NWL

DECEMBER 2017

PROJECT ID: 7239-00-70

WITH: N/A

COUNTY: JACKSON

ORDER OF SHEETS

TOTAL SHEETS = 62

25

N

DESIGN DESIGNATION

A.A.D.T.	(2017)	=	50
A.A.D.T.	(2037)	=	80
D.H.V.	(2037)	=	8
D.D.		=	50/50
T.		=	20%
DESIGN SPEED		=	40 MPH
ESALS		=	36,500

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T ADAMS, W KENYON ROAD

BR SQUAW CREEK BRIDGE B270162

LOC STR

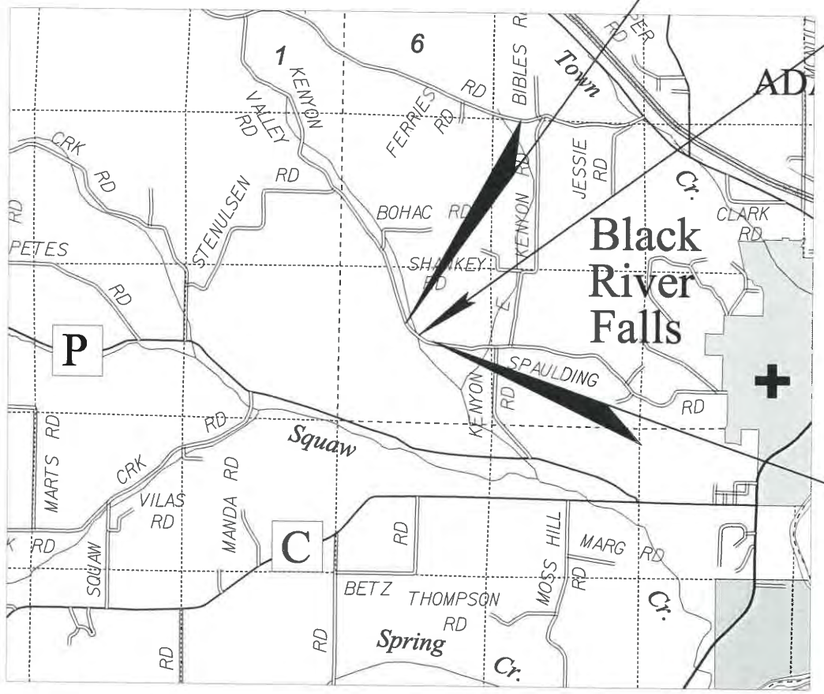
JACKSON COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7239-00-70	WISC 2018024	1

STATE PROJECT NUMBER: 7239-00-70

BEGIN PROJECT 7239-00-70
STA. 8+75.00
Y = 184,354.105
X = 367,292.430

STRUCTURE B-27-0162
STA. 9+97.50



END PROJECT 7239-00-70
STA. 11+74.00
Y = 184,166.087
X = 367,524.881

LAYOUT
SCALE 0 0.5 MI

TOTAL NET LENGTH OF CENTERLINE = 0.057 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, JACKSON 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.

ACCEPTED FOR
TOWN of ADAMS
Chairman
DATE: 7-11 Hardy Boehm
(Signature & Title of Official)

ORIGINAL PLANS PREPARED BY
Mead & Hunt

WISCONSIN JAY P. WHEATON E-36779 LA CROSSE, WI PROFESSIONAL ENGINEER
DATE: 7/7/2017
(Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MEAD & HUNT
Designer	MEAD & HUNT
Management Consultant	KNIGHT E/A, INC.
C.O. Examiner	N/A

APPROVED FOR THE DEPARTMENT
DATE: 7/25/17
(Management Consultant Signature)

E

FILE NAME : X:\3223700\155579.01\TECH\CAD\72390000\SHEETSPLAN\010101_TI.DWG
LAYOUT NAME - 010101_TI - 010101_TI

PLOT DATE : 6/30/2017 12:49 PM PLOT BY : JEFF BREU PLOT NAME :

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLANS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

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

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

THE EXACT LOCATION OF EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.

BEARINGS SHOWN ON THE PLANS ARE GRID BEARING TO NEAREST SECOND.

THE LOCATION OF ALL DRIVEWAYS WILL BE DETERMINED BY THE ENGINEER.

3 1/2-INCH ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 1 3/4-INCH UPPER LAYER AND A 1 3/4-INCH LOWER LAYER.

SILT FENCE IS TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, AND IN PLACE PRIOR TO BRIDGE REMOVAL. SILT FENCE IN WETLAND AREAS SHALL BE PLACED AT THE SLOPE INTERCEPT TO PREVENT DISTURBANCE OF WETLANDS.

SHRINKAGE IS ESTIMATED AT 25%.

THE LOCATION 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.

TEMPORARY STORAGE OF ANY EXCAVATED MATERIALS WILL NOT BE PERMITTED IN THE WETLANDS.

WETLANDS ARE PRESENT WITHIN THE PROJECT LIMITS. DO NOT OPERATE EQUIPMENT OUTSIDE THE SLOPE INTERCEPTS.

DISTURBED AREA WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOIL, FERTILIZED, SEEDED AND MULCH.

UTILITIES

** JACKSON ELECTRIC COOPERATIVE
ELECTRIC
N6868 CTH F
PO BOX 546
BLACK RIVER FALLS, WI 54615
ATTN: ERIC STEIEN
PHONE: (715) 284-5385
MOBILE: (715) 299-5208
EMAIL: ESTEIEN@JACKELEC.COM

** CENTURYLINK
TELEPHONE
835 RED IRON ROAD
BLACK RIVER FALLS, WI 54615
ATTN: DONNA SMOTHERS
PHONE: (715) 284-4375
EMAIL: DONNA.SMOTHERS@CENTURYLINK.COM

** THESE ARE MEMBERS OF DIGGERS HOTLINE

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

JACKSON COUNTY

JACKSON COUNTY HIGHWAY COMMISSIONER
119 HARRISON STREET
BLACK RIVER FALLS, WI 54615
ATTN: RANDY ANDERSON
PHONE: (715) 284-0233
EMAIL: RANDY.ANDERSON@CO.JACKSON.WI.US

DNR

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
DNR SERVICE CENTER
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
ATTN: KAREN KALVELAGE
PHONE: (608) 785-9115
EMAIL: KAREN.KALVELAGE@WISCONSIN.GOV

TOWN OF ADAMS

HARLEY BOEHM, CHAIRMAN
N7355 ALLEN CREEK ROAD
BLACK RIVER FALLS, WI 54615
PHONE: (715) 284-2969

STANDARD ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC	M/L	MAINLINE
AGG	AGGREGATE	NO	NUMBER
ASPH	ASPHALTIC	PE	PRIVATE ENTRANCE
BM	BENCH MARK	PI	POINT OF INTERSECTION
BOC	BACK OF CURB	PL	PROPERTY LINE
C&G	CURB AND GUTTER	PP	POWER POLE
CE	COMMERCIAL ENTRANCE	QTY	QUANTITY
CL	CENTERLINE	RHF	RIGHT-HAND FORWARD
COR	CORNER	RT	RIGHT
CWT	HUNDREDWEIGHT	R/L	REFERENCE LINE
CY	CUBIC YARD	R/W	RIGHT-OF-WAY
DHV	DESIGN HOURLY VOLUME	SF	SQUARE FOOT
DWY	DRIVEWAY	SHLDR	SHOULDER
EL	ELEVATION	SS	STORM SEWER
EX	EXISTING	STA	STATION
EXC	EXCAVATION	SY	SQUARE YARD
FT	FOOT	T	TRUCKS (PERCENT OF)
FTG	FOOTING	TEL	TELEPHONE
HYD	HYDRANT	TLE	TEMPORARY LIMITED EASEMENT
INV	INVERT	TYP	TYPICAL
LB	POUND	UG	UNDERGROUND CABLE
LF	LINEAR FOOT	VAR	VARIABLE
LHF	LEFT-HAND FORWARD	VC	VERTICAL CURVE
LS	LUMP SUM	VPC	VERTICAL POINT OF CURVE
LT	LEFT	VPI	VERTICAL POINT OF INTERSECTION
Mgal	MEGAGALLON	VPT	VERTICAL POINT OF TANGENCY

DESIGN CONSULTANT

Mead & Hunt

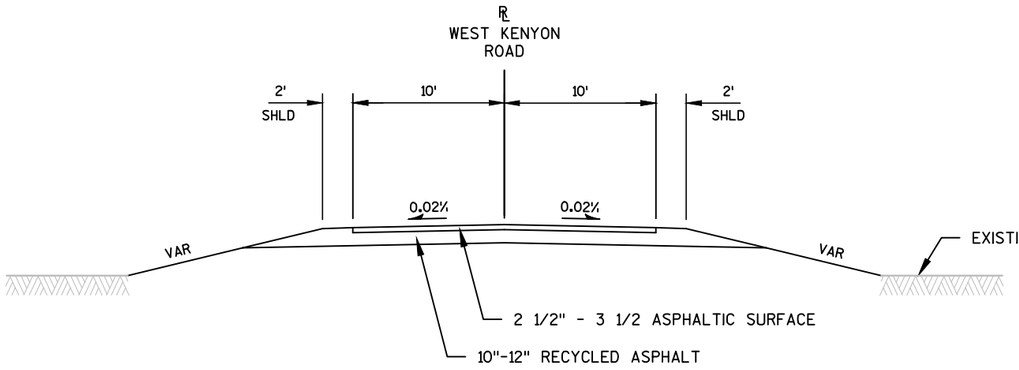
MEAD & HUNT, INC.
750 NORTH THIRD STREET
LA CROSSE, WI 54601
ATTN: JAY P. WHEATON, P.E.
PHONE: (608) 784-6040
MOBILE: (608) 386-0212
EMAIL: JAY.WHEATON@MEADHUNT.COM

ORDER OF SECTION 2 SHEETS

RUNOFF COEFFICIENT TABLE

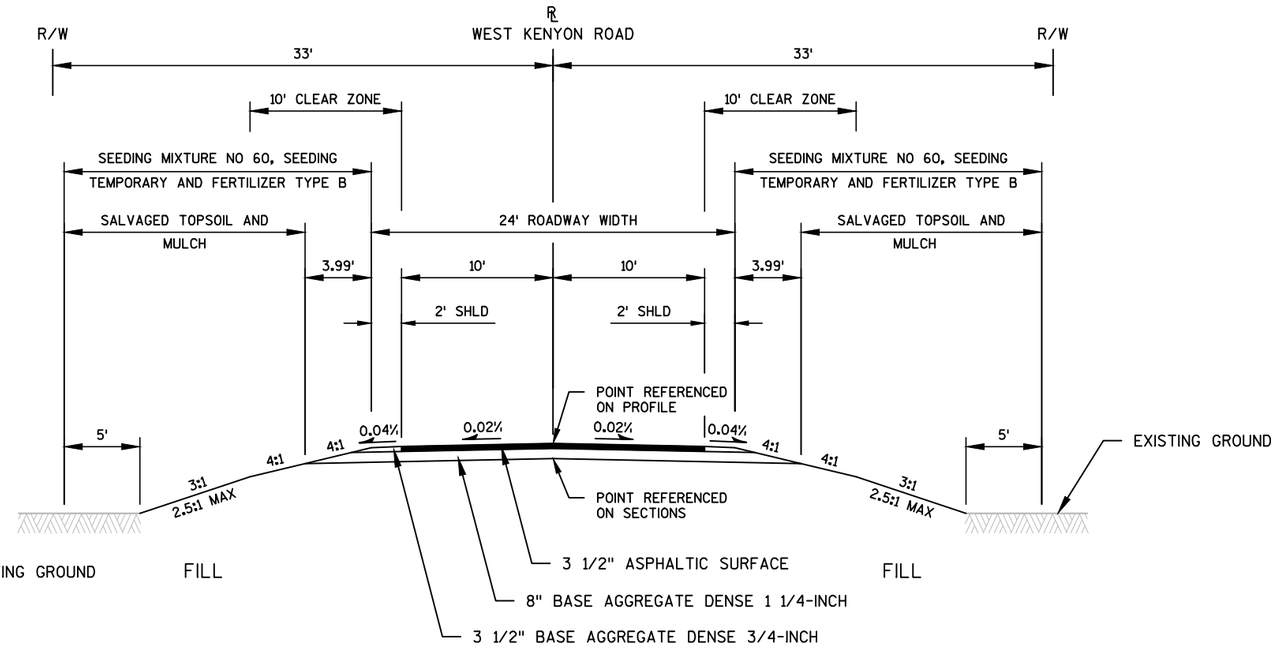
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .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 = 0.69 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.50 ACRES



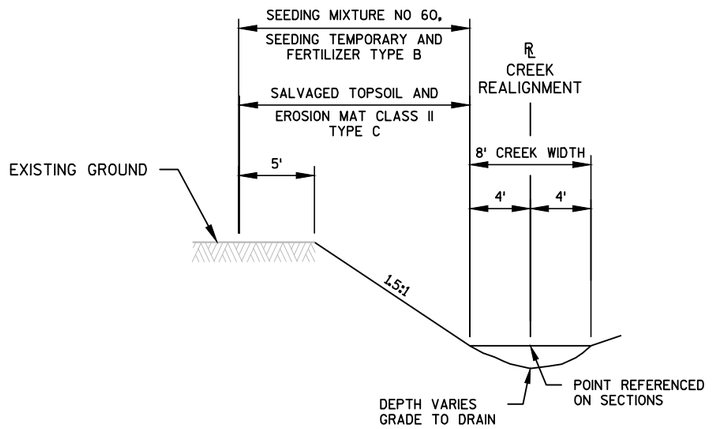
EXISTING TYPICAL SECTION

STA 8+75.00 TO STA 9+81.50
STA 10+17.50 TO STA 11+74.00



PROPOSED TYPICAL SECTION

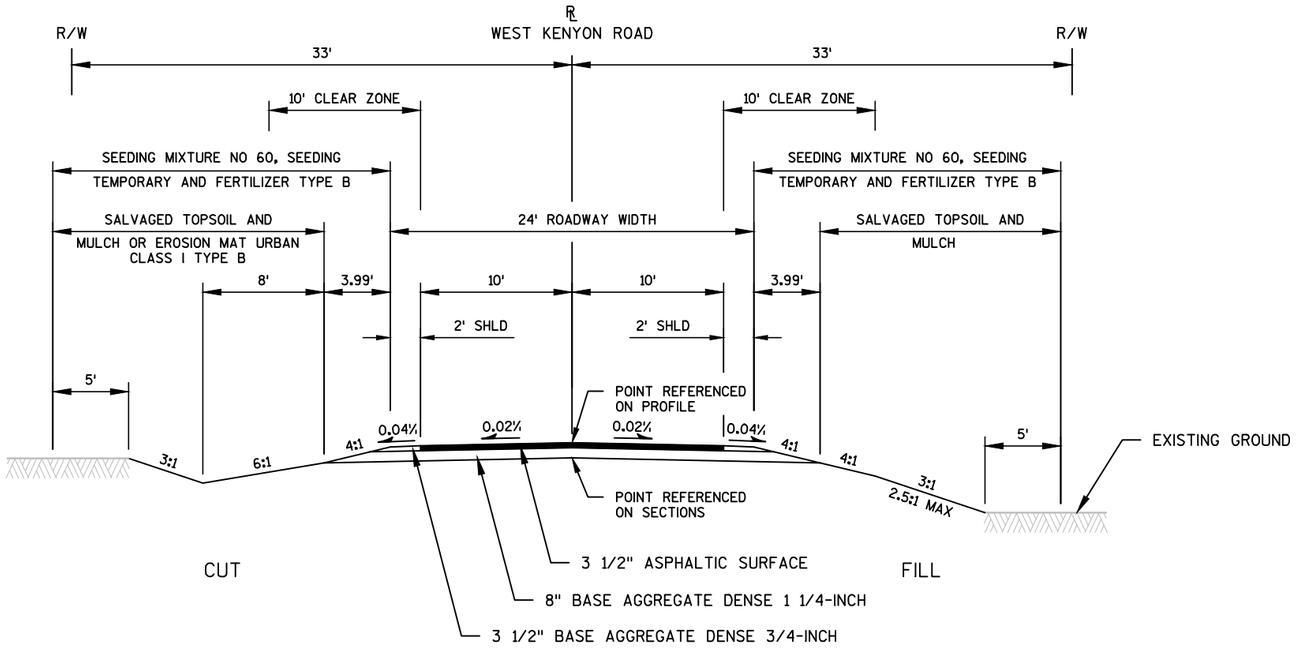
STA 8+75.00 TO STA 9+70.55



PROPOSED TYPICAL SECTION

CREEK REALIGNMENT

STA 50+00.00 TO STA 50+85.00

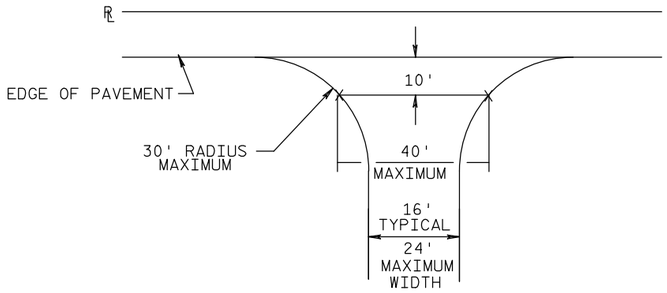


PROPOSED TYPICAL SECTION

STA 10+24.45 TO STA 11+74.00

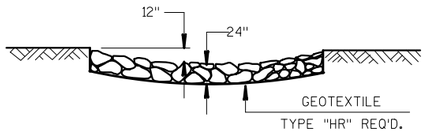
PROJECT NO: 7239-00-70	HWY: LOC STR	COUNTY: JACKSON	TYPICAL SECTIONS	SHEET 3	E

2

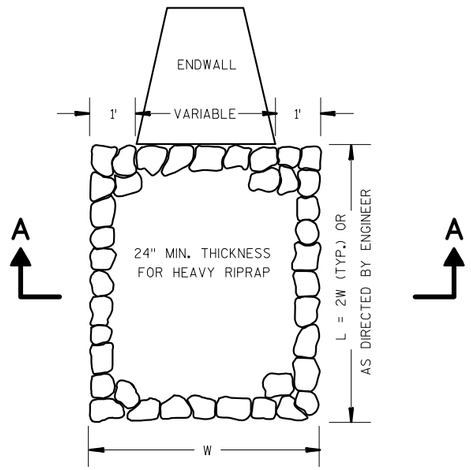


TYPICAL DRIVEWAY DETAIL

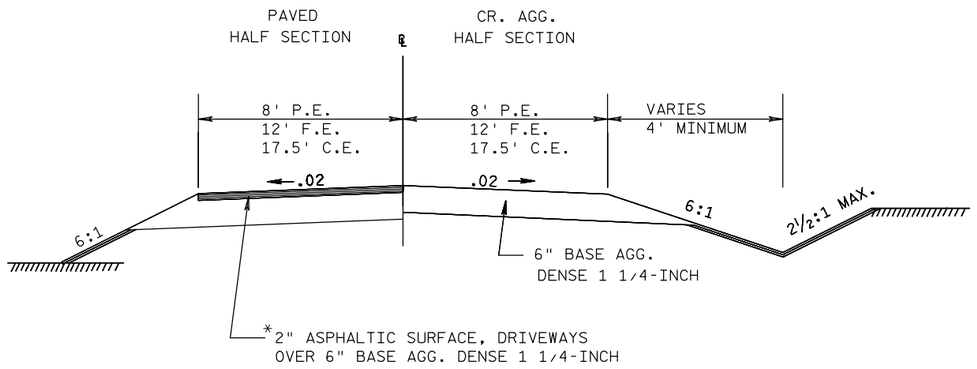
(NON-COMMERCIAL RURAL)



SECTION A-A



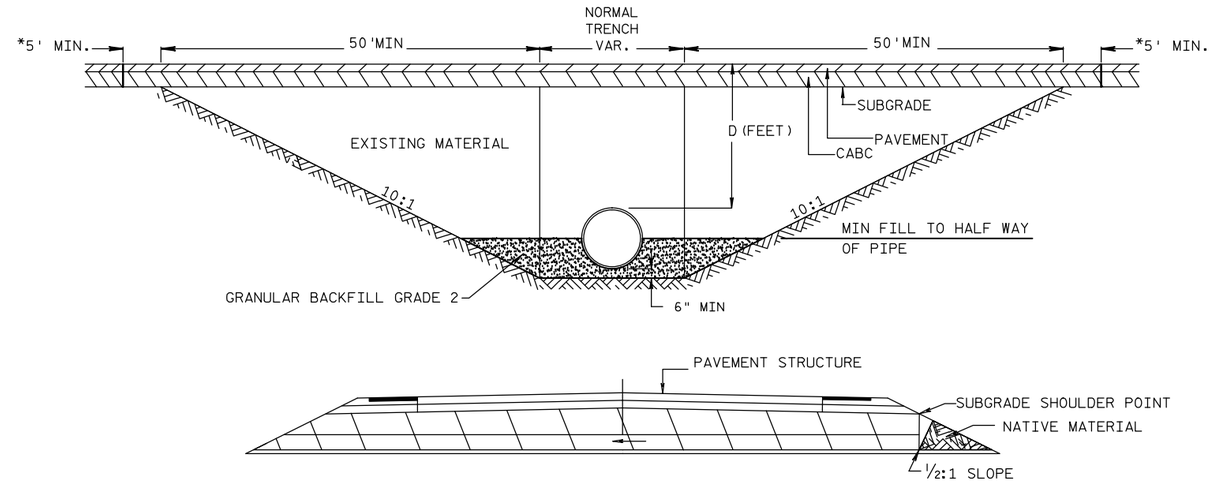
HEAVY RIPRAP TREATMENT AT CULVERTS



*OR MATCH EXIST.
ASPH. DEPTH

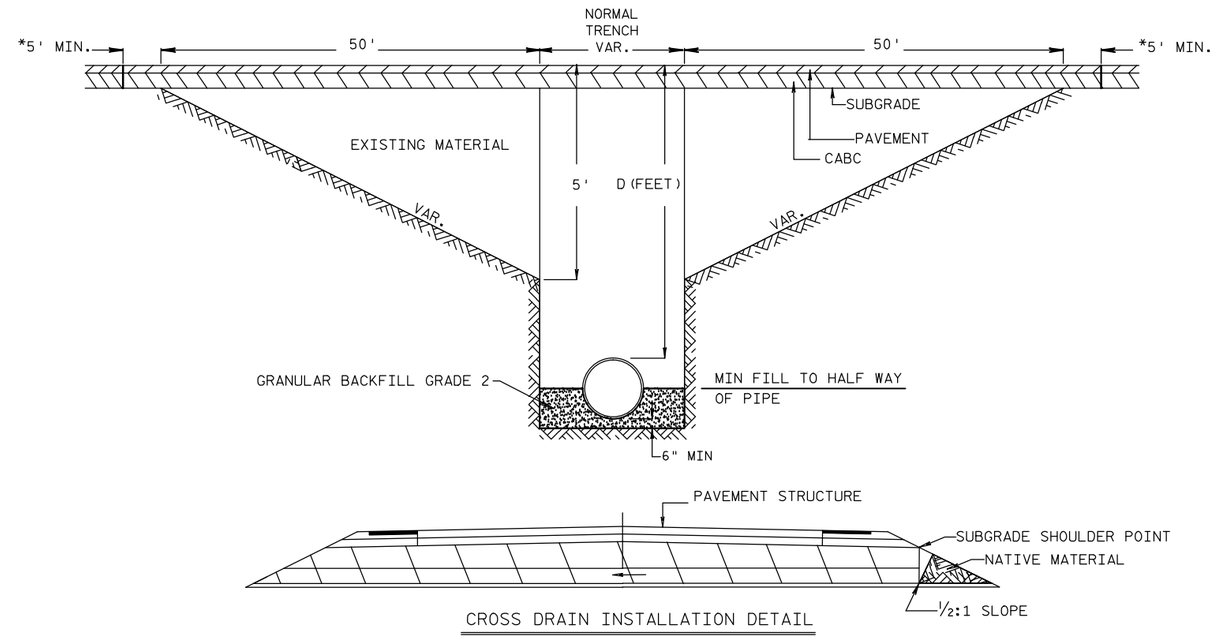
TYPICAL SECTION
FOR PRIVATE ENTRANCES

NOTE:
DRIVEWAY PROFILES NOT EXPECTED TO EXCEED 10%. PLACE LOW POINT OF DRIVEWAY PROFILE OVER DITCH FLOW LINE.



CROSS DRAIN INSTALLATION DETAIL
FOR D ≤ 5'

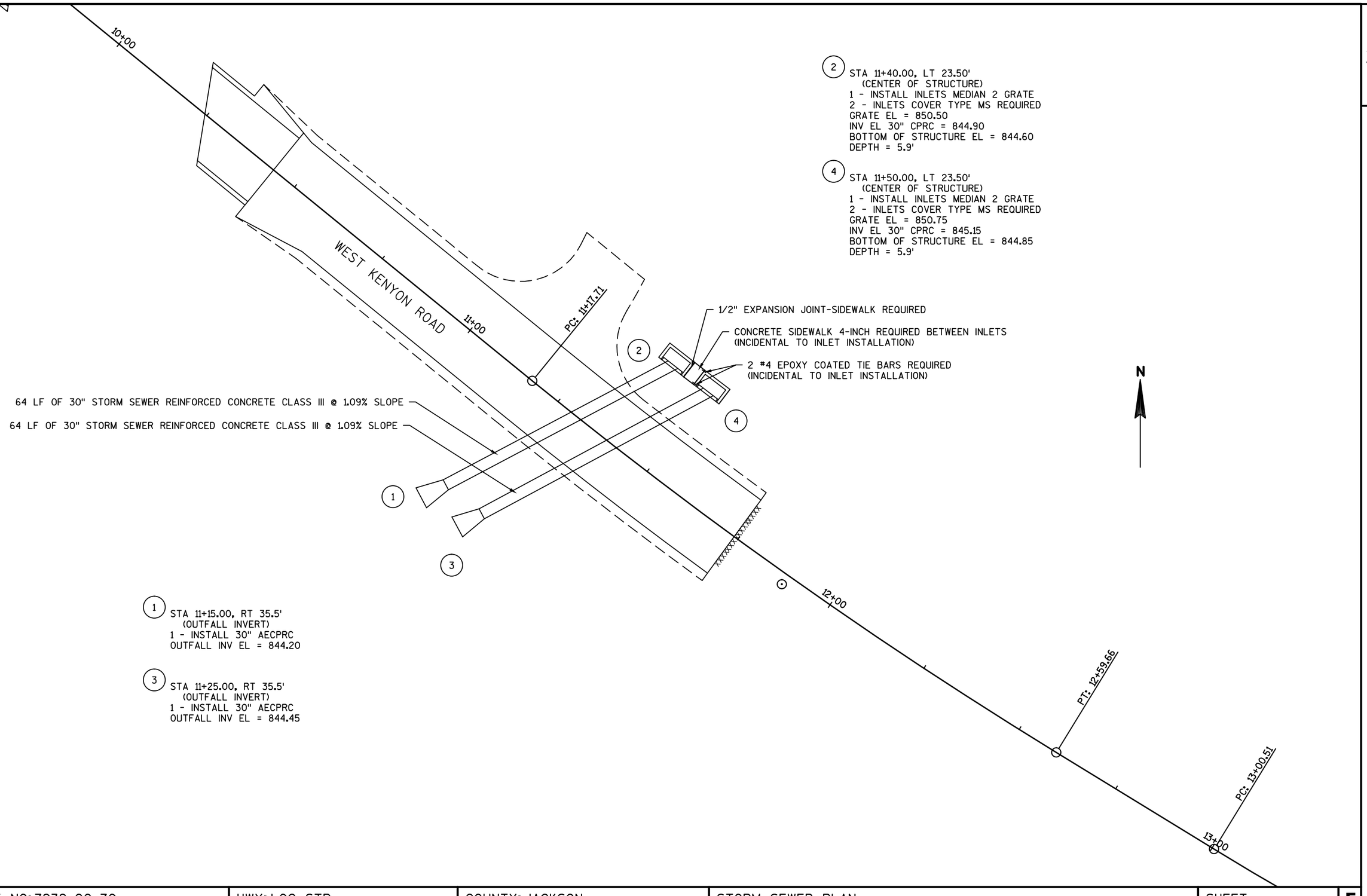
* PAVEMENT REMOVAL LIMITS (TYPICAL)



CROSS DRAIN INSTALLATION DETAIL
FOR D ≥ 5'

PROJECT NO: 7239-00-70	HWY: LOC STR	COUNTY: JACKSON	PLAN: CONSTRUCTION DETAILS	SHEET 5	E

2



(2) STA 11+40.00, LT 23.50'
(CENTER OF STRUCTURE)
1 - INSTALL INLETS MEDIAN 2 GRATE
2 - INLETS COVER TYPE MS REQUIRED
GRATE EL = 850.50
INV EL 30" CPRC = 844.90
BOTTOM OF STRUCTURE EL = 844.60
DEPTH = 5.9'

(4) STA 11+50.00, LT 23.50'
(CENTER OF STRUCTURE)
1 - INSTALL INLETS MEDIAN 2 GRATE
2 - INLETS COVER TYPE MS REQUIRED
GRATE EL = 850.75
INV EL 30" CPRC = 845.15
BOTTOM OF STRUCTURE EL = 844.85
DEPTH = 5.9'

(1) STA 11+15.00, RT 35.5'
(OUTFALL INVERT)
1 - INSTALL 30" AECPRC
OUTFALL INV EL = 844.20

(3) STA 11+25.00, RT 35.5'
(OUTFALL INVERT)
1 - INSTALL 30" AECPRC
OUTFALL INV EL = 844.45

PROJECT NO: 7239-00-70	HWY: LOC STR	COUNTY: JACKSON	STORM SEWER PLAN	SHEET 6	E

2

GENERAL TRAFFIC CONTROL NOTES

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD).

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

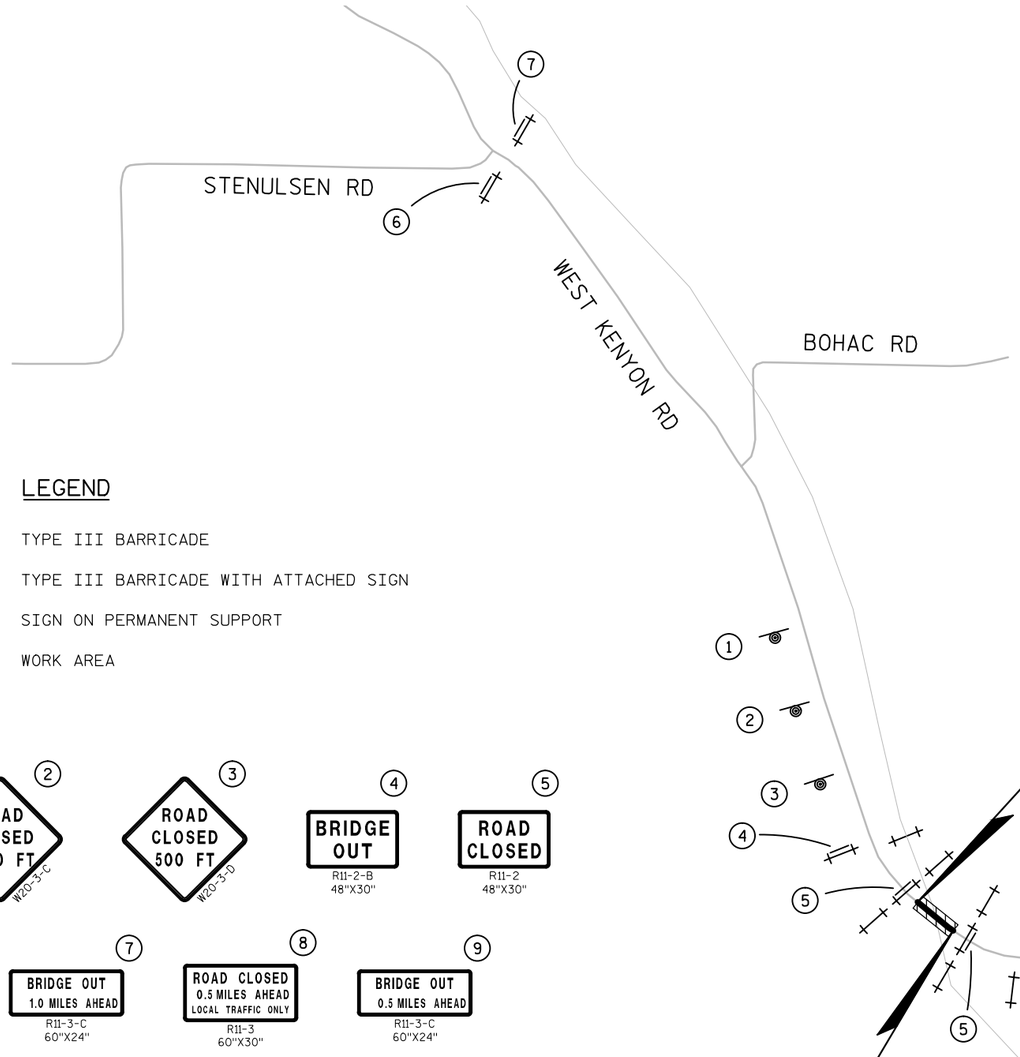
DURING HOURS OF DARKNESS, ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH A TYPE 'A' (LOW INTENSITY FLASHING) LIGHTS.

'WO' SIGNS ARE THE SAME A 'W' SIGNS EXCEPT THE BACKGROUND SHALL BE ORANGE.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

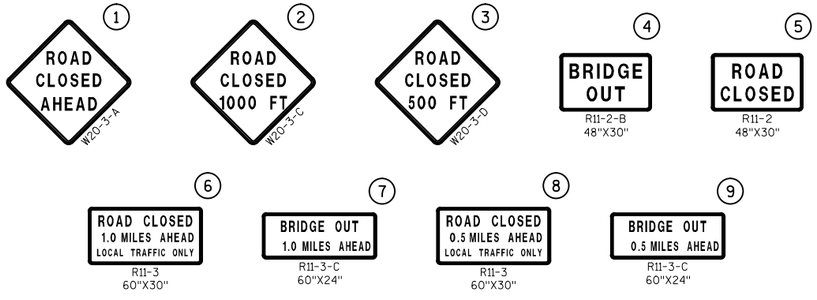
ANY SIGNS TEMPORARY OR EXISTING WHICH CONFLICT WITH TRAFFIC CONTROL 'IN USE', SHALL BE BE COVERED OR REMOVED AS NEEDED AND AS APPROVED BY THE ENGINEER.

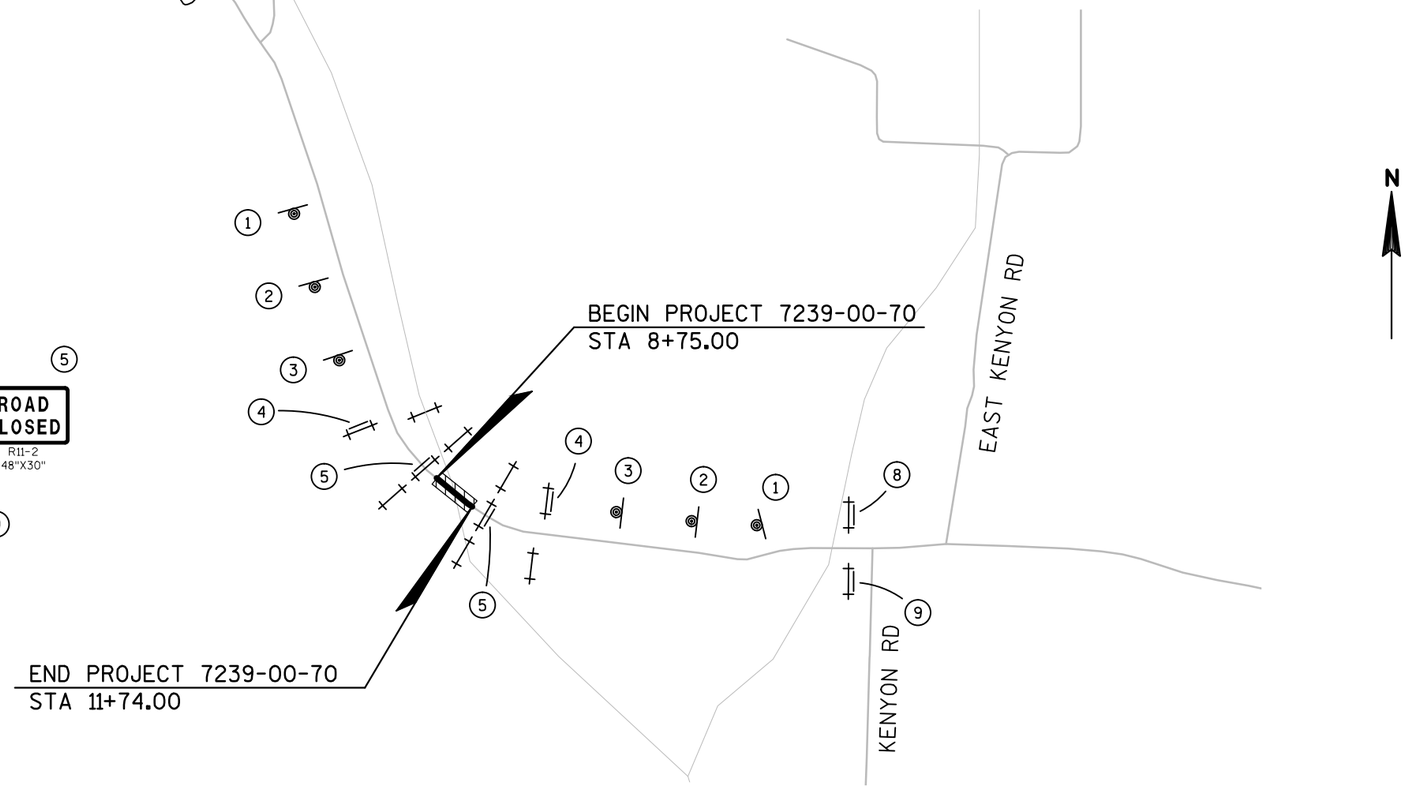
ALL TYPE III BARRICADES SHALL HAVE AN EQUIVALENT WIDTH OF 8 FEET, BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- WORK AREA





PROJECT NO: 7239-00-70	HWY: LOC STR	COUNTY: JACKSON	TRAFFIC CONTROL	SHEET 7	E

FILE NAME : X:\3223700\155579.01\TECH\CAD\72390000\SHEETSPLAN\025001_TC.DWG
LAYOUT NAME - 025001_TC - 025001_TC
PLOT DATE : 9/5/2017 3:08 PM
PLOT BY : JEFF BREU
PLOT NAME :
PLOT SCALE : 1 IN:1000 FT
WISDOT/CADDS SHEET 42

2

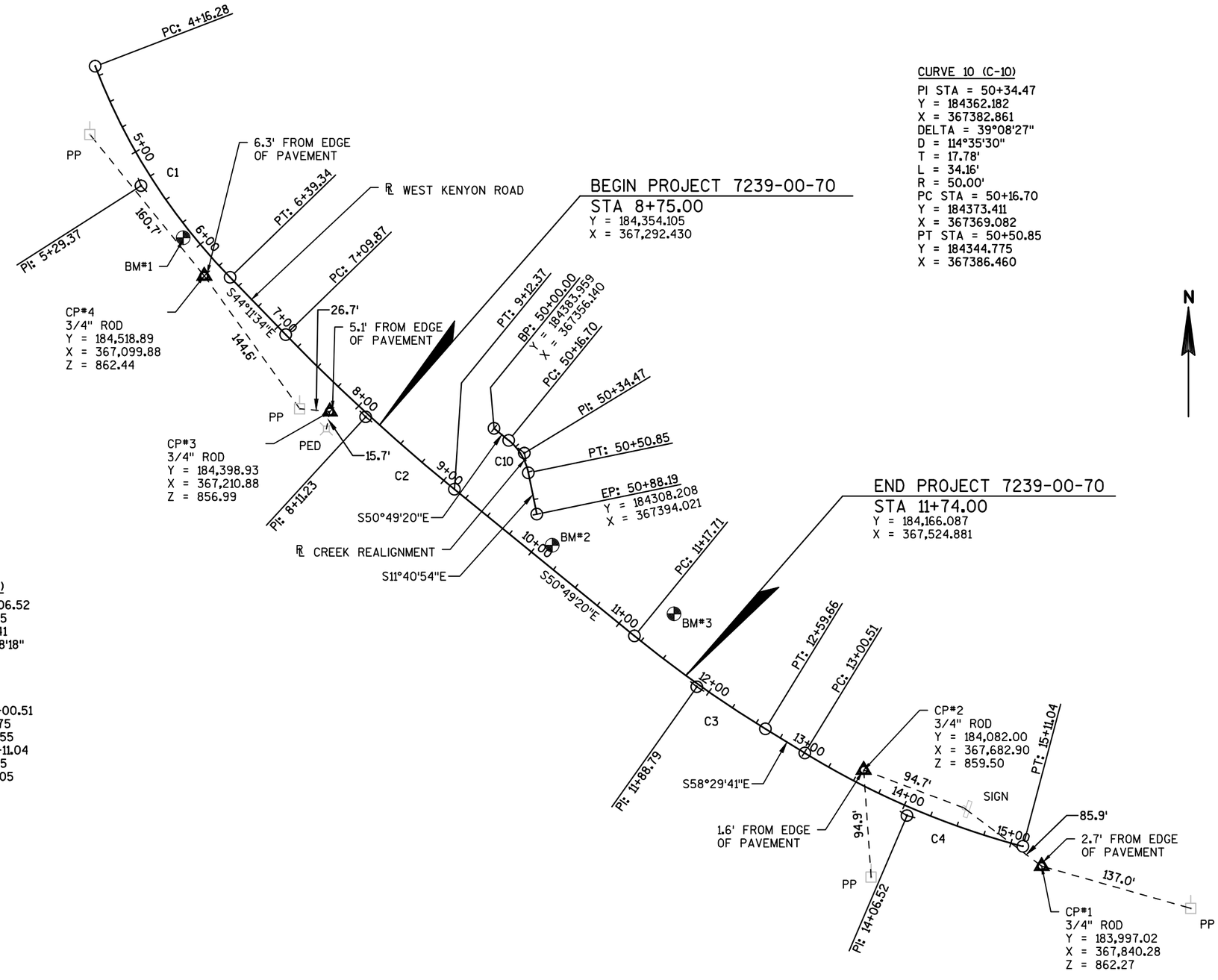
CURVE 1 (C-1)
PI STA = 5+29.37
Y = 184598.552
X = 367043.920
DELTA = 23°14'15"
D = 10°25'03"
T = 113.09'
L = 223.06'
R = 550.00'
PC STA = 4+16.28
Y = 184704.158
X = 367003.476
PT STA = 6+39.34
Y = 184517.469
X = 367122.749

CURVE 2 (C-2)
PI STA = 8+11.23
Y = 184394.224
X = 367242.569
DELTA = 6°37'47"
D = 3°16'27"
T = 101.36'
L = 202.49'
R = 1750.00'
PC STA = 7+09.87
Y = 184466.898
X = 367171.915
PT STA = 9+12.37
Y = 184330.193
X = 367321.141

CURVE 3 (C-3)
PI STA = 11+88.79
Y = 184155.567
X = 367535.425
DELTA = 7°40'21"
D = 5°24'19"
T = 71.08'
L = 141.94'
R = 1060.00'
PC STA = 11+17.71
Y = 184200.469
X = 367480.326
PT STA = 12+59.66
Y = 184118.424
X = 367596.025

CURVE 4 (C-4)
PI STA = 14+06.52
Y = 184041.675
X = 367721.241
DELTA = 16°38'18"
D = 7°54'10"
T = 106.01'
L = 210.53'
R = 725.00'
PC STA = 13+00.51
Y = 184097.075
X = 367630.855
PT STA = 15+11.04
Y = 184014.475
X = 367823.705

CURVE 10 (C-10)
PI STA = 50+34.47
Y = 184362.182
X = 367382.861
DELTA = 39°08'27"
D = 114°35'30"
T = 17.78'
L = 34.16'
R = 50.00'
PC STA = 50+16.70
Y = 184373.411
X = 367369.082
PT STA = 50+50.85
Y = 184344.775
X = 367386.460



PROJECT NO: 7239-00-70	HWY: LOC STR	COUNTY: JACKSON	ALIGNMENTS	SHEET 8	E

7239-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	4.000	4.000
0004	201.0205	Grubbing	STA	4.000	4.000
0006	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0008	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. STA 10+00	LS	1.000	1.000
0010	205.0100	Excavation Common	CY	311.000	311.000
0012	206.1000	Excavation for Structures Bridges (structure) 01. B-27-162	LS	1.000	1.000
0014	208.0100	Borrow	CY	279.000	279.000
0016	209.2100	Backfill Granular Grade 2	CY	36.000	36.000
0018	210.1500	Backfill Structure Type A	TON	290.000	290.000
0020	213.0100	Finishing Roadway (project) 01. 7239-00-70	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	32.000	32.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	370.000	370.000
0026	415.0080	Concrete Pavement 8-Inch	SY	16.000	16.000
0028	415.0410	Concrete Pavement Approach Slab	SY	80.000	80.000
0030	455.0605	Tack Coat	GAL	35.000	35.000
0032	465.0105	Asphaltic Surface	TON	95.000	95.000
0034	502.0100	Concrete Masonry Bridges	CY	132.000	132.000
0036	502.3200	Protective Surface Treatment	SY	216.000	216.000
0038	503.0128	Prestressed Girder Type I 28-Inch	LF	208.000	208.000
0040	505.0400	Bar Steel Reinforcement HS Structures	LB	3,760.000	3,760.000
0042	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	13,700.000	13,700.000
0044	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	8.000	8.000
0046	506.4000	Steel Diaphragms (structure) 01. B-27-162	EACH	3.000	3.000
0048	513.4061	Railing Tubular Type M (structure) 01. B-27-162	LF	164.000	164.000
0050	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0052	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	2.000	2.000
0054	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	600.000	600.000
0056	606.0300	Riprap Heavy	CY	400.000	400.000
0058	608.0330	Storm Sewer Pipe Reinforced Concrete Class III 30-Inch	LF	128.000	128.000
0060	611.0642	Inlet Covers Type MS	EACH	4.000	4.000
0062	611.3902	Inlets Median 2 Grate	EACH	2.000	2.000
0064	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	210.000	210.000
0066	619.1000	Mobilization	EACH	1.000	1.000
0068	624.0100	Water	MGAL	6.000	6.000
0070	625.0500	Salvaged Topsoil	SY	1,595.000	1,595.000
0072	627.0200	Mulching	SY	895.000	895.000
0074	628.1504	Silt Fence	LF	1,000.000	1,000.000

7239-00-70

Line	Item	Item Description	Unit	Total	Qty
0076	628.1520	Silt Fence Maintenance	LF	2,000.000	2,000.000
0078	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0080	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0082	628.2008	Erosion Mat Urban Class I Type B	SY	565.000	565.000
0084	628.2027	Erosion Mat Class II Type C	SY	115.000	115.000
0086	628.6005	Turbidity Barriers	SY	220.000	220.000
0088	628.7005	Inlet Protection Type A	EACH	2.000	2.000
0090	628.7504	Temporary Ditch Checks	LF	40.000	40.000
0092	629.0210	Fertilizer Type B	CWT	1.500	1.500
0094	630.0120	Seeding Mixture No. 20	LB	25.000	25.000
0096	630.0160	Seeding Mixture No. 60	LB	18.000	18.000
0098	630.0200	Seeding Temporary	LB	31.000	31.000
0100	633.5200	Markers Culvert End	EACH	2.000	2.000
0102	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0104	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0106	638.2602	Removing Signs Type II	EACH	5.000	5.000
0108	638.3000	Removing Small Sign Supports	EACH	5.000	5.000
0110	642.5001	Field Office Type B	EACH	1.000	1.000
0112	643.0420	Traffic Control Barricades Type III	DAY	1,008.000	1,008.000
0114	643.0705	Traffic Control Warning Lights Type A	DAY	2,016.000	2,016.000
0116	643.0900	Traffic Control Signs	DAY	1,008.000	1,008.000
0118	643.5000	Traffic Control	EACH	1.000	1.000
0120	645.0111	Geotextile Type DF Schedule A	SY	110.000	110.000
0122	645.0120	Geotextile Type HR	SY	805.000	805.000
0124	650.4000	Construction Staking Storm Sewer	EACH	4.000	4.000
0126	650.4500	Construction Staking Subgrade	LF	246.000	246.000
0128	650.5000	Construction Staking Base	LF	246.000	246.000
0130	650.6500	Construction Staking Structure Layout (structure) 01. B-27-162	LS	1.000	1.000
0132	650.9910	Construction Staking Supplemental Control (project) 01. 7239-00-70	LS	1.000	1.000
0134	650.9920	Construction Staking Slope Stakes	LF	331.000	331.000
0136	690.0150	Sawing Asphalt	LF	40.000	40.000
0138	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0140	715.0502	Incentive Strength Concrete Structures	DOL	786.000	786.000
0142	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0144	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000

EARTHWORK SUMMARY

FROM/TO STATION	LOCATION	205.0100 EXCAVATION COMMON CUT (1)	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL (2)	UNEXPANDED FILL	EXPANDED FILL (FACTOR 1.25)	MASS ORDINATE +/- (3)	208.0100 BORROW
8+75 - 11+74	M/L	208	46	162	435	544	-382	382
50+00 -50+85	RIVER REALIGNMENT	103	0	103	0	0	103	-103
		311					**TOTAL**	**279**

(1) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED
(2) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
(3) THE MASS ORDINATE + OR - QUANTITY CALCULATED. PLUS QUANTITY INDICATES AS EXCESS OF MATERIAL. MINUS INDICATES A SHORTAGE OF MATERIAL.

CLEARING & GRUBBING

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
8+75	-	11+74	M/L	4	4
			TOTAL	**4**	**4**

BASE AGGREGATE DENSE

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1-1/4 INCH TON	624.0100 WATER MGAL
8+75	-	9+70.55	M/L	12	135	3
10+24.45	-	11+74	M/L	20	215	3
11+15 DWY			M/L LT	-	20	-
			TOTAL	**32**	**370**	**6**

ASPHALT SUMMARY

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
8+75	-	9+51	M/L	13	35
10+44	-	11+74	M/L	22	60
			TOTAL	**35**	**95**

TACK COAT ESTIMATED AT 0.07 GAL/SY

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	REMARKS
11+35	M/L	1	36" CMP
	TOTAL	**1**	

CONCRETE PAVEMENT

STATION	TO	STATION	LOCATION	415.0080 CONCRETE PAVEMENT 8-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
9+51	-	9+70.55	M/L	8	40
10+24.45	-	10+44	M/L	8	40
			TOTAL	**16**	**80**

RIPRAP

STATION	LOCATION	606.0300 ***RIPRAP HEAVY CY	645.0120 ***GEOTEXTILE TYPE HR SY
11+20	M/L, RT	25	55
	TOTAL	**25**	**55**

***ADDITIONAL QUANTITIES ARE LOCATED ELSEWHERE ON THE PLAN

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS NOTED AS 0020.

3

STORM SEWER PIPE SUMMARY

FROM STRUCTURE NO.	TO STRUCTURE NO.	209.2100 BACKFILL GRANULAR GRADE 2 CY	608.0330 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH LF	INLET EL	DISCHARGE EL	SLOPE
2	1	18	64	844.90	844.20	1.09%
4	3	18	64	845.15	844.45	1.09%
		36	**128**			

APRON ENDWALLS FOR CULVERT PIPE SUMMARY

STRUCTURE NO.	STATION	LOCATION	522.1030 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH EACH	633.5200 MARKERS CULVERT END EACH	*JOINT TIES EACH
1	11+15	M/L, 35.5 RT	1	1	6
3	11+25	M/L, 35.5 RT	1	1	6
		TOTAL	**2**	**2**	

*FOR INFORMATION ONLY

TURBIDITY BARRIERS

STATION	LOCATION	628.6005 TURBIDITY BARRIERS SY
9+92	M/L	100
10+02	M/L	120
	TOTAL	**220**

SILT FENCE

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
8+75	-	9+70.55	M/L, LT & RT	610	1220
10+24.45	-	11+74	M/L, RT	90	180
50+00		50+85	RIVER REALIGNMENT, LT	100	200
UNDISTRIBUTED			VARIOUS	200	400
			TOTAL	**1,000**	**2,000**

STORM SEWER STRUCTURE SUMMARY

STRUCTURE NO.	STATION	LOCATION	611.3902 INLET MEDIAN 2 GRATE EACH	611.0642 INLET COVERS TYPE MS EACH	GRATE EL	BOTTOM OF STRUCTURE EL	DEPTH	REMARKS
2	11+40	M/L, 23.5 LT	1	2	850.50	844.60	5.90	NO SLOPE
4	11+50	M/L, 23.5 LT	1	2	850.75	844.85	5.90	NO SLOPE
		TOTAL	**2**	**4**				

MOBILIZATION

CATEGORY	STATION TO STATION	LOCATION	619.1000 MOBILIZATION EACH
0010	PROJECT	M/L	0.250
0020	PROJECT	M/L	0.750
		TOTAL	**1.000**

LANDSCAPING ITEMS

STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.2027 EROSION MAT CLASS II TYPE C SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0160 SEEDING MIXTURE NO. 60 LB	630.0200 **SEEDING TEMPORARY LB
8+75	-	9+70.55	M/L, LT & RT	425	425	-	-	0.3	-	7	7
10+24.45	-	11+74	M/L, LT & RT	470	470	65	-	0.4	-	8	8
50+00	-	50+85	RIVER REALIGNMENT, LT	200	-	-	115	0.2	-	3	3
			BORROW SITES	500	-	500	-	0.6	25	-	13
			TOTAL	**1,595**	**895**	**565**	**115**	**1.5**	**25**	**18**	**31**

** SEEDING TEMPORARY AT HALF RATE

EROSION CONTROL SUMMARY

STATION	TO	STATION	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7005 INLET PROTECTION TYPE A EACH	628.7504 TEMPORARY DITCH CHECKS LF
10+24.45	-	11+74	M/L, LT & RT	-	-	2	20
UNDISTRIBUTED			VARIOUS	4	2	-	20
			TOTAL	**4**	**2**	**2**	**40**

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS NOTED AS 0020.

SIGNING

STATION	LOCATION	634.0614 POSTS WOOD 4x6-INCH x 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	COMMENTS
9+49	M/L, LT	1	3	-	-	W5-52L
9+63	M/L, RT	1	3	-	-	W5-52R
9+86	M/L, RT	-	-	2	2	
10+12	M/L, LT	-	-	2	2	
10+25	M/L, RT	-	-	1	1	
10+32	M/L, LT	1	3	-	-	W5-52R
10+46	M/L, RT	1	3	-	-	W5-52L
	TOTAL	**4**	**12**	**5**	**5**	

TRAFFIC CONTROL ITEMS

	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.5000 TRAFFIC CONTROL EACH	REMARKS
	1,008	2,016	1,008	1	72 DAYS
TOTAL	**1,008**	**2,016**	**1,008**	**1**	

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (B-27-0162) LS	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	8+75	-	9+70.55	M/L	-	96	96	-	-	96
0010	9+51	-	9+76.33	M/L	-	-	-	-	-	-
0010	10+18.67	-	10+44	M/L	-	-	-	-	-	-
0010	10+24.45	-	11+74	M/L	4	150	150	-	-	150
0020	9+97.50			M/L	-	-	-	1	-	-
0010	50+00	-	50+85	RIVER REALIGNMENT	-	-	-	-	-	85
0010	PROJECT			M/L	-	-	-	-	1	-
				TOTAL	**4**	**246**	**246**	**1**	**1**	**331**

SAWING ASPHALT

STATION	LOCATION	690.0150 SAWING ASPHALT LF
8+75	M/L	20
11+74	M/L	20
	TOTAL	**40**

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS NOTED AS 0020.

CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W OR HE LINE
PROPERTY LINE (PL)
LOT, TIE & OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC) — W — (TYPE)
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)
TEMPORARY LIMITED EASEMENT AREA
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING — TO BE REMOVED
BRIDGE

SECTION CORNER SYMBOL (1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24)
SECTION CORNER MONUMENT
GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
SIGN (SIGN)
OFF-PREMISE SIGN (I-25) (SIGN)

R/W MONUMENT (TO BE SET)
NON-MONUMENTED R/W POINT
FOUND IRON PIN (1-INCH UNLESS NOTED) IP *

	COMPENSABLE	NON-COMPENSABLE
ELECTRIC POLE	■	□
TELEPHONE POLE	⌀	⌀
PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)	⌀	⌀

ACCESS RESTRICTED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)

PARCEL NUMBER (25) UTILITY NUMBER (40)
PARALLEL OFFSETS

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	POINT OF INTERSECTION	PI
ACRES	AC	PROPERTY LINE	PL
AHEAD	AH	RECORDED AS	(100')
ALUMINUM	ALUM	REEL / IMAGE	R/I
AND OTHERS	ET AL	REFERENCE LINE	R/L
BACK	BK	REMAINING	REM
BLOCK	BLK	RESTICTIVE DEVELOPMENT EASEMENT	RDE
CENTERLINE	C/L	RIGHT	RT
CERTIFIED SURVEY MAP	CSM	RIGHT OF WAY	R/W
CONCRETE	CONC	SECTION	SEC
COUNTY	CO	SEPTIC VENT	SEPV
COUNTY TRUNK HIGHWAY	CTH	SQUARE FEET	SF
DISTANCE	DIST	STATE TRUNK HIGHWAY	STH
CORNER	COR	STATION	STA
DOCUMENT NUMBER	DOC	TELEPHONE PEDESTAL	TP
EASEMENT	EASE	TEMPORARY LIMITED EASEMENT	TLE
EXISTING	EX	TRANSPORTATION PROJECT PLAT	TPP
GAS VALVE	GV	UNITED STATES HIGHWAY	USH
GRID NORTH	GN	VOLUME	V
HIGHWAY EASEMENT	HE		
IDENTIFICATION	ID		
LAND CONTRACT	LC		
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY	NGS		
NUMBER	NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		
POINT OF COMPOUND CURVE	PCC		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ/DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

NOTES:

COORDINATES AND BEARINGS ON THIS PLAT ARE ORIENTED TO THE WISCONSIN COORDINATE REFERENCES SYSTEMS (WISCRS), JACKSON COUNTY ZONE, NAD 83 (2011) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

RIGHT OF WAY MONUMENTS ARE ¾" x 24"REBAR AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

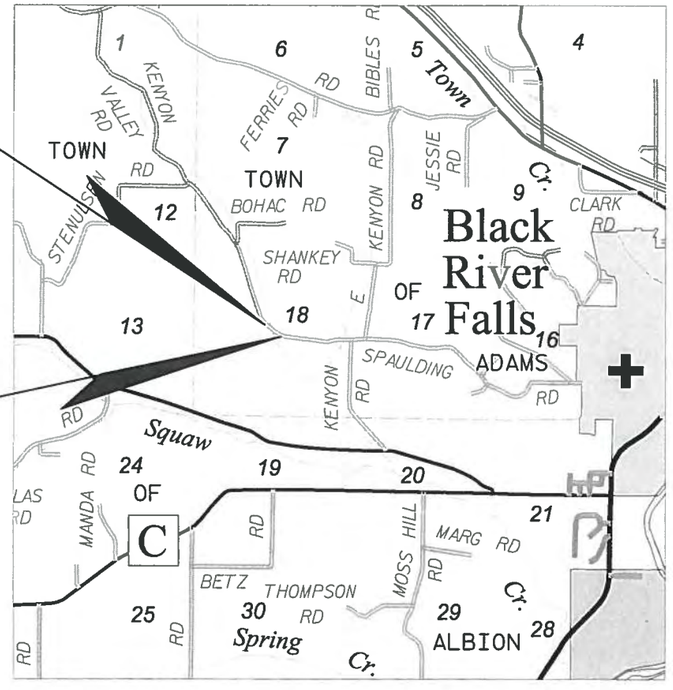
RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

CONVENTIONAL UTILITY SYMBOLS

WATER	—W—
GAS	—G—
TELEPHONE	—T—
OVERHEAD TRANSMISSION LINES	—OH—
ELECTRIC	—E—
CABLE TELEVISION	—TV—
FIBER OPTIC	—FO—
SANITARY SEWER	—SAN—
STORM SEWER	—SS—

BEGIN RELOCATION ORDER
PROJECT 7239-00-00
STA 8+75.00
2,204.55' S AND 2,643.86' E FROM NW COR
SEC 18, T-21-N, R-4-W
Y = 184,354.105
X = 367,292.430

END RELOCATION ORDER
PROJECT 7239-00-00
STA 11+74.00
2,392.57' S AND 2,876.31' E FROM NW COR
SEC 18, T-21-N, R-4-W
Y = 184,166.087
X = 367,524.881



N

LAYOUT
SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.057 MI

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
7239-00-00	4.01	2
FEDERAL PROJECT NUMBER		

PLAT OF RIGHT-OF-WAY REQUIRED FOR

T ADAMS, WEST KENYON ROAD
BRANCH SQUAW CREEK BRIDGE (B-27-0162)
LOCAL STREET — JACKSON COUNTY

CONSTRUCTION PROJECT NUMBER
7239-00-70

Mead & Hunt

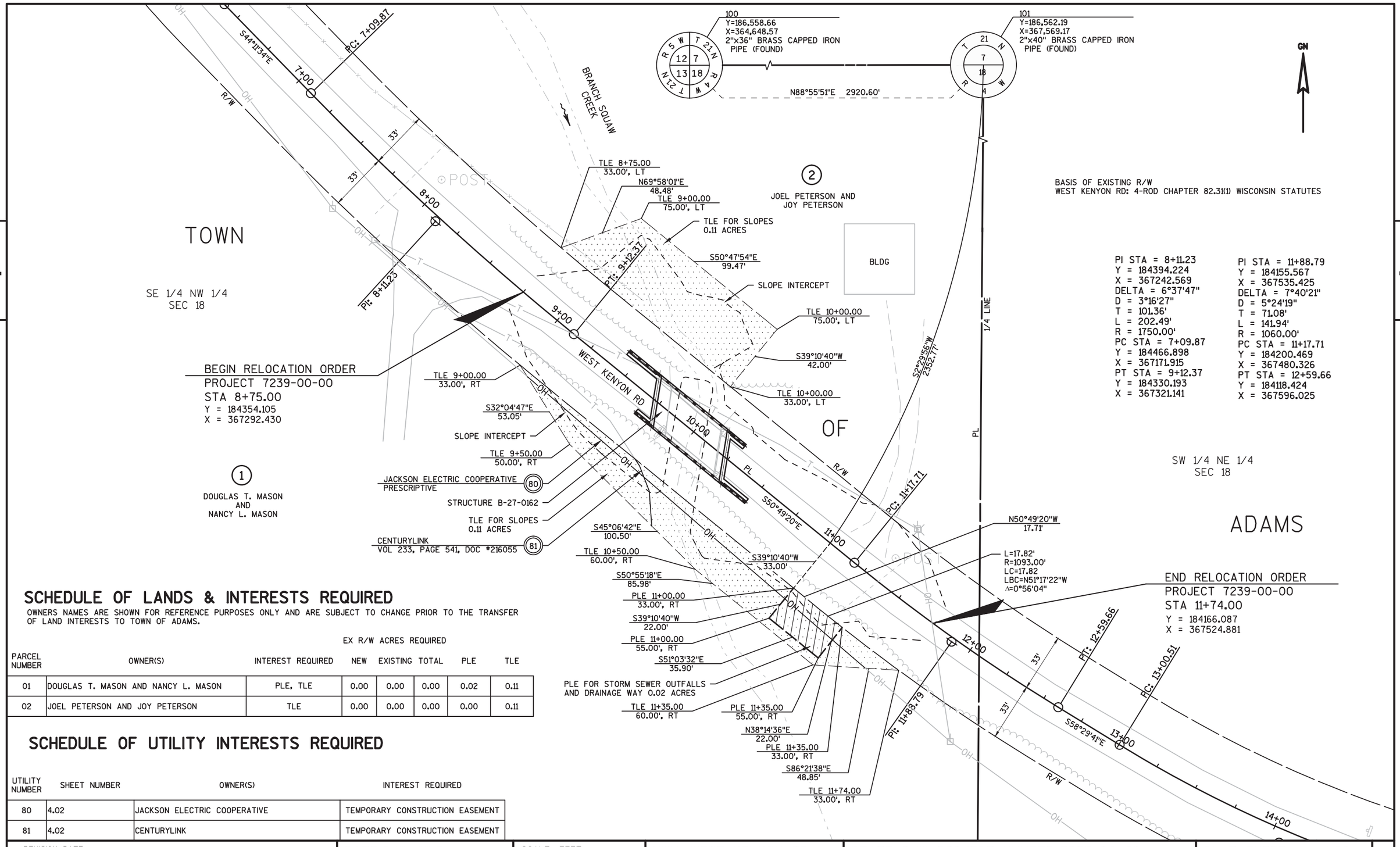
WISCONSIN
WILLIAM F. KOTTLER
S-2348
CROSS PLAINS, WISCONSIN
LAND SURVEYOR

May 9, 2017

WILLIAM F. KOTTLER
S-2348

REVISION DATE	STATE OF WISCONSIN TOWN OF ADAMS
	APPROVED FOR TOWN OF ADAMS DATE 5-15-17 (Signature)

FILE NAME : X:\3223700\155579.01\TECH\CAD\72390000\SHEETSPLAN\040101_RP.DWG
LAYOUT NAME - 040101_RP - 010401_RP
PLOT DATE : 5/9/2017 8:38 AM PLOT BY : JEFF BREU PLOT NAME :
WISDOT/CADDS SHEET 50



SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO TOWN OF ADAMS.

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	EX R/W ACRES REQUIRED NEW	EXISTING	TOTAL	PLE	TLE
01	DOUGLAS T. MASON AND NANCY L. MASON	PLE, TLE	0.00	0.00	0.00	0.02	0.11
02	JOEL PETERSON AND JOY PETERSON	TLE	0.00	0.00	0.00	0.00	0.11

SCHEDULE OF UTILITY INTERESTS REQUIRED

UTILITY NUMBER	SHEET NUMBER	OWNER(S)	INTEREST REQUIRED
80	4.02	JACKSON ELECTRIC COOPERATIVE	TEMPORARY CONSTRUCTION EASEMENT
81	4.02	CENTURYLINK	TEMPORARY CONSTRUCTION EASEMENT

REVISION DATE	DATE 5/9/2017	SCALE, FEET 0 25' 50'	HWY: WEST KENYON RD	STATE R/W PROJECT NUMBER 7239-00-00	PLAT SHEET 4.02
	GRID FACTOR		COUNTY: JACKSON	CONSTRUCTION PROJECT NUMBER 7239-00-70	PS&E SHEET 15 E

FILE NAME : 040102_RP.DWG
LAYOUT NAME - 040102_RP - 040102_RP

PLOT DATE : 5/9/2017 8:55 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 75

BENCH MARKS			
NO.	LOCATION	DESCRIPTION	ELEV.
1	STA 5+86.1, RT 7.9'	PK IN ASPHALT	864.08
2	STA 10+10.6, LT 16.2'	PK IN ABUT TIMBER	851.17
3	STA 11+33.0, LT 37.2'	PK IN PP	854.94

BRANCH SQUAW CREEK

JOEL PETERSON AND JOY PETERSON

W5-52L 12"X36"

℄ CREEK REALIGNMENT

EROSION MAT CLASS II TYPE C REQUIRED (TYP)

TURBIDITY BARRIER REQUIRED (TYP)

STRUCTURE B-27-0162 TO BE CONSTRUCTED

TLE

FENCE TO BE REMOVED BY OTHERS)

SILT FENCE REQUIRED (TYP)

SLOPE INTERCEPT (TYP)

CONCRETE PAVEMENT APPROACH SLAB REQUIRED

W5-52R 12"X36"

PE

PT: 6+39.34

PC: 7+09.87

PT: 9+12.37

PC: 11+17.71

BM*2

BM*3

CENTURYLINK

+34.75

+46.68

+48.32

+60.25

50+00

7+00

8+00

9+00

10+00

11+00

12+00

13+00

S44°11'34"E

S50°49'20"E

S58°29'41"E

ASPHALTIC SURFACE

33'

10'

CP*4

CP*3

CP*2

WEST KENYON ROAD

R/W

OH

JACKSON ELECTRIC COOPERATIVE

PI: 8+11.23

CENTURYLINK

CONCRETE PAVEMENT APPROACH SLAB REQUIRED

W5-52R 12"X36"

WETLAND IMPACT (0.01 AC)

PE

DOUGLAS T. MASON AND NANCY L. MASON

EXISTING STRUCTURE P-27-0901 TO BE REMOVED

WETLAND IMPACT (0.01 AC)

TLE

W5-52L 12"X36"

WETLAND IMPACT (0.02 AC)

WETLAND BOUNDARY (TYP)

PLE

HEAVY RIP RAP REQUIRED

JACKSON ELECTRIC COOPERATIVE

TEMPORARY DITCH CHECK REQUIRED (TYP)

REMOVING SMALL PIPE CULVERT REQUIRED (36" CMP)

PI: 11+88.79

1/4 LINE

STA 11+15, LT
CONSTRUCT GRAVEL PE

INLET PROTECTION TYPE A REQUIRED

EROSION MAT URBAN CLASS I TYPE B REQUIRED (TYP)

JACKSON ELECTRIC COOPERATIVE

PT: 12+59.66

PC: 13+00.51

R/W

ASPHALTIC SURFACE

N

0' 25' 50'

BEGIN PROJECT 7239-00-70
STA 8+75.00
SAW CUT REQUIRED
MATCH EXISTING
Y = 184,354.105
X = 367,292.430

END PROJECT 7239-00-70
STA 11+74.00
SAW CUT REQUIRED
MATCH EXISTING
Y = 184,166.087
X = 367,524.881

5

5

LEGEND

- ###### EROSION MAT URBAN CLASS I, TYPE B
- EROSION MAT CLASS II, TYPE C
- RIP RAP
- SLOPE INTERCEPT
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- SURFACE FLOW

STA 8+75.00
EL 853.91

VCL = 299.00

K = 49.02

STA 11+74.00
EL 854.54

HIGH WATER Q2 EL 841.59

HIGH WATER Q100 EL 844.03

OBSERVED WATER OCTOBER 22, 2015 EL. 838.74

-2.84%

3.26%

EXISTING PROFILE

PROPOSED PROFILE

VPC STA 8+75.00
VPC EL 853.91

VPI STA 10+24.50
VPI EL 849.66

VPT STA 11+74.00
VPT EL 854.54

EXISTING ℄ ELEVATION

FINISHED ℄ ELEVATION

6	7	8	9	10	11	12	13	14
862.09	861.20	860.31	859.41	858.53	857.69	856.81	855.81	854.84	853.91	**853.91**	853.03	**853.26**	852.52	**852.74**	852.01	**852.35**	851.50	**852.09**	838.62	**851.95**	851.20	**851.94**	851.50	**852.06**	851.96	**852.31**	852.49	**852.68**	853.12	**853.19**	853.76	**853.82**	854.57	855.41	856.34	857.27	857.96	858.64	859.32	860.00	860.49	860.97

870 865 860 855 850 845 840 835

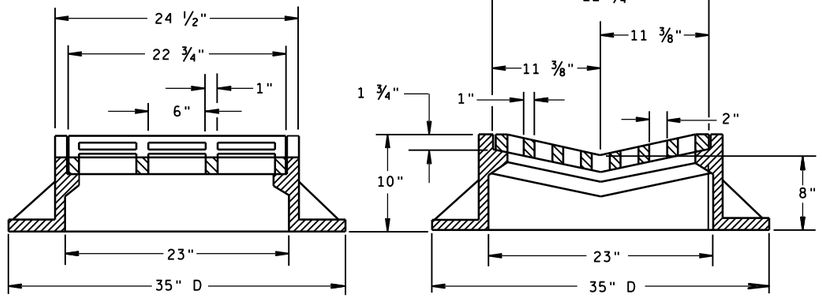
STA. 10+00.00
REMOVE EXISTING STRUCTURE P-27-0901
38.0' OVERALL LENGTH AND
20.4' CLEAR ROADWAY WIDTH
SINGLE-SPAN STEEL GIRDER BRIDGE WITH
TIMBER ABUTMENTS AND BACKWALLS

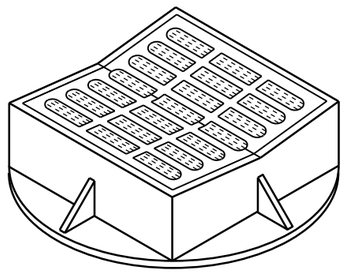
STA. 9+97.50
STRUCTURE B-27-0162 REQ'D
53.9' OVERALL LENGTH AND
24.0' CLEAR ROADWAY WIDTH
SINGLE-SPAN 28-INCH PRESTRESSED
CONCRETE GIRDER BRIDGE
SKEW 30° RHF

PROJECT NO: 7239-00-70	HWY: LOC STR	COUNTY: JACKSON	PLAN AND PROFILE: WEST KENYON RD	SHEET 16	E

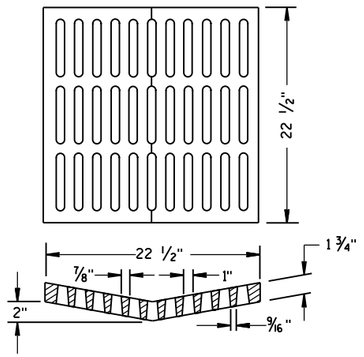
Standard Detail Drawing List

08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08C08-02	INLETS MEDIAN 1 AND 2 GRATE
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C05-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS





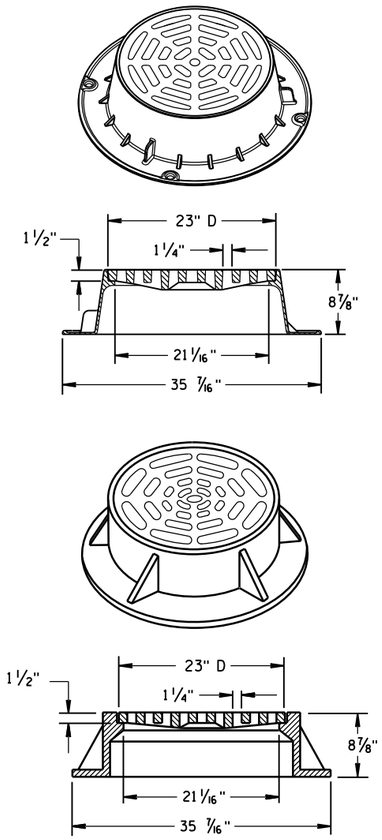
TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.

NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

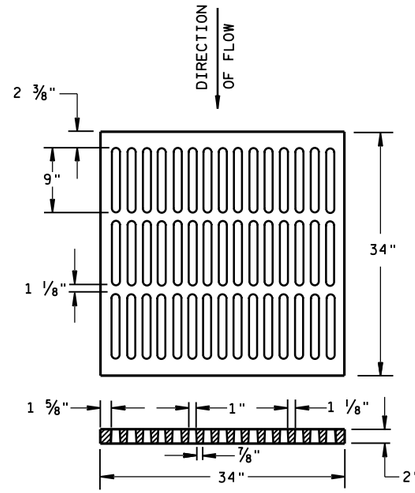
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

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

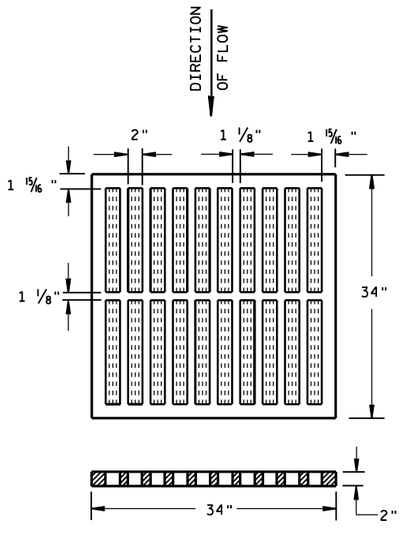
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED

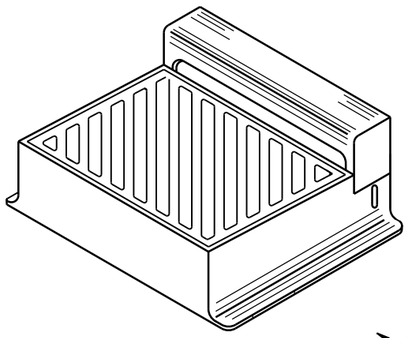
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



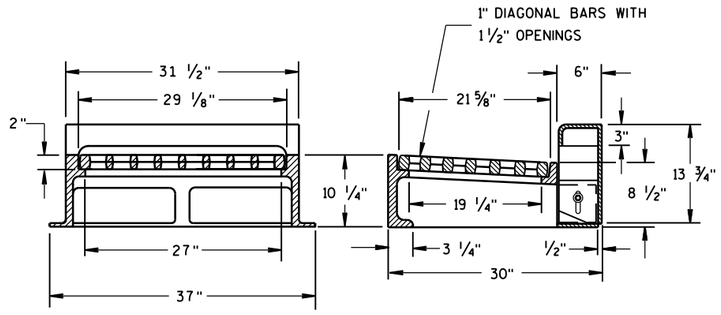
TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS

NOTED AS TYPE MS ON DRAINAGE TABLE



DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

INLET COVERS
TYPE B, B-A, C,
MS, MS-A, & WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

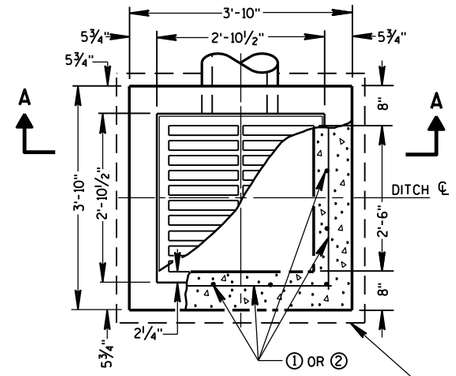
11/27/2013 — DATE

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

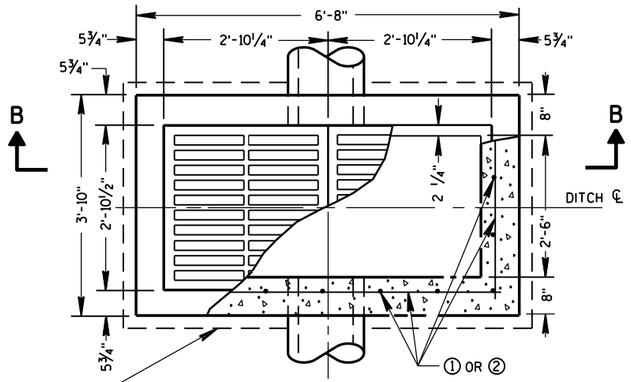
FHWA

6

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

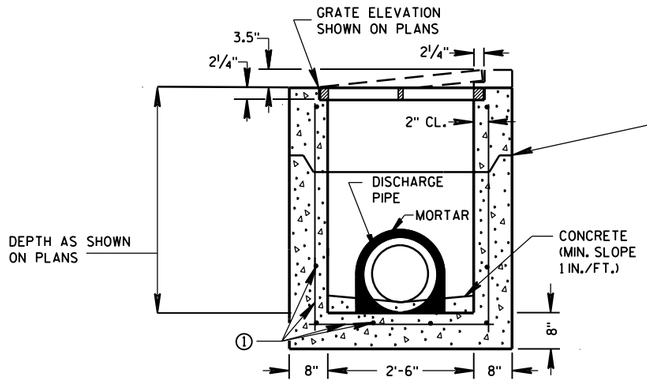


PLAN VIEW

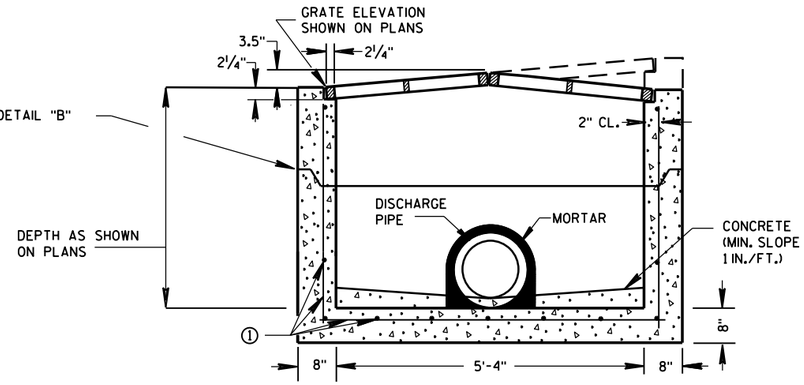


PLAN VIEW

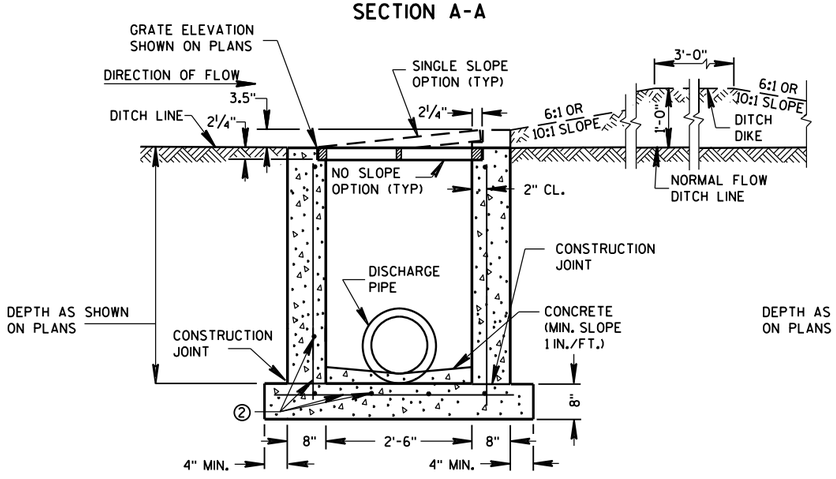
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



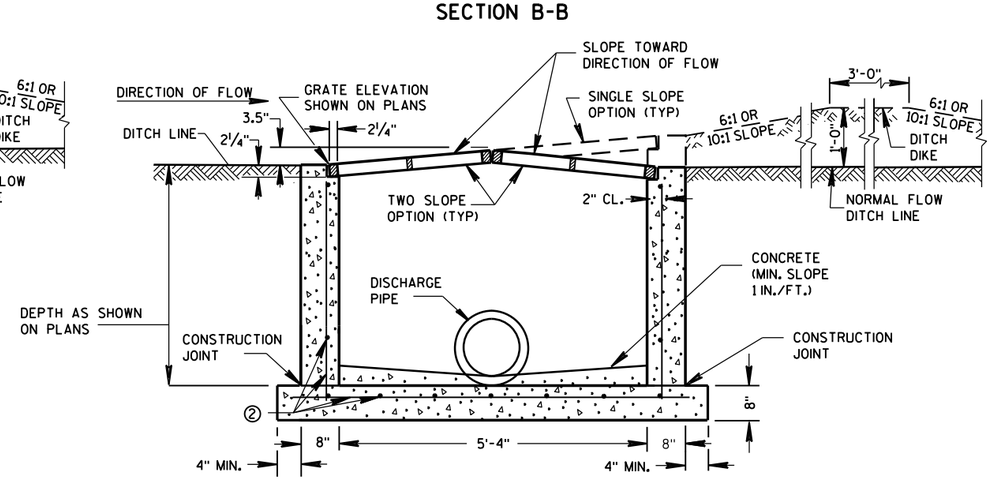
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

GENERAL NOTES

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

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

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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

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

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

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

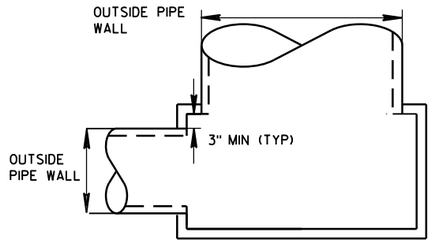
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

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

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

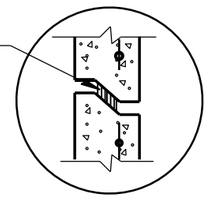
PIPE MATRIX

	MAXIMUM INSIDE PIPE DIAMETER	
INLET SIZE	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

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

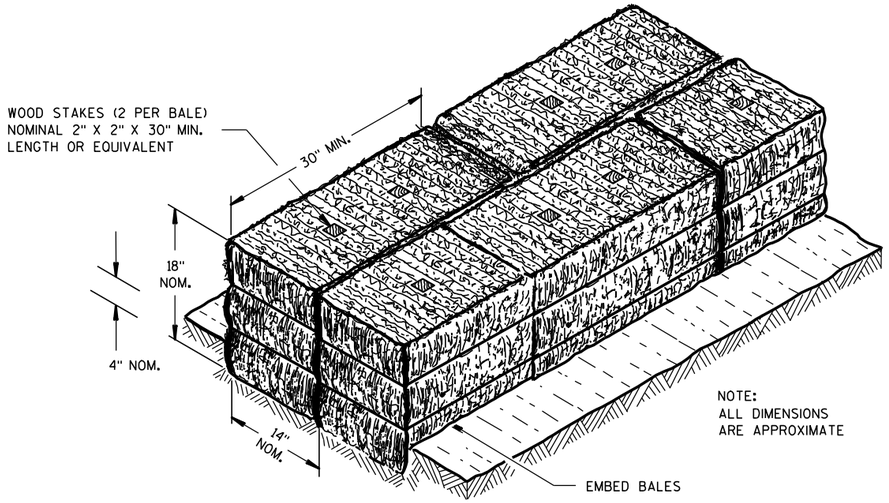


DETAIL "B"

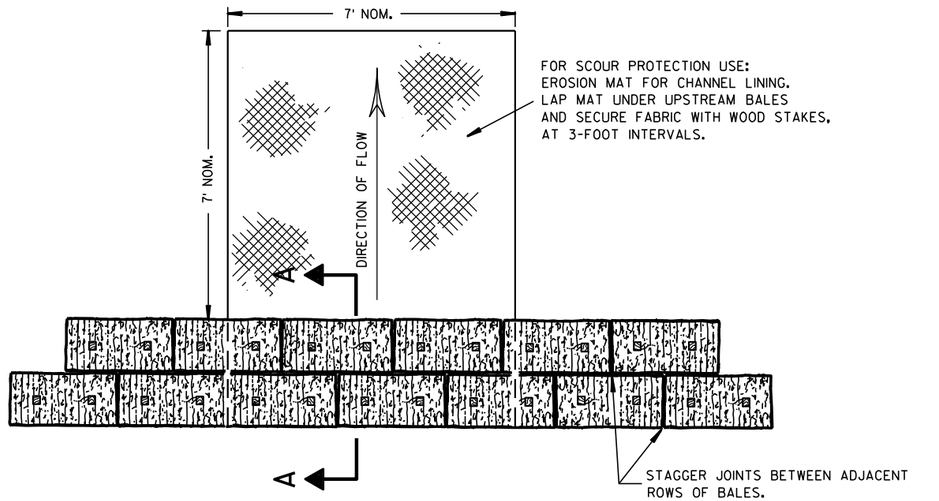
INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

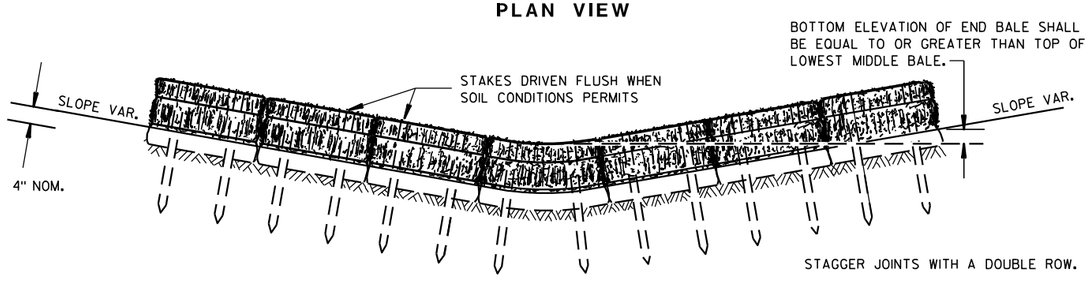
APPROVED
Sept., 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVI ENT
FHWA



SECTION A-A



PLAN VIEW



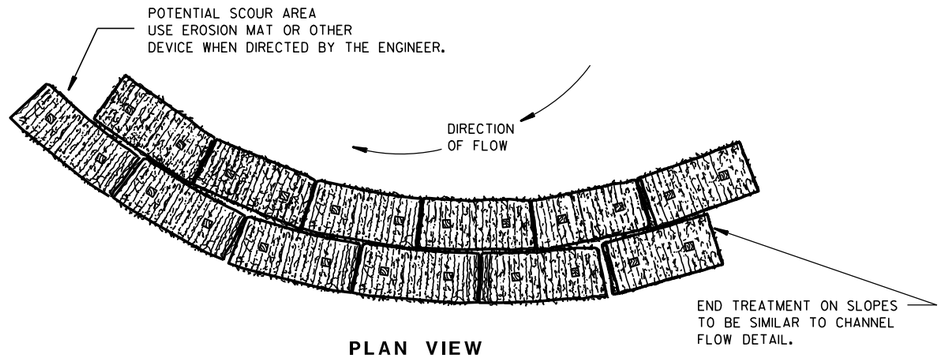
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

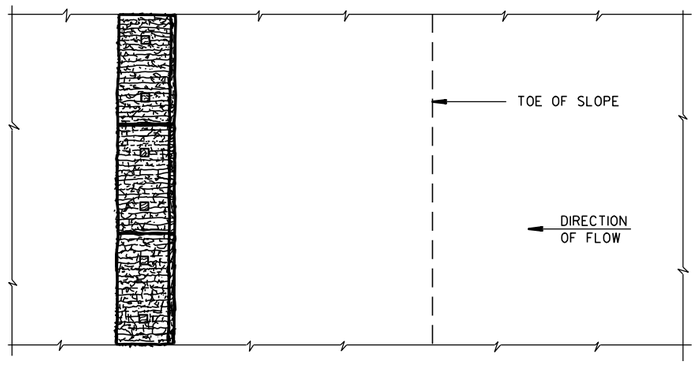
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

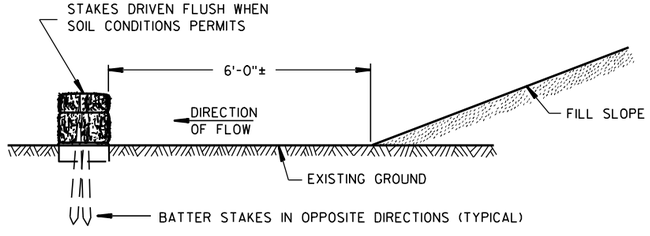


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

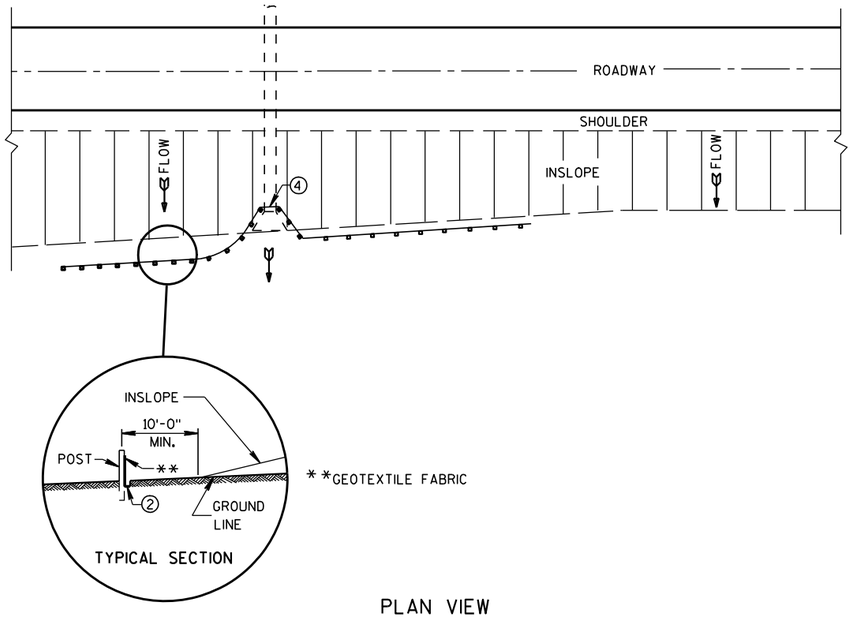
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

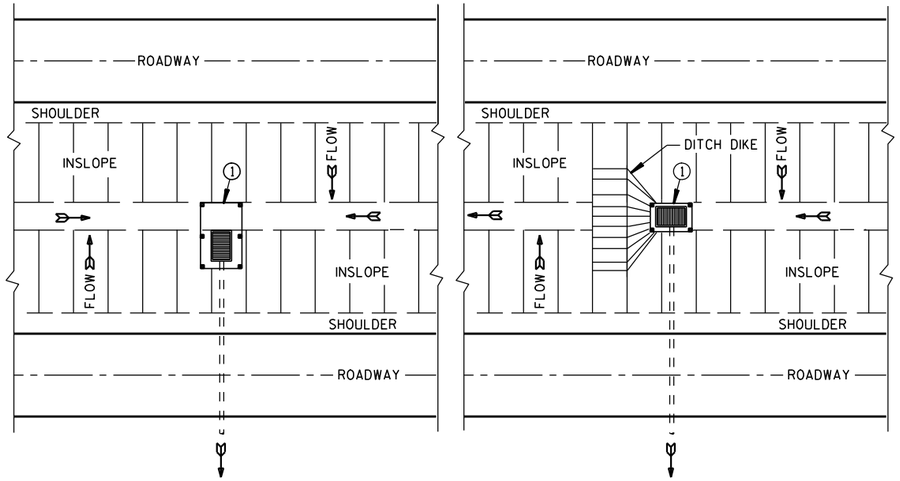
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



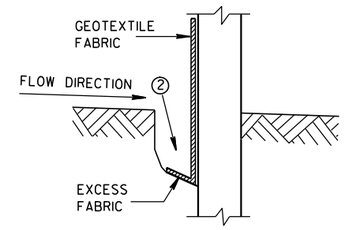
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

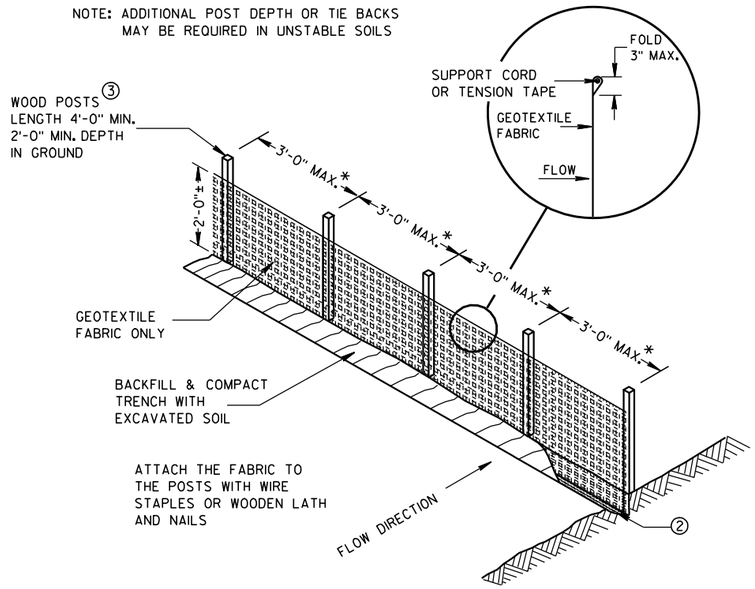
GENERAL NOTES

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

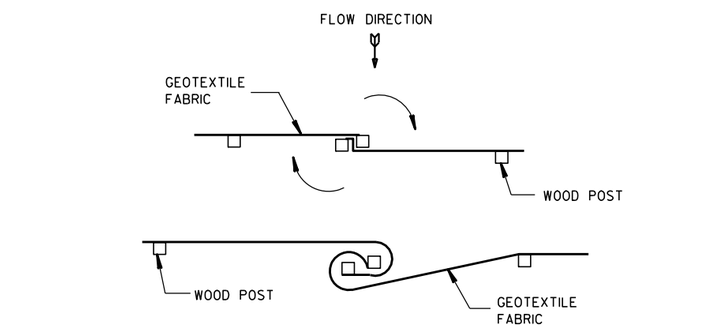
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



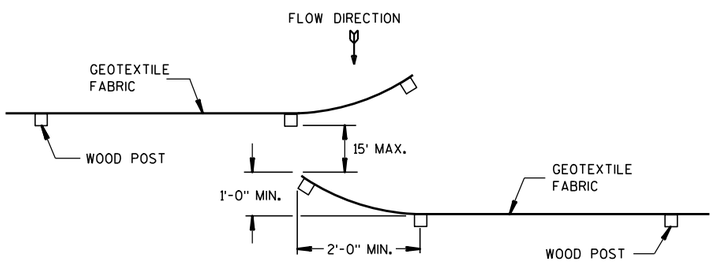
TRENCH DETAIL



SILT FENCE

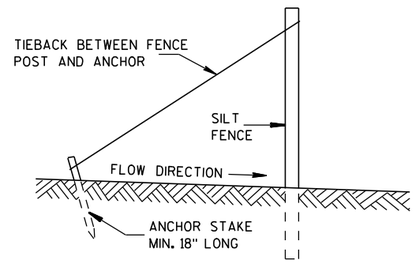


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

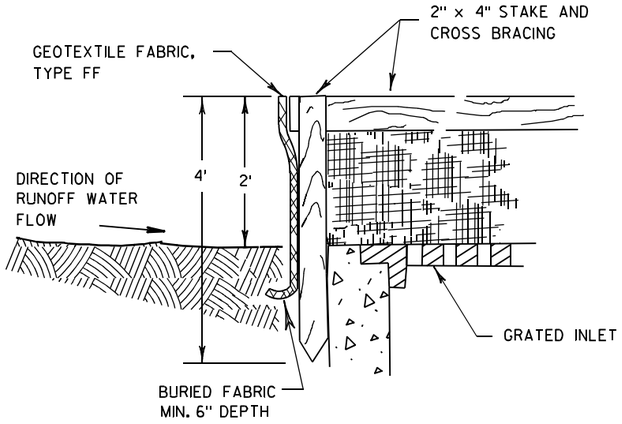
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

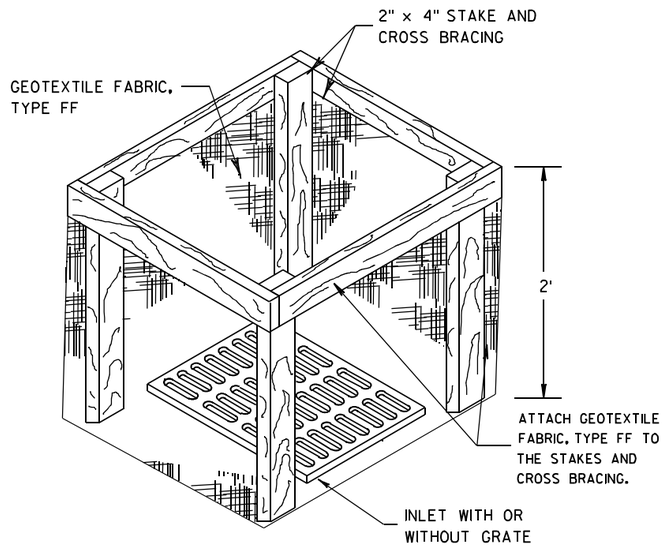
6

S.D.D. 8 E 9-6

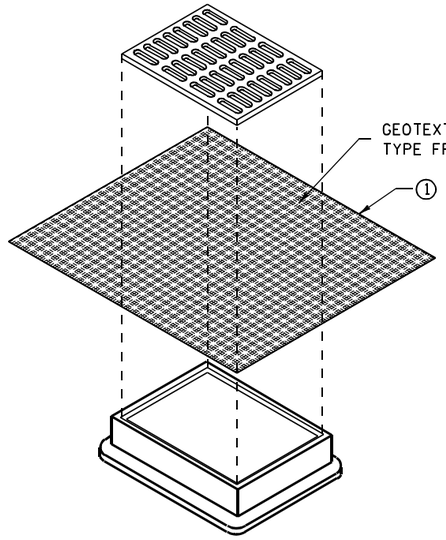
6

S.D.D. 8 E 9-6



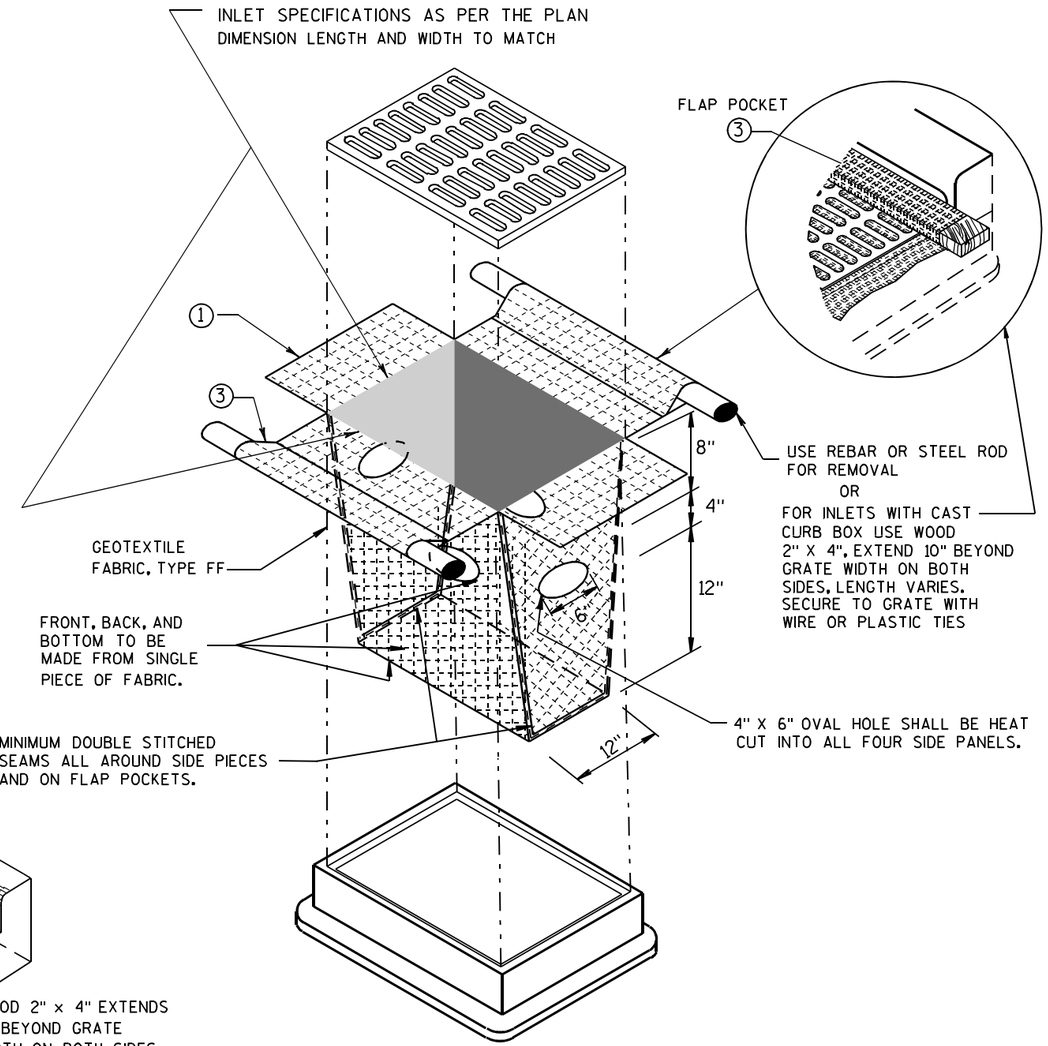


INLET PROTECTION, TYPE A



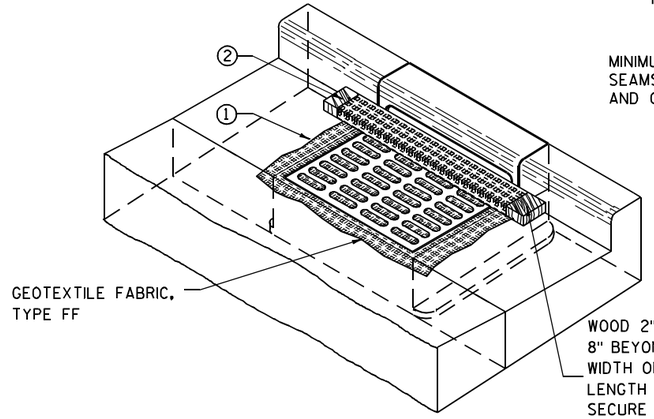
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

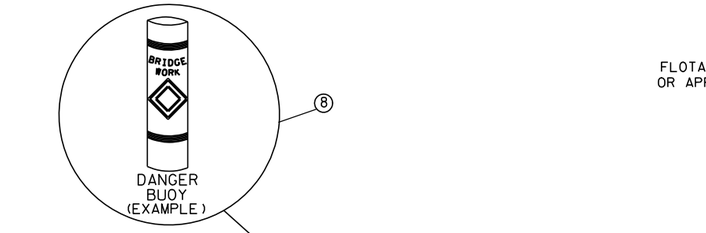
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

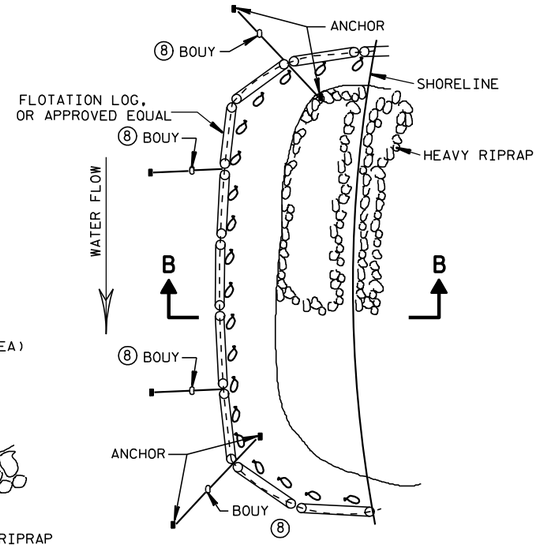
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

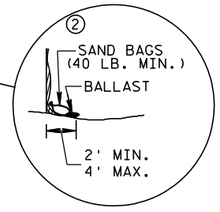
APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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

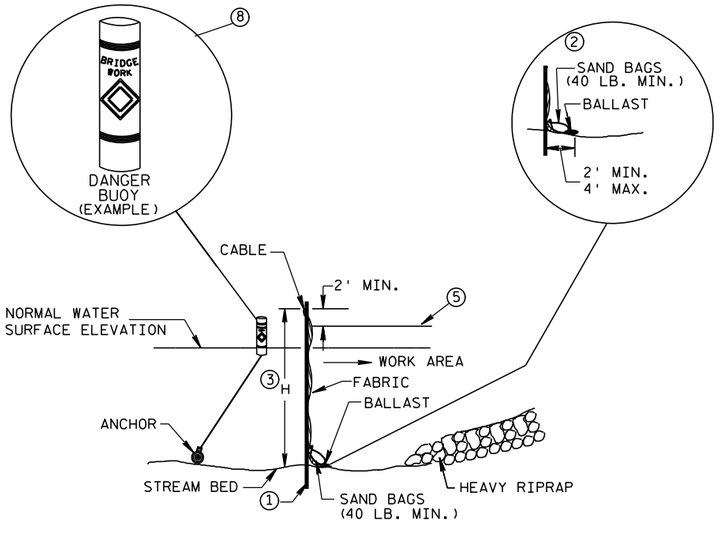


SECTION B-B

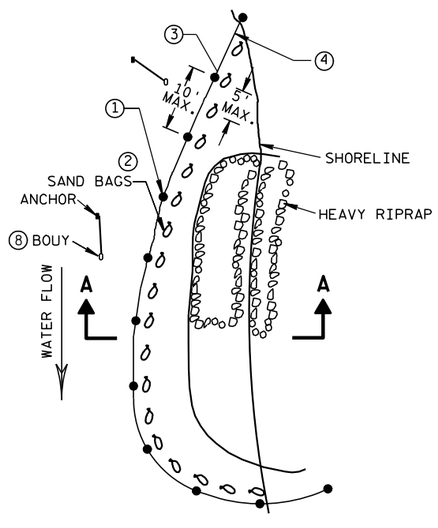




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

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

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

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

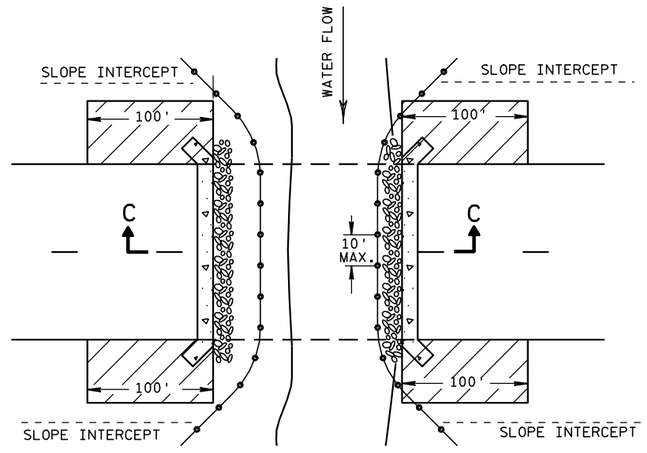
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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

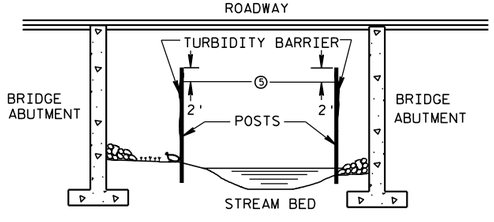
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

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



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 11-2

6

S.D.D. 8 E 11-2

METAL APRON ENDWALLS

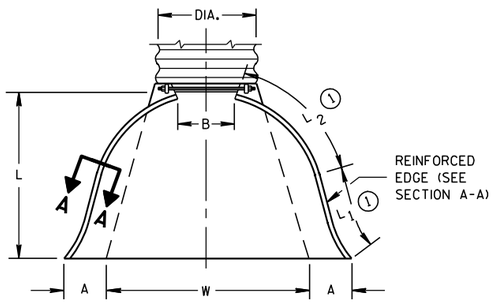
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

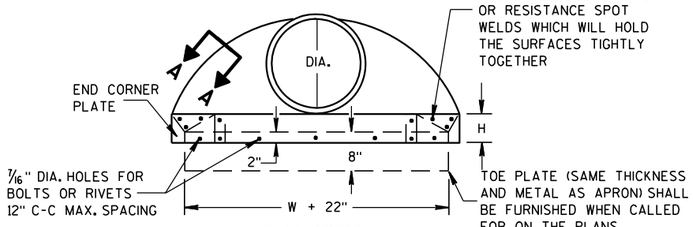
REINFORCED CONCRETE APRON ENDWALLS

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

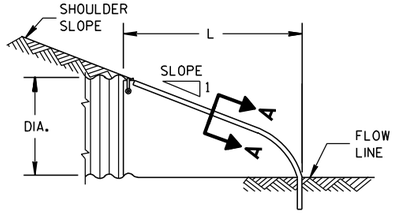
*MINIMUM
**MAXIMUM



PLAN VIEW

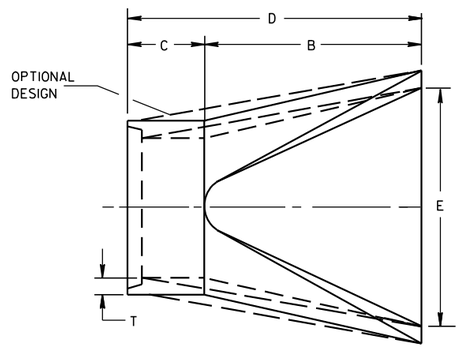


END VIEW

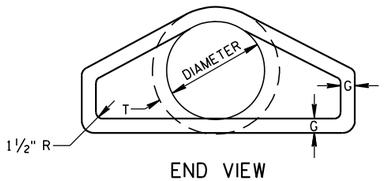


SIDE ELEVATION

METAL ENDWALLS



PLAN



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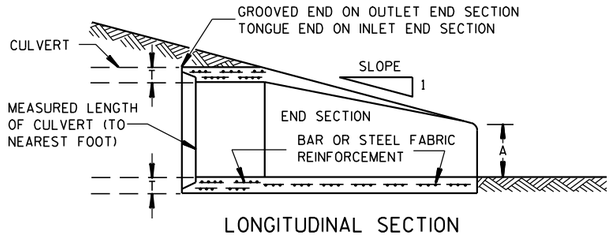
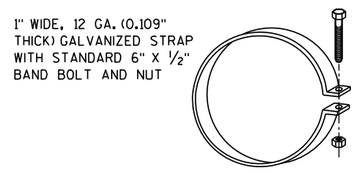


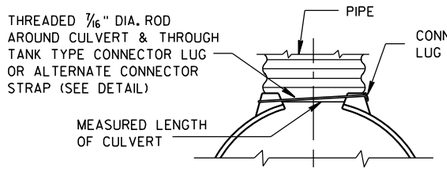
LONGITUDINAL SECTION

CONCRETE ENDWALLS

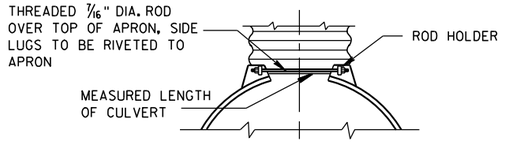


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

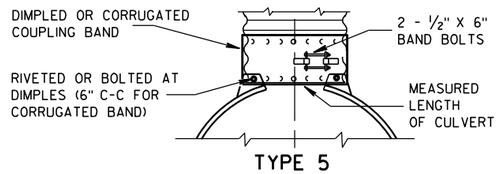


TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE

TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

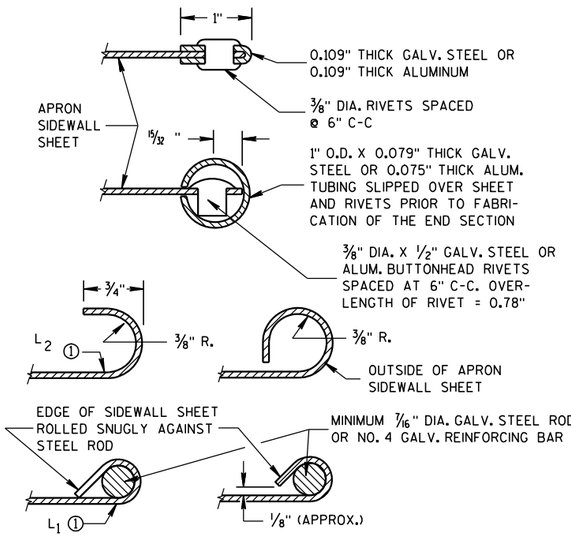
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

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

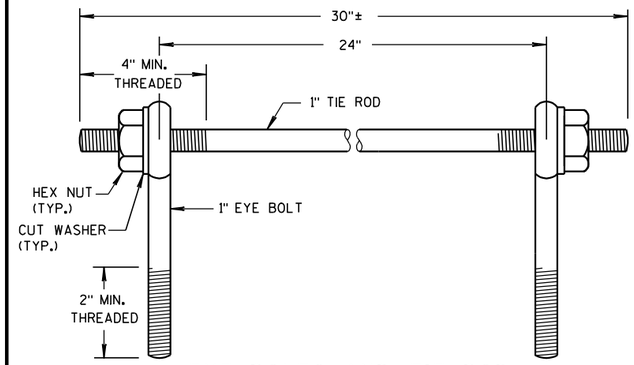
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

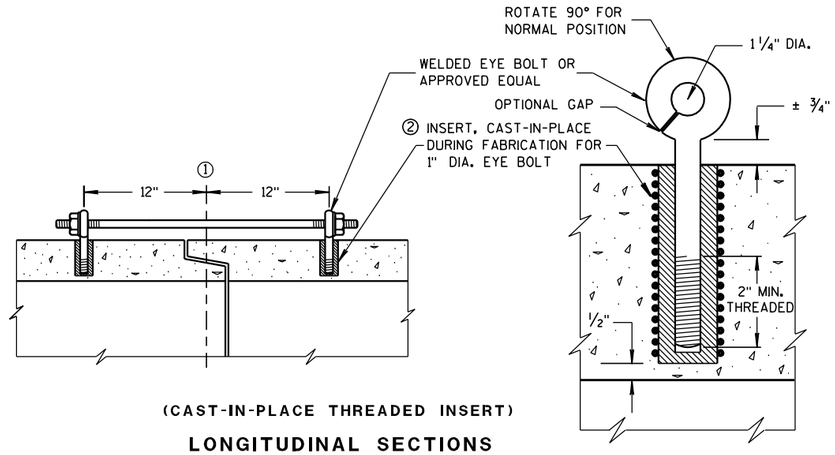
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 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 APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

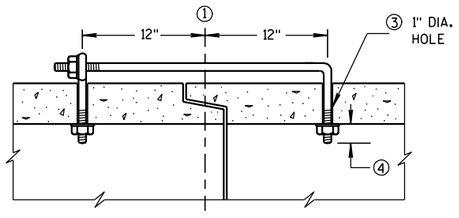
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

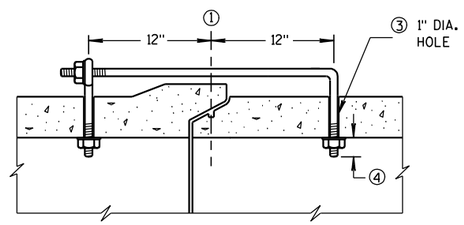
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

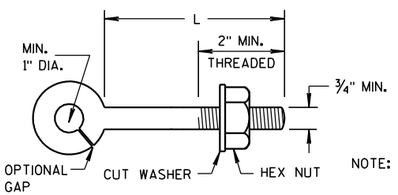


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

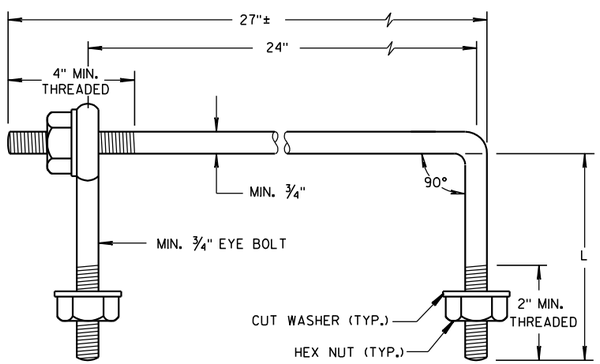
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

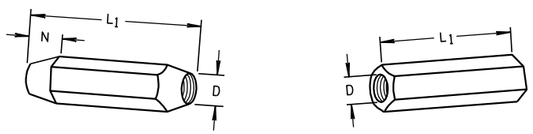
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 7/16

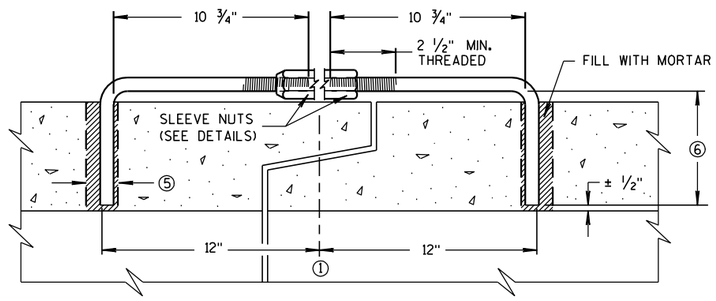
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

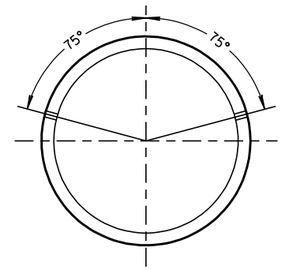
SLEEVE NUTS



LONGITUDINAL SECTION

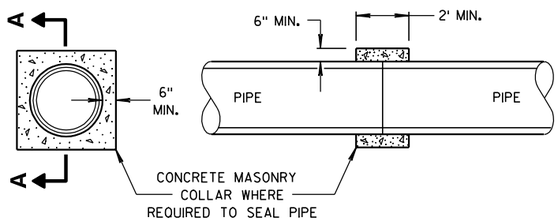
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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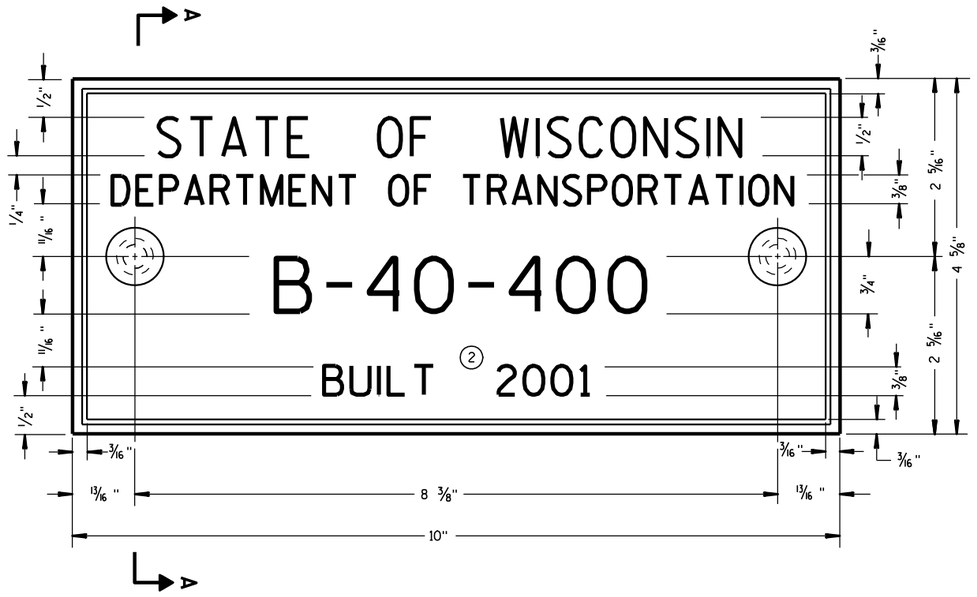
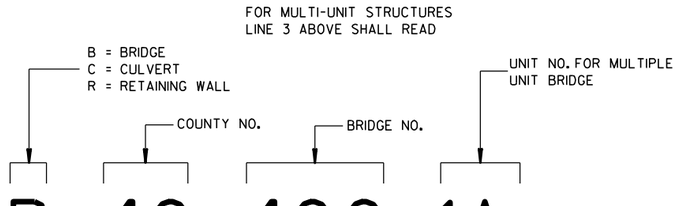
S.D.D. 8 F 4-7



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

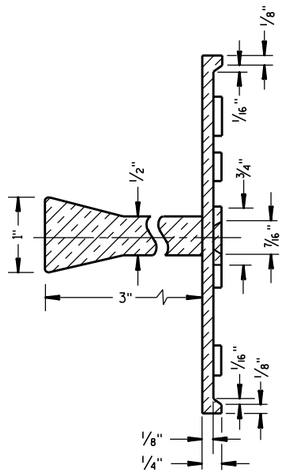
GENERAL NOTES

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.

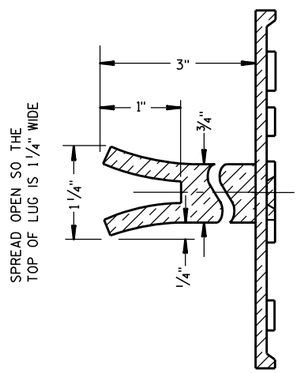
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

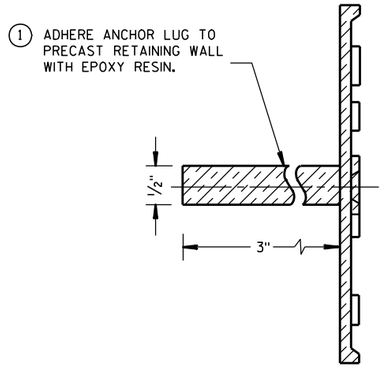
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



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	

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S.D.D. 12 A 3-10

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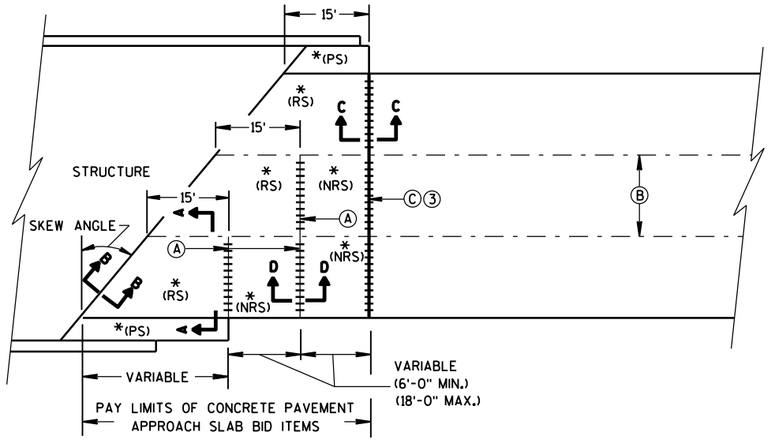
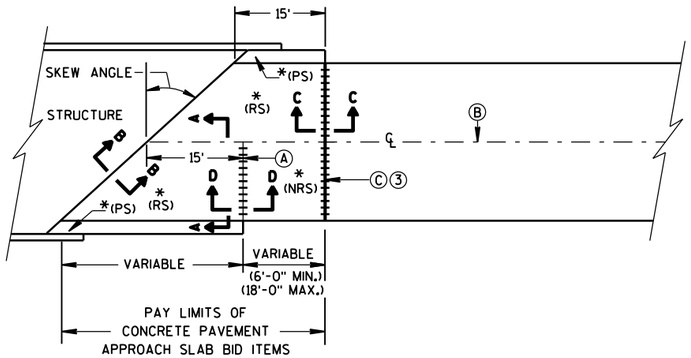
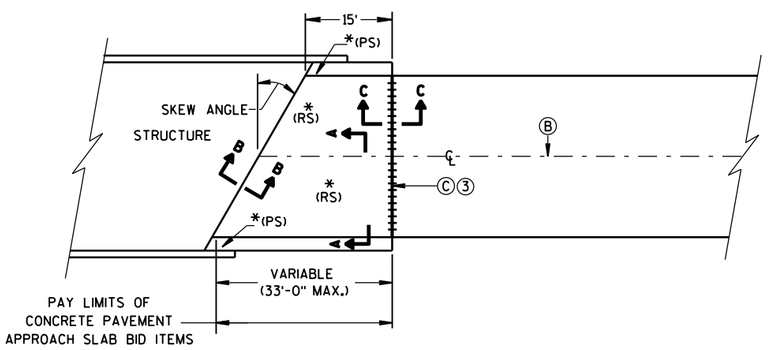
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

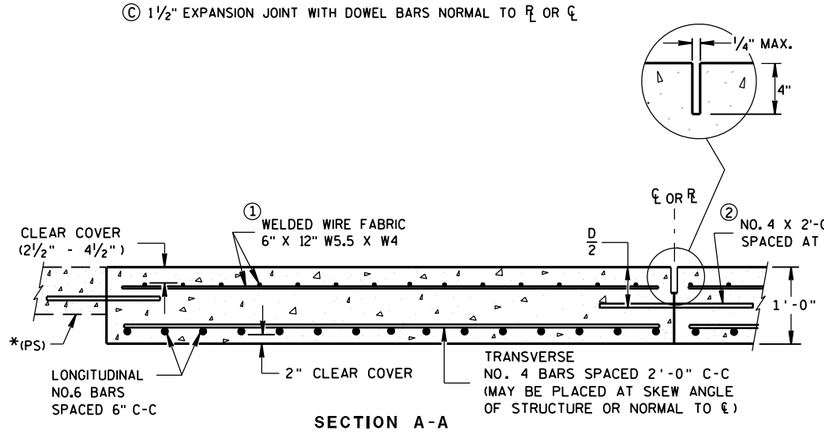
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

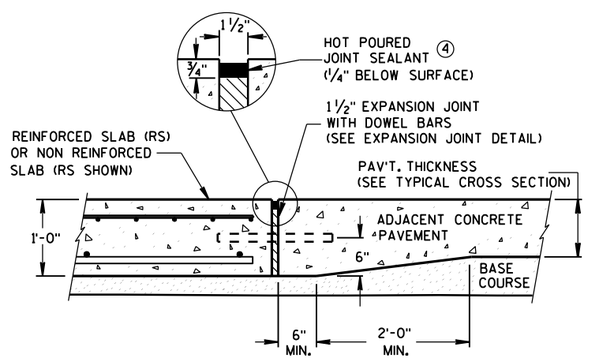
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

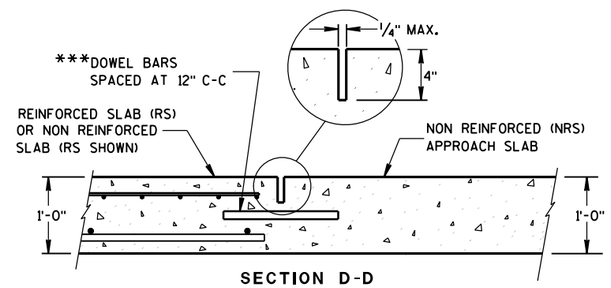
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

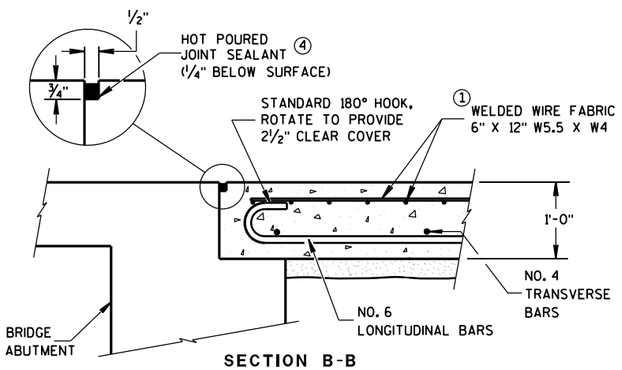
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

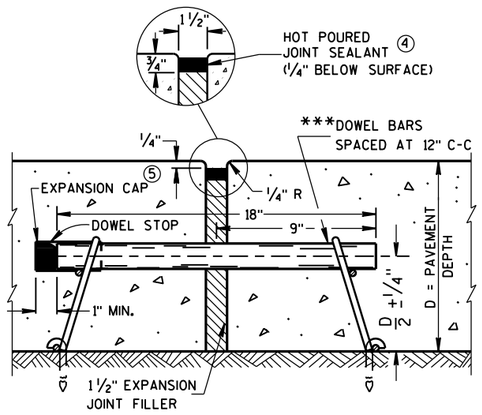
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

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

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



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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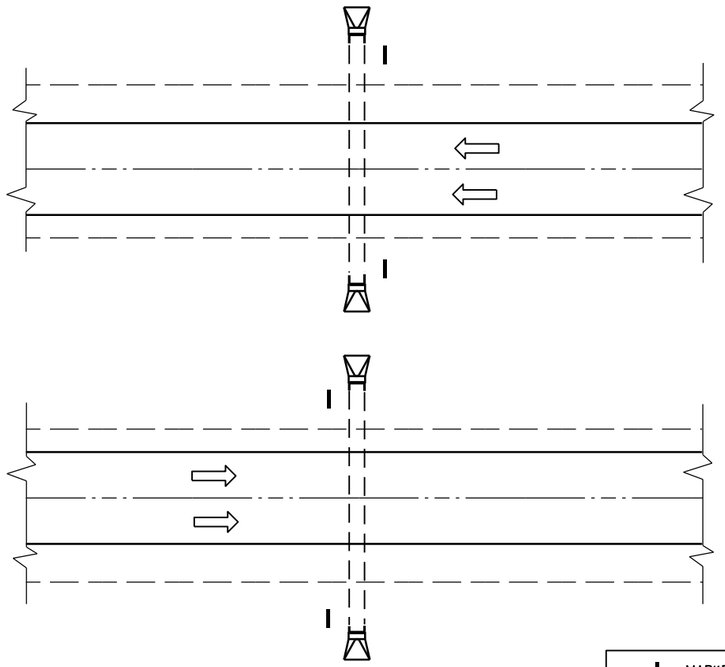
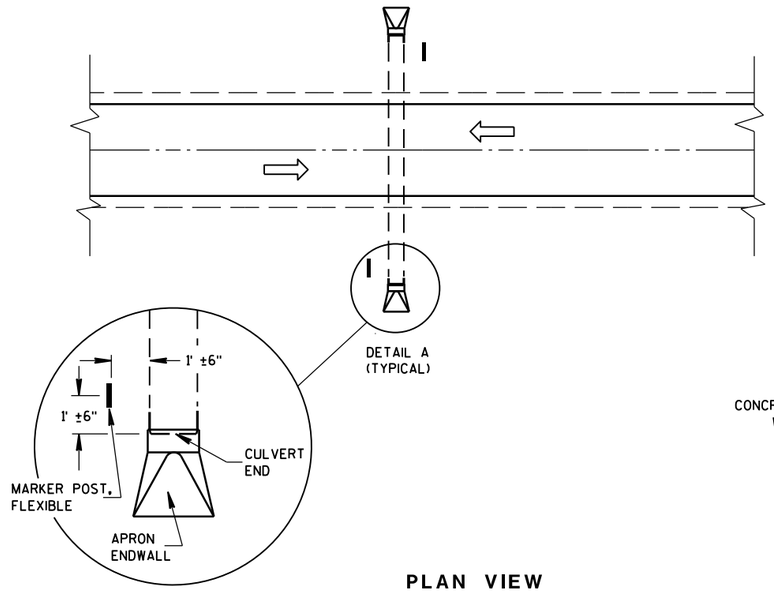
S.D.D. 13 B 2-8a



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

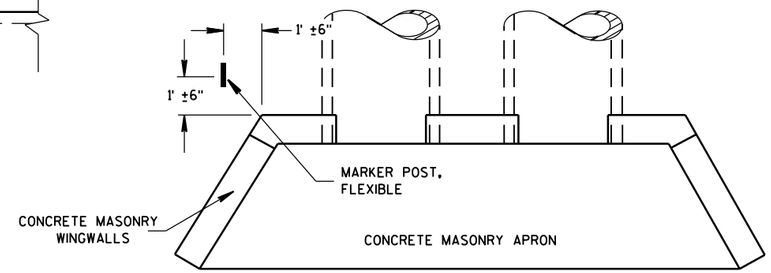
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

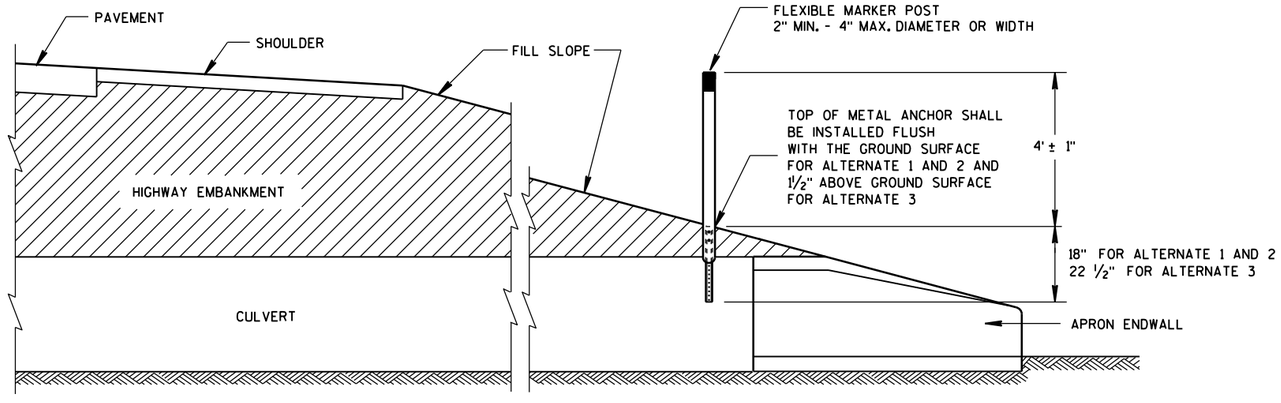
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 A 3-2a

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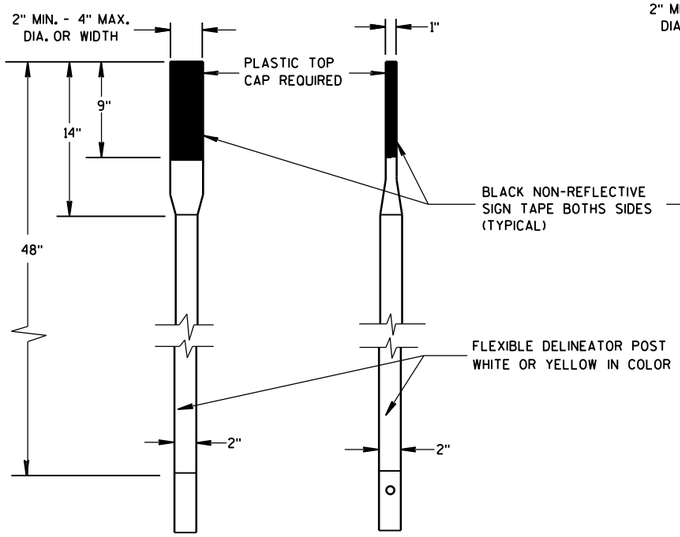
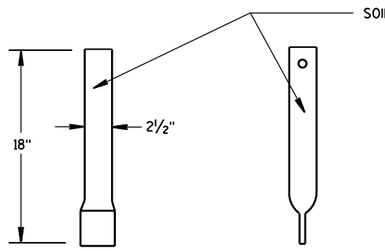
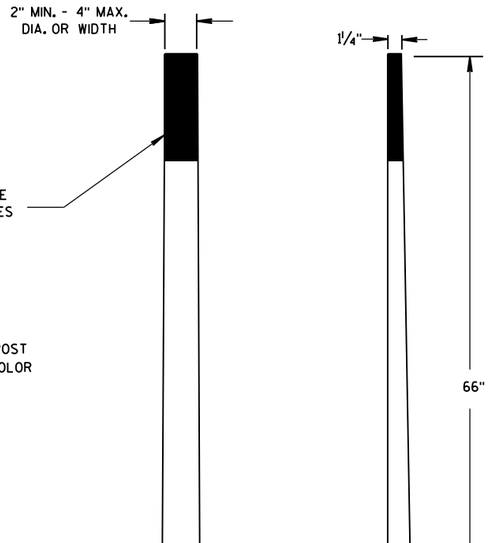
S.D.D. 15 A 3-2a





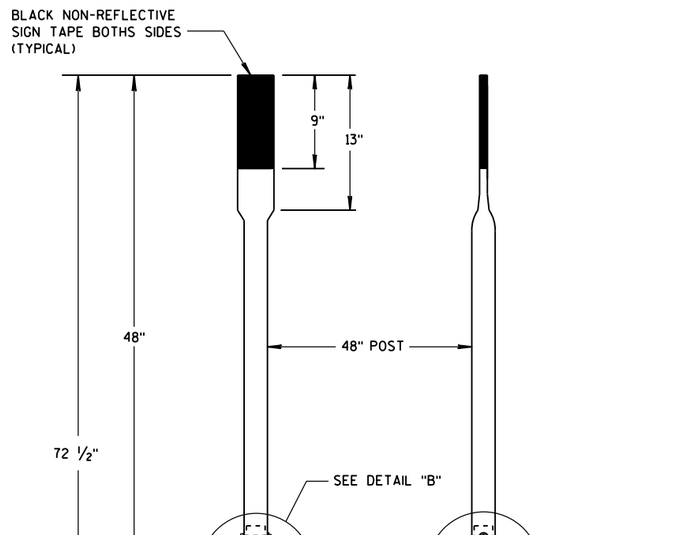
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

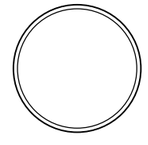
ALTERNATE 2



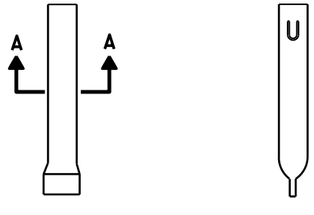
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POSTS

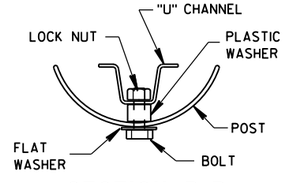


SECTION A-A

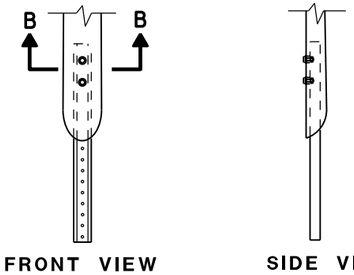


FRONT VIEW SIDE VIEW

ALTERNATE 1

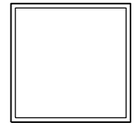


SECTION B-B

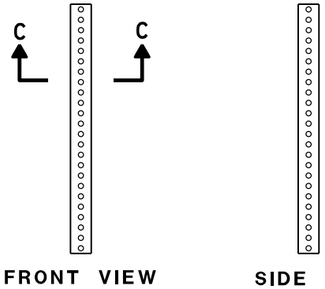


FRONT VIEW SIDE VIEW

ALTERNATE 2



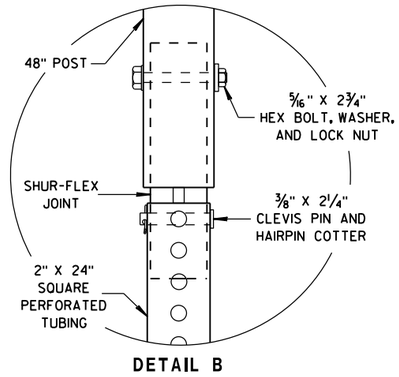
SECTION C-C



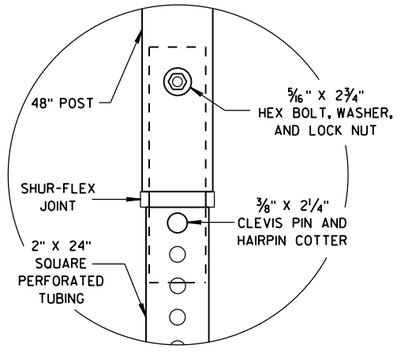
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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S.D.D. 15 A 3-2b

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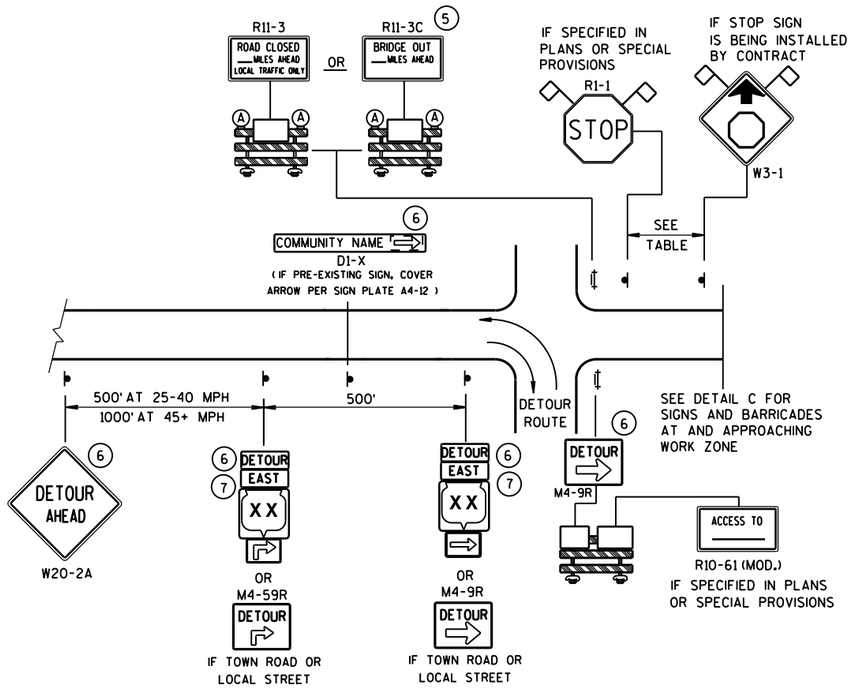
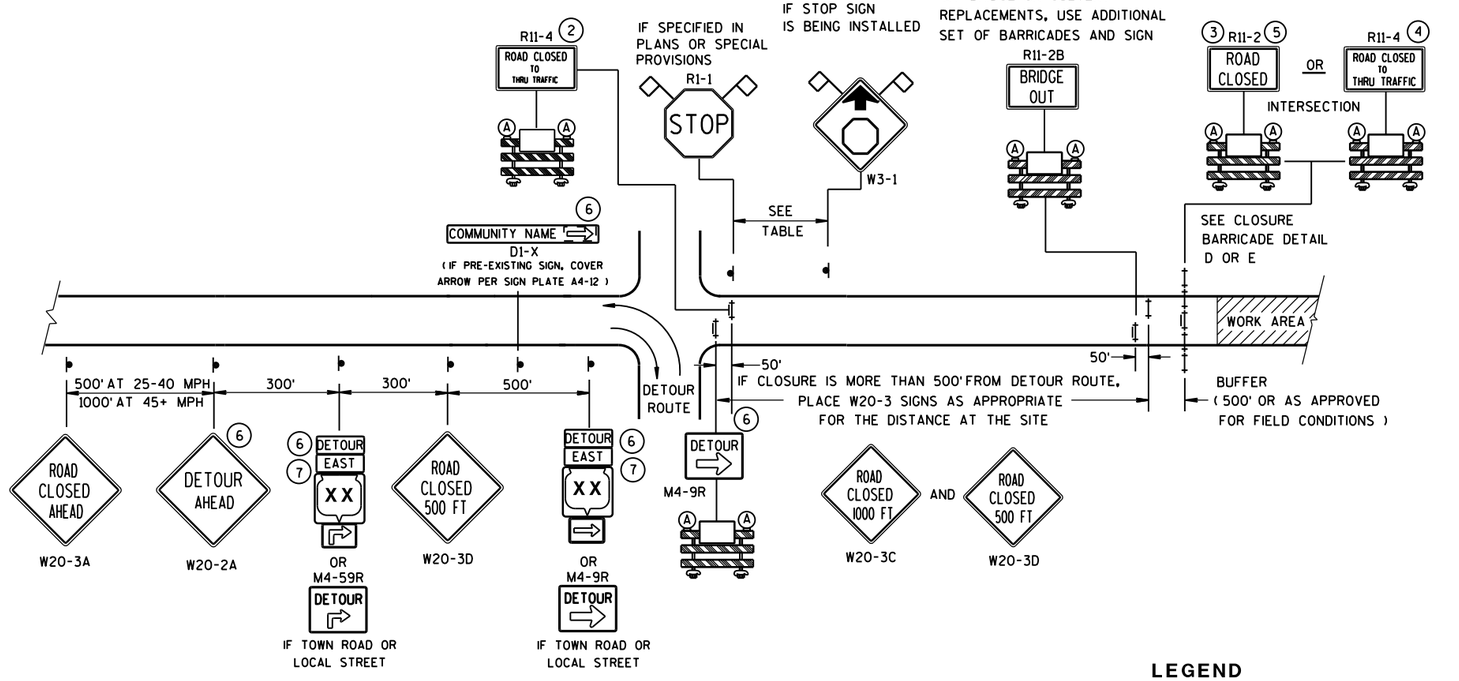
S.D.D. 15 A 3-2b



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

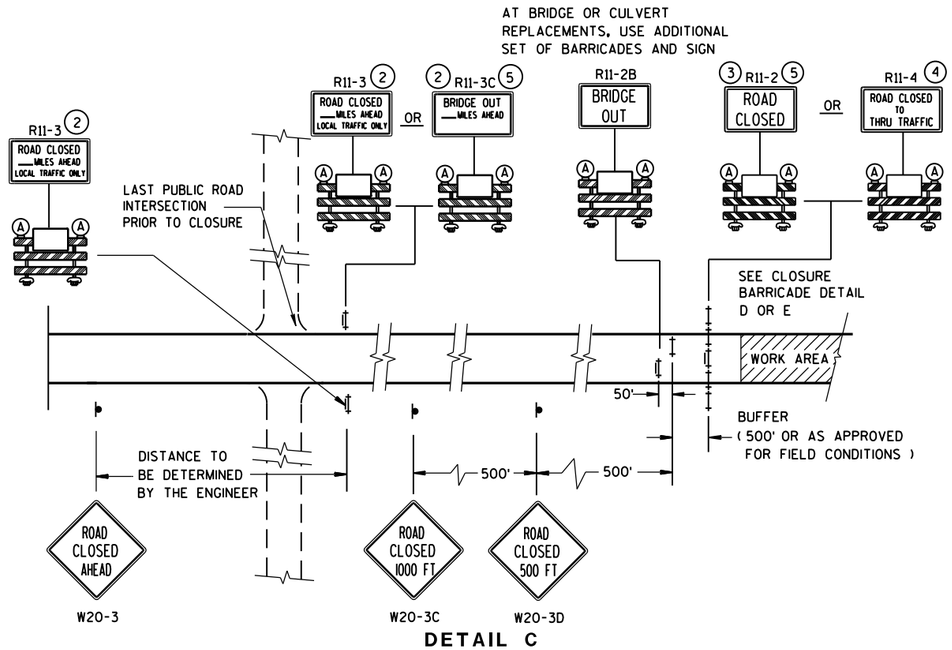
WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



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

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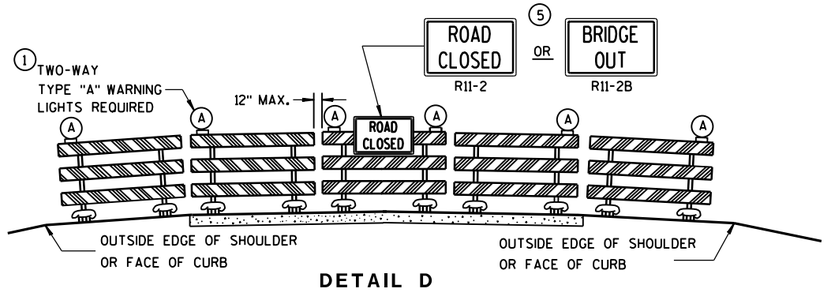
S.D.D. 15 C 2-6a

6

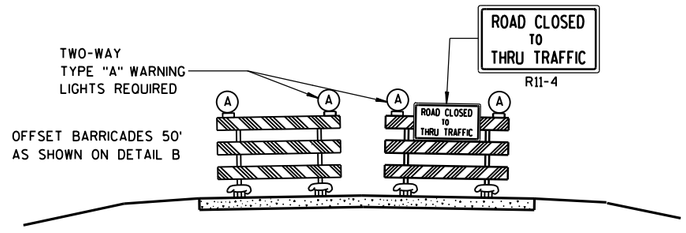
S.D.D. 15 C 2-6a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

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

FHWA

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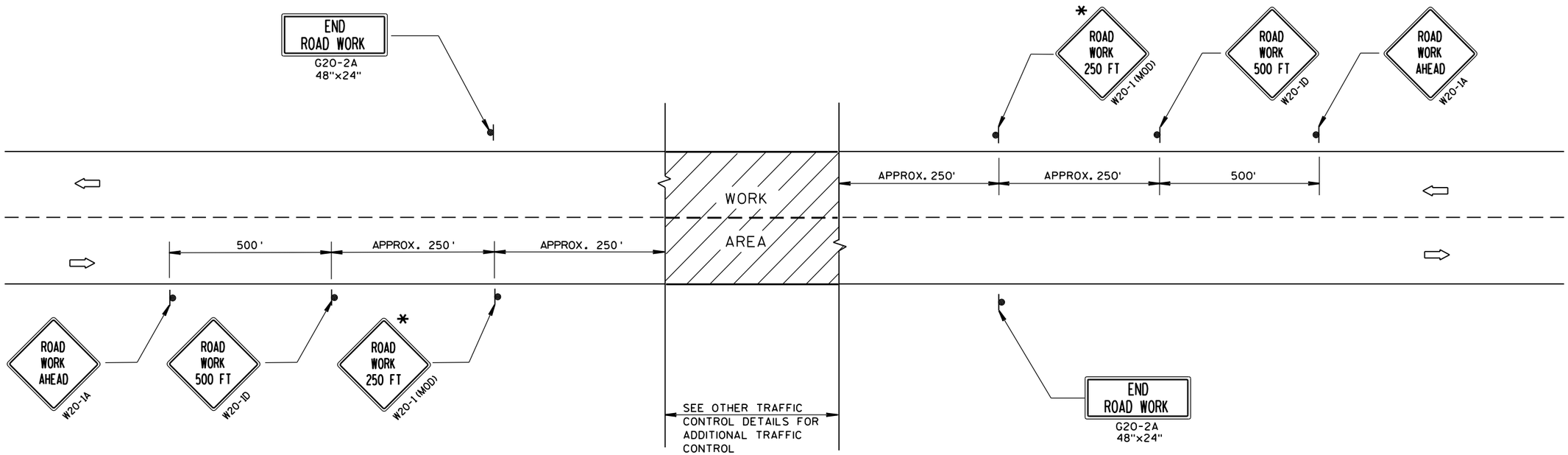
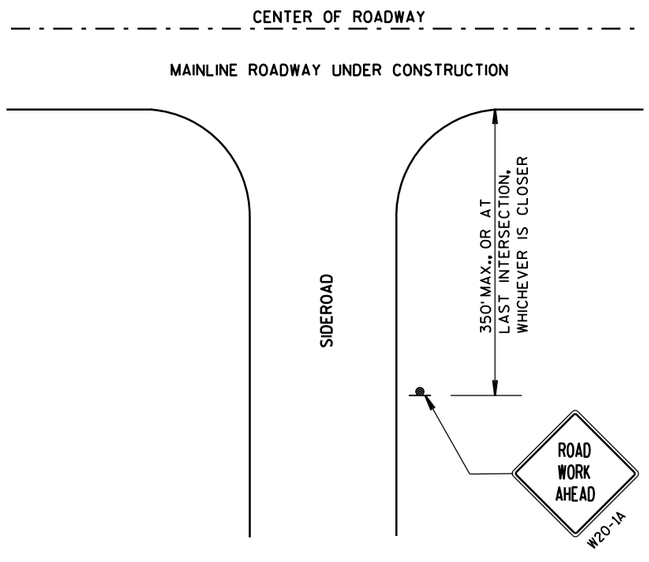
S.D.D. 15 C 2-6b



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

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

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.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

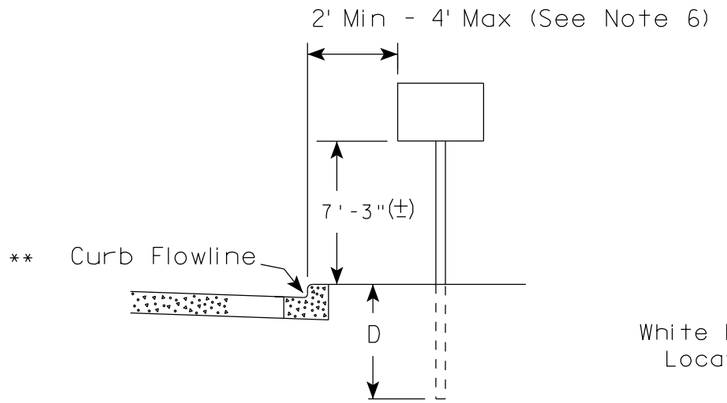
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

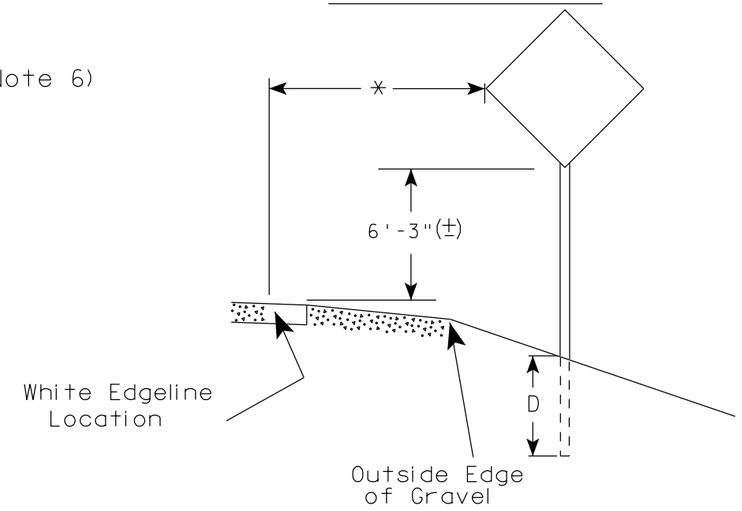
6

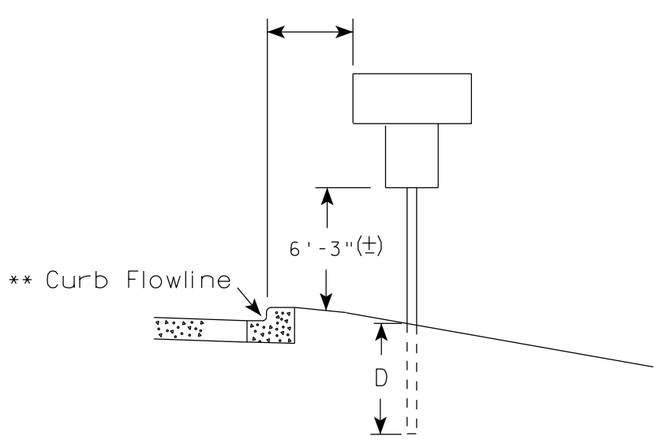
S.D.D. 15 C 5-3

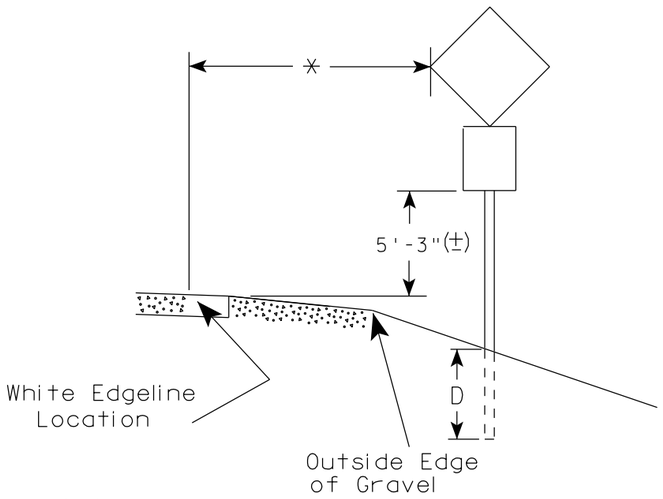
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

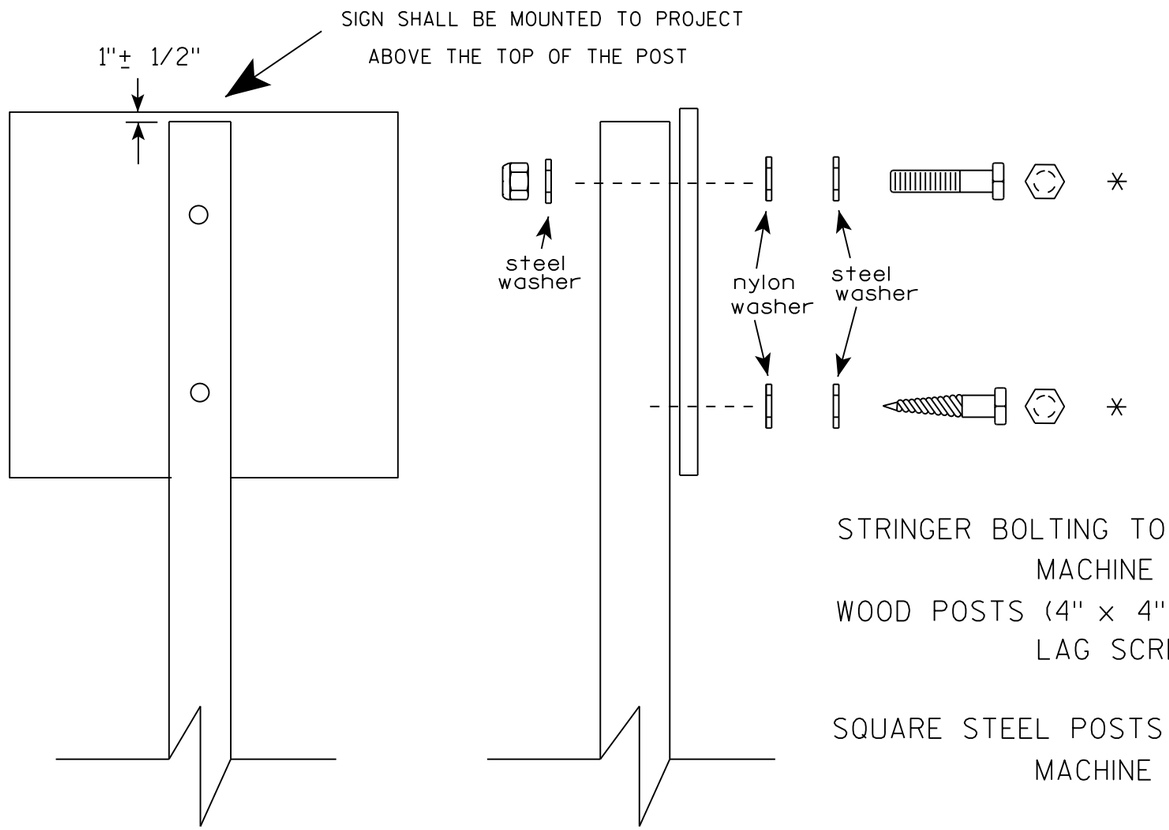
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



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

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

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

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

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

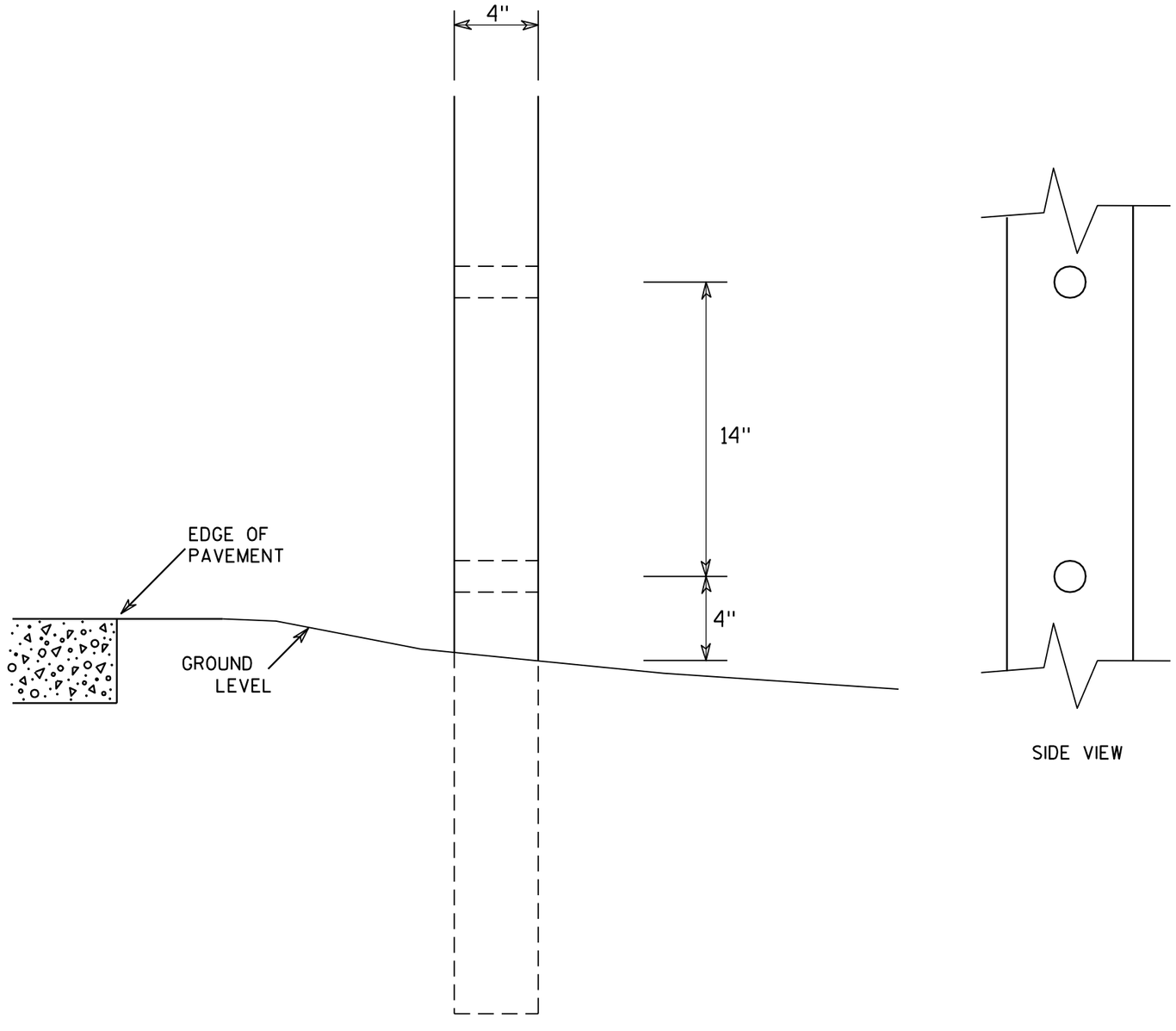
ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO: SHEET NO: E



SIDE VIEW

GENERAL NOTES

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

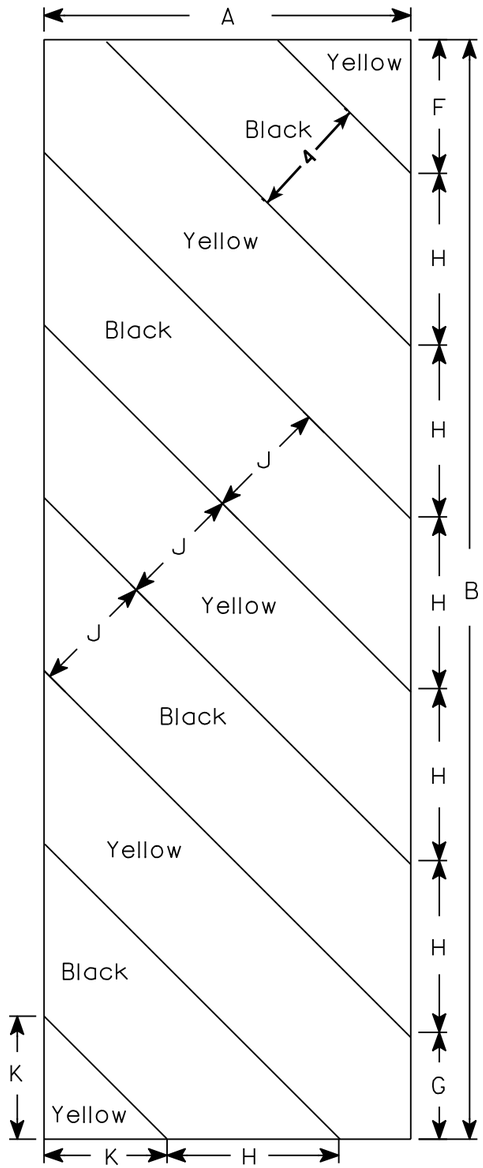
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

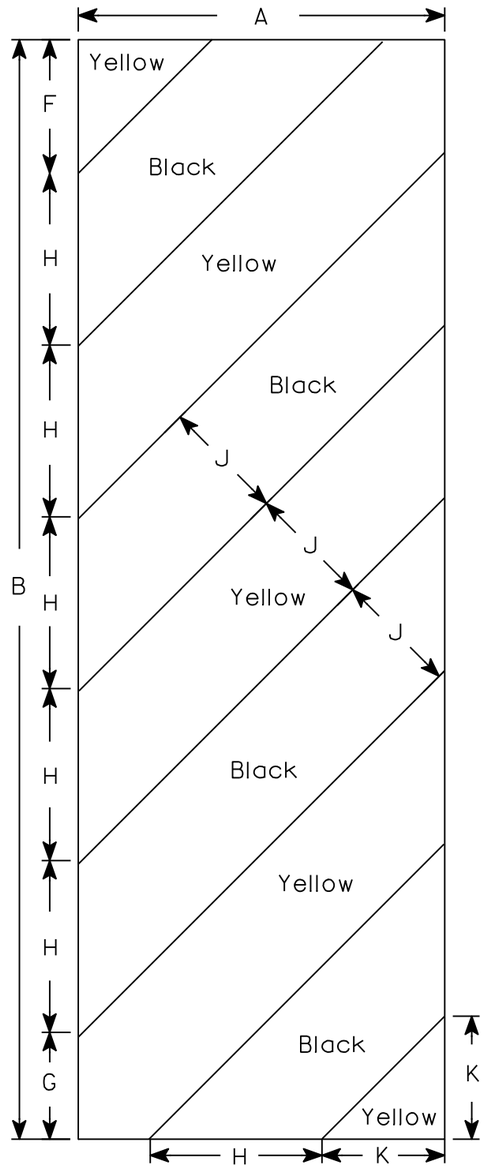
APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 35	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

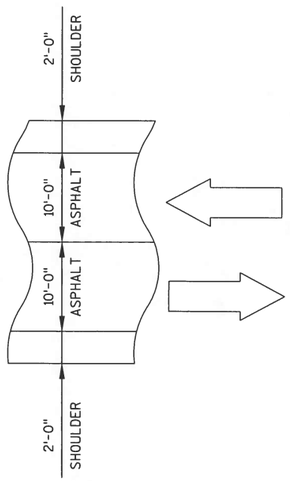
WISCONSIN DEPT OF TRANSPORTATION

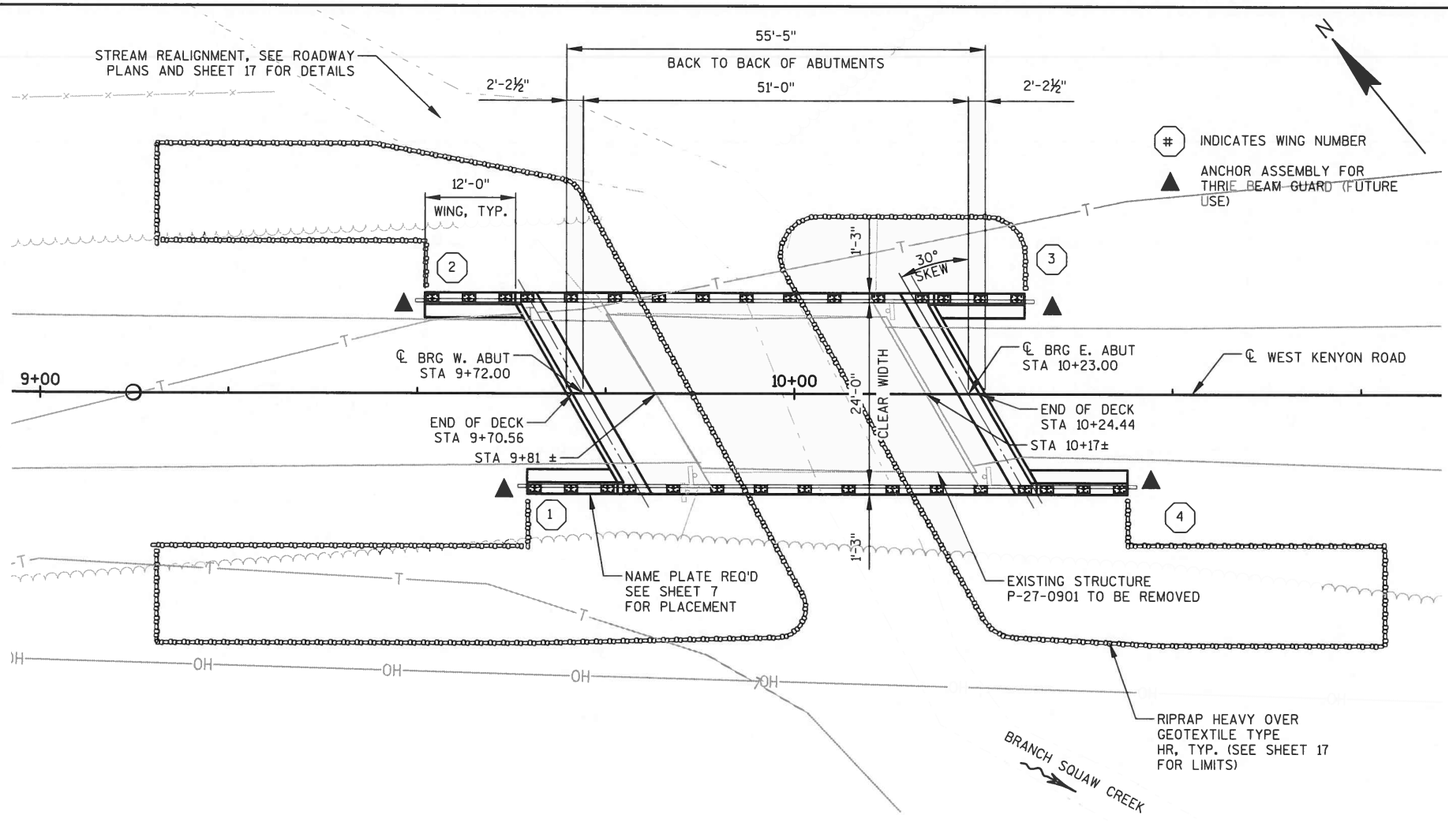
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 36 | E

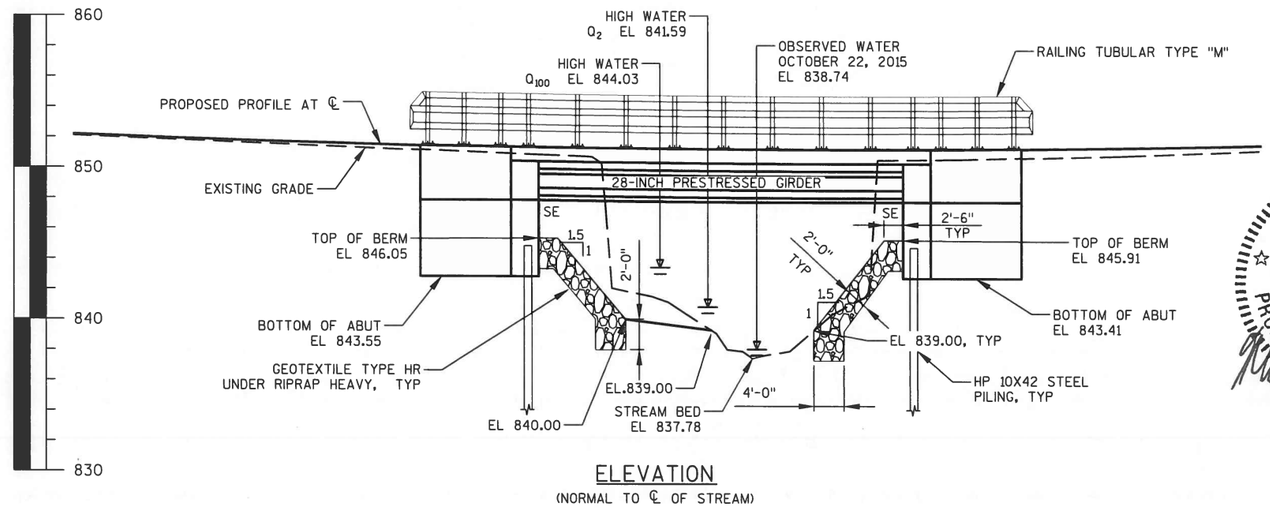
STATE PROJECT NUMBER
7239-00-70





PLAN
(SINGLE SPAN 28-INCH PRESTRESSED CONCRETE GIRDER BRIDGE)

LIST OF DRAWINGS:



ELEVATION
(NORMAL TO ℄ OF STREAM)

DESIGN DATA:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	1.25
OPERATING RATING FACTOR	1.76
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 = 4000 psi
ALL OTHER	f'c = 3500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT	fy = 60,000 psi
28-INCH PRESTRESSED GIRDERS, CONCRETE MASONRY	f'c = 8000 psi
STRANDS, 0.6" DIAMETER WITH ULTIMATE TENSILE STRENGTH OF	fu = 270,000 psi

TRAFFIC DATA:

ADT (2017) = 50
ADT (2037) = 80
DESIGN SPEED = 35 MPH

FOUNDATION DATA:

ABUTMENTS SUPPORTED ON HP 10-INCH X 42 LB STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 140* TONS PER PILE AS REQUIRED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 65' LONG AT THE WEST ABUTMENT AND 55' LONG AT THE EAST ABUTMENT.

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

HYDRAULIC DATA:

100 YEAR FREQUENCY

Q_{100}	440 cfs
STREAM VELOCITY	3.87 fps
HIGH WATER	EL. 844.03
WATERWAY AREA	114 ft²
DRAINAGE AREA	2.1 mi²
SCOUR CRITICAL CODE	8
OVERTOPPING FREQUENCY	N/A

2 YEAR FREQUENCY

Q_2	106 cfs
STREAM VELOCITY	2.28 fps
HIGH WATER	EL. 841.59

WISCONSIN
MATTHEW J. BUCKLI
E-39849
MADISON
WI
PROFESSIONAL ENGINEER
6/10/17

BRIDGE OFFICE CONTACT
WILLIAM DREHER, P.E.
TELEPHONE: (608) 266-8489
CONSULTANT CONTACT
MATT BUCKLI, P.E.
TELEPHONE: (608) 443-0441

NO.	DATE	REVISION	BY

Mead & Hunt, Inc.
2440 Deming Way
Middleton, WI 53562
608.273.6380
www.meadhunt.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/17/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-27-162

WEST KENYON ROAD OVER BRANCH SQUAW CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
JACKSON	ADAMS

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
MJB	RCP	MJB	RCP

GENERAL PLAN

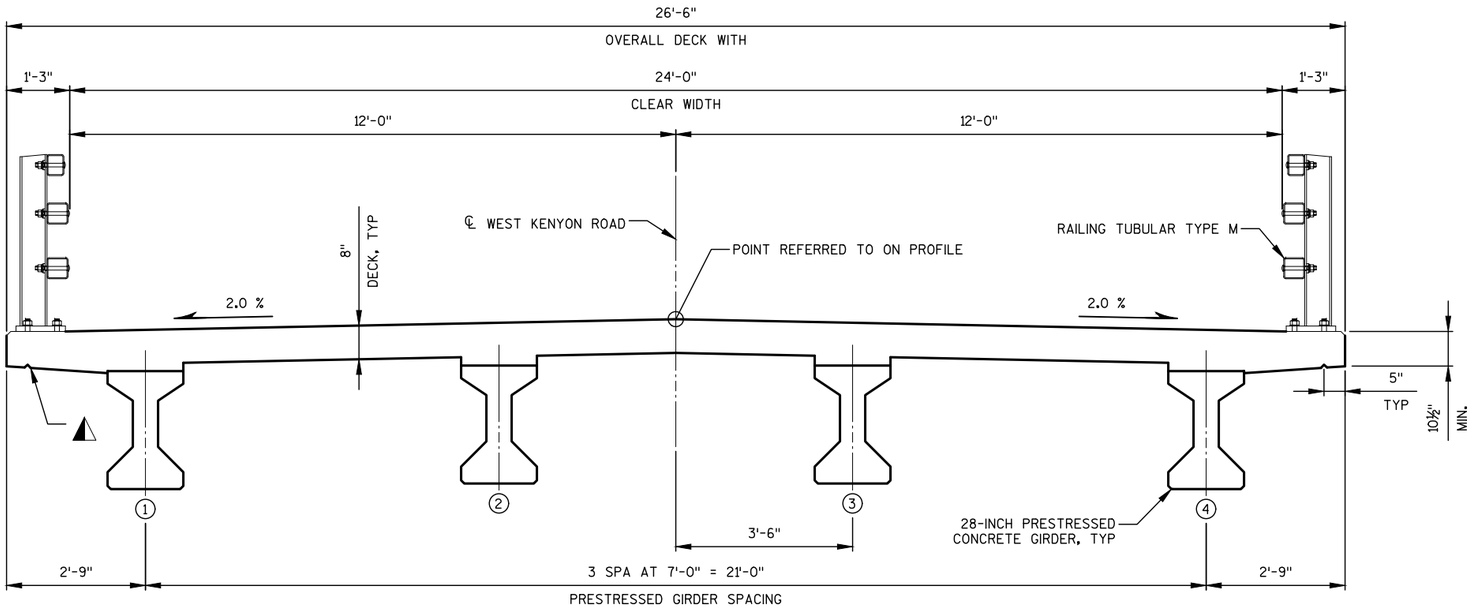
SHEET 37 OF 17

8

8

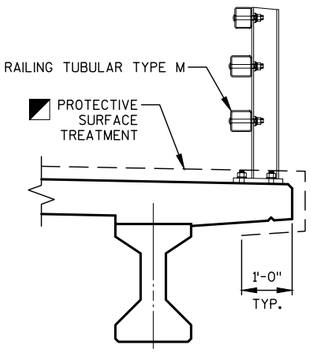
FILE NAME : X:±3223700±155579.01±TECH±CAD±72390000±DESIGN±STRUCTURE±080101_GP.DWG PLOT DATE : 6/10/2017 PLOT BY : MATTHEW BUCKLI PLOT SCALE :**********

STATE PROJECT NUMBER
7239-00-70



TYPICAL SECTION

(LOOKING EAST)



LIMITS OF SURFACE TREATMENT

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-27-162" SHALL BE THE EXISTING GROUNDLINE.

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

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

THE EXISTING STRUCTURE TO BE REMOVED IS A 38.0' LONG BY 20.4' CLEAR ROADWAY WIDTH, SINGLE SPAN STEEL GIRDER BRIDGE WITH TIMBER BENT ABUTMENTS AND BACKWALLS (P-27-0901).

ALL STATIONS AND ELEVATIONS ARE IN FEET.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO NAVD88 (2007)

¾" V-GROOVE REQ'D. EXTEND TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.

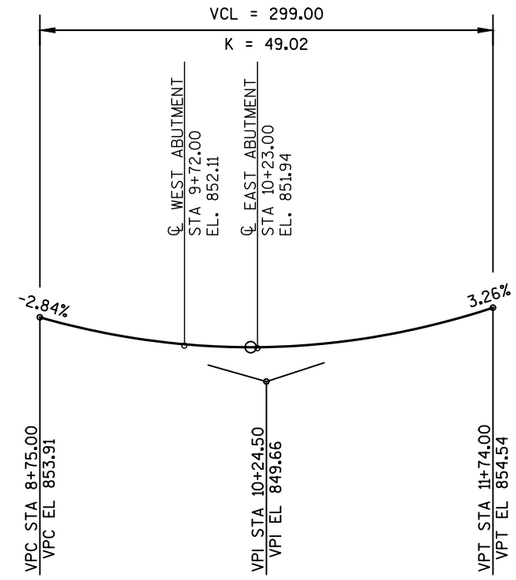
COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.

BENCH MARKS

NO.	STATION	OFFSET	DESCRIPTION	ELEV.
1	5+86.1	RT 7.9'	PK IN ASPHALT	864.08
2	10+10.6	LT 16.2'	PK IN ABUT TIMBER	851.17
3	11+33.0	LT 37.2'	PK IN PP	854.94

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	W ABUT	E ABUT	SUPER	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00.00	LS	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-27-162	LS	---	---	---	1
210.1500	STRUCTURE BACKFILL TYPE A	TON	145	145	---	290
502.0100	CONCRETE MASONRY BRIDGES	CY	38	37	57	132
502.3200	PROTECTIVE SURFACE TREATMENT	SY	13	13	190	216
503.0128	PRESTRESSED GIRDER TYPE I 28-INCH	LF	---	---	208	208
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1880	1880	---	3760
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1750	1710	10240	13700
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	---	---	8	8
506.4000	STEEL DIAPHRAGMS B-27-162	EACH	---	---	3	3
513.4061	RAILING TUBULAR TYPE M B-27-162	LF	---	---	164	164
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	6	---	12
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	325	275	---	600
606.0300	RIPRAP HEAVY	CY	225	150	---	375
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	105	105	---	210
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	55	55	---	110
645.0120	GEOTEXTILE TYPE HR	SY	450	300	---	750
	NON BID ITEMS					
	FILLER	SIZE				1/2" & 3/4"



PROFILE GRADE LINE, ℄ WEST KENYON ROAD

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-162

DRAWN BY MJB | PLANS CK'D. RCP

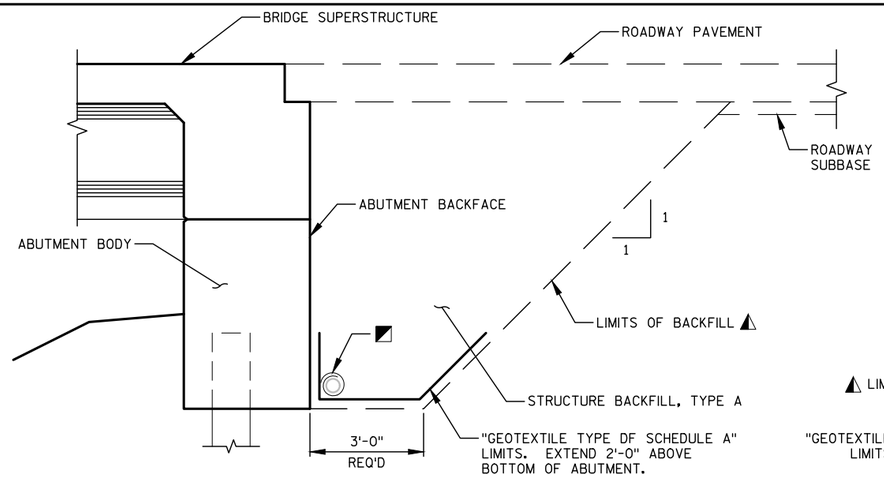
TYPICAL SECTION GENERAL NOTES & QUANTITIES

SHEET 38 OF 17

8

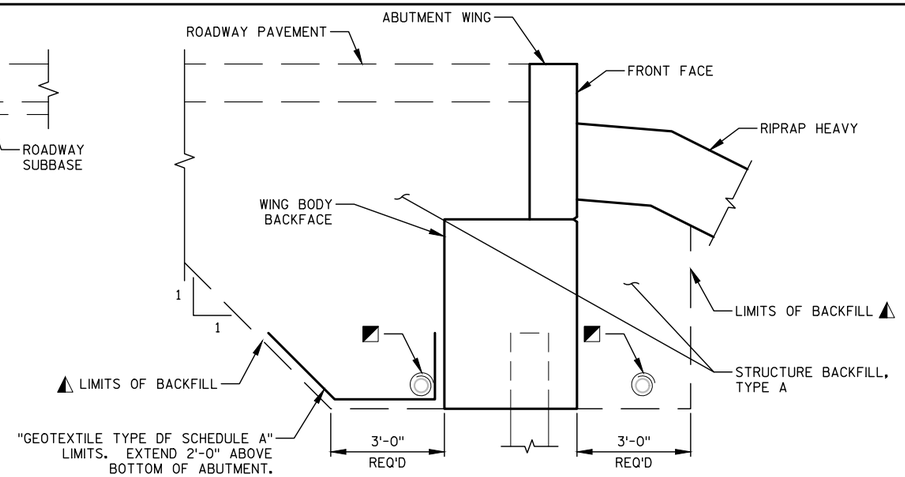
8

STATE PROJECT NUMBER
7239-00-70



STRUCTURE BACKFILL & PIPE UNDERDRAIN DETAIL

(TYPICAL AT BOTH ABUTMENTS)

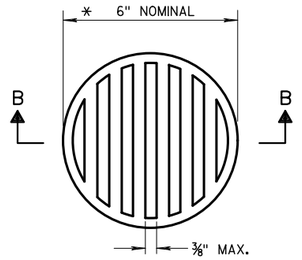


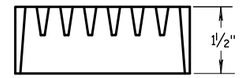
TYPICAL SECTION THRU WING

(SHOWING STRUCTURE BACKFILL LIMITS)

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

◩ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.





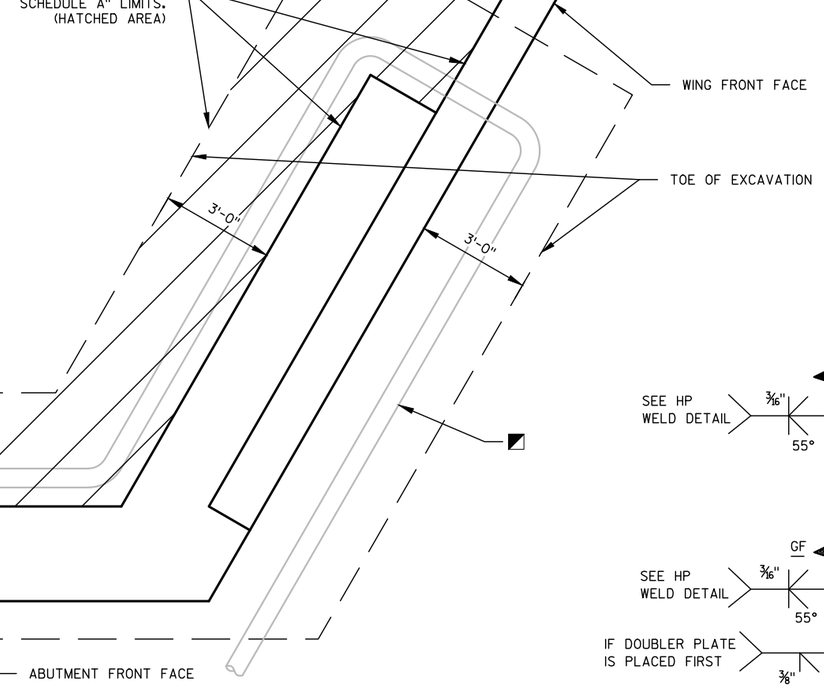
SECTION B-B

RODENT SHIELD

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

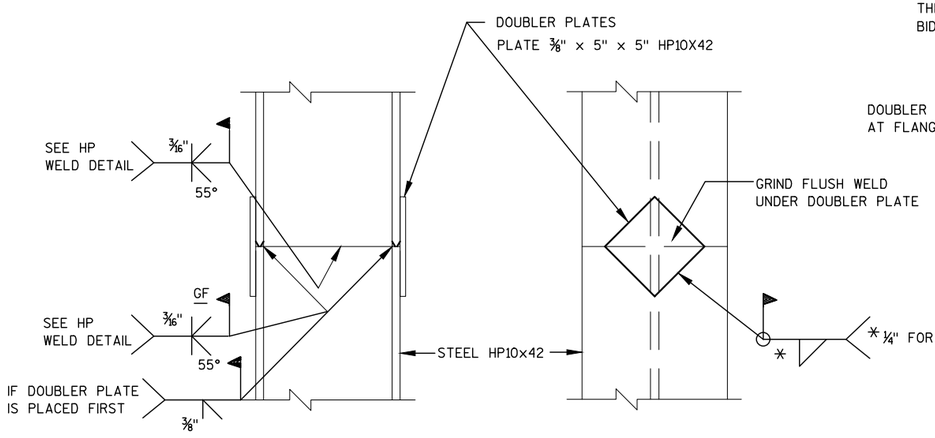
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X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

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

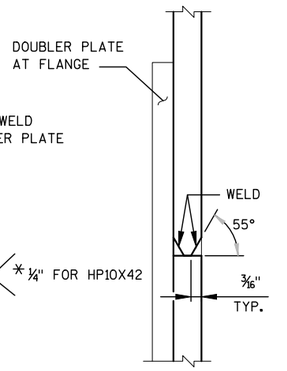


ABUTMENT PLAN WITH WING

(SHOWING STRUCTURE BACKFILL LIMITS)



PILE SPLICE DETAILS



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-162

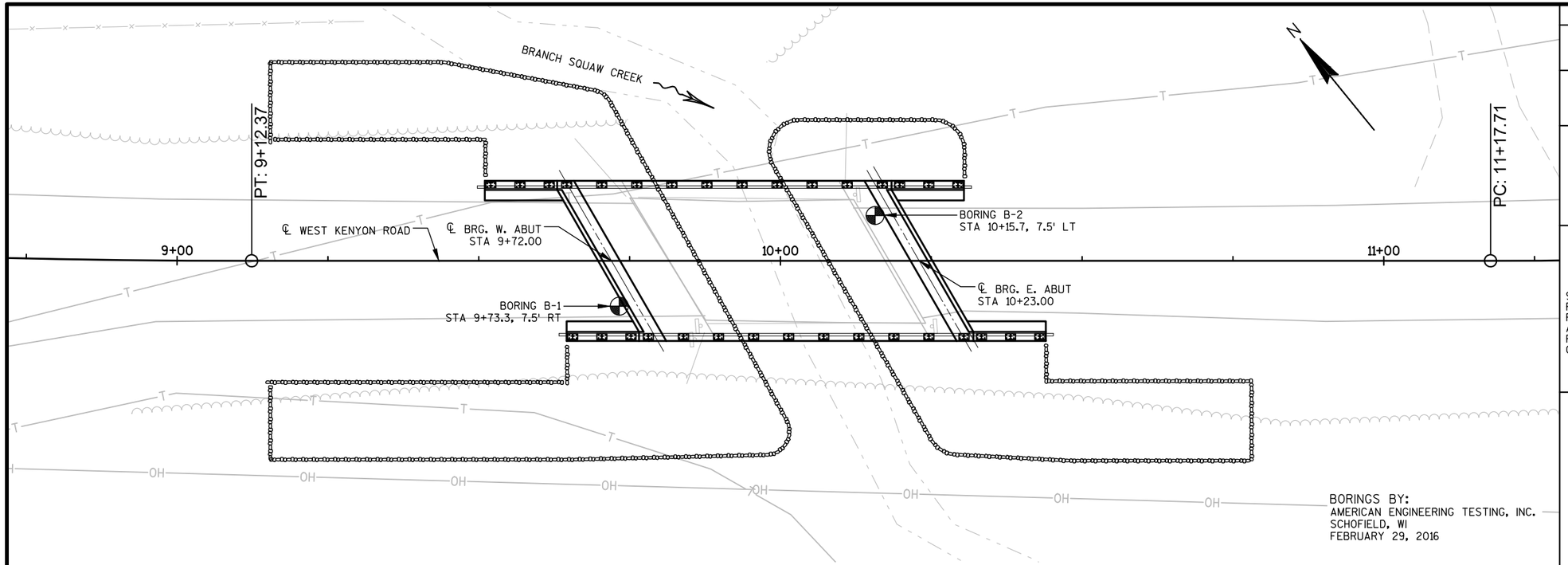
DRAWN BY MJB | PLANS CK'D. RCP

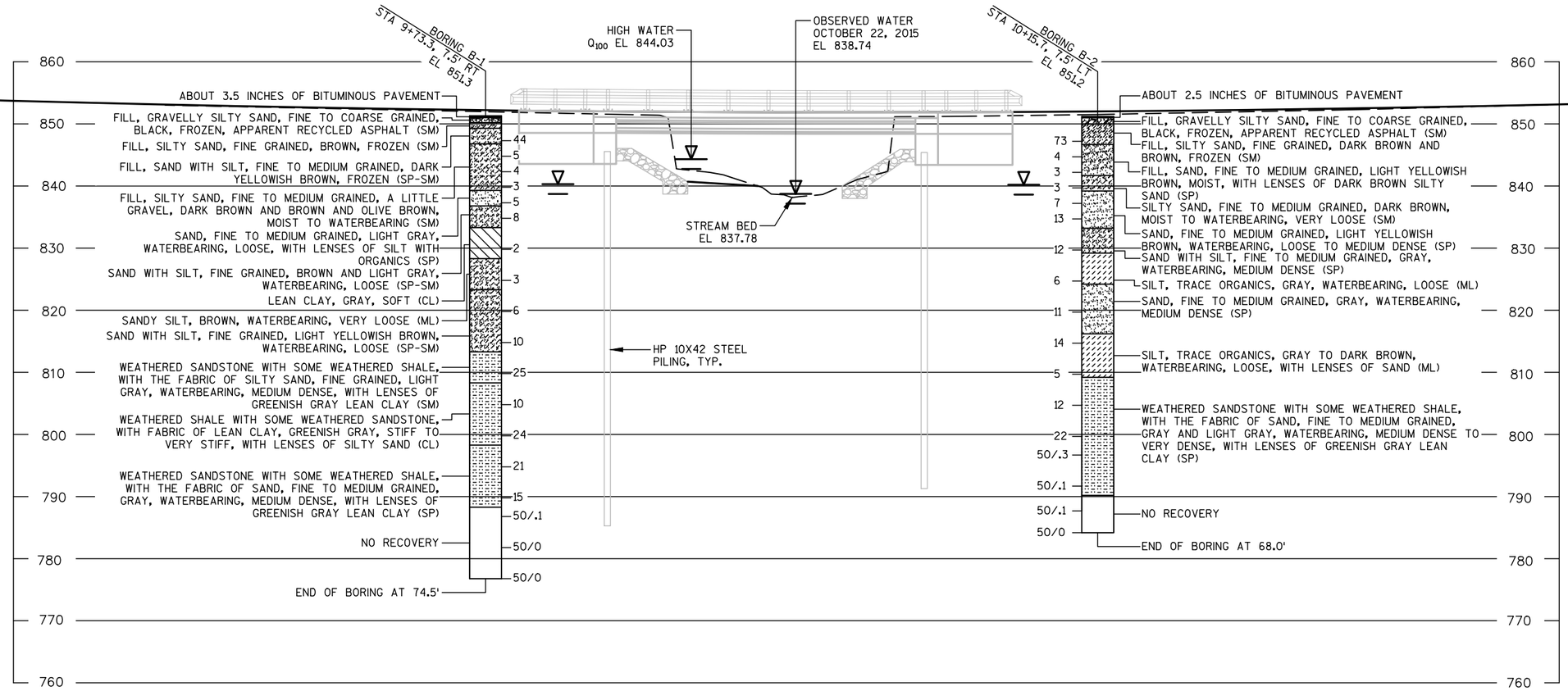
GENERAL DETAILS

SHEET 39 OF 17

8

8





STATE PROJECT NUMBER

7239-00-70

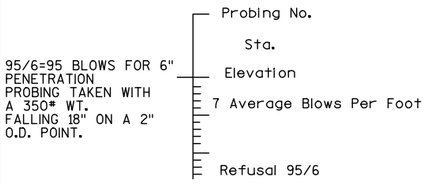
ABBREVIATIONS

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

MATERIAL SYMBOLS

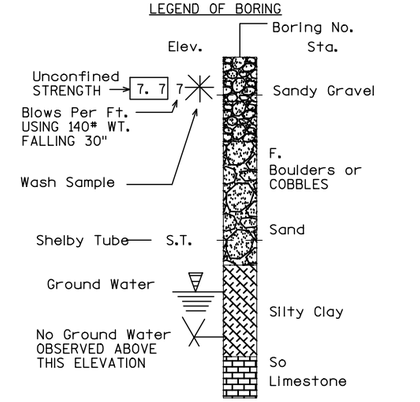
Asphalt, Concrete, Gravel, Silt, Peat, Clay, Sand, Air, Water

LEGEND OF PROBING



95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350* WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140* HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-162

DRAWN BY MJB | PLANS CK'D. RCP

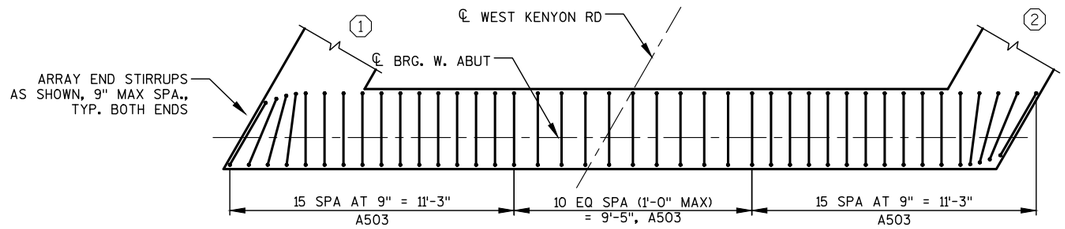
SUBSURFACE EXPLORATION

SHEET 40 OF 17

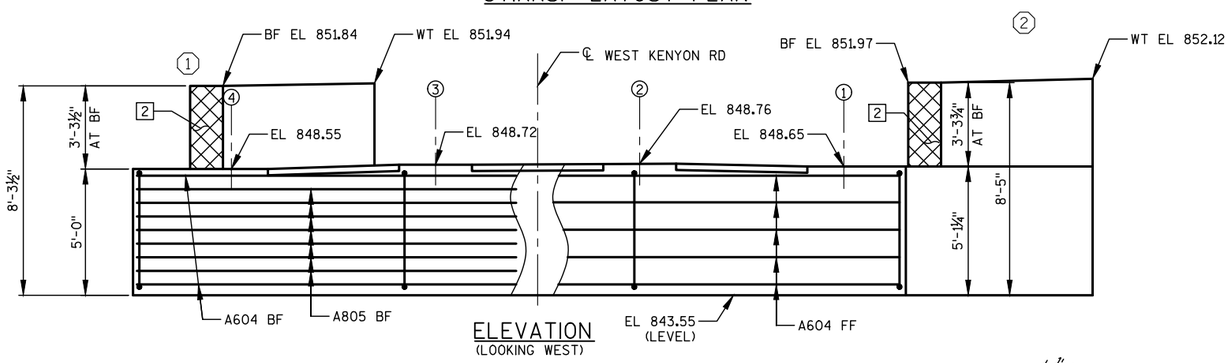
8

8

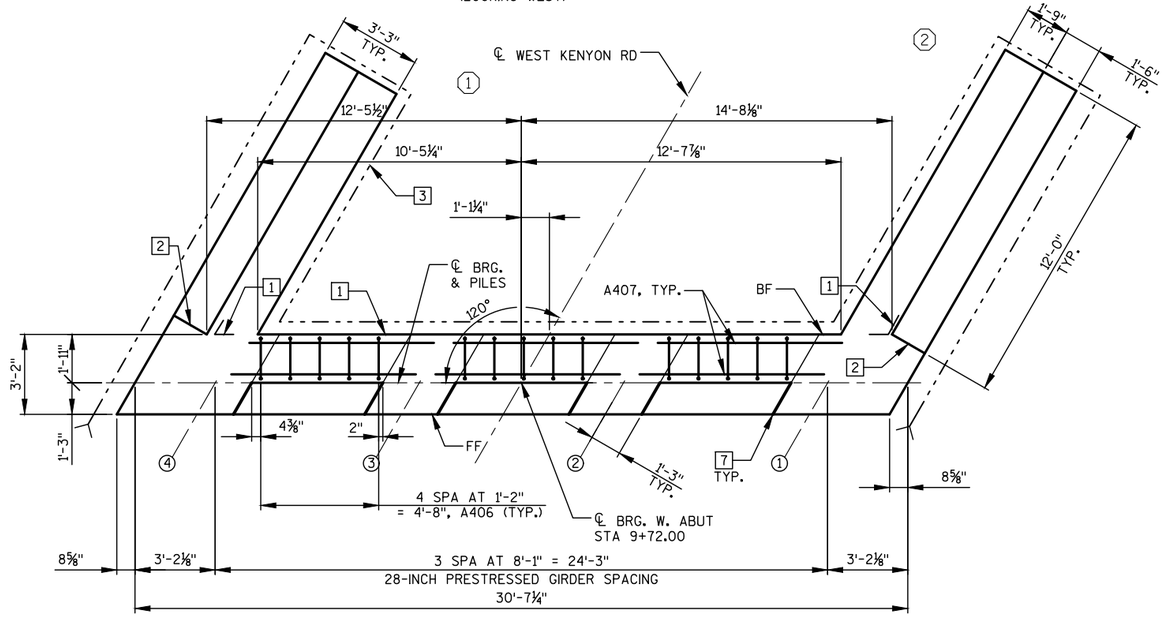
FILE NAME : X:±3223700±155579.01±TECH±CAD±72390000±DESIGN±STRUCTURE±080104_SE.PLT PLOT DATE : 6/10/2017 PLOT BY : ---- PLOT SCALE : 1:1



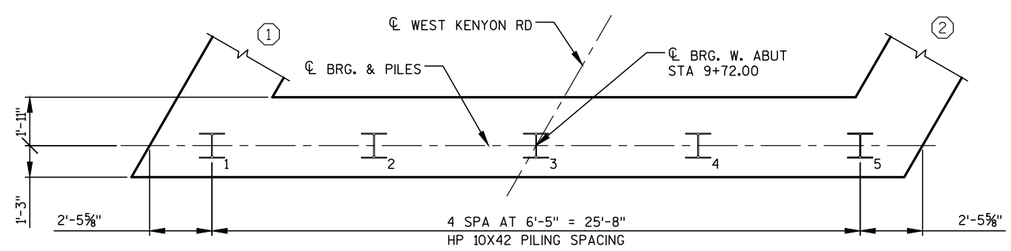
STIRRUP LAYOUT PLAN



ELEVATION
(LOOKING WEST)



PLAN



PILE PLAN

STATE PROJECT NUMBER

7239-00-70

NOTES:

FOR PILE SPLICE DETAILS SEE SHEET 3.

SEE SHEET 7 FOR SECTION THRU ABUTMENT BODY.

FILL/EXCAVATE TO BOTTOM OF WEST ABUTMENT EL 843.55 BEFORE DRIVING PILING.

WEST ABUTMENT TO BE SUPPORTED ON HP 10X42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED AT 65' LONG.

[1] 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

[2] ½" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING, INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

[3] PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE SHEET 3 FOR RODENT SHIELD DETAILS.

[4] 4" X ¾" FILLER LENGTH OF ABUTMENT.

[5] ¾" PERFORMED FILLER UNDER GIRDERS.

[6] NON-LAMINATED ELASTOMERIC BEARING PAD ½" X 8" X 1'-10".

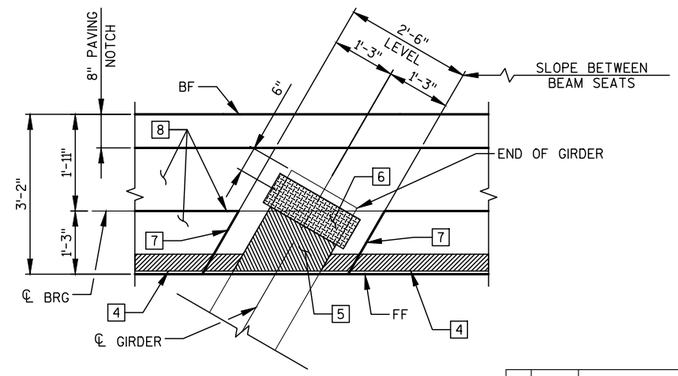
[7] ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

[8] STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF ALL SHEETS TO BE AT LEAST 0.03".

(#) INDICATES WING NUMBER

(#) INDICATES GIRDER NUMBER

FF - FRONT FACE
BF - BACK FACE
WT - WING TIP



BEARING PAD DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-162

DRAWN BY MJB | PLANS CK'D. RCP

WEST ABUTMENT

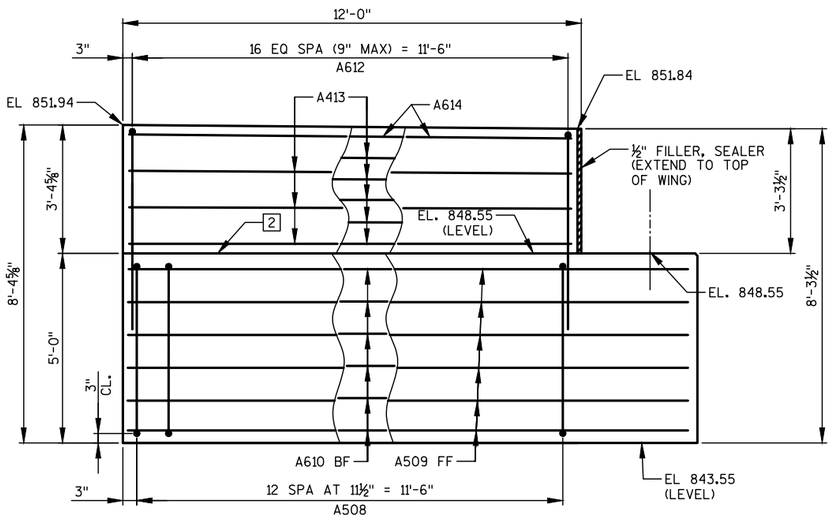
SHEET 41 OF 17

8

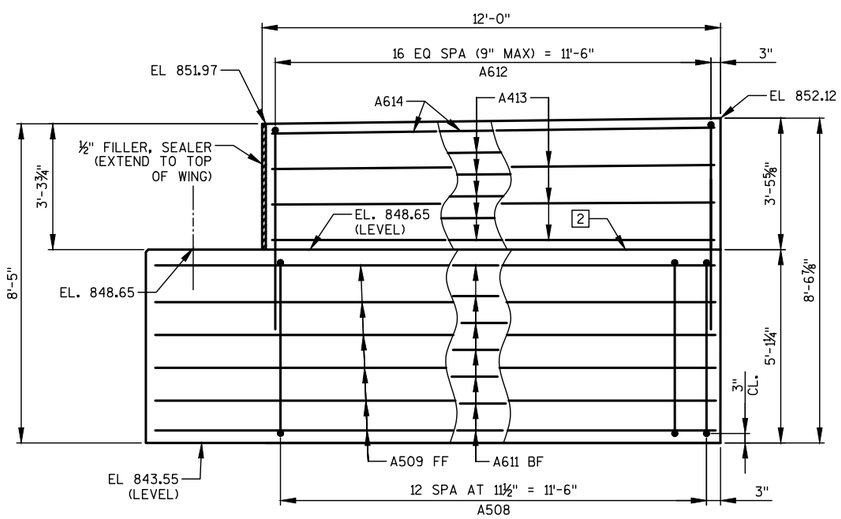
8

STATE PROJECT NUMBER

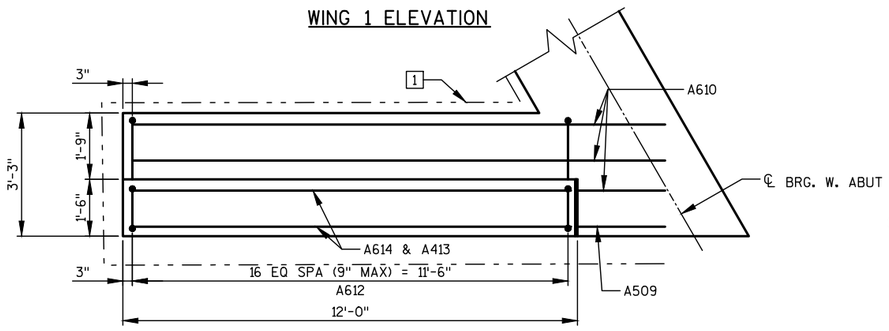
7239-00-70



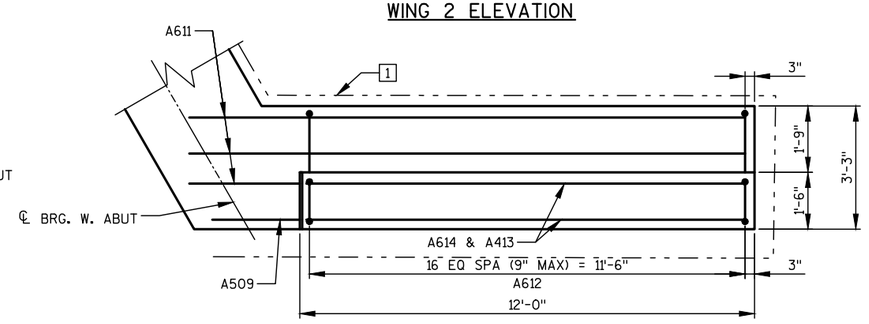
WING 1 ELEVATION



WING 2 ELEVATION



WING 1 PLAN

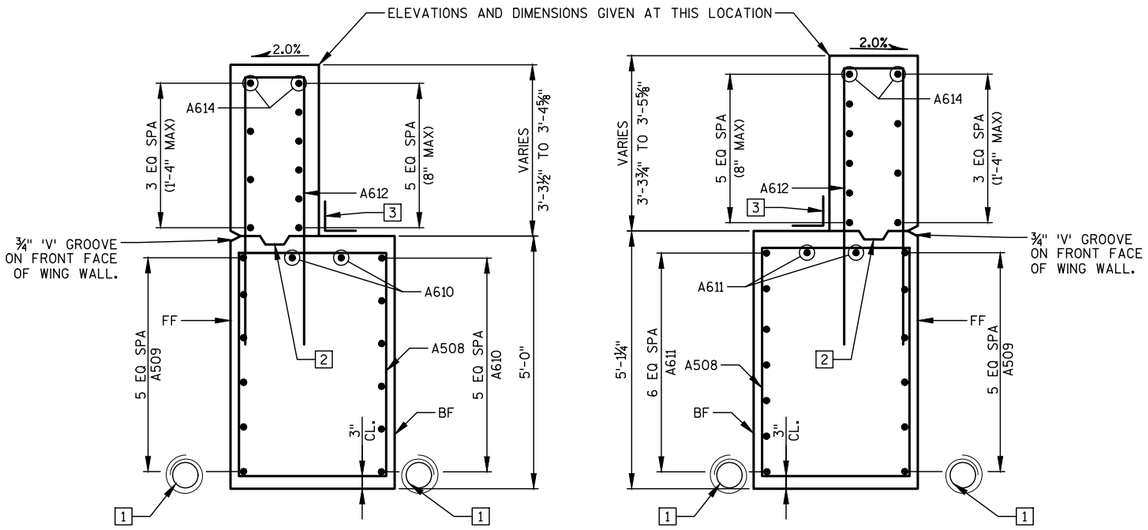


WING 2 PLAN

NOTES:

1. PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE SHEET 3 FOR RODENT SHIELD DETAILS.
2. OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH MEMBRANE ON BACKFACE.
3. 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

FF - FRONT FACE
BF - BACK FACE



WING 1 SECTION

ALL HORIZONTAL BARS NOT LABELED IN WING TOP ARE A413 BARS.

WING 2 SECTION

ALL HORIZONTAL BARS NOT LABELED IN WING TOP ARE A413 BARS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-162

DRAWN BY MJB | PLANS CK'D. RCP

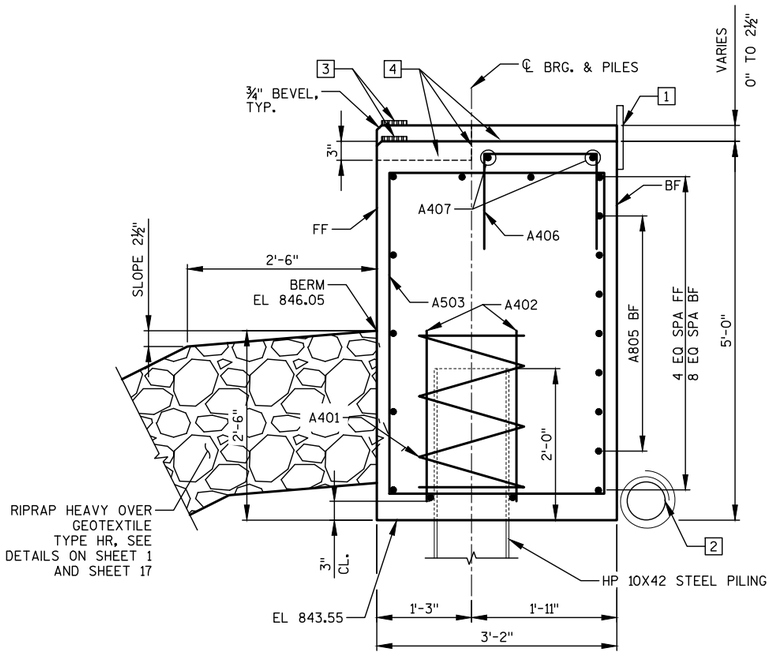
WEST ABUTMENT WING DETAILS

SHEET 42 OF 17

FILE NAME : X:±3223700±155579.01±TECH±CAD±72390000±DESIGN±STRUCTURE±080105_WA.DWG PLOT DATE : 6/10/2017 PLOT BY : ---- PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER

7239–00–70



SECTION THRU ABUTMENT BODY

ALL HORIZONTAL BARS NOT LABELED ARE A604 BARS.

NOTES:

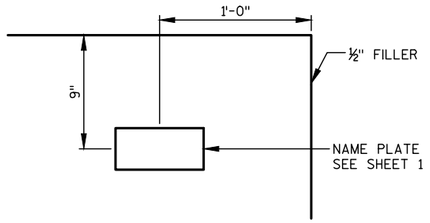
1 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

2 PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE SHEET 3 FOR RODENT SHIELD DETAILS.

3 4" X ¾" FILLER LENGTH OF ABUTMENT.

4 STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF ALL SHEETS TO BE AT LEAST 0.03".

FF - FRONT FACE
BF - BACK FACE



NAME PLATE LOCATION

ON WING 1

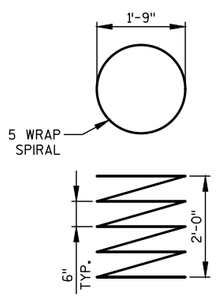
BILL OF BARS
WEST ABUTMENT

COATED= 1750 LBS.
UNCOATED= 1880 LBS.

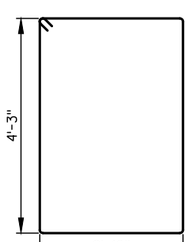
MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
A401		5	28 - 0	X		ABUTMENT BODY - 1 PER PILE	SPIRAL
A402		10	2 - 3			ABUTMENT BODY - 2 PER PILE	VERT
A503		41	14 - 10	X		ABUTMENT BODY - STIRRUPS	VERT
A604		11	30 - 2			ABUTMENT BODY - FF, TOP, BTM	HORIZ
A805		7	30 - 2			ABUTMENT BODY - BF	HORIZ
A406		15	3 - 11	X		ABUTMENT BODY - SEAT STEP	VERT
A407		6	7 - 4			ABUTMENT BODY - SEAT STEP	HORIZ
A508	26		15 - 4	X		WING WALL - BODY	VERT
A509	12		14 - 2			WING WALL - FF OF BODY	HORIZ
A610	8		14 - 2			WING WALL 1 - BODY	HORIZ
A611	9		14 - 9			WING WALL 2 - BODY	HORIZ
A612	34		11 - 7	X		WING WALL - TOP TIES	VERT
A413	16		11 - 7			WING WALL - TOP	HORIZ
A614	4		11 - 7			WING WALL - TOP	HORIZ

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

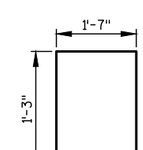
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.



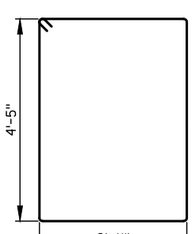
A401



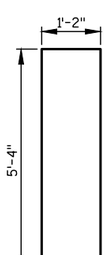
A503



A406



A508



A612

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NO.	DATE	REVISION	BY

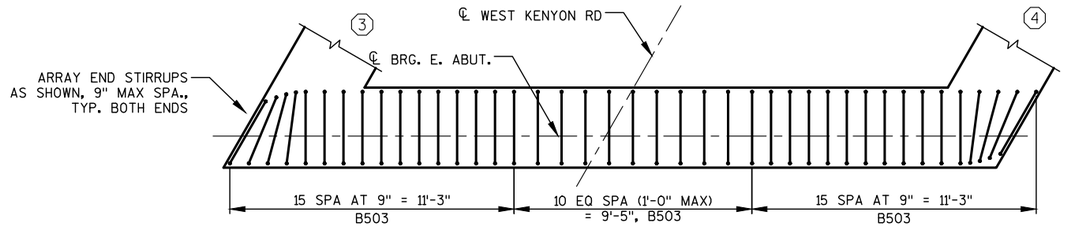
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–27–162

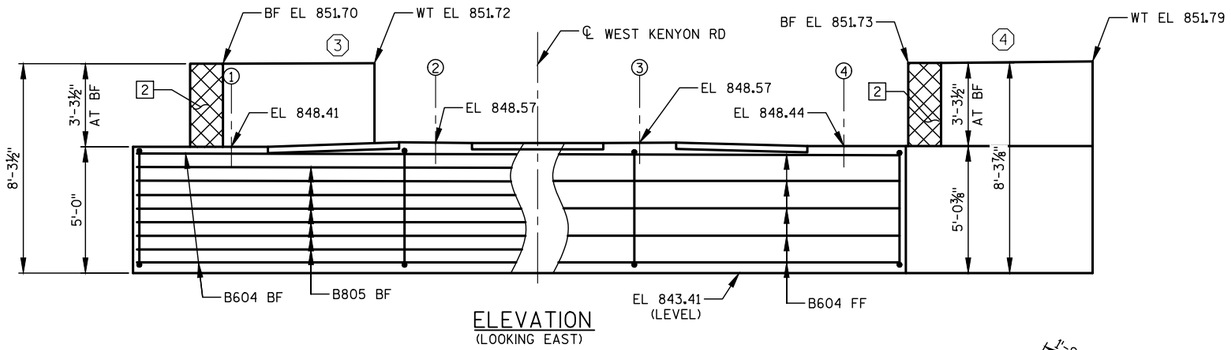
DRAWN BY MJB | PLANS CK'D. RCP

WEST ABUTMENT DETAILS

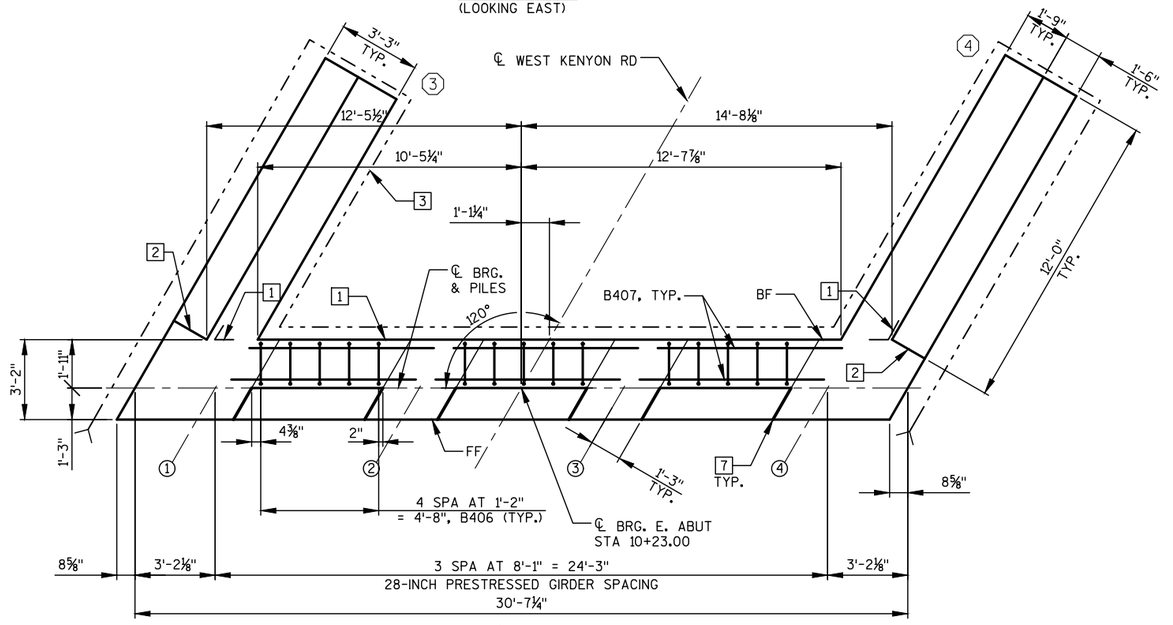
SHEET 43 OF 17



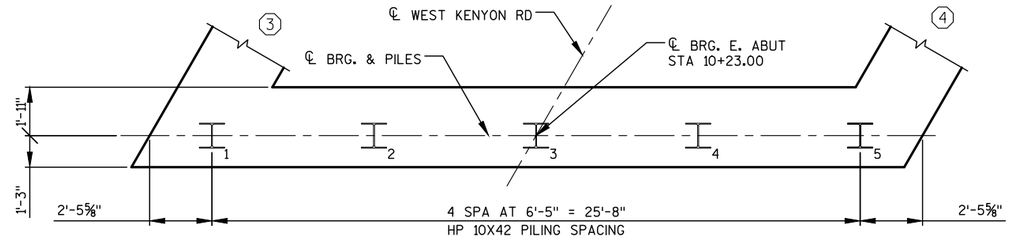
STIRRUP LAYOUT PLAN



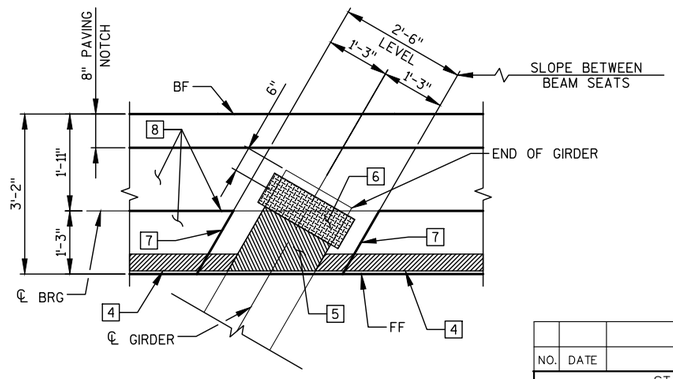
ELEVATION
(LOOKING EAST)



PLAN



PILE PLAN



BEARING PAD DETAIL

STATE PROJECT NUMBER

7239-00-70

NOTES:

FOR PILE SPLICE DETAILS SEE SHEET 3.

SEE SHEET 10 FOR SECTION THRU ABUTMENT BODY.

FILL/EXCAVATE TO BOTTOM OF EAST ABUTMENT EL 843.41 BEFORE DRIVING PILING.

EAST ABUTMENT TO BE SUPPORTED ON HP 10X42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED AT 55' LONG.

[1] 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

[2] ½" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING, INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

[3] PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE SHEET 3 FOR RODENT SHIELD DETAILS.

[4] 4" X ¾" FILLER LENGTH OF ABUTMENT.

[5] ¾" PERFORMED FILLER UNDER GIRDERS.

[6] NON-LAMINATED ELASTOMERIC BEARING PAD ½" X 8" X 1'-10".

[7] ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

[8] STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF ALL SHEETS TO BE AT LEAST 0.03".

(#) INDICATES WING NUMBER

(#) INDICATES GIRDER NUMBER

FF - FRONT FACE
BF - BACK FACE
WT - WING TIP

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-162

DRAWN BY MJB | PLANS CK'D. RCP

EAST ABUTMENT

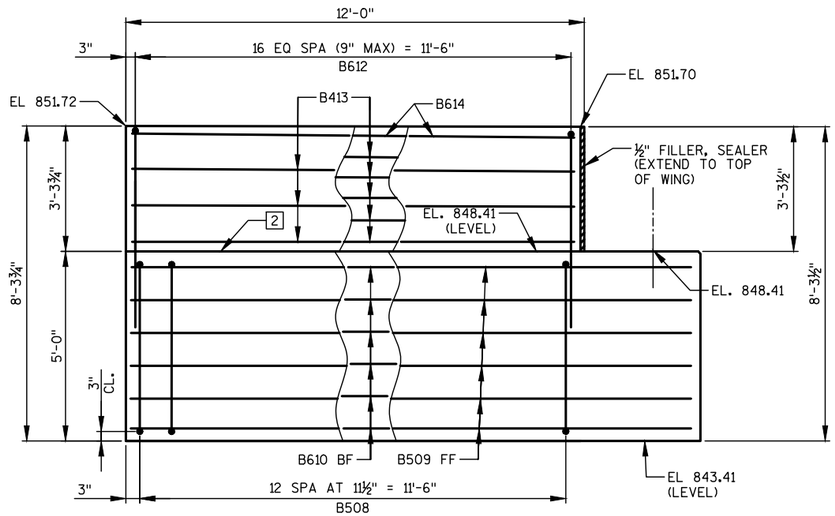
SHEET 44 OF 17

8

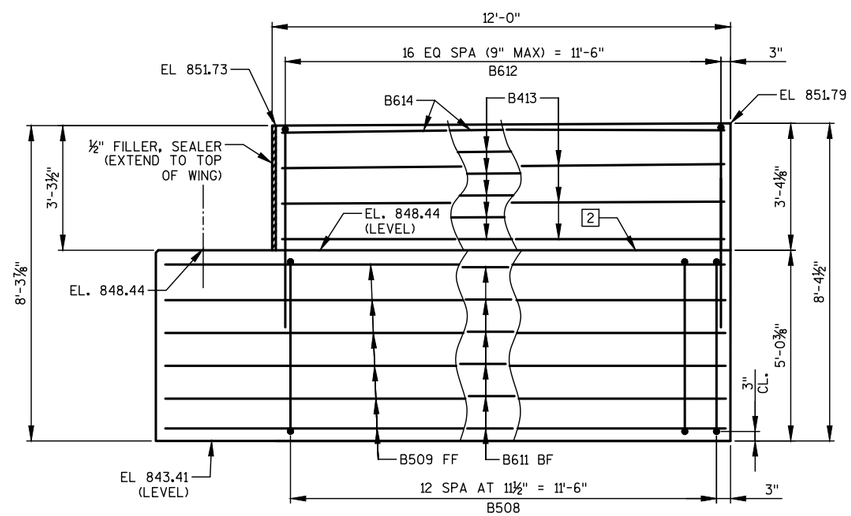
8

STATE PROJECT NUMBER

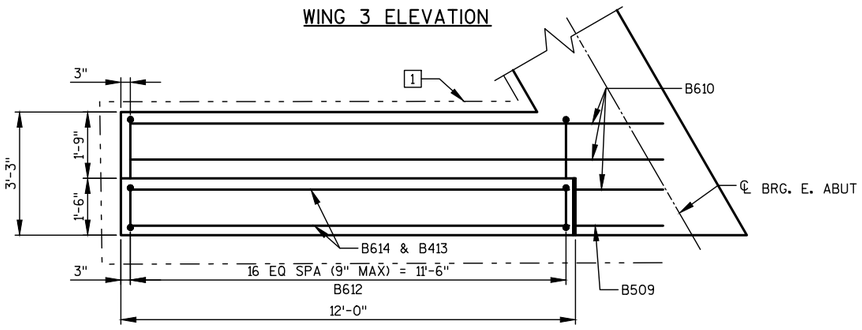
7239-00-70



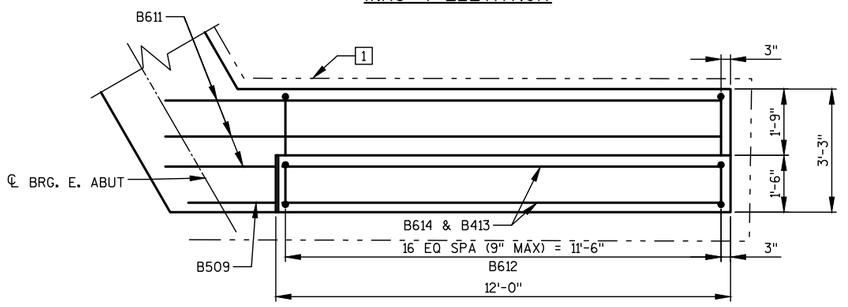
WING 3 ELEVATION



WING 4 ELEVATION



WING 3 PLAN

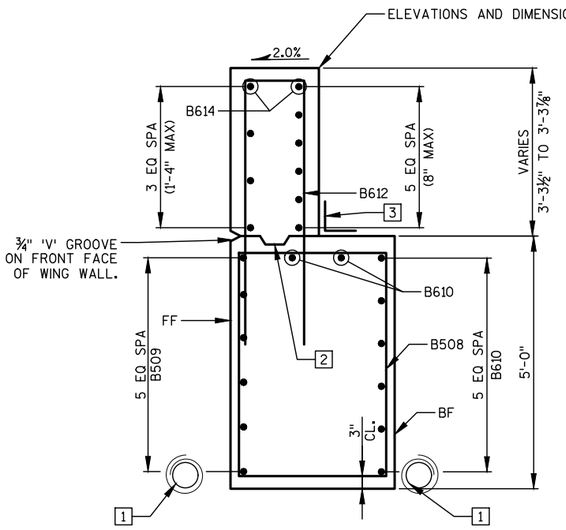


WING 4 PLAN

NOTES:

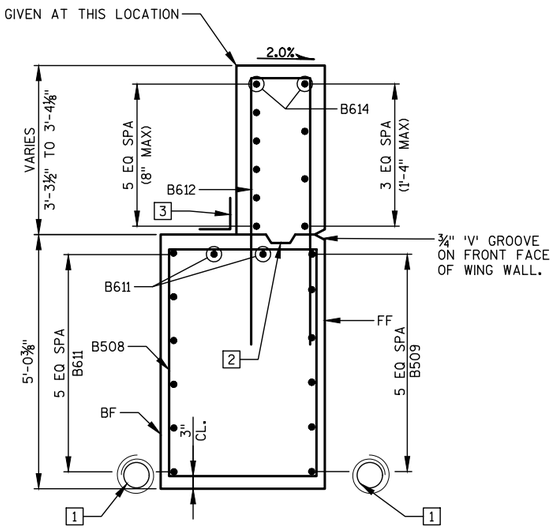
1. PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE SHEET 3 FOR RODENT SHIELD DETAILS.
2. OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH MEMBRANE ON BACKFACE.
3. 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

FF - FRONT FACE
BF - BACK FACE



WING 3 SECTION

ALL HORIZONTAL BARS NOT LABELED IN WING TOP ARE B413 BARS.



WING 4 SECTION

ALL HORIZONTAL BARS NOT LABELED IN WING TOP ARE B413 BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-162

DRAWN BY MJB | PLANS CK'D. RCP

EAST ABUTMENT WING DETAILS

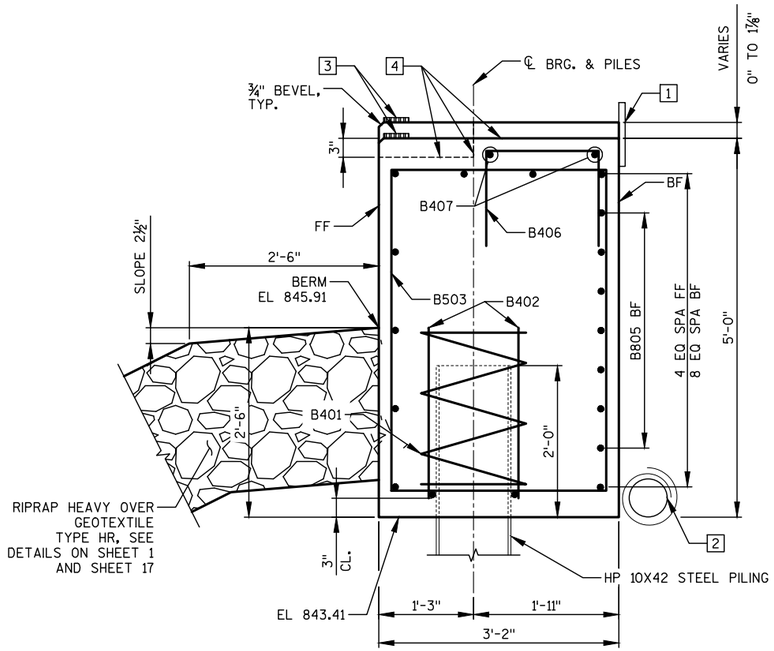
SHEET 45 OF 17

8

8

STATE PROJECT NUMBER

7239–00–70



SECTION THRU ABUTMENT BODY

ALL HORIZONTAL BARS NOT LABELED ARE B604 BARS.

NOTES:

1 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

2 PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE SHEET 3 FOR RODENT SHIELD DETAILS.

3 4" X ¾" FILLER LENGTH OF ABUTMENT.

4 STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF ALL SHEETS TO BE AT LEAST 0.03".

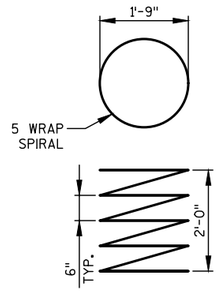
FF - FRONT FACE
BF - BACK FACE

BILL OF BARS **COATED= 1710 LBS.**
EAST ABUTMENT **UNCOATED= 1880 LBS.**

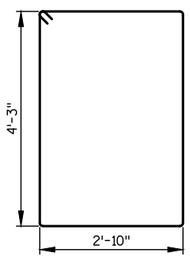
MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
B401		5	28 - 0	X		ABUTMENT BODY - 1 PER PILE	SPIRAL
B402		10	2 - 3			ABUTMENT BODY - 2 PER PILE	VERT
B503		41	14 - 10	X		ABUTMENT BODY - STIRRUPS	VERT
B604		11	30 - 2			ABUTMENT BODY - FF, TOP, BTM	HORIZ
B805		7	30 - 2			ABUTMENT BODY - BF	HORIZ
B406		15	3 - 11	X		ABUTMENT BODY - SEAT STEP	VERT
B407		6	7 - 4			ABUTMENT BODY - SEAT STEP	HORIZ
B508	26		15 - 4	X		WING WALL - BODY	VERT
B509	12		14 - 2			WING WALL - FF OF BODY	HORIZ
B610	8		14 - 2			WING WALL 3 - BODY	HORIZ
B611	8		14 - 9			WING WALL 4 - BODY	HORIZ
B612	34		11 - 3	X		WING WALL - TOP TIES	VERT
B413	16		11 - 7			WING WALL - TOP	HORIZ
B614	4		11 - 7			WING WALL - TOP	HORIZ

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

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



B401



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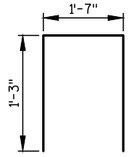

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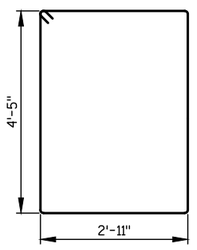

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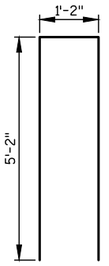

B612

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–27–162

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EAST ABUTMENT DETAILS

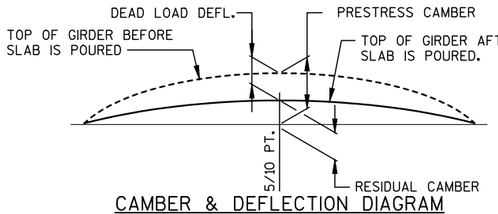
SHEET 46 OF 17

8

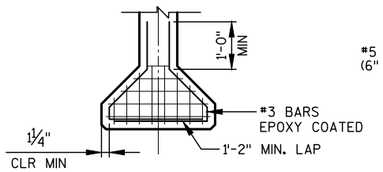
8

STATE PROJECT NUMBER

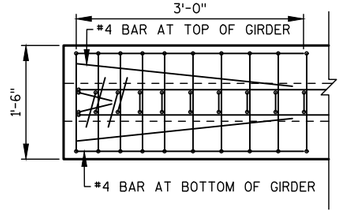
7239-00-70



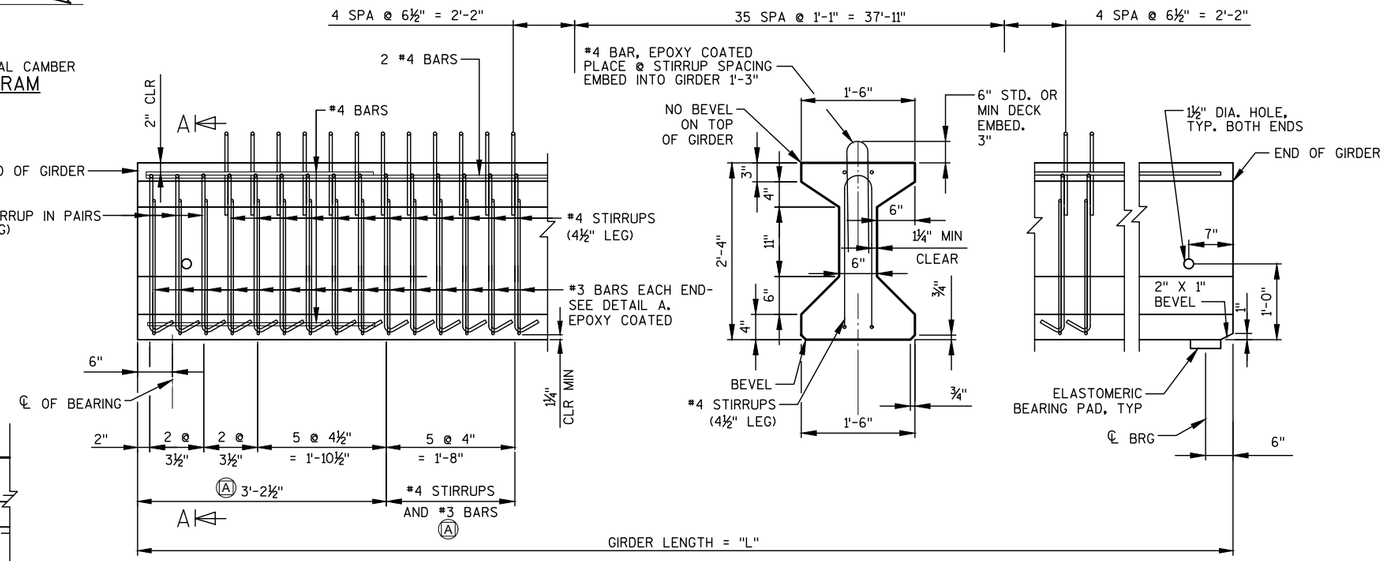
CAMBER & DEFLECTION DIAGRAM



DETAIL A



PLAN VIEW



SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYPICAL AT EACH END

NOTES:

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 2" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 2" OF THE TOP FLANGE.

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

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

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

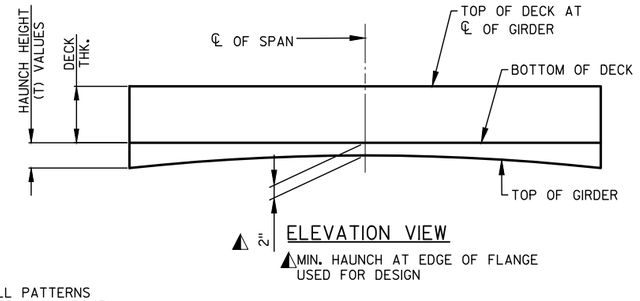
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

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

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

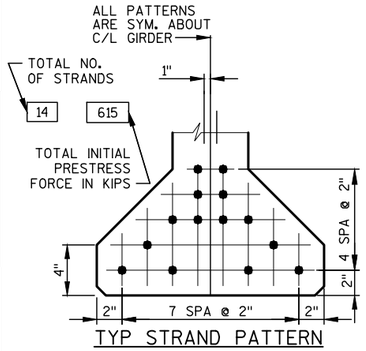
PRESTRESSING STRANDS SHALL BE 0.6" DIA. -7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

BID ITEM SHALL BE "PRESTRESSED GIRDER TYPE I 28-INCH".



ELEVATION VIEW

▲ MIN. HAUNCH AT EDGE OF FLANGE USED FOR DESIGN

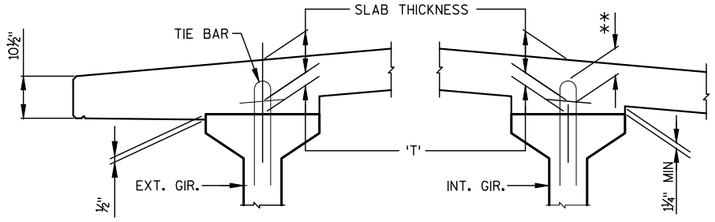


TYP STRAND PATTERN

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

SPAN	CAMBER (IN.) ◒
1	1⅝"

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



SLAB HAUNCH DETAIL

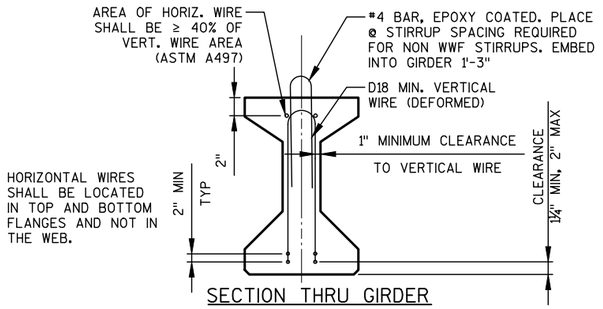
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

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

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

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

NOTE: AN AVERAGE HAUNCH ('T') OF 2½" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS ASTM A1064 (FY = 70 KSI)

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

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1st ⅓ OF GIRDER	"P" MID ⅓ OF GIRDER	"P" END ⅓ OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	ALL	52'-0"	¼	⅜	½	⅝	⅝	⅝	½	⅜	¼	8000	7"	7"	7"	0.6	—	—	—	—	—	—	14	6400

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-162

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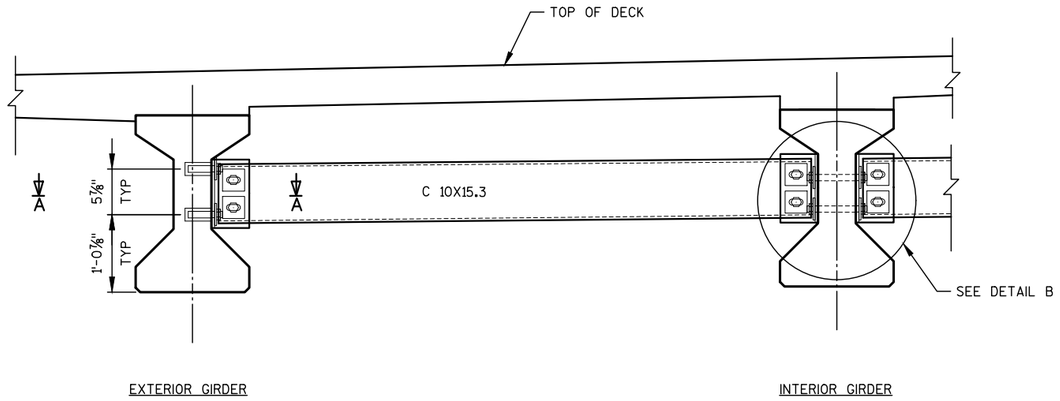
28" PRESTRESSED GIRDER DETAILS

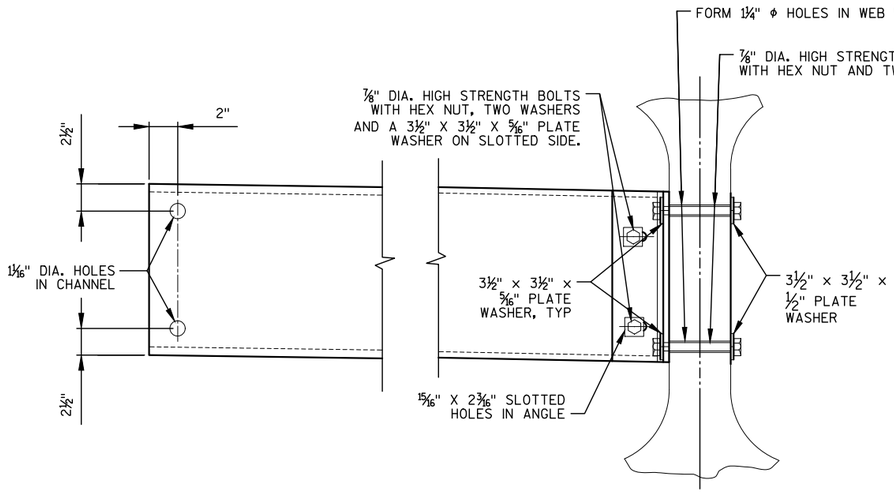
SHEET 47 OF 17

STATE PROJECT NUMBER

7239-00-70

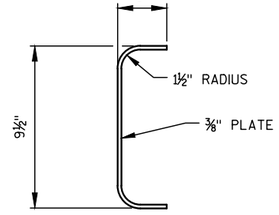


PART TRANSVERSE SECTION AT DIAPHRAGM

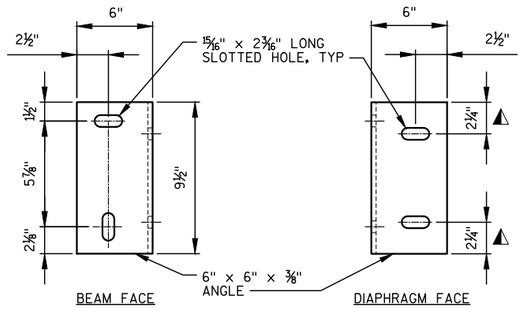


DETAIL B

(FOR STAGGERED DIAPHRAGMS)

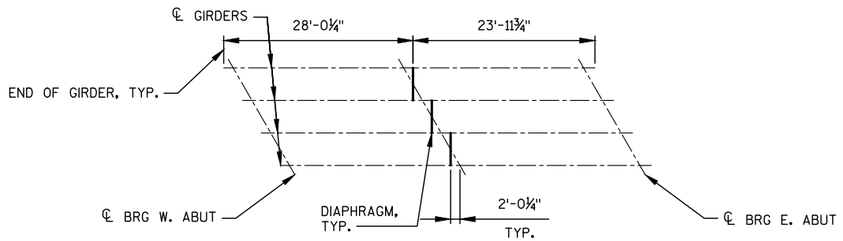


SECTION THRU ALTERNATE DIAPHRAGM

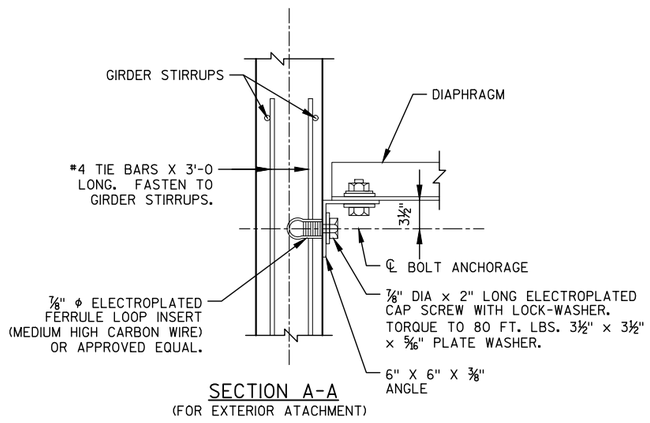


DIAPHRAGM SUPPORT

◭ IF ALTERNATE DIAPHRAGM IS USED THIS DIMENSION TO BE 2½"



PLAN VIEW OF DIAPHRAGM



SECTION A-A

(FOR EXTERIOR ATACHMENT)

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-27-162", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

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

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-162

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INTERMEDIATE STEEL DIAPHRAGMS

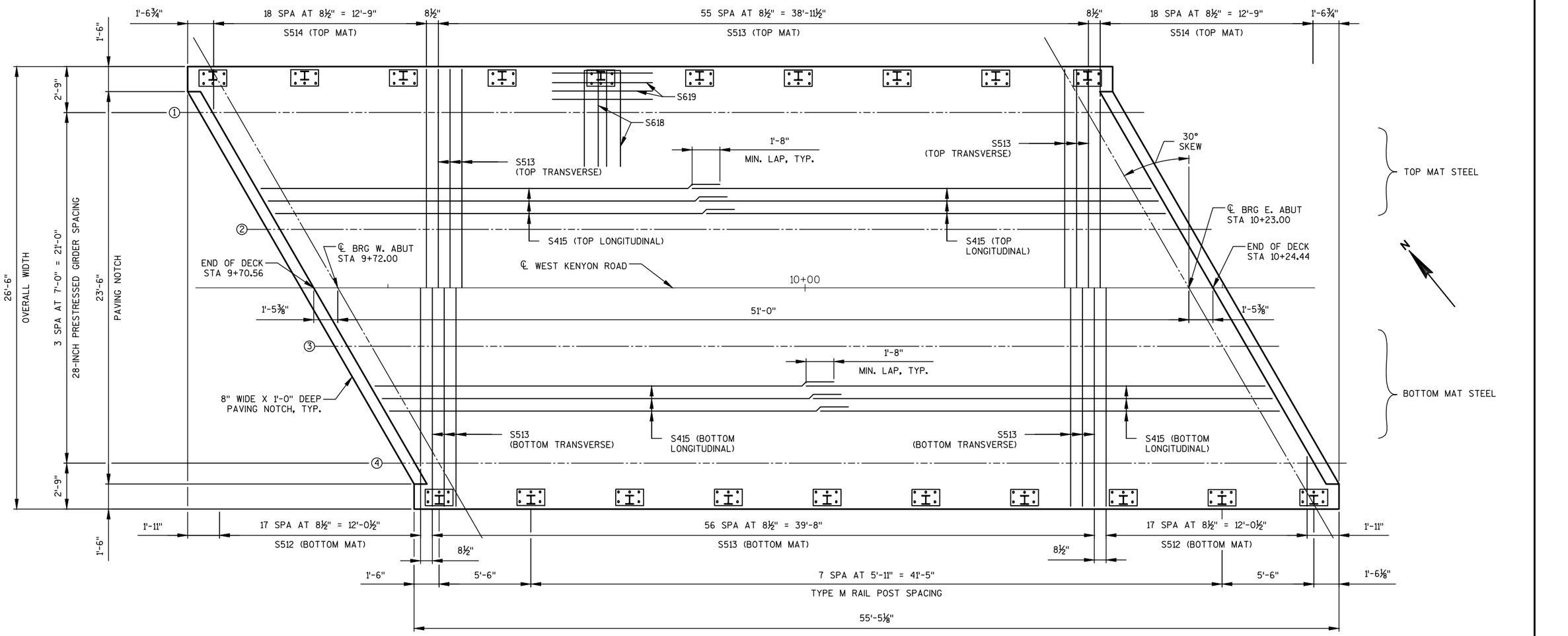
SHEET 12 OF 17
48

8

8

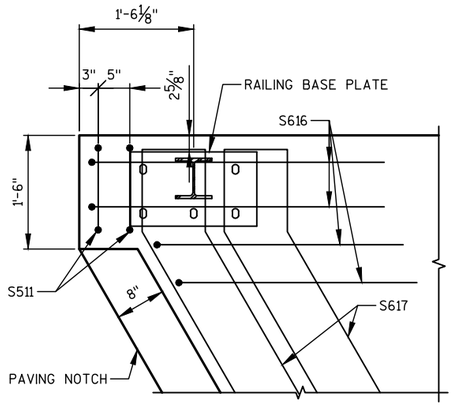
STATE PROJECT NUMBER

7239-00-70

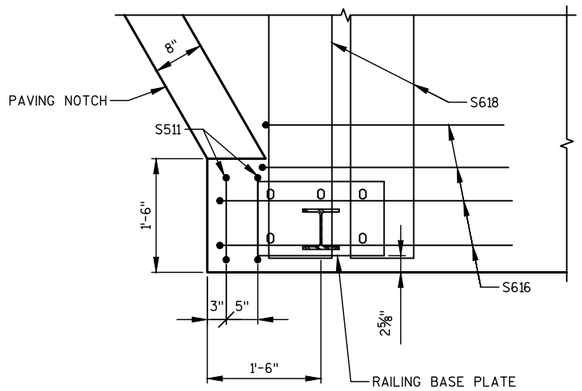


REINFORCEMENT PLAN

Ⓡ INDICATES GIRDER NUMBER



ACUTE CORNER DETAIL



OBTUSE CORNER DETAIL

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8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-162

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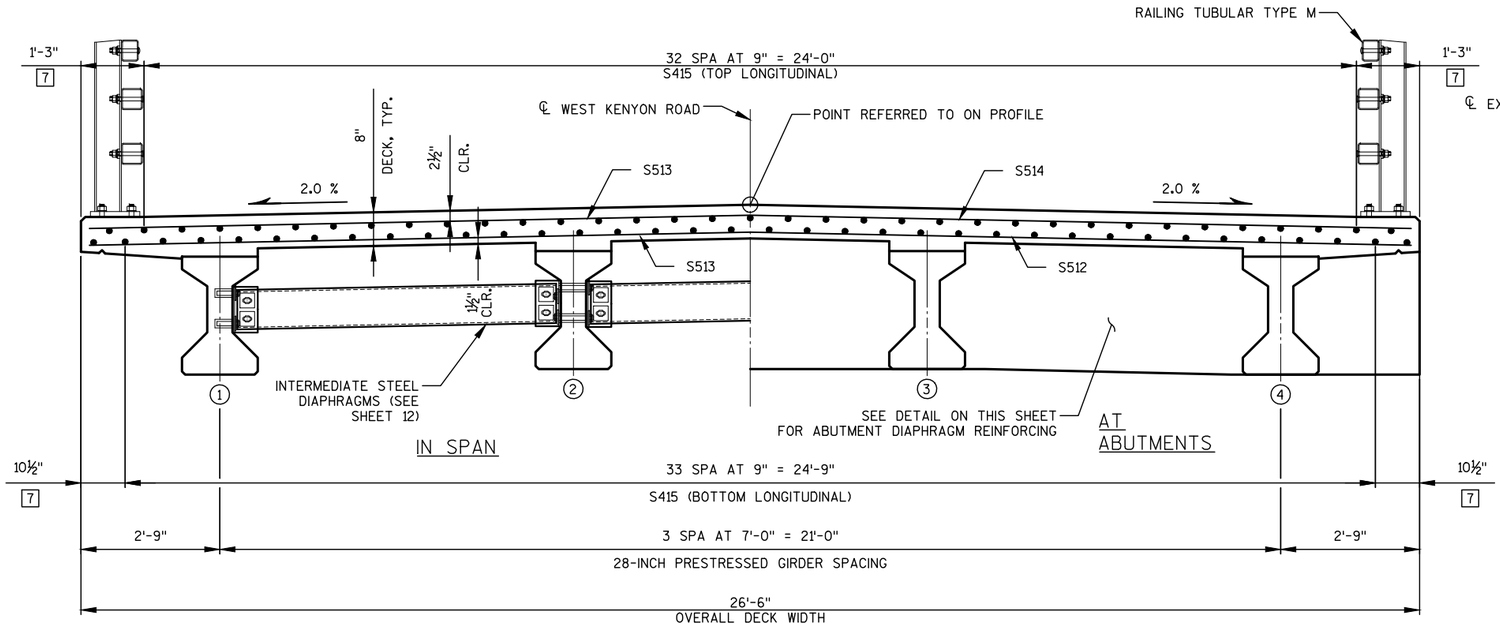
SUPERSTRUCTURE

SHEET 49 OF 17

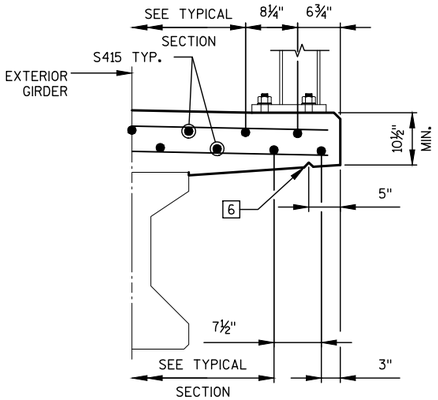
FILE NAME : X:±3223700±155579.01±TECH±CAD±72390000±DESIGN±STRUCTURE±080110_SS.DWG PLOT DATE : 6/10/2017 PLOT BY : ---- PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER
7239-00-70



TYPICAL SECTION

(LOOKING EAST)



EDGE OF DECK DETAIL

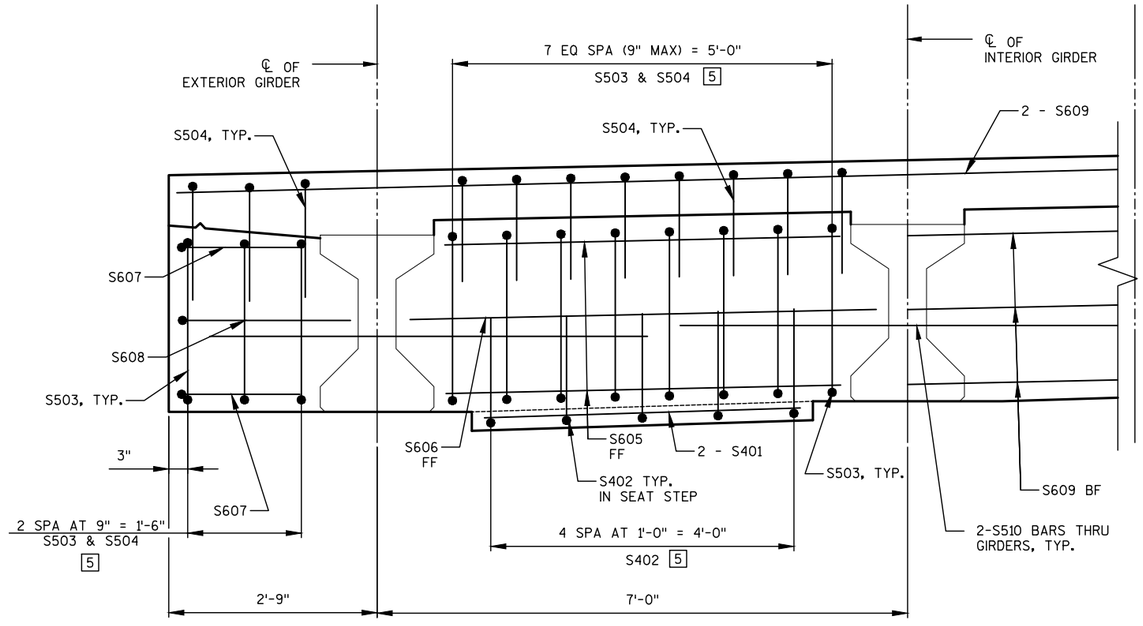
TYPICAL AT BOTH EDGES

NOTES

1. DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNIT.
2. ½" X 8" X 1'-10" NON-LAMINATED ELASTOMERIC BRG. PAD.
3. (1) -1½" DIA. HOLE IN WEB FOR (2) S510 HORIZ. BARS TO BE PLACED SYM. ABOUT ℄ OF GIRDER. FIELD BEND BARS ALONG SKEW.
4. OPTIONAL CONSTRUCTION JOINT. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF DIAPHRAGM POUR.
5. BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO ℄ GIRDERS.
6. ¾" V-GROOVE REQ'D. EXTEND TO 6" FROM FF OF ABUT. DIAPH.
7. SEE EDGE OF DECK DETAIL

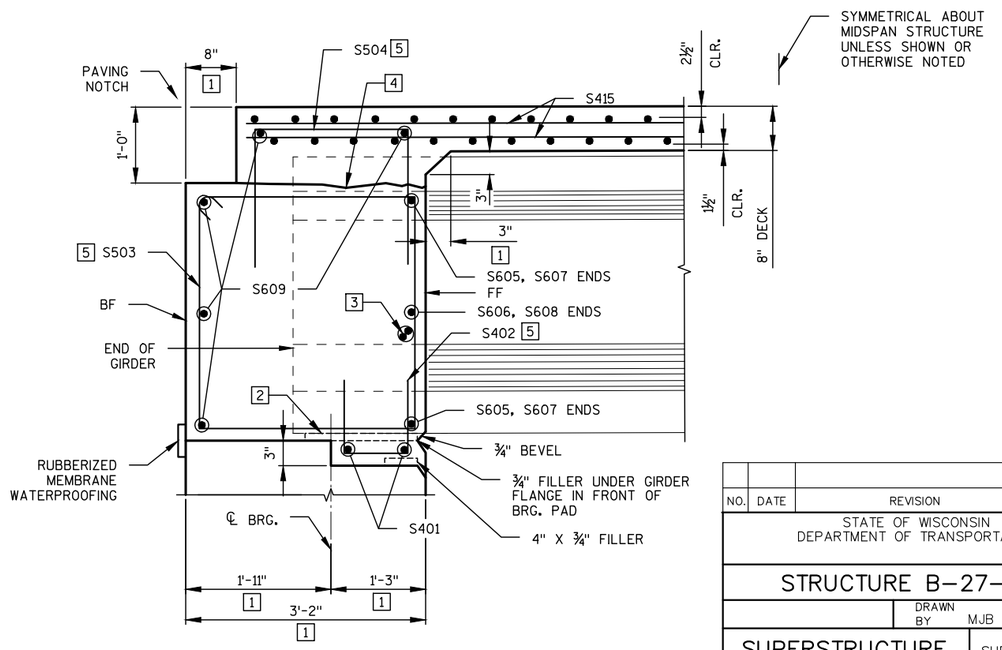
(#) INDICATES GIRDER NUMBER

FF - FRONT FACE
BF - BACK FACE



ABUTMENT DIAPHRAGM

DECK STEEL NOT SHOWN FOR CLARITY



PARTIAL LONGITUDINAL SECTION

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-162

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SUPERSTRUCTURE DETAILS

SHEET 14 OF 17
50

8

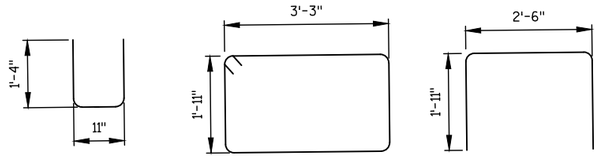
8

STATE PROJECT NUMBER
7239-00-70

DECK ELEVATIONS AT ℄ OF GIRDERS

SPAN POINT	NORTH EDGE	GIRDER 1		GIRDER 2		REFERENCE LINE		GIRDER 3		GIRDER 4		SOUTH EDGE
	ELEVATION	TD	TG	TD	TG	STATION	ELEVATION	TD	TG	TD	TG	ELEVATION
W ABUT	851.93	851.96	851.03	852.06	851.13	9+72.00	852.11	852.03	851.10	851.86	850.93	851.80
0.1	851.88	851.91		852.02		9+77.10	852.07	851.99		851.82		851.76
0.2	851.83	851.87		851.98		9+82.20	852.04	851.95		851.79		851.73
0.3	851.80	851.83		851.95		9+87.30	852.01	851.93		851.77		851.71
0.4	851.76	851.80		851.92		9+92.40	851.98	851.90		851.75		851.69
0.5	851.73	851.78		851.90		9+97.50	851.96	851.89		851.73		851.68
0.6	851.71	851.76		851.88		10+02.60	851.95	851.87		851.73		851.67
0.7	851.69	851.74		851.87		10+07.70	851.94	851.87		851.72		851.67
0.8	851.68	851.73		851.86		10+12.80	851.93	851.86		851.73		851.68
0.9	851.67	851.72		851.86		10+17.90	851.93	851.87		851.73		851.69
E ABUT	851.67	851.72	850.79	851.87	850.94	10+23.00	851.94	851.88	850.95	851.75	850.82	851.70

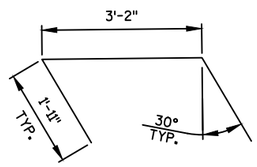
TD - TOP OF DECK
TG - TOP OF GIRDER



S402

S503

S504



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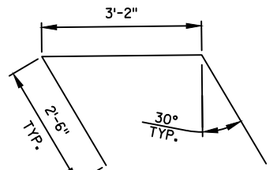

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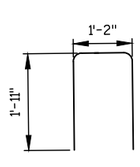

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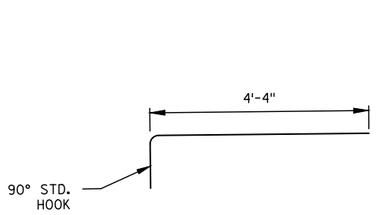
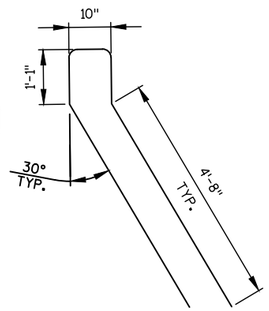


S616



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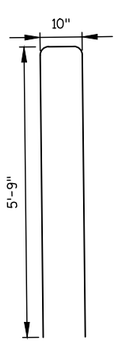

S618

BILL OF BARS
SUPERSTRUCTURE

COATED= 10240 LBS.
UNCOATED= 0 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
S401	12		4 - 10			DIAPHRAGM - BETWEEN BEAM SEATS	TRANS
S402	30		3 - 6	X		DIAPHRAGM - SEAT STEP	VERT
S503	60		11 - 0	X		DIAPHRAGM - STIRRUP	VERT
S504	60		6 - 1	X		DIAPHRAGM - TIES	VERT
S605	12		5 - 11			DIAPHRAGM - FF BETWEEN GIRDERS	TRANS
S606	6		7 - 1			DIAPHRAGM - FF BETWEEN GIRDERS	TRANS
S607	8		6 - 8	X		DIAPHRAGM - AT ENDS	TRANS
S608	4		7 - 10	X		DIAPHRAGM - AT ENDS	TRANS
S609	10		30 - 2			DIAPHRAGM - BF & TOP	TRANS
S510	16		6 - 0			DIAPHRAGM - THRU GIRDERS	TRANS
S511	8		4 - 9	X		DIAPHRAGM - END OF PAVING NOTCH	VERT
■□ S512	36		13 - 5		X	SLAB - BOTTOM AT ABUTMENT	TRANS
S513	113		26 - 2			SLAB - TOP AND BOTTOM	TRANS
■□ S514	38		13 - 5		X	SLAB - TOP AT ABUTMENT	TRANS
S415	142		27 - 8			SLAB - TOP AND BOTTOM	LONGIT
S616	16		5 - 2	X		RAILING ANCHOR - END POSTS	LONGIT
S617	4		12 - 0	X		RAILING ANCHOR - ACUTE ENDS	TRANS
S618	36		12 - 0	X		RAILING ANCHOR	TRANS
S619	64		6 - 0			RAILING ANCHOR	LONGIT

FF - FRONT FACE
BF - BACK FACE

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

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

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

■□ BAR SERIES TABLE

MARK	NO. REQUIRED	LENGTH
S512	2 SERIES OF 18	2'-11" TO 23'-10"
S514	2 SERIES OF 19	2'-4" TO 24'-5"

BUNDLE AND TAG EACH SERIES SEPERATELY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-162

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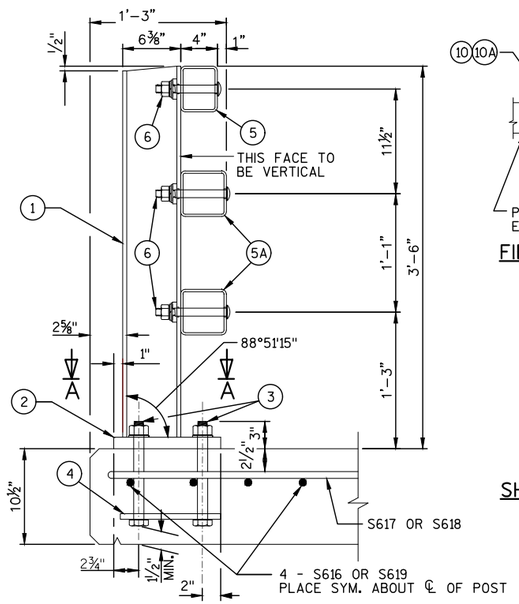
SUPERSTRUCTURE DETAILS 2

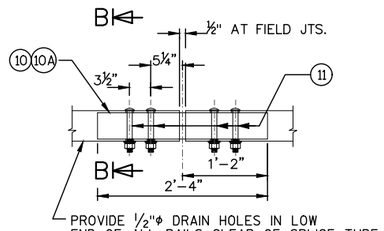
SHEET 15 OF 17
51

8

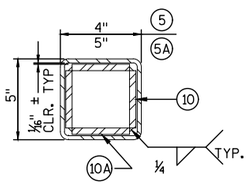
8



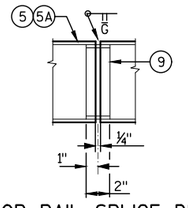
SECTION THRU RAILING ON DECK



FIELD ERECTION JOINT DETAIL

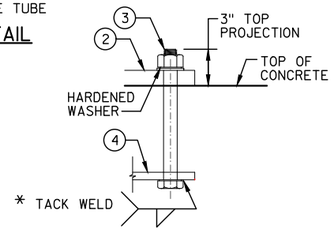


SECTION B-B



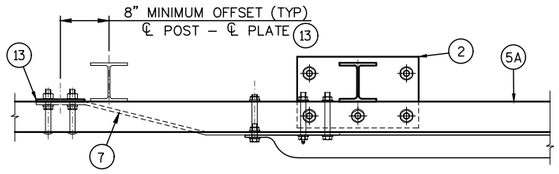
SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



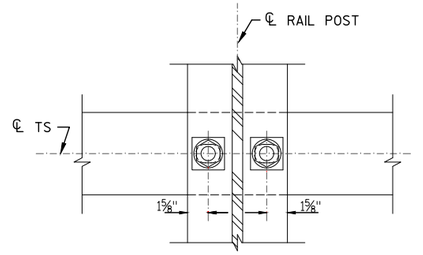
ANCHOR BOLTS

* FOR ANCHOR BOLTS IN WINGS, TACK WELD MAY BE USED IN FIELD AFTER ANCHOR PLATE IS IN POSITION IF REQ'D. FOR CONSTRUCTABILITY.

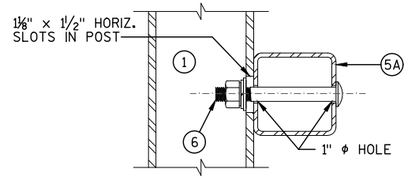


TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT



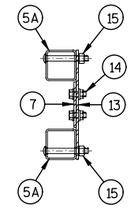
SECTION THRU POST WEB



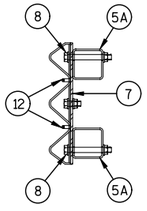
SECTION THRU RAIL

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

TYPICAL RAIL TO POST CONNECTIONS



SECTION C-C



SECTION D-D

LEGEND

① W6 x 25 WITH 1⅛" X 1½" 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 1¼" x 11¾" x 1'-8" WITH 1⅝" X 1⅜" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

③ ASTM A449 - 1⅛" 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'-9" LONG IN WINGS AND 10¾" LONG IN SLAB. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)

④ ⅝" 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 ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, ⅜" X 1⅜" X 1⅝" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)

⑦ ½" THK. BACK-UP PLATE WITH 2 -⅞" X 1½" 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 ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.

⑨ SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".

⑩ ⅜" X 3⅝"X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

⑩A ⅜" X 2⅝" X 2'-4" PLATE USED IN NO. 5, ⅜" X 3⅝" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.

⑪ ⅞" ϕ A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15⁄16 " X 1¼" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 15⁄16 " X 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.

⑫ ⅞" DIA. X 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).

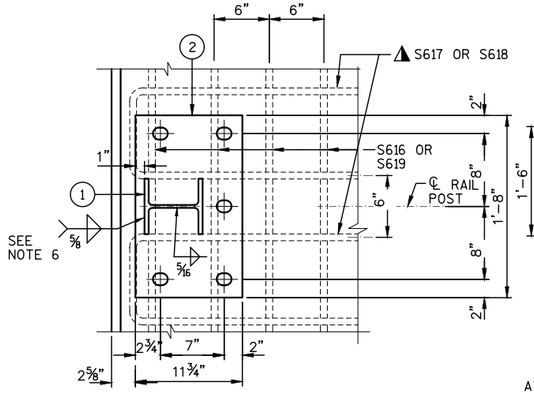
⑬ ⅜" X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.

⑭ ⅞" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).

⑮ 1" ϕ HOLES IN TUBES NO. 5A FOR ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

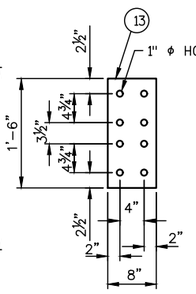
GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-27-162" 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 ⅛ 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 SSPC SPECIFICATIONS.
10. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).



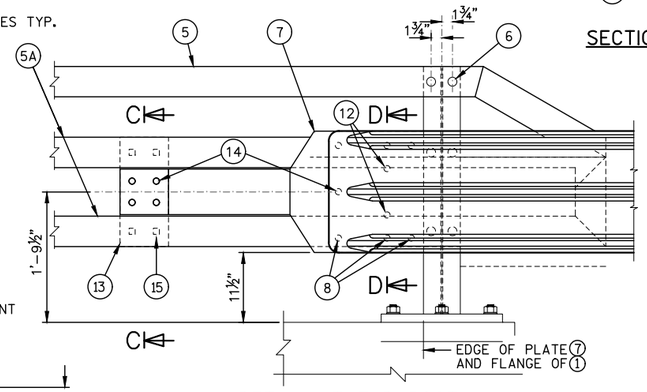
SECTION A-A

▲ TIE TO TOP MAT OF STEEL.



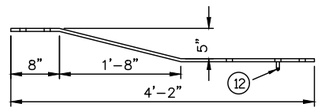
ANCHOR PLATE

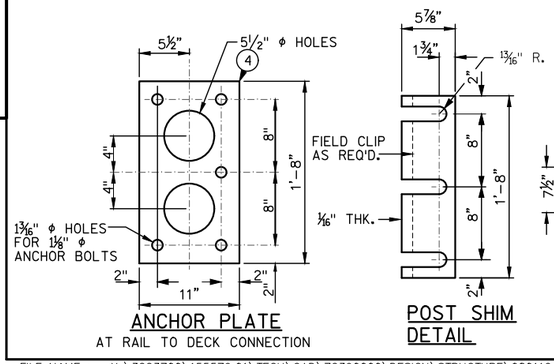
AT BEAM GUARD ATTACHMENT



DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT

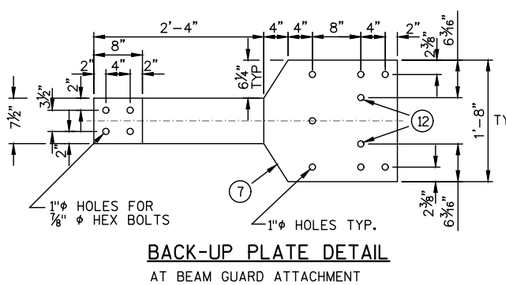




ANCHOR PLATE

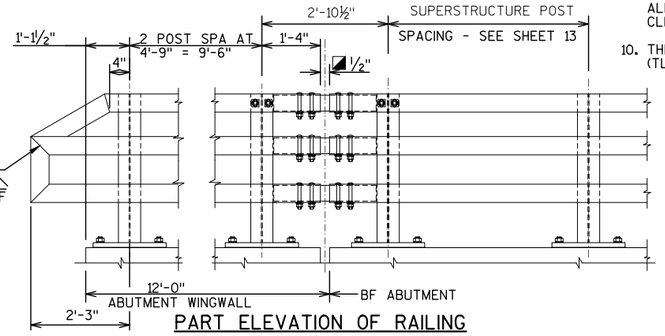
AT RAIL TO DECK CONNECTION

POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

◢ ½" JOINT FILLER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-162

DRAWN BY MJB | PLANS CK'D. RCP

TUBULAR STEEL RAILING TYPE 'M'

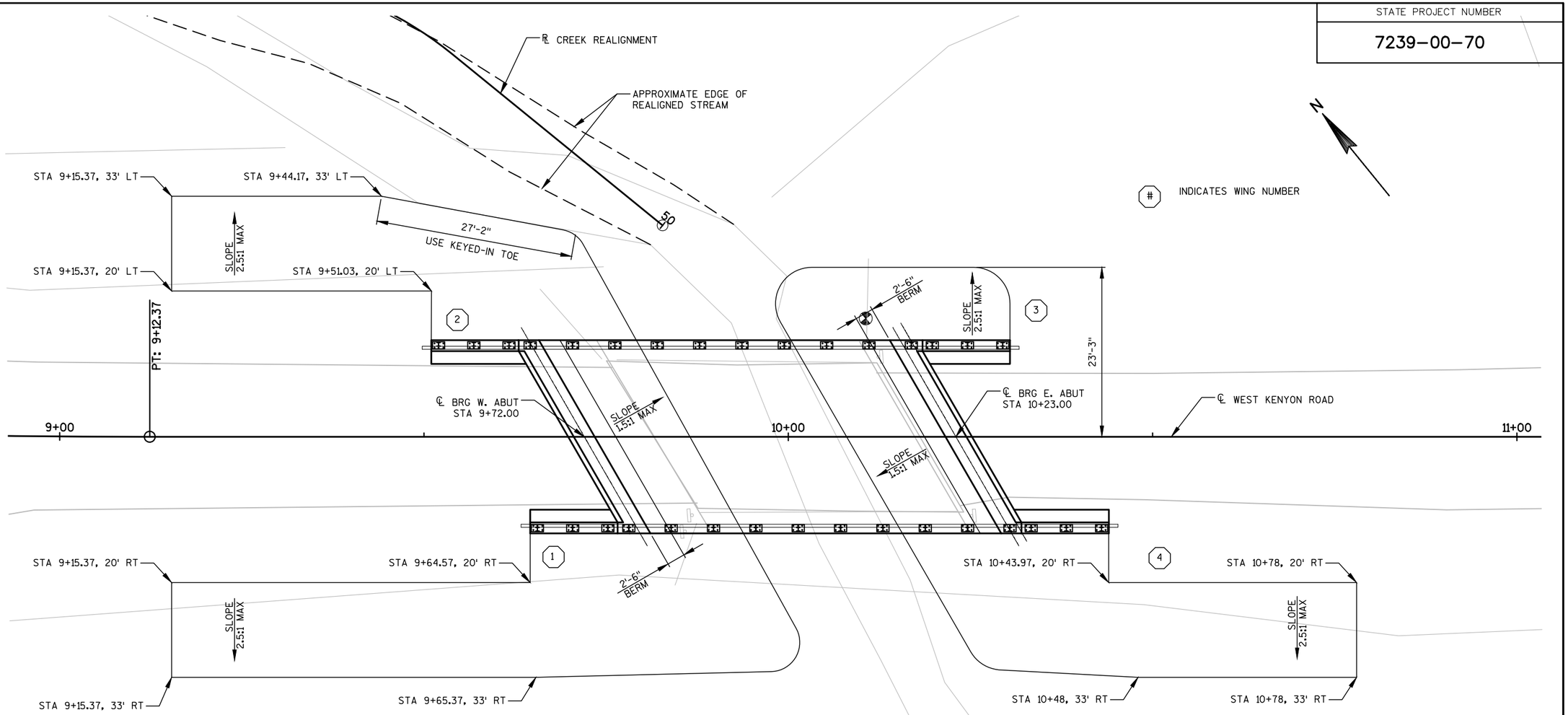
SHEET 16 OF 17
52

STATE PROJECT NUMBER
7239-00-70

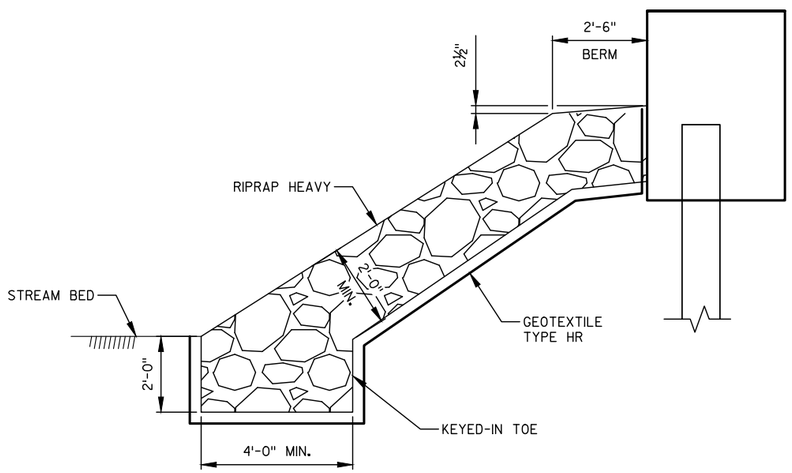
8

8

STATE PROJECT NUMBER
7239–00–70



PLAN VIEW OF RIPRAP LIMITS



SECTION IN FRONT OF ABUTMENT

NOTES:

RIPRAP PLACEMENT WILL EXTEND OUT TO PERMANENT RIGHT-OF-WAY AT WINGS 1, 2 AND 4.

KEYED-IN TOE IS REQUIRED ALONG FULL LENGTH PARALLEL TO STREAM AS WELL AS ANY ADDITIONAL AREAS AS INDICATED.

ALL AREAS RECEIVING RIPRAP HEAVY SHALL BE COVERED WITH GEOTEXTILE TYPE HR PRIOR TO PLACING RIPRAP.

GEOTEXTILE QUANTITY IN PLAN INCLUDES WRAPPING GEOTEXTILE UP RIPRAP ALONG ALL EDGES AND THE ABUTMENT-TO-RIPRAP INTERFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–27–162

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SLOPE PROTECTION DETAILS

SHEET 17 OF 17
53

8

8

STATION	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Mass Ordinate Note 4
8+75	27	5	0	0	0	0	0	0	0
9+00	19	5	20	21	5	9	21	12	5
9+25	18	5	68	17	5	41	38	63	-33
9+50	19	5	94	17	5	75	55	156	-115
9+70	19	5	94	14	4	70	69	244	-192
9+71	0	0	0	0	0	2	69	246	-194
10+23	0	0	0	0	0	0	69	246	-194
10+24	8	5	91	0	0	2	69	248	-196
10+50	8	5	91	8	5	87	77	357	-302
10+75	16	5	33	11	5	57	88	429	-368
11+00	30	5	31	21	5	30	109	466	-389
11+25	47	5	45	35	5	35	145	510	-402
11+50	32	5	6	37	5	24	181	540	-400
11+74	27	5	0	26	4	3	208	544	-382
			Column Total	208	46	435			

Notes:
1 - Cut (Salvaged/Unusable Pavement Material is Included)
2 - Salvaged/Unusable Pavement Material (This does not show up in cross sections.)
3 - Fill (Does not include Unuseable Pavement volume.)
4 - The Mass Ordinate + or - quantity calculated. Plus quantity indicates as excess of material. Minus indicates a shortage of

No Marsh or EBS is anticipated.

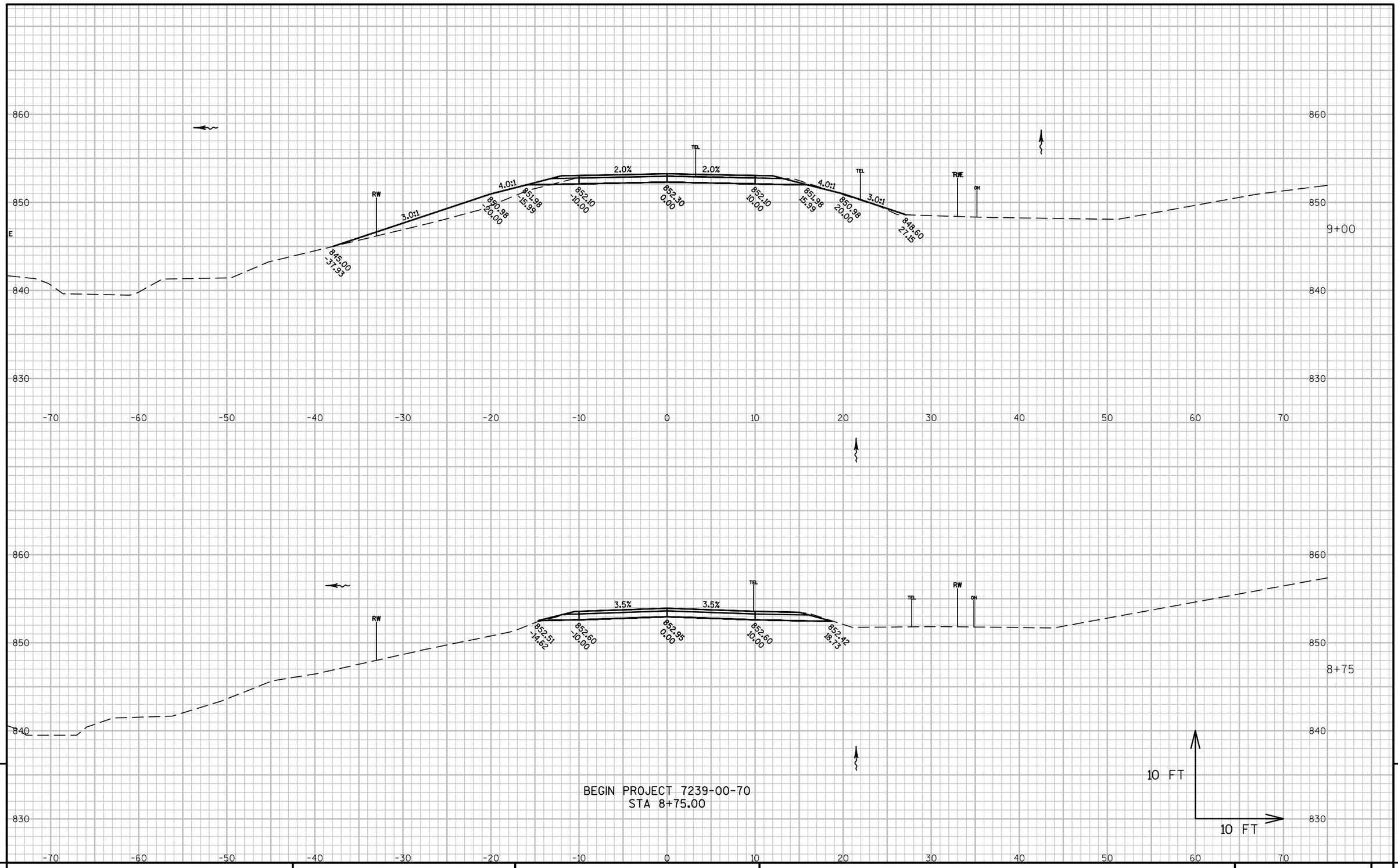
STATION	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Mass Ordinate Note 4
50+00	1	0	0	0	0	0	0	0	0
50+20	9	0	0	4	0	0	4	0	4
50+40	15	0	0	9	0	0	13	0	13
50+60	82	0	0	36	0	0	49	0	49
50+80	51	0	0	49	0	0	98	0	98
50+85	4	0	0	5	0	0	103	0	103
			Column Total	103	0	0			

Notes:
1 - Cut (Salvaged/Unusable Pavement Material is Included)
2 - Salvaged/Unusable Pavement Material (This does not show up in cross sections.)
3 - Fill (Does not include Unuseable Pavement volume.)
4 - The Mass Ordinate + or - quantity calculated. Plus quantity indicates as excess of material. Minus indicates a shortage of

No Marsh or EBS is anticipated.

9

9

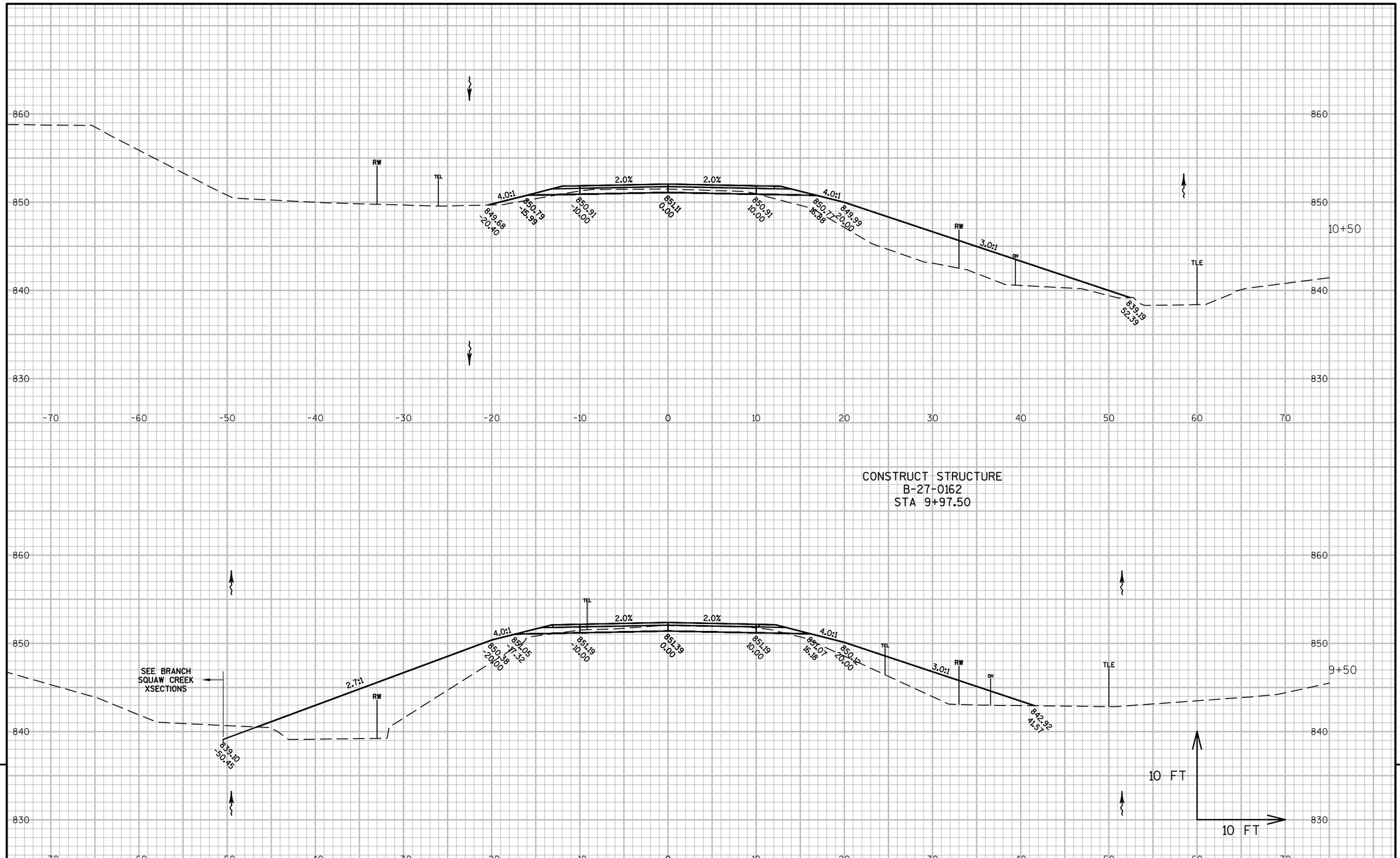


PROJECT NO: 7239-00-70	HWY: LOC STR	COUNTY: JACKSON	CROSS SECTIONS: WEST KENYON RD	SHEET 55	E

FILE NAME : X:\3223700\155579.01\TECH\CAD\72390000\SHEETSPLAN\090101_XS.DWG
LAYOUT NAME - 090101_XS - LAYOUT1 (3)

PLOT DATE : 6/30/2017 12:59 PM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



PROJECT NO: 7239-00-70	HWY: LOC STR	COUNTY: JACKSON	CROSS SECTIONS: WEST KENYON RD	SHEET 56 E

FILE NAME : X:\3223700\155579.01\TECH\CAD\72390000\SHEETSPLAN\090101_XS.DWG
LAYOUT NAME - 090101_XS - LAYOUT1 (4)

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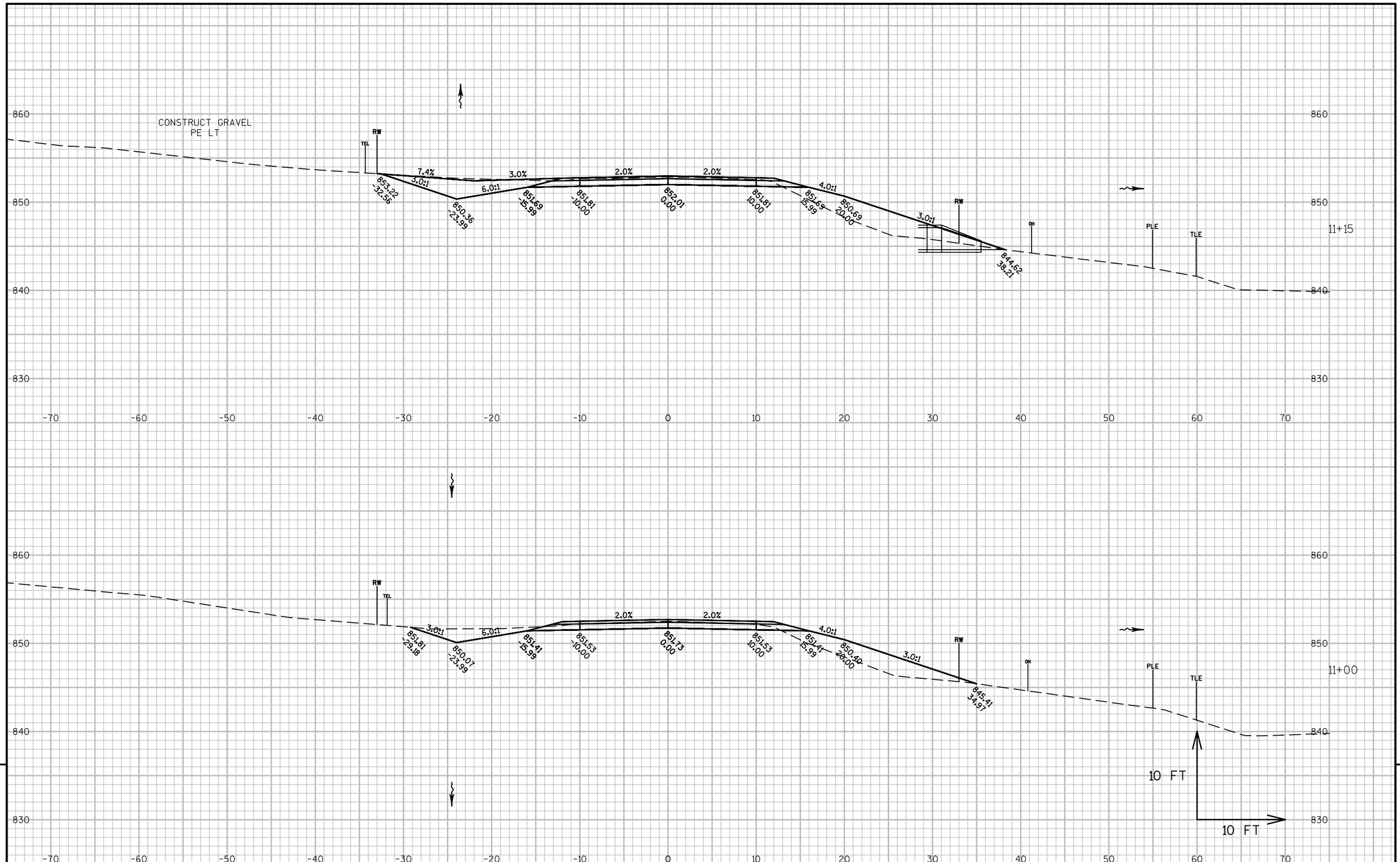
WISDOT/CADDS SHEET 49



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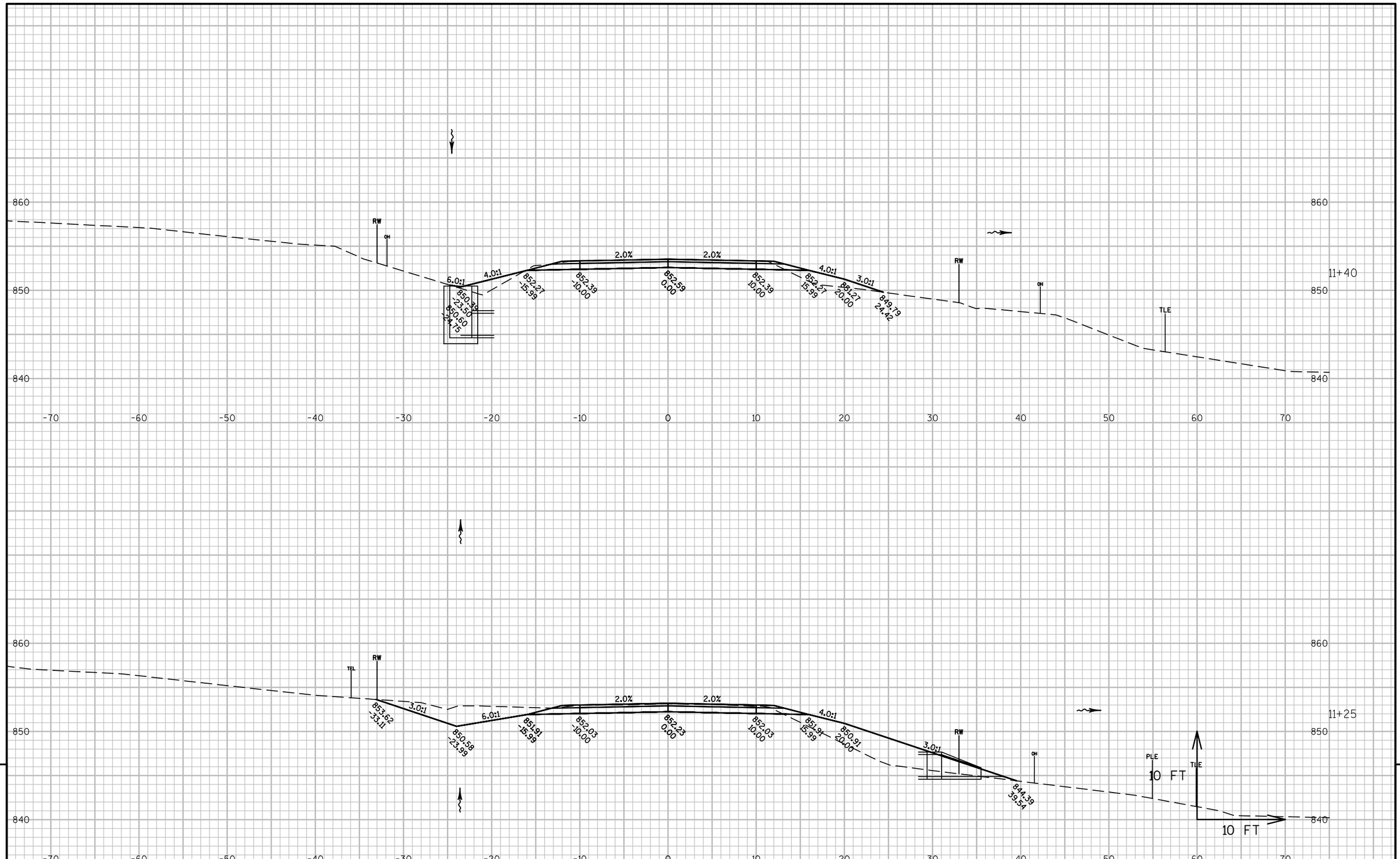
FILE NAME : X:\3223700\155579.01\TECH\CAD\72390000\SHEETSPLAN\090101_XS.DWG
LAYOUT NAME - 090101_XS - LAYOUT1 (5)

PLOT DATE : 6/30/2017 1:00 PM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



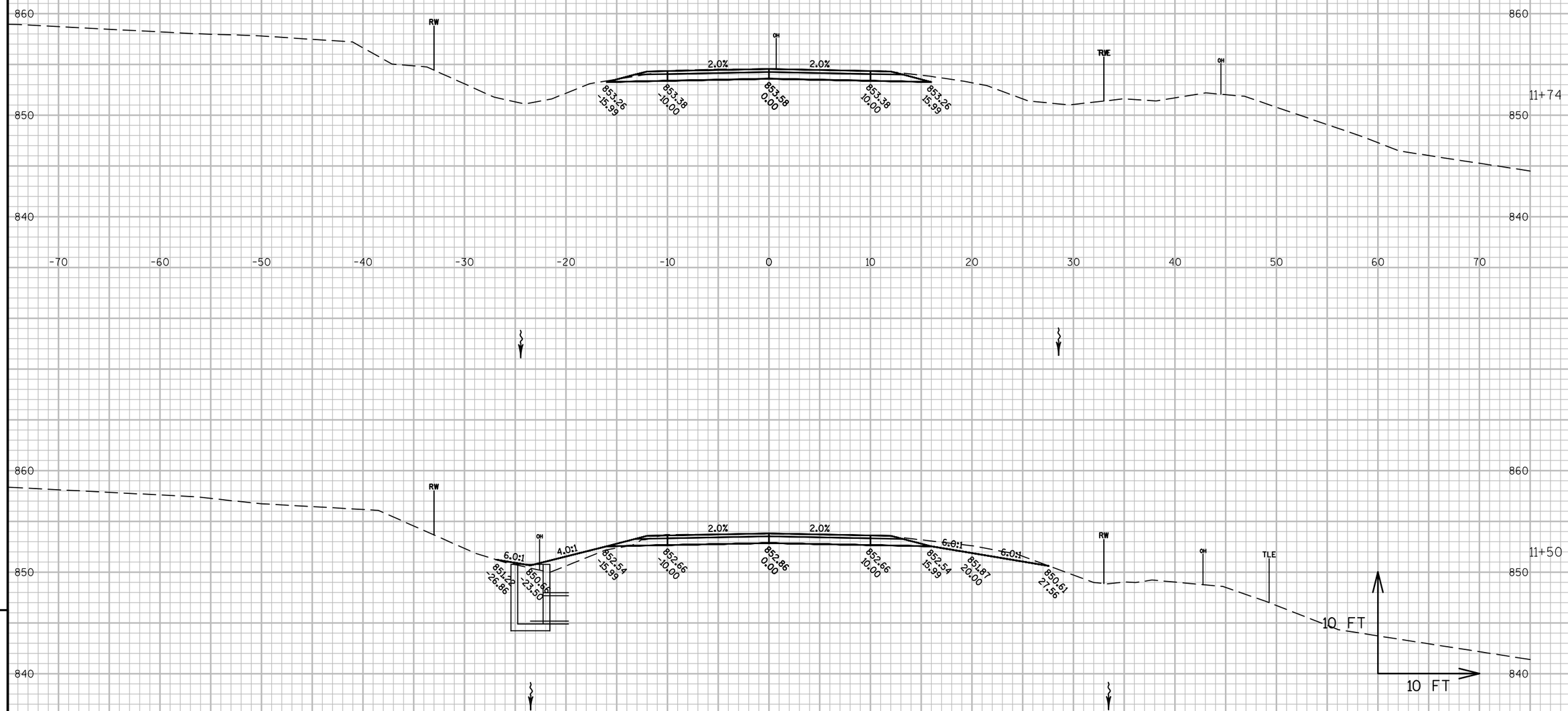
PROJECT NO: 7239-00-70	HWY: LOC STR	COUNTY: JACKSON	CROSS SECTIONS: WEST KENYON RD	SHEET 58	E

FILE NAME : X:\3223700\155579.01\TECH\CAD\72390000\SHEETSPLAN\090101_XS.DWG
LAYOUT NAME - 090101_XS - LAYOUT1 (6)

PLOT DATE : 6/30/2017 1:00 PM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

END PROJECT 7239-00-70
STA 11+74.00

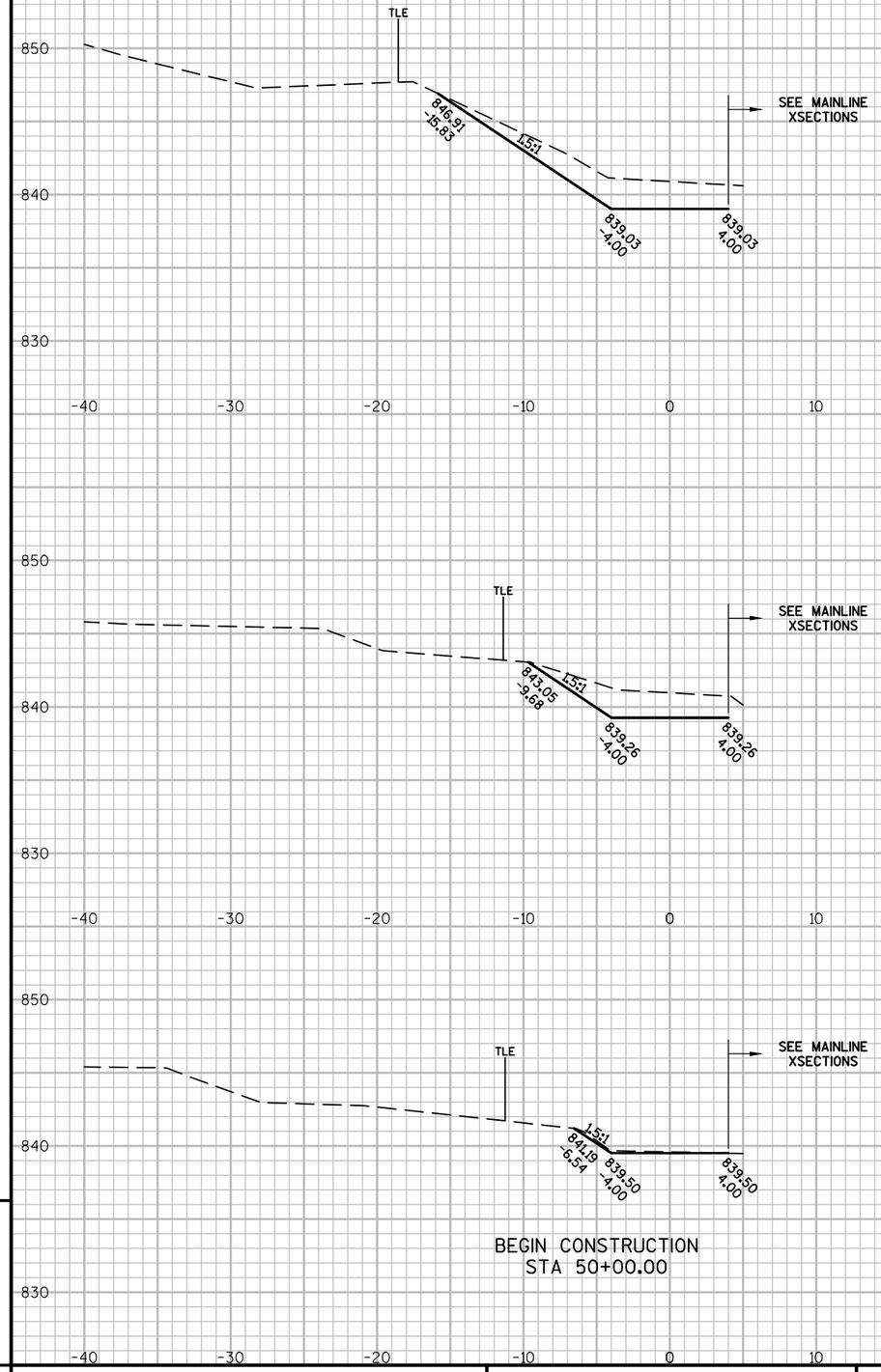


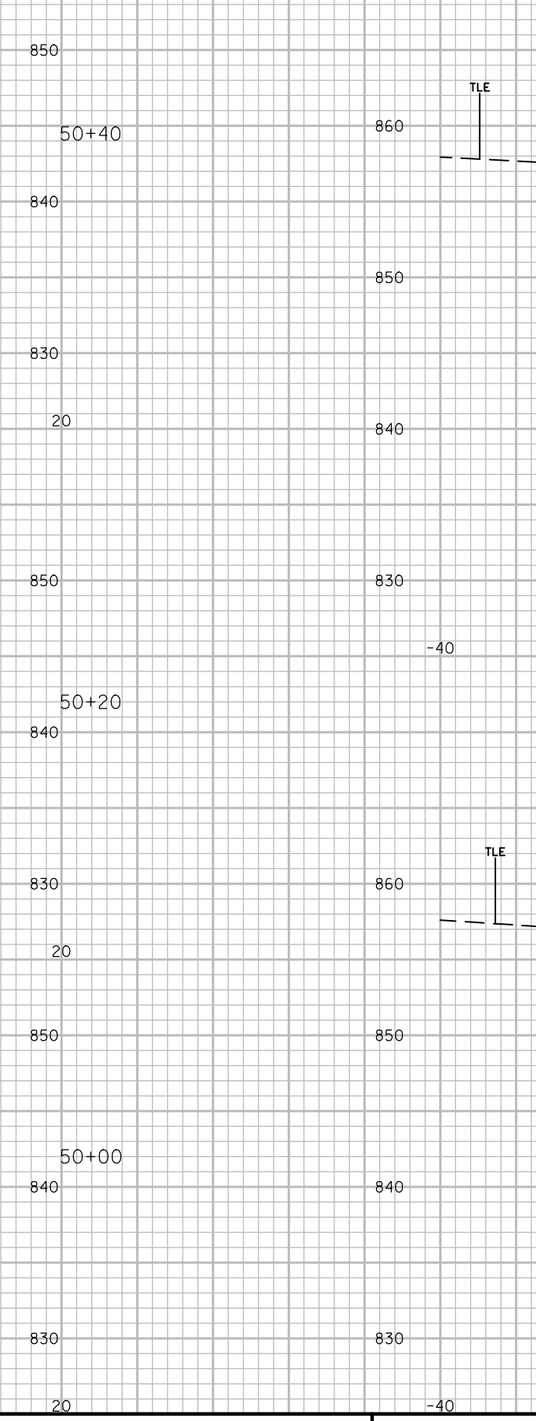
PROJECT NO: 7239-00-70	HWY: LOC STR	COUNTY: JACKSON	CROSS SECTIONS: WEST KENYON RD	SHEET 59	E

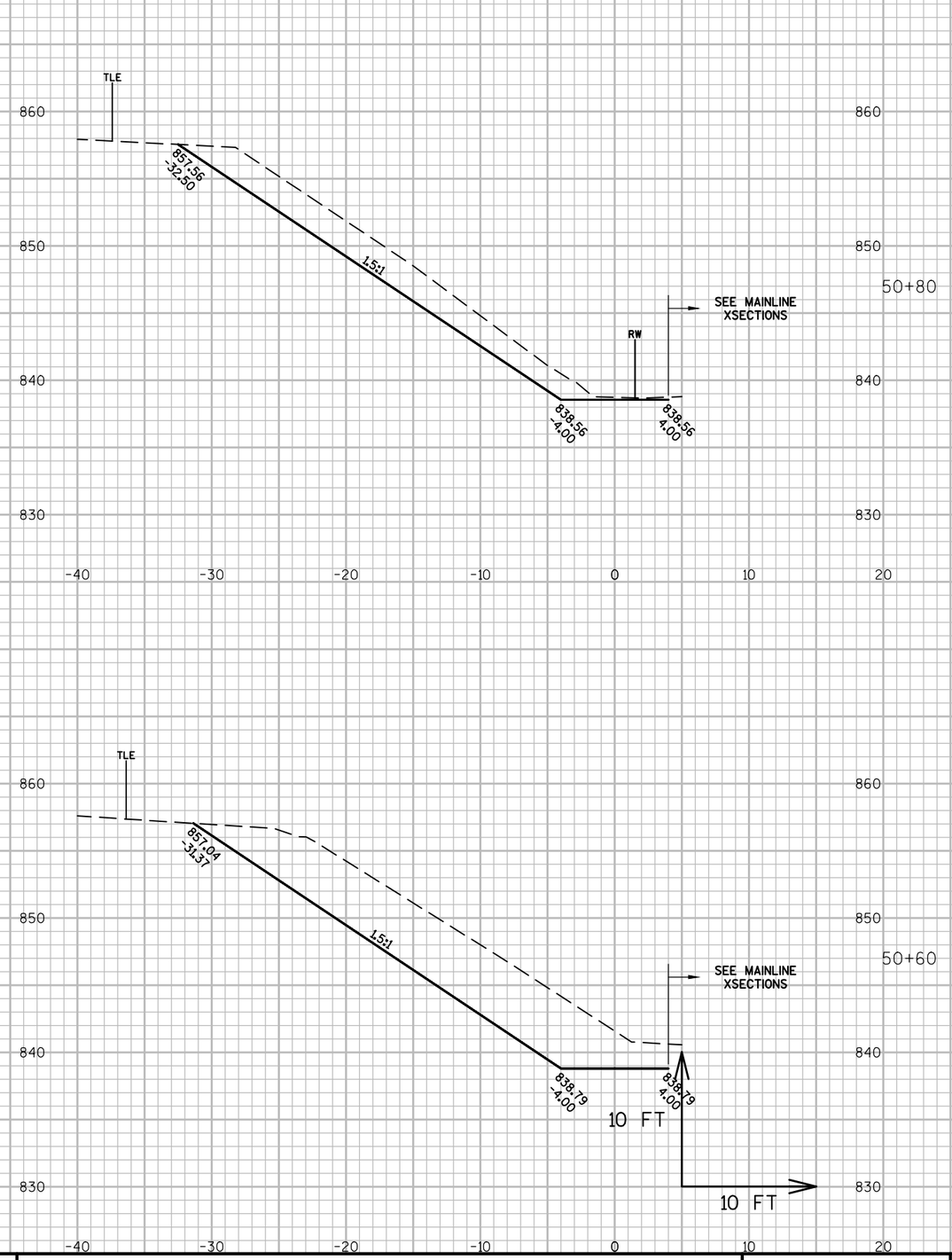
FILE NAME : X:\3223700\155579.01\TECH\CAD\72390000\SHEETSPLAN\090101_XS.DWG
LAYOUT NAME - 090101_XS - 020105_XS

PLOT DATE : 6/30/2017 1:23 PM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49







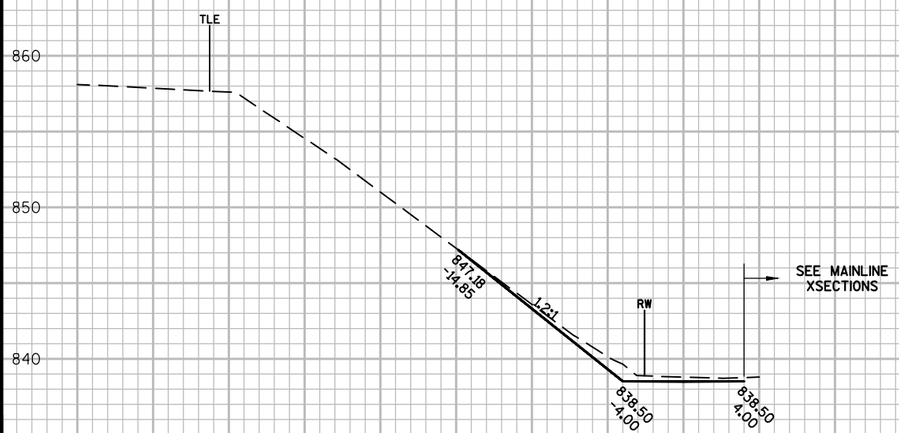
9

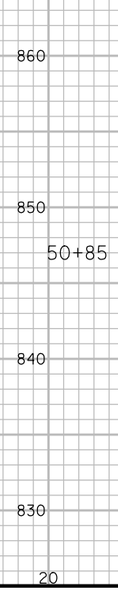
PROJECT NO: 7239-00-70	HWY: LOC STR	COUNTY: JACKSON	CROSS SECTIONS: BRANCH SQUAW CREEK	SHEET 60	E

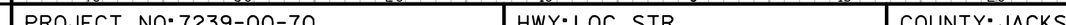
9

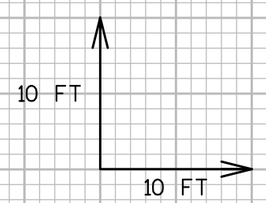
FILE NAME : X:\3223700\155579.01\TECH\CAD\72390000\SHEETSPLAN\090110_XS.DWG
LAYOUT NAME - 090110_XS - 090110_XS
PLOT DATE : 6/30/2017 1:14 PM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 49

END CONSTRUCTION
STA 50+85.00









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PROJECT NO: 7239-00-70	HWY: LOC STR	COUNTY: JACKSON	CROSS SECTIONS: BRANCH SQUAW CREEK	SHEET 61	E

Wisconsin Department of Transportation

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