

MAD

PROJECT ID:  
WITH: N/A

5855-00-73

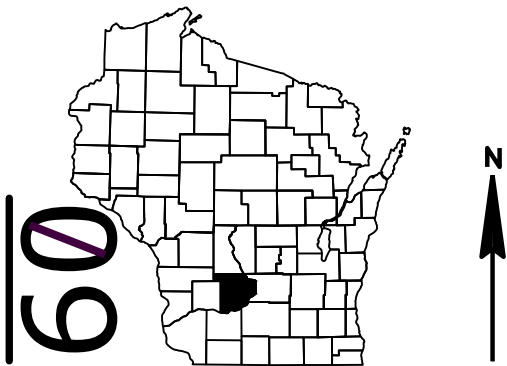
COUNTY:

SAUK

MARCH 2025  
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 = 66



DESIGN DESIGNATION 5855-00-03

A.A.D.T.	2025	=	50
A.A.D.T.	2045	=	80
D.H.V.		=	7
D.D.		=	60/40
T.		=	10% (ASSUMED)
DESIGN SPEED		=	40 M.P.H.
ESALS		=	57,000

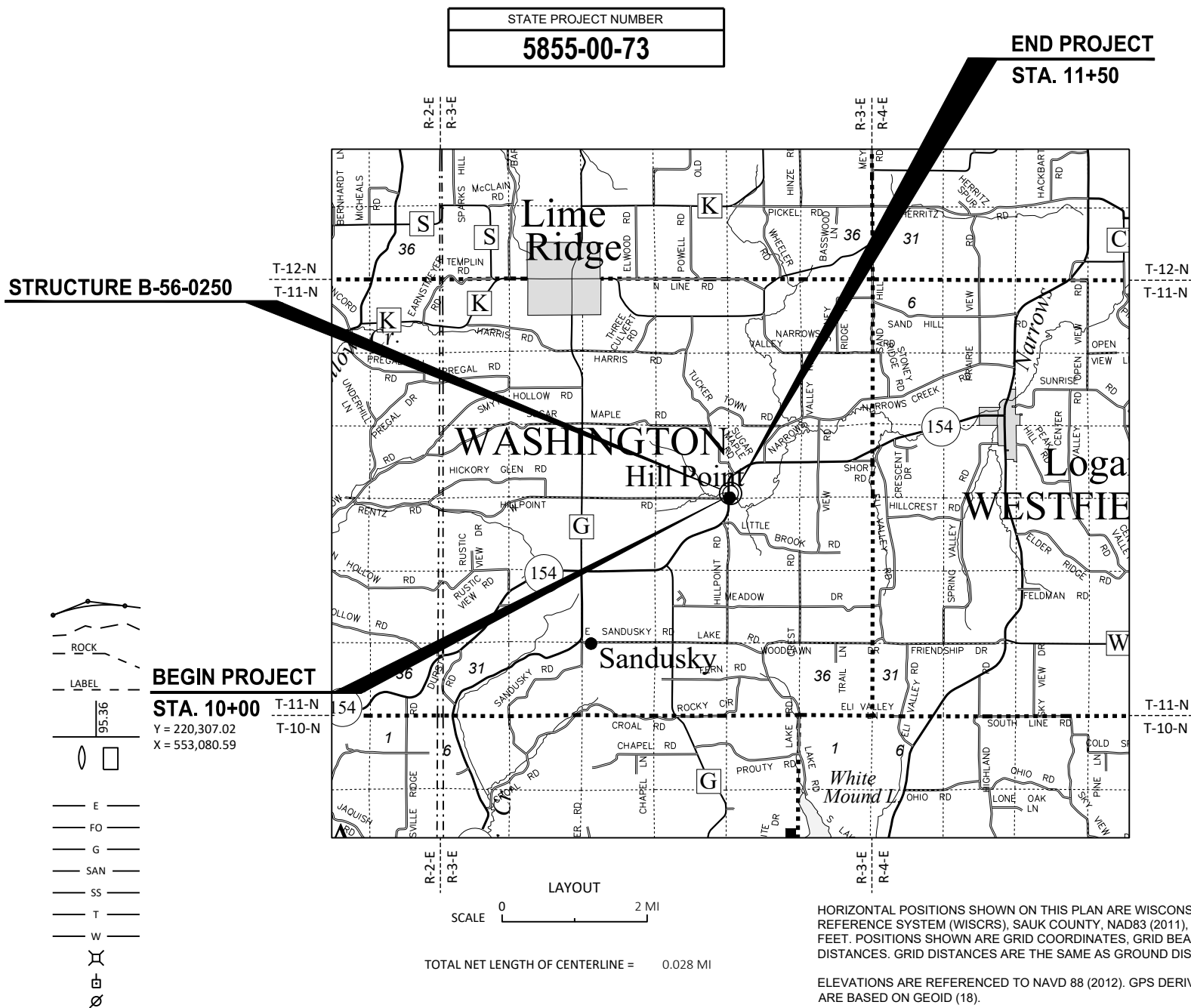
#### CONVENTIONAL SYMBOLS

##### PLAN

CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

##### PROFILE

GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	



# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

## TOWN OF WASHINGTON, VILLAGE ROAD

HILL POINT CREEK BRIDGE B-56-0250

LOC STR  
SAUK COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5855-00-73	WISC 2025364	1

ACCEPTED FOR

TOWN \_\_\_\_\_ of \_\_\_\_\_ WASHINGTON

10-17-24 *James Hanold*

(Date) (Town Chairman)

ORIGINAL PLANS PREPARED BY

**JEWELL**

associates engineers, inc.

Engineers - Architects - Surveyors

WISCONSIN

ROBERT B. HANOLD

E-45655

PRAIRIE DU SAC WI

PROFESSIONAL ENGINEER

10/17/2024

*Robert B. Hanold*

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor JEWELL ASSOCIATES ENGINEERS, INC.

Designer JEWELL ASSOCIATES ENGINEERS, INC.

Project Manager LORRAINE BETZEL, P.E.

Regional Examiner SW REGION

Regional Supervisor KYLE HEMP, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 10/18/24 *Lorraine Betzel*

(Signature)

E



GENERAL NOTES

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

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

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

UPON REMOVAL OF THE TEMPORARY BYPASS, RESTORE ORIGINAL GROUND LINE BY REMOVING EARTHWORK AND GEOTEXTILE. DO NOT DISTURB EXISTING GROUND, OR CULTIVATE AND LOOSEN WETLANDS DUE TO COMPACTION.

UNLESS SHOWN OTHERWISE, DISTURBED AREAS SHOWN WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS ARE TO BE FERTILIZED (TYPE B), SEEDED (USE SEED MIX NO. 20, NO. 60, OR NO. 95A) AND MULCHED AS DIRECTED BY THE ENGINEER. ALL POST CONSTRUCTION WET AREAS SHALL BE SEEDED WITH SEEDING MIXTURE NO. 60. DO NOT FERTILIZE WETLAND AREAS.

SEED MIXTURE 95A SHALL BE UTILIZED ON WETLAND AREAS AFFECTED BY THE TEMPORARY BYPASS. SEED MIXTURE 60 SHALL BE UTILIZED ON ALL OTHER AREAS AFFECTED BY THE TEMPORARY BYPASS.

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

SILT FENCE AND TURBIDITY BARRIER SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE AND TURBIDITY BARRIER SHALL BE PLACED PRIOR TO CONSTRUCTION AND SHALL BE IN PLACE PRIOR TO STRUCTURE REMOVAL.

REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

WETLANDS ARE PRESENT IN THE PROJECT LIMITS. THE CONTRACTOR SHALL NOT OPERATE EQUIPMENT OR STOCKPILE MATERIALS BEYOND THE EXISTING SLOPE INTERCEPT FROM STA. 10+45 TO STA. 11+21.

THE LOCATION OF ALL PERMANENT SIGNING SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD PRIOR TO PLACEMENT.

APPLY TACK COAT AT A RATE OF 0.05 GAL/SY BETWEEN LAYER OF ASPHALTIC SURFACE

4-INCHES OF ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 2 ¼-INCH LOWER LAYER AND A 1 ¾-INCH UPPER LAYER.

ADJUST DITCH GRADING AS NECESSARY TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER IN THE FIELD.

ASPHALTIC SURFACE QUANTITIES WERE CALCULATED USING 115 LB/SY/IN.

CURVE DATA IS BASED ON THE ARC DEFINITIONS.

CONTACTS

**WISDOT:**  
WISCONSIN DEPARTMENT OF TRANSPORTATION  
2101 WRIGHT ST.  
MADISON, WI 53704  
ATTN: LORRAINE BETZEL, P.E.  
PHONE: (608) 246-3279  
EMAIL: lorraine.betzel@dot.wi.gov

**TOWN OF WASHINGTON:**  
JIM HUEBSCH, TOWN CHAIRMAN  
56683 HILLPOINT ROAD  
HILLPOINT, WI 53937  
PHONE: (608) 986-2875  
EMAIL: jhuebsch@wicw.net

**DESIGN CONSULTANT:**  
JEWELL ASSOCIATES ENGINEERS, INC.  
560 SUNRISE DRIVE  
SPRING GREEN, WI 53588  
ATTN: ROBERT HANOLD, P.E.  
PHONE: (608) 588-7484  
CELL: (608) 606-3568  
EMAIL: robert.hanold@jewellassoc.com

**DNR LIAISON:**  
STATE OF WISCONSIN  
DNR SERVICE CENTER  
3911 FISH HATCHERY ROAD  
FITCHBURG, WI 53711  
ATTN: ANDREW BARTA  
PHONE: (608) 275-3308  
EMAIL: andrew.barta@wisconsin.gov

UTILITIES

**ELECTRIC**  
ALLIANT ENERGY  
ATTN: JOSH LOBENSTEIN  
520 COMMERCE DR  
BARABOO, WI 53913  
PHONE: (608) 356-0671  
EMAIL: joshualobenstein@alliantenergy.com

**COMMUNICATION**  
REEDSBURG UTILITY COMMUNICATION  
ATTN: KEN LAS  
P.O. BOX 230  
REEDSBURG, WI 53959  
PHONE: (608) 768-6450  
EMAIL: klas@rucls.net

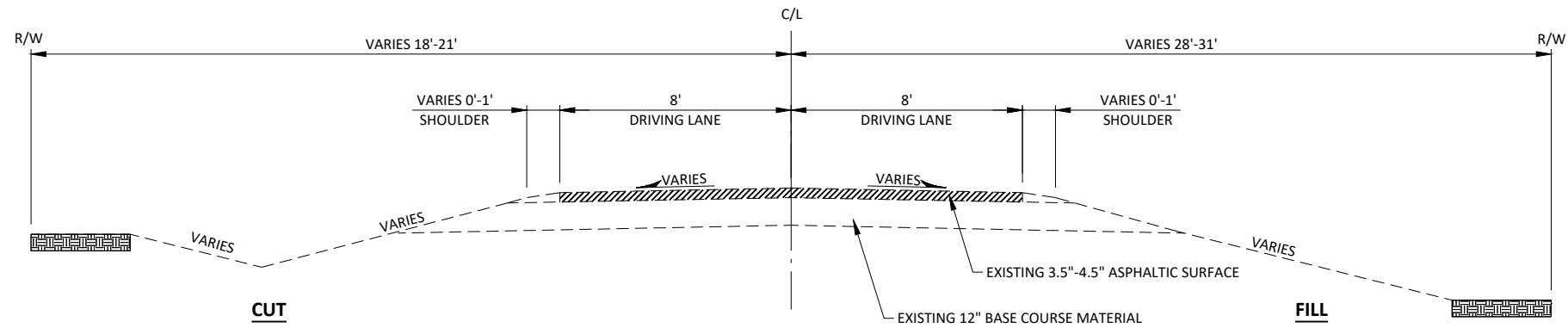
**SANITARY**  
HILL POINT SANITARY DISTRICT  
ATTN: BOB BRENEMAN  
PO BOX 35  
HILLPOINT, WI 53937  
PHONE: (608) 604-6038  
EMAIL: tschulz@korthtransfer.com



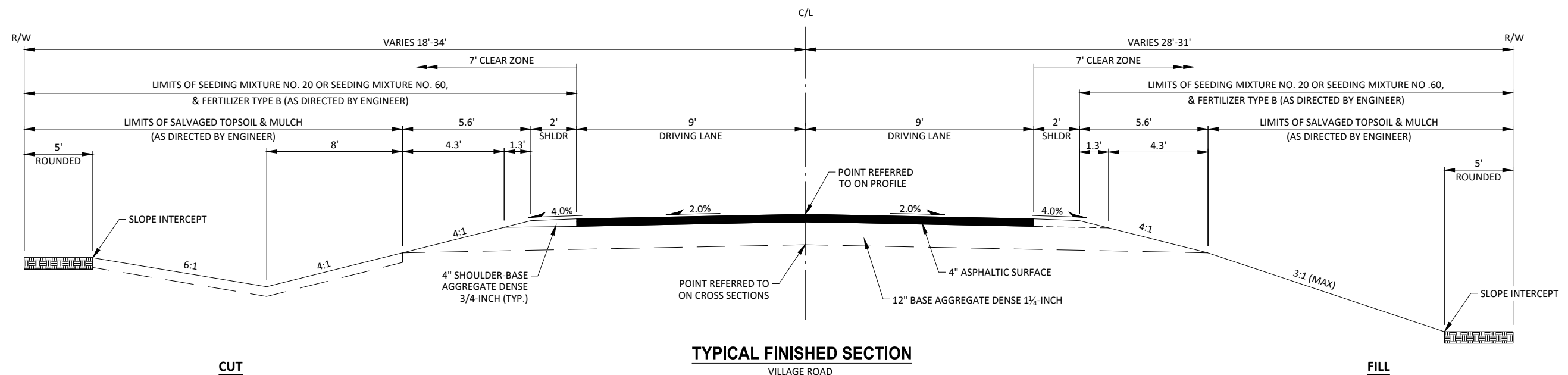
LIST OF STANDARD ABBREVIATIONS

ABUT	Abutment	INV	Invert	SALV	Salvaged
AC	Acre	IP	Iron Pipe or Pin	SAN S	Sanitary Sewer
AGG	Aggregate	IRS	Iron Rod Set	SEC	Section
AH	Ahead	JT	Joint	SHLDR	Shoulder
<	Angle	JCT	Junction	SHR	Shrinkage
ASPH	Asphaltic	LHF	Left-Hand Forward	SW	Sidewalk
AVG	Average	L	Length of Curve	S	South
ADT	Average Daily Traffic	LIN FT or LF	Linear Foot	SQ	Square
BAD	Base Aggregate Dense	LC	Long Chord of Curve	SF or SQ FT	Square Feet
BK	Back	MH	Manhole	SY or SQ YD	Square Yard
BF	Back Face	MB	Mailbox	STD	Standard
BM	Bench Mark	ML or M/L	Match Line	SDD	Standard Detail Drawings
BR	Bridge	N	North	STH	State Trunk Highways
C or C/L	Center Line	Y	North Grid Coordinate	STA	Station
CC	Center to Center	O.A.L.	Overall Length	SS	Storm Sewer
CTH	County Trunk Highway	OD	Outside Diameter	SG	Subgrade
CR	Creek	PLE	Permanent Limited Easement	SE	Superelevation
CR	Crushed		Point	SL or S/L	Survey Line
CY or CU YD	Cubic Yard	PT	Point of Curvature	SV	Septic Vent
CP	Culvert Pipe	PC	Point of Intersection	T	Tangent
C & G	Curb and Gutter	PI	Point of Reverse Curvature	TEL	Telephone
D	Degree of Curve	PRC	Point of Tangency	TEMP	Temporary
DHV	Design Hour Volume	PT	Point On Curve	TI	Temporary Interest
DIA	Diameter	POC	Point on Tangent	TLE	Temporary Limited Easement
E	East	POT	Polyvinyl Chloride	t	Ton
X	East Grid Coordinate	PVC	Portland Cement Concrete	T or TN	Town
ELEC	Electric (al)	PCC	Pound	TRANS	Transition
EL or ELEV	Elevation	LB	Pounds Per Square Inch	TL or T/L	Transit Line
ESALS	Equivalent Single Axle Loads	PSI	Private Entrance	T	Trucks (percent of)
EBS	Excavation Below Subgrade	PE	Radius	TYP	Typical
ESTR	Existing Sign to Remain	R	Railroad	UNCL	Unclassified
FF	Face to Face	RR	Range	UG	Underground Cable
FE	Field Entrance	R	Reference Line	USH	United States Highway
F	Fill	RL or R/L	Reference Point	VAR	Variable
FG	Finished Grade	RP	Reinforced Concrete Culvert	V	Velocity or Design Speed
FL or F/L	Flow Line	RCCP	Pipe	VERT	Vertical
FT	Foot	REQ'D	Required	VC	Vertical Curve
FTG	Footing	RES	Residence or Residential	VOL	Volume
GN	Grid North	RW	Retaining Wall	WM	Water Main
HT	Height	RT	Right	WV	Water Valve
CWT	Hundredweight	RHF	Right-Hand Forward	W	West
HYD	Hydrant	R/W	Right-of-Way	WB	Westbound
INL	Inlet	R	River	YD	Yard
ID	Inside Diameter	RD	Road		
		RDWY	Roadway		

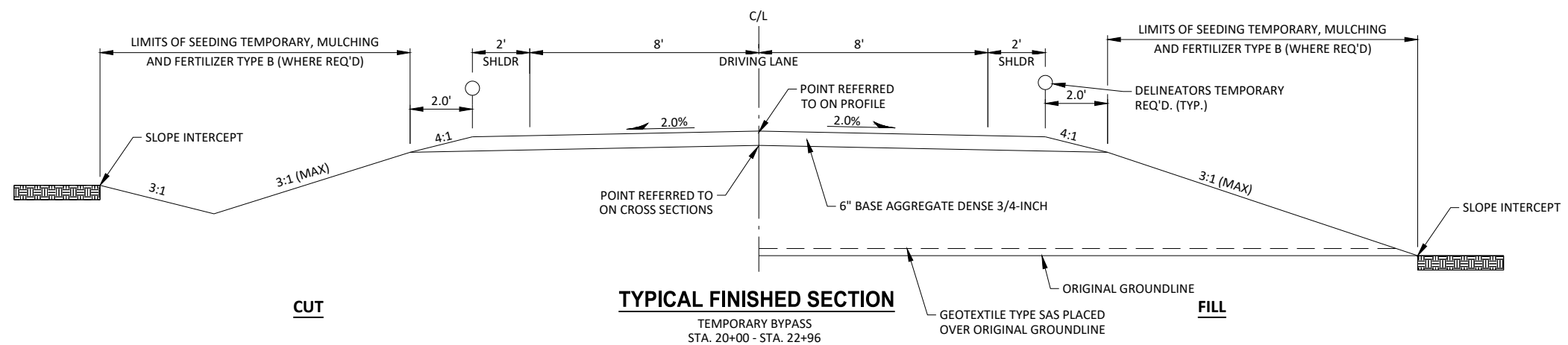


**TYPICAL EXISTING SECTION**

VILLAGE ROAD  
STA. 10+00 - STA. 11+50

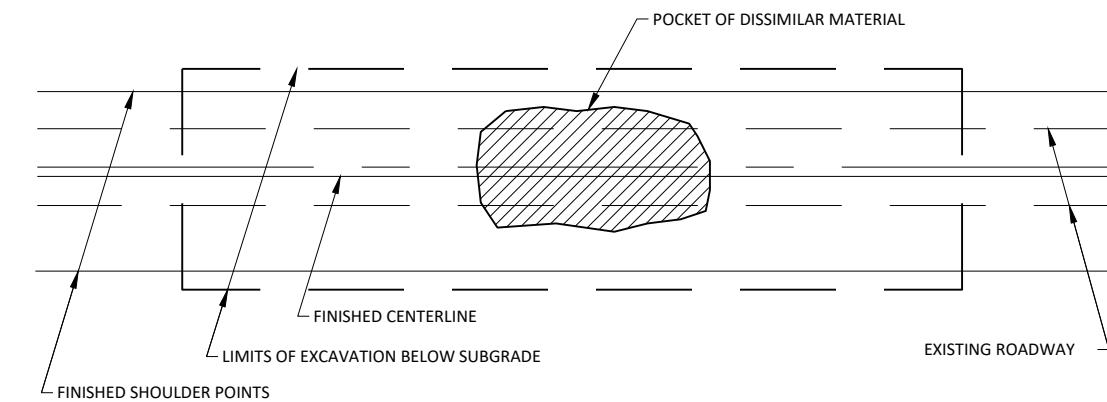
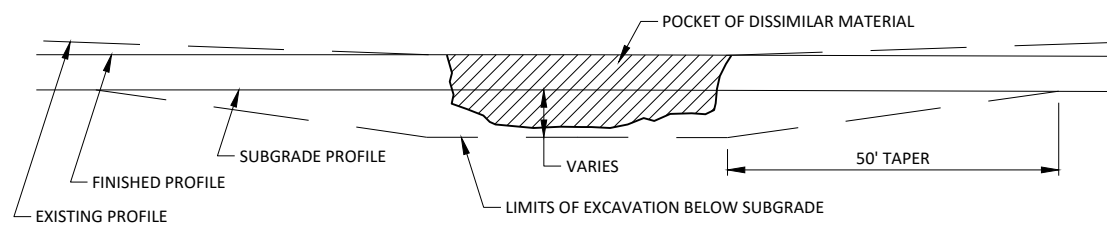
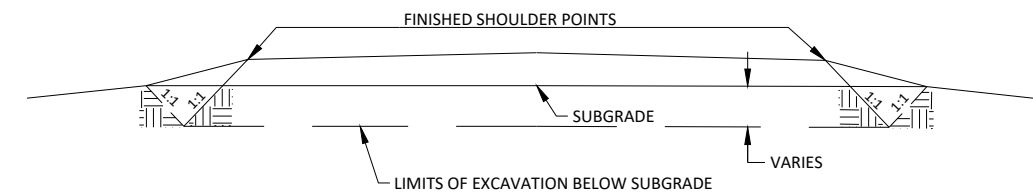
**TYPICAL FINISHED SECTION**

VILLAGE ROAD  
STA. 10+00 - STA. 11+50

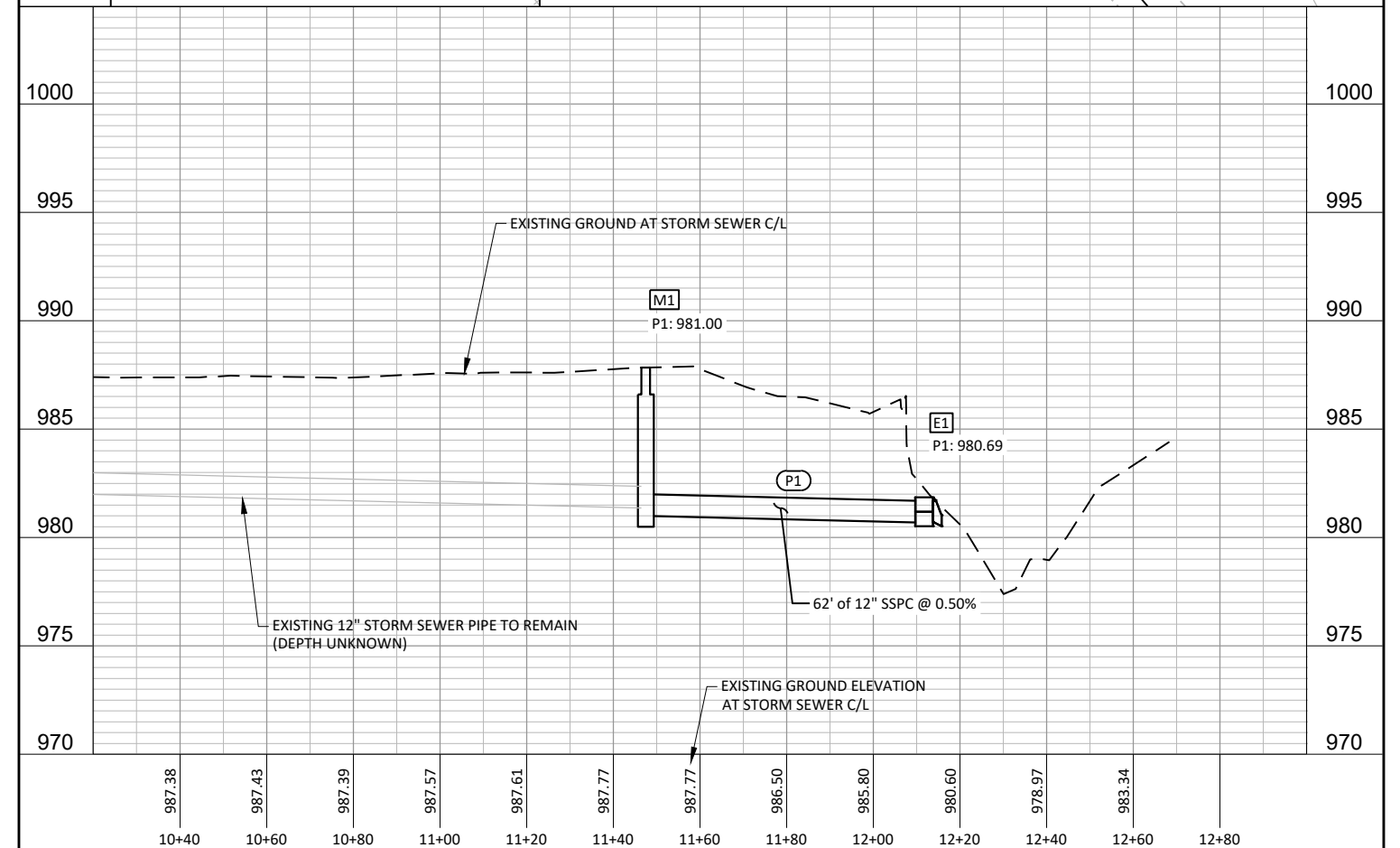
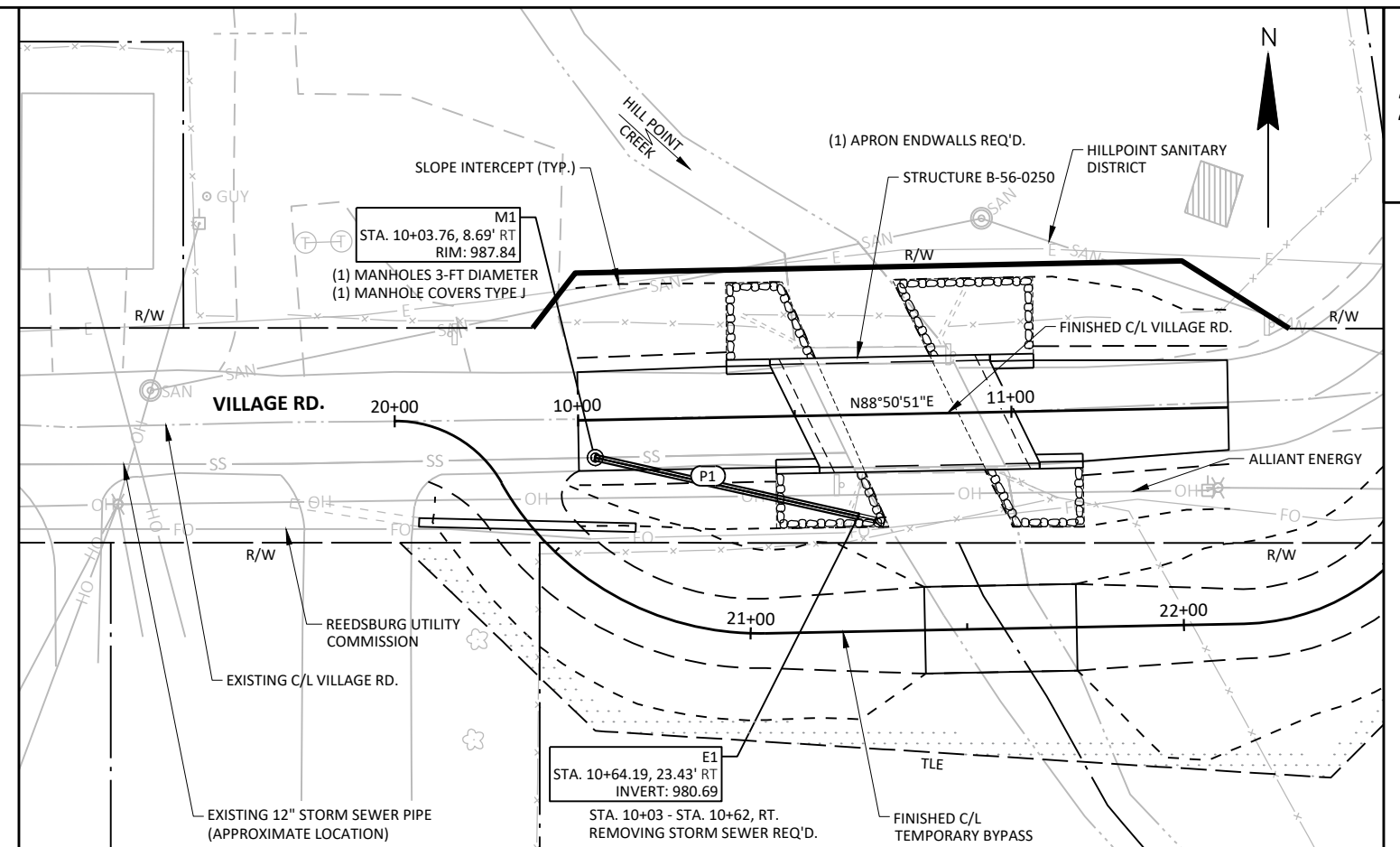
**TYPICAL FINISHED SECTION**

TEMPORARY BYPASS  
STA. 20+00 - STA. 22+96

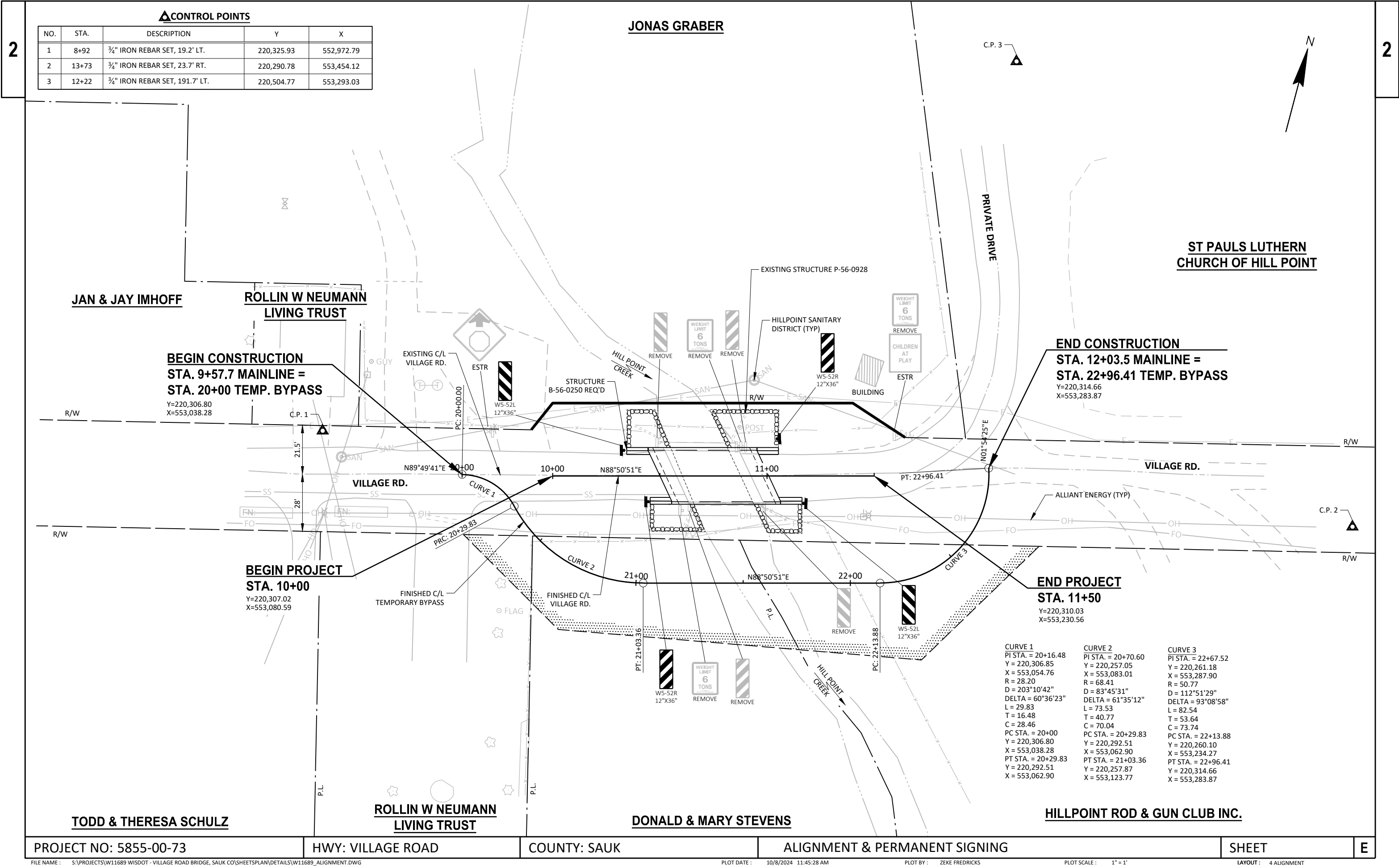


**PLAN VIEW****PROFILE VIEW****CROSS SECTION VIEW**

1. EXACT LOCATION OF E.B.S. (EXCAVATION BELOW SUBGRADE) SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER. BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.
3. THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED. LATERAL LIMITS OF EXCAVATION SHALL BE THE SUBGRADE SHOULDER POINTS.

**EXCAVATION BELOW SUBGRADE (E.B.S.) DETAIL**

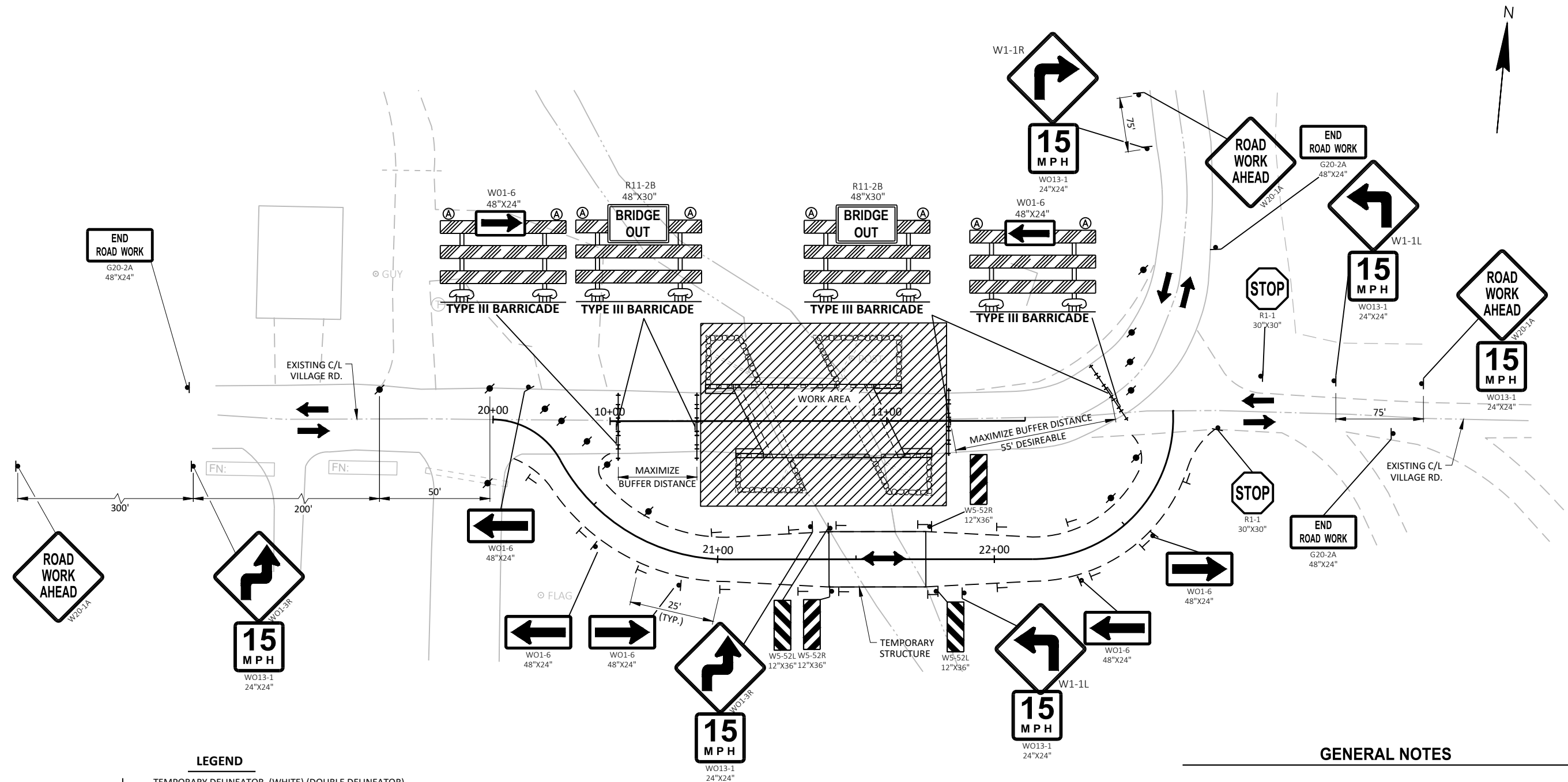




CONTROL POINTS				
NO.	STA.	DESCRIPTION	Y	X
1	8+92	¾" IRON REBAR SET, 19.2' LT.	220,325.93	552,972.79
2	13+73	¾" IRON REBAR SET, 23.7' RT.	220,290.78	553,454.12
3	12+22	¾" IRON REBAR SET, 191.7' LT.	220,504.77	553,293.03

CURVE 1	CURVE 2	CURVE 3
PI STA. = 20+16.48	PI STA. = 20+70.60	PI STA. = 22+67.52
Y = 220,306.85	Y = 220,257.05	Y = 220,261.18
X = 553,054.76	X = 553,083.01	X = 553,287.90
R = 28.20	R = 68.41	R = 50.77
D = 203°10'42"	D = 83°45'31"	D = 112°51'29"
DELTA = 60°36'23"	DELTA = 61°35'12"	DELTA = 93°08'58"
L = 29.83	L = 73.53	L = 82.54
T = 16.48	T = 40.77	T = 53.64
C = 28.46	C = 70.04	C = 73.74
PC STA. = 20+00	PC STA. = 20+29.83	PC STA. = 22+13.88
Y = 220,306.80	Y = 220,292.51	Y = 220,260.10
X = 553,038.28	X = 553,062.90	X = 553,234.27
PT STA. = 20+29.83	PT STA. = 21+03.36	PT STA. = 22+96.41
Y = 220,292.51	Y = 220,257.87	Y = 220,314.66
X = 553,062.90	X = 553,123.77	X = 553,283.87





## LEGEND

- TEMPORARY DELINEATOR. (WHITE) (DOUBLE DELINEATOR)
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- ▨ WORK AREA
- ↔ DIRECTION OF TRAFFIC

## 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.

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

EQUIPMENT, VEHICLES, OR MATERIAL SHOULD NOT BE STORED IN BUFFER SPACE.



Estimate Of Quantities

5855-00-73

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	3.000	3.000
0004	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-56-928	EACH	1.000	1.000
0006	204.0245	Removing Storm Sewer (size) 01. 12"	LF	59.000	59.000
0008	205.0100	Excavation Common	CY	900.000	900.000
0010	206.1001	Excavation for Structures Bridges (structure) 01. B-56-250	EACH	1.000	1.000
0012	208.0100	Borrow	CY	910.000	910.000
0014	210.1500	Backfill Structure Type A	TON	220.000	220.000
0016	213.0100	Finishing Roadway (project) 01. 5855-00-73	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	210.000	210.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	280.000	280.000
0022	455.0605	Tack Coat	GAL	14.000	14.000
0024	465.0105	Asphaltic Surface	TON	63.000	63.000
0026	502.0100	Concrete Masonry Bridges	CY	167.000	167.000
0028	502.3200	Protective Surface Treatment	SY	195.000	195.000
0030	505.0400	Bar Steel Reinforcement HS Structures	LB	3,400.000	3,400.000
0032	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	22,770.000	22,770.000
0034	513.4061	Railing Tubular Type M	LF	147.000	147.000
0036	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0038	520.2024	Culvert Pipe Temporary 24-Inch	LF	50.000	50.000
0040	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	1.000	1.000
0042	526.0101	Temporary Structure (station) 01. STA 21+60	EACH	1.000	1.000
0044	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	250.000	250.000
0046	606.0300	Riprap Heavy	CY	180.000	180.000
0048	608.0212	Storm Sewer Pipe Reinforced Concrete Class II 12-Inch	LF	62.000	62.000
0050	611.0530	Manhole Covers Type J	EACH	1.000	1.000
0052	611.2003	Manholes 3-FT Diameter	EACH	1.000	1.000
0054	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	180.000	180.000
0056	618.0100	Maintenance and Repair of Haul Roads (project) 01. 5855-00-73	EACH	1.000	1.000
0058	619.1000	Mobilization	EACH	1.000	1.000
0060	624.0100	Water	MGAL	8.000	8.000
0062	625.0500	Salvaged Topsoil	SY	320.000	320.000
0064	627.0200	Mulching	SY	2,100.000	2,100.000
0066	628.1504	Silt Fence	LF	580.000	580.000
0068	628.1520	Silt Fence Maintenance	LF	1,160.000	1,160.000
0070	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0072	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0074	628.6005	Turbidity Barriers	SY	390.000	390.000
0076	628.7504	Temporary Ditch Checks	LF	24.000	24.000
0078	629.0210	Fertilizer Type B	CWT	3.000	3.000
0080	630.0120	Seeding Mixture No. 20	LB	20.000	20.000
0082	630.0160	Seeding Mixture No. 60	LB	20.000	20.000
0084	630.0200	Seeding Temporary	LB	28.000	28.000
0086	630.0300	Seeding Borrow Pit	LB	20.000	20.000
0088	630.0500	Seed Water	MGAL	50.000	50.000
0090	633.1100	Delineators Temporary	EACH	17.000	17.000
0092	633.5100	Markers ROW	EACH	8.000	8.000
0094	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0096	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0098	638.2602	Removing Signs Type II	EACH	7.000	7.000



Estimate Of Quantities

5855-00-73

Line	Item	Item Description	Unit	Total	Qty
0100	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0102	642.5001	Field Office Type B	EACH	1.000	1.000
0104	643.0300	Traffic Control Drums	DAY	938.000	938.000
0106	643.0420	Traffic Control Barricades Type III	DAY	1,340.000	1,340.000
0108	643.0705	Traffic Control Warning Lights Type A	DAY	1,742.000	1,742.000
0110	643.0715	Traffic Control Warning Lights Type C	DAY	938.000	938.000
0112	643.0900	Traffic Control Signs	DAY	2,144.000	2,144.000
0114	643.5000	Traffic Control	EACH	1.000	1.000
0116	645.0111	Geotextile Type DF Schedule A	SY	50.000	50.000
0118	645.0120	Geotextile Type HR	SY	305.000	305.000
0120	645.0140	Geotextile Type SAS	SY	1,060.000	1,060.000
0122	650.4000	Construction Staking Storm Sewer	EACH	2.000	2.000
0124	650.4500	Construction Staking Subgrade	LF	351.000	351.000
0126	650.5000	Construction Staking Base	LF	90.000	90.000
0128	650.6501	Construction Staking Structure Layout (structure) 01. B-56-0250	EACH	1.000	1.000
0130	650.9911	Construction Staking Supplemental Control (project) 01. 5855-00-73	EACH	1.000	1.000
0132	650.9920	Construction Staking Slope Stakes	LF	351.000	351.000
0134	690.0150	Sawing Asphalt	LF	44.000	44.000
0136	715.0502	Incentive Strength Concrete Structures	DOL	1,002.000	1,002.000
0138	999.2005.S	Maintaining Bird Deterrent System (station) 01. STA 10+75	EACH	1.000	1.000
0140	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0142	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0144	SPV.0085	Special 01. Wetland Restoration Seeding Mixture 95A	LB	1.000	1.000
0146	SPV.0090	Special 01. Exploring Storm Sewer	LF	15.000	15.000



3



3

SILT FENCE				MOBILIZATION EROSION CONTROL			TURBIDITY BARRIER		TEMPORARY DITCH CHECKS	
									ALL ITEMS 010 UNLESS OTHERWISE NOTED	
STATION - STATION		LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)	628.1905 MOBILIZATION EROSION CONTROL (EACH)		628.1910 MOBILIZATION EMERGENCY EROSION CONTROL (EACH)		628.6005 LOCATION (SY)	
10+00 - 10+48		MAINLINE, LT.	62	124	PROJECT		5855-00-73		WEST RIVER BANK	
10+68 - 11+56		MAINLINE, LT.	92	184	5		3		140	
20+32 - 21+56		BYPASS, RT	153	306					168	
21+83 - 22+90		BYPASS, RT	150	300					82	
-		UNDISTRIBUTED	123	246					TOTALS =	
TOTALS =			580	1,160	5		3		390	

3

MARKERS ROW					PERMANENT SIGNING										
				633.5100					634.0612	637.2230	638.2602	638.3000			
				OFFSET FROM MARKERS					POSTS	SIGNS	REMOVING	REMOVING			
				FINISHED C/L ROW					WOOD 4X6-	TYPE II	SIGNS	SMALL SIGN			
				FT					INCH X 12-FT	REFLECTIVE F	TYPE II	SUPPORTS			
PT #	STATION	LOCATION		(EACH)	APPROX. STATION	POSITION	LOCATION	SIGN CODE	SIGN DESCRIPTION	ORDER LINES	SIGN SIZE	(EACH)	(SF)	(EACH)	(EACH)
100	9+50.00	LEFT	21.61'	1	10+33	LEFT	MAINLINE	W5-52L	BRIDGE HASH MARKS	-	12X36	1	3	---	---
101	9+90.00	LEFT	21.50'	1	10+45	RIGHT	MAINLINE	W5-52R	BRIDGE HASH MARKS	-	12X36	1	3	---	---
102	10+00.00	LEFT	34.00'	1	10+50	LEFT	MAINLINE	W5-52L	BRIDGE HASH MARKS	-	12X36	---	---	1	1
103	11+40.00	LEFT	34.00'	1	10+60	RIGHT	MAINLINE	R-12-1	WEIGHT LIMIT XX TONS	6 TONS	24X30	---	---	1	1
104	11+65.00	LEFT	17.83'	1	10+65	RIGHT	MAINLINE	W5-52R	BRIDGE HASH MARKS	-	12X36	---	---	1	1
105	12+50.00	LEFT	13.53'	1	10+87	LEFT	MAINLINE	R-12-1	WEIGHT LIMIT XX TONS	6 TONS	24X30	---	---	1	1
106	12+50.00	RIGHT	36.03'	1	10+89	LEFT	MAINLINE	W5-52L	BRIDGE HASH MARKS	-	12X36	---	---	1	1
107	9+50.00	RIGHT	27.89'	1	10+98	RIGHT	MAINLINE	W5-52R	BRIDGE HASH MARKS	-	12X36	---	---	1	1
					11+05	LEFT	MAINLINE	W5-52L	BRIDGE HASH MARKS	-	12X36	1	3	---	---
					11+17	RIGHT	MAINLINE	W5-52R	BRIDGE HASH MARKS	-	12X36	1	3	---	---
					11+60	LEFT	MAINLINE	R-12-1	WEIGHT LIMIT XX TONS	6 TONS	24X30	---	---	1	--

DELINEATORS			TRAFFIC CONTROL							SAWING ASPHALT		
STATION - STATION		LOCATION	633.1100 DELINEATORS TEMPORARY (EACH)	643.0300 DRUMS (DAY)	643.0420 BARRICADES TYPE III (DAY)	643.0705 WARNING LIGHTS TYPE A (DAY)	643.0715 WARNING LIGHTS TYPE C (DAY)	643.0900 SIGNS (DAY)	643.5000 TRAFFIC CONTROL (EACH)	STATION	LOCATION	690.0150 (LF)
20+00 - 22+96		TEMPORARY BYPASS, RT.	11	938	1,340	1,742	938	2,144	1	10+00	MAINLINE	22
20+00 - 22+96		TEMPORARY BYPASS, LT.	6							11+50	MAINLINE	22
TOTAL =			17	938	1,340	1,742	938	2,144	1	TOTAL =		44

CONSTRUCTION STAKING						
STATION-STATION	LOCATION	650.4500 SUBGRADE (L.F.)	650.5000 BASE (L.F.)	*650.6501 STRUCTURE LAYOUT (B-56-250) (EACH)	650.9911 SUPPLEMENTAL CONTROL (5855-00-73) (EACH)	650.9920 SLOPES STAKES (L.F.)
10+00 - 10+45	MAINLINE	45	45	-	-	45
11+05 - 11+50	MAINLINE	45	45	-	-	45
20+00 - 21+40	BYPASS	140	-	-	-	140
21+75 - 22+96	BYPASS	121	-	-	-	121
5855-00-73	PROJECT	-	-	1	1	-
TOTAL =		351	90	1	1	351
*CATEGORY 020						

GEOTEXTILE TYPE SAS		
STATION - STATION	LOCATION	645.0140 (SY)
20+00 - 22+96	TEMPORARY BYPASS	1060
TOTAL =		1060

STORM SEWER EXPLORATION		
STATION	LOCATION	SPV.0090.01 (LF)
10+00 - 11+50	MAINLINE	15
TOTAL =		15

PROJECT NO: 5855-00-73	HWY: VILLAGE RD	COUNTY: SAUK	MISCELLANEOUS QUANTITIES	SHEET	E
------------------------	-----------------	--------------	--------------------------	-------	---







NOTE: EXISTING C/L OF VILLAGE ROAD BASED ON CENTERLINE OF EXISTING PAVEMENT.

EXISTING RIGHT-OF-WAY FOR VILLAGE ROAD BASED ON PREVIOUS CSM AND PLAT SURVEYS SHOWN ON SHEET AND WIS. STATUTE 82.31(2).

BEGIN RELOCATION ORDER

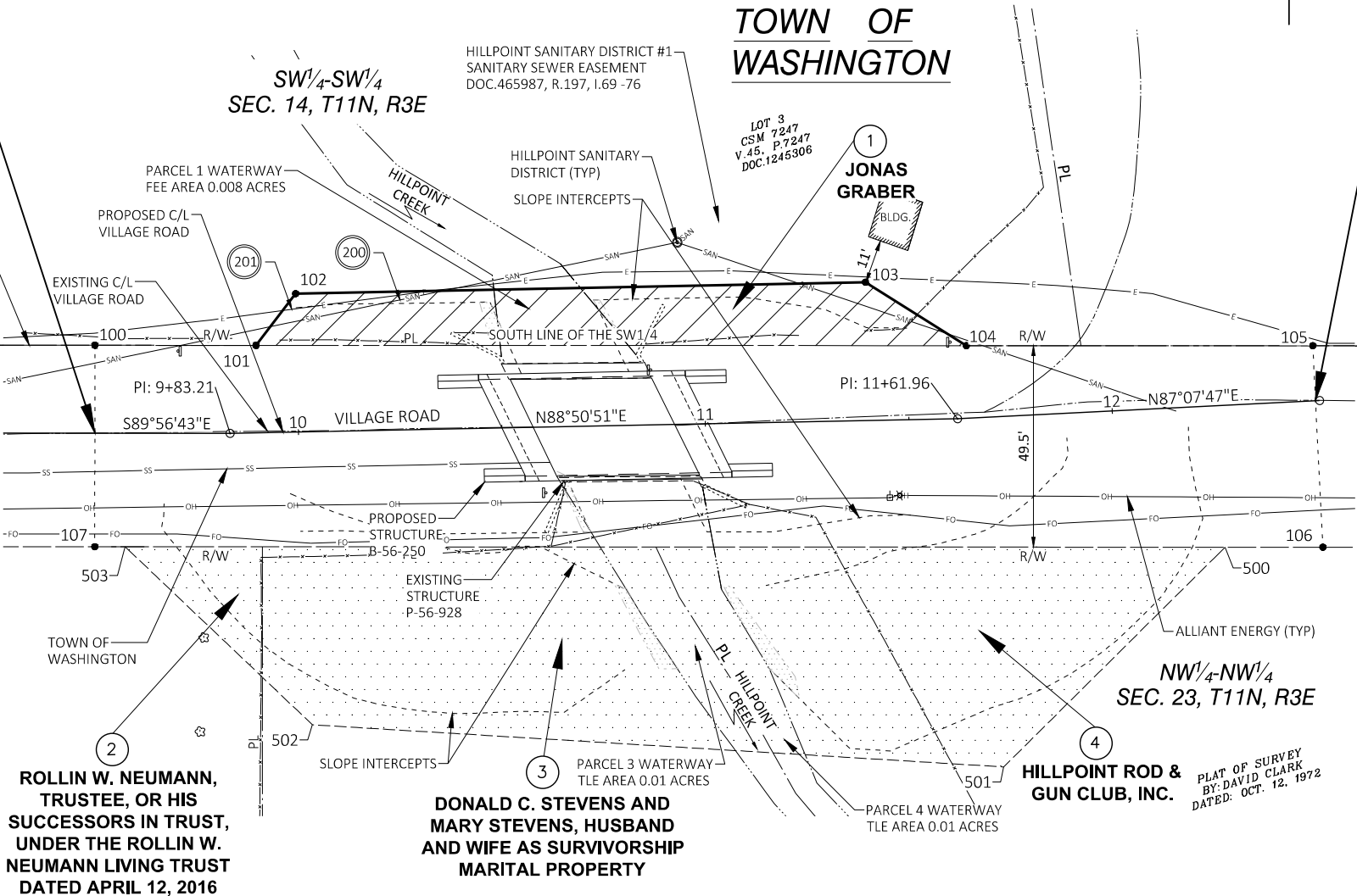
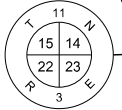
STA. 9+50.00  
470.32' EAST AND 21.81' SOUTH OF THE SW CORNER OF SEC. 14, TOWN 11 NORTH, RANGE 3 EAST, SAUK COUNTY, WI  
Y = 220,306.710  
X = 553,030.590

SW CORNER SECTION 14 TO  
S $\frac{1}{4}$  CORNER SECTION 14  
S89°58'35"E, 2621.36'

SW CORNER SECTION 14 TO  
R/W POINT 100  
S89°58'35"E, 470.34'

SW CORNER SEC. 14  
FOUND MAG SPIKE  
Y = 220328.518  
X = 552560.270

PLAT OF SURVEY  
DOC. 16431  
BY: DANIEL A. MARKS



END RELOCATION ORDER

STA. 12+50.00  
1851.44' WEST AND 12.75' SOUTH OF THE S $\frac{1}{4}$  CORNER OF SEC. 14, TOWN 11 NORTH, RANGE 3 EAST, SAUK COUNTY, WI  
Y = 220,314.682  
X = 553,330.443

S $\frac{1}{4}$  CORNER SEC. 14  
FOUND SLIMLINE  
HARRISON MONUMENT  
Y = 220327.433  
X = 555181.631

R/W COURSE TABLE		
POINT TO POINT	COURSE BEARING	DISTANCE
100 TO 101	S89° 58' 35"E	39.55'
101 TO 102	N37° 30' 00"E	16.01'
102 TO 103	N88° 50' 51"E	140.00'
103 TO 104	S57° 49' 39"E	29.28'
104 TO 105	S89° 58' 34"E	85.11'
105 TO 106	S02° 52' 13"E	49.56'
106 TO 107	N89° 58' 35"W	301.68'
107 TO 100	N00° 02' 39"E	49.50'

SCHEDULE OF LANDS & INTERESTS REQUIRED						
PARCEL NUMBER	OWNER (S)	INTERESTS REQUIRED	FEE ACRES REQUIRED			TLE ACRES
			NEW	EXISTING	TOTAL	
1	JONAS GRABER	FEE	0.05	-	0.05	-
2	ROLLIN W. NEUMANN, TRUSTEE, OR HIS SUCCESSORS IN TRUST, UNDER THE ROLLIN W. NEUMANN LIVING TRUST DATED APRIL 12, 2016	TLE	-	-	-	0.01
3	DONALD C. STEVENS AND MARY STEVENS, HUSBAND AND WIFE AS SURVIVORSHIP MARITAL PROPERTY	TLE	-	-	-	0.12
4	HILL POINT ROD & GUN CLUB, INC.	TLE	-	-	-	0.12
200	HILLPOINT SANITARY DISTRICT #1	RELEASE OF RIGHTS				
201	ALLIANT ENERGY	RELEASE OF RIGHTS				

NOTE: AREAS SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED. OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO TOWN OF WASHINGTON.

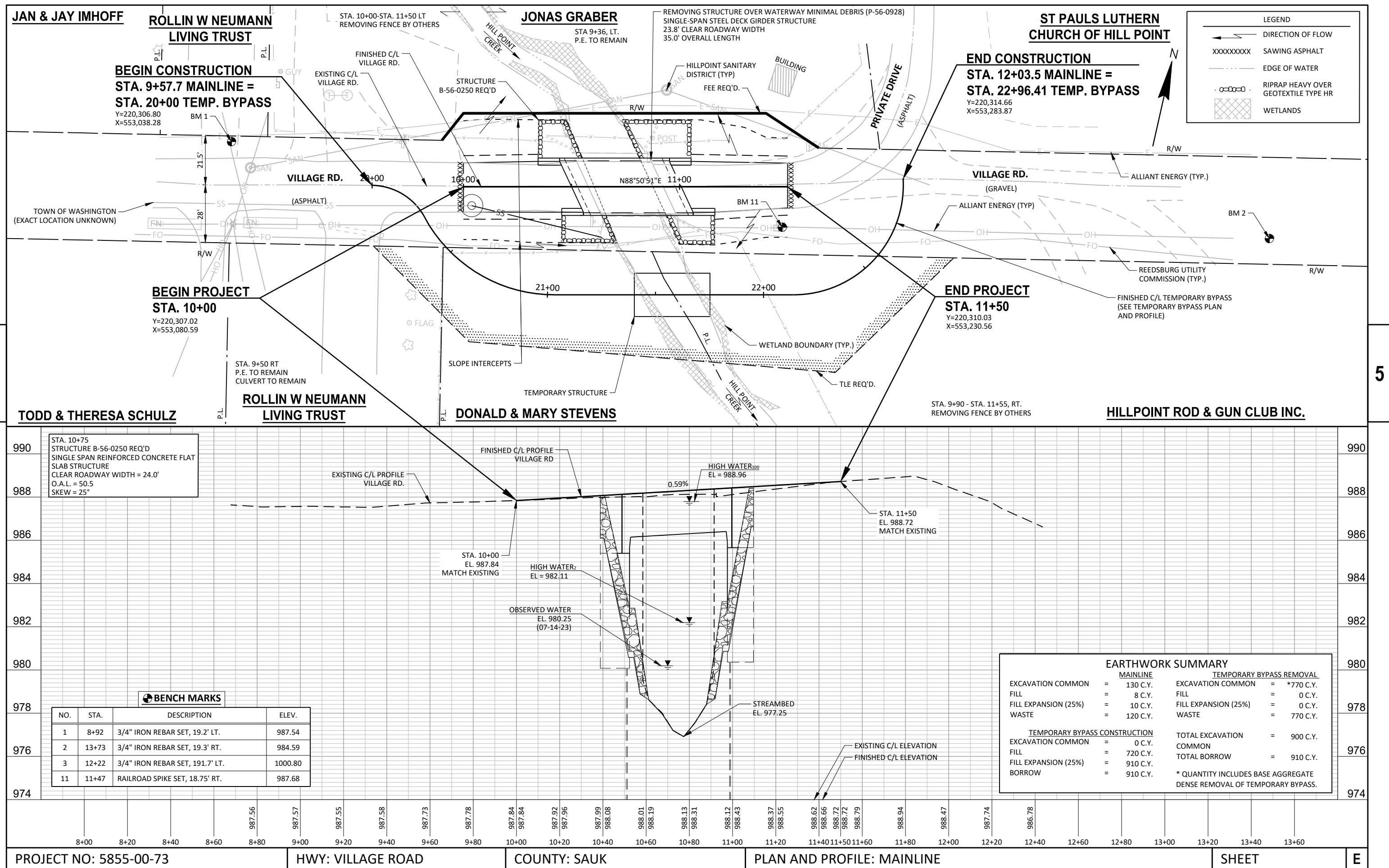
TLE POINT TABLE				
POINT NUMBER	STATION	OFFSET	Y	X
500	12+26.00	34.81'RT	220,278.71	553,308.21
501	11+69.00	86.00'RT	220,224.73	553,253.85
502	10+02.00	72.00'RT	220,235.07	553,084.04
503	9+57.45	27.88'RT	220,278.82	553,038.02

EASEMENT TABLE				
EASEMENT NUMBER	OWNER	RECORDING INFORMATION	LOCATED IN R/W PARCEL #	REMARKS
1	HILLPOINT SANITARY DISTRICT #1	DOC. 465987, R.197, 1.69-76	1	SANITARY SEWER EASEMENT

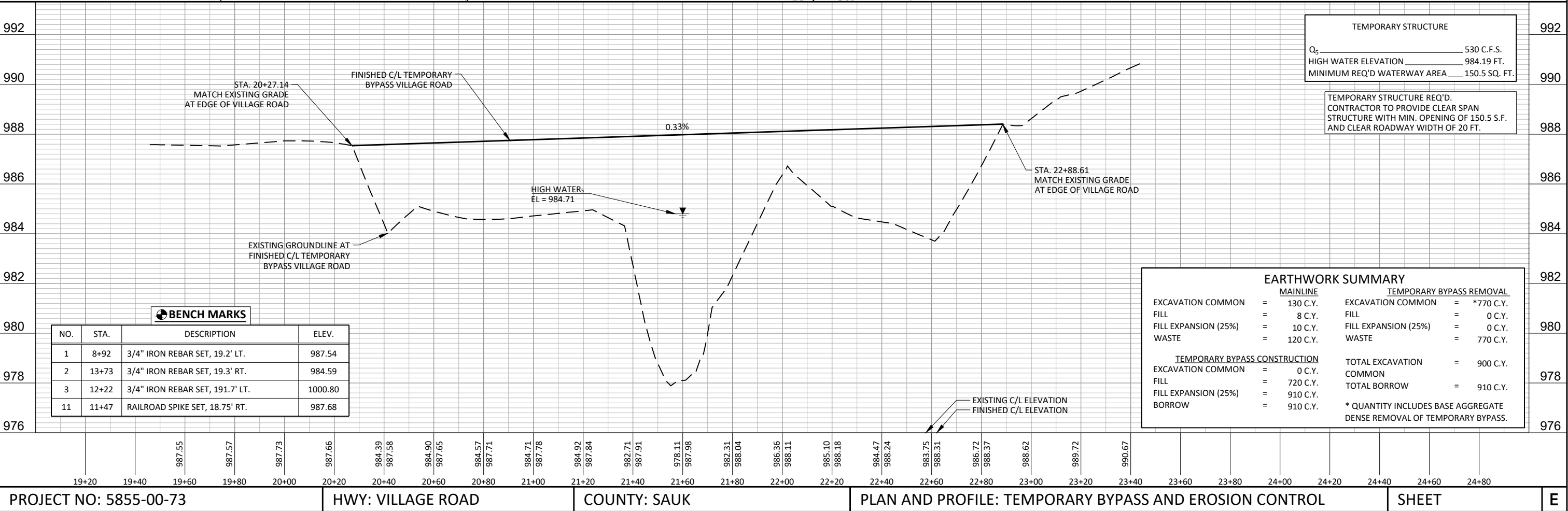
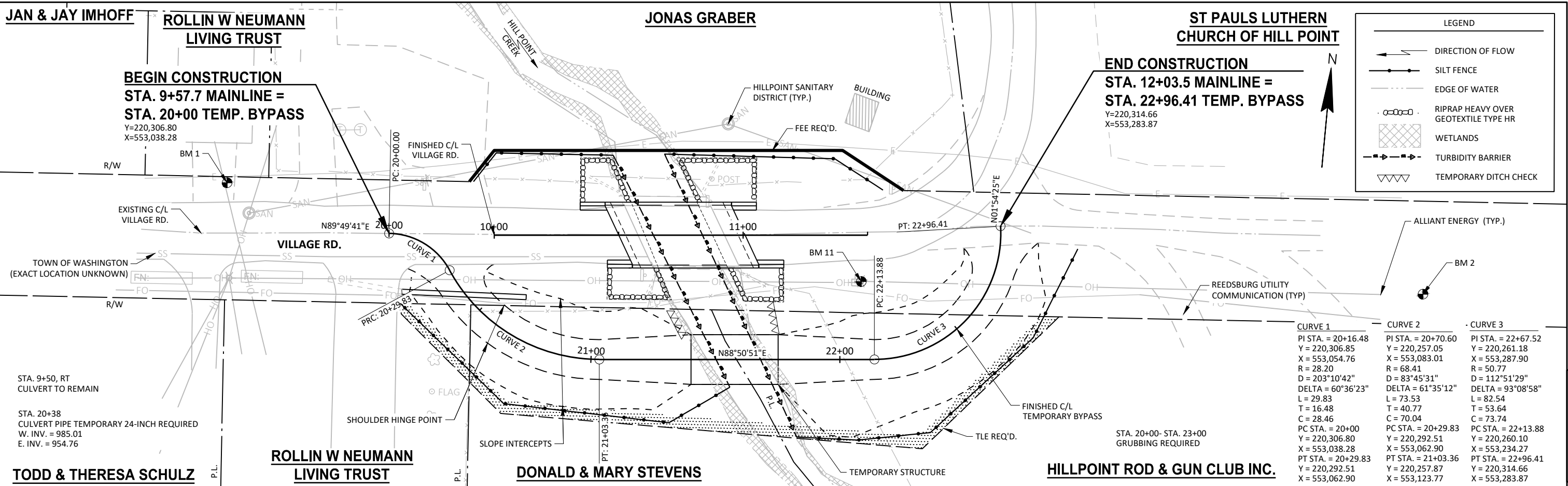
R/W MONUMENT TABLE				
POINT NUMBER	STATION	OFFSET	Y	X
100	9+50.00	21.61'LT	220,328.32	553,030.61
101	9+90.00	21.50'LT	220,328.31	553,070.16
102	10+00.00	34.00'LT	220,341.01	553,079.90
103	11+40.00	34.00'LT	220,343.83	553,219.87
104	11+65.00	17.83'LT	220,328.24	553,244.66
105	12+50.00	13.53'LT	220,328.20	553,329.76
106	12+50.00	36.03'RT	220,278.70	553,332.25
107	9+50.00	27.89'RT	220,278.82	553,030.57

REVISION DATE 8-19-2024	DATE 8/19/2024	SCALE, FEET 0 20 40	HWY: VILLAGE ROAD	STATE R/W PROJECT NUMBER 5855-00-03	PLAT SHEET 4.02
			COUNTY: SAUK	CONSTRUCTION PROJECT NUMBER 5855-00-73	PS&E SHEET E







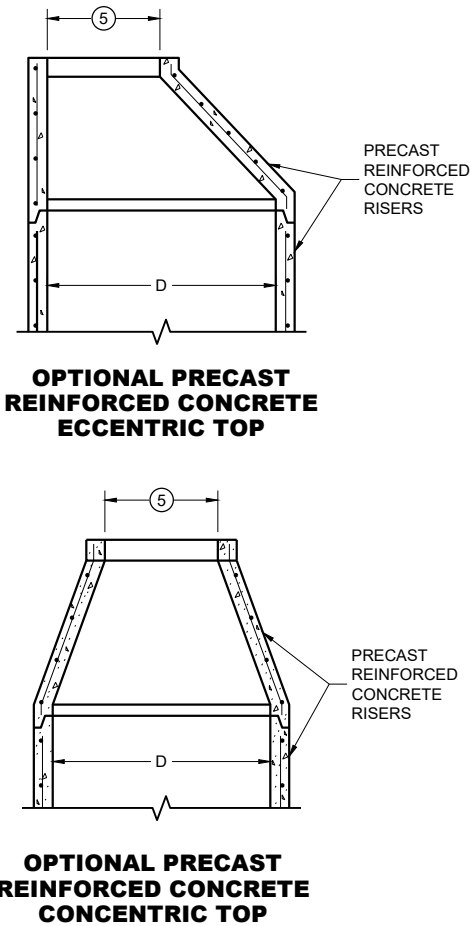
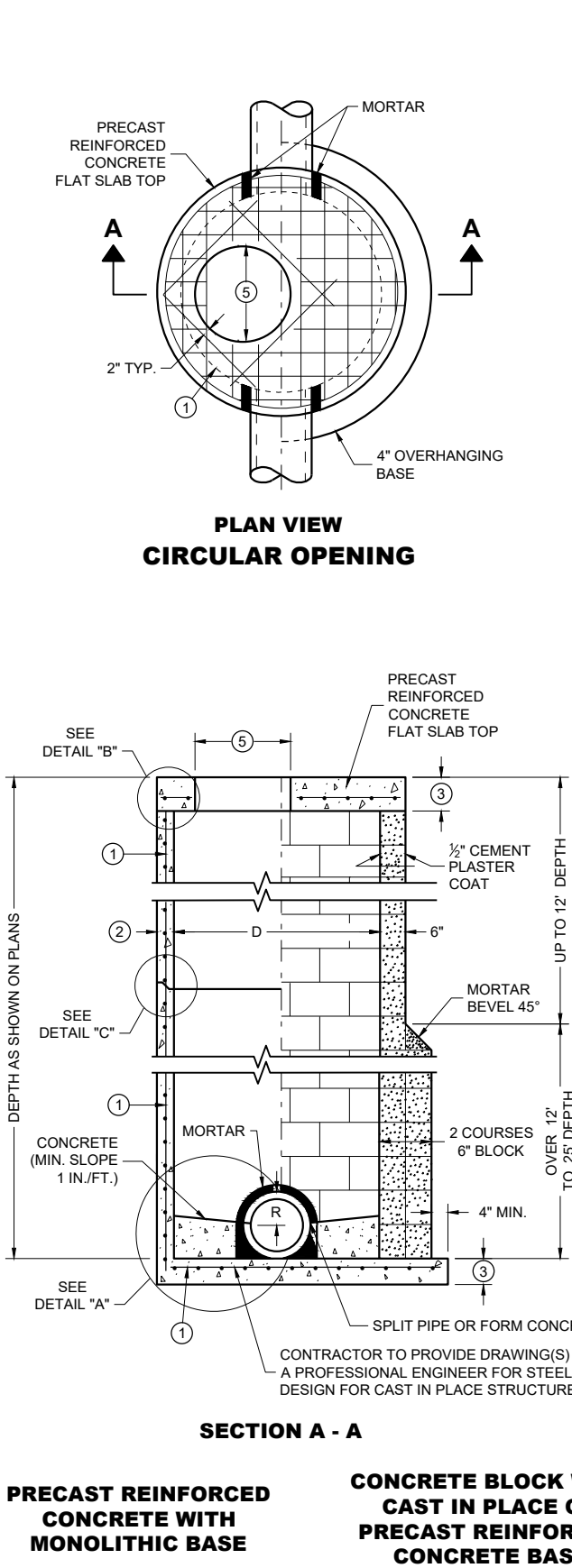




Standard Detail Drawing List

08B09-04	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
15A01-13A	MARKER POST FOR RIGHT-OF-WAY
15A04-08A	FLEXIBLE DELINEATOR POST
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D31-05	TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY





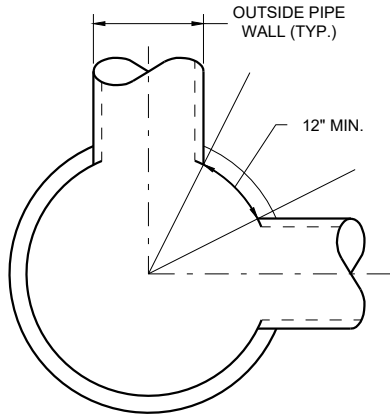
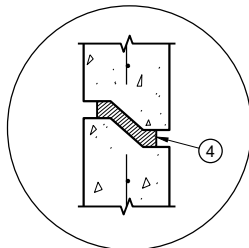
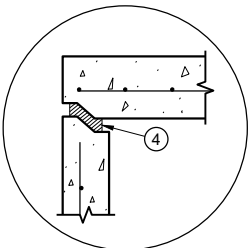
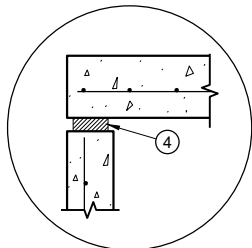
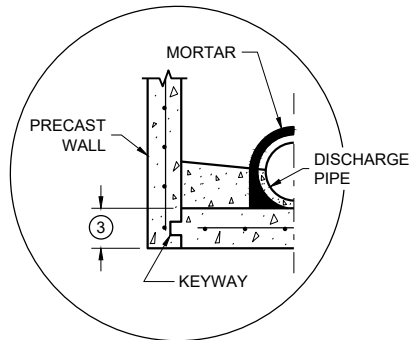
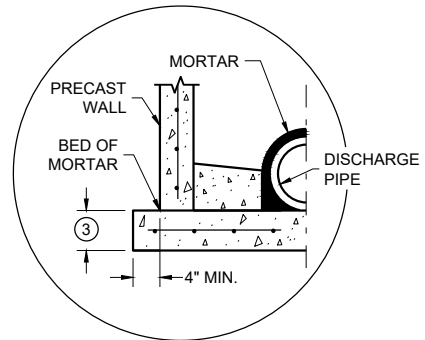
MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE OPENING SIZE (FT.)	C	ALL JS	K	L	M
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

MANHOLE SIZE (DIA.)	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES		MINIMUM WALL THICKNESS (IN)	MINIMUM PRECAST FLAT SLAB TOP AND BASE THICKNESS
	180° SEPARATION (IN)	90° SEPARATION (IN)		
3-FT	15	12	4	6
4-FT	24	18	4	6
5-FT	36	24	5	8
6-FT	42	36	6	8
7-FT	48	36/42 *	7	8
8-FT	60	42	8	8
9-FT	66	54	9	10
10-FT	72	60	10	10

\*A 36" PIPE AND A 42" PIPE CAN BE PLACED WITHIN 90 DEGREES. SEE MINIMUM HORIZONTAL PIPE SEPARATION DETAIL.



GENERAL NOTES

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

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

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

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

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

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

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

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

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

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

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

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

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

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

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

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

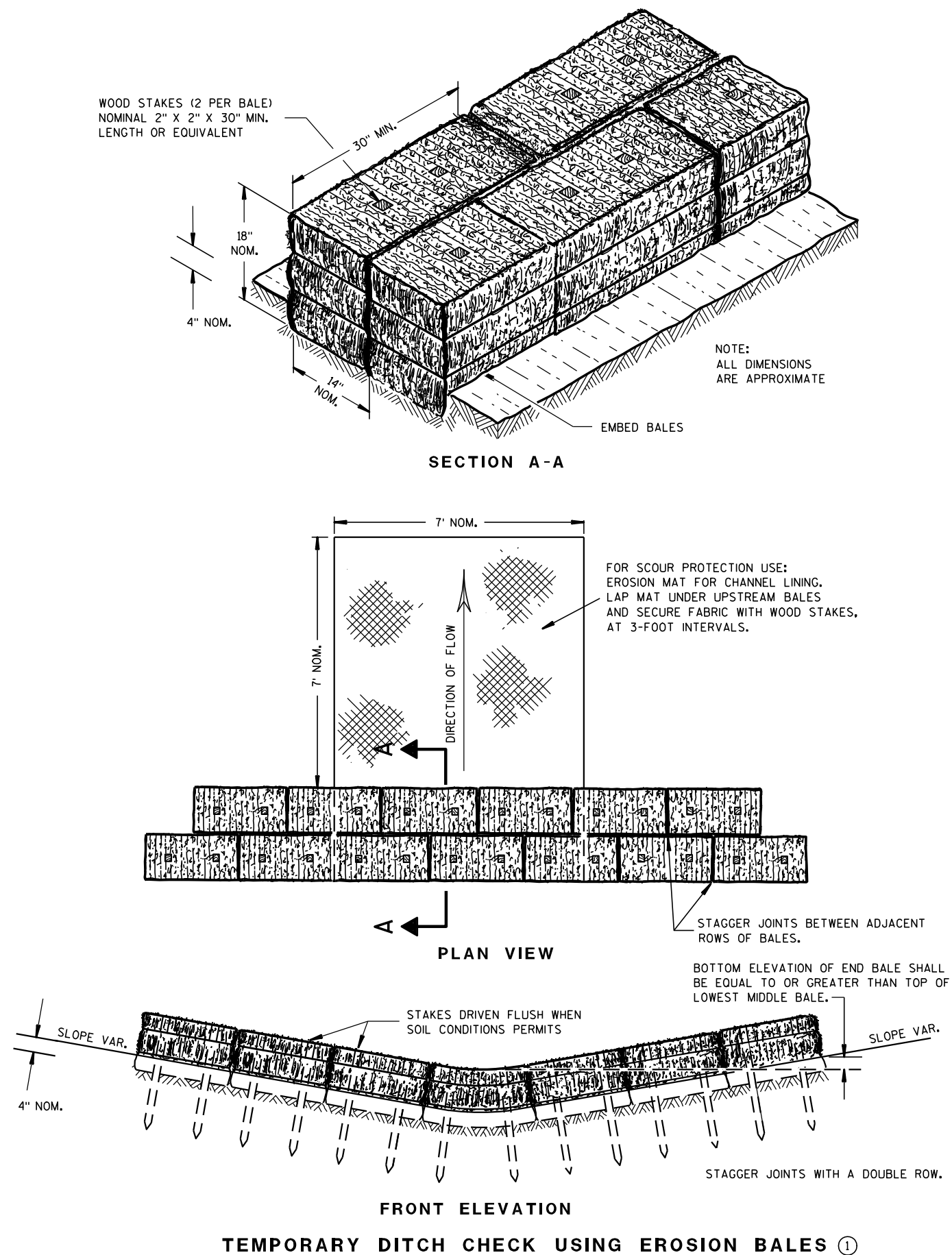
- 1 FOR PRECAST MANHOLES AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- 2 SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES
- 3 SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.
- 4 JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 OR RUBBER GASKETS CONFORMING TO ASTM C443.
- 5 SEE MANHOLE COVER OPENING MATRIX.

**MANHOLES, 3-FT, 4-FT  
5-FT, 6-FT, 7-FT, 8-FT, 9-FT  
AND 10-FT DIAMETER**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
December 2023 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
FHWA UNIT SUPERVISOR

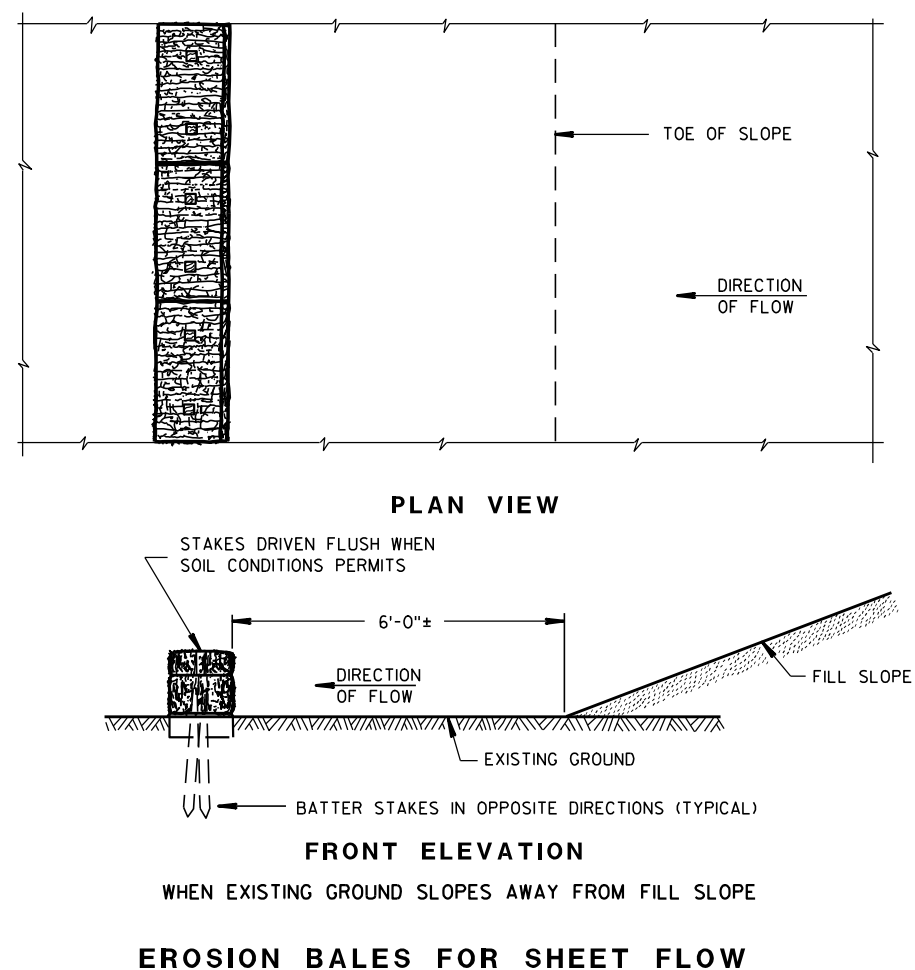
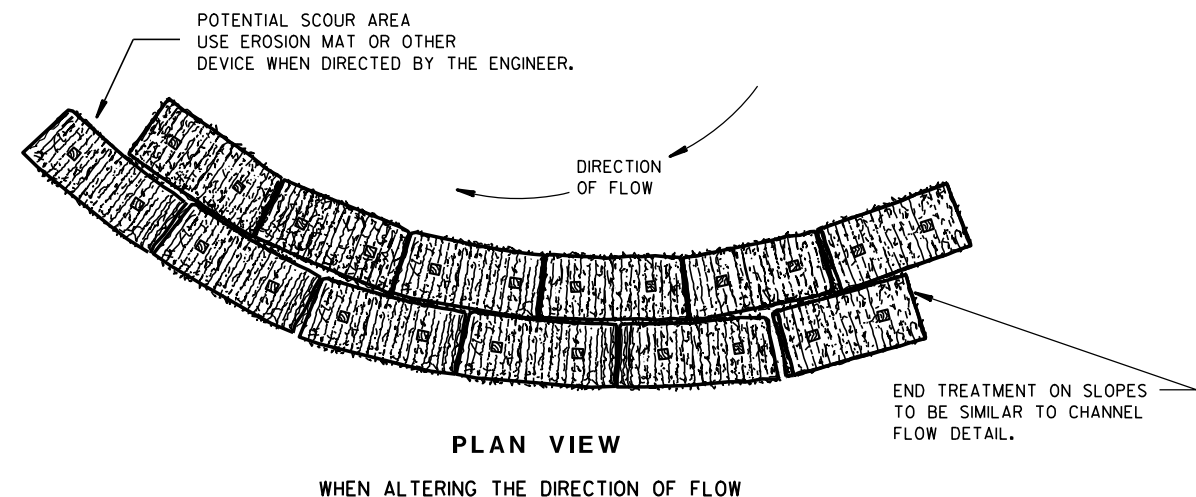




## GENERAL NOTES

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

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

TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

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

FHWA



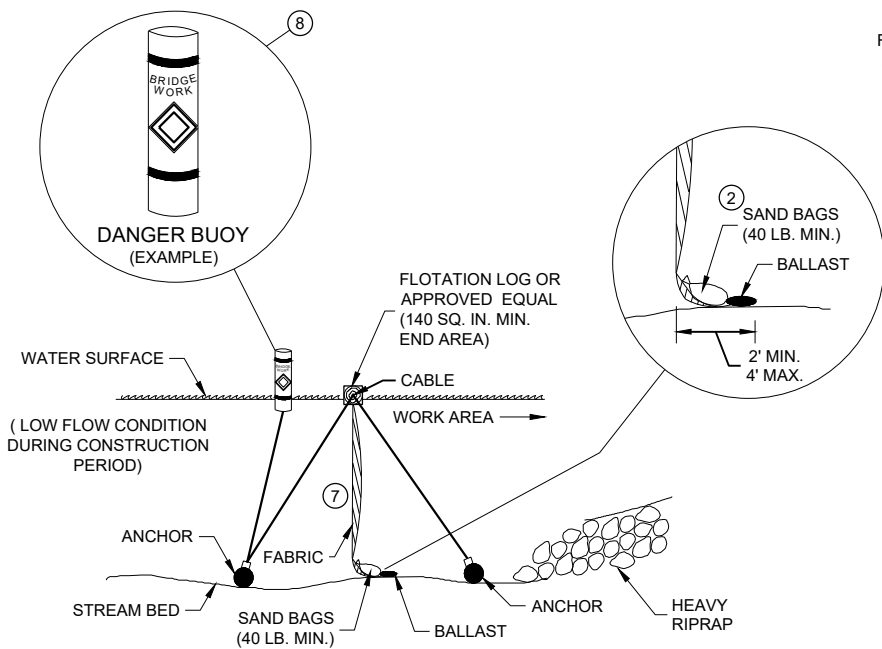


- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" 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.



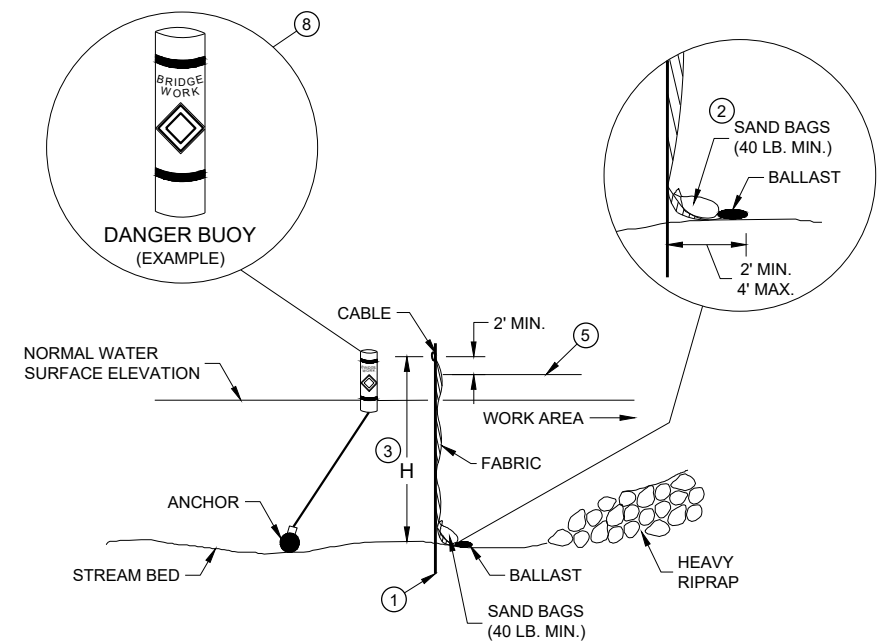
<div style="text-align: center;"><b>SILT FENCE</b></div>	
<div style="text-align: center;"><b>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</b></div>	
<div>APPROVED <u>4-29-05</u> DATE</div>	<div><u>/S/ Beth Cannestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER</div>





SECTION B - B

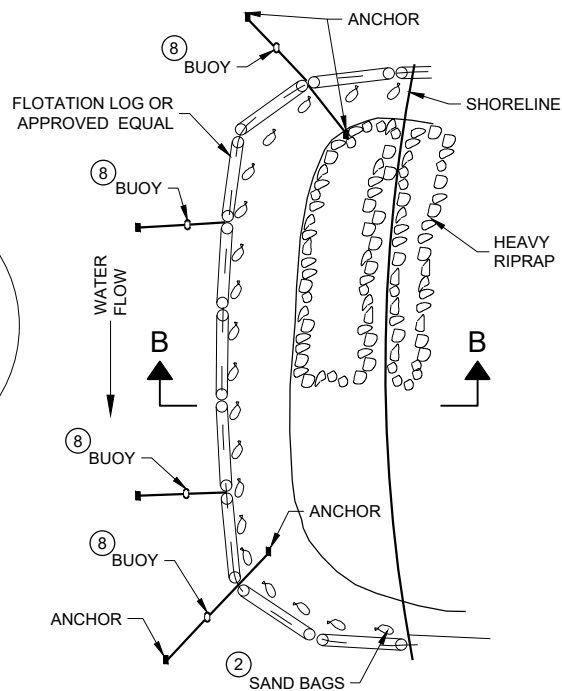
TURBIDITY BARRIER - FLOAT ALTERNATIVE  
CAUTION - SEE NOTE 6



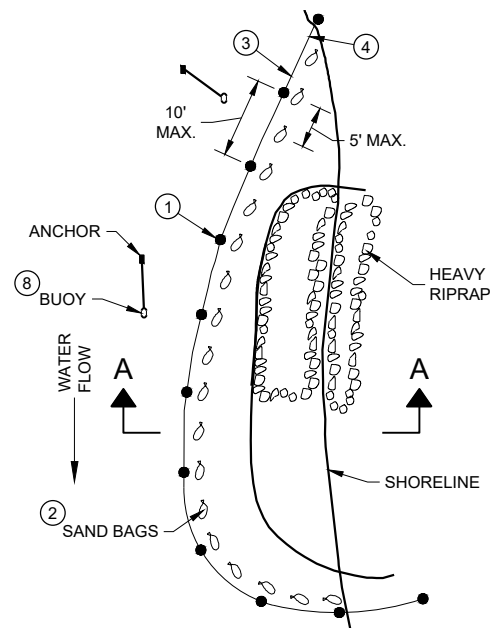
SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS



PLAN VIEW



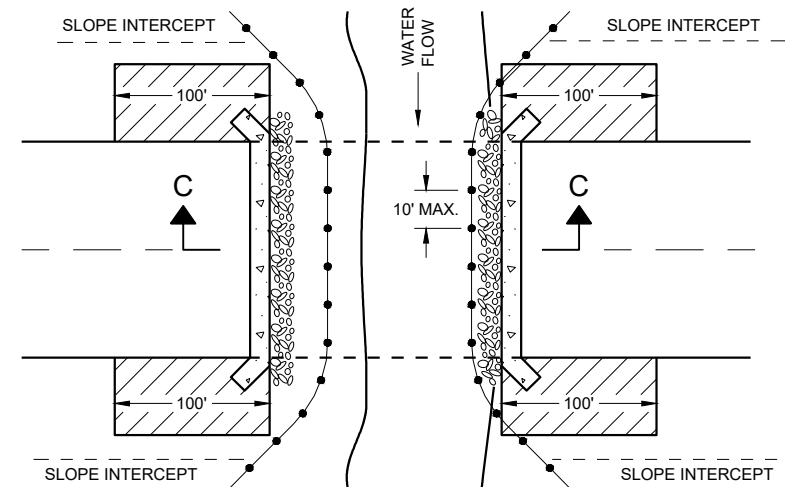
PLAN VIEW

### GENERAL NOTES

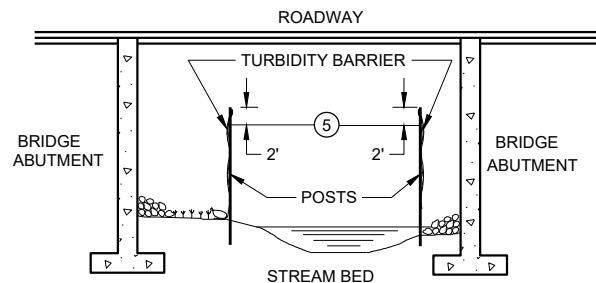
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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 SAND BAGS 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 FEET, 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 Q2 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 BEDROCK PREVENTS THE INSTALLATION OF POSTS.
- 7 ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- 8 USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING  
TYPICAL PLACEMENT AT STRUCTURES

### TURBIDITY BARRIER

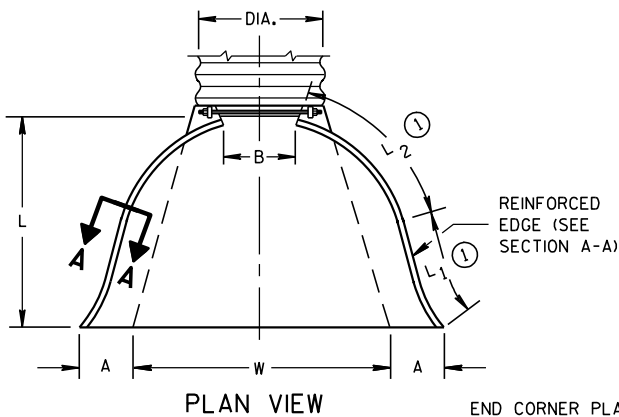
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
6/4/02 DATE /S/ Beth Cannestra  
DATE CHIEF ROADWAY DEVELOPMENT  
ENGINEER  
FHWA



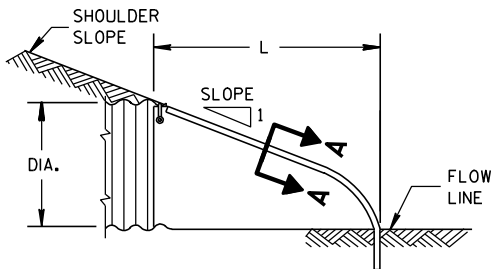
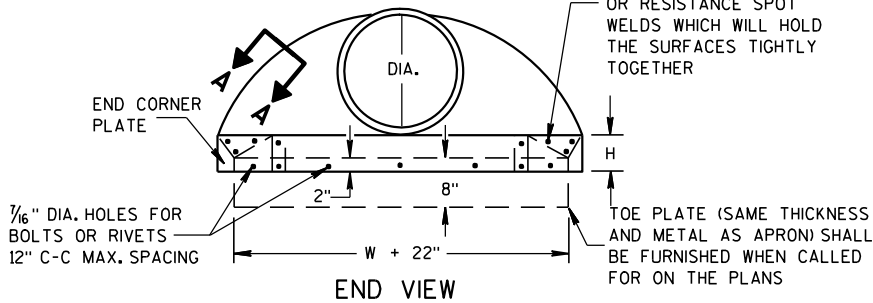
METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE		BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1	1 Pc.
18	.064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

\* EXCEPT CENTER PANEL  
SEE GENERAL NOTES



END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

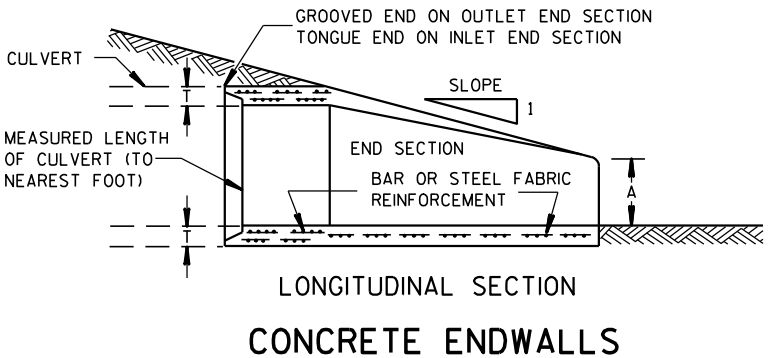
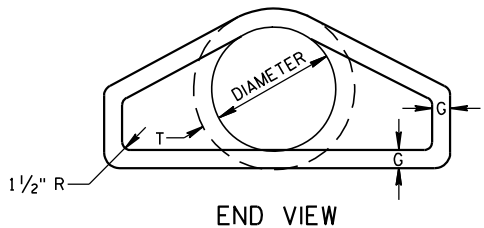
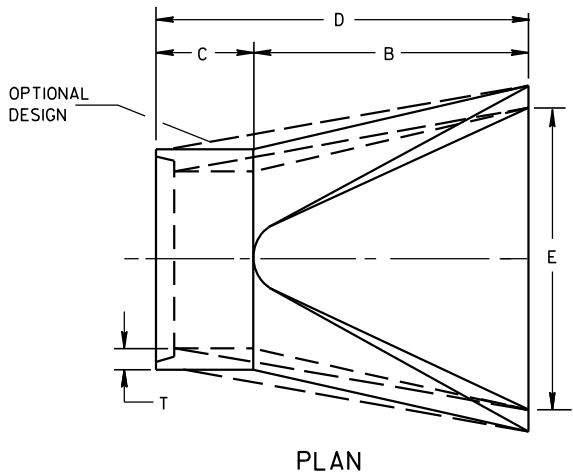
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



SIDE ELEVATION  
METAL ENDWALLS

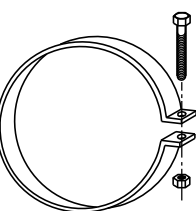
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 7/8	72 7/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9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

\* MINIMUM  
\*\* MAXIMUM

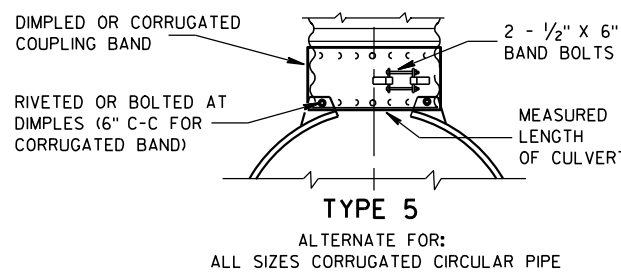
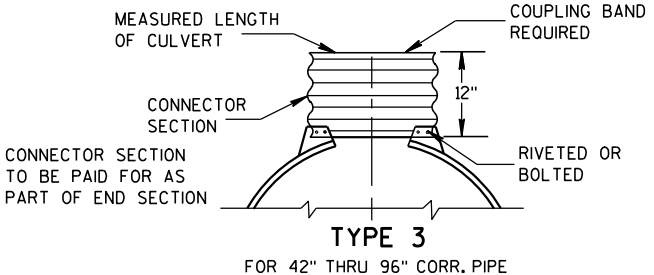
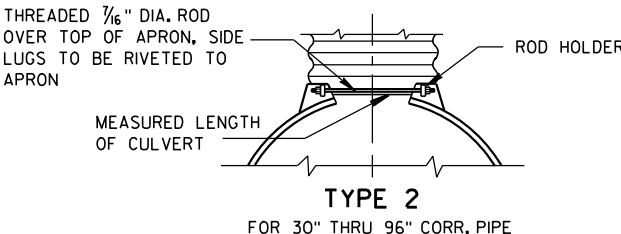
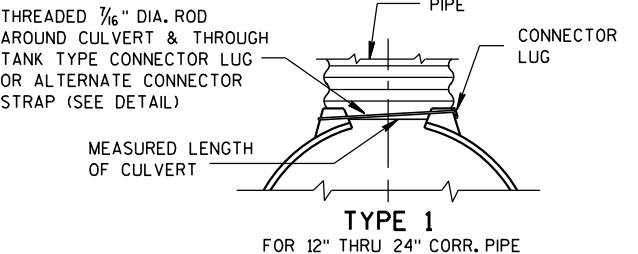


LONGITUDINAL SECTION  
CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION  
END SECTION CONNECTOR STRAP



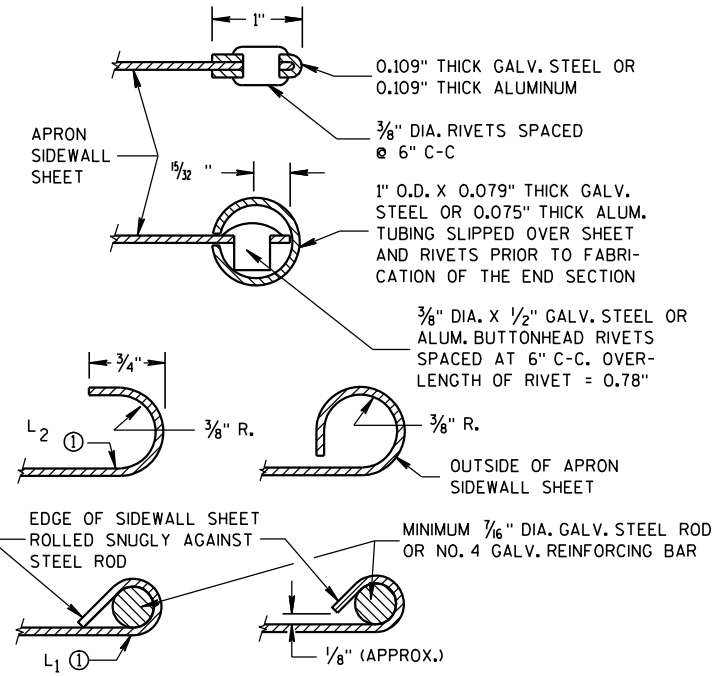
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

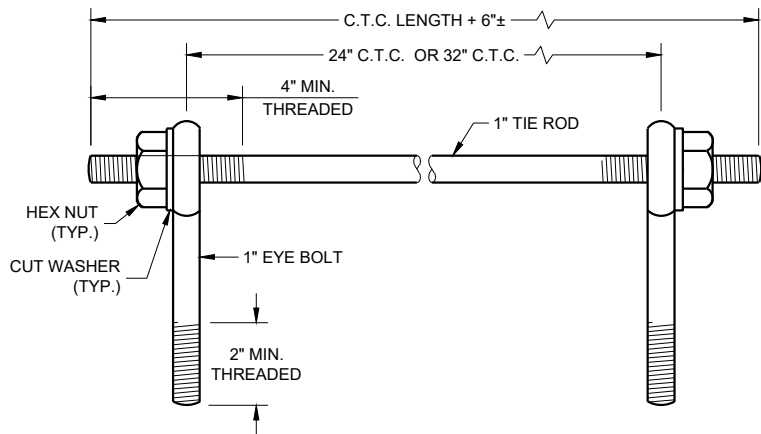
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR  
CULVERT PIPE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

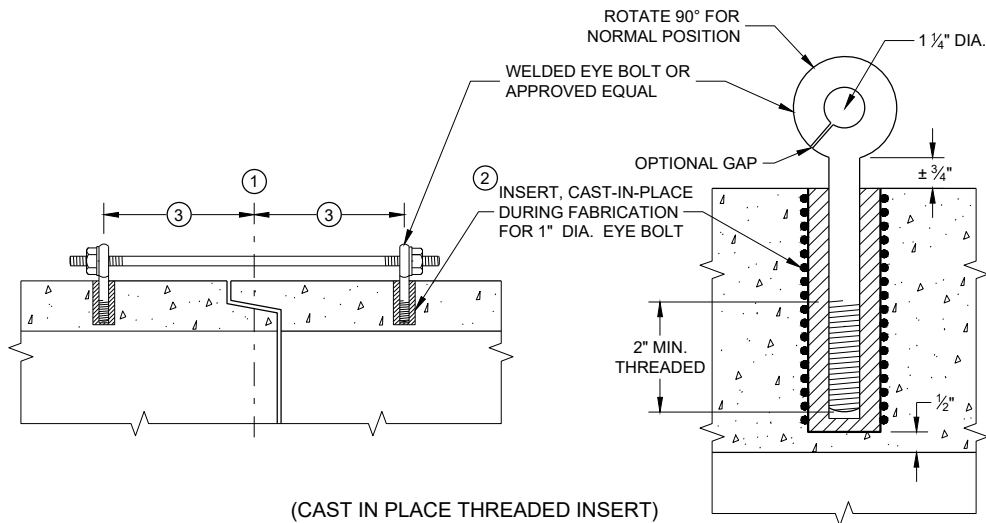
APPROVED  
11/30/94  
DATE  
/S/ Rory L. Rhinesmith  
CHIEF ROADWAY DEVELOPMENT ENGINEER  
FHWA





EYE BOLTS AND TIE ROD

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

## GENERAL NOTES

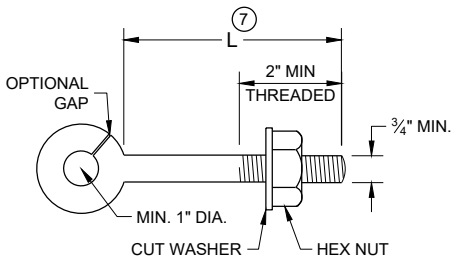
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

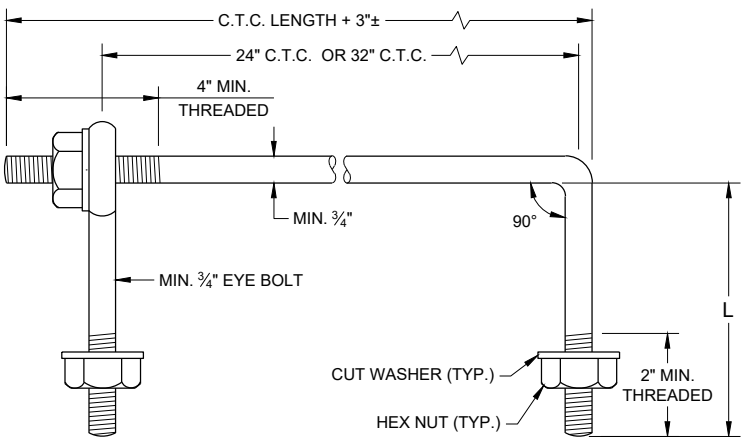
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- 1 CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- 2 THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- 3 HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- 4 BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- 5 OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- 6 LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.
- 7 EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

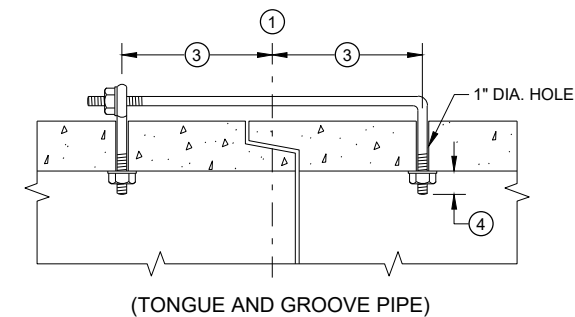


EYE BOLT 7

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

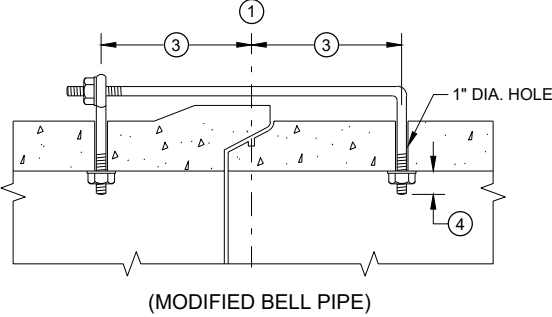


(TONGUE AND GROOVE PIPE)

LONGITUDINAL SECTION

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

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

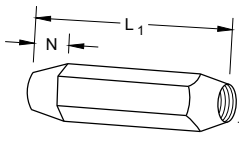


(MODIFIED BELL PIPE)

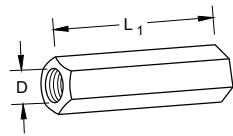
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L <sub>1</sub>	N
12 - 60	5/8	5/8	5	1/2
66 - 84	3/4	3/4	5	1/2
90 - 144	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES

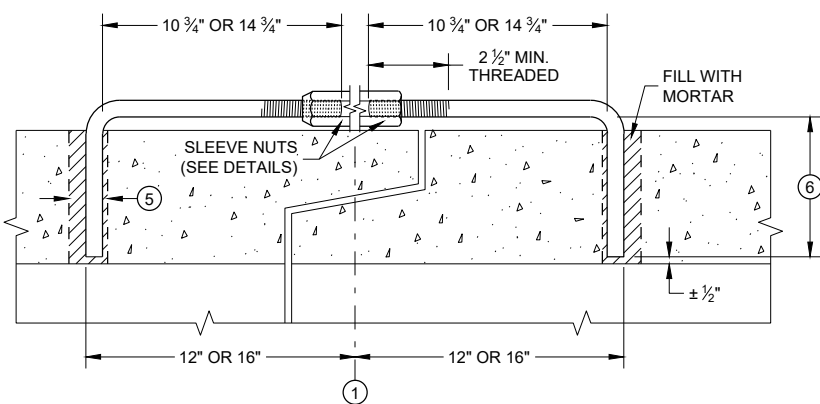


TAPERED



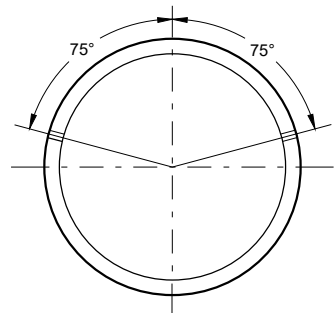
PLAIN

RIGHT AND LEFT THREADS  
SLEEVE NUTS



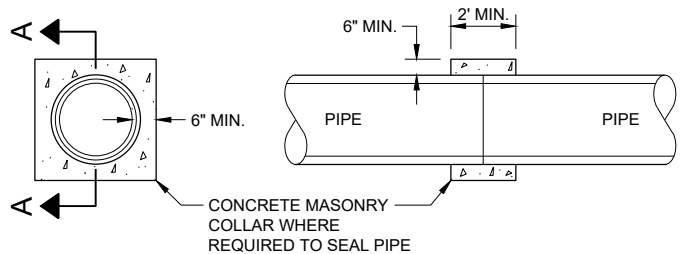
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A - A

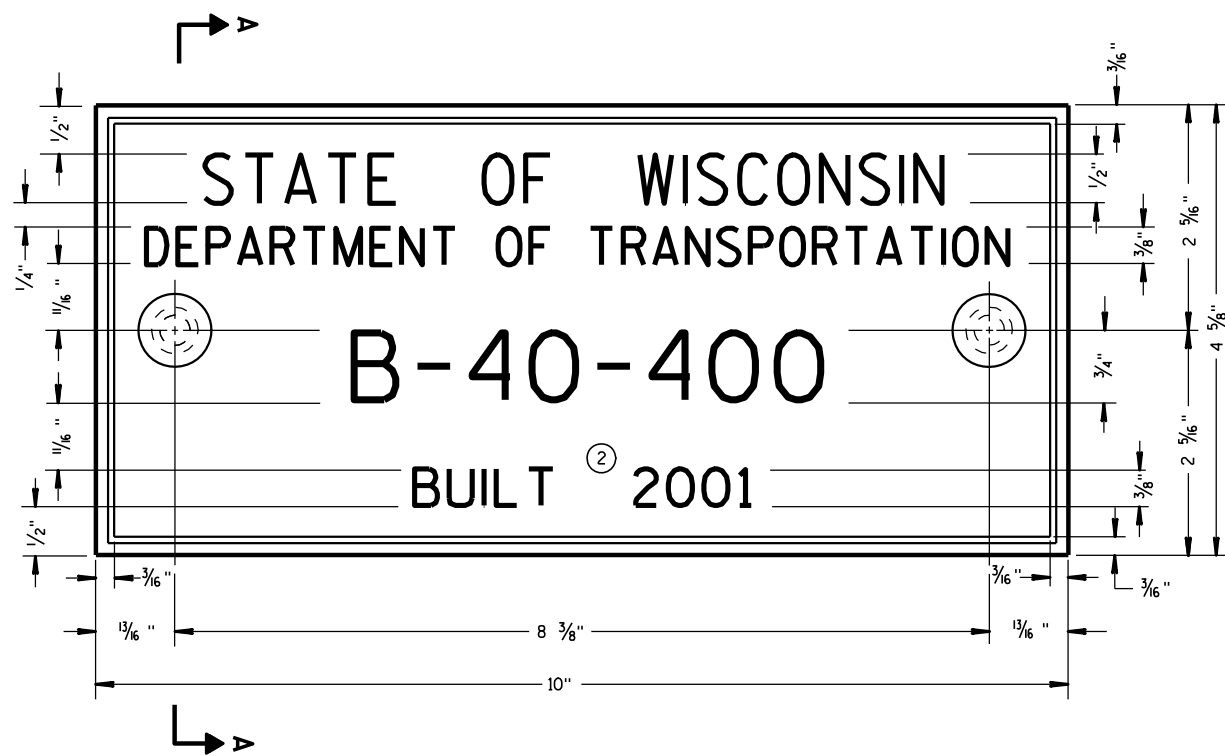
CONCRETE COLLAR DETAIL

## JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

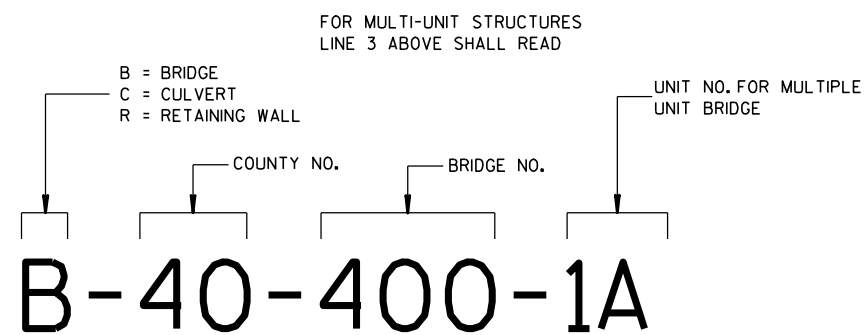
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2021 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER  
FHWA





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



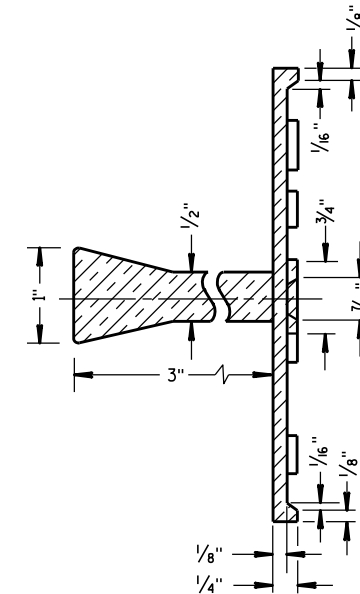
**NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES**

## GENERAL NOTES

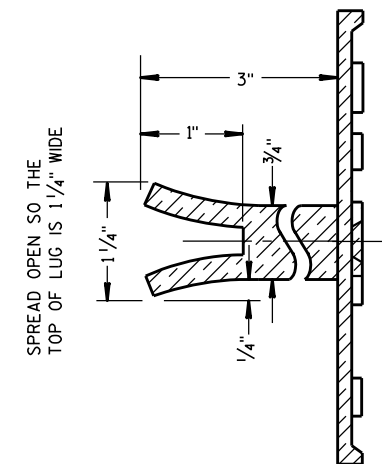
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

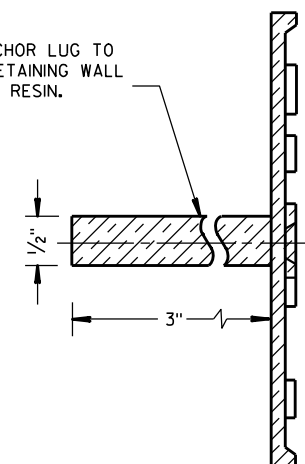


**SECTION A-A**



**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

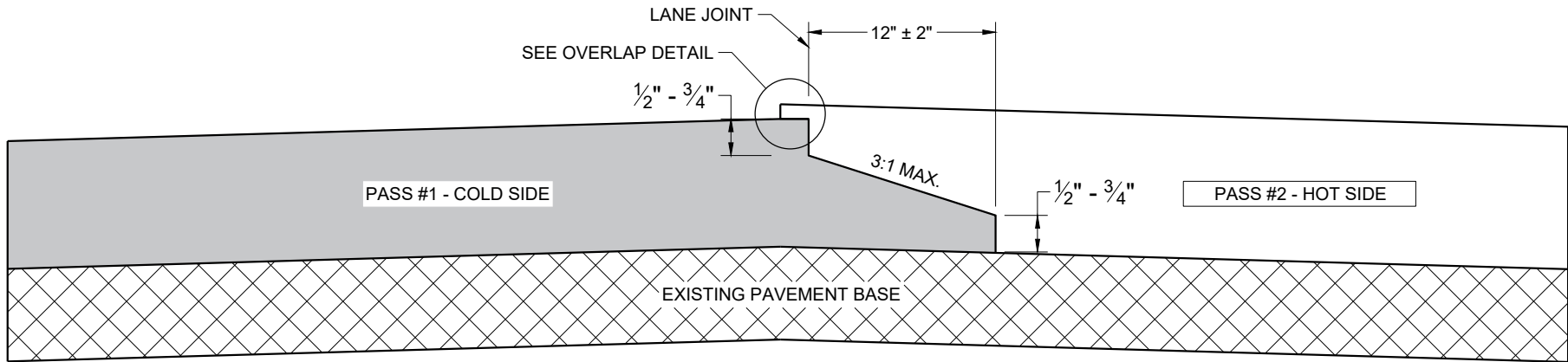
APPROVED

3/26/10  
DATE

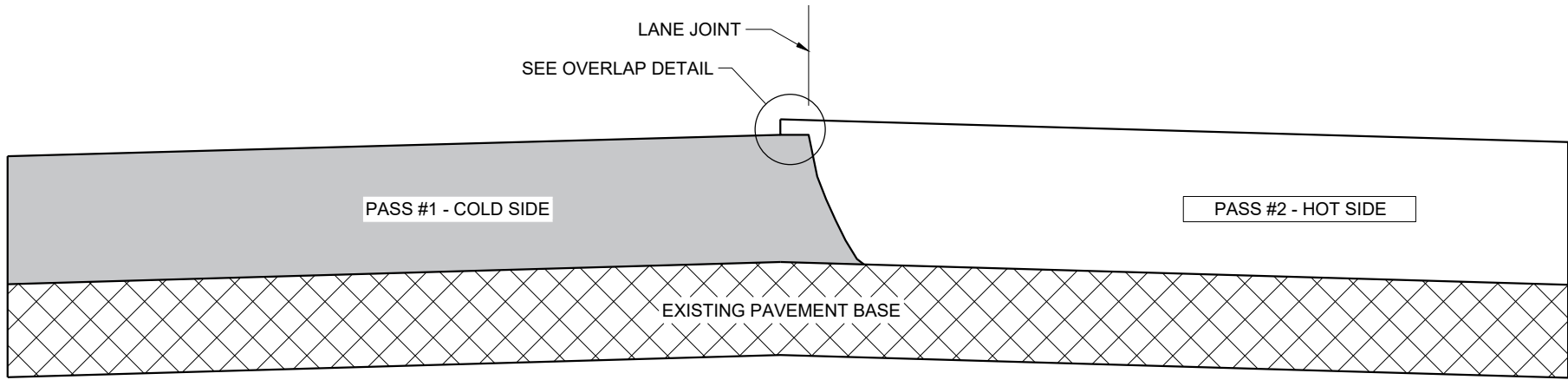
FHWA

/S/ Scot Becker  
CHIEF STRUCTURAL DEVELOPMENT ENGINEER

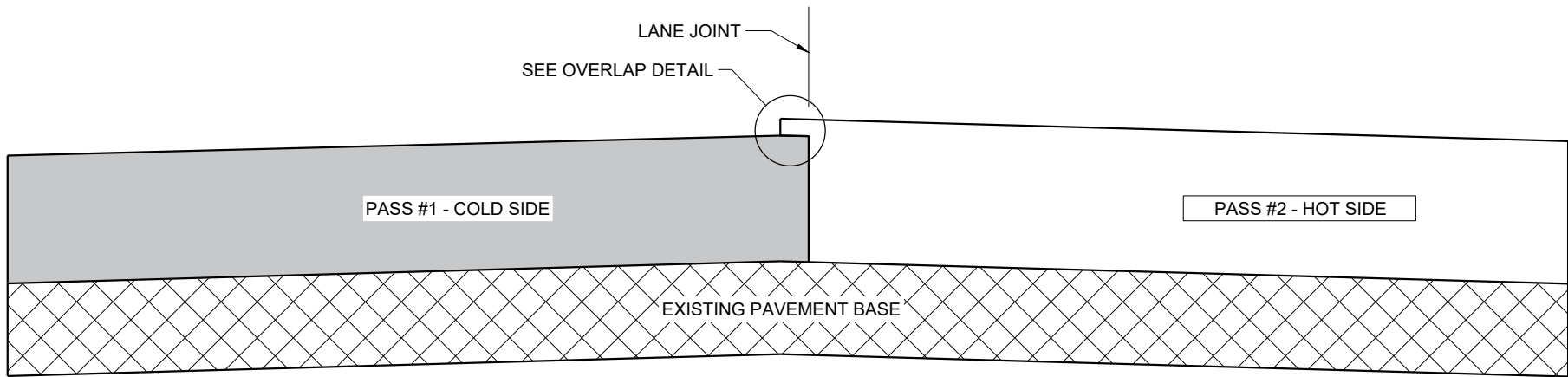




TYPICAL PAVEMENT CROSS SECTION  
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT (MILLED)

GENERAL NOTES

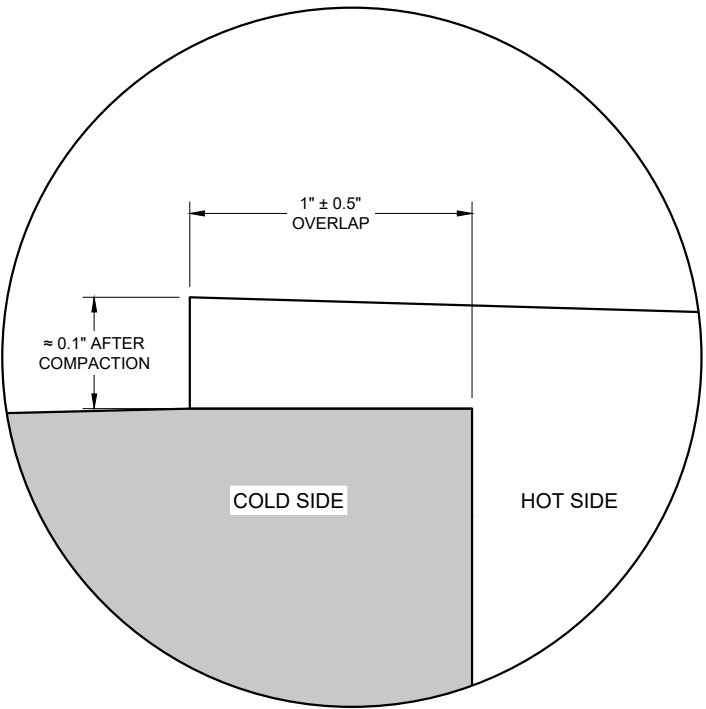
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY  $1" \pm 0.5"$  AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



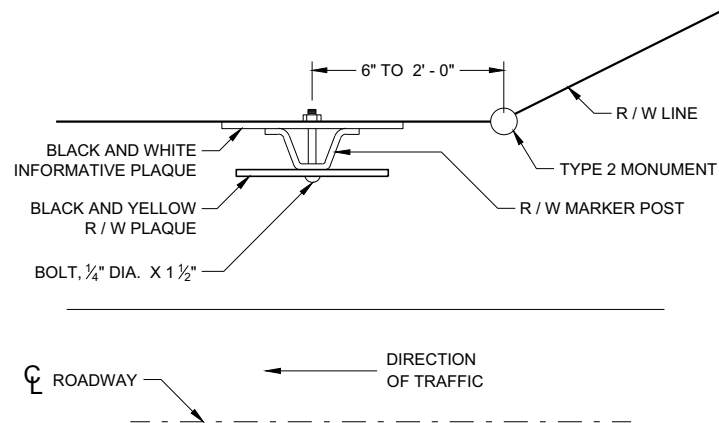
OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

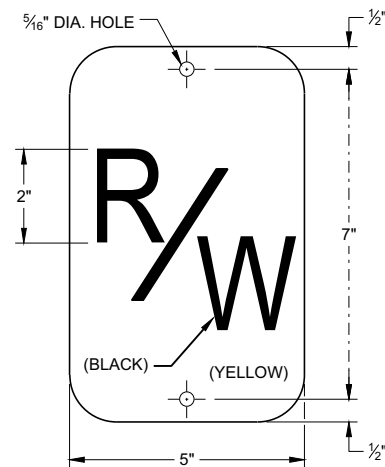
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2020 /S/ Steven Hefel  
DATE HMA PAVEMENT ENGINEER  
FHWA



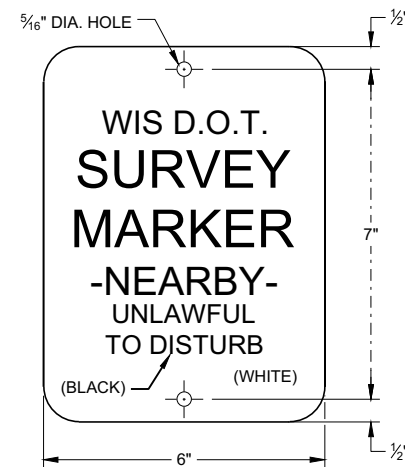


**PLAN VIEW  
STEEL MARKER POST**



**R / W PLAQUE**

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



**INFORMATIVE PLAQUE**

## GENERAL NOTES

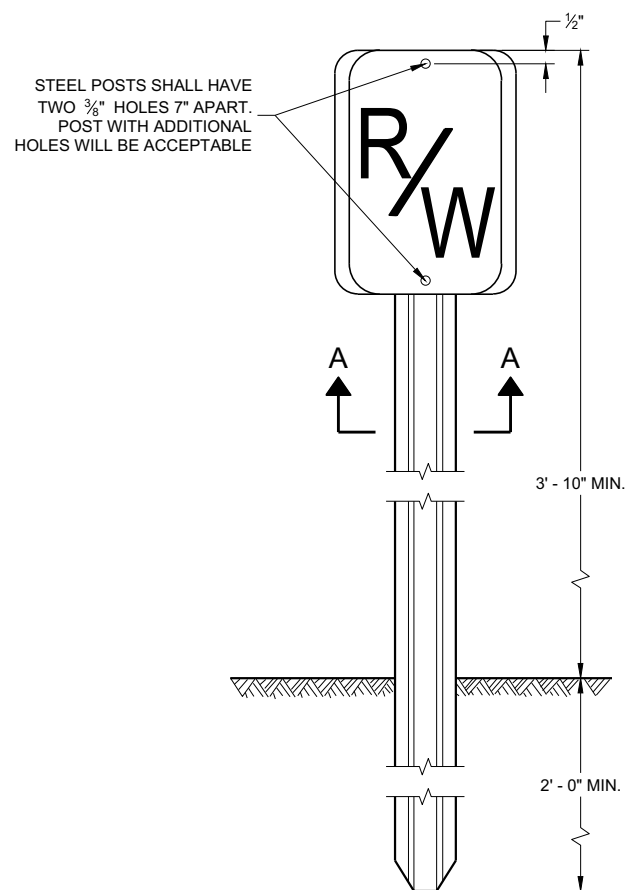
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

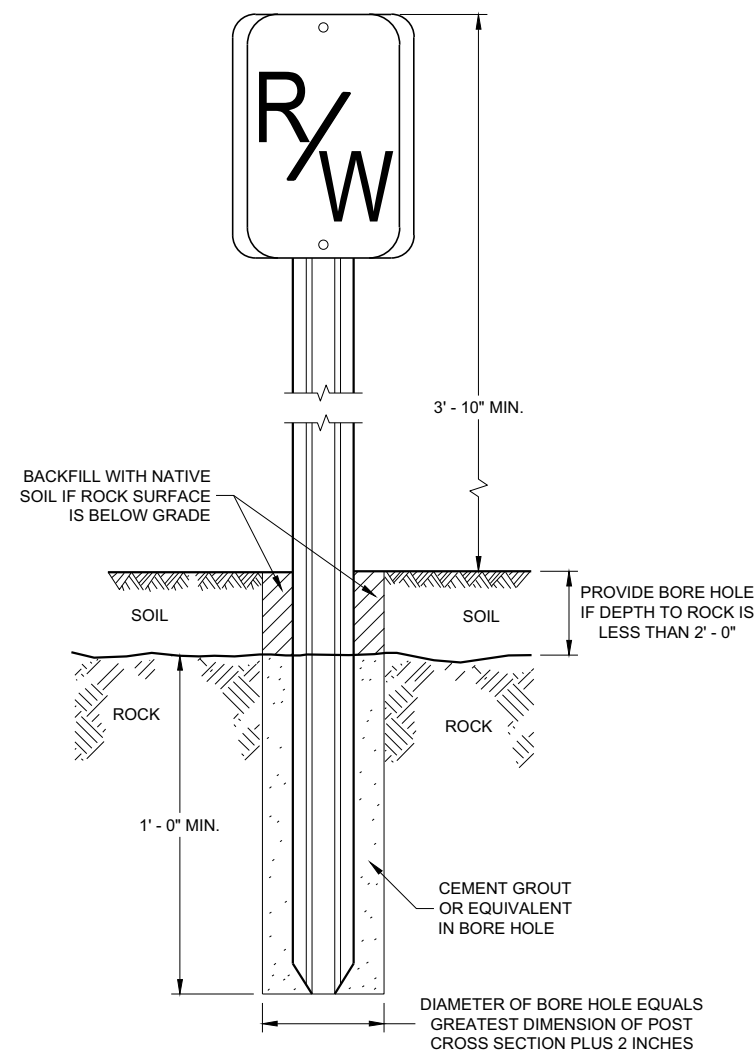
THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. "R/W" AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

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.

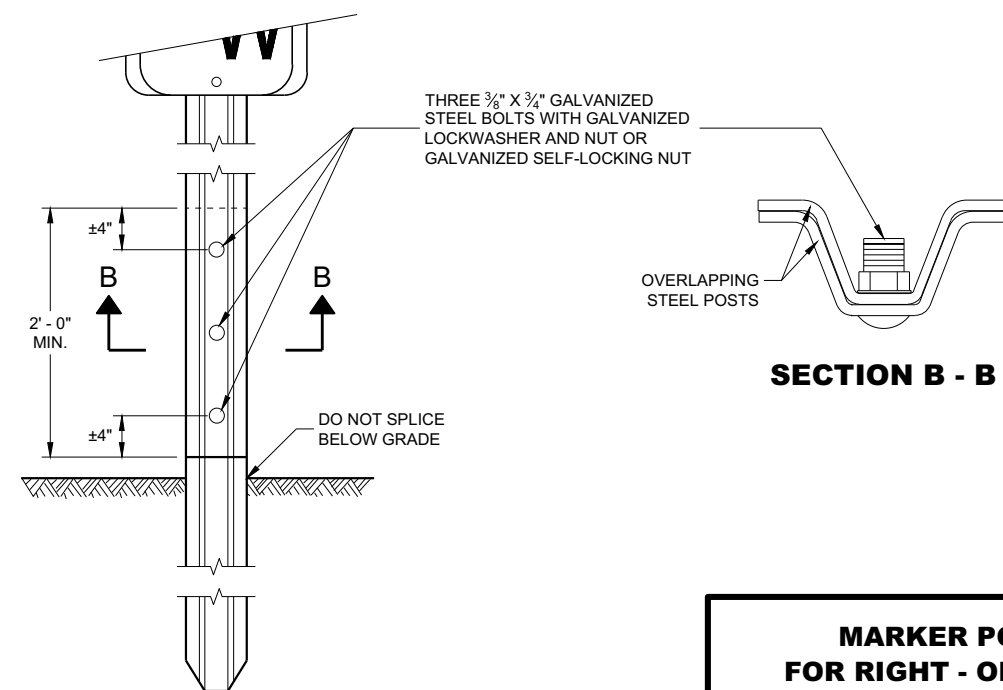
- ① IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3' - 10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL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



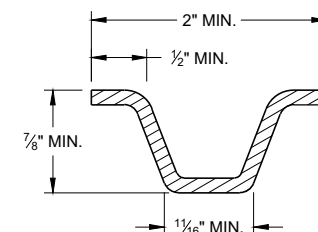
**FRONT VIEW  
STEEL MARKER POST**



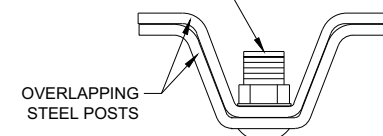
**FRONT VIEW  
ROCK INSTALLATION ①**



**FRONT VIEW  
SPLICE DETAIL**



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



**SECTION B - B**

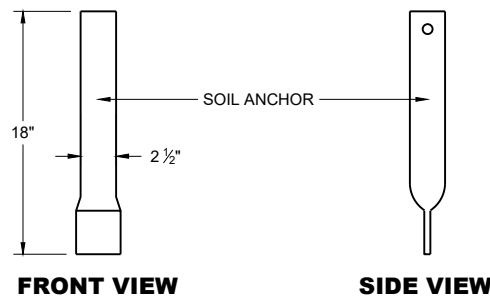
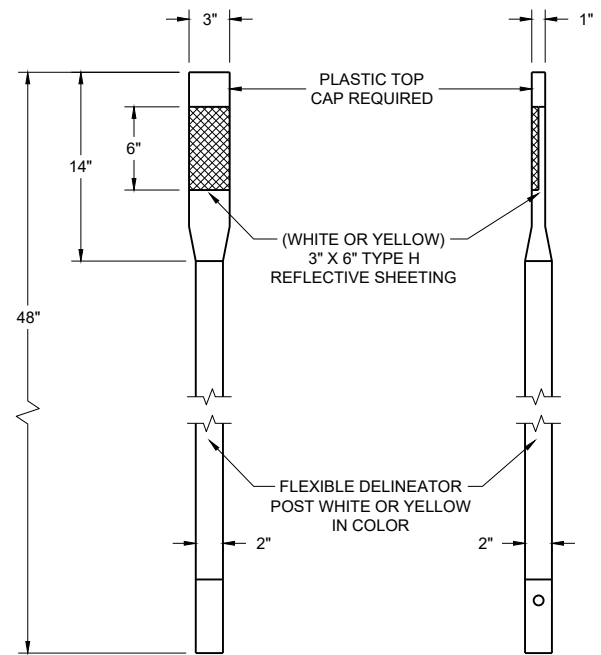
## MARKER POST FOR RIGHT - OF - WAY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

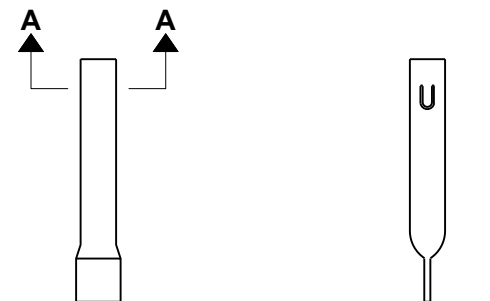
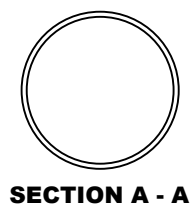
APPROVED  
2/18/2016  
DATE  
/S/ Ray Kumapayi  
CHIEF SURVEYING AND MAPPING  
ENGINEER

FHWA

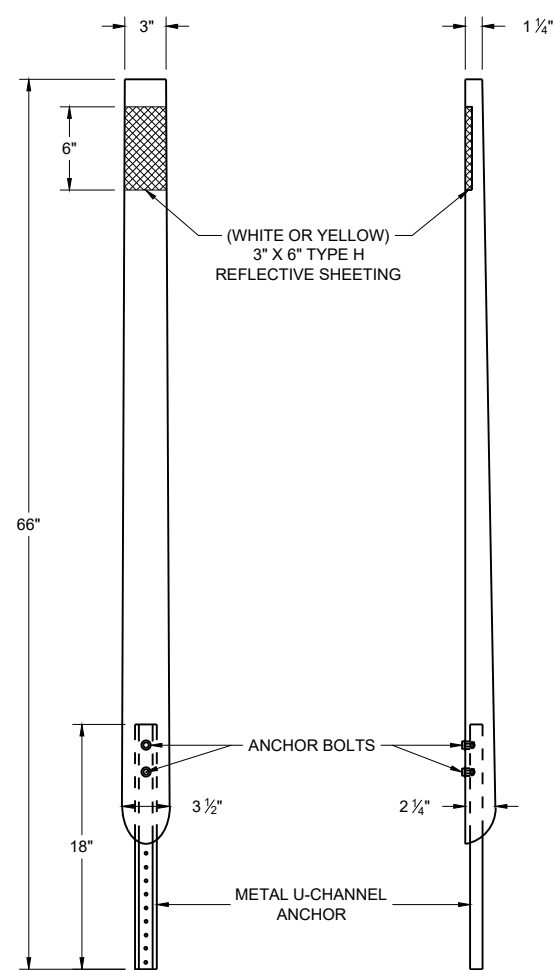




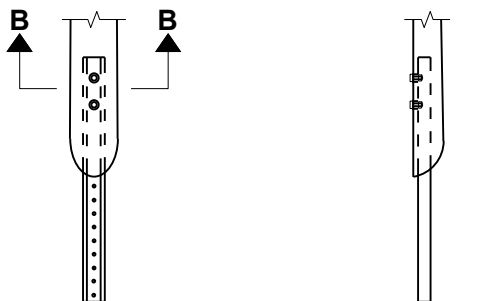
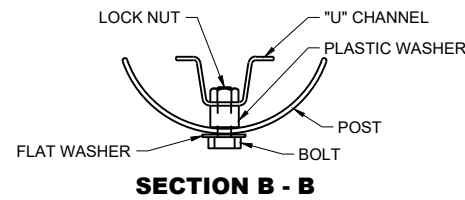
FRONT VIEW SIDE VIEW  
ALTERNATE 1



FRONT VIEW SIDE VIEW  
ALTERNATE 1

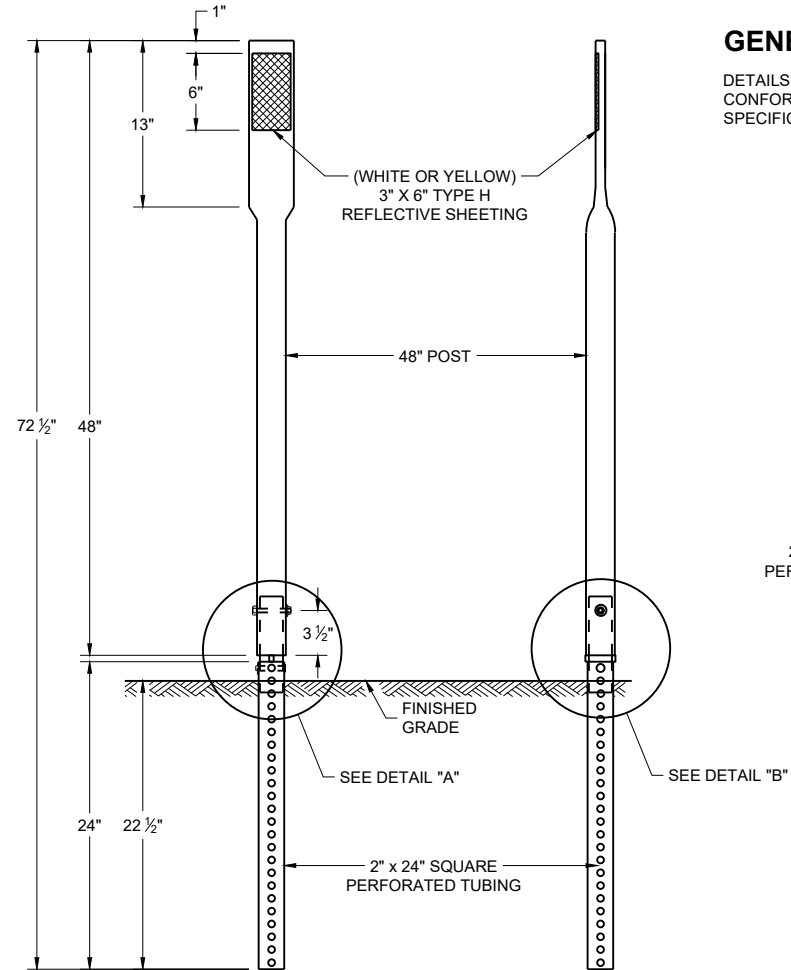


FRONT VIEW SIDE VIEW  
ALTERNATE 2  
FLEXIBLE DELINEATOR POSTS

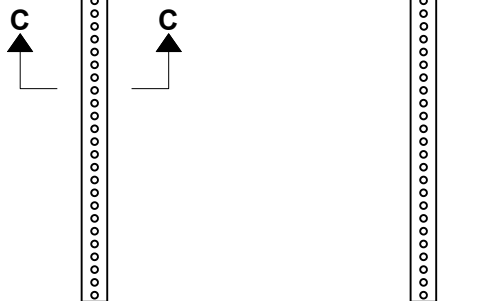


FRONT VIEW SIDE VIEW  
ALTERNATE 2

FLEXIBLE MARKER POST ANCHORS



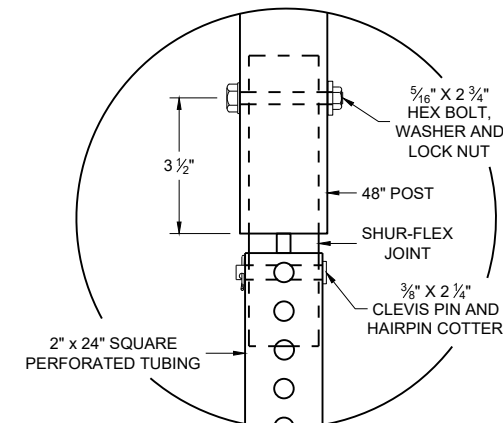
FRONT VIEW SIDE VIEW  
ALTERNATE 3



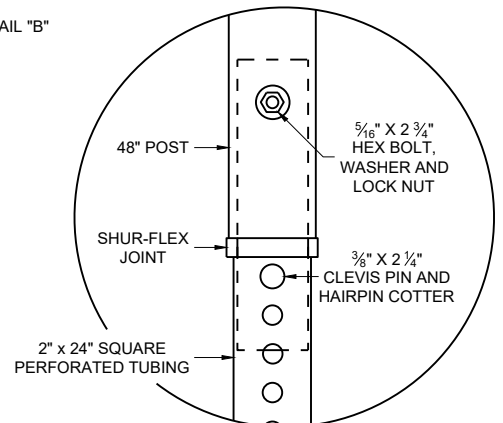
FRONT VIEW SIDE VIEW  
ALTERNATE 3

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.



DETAIL A



DETAIL B

REFLECTOR SPACING TABLE

REFLECTOR SPACING	LOCATION
* 100' C-C	RAMPS
400' C-C	MAINLINE

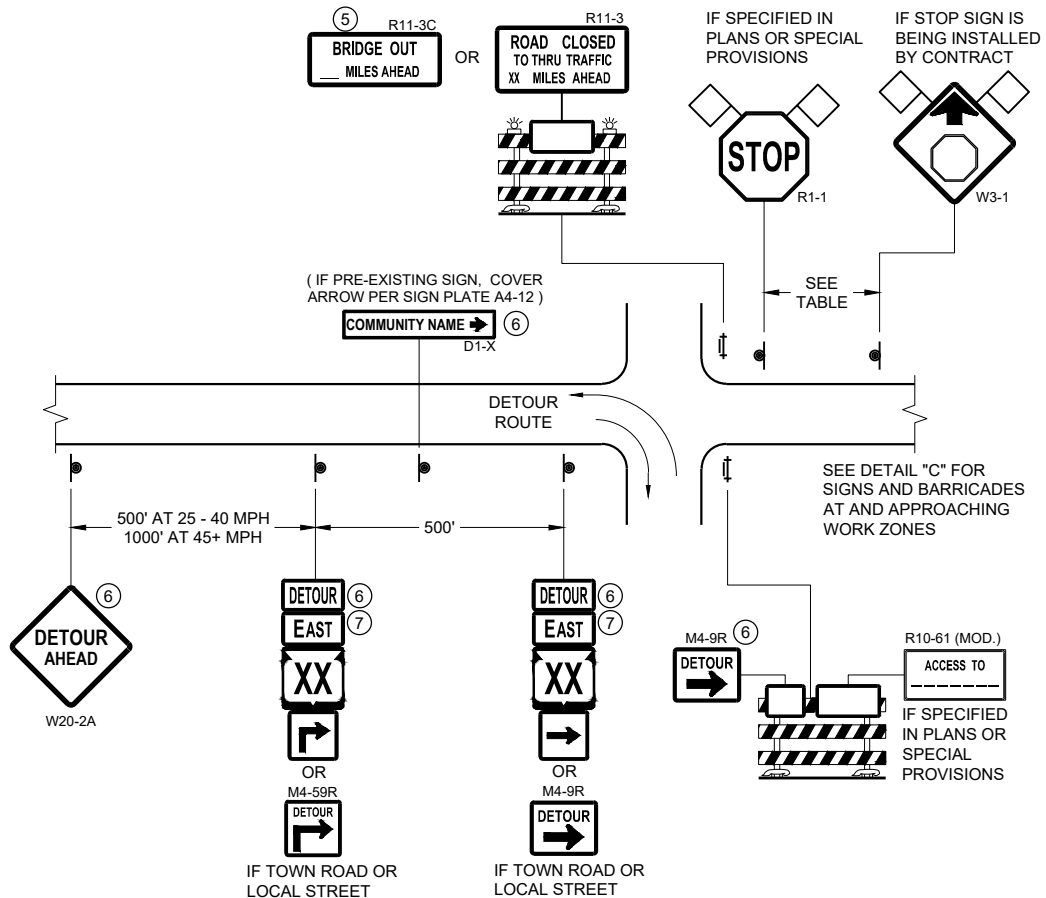
\* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER

FLEXIBLE DELINEATOR POST

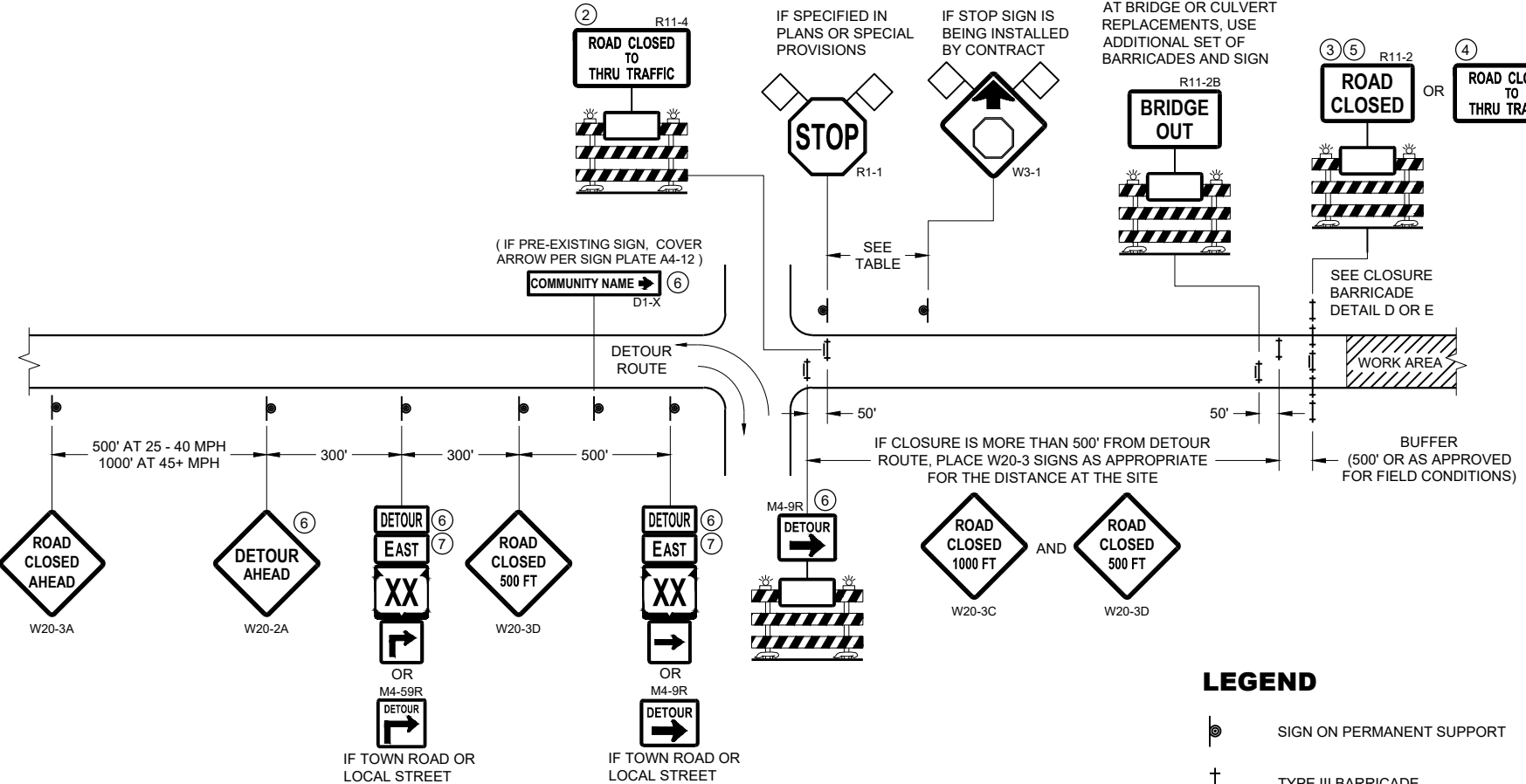
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
March 2024 /S/ Jeannie Silver  
DATE Statewide Pavement Marking Engineer  
FHWA





**DETAIL A**  
**MAINLINE CLOSURE WITH POSTED DETOUR**  
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )



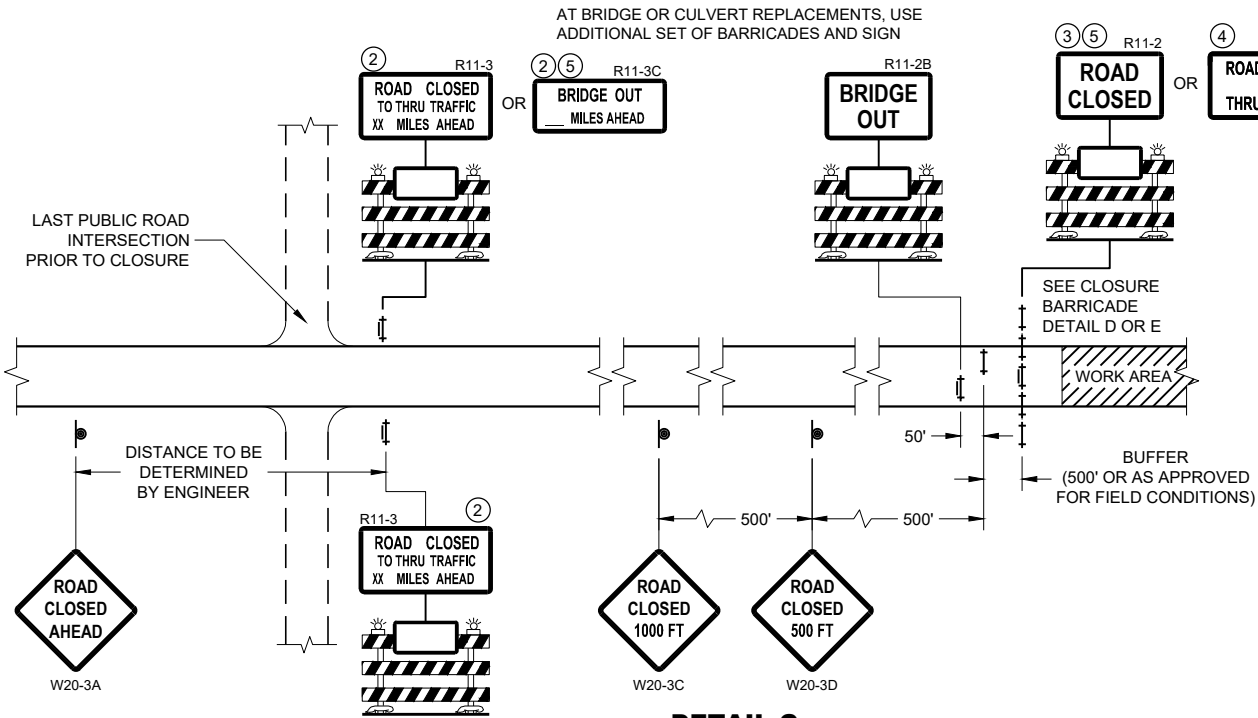
**DETAIL B**  
**MAINLINE CLOSURE WITH POSTED DETOUR**  
WORK ZONE LESS THAN ½ MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

- LEGEND**
- SIGN ON PERMANENT SUPPORT
  - TYPE III BARRICADE
  - TYPE III BARRICADE WITH ATTACHED SIGN
  - TYPE "A" WARNING LIGHT (FLASHING)
  - WORK AREA
  - FLAGS, 16" X 16" MIN. (ORANGE)

- DETOUR M4 - 8
- EAST M3 - X
- XX M1 - 4 OR XX M1 - 6 OR COUNTY M1 - 5A
- OR M05 - 1 OR M06 - 1

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



**DETAIL C**  
**MAINLINE CLOSURE, NO POSTED DETOUR**

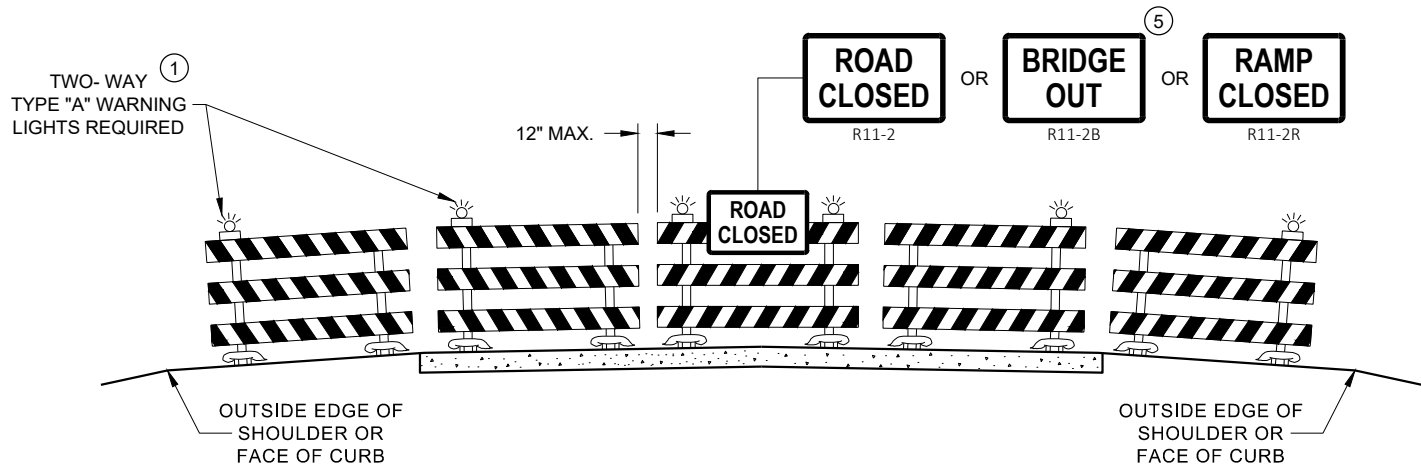
**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

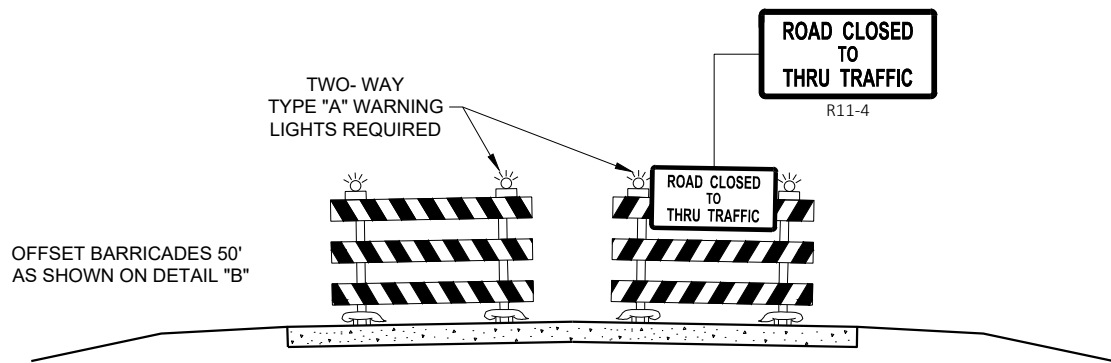
APPROVED  
May 2023 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA





**DETAIL D**  
**ROAD CLOSURE BARRICADE DETAIL**  
**APPROACH VIEW**



**DETAIL E**  
**LANE CLOSURE BARRICADE DETAIL**  
**APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

**GENERAL NOTES**

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

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

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

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

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

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

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

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL 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 SHALL, 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" (36" X 18" 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)
- MO5 - 1 AND MO6 - 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 AN 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 ROAD 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.

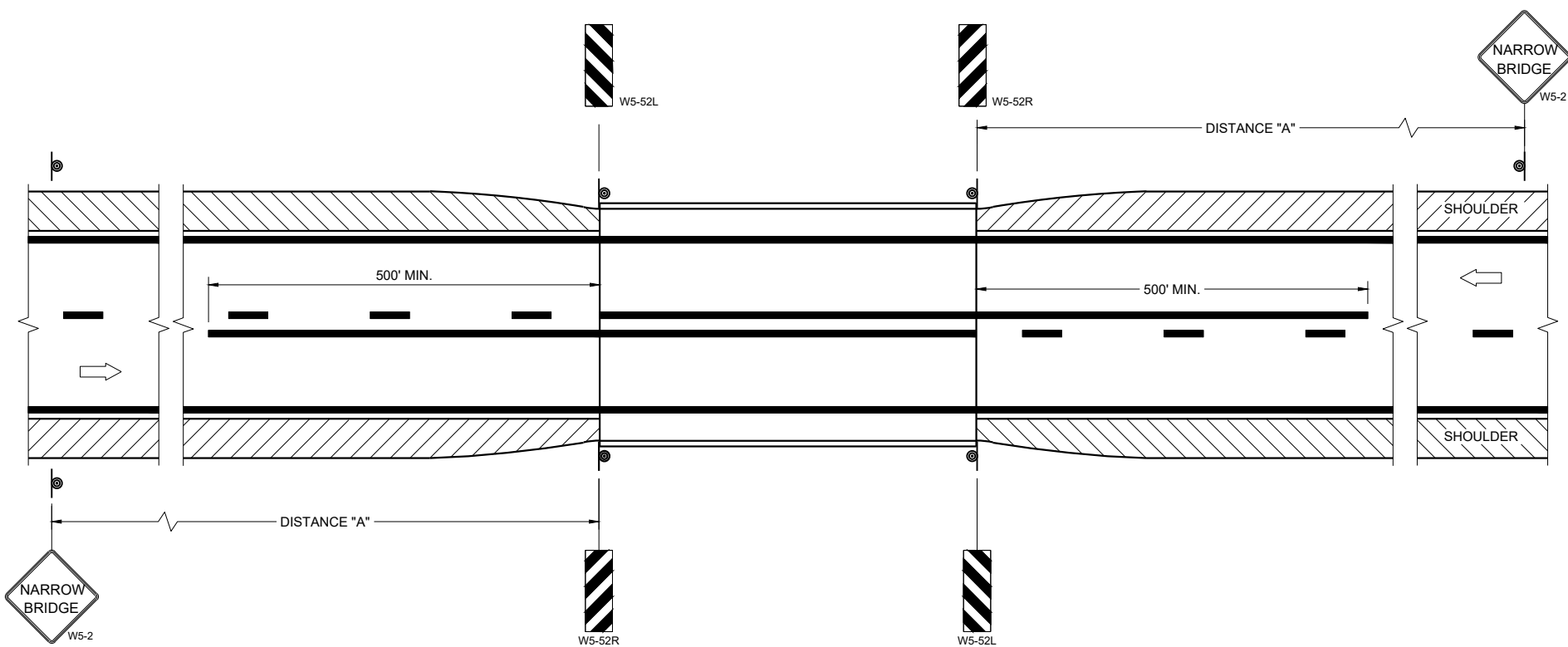
**BARRICADES AND SIGNS**  
**FOR**  
**VARIOUS CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

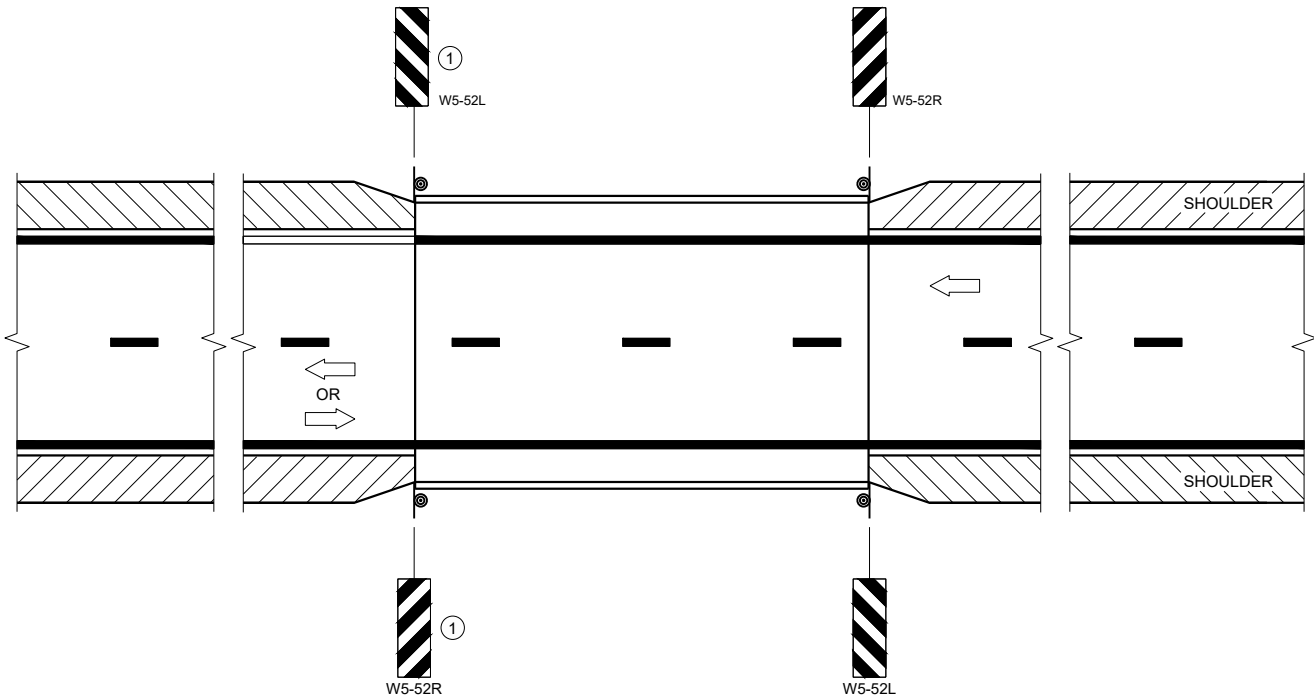
APPROVED  
May 2023 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA





**SITUATION 1**  
WARRANTING CRITERIA:  
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



**SITUATION 2**  
WARRANTING CRITERIA:  
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND  
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

**GENERAL NOTES**

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

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

**LEGEND**

⊙ SIGN ON PERMANENT SUPPORT

➡ DIRECTION OF TRAFFIC

**DISTANCE TABLE**

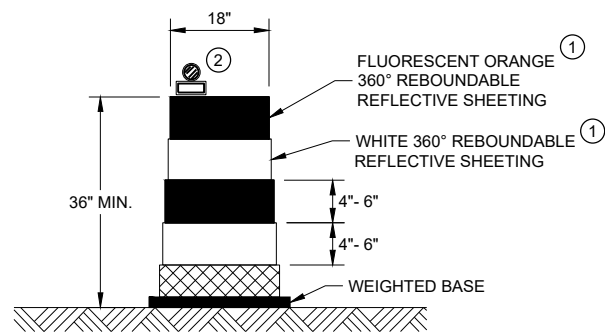
POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

**SIGNING AND MARKING  
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

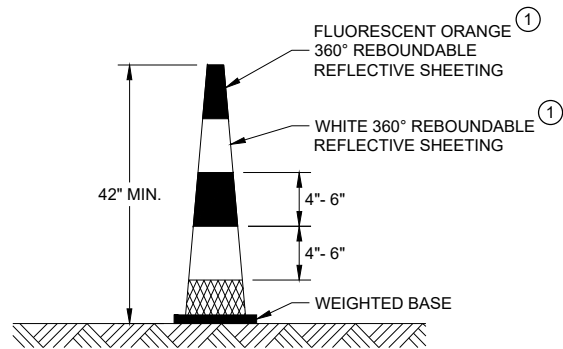
APPROVED  
May 2023 /S/ Jeannie Silver  
DATE Statewide Pavement Marking Engineer  
FHWA





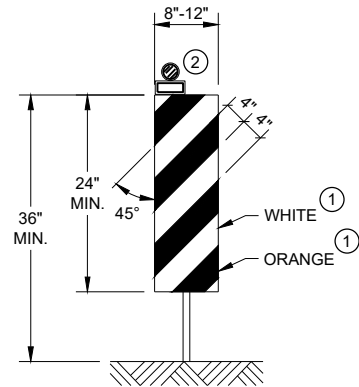
**DRUM**

BALLAST WIDTHS  
RANGE FROM 24"-36"



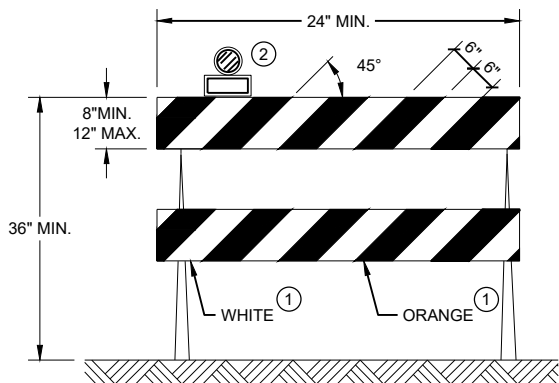
**42" CONE**

DO NOT USE IN TAPERS  
½ SPACING OF DRUMS  
BALLAST WIDTHS  
RANGE FROM 14"-20"



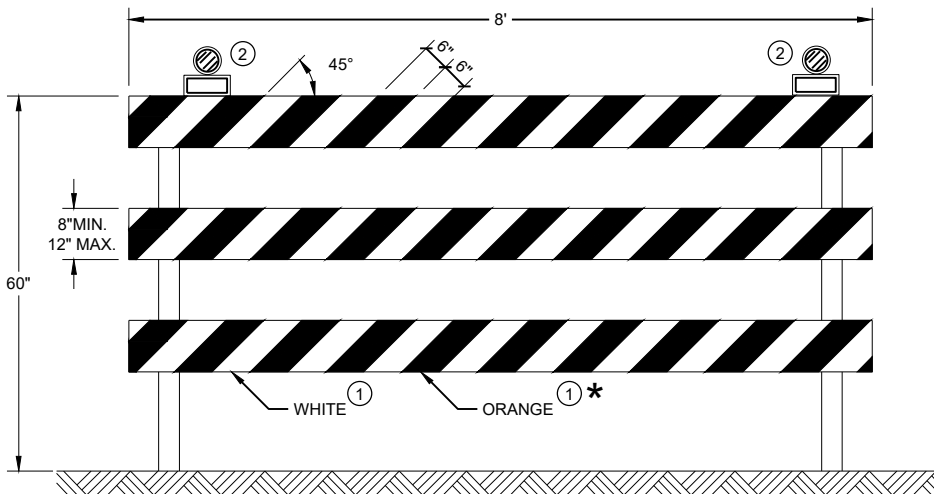
**VERTICAL PANEL**

THE STRIPES SHALL SLOPE DOWNWARD TO  
THE TRAFFIC SIDE FOR CHANNELIZATION.



**TYPE II BARRICADE**

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES  
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD  
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



**TYPE III BARRICADE**

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP  
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

\* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

**GENERAL NOTES**

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

**CHANNELIZING DEVICES  
DRUMS, CONES, BARRICADES  
AND VERTICAL PANELS**













STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2022 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA



LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TEMPORARY DELINEATOR (WHITE, SINGLE DELINEATOR)
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  TEMPORARY RAISED PAVEMENT MARKERS (TWO WAY YELLOW)
-  TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT
-  DIRECTION OF TRAFFIC
-  REMOVE PAVEMENT MARKINGS
-  WORK AREA

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" 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.

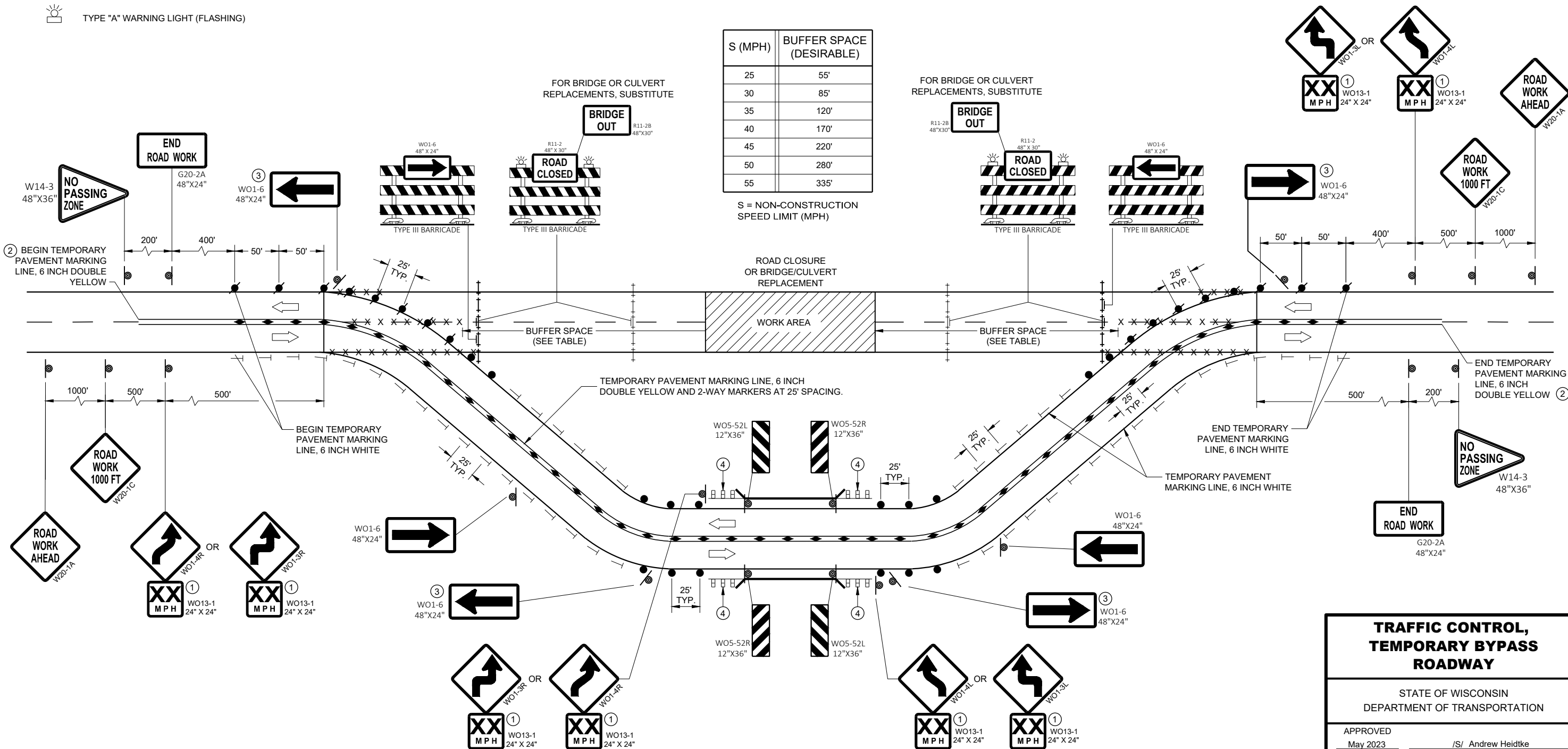
THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL ON STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

EQUIPMENT, VEHICLES, OR MATERIAL SHOULD NOT BE STORED IN BUFFER SPACE.

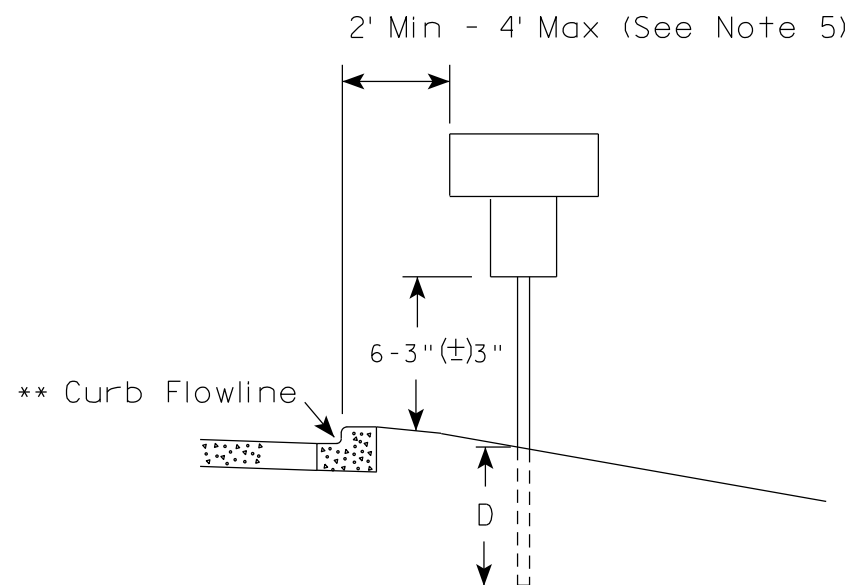
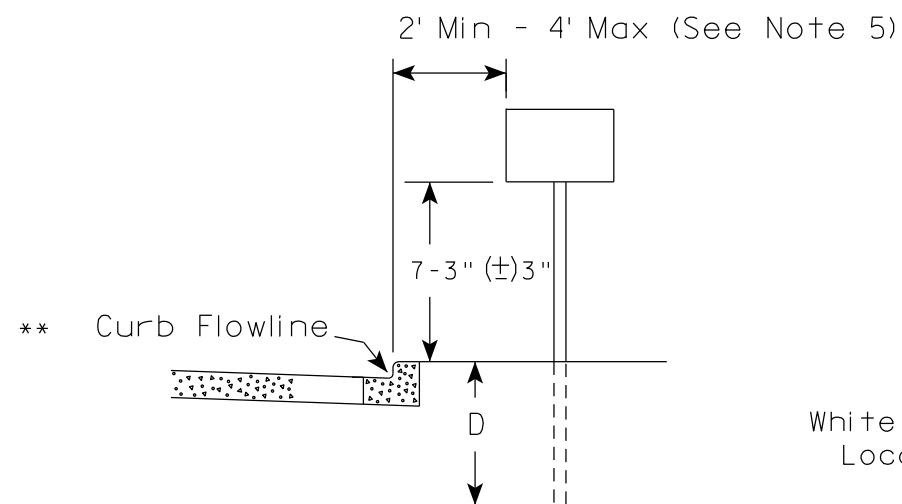
- ① IF ADVISORY SPEED IS GREATER THAN 30 MPH, USE THE WO1-4 SIGN. IF ADVISORY SPEED IS 30 MPH OR LESS, USE THE WO1-3 SIGN.
- ② WHEN THE DISTANCE TO / FROM THE NEXT CLOSEST NO-PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.
- ③ OMIT THESE WO1-6 SIGNS IF THE ADVISORY SPEED OF THE CURVE IS GREATER THAN 30 MPH.
- ④ TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT WHEN INCLUDED IN THE CONTRACT. FOR LAYOUT, SEE DETAILS ELSEWHERE IN THE PLAN.



<b>TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

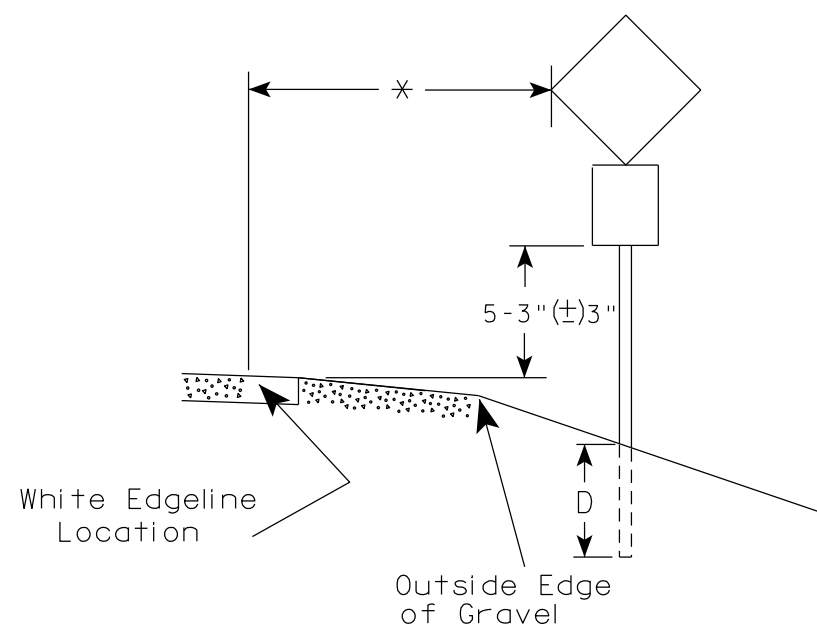
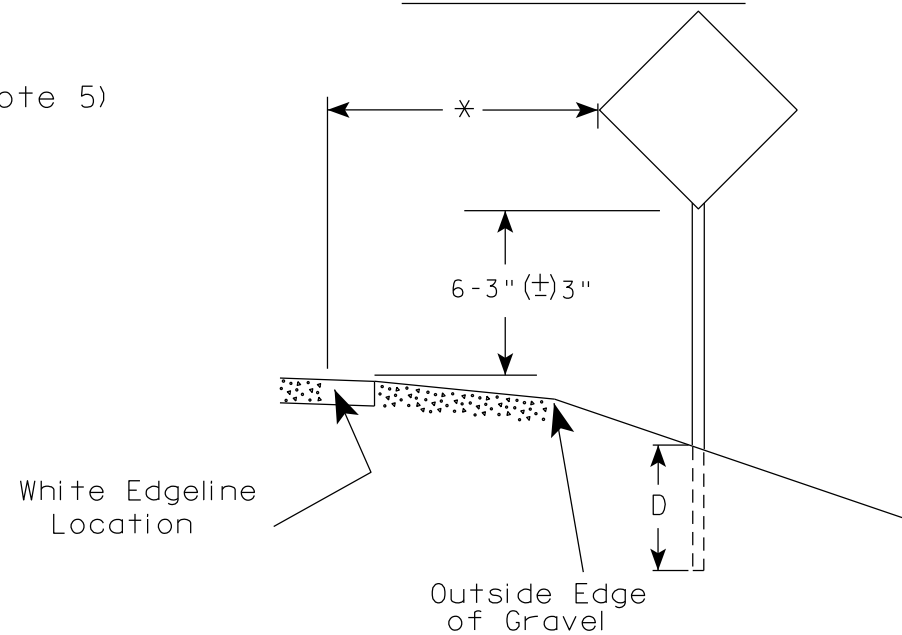


## URBAN AREA



\* \* 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.

## RURAL AREA (See Note 2)



\* 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.

POST EMBEDMENT DEPTH

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

## GENERAL NOTES

- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- If signs are mounted on or behind barrier wall, see A4-10 sign plate.  
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 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" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
- Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the Engineer.

TYPICAL INSTALLATION  
OF PERMANENT TYPE II  
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23





### 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

PROJECT NO:

HWY:

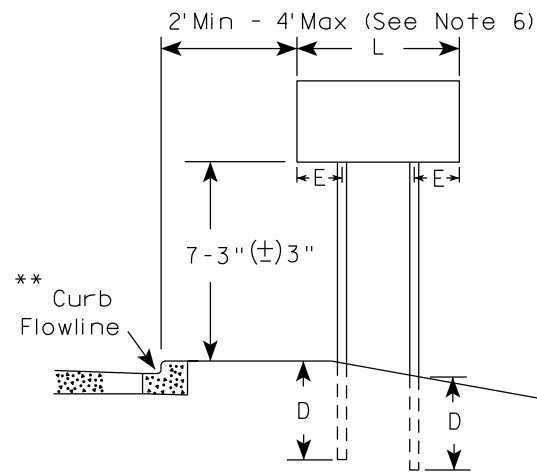
COUNTY:

SHEET NO:

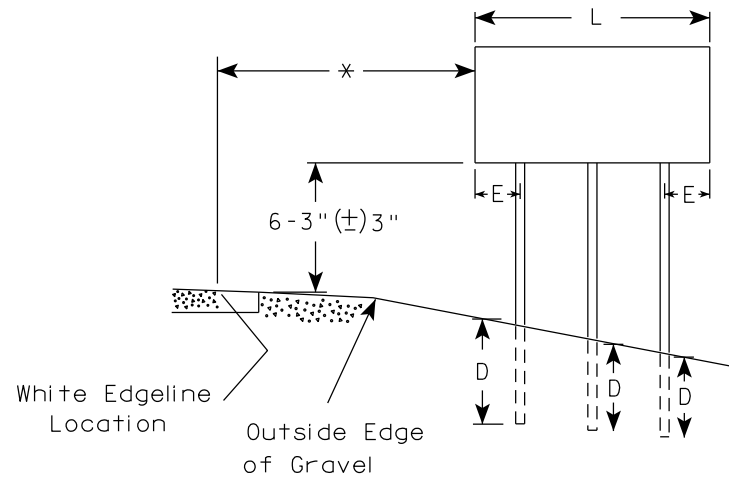
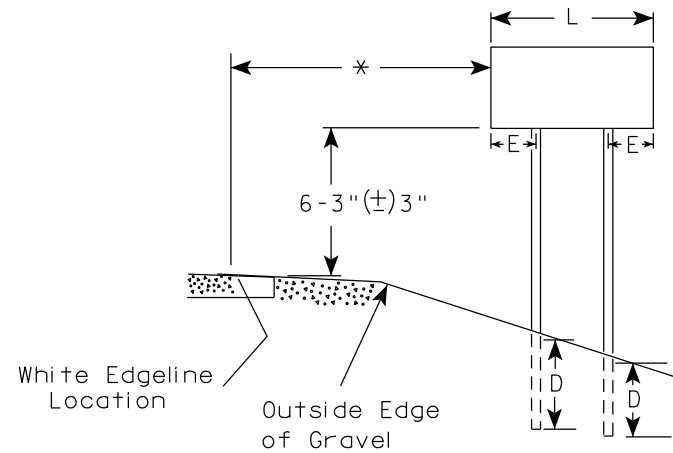
E



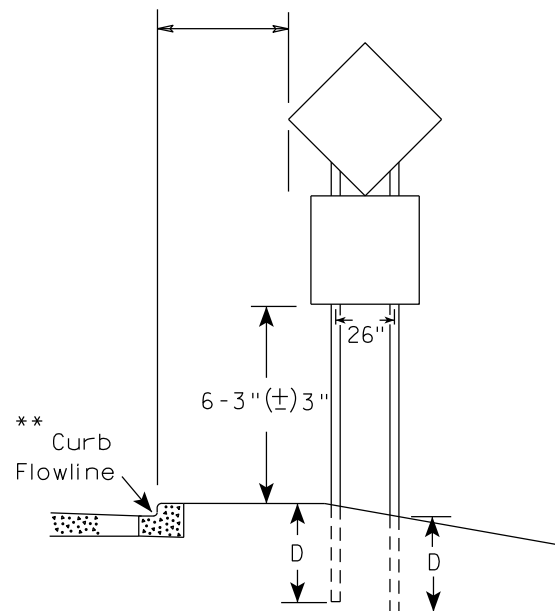
URBAN AREA



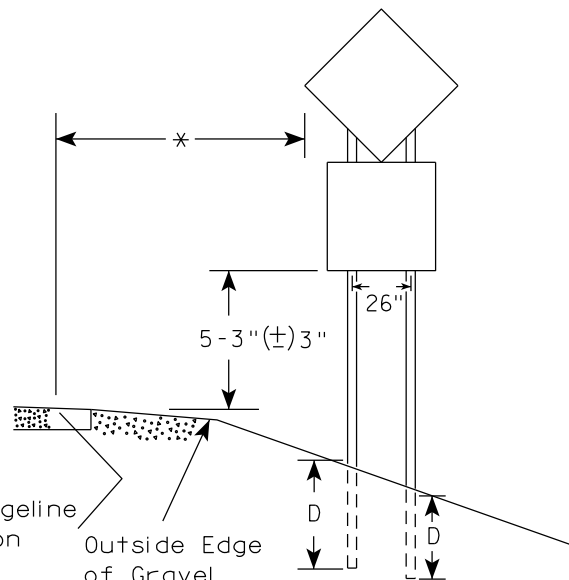
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

\*\*\*

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 12/6/23 PLATE NO. A4-4.16

PROJECT NO:

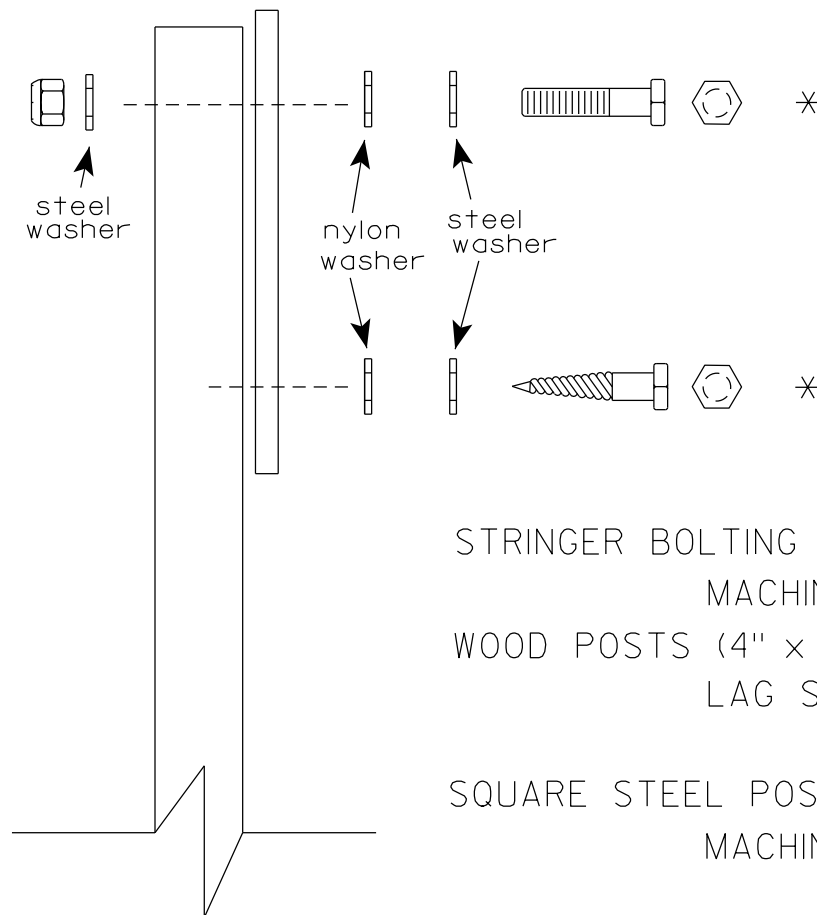
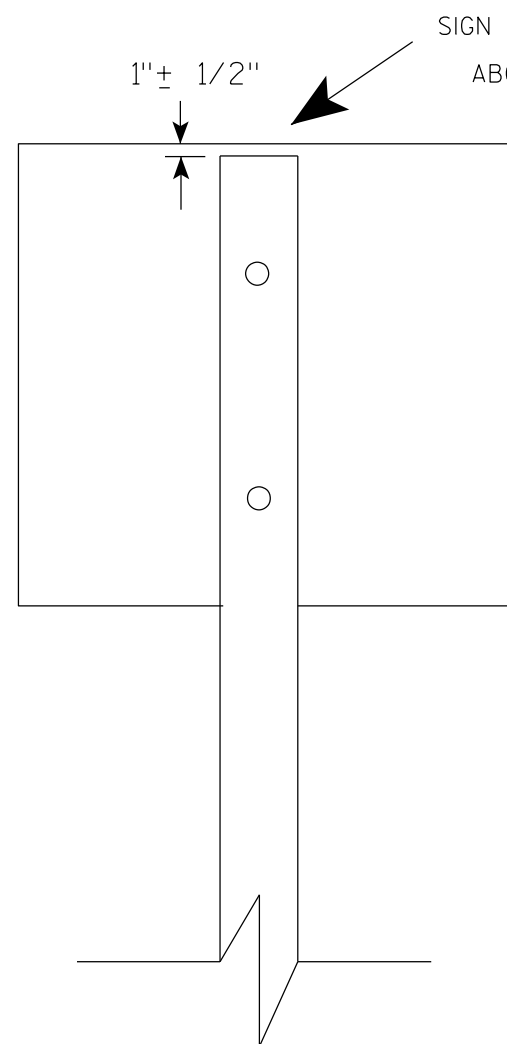
HWY:

COUNTY:

SHEET NO:

E





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

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

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

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS -  $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS -  $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)  
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS -  $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)  
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS -  $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL  
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ " STEEL
  - 1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9



TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM



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

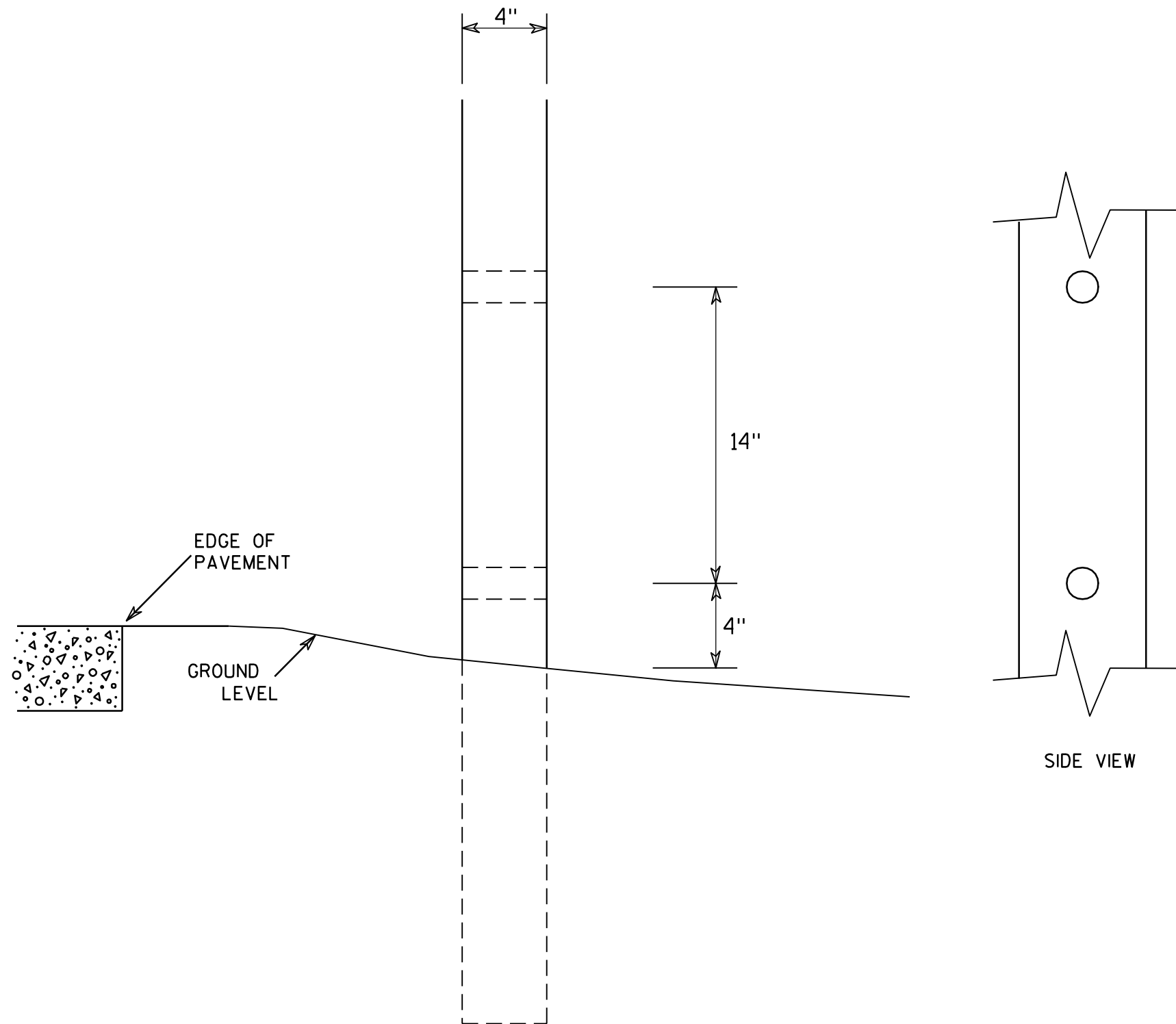
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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



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

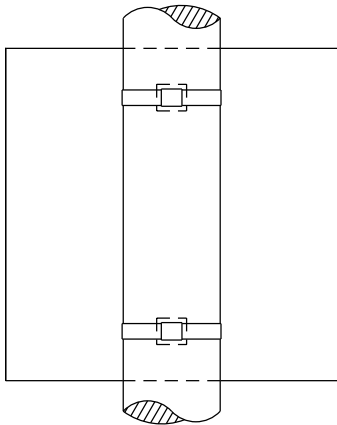
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
-------------	------	---------	-----------	---

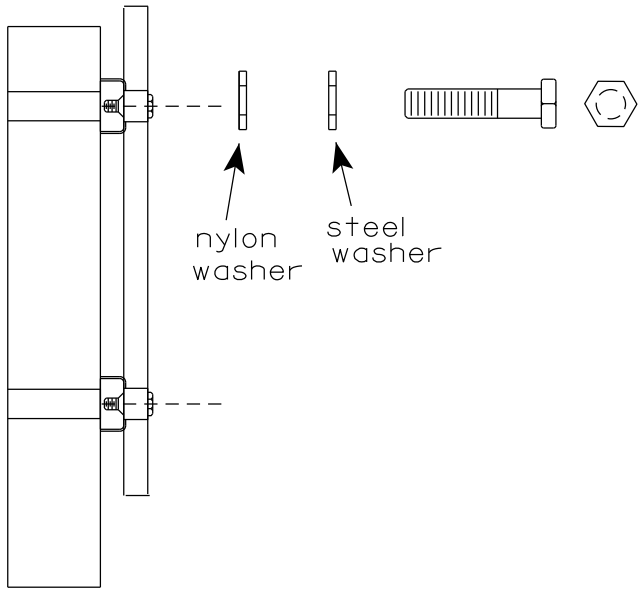


BANDING

SINGLE SIGN



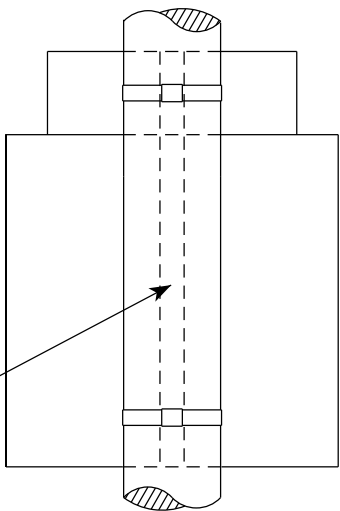
WASHER PLACEMENT



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

CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET

"J" ASSEMBLY



SEE DETAIL B

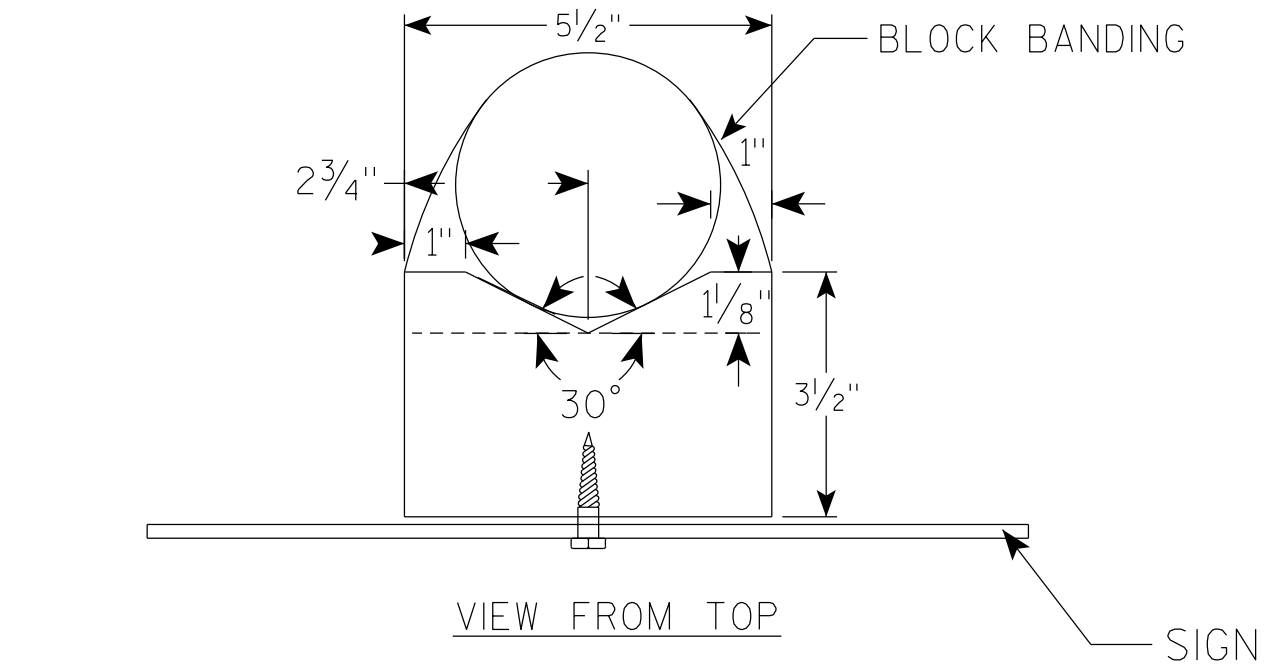
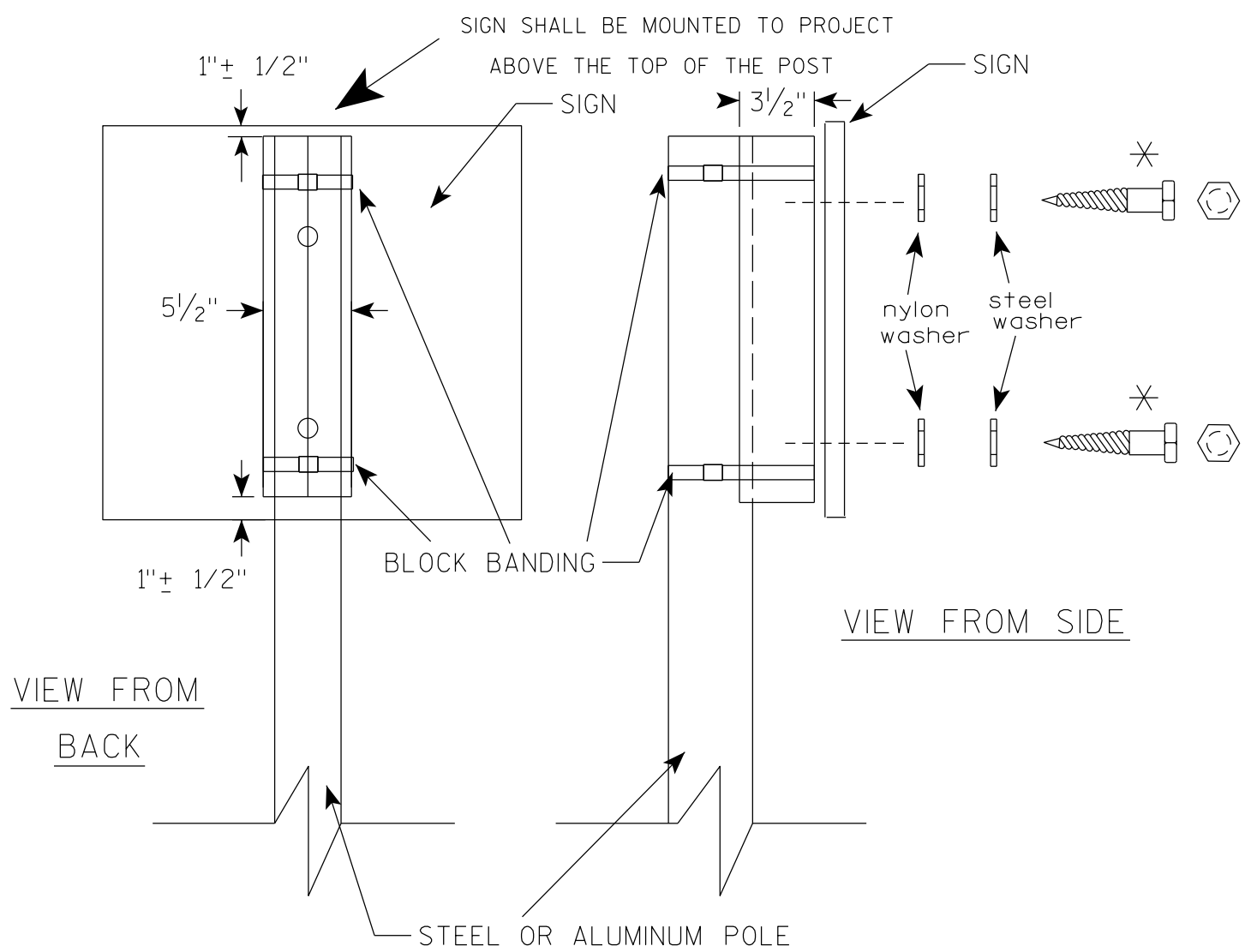
1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 6/10/19 PLATE NO. A5-9.4





### GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL,  $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE  $\frac{1}{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE  $\frac{1}{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

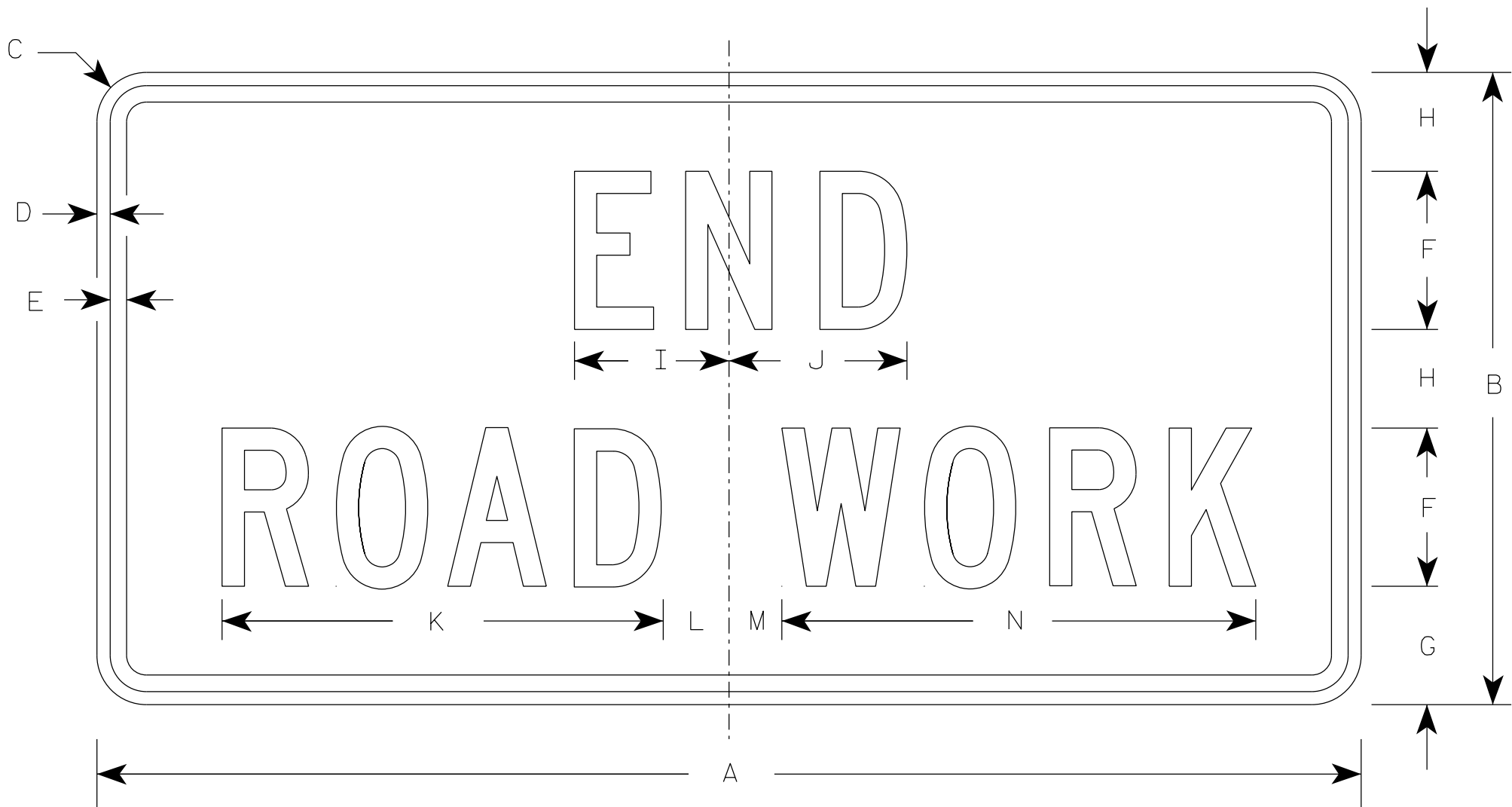
✱ LAG BOLTS SHALL BE  $\frac{3}{8}$ " X  $2\frac{1}{2}$ "

BLOCK BANDING DETAIL ( V-BLOCK OPTION )	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 4/19/2022	PLATE NO. A5-10.3



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.



G20-2A

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 1/2	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
2	48	24	1 7/8	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
2M	48	24	1 7/8	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
3	48	24	1 7/8	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
4	48	24	1 7/8	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
5	48	24	1 7/8	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

STANDARD SIGN

G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 1/26/2023 PLATE NO. G20-2A.10

PROJECT NO:

HWY:

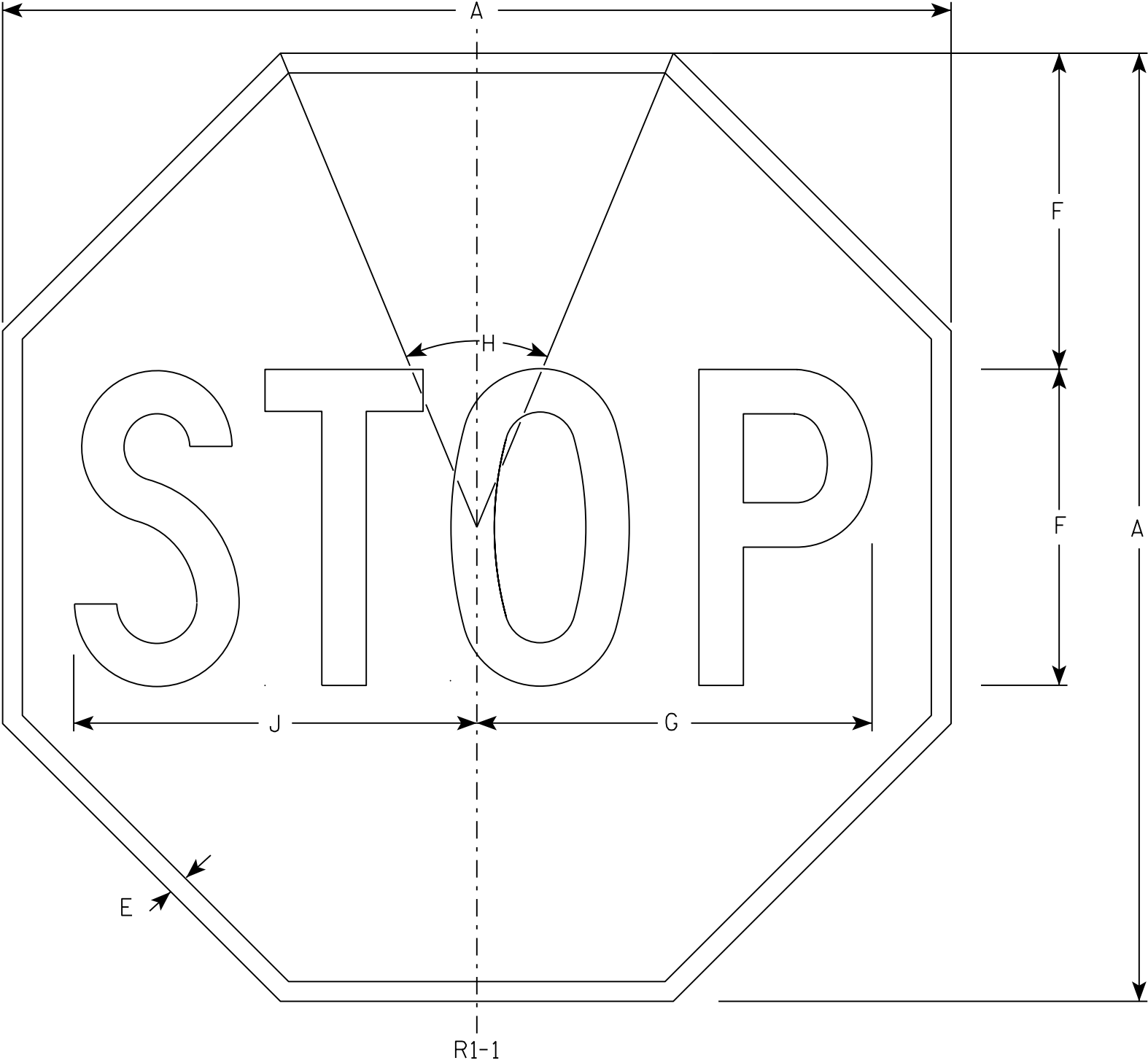
COUNTY:

SHEET NO:

E



7



NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:  
Background - Red  
Message - White
- 3. Message Series - C

7

R1-1

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	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

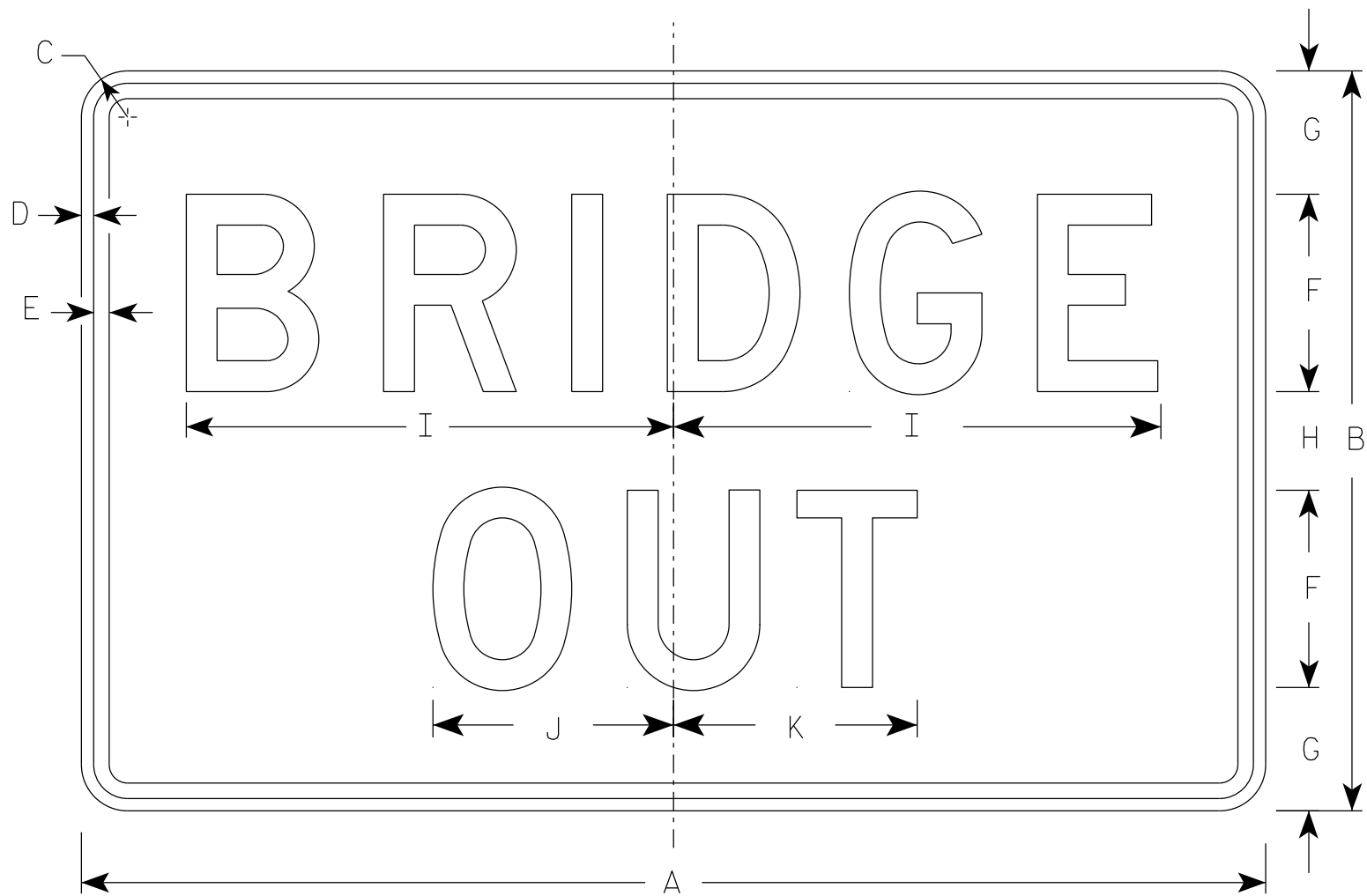
STANDARD SIGN  
R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13





R11-2B

NOTES

- 1. Sign is Type II - Type H Reflective
- 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 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

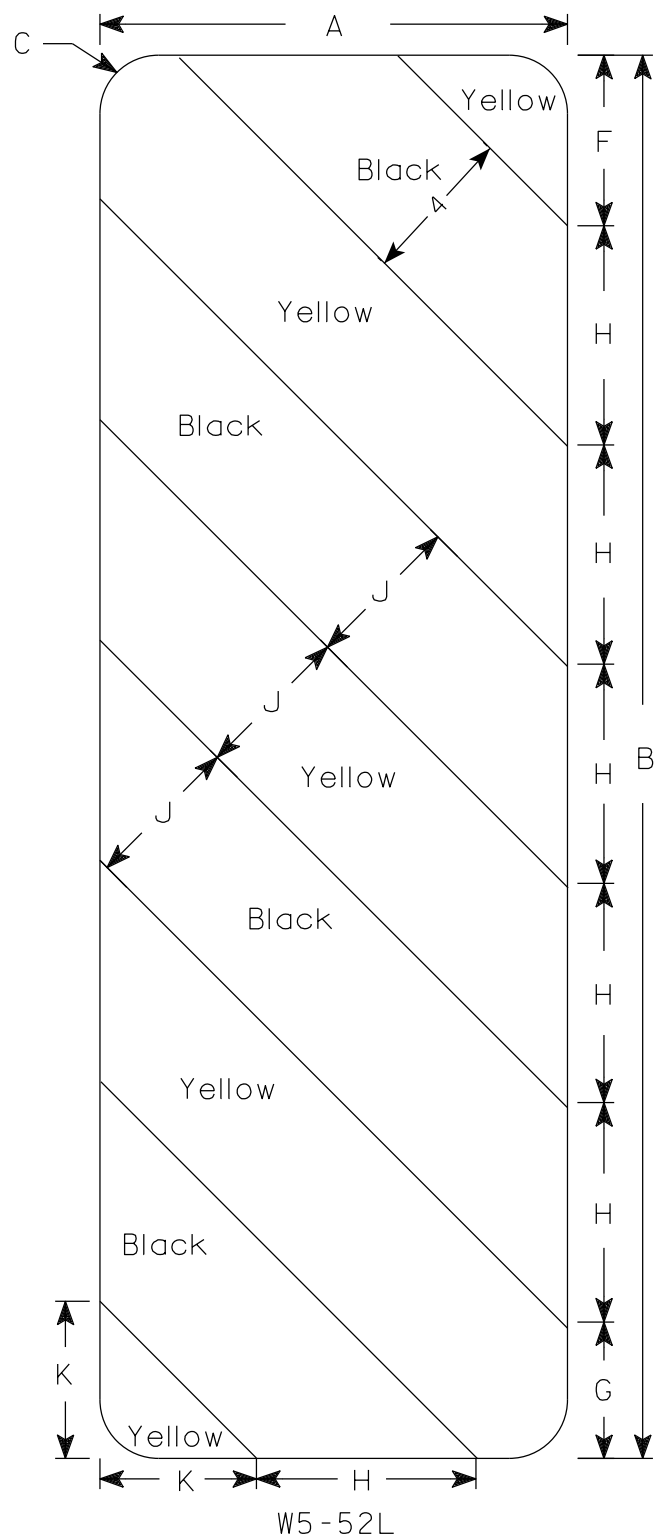
STANDARD SIGN  
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

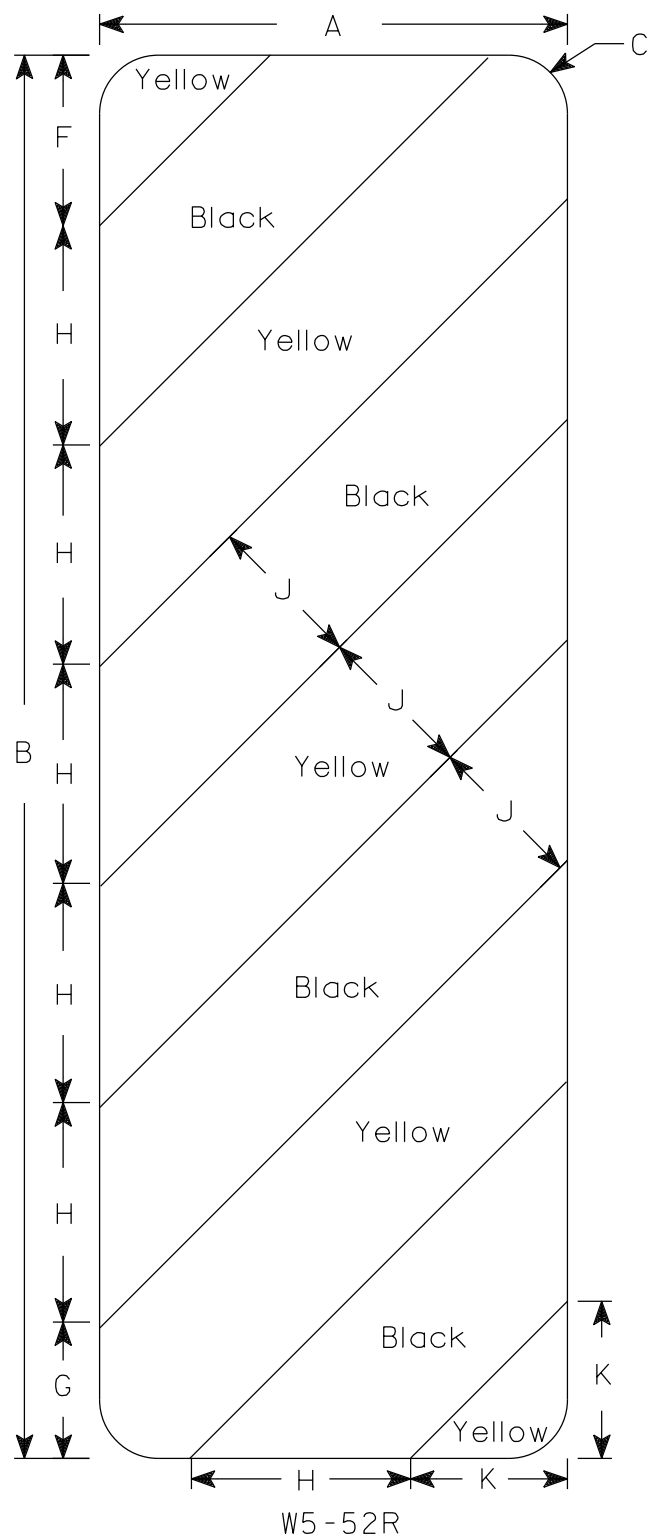
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-2B.3





W5-52L



W5-52R

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
  - Background - Yellow
  - Message - Black
- 3. 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	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54	1 1/2			6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

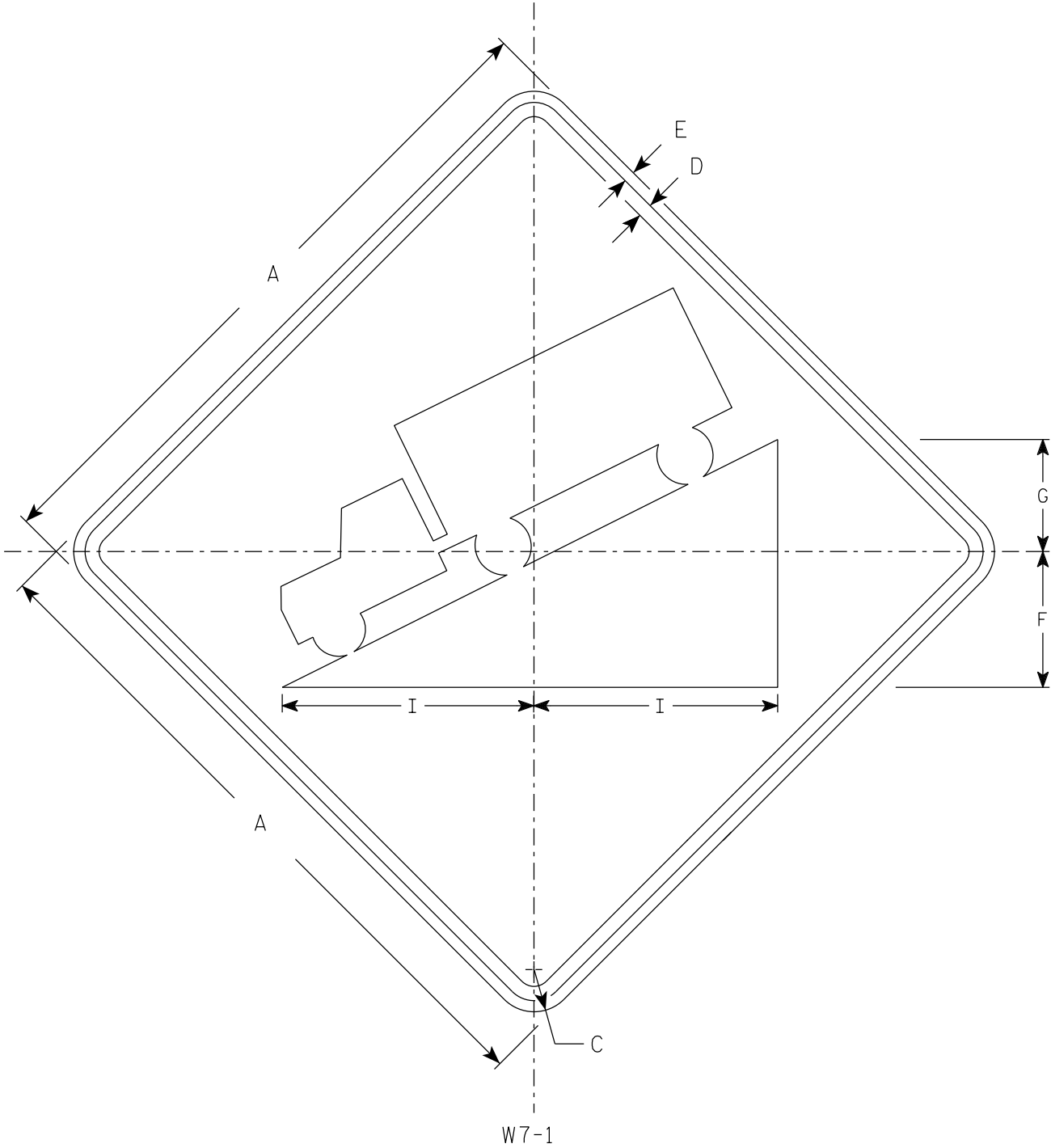
STANDARD SIGN  
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/4/2024 PLATE NO. W5-52.10





NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:  
Background - Yellow  
Message - Black
- 3. Message Series - D

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	24		1 1/2	3/8	3/8	5	4		8 3/4																		4.0
2S	30		1 7/8	1/2	5/8	6	5		11																		6.25
2M	36		2 1/4	5/8	3/4	7 1/4	6		13 1/4																		9.0
3	36		2 1/4	5/8	3/4	7 1/4	6		13 1/4																		9.0
4	36		2 1/4	5/8	3/4	7 1/4	6		13 1/4																		9.0
5	48		3	3/4	1	9 3/4	8		17 1/2																		16.0

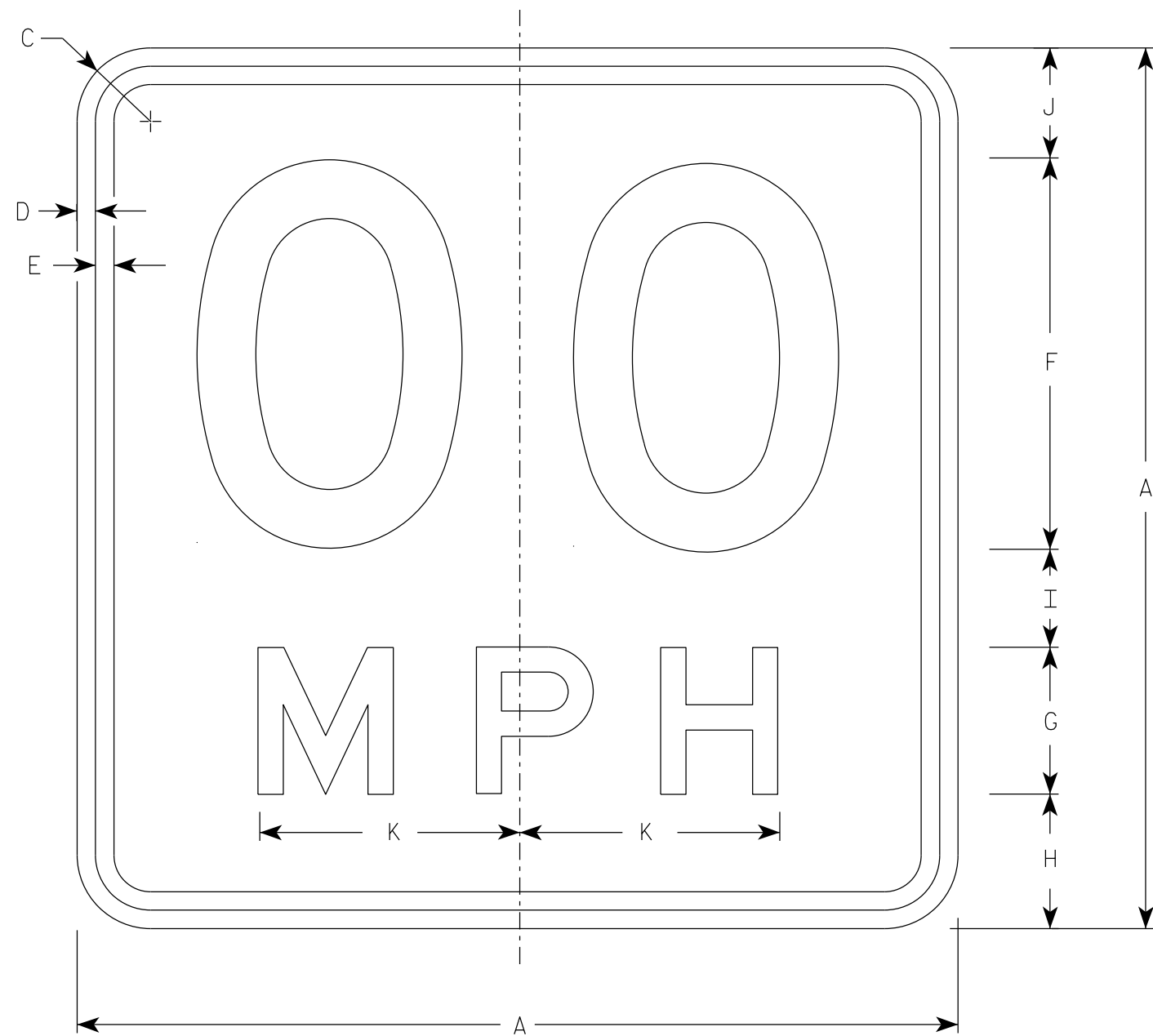
STANDARD SIGN  
W7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 9/6/2023 PLATE NO. W7-1.14





NOTES

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Yellow  
Message - Black
3. Message Series - See Note 5
4. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
5. Line 1 is Series D  
Line 2 is Series E

W13-1

\* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.  
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

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.
✱ 2S	1	18		1 1/2	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8															2.25
	2	18		1 1/2	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8															2.25
✱ 2M	3	18		1 1/2	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8															2.25
	4	24		1 1/2	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8															4.00
	5	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8															9.00
	6	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8															9.00

STANDARD SIGN  
W13-1

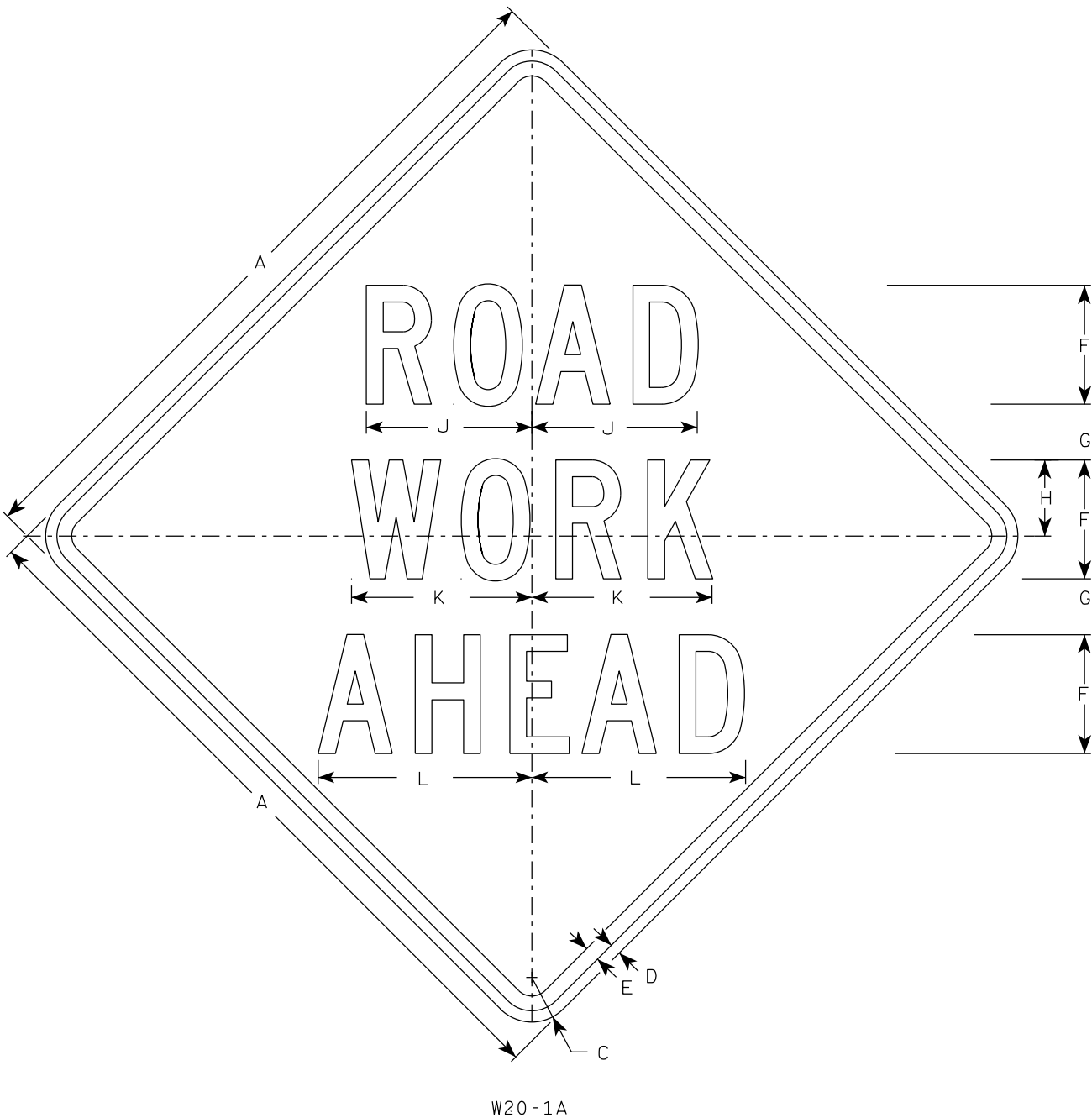
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch  
For State Traffic Engineer

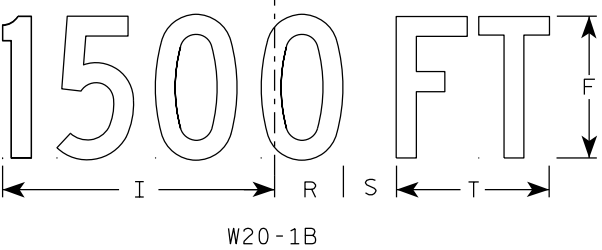
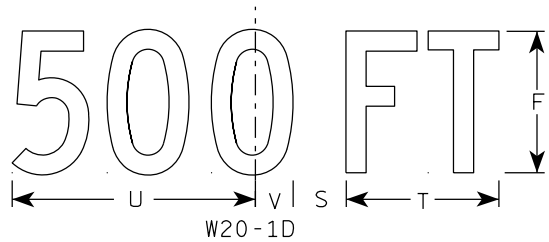
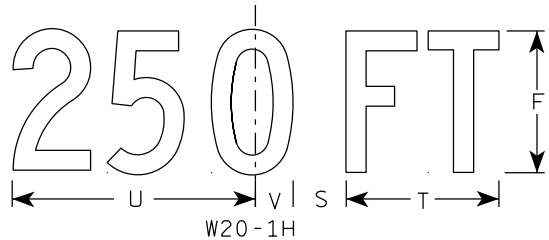
DATE 1/8/2024 PLATE NO. W13-1.17

PROJECT NO: HWY: COUNTY: SHEET NO: E



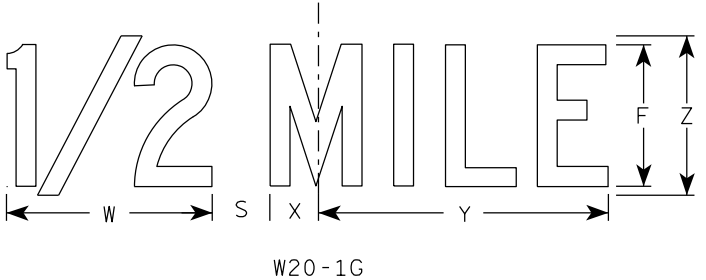


W20-1A

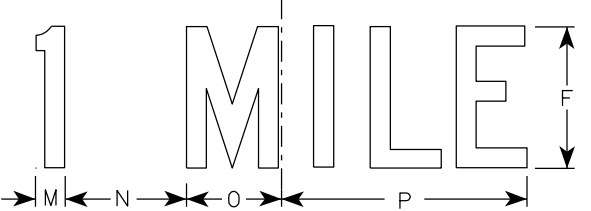


W20-1B

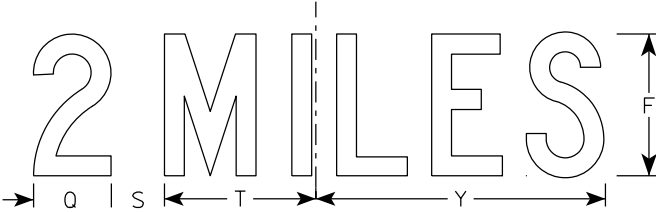
- NOTES
1. Sign is Type II - Type F Reflective
  2. Color:  
Background - Orange  
Message - Black
  3. Message Series - C
  4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1G



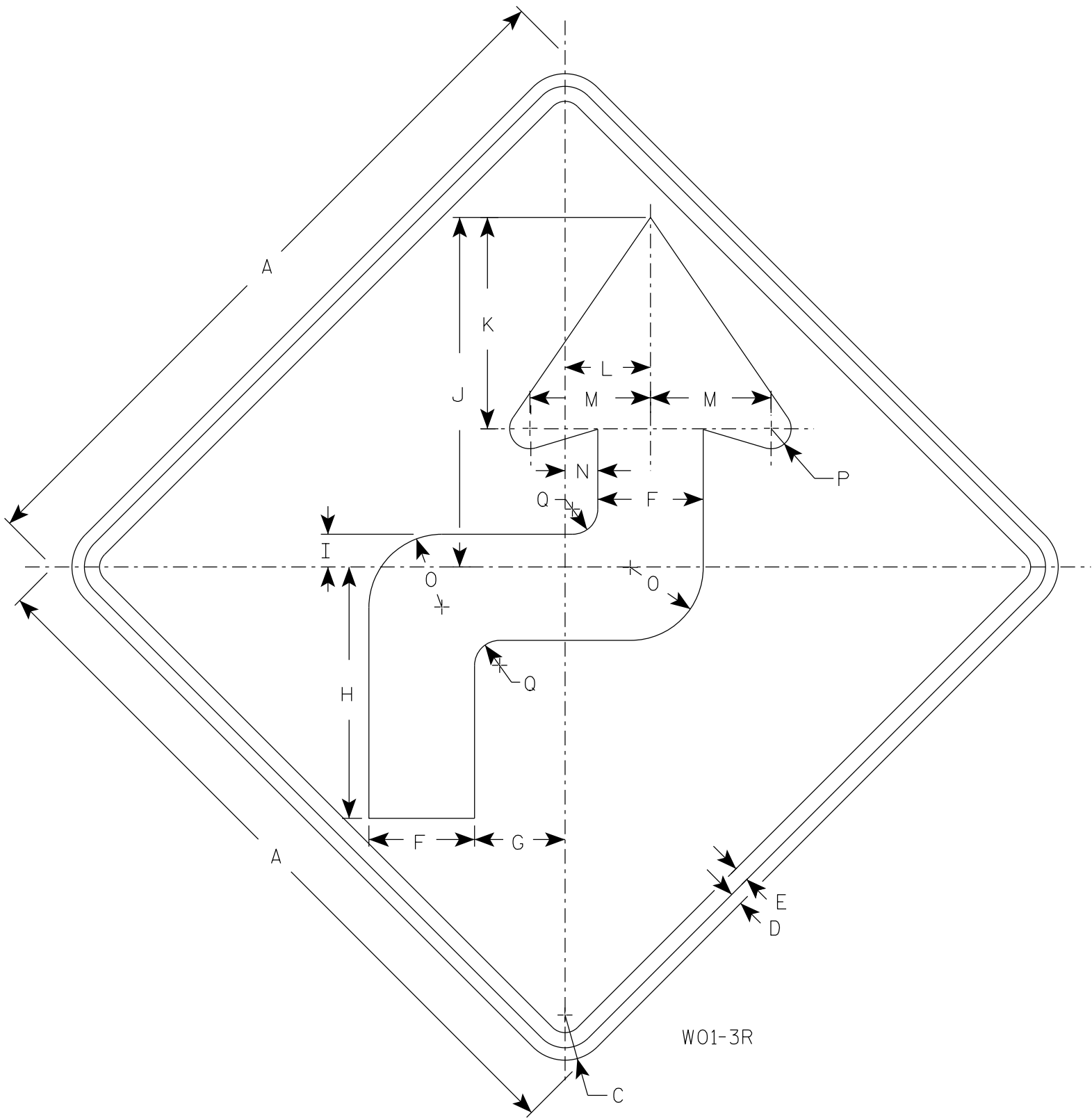
W20-1F



W20-1E

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		2 1/4	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		3	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		3	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		3	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		3	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		3	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





NOTES

1. Sign is Type II - Type F Reflective
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.
4. W01-3L is the same as W01-3R except the arrow is reversed along the vertical centerline.

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		2 1/4	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
2S	48		3	3/4	1	7	6	16 5/8	2 1/4	23 1/4	14	5 5/8	8	2 1/8	4 7/8	1 1/4	1 5/8										16.0
2M	48		3	3/4	1	7	6	16 5/8	2 1/4	23 1/4	14	5 5/8	8	2 1/8	4 7/8	1 1/4	1 5/8										16.0
3	48		3	3/4	1	7	6	16 5/8	2 1/4	23 1/4	14	5 5/8	8	2 1/8	4 7/8	1 1/4	1 5/8										16.0
4	48		3	3/4	1	7	6	16 5/8	2 1/4	23 1/4	14	5 5/8	8	2 1/8	4 7/8	1 1/4	1 5/8										16.0
5	48		3	3/4	1	7	6	16 5/8	2 1/4	23 1/4	14	5 5/8	8	2 1/8	4 7/8	1 1/4	1 5/8										16.0

STANDARD SIGN  
W01-3

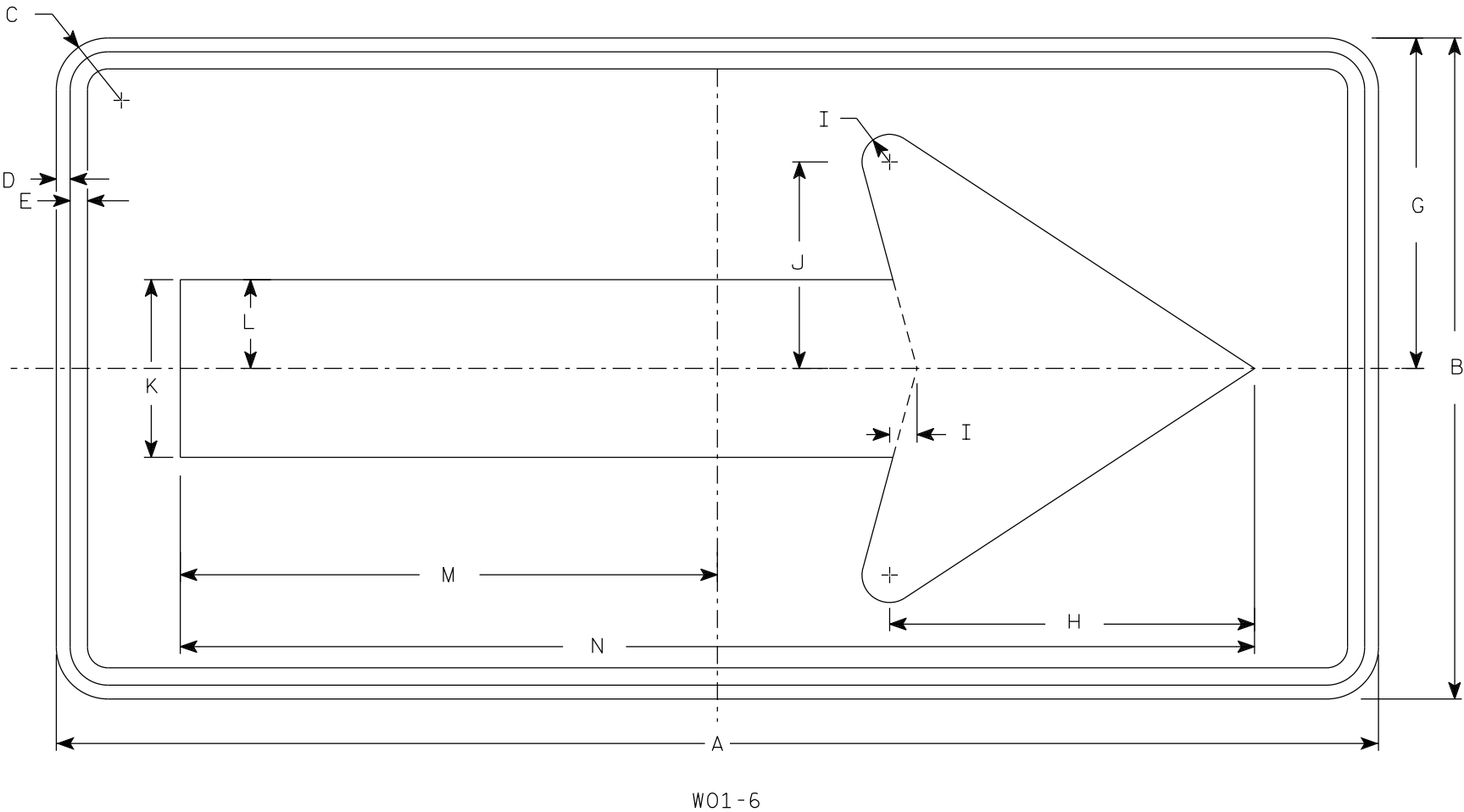
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. W01-3.2



7



NOTES

- 1. Sign is Type II - Type F Reflective
- 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

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	24	1 7⁄8	1⁄2	5⁄8		12	13 1⁄4	1	7 1⁄2	6 1⁄2	3 1⁄4	19 1⁄2	39													8.0
2M	48	24	1 7⁄8	1⁄2	5⁄8		12	13 1⁄4	1	7 1⁄2	6 1⁄2	3 1⁄4	19 1⁄2	39													8.0
3	60	30	1 7⁄8	1⁄2	5⁄8		15	16 1⁄4	1 1⁄4	9 1⁄4	8	4	24 3⁄8	48 3⁄4													12.5
4	60	30	1 7⁄8	1⁄2	5⁄8		15	16 1⁄4	1 1⁄4	9 1⁄4	8	4	24 3⁄8	48 3⁄4													12.5
5	60	30	1 7⁄8	1⁄2	5⁄8		15	16 1⁄4	1 1⁄4	9 1⁄4	8	4	24 3⁄8	48 3⁄4													12.5

STANDARD SIGN

W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

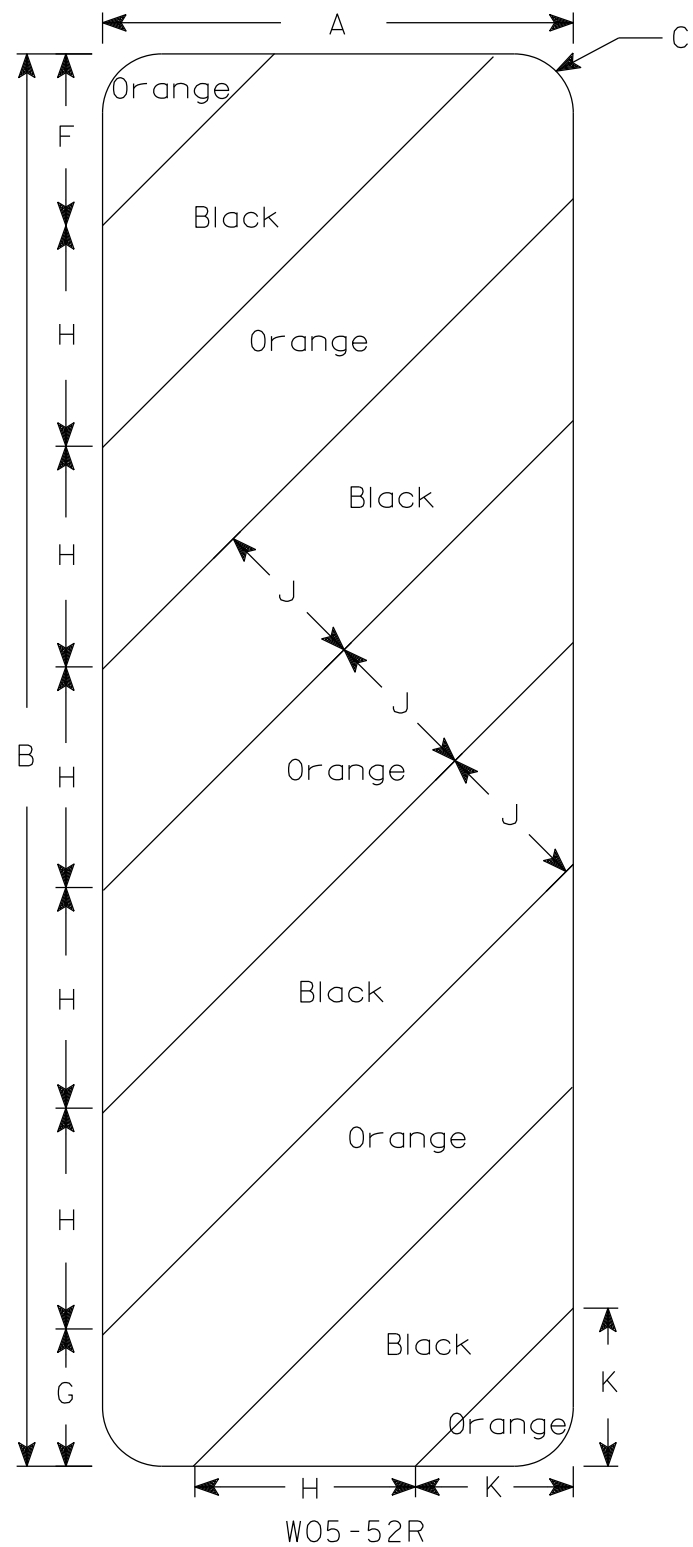
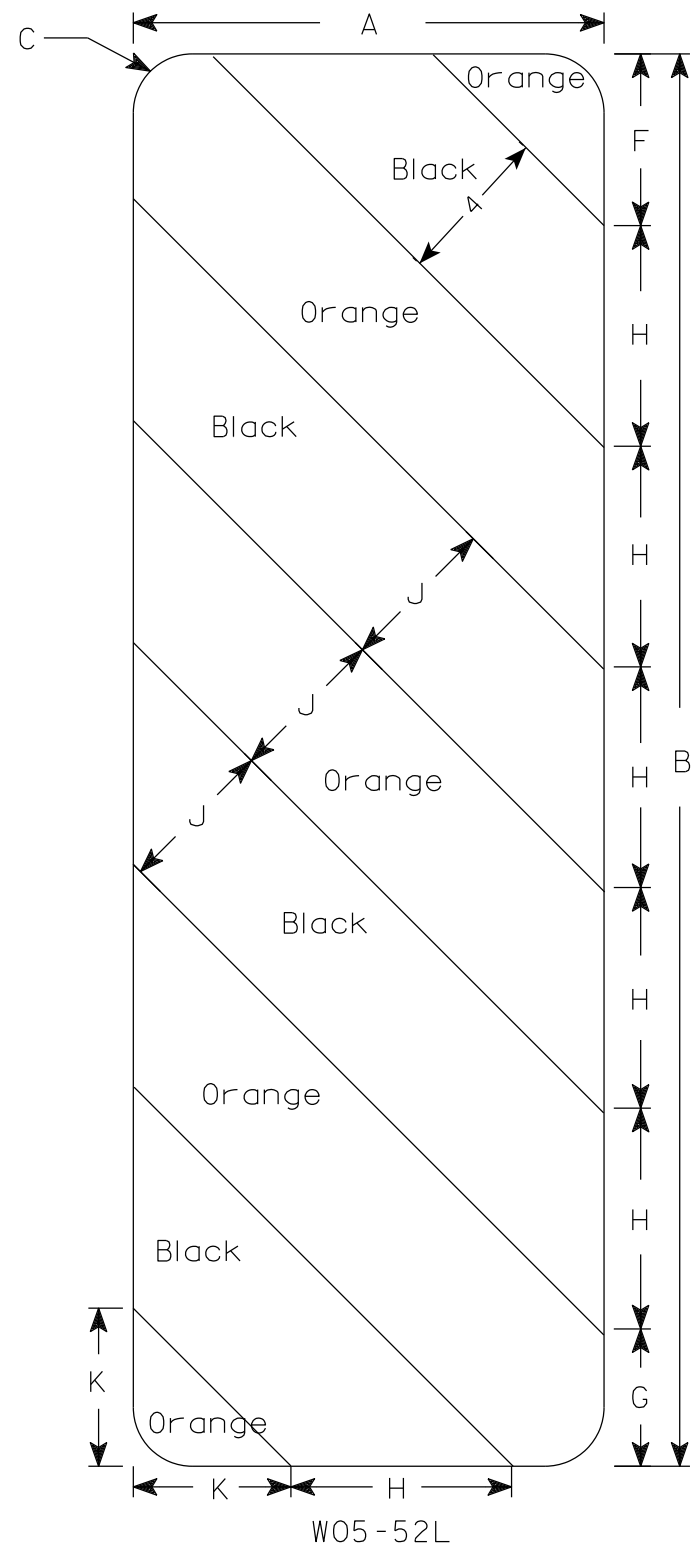
Matthew R. Rauch

for State Traffic Engineer

DATE 1/24/2024

PLATE NO. W01-6.2





NOTES

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
Message - Black
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	Areg sq. ft.
1																											
2S	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54	1 1/2			6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

PROJECT NO:				HWY:				COUNTY:				SHEET NO:												E
-------------	--	--	--	------	--	--	--	---------	--	--	--	-----------	--	--	--	--	--	--	--	--	--	--	--	---

STANDARD SIGN

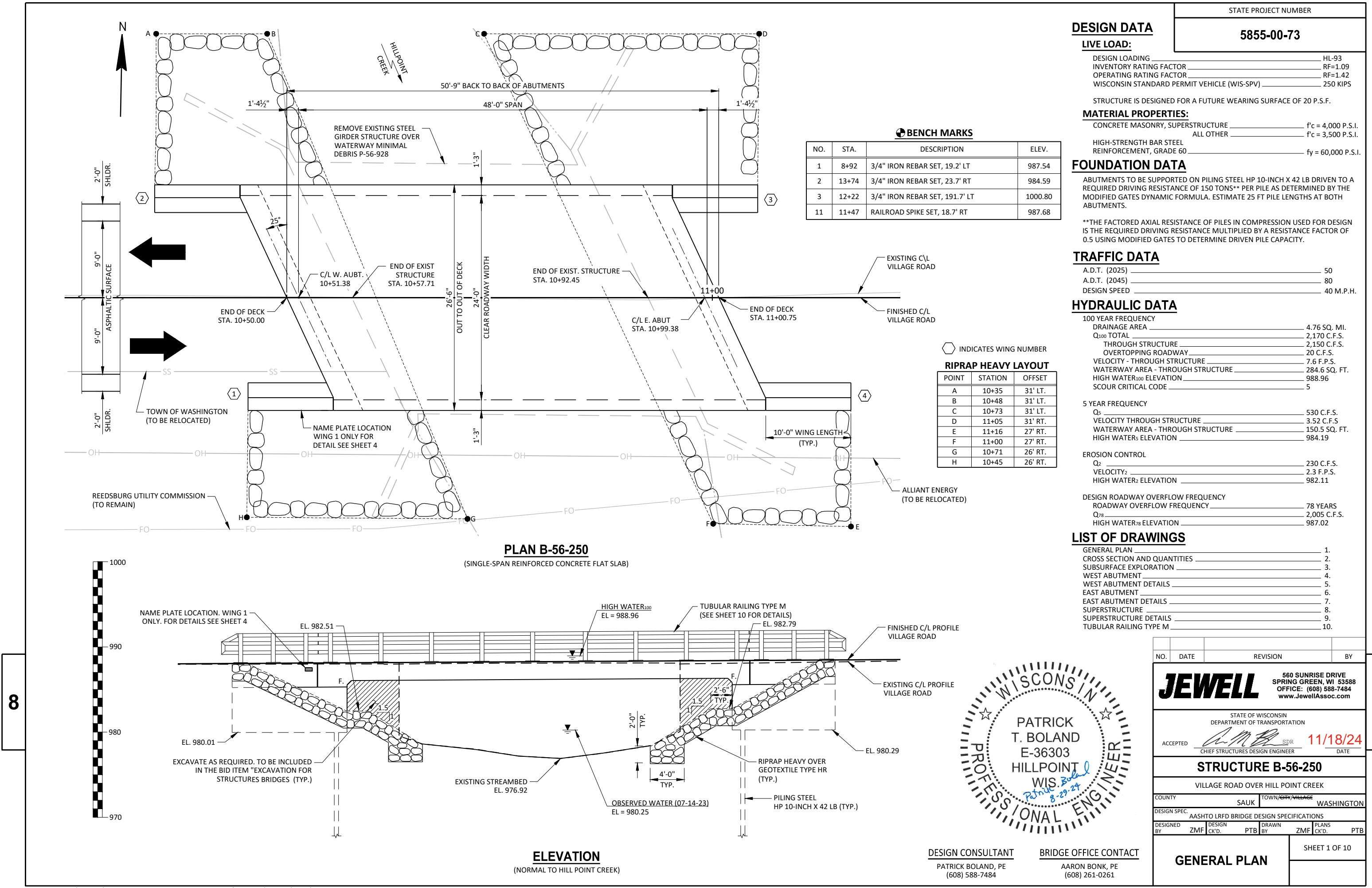
W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/13/2024 PLATE NO. W05-52.2







## DRAWINGS SHALL NOT BE SCALED

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (2012).

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

JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION MI53, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

AT THE BACK FACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A. SEE THIS SHEET FOR DETAIL.

ANY EXCAVATION BELOW THE ABUTMENT AND ASSOCIATED ABUTMENT BEDDING MATERIALS REQUIRE THE APPROVAL OF THE ENGINEER IN THE FIELD.

AT THE DECK, APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE DECK (CONCRETE MATERIAL ONLY), THE SIDES OF THE DECK, THE EXTERIOR 12" OF THE UNDERSIDE OF THE DECK, AND THE HORIZONTAL AND VERTICAL FACES OF THE PAVING NOTCH. AT THE ABUTMENTS, APPLY TO THE TOP AND EXTERIOR EXPOSED FACES OF WINGS AND THE FRONT FACE OF ABUTMENTS TO 12" PAST THE EDGE OF SLAB. SEE THIS SHEET FOR DETAIL.

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET

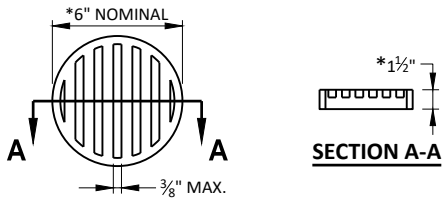
THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES

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

THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

THE EXISTING STRUCTURE (P-56-928) IS A SINGLE SPAN STEEL GIRDER CONCRETE DECK STRUCTURE SUPPORTED ON CONCRETE ABUTMENTS. THE STRUCTURE HAS AN OVERALL WIDTH OF 26.4' AND AN OVERALL LENGTH OF 33.0, AND SHALL BE REMOVED.

CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATION



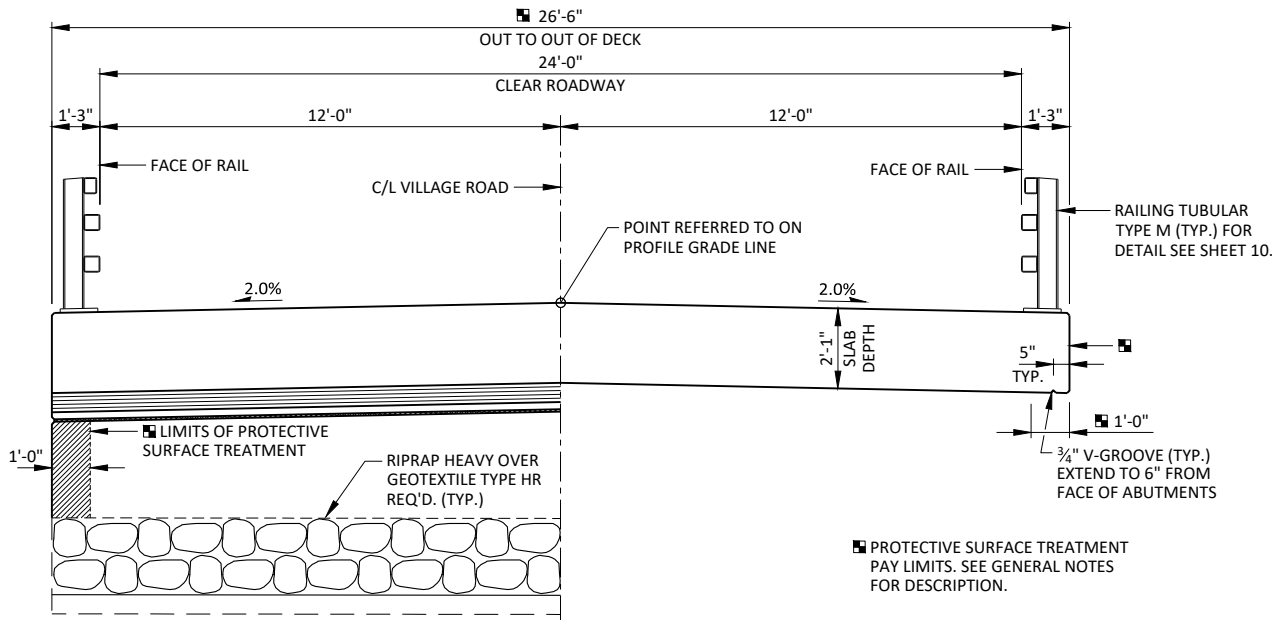
NOTES:

\* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

ORIENT SHIELD SO SLOTS ARE VERTICAL.

COST OF THE RODENT SCREEN, PIPE COUPLING, AND SCREWS ARE INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SCREEN 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 THE SCREEN TO THE EXPOSED ENDS OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

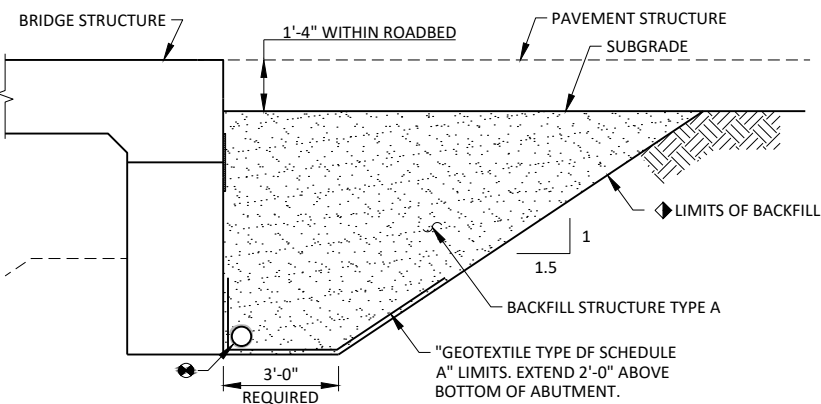


**AT ABUTMENT**

## IN SPAN

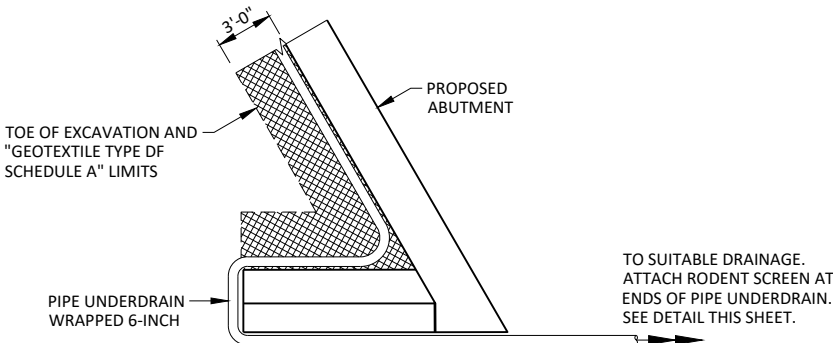
### PROPOSED CROSS-SECTION THROUGH ROADWAY

## LOOKING EAST

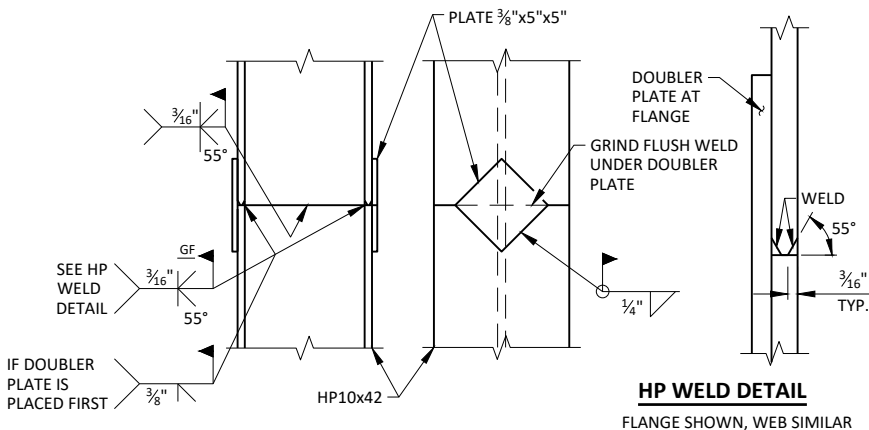


## BACKFILL STRUCTURE DETAIL

(TYPICAL AT ABUTMENTS. ABUTMENT BODY SHOWN - WING WALLS SIMILAR)



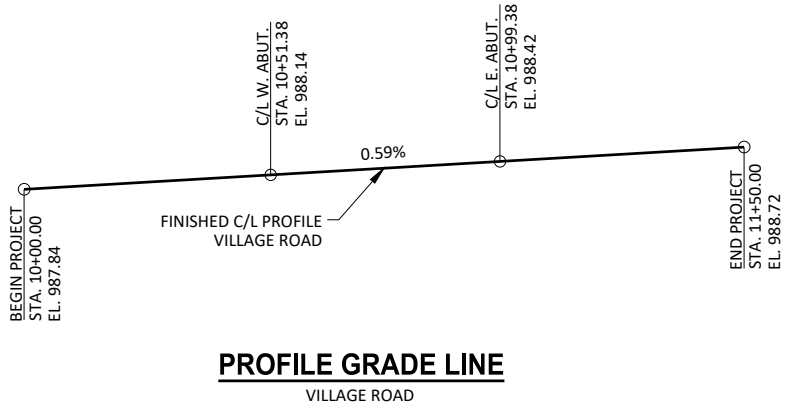
## PIPE UNDERDRAIN DETAIL



## PILE SPLICE DETAIL

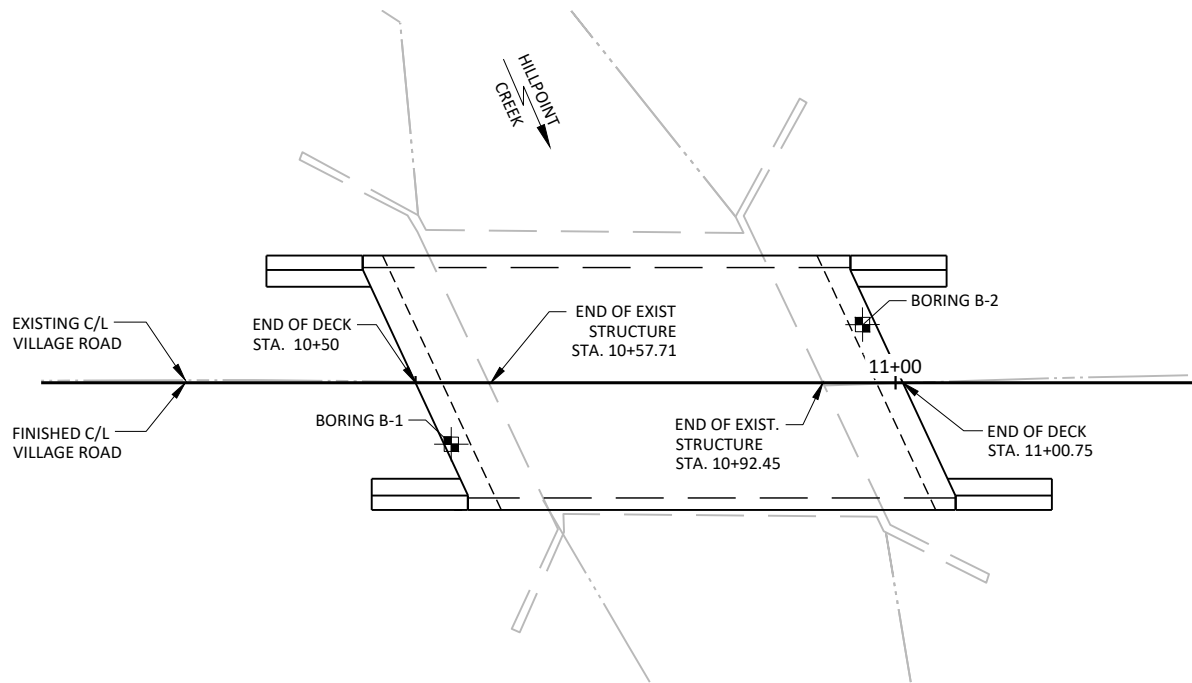
STEEL "HP" PILE MATERIAL SHALL BE ASTM A 572 GRADE 50

ITEM NUMBER	ITEM DESCRIPTION	UNIT	W. ABUT.	E. ABUT.	SUPER	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-56-928	EACH	--	--	--	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-56-250	EACH	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	110	110	--	220
502.0100	CONCRETE MASONRY BRIDGES	CY	29.3	29.3	108.4	167
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	195	195
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1,700	1,700	--	3,400
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,370	1,370	20,030	22,770
513.4061	RAILING TUBULAR TYPE M	LF	--	--	147	147
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	6	--	12
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	125	125	--	250
606.0300	RIPRAP HEAVY	CY	80	100	--	180
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	90	90	--	180
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	25	25	--	50
645.0120	GEOTEXTILE TYPE HR	SY	135	170	--	305
	NON-BID ITEMS					
	FILLER	SIZE				½" & ¾"
	NAME PLATE					



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-56-250</b>			
DRAWN BY		ZMF	PLANS CK'D. PTB
<b>CROSS SECTION AND QUANTITIES</b>		SHEET 2 OF 10	





PLAN B-56-250

SOIL BORINGS			
BORING NUMBER	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	10/17/23	220,301.5	220,315.0
B-2	01/03/24	553,126.8	553,185.4

BORINGS & REPORT COMPLETED BY: AMERICAN ENGINEERING TESTING  
4203 SCHOFIELD AVENUE, SUITE 1  
SCHOFIELD, WI 54476

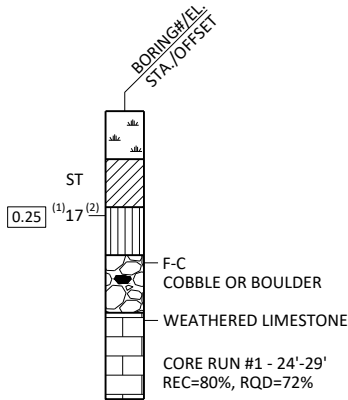
STATE PROJECT NUMBER

5855-00-73

MATERIAL SYMBOLS

	Asphalt		Topsoil		Peat
	Concrete		Fill		Gravel
	Sand		Clay		Silt
	Boulders or Cobbles		Limestone		Bedrock (unknown)
	Shale		Sandstone		Igneous/meta

LEGEND OF BORING



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

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

GROUND WATER ELEVATIONS

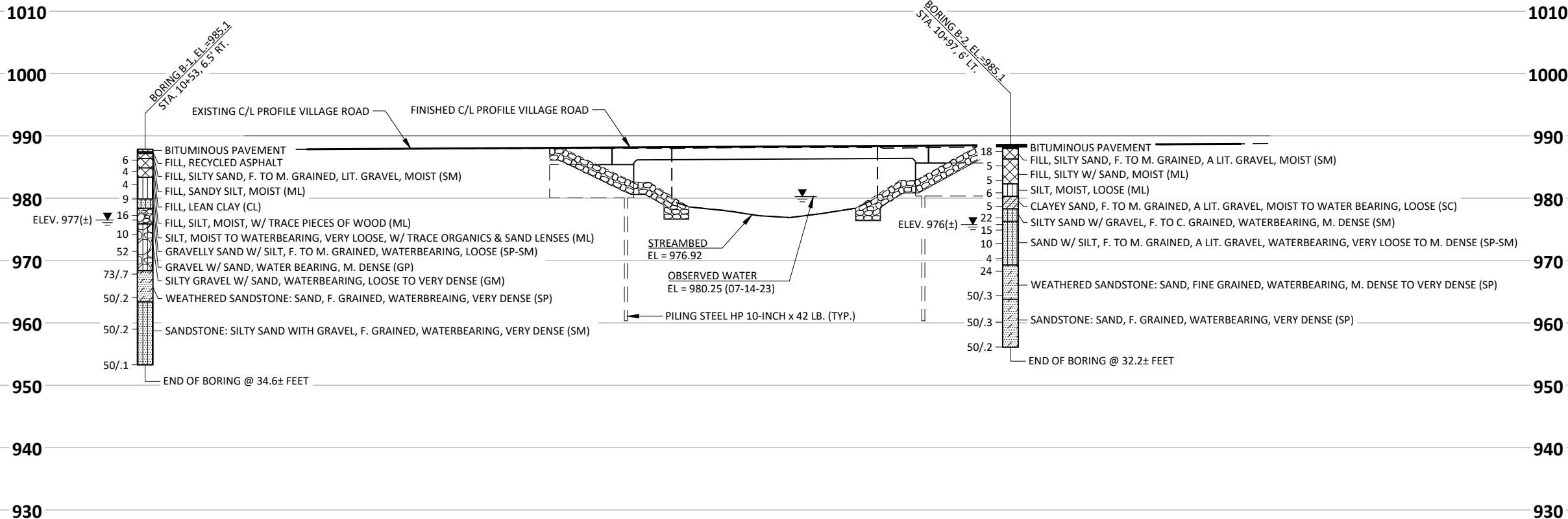
	AT TIME OF DRILLING
	END OF DRILLING
	AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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



8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-250			
DRAWN BY		ZMF	PLANS CK'D. PTB
SUBSURFACE EXPLORATION		SHEET 3 OF 10	



B.F. - BACK FACE

**FRONT FACE BAR STEEL REINF.**

## (WING 1 ONLY)

### TYPICAL SECTION THROUGH ABUTMENT BODY

- KEED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- VERICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD ½" BELOW SURFACE OF CONCRETE)
- ▲ ¾" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- ★ A510 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- INDICATES WING NUMBER.

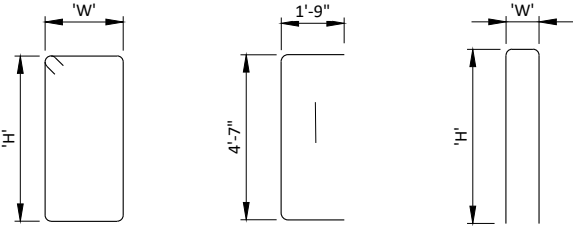
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-56-250</b>			
		DRAWN BY	PLANS CK'D.
		ZMF	PTB
<b>WEST ABUTMENT</b>		SHEET 4 OF 10	



BILL OF BARS  
WEST ABUTMENT

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
A501	33	14-2	X		BODY - VERT. - STIRRUP
A502	4	7-10	X		BODY - VERT. - STIRRUP AT ENDS
A403	10	2-3			BODY - VERT. - 2 PER PILE
A404	5	28-0	X		BODY - SPIRAL - 1 PER PILE
A605	11	28-10			BODY - HORIZ. - F.F. & TOP
A606	7	19-9			BODY - HORIZ. - B.F.
A807	14	10-0			BODY - HORIZ. - B.F. - END
A408	2	4-8			BODY - VERT. - END
A409	2	4-7			BODY - VERT. - END
A510	28	2-0		X	BODY - VERT. - DOWELS
A511	9	15-10	X	X	WING 1 - VERT. - STIRRUP
A512	2	4-8		X	WING 1 - VERT. - F.F.
A513	6	13-0		X	WING 1 - HORIZ. - F.F.
A614	6	11-8		X	WING 1 - HORIZ. - B.F.
A615	2	12-1		X	WING 1 - HORIZ. - TOP
A616	13	10-4	X	X	WING 1 - VERT. - TOP
A417	6	9-7		X	WING 1 - HORIZ. - F.F. & B.F. - TOP
A618	2	9-7		X	WING 1 - HORIZ. - TOP
A519	10	15-8	X	X	WING 2 - VERT. - STIRRUP
A520	6	11-9		X	WING 2 - HORIZ. - F.F.
A621	6	13-1		X	WING 2 - HORIZ. - B.F.
A622	2	12-2		X	WING 2 - HORIZ. - TOP
A623	13	10-4	X	X	WING 2 - VERT. - TOP
A424	6	9-7		X	WING 2 - HORIZ. - F.F. & B.F. - TOP
A625	2	9-7		X	WING 2 - HORIZ. - TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.  
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



A501, A511, A519

A502

A616, A623

BAR MARK	'W'	'H'
A501	2-2	4-7
A511	2-11	4-8
A519	2-11	4-7

BAR MARK	'W'	'H'
A616	1-2	4-9
A623	1-2	4-9

NOTES

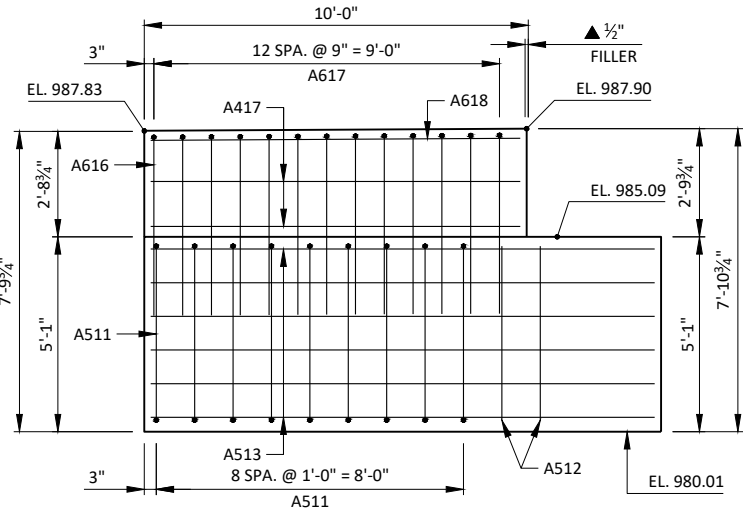
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

SPACE REINFORCEMENT TO MISS PILING

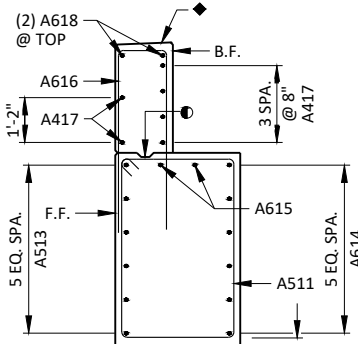
F.F. - FRONT FACE

B.F. - BACK FACE

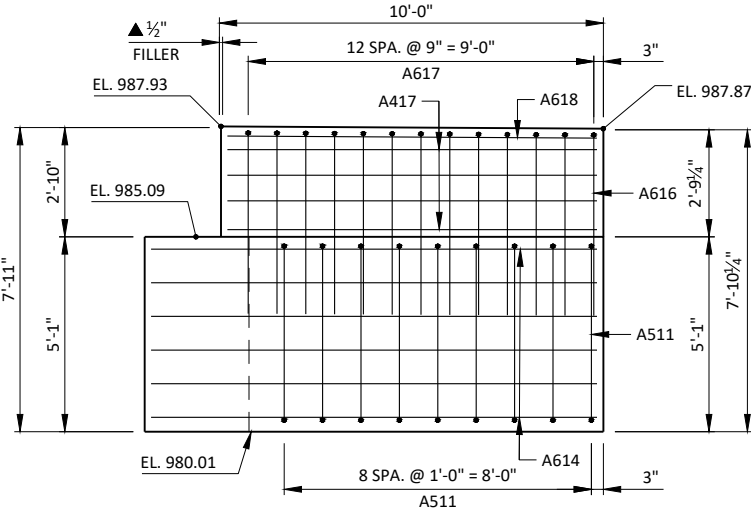
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-250			
DRAWN BY		PLANS CK'D.	PTB
ZMF			
WEST ABUTMENT DETAILS		SHEET 5 OF 10	



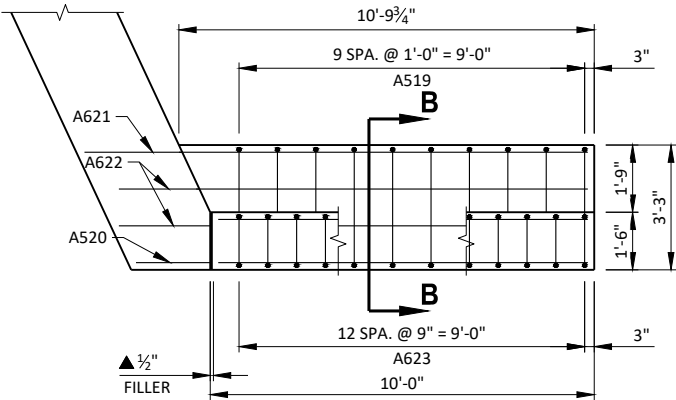
F.F. ELEVATION - WING 1



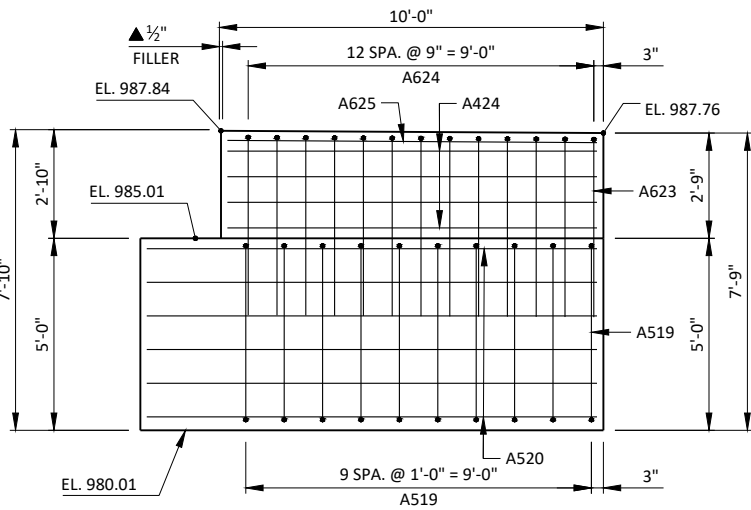
SECTION A-A



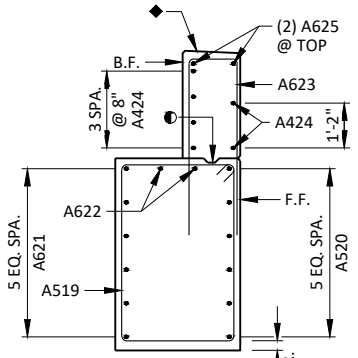
B.F. ELEVATION - WING 1



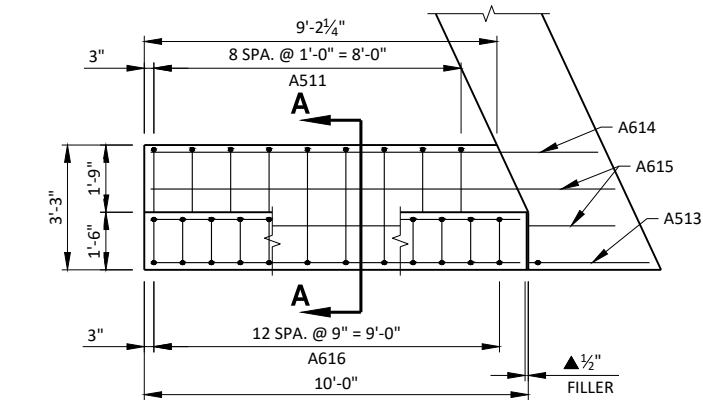
PLAN VIEW - WING 2



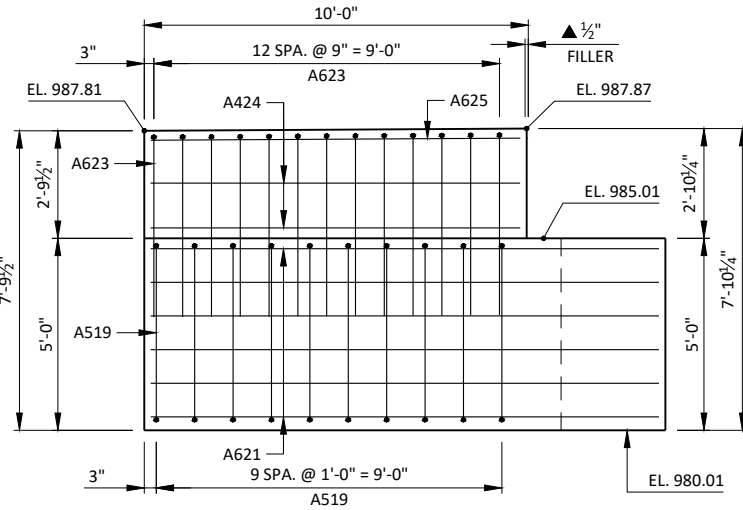
F.F. ELEVATION - WING 2



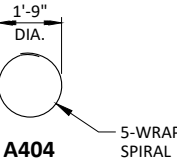
SECTION B-B



PLAN VIEW - WING 1



B.F. ELEVATION - WING 2



A404



NOTES

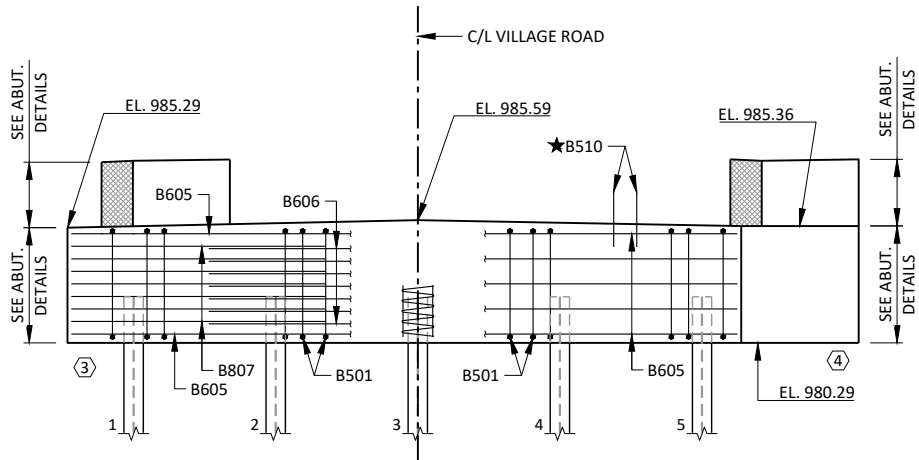
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 7 FOR BILL OF BARS.

SEAT ELEVATIONS SHOWN IN THE ELEVATION VIEW ARE TAKEN AT THE C/L OF BEARING (NEGLECTING THE KEYED CONSTRUCTION JOINT).

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE

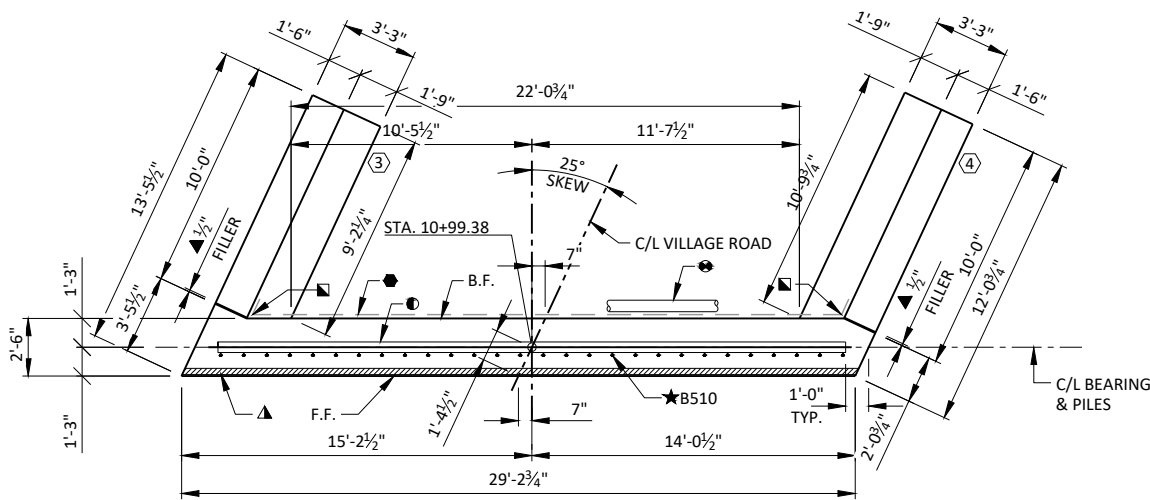


BACK FACE BAR STEEL REINF.

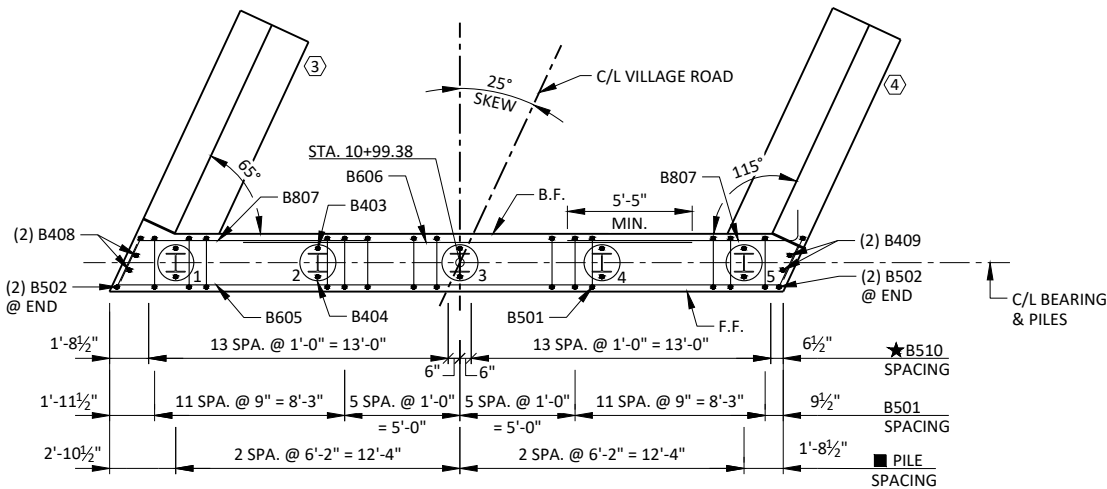
FRONT FACE BAR STEEL REINF.

ELEVATION

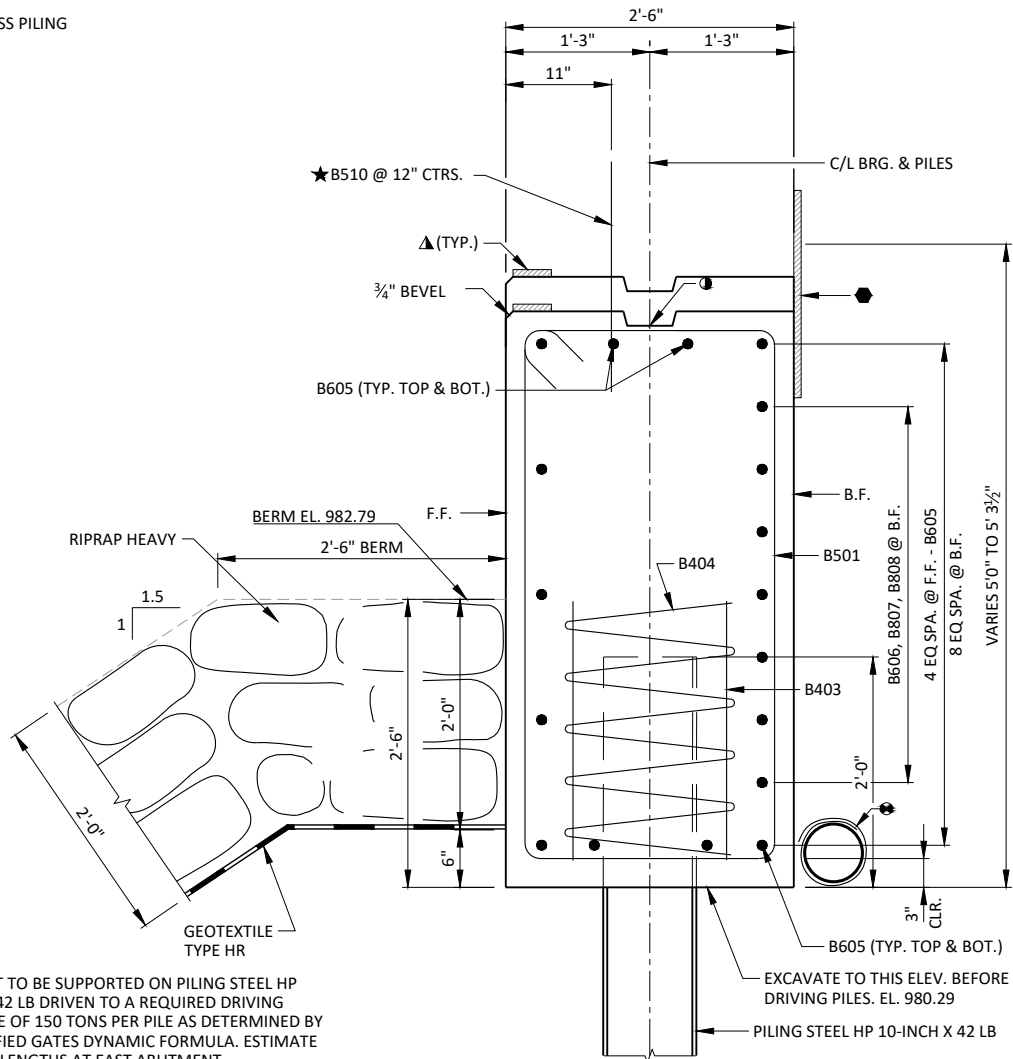
(EAST ABUTMENT LOOKING EAST)



PLAN



LAYOUT



TYPICAL SECTION THROUGH ABUTMENT BODY

LEGEND

- KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 3/8" BELOW SURFACE OF CONCRETE)
- 3/4" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- B510 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- INDICATES WING NUMBER.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-250			
DRAWN BY		ZMF	PLANS CK'D. PTB
EAST ABUTMENT			SHEET 6 OF 10



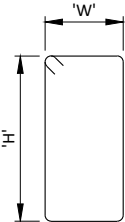
BILL OF BARS  
EAST ABUTMENT

1,370 LB (COATED)  
1,700 LB (UNCOATED)

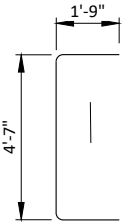
BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
B501	33	14-2	X		BODY - VERT. - STIRRUP
B502	4	7-10	X		BODY - VERT. - STIRRUP AT ENDS
B403	10	2-3			BODY - VERT. - 2 PER PILE
B404	5	28-0	X		BODY - SPIRAL - 1 PER PILE
B605	11	28-10			BODY - HORIZ. - F.F. & TOP
B606	7	19-9			BODY - HORIZ. - B.F.
B807	14	10-0			BODY - HORIZ. - B.F. - END
B408	2	4-7			BODY - VERT. - END
B409	2	4-8			BODY - VERT. - END
B510	28	2-0		X	BODY - VERT. - DOWELS
B511	9	15-8	X	X	WING 1 - VERT. - STIRRUP
B512	2	4-7		X	WING 1 - VERT. - F.F.
B513	6	13-0		X	WING 1 - HORIZ. - F.F.
B614	6	11-8		X	WING 1 - HORIZ. - B.F.
B615	2	12-1		X	WING 1 - HORIZ. - TOP
B616	13	10-4	X	X	WING 1 - VERT. - TOP
B417	6	9-7		X	WING 1 - HORIZ. - F.F. & B.F. - TOP
B618	2	9-7		X	WING 1 - HORIZ. - TOP
B519	10	15-8	X	X	WING 2 - VERT. - STIRRUP
B520	6	11-9		X	WING 2 - HORIZ. - F.F.
B621	6	13-1		X	WING 2 - HORIZ. - B.F.
B622	2	12-2		X	WING 2 - HORIZ. - TOP
B623	13	10-4	X	X	WING 2 - VERT. - TOP
B424	6	9-7		X	WING 2 - HORIZ. - F.F. & B.F. - TOP
B625	2	9-7		X	WING 2 - HORIZ. - TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

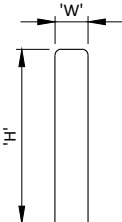
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



B501, B511, B519



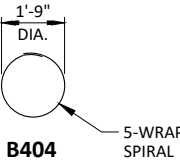
B502



B616, B623

BAR MARK	'W'	'H'
B501	2-2	4-7
B511	2-11	4-7
B519	2-11	4-7

BAR MARK	'W'	'H'
B616	1-2	4-9
B623	1-2	4-9



B404

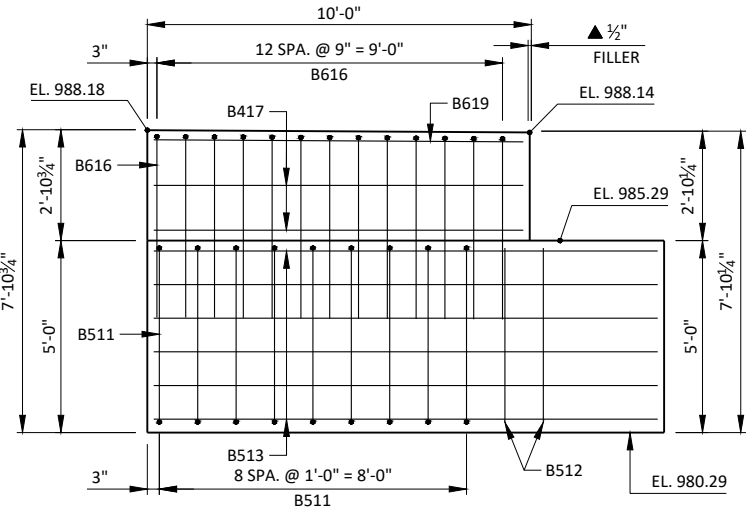
NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

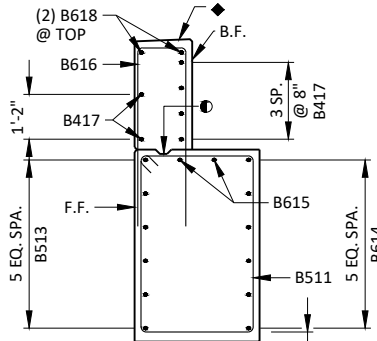
SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

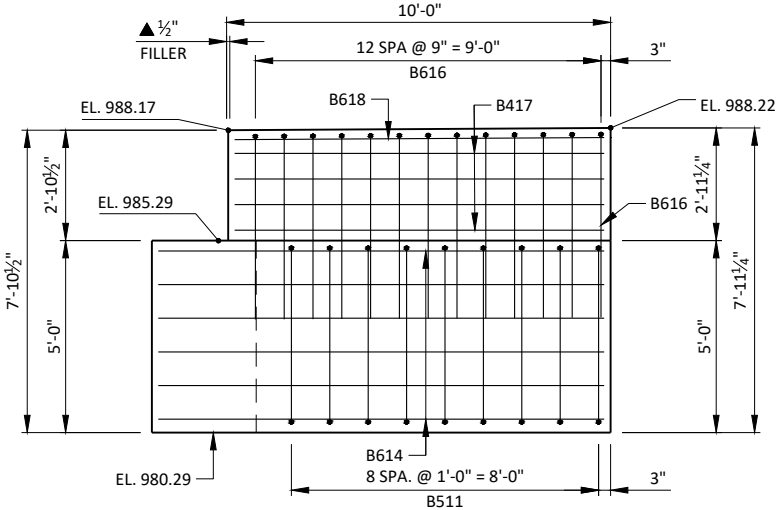
B.F. - BACK FACE



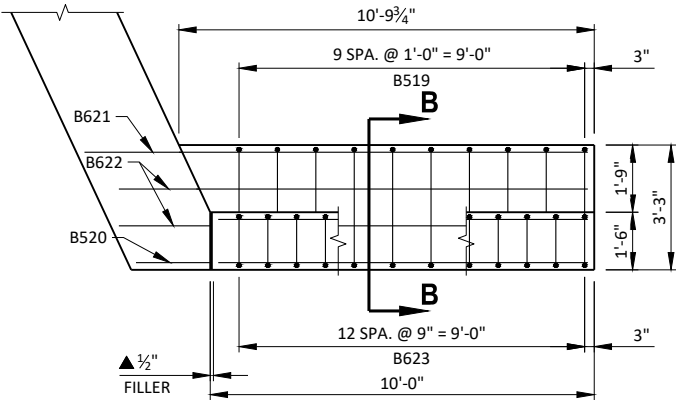
F.F. ELEVATION - WING 3



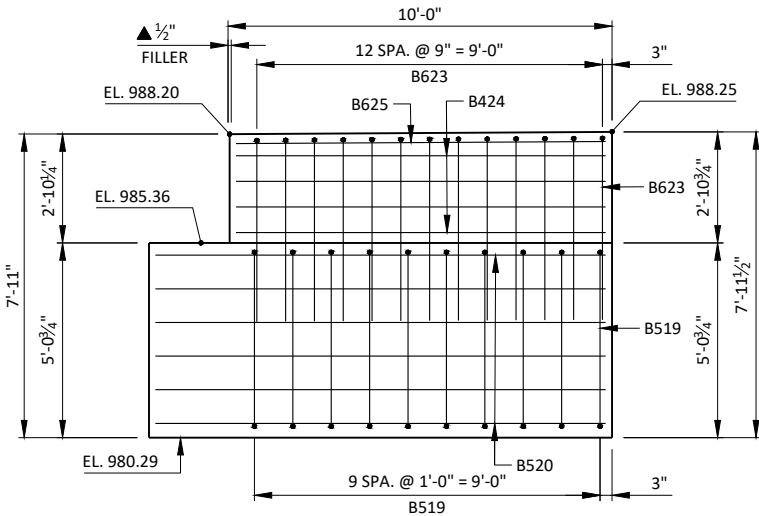
SECTION A-A



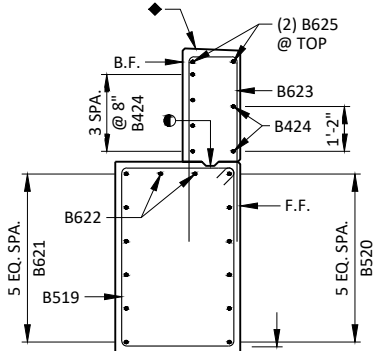
B.F. ELEVATION - WING 3



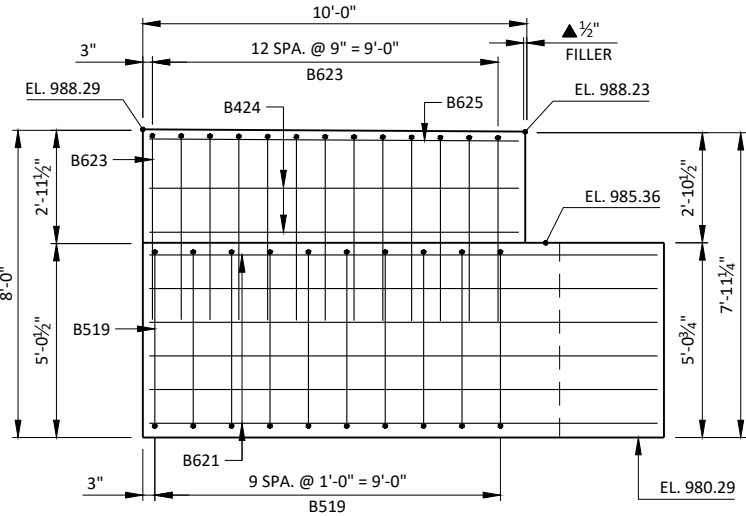
PLAN VIEW - WING 4



F.F. ELEVATION - WING 4



SECTION B-B



B.F. ELEVATION - WING 4

LEGEND

- OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6. 3/4-INCH "V" GROOVE AT FRONT FACE OF WING WALL AND HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE IF CONSTRUCTION JOINT IS USED. COST IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".
- 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- SLOPE SAME AS SUPERSTRUCTURE.





	C/L W. ABUT.	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L E. ABUT.
N. EDGE	987.84	987.87	987.90	987.93	987.96	987.98	988.01	988.04	988.07	988.10	988.12
C/L	988.14	988.17	988.20	988.23	988.26	988.28	988.31	988.34	988.37	988.40	988.42
S. EDGE	987.92	987.94	987.97	988.00	988.03	988.06	988.08	988.11	988.14	988.17	988.20

	W. ABUT.	0.50 PT.	E. ABUT.
NORTH EDGE OF DECK			
CENTER LINE			
SOUTH EDGE OF DECK			

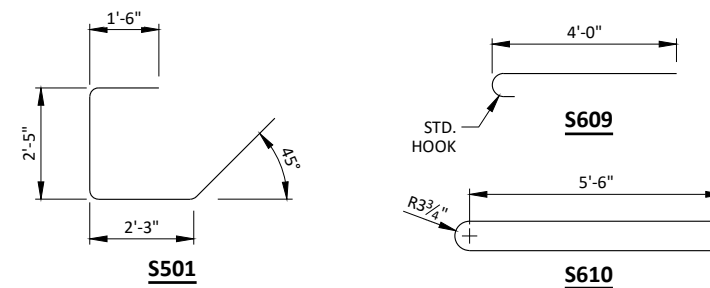
TOP OF SLAB ELEVATION AT FINAL GRADE  
-SLAB THICKNESS  
+CAMBER  
+FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT  
OF SLAB CONCRETE (COMPUTED BY CONTRACTOR)  
=TOP OF SLAB FALSEWORK ELEVATION.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-56-250</b>			
DRAWN BY		ZMF	PLANS CK'D. PTB
<b>SUPERSTRUCTURE</b>		SHEET 8 OF 10	





- 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ ¾" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- ✕ DIMENSION IS NORMAL TO THE C/L OF SUBSTRUCTURE UNITS.
- ✕✕ SEE SHEET 4 OR SHEET 6 FOR PLACEMENT OF ABUTMENT BARS.



DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

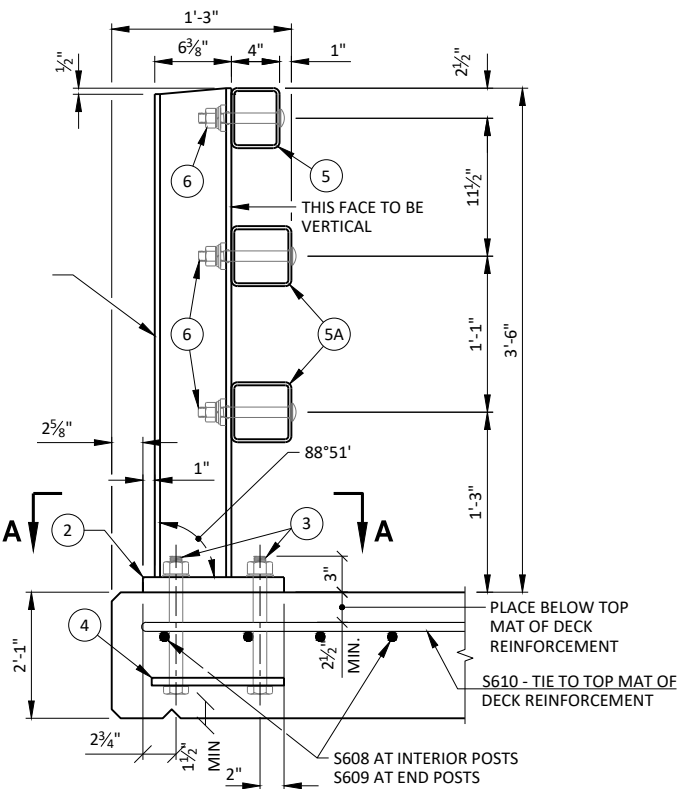


LEGEND

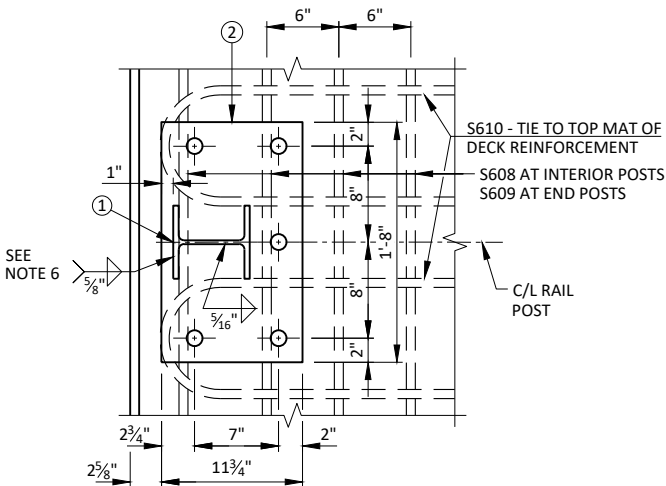
- ① W6x25 WITH 1½" x 1½" HORIZONTAL SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1¼"x11¾"x1'-8" WITH 1⅞" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
- ③ ASTM A449 - 1½" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D FOR CONSTRUCTABILITY.)
- ④ ⅝"x11"x1'-8" ANCHOR PLATE (GALVANIZED) WITH 1⅞" DIA. HOLES FOR ANCHOR BOLTS NO. 3.
- ⑤ TSS 5x4x0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑤A TSS 5x5x0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑥ ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, ⅜"x1⅝" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION).
- ⑨ SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".
- ⑩ ⅜"x3⅝"x2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A ⅜"x2⅝"x2'-4" PLATE USED IN NO. 5, ⅜"x3⅝"x2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1⅝"x1¼" LONGIT. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS AND 1⅝"x2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE 1⅝" DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.

GENERAL NOTES

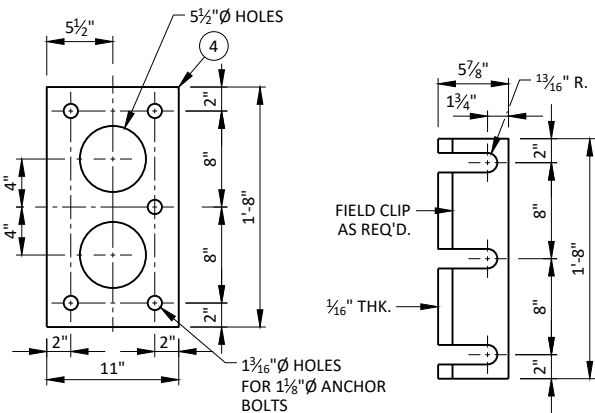
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY=50 KSI. ANCHOR PLATES AND 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 ⅓ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
10. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).



SECTION THROUGH RAILING ON DECK

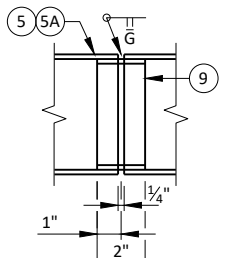


SECTION A-A

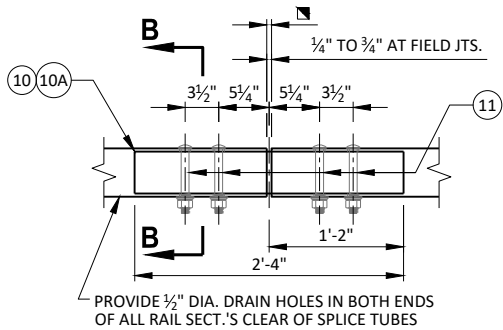


ANCHOR PLATE  
AT RAIL TO DECK CONNECTION

POST SHIM  
DETAIL

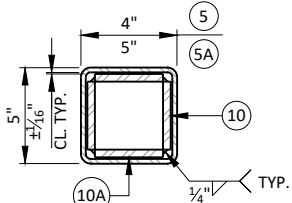


SHOP RAIL  
SPLICE DETAIL  
(LOCATION MUST BE  
SHOWN ON SHOP DRAWINGS)

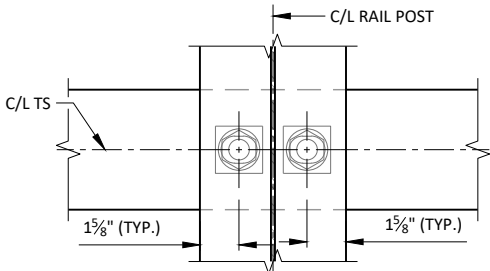


FIELD ERECTION JOINT DETAIL

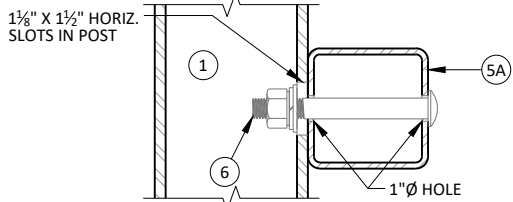
- RDWY. OPENING OR 2 1/2" MIN. FOR STRIP SEAL EXP. JOINT & (1/4" TO 3/4") OPENING FOR A1 ABUTMENT.



SECTION B-B



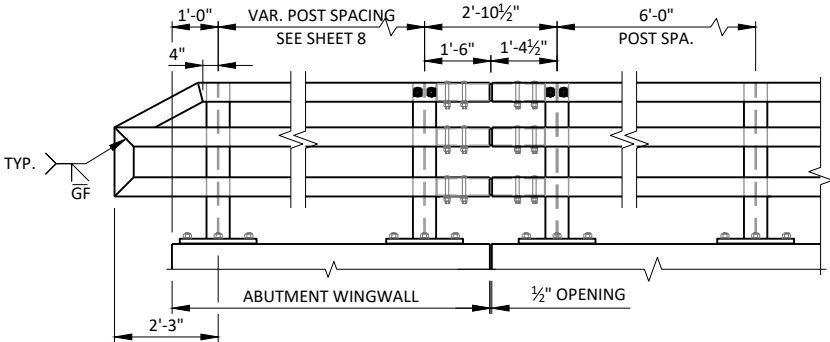
SECTION THROUGH POST WEB



SECTION THROUGH RAIL

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

TYPICAL RAIL TO POST CONNECTIONS



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-250			
DRAWN BY		ZMF	PLANS CK'D. PTB
TUBULAR RAILING TYPE M		SHEET 10 OF 10	



EARTHWORK - VILLAGE ROAD, BYPASS CONSTRUCTION - STAGE 1

STATION	AREA (SF)		INCREMENTAL VOL (CY)			CUMMULATIVE VOLUME (CY)			
	CUT	FILL	CUT NOTE 1	FILL	FILL (25%) NOTE 2	CUT 1.00 NOTE 1	FILL	FILL (25%) NOTE 2	MASS ORDINATE NOTE 3
20+00	0	0	0	0	0	0	0	0	0
20+50	0	69	0	64	80	0	64	80	-79
21+00	0	80	0	138	172	0	202	252	-252
21+40	0	80	0	119	149	0	320	400	-400
21+75	0	83	0	52	65	0	372	465	-465
22+00	0	83	0	78	98	0	450	563	-563
22+50	0	112	0	182	228	0	632	790	-790
22+96	0	0	0	96	120	0	728	910	-910

COLUMN TOTALS = 0 728 910 -910

EARTHWORK - VILLAGE ROAD, MAINLINE CONSTRUCTION - STAGE 2

STATION	AREA (SF)		INCREMENTAL VOL (CY)			CUMMULATIVE VOLUME (CY)			
	CUT	FILL	CUT NOTE 1	FILL	FILL (25%) NOTE 2	CUT 1.00 NOTE 1	FILL	FILL (25%) NOTE 2	MASS ORDINATE NOTE 3
10+00	0	0	0	0	0	0	0	0	0
10+25	47	6	21	3	4	21	3	4	17
10+50	47	6	44	5	6	65	8	10	55
10+50	0	0	0	0	0	65	8	10	55
11+00	0	0	0	0	0	65	8	10	55
11+00	47	0	0	0	0	65	8	10	55
11+25	47	0	43	0	0	108	8	10	98
11+50	0	0	22	0	0	130	8	10	120

COLUMN TOTALS = 130 8 10 120

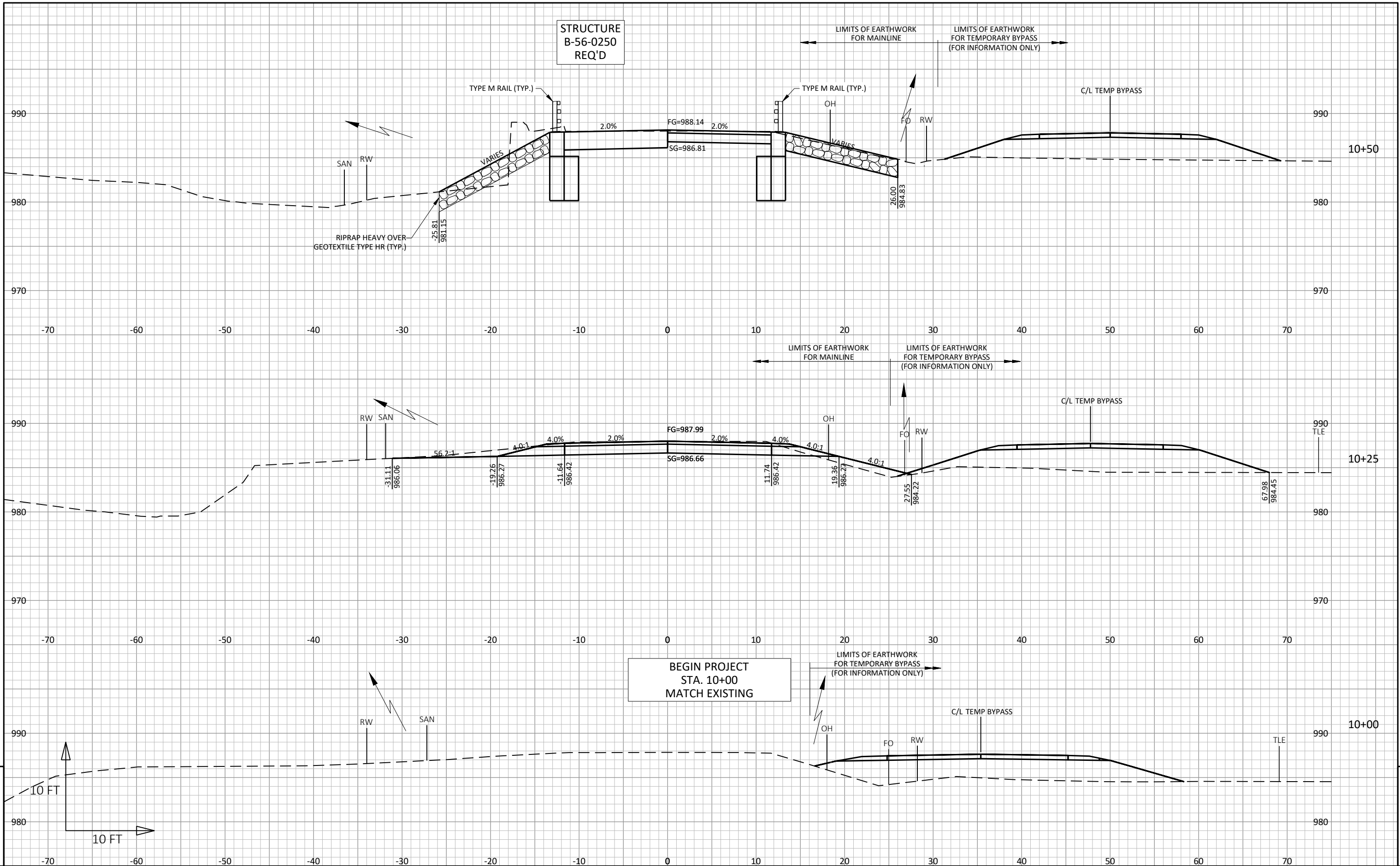
EARTHWORK - VILLAGE ROAD, BYPASS REMOVAL - STAGE 3

STATION	AREA (SF)		INCREMENTAL VOL (CY)			CUMMULATIVE VOLUME (CY)			
	CUT	FILL	CUT NOTE 1	FILL	FILL (25%) NOTE 2	CUT 1.00 NOTE 1	FILL	FILL (25%) NOTE 2	MASS ORDINATE NOTE 3
20+00	0	0	0	0	0	0	0	0	0
20+50	83	0	77	0	0	77	0	0	77
21+00	91	0	162	0	0	239	0	0	239
21+40	91	0	136	0	0	375	0	0	375
21+75	94	0	0	0	0	375	0	0	375
22+00	94	0	88	0	0	463	0	0	463
22+50	124	0	202	0	0	664	0	0	664
22+96	0	0	106	0	0	770	0	0	770

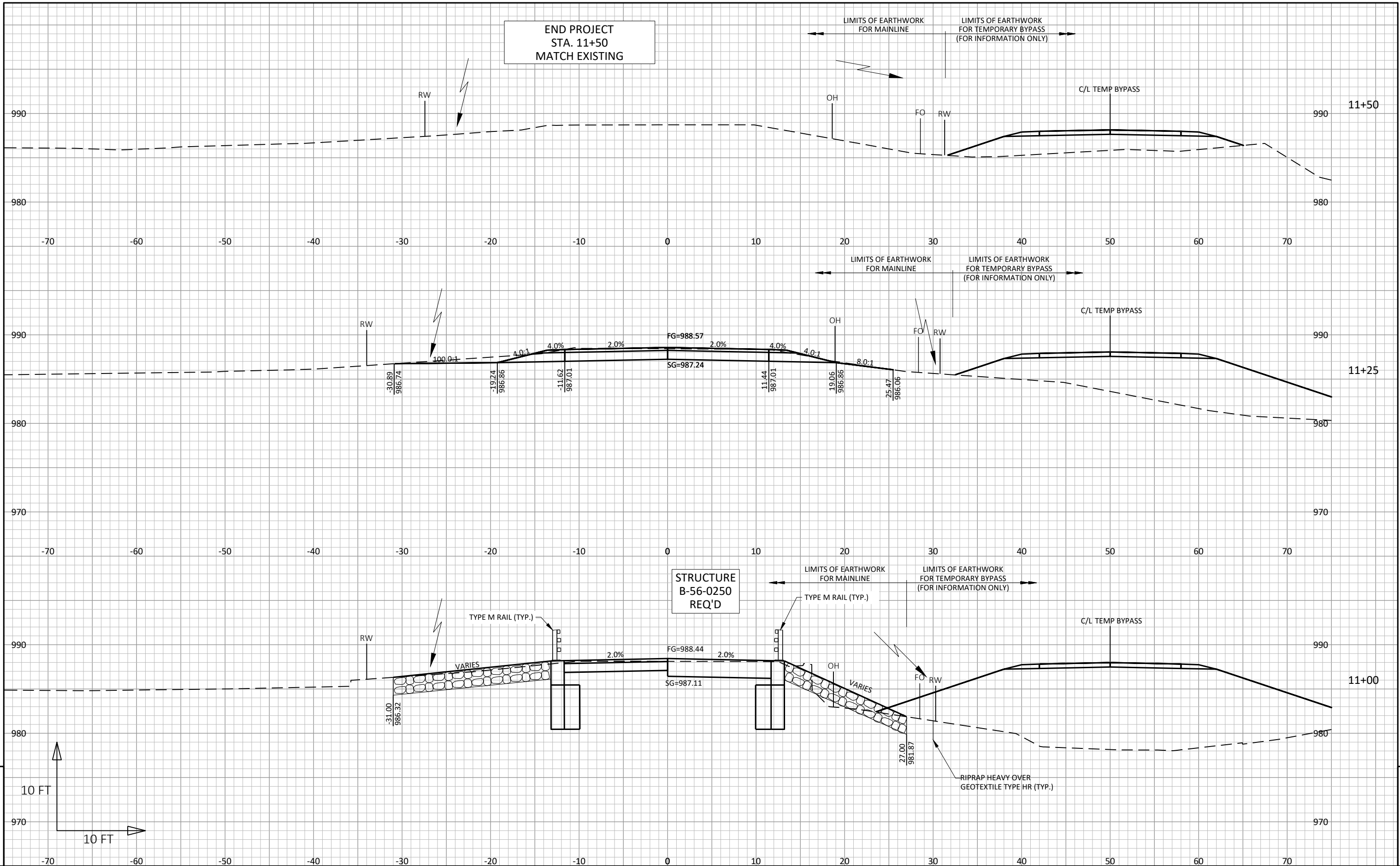
COLUMN TOTALS = 770 0 0 770

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL 25%	(UNEXPANDED FILL)*1.25
3 - MASS ORDINATE	CUT + ROCK (10%) - FILL (25%)

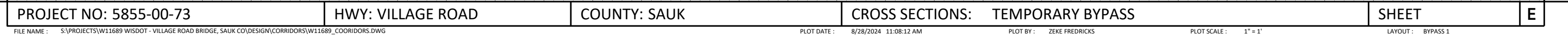
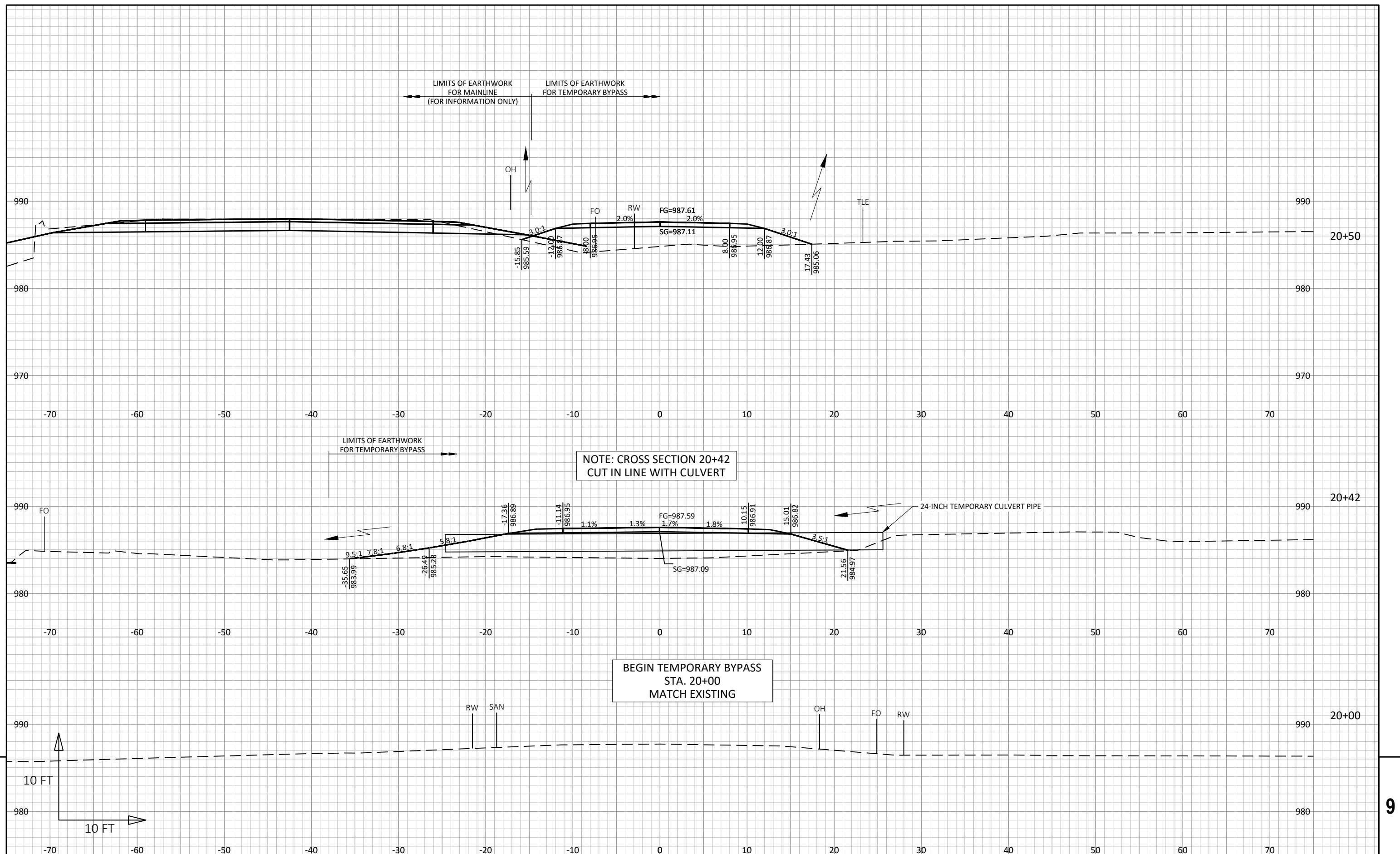




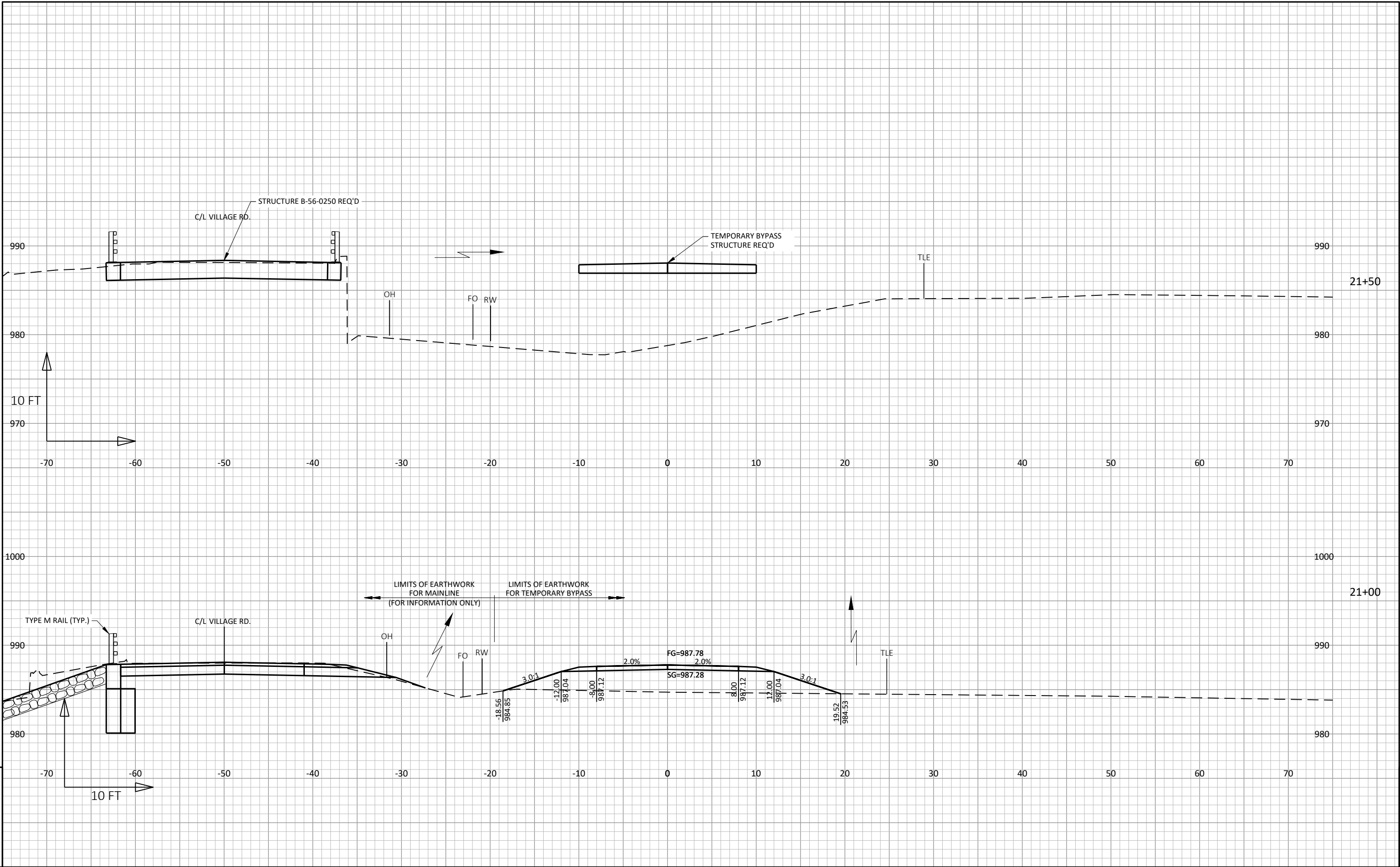




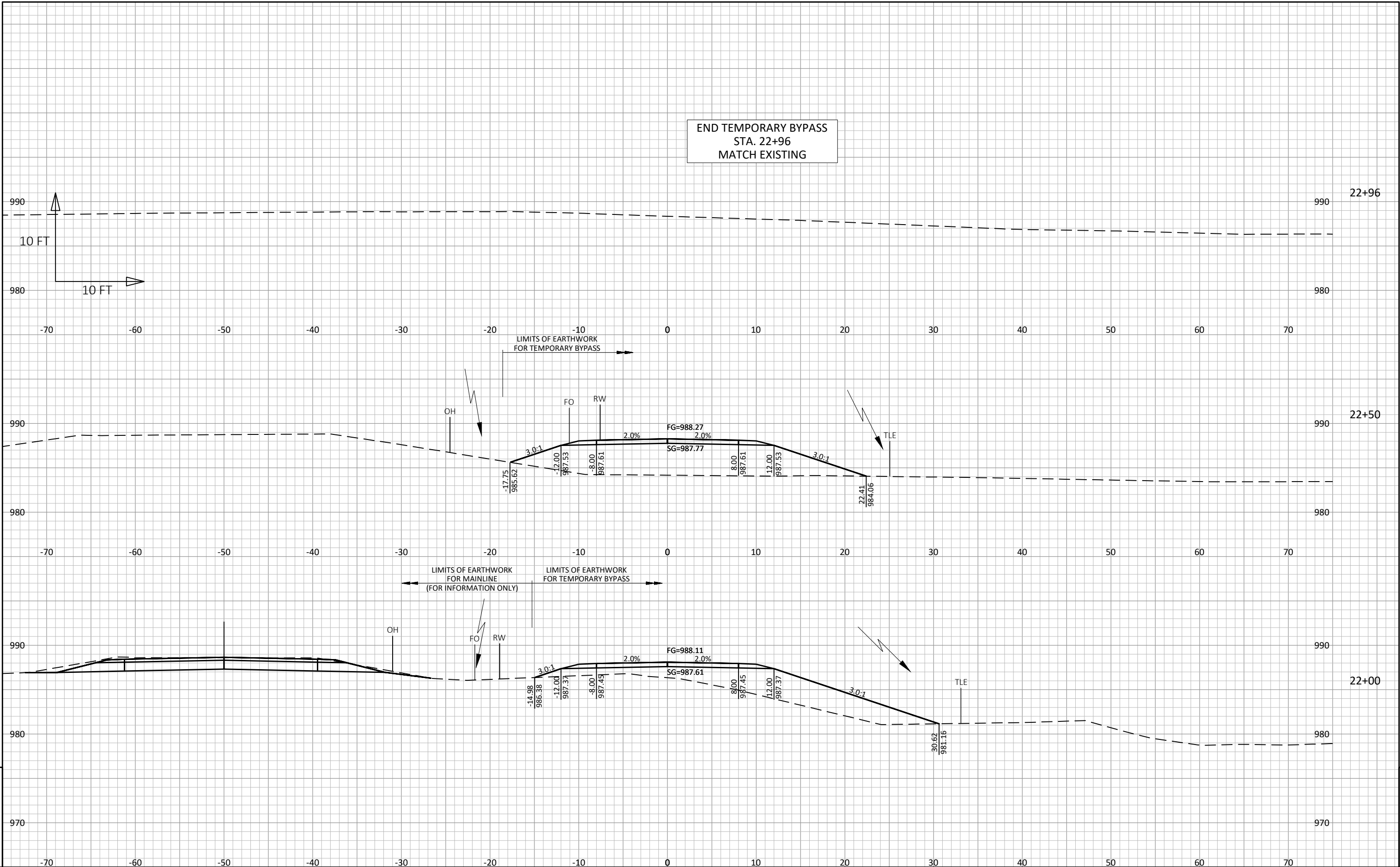














## Notes





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