

LAX
PROJECT ID: 7272-00-72
WITH: N/A
COUNTY: LA CROSSE

November 2024

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 = 62

16

PROJECT LOCATION

DESIGN DESIGNATION 7272-00-02

A.A.D.T.	2025	=	200
A.A.D.T.	2045	=	210
D.H.V.		=	30
D.D.		=	62/38
T.		=	7.7
DESIGN SPEED		=	30
ESALS		=	37,000

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 ONALASKA, MOHICAN TRAIL

BR SAND LAKE COULEE CREEK B-32-0584

LOC STR

LA CROSSE COUNTY

STATE PROJECT NUMBER 7272-00-72

BEGIN PROJECT STA 10+15
Y = 173 177.535
X = 449 180.114

STRUCTURE B-32-0584
STA 10+66.68

END PROJECT STA 11+37

Map showing project location in Onalaska, WI, near Mohican Trail and Sand Lake Coulee Creek. Includes labels for Mid-way, Onalaska, and various roads like R-8-W, R-7-W, T-17-N, and BUCKLIN RD.

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.023 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), LA CROSSE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

STATE PROJECT

FEDERAL PROJECT

7272-00-72	WISC 2025083	1

ACCEPTED FOR
LA CROSSE COUNTY
7-23-24
Date
(Signature and Title of Official)

ORIGINAL PLANS PREPARED BY
WESTBROOK
Associated Engineers, Inc.
619 EAST HOXIE STREET
P.O. BOX 429
SPRING GREEN, WISCONSIN 53588
PHONE (608) 588-7866
FAX (608) 588-7954
AARON B. PALMER
E-35695
RICHLAND CENTER, WI
PROFESSIONAL ENGINEER
DATE: 7/22/24
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PREPARED BY
Surveyor WESTBROOK ASSOCIATED ENGINEERS
Designer WESTBROOK ASSOCIATED ENGINEERS
Project Manager JOSH SCHOENMANN, P.E.
Regional Examiner SW REGION
Regional Supervisor KYLE HEMP, P.E.

APPROVED FOR THE DEPARTMENT
DATE: 7/23/24
(Signature)

E

GENERAL NOTES

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

CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS, OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN.

APPLY TACK COAT BETWEEN LAYERS OF HMA PAVEMENT AT A RATE OF 0.05 GAL/SY.

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

RIGHT OF WAY INFORMATION, AS SHOWN ON THE PLANS, IS APPROXIMATE.

THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. REMOVAL OF ANY SURVEY MARKER IS TO BE WITH THE APPROVAL OF THE ENGINEER.

WHEN THE QUANTITY OF THE ITEMS OF BASE AGGREGATE, SUBBASE, OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYERS SHOWN ON THE PLAN IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

EROSION CONTROL FEATURES, AS SHOWN IN THE PLANS, ARE AT APPROXIMATE LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

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

THE CONTRACTOR'S PAVING OPERATION SHALL BE CONSISTENT WITH THE TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING, OR PARKING LANE.

SAWCUTS, AS SHOWN ON THE PLANS, ARE SUGGESTED LOCATIONS AND MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER TO BETTER SUIT FIELD CONDITIONS.

APPLY SEED, MULCH, AND FERTILIZER TO ALL DISTURBED AREAS WITHIN 7 WORKING DAYS AFTER GRADING WORK IS COMPLETED.

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES. ACCESS SHALL BE PROVIDED DURING ALL NON-WORKING HOURS.

THE CONTRACTOR SHALL MAINTAIN ACCESS TO THE THUNDERBIRD HILLS SUBDIVISION AT ALL TIMES.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

DO NOT DRIVE OR STORE EQUIPMENT, OR STORE CONSTRUCTION MATERIALS IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS OR WATERWAYS.

D.O.T. MONUMENT TO BE FURNISHED BY THE STATE AND PLACED BY THE CONTRACTOR IN THE SAME WING THAT THE PROPOSED NAME PLATE WILL BE PLACED, AS DIRECTED BY THE ENGINEER.

WISCONSIN DNR LIAISON

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LA CROSSE COUNTY

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DESIGN CONSULTANT

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UTILITIES CONTACTS

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COMMUNICATIONS
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DIGGERSHOTLINE

Dial 811 or (800)242-8511

www.DiggersHotline.com

ORDER OF SECTION 2 DETAIL SHEETS

- GENERAL NOTES
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- TEMPORARY BYPASS REMOVAL AND REPLACEMENT
- CONTOUR MAP
- PERMANENT SIGNING AND PAVEMENT MARKING
- TRAFFIC CONTROL DETAILS
- ALIGNMENT DETAILS

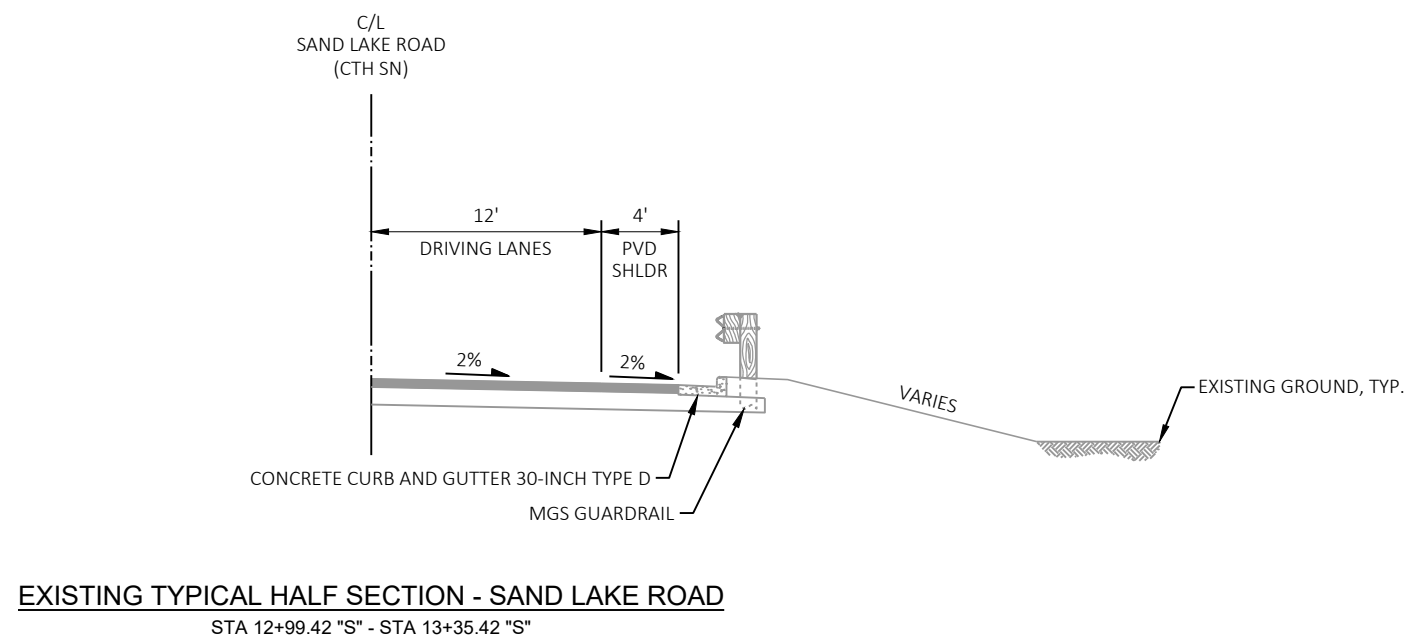
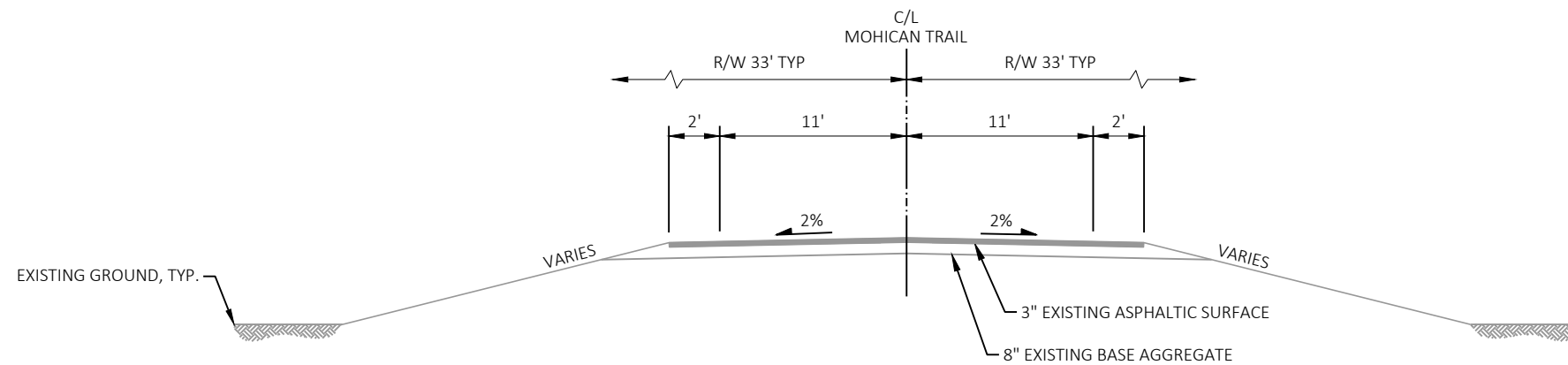
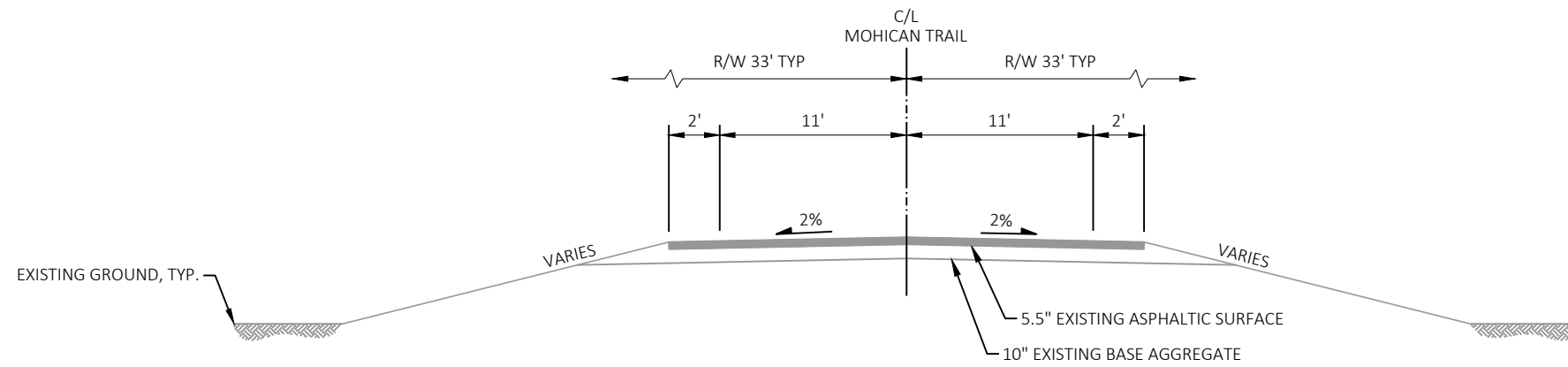
RUNOFF COEFFICIENT TABLE

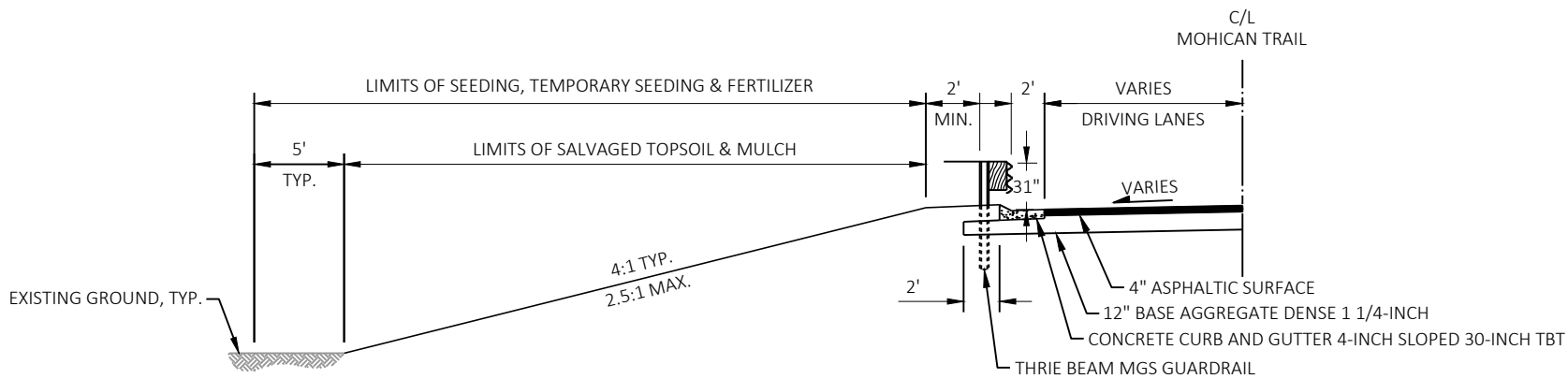
LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	
ROW CROPS:	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26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

TOTAL PROJECT AREA = 0.70 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.61 ACRES

STANDARD ABBREVIATIONS

ABUT	ABUTMENT	MGAL	ONE THOUSAND GALLONS
AC	ACRE	ML OR M/L	MATCH LINE
AGG	AGGREGATE	NOM	NOMINAL
AH	AHEAD	NC	NORMAL CROWN
∠	ANGLE	NO	NUMBER
AADT	ANNUAL AVERAGE DAILY TRAFFIC	OD	OUTSIDE DIAMETER
BK	BACK	PAVT	PAVEMENT
BAD	BASE AGGREGATE DENSE	PLE	PERMANENT LIMITED EASEMENT
BL OR B/L	BASE LINE	PC	POINT OF CURVATURE
BM	BENCH MARK	PI	POINT OF INTERSECTION
CL OR C/L	CENTER LINE	PT	POINT OF TANGENCY
Δ	CENTRAL ANGLE OR DELTA	PCC	PORTLAND CEMENT CONCRETE
CONC	CONCRETE	LB	POUND
CONST	CONSTRUCTION	PSI	POUNDS PER SQUARE INCH
CP	CONTROL POINT	PE	PRIVATE ENTRANCE
CO	COUNTY	PROJ	PROJECT
CY	CUBIC YARD	PL	PROPERTY LINE
D	DEGREE OF CURVE	PRW	PROPOSED RIGHT OF WAY
DHV	DESIGN HOUR VOLUME	R	RADIUS
DIA	DIAMETER	RL OR R/L	REFERENCE LINE
DD	DIRECTIONAL DISTRIBUTION	REQD	REQUIRED
DWY	DRIVEWAY	RT	RIGHT
EA	EACH	R/W	RIGHT OF WAY
EL OR ELEV	ELEVATION	RD	ROAD
EMB	EMBANKMENT	RDWY	ROADWAY
ESALS	EQUIVALENT SINGLE AXLE LOADS	SHLDR	SHOULDER
EXC	EXCAVATION	SPECS	SPECIFICATIONS
EBS	EXCAVATION BELOW SUBGRADE	SF	SQUARE FEET
EXIST	EXISTING	SY	SQUARE YARD
FERT	FERTILIZER	SDD	STANDARD DETAIL DRAWINGS
FE	FIELD ENTRANCE	STA	STATION
FL OR F/L	FLOW LINE	SL OR S/L	SURVEY LINE
FT	FOOT	TEMP	TEMPORARY
HE	HIGHWAY EASEMENT	TI	TEMPORARY INTEREST
CWT	HUNDRED WEIGHT	TLE	TEMPORARY LIMITED EASEMENT
IN DIA	INCH DIAMETER	T	TRUCKS (PERCENT OF)
ID	INSIDE DIAMETER	TYP	TYPICAL
JT	JOINT	VAR	VARIABLE
LT	LEFT	VC	VERTICAL CURVE
L	LENGTH OF CURVE	VPC	VERTICAL POINT OF CURVATURE
LF	LINEAR FOOT	VPI	VERTICAL POINT OF INTERSECTION
LC	LONG CHORD OF CURVE	VPT	VERTICAL POINT OF TANGENCY
LS	LUMP SUM	W	WEST



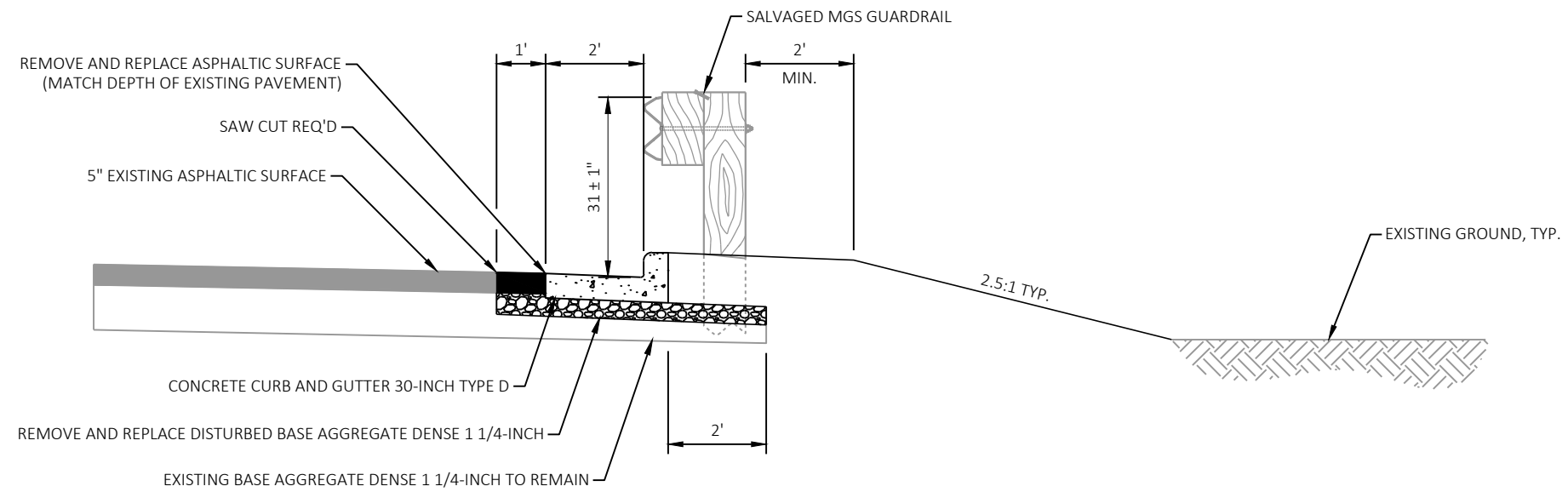


STA 10+32.00 - STA 10+45.93
STA 10+87.43 - STA 11+37.00

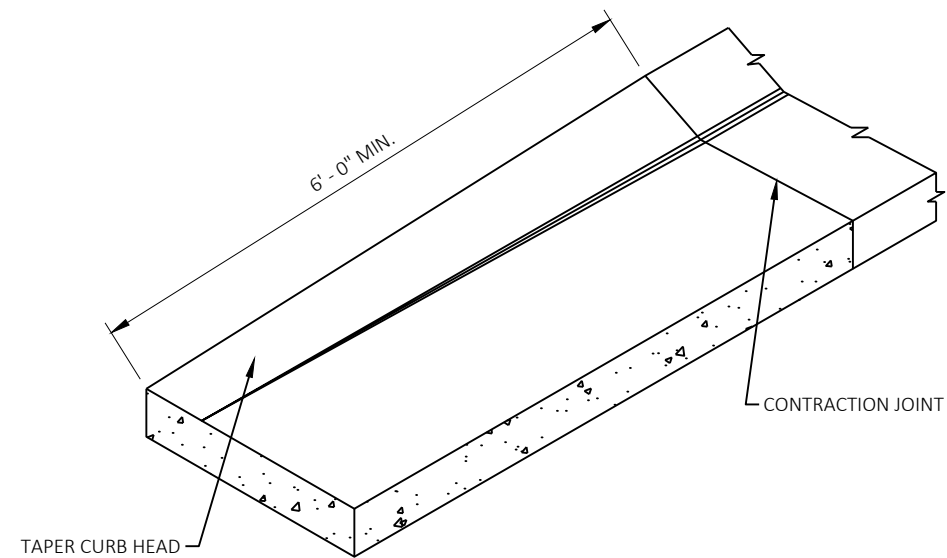
STA 10+15.00 - STA 10+32.00



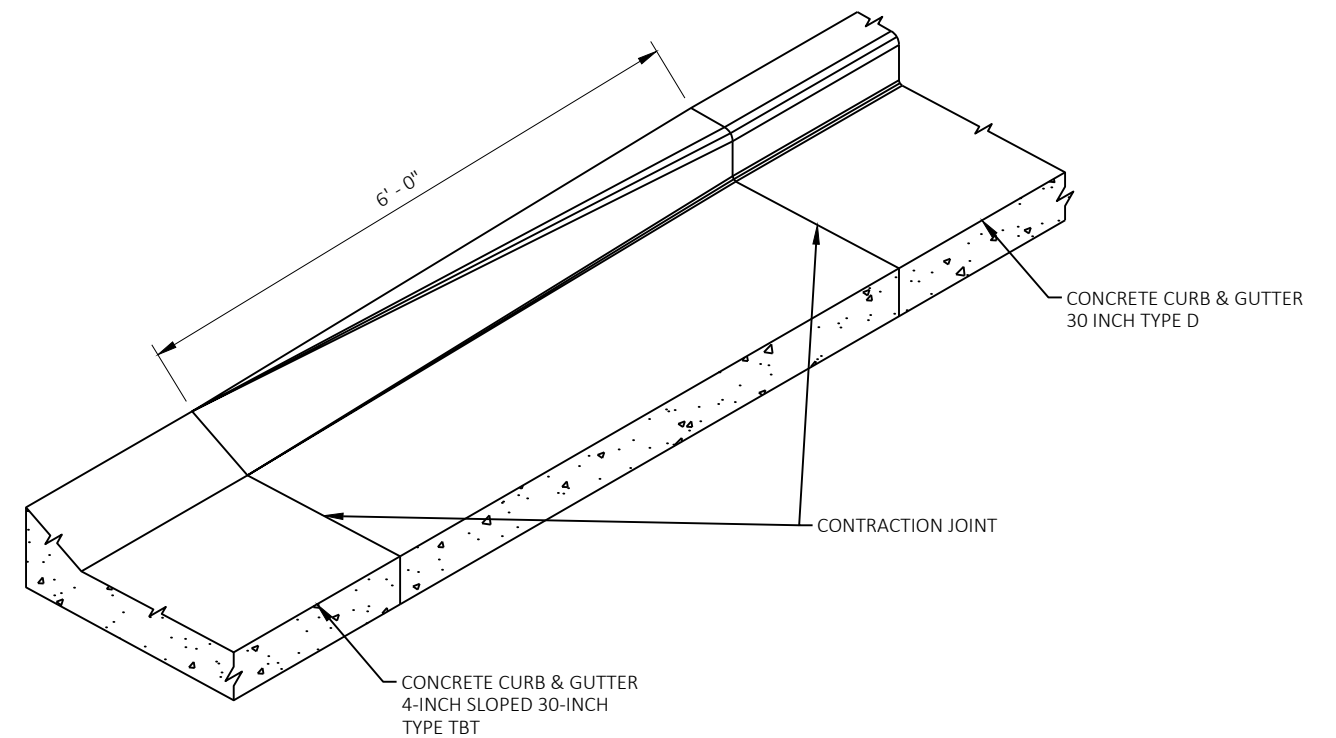
- ① EXTEND GEOTEXTILE TYPE SAS A MINIMUM OF 2' BEYOND THE TOE OF SLOPE.
- ② AFTER TEMPORARY BYPASS AND GEOTEXTILE TYPE SAS HAS BEEN REMOVED RESTORE AREA UNDER PREVIOUSLY PLACED GEOTEXTILE TYPE SAS AND DISTURBED STREAM BANKS TO ORIGINAL CONDITION, SEED AND FERTILIZE.
- ③ DO NOT APPLY FERTILIZER WITHIN 20 FT OF A WATER BODY.



CURB AND GUTTER REPLACEMENT
ADJACENT TO ASPHALTIC PAVEMENT



DETAIL OF TYPE TBT CURB & GUTTER TERMINI



DETAIL OF TYPE TBT TO TYPE D CURB & GUTTER TRANSITION
(TRANSITION PAID FOR AS CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE TBT)

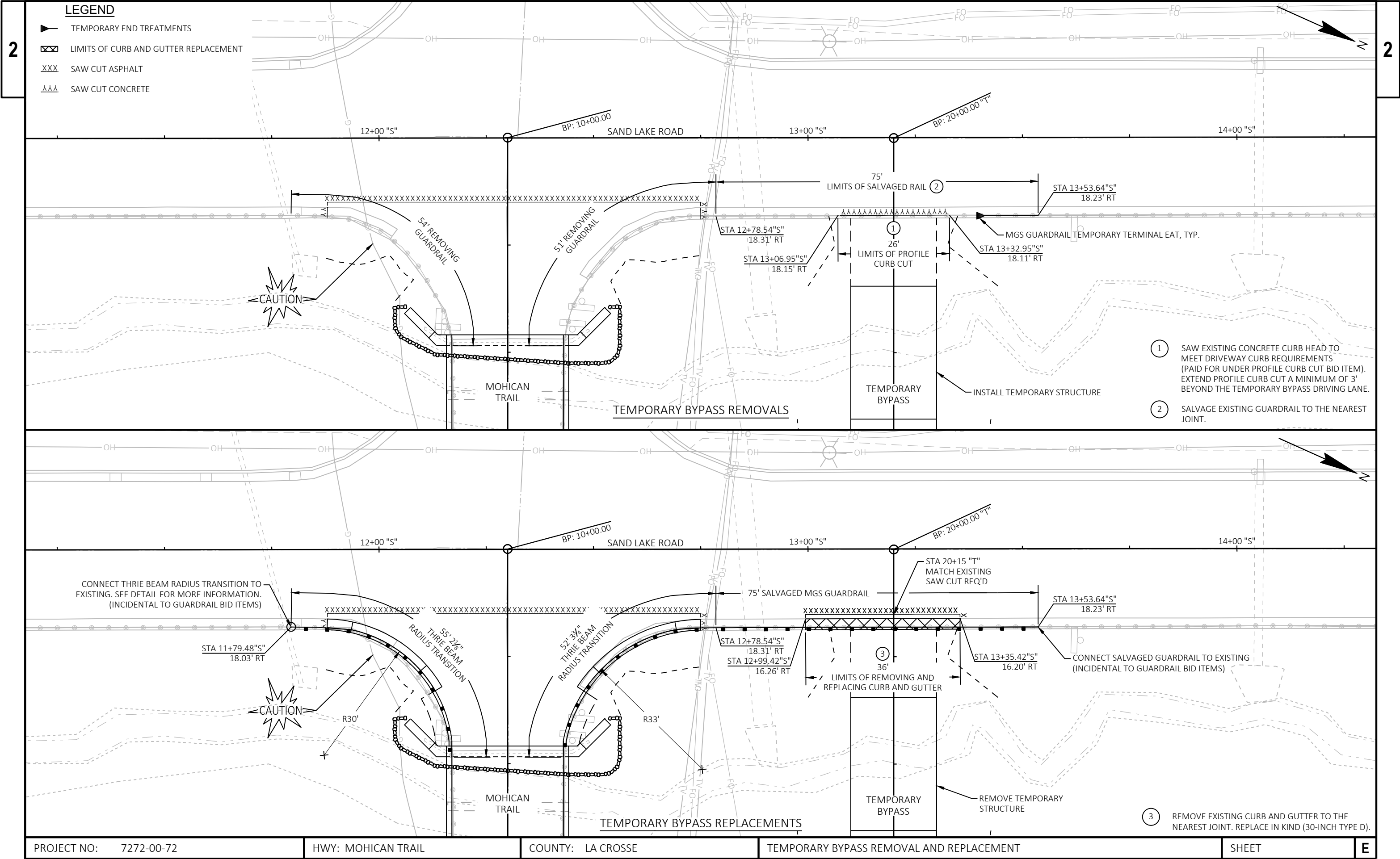
①



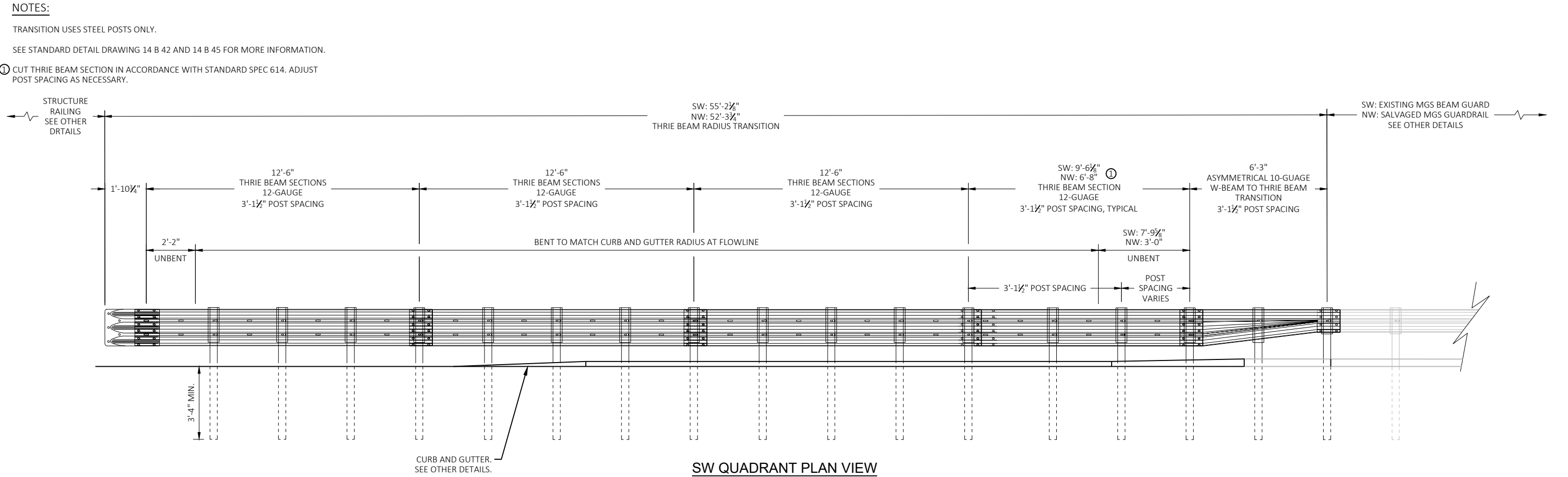
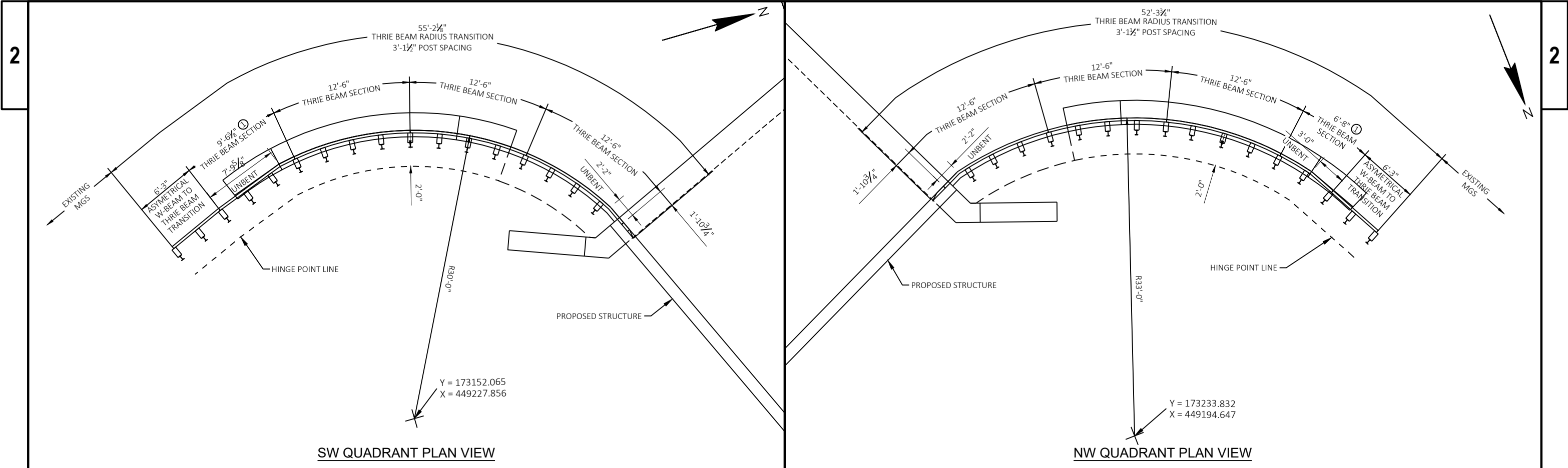
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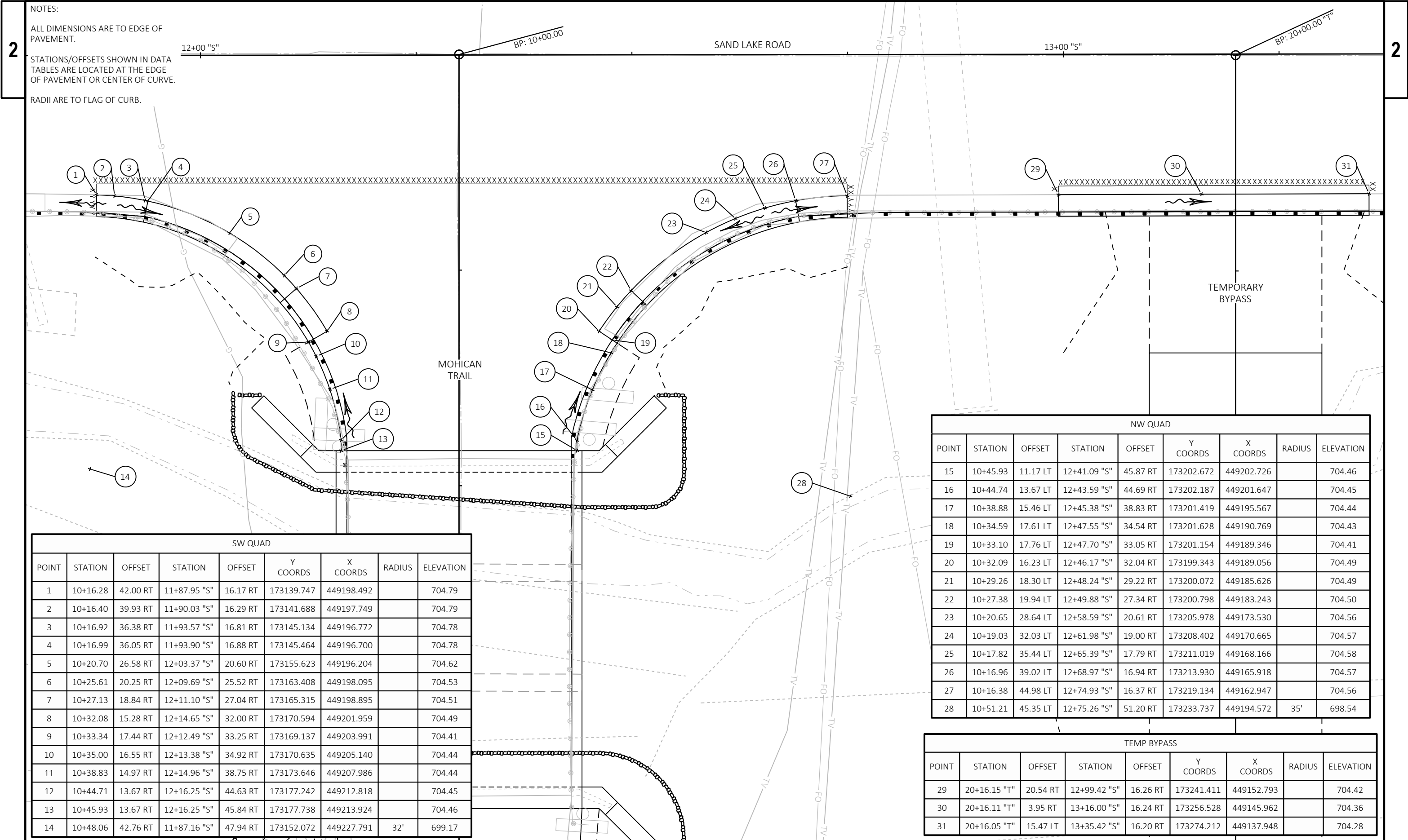


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PROJECT NO: 7272-00-72	HWY: MOHICAN TRAIL	COUNTY: LA CROSSE	TEMPORARY BYPASS REMOVAL AND REPLACEMENT	SHEET	E
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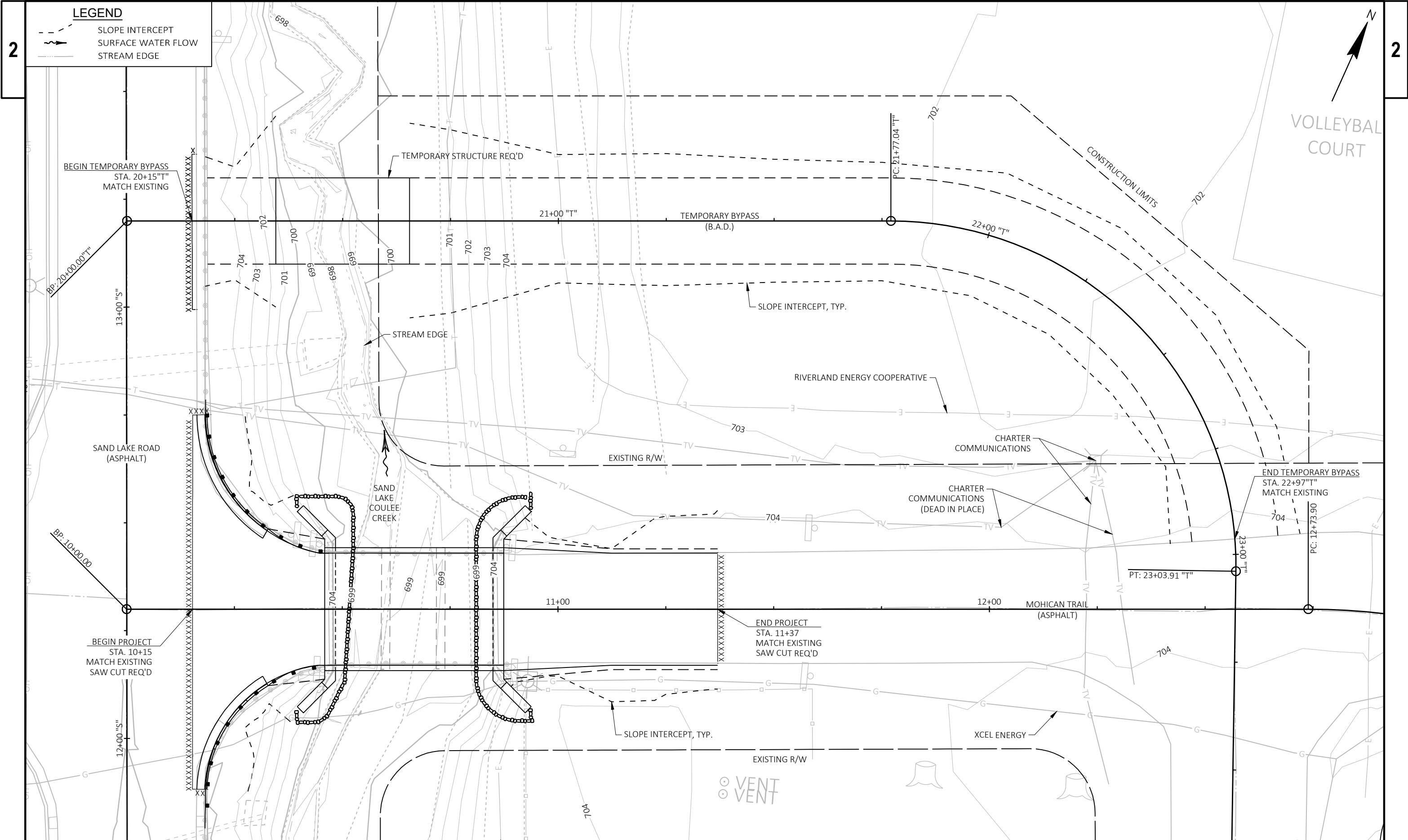


NOTES:
ALL DIMENSIONS ARE TO EDGE OF PAVEMENT.
STATIONS/OFFSETS SHOWN IN DATA TABLES ARE LOCATED AT THE EDGE OF PAVEMENT OR CENTER OF CURVE.
RADII ARE TO FLAG OF CURB.

SW QUAD								
POINT	STATION	OFFSET	STATION	OFFSET	Y COORDS	X COORDS	RADIUS	ELEVATION
1	10+16.28	42.00 RT	11+87.95 "S"	16.17 RT	173139.747	449198.492		704.79
2	10+16.40	39.93 RT	11+90.03 "S"	16.29 RT	173141.688	449197.749		704.79
3	10+16.92	36.38 RT	11+93.57 "S"	16.81 RT	173145.134	449196.772		704.78
4	10+16.99	36.05 RT	11+93.90 "S"	16.88 RT	173145.464	449196.700		704.78
5	10+20.70	26.58 RT	12+03.37 "S"	20.60 RT	173155.623	449196.204		704.62
6	10+25.61	20.25 RT	12+09.69 "S"	25.52 RT	173163.408	449198.095		704.53
7	10+27.13	18.84 RT	12+11.10 "S"	27.04 RT	173165.315	449198.895		704.51
8	10+32.08	15.28 RT	12+14.65 "S"	32.00 RT	173170.594	449201.959		704.49
9	10+33.34	17.44 RT	12+12.49 "S"	33.25 RT	173169.137	449203.991		704.41
10	10+35.00	16.55 RT	12+13.38 "S"	34.92 RT	173170.635	449205.140		704.44
11	10+38.83	14.97 RT	12+14.96 "S"	38.75 RT	173173.646	449207.986		704.44
12	10+44.71	13.67 RT	12+16.25 "S"	44.63 RT	173177.242	449212.818		704.45
13	10+45.93	13.67 RT	12+16.25 "S"	45.84 RT	173177.738	449213.924		704.46
14	10+48.06	42.76 RT	11+87.16 "S"	47.94 RT	173152.072	449227.791	32'	699.17

NW QUAD								
POINT	STATION	OFFSET	STATION	OFFSET	Y COORDS	X COORDS	RADIUS	ELEVATION
15	10+45.93	11.17 LT	12+41.09 "S"	45.87 RT	173202.672	449202.726		704.46
16	10+44.74	13.67 LT	12+43.59 "S"	44.69 RT	173202.187	449201.647		704.45
17	10+38.88	15.46 LT	12+45.38 "S"	38.83 RT	173201.419	449195.567		704.44
18	10+34.59	17.61 LT	12+47.55 "S"	34.54 RT	173201.628	449190.769		704.43
19	10+33.10	17.76 LT	12+47.70 "S"	33.05 RT	173201.154	449189.346		704.41
20	10+32.09	16.23 LT	12+46.17 "S"	32.04 RT	173199.343	449189.056		704.49
21	10+29.26	18.30 LT	12+48.24 "S"	29.22 RT	173200.072	449185.626		704.49
22	10+27.38	19.94 LT	12+49.88 "S"	27.34 RT	173200.798	449183.243		704.50
23	10+20.65	28.64 LT	12+58.59 "S"	20.61 RT	173205.978	449173.530		704.56
24	10+19.03	32.03 LT	12+61.98 "S"	19.00 RT	173208.402	449170.665		704.57
25	10+17.82	35.44 LT	12+65.39 "S"	17.79 RT	173211.019	449168.166		704.58
26	10+16.96	39.02 LT	12+68.97 "S"	16.94 RT	173213.930	449165.918		704.57
27	10+16.38	44.98 LT	12+74.93 "S"	16.37 RT	173219.134	449162.947		704.56
28	10+51.21	45.35 LT	12+75.26 "S"	51.20 RT	173233.737	449194.572	35'	698.54

TEMP BYPASS								
POINT	STATION	OFFSET	STATION	OFFSET	Y COORDS	X COORDS	RADIUS	ELEVATION
29	20+16.15 "T"	20.54 RT	12+99.42 "S"	16.26 RT	173241.411	449152.793		704.42
30	20+16.11 "T"	3.95 RT	13+16.00 "S"	16.24 RT	173256.528	449145.962		704.36
31	20+16.05 "T"	15.47 LT	13+35.42 "S"	16.20 RT	173274.212	449137.948		704.28



2

LEGEND

SLOPE INTERCEPT

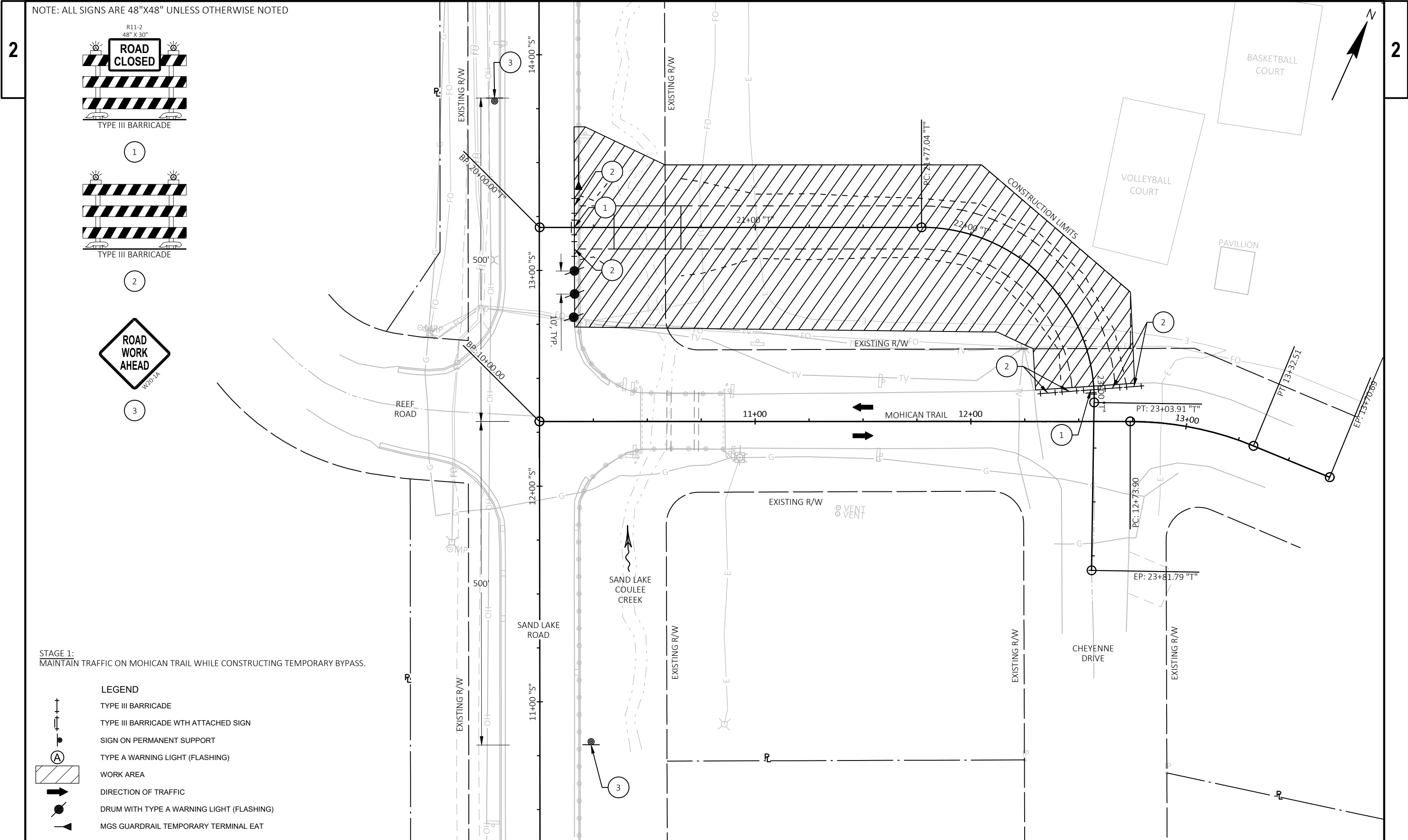
SURFACE WATER FLOW

STREAM EDGE

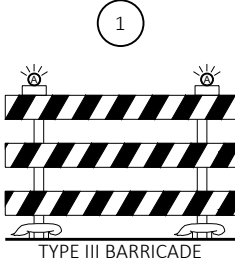
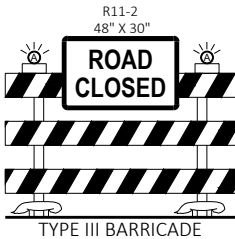


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PROJECT NO: 7272-00-72	HWY: MOHICAN TRAIL	COUNTY: LA CROSSE	CONTOUR MAP	SHEET E
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NOTE: ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED



STAGE 1:
MAINTAIN TRAFFIC ON MOHICAN TRAIL WHILE CONSTRUCTING TEMPORARY BYPASS.

- LEGEND
- TYPE III BARRICADE
 - TYPE III BARRICADE WITH ATTACHED SIGN
 - SIGN ON PERMANENT SUPPORT
 - TYPE A WARNING LIGHT (FLASHING)
 - WORK AREA
 - DIRECTION OF TRAFFIC
 - DRUM WITH TYPE A WARNING LIGHT (FLASHING)
 - MGS GUARDRAIL TEMPORARY TERMINAL EAT

PROJECT NO: 7272-00-72

HWY: MOHICAN TRAIL

COUNTY: LA CROSSE

TRAFFIC CONTROL DETAILS: STAGE 1 - TEMPORARY BYPASS CONSTRUCTION

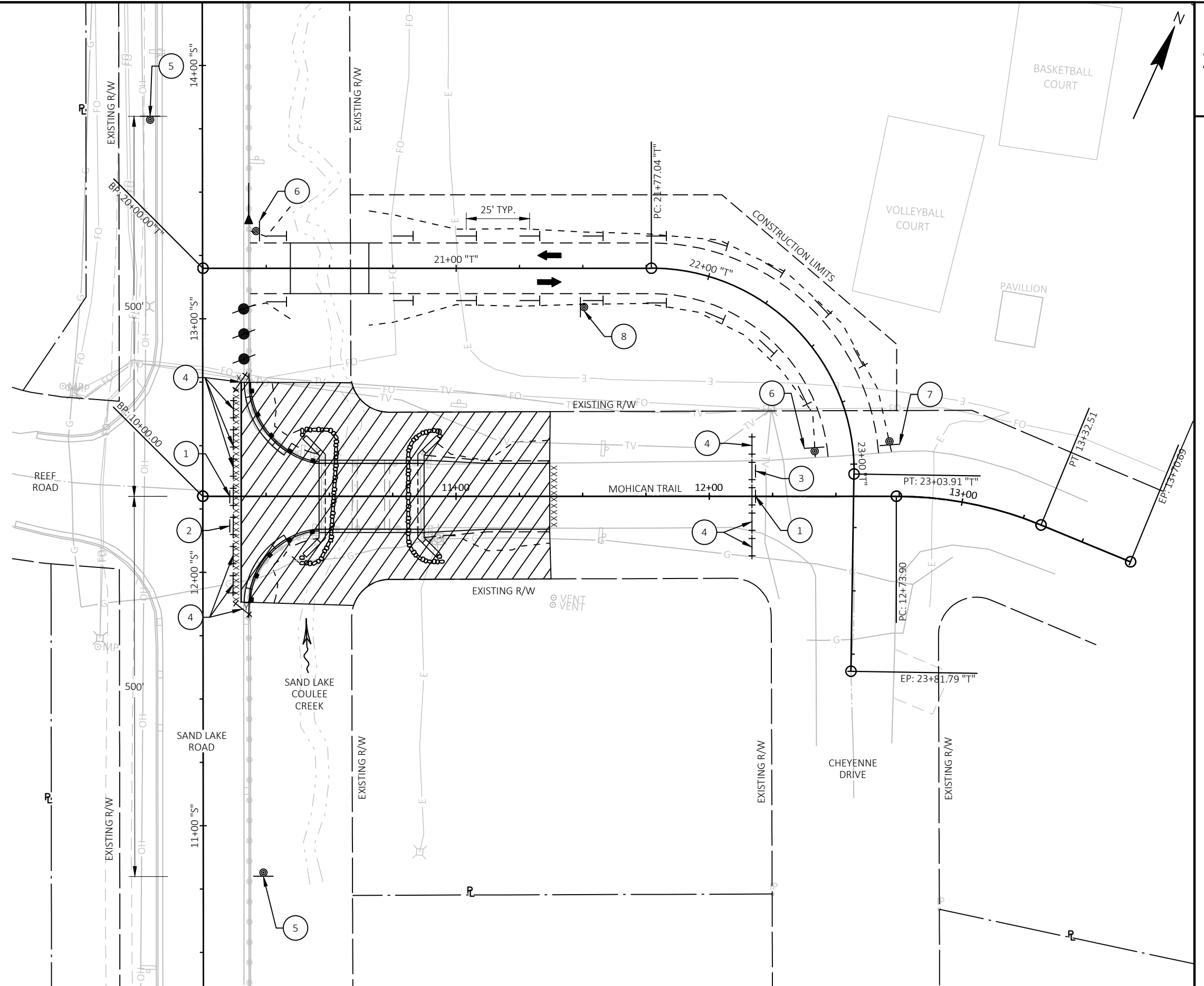
SHEET

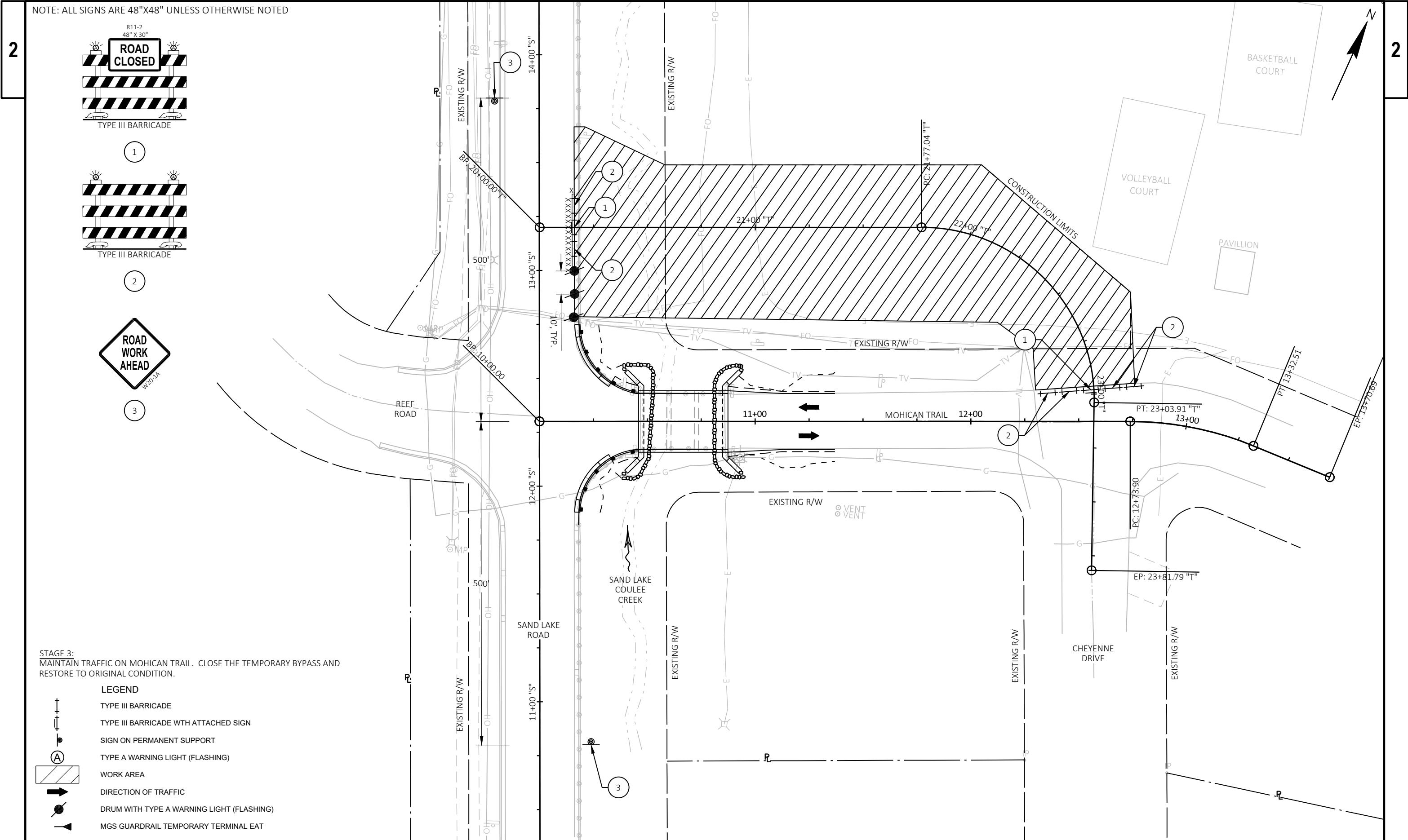
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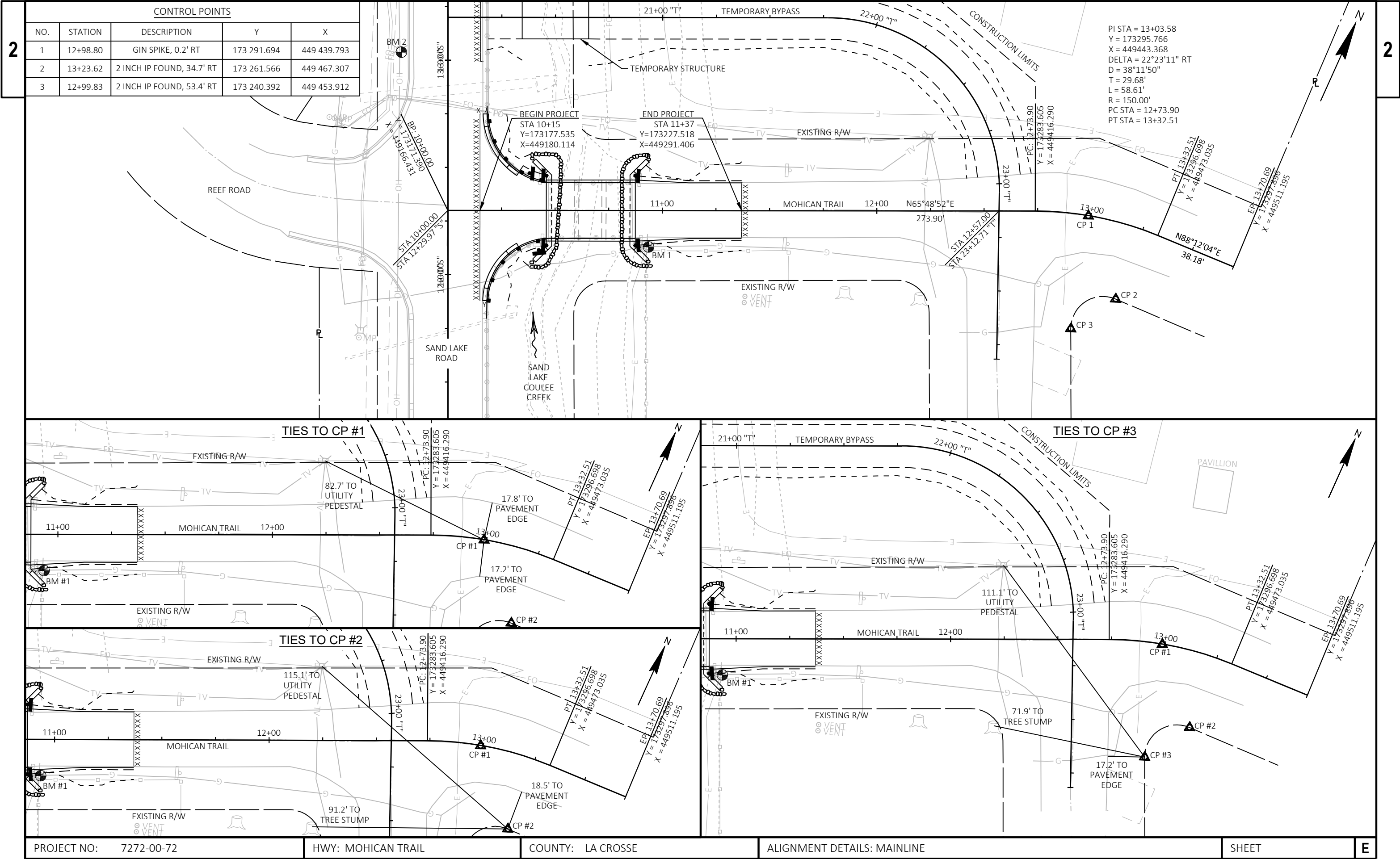


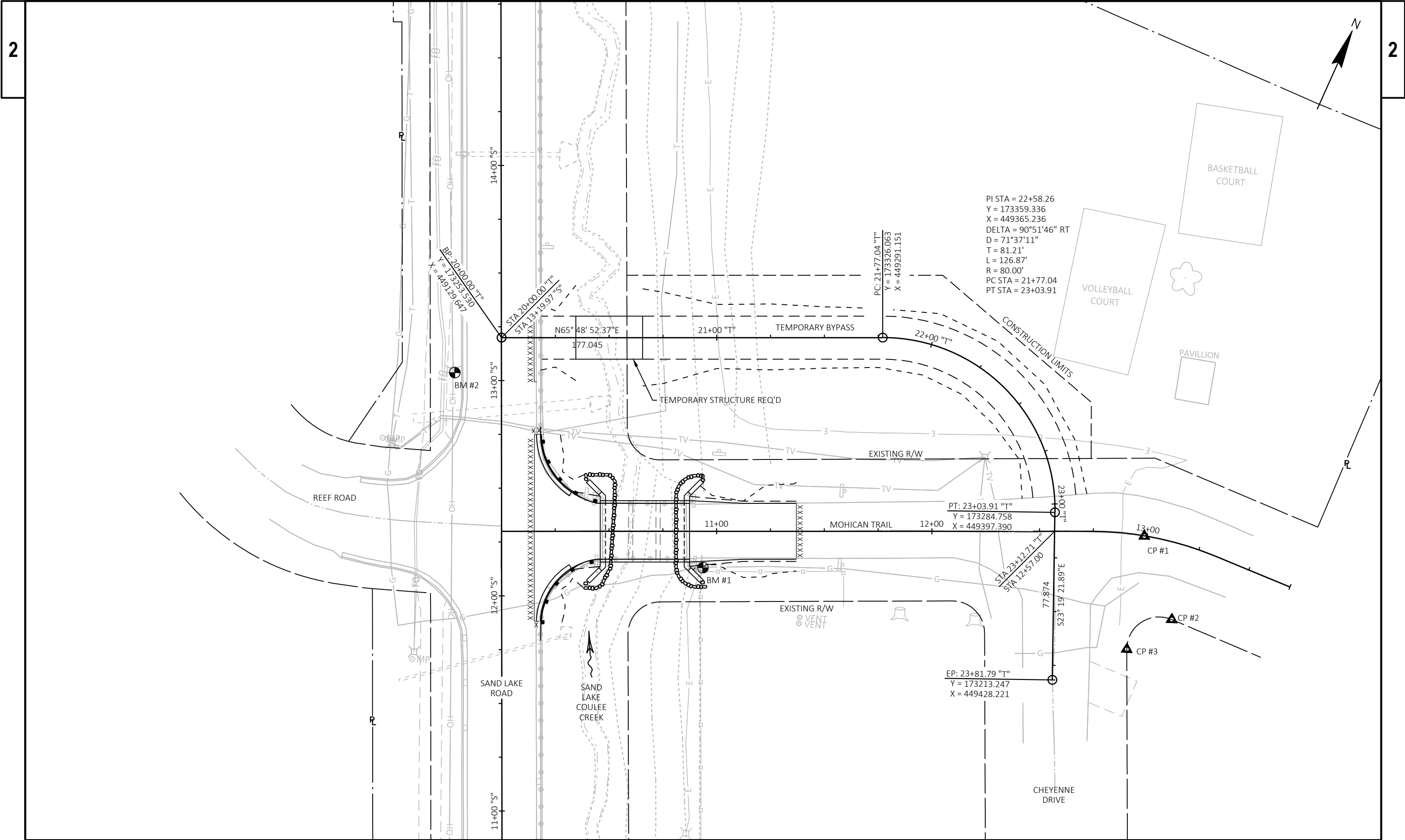
SEE SDD 13d31-05 "TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY" FOR MORE
DETAIL.

	TYPE III BARRICADE
	TYPE III BARRICADE WITH ATTACHED SIGN
	SIGN ON PERMANENT SUPPORT
	TYPE A WARNING LIGHT (FLASHING)
	WORK AREA
	DIRECTION OF TRAFFIC
	TEMPORARY DELINEATOR (WHITE) (SINGLE DELINEATOR)
	DRUM WITH TYPE A WARNING LIGHT (FLASHING)
	MGS GUARDRAIL TEMPORARY TERMINAL EAT

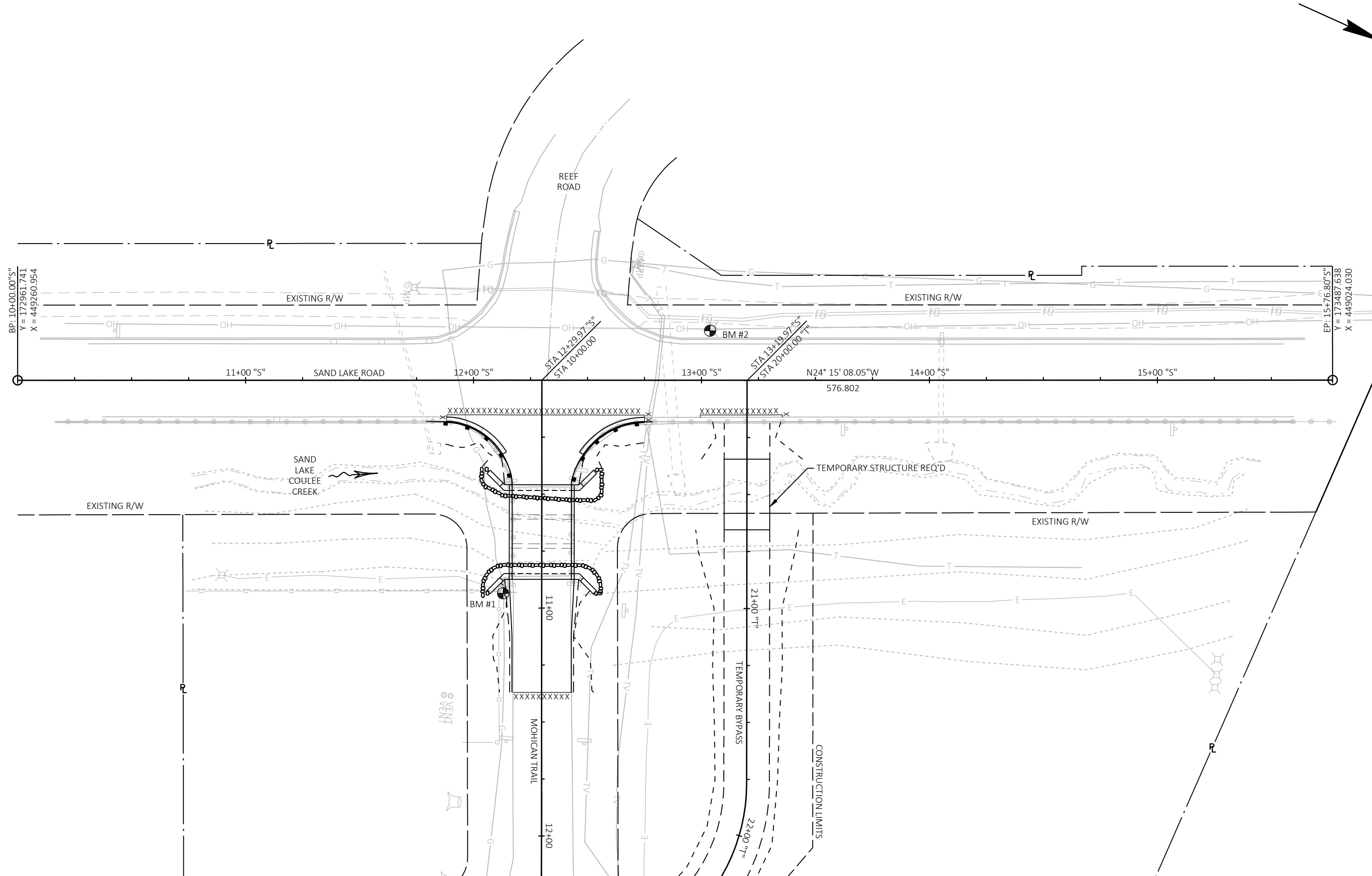








PROJECT NO: 7272-00-72	HWY: MOHICAN TRAIL	COUNTY: LA CROSSE	ALIGNMENT DETAILS: TEMPORARY BYPASS	SHEET	E
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PROJECT NO: 7272-00-72	HWY: MOHICAN TRAIL	COUNTY: LA CROSSE	ALIGNMENT DETAILS: SAND LAKE ROAD	SHEET	E
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Estimate Of Quantities

7272-00-72

Line	Item	Item Description	Unit	Total	Qty
0002	203.0250	Removing Structure Over Waterway Remove Debris (structure) 01. P-32-923	EACH	1.000	1.000
0004	204.0150	Removing Curb & Gutter	LF	84.000	84.000
0006	204.0165	Removing Guardrail	LF	105.000	105.000
0008	205.0100	Excavation Common	CY	422.000	422.000
0010	206.1001	Excavation for Structures Bridges (structure) 01. B-32-0584	EACH	1.000	1.000
0012	208.0100	Borrow	CY	223.000	223.000
0014	210.1500	Backfill Structure Type A	TON	300.000	300.000
0016	213.0100	Finishing Roadway (project) 01. 7272-00-72	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	6.000	6.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	690.000	690.000
0022	416.0610	Drilled Tie Bars	EACH	8.000	8.000
0024	455.0605	Tack Coat	GAL	15.000	15.000
0026	465.0105	Asphaltic Surface	TON	65.000	65.000
0028	502.0100	Concrete Masonry Bridges	CY	138.000	138.000
0030	502.3200	Protective Surface Treatment	SY	187.000	187.000
0032	505.0400	Bar Steel Reinforcement HS Structures	LB	4,220.000	4,220.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	18,360.000	18,360.000
0036	513.4061	Railing Tubular Type M	LF	88.000	88.000
0038	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0040	526.0101	Temporary Structure (station) 01. 20+50"TT"	EACH	1.000	1.000
0042	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,015.000	1,015.000
0044	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	48.000	48.000
0046	601.0584	Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type TBT	LF	52.000	52.000
0048	606.0300	Riprap Heavy	CY	37.000	37.000
0050	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0052	614.0920	Salvaged Rail	LF	75.000	75.000
0054	614.1200	MGS Guardrail Temporary Terminal EAT	EACH	1.000	1.000
0056	618.0100	Maintenance and Repair of Haul Roads (project) 01. 7272-00-72	EACH	1.000	1.000
0058	619.1000	Mobilization	EACH	1.000	1.000
0060	624.0100	Water	MGAL	7.100	7.100
0062	625.0500	Salvaged Topsoil	SY	82.000	82.000
0064	627.0200	Mulching	SY	1,500.000	1,500.000
0066	628.1504	Silt Fence	LF	950.000	950.000
0068	628.1520	Silt Fence Maintenance	LF	1,552.000	1,552.000
0070	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0072	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0074	628.6005	Turbidity Barriers	SY	210.000	210.000
0076	628.7010	Inlet Protection Type B	EACH	1.000	1.000
0078	628.7015	Inlet Protection Type C	EACH	2.000	2.000
0080	629.0210	Fertilizer Type B	CWT	2.500	2.500
0082	630.0130	Seeding Mixture No. 30	LB	32.000	32.000
0084	630.0200	Seeding Temporary	LB	70.000	70.000
0086	630.0500	Seed Water	MGAL	54.000	54.000
0088	633.1100	Delineators Temporary	EACH	25.000	25.000
0090	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0092	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	1.000	1.000
0094	637.2210	Signs Type II Reflective H	SF	5.180	5.180
0096	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0098	638.2102	Moving Signs Type II	EACH	1.000	1.000

Estimate Of Quantities

7272-00-72

Line	Item	Item Description	Unit	Total	Qty
0100	638.2602	Removing Signs Type II	EACH	5.000	5.000
0102	638.3000	Removing Small Sign Supports	EACH	5.000	5.000
0104	638.4000	Moving Small Sign Supports	EACH	1.000	1.000
0106	642.5001	Field Office Type B	EACH	1.000	1.000
0108	643.0300	Traffic Control Drums	DAY	534.000	534.000
0110	643.0420	Traffic Control Barricades Type III	DAY	1,838.000	1,838.000
0112	643.0705	Traffic Control Warning Lights Type A	DAY	4,032.000	4,032.000
0114	643.0900	Traffic Control Signs	DAY	1,353.000	1,353.000
0116	643.5000	Traffic Control	EACH	1.000	1.000
0118	645.0111	Geotextile Type DF Schedule A	SY	64.000	64.000
0120	645.0120	Geotextile Type HR	SY	114.000	114.000
0122	645.0140	Geotextile Type SAS	SY	1,200.000	1,200.000
0124	646.1020	Marking Line Epoxy 4-Inch	LF	100.000	100.000
0126	646.6120	Marking Stop Line Epoxy 18-Inch	LF	20.000	20.000
0128	650.4500	Construction Staking Subgrade	LF	327.000	327.000
0130	650.5000	Construction Staking Base	LF	327.000	327.000
0132	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	100.000	100.000
0134	650.6501	Construction Staking Structure Layout (structure) 01. B-32-0584	EACH	1.000	1.000
0136	650.9911	Construction Staking Supplemental Control (project) 01. 7272-00-72	EACH	1.000	1.000
0138	650.9920	Construction Staking Slope Stakes	LF	327.000	327.000
0140	690.0150	Sawing Asphalt	LF	154.000	154.000
0142	690.0250	Sawing Concrete	LF	10.000	10.000
0144	715.0502	Incentive Strength Concrete Structures	DOL	828.000	828.000
0146	999.1501.S	Crack and Damage Survey 01. P-32-923	EACH	2.000	2.000
0148	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	400.000	400.000
0150	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	700.000	700.000
0152	SPV.0060	Special 01. Thrie Beam Radius Transition	EACH	2.000	2.000
0154	SPV.0090	Special 01. Profile Curb Cut	LF	36.000	36.000

3

3

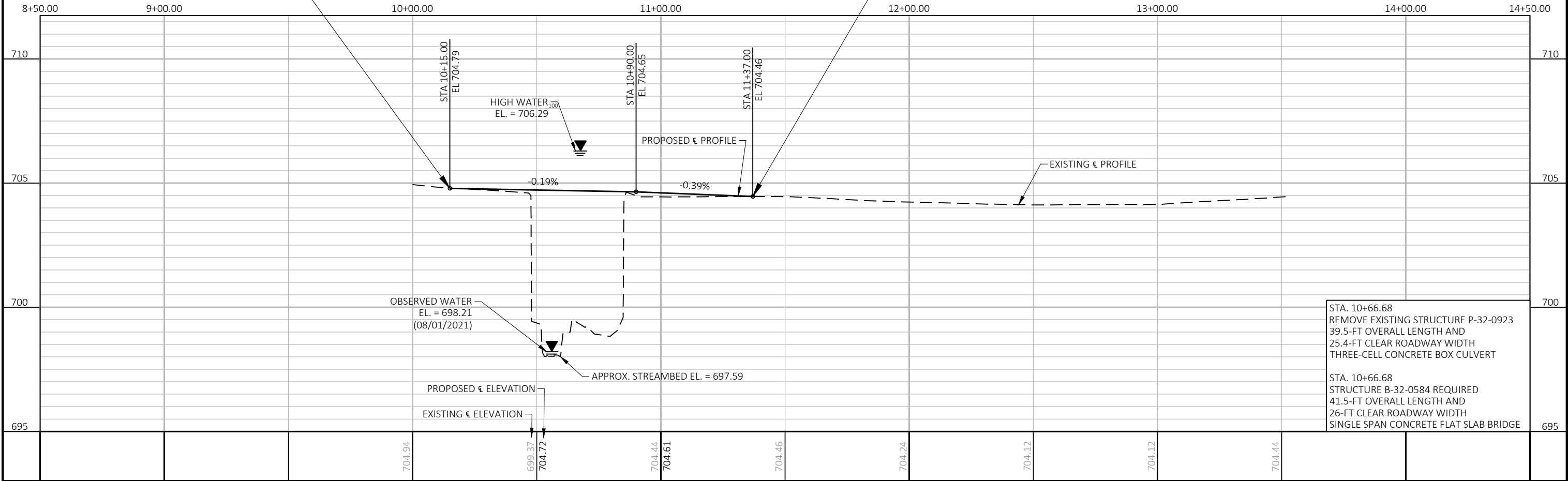
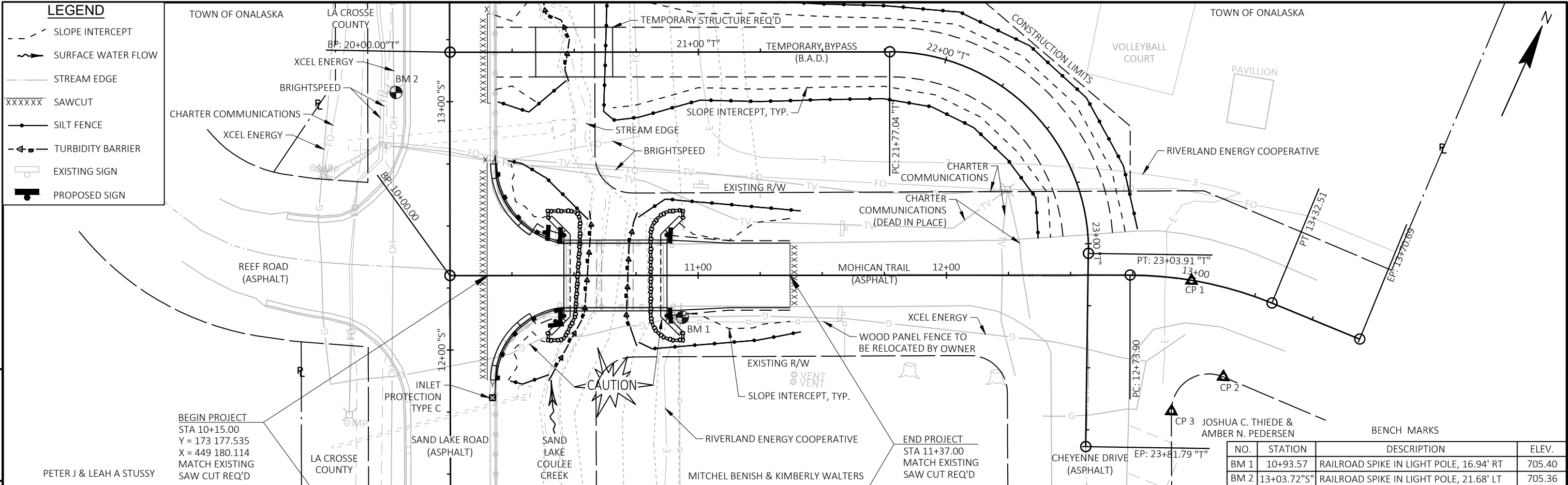
ALL ITEMS CATEGORY 0010 UNLESS NOTED OTHERWISE																	
<u>TURBIDITY BARRIERS</u>		<u>INLET PROTECTION</u>		<u>PERMANENT SIGNING</u>													
				634.0612 POSTS WOOD 4X6-INCH X 12-FT		634.0616 POSTS WOOD 4X6-INCH X 16-FT	637.2210 SIGNS TYPE II REFLECTIVE H	637.2230 SIGNS TYPE II REFLECTIVE F	638.2102 MOVING SIGNS TYPE II	638.2602 REMOVING SIGNS TYPE II	638.3000 REMOVING SMALL SIGN SUPPORTS	638.4000 MOVING SMALL SIGN SUPPORTS					
				STATION	LOCATION	SIGN NUMBER	SIGN CODE	EACH	EACH	SF	SF	EACH	EACH	EACH	EACH	SIGN DESCRIPTION	
628.6005 SY		628.7010 INLET PROTECTION TYPE B		628.7015 INLET PROTECTION TYPE C													
LOCATION		STATION	LOCATION	EACH	EACH												
WEST ABUTMENT	73	12+75	EAST APPROACH, RT	1	---	10+38	WEST APPROACH, LT	1R	R1-1	---	---	---	---	1	1	---	STOP
EAST ABUTMENT	55	11+81 "S"	SAND LAKE RD, RT	---	1	10+38	WEST APPROACH, LT	1	R1-1	---	1	---	---	---	---	---	STOP
TEMPORARY BYPASS	41	14+05 "S"	SAND LAKE RD, RT	---	1	10+43	WEST APPROACH, RT	2M	M1-94	---	---	1	---	---	---	1	MOHICAN TR
UNDISTRIBUTED	41						10+45	WEST APPROACH, LT	3R	W5-52L	---	---	---	1	1	---	BRIDGE HASH MARKS
TOTAL	210						10+45	WEST APPROACH, RT	4R	W5-52R	---	---	---	1	1	---	BRIDGE HASH MARKS
							10+46	WEST APPROACH, LT	3	W5-52L	1	---	---	3	---	---	BRIDGE HASH MARKS
							10+46	WEST APPROACH, RT	4	W5-52R	1	---	---	3	---	---	BRIDGE HASH MARKS
							10+87	EAST APPROACH, LT	5	W5-52R	1	---	---	3	---	---	BRIDGE HASH MARKS
							10+87	EAST APPROACH, RT	6	W5-52L	1	---	---	3	---	---	BRIDGE HASH MARKS
							10+88	EAST APPROACH, LT	5R	W5-52R	---	---	---	1	1	---	BRIDGE HASH MARKS
							10+88	EAST APPROACH, RT	6R	W5-52L	---	---	---	1	1	---	BRIDGE HASH MARKS
							TOTAL			4	1	5.18	12	1	5	5	1

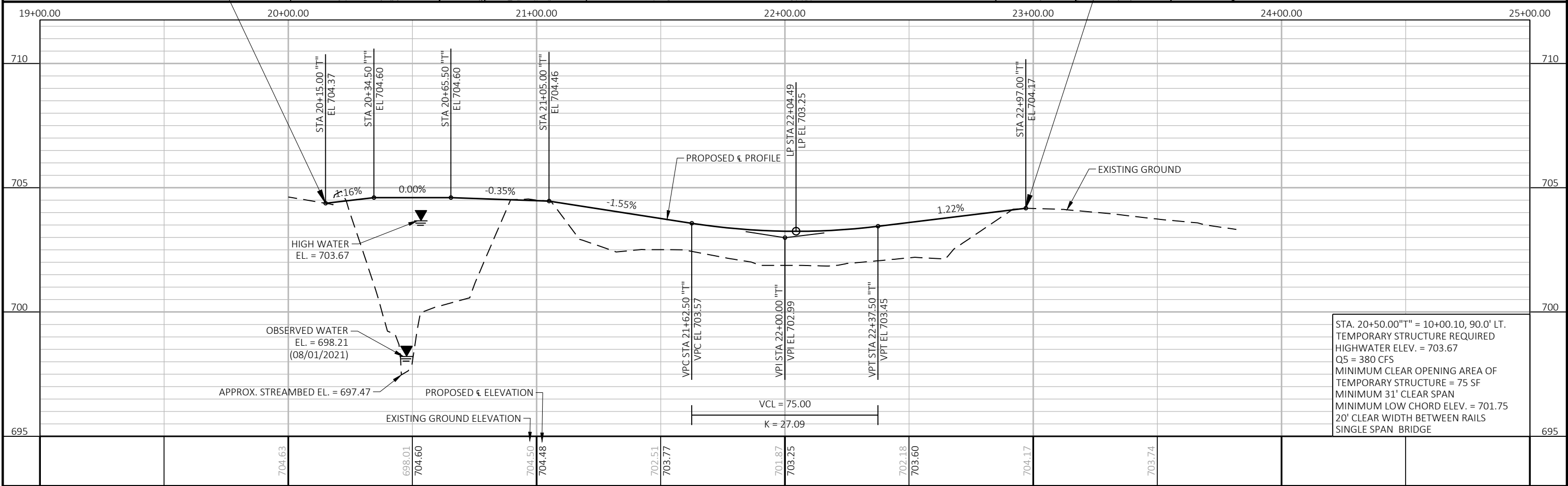
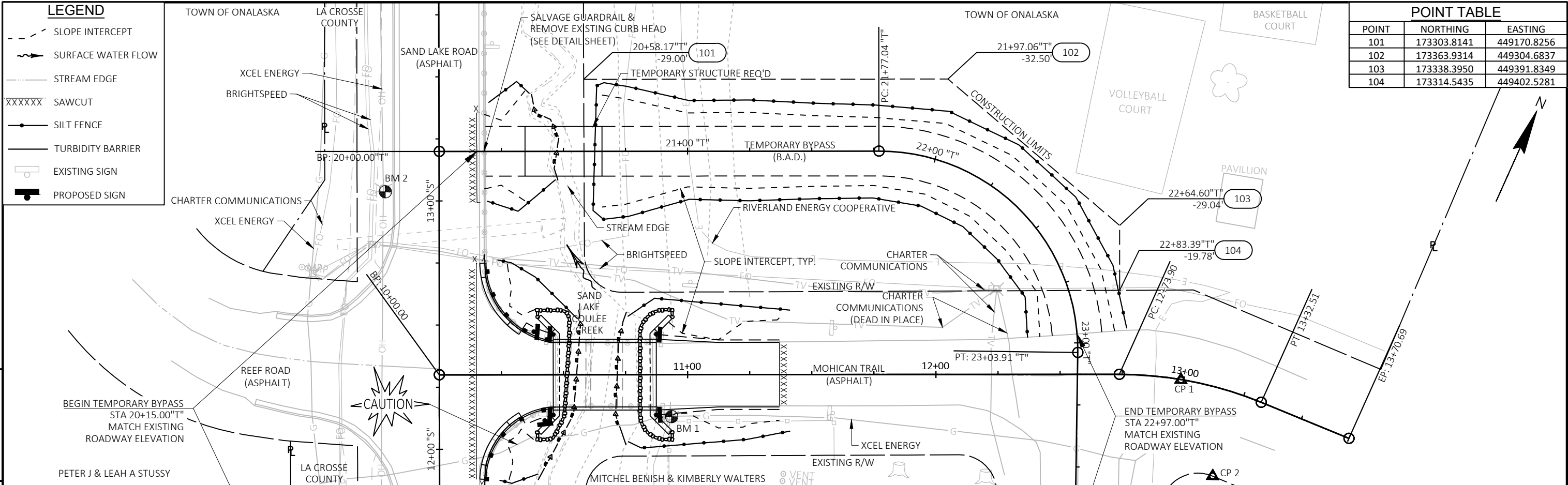
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TRAFFIC CONTROL											
		633.1100	643.0300		643.0420		643.0705		643.0900		643.5000
		DELINEATORS	TRAFFIC		TRAFFIC		TRAFFIC		TRAFFIC		TRAFFIC
		TEMPORARY	CONTROL		CONTROL		CONTROL		CONTROL		CONTROL
		EACH	DRUMS		BARRICADES		WARNING		SIGNS		EACH
LOCATION	DURATION		NO.	DAY	NO.	DAY	NO.	DAY	NO.	DAY	
STAGE 1	10	---	3	30	8	80	19	190	4	40	---
STAGE 2	69	20	3	207	14	966	31	2,139	12	828	---
STAGE 3	10	---	3	30	8	80	19	190	4	40	---
UNDISTRIBUTED	89	5	3	267	8	712	17	1,513	5	445	---
PROJECT	---	---	---	---	---	---	---	---	---	---	1
	TOTAL	25	534		1,838		4,032		1,353		1

GEOTEXTILE TYPE SAS					
				645.0140	
STATION	TO	STATION	LOCATION	SY	
20+19 "T"	-	20+35 "T"	TEMPORARY BYPASS	70	
20+66 "T"	-	22+96 "T"	TEMPORARY BYPASS	890	
			UNDISTRIBUTED	240	
			TOTAL	1,200	

PAVEMENT MARKING						
				646.1020	646.6120	
				MARKING	STOP LINE	
				LINE EPOXY	EPOXY	
				4-INCH	18-INCH	
STATION	TO	STATION	LOCATION	LF	LF	
10+28	-	10+87	MOHICAN TRAIL	100	20	
			TOTAL	100	20	



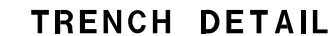


Standard Detail Drawing List

08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B03-15A	FENCE CHAIN LINK
15B03-15B	FENCE CHAIN LINK
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY



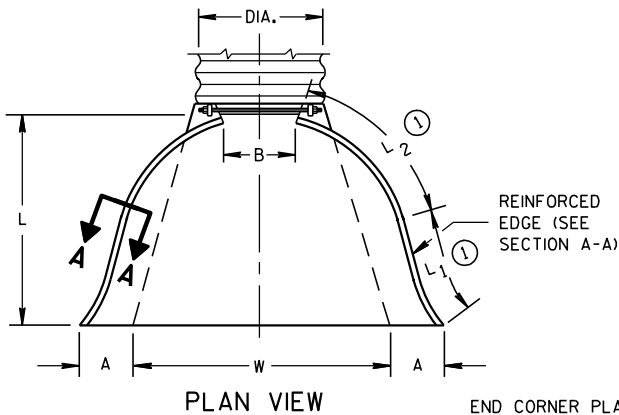
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS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



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

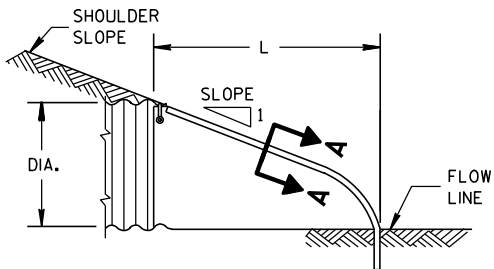
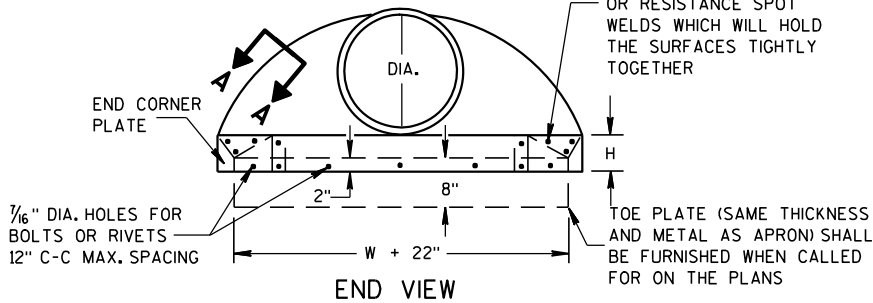
METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE		BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1	1 Pc.
18	.064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

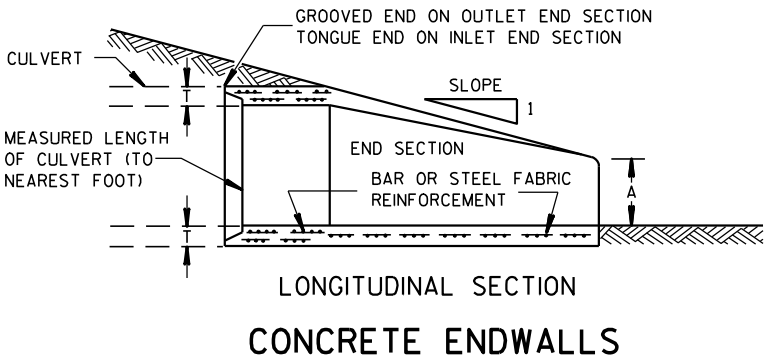
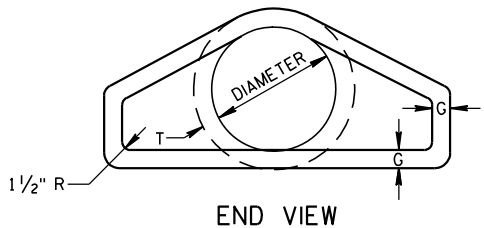
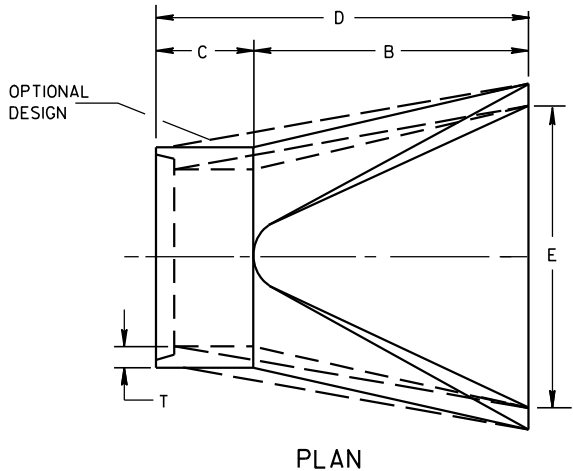
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



SIDE ELEVATION
METAL ENDWALLS

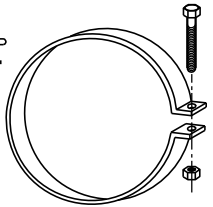
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 7/8	72 7/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9 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

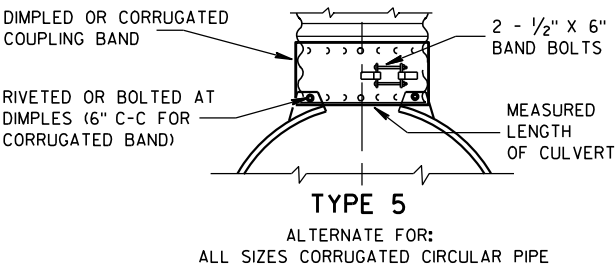
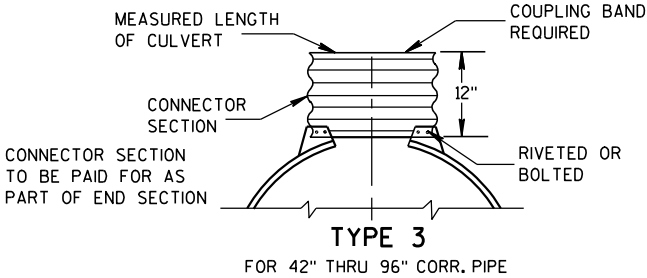
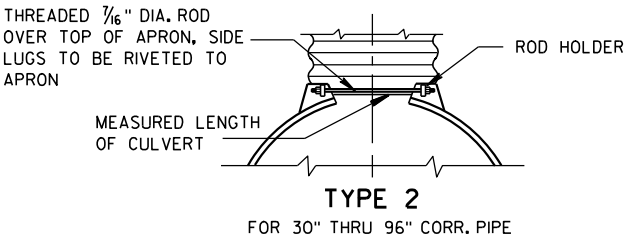
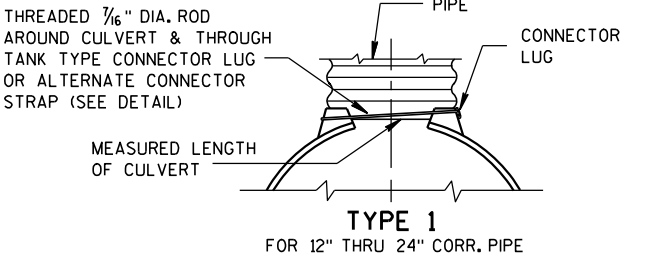


LONGITUDINAL SECTION
CONCRETE ENDWALLS

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



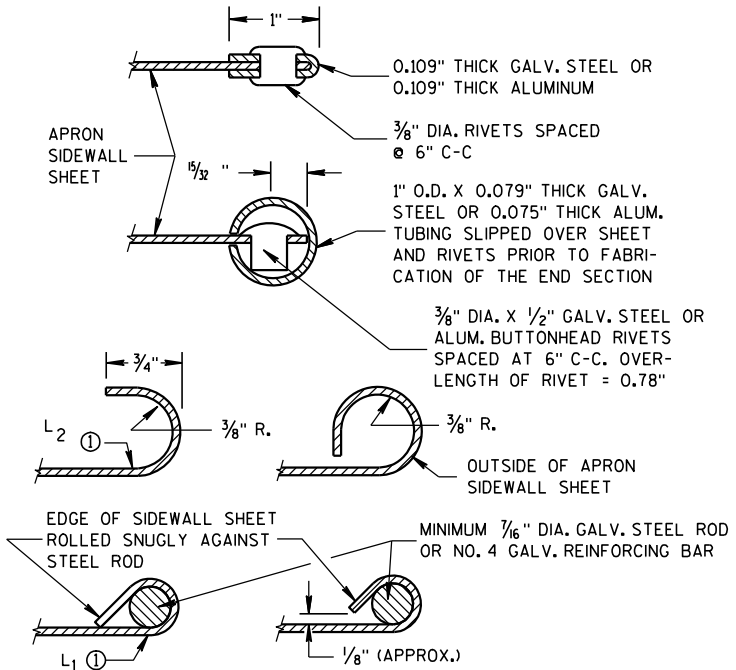
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

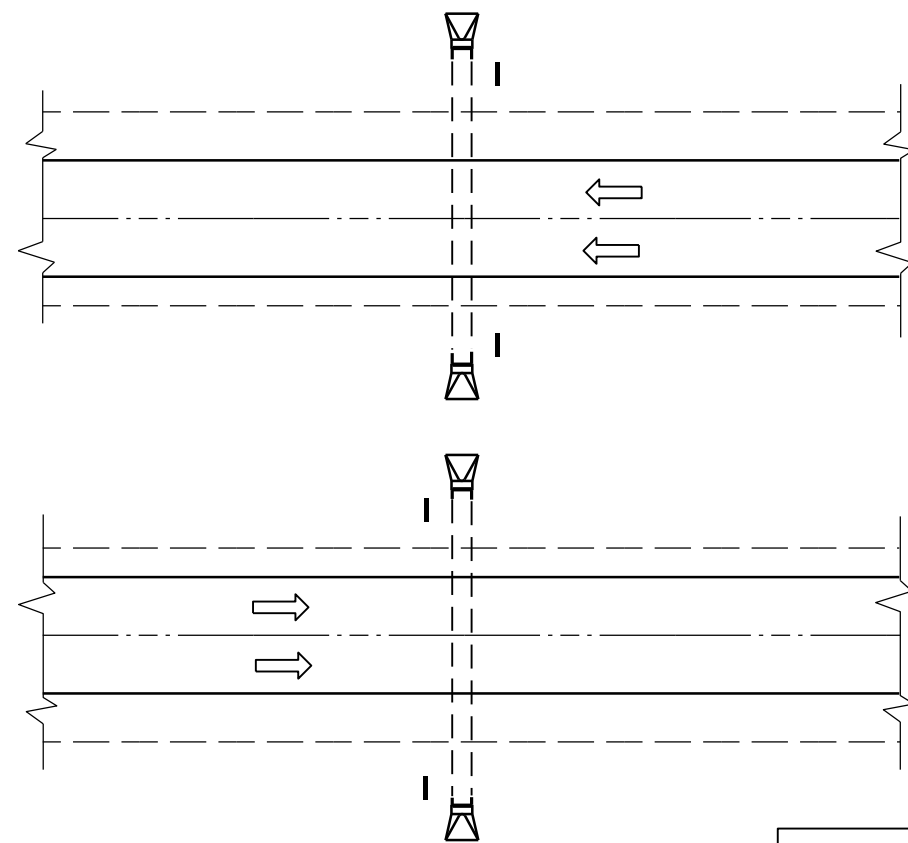
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

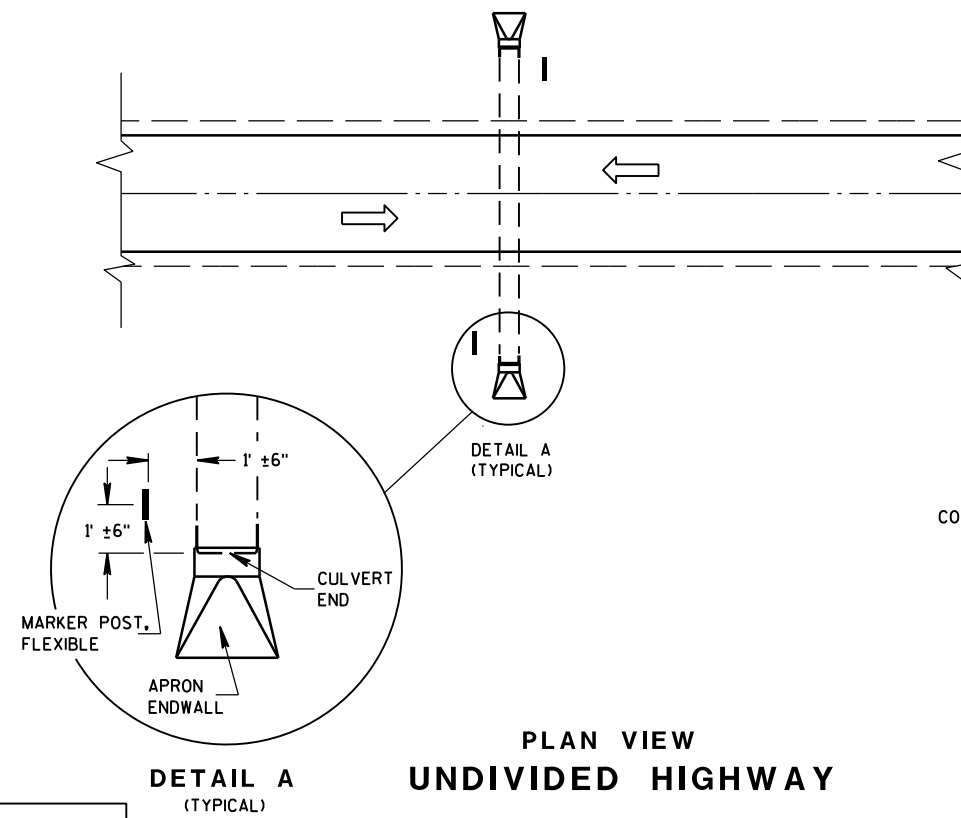
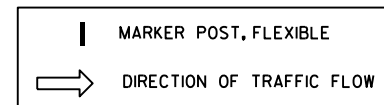
APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW
DIVIDED HIGHWAY

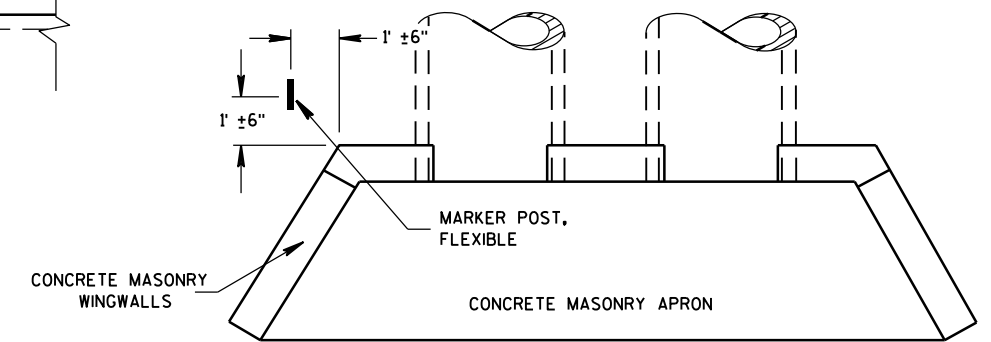


PLAN VIEW
UNDIVIDED HIGHWAY

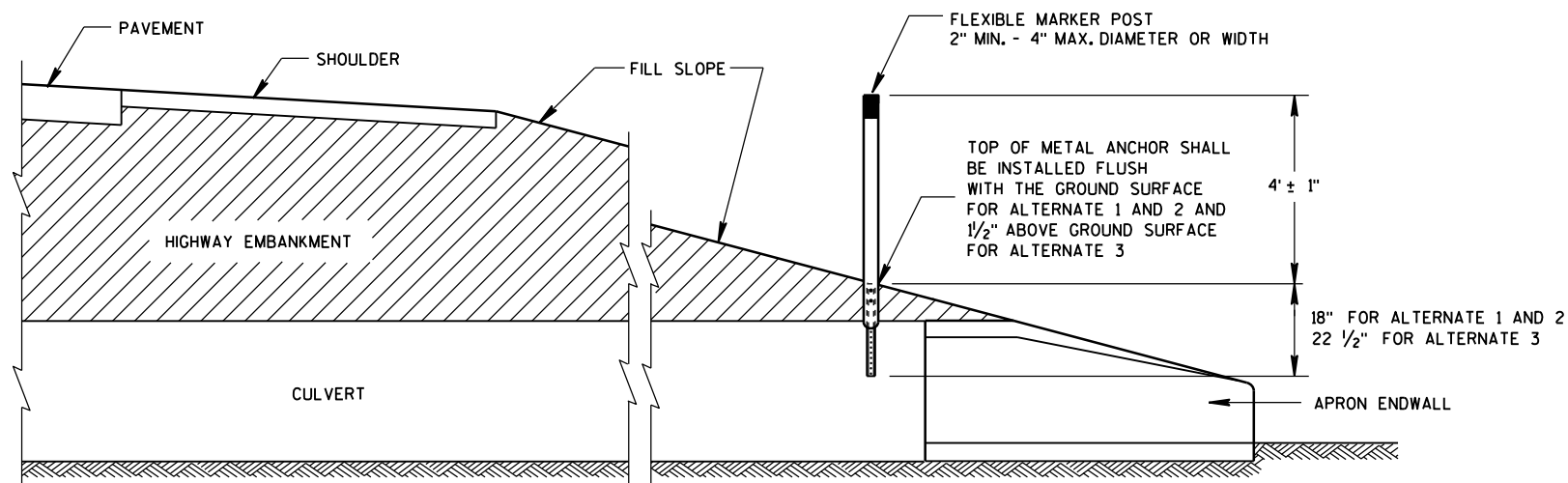
FLEXIBLE MARKER POST LOCATION

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.



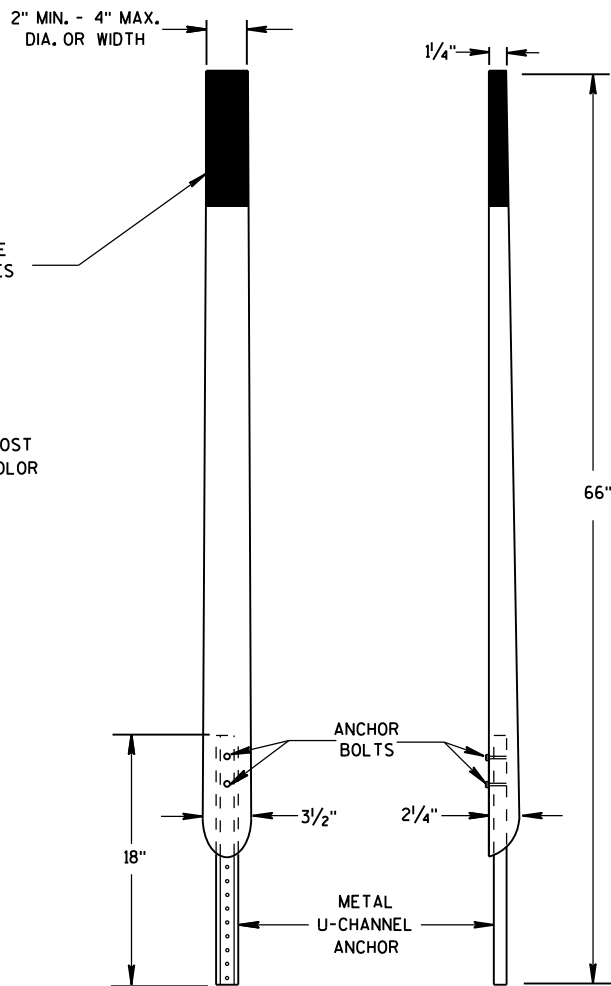
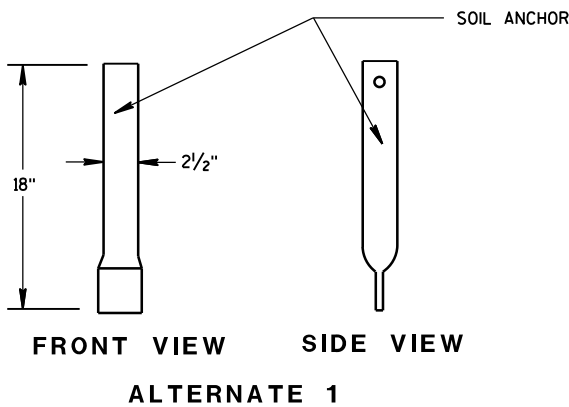
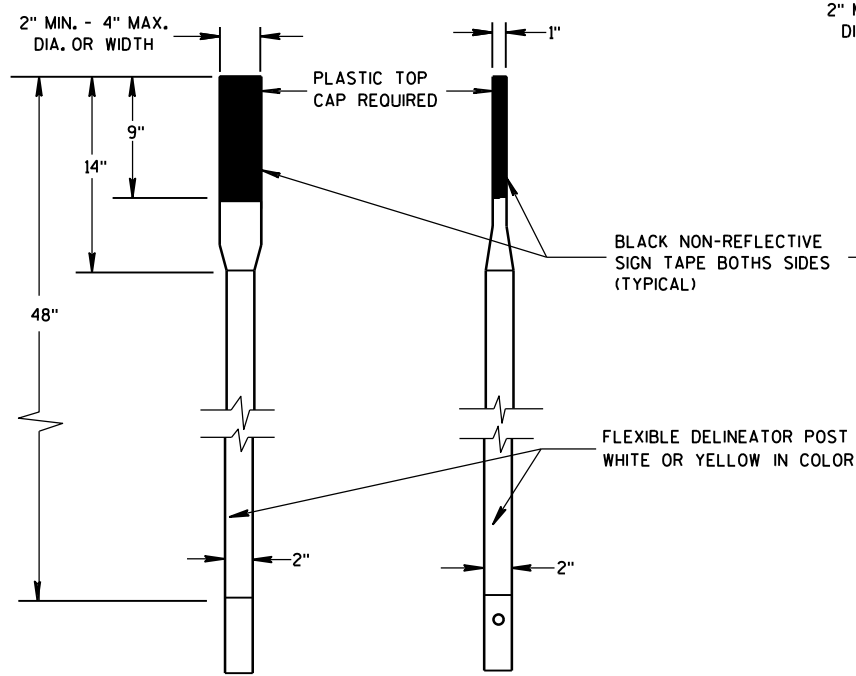
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



CROSS SECTION
FLEXIBLE MARKER POST

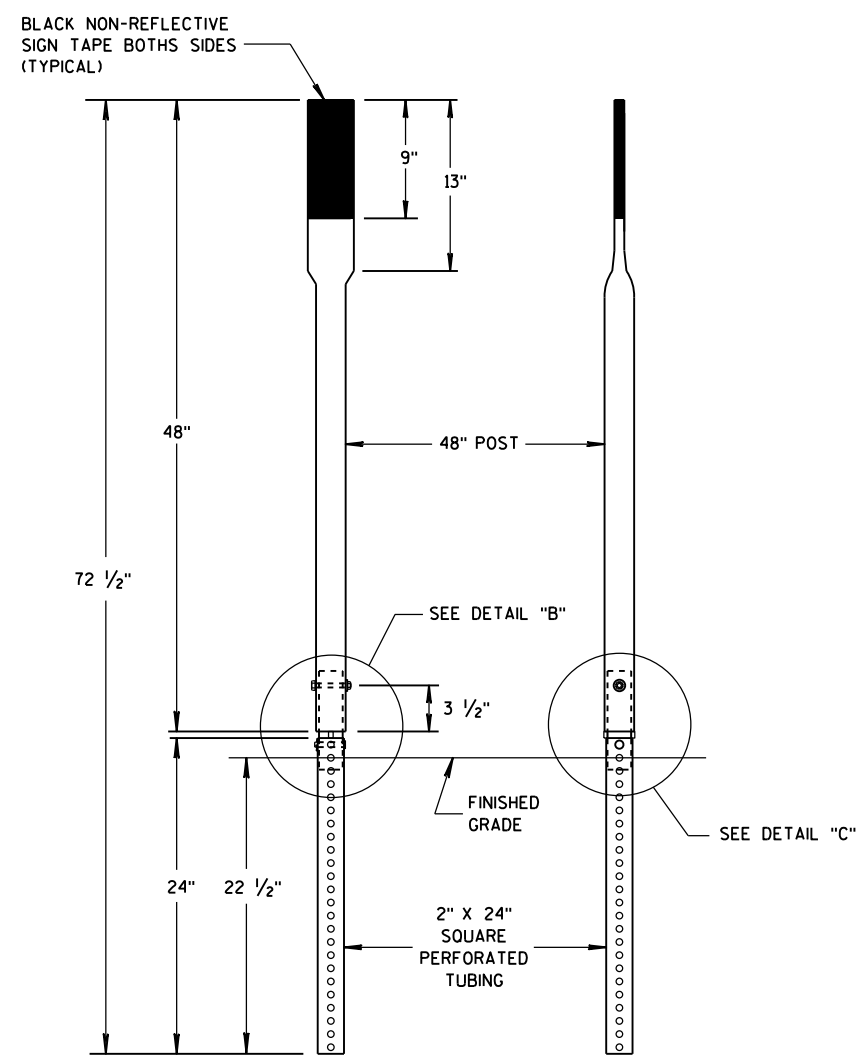
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

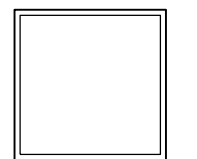


FRONT VIEW SIDE VIEW
ALTERNATE 2

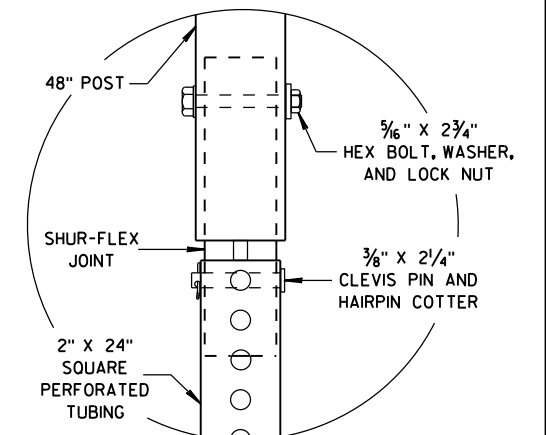
FLEXIBLE MARKER POSTS



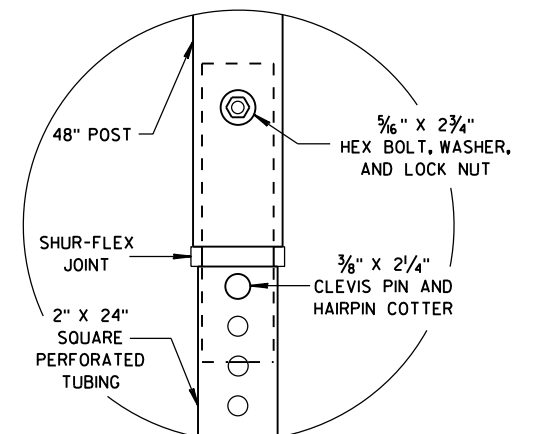
FRONT VIEW SIDE VIEW
ALTERNATE 3



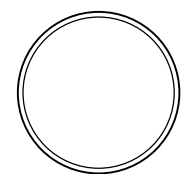
SECTION C-C



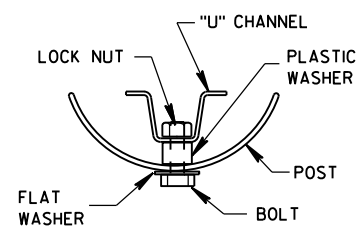
DETAIL B



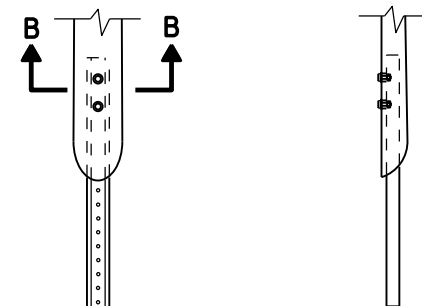
DETAIL C



SECTION A-A

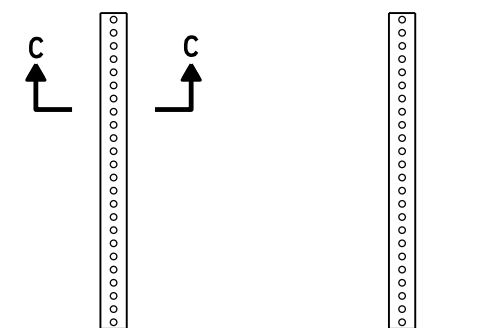


SECTION B-B



FRONT VIEW SIDE VIEW
ALTERNATE 2

FLEXIBLE MARKER POST ANCHORS

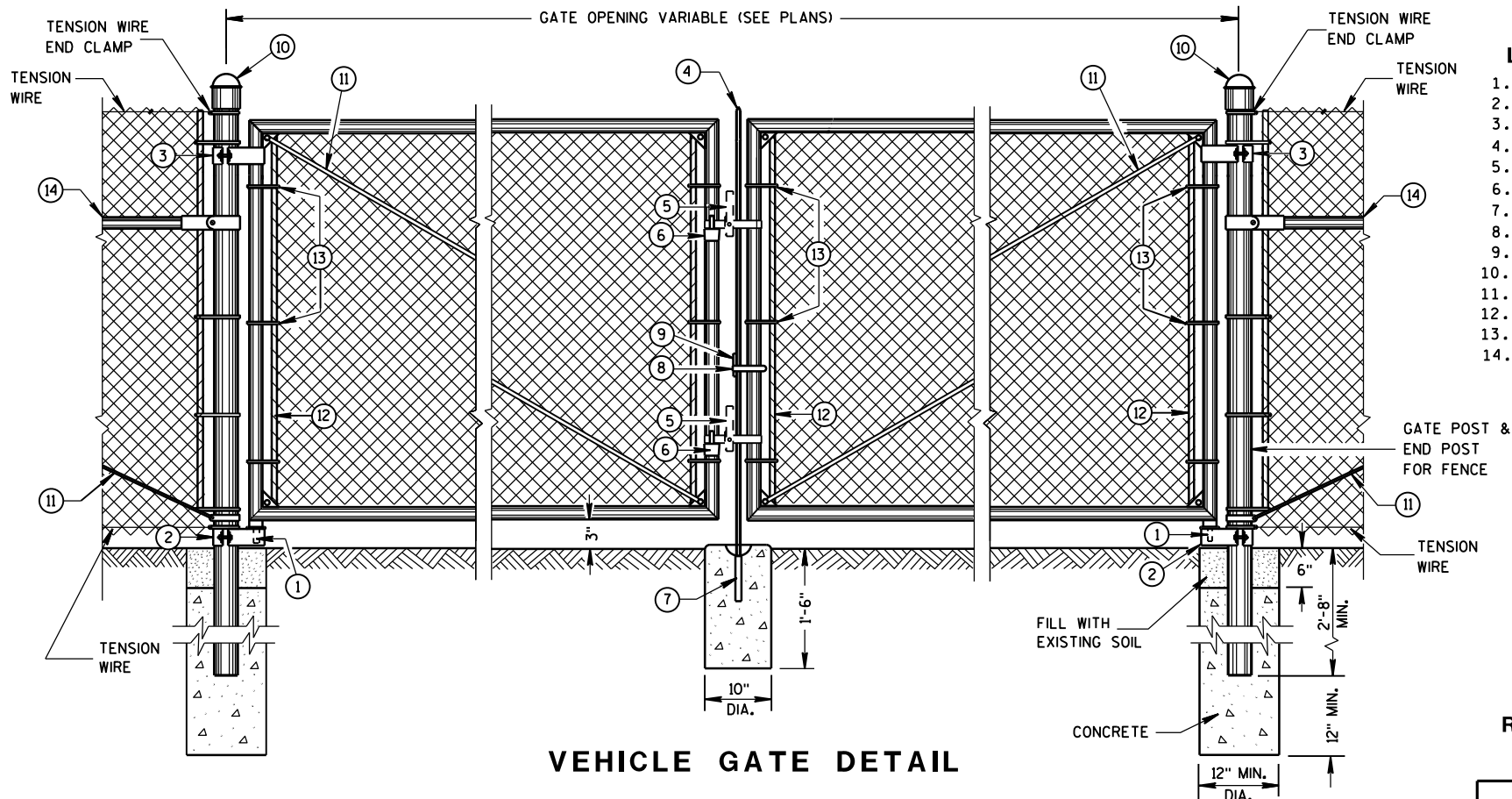


FRONT VIEW SIDE VIEW
ALTERNATE 3

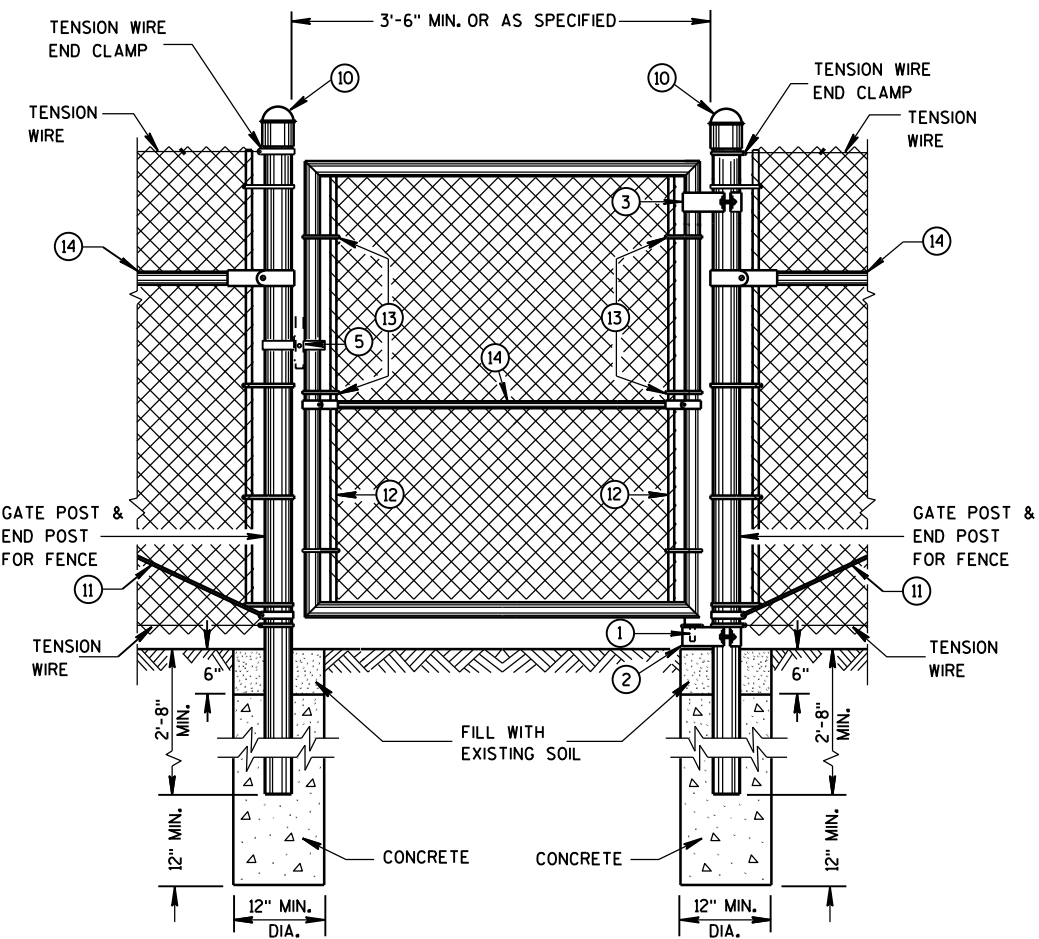
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2+
	GREATER THAN OR EQUAL TO 8 FT.	FS3

BRACE RAIL TYPES

USE	TYPE
BRACE RAIL	SP1 OR FS1

** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

LEGEND

1. STRAIGHT PLUG
 2. BOTTOM HINGE
 3. TOP HINGE
 4. PLUNGER ROD
 5. FULCRUM LATCH
 6. FORK CATCH *
 7. PLUNGER ROD CATCH
 8. LOCK KEEPER GUIDE
 9. LOCK KEEPER
 10. DOME TOPS
 11. TRUSS RODS
 12. TENSION BAR
 13. TENSION BANDS
 14. BRACE RAIL
- *NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

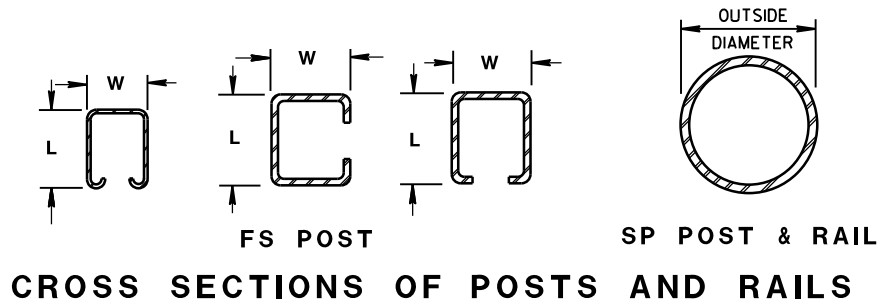
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.

USE TYPE 2, CLASS 3, MARCELLED/CRIMPED, TENSION WIRE PER ASTM A 817.



ROLLED-FORMED STEEL FENCE POST
(2.0 OZ./SQ. FT. COATING)

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2+	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

REQUIRED POST SIZE FOR GATES

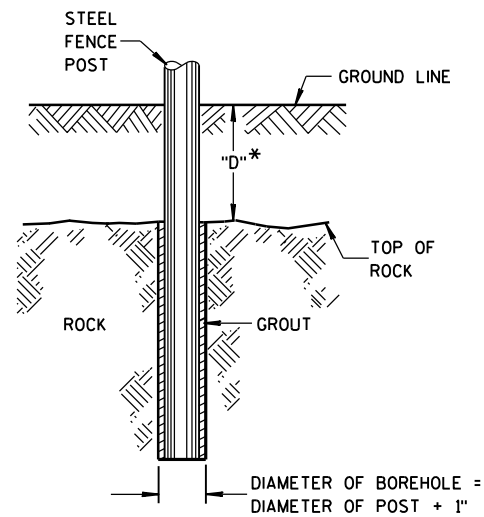
USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

ROUND STEEL FENCE POST
(1.8 OZ./SQ. FT. COATING)

POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

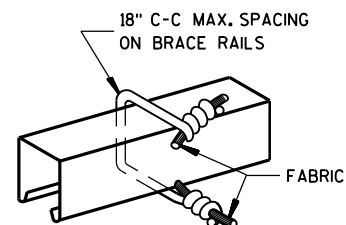
FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



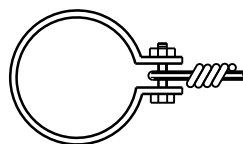
* IF "D" IS LESS THAN 2'-6",
DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST

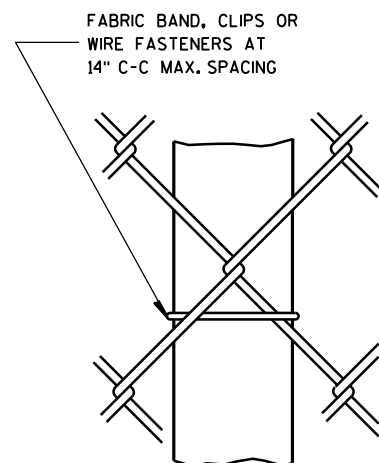


BRACE RAIL FABRIC FASTENER

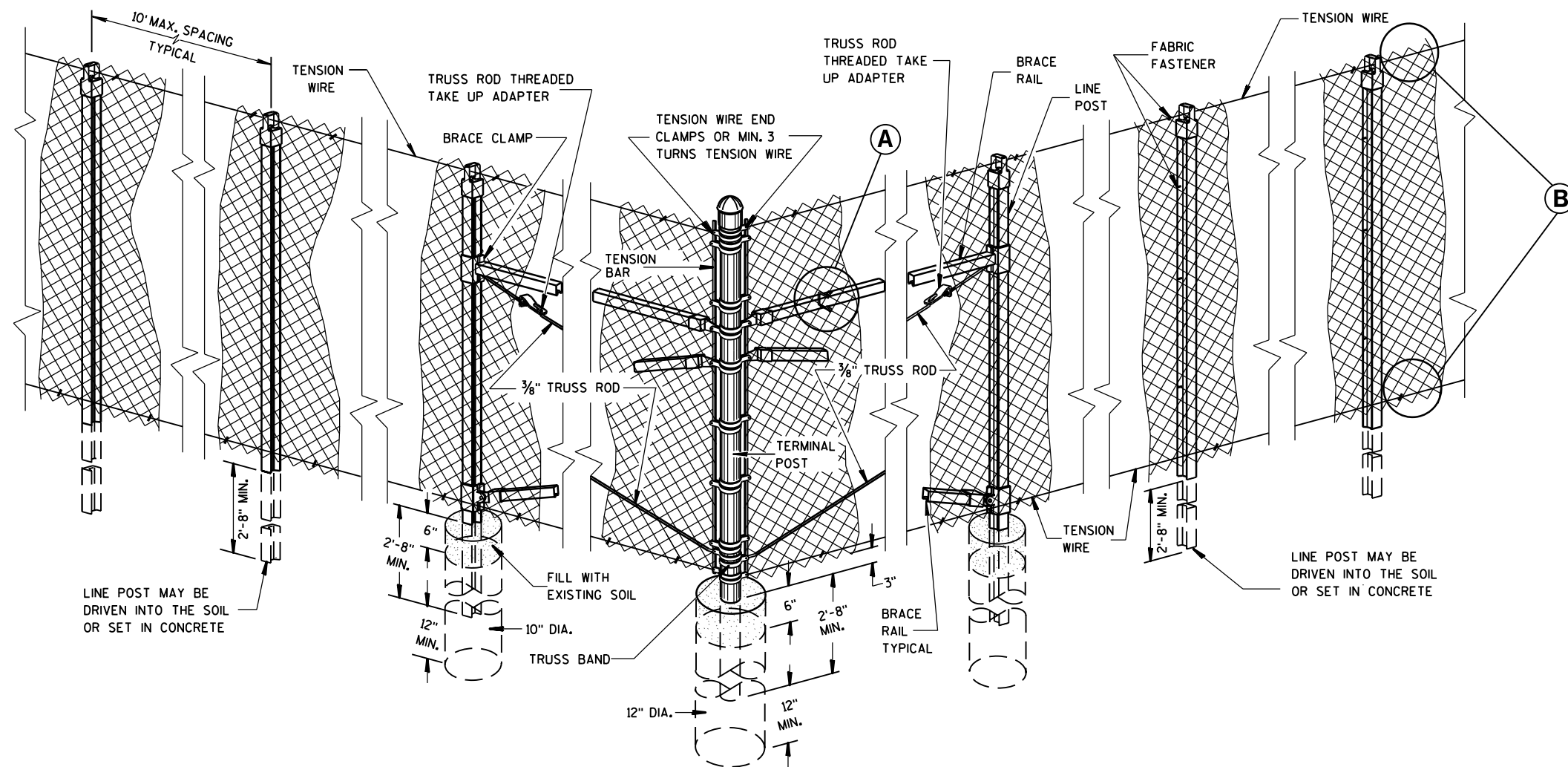
(A)



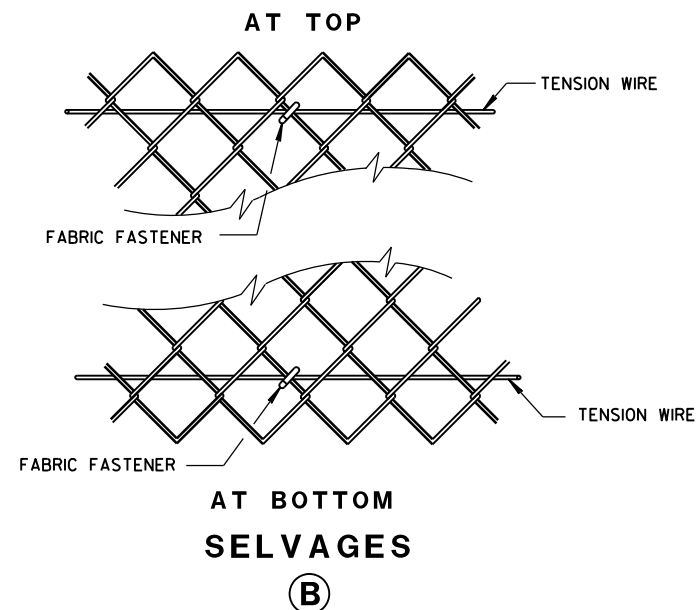
TENSION WIRE END CLAMP



LINE POST FABRIC FASTENER



END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
FEB. 2015
DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

GENERAL NOTES

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

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

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

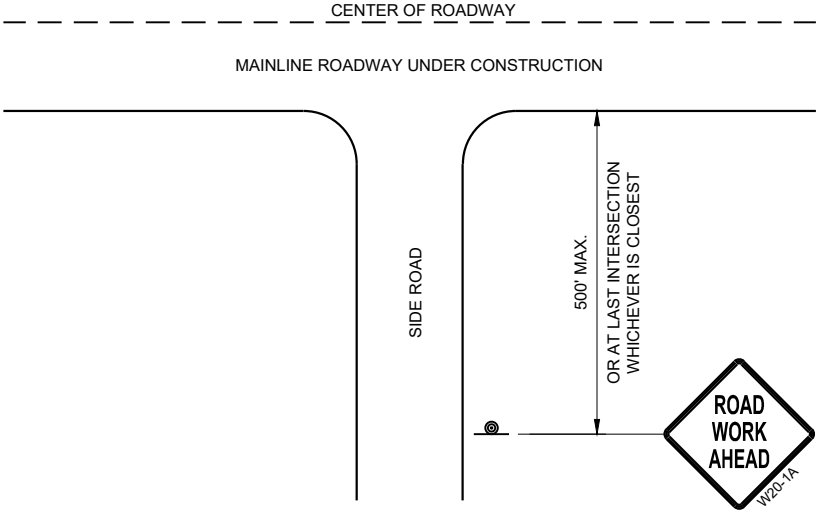
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

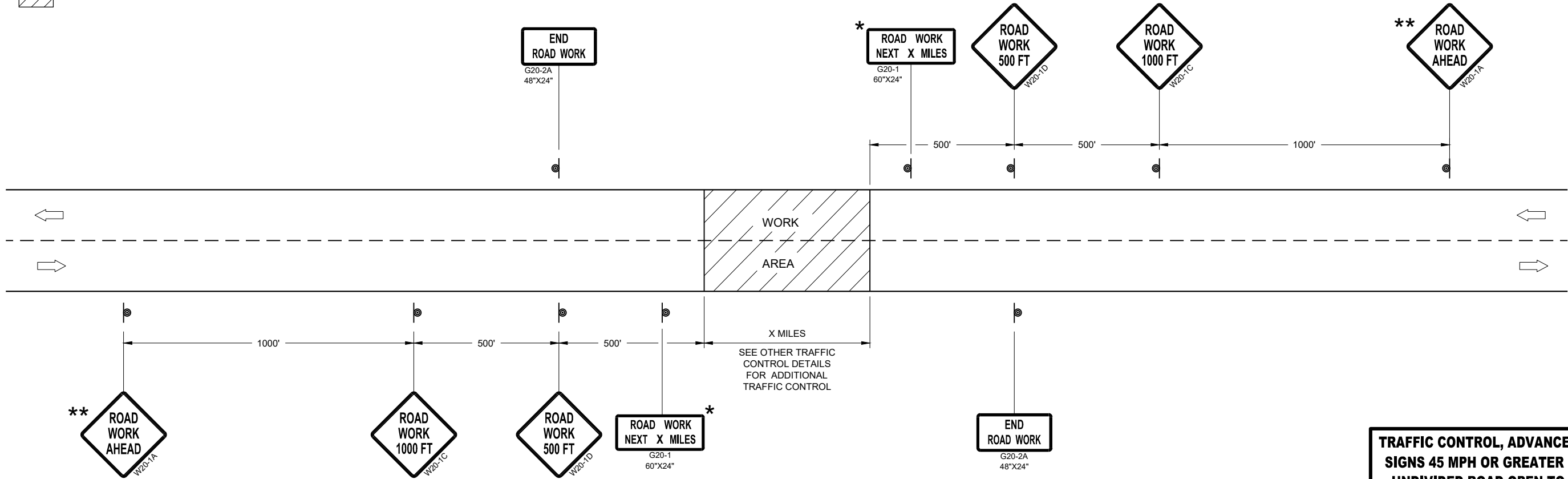
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

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



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 45 MPH OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

LEGEND

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

GENERAL NOTES

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

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

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

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

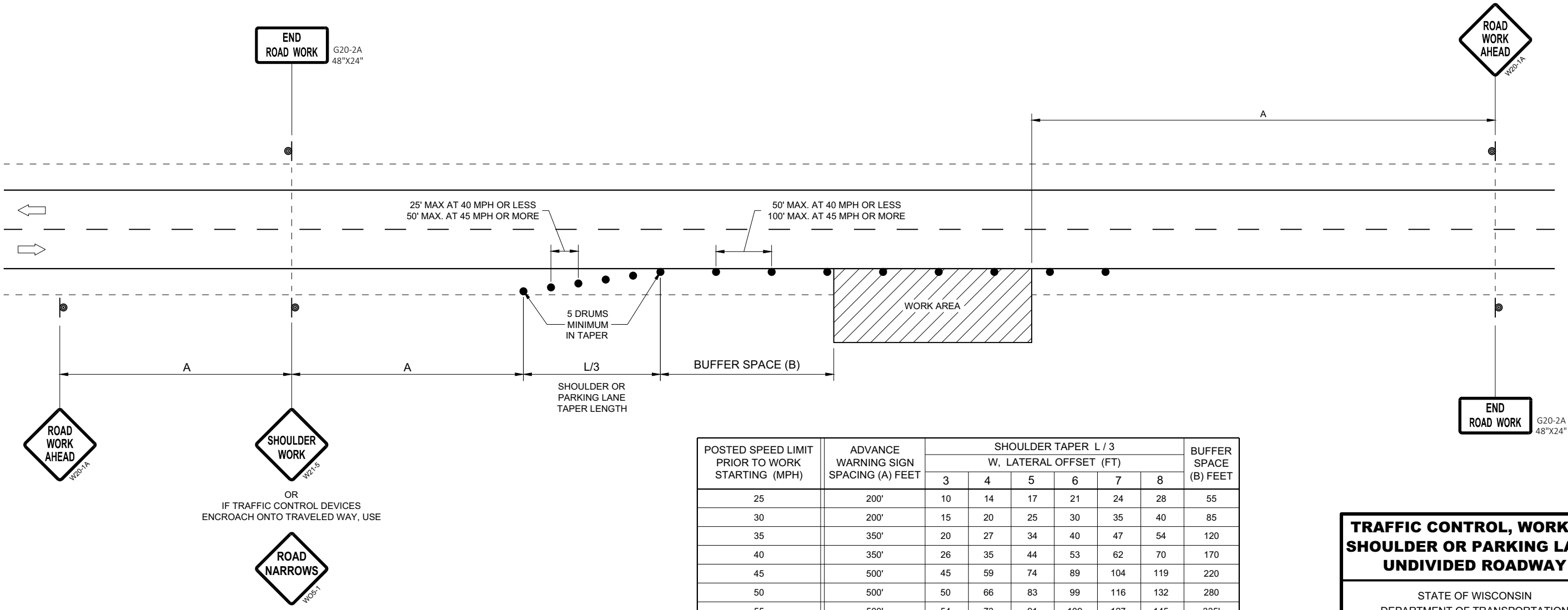
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

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

6

SDD 15D28 - 04



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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020
DATE

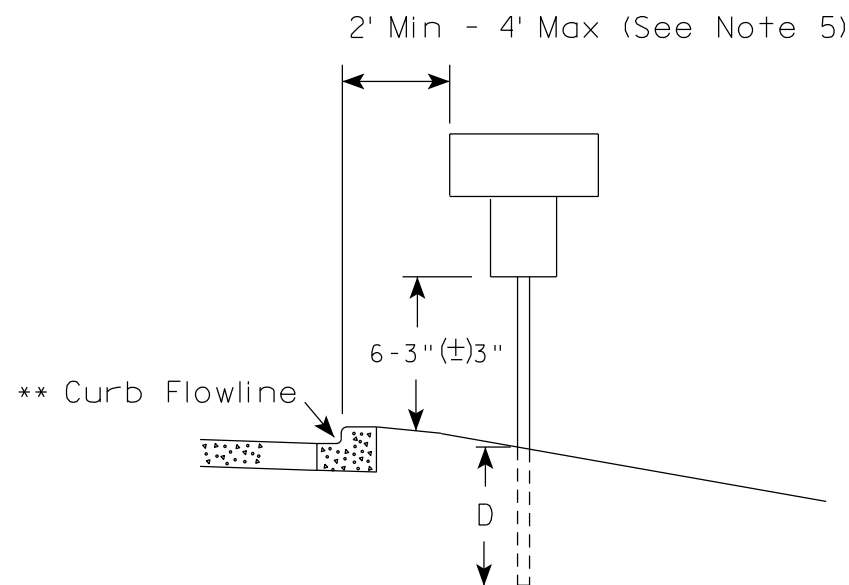
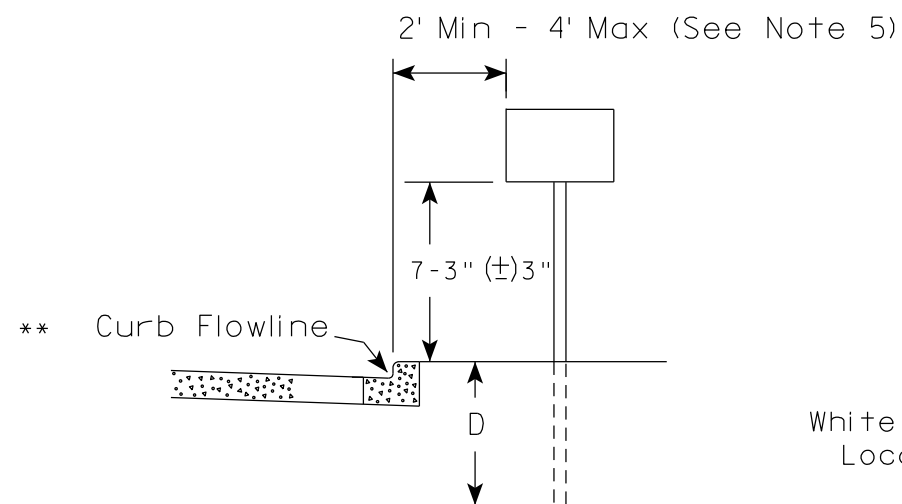
/S/ Andrew Heidtke
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER

FHWA

6

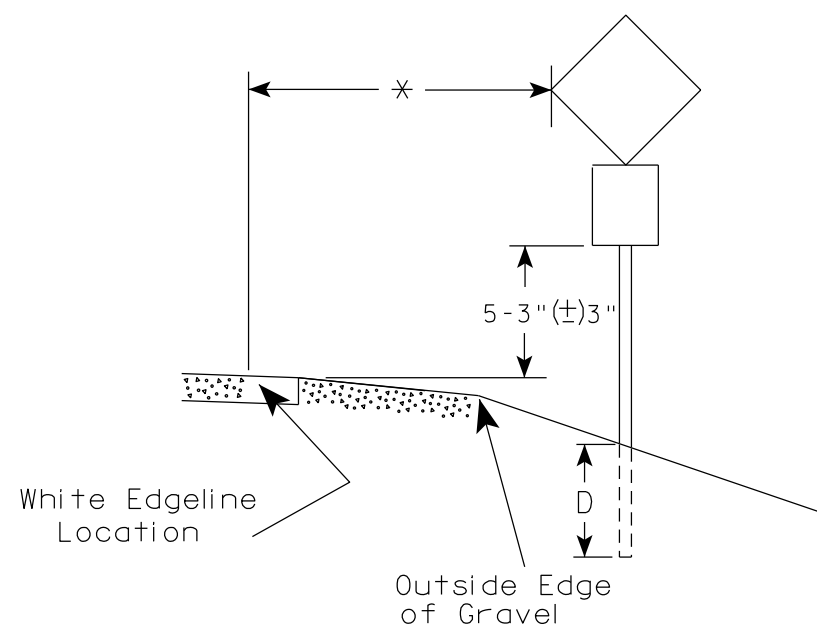
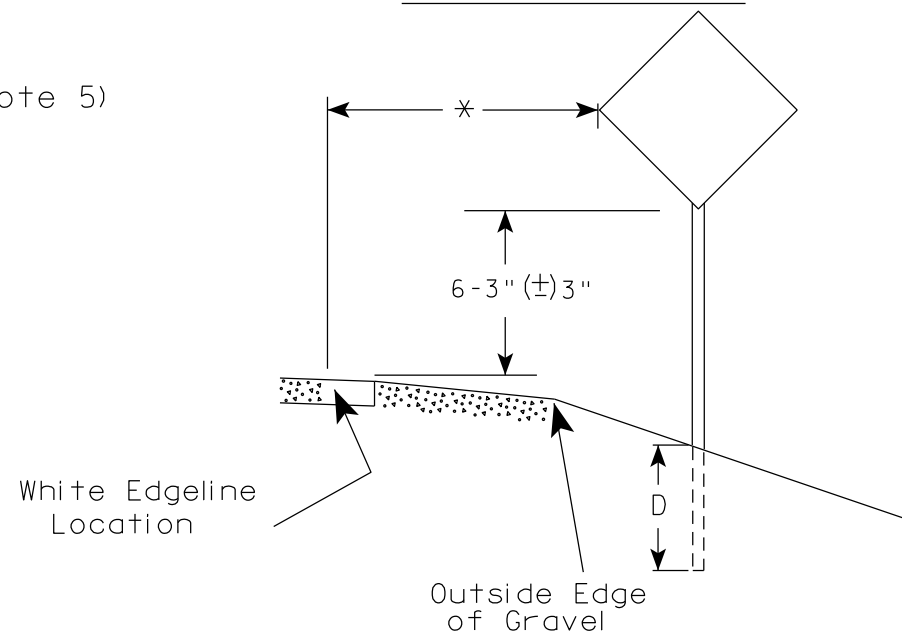
SDD 15D28 - 04

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

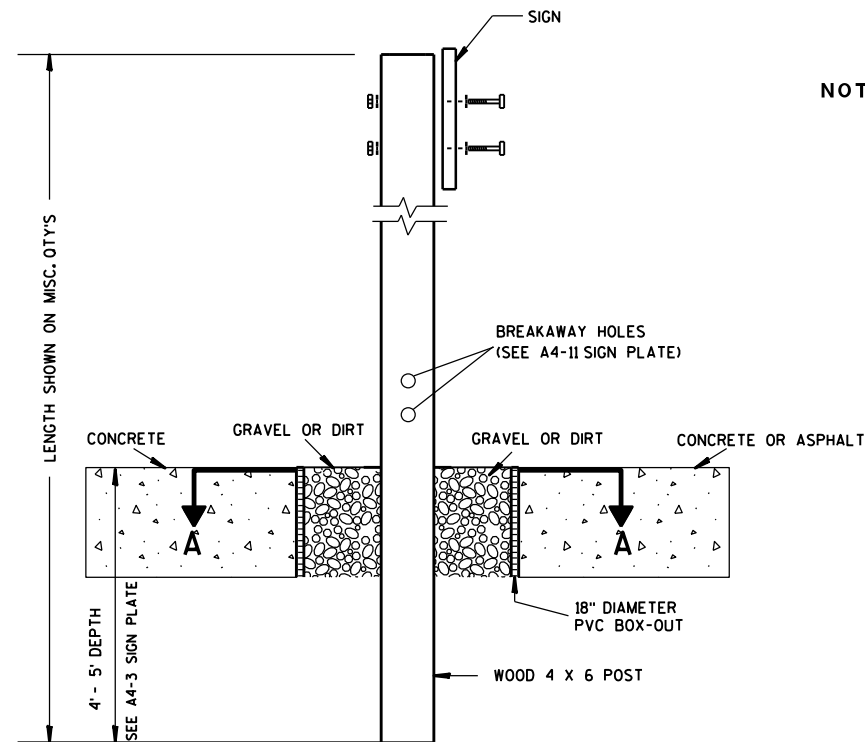
1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron 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".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. 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

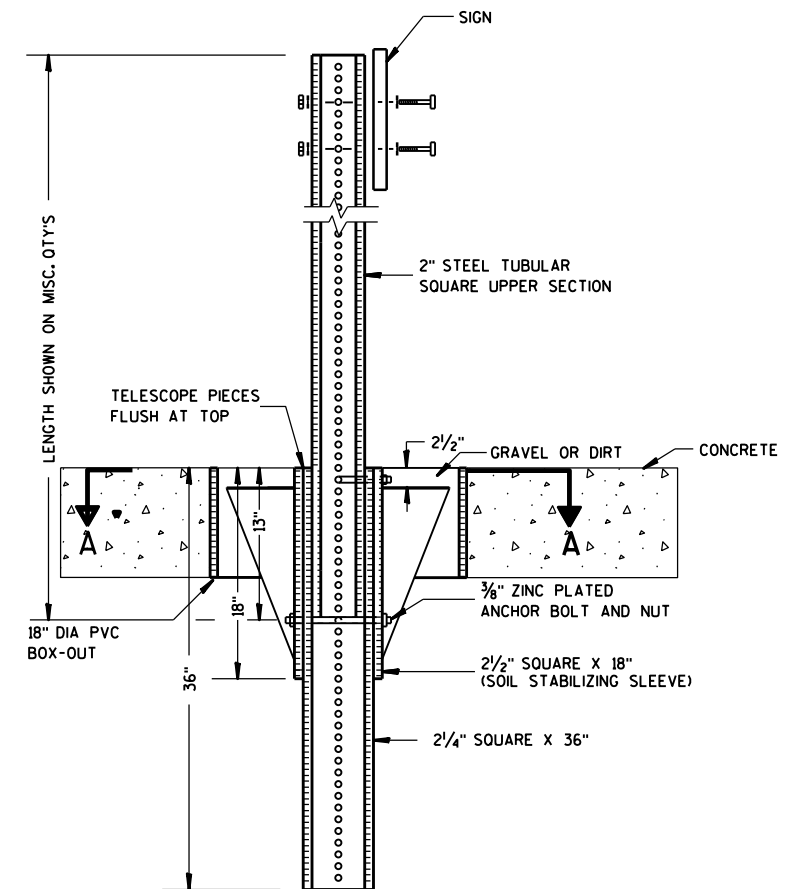
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

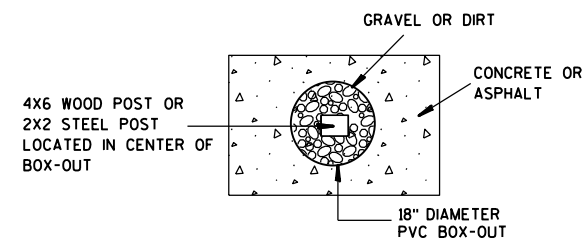
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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:

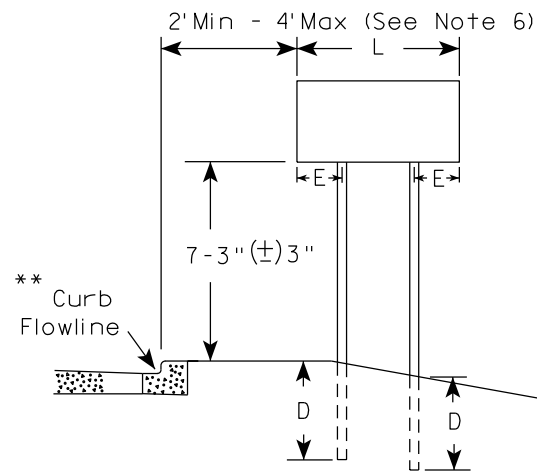
HWY:

COUNTY:

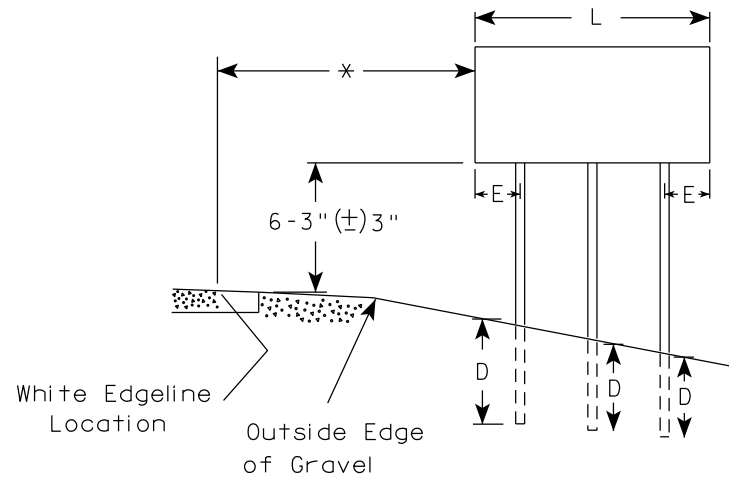
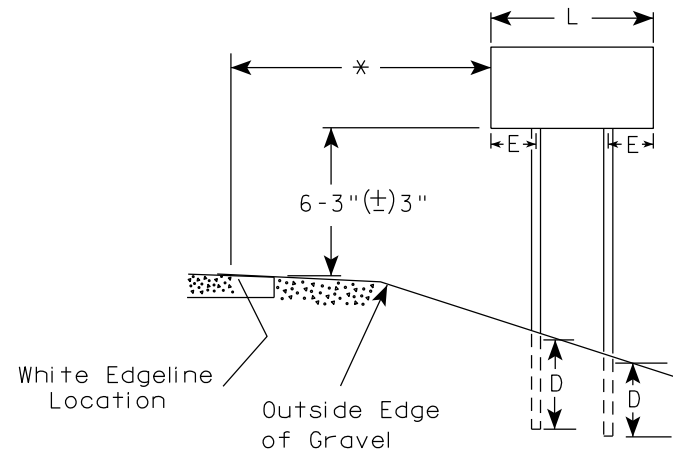
SHEET NO:

E

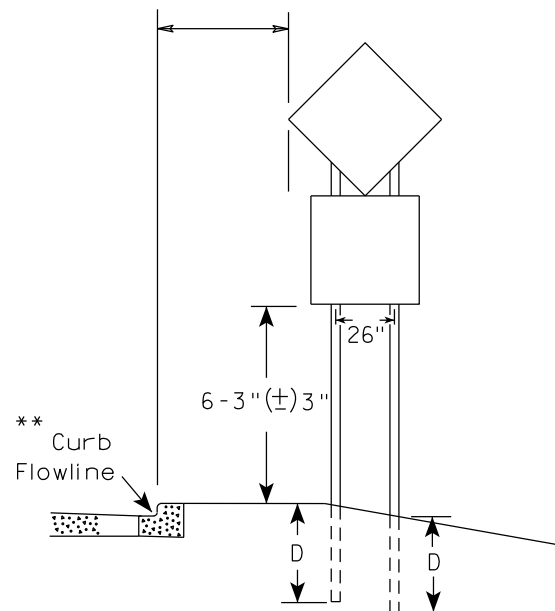
URBAN AREA



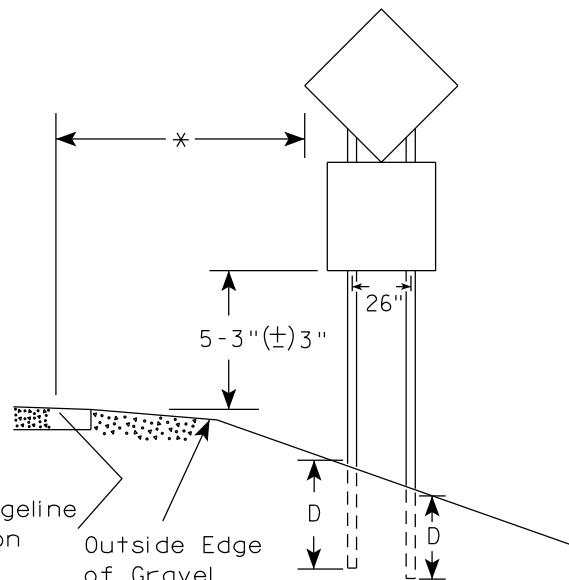
RURAL AREA (See Note 3)



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	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 12/6/23	PLATE NO. A4-4.16

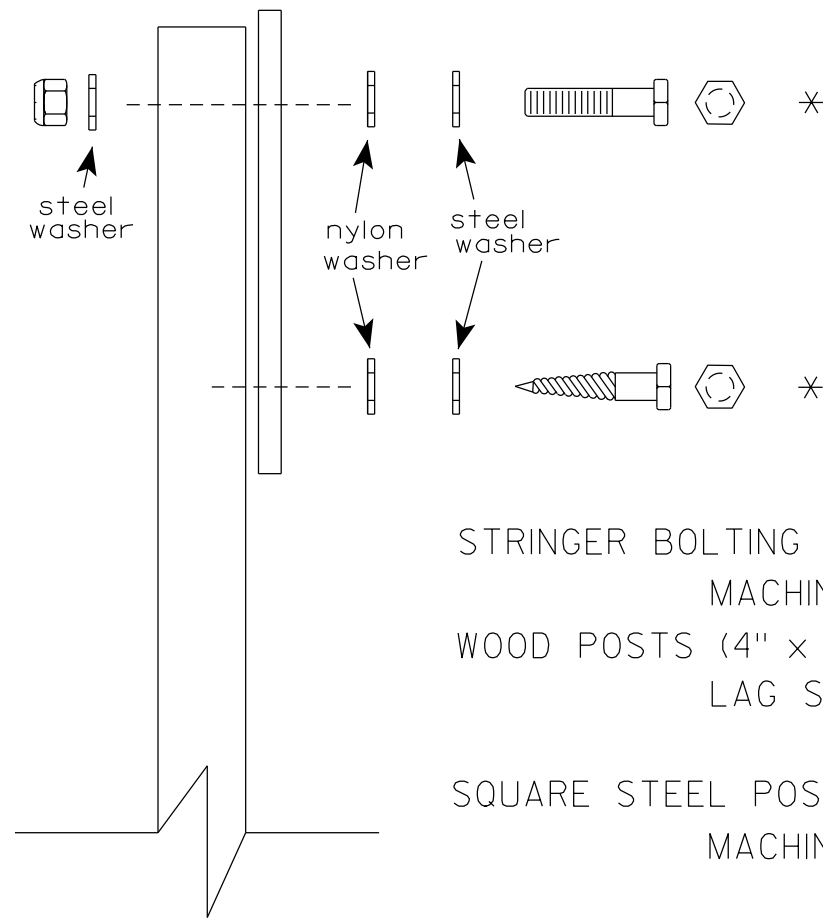
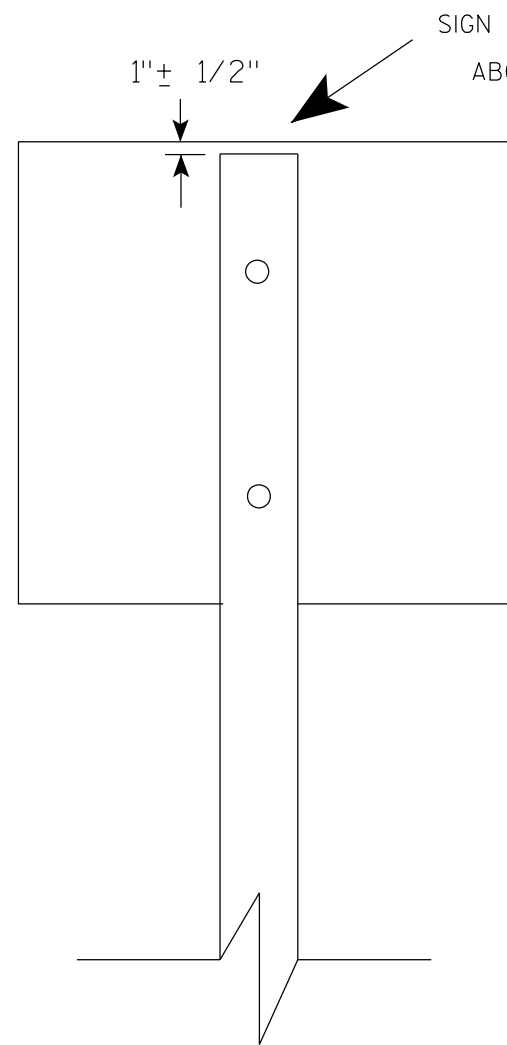
GENERAL NOTES

- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.
- J-Assemblies are considered to be one sign for mounting height.
- 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.
- The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".

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

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

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



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

**2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**

4" x 10" x 10 GA. — 
STEEL PLATE (CUT
AS SHOWN) WELDED
TO ALL FOUR CORNERS
OF TELESPAR TUBE

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

Diagram illustrating the construction of a vertical antenna assembly. The assembly consists of a central vertical structure with a top section labeled "2 1/2\" TELESPAR TUBE". The main body is a "4\" x 10\" x 10 GA. STEEL PLATE (CUT AS SHOWN) WELDED TO ALL FOUR CORNERS OF TELESPAR TUBE". The diagram shows a cross-section of the structure, which is a square with rounded corners. The top section is 4\" wide. The main body is 10\" high. The bottom section is 3 1/2\" high. The total height is 19\". The diagram also shows a side view of the structure, which is a square with rounded corners. The top section is 4\" wide. The main body is 10\" high. The bottom section is 3 1/2\" high. The total height is 19\".

LENGTH SHOWN ON MISC. QTY'S

18" DIA SCHEDULE 40 PVC BOX-OUT

TELESCOPE PIECES FLUSH AT TOP

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

2 1/2" GRAVEL OR DIRT

13"

18"

36"

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

SIGN

$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)

2 1/4" SQUARE X 36"

[illegible]

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT

A schematic diagram of a square microfluidic chip. It features four inlets on the left, top, bottom, and right sides, each represented by a small rectangular port. A single outlet is located on the right side, represented by a larger rectangular port. The internal flow paths are indicated by lines within the square boundaries.

DIRECTION
OF TRAFFIC

SECTION A-A

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E
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FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN

PLOT DATE : 05-FEB-2015 17:09

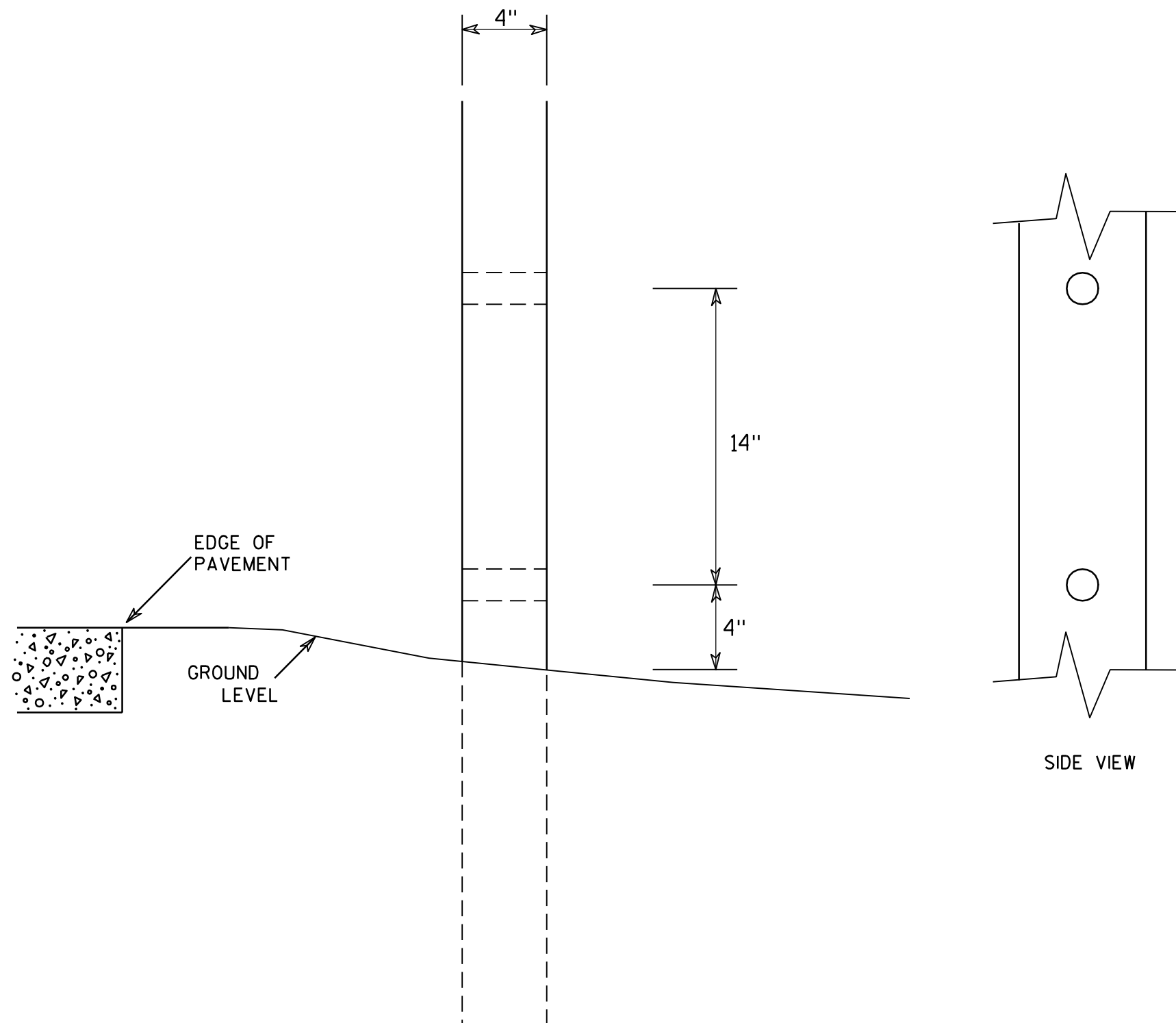
PLOT BY : mscs.ja

PLOT NAME :

PLOT SCALE : 13.659812:1.000000

WISDOT/CADDS SHEET 42

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:

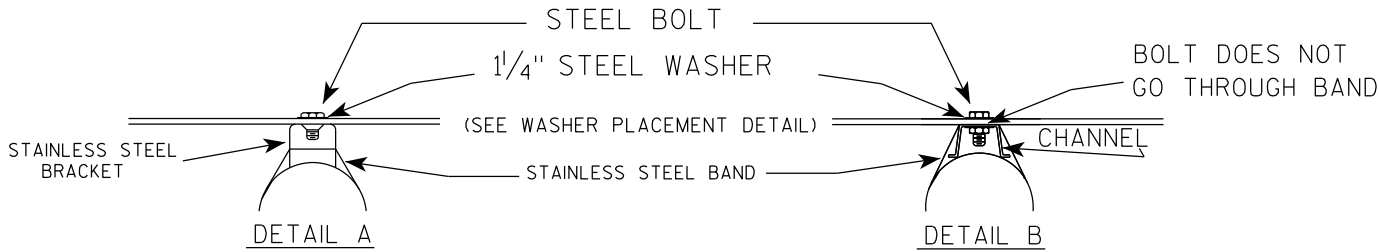
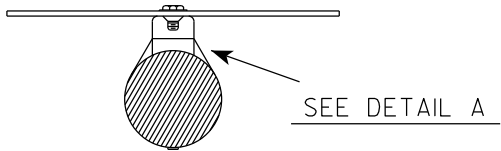
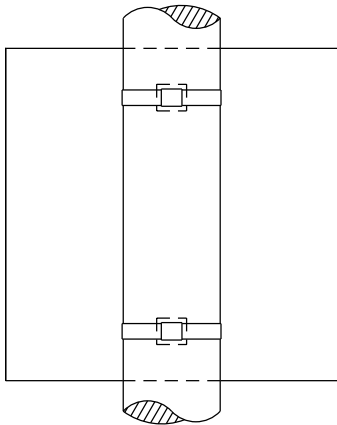
COUNTY:

SHEET NO:

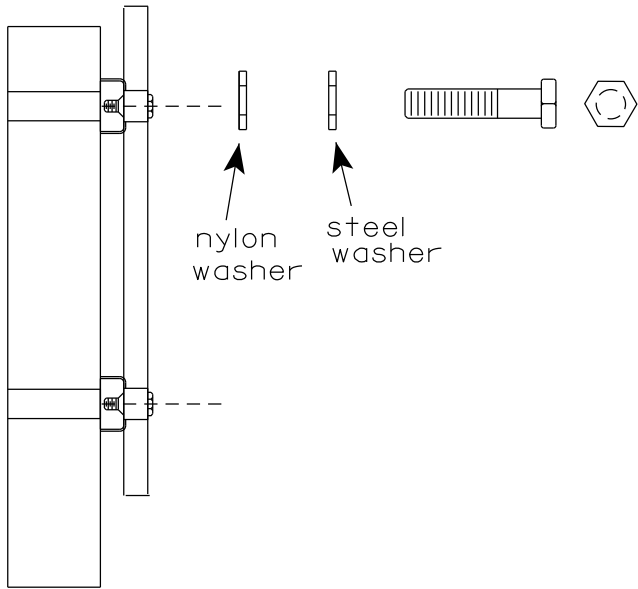
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

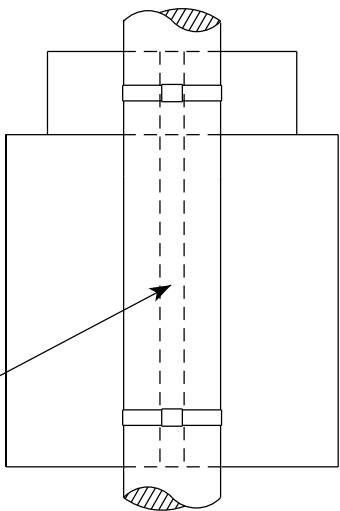


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

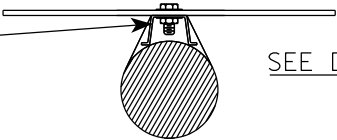
GENERAL NOTES

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

"J" ASSEMBLY



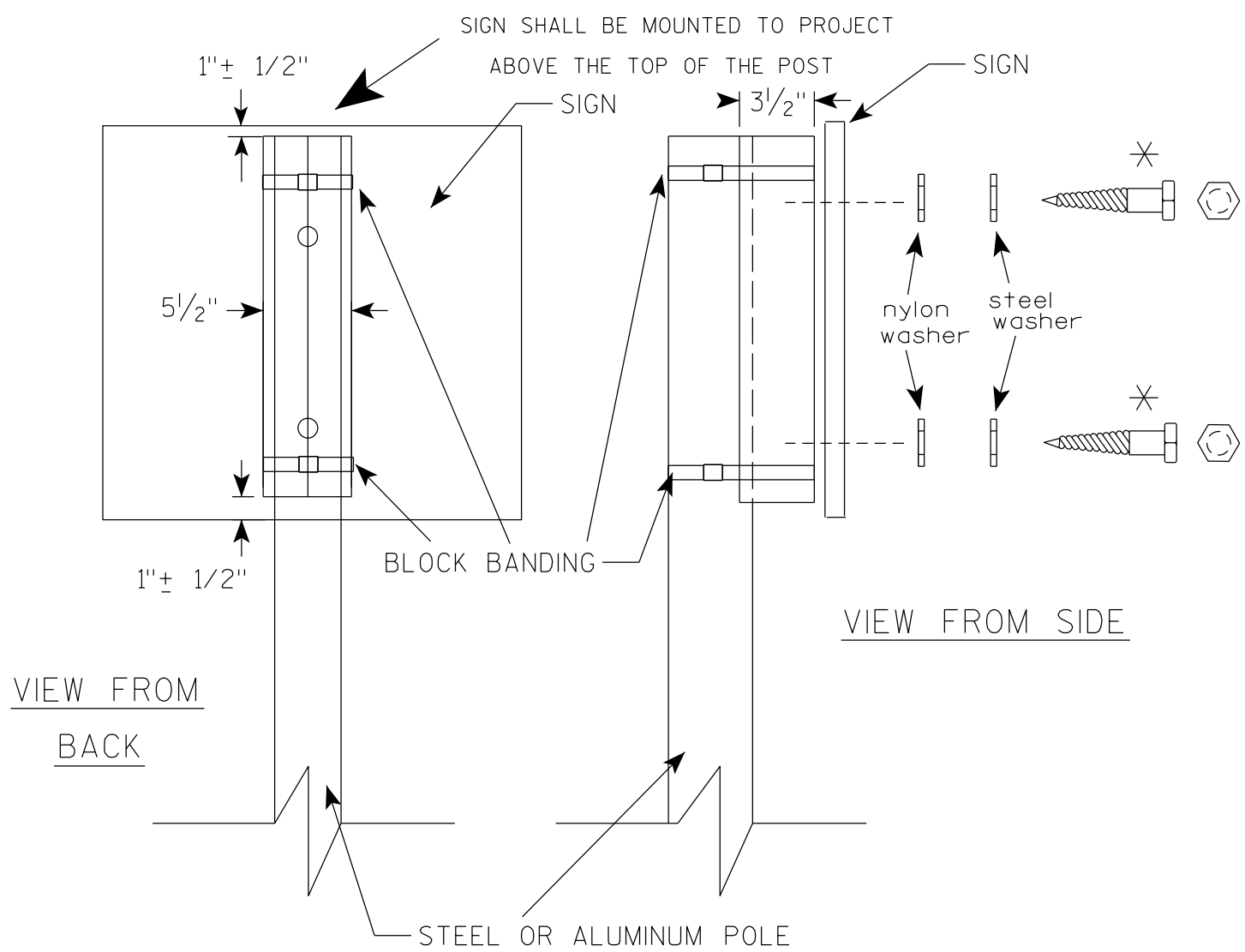
CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



STANDARD SIGN
SIGN BANDING DETAILS

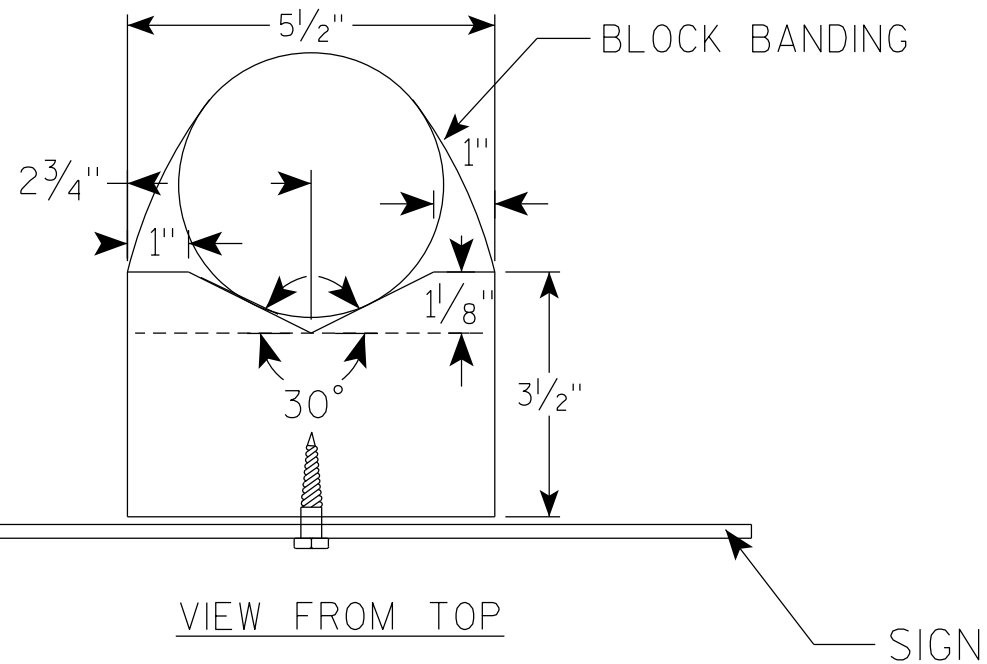
WISCONSIN DEPT OF TRANSPORTATION

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



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

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 *Matthew R. Rauch*
for State Traffic Engineer

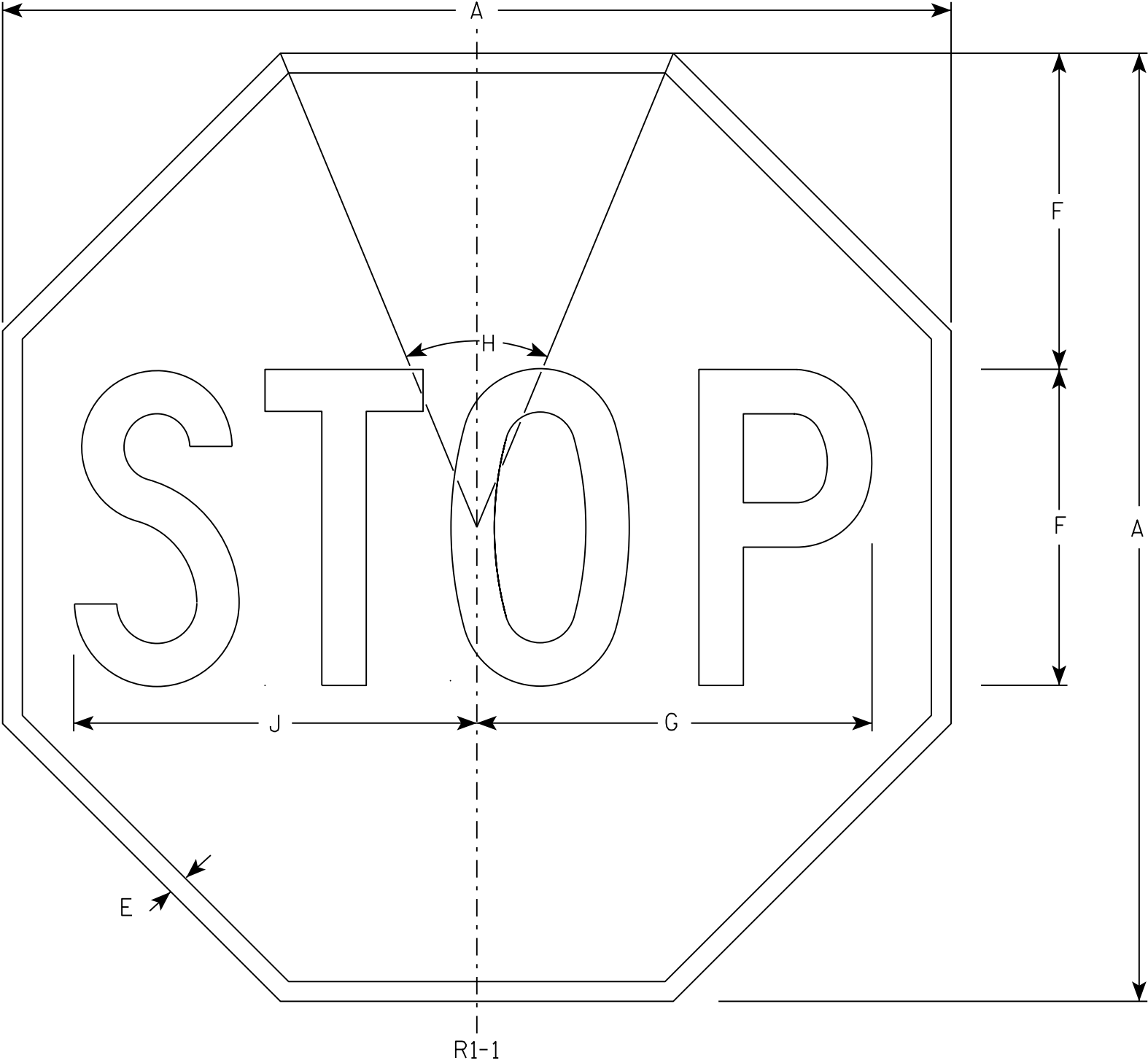
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

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

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

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

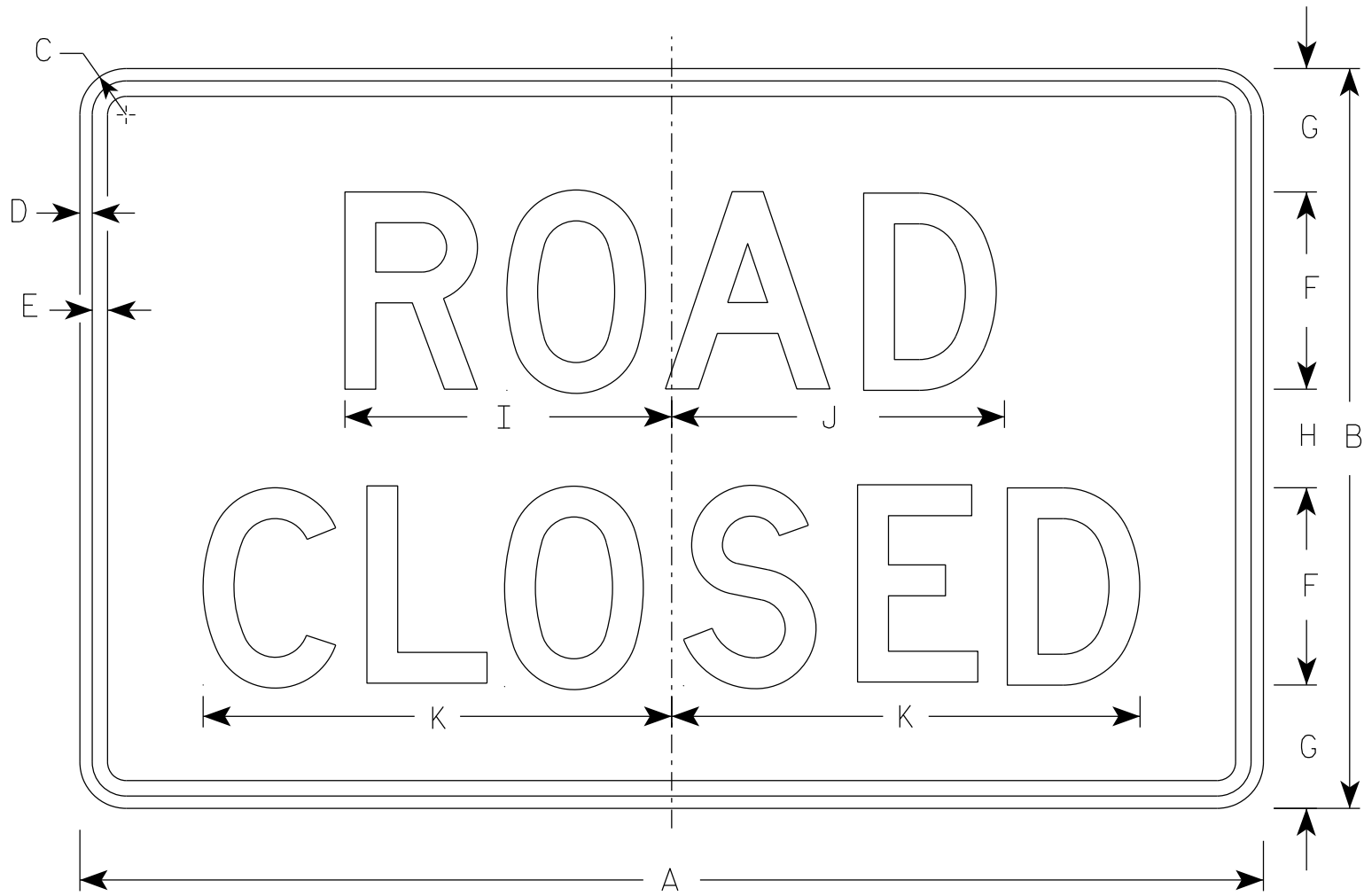
STANDARD SIGN

R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

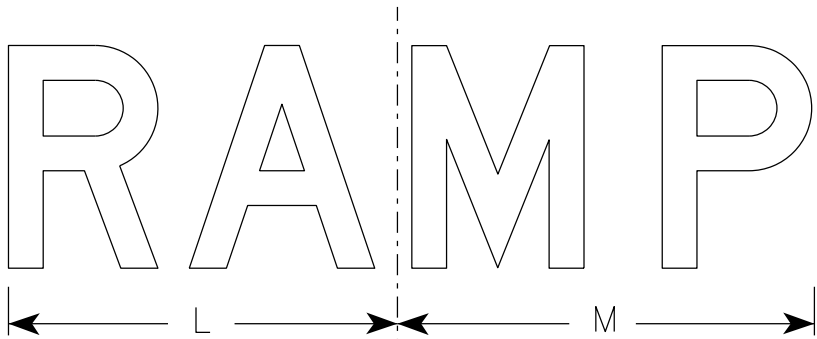
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

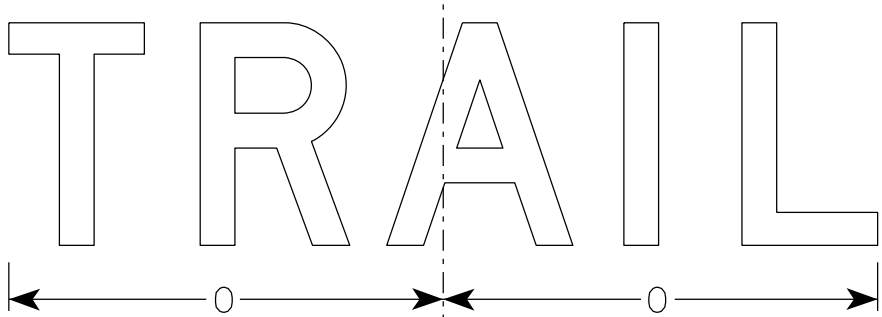


R11-2

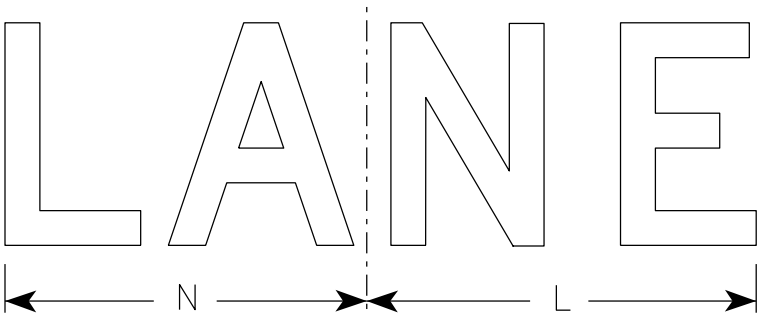
- NOTES
1. Sign is Type II - Type H Reflective
 2. Color:
Background - White
Message - Black
 3. Message Series - D
 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 5. Modify the message as required.



R11-2R



R11-2T

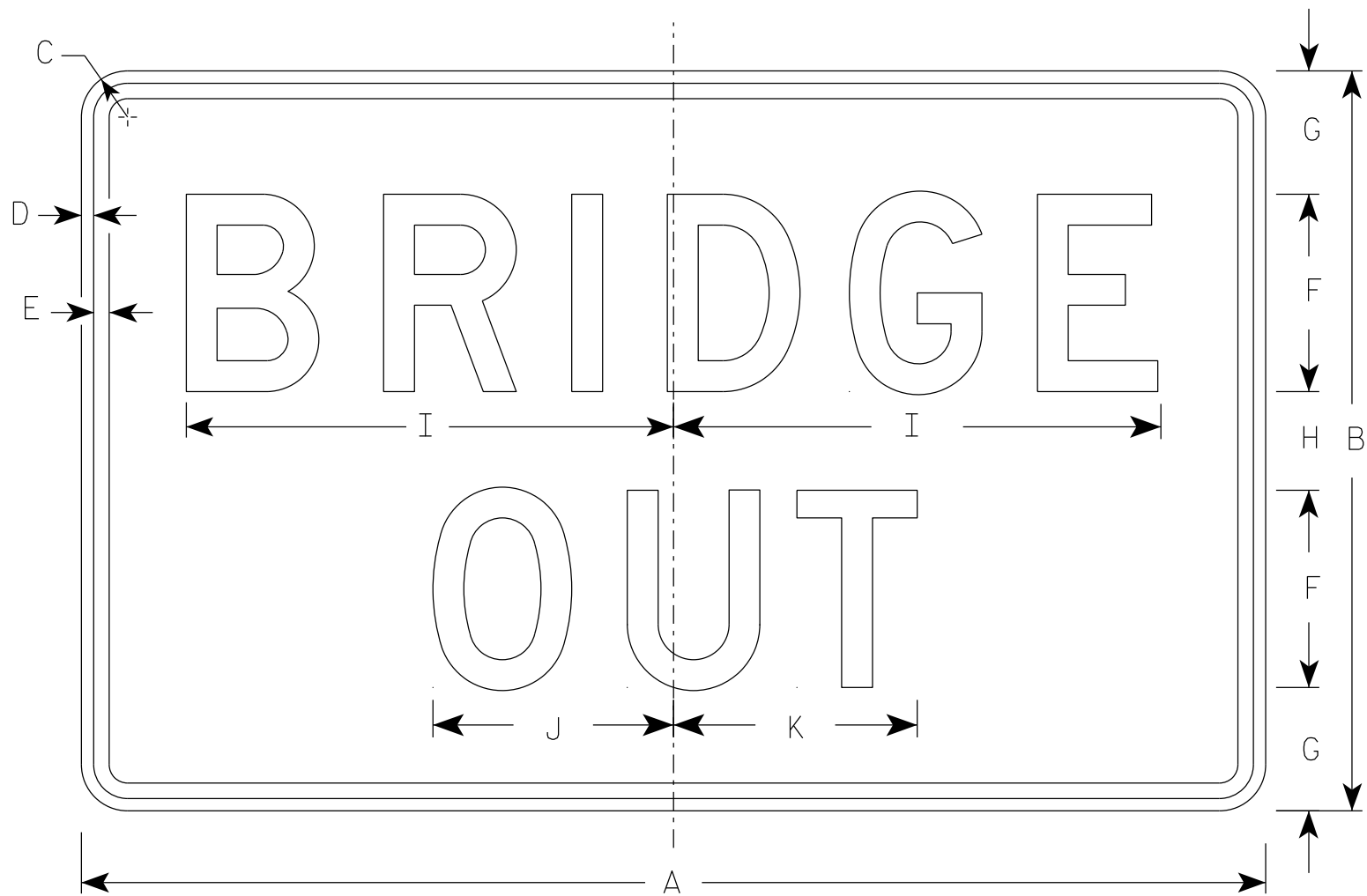


R11-2L

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	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

STANDARD SIGN R11-2	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 2/5/24	PLATE NO. R11-2.12

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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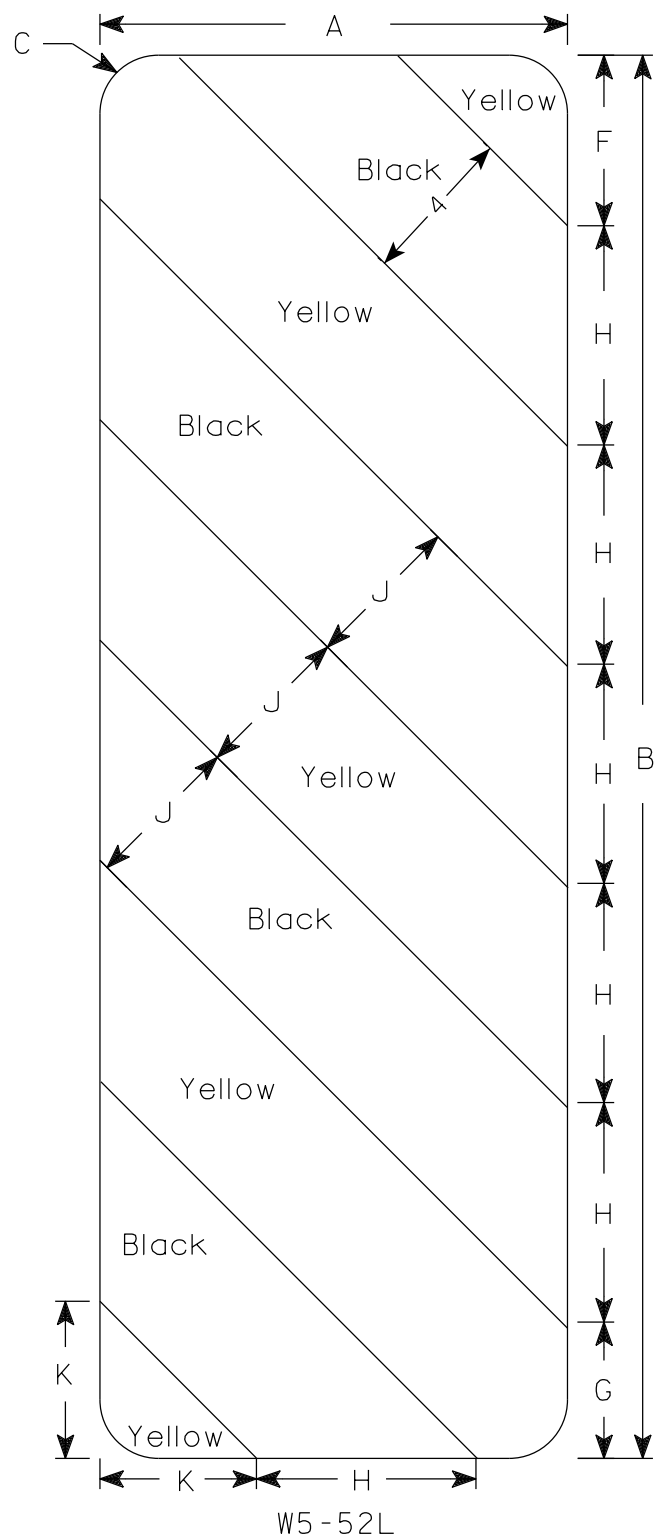


R11-2B

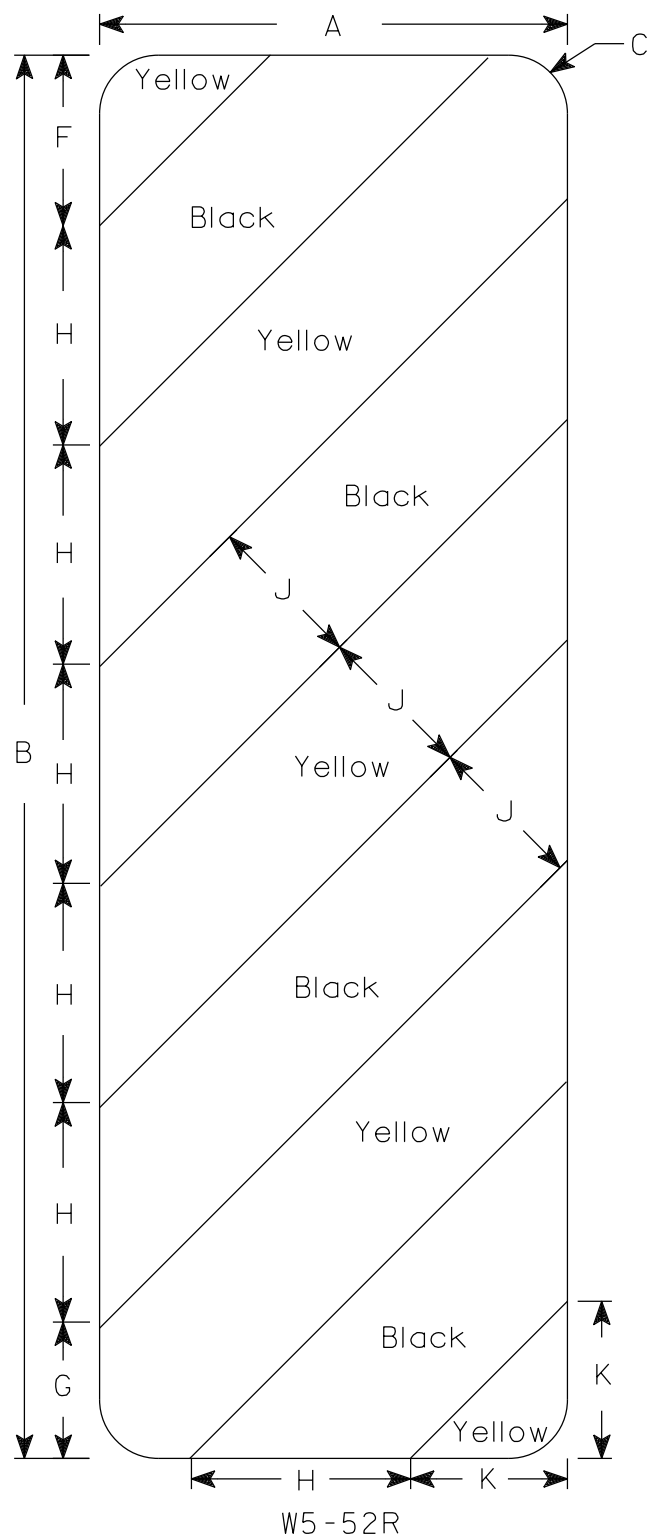
NOTES

- 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



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																											

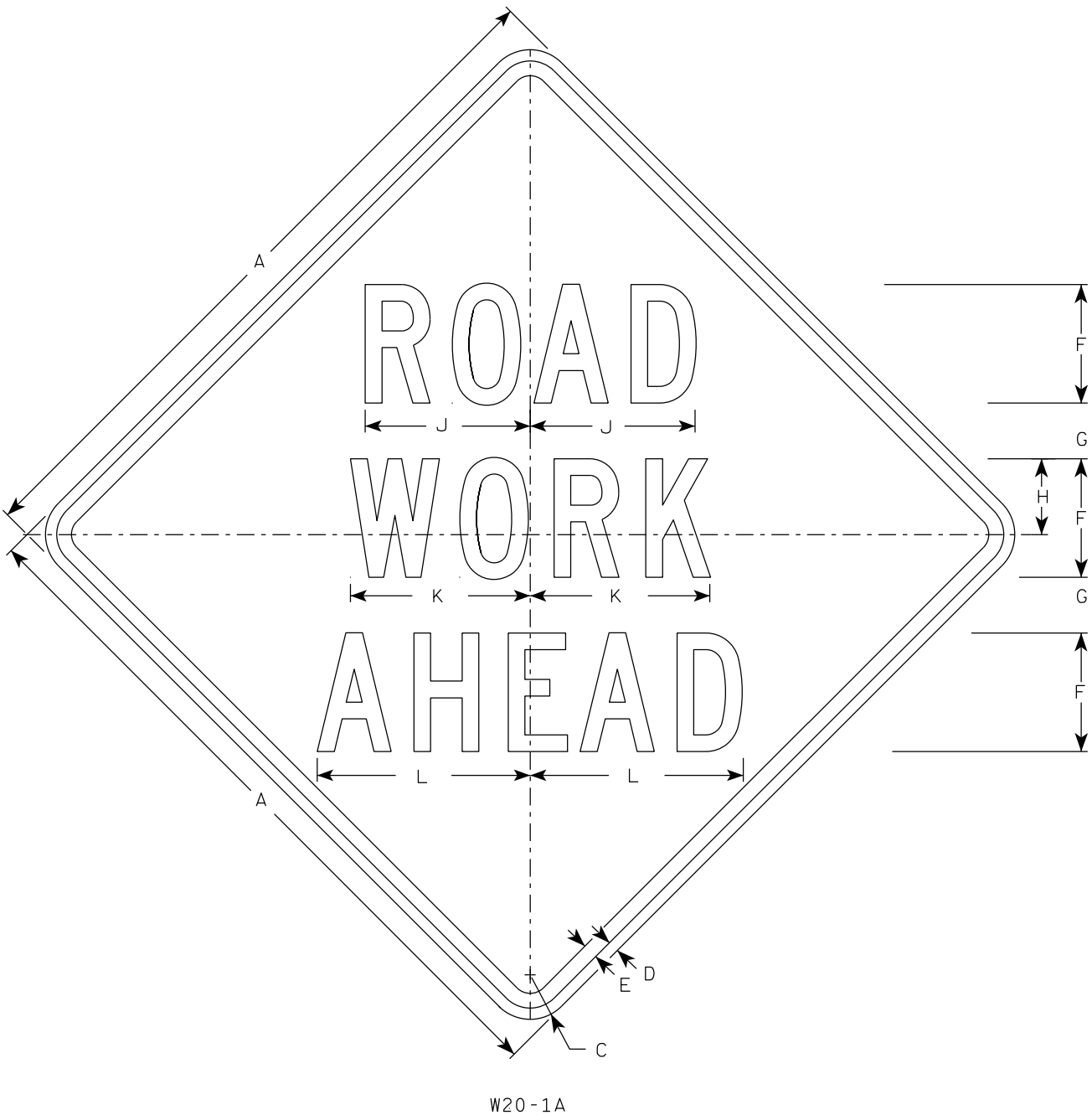
STANDARD SIGN

W5-52L & W5-52R

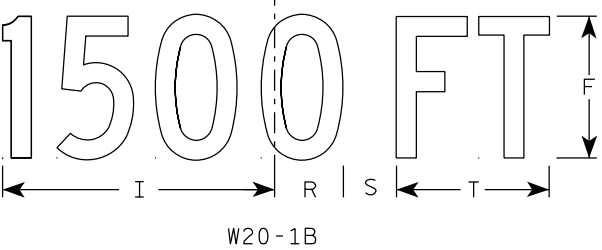
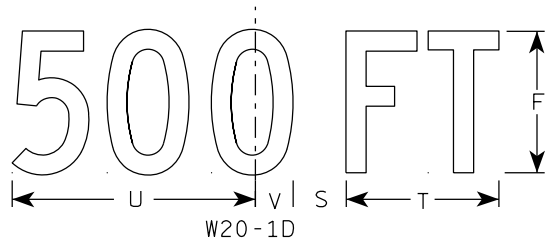
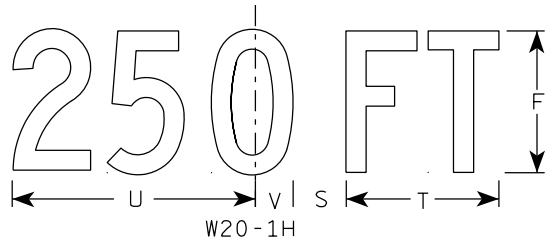
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

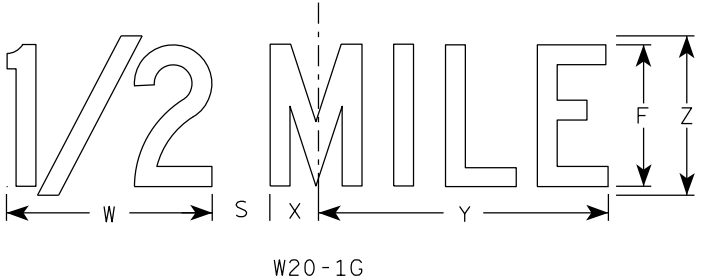


W20-1A

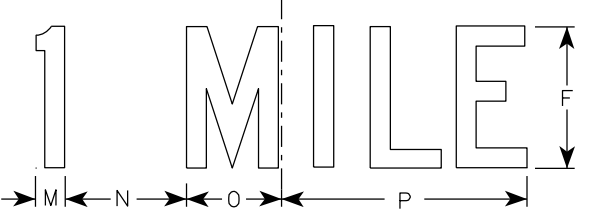


W20-1B

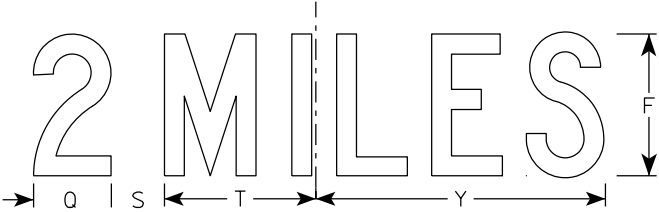
- NOTES
1. Sign is Type II - Type F Reflective
 2. Color:
Background - Orange
Message - Black
 3. Message Series - C
 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1G

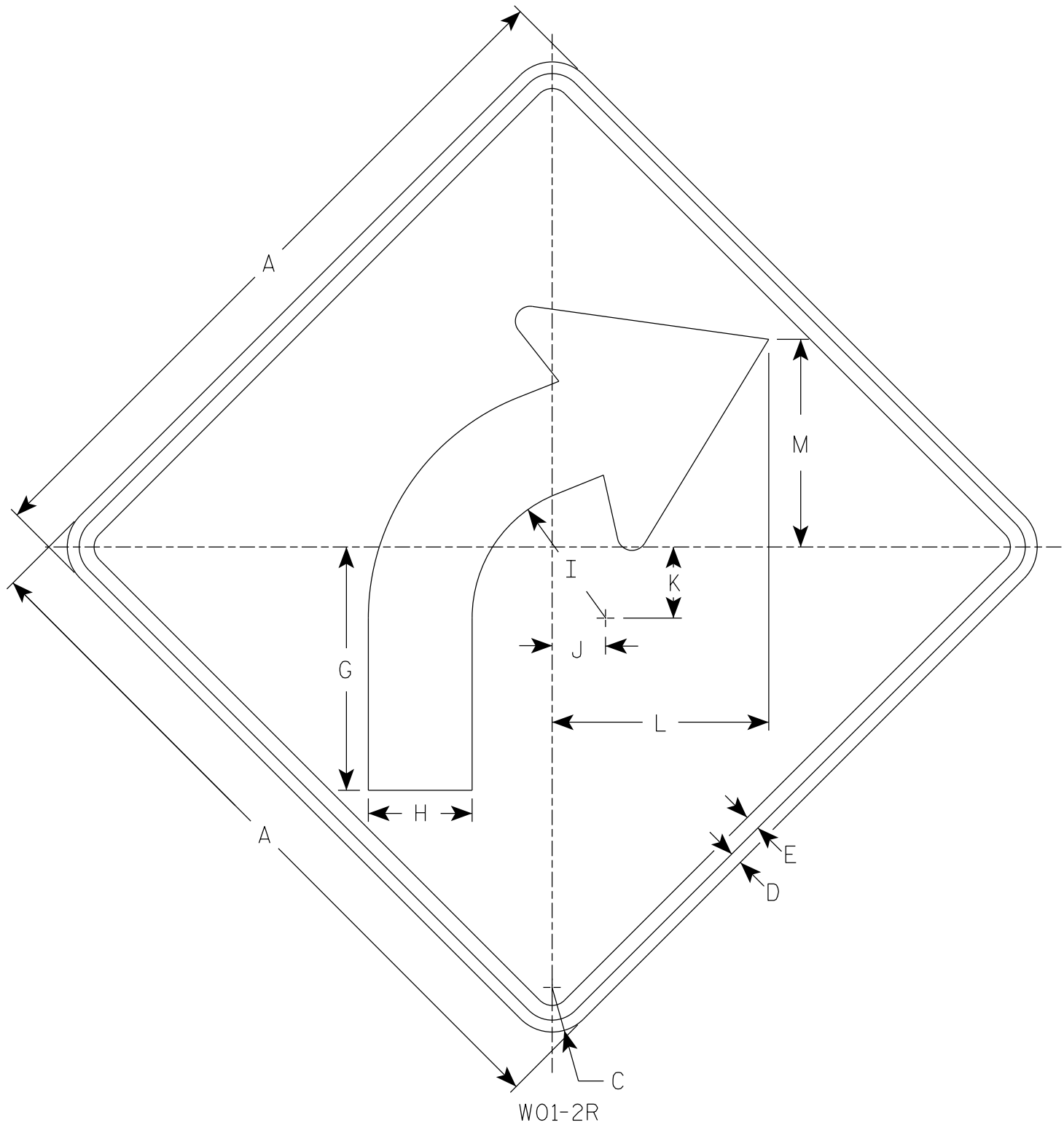


W20-1F



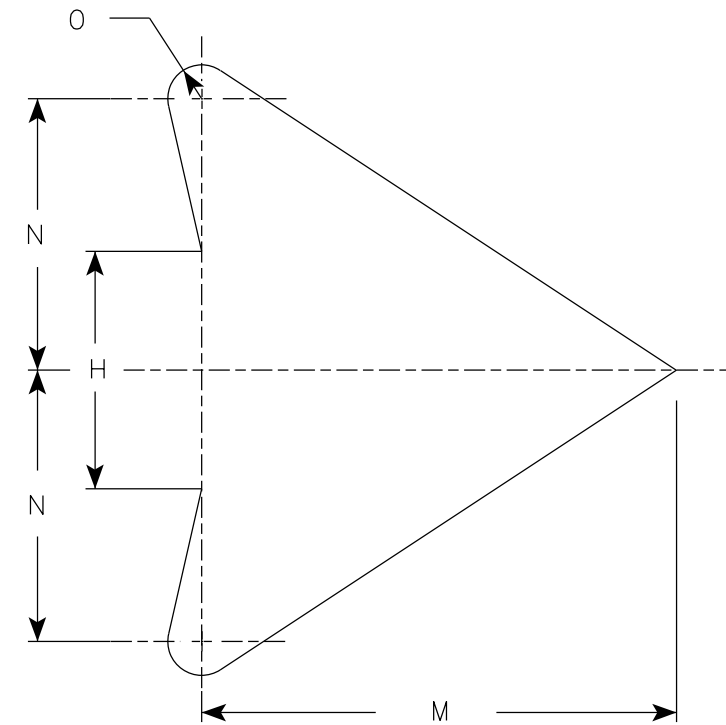
W20-1E

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. W01-2L is the same as W01-2R 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		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												4.0
2S	48		3	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0
2M	48		3	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0
3	48		3	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0
4	48		3	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0
5	48		3	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

STANDARD SIGN W01-2

WISCONSIN DEPT OF TRANSPORTATION

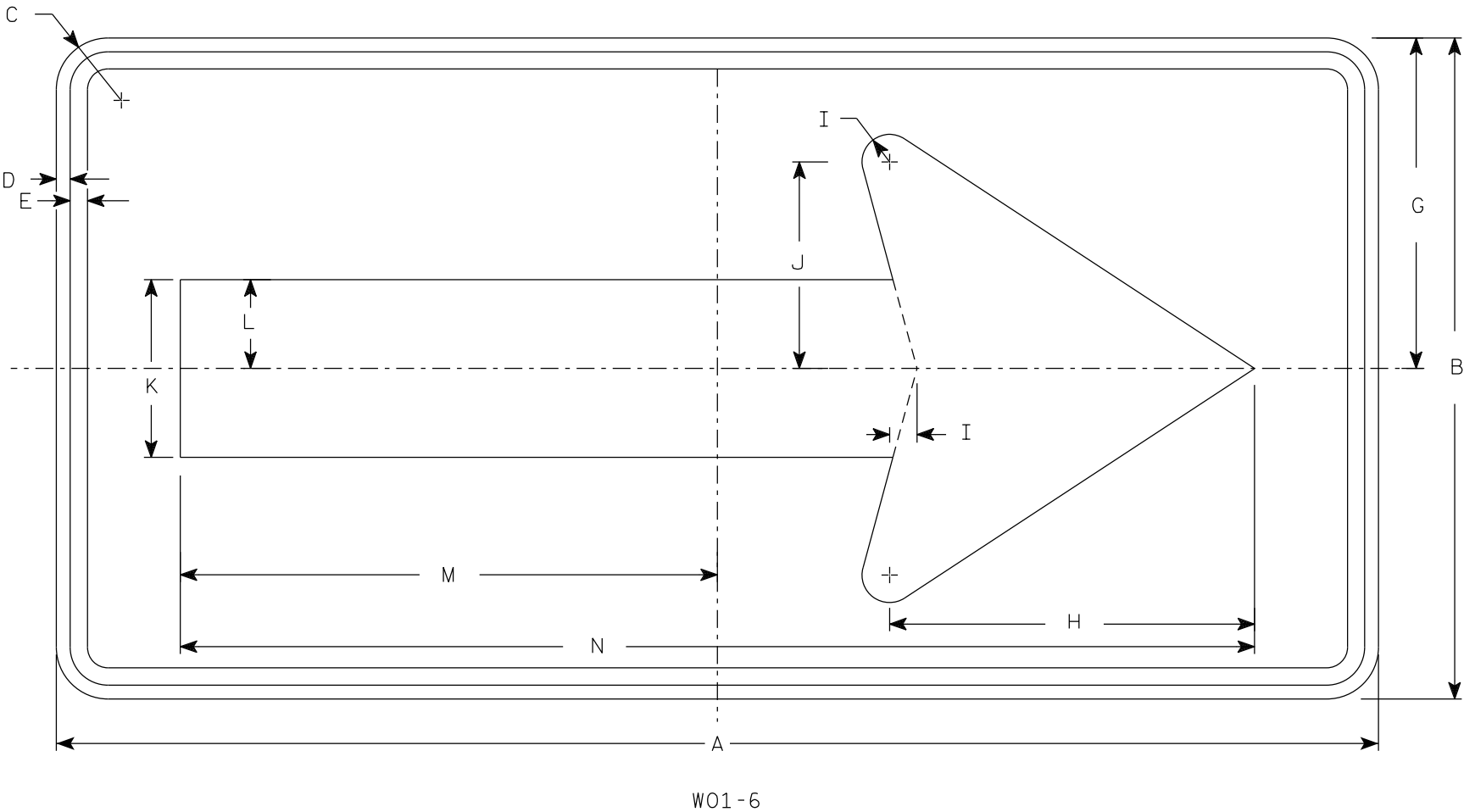
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. W01-2.2

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W012.dgn PLOT DATE : 24-JAN 2024 10:17 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : \$\$.....plotscale.....\$\$ WISDOT/CADDs SHEET 42

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

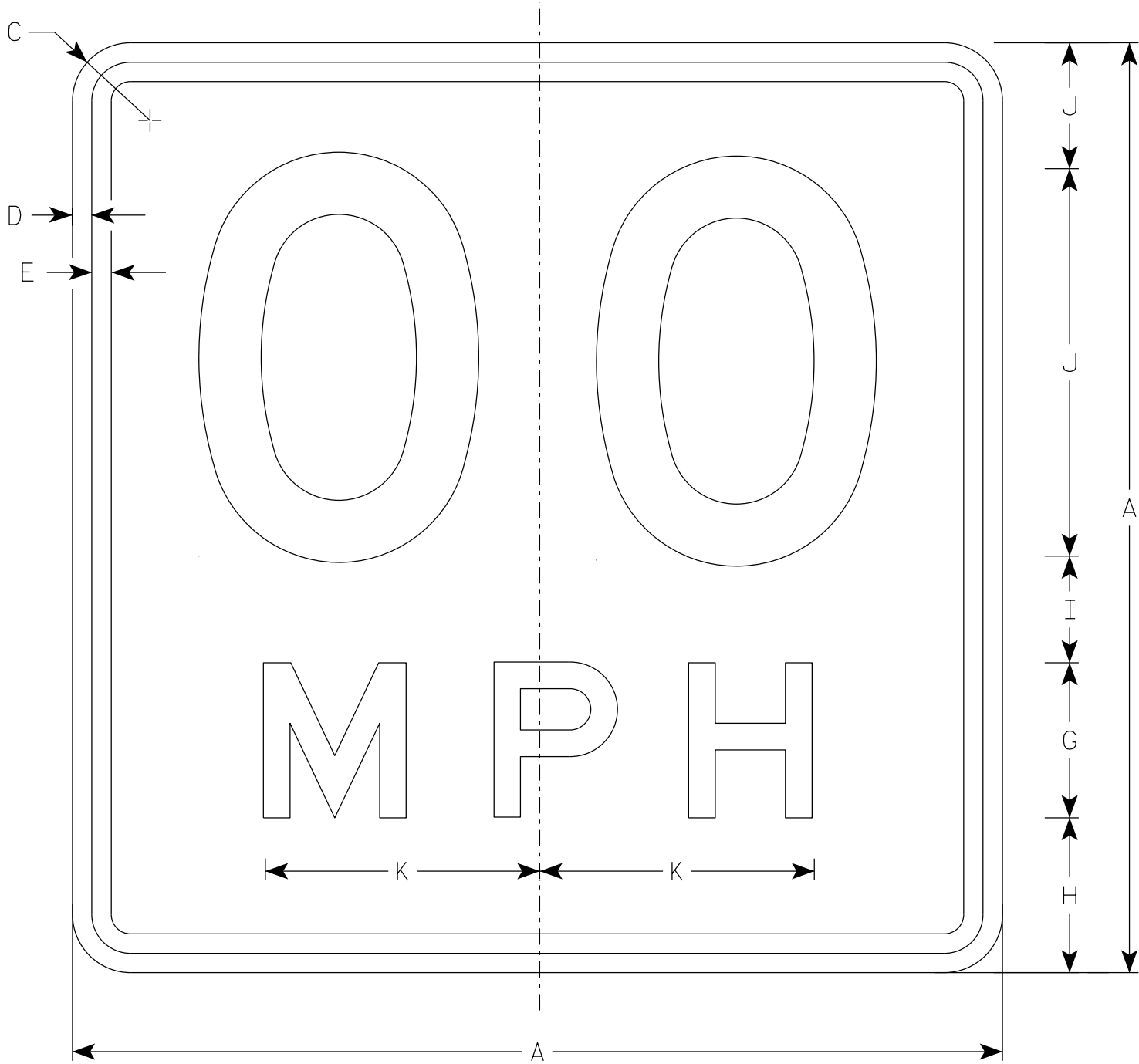
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	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



W013-1

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - See Note 6
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
- 6. Line 1 is Series D
Line 2 is Series E

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	1/2	10	4	4	2 3/4	3 1/4	7 1/8																4.0
2S	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.0
2M	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.0
3	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.0
4	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.0
5	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.0

STANDARD SIGN

W013-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/1/2024 PLATE NO. W013-1.2

DESIGN DATA

LIVE LOAD:

DESIGN LOADING _____ HL-93
INVENTORY RATING FACTOR _____ RF=1.12
OPERATING RATING FACTOR _____ RF=1.45
WISCONSIN STANDARD PERMIT
VEHICLE RATING (WIS.-SPV): _____ 250 KIPS

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

MATERIAL PROPERTIES:

CONCRETE MASONRY, SLAB _____ f'_c = 4,000 P.S.I.
ALL OTHER _____ f'_c = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL
REINFORCEMENT _____ f_y = 60,000 P.S.I.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP 10 X 42 PILING
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130
TONS PER PILE** AT W. ABUT. AND 130 TONS PER PILE**
AT E. ABUT. AS DETERMINED BY THE MODIFIED GATES
DYNAMIC FORMULA. ESTIMATED 75 FT PILE LENGTHS AT
W. ABUT. AND 70 FT PILE LENGTHS AT E. ABUT.

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

HYDRAULIC DATA:

100 YEAR DESIGN FREQUENCY:

Q_{100} _____ 1,060 C.F.S.
 Q_{100} (THRU BRIDGE) _____ 458 C.F.S.
 Q_{100} (ROAD) _____ 602 C.F.S.
DRAINAGE AREA _____ 5.2 SQ. MI.
BRIDGE WATER AREA _____ 134 SQ. FT.
BRIDGE VELOCITY _____ 3.42 F.P.S.
HIGH WATER $_{100}$ EL. _____ 706.29 FT.
SCOUR CRITICAL CODE _____ 5
 Q_2 _____ 196 C.F.S.
 Q_2 ELEVATION _____ 702.02 FT.
 Q_2 VELOCITY _____ 1.76 F.P.S.

ROADWAY OVERTOPPING:

OVERTOPPING Q _____ 560 C.F.S.
OVERTOPPING EL. _____ 704.62 FT.
OVERTOPPING Q FREQ. _____ 12 YR.

TEMPORARY STRUCTURE REQUIREMENTS:

HIGH WATER $_5$ EL. _____ 703.67 FT.
 Q_5 _____ 380 C.F.S.
 Q_5 VELOCITY _____ 5.09 F.P.S.
MINIMUM OPENING
AREA OF TEMP. STR. _____ 75 SQ. FT.
MINIMUM CLEAR SPAN _____ 31 FT.
MINIMUM LOW CHORD EL. _____ 701.75 FT.
MINIMUM CLEAR WIDTH _____ 20 FT.

NOTES

EXCAVATION AS INDICATED IN THE HATCH
AREAS, TO BE INCLUDED IN THE BID ITEM
"EXCAVATION FOR STRUCTURES BRIDGES
B-32-584".

G01 BACKFILL PAY LIMITS. BACKFILL BEYOND
BACKFILL PAY LIMITS SHALL BE INCLUDED
WITH BID ITEM "EXCAVATION FOR STRUCTURES
BRIDGES B-32-584". LIMITS OF EXCAVATION
SHALL BE DETERMINED BY THE CONTRACTOR.

G02 "GEOTEXTILE TYPE DF SCHEDULE A" LIMITS.
EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT
FOR THE ENTIRE ABUTMENT BODY LENGTH.

G03 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE
0.5% MIN. TO SUITABLE DRAINAGE. ATTACH
RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN
AS DETAILED IN "ABUTMENT DETAILS" SHEET.

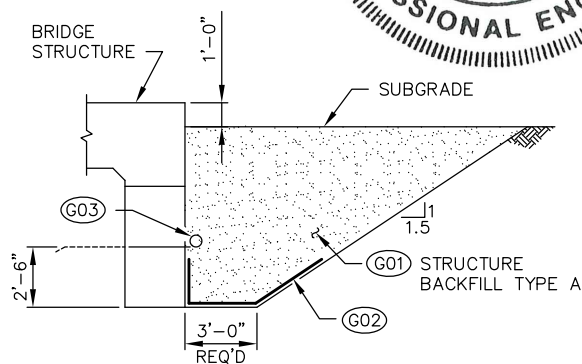
G04 NAME PLATE REQUIRED AND BENCH MARK CAP
(WHEN SUPPLIED). FOR LOCATION SEE
"ABUTMENT" SHEET.

* LOCATION OF BEAM GUARD ATTACHMENT. SEE
ROADWAY PLANS FOR BENT W BEAM TO THRIE
BEAM TRANSITION SECTION DETAILS.

INDICATES WING NUMBER

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, GENERAL
NOTES & QUANTITIES
3. SUBSURFACE EXPLORATION
4. ABUTMENTS
5. ABUTMENT DETAILS
6. SUPERSTRUCTURE
7. SUPERSTRUCTURE DETAILS
8. RAILING TUBULAR TYPE M



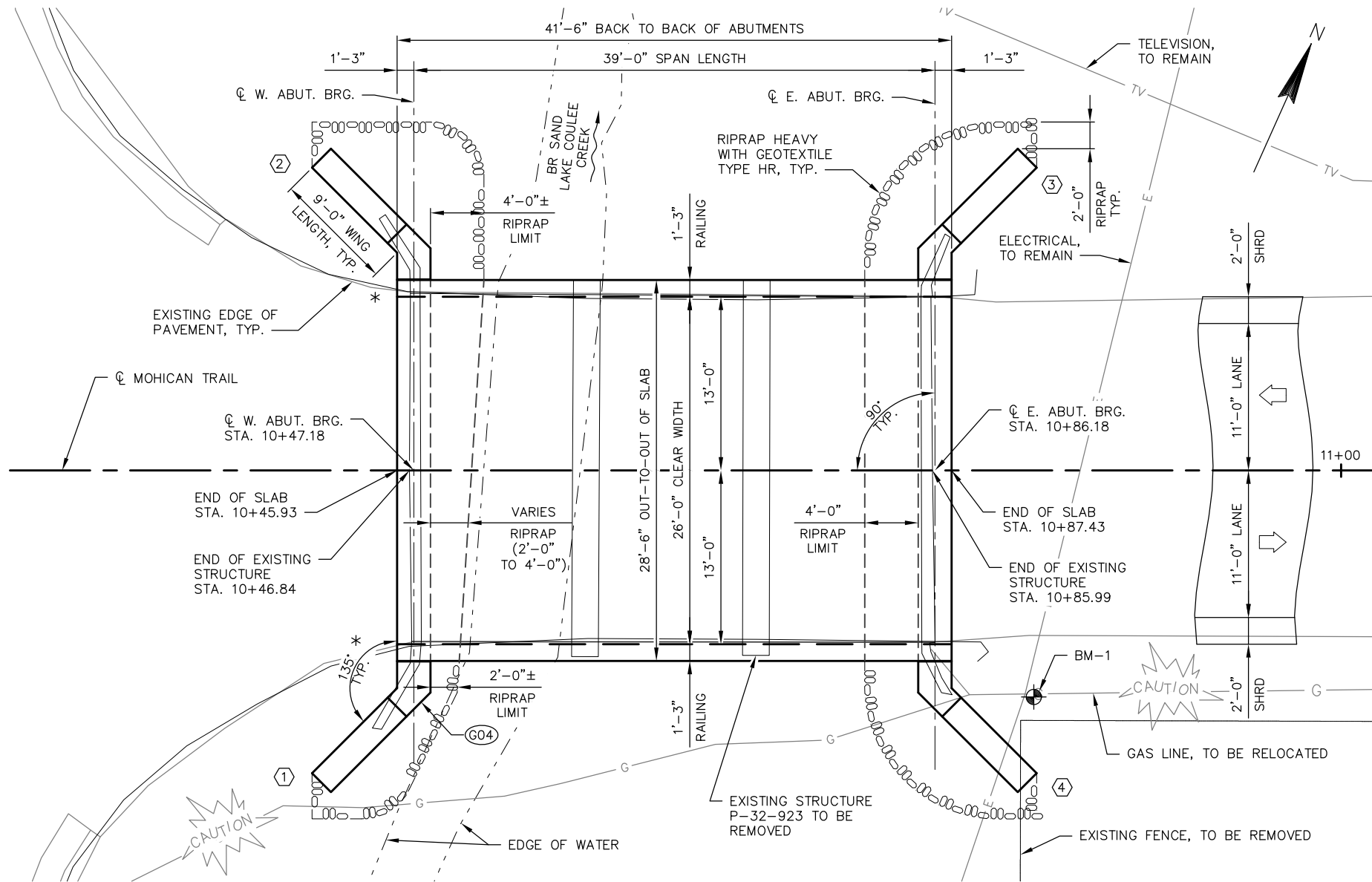
ABUTMENT BACKFILL DETAIL

(TYPICAL AT BOTH ABUTMENTS)

BENCH MARKS

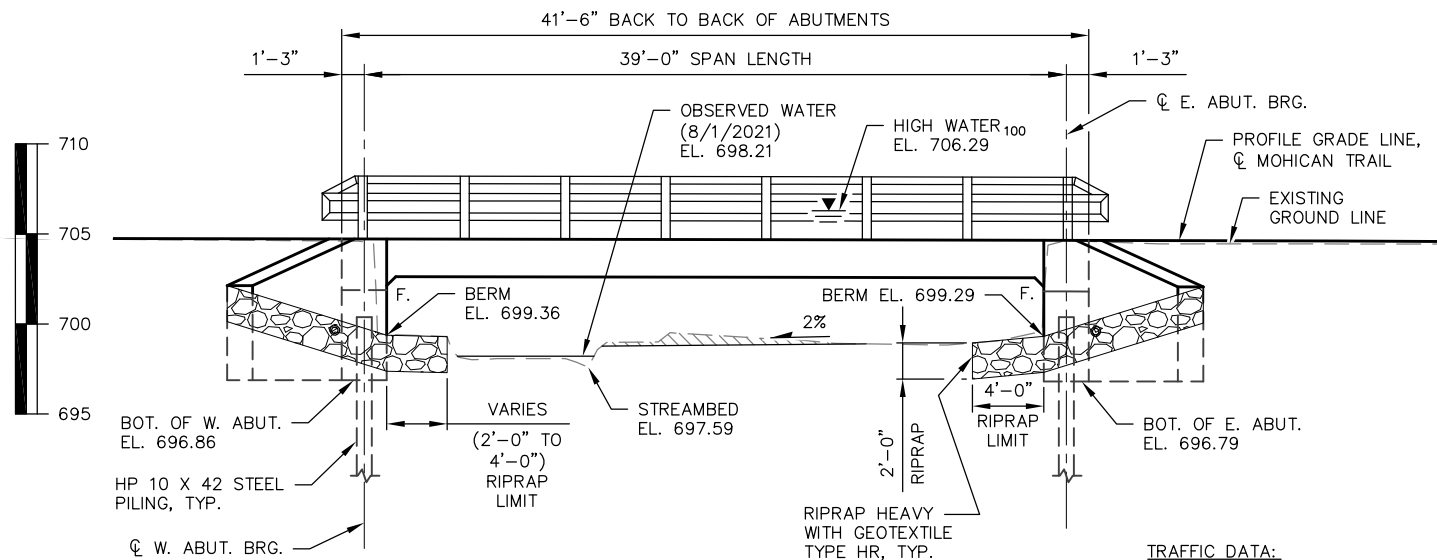
NO.	STATION/OFFSET	DESCRIPTION	ELEVATION
BM-1	10+93.57, 16.95' RT.	SPIKE IN LIGHT POLE	705.40
BM-2	13+03.72'S, 21.68' LT.	SPIKE IN LIGHT POLE	705.36

HORIZONTAL DATUM AND ADJUSTMENT: NAD 83 (2011)
VERTICAL DATUM AND ADJUSTMENT: NAVD 88 (2012)
COORDINATE REFERENCE SYSTEM: WISCRS LA CROSSE CO.



PLAN B-32-584

(SINGLE SPAN CONCRETE FLAT SLAB BRIDGE)



ELEVATION

(NORMAL TO BR SAND LAKE COULEE CREEK, LOOKING NORTH)

TRAFFIC DATA:

MOHICAN TRAIL
A.A.D.T. (2025) _____ 200
A.A.D.T. (2045) _____ 210
DESIGN SPEED _____ 30 M.P.H.

BRIDGE OFFICE CONTACT
AARON BONK, P.E.
(608) 261-0261

CONSULTANT CONTACT
AARON KNUTSON, P.E., S.E.
(608) 588-7866

GENERAL PLAN

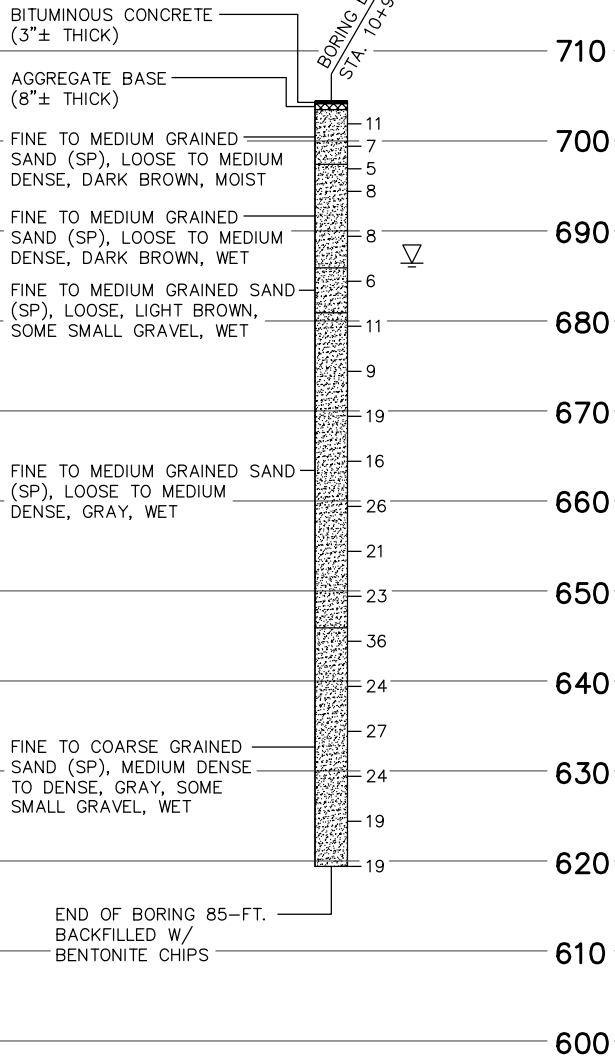
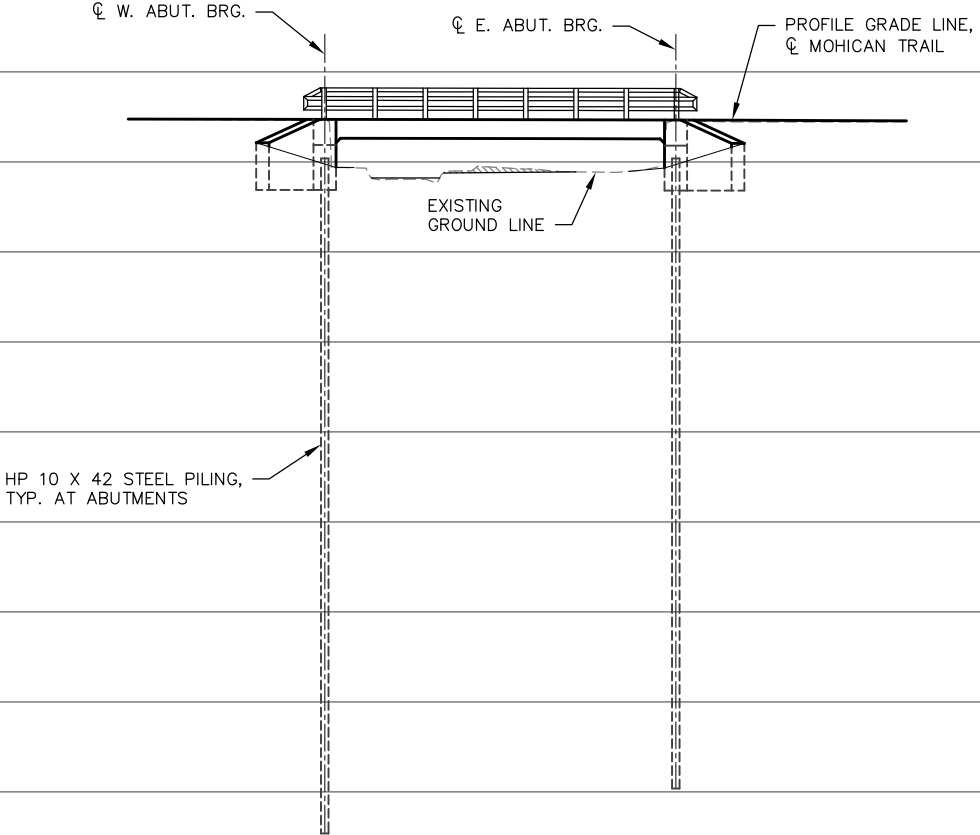
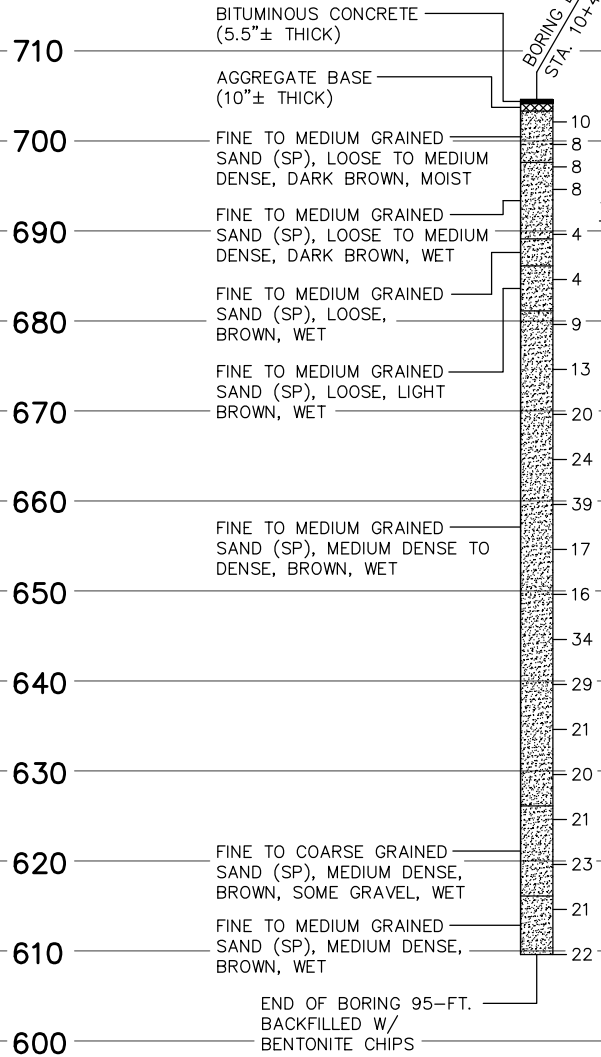
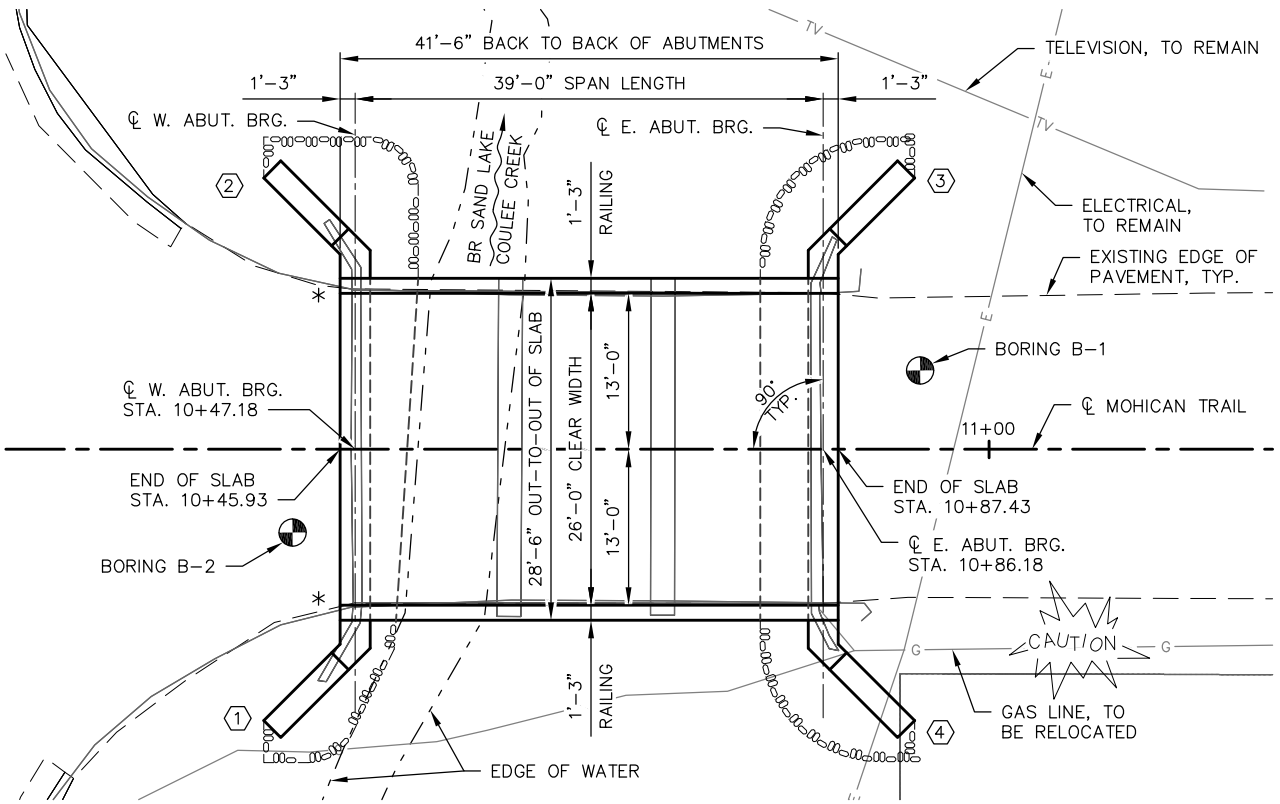
SHEET 1 OF 8

B-32-584 BORINGS

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
BORING B-1	7/27/2021	173216.0	449249.7
BORING B-2	7/28/2021	173182.3	449207.6
BORINGS COMPLETED BY: PROFESSIONAL SERVICES INDUSTRIES, INC.			
SUBSURFACE INVESTIGATION REPORT: PROFESSIONAL SERVICES INDUSTRIES, INC.			
ALL COORDINATES REFERENCED TO WISCRS, LA CROSSE COUNTY			

NOTES

- * LOCATION OF BEAM GUARD ATTACHMENT. SEE ROADWAY PLANS FOR BENT W BEAM TO THRIE BEAM TRANSITION SECTION DETAILS.
- ⬡ INDICATES WING NUMBER



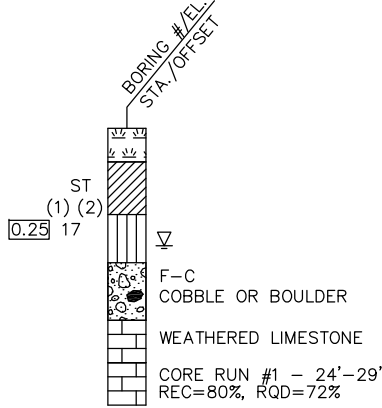
STATE PROJECT NUMBER

7272-00-72

MATERIAL SYMBOLS

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

LEGEND OF BORING



- (1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)
- (2) UNLESS OTHERWISE SPECIFIED, THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

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

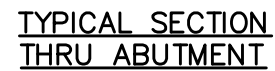
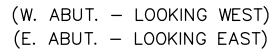
ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-32-584			
DRAWN BY JDO		PLANS CK'D	ACK
SUBSURFACE EXPLORATION		SHEET 3 OF 8	

 INDICATES WING NUMBER

ABUTMENTS

BILL OF BARS
BOTH ABUTMENTS

MARK	COATED	NUMBER		LENGTH	BENT	BAR SERIES	LOCATION	
		W. ABUT.	E. ABUT.					
A501		66	66	5'-11"	X		BODY - STIRRUP - F.F. & B.F.	VERT.
A502		33	33	6'-7"	X		BODY - STIRRUP - TOP	VERT.
A403		27	27	3'-1"	X		BODY - TIES	HORIZ.
A504		18	18	17'-10"			BODY - F.F.	HORIZ.
A805		18	18	22'-8"	X		BODY - B.F.	HORIZ.
A506	X	28	28	2'-0"			BODY - TOP DOWELS	VERT.
A407	X	48	48	8'-5"	X	▲	WINGS 1 THRU 4 - STIRRUP - F.F. & B.F.	VERT.
A408	X	16	16	7'-2"			WINGS 1 THRU 4 - F.F. & B.F.	VERT.
A509	X	18	18	11'-9"	X		WINGS 1 THRU 4 - F.F.	HORIZ.
A410	X	2	2	9'-9"			WINGS 1 THRU 4 - F.F.	HORIZ.
A411	X	2	2	7'-6"			WINGS 1 THRU 4 - F.F.	HORIZ.
A412	X	2	2	5'-2"			WINGS 1 THRU 4 - F.F.	HORIZ.
A413	X	2	2	10'-4"	X		WINGS 1 THRU 4 - F.F. - TOP	HORIZ.
A814	X	18	18	13'-3"	X		WINGS 1 THRU 4 - B.F.	HORIZ.
A415	X	2	2	8'-3"			WINGS 1 THRU 4 - B.F.	HORIZ.
A416	X	2	2	5'-11"			WINGS 1 THRU 4 - B.F.	HORIZ.
A417	X	2	2	3'-7"			WINGS 1 THRU 4 - B.F.	HORIZ.
A418	X	2	2	8'-9"	X		WINGS 1 THRU 4 - B.F. - TOP	HORIZ.
A419	X	8	8	4'-2"	X		WINGS 1 THRU 4 - F.F. CORNER	HORIZ.
A420	X	8	8	2'-9"	X		WINGS 1 THRU 4 - B.F. CORNER	HORIZ.
A421	X	8	8	4'-0"	X		WINGS 1 THRU 4 - TOP CORNER	HORIZ.

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

DO NOT PLACE FILL ABOVE 3'-0" FROM THE BOTTOM OF THE ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

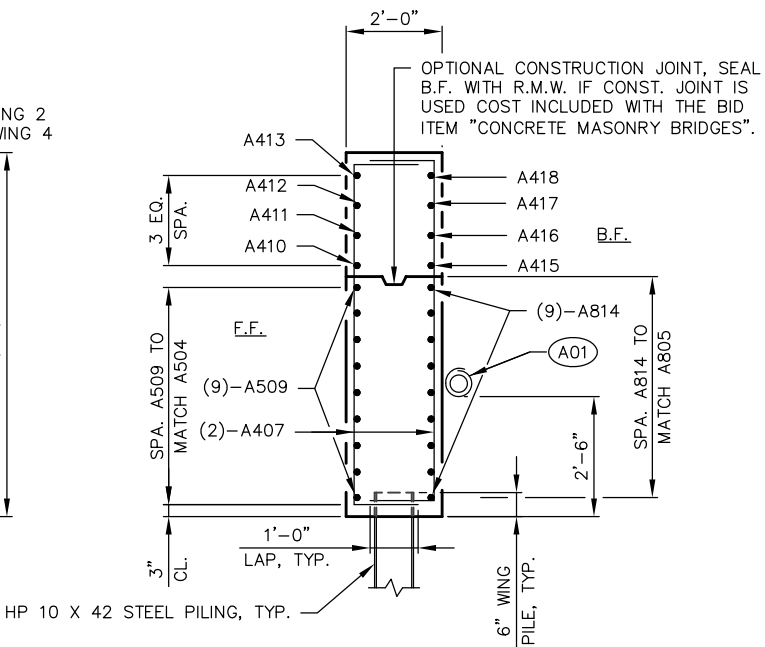
SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR PILE SPLICE DETAILS.

- A01 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SHIELD SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".
- A02 SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF $\frac{1}{2}$ " FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD $\frac{1}{8}$ " BELOW SURFACE OF CONCRETE.) $\frac{1}{2}$ " FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

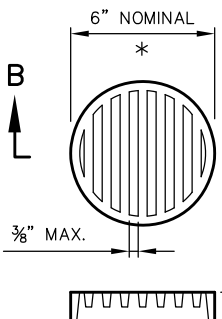
F.F. — FRONT FACE
B.F. — BACK FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-32-584			
DRAWN BY JDO		PLANS CK'D ACK	
ABUTMENT DETAILS		SHEET 5 OF 8	

FILE: B320584_04_05_abut.dwg
PLOT SCALE:



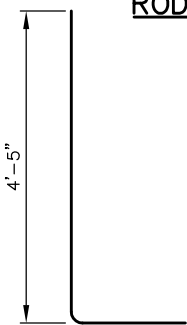
(WING 1 & 3 SIMILAR)



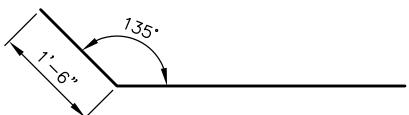
RODENT SHIELD DETAIL

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

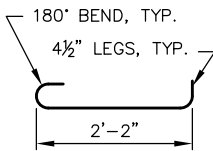
(WING 1 & 3 SIMILAR)



A502 & A421



A805, A509 & A814



A diagram of a bent pipe. The pipe consists of two segments, labeled "A" and "B". Segment "A" is the longer, lower part, and segment "B" is the shorter, upper part. The angle between the two segments is labeled as 165° . The pipe is shown in a perspective view, with the bend occurring at a right angle to the plane of the page.

A413 & A418

MARK	"A"	"B"
A413	8'-0"	2'-4"
A418	8'-0"	0'-9"

MARK	NO. REQ'D	LENGTH
A407	8 SERIES OF 12	7'-4" TO 9'-8"

BUNDLE AND TAG EACH SERIES SEPARATELY.

A419 & A420

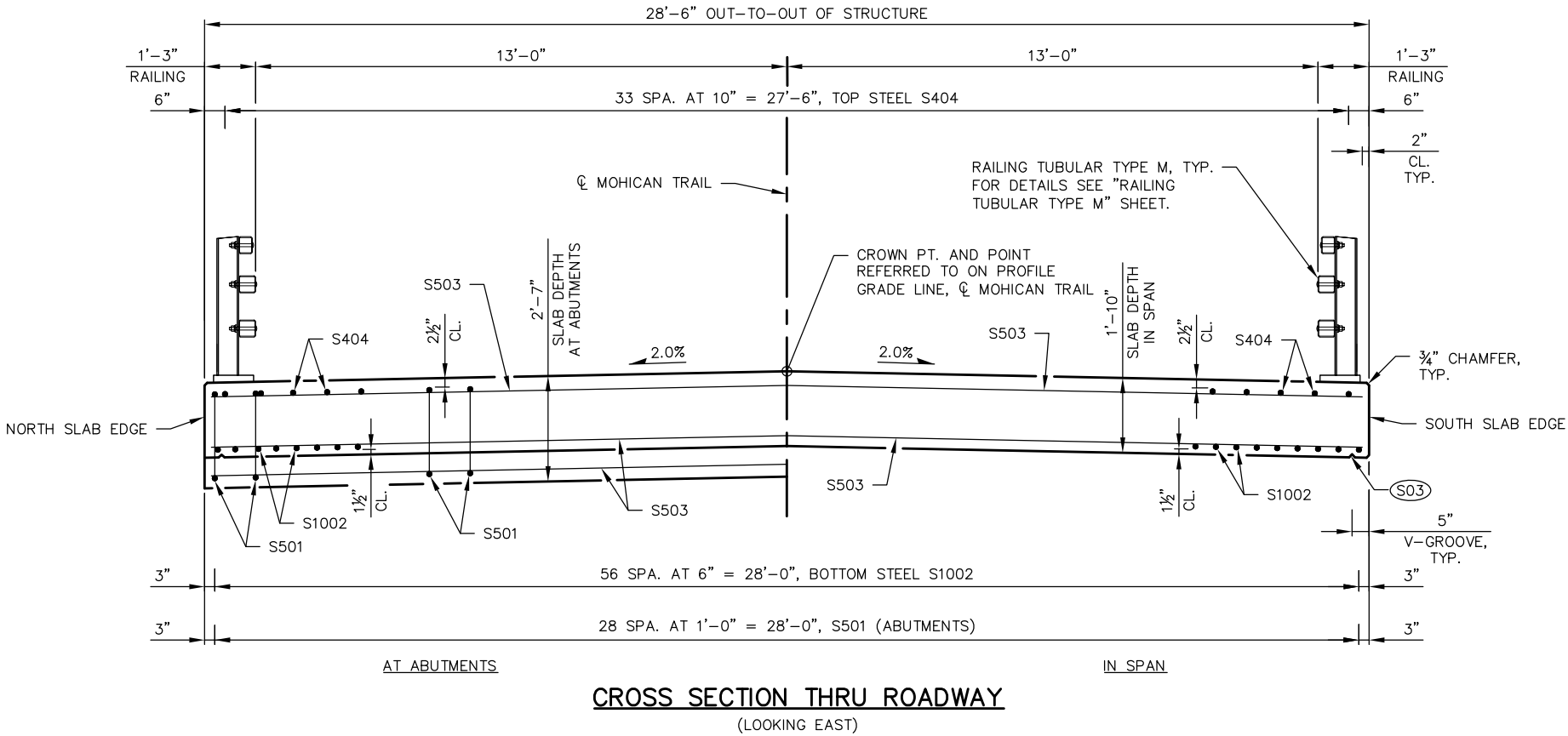
A407



 INDICATES WING NUMBER



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-32-584			
DRAWN BY JDO		PLANS CK'D ACK	
SUPERSTRUCTURE		SHEET 6 OF 8	



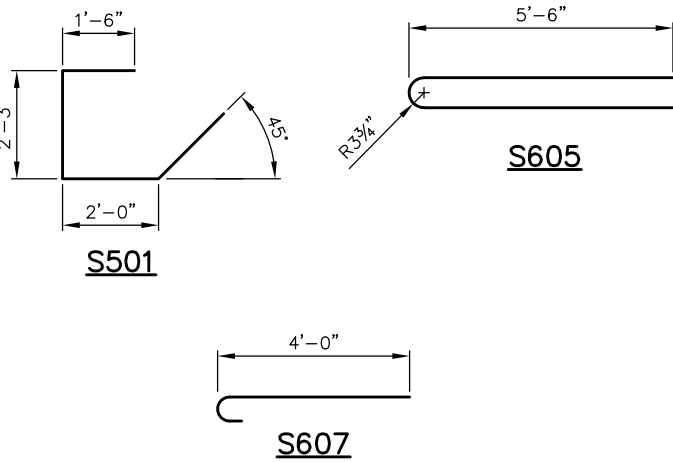
BILL OF BARS
SUPERSTRUCTURE

COATED = 15,560 LBS.

MARK	NUMBER		LENGTH	BENT	BAR SERIES	LOCATION
	COATED	UNCOATED				
S501	58		7'-7"	X		SLAB AT ABUTMENT - TIES LONGIT.
S1002	57		41'-2"			SLAB - BOTTOM LONGIT.
S503	101		28'-2"			SLAB - TOP & BOTTOM TRANS.
S404	34		41'-2"			SLAB - TOP LONGIT.
S605	32		11'-6"	X		SLAB - TOP AT RAIL POSTS TRANS.
S606	48		6'-0"			SLAB - TOP AT INTERIOR RAIL POSTS LONGIT.
S607	16		4'-8"	X		SLAB - TOP AT EXTERIOR RAIL POSTS LONGIT.

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

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

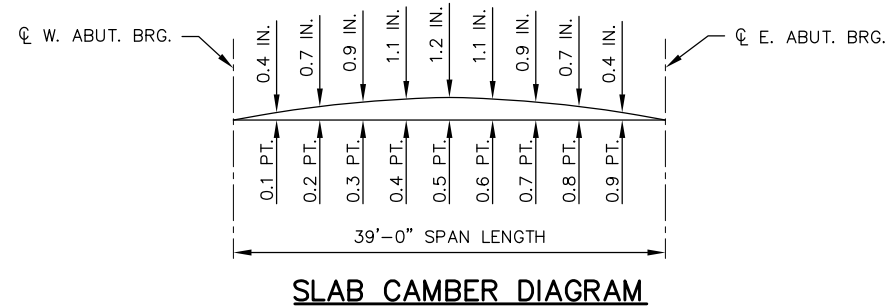


SURVEY TOP OF SLAB ELEVATIONS

	CL W. ABUT. BRG.	5/10 PT.	CL E. ABUT. BRG.
NORTH SLAB EDGE			
CL MOHICAN TRAIL			
SOUTH SLAB EDGE			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE CL OF ABUTMENTS AND AT 5/10 POINTS TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND REFERENCE LINE. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

TOP OF SLAB ELEVATIONS			
SPAN PT	SOUTH SLAB EDGE	CL MOHICAN TRAIL	NORTH SLAB EDGE
CL W. ABUT.	704.45	704.73	704.45
0.1	704.44	704.72	704.44
0.2	704.44	704.72	704.44
0.3	704.43	704.71	704.43
0.4	704.42	704.70	704.42
0.5	704.41	704.69	704.41
0.6	704.41	704.69	704.41
0.7	704.40	704.68	704.40
0.8	704.39	704.67	704.39
0.9	704.38	704.66	704.38
CL E. ABUT.	704.38	704.66	704.38



SLAB CAMBER DIAGRAM

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE FOLLOW THIS PROCEDURE:

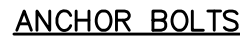
LESS TOP OF SLAB ELEVATION AT FINAL GRADE
PLUS SLAB THICKNESS
PLUS CAMBER
PLUS FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS TOP OF SLAB FALSEWORK ELEVATION.

NOTES

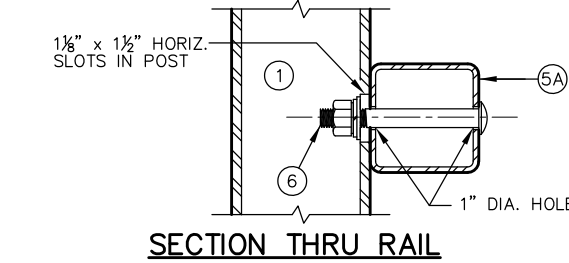
CAMBER SPAN AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

(S03) 3/4" V-GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT BODY. V-GROOVES ARE REQUIRED.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-32-584			
DRAWN BY JDO		PLANS CK'D	ACK
SUPERSTRUCTURE DETAILS			SHEET 7 OF 8



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



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



ANCHOR PLATE
AT RAIL TO DECK CONNECTION



- ① W6 x 25 WITH 1½" x 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLTS NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1¼" x 11¾" x 1'-8" WITH 1¼" 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. USE 10¾" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)
- ④ 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1¼" DIA. HOLES FOR ANCHOR BOLTS NO. 3
- ⑤ TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑤A TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑥ 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" x 15/8" x 15/8" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- ⑦ ½" THK. BACK-UP PLATE WITH 2 - 7/8" x 1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- ⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- ⑨ SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3/8" x 35/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8" x 25/8" x 2'-4" PLATE USED IN NO. 5, 3/8" x 35/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER. USE 15/16" x 1¼" LONGIT. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS AND 15/16" x 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE 15/16" DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.
- ⑫ 7/8" DIA. x 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- ⑬ 3/8" x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- ⑭ 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- ⑮ 1" DIA. HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

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 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-32-584			
DRAWN BY		JDO	PLANS CK'D ACK
RAILING TUBULAR TYPE M			SHEET 8 OF 8

MOHICAN TRAIL

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
10+15.00	0.00	115.92	39.87	0.00	0	0	0	0	0	0
10+25.00	10.00	72.06	22.46	0.27	35	12	0	35	0	23
10+46.00	21.00	38.76	12.37	0.00	43	14	0	78	0	52
STRUCTURE B-32-0584										
TOTALS					78	26	0			

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
STRUCTURE B-32-0584										
10+87.00	0.00	41.26	6.50	9.82	0	0	0	0	0	0
11+00.00	13.00	37.96	6.25	0.00	19	3	2	19	3	14
11+37.00	37.00	50.33	6.50	0.00	60	9	0	79	3	65
		TOTALS			79	12	2			
		DIVISION 1 TOTALS			157	38	2			

TEMPORARY BYPASS

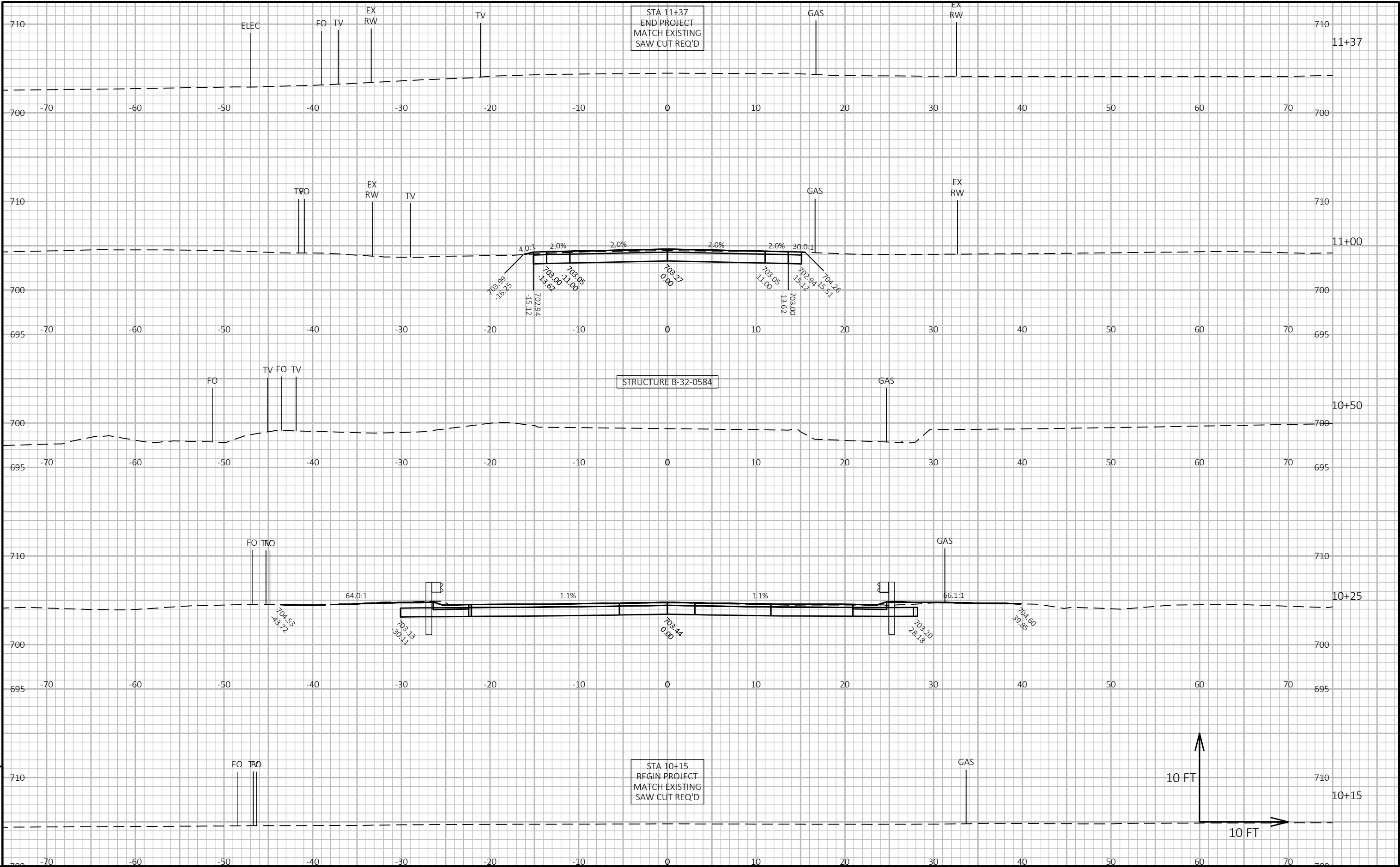
STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
20+19.00	0.00	19.24	0.00	0.00	0	0	0	0	0	0
20+35.00	16.00	0.00	0.00	104.26	6	0	31	6	39	-33
TEMPORARY STRUCTURE										
TOTALS					6	0	31			

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
TEMPORARY STRUCTURE										
20+66.00	0.00	0.00	0.00	126.43	0	0	0	0	0	0
21+00.00	34.00	17.04	0.00	0.00	11	0	80	11	100	-89
21+50.00	50.00	0.00	0.00	16.67	16	0	15	27	119	-92
22+00.00	50.00	0.00	0.00	20.36	0	0	34	27	161	-134
22+50.00	50.00	0.00	0.00	21.68	0	0	39	27	210	-183
22+96.00	46.00	17.43	0.00	0.00	15	0	18	42	233	-191
			TOTALS		42	0	186			
			DIVISION 2 TOTALS		48	0	217			

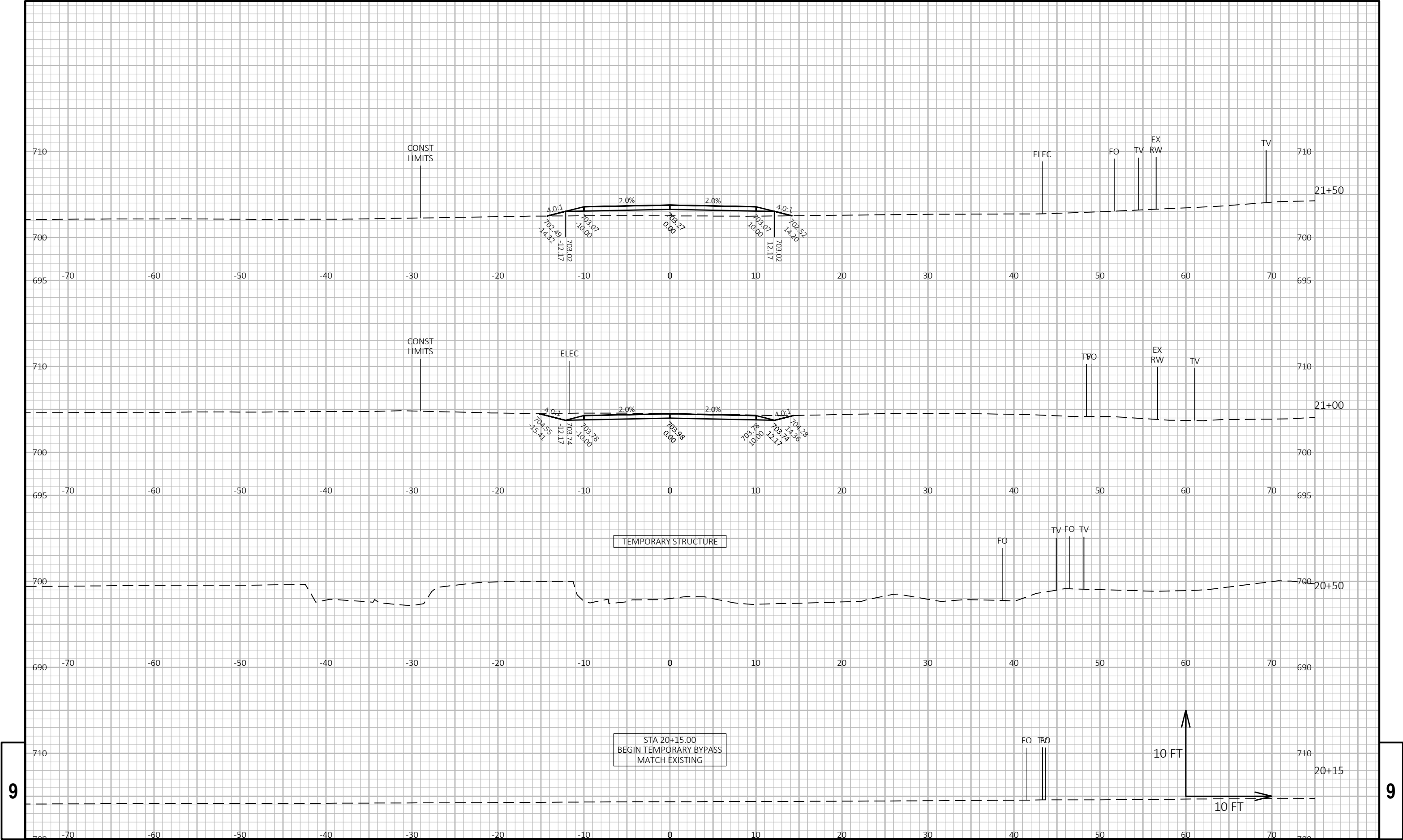
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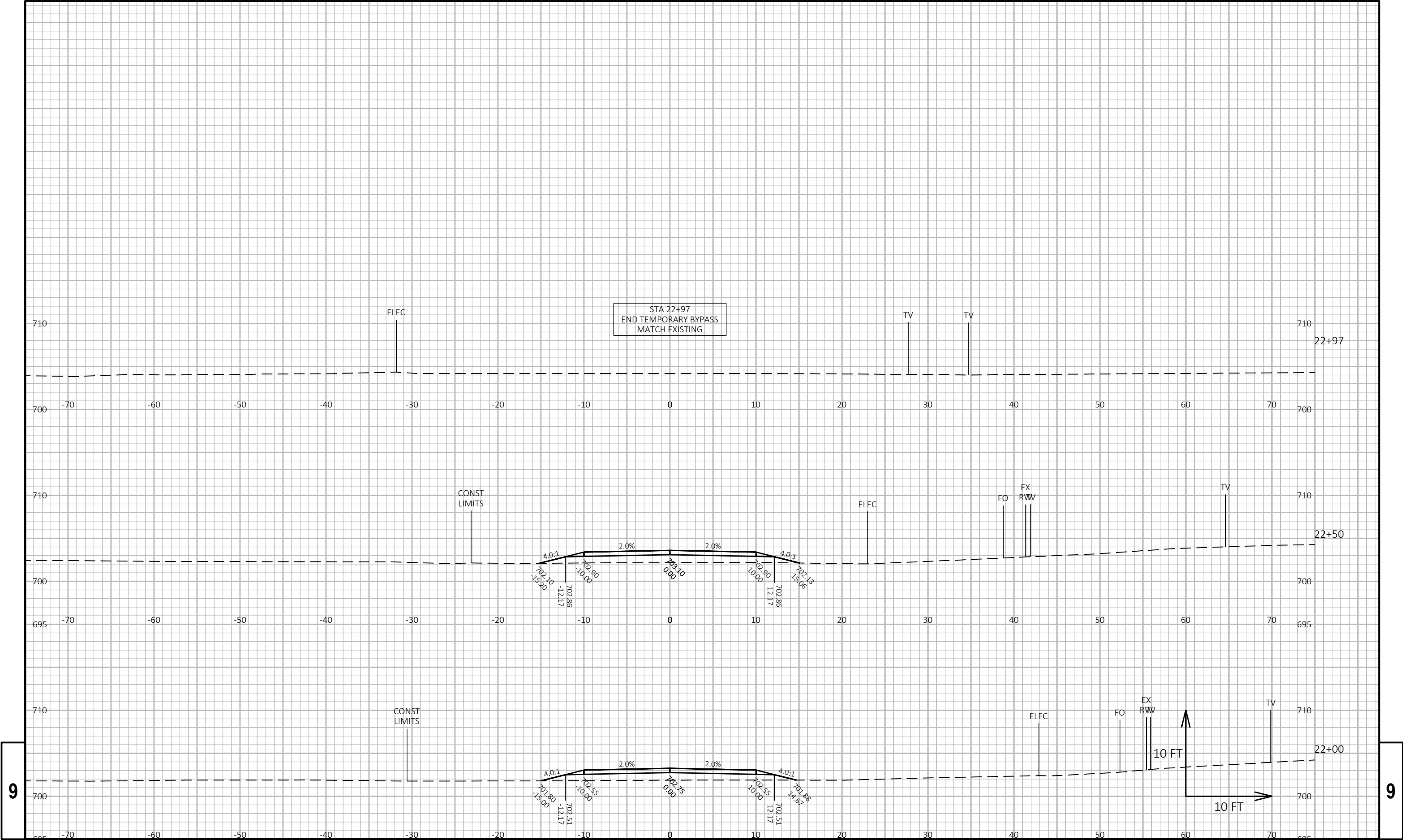
STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 4
20+19.00	0.00	---	---	---						
22+96.00	277.00	--		---	217	0	48	217	60	157
TOTALS					217	0	48			
DIVISION 3 TOTALS					217	0	48			

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
4 - MASS ORDINATE	[(CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL) - (FILL * FILL FACTOR)]
	PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL IN THE DIVISION. MINUS QUANTITY INDICATES A SHORTAGE OF MATERIAL IN THE DIVISION.



PROJECT NO: 7272-00-72	HWY: MOHICAN TRAIL	COUNTY: LA CROSSE	CROSS SECTIONS: MOHICAN TRAIL	SHEET	E
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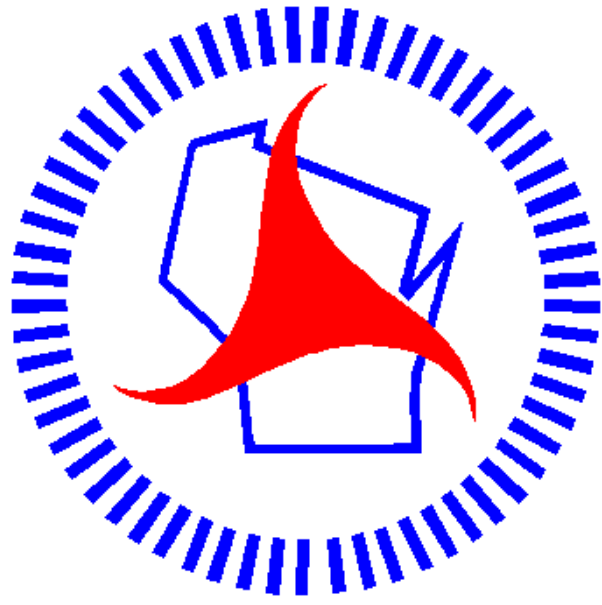




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Notes



Wisconsin Department of Transportation

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through innovation and exceptional service.

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