SWL MARCH 2015

ORDER OF SHEETS

Sheet No.	1	Title
Sheet No.	2	Typical Sections, Details & Erosion Control Plan
Sheet No.	3	Estimate of Quantities
Sheet No.	3	Miscellaneous Quantities
~~Sheet No.~~	~~4~~	~~Right-of-Way Plat~~
Sheet No.	5	Plan and Profile
Sheet No.	6	Standard Detail Drawings
Sheet No.	7	Sign Plates
Sheet No.	8	Structure Plans
Sheet No.	9	Computer Earthwork Data
Sheet No.	9	Cross-Sections

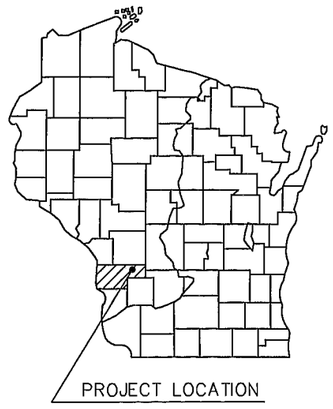
TOTAL SHEETS = 32

PROJECT ID: 5409-00-71

WITH: N/A

05

COUNTY: VERNON



PROJECT LOCATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

TOWN OF WHITESTOWN, 24 VALLEY ROAD

WEISTER CREEK BRIDGE B-62-0048

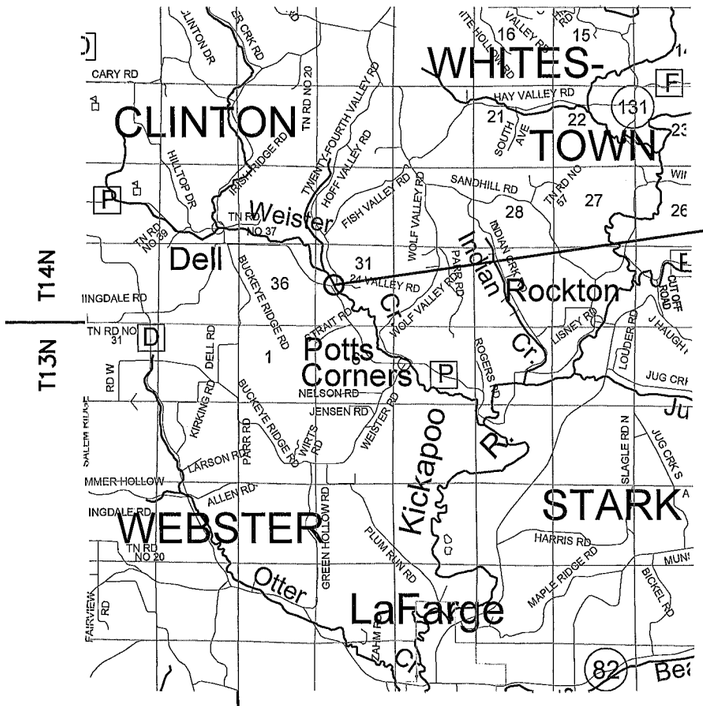
TOWN ROAD

VERNON COUNTY

STATE PROJECT NUMBER

5409-00-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5409-00-71	WISC 2015116	1



LAYOUT

SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.038 MI

END PROJECT
STA 11+00
Y - 181846.72
X - 760899.24

STRUCTURE B-62-0048

BEGIN PROJECT
STA 9+00
Y - 181769.83
X - 760715.47

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), VERNON COUNTY.

DESIGN DESIGNATION

AADT (2014)	=	65
AADT (2034)	=	79
DHV (2034)	=	10
D (%)	=	50/50
T (% OF ADT)	=	10%
DESIGN SPEED	=	25 MPH
ESALS	=	

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)
- HIGH VOLTAGE (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA
- RIGHT-OF-WAY MARKERS

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
- OVERHEAD LINES — OH
- FIBER OPTIC — FO
- GAS — G
- SANITARY SEWER — SAN
- STORM SEWER — SS
- TELEPHONE — T
- WATER — W
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

ACCEPTED FOR TOWN OF WHITESTOWN
10/29/14 James Lee
DATE TOWN CHAIRMAN

ACCEPTED FOR VERNON COUNTY
10/28/14 Phil Hewitt
DATE COUNTY COMMISSIONER

ORIGINAL PLANS PREPARED BY

Cedar corporation

MENOMONIE - MADISON - GREEN BAY
www.cedarcorp.com
800-472-7372

WISCONSIN
DENNIS W. MACK
E-35295
EAU CLAIRE WI
PROFESSIONAL ENGINEER

10/27/14
DATE

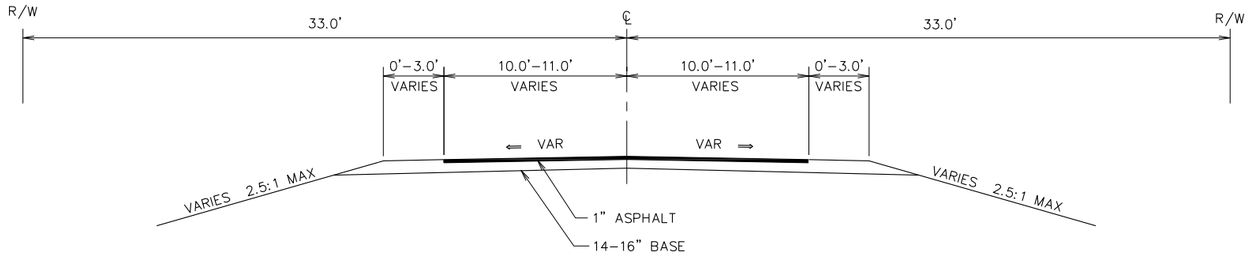
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor CEDAR CORPORATION
Designer CEDAR CORPORATION
Management Consultant KJOHNSON ENGINEERS, INC.

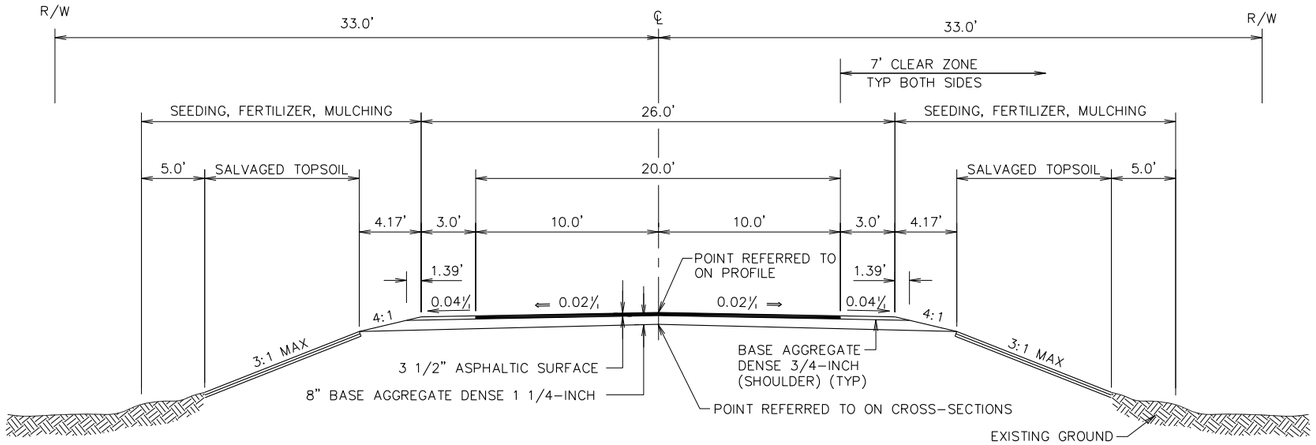
APPROVED FOR THE DEPARTMENT
10/31/14
DATE (Management Consultant Signature)

E

FILE NAME : I:\CLIENTS\W3922 WDOT SW REGION\005 5409-00-01 24 VALLEY RD\DWG\D10101_TI_24 VALLEY RD.DWG PLOT DATE : 10/24/2014 7:22 AM PLOT BY : GUST JUNTTILA

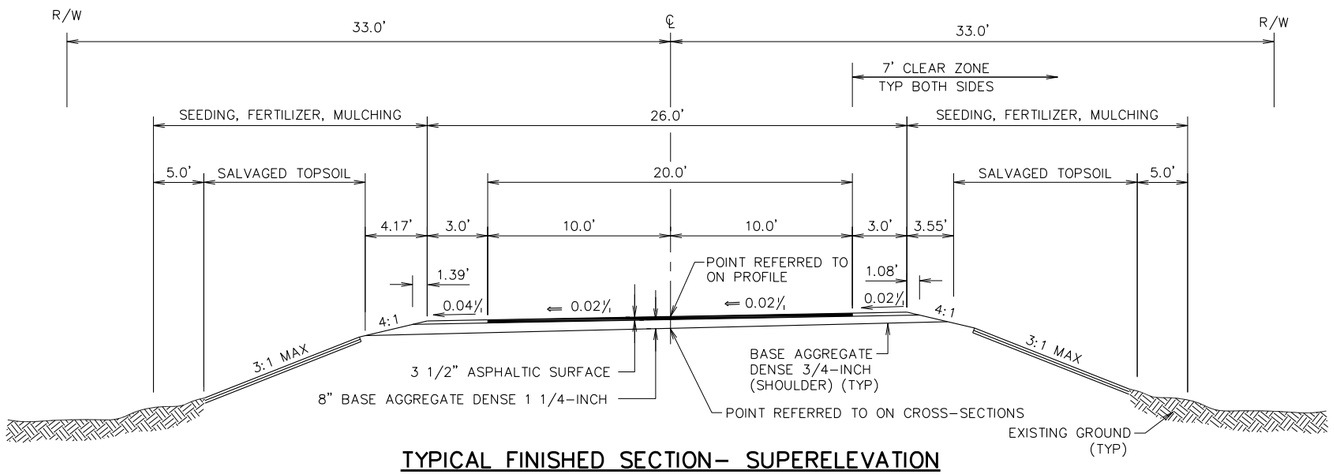


EXISTING TYPICAL SECTION 24 VALLEY ROAD



TYPICAL FINISHED SECTION 24 VALLEY ROAD

STA 9+00 – STA 9+66
STA 10+33 – STA 10+50



TYPICAL FINISHED SECTION– SUPERELEVATION

STA 10+50 – STA 11+00

DNR LIAISON

DNR SERVICE CENTER
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
(608) 785–9115
KAREN KALVELAGE
karen.kalvelage@wisconsin.gov

DESIGN CONSULTANT

CEDAR CORPORATION
604 WILSON AVENUE
MENOMONIE, WI 54751
(715) 235–9081
TROY L. PETERSON, PE
troy.peterson@cedarcorp.com

VERNON COUNTY

VERNON CO. HIGHWAY DEPARTMENT
602 NORTH MAIN STREET
VIROQUA, WI 54665
(608) 637–5452
PHIL HEWITT
phil.heweitt@vernoncounty.org

TOWN OF WHITESTOWN

WHITESTOWN TOWN HALL
S1701 SANDHILL ROAD
LAFARGE, WI 54639
(608) 625–2367
JIM LEE
jkrjlee@mwt.net

UTILITIES

VERNON ELECTRIC COOPERATIVE
110 NORTH MAIN STREET
WESTBY, WI 54667
(608) 634–3121
CRAIG BUROS
cburos@vernonelectric.org

VERNON TELEPHONE COOPERATIVE
103 NORTH MAIN STREET
WESTBY, WI 54667
(608) 634–3136
TODD TUNKS
ttunks@vernontel.com

DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com
** DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

GENERAL NOTES

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

SILT FENCE TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER. SILT FENCE TO BE PLACED PRIOR TO CONSTRUCTION AND IN PLACE PRIOR TO BRIDGE REMOVAL.

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS, BUT IS MEASURED AND PAID FOR AS EXCAVATION COMMON. THE LOCATION OF EBS WILL BE DETERMINED BY THE ENGINEER.

SHRINKAGE IS ESTIMATED AT 25%.

THE 3 1/2" ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 1 3/4" LOWER LAYER AND A 1 3/4" UPPER LAYER. USE 1/2" NOMINAL AGGREGATE FOR ASPHALT SURFACE.

BEARINGS REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), VERNON COUNTY.

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE FERTILIZED AND SEEDED AS DIRECTED BY THE ENGINEER. USE SEED MIX NO. 10.

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

THE BENCHMARK IS REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), VERNON COUNTY.

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

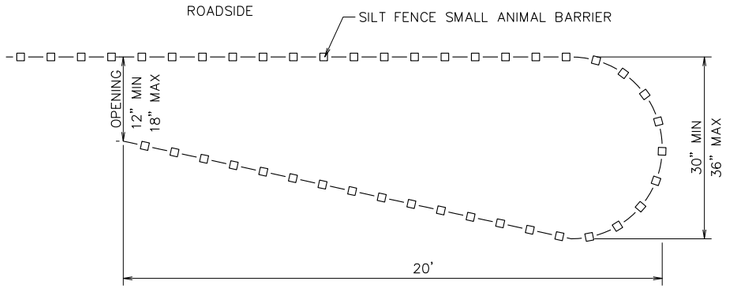
TO PREVENT TURTLES FROM GETTING TRAPPED IN THE RIPRAP, FILL ALL VOIDS USING 1 TO 3–INCH STONE.

STANDARD ABBREVIATIONS

ABUT	ABUTMENT		
AGG	AGGREGATE	PC	POINT OF CURVATURE
ET AL	AND OTHERS	PI	POINT OF INTERSECTION
AADT	ANNUAL AVERAGE DAILY TRAFFIC	PT	POINT OF TANGENCY
BF	BACK FACE	POL	POINT ON LINE
BM	BENCHMARK	PE	PRIVATE ENTRANCE
C/L OR ℄	CENTERLINE	PL	PROPERTY LINE
Δ	CENTRAL ANGLE OR DELTA	PSI	POUNDS/SQUARE INCH
CLR	CLEAR	PROP	PROPOSED
CONC	CONCRETE	R	RADIUS
CONST	CONSTRUCTION	RR	RAILROAD
COR	CORNER	REBAR	REINFORCEMENT BAR
CMP	CORRUGATED METAL PIPE	REQD	REQUIRED
CTH	COUNTY TRUNK HIGHWAY	RT	RIGHT
CR	CREEK	RHF	RIGHT–HAND FORWARD
CFS	CUBIC FEET/SECOND	R/W	RIGHT–OF–WAY
CULV	CULVERT	RD	ROAD
D	DEGREE OF CURVE	SEC	SECTION
DHV	DESIGN HOUR VOLUME	S	SOUTH
DIA	DIAMETER	SE	SOUTHEAST
E	EAST	SW	SOUTHWEST
EL	ELEVATION	STH	STATE TRUNK HIGHWAY
EST	ESTIMATED	STA	STATION
FPS	FEET PER SECOND	SE	SUPER ELEVATION
FE	FIELD ENTRANCE	T	TANGENT
FT	FOOT (FEET)	TEL	TELEPHONE
FTG	FOOTING	TEMP	TEMPORARY
FDN	FOUNDATION	TI	TEMPORARY INTEREST
FF	FRONT FACE	TLE	TEMPORARY LIMITED EASEMENT
IP	IRON PIN	TL OR T/L	TRANSIT LINE
LT	LEFT	T	TRUCKS
LHF	LEFT–HAND FORWARD	TYP	TYPICAL
L	LENGTH OF CURVE	U/G	UNDERGROUND
LF	LINEAR FOOT	USH	UNITED STATES HIGHWAY
MAX	MAXIMUM	VAR	VARIABLE
MI	MILE	V	VELOCITY
MIN	MINIMUM	VPC	VERTICAL POINT OF CURVATURE
NC	NORMAL CROWN	VPI	VERTICAL POINT OF INTERSECTION
N	NORTH	VPT	VERTICAL POINT OF TANGENCY
NE	NORTHEAST	W	WEST
NW	NORTHWEST	YD	YARD
NO	NUMBER		

2

PROJECT NO: 5409–00–71	HWY: 24 VALLEY ROAD	COUNTY: VERNON	TYPICAL SECTIONS & GENERAL NOTES	SHEET 2	E



NOTES:

SILT FENCE POSTS FOR THE TURN–AROUND SHOULD BE ON THE OUTSIDE OF THE TRUN–AROUND AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.

SILT FENCE WILL BE INSTALLED BY VERNON COUNTY PRIOR TO APRIL 15.

* TEMPORARY SMALL ANIMAL BARRIER

WEISTER CREEK

BEGIN PROJECT
STATION 9+00

END PROJECT
STATION 11+00

9+00

10+00

11+00

11+50

24 VALLEY ROAD

ASPHALT

R/W

EXISTING STRUCTURE
P–62–0148
TO BE REMOVED

PROPOSED STRUCTURE
B–62–0048

LEGEND

TEMPORARY SEED, FERTILIZER AND EROSION MAT CLASS I TYPE B

SILT FENCE

TURBIDITY BARRIER

PROJECT NO: 5409–00–71	HWY: 24 VALLEY ROAD	COUNTY: VERNON	EROSION CONTROL	SHEET 3 E

FILE NAME : I:\CLIENTS\W3922 WDOT SW REGION\005 5409–00–01 24 VALLEY RD\DWG\022002_EC_3922005.DWG PLOT DATE : 10/21/2014 8:12 AM PLOT BY : GUST JUNTTILA

DATE 23DEC14 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	5409-00-71 QUANTITY
0010	201.0105	Clearing	STA	1.000	1.000
0020	201.0205	Grubbing	STA	1.000	1.000
0030	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0040	205.0100	Excavation Common **P**	CY	111.000	111.000
0050	206.1000	Excavation for Structures Bridges (structure) 01. B-62-0048	LS	1.000	1.000
0060	210.0100	Backfill Structure	CY	280.000	280.000
0070	213.0100	Finishing Roadway (project) 01. 5409-00-71	EACH	1.000	1.000
0080	305.0110	Base Aggregate Dense 3/4-Inch	TON	23.000	23.000
0090	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	206.000	206.000
0100	465.0105	Asphaltic Surface	TON	64.000	64.000
0110	502.0100	Concrete Masonry Bridges	CY	200.000	200.000
0120	502.3200	Protective Surface Treatment	SY	230.000	230.000
0130	505.0405	Bar Steel Reinforcement HS Bridges	LB	6,090.000	6,090.000
0140	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	24,360.000	24,360.000
0150	513.4060	Railing Tubular Type M (structure) 01. B-62-0048	LS	1.000	1.000
0160	516.0500	Rubberized Membrane Waterproofing	SY	11.000	11.000
0170	550.0500	Pile Points	EACH	17.000	17.000
0180	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	425.000	425.000
0190	606.0400	Riprap Extra-Heavy	CY	155.000	155.000
0200	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	160.000	160.000
0210	619.1000	Mobilization	EACH	1.000	1.000
0220	624.0100	Water	MGAL	3.000	3.000
0230	625.0500	Salvaged Topsoil **P**	SY	120.000	120.000
0240	627.0200	Mulching **P**	SY	400.000	400.000
0250	628.1504	Silt Fence	LF	300.000	300.000
0260	628.1520	Silt Fence Maintenance	LF	800.000	800.000
0270	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0280	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0290	628.2004	Erosion Mat Class I Type B	SY	120.000	120.000
0300	628.6005	Turbidity Barriers	SY	205.000	205.000
0310	629.0210	Fertilizer Type B	CWT	0.400	0.400
0320	630.0110	Seeding Mixture No. 10 **P**	LB	13.000	13.000
0330	630.0200	Seeding Temporary **P**	LB	13.000	13.000
0340	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0350	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0360	638.2602	Removing Signs Type II	EACH	4.000	4.000
0370	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0380	642.5001	Field Office Type B	EACH	1.000	1.000
0390	643.0100	Traffic Control (Project) 01. 5409-00-71	EACH	1.000	1.000
0400	643.0420	Traffic Control Barricades Type Iii	DAY	1,458.000	1,458.000
0410	643.0705	Traffic Control Warning Lights Type A	DAY	2,916.000	2,916.000
0420	643.0900	Traffic Control Signs	DAY	1,134.000	1,134.000
0430	645.0120	Geotextile Fabric Type Hr	SY	290.000	290.000
0440	650.4500	Construction Staking Subgrade	LF	133.000	133.000
0450	650.5000	Construction Staking Base	LF	133.000	133.000
0460	650.6500	Construction Staking Structure Layout (Structure) 01. B-62-0048	LS	1.000	1.000
0470	650.9910	Construction Staking Supplemental Control (Project) 01. 5409-00-71	LS	1.000	1.000
0480	650.9920	Construction Staking Slope Stakes	LF	133.000	133.000

DATE 23DEC14 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	5409-00-71 QUANTITY
0490	690.0150	Sawing Asphalt	LF	45.000	45.000
0500	715.0502	Incentive Strength Concrete Structures	DOL	1,200.000	1,200.000
0510	SPV.0195	Special 01. Select Crushed Material For Travel Corridor Interstitial Space	TON	94.000	94.000

3

Division	From / To Station	Location	205.0100 Common Excavation (CY) **P** Cut (1)	Salvaged / Unusable Pavement Material	Available Material (CY) (2)	Unexpanded Fill	Expanded Fill Factor 1.25	Mass Ordinate + / - (3)	208.0100 Borrow (CY)	Waste (CY)
1	9+00 - 9+50	MAINLINE WEST	57	4	53	1	1	52	0	56
Division 1 Subtotal			57	4	53	1	1	52	0	56
2	10+50 - 11+00	MAINLINE EAST	55	4	51	2	2	49	0	53
Division 2 Subtotal			55	4	51	2	2	49	0	53
Grand Total			111	7	104	2	3		0	108
		Total Common Ex	111						0	108

1) Cut includes Salvaged/Unusable Pavement Material
2) Available Material = Cut - Salvaged/Unusable Pavement Material
3) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division and is catagorized as waste. Minus indicates a shortage of material within the Division and is catagorized as borrow Item Number 208.0100.

ASPHALTIC SURFACE

STATION - STATION	LOCATION	465.0105 TON
9+00 - 9+66	MAINLINE WEST	32
10+33 - 11+00	MAINLINE EAST	32
	TOTAL	64

BASE AGGREGATE DENSE

STATION - STATION	LOCATION	305.0110 3/4 - INCH TON	305.0120 1 1/4 - INCH TON
9+00 - 9+66	MAINLINE	11	100
10+33 + 11+00	MAINLINE	12	106
TOTAL		23	206

FINISHING ROADWAY

STATION - STATION	LOCATION	213.0100 EACH
9+00 - 11+00	MAINLINE	1
TOTAL		1

FIELD OFFICE TYPE B

PROJECT	LOCATION	642.5001 EACH
5409-00-71	MAINLINE	1
TOTAL		1

CLEARING & GRUBBING

STATION - STATION	LOCATION	201.0105 CLEARING STA.	201.0205 GRUBBING STA.
9+15-9+70, 10+40-10+50	MAINLINE	1	1
TOTAL		1	1

MOBILIZATION

PROJECT	LOCATION	619.1000 EACH
CATEGORY 0020	MAINLINE	0.82
CATEGORY 0010	MAINLINE	0.18
TOTAL		1

WATER

STATION - STATION	LOCATION	624.0100 MGAL
9+00 - 11+00	MAINLINE	3
TOTAL		3

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED.

ALL ITEMS ARE CATEGORY 0010
UNLESS OTHERWISE NOTED.

3

EROSION CONTROL ITEMS

STATION - STATION	LOCATION	630.0200 SEEDING TEMPORARY **P** LB	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2004 EROSION MAT CLASS I TYPE B SY	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL EACH
9+00 - 9+66	LT	3	--	150	20	--	--
9+00 - 9+66	RT	3	--	150	35	--	--
10+33 - 11+00	LT	3	--	150	22	--	--
10+33 - 11+00	RT	4	--	150	43	--	--
9+00 - 11+00	MAINLINE	--	--	--	--	3	3
UNDISTRIBUTED		--	300	200	--	--	--
TOTAL		13	300	800	120	3	3

RESTORATION ITEMS

STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL **P** SY	627.0200 MULCHING **P** SY	629.0210 FERTILIZER TYPE B CWT	630.0110 SEEDING MIXTURE NO. 10 **P** LB
9+00 - 9+66	LT	20	85	0.1	3
9+00 - 9+66	RT	35	100	0.1	3
10+33 - 11+00	LT	22	97	0.1	3
10+33 - 11+00	RT	43	118	0.1	4
TOTAL		120	400	0.4	13

3

SIGNING QUANTITIES

LOCATION	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0612 POSTS WOOD 4X6-INCH X 12-FT EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	DESCRIPTION
NW BRIDGE CORNER	3.00	1	1	1	W5-52 L
SW BRIDGE CORNER	3.00	1	1	1	W5-52 R
NE BRIDGE CORNER	3.00	1	1	1	W5-52 R
SE BRIDGE CORNER	3.00	1	1	1	W5-52 L
TOTAL	12.00	4	4	4	

TURBIDITY BARRIER

LOCATION	ABUTMENT	628.6005 SY
MAINLINE	WEST	100
MAINLINE	EAST	105
TOTAL		205

SAWING ASPHALT

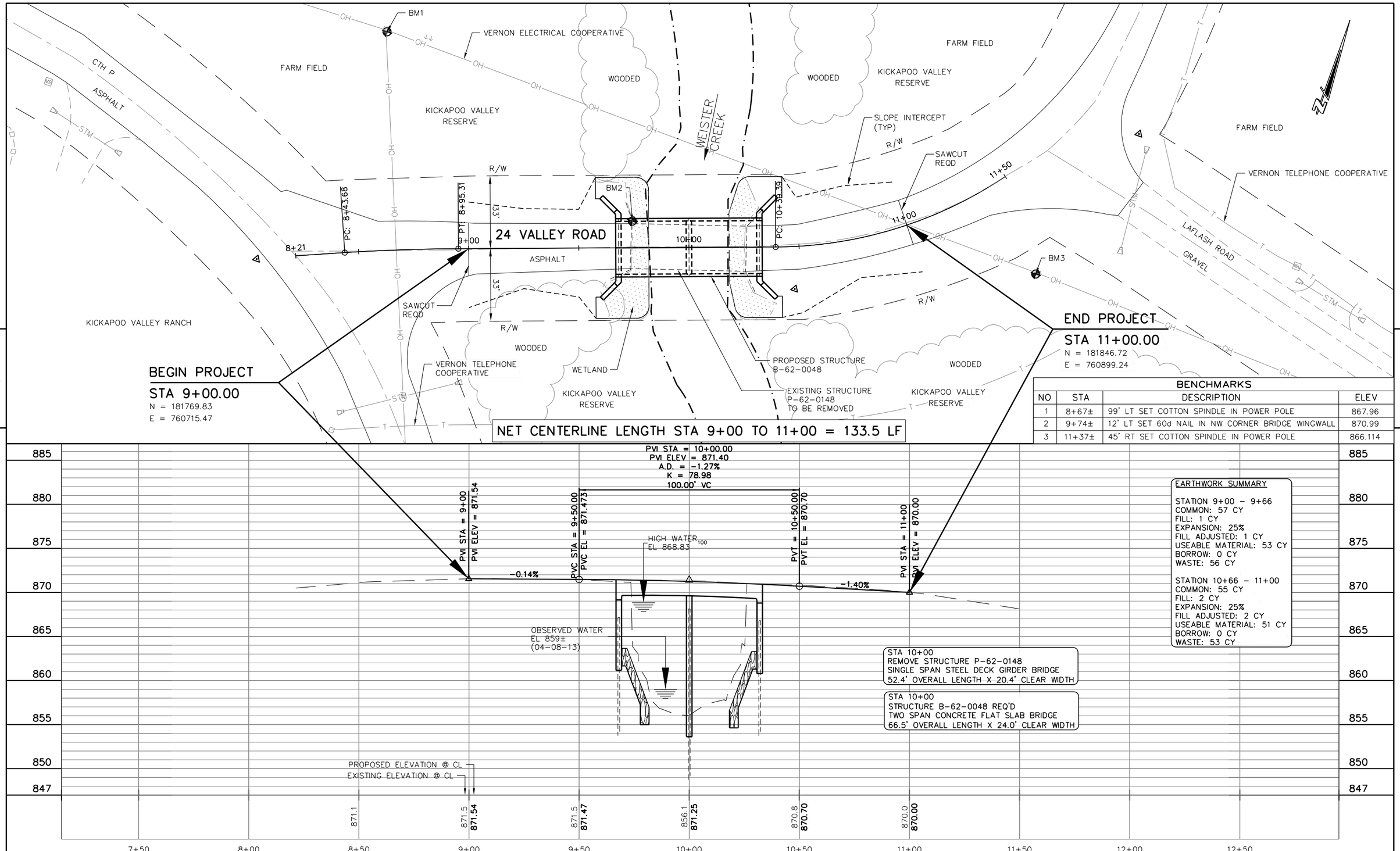
STATION	LOCATION	690.0150 LF
9+00	BEGIN PROJECT	25
11+00	END PROJECT	20
TOTAL		45

TRAFFIC CONTROL

LOCATION	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.0100 TRAFFIC CONTROL 5409-00-71 EACH
PROJECT 5409-00-71	1458	2916	1134	1
TOTAL	1458	2916	1134	1

CONSTRUCTION STAKING

STATION - STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.9910 SUPPLEMENTAL CONTROL LS	650.9920 SLOPE STAKES LF	CATEGORY 0020 650.6500 STRUCTURE LAYOUT B-62-0048 LS
9+00 - 11+00	MAINLINE	133	133	1	133	1
TOTAL		133	133	1	133	1



BENCHMARKS			
NO	STA	DESCRIPTION	ELEV
1	8+67±	99' LT SET COTTON SPINDLE IN POWER POLE	867.96
2	9+74±	12' LT SET 60d NAIL IN NW CORNER BRIDGE WINGWALL	870.99
3	11+37±	45' RT SET COTTON SPINDLE IN POWER POLE	866.114

EARTHWORK SUMMARY

STATION 9+00 – 9+66
COMMON: 57 CY
FILL: 1 CY
EXPANSION: 25%
FILL ADJUSTED: 1 CY
USEABLE MATERIAL: 53 CY
BORROW: 0 CY
WASTE: 56 CY

STATION 10+66 – 11+00
COMMON: 55 CY
FILL: 2 CY
EXPANSION: 25%
FILL ADJUSTED: 2 CY
USEABLE MATERIAL: 51 CY
BORROW: 0 CY
WASTE: 53 CY

STA 10+00
REMOVE STRUCTURE P-62-0148
SINGLE SPAN STEEL DECK GIRDER BRIDGE
52.4' OVERALL LENGTH X 20.4' CLEAR WIDTH

STA 10+00
STRUCTURE B-62-0048 REQ'D
TWO SPAN CONCRETE FLAT SLAB BRIDGE
66.5' OVERALL LENGTH X 24.0' CLEAR WIDTH

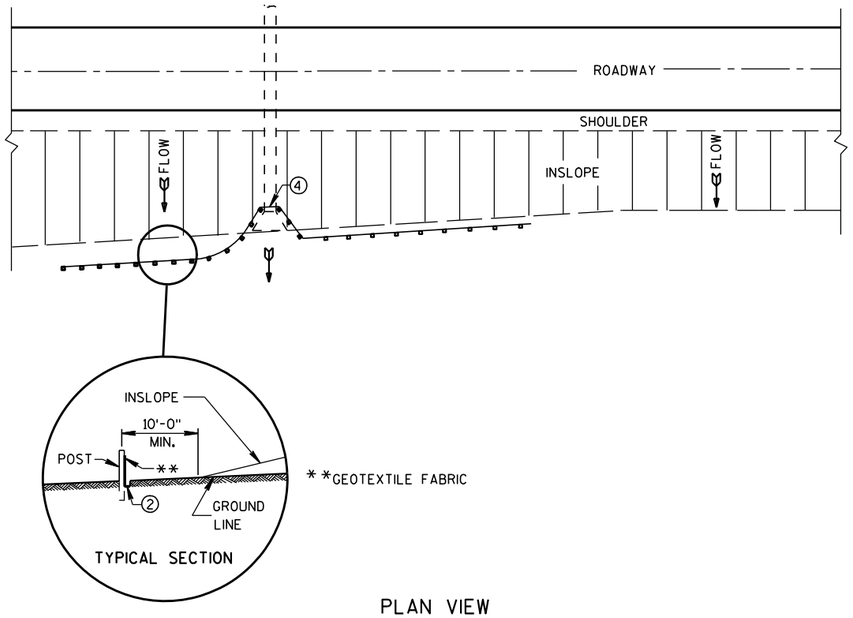
PROJECT NO: 5409-00-71	HWY: 24 VALLEY ROAD	COUNTY: VERNON	PLAN AND PROFILE:	SHEET 8 E

Standard Detail Drawing List

08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES

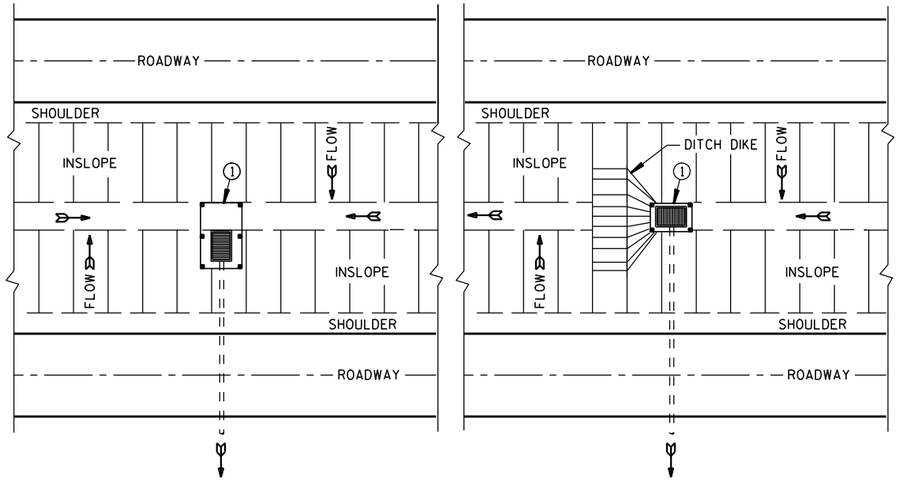
6

6



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.

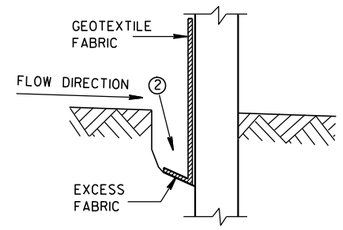
(1) HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

(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.

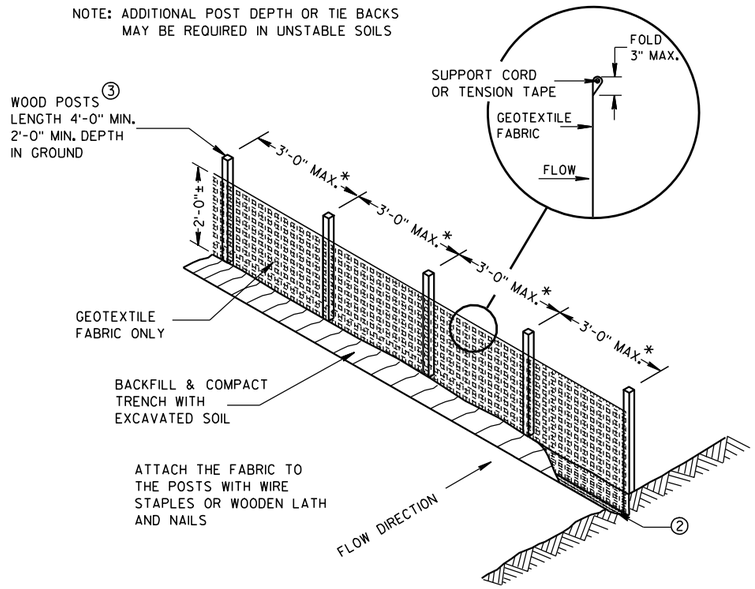
(3) WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

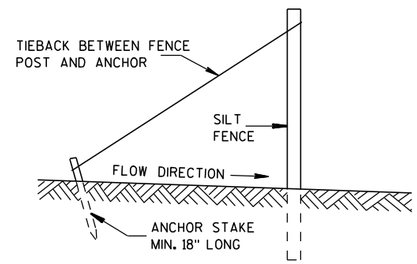
(5) CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL

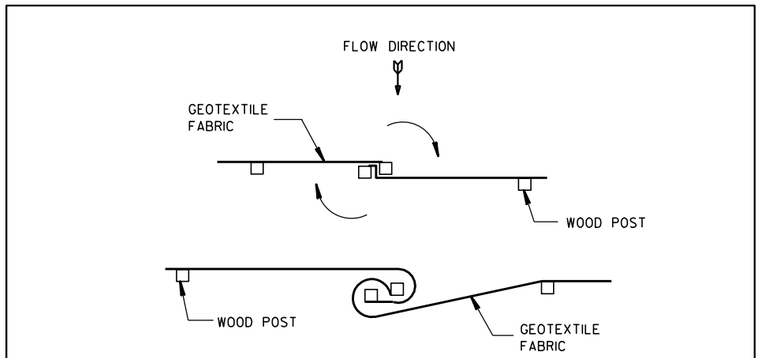


SILT FENCE



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)



JOINING TWO LENGTHS OF SILT FENCE 5

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

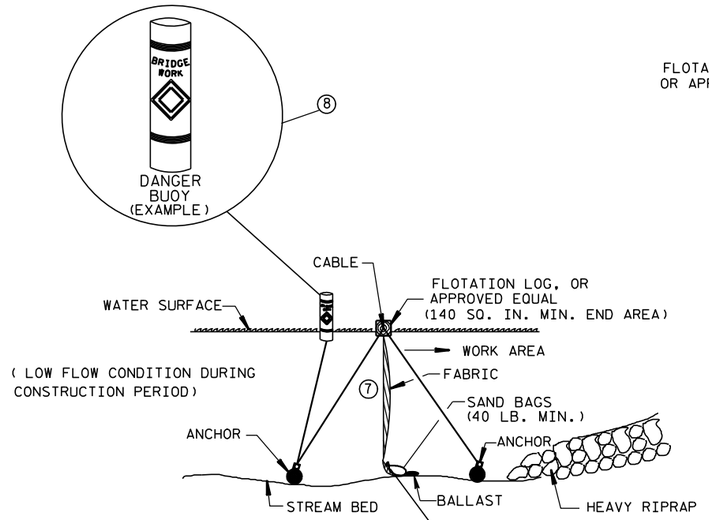
APPROVED
4-29-05
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

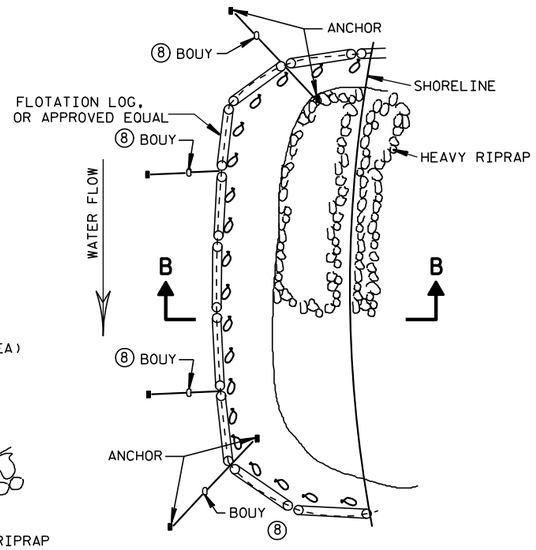
S.D.D. 8 E 9-6

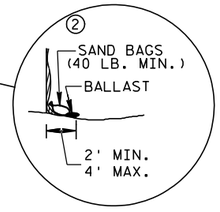
6

S.D.D. 8 E 9-6

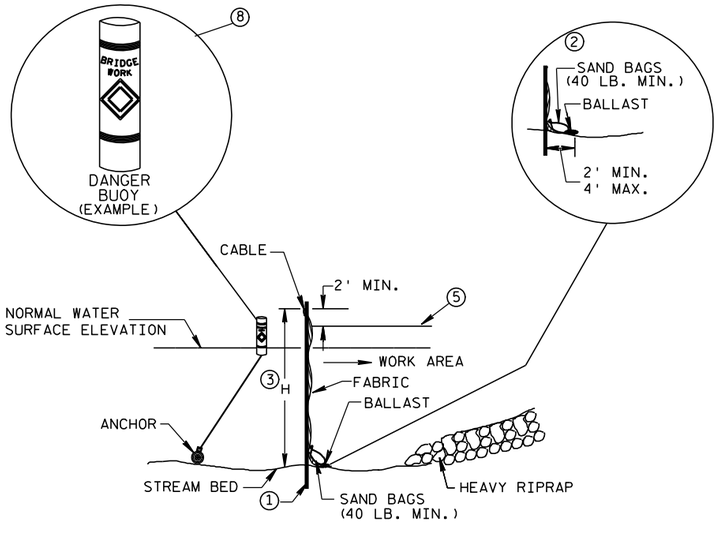


SECTION B-B

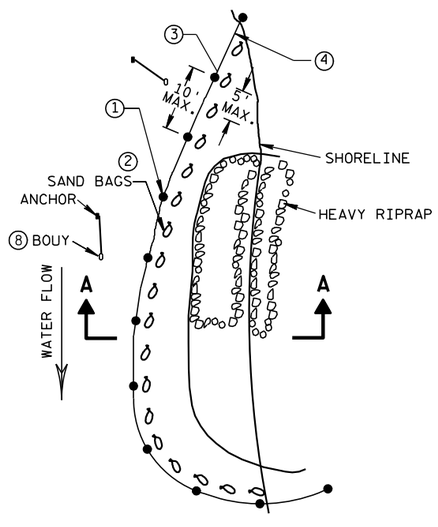




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

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

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

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

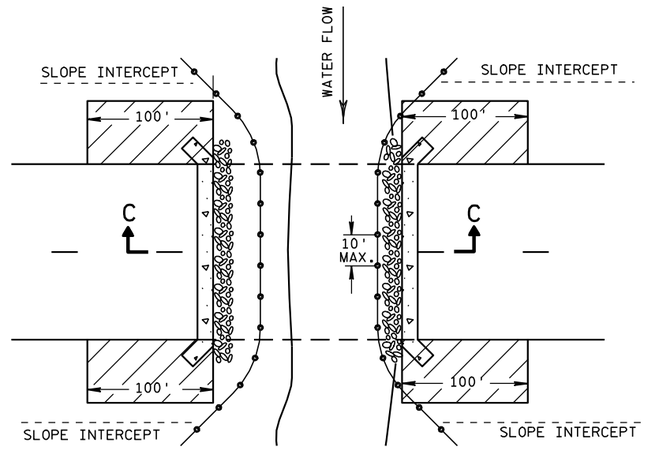
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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

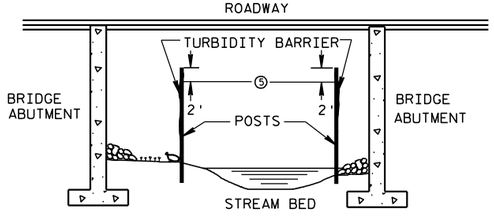
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

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



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

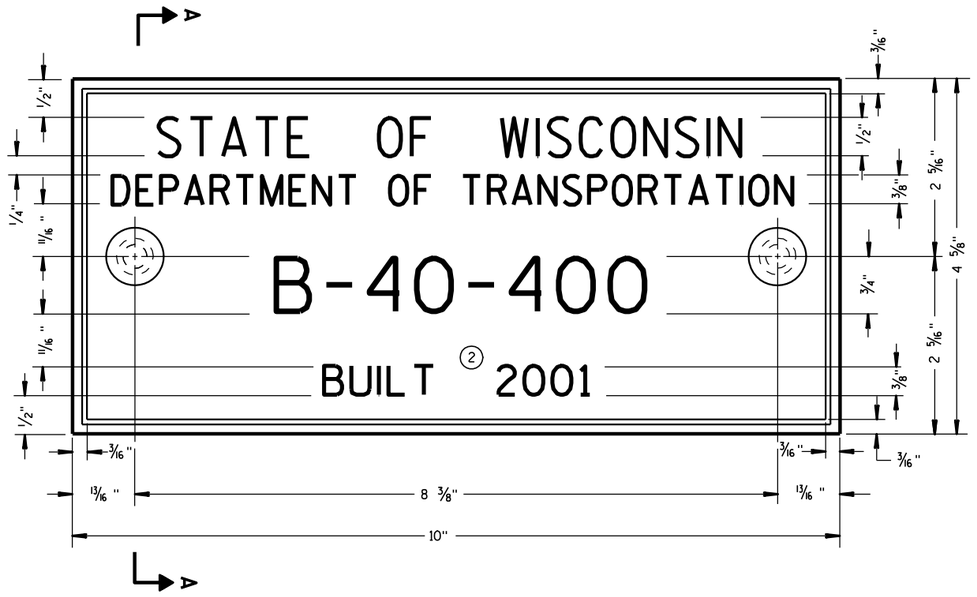
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

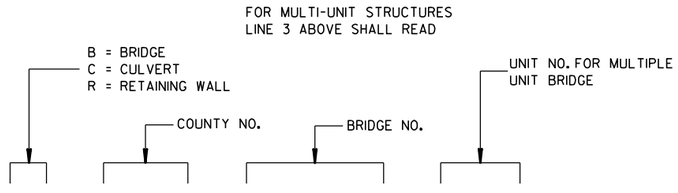
6

S.D.D. 8 E 11-2



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

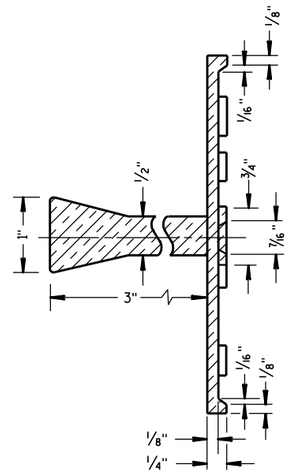
GENERAL NOTES

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

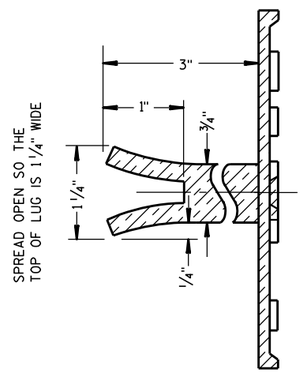
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

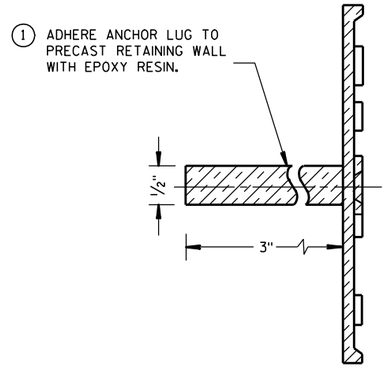
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



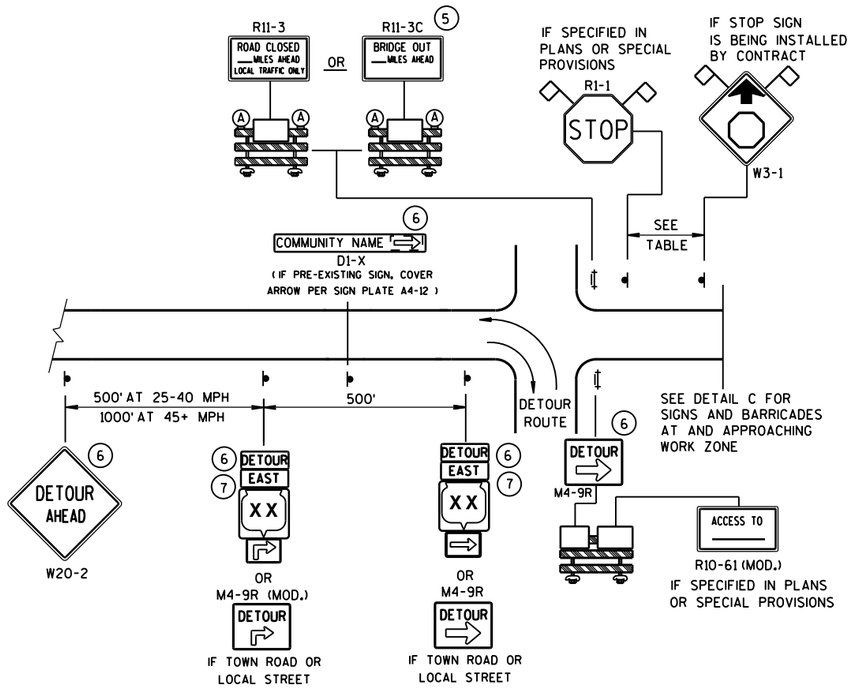
ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3/26/10 DATE	/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER
FHWA	

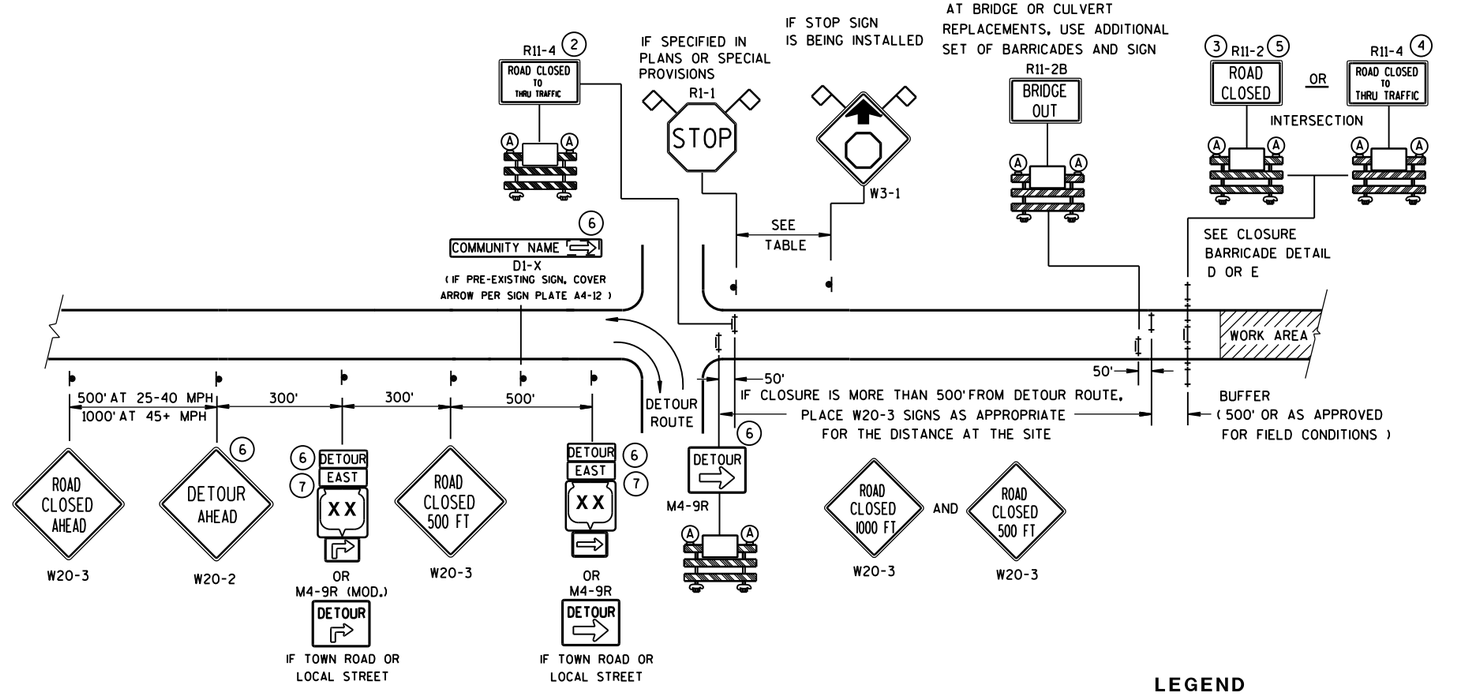
6

S.D.D. 12 A 3-10



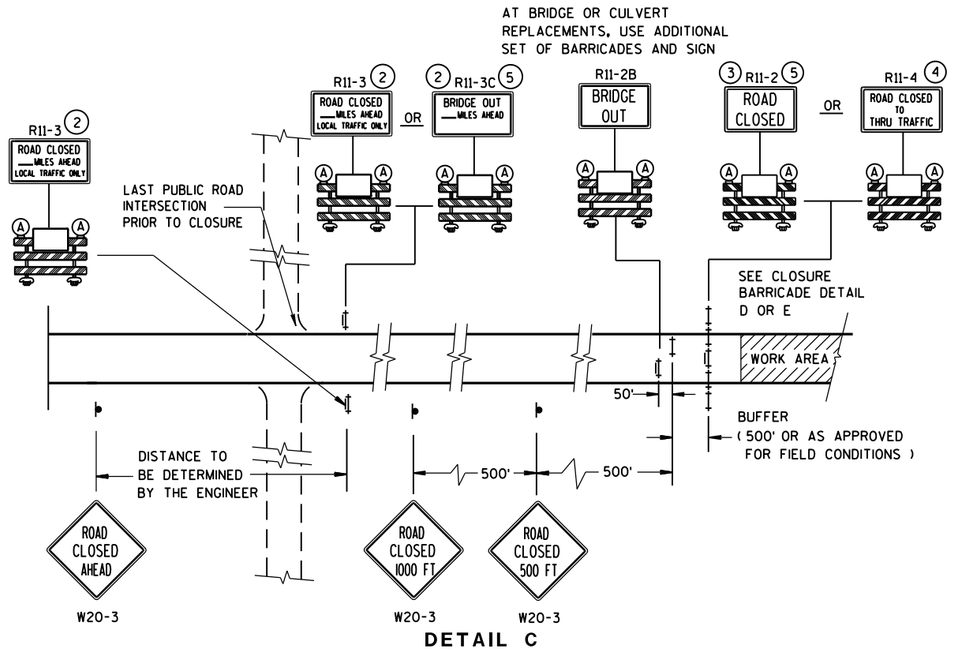
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

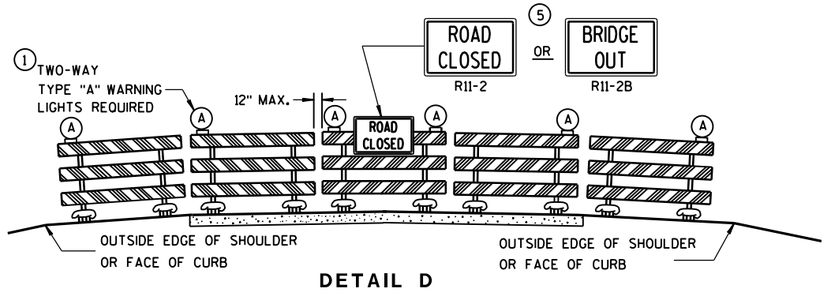
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

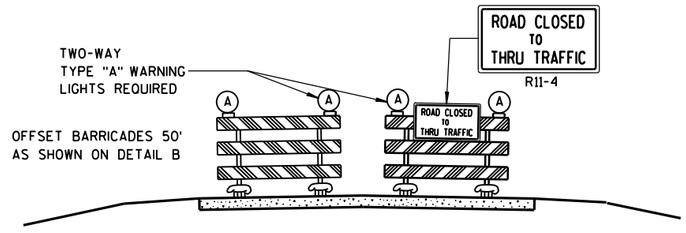
S.D.D. 15 C 2-5a



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

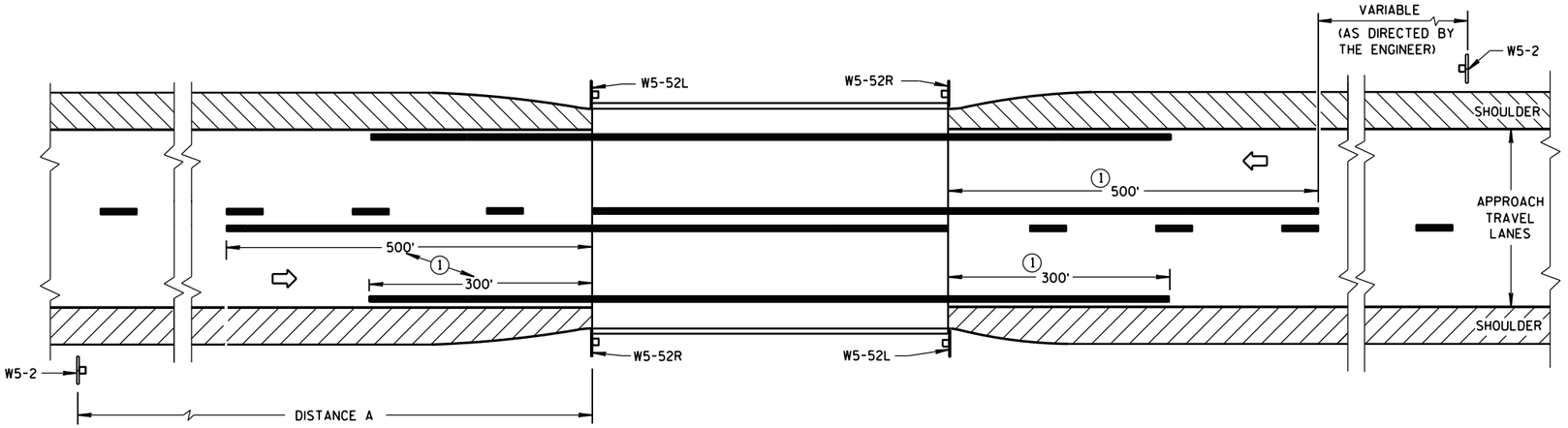
8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

6

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



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.

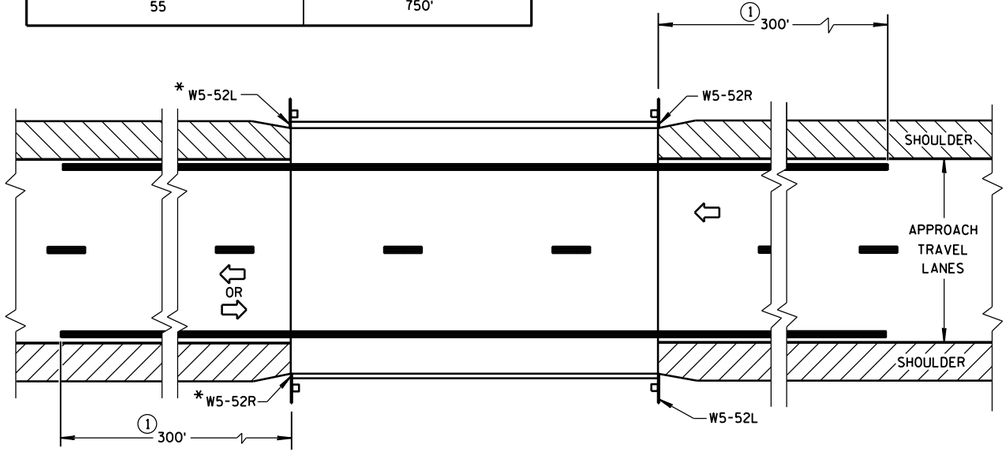
DISTANCE TABLE

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

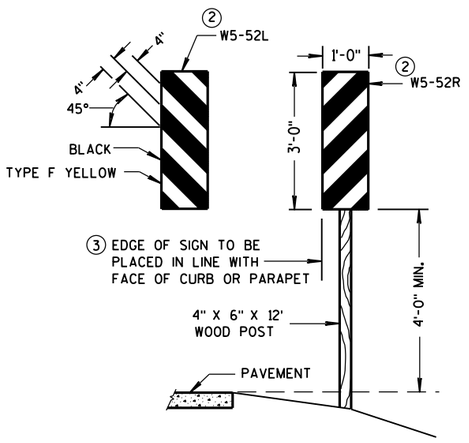


*OMIT ON ONE-WAY TRAVELLED WAYS

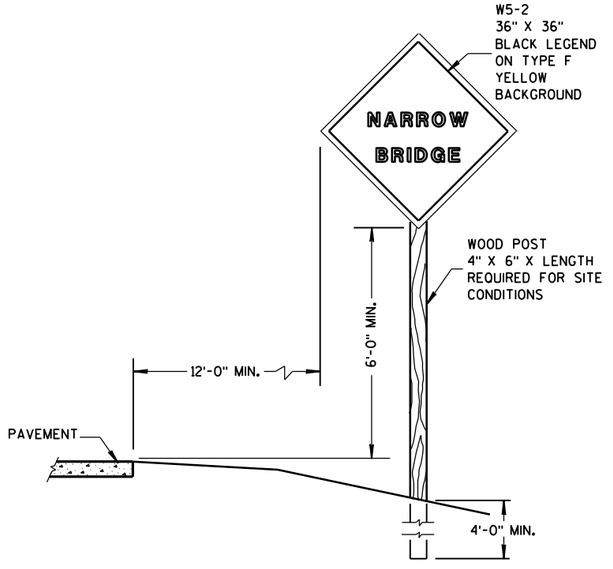
SITUATION 2

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

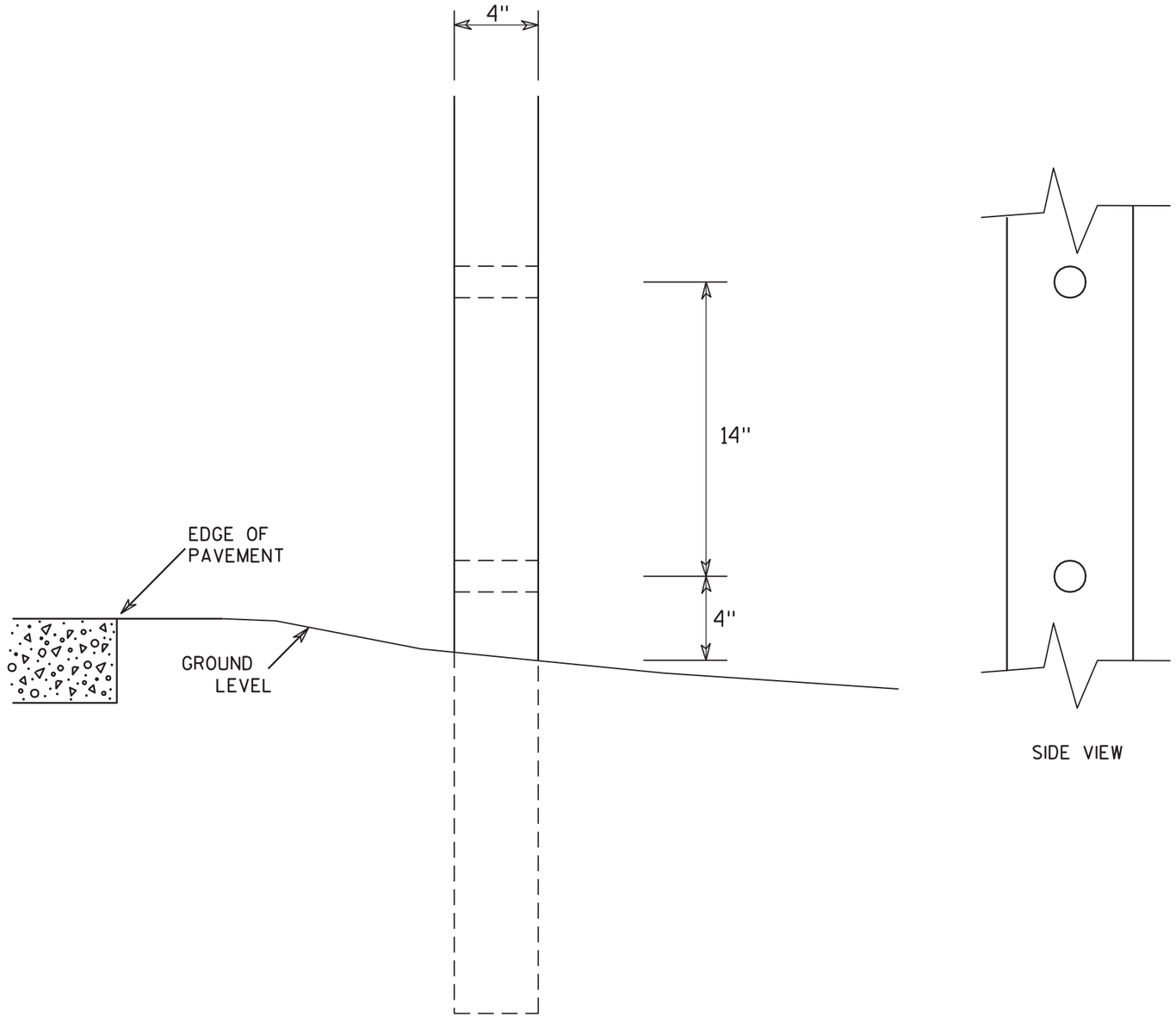
3-2014 DATE

/S/ Travis Feltes STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 C 6-7



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

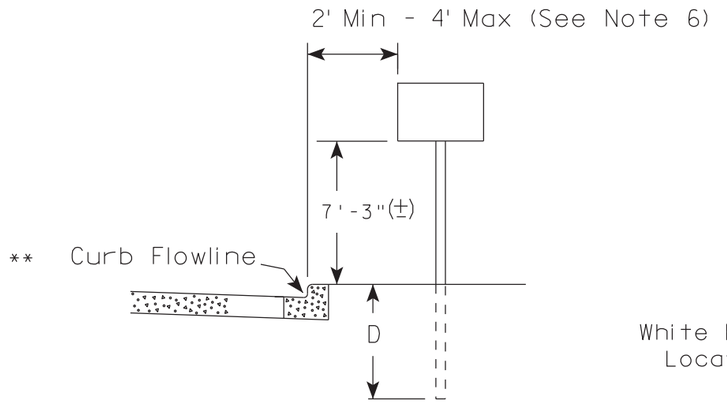
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

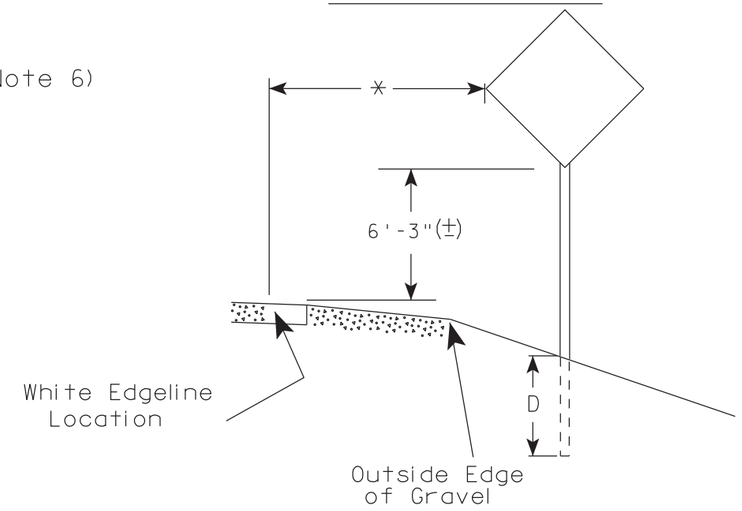
DATE 3/27/97 PLATE NO. A4-11.2

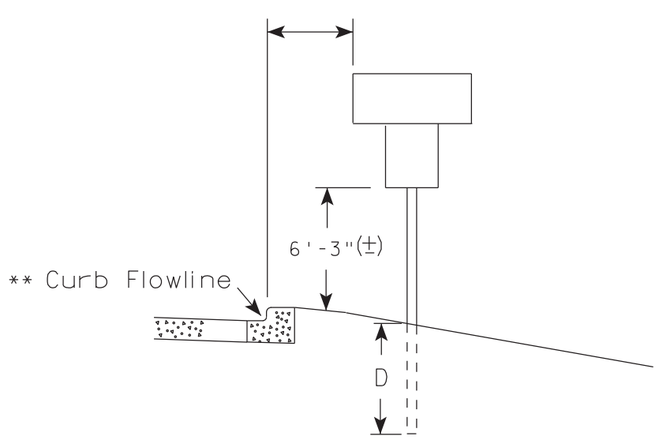
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 16	E

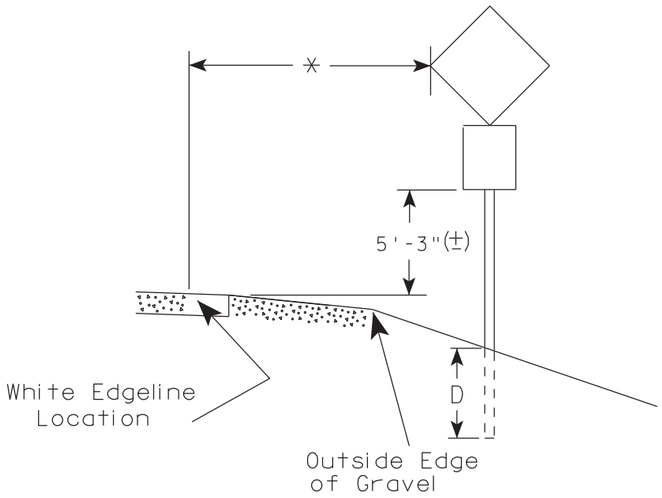
URBAN AREA



RURAL AREA (See Note 2)







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

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

GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

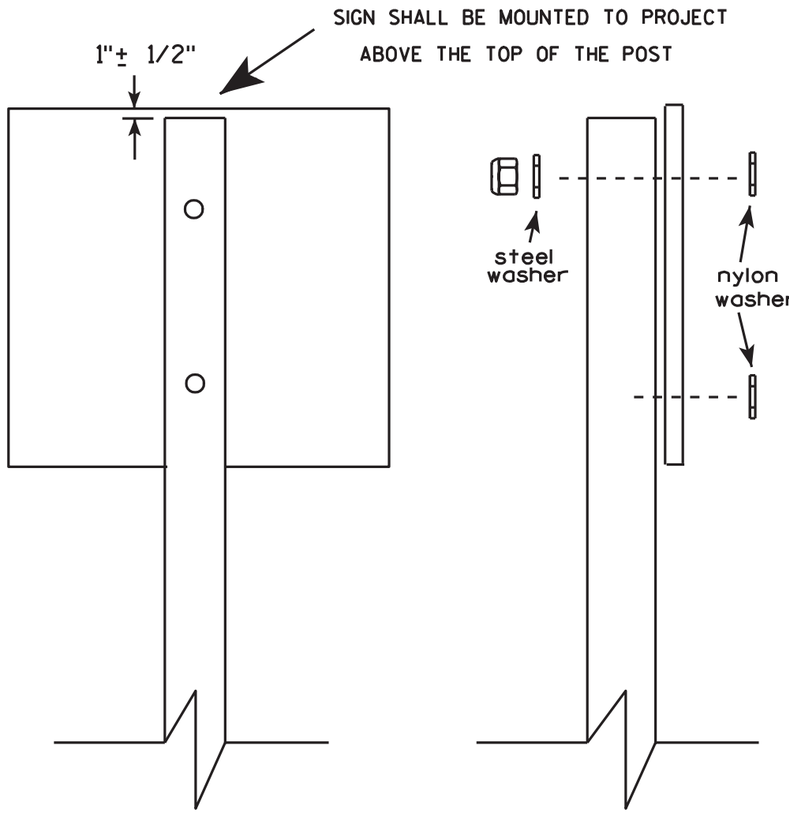
WISCONSIN DEPT OF TRANSPORTATION

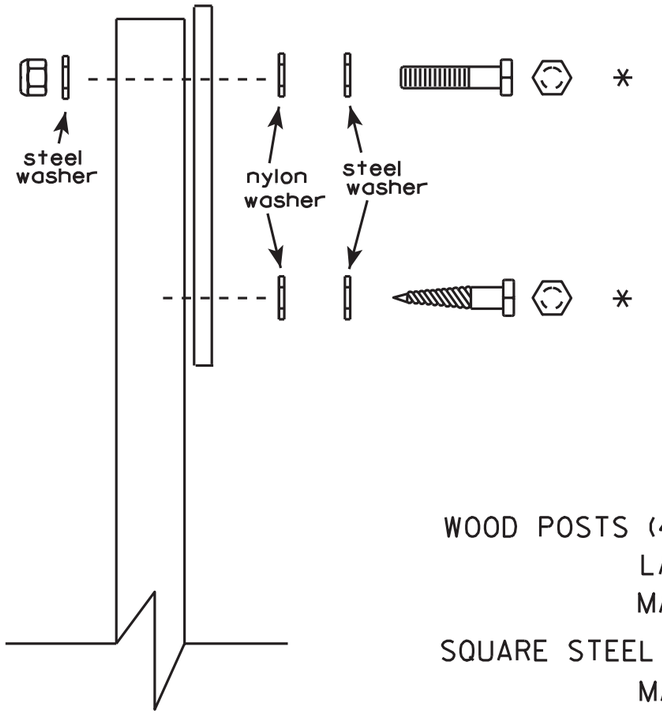
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A43.DGN PLOT DATE : 30-SEP-2013 13:25 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 99.237937:1.000000 WISDOT/CADDS SHEET 42





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

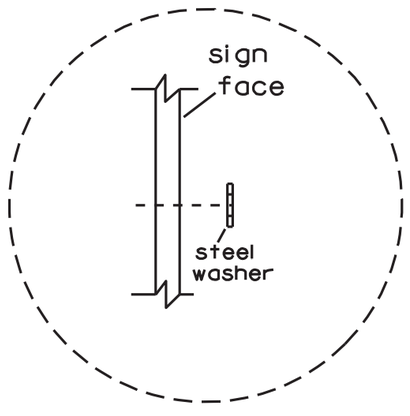
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

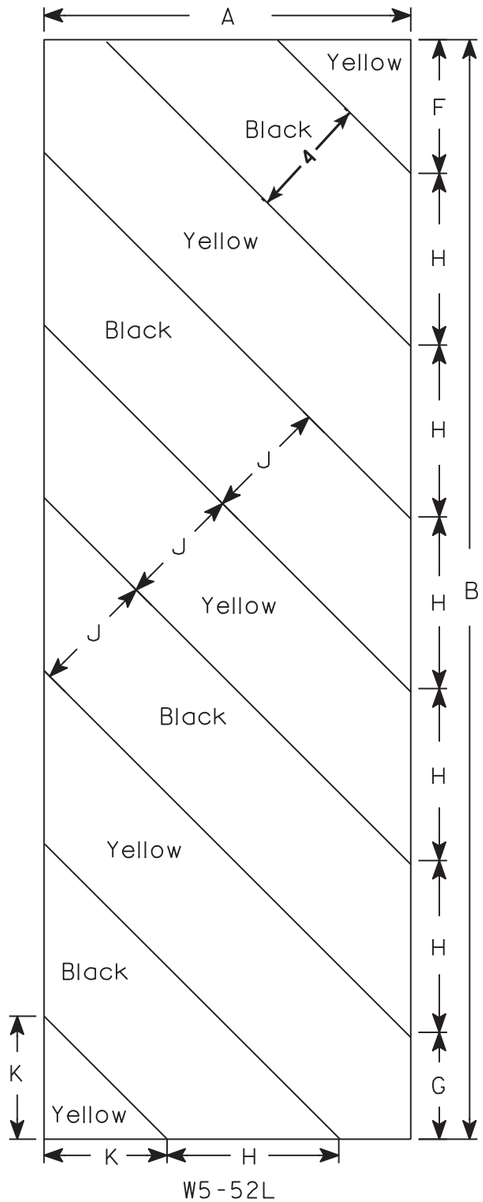
DATE 3/23/10 PLATE NO. A4-8.7

7

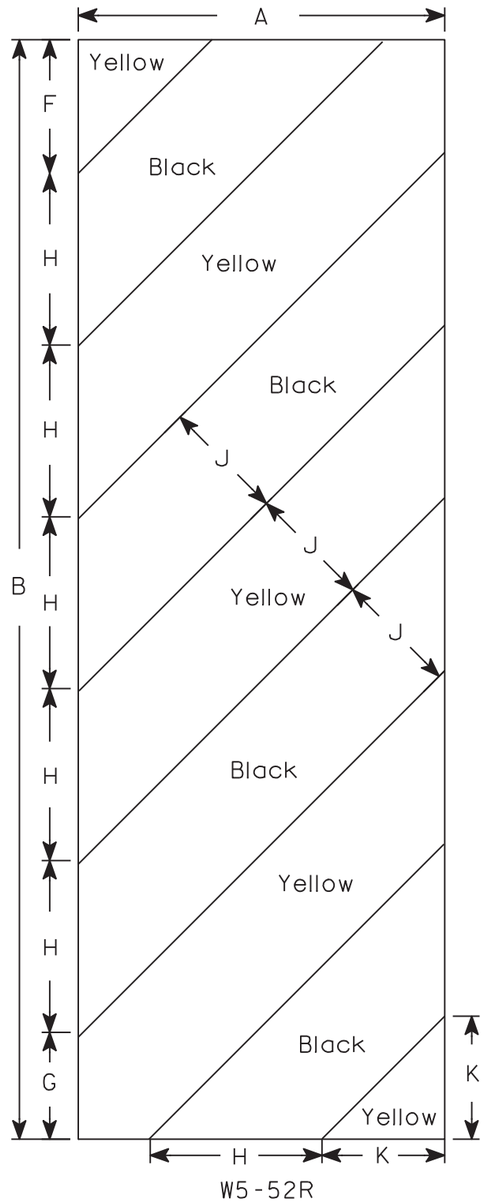
7

PROJECT NO:

SHEET NO: 18 E



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

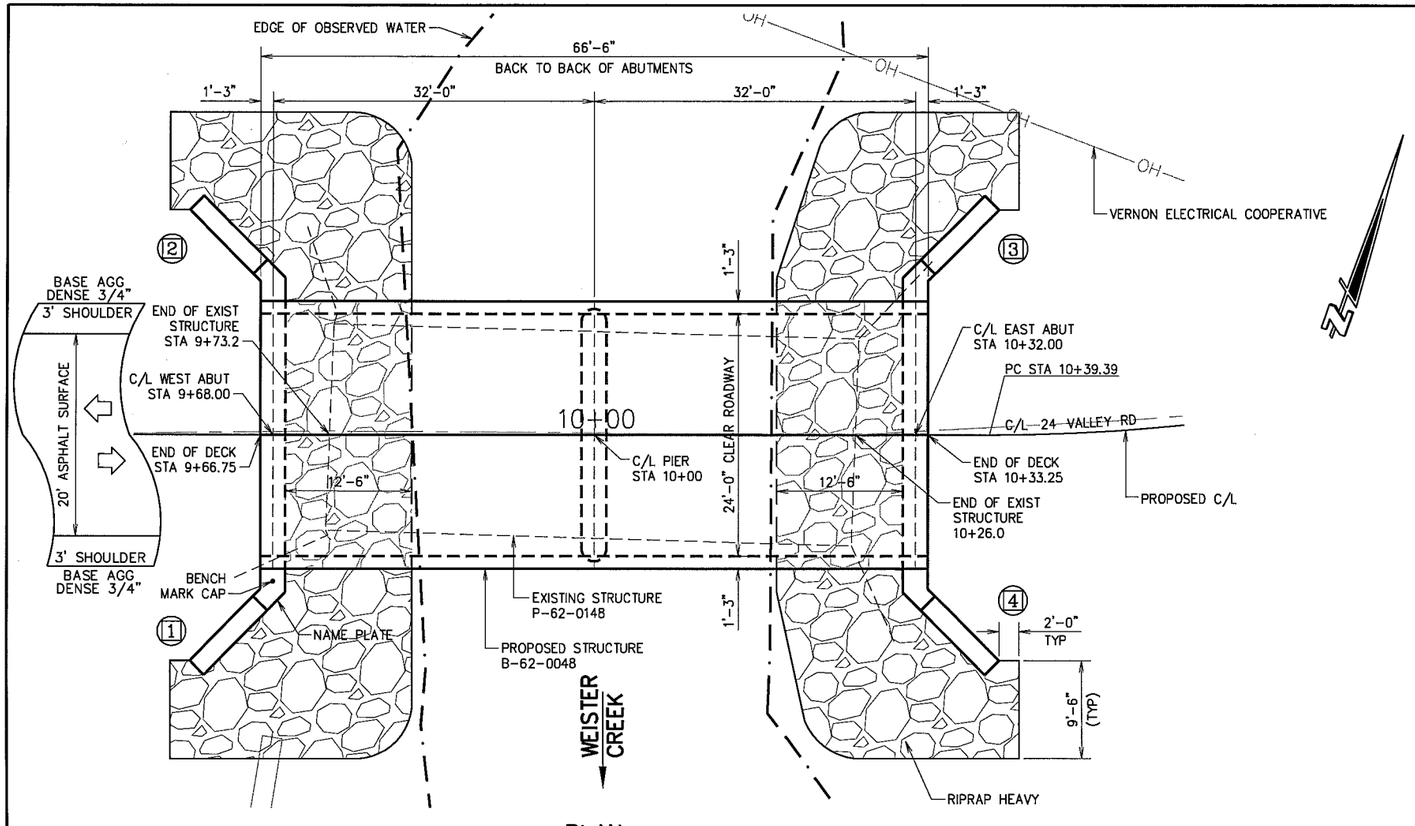
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 19 | E



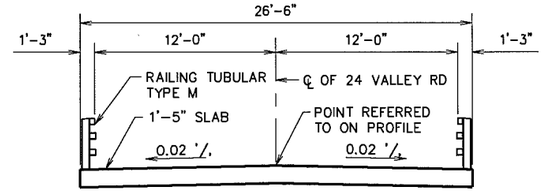
PLAN

TWO SPAN CONCRETE FLAT-SLAB BRIDGE

* PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT

(n) INDICATES WING NUMBER

STATE PROJECT NUMBER
5409-00-71



CROSS-SECTION THRU ROADWAY

DESIGN DATA

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

LIVE LOAD:
- DESIGN LOADING — HL-93
- INVENTORY RATING FACTOR — RF = 1.12
- OPERATING RATING FACTOR — RF = 1.45
- WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV) — 250 KIPS

ULTIMATE DESIGN STRESSES:
- CONCRETE MASONRY
  - SLAB — f'c = 4,000 PSI
  - ALL OTHER — f'c = 3,500 PSI
- BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 PSI

HYDRAULIC DATA

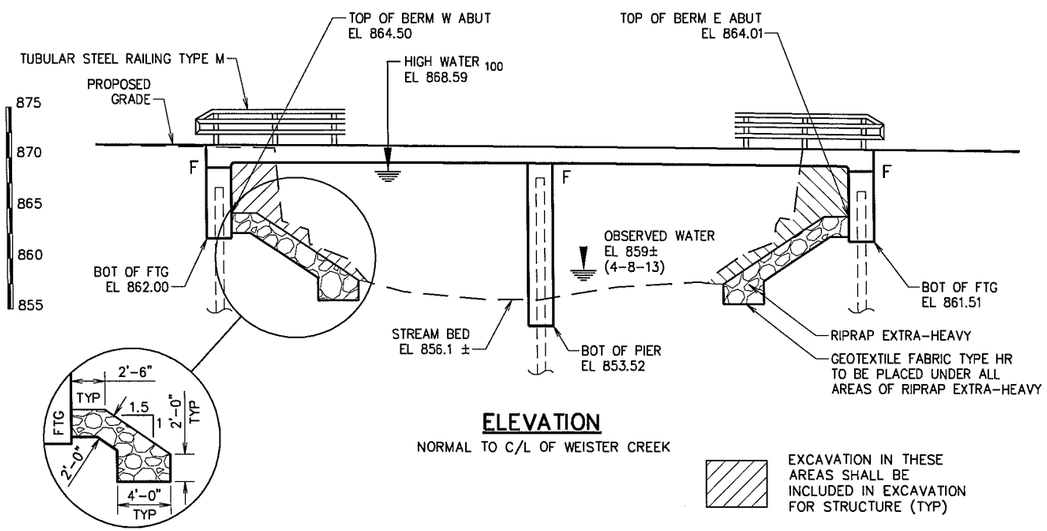
100 YEAR FREQUENCY
- DRAINAGE AREA — 14.2 SQ MILES
- Q_{100} TOTAL — 3100 CFS
  - THRU STRUCTURE — 3079 CFS
  - OVERFLOW — 21 CFS
  - VELOCITY - THRU STRUCTURE — 8.6 FPS
  - WATERWAY AREA THRU STRUCTURE — 358 SQ FT
  - HIGH WATER $_{100}$ ELEVATION — 868.59 FT
  - SCOUR CRITICAL CODE = 5

2 YEAR FREQUENCY
- Q_2 TOTAL — 460 CFS
- HIGH WATER $_2$ ELEVATION — 862.00 FT

FREQUENCY OF ROADWAY OVERTOPPING
- Q_{65} TOTAL — 2900 CFS
- HIGH WATER $_{65}$ ELEVATION — 866.31 FT

TRAFFIC DATA

- AADT (2014) — 65
- AADT (2034) — 79
- DESIGN SPEED — 25 MPH



ELEVATION

NORMAL TO C/L OF WEISTER CREEK

EXCAVATION IN THESE AREAS SHALL BE INCLUDED IN EXCAVATION FOR STRUCTURE (TYP)

WISCONSIN
TROY L. PETERSON
E-31102
MENOMONIE
WI
PROFESSIONAL ENGINEER
12-11-14

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10x42, WITH A REQUIRED DRIVING RESISTANCE OF 125 TONS ‡ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION.
ESTIMATED LENGTH = 25' W ABUTMENT
ESTIMATED LENGTH = 25' E ABUTMENT

PIER TO BE SUPPORTED ON PILING STEEL HP 10x42, WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS ‡ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION.
ESTIMATED LENGTH = 25'

‡ 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.

BENCHMARK

STA 9+74.36, 12.11' LT
PK NAIL IN SE CORNER BRIDGE
EL 870.99

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES & NOTES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. EAST ABUTMENT
6. ABUTMENT DETAILS
7. PIER
8. SUPERSTRUCTURE
9. TUBULAR STEEL RAILING TYPE "M"

DESIGN CONTACT:
TROY L. PETERSON
(715) 235-9081

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

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY

Cedar corporation
MENOMONIE - MADISON - GREEN BAY
www.cedarcorp.com 800-472-7372

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 12/15/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-62-0048

24 VALLEY ROAD OVER WEISTER CREEK

COUNTY	TOWN
VERNON	WHITESTOWN

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
GBJ	TLP	PKF	TLP

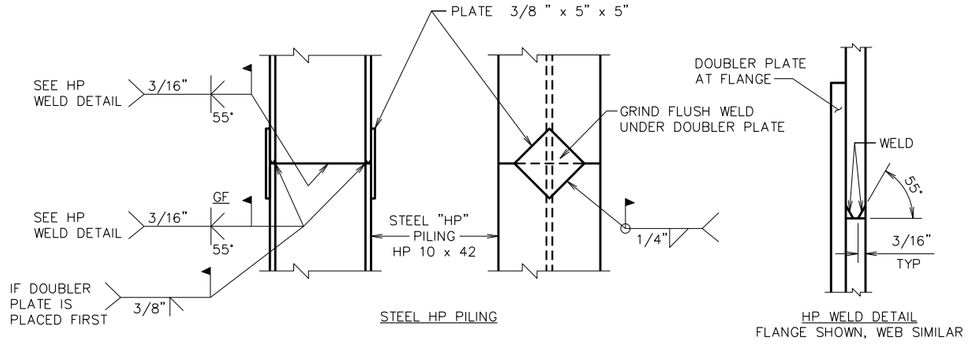
GENERAL PLAN

SHEET 1 OF 9

STATE PROJECT NUMBER
5409-00-71

TOTAL ESTIMATED QUANTITIES

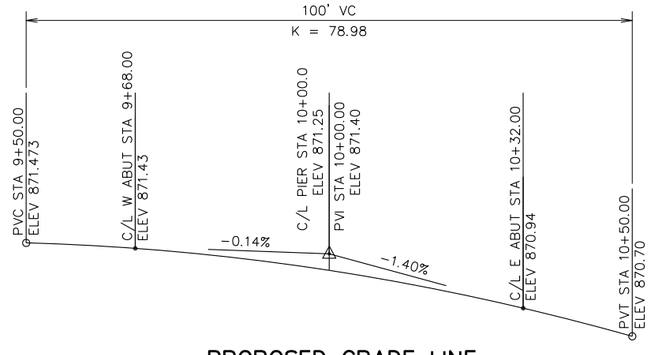
ITEM NUMBER	BID ITEMS	UNIT	W ABUT	PIER	E ABUT	SUPER	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA 10+00	LS	———	———	———	———	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-62-0048	LS	———	———	———	———	1
210.0100	BACKFILL STRUCTURE	CY	140	———	140	———	280
502.0100	CONCRETE MASONRY BRIDGES	CY	33	37	33	97	200
502.3200	PROTECTIVE SURFACE TREATMENT	SY	———	———	———	230	230
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	2165	1760	2165	———	6090
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1460	———	1460	21440	24360
513.4060	RAILING TUBULAR TYPE M STRUCTURE B-62-0048	LS	———	———	———	———	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	5.5	———	5.5	———	11
550.0500	PILE POINTS	EACH	6	5	6	———	17
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	150	125	150	———	425
606.0400	RIPRAP EXTRA-HEAVY	CY	80	———	75	———	155
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	———	80	———	160
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	150		140		290
	NON-BID ITEMS						
	FILLER	SIZE	———	———	———	———	1/2 & 3/4



STEEL HP PILING

HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE SPLICE DETAILS



PROPOSED GRADE LINE

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.

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

ALL REINFORCING BARS ARE ENGLISH. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK 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 SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP EXTRA-HEAVY AND GEOTEXTILE FABRIC TYPE 'HR' TO THE EXTENT SHOWN ON SHEET 1 AND AND IN THE ABUTMENT DETAILS.

STEEL 'HP' PILE MATERIAL SHALL BE A.S.T.M. DESIGNATION A36.

THE EXISTING STRUCTURE (P-62-0148) IS A 52.4' LONG BY 20.4' CLEAR WIDTH SINGLE SPAN CONCRETE FLAT SLAB BRIDGE.

THE PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP AND EDGES OF THE SLAB AND TO THE OUTSIDE 1'-0" OF THE UNDERSIDE OF THE SLAB.

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

THE GRADATION OF THE BACKFILL STRUCTURE SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

AT THE PIER, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

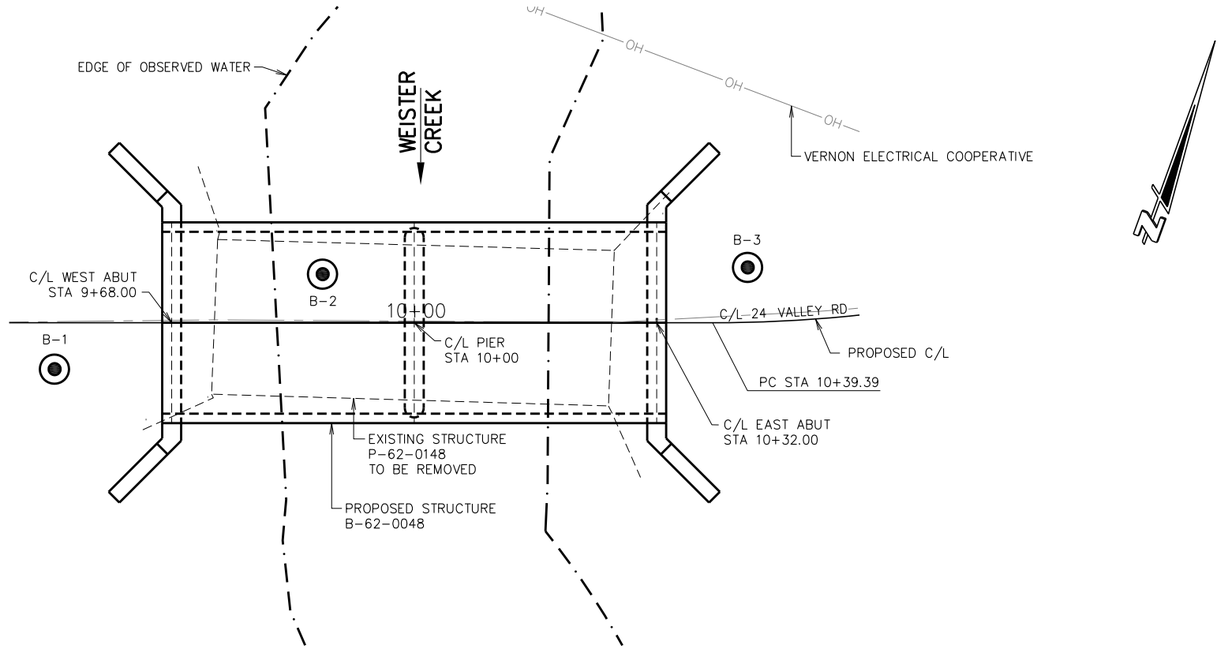
STRUCTURE B-62-0048

DRAWN BY PKF | PLANS CK'D TLP

QUANTITIES & NOTES

SHEET 2 OF 9

I:\Clients\W3922 WDOT SW Region\005 5409-00-01 24 Valley Rd\dwg\080201_bq_24 valley.dwg 12/11/14 4:44:16 PM



BORINGS TAKEN BY:

CHOSEN VALLEY TESTING, INC
6/24/2013

WISCONSIN OFFICE
135 BUCKNER PLACE
LA CROSSE, WI 54603
(608) 782-5505

MINNESOTA OFFICE
1410 7TH STREET NW
ROCHESTER, MN 55901
(507) 281-0968

STATE PROJECT NO.

5409-00-71

ABBREVIATIONS

F---FINE	VF---VERY FINE	M---MEDIUM
C---COARSE	WS---WEATHERED	SO---SOUND

MATERIAL SYMBOLS

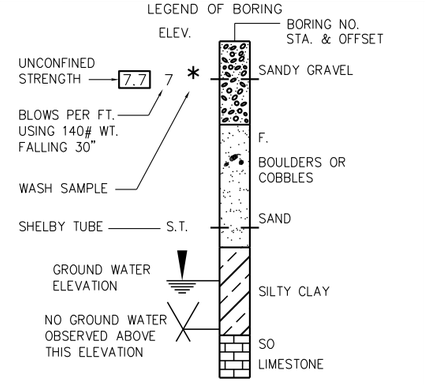
TOPSOIL	SILT	SANDSTONE
SAND	PEAT	LIMESTONE
GRAVEL	CLAY	IGNEOUS ROCK

LEGEND OF BORING

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

PROBING NO.
STATION
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

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 APPROX. 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

Cedar corporation
604 Wilson Avenue
Menomonie, Wisconsin 54751
715-235-9081
800-472-7372
FAX 715-235-2727
www.cedarcorp.com
engineers • architects • planners • environmental specialists
land surveyors • landscape architects • building inspectors

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

B-62-0048

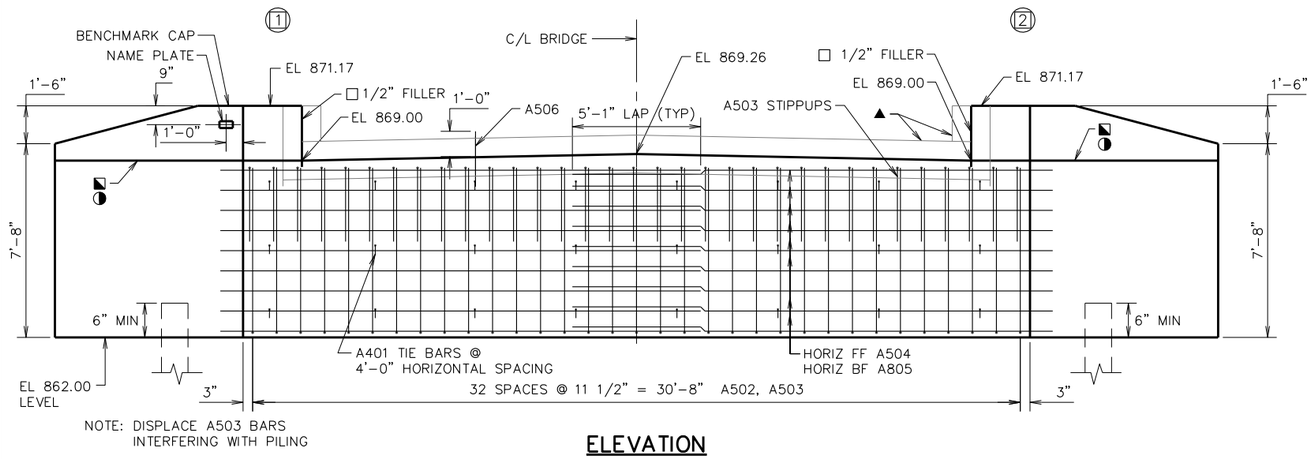
DRAWN BY PKF | PLANS CHECKED TLP

SUBSURFACE EXPLORATION

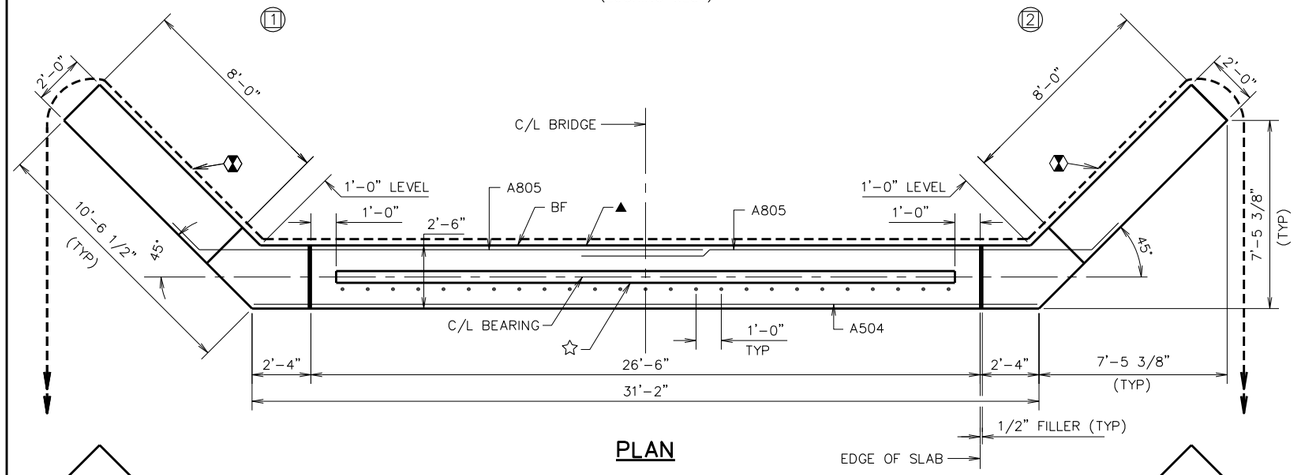
SHEET 3 OF 9

FILE NAME : I:\CLIENTS\W3922 WDOT SW REGION\005 5409-00-01 24 VALLEY RD\DWG\080301_SX_24 VALLEY RD.DWG

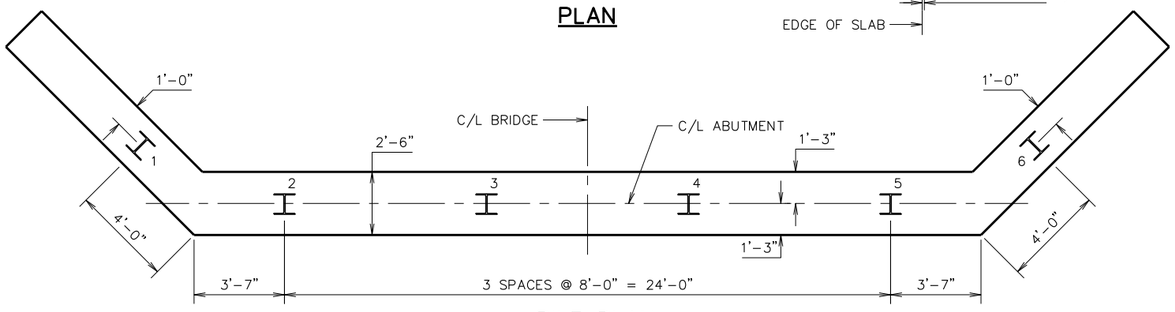
PLOT DATE : 12/11/2014 3:44 PM



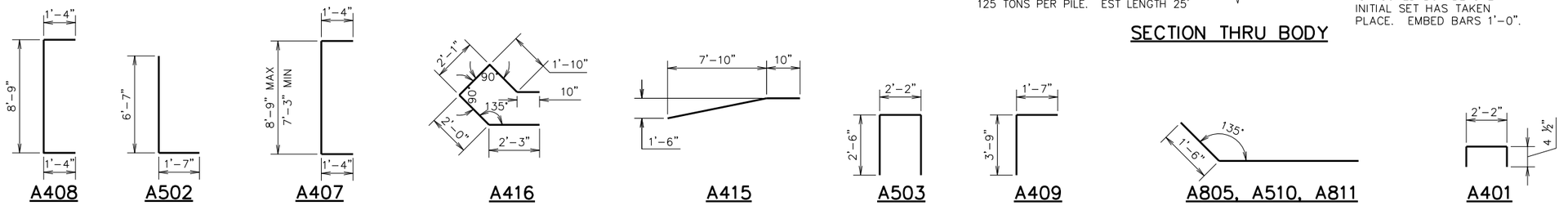
ELEVATION
(LOOKING WEST)

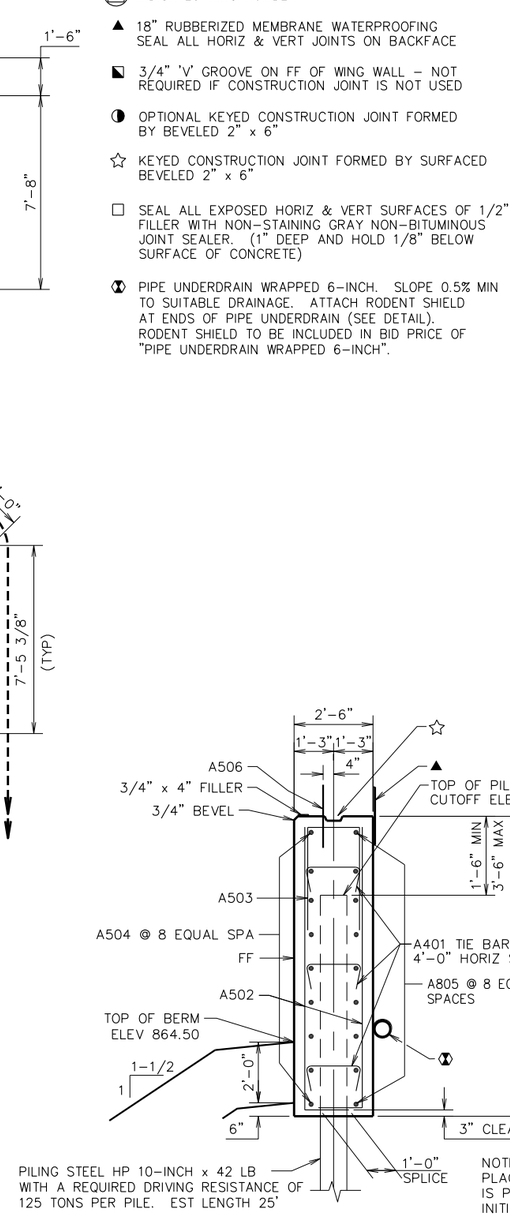


PLAN



PILE PLAN





PILING STEEL HP 10-INCH x 42 LB WITH A REQUIRED DRIVING RESISTANCE OF 125 TONS PER PILE. EST LENGTH 25'

NOTE: A506 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED BARS 1'-0".

SECTION THRU BODY

- (1) INDICATES WING NUMBER
- ▲ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ & VERT JOINTS ON BACKFACE
- ◪ 3/4" 'V' GROOVE ON FF OF WING WALL – NOT REQUIRED IF CONSTRUCTION JOINT IS NOT USED
- ◑ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" x 6"
- ☆ KEYED CONSTRUCTION JOINT FORMED BY SURFACED BEVELED 2" x 6"
- □ SEAL ALL EXPOSED HORIZ & VERT SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE)
- ⧓ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN (SEE DETAIL). RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

STATE PROJECT NUMBER
5409-00-71

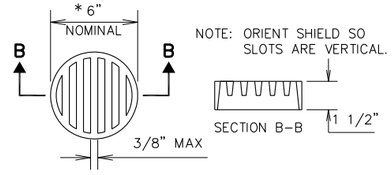
NOTE: BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

BILL OF BARS

2165 # UNCOATED 1460 # COATED

BAR MARK	COAT	NO. REQUIRED	LENGTH	BENT	BAR SERIES	LOCATION
A401		24	2-9	X		TIE BARS
A502		66	8-1	X		BODY - VERT
A503		33	6-11	X		BODY - STIRRUPS
A504		9	30-10			BODY - HORIZ FF
A805		18	21-7	X		BODY - HORIZ BF
A506	X	25	2-0			BODY DOWELS
A407	X	44	10-6	X	⧓	WING 1 & 2 - VERT
A408	X	10	11-3	X		WING 1 & 2 - VERT
A409	X	12	5-3	X		WING 1 & 2 - VERT
A510	X	18	11-6	X		WING 1 & 2 - HORIZ FF
A811	X	18	13-3	X		WING 1 & 2 - HORIZ BF
A412	X	4	8-10			WING 1 & 2 - HORIZ
A413	X	4	8-6			WING 1 & 2 - HORIZ
A414	X	4	5-1			WING 1 & 2 - HORIZ
A415	X	4	8-9	X		WING 1 & 2 - HORIZ
A416	X	8	8-8	X		WING 1 & 2 - HORIZ

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



* DIMENSION IS APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

RODENT SHIELD

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 OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-0048

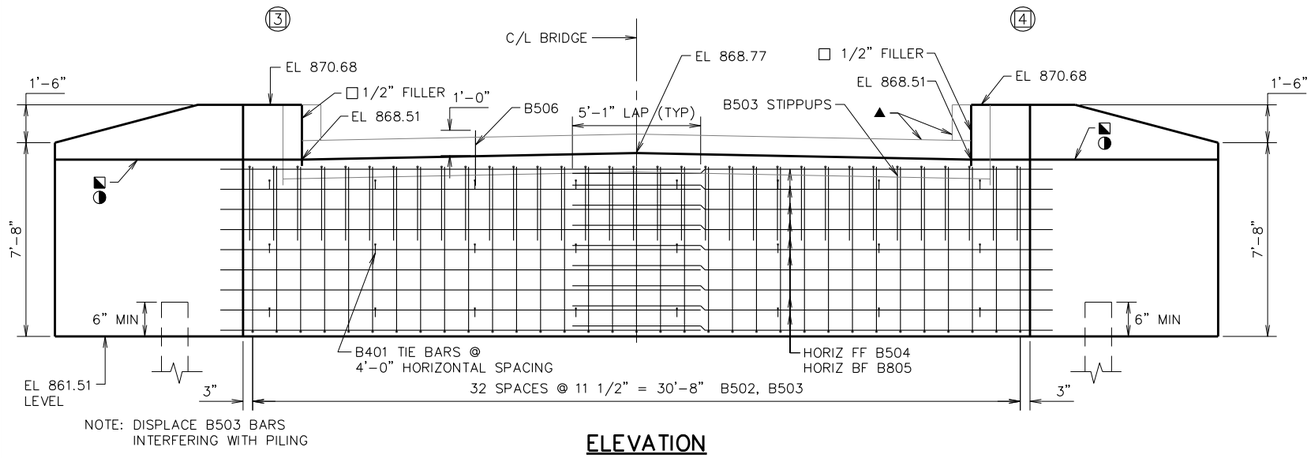
DRAWN BY PKF | PLANS CK'D TLP

WEST ABUTMENT

SHEET 4 OF 9

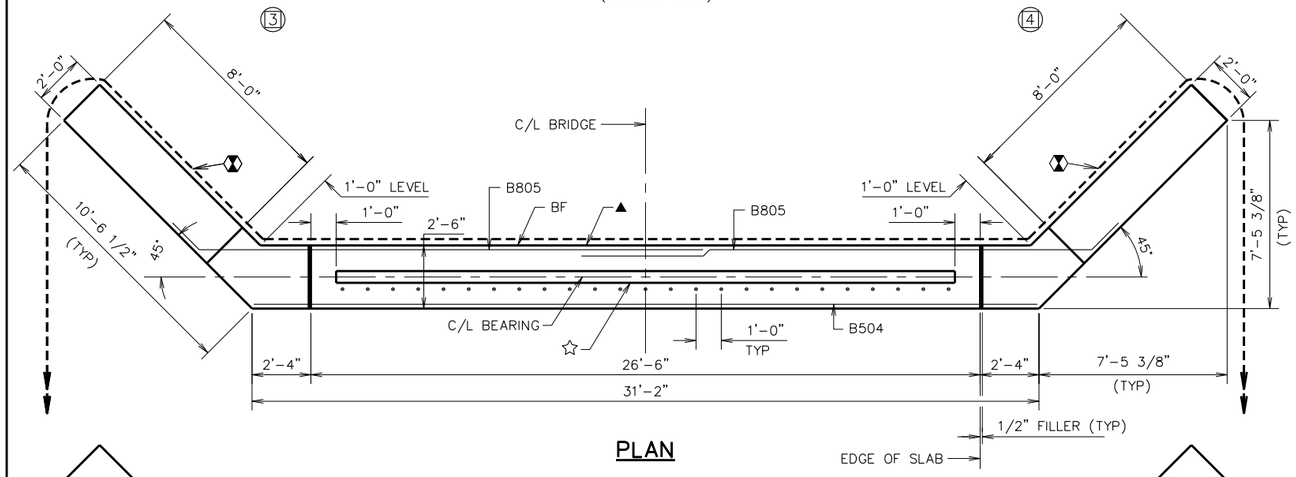
FILE NAME : I:\CLIENTS\W3922 WDOT SW REGION\005 5409-00-01 24 VALLEY RD\DWG\080401_WA_24 VALLEY RD.DWG
PLOT DATE : 12/11/2014 3:44 PM

STATE PROJECT NUMBER
5409-00-71

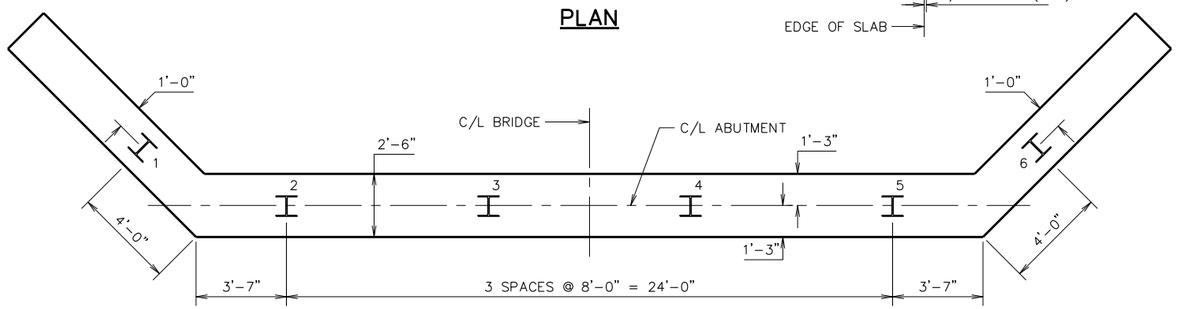


NOTE: DISPLACE B503 BARS INTERFERING WITH PILING

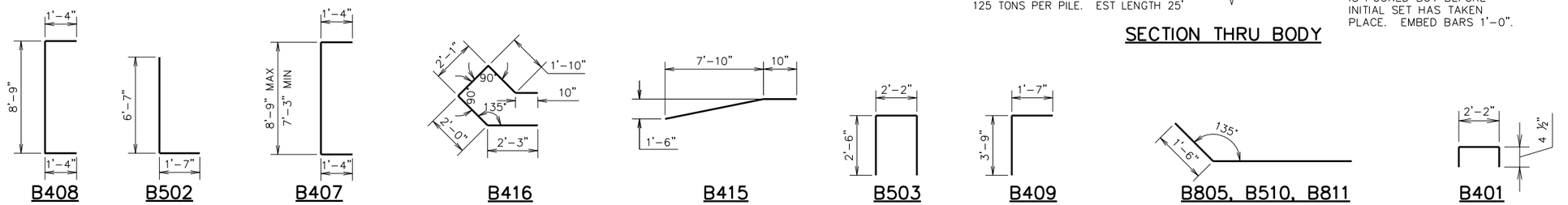
ELEVATION
(LOOKING EAST)



PLAN



PILE PLAN



- INDICATES WING NUMBER
- ▲ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ & VERT JOINTS ON BACKFACE
- ◪ 3/4" 'V' GROOVE ON FF OF WING WALL – NOT REQUIRED IF CONSTRUCTION JOINT IS NOT USED
- ◑ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" x 6"
- ☆ KEYED CONSTRUCTION JOINT FORMED BY SURFACED BEVELED 2" x 6"
- □ SEAL ALL EXPOSED HORIZ & VERT SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE)
- ⧓ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN (SEE DETAIL). RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

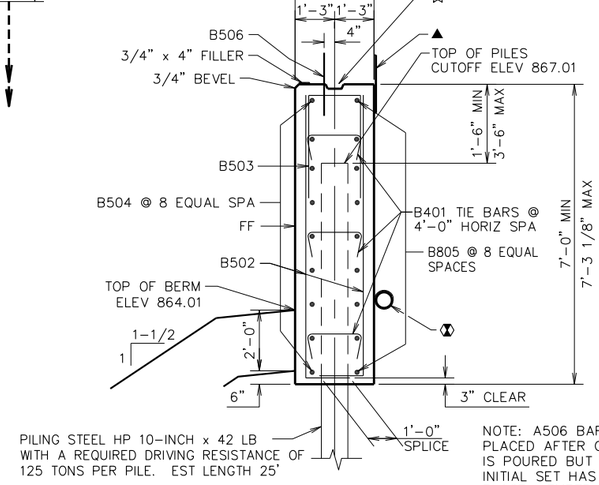
NOTE: BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

BILL OF BARS

2165 # UNCOATED 1460 # COATED

BAR MARK	COAT	NO. REQUIRED	LENGTH	BENT	BAR SERIES	LOCATION
B401		24	2-9	X		TIE BARS
B502		66	8-1	X		BODY - VERT
B503		33	6-11	X		BODY - STIRRUPS
B504		9	30-10			BODY - HORIZ FF
B805		18	21-7	X		BODY - HORIZ BF
B506	X	25	2-0			BODY DOWELS
B407	X	44	10-6	X	⧓	WING 3 & 4 - VERT
B408	X	10	11-3	X		WING 3 & 4 - VERT
B409	X	12	5-3	X		WING 3 & 4 - VERT
B510	X	18	11-6	X		WING 3 & 4 - HORIZ FF
B811	X	18	13-3	X		WING 3 & 4 - HORIZ BF
B412	X	4	8-10			WING 3 & 4 - HORIZ
B413	X	4	8-6			WING 3 & 4 - HORIZ
B414	X	4	5-1			WING 3 & 4 - HORIZ
B415	X	4	8-9	X		WING 3 & 4 - HORIZ
B416	X	8	8-8	X		WING 3 & 4 - HORIZ

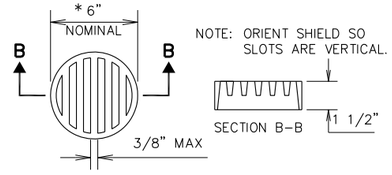
⧓ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



PILING STEEL HP 10-INCH x 42 LB WITH A REQUIRED DRIVING RESISTANCE OF 125 TONS PER PILE. EST LENGTH 25'

NOTE: A506 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED BARS 1'-0".

SECTION THRU BODY



* DIMENSION IS APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

RODENT SHIELD

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 OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-0048

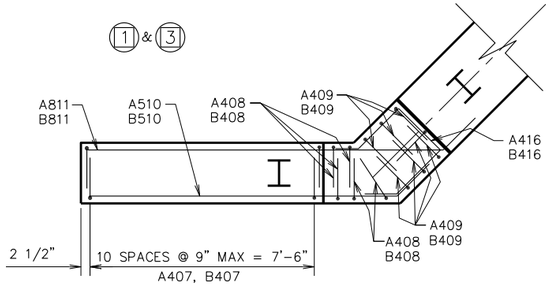
DRAWN BY PKF | PLANS CK'D TLP

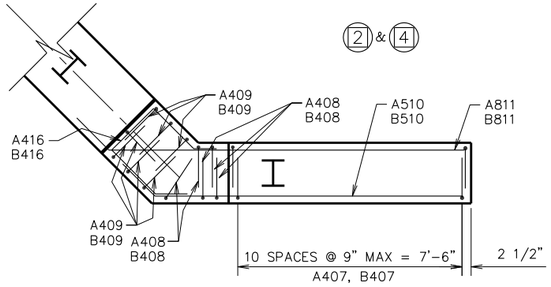
EAST ABUTMENT

SHEET 5 OF 9

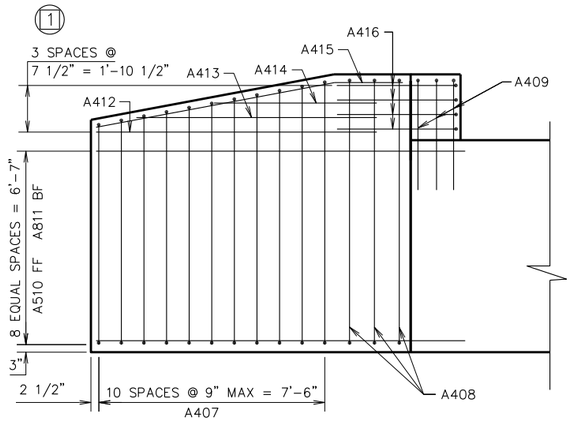
STATE PROJECT NUMBER

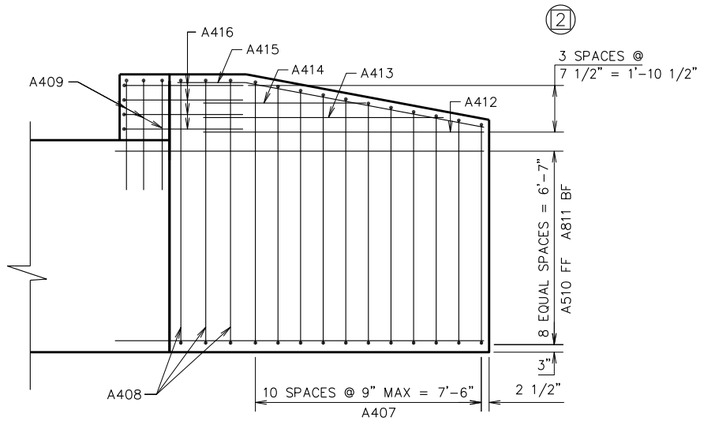
5409-00-71



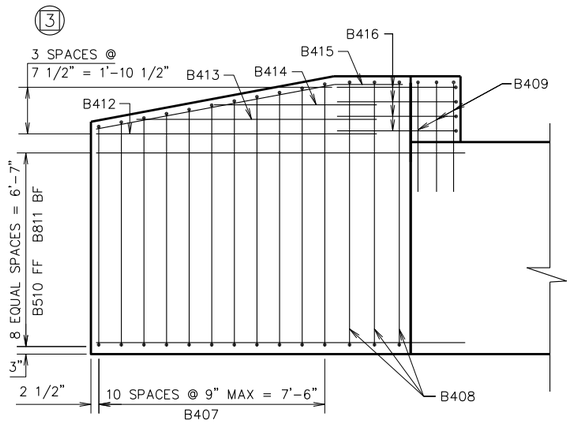


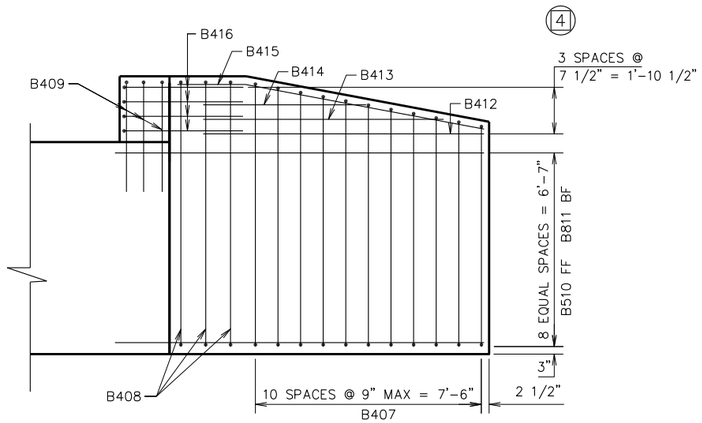
PLAN



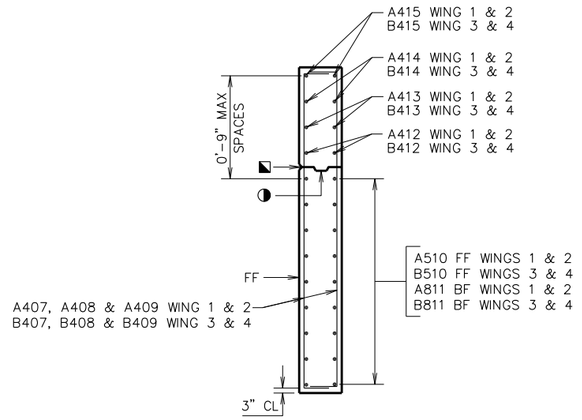


WEST ABUTMENT WINGS





EAST ABUTMENT WINGS



BF = BACK FACE
FF = FRONT FACE

TYPICAL SECTION THRU WING

◥ 3/4" 'V' GROOVE ON FF OF WING WALL – NOT REQUIRED IF CONSTRUCTION JOINT IS NOT USED

◑ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" x 6"

BAR SERIES TABLE

MARK	NO. REQUIRED	LENGTH
A407	4 SERIES OF 11	9'-9" TO 11'-3"
B407	4 SERIES OF 11	9'-9" TO 11'-3"

BUNDLE AND TAG EACH SERIES SEPARATELY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-0048

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ABUTMENT DETAILS

SHEET 6 OF 9

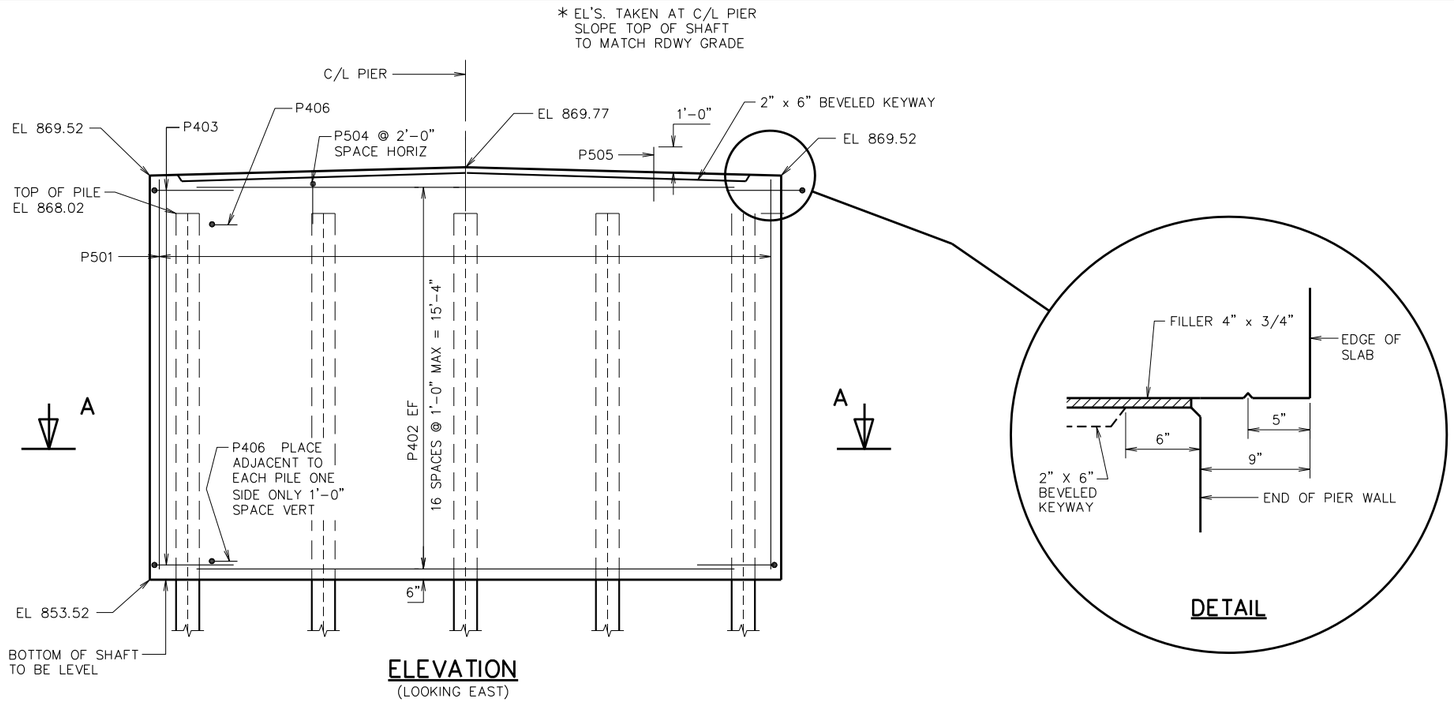
8

8

FILE NAME : I:\CLIENTS\W3922 WDOT SW REGION\005 5409-00-01 24 VALLEY RD\DWG\080403_DET_24 VALLEY RD.DWG

PLOT DATE : 12/11/2014 3:45 PM

STATE PROJECT NUMBER
5409-00-71



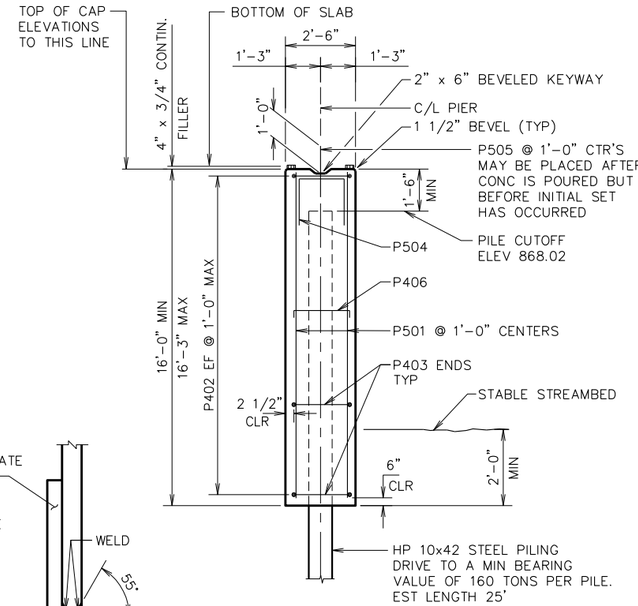
ELEVATION
(LOOKING EAST)

NOTE: BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

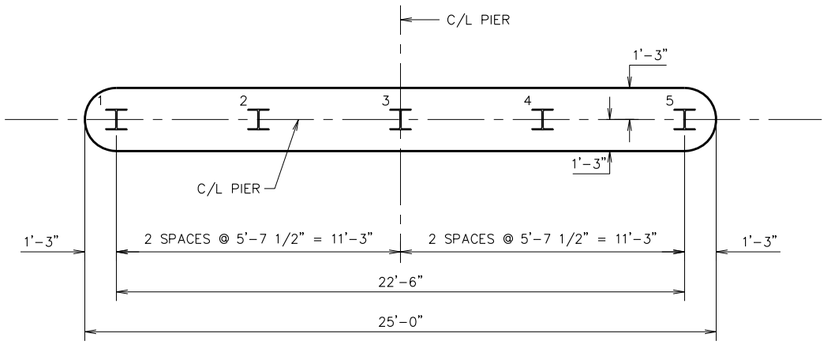
BILL OF BARS

1760 # UNCOATED

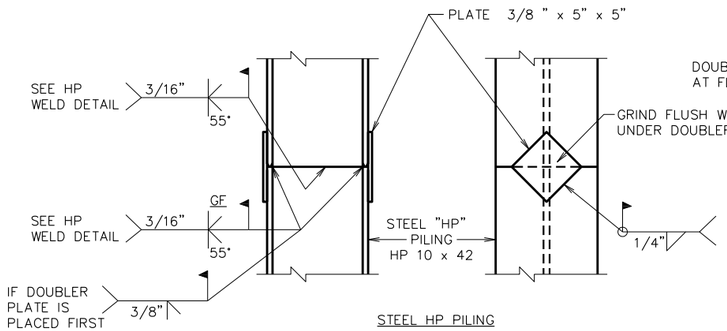
BAR MARK	COAT	NO. REQUIRED	LENGTH	BENT	LOCATION
P501		54	15-4		VERTICAL
P402		34	22-6		HORIZONTAL
P403		34	5-3	X	HORIZONTAL - ENDS
P504		13	4-10	X	HOOKS - TOP
P505		23	2-0		DOWELS - VERT.
P406		85	2-8	X	TIE BARS



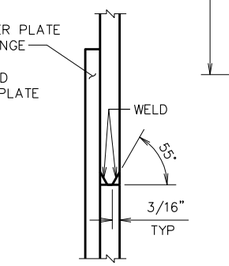
END VIEW



PILE PLAN

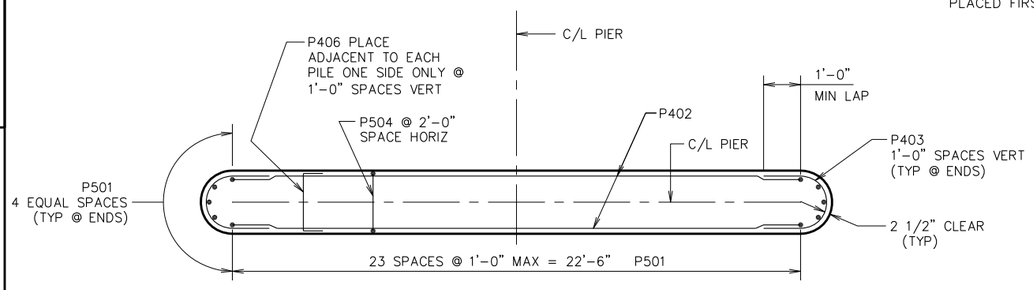


STEEL HP PILING

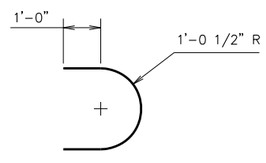


HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE SPLICE DETAILS



SECTION A-A



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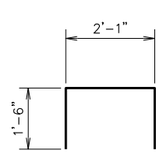

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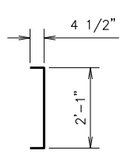


P406

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-0048

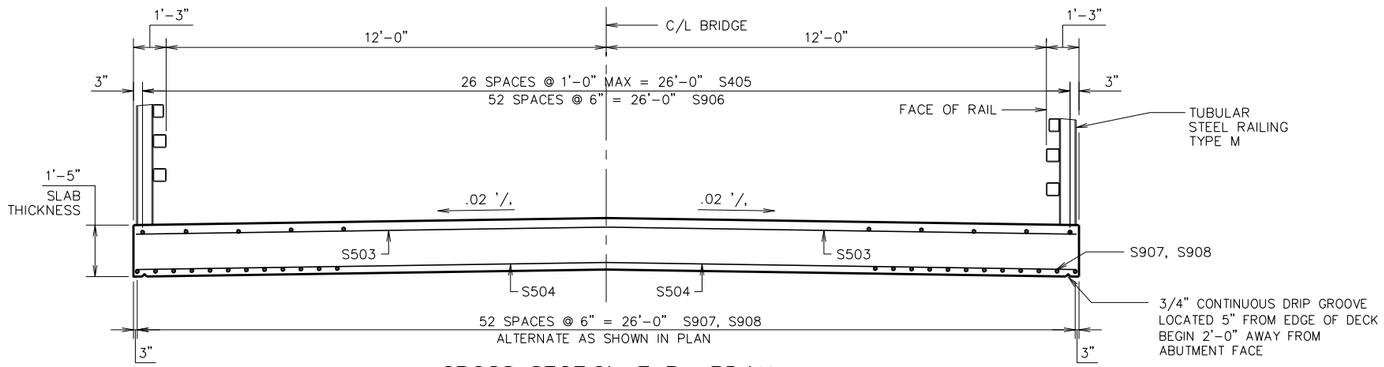
DRAWN BY PKF | PLANS CK'D TLP

PIER

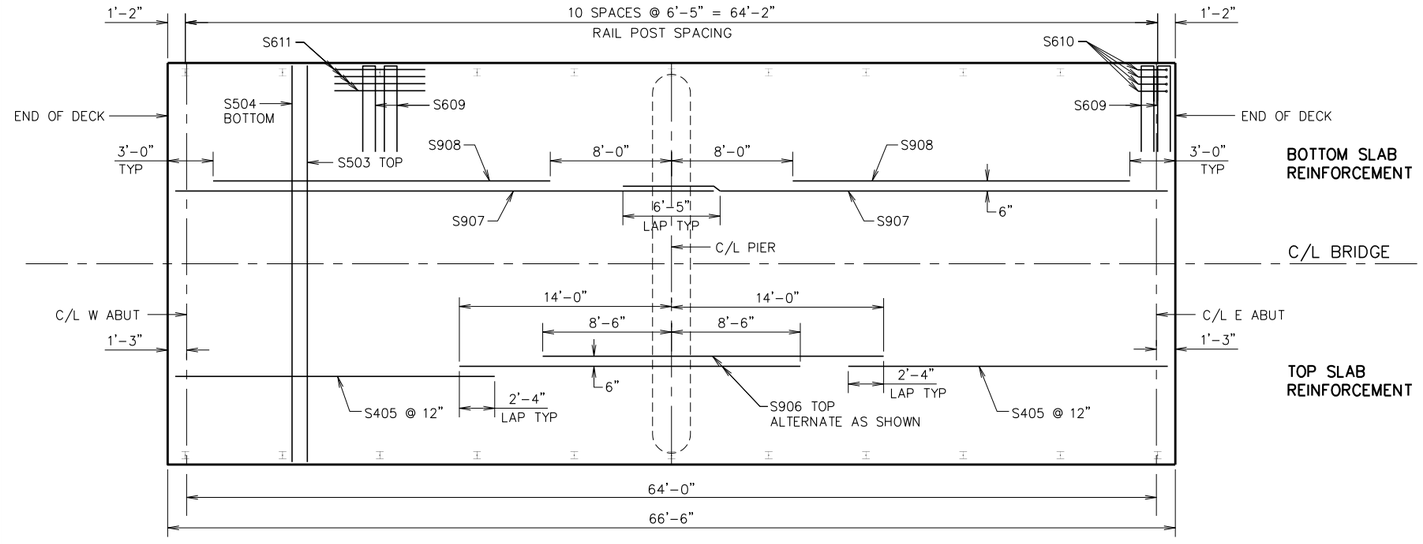
SHEET 7 OF 9

FILE NAME : I:\CLIENTS\W3922 WDOT SW REGION\005 5409-00-01 24 VALLEY RD\DWG\080501_PIER_24 VALLEY RD.DWG

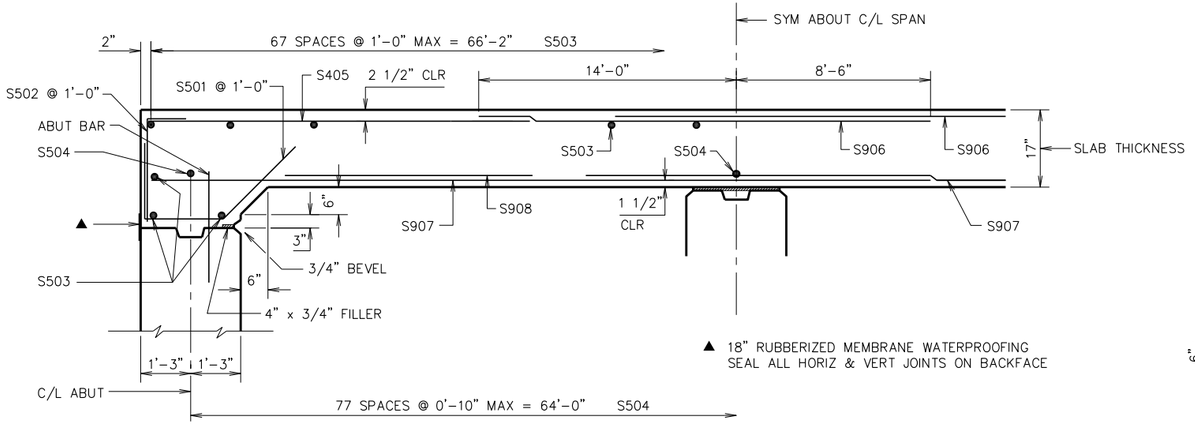
PLOT DATE : 12/11/2014 3:46 PM



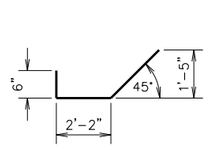
CROSS SECTION THRU RDWY



PLAN



LONGITUDINAL SECTION THRU RDWY



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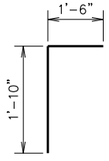

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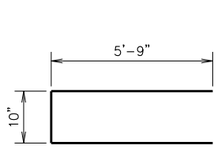

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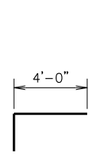


S610

PROJECT NUMBER

5409-00-71

NOTE: BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

BILL OF BARS

21440 # COATED

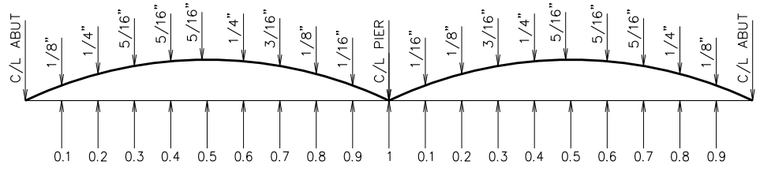
BAR MARK	COAT	NO. REQD	LENGTH	BENT	BUN-DLE	LOCATION
S501	X	54	4-5	X		AT END OF DECK
S502	X	54	3-2	X		AT END OF DECK
S503	X	72	26-2			SLAB, TOP, TRANSVERSE
S504	X	78	26-2			SLAB, BOTTOM, TRANSVERSE
S405	X	54	21-5			SLAB, TOP, LONGITUDINAL
S906	X	53	22-6			SLAB, TOP, LONGITUDINAL
S907	X	53	36-2			SLAB, BOTTOM, LONGITUDINAL
S908	X	53	22-3			SLAB, BOTTOM, LONGITUDINAL
S609	X	44	12-0	X		AT RAIL POSTS
S610	X	16	5-0	X		AT END RAIL POSTS
S611	X	72	6-0			AT RAIL POSTS

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

TRANSVERSE BARS SHALL BE PLACED PARALLEL TO THE C/L OF SUBSTRUCTURE UNITS.

THE SLAB THICKNESS DIMENSION IS MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

CAMBER SPAN AS SHOWN TO PROVIDE FOR DEADLOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. DEADLOAD DEFLECTIONS ONLY EQUAL APPROXIMATELY 1/3 OF CAMBER VALUES SHOWN.



CAMBER DIAGRAM

TOP OF DECK ELEVATIONS

	WEST ABUT	1/10	2/10	3/10	4/10	PIER 5/10	6/10	7/10	8/10	9/10	EAST ABUT
LEFT EDGE DECK	871.16	871.14	871.11	871.07	871.03	870.98	870.93	870.87	870.81	870.74	870.67
C/L BRIDGE	871.43	871.40	871.37	871.33	871.29	871.25	871.19	871.14	871.08	871.01	870.94
RIGHT EDGE DECK	871.16	871.14	871.11	871.07	871.03	870.98	870.93	870.87	870.81	870.74	870.67

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

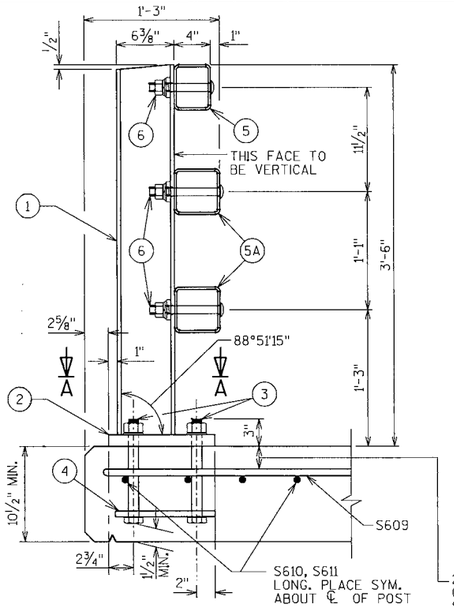
STRUCTURE B-62-0048

DRAWN BY PKF | PLANS CK'D TLP

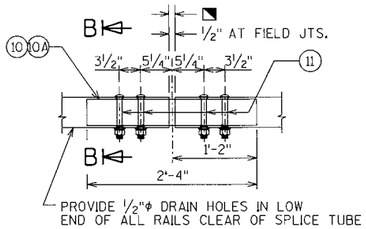
SUPERSTRUCTURE

SHEET 8 OF 9

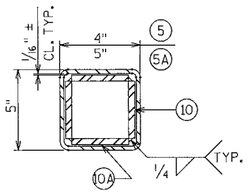
STATE PROJECT NUMBER
5409-00-71



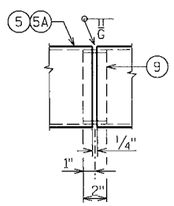
SECTION THRU RAILING ON DECK



FIELD ERECTION JOINT DETAIL

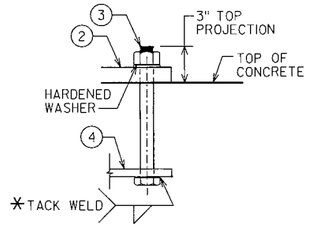


SECTION B-B

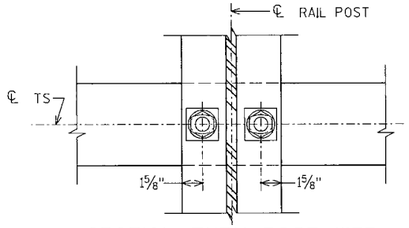


SHOP RAIL SPLICE DETAIL

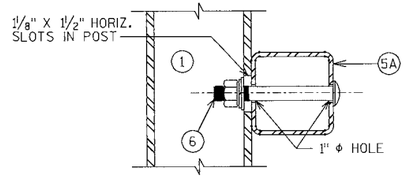
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



ANCHOR BOLTS



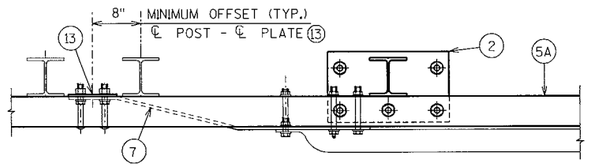
SECTION THRU POST WEB



SECTION THRU RAIL

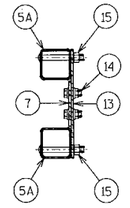
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS



TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT



SECTION C-C

LEGEND

(1) W6 x 25 WITH 1⅛" X 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

(2) PLATE 1¼" × 11¾" × 1'-8" WITH 1⅝" X 1⅝" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

(3) ASTM A449 - 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED), 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10¾" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)

(4) ⅝" × 11" × 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1³⁄₁₆" DIA. HOLES FOR ANCHOR BOLTS NO. 3

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

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

(6) ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3⁄16" X 1⅝" X 1⅝" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)

(7) ½" THK. BACK-UP PLATE WITH 2 - ⅞" X 1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.

(8) 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.

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

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

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

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

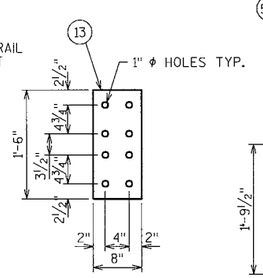
(12) ⅞" DIA. X 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).

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

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

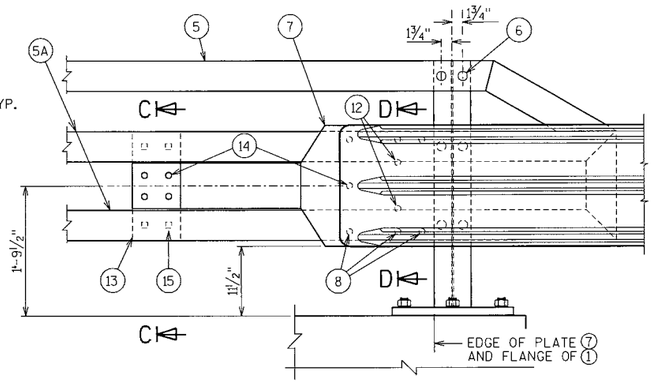
(15) 1" ϕ HOLES IN TUBES NO. 5A FOR ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

SECTION A-A



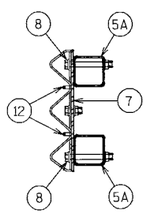
ANCHOR PLATE

AT BEAM GUARD ATTACHMENT



DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT



SECTION D-D

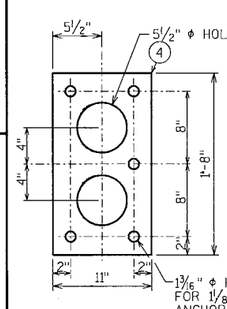
GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-62-0048" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.
10. ~~WHEN PAINTING IS REQUIRED, ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 3 & 4) SHALL BE PAINTED OVER GALVANIZING WITH APPROVED TIE COAT AND TOP COAT.~~
11. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
12. PLACE FIRST BOTTOM LONGITUDINAL BAR CLEAR OF DRIP GROOVE.

▲ TIE TO TOP MAT OF STEEL.

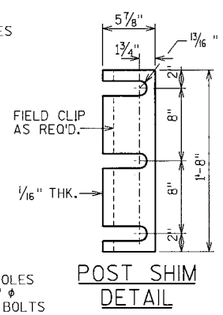
✳ FOR ANCHOR BOLTS IN WINGS, TACK WELD MAY BE USED IN FIELD AFTER ANCHOR PLATE IS IN POSITION IF REQ'D. FOR CONSTRUCTIBILITY.

◥ RDWY. OPENING OR 2½" MIN. FOR STRIP SEAL EXP. JOINT & ½" OPENING FOR A1 ABUTMENT.

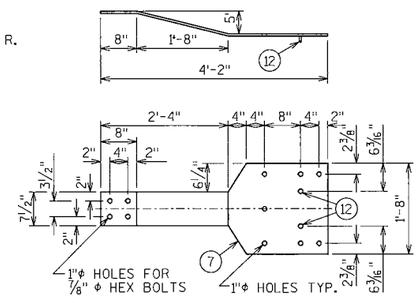


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

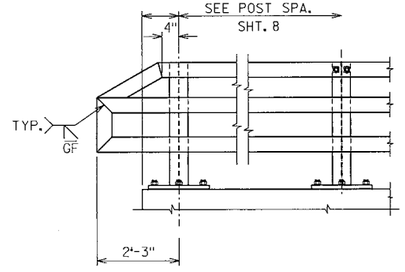


POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-0048

DRAWN BY PKF | PLANS CK'D. TLP

TUBULAR STEEL RAILING TYPE M

SHEET 9 OF 9

SCALE =

10/2/2014 7:02:01 PM i:\Clients\W3922 WDOT SW Region\005 5409-00-01 24 Valley Rd\dwg\080701_railmV7.dgn

STATION	Real Station	Distance	AREA (SF) Cut Note 1	Salvaged / Unusable Pavement Material	Fill	Incremental Vol (CY) Cut	Salvaged / Unusable Pavement Material	Fill	Cumulative Vol (CY) Cut 1.00	Expanded Fill 1.25	Mass Ordinate Note 2
9+00	900		35	2	0	0	0	0	0	0	0
9+25	925	25	30	2	0	30	2	0	30	0	28
9+50	950	25	28	2	1	27	2	1	57	1	52
						57	4	1			

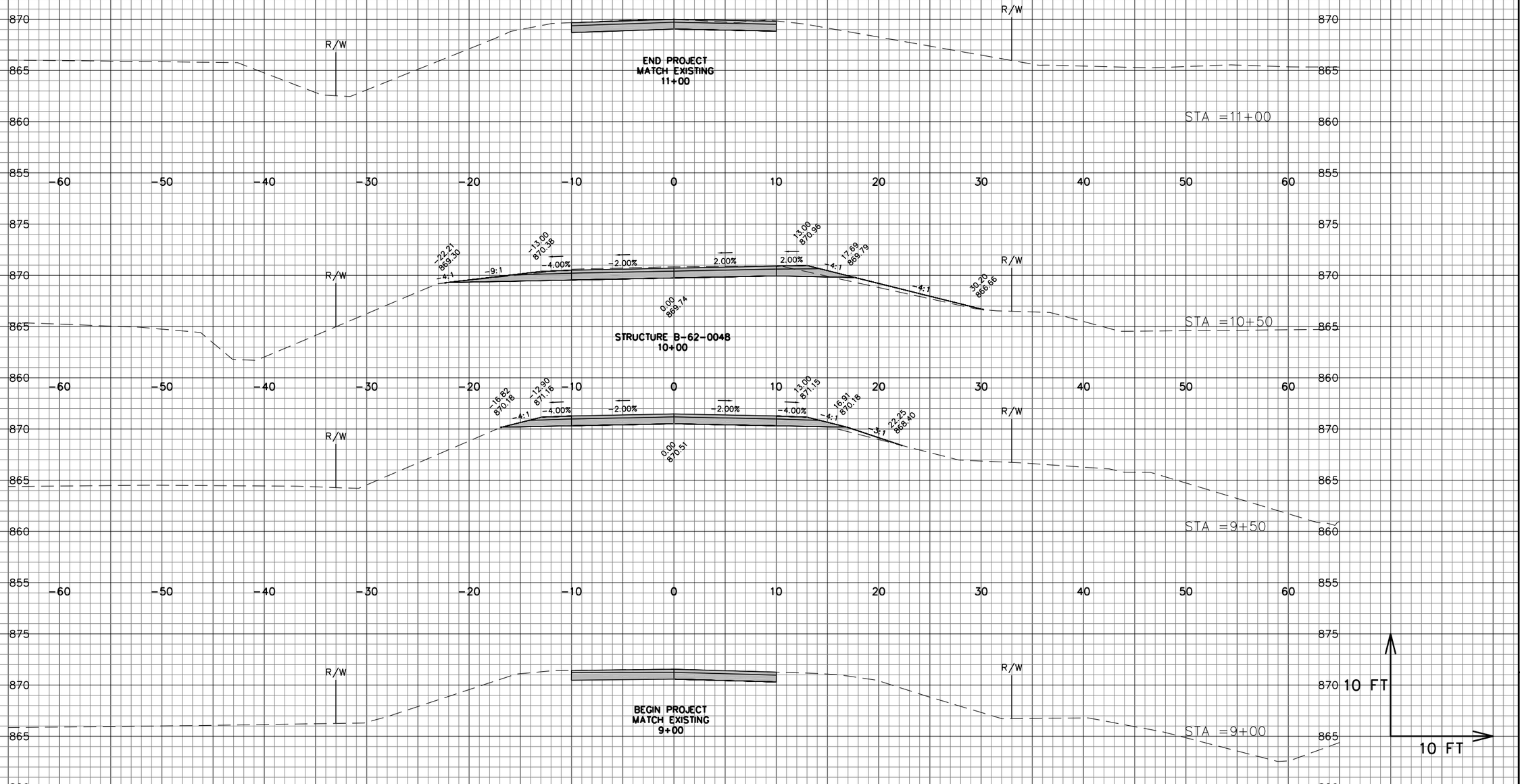
STATION	Real Station	Distance	AREA (SF) Cut Note 1	Salvaged / Unusable Pavement Material	Fill	Incremental Vol (CY) Cut	Salvaged / Unusable Pavement Material	Fill	Cumulative Vol (CY) Cut 1.00	Expanded Fill 1.25	Mass Ordinate Note 2
10+50	1050		30	2	2	0	0	0	0	0	0
10+75	1075	25	31	2	0	28	2	1	28	1	25
11+00	1100	25	26	2	1	26	2	1	55	2	49
						55	4	2			

1) Cut includes Salvaged/Unusuable Pavement Material

2) Available Material = Cut - Salvaged/Unusuable Pavement Material

3) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division and is catagorized as waste.

Minus indicates a shortage of material within the Division and is catagorized as borrow Item Number 208.0100.


END PROJECT
MATCH EXISTING
11+00
STA =11+00
STRUCTURE B-62-0048
10+00
STA =10+50
STA =9+50
BEGIN PROJECT
MATCH EXISTING
9+00
STA =9+00
R/W
-22.21
869.30
-13.00
870.38
-4.00%
-2.00%
2.00%
13.00
870.96
17.69
869.79
0.00
869.74
30.20
866.66
-16.82
870.18
-12.90
871.18
13.00
871.15
16.91
870.18
22.25
868.40
0.00
870.51
4:1
9:1
10 FT

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov