

mad Dec 12, 2023

PROJECT ID: 3997-00-60

COUNTY: DODGE

Section No.	Title
1	Title
2	Typical Sections and Details
3	Estimate of Quantities
3	Miscellaneous Quantities
<del>4</del>	<del>Right of Way Plat</del>
<del>5</del>	<del>Plan and Profile</del>
6	Standard Detail Drawings
7	Sign Plates
<del>8</del>	<del>Structure Plans</del>
<del>9</del>	<del>Computer Earthwork Data</del>
9	Cross Sections

TOTAL SHEETS = 44



DESIGN DESIGNATION

A.A.D.T	= 1200
A.A.D.T.	= N/A
D.H.V.	= N/A
D.D.	= N/A
T.	= N/A
DESIGN SPEED	= 45 MPH
ESALS	= N/A

CONVENTIONAL SYMBOLS

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

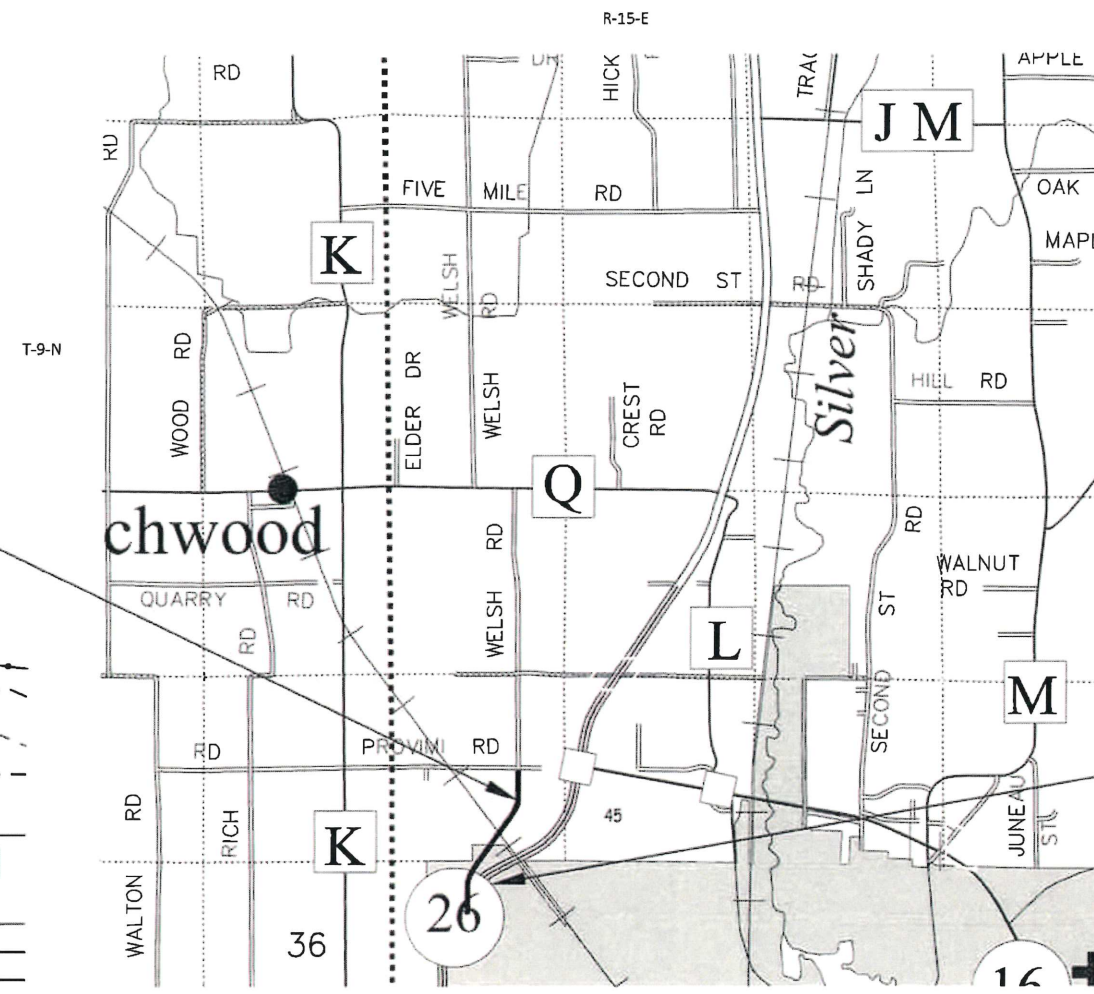
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CITY OF WATERTOWN, WELSH ROAD  
STH 26 OVERPASS

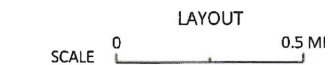
LOCAL STREET  
DODGE

STATE PROJECT NUMBER  
3997-00-60



END PROJECT  
STA 111+27.99

BEGIN PROJECT  
STA 83+19.47  
X = 868,319.839  
Y = 632,352.585



TOTAL NET LENGTH OF CENTERLINE = 0.000

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), DODGE COUNTY, NAD83 ( 2011 ), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 ( 2012 ). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 2018

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3997-00-60	WISC 2024056	1

ACCEPTED FOR  
CITY OF WATERTOWN  
DATE: 10/3/23 ASSISTANT CITY ENGINEER  
(Signature and Title of Official)

ORIGINAL PLANS PREPARED BY  
REL Robert E. Lee & Associates, Inc.  
1250 Centennial Centre Blvd | Hobart, WI | 920-662-9641 | relainc.com

WISCONSIN PROFESSIONAL ENGINEER  
ASHLEY NELSON  
E-43981  
GREEN BAY, WI  
DATE: 10/3/23 (Professional Engineer Signature)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY  
Surveyor: ROBERT E. LEE & ASSOCIATES, INC.  
Designer: ROBERT E. LEE & ASSOCIATES, INC.  
Project Manager: DELLA KOENIG, PE  
Regional Examiner: REGIONAL EXAMINER  
Regional Supervisor: KYLE HEMP, PE

APPROVED FOR THE DEPARTMENT  
DATE: 10-04-2023 (Signature)

**ORDER OF SECTION 2 DETAIL SHEETS**

GENERAL NOTES  
PROJECT OVERVIEW  
TYPICAL SECTIONS  
PLAN DETAILS

**CITY OF WATERTOWN OF CONTACT**

JAYNELLEN HOLLOWAY  
CITY ENGINEER  
811 S 1ST STREET  
WATER TOWN, WI 53094  
PHONE: 920-342-1054  
EMAIL: jaynellenh@cityofwatertown.org

**WISDOT PROJECT MANAGER**

DELLA KOENIG, PE  
2101 WRIGHT STREET  
MADISION, WI 53704  
PHONE: 608-246-7963  
EMAIL: della.koenig@dot.wi.gov

**WE ENERGIES ELECTRIC**

JOHN FEIDER  
OPERATIONS SUPERVISOR  
500 S. 116TH STREET  
WEST ALLIS, WI 53214  
PHONE: 414-994-5738  
EMAIL: WE-UTILITY-RELOCATIONS@WE-ENERGIES.COM

**DESIGN PROJECT MANAGER**

ASHLEY NELSON, PE  
ROBERT E. LEE & ASSOCIATES, INC.  
1250 CENTENNIAL CENTRE BOULEVARD  
HOBART, WI 54155  
PHONE: 920-265-8847  
EMAIL: anelson@releeinc.com

**WISCONSIN DNR LIAISON**

SHELLEY NELSON  
DODGE COUNTY  
PHONE: 608-444-2385  
EMAIL: shelley.nelson@wisconsin.gov

**GENERAL NOTES**

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS INDICATED FOR REMOVAL BY THE ENGINEER.  
THERE ARE NO KNOWN EXISTING UTILITIES IN THE VICINITY OF THE PROJECT. THERE MAY BE OTHER UTILITIES IN THE AREA THAT ARE NOT SHOWN.  
THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE PRIOR TO THE START OF WORK. ANY PRIVATE OR LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY  
TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS ARE DIRECTED BY THE ENGINEER.

**RUNOFF COEFFICIENT TABLE**

LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS:	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIPTURF:	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPETURF:			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT:												
ASPHALT:	.70 - .95											
CONCRETE:	.80 - .95											
BRICK:	.70 - .80											
DRIVES, WALKS:	.75 - .85											
ROOFS:	.75 - .95											
GRAVEL ROADS, SHOULDERS:	.40 - .60											

TOTAL PROJECT AREA = .001 ACRES  
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = .000 ACRES



**EMERGENCY CONTACT NUMBERS FOR POWER COMPANY**

ELECTRIC 24 HOUR EMERGENCY SERVICE: 1-888-123-4567  
GAS 24 HOUR EMERGENCY SERVICE: 1-888-123-4567

**EMERGENCY CONTACT NUMBERS FOR POWER COMPANY**

ELECTRIC 24 HOUR EMERGENCY SERVICE: 1-888-123-4567  
GAS 24 HOUR EMERGENCY SERVICE: 1-888-123-4567

PROJECT NO: 3997-00-60

HWY: WELSH ROAD

COUNTY: DODGE

GENERAL NOTES

SHEET

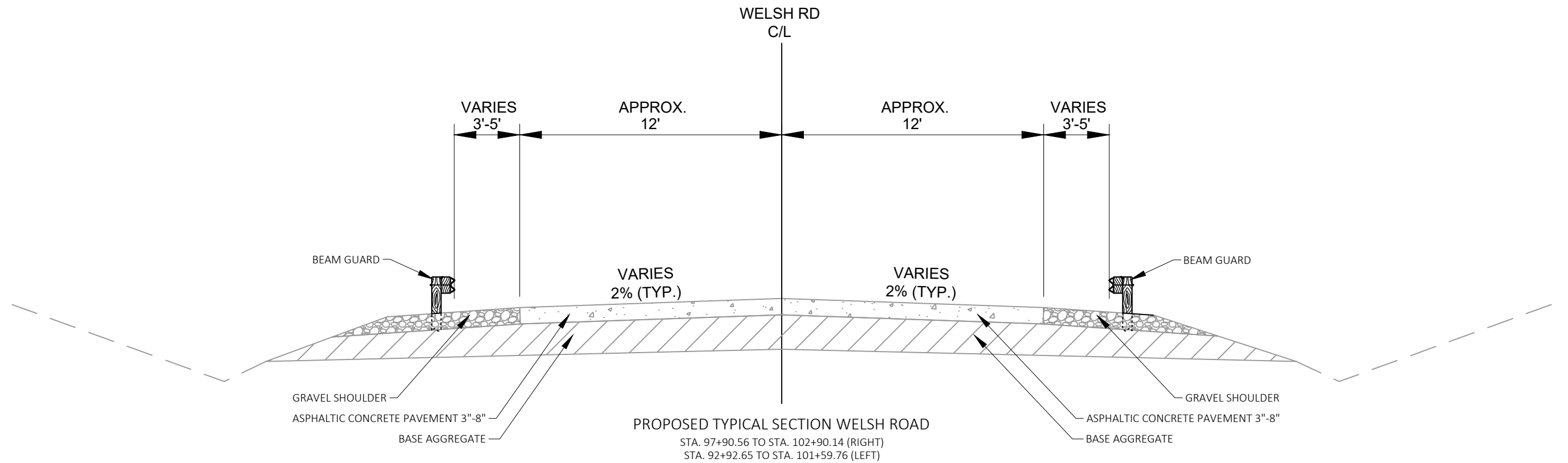
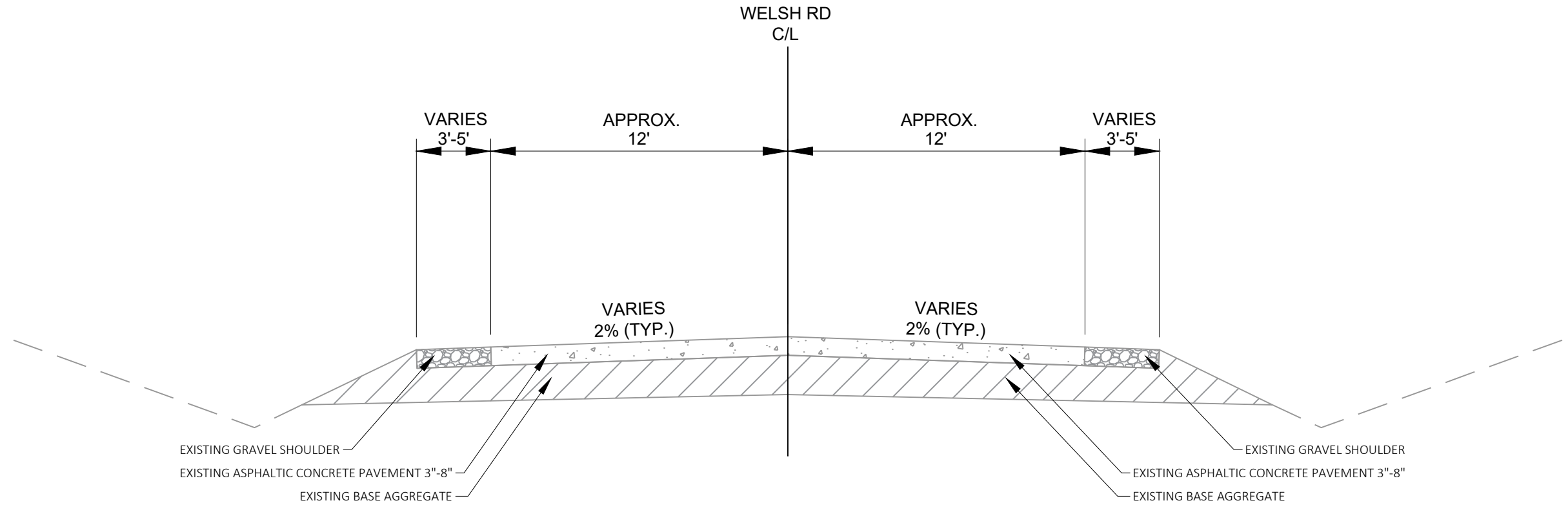
E

BENCHMARKS				
NUMBER	STATION	NORTHING	EASTING	ELEVATION
BM-1	99+22	633692.8190	867512.7820	877.779
BM-2	101+51	633930.1920	867487.9950	876.627



BEGIN PROJECT  
 STA 83+19.47  
 Y=632,352.585  
 X=868,319.839

END PROJECT  
 STA 111+27.99



**PROPOSED TYPICAL SECTION WELSH ROAD**  
 STA. 97+90.56 TO STA. 102+90.14 (RIGHT)  
 STA. 92+92.65 TO STA. 101+59.76 (LEFT)



BEGIN PROJECT  
 STA 83+19.47  
 Y=632,352.585  
 X=868,319.839

**CURVE 1**  
 PI STA = 87+65.97  
 Y = 632799.070  
 X = 868315.950  
 DELTA = 40°49'08" LT  
 D = 4°46'29"  
 T = 446.50'  
 L = 854.91'  
 R = 1200.00'  
 PC STA = 83+19.47  
 Y = 632352.585  
 X = 868319.839  
 PT STA = 91+74.38  
 Y = 633134.418  
 X = 868021.153  
 DB = N00°29'57"W  
 DA = N41°19'05"W

PROJECT NO: 3997-00-60

HWY: WELSH ROAD

COUNTY: DODGE

PLAN DETAILS

SHEET

E



PROJECT NO: 3997-00-60	HWY: WELSH ROAD	COUNTY: DODGE	PLAN DETAILS	SHEET	E
------------------------	-----------------	---------------	--------------	-------	---



PROJECT NO: 3997-00-60	HWY: WELSH ROAD	COUNTY: DODGE	PLAN DETAILS	SHEET	E
------------------------	-----------------	---------------	--------------	-------	---

FILE NAME : R:\5300\5364\5364087\39970060\5364087\021201-PD.DWG PLOT DATE : 7/31/2023 12:55 PM PLOT BY : ASHLEY S. NELSON PLOT NAME : PLOT SCALE : 1 IN=40 FT WISDOT/CADD SHEET 42

LAYOUT NAME - 021203



PROJECT NO: 3997-00-60

HWY: WELSH ROAD

COUNTY: DODGE

PLAN DETAILS

SHEET

E





**CURVE 3**  
 PI STA = 109+75.63  
 Y = 634724.060  
 X = 867551.690  
 DELTA = 15°19'32" RT  
 D = 6°09'39"  
 T = 125.13'  
 L = 248.76'  
 R = 930.00'  
 PC STA = 108+50.51  
 Y = 634608.562  
 X = 867503.556  
 PT STA = 110+99.27  
 Y = 634822.729  
 X = 867628.639  
 DB = N22°37'26"E  
 DA = N37°56'59"E

PROJECT NO: 3997-00-60

HWY: WELSH ROAD

COUNTY: DODGE

PLAN DETAILS

SHEET

E



PROJECT NO: 3997-00-60

HWY: WELSH ROAD

COUNTY: DODGE

EROSION CONTROL

SHEET

E

Estimate Of Quantities

3997-00-60

Line	Item	Item Description	Unit	Total	Qty
0002	213.0100	Finishing Roadway (project) 01. 3997-00-60	EACH	1.000	1.000
0004	305.0110	Base Aggregate Dense 3/4-Inch	TON	51.000	51.000
0006	614.0010	Barrier System Grading Shaping Finishing	EACH	4.000	4.000
0008	614.2300	MGS Guardrail 3	LF	672.000	672.000
0010	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0012	619.1000	Mobilization	EACH	1.000	1.000
0014	628.1504	Silt Fence	LF	1,361.000	1,361.000
0016	628.1520	Silt Fence Maintenance	LF	1,361.000	1,361.000
0018	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0020	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0022	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	22.000	22.000
0024	637.2230	Signs Type II Reflective F	SF	132.000	132.000
0026	643.0300	Traffic Control Drums	DAY	190.000	190.000
0028	643.0900	Traffic Control Signs	DAY	275.000	275.000
0030	643.5000	Traffic Control	EACH	1.000	1.000
0032	650.9911	Construction Staking Supplemental Control (project) 01. 3997-00-60	EACH	1.000	1.000

FINISHING ROADWAY

CATEGORY	STATION	TO	STATION	LOCATION	213.0100.01 FINISHING ROADWAY (PROJECT) (01. 3997-00-60) EACH
0010	83+19	-	111+28	WELSH ROAD	1
				TOTAL 0010	1

BASE AGGREGATE

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	REMARKS
0010	97+00	-	103+50	WELSH ROAD LT/RT	51	UNDISTRIBUTED AT GUARDRAIL
				TOTAL 0010	51	

GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH	614.2300 MGS GUARDRAIL 3 LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
0010	96+89	-	103+00	WELSH RD LT	2	272	2
0010	96+89	-	103+97	WELSH RD RT	2	400	2
				TOTAL 0010	4	672	4

\*\* FOR INFORMATION ONLY BID ITEM IS INCIDENTAL TO BARRIER SYSTEM GRADING SHAPING & FINISHING

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
				NOTE 1	NOTE 3	NOTE 1	1.25	NOTE 8
97+00.00	25.00	0.00	2.72	0	3	0	4	-11
97+50.00	50.00	0.00	7.16	0	9	0	15	-23
98+00.00	50.00	0.00	10.71	0	17	0	36	-44
101+50.00	350.00	0.00	2.88	0	88	0	146	-154
102+00.00	50.00	0.00	1.45	0	4	0	151	-159
102+50.00	50.00	0.00	19.81	0	20	0	176	-184
103+00.00	50.00	0.00	15.88	0	33	0	218	-225
103+50.00	50.00	0.00	10.42	0	24	0	248	-255

RESTORATION ITEMS (FOR INFORMATIONAL PURPOSES ONLY)

CATEGORY	STATION	TO	STATION	LOCATION	TOPSOIL SY	FERTILIZER TYPE B CWT	SEED MIX NO. 10 LB	SEEDING TEMPORARY LB
0010	96+89	-	103+00	WELSH RD LT	395	0.2	4	4
0010	96+89	-	103+97	WELSH RD RT	400	0.2	4	4
				TOTAL 0010	795	0.4	8	8

MOBILIZATION

CATEGORY	STATION	TO	STATION	LOCATION	619.1000 MOBILIZATION EACH
0010	83+19	-	111+28	WELSH ROAD	1
				TOTAL 0010	1

NOTES: TEMPORARY SEED TO BE PLACED IN CONJUNCTION WITH PERMANENT SEED AT A RATE OF 1.5 LBS/1000 SF.  
ITEMS WILL BE PAID FOR UNDER BID ITEM BARRIER SYSTEM GRADING SHAPING FINISHING

TYPE II SIGNS

CATEGORY	SIGN NO.	LOCATION	STATION		SIGN CODE	MESSAGE	SIZE		634.0616	637.2230	REMARKS
									POSTS WOOD 4X6-INCH X 16- FT	SIGNS TYPE II REFLECTIVE F	
									EACH	SF	
0010	110-1	WELSH RD	83+19	25' RT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	110-2	WELSH RD	83+19	25' RT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 110-1
0010	110-3	WELSH RD	84+93	25' RT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	110-4	WELSH RD	84+93	25' RT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 110-3
0010	110-5	WELSH RD	85+60	24' RT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	110-6	WELSH RD	85+60	24' RT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 110-5
0010	110-7	WELSH RD	86+81	24' RT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	110-8	WELSH RD	86+81	24' RT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 110-7
0010	110-9	WELSH RD	87+99	24' RT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	111-1	WELSH RD	87+99	24' RT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 110-9
0010	111-2	WELSH RD	89+19	23' RT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	111-3	WELSH RD	89+19	23' RT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 111-2
0010	111-4	WELSH RD	90+40	24' RT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	111-5	WELSH RD	90+40	24' RT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 111-4
0010	111-6	WELSH RD	91+59	24' RT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	111-7	WELSH RD	91+59	24' RT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 111-6
0010	111-8	WELSH RD	92+79	24' RT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	111-9	WELSH RD	92+79	24' RT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 111-8
0010	112-1	WELSH RD	96+88	27' LT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	112-2	WELSH RD	96+88	27' LT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 112-1
0010	112-3	WELSH RD	98+08	24' LT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	112-4	WELSH RD	98+08	24' LT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 112-3
0010	112-5	WELSH RD	99+27	24' LT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	112-6	WELSH RD	99+27	24' LT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 112-5
0010	112-7	WELSH RD	100+47	23' LT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	112-8	WELSH RD	100+47	23' LT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 112-7
0010	112-9	WELSH RD	101+69	24' LT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	113-1	WELSH RD	101+69	24' LT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 112-9
0010	113-2	WELSH RD	102+88	24' LT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	113-3	WELSH RD	102+88	24' LT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 113-2
0010	113-4	WELSH RD	104+08	24' LT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	113-5	WELSH RD	104+08	24' LT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 113-4
0010	113-6	WELSH RD	105+27	24' LT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	113-7	WELSH RD	105+27	24' LT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 113-6
0010	113-8	WELSH RD	106+47	24' LT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	113-9	WELSH RD	106+47	24' LT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 113-8
0010	114-1	WELSH RD	107+69	24' LT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	114-2	WELSH RD	107+69	24' LT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 114-1
0010	114-3	WELSH RD	108+88	24' LT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3	
0010	114-4	WELSH RD	108+88	24' LT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 114-3

TYPE II SIGNS (CONTINUED)

CATEGORY	SIGN NO.	LOCATION	STATION		SIGN CODE	MESSAGE	SIZE		634.0616	637.2230	REMARKS	
									POSTS WOOD 4X6-INCH X 16- FT	SIGNS TYPE II REFLECTIVE F		
									EACH	SF		
0010	114-5	WELSH RD	110+08	24' LT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3		
0010	114-6	WELSH RD	110+08	24' LT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 114-5	
0010	114-7	WELSH RD	111+27	24' LT	W1-8	CHEVRON ALIGNMENT LEFT	18.00	24.00	1	3		
0010	114-8	WELSH RD	111+27	24' LT	W1-8	CHEVRON ALIGNMENT RIGHT	18.00	24.00	-	3	ON SAME POST AS 114-7	
<b>TOTAL 0010</b>									22	132		

TRAFFIC CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	STAGE	DAYS	643.0300		643.0900		643.5000	REMARKS
							DRUMS	DAY	SIGNS	DAY	EACH	
0010	80+54	-	116+28	LEFT SHOULDER	5	38	190	5	25	-	PLACEMENT OF CHEVRON SIGNS	
0010	97+93	-	101+60	LEFT LANE	5	-	-	10	50	-		
0010	97+91	-	102+90	RIGHT LANE	5	-	-	10	50	-		
0010	80+54	-	116+28	WELSH ROAD	15	-	-	10	150	1	ADVANCE WARNING SIGNS	
<b>TOTAL 0010</b>							190	275	1			

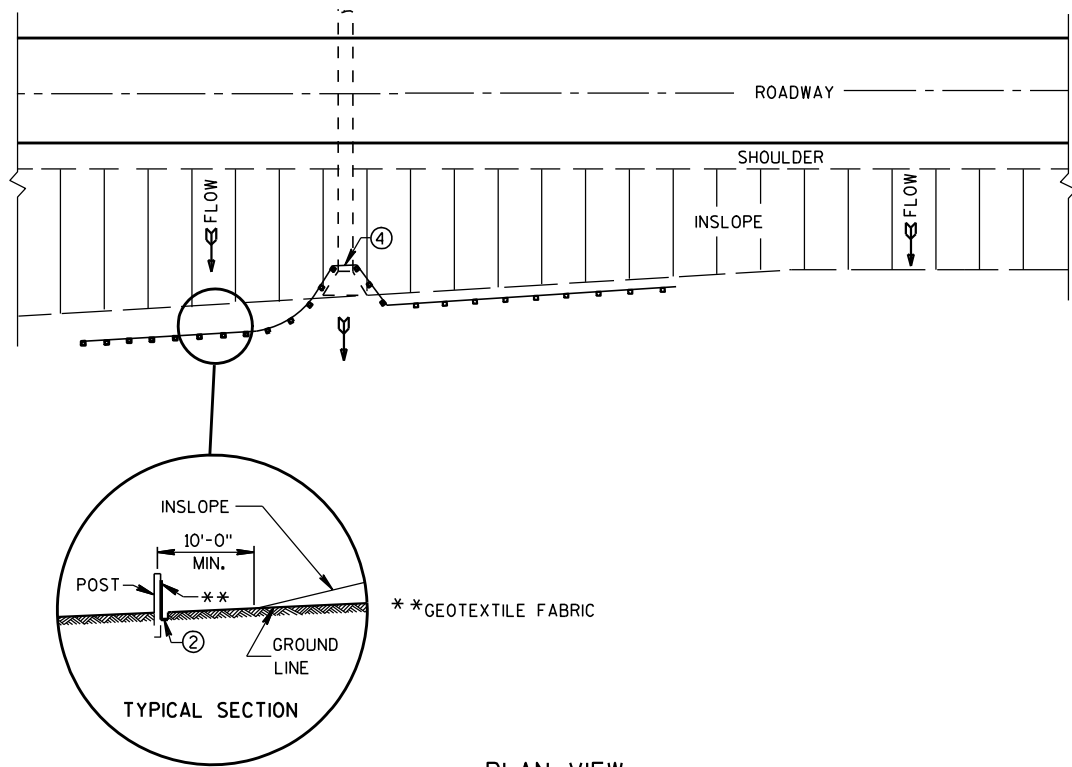
CONSTRUCTION STAKING

EROSION CONTROL

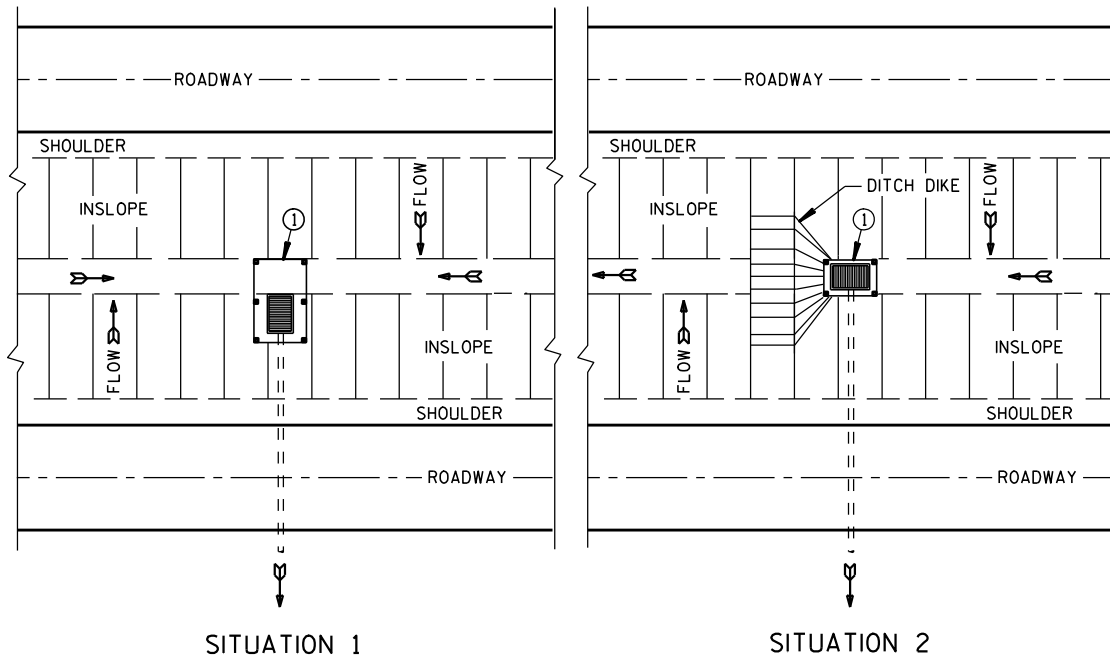
CATEGORY	STATION	TO	STATION	LOCATION	EACH	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 3997-00-60)				628.1504	628.1520	628.1905	628.1910	
						CATEGORY	STATION	TO	STATION	LOCATION	SILT FENCE LF	SILT FENCE MAINTENANCE LF	EROSION CONTROL EACH	MOBILIZATIONS EROSION CONTROL EACH
0010	83+19	-	111+28	WELSH ROAD	1	0010	83+19	-	111+28	WELSH ROAD	1,361	1,361	1	1
<b>TOTAL 0010</b>											1,361	1,361	1	1

## Standard Detail Drawing List

08E09-06	SILT FENCE
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY



PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE

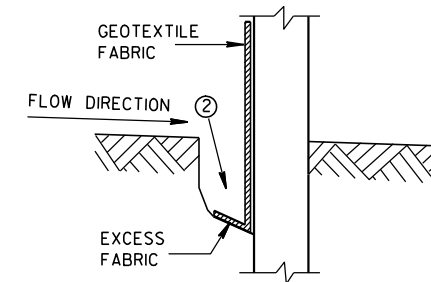


SITUATION 1 SITUATION 2  
PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

**GENERAL NOTES**

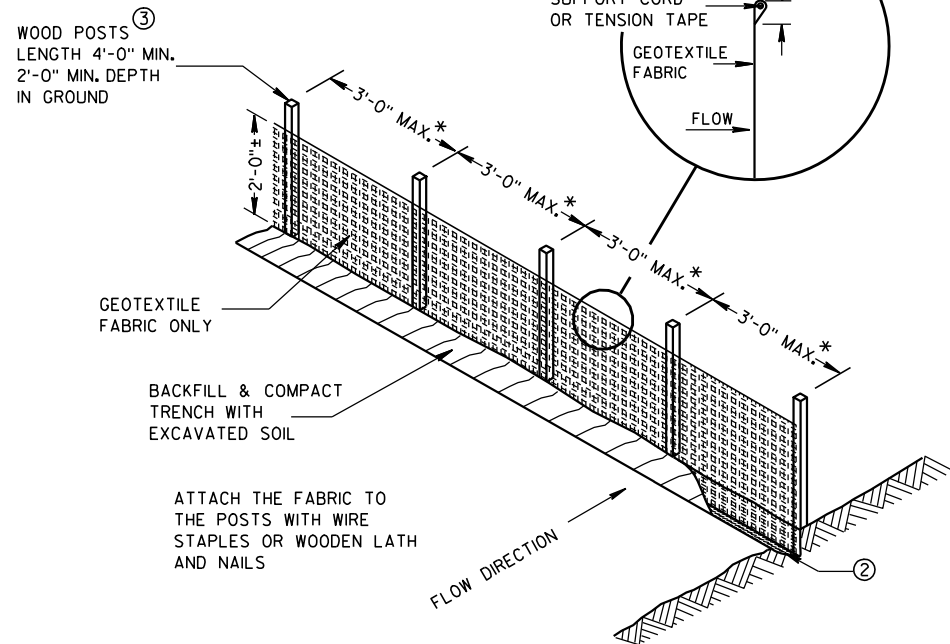
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- 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.



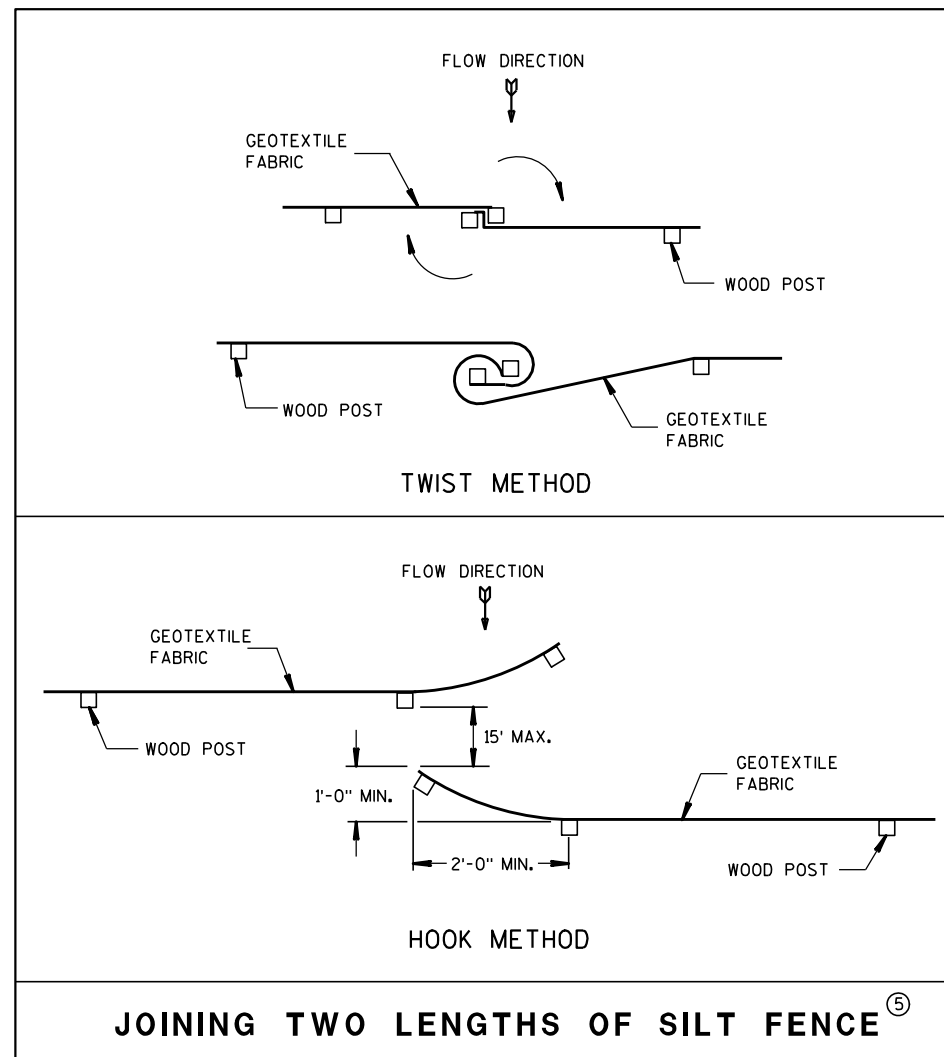
TRENCH DETAIL

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

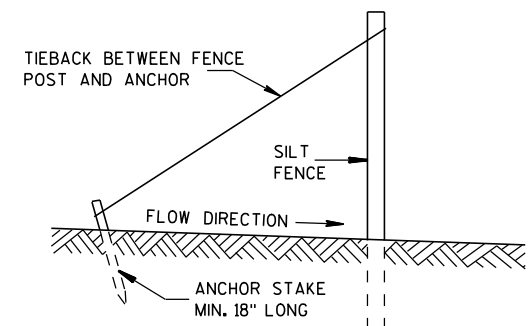


SILT FENCE

\* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.



JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

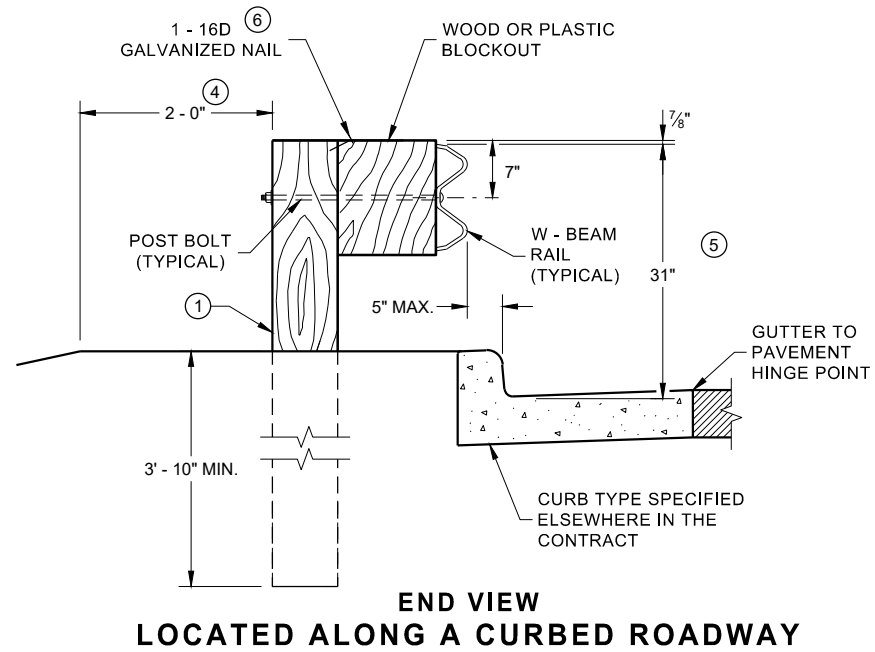
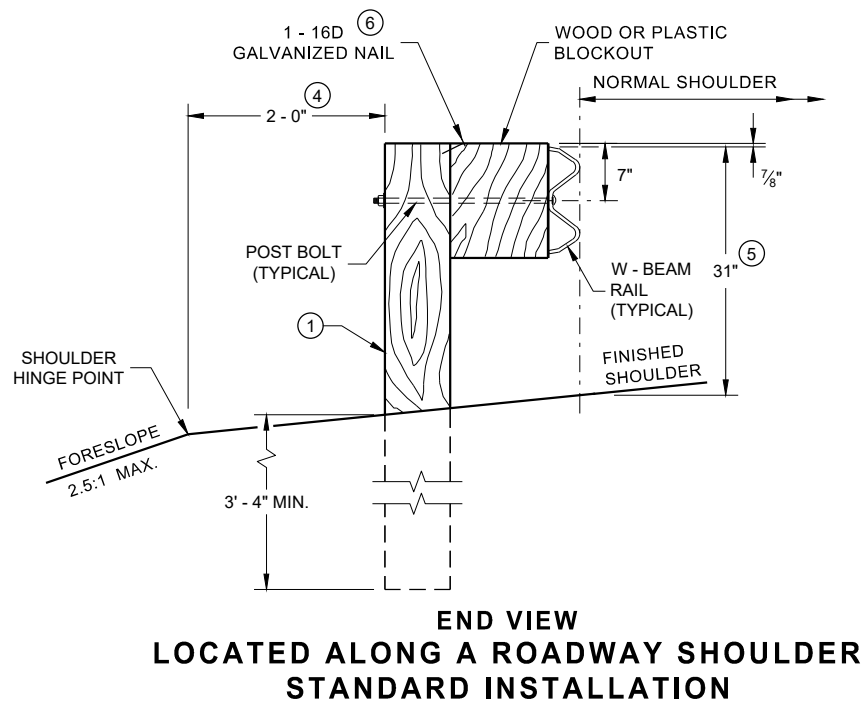
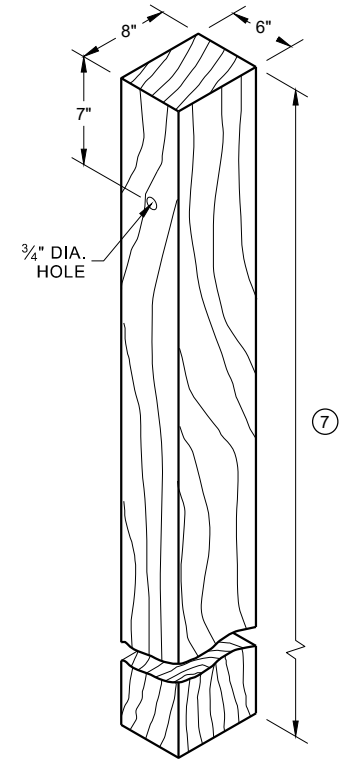
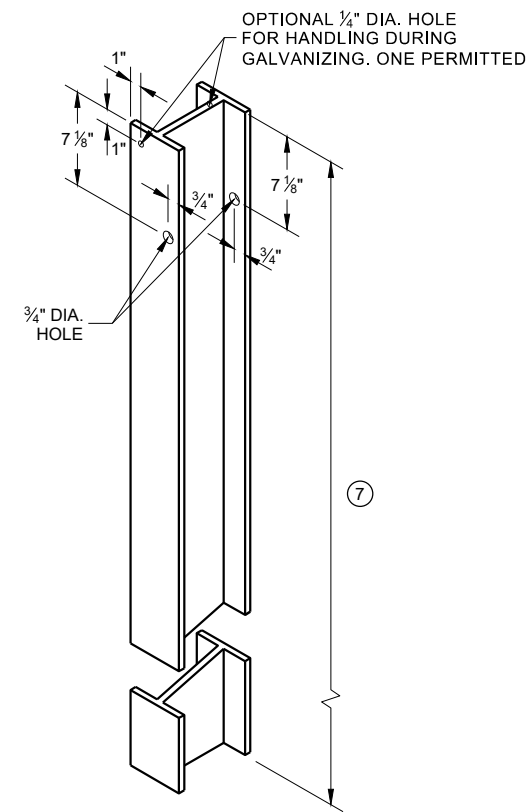
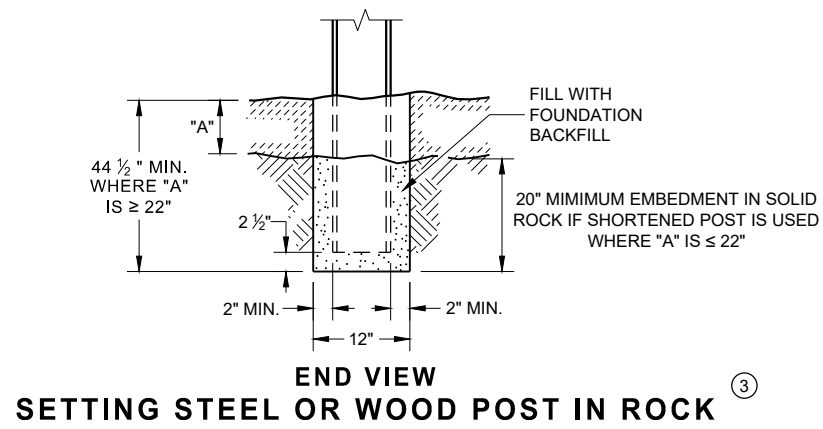
**SILT FENCE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

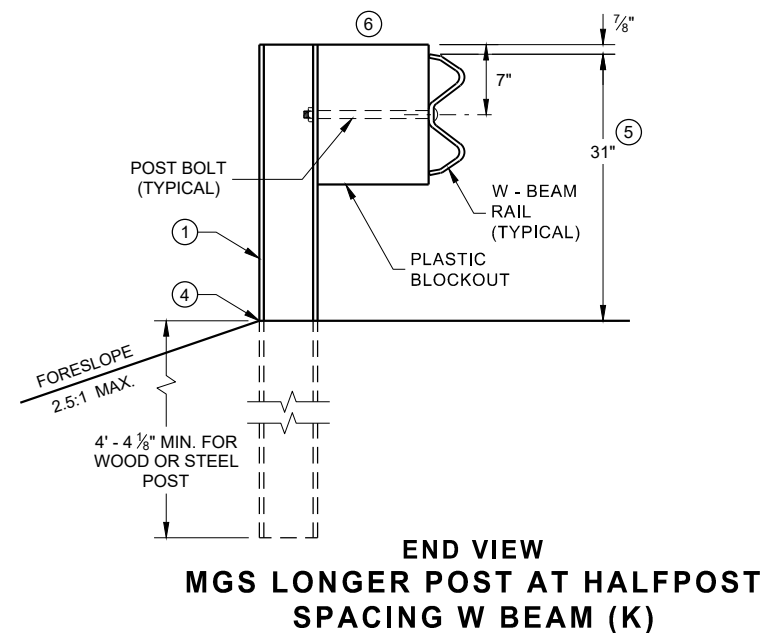
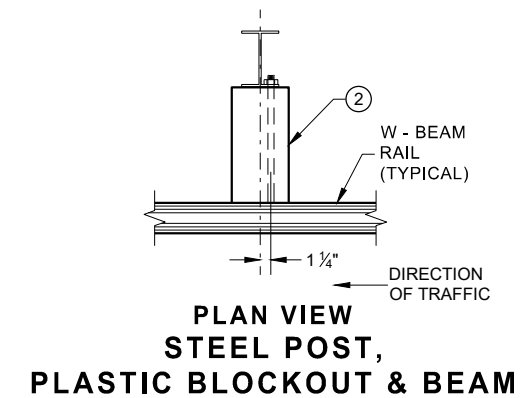
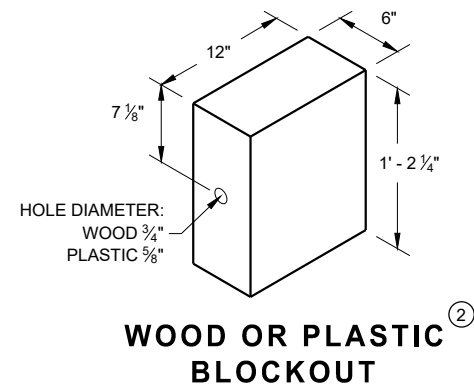
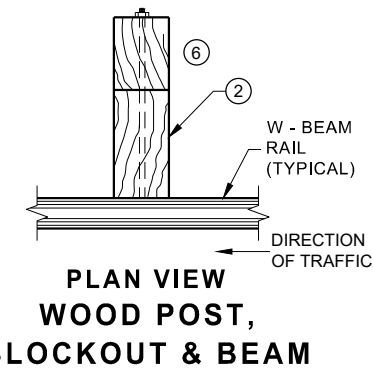


- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS  $\pm 1"$ . FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0". TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



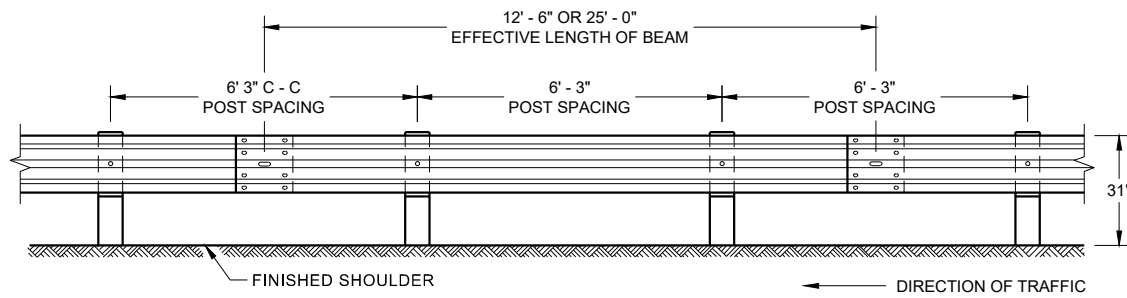
**STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9)**

**WOOD POST (6" X 8") NOMINAL**

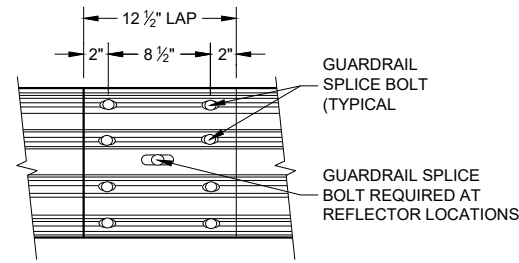


**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



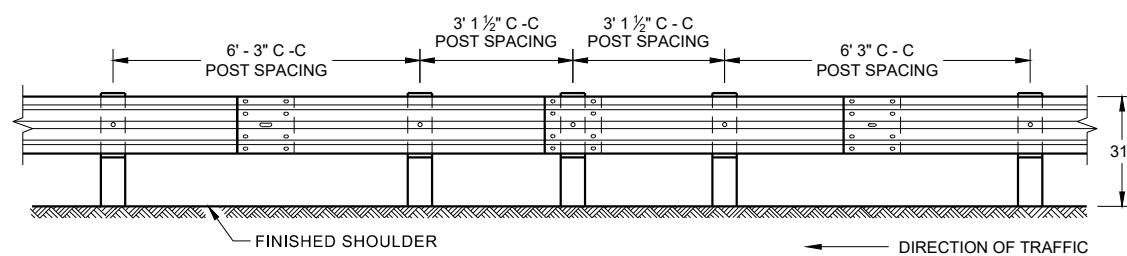
**FRONT VIEW  
POST SPACING STANDARD INSTALLATION**



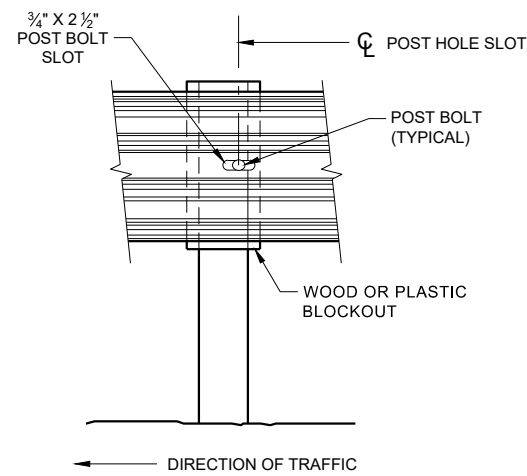
**FRONT VIEW  
MID-SPAN BEAM SPLICE**

**GENERAL NOTES**

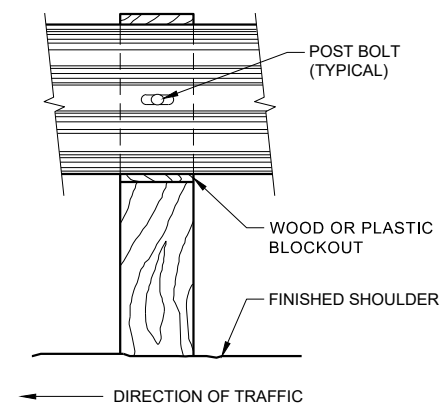
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
  - ⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER 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 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



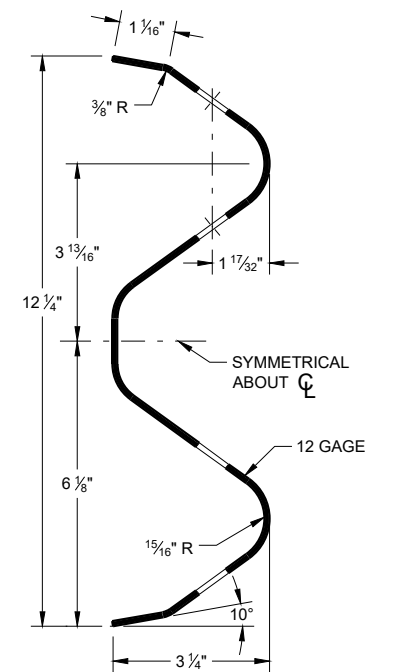
**FRONT VIEW  
HALF POST SPACING (HS) AND  
HALF POST SPACING WITH LONGER POSTS (K)**



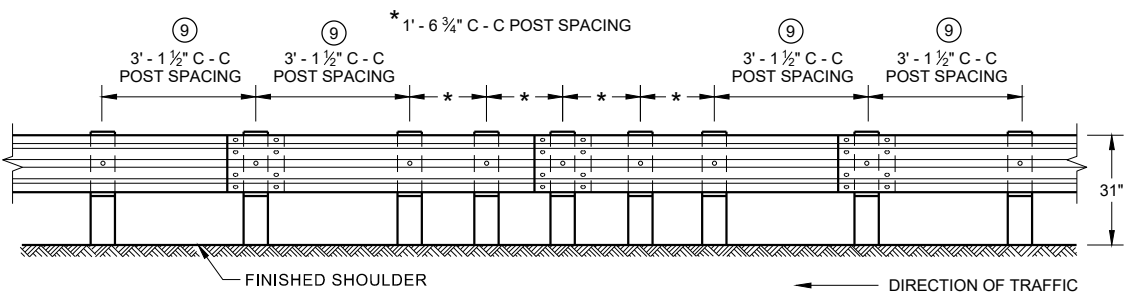
**FRONT VIEW AT STEEL POST**



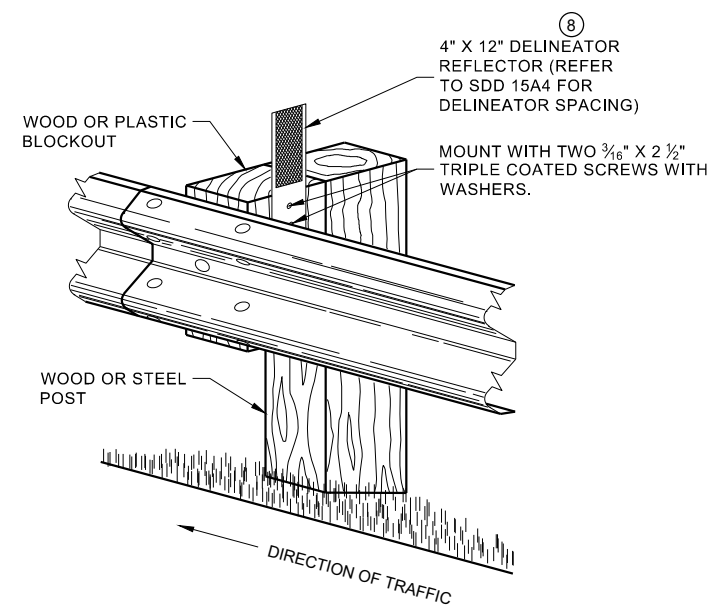
**FRONT VIEW AT WOOD POST**



**SECTION THRU W-BEAM RAIL**



**FRONT VIEW  
QUARTER POST SPACING (QS)**



**ONE SIDED REFLECTOR DETAIL  
AND TYPICAL INSTALLATION**

**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

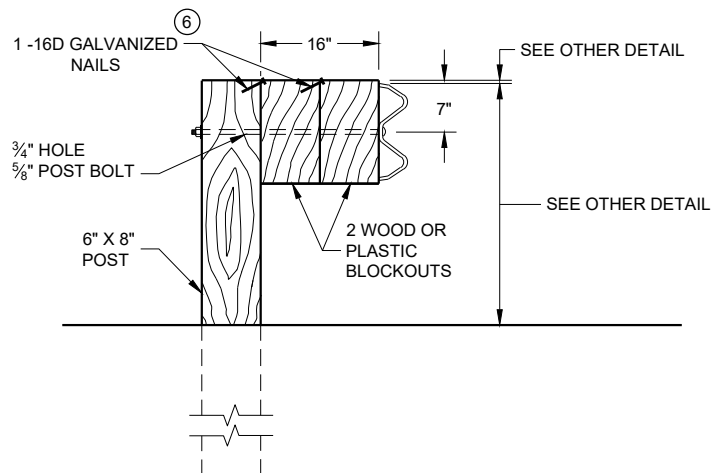
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

6

SDD 14B42 - 07b

SDD 14B42 - 07b

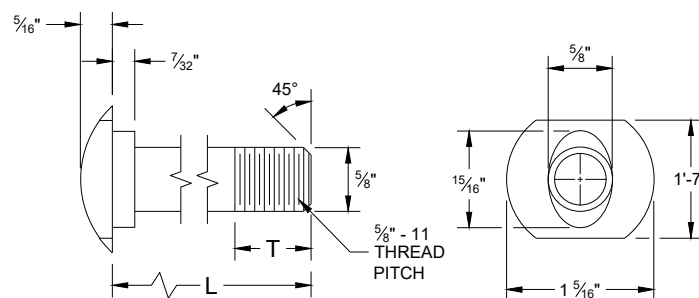


**DETAIL FOR 16" BLOCKOUT DEPTH**

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.

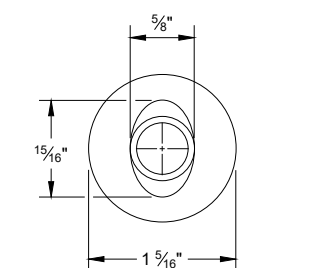
**NOTE:**

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

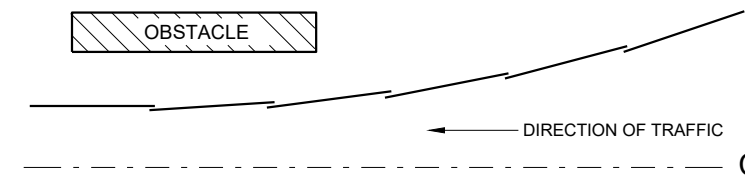


**POST BOLT TABLE**

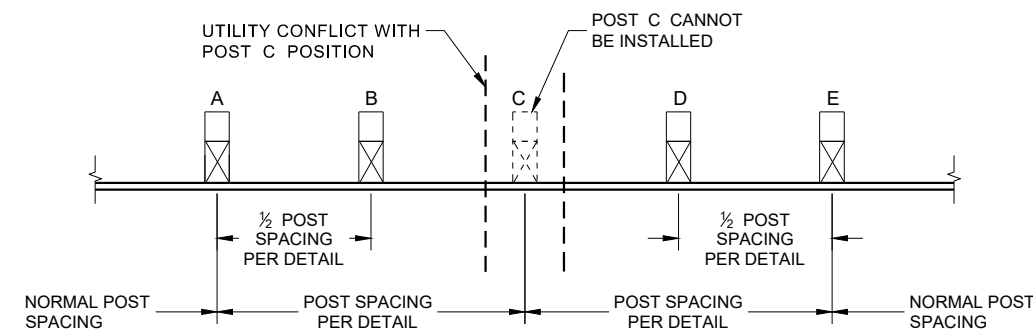
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



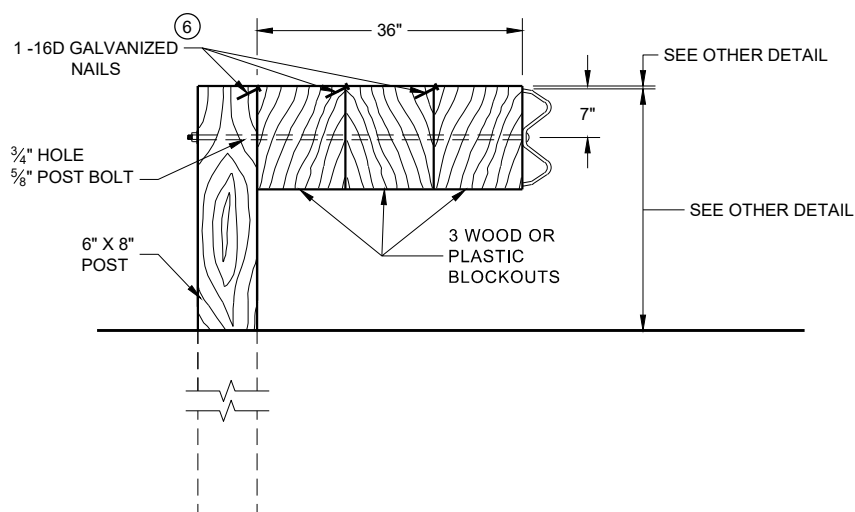
**ALTERNATE BOLT HEAD**



**PLAN VIEW  
BEAM LAPPING DETAIL**

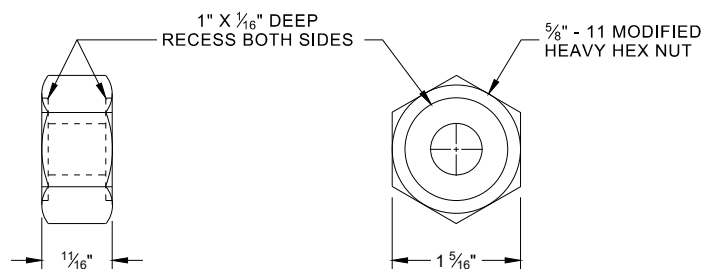


**POST DRIVING FOR CONTINUOUS  
UNDERGROUND OBSTRUCTION**

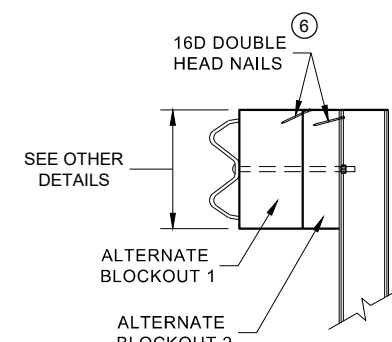


**DETAIL FOR 36" BLOCKOUT DEPTH**

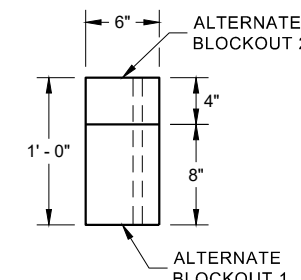
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.  
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



**POST BOLT, SPLICE BOLT  
AND RECESS NUT**



**SIDE VIEW**



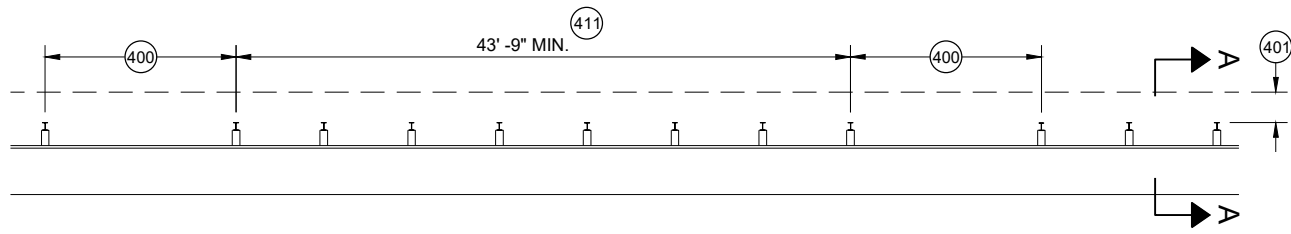
**PLAN VIEW**

**ALTERNATE WOOD  
BLOCKOUT DETAIL**

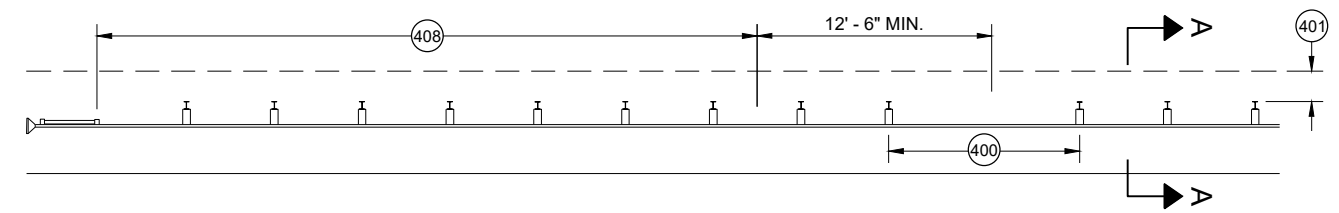
6 WHEN USING STEEL POST AND WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

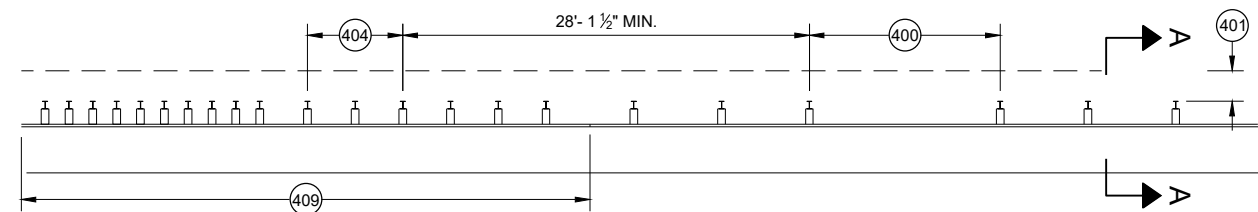
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



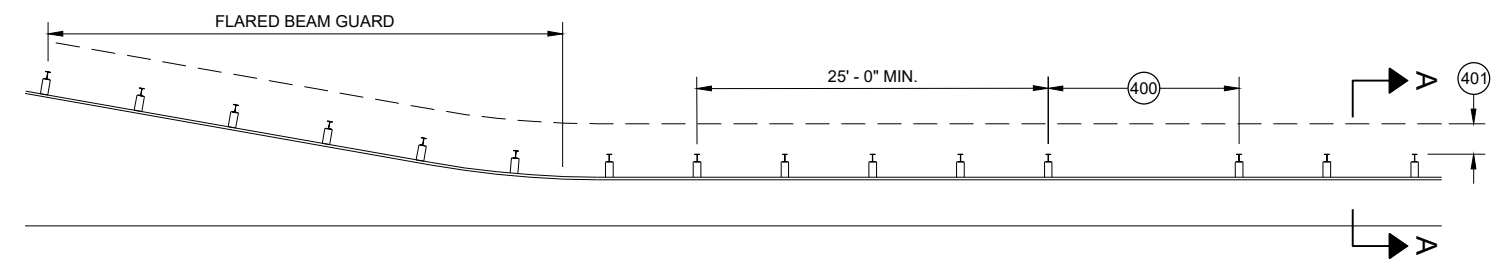
**MISSING POST IN MGS GUARDRAIL**



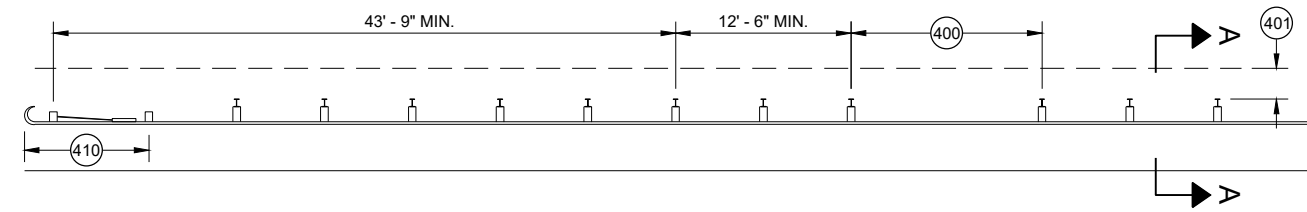
**MISSING POST IN MGS GUARDRAIL NEAR EAT**



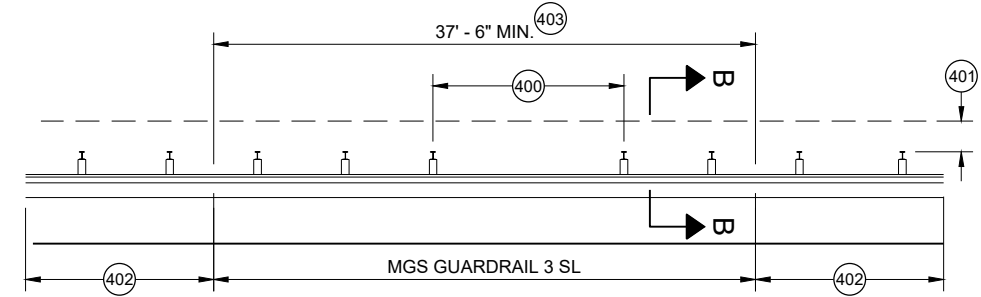
**MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION**



**MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD**

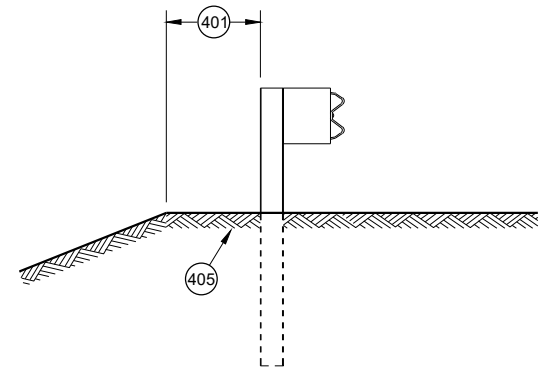


**MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL**

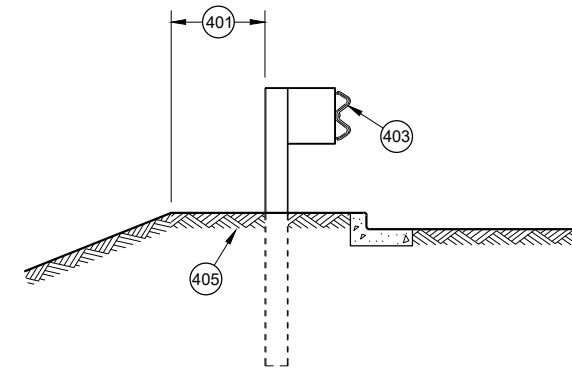


**MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)**

- 400 MAX SPAN 12' - 6"
- 401 2' MIN.
- 402 MGS GUARDRAIL 3
- 403 NESTING BEAM GUARD
- 404 ASYMMETRIC TRANSITION
- 405 SOIL WELL DRAINED AND COMPACTED
- 406 SEE OTHER DRAWINGS IN THIS SDD
- 407 SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
- 408 SEE SDD 14B44
- 409 SEE SDD 14B45
- 410 SEE SDD 14B47
- 411 MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



**SECTION A - A**



**SECTION B - B**

<b>MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2021 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
<small>FHWA</small>	

**GENERAL NOTES**

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
  - (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
  - (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
  - (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
  - (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.
- DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

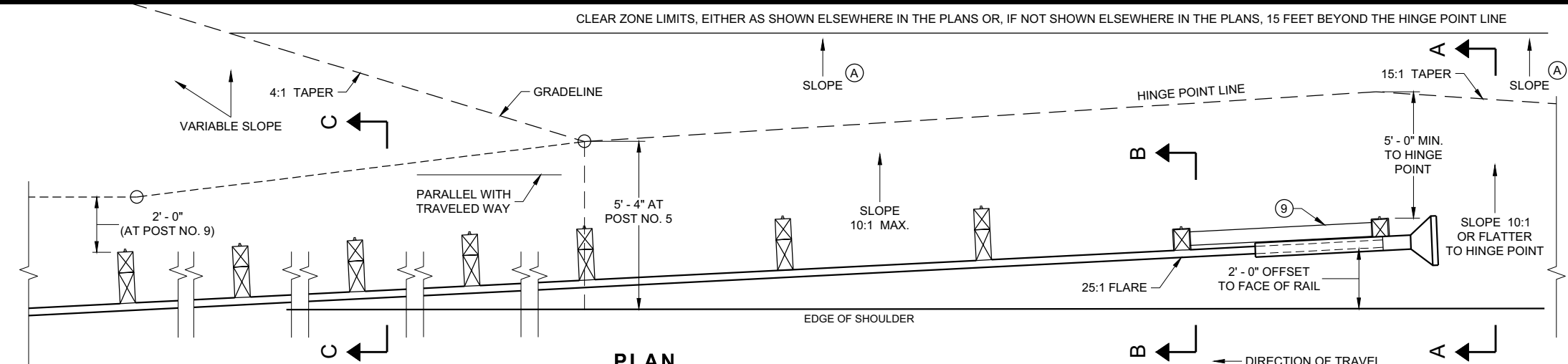
SEE SDD 14B42 FOR MORE INFORMATION.

\* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

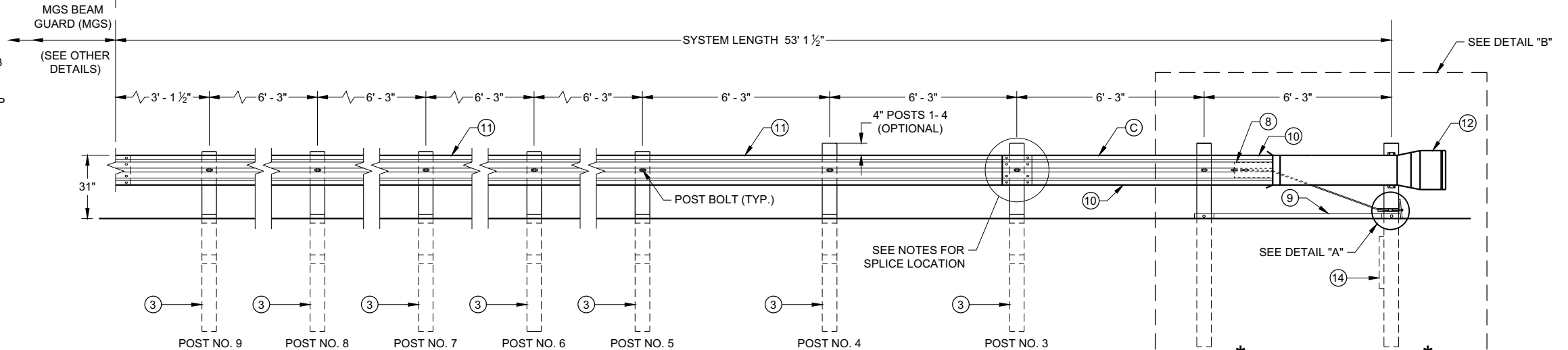
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

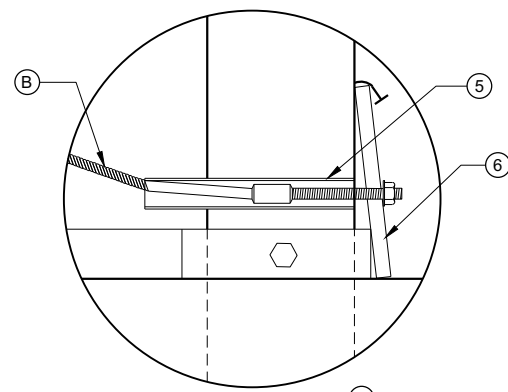
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



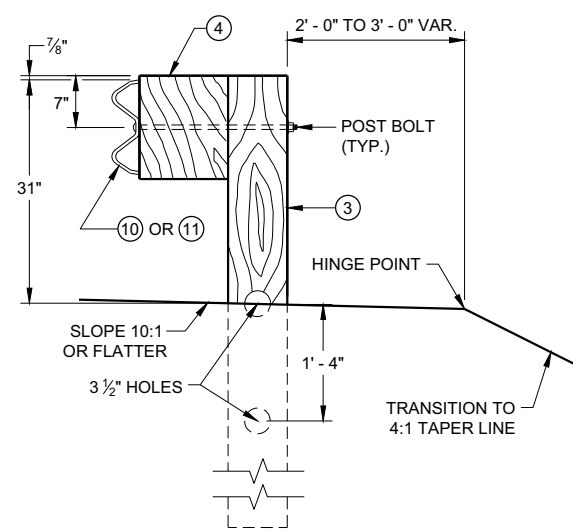
**PLAN**



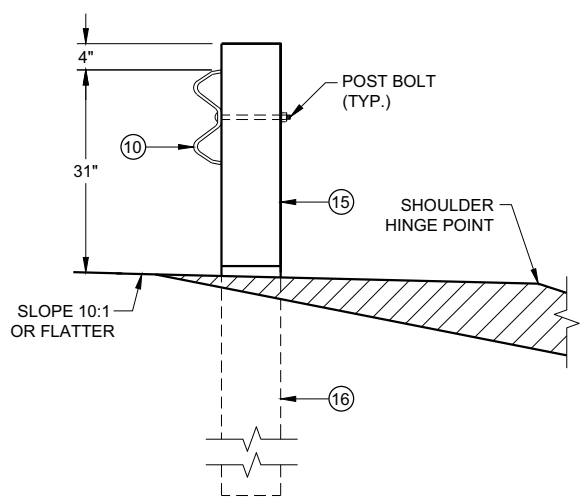
**ELEVATION**



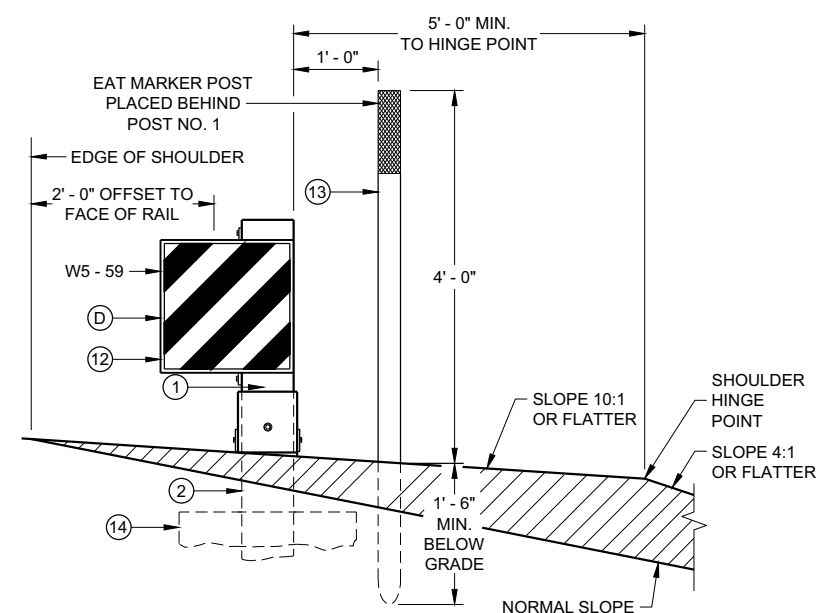
**DETAIL "A"**



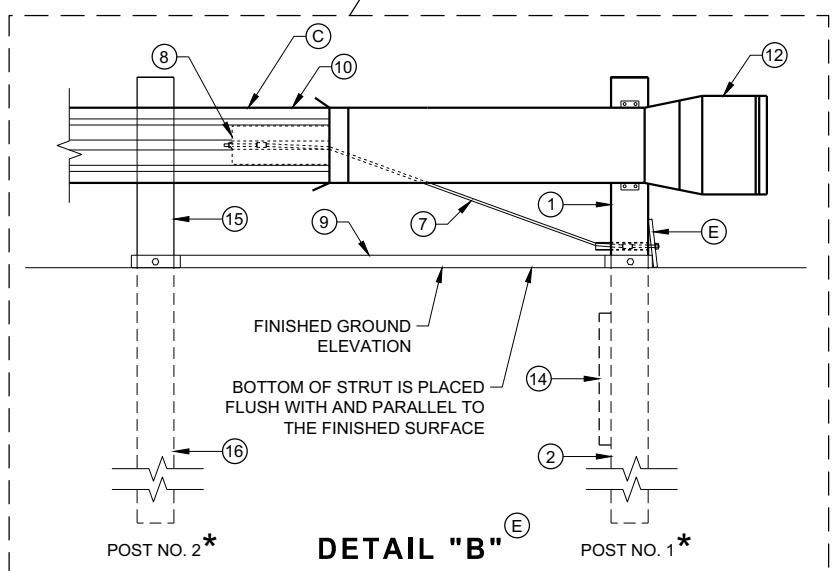
**SECTION C - C  
TYPICAL AT POST NOS. 3 - 9**



**SECTION B - B  
TYPICAL AT POST NO. 2\***



**SECTION A - A  
TYPICAL AT POST NO. 1\***



**DETAIL "B"**

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

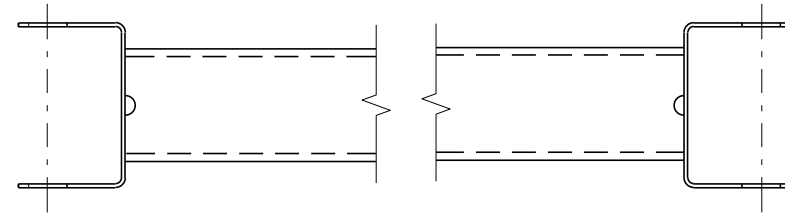
6

SDD 14B44 - 04a

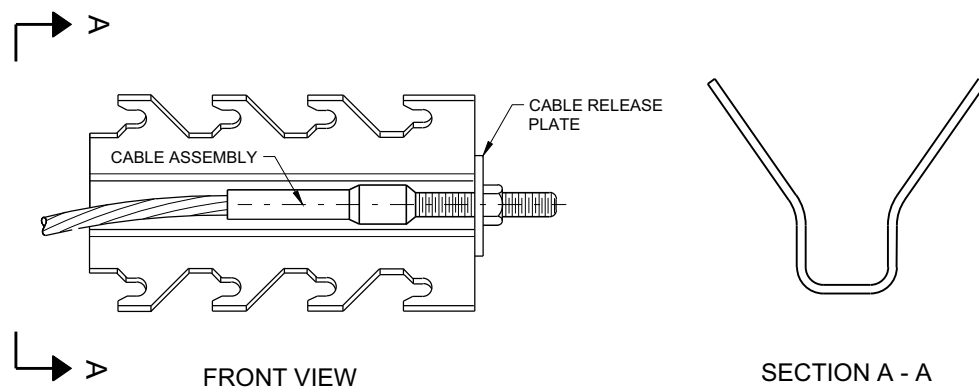
SDD 14B44 - 04a

**BILL OF MATERIALS**

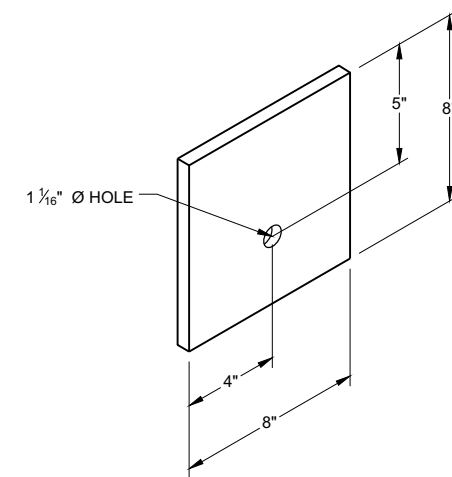
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



**GENERIC GROUND STRUT** ⑨ ⑤



**GENERIC ANCHOR CABLE BOX** ⑨ ⑤



**BEARING PLATE** ⑥ ⑤

6

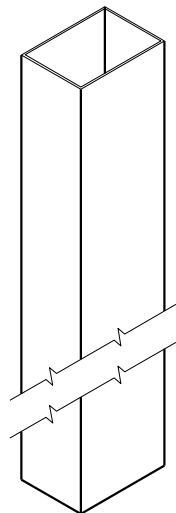
6

SDD 14B44 - 04b

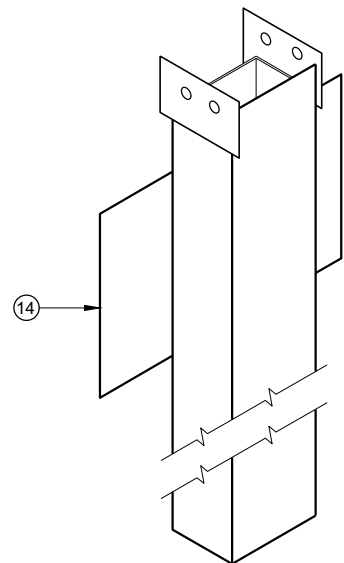
SDD 14B44 - 04b

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

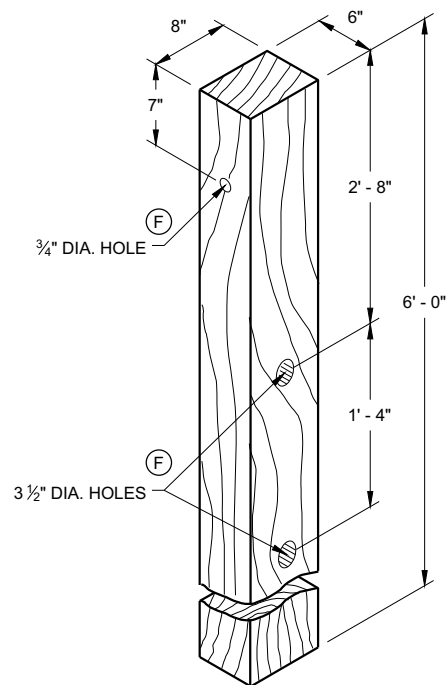
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



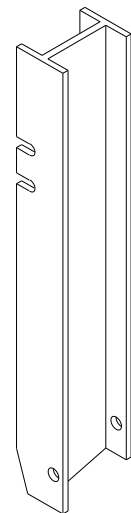
UPPER POST NO. 1 <sup>(1)</sup> (E)



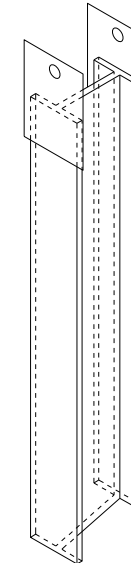
LOWER POST NO. 1 <sup>(2)</sup> (E)



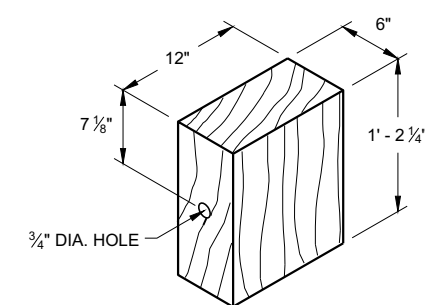
WOOD CRT POST <sup>(3)</sup> (E)  
POSTS NUMBER 3-9



UPPER POST NO. 2 <sup>(15)</sup> (E)

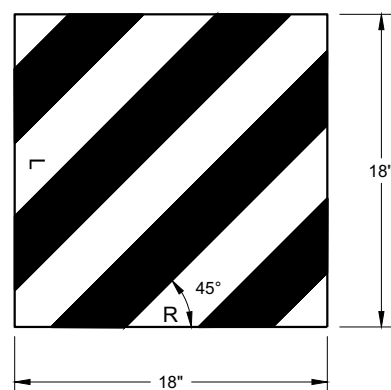


LOWER POST NO. 2 <sup>(16)</sup> (E)

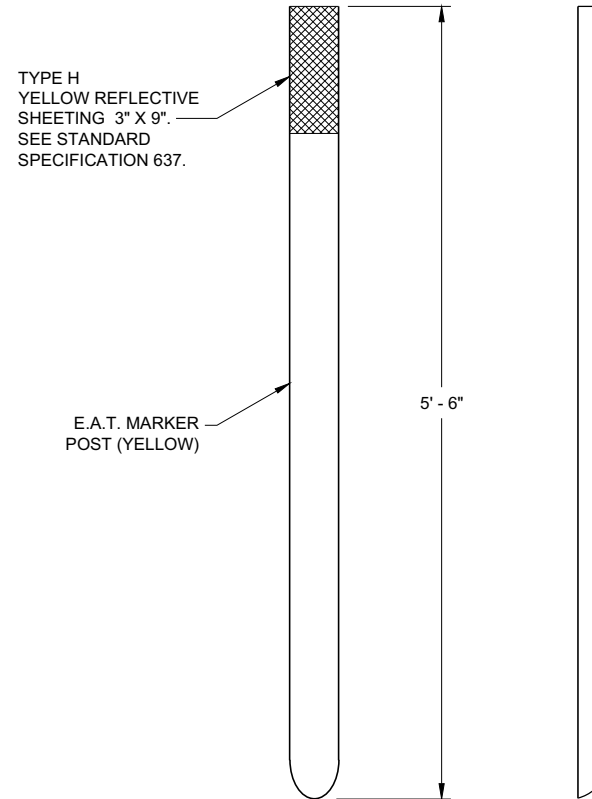


WOOD BLOCKOUT <sup>(4)</sup>  
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

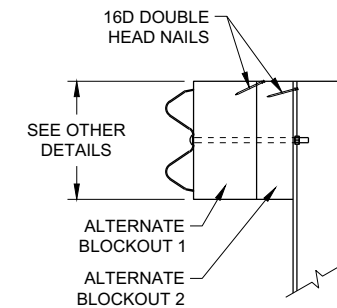
6



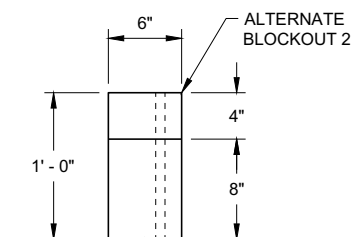
W5 - 59  
REFLECTIVE SHEETING DETAIL <sup>(E)</sup>



E.A.T. MARKER POST <sup>(13)</sup>



SIDE VIEW



TOP VIEW

ALTERNATE WOOD  
BLOCKOUT DETAIL

6

SDD 14B44 - 04c

SDD 14B44 - 04c

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
7/2018 DATE /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR

FHWA

**GENERAL NOTES**

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.




ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

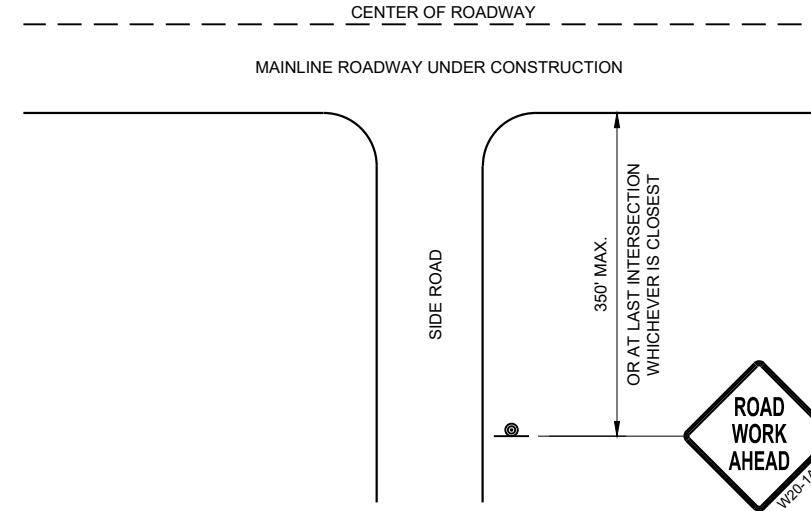
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

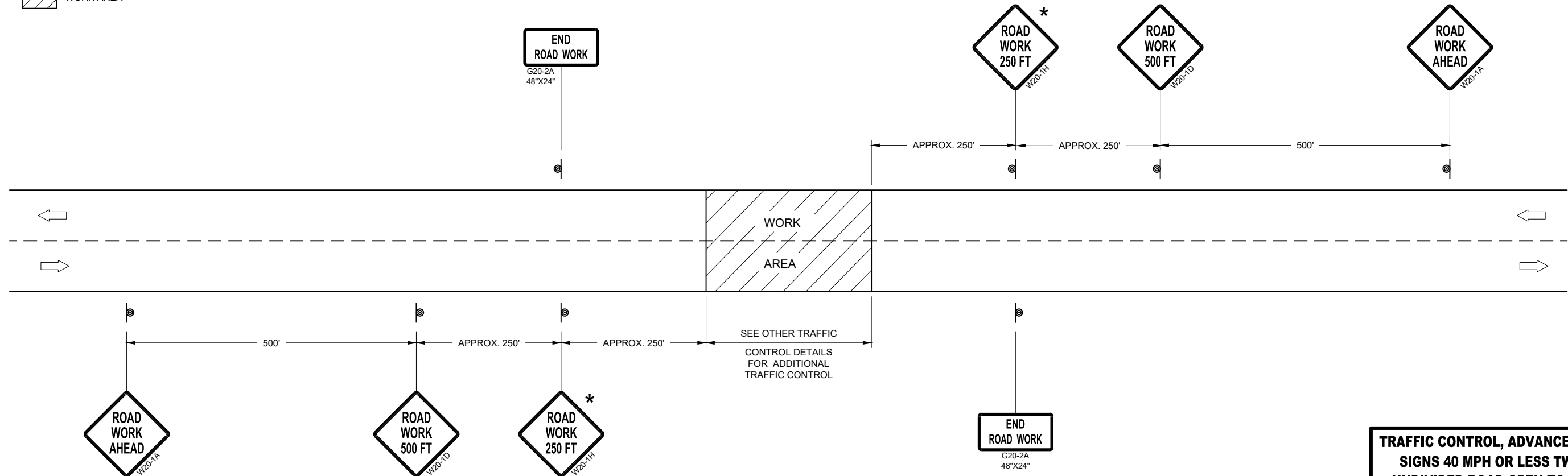
\* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

**LEGEND**

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



**TYPICAL SIDE ROAD APPROACH  
WARNING SIGN DETAIL**



**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS**

**TRAFFIC CONTROL, ADVANCE WARNING  
SIGNS 40 MPH OR LESS TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC**






STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
July 2018 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA



**LEGEND**

-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  TEMPORARY PORTABLE RUMBLE STRIP ARRAY
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

**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.

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

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

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

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

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

**FLAGGING**

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

**TEMPORARY PORTABLE RUMBLE STRIPS**

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

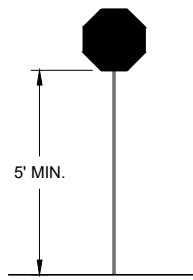
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



**STOP/SLOW PADDLE ON SUPPORT STAFF**

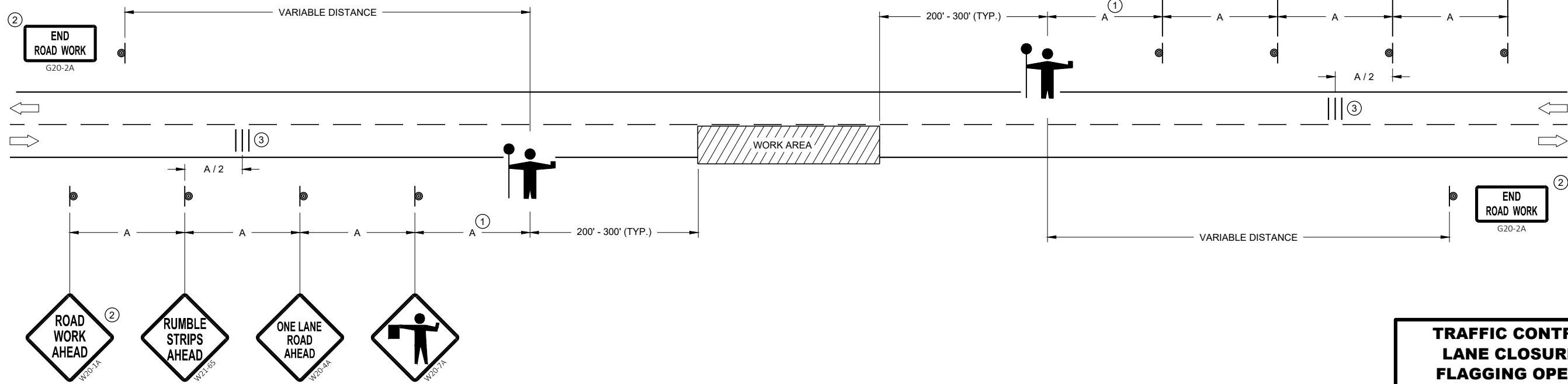
**SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE**

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



W03-4

USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".







**TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE: May 2022 /S/ Andrew Heidtke  
WORK ZONE ENGINEER

FHWA

**LEGEND**

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

**GENERAL NOTES**

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

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

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

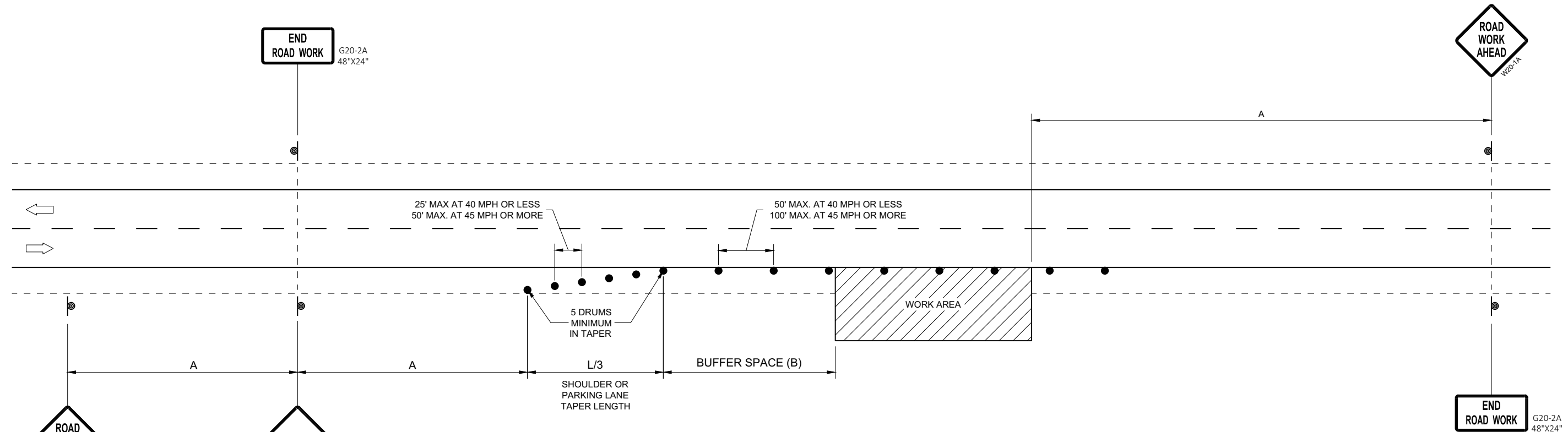
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

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

6

6



OR  
IF TRAFFIC CONTROL DEVICES  
ENCROACH ONTO TRAVELED WAY, USE

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

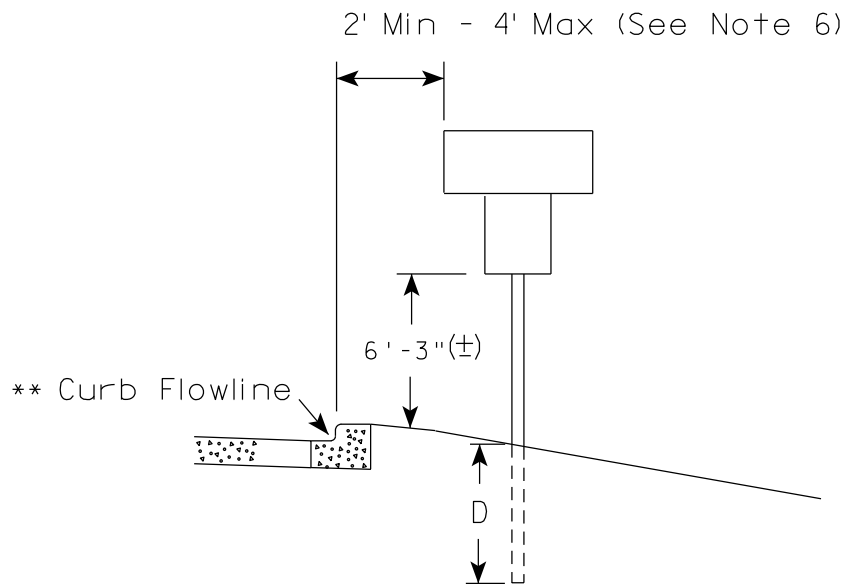
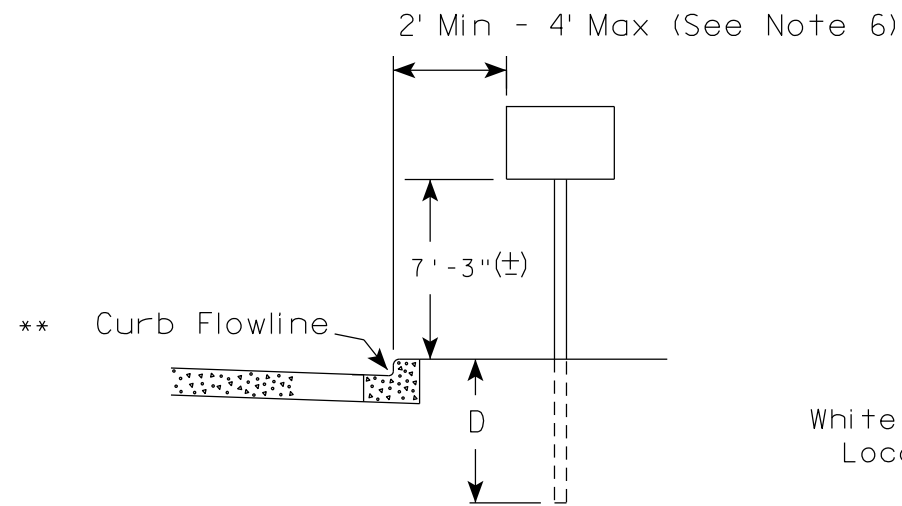
APPROVED  
May 2020 /S/ Andrew Heidtke  
DATE STATEWIDE WORK ZONE TRAFFIC  
SAFETY ENGINEER

FHWA

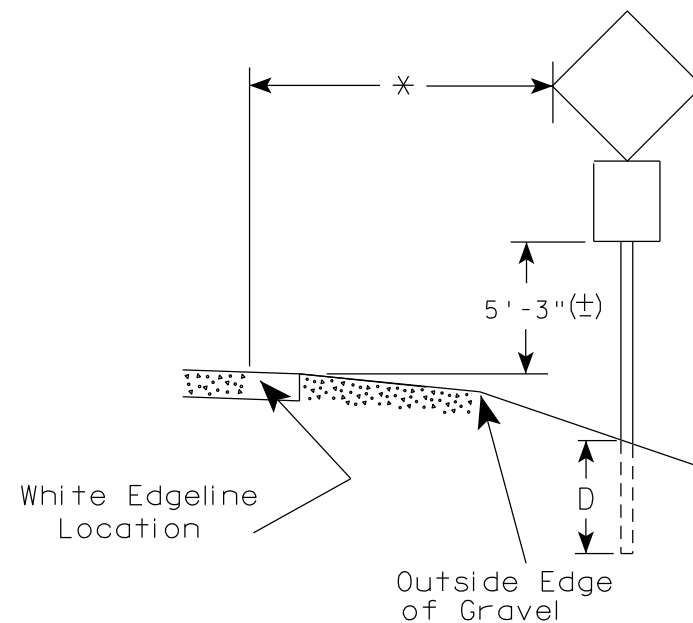
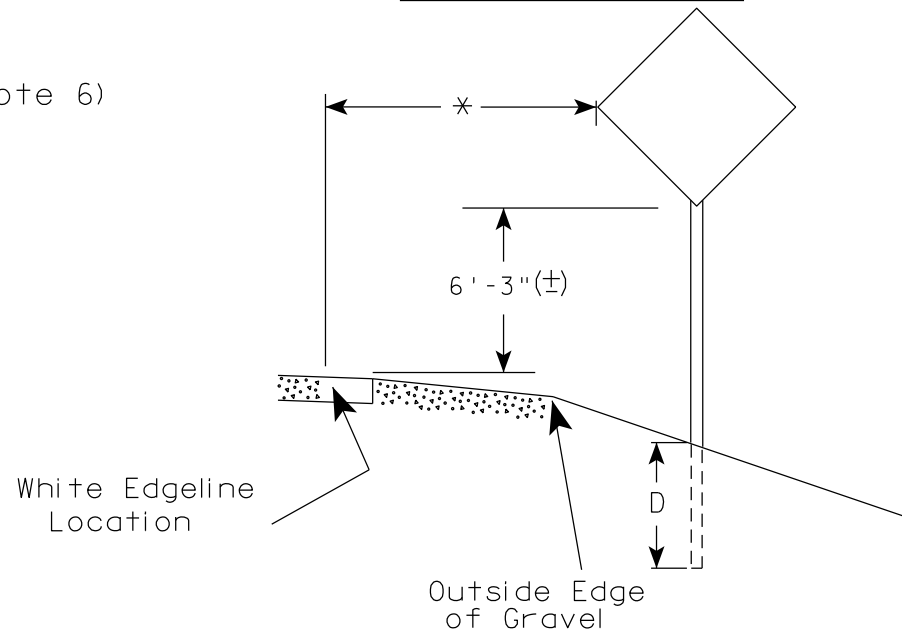
SDD 15D28 - 04

SDD 15D28 - 04

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

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

POST EMBEDMENT DEPTH

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

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

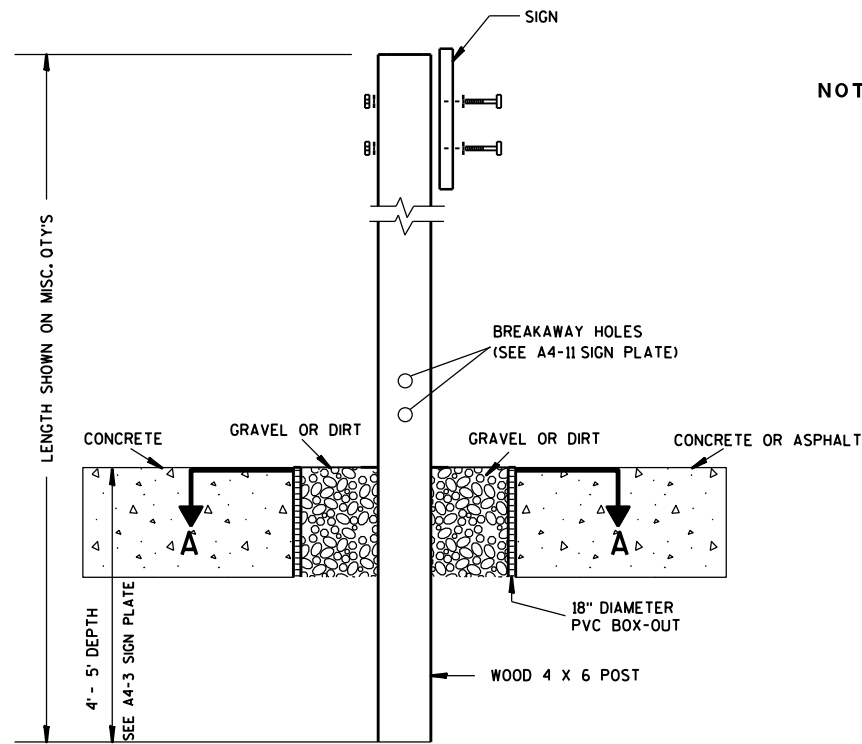
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

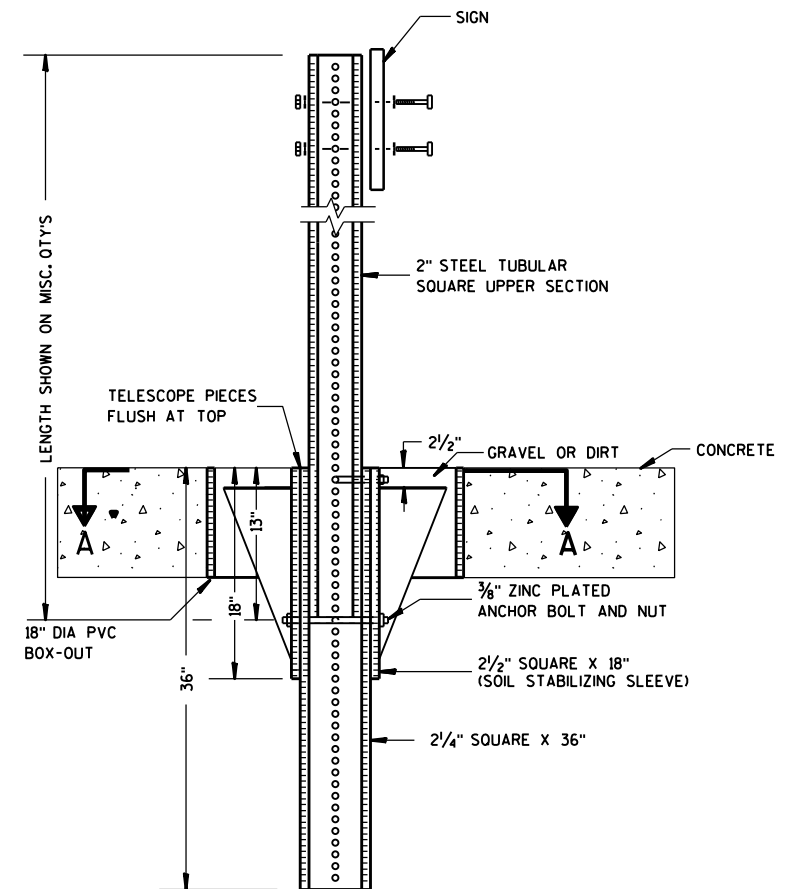
DATE 5/13/2020 PLATE NO. A4-3.22



**ELEVATION VIEW**

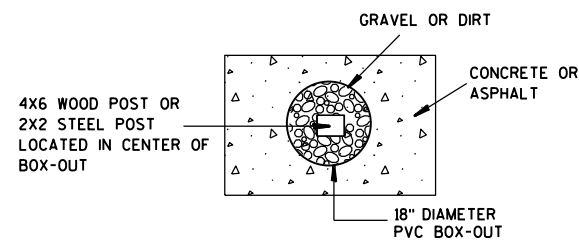
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

- NOTES:**
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
  2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
  3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



**ELEVATION VIEW**

**DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT**



**PLAN VIEW**

**FOR NEW CONCRETE/ ASPHALT INSTALLATIONS**

**SIGN POST  
BOX-OUTS  
A4-3B**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*

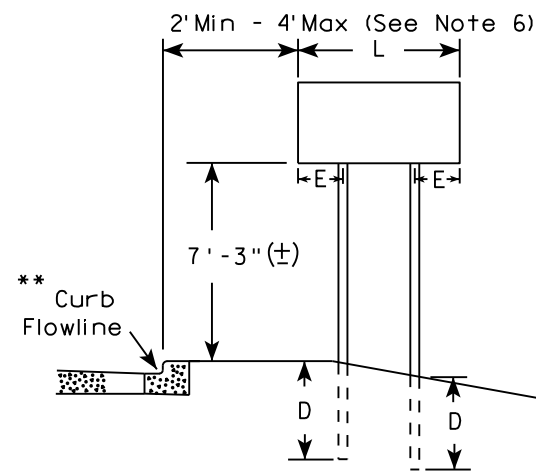
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

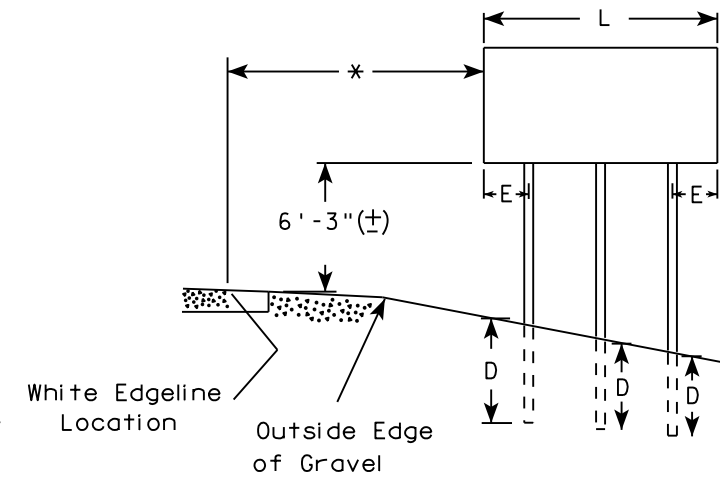
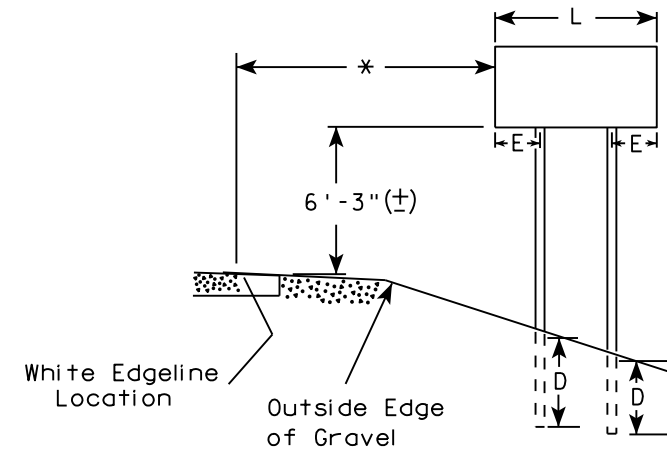
GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. 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), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

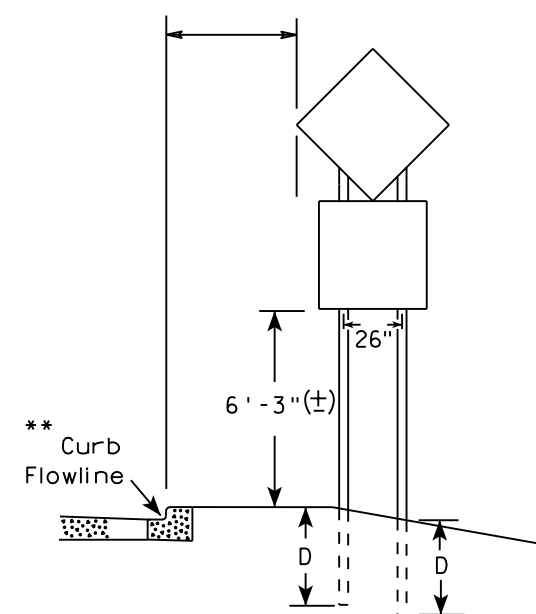
URBAN AREA



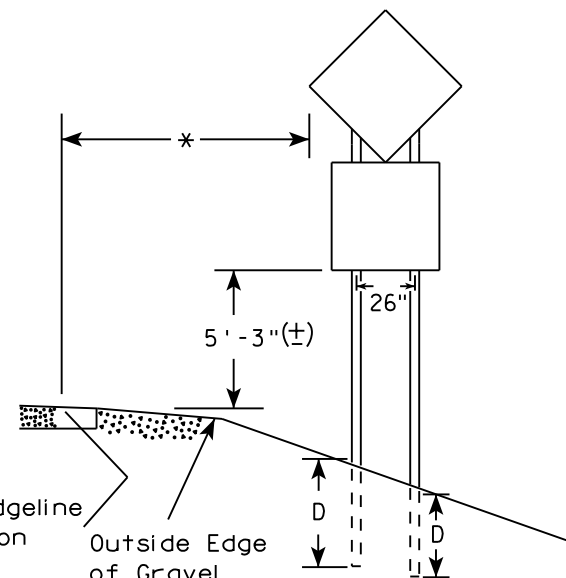
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

\* 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.

\*\* 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.

\*\*\* See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

\*\*\*

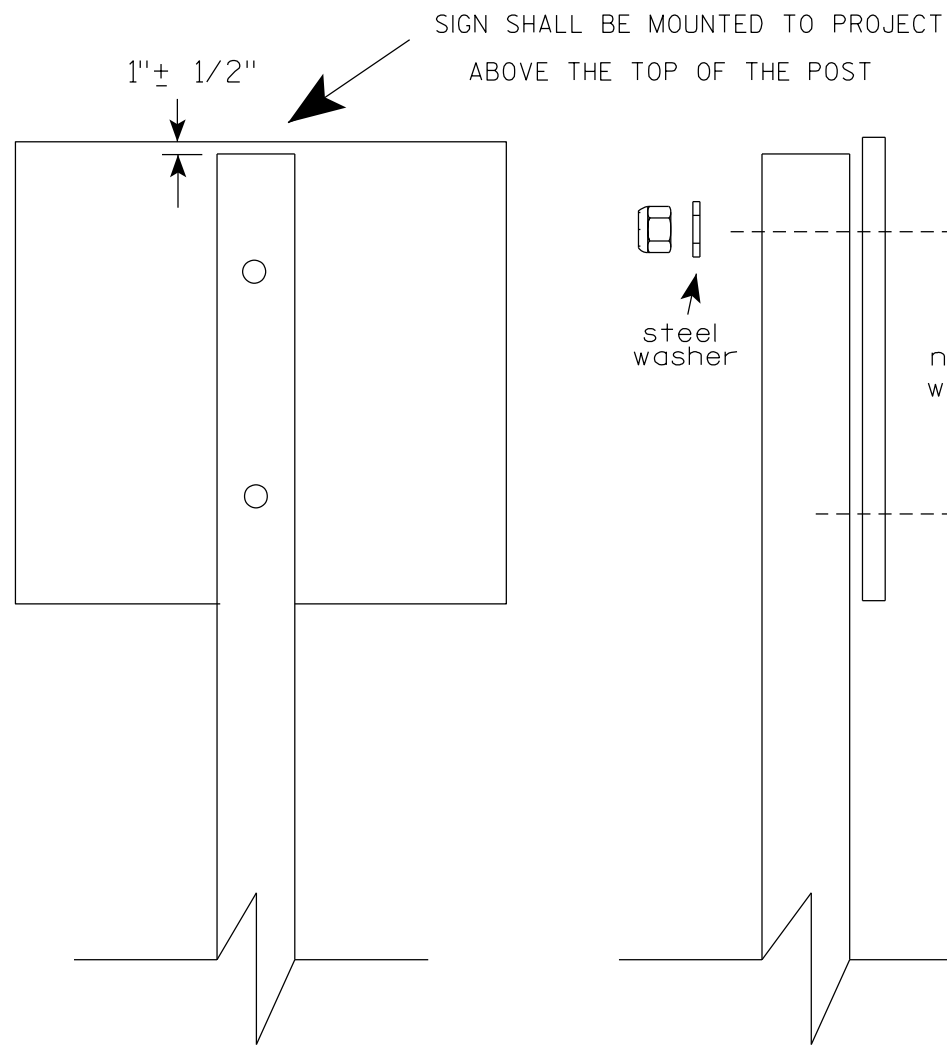
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION  
 APPROVED *Matthew R. Rauch*  
 For State Traffic Engineer  
 DATE 8/21/17 PLATE NO. A4-4.15



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

1"± 1/2"

steel washer

nylon washer

steel washer

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

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

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)  
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)  
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL  
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS  
TO POSTS

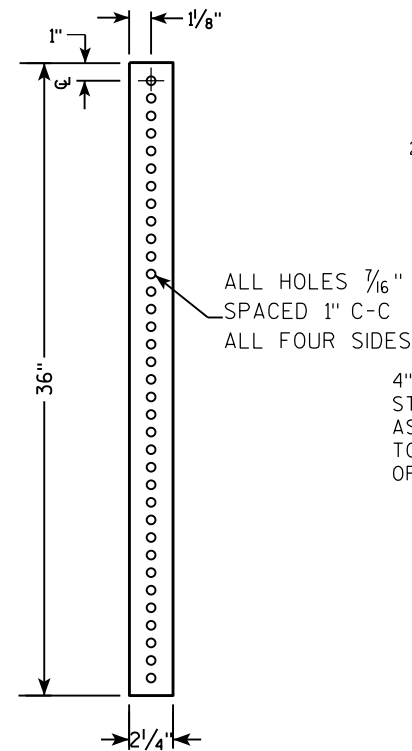
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
For State Traffic Engineer

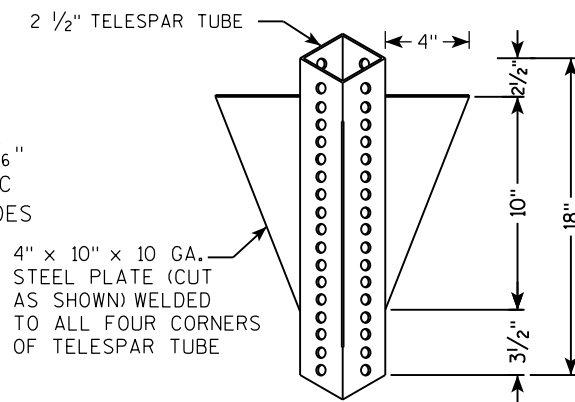
DATE 4/1/2020 PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

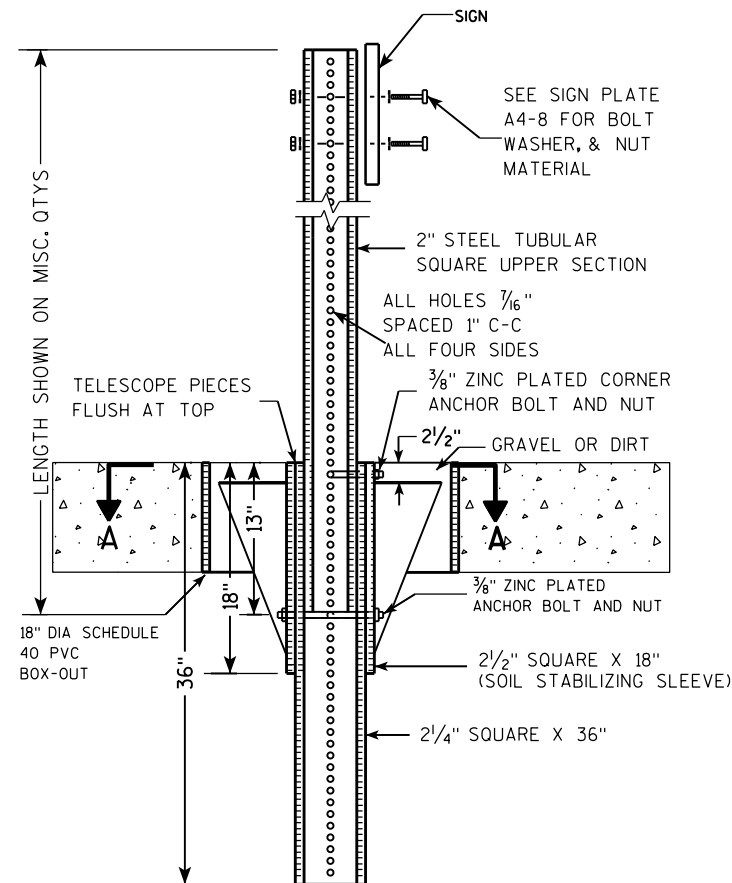
2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH



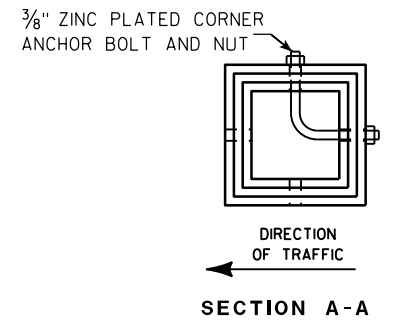
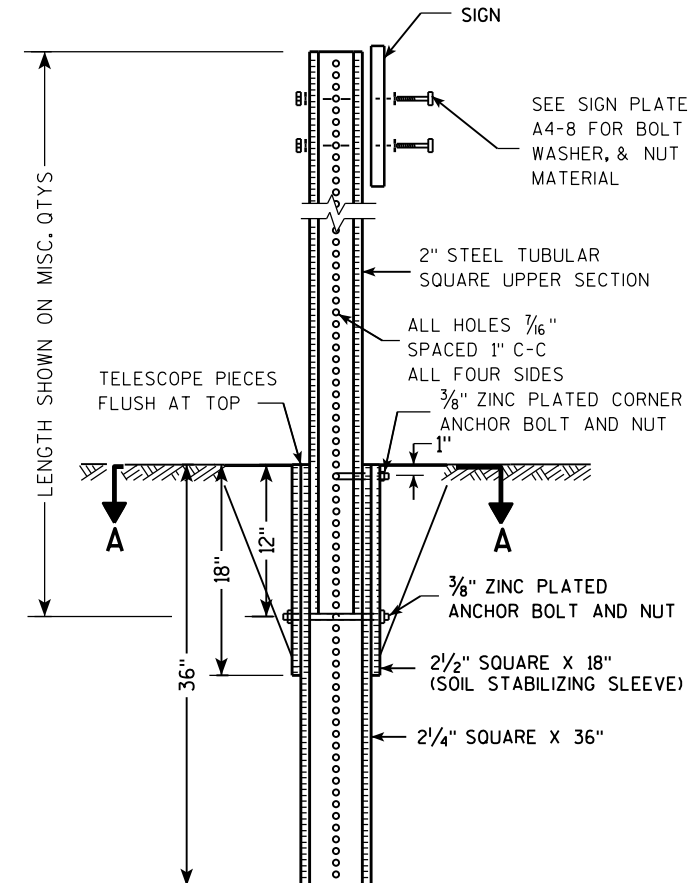
2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH



**DETAIL OF TUBULAR STEEL SIGN POST  
(IN POURED CONCRETE OR ASPHALT)**



**DETAIL OF TUBULAR STEEL SIGN POST  
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)**



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

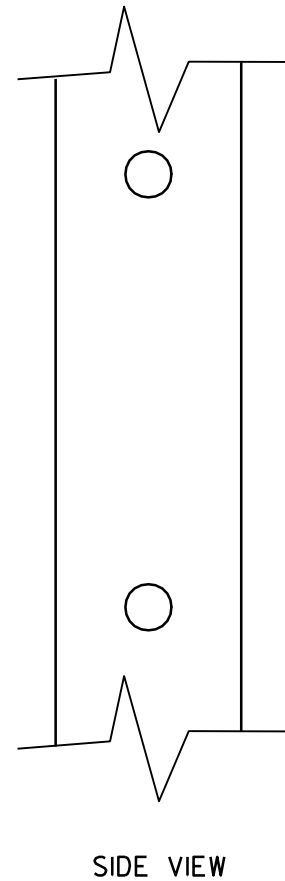
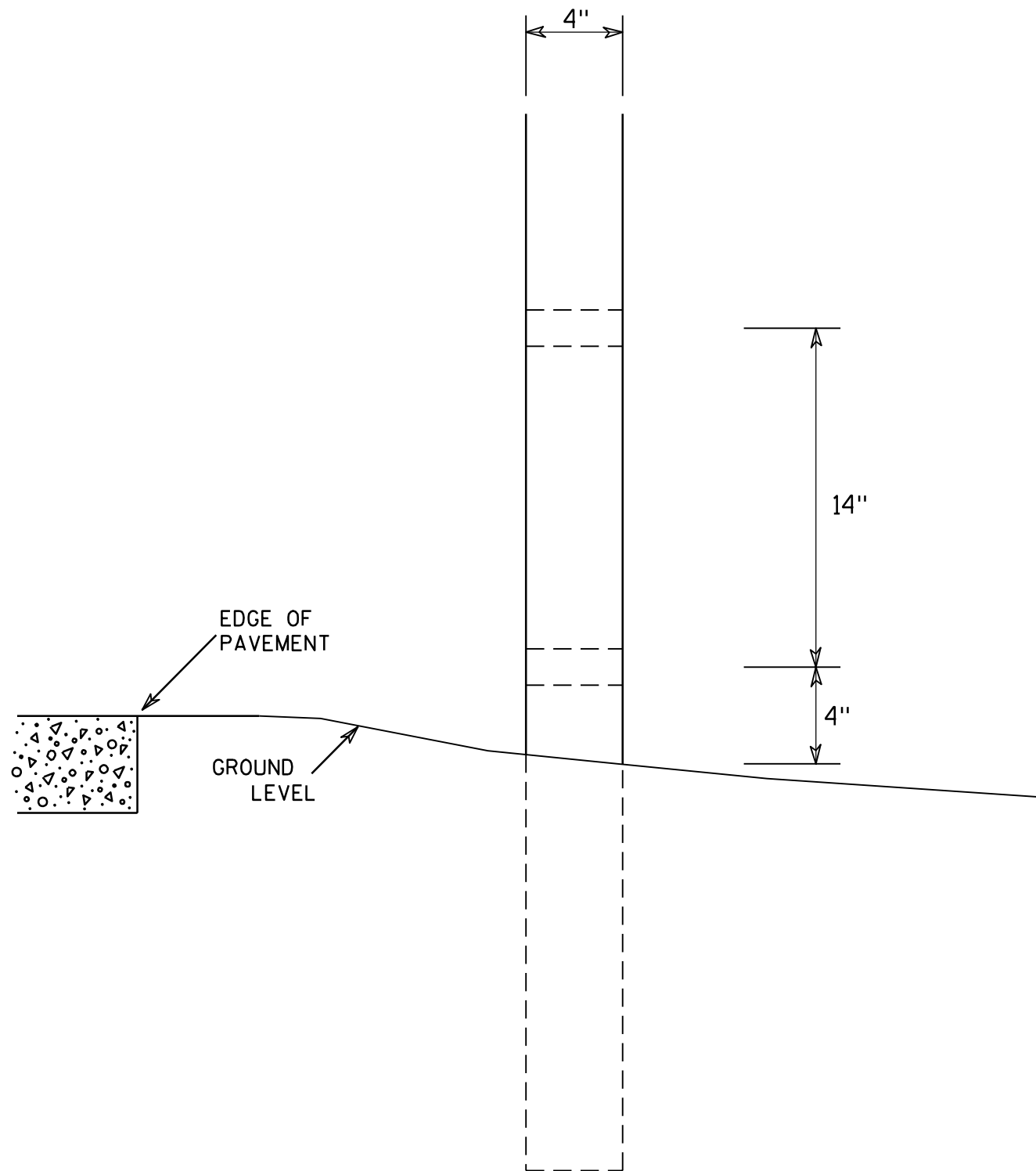
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**TUBULAR STEEL  
SIGN POST  
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9



GENERAL NOTES

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

7

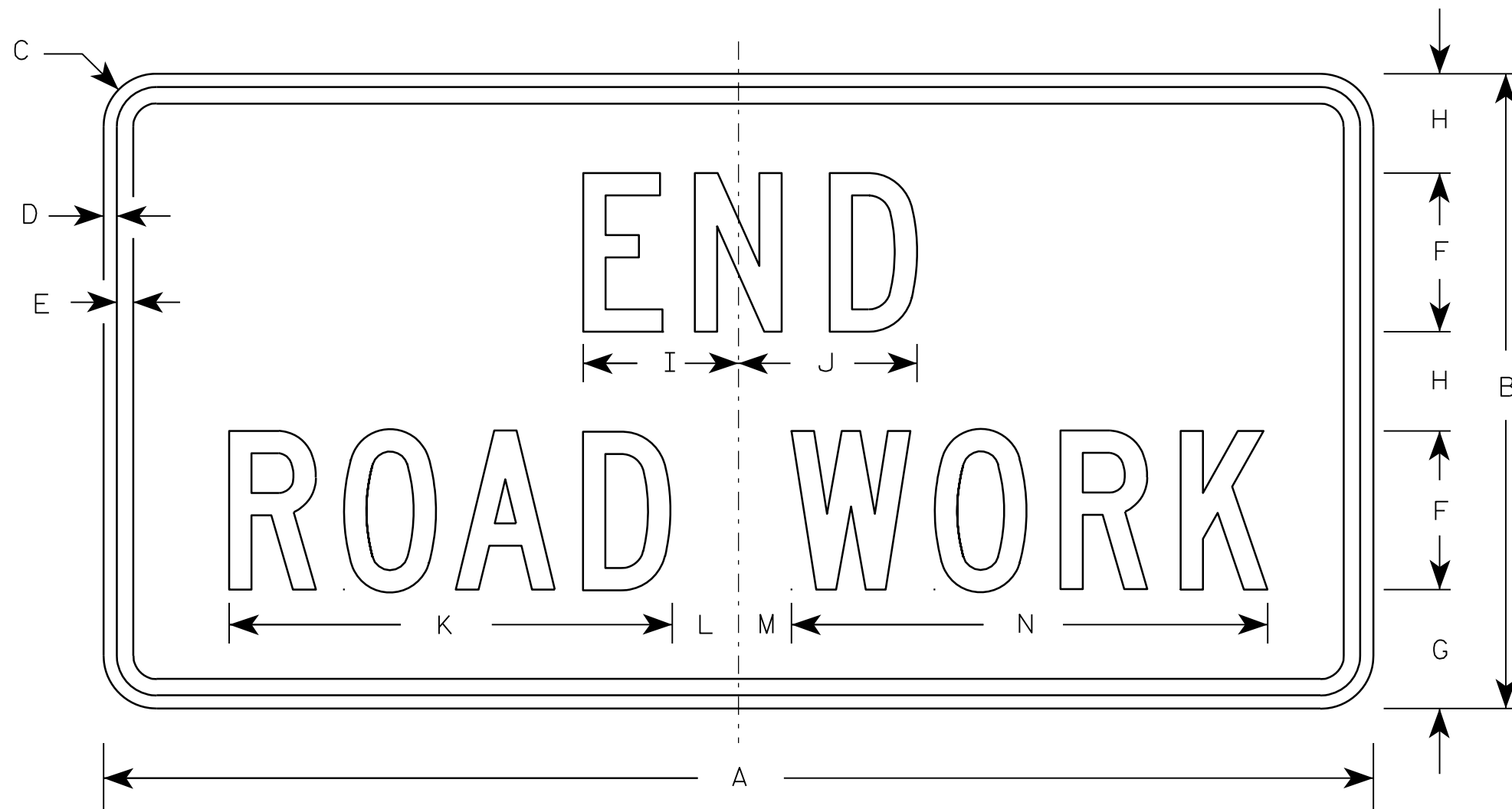
7

4 X 6 WOOD POST MODIFICATIONS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE 3/27/97	PLATE NO. A4-11.2



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 - 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.



G20-2A

7

7

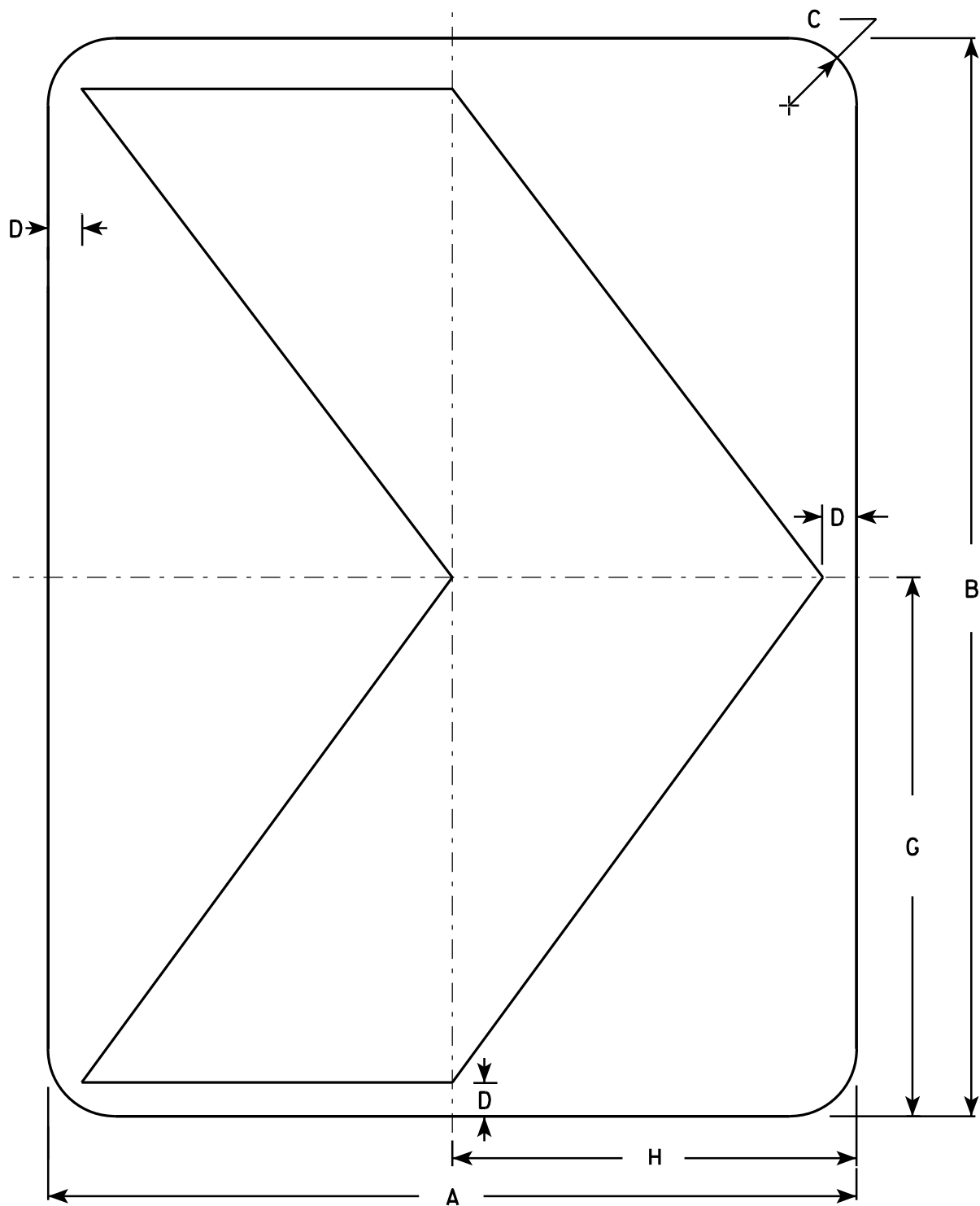
Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

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.	Area sq. m.
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

STANDARD SIGN G20-2A	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 9/30/09	PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	<b>E</b>
-------------	------	---------	-----------	----------



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.

7

7

W1-8

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	12	18	1 1/2	1/2			9	6																			1.5
2S	18	24	1 1/2	3/4			12	9																			3.0
2M	18	24	1 1/2	3/4			12	9																			3.0
3	24	30	1 1/2	1			15	12																			5.0
4	30	36	1 7/8	1 1/4			18	15																			7.5
5	36	48	2 1/4	1 1/2			24	18																			12.0

**STANDARD SIGN**  
W1-8

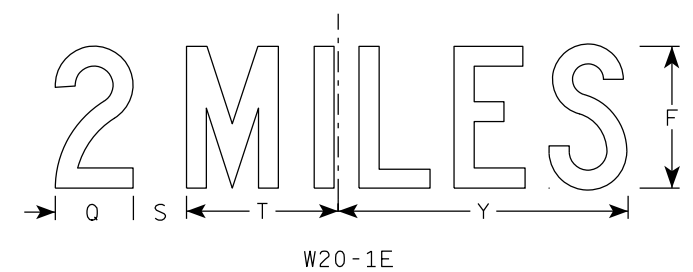
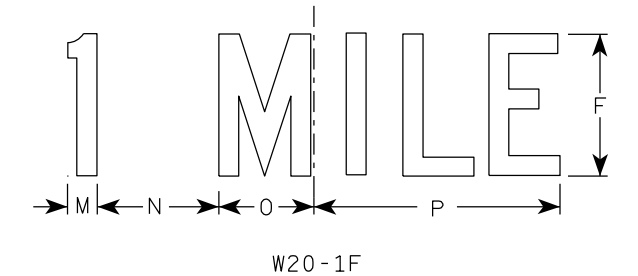
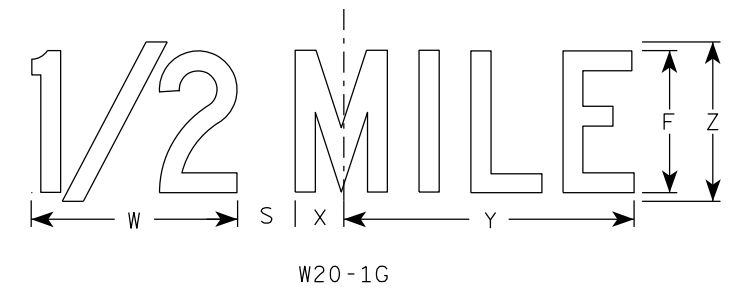
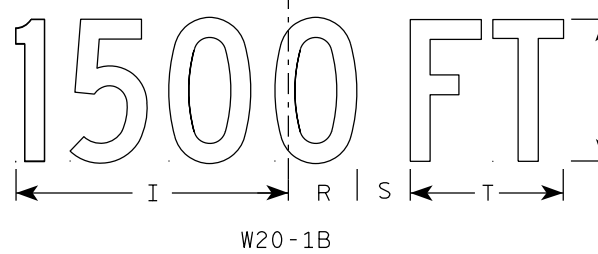
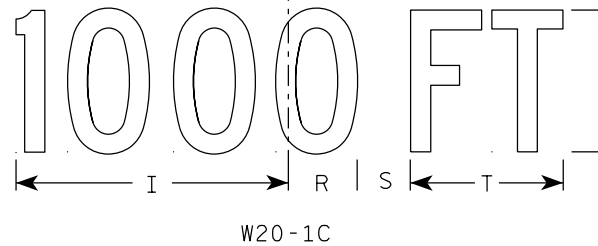
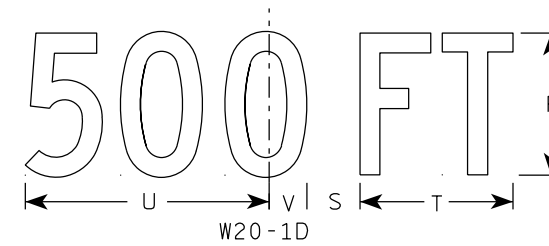
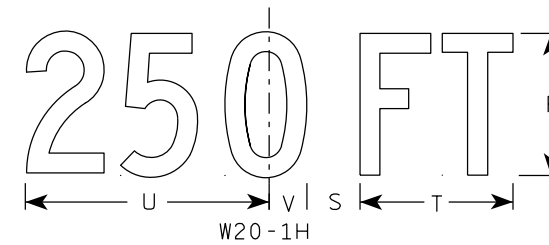
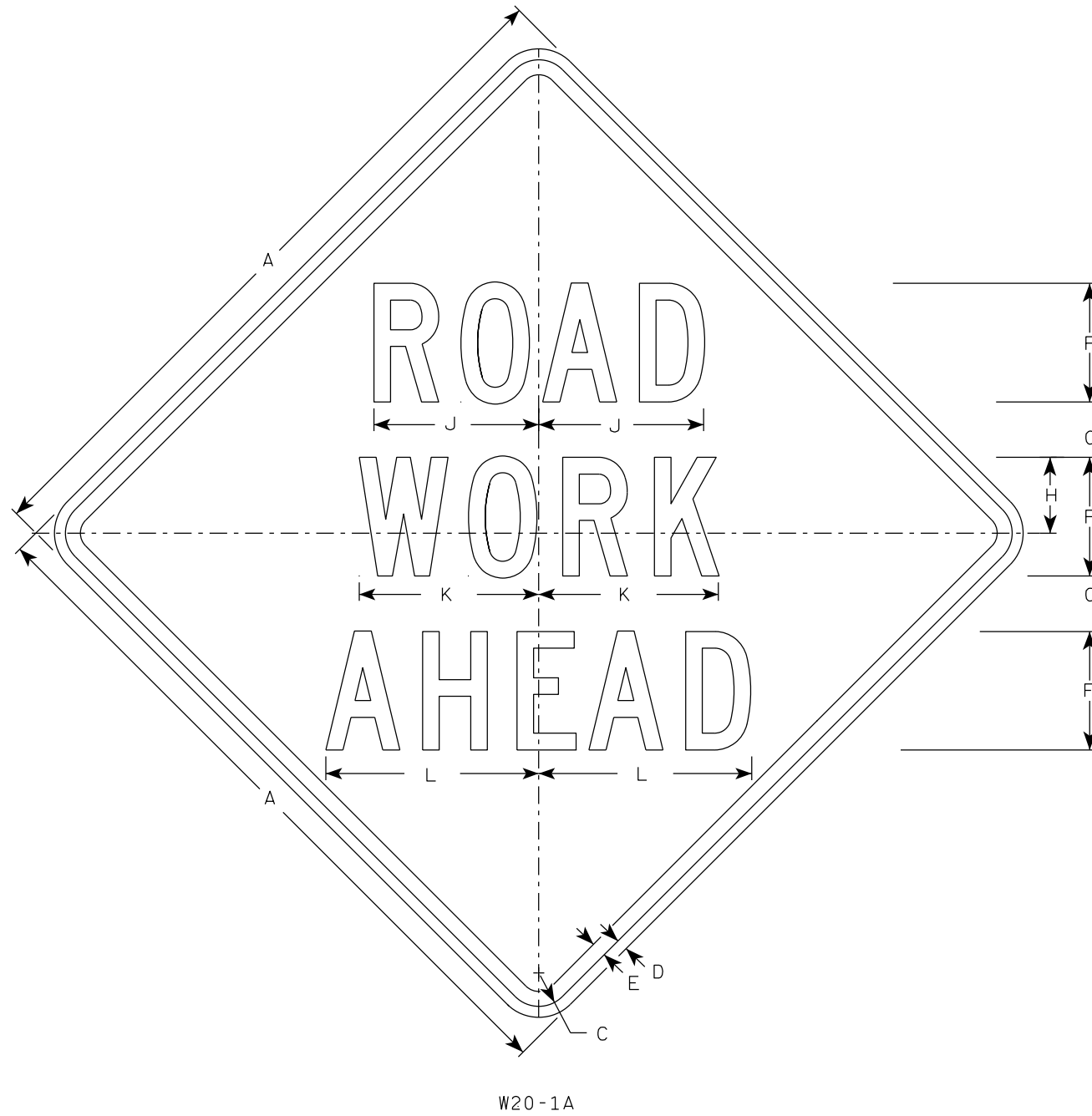
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-8.6

**NOTES**

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
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.



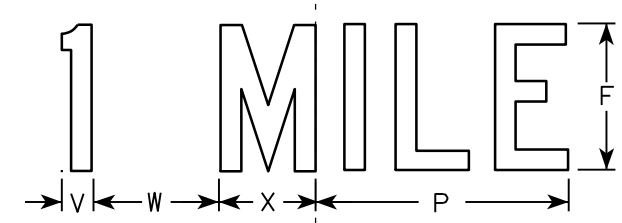
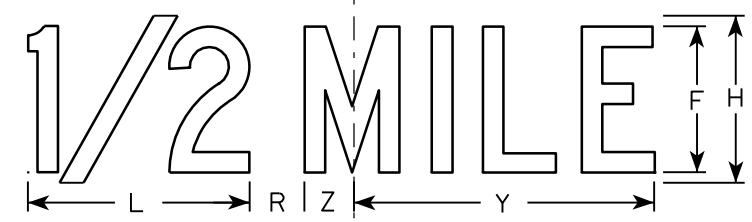
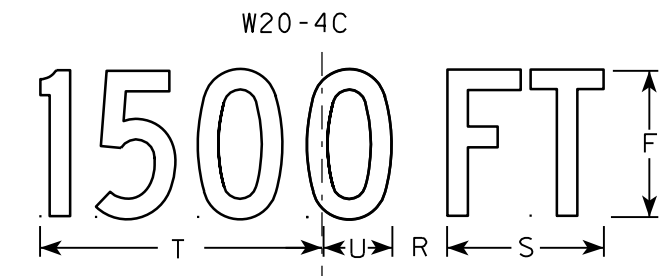
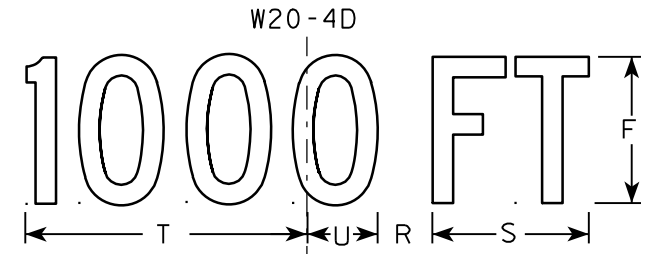
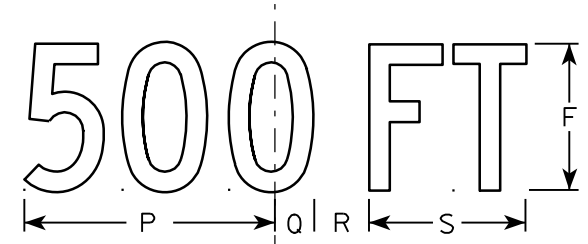
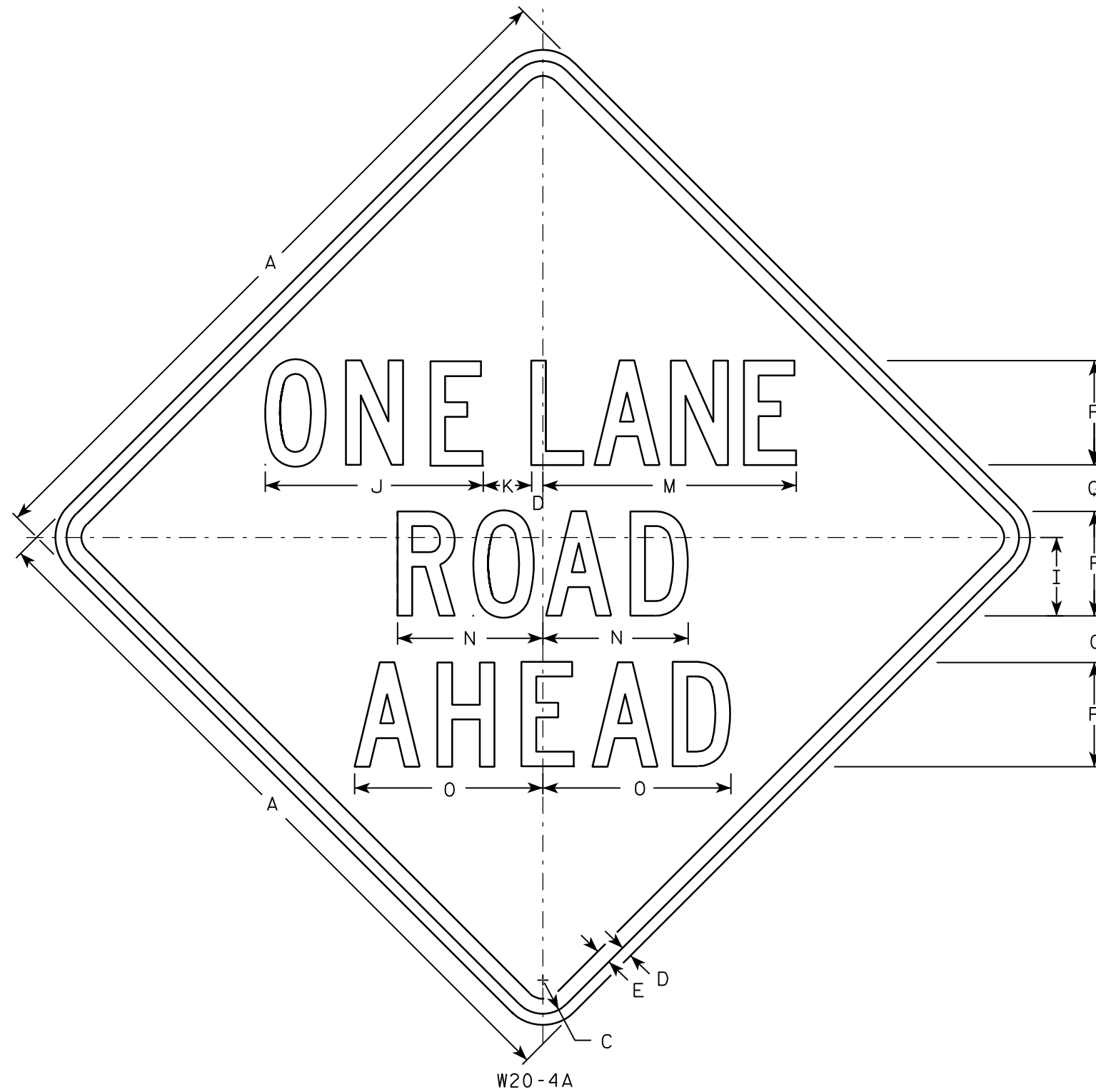
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN  
W20-1A, B, C, D, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/25/2020 PLATE NO. W20-1.11



**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 - 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.

7

7

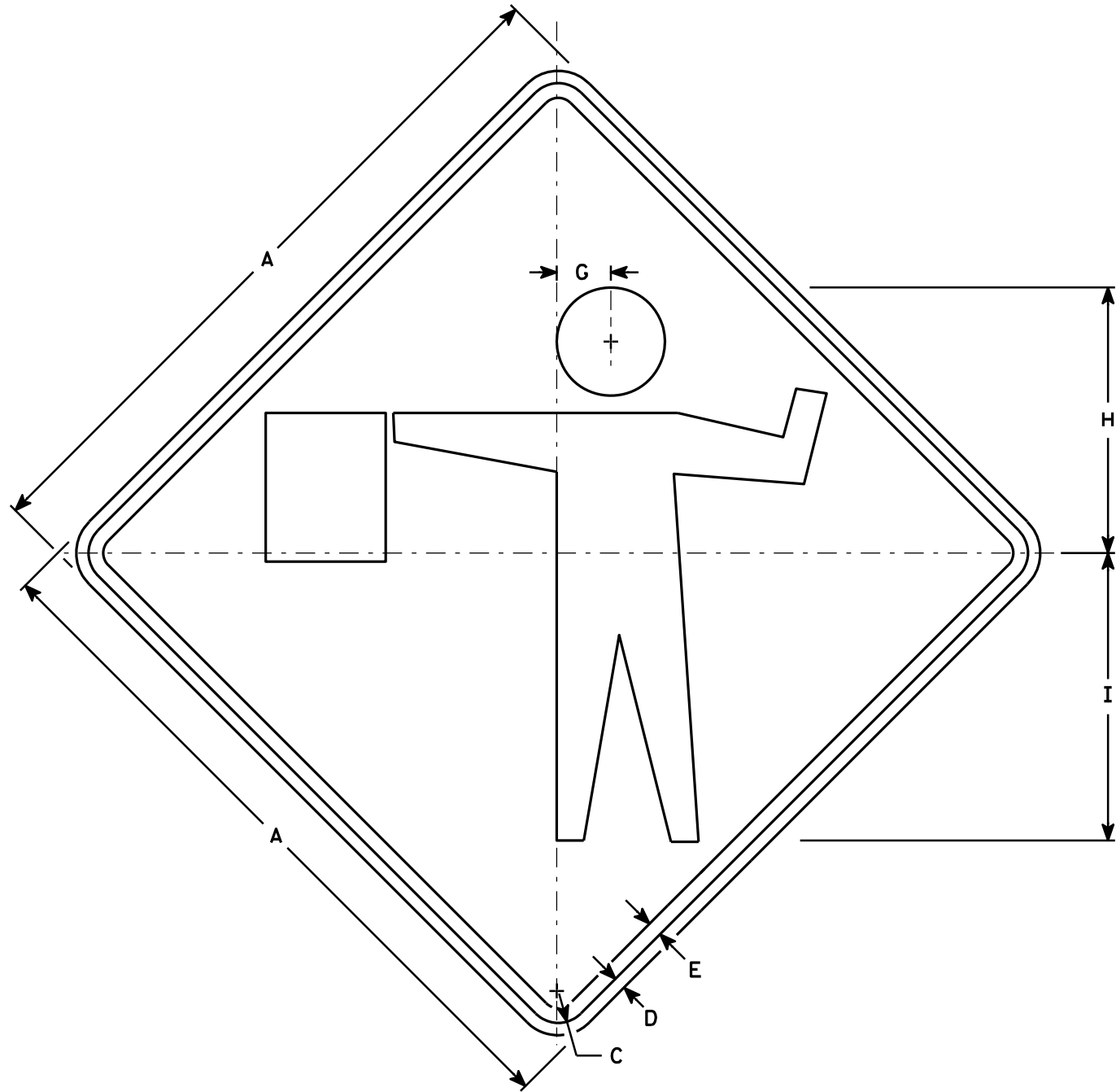
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 3/8	6	3 3/4	10 3/8	2 3/8	8	13 1/2	7	8 7/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13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

STANDARD SIGN  
W20-4A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-4.9



W20-7A

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. 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

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	36		1 5/8	5/8	3/4		2 3/4	13 1/2	14 5/8																		9.00
2S	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
2M	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
3	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
4	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
5	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00

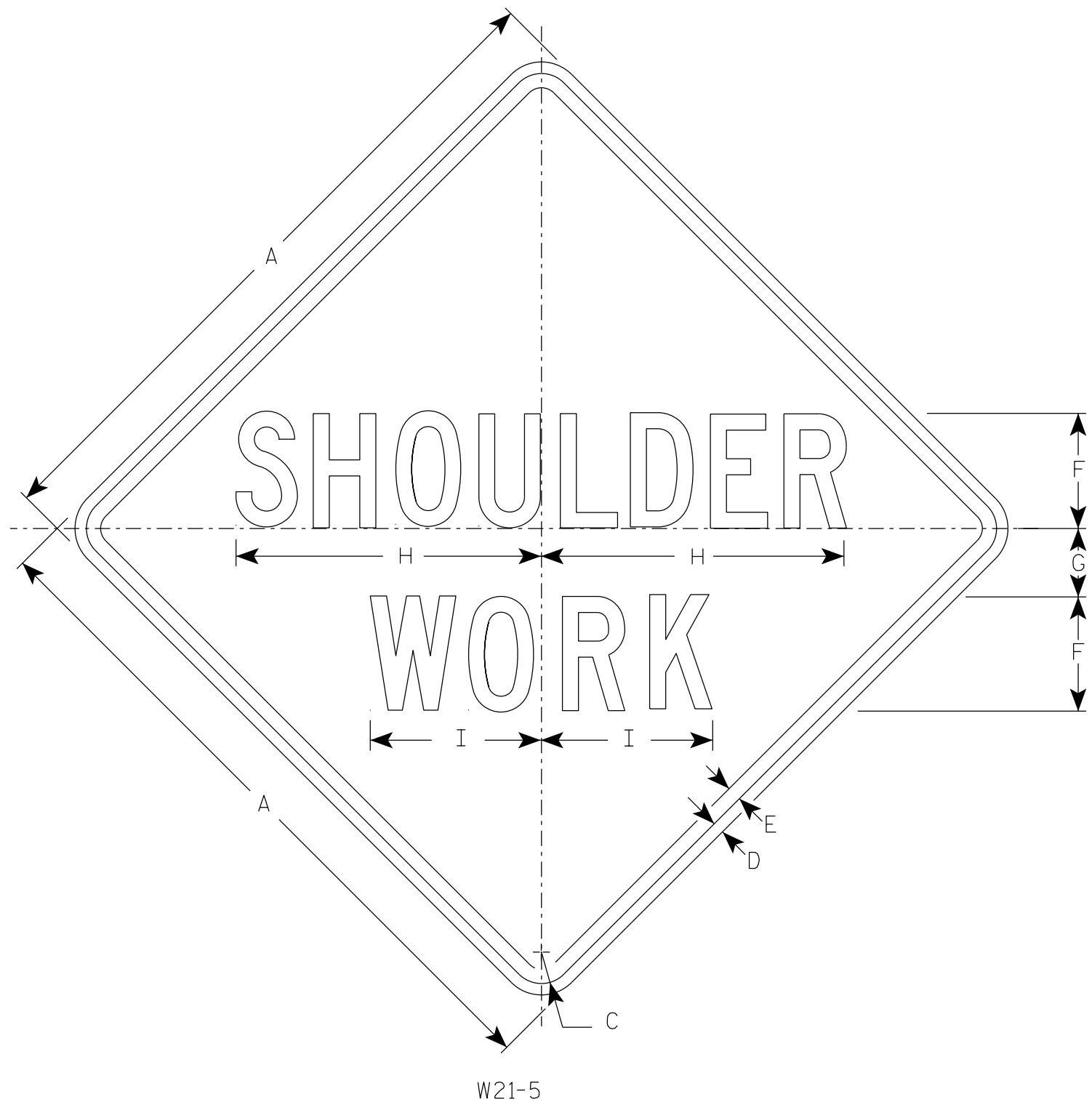
**STANDARD SIGN**  
W20-7A

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-7A.5

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



NOTES

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
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.

7

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	36		1 5/8	5/8	3/4	6	3 1/2	16	9																		9.0
2S	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0
2M	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0
3	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0
4	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0
5	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0

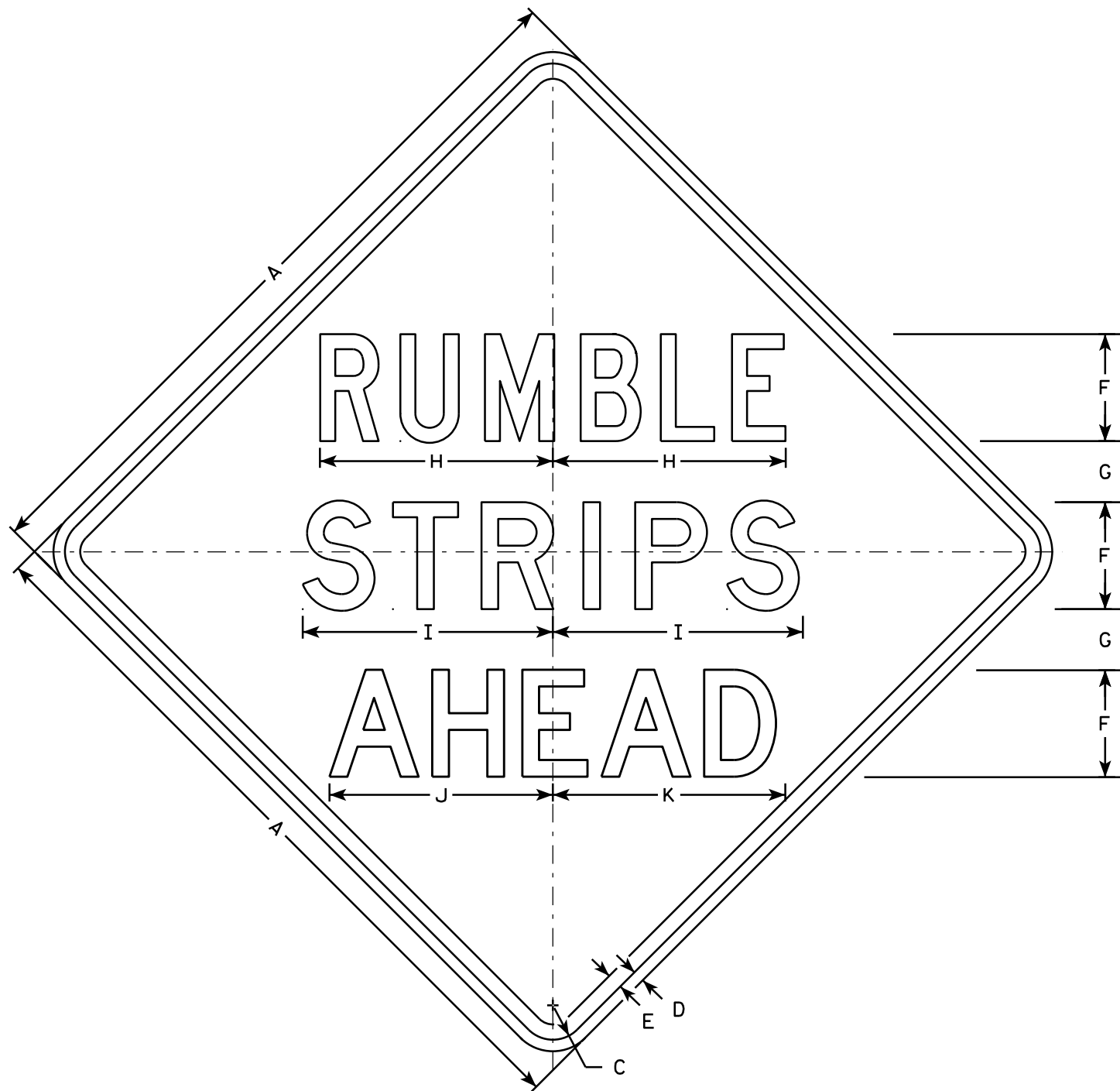
STANDARD SIGN  
W21-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
for State Traffic Engineer

DATE 4/30/2020 PLATE NO. W21-5.6

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



W21-65

NOTES

1. Sign is Type II - Type F Reflective
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. Line 1 is Series C  
Lines 2 and 3 are Series D

7

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	36		1 5/8	5/8	3/4	5	3 1/4	10 7/8	11 5/8	11	11 5/8																9.0
2S	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
2M	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
3	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
4	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
5	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0

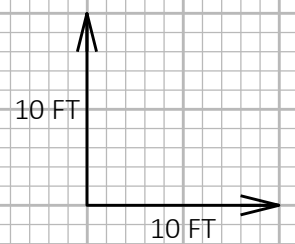
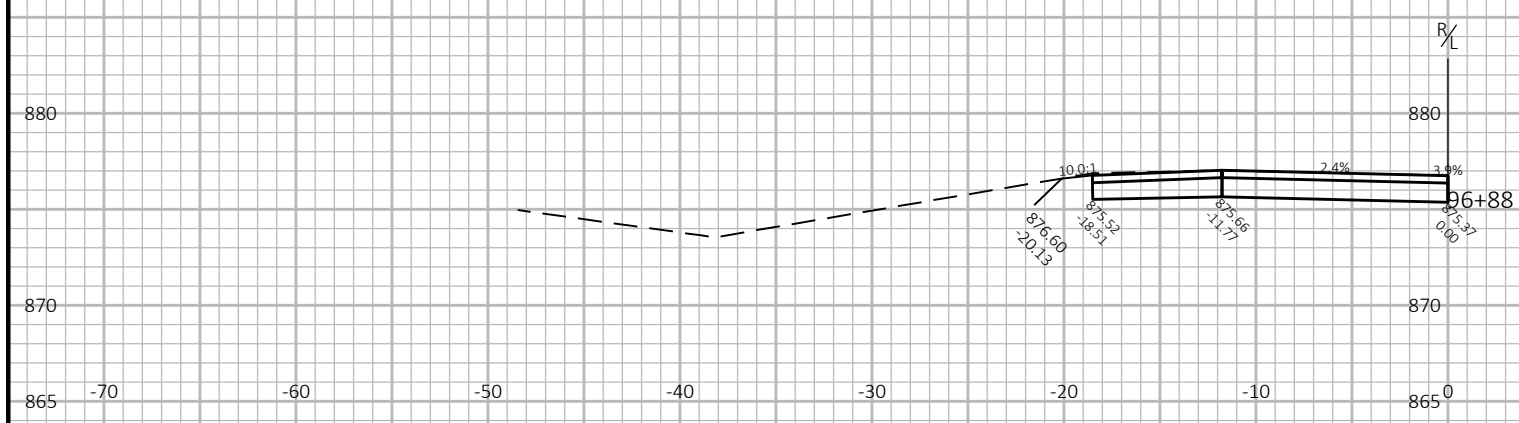
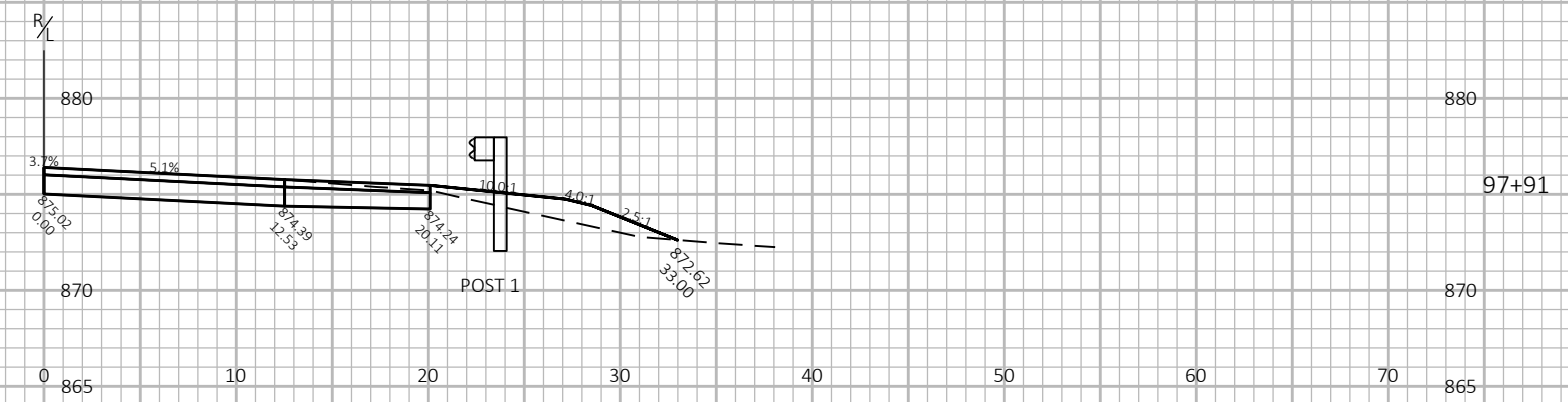
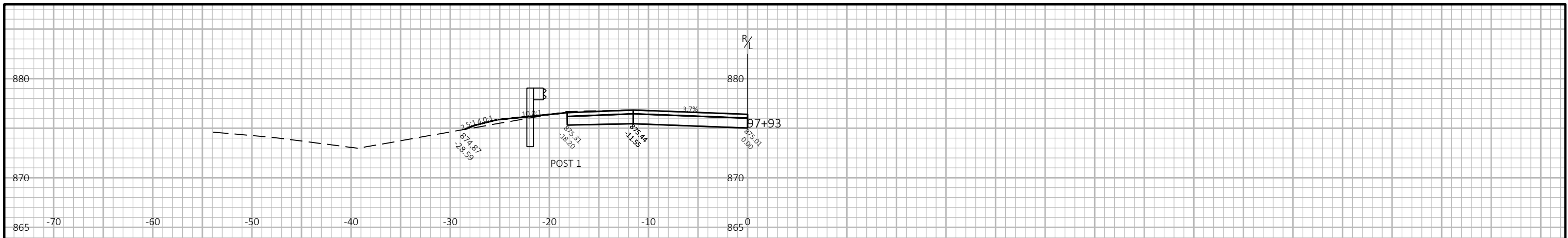
STANDARD SIGN  
W21-65

WISCONSIN DEPT OF TRANSPORTATION

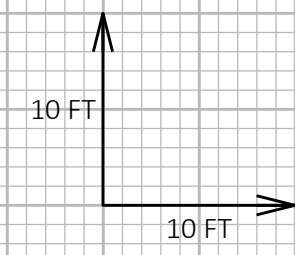
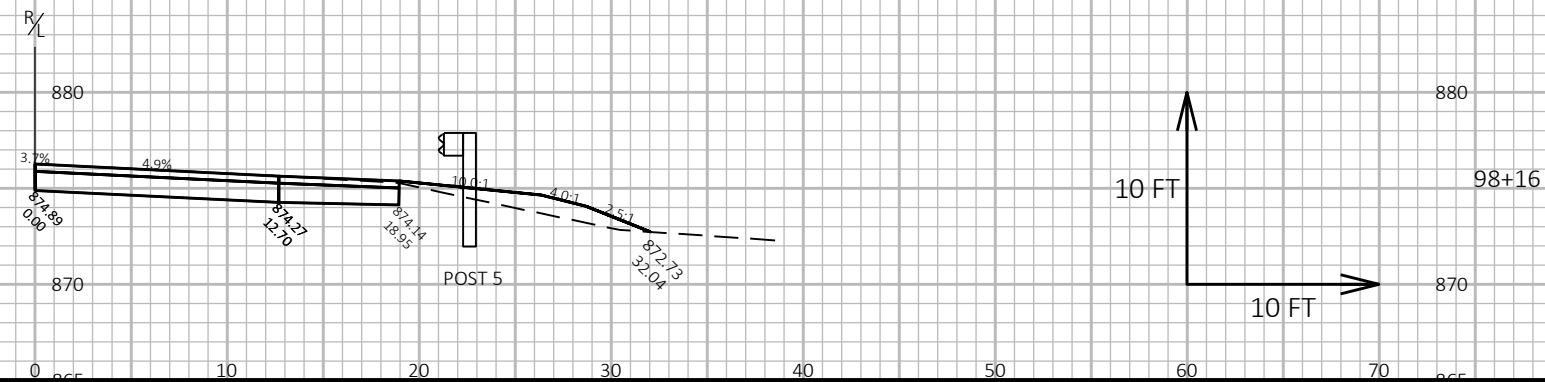
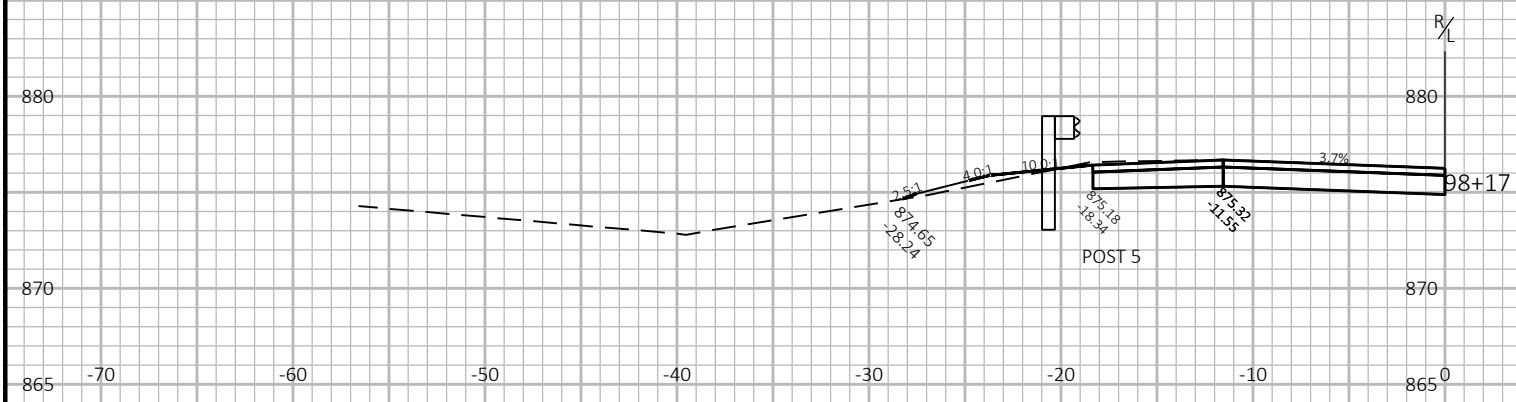
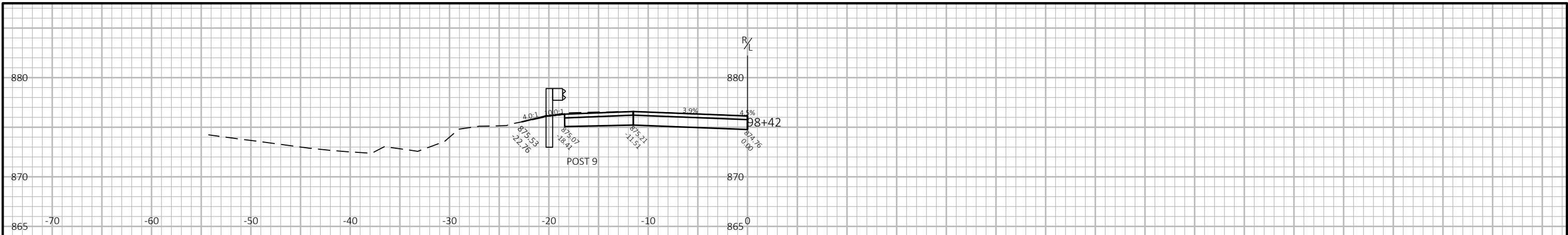
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/28/14 PLATE NO. W21-65.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**





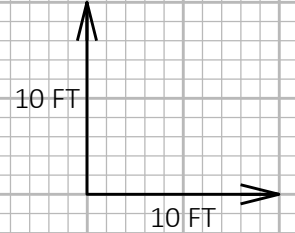
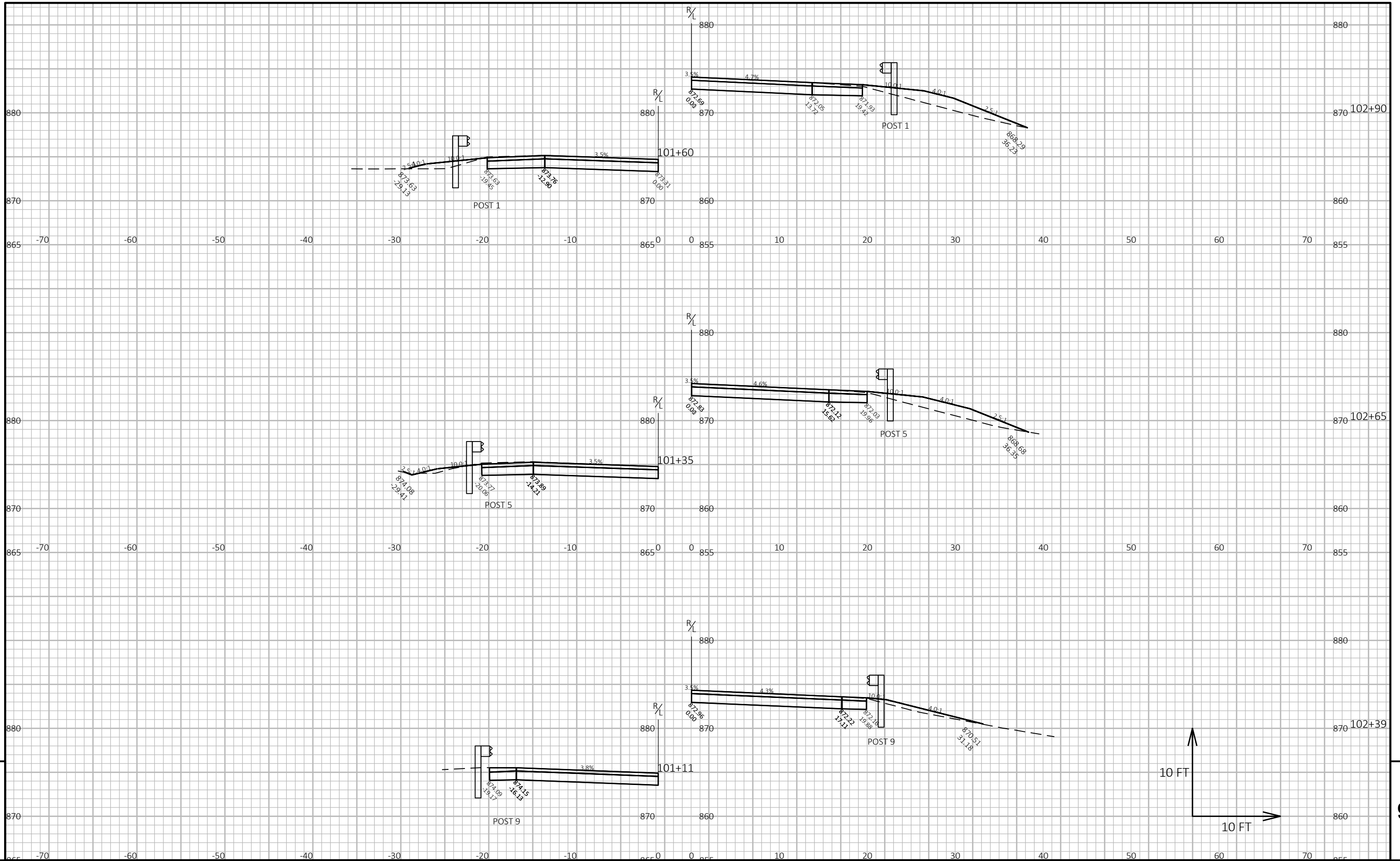


9

9

PROJECT NO: 3997-00-60    HWY: WELSH ROAD    COUNTY: DODGE    CROSS SECTIONS: WELSH ROAD    SHEET    E

FILE NAME: R:\5300\5364\5364087\39970060\SHEETS\090201\_XS.DWG    PLOT DATE: 7/19/2023 3:27 PM    PLOT BY: ASHLEY S. NELSON    PLOT NAME:    PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.    WISDOT/CADD SHEET 49

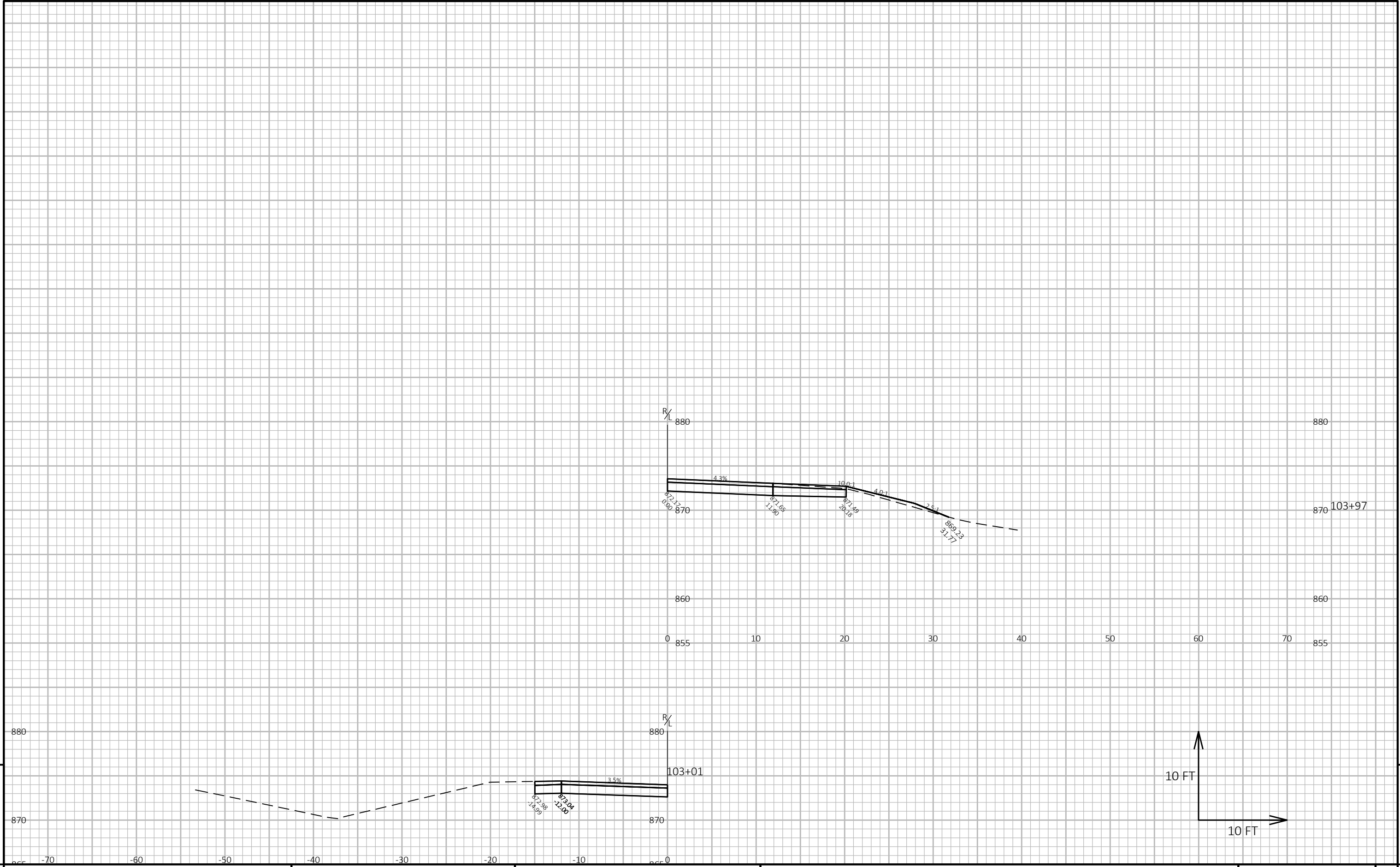


9

9

PROJECT NO: 3997-00-60      HWY: WELSH ROAD      COUNTY: DODGE      CROSS SECTIONS: WELSH ROAD      SHEET      E

FILE NAME : R:\5300\5364\5364087\39970060\SHEETS\090201\_XS.DWG      PLOT DATE : 7/19/2023 3:27 PM      PLOT BY : ASHLEY S. NELSON      PLOT NAME :      PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

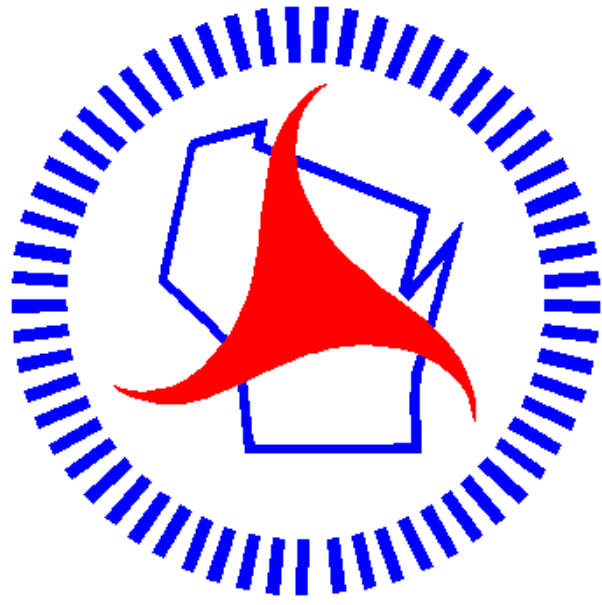


9

9

PROJECT NO: 3997-00-60      HWY: WELSH ROAD      COUNTY: DODGE      CROSS SECTIONS: WELSH ROAD      SHEET      E

FILE NAME : R:\5300\5364\5364087\39970060\SHEETS\090201\_XS.DWG      PLOT DATE : 7/19/2023 3:27 PM      PLOT BY : ASHLEY S. NELSON      PLOT NAME :      PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49



## ***Wisconsin Department of Transportation***

Dedicated people creating transportation solutions through innovation and exceptional service.

<http://www.dot.wisconsin.gov>