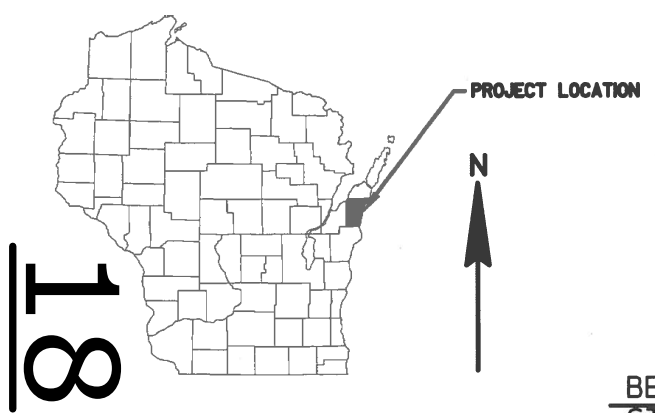


NEL PROJECT ID: 4376-06-71 WITH: N/A COUNTY: KEWAUNEE

NOVEMBER 2018  
ORDER OF SHEETS  
Section No. 1 Title  
Section No. 2 Typical Sections and Details (includes Erosion Control)  
Section No. 3 Estimate of Quantities  
Section No. 3 Miscellaneous Quantities  
Section No. 4 Right of Way Plat  
Section No. 5 Plan and Profile  
Section No. 6 Standard Detail Drawings  
Section No. 7 Sign Plates  
Section No. 8 Structure Plans  
Section No. 9 Computer Earthwork Data  
Section No. 9 Cross Sections  
TOTAL SHEETS = 46

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
PLAN OF PROPOSED IMPROVEMENT  
T CARLTON, ST PETERS RD  
EAST TWIN RIVER BRIDGE & APPROACHES  
LOCAL STREET  
KEWAUNEE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4376-06-71	WISC 2017514	1



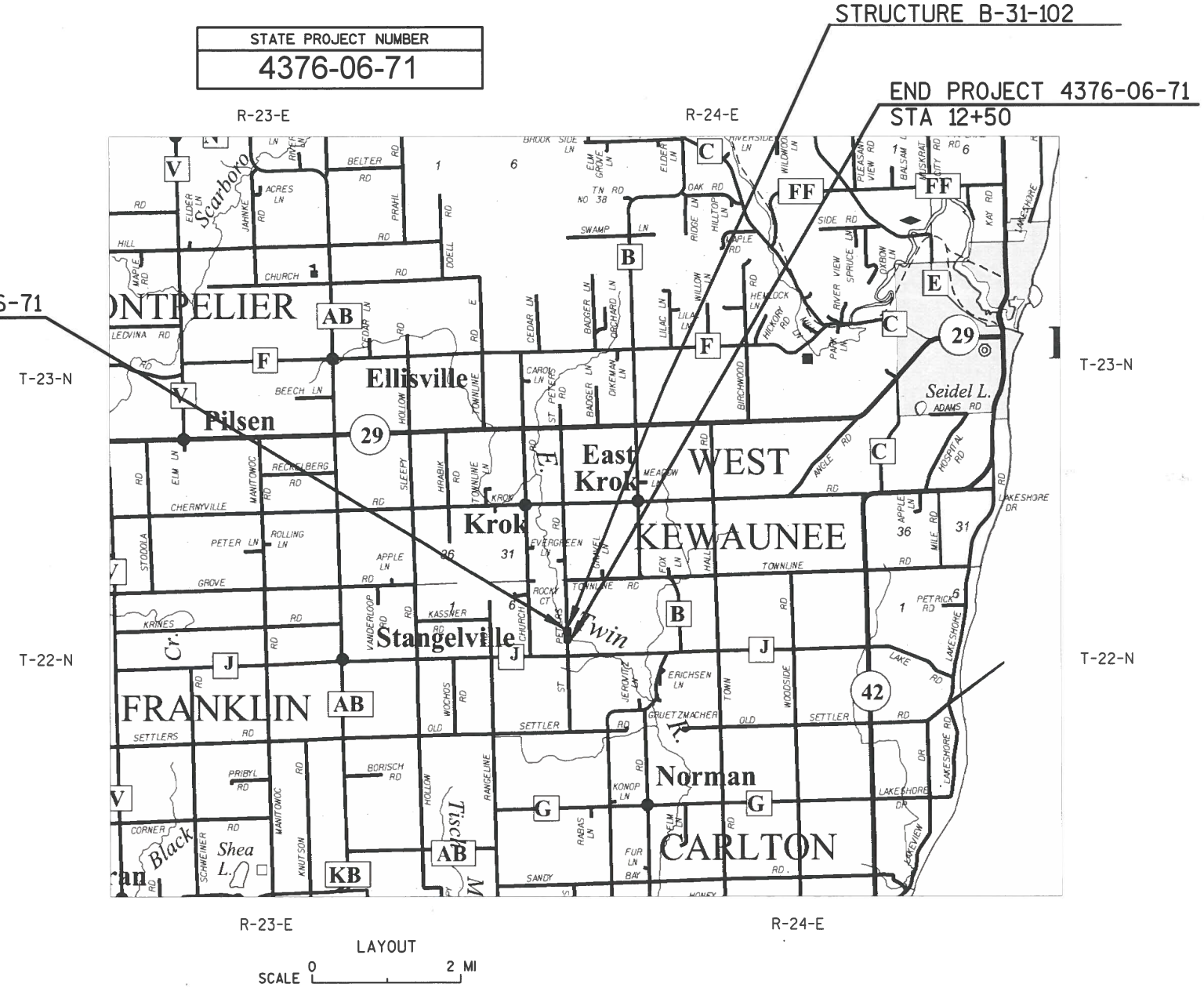
DESIGN DESIGNATION  
A.A.D.T. 2018 = 180  
A.A.D.T. 2038 = 240  
D.H.V. = 57  
D.D. = 60/40  
T. = 5.5%  
DESIGN SPEED = 55 MPH  
ESALS = 22,000

CONVENTIONAL SYMBOLS

PLAN	PROFILE
CORPORATE LIMITS	GRADE LINE
PROPERTY LINE	ORIGINAL GROUND
LOT LINE	MARSH OR ROCK PROFILE (To be noted as such)
LIMITED HIGHWAY EASEMENT	SPECIAL DITCH
EXISTING RIGHT OF WAY	GRADE ELEVATION
PROPOSED OR NEW R/W LINE	CULVERT (Profile View)
SLOPE INTERCEPT	UTILITIES
REFERENCE LINE	ELECTRIC
EXISTING CULVERT	FIBER OPTIC
PROPOSED CULVERT (Box or Pipe)	GAS
COMBUSTIBLE FLUIDS	SANITARY SEWER
	STORM SEWER
	TELEPHONE
	WATER
	UTILITY PEDESTAL
	POWER POLE
	TELEPHONE POLE

WETLAND AREA

WOODED OR SHRUB AREA



ACCEPTED FOR  
KEWAUNEE COUNTY

DATE: 4-19-17 *Josh Every*  
(Signature)

ORIGINAL PLANS PREPARED BY  
**OMNI ASSOCIATES**

**WISCONSIN**  
JUDITH ANN WILSON  
E-22940  
NEENAH, WI  
PROFESSIONAL ENGINEER

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY  
Surveyor OMNI ASSOCIATES  
Designer OMNI ASSOCIATES  
Management Consultant SHORT ELLIOTT HENDRICKSON INC

APPROVED FOR THE DEPARTMENT  
DATE: 5/1/2017 *Josh Every*  
Management Consultant Signature

2

GENERAL NOTES

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

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

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

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

SEED MIXTURE NO. 30 SHALL BE USED ON ALL DISTURBED AREAS, EXCEPT WETLANDS SHALL BE SEEDED WITH MIXTURE NO. 60.

FERTILIZER SHALL NOT BE USED NEAR NAVIGABLE WATERWAYS AND WETLANDS.

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

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

PLAN ELEVATIONS = USGS DATUM (NAVD 88)

EROSION CONTROL NOTES

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

TOTAL PROJECT AREA = 0.67 ACRES  
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.52 ACRES

CONTACTS

ELECTRIC

WISCONSIN PUBLIC SERVICE CORPORATION  
700 NORTH ADAMS STREET, PO BOX 19001  
GREEN BAY, WI 54307-9001  
ATTN: LORI BUTRY  
TELEPHONE: (920) 433-1703  
EMAIL: LAButry@integrysgroup.com

TELEPHONE

AT & T  
205 S. JEFFERSON STREET  
GREEN BAY, WI 54301  
ATTN: JOE KASSAB  
TELEPHONE: (920) 433-4200  
CELL PHONE: (920) 202-4002  
EMAIL: joseph.kassab@att.com

KEWAUNEE COUNTY

TODD EVERY, HIGHWAY COMMISSIONER  
E4280 COUNTY ROAD F  
KEWANEE, WI 54216  
TELEPHONE: (920) 388-3707  
EMAIL: everyt@kewauneeco.org

TOWN OF CARLTON

DAVE HARDTKE, TOWN CHAIRMAN  
N1296 TOWN HALL ROAD  
KEWAUNEE, WI 54216  
TELEPHONE: (920) 493-0832  
EMAIL: birchwayfarms@tm.net

DNR LIAISON

MATT SCHAEVE  
DEPARTMENT OF NATURAL RESOURCES  
2984 SHAWANO AVENUE  
GREEN BAY, WI 54313  
TELEPHONE: (920) 662-5472  
EMAIL: matthew.schaeve@wisconsin.gov

DIGGERSHOTLINE

Dial 811 or (800)242-8511

www.DiggersHotline.com

\*\* DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

PROJECT NO: 4376-06-71

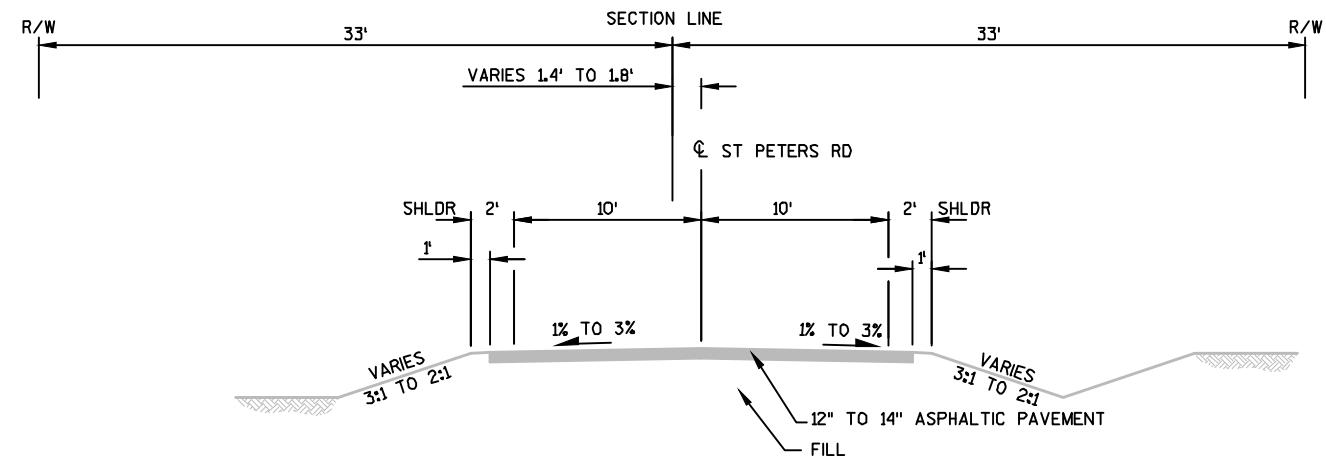
HWY: ST PETERS RD

COUNTY: KEWAUNEE

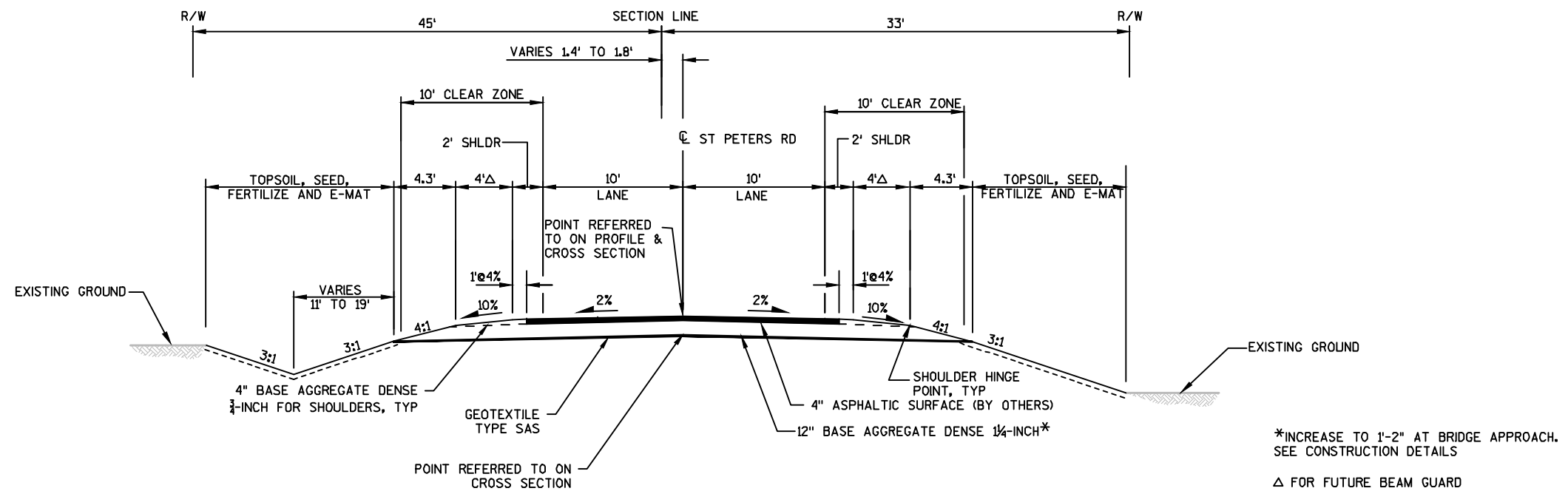
GENERAL NOTES

SHEET:

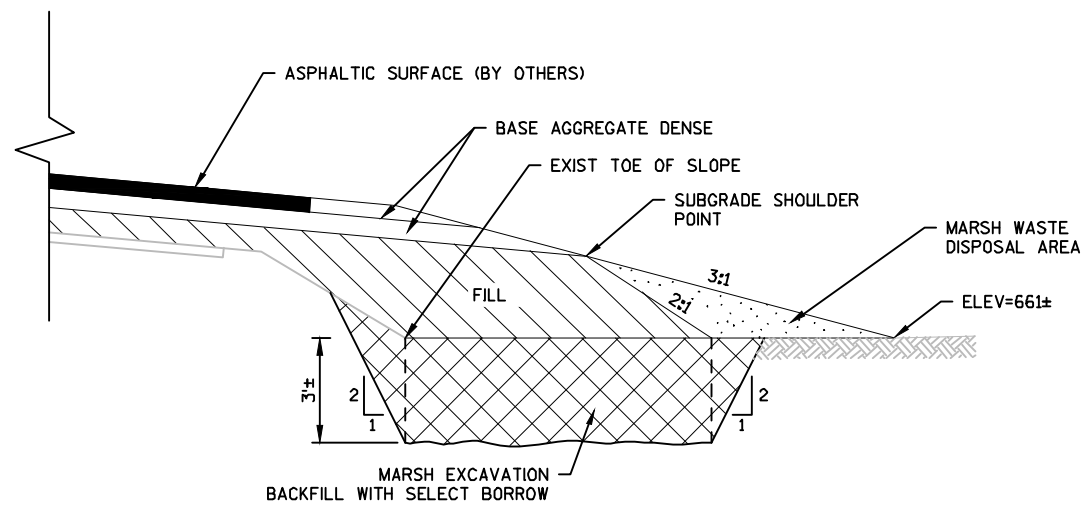
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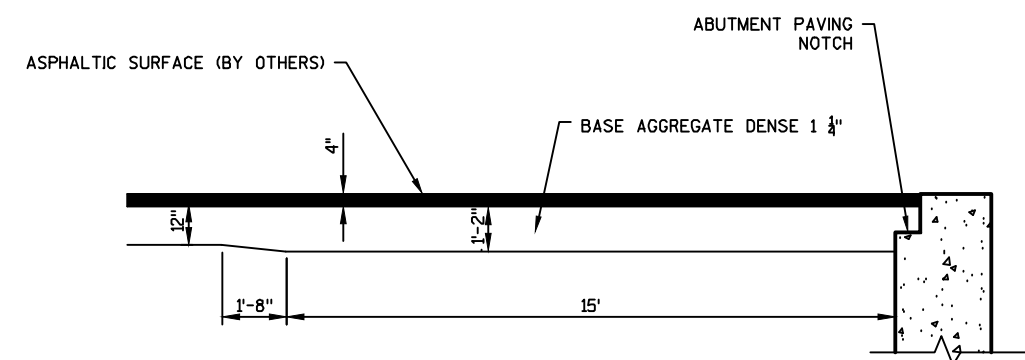
**TYPICAL EXISTING SECTION - ST PETERS RD**  
STA 9+00 TO STA 12+50



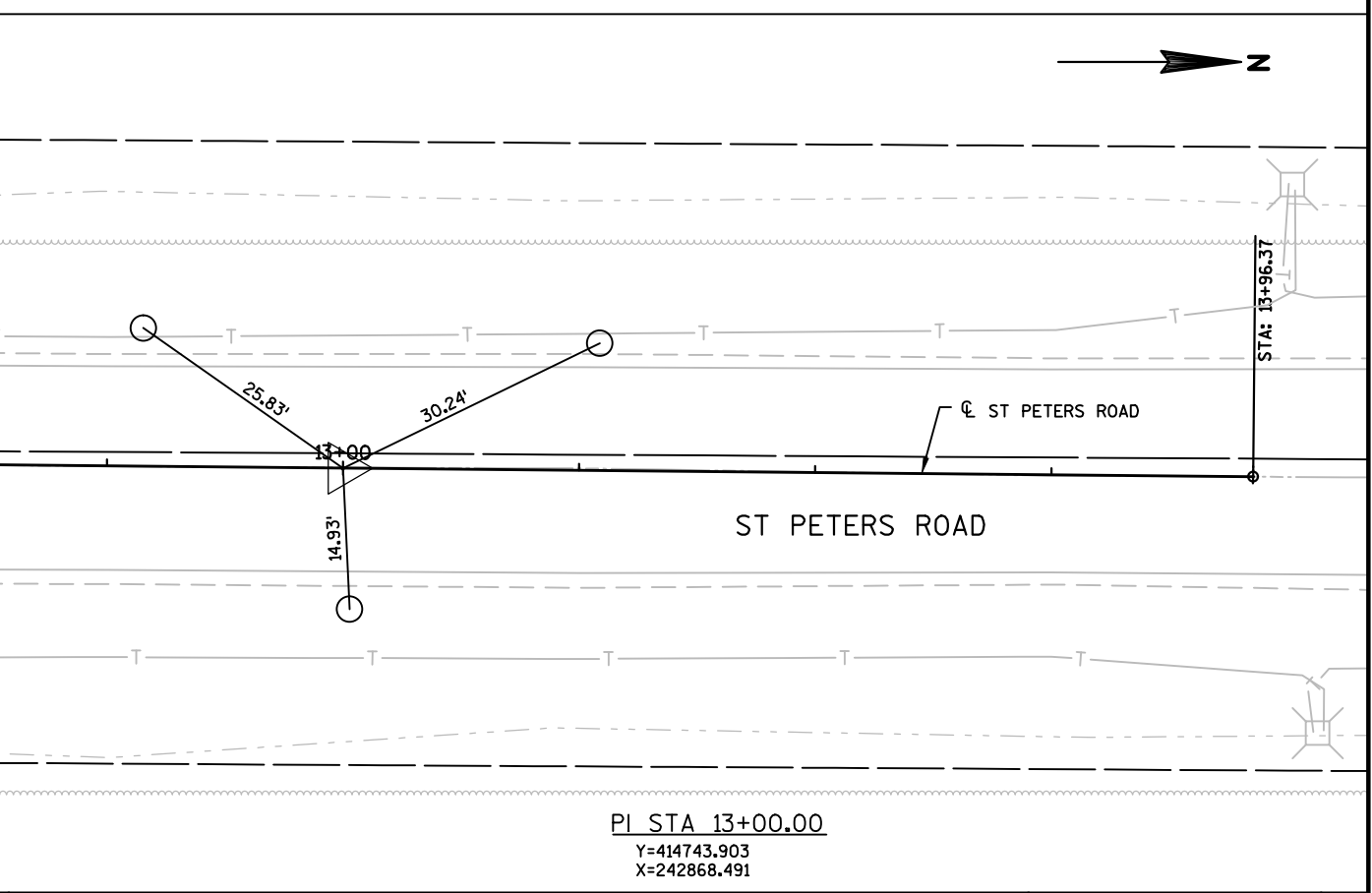
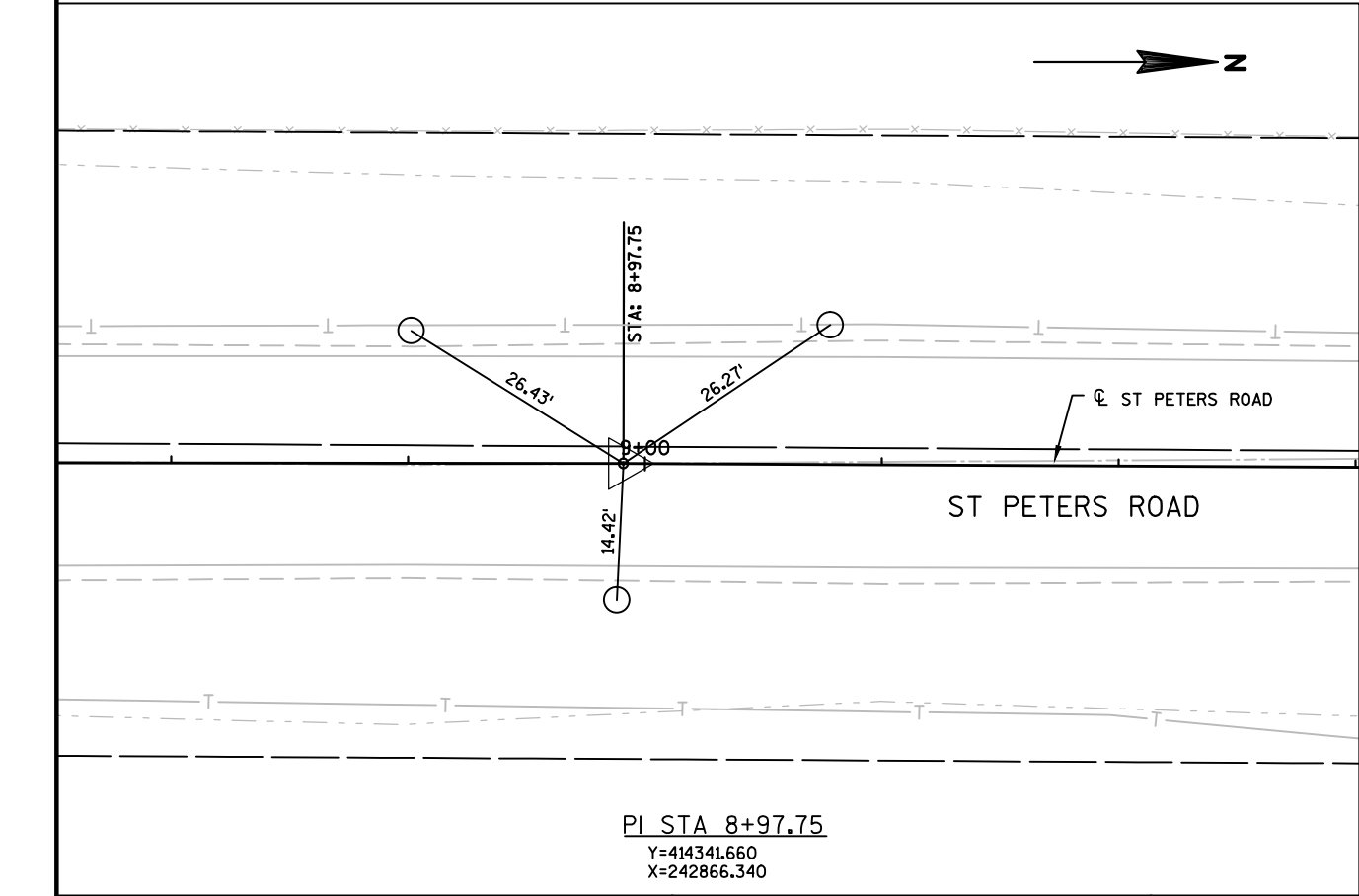
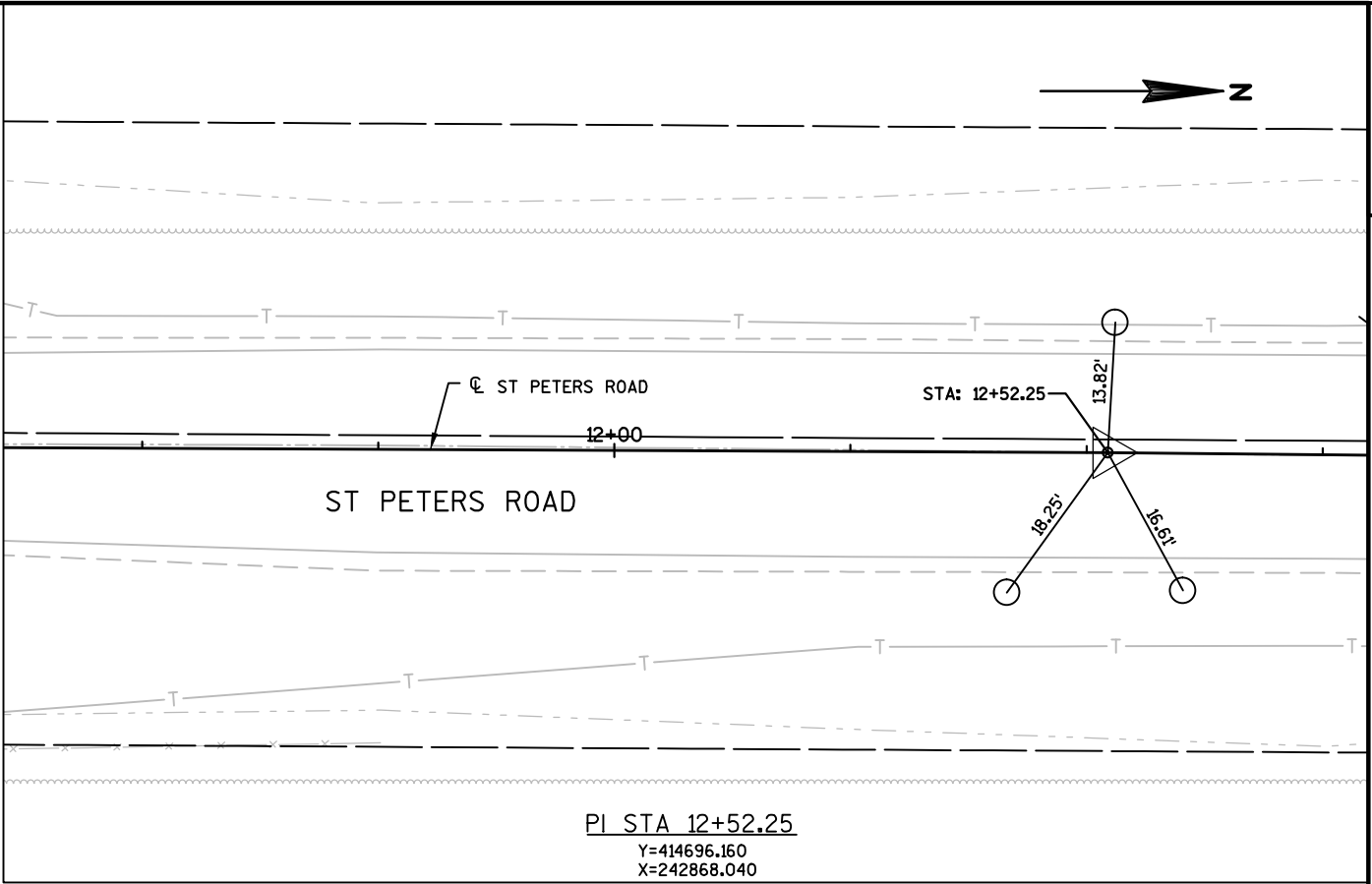
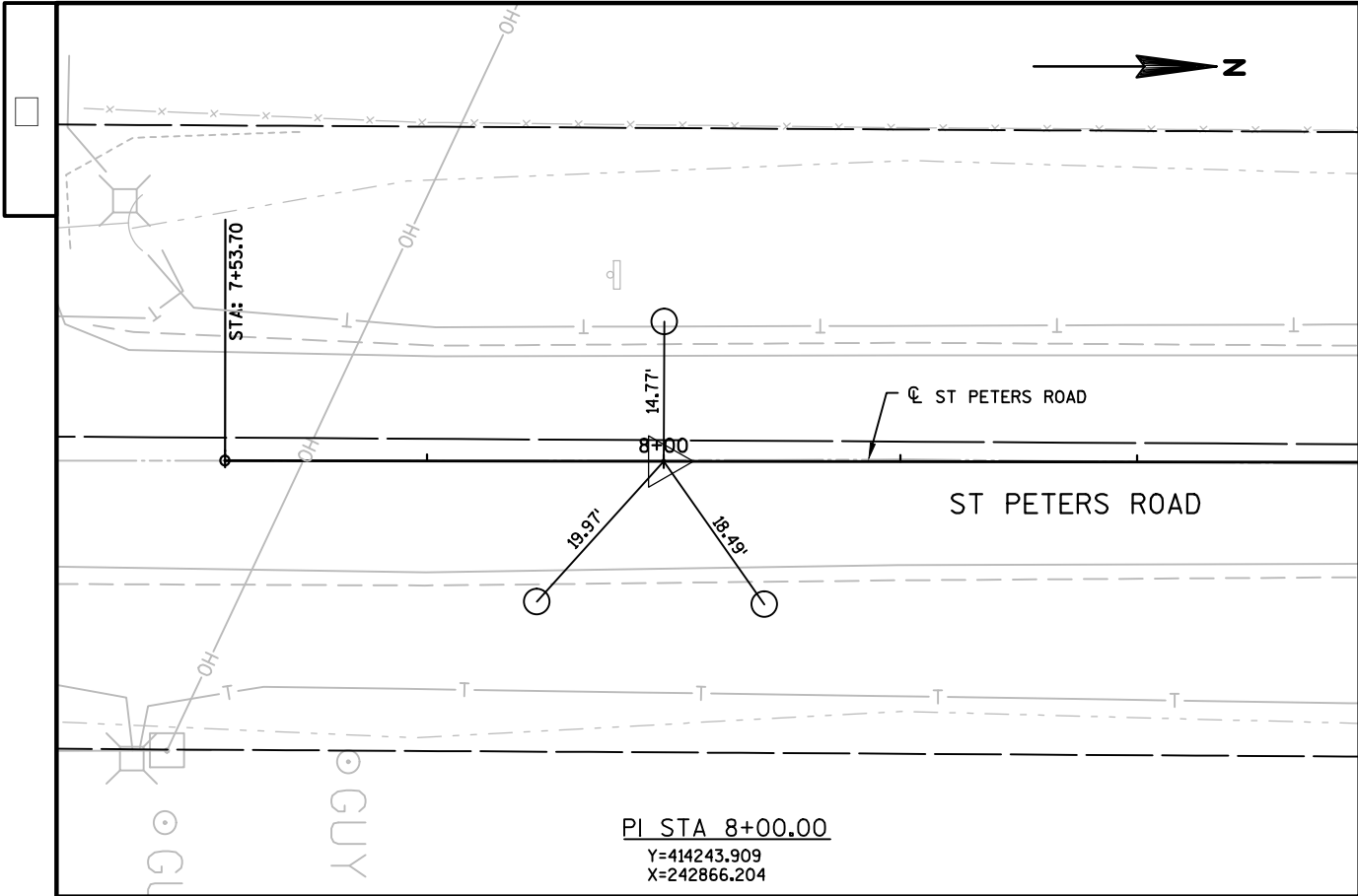
**TYPICAL FINISHED SECTION - ST PETERS RD**  
STA 9+00 TO STA 12+50

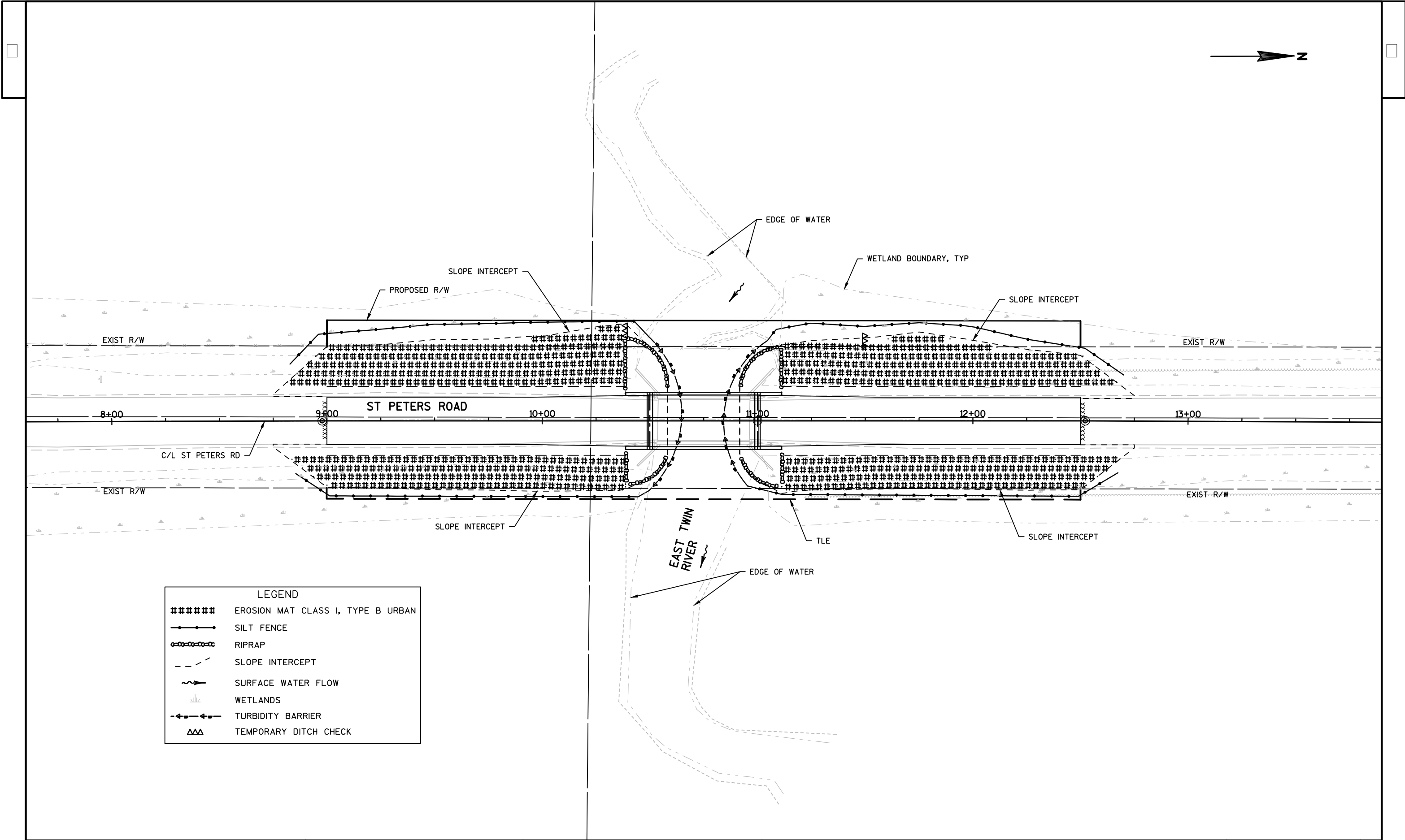


TYPICAL MARSH EXCAVATION DETAIL



SUBGRADE DETAIL AT ABUTMENT





Estimate Of Quantities

4376-06-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	2.000	2.000
0004	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+75	LS	1.000	1.000
0006	204.0165	Removing Guardrail	LF	60.000	60.000
0008	204.0170	Removing Fence	LF	280.000	280.000
0010	205.0100	Excavation Common	CY	350.000	350.000
0012	205.0400	Excavation Marsh	CY	200.000	200.000
0014	206.1000	Excavation for Structures Bridges (structure) 01. B-31-102	LS	1.000	1.000
0016	208.0100	Borrow	CY	510.000	510.000
0018	208.1100	Select Borrow	CY	290.000	290.000
0020	210.1500	Backfill Structure Type A	TON	220.000	220.000
0022	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 4376-06-71	LS	1.000	1.000
0024	213.0100	Finishing Roadway (project) 01. 4376-06-71	EACH	1.000	1.000
0026	305.0110	Base Aggregate Dense 3/4-Inch	TON	60.000	60.000
0028	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	820.000	820.000
0030	502.0100	Concrete Masonry Bridges	CY	175.000	175.000
0032	502.3200	Protective Surface Treatment	SY	212.000	212.000
0034	505.0400	Bar Steel Reinforcement HS Structures	LB	3,040.000	3,040.000
0036	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	23,740.000	23,740.000
0038	513.4061	Railing Tubular Type M (structure) 01. B-31-102	LF	145.000	145.000
0040	516.0500	Rubberized Membrane Waterproofing	SY	16.000	16.000
0042	550.0020	Pre-Boring Rock or Consolidated Materials	LF	130.000	130.000
0044	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	150.000	150.000
0046	606.0300	Riprap Heavy	CY	145.000	145.000
0048	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	130.000	130.000
0050	619.1000	Mobilization	EACH	1.000	1.000
0052	624.0100	Water	MGAL	5.000	5.000
0054	625.0100	Topsoil	SY	1,850.000	1,850.000
0056	628.1504	Silt Fence	LF	1,050.000	1,050.000
0058	628.1520	Silt Fence Maintenance	LF	1,050.000	1,050.000
0060	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0064	628.2008	Erosion Mat Urban Class I Type B	SY	1,850.000	1,850.000
0066	628.6005	Turbidity Barriers	SY	170.000	170.000
0068	628.7504	Temporary Ditch Checks	LF	20.000	20.000
0070	629.0210	Fertilizer Type B	CWT	1.100	1.100
0072	630.0130	Seeding Mixture No. 30	LB	35.000	35.000
0074	630.0160	Seeding Mixture No. 60	LB	10.000	10.000

Estimate Of Quantities

4376-06-71

Line	Item	Item Description	Unit	Total	Qty
0076	630.0200	Seeding Temporary	LB	25.000	25.000
0078	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0080	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0082	638.2602	Removing Signs Type II	EACH	4.000	4.000
0084	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0086	642.5001	Field Office Type B	EACH	1.000	1.000
0088	643.0100	Traffic Control (project) 01. 4376-06-71	EACH	1.000	1.000
0090	643.0420	Traffic Control Barricades Type III	DAY	720.000	720.000
0092	643.0705	Traffic Control Warning Lights Type A	DAY	960.000	960.000
0094	643.0900	Traffic Control Signs	DAY	960.000	960.000
0096	645.0111	Geotextile Type DF Schedule A	SY	70.000	70.000
0098	645.0120	Geotextile Type HR	SY	215.000	215.000
0100	645.0140	Geotextile Type SAS	SY	1,360.000	1,360.000
0102	646.0103	Pavement Marking Paint 4-Inch	LF	90.000	90.000
0104	650.4500	Construction Staking Subgrade	LF	298.000	298.000
0106	650.5000	Construction Staking Base	LF	298.000	298.000
0108	650.6500	Construction Staking Structure Layout (structure) 01. B-31-102	LS	1.000	1.000
0110	650.9910	Construction Staking Supplemental Control (project) 01. 4376-06-71	LS	1.000	1.000
0112	650.9920	Construction Staking Slope Stakes	LF	298.000	298.000
0114	690.0150	Sawing Asphalt	LF	44.000	44.000
0116	715.0502	Incentive Strength Concrete Structures	DOL	1,050.000	1,050.000
0118	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	150.000	150.000
0120	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000



GRUBBING

STATION TO STATION	DIR	LOCATION	201.0205 GRUBBING STATION
11+00 - 12+50	R/L	ST. PETERS ROAD	2
TOTALS			2

REMOVING FENCE

STATION TO STATION	DIR	LOCATION	204.0170 REMOVING FENCE LF
9+00 - 11+25	LT	ST. PETERS ROAD	225
11+20 - 11+75	RT	ST. PETERS ROAD	55
TOTAL			280

REMOVING GUARDRAIL

STATION TO STATION	DIR	LOCATION	204.0165 LF
10+38 - 10+52	RT	ST. PETERS ROAD	15
10+38 - 10+52	LT	ST. PETERS ROAD	15
10+98 - 11+10	RT	ST. PETERS ROAD	15
10+98 - 11+10	LT	ST. PETERS ROAD	15
TOTAL			60

EARTHWORK SUMMARY

Location	From/To Station	205.0100  Common Excavation (2)	Salvaged/ Unusable Pavement Material	Available Material (5)	205.0400  Marsh Excavation (6)	Reduced Marsh in Fill (8)  Factor 0.60	208.1100  Select Borrow for Expanded Marsh Backfill (10)  Factor 1.50	Unexpanded Fill	Expanded Fill	Mass Ordinate +/- (14)	Waste	208.0100  Borrow
St Peters South	08+75/10+38.75	157	113	44	171	102	256	373	467	-320	0	320
St Peters North	11+11.25/12+75	188	113	75	22	13	33	222	278	-190	0	190
Grand Total		345	226	119	193	116	289	595	744	-510	0	510
ROUNDED TOTALS		350			200		290					510

- 2) Salvaged/Unsuable Pavement Material is included in Common Excavation
- 5) Available Material = Cut - Salvaged/Unusuable Pavement Material
- 6) Marsh Excavation to be backfilled with Select Borrow.
- 8) Reduced Marsh in Fill: Excavated Marsh material is usable in Fills outside the 2:1 slope. Marsh in Fill Reduction factor = 0.6
- 10) Expanded Marsh Backfill: This is to be filled with Select Borrow material. Marsh Backfill Factor = 1.5
- 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.

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

EROSION CONTROL ITEMS

			628.1504	628.1520	628.1905	628.1910	628.7504
			SILT FENCE	SILT FENCE MAINTENANCE	MOBILIZATION EROSION CONTROL	MOBILIZATION EMERGENCY EROSION CONTROL	TEMPORARY DITCH CHECKS
STATION TO STATION	DIR	LOCATION	LF	LF	EA	EA	LF
9+00 - 10+49	R/L	ST. PETERS ROAD	410	410	--	--	10
11+01 - 12+50	R/L	ST. PETERS ROAD	430	430	--	--	10
UNDISTRIBUTED		ST. PETERS ROAD	210	210	4	2	---
TOTALS			1,050	1,050	4	2	20

LANDSCAPING ITEMS

			625.0100	628.2008	629.0210	630.0130	630.0160	630.0200
			TOPSOIL	EROSION MAT URBAN CLASS I TYPE B	FERTILIZER TYPE B	SEEDING MIXTURE NO. 30	SEEDING MIXTURE NO. 60	SEEDING TEMPORARY
STATION TO STATION	DIR	LOCATION	SY	SY	CWT	LB	LB	LB
9+00 - 10+49	R/L	ST. PETERS ROAD	760	760	0.5	14	---	10
11+01 - 12+50	R/L	ST. PETERS ROAD	710	710	0.4	13	---	10
UNDISTRIBUTED		ST. PETERS ROAD	380	380	0.2	8	10	5
TOTALS			1,850	1,850	1.1	35	10	25

SIGNS REFLECTIVE TYPE II & POSTS WOOD

			SIGN SIZE	634.0614	637.2230
			HORIZ X VERT	POSTS WOOD	SIGNS TYPE II
STATION	LOCATION	CODE	IN X IN	4X6-INCH X 14-FT	RELFECTIVE F
10+35, RT	ST. PETERS ROAD	W5-52R	12 X 36	EACH	SF
10+35, LT	ST. PETERS ROAD	W5-52L	12 X 36	1	3
11+05, RT	ST. PETERS ROAD	W5-52R	12 X 36	1	3
11+05, LT	ST. PETERS ROAD	W5-52L	12 X 36	1	3
TOTALS				4	12

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

BASE AGGREGATE DENSE AND WATER

		305.0110	305.0120	624.0100
		BASE AGGREGATE	BASE AGGREGATE	WATER
STATION TO STATION	LOCATION	DENSE 3/4-INCH	DENSE 1 1/4-INCH	MGAL
9+00 - 10+50	ST. PETERS ROAD	TON	TON	
11+01 - 12+50	ST. PETERS ROAD	30	410	2.5
TOTALS		60	820	5

TURBIDITY BARRIER

		628.6005
		TURBIDITY
STATION	LOCATION	BARRIERS
10+60, S. ABUT	ST. PETERS ROAD	SY
10+90, N. ABUT	ST. PETERS ROAD	85
TOTAL		170

REMOVING SIGNS TYPE II AND REMOVING SMALL SIGN SUPPORTS

			638.2602 REMOVING SIGNS TYPE II	638.3000 REMOVING SMALL SIGN SUPPORTS
STATION	LOCATION	DESCRIPTION	EACH	EACH
10+49, RT	ST PETERS RD	OBJECT MARKER	1	1
10+49, LT	ST PETERS RD	OBJECT MARKER	1	1
11+01, RT	ST PETERS RD	OBJECT MARKER	1	1
11+01, LT	ST PETERS RD	OBJECT MARKER	1	1
TOTALS			4	4

TRAFFIC CONTROL ROAD CLOSURE

LOCATION	APROX. SERVICE PERIOD	643.0420 TRAFFIC CONTROL BARRICADES TYPE III		643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A		643.0900 TRAFFIC CONTROL SIGNS	
		NO.	DAYS	NO.	DAYS	NO.	DAYS
ST PETERS ROAD CLOSURE	60	12	720	16	960	16	960
TOTALS			720		960		960

PAVEMENT MARKING PAINT

STATION TO STATION	LOCATION	646.0103
		4-INCH DASHED YELLOW LF
9+00 - 12+50	ST. PETERS ROAD	90
TOTAL		90

SAWING

STATION	LOCATION	690.0150 SAWING ASPHALT LF
9+00	ST. PETERS	22
12+50	ST. PETERS	22
TOTAL		44

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

GEOTEXTILE

STATION TO STATION	DIR	LOCATION	645.0140 GEOTEXTILE TYPE SAS SY
9+00 - 10+49	R/L	ST. PETERS ROAD	680
11+01 - 12+50	R/L	ST. PETERS ROAD	680
TOTAL			1,360

CONSTRUCTION STAKING

STATION TO STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	CATEGORY 0020	650.9910 SUPPLEMENTAL CONTROL (PROJECT) 4376-06-71 LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
				650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) B-31-102 LS		
9+00 - 10+49	ST PETERS SOUTH	149	149	---	---	149
11+01 - 12+50	ST PETERS NORTH	149	149	---	---	149
	PROJECT	---	---	1	1	---
TOTALS		298	298	1	1	298

## Conventional Signs and Abbreviations

SECTION LINE	AC	ACRES	R	RADIUS
QUARTER LINE	Δ	CENTRAL ANGLE	R/L	RANGE
TOWNSHIP AND RANGE LINE	C/L	CENTERLINE	R/W	REFERENCE LINE
PROPOSED OR NEW CENTERLINE	COR.	CORNER	1/4 LINE	RIGHT OF WAY
PROPOSED OR NEW R/W LINE	CTH	COUNTY TRUNK HIGHWAY	1/2 LINE	QUARTER LINE
EXISTING R/W LINE	D	DEGREE OF CURVE	S	SIXTEENTH LINE
LOT LINE	E	EAST	SEC	SOUTH
PROPERTY LINE	L	LENGTH OF CURVE	SEC LINE	SECTION
COUNTY LIMITS LINE	LC	LONG CHORD	STH	SECTION LINE
SLOPE INTERCEPTS	LCB	LONG CHORD BEARING	SF	STATE TRUNK HIGHWAY
EXISTING MONUMENTATION	M	MILE	STA	SQUARE FEET
FENCE	N	NORTH	T	STATION
SECTION OR QUARTER CORNER	N.T.S.	NOT TO SCALE	T	TOWN
TELEPHONE	PC	POINT OF CURVATURE	T	TANGENT LENGTH OF CURVE
GAS	PI	POINT OF INTERSECTION	TLE	TEMPORARY LIMITED EASEMENT
WATER	PT	POINT OF TANGENCY	USH	UNITED STATES HIGHWAY
ELECTRIC	PLE	PERMANENT LIMITED EASEMENT	W	WEST
FIBER OPTIC	P/L	PROPERTY LINE		
SANITARY	PC LINE	PRIVATE CLAIM LINE		
STORM SEWER				

## UTILITY INTEREST REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED
90	AT&T	RELEASE OF RIGHTS

## R/W COORDINATE TABLE

POINT	Y	X
11	414694.13	242821.62
12	414694.02	242833.62
18	414344.13	242819.55
19	414344.99	242831.55

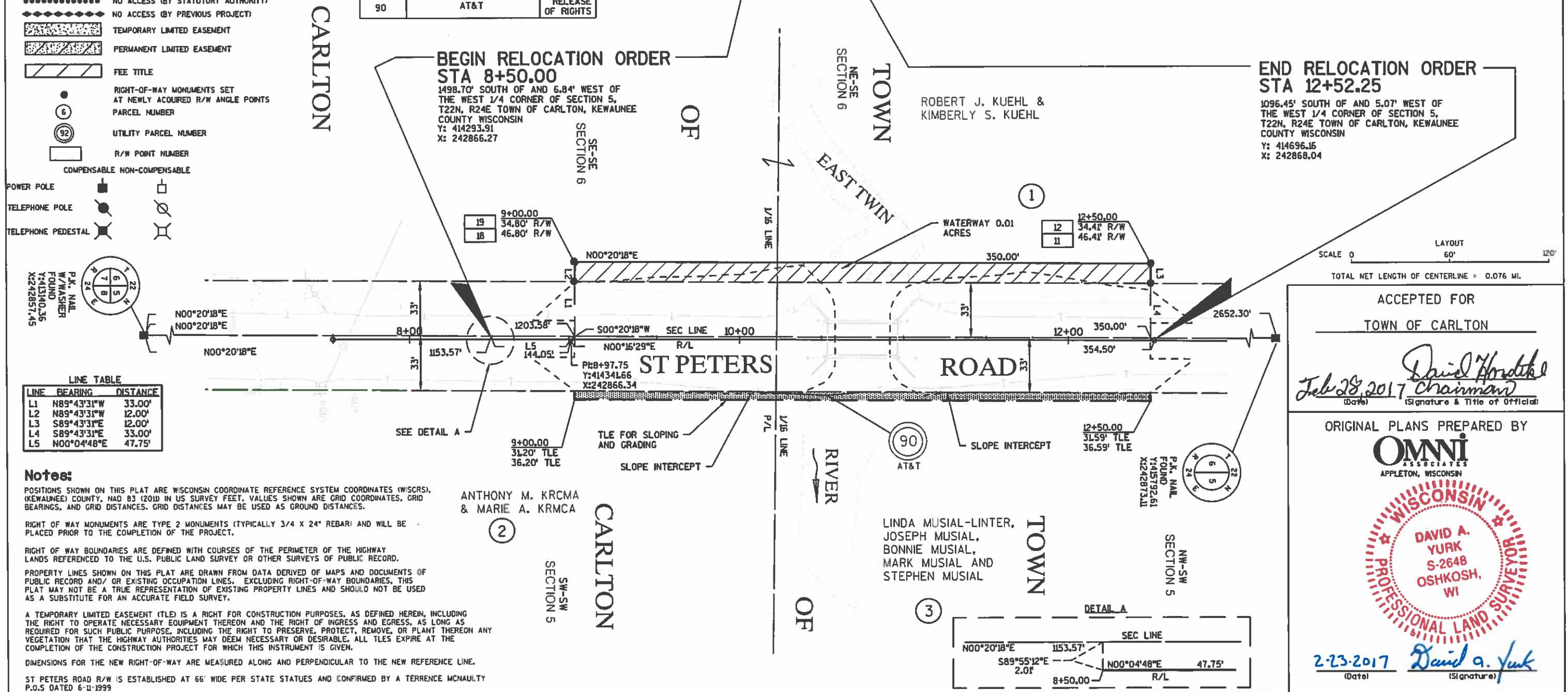
## SCHEDULE OF LANDS AND INTERESTS

PARCEL NUMBER	OWNER	INTEREST REQUIRED	AREA ACRES REQUIRED			TLE AREA
			NEW	EXISTING	TOTAL	
1	KROBERT J. KUEHL & KIMBERLY S. KUEHL	FEE	0.10 AC	0.27 AC	0.37 AC	-----
2	ANTHONY M. KRCMA & MARIE A. KRCMA	TLE	-----	-----	-----	0.01 AC
3	LINDA MUSIAL-LINTER, JOSEPH MUSIAL, BONNIE MUSIAL, MARK MUSIAL & STEPHEN MUSIAL	TLE	-----	-----	-----	0.03 AC

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

END RELOCATION ORDER  
STA 12+52.25

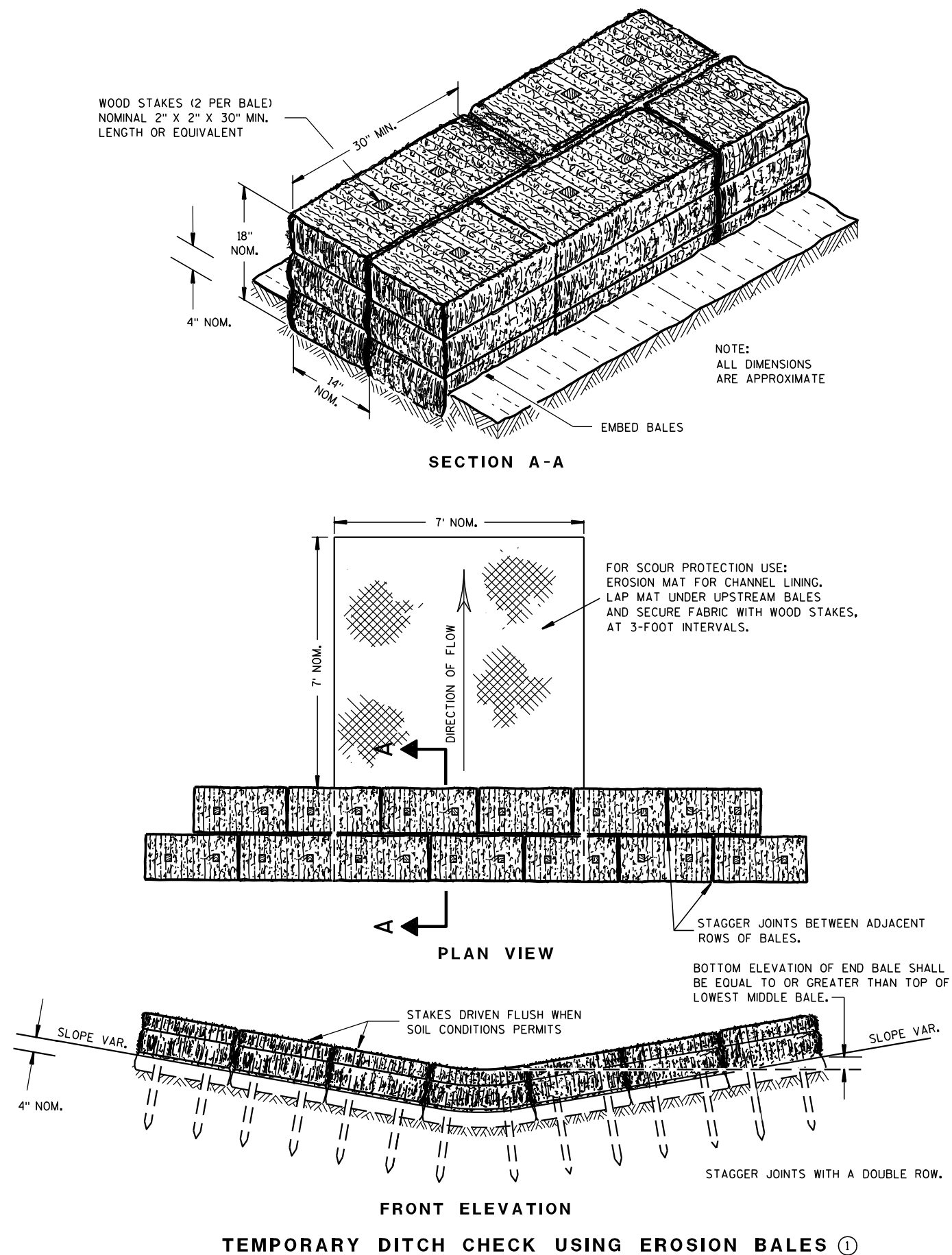
1096.45' SOUTH OF AND 5.07' WEST OF  
THE WEST 1/4 CORNER OF SECTION 5,  
T22N, R24E TOWN OF CARLTON, KEWAUNEE  
COUNTY WISCONSIN  
Y: 414696.16  
X: 242868.04





Standard Detail Drawing List

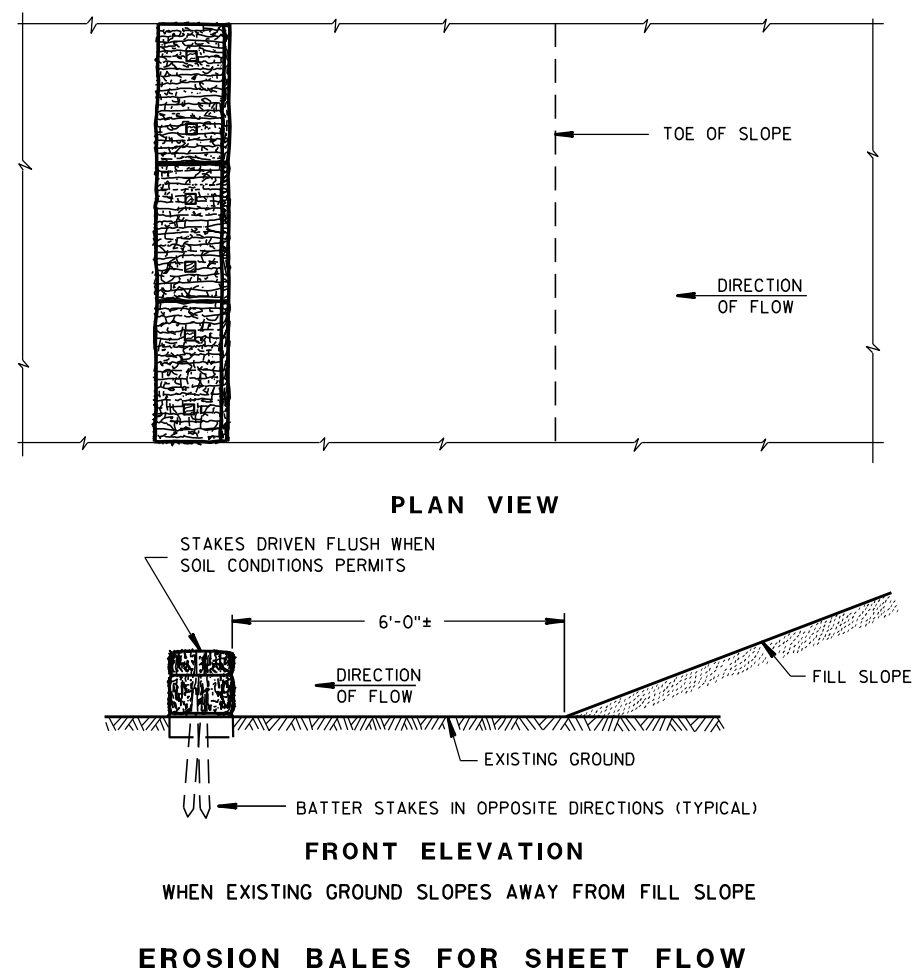
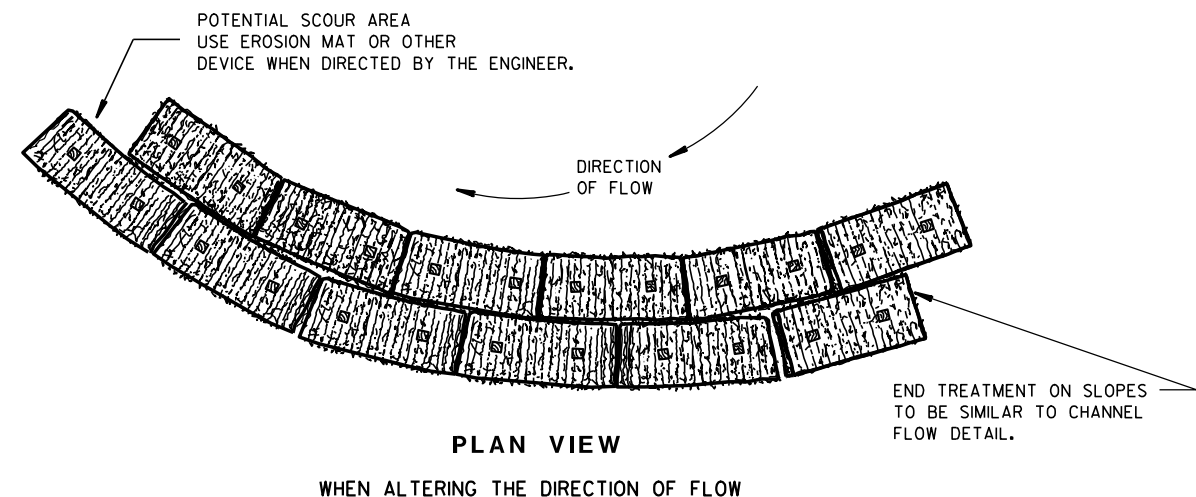
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-08	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-17A	PAVEMENT MARKING (MAINLINE)



## 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.

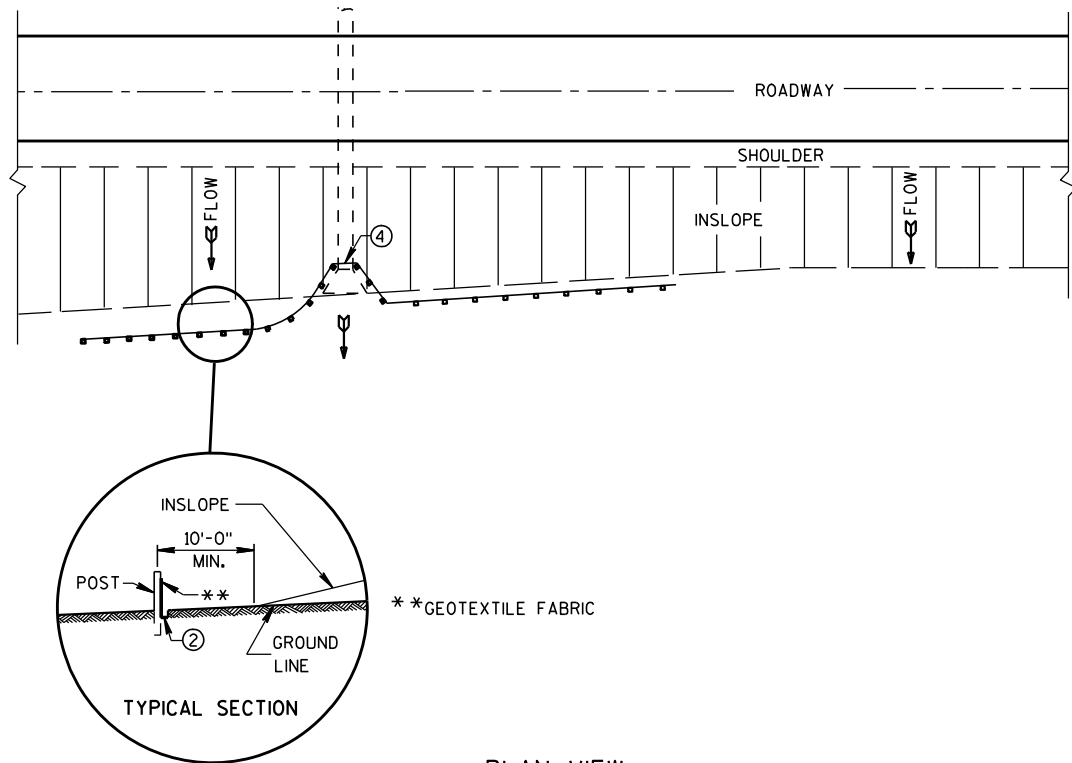
TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

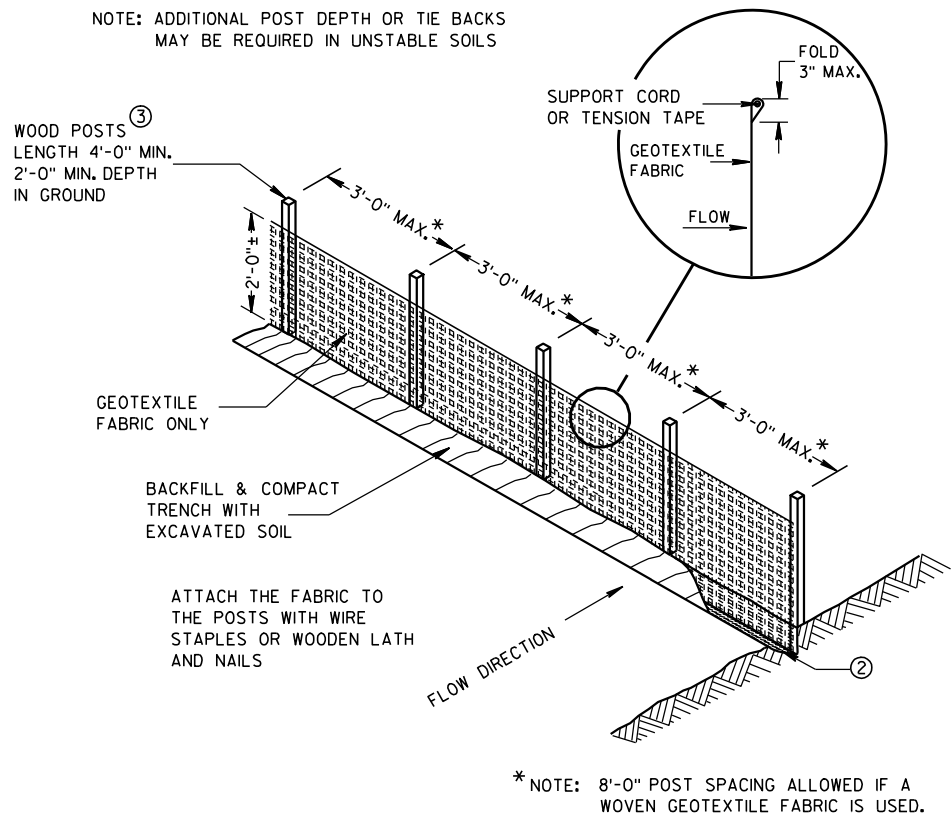
APPROVED

6/04/02  
DATE/S/ Beth Canestra  
CHIEF ROADWAY DEVELOPMENT ENGINEER

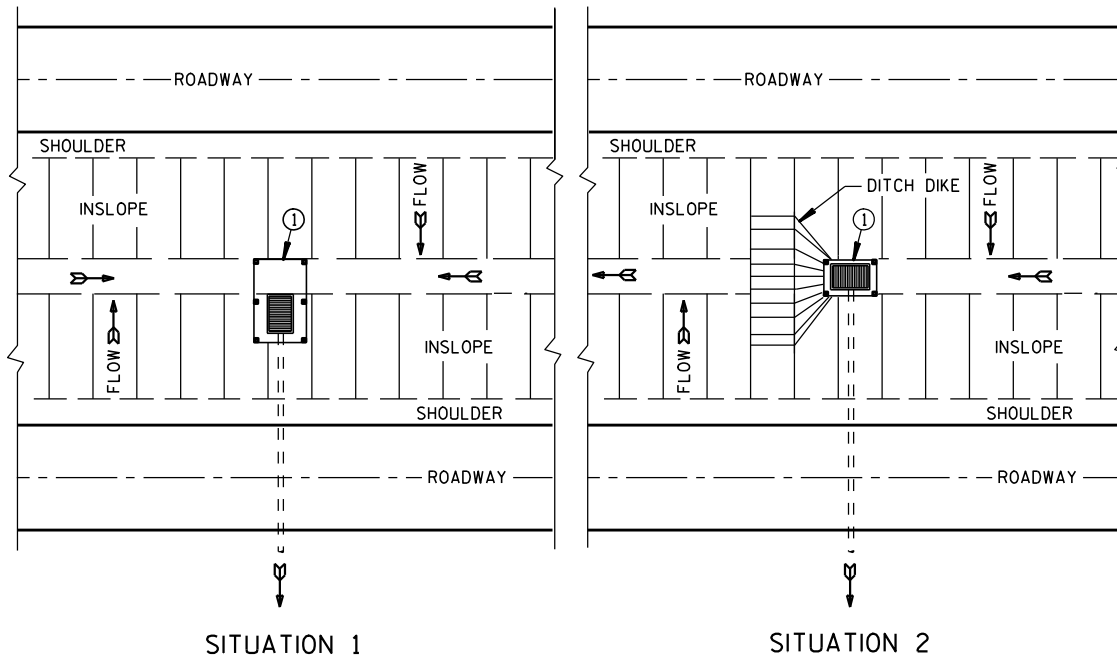
FHWA



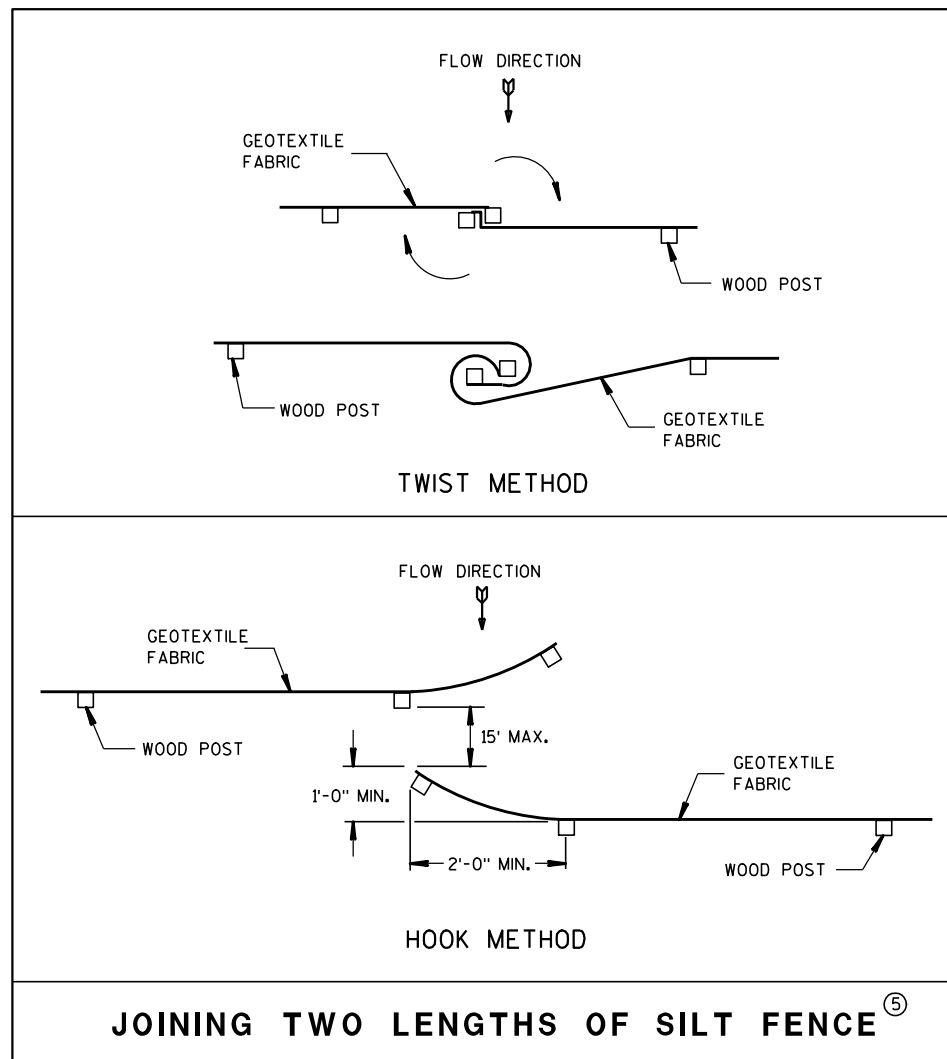
PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

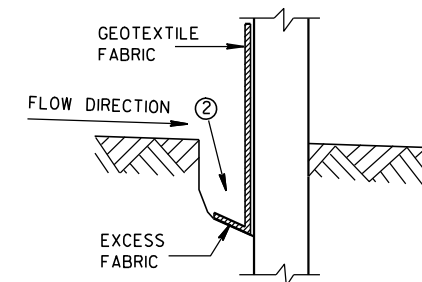


JOINING TWO LENGTHS OF SILT FENCE ⑤

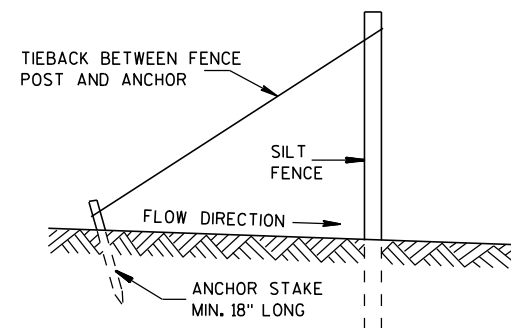
GENERAL NOTES

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

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



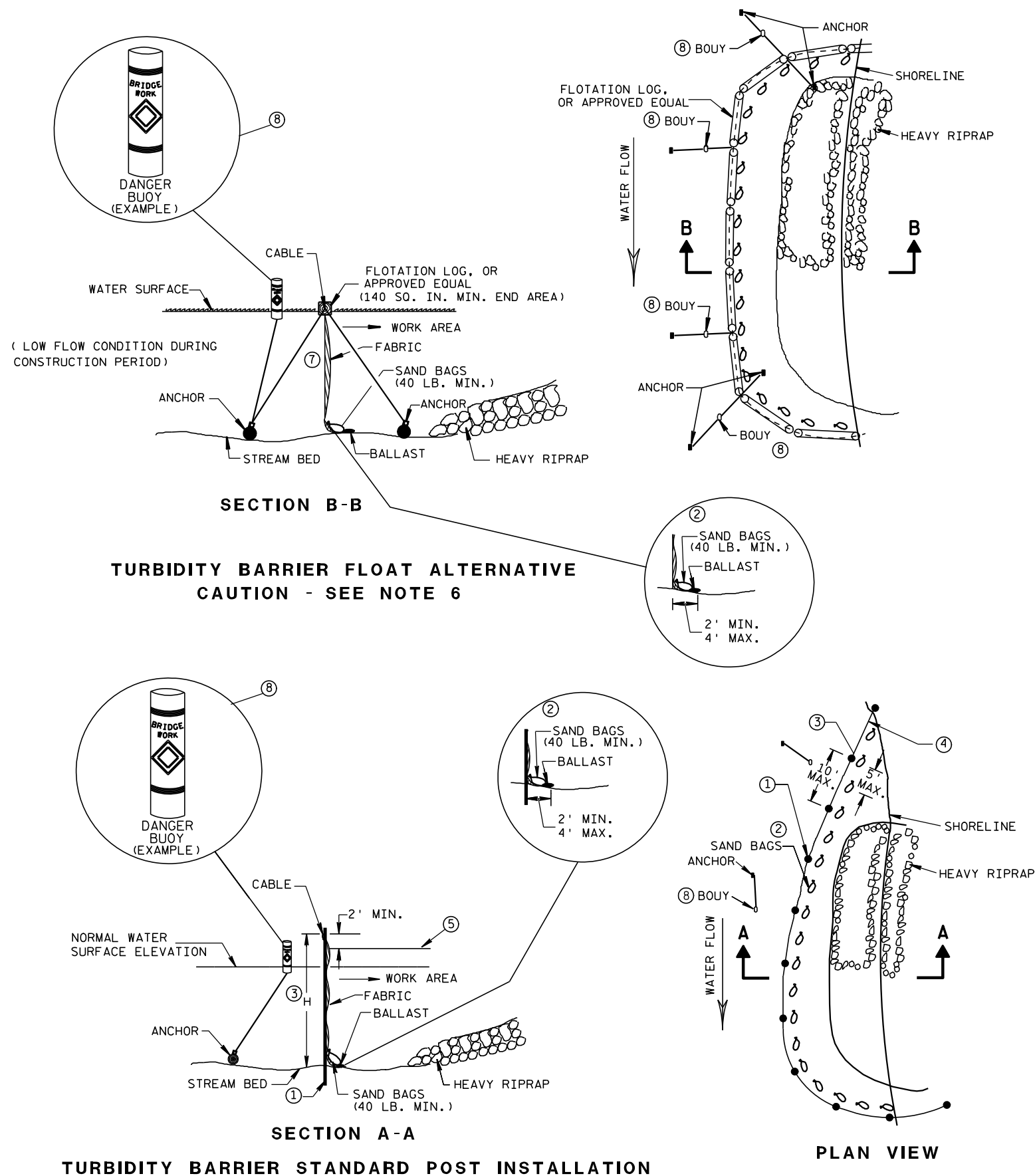
TRENCH DETAIL



SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



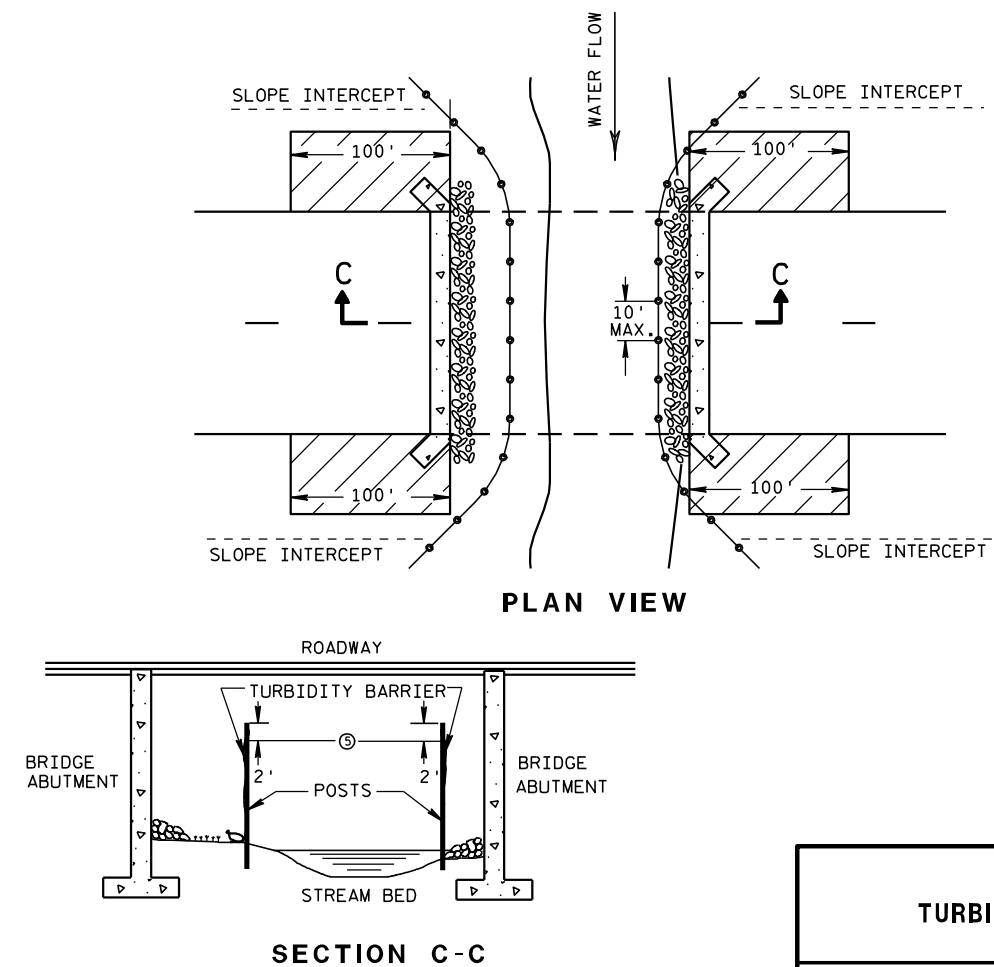


## GENERAL NOTES

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. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER 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.



## TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

### TURBIDITY BARRIER

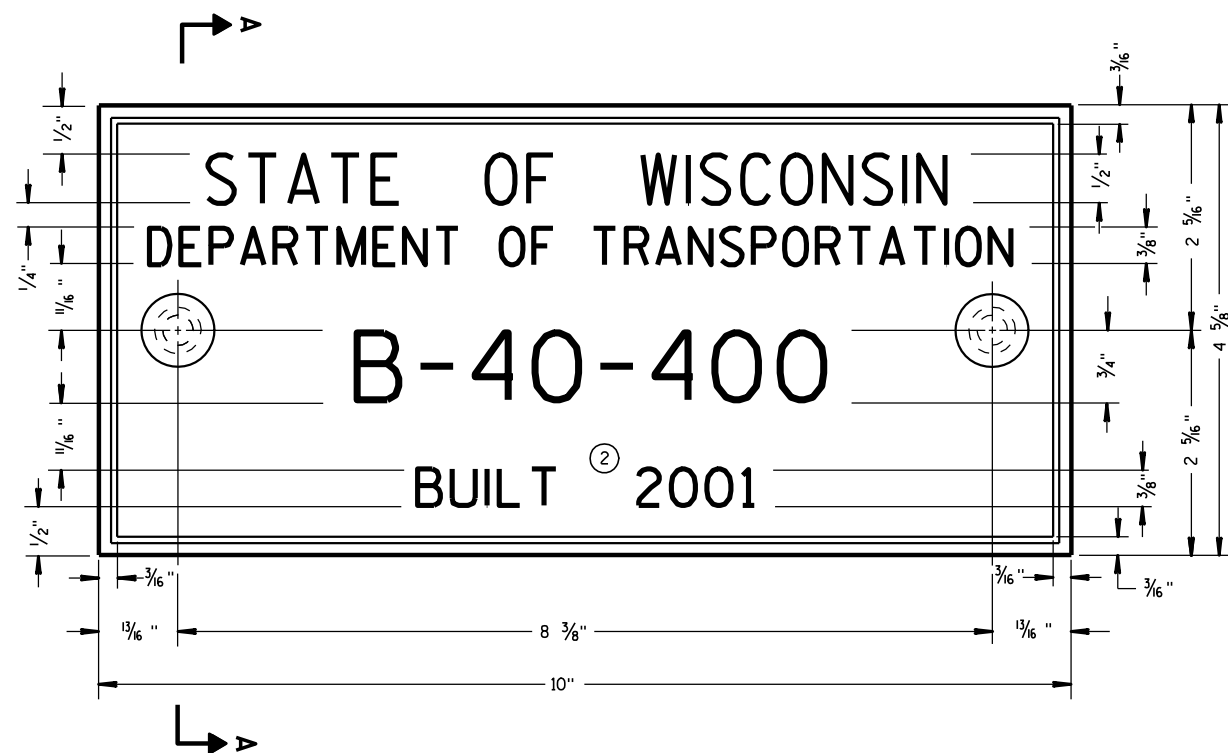
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

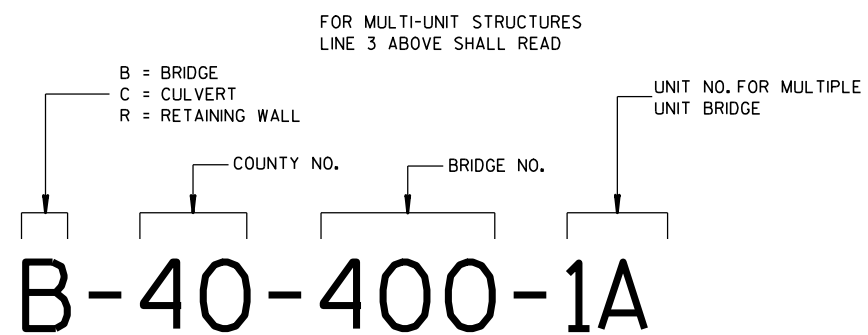
6/04/02  
DATE

FHWA

/S/ Beth Canestra  
CHIEF ROADWAY DEVELOPMENT ENGINEER



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



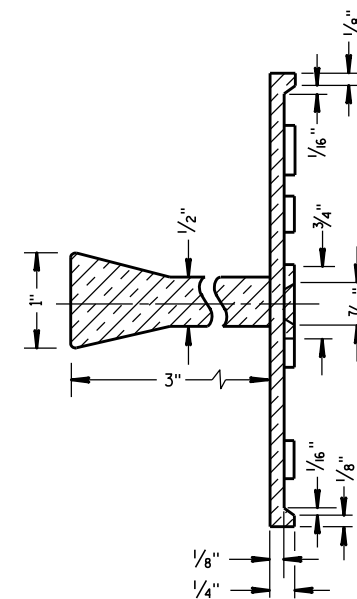
**NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES**

## GENERAL NOTES

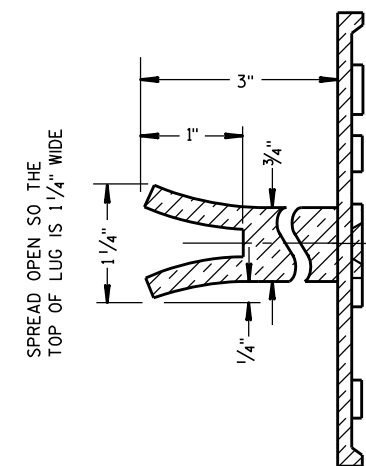
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

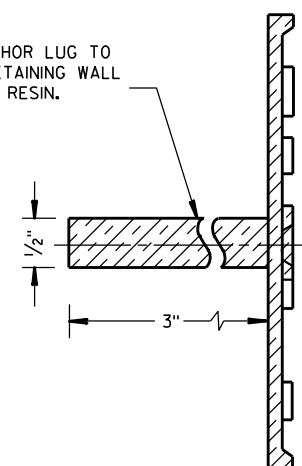


**SECTION A-A**



**ALTERNATE LUG**

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



**ALTERNATE LUG**  
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE  
(STRUCTURES)**

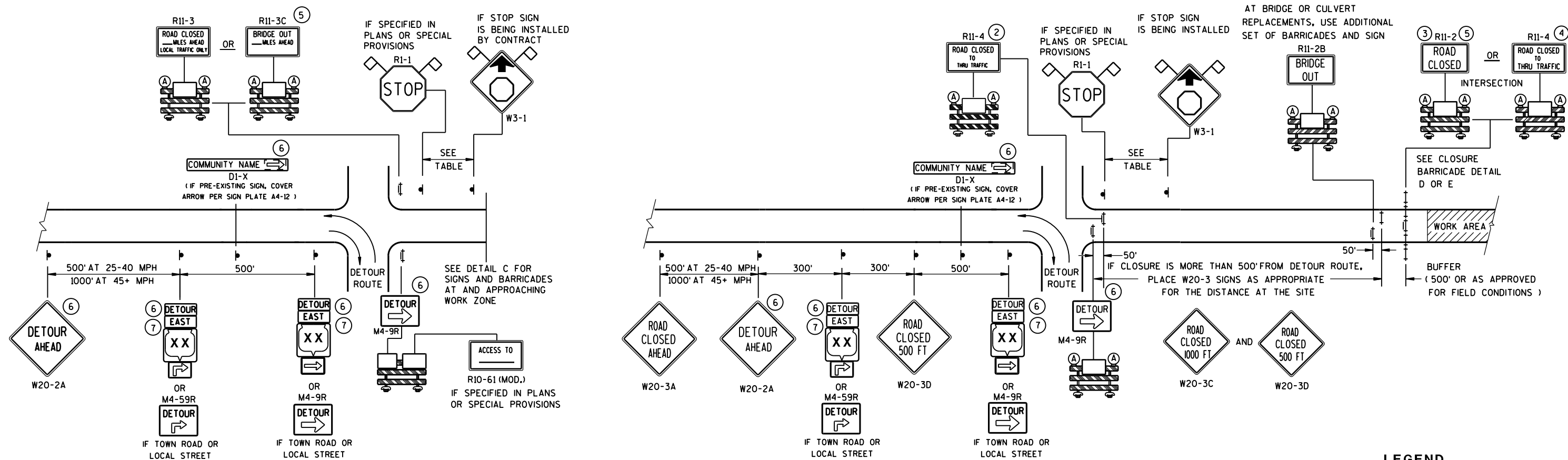
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10  
DATE

FHWA

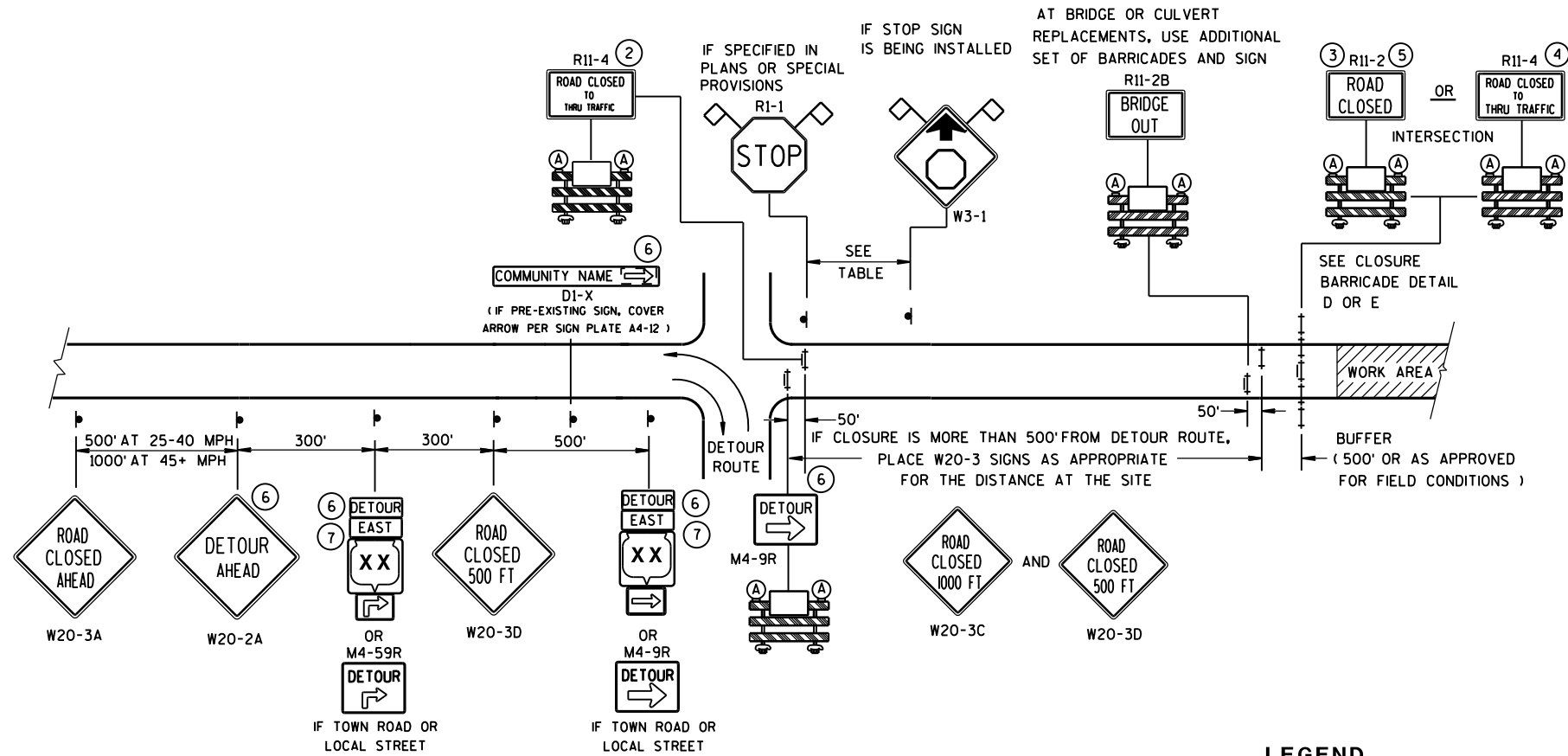
/S/ Scot Becker  
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



DETAIL A

**MAINLINE CLOSURE WITH POSTED DETOUR**

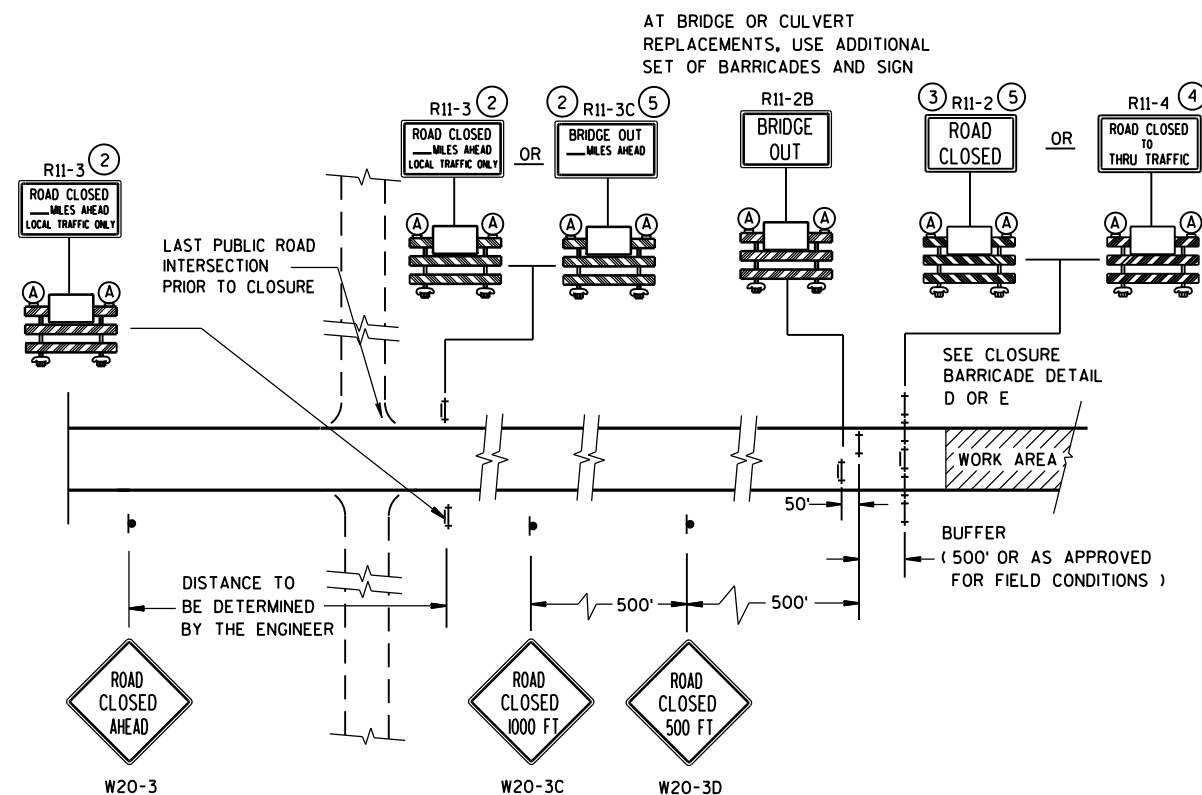
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE ( 1000 FEET IF URBAN )



DETAIL B













**MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN )



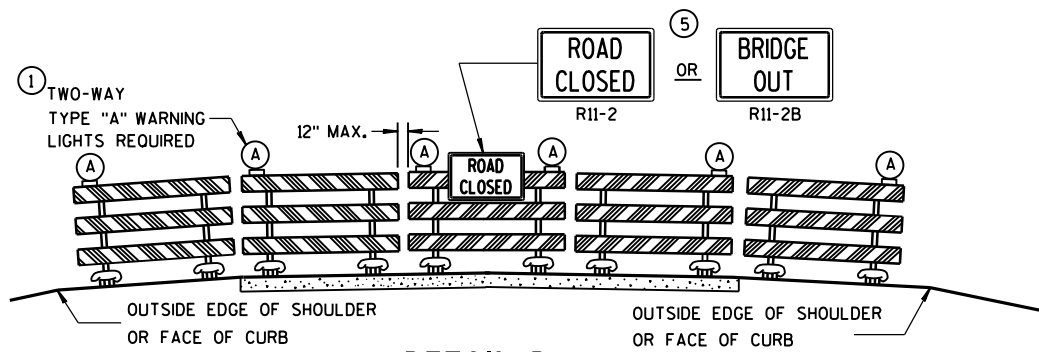
DETAIL C  
MAINLINE CLOSURE, NO POSTED DETOUR

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

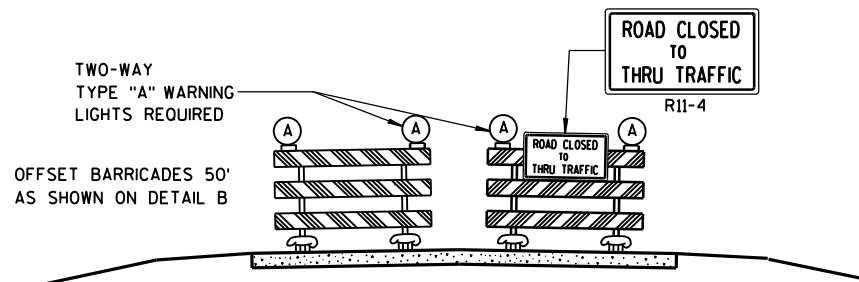
- # LEGEND
-  SIGN ON PERMANENT SUPPORT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  WORK AREA
-  M4-8  
 M3-X
-  M1-4 OR  M1-5A OR  M1-6
-  M05-1 OR  M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

SEE SDD 15C2-SHEET "b"  
FOR GENERAL NOTES  
AND FOOTNOTES ① THROUGH ⑦

<b>BARRICADES AND SIGNS FOR MAINLINE CLOSURES</b>	
<b>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</b>	
<b>Sept. 2015</b>	<b>/S/ Peter Amokobe Atepe</b>
<b>DATE</b>	<b>STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER</b>
<b>FHWA</b>	



DETAIL D  
ROAD CLOSURE BARRICADE DETAIL  
APPROACH VIEW



DETAIL E  
LANE CLOSURE BARRICADE DETAIL  
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

### GENERAL NOTES

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

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

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

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

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

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

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

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

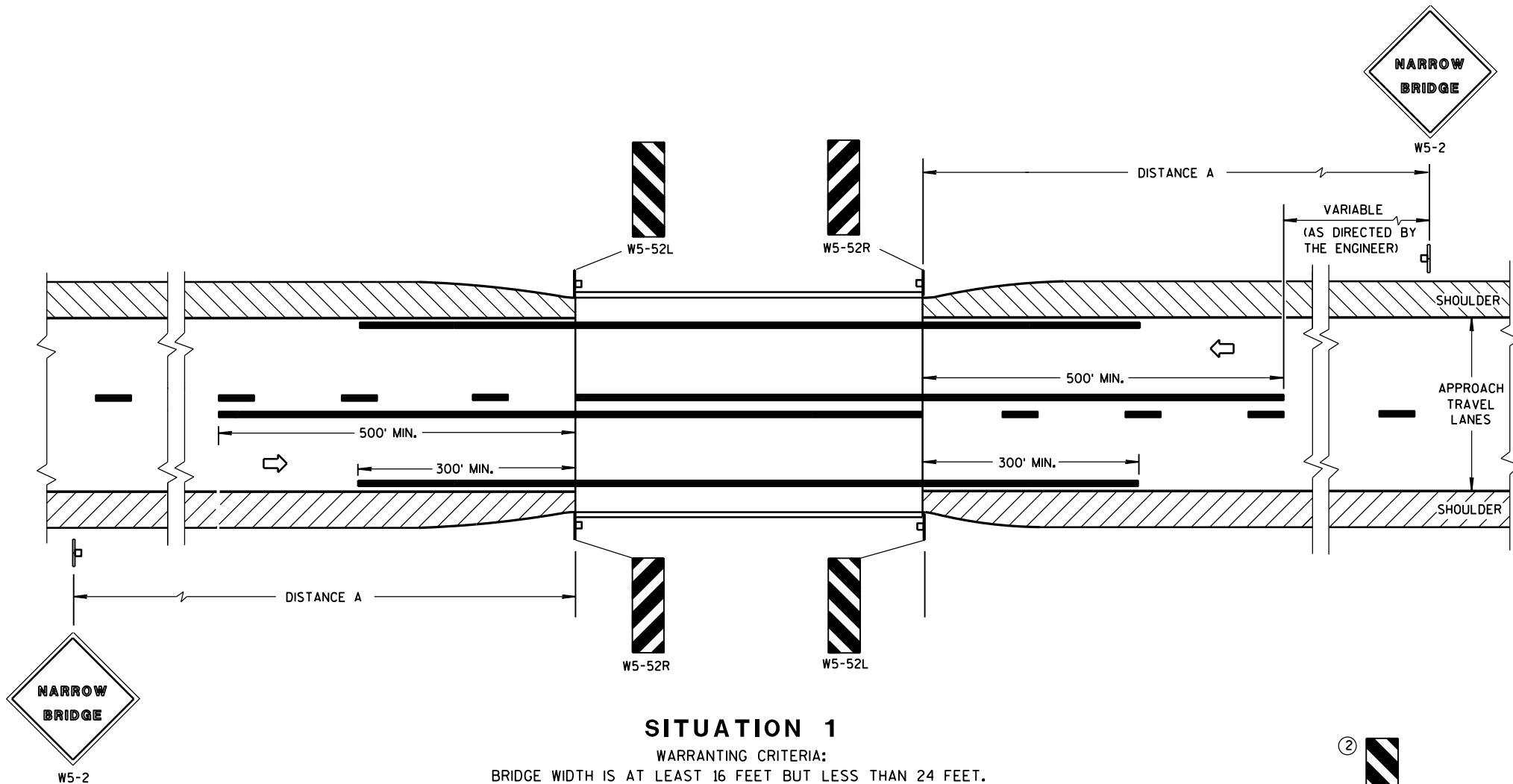
"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

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

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
Sept. 2015 DATE	/S/ Peter Amokobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	



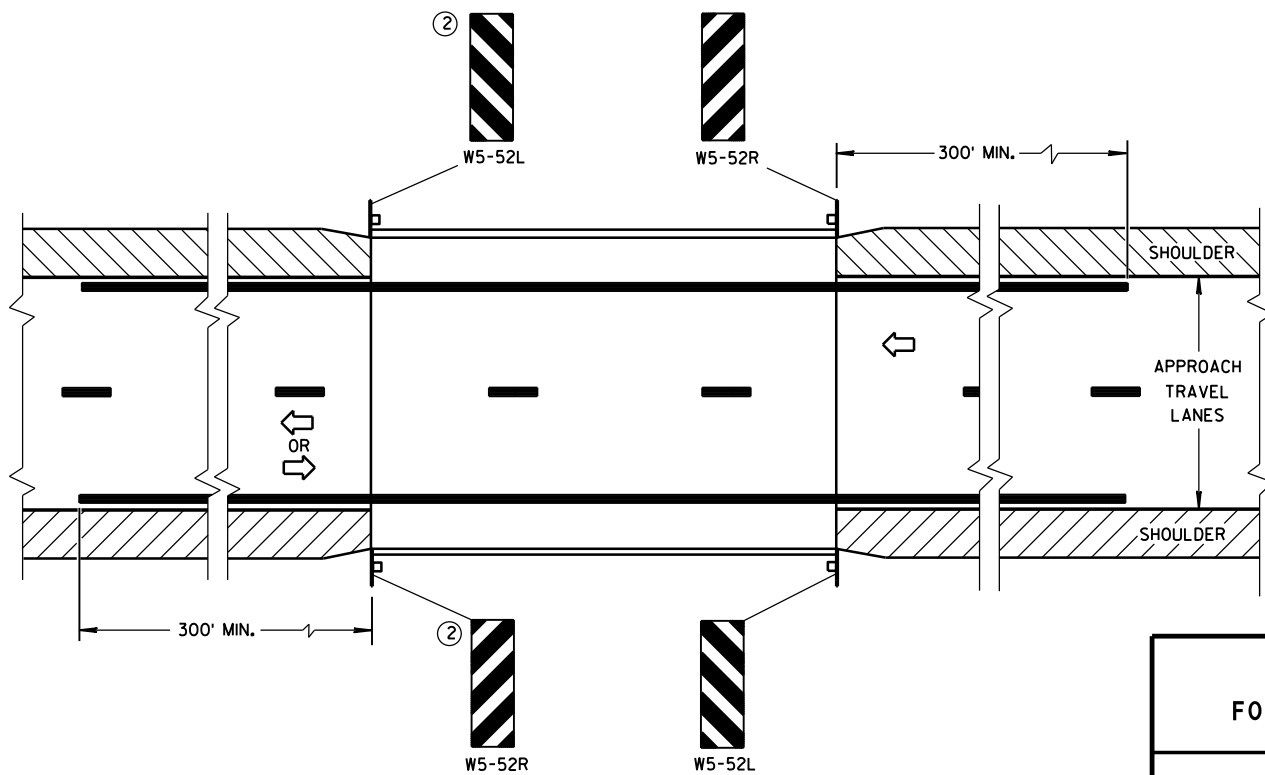
DISTANCE TABLE

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

GENERAL NOTES

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

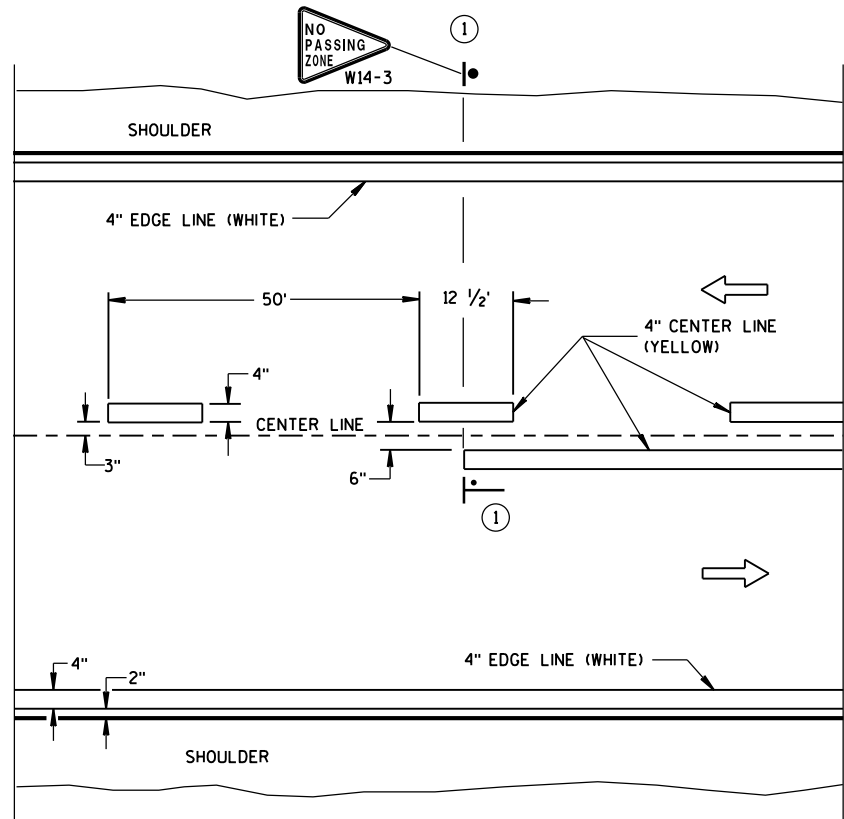
- ① LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.
- ② OMIT ON ONE-WAY TRAVELLED WAYS.
- ③ EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.



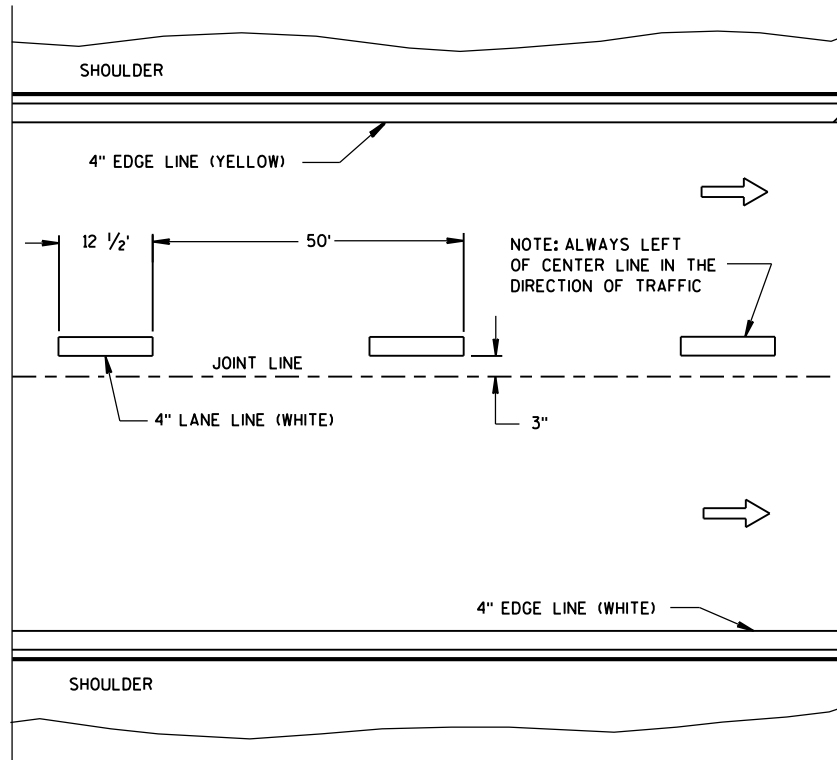
SIGNING & MARKING  
FOR TWO LANE BRIDGES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

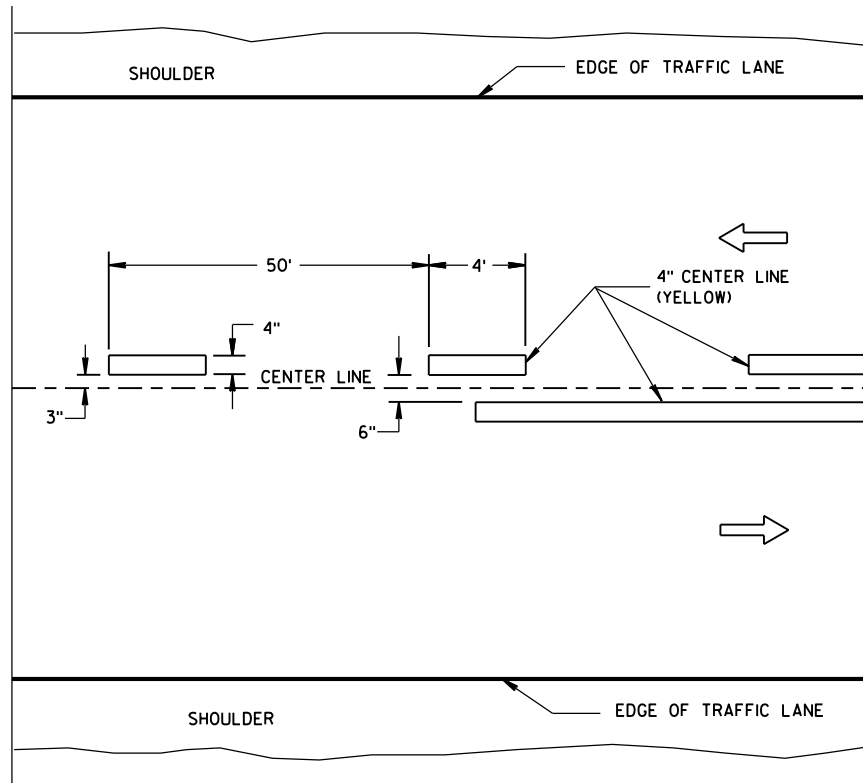


TWO WAY TRAFFIC

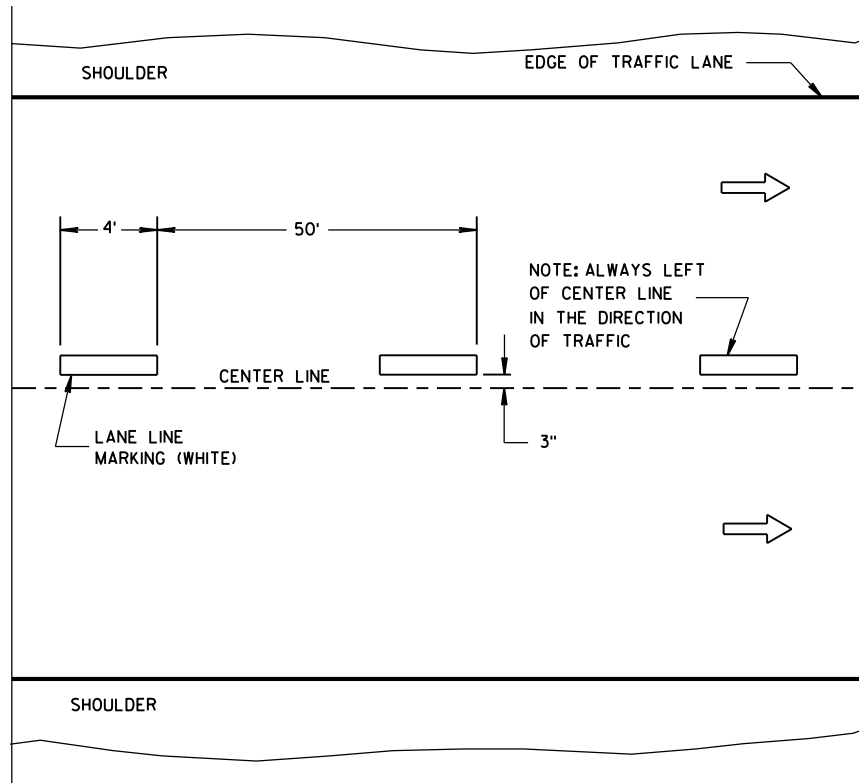


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

① NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL ( → ) SHOWS DIRECTION OF TRAVEL

LEGEND

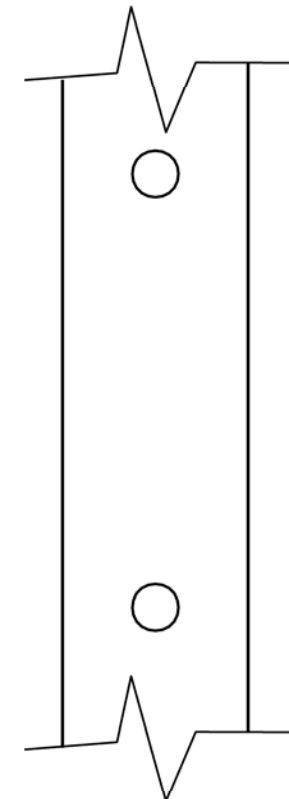
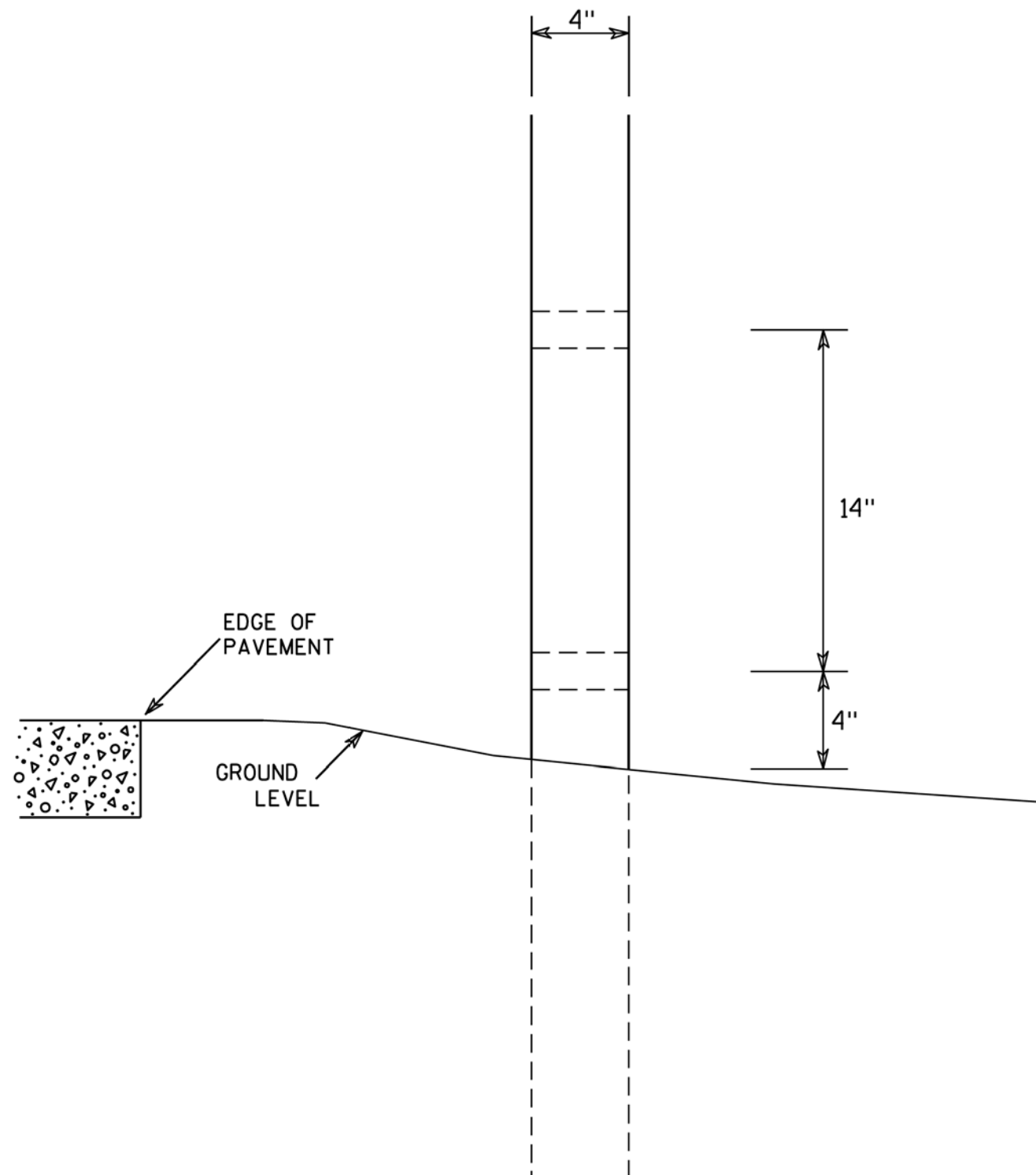
—●— "T" MARKING

● POST MOUNTED SIGN

LONGITUDINAL MARKING  
(MAINLINE)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
Sept., 2016 /S/ Matthew R. Rauch  
DATE STATE SIGNING AND MARKING ENGINEER  
FHWA



SIDE VIEW

# GENERAL NOTES

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

## 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Chester J. Spang*  
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO: 4376-06-71

HWY: ST. PETERS ROAD

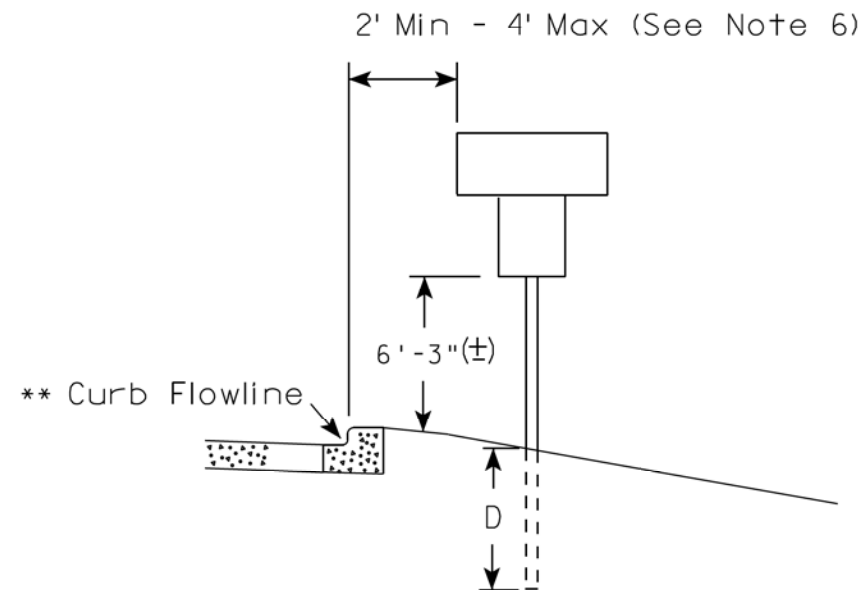
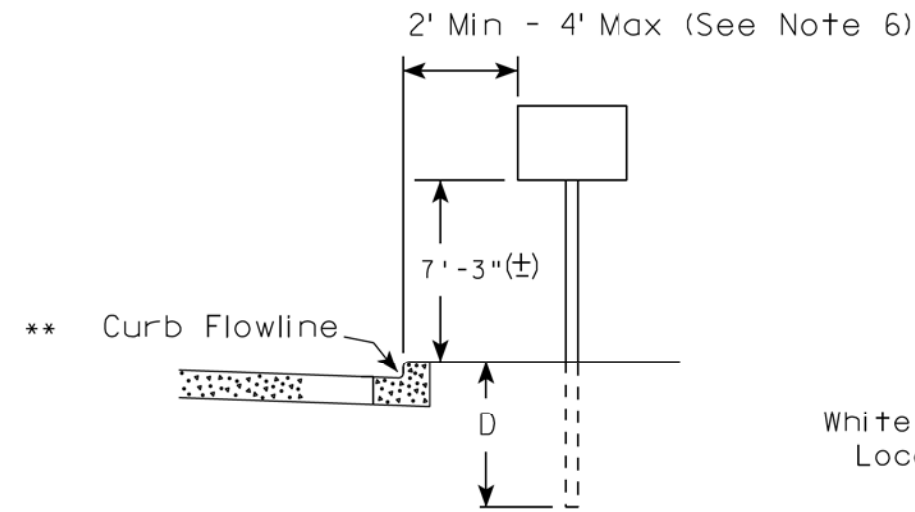
COUNTY: KEWAUNEE

SIGNS

SHEET NO:

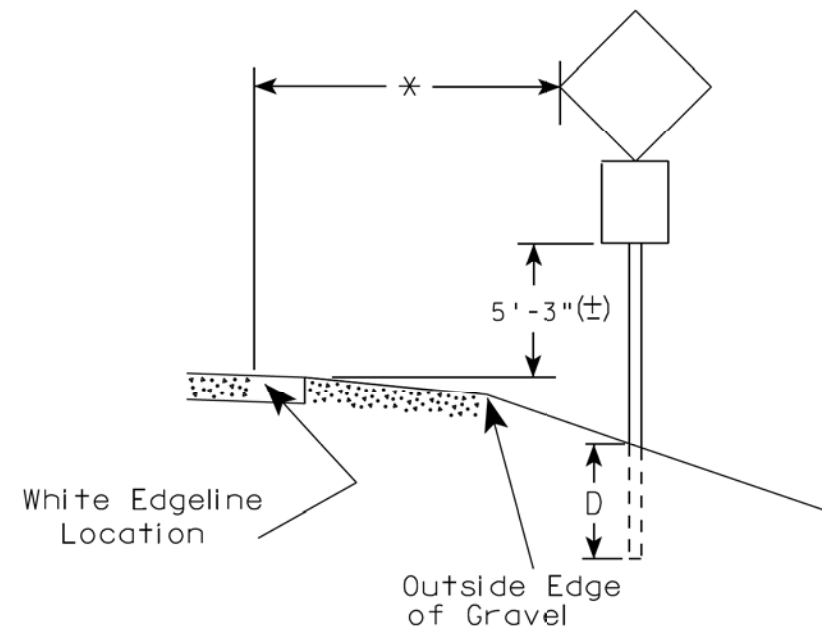
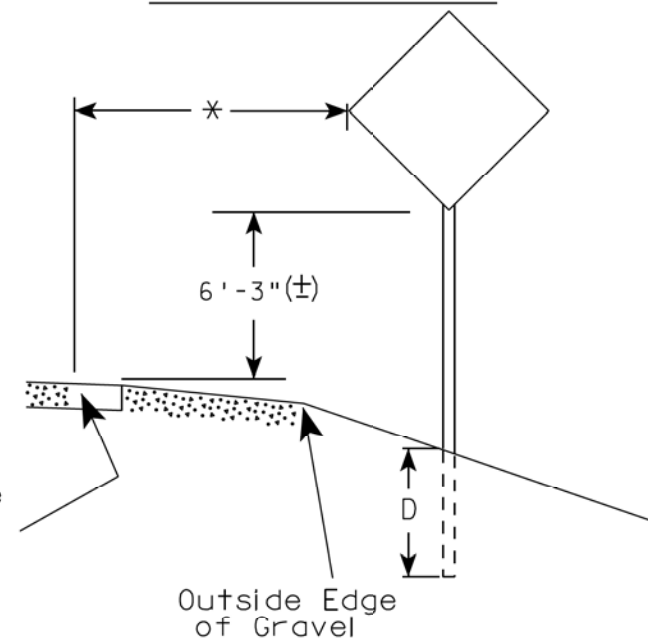
E

## URBAN AREA



White Edgeline Location

## RURAL AREA (See Note 2)



### POST EMBEDMENT DEPTH

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

×× 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

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

TYPICAL INSTALLATION  
OF PERMANENT TYPE II  
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

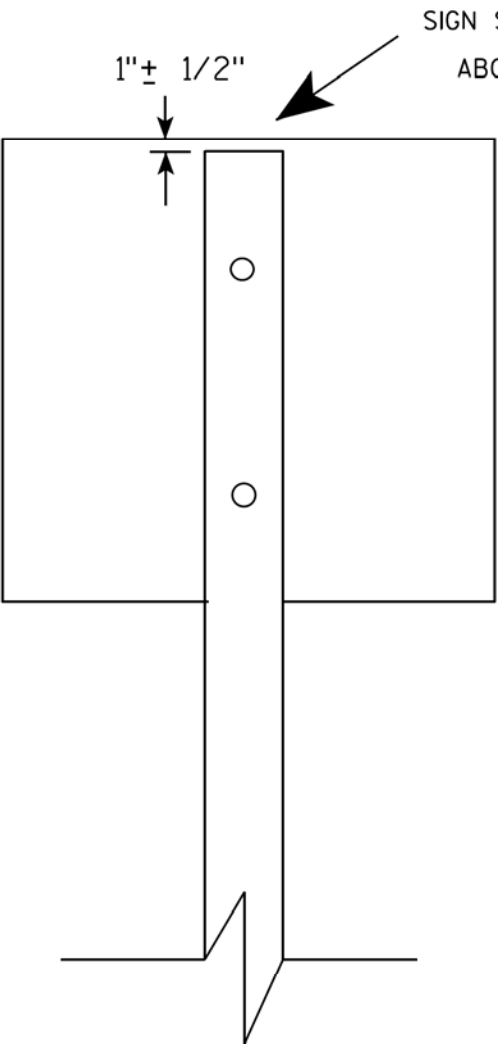
APPROVED

*Matthew R. Rauch*  
for State Traffic Engineer

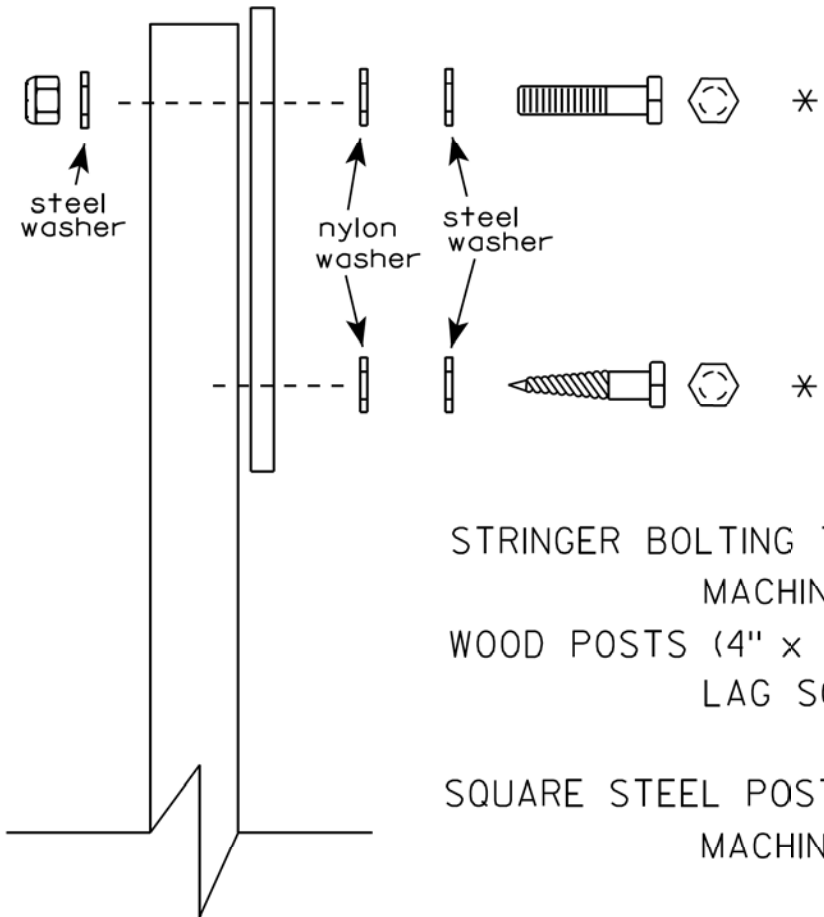
DATE 7/23/15

PLATE NO. A4-3.20





SIGN SHALL BE MOUNTED TO PROJECT  
ABOVE THE TOP OF THE POST



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

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

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

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS -  $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS -  $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
  - $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS -  $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
  - $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS -  $\frac{9}{32}$ " (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  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ " STEEL
  - 1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS  
TO POSTS

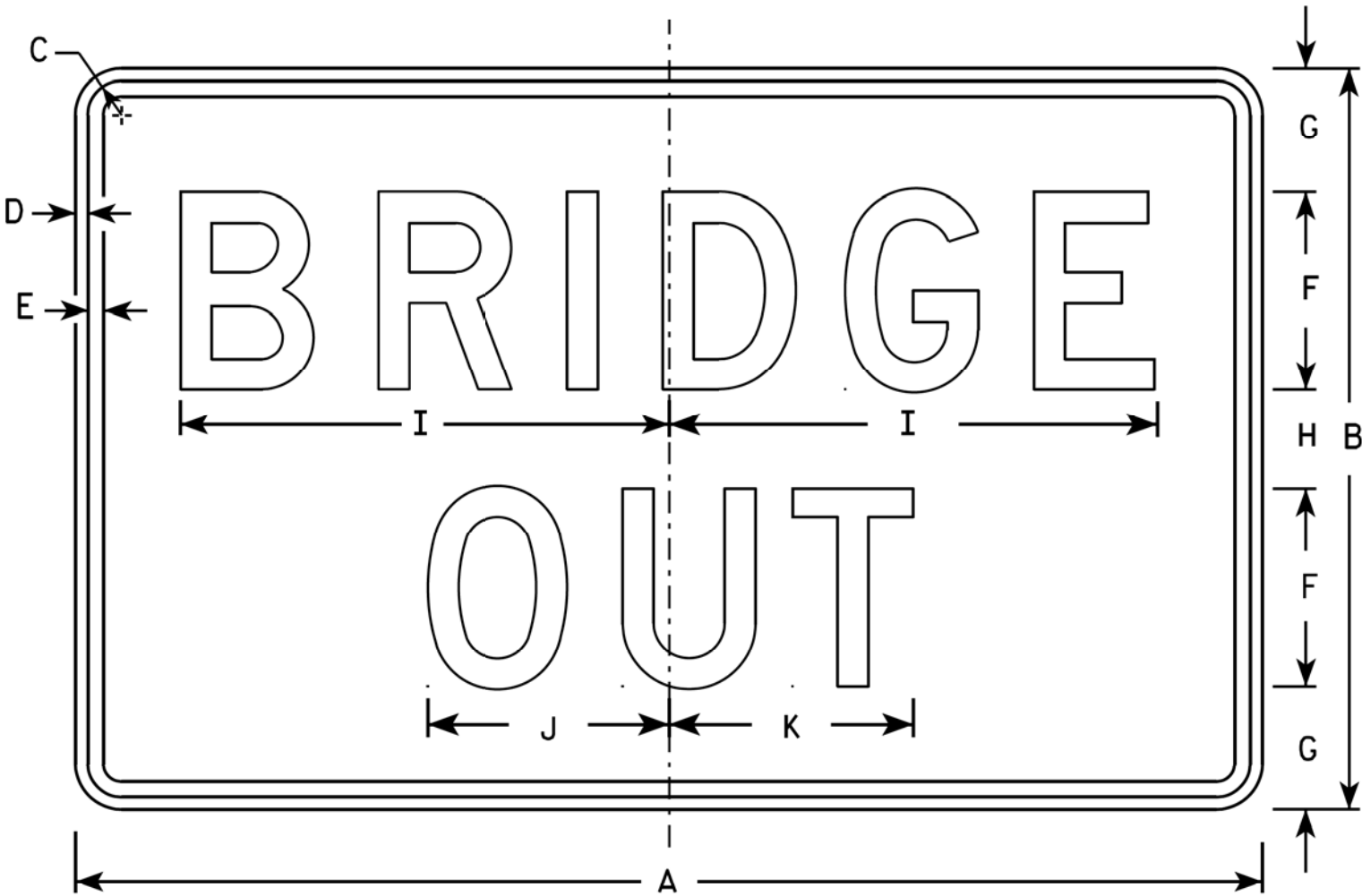
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

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

NOTES

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



R11-2B

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

STANDARD SIGN

R11-2B

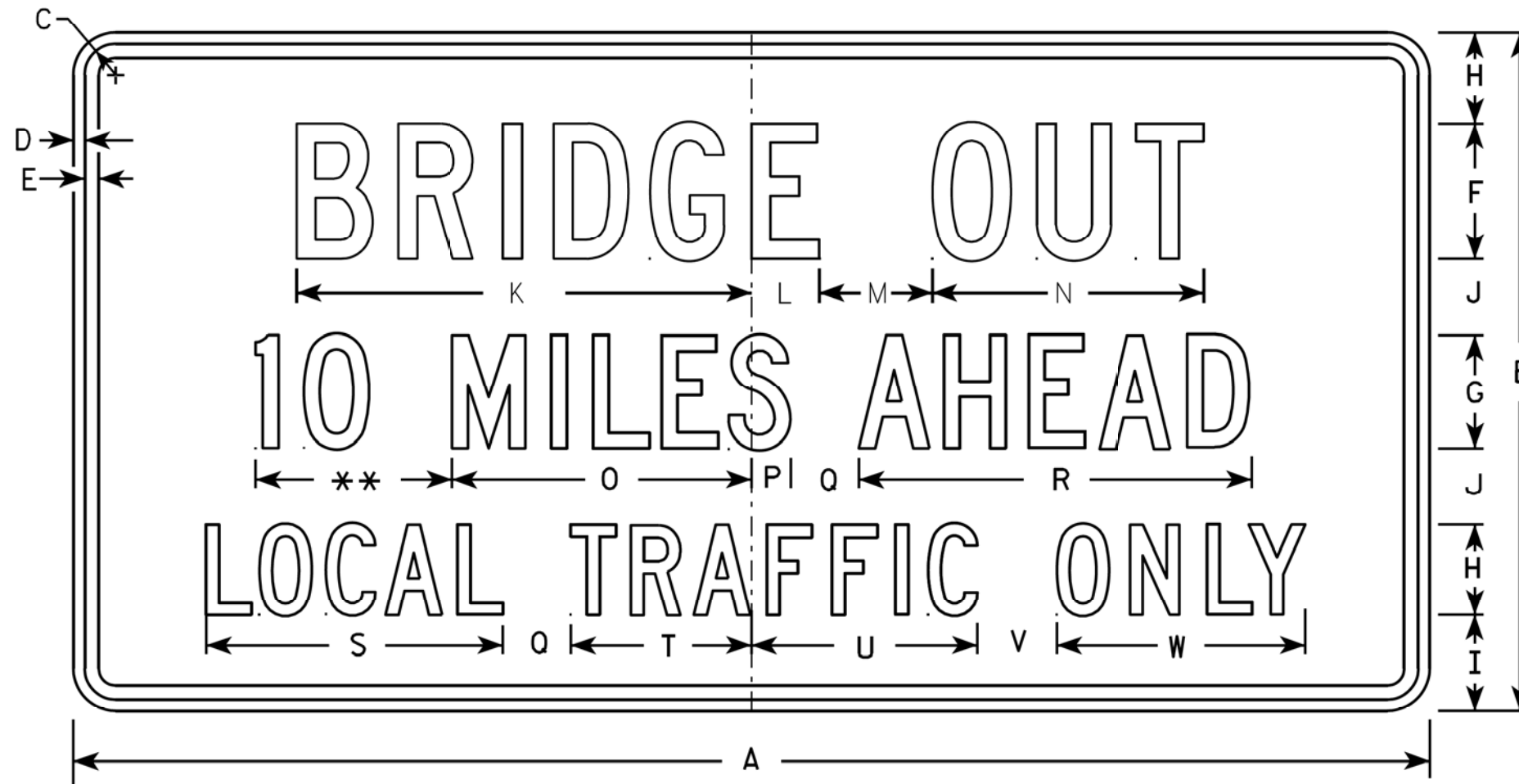
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*

DATE 4/1/11

For State Traffic Engineer

PLATE NO. R11-2B.2



R11-3B

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

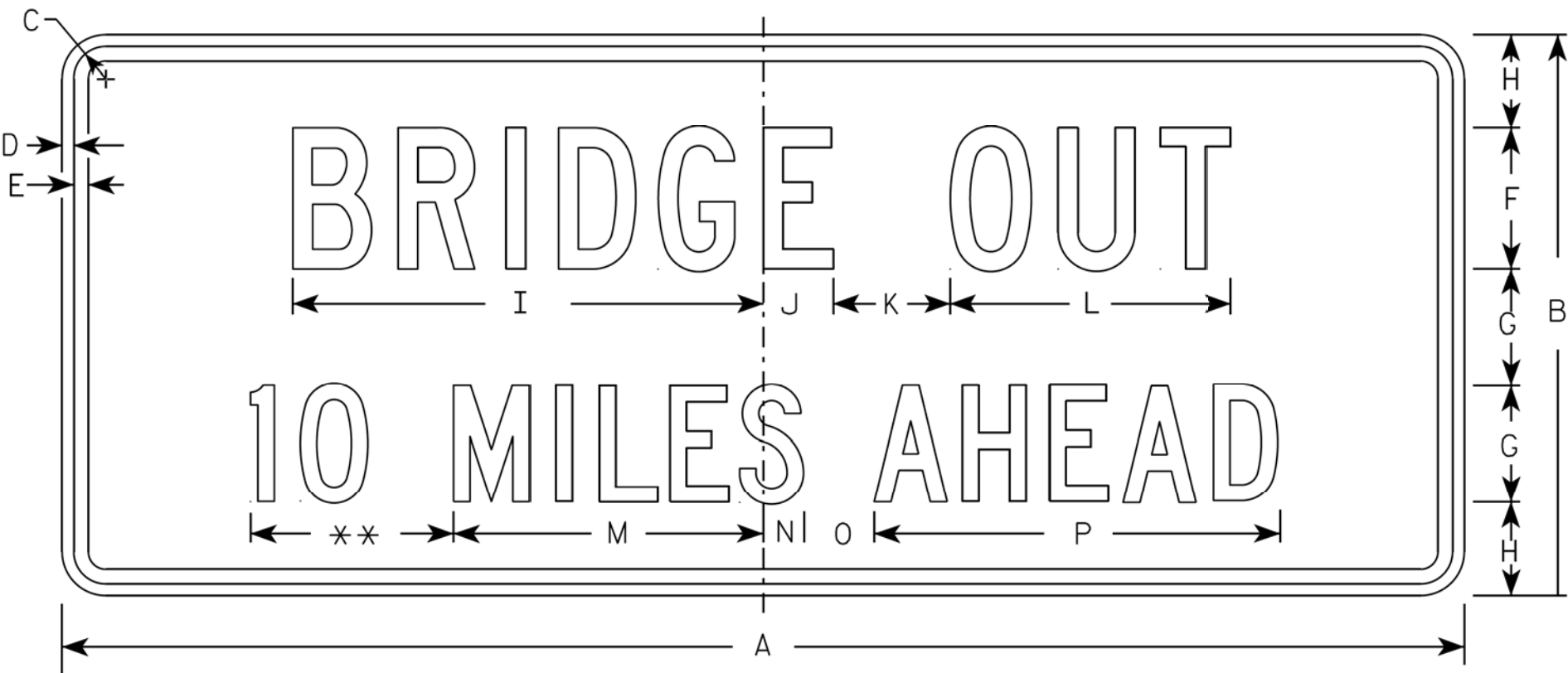
\*\* See Note 5

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

STANDARD SIGN R11-3B	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 4/1/11	PLATE NO. R11-3B.2

NOTES

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



R11-3C

\*\* See Note 5

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

STANDARD SIGN

R11-3C

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

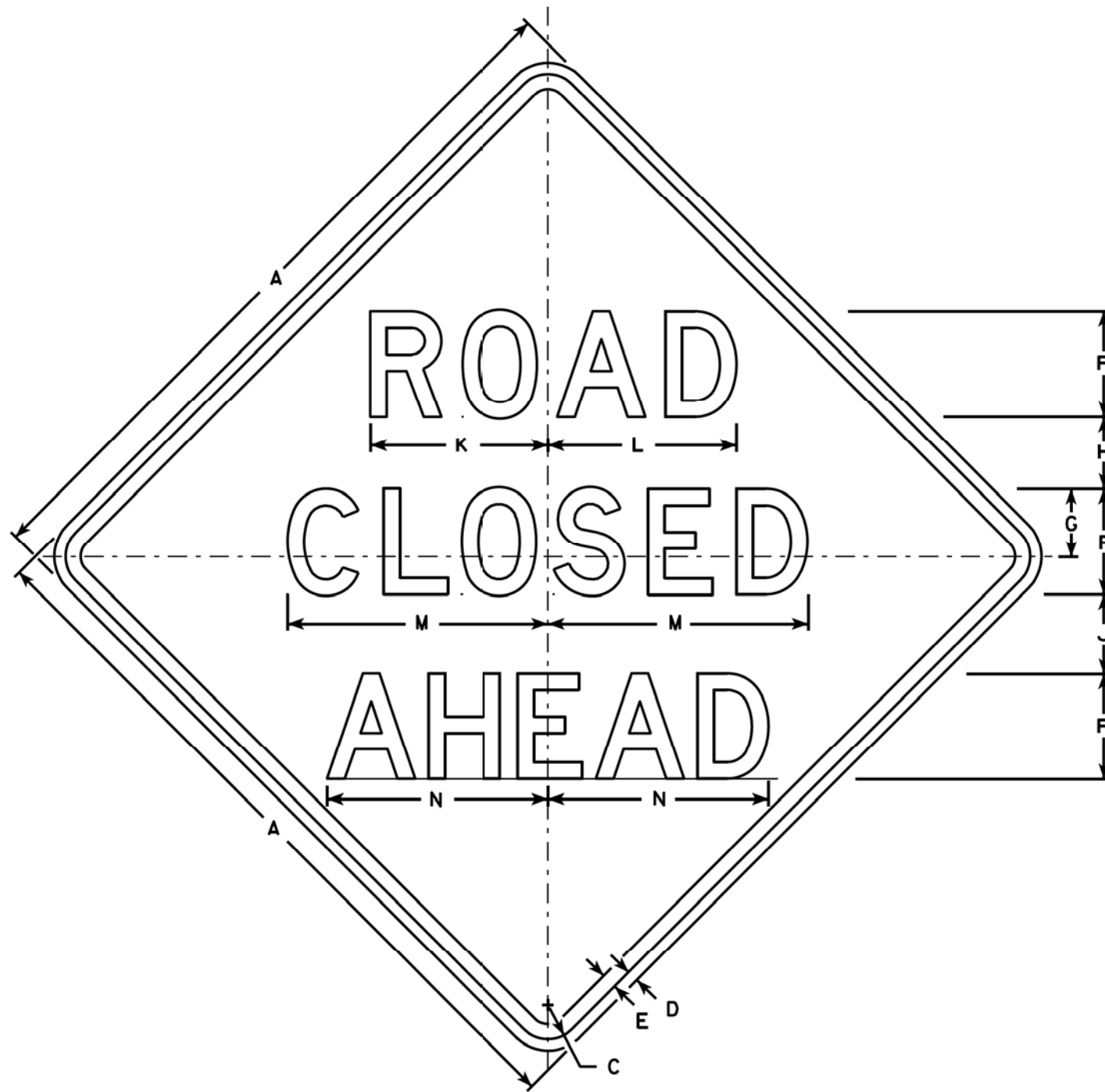
Matthew R. Rauch

for State Traffic Engineer

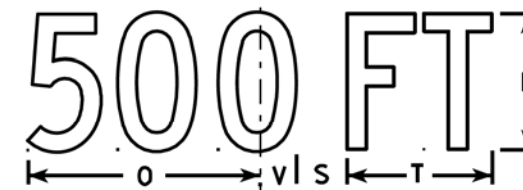
DATE 7/28/16

PLATE NO. R11-3C.3

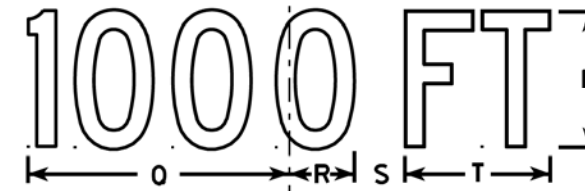




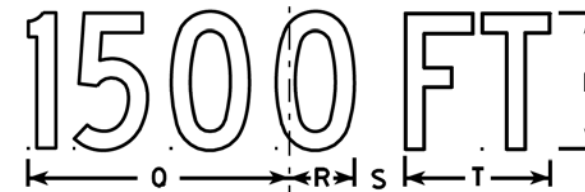
W20-3A



W20-3D



W20-3C



W20-3B



W20-3G



W20-3F

# NOTES

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

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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: 4376-06-71

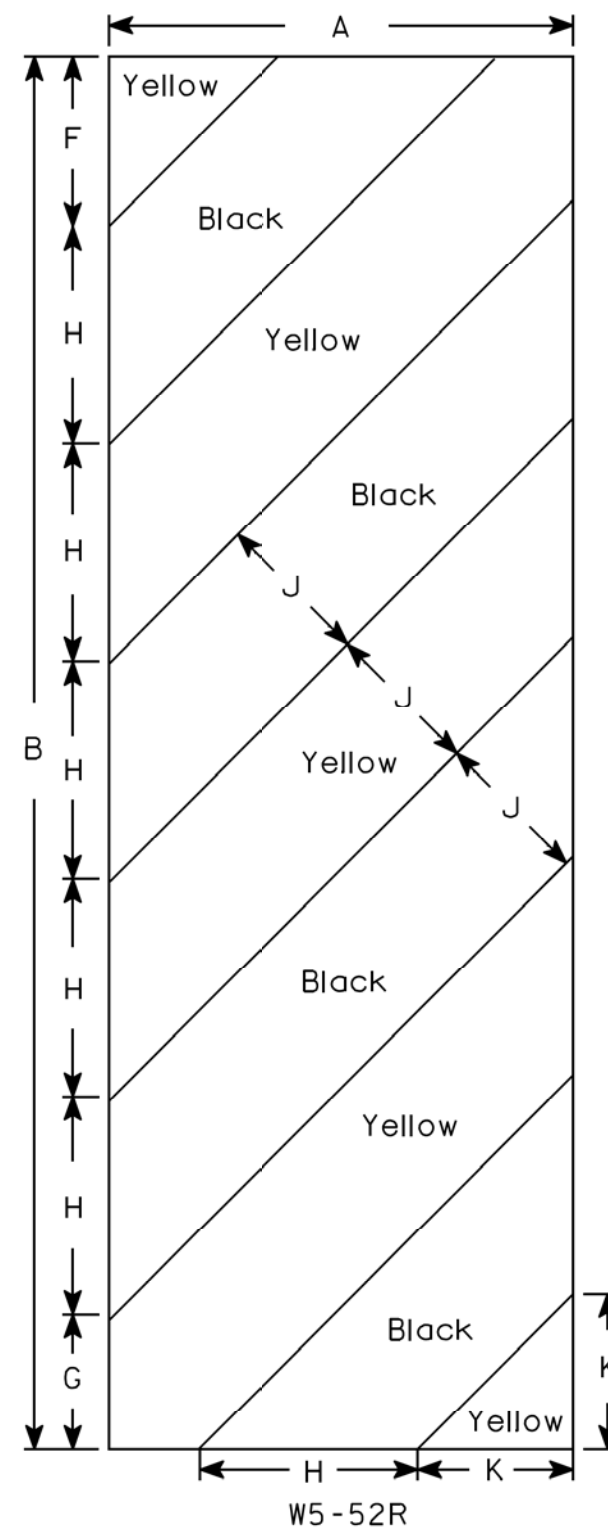
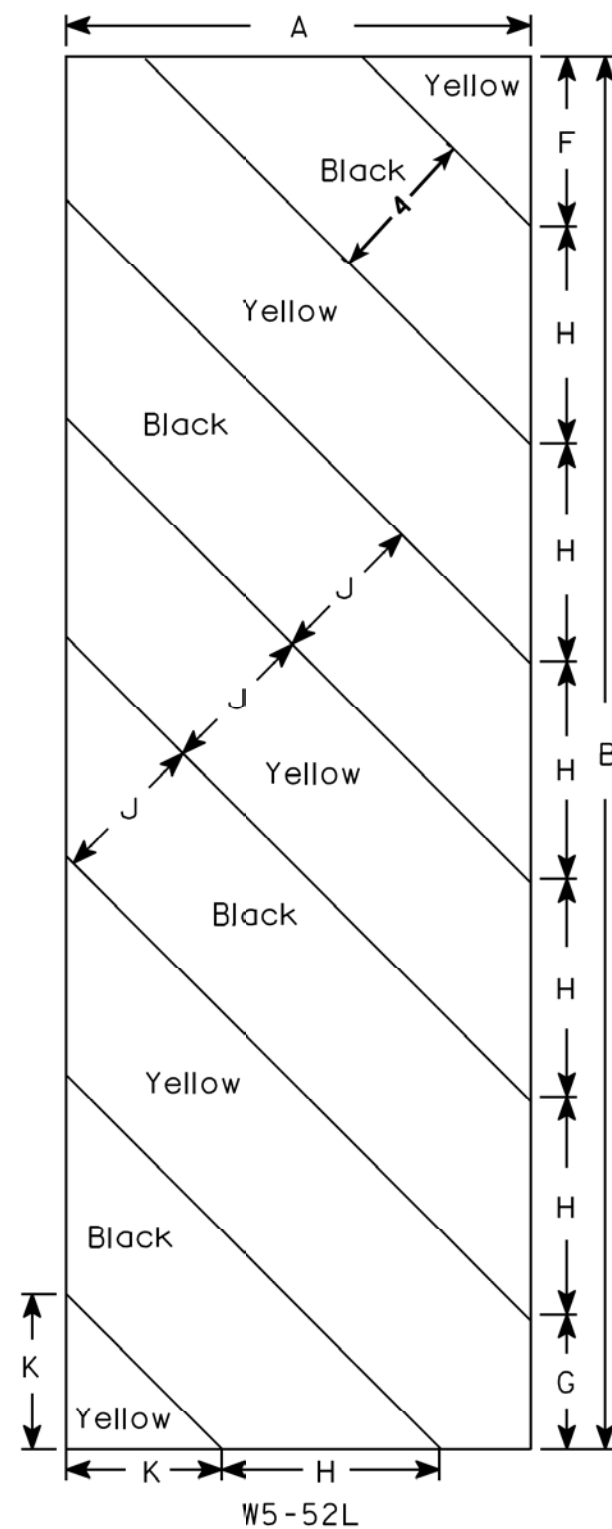
HWY: ST. PETERS ROAD

COUNTY: KEWAUNEE

SIGNS

SHEET NO:

E



# NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
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: 4376-06-71

HWY: ST. PETERS ROAD

COUNTY: KEWAUNEE

SIGNS

SHEET NO:

E

## DESIGN DATA

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

## LIVE LOAD:

DESIGN LOADING \_\_\_\_\_ HL-93  
INVENTORY RATING FACTOR \_\_\_\_\_ RF = 1.13  
OPERATING RATING FACTOR \_\_\_\_\_ RF = 1.48  
WISCONSIN STANDARD PERMIT \_\_\_\_\_  
VEHICLE (Wis-SPV) \_\_\_\_\_ 250 KIPS

## MATERIAL PROPERTIES:

CONCRETE MASONRY \_\_\_\_\_  
SUPERSTRUCTURE \_\_\_\_\_ f'c = 4,000 PSI  
ALL OTHER \_\_\_\_\_ f'c = 3,500 PSI  
HIGH STRENGTH BAR STEEL \_\_\_\_\_  
REINFORCEMENT, GRADE 60 \_\_\_\_\_ fy = 60,000 PSI

## HYDRAULIC DATA

## 100 YEAR FREQUENCY

Q<sub>100</sub> \_\_\_\_\_ 1150 C.F.S.  
VELOCITY \_\_\_\_\_ 4.71 F.P.S.  
HIGH WATER \_\_\_\_\_ EL. 665.91 (100 YEAR)  
WATERWAY AREA \_\_\_\_\_ 244 S.F.  
DRAINAGE AREA \_\_\_\_\_ 26.8 SQ. MILES  
OVERTOPPING FREQUENCY = N/A  
SCOUR CRITICAL CODE = 8

## 2 YEAR FREQUENCY

Q<sub>2</sub> \_\_\_\_\_ 248 C.F.S.  
VELOCITY \_\_\_\_\_ 1.79 F.P.S.  
HIGH WATER \_\_\_\_\_ EL. 663.24 (2 YEAR)

## FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10 X 42 STEEL PILING. PILES  
AT BOTH ABUTMENTS SHALL BE PREBORED A MINIMUM OF 3-Feet  
into bedrock. After piles have been firmly seated, fill the  
area around the piling with cement grout. Piling shall have a  
required driving resistance of 180 tons \*\* per pile  
determined by the modified Gates dynamic equation.  
Estimated length = 15 feet long at each abutment.

\*\* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION  
USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE  
multiplied by a resistance factor of 0.5 using modified  
Gates to determine driven pile capacity.

## TRAFFIC DATA

ADT = 180 (2018)  
240 (2038)  
RDS = 55 M.P.H.



5/12/17

## LIST OF DRAWINGS

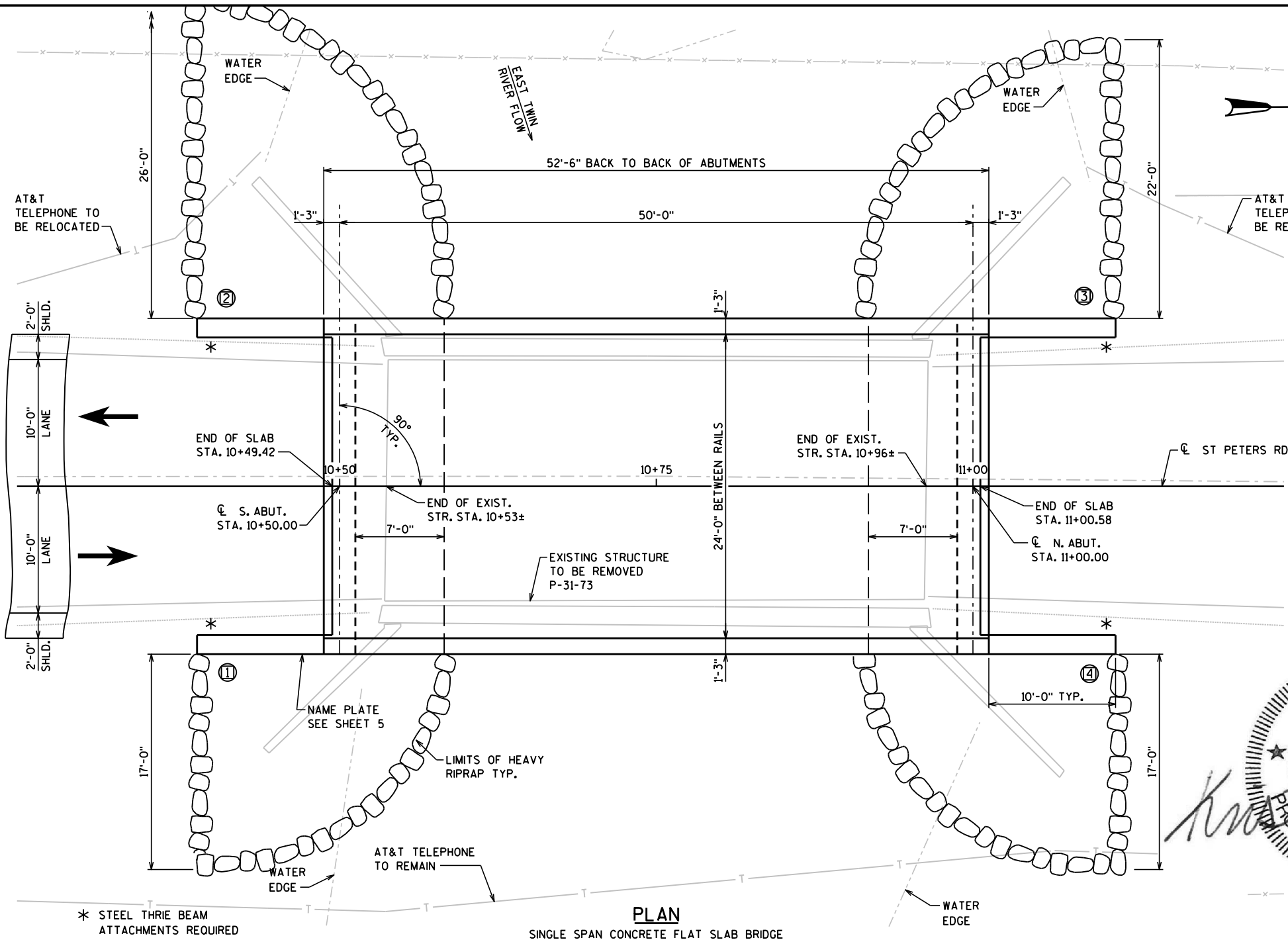
1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. SUPERSTRUCTURE
9. SUPERSTRUCTURE DETAILS
10. TUBULAR STEEL RAILING TYPE 'M'

## CONSULTANT CONTACT

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

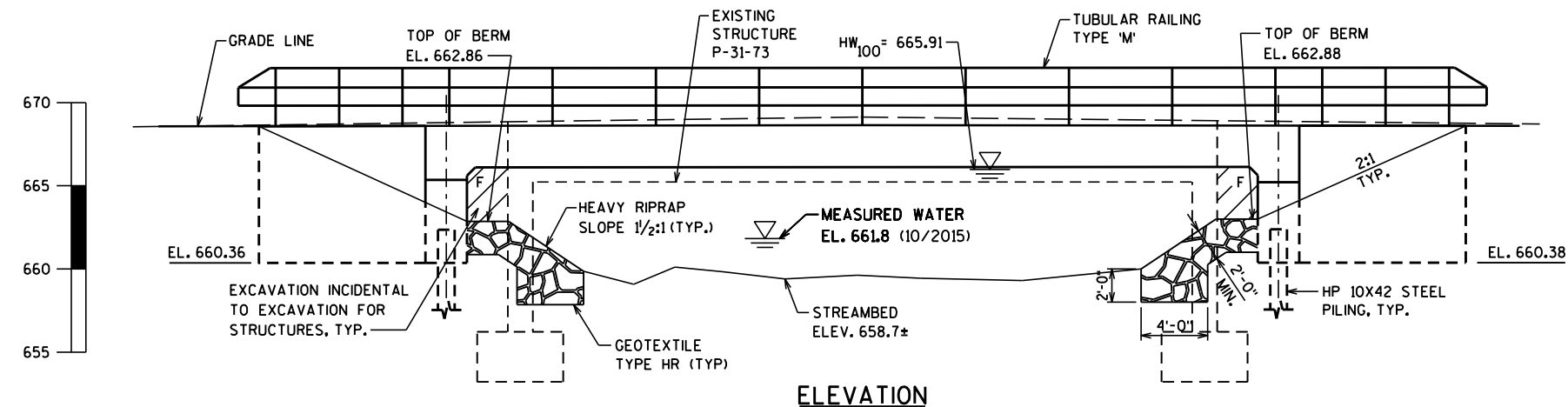
## BRIDGE OFFICE CONTACT

WILLIAM DREHER  
(608) 266-8489



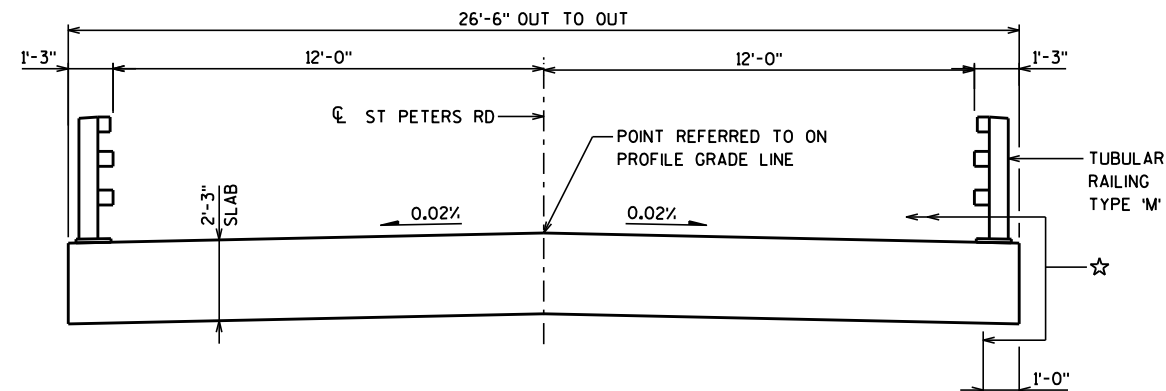
## PLAN

SINGLE SPAN CONCRETE FLAT SLAB BRIDGE

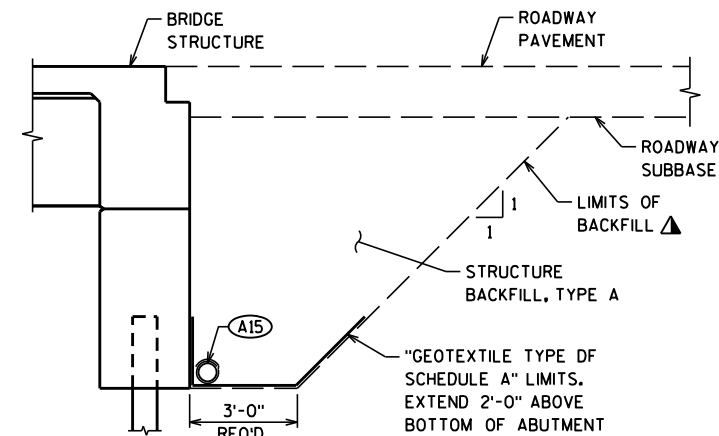


## ELEVATION

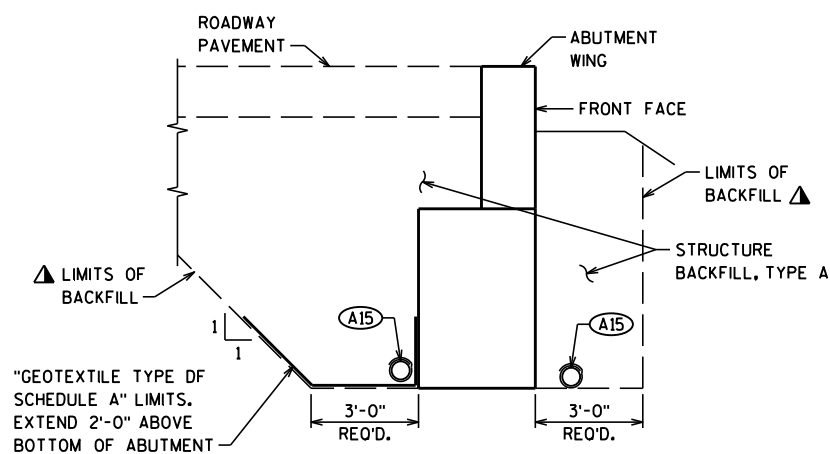
AT ABUTMENTS CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.



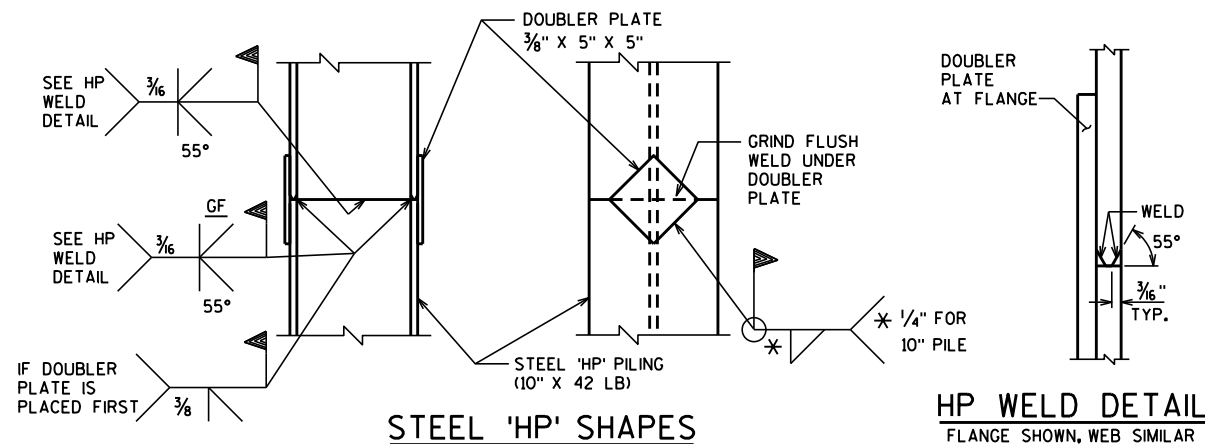
CROSS SECT. THRU RDWY.  
LOOKING UPSTATION



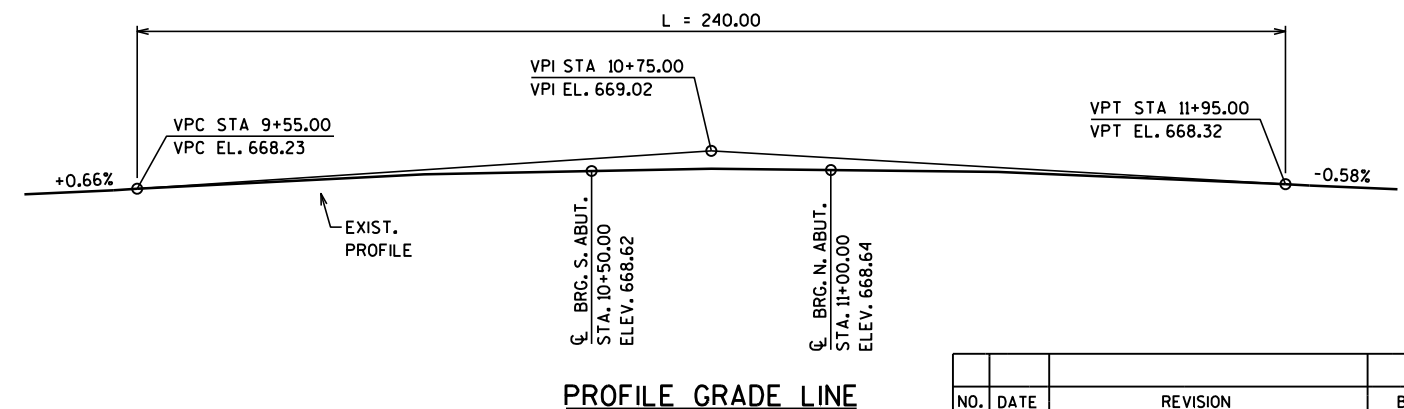
TYPICAL SECTION THRU ABUTMENT



TYPICAL SECTION THRU WING



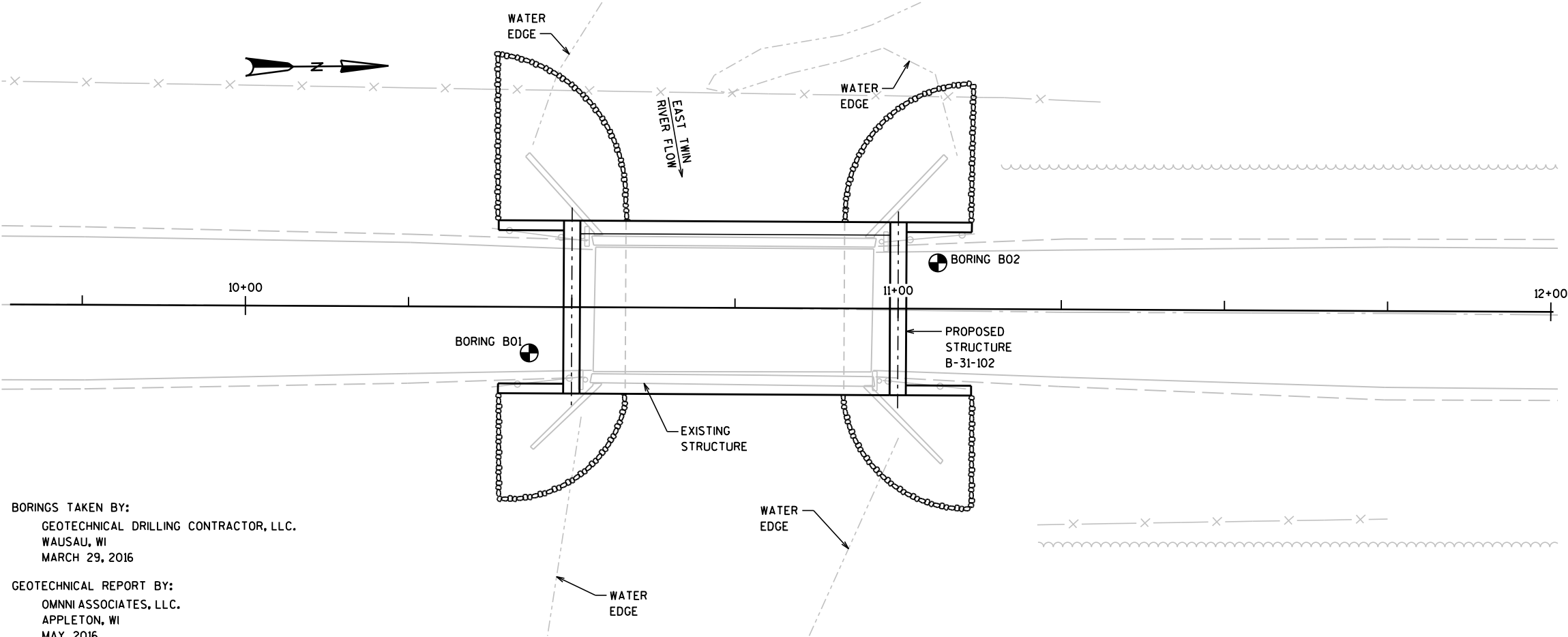
ITEM NO.	BID ITEMS	UNIT	SUPER.	SOUTH ABUT.	NORTH ABUT.	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA 10+75	LS	1	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-31-102	LS	1	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	-----	110	110	220
502.0100	CONCRETE MASONRY BRIDGES	CY	119	28	28	175
502.3200	PROTECTIVE SURFACE TREATMENT	SY	212	-----	-----	212
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	-----	1,520	1,520	3,040
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	20,880	1,430	1,430	23,740
513.4061	RAILING TUBULAR TYPE M B-31-102	LF	145	-----	-----	145
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-----	8	8	16
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	-----	65	65	130
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	-----	75	75	150
606.0300	RIPRAP HEAVY	CY	-----	75	70	145
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-----	65	65	130
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	-----	35	35	70
645.0120	GEOTEXTILE TYPE HR	SY	-----	110	105	215
	NON-BID ITEMS					
	FILLER	SIZE				1/2" & 3/4"



NO.	STATION	DESCRIPTION	ELEV.
BM 1	7+46, 30' RT.	60D NAIL IN PP#2224/5L5	665.27
BM 2	11+71, 30' RT.	60D NAIL IN 30" COTTON WOOD TREE	665.90

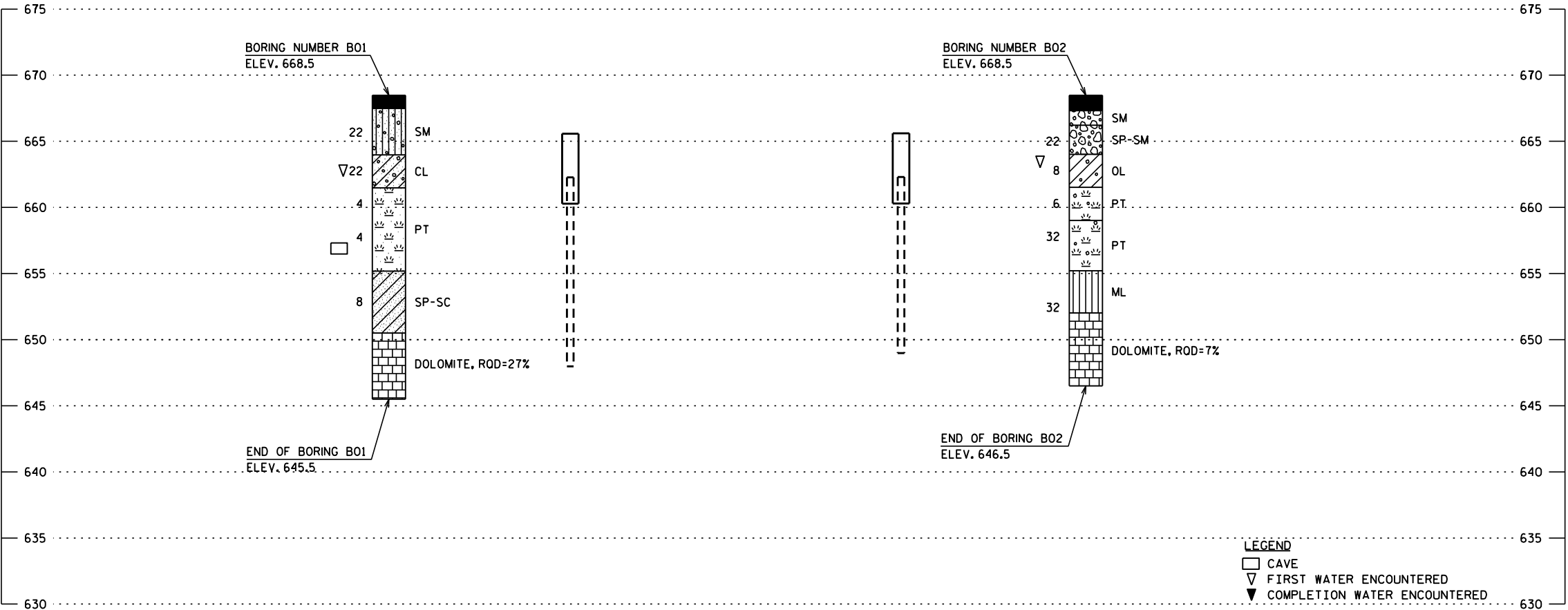
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-31-102			
DRAWN BY		BRE	PLANS CK'D. KRO
CROSS SECTION & QUANTITIES		SHEET 2 OF 10	





BORINGS TAKEN BY:  
GEOTECHNICAL DRILLING CONTRACTOR, LLC.  
WAUSAU, WI  
MARCH 29, 2016

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



LEGEND  
☐ CAVE  
▽ FIRST WATER ENCOUNTERED  
▼ COMPLETION WATER ENCOUNTERED

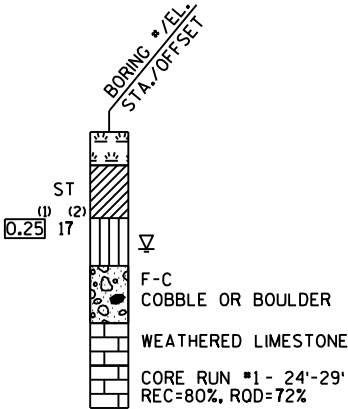
STATE PROJECT NUMBER

4376-06-71

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-31-102			
DRAWN BY		KRW	PLANS CK'D. KRO
SUBSURFACE EXPLORATION		SHEET 3 OF 10	

(A01) KEED CONCRETE, JOINT FORMED BY BEVELED 2" x 6".

(A06) SOUTH ABUTMENT TO BE SUPPORTED ON HP10x42 STEEL PILING, ESTIMATED 15'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. PILES SHALL BE PREBORED A MINIMUM OF 3-Feet INTO BEDROCK. AFTER PILES HAVE BEEN FIRMLY SEATED, FILL THE AREA AROUND THE PILING WITH CEMENT GROUT.

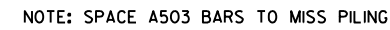
(A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. CHECK RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN, SEE THIS SHEET FOR DETAILS.

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.) EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

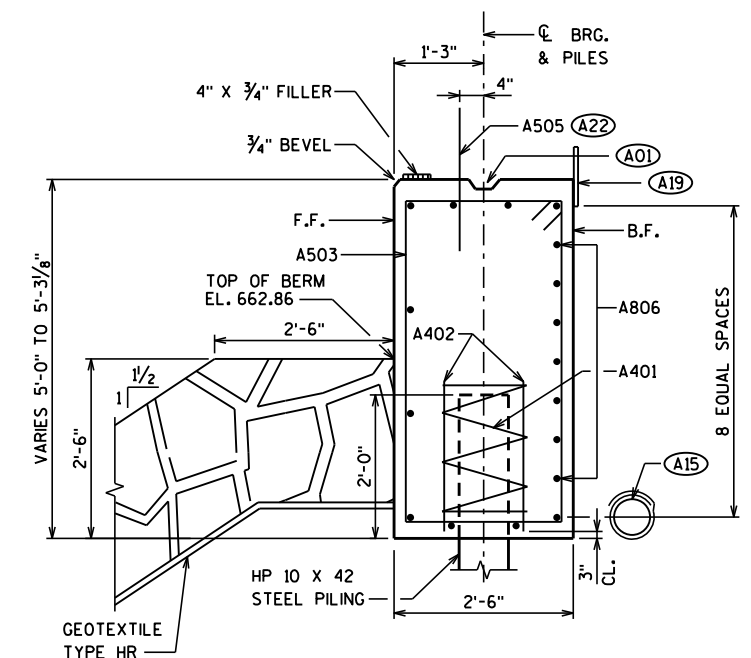
(A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

(A22) A505 BARS AT 1'-0". THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

(X) INDICATES WING NUMBER.

[illegible][illegible]

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY 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.

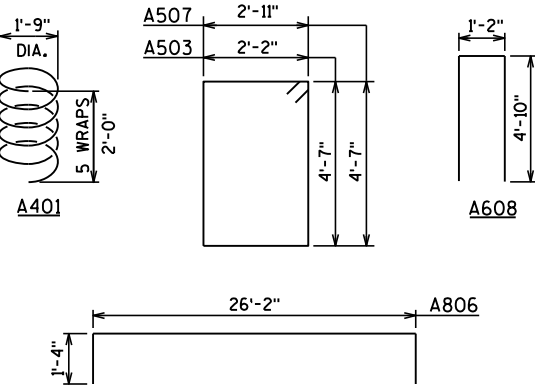


HORIZ. BARS NOT OTHERWISE  
IDENTIFIED ARE A604 BARS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-31-102			
DRAWN BY		BRE	PLANS CK'D. KRO
SOUTH ABUTMENT		SHEET 4 OF 10	

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
A401		5	28'-0"	X	BODY - ONE PER PILE
A402		10	2'-3"		BODY - TWO PER PILE
A503		33	14'-2"	X	BODY - STIRRUPS
A604		10	26'-2"		BODY - HORIZONTAL
A505	X	25	2'-0"		BODY - VERTICAL, DOWEL
A806		7	28'-5"	X	BODY - HORIZONTAL B.F.
A507	X	22	15'-8"	X	WINGS - STIRRUPS
A608	X	28	10'-6"	X	WINGS - VERTICAL
A509	X	12	12'-1"		WINGS - HORIZONTAL, F.F.
A610	X	16	11'-11"		WINGS - HORIZONTAL, B.F. & TOP
A411	X	12	9'-7"		WINGS - HORIZONTAL
A612	X	4	9'-7"		WINGS - HORIZONTAL-TOP

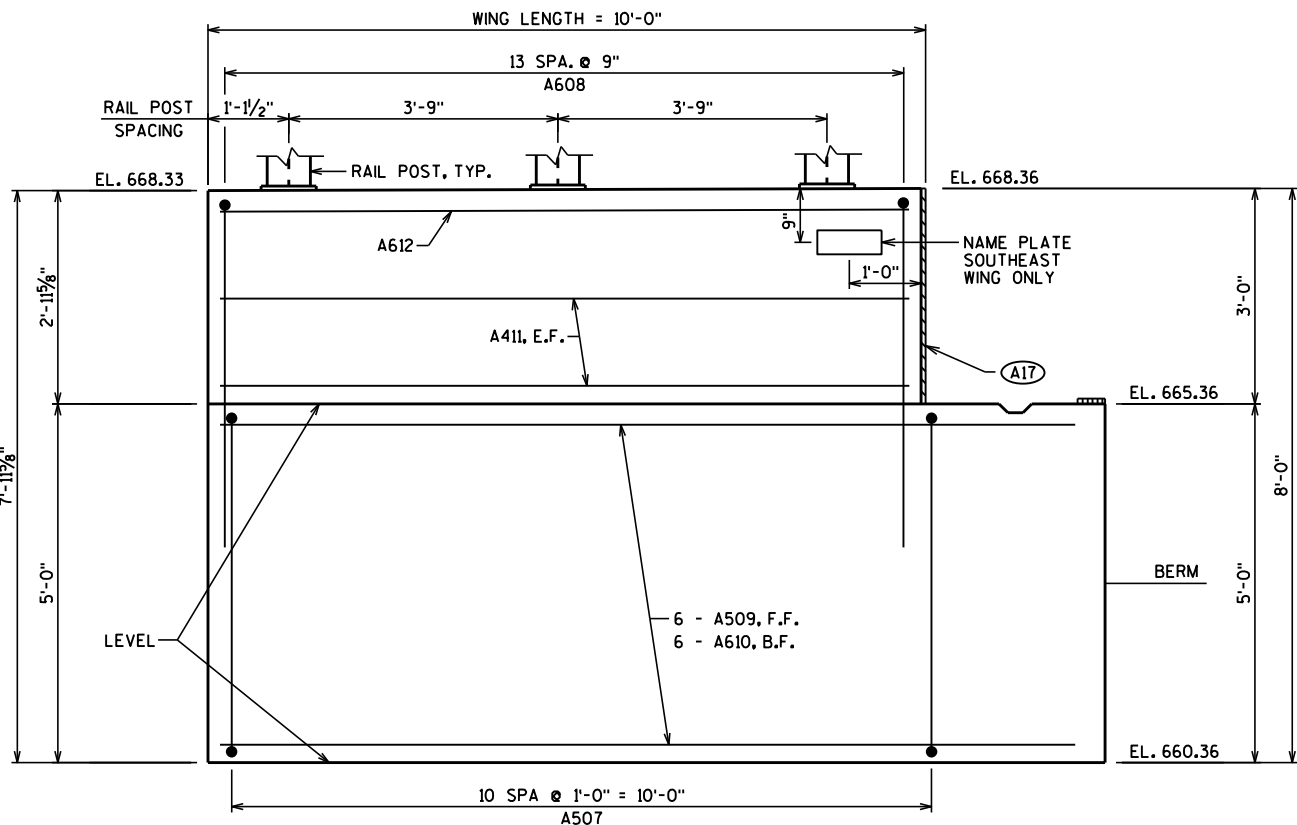


BAR BENDING DIAGRAMS

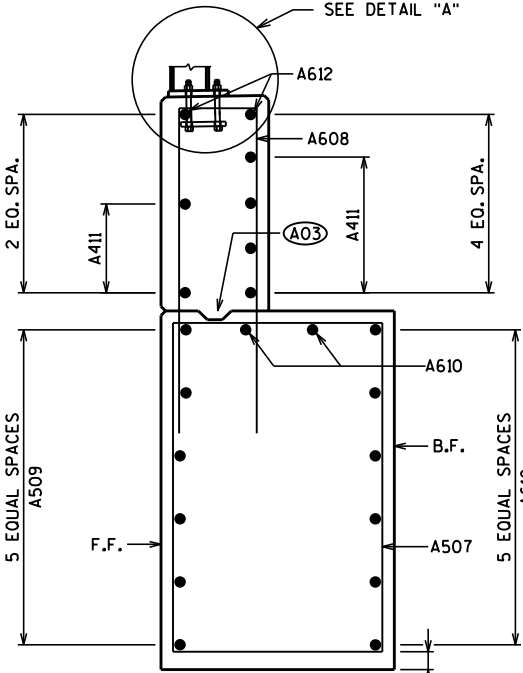
LEGEND

- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2" X 6". (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED.)
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): 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). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

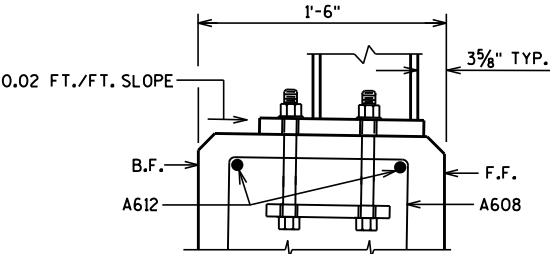
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-31-102			
DRAWN BY		BRE	PLANS CK'D. KRO
SOUTH ABUTMENT DETAILS		SHEET 5 OF 10	



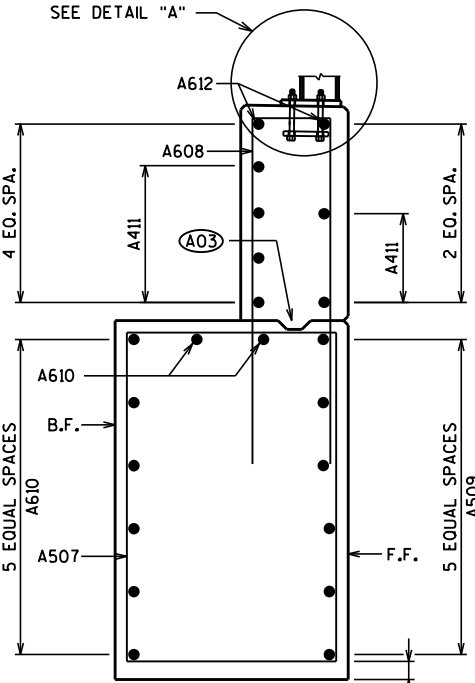
WING 1 ELEVATION



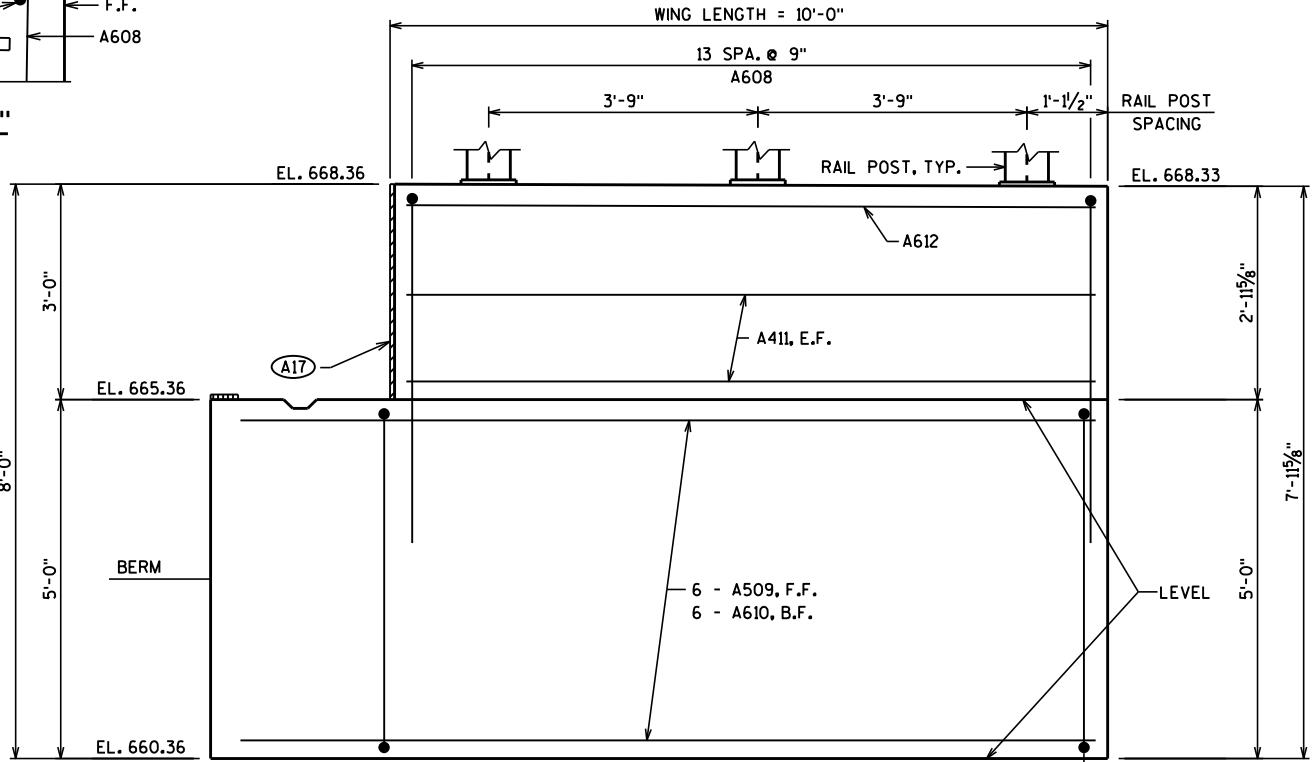
WING 1 SECTION



DETAIL "A"



WING 2 SECTION



WING 2 ELEVATION

(A01) KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".

(A06) NORTH ABUTMENT TO BE SUPPORTED ON HP10x42 STEEL PILING, ESTIMATED 15'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. PILES SHALL BE PREBORED A MINIMUM OF 3-Feet INTO BEDROCK. AFTER PILES HAVE BEEN FIRMLY SEATED, FILL THE AREA AROUND THE PILING WITH CEMENT GROUT.

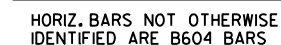
(A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN, SEE SHEET 4 FOR DETAILS.

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.) EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

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

(A22) B505 BARS AT 1'-0". THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

(X) INDICATES WING NUMBER.

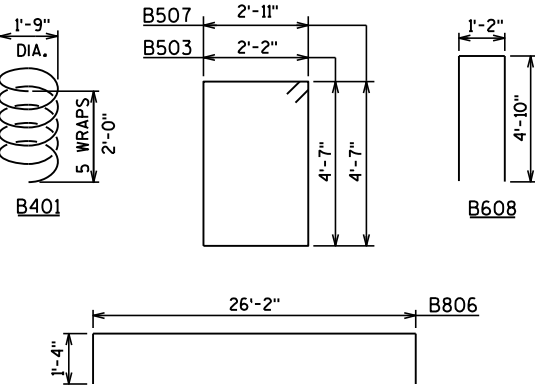


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-31-102			
DRAWN BY		BRE	PLANS CK'D. KRO
NORTH ABUTMENT		SHEET 6 OF 10	



BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B401		5	28'-0"	X	BODY - ONE PER PILE
B402		10	2'-3"		BODY - TWO PER PILE
B503		33	14'-2"	X	BODY - STIRRUPS
B604		10	26'-2"		BODY - HORIZONTAL
B505	X	25	2'-0"		BODY - VERTICAL, DOWEL
B806	X	7	28'-5"	X	BODY - HORIZONTAL B.F.
B507	X	22	15'-8"	X	WINGS - STIRRUPS
B608	X	28	10'-6"	X	WINGS - VERTICAL
B509	X	12	12'-1"		WINGS - HORIZONTAL, F.F.
B610	X	16	11'-11"		WINGS - HORIZONTAL, B.F. & TOP
B411	X	12	9'-7"		WINGS - HORIZONTAL
B612	X	4	9'-7"		WINGS - HORIZONTAL-TOP

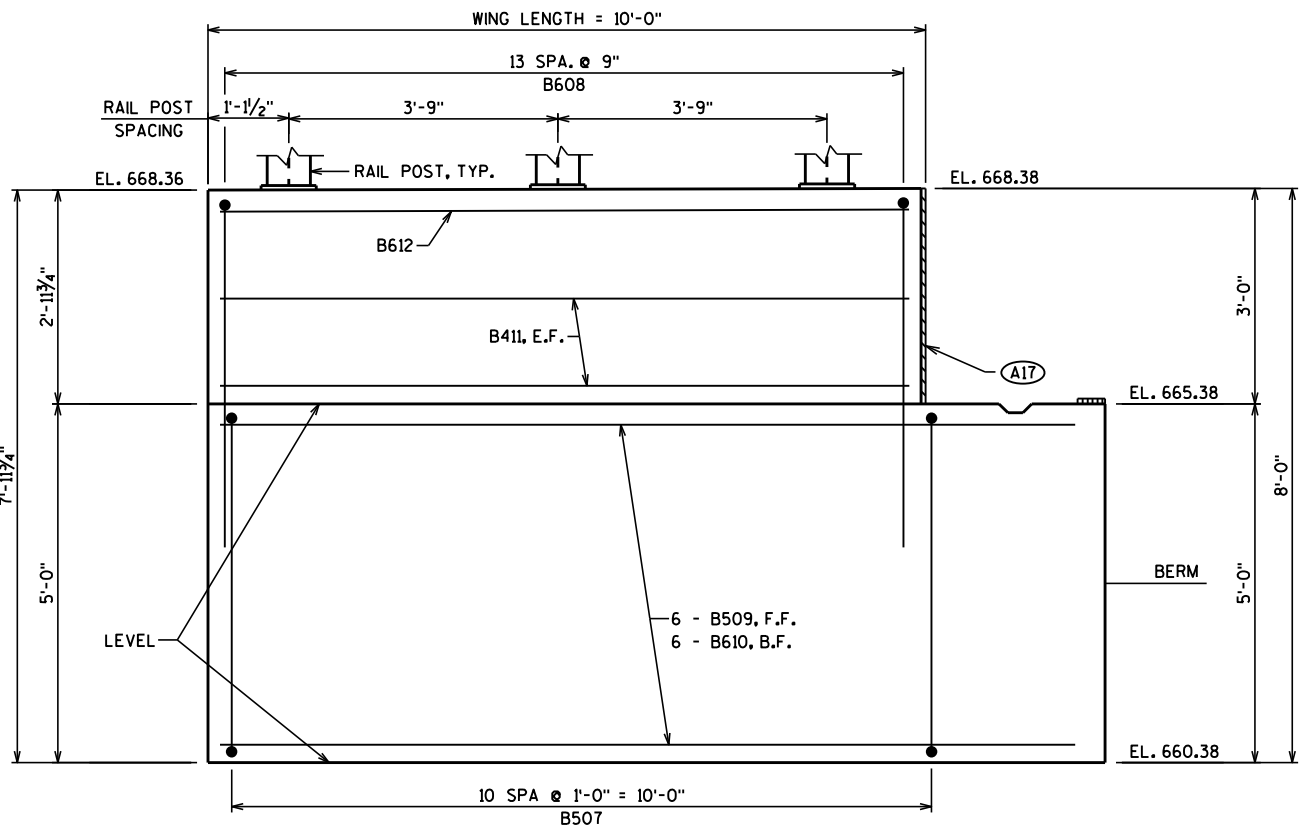


BAR BENDING DIAGRAMS

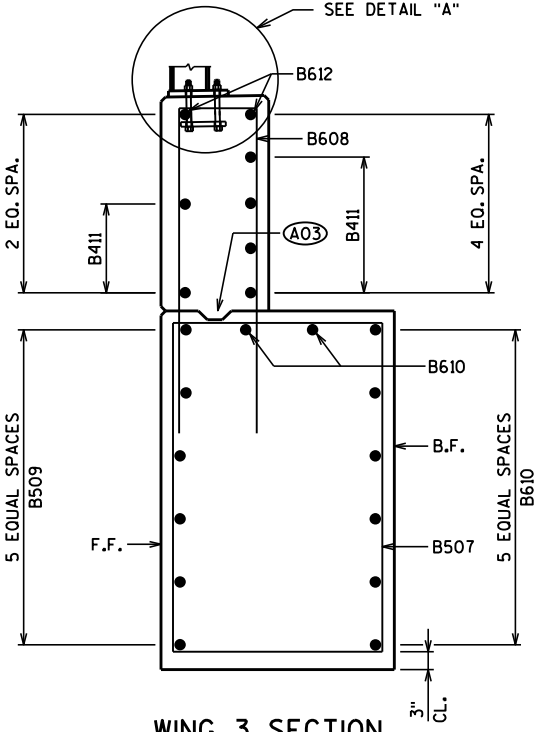
LEGEND

- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2" X 6". (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED.)
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): 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). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

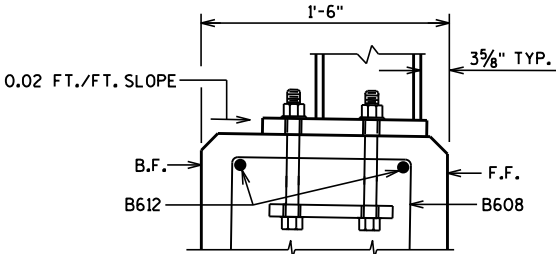
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-31-102			
DRAWN BY		BRE	PLANS CK'D. KRO
NORTH ABUTMENT DETAILS		SHEET 7 OF 10	



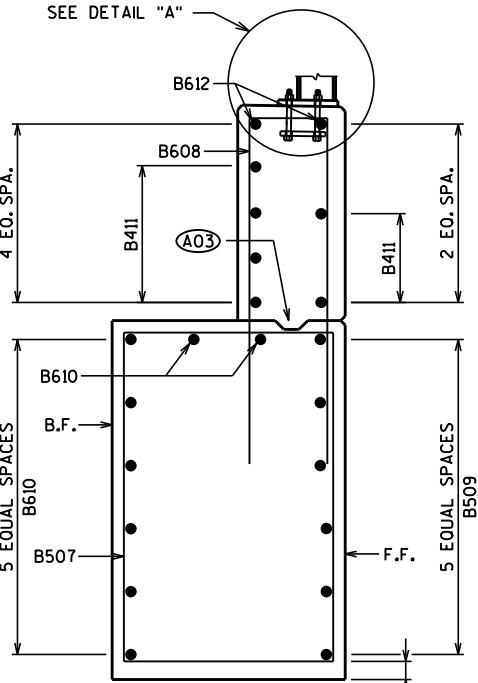
WING 3 ELEVATION



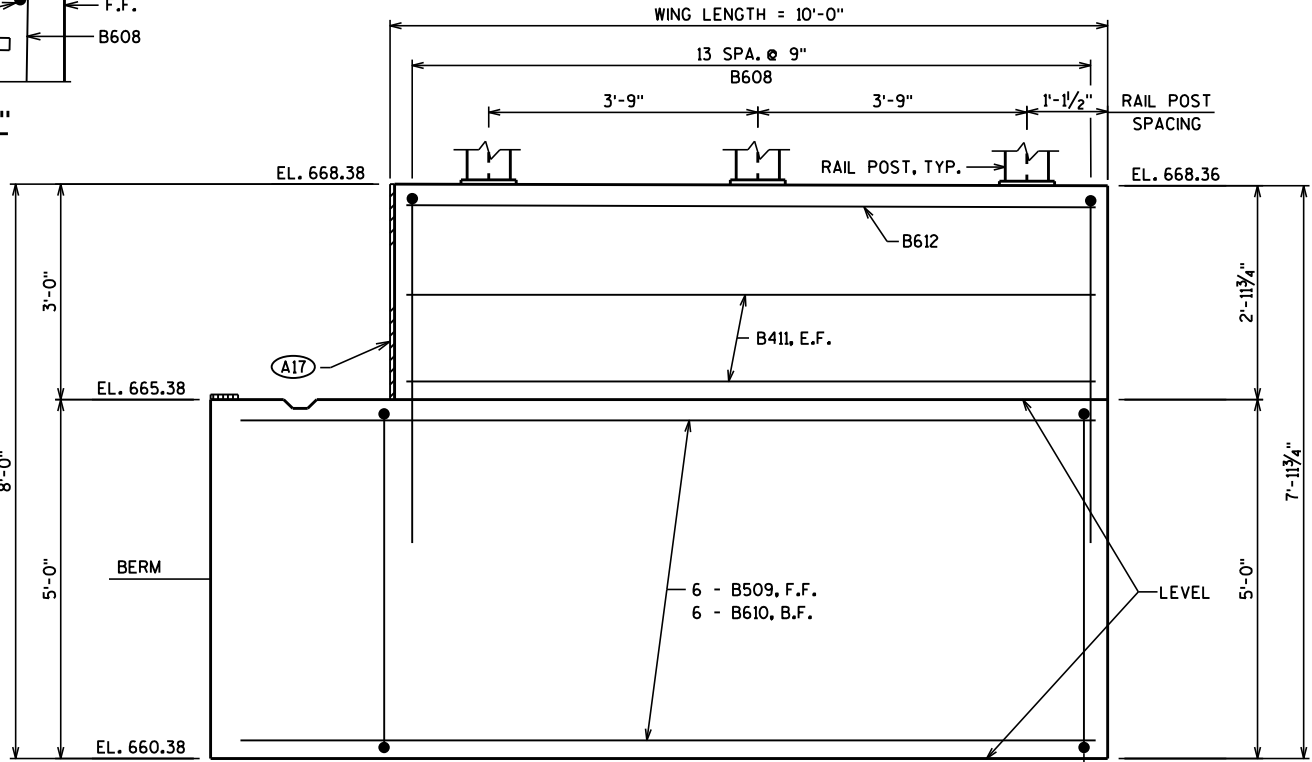
WING 3 SECTION



DETAIL "A"



WING 4 SECTION



WING 4 ELEVATION

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.

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

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

- ⊗ 3/4" V-GROOVE, EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.

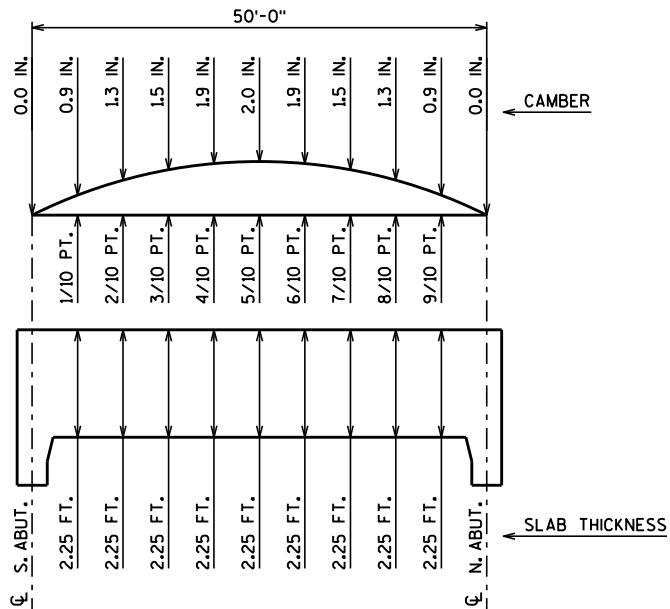
- ☐ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

-  PLACE BELOW AND TIE TO TOP MAT OF STEEL.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C OF ABUTMENTS, AND AT 5/10 POINTS TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR C.



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STRUCTURE B-31-102			
DRAWN BY		BRE	PLANS CK'D. KRO
SUPERSTRUCTURE		SHEET 8 OF 10	



CAMBER DIAGRAM

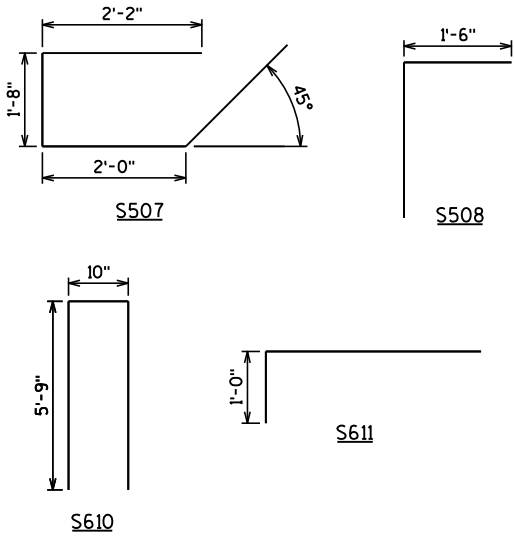
CAMBER IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS.  
CAMBER SPANS AS SHOWN TO PROVIDE FOR DEADLOAD  
DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT  
INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

TOP OF DECK ELEVATIONS

LOCATION	S.ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	N.ABUT.
W. EDGE	668.36	668.36	668.37	668.38	668.38	668.38	668.38	668.38	668.38	668.38	668.38
C/L	668.62	668.63	668.64	668.64	668.65	668.65	668.65	668.65	668.65	668.65	668.64
E. EDGE	668.36	668.36	668.37	668.38	668.38	668.38	668.38	668.38	668.38	668.38	668.38

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
S501	X	52	26'-2"		TRANSVERSE TOP
S602	X	59	26'-2"		TRANSVERSE BOTTOM
S503	X	23	50'-10"		LONGITUDINAL TOP
S504	X	4	52'-2"		LONGITUDINAL TOP OUTSIDE
S1105	X	28	52'-2"		LONGITUDINAL BOTTOM
S1106	X	27	42'-0"		LONGITUDINAL BOTTOM
S507	X	54	7'-8"	X	END OF SLAB
S508	X	54	3'-11"	X	END OF SLAB
S609	X	56	6'-0"		AT RAIL POSTS
S610	X	36	12'-0"	X	AT RAIL POSTS
S611	X	16	4'-11"	X	AT END RAIL POSTS



BAR BEND DIAGRAMS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-31-102			
DRAWN BY		BRE	PLANS CK'D. KRO
SUPERSTRUCTURE DETAILS		SHEET 9 OF 10	

LEGEND

- ① W6 x 25 WITH 1/8" x 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1/4" x 11 3/4" x 1'-8" WITH 1 5/8" x 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 - 1/8" 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 10 3/4" 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 3/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/8" DIA. HOLES FOR ANCHOR BOLTS NO. 3
- ⑤ TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑤A TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑥ 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" x 1 5/8" x 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- ⑦ 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- ⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- ⑨ SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5. 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/8" x 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 1 5/8" x 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.
- ⑫ 7/8" DIA. x 1 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- ⑬ 3/8" x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- ⑭ 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- ⑮ 1" DIA. HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

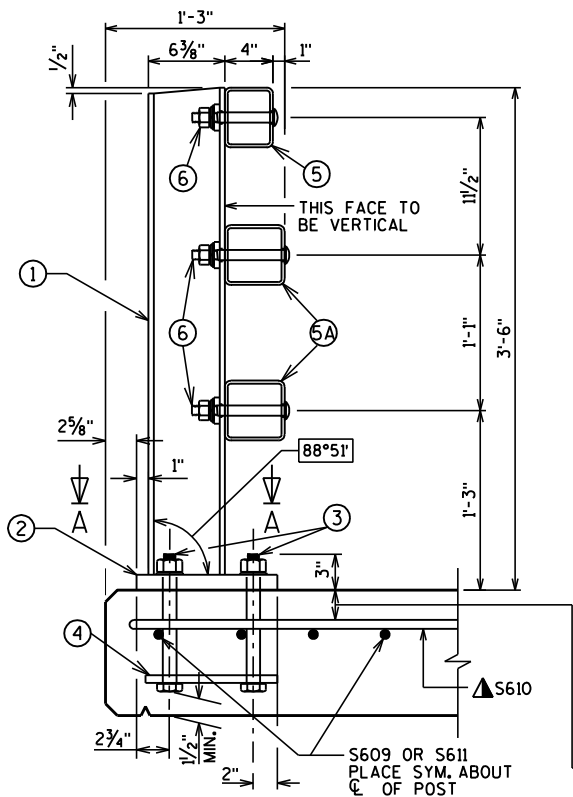
GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-31-102" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. 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. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).

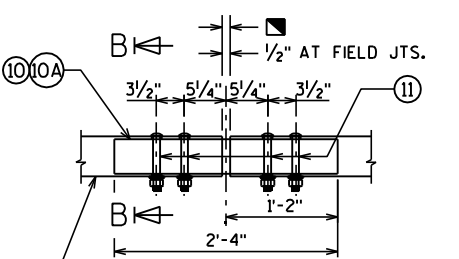
▲ TIE TO TOP MAT OF STEEL.

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

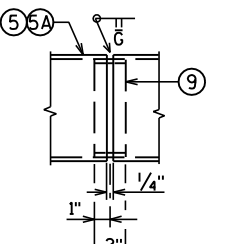
■ RDWY. OPENING OR 2 1/2" MIN. FOR STRIP SEAL EXP. JOINT & 1/2" OPENING FOR A1 ABUTMENT.



SECTION THRU RAILING ON DECK



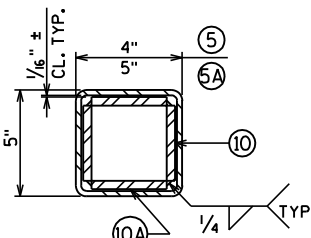
FIELD ERECTION JOINT DETAIL



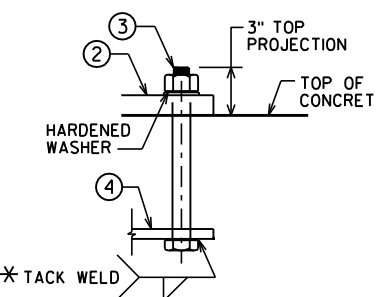
SHOP RAIL SPLICE DETAIL

LOCATION MUST BE SHOWN ON SHOP DRAWINGS

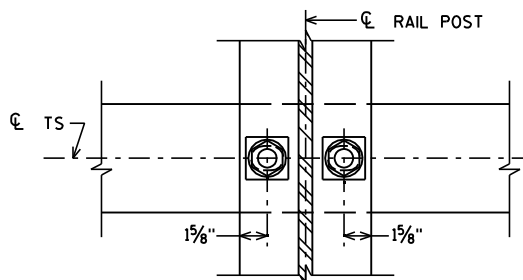
2 1/2" FOR SLABS ON GIRDERS; FOR OTHER STRUCTURES, PLACE BELOW TOP MAT SLAB REINFORCEMENT.



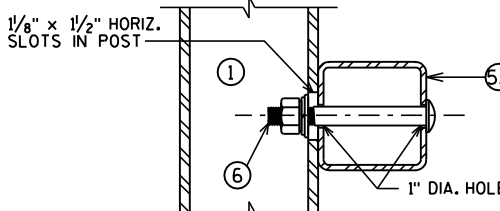
SECTION B-B



ANCHOR BOLTS



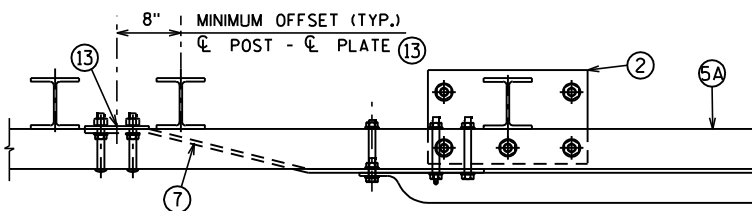
SECTION THRU POST WEB



SECTION THRU RAIL

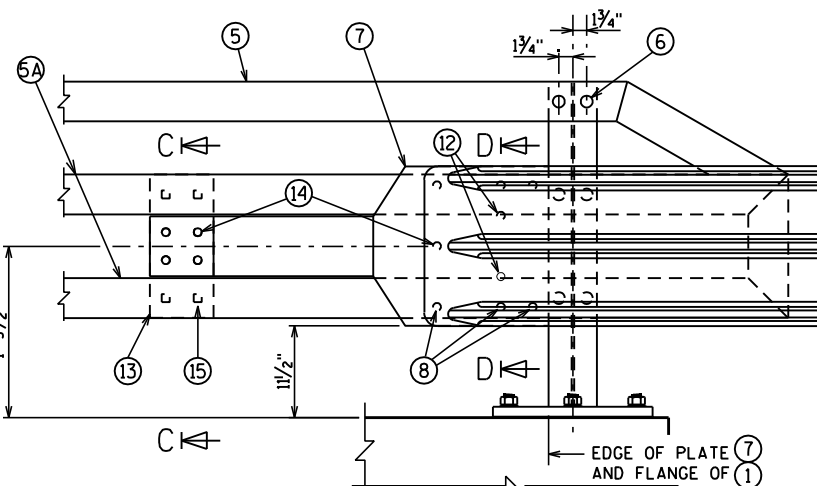
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS



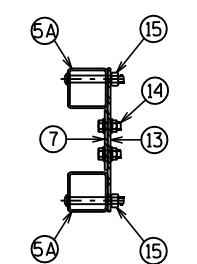
TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT

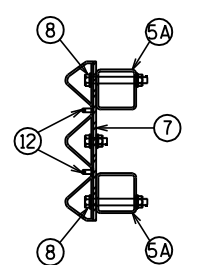


DETAIL AT END POST

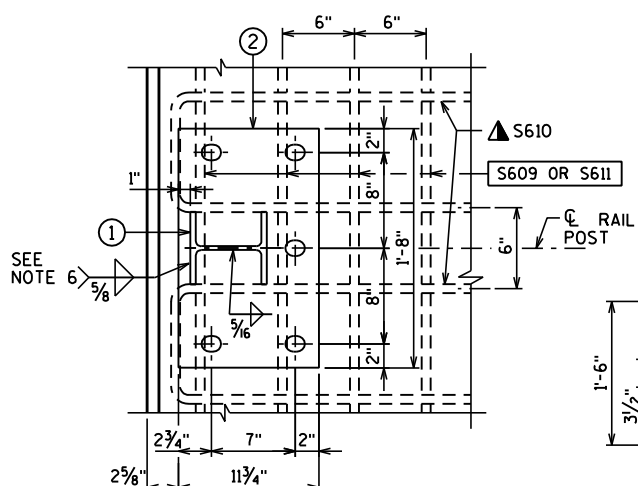
THRIE BEAM RAIL ATTACHMENT



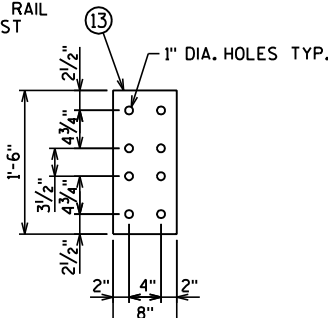
SECTION C-C



SECTION D-D

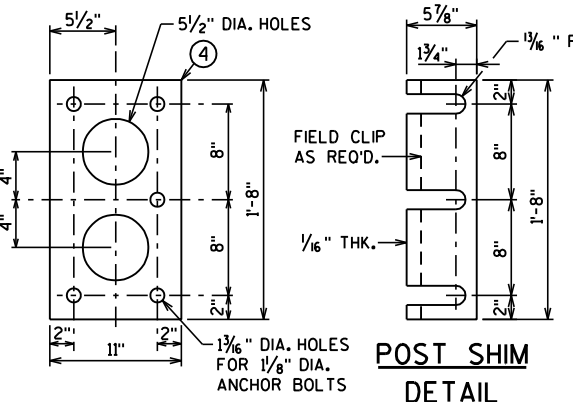


SECTION A-A



ANCHOR PLATE

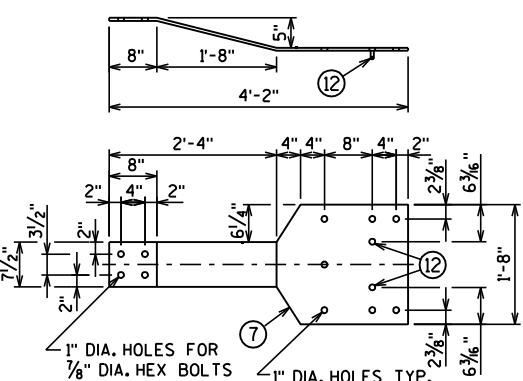
AT BEAM GUARD ATTACHMENT



POST SHIM DETAIL

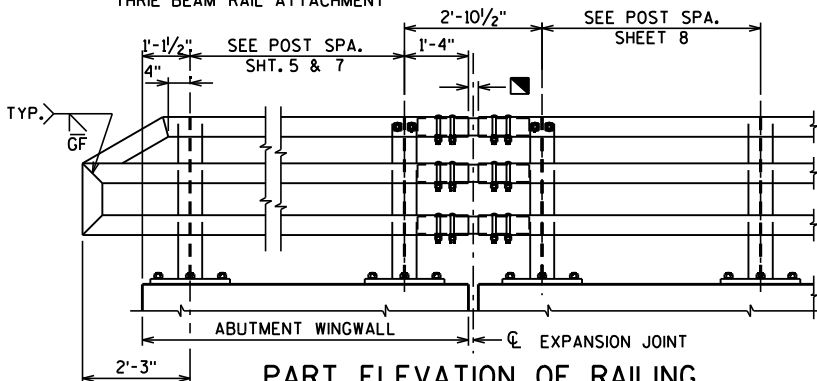
ANCHOR PLATE

AT RAIL TO DECK CONNECTION



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-31-102			
DRAWN BY		BRE	PLANS CK'D. KRO
TUBULAR STEEL RAILING TYPE 'M'		SHEET 10 OF 10	

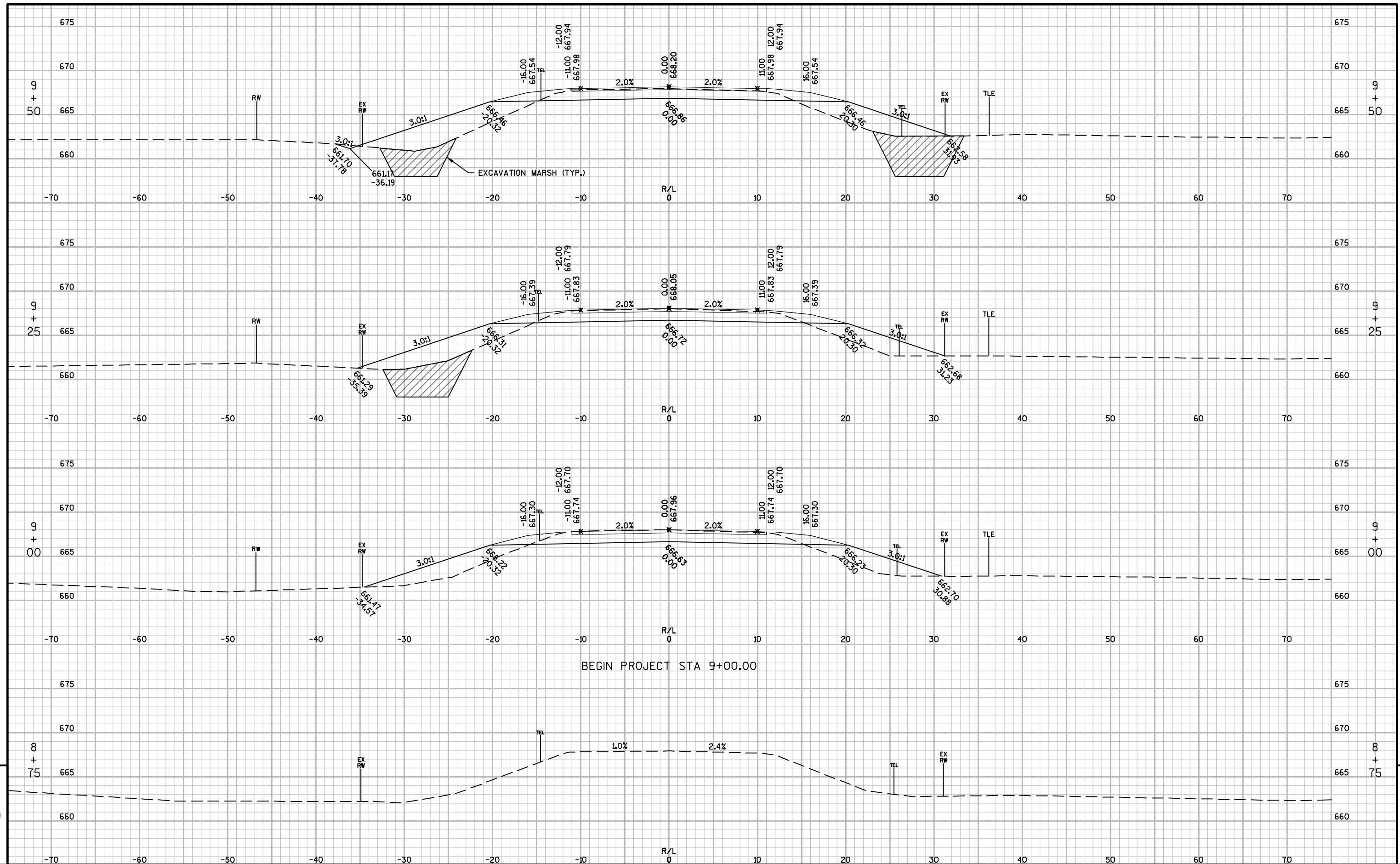


ST PETERS SOUTH

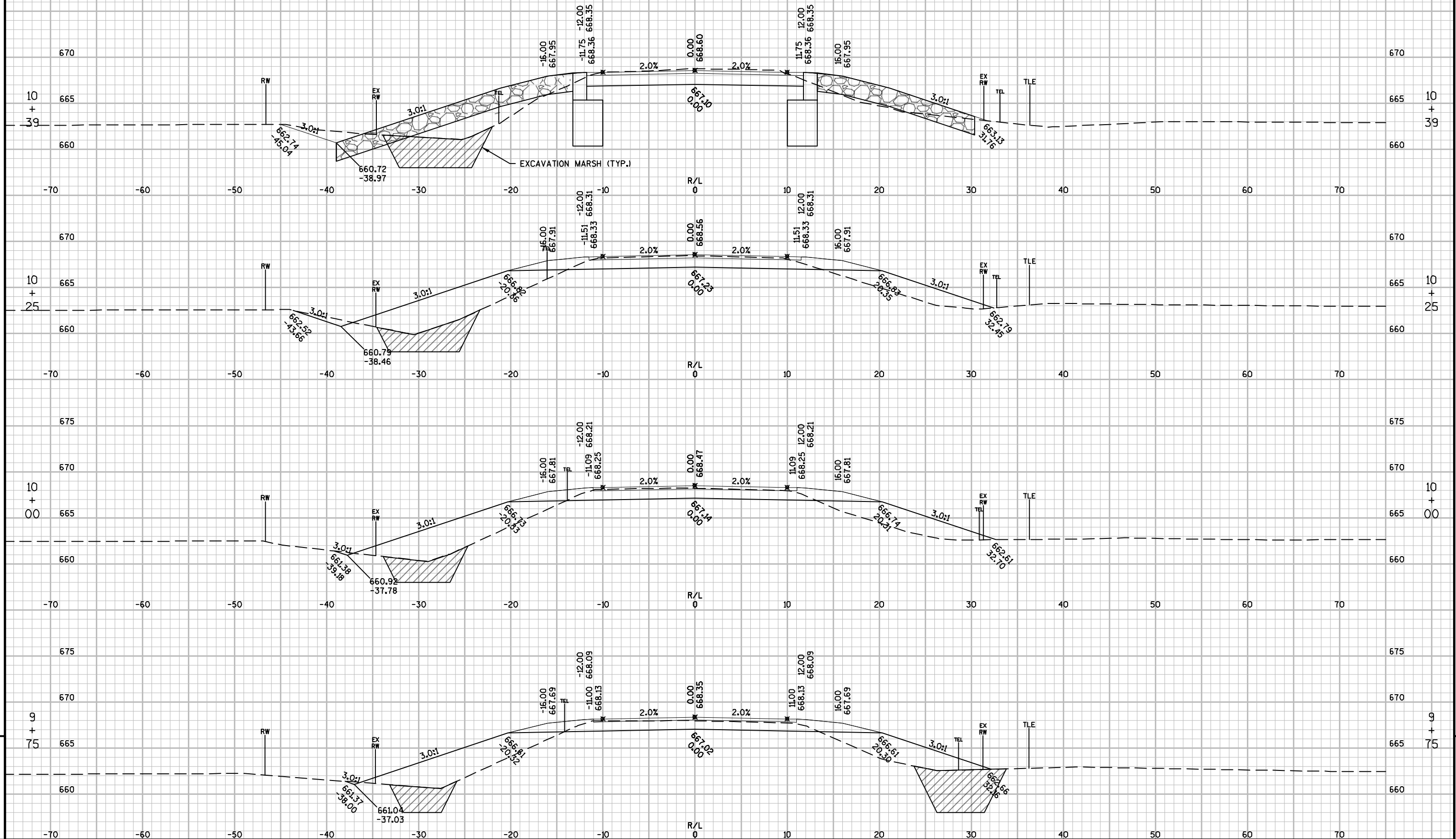
STATION	Distance	AREA (SF)				Incremental vol (CY) (Unadjusted)				Cumulative vol (CY)				Mass Ordinate
		Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	Cut 1.00	Expanded Fill 1.25	Expanded Marsh Backfill 1.50	Reduced Marsh in Fill 0.60	
08+75	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0
09+00	25.00	36.18	22.00	44.19	0.00	0	0	20	0	0	26	0	0	-26
09+25	25.00	34.40	22.00	53.22	28.93	33	20	45	13	33	82	20	8	-62
09+50	25.00	29.48	22.00	65.04	57.57	30	20	55	40	62	150	80	32	-97
09+75	25.00	24.68	22.00	77.60	50.36	25	20	66	50	87	233	155	62	-145
10+00	25.00	26.78	22.00	81.61	19.51	24	20	74	32	111	325	204	81	-214
10+25	25.00	31.26	22.00	79.05	24.61	27	20	74	20	138	418	234	94	-288
10+38.75	13.75	43.79	22.00	73.44	32.82	19	11	39	15	157	467	256	102	-320

ST PETERS NORTH

STATION	Distance	AREA (SF)				Incremental vol (CY) (Unadjusted)				Cumulative vol (CY)				Mass Ordinate
		Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	Cut 1.00	Expanded Fill 1.25	Expanded Marsh Backfill 1.50	Reduced Marsh in Fill 0.60	
11+11.25	0.00	42.17	22.00	68.22	85.83	0	0	0	0	0	0	0	0	0
11+25	13.75	35.64	22.00	51.74	0.00	20	11	31	22	20	38	33	13	-16
11+50	25.00	36.72	22.00	43.31	0.00	33	20	44	0	53	93	33	13	-58
11+75	25.00	42.36	22.00	41.03	0.00	37	20	39	0	90	142	33	13	-91
12+00	25.00	35.14	22.00	39.53	0.00	36	20	37	0	126	189	33	13	-122
12+25	25.00	32.35	22.00	31.02	0.00	31	20	33	0	157	229	33	13	-152
12+50	25.00	33.61	22.00	26.18	0.00	31	20	26	0	188	263	33	13	-175
12+75	25.00	0.00	0.00	0.00	0.00	0	0	12	0	188	278	33	13	-190



STRUCTURE B-31-102  
STA 10+48.75 TO STA 11+01.25



PROJECT NO: 4376-06-71

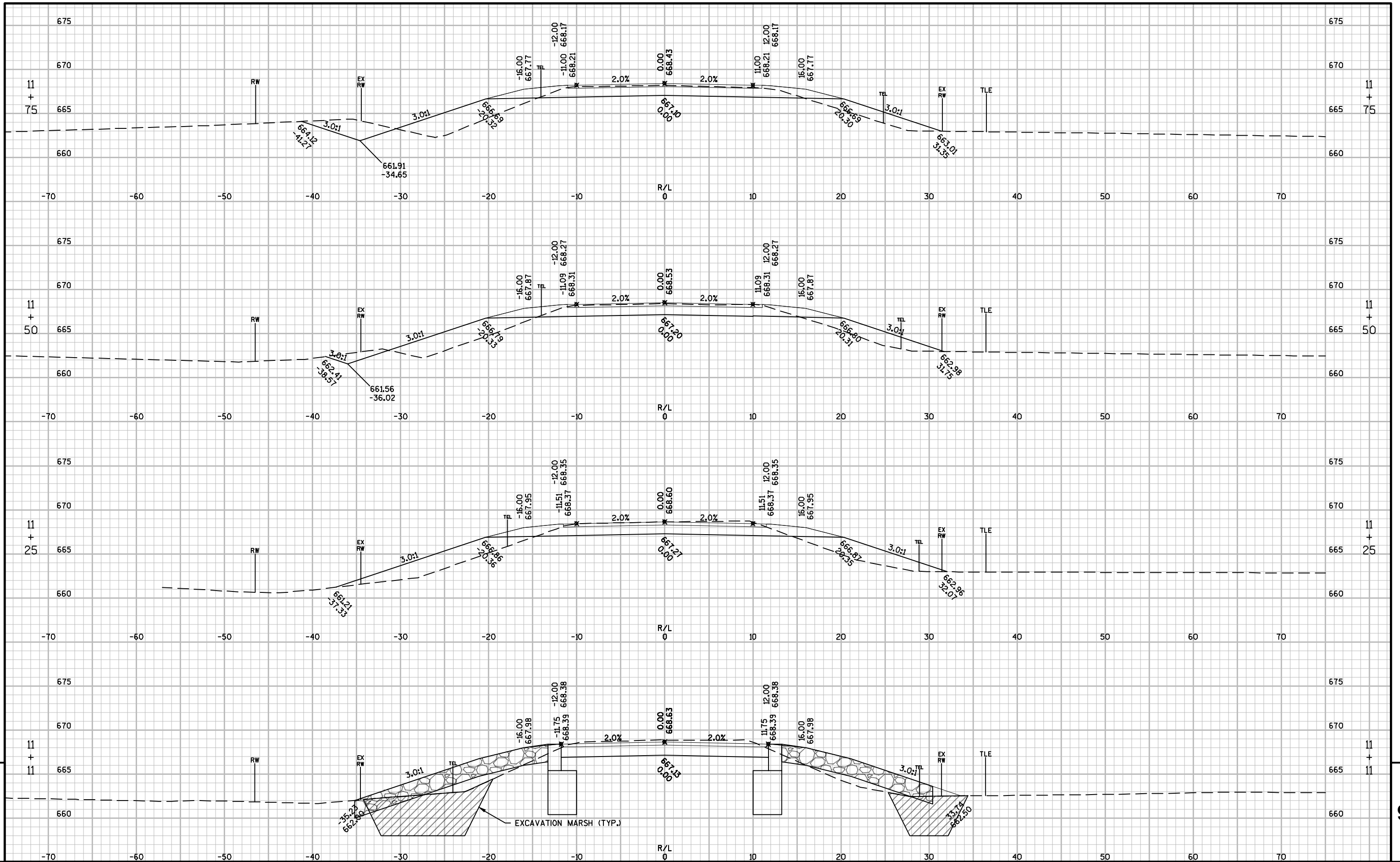
HWY: ST PETERS ROAD

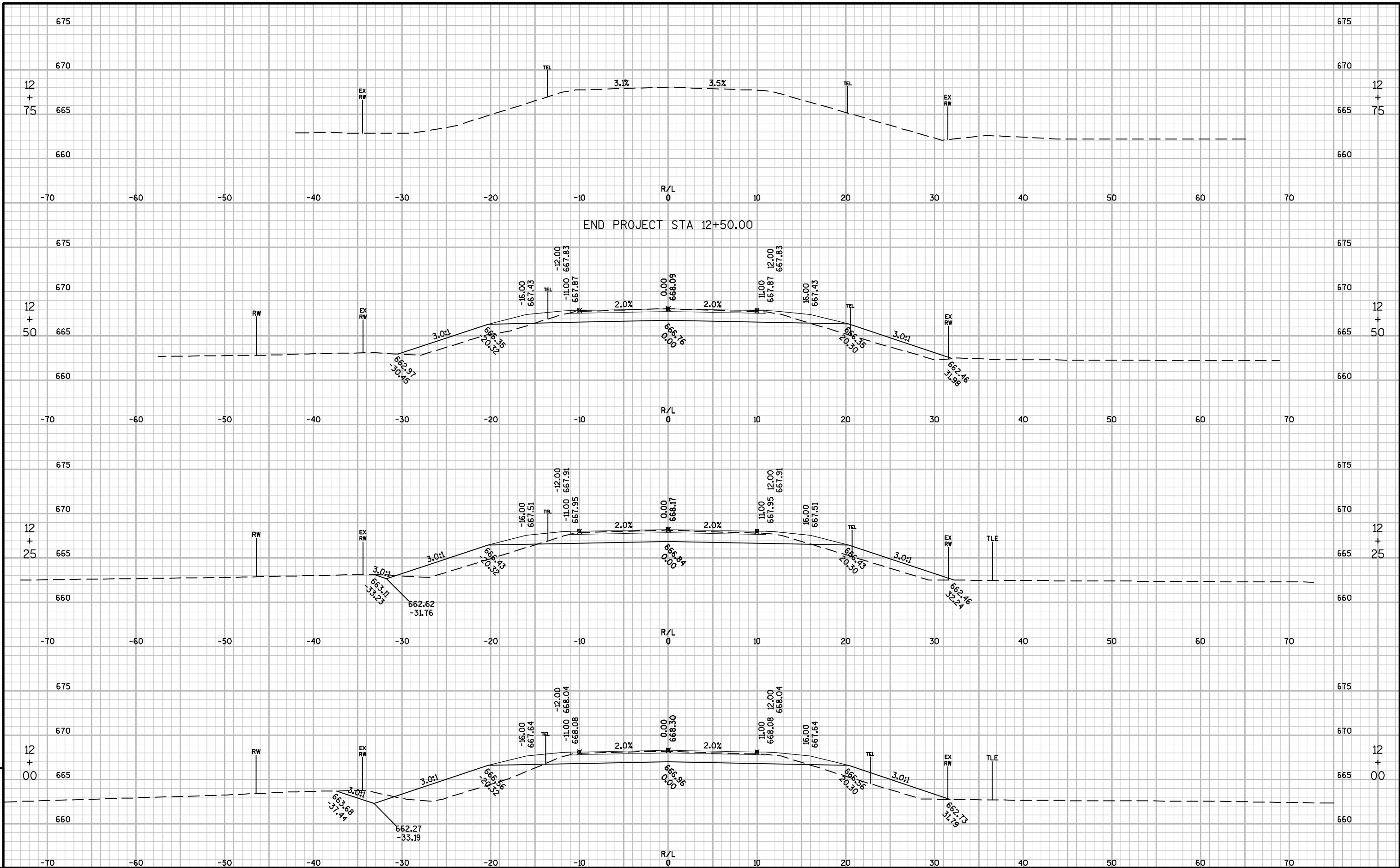
COUNTY: KEWAUNEE

CROSS SECTIONS: ST PETERS ROAD

SHEET

E







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