	13	24	7	25	11	4	11	14	18	-9
12+00	12	11	7	5	8	3	7	22	26	-13
12+50	50	22	7	12	30	13	16	52	46	-15
12+85	35	28	7	0	32	9	8	84	56	-1
13+00	15	0	0	0	8	2	0	92	56	5
					92	32	45			

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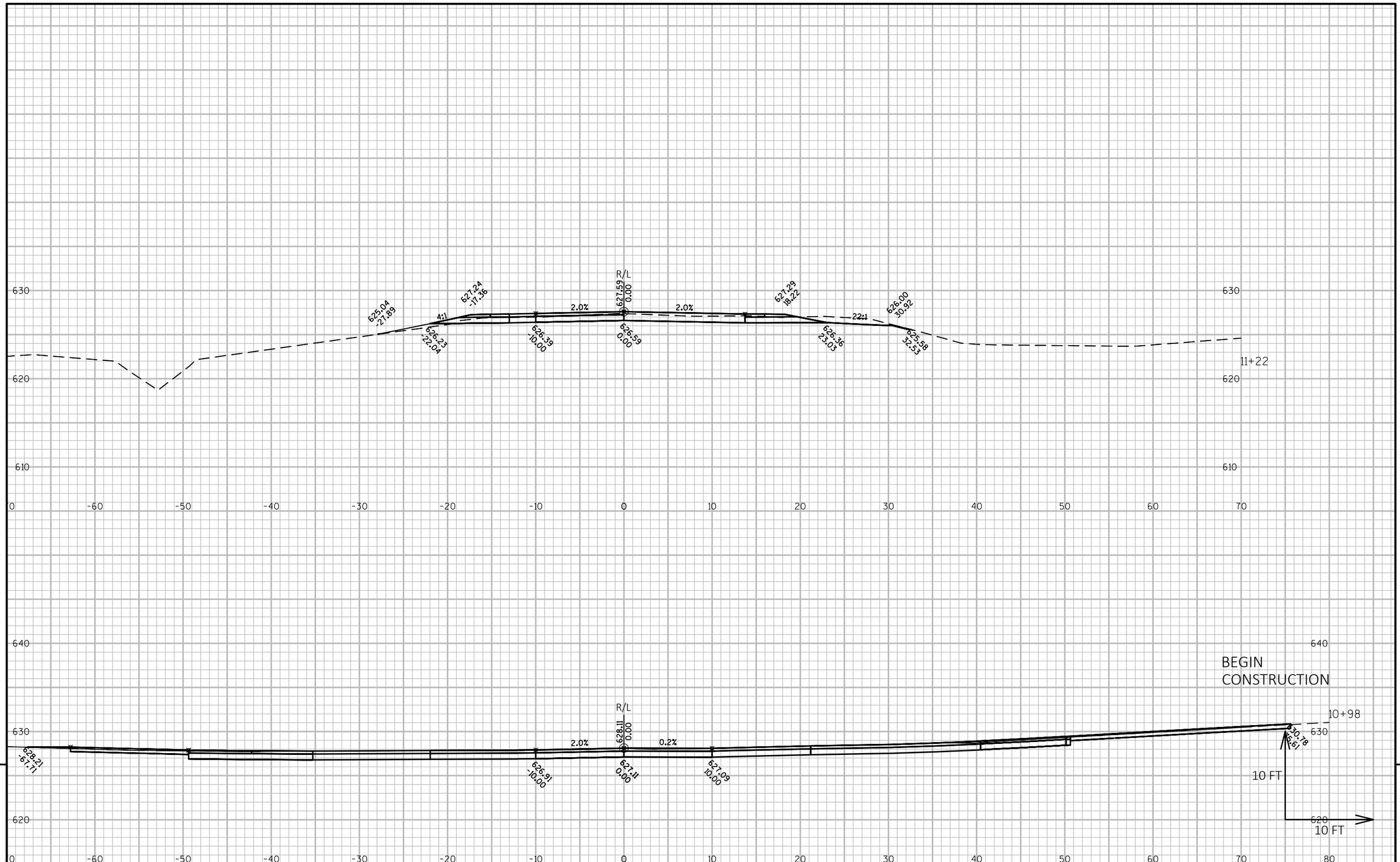
PROJECT NO: 4308-08-71	HWY: CENTER ROAD	COUNTY: MANITOWOC	EARTHWORK TABULATIONS CENTER ROAD	SHEET 34	E

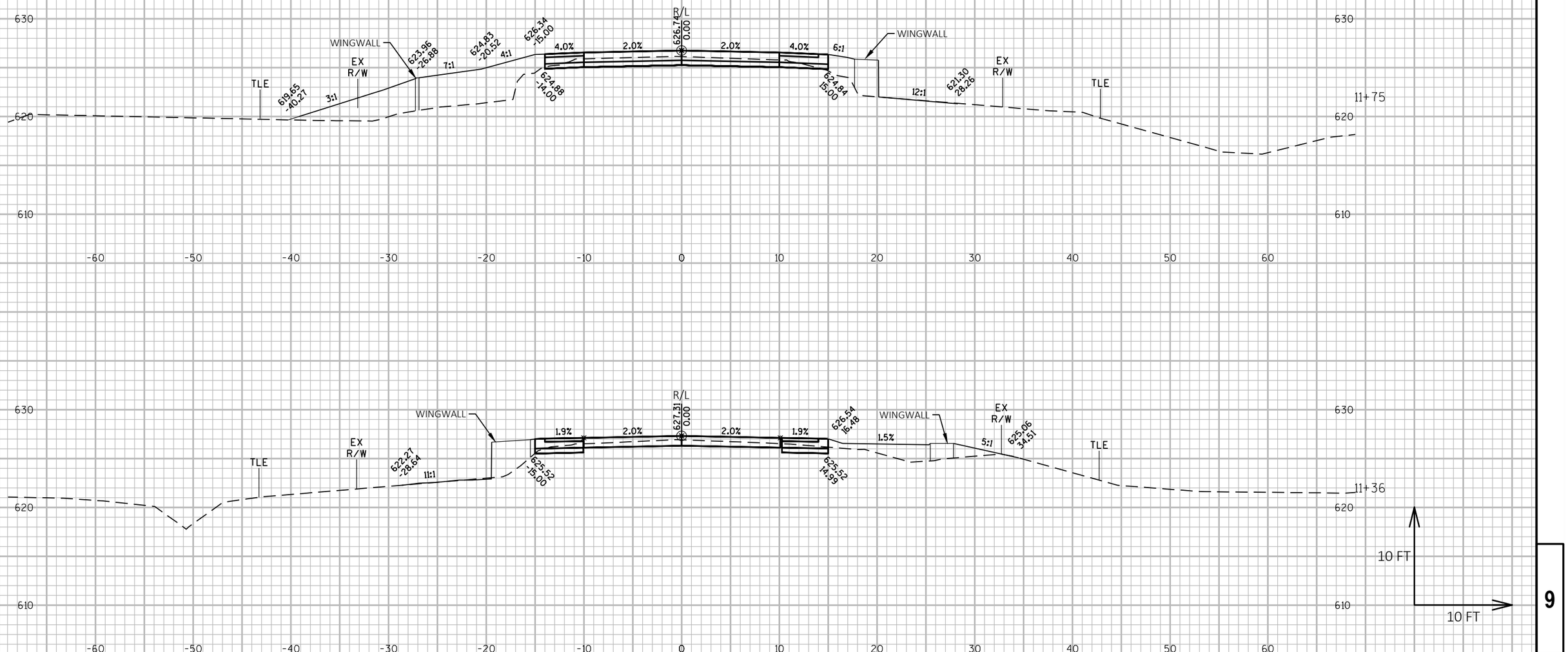


PROJECT NO: 4308-08-71	HWY: CENTER ROAD	COUNTY: MANITOWOC	CROSS SECTIONS: CENTER ROAD	SHEET - 35	E

FILE NAME : C:\EGNYTE\SHARED\1 - PROJECTS\2016\16.4002 MANITOWOC CTY HWY-CENTER RD BRIDGE\CAD\DESIGN\16-4002 E0.DWG
LAYOUT NAME - 6 CROSS SECTIONS

PLOT DATE : 6/28/2017 8:29 AM PLOT BY : PAMELA DAVENPORT PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 4308-08-71	HWY: CENTER ROAD	COUNTY: MANITOWOC	CROSS SECTIONS: CENTER ROAD	SHEET - 36	E

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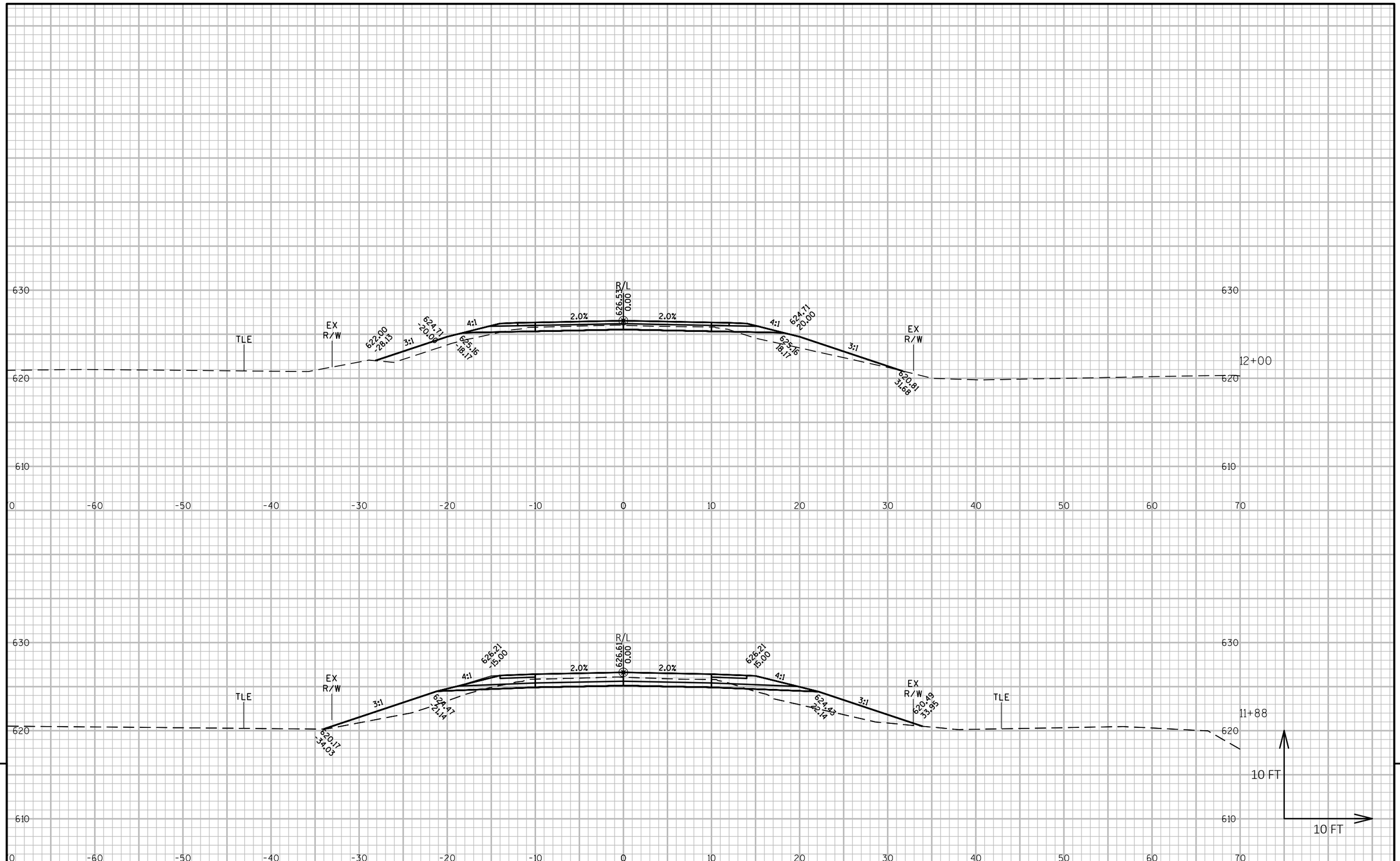
LAYOUT NAME - 7 CROSS SECTIONS

PLOT DATE : 6/28/2017 8:23 AM PLOT BY : PAMELA DAVENPORT PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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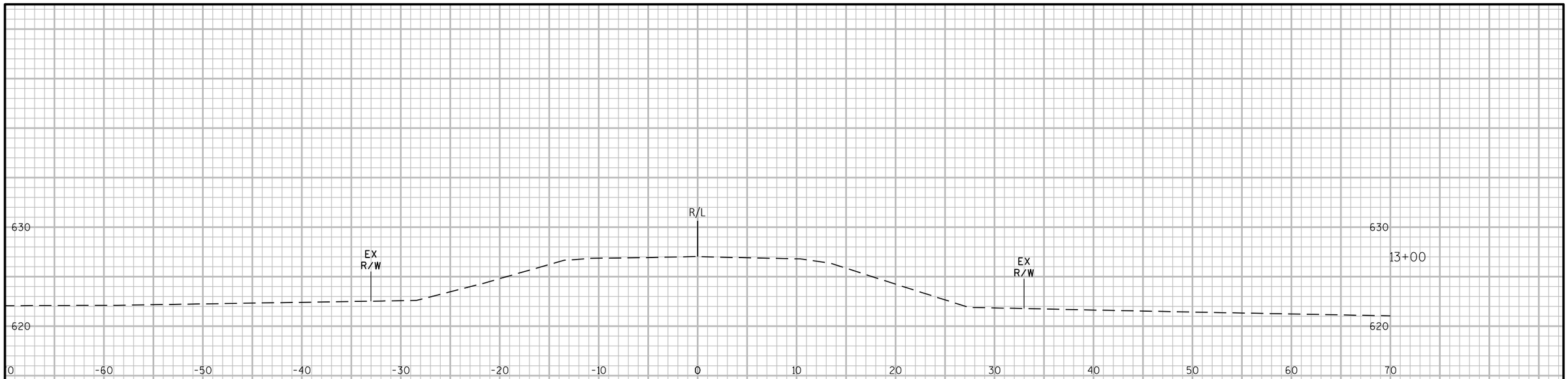
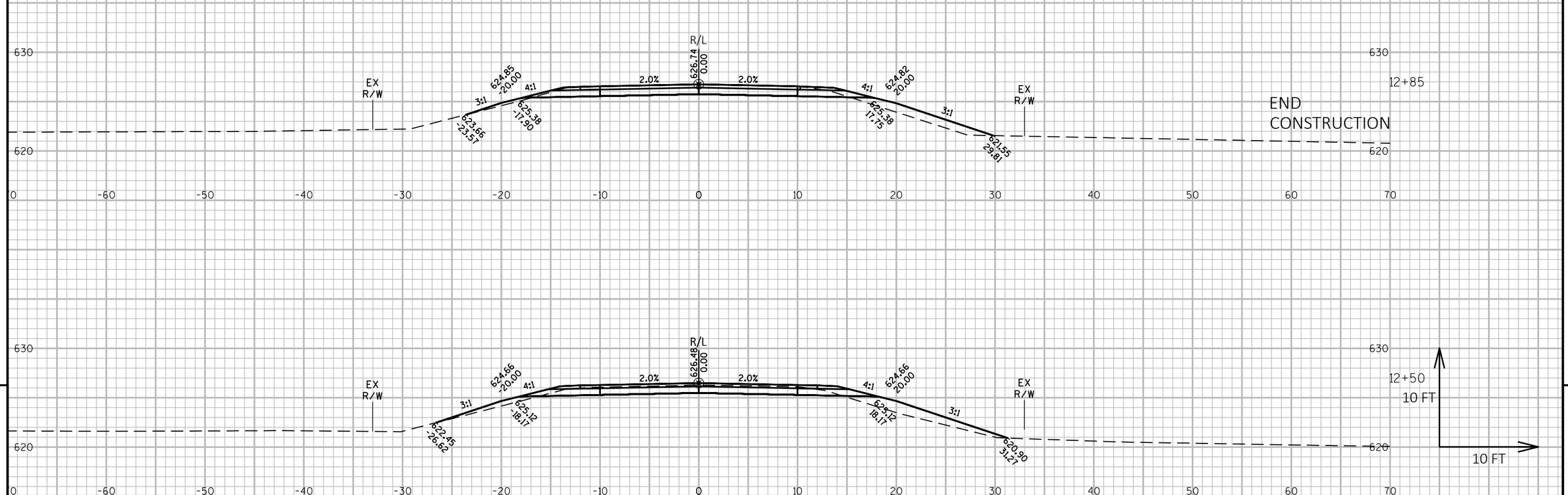
LAYOUT NAME - 8 CROSS SECTIONS

PLOT DATE : 6/28/2017 8:29 AM PLOT BY : PAMELA DAVENPORT PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49





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PROJECT NO: 4308-08-71	HWY: CENTER ROAD	COUNTY: MANITOWOC	CROSS SECTIONS: CENTER ROAD	SHEET - 38	E

FILE NAME : C:\EGNYTE\SHARED\1 - PROJECTS\2016\16.4002 MANITOWOC CTY HWY-CENTER RD BRIDGE\CAD\DESIGN\16-4002 E0.DWG
LAYOUT NAME - 9 CROSS SECTIONS

PLOT DATE : 6/28/2017 8:32 AM PLOT BY : PAMELA DAVENPORT PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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