SEL

PROJECT ID: 3841-00-71
WITH: N/A

18

COUNTY: WALWORTH

NOV 2015

ORDER OF SHEETS

TOTAL SHEETS = 72

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT

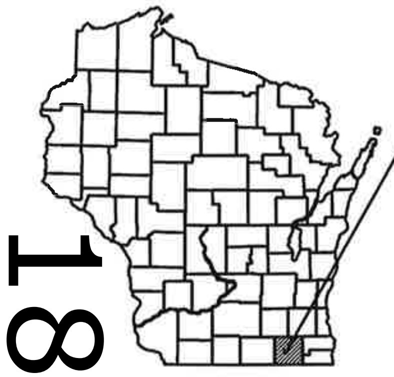
BORG ROAD
BRIDGE OVER SWAN CREEK (B-64-0193)

LOCAL STREET
WALWORTH COUNTY

STATE PROJECT NUMBER
3841-00-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3841-00-71	WISC 2015594	1

PROJECT LOCATION

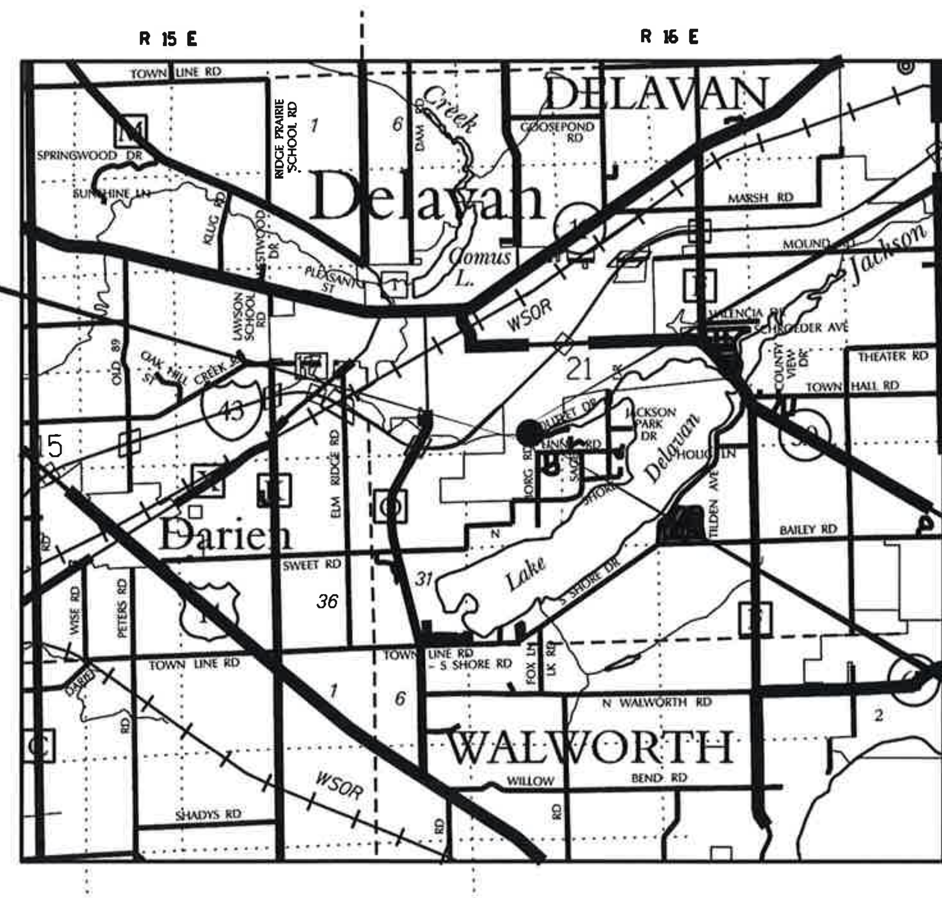


N

BEGIN PROJECT
STA. 8+15.00
Y 344169.899
X 740431.384

END PROJECT
STA. 11+85.00

STRUCTURE B-64-0193



DESIGN DESIGNATION

A.A.D.T. (2016)	=	2,362
A.A.D.T. (2036)	=	2,500
D.H.V.	=	273
D.D.	=	60/40
T.	=	12.0%
DESIGN SPEED	=	40 MPH
ESALS	=	372,300

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

LAYOUT
SCALE 0 — 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.070 MI. RURAL

"Coordinates on this plan are referenced to the Wisconsin County Coordinate System Walworth Zone NAD 83 (2011)"

"Elevations shown on the plan are referenced to the North American Vertical Datum of NAVD 88 (2012)."

APPROVED FOR CITY OF DELAVAN

8/3/2015 — DATE

DEPARTMENT OF PUBLIC WORKS

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES

WISCONSIN PHILIP J. BAIN JR. E-3844 WAUWATOSA, WI PROFESSIONAL ENGINEER

DATE: 08/03/2015

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AYRES ASSOCIATES
Designer	AYRES ASSOCIATES
Management Consultant	DAAR ENGINEERING, INC.
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 8/4/15 (Management Consultant Signature)

E

2

GENERAL NOTES

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

FILL EXPANSION FACTOR IS 11%.

CONSTRUCT 6 1/4-INCH HMA PAVEMENT TYPE E-1 WITH A 2¼" UPPER LAYER AND A 4" LOWER LAYER.
CONSTRUCT 4-INCH HMA PAVEMENT TYPE E-1 WITH A 1¾" UPPER LAYER AND A 2¼" LOWER LAYER.
MAX. AGGREGATE SIZE FOR LOWER LAYER IS 19mm AND 12.5mm FOR UPPER LAYER.

ASPHALTIC MATERIAL PG 58-28 REQUIRED FOR UPPER LAYER AND LOWER.

PROPERTY LINES AS SHOWN ARE APPROXIMATE.

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

BEARING SHOWN ON THIS PLAN ARE TRUE BEARINGS TO THE NEAREST SECOND.

ALL TIES ON THIS PLAN ARE HORIZONTAL UNLESS DESCRIBED OTHERWISE.

PLACE EROSION CONTROL MEASURES AS SHOWN ON THE EROSION CONTROL PLAN. THE EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SUBGRADE SHOULDER POINTS ARE TO BE FERTILIZED, SEEDED OR EROSION MAT AS DIRECTED BY THE ENGINEER.

WISDOT WILL FURNISH A BENCHMARK MONUMENT TO BE SET BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER IN THE FIELD.

ELEVATIONS SHOWN ON THE CROSS SECTIONS ARE SUBGRADE ELEVATIONS.

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 = 0.3 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.3 ACRES
SOIL GROUP B

STANDARD ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC	PC	POINT OF CURVATURE
AC	ASPHALT CEMENT	PI	POINT OF INTERSECTION
AGG	AGGREGATE	PE	PRIVATE ENTRANCE
ASPH	ASPHALT	R	RADIUS
BM	BENCH MARK	REM	REMOVE
C/L	CENTERLINE	R/L OR RL	REFERENCE LINE
CONC	CONCRETE	RCCP	REINFORCED CONCRETE CULVERT PIPE
CMP	CORRUGATED METAL PIPE	RCPSS	REINFORCED CONCRETE PIPE STORM SEWER
D	DEGREE OF CURVE	R.O.	RUNOUT
DHV	DESIGN HOUR VOLUME	R/W	RIGHT-OF-WAY
ESALS	EQUIVALENT SINGLE AXIS LOADS	STA	STATION
EXIST	EXISTING	SE	SUPER ELEVATION
FE	FIELD ENTRANCE	SS	STORM SEWER
HYD	HYDRANT	T	TANGENT
IP	IRON PIPE OR PIN	TEL	TELEPHONE
L	LENGTH OF CURVE	TLE	TEMPORARY LIMITED EASEMENT
LC	LONG CHORD OF CURVE	T	TRUCKS
MH	MANHOLE	UNCL	UNCLASSIFIED EXCAVATION
NC	NORMAL CROWN	VC	VERTICAL CURVE
PT	POINT OF TANGENCY	W	WELL

UTILITIES

**** DELAVAN LAKE SANITARY DISTRICT** — TELEPHONE 262-728-4100, CELL 262-210-1741
2990 COUNTY ROAD F SOUTH
DELAVAN, WISCONSIN 53115
ATTENTION: JAMES DELUCA
E-MAIL: JDELUCA@DISD.ORG

**** AT & T (WISCONSIN TELEPHONE COMPANY)** — TELEPHONE 608-252-2385, CELL 920-475-2799
316 W. WASHINGTON AVENUE
MADISON, WISCONSIN 53703
ATTENTION: CAROL ANASON
E-MAIL: CA2624@ATT.COM

**** WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT** — TELEPHONE 262-728-4140, CELL 262-215-9529
975 W. WALWORTH AVENUE
DELAVAN, WISCONSIN 53115
ATTENTION: BRAD HUZA
E-MAIL: BHUZA@WALCOMET.COM

**-MEMBER OF DIGGER'S HOTLINE

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

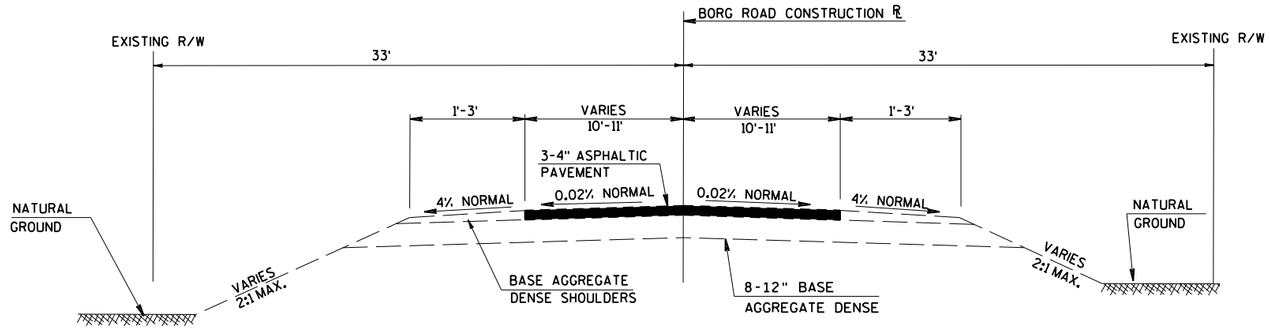
DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES — TELEPHONE 262-574-2141
DNR SERVICE CENTER
141 NW BARSTOW ROOM 180
WAUKESHA, WISCONSIN 53188
ATTENTION: CRAIG WEBSTER
E-MAIL: CRAIG.WEBSTER@WISCONSIN.GOV

DESIGNER

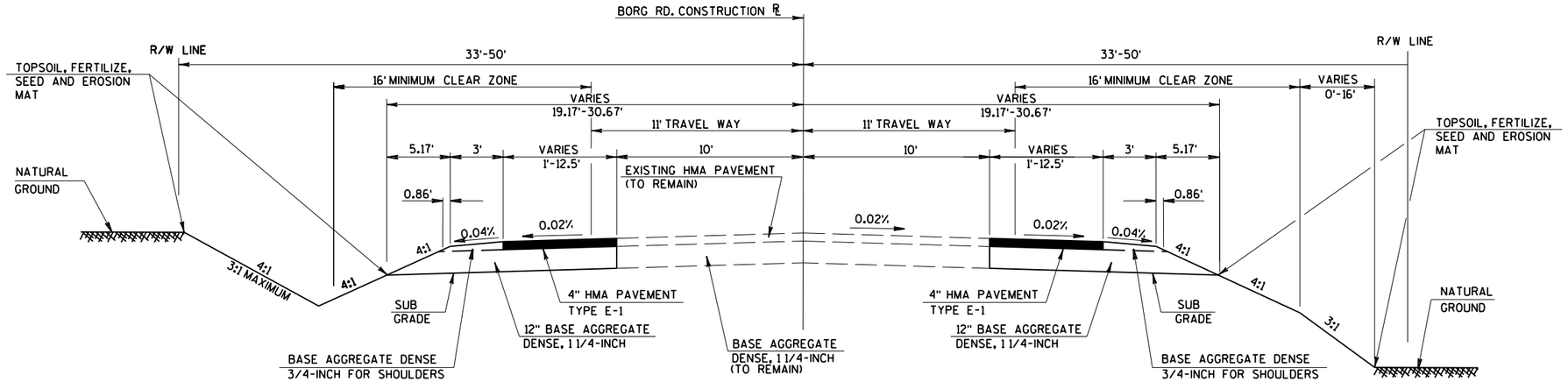
AYRES ASSOCIATES — TELEPHONE 262-523-4488
N17 W24222 RIVERWOOD DRIVE
SUITE 310
WAUKESHA, WISCONSIN 53188
ATTENTION: PHIL BAIN
E-MAIL: BAINP@AYRESASSOCIATES.COM

CITY OF DELAVAN — TELEPHONE 262-728-5585 EXT. 120
DIRECTOR OF PUBLIC WORKS
123 S. SECOND STREET
P.O. BOX 465
DELAVAN, WI 53115-0465
ATTENTION: MARK WENDORF



TYPICAL EXISTING SECTION FOR BORG ROAD

STA. 8+15 - STA. 11+85



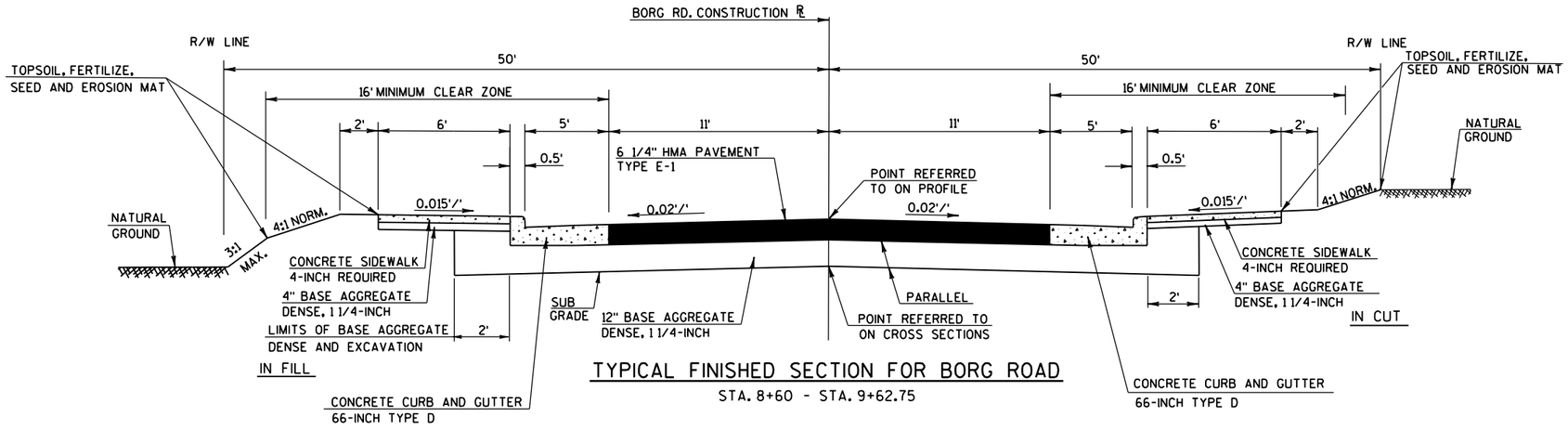
TYPICAL FINISHED SECTION FOR BORG ROAD

STA. 8+15 - STA. 8+60 LT. AND RT.
STA. 11+40 - STA. 11+85 LT.

PROJECT NO: 3841-00-71	HWY: BORG ROAD	COUNTY: WALWORTH	TYPICAL SECTIONS	SHEET 3	E

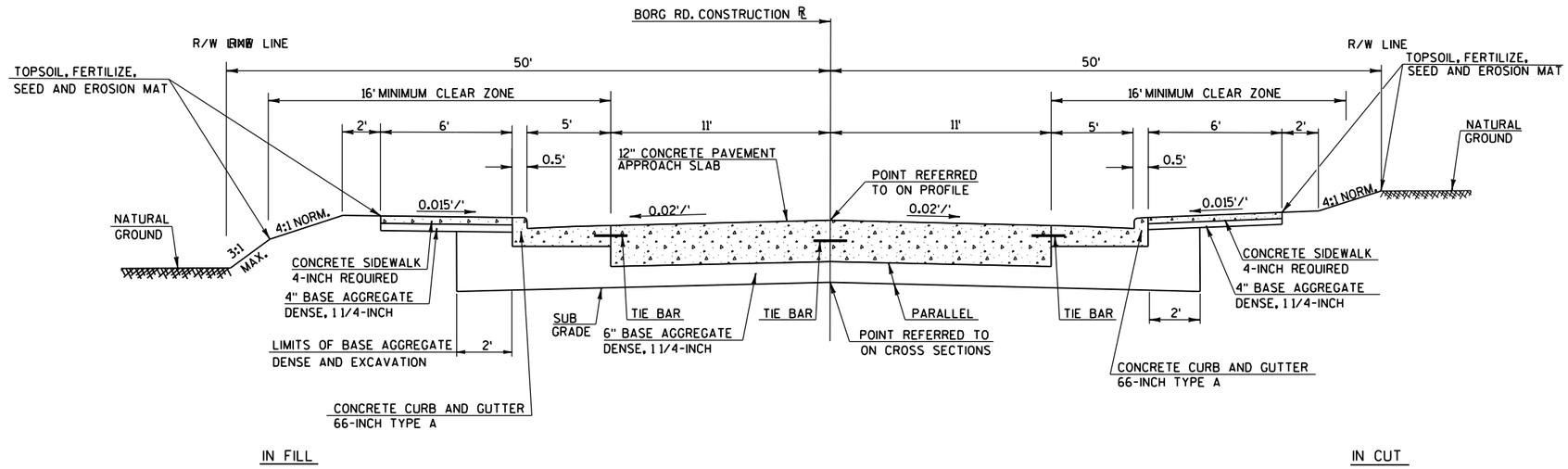
FILE NAME : V:\Trans-WK\MicroStation\45038100 Borg Road Bridge\DGN\020301 ts.dgn PLOT DATE : 4/1/2015 PLOT BY : soufalk PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 42



TYPICAL FINISHED SECTION FOR BORG ROAD

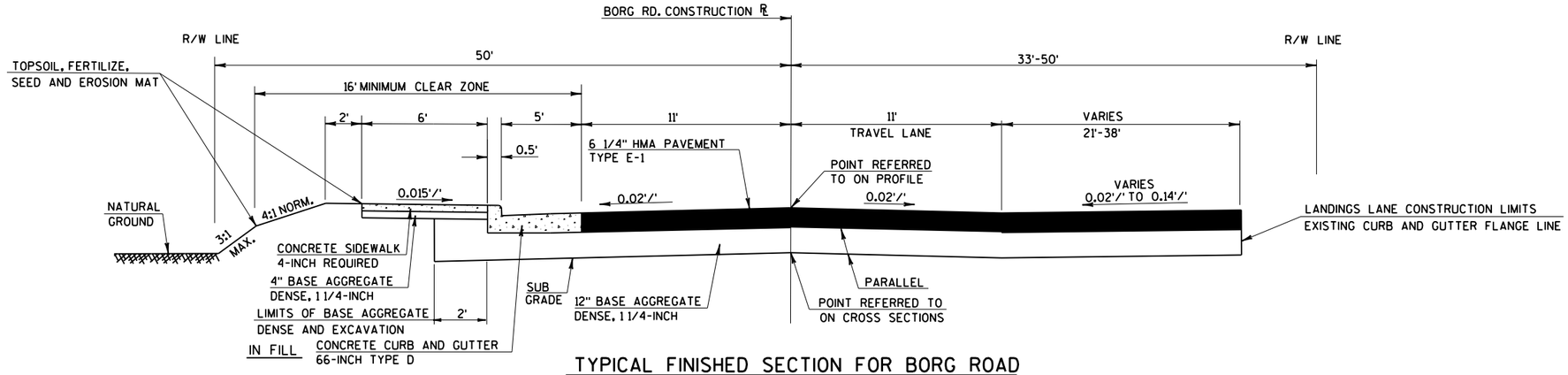
STA. 8+60 - STA. 9+62.75



TYPICAL FINISHED SECTION FOR BORG ROAD

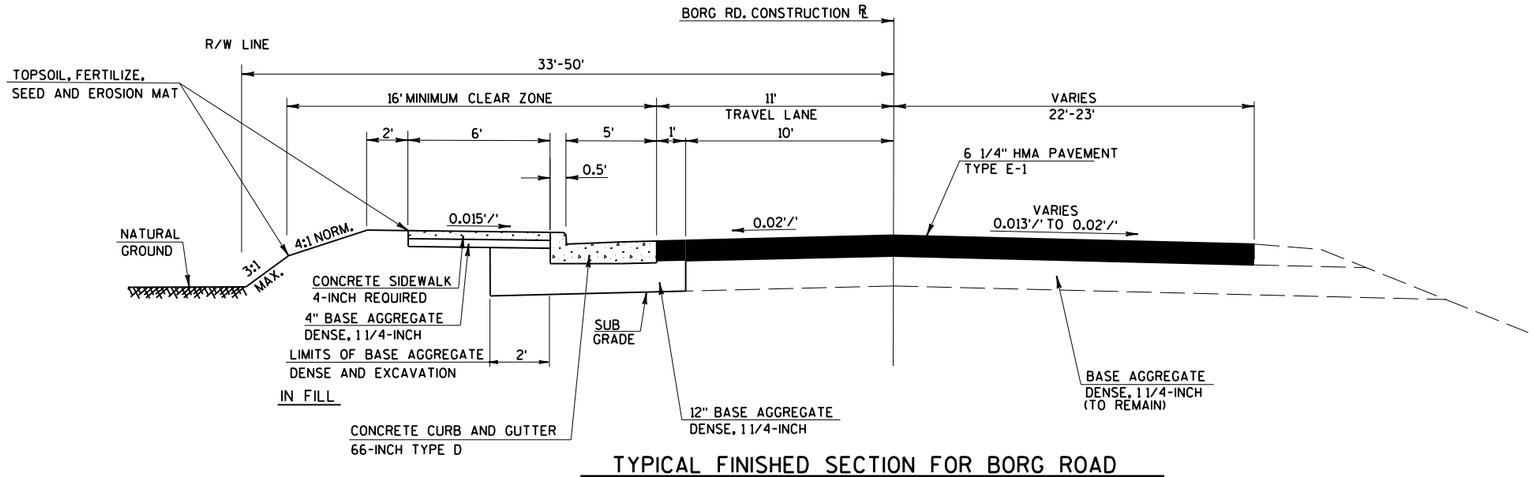
STA. 9+62.75 TO STA. 9+77.75
STA. 10+22.25 TO STA. 10+37.25

PROJECT NO: 3841-00-71	HWY: BORG ROAD	COUNTY: WALWORTH	TYPICAL SECTIONS	SHEET 4	E



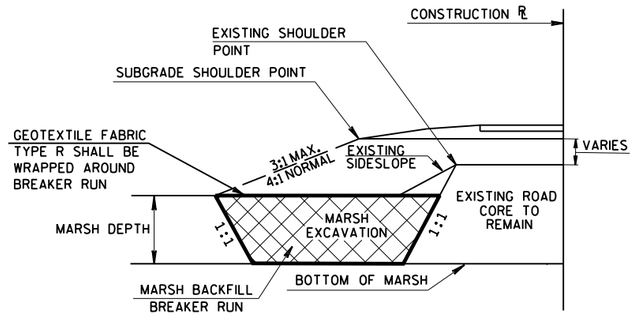
TYPICAL FINISHED SECTION FOR BORG ROAD

STA. 10+37.25 - STA. 10+90



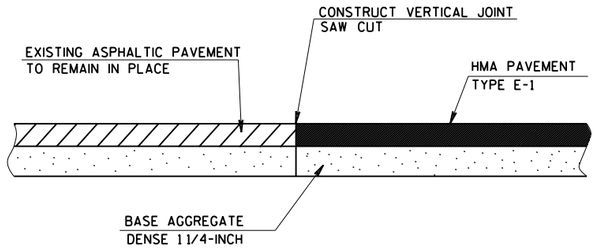
TYPICAL FINISHED SECTION FOR BORG ROAD

STA. 10+90 - STA. 11+40

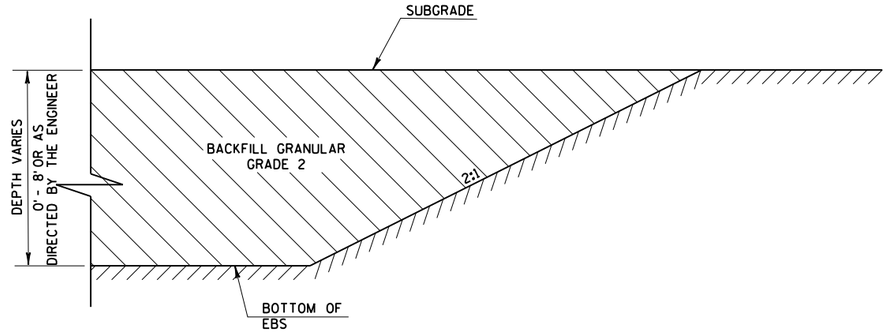


TYPICAL SECTION-MARSH EXCAVATION

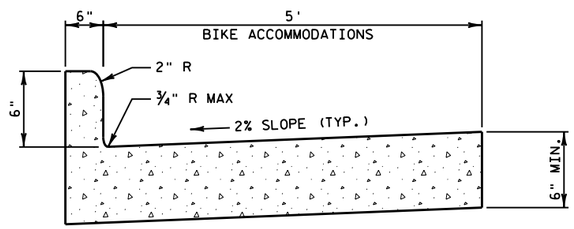
PROJECT NO: 3841-00-71	HWY: BORG ROAD	COUNTY: WALWORTH	TYPICAL SECTIONS	SHEET 5	E



SAW CUT JOINT DETAIL

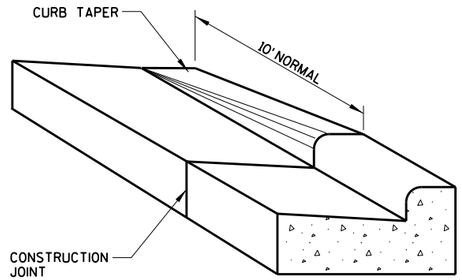


DETAIL FOR BACKFILL IN EBS AREAS



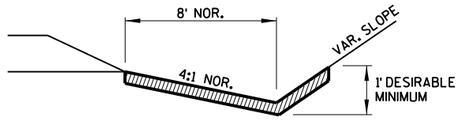
NOTE:
TIE BARS REQUIRED FOR TYPE A.

CONCRETE CURB & GUTTER
66-INCH SPECIAL, TYPE A & TYPE D

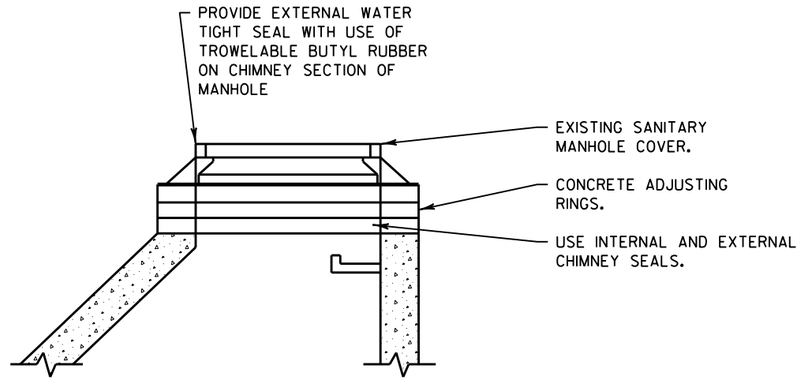


DETAIL OF CURB & GUTTER TERMINI

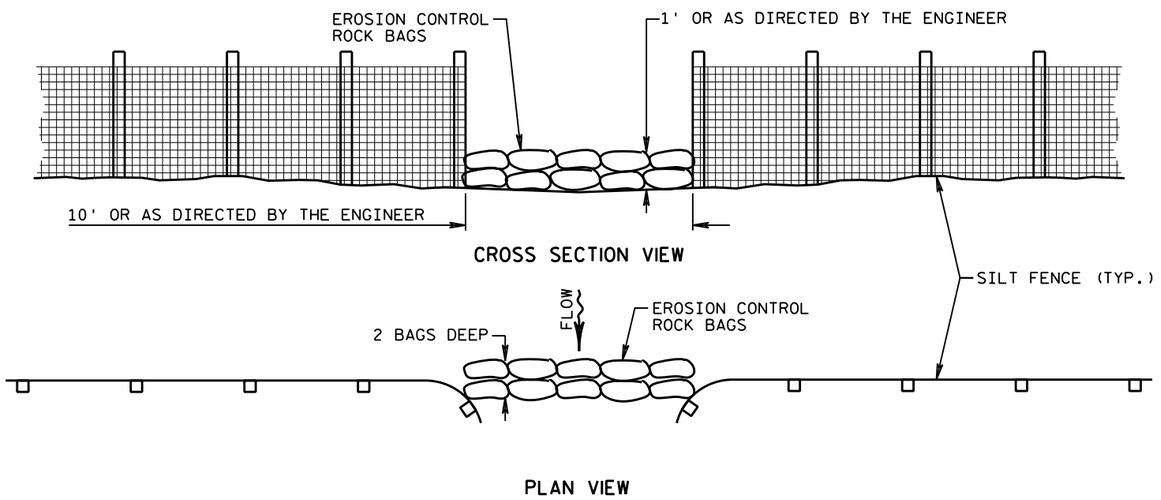
PROJECT NO: 3841-00-71	HWY: BORG ROAD	COUNTY: WALWORTH	CONSTRUCTION DETAILS	SHEET 6	E



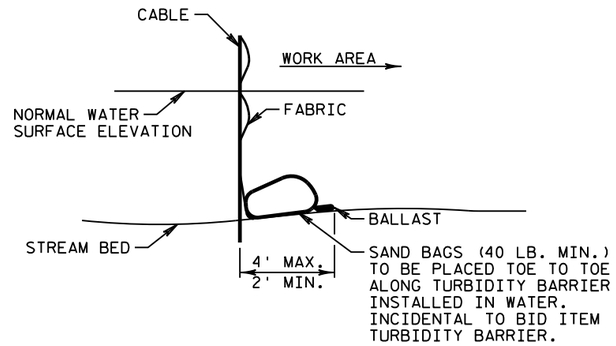
EROSION MAT DETAIL FOR DITCHES



ADJUSTING SANITARY MANHOLE COVER



EROSION CONTROL ROCK BAG
OPENING IN SILT FENCE



TURBIDITY BARRIER DETAIL

SEE S.D.D. "TURBIDITY BARRIER"
FOR INSTALLATION OF TURBIDITY BARRIER

2

N

2

STA. 10+52.25 BORG RD.=
STA. 100+00.00 LANDINGS LANE
Y=344407.146
X=740430.172

8+50 9+00 9+50 10+00 10+50 11+00 11+50

BORG ROAD

926.19 926.24 926.33 926.41 926.47 926.48 926.49 926.71

926.41 926.46 926.55 926.63 926.69 926.70

926.19 926.24 926.33 926.41 926.47 926.48 926.49

926.30 926.52 926.34 926.13 925.86 925.53

926.22 926.12 925.91 925.68 925.41

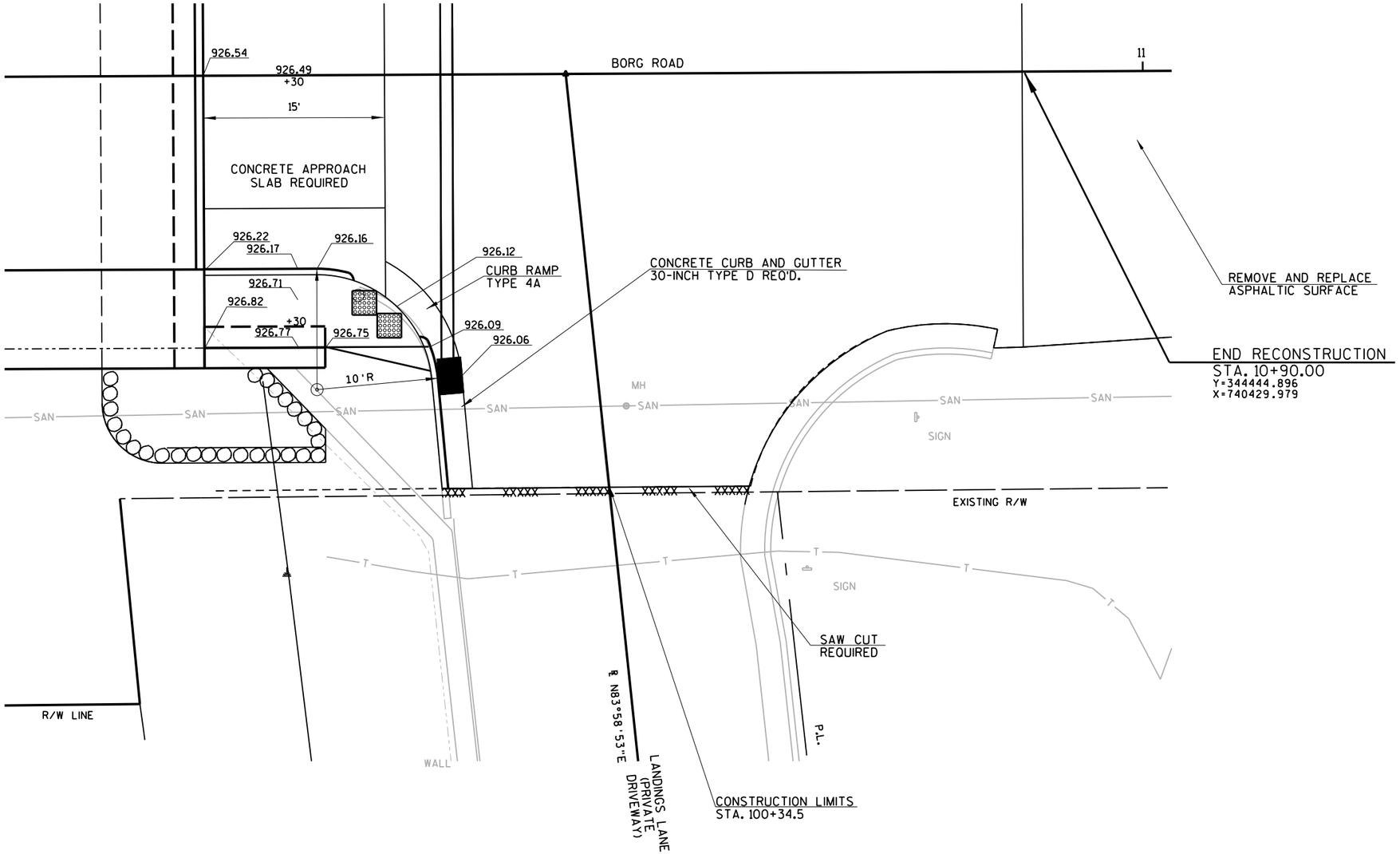
926.30 926.44 926.22

LANDINGS LANE
(PRIVATE DRIVEWAY)

PROJECT NO: 3841-00-71	HWY: BORG ROAD	COUNTY: WALWORTH	PAVEMENT GRADES	SHEET	E

FILE NAME : V:\Trans-WK\MicroStation\45038100 Borg Road Bridge\DGN\021201 pd.dgn PLOT DATE : 4/28/2015 PLOT BY : erdmannr PLOT NAME : PLOT SCALE : 1:20
WISDOT/CADDS SHEET 42

2

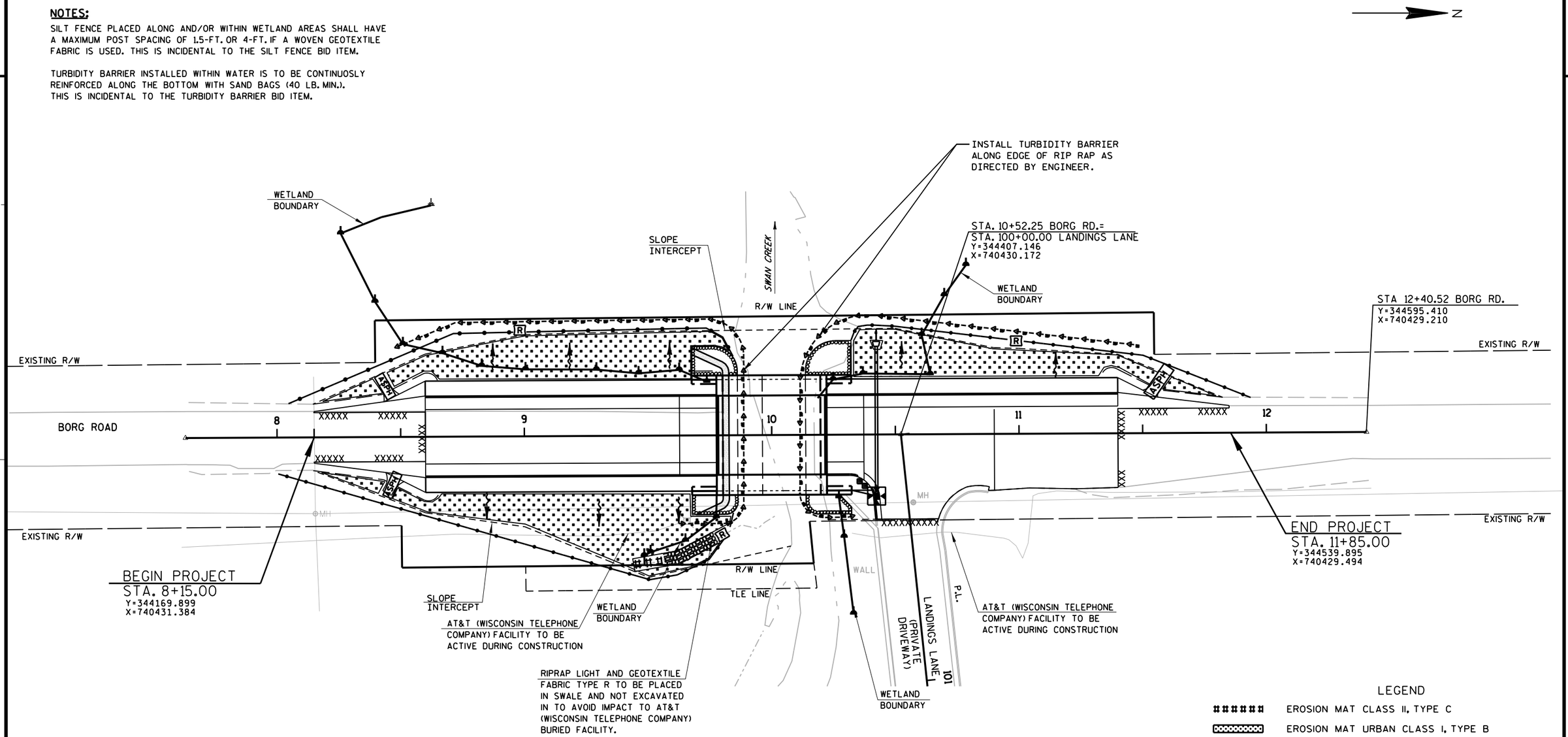


PROJECT NO: 3841-00-71	HWY: BORG ROAD	COUNTY: WALWORTH	PLAN DETAIL	SHEET 9	E

NOTES:

SILT FENCE PLACED ALONG AND/OR WITHIN WETLAND AREAS SHALL HAVE A MAXIMUM POST SPACING OF 1.5-FT. OR 4-FT. IF A WOVEN GEOTEXTILE FABRIC IS USED. THIS IS INCIDENTAL TO THE SILT FENCE BID ITEM.

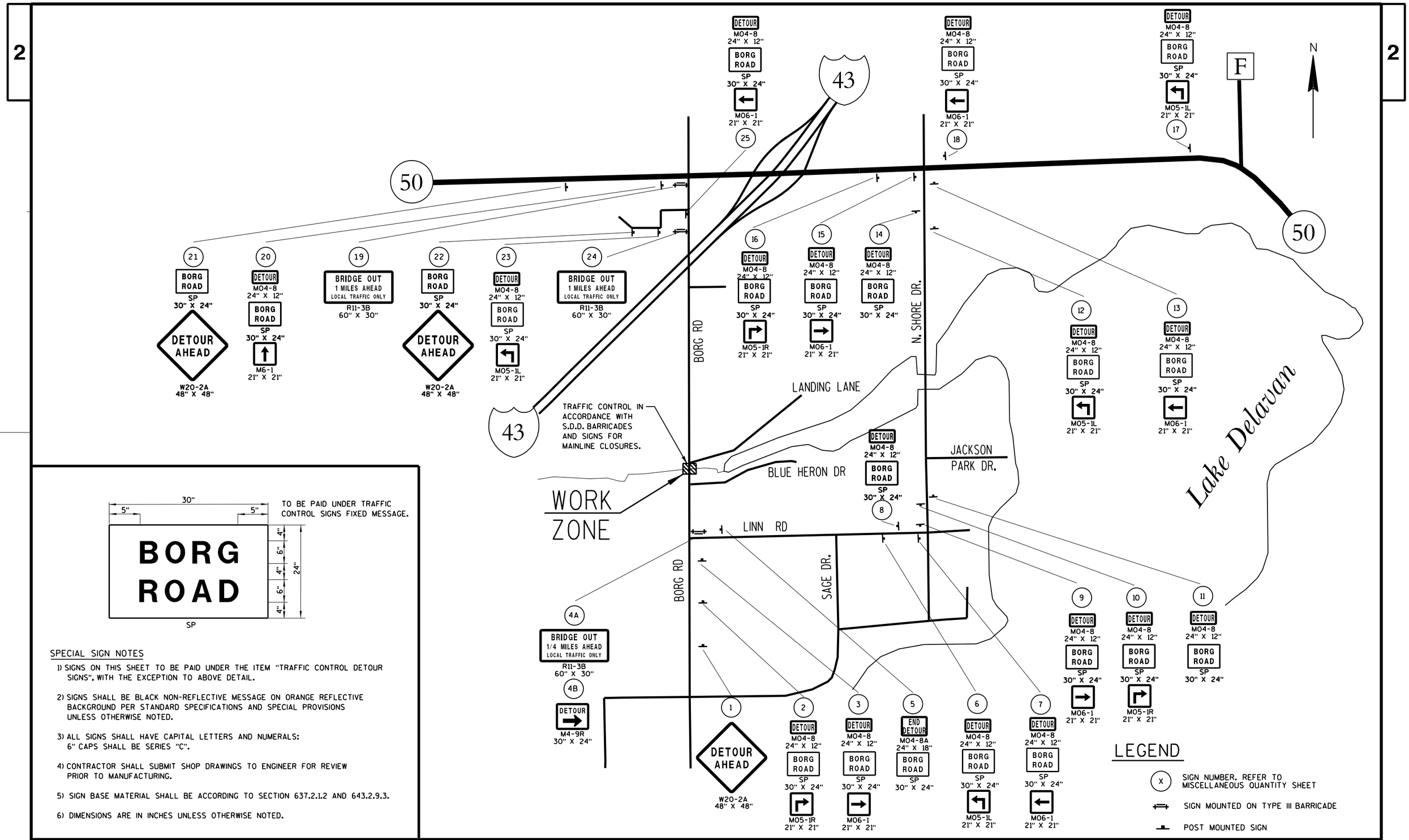
TURBIDITY BARRIER INSTALLED WITHIN WATER IS TO BE CONTINUOSLY REINFORCED ALONG THE BOTTOM WITH SAND BAGS (40 LB. MIN.). THIS IS INCIDENTAL TO THE TURBIDITY BARRIER BID ITEM.



LEGEND

- EROSION MAT CLASS II, TYPE C
- EROSION MAT URBAN CLASS I, TYPE B
- SILT FENCE
- RIP RAP LIGHT WITH TYPE R FABRIC
- SLOPE INTERCEPT
- ASPHALTIC FLUME
- TURBIDITY BARRIER
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW
- ROCK BAG

PROJECT NO: 3841-00-71	HWY: BORG ROAD	COUNTY: WALWORTH	EROSION CONTROL PLAN	SHEET 10	E



TO BE PAID UNDER TRAFFIC CONTROL SIGNS FIXED MESSAGE.

SPECIAL SIGN NOTES

1) SIGNS ON THIS SHEET TO BE PAID UNDER THE ITEM "TRAFFIC CONTROL DETOUR SIGNS", WITH THE EXCEPTION TO ABOVE DETAIL.

2) SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND PER STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS UNLESS OTHERWISE NOTED.

3) ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS: 6" CAPS SHALL BE SERIES "C".

4) CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.

5) SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 637.2.1.2 AND 643.2.9.3.

6) DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PROJECT NO: 3841-00-71	HWY: BORG ROAD	COUNTY: WALWORTH	DETOUR SIGNING DETAIL	SHEET 11	E

DATE 19AUG15 — E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	3841-00-71 QUANTITY
0010	201.0105	Clearing	STA	4.000	4.000
0020	201.0205	Grubbing	STA	4.000	4.000
0030	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0040	204.0110	Removing Asphaltic Surface	SY	190.000	190.000
0050	204.0170	Removing Fence	LF	79.000	79.000
0060	205.0100	Excavation Common	CY	1,217.000	1,217.000
0070	205.0400	Excavation Marsh	CY	295.000	295.000
0080	206.1000	Excavation for Structures Bridges (structure) 01. B-64-0193	LS	1.000	1.000
0090	208.0100	Borrow	CY	166.000	166.000
0100	209.0100	Backfill Granular	CY	723.000	723.000
0110	210.0100	Backfill Structure	CY	200.000	200.000
0120	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 3841-00-71	LS	1.000	1.000
0130	213.0100	Finishing Roadway (project) 01. 3841-00-71	EACH	1.000	1.000
0140	305.0110	Base Aggregate Dense 3/4-Inch	TON	15.000	15.000
0150	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	625.000	625.000
0160	311.0110	Breaker Run	TON	532.000	532.000
0170	415.0410	Concrete Pavement Approach Slab	SY	74.000	74.000
0180	455.0105	Asphaltic Material PG58-28	TON	13.000	13.000
0190	455.0605	Tack Coat	GAL	37.000	37.000
0200	460.1101	HMA Pavement Type E-1	TON	253.000	253.000
0210	465.0315	Asphaltic Flumes	SY	17.000	17.000
0220	502.0100	Concrete Masonry Bridges	CY	246.000	246.000
0230	502.3200	Protective Surface Treatment	SY	265.000	265.000
0240	505.0405	Bar Steel Reinforcement HS Bridges	LB	5,600.000	5,600.000
0250	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	30,500.000	30,500.000
0260	516.0500	Rubberized Membrane Waterproofing	SY	24.000	24.000
0270	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	1.000	1.000
0280	550.0010	Pre-Boring Unconsolidated Materials	LF	40.000	40.000
0290	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	875.000	875.000
0300	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	21.000	21.000
0310	602.0405	Concrete Sidewalk 4-Inch	SF	2,230.000	2,230.000
0320	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	8.000	8.000
0330	606.0100	Riprap Light	CY	26.000	26.000
0340	606.0300	Riprap Heavy	CY	125.000	125.000
0350	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	70.000	70.000
0360	611.0603	Inlet Covers Type A-S	EACH	1.000	1.000
0370	611.1003	Catch Basins 3-FT Diameter	EACH	1.000	1.000
0380	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	190.000	190.000
0390	616.0700.S	Fence Safety	LF	200.000	200.000
0400	619.1000	Mobilization	EACH	1.000	1.000
0410	625.0100	Topsoil	SY	965.000	965.000
0420	628.1104	Erosion Bales	EACH	20.000	20.000
0430	628.1504	Silt Fence	LF	670.000	670.000
0440	628.1520	Silt Fence Maintenance	LF	1,340.000	1,340.000
0450	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0460	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0470	628.2008	Erosion Mat Urban Class I Type B	SY	1,150.000	1,150.000

3

DATE 19AUG15 — E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	3841-00-71 QUANTITY
0480	628.2027	Erosion Mat Class II Type C	SY	25.000	25.000
0490	628.6005	Turbidity Barriers	SY	280.000	280.000
0500	628.7005	Inlet Protection Type A	EACH	1.000	1.000
0510	628.7015	Inlet Protection Type C	EACH	1.000	1.000
0520	628.7570	Rock Bags	EACH	111.000	111.000
0530	629.0210	Fertilizer Type B	CWT	0.700	0.700
0540	630.0120	Seeding Mixture No. 20	LB	30.000	30.000
0550	630.0140	Seeding Mixture No. 40	LB	20.000	20.000
0560	630.0160	Seeding Mixture No. 60	LB	5.000	5.000
0570	630.0200	Seeding Temporary	LB	50.000	50.000
0580	633.5200	Markers Culvert End	EACH	1.000	1.000
0590	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0600	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0610	638.2602	Removing Signs Type II	EACH	6.000	6.000
0620	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0630	642.5001	Field Office Type B	EACH	1.000	1.000
0640	643.0100	Traffic Control (project) 01. 3841-00-71	EACH	1.000	1.000
0650	643.0300	Traffic Control Drums	DAY	940.000	940.000
0660	643.0420	Traffic Control Barricades Type III	DAY	1,504.000	1,504.000
0670	643.0705	Traffic Control Warning Lights Type A	DAY	1,692.000	1,692.000
0680	643.0900	Traffic Control Signs	DAY	2,162.000	2,162.000
0690	643.0920	Traffic Control Covering Signs Type II	EACH	5.000	5.000
0700	643.1000	Traffic Control Signs Fixed Message	SF	105.000	105.000
0710	643.2000	Traffic Control Detour (project) 01. 3841-00-71	EACH	1.000	1.000
0720	643.3000	Traffic Control Detour Signs	DAY	4,418.000	4,418.000
0730	645.0120	Geotextile Fabric Type HR	SY	255.000	255.000
0740	645.0130	Geotextile Fabric Type R	SY	190.000	190.000
0750	646.0106	Pavement Marking Epoxy 4-Inch	LF	732.000	732.000
0760	650.4000	Construction Staking Storm Sewer	EACH	2.000	2.000
0770	650.4500	Construction Staking Subgrade	LF	326.000	326.000
0780	650.5000	Construction Staking Base	LF	296.000	296.000
0790	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	390.000	390.000
0800	650.6500	Construction Staking Structure Layout (structure) 01. B-65-0193	LS	1.000	1.000
0810	650.7000	Construction Staking Concrete Pavement	LF	30.000	30.000
0820	650.8000	Construction Staking Resurfacing Reference	LF	95.000	95.000
0830	650.9910	Construction Staking Supplemental Control (project) 01. 3841-00-71	LS	1.000	1.000
0840	650.9920	Construction Staking Slope Stakes	LF	326.000	326.000
0850	690.0150	Sawing Asphalt	LF	211.000	211.000
0860	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0870	715.0502	Incentive Strength Concrete Structures	DOL	1,200.000	1,200.000
0880	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	350.000	350.000
0890	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	350.000	350.000
0900	SPV.0060	Special 01. Utility Line Openings	EACH	5.000	5.000
0910	SPV.0060	Special 02. Adjusting Sanitary Manhole Cover	EACH	1.000	1.000
0920	SPV.0090	Special 01. Concrete Curb & Gutter 66-Inch Type A	LF	60.000	60.000
0930	SPV.0090	Special 02. Concrete Curb & Gutter 66-Inch Type D	LF	309.000	309.000

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DATE 19AUG15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	3841-00-71 QUANTITY
0940	SPV.0105	Special 01. Railing Tubular Type NY4 Galvanized B-64-0193	LS	1.000	1.000

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CLEARING AND GRUBBING

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
8+95	-	9+90	BORG ROAD, LT & RT	2	2
10+21	-	11+85	BORG ROAD, LT	2	2
TOTALS				4	4

REMOVING FENCE

STATION	TO	STATION	LOCATION	204.0170 REMOVING FENCE LF
11+06	-	11+85	BORG ROAD, LT	79
TOTALS				79

REMOVING ASPHALTIC SURFACE

STATION	TO	STATION	LOCATION	204.0110 SY
10+90	-	11+40	BORG ROAD	190
TOTAL				190

PREPARE FOUNDATION FOR ASPHALTIC PAVING

STATION	TO	STATION	LOCATION	211.0100 LS
PROJECT 3841-00-71			BORG ROAD	1
TOTALS				1

EARTHWORK

Division	From/To Station	Location	Excavation Common (1) (Item # 205.0100) Cut (2)	EBS Excavation (3)	Salvaged/ Unusable Pavement Material (4)	Available Material (5)	Marsh Excavation (6) (Item #205.0400)	Unexpanded Fill	Expanded Fill Factor 1.11	Mass Ordinate +/- (14)	Waste (15)	Borrow (Item #208.0100)	Backfill Granular Grade 2 (Item #209.0100)	Breaker Run (Item #311.0110)	Comment:
			CY	CY	CY	CY	CY	CY	CY	CY	CY	CY	CY	TON	
1.00	8+15 - 11+85	BORG RD	494	0	64	431	295	537	596	-166	359	166	0	532	
		UNDISTRIBUTED	0	723	0	0	0	0	0	0	723	0	723	0	
Division 1 Subtotal			494	723	64	431	295	537	596	-166	1,082	166	723	532	
Grand Total			494	723	64	431	295	537	596	-166	1,082	166	723	532	
			Total Common Exc	1,217											

1) Excavation Common is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unusable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Backfill Granular Grade 2 material.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusable Pavement Material
6) Marsh Excavation - to be backfilled with Breaker Material.
14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.
15) Waste = EBS + Salvaged/Unusable Pavement Material + Marsh Excavation

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

3

BASE AGGREGATE DENSE

STATION	TO	STATION	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON
8+15	-	8+60.00	BORG ROAD	9	73
8+60	-	9+62.75	BORG ROAD	2	178
9+62.75	-	9+77.75	BORG ROAD	-	25
8+60	-	9+77.75	BORG ROAD	-	35
10+22.25	-	10+37.25	BORG ROAD	-	24
10+37.25	-	10+90.00	BORG ROAD	-	199
10+90	-	11+40.00	BORG ROAD	-	35
11+40	-	11+85.00	BORG ROAD	4	38
11+33	-	11+85.00	BORG ROAD	-	-
10+37.25	-	11+40	BORG ROAD	-	18
TOTALS				15	625

ASPHALTIC FLUME

STATION	LOCATION	465.0315 SY
8+46	BORG ROAD, LT	5
8+49	BORG ROAD, RT	4
11+53	BORG ROAD, LT	8
TOTALS		17

CONCRETE PAVEMENT

STATION	TO	STATION	LOCATION	415.0410 APPROACH SLAB SY
9+62.75	-	9+77.75	BORG ROAD	37.0
10+22.25	-	10+37.25	BORG ROAD	37.0
TOTALS				74

CONCRETE CURB AND GUTTER

STATION	TO	STATION	LOCATION	601.0411 30-INCH TYPE D LF	SPV.0090.01 66-INCH TYPE A LF	SPV.0090.02 66-INCH TYPE D LF
8+60	-	9+77.75	BORG ROAD, LT, RT	-	30	206
10+22.25	-	11+40.00	BORG ROAD, LT	-	15	103
10+22.25	-	10+45	BORG ROAD, RT	21	15	-
TOTALS				21	60	309

STORM SEWER STRUCTURES AND COVERS

STRUCTURE	STATION	OFFSET	LOCATION	611.0603 INLET COVERS TYPE A-S EACH	611.1003 CATCH BASINS 3-FT DIAMETER EACH	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH LF	633.5200 MARKERS CULVERT END EACH	* JOINT TIES EACH	GRATE ELEV.	STRUCTURE INVERT ELEV.	STRUCTURE DEPTH FT.
	10+42	26' RT	BORG ROAD	1	1	1	1	6	926.06	920.29	4.69
	TOTALS			1	1	1	1	6			

REMARKS:

-OFFSET DISTANCE TO CENTER FOR MANHOLES, BACK OF CURB FOR INLETS, AND END OF ENDWALLS.
-GRATE ELEVATION IS FIGURED TO EDGE OF PAVEMENT FOR INLET, AND ENDWALL INVERT IS THE OUTFALL OF ENDWALL.
-FINAL LOCATION TO BE DETERMINED BY THE ENGINEER.
-STRUCTURE DEPTHS COMPUTED WITH A MINIMUM OF 6-INCHES ADJUSTMENT TO COVERS FOR CATCH BASIN 3-FT DIAMETER
-FOR INFORMATION ONLY: JOINT TIES ARE REQUIRED FOR ENDWALLS. TIE LAST THREE PIPE JOINTS (TWO TIES PER JOINT-6 TIES MINIMUM PER ENDWALL).
-JOINT TIES ARE INCIDENTAL TO ITEM 608.0412 STORM SEWER PIPE REINFORCED CONCRETE PIPE CLASS IV 12-INCH.

*

HMA PAVEMENT

STATION	TO	STATION	LOCATION	455.0105 ASPHALTIC MATERIAL PG58-28 (5.5%) TON	455.0605 TACK COAT GAL	460.1101 HMA PAVEMENT TYPE E-1 TON
8+15	-	8+60	BORG ROAD	0.6	2	11
8+60	-	9+62.75	BORG ROAD	5.0	13	90
10+37.25	-	10+90	BORG ROAD	5.0	12	84
10+90	-	11+85	BORG ROAD	2.4	10	68
TOTALS				13	37	253

STORM SEWER

FROM	TO	LOCATION	608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH LF	INLET ELEVATION	DISCHARGE ELEVATION	SLOPE FT/FT
STR	ENDWALL	BORG ROAD	70	922.29	921.59	0.0100
TOTALS			70			

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

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CONCRETE SIDEWALK

STATION	TO	STATION	LOCATION	602.0405 SIDEWALK 4-INCH SF	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA SF
8+60	-	9+77.75	BORG ROAD, LT, RT	1,415	-
10+22.25	-	11+40.00	BORG ROAD	710	-
10+22.25	-	10+45	BORG ROAD	105	8
TOTALS				2,230	8

EROSION MAT

STATION	TO	STATION	LOCATION	628.2008 URBAN CLASS I TYPE B SY	628.2027 CLASS II TYPE C SY
8+15	-	9+78	BORG ROAD, LT	310	-
8+15	-	10+01	BORG ROAD, RT	304	25
10+22	-	11+85	BORG ROAD, LT	330	-
10+22	-	11+85	BORG ROAD, RT	6	-
UNDISTRIBUTED				200	-
TOTAL				1,150	25

RIP RAP LIGHT

STATION	TO	STATION	LOCATION	606.0100 RIPRAP LIGHT CY	*645.0130 GEOTEXTILE FABRIC TYPE R SY
9+47	-	10+01	BORG ROAD, RT	26	45
TOTALS				26	45

* ADDITIONAL QUANTITY SHOWN ELSEWHERE IN PLAN

FENCE SAFETY

STATION	LOCATION	616.0700.S LF
NE QUADRANT	BORG ROAD, LT	50
SE QUADRANT	BORG ROAD, RT	50
NW QUADRANT	BORG ROAD, LT	50
SW QUADRANT	BORG ROAD, RT	50
TOTALS		200

EROSION BALES

STATION	TO	STATION	LOCATION	628.1104 EACH
UNDISTRIBUTED				20
TOTALS				20

TOPSOIL, FERTILIZER, AND SEED

STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0140 SEEDING MIXTURE NO. 40 LB	630.0160 SEEDING MIXTURE NO. 60 LB	630.0200 SEEDING TEMPORARY LB
8+15	-	9+78.00	BORG ROAD	635	0.4	12	10	2	
10+22	-	11+85.00	BORG ROAD	330	0.2	12	4		
UNDISTRIBUTED					0.1	6	6	3	50
TOTALS				965	0.7	30	20	5	50

*NOTE: - FERTILIZER NOT TO BE PLACED WITHIN WETLAND AREAS.
- TEMPORARY SEEDING TO BE PLACED ONLY ON TEMPORARY STOCKPILES AND TEMPORARY EMBANKMENTS, IF NEEDED.

INLET PROTECTION

STATION	LOCATION	628.7005 TYPE A EACH	628.7015 TYPE C EACH	REMARKS
10+42	BORG ROAD, RT	-	1	NORTH SIDE OF BRIDGE
	UNDISTRIBUTED	1	-	
TOTALS		1	1	

SILT FENCE

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
8+05	-	9+85	BORG ROAD, LT	190	380
8+01	-	9+84	BORG ROAD, RT	192	385
10+32	-	11+94	BORG ROAD, LT	163	325
UNDISTRIBUTED			BORG ROAD	125	250
TOTALS				670	1,340

MOBILIZATIONS EROSION CONTROL

STATION	TO	STATION	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
8+15.00	-	11+85	BORG ROAD	5	2
TOTALS				5	2

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

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TURBIDITY BARRIERS

STATION	TO	STATION	LOCATION	628.6005 SY
8+47	-	9+82	BORG ROAD, LT	61
8+88	-	9+80	BORG ROAD, RT	42
10+34	-	11+49	BORG ROAD, LT	50
SOUTH ABUTMENT			BORG ROAD	61
NORTH ABUTMENT			BORG ROAD	66
TOTAL				280

ROCK BAGS

STATION	LOCATION	628.7570 EACH
8+98	BORG ROAD, LT	24
9+58	BORG ROAD, RT	24
9+79	BORG ROAD, LT	24
10+99	BORG ROAD, RT	24
UNDISTRIBUTED		15
TOTALS		111

SIGNS REFLECTIVE TYPE II AND WOOD POSTS

STATION	LOCATION	634.0612 POSTS WOOD 4x6-INCHx12-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F W5-52L S.F.	637.2230 SIGNS TYPE II REFLECTIVE F W5-52R S.F.	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	NOTE
NW QUADRANT	BORG ROAD	1	-	3	1	1	
SW QUADRANT	BORG ROAD	1	3	-	1	1	
NE QUADRANT	BORG ROAD	1	3	-	1	1	
SE QUADRANT	BORG ROAD	1	-	3	1	1	
8+85 - 11+15	BORG ROAD	-	-	-	2	2	WEIGHT LIMIT 15 TONS
TOTALS		4	12		6	6	-

GEOTEXTILE FABRIC

STATION	TO	STATION	LOCATION	*645.0130 TYPE R** SY
8+15	-	11+45	BORG ROAD, LT	145
TOTALS				145

* ADDITIONAL QUANTITY SHOWN ELSEWHERE IN PLAN
**TO BE USED AROUND BREAKER RUN IN MARSH EXCAVATION AREAS

TRAFFIC CONTROL SUMMARY

LOCATION	APPROXIMATE SERVICE DAYS	643.0300 TRAFFIC CONTROL DRUMS NO. IN SERVICE	643.0300 TRAFFIC CONTROL DRUMS DAYS	643.0420 BARRICADES TYPE III NO. IN SERVICE	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A NO. IN SERVICE	643.0705 WARNING LIGHTS TYPE A DAYS	643.0900 TRAFFIC CONTROL SIGNS NO. IN SERVICE	643.0900 TRAFFIC CONTROL SIGNS DAYS	643.3000 TRAFFIC CONTROL DETOUR SIGNS NO. IN SERVICE	643.3000 TRAFFIC CONTROL DETOUR SIGNS DAYS	*** 643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	643.2000 TRAFFIC CONTROL DETOUR EACH	
WIS 50 / BORG ROAD	94	-	-	1	94	2	188	5	470	6	564	-	10	1	SEE DETOUR SIGNING DETAIL
WIS 50 / N. SHORE DR	94	-	-	-	-	-	-	5	470	16	1,504	-	35	-	SEE DETOUR SIGNING DETAIL
N. SHORE RD / LINN RD	94	-	-	-	-	-	-	-	-	16	1,504	-	30	-	SEE DETOUR SIGNING DETAIL
BORG RD / LINN RD	94	-	-	1	94	-	-	5	470	9	846	-	15	-	SEE DETOUR SIGNING DETAIL
NORTH WORK ZONE LIMITS	94	-	-	5	470	6	564	3	282	-	-	-	-	-	SEE BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL D
BORG ROAD/PHOENIX ST.	94	-	-	2	188	2	188	1	94	-	-	-	15	-	SEE BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL E
BORG ROAD/ BLUE HERON DR	94	-	-	2	188	2	188	1	94	-	-	-	-	-	SEE BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL E
SOUTH WORK ZONE LIMITS	94	-	-	5	470	6	564	3	282	-	-	-	-	-	SEE BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL D
UNDISTRIBUTED	94	10	940	-	-	-	-	-	-	-	-	5	-	-	
TOTALS			940		1,504		1,692		2,162		4,418	5	105	1	

*** TRAFFIC CONTROL COVERING SIGNS TYPE II BASED UPON 1 CYCLE.

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	650.4000 STORM SEWER EACH	650.4500 SUBGRADE LF	650.5000 BASE LF	650.5500 CURB & GUTTER LF	650.6500 STRUCTURE LAYOUT LS	650.7000 CONCRETE PAVEMENT LF	650.8000 RESURFACING REFERENCE LF	650.9910 SUPPLEMENTAL CONTROL LS	650.9920 SLOPE STAKES LF	CATEGORY
8+15	-	9+77.75	BORG ROAD	-	163	148	-	-	-	-	1	163	0010
8+60	-	9+77.75	BORG ROAD	-	-	-	206	-	15	-	-	-	0010
10+22.25	-	10+90	BORG ROAD	2	-	-	-	-	15	-	-	-	0010
10+22.25	-	11+40	BORG ROAD	-	-	-	124	-	-	-	-	-	0010
10+22.25	-	11+85	BORG ROAD	-	163	148	-	-	-	95	-	163	0010
SUBTOTALS				2	326	296	330	0	30	95	1	326	0010
10+00			BORG ROAD	-	-	-	-	1	-	-	-	-	0020
SUBTOTALS				0	0	0	0	1	0	0	0	0	0020
TOTALS				2	326	296	330	1	30	95	1	326	

SAWING

STATION	LOCATION	ASPHALT 690.0150 LF	REMARKS
8+15	BORG ROAD	111	START LIMITS
11+85	BORG ROAD	77	END LIMITS
100+37	LANDINGS LANE	23	SIDE ROAD LIMITS
TOTAL		211	

PAVEMENT MARKING EPOXY

STATION	TO	STATION	LOCATION	646.0106 4-INCH LF	REMARKS
8+15	-	11+85	BORG ROAD	100	CENTERLINE SKIPS
8+15	-	11+85	BORG ROAD	632	EDGE LINE
TOTALS				732	

UTILITY LINE OPENINGS

STATION	APPROX. OFFSET	LOCATION	SPV.0060.01 EACH	REMARKS	CATEGORY
9+69	35' RT	BORG ROAD	1	LOCATING TELEPHONE	0030
9+77	29' RT	BORG ROAD	1	LOCATING SANITARY	0030
10+32	40' RT	BORG ROAD	1	LOCATING TELEPHONE	0030
10+25	28' RT	BORG ROAD	2	LOCATING SANITARY	0030
TOTAL			5		

ADJUSTING SANITARY MANHOLE COVER

STATION	LOCATION	SPV.0060.02 EACH	CATEGORY
10+57	BORG ROAD, 27' RT	1	0030
TOTAL		1	

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
3841-00-01	4.01	1
FEDERAL PROJECT NUMBER -------------------		

PLAT OF RIGHT-OF-WAY REQUIRED FOR

CITY OF DELAVAN

BORG ROAD BRIDGE OVER SWAN CREEK

CITY OF DELAVAN WALWORTH COUNTY

CONSTRUCTION PROJECT NUMBER
3841-00-71

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	RELEASE OF RIGHTS	ROR
ACCESS RIGHTS	AR	REMAINING	REM.
ACRES	AC.	RIGHT-OF-WAY	R/W
AND OTHERS	ET.AL.	SECTION	SEC.
CENTER LINE	C/L	STATION	STA.
CERTIFIED SURVEY MAP	CSM	TEMPORARY LIMITED EASEMENT	TLE
CORNER	COR.	VOLUME	V.
DOCUMENT	DOC.		
EASEMENT	EASE.		
HIGHWAY EASEMENT	H.E.		
LAND CONTRACT	LC		
MONUMENT	MON.		
PAGE	P.		
PERMANENT LIMITED EASEMENT	PLE		
PROPERTY LINE	PL		
RECORDED AS	(100')		
REFERENCE LINE	R/L		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	DELTA
LENGTH OF CURVE	L
TANGENT	TAN

CONVENTIONAL UTILITY SYMBOLS

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

NON COMPENSABLE COMPENSABLE
POWER POLE
TELEPHONE POLE
TELEPHONE PEDESTAL
ELECTRIC TOWER

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN (1" UNLESS NOTED)
R/W MONUMENT (SET)
R/W STANDARD (SET)
SIGN (SIGN)
SECTION CORNER MONUMENT
SECTION CORNER SYMBOL
HIGHWAY EASEMENT (HE)
TEMPORARY LIMITED EASEMENT
PERMANENT LIMITED EASEMENT
R/W BOUNDARY POINT (RWB20)
PARCEL NUMBER
UTILITY INTEREST
SIGN NUMBER (OFF PREMISE)
BUILDING
PROPOSED R/W LINE
EXISTING H.E. LINE
PROPERTY LINE
LOT & TIE LINES
SLOPE INTERCEPTS (S.I.)
CORPORATE LIMITS
ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL)
ACCESS RESTRICTED (BY ACQUISITION)
NO ACCESS (BY STATUTORY AUTHORITY)
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
EXISTING CENTERLINE
PROPOSED REFERENCE LINE
PARALLEL OFFSET

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

PARCEL NO.	OWNER(S)	INTEREST REQUIRED
101	AT&T (WISCONSIN TELEPHONE COMPANY)	RELEASE OF RIGHTS

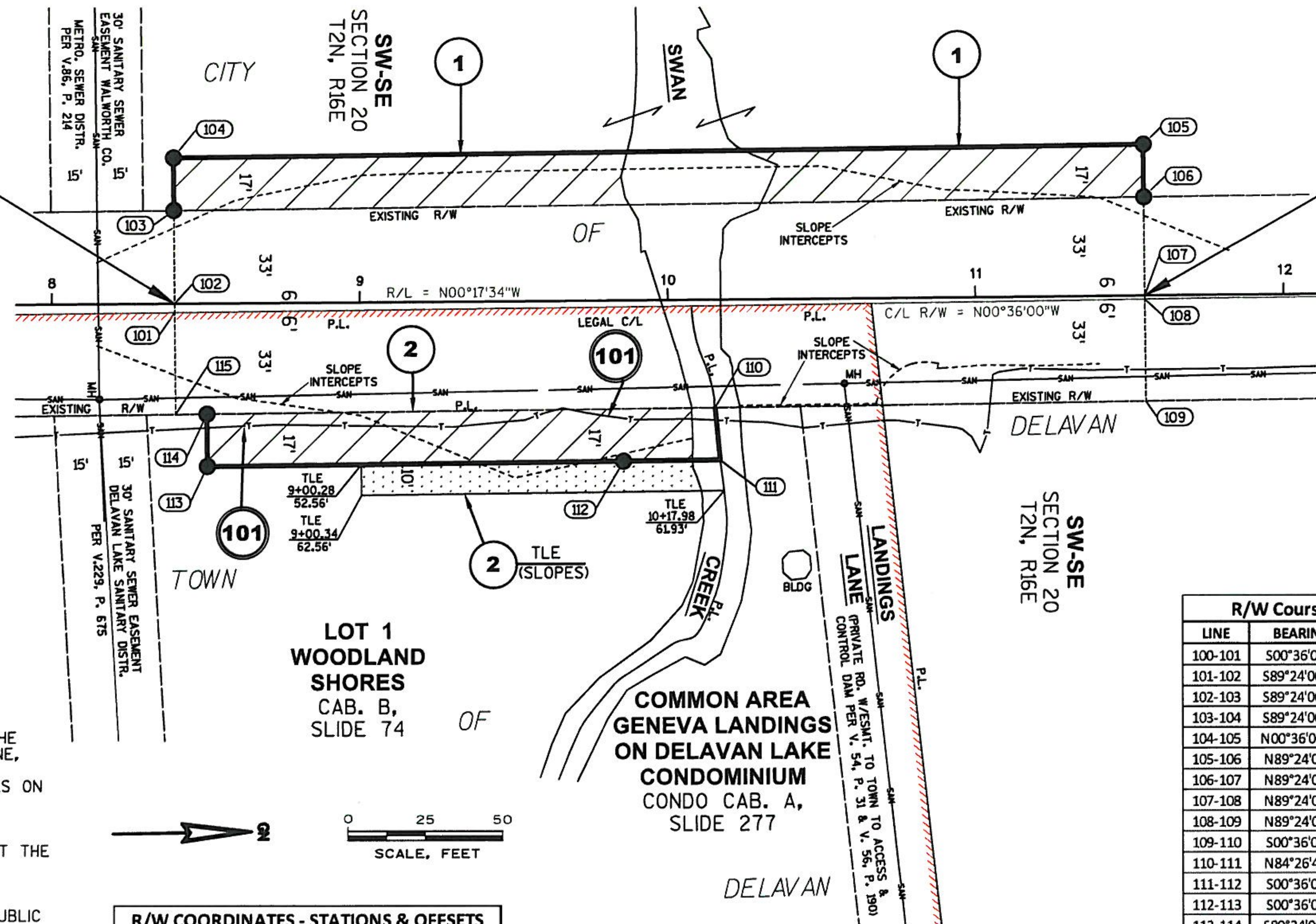
UTILITY EASEMENT INFORMATION		
UTILITY	RECORDING INFORMATION	PARCEL(S)
AT&T (WISCONSIN TELEPHONE COMPANY)	NO EASEMENT OF RECORD	2

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W NEW ACRES	R/W EXISTING ACRES	R/W TOTAL ACRES	TLE ACRES
1	WEST GRANT DEVELOPMENT, INC.	FEE	0.105	0.239	0.344	-----
2	LAURA K. OSBORN	FEE & TLE	0.061	-----	0.061	0.025

BEGIN RELOCATION ORDER
STA. 8+40.00
Y=344194.90
X=740431.26
LOCATED 1694.95 FEET SOUTH AND 1617.92 FEET WEST OF THE EAST 1/4 CORNER OF SECTION 20, TOWNSHIP 2 NORTH, RANGE 16 EAST.



END RELOCATION ORDER
STA. 11+55.00
Y=344509.89
X=740429.65
LOCATED 1379.96 FEET SOUTH AND 1619.53 FEET WEST OF THE EAST 1/4 CORNER OF SECTION 20, TOWNSHIP 2 NORTH, RANGE 16 EAST.

CENTER OF SECTION 20
CONC. MONUMENT W/BRASS CAP
Y=345917.88
X=739352.35

N89°24'16"W 1063.92' (1063.86')
1633.06' (2696.72') 2696.98'

EAST 1/4 CORNER SECTION 20
CONC. MONUMENT W/BRASS CAP
Y=345889.85
X=742049.18

RIPARIAN BOUNDARY NOTES:

1. THE PARCELS SHOWN HEREON ARE SUBJECT TO THE RIGHTS OF THE PUBLIC, HELD IN TRUST BY THE STATE OF WISCONSIN, BELOW THE ORDINARY HIGH WATER MARK OF SWAN CREEK.

2. THE NORTH PROPERTY BOUNDARY OF PARCEL 2 IS THE THREAD OF SWAN CREEK.

NOTES:

COORDINATES AND BEARINGS ON THIS PLAT ARE ORIENTED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, WALWORTH 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 TYPE 2 (3/4"x24" IRON REBAR WEIGHING 1.50 LBS./ LIN. FT.) AND ARE PLACED PRIOR TO OR AT THE TIME OF LAND TRANSFER.

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

DIMENSIONING FOR THE NEW RIGHT-OF WAY IS MEASURED ALONG AND PERPENDICULAR TO THE REFERENCE LINE.

EXISTING RIGHT-OF-WAY SHOWN HEREON IS DETERMINED FROM: THE PLAT OF WOODLAND SHORES, RECORDED IN CABINET B, SLIDE 74 IN THE WALWORTH COUNTY REGISTER OF DEEDS. IN NOTE NO. 6 ON THE FACE OF SAID PLAT, IT REFERENCES THAT BORG ROAD RIGHT-OF-WAY WAS ESTABLISHED PER: DATA SHOWN ON A PLAT OF SURVEY BY LLOYD L. JENSEN, COUNTY SURVEYOR, IN 1942; DATA SHOWN ON WISDOT "PLAT OF RIGHT OF WAY REQUIRED", SHEET 4.6 FOR PROJECT I.D. 1091-2-21, LAST DATED NOVEMBER 2, 1973; AND THAT THE WIDTH OF BORG ROAD WAS ESTABLISHED AT 4 RODS (66 FEET) ON NOVEMBER 28, 1853, ACCORDING TO THE WALWORTH COUNTY HIGHWAY REGISTER IN THE WALWORTH COUNTY REGISTER OF DEEDS OFFICE.

LOT 1 OF WOODLAND SHORES IS RESTRICTED THAT THERE SHALL BE NO DIRECT VEHICULAR INGRESS AND EGRESS BETWEEN LOT 1 AND BORG ROAD ON SAID PLAT. SAID RESTRICTION SHALL APPLY TO THE NEW R/W SHOWN HEREON.

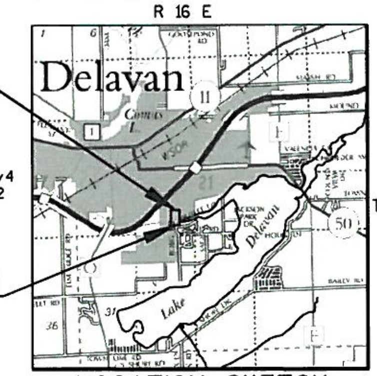
THE TOWN OF DELAVAN OWNS THE 33 FOOT WIDE R/W ADJACENT TO PARCEL 2 HEREOF AS DEDICATED ON THE PLAT OF WOODLAND SHORES.

R/W COORDINATES - STATIONS & OFFSETS				
POINT	Y	X	STATION	OFFSET
100	345906.82	740416.21	N/A	N/A
101	344194.93	740434.14	8+40.02	2.88' R
102	344194.90	740431.26	8+40.00	0.00'
103	344194.58	740401.14	8+39.84	30.12' L
104	344194.41	740384.14	8+39.75	47.12' L
105	344509.38	740380.84	11+54.74	48.81' L
106	344509.56	740397.84	11+54.83	31.81' L
107	344509.89	740429.65	11+55.00	0.00'
108	344509.91	740430.84	11+55.01	1.19' R
109	344510.25	740463.84	11+55.18	34.19' R
110	344370.26	740465.30	10+15.18	34.94' R
111	344371.92	740482.34	10+16.75	51.93' R
112	344340.44	740482.61	9+85.28	52.10' R
113	344205.45	740484.03	8+50.28	52.82' R
114	344205.27	740467.03	8+50.19	35.82' R
115	344195.27	740467.13	8+40.19	35.88' R

END RELOCATION ORDER
STA. 11+55.00
Y=344509.89
X=740429.65
LOCATED 1379.96 FEET SOUTH AND 1619.53 FEET WEST OF THE EAST 1/4 CORNER OF SECTION 20, TOWNSHIP 2 NORTH, RANGE 16 EAST.

BEGIN RELOCATION ORDER
STA. 8+40.00
Y=344194.90
X=740431.26
LOCATED 1694.95 FEET SOUTH AND 1617.92 FEET WEST OF THE EAST 1/4 CORNER OF SECTION 20, TOWNSHIP 2 NORTH, RANGE 16 EAST.

R 16 E



LOCATION SKETCH
SCALE IN MILES

TOTAL NET LENGTH OF BORG ROAD RELOCATION ORDER = 0.060 MI.

R/W Course Table		
LINE	BEARING	DISTANCE
100-101	S00°36'00"E	1711.99'
101-102	S89°24'00"W	2.88'
102-103	S89°24'00"W	30.12'
103-104	S89°24'00"W	17.00'
104-105	N00°36'00"W	315.00'
105-106	N89°24'00"E	17.00'
106-107	N89°24'00"E	31.81'
107-108	N89°24'00"E	1.19'
108-109	N89°24'00"E	33.00'
109-110	S00°36'00"E	140.00'
110-111	N84°26'49"E	17.06'
111-112	S00°36'00"E	31.47'
112-113	S00°36'00"E	135.00'
113-114	S89°24'00"W	17.00'
114-115	S00°36'00"E	10.00'
115-101	S89°24'00"W	33.00'
101-108	N00°36'00"W	315.00'
102-107	N00°17'34"W	315.00'
103-106	N00°36'00"W	315.00'
109-115	S00°36'00"E	315.00'

APPROVED FOR TOWN OF DELAVAN
2-17-2015 [signature]
DATE CHAIRMAN

APPROVED FOR CITY OF DELAVAN
2-17-2015 [signature]
DATE MAYOR

PLAT PREPARED BY
AYRES ASSOCIATES

THE SURVEY IS PREPARED AT THE REQUEST OF THE CITY OF DELAVAN.

THE TOPOGRAPHY AND UTILITY SURVEY WAS PERFORMED IN OCTOBER, 2013. THE R/W AND SECTION CONTROL SURVEY WAS PERFORMED IN JUNE, 2014.

THIS SURVEY IS ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

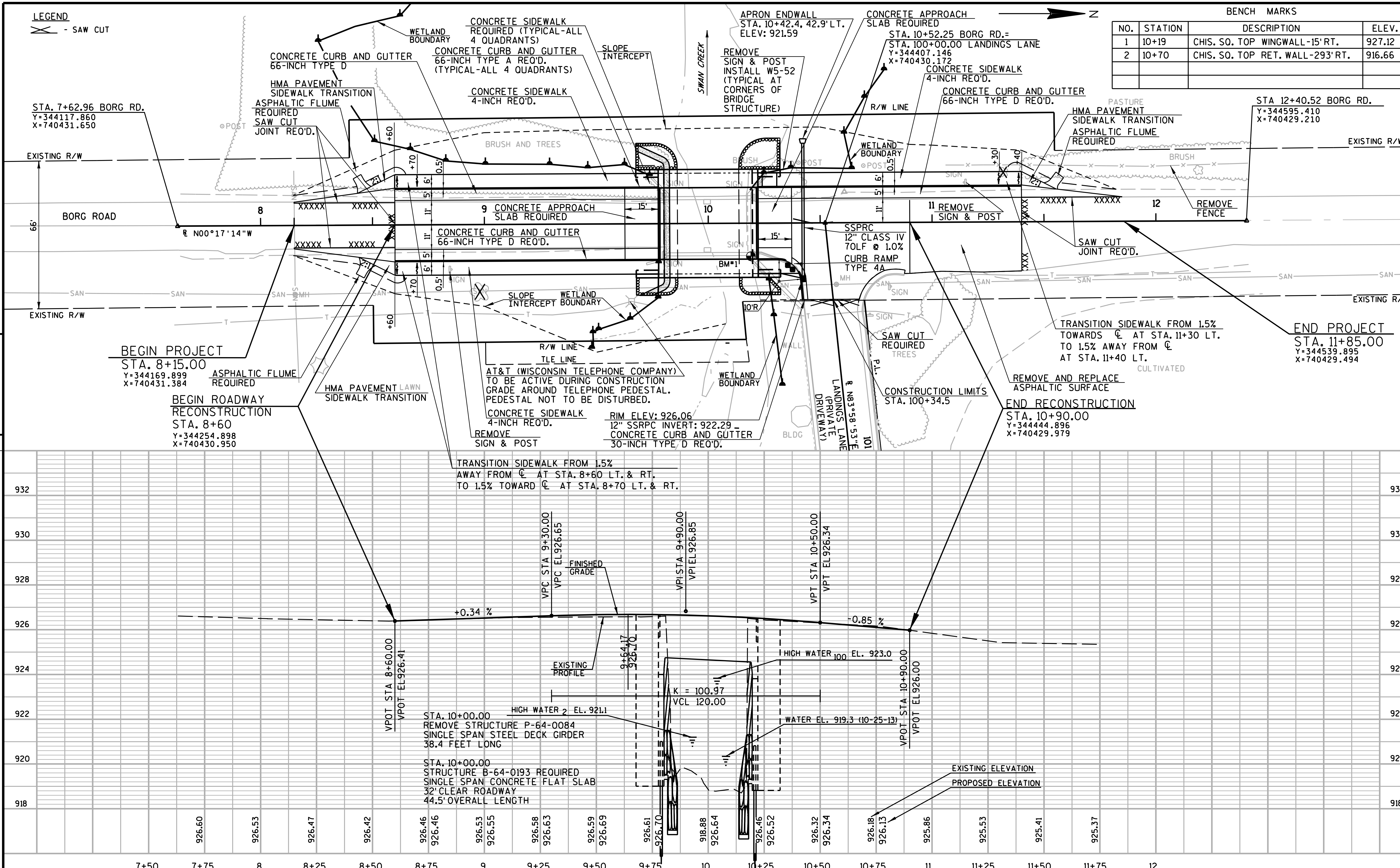
WISCONSIN LAND SURVEYOR
Matthew E. Hoglund
S-1910
Fall River
WI

[signature] 2/16/2015
MATTHEW E. HOGLUND, P.L.S. DATE
S-1910

REVISION DATE

E

FILE NAME : 450381_RW_PLAT.dwg
APPRAISAL DATE: 2/16/2015



BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1	10+19	CHIS. SQ. TOP WINGWALL-15'RT.	927.12
2	10+70	CHIS. SQ. TOP RET. WALL-293'RT.	916.66

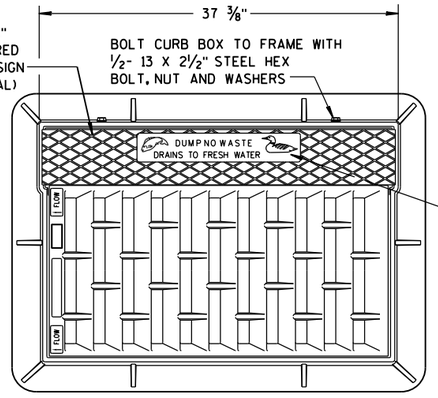
PROJECT NO: 3841-00-71	HWY: BORG ROAD	COUNTY: WALWORTH	PLAN AND PROFILE	SHEET 21	E

FILE NAME : R:\45038100 Borg Road Bridge\DGN\050101_pp.dgn PLOT DATE : 8/4/2015 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40.0001

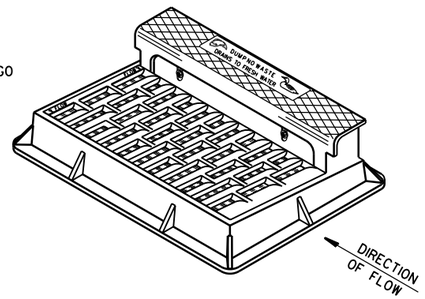
WISDOT/CADDS SHEET 30

Standard Detail Drawing List

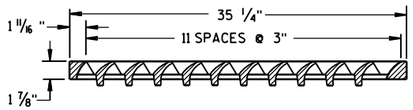
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A08-01	CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D15-04A	EDGEDRAIN OUTLET AND OUTFALL MARKERS
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
08F05-01	CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER
12A03-10	NAME PLATE (STRUCTURES)
13B02-07A	CONCRETE BRIDGE APPROACH
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15D28-02	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

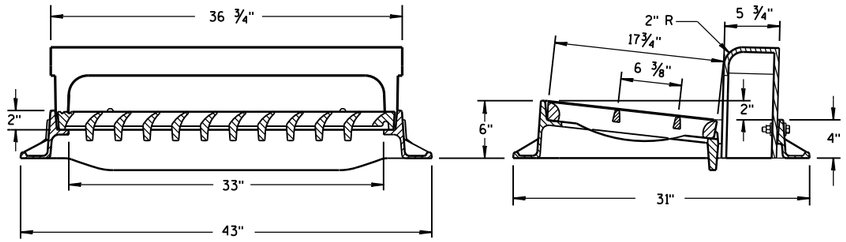


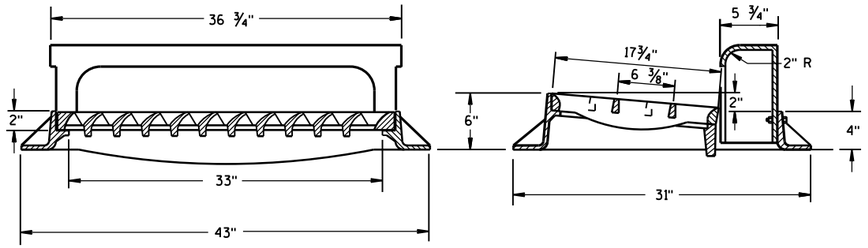
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

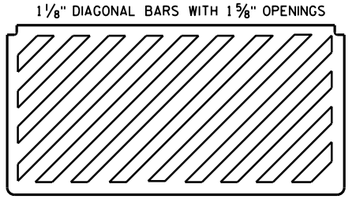






TYPE "H"

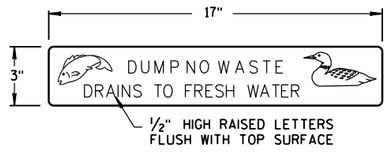
NOTE: EITHER CASTING IS ACCEPTABLE



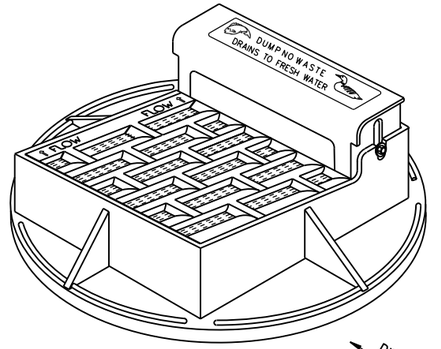
SPECIAL GRATE FOR TYPE "H" COVER

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

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

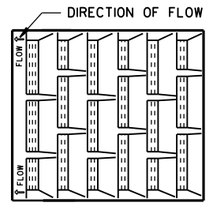
NOTE:
GRATE IS REVERSIBLE.

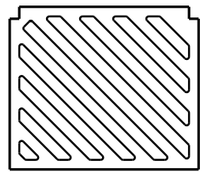
GENERAL NOTES

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

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

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

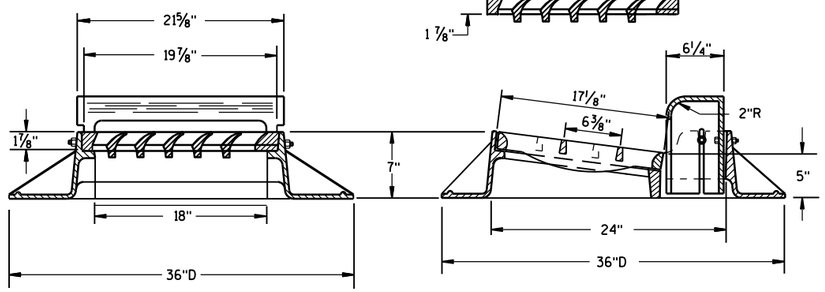




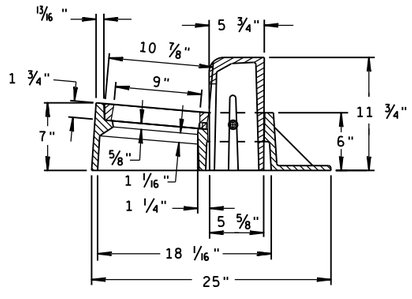
SPECIAL GRATE FOR TYPE "A" COVER

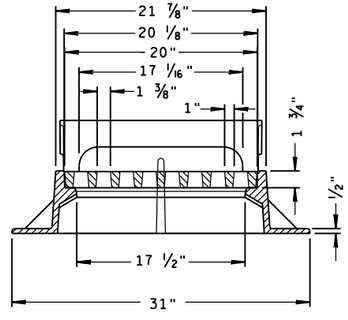
(MEASURES 19 3/4" X 17" X 1 7/8")

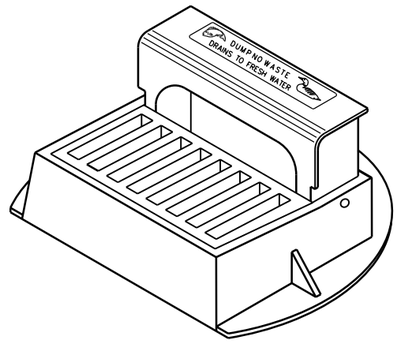
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"







TYPE "Z"

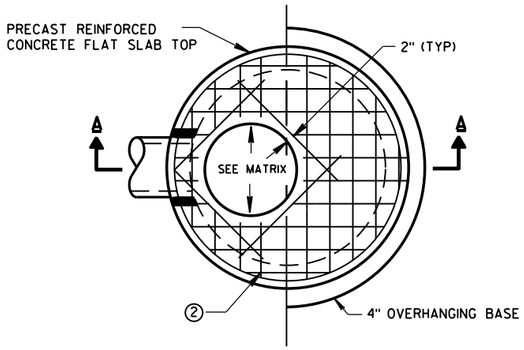
INLET COVERS
TYPE A, H, A-S, H-S & Z

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

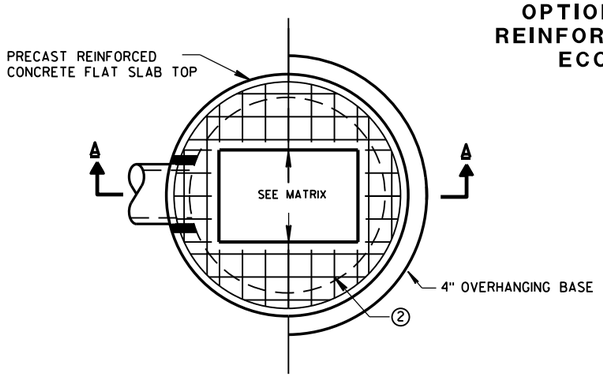
APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

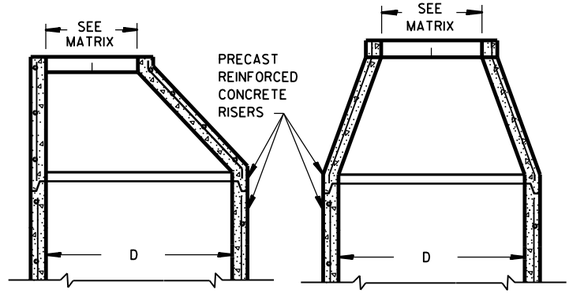
S.D.D. 8 A 5-19a



PLAN VIEW CIRCULAR OPENING

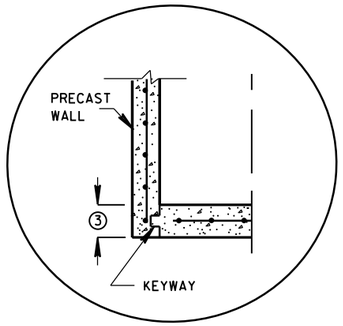


PLAN VIEW RECTANGULAR OPENING

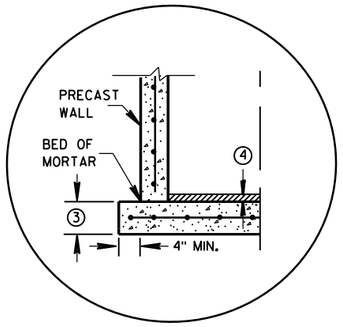


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

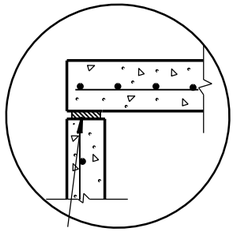


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



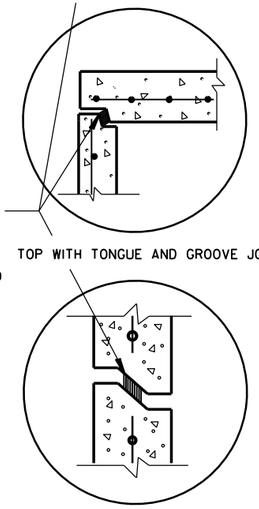
SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



TOP WITH PLAIN END JOINT

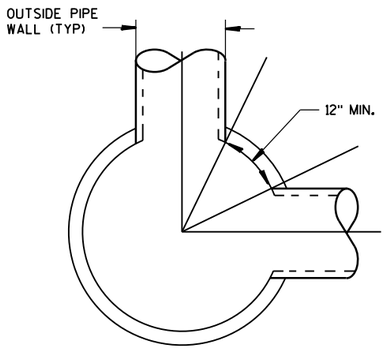
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



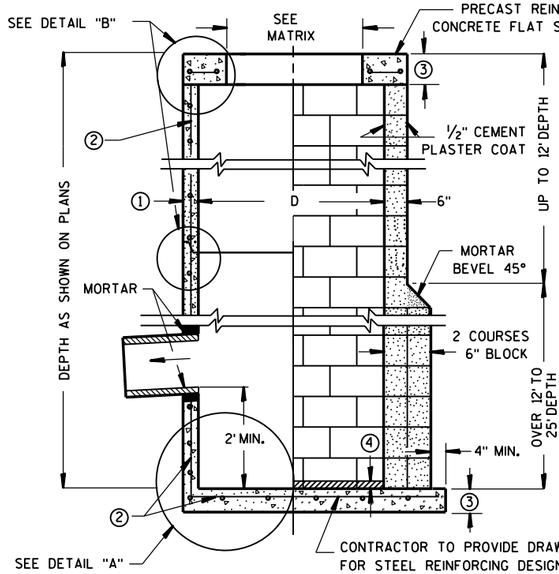
TOP WITH TONGUE AND GROOVE JOINT

RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"



DETAIL "C"



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

SECTION A-A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

GENERAL NOTES

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

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

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

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

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

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

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

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

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2 INCH AND MEET THE REQUIREMENTS OF ASTM A615.

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

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

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

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

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

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

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

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

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

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

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

CATCH BASIN COVER OPENING MATRIX

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

PIPE MATRIX

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

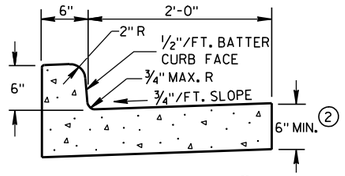
CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

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

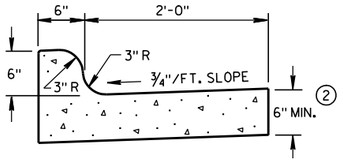
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

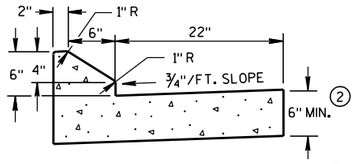
S.D.D. 8 A 8-1



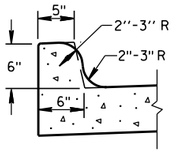
TYPES A & D (1)



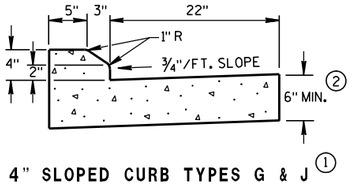
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

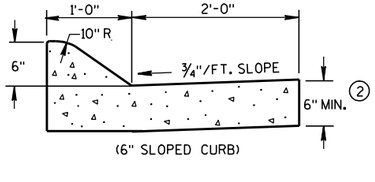


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

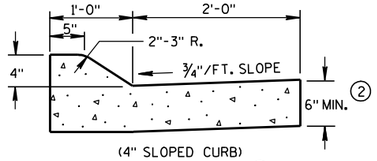


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

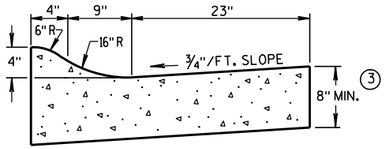


(6" SLOPED CURB)



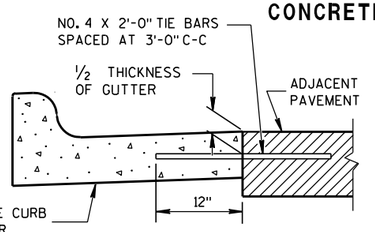
(4" SLOPED CURB)

TYPES A & D (1)

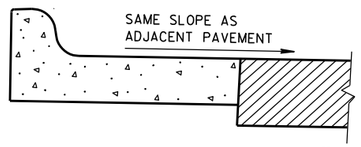


4" SLOPED CURB TYPES R & T (1) (4)

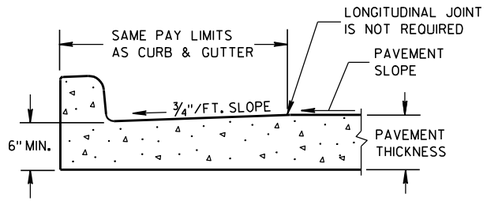
CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION (1)



REVERSE SLOPE GUTTER (5)
(TYPICAL FOR ALL CURB & GUTTER TYPES)



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER

GENERAL NOTES

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

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

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

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

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

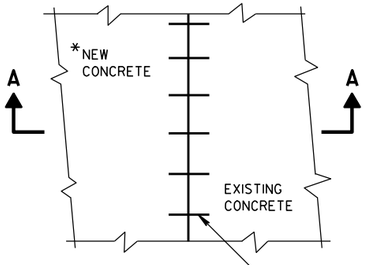
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

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

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

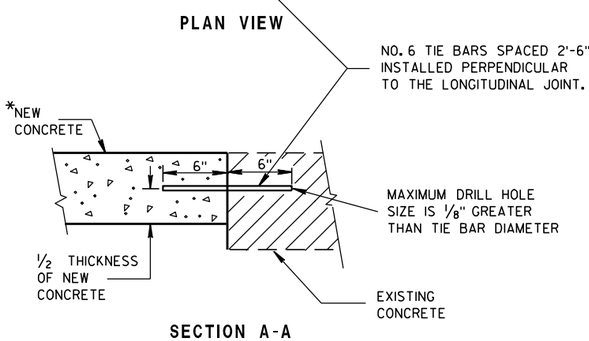
(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

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



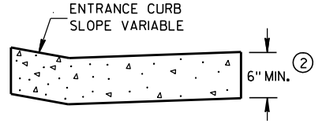
PLAN VIEW

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

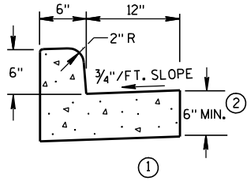


SECTION A-A

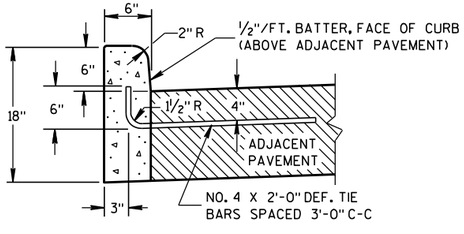
TIE BARS DRILLED INTO EXISTING PAVEMENT



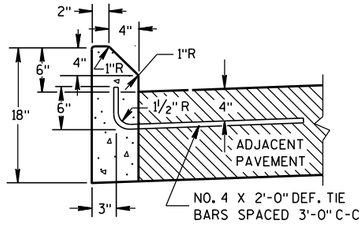
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



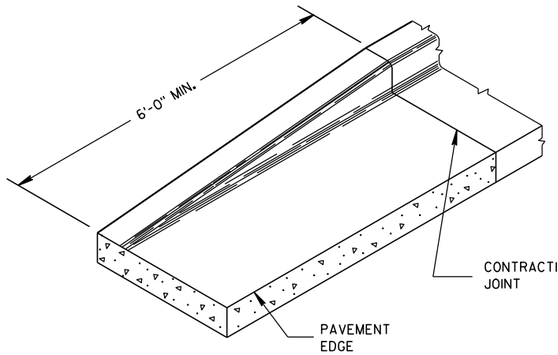
(1)
TYPES A & D
CONCRETE CURB & GUTTER 18"



(1)
TYPES A & D



(1)
TYPES G & J



END SECTION CURB & GUTTER

CONCRETE CURB

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

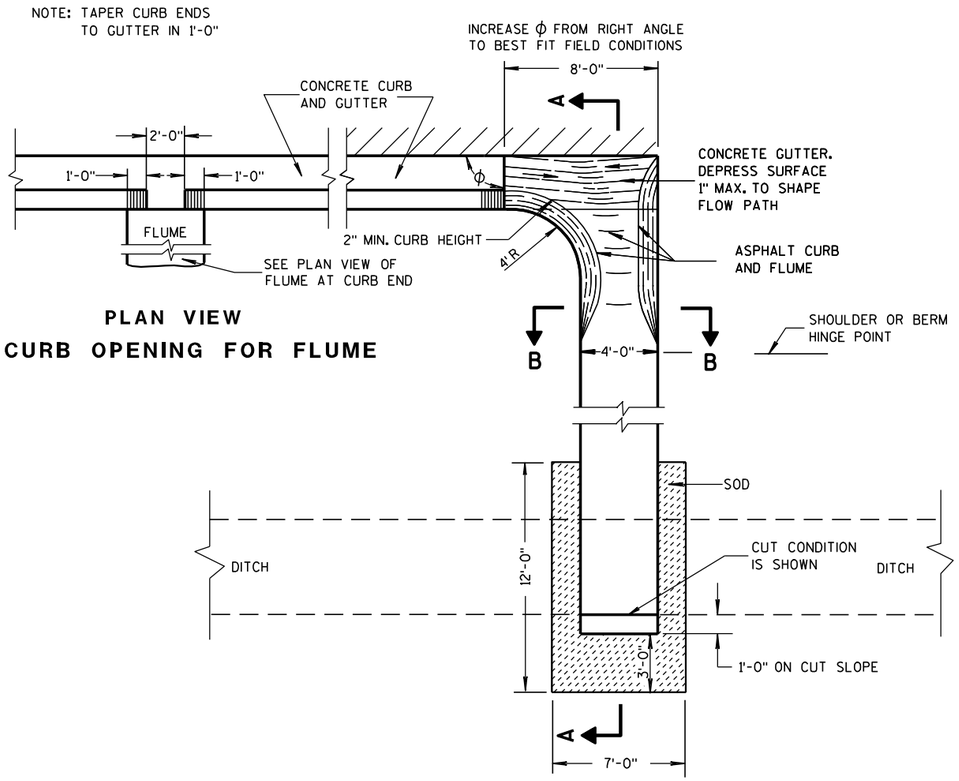
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
FHWA

6

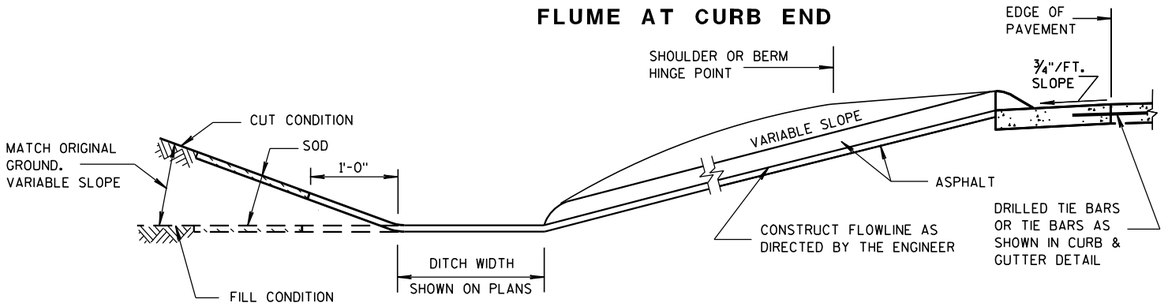
S.D.D. 8 D 1-17

ASPHALTIC FLUME

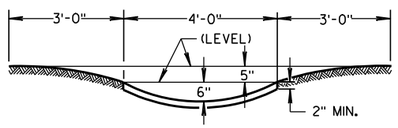


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

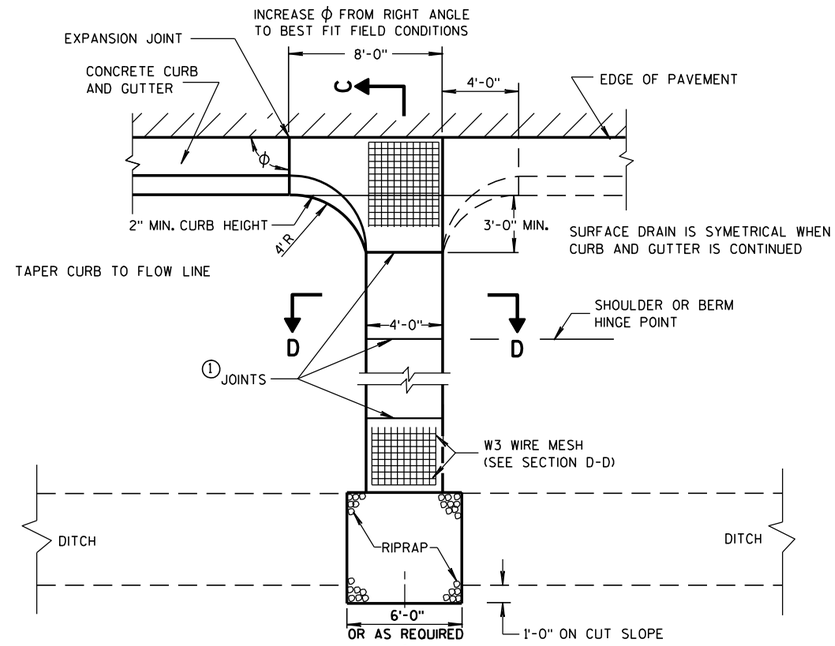
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

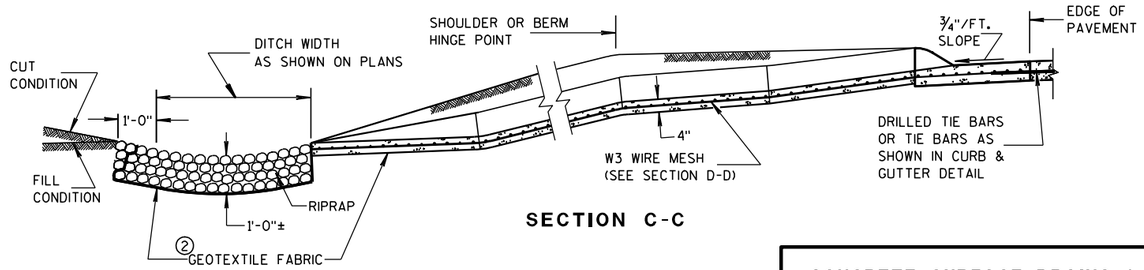
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

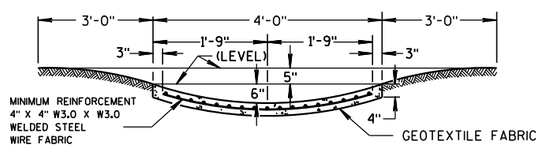
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C

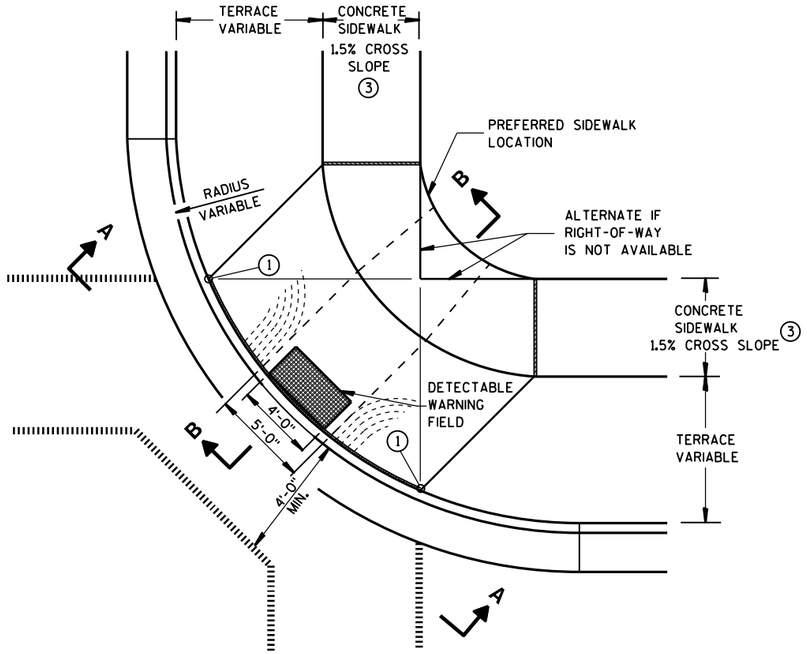


SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

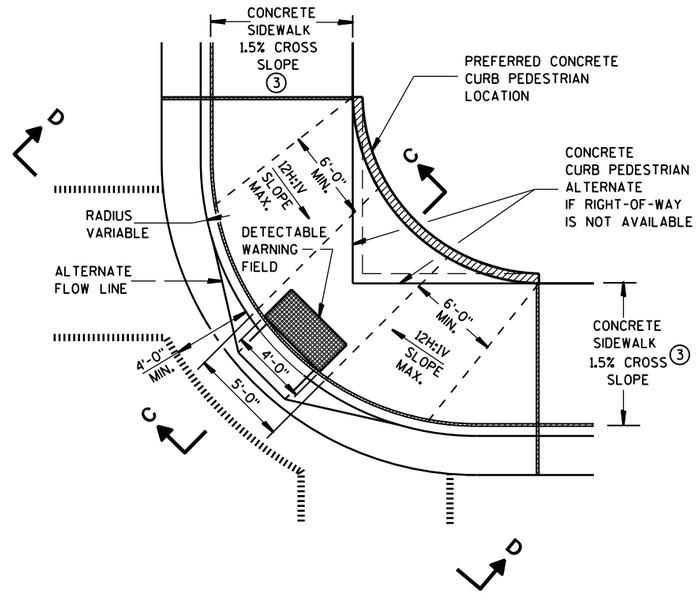
APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
MENT
FHWA



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

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

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

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

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

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

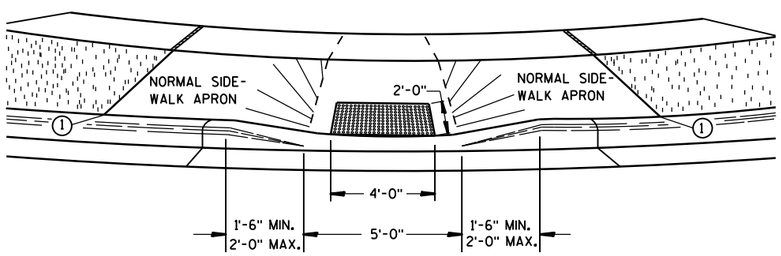
① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

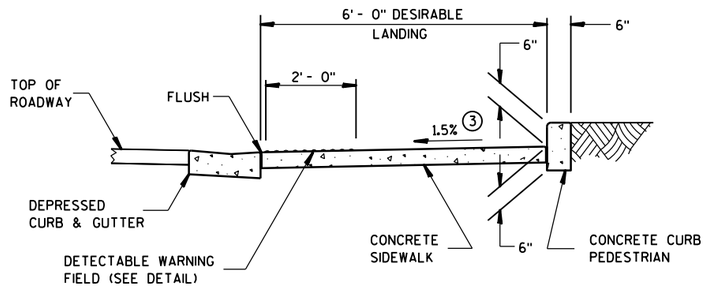
③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

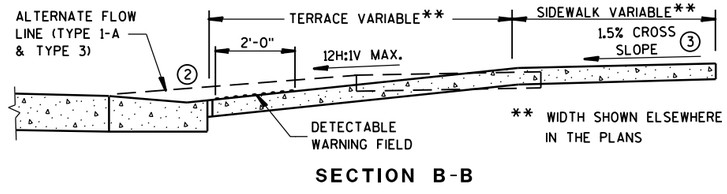
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



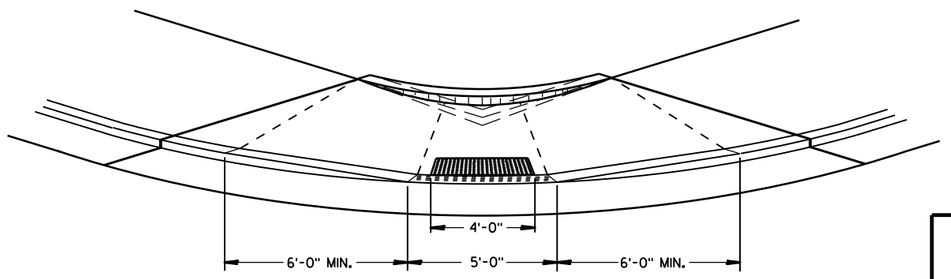
VIEW A-A



SECTION C-C



SECTION B-B



VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

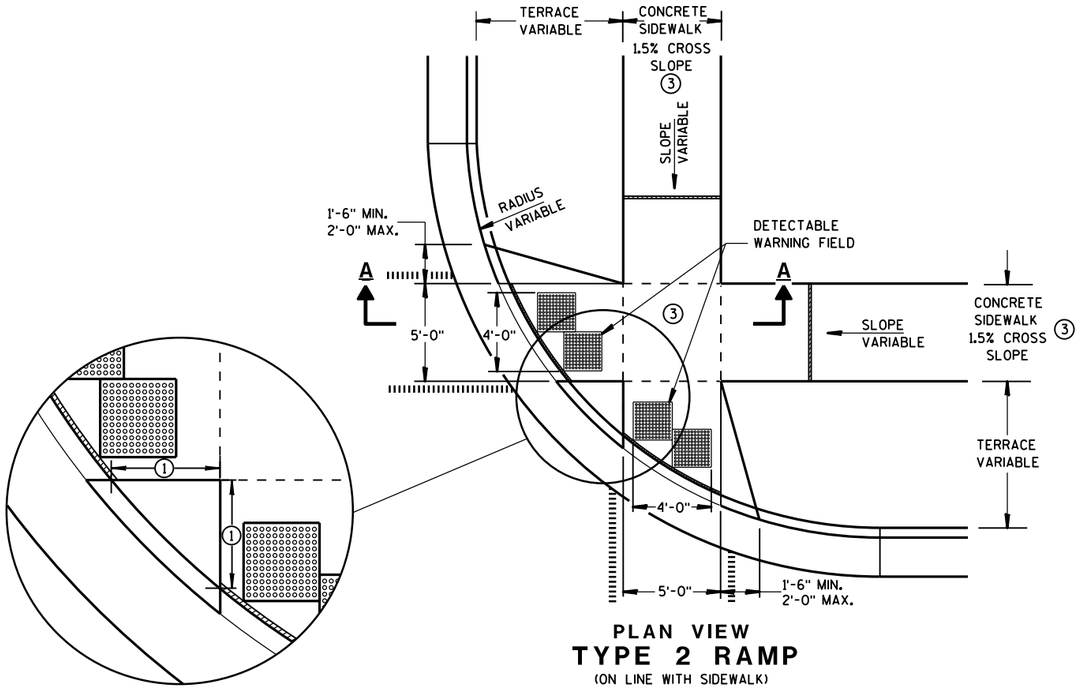
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15a

6

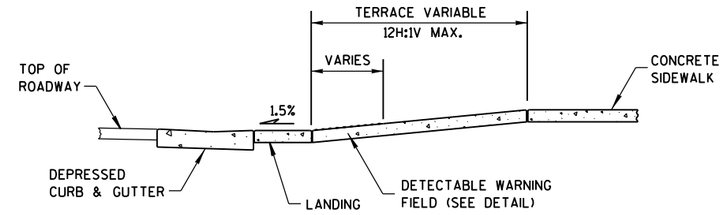
S.D.D. 8 D 5-15a



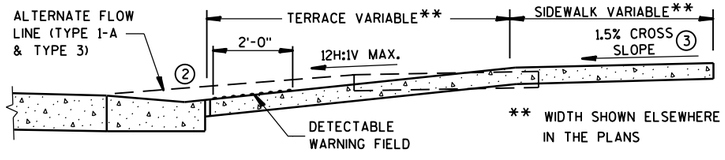
PLAN VIEW

TYPE 2 RAMP

(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

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

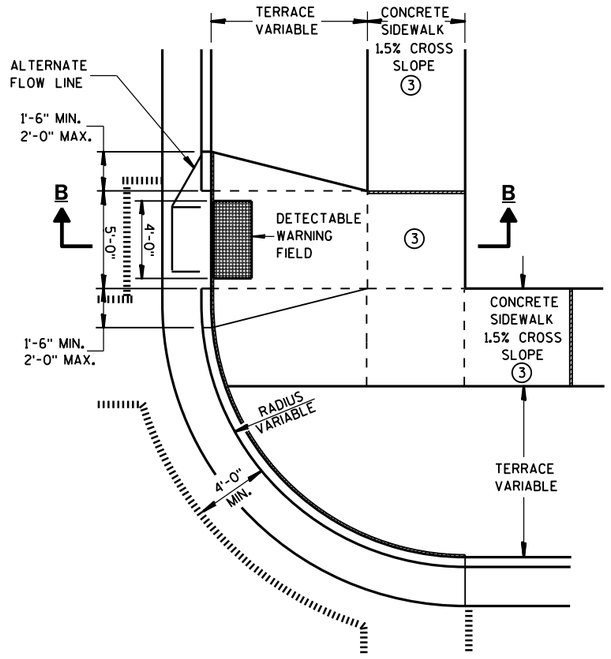
① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

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



PLAN VIEW

TYPE 3 RAMP

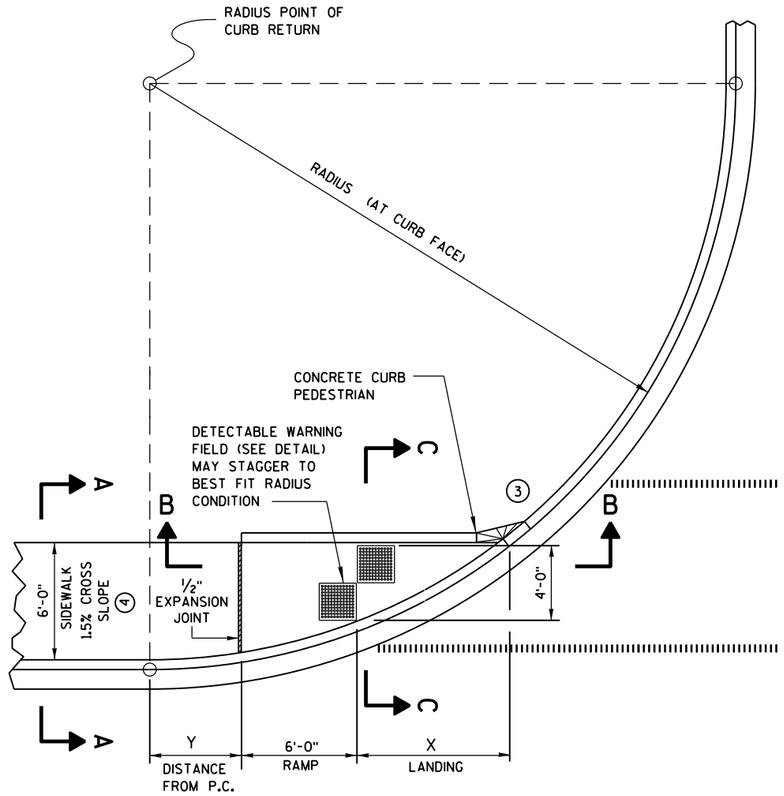
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

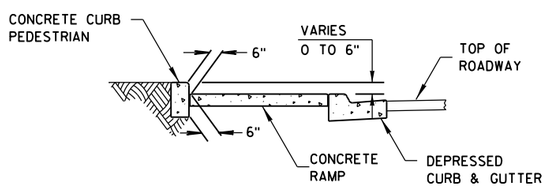
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

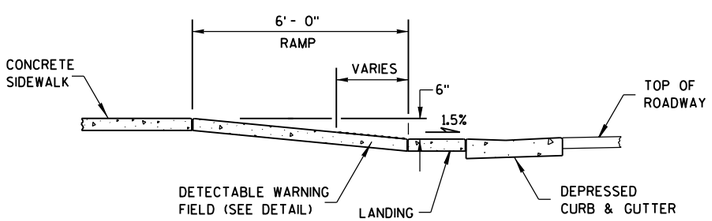
S.D.D. 8 D 5-15b



CURB RAMP TYPE 4A
PLAN VIEW



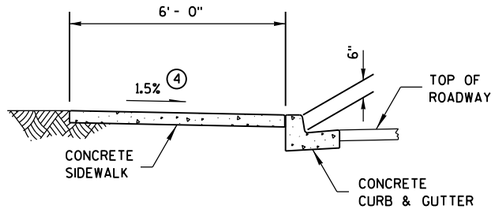
SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

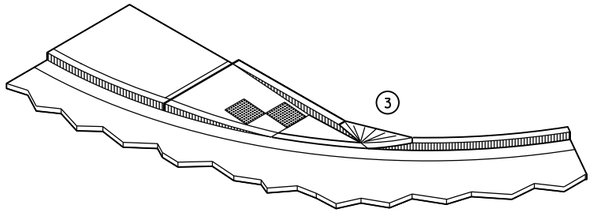
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

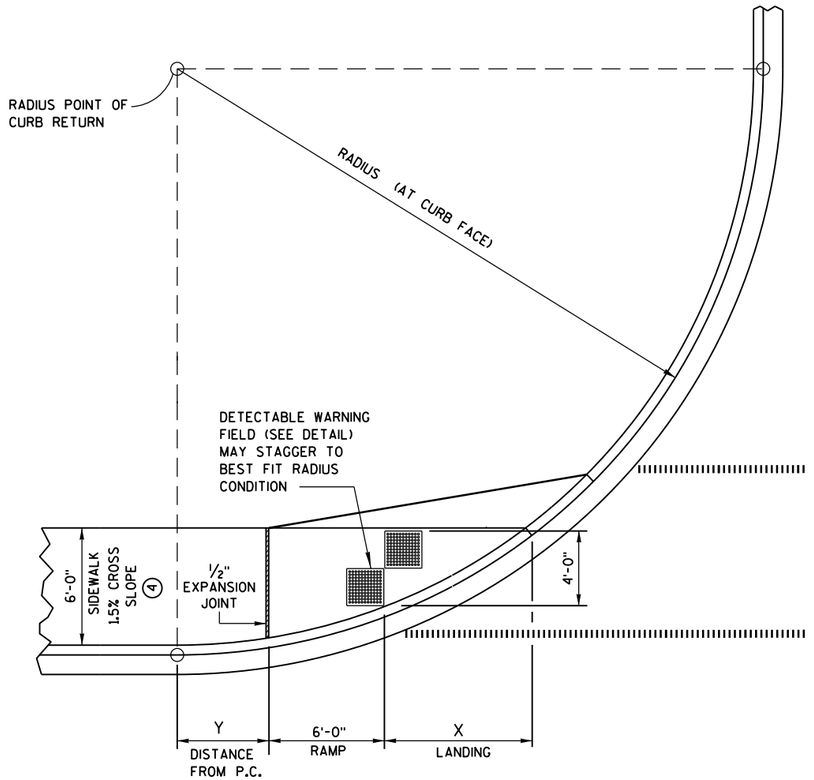
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

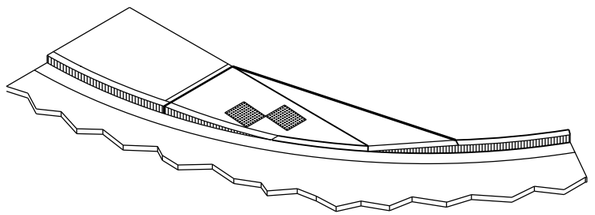
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

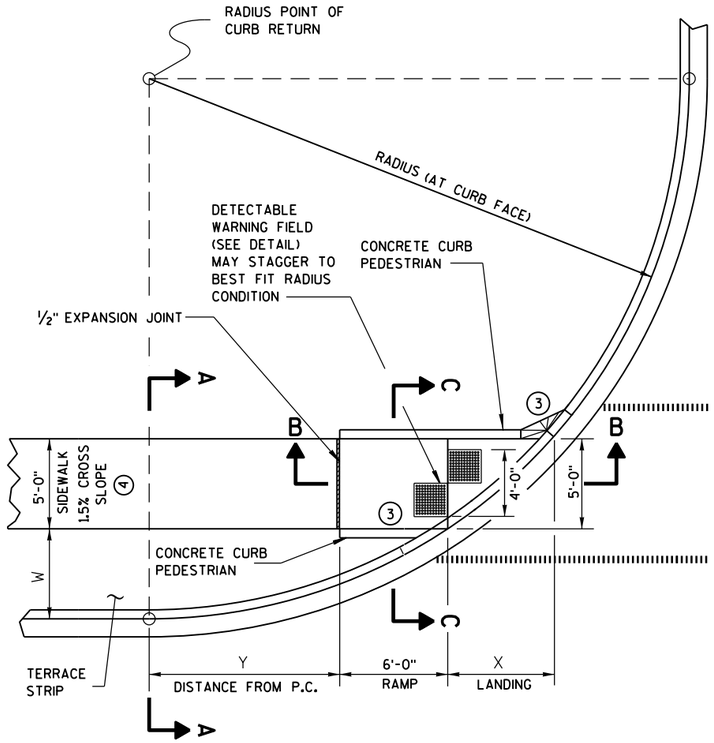
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

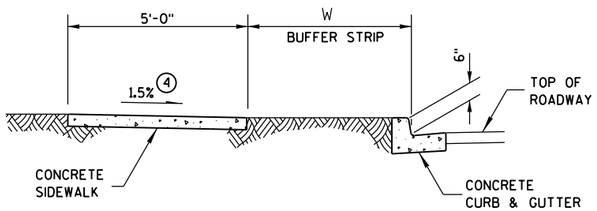
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

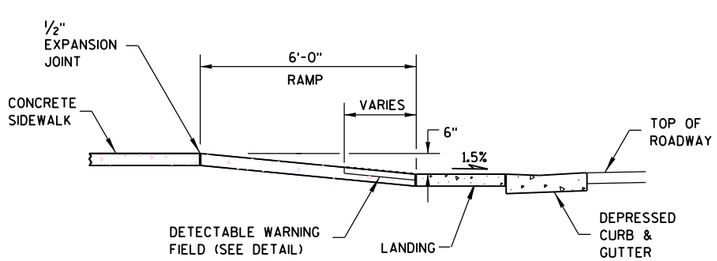
S.D.D. 8 D 5-15c



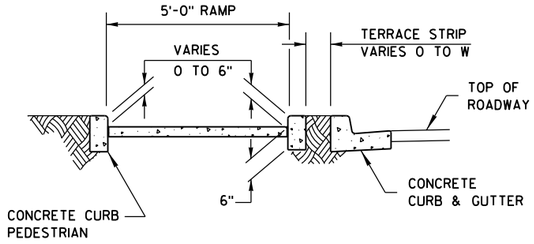
CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



SECTION B-B FOR TYPE 4B



SECTION C-C FOR TYPE 4B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"

INTERMEDIATE RADII CAN BE INTERPOLATED

GENERAL NOTES

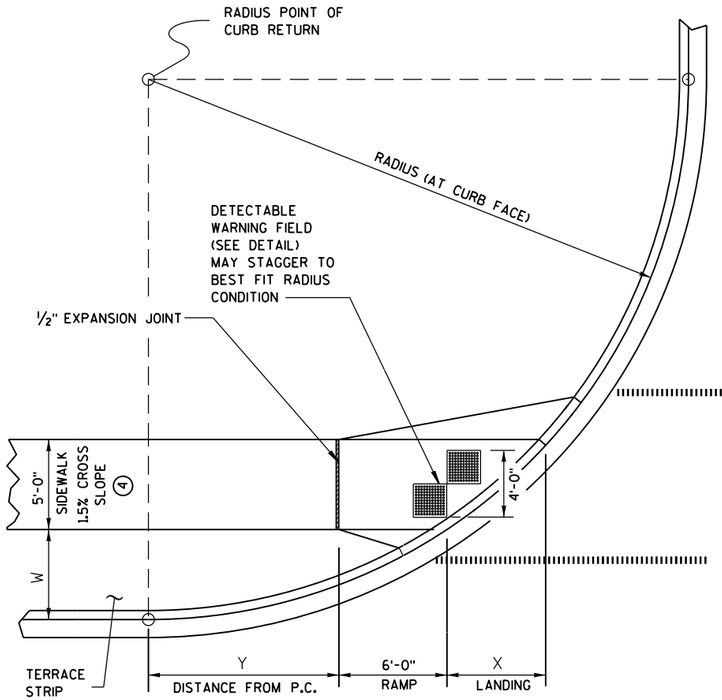
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

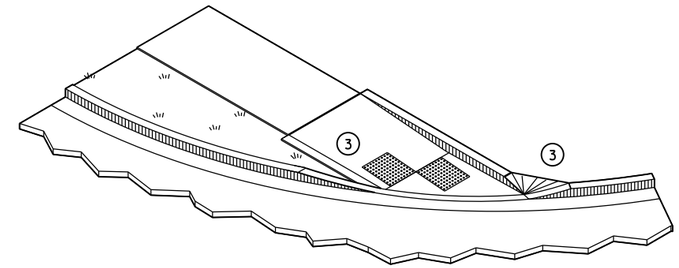
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

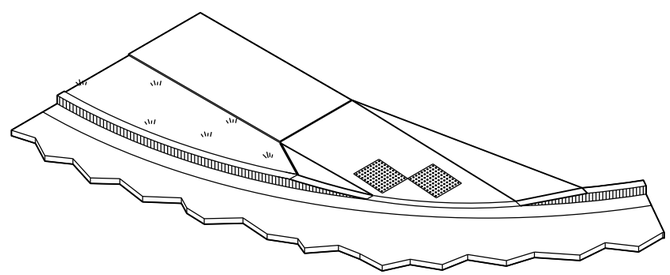
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



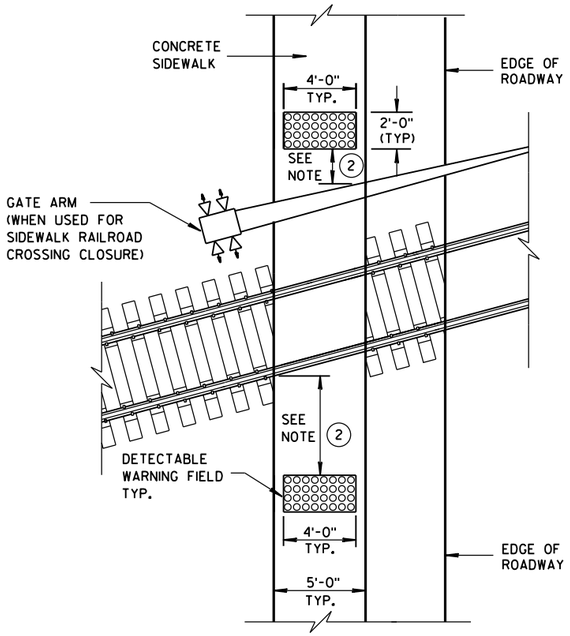
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS
TYPE 4B AND 4B1

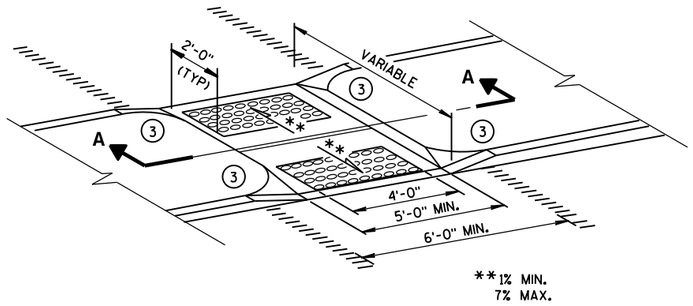
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

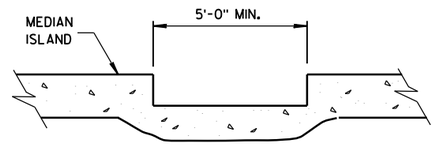
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

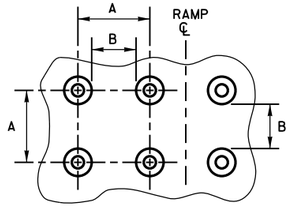
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET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

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

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



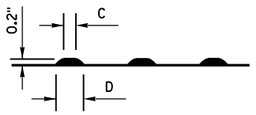
SECTION A-A



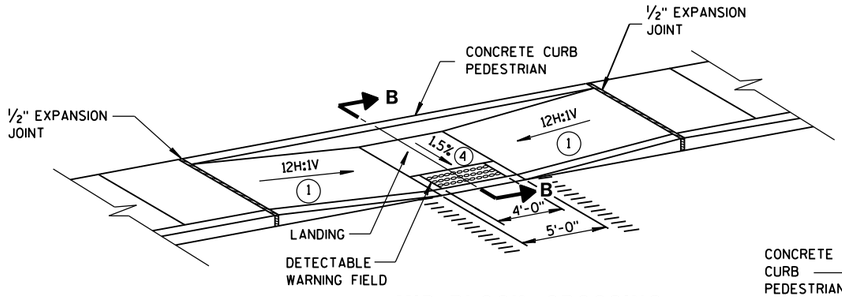
PLAN VIEW

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

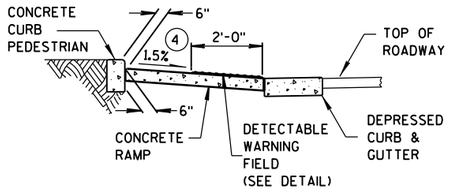
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

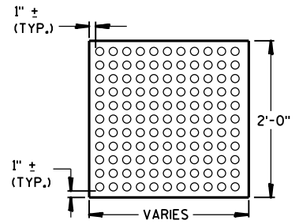


MID-BLOCK CROSSING
TYPE 7A



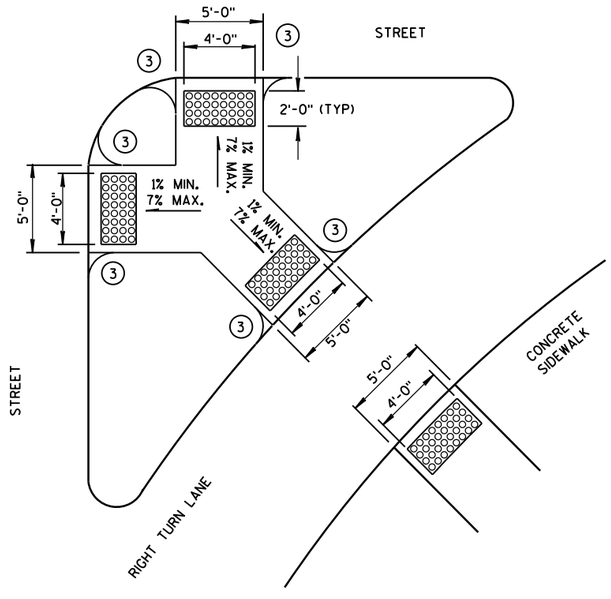
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

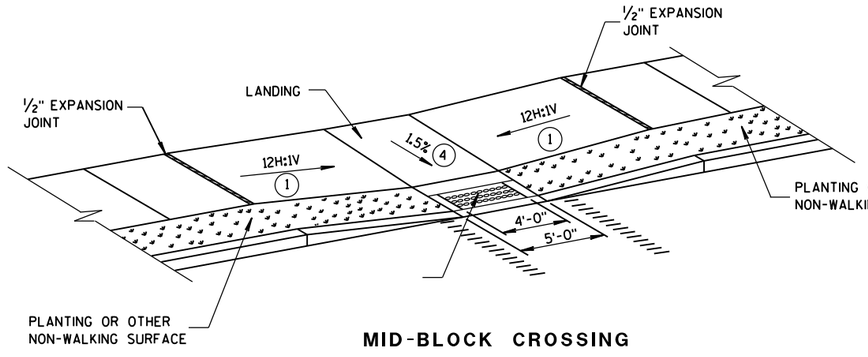


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

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

LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS [illegible] ENGINEER
FHWA

6

S.D.D. 8 D 5-15e

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) UNPERFORATED PIPE UNDERDRAIN AND FITTINGS FURNISHED FOR OUTFALL PIPE SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

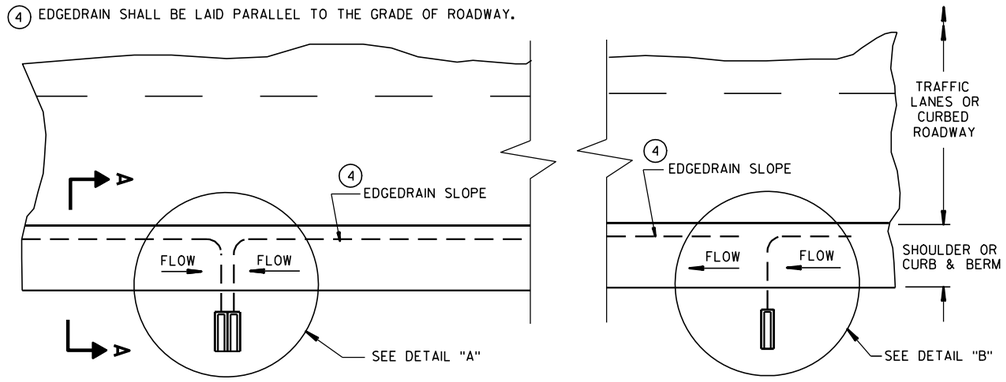
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.

TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, ASTM D 3034, SDR 23.5 PVC SEWER PIPE.

(2) MAXIMUM SPACING OF EDGEDRAIN OUTLETS SHALL BE 250 FEET UNLESS OTHERWISE SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.

(3) EDGEDRAIN SHALL BE CONNECTED TO INLETS REGARDLESS OF FLOW DIRECTION FOR DRAINAGE AND MAINTENANCE ACCESS.

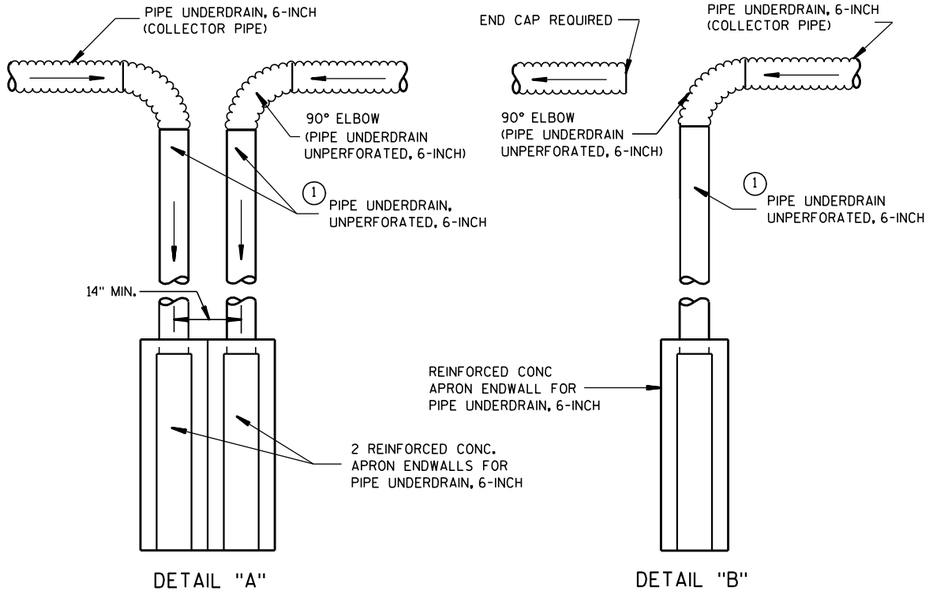
(4) EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.



PLAN VIEW

ROADWAY WITH SHOULDERS OR CURBS

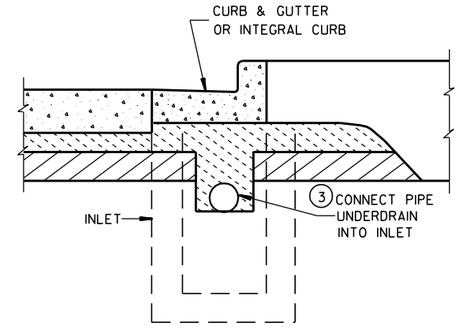
(EDGEDRAIN OUTLETS TO ROADSIDE) (2)



DETAIL "A"
TO BE USED AT LOW POINT LOCATIONS

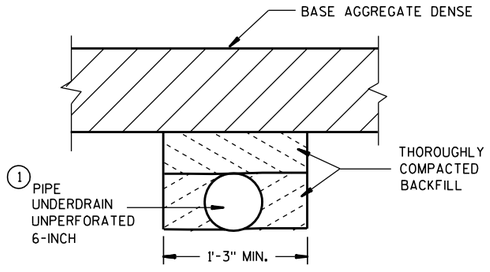
DETAIL "B"
TO BE USED AT INTERMEDIATE LOCATIONS

TYPICAL DRAIN OUT DETAILS



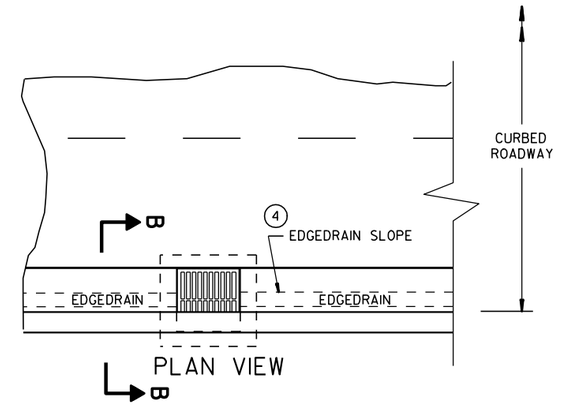
SECTION B-B

URBAN CROSS SECTION



SECTION C-C

(TRENCH FOR OUTFALL PIPE)



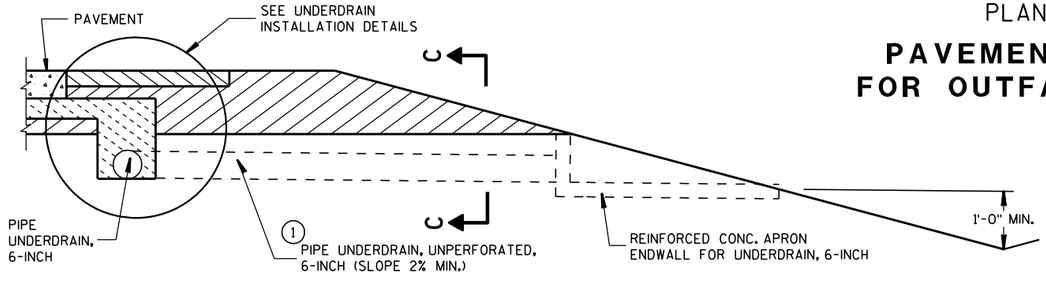
PLAN VIEW

ROADWAY WITH CURBS

(EDGEDRAIN CONNECTS INTO INLET STRUCTURE)

PLAN VIEW

PAVEMENT MARKING FOR OUTFALL MARKERS



SECTION A-A

RURAL CROSS SECTION

EDGEDRAIN OUTLET AND OUTFALL MARKERS

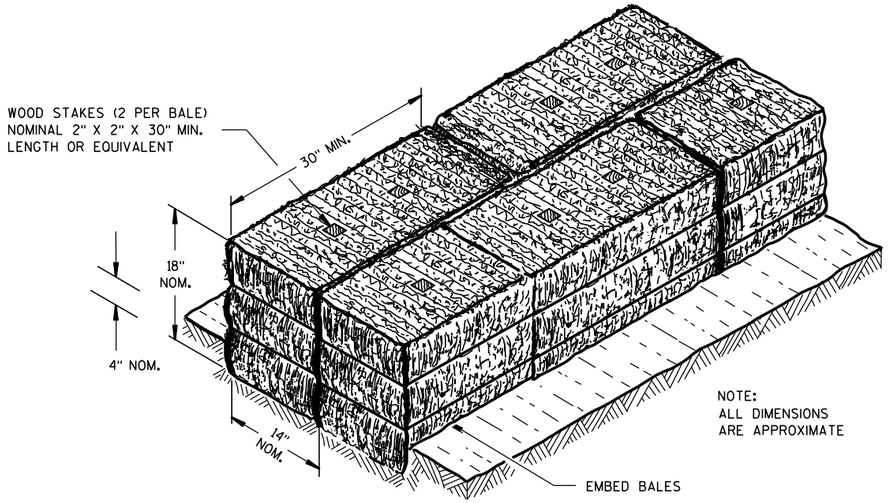
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

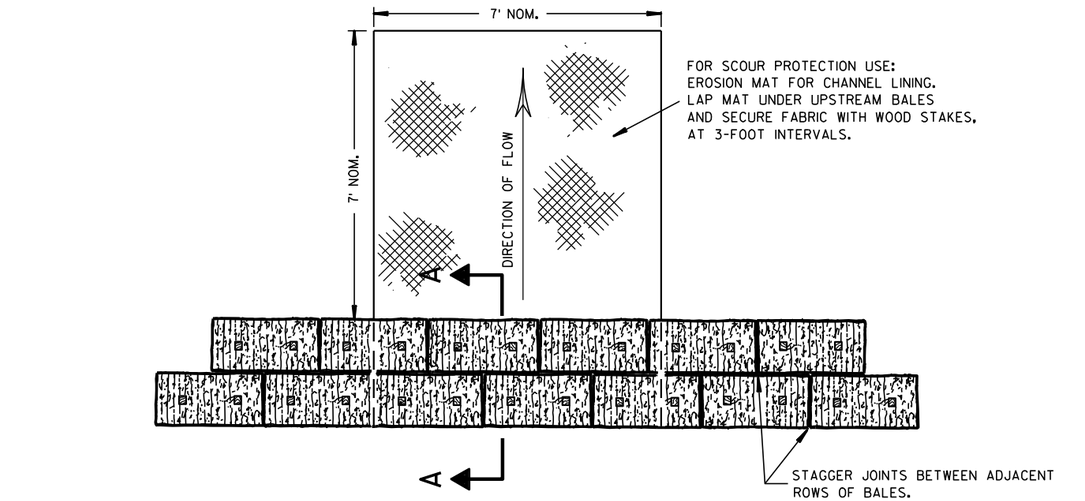
S.D.D. 8 D 15-4a

6

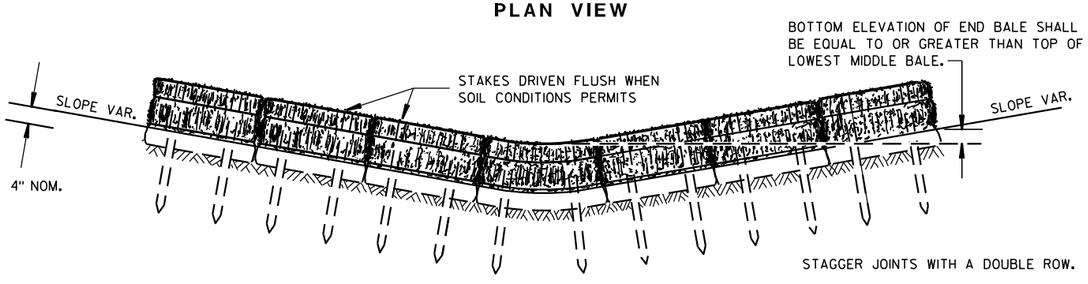
S.D.D. 8 D 15-4a



SECTION A-A



PLAN VIEW



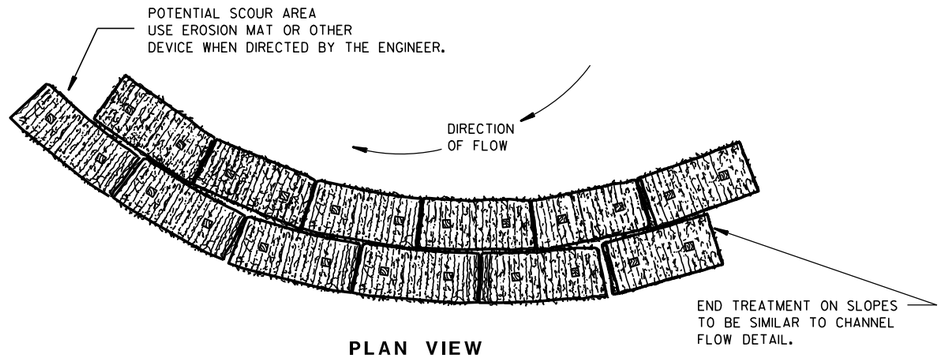
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

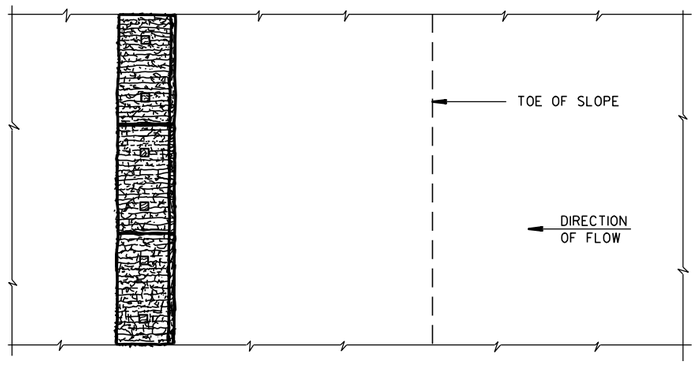
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

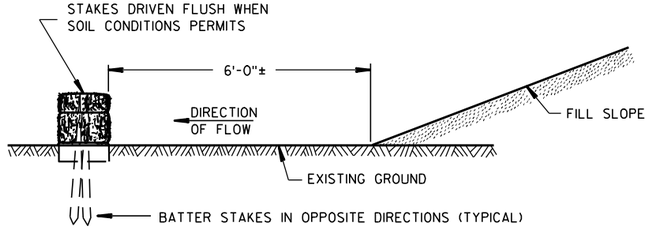


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

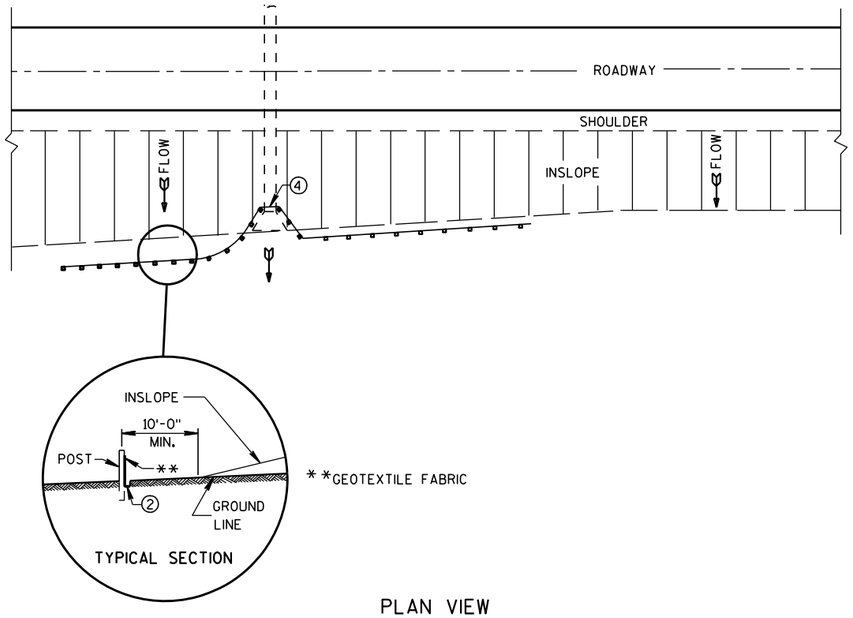
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

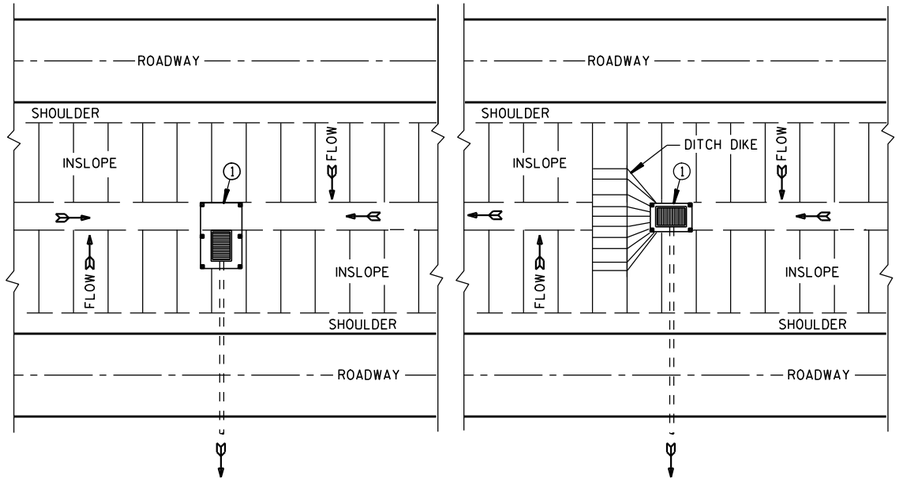
6

S.D.D. 8 E 8-3



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.

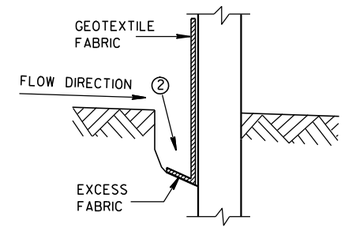
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

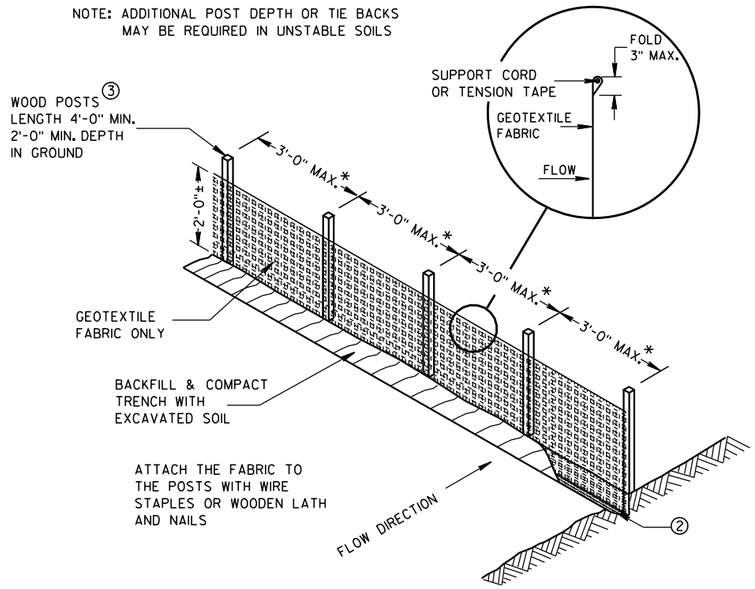
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

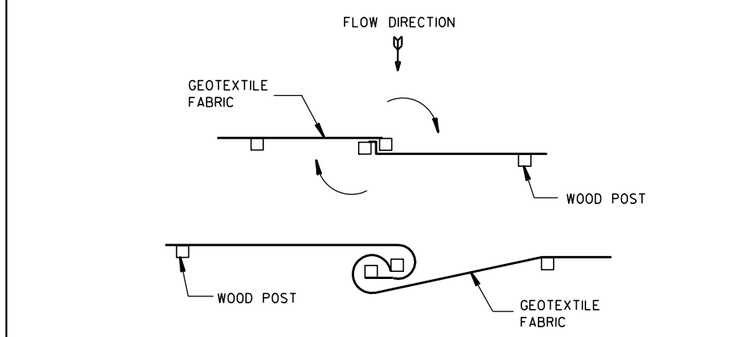
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



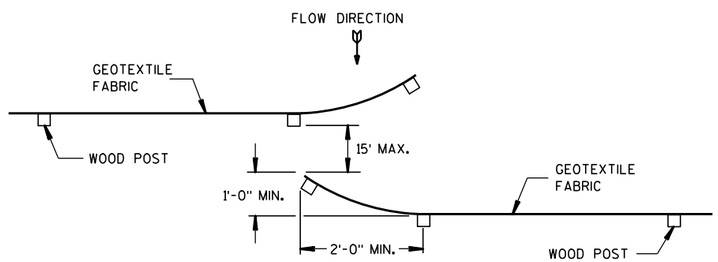
TRENCH DETAIL



SILT FENCE

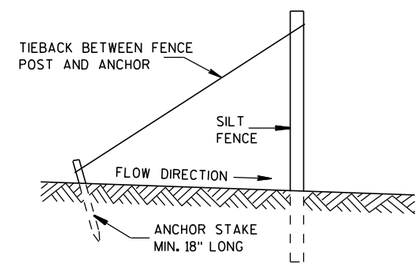


TWIST METHOD



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
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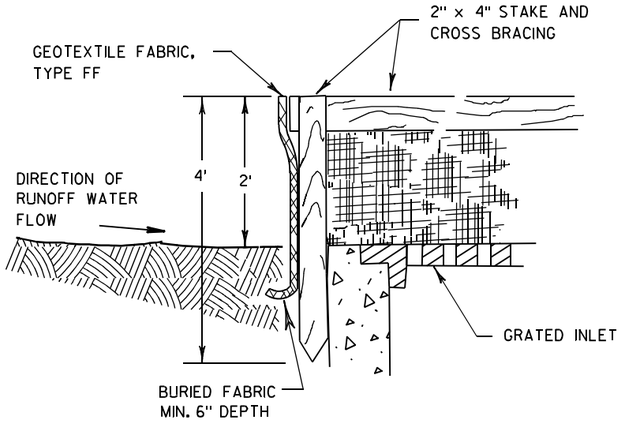
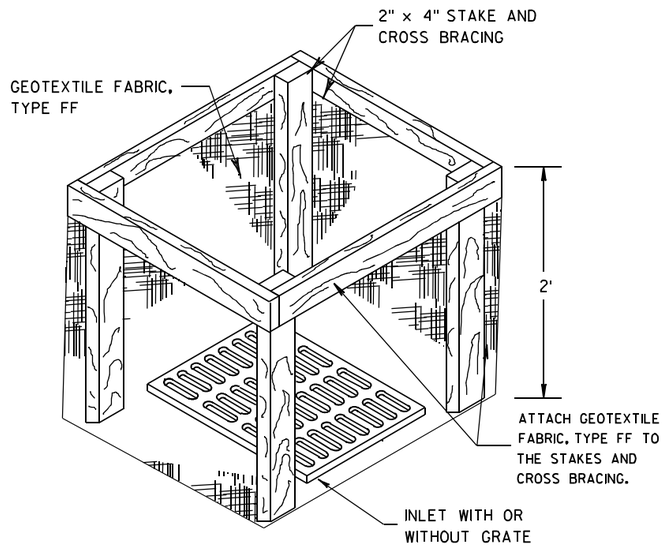
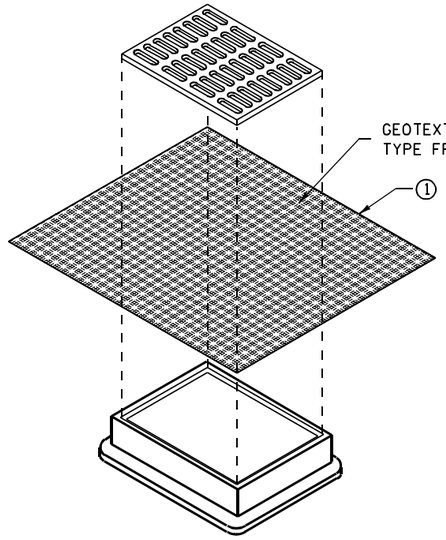


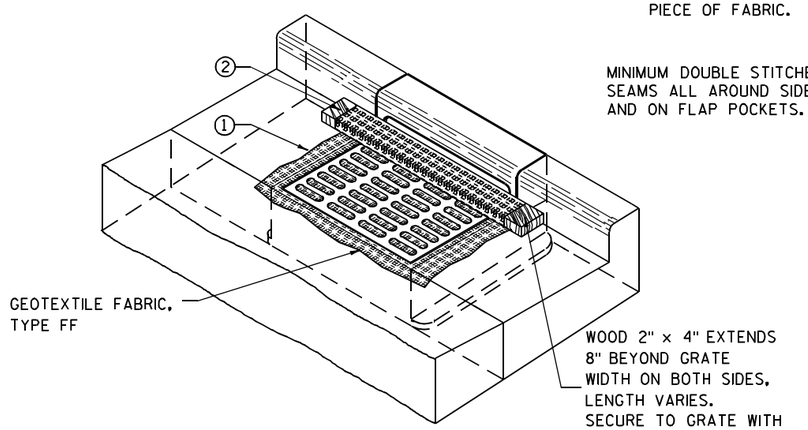


INLET PROTECTION, TYPE A

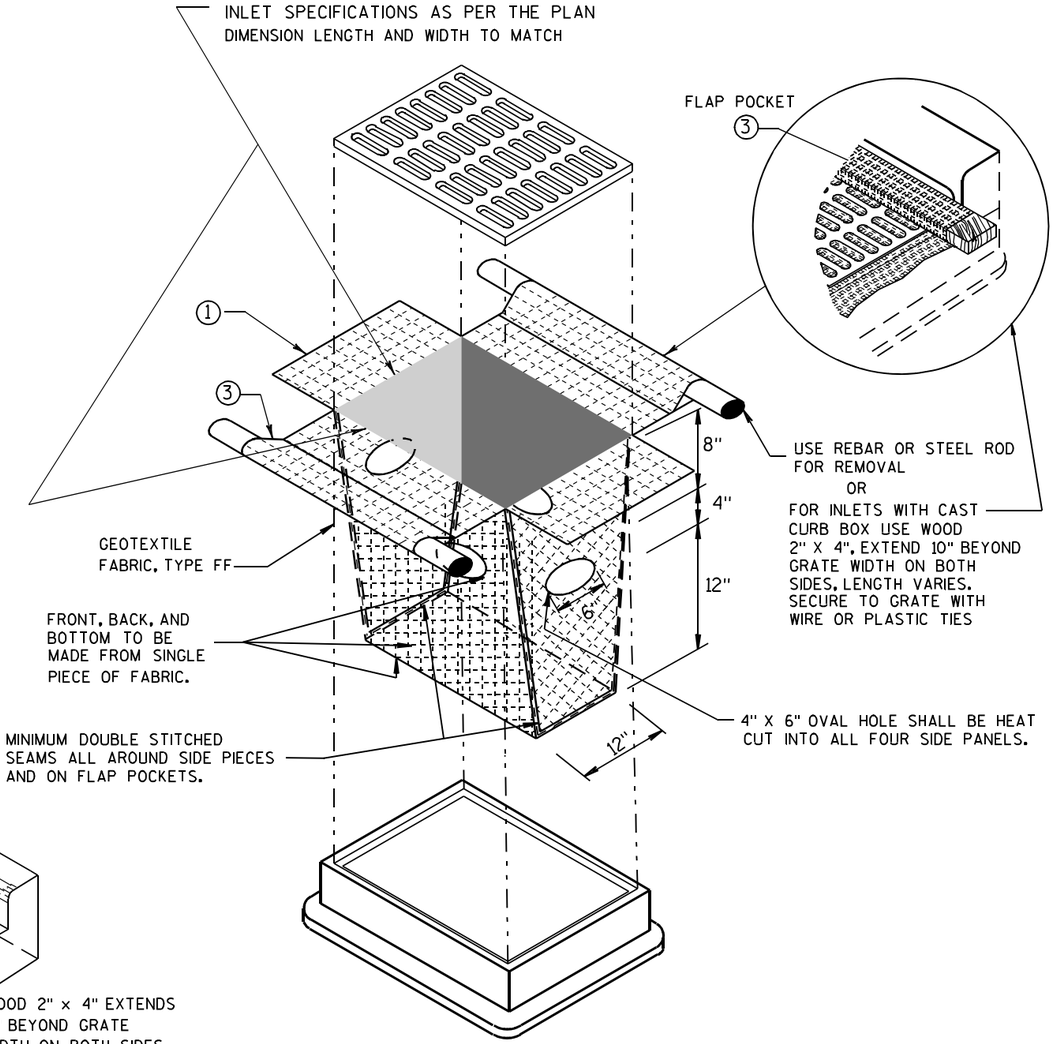


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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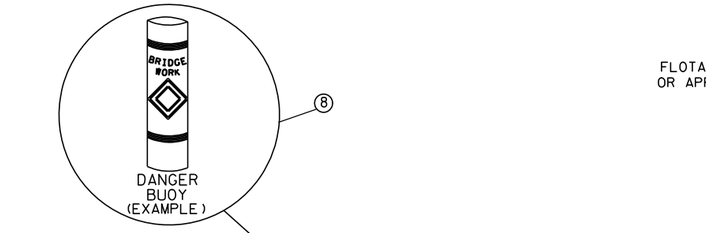
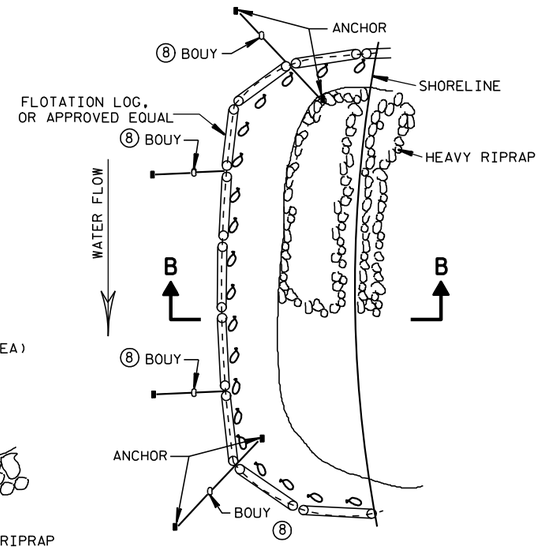
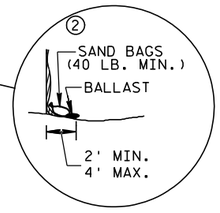
S.D.D. 8 E 10-2

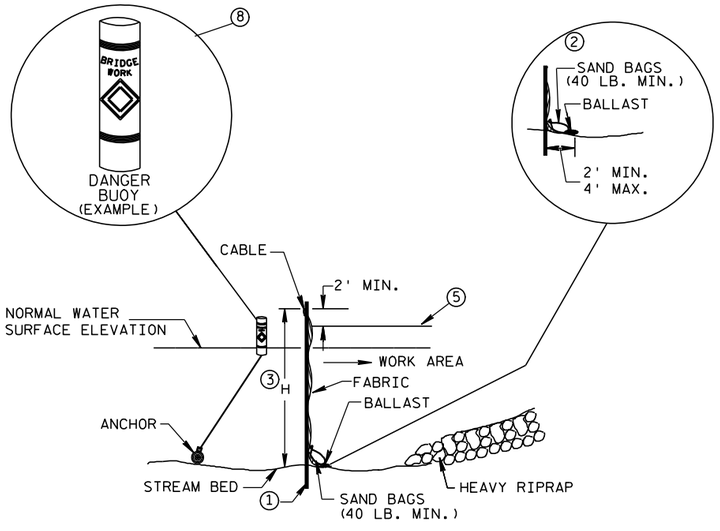


SECTION B-B

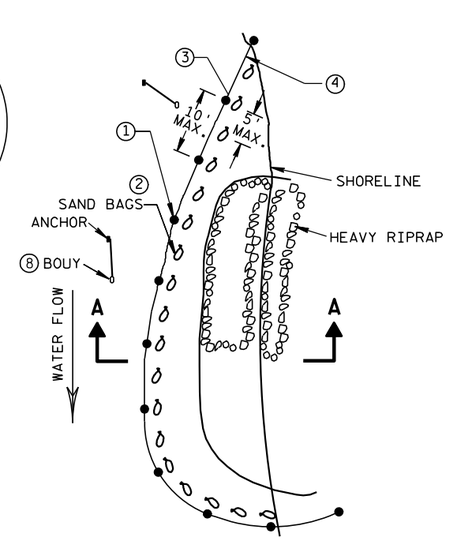




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



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.

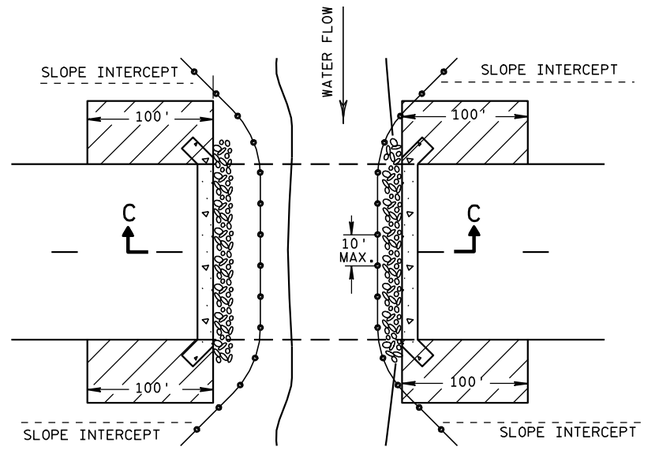
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

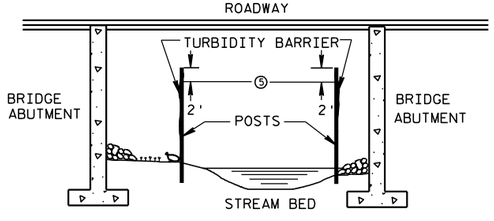
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

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S.D.D. 8 E 11-2

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METAL APRON ENDWALLS

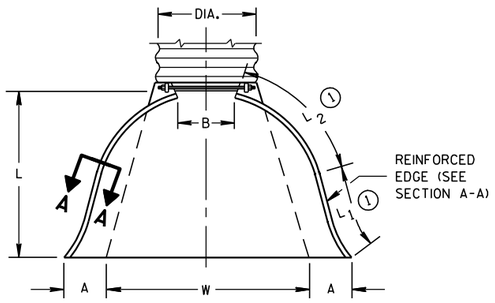
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

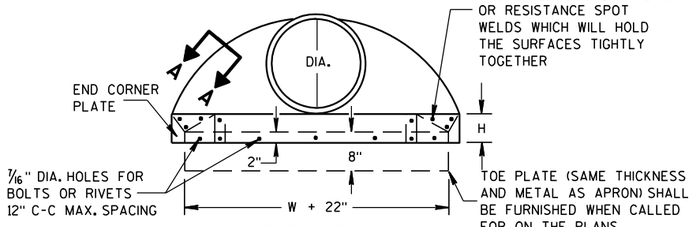
REINFORCED CONCRETE APRON ENDWALLS

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

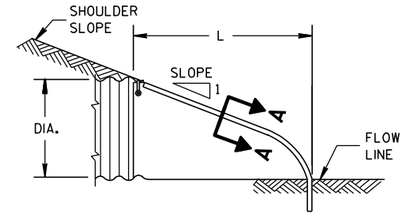
* MINIMUM
** MAXIMUM



PLAN VIEW

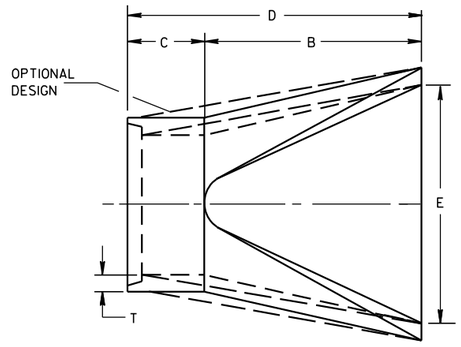


END VIEW

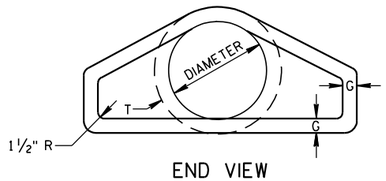


SIDE ELEVATION

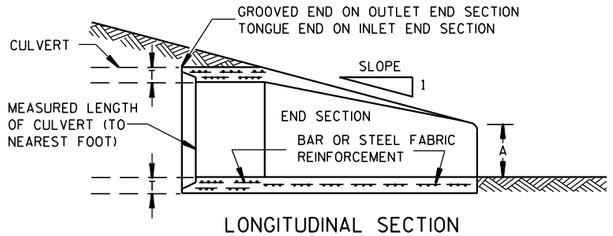
METAL ENDWALLS



PLAN

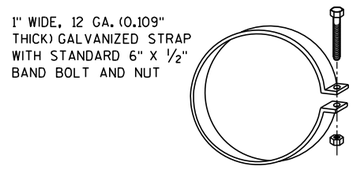


END VIEW



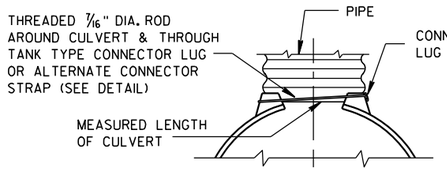
LONGITUDINAL SECTION

CONCRETE ENDWALLS

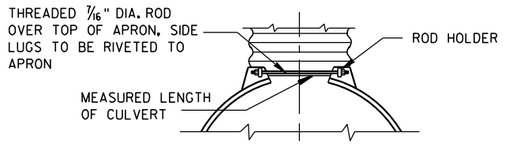


ALTERNATE FOR TYPE 1 CONNECTION

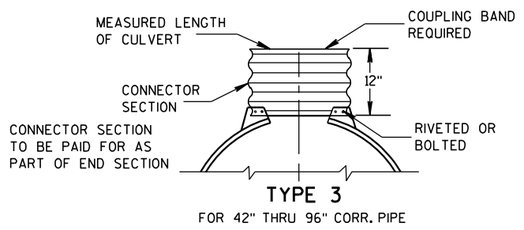
END SECTION CONNECTOR STRAP



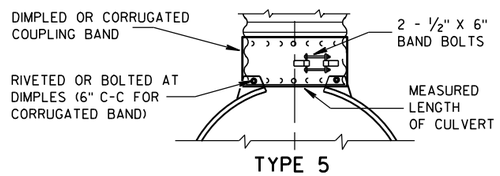
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

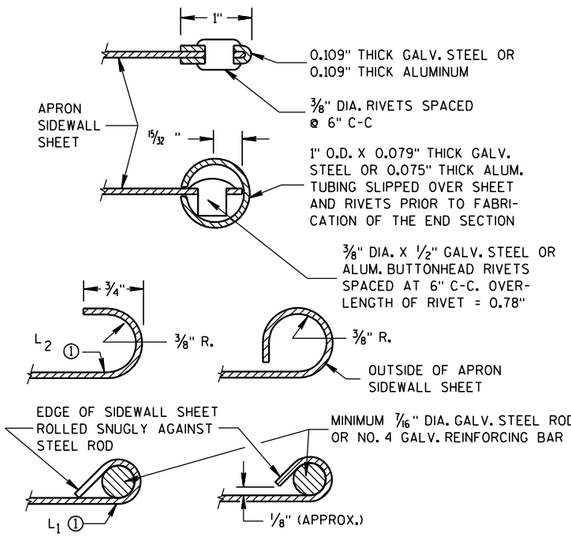
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

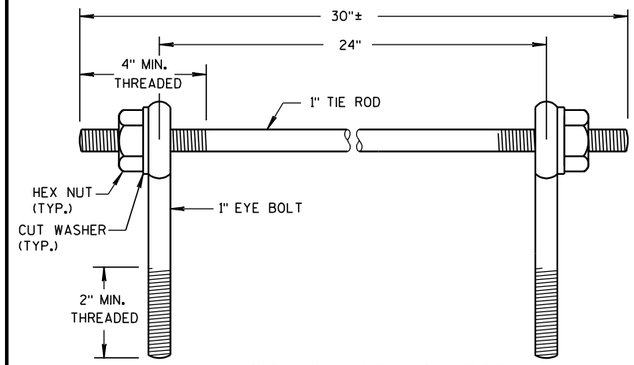
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

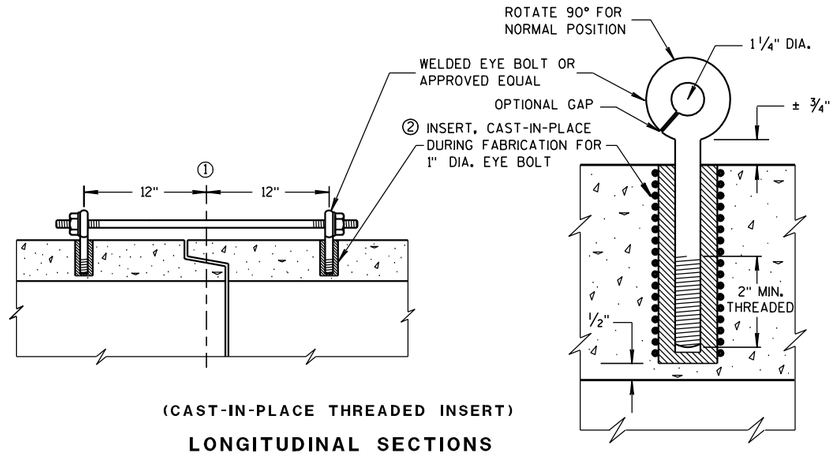
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 F 1-11



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.

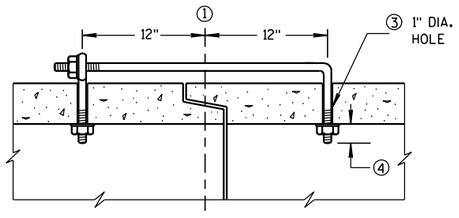
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

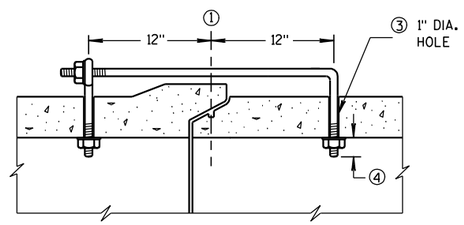
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

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)

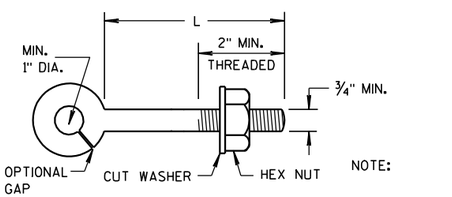


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

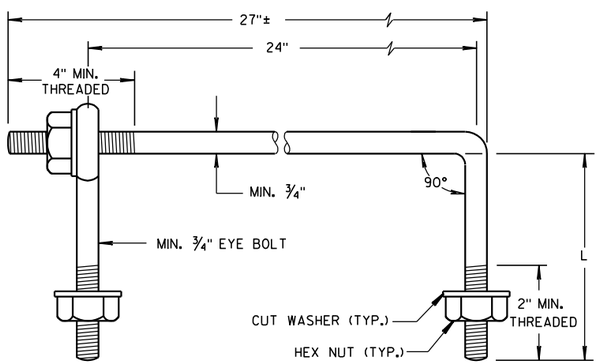
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



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

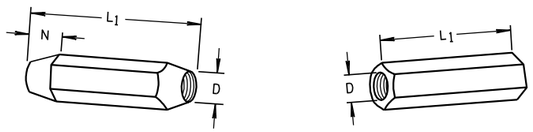
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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 1/16

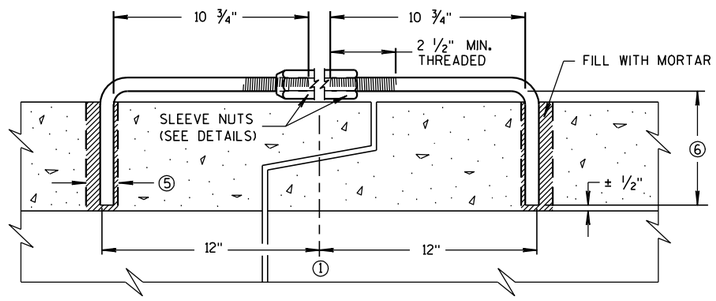
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

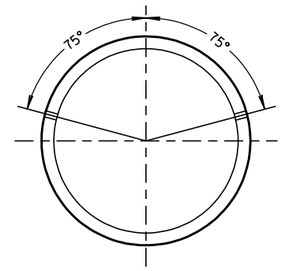
SLEEVE NUTS



LONGITUDINAL SECTION

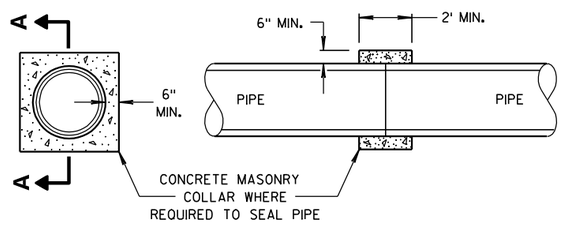
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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

6

S.D.D. 8 F 4-7

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S.D.D. 8 F 4-7

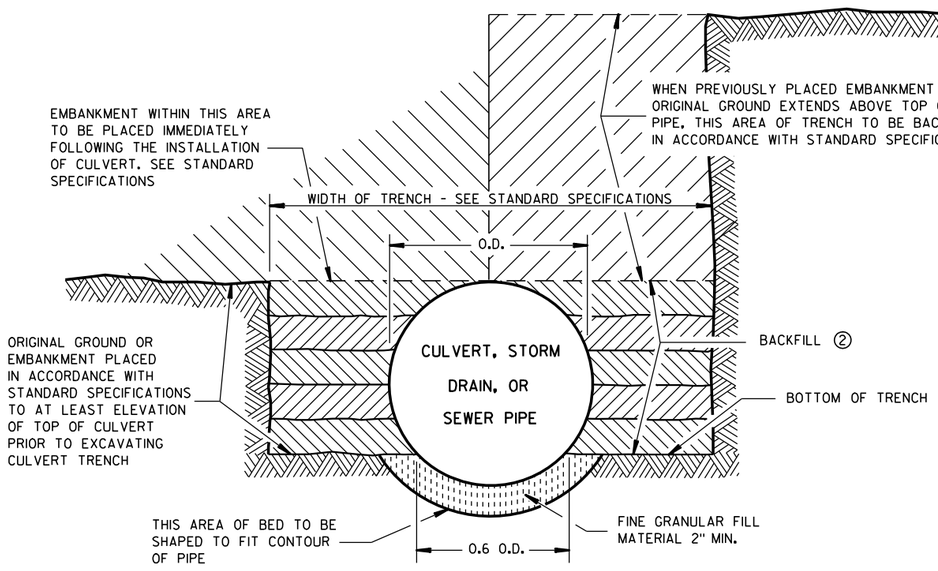
GENERAL NOTES

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

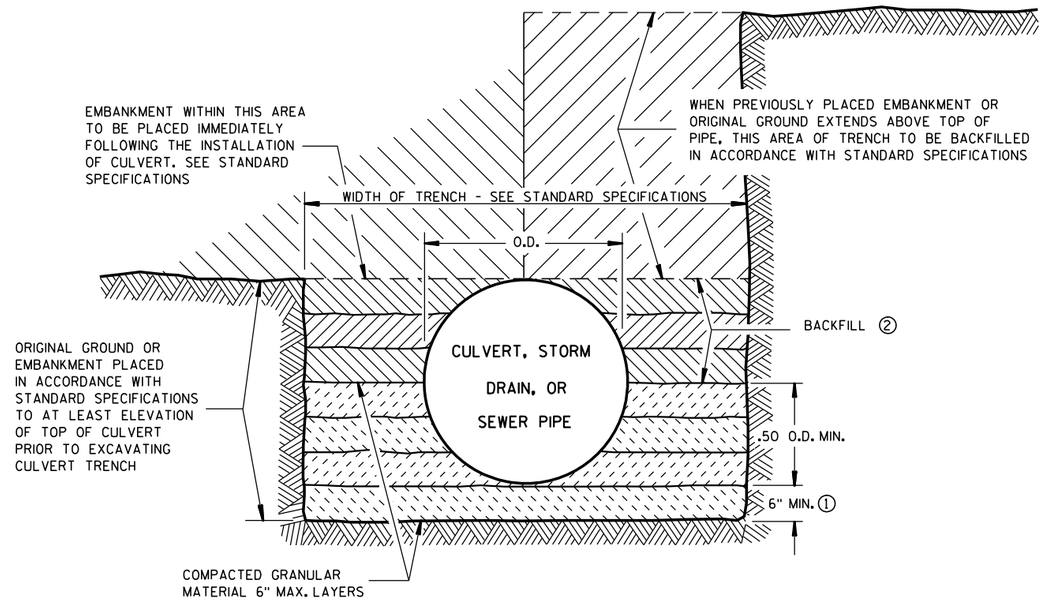
THE SHAPED SUBGRADE WITH GRANULAR FOUNDATION IS AN EQUAL ALTERNATE TO THE GRANULAR FOUNDATION EXCEPT WHERE ROCK IS ENCOUNTERED.

① WHERE ROCK, HARD PAN OR FRAGMENTED MATERIAL IS ENCOUNTERED, THE TRENCH SHALL BE EXCAVATED BELOW THE BOTTOM OF THE PIPE AN AMOUNT EQUAL TO ½ INCH PER FOOT OF PROPOSED EMBANKMENT ABOVE THE TOP OF THE PIPE, BUT NOT LESS THAN 6 INCHES.

② TRENCH SHALL BE BACKFILLED AS REQUIRED BY STANDARD SPECIFICATIONS; SECTION 520 FOR PIPE CULVERTS AND SECTION 607 FOR STORM SEWERS.



SHAPED SUBGRADE WITH GRANULAR FOUNDATION



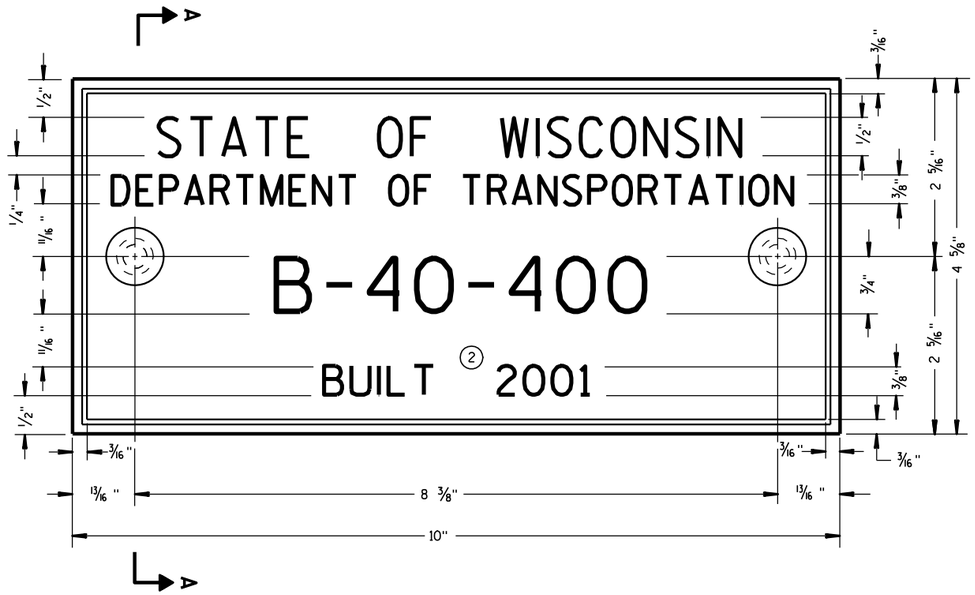
GRANULAR FOUNDATION

CLASS "B" BEDDING

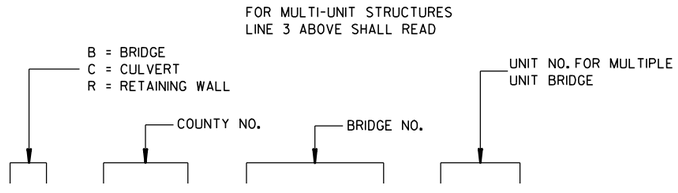
CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
4/7/83 DATE	/S/ D. L. Strand STATE DESIGN ENGINEER
FHWA	HWYS

6

S.D.D. 8 F 5-1



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



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

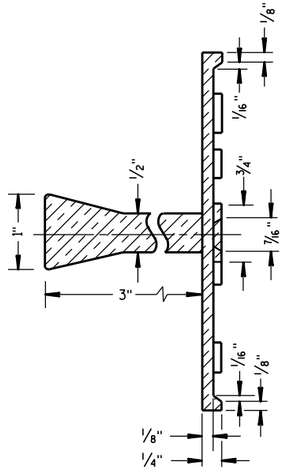
GENERAL NOTES

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

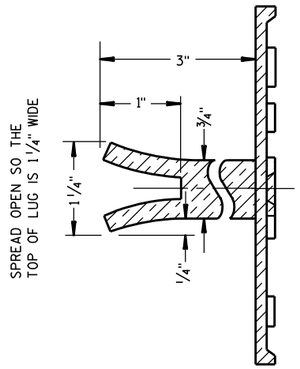
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

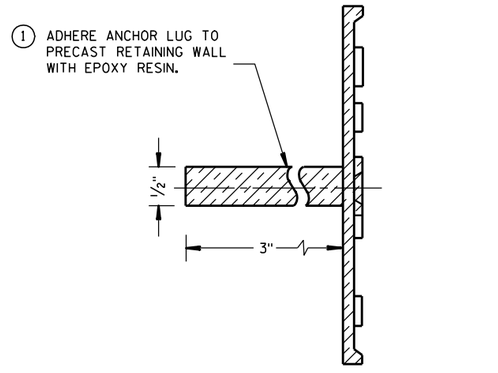
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE — /S/ Scot Beck — CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

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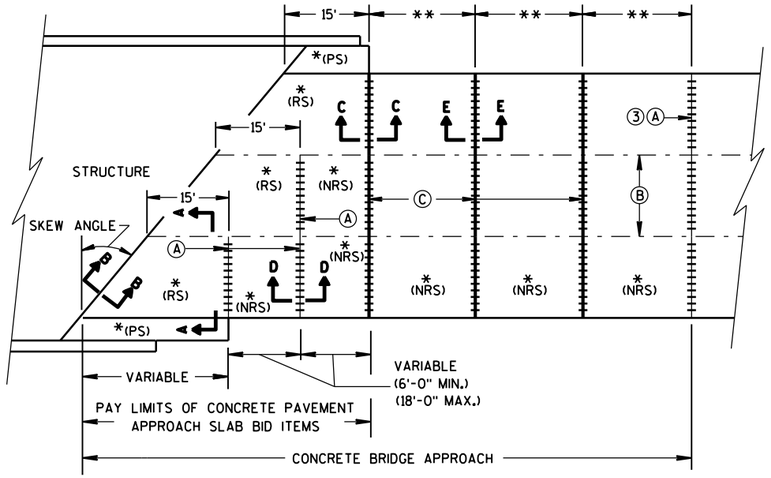
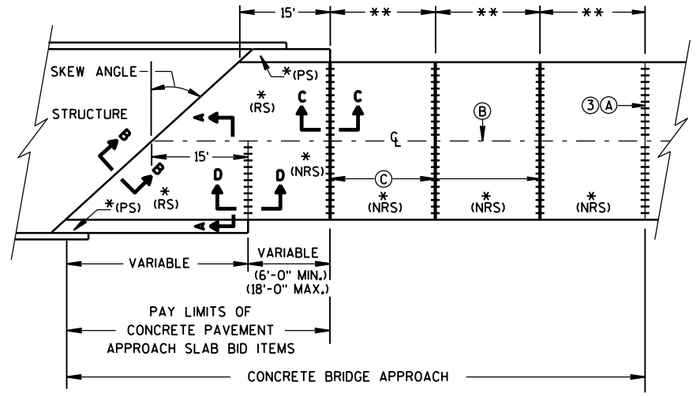
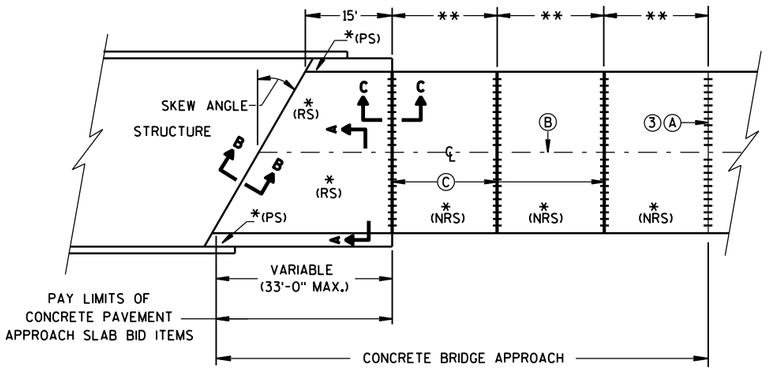
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >30°
(PAVEMENT WIDTH ≤30')



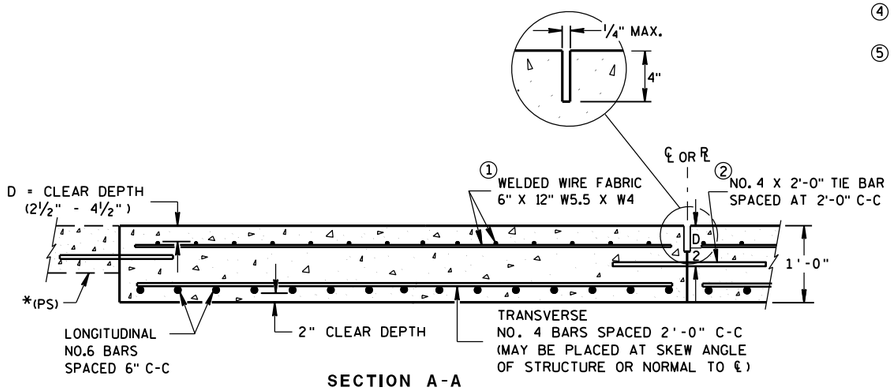
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

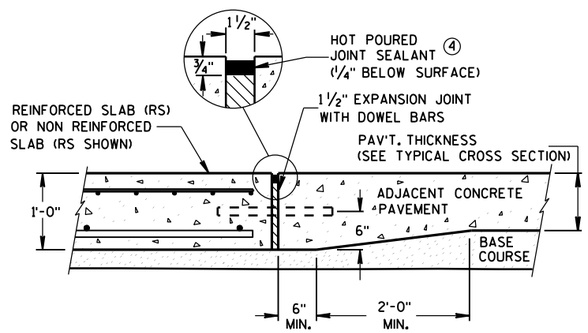
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN (SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

**STANDARD TRANSVERSE JOINT SPACING (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
***STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11, & SDD 13C13)

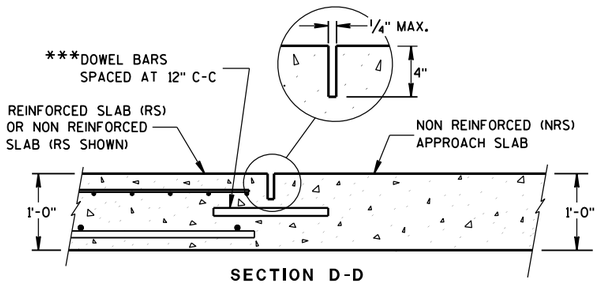
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
(B) STANDARD LONGITUDINAL JOINT AND TIE BARS.
(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



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.

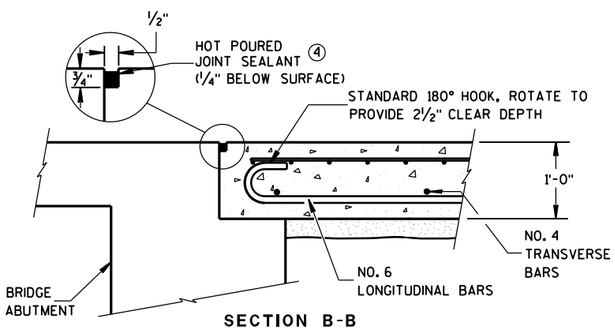
(1) THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

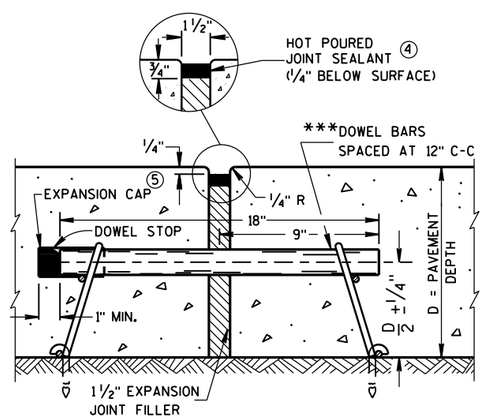
(3) DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.

(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



SECTION E-E
EXPANSION JOINT

CONCRETE BRIDGE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2014 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DE
EER
FHWA

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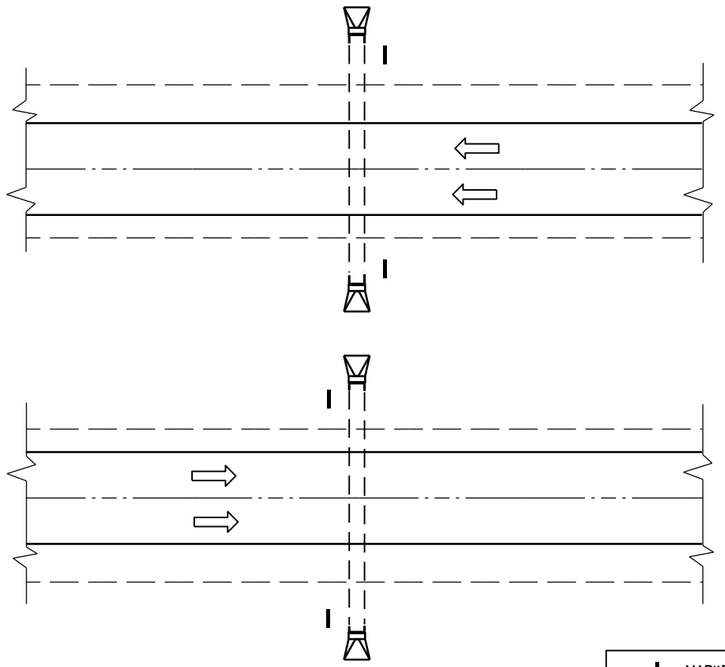
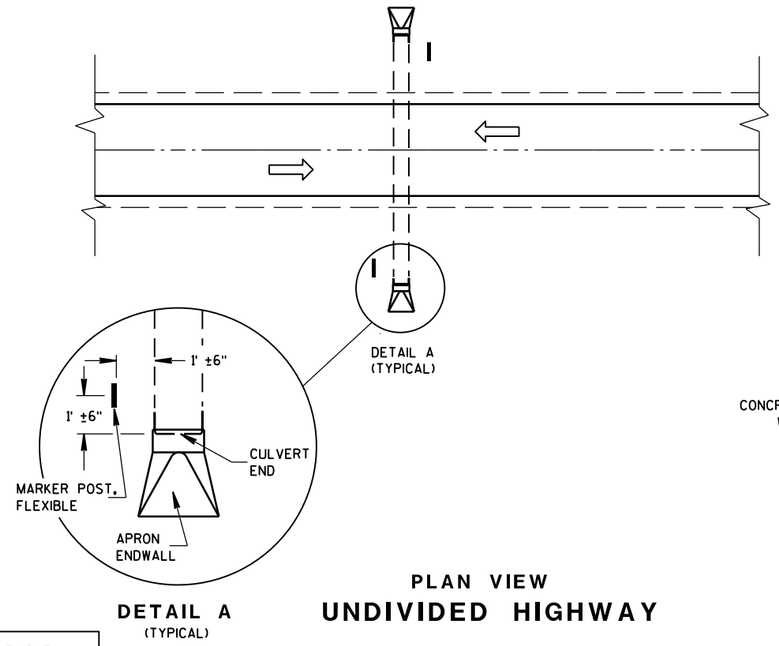
S.D.D. 13 B 2-7a



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

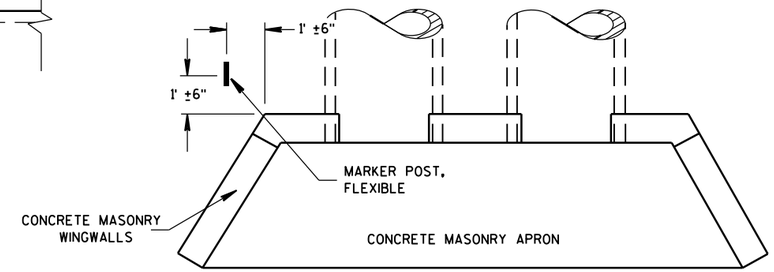
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

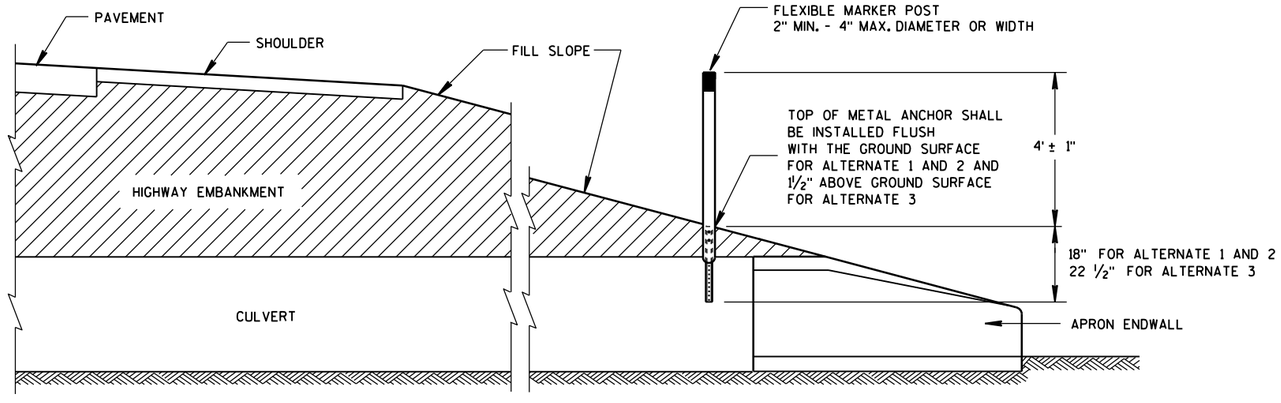
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



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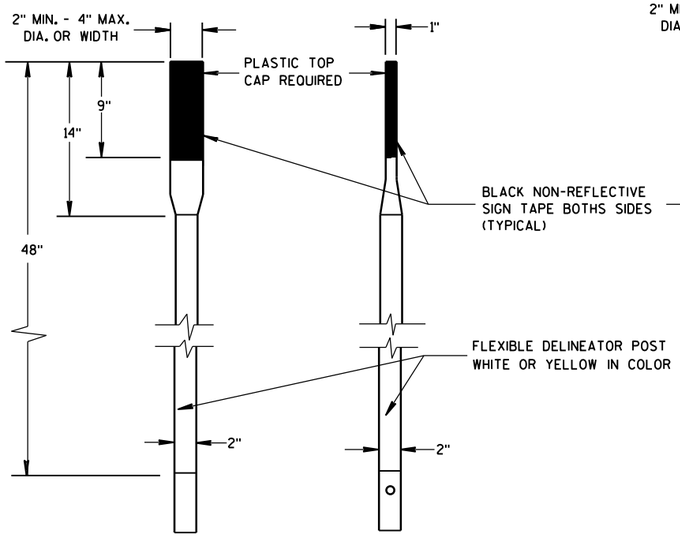
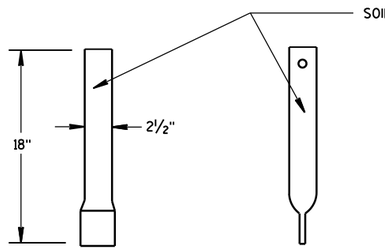
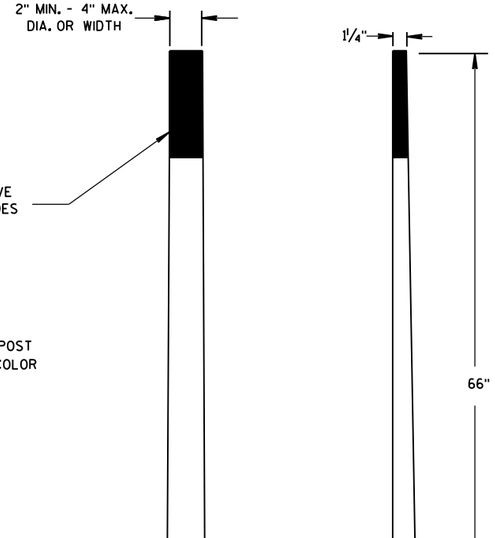
S.D.D. 15 A 3-2a





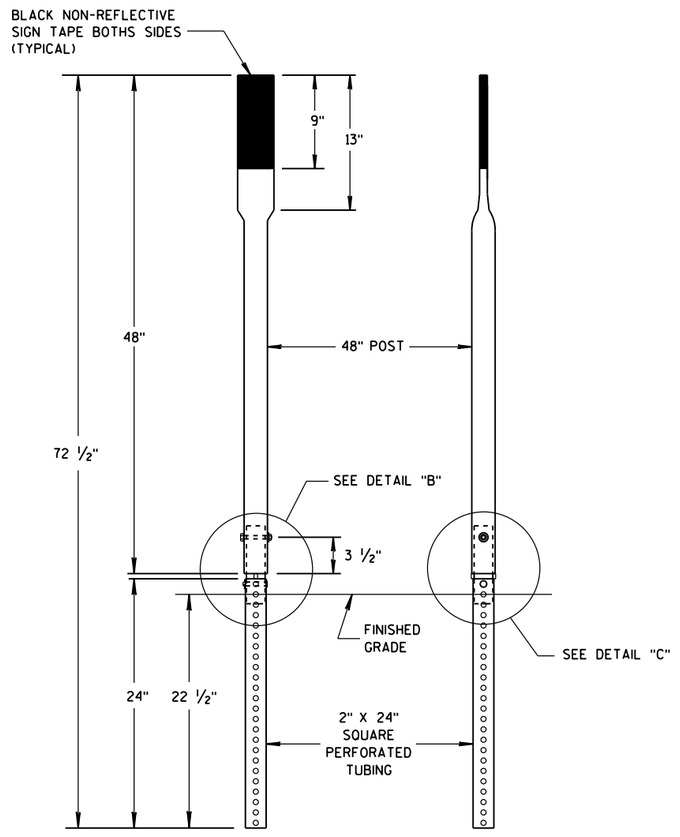
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

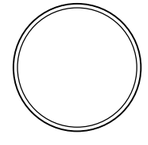
ALTERNATE 2



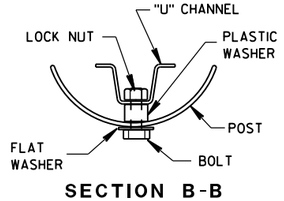
FRONT VIEW SIDE VIEW

ALTERNATE 3

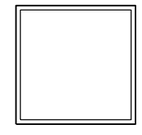
FLEXIBLE MARKER POSTS



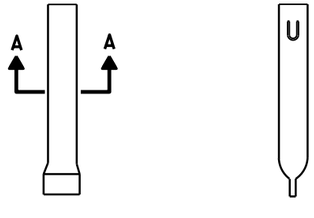
SECTION A-A



SECTION B-B

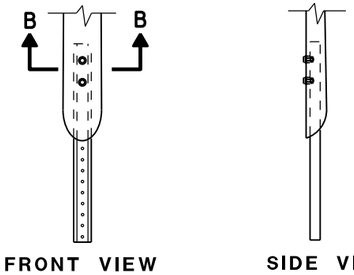


SECTION C-C



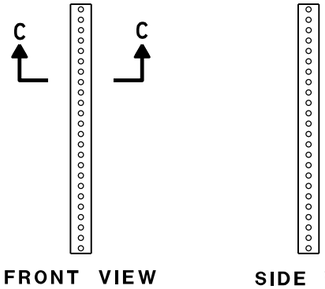
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

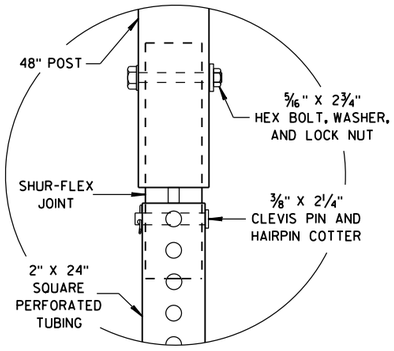
ALTERNATE 2



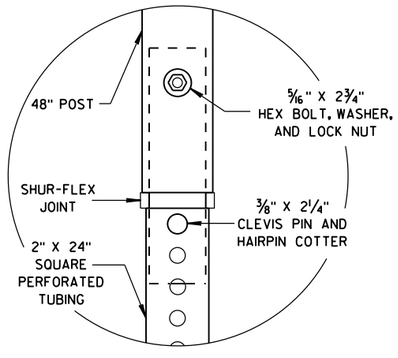
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

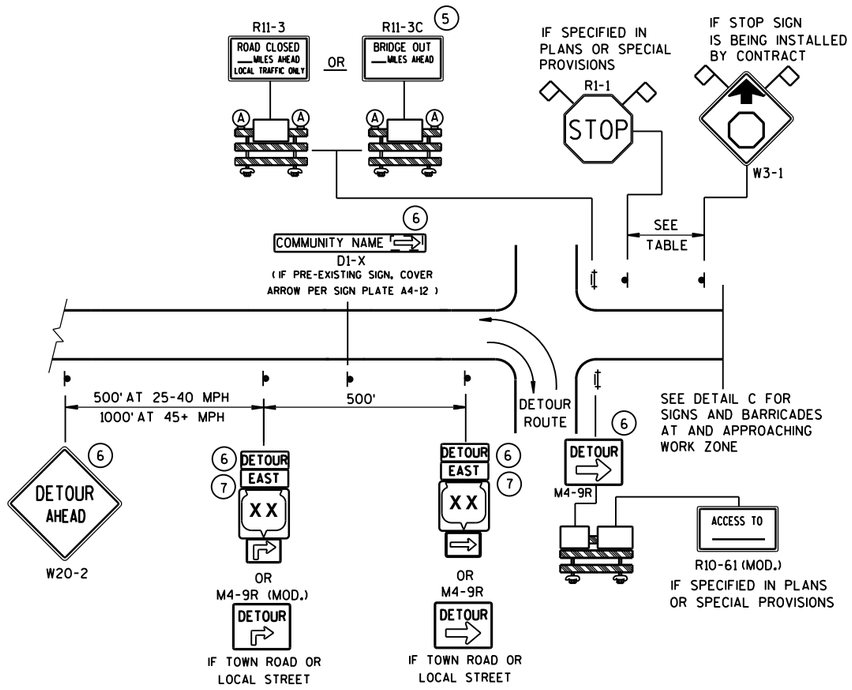
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

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

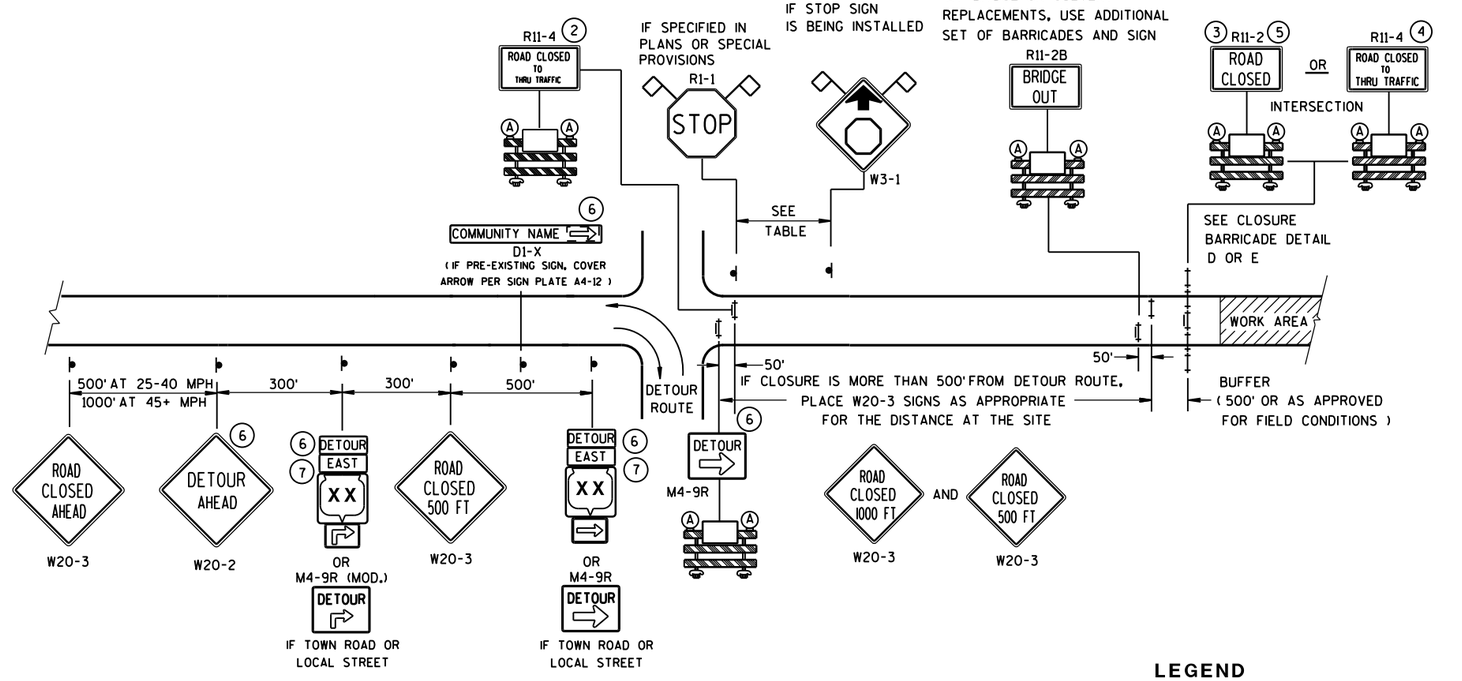
6

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



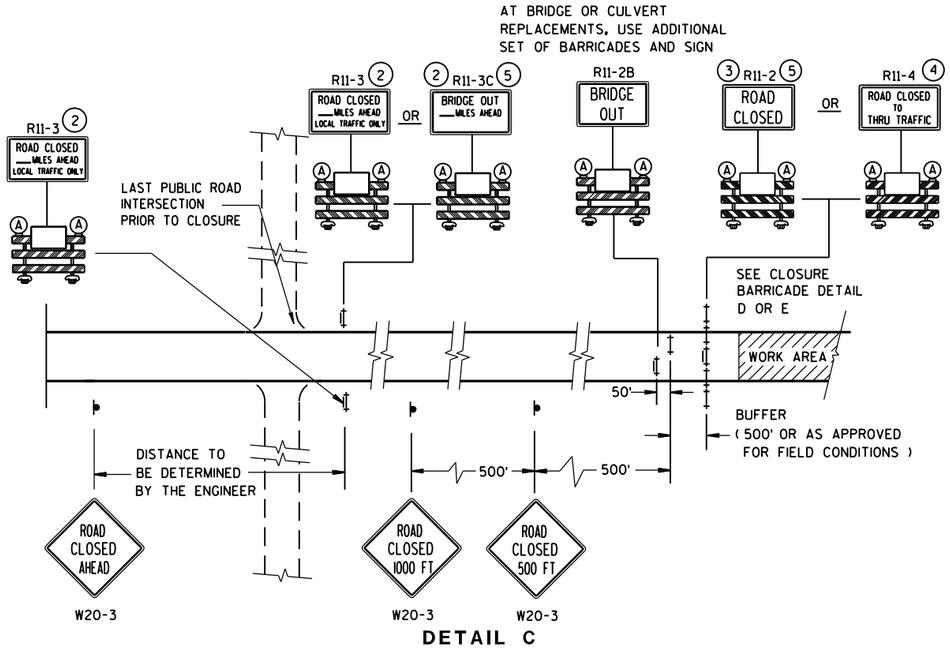
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

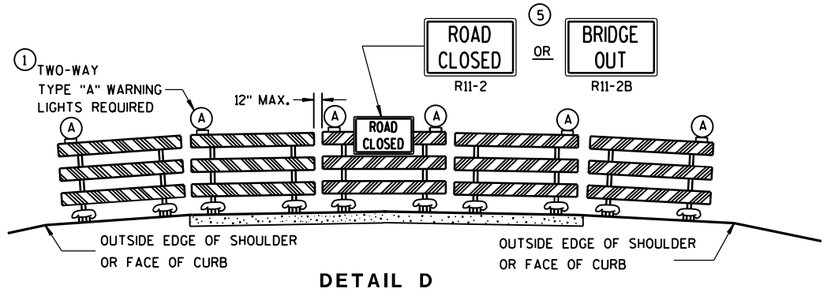
8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

6

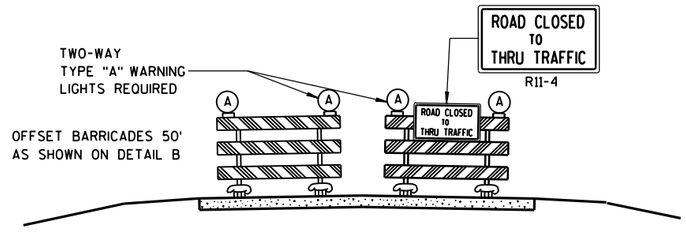
S.D.D. 15 C 2-5a



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

8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
45
DESIGN
FHWA

6
S.D.D. 15 C 2-5b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

GENERAL NOTES

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

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

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

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

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

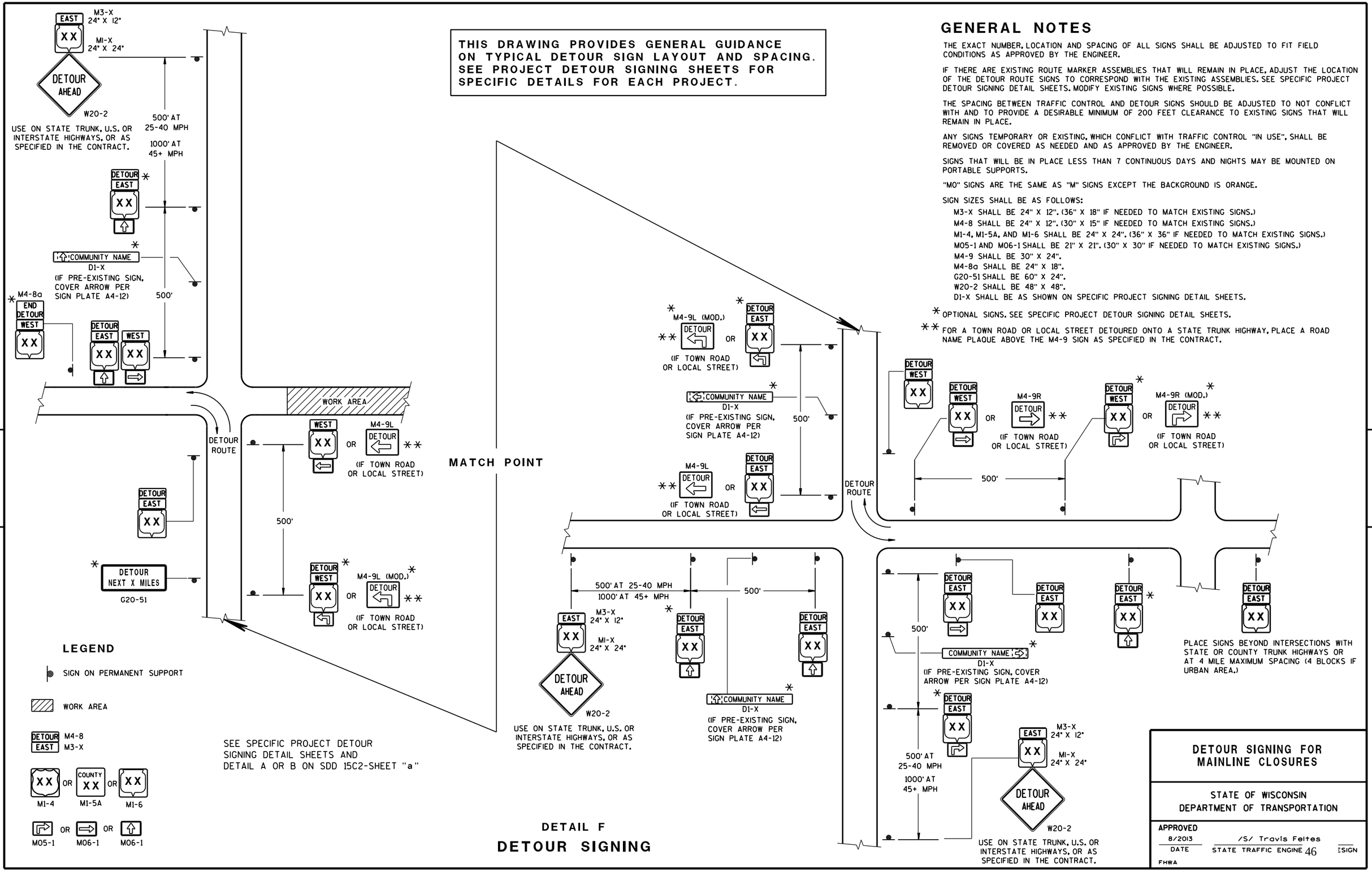
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (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.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

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

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



LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR EAST — M4-8 / M3-X
- XX OR COUNTY XX OR XX — M1-4 / M1-5A / M1-6
- MO5-1 OR MO6-1 OR MO6-1

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD 15C2-SHEET "a"

DETAIL F

DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

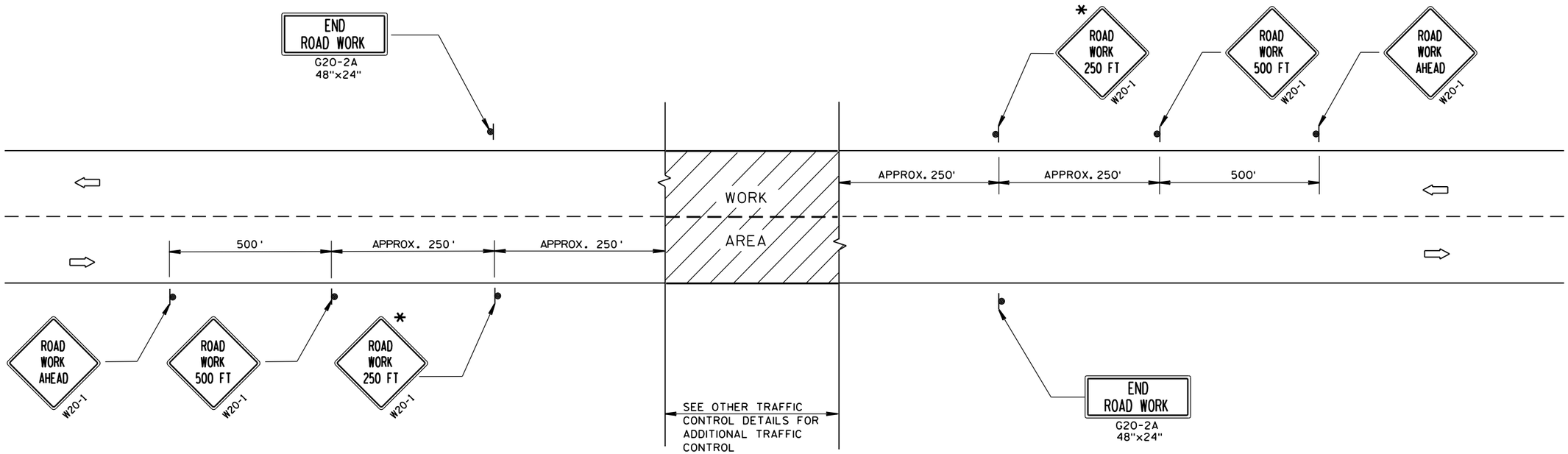
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER

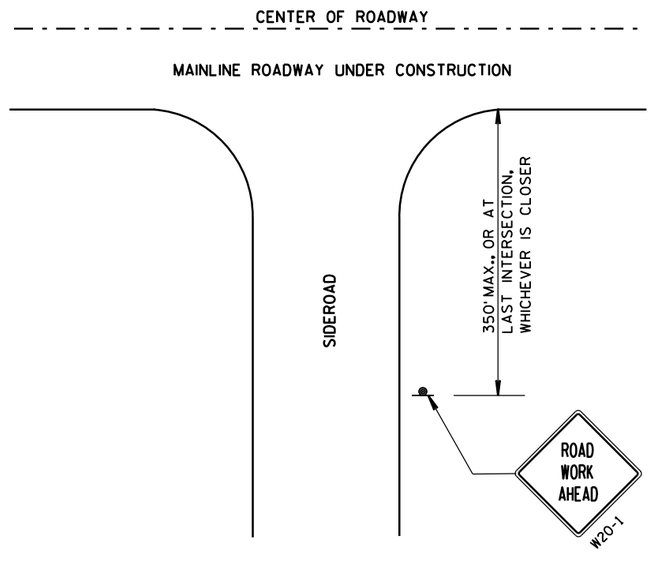
FHWA

S.D.D. 15 C 2-5c

S.D.D. 15 C 2-5c



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

8/2013 (DATE) — /S/ Travis Feltes (STATE TRAFFIC ENGINEER)

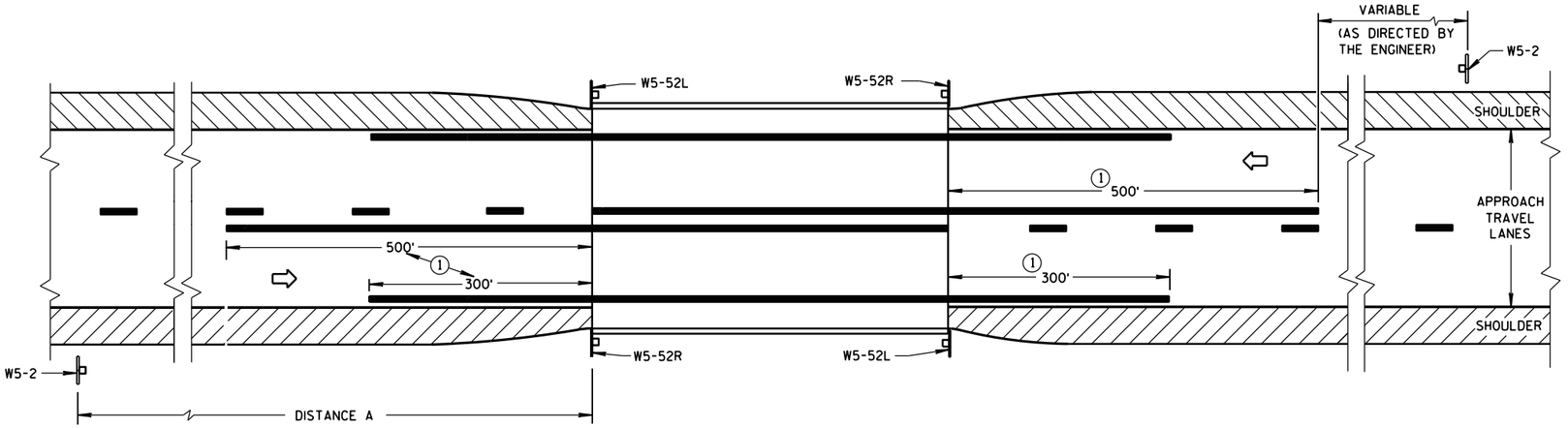
FHWA

SIGN

S.D.D. 15 C 5-2

6

S.D.D. 15 C 5-2



GENERAL NOTES

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

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

(1) MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.

(2) FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.

(3) LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.

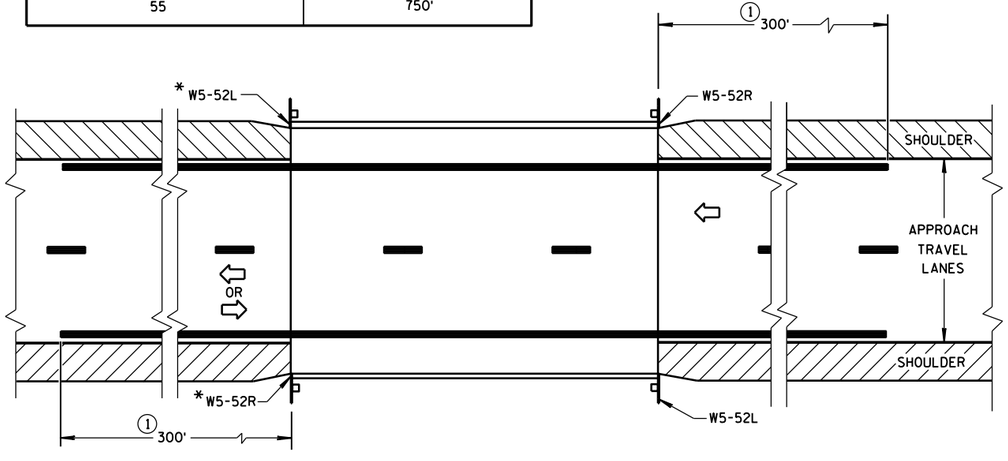
DISTANCE TABLE

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

SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET

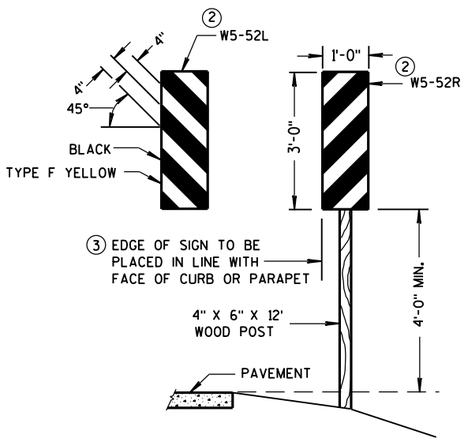


*OMIT ON ONE-WAY TRAVELLED WAYS

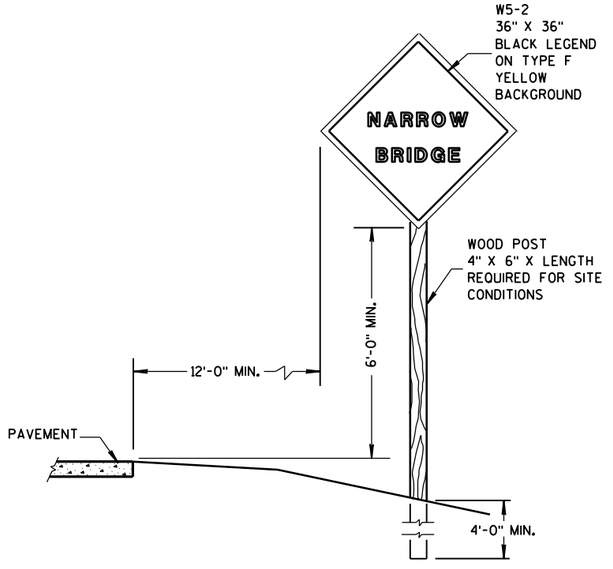
SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



OBJECT MARKER PLACEMENT



SIGN PLACEMENT

SIGNING & MARKING
FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

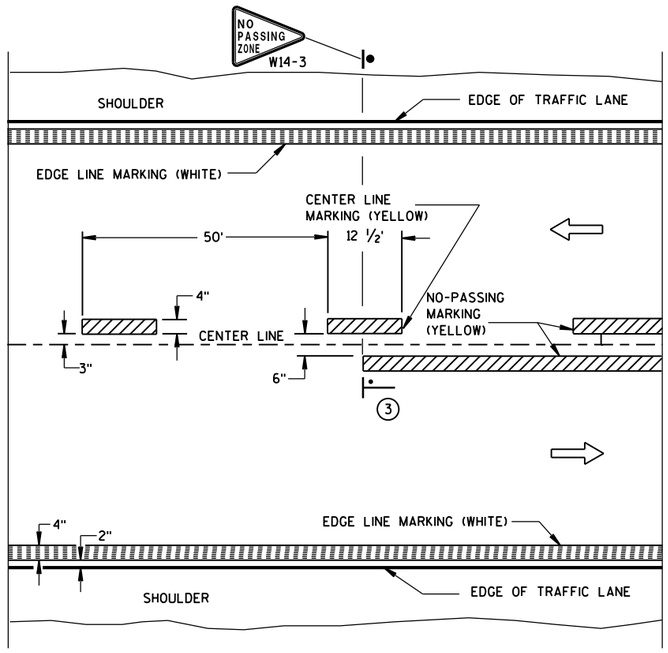
3-2014 DATE

/S/ Travis Feltes STATE TRAFFIC ENGINEER

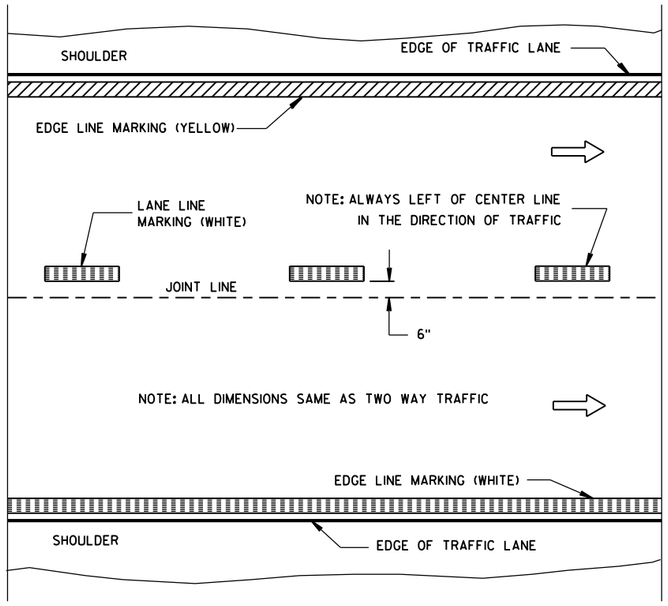
FHWA

6

S.D.D. 15 C 6-7

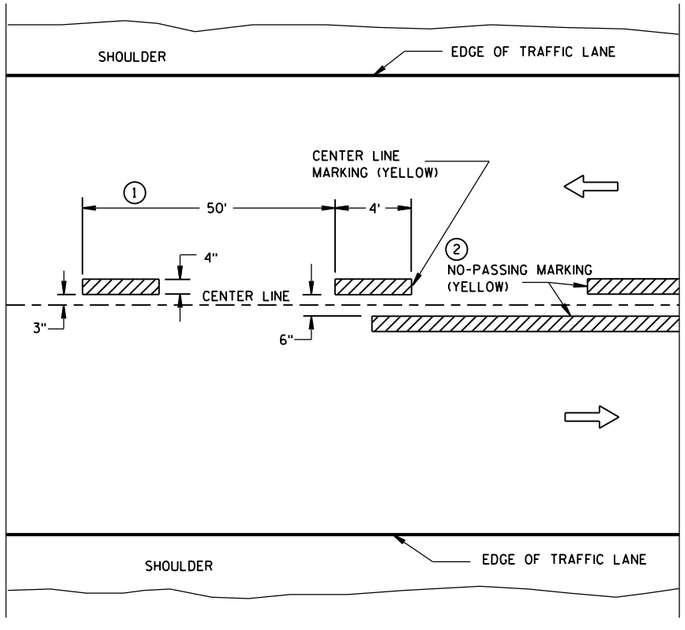


TWO WAY TRAFFIC

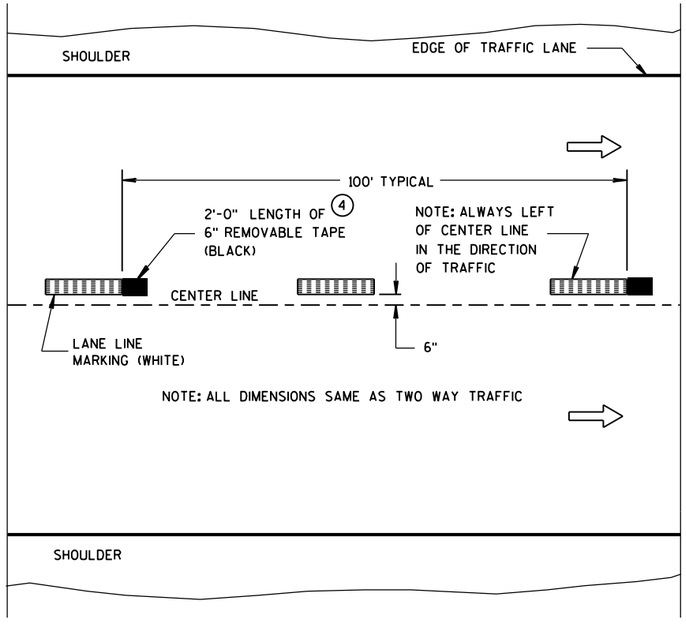


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

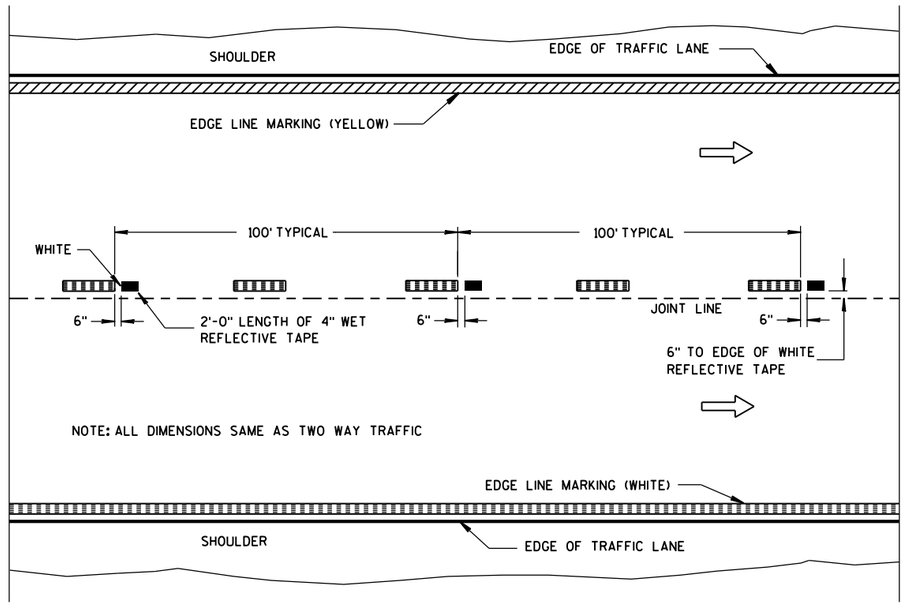
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

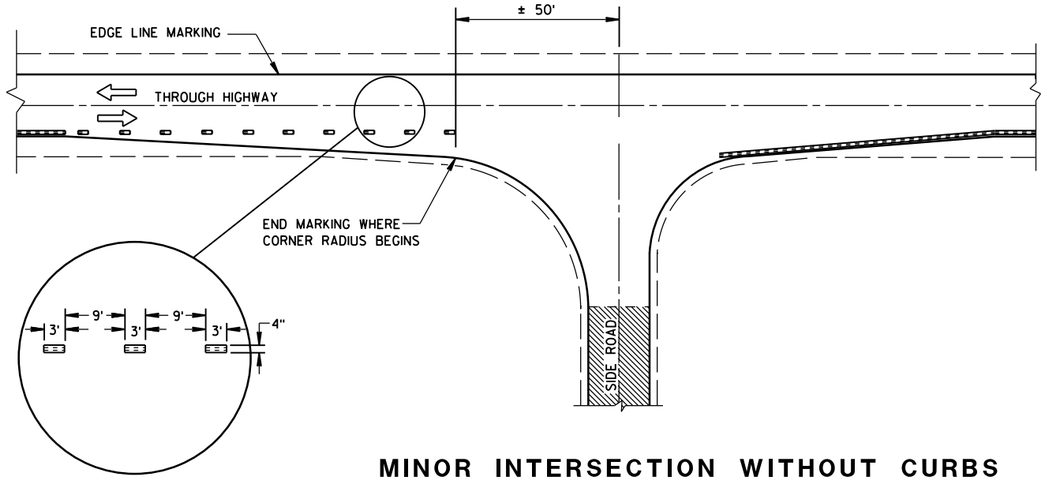
PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

6

S.D.D. 15 C 8-16a



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

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

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

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

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

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

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

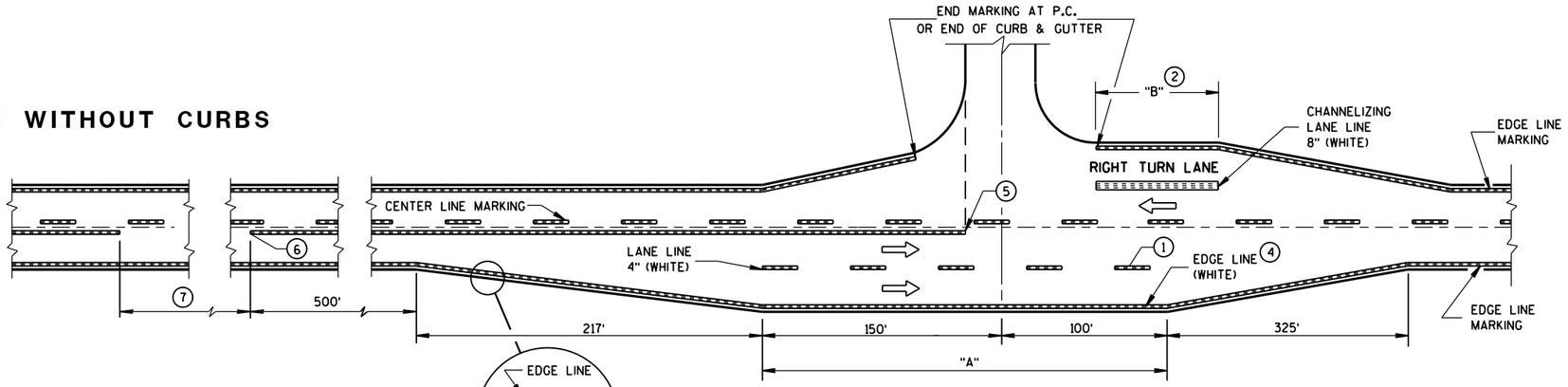
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

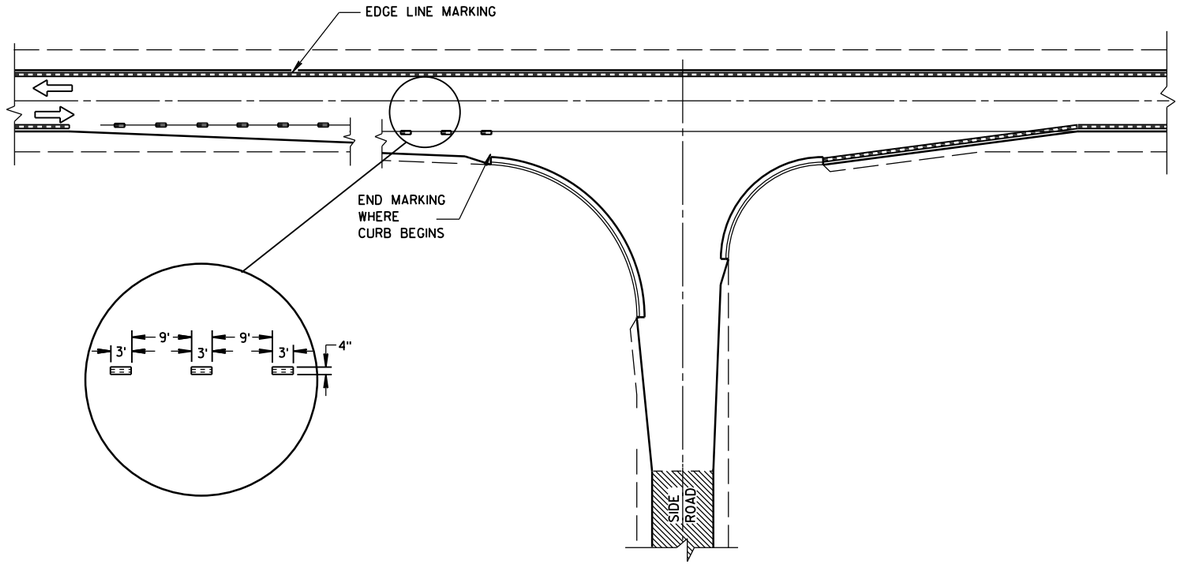
(7)

POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



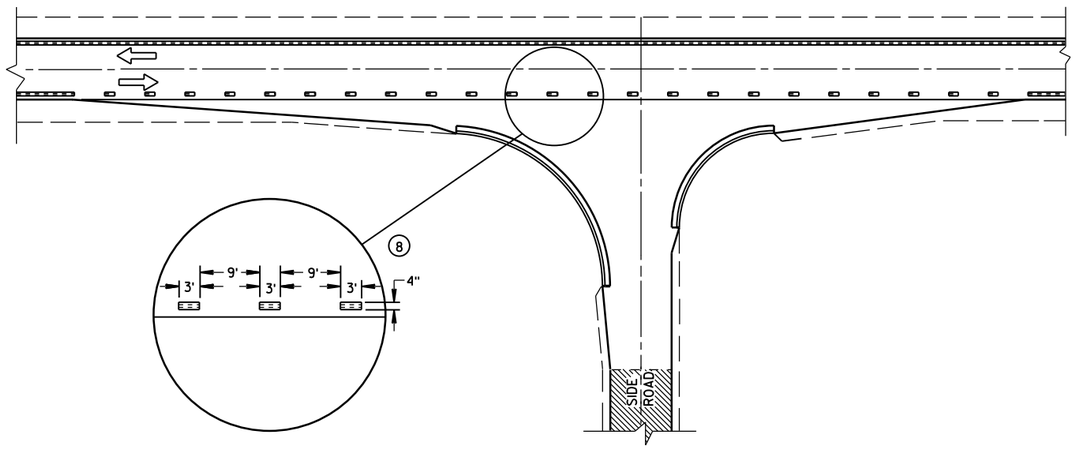
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 C 8-16b

6

S.D.D. 15 C 8-16b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

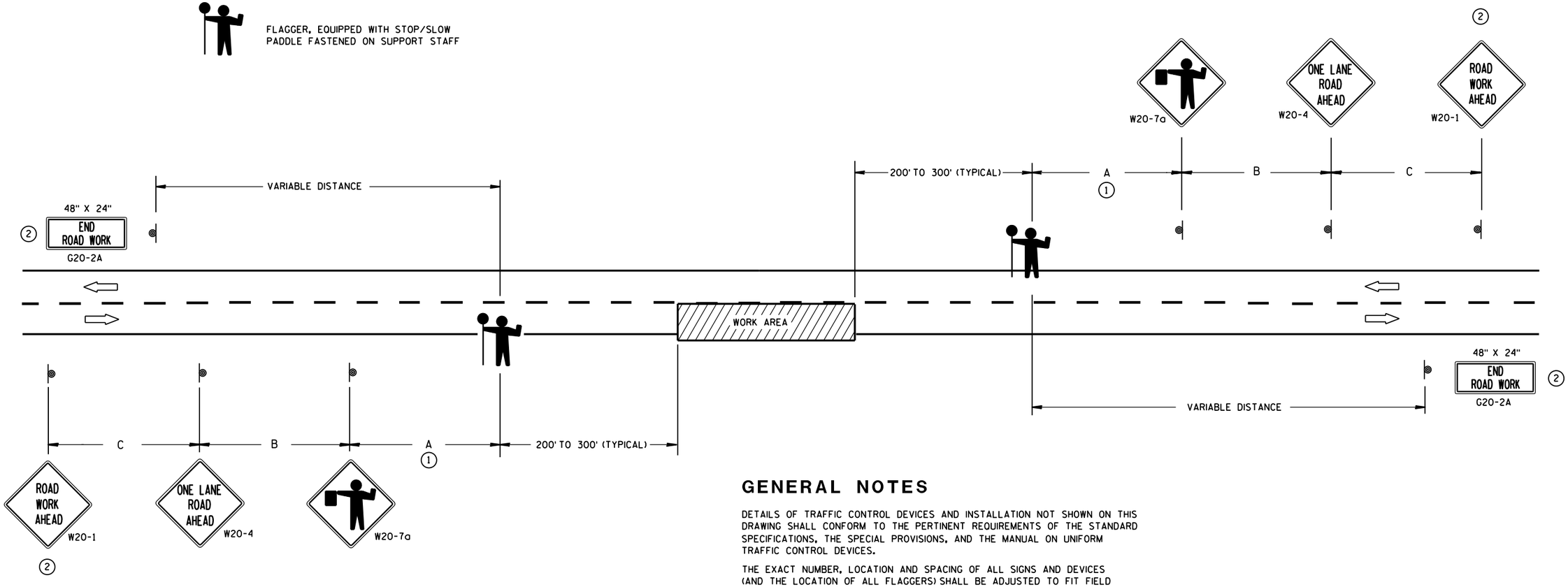
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

W3-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



(1) FOR A MOVING WORK OPERATION,
SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

GENERAL NOTES

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
DESIGN
FHWA

6

S.D.D. 15 C 12-4

6

S.D.D. 15 C 12-4

GENERAL NOTES

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

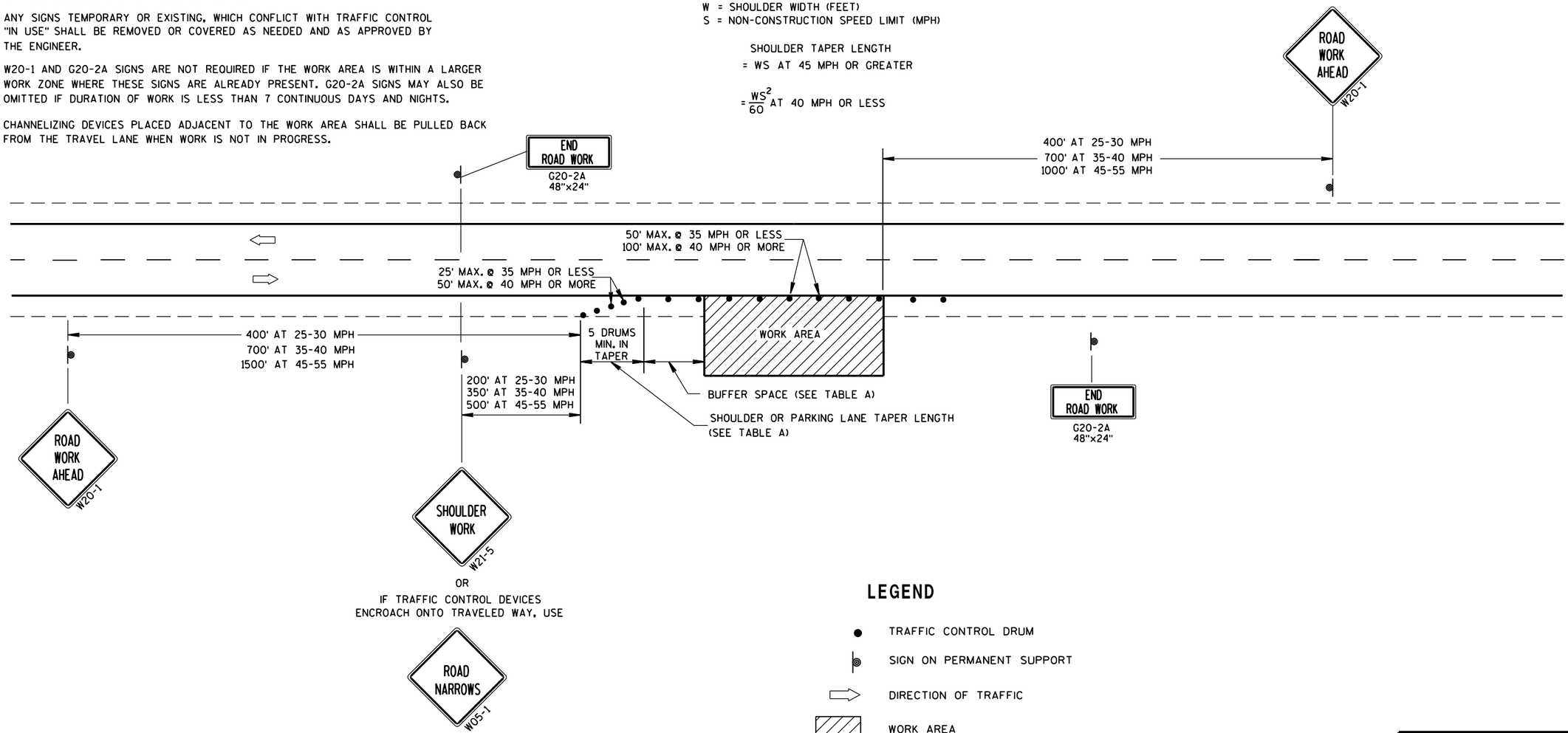
TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	85
35	30	45	55	70	120
40	40	55	75	90	170
45	60	90	120	150	220
50	70	100	135	170	280
55	75	110	150	185	335

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

SHOULDER TAPER LENGTH
= WS AT 45 MPH OR GREATER

$= \frac{WS^2}{60}$ AT 40 MPH OR LESS



LEGEND

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

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

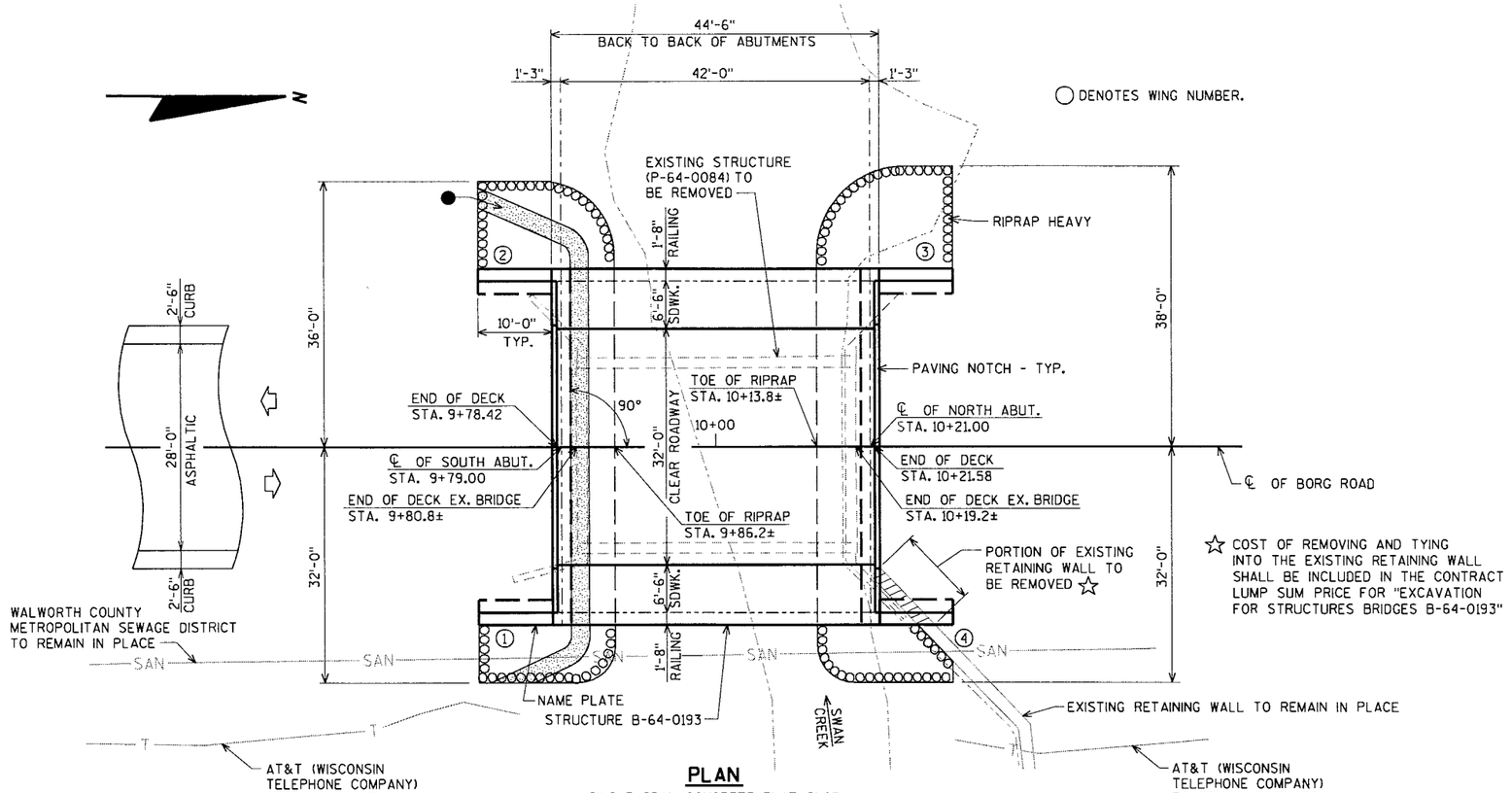
FHWA

6

S.D.D. 15 D 28-2

STATE PROJECT NUMBER

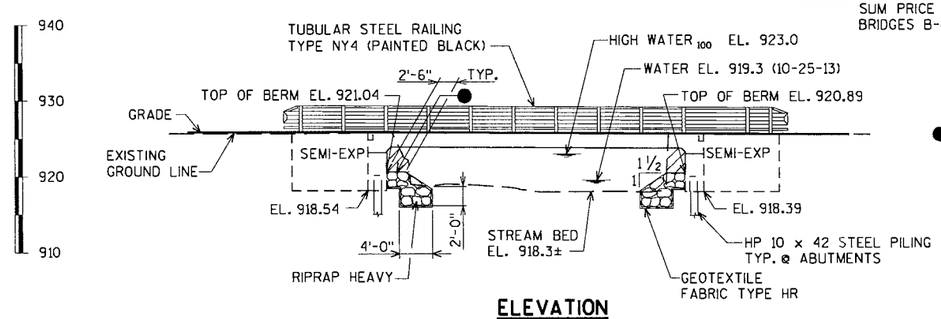
3841-00-71



PLAN

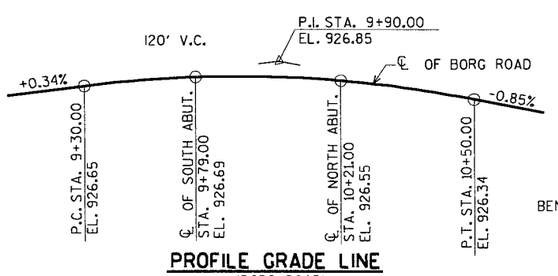
SINGLE SPAN CONCRETE FLAT SLAB

COST OF EXCAVATION IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-64-0193".



ELEVATION

● INTEGRAL, AT GRADE ECO PASSAGE, SEE DETAIL ON SHEET 2.



PROFILE GRADE LINE

(BORG ROAD)

BENCH MARK:
CHISLED SQUARE AT NE WING WALL OF BRIDGE
STA. 10+22.5, 9.4' RT.
EL. 927.12

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.09
OPERATING RATING FACTOR: 1.41
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 #/S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY { SUPERSTRUCTURE ——— f'_c = 4,000 p.s.i.
ALL OTHER ——— f'_c = 3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) ——— f_y = 60,000 p.s.i.

HYDRAULIC DATA:

100 YEAR FLOOD
DRAINAGE AREA = 40.9 sq. mi.
WATERWAY AREA = 109 sq. ft.
V = 4.3 f.p.s.
Q_{100} = 465 c.f.s.
HIGH $WATER_{100}$ EL. 923.0
HIGH $WATER_2$ EL. 921.2
SCOUR CRITICAL CODE = 8
DATUM = NAVD88 (2012)

FOUNDATION DATA:

SOUTH ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS ǂ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 70'-0".

NORTH ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS ǂ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 55'-0".

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

TRAFFIC DATA:

A.D.T. = 2,130 (2015)
A.D.T. = 2,500 (2035)
R.D.S. = 40 M.P.H.

FOR TYPICAL SECTION, AND GENERAL NOTES SEE SHEET 2

LIST OF DRAWINGS

WISCONSIN
CHRISTOPHER B. McMAHON
E-29424
EAU CLAIRE
WI
PROFESSIONAL ENGINEER
4/28/15

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

CONSULTANT CONTACT:
CHRIS MCMAHON
(715)-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 07/01/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-64-0193

BORG ROAD OVER SWAN CREEK

COUNTY WALWORTH | ~~TOWN~~/CITY/~~VILLAGE~~ DELAVAN

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JCK	JWZ	CLS	CBM

GENERAL PLAN

SHEET 1 OF 14
53

I.D.

DATE:

11X17-5200.plt
4503810P.dgn

DATE:
DATE:
DATE:
CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

8

8

4/28/2015

black.tbl

STATE PROJECT NUMBER

3841-00-71

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTAL
	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-----	-----	-----	1
	206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-64-0193	LS	-----	-----	-----	1
	210.0100	BACKFILL STRUCTURE	CY	100	100	-----	200
	502.0100	CONCRETE MASONRY BRIDGES	CY	40	40	166	246
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	265	265
	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	2,800	2,800	-----	5,600
	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1,710	1,710	27,080	30,500
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	12	12	-----	24
	550.0010	PRE-BORING UNCONSOLIDATED MATERIALS	LF	20	20	-----	40
	550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	490	385	-----	875
	606.0300	RIPRAP HEAVY	CY	60	65	-----	125
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	95	95	-----	190
	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	125	130	-----	255
△	SPV.0105	RAILING TUBULAR TYPE NY4 GALVANIZED B-64-0193	LS	-----	-----	-----	1
		NON-BID ITEMS					
		FILLER	SIZE	-----	-----	-----	1/2" & 3/4"

△ RAILING TUBULAR TYPE NY4 WILL BE PAINTED BLACK (FEDERAL #27038)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

THE STREAM BED IN FRONT OF THE ABUTMENT SHALL BE COVERED WITH RIPRAP AS SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.

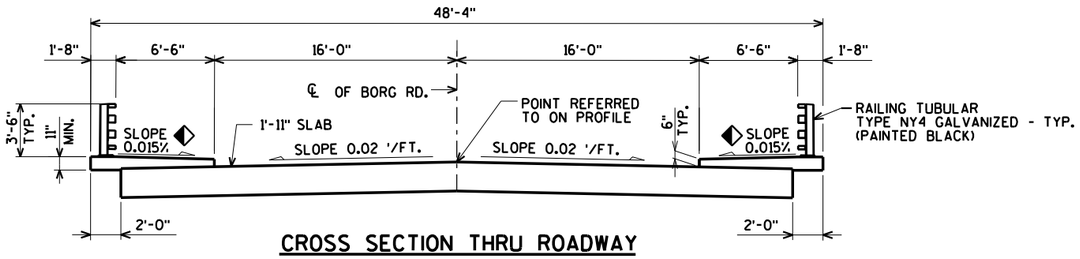
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.

THE EXISTING STRUCTURE, P-64-0084, TO BE REMOVED, IS A SINGLE SPAN STEEL DECK GIRDER BRIDGE, 38.4 FOOT LONG WITH A 23.5 FOOT CLEAR ROADWAY WIDTH.

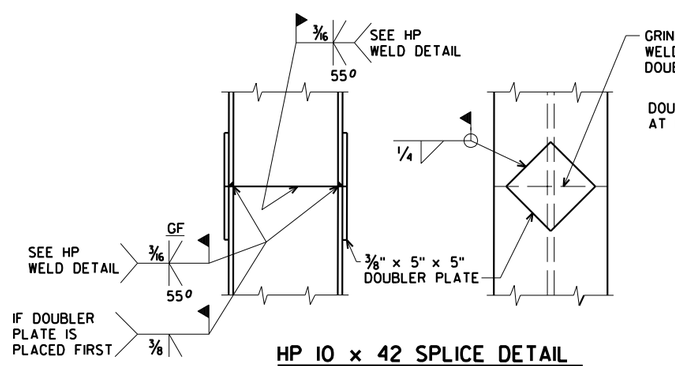
AT BACKFACE OF ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF DECK, FACE OF CURBS, TOP OF SIDEWALK, AND AS SHOWN IN DETAIL ON THIS SHEET.



CROSS SECTION THRU ROADWAY

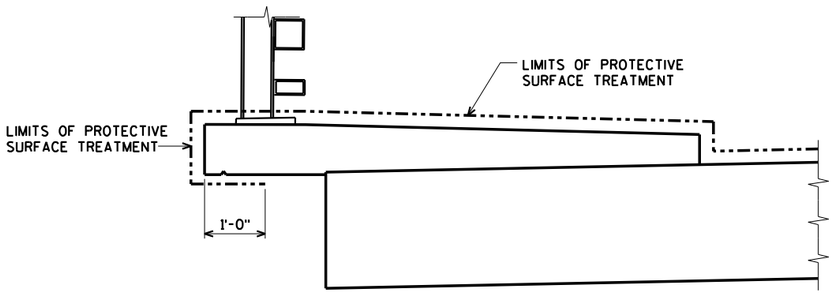
◆ ±0.005% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 0.02% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



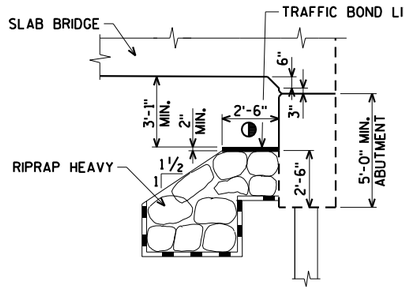
HP 10 x 42 SPLICE DETAIL

HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR



PROTECTIVE SURFACE TREATMENT DETAIL



INTEGRAL, AT-GRADE ECO PASSAGE DETAIL

◑ FILL VOIDS IN RIPRAP HEAVY WITH TRAFFIC BOND LIMESTONE SCREENINGS 3/8-INCH TO FULLY FILL ALL VOIDS AND LEAVE, ON AVERAGE, TWO INCHES ABOVE THE LOWEST ROCK POINTS WHERE THEY ABUT EACH OTHER. PROVIDE LEVEL SURFACE OF THE INTEGRAL, AT-GRADE ECO PASSAGE. THE TRANSITIONS OF THE AT-GRADE ECO PASSAGE TO THE EDGES OF THE RIPRAP SHALL BE GRADUAL WITH NO MORE THAN A 2:1 SLOPE. TRAFFIC BOND LIMESTONE SHALL BE COMPACTED ONCE IN PLACE. TRAFFIC BOND LIMESTONE SHALL BE INCIDENTAL IN THE BID ITEM "RIPRAP HEAVY".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-64-0193

DRAWN BY CLS | PLANS CK'D. CBM

TYPICAL SECTION, QUANTITIES, AND NOTES

SHEET 2 OF 14
54

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AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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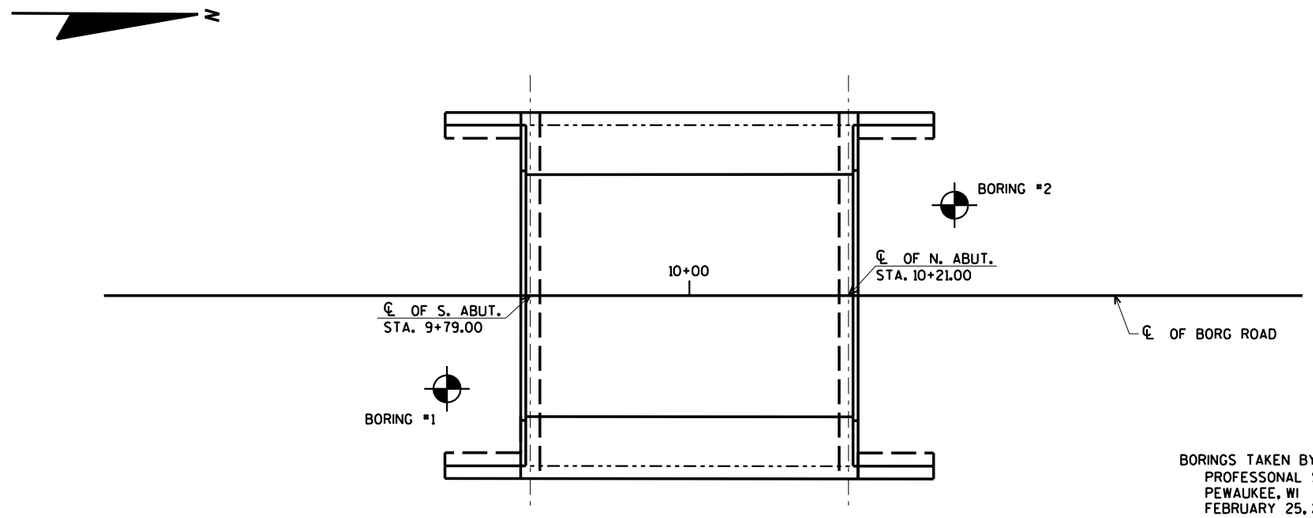
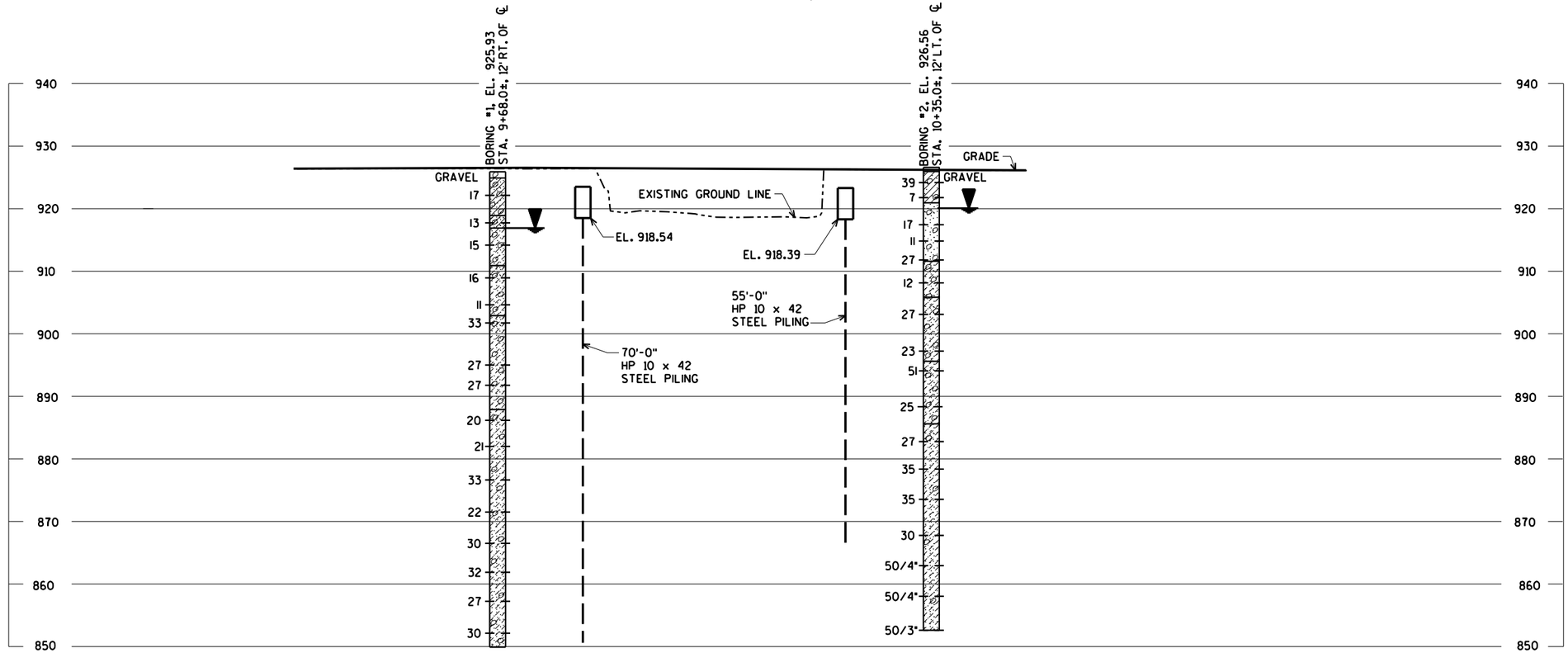
8



BORINGS TAKEN BY:
PROFESSIONAL SERVICE INDUSTRIES, INC.
PEWAUKEE, WI
FEBRUARY 25, 2014 & MARCH 13, 2014



STATE PROJECT NUMBER

3841-00-71

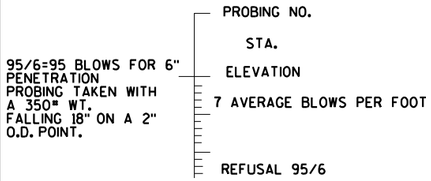
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

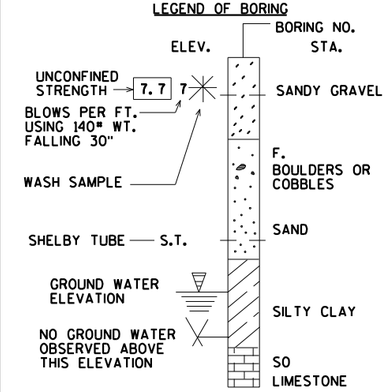
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 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-64-0193

DRAWN BY CJM | PLANS CK'D. CBM

SUBSURFACE EXPLORATION

SHEET 3 OF 14
55

8

8

NOTE:
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).

STATE PROJECT NUMBER
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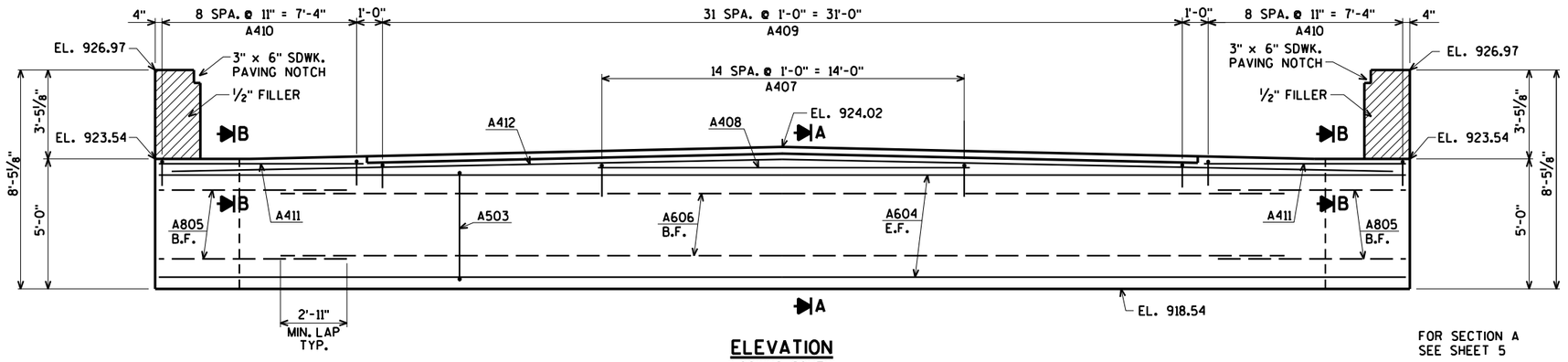
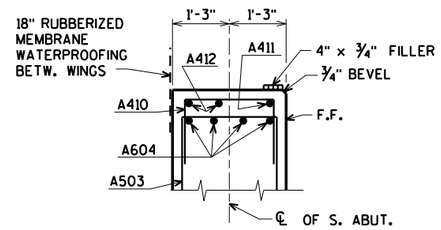
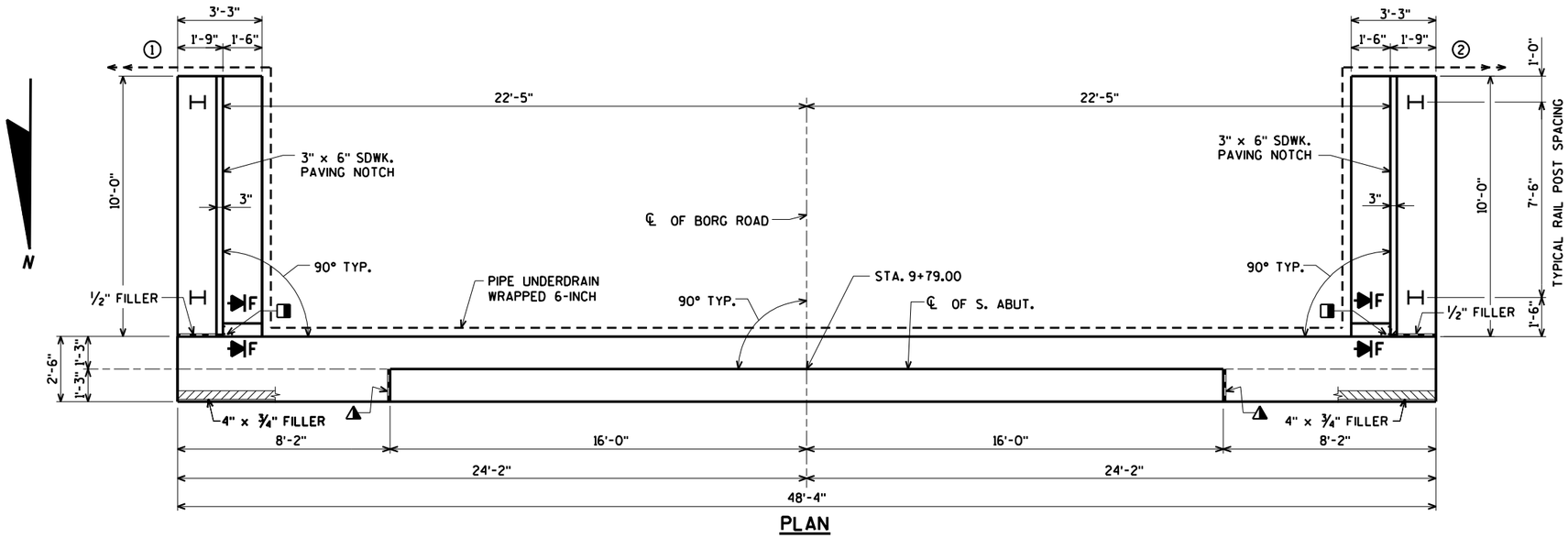


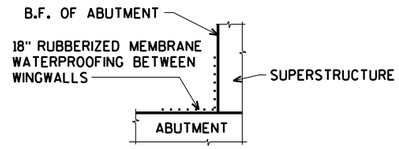
ELEVATION
(LOOKING SOUTH)



SECTION B



PLAN



SECTION F

◨ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

⚠ ¾" CORK FILLER ON VERTICAL FACE ONLY.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-64-0193

DRAWN BY CLS | PLANS CK'D. CBM

SOUTH ABUTMENT

SHEET 4 OF 14
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STATE PROJECT NUMBER

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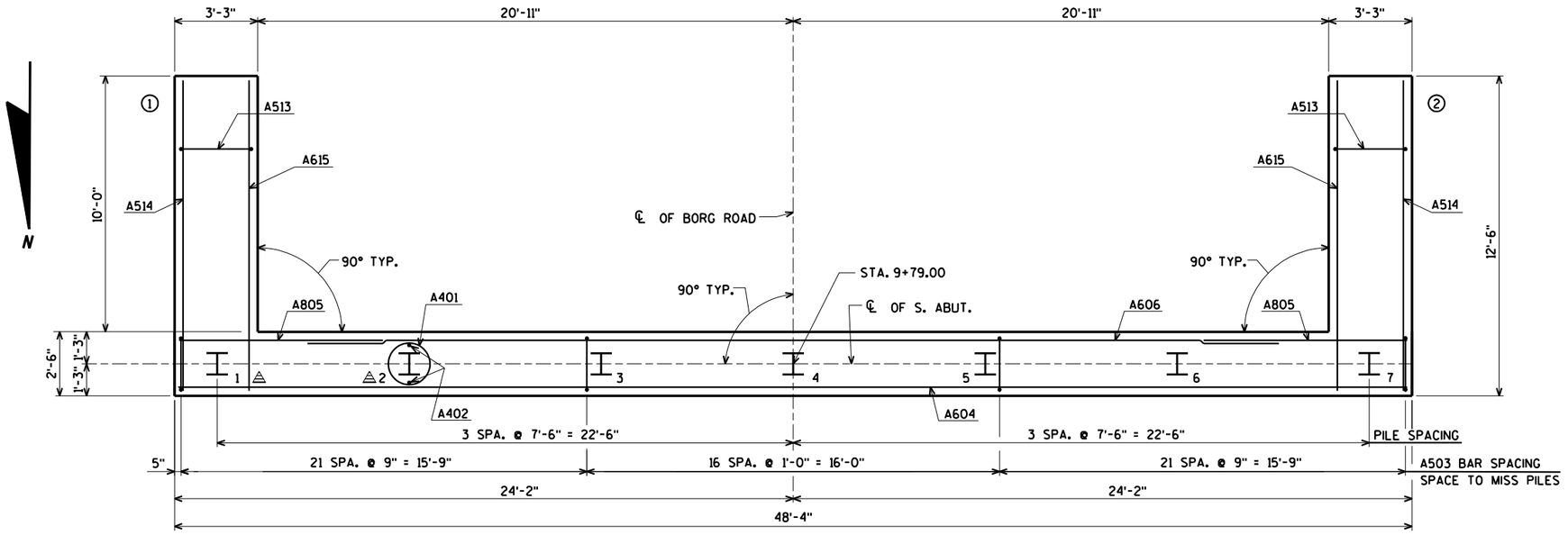
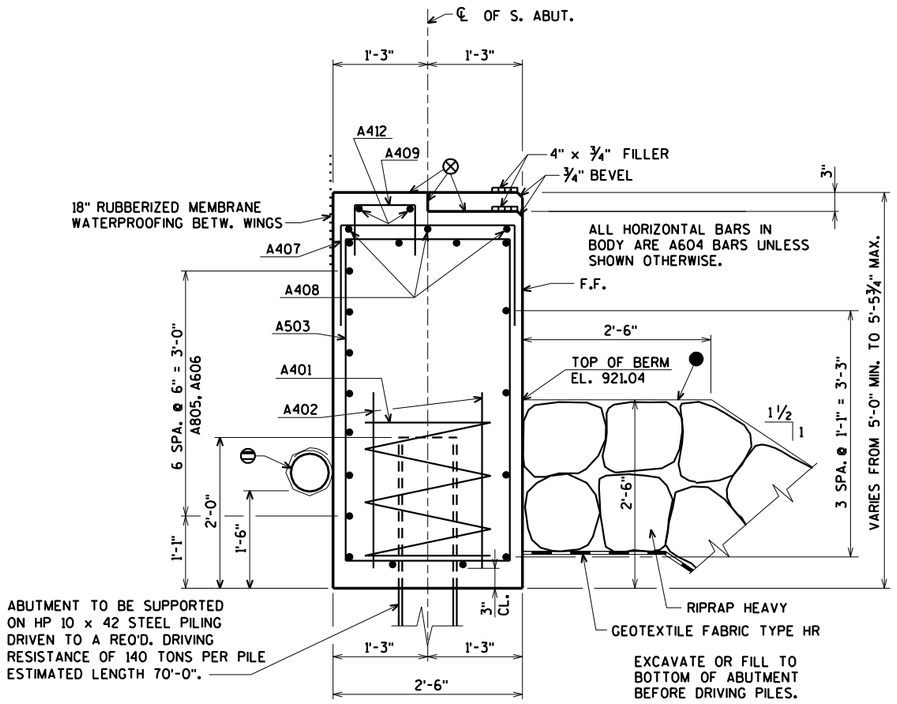


PILE LAYOUT



SECTION A

FOR LOCATION OF SECTION A
SEE SHEET 4

△ PRE-BORE PILING NO. 1 & 2
10 FEET PRIOR TO DRIVING.

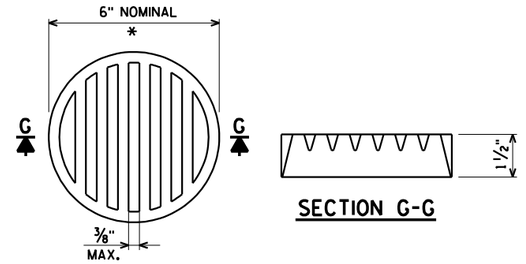
● INTEGRAL, AT GRADE ECO PASSAGE.
SEE DETAIL ON SHEET 2.

⊗ STEEL TROWEL TOP SURFACE OF ABUTMENT.
PLACE MULTIPLE LAYERS OF POLYETHELENE
SHEETS OVER ENTIRE ABUTMENT TOP BEFORE
PLACING FILLER AND SUPERSTRUCTURE.
TOTAL THICKNESS OF SHEETS SHALL BE
AT LEAST 0.03".

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

FOR PILE SPLICE DETAIL SEE SHEET 2.

F.F. DENOTES FRONT FACE



SECTION G-G

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

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

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.

RODENT SHIELD DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-64-0193

DRAWN BY CLS | PLANS CK'D. CBM

SOUTH ABUTMENT DETAILS

SHEET 5 OF 14
57

ORIGINAL PLANS PREPARED BY
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$PRFNAME$
U:\45-0381.00 - Walworth Co - Borg Road over Swan Creek\BRIDGE\450381sa.dgn

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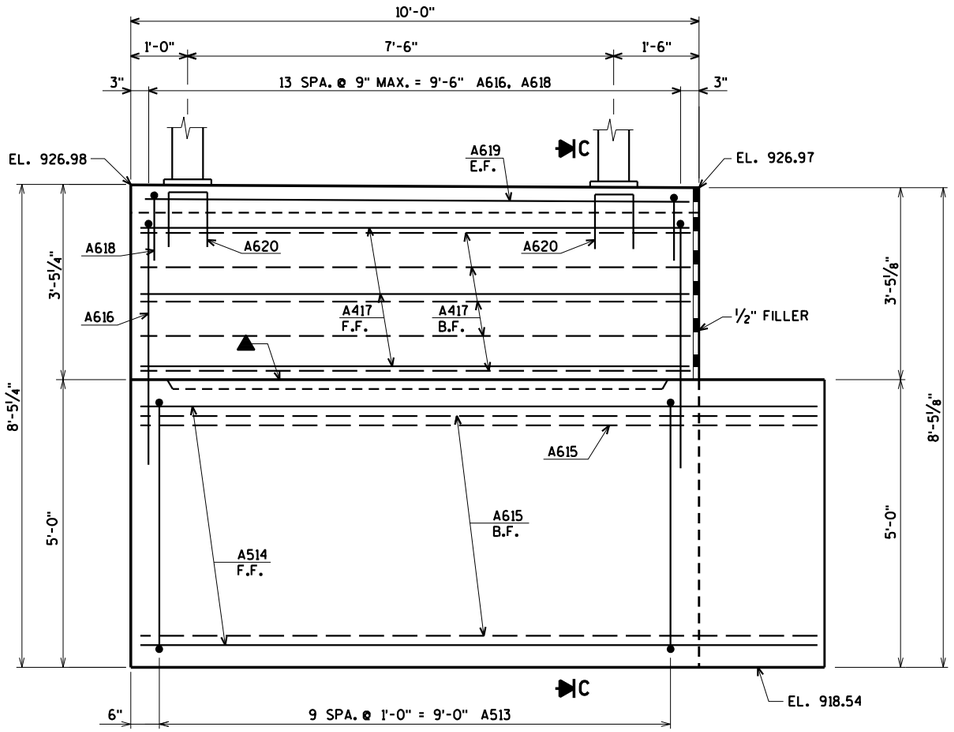
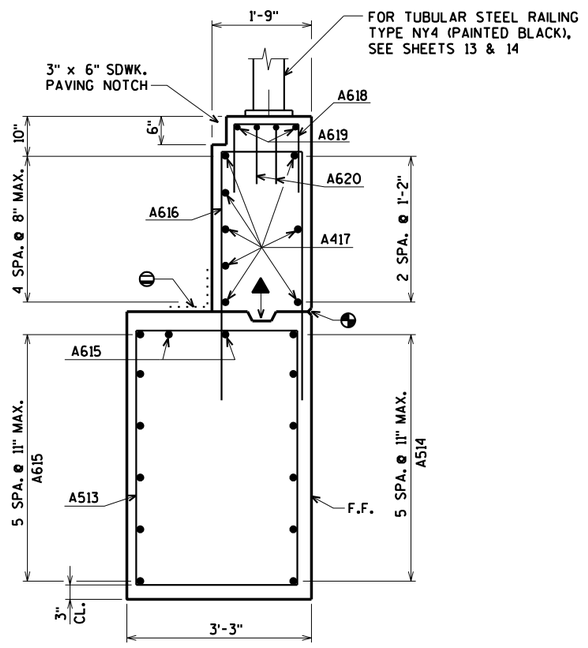
4/23/2015

PENTABLE:BReau_shd_util.tbl

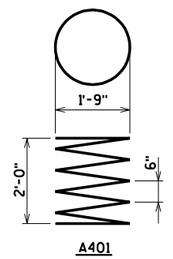


ELEVATION - WING 1

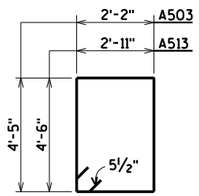
WING 2 SIMILAR

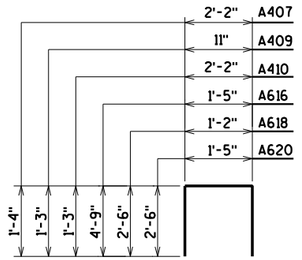


SECTION C



A401





BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	2,800# UNCOATED 1,710# COATED LOCATION
A401		7	28-0	X		BODY @ PILES
A402		14	2-3			BODY @ PILES
A503		59	13-10	X		BODY VERT.
A604		11	48-0			BODY HORIZ.
A805		14	10-0			BODY HORIZ. @ WING B.F.
A606		7	33-10			BODY HORIZ. BETW. WINGS B.F.
A407		15	4-8	X		BODY VERT. TOP
A408		3	14-5			BODY HORIZ. TOP
A409		32	3-3	X		BODY VERT. TOP
A410		18	4-6	X		BODY VERT. TOP @ WINGS
A411		2	7-9			BODY HORIZ. TOP F.F. @ WINGS
A412		2	48-0			BODY HORIZ. TOP
A513	X	20	15-6	X		WING VERT.
A514	X	12	12-2			WING HORIZ. F.F.
A615	X	16	12-2			WING HORIZ. B.F. & BODY TOP
A616	X	28	10-9	X		WING VERT.
A417	X	16	9-7			WING HORIZ. E.F.
A618	X	28	6-0	X		WING VERT.
A619	X	4	9-7			WING HORIZ. E.F.
A620	X	8	6-3	X		WING VERT. @ RAIL POSTS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

⊖ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JOINT IS NOT USED.

▲ OPT. CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6"

◔ 3/4" V-GROOVE ON FRONT FACE ONLY.

F.F. DENOTES FRONT FACE

E.F. DENOTES EACH FACE

B.F. DENOTES BACK FACE

STATE PROJECT NUMBER

3841-00-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-64-0193

DRAWN BY CLS | PLANS CK'D. CBM

SOUTH ABUTMENT DETAILS AND BILL OF BARS

SHEET 6 OF 14
58

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
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Eau Claire, WI 54701
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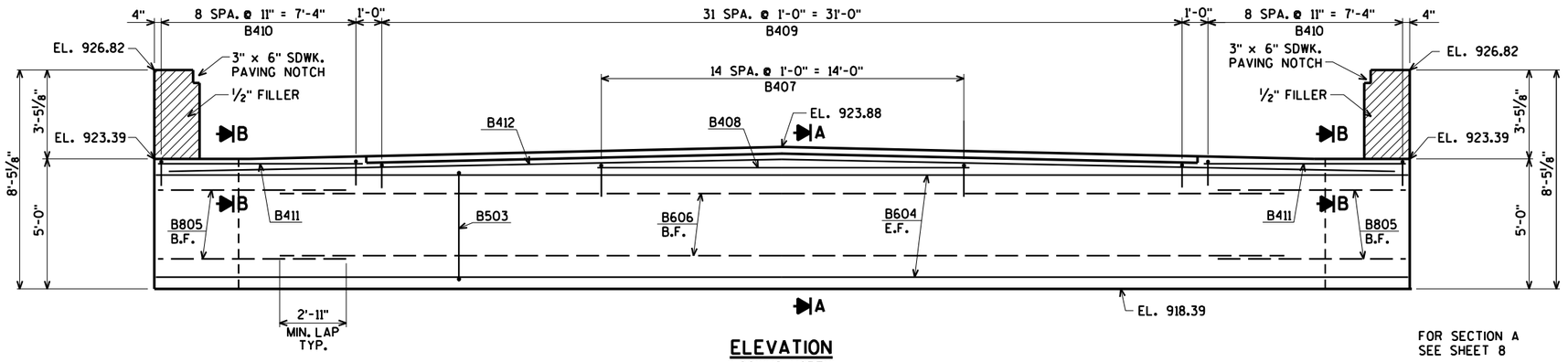
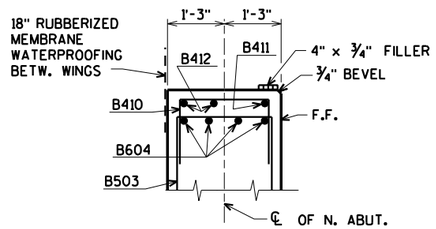
NOTE:
SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

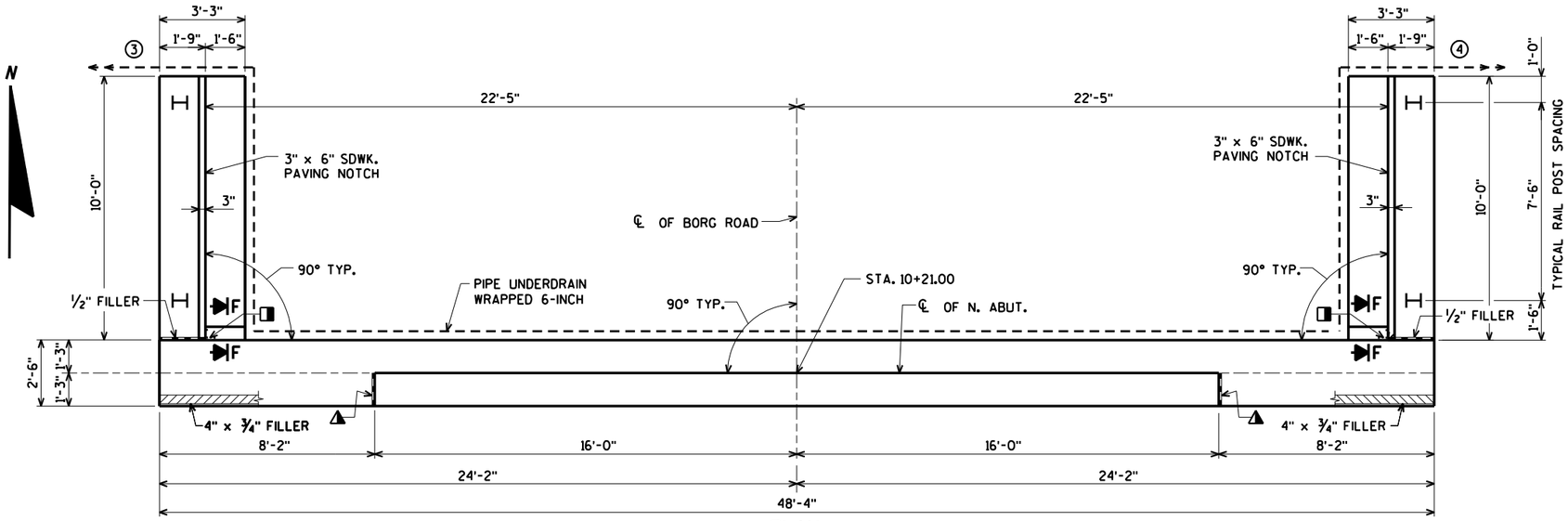
STATE PROJECT NUMBER
3841-00-71



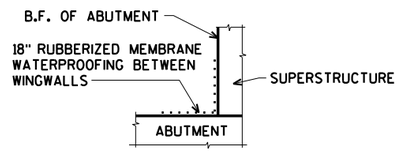
ELEVATION
(LOOKING NORTH)



SECTION B



PLAN



SECTION F

◨ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

⚠ ¾" CORK FILLER ON VERTICAL FACE ONLY.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-64-0193

DRAWN BY CLS | PLANS CK'D. CBM

NORTH ABUTMENT

SHEET 7 OF 14
59

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STATE PROJECT NUMBER

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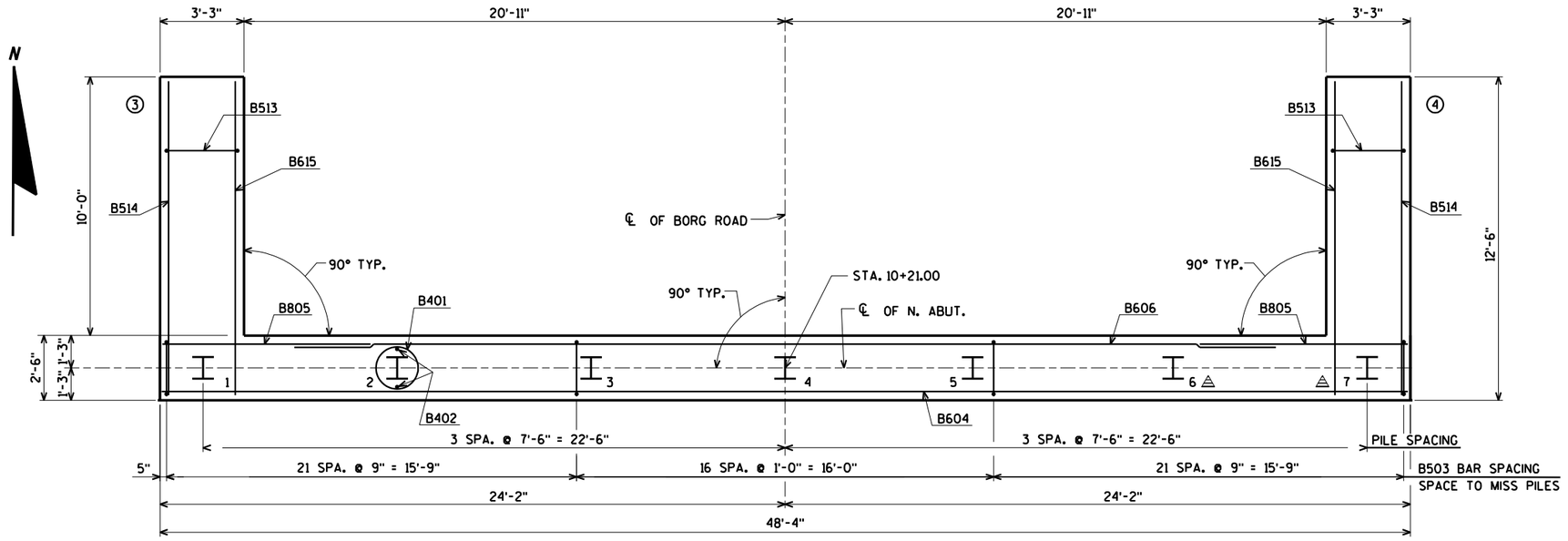
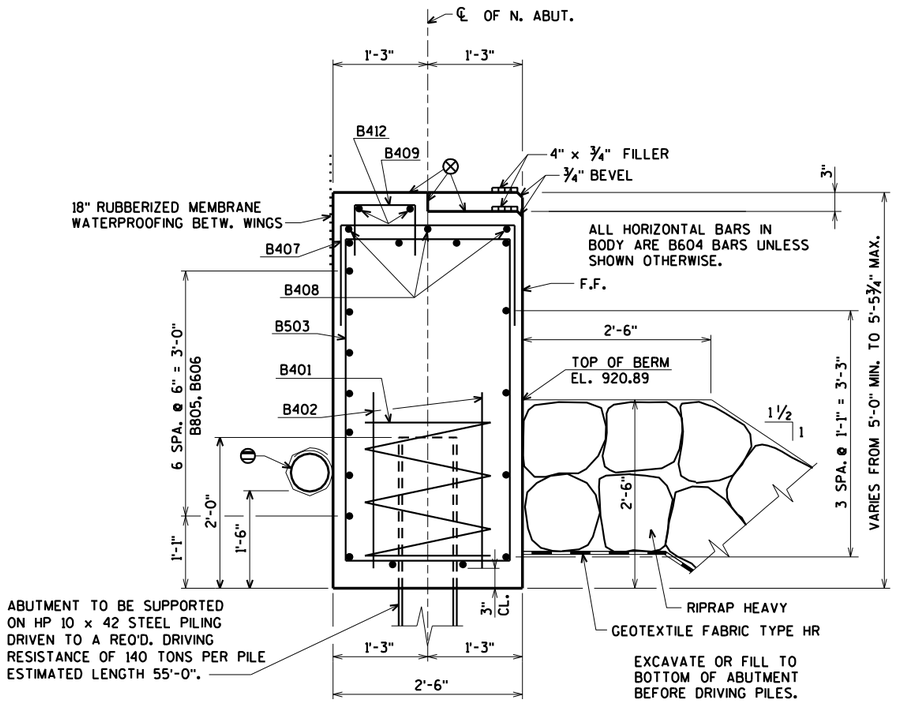


PILE LAYOUT



SECTION A

FOR LOCATION OF SECTION A
SEE SHEET 7

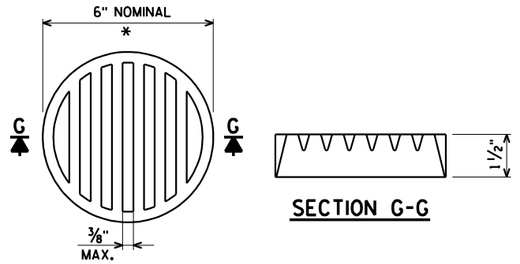
△ PRE-BORE PILING NO. 6 & 7
10 FEET PRIOR TO DRIVING.

⊗ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHELENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING FILLER AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

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

FOR PILE SPLICE DETAIL SEE SHEET 2.

F.F. DENOTES FRONT FACE



SECTION G-G

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

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

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.

RODENT SHIELD DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-64-0193

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NORTH ABUTMENT DETAILS

SHEET 8 OF 14
60

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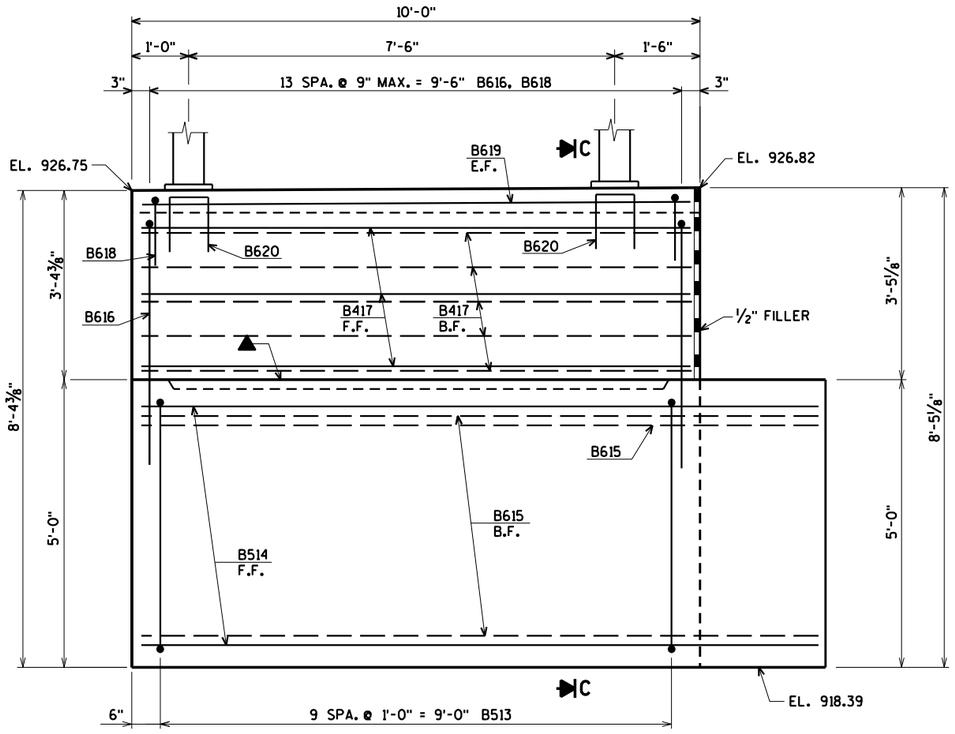
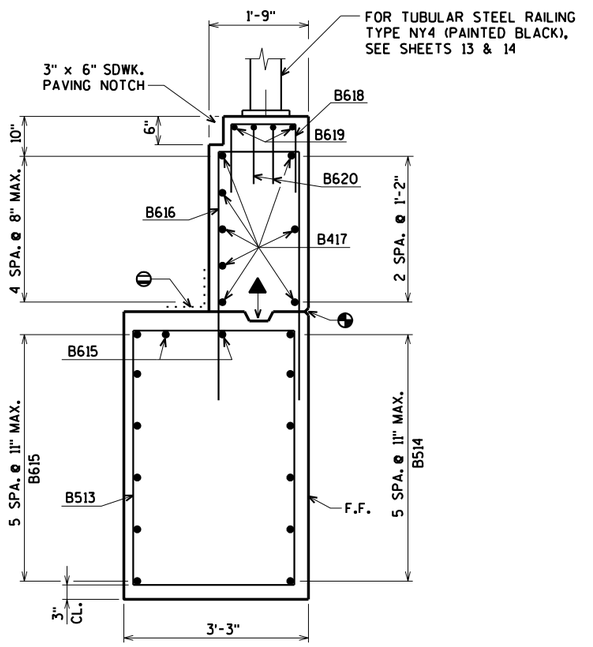
4/23/2015

PENTABLE:BReau_shd_util.tbl



ELEVATION - WING 3

WING 4 SIMILAR



SECTION C

BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	2,800# UNCOATED 1,710# COATED LOCATION
B401		7	28-0	X		BODY @ PILES
B402		14	2-3			BODY @ PILES
B503		59	13-10	X		BODY VERT.
B604		11	48-0			BODY HORIZ.
B805		14	10-0			BODY HORIZ. @ WING B.F.
B606		7	33-10			BODY HORIZ. BETW. WINGS B.F.
B407		15	4-8	X		BODY VERT. TOP
B408		3	14-5			BODY HORIZ. TOP
B409		32	3-3	X		BODY VERT. TOP
B410		18	4-6	X		BODY VERT. TOP @ WINGS
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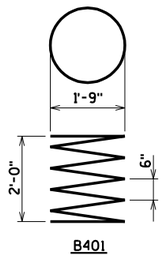
B412		2	48-0			BODY HORIZ. TOP
B513	X	20	15-6	X		WING VERT.
B514	X	12	12-2			WING HORIZ. F.F.
B615	X	16	12-2			WING HORIZ. B.F. & BODY TOP
B616	X	28	10-9	X		WING VERT.
B417	X	16	9-7			WING HORIZ. E.F.
B618	X	28	6-0	X		WING VERT.
B619	X	4	9-7			WING HORIZ. E.F.
B620	X	8	6-3	X		WING VERT. @ RAIL POSTS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



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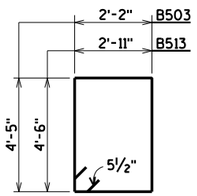

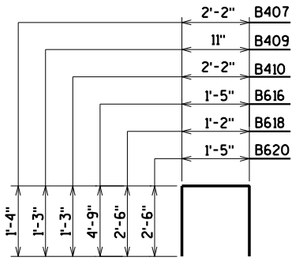

⊖ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JOINT IS NOT USED.

▲ OPT. CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6"

⊕ ¾" V-GROOVE ON FRONT FACE ONLY.

F.F. DENOTES FRONT FACE

E.F. DENOTES EACH FACE

B.F. DENOTES BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-64-0193

DRAWN BY CLS | PLANS CK'D. CBM

NORTH ABUTMENT DETAILS AND BILL OF BARS

SHEET 9 OF 14
61

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
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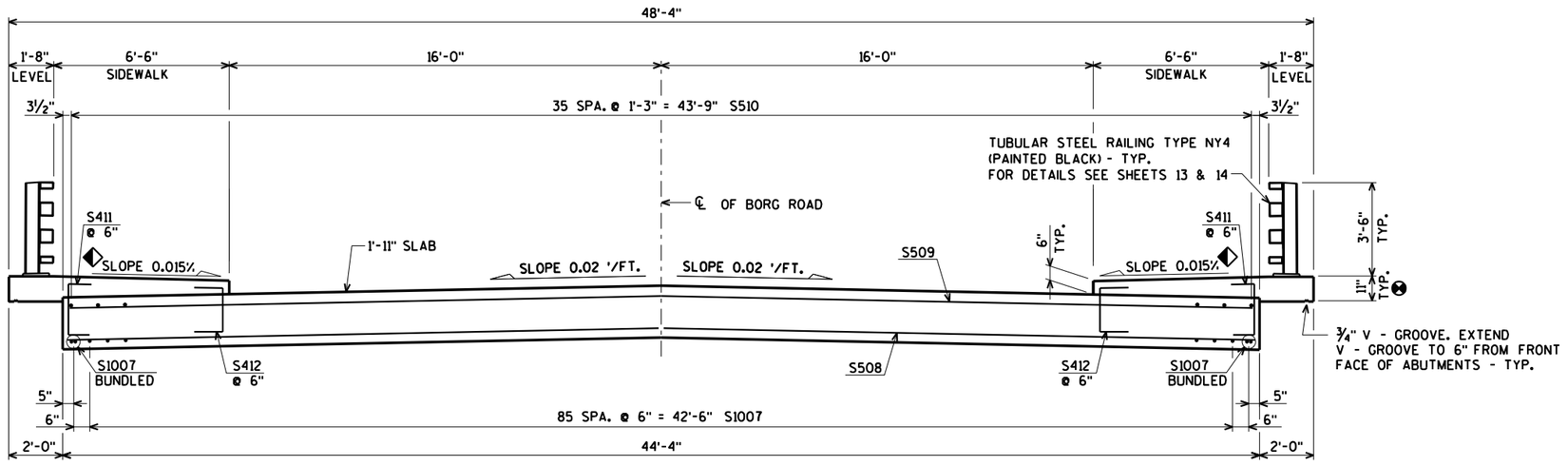
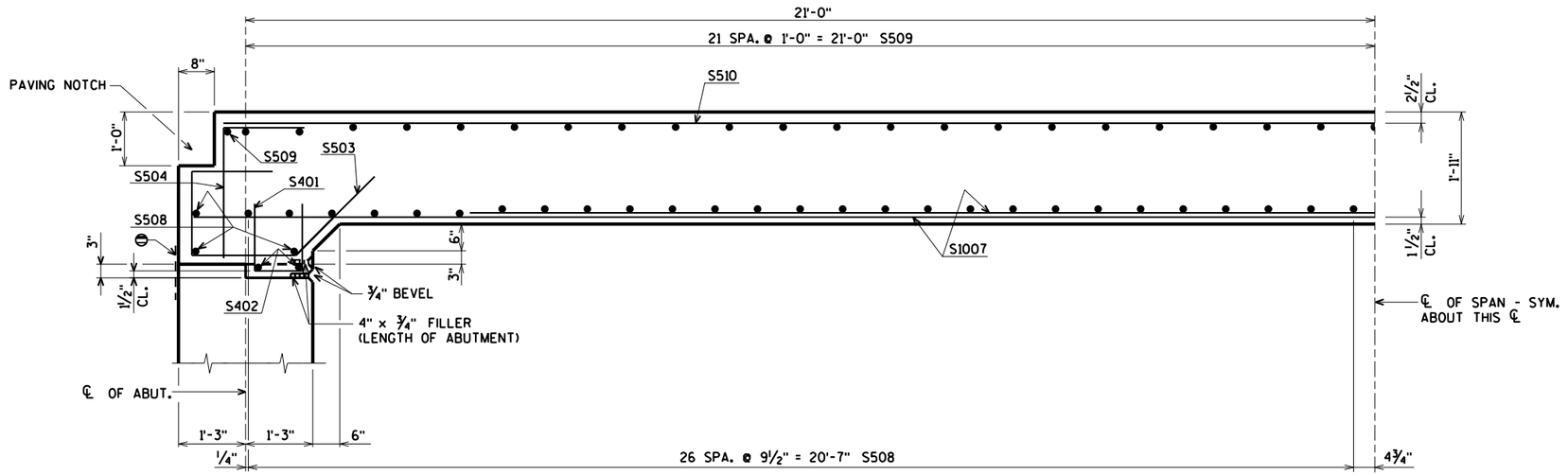


CROSS SECTION THRU ROADWAY



PART LONGITUDINAL SECTION

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

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

⊗ BOTTOM OF SIDEWALK TO BE LEVEL IN OVERHANG.

◈ ±0.005⅛ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 0.02⅛ WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

⊖ 18" RUBBERIZED MEMBRANE WATERPROOFING BETWEEN WINGS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-64-0193

DRAWN BY CLS | PLANS CK'D. CBM

SUPERSTRUCTURE

SHEET 10 OF 14
62

ORIGINAL PLANS PREPARED BY
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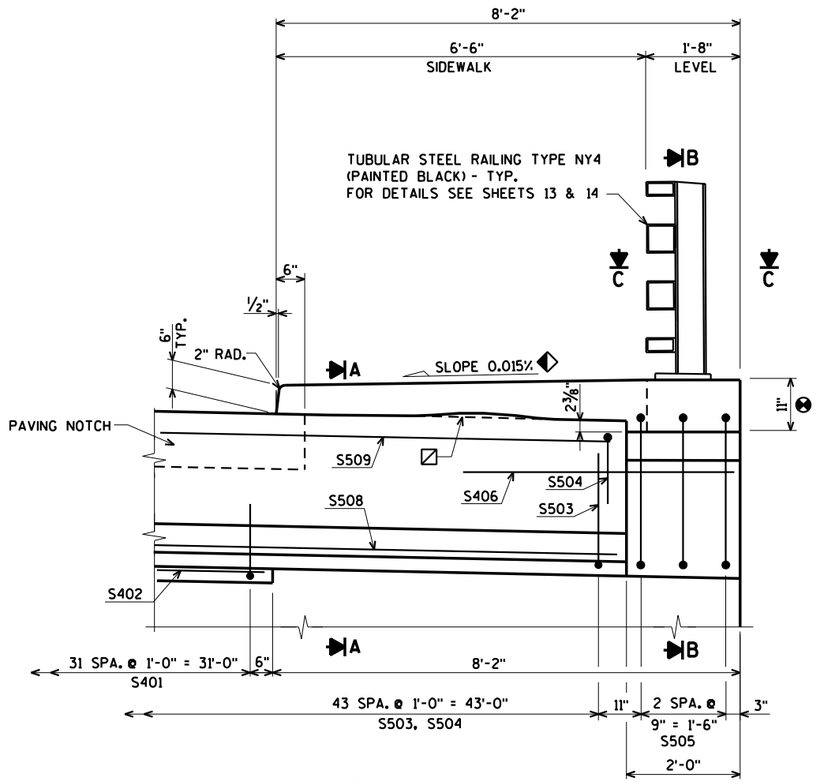
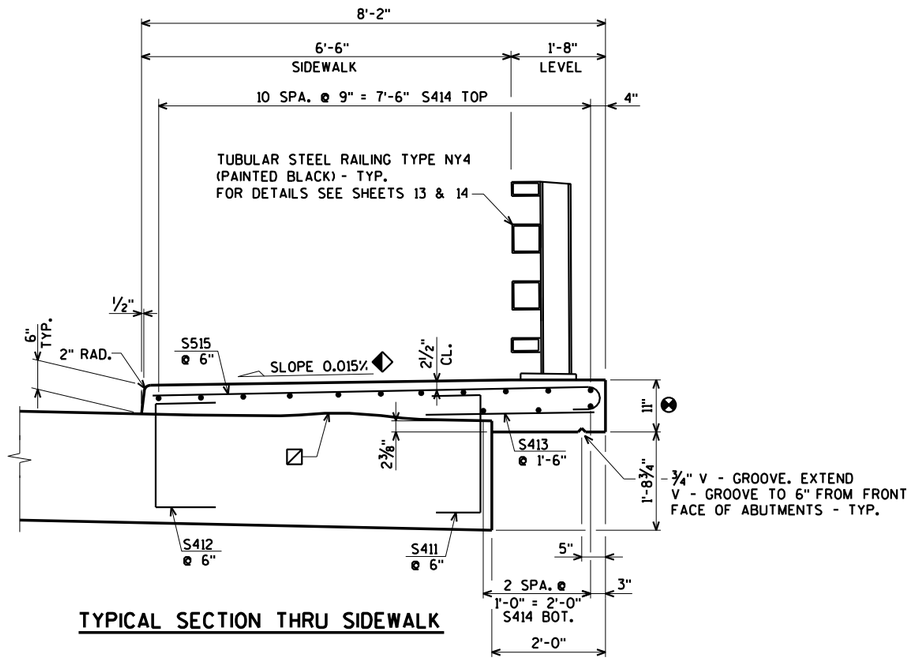


PART SECTION AT ABUTMENT

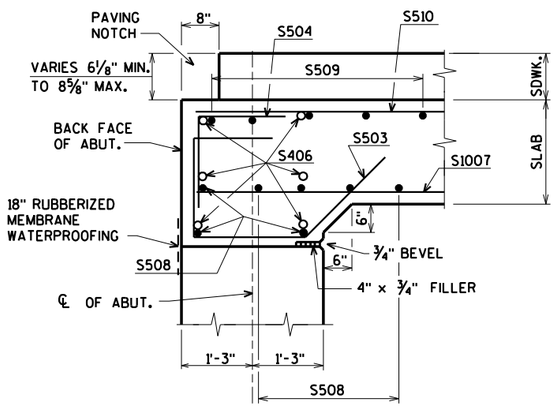


TYPICAL SECTION THRU SIDEWALK

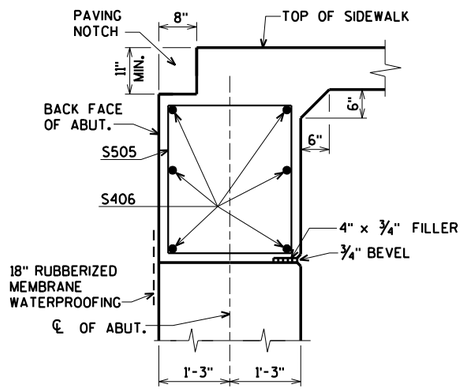
◆ ±0.005⅄ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 0.02⅄ WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

☒ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR DECK POUR, MATCH BRIDGE X-SLOPE.

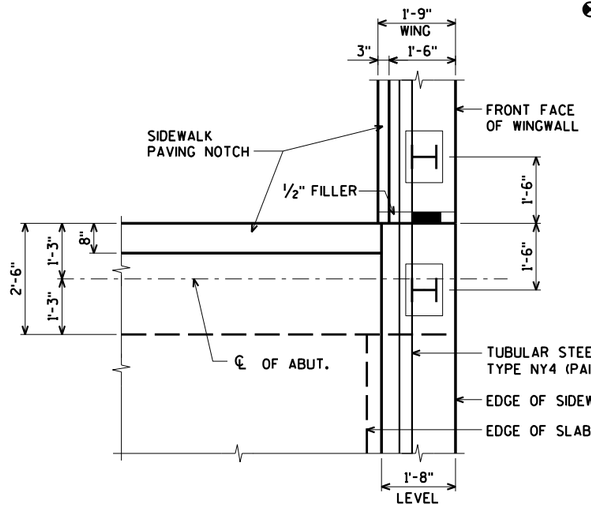
⊗ BOTTOM OF SIDEWALK TO BE LEVEL IN OVERHANG.



SECTION A



SECTION B



SECTION C

(WINGS 2 & 4 SHOWN - WINGS 1 & 3 SIMILAR)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-64-0193

DRAWN BY CLS | PLANS CK'D. CBM

SUPERSTRUCTURE DETAILS

SHEET 11 OF 14
63

ORIGINAL PLANS PREPARED BY
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STATE PROJECT NUMBER

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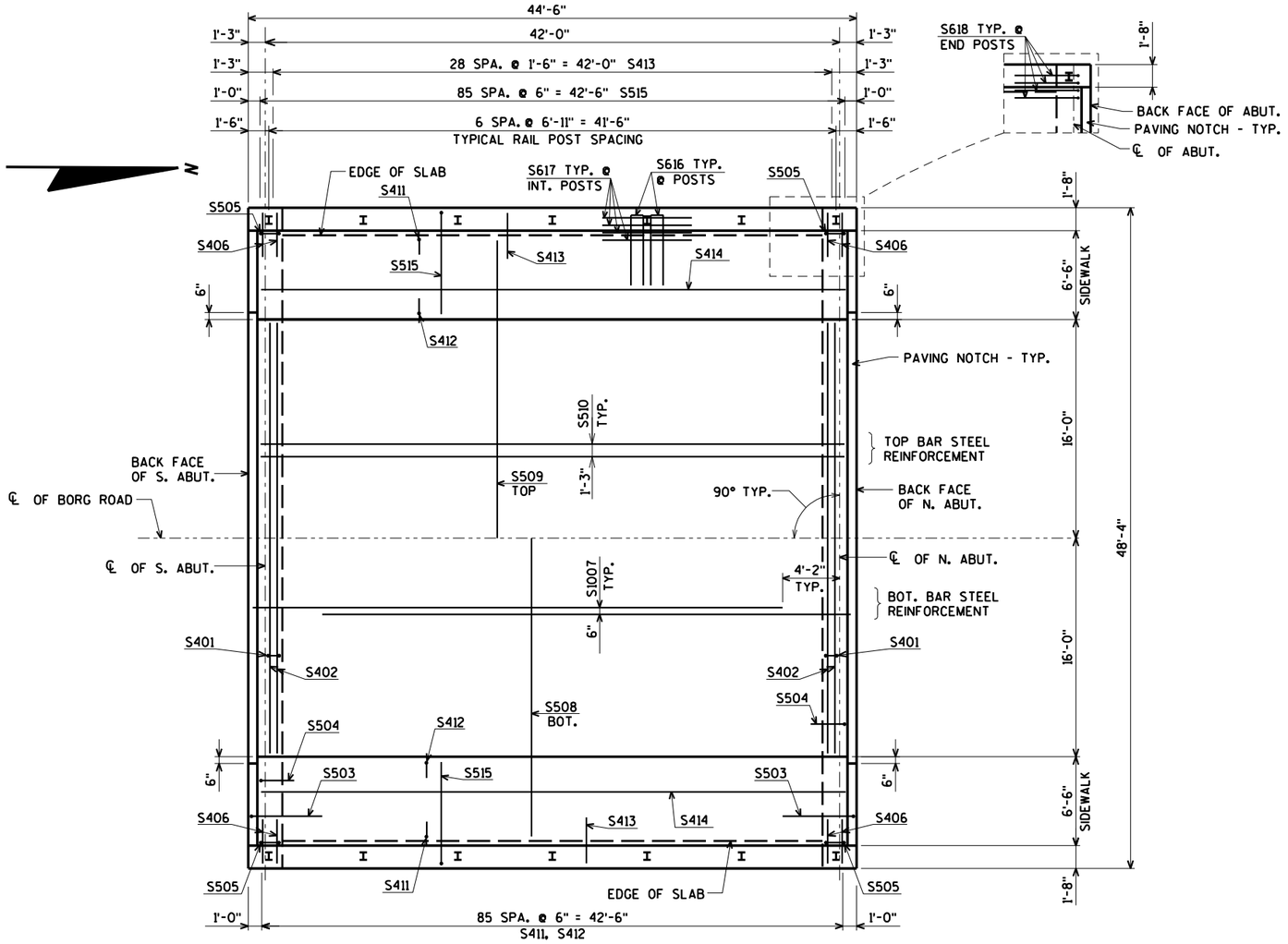
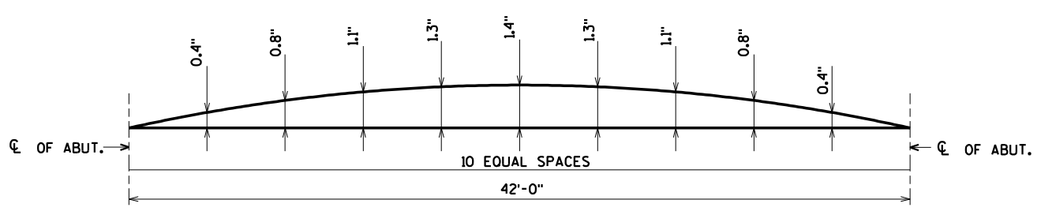


PLAN



CAMBER DIAGRAM

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

TOP OF DECK ELEVATIONS

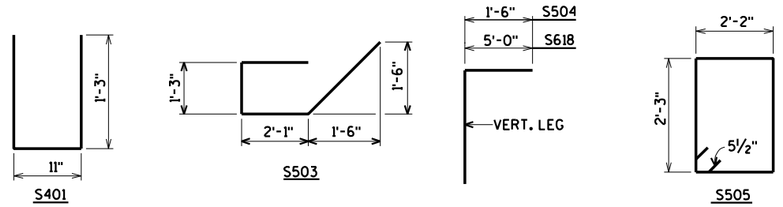
LOCATION	℄ OF S. ABUT.	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	℄ OF N. ABUT.
W. EDGE OF SLAB	926.25	926.24	926.24	926.22	926.21	926.20	926.18	926.16	926.15	926.12	926.10
℄ OF STRUCTURE	926.69	926.69	926.68	926.67	926.66	926.64	926.63	926.61	926.59	926.57	926.55
E. EDGE OF SLAB	926.25	926.24	926.24	926.22	926.21	926.20	926.18	926.16	926.15	926.12	926.10

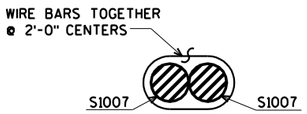
ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION AND FUTURE CREEP.

BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	27,080# COATED LOCATION
S401	X	64	3-3	X		SLAB @ ABUT. NOTCH
S402	X	4	31-8			SLAB @ ABUT. NOTCH
S503	X	88	6-6	X		SLAB @ ABUT. @ RDWY.
S504	X	88	3-8	X		SLAB @ ABUT. @ RDWY.
S505	X	12	9-5	X		SLAB @ ABUT. @ SDWK.
S406	X	24	4-2			SLAB @ ABUT. @ SDWK.
S1007	X	90	38-11			SLAB LONG. BOT.
S508	X	60	44-0			SLAB TRANS. BOT.
S509	X	45	44-0			SLAB TRANS. TOP
S510	X	36	42-10			SLAB LONG. TOP
S411	X	172	3-8	X		SLAB @ SDWK.
S412	X	172	3-6	X		SLAB @ SDWK.
S413	X	58	3-0			SDWK. TRANS. BOT.
S414	X	28	42-10			SDWK. LONG. BOT. & TOP
S515	X	172	8-4	X		SDWK. TRANS. TOP
S616	X	28	12-0	X		SLAB @ RAIL POSTS
S617	X	40	6-0			SLAB @ INT. RAIL POSTS
S618	X	16	6-0	X		SLAB @ END RAIL POSTS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.





BUNDLING DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-64-0193

DRAWN BY CLS | PLANS CK'D. CBM

SUPERSTRUCTURE PLAN AND BILL OF BARS

SHEET 12 OF 14
64

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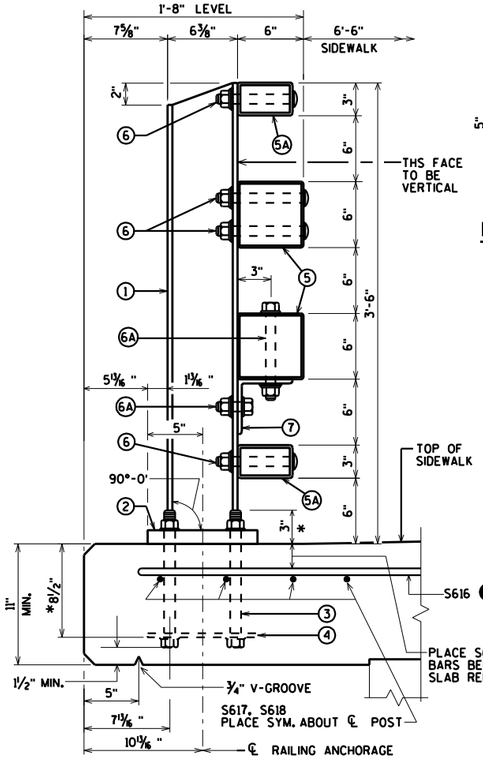
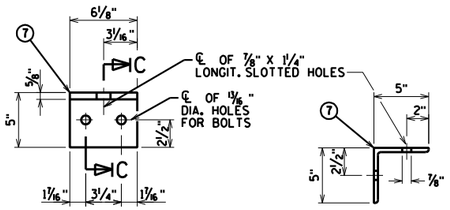
4/23/2015

PENTABLE:BReau_shd_util.tbl



SECTION THRU RAILING ON SIDEWALK

* NORMAL TO BASE PLATE

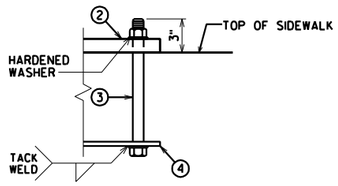


RAILING ANGLE DETAIL

INTERIOR ELEVATION

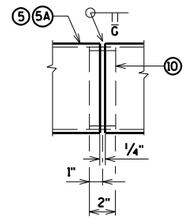
SECTION C-C

ANGLE SECTION



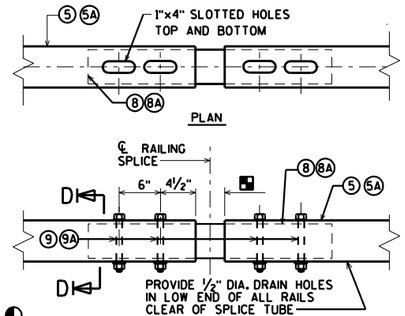
ANCHOR BOLTS

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

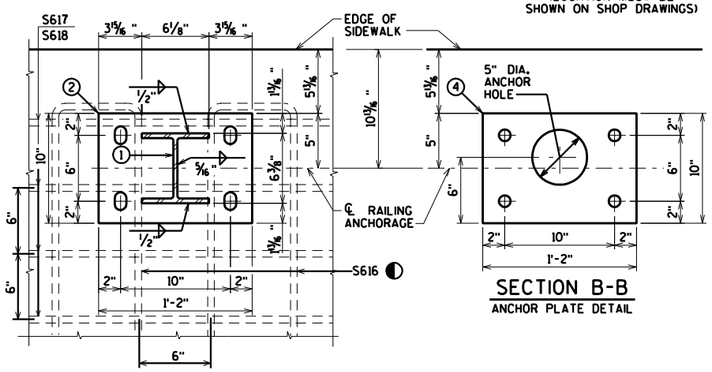


SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



FIELD ERECTION JOINT DETAIL

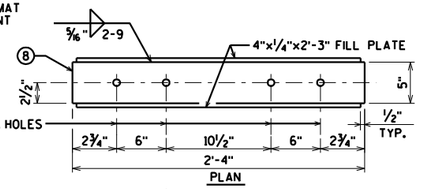


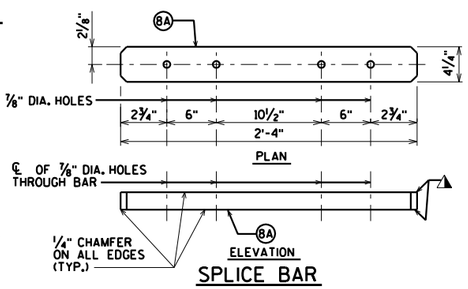
SECTION A-A

BASE PLATE DETAIL

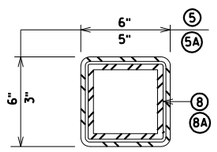
SECTION B-B

ANCHOR PLATE DETAIL

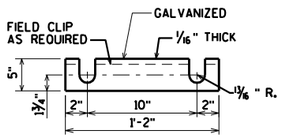




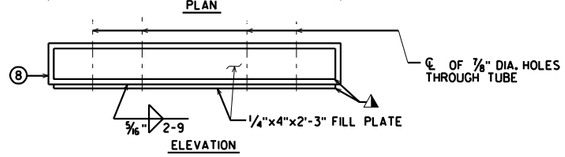
SPLICE BAR



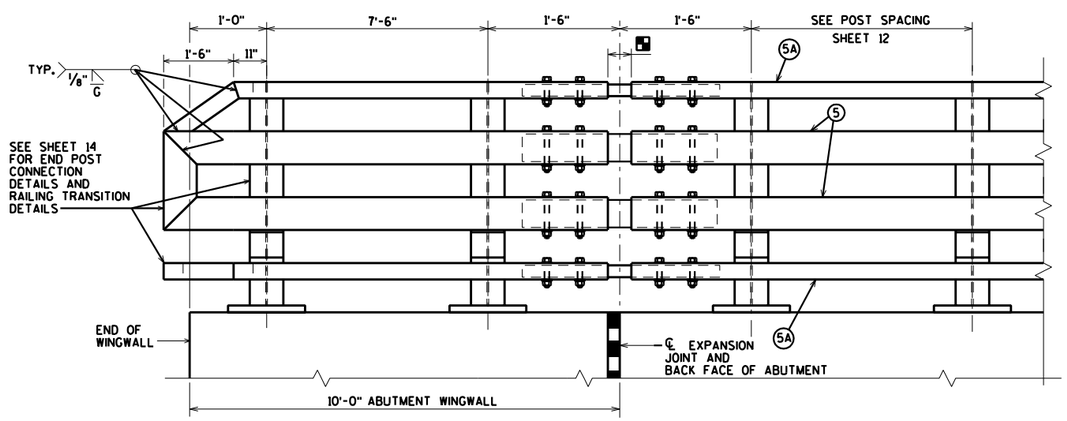
SECTION D-D



POST SHIM DETAIL

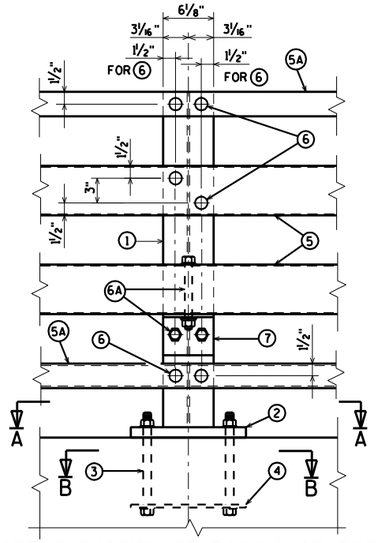


SPLICE TUBE



PART ELEVATION OF RAILING

INTERIOR ELEVATION



PART ELEVATION OF RAILING AT POST

INTERIOR ELEVATION

LEGEND

① W6 X 25 WITH 1⅛" X 1⅜" HORIZONTAL SLOTTED HOLES ON EACH SIDE OF POST FOR BOLT NO. 6 AT TOP TWO RAILS. USE 1" DIA. HOLES FOR BOLTS NO. 6 AT BOTTOM NO. 5A & FOR BOLT NO. 6A AT NO. 7. CUT BOTTOM OF POST LEVEL. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

② PLATE 1¼" X 10" X 1'-2" WITH 1⅛" X 1 11/16" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

③ ASTM A449 - 1" DIA. ANCHOR BOLTS WITH HEAVY HEX NUT AND 2" O.D. HARDENED WASHER (ALL GALVANIZED). 4 REQUIRED PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 11½" LONG BOLT FOR CONCRETE SIDEWALK. USE 1'-9" LONG IN ABUTMENT WINGS. (AN EQUIVALENT THREADED ROD WITH HEAVY HEX NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQUIRED FOR CONSTRUCTABILITY.)

④ ⅜" X 10" X 1'-2" ANCHOR PLATE (GALVANIZED) WITH 1 1/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3.

⑤ TS 6 X 6 X ⅜" STRUCTURAL TUBING. USE 1" DIA. HOLES FOR BOLT NO. 6 (FRONT & BACK) & ⅞" DIA. HOLES FOR BOLT NO. 6A (TOP & BOTTOM).

⑤A TS 5 X 3 X ¼" STRUCTURAL TUBING. USE 1" DIA. HOLES FOR BOLT NO. 6. IN TOP RAIL (FRONT & BACK). USE ⅛" X 1⅜" HORIZONTAL SLOTTED HOLES FOR BOLT NO. 6 IN BOTTOM RAIL (FRONT & BACK) AND A 2" O.D. WASHER UNDER BOLT HEAD.

⑥ ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH HEX NUT, 3/16" X 1¾" X 1¾" WASHER, AND SPRING LOCK WASHER (2 REQUIRED AT RAIL TO POST LOCATIONS SHOWN).

⑥A ¾" DIA. A325 BOLT WITH HEX NUT AND SPRING LOCK WASHER (1 REQUIRED AT RAIL TO ANGLE AND 2 REQUIRED AT ANGLE TO POST LOCATIONS SHOWN WITH 7/16" X 1¾" X 1¾" WASHER).

⑦ L 5 X 5 X ⅝" STRUCTURAL ANGLE. ATTACH TO NO. 1 AND NO. 5 AS SHOWN.

⑧ TS 5 X 5 X 5/16" X 2'-4" LONG SPLICE TUBE. 1 PER RAIL. USED IN NO. 5.

⑧A 4¼" X 2⅛" X 2'-4" LONG SPLICE BAR. 1 PER RAIL. USED IN NO. 5A.

⑨ ¾" DIA. A325 FULLY THREADED BOLTS, 7½" LONG, WITH 2 WASHERS AND HEAVY HEX NUT ON EACH BOLT. NUT TO BE FINGER TIGHT. (4 REQUIRED PER SPLICE). USE 1" X 4" SLOTTED HOLES IN TOP AND BOTTOM OF NO. 5.

⑨A ¾" DIA. A325 FULLY THREADED BOLTS, 4½" LONG, WITH 2 WASHERS AND HEAVY HEX NUT ON EACH BOLT. NUT TO BE FINGER TIGHT. (4 REQUIRED PER SPLICE). USE 1" X 4" SLOTTED HOLES IN TOP AND BOTTOM OF NO. 5A.

⑩ SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".

▲ PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE RAILS, SPLICE TUBES AND FILL PLATES.

◐ TIE TO TOP MAT OF STEEL.

NOTES

BID ITEM SHALL BE "RAILING TUBULAR TYPE NY4 GALVANIZED B-64-0193", WHICH INCLUDES ALL ITEMS SHOWN.

RAILING SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.

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.

ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS, ANGLES, SPLICE TUBES, SPLICE BARS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS.

PAINT OVER GALVANIZING. ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 3 & NO. 4), WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE "BRIDGE SPECIAL PROVISIONS". THE RAILING SHALL BE PAINTED "BLACK" FEDERAL COLOR NO. 27038.

RAIL POST, BASE PLATES, SPLICE BAR, ANGLES AND SPLICE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED f_y =50 KSI. ANCHOR PLATES & SHIMS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.

THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.

FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. CAULK AROUND PERIMETER OF NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

STEEL SHIMS SHALL BE PROVIDED & USED UNDER PLATE NO. 2 WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.

PLACE FIRST BOTTOM LONGITUDINAL REINFORCING BAR CLEAR OF DRIP GROOVE.

THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).

WORK THIS SHEET WITH "END POST DETAILS FOR TUBULAR STEEL RAILING TYPE NY4" SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-64-0193

DRAWN BY	CLS	PLANS CK'D.	CBM

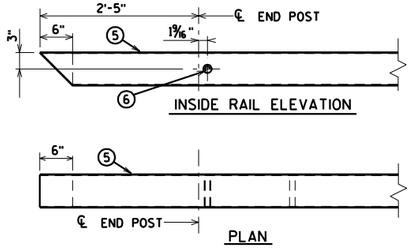
TUBULAR STEEL RAILING TYPE NY4

SHEET 13 OF 14
65

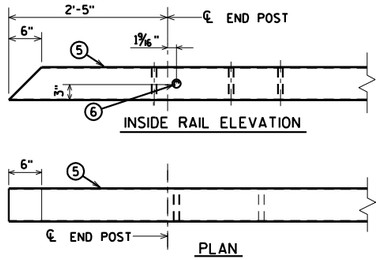
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE PROJECT NUMBER

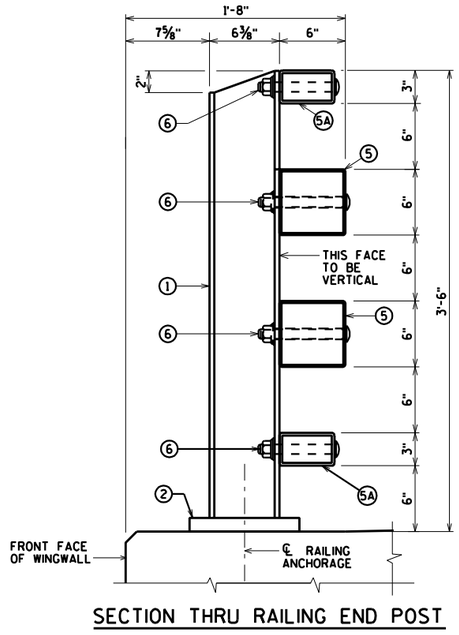
3841-00-71



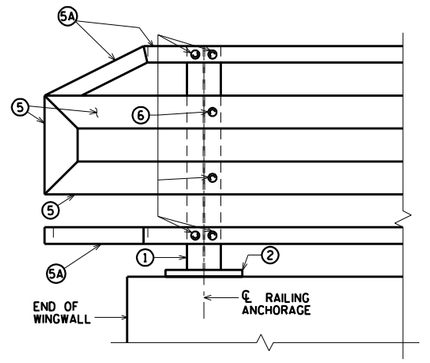
TOP RAIL ⑤ DETAILS



BOTTOM RAIL ⑤ DETAILS



SECTION THRU RAILING END POST



ELEVATION DETAIL AT END POST

INTERIOR ELEVATION

LEGEND

① W6 X 25 WITH 1⅛" X 1⅜" HORIZONTAL SLOTTED HOLES ON SIDE OF POST FOR BOLT NO. 6 AT NO. 5 & AT TOP RAIL NO. 5A. USE 1" DIA. HOLE FOR BOLT NO. 6 AT NO. 5A BOTTOM RAIL. CUT BOTTOM OF POST LEVEL. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

② PLATE 1¼" X 10" X 1'-2". SEE SHEET "TUBULAR STEEL RAILING NY4" FOR MORE INFORMATION.

⑤ TS 6 X 6 X 3/16" STRUCTURAL TUBING. USE ⅞" DIA. HOLES IN TOP AND BOTTOM OF RAILS FOR BOLT NO. 13 AS SHOWN IN PLAN DETAILS. USE 1" DIA. HOLES IN FRONT AND BACK OF RAILS FOR BOLTS NO. 6 & NO. 14 AS SHOWN IN ELEVATION DETAILS.

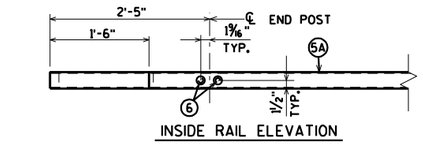
⑤A TS 5 X 3 X ¼" STRUCTURAL TUBING. USE 1" DIA. HOLES FOR BOLT NO. 6 IN TOP RAIL (FRONT & BACK). USE 1⅛" X 1⅜" HORIZONTAL SLOTTED HOLES FOR BOLT NO. 6 IN BOTTOM RAIL (FRONT & BACK) AND A 2" O.D. WASHER UNDER BOLT HEAD.

⑥ ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH HEX NUT, 3/16" X 1¾" X 1¾" WASHER, AND SPRING LOCK WASHER (1 REQUIRED AT RAIL NO. 5 TO POST NO. 1 CONNECTION LOCATIONS SHOWN. 2 REQUIRED AT RAIL NO. 5A TO POST NO. 1 CONNECTION LOCATIONS SHOWN).

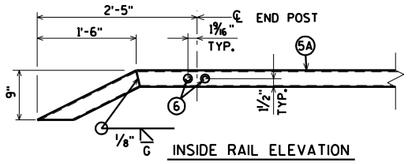
NOTES

STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED f_y =50 KSI. STRUCTURAL ANGLE SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50.

WORK THIS SHEET WITH "TUBULAR STEEL RAILING TYPE NY4" SHEET.



BOTTOM RAIL ⑤A DETAILS



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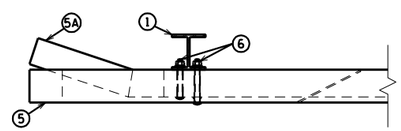


PLAN OF DETAIL AT END POST

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-64-0193

DRAWN BY CLS | PLANS CK'D. CBM

END POST DETAILS FOR TUBULAR STEEL RAILING TYPE NY4

SHEET 14 OF 14
66

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

8

8

$PRFNAME$
U:\45-0381.00 - Walworth Co - Borg Road over Swan Creek\BRIDGE\450381NY4 RAIL.dgn

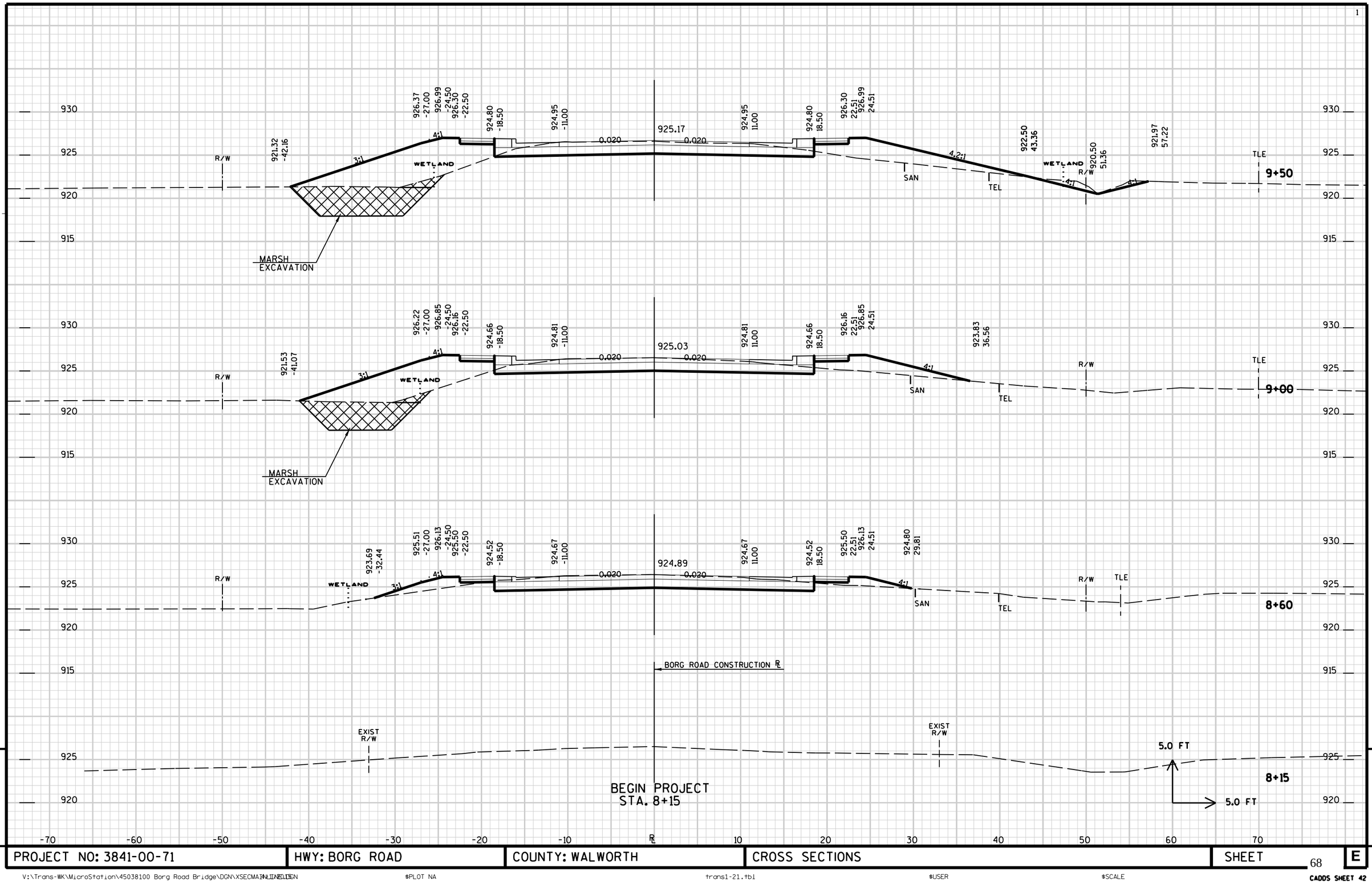
4/23/2015

PENTABLE:BReau_shd_util.tbl

RAILNY4DET
1-15

EARTHWORK

STATION	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)			
	Cut	Unusable Pavement Material	Fill	Marsh Exc	Cut	Unusable Pavement Material	Fill	Marsh Exc	Cut 1.00	Expanded Fill 1.11	Expanded Marsh Backfill 1.00	Mass Ordinate
8+15.00	0.0	0.0	0.0	0.00								
8+60.00	51.5	6.9	17.8	0.00	43	6	15	0	43	16	0	21
9+00.00	48.0	6.9	75.0	48.30	74	10	69	36	117	93	36	8
9+50.00	46.5	6.9	99.8	59.50	88	13	162	100	204	272	136	-97
9+77.75	46.5	6.9	99.8	59.50	48	7	103	61	252	386	197	-170
10+22.25	86.5	10.4	64.0	73.50								
10+42.00	86.5	10.4	64.0	73.50	63	8	47	54	315	438	54	-167
10+50.00	86.5	10.4	64.0	73.50	26	3	19	22	341	459	76	-165
10+67.00	86.5	10.4	64.0	0.00	54	7	40	23	395	504	99	-162
10+90.00	57.8	10.4	24.3	0.00	61	9	38	0	457	546	99	-151
11+00.00	10.8	0.0	23.3	0.00	13	2	9	0	469	556	99	-150
11+40.00	10.8	0.0	12.5	0.00	16	0	27	0	485	585	99	-163
11+85.00	0.0	0.0	0.0	0.00	9	0	10	0	494	597	99	-166
			TOTALS:		494	64	537	295				



PROJECT NO: 3841-00-71	HWY: BORG ROAD	COUNTY: WALWORTH	CROSS SECTIONS	SHEET	E

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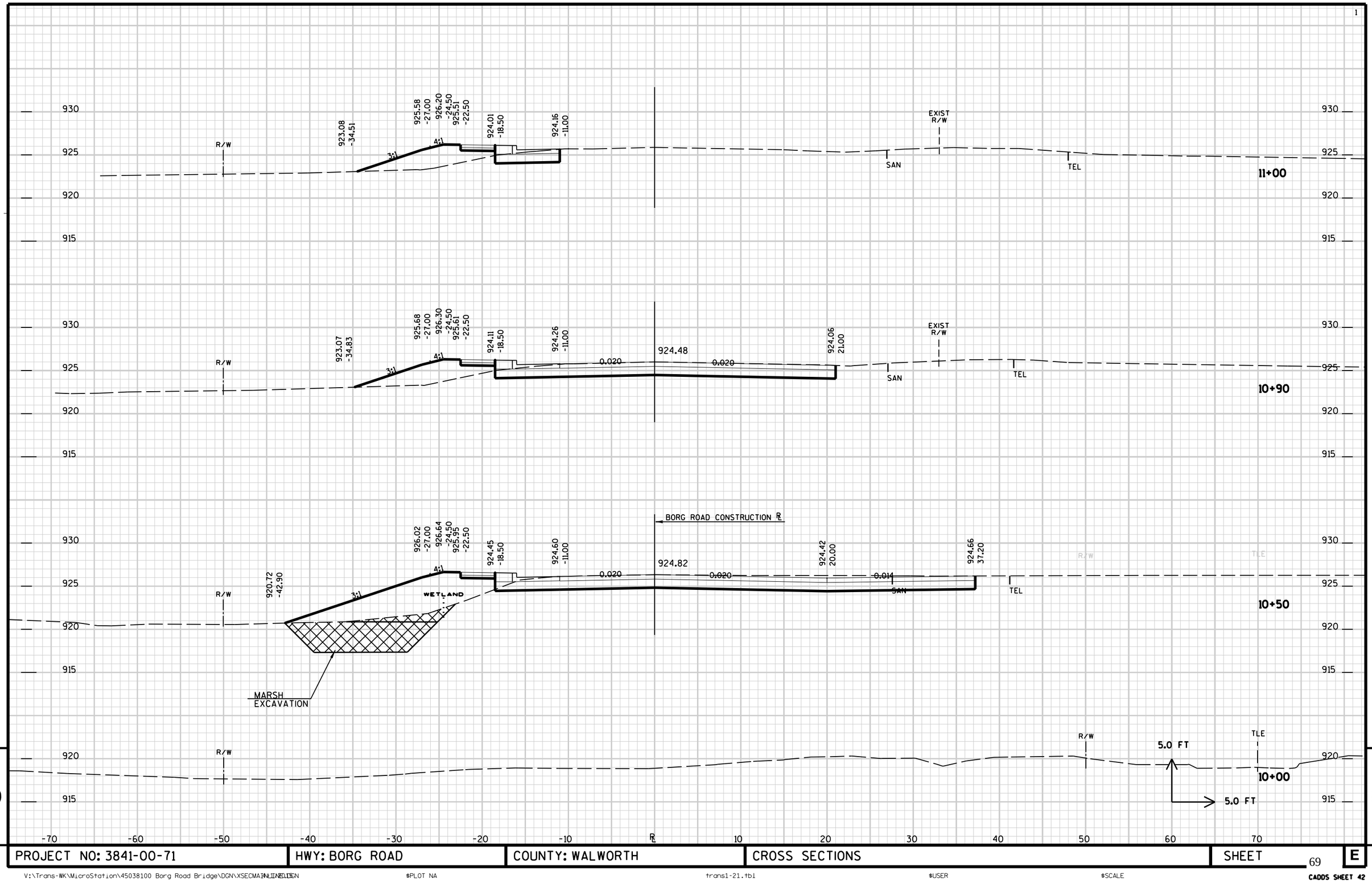
CADDS SHEET 42



PROJECT NO: 3841-00-71	HWY: BORG ROAD	COUNTY: WALWORTH	CROSS SECTIONS	SHEET	E

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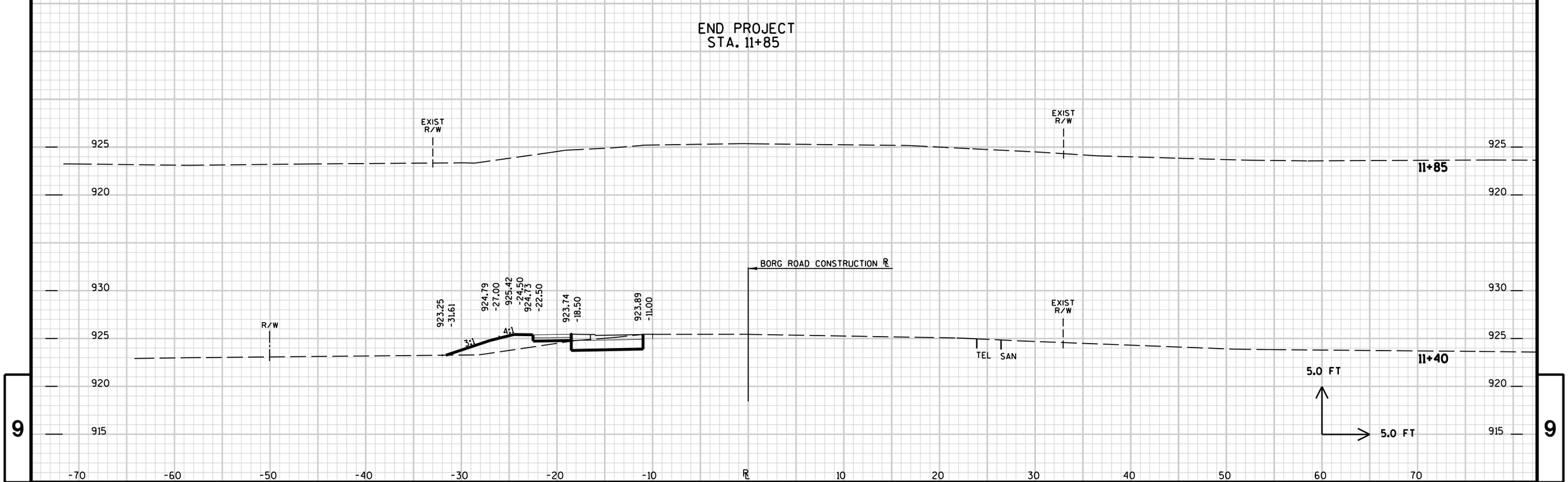
CADDS SHEET 42

END PROJECT
STA. 11+85



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PROJECT NO: 3841-00-71	HWY: BORG ROAD	COUNTY: WALWORTH	CROSS SECTIONS	SHEET 70	E

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CADDS SHEET 42

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov