

NWL MAY 2014
PROJECT ID: 7849-03-71
WITH: N/A

COUNTY: CLARK

ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details
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 = 74



DESIGN DESIGNATION

A.A.D.T. (2014)	=	1900
A.A.D.T. (2034)	=	2300
D.H.V.	=	324
D.D.	=	60/40
T.	=	6.1
DESIGN SPEED	=	55 MPH
ESALS	=	328,500

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS	////	GRADE LINE	—
PROPERTY LINE	---	ORIGINAL GROUND	- - -
LOT LINE	---	MARSH OR ROCK PROFILE	- - -
LIMITED HIGHWAY EASEMENT	---	(To be noted as such)	
EXISTING RIGHT OF WAY	---	SPECIAL DITCH	---
PROPOSED OR NEW R/W LINE	---	GRADE ELEVATION	95.36
SLOPE INTERCEPT	---	CULVERT (Profile View)	□
REFERENCE LINE	---	UTILITIES	—
EXISTING CULVERT	---	ELECTRIC	— E —
PROPOSED CULVERT	---	FIBER OPTIC	— FO —
(Box or Pipe)	---	GAS	— G —
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	— SAN —
MARSH AREA	---	STORM SEWER	— SS —
WOODED OR SHRUB AREA	---	TELEPHONE	— T —
		WATER	— W —
		UTILITY PEDESTAL	⊙
		POWER POLE	⊙
		TELEPHONE POLE	⊙

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

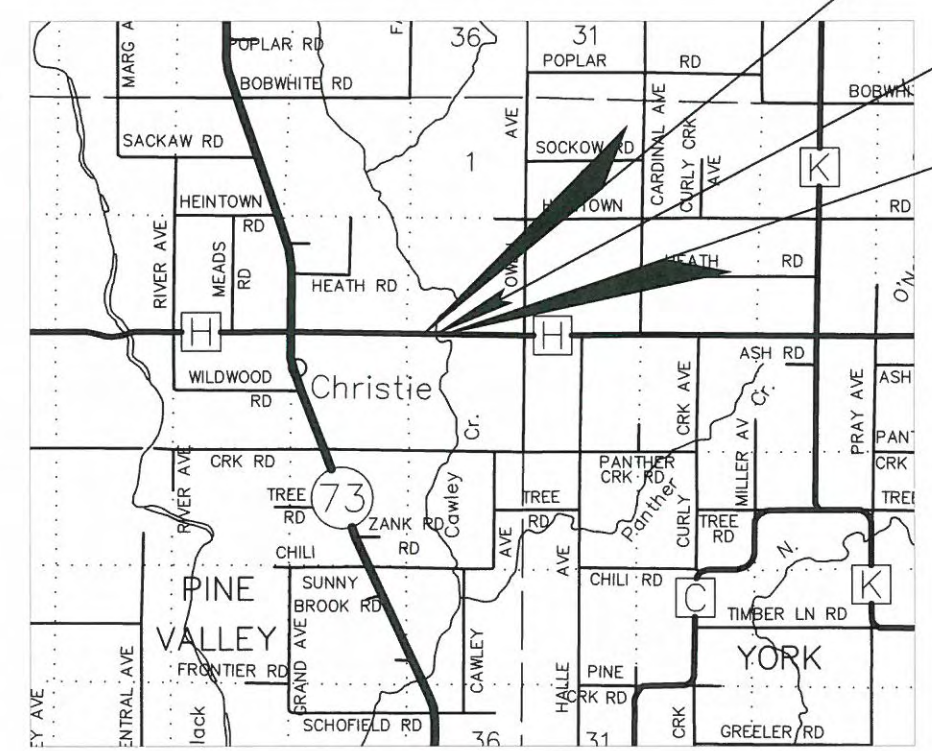
PLAN OF PROPOSED IMPROVEMENT

STH 73 - CTH K

CAWLEY CREEK BRIDGE B-10-0222

CTH H
CLARK COUNTY

STATE PROJECT NUMBER
7849-03-71



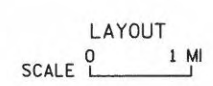
BEGIN PROJECT 7849-03-71
STA. 7+00.00

Y = 384,456.064
X = 690,816.608

STRUCTURE B-10-0222
STA. 10+00.00

END PROJECT 7849-03-71
STA. 13+00.00

Y = 384,446.741
X = 691,416.536



TOTAL NET LENGTH OF CENTERLINE = 0.093 MI

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

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7849-03-71	WISC 2014211	1

ACCEPTED FOR
COUNTY of CLARK
DATE: 12-17-13 *Randy S. Anderson, Commissioner*
(Signature & Title of Official)



1/10/14 *Jay P. Wheaton*

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PREPARED BY
Surveyor MEAD & HUNT
Designer MEAD & HUNT
Management Consultant KNIGHT E/A, INC.
C.O. Examiner N/A

APPROVED FOR THE DEPARTMENT
DATE: 1/28/14 *Ryan B. McKee*
(Management Consultant Signature)

E

GENERAL NOTES

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

WHEN THE QUANTITY OF BASE AGGREGATE OR HMA PAVEMAENT TYPE E-1 IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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

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

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

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

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

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

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING DRIVEWAYS AND PAVEMENTS AT REMOVAL LIMITS.

5-INCH HMA PAVEMENT E-1 SHALL BE CONSTRUCTED WITH A 2-INCH UPPER LAYER AND A 3-INCH LOWER LAYER.

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

EXISTING PIPE CULVERT SIZES SHOWN ARE APPROXIMATE AND THE CONTRACTOR SHALL BASE ITS BID ON ACTUAL FIELD CONDITIONS.

SHRINKAGE IS ESTIMATED AT 25%.

STANDARD ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC	NO	NUMBER
ASPH	ASPHALTIC	PI	POINT OF INTERSECTION
BM	BENCH MARK	PL	PROPERTY LINE
C	CENTERLINE	RHF	RIGHT-HAND FORWARD
CWT	HUNDREDWEIGHT	RT	RIGHT
CY	CUBIC YARD	R/W	RIGHT-OF-WAY
DHV	DESIGN HOURLY VOLUME	SF	SQUARE FOOT
DWY	DRIVEWAY	SHLDR	SHOULDER
EL	ELEVATION	STA	STATION
EXC	EXCAVATION	SY	SQUARE YARD
FT	FOOT	T	TRUCKS (PERCENT OF)
FTG	FOOTING	TLE	TEMPORARY LIMITED EASEMENT
LB	POUND	TYP	TYPICAL
LF	LINEAR FOOT	VAR	VARIABLE
LHF	LEFT-HAND FORWARD	VC	VERTICAL CURVE
LS	LUMP SUM	VPC	VERTICAL POINT OF CURVE
LT	LEFT	VPI	VERTICAL POINT OF INTERSECTION
		VPT	VERTICAL POINT OF TANGENCY

CONSULTANT CONTACT

MEAD & HUNT, INC.
750 NORTH THIRD STREET
LA CROSSE, WI 54601
ATTN: JAY WHEATON, P.E.
TELEPHONE: 608-784-6040
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DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES
DNR SERVICE CENTER
473 GRIFFITH DRIVE
WISCONSIN RAPIDS, WI 54494
ATTN: MARC HERSHFELD
TELEPHONE: 715-421-7867
E-MAIL: MARC.HERSHFELD@WISCONSIN.GOV

CLARK COUNTY

CLARK COUNTY HIGHWAY DEPARTMENT
801 CLAY STREET
NEILLSVILLE, WI 54456
ATTN: RANDY ANDERSON
TELEPHONE: 715-743-3680
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UTILITY CONTACTS

*CLARK ELECTRIC CO-OP

ELECTRIC
ATTN: RICK SUDA
P.O. BOX 190
GREENWOOD, WI 54437
TELEPHONE: 715-267-6188
E-MAIL: RSDUDA@CECCOOP.COM

*TDS TELCOM

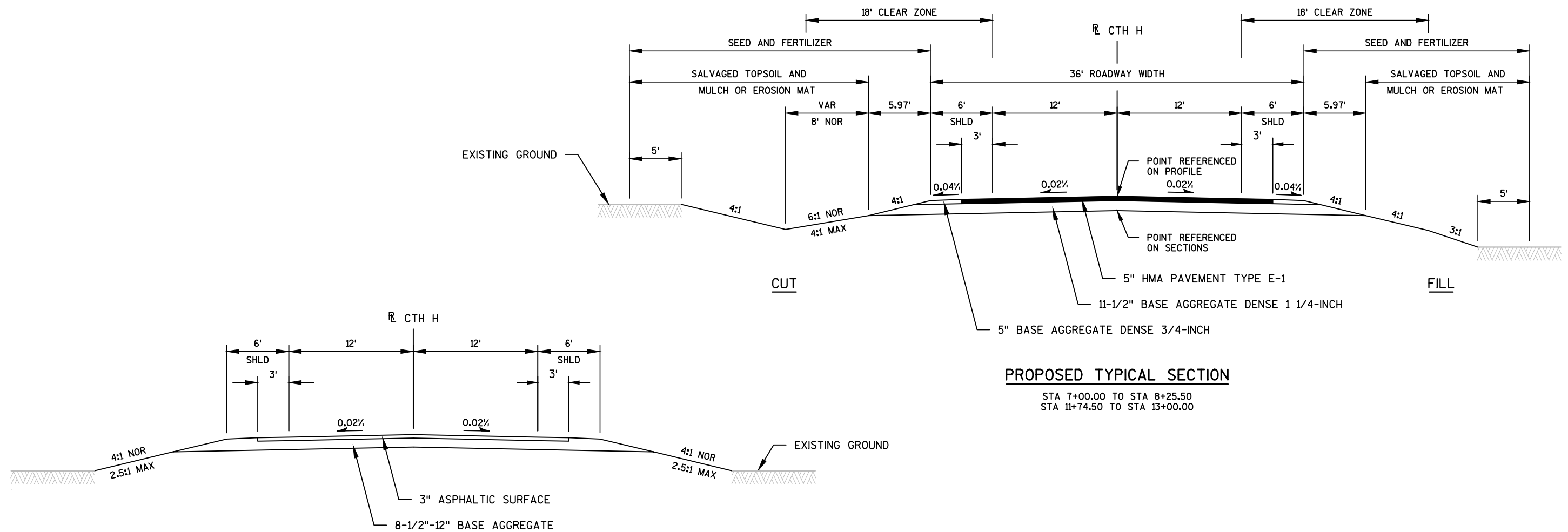
TELEPHONE
ATTN: STEVE JAKUBIEC
10 COLLEGE AVENUE, SUITE 218A
APPLETON, WI 54911
TELEPHONE: 920-882-4166
MOBILE: 920-562-7221
E-MAIL: STEVE.JAKUBIEC@TDSTELECOM.COM

* Denotes Diggers Hotline Member

ORDER OF SECTION 2 SHEETS

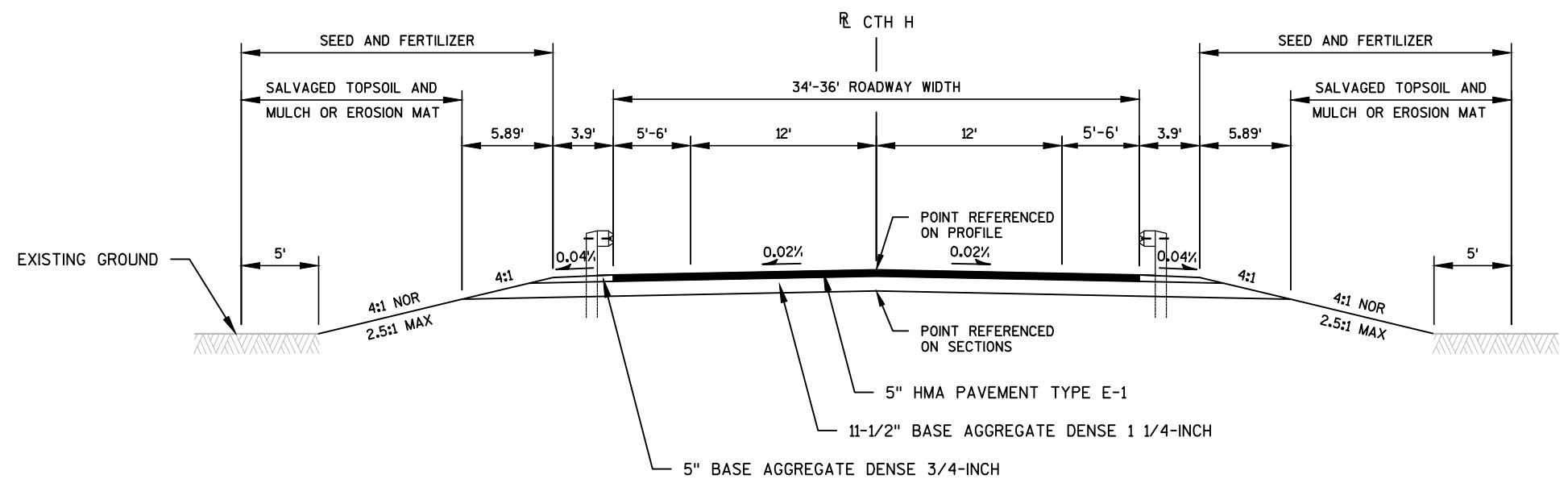
TYPICAL SECTIONS
DETOUR ROUTE
DETOUR SIGNING AND TRAFFIC CONTROL DETAILS
ALIGNMENTS

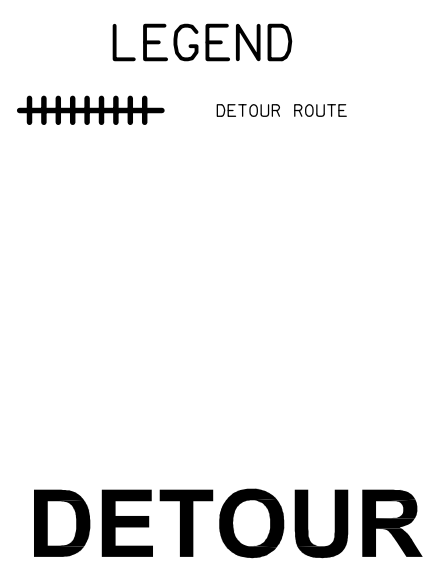




EXISTING TYPICAL SECTION

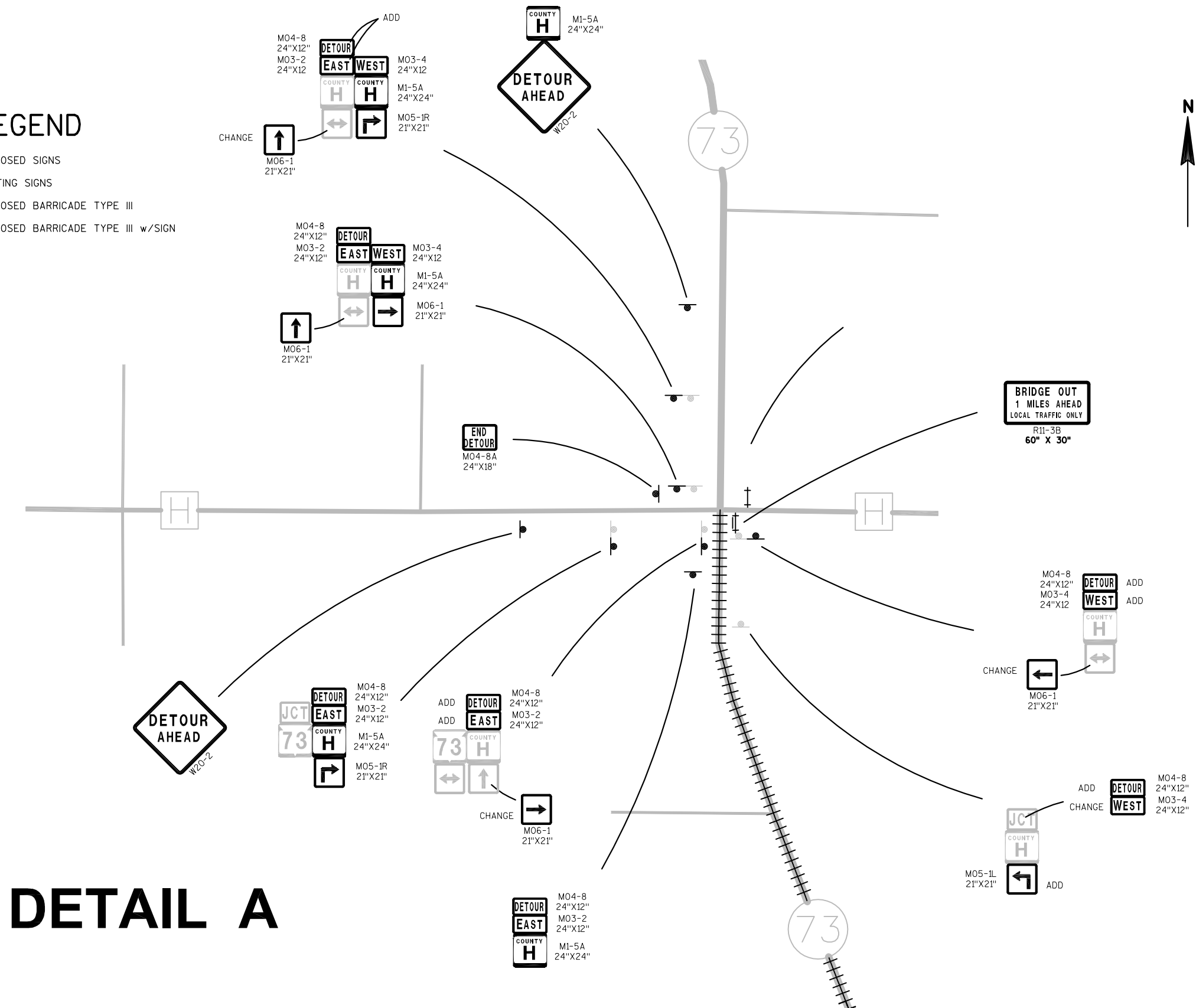
STA 7+00.00 TO STA 9+58.00
 STA 10+42.00 TO STA 13+00.00





LEGEND

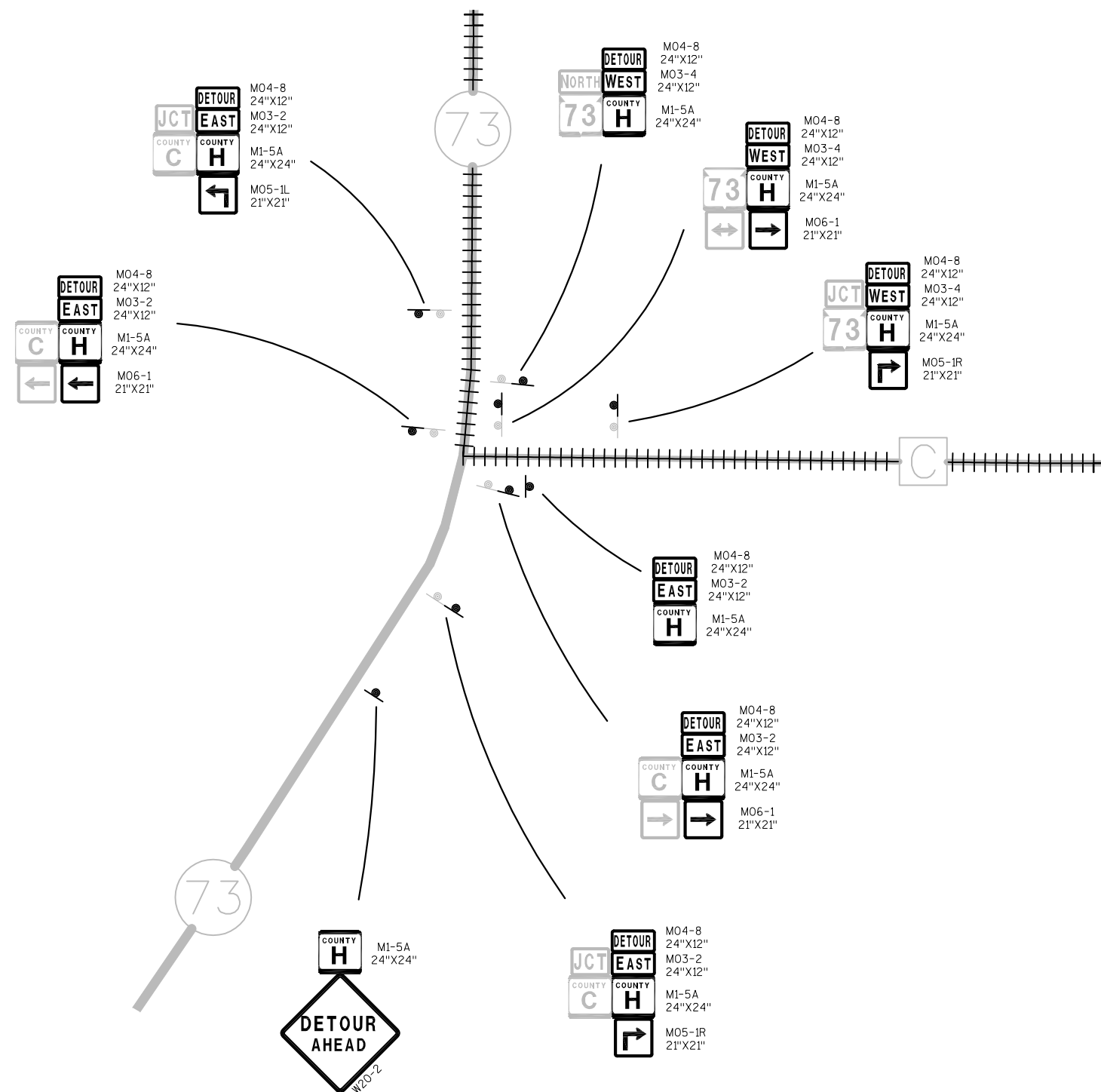
- PROPOSED SIGNS
- EXISTING SIGNS
- PROPOSED BARRICADE TYPE III
- PROPOSED BARRICADE TYPE III w/SIGN



DETAIL A

LEGEND

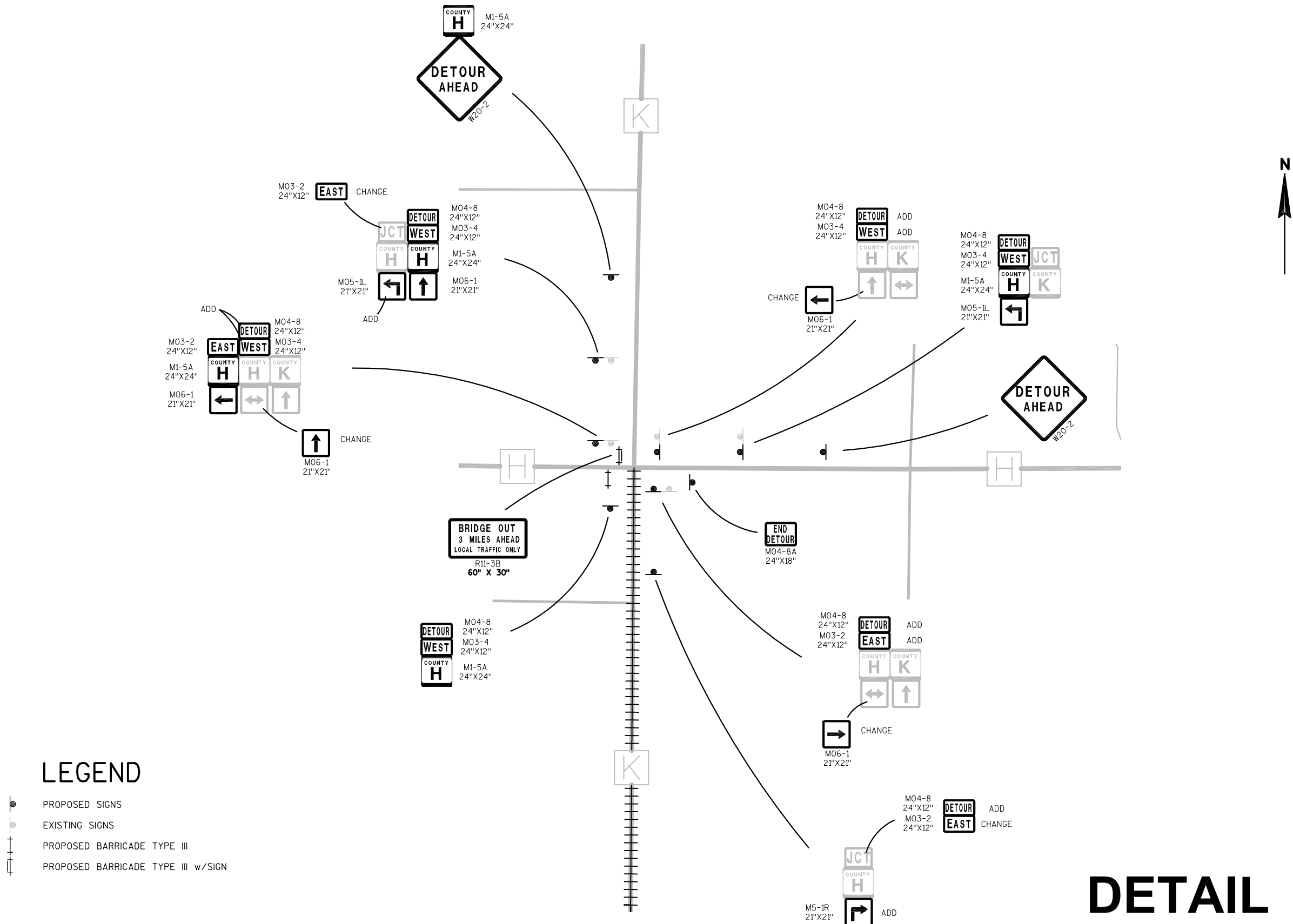
- PROPOSED SIGNS
- EXISTING SIGNS
- PROPOSED BARRICADE TYPE III
- PROPOSED BARRICADE TYPE III w/SIGN



DETAIL B



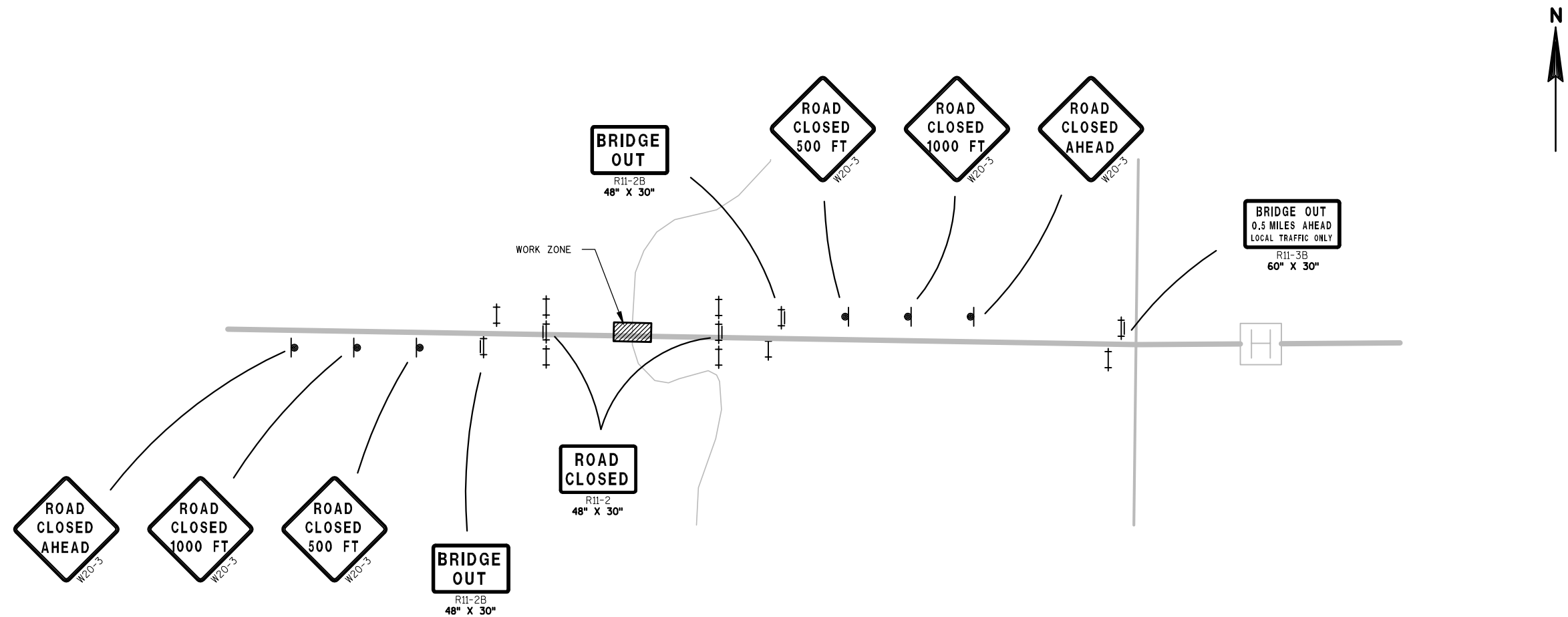
- ## DETAIL C



LEGEND

- PROPOSED SIGNS
- EXISTING SIGNS
- PROPOSED BARRICADE TYPE III
- PROPOSED BARRICADE TYPE III w/SIGN

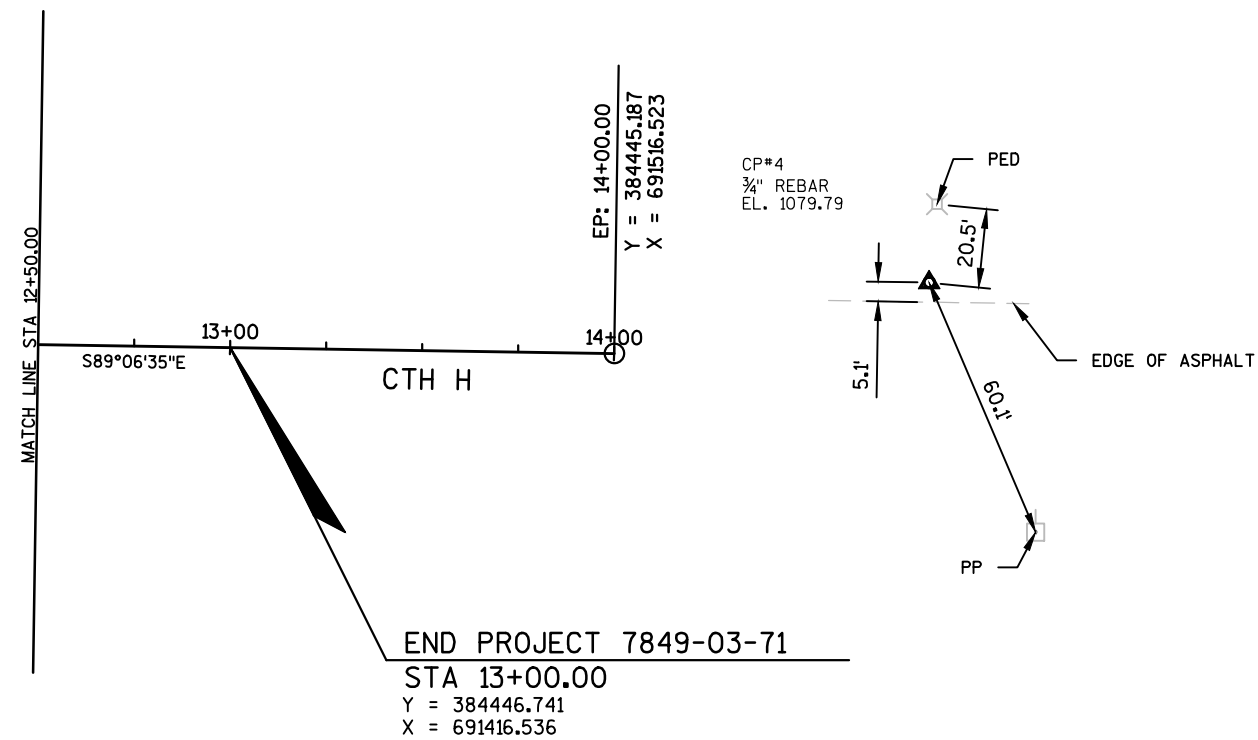
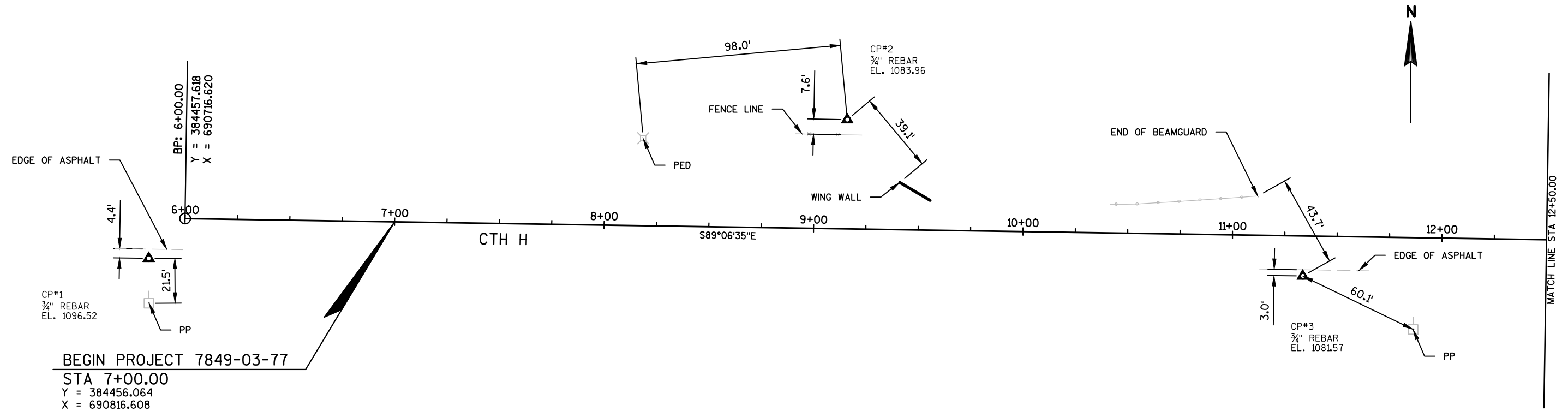
DETAIL D



LEGEND

- PROPOSED SIGNS
- EXISTING SIGNS
- PROPOSED BARRICADE TYPE III
- PROPOSED BARRICADE TYPE III w/SIGN

DETAIL E



CONTROL POINTS			
POINT NUMBER	(Y)	(X)	POINT ELEVATION
1	384438.631	690699.260	1096.52
2	384504.772	691032.666	1083.96
3	384430.194	691250.074	1081.57
4	384463.690	691598.573	1079.79

DATE 17MAR14		E S T I M A T E O F Q U A N T I T I E S			
LINE		7849-03-71			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0105	CLEARING	STA	2.000	2.000
0020	201.0205	GRUBBING	STA	2.000	2.000
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	CY	1,016.000	1,016.000
0050	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-10-222	LS	1.000	1.000
0060	208.0100	BORROW	CY	530.000	530.000
0070	210.0100	BACKFILL STRUCTURE	CY	180.000	180.000
0080	213.0100	FINISHING ROADWAY (PROJECT) 01. 7849-03-71	EACH	1.000	1.000
0090	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	200.000	200.000
0100	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	1,660.000	1,660.000
0110	455.0105	ASPHALTIC MATERIAL PG58-28	TON	34.000	34.000
0120	455.0605	TACK COAT	GAL	50.000	50.000
0130	460.1101	HMA PAVEMENT TYPE E-1	TON	550.000	550.000
0140	502.0100	CONCRETE MASONRY BRIDGES	CY	372.000	372.000
0150	502.3200	PROTECTIVE SURFACE TREATMENT	SY	498.000	498.000
0160	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	7,530.000	7,530.000
0170	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	64,010.000	64,010.000
0180	513.4060	RAILING TUBULAR TYPE M (STRUCTURE) 01. B-10-222	LS	1.000	1.000
0190	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	14.000	14.000
0200	550.0010	PRE-BORING UNCONSOLIDATED MATERIALS	LF	55.000	55.000
0210	550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	210.000	210.000
0220	550.0500	PILE POINTS	EACH	16.000	16.000
0230	550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	550.000	550.000
0240	550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	405.000	405.000
0250	606.0300	RIPRAP HEAVY	CY	290.000	290.000
0260	612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	45.000	45.000
0270	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	118.000	118.000
0280	614.2300	MGS GUARDRAIL 3	LF	200.000	200.000
0290	614.2500	MGS THRIE BEAM TRANSITION	LF	158.000	158.000
0300	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	4.000	4.000
0310	619.1000	MOBILIZATION	EACH	1.000	1.000
0320	625.0500	SALVAGED TOPSOIL	SY	2,100.000	2,100.000
0330	627.0200	MULCHING	SY	700.000	700.000
0340	628.1504	SILT FENCE	LF	750.000	750.000
0350	628.1520	SILT FENCE MAINTENANCE	LF	1,500.000	1,500.000
0360	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	3.000	3.000
0370	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000	2.000
0380	628.2004	EROSION MAT CLASS I TYPE B	SY	1,400.000	1,400.000
0390	628.6005	TURBIDITY BARRIERS	SY	240.000	240.000
0400	628.7504	TEMPORARY DITCH CHECKS	LF	100.000	100.000
0410	629.0210	FERTILIZER TYPE B	CWT	1.500	1.500
0420	630.0120	SEEDING MIXTURE NO. 20	LB	55.000	55.000
0430	630.0200	SEEDING TEMPORARY	LB	55.000	55.000
0440	633.5100	MARKERS ROW	EACH	5.000	5.000
0450	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	5.000	5.000
0460	637.2230	SIGNS TYPE II REFLECTIVE F	SF	18.000	18.000
0470	638.2602	REMOVING SIGNS TYPE II	EACH	5.000	5.000
0480	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	5.000	5.000
0490	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000

DATE 17MAR14		E S T I M A T E O F Q U A N T I T I E S				
LINE					7849-03-71	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	
0500	643.0100	TRAFFIC CONTROL (PROJECT) 01. 7849-03-71	EACH	1.000	1.000	
0510	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	1,120.000	1,120.000	
0520	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	1,960.000	1,960.000	
0530	643.0900	TRAFFIC CONTROL SIGNS	DAY	910.000	910.000	
0540	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 7849-03-71	EACH	1.000	1.000	
0550	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	8,960.000	8,960.000	
0560	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	530.000	530.000	
0570	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	1,900.000	1,900.000	
0580	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	494.000	494.000	
0590	650.5000	CONSTRUCTION STAKING BASE	LF	494.000	494.000	
0600	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-10-222	LS	1.000	1.000	
0610	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 7849-03-71	LS	1.000	1.000	
0620	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	494.000	494.000	
0630	690.0150	SAWING ASPHALT	LF	60.000	60.000	
0640	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	2,232.000	2,232.000	
0650	ASP.1TOA	ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	HRS	1,200.000	1,200.000	
0660	ASP.1TOG	ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	300.000	300.000	

CLEARING AND GRUBBING

STATION TO STATION			LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
8+00	-	10+00	CTH H	2	2
TOTAL				2	2

EARTHWORK SUMMARY

FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION CUT (1)	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL (2)	UNEXPANDED FILL	EXPANDED FILL (FACTOR 1.25)	MASS ORDINATE +/- (3)	208.0100 BORROW
7+00 - 13+00	CTH H	1,016	293	723	1254	1568	-530	530
TOTAL COMMON EX		1,016	TOTAL BORROW			530		

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

BASE AGGREGATE DENSE

STATION TO STATION			LOCATION	305.0110 BASE AGGREGATE DENSE 3/4 INCH TON	305.0120 BASE AGGREGATE DENSE 1-1/4 INCH TON
7+00	-	9+47	CTH H	100	830
10+53	-	13+00	CTH H	100	830
TOTAL				200	1,660

ASPHALT SUMMARY

STATION TO STATION			LOCATION	455.0105 ASPHALTIC MATERIAL PG58-28 TON	455.0605 TACK COAT GAL	460.1101 HMA PAVEMENT TYPE E-1 TON
7+00	-	9+47	CTH H	17	25	275
10+53	-	13+00	CTH H	17	25	275
TOTAL				34	50	550

BEAMGUARD SUMMARY

STATION TO STATION			LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
8+30	-	9+47	CTH H, LT	25	39.4	1
7+80	-	9+47	CTH H, RT	75	39.4	1
10+53	-	12+20	CTH H, LT	75	39.4	1
10+53	-	11+70	CTH H, RT	25	39.4	1
TOTAL				200	158	4

MOBILIZATION

CATEGORY	STATION TO STATION	LOCATION	619.1000 MOBILIZATION EACH
0010	PROJECT	CTH H	0.29
0020	PROJECT	CTH H	0.71
TOTAL			1.00

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

LANDSCAPING ITEMS

				625.0500 SALVAGED TOPSOIL	628.2004 EROSION MAT CLASS I TYPE B	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB
STATION	TO	STATION	LOCATION	SY	SY	SY	CWT	LB	LB
7+00	-	9+75	CTH H, RT	300	200	100	0.2	8	8
7+00	-	9+75	CTH H, LT	330	200	130	0.2	9	9
10+25	-	13+00	CTH H, RT	520	420	100	0.3	14	14
10+25	-	13+00	CTH H, LT	620	500	120	0.4	17	17
BORROW SITE				330	80	250	0.4	7	7
TOTAL				2,100	1,400	700	1.5	55	55

SILT FENCE

			628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
STATION	TO	STATION	LOCATION	LF
10+50	-	13+00	CTH H, RT	260
10+50	-	13+00	CTH H, LT	270
BORROW SITE			-	220
TOTAL				750
				1,500

TURBIDITY BARRIER

STATION	LOCATION	628.6005 TURBIDITY BARRIER SY
9+75	CTH H	120
10+25	CTH H	120
TOTAL		240

EROSION CONTROL SUMMARY

			628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7504 TEMPORARY DITCH CHECKS LF
STATION	TO	STATION	LOCATION	EACH	LF
7+10	-	9+30	CTH H, RT	-	40
7+10	-	9+30	CTH H, LT	-	40
UNDISTRIBUTED				3	20
TOTAL				3	2
					100

MARKERS ROW

NO.	STATION	LOCATION	633.5100 EACH
202	11+07.51	57.00' LT	1
203	13+00.00	57.00' LT	1
204	13+00.00	40.00' LT	1
207	10+35.00	57.00' LT	1
208	10+35.00	45.00' LT	1
TOTAL			5

SIGNING

STATION	LOCATION	634.0614 POSTS WOOD 4x6-INCH x 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	COMMENTS
9+45	CTH H, LT	1	3	-	-	W5-52L
9+45	CTH H, RT	1	3	-	-	W5-52R
9+60	CTH H, LT & RT	-	-	2	2	
10+40	CTH H, LT & RT	-	-	2	2	
10+55	CTH H, LT	1	3	-	-	W5-52R
10+55	CTH H, RT	1	3	-	-	W5-52L
11+70	CTH H, RT	1	6	1	1	W14-3
TOTAL		5	18	5	5	

PAVEMENT MARKING

STATION	TO	STATION	LOCATION	646.0106 EPOXY 4-INCH LF	REMARKS
7+00	-	13+00	CTH H	1,200	WHITE EDGE LINES
7+00	-	13+00	CTH H	600	YELLOW
7+00	-	13+00	CTH H	100	YELLOW SKIPS
TOTAL				1,900	

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

TRAFFIC CONTROL ITEMS

	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAYS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	643.0900 TRAFFIC CONTROL SIGNS DAYS	643.3000 TRAFFIC CONTROL DETOUR SIGNS DAYS
LOCATION				
DETAIL A	140	280	70	2,240
DETAIL B	-	-	-	2,240
DETAIL C	-	-	-	2,240
DETAIL D	140	280	70	2,240
DETAIL E	840	1,400	770	0
TOTAL	1,120	1,960	910	8,960

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.6500 STRUCTURE LAYOUT (STRUCTURE) LS	650.9920 SLOPE STAKES LF
0010	7+00	-	9+47	CTH H	247	247	-	247
0020		10+00		B-10-222	-	-	1	-
0010	10+53	-	13+00	CTH H	247	247	-	247
TOTAL					494	494	1	494

SAWING ASPHALT

STATION	LOCATION	690.0150 SAWING ASPHALT LF
7+00	CTH H	30
13+00	CTH H	30
TOTAL		60

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

PROJECT ID: 7849-03-71
WITH: PROJECT12

COUNTY: CLARK

CONVENTIONAL ABBREVIATIONS			
ACCESS POINT/ DRIVEWAY CONNECTION	AP	REFERENCE LINE	R/L
ACCESS RIGHTS	AR	RELEASE OF RIGHTS	ROR
ACRES	AC.	REMAINING	REM.
AND OTHERS	ET. AL.	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC.
CERTIFIED SURVEY MAP	CSM	STATION	STA.
CORNER	COR.	TEMPORARY LIMITED EASEMENT	TLE
DOCUMENT	DOC.	VOLUME	V.
EASEMENT	EASE.	CURVE DATA	
HIGHWAY EASEMENT	H.E.	LONG CHORD	LCH
LAND CONTRACT	LC	LONG CHORD BEARING	LCB
MONUMENT	MON.	RADIUS	R
PAGE	P.	DEGREE OF CURVE	D
PERMANENT LIMITED EASEMENT	P.L.E.	CENTRAL ANGLE OR DELTA	DELTA
PROPERTY LINE	PL	LENGTH OF CURVE	L
RECORDED AS	(100)	TANGENT	TAN
CONVENTIONAL SYMBOLS			
FOUND IRON PIPE/PIN	IP	PROPOSED R/W LINE	---
R/W MONUMENT	○ (SET)	EXISTING H.E. LINE	---
R/W POINT NOT MONUMENTED	○	PROPERTY LINE	---
R/W STANDARD	△ (SET)	LOT & TIE LINES	---
SIGN	ISIGN	SLOPE INTERCEPTS	---
SECTION CORNER MONUMENT	○	CORPORATE LIMITS	---
SECTION CORNER SYMBOL	○	NO ACCESS	---
		(BY PREVIOUS ACQUISITION/CONTROL)	---
		NO ACCESS	---
		(BY ACQUISITION)	---
FEE (HATCH VARIES)	---	NO ACCESS	---
TEMPORARY LIMITED EASEMENT	---	(BY STATUTORY AUTHORITY)	---
PERMANENT LIMITED EASEMENT	---	SECTION LINE	---
R/W POINT	---	QUARTER LINE	---
PARCEL NUMBER	---	SIXTEENTH LINE	---
UTILITY PARCEL NUMBER	---	EXISTING CENTERLINE	---
SIGN NUMBER (OFF PREMISE)	---	PROPOSED REFERENCE LINE	---
BUILDING	---	PARALLEL OFFSET	---
CONVENTIONAL UTILITY SYMBOLS			
WATER	---	NON	---
GAS	---	COMPENSABLE	---
TELEPHONE	---	POLE	---
OVERHEAD	---	TELEPHONE POLE	---
TRANSMISSION LINES	---	TELEPHONE PEDESTAL	---
ELECTRIC	---	ELECTRIC TOWER	---
CABLE TELEVISION	---		
FIBER OPTIC	---		
SANITARY SEWER	---		
STORM SEWER	---		

NOTES

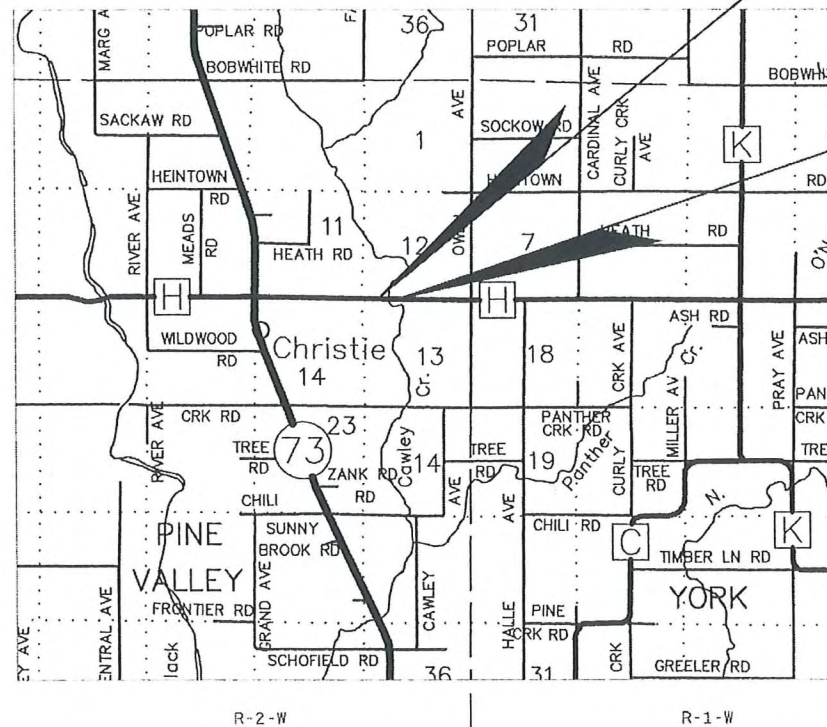
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, CLARK COUNTY, NAD83 (2011) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE 3/4" X 24" REBAR AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

T-26-N

T-25-N



LAYOUT
SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.114

BEGIN RELOCATION ORDER

PROJECT 7849-03-00

STA 7+00.00

4.84' S AND 925.45' E FROM
SW COR SEC 12, T-25-N, R-2-W
Y = 384,456.064
X = 690,816.608

END RELOCATION ORDER

PROJECT 7849-03-00

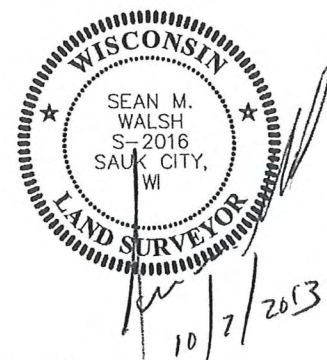
STA 13+00.00

14.16' S AND 1,525.38' E FROM
SW COR SEC 12, T-25-N, R-2-W
Y = 384,446.741
X = 691,416.536

GN



Mead & Hunt



SEAN M. WALSH
S-2016

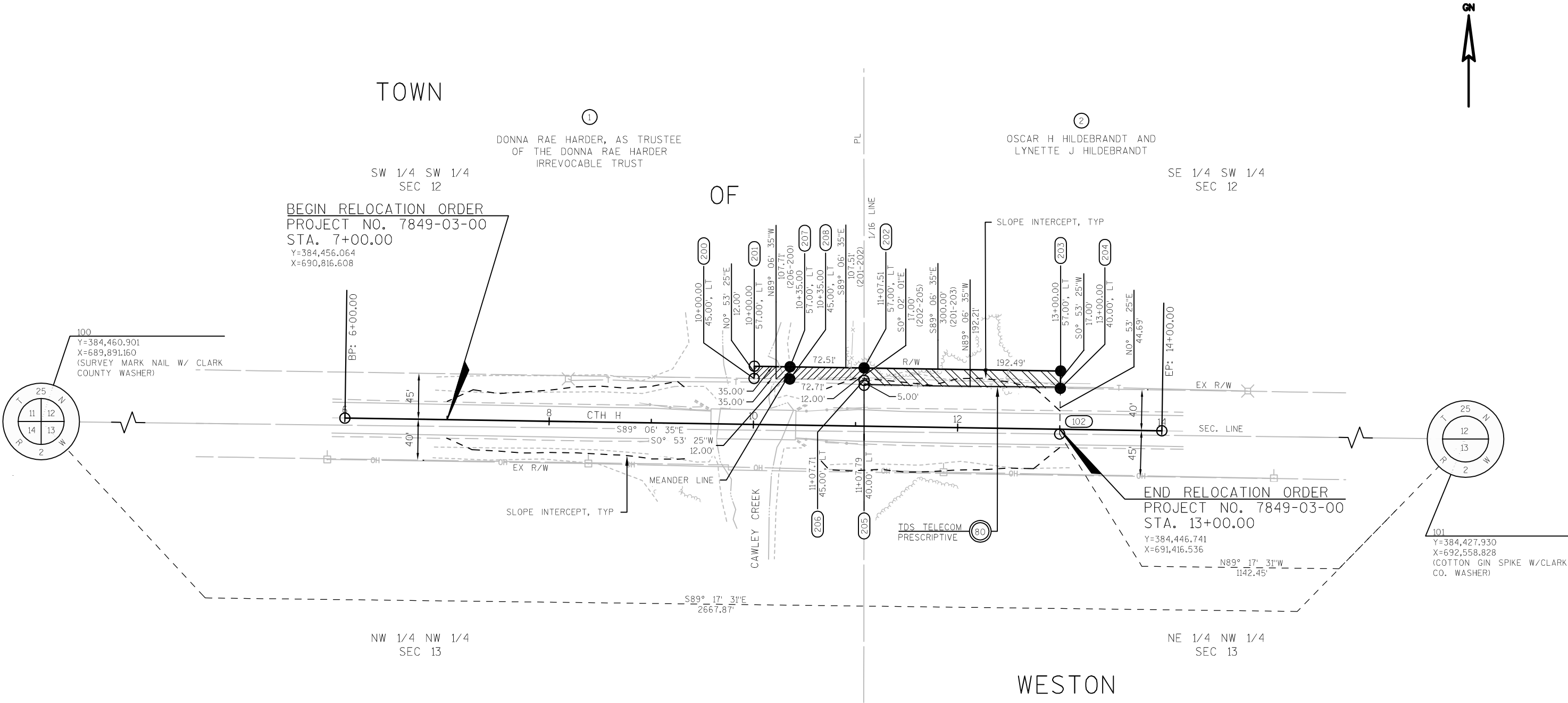
STATE OF WISCONSIN
CLARK COUNTY

APPROVED FOR CLARK COUNTY
DATE: 11/5/13 *Randy D. Anderson*
(Signature)

REVISION DATE	

4

4



SCHEDULE OF LANDS & INTERESTS REQUIRED

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

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	EX R/W ACRES REQUIRED		
			NEW	EXISTING	TOTAL
01	DONNA RAE HARDER, AS TRUSTEE OF THE DONNA RAE HARDER IRREVOCABLE TRUST	FEE	0.03	0.00	0.03
02	OSCAR H. HILDEBRANDT AND LYNETTE J. HILDEBRANDT	FEE	0.08	0.00	0.08

BASIS OF EXISTING R/W:
R/W PLAT S 040(9)
PARCEL 1: VOL. 209 PG. 138
PARCEL 2: VOL. 209 PG. 141

SCHEDULE OF UTILITY INTERESTS REQUIRED

UTILITY NUMBER	OWNER(S)	INTEREST REQUIRED
80	TDS TELECOM	RELEASE OF RIGHTS

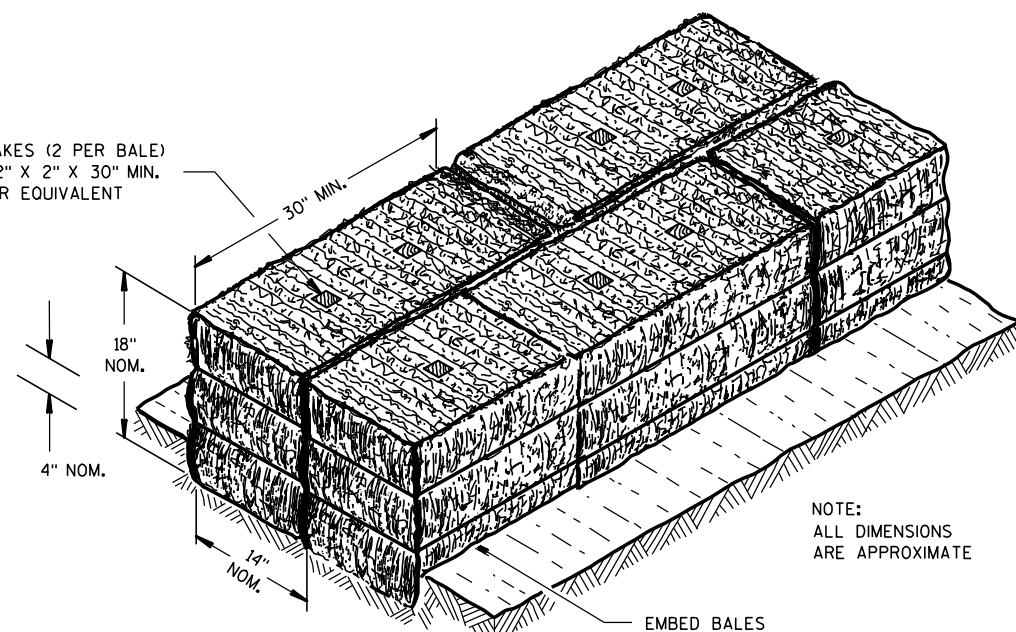
Point Number	Y	X
102	384,442.049	691,416.463
200	384,496.397	691,117.271
201	384,508.396	691,117.457
202	384,506.725	691,224.957
203	384,503.734	691,417.421
204	384,486.736	691,417.157
205	384,489.723	691,224.967
206	384,494.567	691,224.964
207	384,507.852	691,152.453
208	384,495.853	691,152.267

REVISION DATE ----- ----- ----- -----	DATE 10/7/2013	SCALE, FEET 0 50' 100'	HWY: CTH H	STATE R/W PROJECT NUMBER 7849-03-00	PLAT SHEET 4.02
	GRID FACTOR -----		COUNTY: CLARK	CONSTRUCTION PROJECT NUMBER 7849-03-71	PS&E SHEET -----

Standard Detail Drawing List

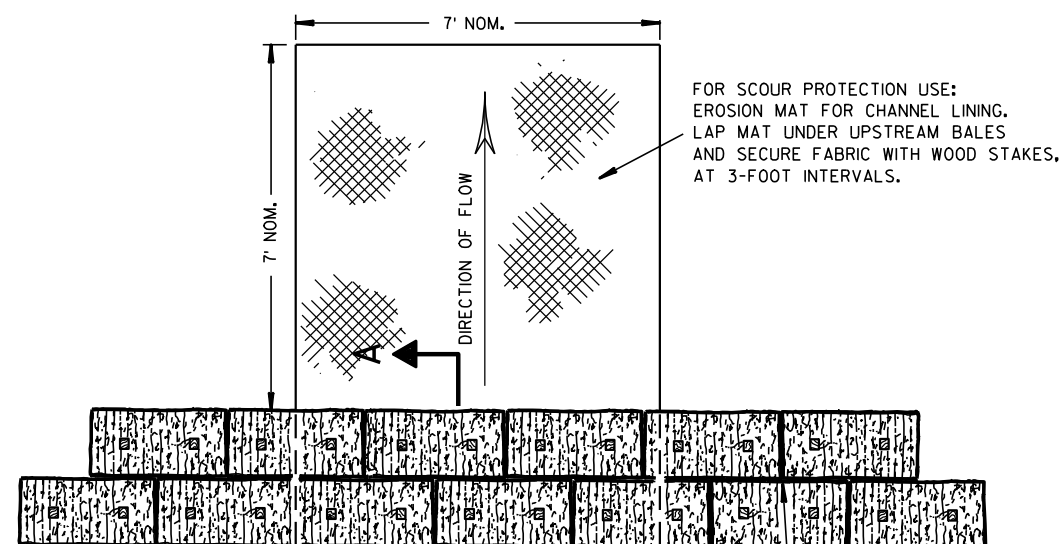
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A01-11	MARKER POST FOR RIGHT-OF-WAY
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C06-06	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)

WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

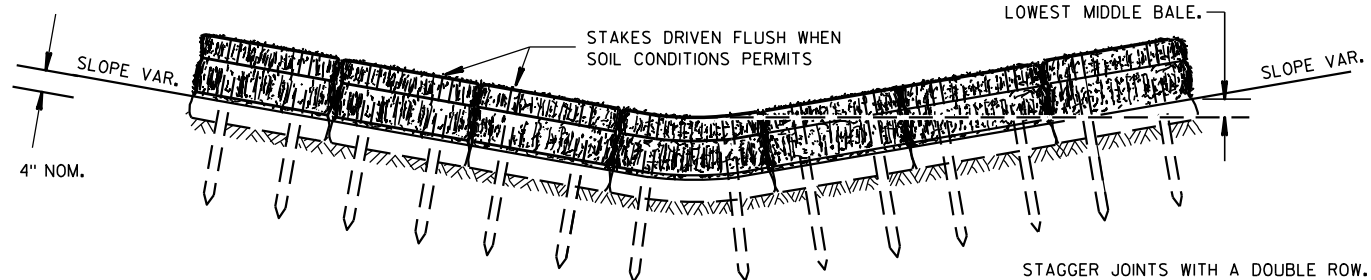
SECTION A-A



PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

BOTTOM ELEVATION OF END BALE SHALL
BE EQUAL TO OR GREATER THAN TOP OF
LOWEST MIDDLE BALE.



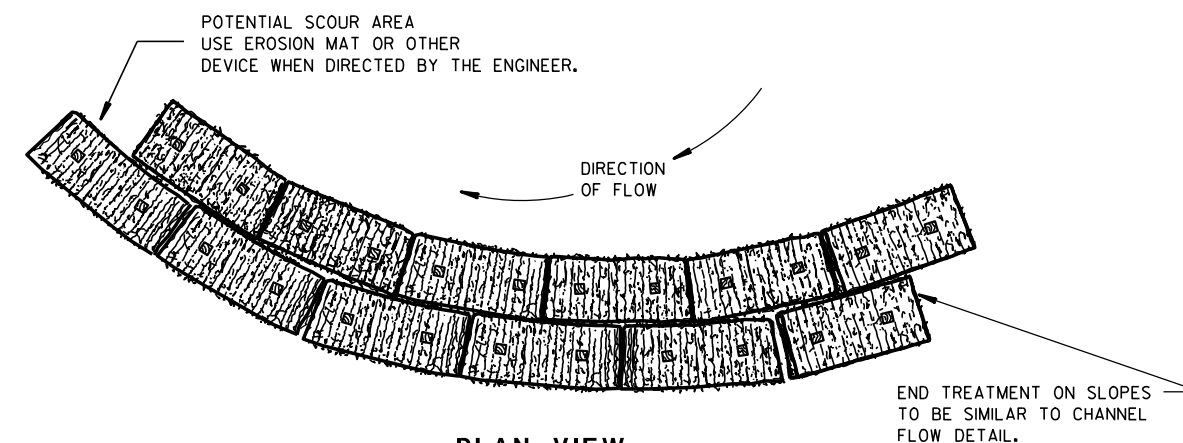
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

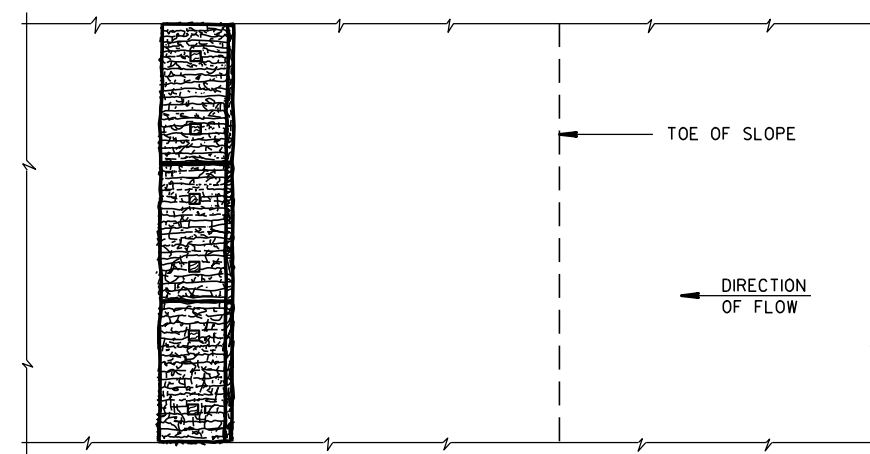
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

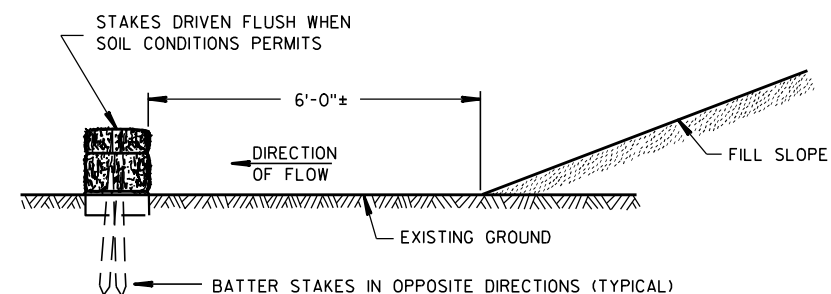


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

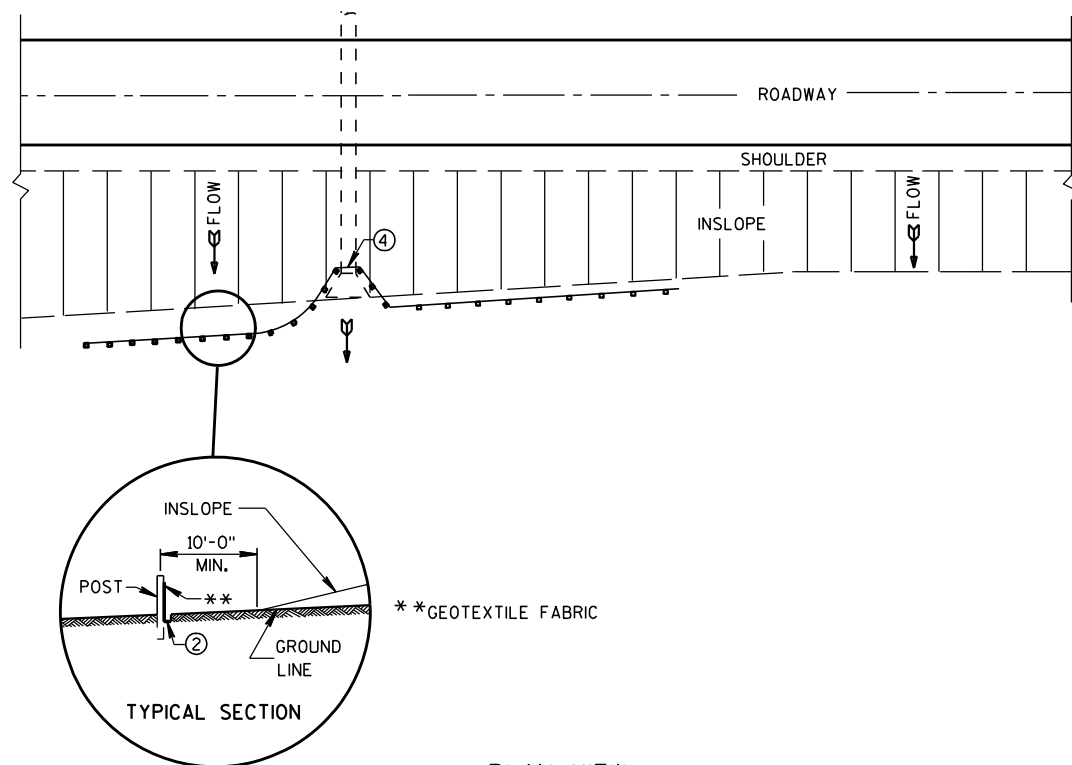
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

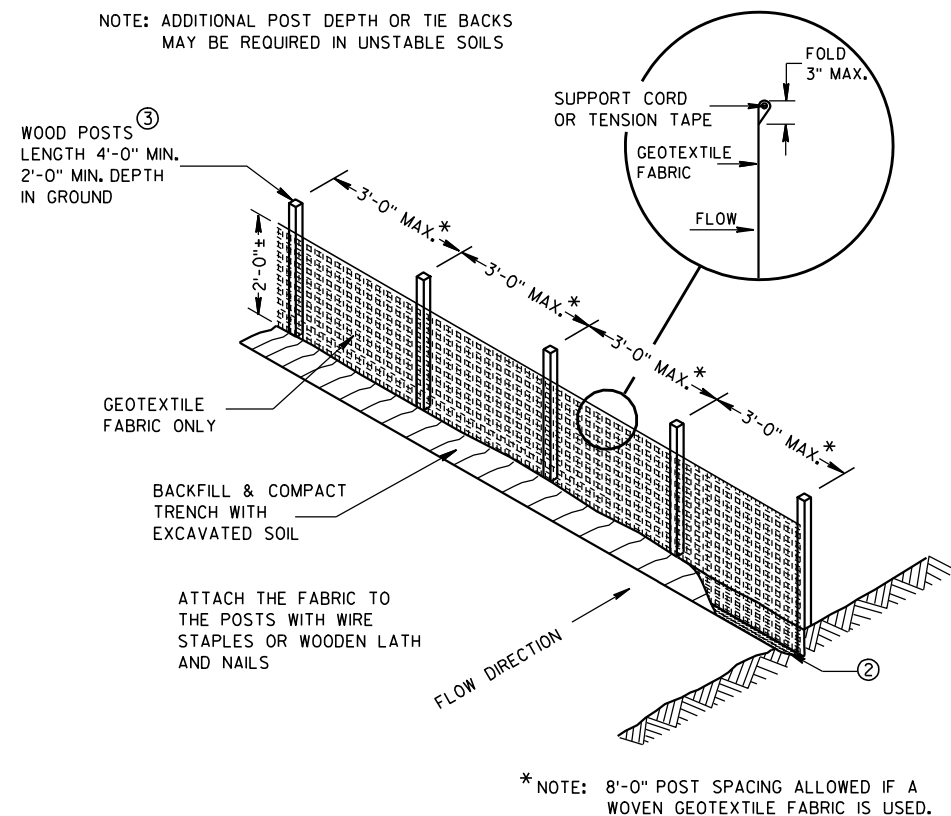
FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

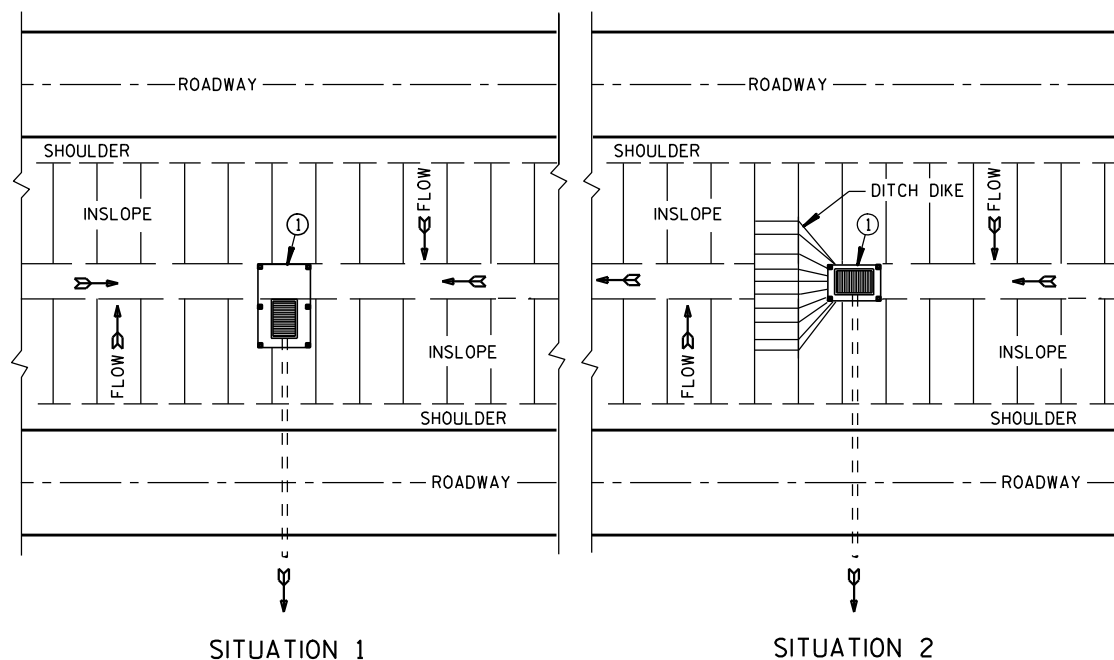


TYPICAL APPLICATION OF SILT FENCE

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

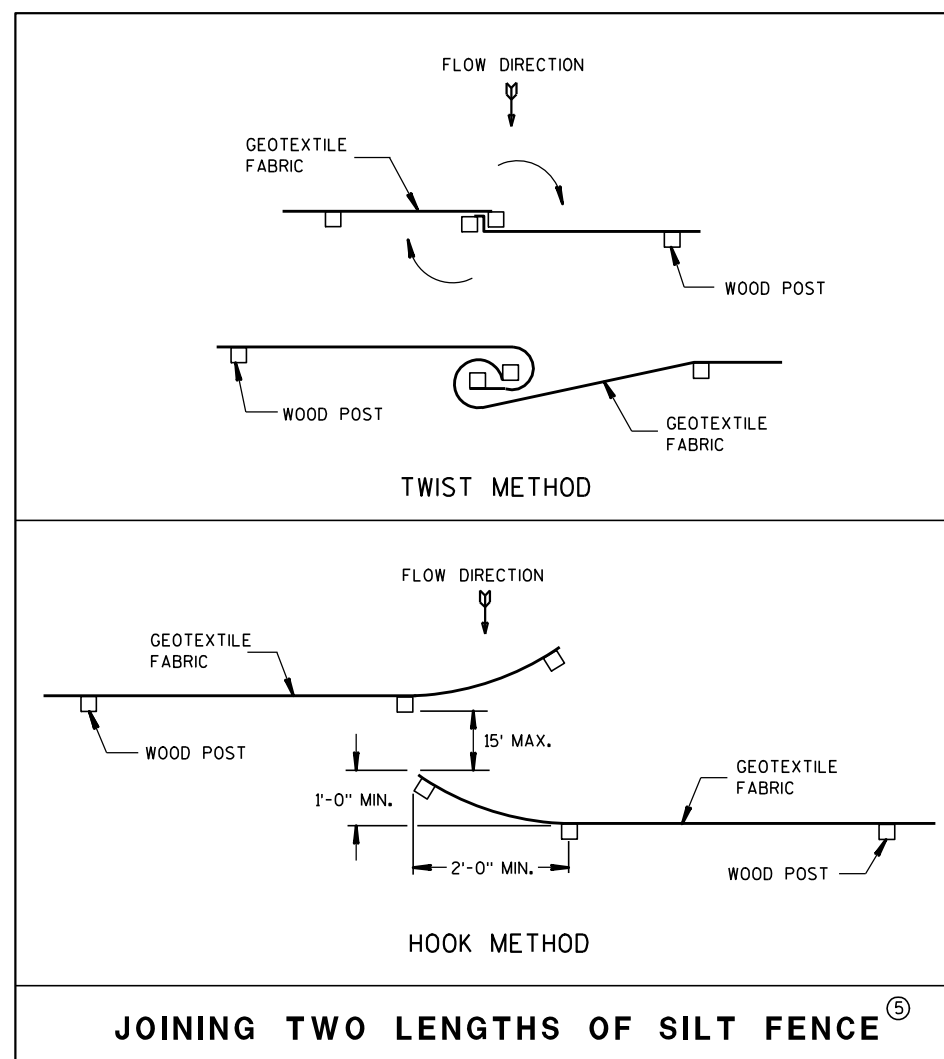


SILT FENCE



PLAN VIEW

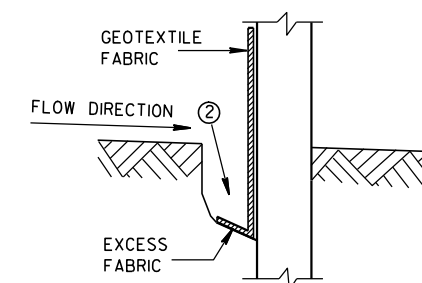
SILT FENCE AT MEDIAN SURFACE DRAINS



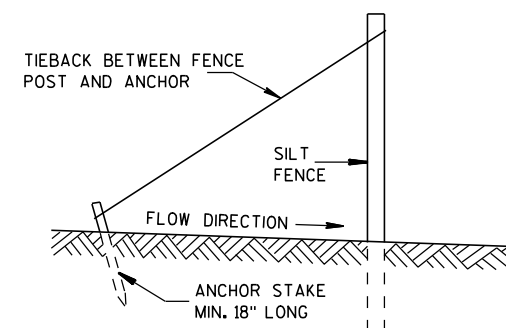
GENERAL NOTES

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 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

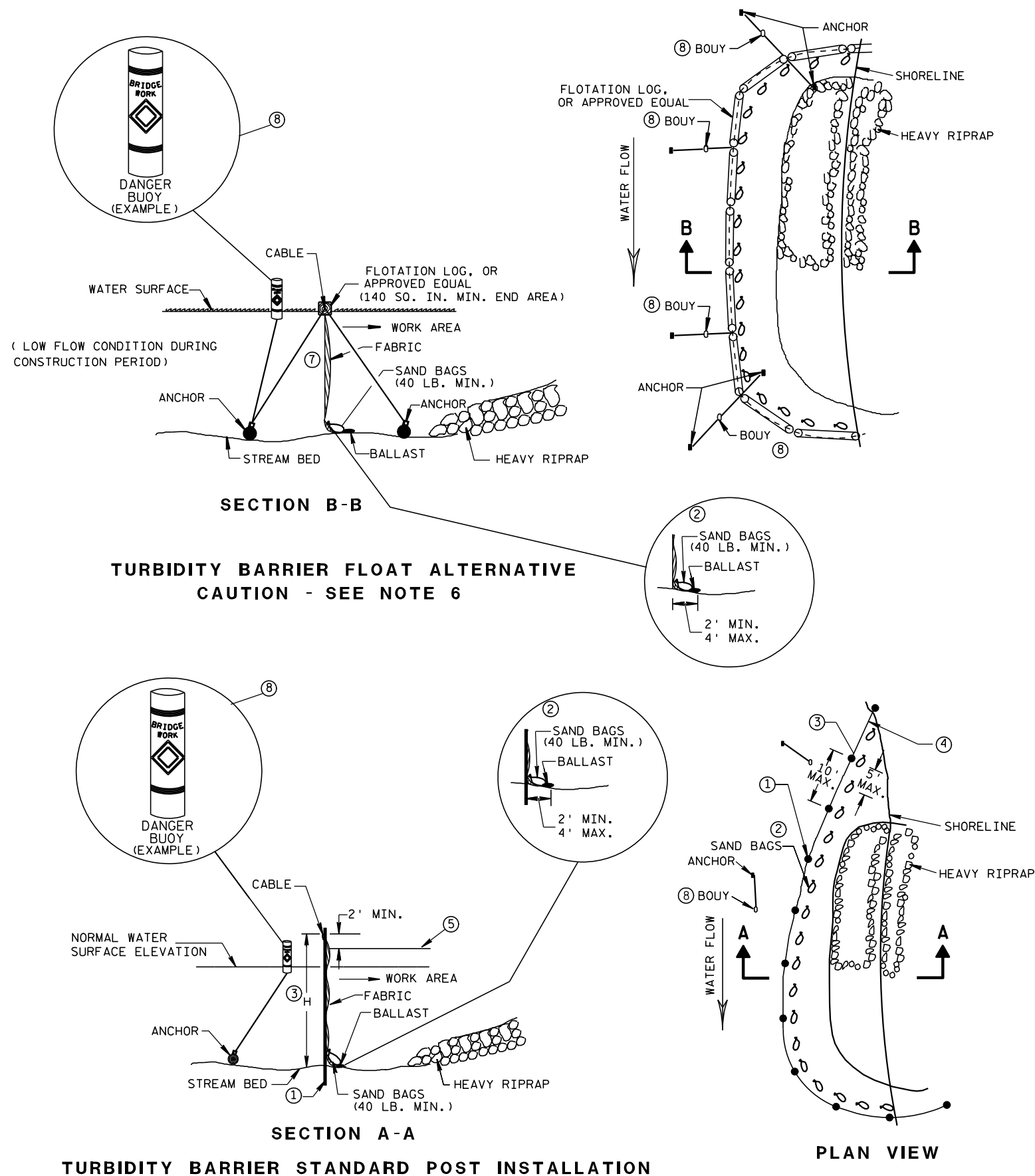
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-29-05
DATE

FHWA

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

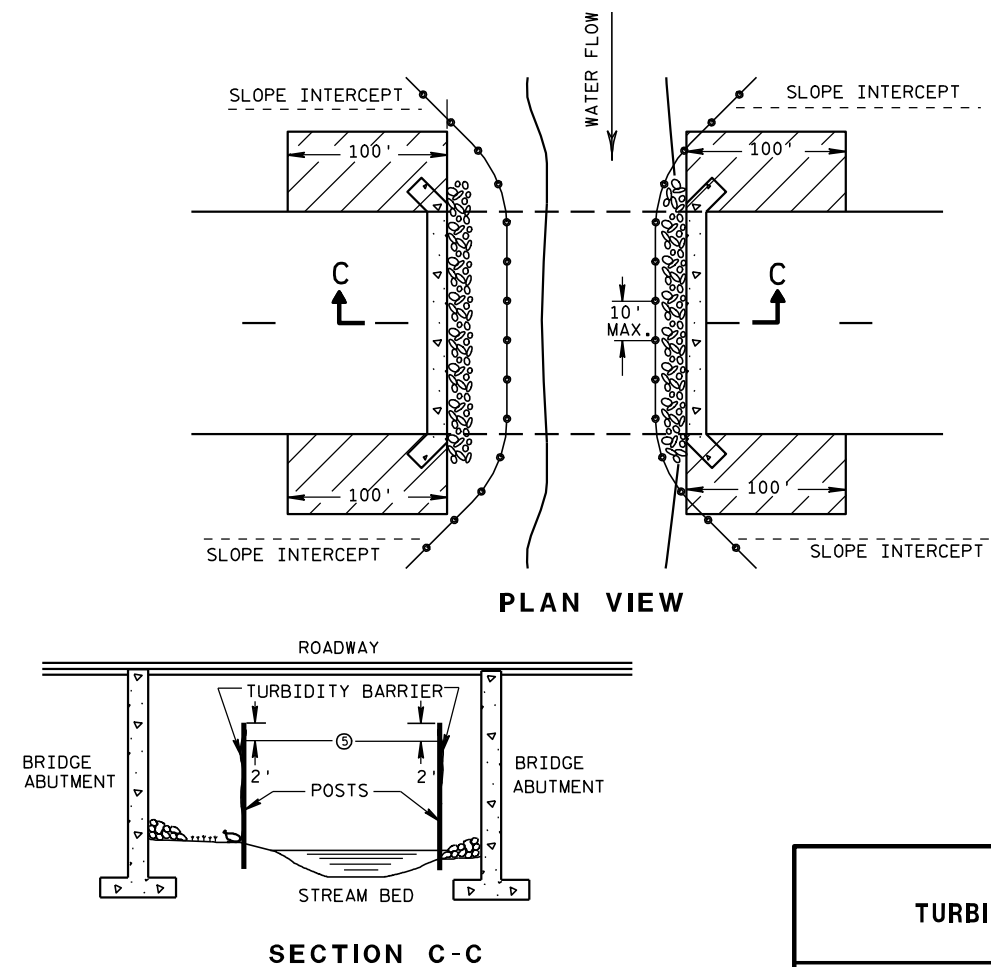


GENERAL NOTES

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

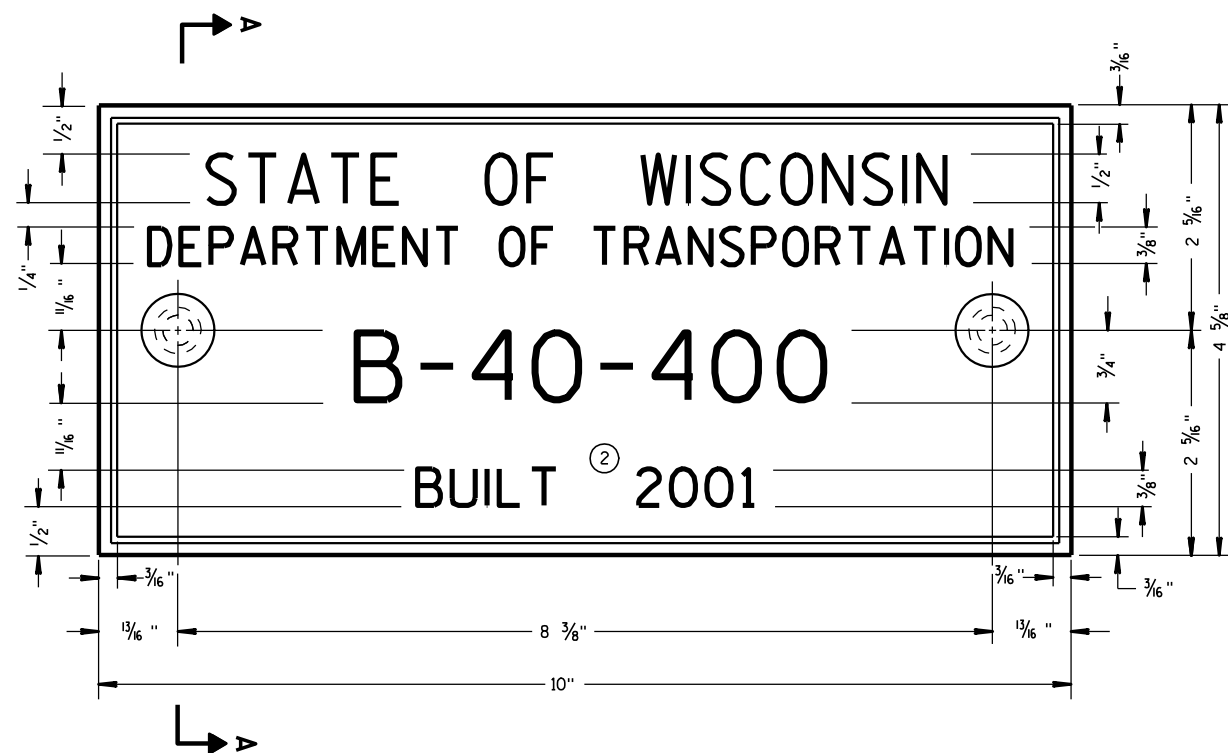
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

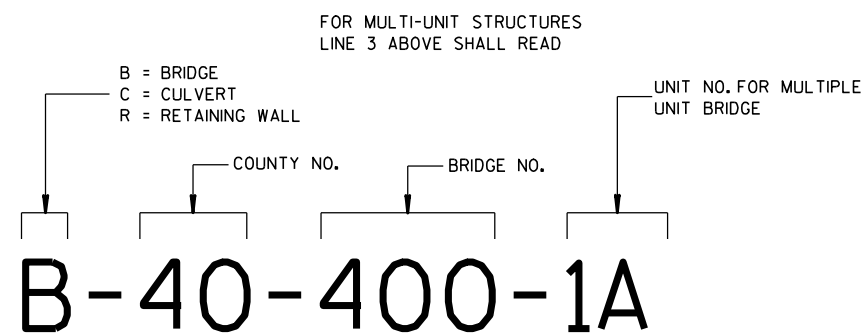
6/04/02
DATE

FWHA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



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



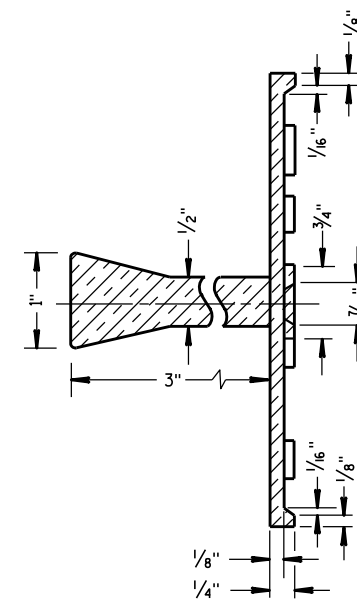
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

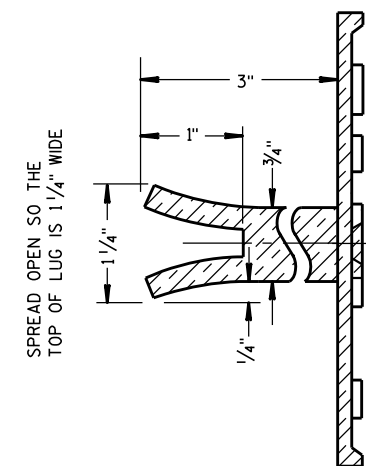
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

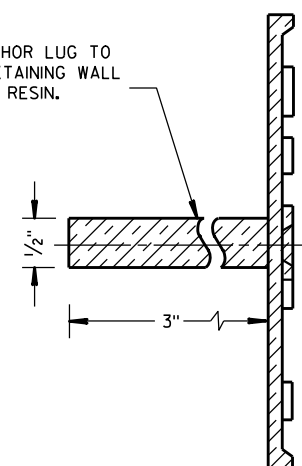


SECTION A-A



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

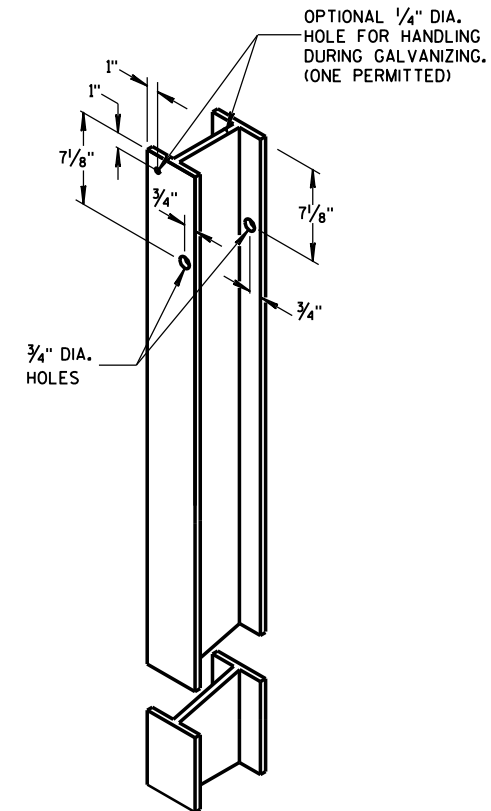
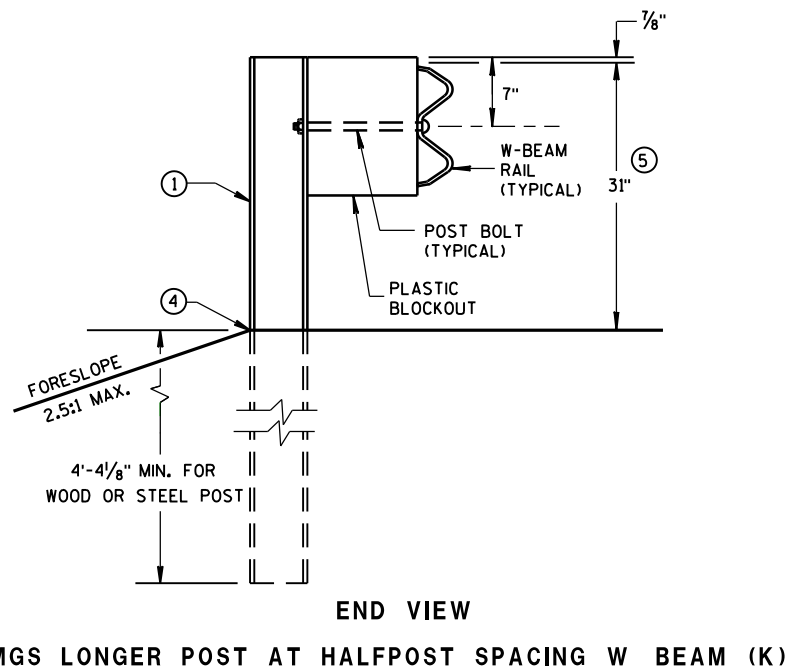
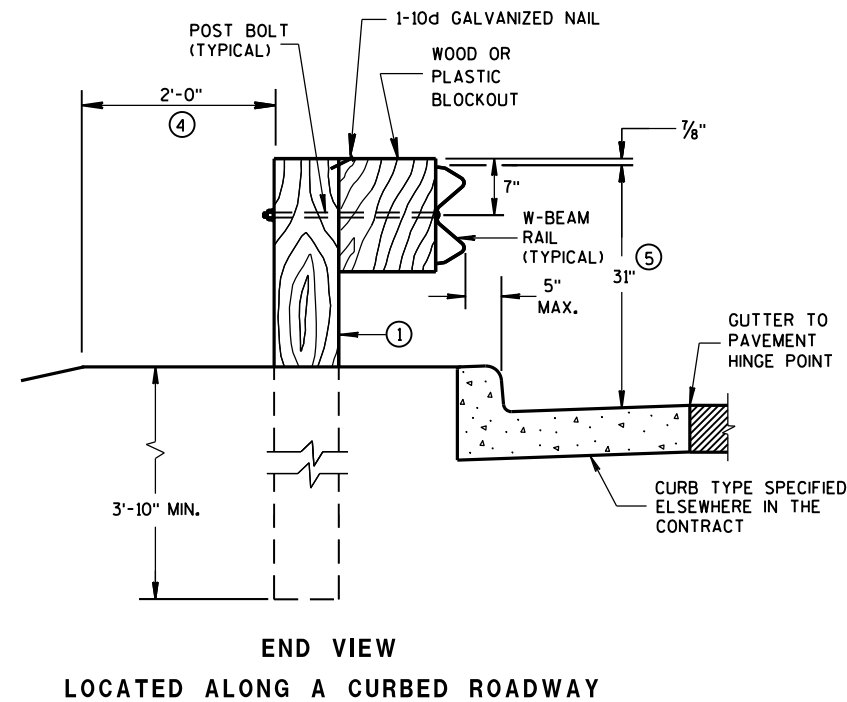
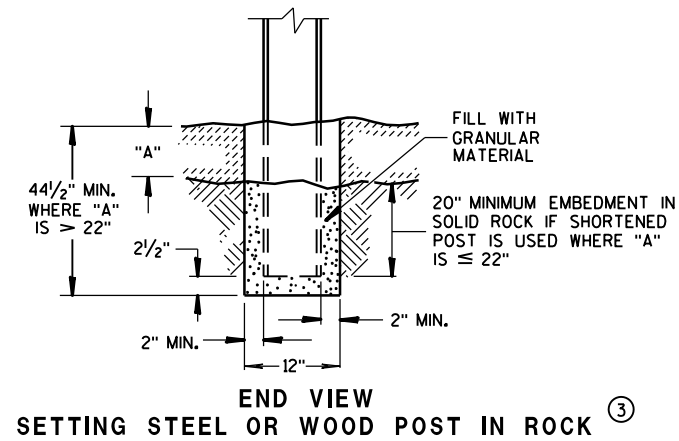
3/26/10
DATE

FHWA

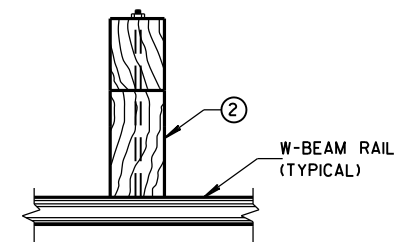
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER

S.D.D. 14 B 42-2a

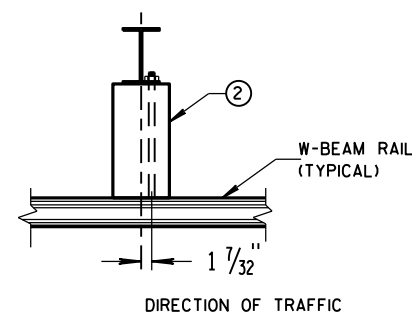
- S.D.D. 14 B 42-2a**



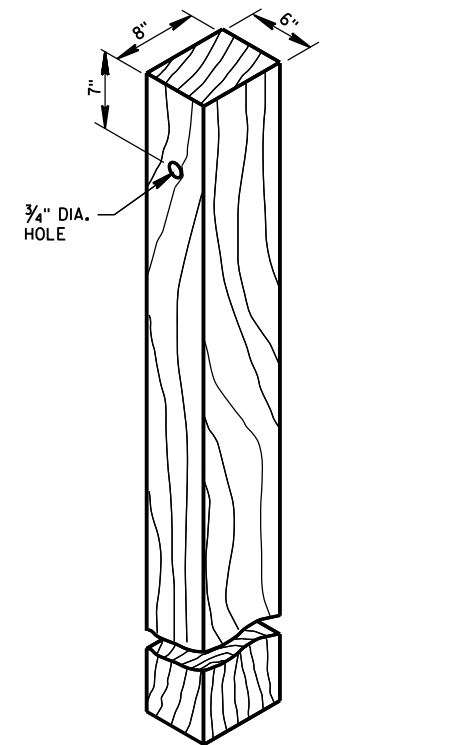
**STEEL POST &
HOLE PUNCHING DETAIL
(w6X9)^①**



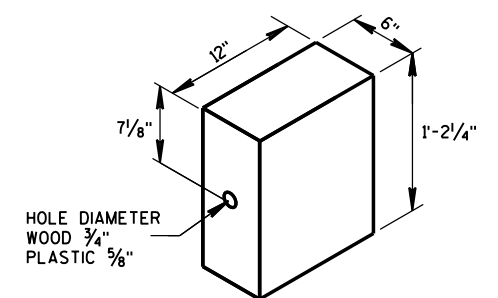
**PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM**



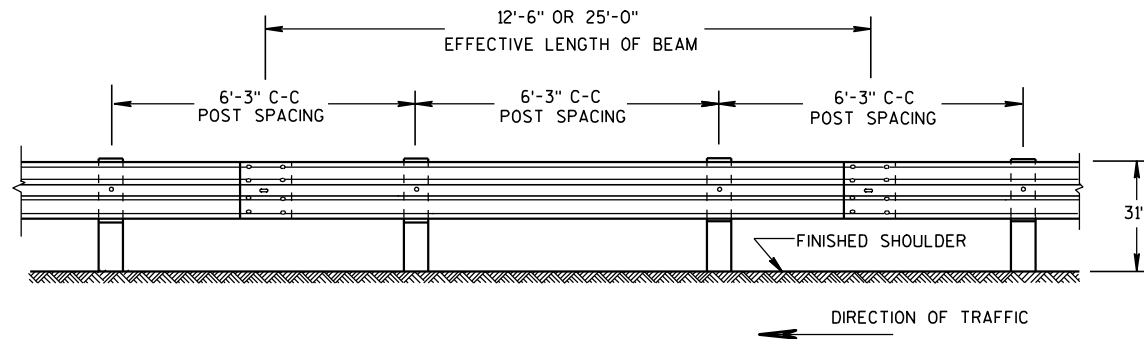
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM



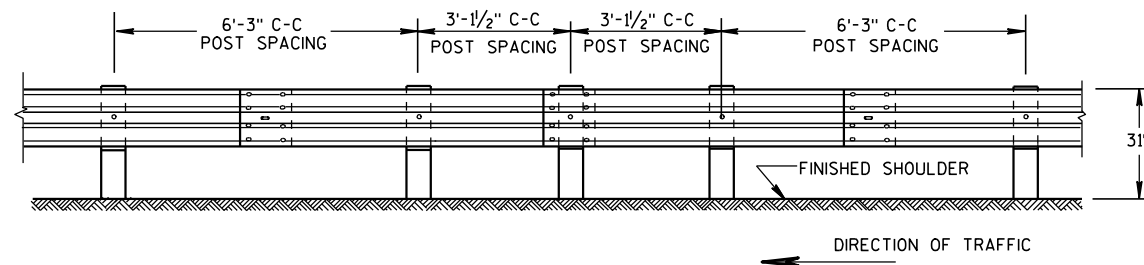
**WOOD POST
(6" X 8") NOMINAL** ^①



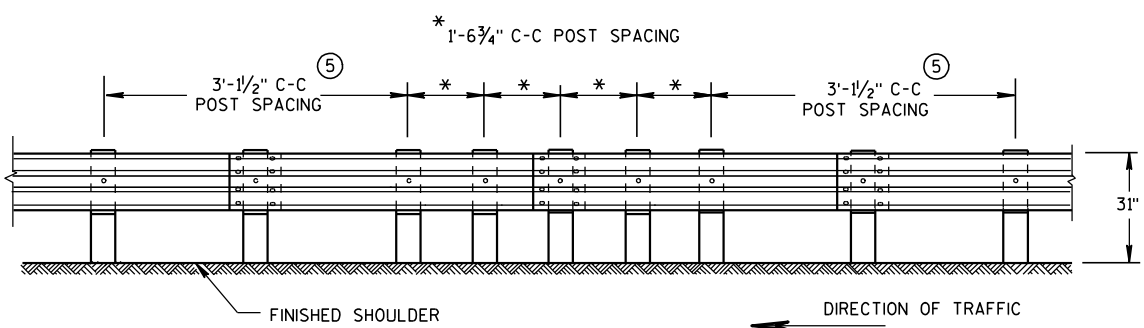
**WOOD OR
PLASTIC BLOCKOUT** ②



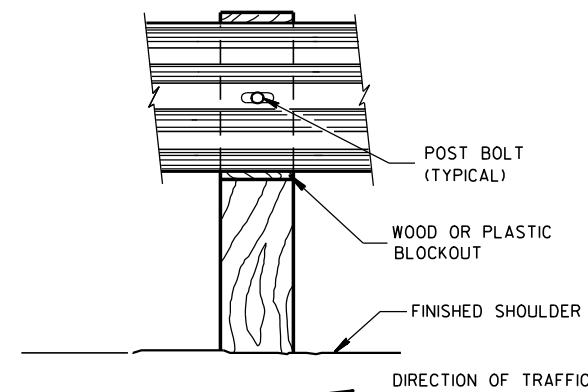
FRONT VIEW
POST SPACING STANDARD INSTALLATION



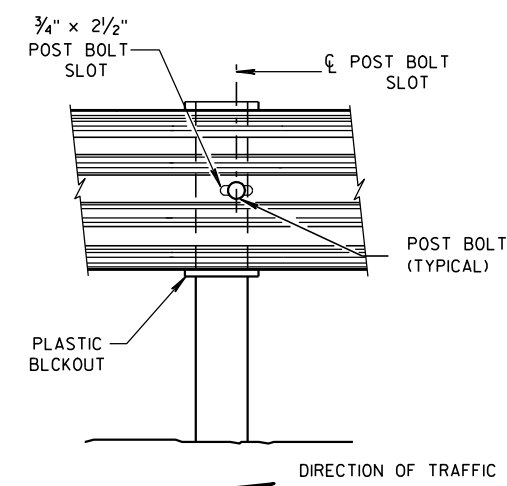
FRONT VIEW
**HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



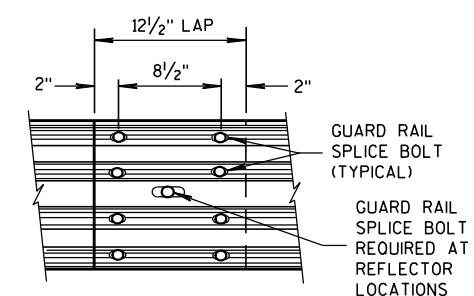
FRONT VIEW
QUARTER POST SPACING (QS)



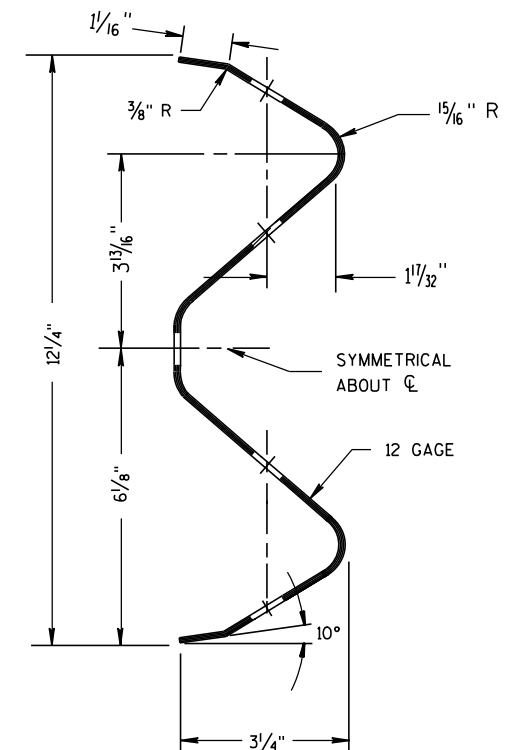
FRONT VIEW AT WOOD POST



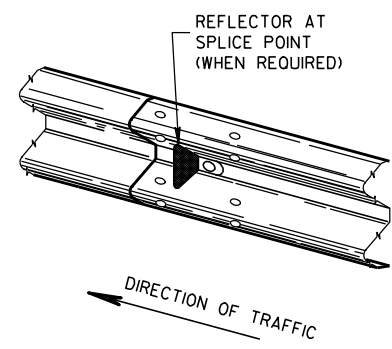
FRONT VIEW AT STEEL POST



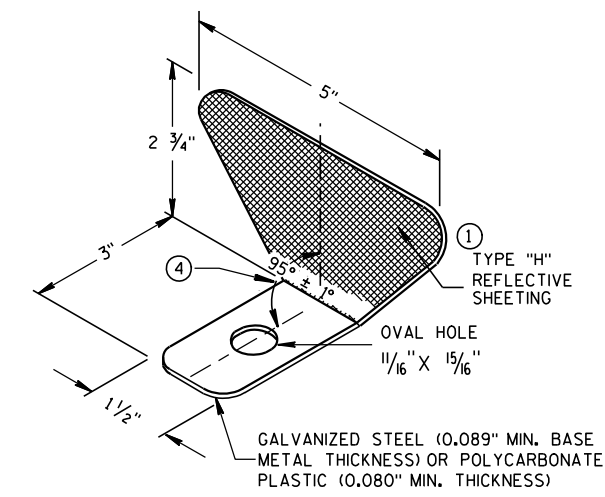
**FRONT VIEW
MID-SPAN BEAM SPLICE**



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION



GENERAL NOTES

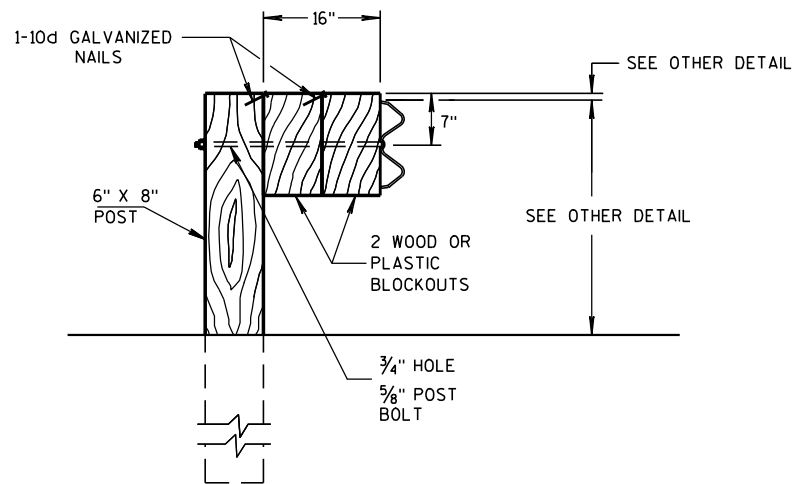
- ① PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
 - ② DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
 - ③ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
 - ④ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
 - ⑤ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ③	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ④	3
	> 200'	100' C-C	2	

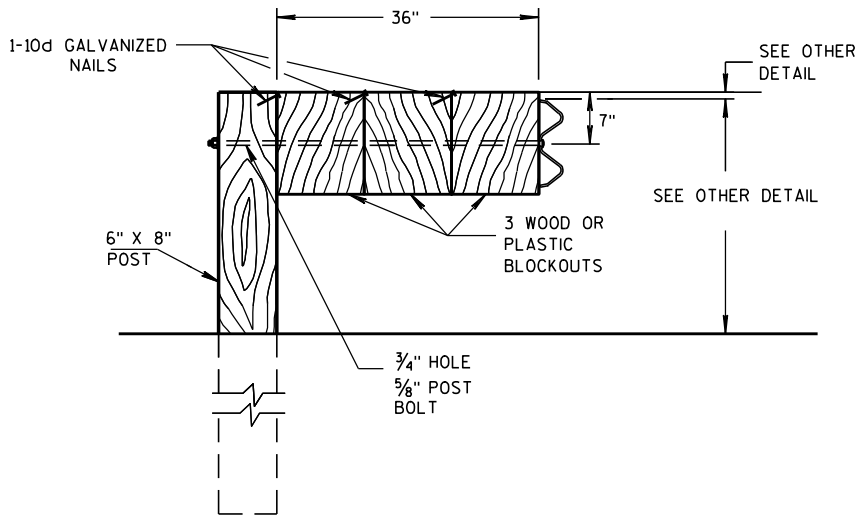
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

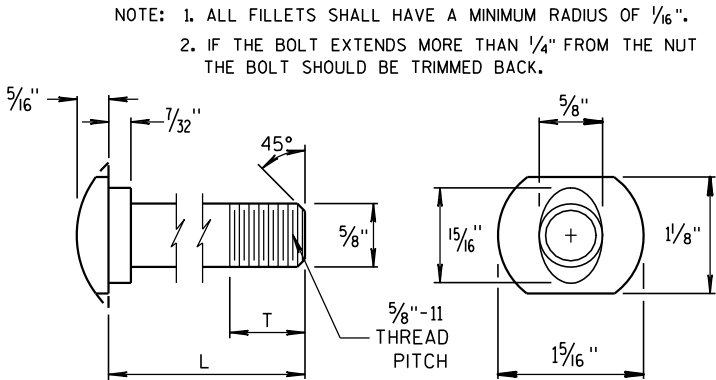
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



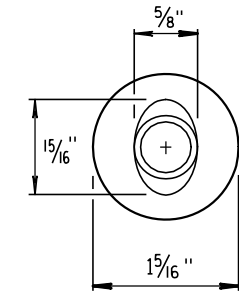
DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

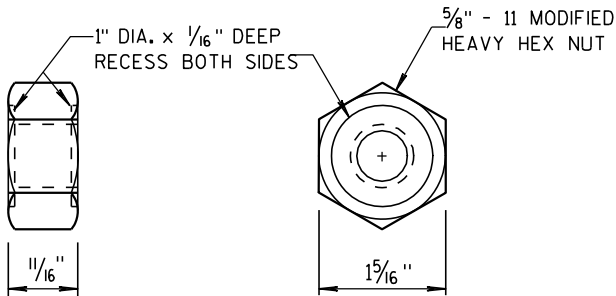
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



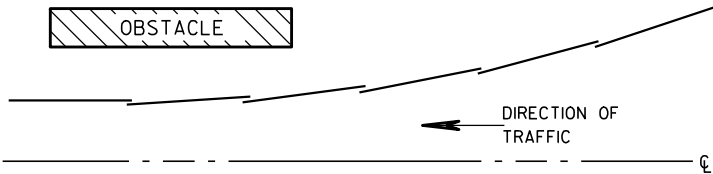
POST BOLT TABLE



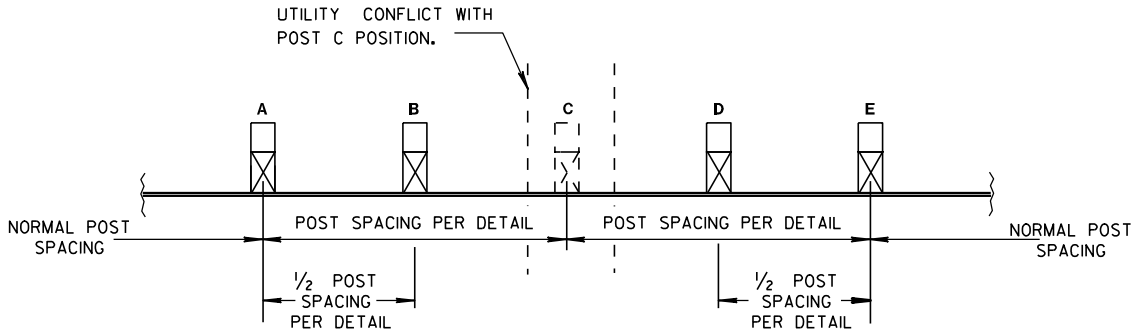
ALTERNATE BOLT HEAD



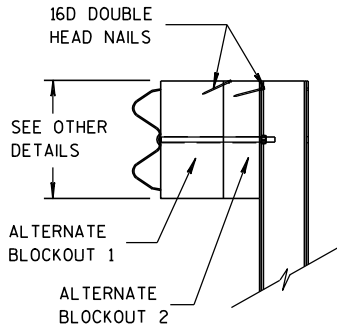
POST BOLT AND RECESS NUT



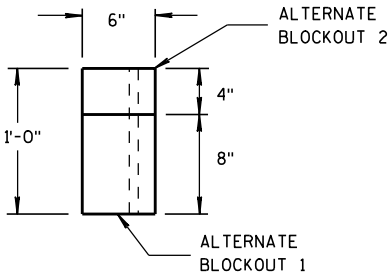
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/15/2011
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

6

- S.D.D. 14 B 44-1a**

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3
THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (+ 3/4")



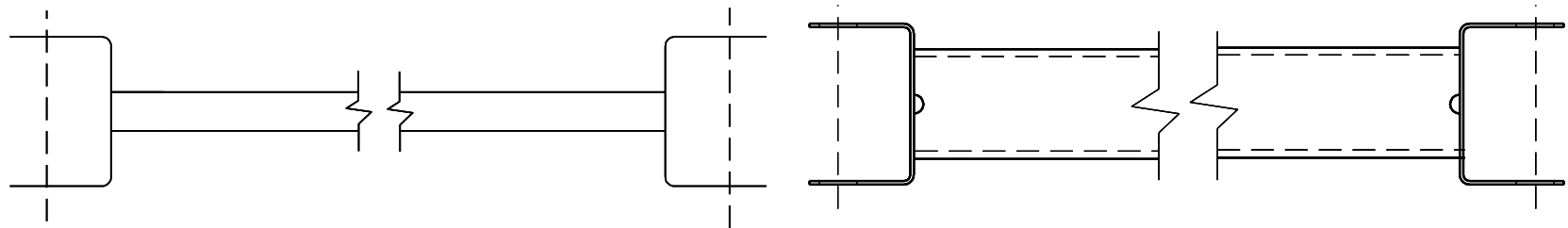
SECTION A-A

TYPICAL AT POST NO. 1*

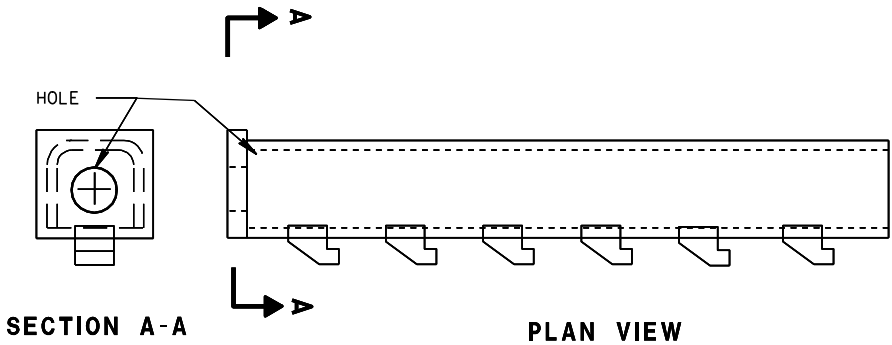
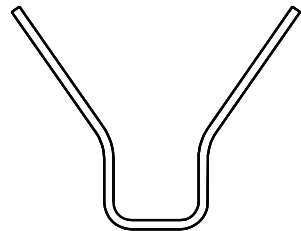
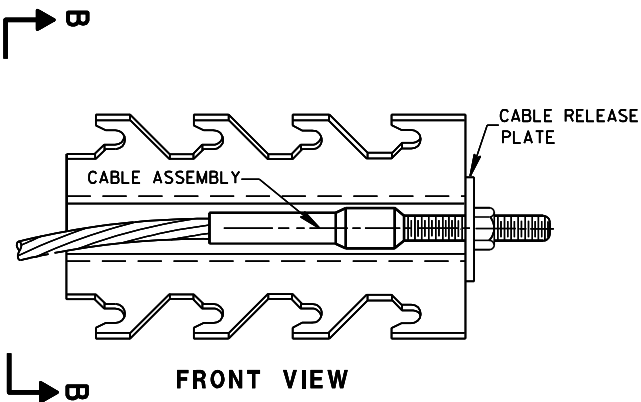


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

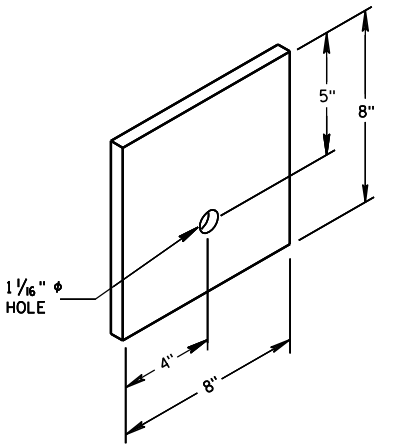
BILL OF MATERIALS	
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL, MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	END SECTION EAT
⑬	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



⑨ ⑨
GENERIC GROUND STRUT



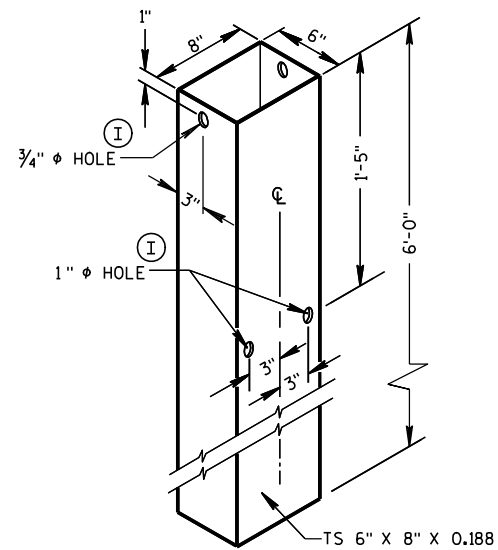
⑧ ⑧
GENERIC ANCHOR CABLE BOX



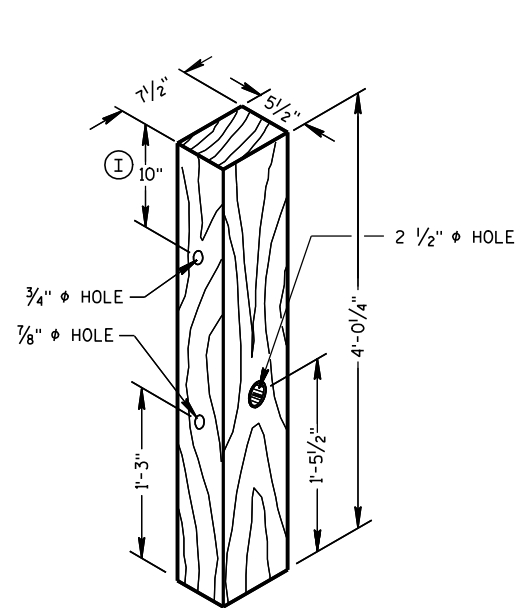
⑥
BEARING PLATE

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

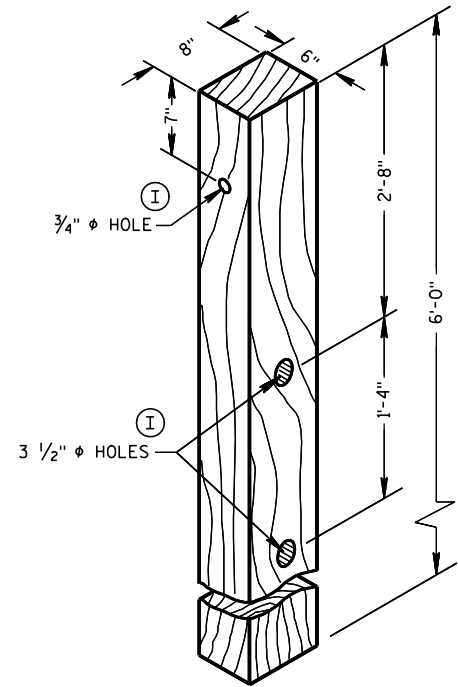
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



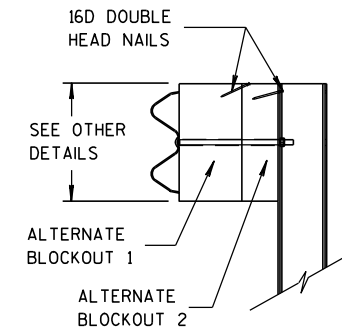
FOUNDATION TUBE ②



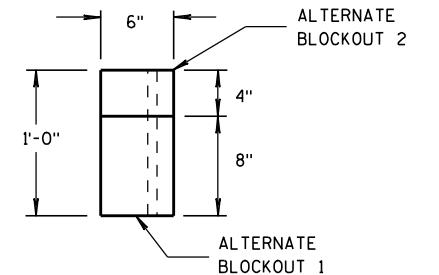
WOOD BREAKAWAY POST ①



WOOD CRT POST ③

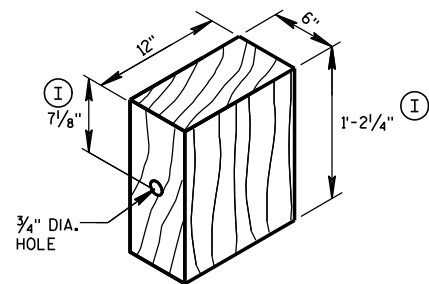


SIDE VIEW



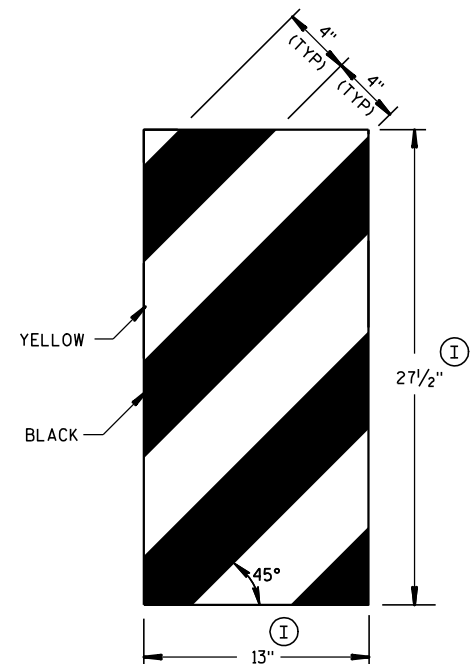
TOP VIEW

**ALTERNATE WOOD
BLOCKOUT DETAIL**

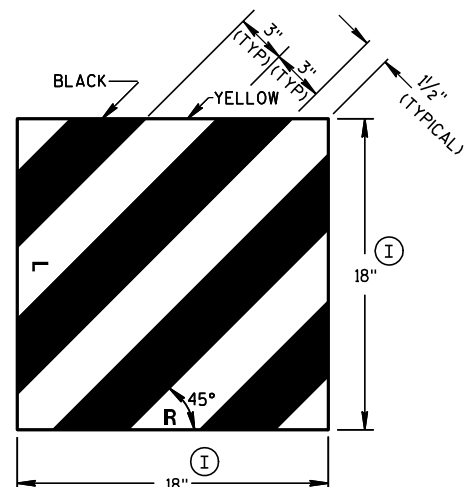


WOOD BLOCKOUT ④

YELLOW REFLECTIVE TAPE
3" X 9" TYPE H
REFLECTIVE SHEETING



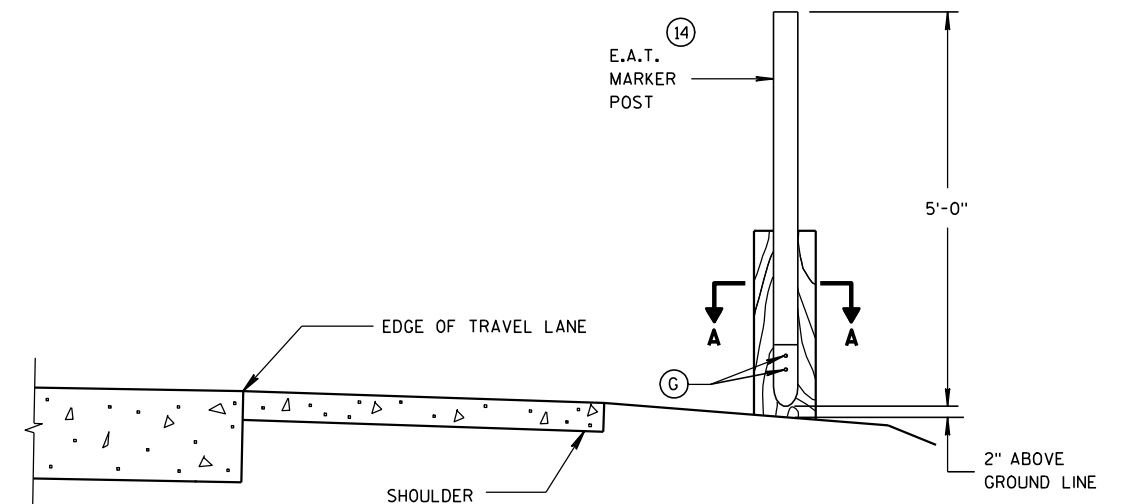
GENERIC REFLECTIVE SHEETING ⑬ ④



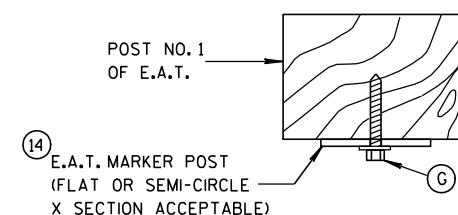
FRONT VIEW

SIDE VIEW

E.A.T. MARKER POST ⑭



**TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1**
(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

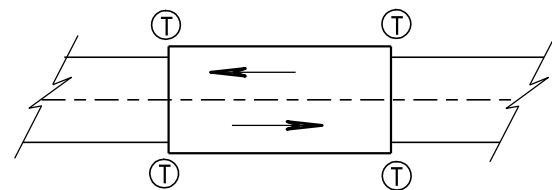
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2011

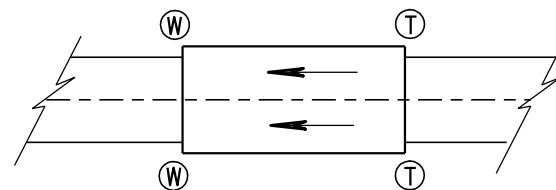
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



TWO WAY TRAFFIC



ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

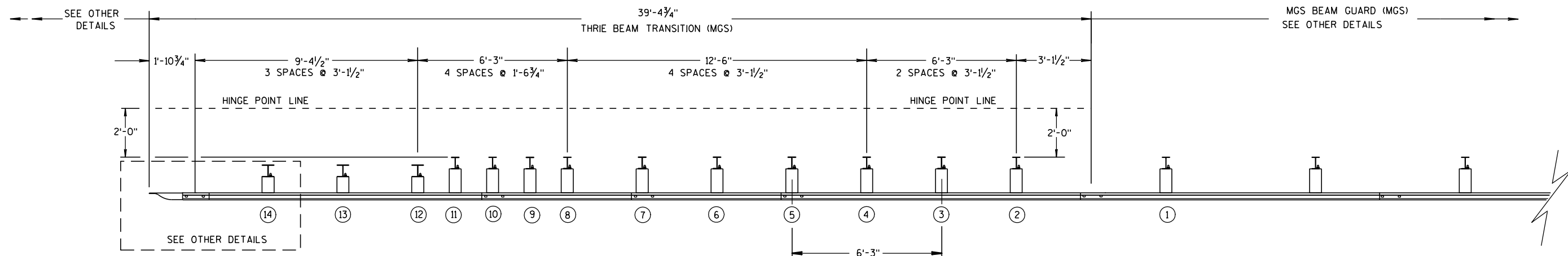
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

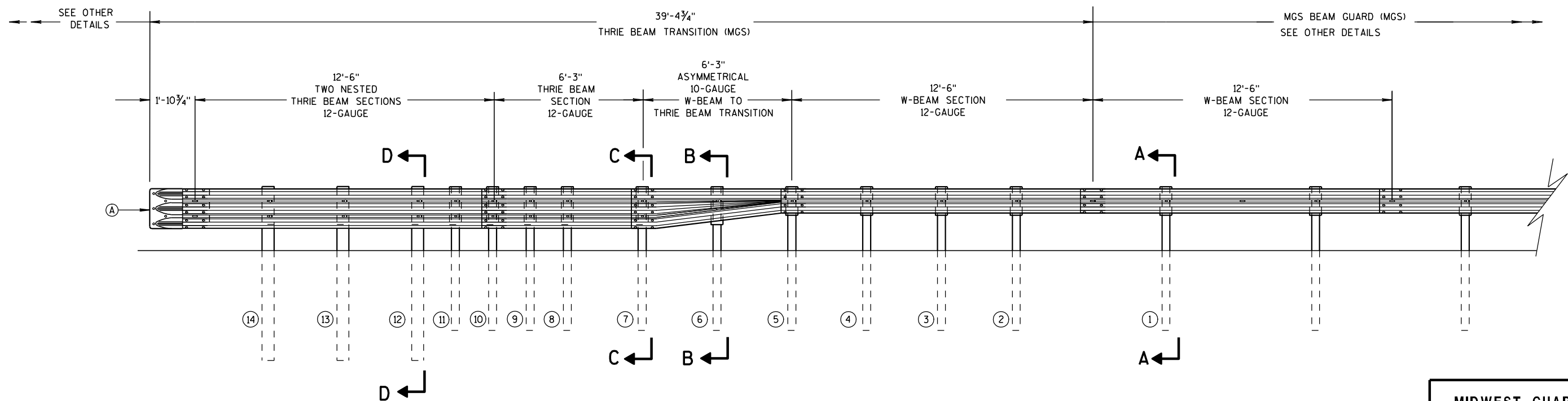
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

Ⓐ BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE



PLAN VIEW



ELEVATION VIEW

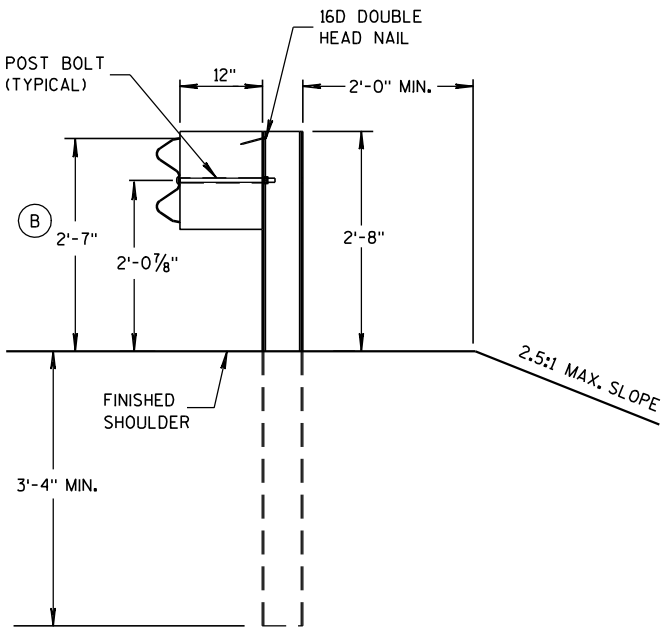
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

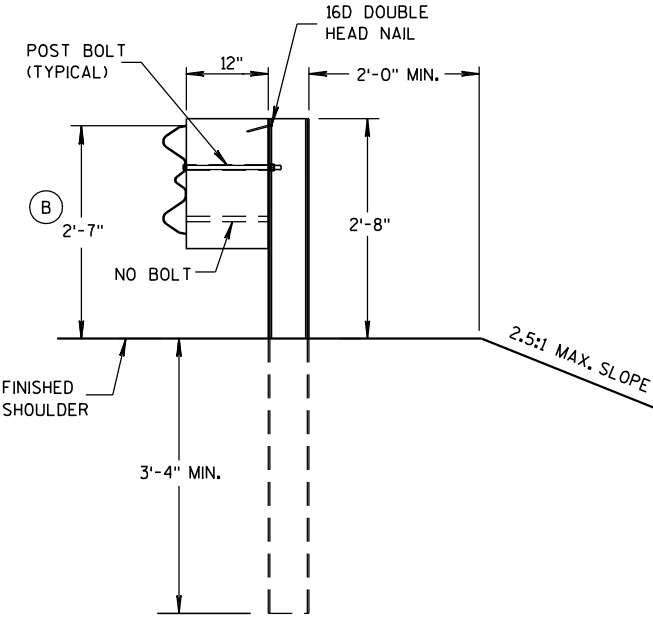
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

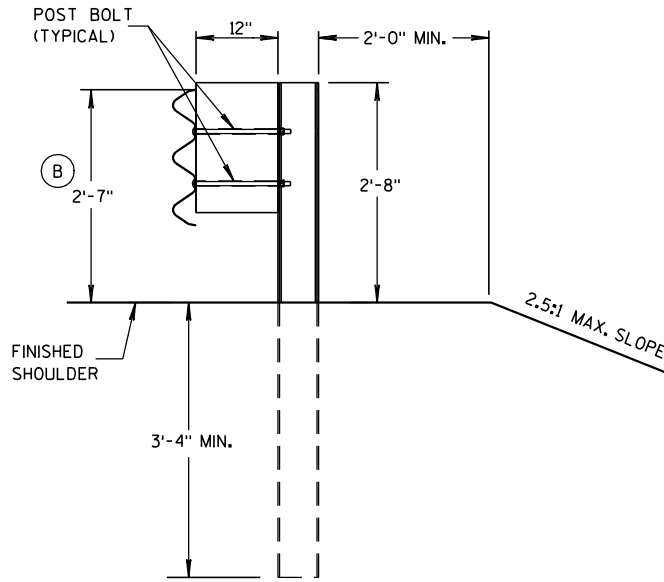
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



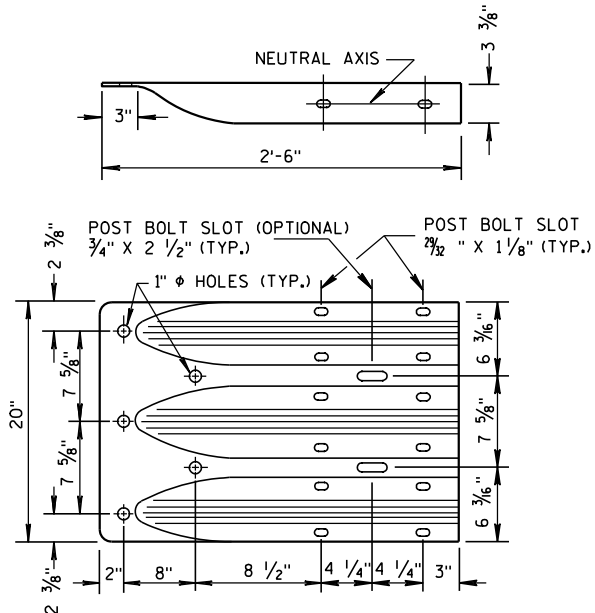
SECTION A-A
POSTS 1-5



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11



THRIE BEAM
TERMINAL CONNECTOR

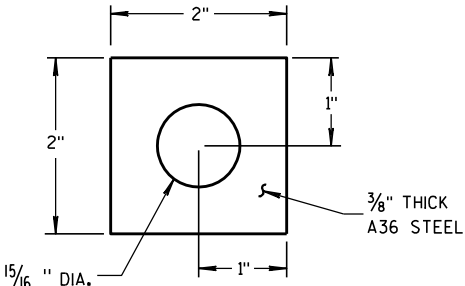
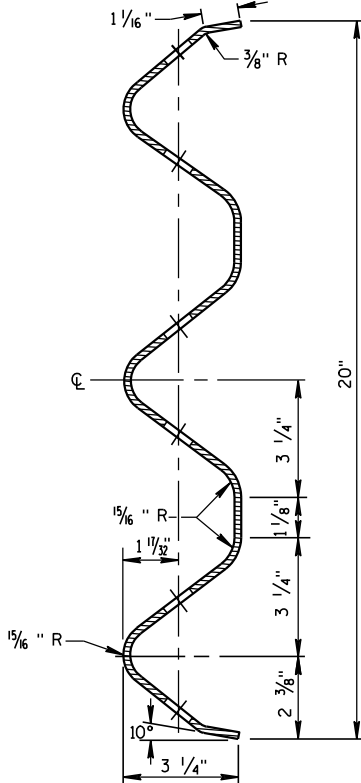
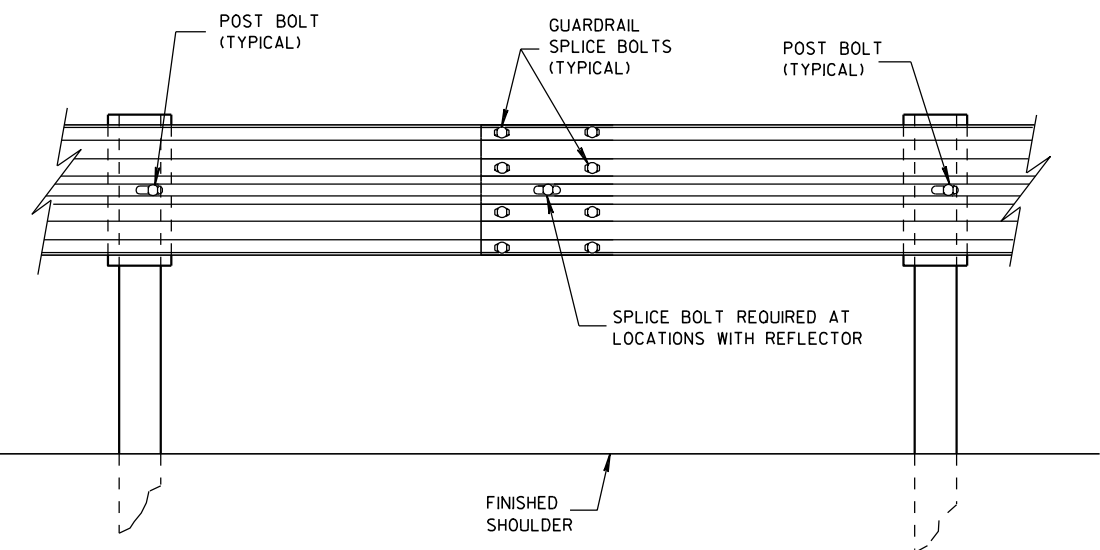


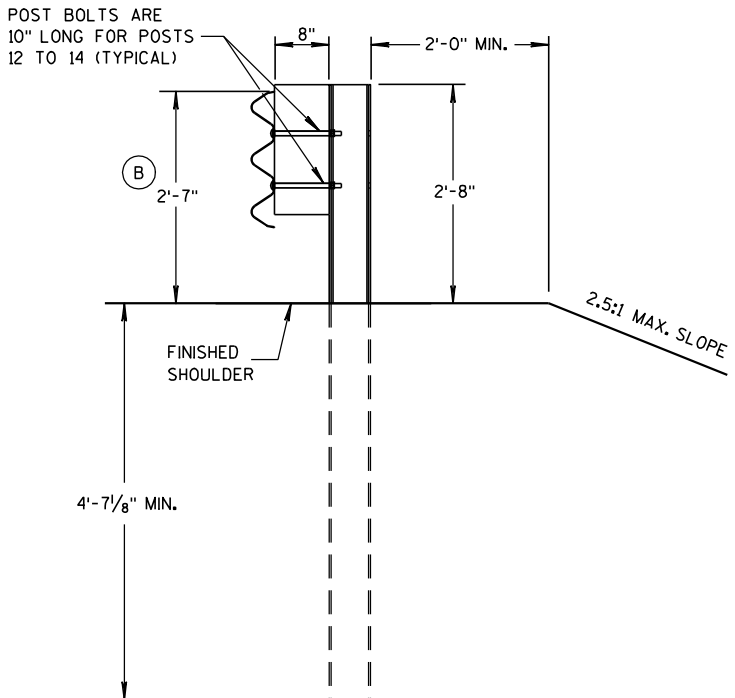
PLATE WASHER DETAIL



SECTION THRU THRIE
BEAM RAIL ELEMENT



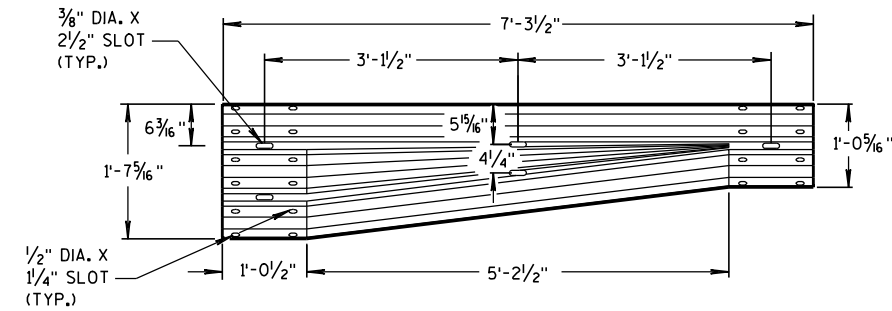
SPLICE DETAIL



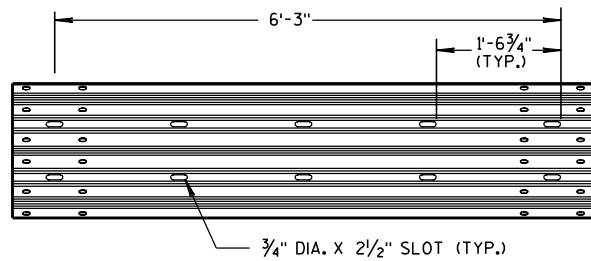
SECTION D-D
POSTS 12-14

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

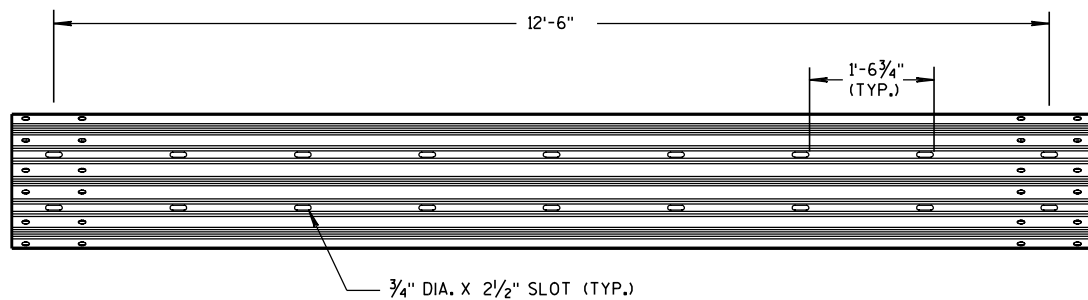
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



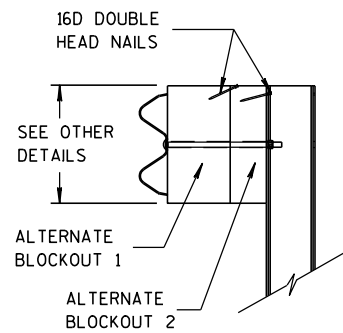
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION

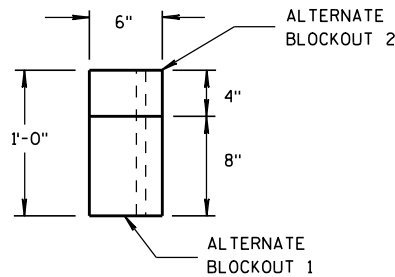


12'-6" THRIE BEAM SECTION

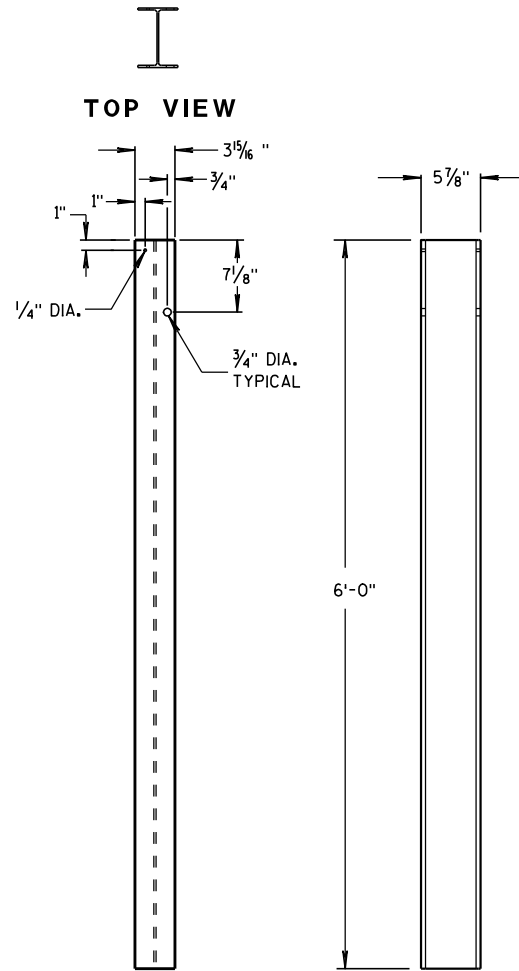


SIDE VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



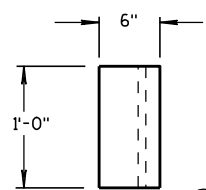
TOP VIEW



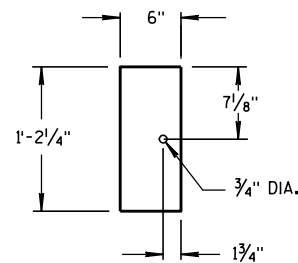
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

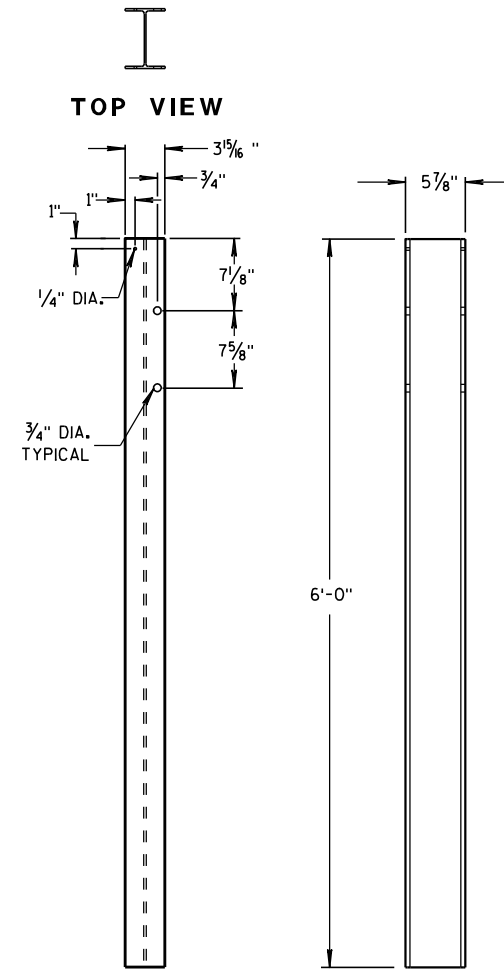


TOP VIEW



FRONT VIEW

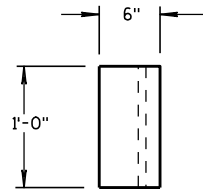
BLOCKOUT POSTS 1-5



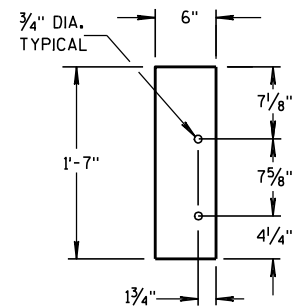
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-11

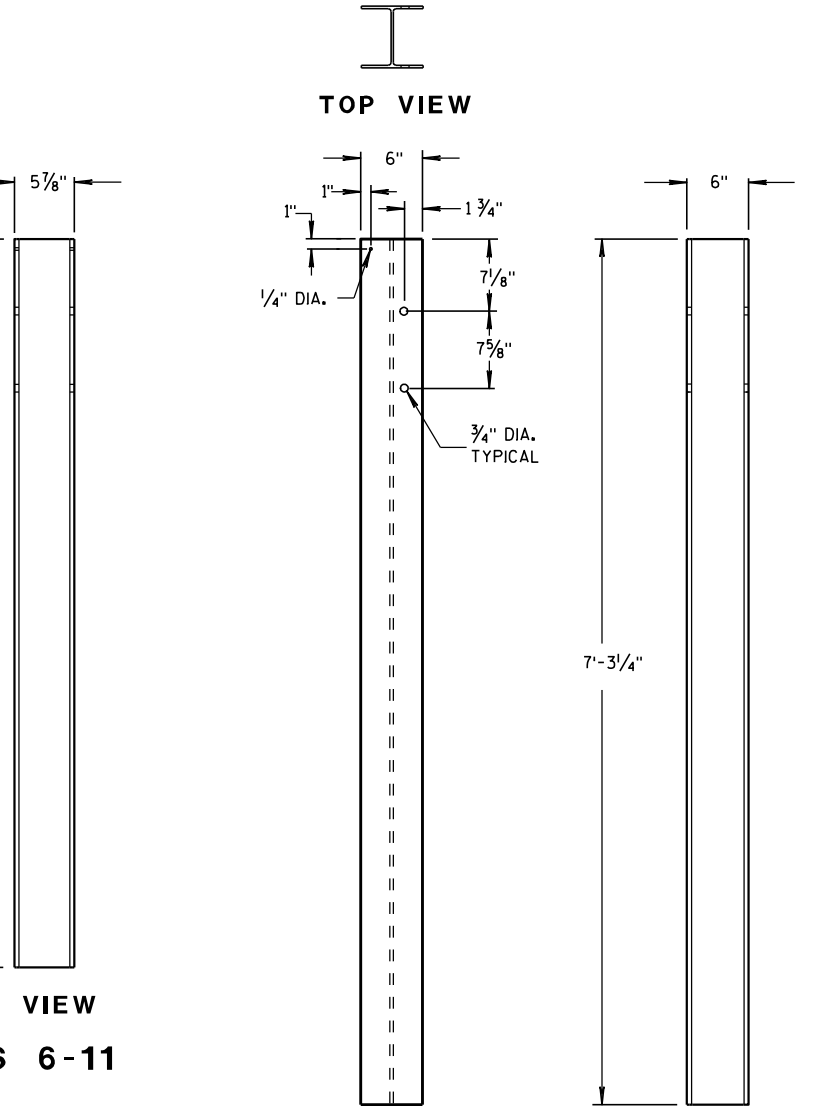


TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

SIDE VIEW

STEEL POSTS 12-14

STEEL POST SIZES

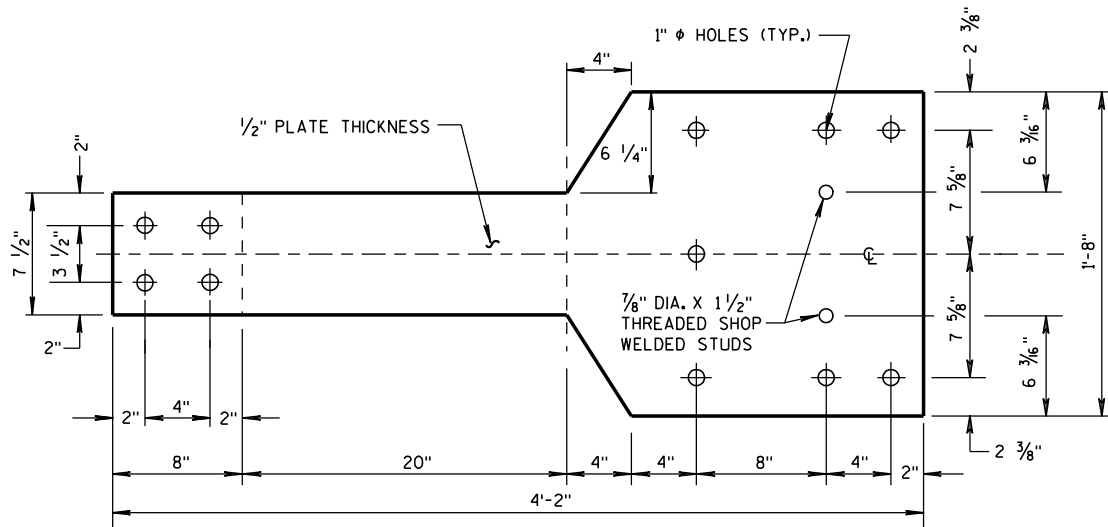
POST NUMBER	SECTION TYPE	LENGTH
①	W6x9	72"
②	W6x9	72"
③	W6x9	72"
④	W6x9	72"
⑤	W6x9	72"
⑥	W6x9	72"
⑦	W6x9	72"
⑧	W6x9	72"
⑨	W6x9	72"
⑩	W6x9	72"
⑪	W6x9	72"
⑫	W6x15	87 1/8"
⑬	W6x15	87 1/8"
⑭	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

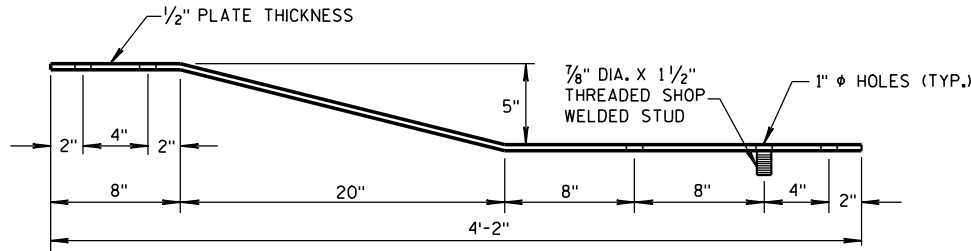
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

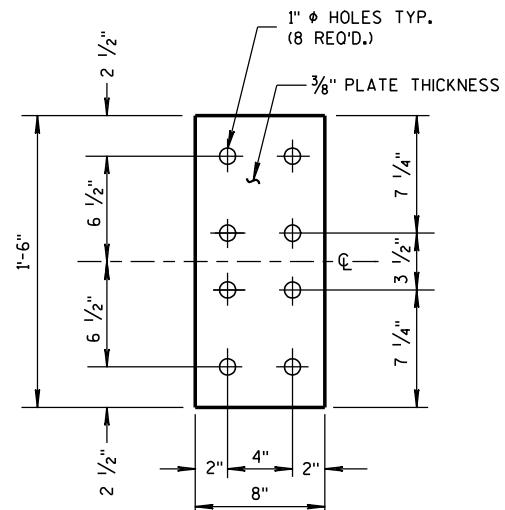
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



FRONT VIEW

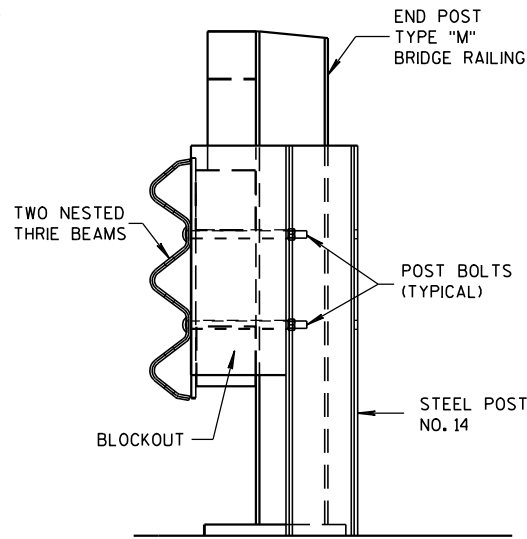


PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"

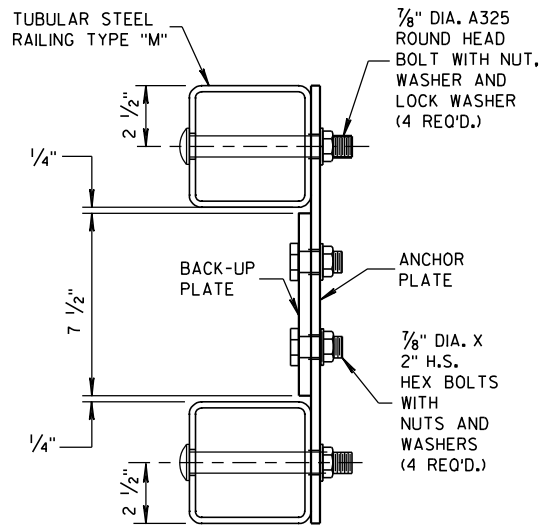


FRONT VIEW

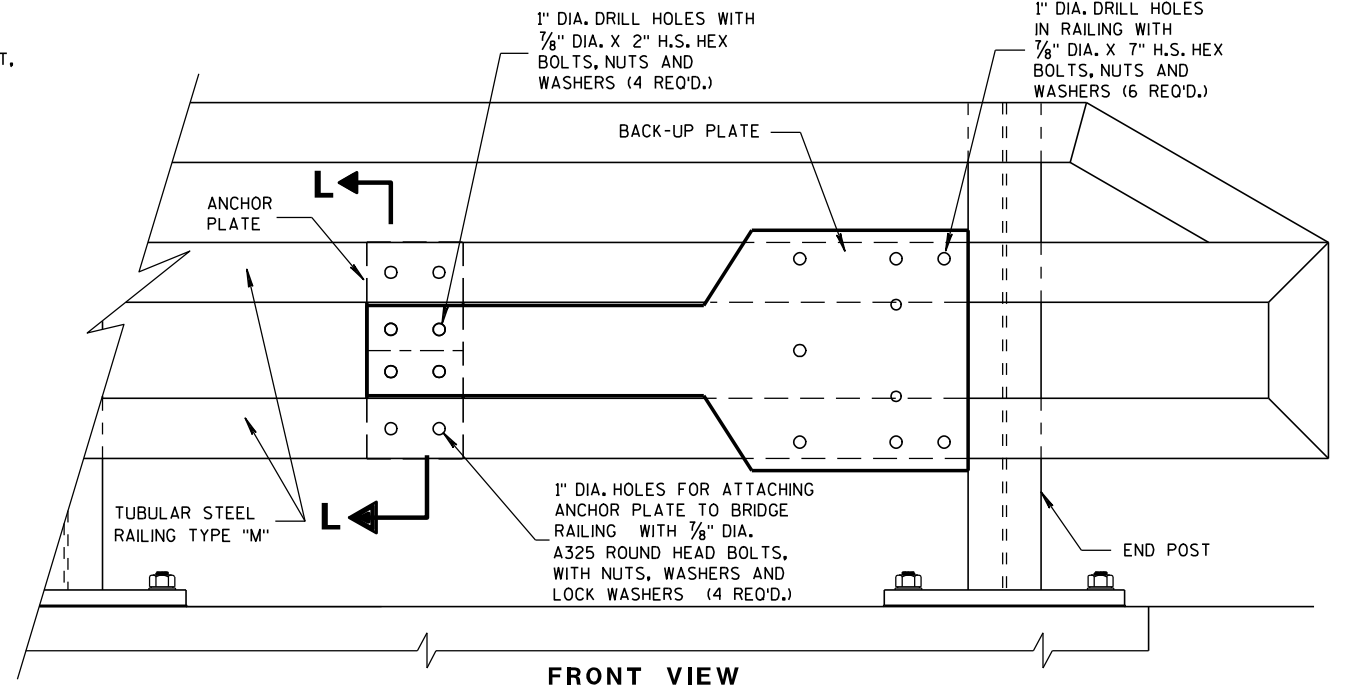
ANCHOR
PLATE DETAIL,
TYPE "M"



SECTION M-M

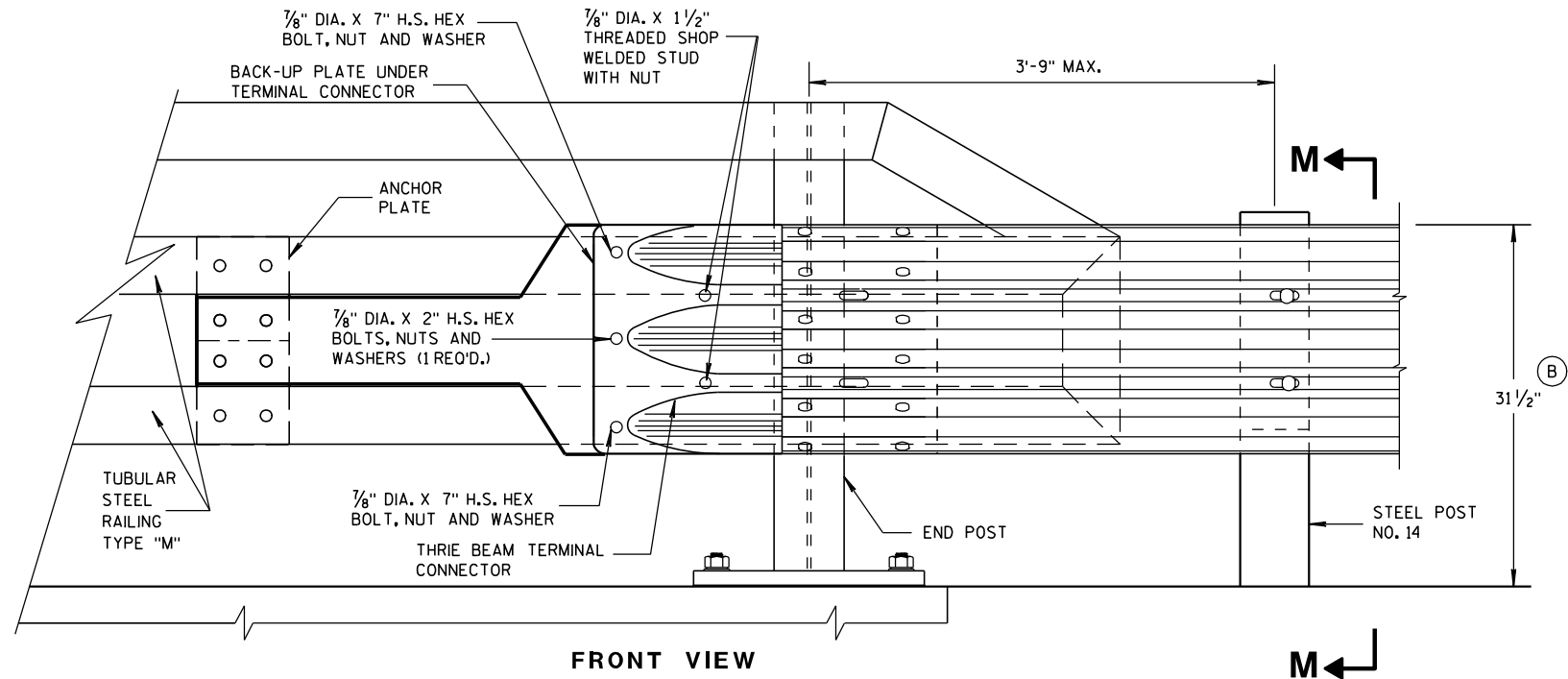


SECTION L-L

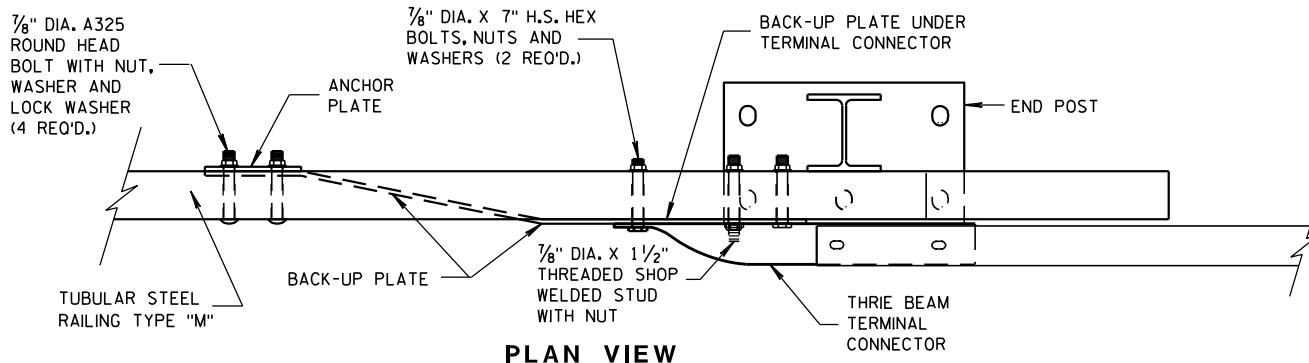


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

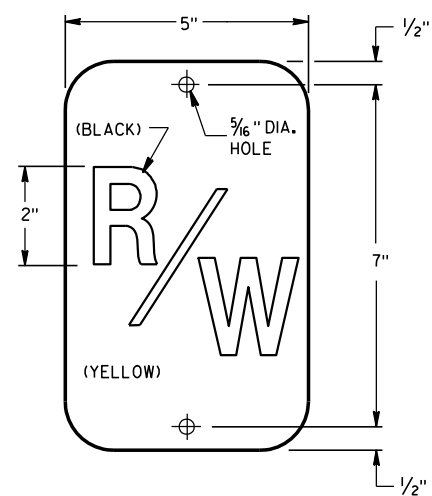
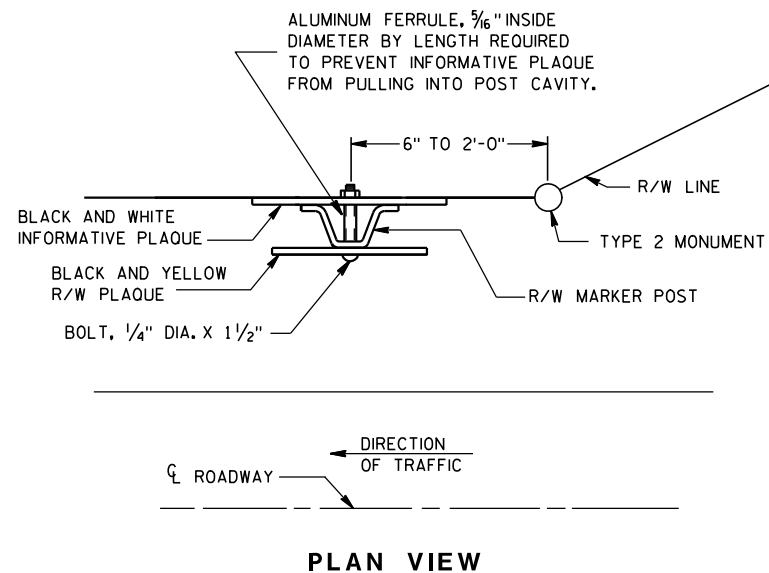
APPROVED

8-31-2012

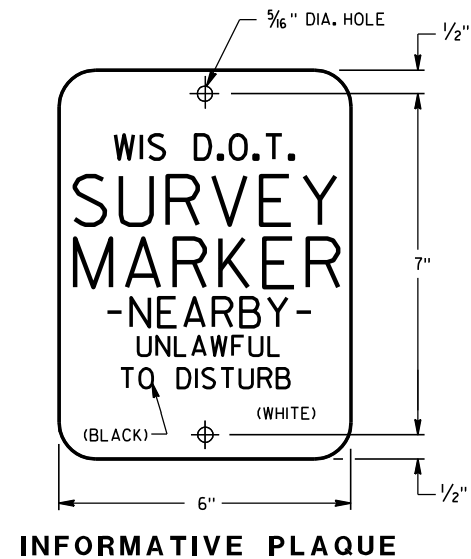
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



GENERAL NOTES

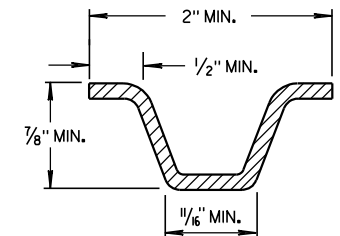
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

A STEEL MARKER POST FOR RIGHT-OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY, WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

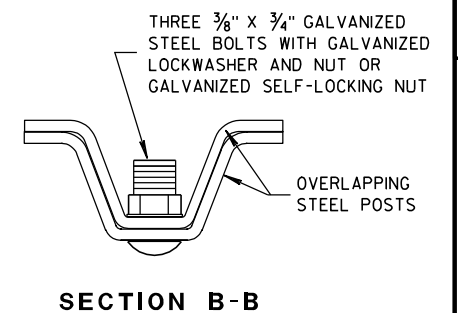
THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. R/W AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE DEPARTMENT OF TRANSPORTATION.

STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

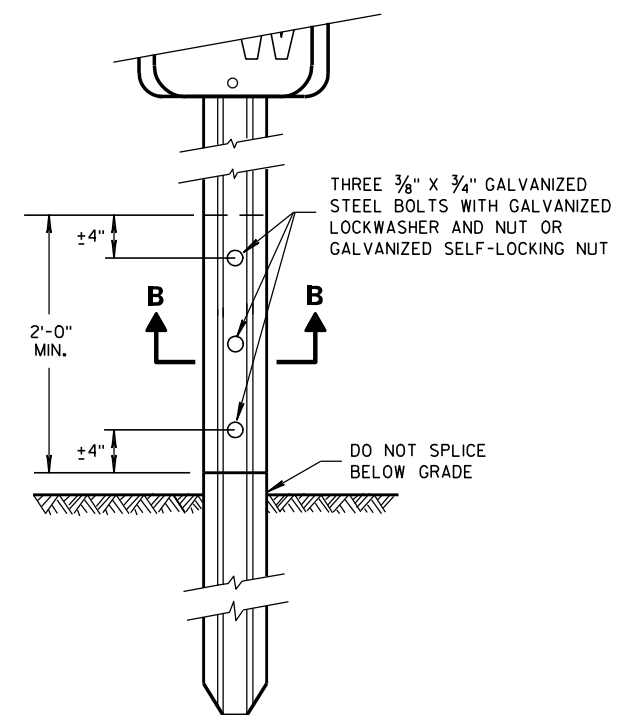
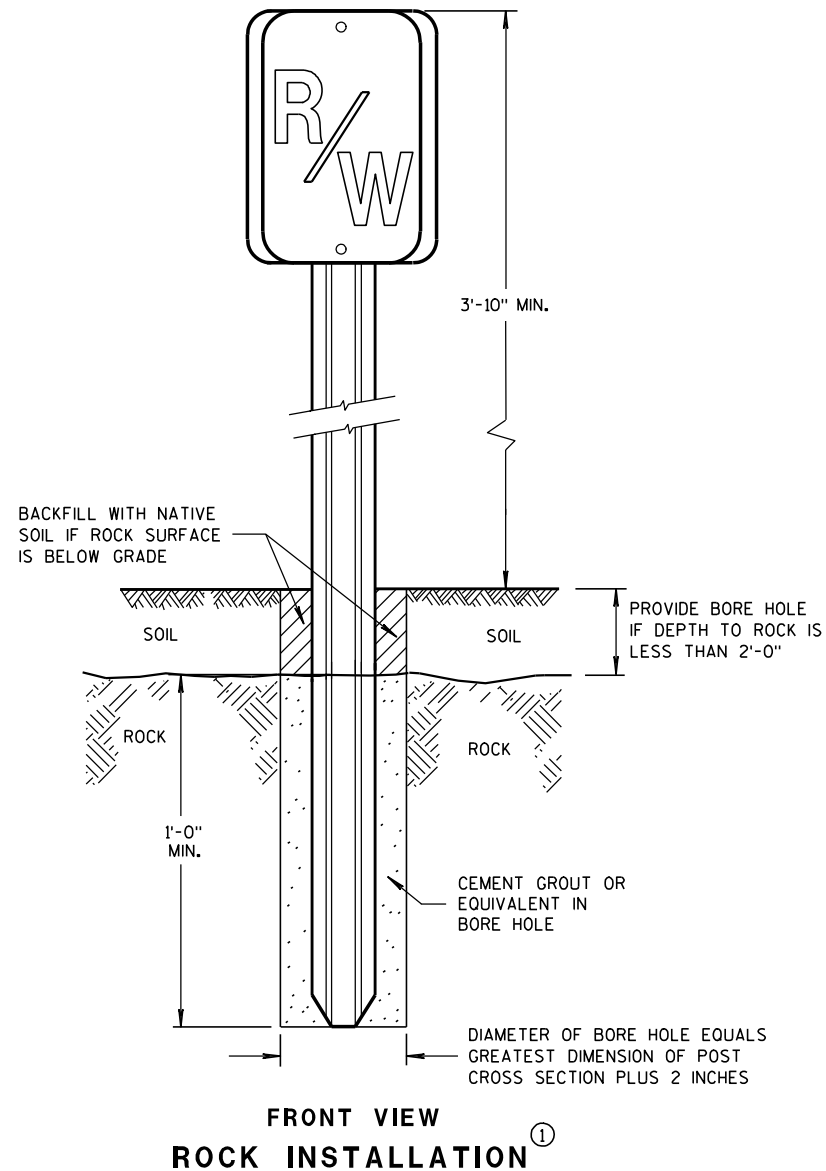
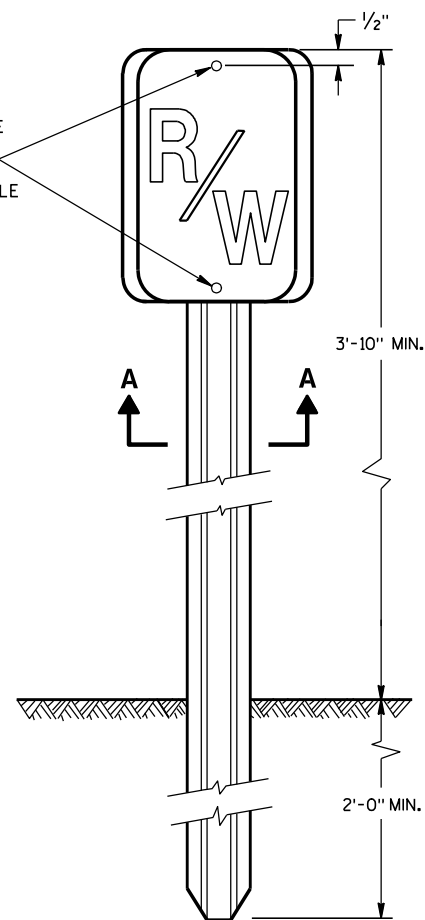
- ① IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3'-10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL THE BORE HOLE WITH CEMENT GROUT, OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



MIN. WEIGHT 1.12 LB./FT.
SECTION A-A



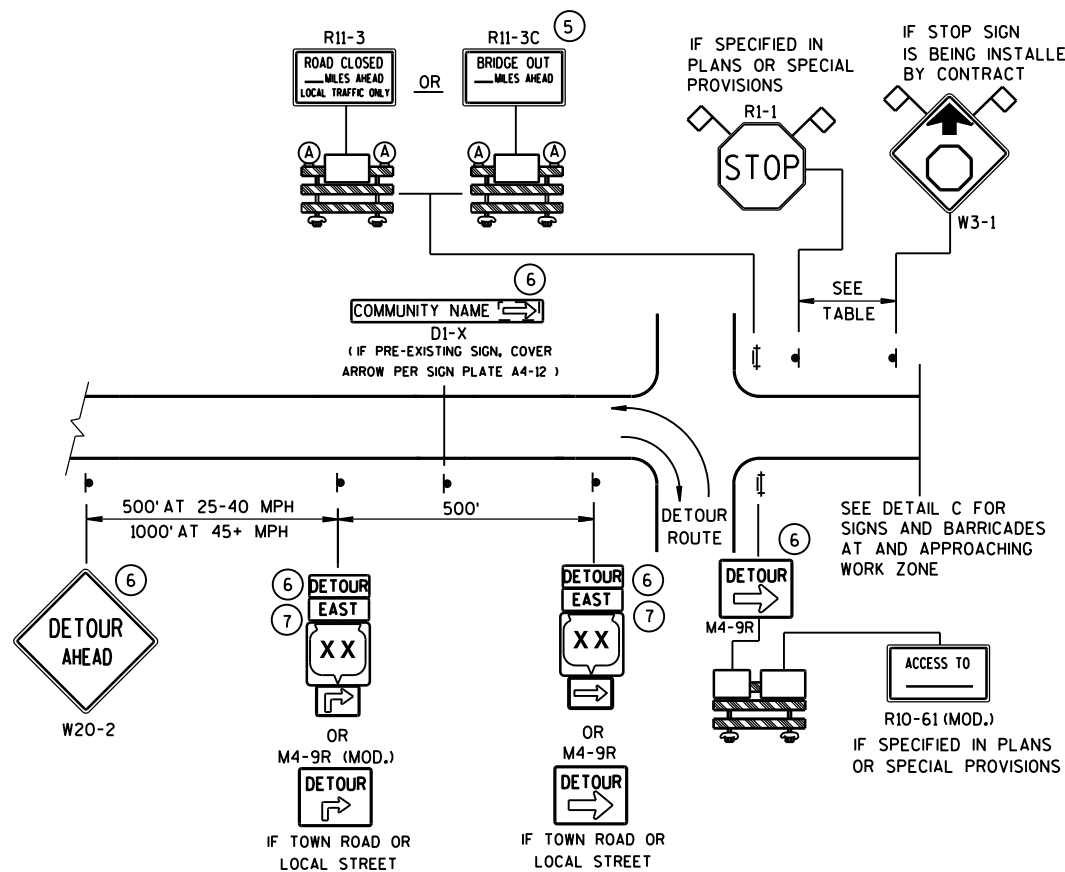
STEEL POSTS SHALL HAVE 2 - $\frac{3}{8}$ " HOLES 7" APART. POST WITH ADDITIONAL HOLES WILL BE ACCEPTABLE



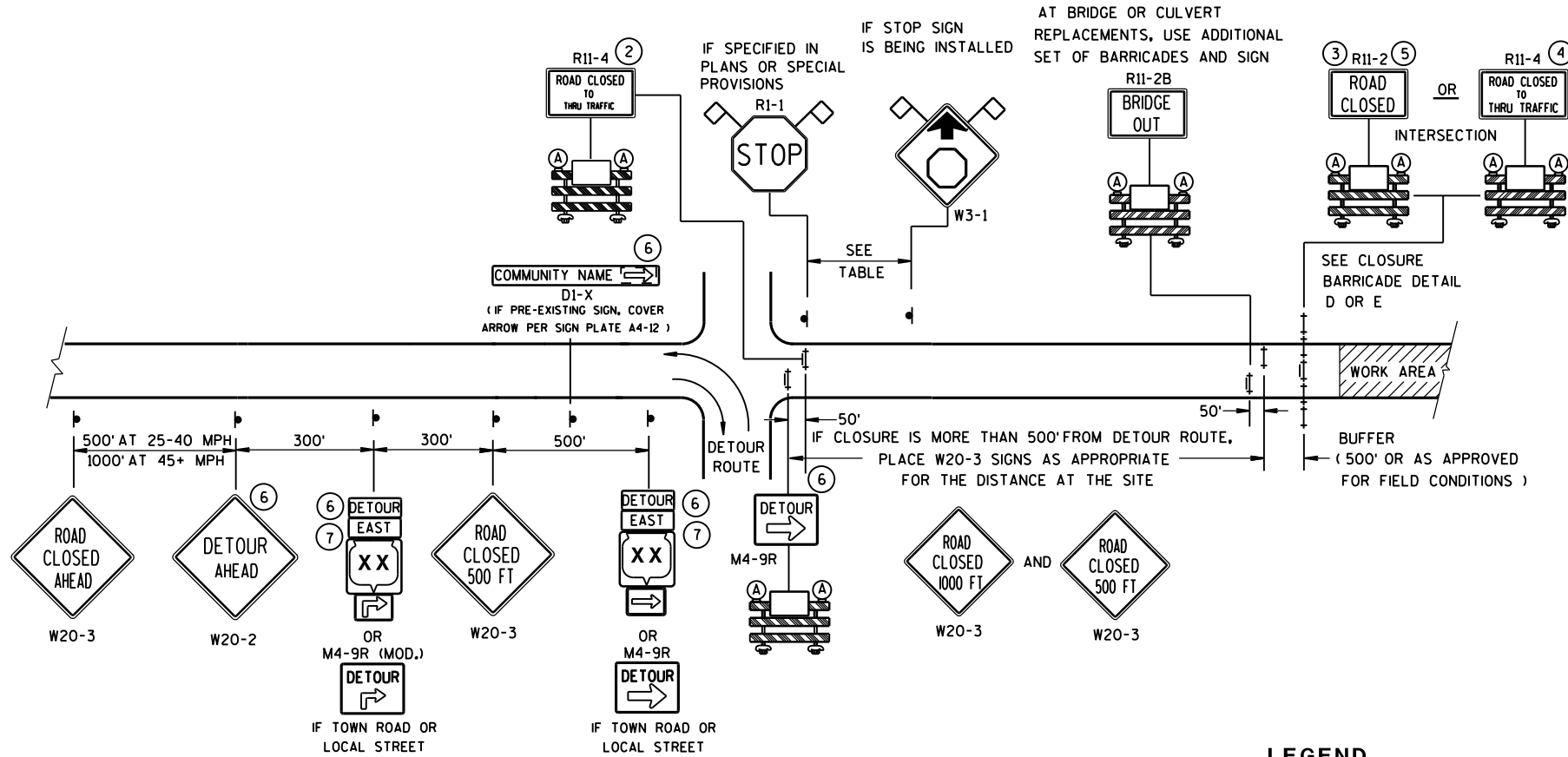
**MARKER POST
FOR RIGHT-OF-WAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

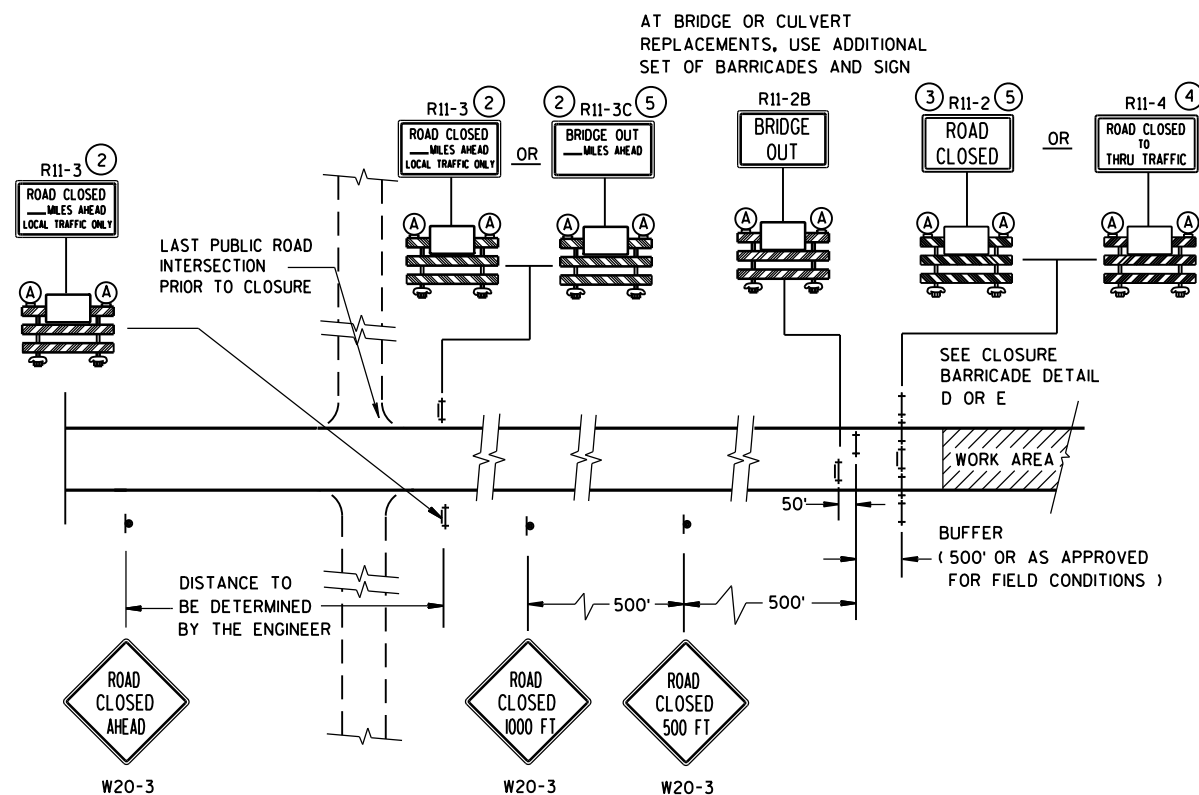
APPROVED
4/27/09 /S/ Ray Kumapayi
DATE CHIEF SURVEYING AND MAPPING ENGINEER
FHWA



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

LEGEND

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

WORK AREA

DETOUR EAST
M4-8
M3-X
XX OR COUNTY XX OR XX
M1-4 M1-5A M1-6

OR
M05-1 M06-1

FLAGS, 16" X 16" MIN., (ORANGE)

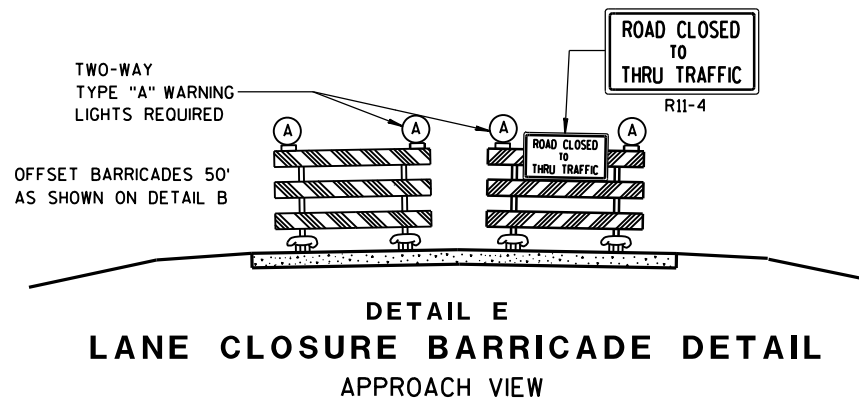
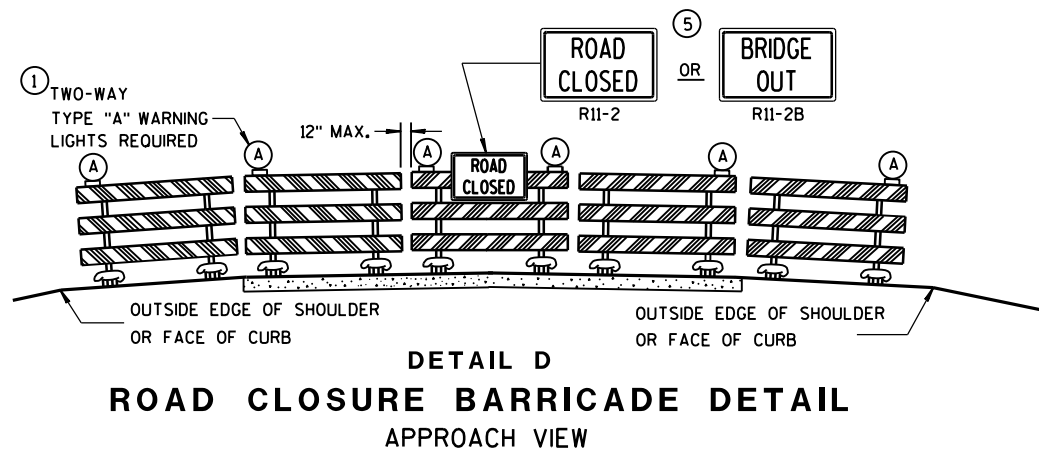
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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.)

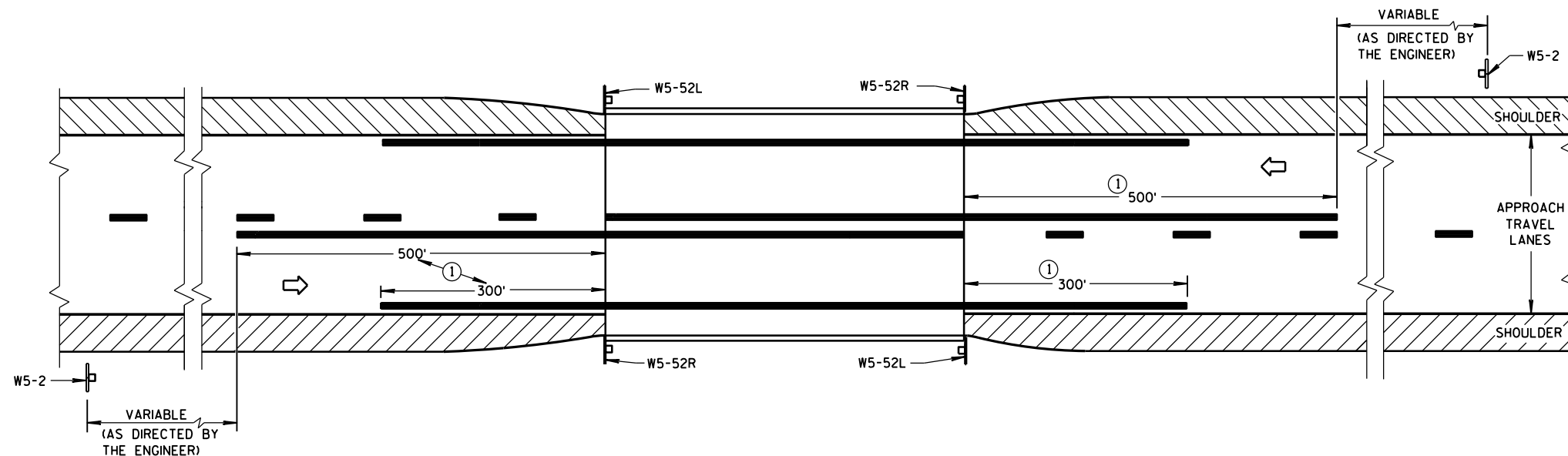
M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)

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.

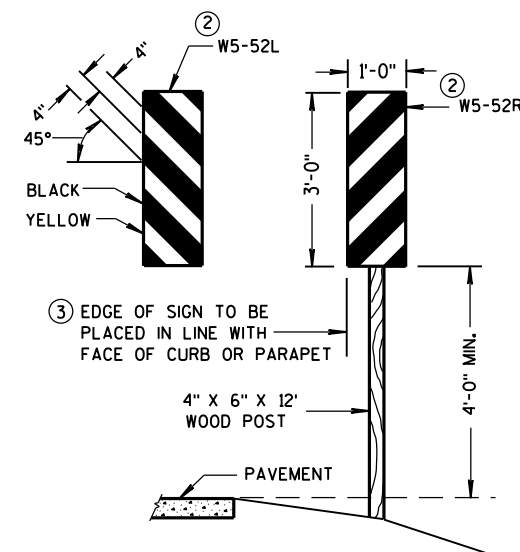
BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 18 FEET BUT LESS THAN 24 FEET



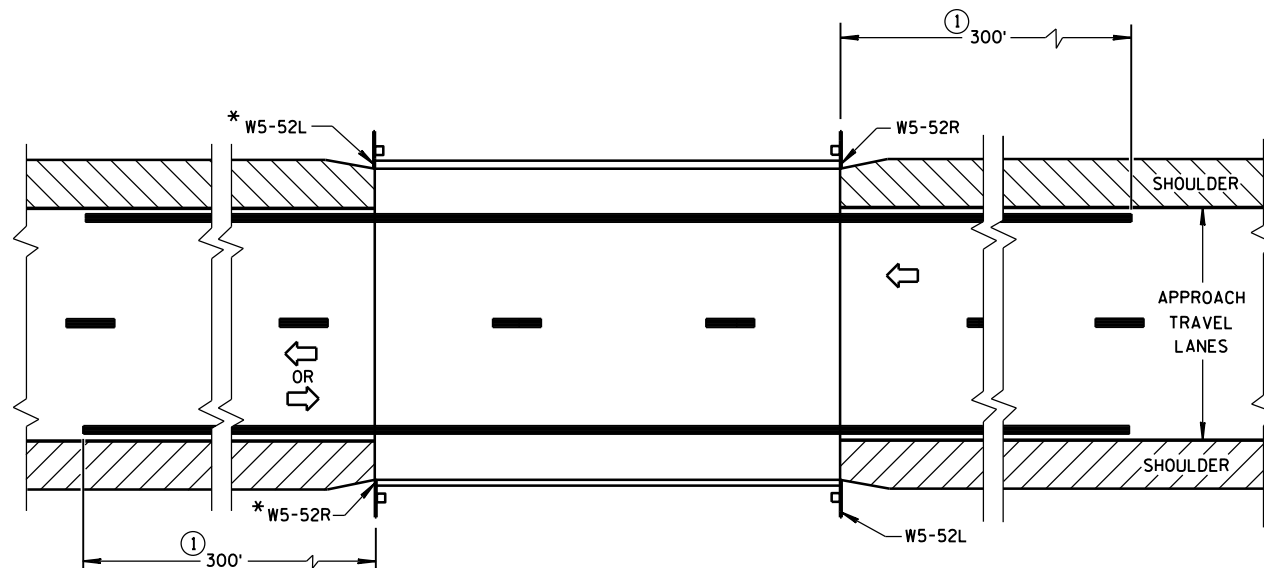
OBJECT MARKER PLACEMENT

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.

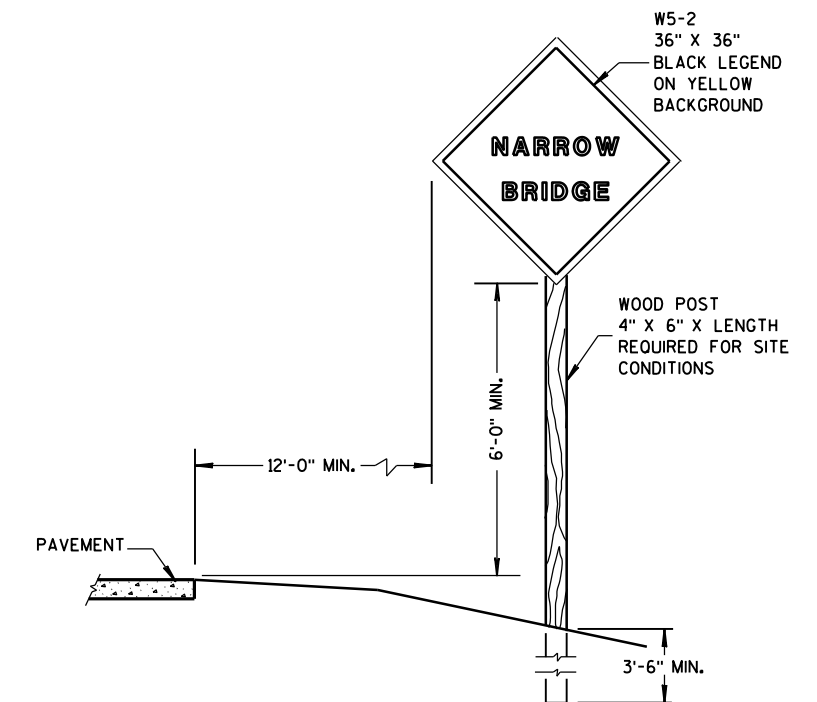


*OMIT ON ONE-WAY TRAVELLED WAYS

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.



SIGN PLACEMENT

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

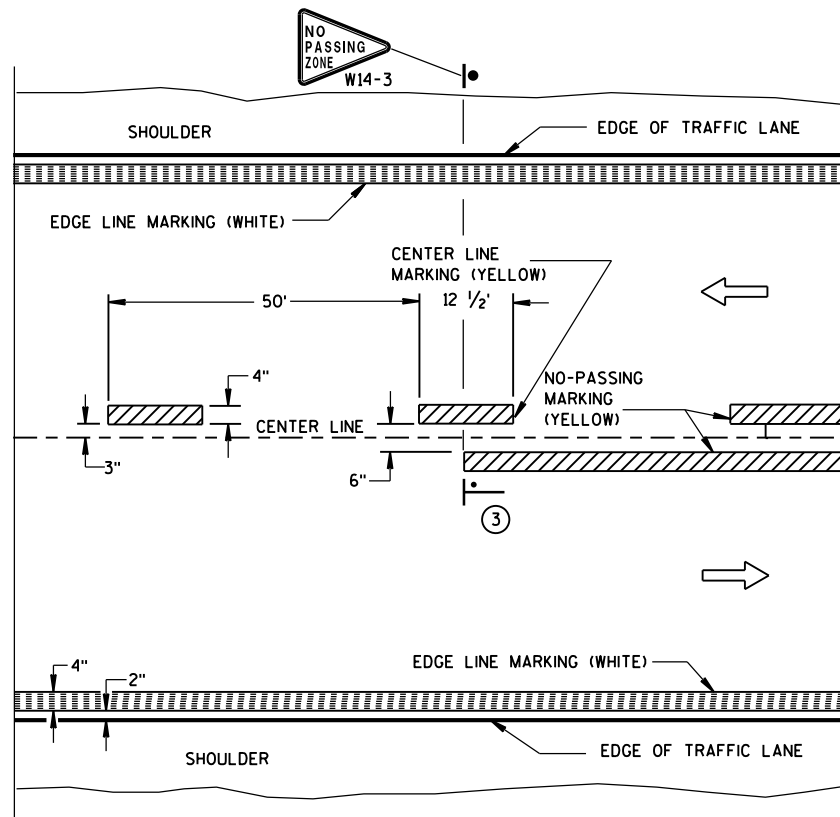
APPROVED

3/4/2013
DATE

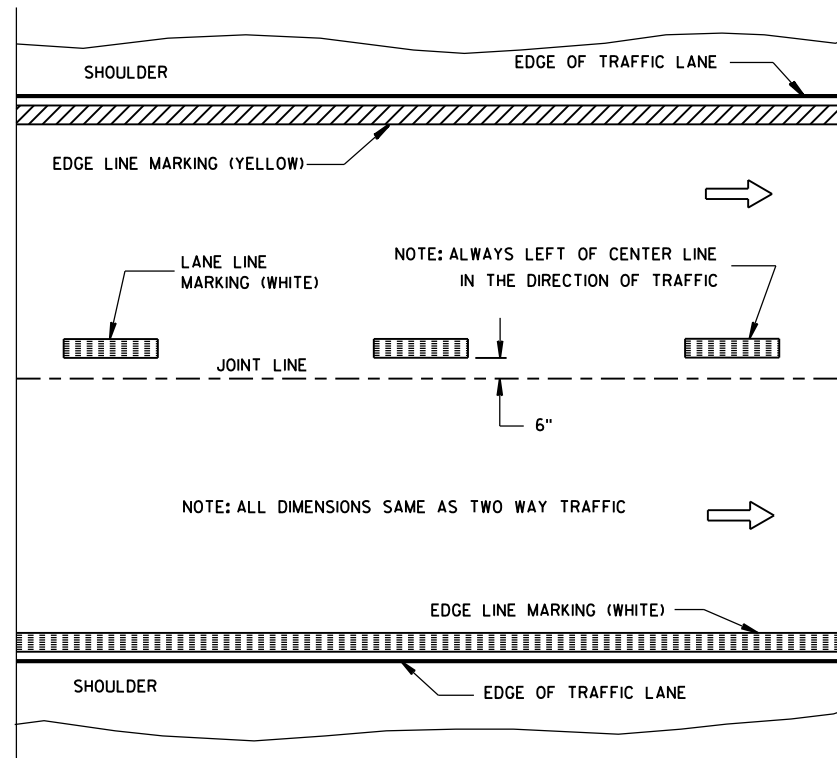
FHWA

/S/ Travis Feltes

STATE TRAFFIC ENGINEER OF DESIGN

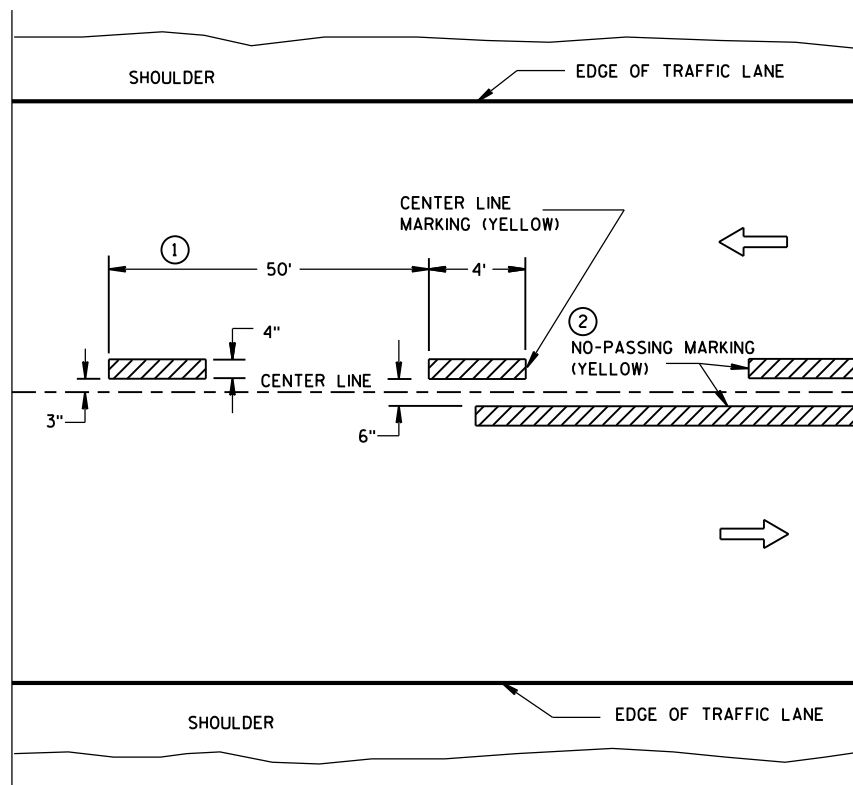


TWO WAY TRAFFIC

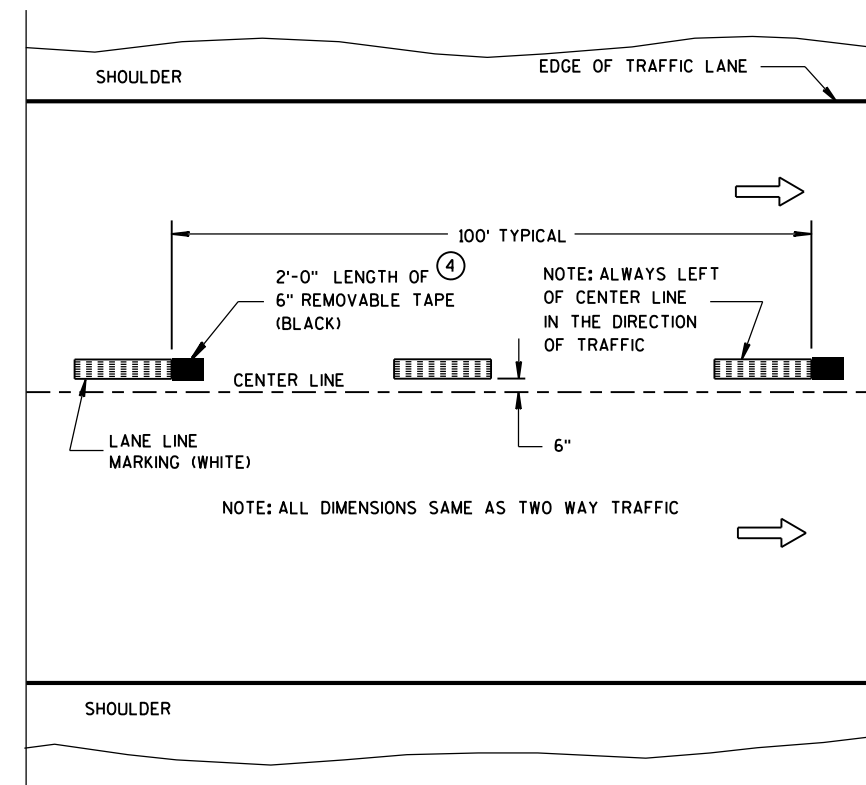


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

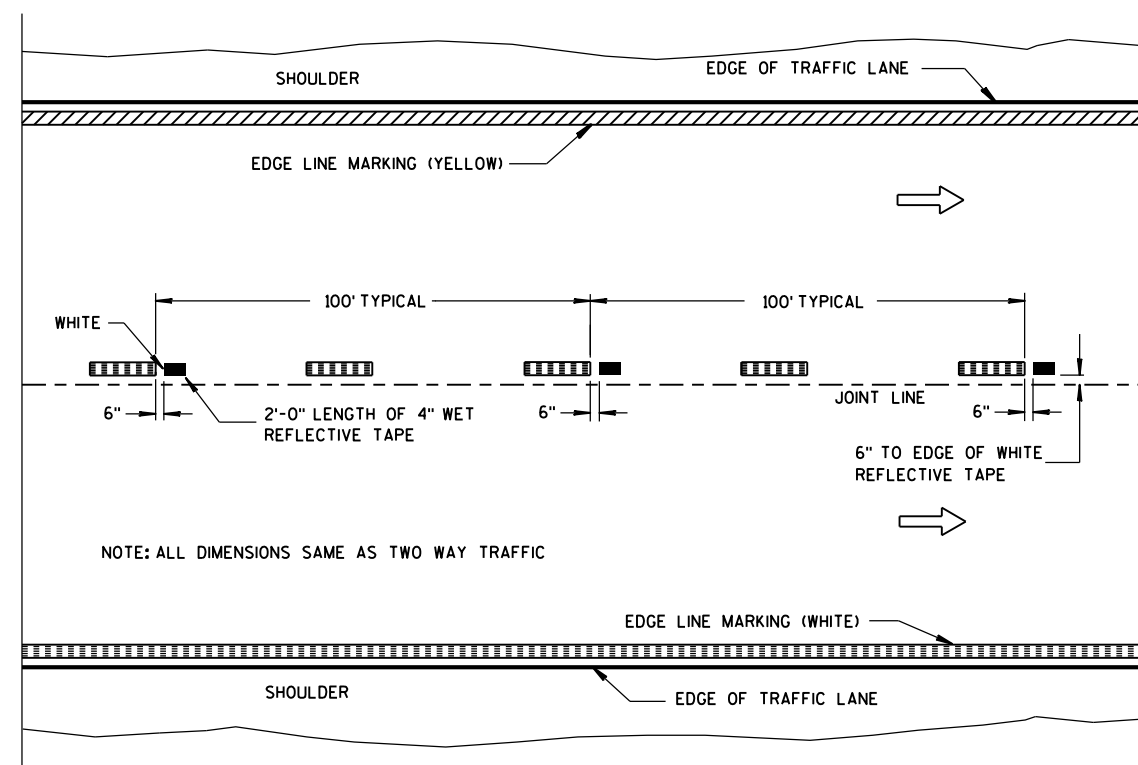
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



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

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

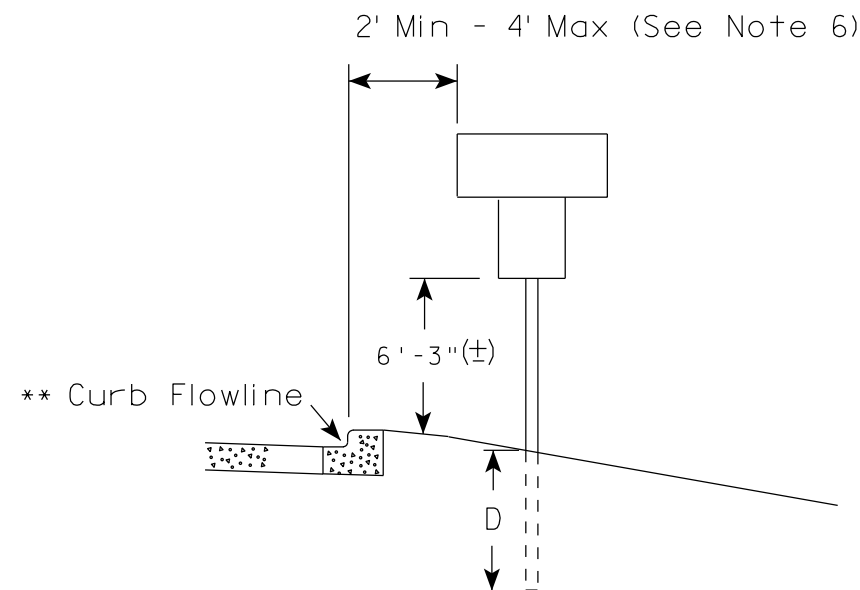
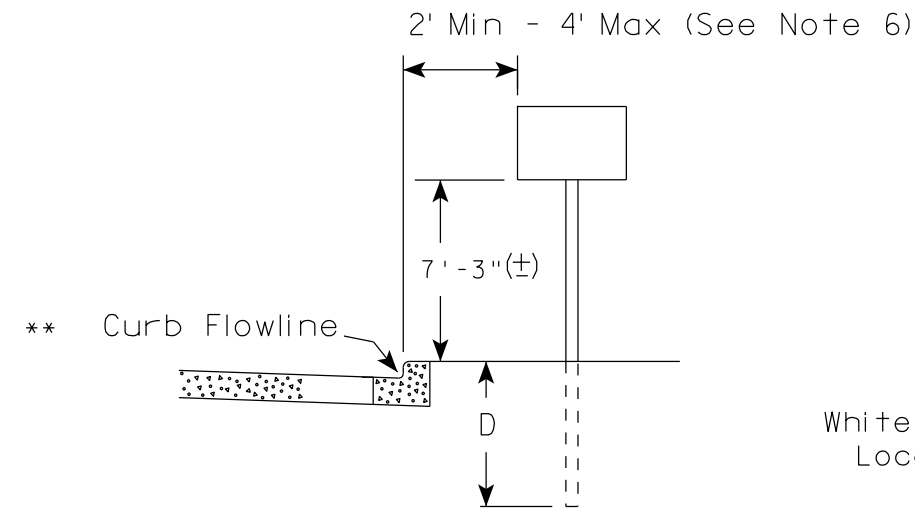
PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013
DATE
FHWA

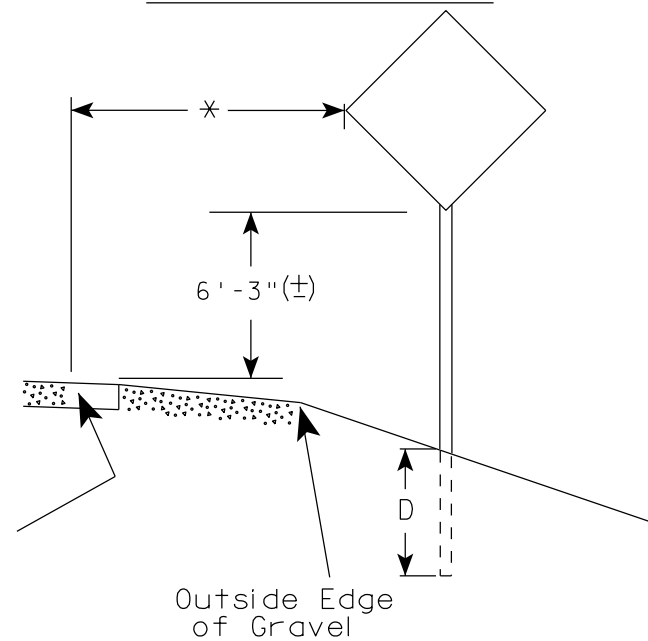
/S/ Travis Feltes
STATE TRAFFIC ENGINEER

URBAN AREA

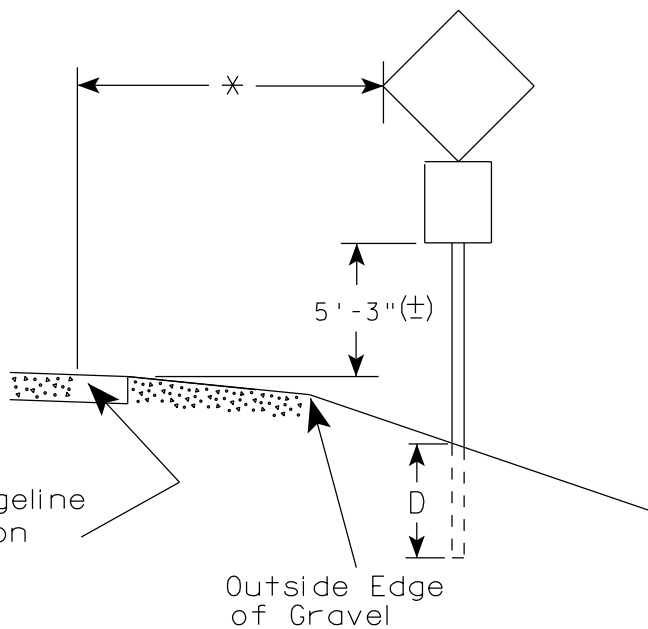


White Edgeline
Location

RURAL AREA (See Note 2)



White Edgeline
Location



POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet, 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" (+).

×× 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.

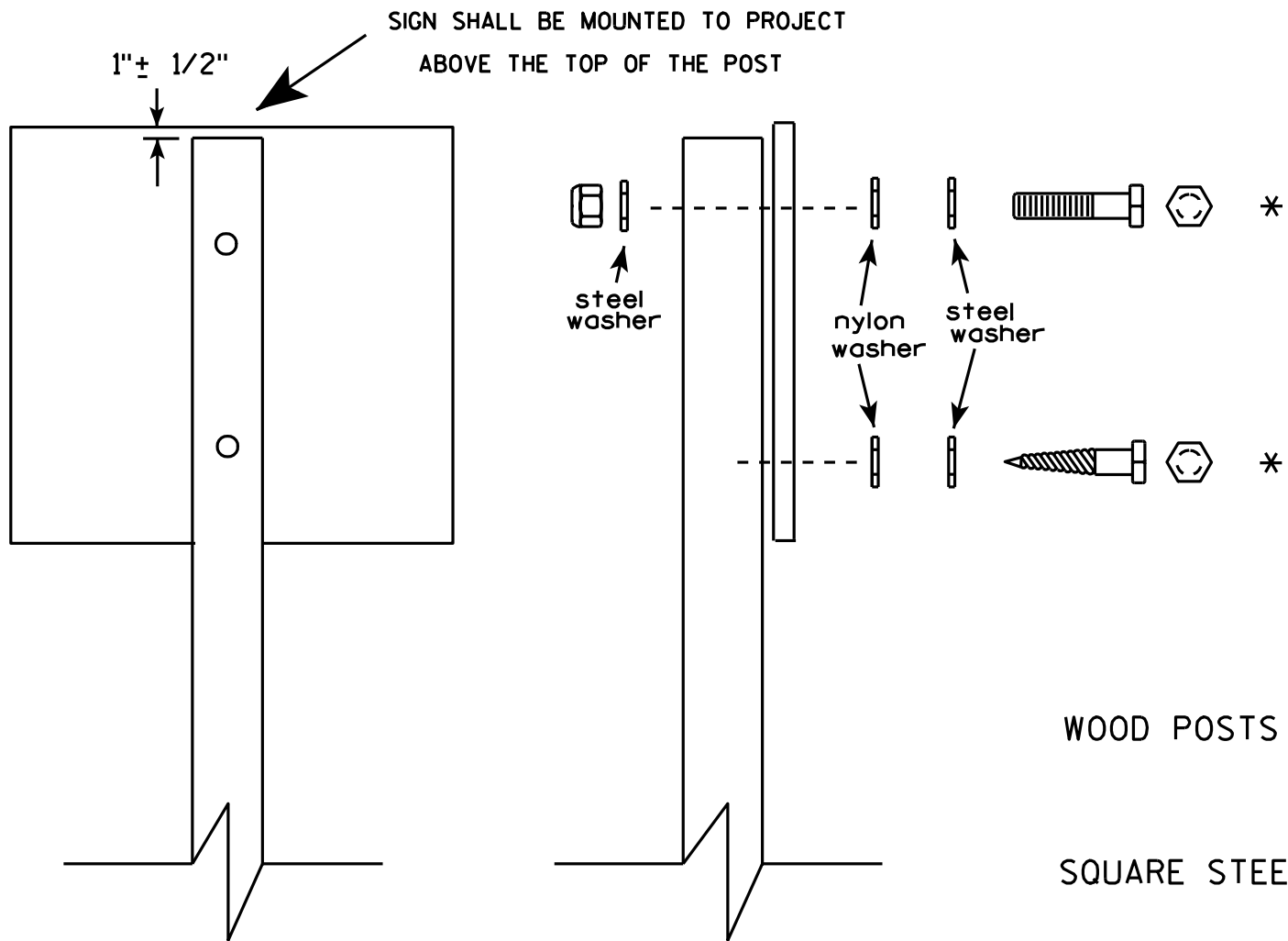
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

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

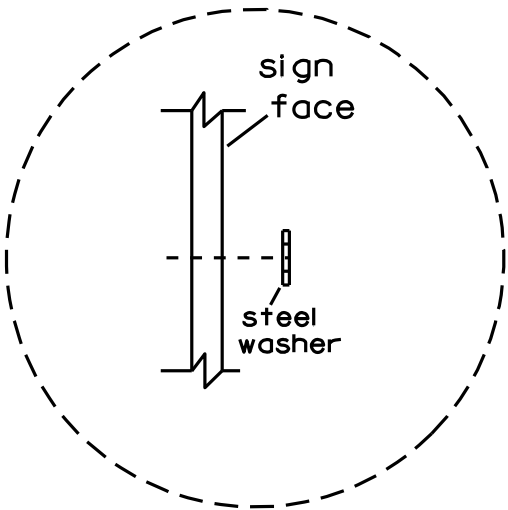


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- 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.

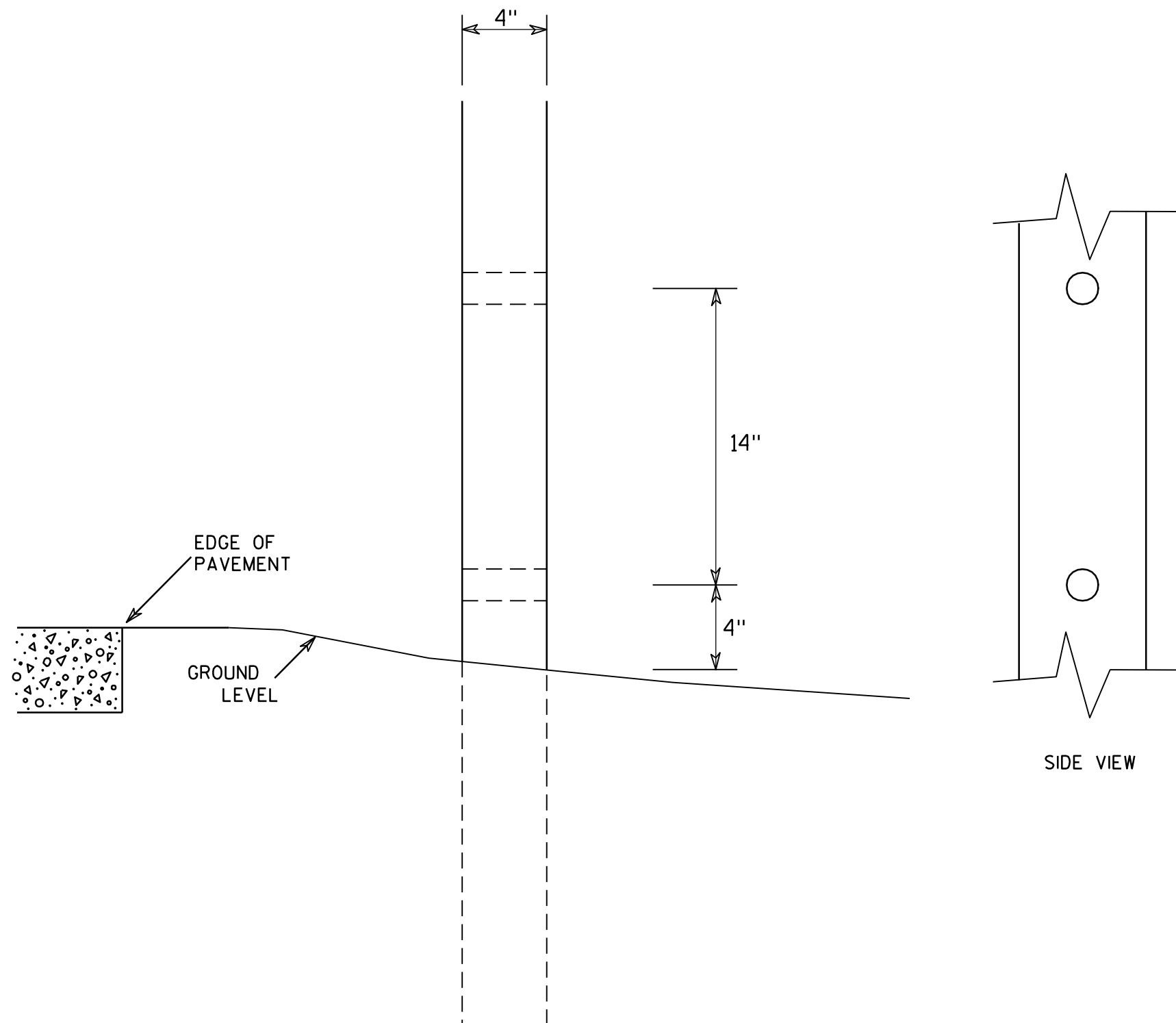


Washer Placement when Sign Has Other Than Type H or Type F Face

* 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	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

7



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

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:

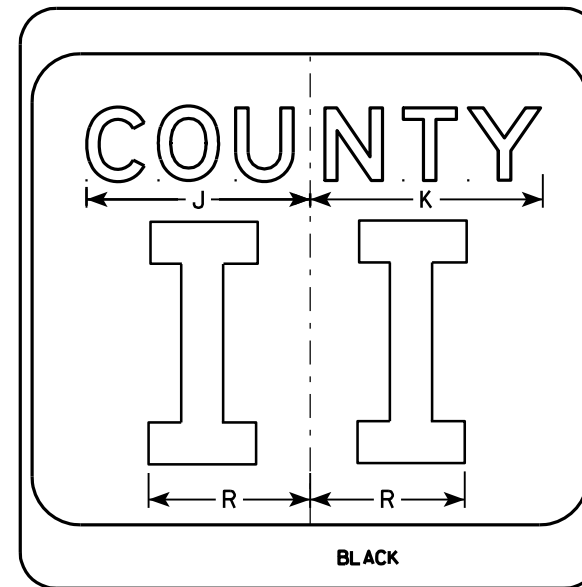
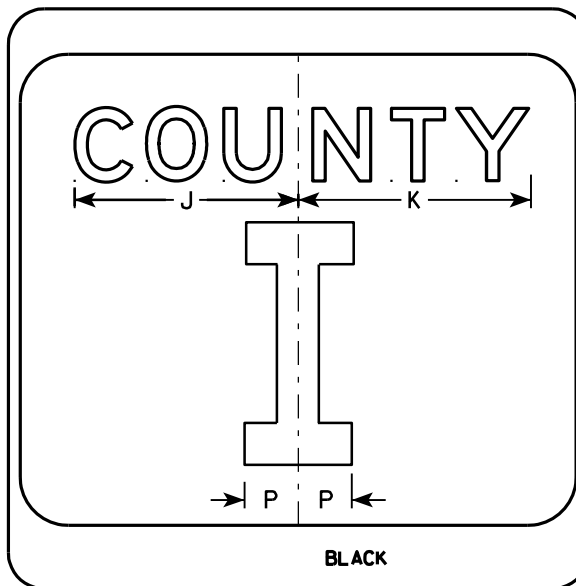
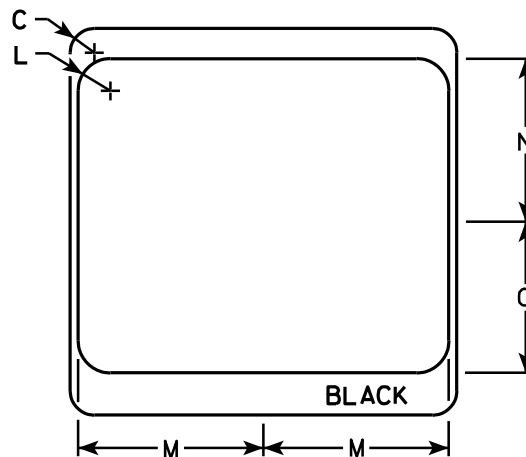
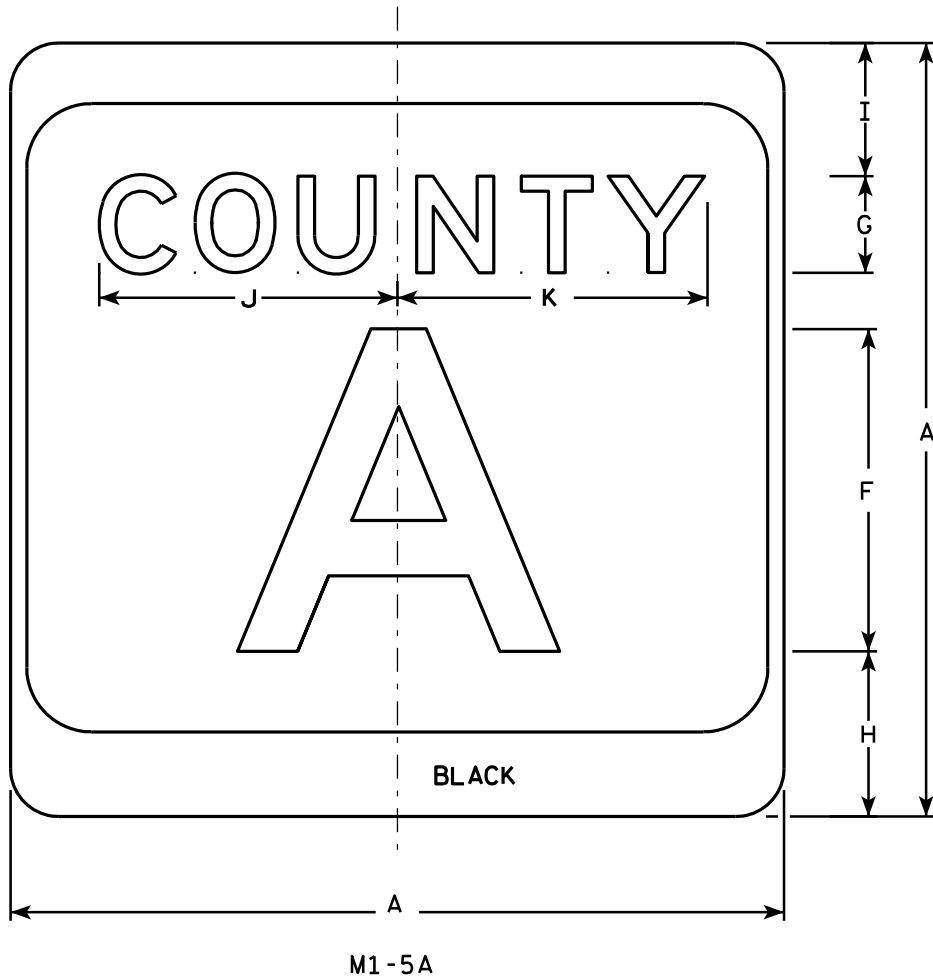
HWY:

COUNTY:

SHEET NO:

E

7



NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 7
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. Message Series E for 1 letter.
Message Series D for 2 letters unless message is too big then Series C.
Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective

7

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																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

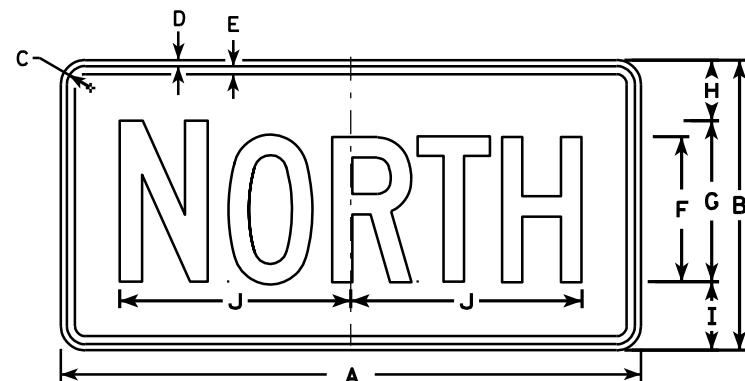
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E
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CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

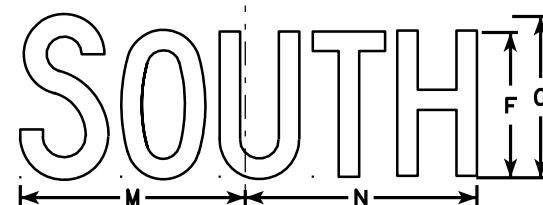
DATE 9/27/11 PLATE NO. M1-5A.8



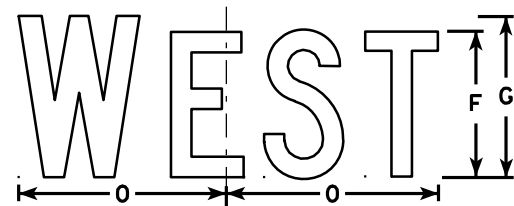
M3-1
MK3-1
M03-1



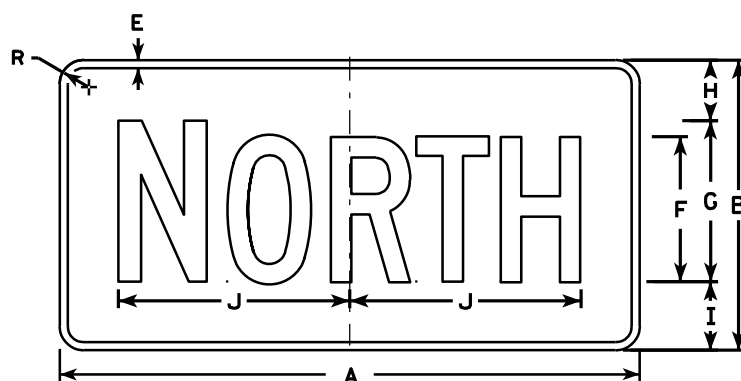
M3-2
MK3-2
M03-2



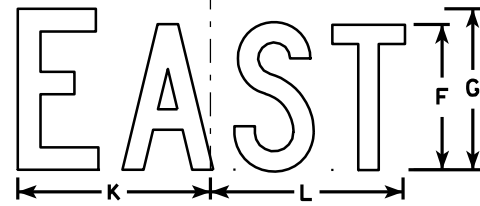
M3-3
MK3-3
M03-3



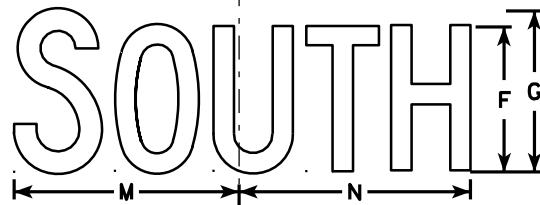
M3-4
MK3-4
M03-4



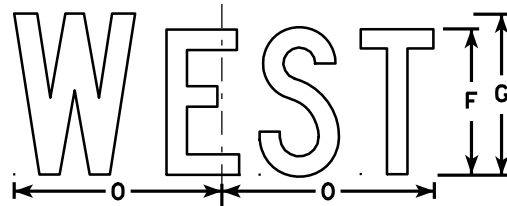
MB3-1
MG3-1
MM3-1
MN3-1



MB3-2
MG3-2
MM3-2
MN3-2



MB3-3
MG3-3
MM3-3
MN3-3



MB3-4
MG3-4
MM3-4
MN3-4

NOTES

1. All Signs Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - See note 5
Message - See note 5
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. M3-1 thru M3-4 Background - White - Type H Reflective (Detour or temporary signs - Reflective)
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White - Type H Reflective (Detour or temporary signs - Reflective)
MG3-1 thru MG3-4 Background - Green
Message - White - Type H Reflective
MK3-1 thru MK3-4 Background - Green
Message - White - Type H Reflective
MM3-1 thru MM3-4 Background - White - Type H Reflective
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White - Type H Reflective
M03-1 thru M03-4 Background - Orange - Reflective
Message - Black
6. Note the first letter of each direction is larger than the remainder of the message.

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																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

PROJECT NO: HWY: COUNTY: SHEET NO: E

STANDARD SIGNS M3-1 thru M3-4 SERIES

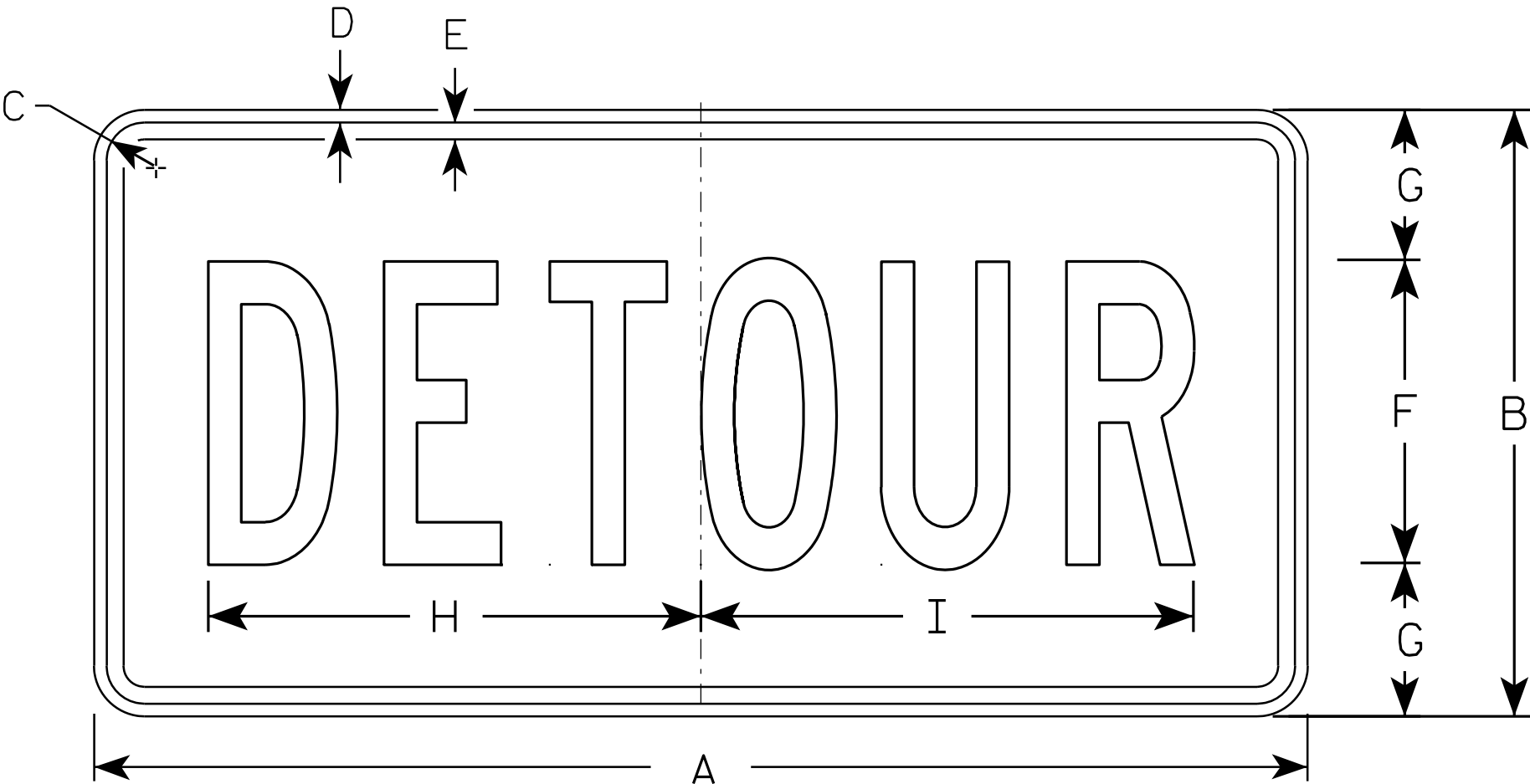
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M3-1.12

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 - B
- 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.



M4 - 8

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																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

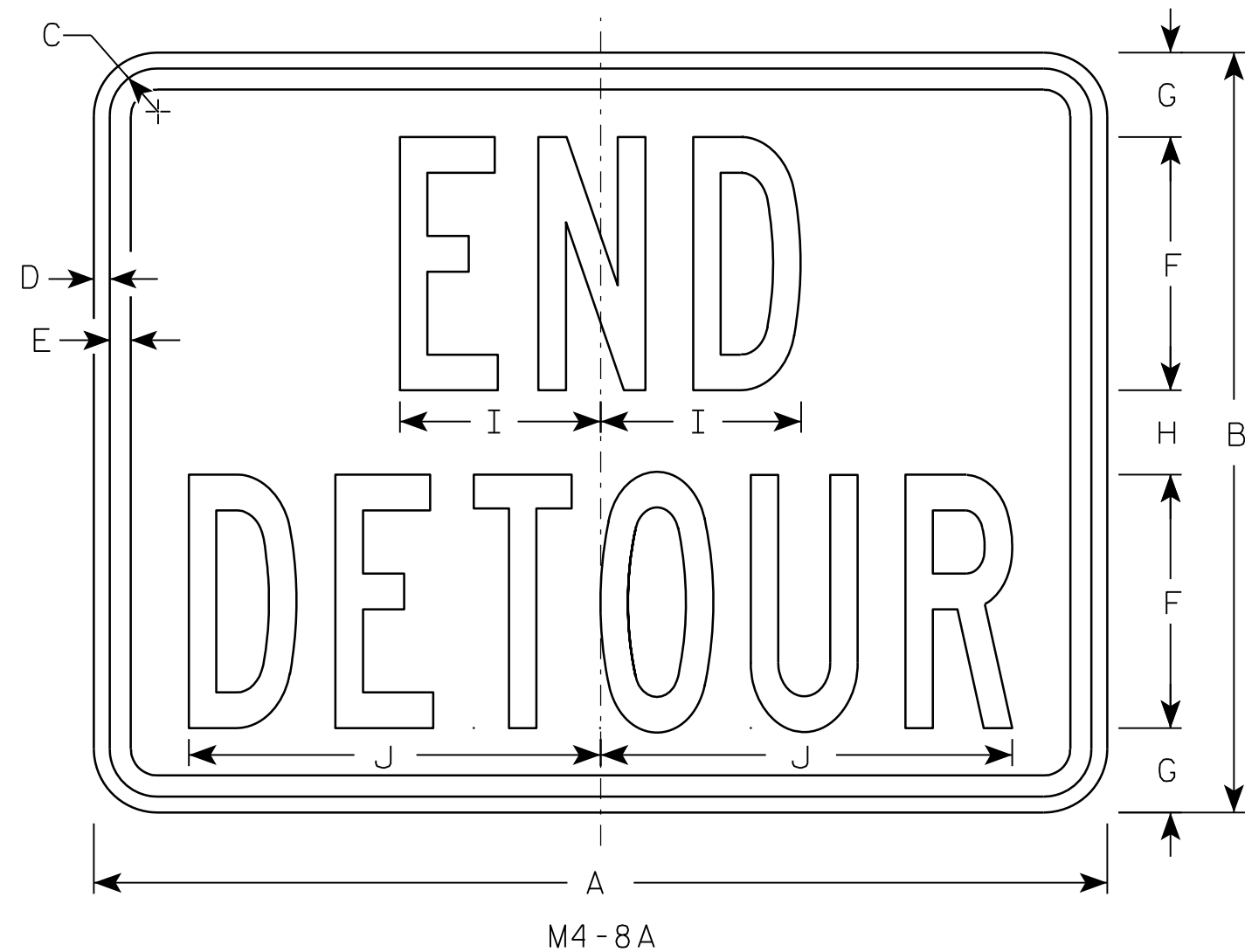
STANDARD SIGN
M4 - 8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

7



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 - B
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.

7

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																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

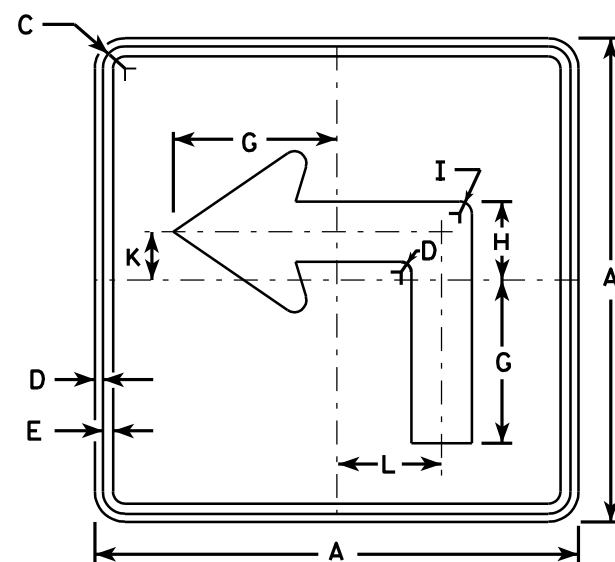
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN
M4-8A

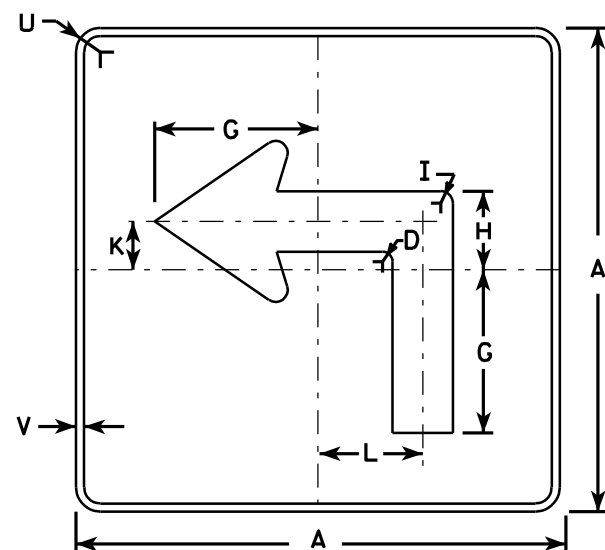
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

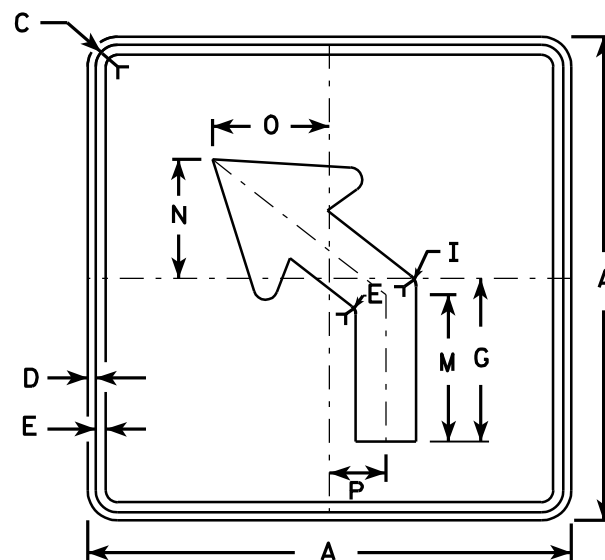
DATE 3/9/11 PLATE NO. M4-8A.2



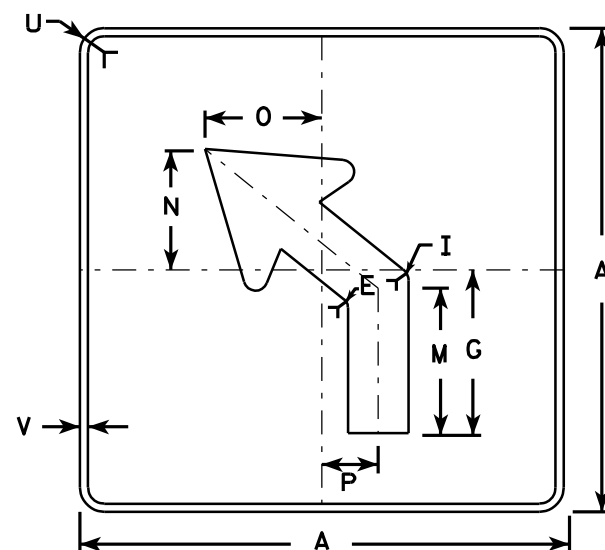
M5-1L
MK5-1L
MM5-1L
M05-1L
MP5-1L
MR5-1L



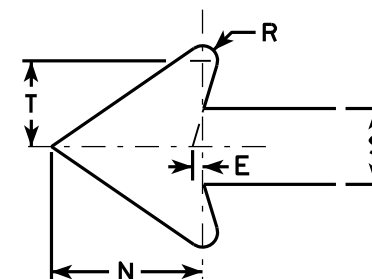
MB5-1L
MG5-1L
MN5-1L



M5-2L
MK5-2L
MM5-2L
M05-2L
MP5-2L
MR5-2L



MB5-2L
MG5-2L
MN5-2L



NOTES

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - See note 4
Message - See note 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.
- M5-1 and M5-2 Background - White - Type H Reflective
Message - Black
MB5-1 and MB5-2 Background - Blue
Message - White - Type H Reflective
MG5-1 and MG5-2 Background - Green
Message - White - Type H Reflective
MK5-1 and MK5-2 Background - Green
Message - White Type H Reflective
MM5-1 and MM5-2 Background - White - Type H Reflective
Message - Green
MN5-1 and MN5-2 Background - Brown
Message - White - Type H Reflective
M05-1 and M05-2 Background - Orange - Type F Reflective
Message - Black
MP5-1 and MP5-2 Background - White - Type H Reflective
Message - Blue
MR5-1 and MR5-2 Background - Brown
Message - Yellow - Type H Reflective
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

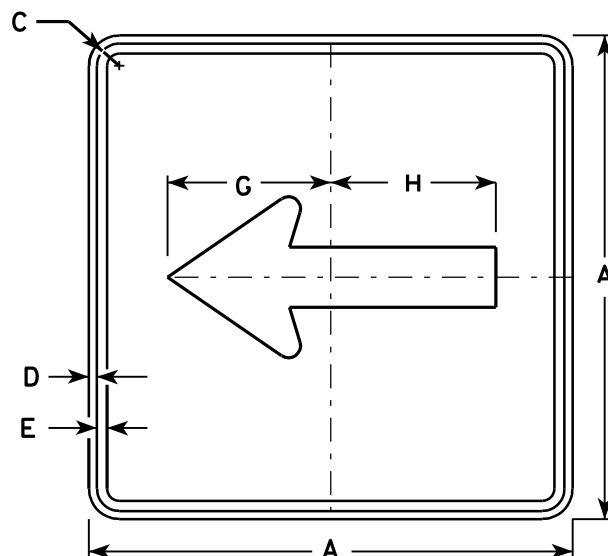
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

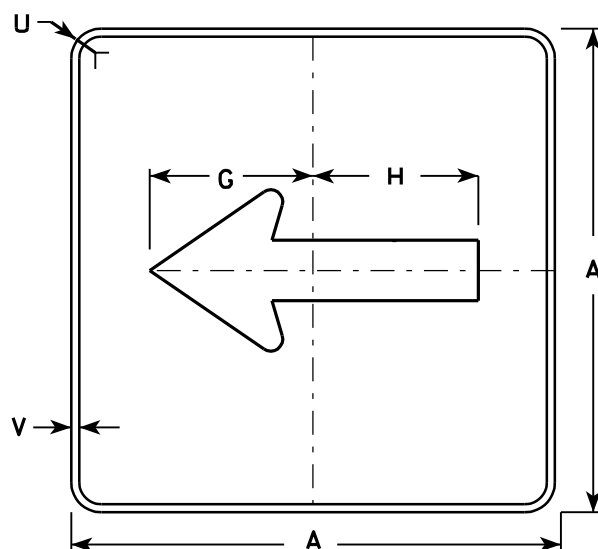
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

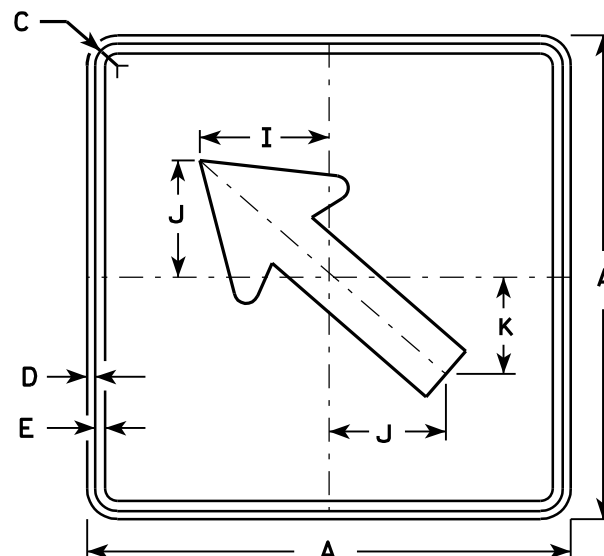
DATE 7/29/13 PLATE NO. M5-1.12



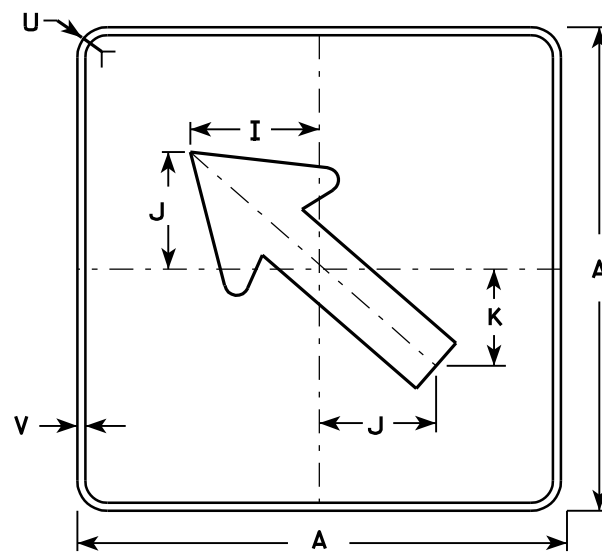
M6-1
MK6-1
MM6-1
M06-1
MP6-1
MR6-1



MB6-1
MG6-1
MN6-1



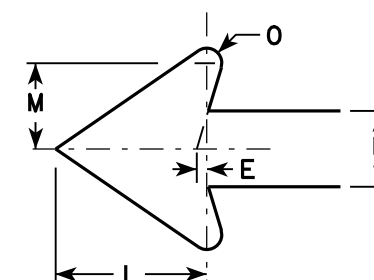
M6-2
MK6-2
MM6-2
M06-2
MP6-2
MR6-2



MB6-2
MG6-2
MN6-2

NOTES

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
 - Background - See note 4
 - Message - See note 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.
- M6-1 and M6-2 Background - White - Type H Reflective Message - Black
 - MB6-1 and MB6-2 Background - Blue Message - White - Type H Reflective
 - MG6-1 and MG6-2 Background - Green Message - White - Type H Reflective
 - MK6-1 and MK6-2 Background - Green Message - White - Type H Reflective
 - MM6-1 and MM6-2 Background - White - Type H Reflective Message - Green
 - MN6-1 and MN6-2 Background - Brown Message - White - Type H Reflective
 - M06-1 and M06-2 Background - Orange - Type F Reflective Message - Black
 - MP6-1 and MP6-2 Background - White - Type H Reflective Message - Blue
 - MR6-1 and MR6-2 Background - Brown Message - Yellow - Type H Reflective



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																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M6-1.13

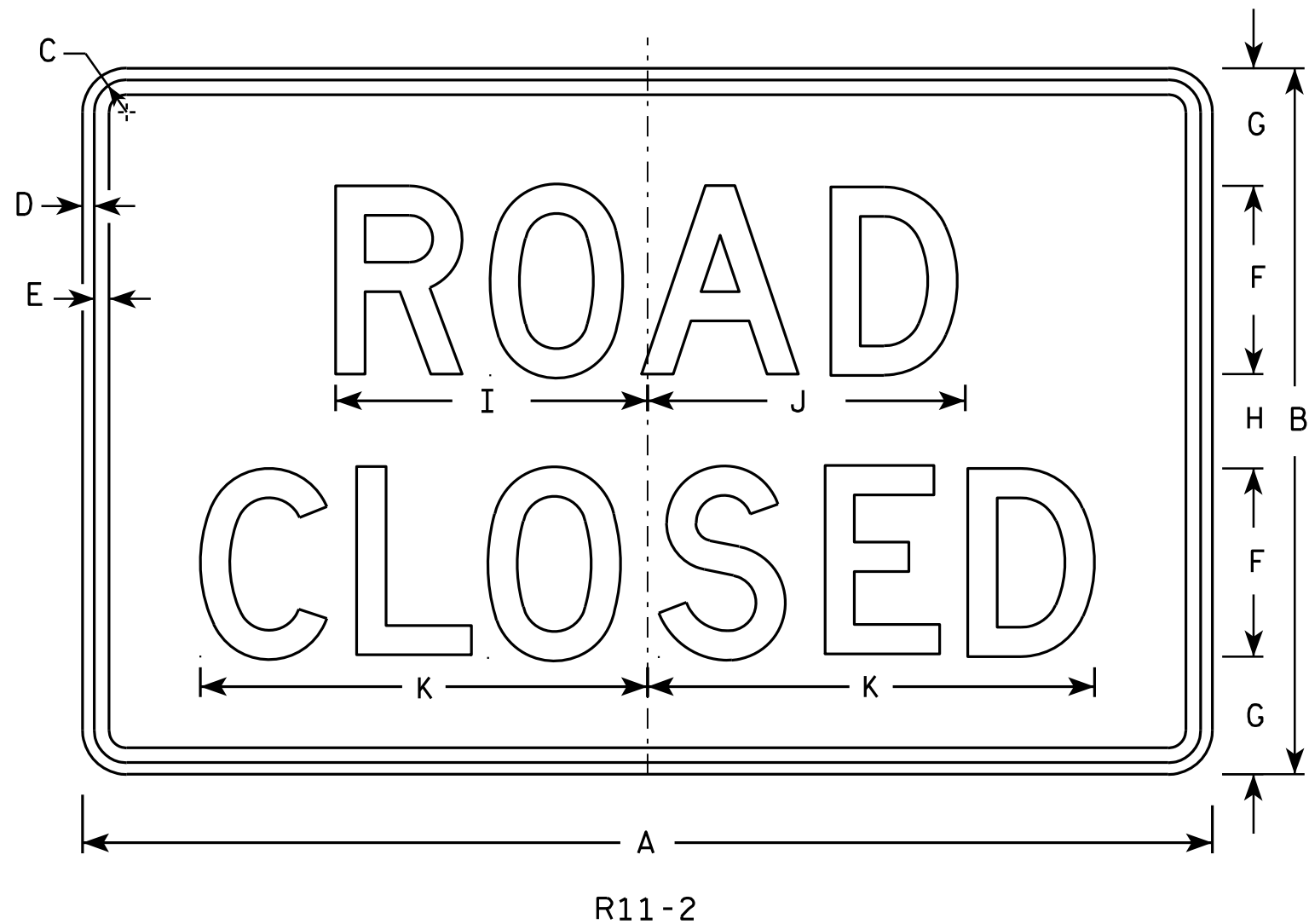
PROJECT NO:

HWY:

COUNTY:

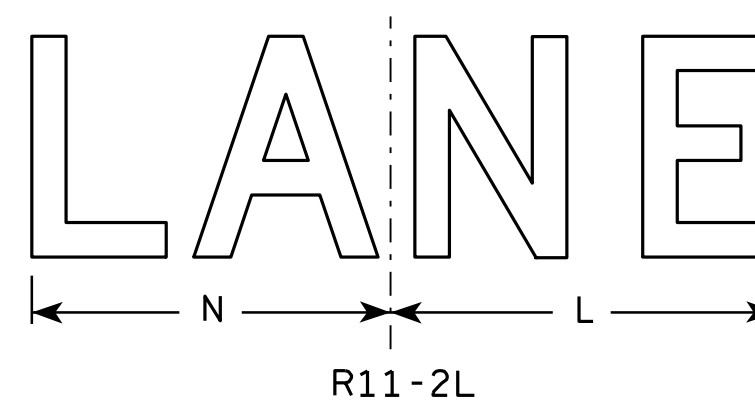
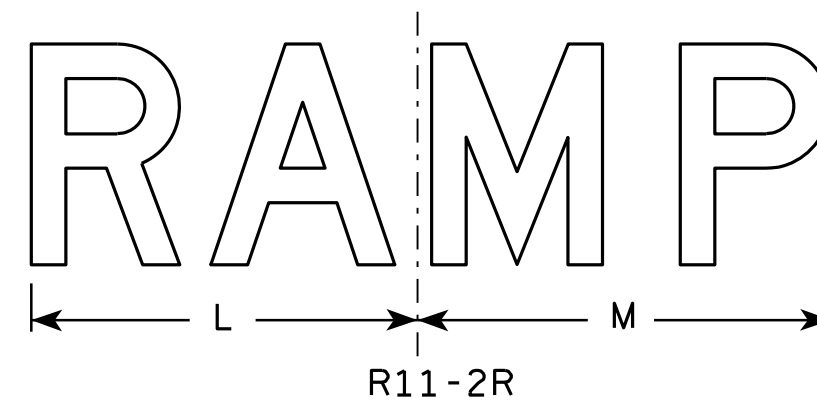
SHEET NO:

E



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.
5. Modify the message as required.



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	13 1⁄4	13 1⁄2	19	14	15	13													10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
4	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
5	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0

STANDARD SIGN R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

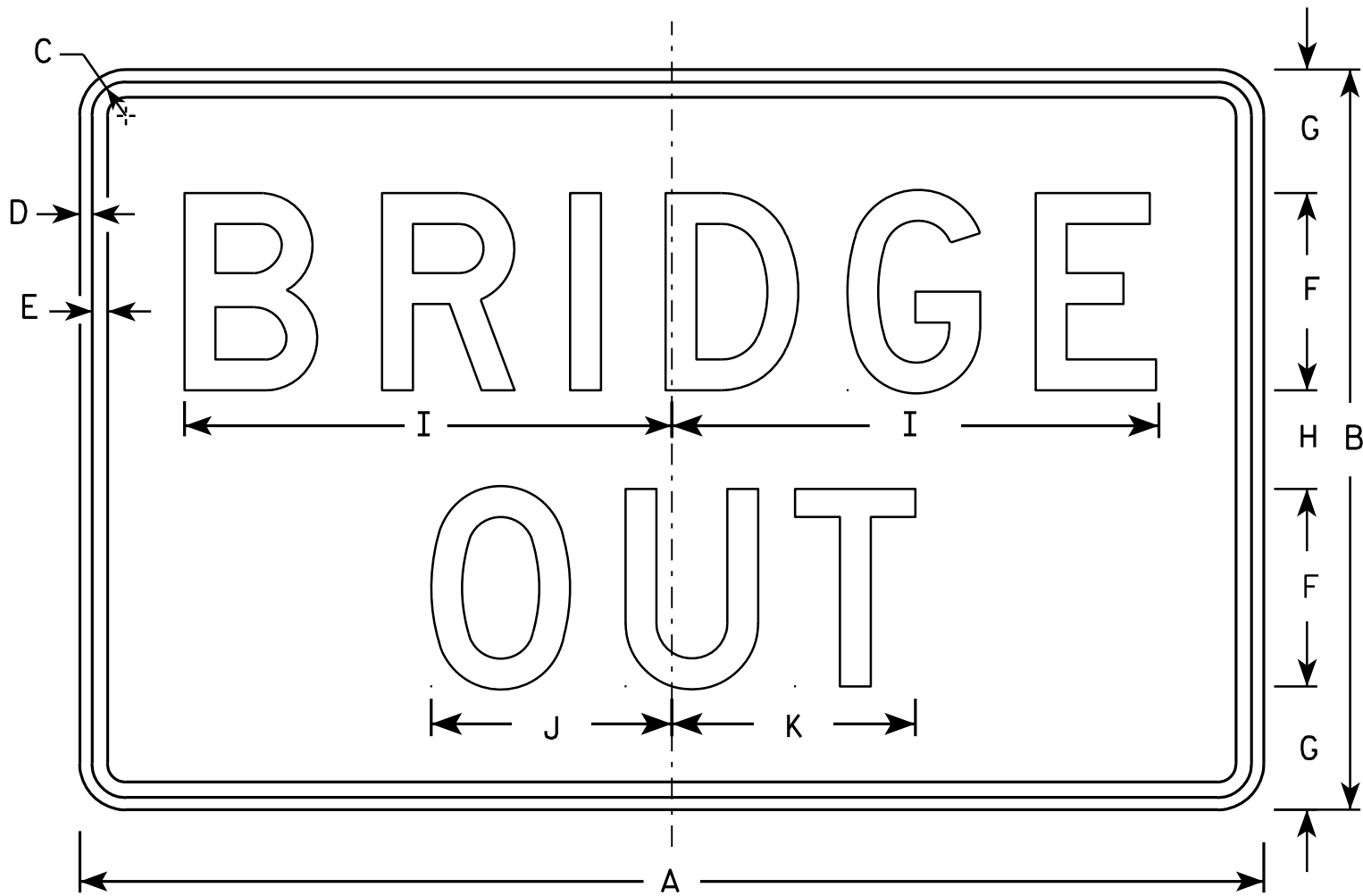
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



R11-2B

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.

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

PROJECT NO:

SHEET NO:

E

STANDARD SIGN

R11-2B

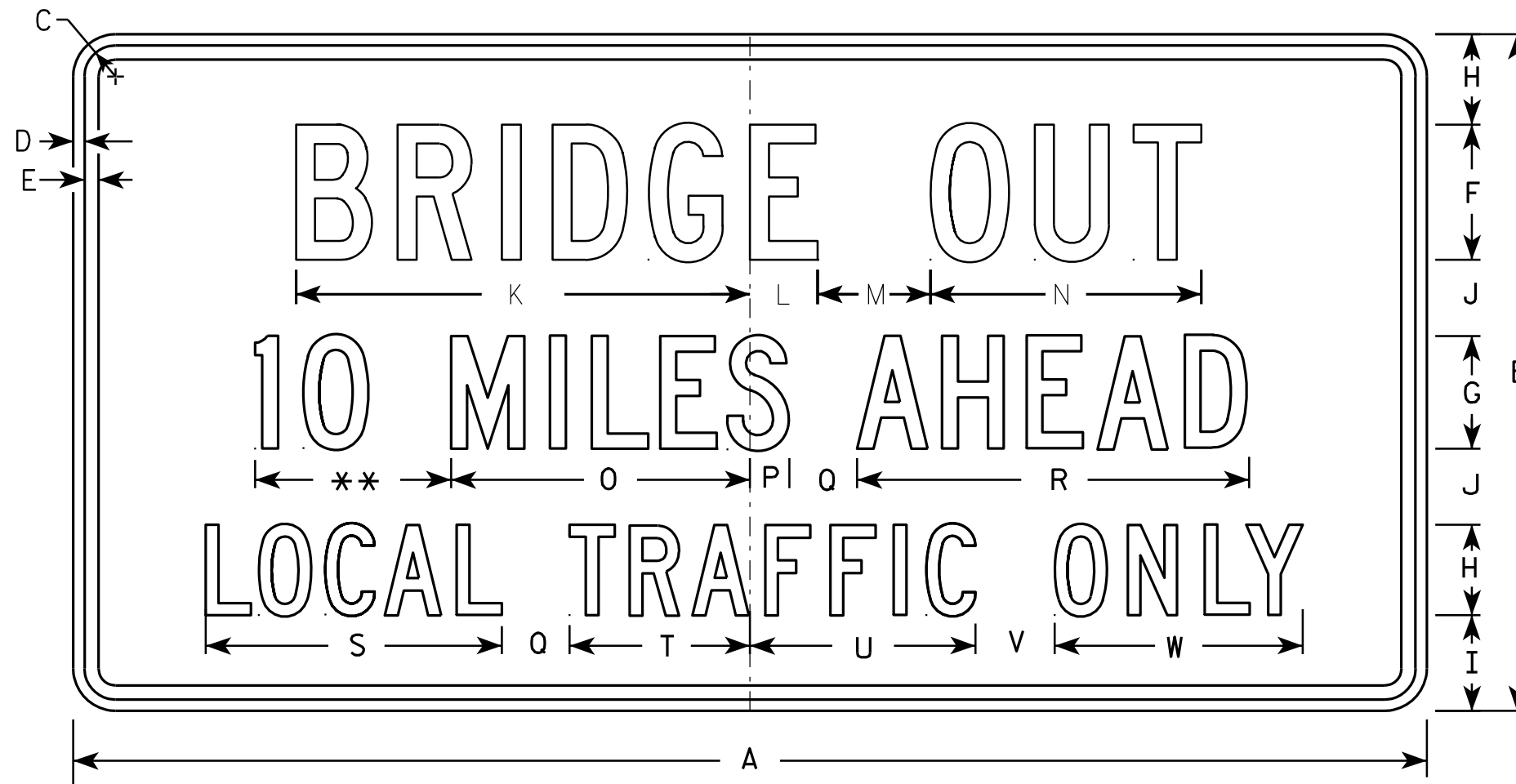
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*

DATE 4/1/11

For State Traffic Engineer

PLATE NO. R11-2B.2



R11-3B

NOTES

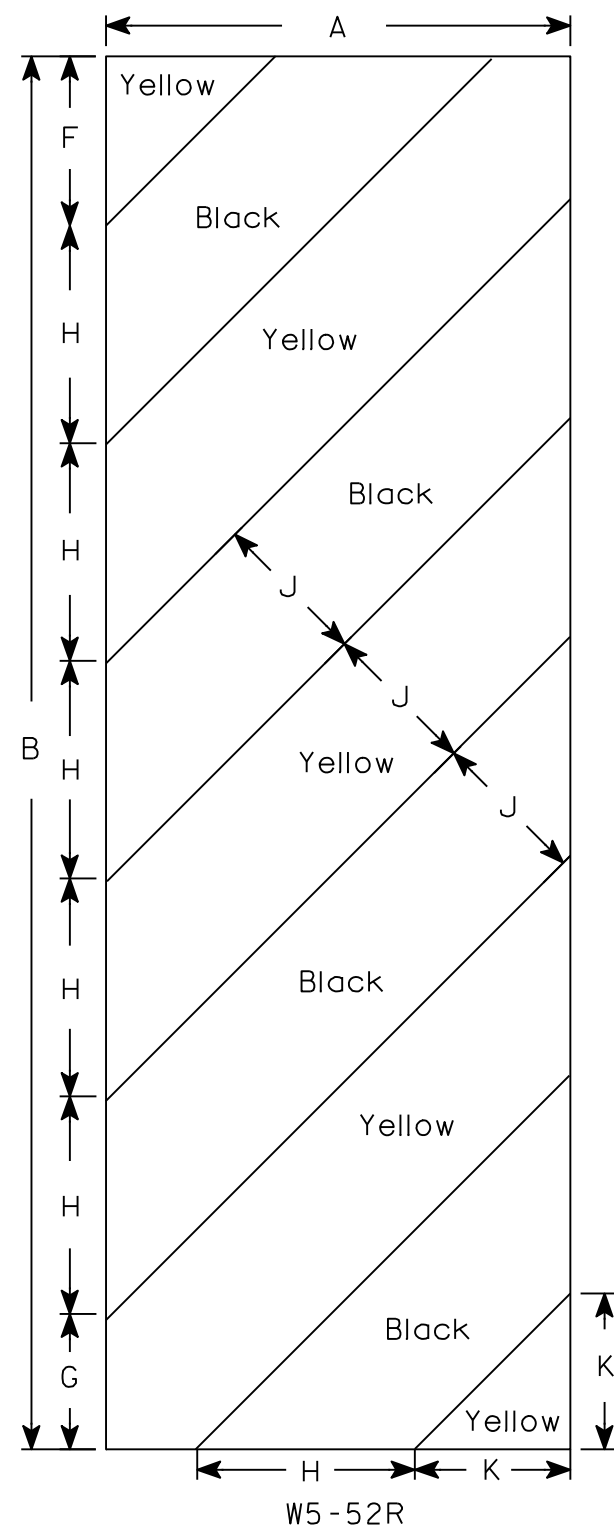
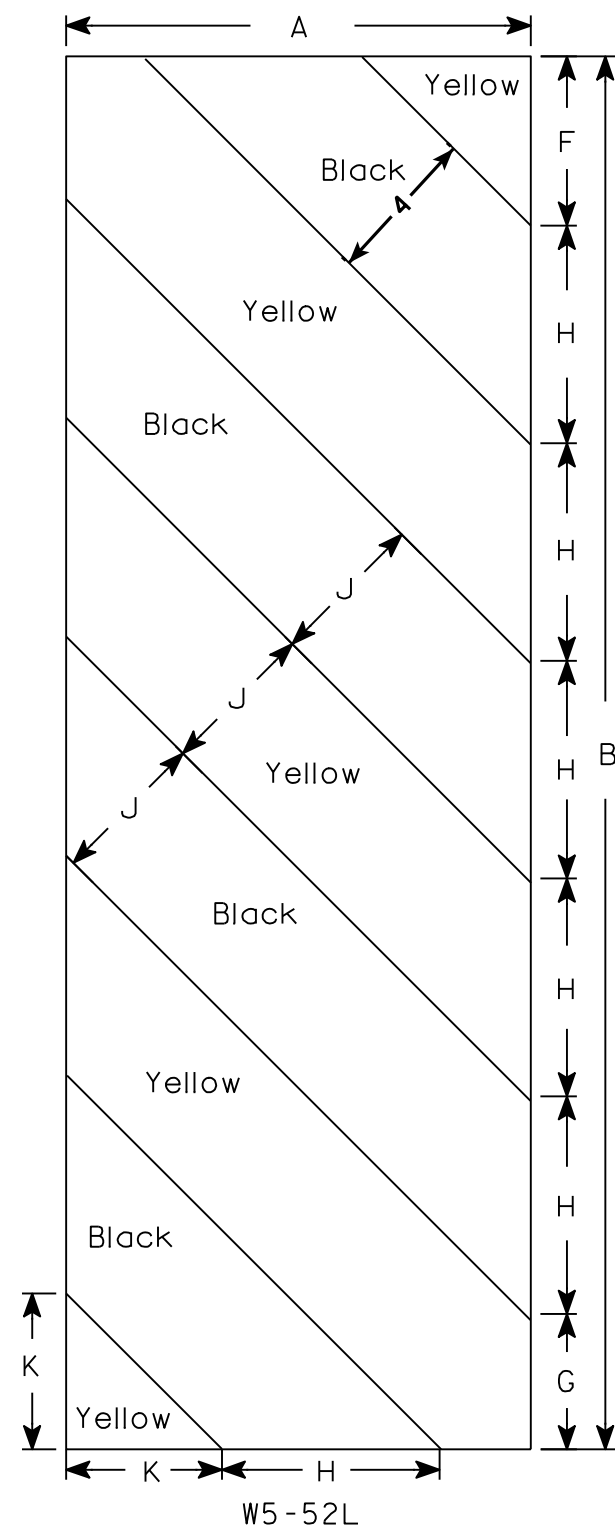
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as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

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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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

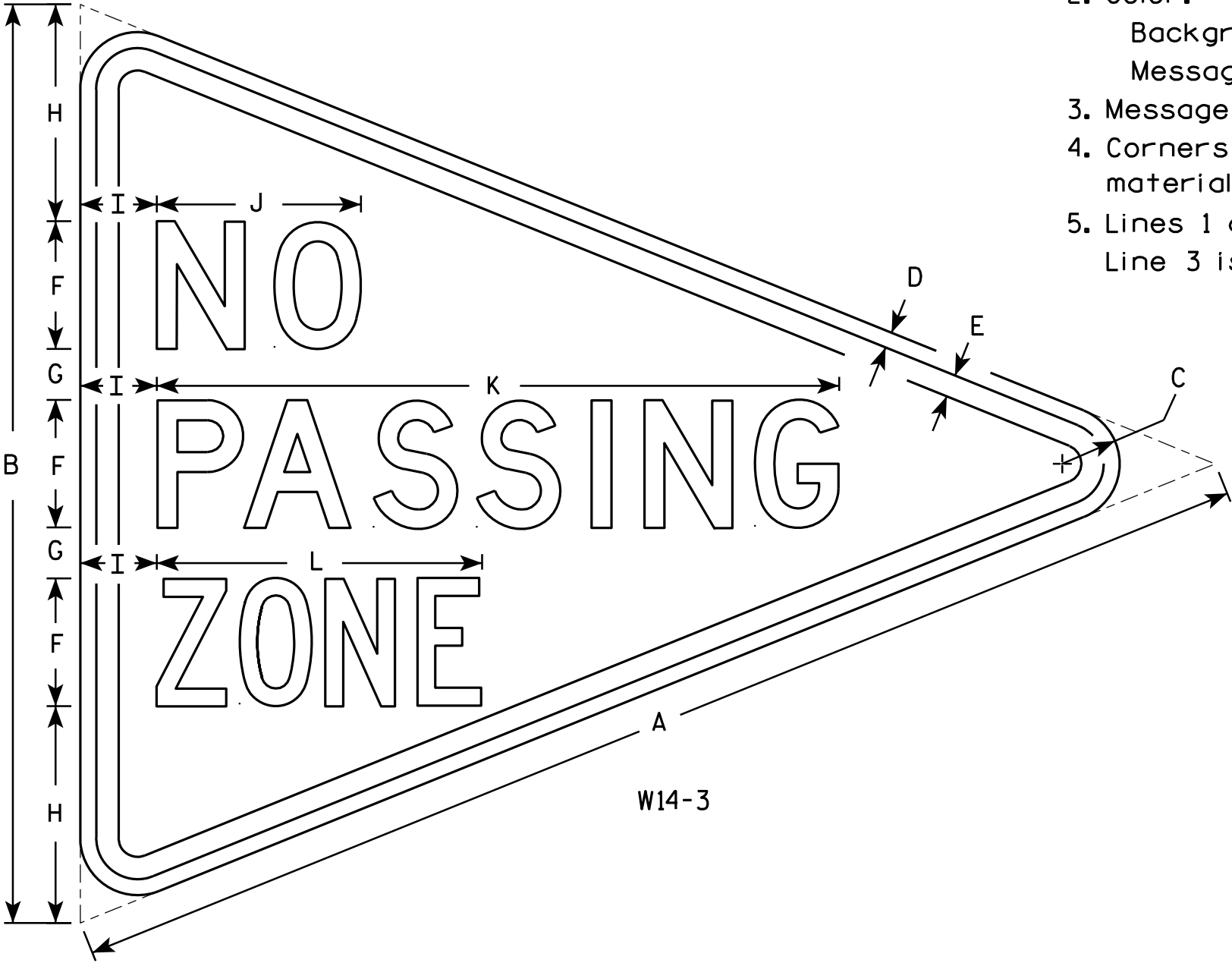
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

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. Message Series - See note 5
- 4. Corners and borders shall be rounded on all base materials for this sign.
- 5. Lines 1 and 2 are Series D.
Line 3 is series C.



W14-3

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	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
2M	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
3	64	48	3	3/4	1 1/4	6	3	12	4	10 3/4	33 5/8	16 1/2															10.7
4																											
5																											

STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 6/7/10 PLATE NO. W14-3.9

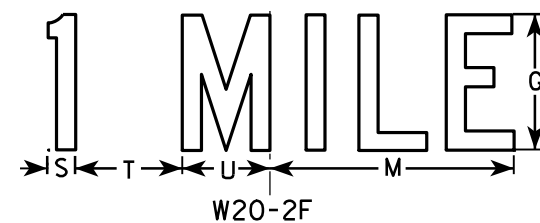
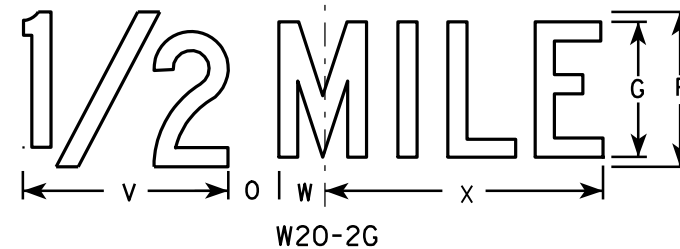
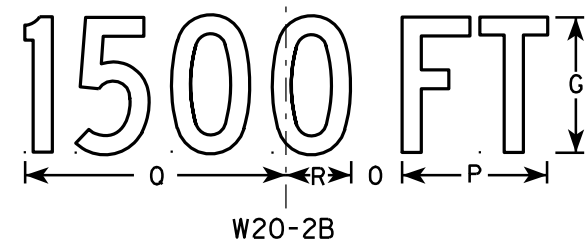
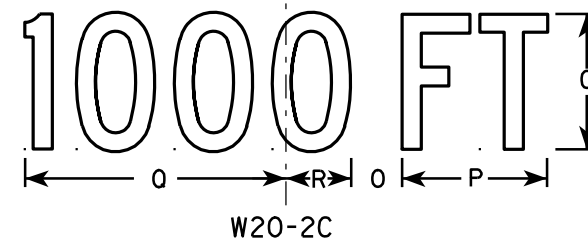
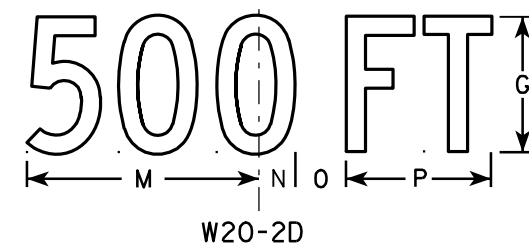
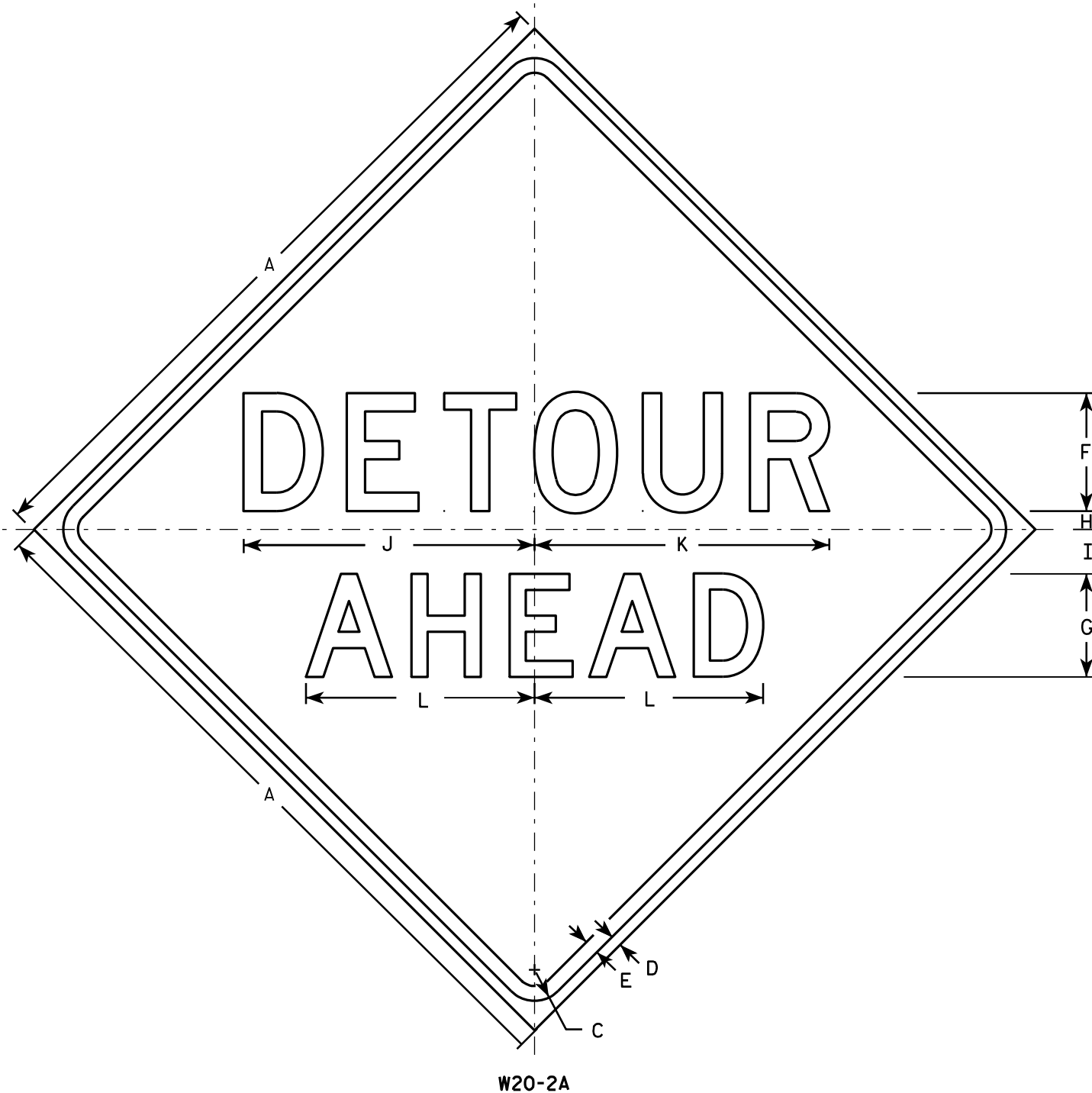
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



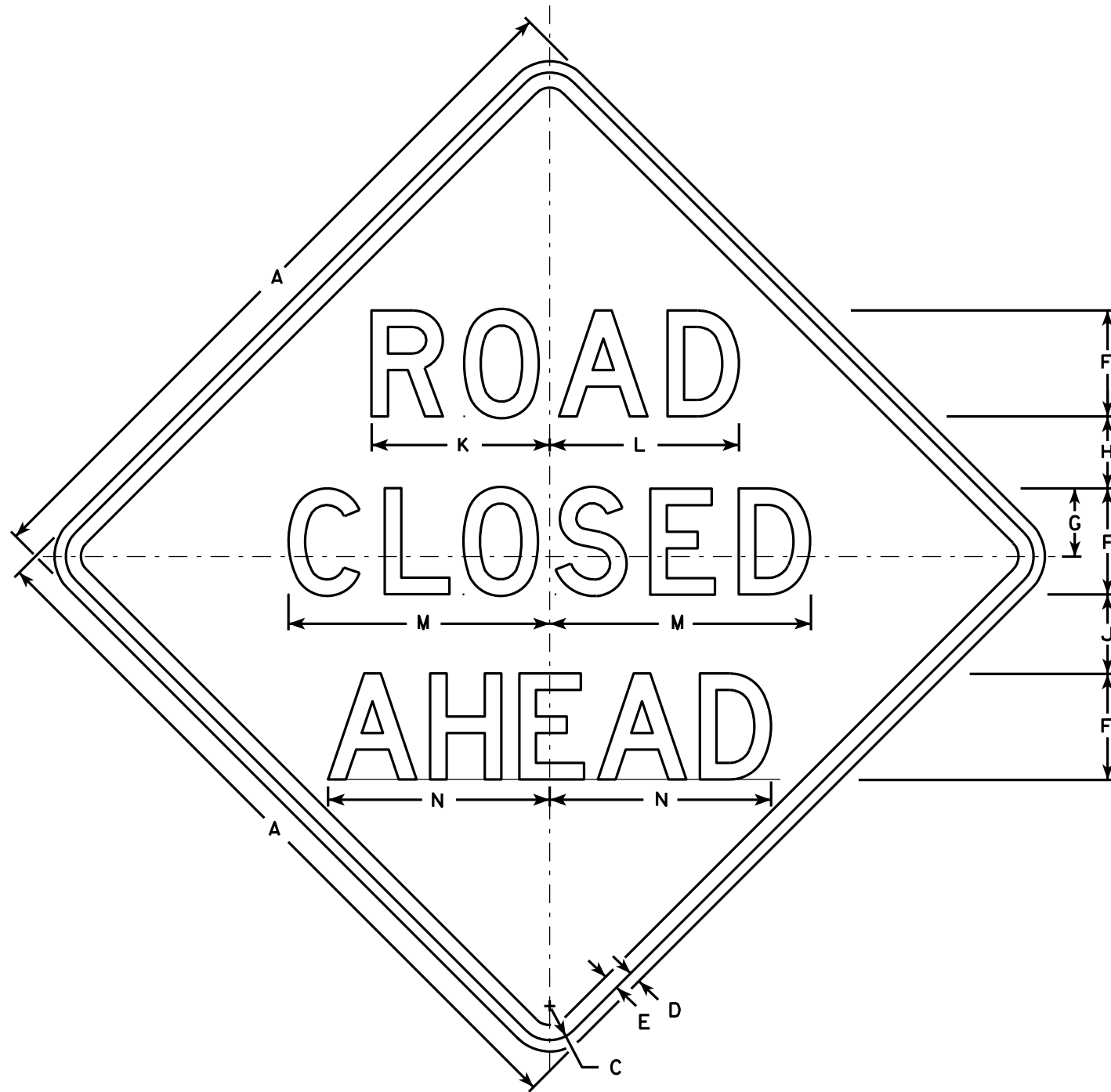
NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- Message Series - See note 5
- 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.
- Line 1 is Series D.
Line 2 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	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch* for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-2.6



W20-3A

500 FT

W20-3D

1000 FT

W20-3C

1500 FT

W20-3B

1/2 MILE

W20-3G

1 MILE

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:

HWY:

COUNTY:

SHEET NO:

E

* LOCATION OF BEAM GUARD ATTACHMENT

STATE PROJECT NUMBER

7849-03-71

⊕ INDICATES WING NUMBER

LIVE LOAD:

DESIGN LOADING _____ HL-93
INVENTORY RATING FACTOR _____ 1.16
OPERATING RATING FACTOR _____ 1.50
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) _____ 250
STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY, SLAB _____ $f'_c = 4000$ psi
ALL OTHER _____ $f'_c = 3500$ psi
HIGH STRENGTH BAR STEEL REINFORCEMENT _____ $f_y = 60$ ksi

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP 10-INCH X 42 LB STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS * PER PILE, AS REQUIRED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 40'-0" LONG AT THE WEST ABUTMENT AND 30'-0" LONG AT THE EAST ABUTMENT. PILE POINTS REQUIRED.

PIER TO BE SUPPORTED ON HP 12-INCH X 53 LB STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS * PER PILE, AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION, ESTIMATED AT 45'-0" LONG AT THE PIER. PREBORING REQUIRED TO EL 1036.00

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

HYDRAULIC DATA:

100 YEAR FREQUENCY
 Q_{100} _____ 5250 cfs
 Q_{100} BRIDGE _____ 5250 cfs
 Q_{100} ROAD _____ 0 cfs
STREAM VELOCITY _____ 6.0 ft/s
HIGH WATER _____ EL. 1079.98
WATERWAY AREA _____ 881 ft²
DRAINAGE AREA _____ 23.7 mi²
SCOUR CRITICAL CODE _____ 5
OVER TOPPING FREQUENCY _____ N/A

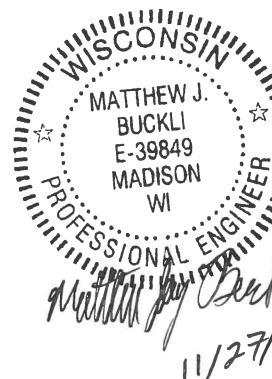
2 YEAR FREQUENCY
 Q_2 _____ 860 cfs
HIGH WATER _____ EL. 1074.55

TRAFFIC DATA:

ADT (2014) = 1900
ADT (2034) = 2300

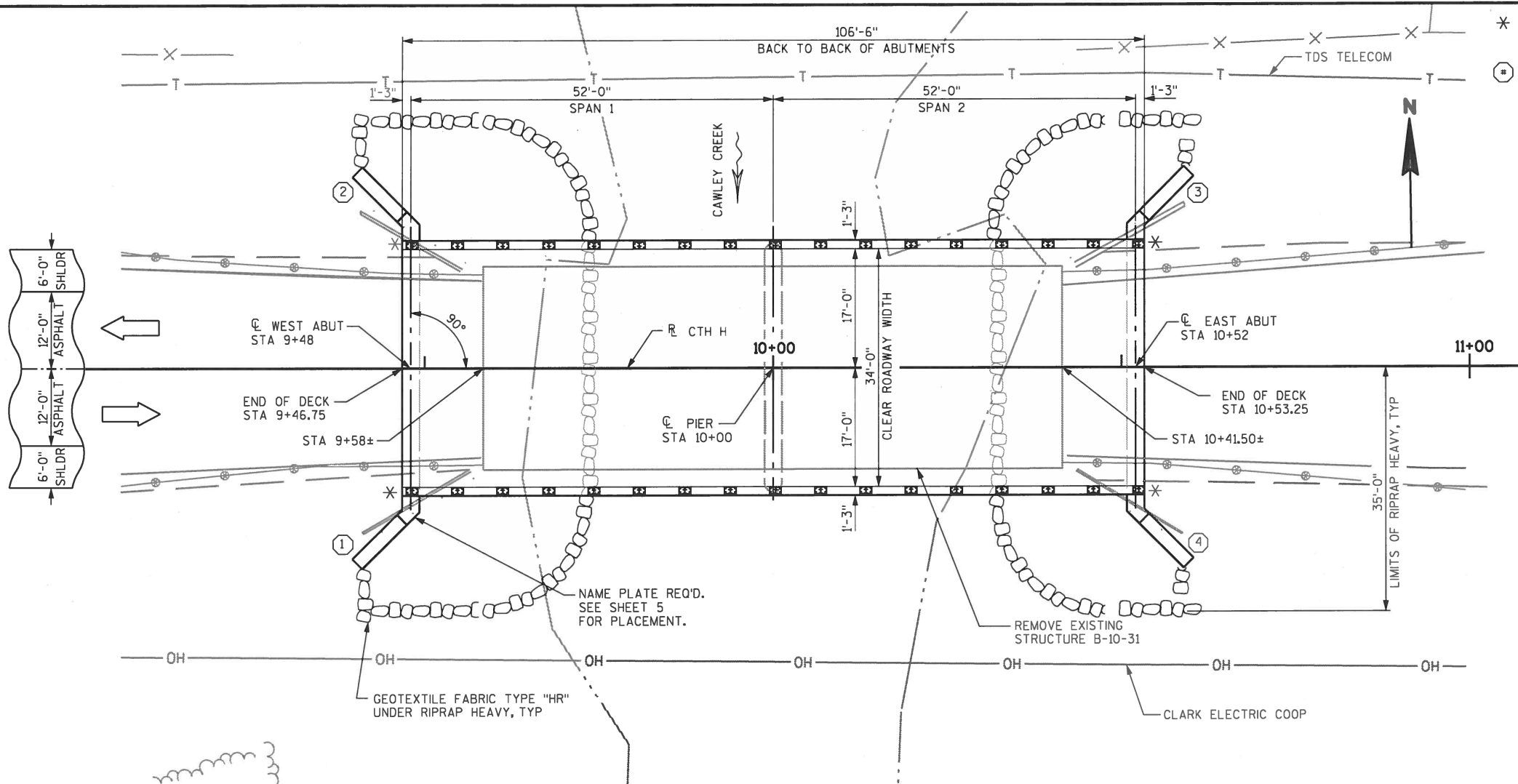
LIST OF DRAWINGS:

GENERAL PLAN	1
CROSS SECTION, GENERAL NOTES & QUANTITIES	2
SUBSURFACE EXPLORATION	3
WEST ABUTMENT	4
WEST ABUTMENT DETAILS	5
EAST ABUTMENT	6
EAST ABUTMENT DETAILS	7
PIER	8
SUPERSTRUCTURE	9
SUPERSTRUCTURE DETAILS	10
RAILING TUBULAR TYPE "M"	11



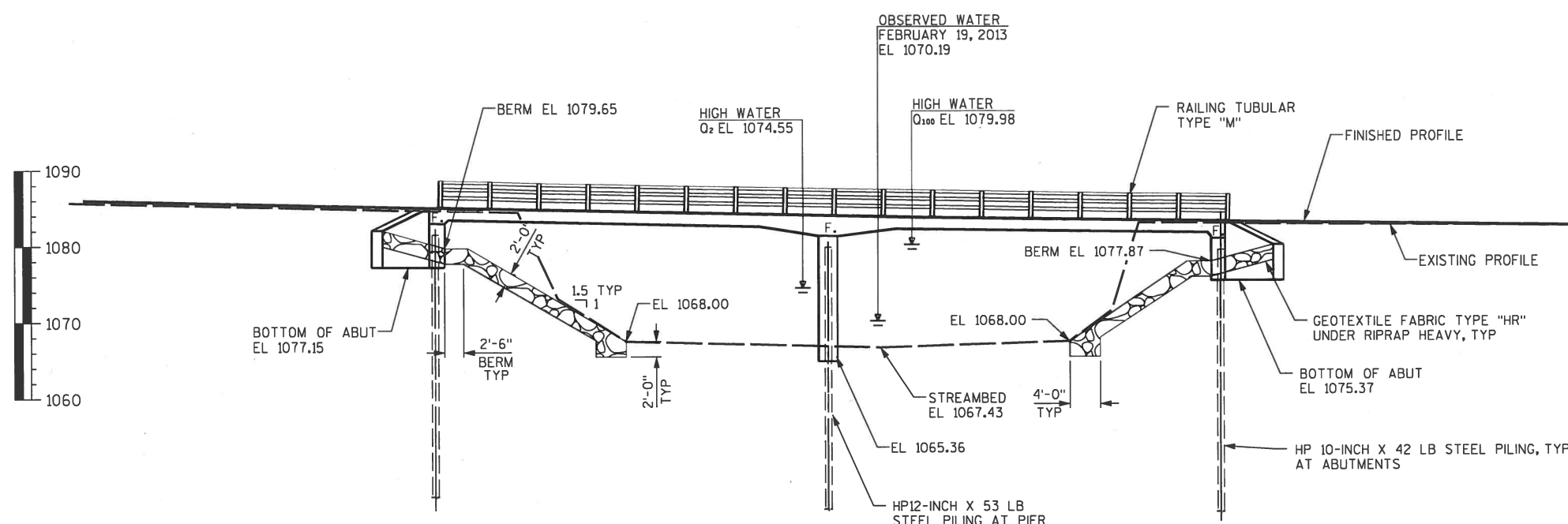
BRIDGE OFFICE CONTACT
WILLIAM DREHER, P.E.
TELEPHONE: (608) 266-8489
CONSULTANT CONTACT
MATTHEW BUCKLI, P.E.
TELEPHONE: (608) 273-6380

NO.	DATE	REVISION	BY
<div style="text-align: center;"> Mead & Hunt, Inc. 6501 Watts Road Madison, WI 53719 608.273.6380 fax: 608.273.6391 www.meadhunt.com </div>			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION ACCEPTED <i>William C. Dreher</i> 02/18/14 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-10-222 CTH H OVER CAWLEY CREEK			
COUNTY	CLARK	TOWN/CITY/VILLAGE	WESTON
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	RCP	DESIGN CK'D.	MJB
DRAWN BY	TAV	PLANS CK'D.	GAR
GENERAL PLAN			SHEET 1 OF 11

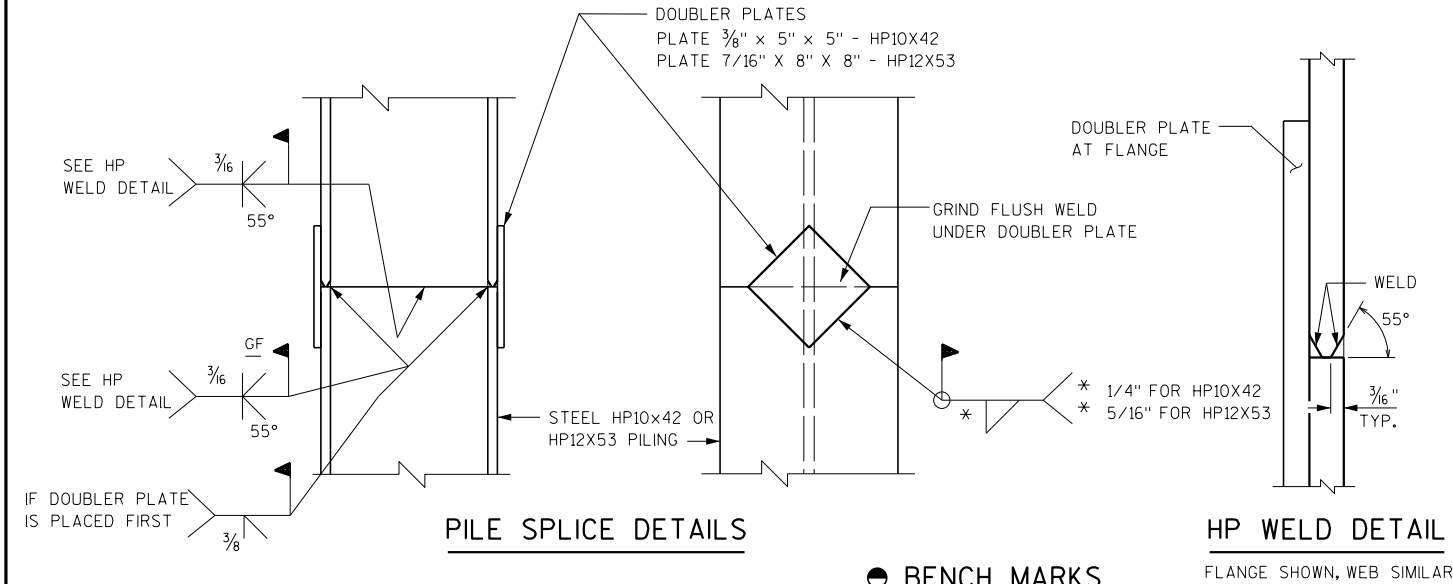
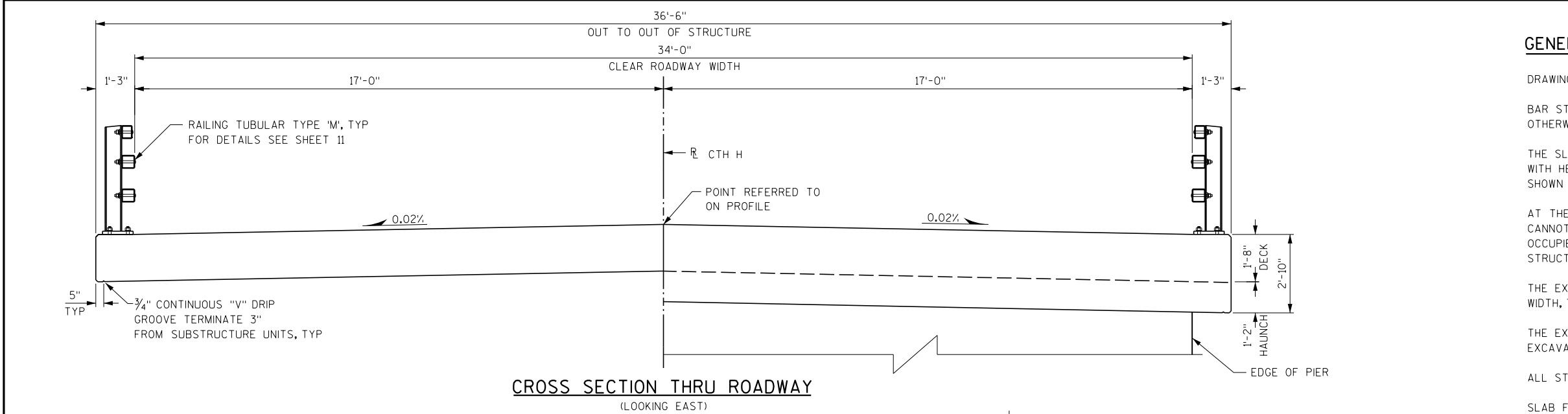


PLAN B-10-222

(TWO SPAN REINFORCED CONCRETE HAUNCH SLAB)



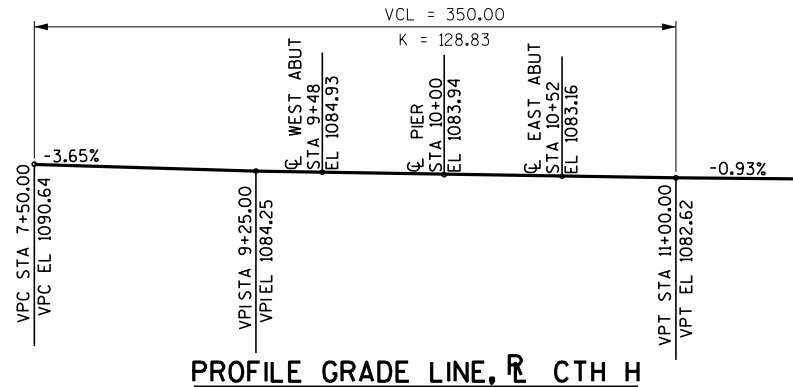
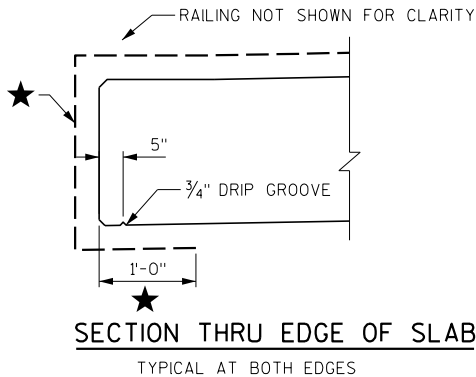
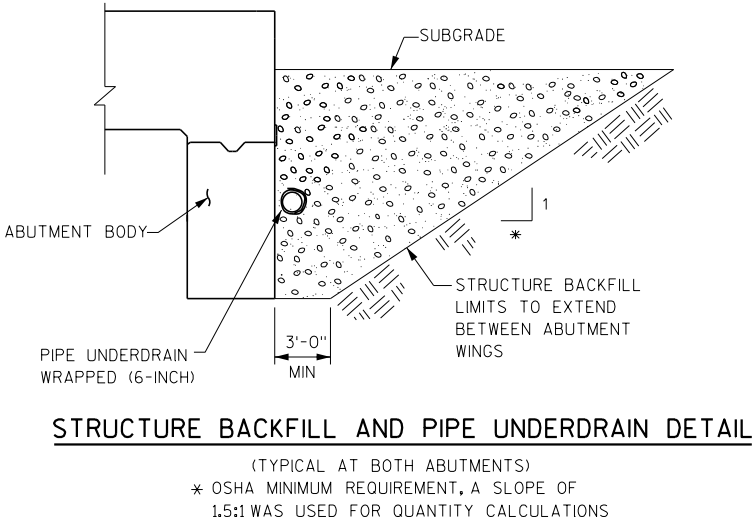
ELEVATION



BENCH MARKS				
NO.	STATION	OFFSET	DESCRIPTION	ELEV.
100	5+83	19.2' RT	3/4" REBAR, CP #1	1096.52
101	9+15	52.1' LT	3/4" REBAR, CP #2	1083.96
102	11+34	19.1' RT	3/4" REBAR, CP #3	1081.57
103	14+82	19.8' LT	3/4" REBAR, CP #4	1079.79

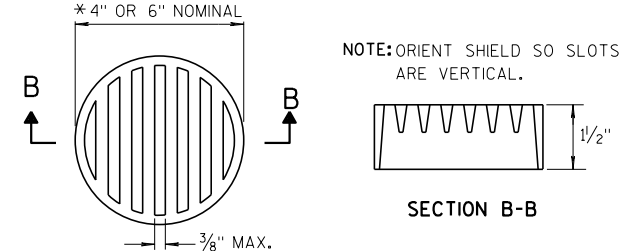
TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	W ABUT	E ABUT	PIER	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-10-222)	LS	---	---	---	---	1
210.0100	BACKFILL STRUCTURE	CY	90	90	---	---	180
502.0100	CONCRETE MASONRY BRIDGES	CY	30	30	50	262	372
502.3200	PROTECTIVE SURFACE TREATMENT	SY	---	---	---	498	498
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	2620	2620	2290	---	7530
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1420	1410	---	61180	64010
513.4060	RAILING TUBULAR TYPE M (B-10-222)	LS	---	---	---	---	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	7	7	---	---	14
550.0010	PRE-BORING UNCONSOLIDATED MATERIALS	LF	---	---	55	---	55
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	---	---	210	---	210
550.0500	PILE POINTS	EA	8	8	---	---	16
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	315	235	---	---	550
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	---	---	405	---	405
606.0300	RIPRAP HEAVY	CY	155	135	---	---	290
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	25	20	---	---	45
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	59	59	---	---	118
645.0120	GEOTEXTILE FABRIC TYPE 'HR'	SY	280	250	---	---	530
NON BID ITEMS							
	FILLER	SIZE					1/2" & 3/4"



GENERAL NOTES

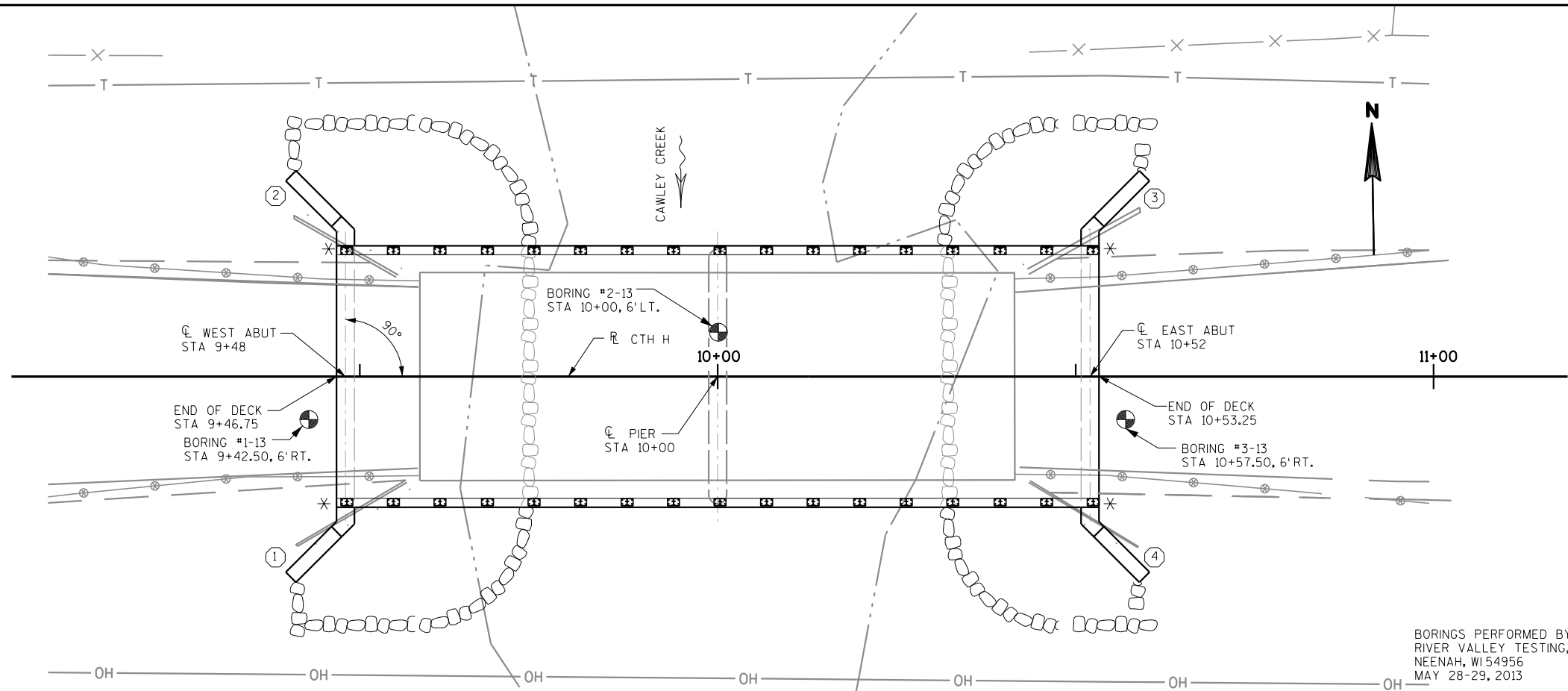
- DRAWINGS SHALL NOT BE SCALED.
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
- THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE FABRIC, TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.
- AT THE BACKFACE OF ABUTMENT ALL EXCAVATED VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.
- THE EXISTING STRUCTURE IS A 81.7' LONG BY 26.0' CLEAR ROADWAY WIDTH, TWO SPAN STEEL DECK GIRDER STRUCTURE (B-10-31).
- THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.
- ALL STATIONS AND ELEVATIONS ARE IN FEET.
- SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS ALTERNATE METHOD IS APPROVED BY THE ENGINEER.
- ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
- THE EXISTING STREAM BED SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIER.
- PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE LIMITS SHOWN IN THE DETAIL ON THIS SHEET.



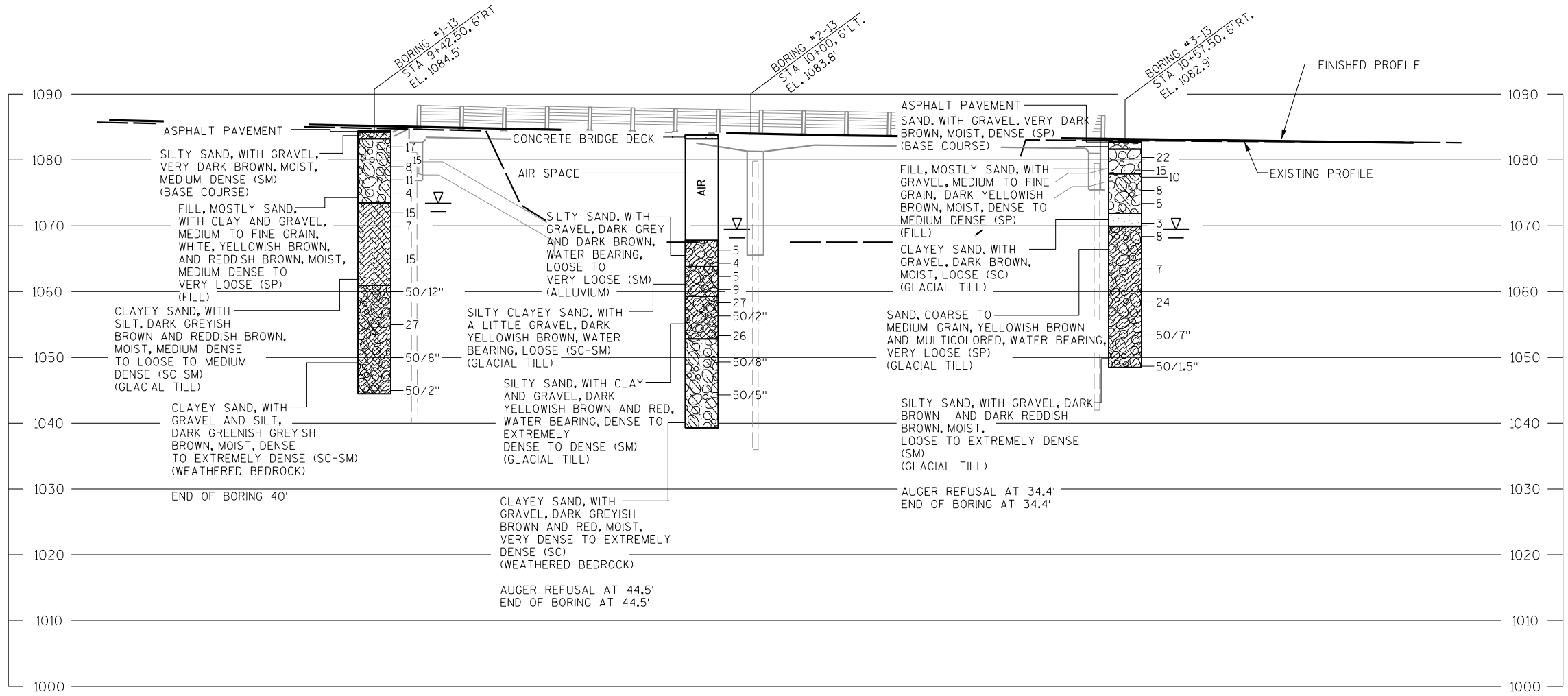
RODENT SHIELD

- * NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.
- 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 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. THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS "PIPE UNDERDRAIN UNPERFORATED 6-INCH".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-222			
DRAWN BY		TAV	PLANS CK'D. GAR
CROSS SECTION, GENERAL NOTES & QUANTITIES			SHEET 2 OF 11



BORINGS PERFORMED BY:
RIVER VALLEY TESTING, CORP.
NEENAH, WI 54956
MAY 28-29, 2013



STATE PROJECT NUMBER
7849-03-71

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

MATERIAL SYMBOLS
 [Symbol] ASPHALT [Symbol] SILT [Symbol] CONCRETE
 [Symbol] SAND [Symbol] PEAT [Symbol] LIMESTONE
 [Symbol] GRAVEL [Symbol] CLAY [Symbol] IGNEOUS ROCK

LEGEND OF PROBING
 PROBING NO.
 STA.
 ELEVATION
 95/6=95 BLOWS FOR 6" PENETRATION
 PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.
 7 AVERAGE BLOWS PER FOOT
 REFUSAL 95/6

LEGEND OF BORING
 ELEV. BORING NO. STA.
 UNCONFINED STRENGTH → 7.7
 BLOWS PER FT. USING 140# WT. FALLING 30"
 WASH SAMPLE
 SHELBY TUBE — S.T.
 GROUND WATER ELEVATION
 NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
 SANDY GRAVEL
 F. BOULDERS OR COBBLES
 SAND
 SILTY CLAY
 SO
 LIMESTONE

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-222			
DRAWN BY TAV		PLANS CKD. GAR	
SUBSURFACE EXPLORATION		SHEET 3 OF 11	

8

8

NOTES

FOR PILE SPLICE DETAILS SEE SHEET 2

FOR STRUCTURE BACKFILL AND PIPE UNDERDRAIN DETAIL SEE SHEET 2.

FILL / EXCAVATE TO BOTTOM OF ABUTMENT EL 1077.15 WEST ABUTMENT BEFORE DRIVING PILING.

DO NOT PLACE FILL ABOVE ELEVATION 1080.15 UNTIL SUPERSTRUCTURE IS IN PLACE.

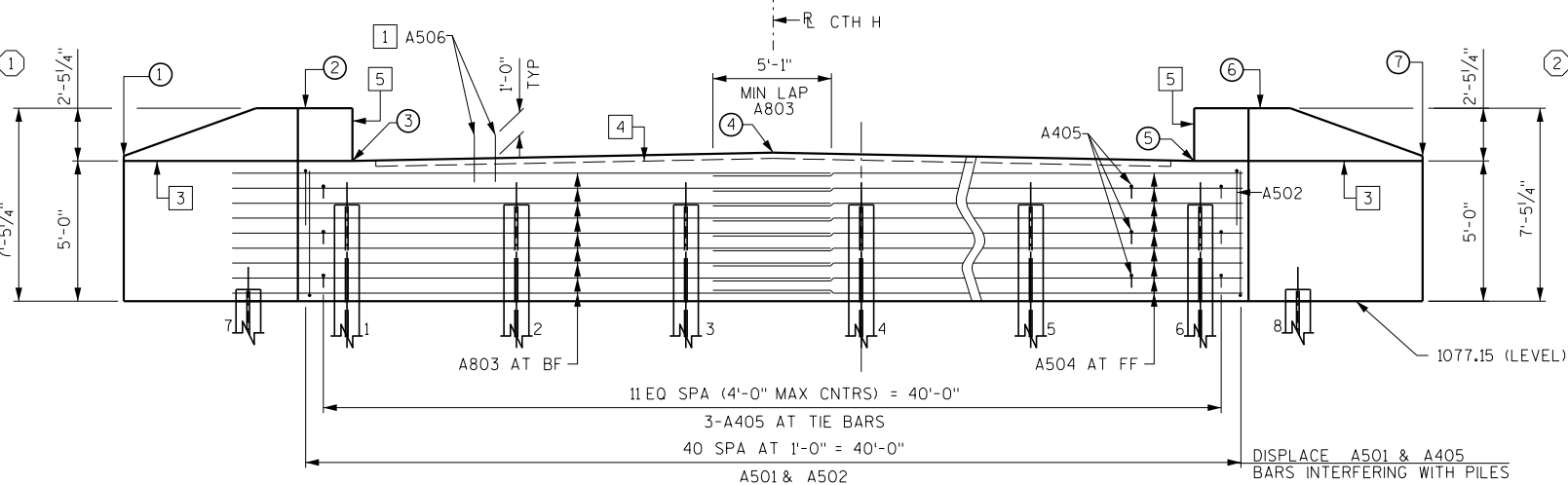
ABUTMENTS TO BE SUPPORTED ON HP 10-INCH X 42 LB STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 40'-0" LONG. PILE POINTS REQUIRED.

- 1 A506 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INTIAL SET HAS TAKEN PLACE.
- 2 18" RUBBERIZED MEMBRANE WATERPROOFING (RMW) TO EXTEND FROM BRIDGE SEAT TO TOP OF WING AND BETWEEN INSIDE FACES OF WINGS. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- 3 OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY, PROVIDE RMW ON BF IF CONST. JOINT IS USED (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").
- 4 KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY, TERMINATE 1'-0" FROM WINGS.
- 5 1/2" FILLER - EXTEND FROM BRIDGE SEAT TO TOP OF WING, 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).
- 6 PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2.
- 7 PIPE UNDERDRAIN UNPERFORATED (6-INCH) SLOPE TO DRAIN.
- 8 4" x 3/4" FILLER LENGTH OF ABUTMENT.
- X INDICATES WING NUMBER

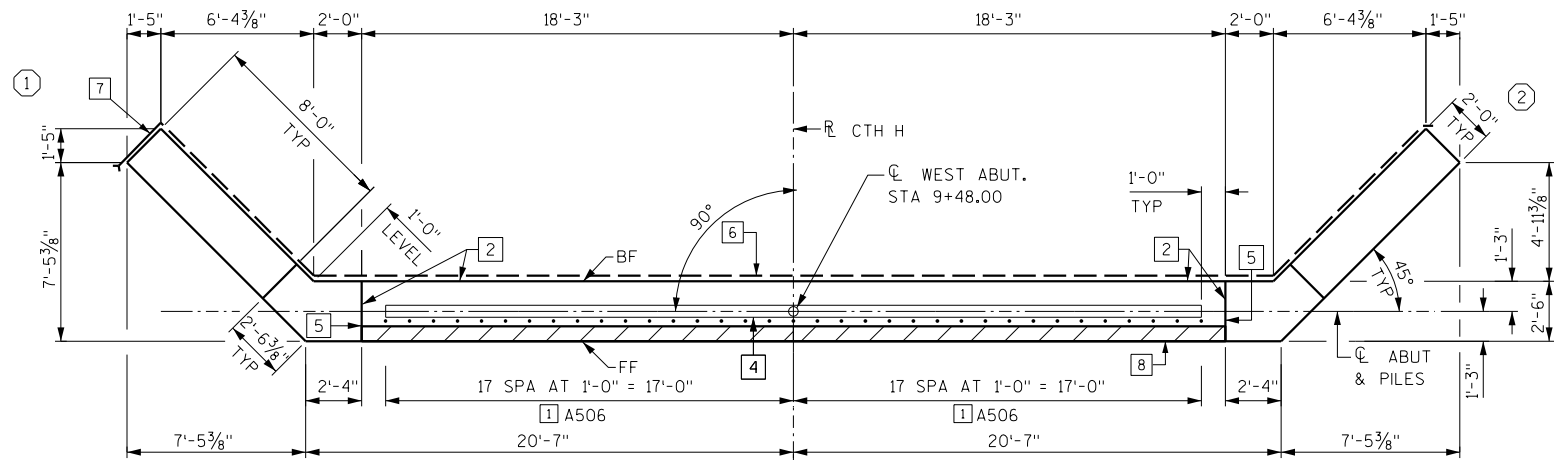
FF - FRONT FACE
BF - BACK FACE
WT - WING TIP

ELEVATION TABLE

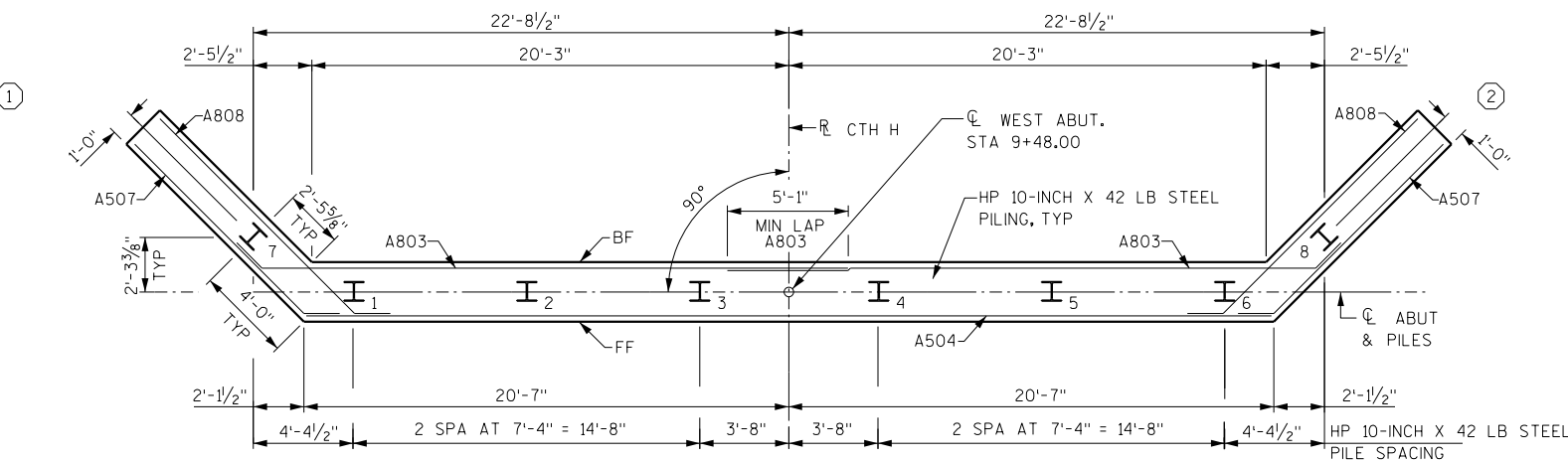
- 1 EL 1082.40 AT WING 1
- 2 EL 1084.59 AT WING 1BF
- 3 EL 1082.15 AT W ABUT
- 4 EL 1082.52 AT W ABUT
- 5 EL 1082.15 AT W ABUT
- 6 EL 1084.59 AT WING 2 BF
- 7 EL 1082.40 AT WING 2 WT



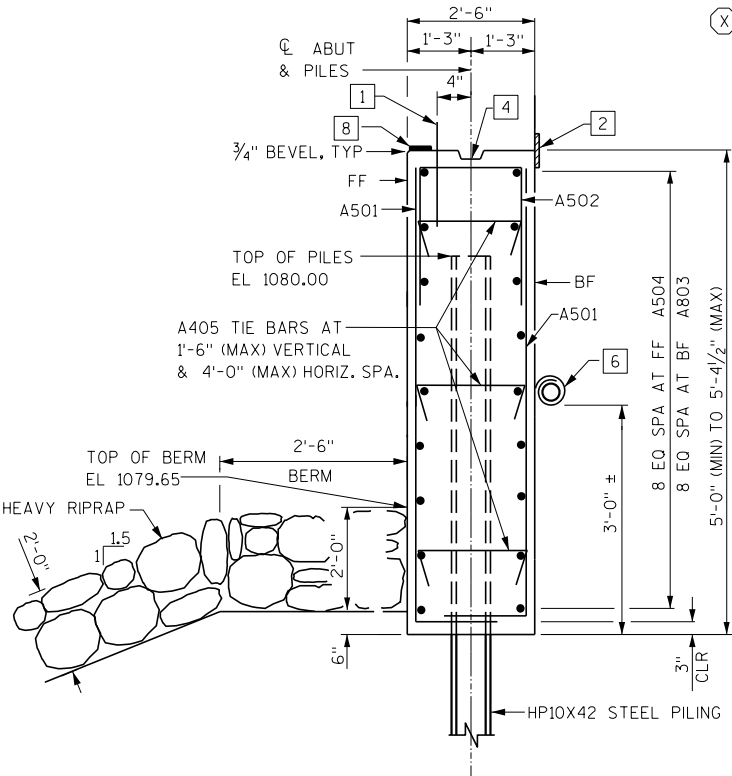
ELEVATION
WEST ABUTMENT LOOKING WEST



PLAN



PILE PLAN



SECTION THRU ABUTMENT BODY

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-222			
DRAWN BY		TAV	PLANS CK'D. GAR
WEST ABUTMENT		SHEET 4 OF 11	

BILL OF BARS
WEST ABUTMENT

COATED= 1420 LBS
UNCOATED= 2620 LBS

MARK	NUMBER		LENGTH FT - IN	BENT	BAR SERIES	LOCATION
	COATED	UNCOATED				
A 5 01		82	6 - 0	X		ABUTMENT BODY VERT
A 5 02		41	8 - 5	X		ABUTMENT BODY - TOP VERT
A 8 03		18	26 - 10	X		ABUTMENT BODY - BF HORIZ
A 5 04		9	41 - 0			ABUTMENT BODY - FF HORIZ
A 4 05		36	2 - 9	X		ABUTMENT BODY TIES
A 5 06		35	2 - 0			ABUTMENT BODY - DOWELS VERT
A 5 07		18	11 - 8	X		WINGS - FF HORIZ
A 8 08		18	13 - 3	X		WINGS - BF HORIZ
A 4 09		44	8 - 5	X	X	WINGS VERT
A 4 10		12	9 - 6	X		WINGS VERT
A 4 11		16	5 - 10	X		WINGS - TOP VERT
A 4 12		2	11 - 10	X		WINGS - TOP FF HORIZ
A 4 13		2	9 - 5	X		WINGS - TOP FF HORIZ
A 4 14		2	6 - 11	X		WINGS - TOP FF HORIZ
A 4 15		2	10 - 5	X		WINGS - TOP BF HORIZ
A 4 16		2	8 - 0	X		WINGS - TOP BF HORIZ
A 4 17		2	5 - 6	X		WINGS - TOP BF HORIZ
A 4 18		4	10 - 7	X		WINGS TOP HORIZ

BAR DIMENSIONS IN BENDING ARE OUT TO OUT OF BARS.
ALL REINFORCING BARS ARE ENGLISH.
THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

BAR SERIES TABLE

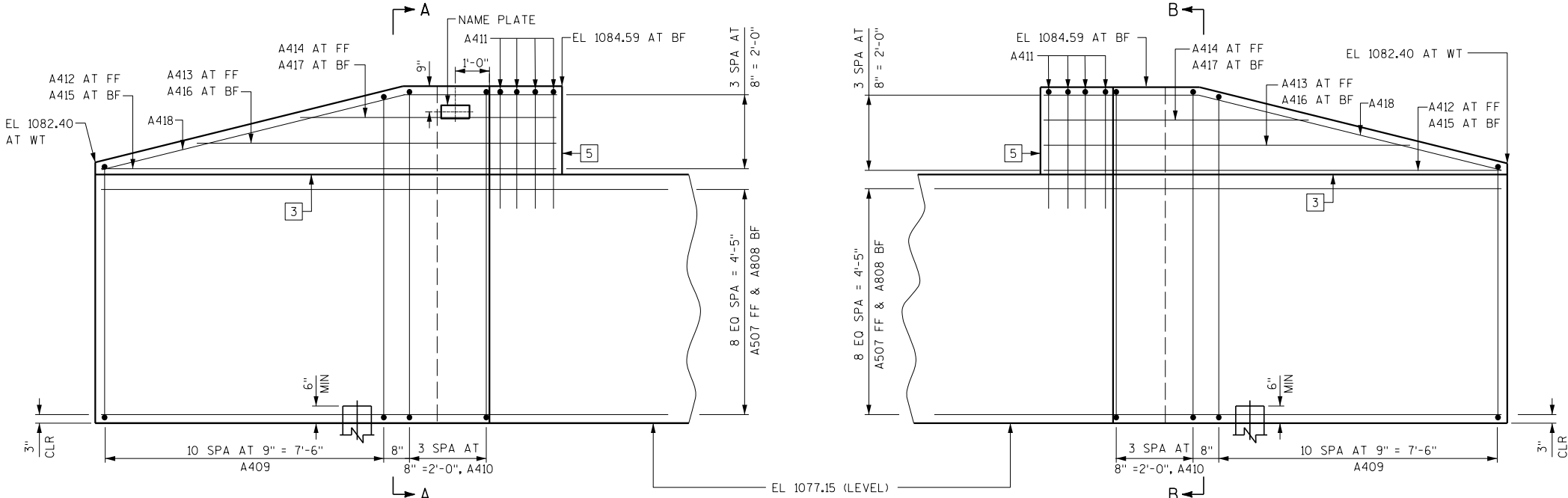
MARK	NO. REQUIRED	LENGTH
A409	4 SERIES OF 11	7'-4" TO 9'-5"

BUNDLE AND TAG EACH SERIES SEPARATELY

- ▲ LENGTH SHOWN IS AN AVERAGE LENGTH USED FOR CALCULATING BAR WEIGHT ONLY. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.
- 3/4" "V" GROOVE ON FF.
- [3] OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY, PROVIDE RMW OF BF IF OPTIONAL CONST. JOINT IS USED (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").
- [5] 1/2" FILLER - EXTEND FROM BRIDGE SEAT TO TOP OF WING, INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF " FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).

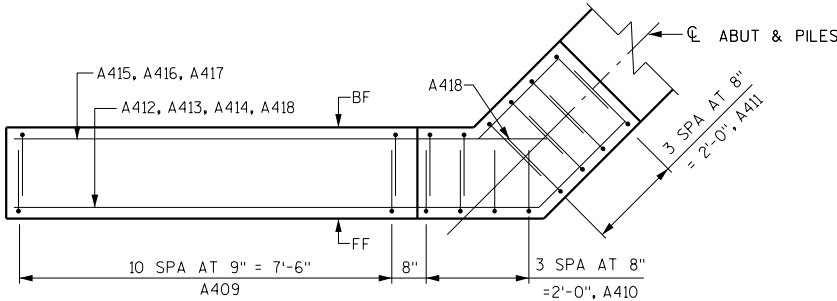
FF - FRONT FACE
BF - BACK FACE
WT - WING TIP

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-222			
DRAWN BY		TAV	PLANS GAR
WEST ABUTMENT DETAILS		SHEET 5 OF 11	

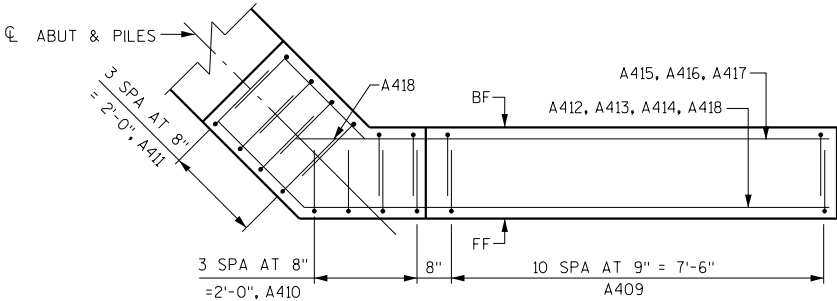


WING 1 ELEVATION

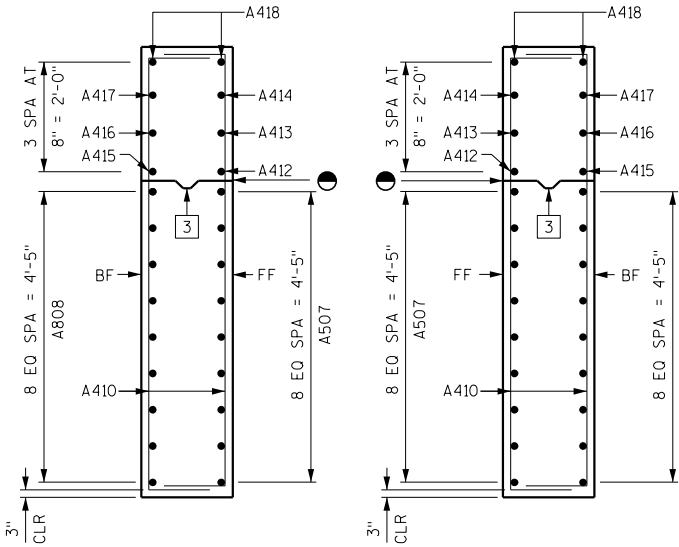
WING 2 ELEVATION



WING 1 PLAN

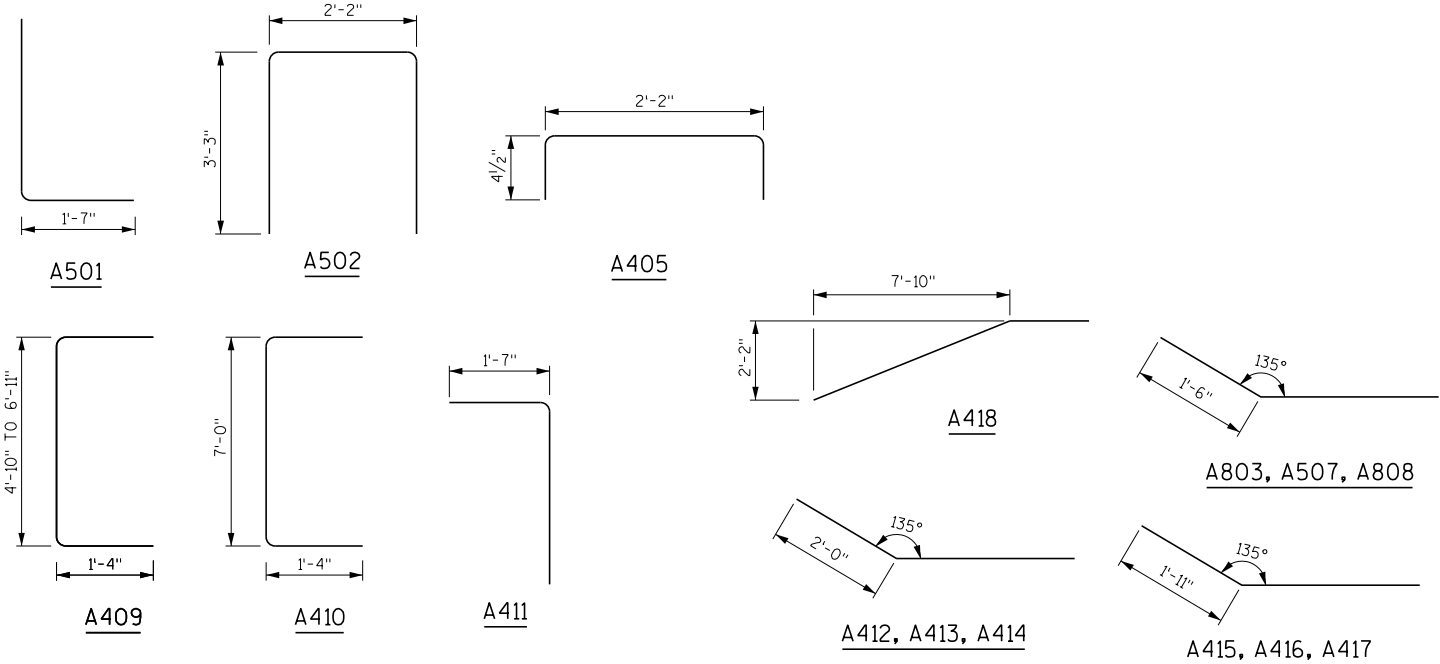


WING 2 PLAN



SECTION A-A
PILE NOT SHOWN

SECTION B-B
PILE NOT SHOWN



NOTES

FOR PILE SPLICE DETAILS SEE SHEET 2

FOR STRUCTURE BACKFILL AND PIPE UNDERDRAIN DETAIL SEE SHEET 2.

FILL / EXCAVATE TO BOTTOM OF ABUTMENT EL 1075.37 EAST ABUTMENT BEFORE DRIVING PILING.

DO NOT PLACE FILL ABOVE ELEVATION 1078.37 UNTIL SUPERSTRUCTURE IS IN PLACE.

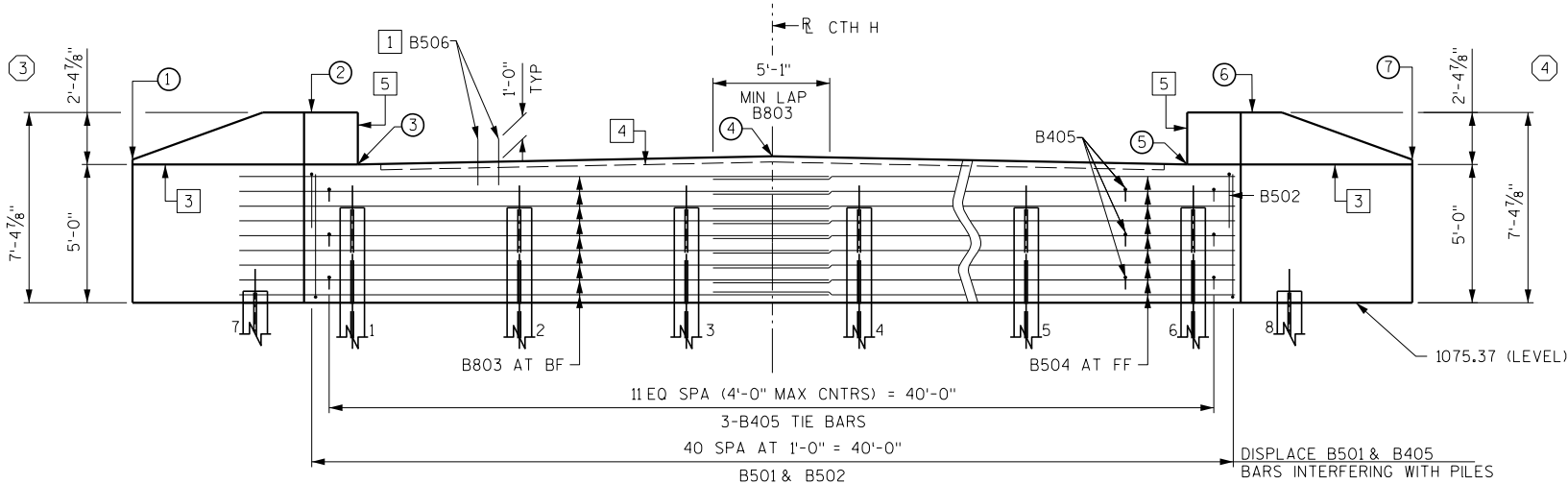
ABUTMENTS TO BE SUPPORTED ON HP10X42 STEEL PILING AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE, ESTIMATED 30'-0" LONG. PILE POINTS REQUIRED.

- [1] B506 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INTIAL SET HAS TAKEN PLACE.
- [2] 18" RUBBERIZED MEMBRANE WATERPROOFING (RMW) TO EXTEND FROM BRIDGE SEAT TO TOP OF WING AND BETWEEN INSIDE FACES OF WINGS. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- [3] OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY, PROVIDE RMW ON BF IF CONST. JOINT IS USED (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").
- [4] KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY, TERMINATE 1'-0" FROM WINGS.
- [5] 1/2" FILLER - EXTEND FROM BRIDGE SEAT TO TOP OF WING, 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).
- [6] PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2.
- [7] PIPE UNDERDRAIN UNPERFORATED (6-INCH) SLOPE TO DRAIN.
- [8] 4" x 3/4" FILLER LENGTH OF ABUTMENT.
- (X) INDICATES WING NUMBER

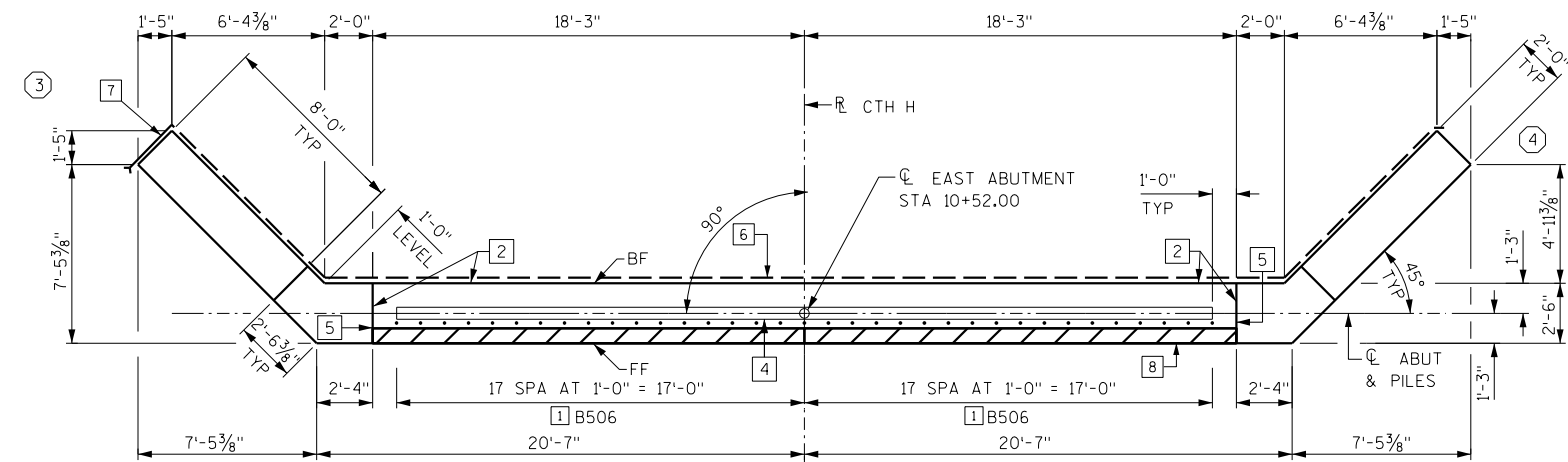
FF - FRONT FACE
BF - BACK FACE
WT - WING TIP

ELEVATION TABLE

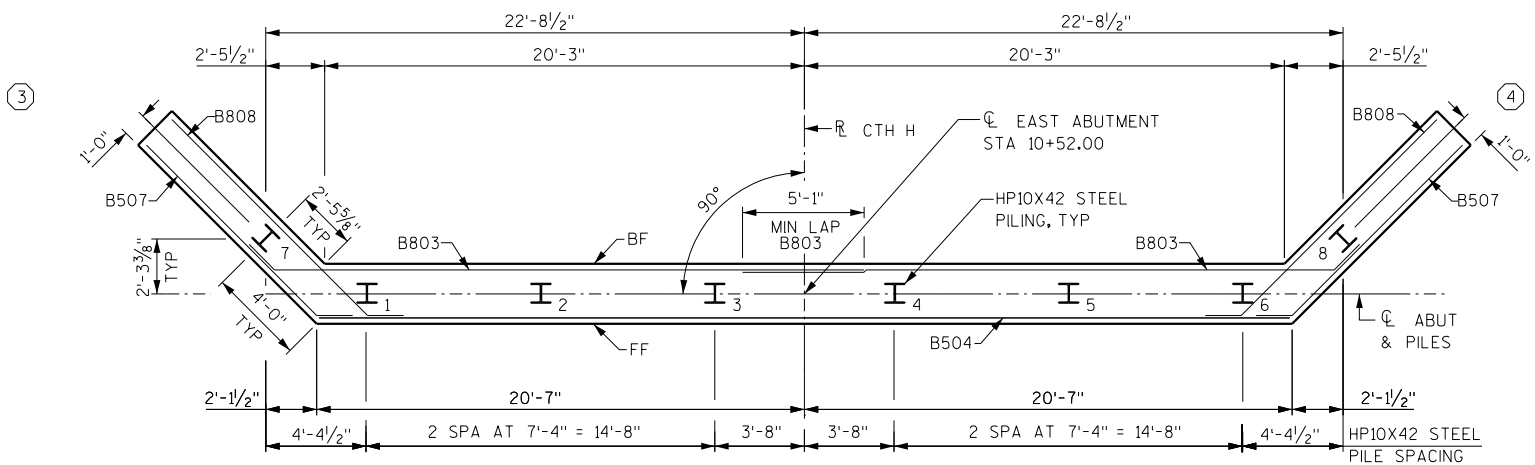
- [1] EL 1080.62 AT WING 3
- [2] EL 1082.78 AT WING 3 BF
- [3] EL 1080.37 AT E ABUT
- [4] EL 1080.74 AT E ABUT
- [5] EL 1080.37 AT E ABUT
- [6] EL 1082.78 AT WING 4 BF
- [7] EL 1080.62 AT WING 4 WT



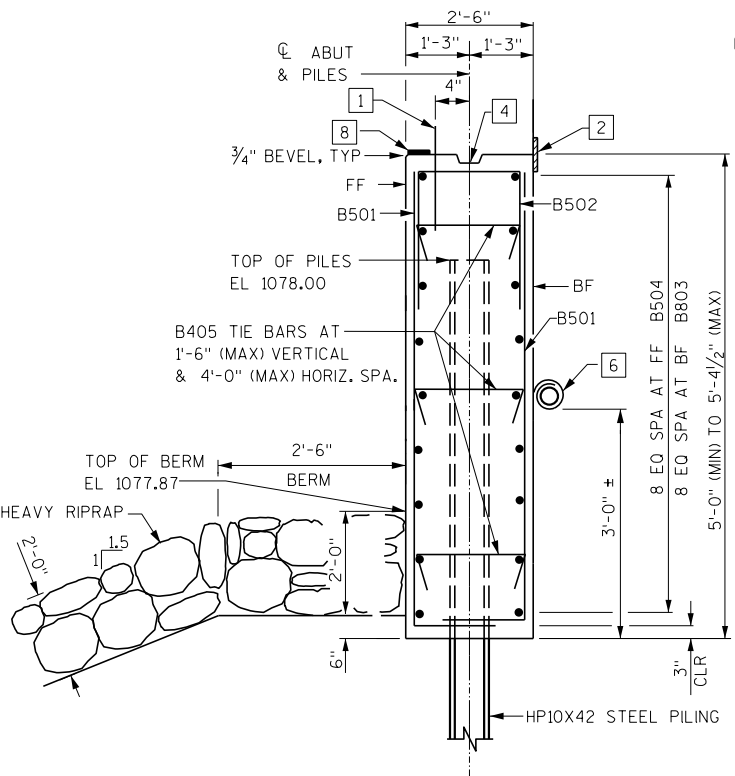
ELEVATION
EAST ABUTMENT LOOKING EAST



PLAN



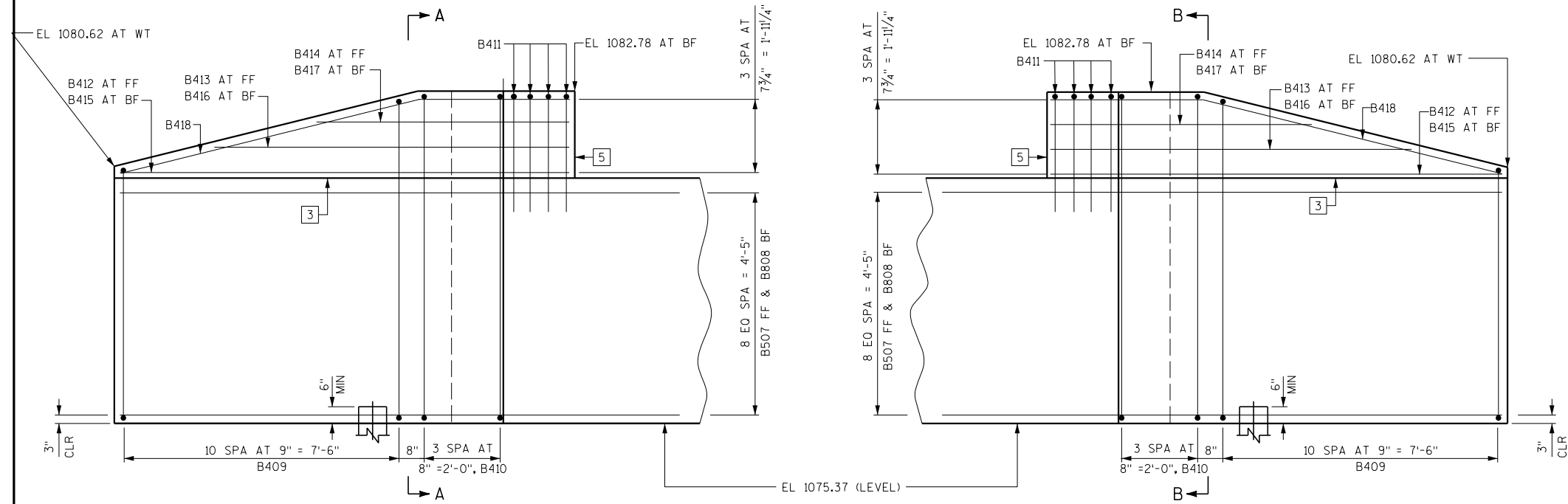
PILE PLAN



SECTION THRU ABUTMENT BODY

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-222			
DRAWN BY		TAV	PLANS CK'D. GAR
EAST ABUTMENT		SHEET 6 OF 11	

COATED= 1410 LBS
UNCOATED= 2620 LBS



WING 4 ELEVATION

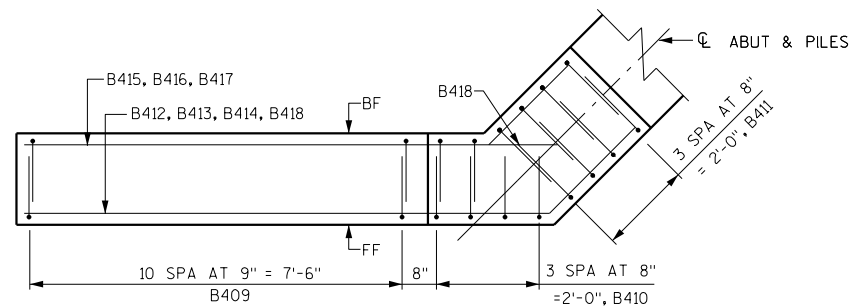
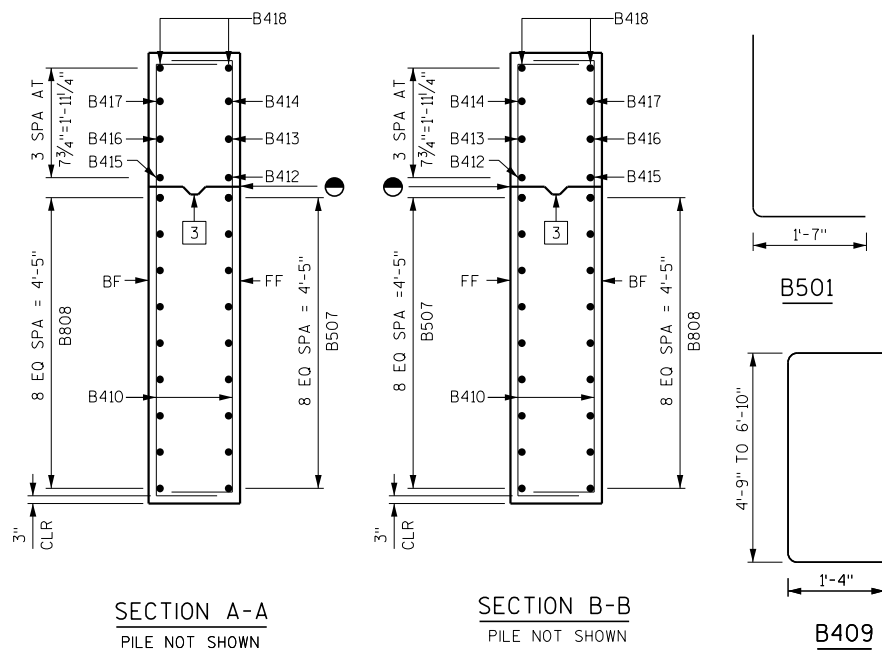


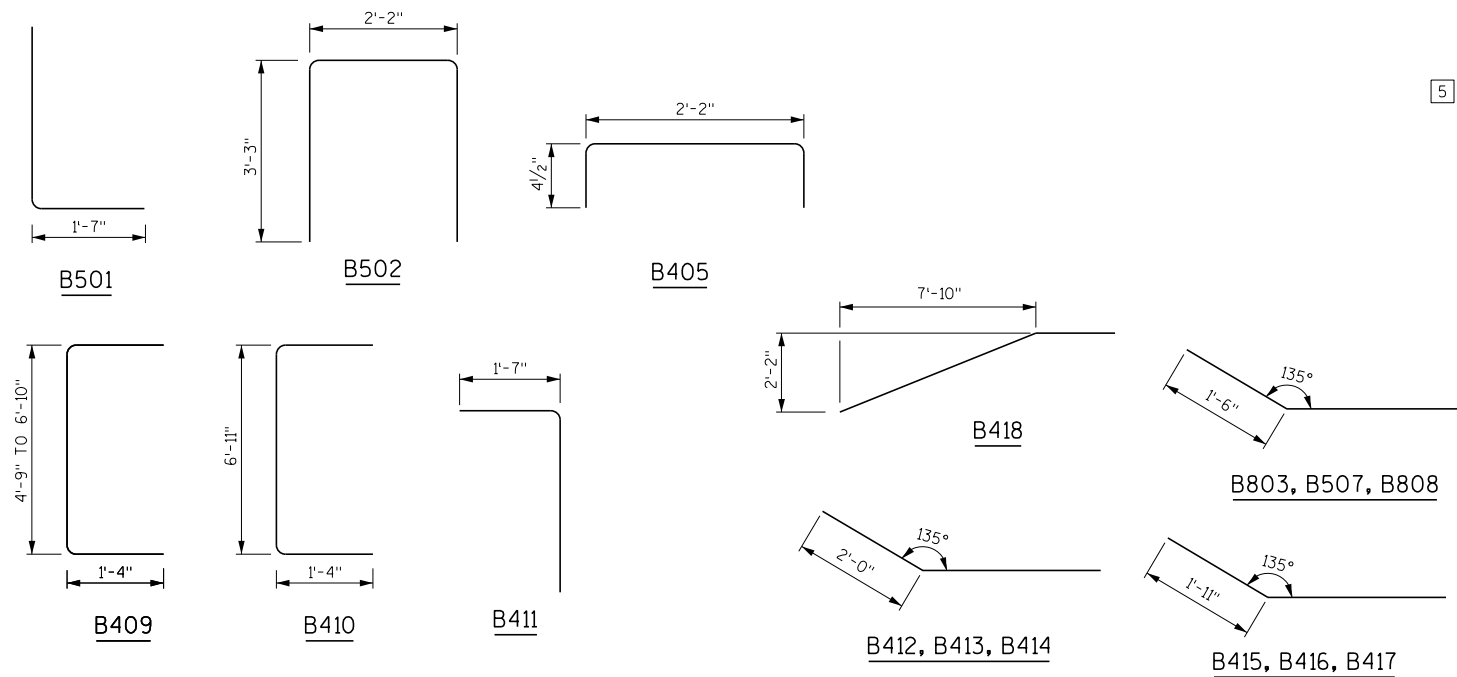
Figure 10 is a cross-sectional diagram of the abutment and pile cap reinforcement. The diagram shows the following details:

- Top Reinforcement:** 3 SPA AT 8" (2'-0", B410) and 3 SPA AT 8" (2'-0", B411).
- Bottom Reinforcement:** 10 SPA AT 9" = 7'-6" (B409).
- Width:** 8" for the pile cap section.
- Reinforcement Labels:** BF (B415, B416, B417) and FF (B412, B413, B414, B418).
- Other Labels:** B418, B415, B416, B417, B412, B413, B414, B418.

WING 4 PLAN



SECTION B-B
PILE NOT SHOWN



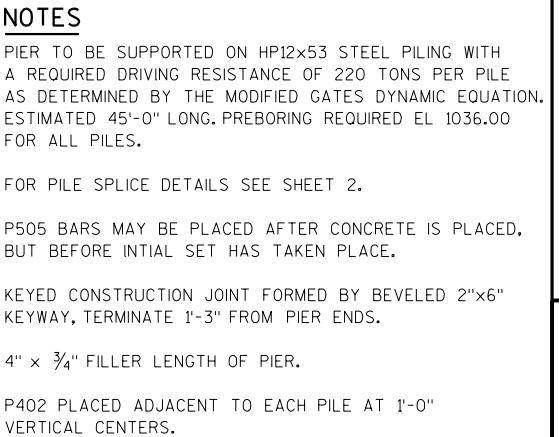
MARK	NO. REQUIRED	LENGTH
B409	4 SERIES OF 11	7'-3" TO 9'-4"

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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-222			
DRAWN BY		TAV	PLANS C'K'D. GAR
EAST ABUTMENT DETAILS		SHEET 7 OF 11	



BAR DIMENSIONS IN BENDING ARE OUT TO OUT OF BARS.
ALL REINFORCING BARS ARE ENGLISH.
THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.



NO.	DATE	REVISION	BY
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STRUCTURE B-10-222			
DRAWN BY		TAV	PLANS CK'D. GAR
PIER		SHEET 8 OF 11	



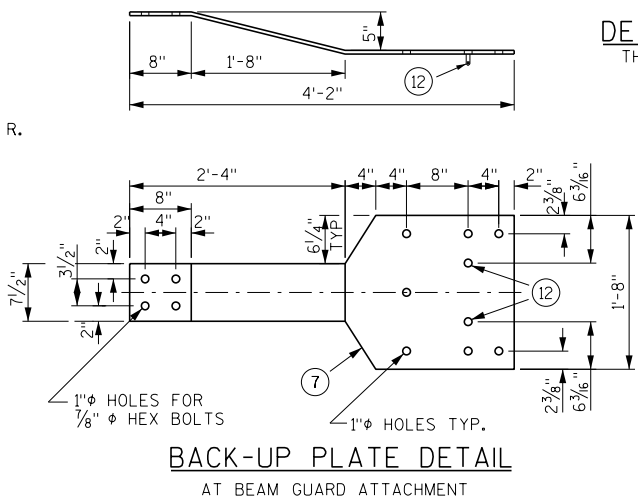
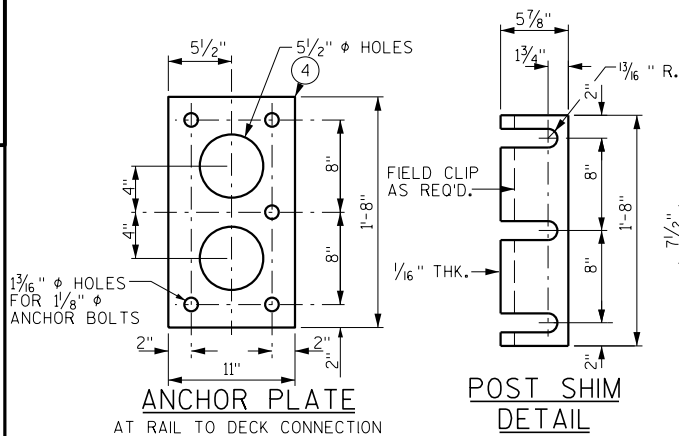
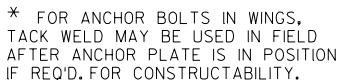
☐ 18" RUBBERIZED MEMBRANE WATERPROOFING

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-222			
DRAWN BY		TAV	PLANS CK'D. GAR
SUPERSTRUCTURE		SHEET 9 OF 11	

- ① W6 x 25 WITH 1 1/8" X 1 1/8" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6, CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1 1/4" x 11 3/4" x 1'-8" WITH 1 1/8" x 1 1/8" 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'-3" LONG IN SLAB. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)

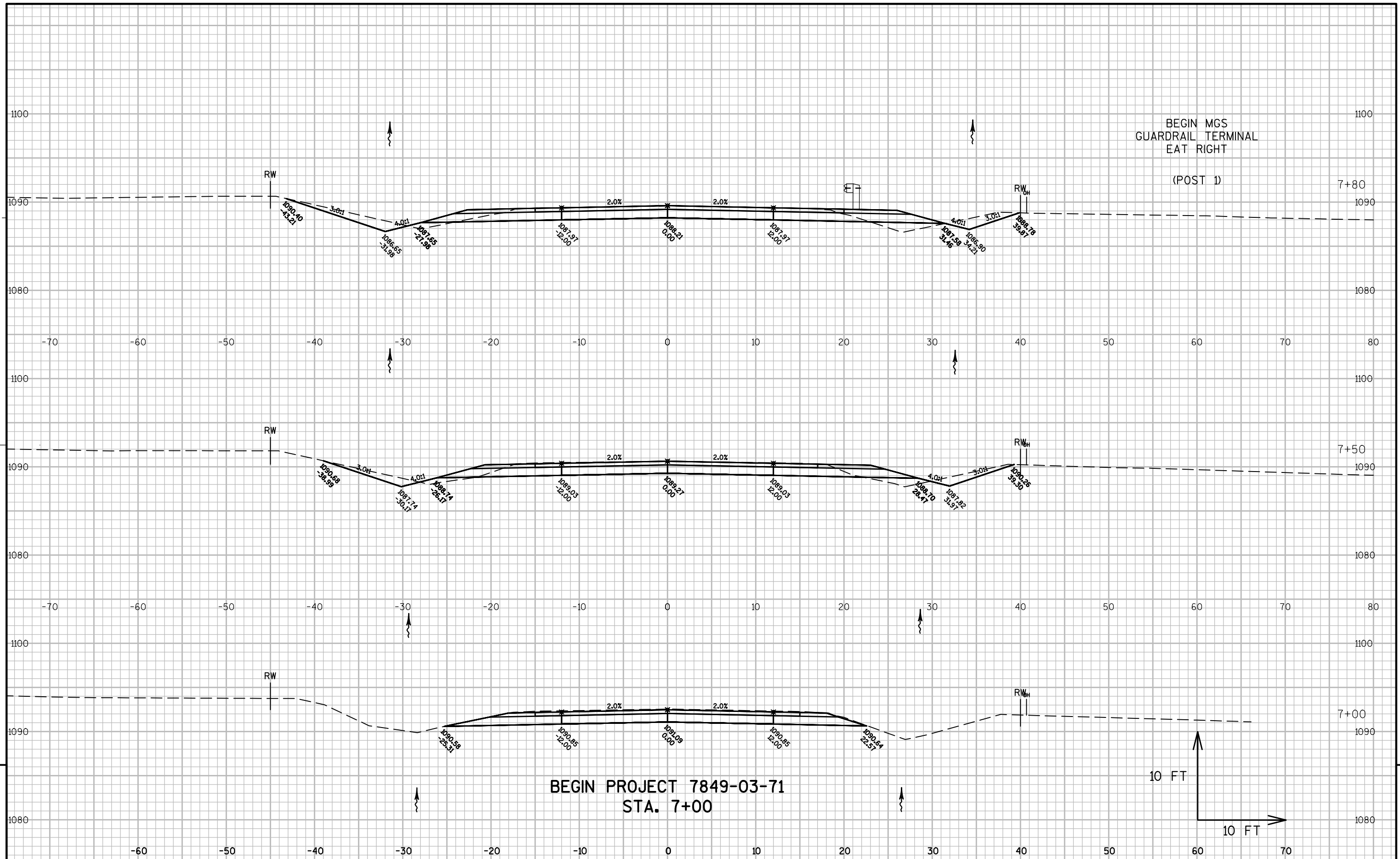
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M (B-10-222)" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR 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 $\frac{1}{8}$ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO.2 AND CAULK AROUND PERIMETER OF PLATE NO.2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO.6 BLAST CLEANING BY SSPC SPECIFICATIONS.
10. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).

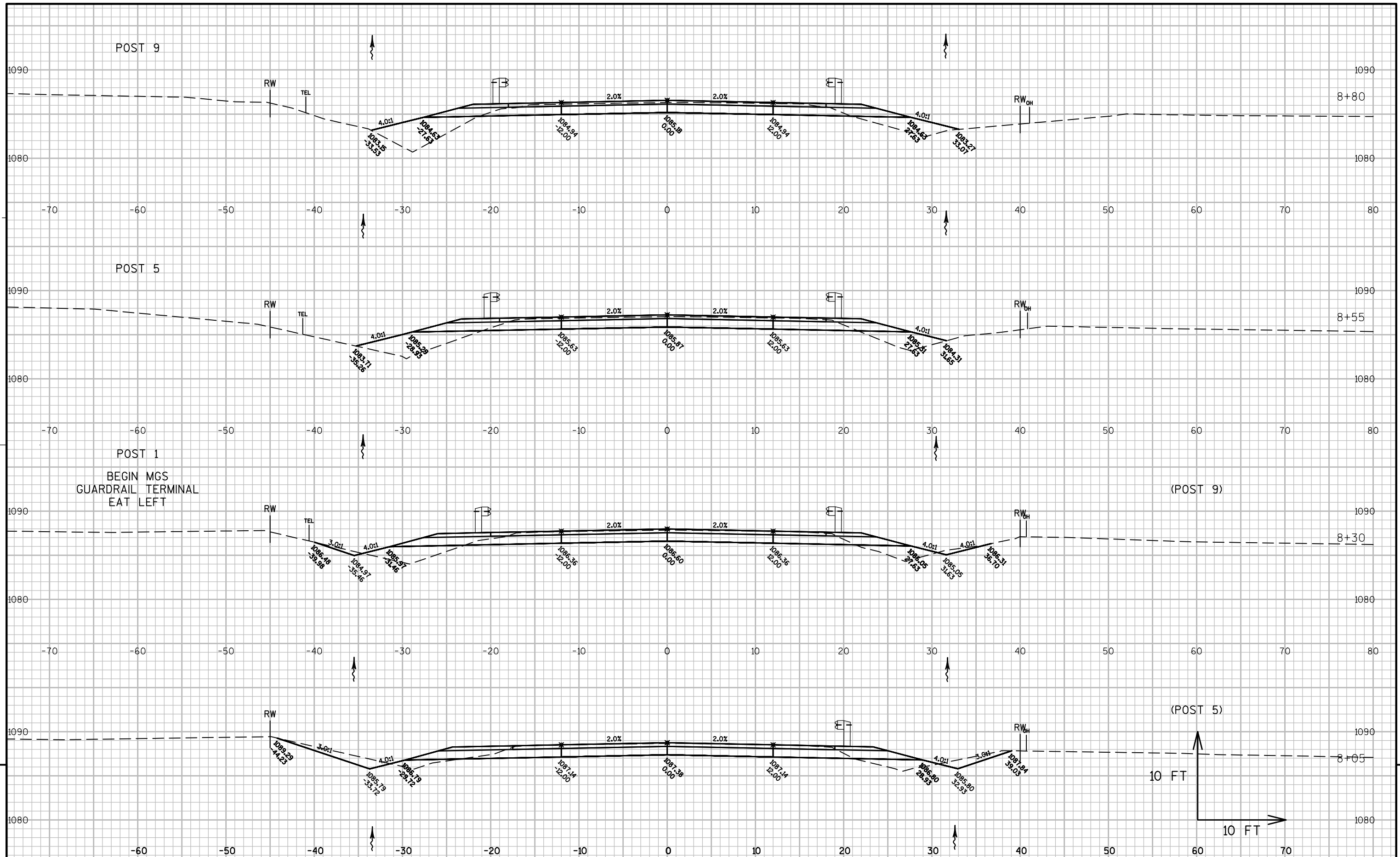
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-222			
		DRAWN BY	TAV
		PLANS C'K'D.	GAR
RAILING TUBULAR TYPE 'M'		SHEET 11 OF 11	

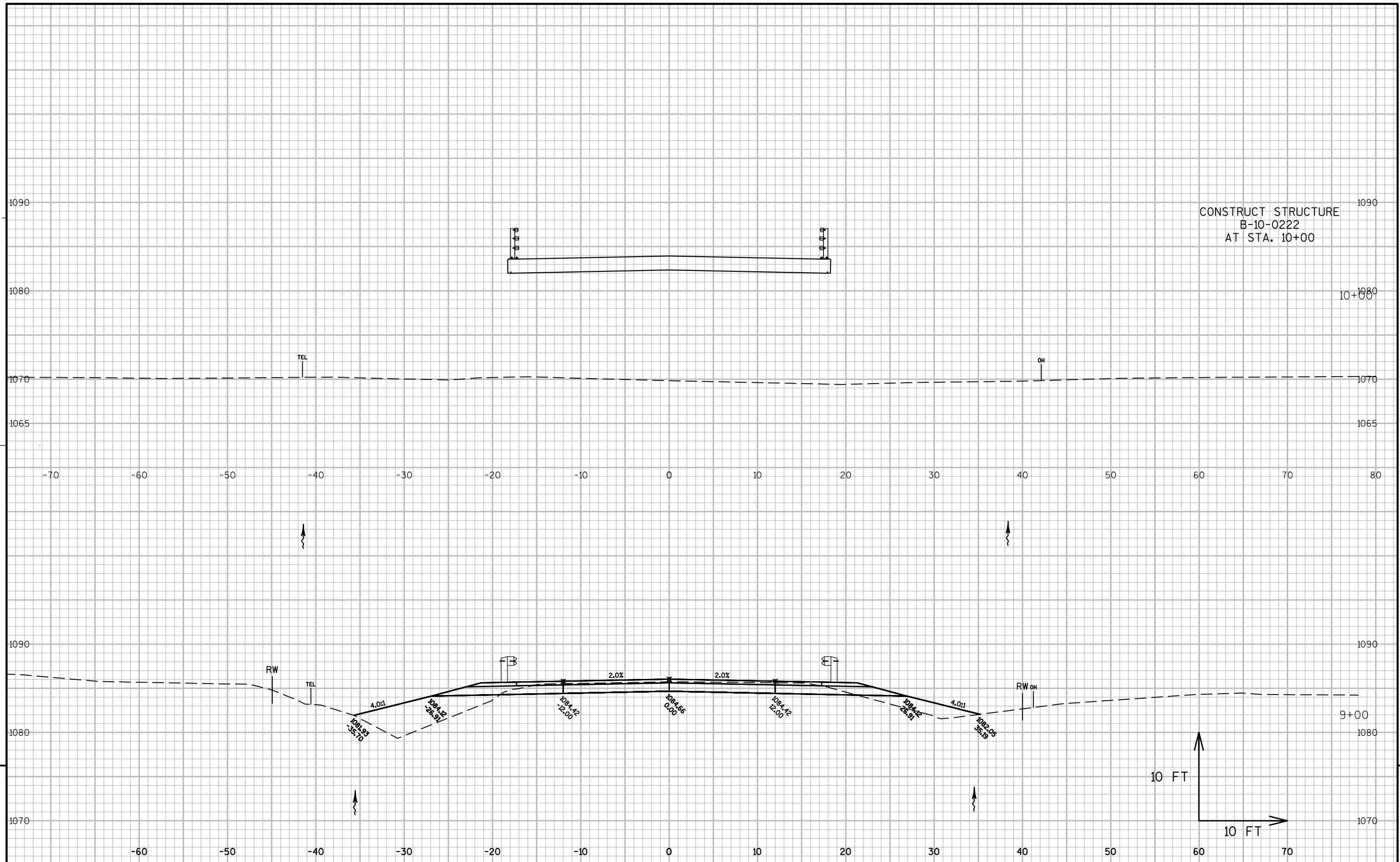


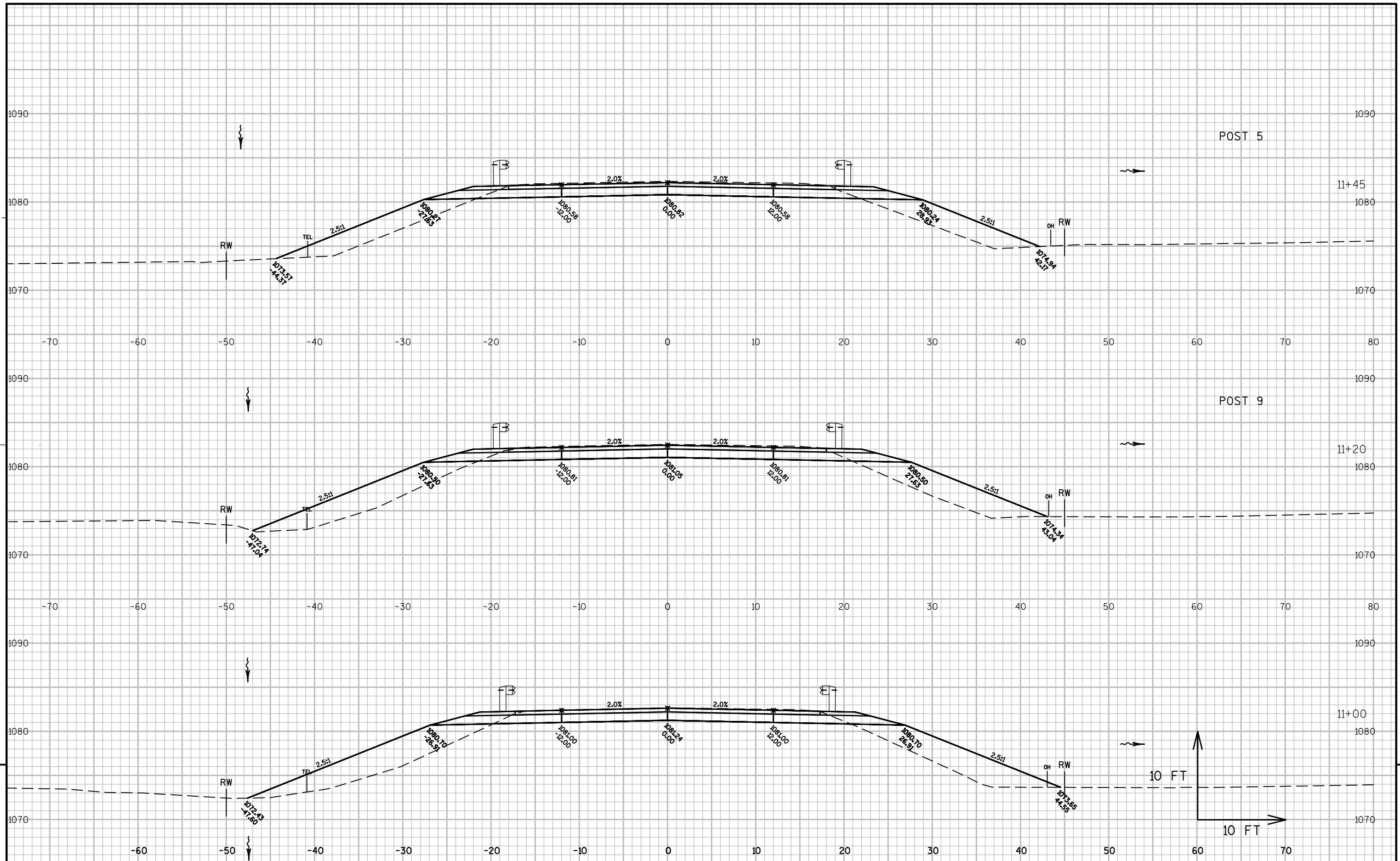
STATION	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
	Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.25	
7+00	62	8	0	0	0	0	0	0	0
7+50	69	8	6	120	19	6	120	7	94
7+80	72	8	7	78	20	7	199	16	144
8+05	65	8	10	64	18	8	262	25	180
8+30	55	8	21	56	15	14	318	43	202
8+50	48	8	31	38	13	19	356	67	203
8+55	48	8	32	9	13	6	365	74	192
8+80	45	8	35	43	13	31	408	113	184
9+00	41	8	50	32	11	32	440	152	165
9+25	40	8	116	37	11	77	477	249	94
9+47	36	8	125	31	10	98	508	371	-8
9+48	0	0	0	1	0	2	508	374	-10
10+52	0	0	0	0	0	0	508	374	-10
10+53	50	8	115	1	7	2	509	377	-19
11+00	53	8	109	90	15	195	599	621	-187
11+20	57	8	95	41	16	76	640	716	-257
11+45	60	8	72	54	17	77	694	812	-316
11+50	62	8	70	11	17	13	705	829	-339
11+70	59	8	67	45	16	51	750	892	-374
11+95	58	8	84	54	16	70	804	980	-423
12+20	56	8	91	53	16	81	857	1081	-487
12+50	54	8	59	61	15	83	918	1185	-545
13+00	53	8	0	98	15	55	1016	1254	-530
Column Total				1016	293	1003			

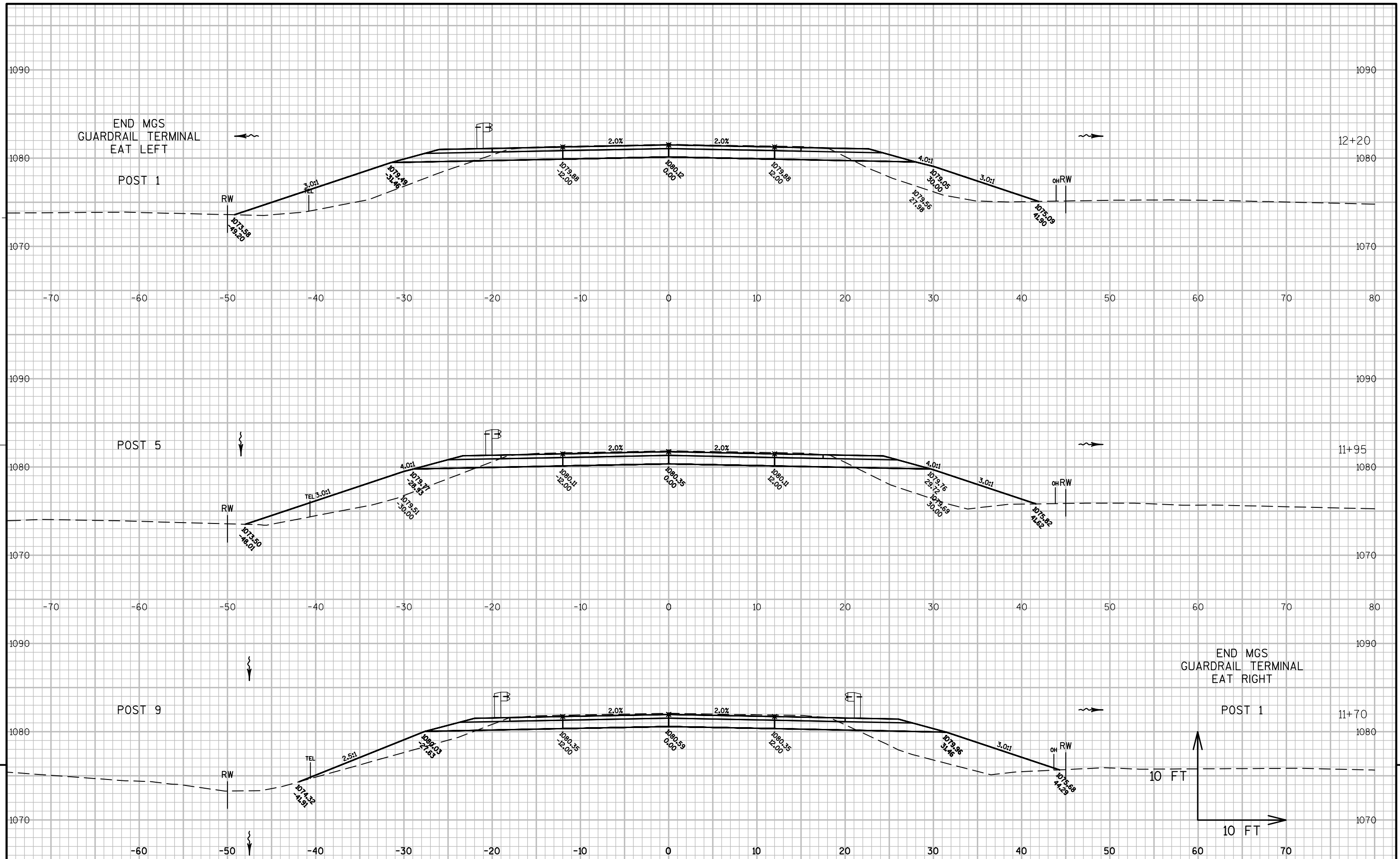
Notes: 1 - Cut 2 - Salvaged/Unusable Pavement Material 3 - Fill	Cut includes Salvaged/Unusable Pavement Material This does not show up in cross sections Does not include Unusable Pavement volume
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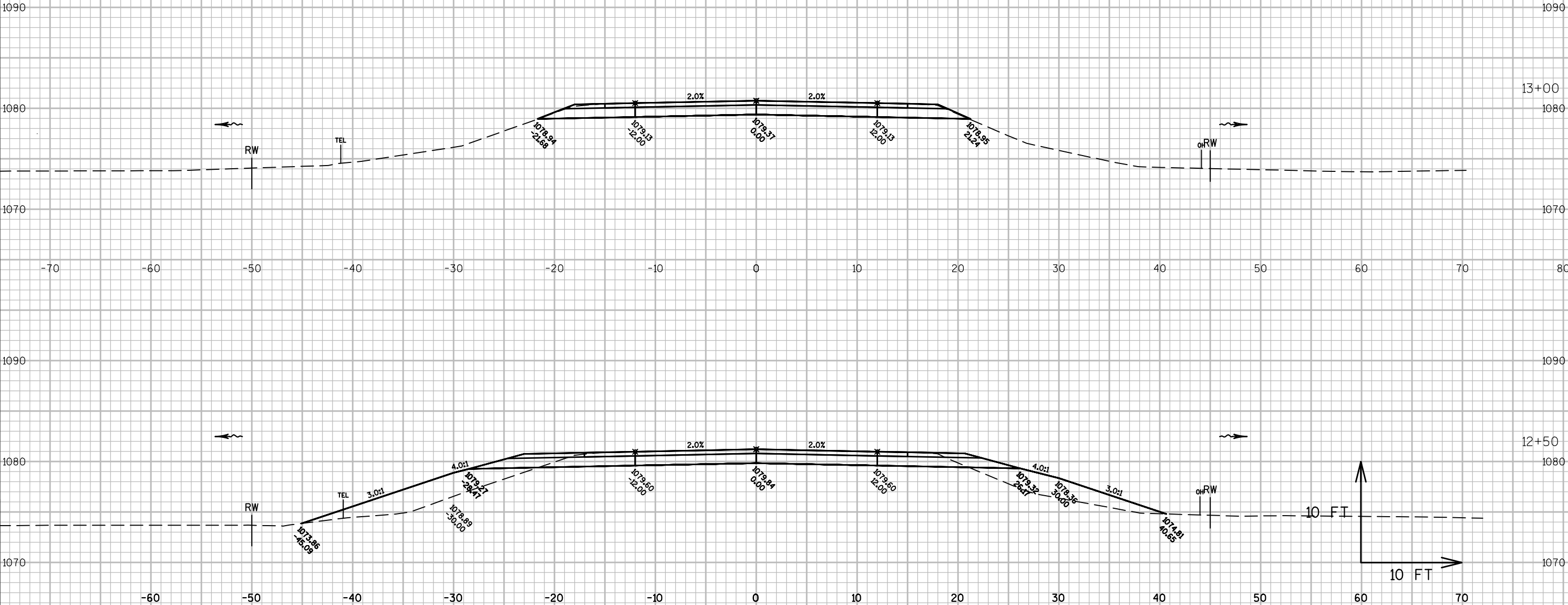








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