

WIS

FEBRUARY 2019

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 = 104

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

WEST COUNTY LINE - MARSHFIELD

FAIRHAVEN AVENUE TO LINCOLN AVENUE

CTH H
WOOD COUNTY

STATE PROJECT NUMBER
6923-01-70

STATE PROJECT

6923-01-70

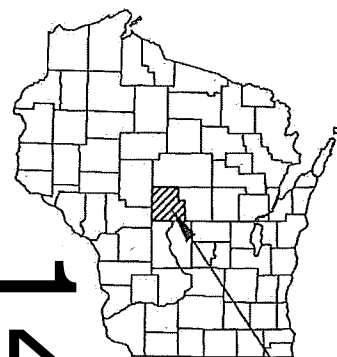
FEDERAL PROJECT

PROJECT

WISC 2019127

CONTRACT

1



14

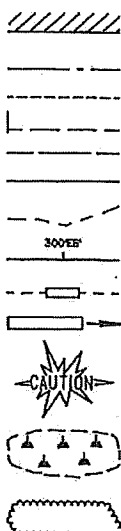
PROJECT
LOCATION

DESIGN DESIGNATION

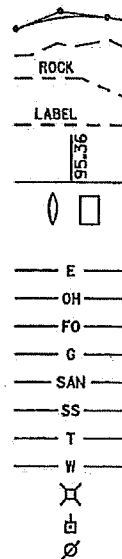
A.A.D.T. 2019 = 4100
A.A.D.T. 2039 = 4750
D.H.V. 2039 = 694
D.D. = 59/41
T. = 8.2%
DESIGN SPEED = 60 MPH
ESALS = 590,000

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
OVERHEAD UTILITY
FIBER OPTIC
GAS
SANITARY SEWER
STORM SEWER
TELEPHONE
WATER
UTILITY PEDESTAL
POWER POLE
TELEPHONE POLE



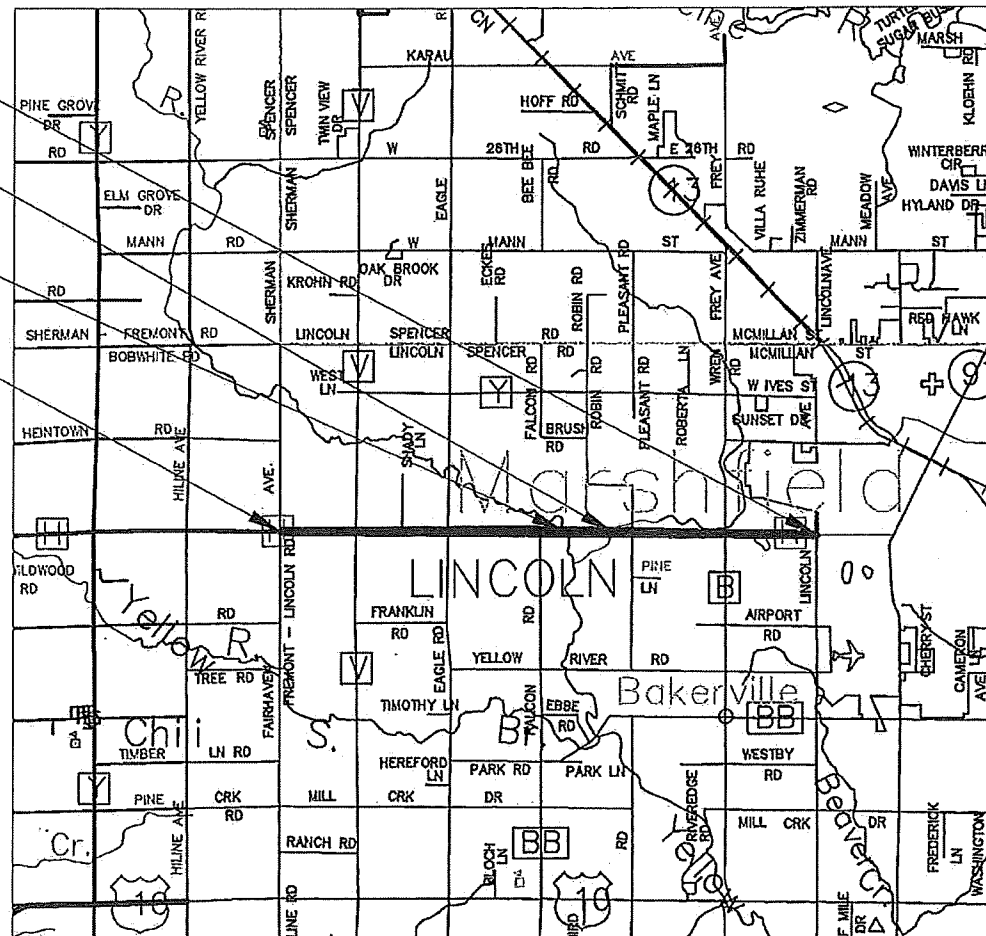
END PROJECT
STA. 318+60

B-71-165
EXCEPTION TO NET CENTER LINE LENGTH
STA. 204+28-STA. 204+97

B-71-531
EXCEPTION TO NET CENTER LINE LENGTH
STA. 173+63-STA. 174+58

BEGIN PROJECT
STA. 11+90
Y = 548713.87
X = 601676.54

T-25-N



LAYOUT

SCALE 0 2 MILES

TOTAL NET LENGTH OF CENTERLINE = 5.778

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

ACCEPTED FOR
COUNTY OF WOOD
7/31/18
(DATE) (SIGNATURE)
ORIGINAL PLANS PREPARED BY:
Robert E. Lee & Associates, Inc.
ENGINEERING, SURVEYING, ENVIRONMENTAL SERVICES
1250 CENTRAL CENTRE BOULEVARD HOBART, WI 54155
920-662-9841 www.releinc.com
WISCONSIN
MARK S. SCHUSTER
E-23974
CLINTONVILLE
WI
PROFESSIONAL ENGINEER
Mark Schuster 7/25/18
(Signature) (Date)
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PREPARED BY
Surveyor ROBERT E. LEE & ASSOCIATES
Designer ROBERT E. LEE & ASSOCIATES
Management Consultant CEDAR CORPORATION
APPROVED FOR THE DEPARTMENT
DATE: 7-31-2018 (Signature)
E

DIGGERSHOTLINE

Dial 811 or (800) 242-8511

www.DiggersHotline.com

TO OBTAIN LOCATION OF PARTICIPANTS
UNDERGROUND FACILITIES BEFORE YOU
DIG IN WISCONSIN

WIS. STATUTE 182.0175 (1974)
REQUIRES MIN. OF 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE.

UTILITIES

CONTACTS

WE ENERGIES (GAS)
RYAN MIENTKE
1921 8TH ST. S.
WISCONSIN RAPIDS, WI 54495
(715) 421-7249

ROBERT E. LEE & ASSOCIATES, INC.
MARK SCHUSTER
1250 CENTENNIAL CENTRE BOULEVARD
HOBART, WI. 54155
(920) 662-9641

WOOD COUNTY HIGHWAY DEPARTMENT
ROLAND HAWK, P.E.
555 17TH AVENUE NORTH
WISCONSIN RAPIDS, WI 54495
(715) 421-8875

MARSHFIELD UTILITIES (ELECTRICAL)
ERIC LORENZEN
2000 S. CENTRAL AVENUE
MARSHFIELD, WI 54449
(715) 898-2142

WDNR CONTACT
BOBBI JO FISCHER
1300 W. CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
(715) 421-7845

PACKERLAND BROADBAND
ANDY HEIGL
P.O. BOX 885
105 KENT STREET
IRON MOUNTAIN, MI 49801
(906) 221-7536

MARSHFIELD UTILITIES (WATER)
ERICK BOON
2000 S. CENTRAL AVENUE
MARSHFIELD, WI 54449
(715) 387-1195

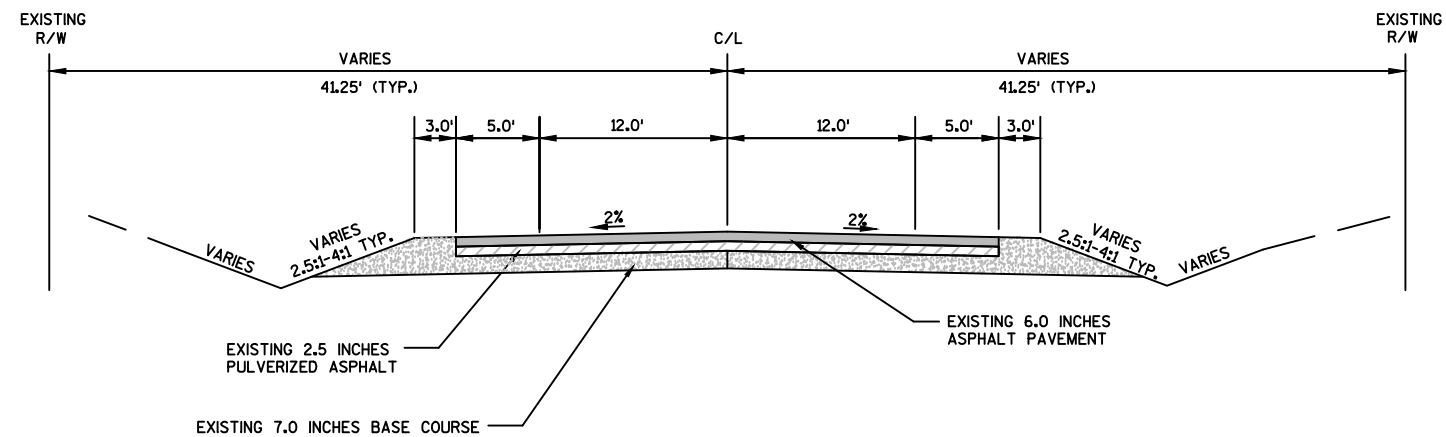
CITY OF MARSHFIELD (STORM AND SANITARY)
DAN KNOECK
630 S. CENTRAL AVENUE
MARSHFIELD, WI 54449
(715) 387-8424

GENERAL NOTES

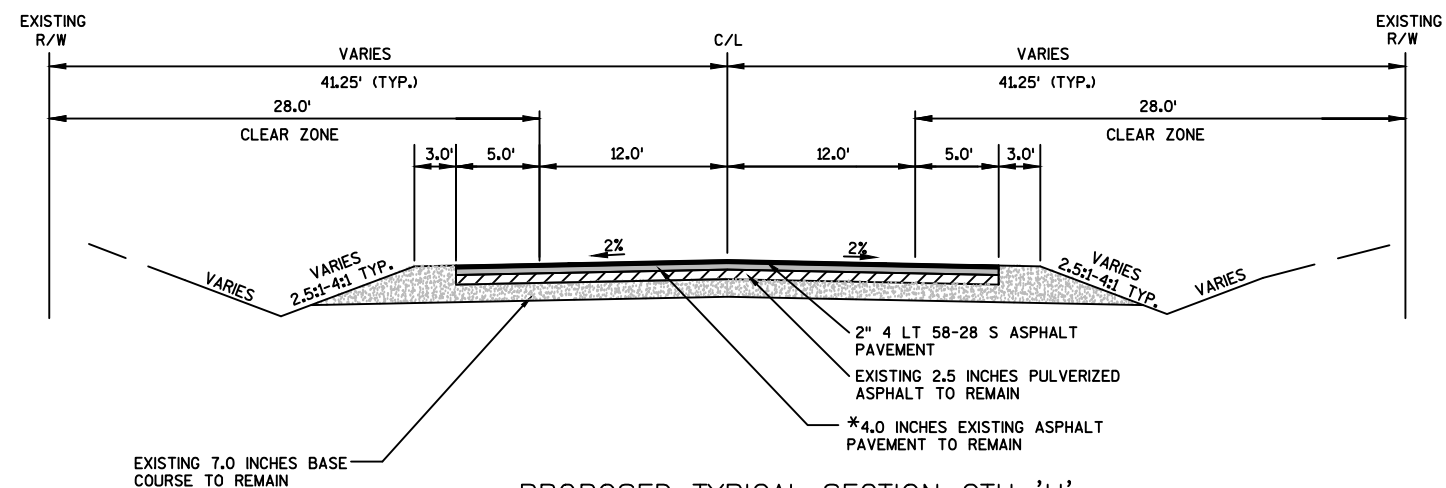
1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
2. NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
3. ALL DISTURBED AREAS SHALL BE SALVAGE TOPSOILED, FERTILIZED, SEEDED AND COVERED WITH EROSION MAT AS NOTED ON THE PLAN OR AS DETERMINED BY THE ENGINEER.
4. EROSION CONTROL ITEMS SHOWN ON THE PLAN ARE AT SUGGESTED LOCATIONS. THE EXACT LOCATIONS AND DIMENSIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN PLACE UNTIL SUCH TIME AS THE ENGINEER DETERMINES THAT THEY ARE NO LONGER REQUIRED.
5. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST M.U.T.C.D MANUAL.
6. PROPERTY LINES AS SHOWN ARE APPROXIMATE.
7. ALL CURB RADI DIMENSIONS ON THE PLAN ARE MEASURED TO FLANGE LINE.
8. THE CONTROL POINTS SHOWN ON THE PLAN ARE FOR INTERSECTION AND BEAM GUARD RECONSTRUCTION ONLY. THE ROADWAY CENTERLINE SHOWN IN THE PLANS IS FOR STATIONING REFERENCE ONLY, IT IS NOT TIED TO THE EXISTING ROADWAY CENTERLINE. PROPOSED ROADWAY TO FOLLOW EXISTING CENTERLINE.
9. THE STATIONING OF THE NO PASSING ZONES PAVEMENT MARKING AND SIGNING IS APPROXIMATE AND SHALL BE FIELD VERIFIED ACCORDING TO THE LOCATING NO PASSING ZONES BID ITEM AND STANDARD DETAIL DRAWINGS.

STANDARD ABBREVIATIONS

GR	GRAVEL	WM	WATERMAIN	VPC	VERTICAL POINT OF CURVATURE	R/W	RIGHT OF WAY
BIT	BITUMINOUS	HYD	HYDRANT	VPI	VERTICAL POINT OF INTERSECTION	T/C	TOP OF CURB
ASPH	ASPHALT PAVEMENT	WV	WATER VALVE	VPT	VERTICAL POINT OF TANGENCY	F/L	FLOW LINE
CONC	CONCRETE	SAN	SANITARY SEWER	PC	POINT OF CURVATURE	C/L	CENTERLINE
SW	SIDEWALK	MH	MANHOLE	PI	POINT OF INTERSECTION	P/L	PROPERTY LINE
BLDG	BUILDING	ST	STORM SEWER	PT	POINT OF TANGENCY	R/L	REFERENCE LINE
HSE	HOUSE	CB	CATCH BASIN	R	RADIUS	INV	INVERT
PED	PEDESTAL	TELE	TELEPHONE	EX	EXISTING	CMP	CORRUGATED METAL PIPE
PP	POWER POLE	ELEC	ELECTRIC	PR	PROPOSED	RCP	REINFORCED CONCRETE PIPE
LP	LIGHT POLE	TV	TELEVISION	EOR	END OF RADIUS	CULV	CULVERT
BM	BENCH MARK	STA	STATION	B-B	BACK TO BACK (OF CURB)	PE	PERSONAL ENTRANCE
CE	COMMERCIAL ENTRANCE	FE	FIELD ENTRANCE	E.O.P.	EDGE OF PAVEMENT	CP	CONTROL POINT
							MAG NAIL 1 1/2" X 1/4" NAIL

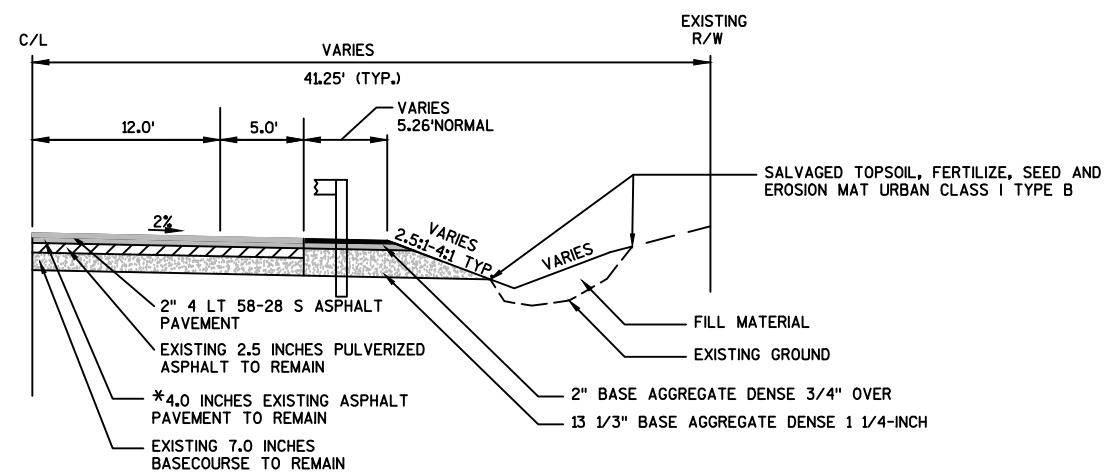


TYPICAL EXISTING SECTION CTH 'H'
STA. 11+90 TO STA. 318+60



PROPOSED TYPICAL SECTION CTH 'H'
STA. 11+90 TO STA. 318+60

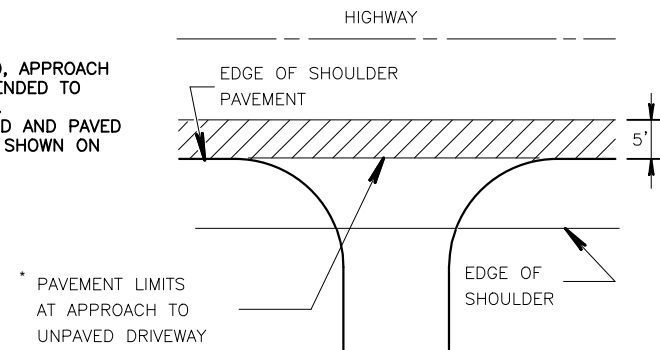
*MILL 2" OF EXISTING ASPHALT PAVEMENT



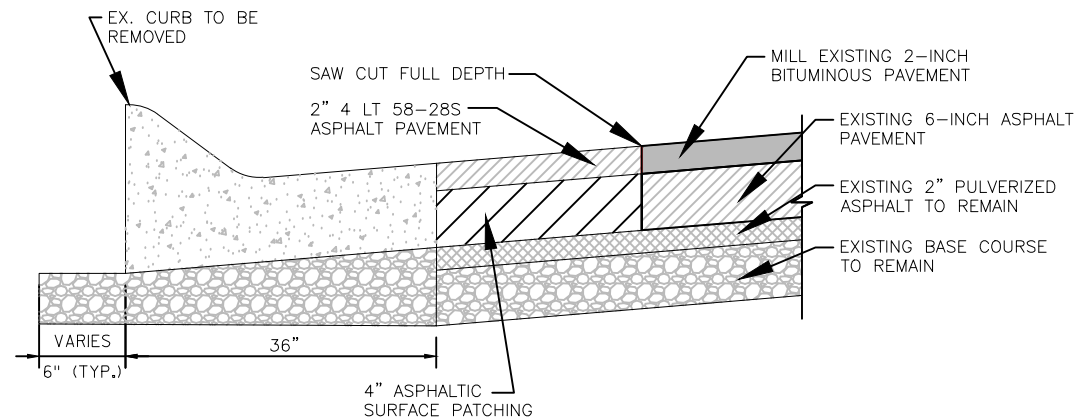
PROPOSED TYPICAL 1/2 SECTION CTH 'H' AT BEAM GUARD
STA. 172+02 TO STA. 179+23

*MILL 2" OF EXISTING ASPHALT PAVEMENT

*WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT. SIDEROADS SHALL BE MILLED AND PAVED TO END OF RADIUS OR AS SHOWN ON PLANS.

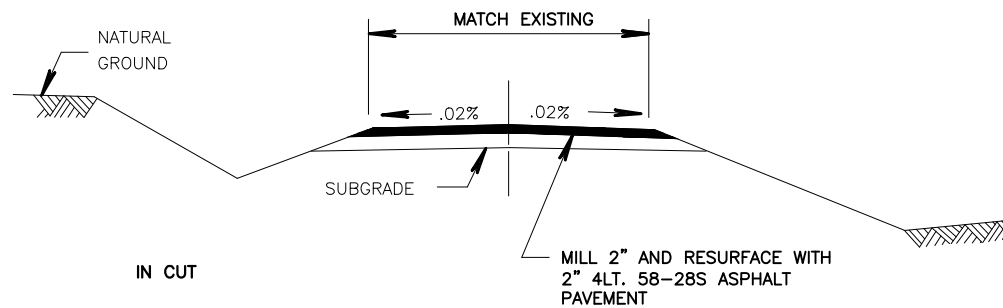


PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)
RURAL DRIVEWAY

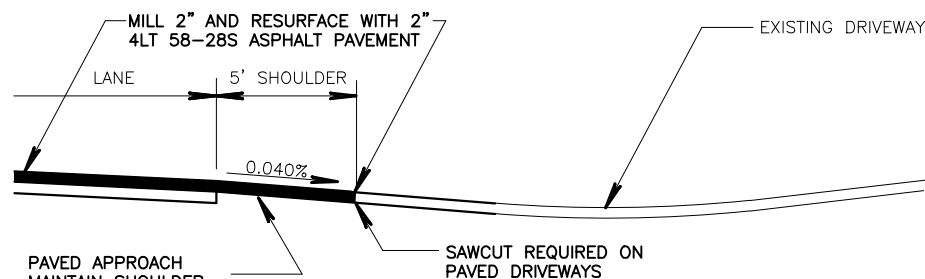


*ASPHALTIC SULFATE PATCHING SHALL BE 6" THICK ON SOUTH RADII AT CTH V INTERSECTION FOR DETOUR TRAFFIC.

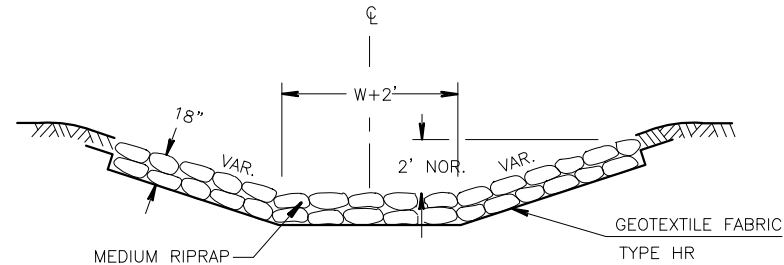
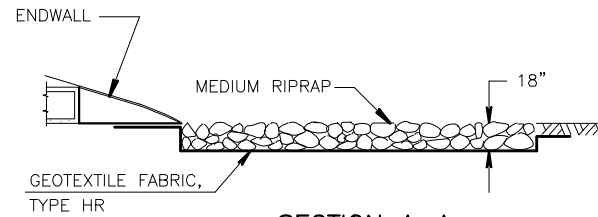
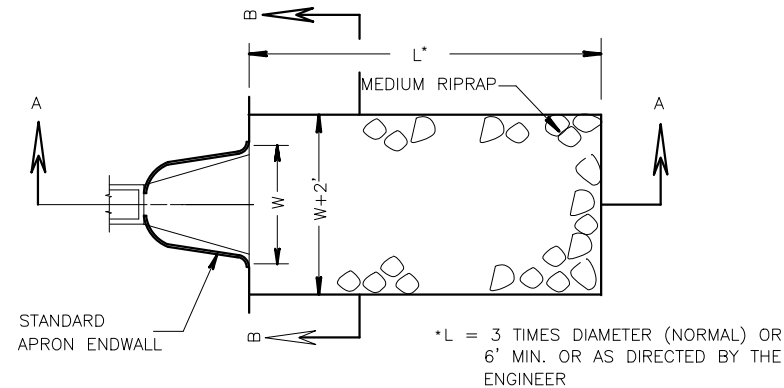
ASPHALT PAVEMENT AT CURB AND GUTTER DETAIL



TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE

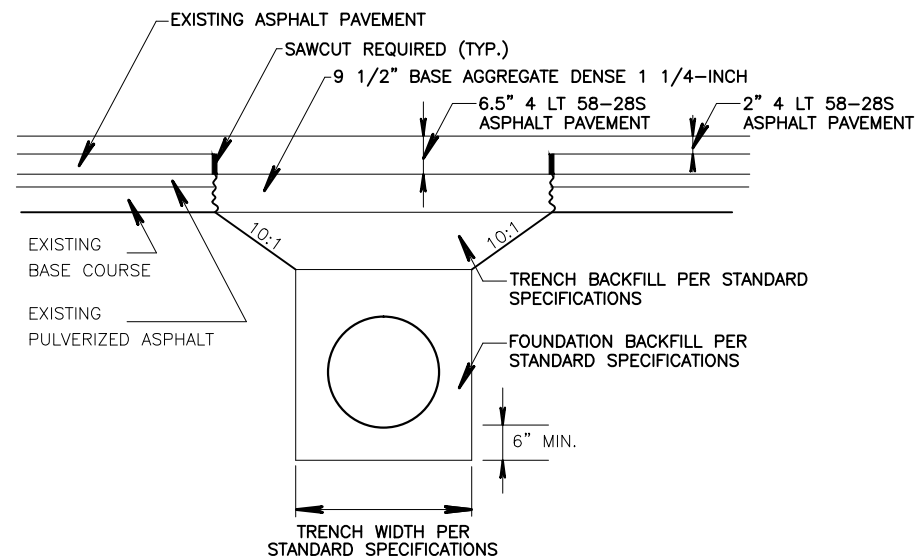


TYPICAL DRIVEWAY PROFILES

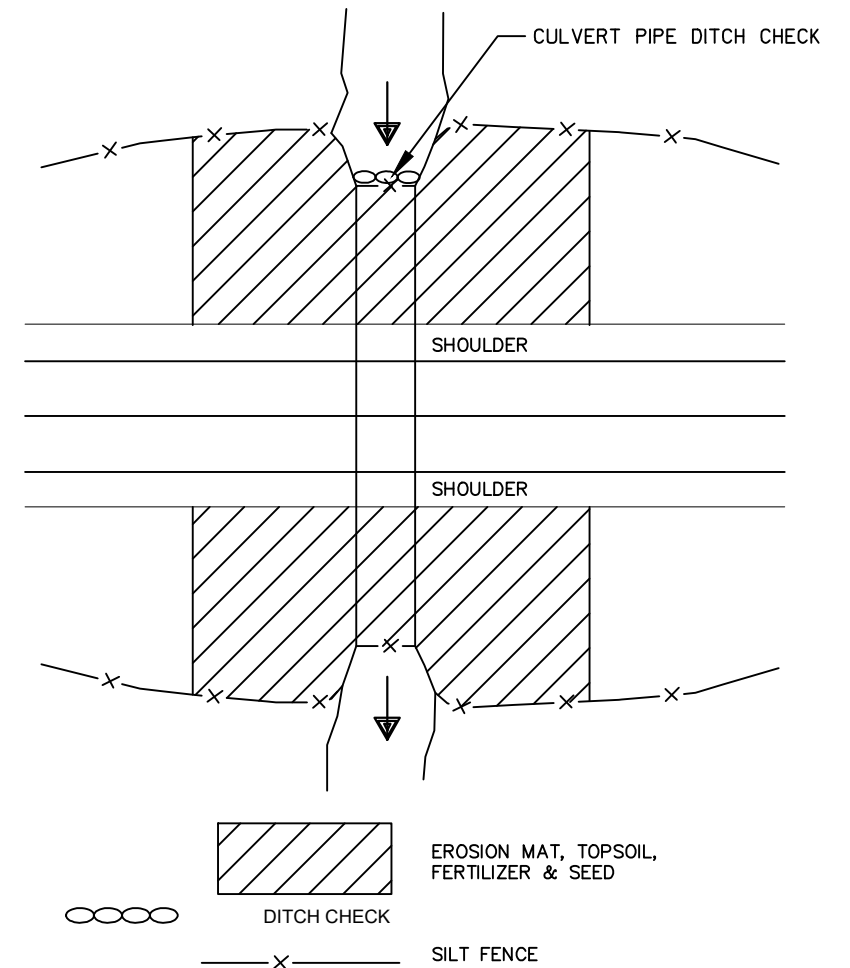


SECTION B-B

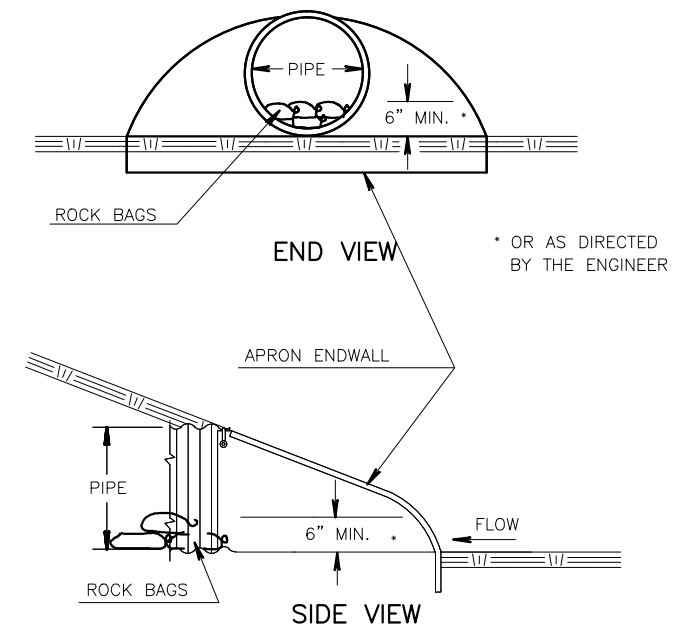
MEDIUM RIPRAP TREATMENT AT CROSS CULVERTS



CROSS CULVERT BEDDING DETAIL



DETAIL FOR EROSION CONTROL AT PIPE REPLACEMENTS



CULVERT PIPE CHECK DETAIL

DAVID MEISSNER
1000138

STEVEN L KNAUF
1000139

DAVID MEISSNER
1000138



STA. 55+68, 59'LT.
END CURB AND GUTTER
STA. 55+84 CTH H
STA. 501+39 CTH V
TYPE 'C' MODIFIED
INTERSECTION REQUIRED
STA. 55+28, 60'LT.
STA. 55+01, 23'LT.
END CURB AND GUTTER

CONSTRUCTION LIMITS SAWCUT REQUIRED
STA. 55+97, 123'LT

ASPHALT FLUME REQUIRED
STA. 55+98, 61'LT.
BEGIN CURB AND GUTTER

STA. 56+38,
60'LT.

REMOVE EXISTING CONCRETE CURB AND
GUTTER ALL FOUR QUADRANTS (TYP.)

STA. 56+38, 23'LT.
END CURB AND GUTTER

BM/IR ALUM WITNESS CAP
1269.51

EP: 502+70.00

55

CTH H

ASPHALT FLUME REQUIRED

TEMPORARY DITCH CHECK
(TYP.)

STA. 55+28, 23'RT
BEGIN CURB AND GUTTER

CONCRETE CURB & GUTTER 6-INCH
SLOPED 36-INCH TYPE D REQUIRED (TYP.)

STA. 55+28, 60'RT.

RIPRAP MEDIUM REQUIRED

STA. 55+43, 39'RT INV. 1266.60

PIPE ARCH CORRUGATED STEEL ALUMINUM
COATED 28"X20"X72"
2 APRON ENDWALLS FOR PIPE ARCH STEEL
28"X20"

STA. 55+68, 15'RT
END OF CURB AND GUTTER
REMOVING SMALL PIPE CULVERTS
EX. 15" CMP

BP: 500+00.00

CTH V

PI: 55+84.24
CURB
OPENING

STA. 56+38, 23'RT.
END CURB AND GUTTER

STA. 56+38,
60'RT.

ASPHALT FLUME REQUIRED

STA. 56+15, 39'RT INV. 1267.10

STA. 55+98, 60'RT
BEGIN CURB AND GUTTER OFFSET

CONSTRUCTION REFERENCE LINE

CONSTRUCTION LIMITS SAWCUT REQUIRED (TYP.)
STA. 55+92, 131'RT

STEPHEN PANKRATZ
1000322A

KIM D SCHEIDER
1000336

PROJECT NO:6923-01-70

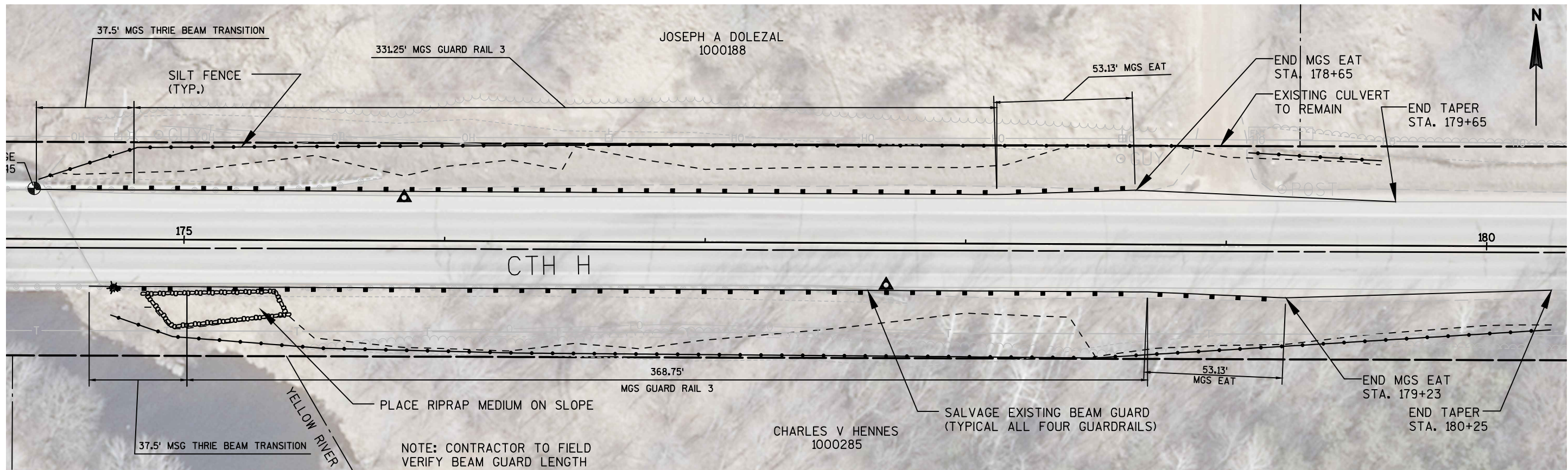
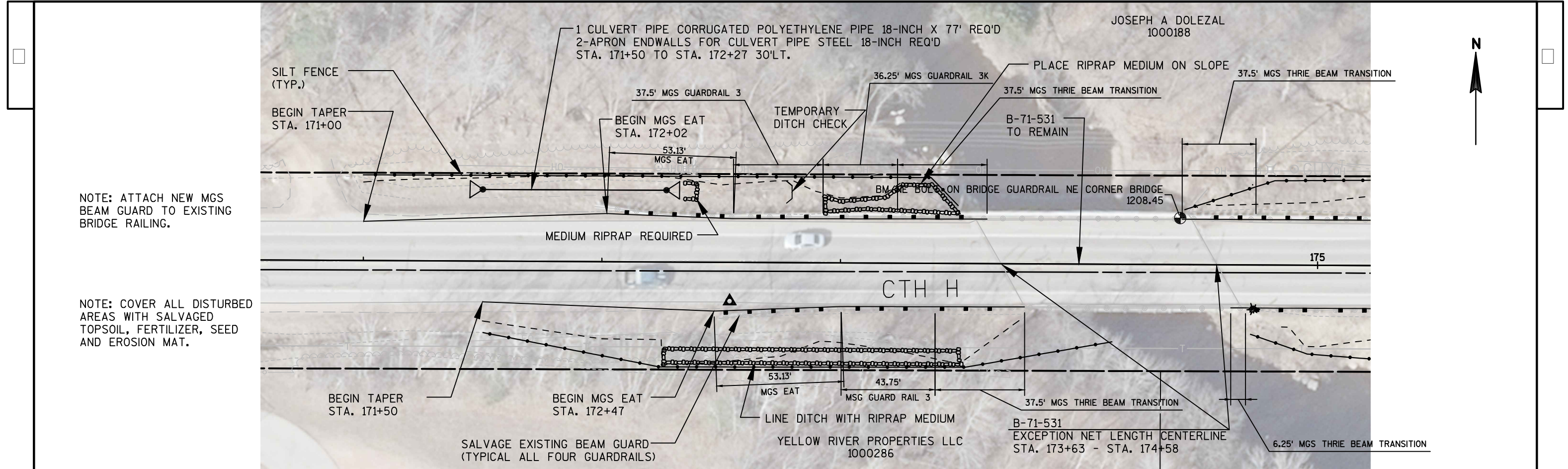
HWY:CTH H

COUNTY:WOOD

CONSTRUCTION DETAIL: CTH V

SHEET

E



PROJECT NO:6923-01-70

HWY:CTH H

COUNTY:WOOD

CONSTRUCTION DETAIL: BEAM GUARD

SHEET

E

FILE NAME : R:\4200\4281\4281018\DWG\021001-CD.DWG
LAYOUT NAME - *****

PLOT DATE : 11/26/2018 11:33 AM

PLOT BY : ROCHELLE L. BURSA

PLOT NAME :

PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

WILLIAM J HOFFMAN
1000196AA

WILLARD DIERINGER
1000211



STA. 213+87, 46'LT.
BEGIN CURB AND GUTTER
STA. 213+64, 45'LT.
STA. 214+02 CTH H
STA. 601+17 ROBIN ROAD
TYPE 'C' MODIFIED
INTERSECTION REQUIRED
STA. 213+65, 23'LT.
BEGIN CURB AND GUTTER

EP: 602+15.00

CONSTRUCTION LIMITS
SAWCUT REQUIRED (TYP.)
STA. 214+03, 81'LT.

ASPHALT FLUME REQUIRED
STA. 214+17, 60'LT.
BEGIN CURB AND GUTTER
STA. 214+26, 52'LT.
RIPRAP MEDIUM REQUIRED INV. 1207.50
STA. 214+54, 60'LT.
REMOVING SMALL PIPE CULVERTS
EX. 36" CMP
REMOVE EXISTING CONCRETE CURB AND
GUTTER ALL FOUR QUADRANTS
STA. 214+54, 23'LT.
END CURB AND GUTTER

CONSTRUCTION REFERENCE LINE

CTH H

TEMPORARY DITCH CHECK
(TYP.)
ASPHALT FLUME REQUIRED
STA. 213+53, 23'RT.
BEGIN CURB AND GUTTER
CONCRETE CURB & GUTTER 6-INCH
SLOPED 36-INCH TYPE D REQUIRED
(TYP.)
STA. 213+55, 35'RT.
RIPRAP MEDIUM REQUIRED INV. 1207.50
STA. 213+53, 60'RT.
PIPE ARCH CORRUGATED STEEL
ALUMINUM COATED 42"X29"X70'
2 APRON ENDWALLS FOR PIPE
ARCH STEEL 42"X29"
REMOVING SMALL PIPE CULVERTS
EX. 36" CMP
STA. 213+90, 63'RT.
END CURB AND GUTTER

BP: 600+00.00

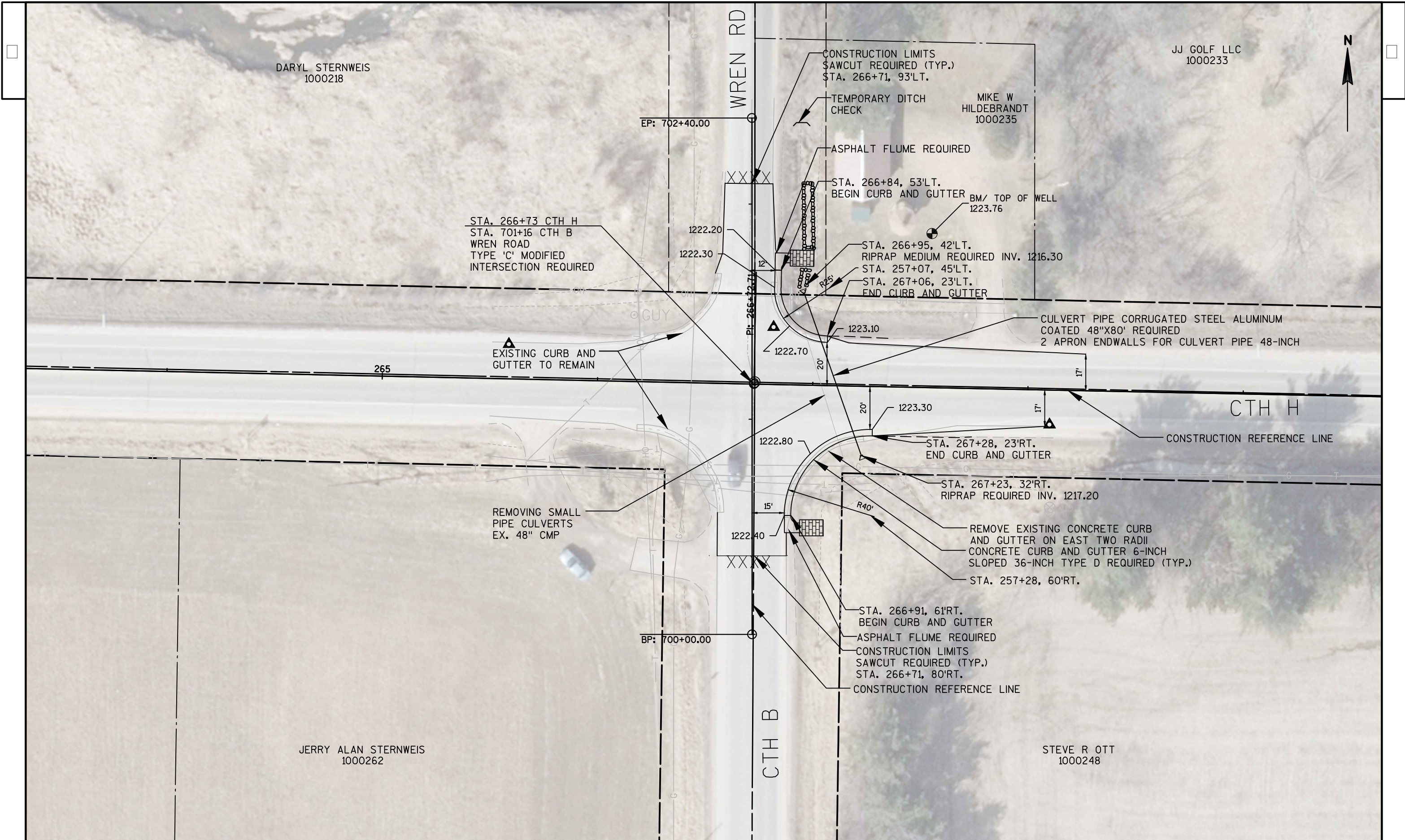
ROBIN RD

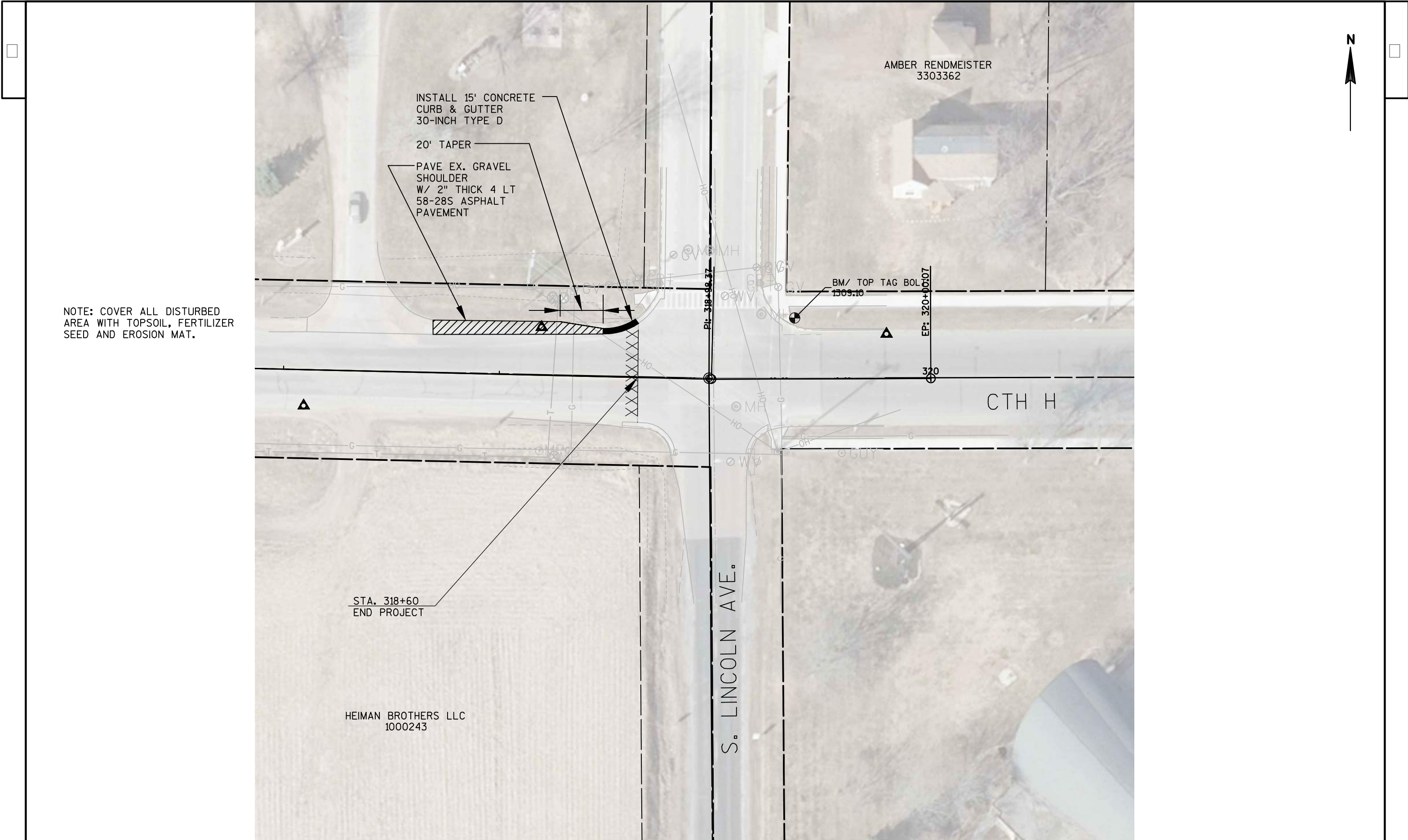
CONSTRUCTION LIMITS
SAWCUT REQUIRED (TYP.)
STA. 214+03, 109'RT.

STA. 214+54, 23'RT.
END CURB AND GUTTER
PIPE ARCH CORRUGATED STEEL ALUMINUM COATED 42"X29"X84'
2 APRON ENDWALLS FOR PIPE ARCH STEEL 42"X29"
STA. 214+41, 31'RT.
INV. 1208.00
STA. 214+56, 60'RT.
ASPHALT FLUME REQUIRED
STA. 214+26, 45'RT.
INV. 1208.00
STA. 214+19, 60'RT.
BEGIN CURB AND GUTTER

BENJAMIN A NIEHAUS
1000281C

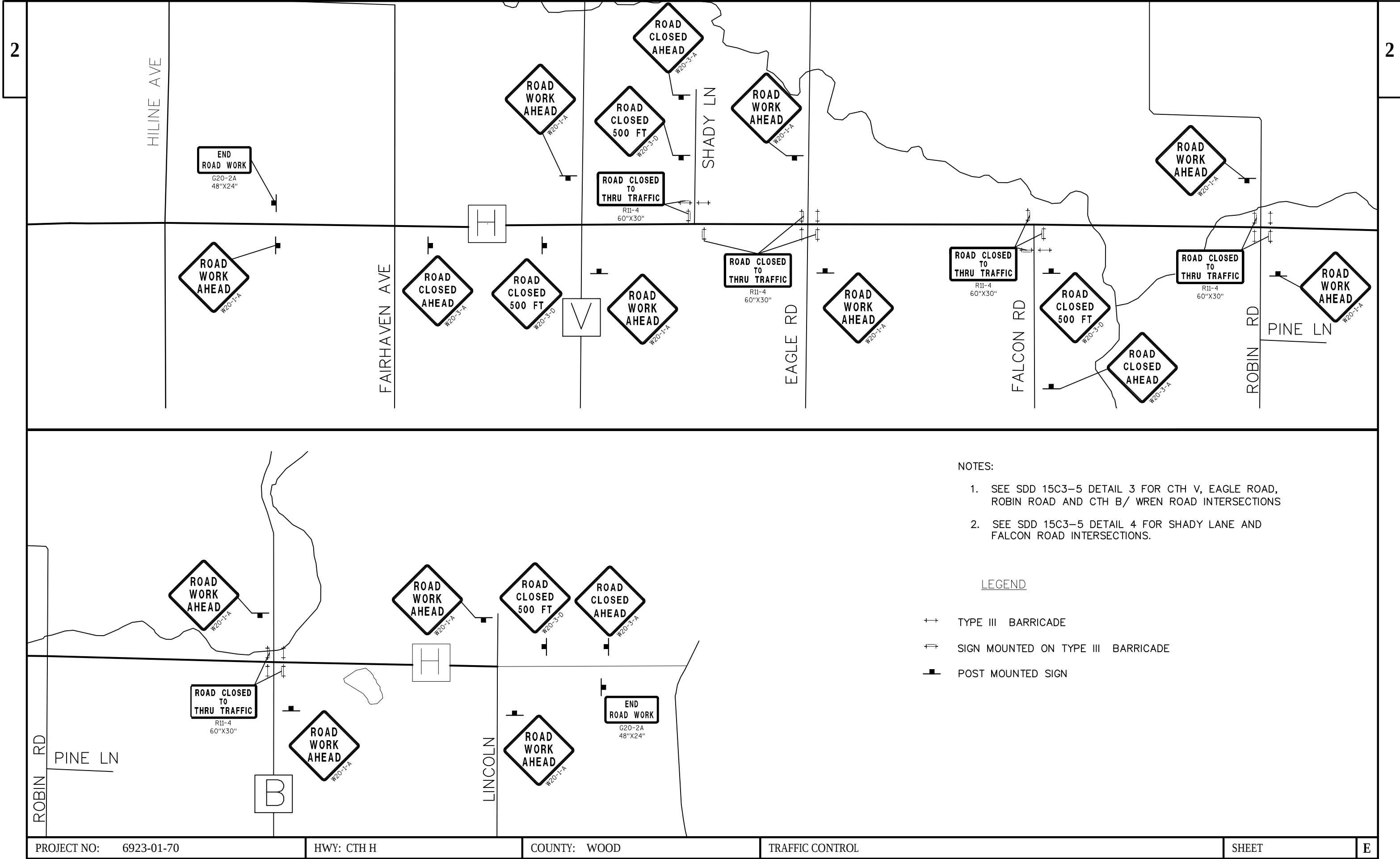
D & B STERNWEIS ACRES LLC
1000268

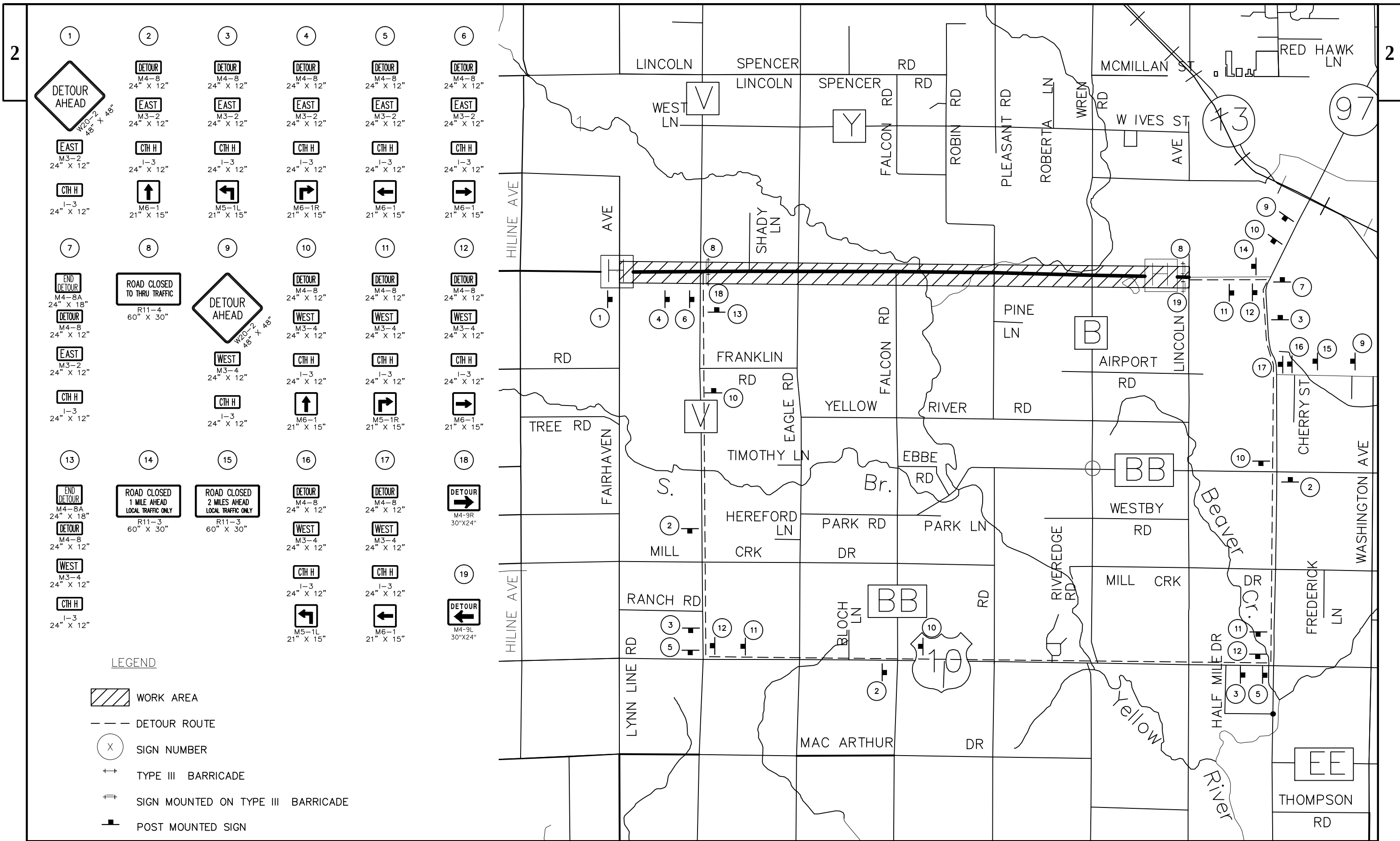




NOTE: COVER ALL DISTURBED
AREA WITH TOPSOIL, FERTILIZER
SEED AND EROSION MAT.







Estimate Of Quantities

6923-01-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	8.000	8.000
0004	201.0205	Grubbing	STA	8.000	8.000
0006	203.0100	Removing Small Pipe Culverts	EACH	12.000	12.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	118,585.000	118,585.000
0010	204.0150	Removing Curb & Gutter	LF	540.000	540.000
0012	205.0100	Excavation Common	CY	661.000	661.000
0014	205.9010.S	Grading and Shaping Intersection (location) 01. CTH V	LS	1.000	1.000
0016	205.9010.S	Grading and Shaping Intersection (location) 02. Robin Road	LS	1.000	1.000
0018	205.9010.S	Grading and Shaping Intersection (location) 03. CTH B/Wren RD	LS	1.000	1.000
0020	205.9010.S	Grading and Shaping Intersection (location) 04. Lincoln Avenue	LS	1.000	1.000
0022	213.0100	Finishing Roadway (project) 01. 6923-01-70	EACH	1.000	1.000
0024	305.0110	Base Aggregate Dense 3/4-Inch	TON	150.000	150.000
0026	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,350.000	1,350.000
0028	455.0605	Tack Coat	GAL	7,130.000	7,130.000
0030	460.2000	Incentive Density HMA Pavement	DOL	9,440.000	9,440.000
0032	460.5224	HMA Pavement 4 LT 58-28 S	TON	14,750.000	14,750.000
0034	465.0110	Asphaltic Surface Patching	TON	10.000	10.000
0036	465.0315	Asphaltic Flumes	SY	45.000	45.000
0038	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	27,000.000	27,000.000
0040	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	2.000	2.000
0042	521.1036	Apron Endwalls for Culvert Pipe Steel 36-Inch	EACH	12.000	12.000
0044	521.1048	Apron Endwalls for Culvert Pipe Steel 48-Inch	EACH	6.000	6.000
0046	521.1228	Apron Endwalls for Pipe Arch Steel 28x20-Inch	EACH	2.000	2.000
0048	521.1242	Apron Endwalls for Pipe Arch Steel 42x29-Inch	EACH	4.000	4.000
0050	521.6148	Culvert Pipe Corrugated Steel Aluminum Coated 48-Inch	LF	226.000	226.000
0052	521.6728	Pipe Arch Corrugated Steel Aluminum Coated 28x20-Inch	LF	78.000	78.000
0054	521.6742	Pipe Arch Corrugated Steel Aluminum Coated 42x29-Inch	LF	154.000	154.000
0056	530.0118	Culvert Pipe Corrugated Polyethylene 18-Inch	LF	77.000	77.000
0058	530.0136	Culvert Pipe Corrugated Polyethylene 36-Inch	LF	350.000	350.000
0060	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	15.000	15.000
0062	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	580.000	580.000
0064	606.0200	Riprap Medium	CY	175.000	175.000
0066	614.0920	Salvaged Rail	LF	735.000	735.000
0068	614.2300	MGS Guardrail 3	LF	781.250	781.250
0070	614.2330	MGS Guardrail 3 K	LF	31.250	31.250

Estimate Of Quantities

6923-01-70					
Line	Item	Item Description	Unit	Total	Qty
0072	614.2500	MGS Thrie Beam Transition	LF	150.000	150.000
0074	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0076	618.0100	Maintenance And Repair of Haul Roads (project) 01. 6923-01-70	EACH	1.000	1.000
0078	619.1000	Mobilization	EACH	1.000	1.000
0080	621.0100	Landmark Reference Monuments	EACH	11.000	11.000
0082	624.0100	Water	MGAL	15.000	15.000
0084	625.0500	Salvaged Topsoil	SY	5,600.000	5,600.000
0086	628.1504	Silt Fence	LF	2,900.000	2,900.000
0088	628.1520	Silt Fence Maintenance	LF	2,900.000	2,900.000
0090	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0092	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0094	628.2008	Erosion Mat Urban Class I Type B	SY	5,600.000	5,600.000
0096	628.7504	Temporary Ditch Checks	LF	130.000	130.000
0098	628.7555	Culvert Pipe Checks	EACH	69.000	69.000
0100	629.0210	Fertilizer Type B	CWT	4.000	4.000
0102	630.0120	Seeding Mixture No. 20	LB	155.000	155.000
0104	630.0200	Seeding Temporary	LB	155.000	155.000
0106	633.5200	Markers Culvert End	EACH	26.000	26.000
0108	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	61.000	61.000
0110	637.2210	Signs Type II Reflective H	SF	405.060	405.060
0112	638.2602	Removing Signs Type II	EACH	79.000	79.000
0114	638.3000	Removing Small Sign Supports	EACH	61.000	61.000
0116	642.5001	Field Office Type B	EACH	1.000	1.000
0118	643.0300	Traffic Control Drums	DAY	280.000	280.000
0120	643.0310.S	Temporary Portable Rumble Strips	LS	1.000	1.000
0122	643.0420	Traffic Control Barricades Type III	DAY	1,440.000	1,440.000
0124	643.0705	Traffic Control Warning Lights Type A	DAY	2,880.000	2,880.000
0126	643.0715	Traffic Control Warning Lights Type C	DAY	280.000	280.000
0128	643.0900	Traffic Control Signs	DAY	8,680.000	8,680.000
0130	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0132	643.5000	Traffic Control	EACH	1.000	1.000
0134	645.0120	Geotextile Type HR	SY	350.000	350.000
0136	646.1020	Marking Line Epoxy 4-Inch	LF	85,675.000	85,675.000
0138	648.0100	Locating No-Passing Zones	MI	5.780	5.780
0140	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	350.000	350.000
0142	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	595.000	595.000
0144	650.6000	Construction Staking Pipe Culverts	EACH	13.000	13.000
0146	650.8000	Construction Staking Resurfacing Reference	LF	30,670.000	30,670.000
0148	650.9910	Construction Staking Supplemental Control (project) 01.	LS	1.000	1.000

Estimate Of Quantities

6923-01-70					
Line	Item	Item Description	Unit	Total	Qty
6923-01-70					
0150	650.9920	Construction Staking Slope Stakes	LF	1,000.000	1,000.000
0152	690.0150	Sawing Asphalt	LF	1,810.000	1,810.000
0154	740.0440	Incentive IRI Ride	DOL	11,556.000	11,556.000
0156	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	600.000	600.000
0158	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000

CLEARING & GRUBBING

		201.0105		201.0205	
		CLEARING		GRUBBING	
STATION	LOCATION	OFFSET	STA	STA	
172+00. - 180+00.	CTH H	LT/RT	8.0	8.0	
PROJECT TOTAL			8.0	8.0	

CONCRETE CURB & GUTTER

		601.0411		601.0557	
		CONCRETE CURB & GUTTER 30-INCH TYPE D		CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D	
STATION	LOCATION	LF	LF		
55+84	CTH V	--	260		
214+02	ROBIN ROAD	--	220		
266+73	CTH B/WREN RD	--	100		
318+45 - 318+60	CTH H	15	--		
PROJECT TOTAL		15	580		

MILLING

		204.0120	
		REMOVING ASPHALT SURFACE MILLING	
STATION	LOCATION	SY	
11+90. - 318+60.	CTH H	115,245	
55+84	CTH V	1,019	
82+19	SHADY LANE	210	
108+48.	EAGLE ROAD	499	
161+17	FALCON ROAD	236	
214+02	ROBIN ROAD	699	
266+73	CTH B/WREN RD	676	
PROJECT TOTAL		118,585	

MONUMENTS

		621.0100	
		LANDMARK REFERENCE MONUMENTS	
STATION	LOCATION	EACH	REMARKS
29+67	CTH H	1	APPROX LOCATION
55+84	CTH H	1	APPROX LOCATION
82+19	CTH H	1	APPROX LOCATION
108+47	CTH H	1	APPROX LOCATION
134+80	CTH H	1	APPROX LOCATION
161+17	CTH H	1	APPROX LOCATION
187+60	CTH H	1	APPROX LOCATION
214+02	CTH H	1	APPROX LOCATION
240+37	CTH H	1	APPROX LOCATION
266+73	CTH H	1	APPROX LOCATION
292+82	CTH H	1	APPROX LOCATION
PROJECT TOTAL		11	

BASE AGGREGATE

		305.0110		305.0120		624.0100	
		BASE AGGREGATE DENSE 3/4-INCH		BASE AGGREGATE DENSE 1 1/4-INCH		WATER	
STATION	LOCATION	TON	TON	MGAL			
170+50 - 180+50	CTH H	140	1,200	12			
55+84	CTH V	--	50	1			
214+02	ROBIN ROAD	--	45	1			
266+73	CTH B/WREN RD	--	20	1			
318+45 - 318+60	CTH H	--	3	--			
UNDISTRIBUTED		10	32	0			
PROJECT TOTAL		150	1,350	15			

EARTHWORK SUMMARY

		205.0100		
		EXCAVATION COMMON		
	CUT (CY)		EXPANDED FILL* (CY)	EXCESS (CY)
LOCATION		CY		
170+50-180+50	661	661	523	138
PROJECT TOTAL		661	523	138

*NON-BID ITEM
1) AN EXPANSION FACTOR OF 1.25 WAS APPLIED TO CALCULATE EXPANDED FILL VOLUMES.

ASPHALT

		455.0605	460.5224	465.0315	465.0475	465.0110
		TACK COAT	HMA PAVEMENT 4 LT 58-28 S	ASPHALTIC FLUMES	ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL	ASPHALTIC SURFACE PATCHING
STATION	LOCATION	GAL	TON	SY	LF	TON
11+90 - 318+60	CTH H	6,915	13,830	--	27,000	--
	CTH V	62	125	19	--	10
	SHADY LANE	13	25	--	--	--
	EAGLE ROAD	30	60	--	--	--
	FALCON ROAD	15	28	--	--	--
	ROBIN ROAD	42	84	13	--	--
	CTH BMREN RD	41	81	13	--	--
	DRIVEWAYS	3	500	--	--	--
	UNDISTRIBUTED	9	17	--	--	--
PROJECT TOTAL		7,130	14,750	45	27,000	10

TRAFFIC CONTROL

	643.0300	643.0420	643.0705	643.0715	643.0900	643.1050	643.0310S
	TRAFFIC CONTROL DRUMS	TRAFFIC CONTROL BARRICADES TYPE III	TRAFFIC CONTROL WARNING LIGHTS TYPE A	TRAFFIC CONTROL WARNING LIGHTS TYPE C	TRAFFIC CONTROL SIGNS	TRAFFIC CONTROL SIGNS PCMS	TEMPORARY PORTABLE RUMBLE STRIPS
LOCATION	CALENDAR DAYS	DAYS	DAYS	DAYS	DAYS	DAYS	LS
CTH H	60	--	960	1920	--	1020	14
DETOUR	60	--	240	480	--	6660	
SIDEROADS	60	--	240	480	--	960	
FLAGGING OPERATIONS	5	--	--	--	--	40	
CURB & CULVERTS	--	280	--	--	280	--	
PROJECT TOTAL		280	1440	2880	280	8680	14

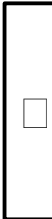
CULVERT PIPES

LOCATION	OUTLET				INLET				521.6728 PIPE ARCH CORRUGATED STEEL ALUMINUM COATED 28x20-INCH (MINIMUM STEEL THICKNESS 0.079")	521.6742 PIPE ARCH CORRUGATED STEEL ALUMINUM COATED 42X29-INCH (MINIMUM STEEL THICKNESS 0.109")	530.0118 CULVERT PIPE CORRUGATED POLYETHYLENE 18-INCH	530.0136 CULVERT PIPE CORRUGATED POLYETHYLENE 36-INCH	521.6148 CULVERT PIPE CORRUGATED STEEL ALUMINUM COATED 48-INCH (MINIMUM STEEL THICKNESS 0.109")	521.1018 APRON ENDWALLS FOR CULVERT PIPE STEEL 18-INCH	521.1036 APRON ENDWALLS FOR CULVERT PIPE STEEL 36-INCH	521.1048 APRON ENDWALLS FOR CULVERT PIPE STEEL 48-INCH	521.1228 APRON ENDWALLS FOR PIPE ARCH STEEL 28x20-INCH	521.1242 APRON ENDWALLS FOR PIPE ARCH STEEL 42X29-INCH	628.7555 CULVERT PIPE CHECKS	633.5200 MARKERS CULVERT END
	STATION	LF	OFFSET	INVERT ELEVATION	STATION	LF	INVERT ELEVATION	LF	LF	LF	LF	LF	LF	EACH	EACH	EACH	EACH	EACH	EACH	
CTH V	55+43	39	RT	1266.60	56+15	39	RT	1267.10	78	--	--	--	--	--	--	2	--	5	2	
CTH H	66+58	29	LT	1262.10	66+58	29	RT	1263.20	--	--	58	--	--	2	--	--	--	--	5	2
CTH H	87+22	30	RT	1261.50	87+22	28	LT	1262.00	--	--	58	--	--	2	--	--	--	--	5	2
CTH H	133+69	30	RT	1230.00	133+69	28	LT	1230.40	--	--	58	--	--	2	--	--	--	--	5	2
CTH H	136+64	30	LT	1227.80	136+83	30	RT	1228.50	--	--	60	--	--	2	--	--	--	--	5	2
CTH H	172+27	30	LT	1202.80	171+50	30	LT	1203.20	--	--	77	--	--	2	--	--	--	--	3	2
ROBIN ROAD	214+41	35	RT	1207.50	214+26	45	RT	1208.00	--	70	--	--	--	--	--	--	--	2	5	2
CTH H	214+26	52	LT	1207.50	214+41	31	RT	1208.00	--	84	--	--	--	--	--	--	--	2	5	2
CTH H	256+03	29	LT	1212.00	256+03	29	RT	1213.10	--	--	--	58	--	--	2	--	--	--	5	2
CTH H	260+37	29	LT	1213.70	260+37	29	RT	1214.40	--	--	--	58	--	--	2	--	--	--	5	2
CTH H	266+95	42	LT	1216.30	267+23	32	RT	1217.20	--	--	--	--	80	--	--	2	--	--	7	2
CTH H	281+91	28	LT	1239.60	282+64	30	RT	1240.80	--	--	--	--	90	--	--	2	--	--	7	2
CTH H	297+23	28	LT	1278.80	297+23	28	RT	1279.70	--	--	--	--	56	--	--	2	--	--	7	2
PROJECT TOTAL									78	154	77	350	226	2	12	6	2	4	69	26

* OFFSET TO END OF PIPE IS FROM CENTER LINE OF ROADWAY.

SIGNS												
SIGN NO.	ROAD	DIREC- TION	SIDE OF ROAD	SIGN CODE	SIGN MESSAGE	SIGN SIZE INCH X INCH	634.0616	637.2210	638.2602	638.3000	REMARKS	
							POST WOOD 4"x6"x16' EACH	SIGNS TYPE II REFLECTIVE H SF	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH		
1	CTH H	WB	NORTH	EX SIGN	COUNTY HWY H	--	--	--	--	--	EXIST SIGN TO REMAIN	
2	CTH H	WB	NORTH	EX SIGN	FAIRHAVEN AV	--	--	--	--	--	EXIST SIGN TO REMAIN	
3	FAIRHAVEN AVE	NB	EAST	EX SIGN	STOP	--	--	--	--	--	EXIST SIGN TO REMAIN	
4	FAIRHAVEN AVE	SB	WEST	EX SIGN	STOP	--	--	--	--	--	EXIST SIGN TO REMAIN	
5	CTH H	EB	SOUTH	EX SIGN	ADOPT A HIGHWAY	--	--	--	--	--	EXIST SIGN TO REMAIN	
6	CTH H	EB	SOUTH	EX SIGN	CRIME STOPPERS	--	--	--	--	--	ON SAME POST AS WOOD COUNTY	
7	CTH H	EB	SOUTH	I2-2	WOOD CO	15	48	1	5.00	1	1	
8	CTH H	EB	SOUTH	M1-5a	COUNTY V	24	24	0	4.00	1	0	ON SAME POST AS JCT
9	CTH H	EB	SOUTH	M2-1	JCT	21	15	1	2.19	1	1	
10	CTH H	EB	NORTH	W14-3	NO PASSING ZONE	48	36	1	5.50	1	1	
11	CTH H	WB	NORTH	M1-5a	COUNTY H	24	24	1	4.00	1	1	
12	CTH H	EB	SOUTH	M6-4	DOUBLE ARROW	21	15	0	2.19	1	0	ON SAME POST AS COUNTY V
13	CTH H	EB	SOUTH	M1-5a	COUNTY V	24	24	1	4.00	1	1	
14	CTH V	NB	WEST	R1-1	STOP	36	36	1	9.00	1	1	
15	CTH V	NB	EAST	R1-1	STOP	36	36	1	9.00	1	1	
16	CTH V	SB	WEST	R1-1	STOP	36	36	1	9.00	1	1	
17	CTH V	SB	WEST	M6-4	DOUBLE ARROW	21	15	0	2.19	1	0	ON SAME 2 POSTS AS COUNTY V
18	CTH V	SB	WEST	M1-5a	COUNTY H	24	24	0	4.00	1	0	ON SAME 2 POSTS AS COUNTY V
19	CTH V	SB	WEST	M6-3	UP ARROW	21	15	0	2.19	1	0	ON SAME 2 POSTS AS COUNTY V
20	CTH V	SB	WEST	M1-5a	COUNTY V	24	24	2	4.00	1	2	
21	CTH V	NB	EAST	M6-4	DOUBLE ARROW	21	15	0	2.19	1	0	ON SAME 2 POSTS AS COUNTY V
22	CTH V	NB	EAST	M1-5a	COUNTY H	24	24	0	4.00	1	0	ON SAME 2 POSTS AS COUNTY V
23	CTH V	NB	EAST	M6-3	UP ARROW	21	15	0	2.19	1	0	ON SAME 2 POSTS AS COUNTY V
24	CTH V	NB	EAST	M1-5a	COUNTY V	24	24	2	4.00	1	2	
25	CTH H	EB	SOUTH	M1-5a	COUNTY H	24	24	1	4.00	1	1	
26	CTH H	WB	NORTH	M6-3	UP ARROW	21	15	0	2.19	1	0	SAME POST AS COUNTY H
27	CTH H	WB	NORTH	M1-5a	COUNTY H	24	24	1	4.00	1	1	
28	CTH H	WB	NORTH	M1-5a	COUNTY V	24	24	1	4.00	1	1	
29	CTH H	WB	NORTH	M6-4	DOUBLE ARROW	21	15	0	2.19	1	0	SAME POST AS COUNTY V
30	CTH H	WB	NORTH	M2-1	JCT	21	15	0	2.19	1	0	SAME POST AS COUNTY V
31	CTH H	WB	NORTH	M1-5a	COUNTY V	24	24	1	4.00	1	1	
32	CTH H	WB	SOUTH	W14-3	NO PASSING ZONE	48	36	1	5.50	1	1	
33	CTH H	EB	NORTH	W14-3	NO PASSING ZONE	48	36	1	5.50	1	1	
34	SHADY LANE	NB	N/A	STREET SIGNS	SHADY LANE	--	--	--	--	--	NO EXISITNG SIGN	
35	SHADY LANE	SB	WEST	R1-1	STOP	36	36	1	9.00	1	1	
36	CTH H	WB	SOUTH	W14-3	NO PASSING ZONE	48	36	1	5.50	1	1	
37	CTH H	WB	NORTH	EX SIGN	ADOPT A HIGHWAY	36	30	--	7.50	--	--	EXIST SIGN TO REMAIN
38	EAGLE RD	NB	EAST	R1-1	STOP	36	36	1	9.00	1	1	
39	EAGLE RD	SB	WEST	R1-1	STOP	36	36	1	9.00	1	1	
40	EAGLE RD	NB	EAST	STREET SIGN	EAGLE RD	--	--	--	--	--	EXIST SIGN TO REMAIN	
41	CTH H	EB	SOUTH	EX SIGN	ADOPT A HIGHWAY	36	30	--	7.50	--	--	EXIST SIGN TO REMAIN
42	CTH H	EB	NORTH	W14-3	NO PASSING ZONE	48	36	1	5.50	1	1	
43	FALCON RD	NB	EAST	R1-1	STOP	36	36	1	9.00	1	1	
44	FALCON RD	SB	EAST	STREET SIGN	FALCON RD	--	--	--	--	--	EXIST SIGN TO REMAIN	
45	CTH H	WB	SOUTH	W14-3	NO PASSING ZONE	48	36	1	5.50	1	1	
46	CTH H	EB	NORTH	W14-3	NO PASSING ZONE	48	36	0	5.50	1	0	SAME POST AS CLEARANCE MARKER
47	CTH H	EB	SOUTH	W5-52R	BRIDGE CLEARANCE MRKRS	12	36	1	3.00	1	1	
48	CTH H	EB	NORTH	W5-52L	BRIDGE CLEARANCE MRKRS	12	36	1	3.00	1	1	
49	CTH H	WB	SOUTH	W5-52L	BRIDGE CLEARANCE MRKRS	12	36	1	3.00	1	1	
50	CTH H	WB	NORTH	W5-52R	BRIDGE CLEARANCE MRKRS	12	36	1	3.00	1	1	
SUBTOTAL							29	197.19	39	29		

SIGNS												
SIGN NO.	ROAD	DIREC- TION	SIDE OF ROAD	SIGN CODE	SIGN MESSAGE	SIGN SIZE INCH X INCH		634.0616	637.2210	638.2602	638.3000	REMARKS
								POST WOOD 4"x6"x16' EACH	SIGNS TYPE II REFLECTIVE H SF	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	
51	CTH H	EB	SOUTH	R7-53	NO PARKING THIS SIDE OF ROAD	24	30	1	5.00	1	1	
52	CTH H	EB	SOUTH	R7-53	NO PARKING THIS SIDE OF ROAD	24	30	1	5.00	1	1	
53	CTH H	EB	SOUTH	R7-53	NO PARKING THIS SIDE OF ROAD	24	30	1	5.00	1	1	
54	CTH H	WB	SOUTH	W14-3	NO PASSING ZONE	48	36	1	5.50	1	1	
55	CTH H	EB	SOUTH	W5-52R	BRIDGE CLEARANCE MRKRS	12	36	1	3.00	1	1	
56	CTH H	EB	NORTH	W5-52L	BRIDGE CLEARANCE MRKRS	12	36	1	3.00	1	1	
57	CTH H	WB	SOUTH	W5-52L	BRIDGE CLEARANCE MRKRS	12	36	1	3.00	1	1	
58	CTH H	WB	NORTH	W5-52R	BRIDGE CLEARANCE MRKRS	12	36	1	3.00	1	1	
59	CTH H	WB	NORTH	EX SIGN	ADOPT A HIGHWAY	--	--	--	--	--	--	EXIST SIGN TO REMAIN
60	ROBIN RD	SB	WEST	R1-1	STOP	36	36	1	9.00	1	1	
61	ROBIN RD	NB	EAST	R1-1	STOP	36	36	1	9.00	1	1	
62	ROBIN RD	SB	WEST	STREET SIGN	ROBIN RD	--	--	--	--	--	--	EXIST SIGN TO REMAIN
63	CTH H	EB	SOUTH	EX SIGN	ADOPT A HIGHWAY	36	30	--	7.50	--	--	EXIST SIGN TO REMAIN
64	CTH H	EB	NORTH	W14-3	NO PASSING ZONE	48	36	1	5.50	1	1	
65	CTH H	WB	SOUTH	W14-3	NO PASSING ZONE	48	36	1	5.50	1	1	
66	CTH H	EB	SOUTH	M1-5a	COUNTY B	24	24	0	4.00	1	0	SAME POST AS JCT
67	CTH H	EB	SOUTH	M2-1	JCT	21	15	1	2.19	1	1	
68	CTH H	EB	NORTH	W14-3	NO PASSING ZONE	48	36	1	5.50	1	1	
69	CTH H	EB	SOUTH	M6-2R	RIGHT ARROW	21	15	0	2.19	1	0	SAME POST AS COUNTY B
70	CTH H	EB	SOUTH	M1-5a	COUNTY B	24	24	1	4.00	1	1	
71	NO SIGN	--	--	--	--	--	--	--	--	--	--	
72	CTH H	WB	NORTH	M1-5a	COUNTY H	24	24	1	4.00	1	1	
73	CTH H	EB	SOUTH	M1-5a	COUNTY H	24	24	1	4.00	1	1	
74	CTH H	EB	SOUTH	M6	UP ARROW	21	15	0	2.19	1	0	SAME POST A COUNTY H
75	CTH B	NB	WEST	R1-1	STOP	36	36	1	9.00	1	1	
76	CTH B	NB	EAST	R1-1	STOP	36	36	1	9.00	1	1	
77	WREN RD	SB	WEST	R1-1	STOP	36	36	1	9.00	1	1	
78	WREN RD	NB	WEST	STREET SIGN	WREN RD	--	--	--	--	--	--	EXIST SIGN TO REMAIN
79	CTH H	WB	NORTH	M6-2L	LEFT ARROW	21	15	0	2.19	1	0	SAME DOUBLE POST AS COUNTY H
80	CTH H	WB	NORTH	M1-5a	COUNTY B	24	24	0	4.00	1	0	SAME DOUBLE POST AS COUNTY H
81	CTH H	WB	NORTH	M6-3	UP ARROW	21	15	0	2.19	1	0	SAME DOUBLE POST AS COUNTY H
82	CTH H	WB	NORTH	M1-5a	COUNTY H	24	24	2	4.00	1	2	
83	CTH H	WB	SOUTH	W14-3	NO PASSING ZONE	48	36	1	5.50	1	1	
84	CTH H	WB	NORTH	M1-5a	COUNTY B	24	24	0	4.00	1	0	SAME POST AS JCT
85	CTH H	WB	NORTH	M2-1	JCT	21	15	1	2.19	1	1	
86	CTH H	EB	NORTH	W14-3	NO PASSING ZONE	48	36	1	5.50	1	1	
87	CTH H	WB	SOUTH	W14-3	NO PASSING ZONE	48	36	0	5.50	1	0	SAME POST AS 35 MPH
88	CTH H	EB	SOUTH	W3-5	35 MPH AHEAD	36	36	1	9.00	1	1	
89	CTH H	EB	NORTH	W14-3	NO PASSING ZONE	48	36	1	5.50	1	1	
90	CTH H	WB	NORTH	R2-1	SPEED LIMIT 55	24	30	1	5.00	1	1	
91	CTH H	EB	SOUTH	W2-1	INTERSECTION	30	30	1	6.25	1	1	
92	CTH H	EB	SOUTH	R2-1	SPEED LIMIT 35	24	30	1	5.00	1	1	
93	CTH H	WB	NORTH	R2-1	SPEED LIMIT 35	24	30	0	5.00	1	0	SAME POST AS COUNTY H
94	CTH H	WB	NORTH	M1-5a	COUNTY H	24	24	1	4.00	1	1	
95	CTH H	EB	SOUTH	W3-5	25 MPH AHEAD	36	36	1	9.00	1	1	
96	CTH H	EB	SOUTH	EX SIGN	FLEETING WATCH	--	--	--	--	--	--	EXIST SIGN TO REMAIN
97	CTH H	EB	SOUTH	EX SIGN	SNOW EMERGENCY	--	--	--	--	--	--	EXIST SIGN TO REMAIN
98	CTH H	EB	SOUTH	EX SIGN	PARKING	--	--	--	--	--	--	EXIST SIGN TO REMAIN
99	CTH H	EB	SOUTH	EX SIGN	TRUCK ROUTES	--	--	--	--	--	--	EXIST SIGN TO REMAIN
SUBTOTAL								32	207.88	40	32	
SUBTOTAL FROM PREVIOUS SHEET								29	197.19	39	29	
PROJECT TOTAL								61	405.06	79	61	



EACH ITEMS

	213.0100 FINISHING ROADWAY (6923-01-70)	619.1000 MOBILIZATION	642.5001 FIELD OFFICE TYPE B (6923-01-70)	643.5000 TRAFFIC CONTROL
LOCATION	EACH	EACH	EACH	EACH
CTH H	1	1	1	1
PROJECT TOTAL	1	1	1	1

BEAM GUARD

			614.2300 MGS GUARDRAIL 3	614.2330 MGS GUARDRAIL 3 K	614.2500 MGS THRIE BEAM TRANSITION	614.2610 MGS GUARDRAIL TERMINAL EAT
STATION	LOCATION	OFFSET	LF	LF	LF	EACH
172+02 - 173+61	CTH H	LT	37.5	31.25	37.50	1
172+47 - 173+81	CTH H	RT	43.75	--	37.50	1
174+43 - 178+65	CTH H	LT	331.25	--	37.50	1
174+64 - 179+23	CTH H	RT	368.75	--	37.50	1
PROJECT TOTAL			781.25	31.25	150	4

EROSION CONTROL

			628.1504	628.1520	628.1905	628.1910	628.7504	606.0200	645.0120
			SILT FENCE	SILT FENCE MAINTENANCE	MOBILIZATIONS EROSION CONTROL	MOBILIZATIONS EMERGENCY EROSION CONTROL	TEMPORARY DITCH CHECKS	RIPRAP MEDIUM	GEOTEXTILE FABRIC TYPE HR
STATION	LOCATION	OFFSET	LF	LF	EACH	EACH	LF	CY	SY
171+00 - 179+65	CTH H	LT	740	740	2	1	10	33	67
171+50 - 180+25	CTH H	RT	800	800	--	--	--	98	195
55+43	CTH V	LT & RT	100	100	2	1	20	2	4
66+58	CTH H	LT & RT	100	100	--	--	--	2	4
87+22	CTH H	LT & RT	100	100	--	--	--	2	4
133+69	CTH H	LT & RT	100	100	--	--	--	2	4
136+64	CTH H	LT & RT	100	100	--	--	--	2	4
172+27	CTH H	LT & RT	100	100	--	--	--	2	4
213+55	ROBIN ROAD	LT & RT	100	100	--	--	10	2	4
214+26	CTH H	LT & RT	100	100	--	--	10	2	4
256+03	CTH H	LT & RT	100	100	--	--	20	2	4
260+37	CTH H	LT & RT	100	100	--	--	20	2	4
266+95	CTH H	LT & RT	100	100	--	--	10	18	36
281+91	CTH H	LT & RT	100	100	--	--	--	2	4
297+23	CTH H	LT & RT	100	100	--	--	--	2	4
UNDISTRIBUTED			60	60	1	1	30	2	4
PROJECT TOTAL			2900	2900	5	3	130	175	350

FINISHING ITEMS

			625.0500	628.2008	629.0210	630.0120	630.0200
			SALVAGED TOPSOIL	EROSION MAT URBAN CLASS I TYPE B	FERTILIZER TYPE B	SEEDING MIXTURE NO. 20	SEEDING TEMPORARY
STATION	LOCATION	OFFSET	SY	SY	CWT	LB	LB
171+00 - 179+65	CTH H	LT	850	850	0.5	23	23
171+50 - 180+25	CTH H	RT	1,250	1,250	0.8	34	34
55+84	CTH V	LT & RT	320	320	0.2	9	9
66+58	CTH H	LT & RT	250	250	0.2	7	7
87+22	CTH H	LT & RT	250	250	0.2	7	7
133+69	CTH H	LT & RT	250	250	0.2	7	7
136+64	CTH H	LT & RT	250	250	0.2	7	7
172+27	CTH H	LT & RT	250	250	0.2	7	7
214+02	ROBIN ROAD	LT & RT	320	320	0.2	9	9
214+26	CTH H	LT & RT	250	250	0.2	7	7
256+03	CTH H	LT & RT	250	250	0.2	7	7
260+37	CTH H	LT & RT	250	250	0.2	7	7
266+73	CTH B&WREN RD	LT & RT	220	220	0.1	6	6
281+91	CTH H	LT & RT	250	250	0.2	7	7
297+23	CTH H	LT & RT	250	250	0.2	7	7
318+45- 318+60	LINCOLN AVE	LT	30	30	0.1	1	1
UNDISTRIBUTED			110	110	0.1	3	3
PROJECT TOTAL			5,600	5,600	4.0	155	155

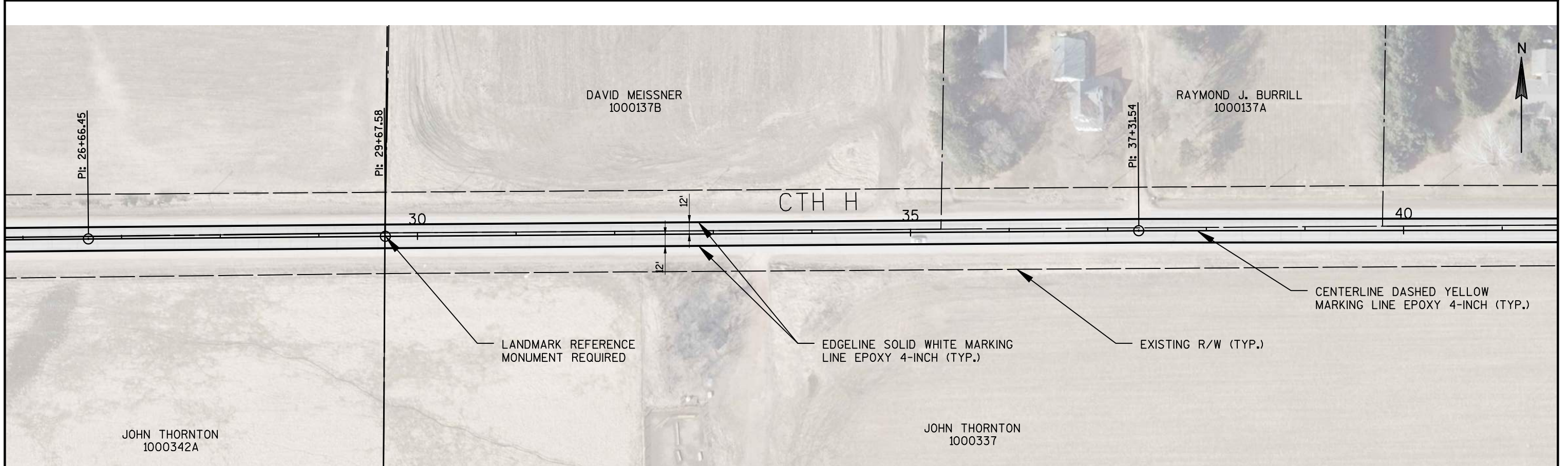
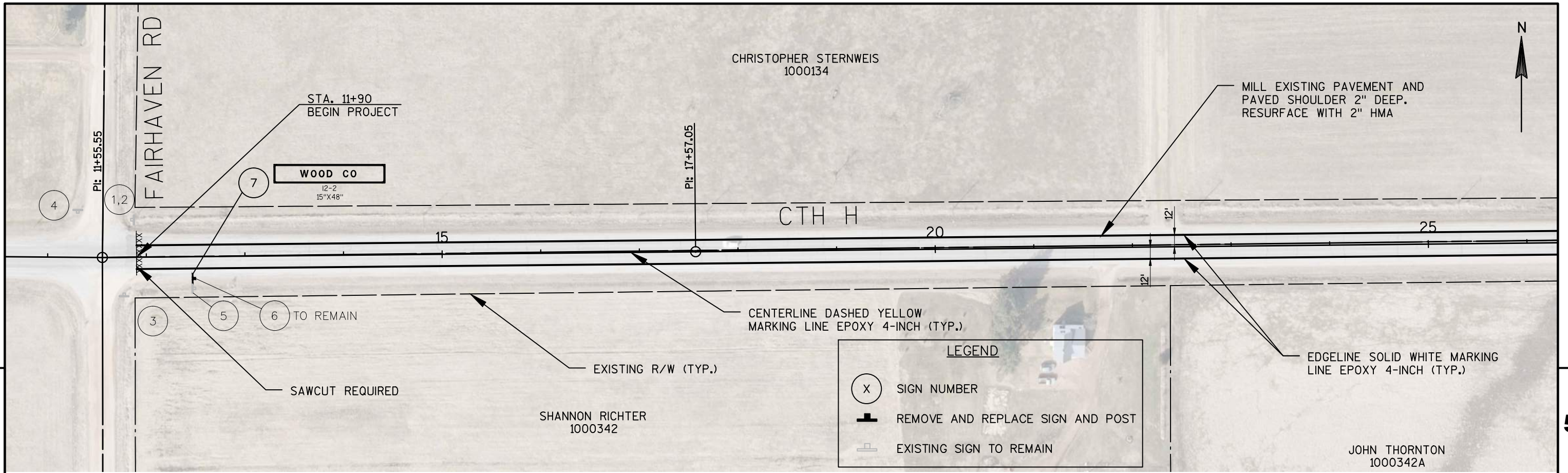
CONSTRUCTION STAKING

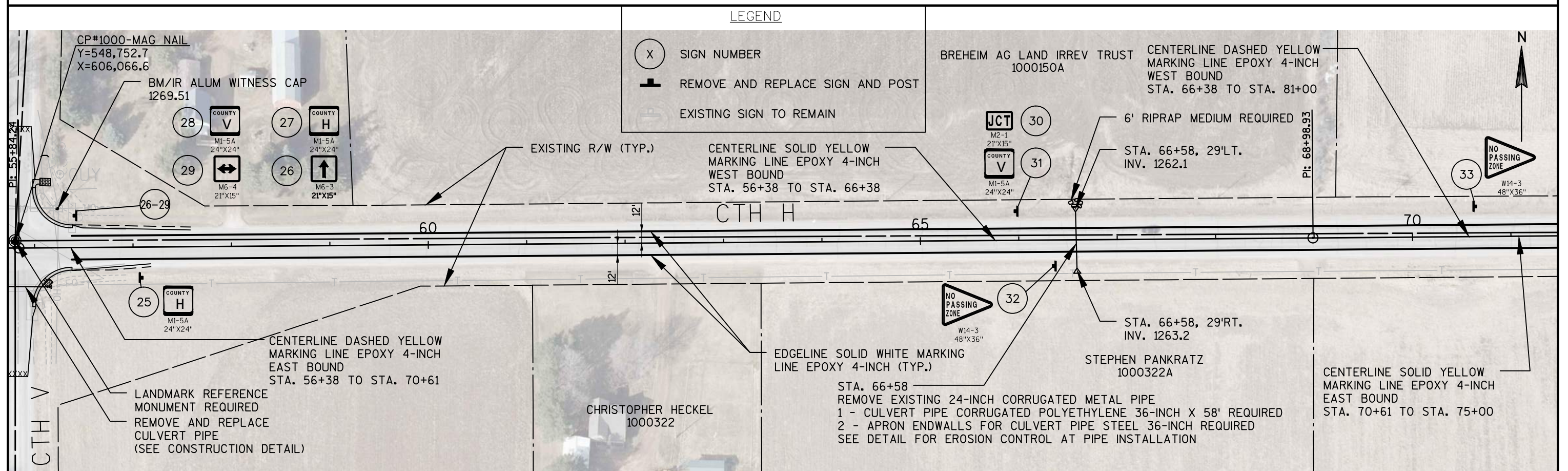
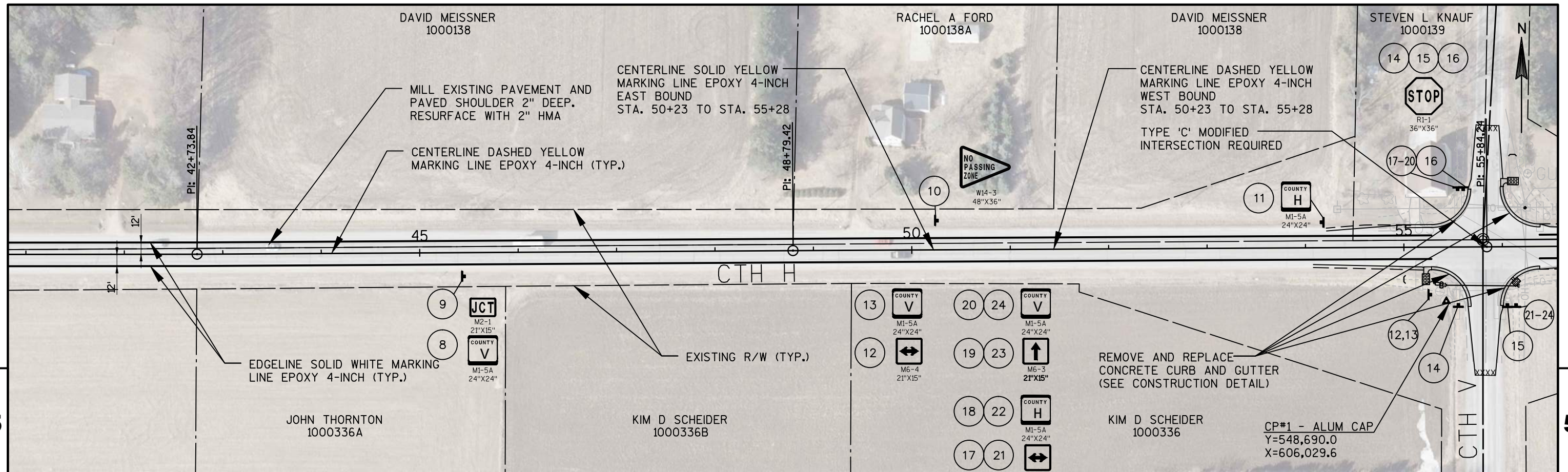
	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	650.6000 CONSTRUCTION STAKING PIPE CULVERTS	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT)	651.9920 CONSTRUCTION STAKING SLOPE STAKES
LOCATION	LF	EACH	LF	LS	LF
CTH H	595	13	30670	1	1000
PROJECT TOTAL	595	13	30670	1	1000

<u>LOCATING NO PASSING ZONES</u>				
				648.0100
STATION	TO	STATION	LOCATION	MI
11+90	-	318+60	CTH H	5.78
PROJECT TOTAL				5.78

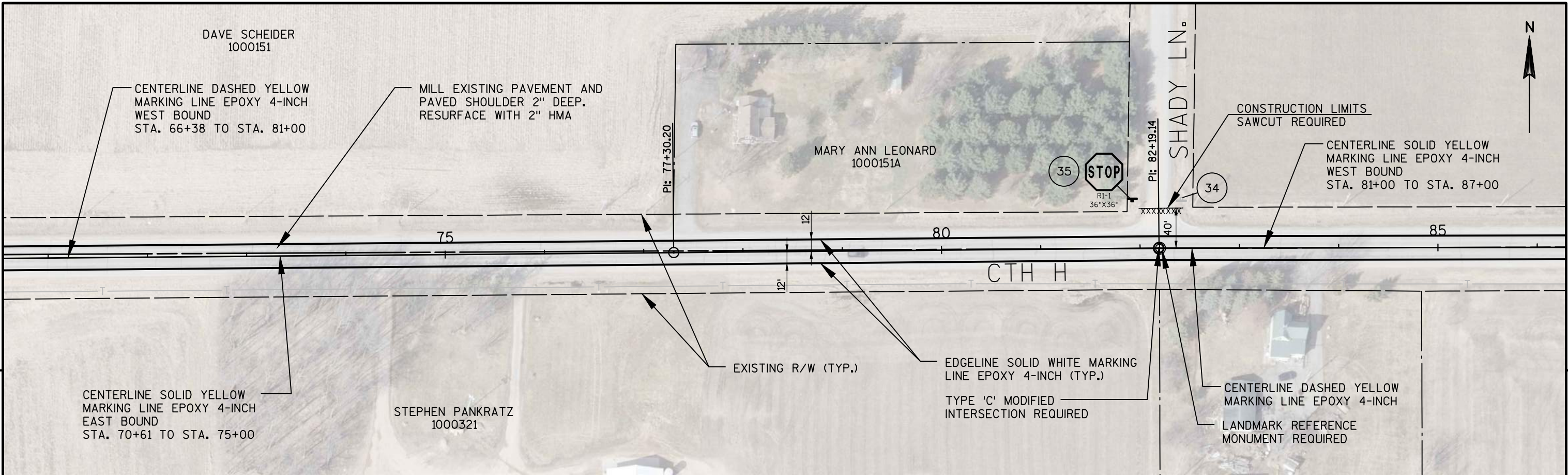
<u>GRADING AND SHAPING INTERSECTIONS</u>					QUANTITIES FOR INFORMATIONAL PUURPOSES ONLY	
	205.9010.S.01	205.9010.S.02	205.9010.S.03	205.9010.S.04		
LOCATION	L.S.	L.S.	L.S.	L.S.	CUT CY	FILL CY
CTH V	1	--	--	--	48	42
ROBIN ROAD	--	1	--	--	43	37
CTH B/WREN RD	--	--	1	--	20	18
LINCOLN AVENUE	--	--	--	1	4	3
PROJECT TOTAL	1	1	1	1	115	100

PROJECT NO:6923-01-70	HWY:CTH 'H'	COUNTY:WOOD	MISCELLANEOUS QUANTITIES	SHEET	E
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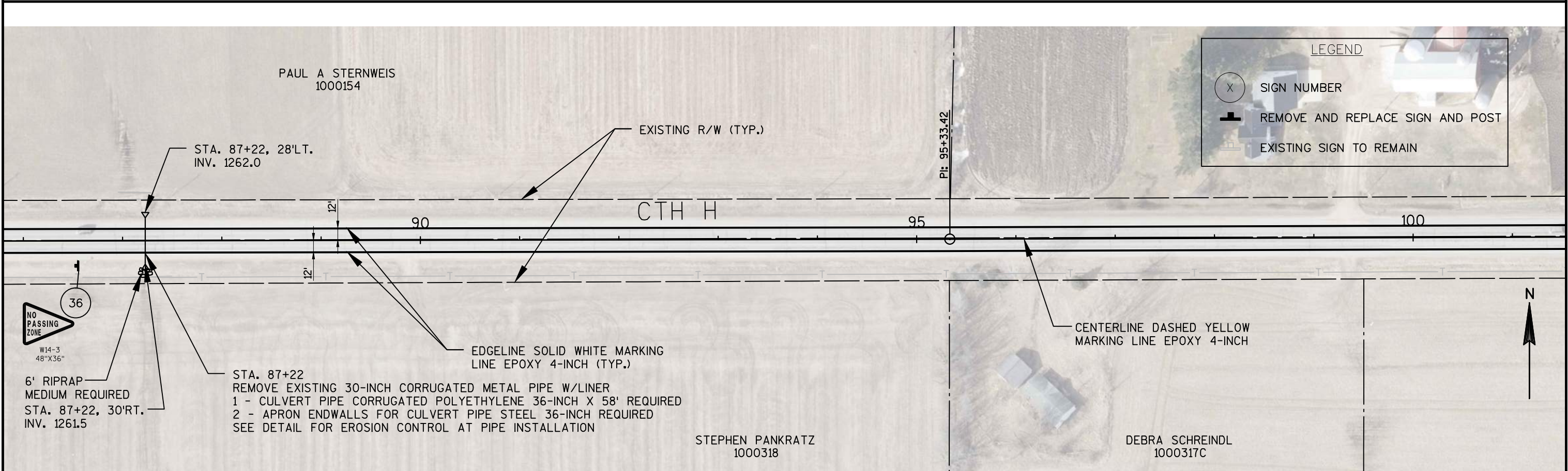




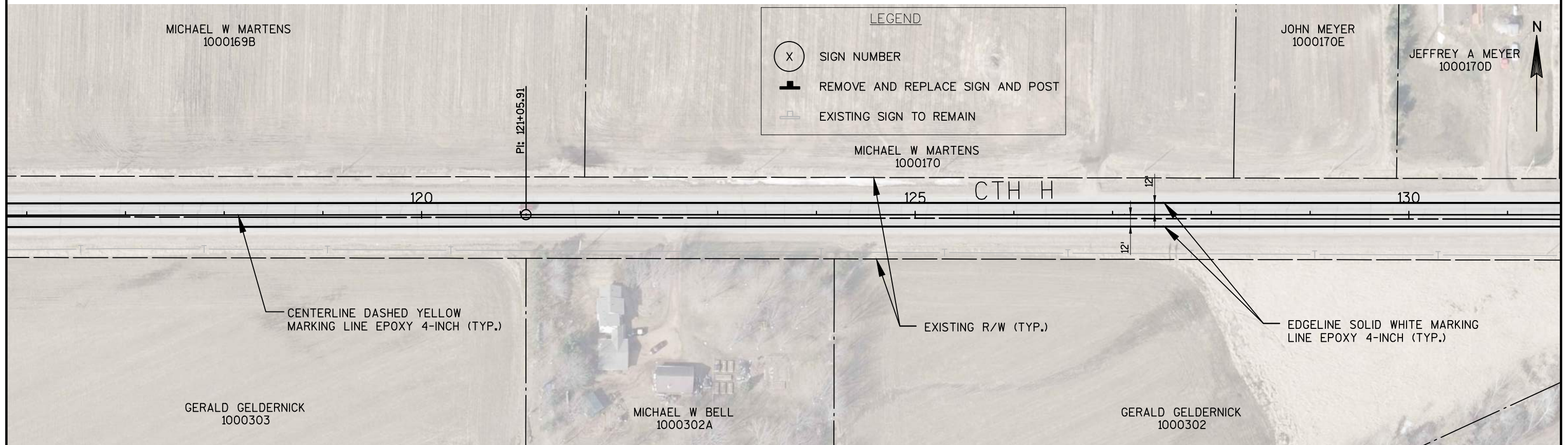
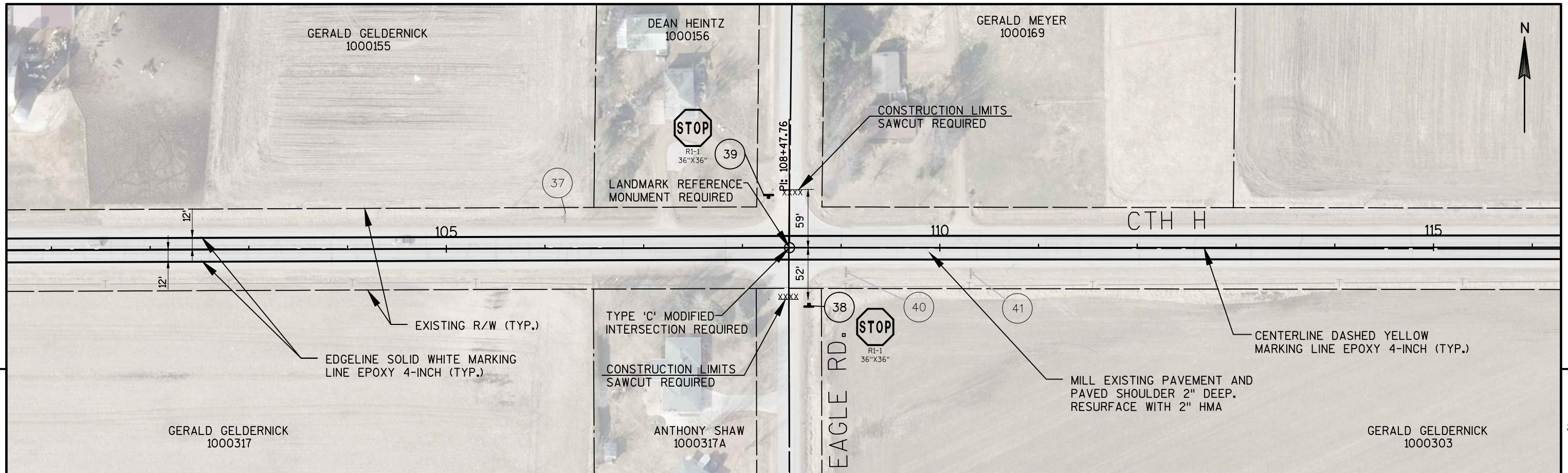
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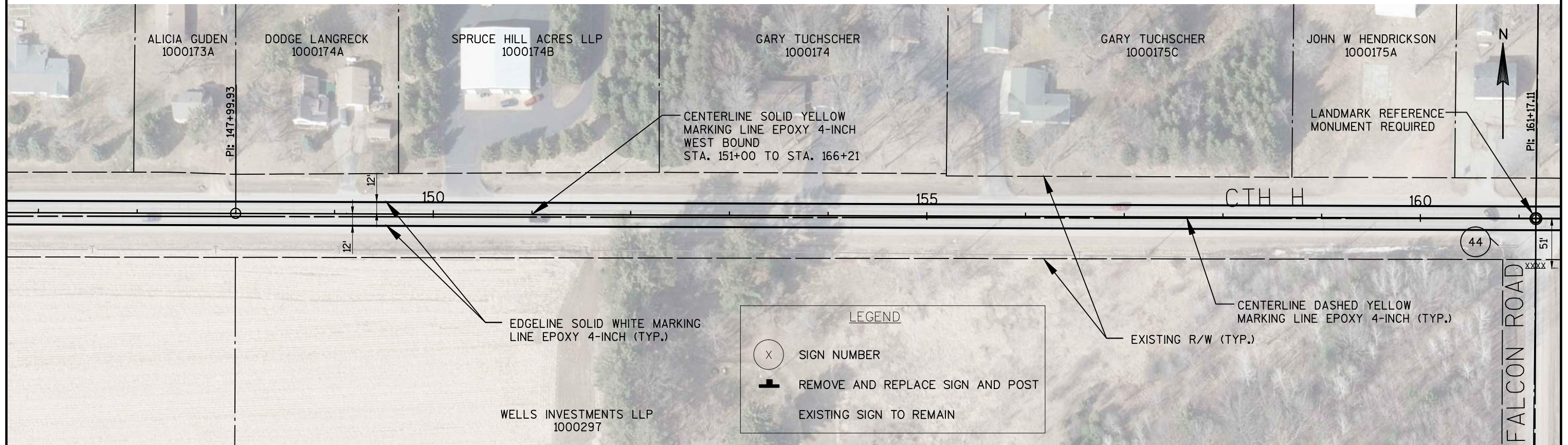
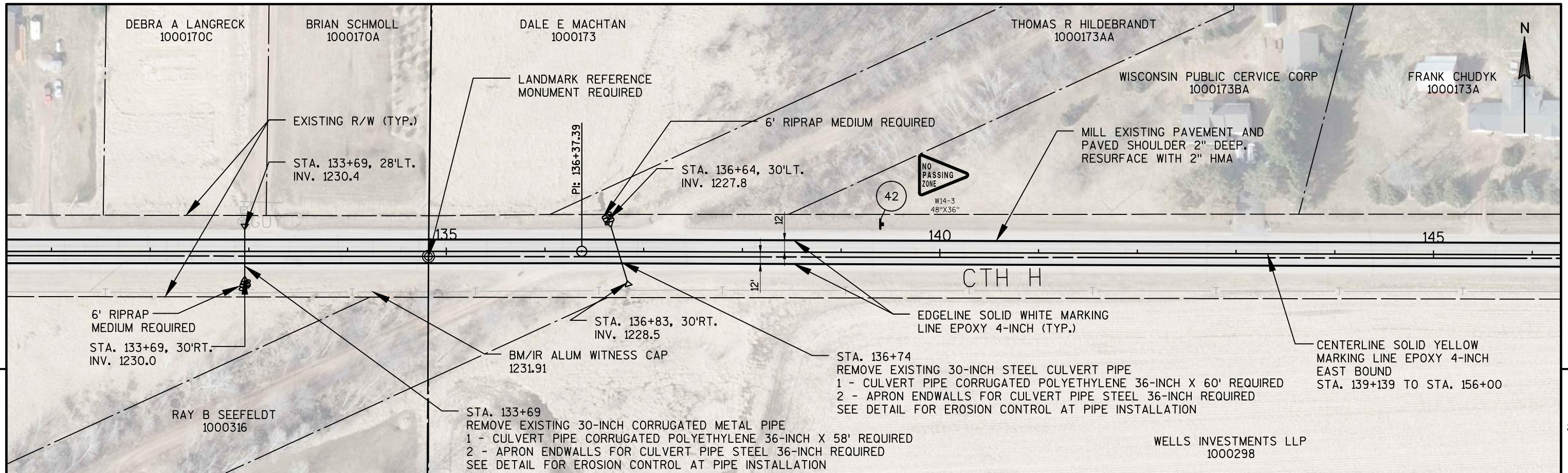
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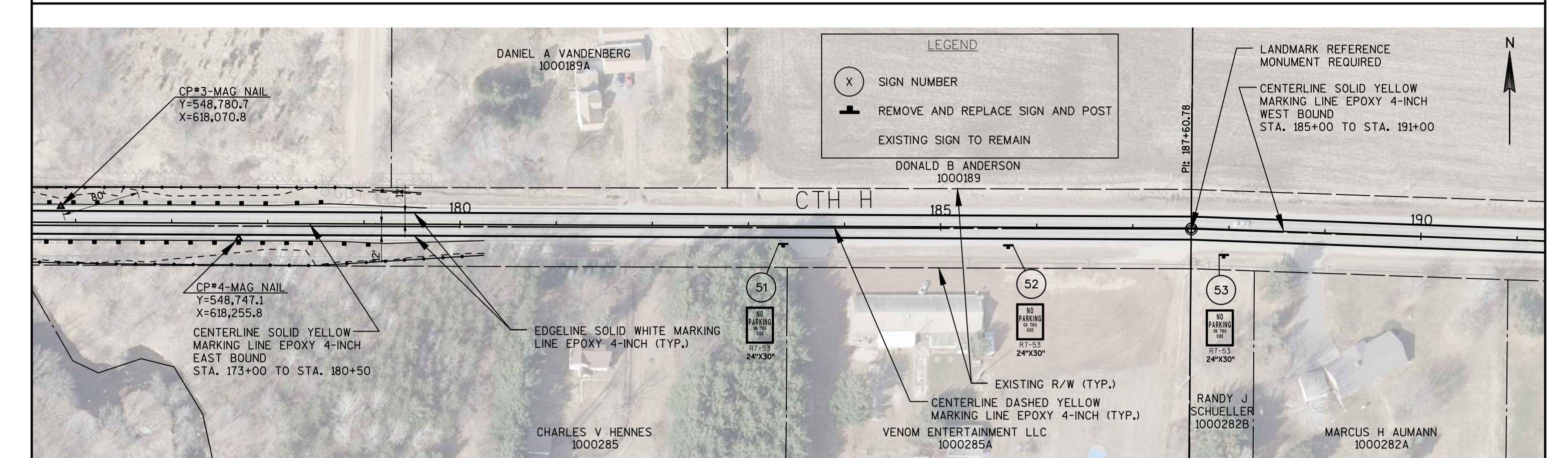
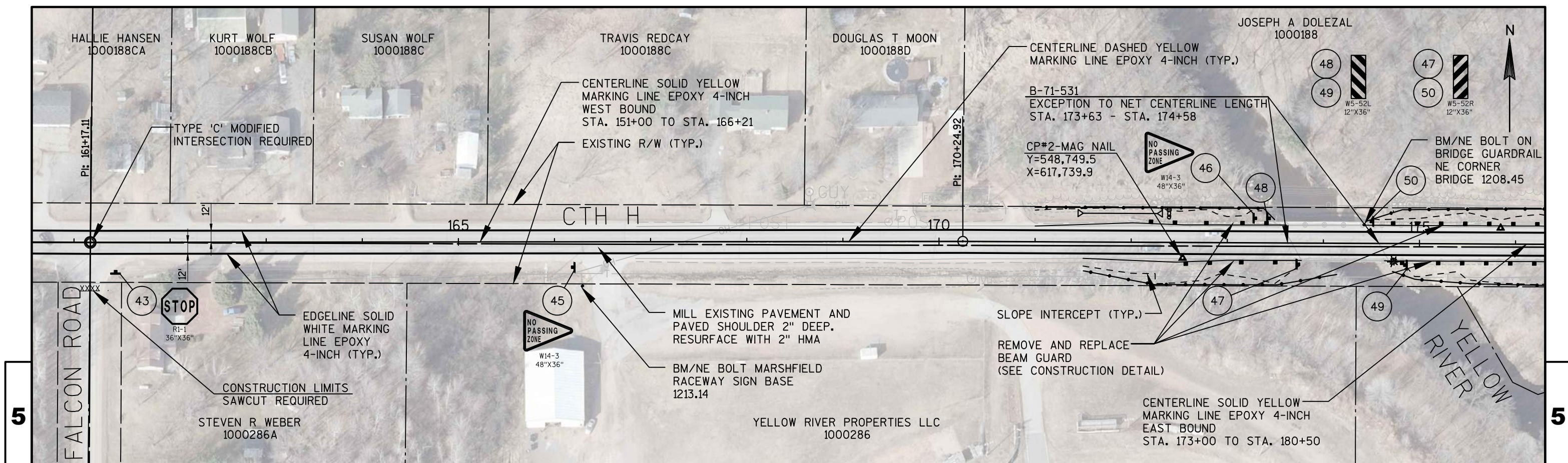
PROJECT NO: 6923-01-70	HWY: CTH H	COUNTY: WOOD	PLAN/PLAN: CTH H	SHEET	E
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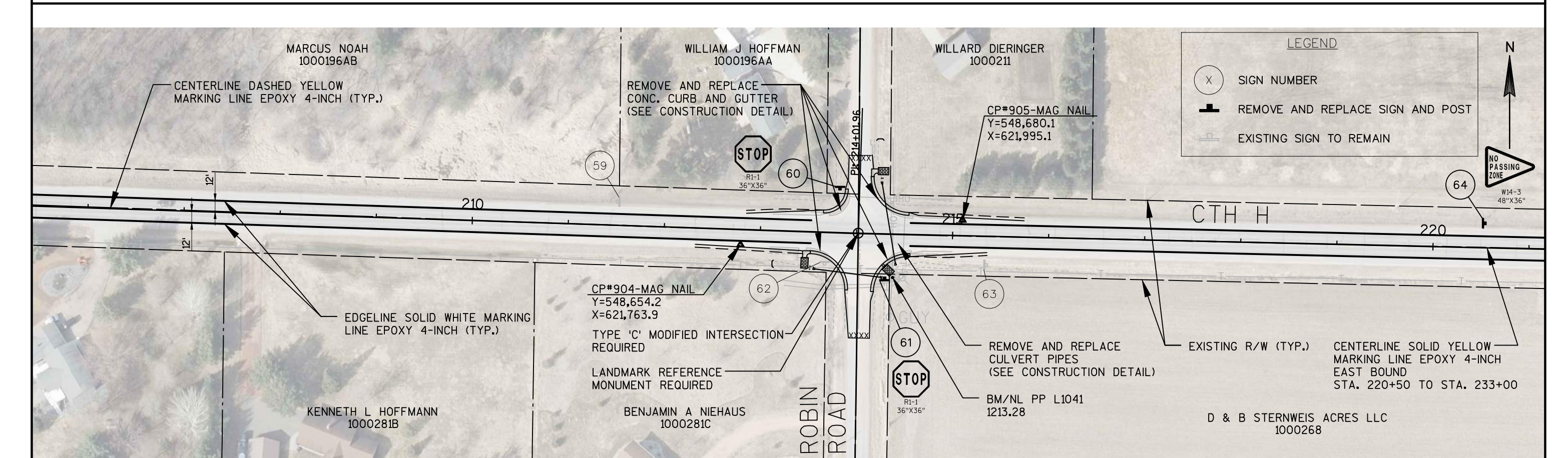
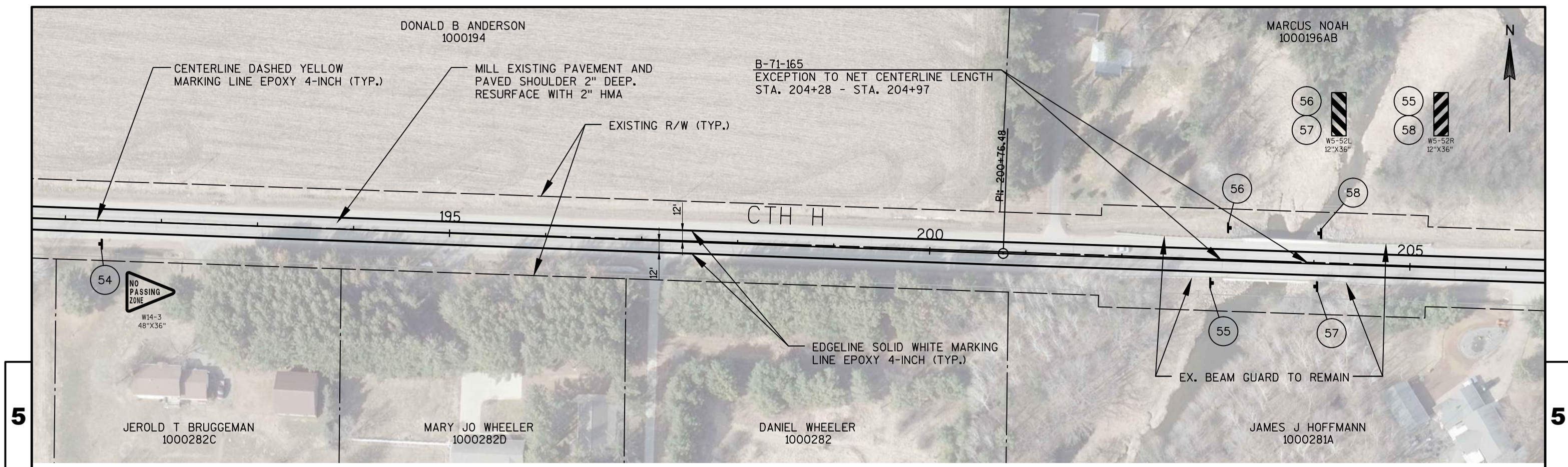


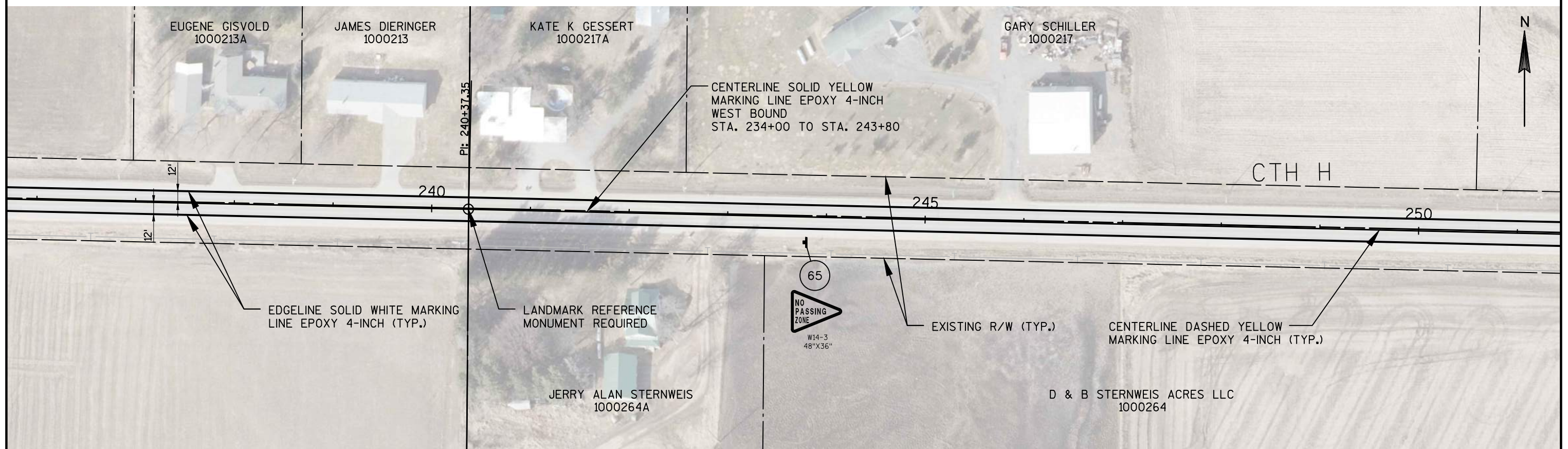
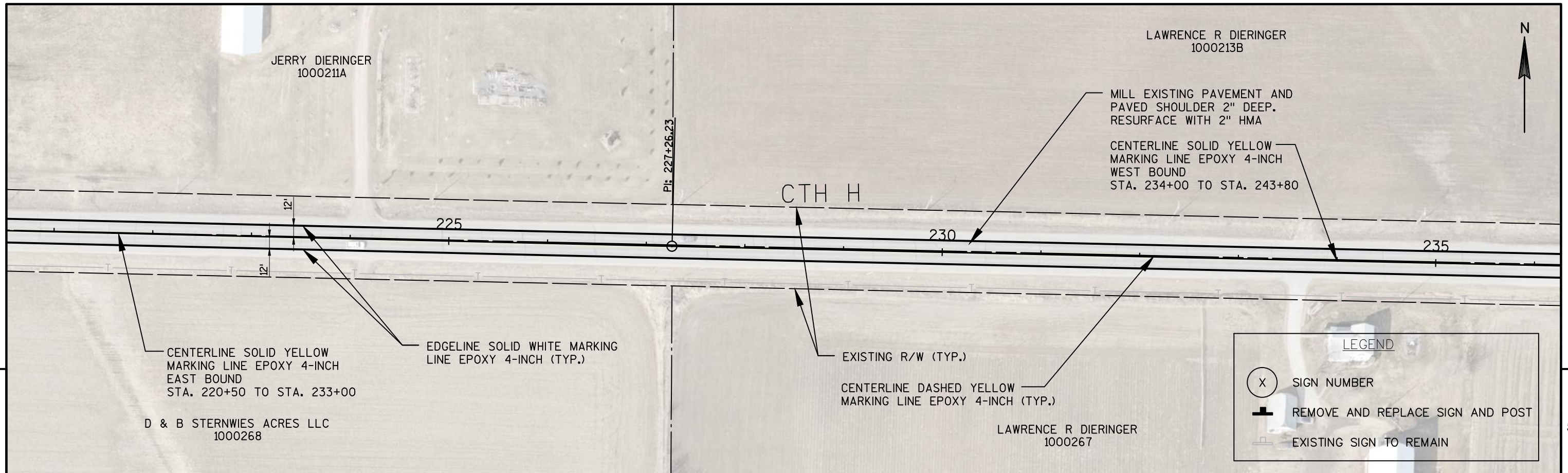
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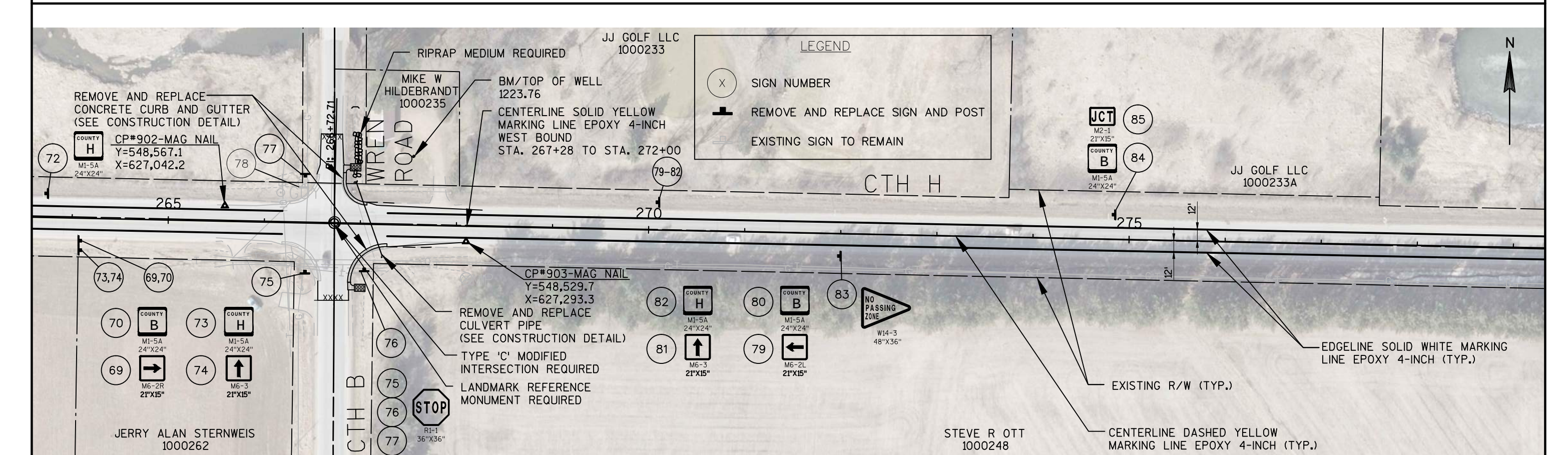
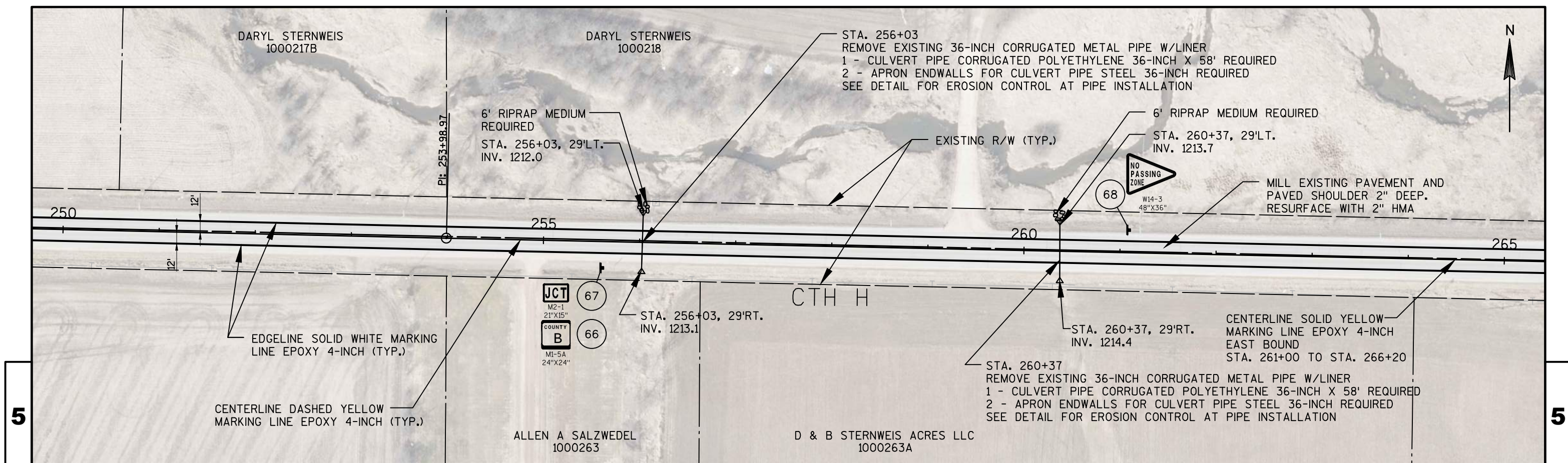
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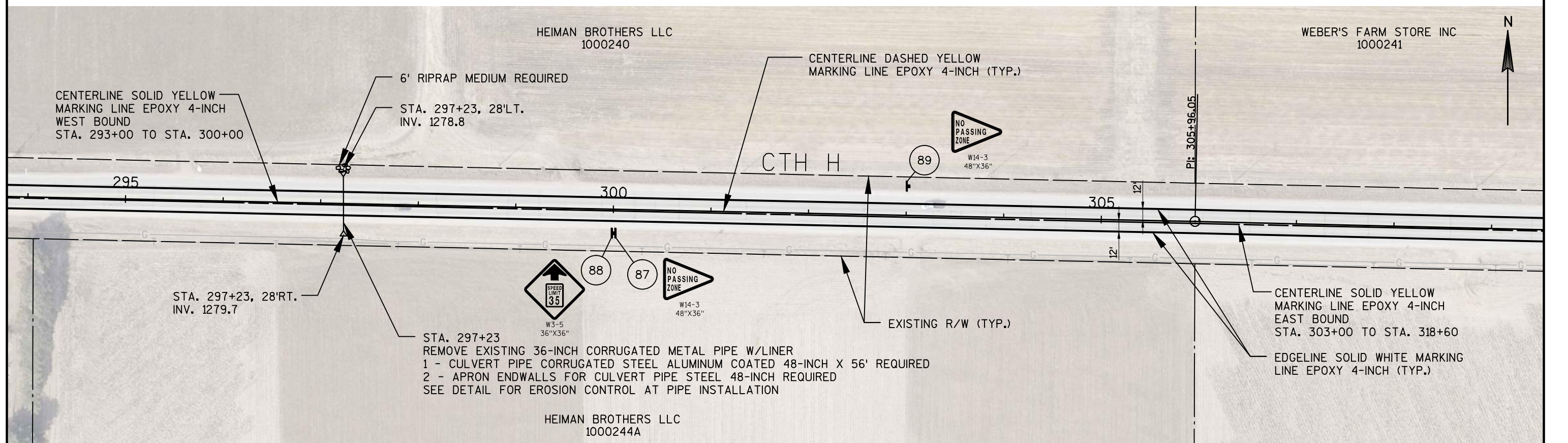
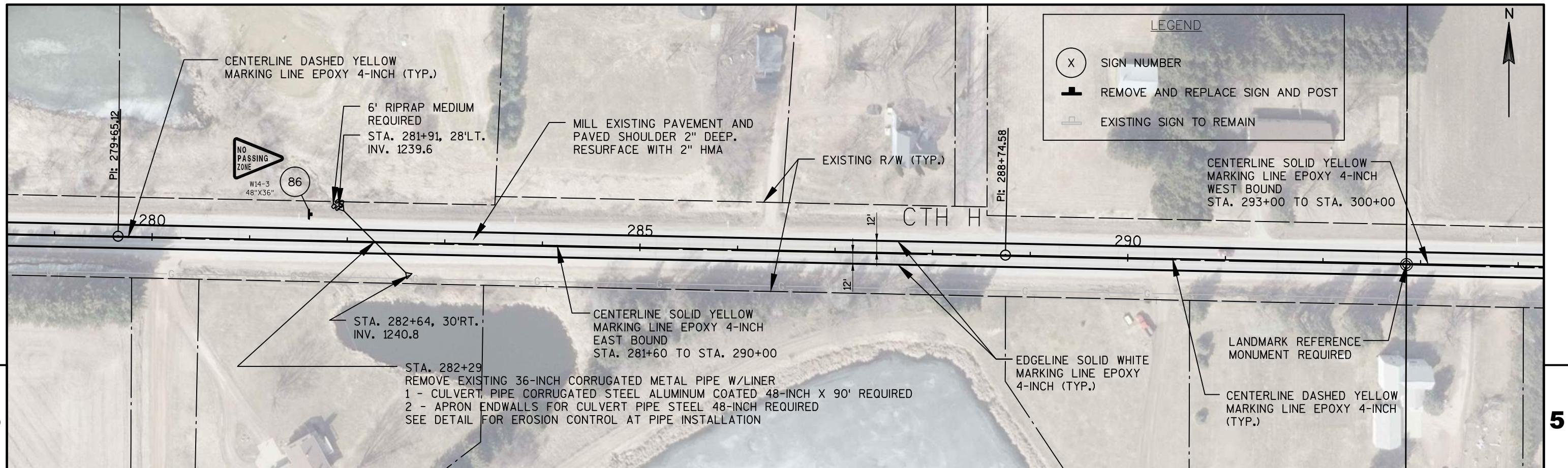




PROJECT NO:6923-01-70	HWY:CTH H	COUNTY:WOOD	PLAN/PLAN: CTH H	SHEET	E
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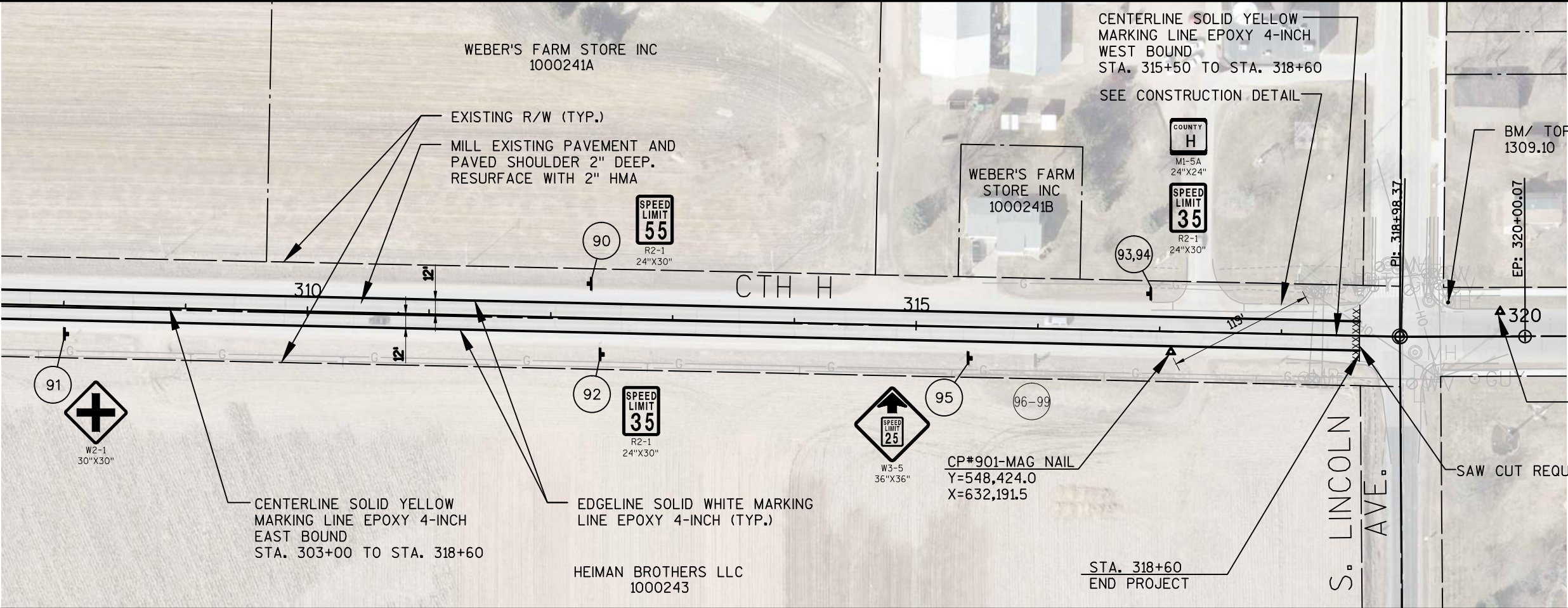


PROJECT NO:6923-01-70	HWY:CTH H	COUNTY:WOOD	PLAN/PLAN: CTH H	SHEET	E
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PROJECT NO:6923-01-70	HWY:CTH H	COUNTY:WOOD	PLAN/PLAN: CTH H	SHEET	E
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5



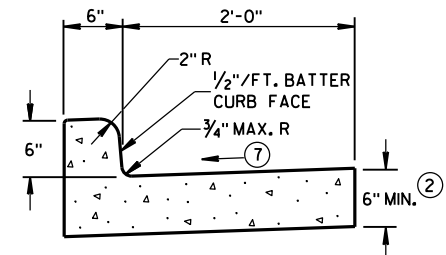
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LEGEND

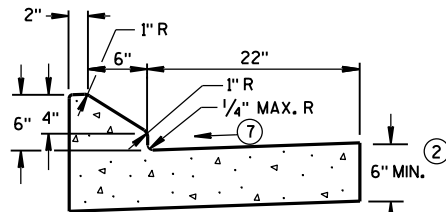
- (X) SIGN NUMBER
- REMOVE AND REPLACE SIGN AND POST
- EXISTING SIGN TO REMAIN

Standard Detail Drawing List

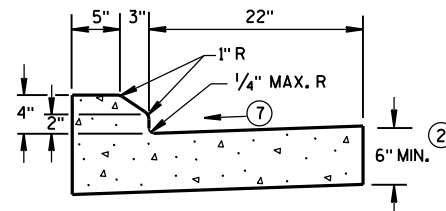
08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C12-06	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-05A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C35-03A	PAVEMENT MARKING (INTERSECTIONS)
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
16A01-07	LANDMARK REFERENCE MONUMENTS AND COVERS



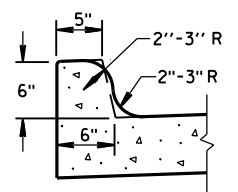
TYPES A^① & D



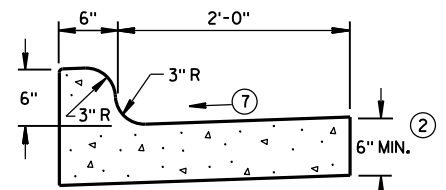
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

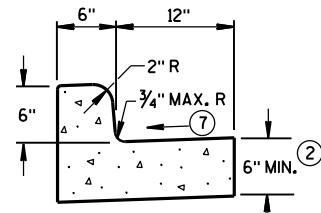


TYPES K^① & L
(OPTIONAL CURB SHAPE)



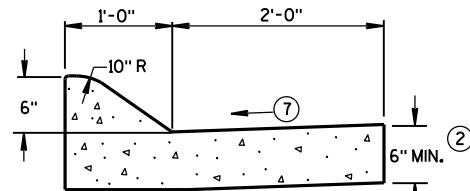
TYPES K^① & L

CONCRETE CURB & GUTTER 30"

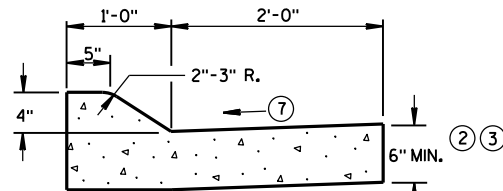


TYPES A^① & D

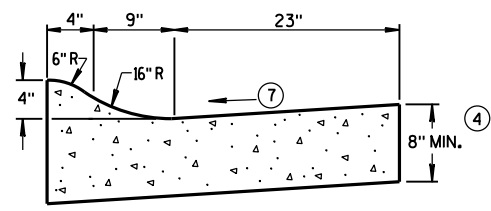
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A^① & D

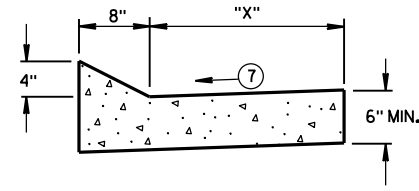


4" SLOPED CURB TYPES A^① & D



4" SLOPED CURB TYPES R^① & T^⑤

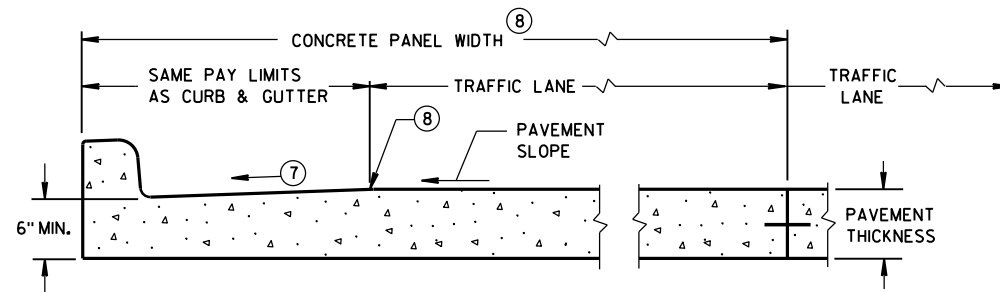
CONCRETE CURB & GUTTER 36"



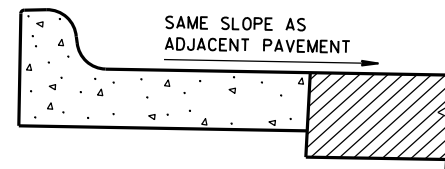
TYPES TBT & TBTT^①

CONCRETE CURB & GUTTER

TBT & TBTT	"X"
30"	22"
36"	28"



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



REVERSE SLOPE GUTTER^⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

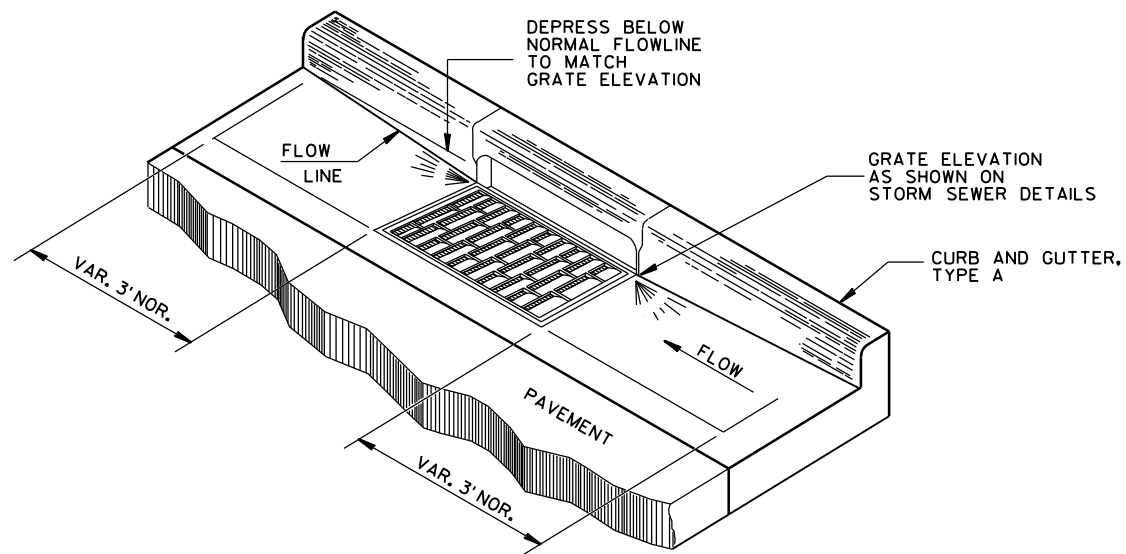
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'

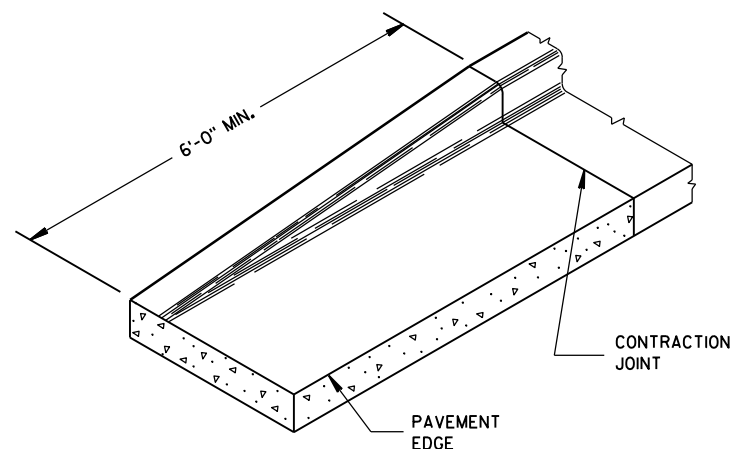
* BIKE LANE IS NOT SHOWN.

CONCRETE CURB & GUTTER

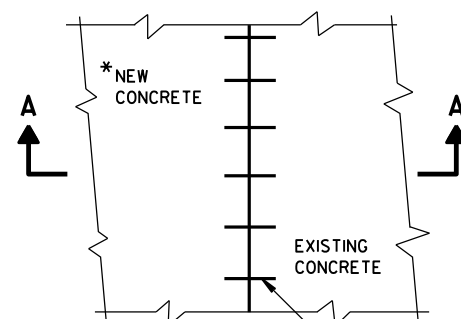
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



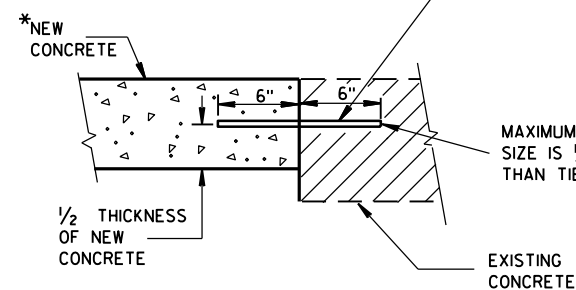
DETAIL OF CURB AND GUTTER AT INLETS
(TYPE H INLET COVER SHOWN)



END SECTION CURB & GUTTER



PLAN VIEW



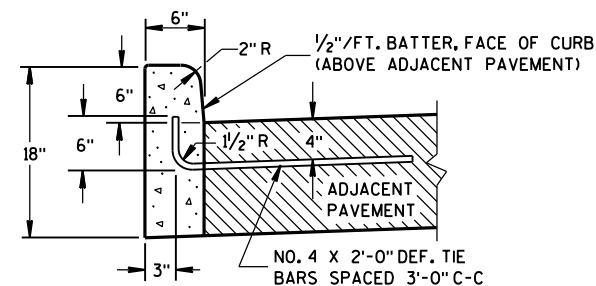
SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

*NEW CURB & GUTTER,
SURFACE DRAINS,
CONCRETE PAVEMENT
OR OTHER NEW CONCRETE.

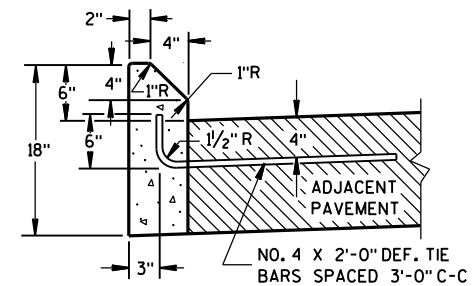
NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.

MAXIMUM DRILL HOLE
SIZE IS 1/8" GREATER
THAN TIE BAR DIAMETER

EXISTING
CONCRETE



TYPES A^① & D



TYPES G^① & J

GENERAL NOTES

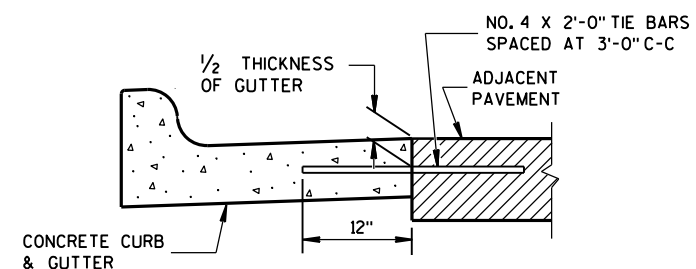
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

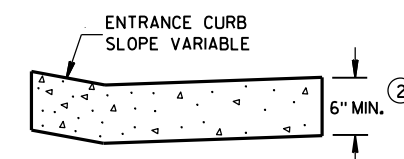
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑨ REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

CONCRETE CURB



TYPICAL TIE BAR LOCATION^①



DRIVEWAY ENTRANCE CURB^⑨
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2017

DATE

FHWA

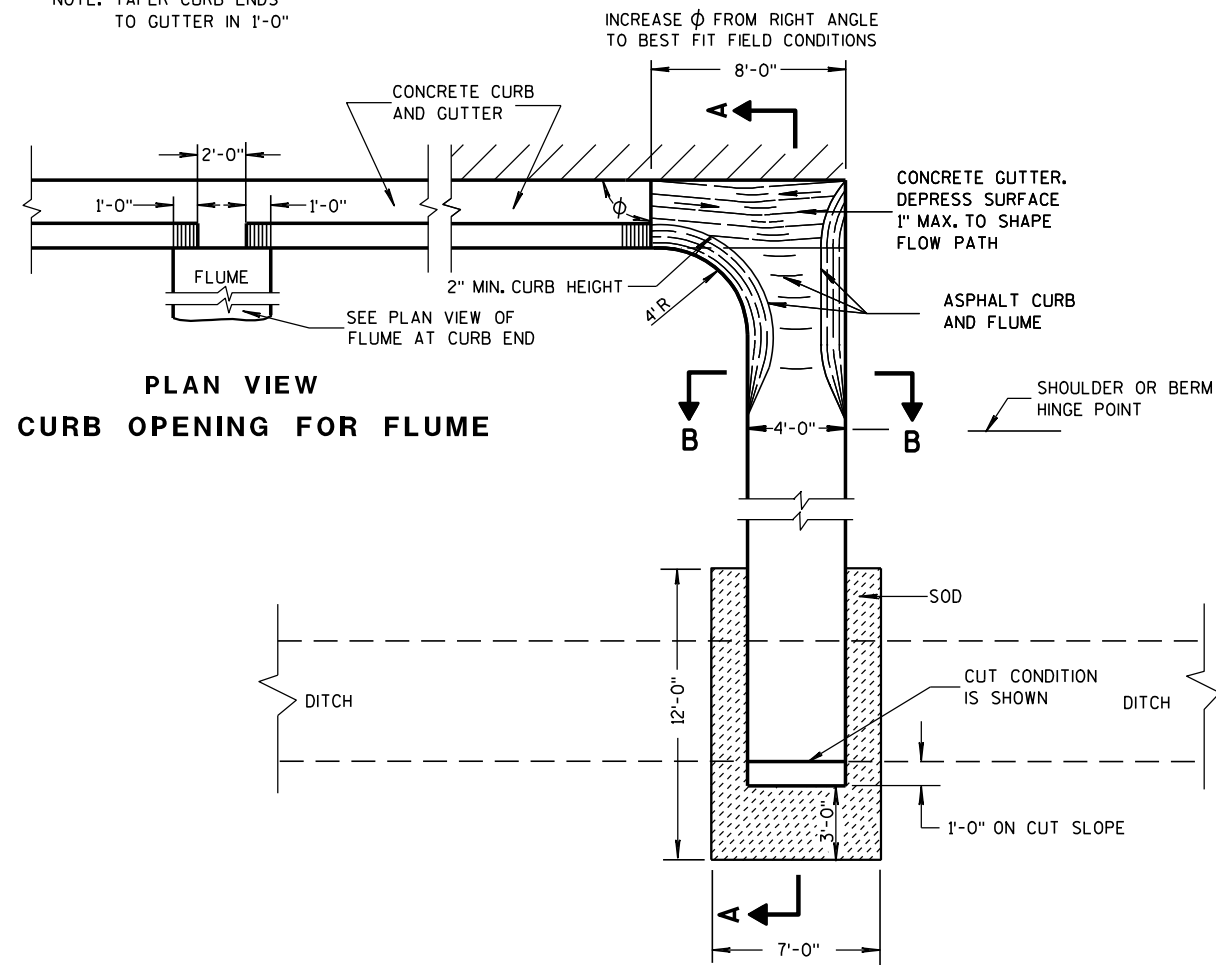
/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

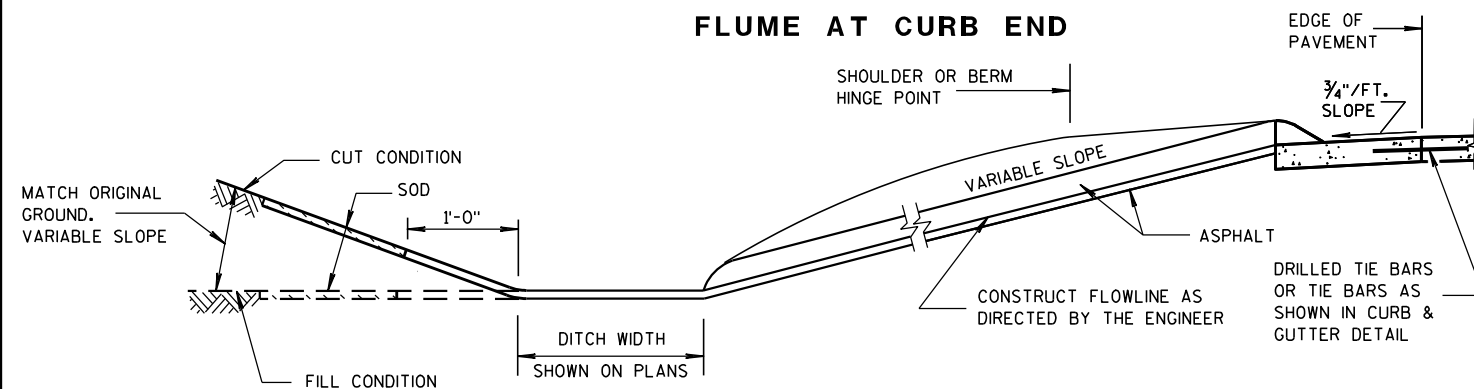
UNIT SUPERVISOR

ASPHALTIC FLUME

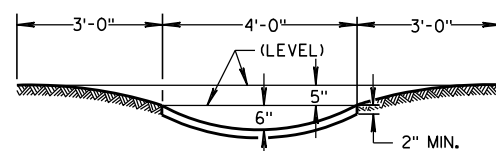
NOTE: TAPER CURB ENDS
TO GUTTER IN 1'-0"



PLAN VIEW FLUME AT CURB END



SECTION A-A



SECTION B-B

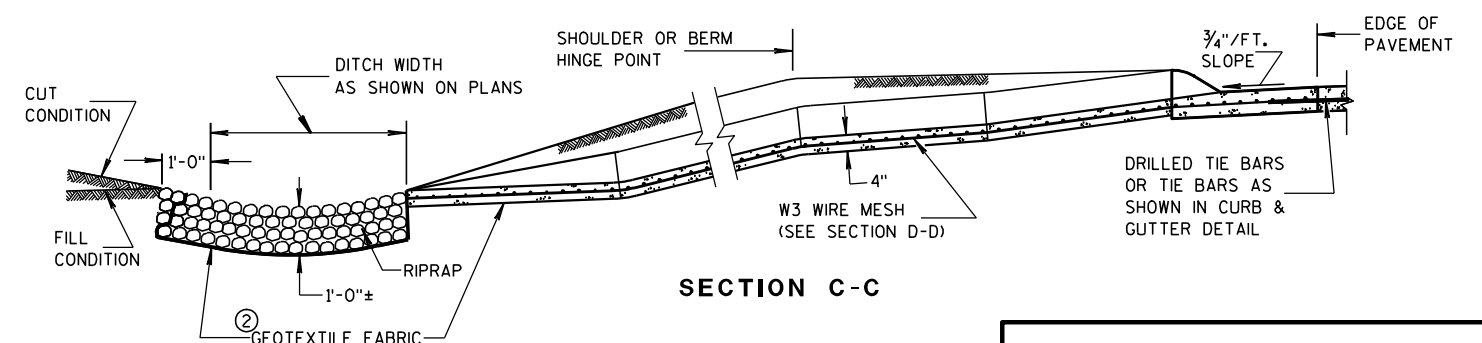
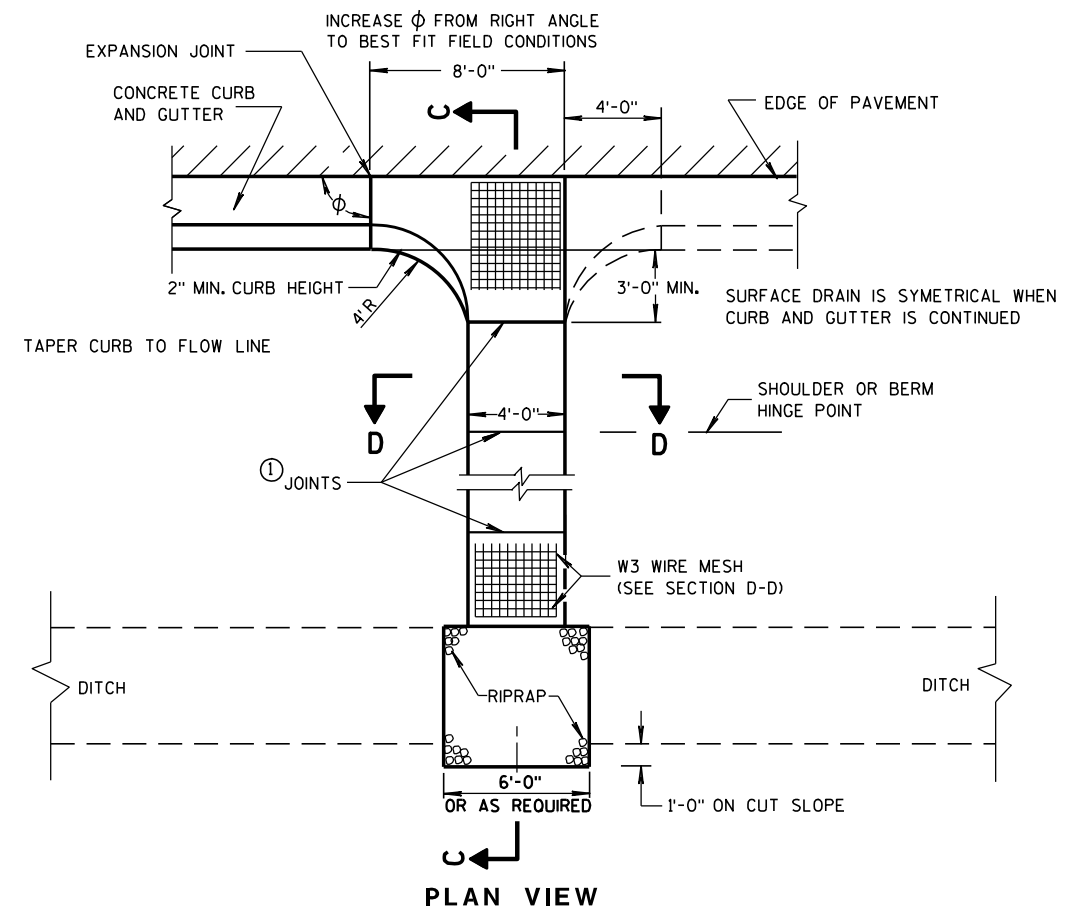
GENERAL NOTES

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

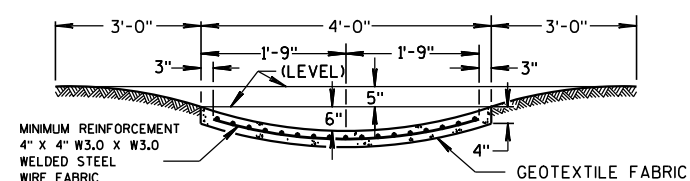
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- ① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

③ CONCRETE SURFACE DRAIN



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

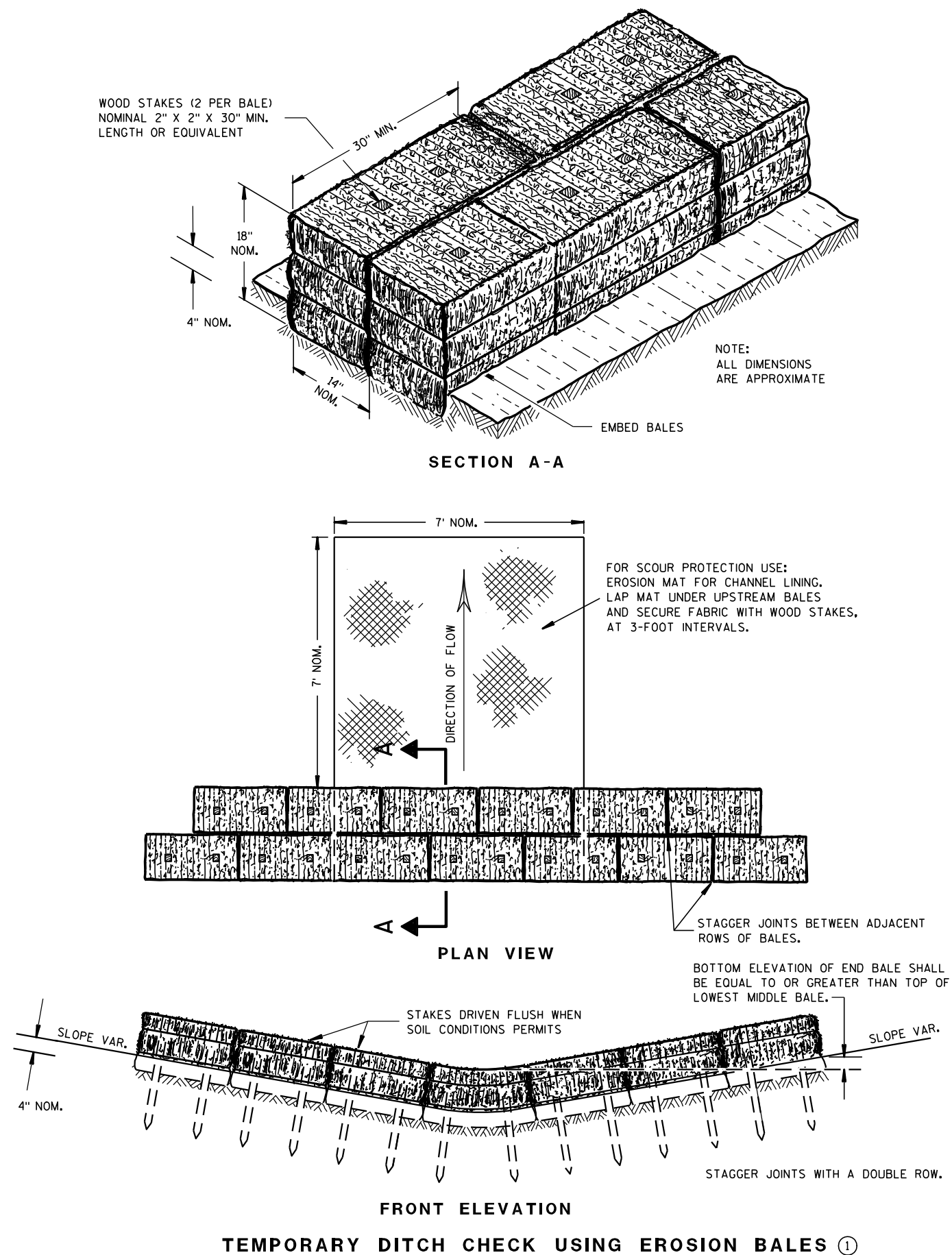
APPROVED

9-4-08

DATE

FHWA

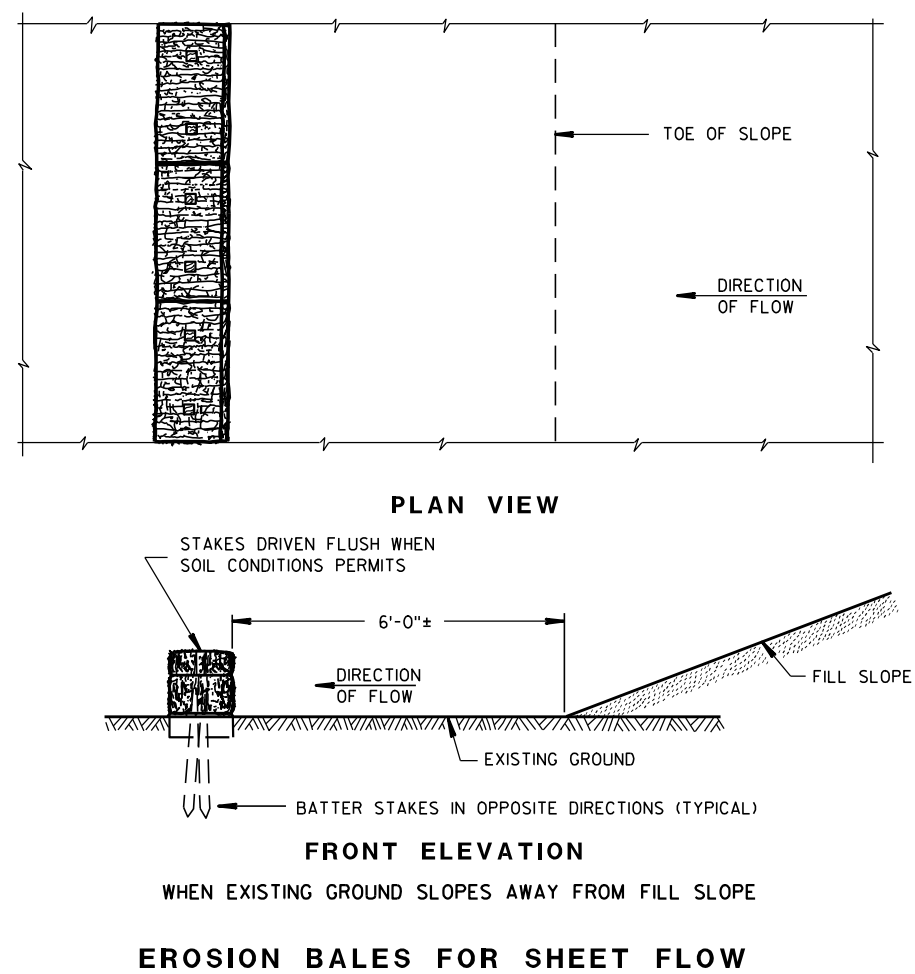
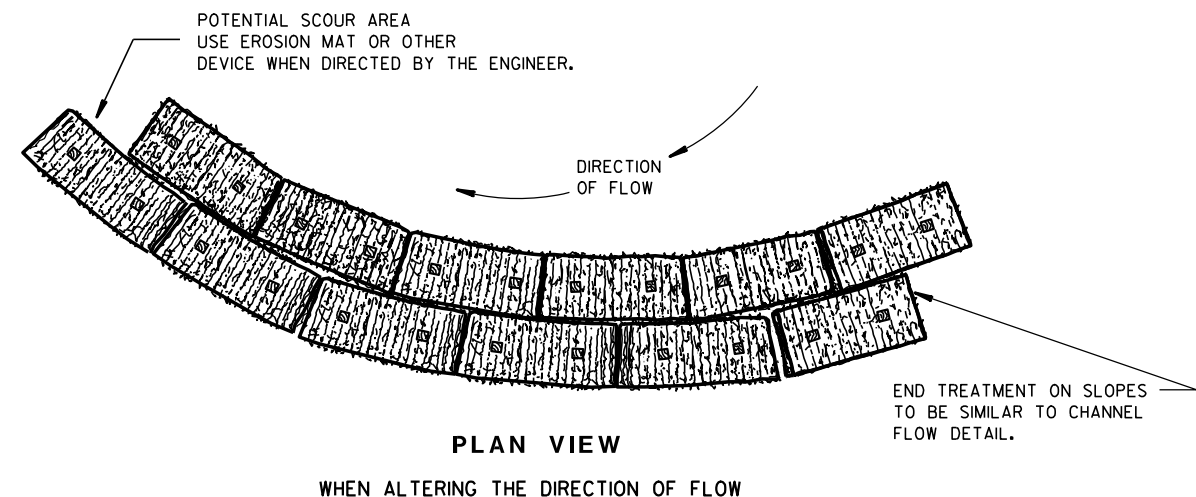
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



GENERAL NOTES

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

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

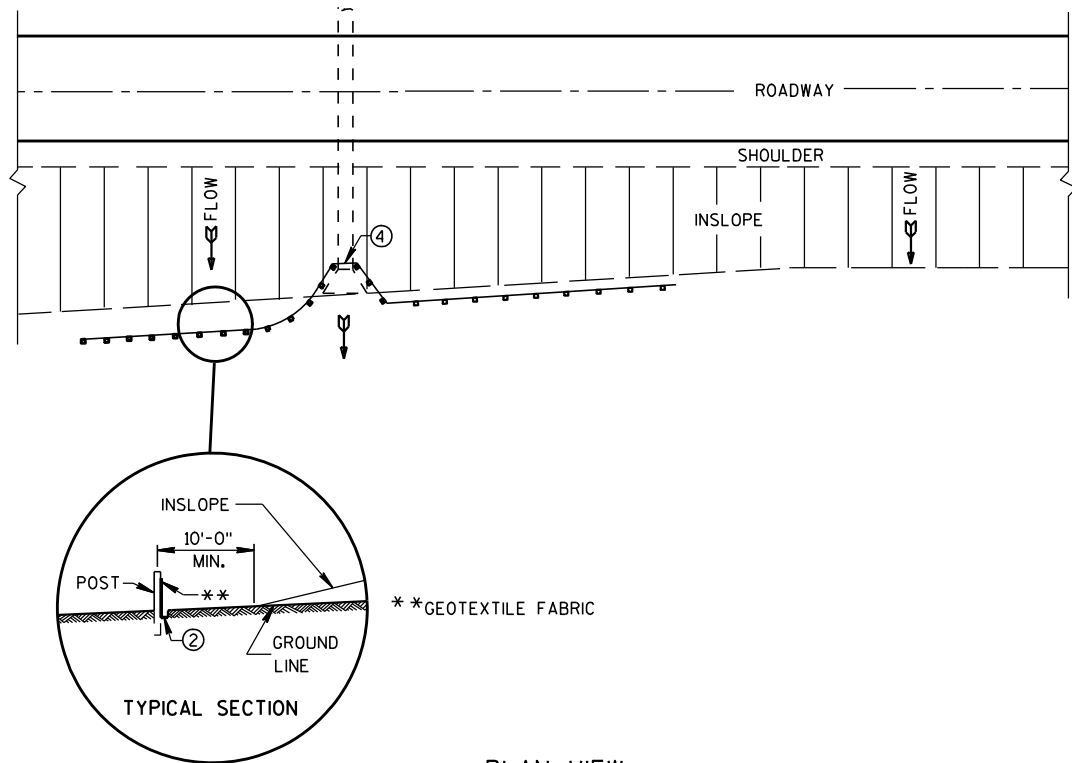
TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

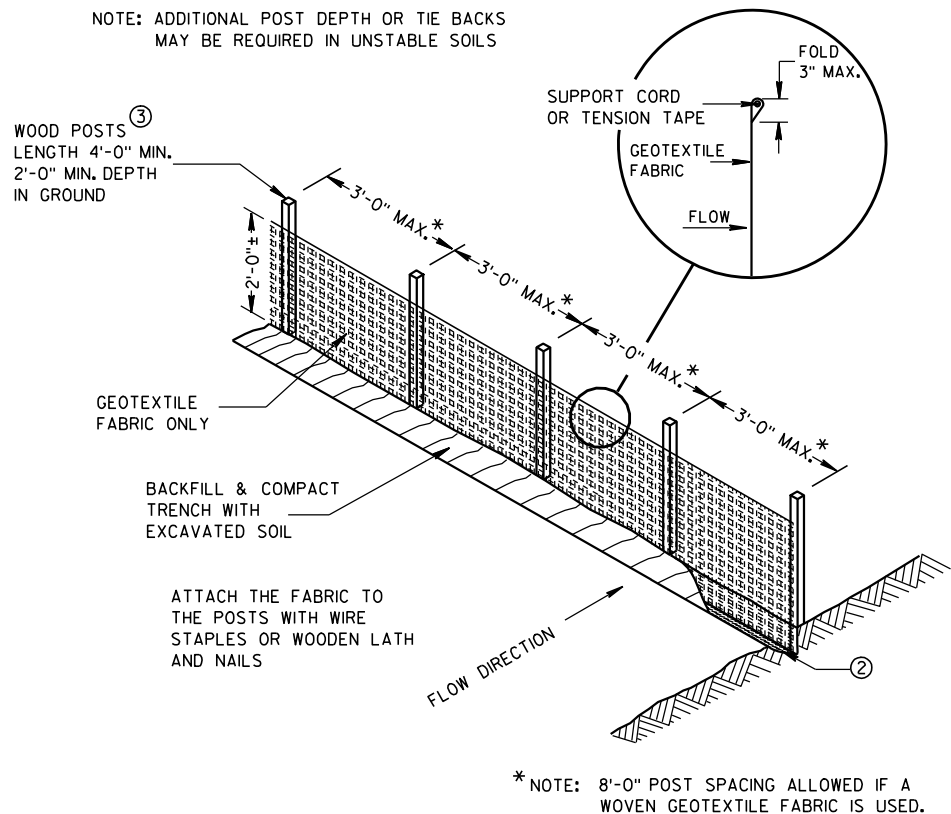
APPROVED

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

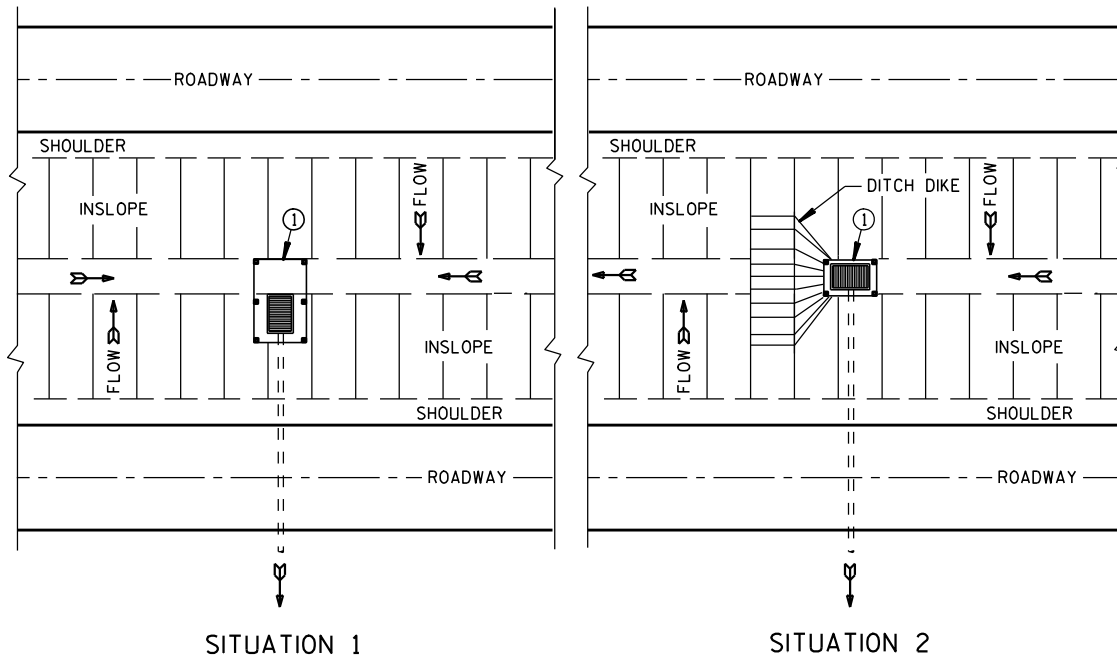
FHWA



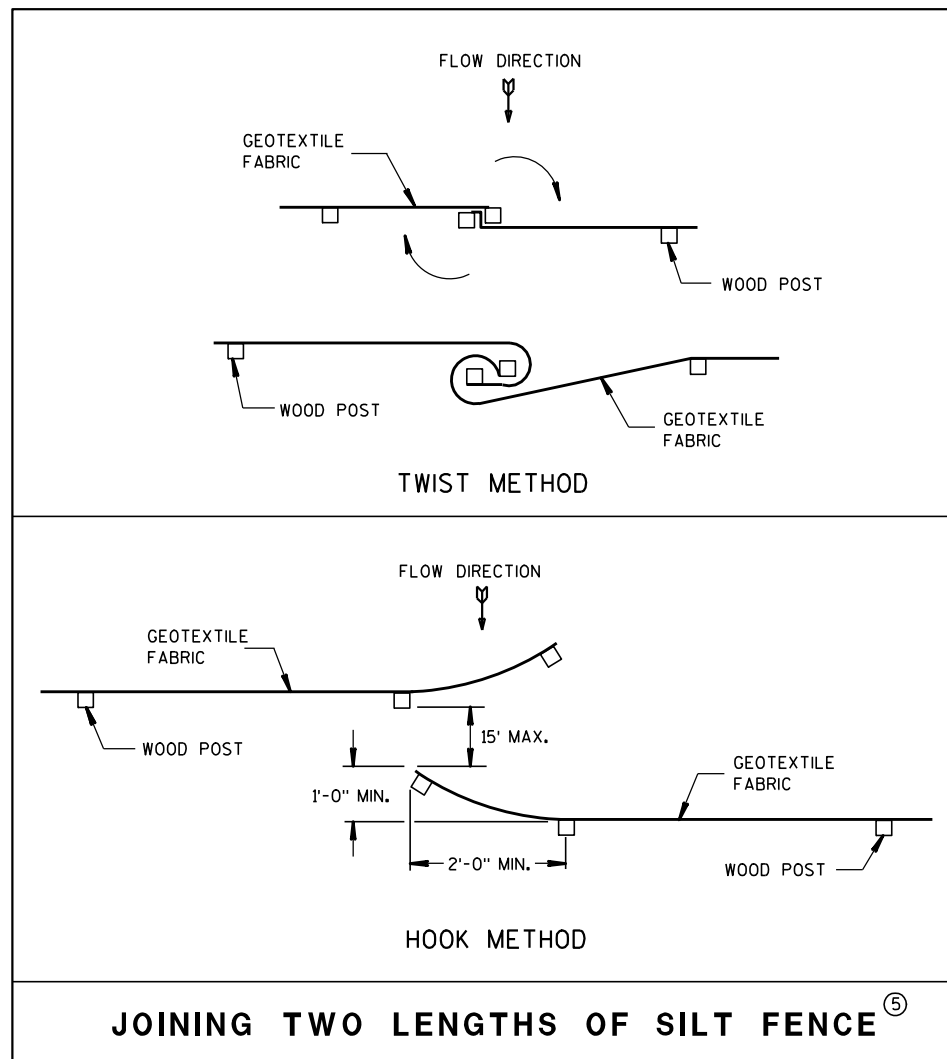
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

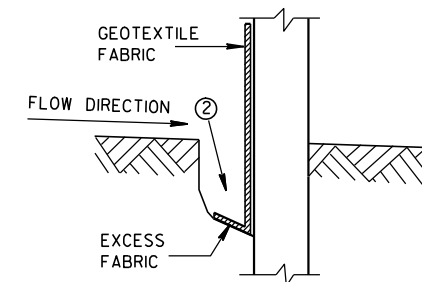


JOINING TWO LENGTHS OF SILT FENCE

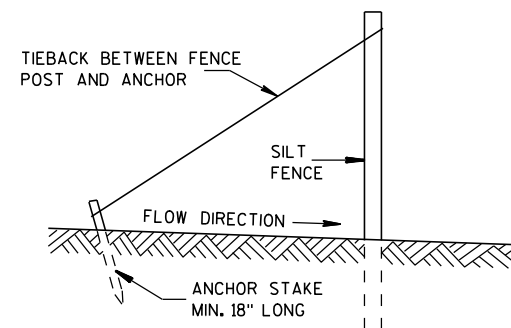
GENERAL NOTES

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

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



TRENCH DETAIL

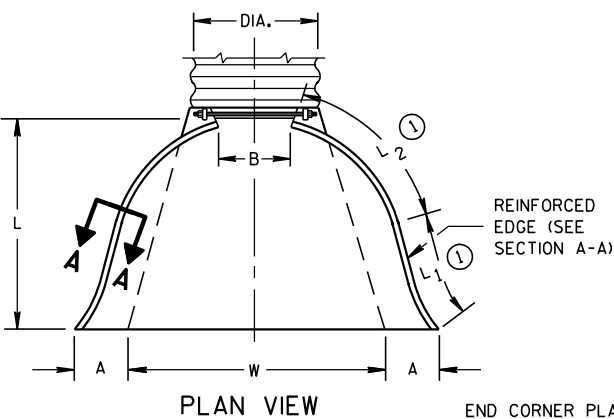


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

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

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

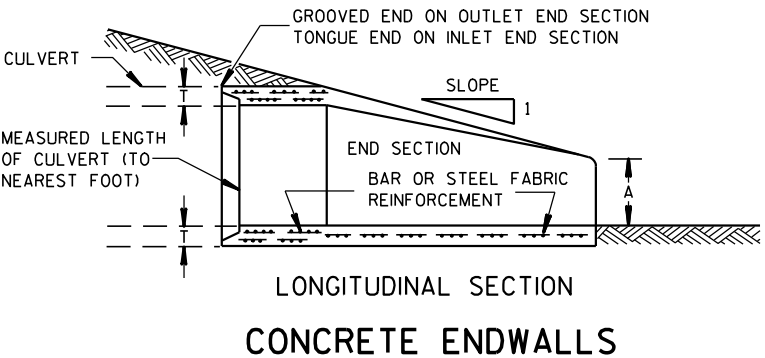
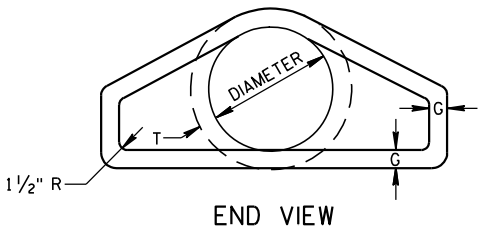
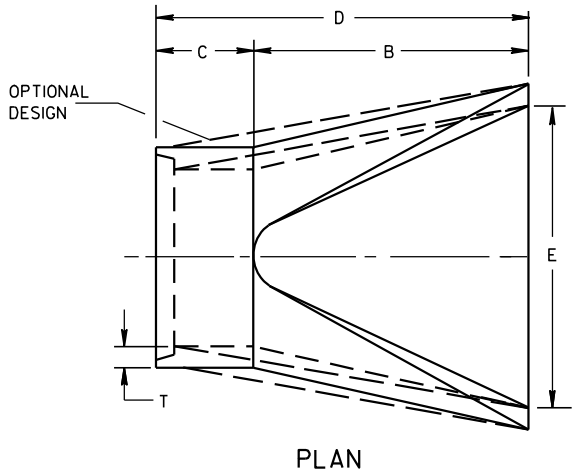
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



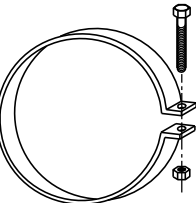
SIDE ELEVATION
METAL ENDWALLS

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				

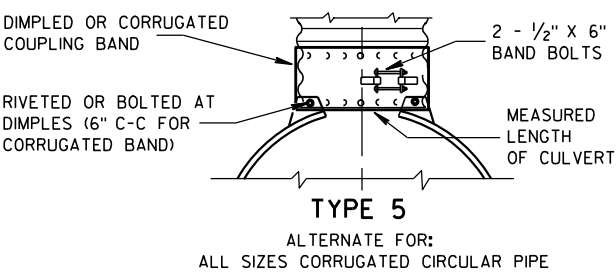
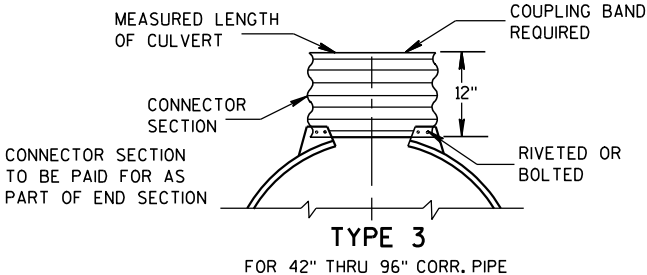
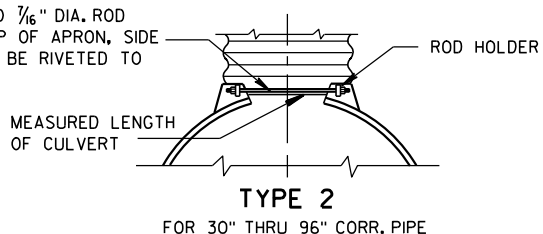
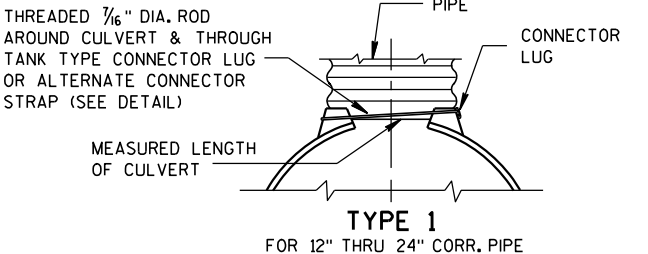
* MINIMUM
** MAXIMUM



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



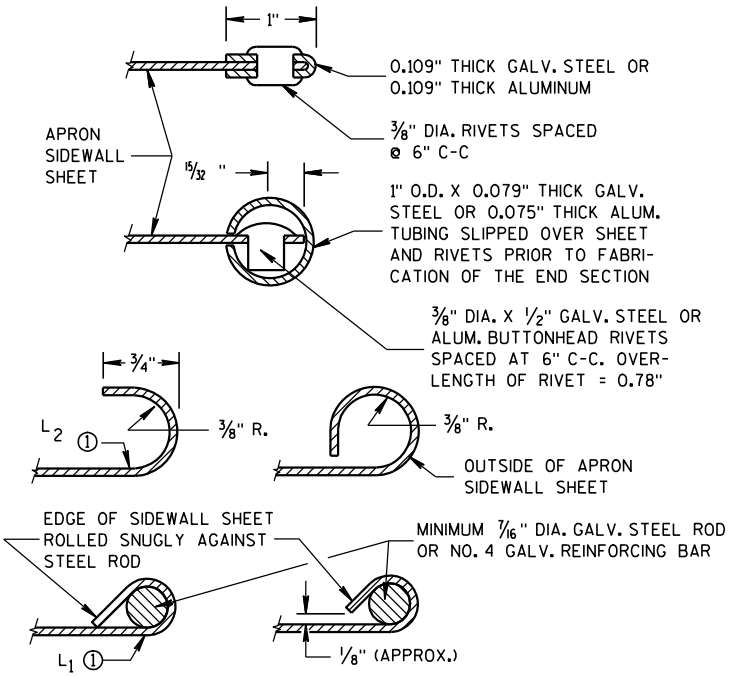
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.
DIMPLED BAND MAY BE USED WITH HELICALLY
CORRUGATED PIPE.

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



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.

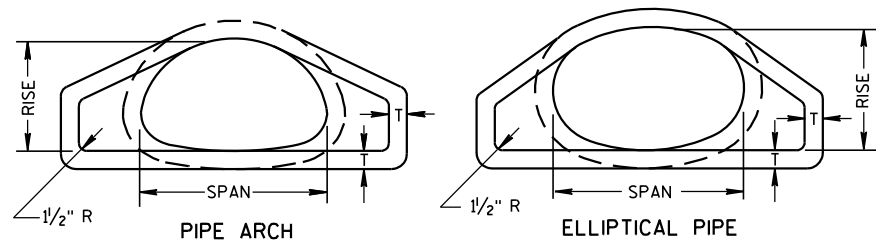
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT
TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT
TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

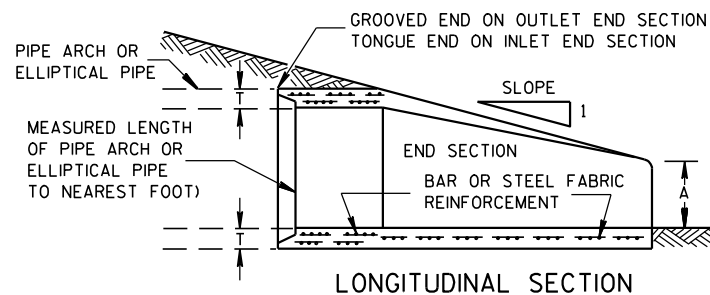
APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

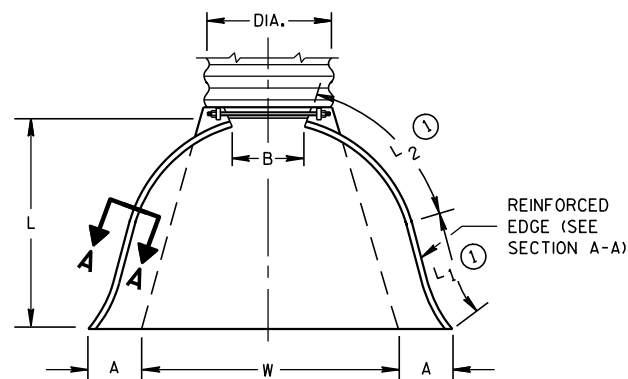


END VIEW



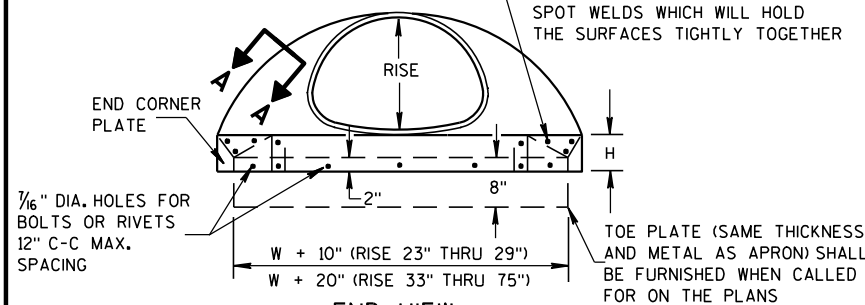
LONGITUDINAL SECTION

CONCRETE ENDWALLS

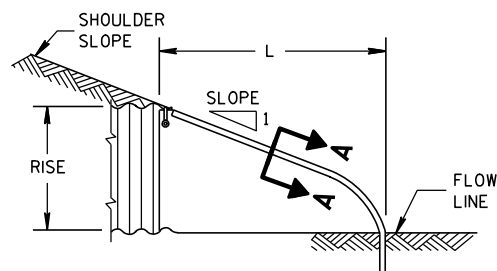
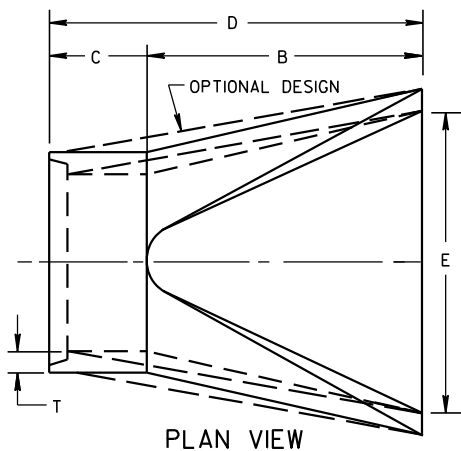


PLAN VIEW

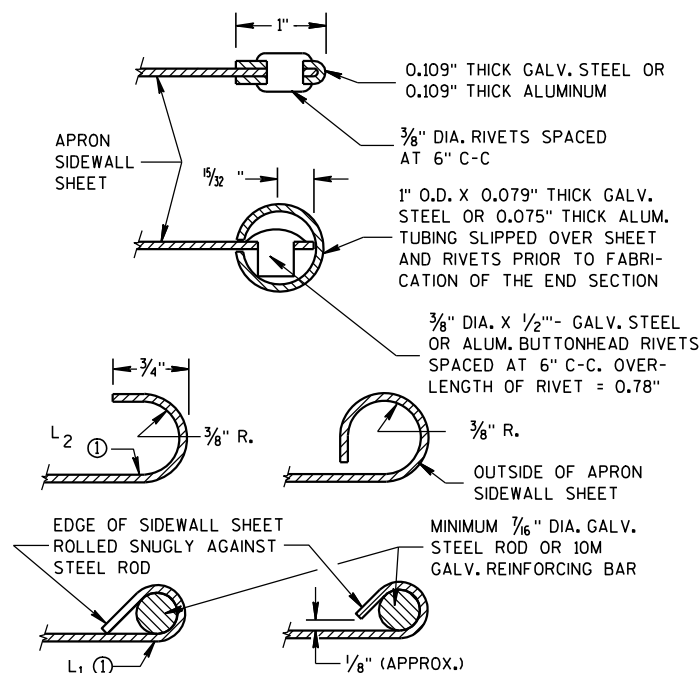
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



END VIEW

SIDE ELEVATION
METAL ENDWALLS

PLAN VIEW



SECTION A-A

2- 2 2/3" X 1/2" CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
15	17	13	.064	.060	7	9	6	19	14	16	30	2 1/2 to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19 3/8	36	2 1/2 to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21 3/4	42	2 1/2 to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27 1/2	48	2 1/2 to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37 5/8	60	2 1/2 to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45 3/8	75	2 1/2 to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54 3/4	85	2 1/2 to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2 1/2 to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72 3/4	102	2 1/4 to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82 1/4	114	2 1/4 to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

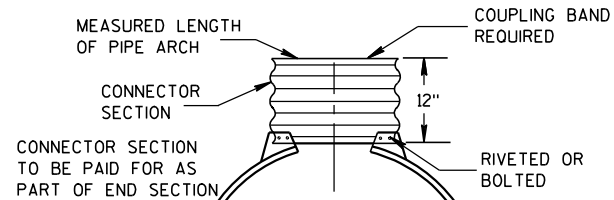
3" X 1" CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
48	53	41	.109	.105	18	26	12	63	24	72 3/4	90	2 1/2 to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82 1/4	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1 1/2 to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1 1/2 to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1 1/2 to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1 1/2 to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1 1/2 to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1 1/2 to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL
SEE GENERAL NOTES

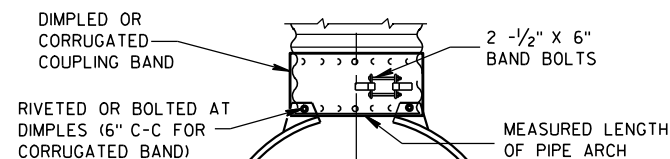
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:
ALL SIZES CORRUGATED PIPE ARCHESNOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	** SPAN	** RISE	T	A	B	C	D	E	
24	29	18	3	8 1/2	39	33	72	48	3 to 1
30	36	22	3 1/2	9 1/2	50	46	96	60	3 to 1
36	44	27	4	11 1/8	60	36	96	72	3 to 1
42	51	31	4 1/2	15 1/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5 1/2	25 1/2	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28 1/2	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	** SPAN	** RISE	T	A	B	C	D	E	
24	30	19	3 1/4	8 1/2	39	33	72	48	3 to 1
30	38	24	3 3/4	9 1/2	54	18	72	60	3 to 1
36	45	29	4 1/2	11 1/8	60	24	84	72	2 1/2 to 1
42	53	34	5	15 1/4	60	36	96	78	2 1/2 to 1
48	60	38	5 1/2	21	60	36	96	84	2 1/2 to 1
54	68	43	6	25 1/2	60	36	96	90	2 1/2 to 1
60	76	48	6 1/2	30	60	36	96	96	2 1/2 to 1

**NOMINAL SIZE

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH 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 ARCH 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 77" X 52" THROUGH 112" X 75" 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.

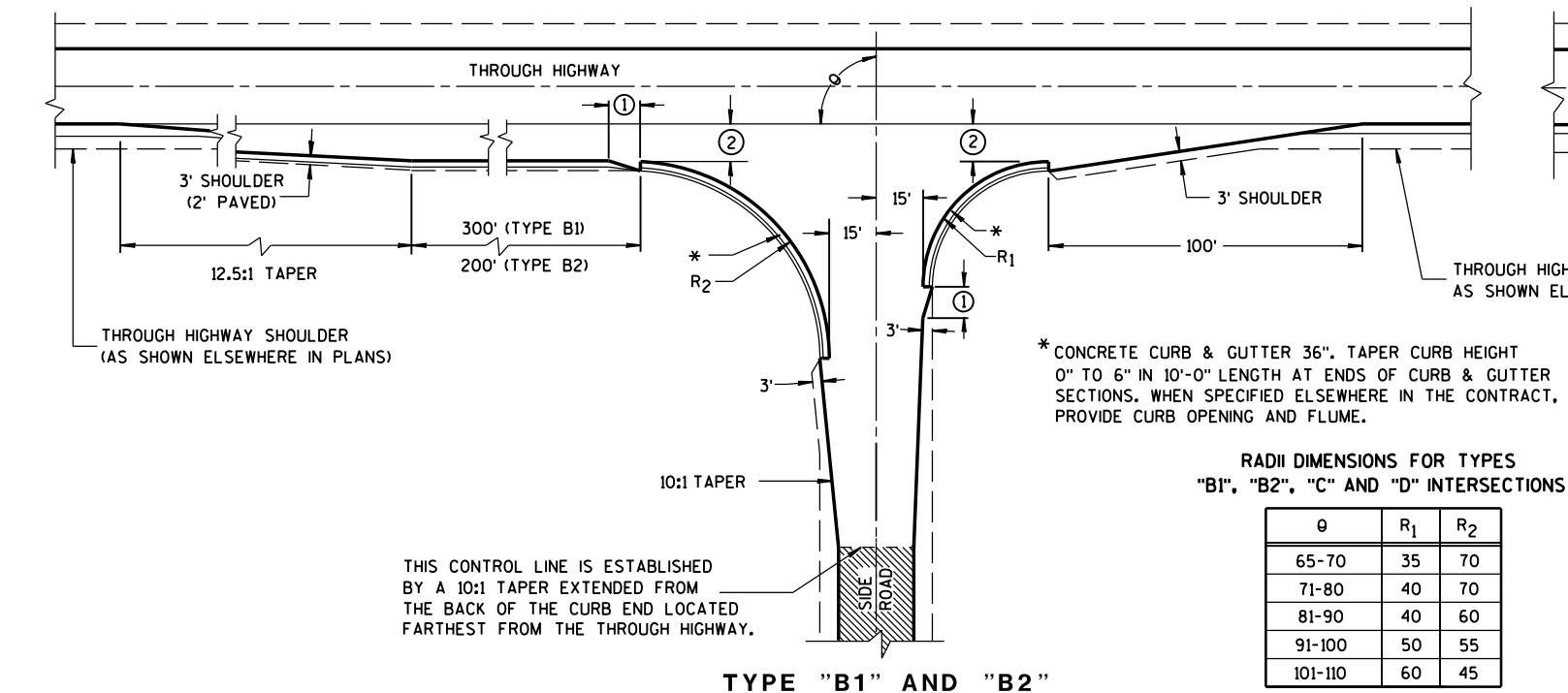
① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR
PIPE ARCH AND
ELLIPTICAL PIPESTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

FHWA



GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

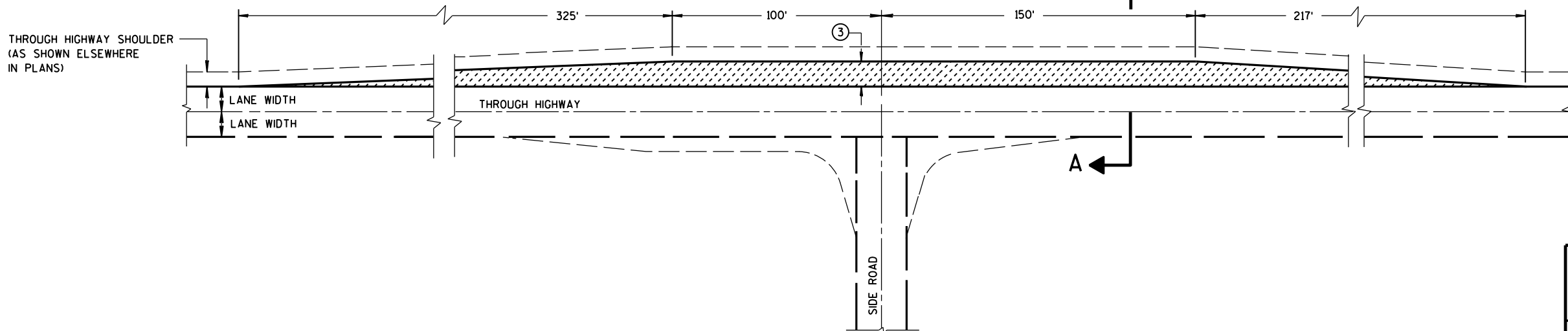
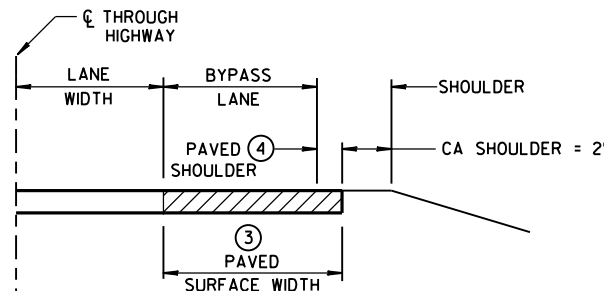
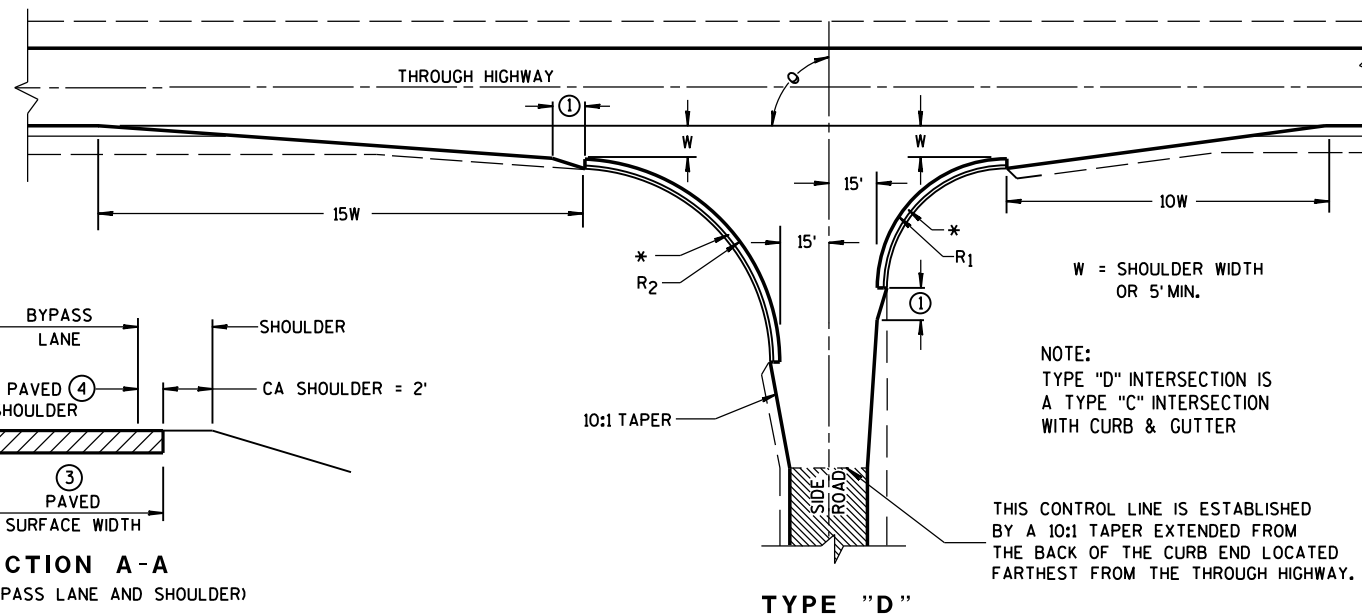
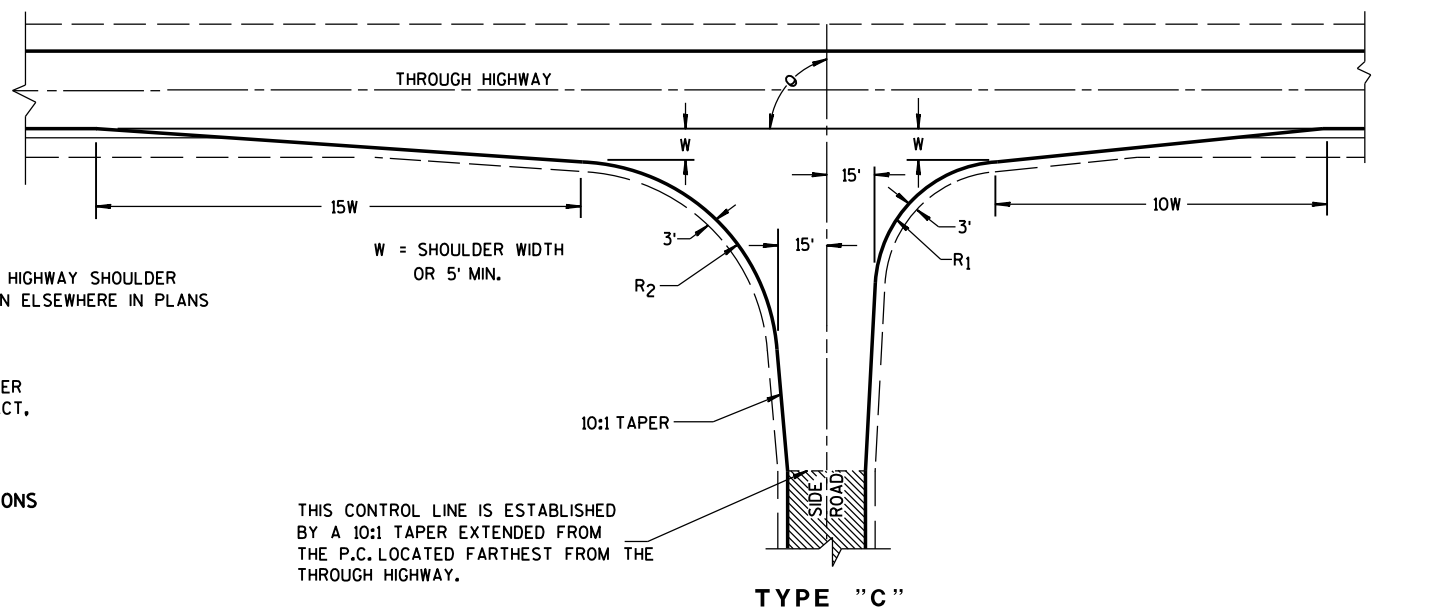
BYPASS LANE

- ① 10-FT TYPICAL.
- ② 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- ③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.
- ④ BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

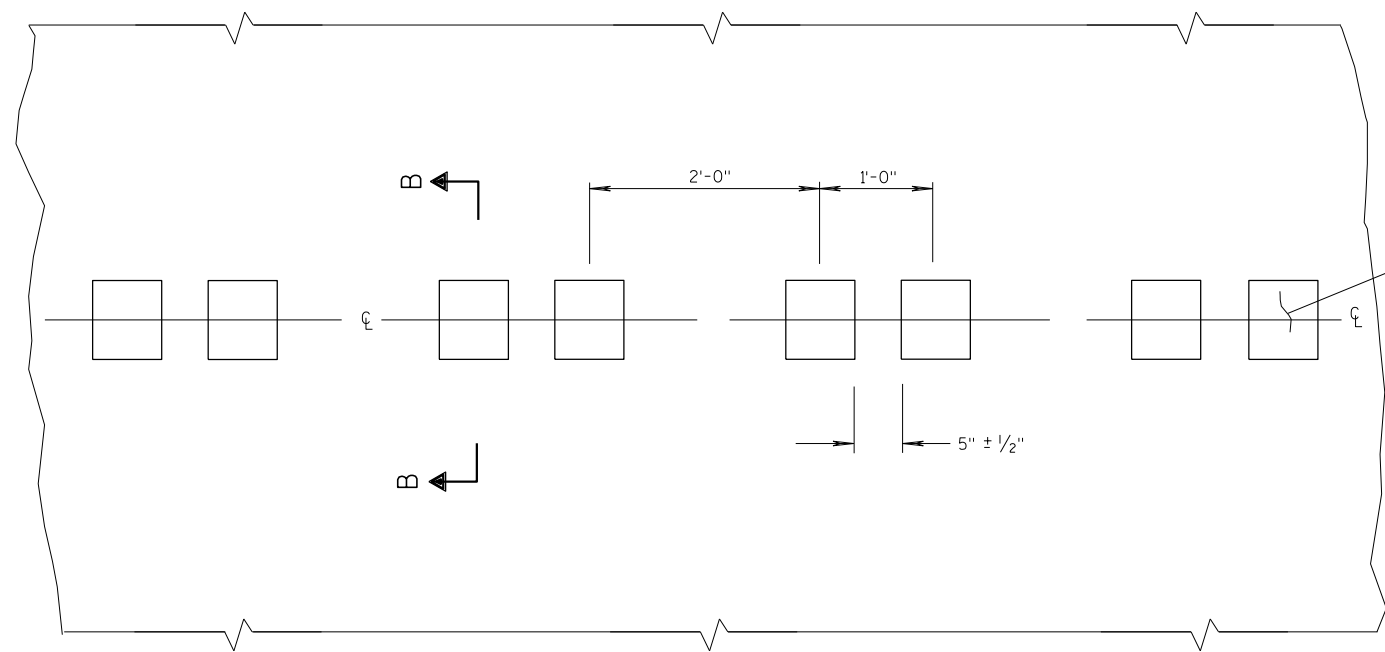
θ	R ₁	R ₂
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45



TEE INTERSECTION BYPASS LANE DETAIL

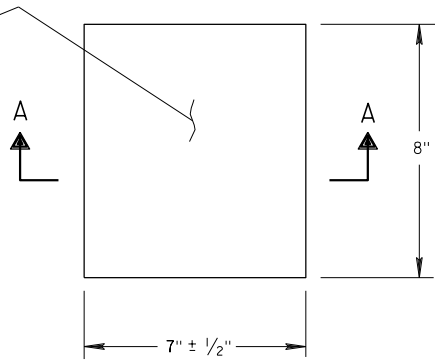
AT-GRADE SIDE ROAD
INTERSECTION, TYPES "B1", "B2",
"C" AND "D" AND TEE
INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



PLAN VIEW
CENTER LINE WITH GROOVES

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

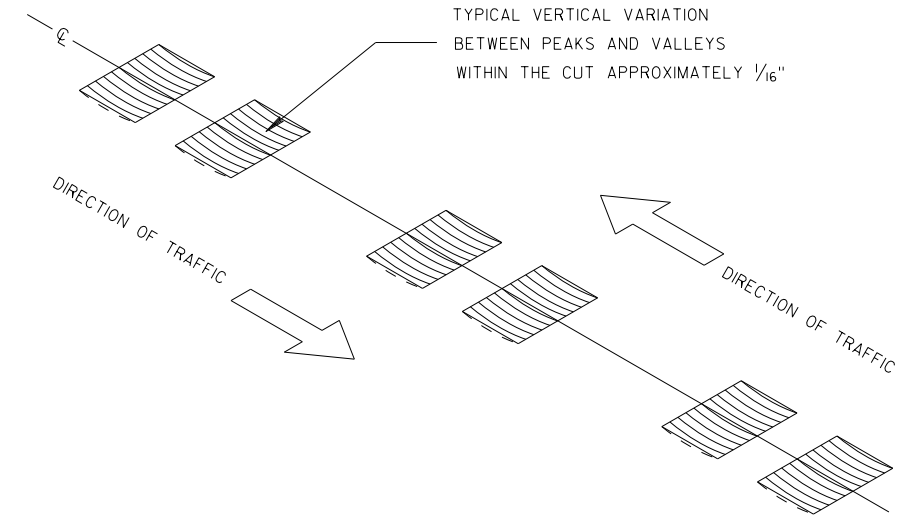


PLAN VIEW
(SINGLE GROOVE)

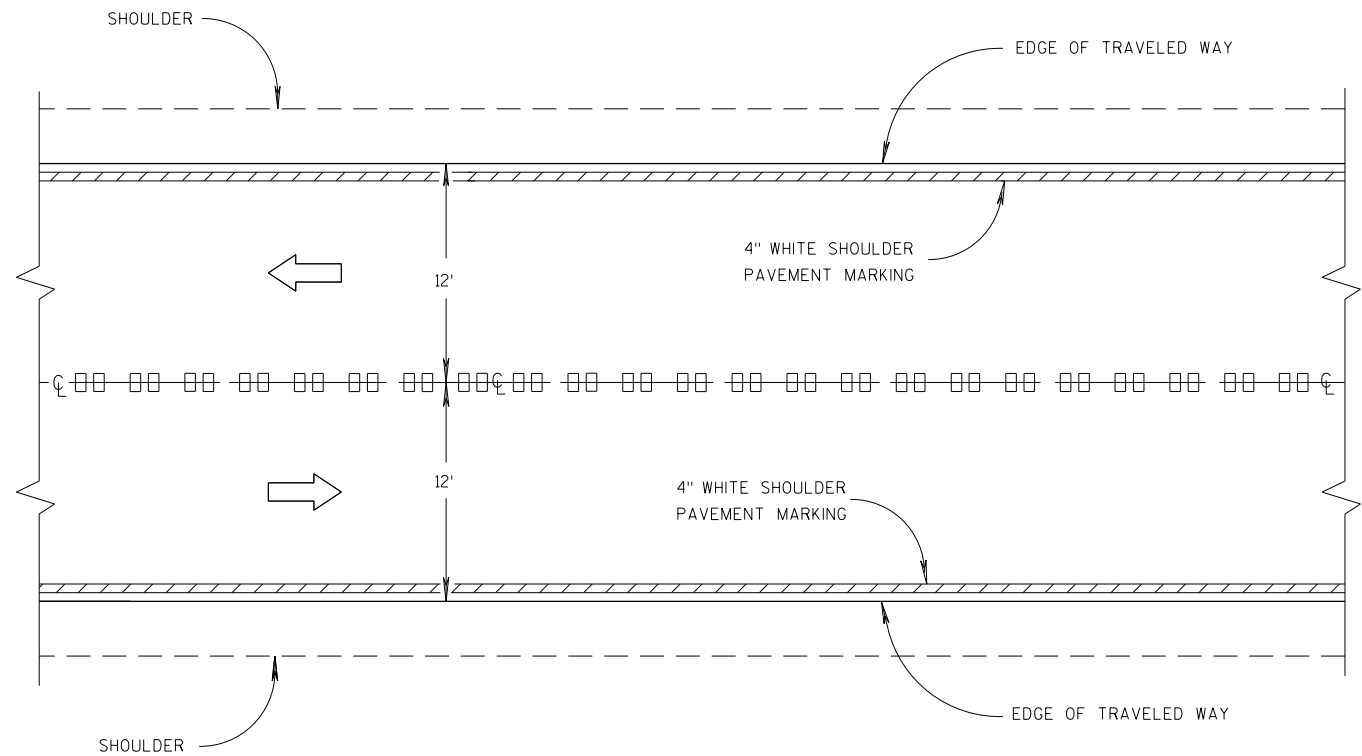
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.
DO NOT MILL CENTER LINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.
INSTALL PERMANENT MARKING EPOXY 4-INCH AFTER THE GROOVES ARE INSTALLED.
SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

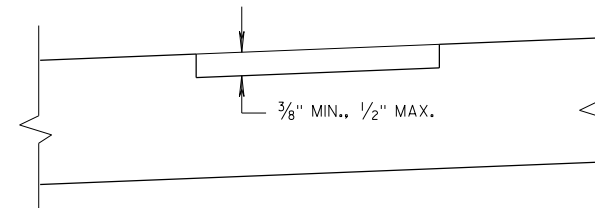
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



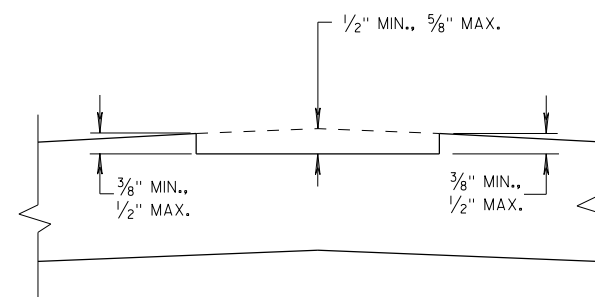
ISOMETRIC



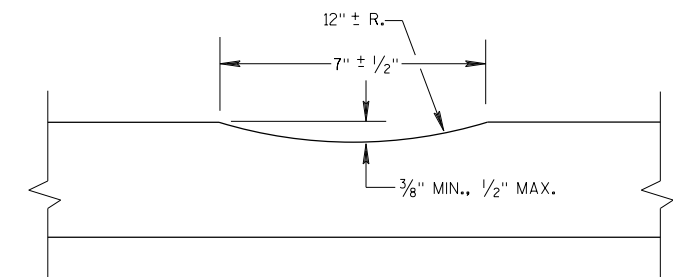
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B
SUPERELEVATED ROADWAY



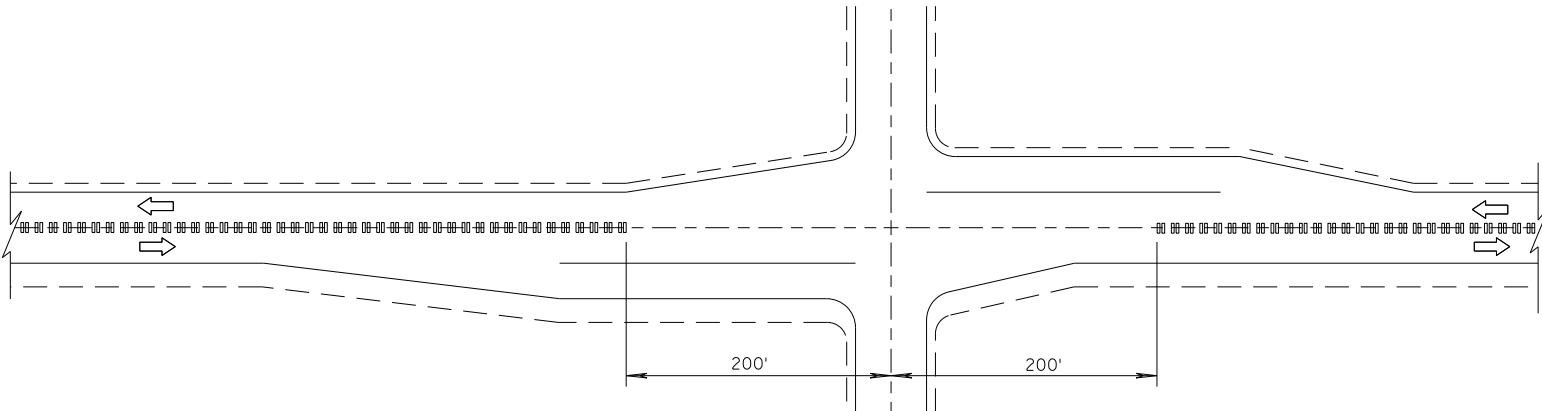
SECTION B-B
CROWNED ROADWAY



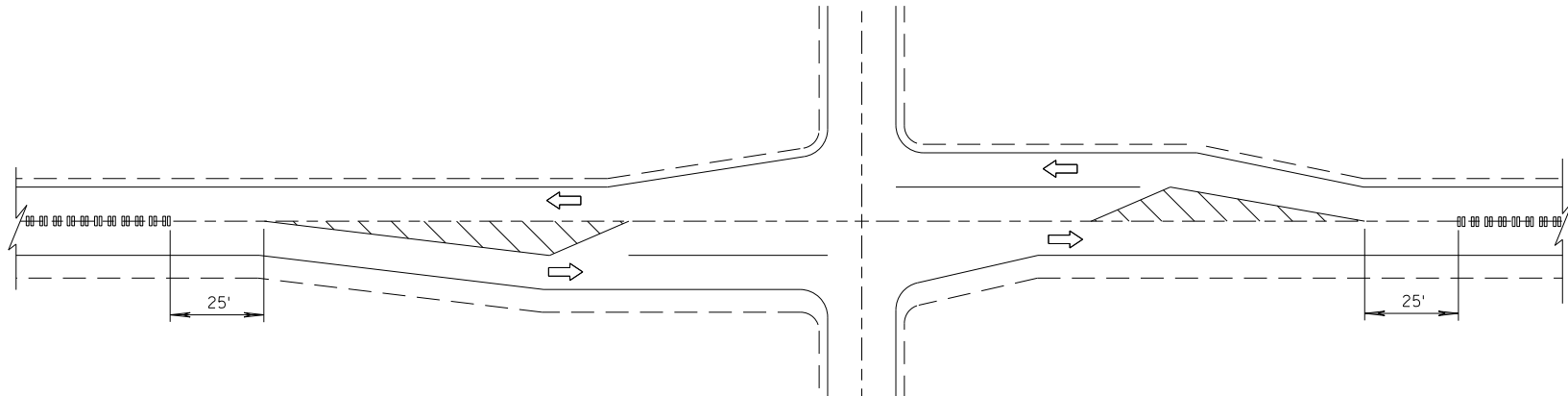
SECTION A-A

2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

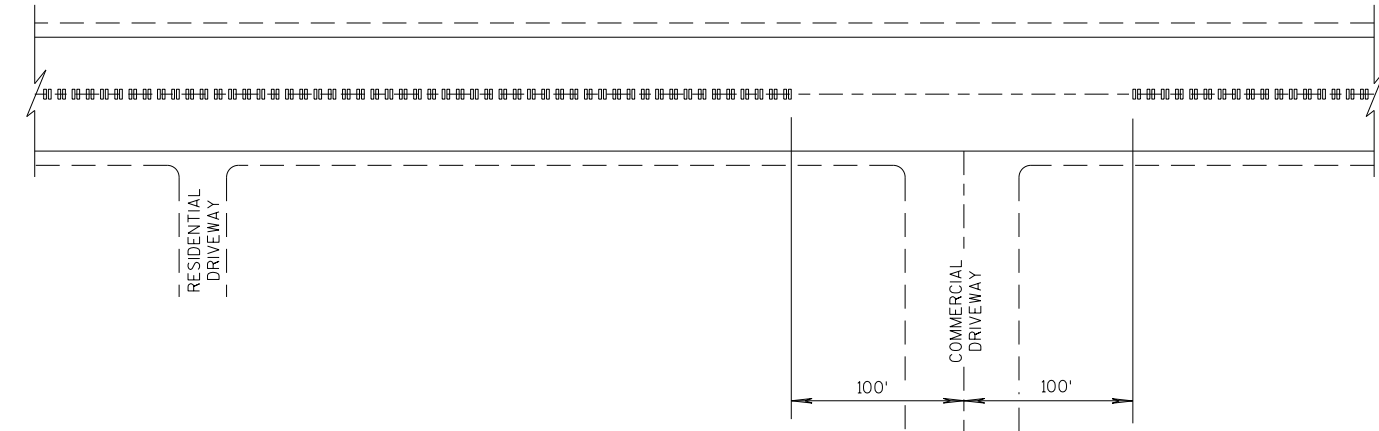
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTER LINE GROOVES AT INTERSECTIONS



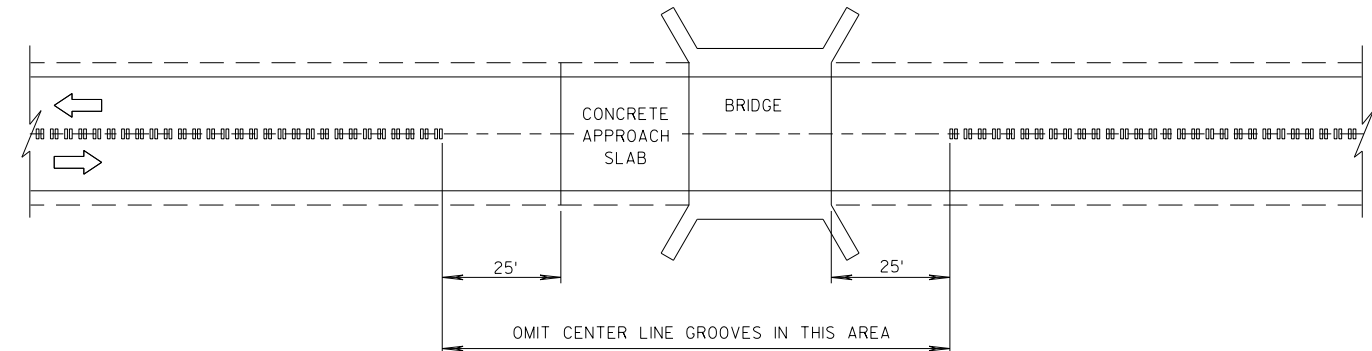
CENTER LINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)



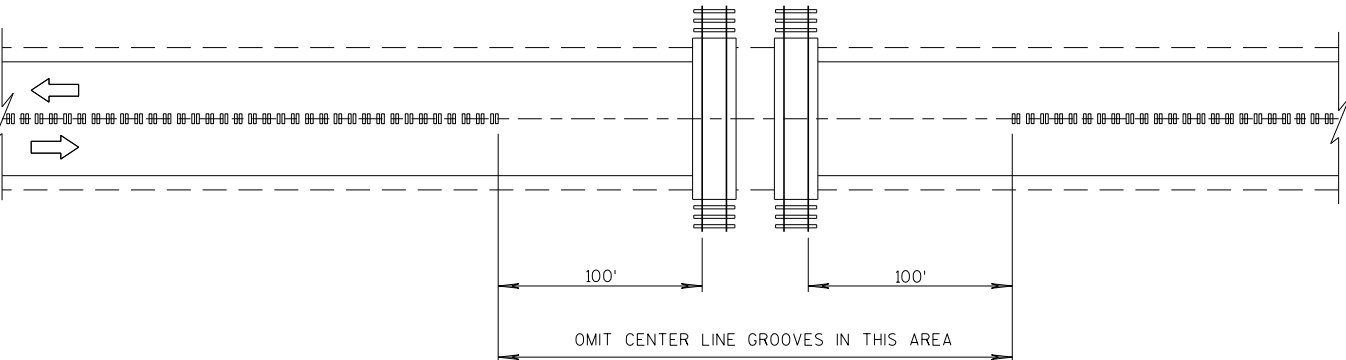
CENTER LINE GROOVES AT DRIVEWAYS

1

1 CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



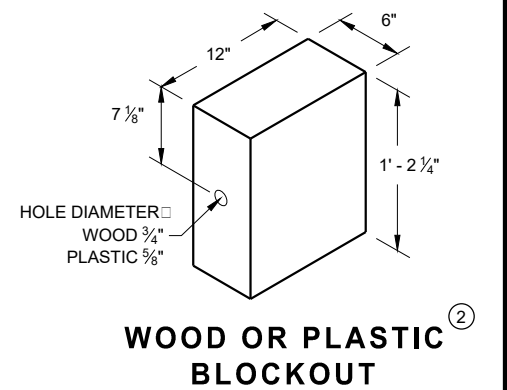
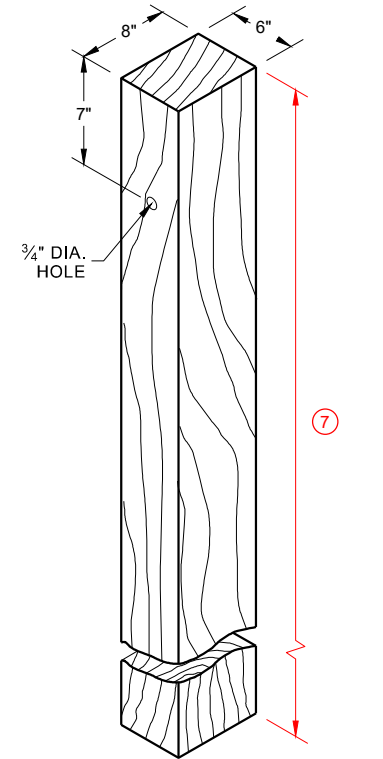
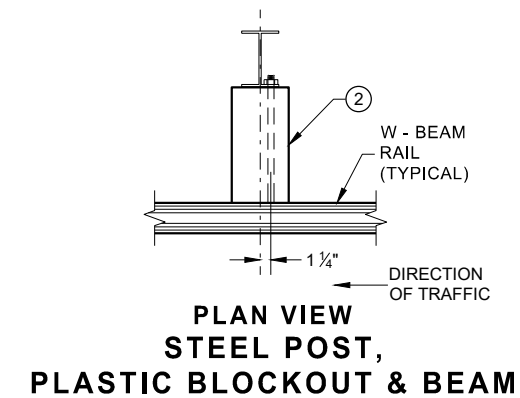
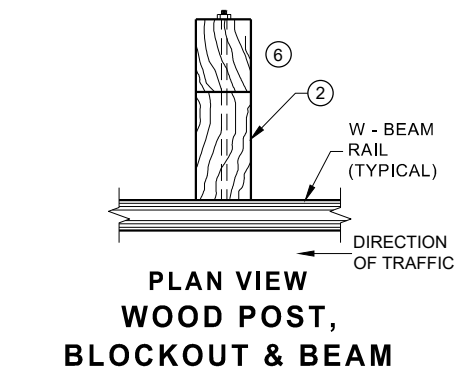
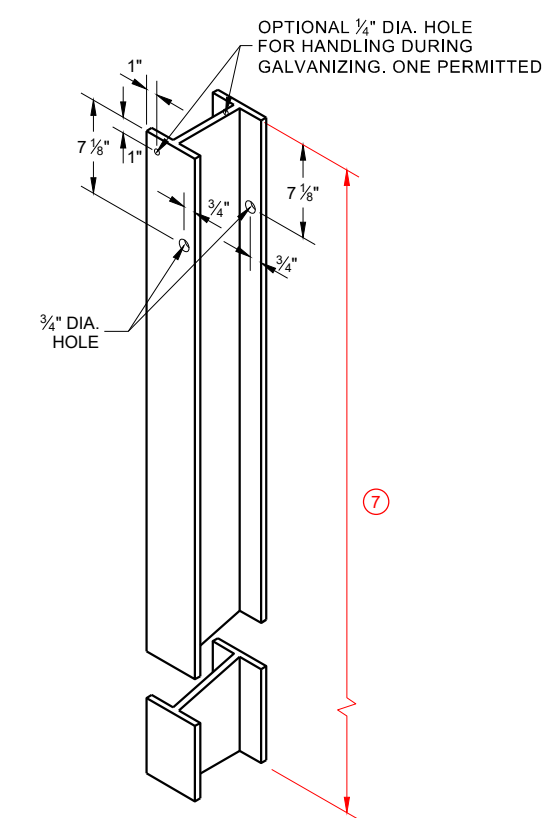
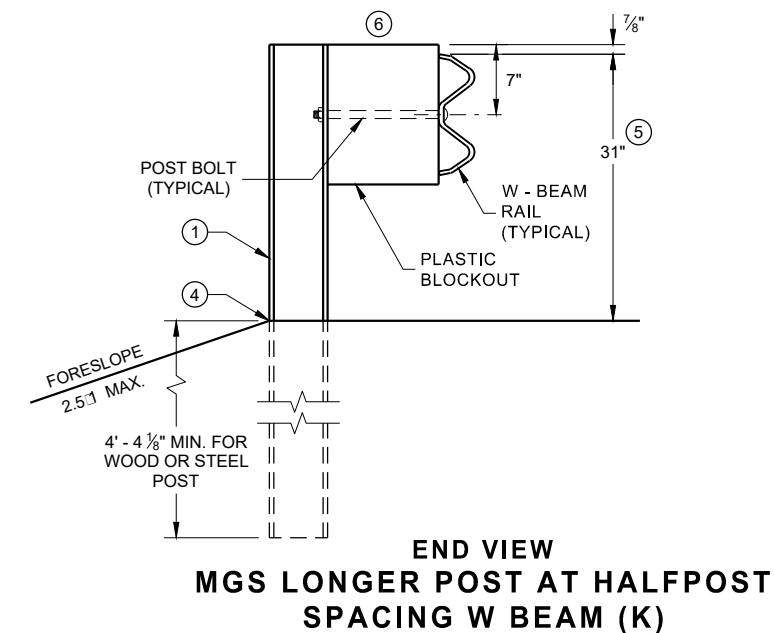
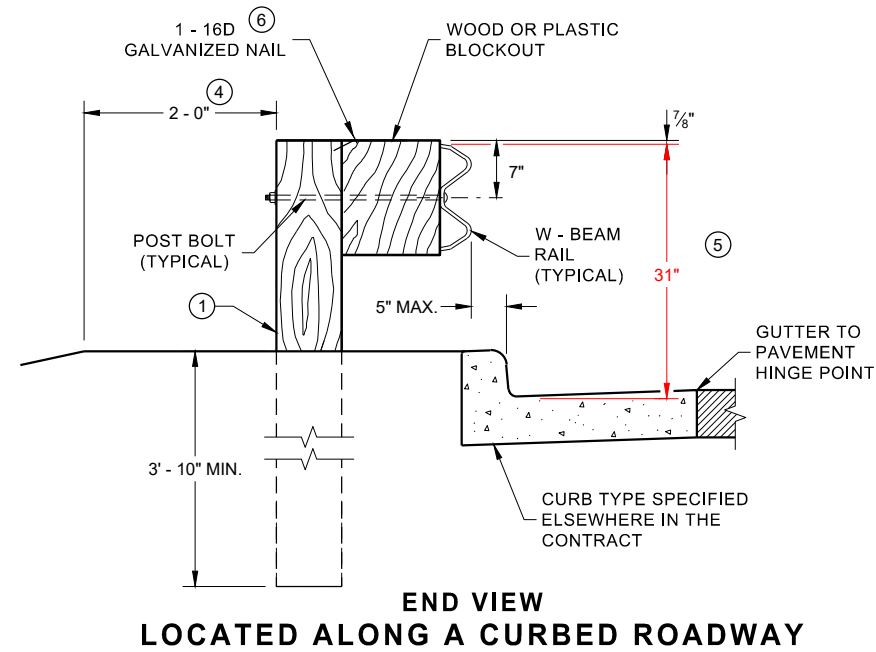
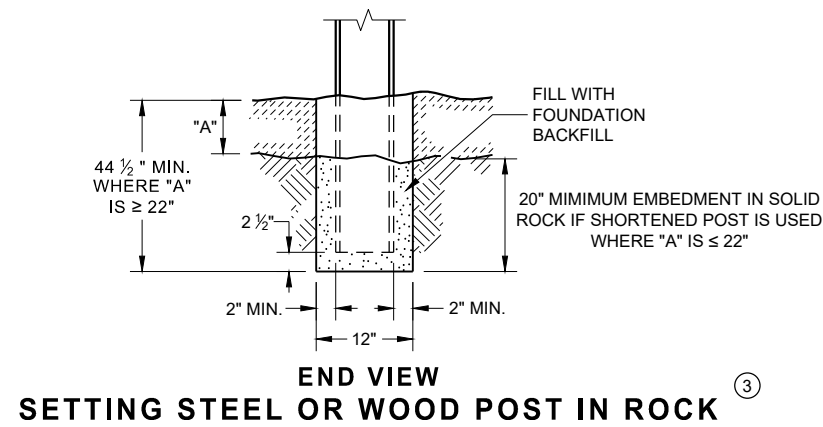
CENTER LINE GROOVES AT BRIDGES



CENTER LINE GROOVES AT RAILROADS

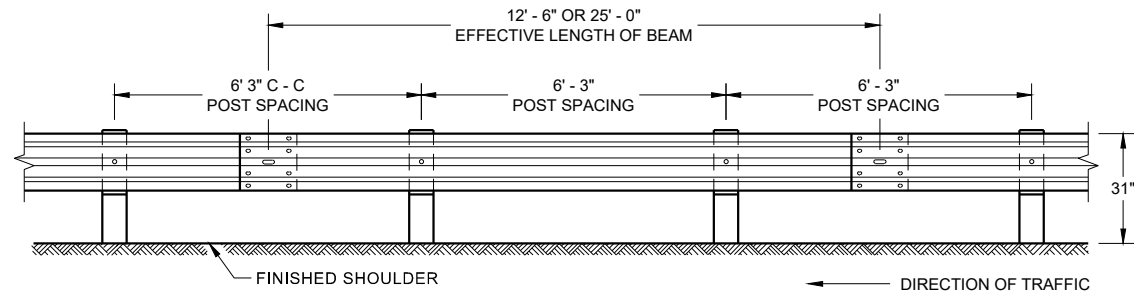
2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

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

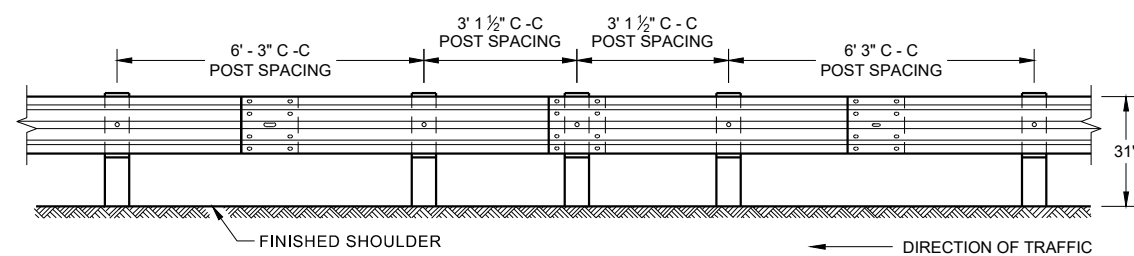


MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

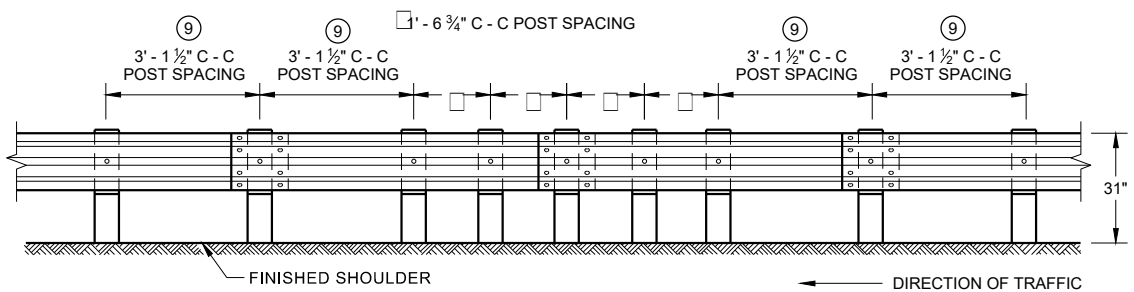
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



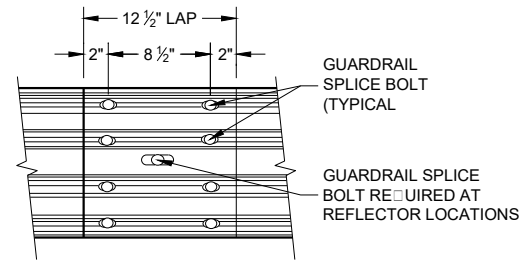
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



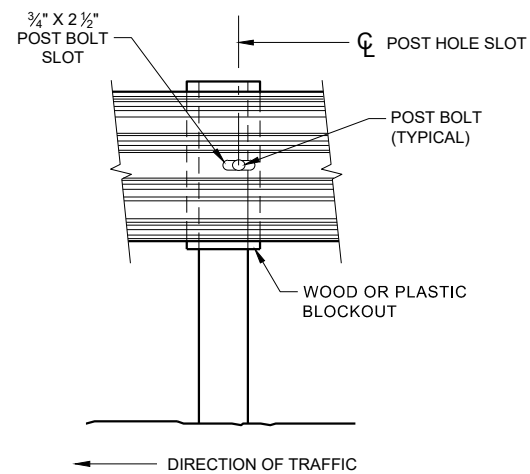
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



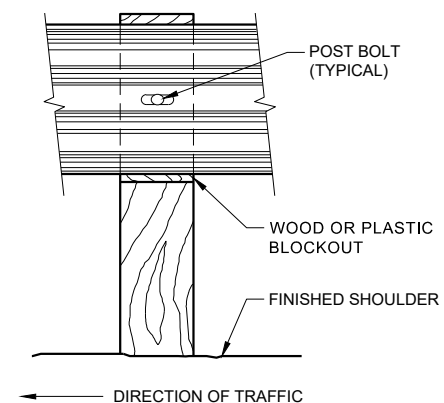
**FRONT VIEW
QUARTER POST SPACING (QS)**



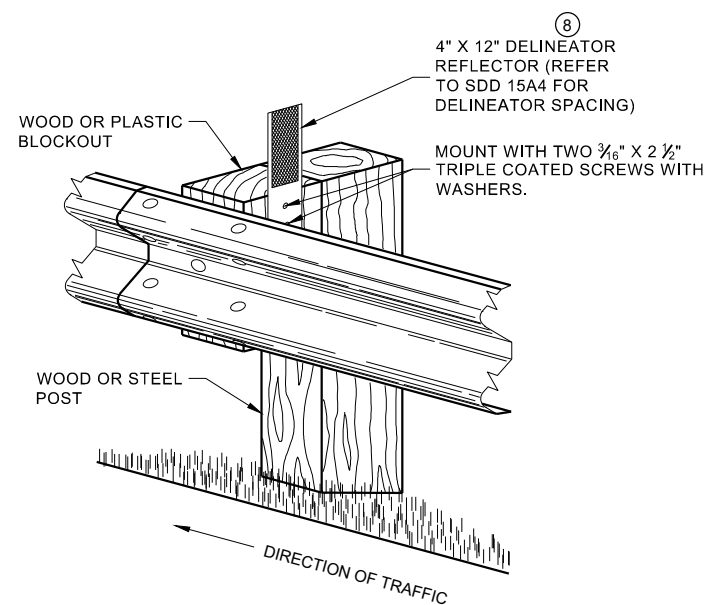
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



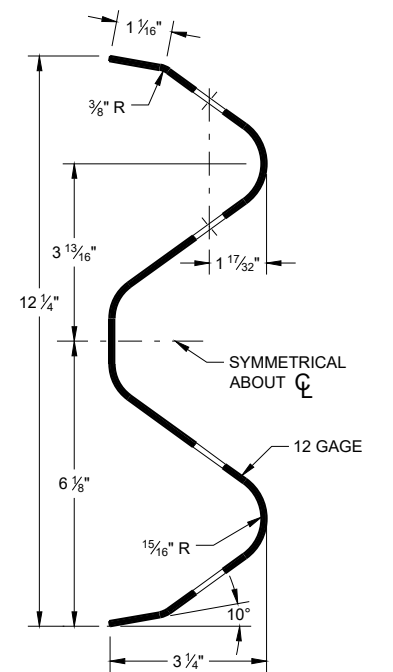
FRONT VIEW AT WOOD POST



**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

GENERAL NOTES

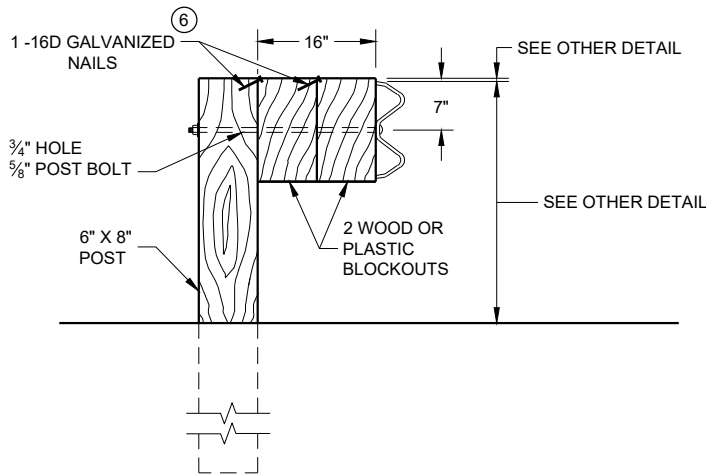
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
 - ⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/4" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



SECTION THRU W-BEAM RAIL

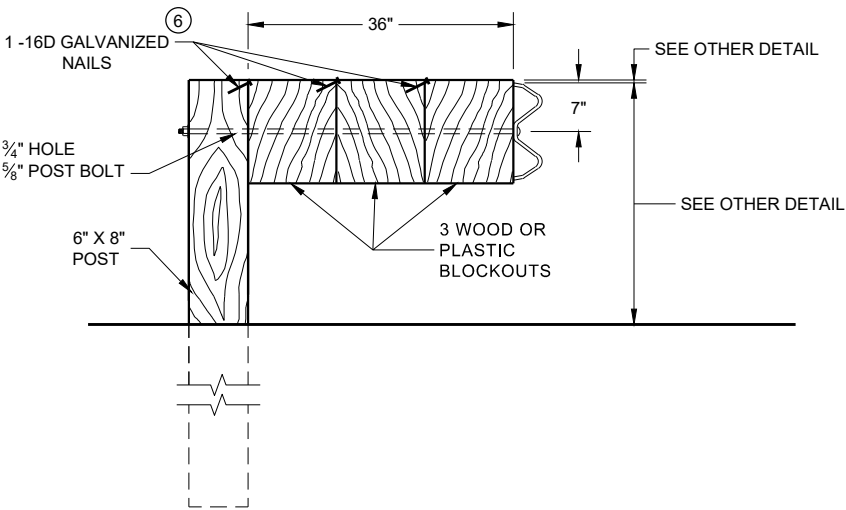
**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

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

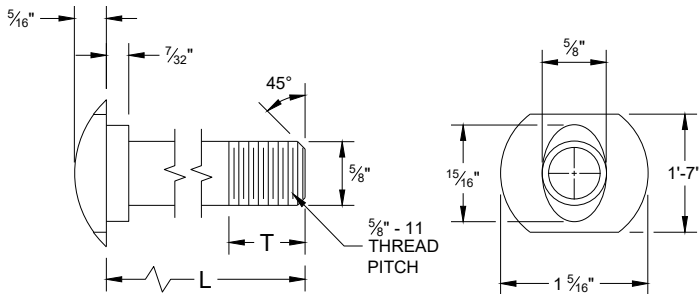


DETAIL FOR 36" BLOCKOUT DEPTH

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

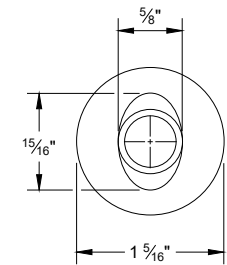
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

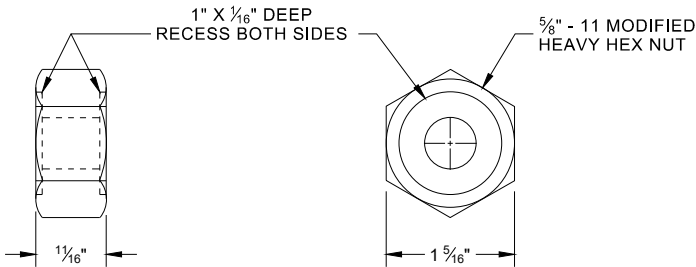


POST BOLT TABLE

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

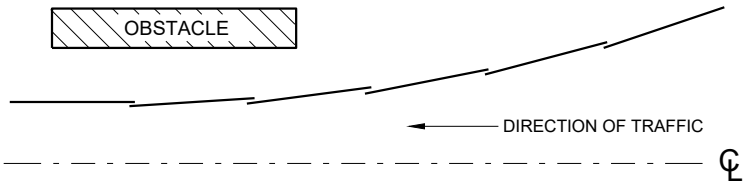


ALTERNATE BOLT HEAD

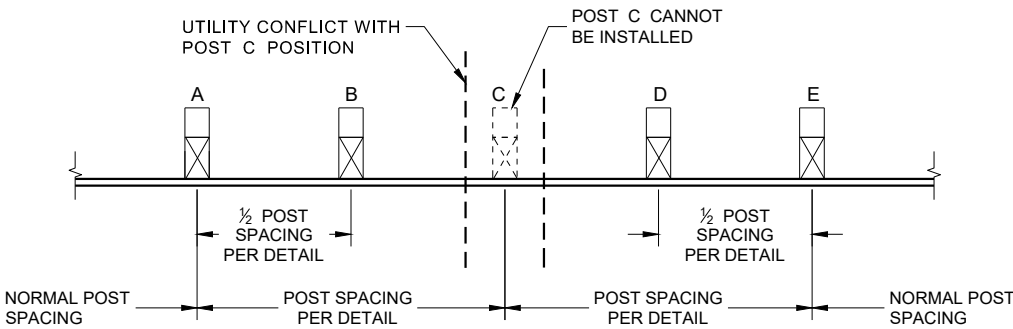


POST BOLT, SPLICE BOLT
AND RECESS NUT

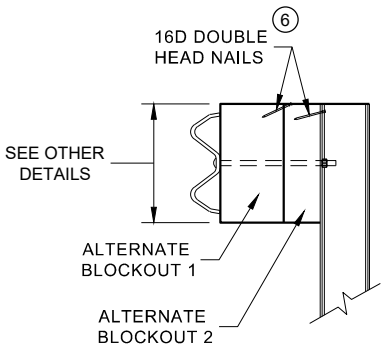
- 6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



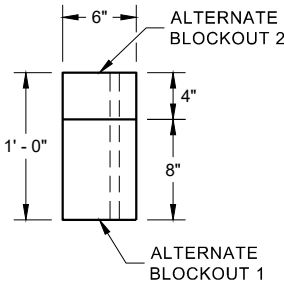
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW

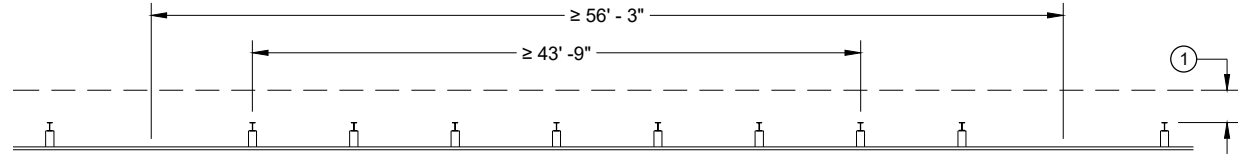


PLAN VIEW

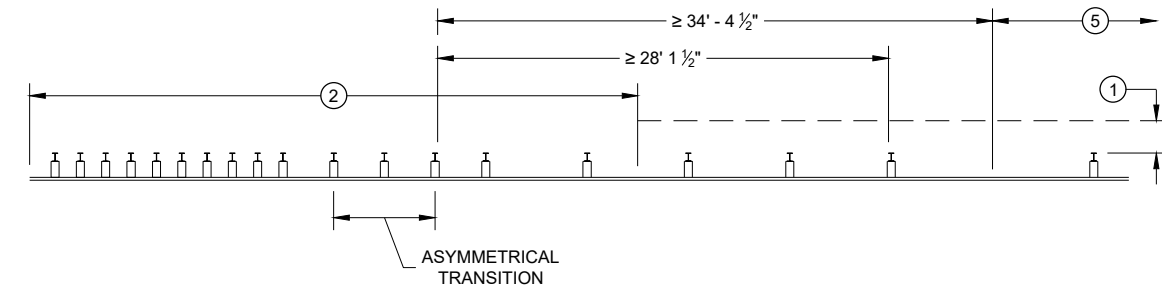
ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

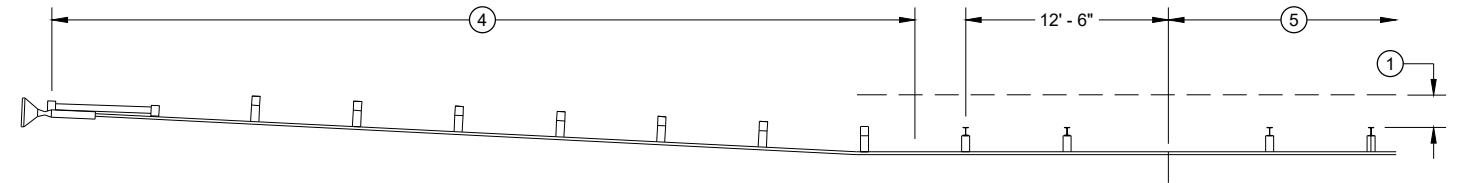
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



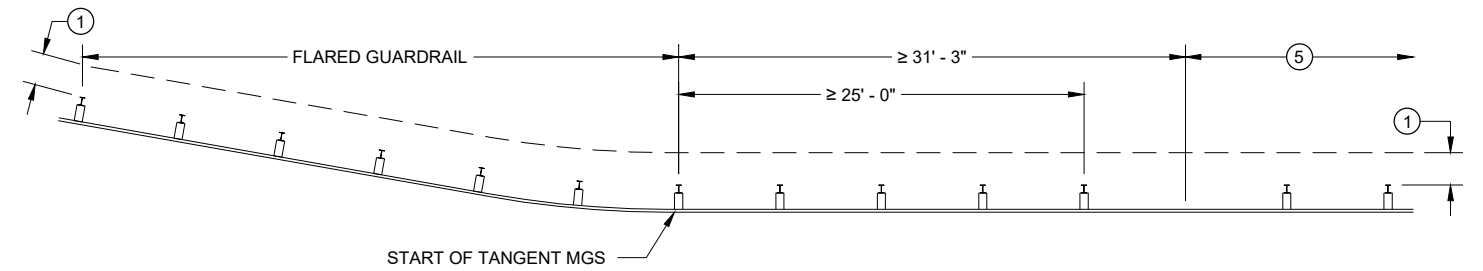
MISSING POST IN NORMAL BEAM GUARD RUN



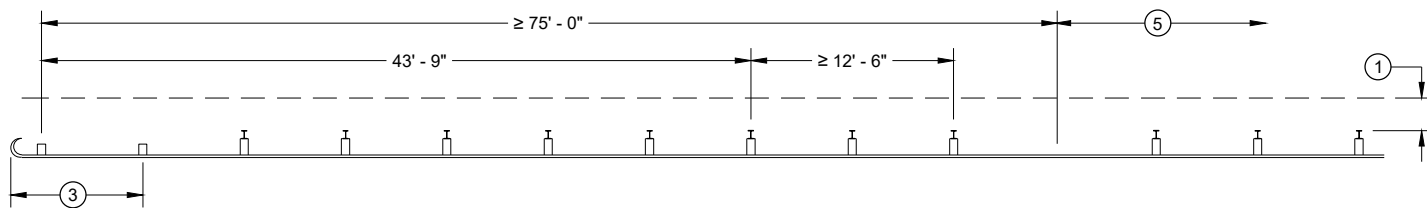
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



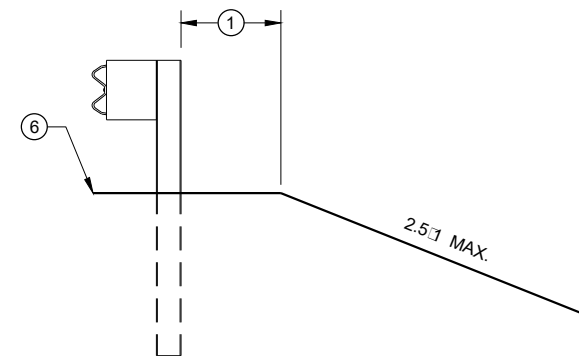
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



MISSING POST IN NORMAL BEAM GUARD RUN
NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN
NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

- ① MINIMUM OF 2 FEET OF GRADING BEHIND POST.
- ② SEE SDD 14B45 FOR MORE DETAILS.
- ③ SEE SDD 14B47 FOR MORE DETAILS.
- ④ SEE SDD 14B44 FOR MORE DETAILS.
- ⑤ SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
- ⑥ SEE PLAN FOR SHOULDER DESIGN.

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

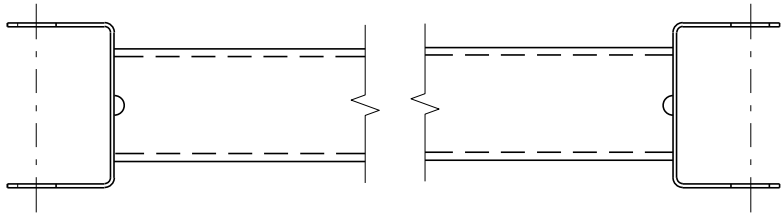
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE

/S/ R. d. T. r
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

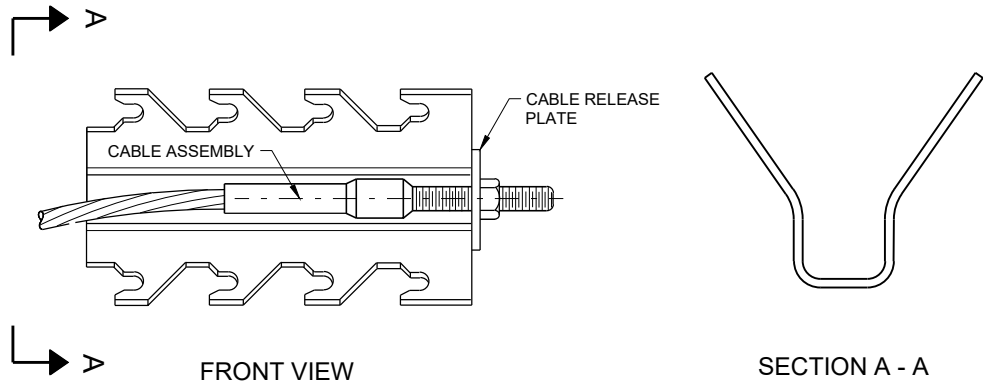
FHWA

SDD1□B□□ - 0□a

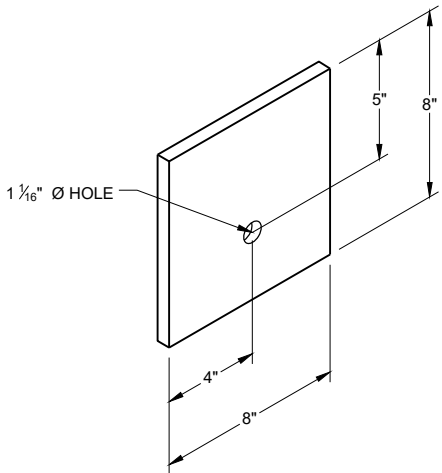


GENERIC GROUND STRUT 9 E

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



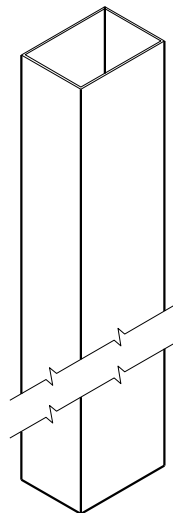
GENERIC ANCHOR CABLE BOX 9 E



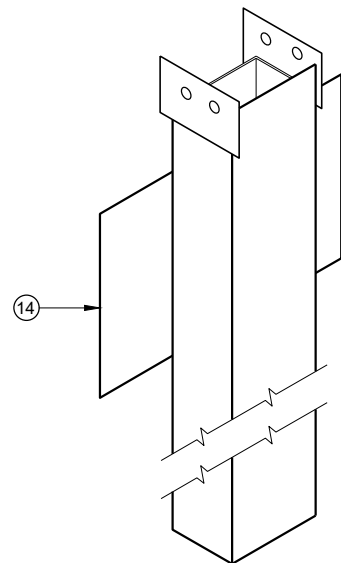
BEARING PLATE 6 E

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

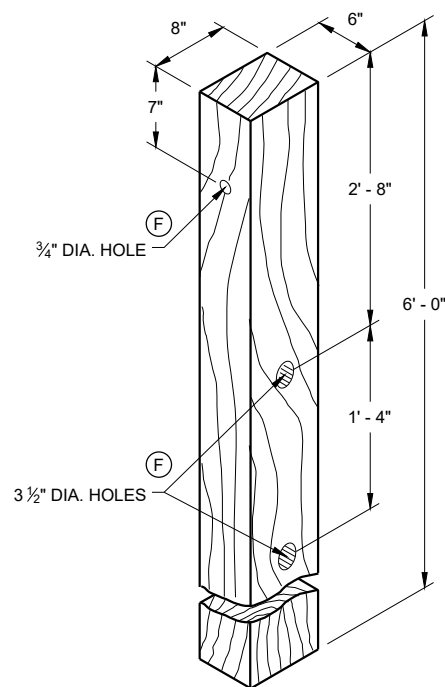
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



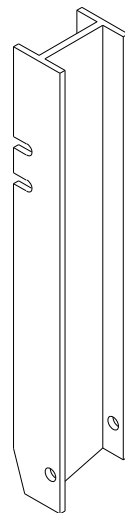
UPPER POST NO. 1 ⁽¹⁾ (E)



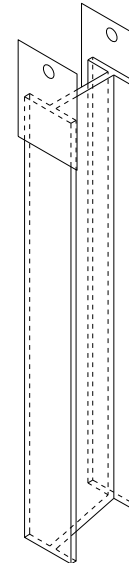
LOWER POST NO. 1 ⁽²⁾ (E)



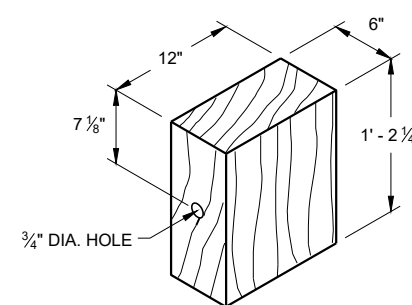
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



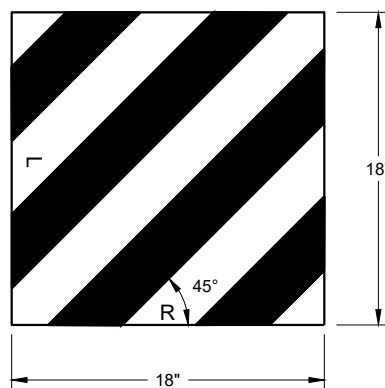
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



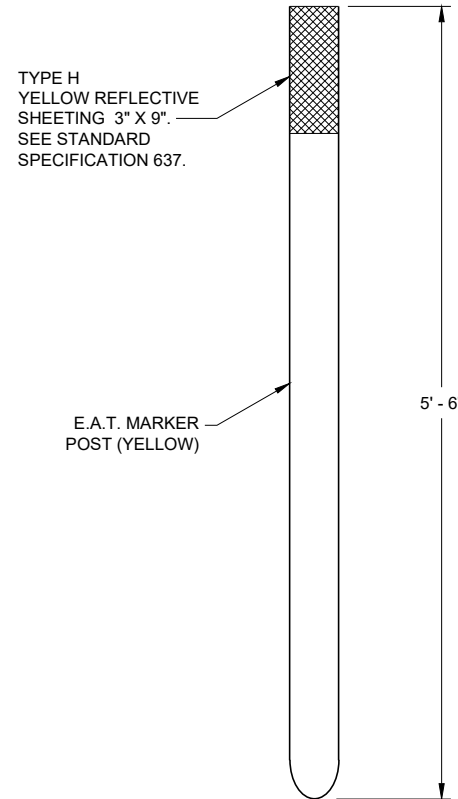
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



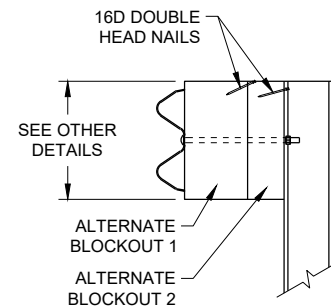
WOOD BLOCKOUT ⁽⁴⁾
REQU'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



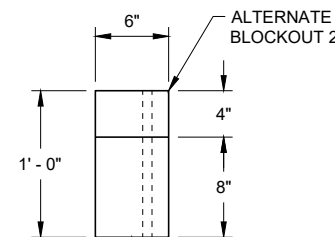
REFLECTIVE SHEETING DETAIL ^(E)
W5 - 59



FRONT VIEW
SIDE VIEW
E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



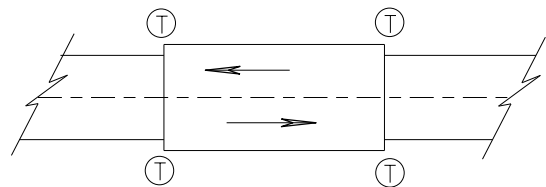
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

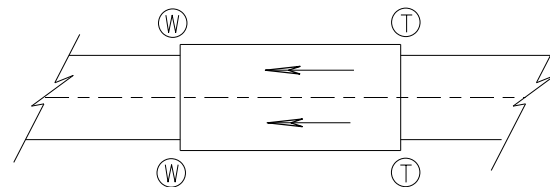
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ R. d. T. r
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

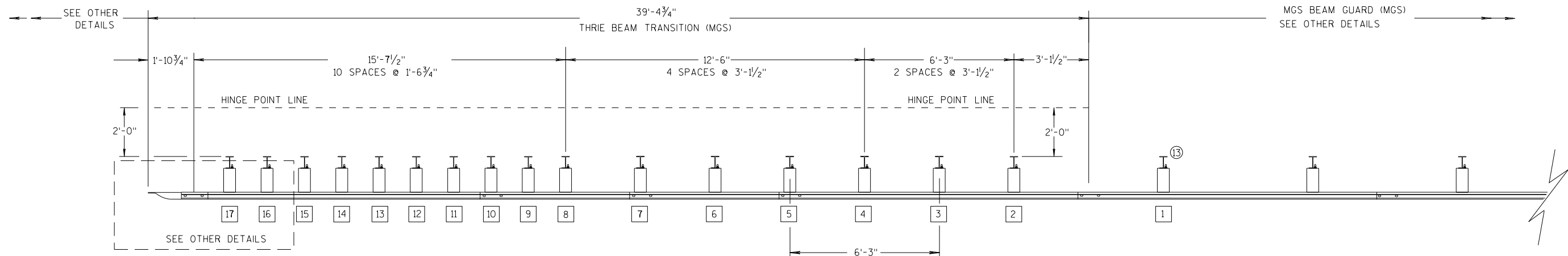
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

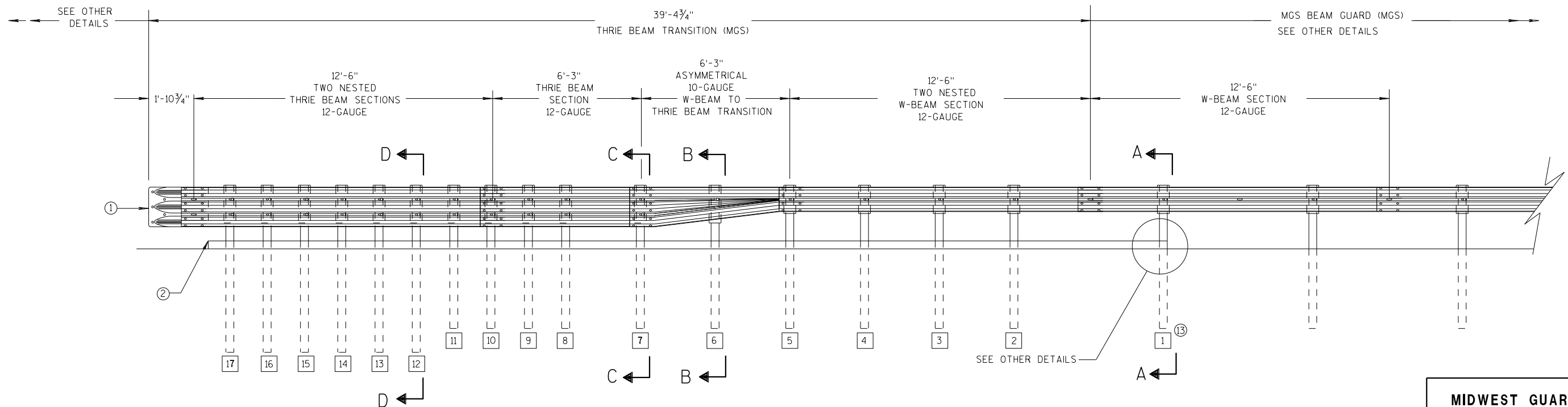
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

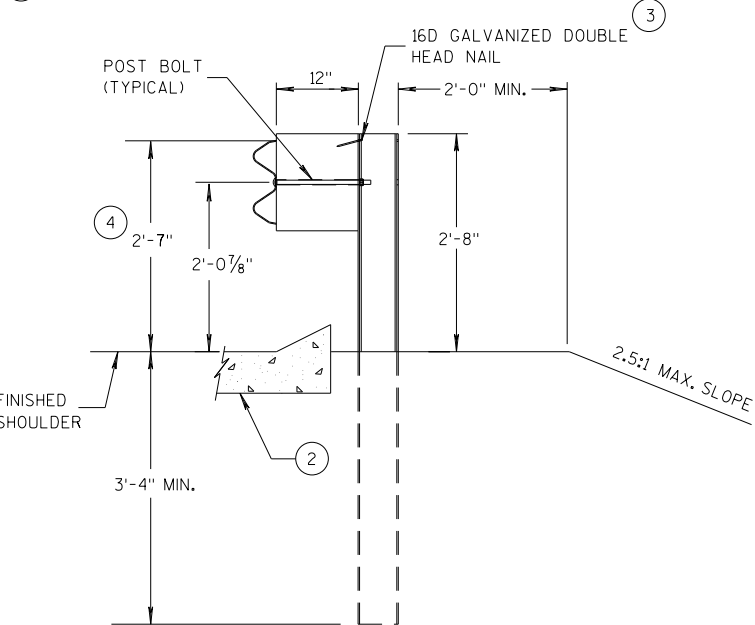
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

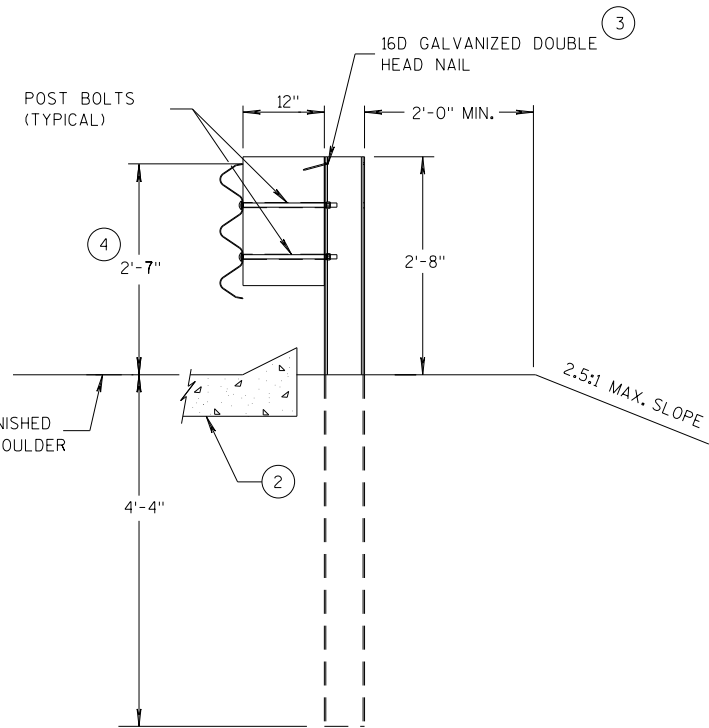
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

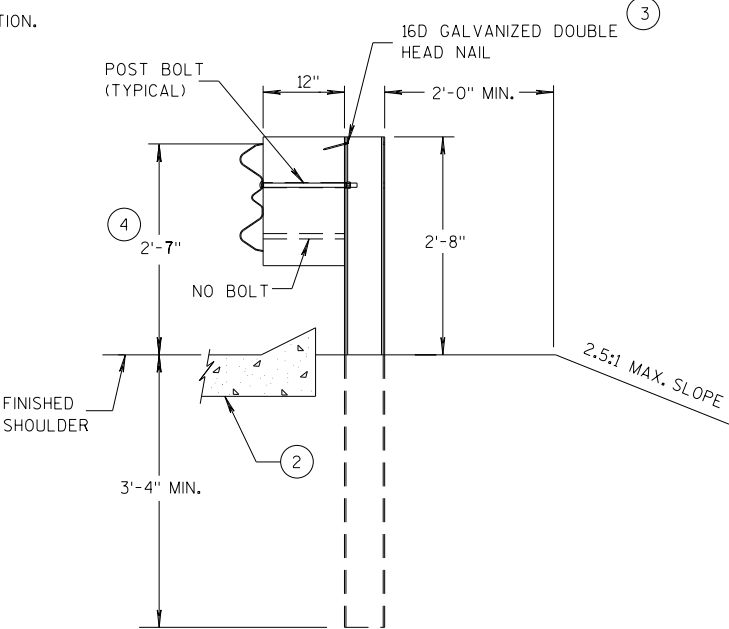
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.
- 13 STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



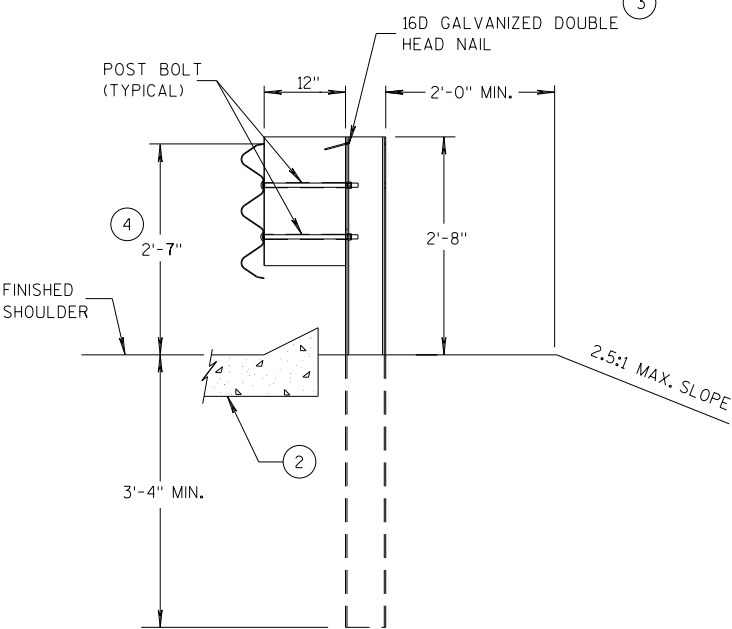
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

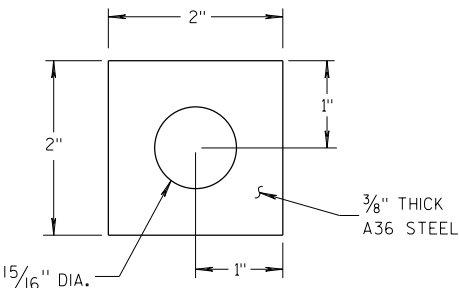
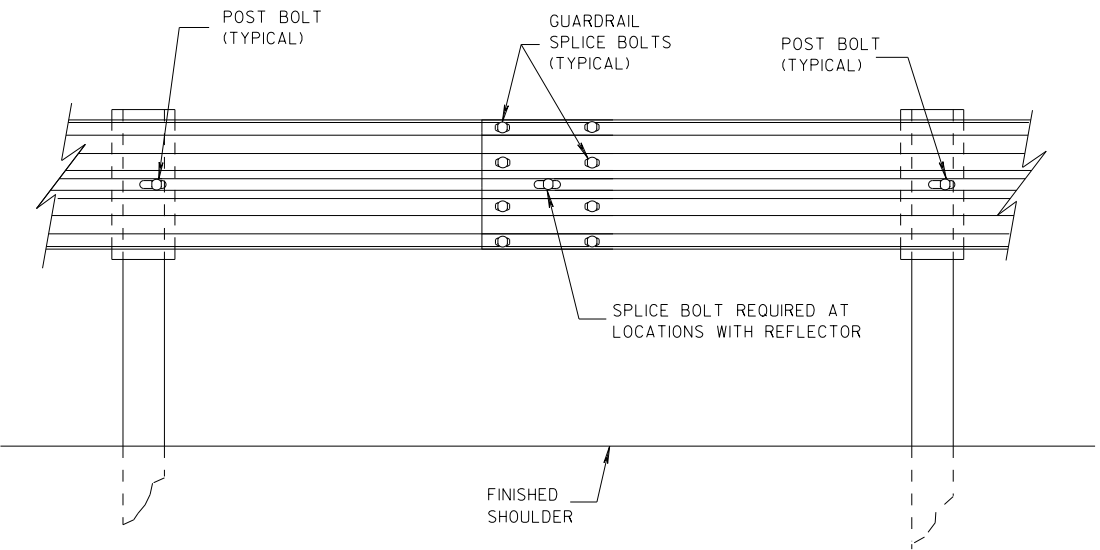
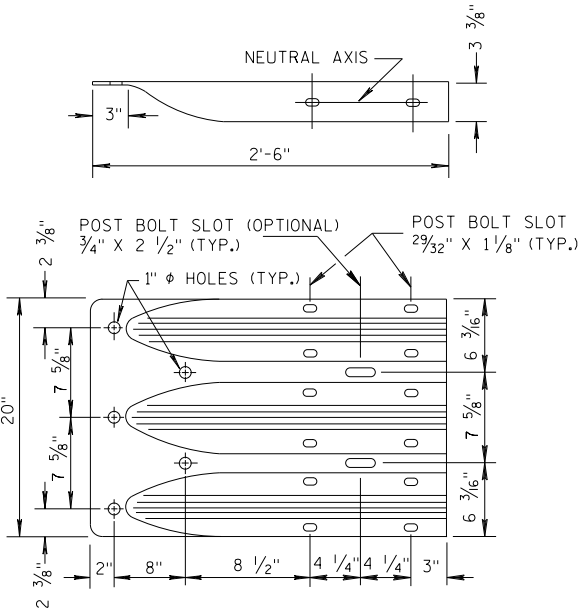


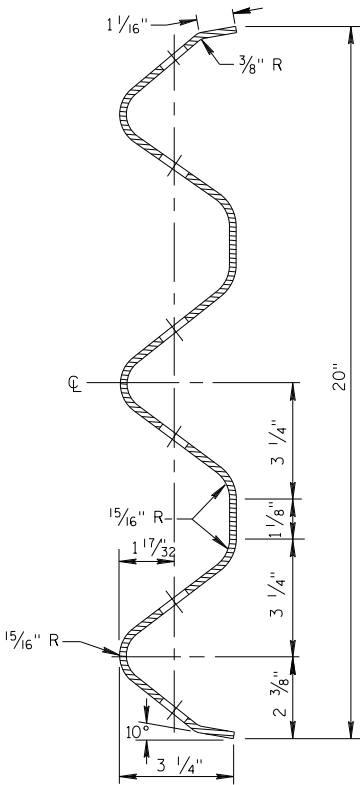
PLATE WASHER DETAIL



SPLICE DETAIL



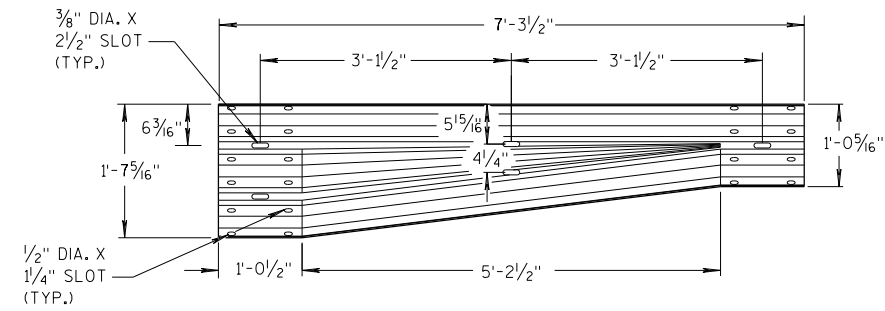
THRIE BEAM
TERMINAL CONNECTOR



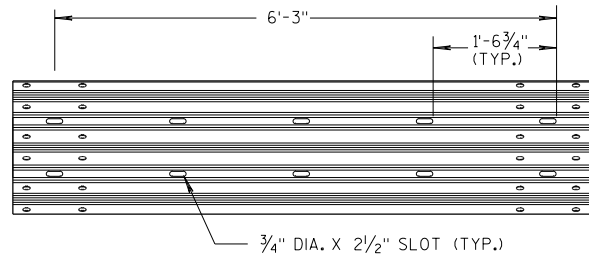
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

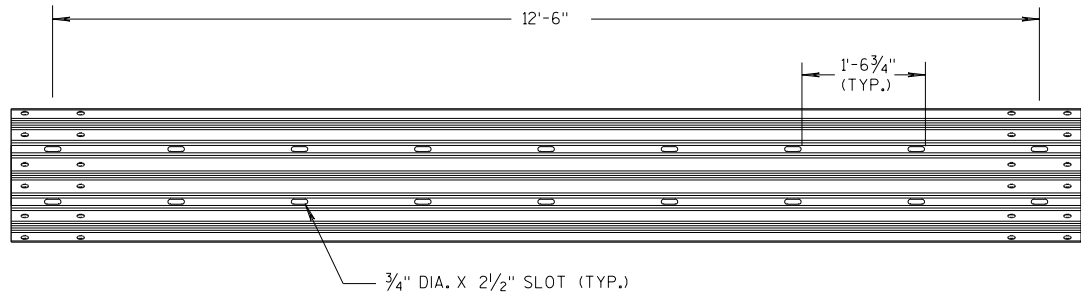
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



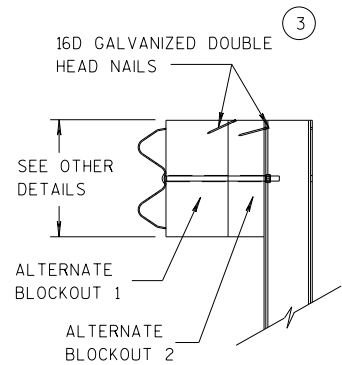
W-BEAM TO THRIE BEAM TRANSITION SECTION



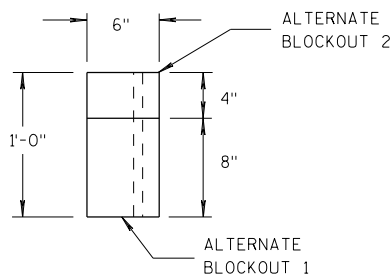
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

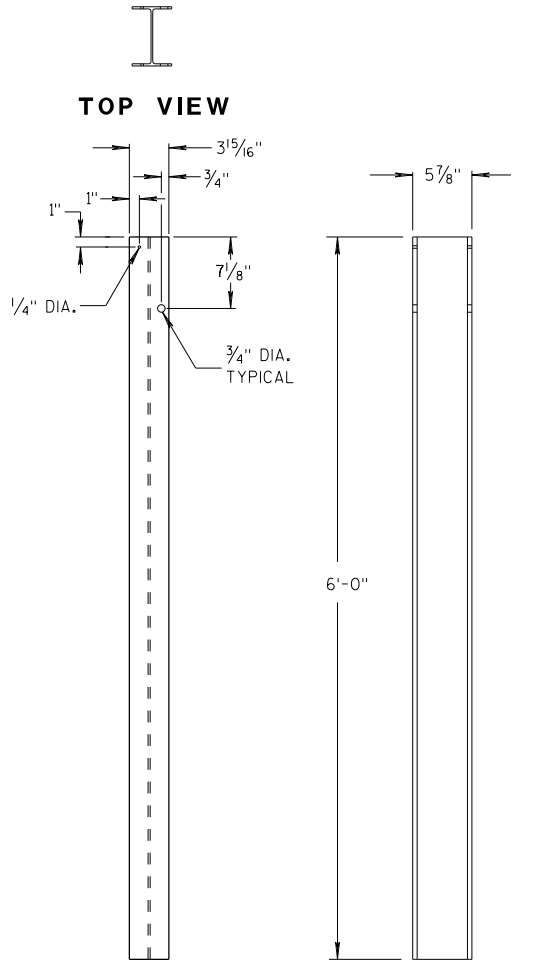


SIDE VIEW



TOP VIEW

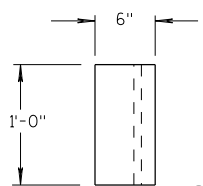
ALTERNATE WOOD BLOCKOUT DETAIL



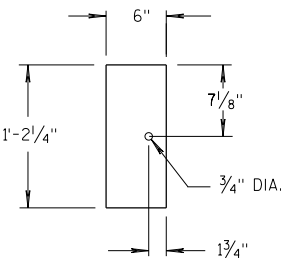
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

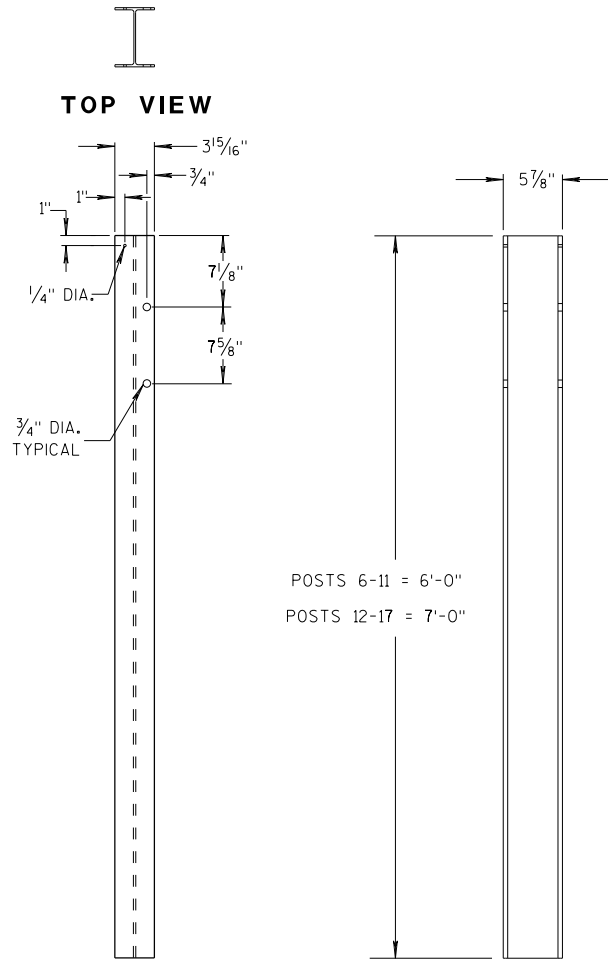


TOP VIEW



FRONT VIEW

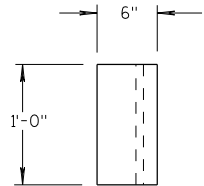
BLOCKOUT POSTS 1-5



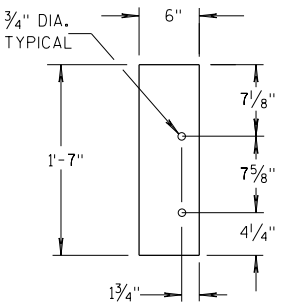
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

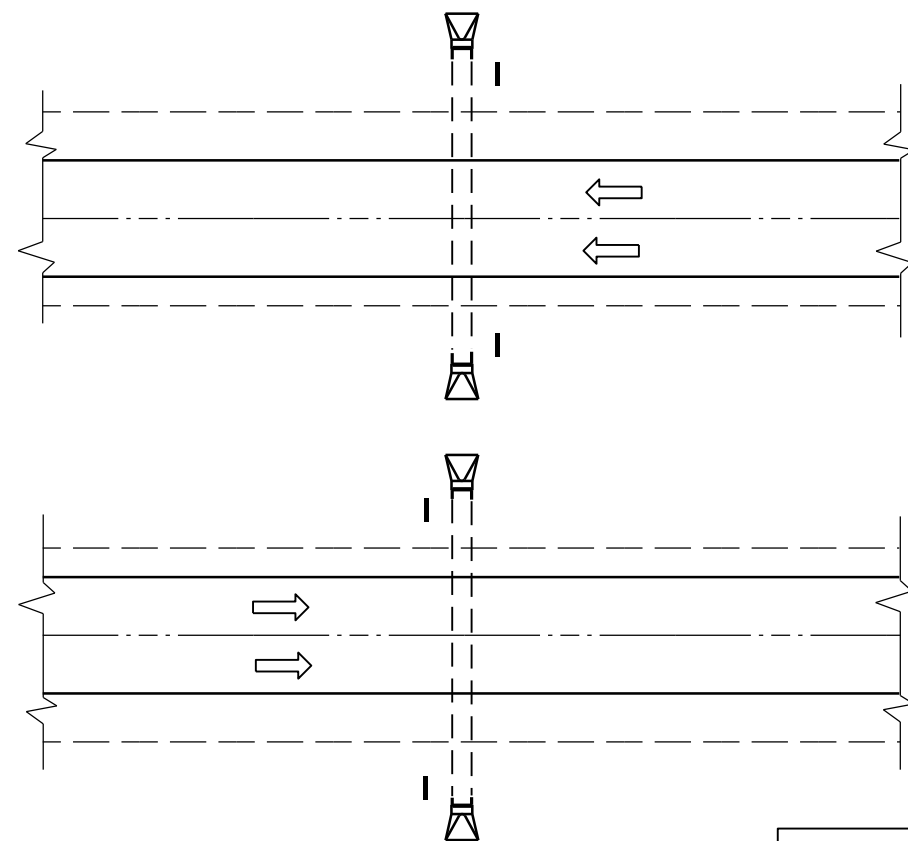
③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

⑤ WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

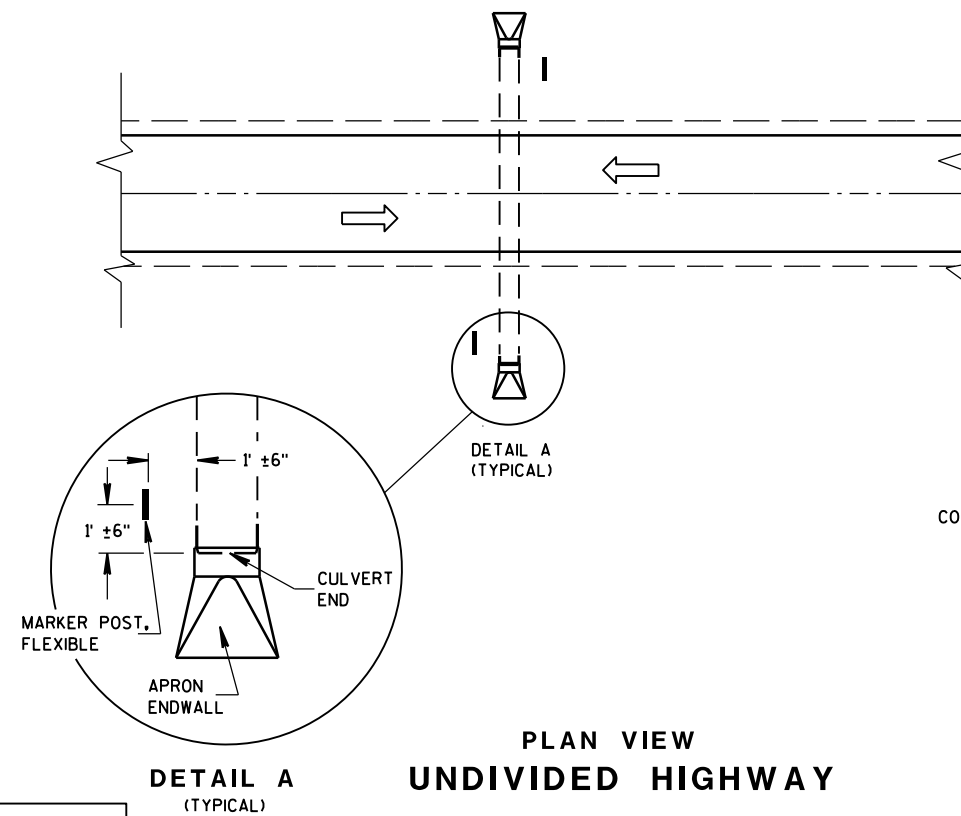
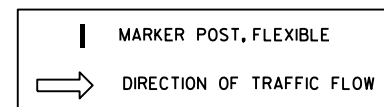
⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



PLAN VIEW
DIVIDED HIGHWAY

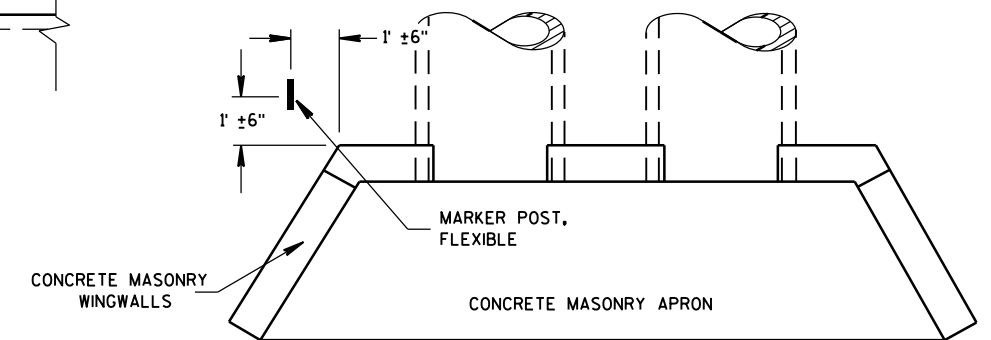


PLAN VIEW
UNDIVIDED HIGHWAY

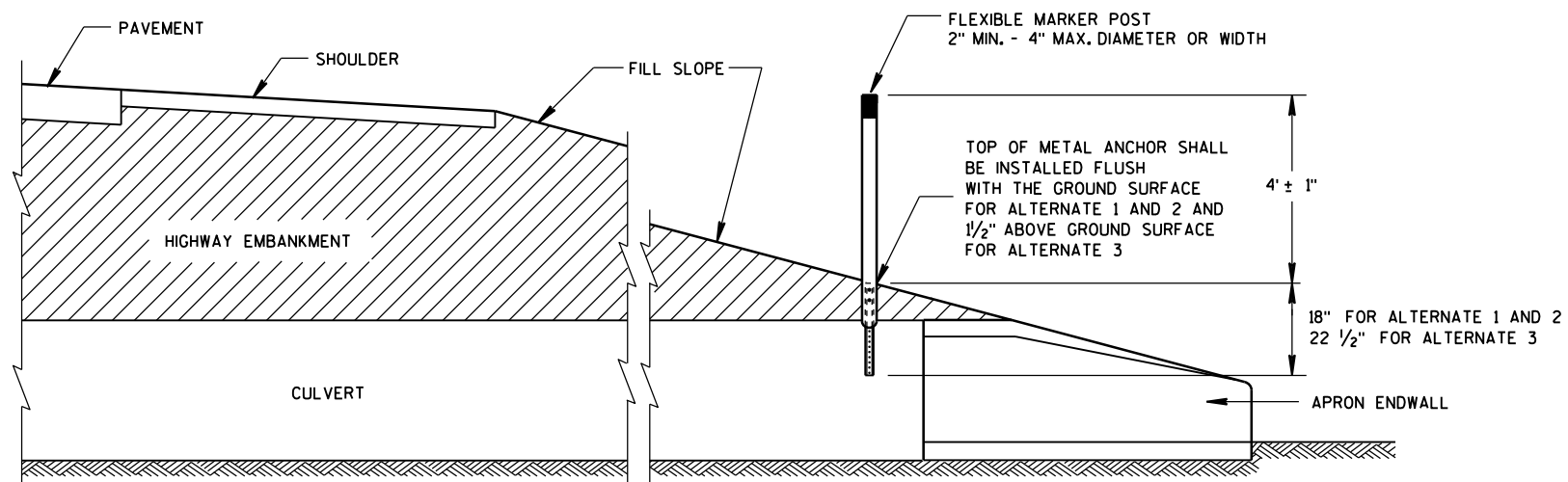
FLEXIBLE MARKER POST LOCATION

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.



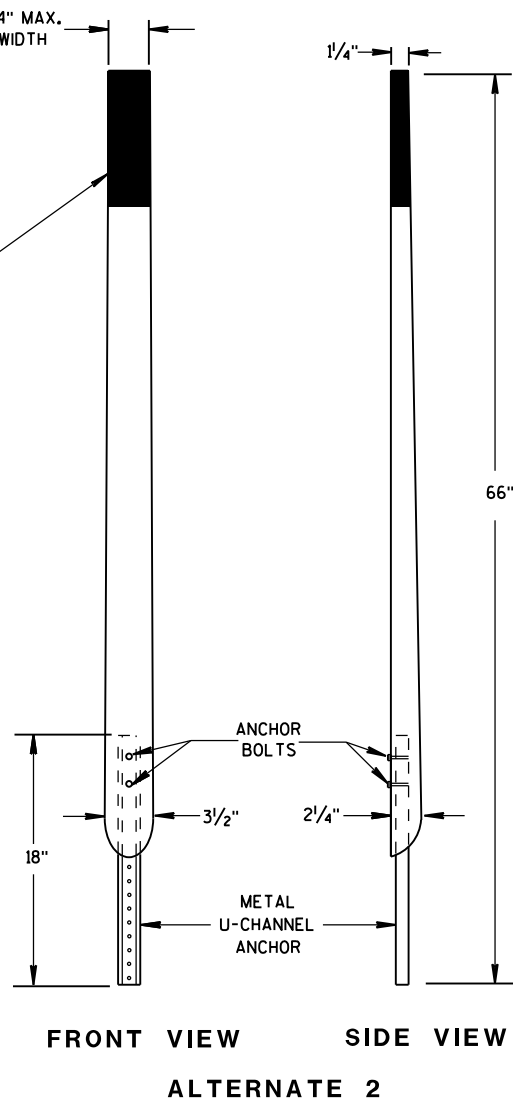
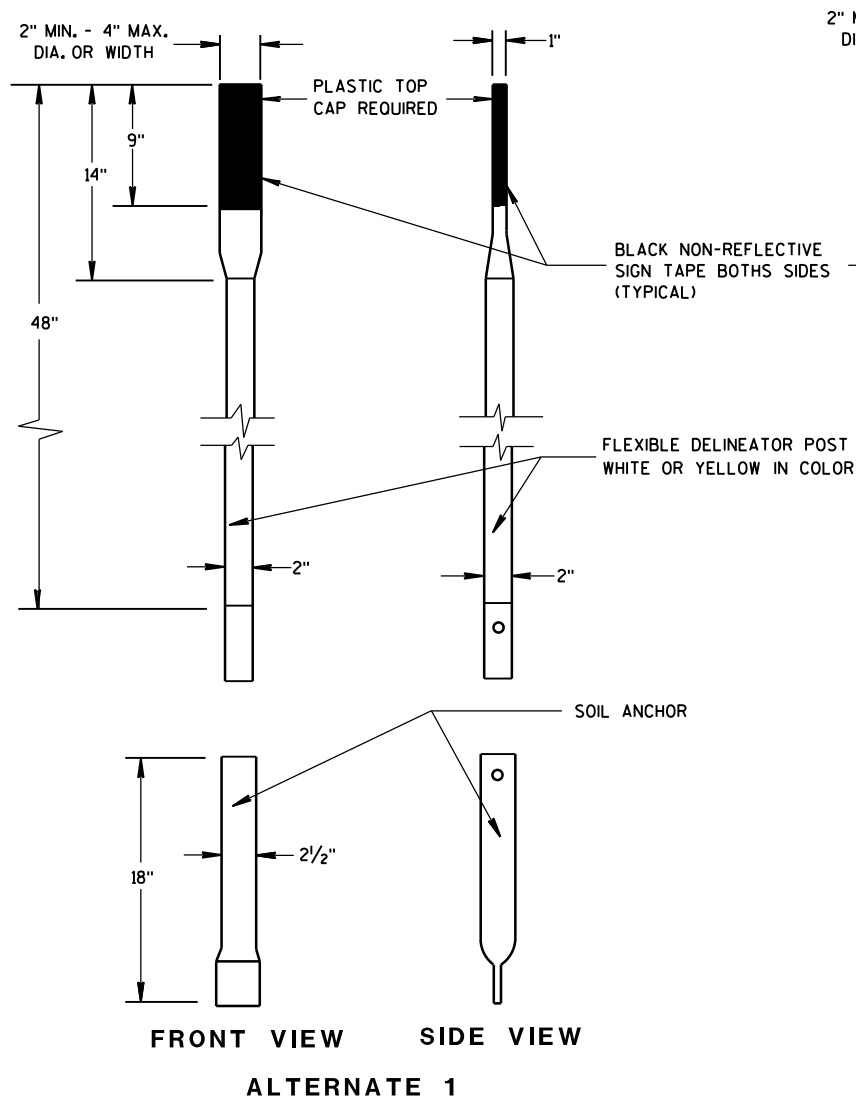
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



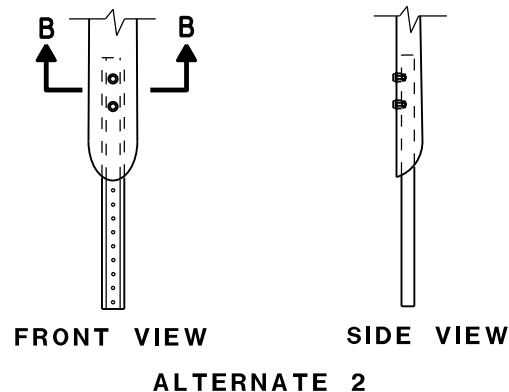
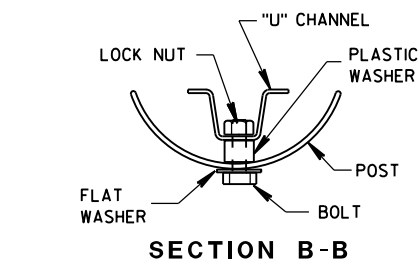
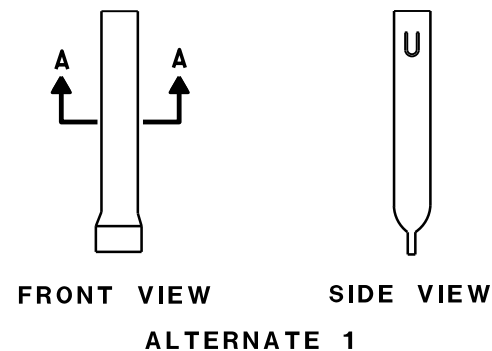
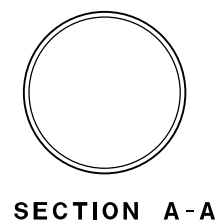
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

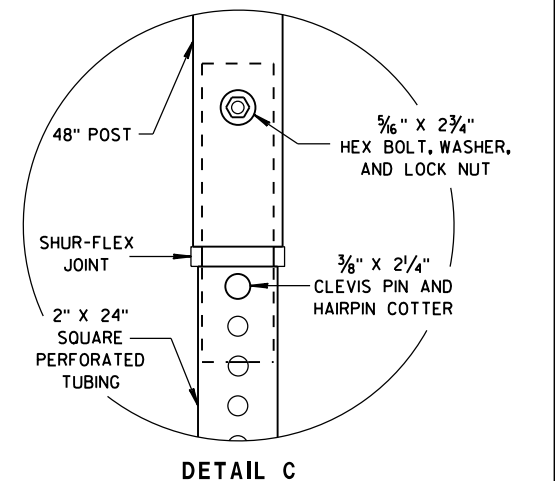
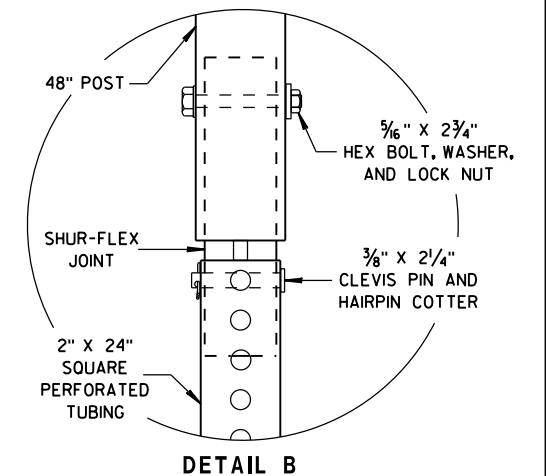
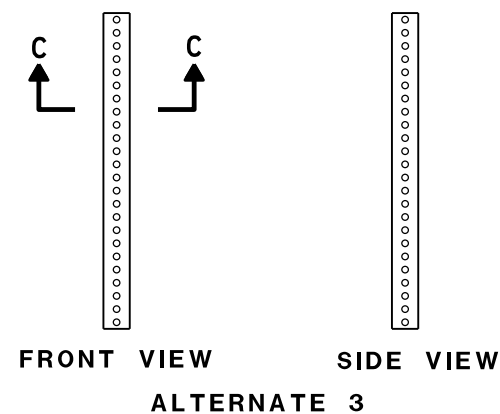
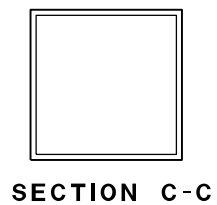
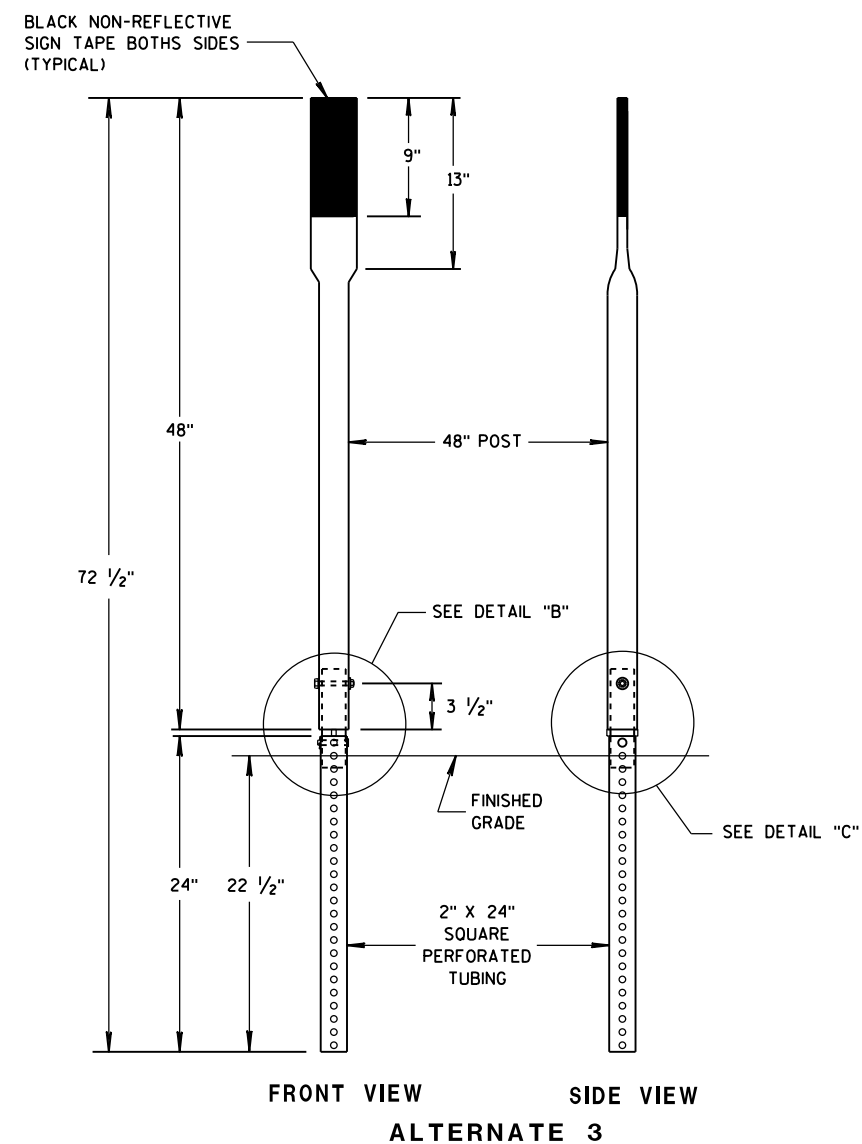
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FLEXIBLE MARKER POSTS



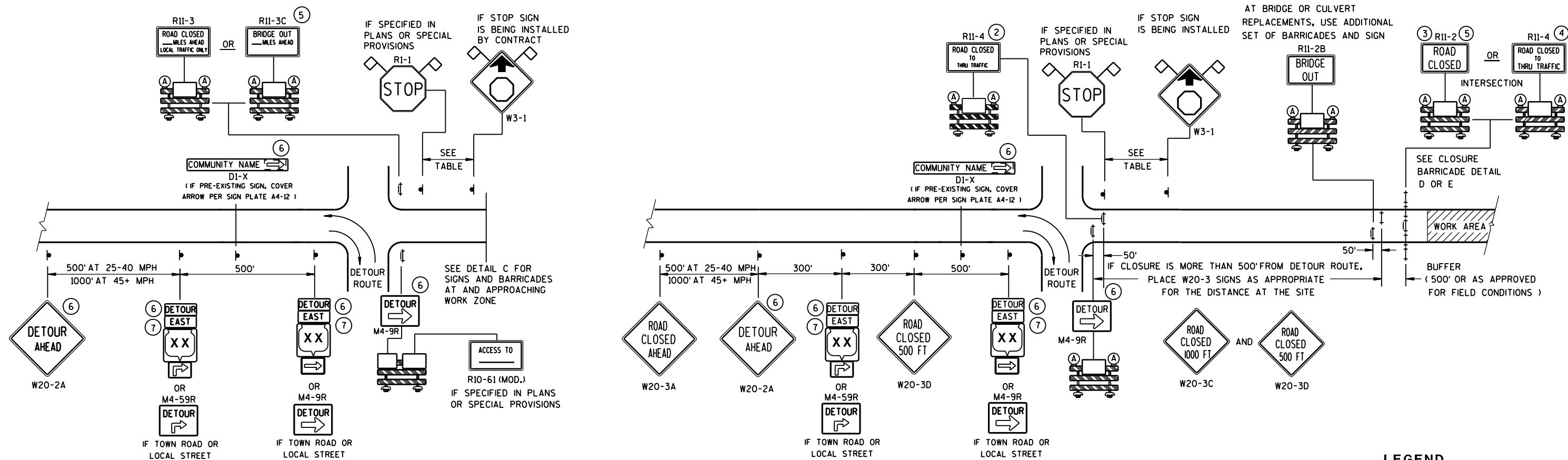
FLEXIBLE MARKER POST ANCHORS



FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

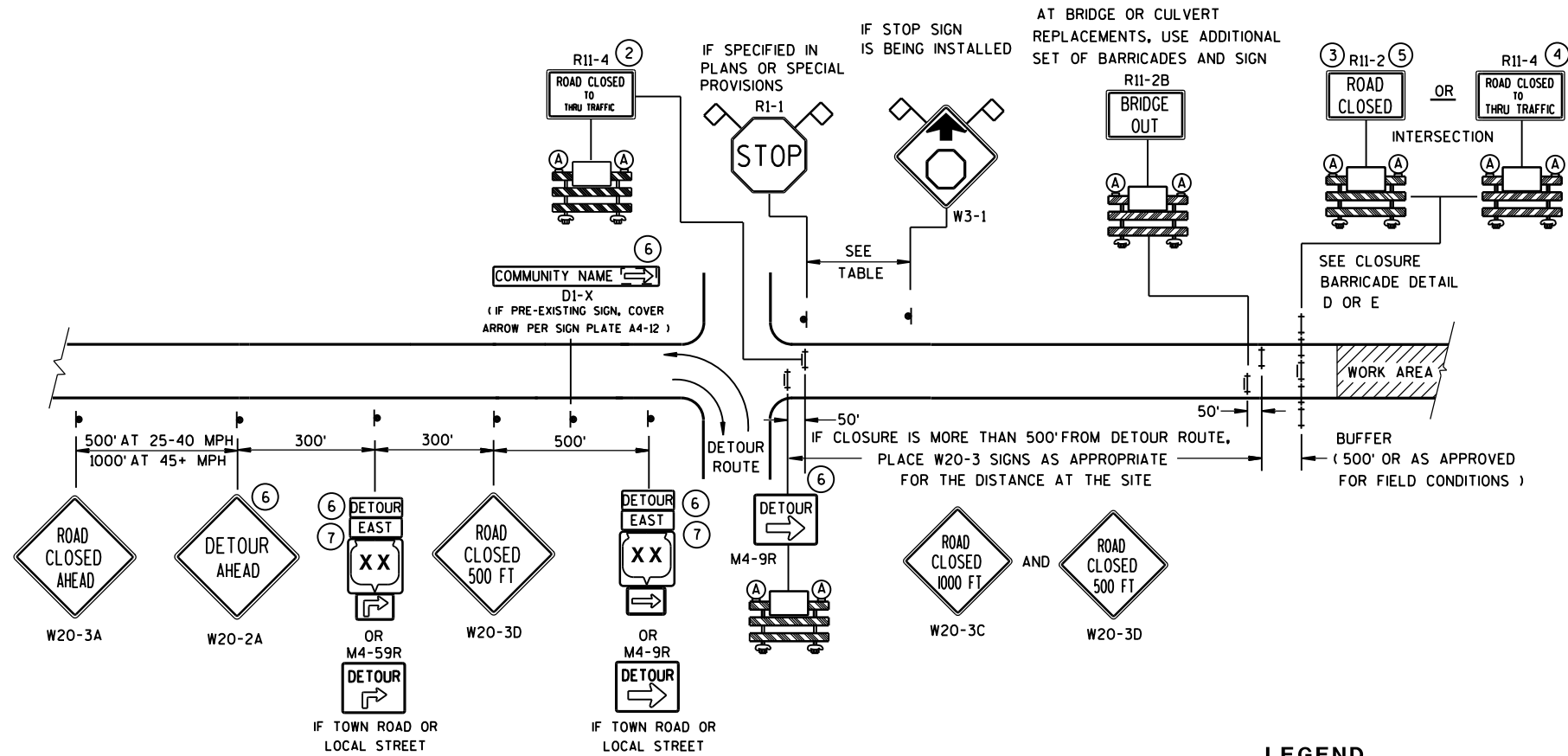
APPROVED
10/1/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



DETAIL A

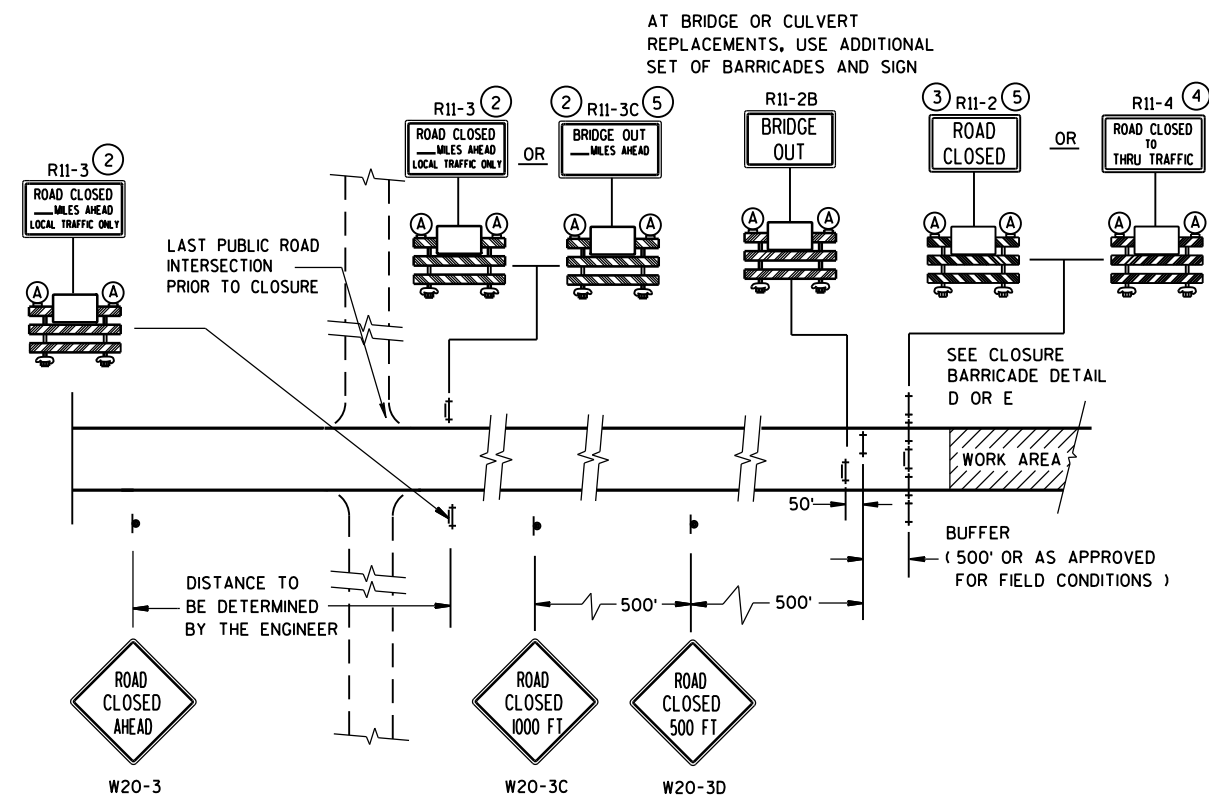
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



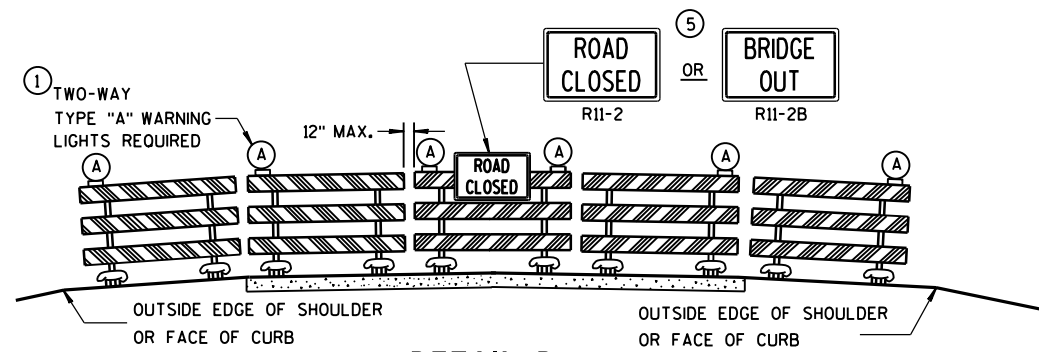
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

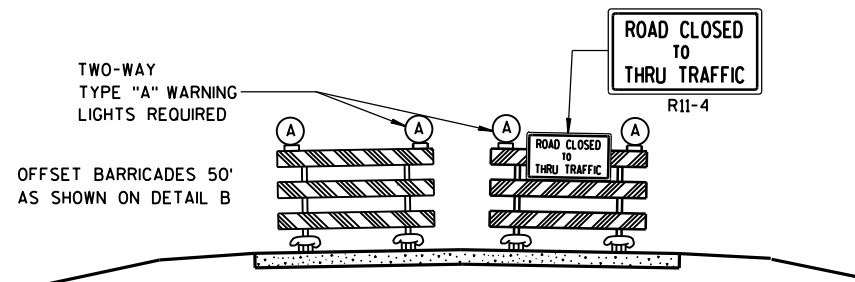
- # LEGEND
-  SIGN ON PERMANENT SUPPORT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  WORK AREA
-  M4-8
 M3-X
-  M1-4 OR  M1-5A OR  M1-6
-  M05-1 OR  M06-1
-  FLAGS, 16" X 16" MIN., (ORANGE)

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

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



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".

M4-9 SHALL BE 30" X 24".

M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)

M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)

M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)

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

D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

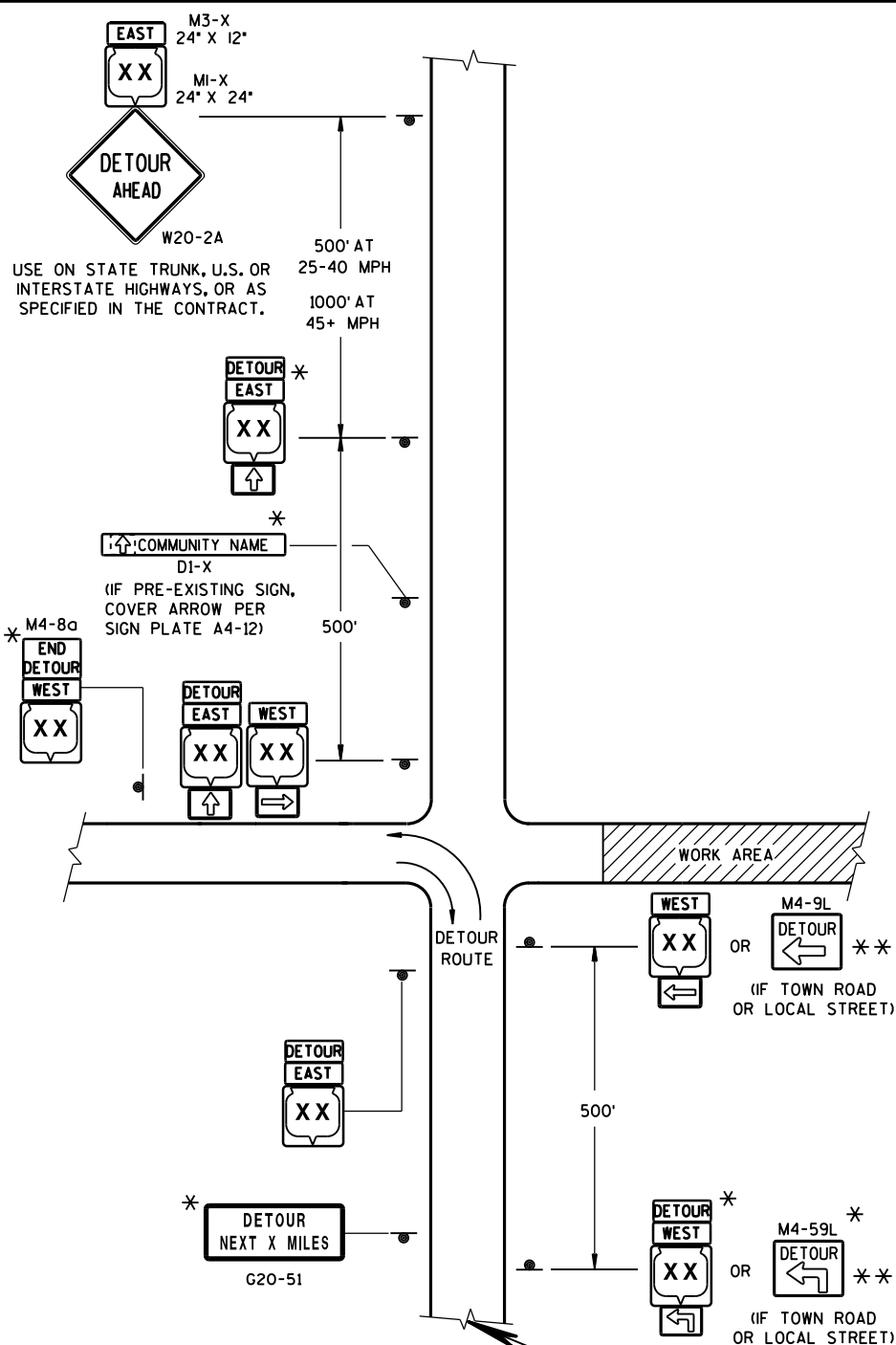
R1-1 SHALL BE 36" X 36".

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



LEGEND

SIGN ON PERMANENT SUPPORT

WORK AREA

M4-8
M3-X

MI-4 MI-5A MI-6

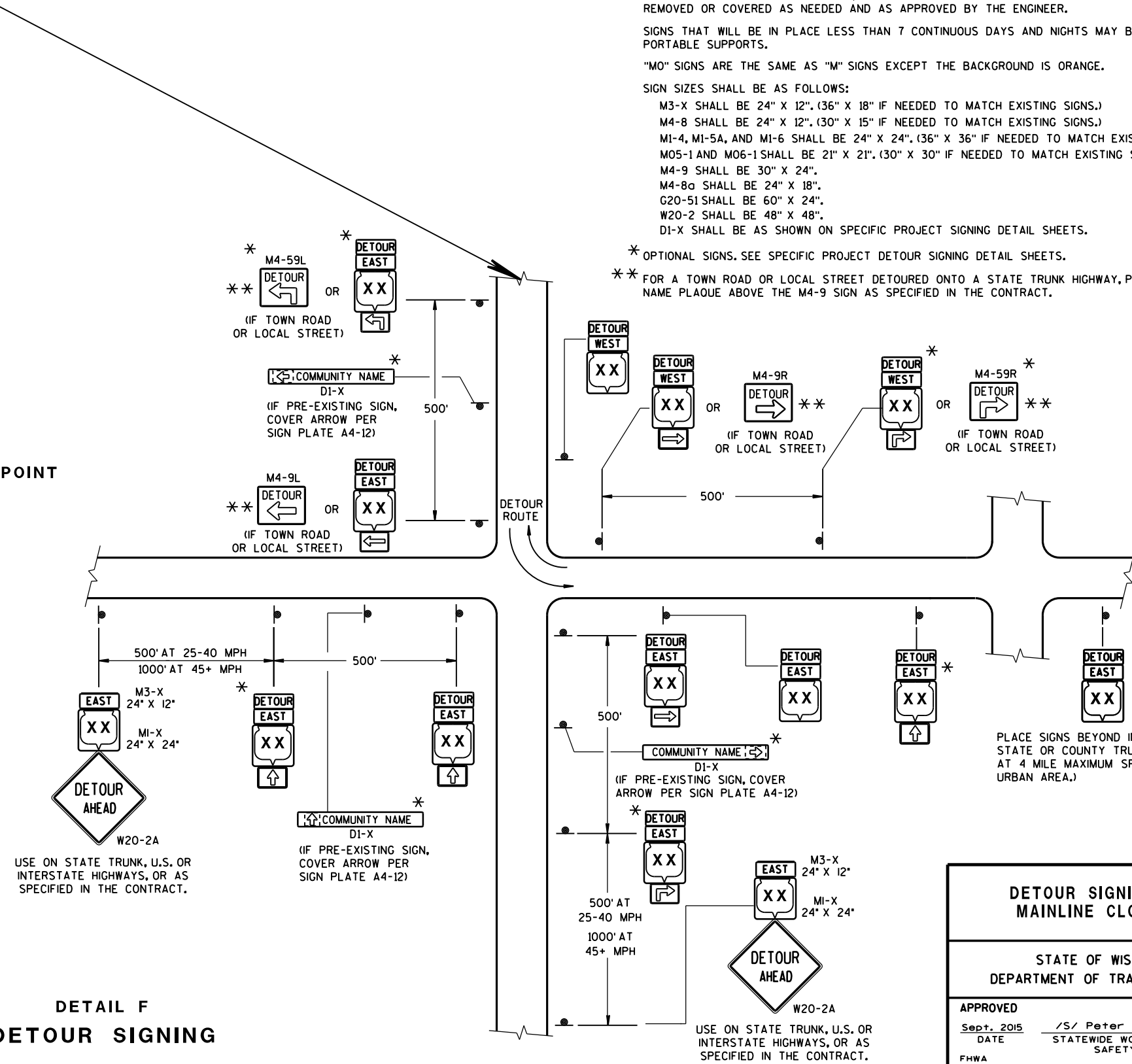
M05-1 M06-1 M06-1

SEE SPECIFIC PROJECT DETOUR
SIGNING DETAIL SHEETS AND
DETAIL A OR B ON SDD 15C2-SHEET "a"

THIS DRAWING PROVIDES GENERAL GUIDANCE
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.
SEE PROJECT DETOUR SIGNING SHEETS FOR
SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT

DETAIL F
DETOUR SIGNING



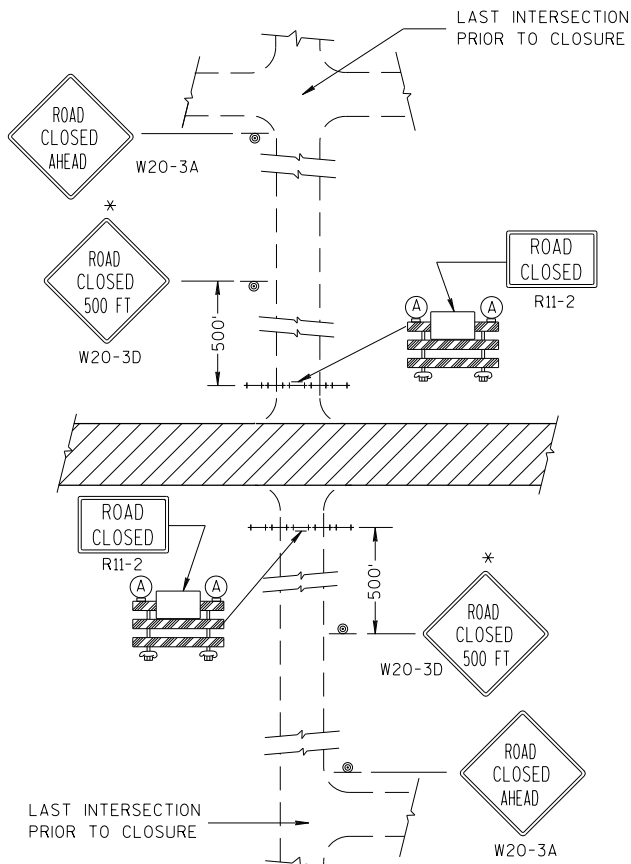
GENERAL NOTES

- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS, MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOWS:
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-9 SHALL BE 30" X 24".
 - M4-8a SHALL BE 24" X 18".
 - G20-51 SHALL BE 60" X 24".
 - W20-2 SHALL BE 48" X 48".
 - D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

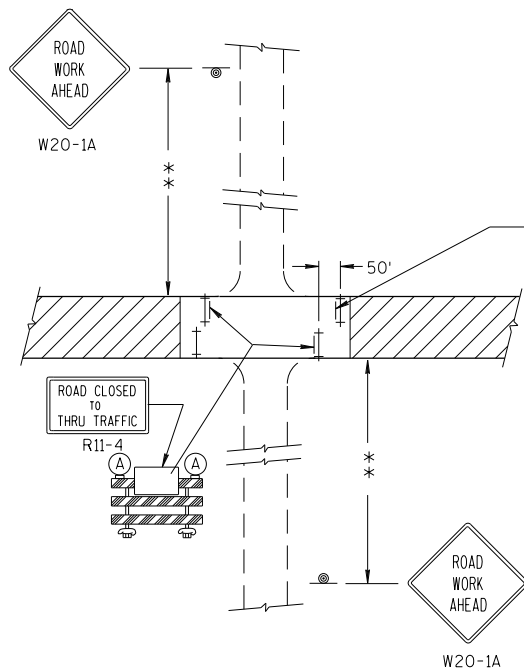
**DETOUR SIGNING FOR
MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

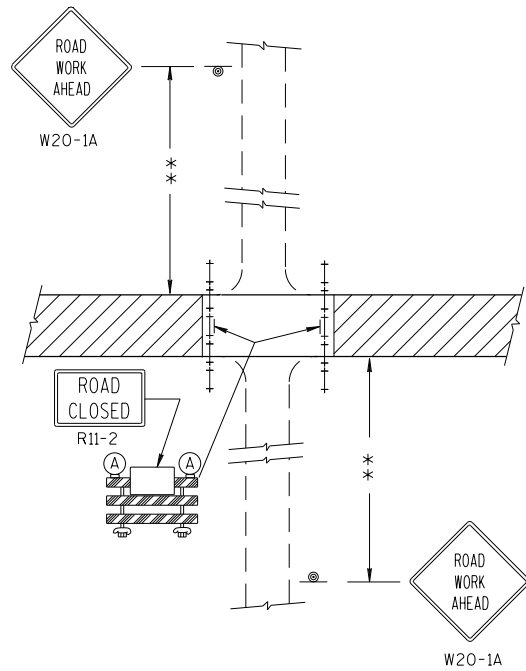
APPROVED
DATE Sept. 2015 /S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER
FHWA



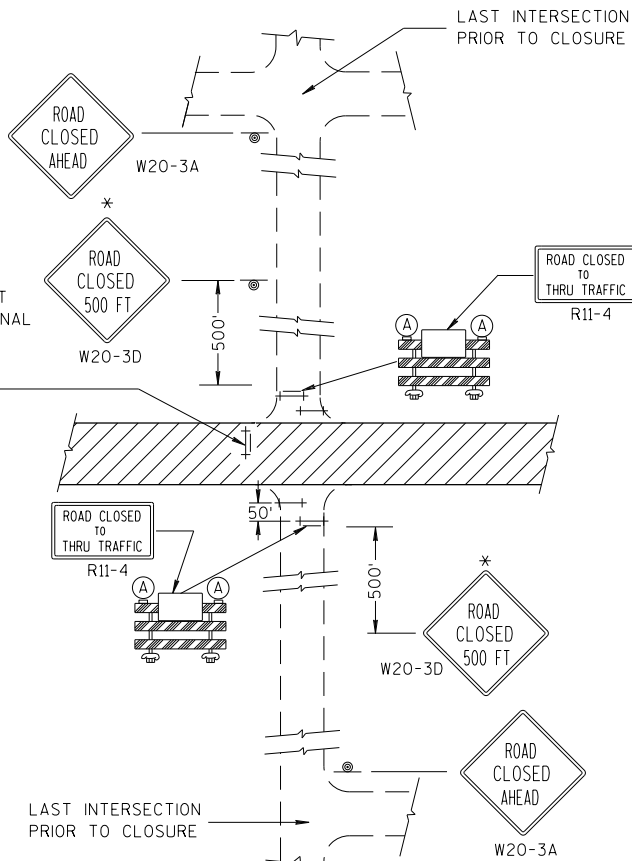
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

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 RE-ESTABLISHED.

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

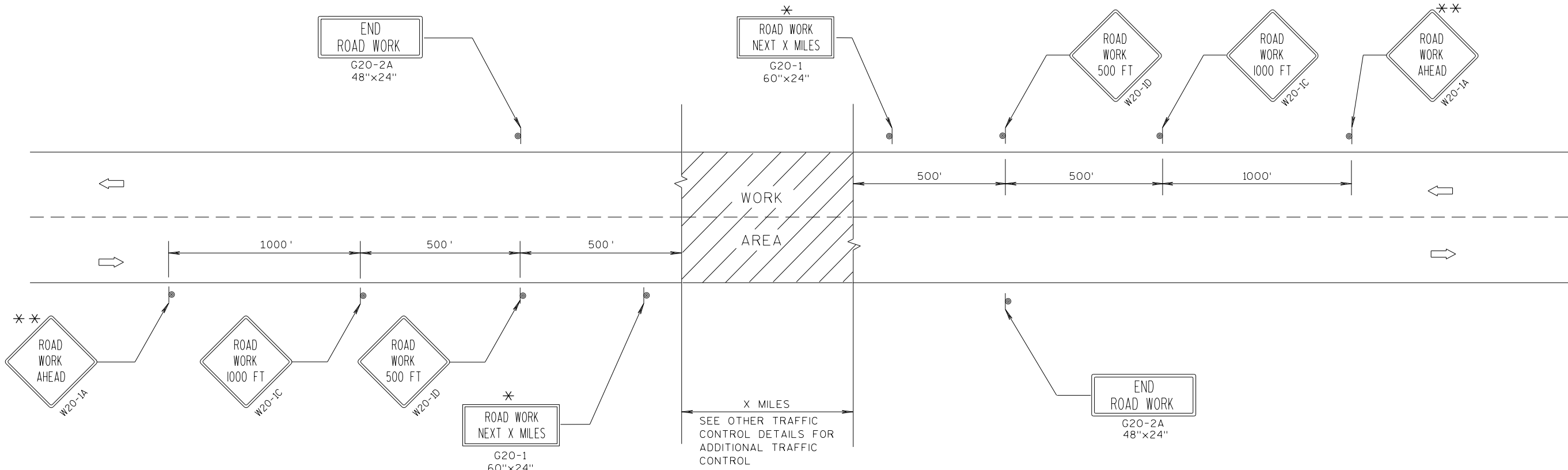
LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- ▨ WORK AREA

**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

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.

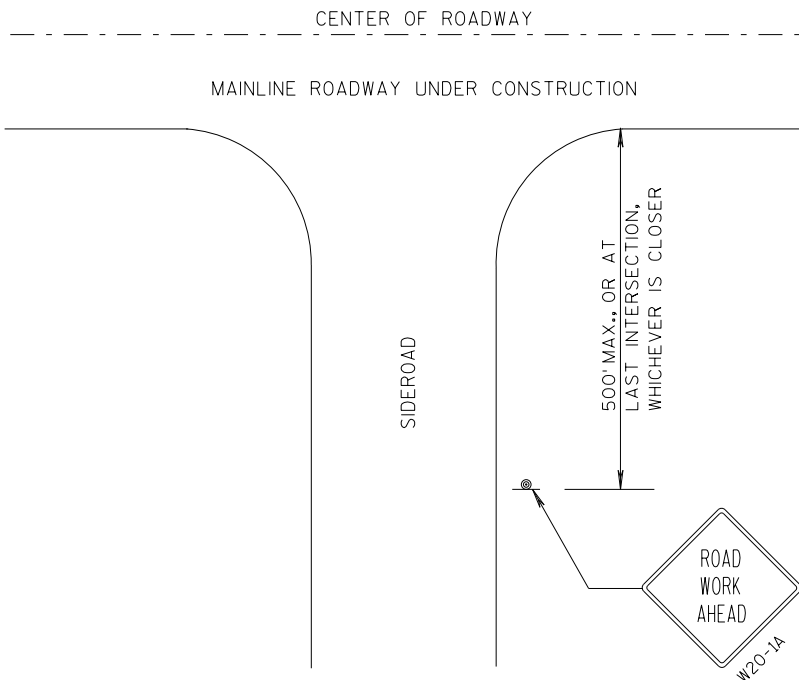
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 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 RE-ESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

* * PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



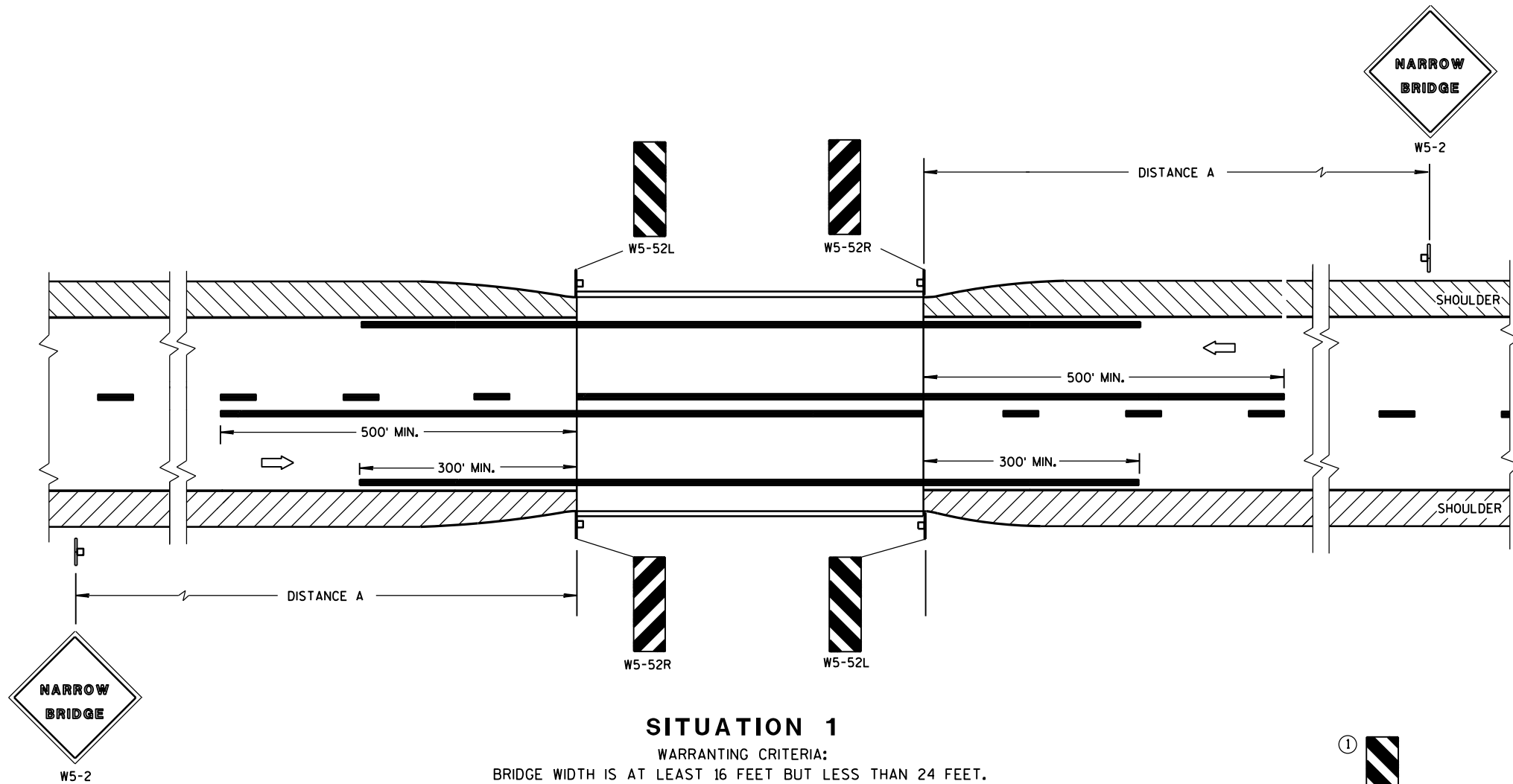
LEGEND

- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



SITUATION 1

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

DISTANCE TABLE

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

GENERAL NOTES

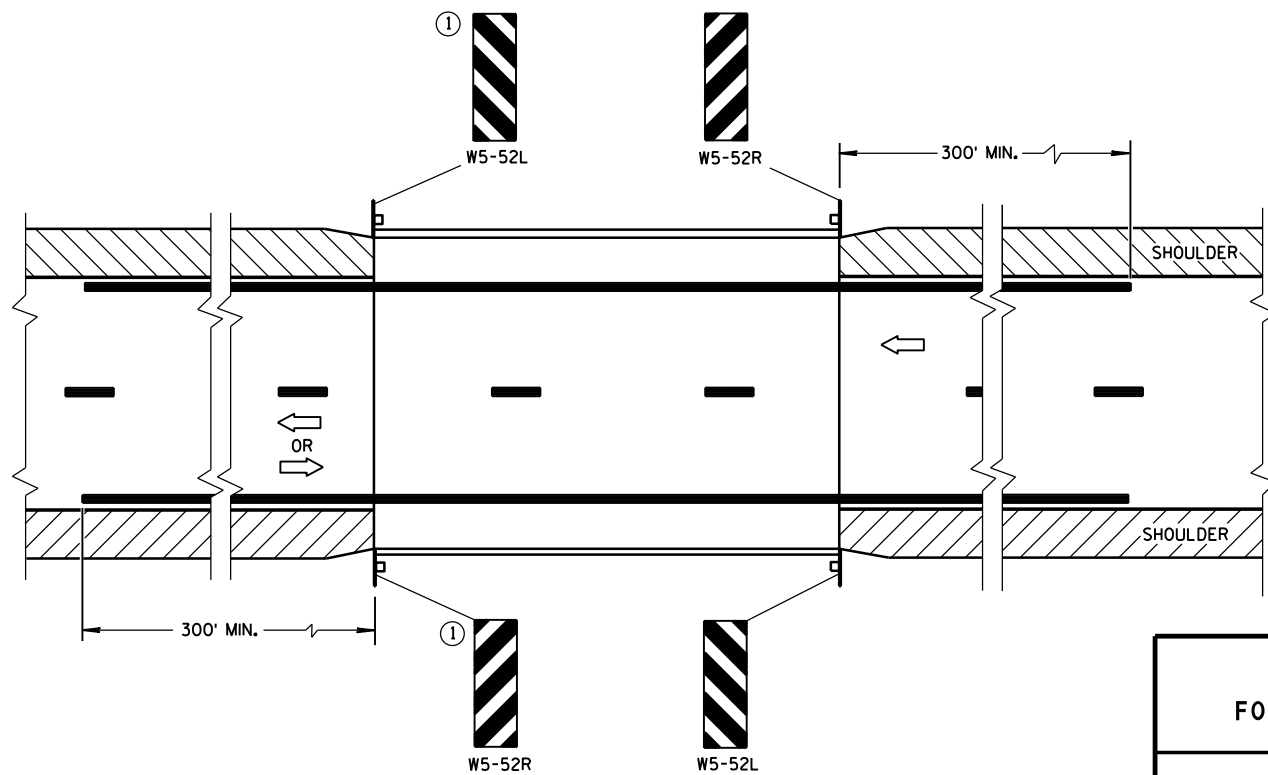
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

① OMIT ON ONE-WAY TRAVELLED WAYS.

➡ DIRECTION OF TRAFFIC



SITUATION 2

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

SIGNING & MARKING FOR TWO LANE BRIDGES

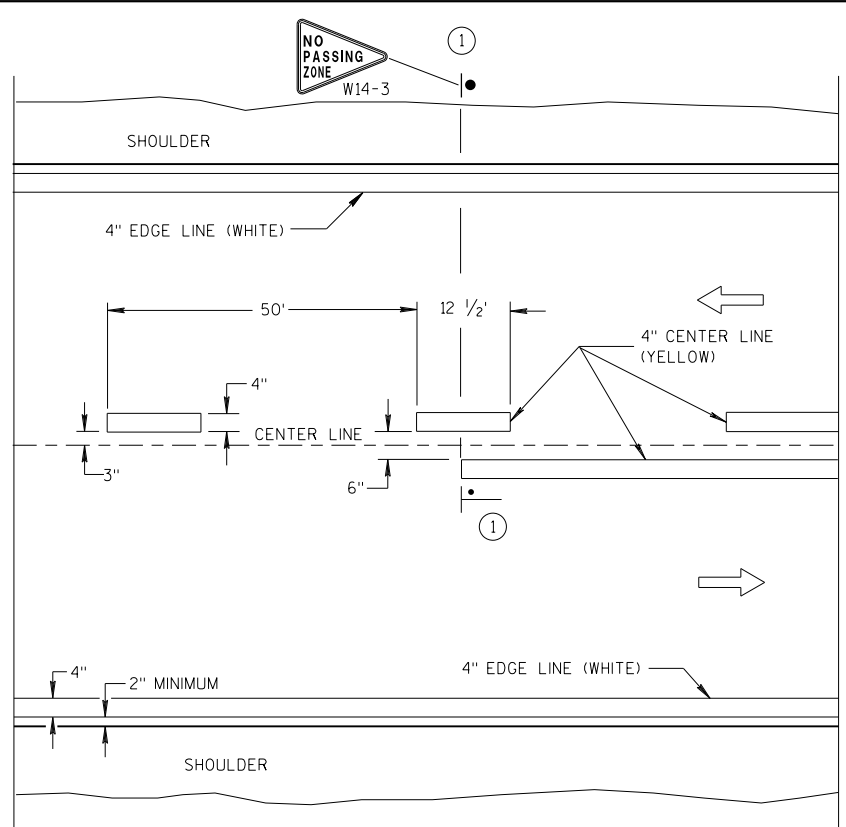
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

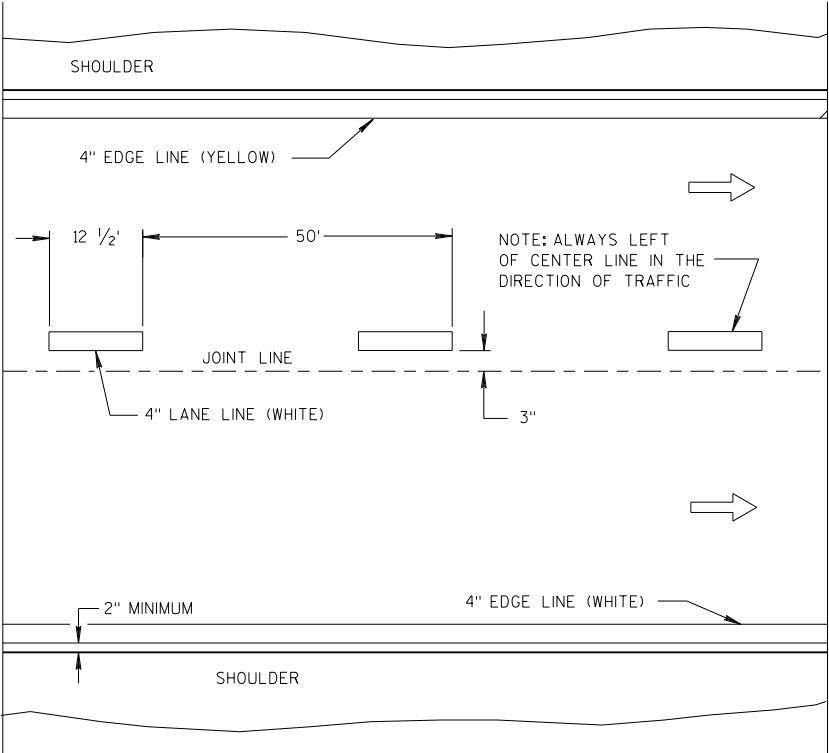
June 2017
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

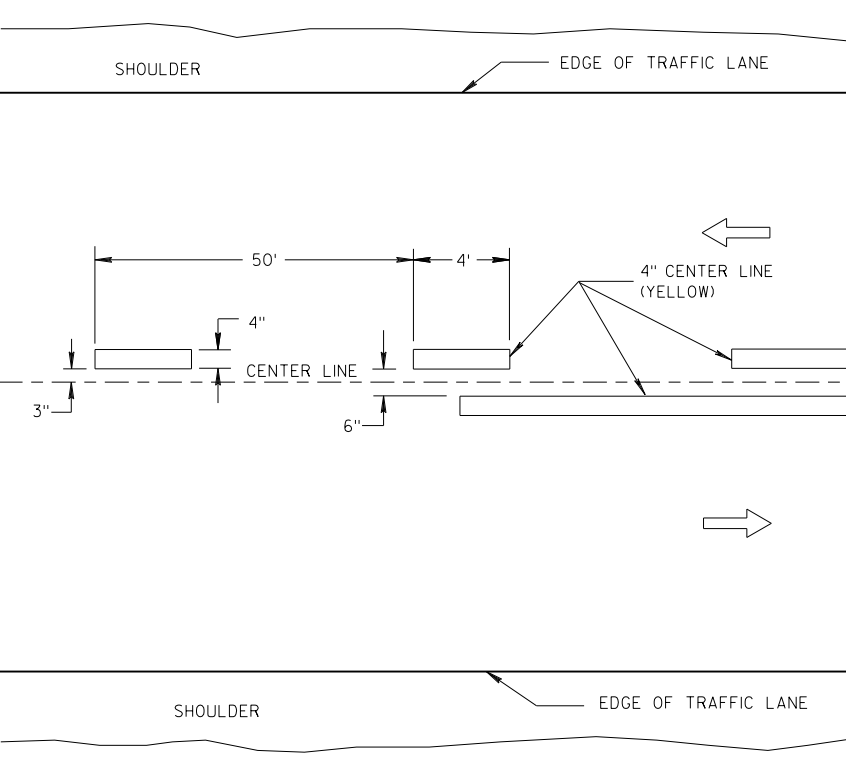


TWO WAY TRAFFIC

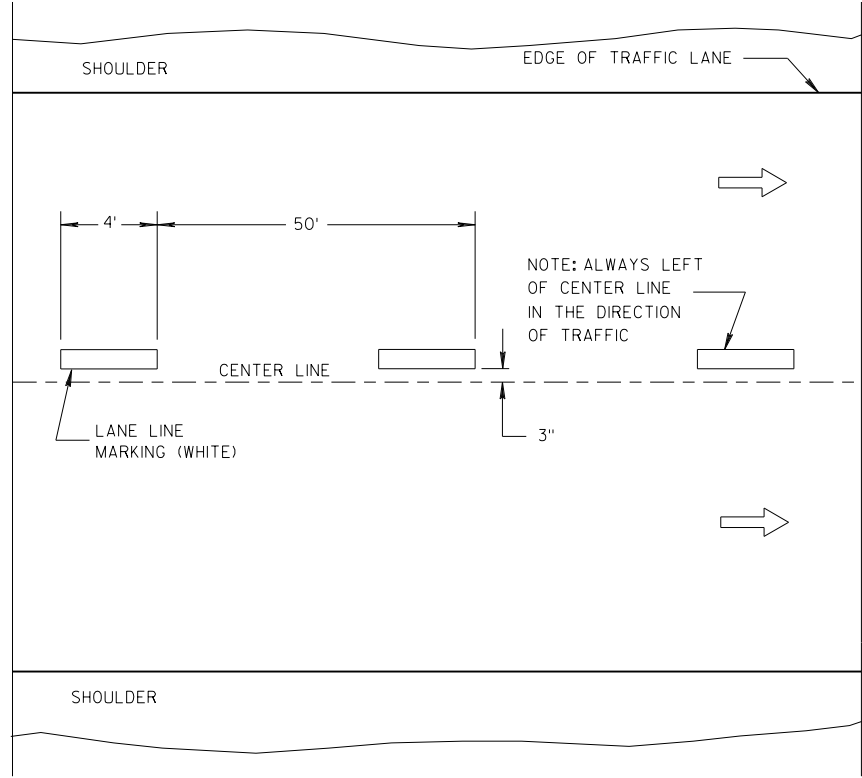


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

LEGEND

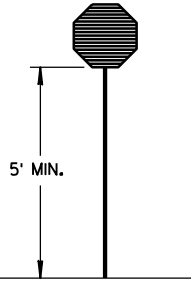
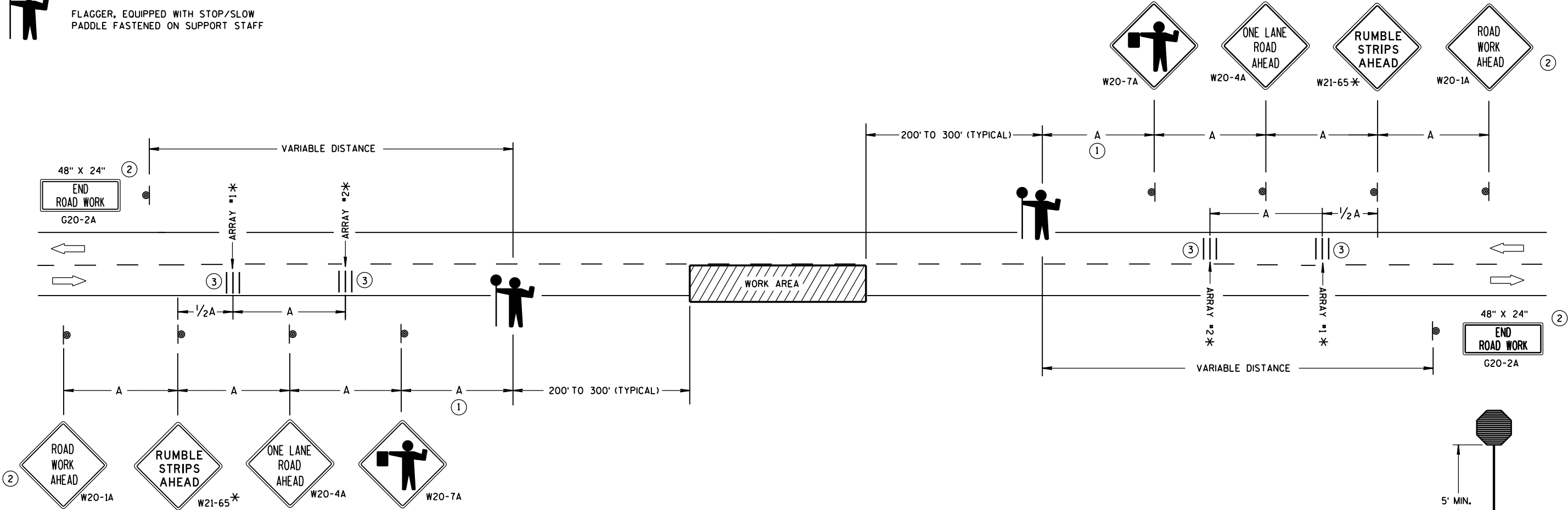
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



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



STOP/SLOW PADDLE ON SUPPORT STAFF

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

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

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

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

"W0" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS. PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

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

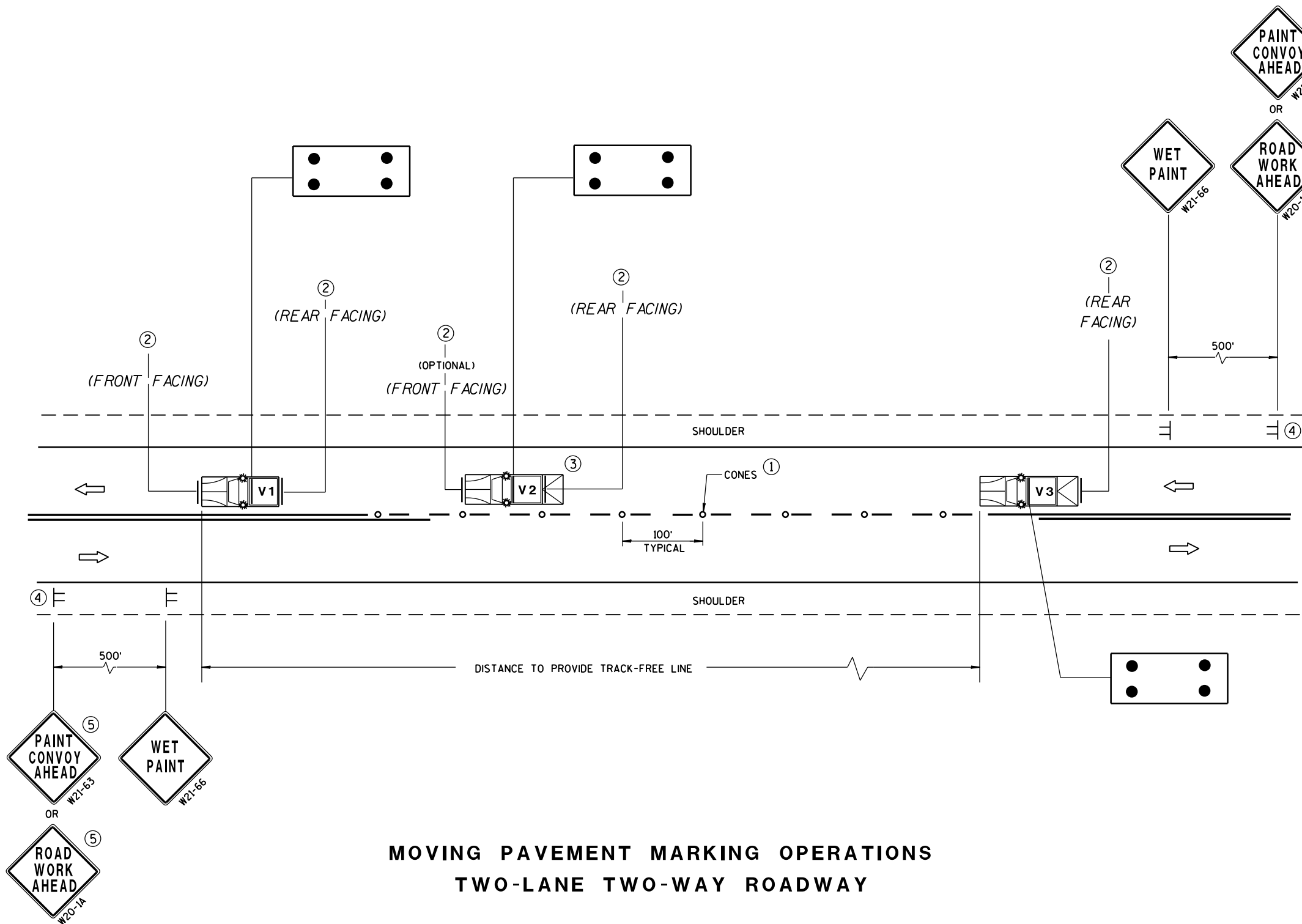
* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

- FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

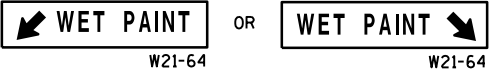
APPROVED
June 2017 /S/ Andrew Heldtke
DATE WORK ZONE ENGINEER
FHWA



MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

- ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.
- VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.
- IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.
- ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.
- DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.
- THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.
- WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.
- ① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- ② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.
- ③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.
- ④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.



OR



LEGEND

- V1** LEAD VEHICLE
- V2** SHADOW VEHICLE
- V3** TRAIL VEHICLE WITH TMA
- TMA** TRUCK-MOUNTED ATTENUATOR

≡ SIGN ON TEMPORARY SUPPORT

➡ DIRECTION OF TRAFFIC

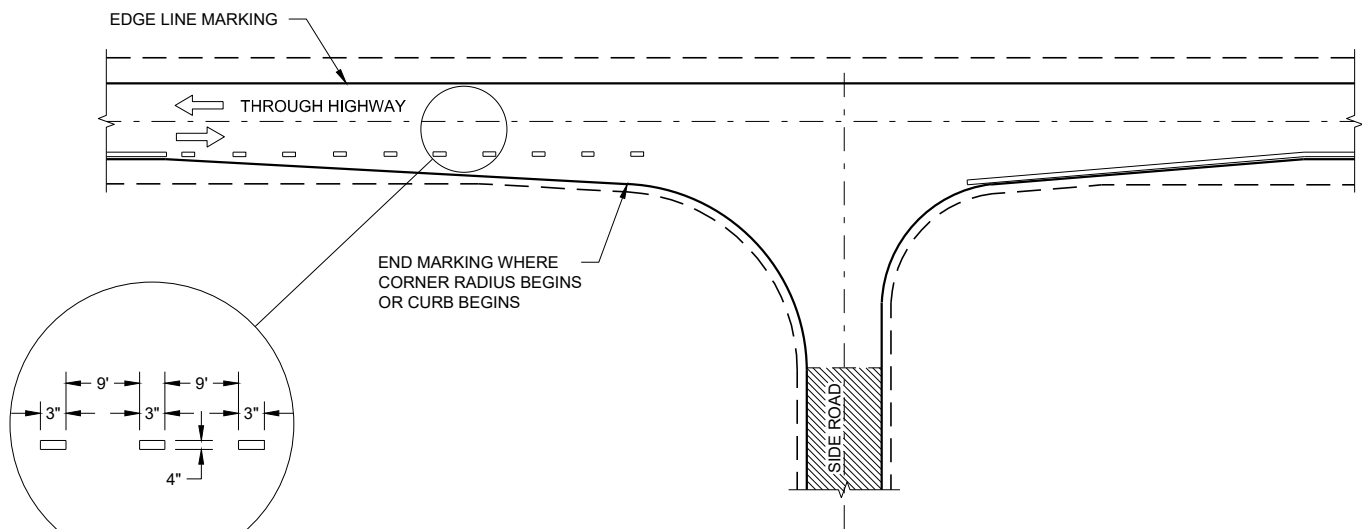
○ CONES

⬢ FLASHING ARROW PANEL (CAUTION)

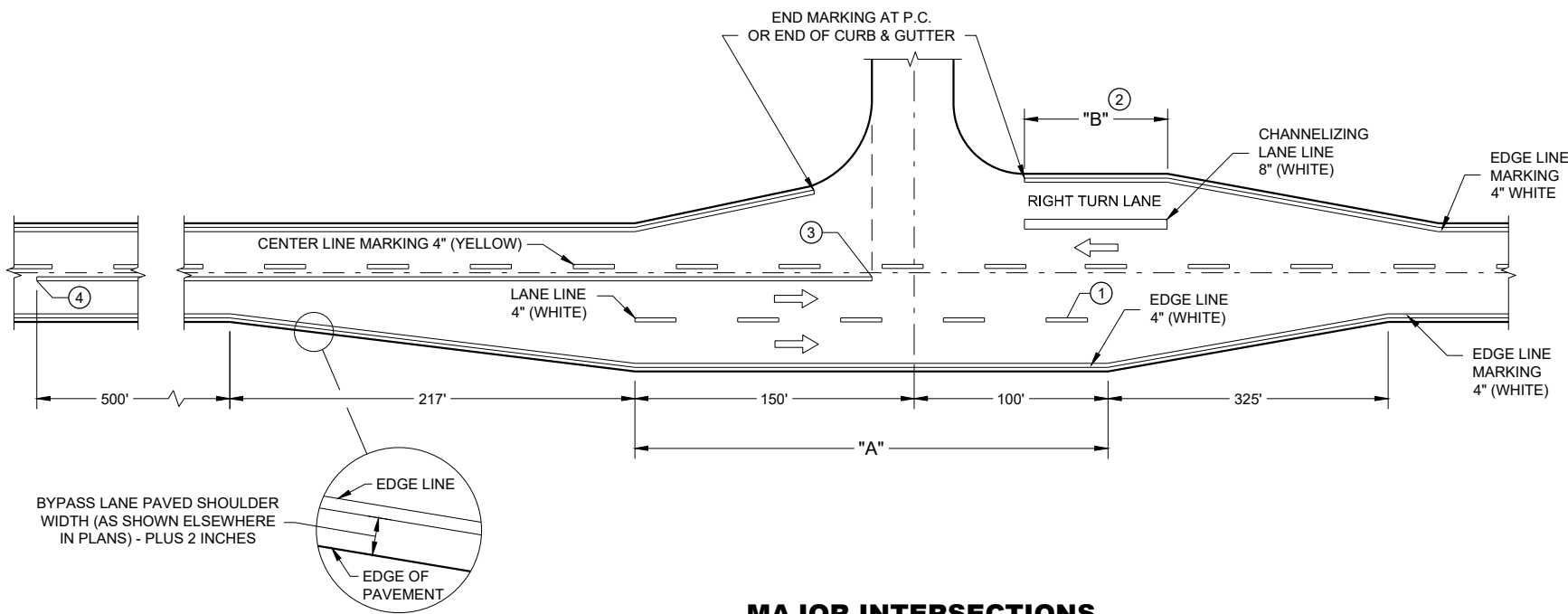
MOVING PAVEMENT MARKING
OPERATION
TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE Sept., 2017 /S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA



MINOR INTERSECTION



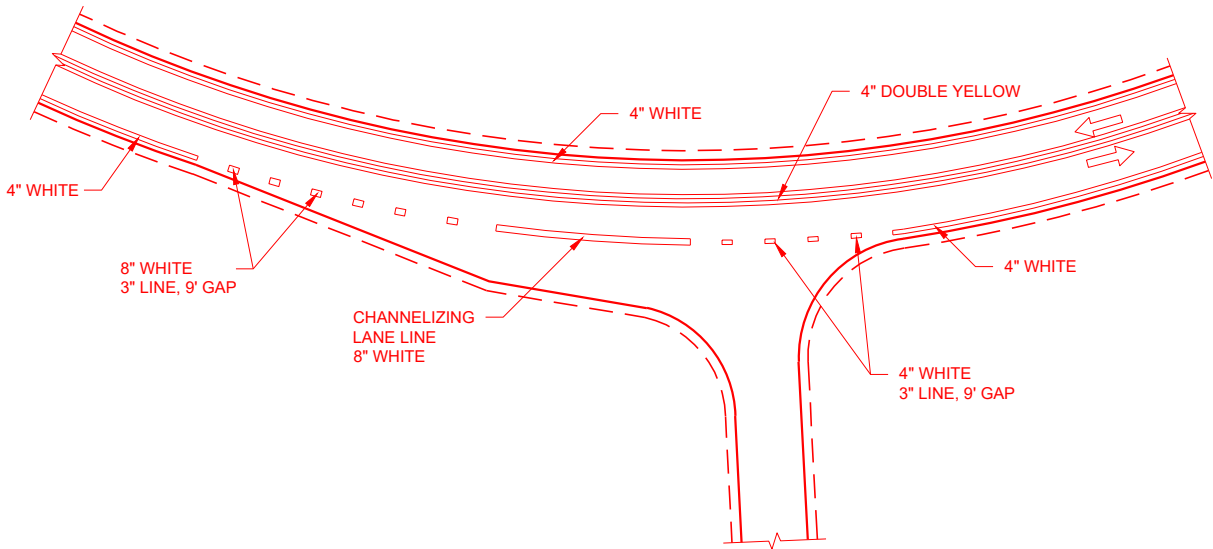
MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER

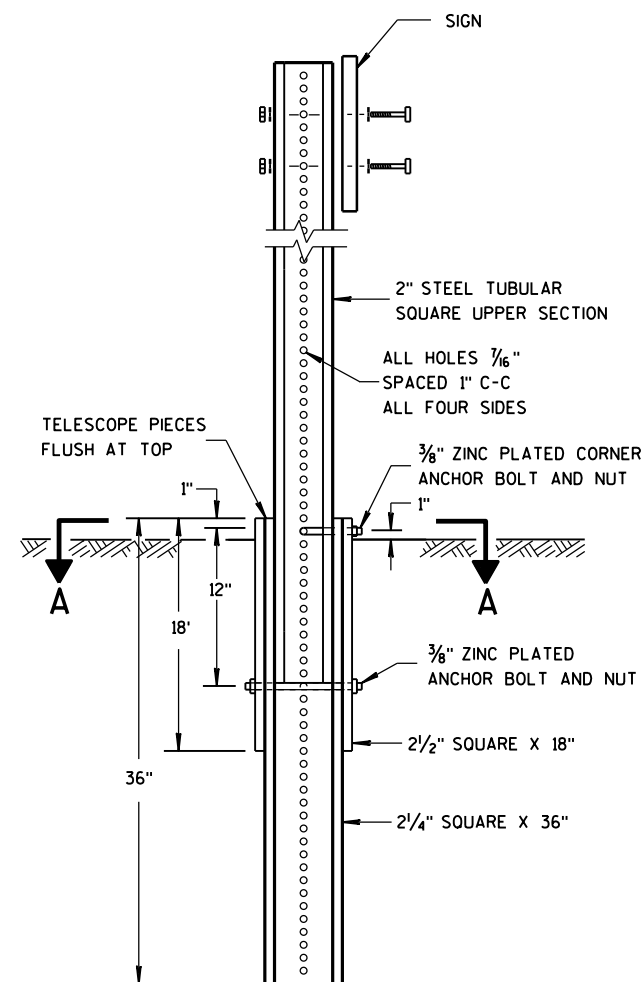
ARROW SYMBOL (➞) SHOWS DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

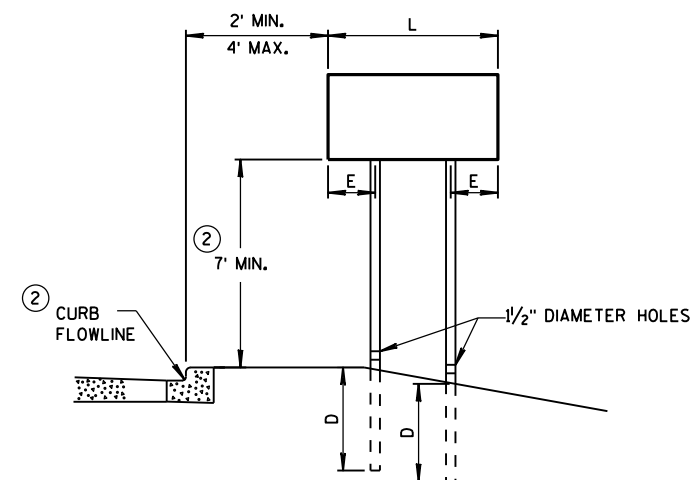
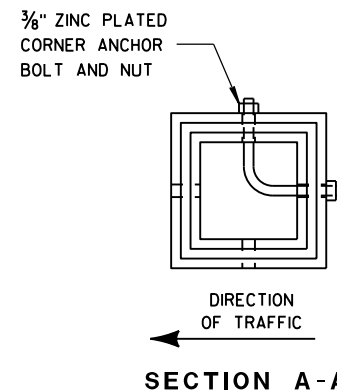


DETAIL OF TUBULAR STEEL SIGN POST

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL 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

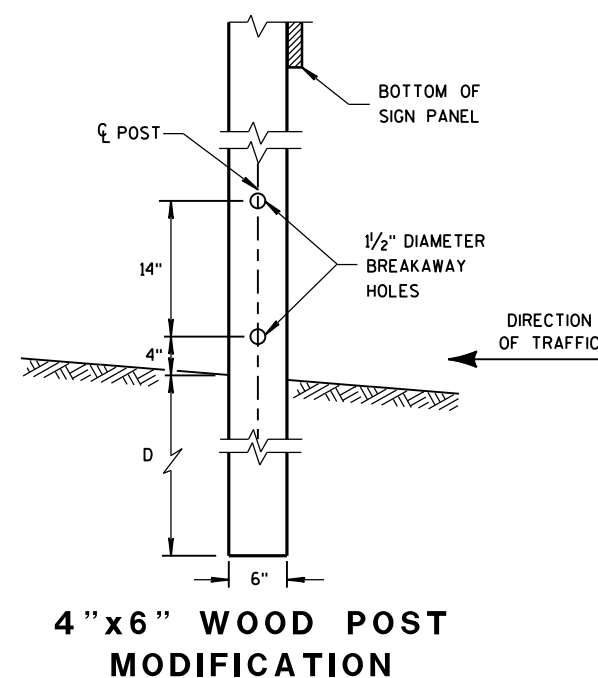
SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.



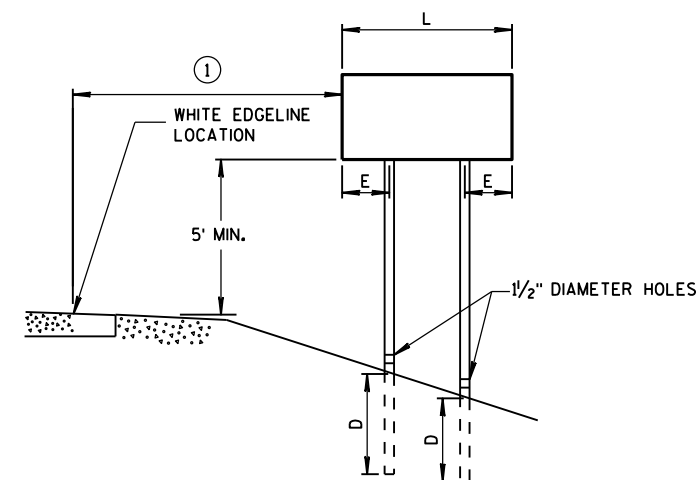
URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST EMBEDMENT DEPTH	
AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



4 "x6 " WOOD POST MODIFICATION



RURAL AREA

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

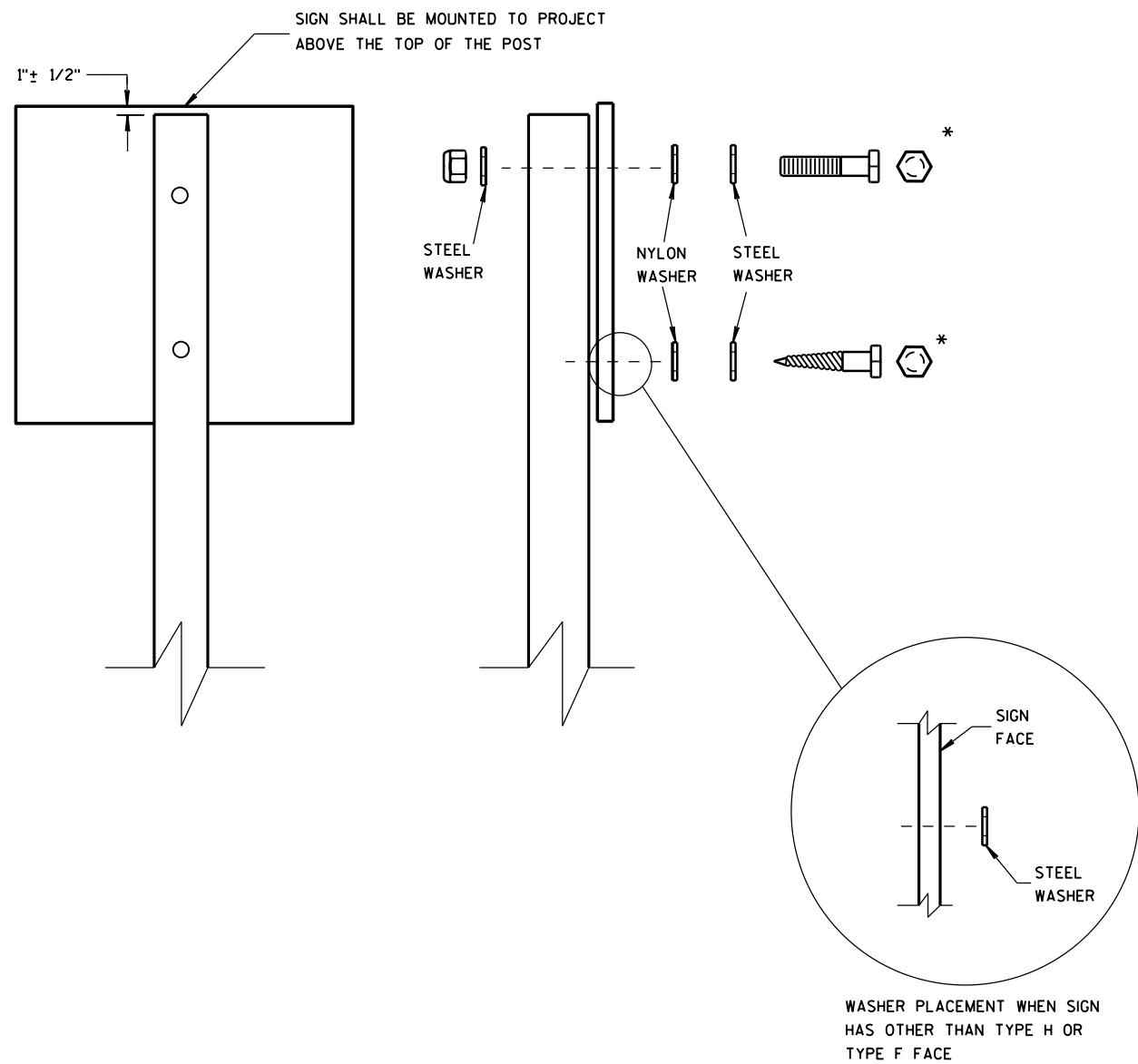
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② 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. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

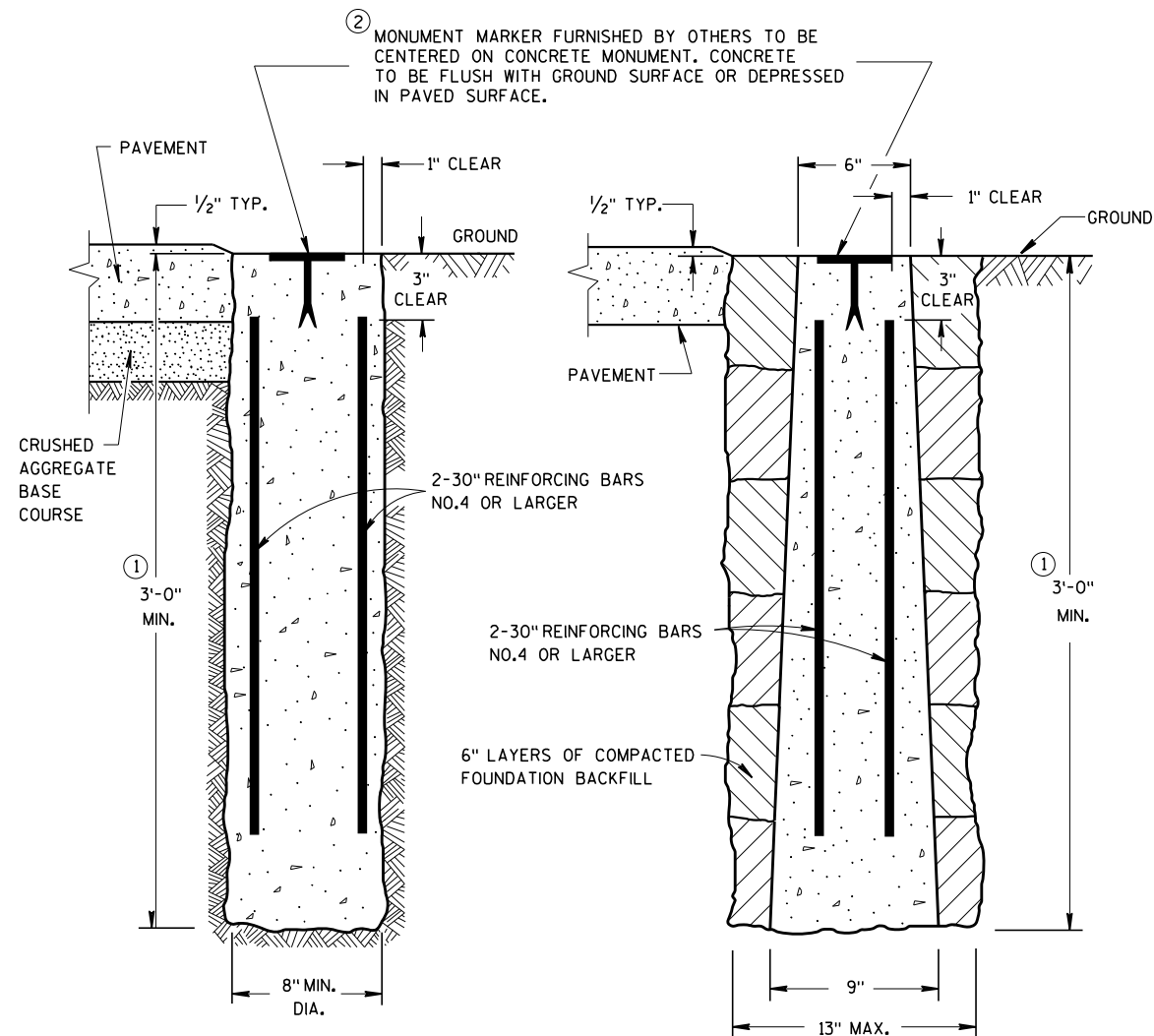
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3"
 - MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

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

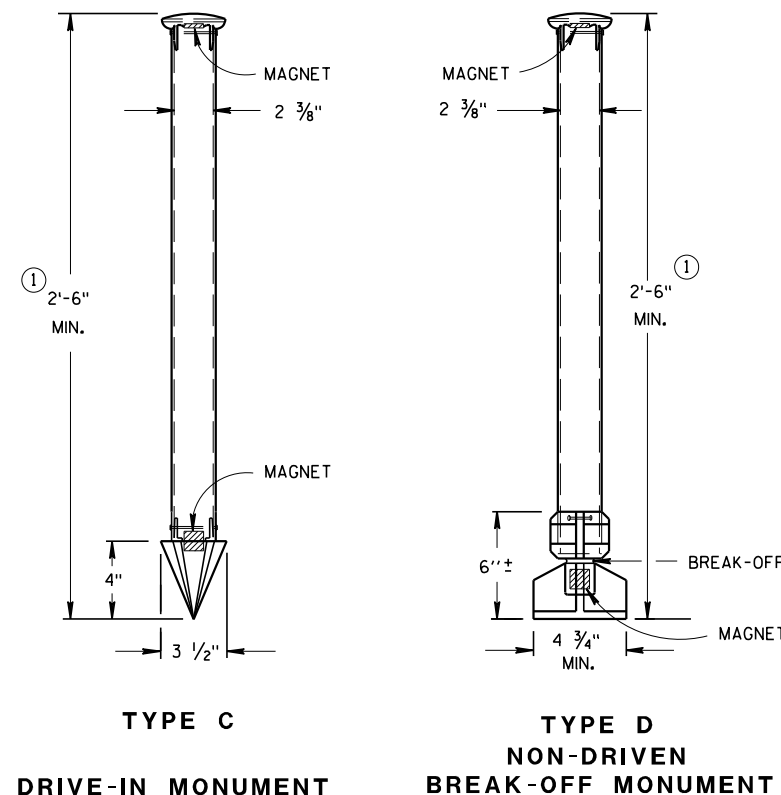
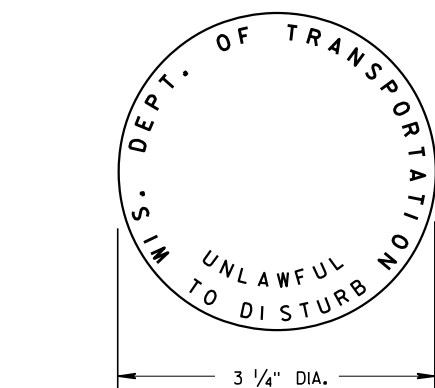
* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

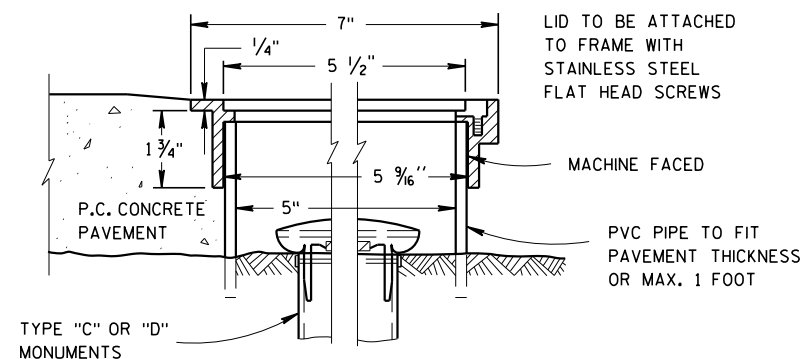
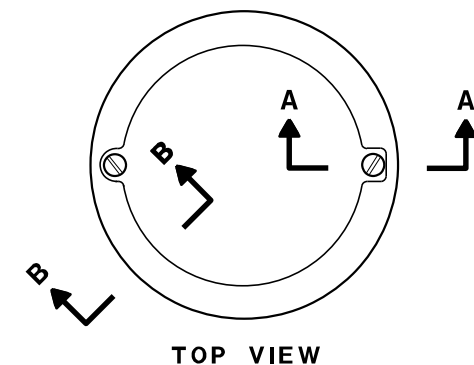


**CAST-IN-PLACE
CONCRETE MONUMENTS
TYPE A**

PRECAST

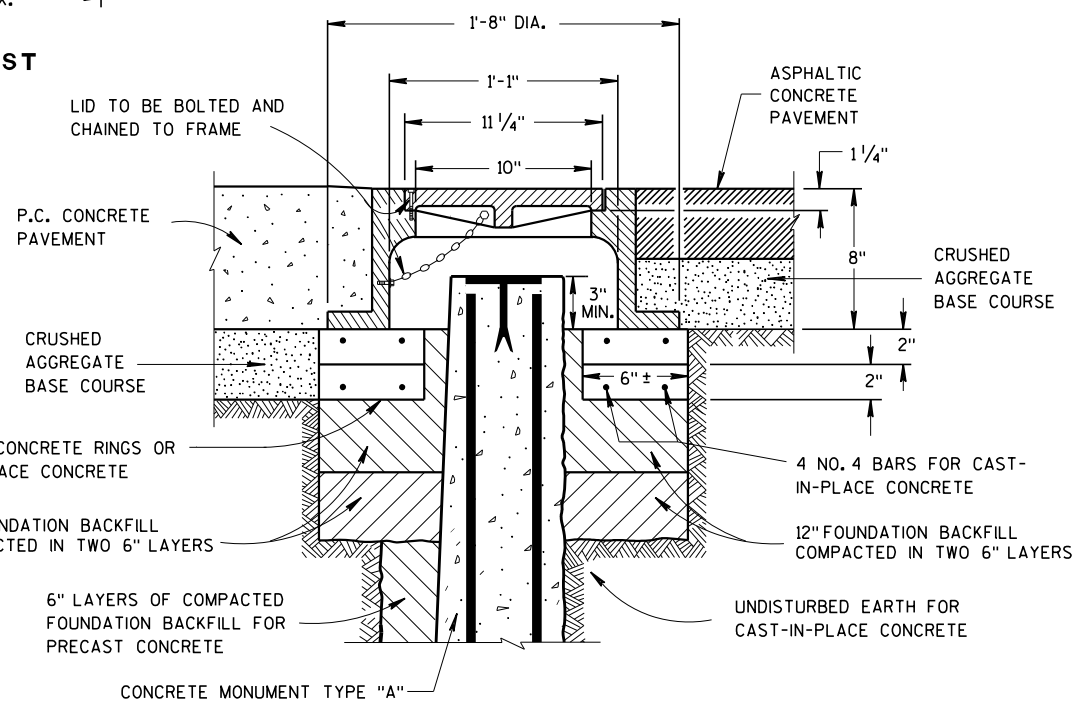


ALUMINUM MONUMENTS
(INCLUDES MARKER)



**SECTION B-B SECTION A-A
ALUMINUM MONUMENT COVER**

(APPROXIMATE WEIGHT 2 LBS)
(FOR CONCRETE PAVEMENT ONLY)



CAST IRON MONUMENT COVER
(APPROXIMATE WEIGHT 95 LBS)

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.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

PERMANENT MAGNETS SHALL BE INSERTED NEAR THE TOP AND BOTTOM OF ALL ALUMINUM MONUMENTS SO THE MONUMENT CAN EASILY BE DETECTED BY A METAL DETECTOR.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER

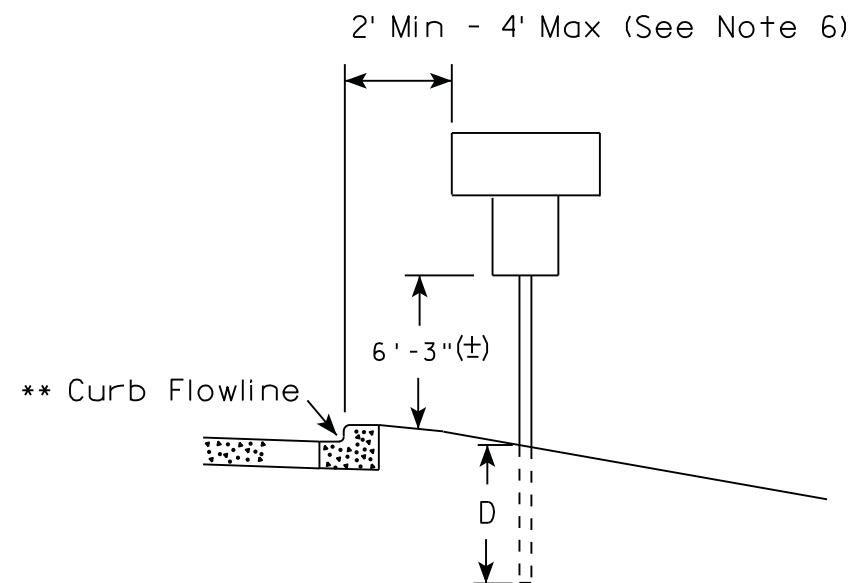
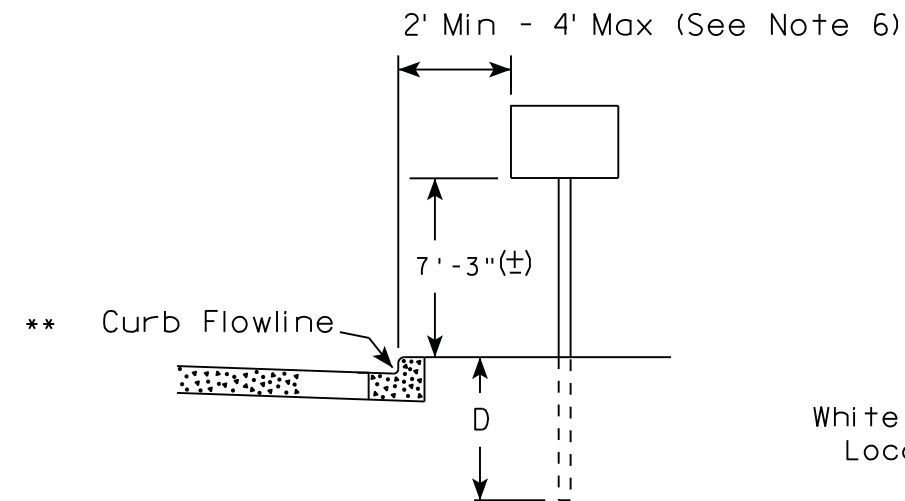
- ① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.
- ② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.

LANDMARK REFERENCE MONUMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

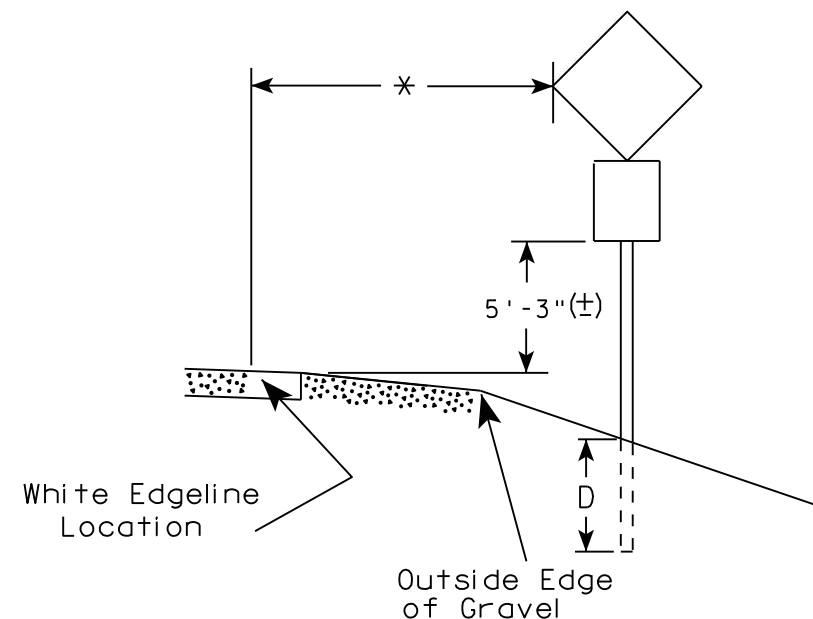
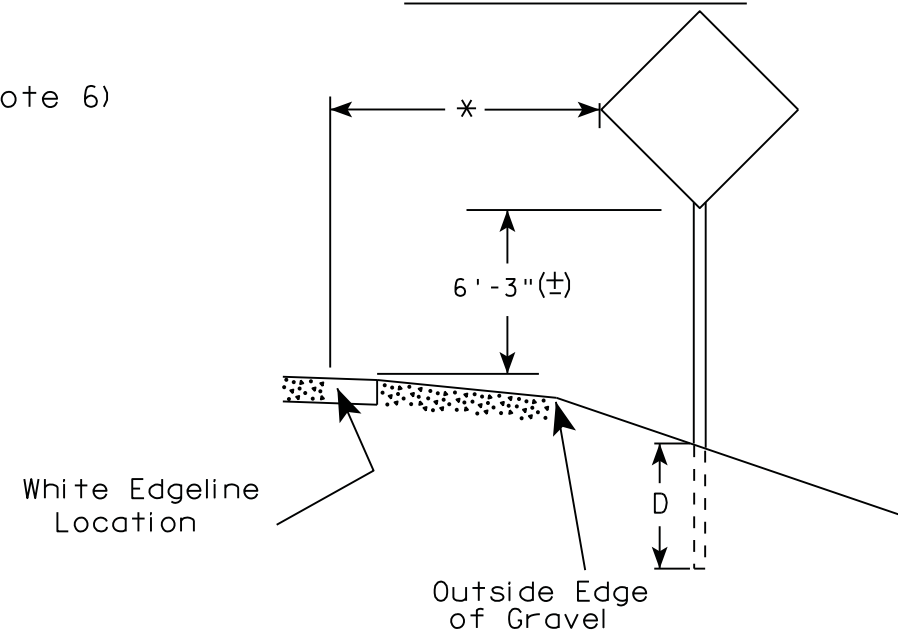
APPROVED
March 2018 /S/ Raymond A. Kumapayi
DATE CHIEF SURVEYING AND MAPPING ENGINEER
FHWA

URBAN AREA



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

RURAL AREA (See Note 2)



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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

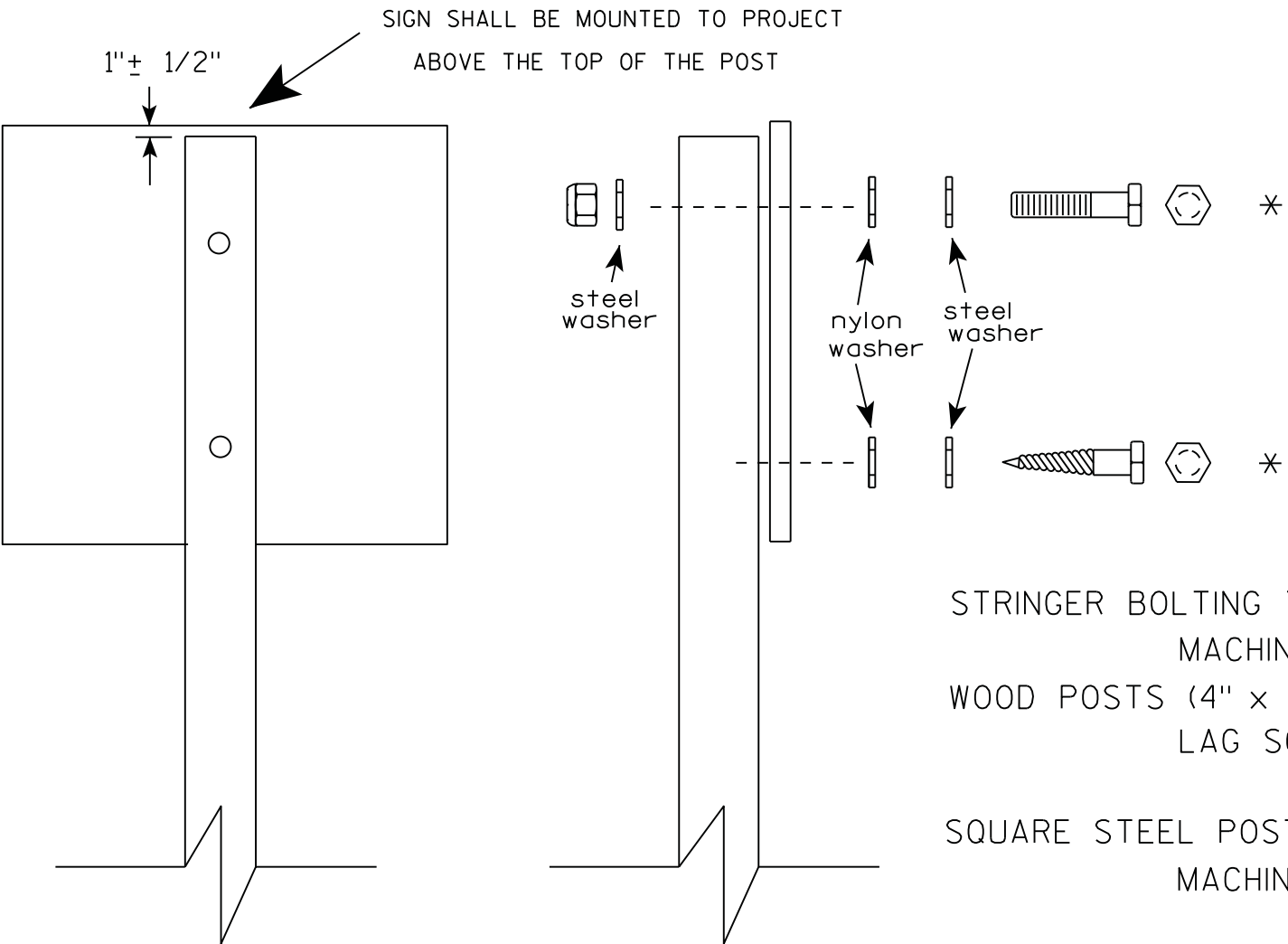
1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies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

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21



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

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

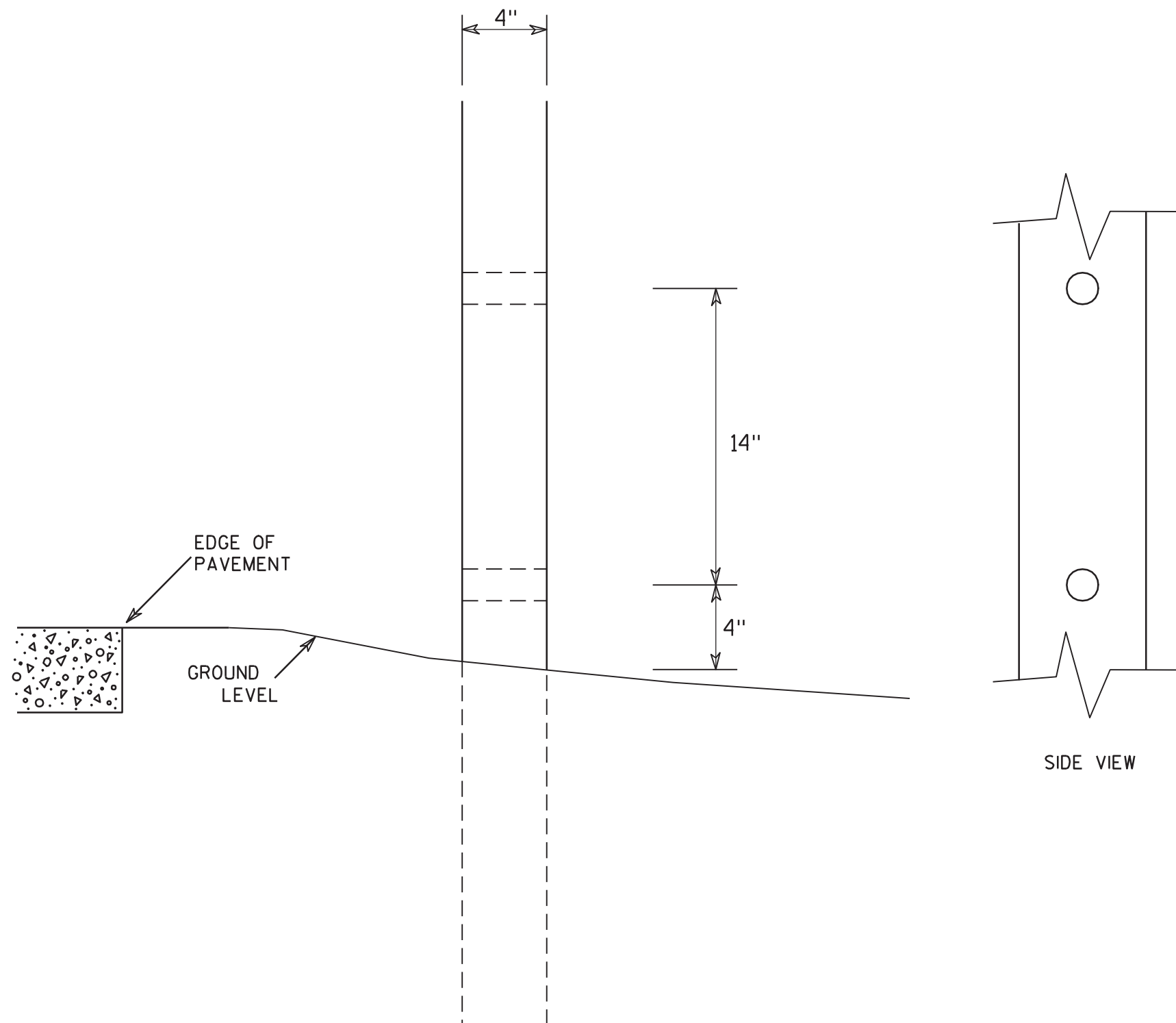
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

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

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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 8/11/16	PLATE NO. A4-8.8

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

NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - Green
 - Message - White - Type H Reflective
- 3. Message Series - E
- 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 message and adjust spacing as required to achieve proper balance.



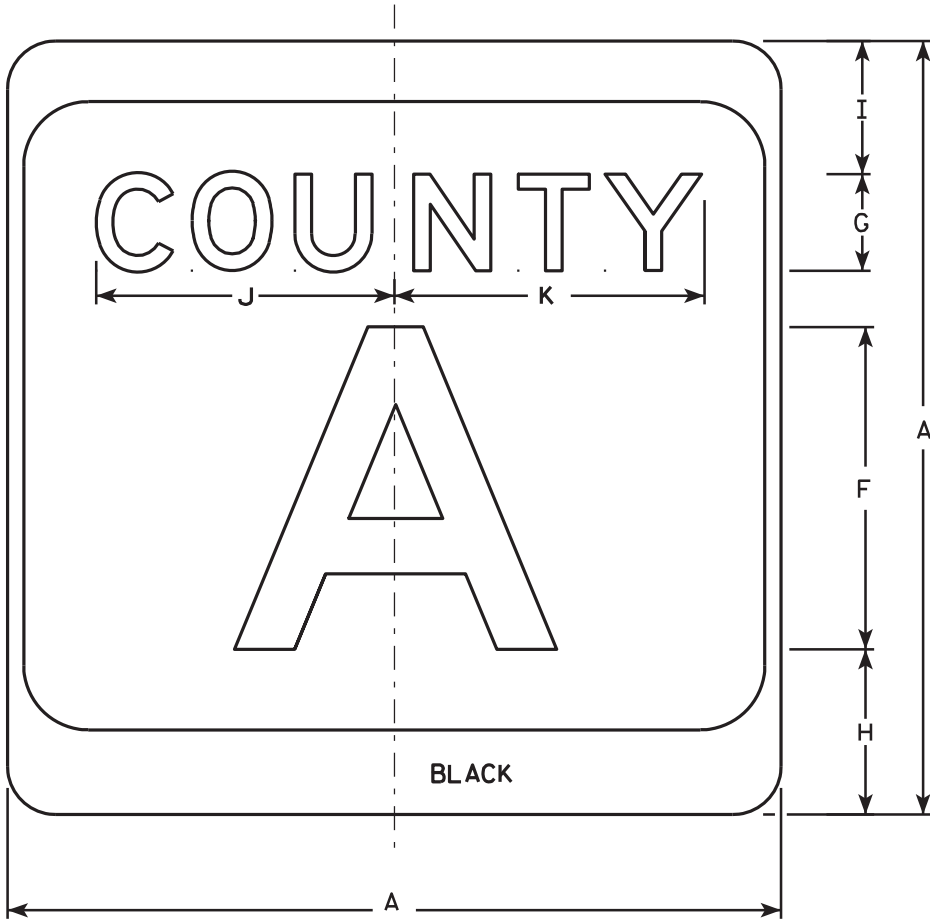
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2		15	2 1/4		3/4	6	4 1/2	4	5																		Varies
3																											
4		21	3		1	8	6	6	7																		Varies
5		21	3		1	8	6	6	7																		Varies

STANDARD SIGN
I2-2

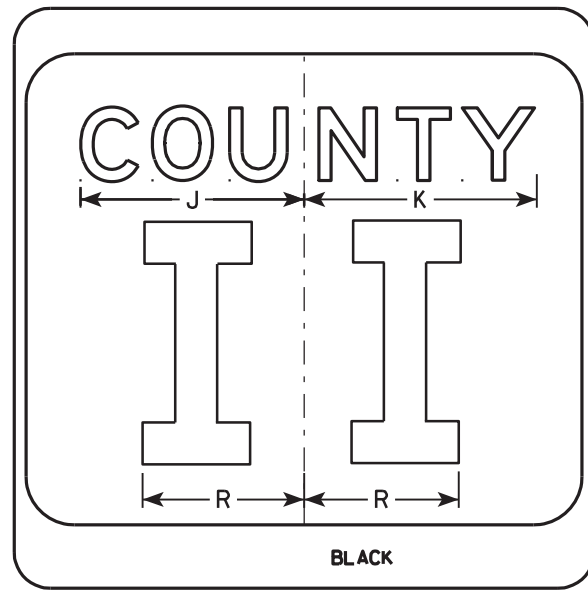
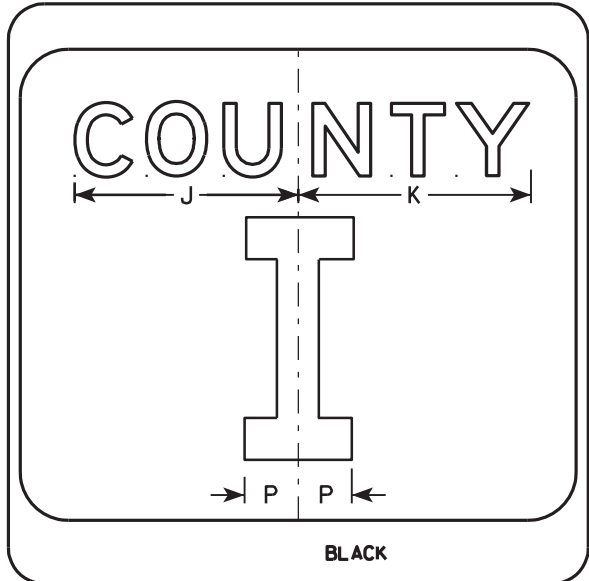
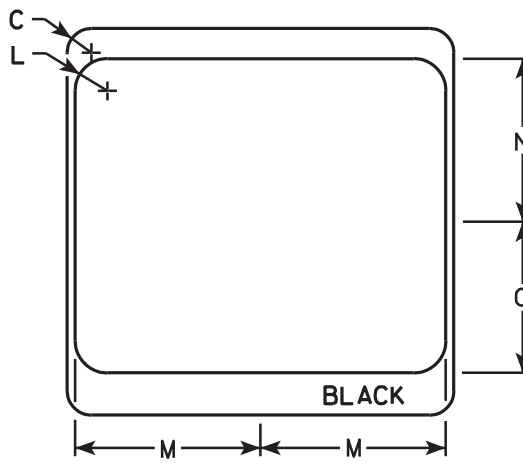
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLATE NO. I2-2.5



M1-5A



NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 7
Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
Message Series D for 2 letters unless message is too big then Series C.
Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

CTH MARKER

M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

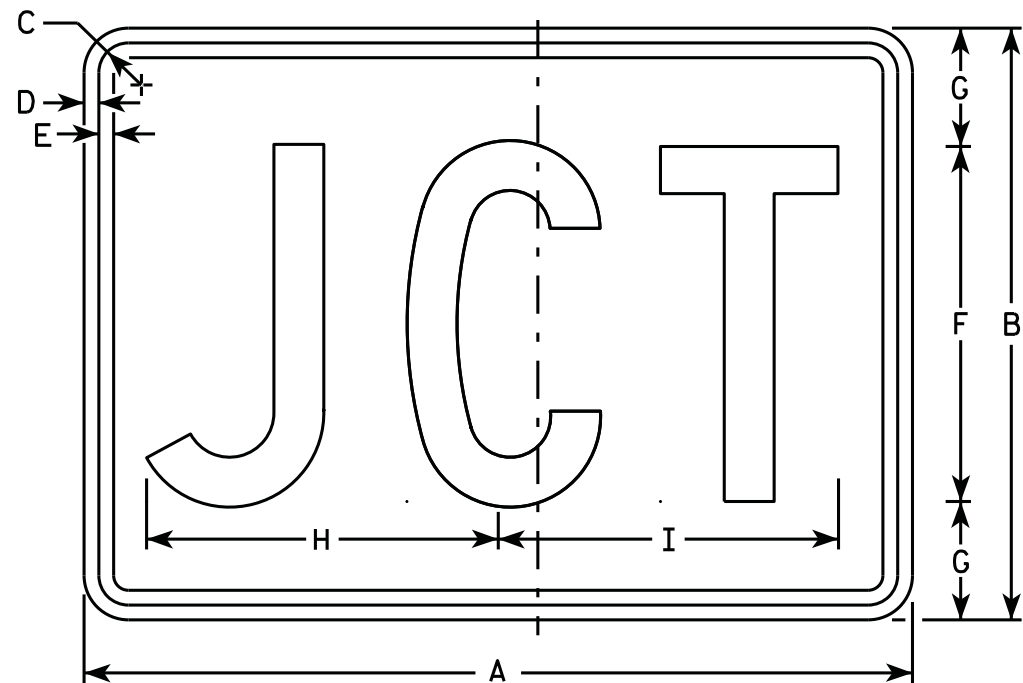
PROJECT NO:

HWY:

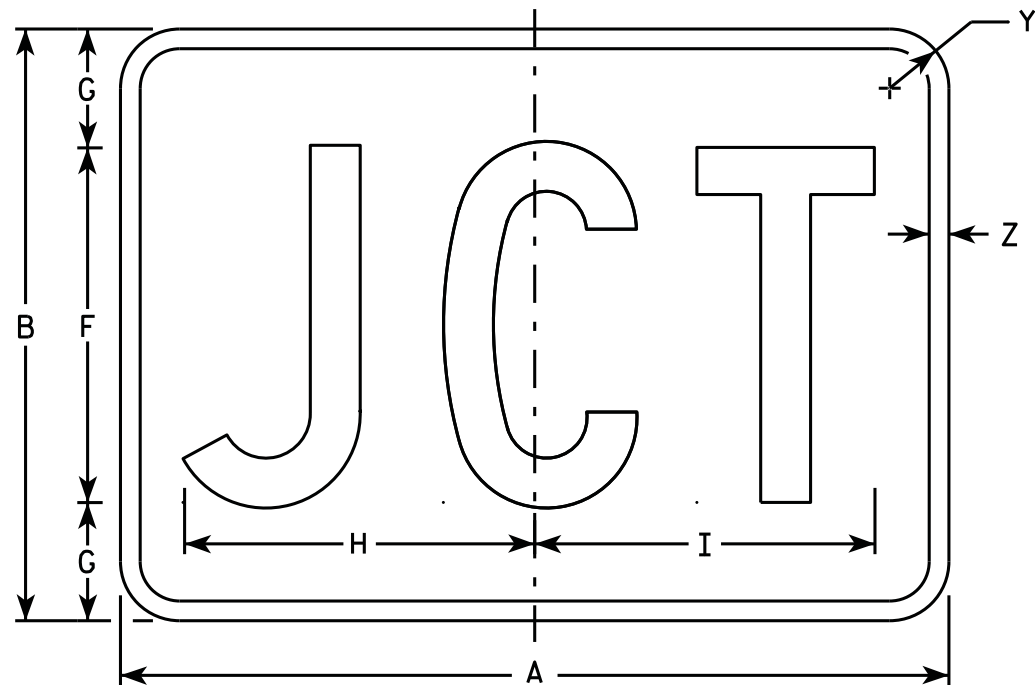
COUNTY:

SHEET NO:

E



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

1. Sign is Type II - Type H
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M2-1 Background - White
Message - Black
MB2-1 Background - Blue
Message - White
MK2-1 Background - Green
Message - White
MM2-1 Background - White
Message - Green
MN2-1 Background - Brown
Message - White
MP2-1 Background - White
Message - Blue
MR2-1 Background - Brown
Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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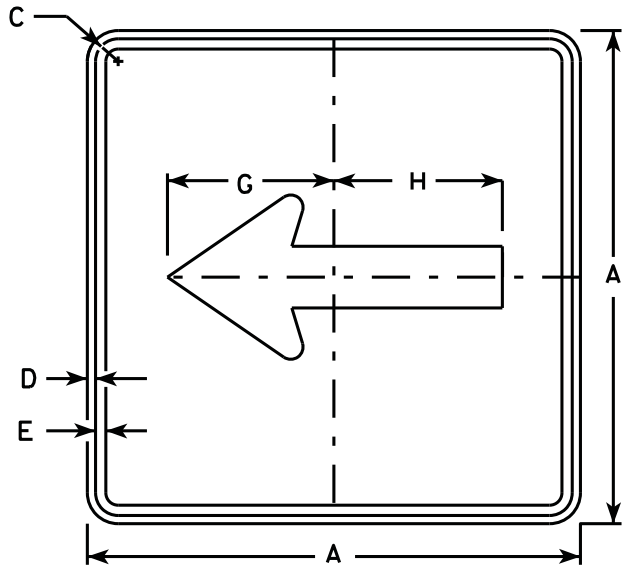
STANDARD SIGN

M2 - 1

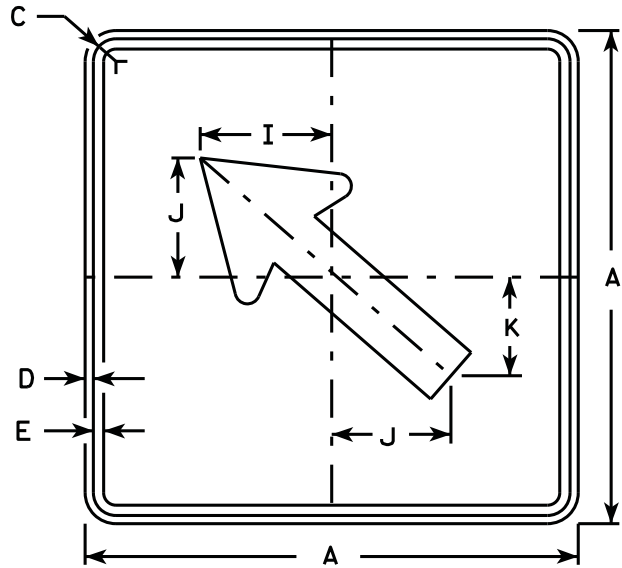
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Raush*
for State Traffic Engineer

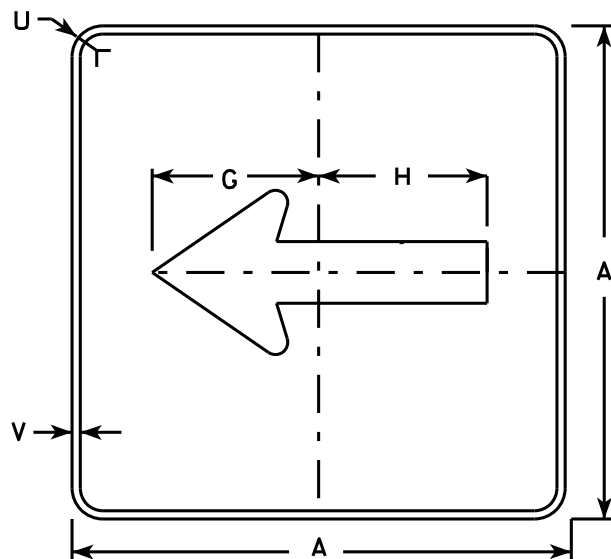
DATE 10/15/15 PLATE NO. M2-1.12



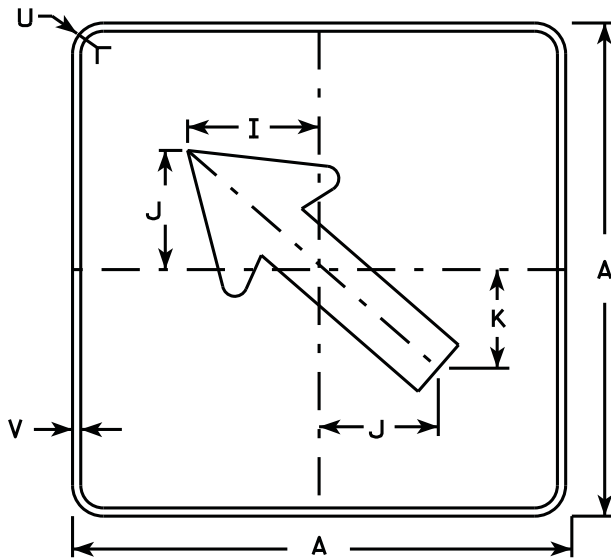
M6 - 1
MM6 - 1
M06 - 1
MP6 - 1



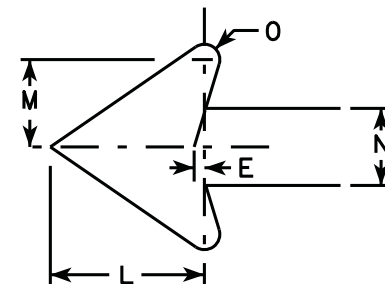
M6 - 2
MM6 - 2
M06 - 2
MP6 - 2



MB6 - 1
MK6 - 1
MN6 - 1
MR6 - 1



MB6 - 2
MK6 - 2
MN6 - 2
MR6 - 2



NOTES

- Signs are Type II - Type H except as Shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow

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

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

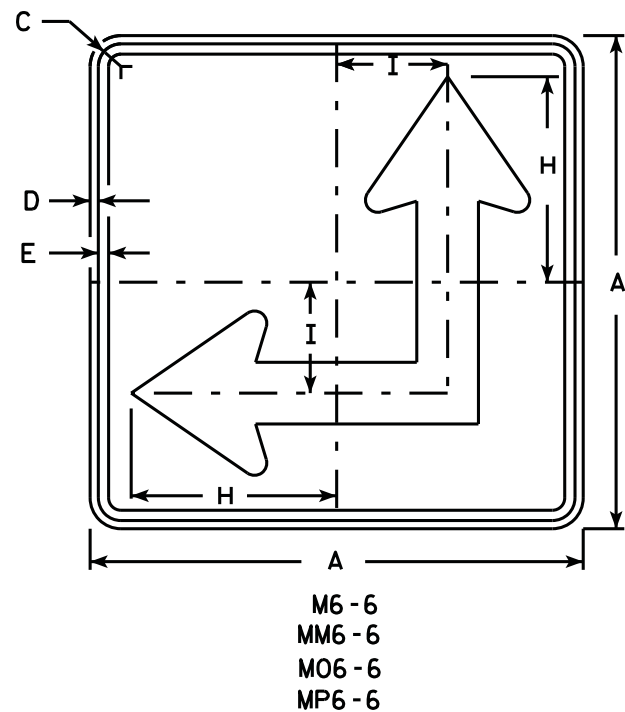
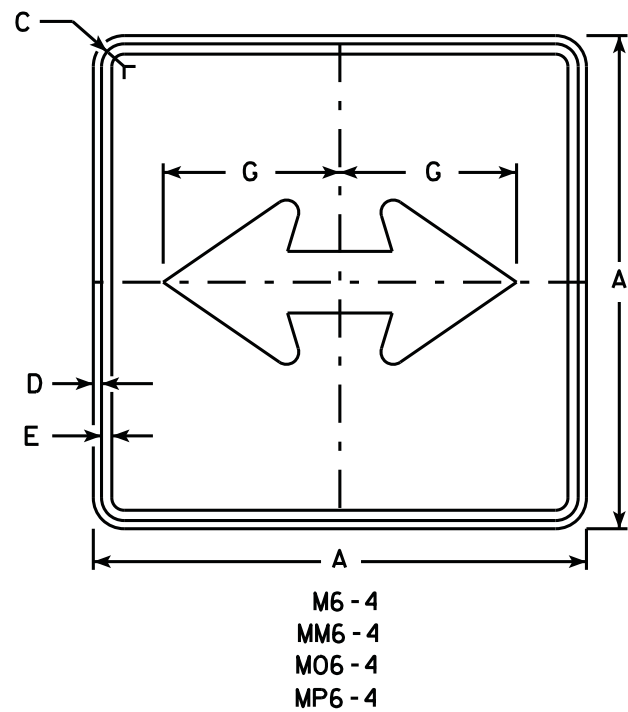
E

STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

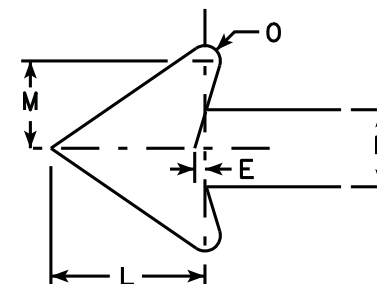
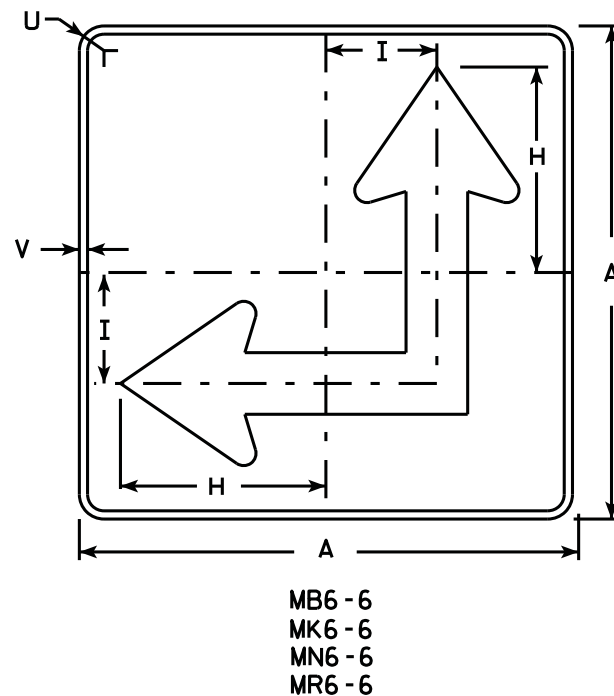
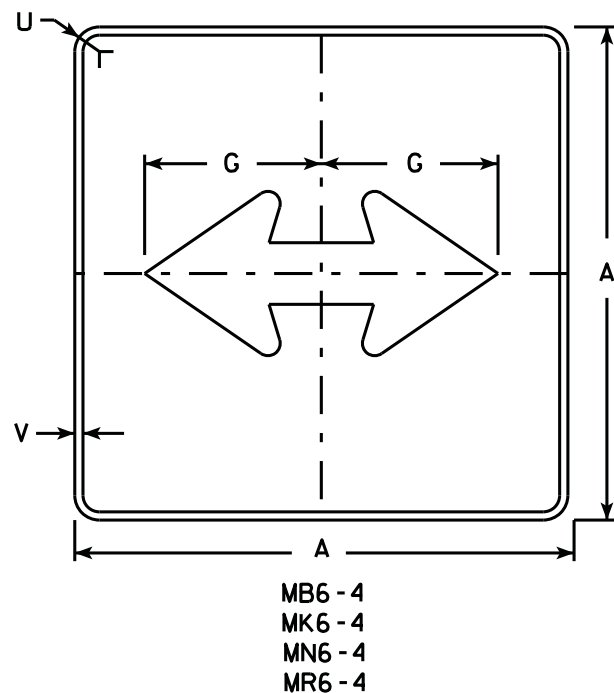
APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15



NOTES

1. Signs are Type II - Type H except as Shown
2. Color:
Background - See Note 4
Message - See Note 4
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. M6-4 and M6-6 Background - White
Message - Black
MB6-4 and MB6-6 Background - Blue
Message - White
MK6-4 and MK6-6 Background - Green
Message - White
MM6-4 and MM6-6 Background - White
Message - Green
MN6-4 and MN6-6 Background - Brown
Message - White
M06-4 and M06-6 Background - Orange - Type F Reflective
Message - Black
MP6-4 and MP6-6 Background - White
Message - Blue
MR6-4 and MR6-6 Background - Brown
Message - Yellow
5. M6-6R same as M6-6L except arrow points ahead and right.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

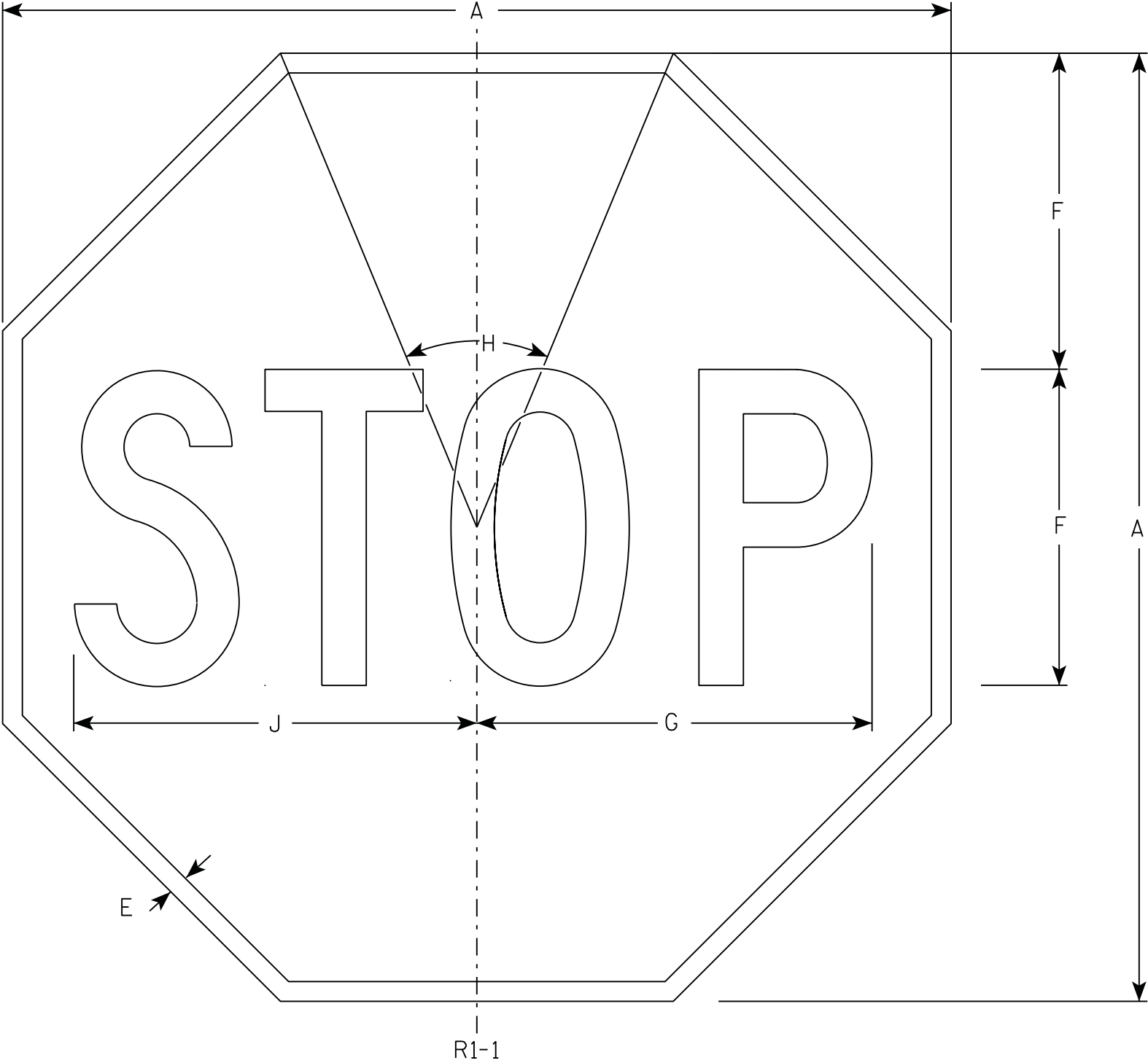
STANDARD SIGN
M6 - 4 & M6 - 6
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-4.10

7



NOTES

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

7

R1-1

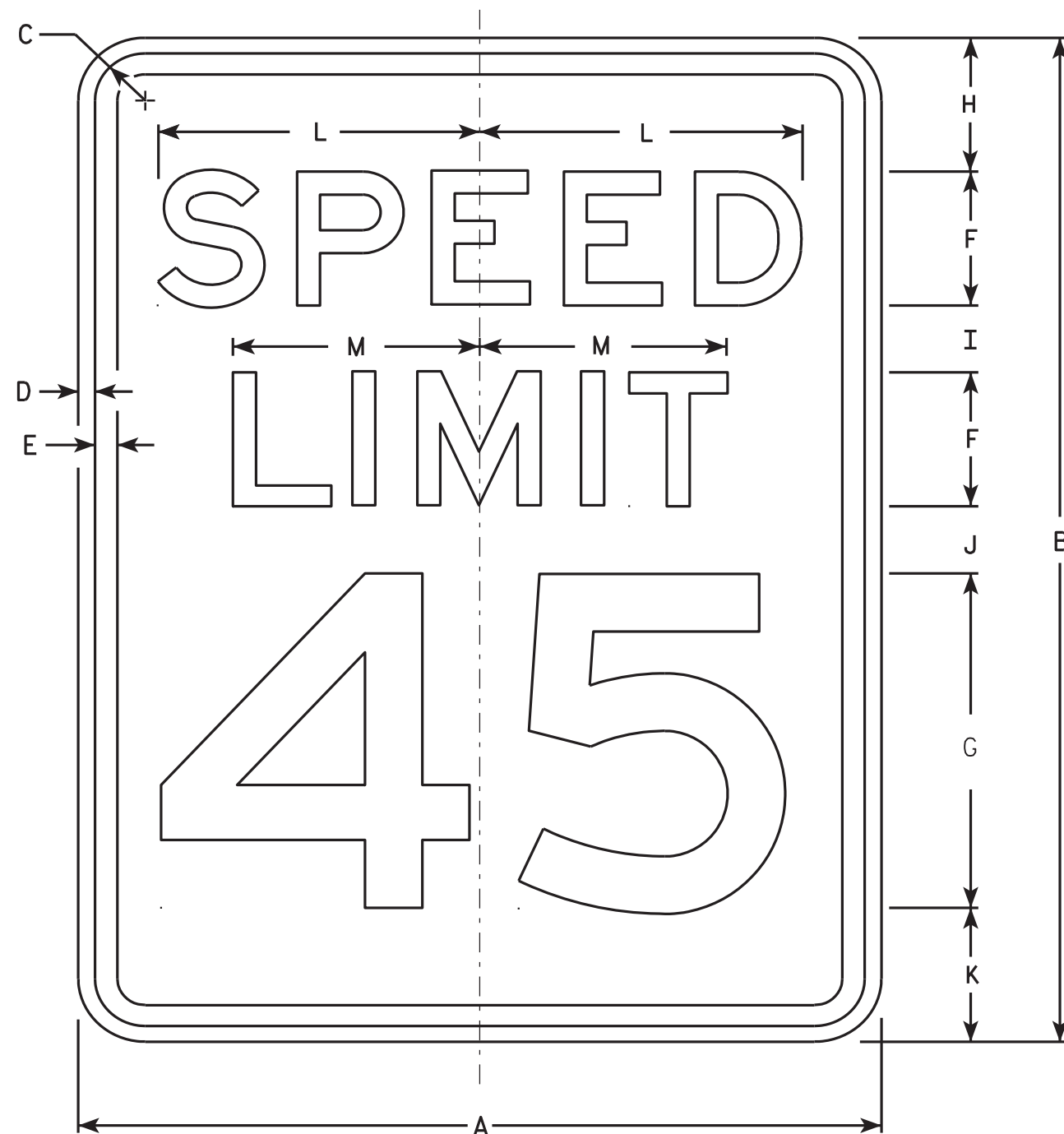
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



R2-1

NOTES

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

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	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

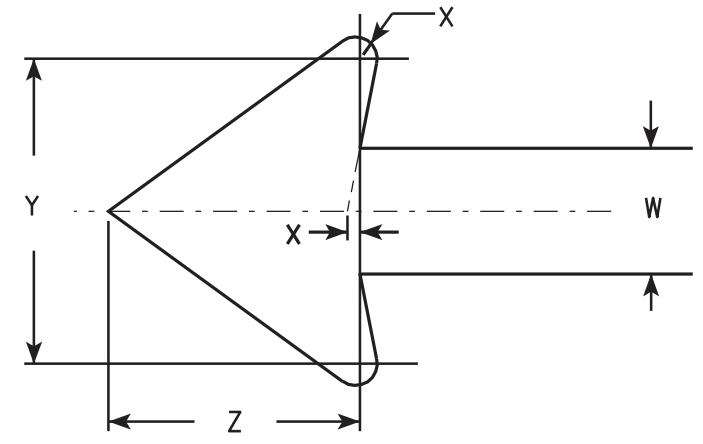
PROJECT NO: HWY: COUNTY: SHEET NO: E



R7-53

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-53D (double arrow)
R7-53L (left arrow)
R7-53R (right arrow)

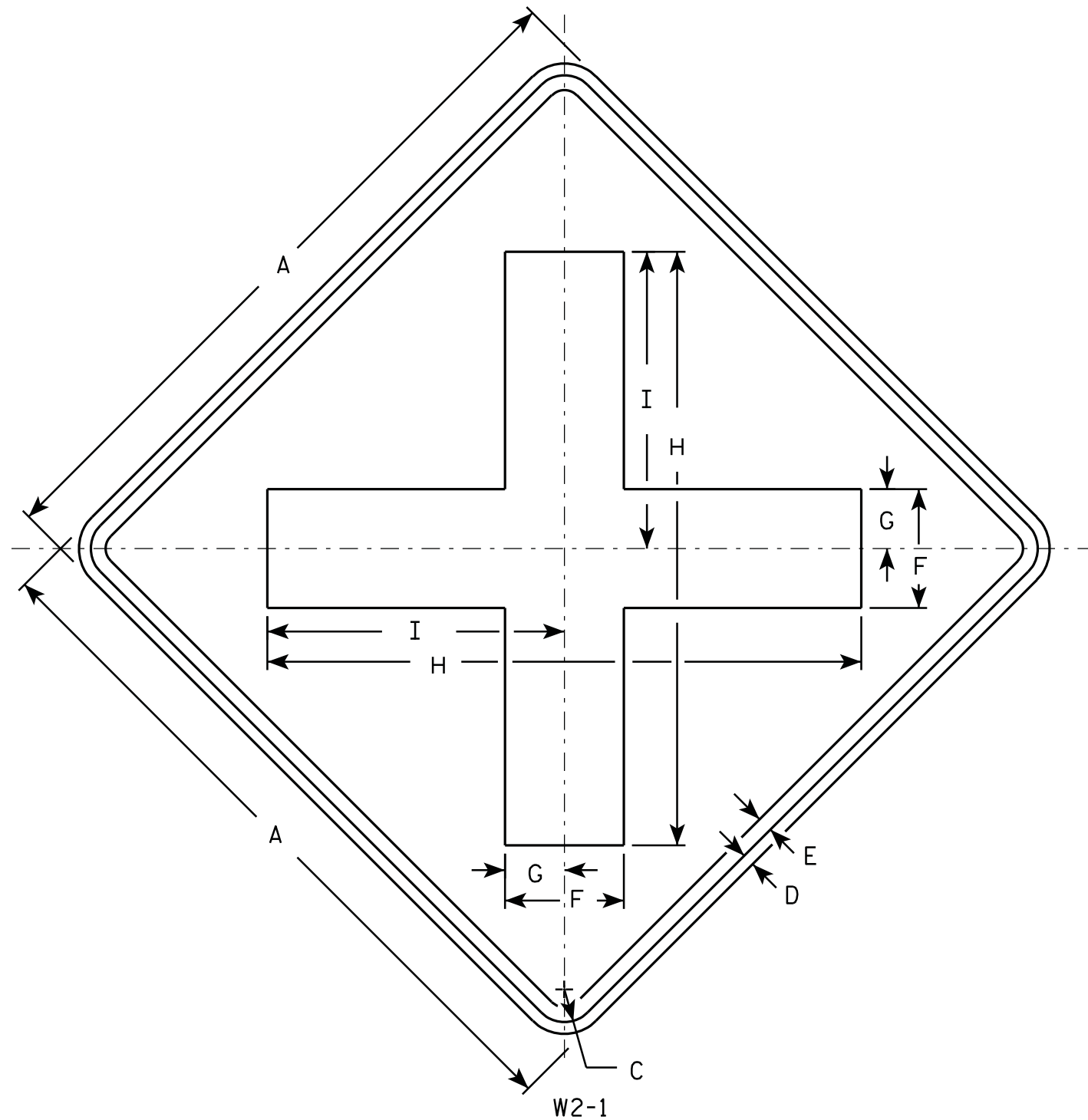


ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 5/8	1 3/4	1/4	4 1/2	2 3/8	3 7/8	3/4	1/8	1 3/4	1 1/2	1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	3 3/8	1 1/2	5/8	5 3/8	3	5 7/8	1 1/8	1/4	2 5/8	2 1/4	3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	4	2	5/8	6 5/8	3 5/8	7 3/4	1 1/2	1/4	3 1/2	3	5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	4	2	5/8	6 5/8	3 5/8	7 3/4	1 1/2	1/4	3 1/2	3	5.0
4																											
5																											

STANDARD SIGN R7-53	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 3/31/2011	PLATE NO. R7-53.6

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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NOTES

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

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 1/8	3/8	1/2	4	2	20	10																		4.0
2S	30		1 3/8	1/2	5/8	5	2 1/2	25	12 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	2 1/2	25	12 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3	30	15																		9.0
4	48		2 1/4	3/4	1	8	4	40	20																		16.0
5																											

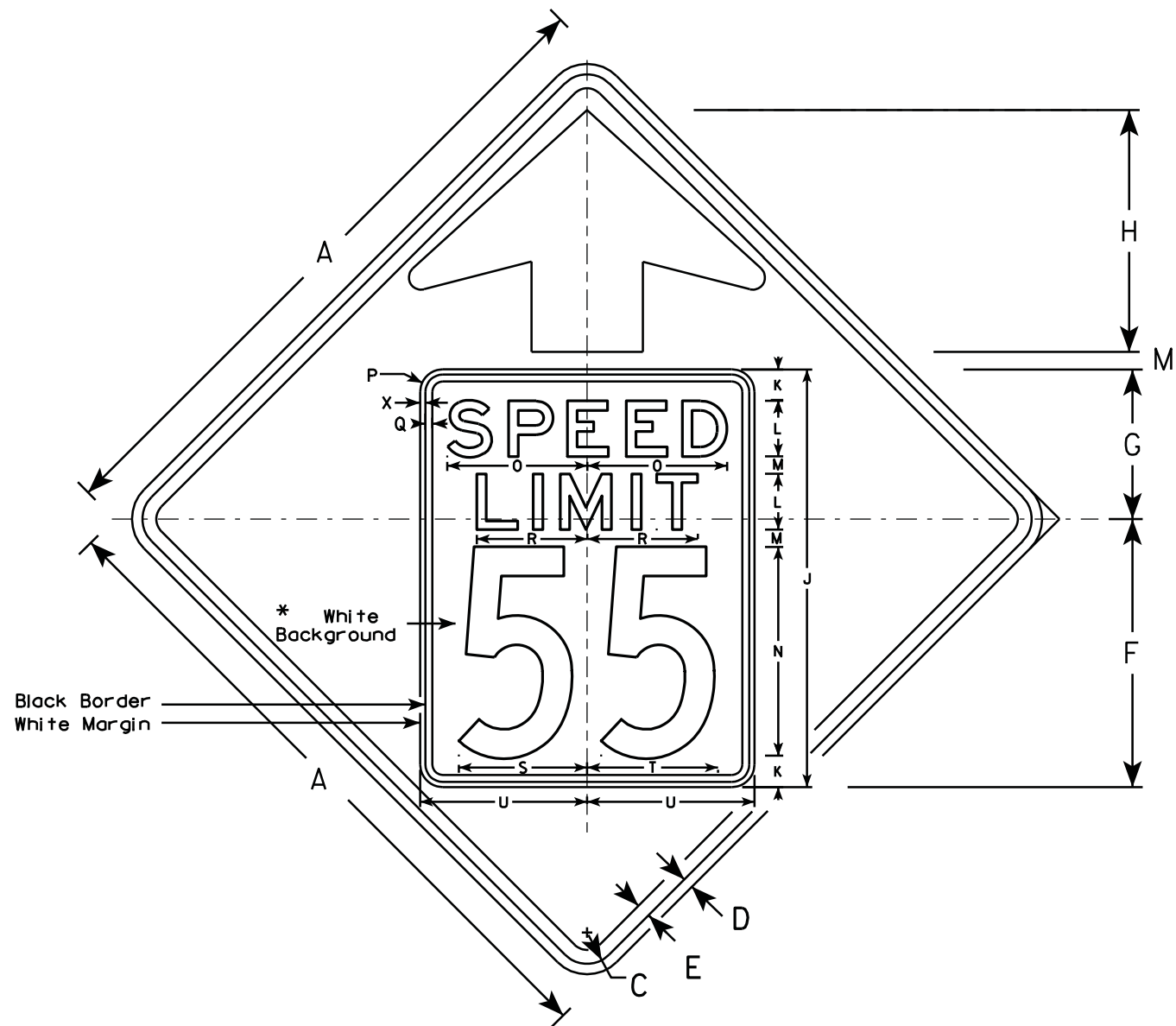
STANDARD SIGN W2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W2-1.9

PROJECT NO: HWY: COUNTY: SHEET NO: E

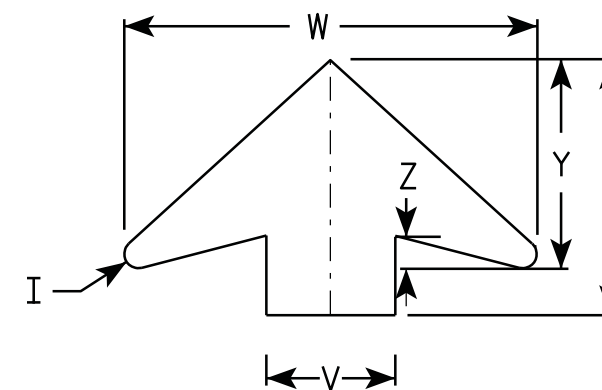


W3-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
Background - YELLOW*
Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

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	36		1 5⁄8	5⁄8	3⁄4	14 1⁄2	9 1⁄2	11 1⁄2	5⁄8	24	2	3	1	12	7 1⁄8	1 1⁄2	3⁄8	5 3⁄4	7 1⁄4	7 1⁄8	9	6	19 1⁄4	3⁄8	9 3⁄4	1 5⁄8	9.0
2M	36		1 5⁄8	5⁄8	3⁄4	14 1⁄2	9 1⁄2	11 1⁄2	5⁄8	24	2	3	1	12	7 1⁄8	1 1⁄2	3⁄8	5 3⁄4	7 1⁄4	7 1⁄8	9	6	19 1⁄4	3⁄8	9 3⁄4	1 5⁄8	9.0
3	36		1 5⁄8	5⁄8	3⁄4	14 1⁄2	9 1⁄2	11 1⁄2	5⁄8	24	2	3	1	12	7 1⁄8	1 1⁄2	3⁄8	5 3⁄4	7 1⁄4	7 1⁄8	9	6	19 1⁄4	3⁄8	9 3⁄4	1 5⁄8	9.0
4	48		2 1⁄4	3⁄4	1	19 1⁄4	10 3⁄4	17 3⁄8	7⁄8	30	2 1⁄4	4	1 1⁄4	15	10	1 5⁄8	1⁄2	8	9 1⁄4	9 3⁄8	12	8	25 5⁄8	3⁄8	13	2	16.0
5	48		2 1⁄4	3⁄4	1	19 1⁄4	10 3⁄4	17 3⁄8	7⁄8	30	2 1⁄4	4	1 1⁄4	15	10	1 5⁄8	1⁄2	8	9 1⁄4	9 3⁄8	12	8	25 5⁄8	3⁄8	13	2	16.0

STANDARD SIGN

W3-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

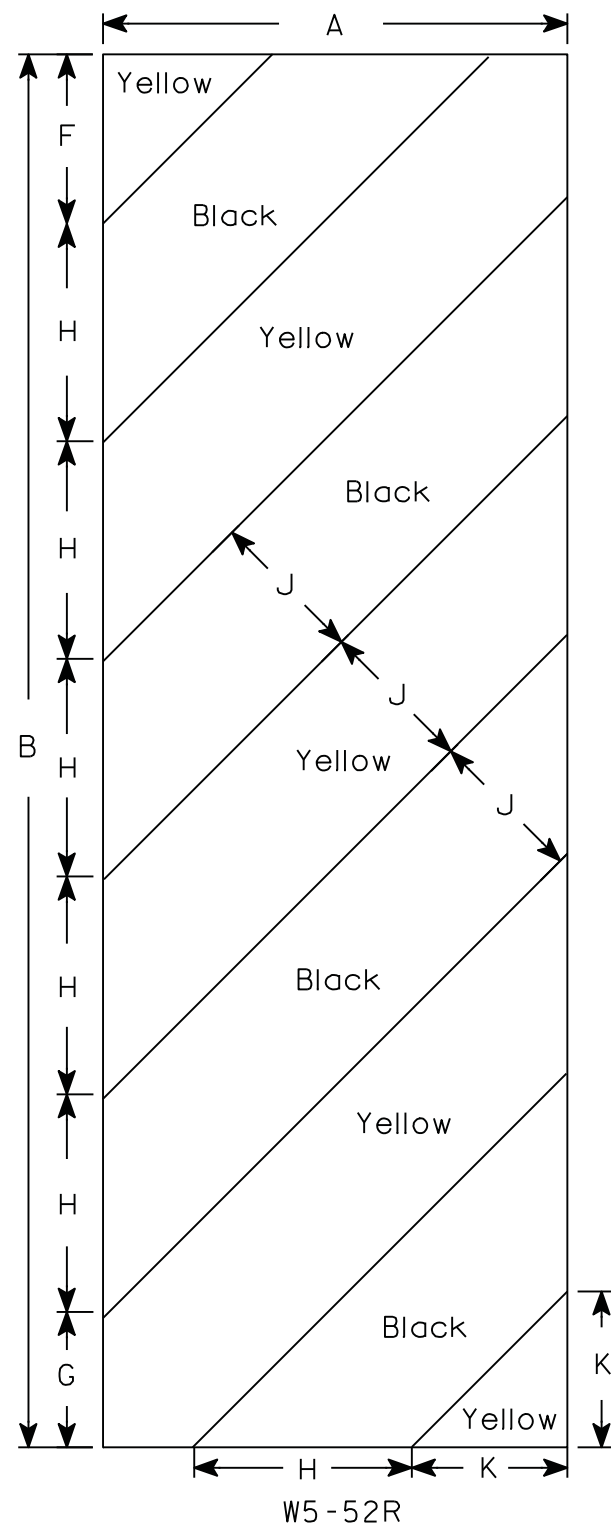
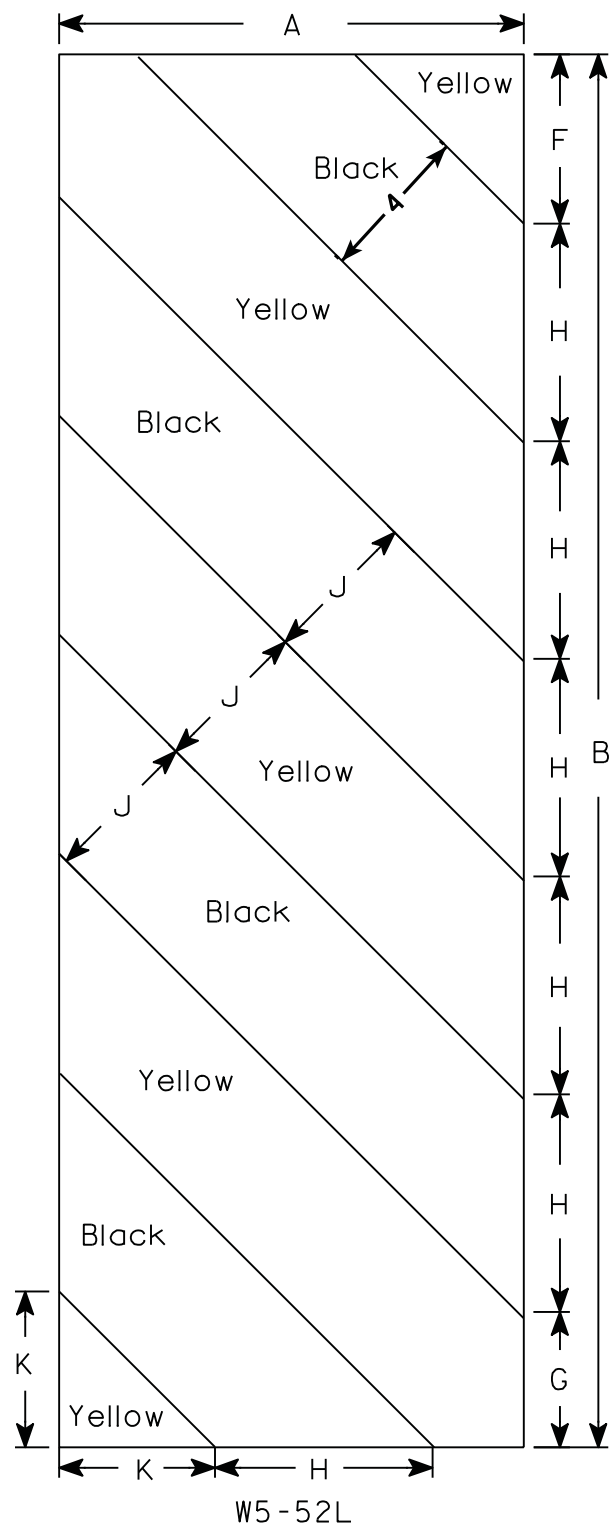
DATE 5/29/12

PLATE NO. W3-5.5

PROJECT NO:

SHEET NO:

E



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
2M	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
3	18	54				6	5 1⁄2	8 1⁄2	45°	6	6 5⁄16																6.75
4																											
5																											

STANDARD SIGN
W5-52L & W5-52R

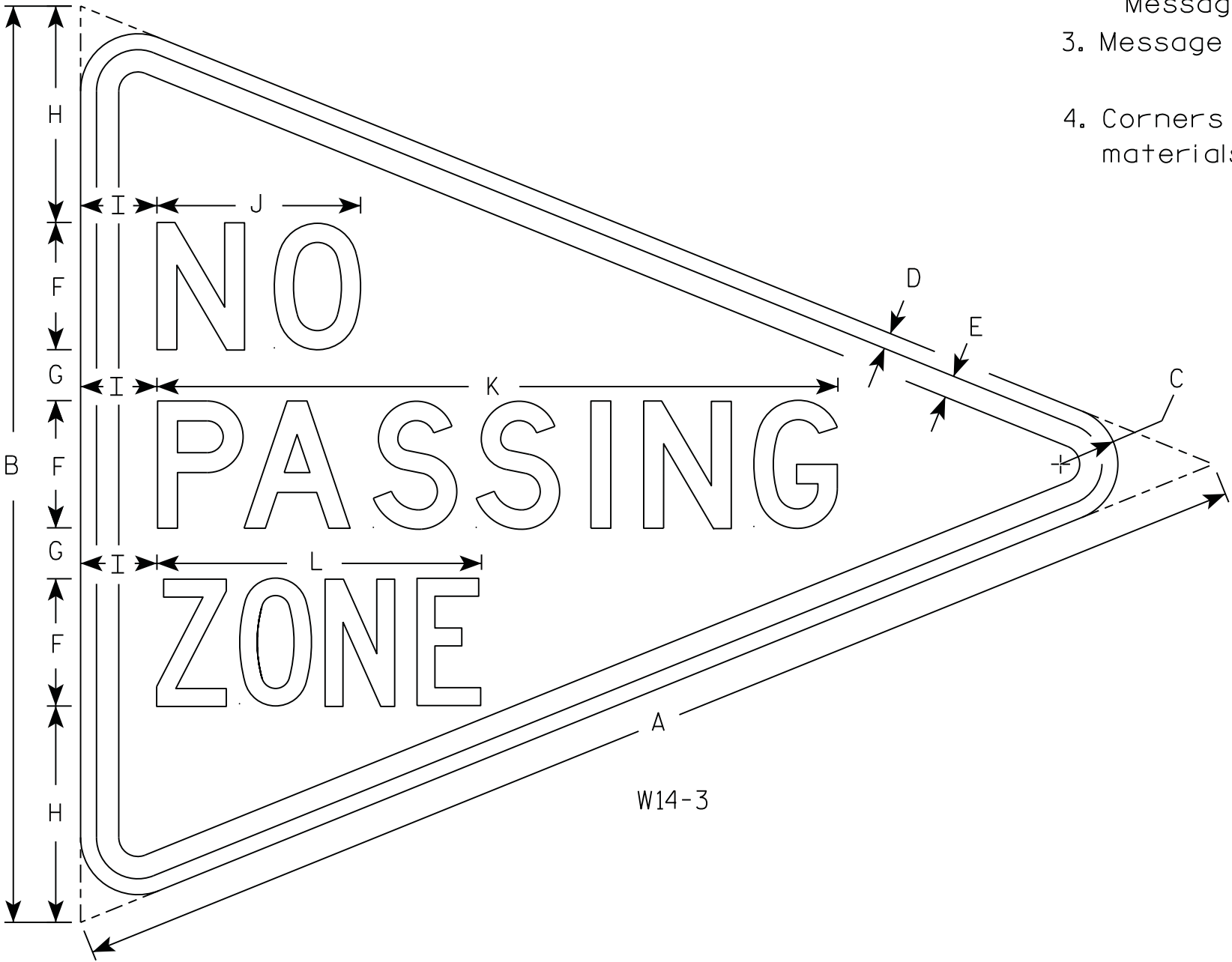
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Yellow
Message - Black
- 3. Message Series - Lines 1 and 2 are Series D.
Line 3 is series C.
- 4. Corners and borders shall be rounded on all base materials for this sign.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															5.56
2M																											
3																											
4																											
5																											

STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/21/17 PLATE NO. W14-3.10

EARTHWORK QUANTITIES

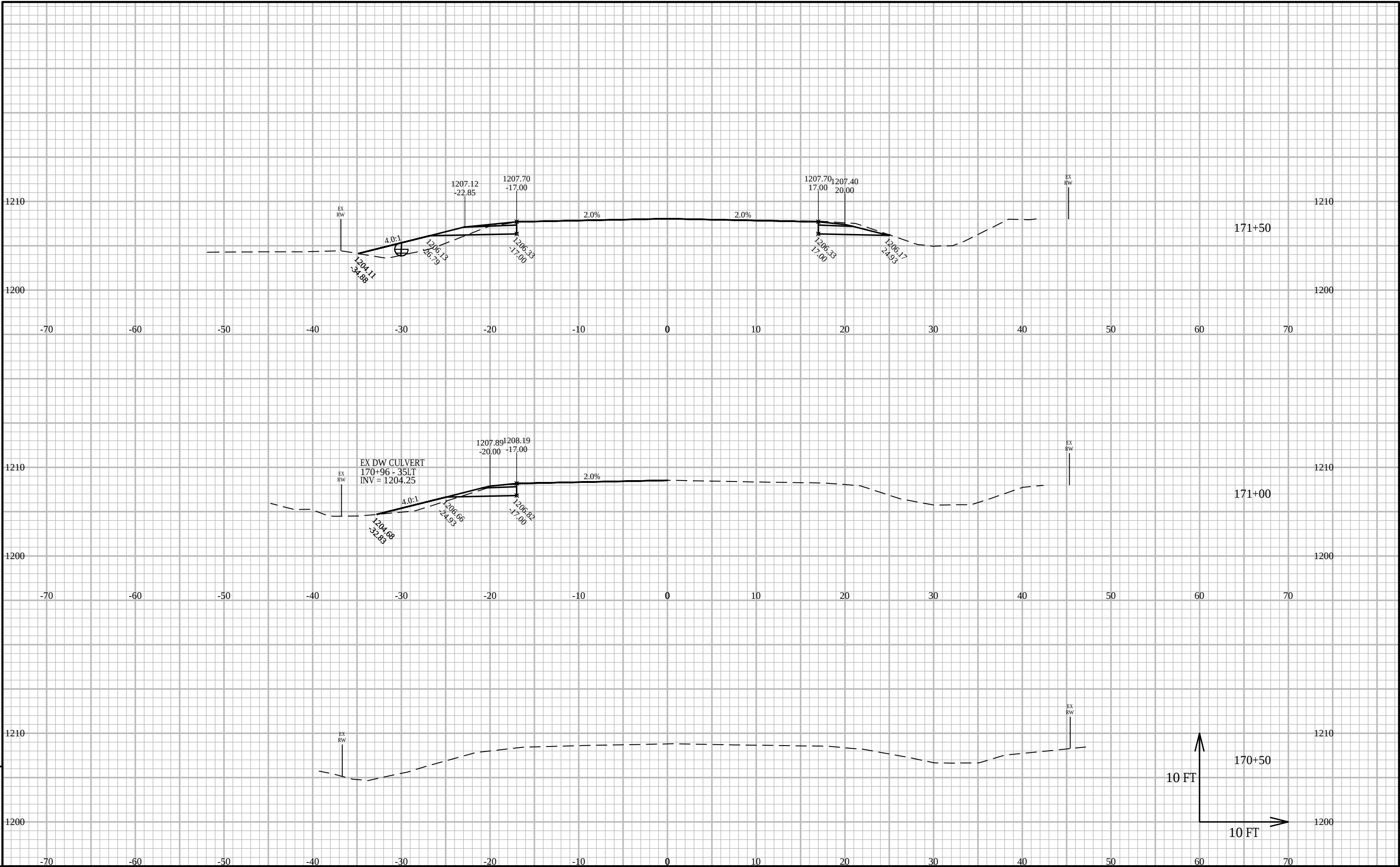
Station	CUT		FILL			CUMULATIVE		
	Cut Area (Sq.ft.)	Cut Volume (Cu.yd.) Note 1	Fill Area (Sq.ft.)	Fill Volume (Cu.yd.) Note 2	Expanded Fill (Cu. Yd.) Note 3	Cum. Cut Vol. (Cu.yd.)	Cum. Fill Vol. (Cu.yd.)	Cum. Net Vol. (Cu.yd.)
170+50	0	0	0	0	0	0	0	0
171+00	5	5	4	4	5	5	5	0
171+50	14	17	12	15	19	22	24	-2
171+75	14	13	14	12	15	35	39	-4
172+00	15	13	16	14	17	49	57	-8
172+01	15	1	16	1	1	50	58	-9
172+26	13	13	14	14	17	62	76	-13
172+37	13	5	9	5	6	68	81	-14
172+47	22	7	10	4	4	74	86	-12
172+51	25	4	10	2	2	78	88	-10
172+72	23	18	21	12	15	96	103	-7
172+97	6	14	22	20	25	110	128	-18
173+00	17	1	23	2	3	111	131	-20
173+17	29	15	34	19	23	126	154	-28
173+25	29	8	38	10	13	134	167	-32
173+37	29	14	34	17	22	148	188	-40
173+50	29	13	19	12	15	161	203	-42
174+00	23	49	0	18	22	209	225	-16
174+50	27	47	0	0	0	256	225	31
174+86	31	40	2	1	1	296	226	70
175+00	18	12	13	4	5	308	231	77
175+07	20	5	11	3	4	313	235	78
175+27	28	18	11	8	10	331	245	86
175+50	30	24	11	9	12	355	257	98

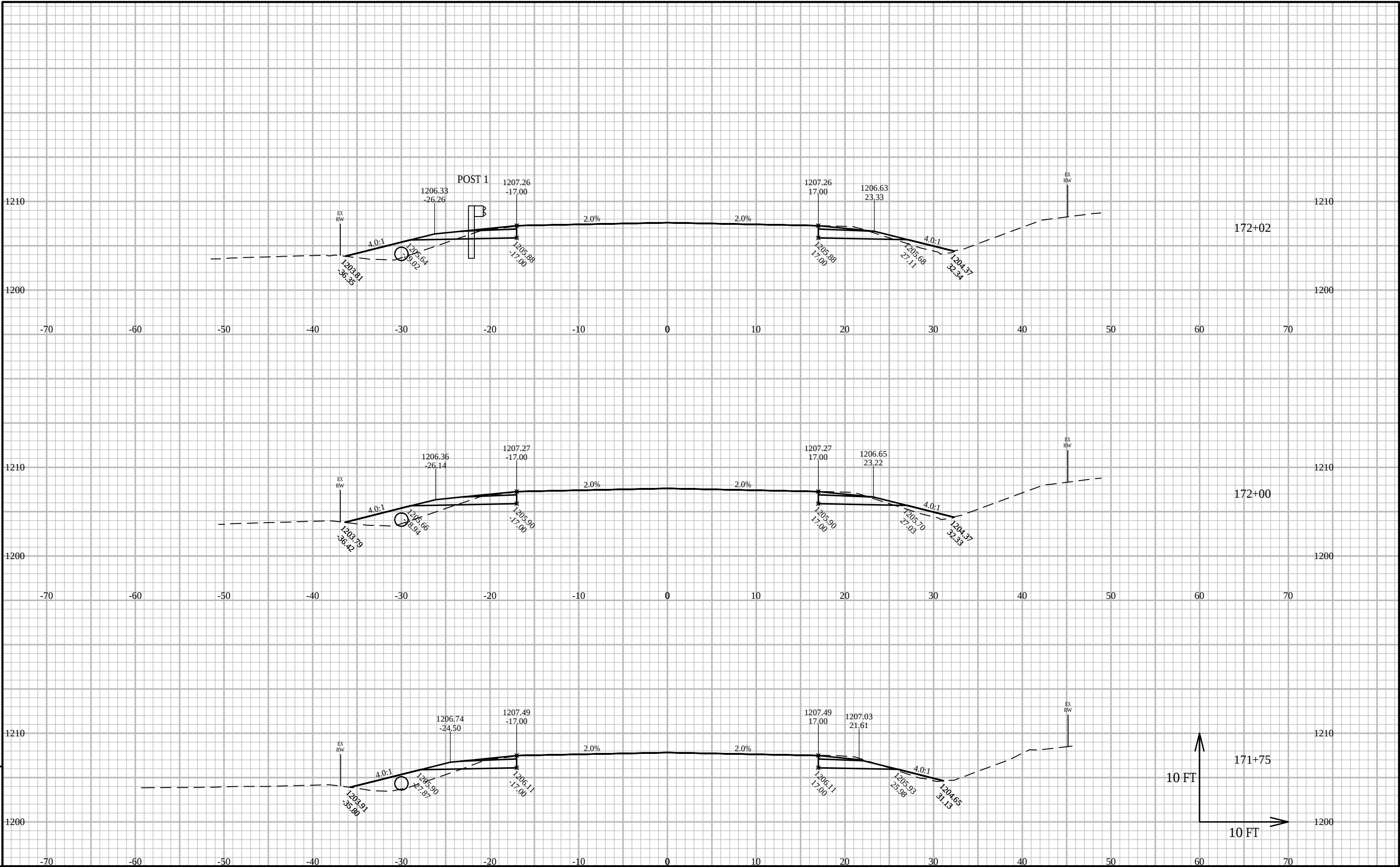
EARTHWORK QUANTITIES

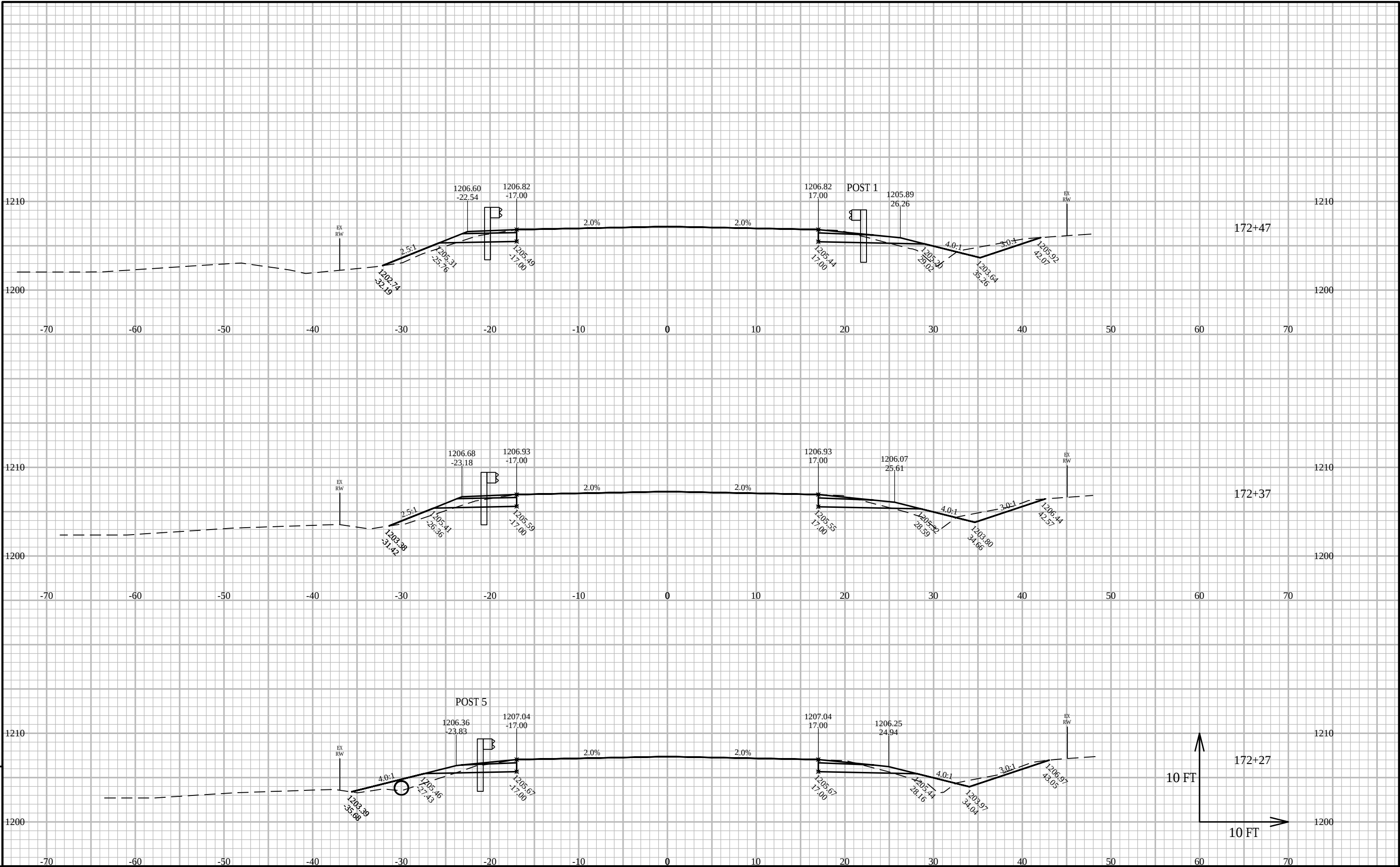
Station	CUT		FILL			CUMULATIVE		
	Cut Area (Sq.ft.)	Cut Volume (Cu.yd.) Note 1	Fill Area (Sq.ft.)	Fill Volume (Cu.yd.) Note 2	Expanded Fill (Cu. Yd.) Note 3	Cum. Cut Vol. (Cu.yd.)	Cum. Fill Vol. (Cu.yd.)	Cum. Net Vol. (Cu.yd.)
176+00	17	44	24	32	40	399	298	101
176+50	18	32	28	48	60	431	357	74
177+00	17	32	11	36	45	463	402	61
177+50	1	16	3	13	16	480	418	62
177+77	22	11	1	2	2	491	421	71
178+00	33	23	1	1	1	514	421	93
178+15	33	18	6	2	2	532	424	109
178+40	22	25	20	12	15	558	439	119
178+50	12	6	21	8	9	564	448	116
178+65	12	7	19	11	14	571	462	109
178+73	13	4	20	6	7	574	469	105
178+98	24	17	10	14	18	591	487	105
179+00	24	2	10	1	1	593	488	105
179+23	19	19	16	11	14	612	502	110
179+50	15	17	5	10	13	629	515	114
179+59	16	5	3	1	2	634	516	118
180+00	7	17	2	4	5	651	521	130
180+17	7	4	1	1	1	656	522	133
180+25	7	2	1	0	0	658	523	135
180+50	0	3	0	0	1	661	523	138
180+75	0	0	0	0	0	661	523	138
181+00	0	0	0	0	0	661	523	138
181+25	0	0	0	0	0	661	523	138
181+50	0	0	0	0	0	661	523	138

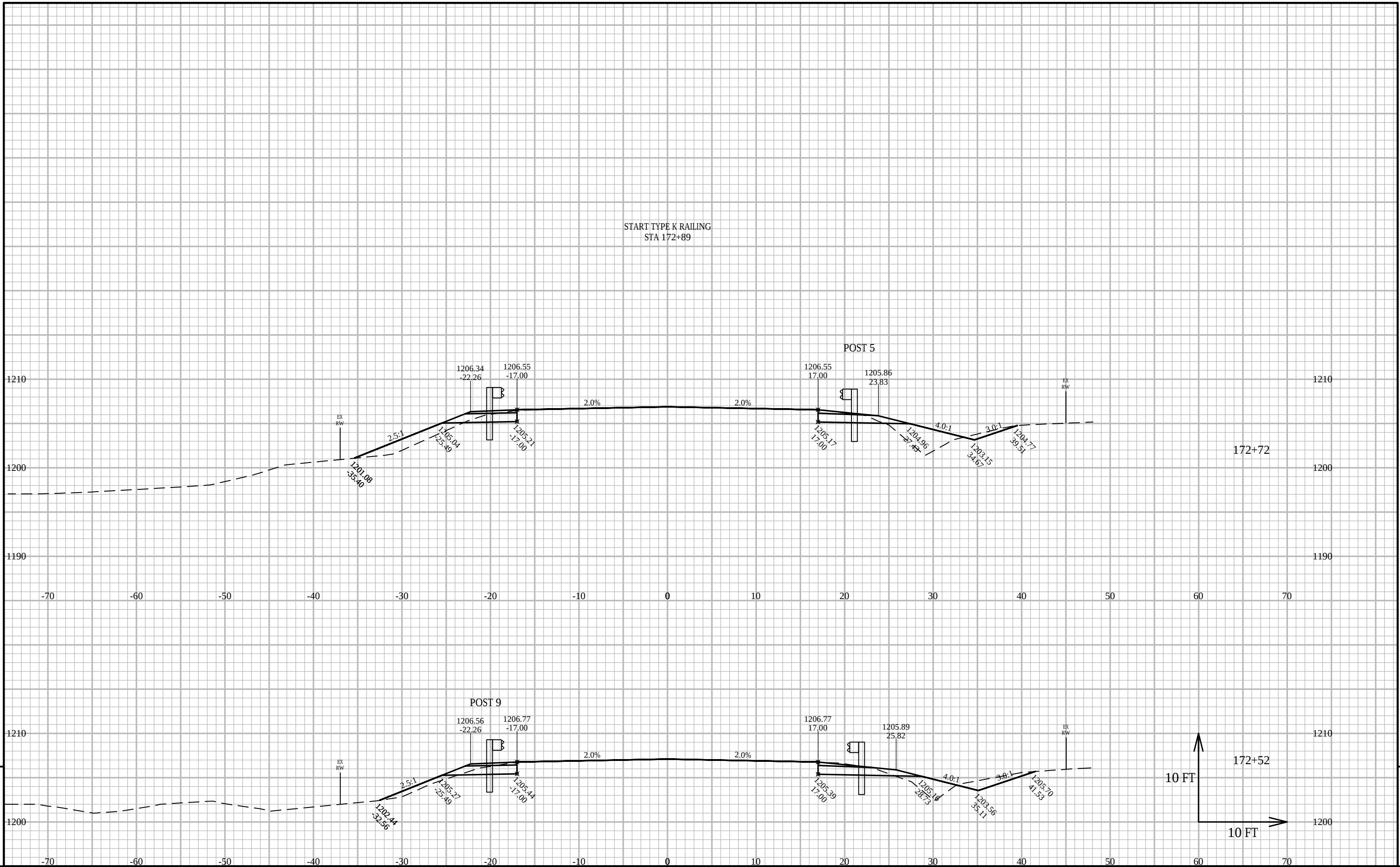
Notes

- 1) Volume includes excavated shoulder material
- 2) Volume includes shoulder material
- 3) Expanded Fill Factor = 1.25

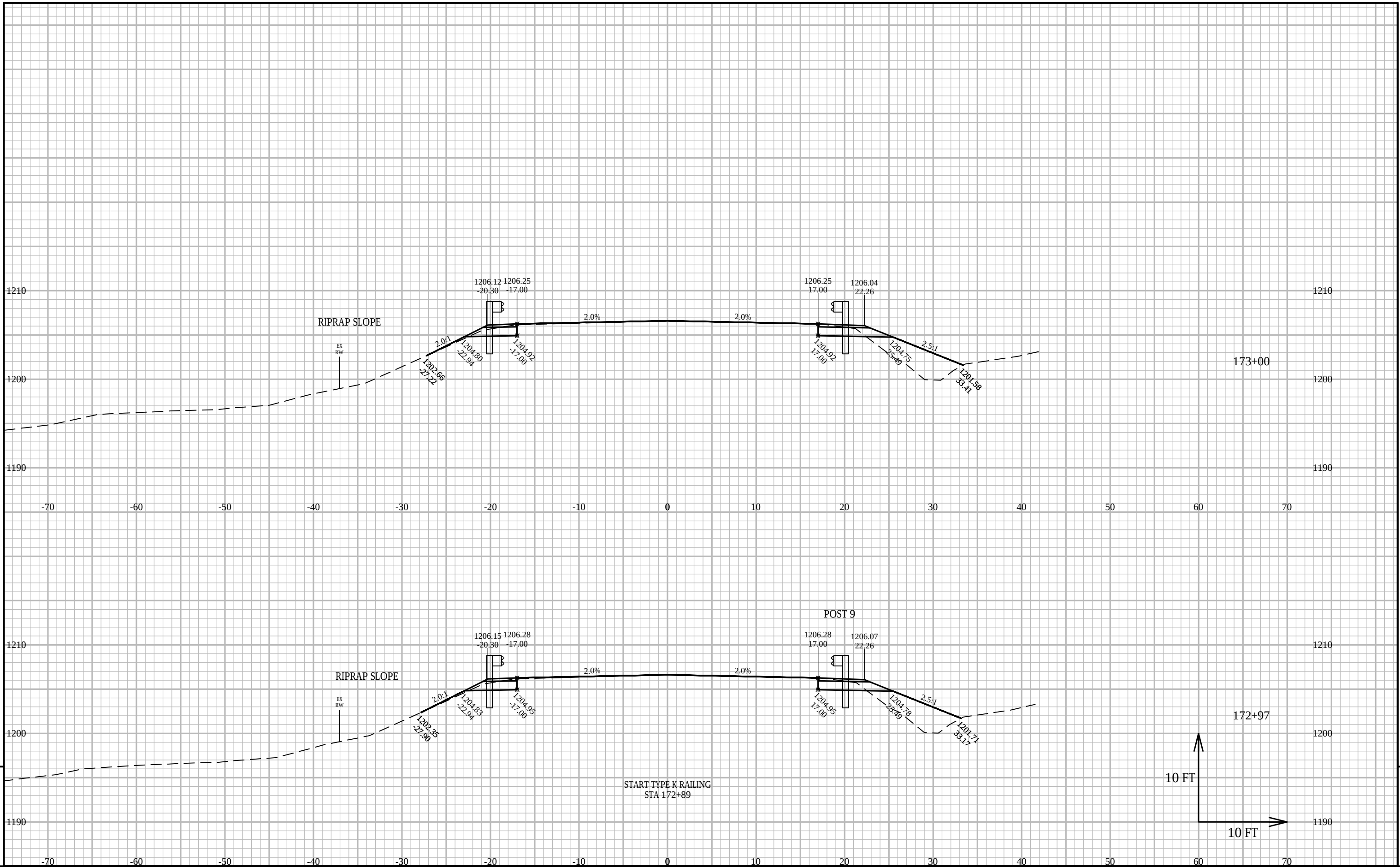




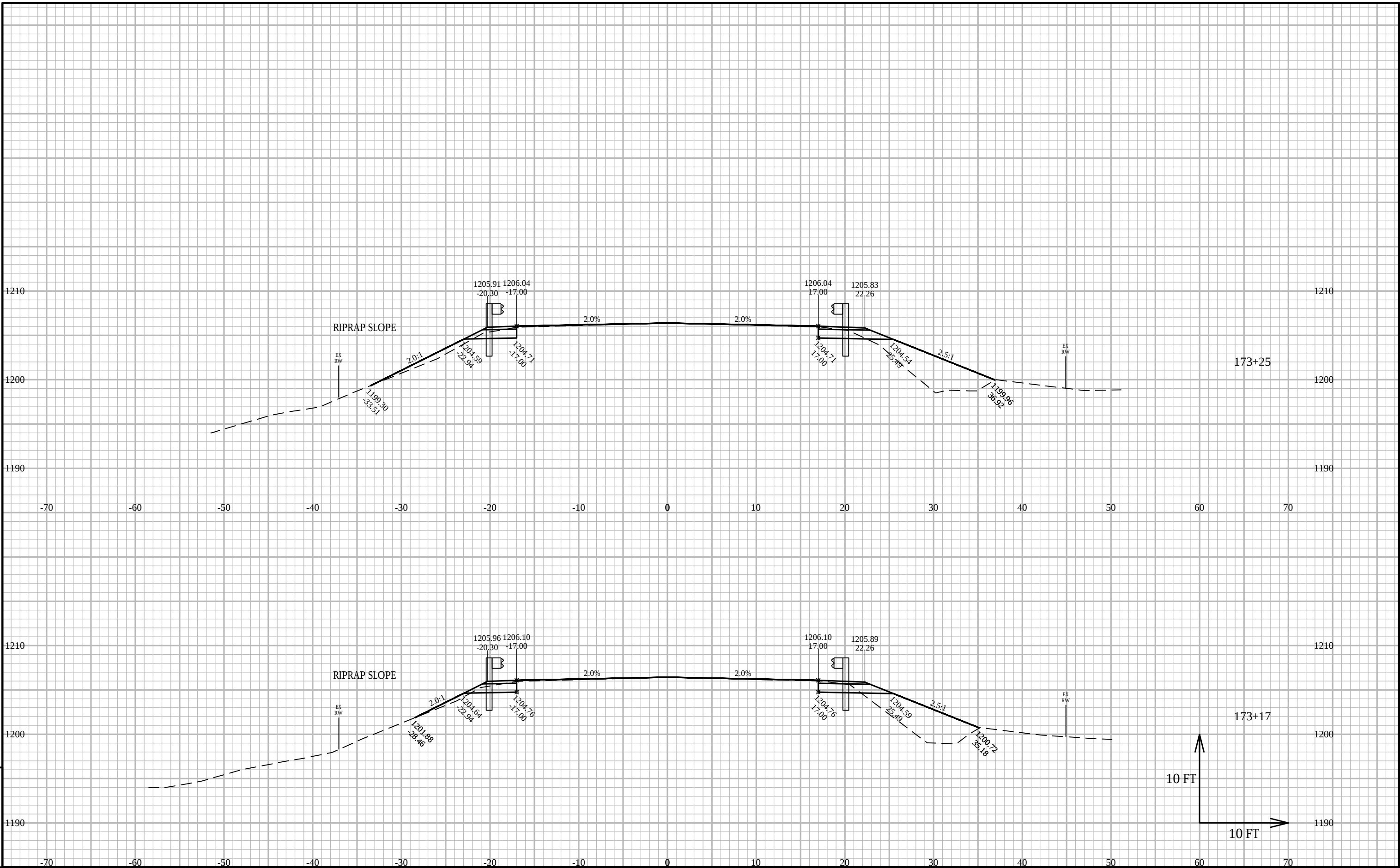


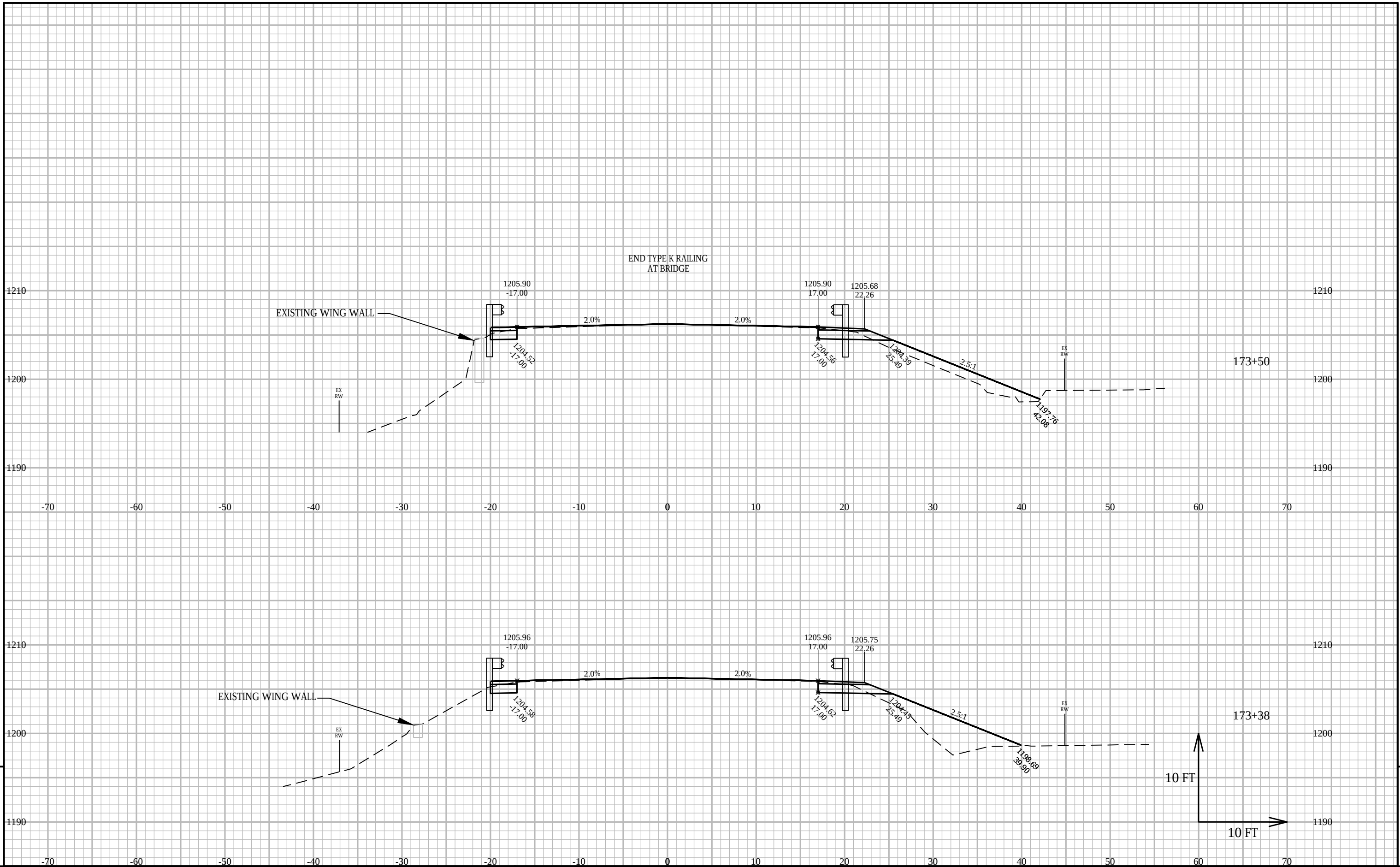


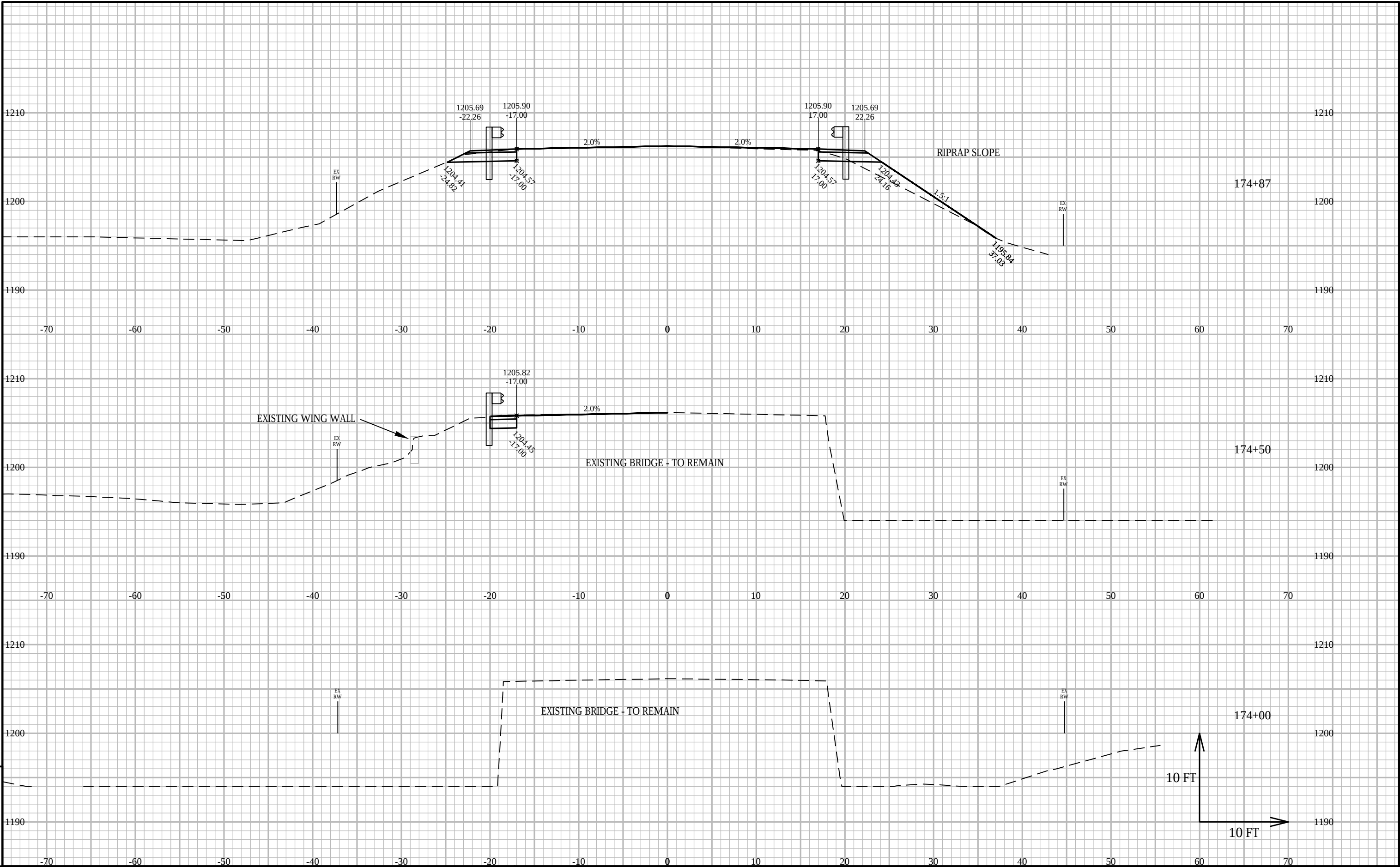
PROJECT NO: 6923-01-70	HWY: CTH H	COUNTY: WOOD	CROSS SECTIONS: YELLOW RIVER BRIDGE SECTIONS	SHEET	E
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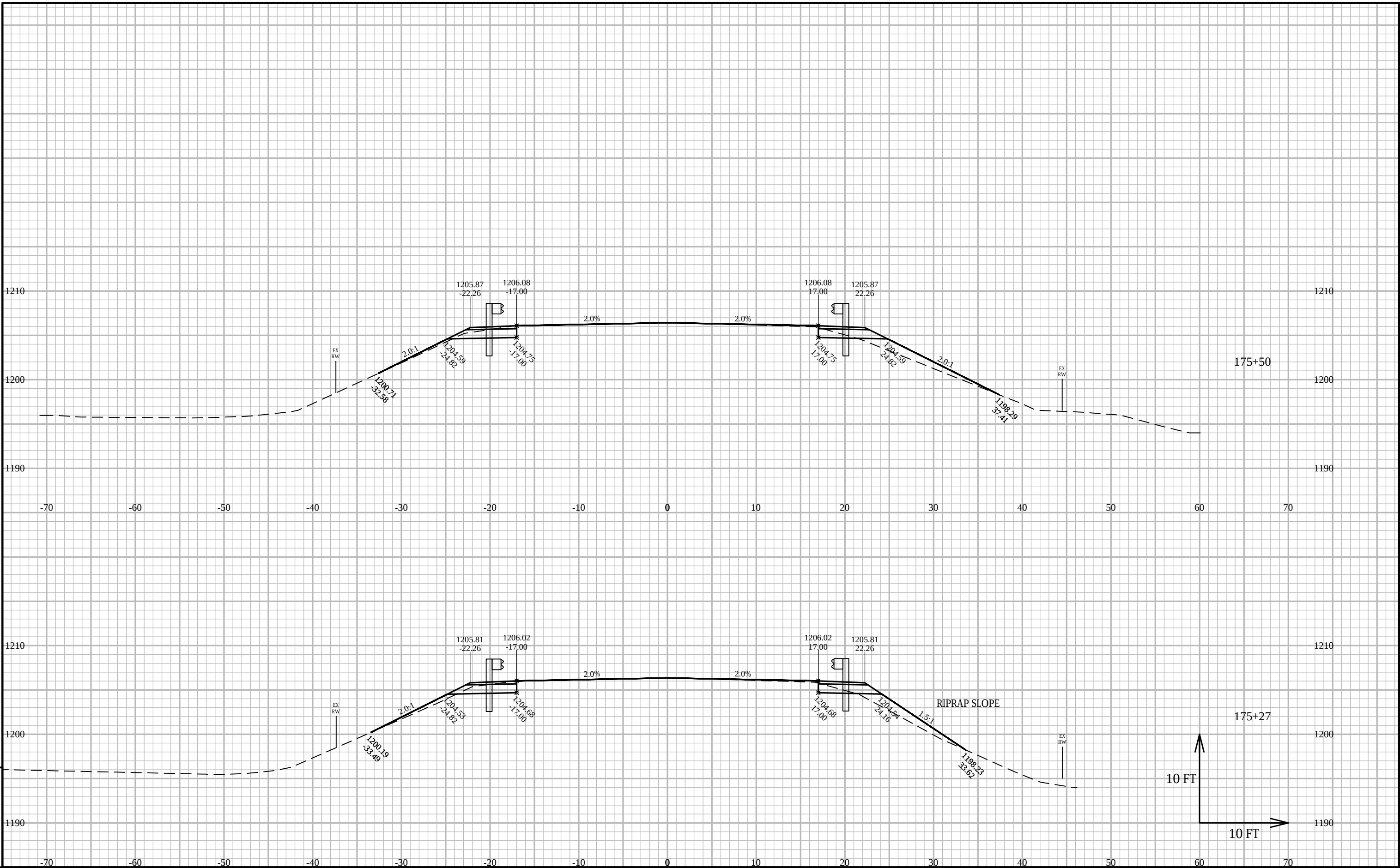


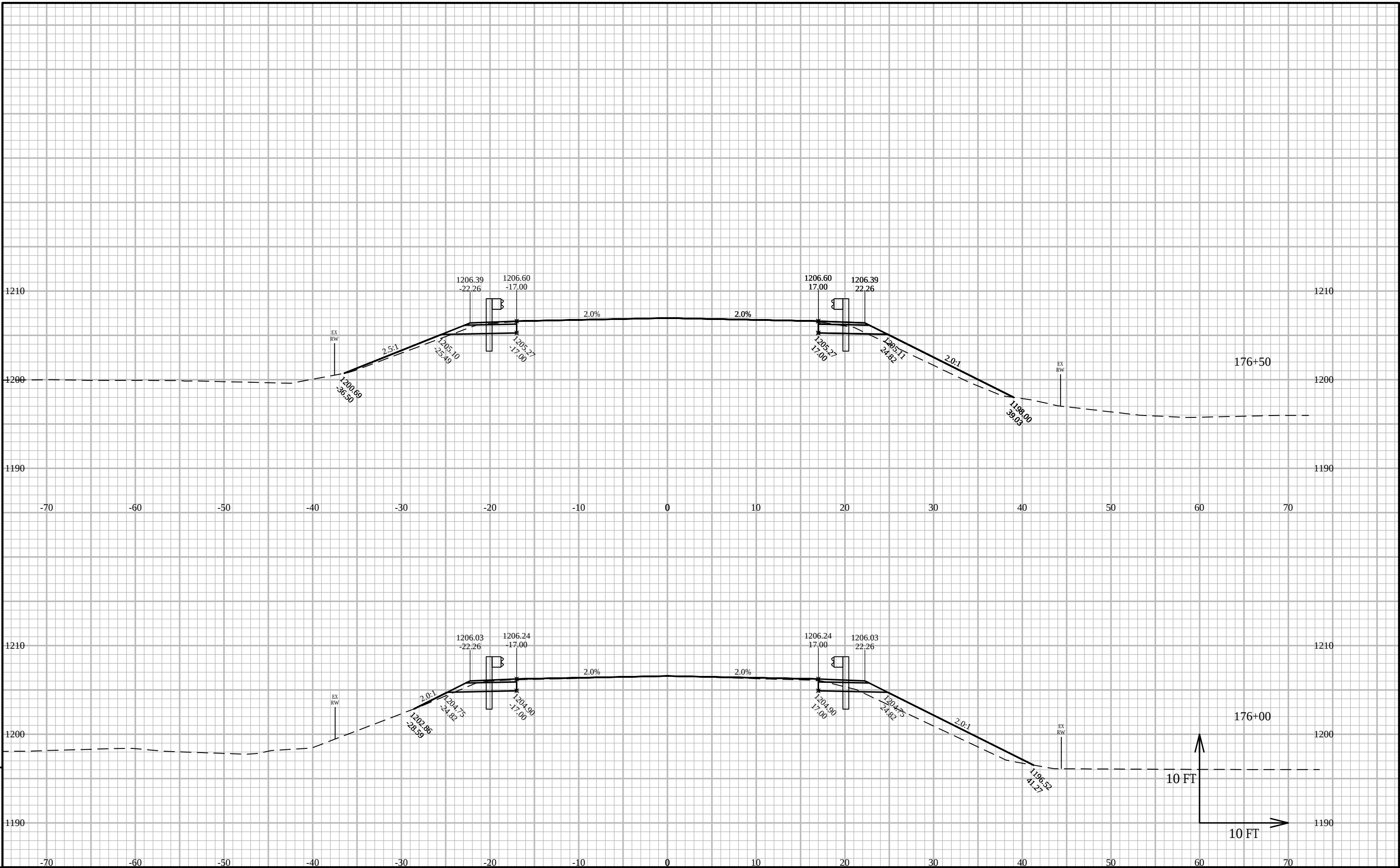
PROJECT NO: 6923-01-70	HWY: CTH H	COUNTY: WOOD	CROSS SECTIONS: YELLOW RIVER BRIDGE SECTIONS	SHEET E
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PROJECT NO: 6923-01-70

HWY: CTH H

COUNTY: WOOD

CROSS SECTIONS: YELLOW RIVER BRIDGE SECTIONS

SHEET

E

FILE NAME: R:\4200\4281\4281018\DWG\090101_XS.DWG
LAYOUT NAME - XS11

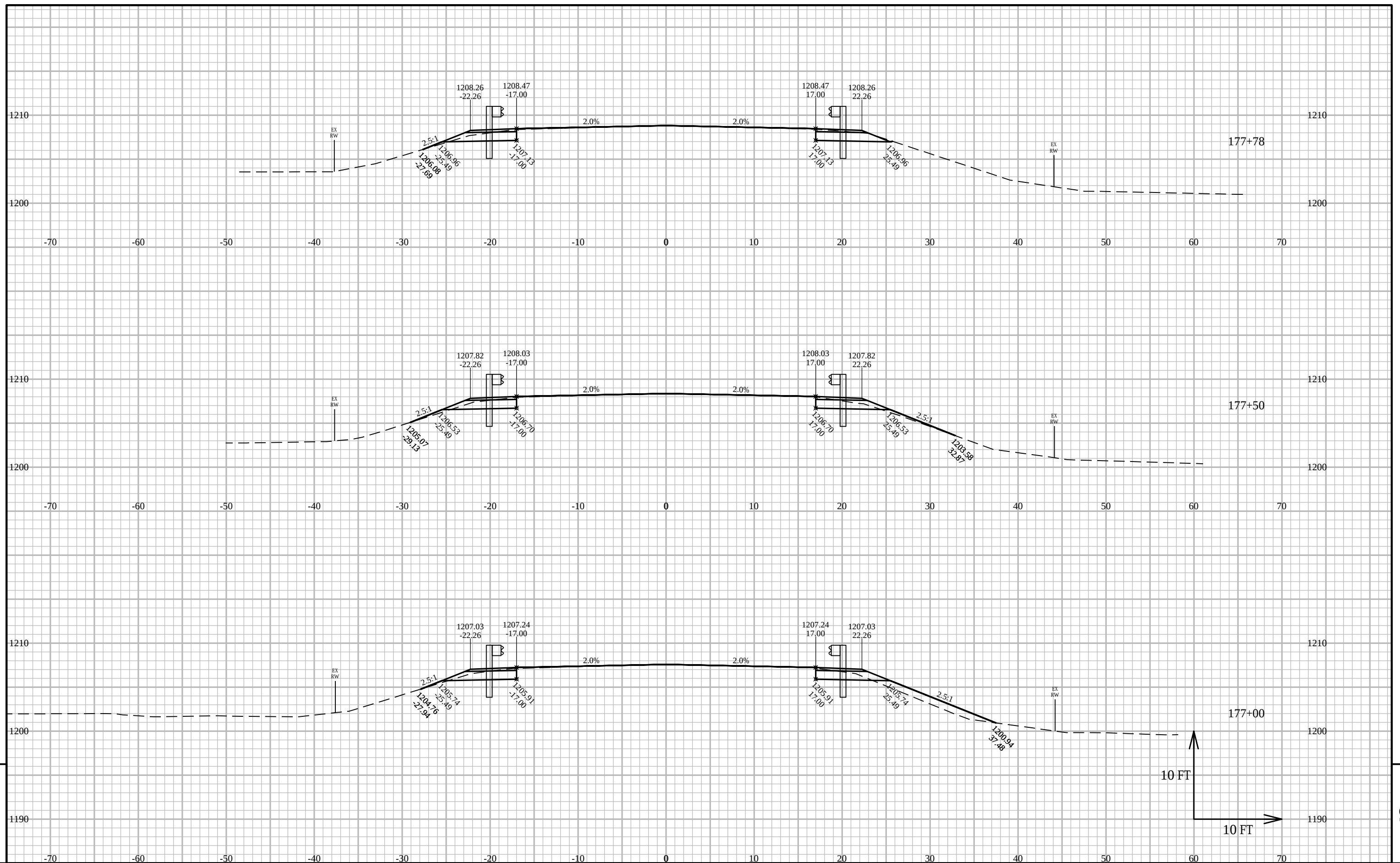
PLOT DATE: 7/23/2018 2:41 PM

PLOT BY: SCOTT M. DEBAKER

PLOT NAME:

PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDs SHEET 49



PROJECT NO:	6923-01-70
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HWY: CTH H

COUNTY: WOOD

CROSS SECTIONS:	YELLOW RIVER BRIDGE SECTIONS
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SHEET

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FILE NAME : R:\4200\4281\4281018\DWG\090101_XS.DWG
LAYOUT NAME - XS12

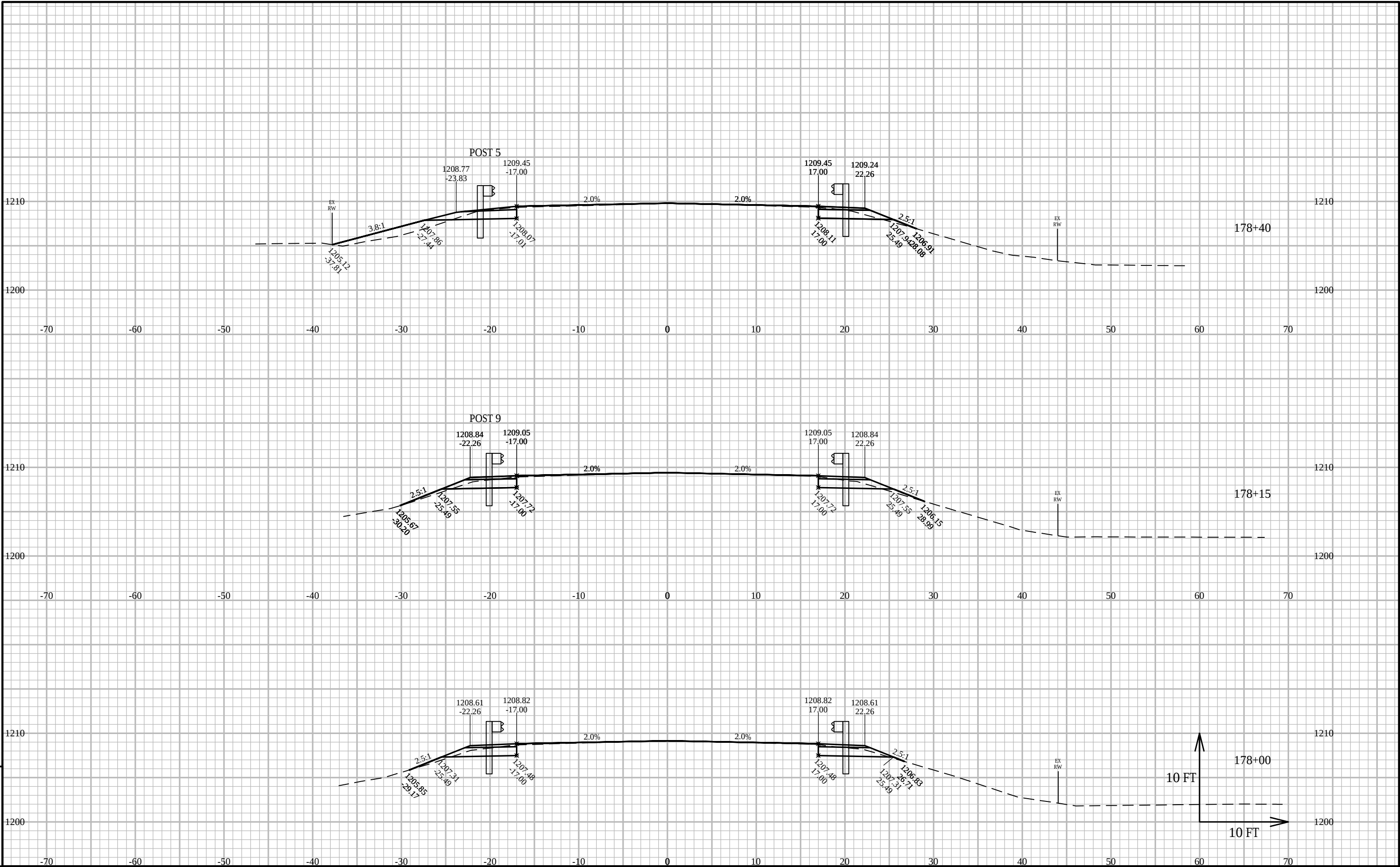
PLOT DATE : 7/23/2018 2:41 PM

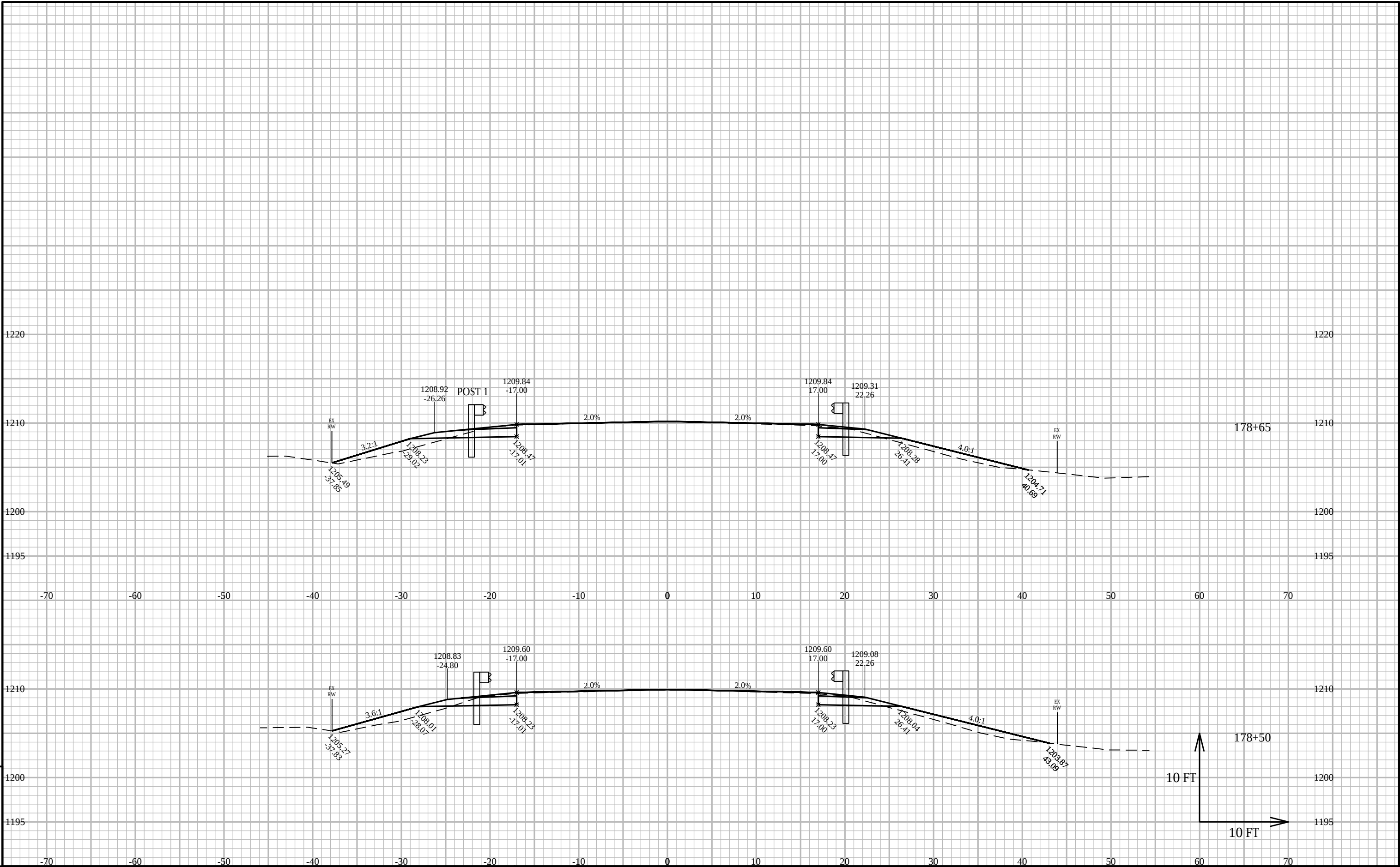
PLOT BY : SCOTT M. DEBAKER

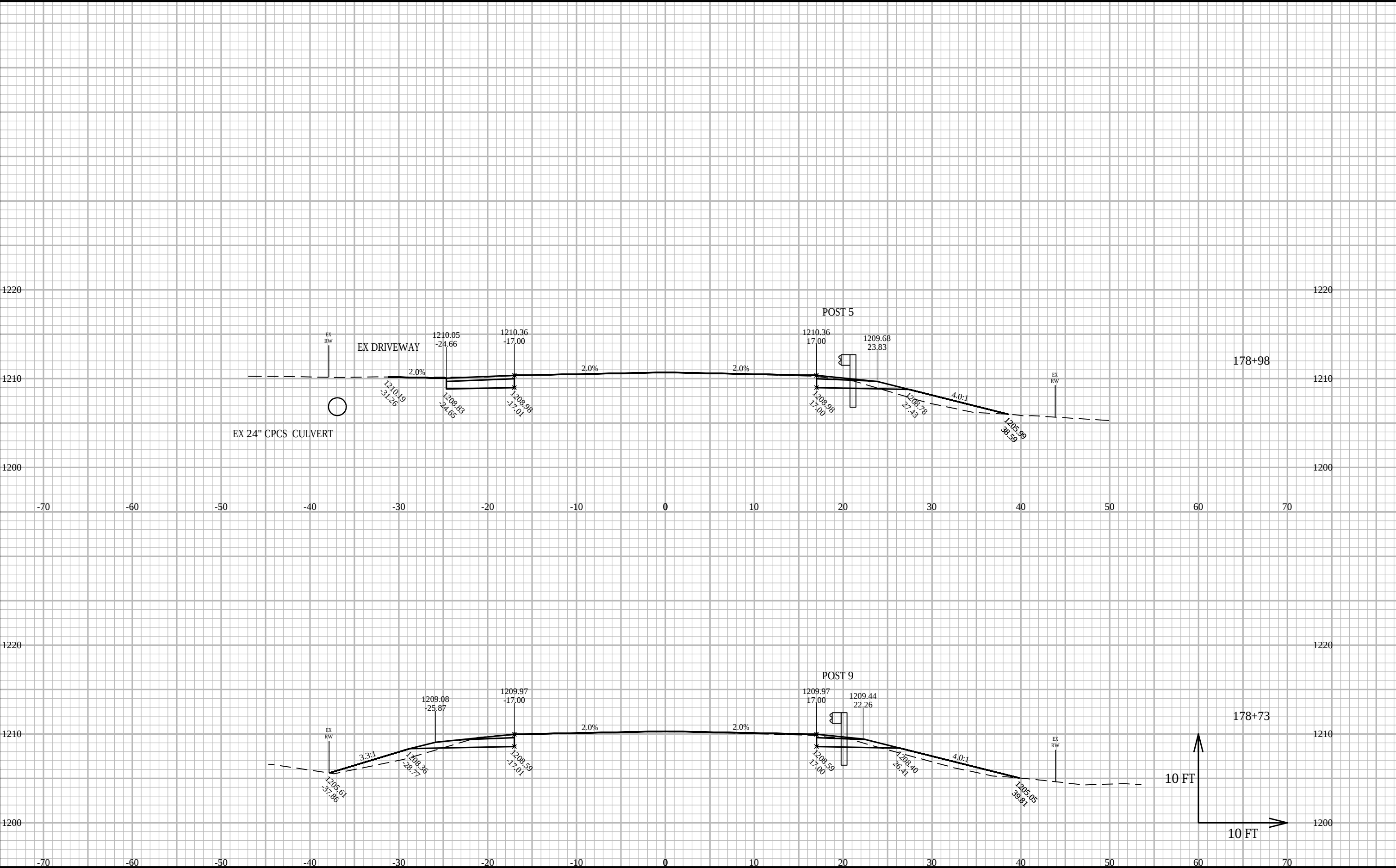
PLOT NAME :

PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

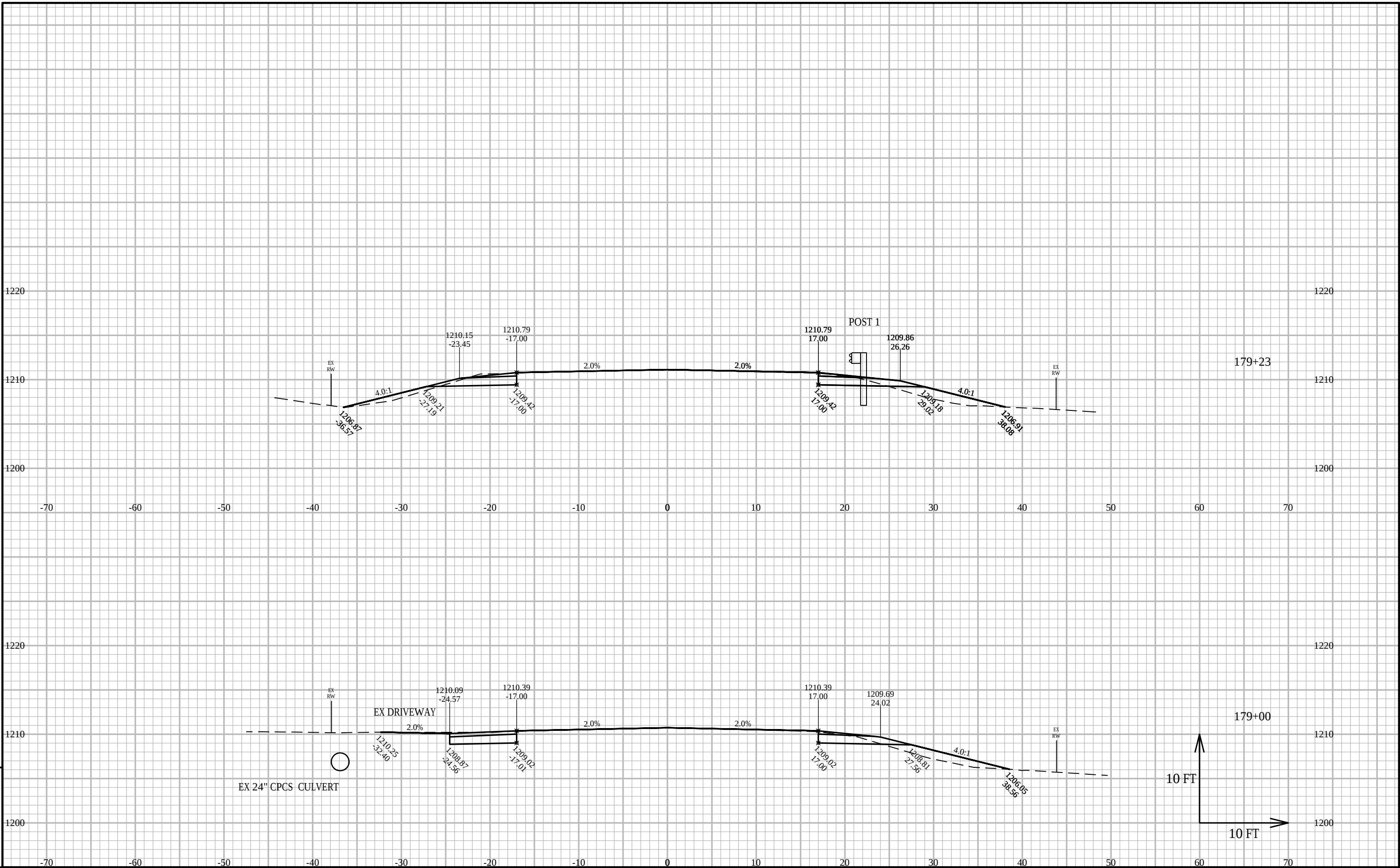
WISDOT/CADDS SHEET 49



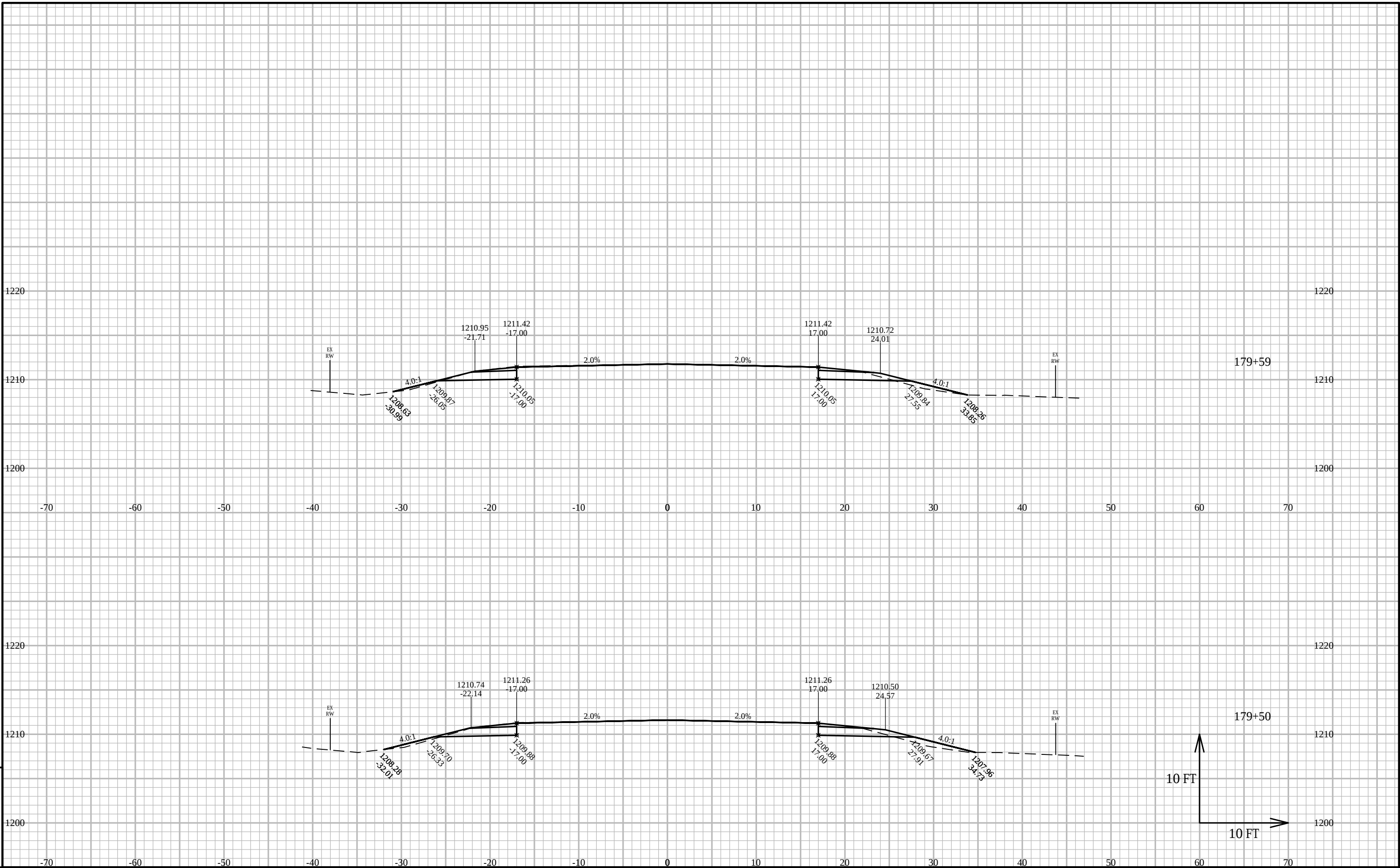


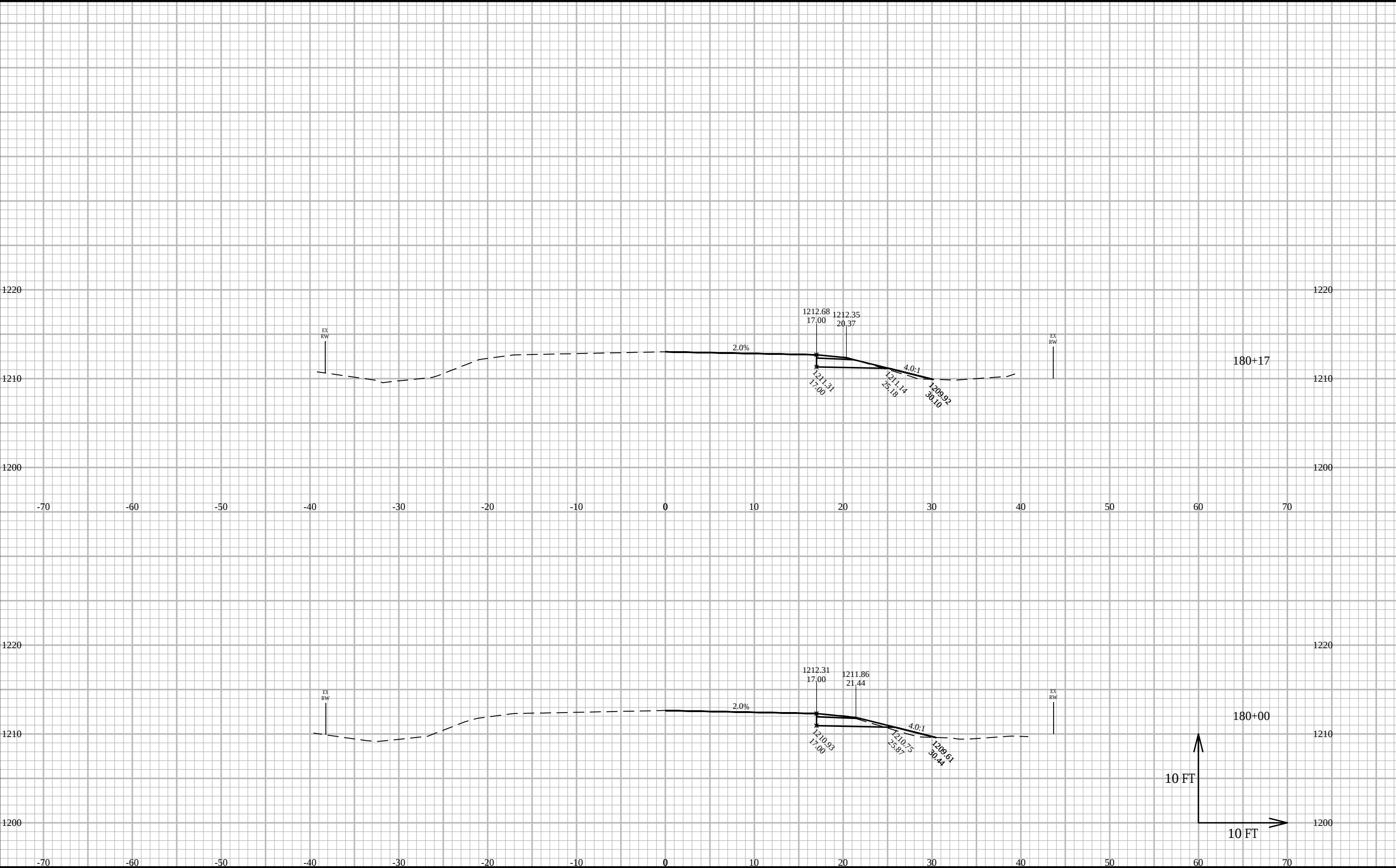


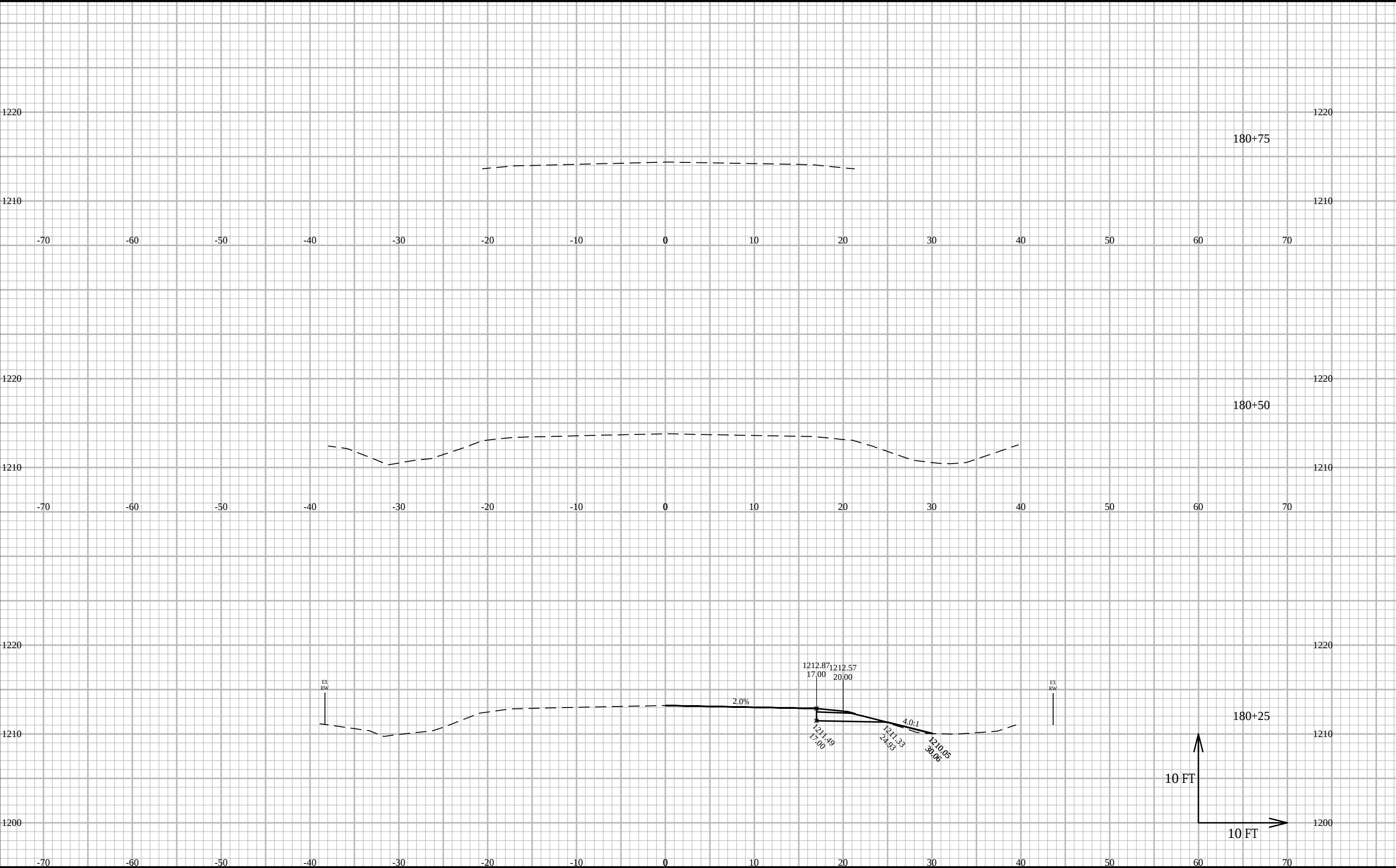
PROJECT NO:	6923-01-70	HWY:	CTH H	COUNTY:	WOOD	CROSS SECTIONS:	YELLOW RIVER BRIDGE SECTIONS	SHEET	E
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PROJECT NO: 6923-01-70	HWY: CTH H	COUNTY: WOOD	CROSS SECTIONS: YELLOW RIVER BRIDGE SECTIONS	SHEET E
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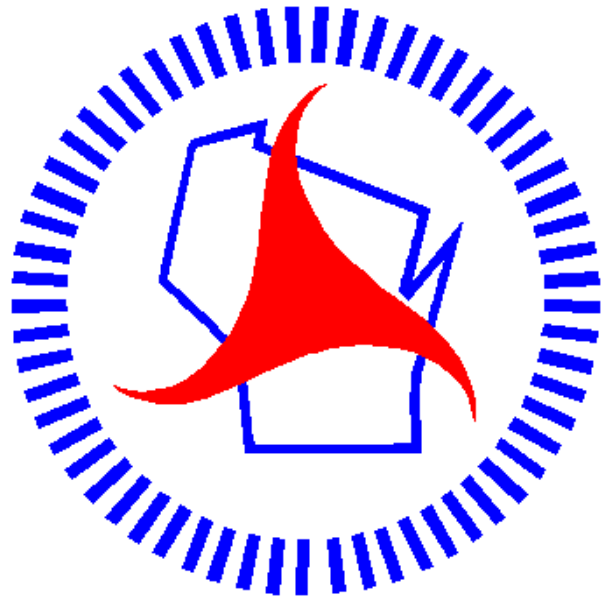




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Notes



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