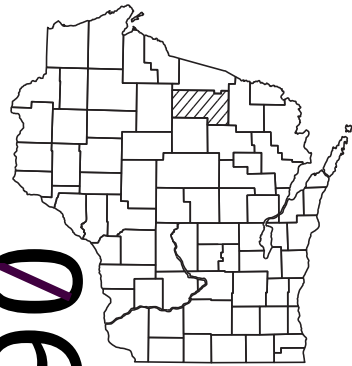


PROJECT ID: 1600-29-70
WITH:

COUNTY: ONEIDA

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 = 160



DESIGN DESIGNATION

A.A.D.T. (2009)	=	2,500
A.A.D.T. (2026)	=	3,000
D.H.V.	=	
D.	=	63-37
T.	=	7.5%
DESIGN SPEED	=	55 mph
ESALS	=	

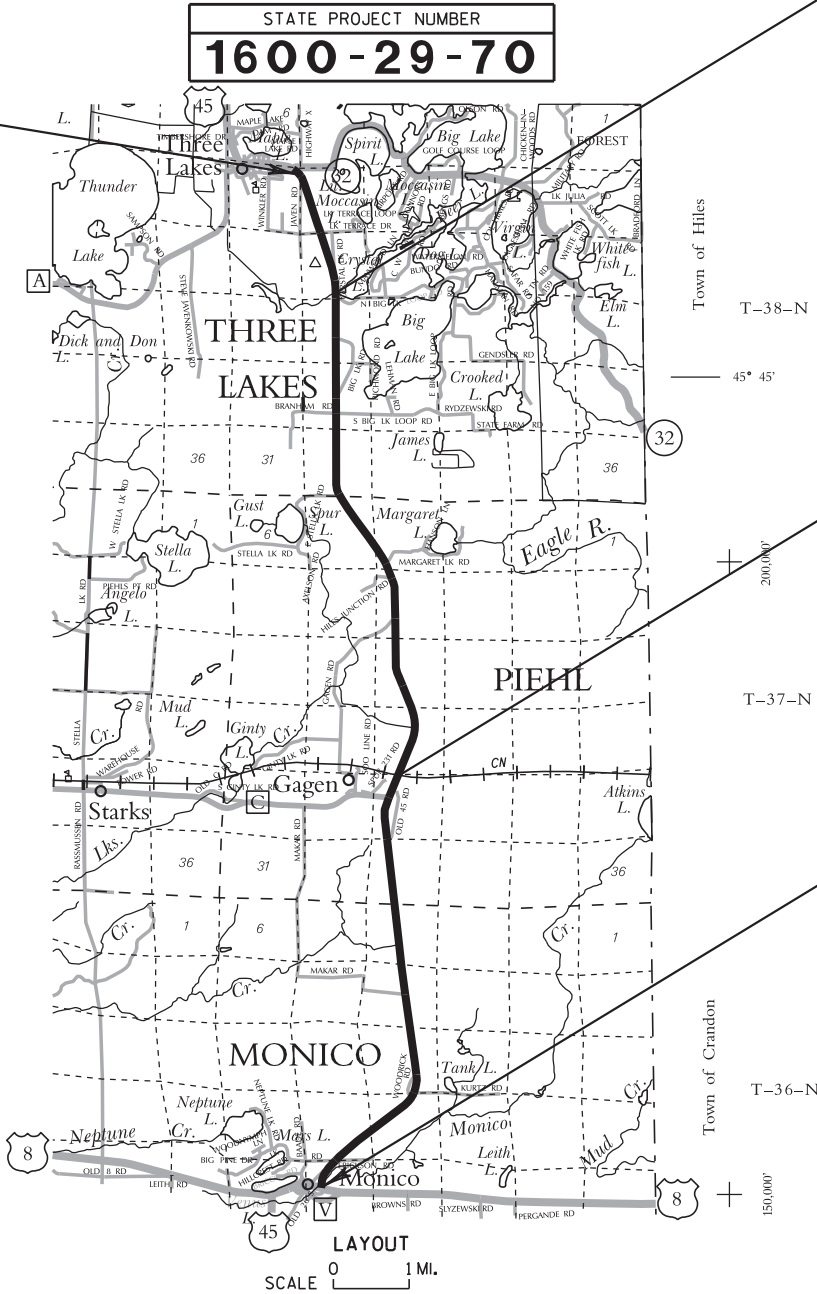
CONVENTIONAL SYMBOLS

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
MONICO - EAGLE RIVER
USH 8 - STH 32
USH 45
ONEIDA COUNTY

END PROJECT 1600-29-70
STA 874+75 USH 45



C-43-0008

B-43-0015

BEGIN PROJECT 1600-29-70
STA 12+00 USH 45

COORDINATES ON THIS PLAN ARE SCALED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), ONEIDA, NAD 1983 (91)
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD 88 (91)

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1600-29-70	WISC 2013422	1

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	STACY A. HAGENBUCHER
Designer	JIM L. VOLKMANN
Project Manager	CHERYL L. SIMON
Regional Examiner	ANNA M. WISNER
Regional Supervisor	
APPROVED FOR THE DEPARTMENT	
DATE: 7/2/13	

GENERAL NOTES

- 1. MAINTAIN EXISTING SUPERELEVATIONS UNLESS OTHERWISE NOTED.
- 2. WHEN THE QUANTITY OF THE ITEM ASPHALTIC PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLAN IS APPROXIMATE & THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION ON THE MATERIAL AS DIRECTED BY THE ENGINEER.
- 3. THE LOCATION OF EXISTING & PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLAN.
- 4. PERMANENT SIGNING STATIONING WAS CALCULATED FROM THE PHOTOLOG.
- 5. NO PASSING ZONE SIGNS, W14-3, SHOULD BE PLACED ACCOURDING TO THE RESULTS FO LOCATING NO PASSING ZONES.

UTILITIES & OTHER CONTACTS

DEPARTMENT OF NATURAL RESOURCES
NORTH CENTRAL DISTRICT
107 SUTLIFF AVENUE
RHINELANDER, WI 54501
JON SIMONSEN
715-365-8916

ANR PIPELINE
W15681 USH 8
GOODMAN, WI 54125
JOHN BENOIT
715-336-3312
715-853-9533 MOBILE

ATC MANAGEMENT INC
801 O'KEEFE RD
PO BOX 6113
DEPERE, WI 54115-6113
MIKE OLSEN
920-338-6582

CHARTER COMMUNICATIONS
821 LINCOLN ST
RHINELANDER, WI 54401
MARK OLEJNICZAK
715-370-4106
715-573-2110 MOBILE

FRONTIER COMMUNICATIONS OF WI LLC
2689 NORTH CLERMONT ST
ANTIGO, WI 54409
WARREN INMAN
608-346-0667

KARBAN TV SYSTEMS INC
731 SO STEVENS ST
RHINELANDER, WI 54501
JOHN KARBAN
715-493-7613
715-493-7802 MOBILE

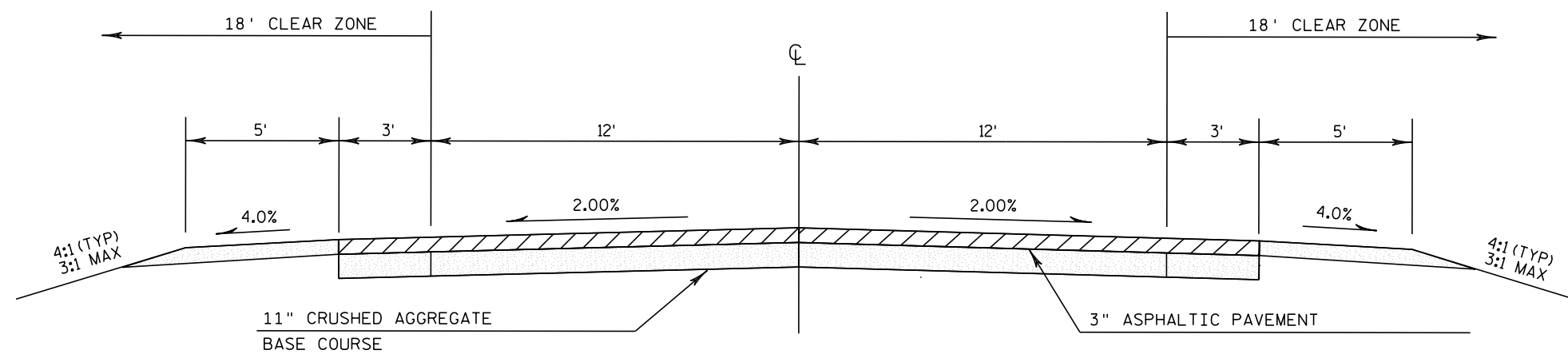
WISCONSIN PUBLIC SERVICE
GAS + ELECTRIC
2027 NAVAJO ST
PO BOX 160
RHINELANDER, WI 54501
RICHARD REITZ
715-369-7111
715-493-7802 MOBILE

AS-BUILTS

1600-10-70
1600-04-70
1600-09-70
T-09-21 (43)
F-09-2 (20)
T-09-2 (2)
380 E2
380 E



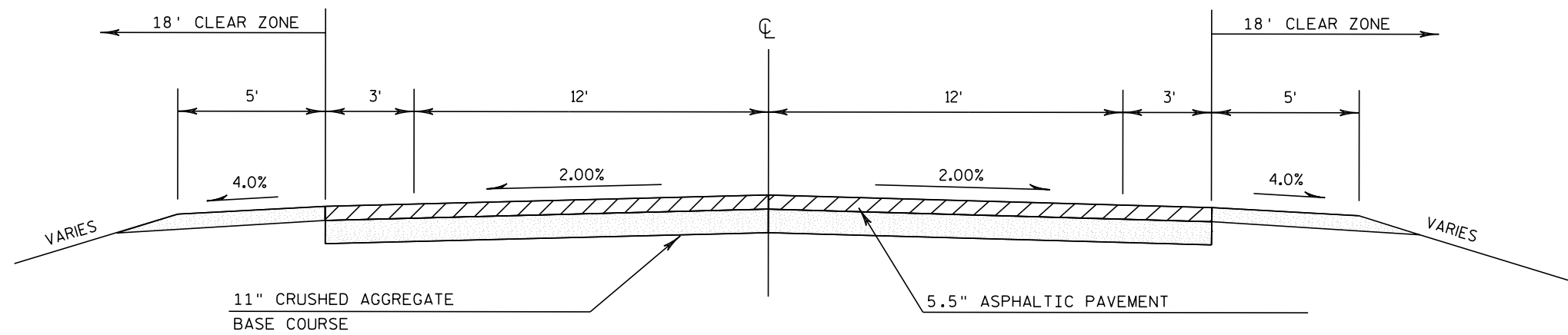
Call 811 3 Work Days Before You Dig
Or Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com



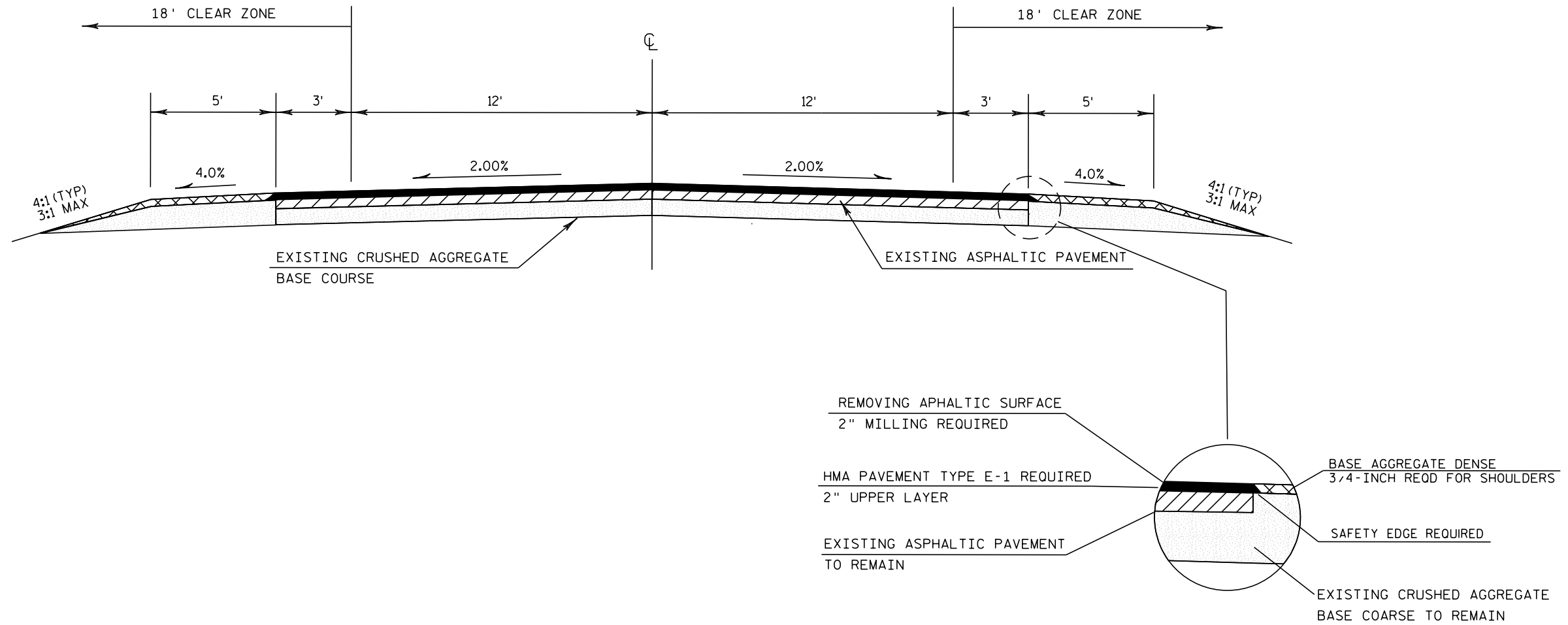
EXISTING TYPICAL SECTION

STA 12+00 - STA 771+65
STA 773+12 - STA 892+00

* NET EXCEPTION TO C/L LENGTH:
B-43-0015

**EXISTING TYPICAL SECTION**

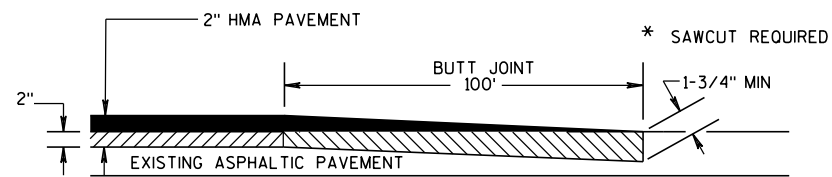
STA 771+65 - STA 773+12



PROPOSED TYPICAL SECTION

* STA 12+00 - STA 769+50
STA 775+80 - STA 892+00

* SEE CONSTRUCTION DETAIL DRAWINGS
FOR STA 769+50 - STA 775+50



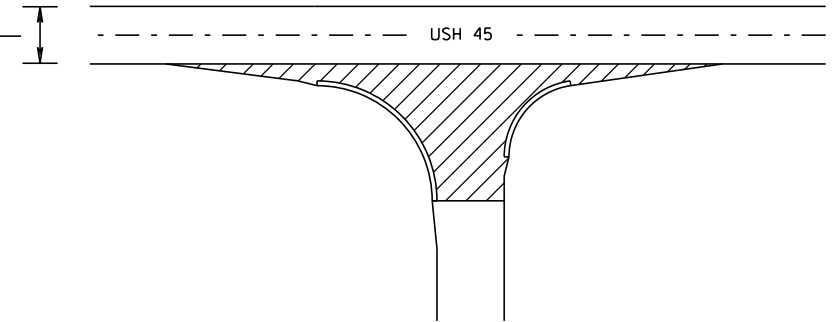
- REMOVING ASPHALTIC SURFACE, MILLING
- REMOVING ASPHALTIC SURFACE, BUTT JOINT

NOTE: EXACT DIMENSIONS AND LOCATIONS TO BE
DETERMINED BY THE ENGINEER IN THE FIELD

MAINLINE BUTT JOINT DETAIL

STA 12+00 - STA 13+00
STA 891+00 - STA 892+00

REMOVING ASPHALTIC SURFACE MILLING
(SEE PROPOSED TYPICAL)



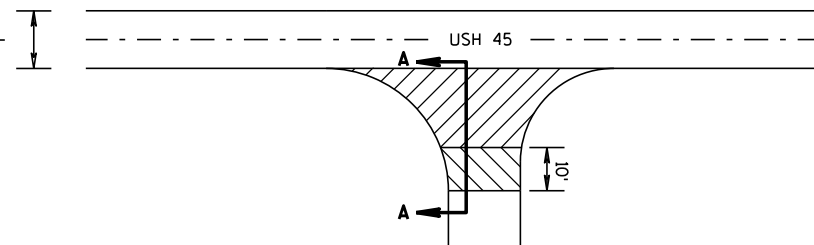
- MILL EXISTING ASPHALTIC PAVEMENT TO A DEPTH OF 2"

NOTE: EXACT DIMENSIONS AND LOCATIONS TO BE
DETERMINED BY THE ENGINEER IN THE FIELD.

BUTT JOINT DETAIL

SIDE ROADS WITH CURB AND GUTTER

REMOVING ASPHALTIC SURFACE MILLING
(SEE PROPOSED TYPICAL)

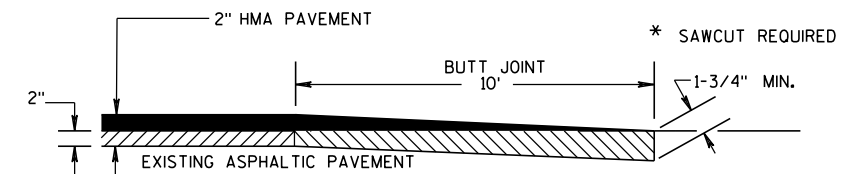


- REMOVING ASPHALTIC SURFACE, MILLING
- REMOVING ASPHALTIC SURFACE, BUTT JOINT

NOTE: EXACT DIMENSIONS AND LOCATIONS TO BE
DETERMINED BY THE ENGINEER IN THE FIELD.

BUTT JOINT DETAIL

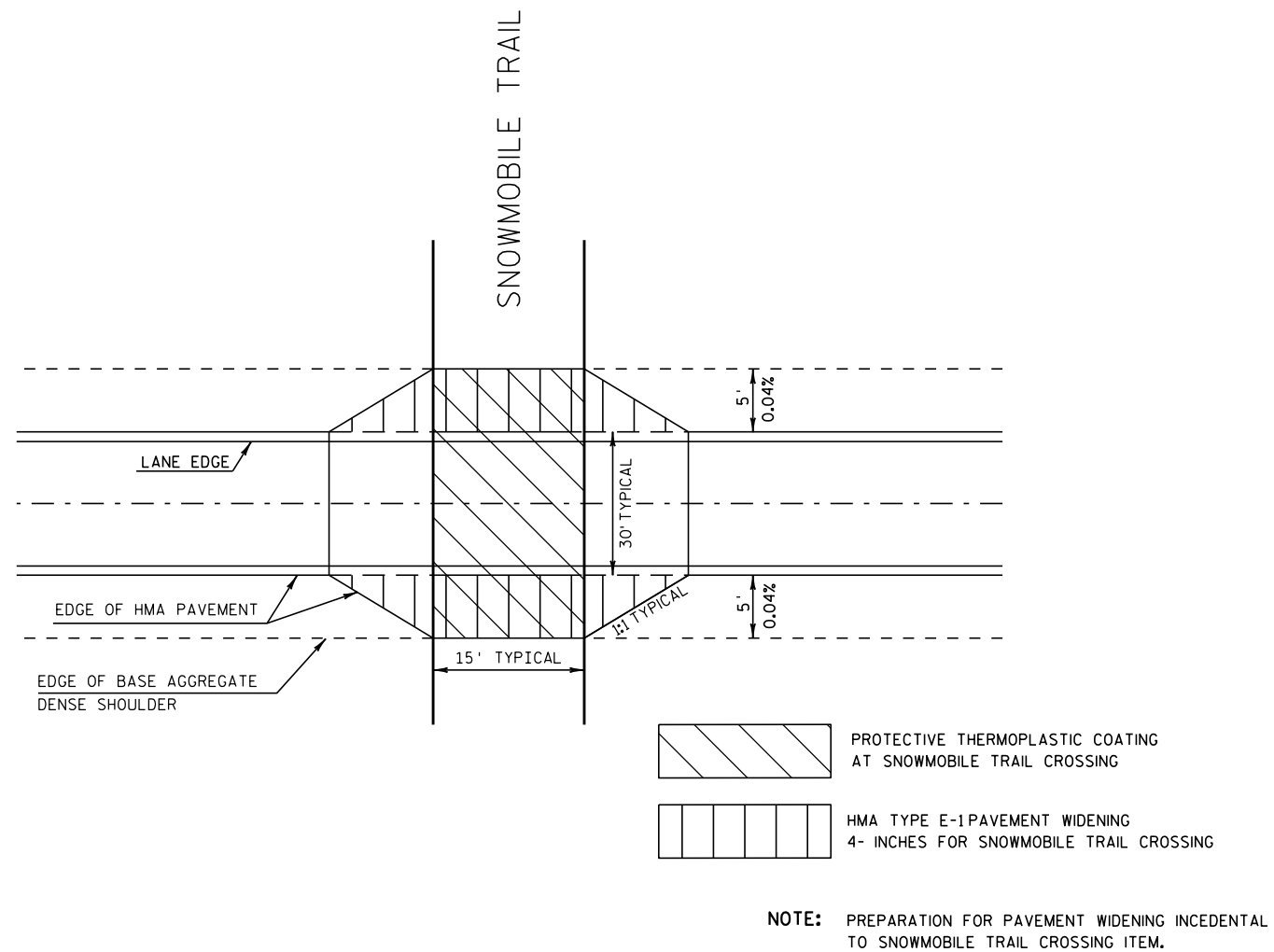
SIDE ROADS WITHOUT CURB AND GUTTER
AND DRIVEWAYS



- REMOVING ASPHALTIC SURFACE, MILLING
- REMOVING ASPHALTIC SURFACE, BUTT JOINT

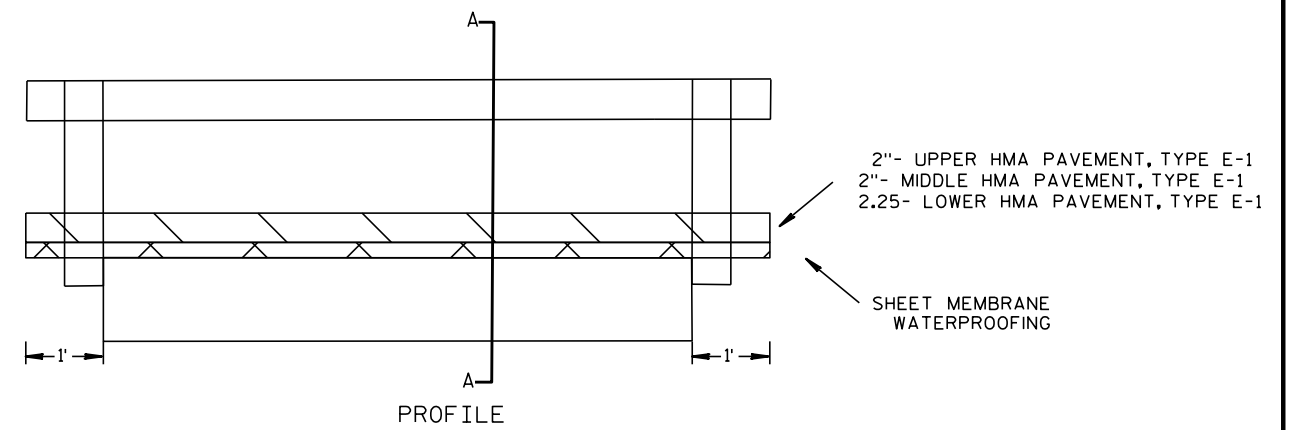
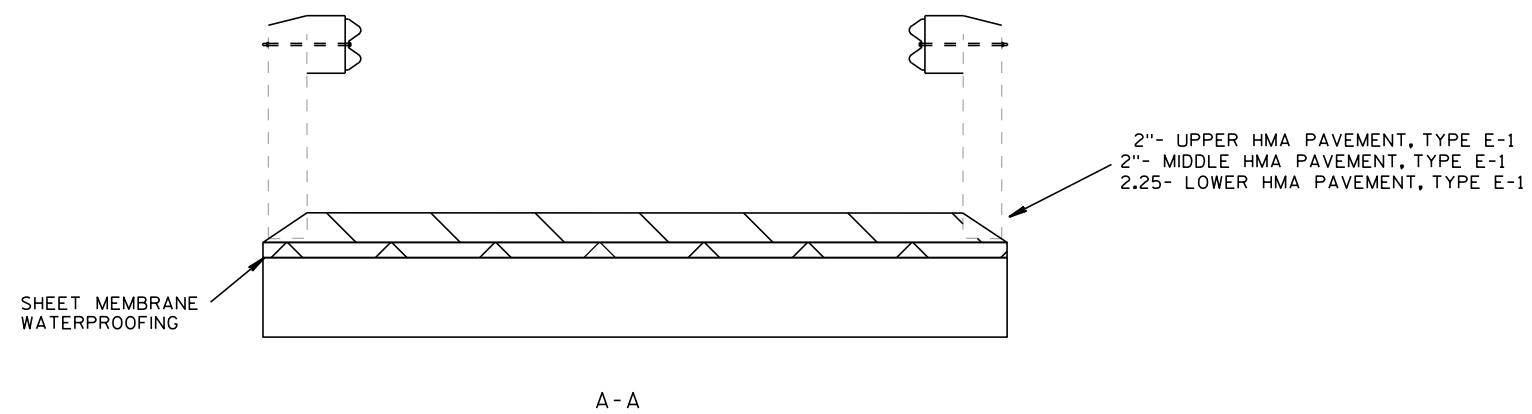
NOTE: EXACT DIMENSIONS AND LOCATIONS TO BE
DETERMINED BY THE ENGINEER IN THE FIELD.

SECTION A-A



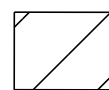
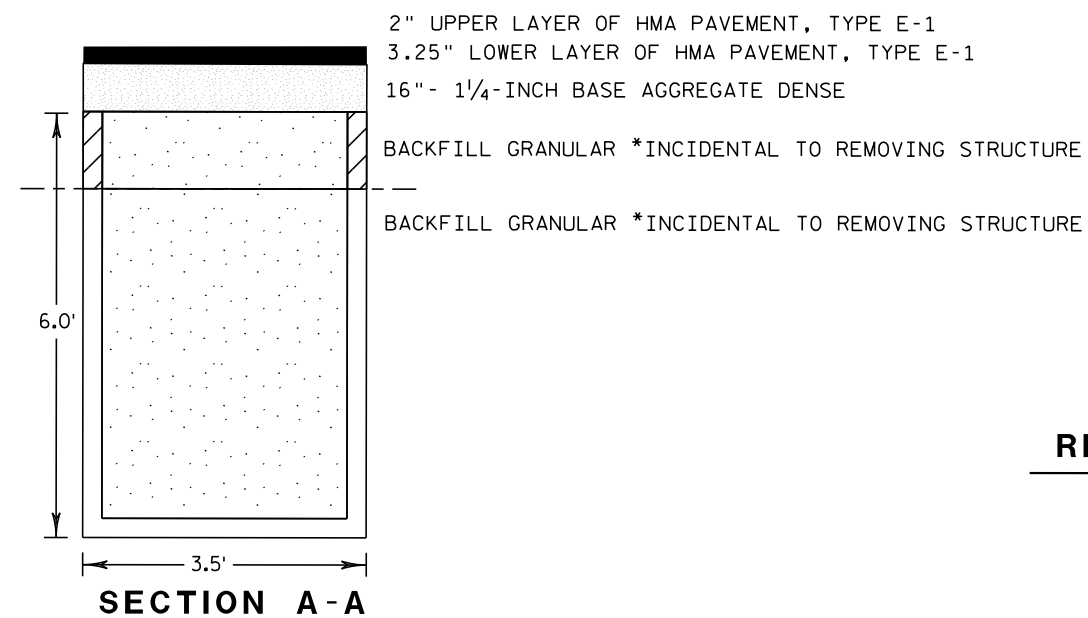
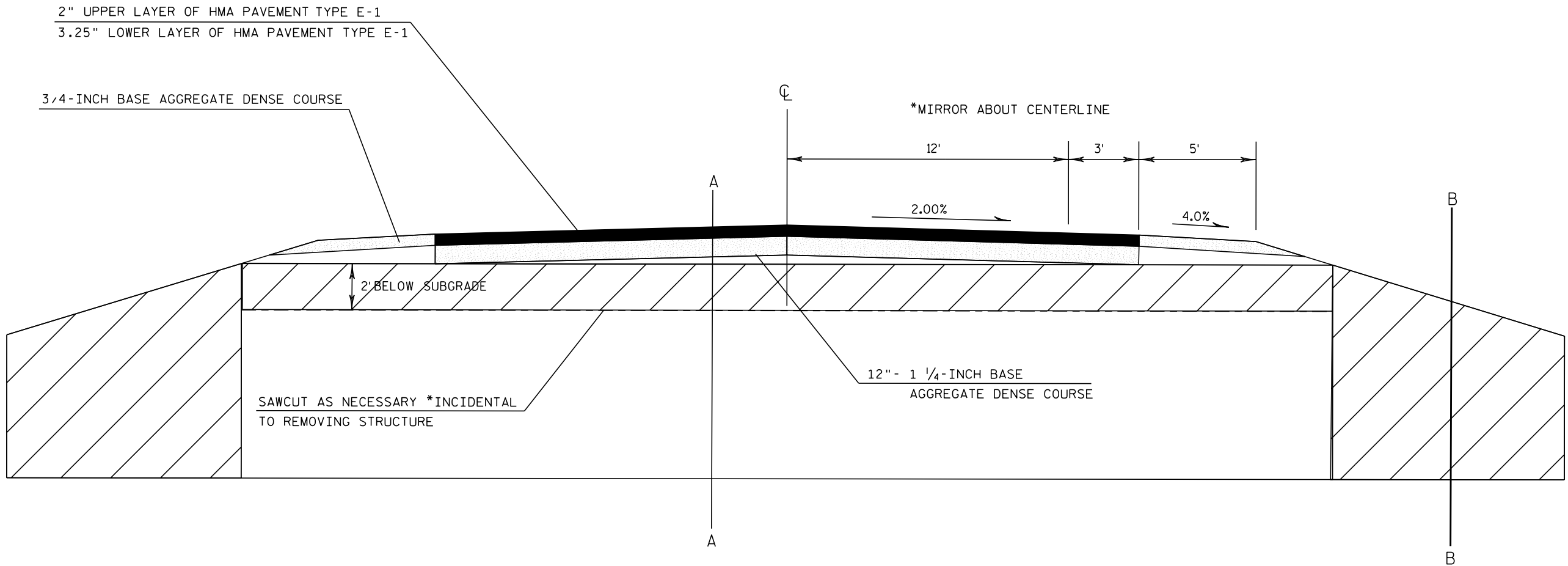
SNOWMOBILE TRAIL CROSSING DETAIL

STA 490+50
STA 756+00
STA 811+00



CRYSTAL CREEK BOX CULVERT, C-43-008

STA 171+00 - STA 174+30



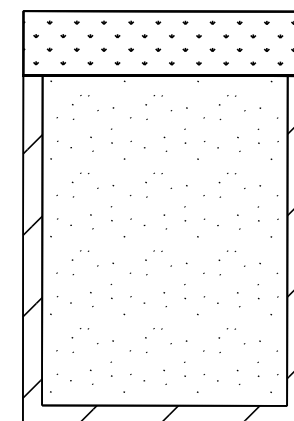
AREA OF REMOVAL



TO REMAIN

REMOVING OLD STRUCTURE

STA 833+50 - STA 835+50

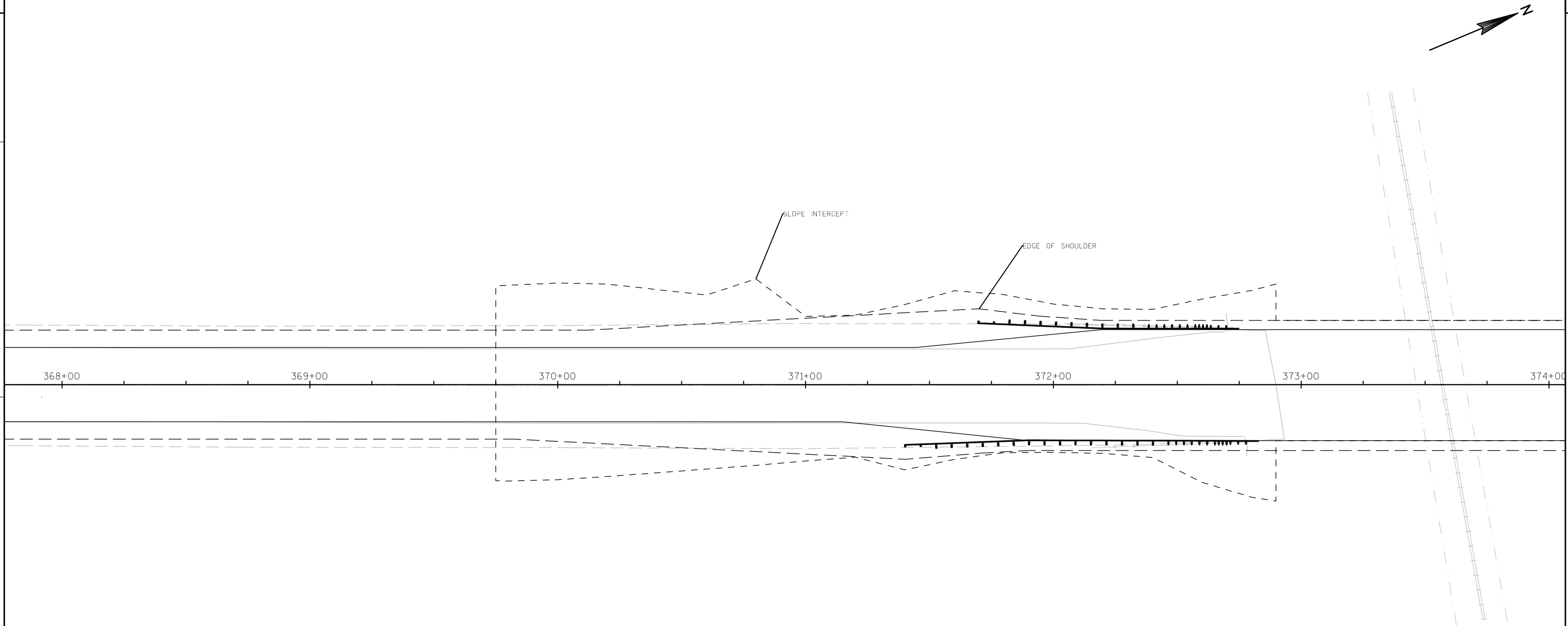


SECTION B-B

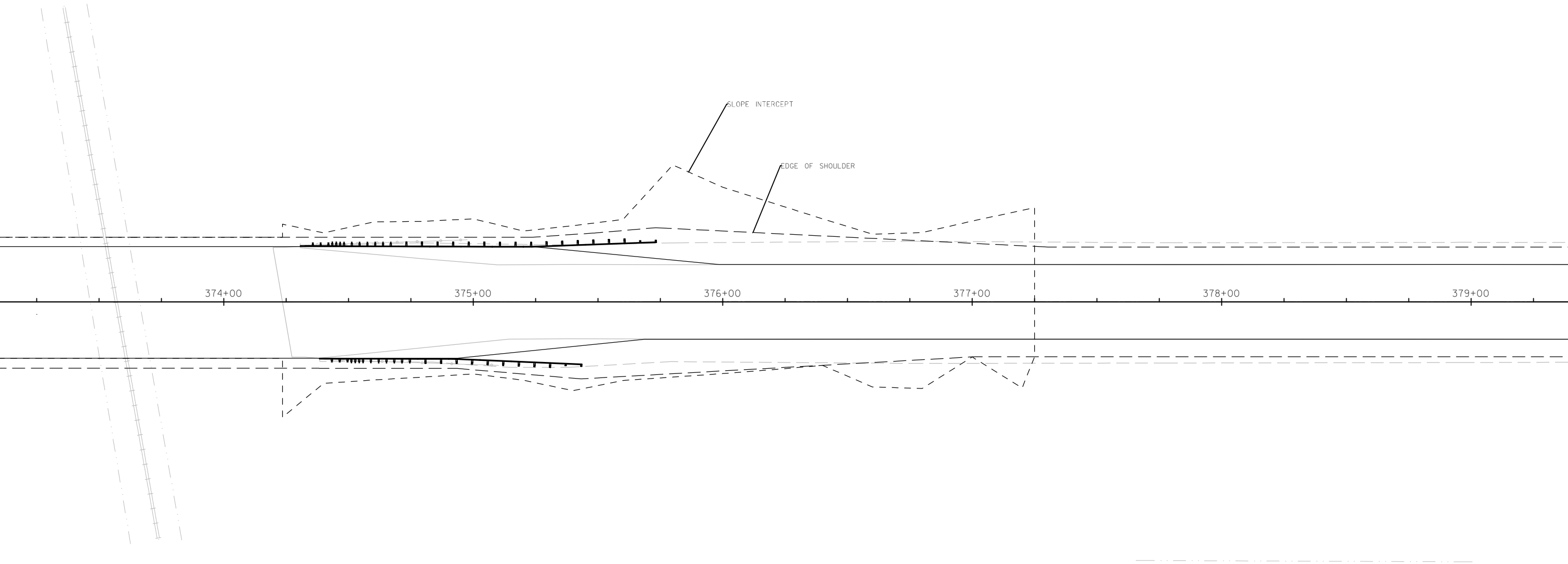
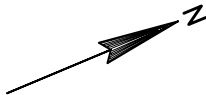
6" TOPSOIL - SEE MISCELLANEOUS QUANITIES

BACKFILL GRANULAR *INCIDENTAL TO REMOVING STRUCTURE TO BE FILLED TO SLOPE INTERCEPT

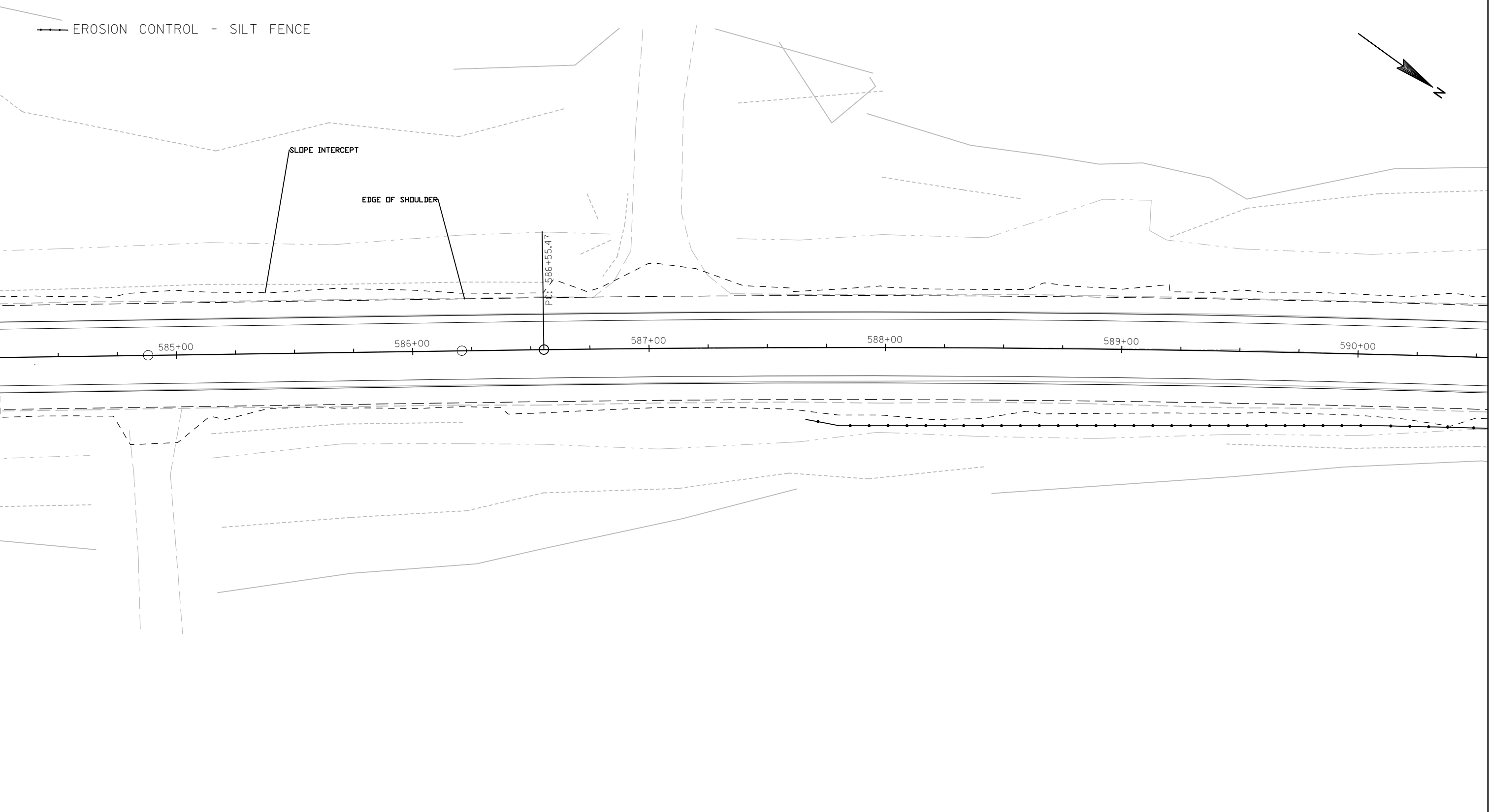
REMOVE EXISTING GUARDRAIL STA 371+97 - 372+76 RT & STA 371+89 - 372+68 LT
MGS GUARDRAIL REQUIRED STA 371+40 - 372+81 RT & STA 371+70 - 372+75 LT



REMOVE EXISTING GUARDRAIL STA 374+28 - 375+06 RT & STA 374+09 - 374+87 LT
MGS GUARDRAIL REQUIRED STA 374+40 - 375+44 RT & STA 374+30 - 375+74 LT

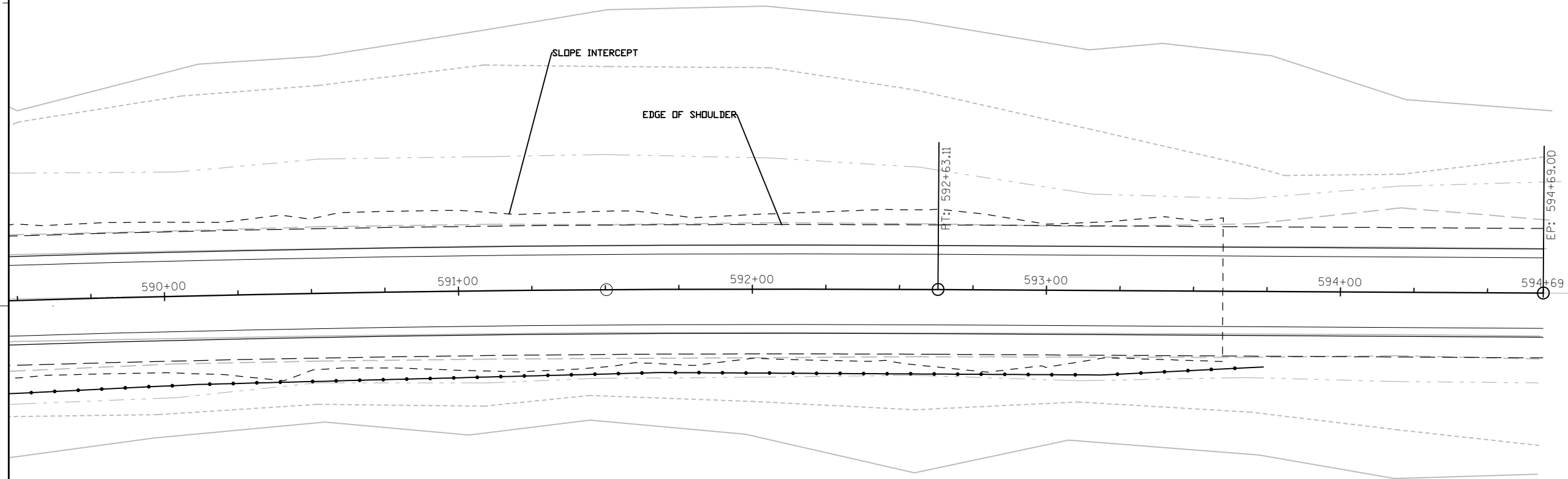
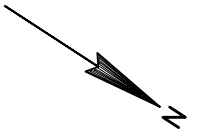


SUPERELEVATION CORRECTION - STA 585+55 - 593+51
TRANSITION MILL DEPTH FROM 2.00' TO 3.00' FROM STA 589+50 - STA 590+50 AT CENTERLINE
TRANSITION MILL DEPTH FROM 3.00" TO 2.00" FROM STA 591+50 - STA 592+50 AT CENTERLINE
MAINTAIN MILL DEPTH OF 3.00" FROM STA 590+50 - 591+50 AT CENTERLINE
GRADE SHOULDERS TO MATCH INTO EXISTING SLOPES



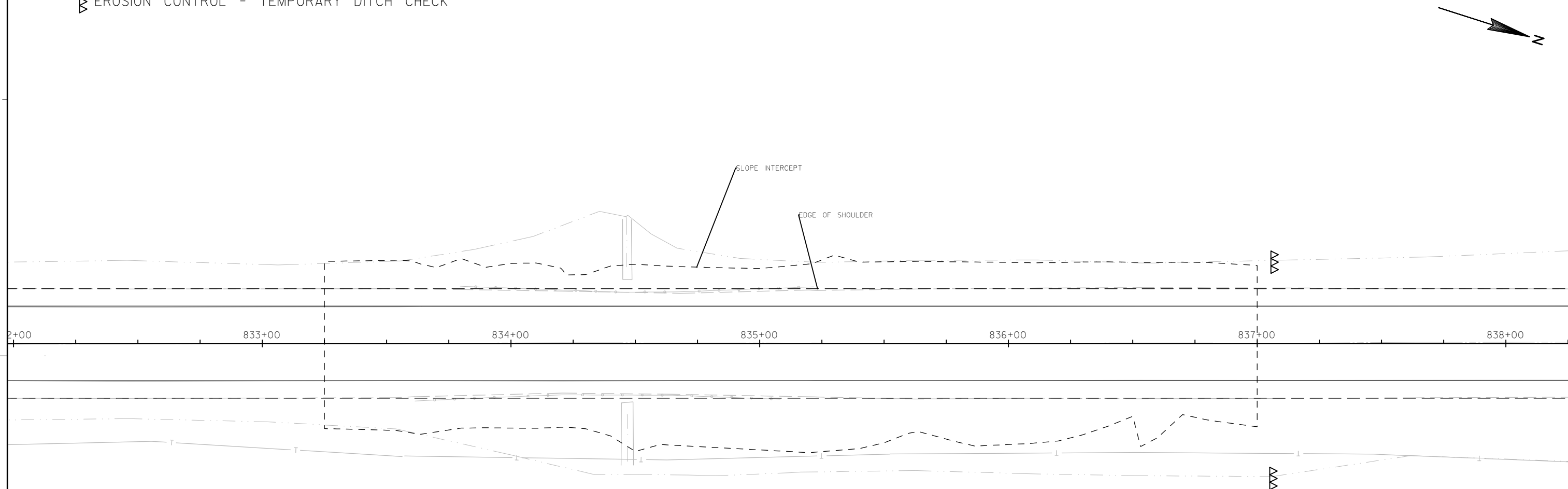
SUPERELEVATION CORRECTION - STA 585+55 - 593+51
TRANSITION MILL DEPTH FROM 2.00" TO 3.00" FROM STA 589+50 - STA 590+50 AT CENTERLINE
TRANSITION MILL DEPTH FROM 3.00" TO 2.00" FROM STA 591+50 - STA 592+50 AT CENTERLINE
MAINTAIN MILL DEPTH OF 3.00" FROM STA 590+50 - 591+50 AT CENTERLINE
GRADE SHOULDERS TO MATCH INTO EXISTING SLOPES

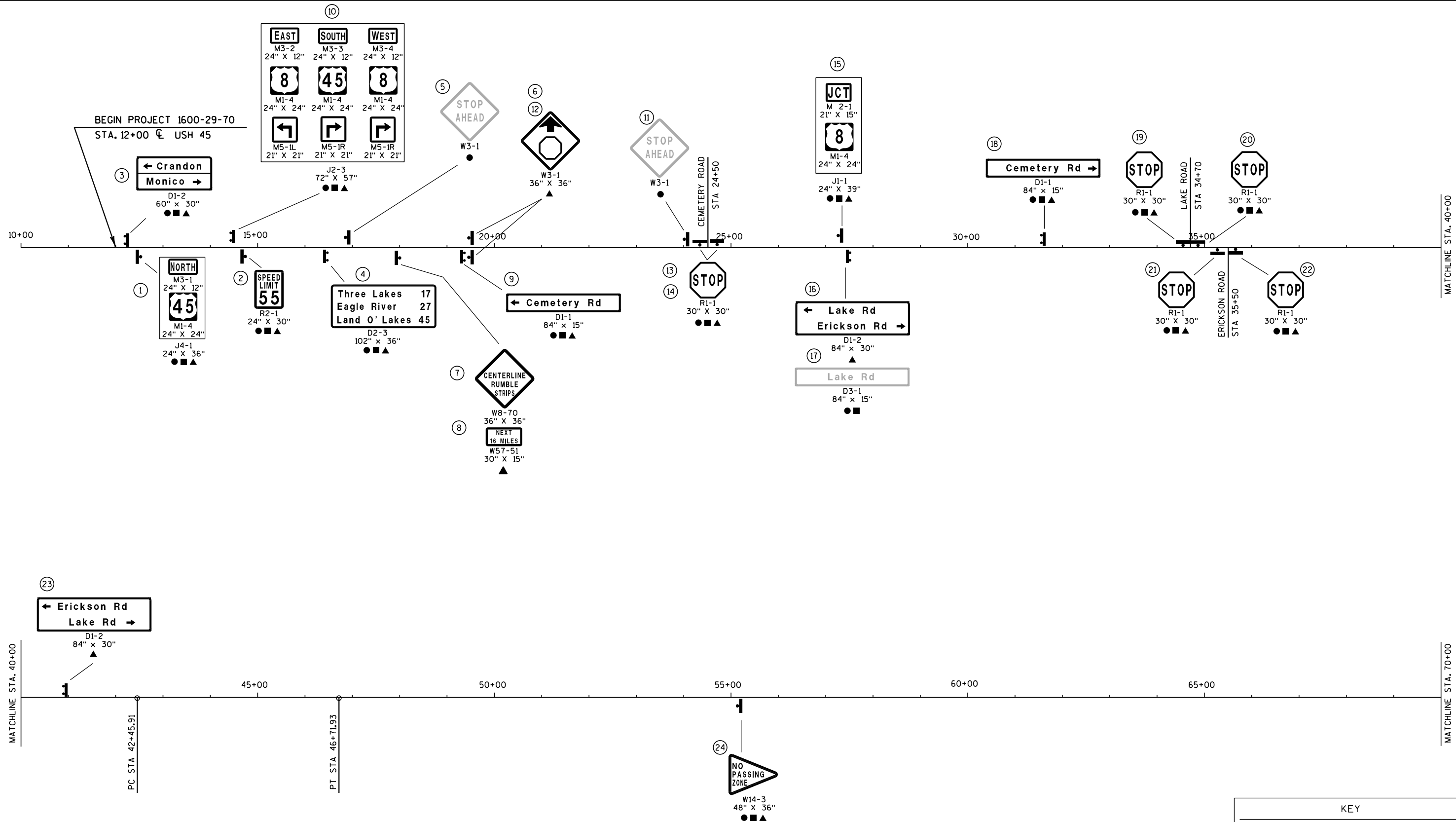
--- EROSION CONTROL - SILT FENCE



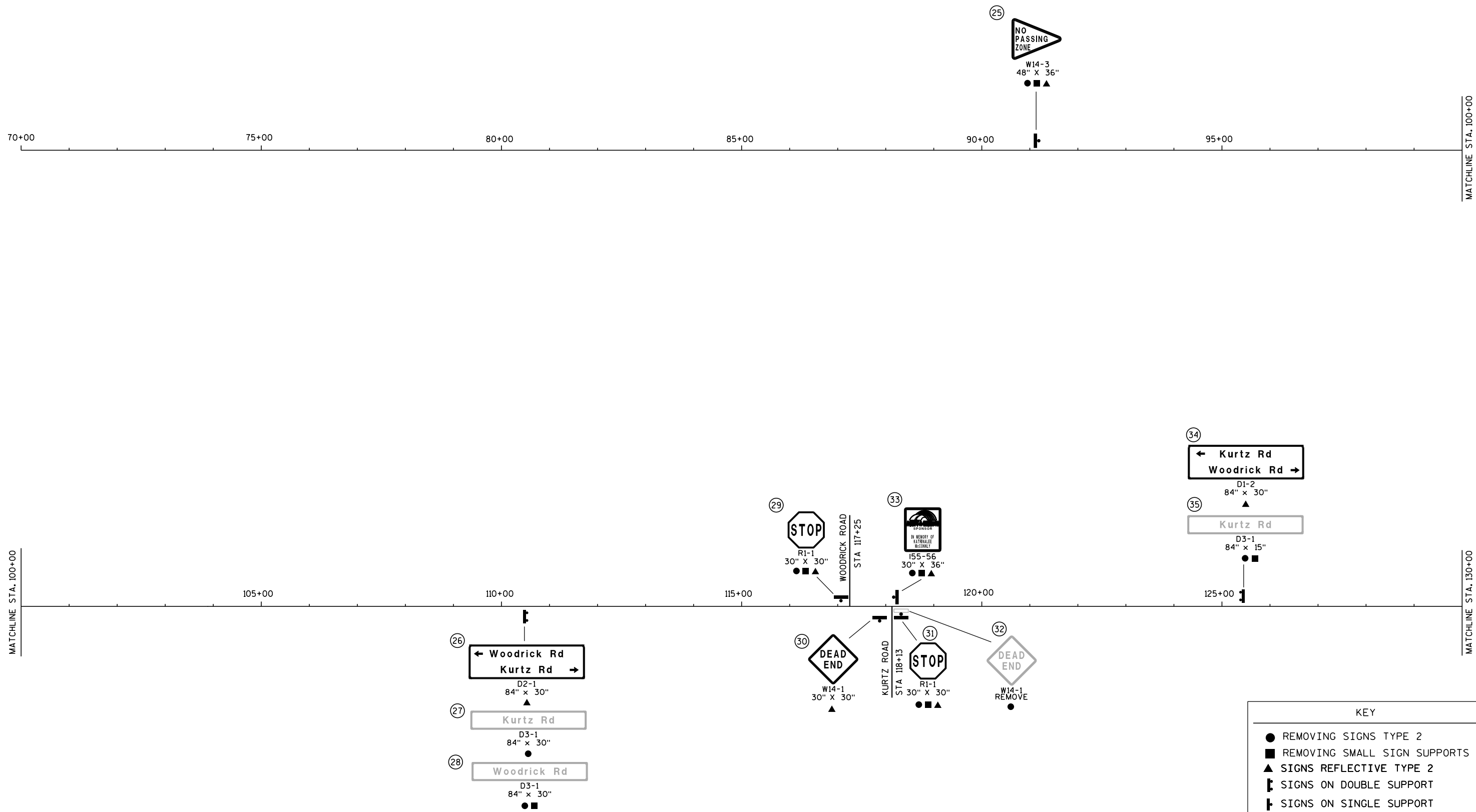
REMOVE EXISTING GUARDRAIL STA 833+75 - 835+25 RT & LT
REMOVE OLD STRUCTURE - CATTLE PASS
TEMPORARY LANE SHIFT

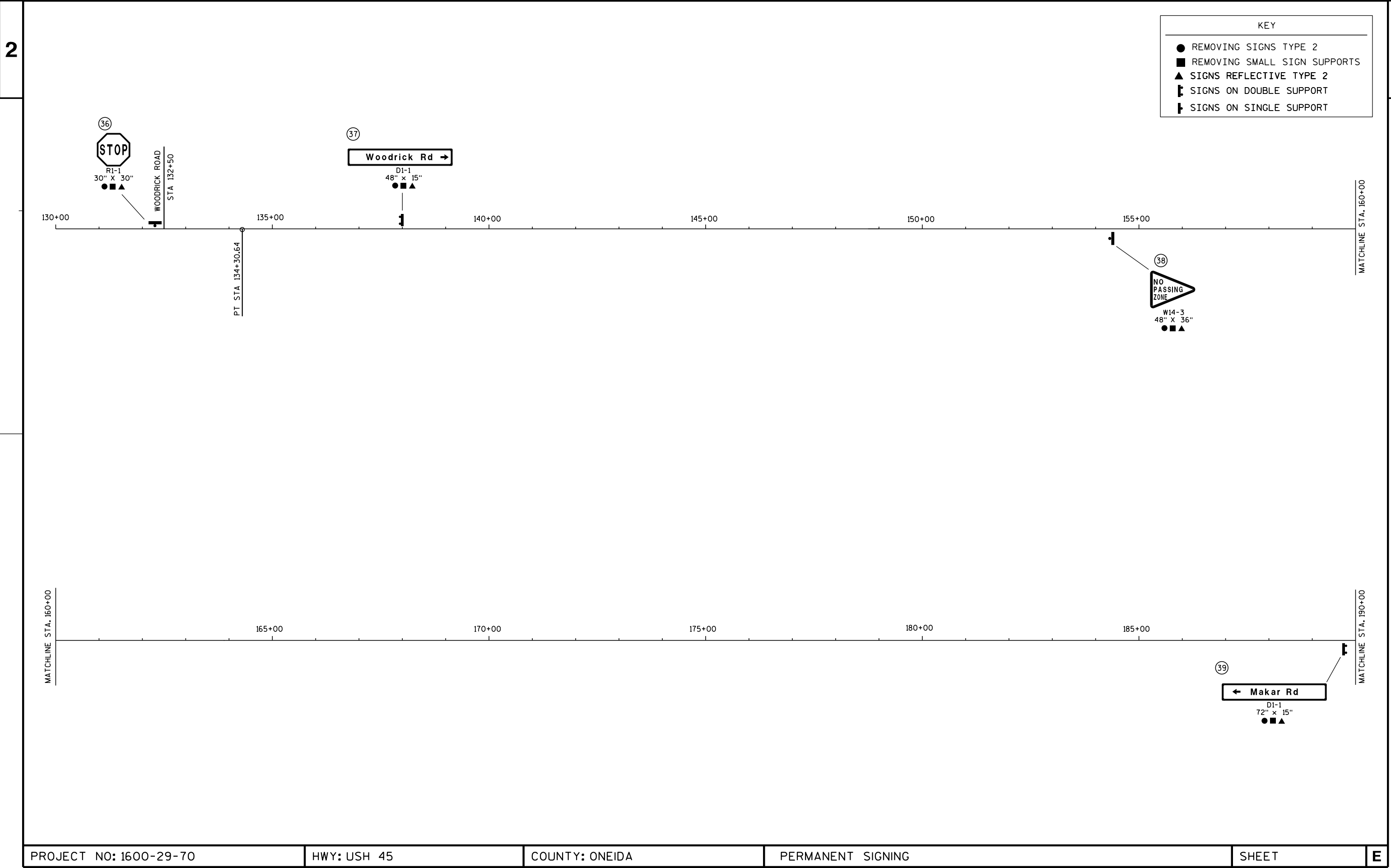
EROSION CONTROL - TEMPORARY DITCH CHECK



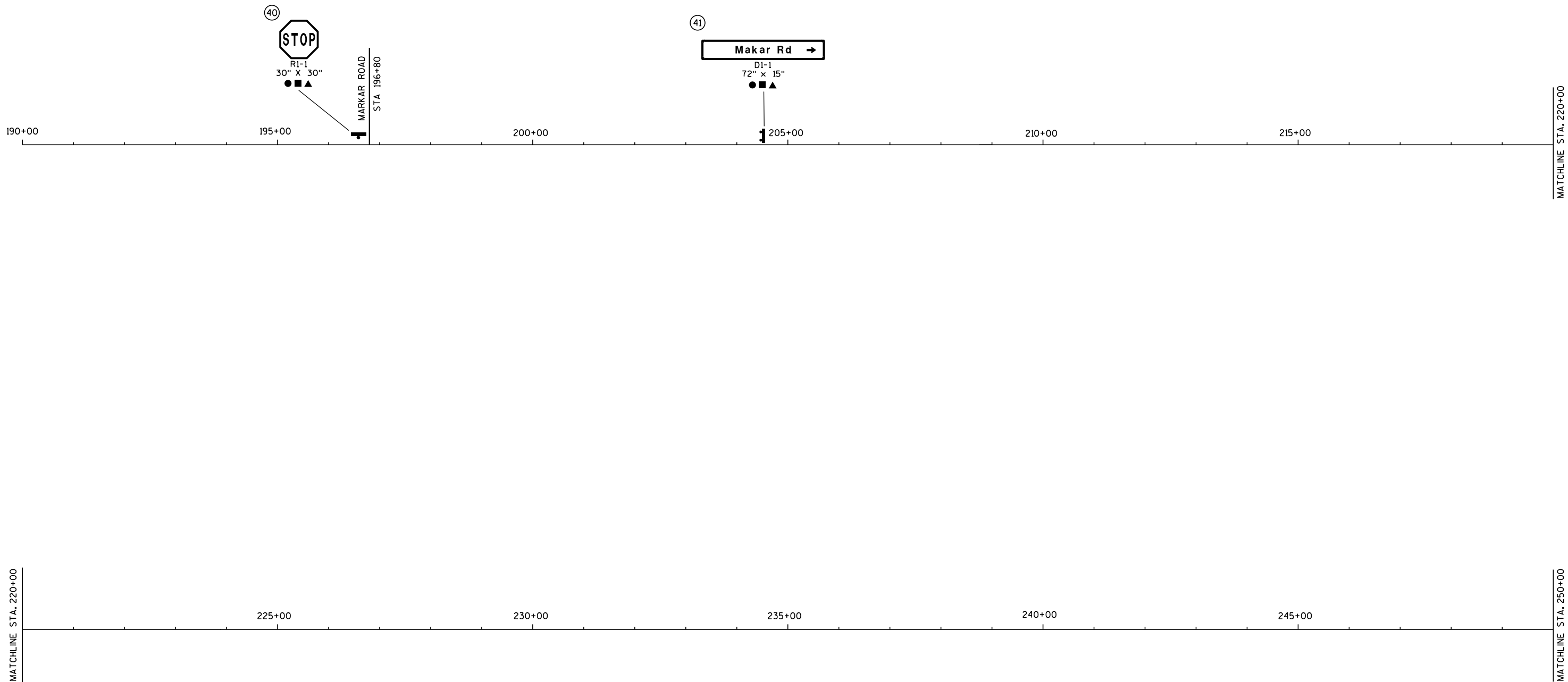


KEY	
●	REMOVING SIGNS TYPE 2
■	REMOVING SMALL SIGN SUPPORTS
▲	SIGNS REFLECTIVE TYPE 2
┌	SIGNS ON DOUBLE SUPPORT
└	SIGNS ON SINGLE SUPPORT





PROJECT NO: 1600-29-70	HWY: USH 45	COUNTY: ONEIDA	PERMANENT SIGNING	SHEET	E
------------------------	-------------	----------------	-------------------	-------	---



KEY

●

REMOVING SIGNS TYPE 2

■

REMOVING SMALL SIGN SUPPORTS

▲

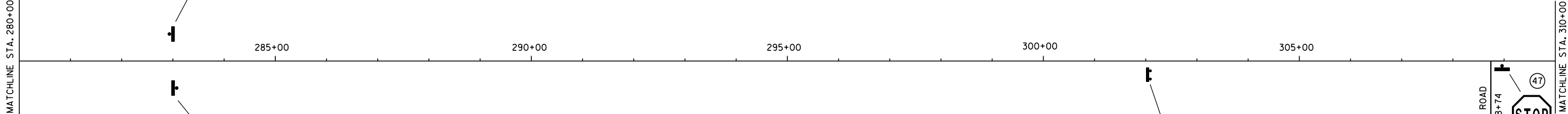
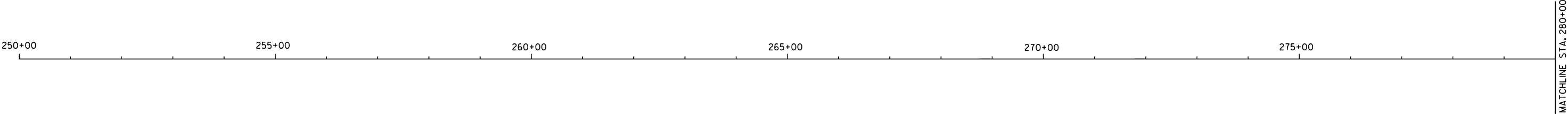
SIGNS REFLECTIVE TYPE 2

┌

SIGNS ON DOUBLE SUPPORT

└

SIGNS ON SINGLE SUPPORT



42

CENTERLINE
RUMBLE
STRIPS

W8-70
36" X 36"

43

NEXT
5 MILES

W57-51
30" X 15"

44

CENTERLINE
RUMBLE
STRIPS

W8-70
36" X 36"

45

NEXT
11 MILES

W57-51
30" X 15"

46

Old 45 Rd →

D1-1
72" x 15"

● ■ ▲

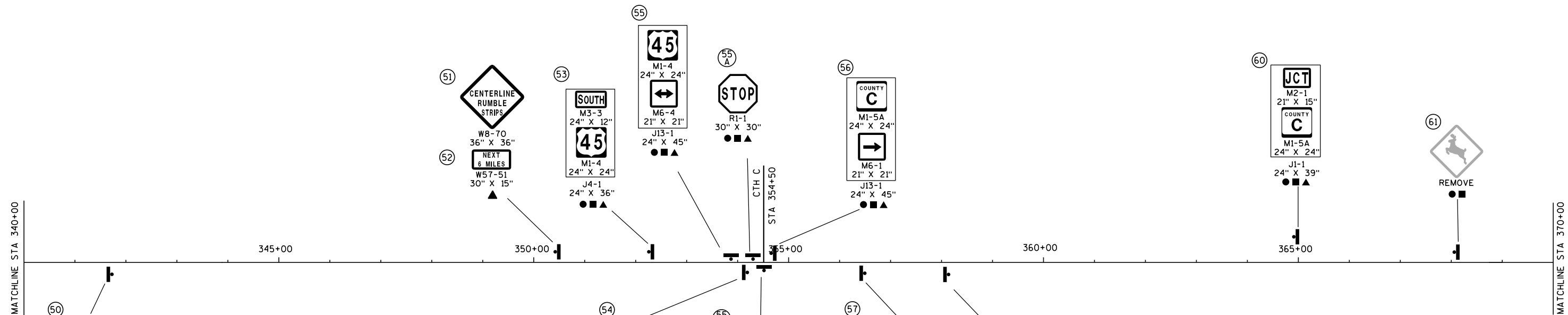
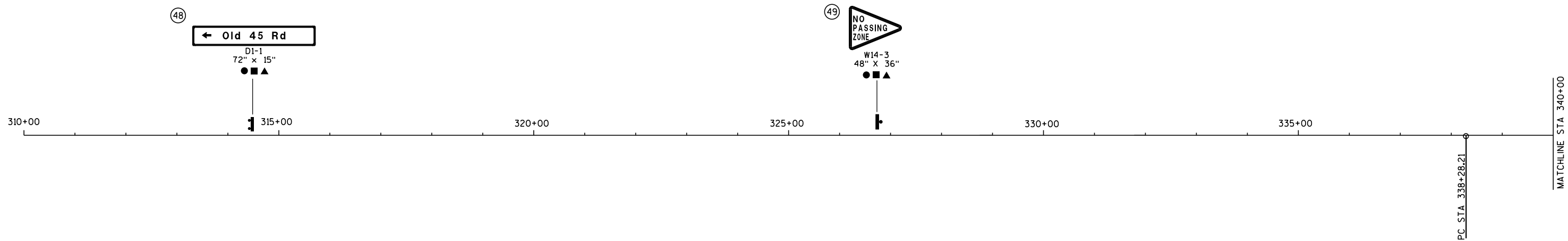
47

STOP

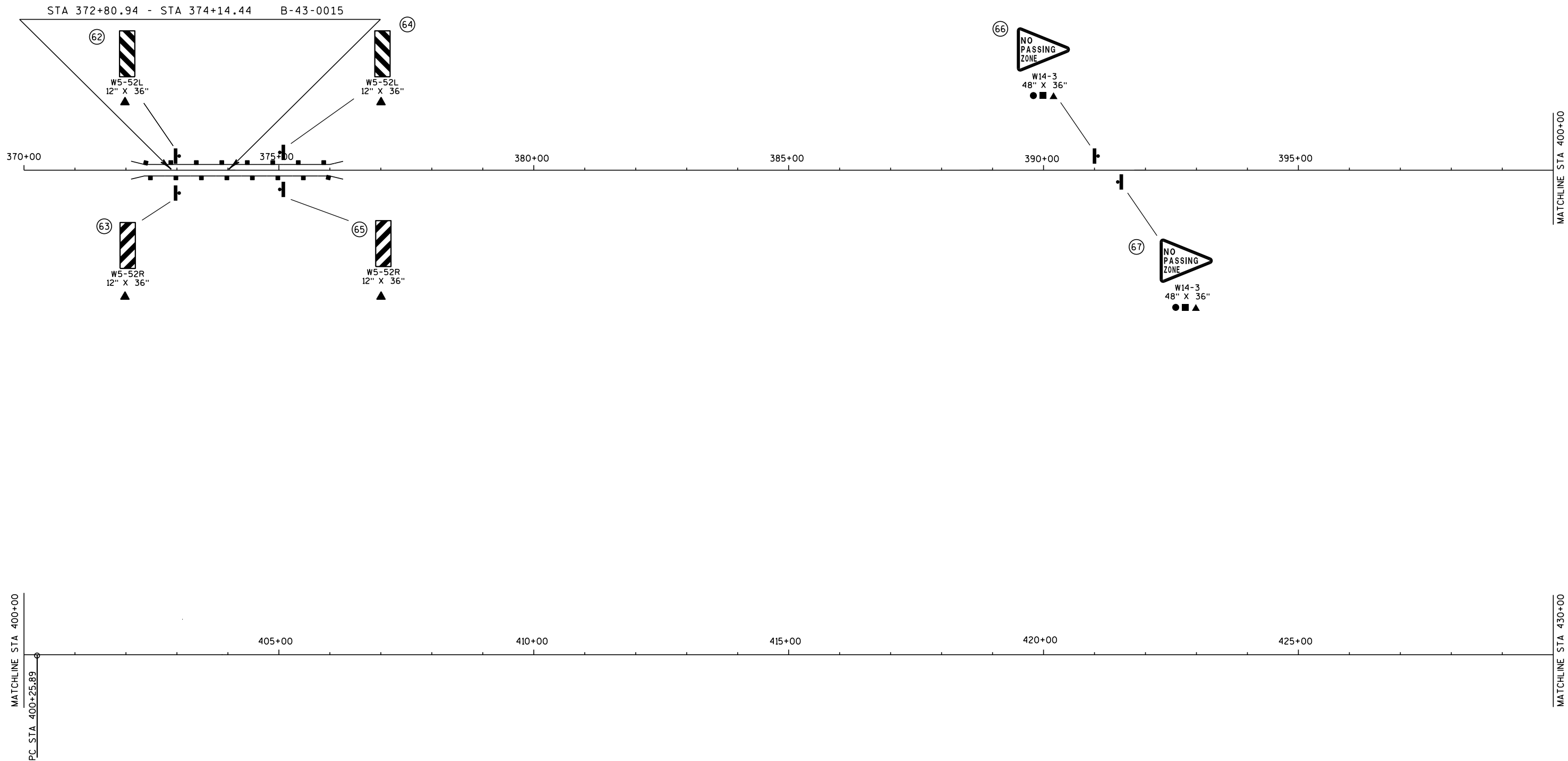
R1-1
30" X 30"

● ■ ▲

KEY	
●	REMOVING SIGNS TYPE 2
■	REMOVING SMALL SIGN SUPPORTS
▲	SIGNS REFLECTIVE TYPE 2
┌	SIGNS ON DOUBLE SUPPORT
└	SIGNS ON SINGLE SUPPORT



KEY	
●	REMOVING SIGNS TYPE 2
■	REMOVING SMALL SIGN SUPPORTS
▲	SIGNS REFLECTIVE TYPE 2
⌚	SIGNS ON DOUBLE SUPPORT
⌚	SIGNS ON SINGLE SUPPORT



KEY

●

REMOVING SIGNS TYPE 2

■

REMOVING SMALL SIGN SUPPORTS

▲

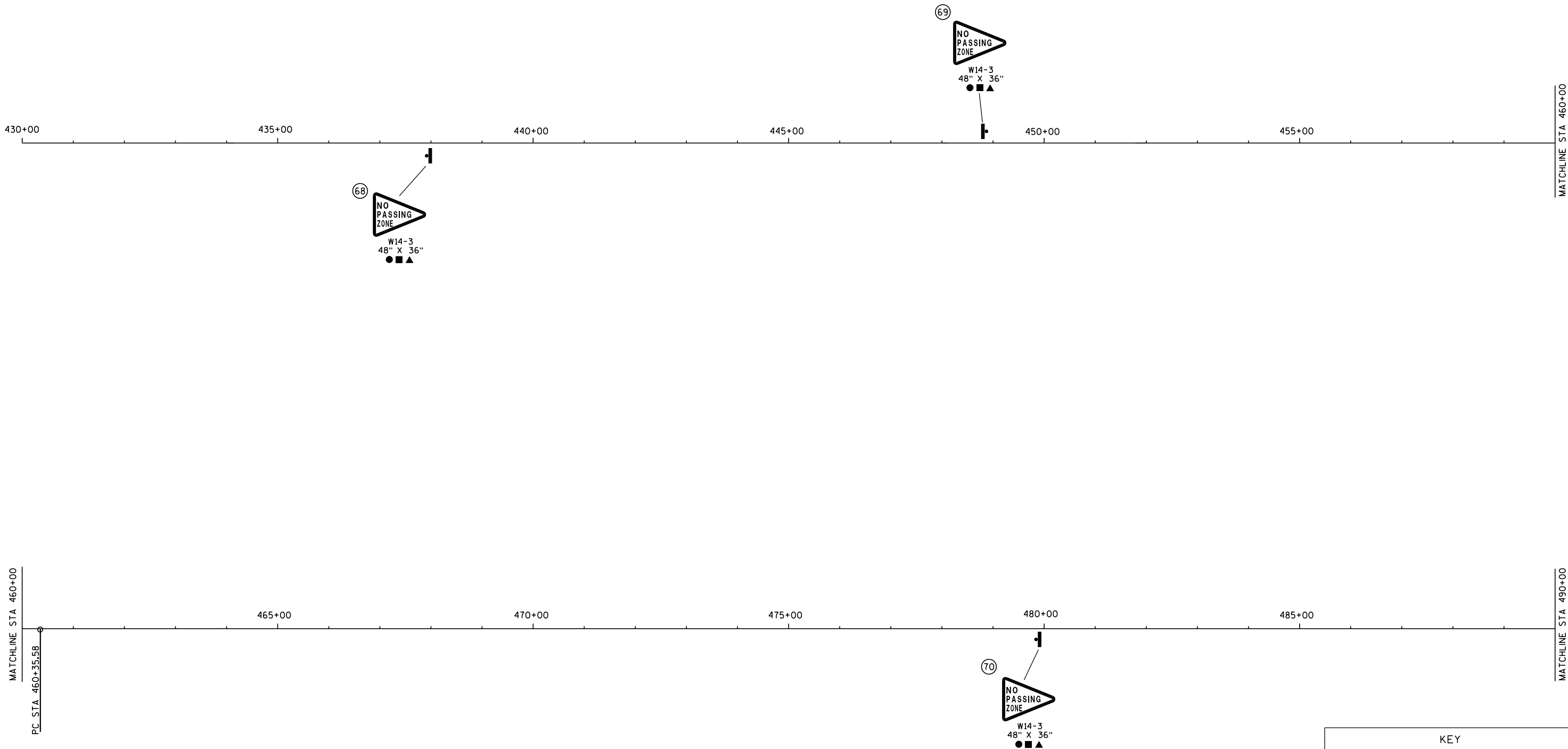
SIGNS REFLECTIVE TYPE 2

┌

SIGNS ON DOUBLE SUPPORT

└

SIGNS ON SINGLE SUPPORT



KEY

●

 REMOVING SIGNS TYPE 2

■

 REMOVING SMALL SIGN SUPPORTS

▲

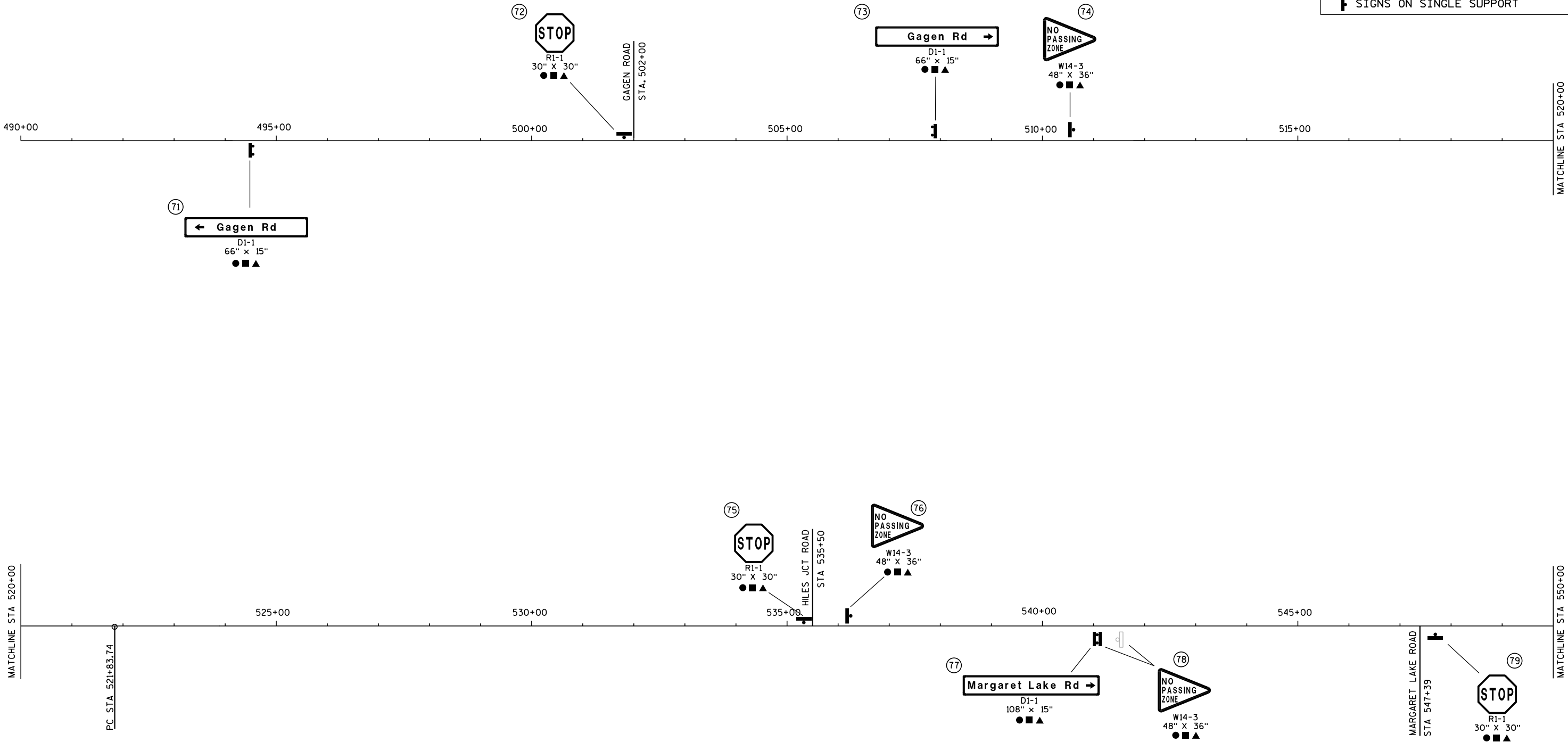
 SIGNS REFLECTIVE TYPE 2

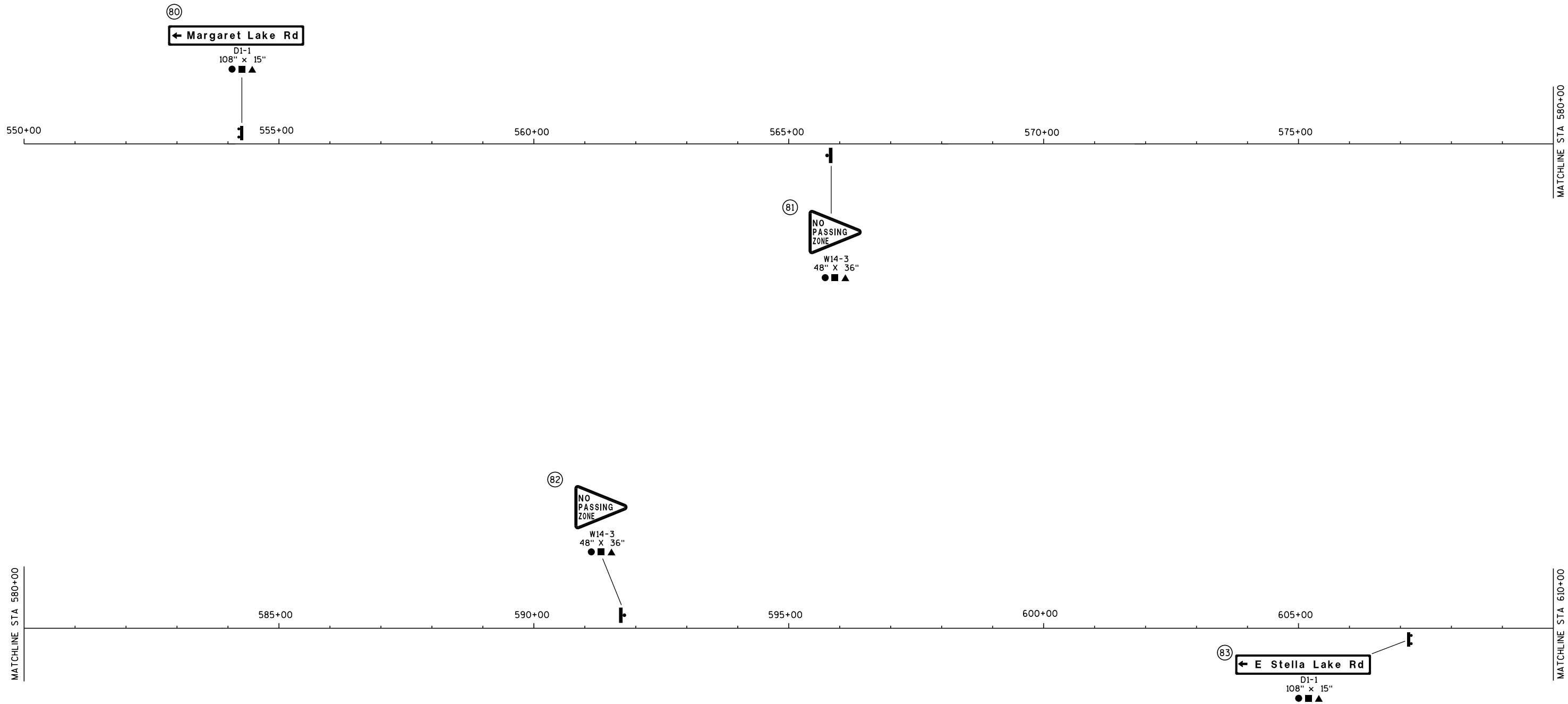
⌋

 SIGNS ON DOUBLE SUPPORT

⌋

 SIGNS ON SINGLE SUPPORT





KEY

●

 REMOVING SIGNS TYPE 2

■

 REMOVING SMALL SIGN SUPPORTS

▲

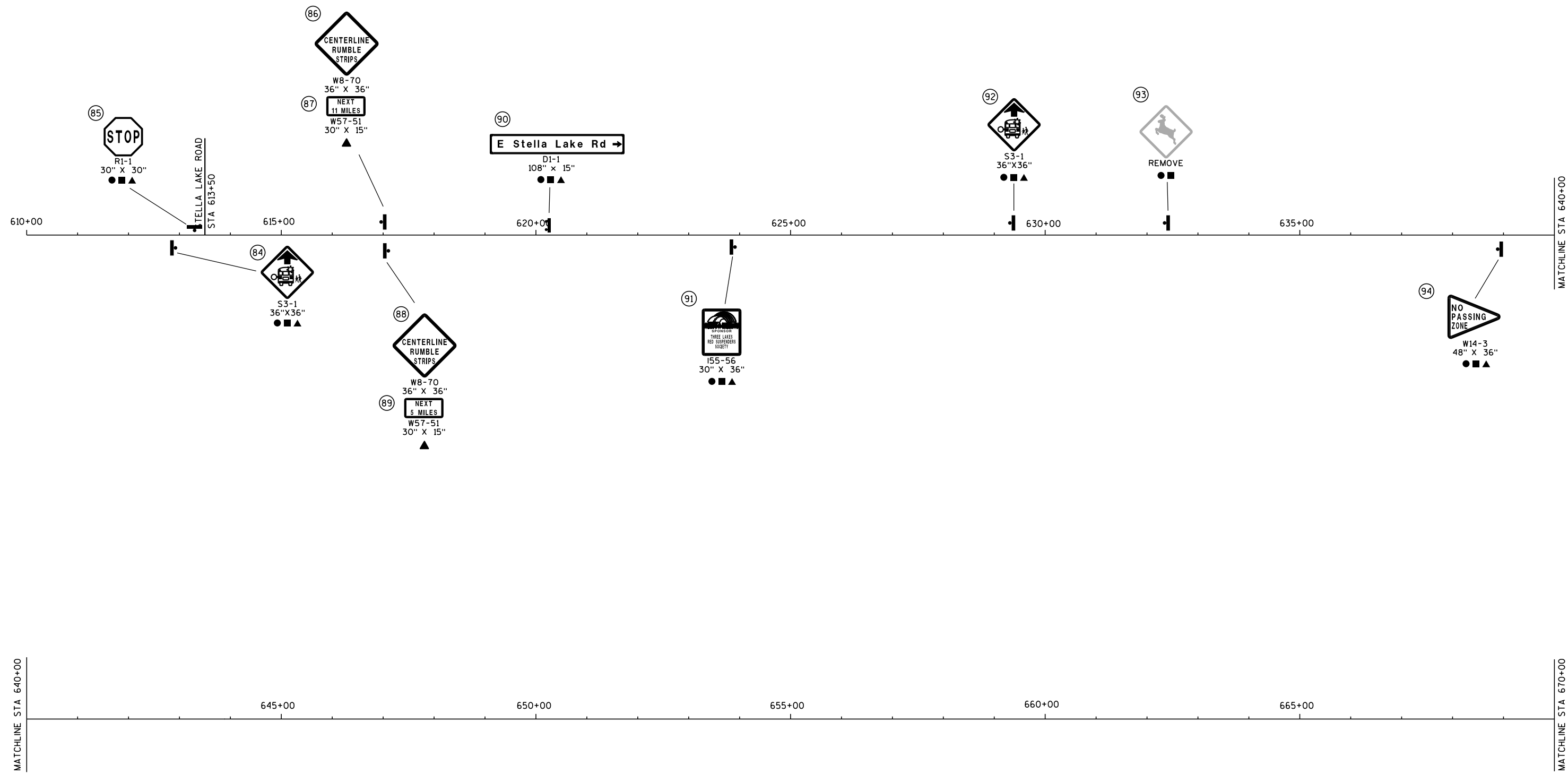
 SIGNS REFLECTIVE TYPE 2

┌

 SIGNS ON DOUBLE SUPPORT

└

 SIGNS ON SINGLE SUPPORT



KEY

●

 REMOVING SIGNS TYPE 2

■

 REMOVING SMALL SIGN SUPPORTS

▲

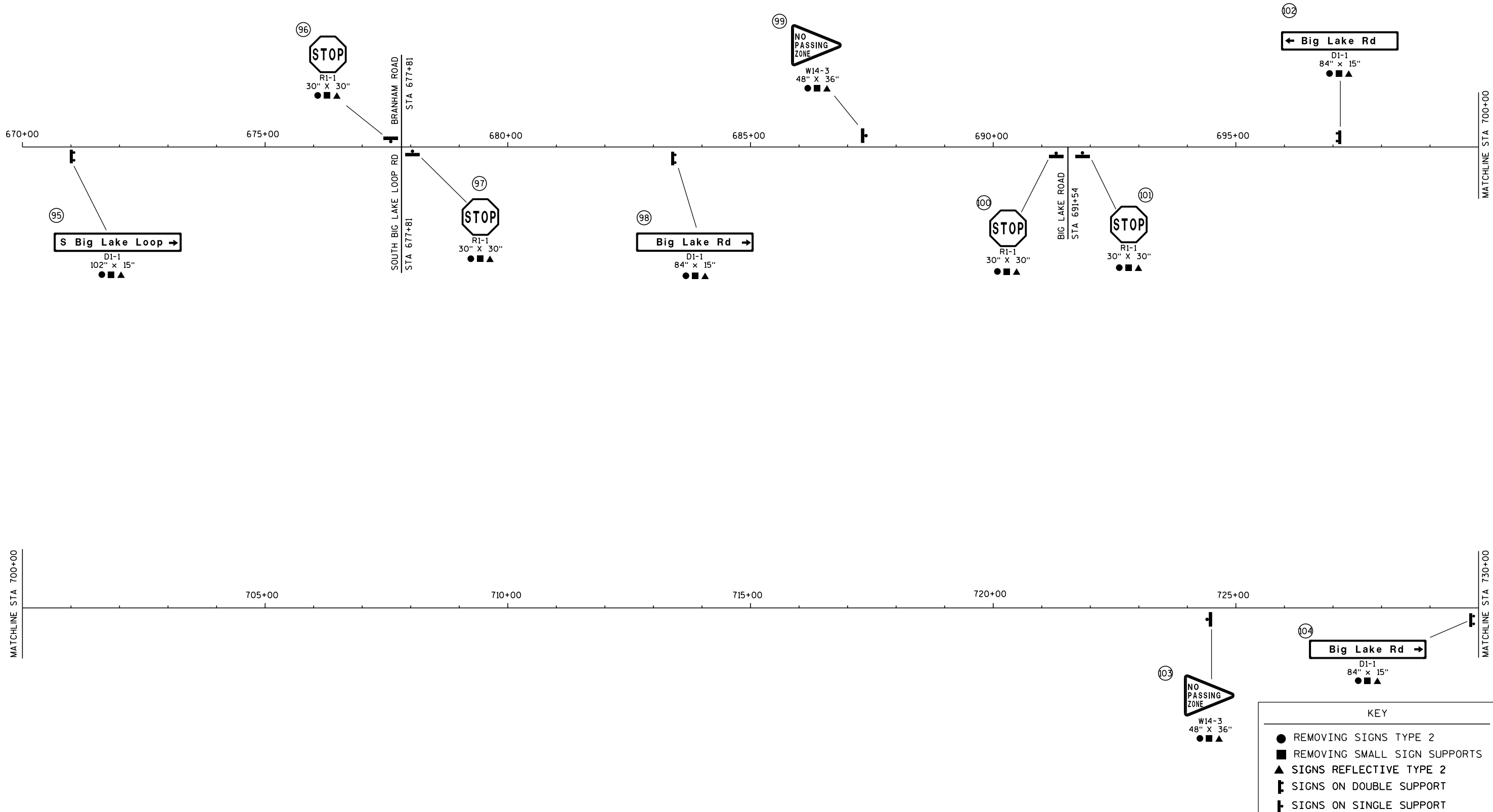
 SIGNS REFLECTIVE TYPE 2

⌚

 SIGNS ON DOUBLE SUPPORT

⌚

 SIGNS ON SINGLE SUPPORT



KEY

●

 REMOVING SIGNS TYPE 2

■

 REMOVING SMALL SIGN SUPPORTS

▲

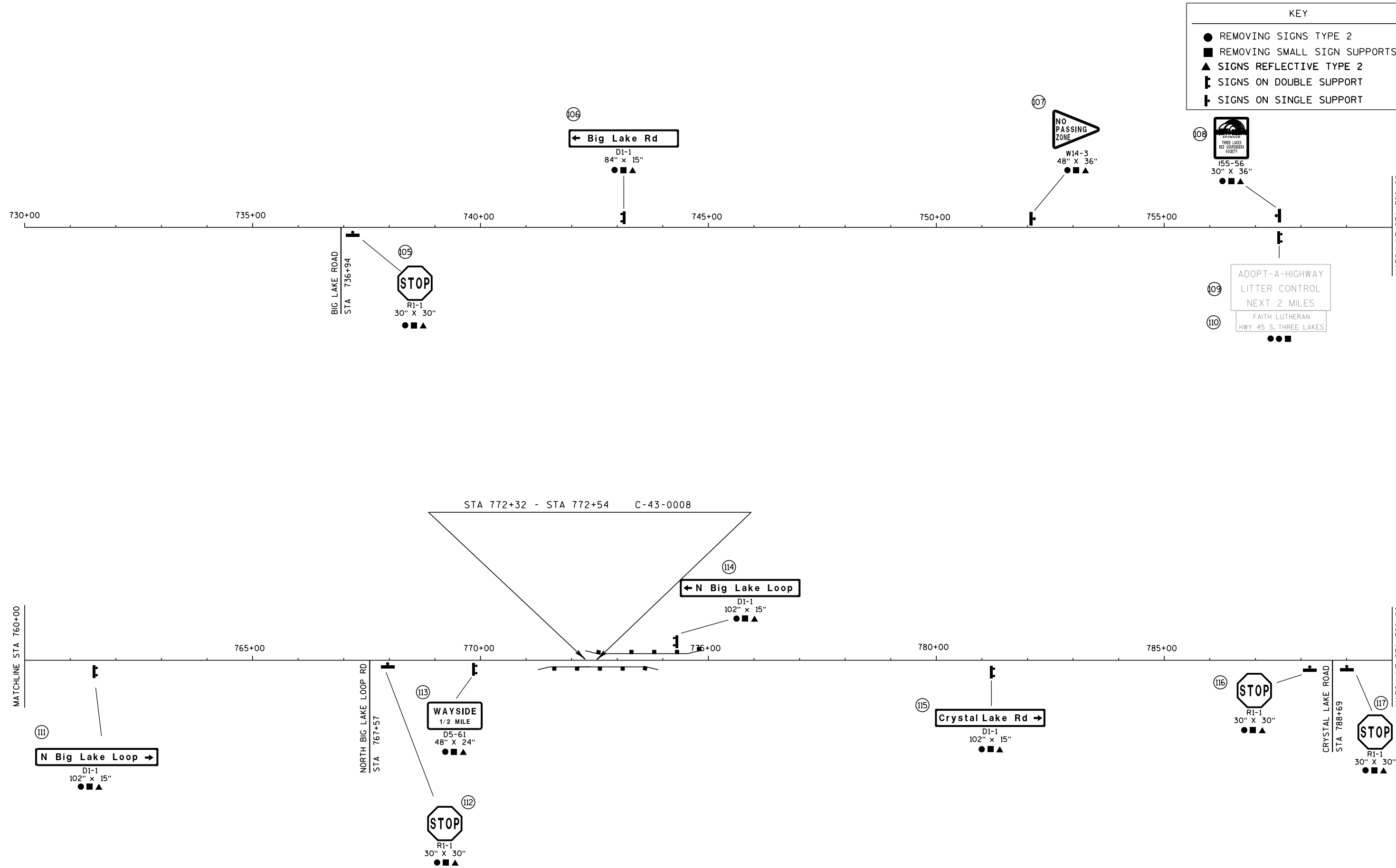
 SIGNS REFLECTIVE TYPE 2

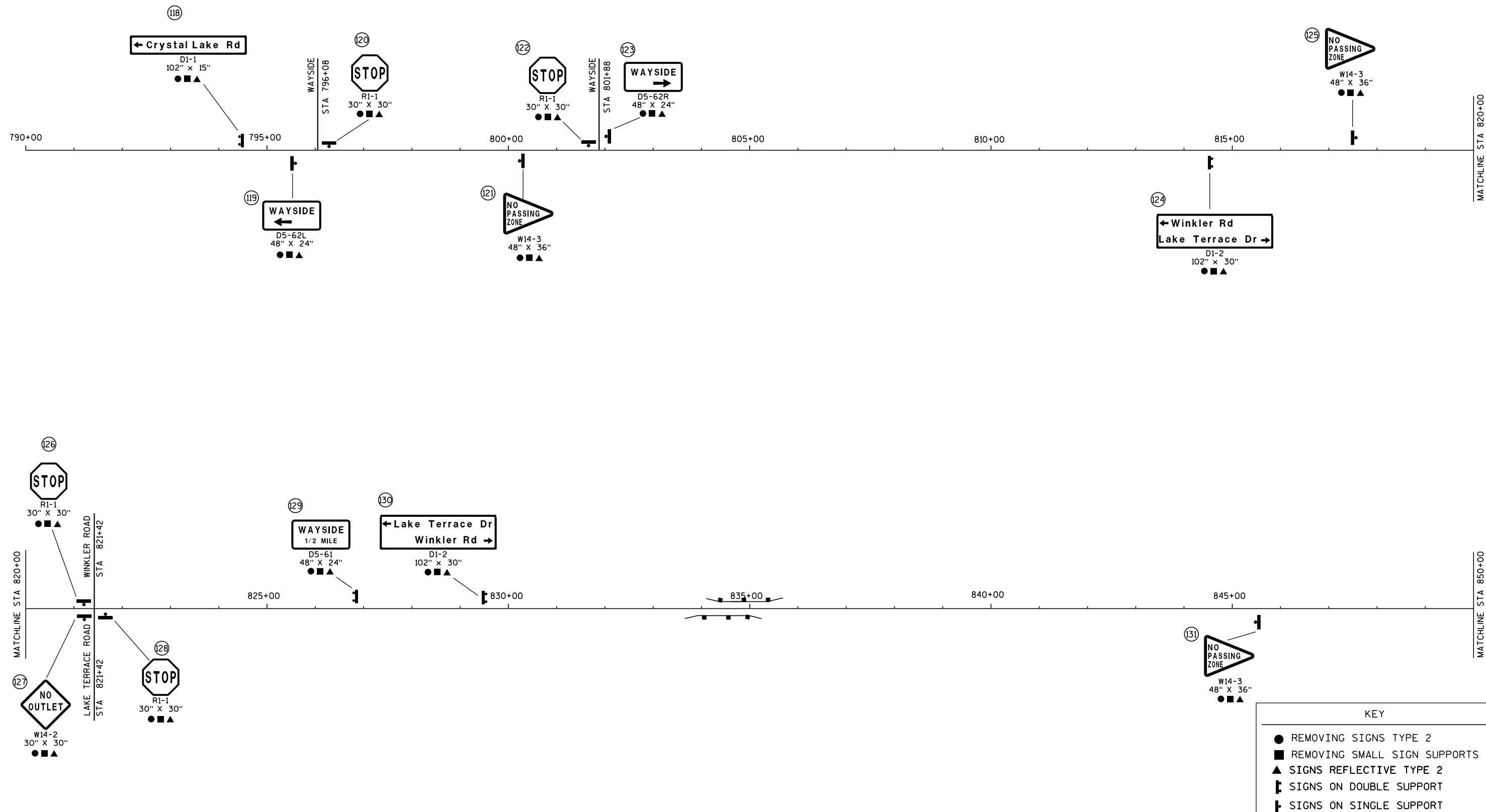
┌┐

 SIGNS ON DOUBLE SUPPORT

┌

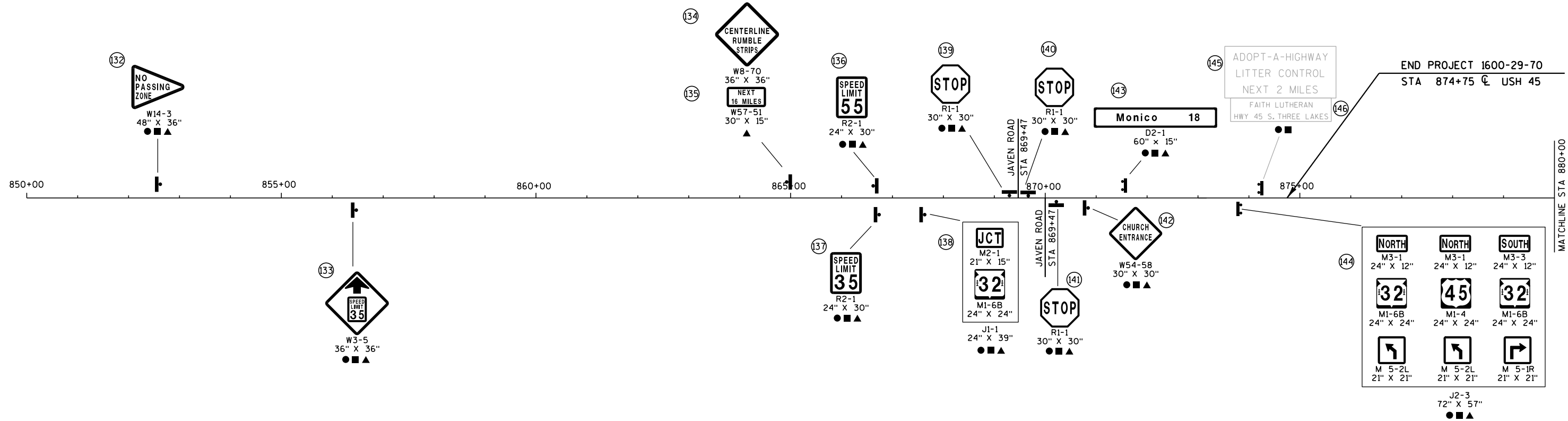
 SIGNS ON SINGLE SUPPORT



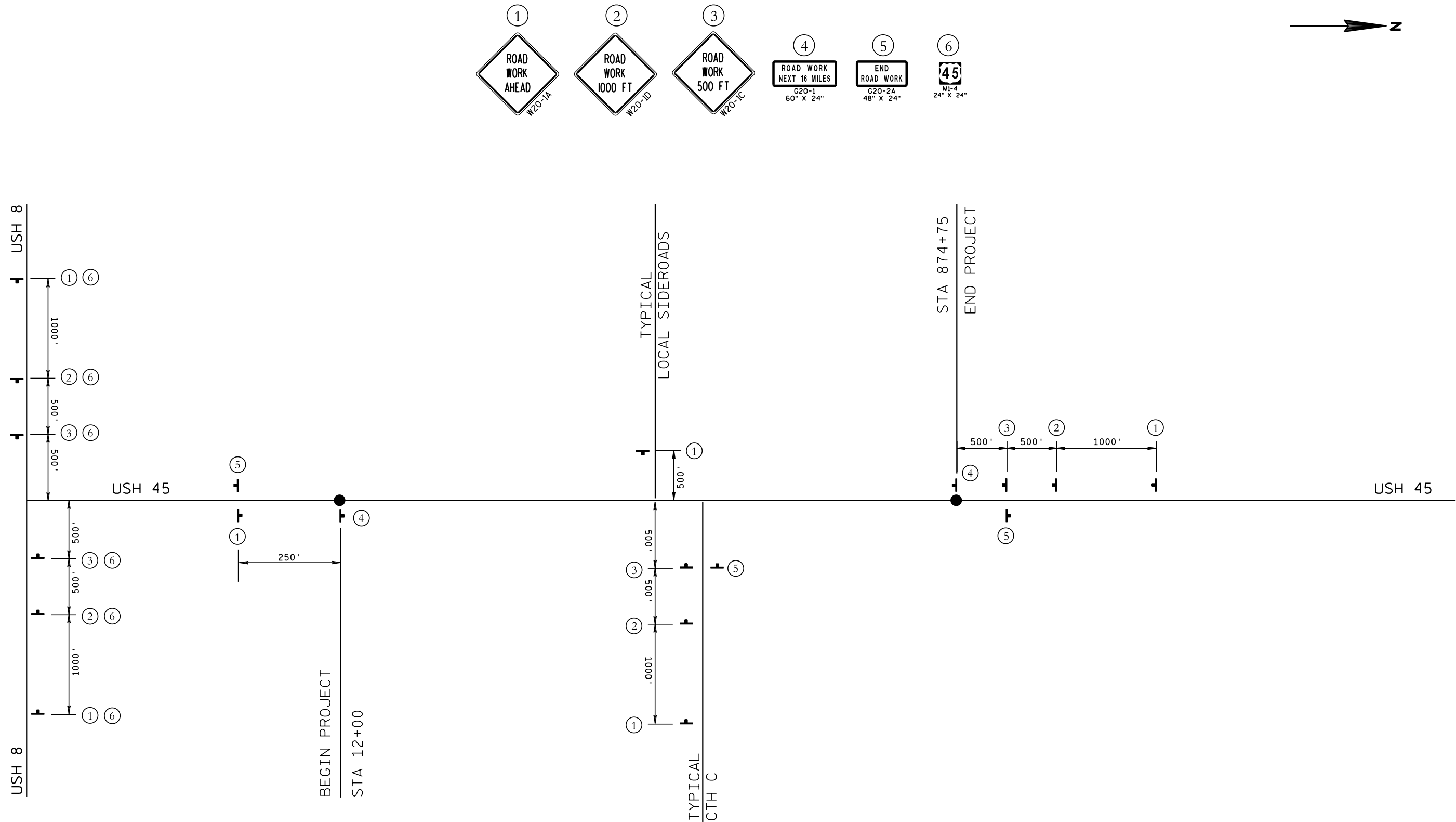


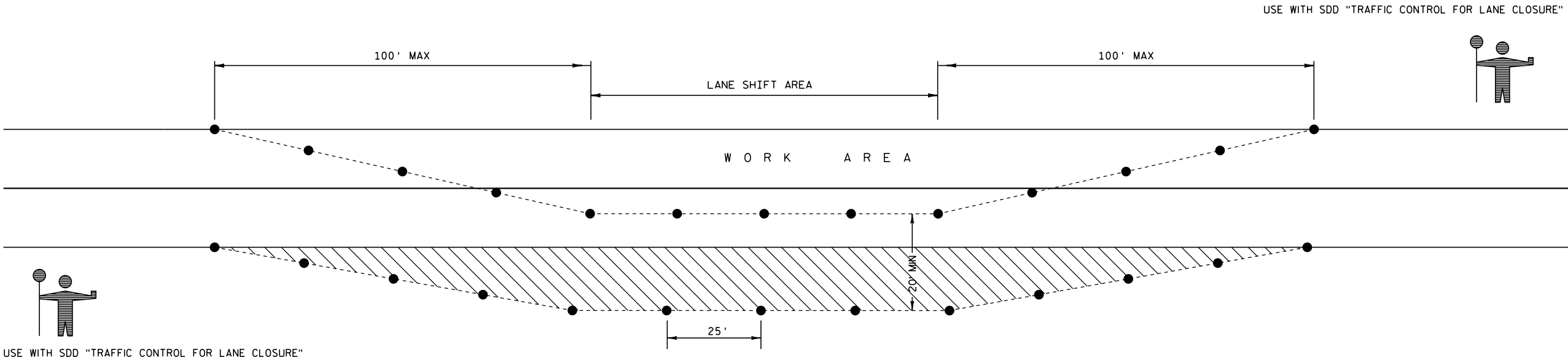
KEY

- REMOVING SIGNS TYPE 2
- REMOVING SMALL SIGN SUPPORTS
- ▲ SIGNS REFLECTIVE TYPE 2
- ┌ SIGNS ON DOUBLE SUPPORT
- └ SIGNS ON SINGLE SUPPORT



KEY	
●	REMOVING SIGNS TYPE 2
■	REMOVING SMALL SIGN SUPPORTS
▲	SIGNS REFLECTIVE TYPE 2
┌	SIGNS ON DOUBLE SUPPORT
└	SIGNS ON SINGLE SUPPORT





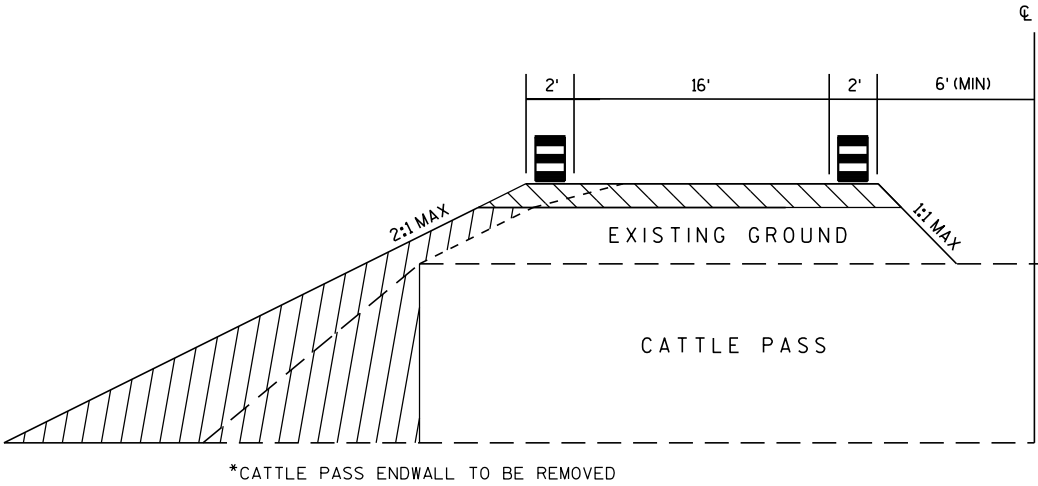
USE WITH SDD "TRAFFIC CONTROL FOR LANE CLOSURE"

USE WITH SDD "TRAFFIC CONTROL FOR LANE CLOSURE"

NOTES

- 1. THE TAPER SHOULD EXTEND ACROSS THE SHOULDER UNLESS DOING SO WOULD GREATLY CONFLICT WITH THE WORK OPERATION
- 2. ALL LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL DEVICES REMOVED BEYOND THE SHOULDER WHEN WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION
- 3. CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM TRAVEL LANE WHEN WORK IS NOT IN PROGRESS
- 4. USE WITH SDD "TRAFFIC CONTROL FOR LANE CLOSURE"

KEY	
●	DRUM WITHOUT WARNING LIGHT
	6" BASE AGGREGATE DENSE 1 1/4 INCH - INCIDENTAL TO LANE SHIFT ITEM
	FILL - INCIDENTAL TO LANE SHIFT ITEM



LANE SHIFT DETAIL
STA 834+00 - STA 837+00

CYCLE 1 = 82 SECONDS
6:00 AM - 8:00 PM
MONDAY - THURSDAY

SEQUENCE OF OPERATION - PHASE I & II				
PRE - TIMED				
INTERVAL	B - 43 - 0015 USH 45			
	S.B.	N.B.	INTERVAL LENGTH (SEC)	% OF GREEN TIME
CLEARANCE	R	R	22	27
A	G	R	15	18
CLEARANCE	Y	R	4	5
CLEARANCE	R	R	22	27
B	R	G	15	18
CLEARANCE	R	Y	4	5
			82	100%

CYCLE 1 = 74 SECONDS
8:01 PM - 5:59 AM
SUNDAY - THURSDAY

SEQUENCE OF OPERATION - PHASE I & II				
PRE - TIMED				
INTERVAL	B - 43 - 0015 USH 45			
	S.B.	N.B.	INTERVAL LENGTH (SEC)	% OF GREEN TIME
CLEARANCE	R	R	22	30
A	G	R	11	15
CLEARANCE	Y	R	4	5
CLEARANCE	R	R	22	30
B	R	G	11	15
CLEARANCE	R	Y	4	5
			74	100%

CYCLE 1 = 92 SECONDS
6:00 AM - 8:00 PM
FRIDAY - SUNDAY

SEQUENCE OF OPERATION - PHASE III & IV				
PRE - TIMED				
INTERVAL	B - 43 - 0015 USH 45			
	S.B.	N.B.	INTERVAL LENGTH (SEC)	% OF GREEN TIME
CLEARANCE	R	R	22	24
ØA	G	R	20	22
CLEARANCE	Y	R	4	4
CLEARANCE	R	R	22	24
ØB	R	G	20	22
CLEARANCE	R	Y	4	4
			92	100%

CYCLE 1 = 82 SECONDS
8:01 PM - 5:59 AM
FRIDAY & SATURDAY

SEQUENCE OF OPERATION - PHASE III & IV				
PRE - TIMED				
INTERVAL	B - 43 - 0015 USH 45			
	S.B.	N.B.	INTERVAL LENGTH (SEC)	% OF GREEN TIME
CLEARANCE	R	R	22	27
ØA	G	R	15	18
CLEARANCE	Y	R	4	5
CLEARANCE	R	R	22	27
ØB	R	G	15	18
CLEARANCE	R	Y	4	5
			82	100%

NOTE: BASED ON STOP BAR PLACEMENT OF 570 FT.
IF STOP BAR PLACEMENT CHANGED, CONTACT REGION
TRAFFIC ENGINEER FOR NEW SIGNAL TIMING.

DATE 17JUL13		E S T I M A T E O F Q U A N T I T I E S			
LINE					1600-29-70
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0005	203.0200	REMOVING OLD STRUCTURE (STATION) 01. STA 373+50 B-43-0015	LS	1.000	1.000
0010	203.0200	REMOVING OLD STRUCTURE (STATION) 02. STA 834+50 CATTLE PASS	LS	1.000	1.000
0015	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 01. B-43-0015	LS	1.000	1.000
0020	204.0115	REMOVING ASPHALTIC SURFACE BUTT JOINTS	SY	2,145.000	2,145.000
0025	204.0120	REMOVING ASPHALTIC SURFACE MILLING	SY	298,040.000	298,040.000
0030	204.0165	REMOVING GUARDRAIL	LF	1,664.000	1,664.000
0035	205.0100	EXCAVATION COMMON **P**	CY	1,018.000	1,018.000
0040	208.0100	BORROW **P**	CY	1,133.000	1,133.000
0045	213.0100	FINISHING ROADWAY (PROJECT) 01. 1600-29-70	EACH	1.000	1.000
0050	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	17,760.000	17,760.000
0055	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	600.000	600.000
0060	305.0500	SHAPING SHOULDERS	STA	1,714.000	1,714.000
0065	440.4410.S	INCENTIVE IRI RIDE	DOL	64,000.000	64,000.000
0070	455.0105	ASPHALTIC MATERIAL PG58-28	TON	2,000.400	2,000.400
0075	455.0605	TACK COAT	GAL	7,515.000	7,515.000
0080	460.1101	HMA PAVEMENT TYPE E-1	TON	36,370.000	36,370.000
0085	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	23,280.000	23,280.000
0090	465.0120	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	TON	30.000	30.000
0095	465.0475.S	ASPHALT CENTER LINE RUMBLE STRIP 2-LANE RURAL	LF	76,615.000	76,615.000
0100	502.0100	CONCRETE MASONRY BRIDGES	CY	24.000	24.000
0105	502.3200	PROTECTIVE SURFACE TREATMENT	SY	160.000	160.000
0110	502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	348.000	348.000
0115	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	352.000	352.000
0120	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	3,800.000	3,800.000
0125	509.0301	PREPARATION DECKS TYPE 1	SY	14.000	14.000
0130	509.0302	PREPARATION DECKS TYPE 2	SY	7.000	7.000
0135	509.1500	CONCRETE SURFACE REPAIR	SF	50.000	50.000
0140	509.2000	FULL-DEPTH DECK REPAIR	SY	1.000	1.000
0145	509.5100.S	POLYMER OVERLAY	SY	650.000	650.000
0150	516.0600.S	SHEET MEMBRANE WATERPROOFING	SY	49.000	49.000
0155	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	800.000	800.000
0160	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	800.000	800.000
0165	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4.000	4.000
0170	614.2300	MGS GUARDRAIL 3	LF	125.000	125.000
0175	614.2340	MGS GUARDRAIL 3 L	LF	225.000	225.000
0180	614.2500	MGS THRIE BEAM TRANSITION	LF	157.200	157.200
0185	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	8.000	8.000
0190	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1600-29-70	EACH	1.000	1.000
0195	619.1000	MOBILIZATION	EACH	1.000	1.000
0200	624.0100	WATER	MGAL	100.000	100.000
0205	625.0100	TOPSOIL	SY	4,690.000	4,690.000
0210	628.1504	SILT FENCE	LF	2,050.000	2,050.000
0215	628.1520	SILT FENCE MAINTENANCE	LF	2,050.000	2,050.000
0220	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	4.000	4.000
0225	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000	2.000

DATE 17JUL13		E S T I M A T E O F Q U A N T I T I E S			
LINE				1600-29-70	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0230	628.2002	EROSION MAT CLASS I TYPE A	SY	2,460.000	2,460.000
0235	628.2006	EROSION MAT URBAN CLASS I TYPE A	SY	2,330.000	2,330.000
0240	628.7504	TEMPORARY DITCH CHECKS	LF	40.000	40.000
0245	629.0210	FERTILIZER TYPE B	CWT	6.600	6.600
0250	630.0130	SEEDING MIXTURE NO. 30	LB	281.000	281.000
0255	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	156.000	156.000
0260	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	4.000	4.000
0265	637.0202	SIGNS REFLECTIVE TYPE II	SF	1,023.410	1,023.410
0270	638.2602	REMOVING SIGNS TYPE II	EACH	122.000	122.000
0275	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	122.000	122.000
0280	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000
0285	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1600-29-70	EACH	1.000	1.000
0290	643.0300	TRAFFIC CONTROL DRUMS	DAY	1,100.000	1,100.000
0295	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	40.000	40.000
0300	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	400.000	400.000
0305	643.0900	TRAFFIC CONTROL SIGNS	DAY	3,224.000	3,224.000
0310	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	251,850.000	251,850.000
0315	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	335.000	335.000
0320	646.0406	PAVEMENT MARKING SAME DAY EPOXY 4-INCH	LF	81,390.000	81,390.000
0325	646.0600	REMOVING PAVEMENT MARKINGS	LF	575.000	575.000
0330	647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	1.000	1.000
0335	647.0356	PAVEMENT MARKING WORDS EPOXY	EACH	1.000	1.000
0340	647.0803	PAVEMENT MARKING AERIAL ENFORCEMENT BARS EPOXY 24-INCH	LF	60.000	60.000
0345	648.0100	LOCATING NO-PASSING ZONES	MI	16.340	16.340
0350	649.0100	TEMPORARY PAVEMENT MARKING 4-INCH	LF	81,390.000	81,390.000
0355	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	3,560.000	3,560.000
0360	649.1400	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 24-INCH	LF	60.000	60.000
0365	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	86,275.000	86,275.000
0370	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1600-29-70	LS	1.000	1.000
0375	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	3,082.000	3,082.000
0380	661.0100	TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 01. B-43-0015	LS	1.000	1.000
0385	690.0150	SAWING ASPHALT	LF	827.000	827.000
0390	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	240.000	240.000
0395	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	HRS	2,100.000	2,100.000
0400	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	4,315.000	4,315.000
0405	SPV.0060	SPECIAL 01. LANE SHIFT	EACH	1.000	1.000
0410	SPV.0090	SPECIAL 01. CLEANING PARAPETS SPECIAL	LF	312.000	312.000
0415	SPV.0180	SPECIAL 01. THERMOPLASTIC COATING AT SNOWMOBILE CROSSINGS	SY	201.000	201.000

CATEGORY 0010 UNLESS OTHERWISE NOTED

REMOVING ASPHALTIC SURFACE MILLING BUTT JOINTS			
STATION - STATION	LOCATION	204.0115 SY	REMARKS
12+00 - 13+00	CL	330	
370+81 - 371+81	CL	330	
374+14 - 375+14	CL	330	
873+75 - 874+75	CL	330	
24+50	CEMETARY RD	30	
34+70	LAKE RD	35	
35+50	ERICKSON RD	25	
117+25	WOODRICK ROAD (S)	30	
118+13	KURTZ RD	25	
132+50	WOODRICK ROAD (N)	30	
196+80	MAKAR RD	25	
308+74	OLD 45 RD	30	
354+50	CTH C	40	
502+00	GAGEN RD	40	
535+50	HILES JCT RD	25	
547+39	MARGRET LAKE RD	30	
613+50	E. STELLA RD	45	
677+81	BIG LAKE LOOP RD (S)	40	
677+81	BRANHAM RD	25	
691+54	BIG LAKE RD	30	
736+94	BIG LAKE RD (N)	35	
767+57	BIG LAKE LOOP RD (N)	40	
788+69	CRYSTAL LAKE RD	30	
796+08	WAYSIDE (S)	30	
801+88	WAYSIDE (N)	30	
821+42	LAKE TERRECE RD	30	
821+42	WINKLER RD	30	
869+47	JAVEN RD (W)	30	
869+47	JAVEN RD (E)	45	
760+70	RT	10	PE
776+02	LT	10	PE
TOTAL		2145	

REMOVING ASPHALTIC SURFACE MILLING

STATION - STATION	LOCATION	204.0120 SY	REMARKS
13+00 - 371+81		119500	
375+14 - 772+32		132400	
772+54 - 873+75		33700	
24+50	CEMETARY RD	670	
34+70	LAKE RD	590	
35+50	ERICKSON RD	240	
117+25	WOODRICK RD (S)	140	
118+13	KURTZ RD	580	
132+50	WOODRICK RD (N)	140	
196+80	MAKAR RD	300	
308+74	OLD 45 RD	140	
354+50	CTH C	750	
502+00	GAGEN RD	590	
535+50	HILES JCT RD	130	
547+39	MARGERET LAKE ROAD	600	
613+50	E. STELLA RD	570	
677+81	BIG LAKE LOOP RD (S)	680	
677+81	BRANHAM RD	290	
691+54	BIG LAKE RD	620	
736+94	BIG LAKE RD (N)	610	
767+57	BIG LAKE LOOP RD (N)	620	
788+69	CRYSTAL LAKE RD	500	
796+08	WAYSIDE (S)	300	
801+88	WAYSIDE (N)	450	
821+42	LAKE TERRACE RD	580	
821+42	WINKLER RD	570	
869+47	JAVEN RD (W)	540	
869+47	JAVEN RD (E)	1240	
TOTAL		298040	

REMOVING GUARDRAIL

STATION - STATION	LOCATION	204.0165 LF	REMARKS
371+89 - 372+68	LT	116	
371+97 - 372+76	RT	116	
374+09 - 374+87	LT	116	
374+28 - 375+06	RT	116	
771+00 - 773+25	RT	300	
771+85 - 774+10	LT	300	
805+85 - 808+85	RT	300	
805+85 - 808+85	LT	300	
TOTAL		1664	

DIVISION	STA TO STA	LOCATION	COMMON EXCAVATION	AVAILABLE MATERIAL (5)	Expanded Rock (12)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE + / - (14)	WASTE	BORROW	COMMENT
			CUT (2) (ITEM 205.0100)		Factor 1.10		Factor 1.25			(Item #208.0100)	
1	369+75 to 377+25	B-43-0015	116	116	0	685	856	- 740	0	- 740	
2	584+25 to 594+65	SUPER- ELEVATION CORRECTION	109	109	0	169	211	- 103	0	- 103	
3	769+97 to 775+50	C-43-0008	27	27	0	254	317	- 291	0	- 291	
4	769+98 to 837+00	REMOVING OLD STRUCTURE: CATTLE PASS	767	767	0	139	173	594	594	0	
GRAND TOTAL			1,018	1,018	0	1,246	1,558	- 540	594	- 1,133	
TOTAL COMMON EXCAVATION			1,018								
1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100											
2) Salvaged/Unsuable Pavement Material is included in Cut.											
5) Available Material = Cut - Salvaged/Unusuable Pavement Material											
13) Expanded Fill. Factor = 1.25											
14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.											

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CATEGORY 0010 UNLESS OTHERWISE NOTED				
<u>BASE AGGREGATE DENSE</u>				
STATION - STATION	LOCATION	305.0120 1 1/4-INCH TON	305.0110 3/4-INCH TON	REMARKS
12+00 - 35+50	LT	--	240	
12+00 - 35+50	RT	--	240	
35+50 - 117+25	LT	--	840	
35+50 - 117+25	RT	--	840	
117+25 - 196+80	LT	--	810	
117+25 - 196+80	RT	--	810	
196+80 - 308+74	LT	--	1150	
196+80 - 308+74	RT	--	1150	
308+74 - 354+50	LT	--	470	
308+74 - 354+50	RT	--	470	
354+50 - 372+81	LT	--	190	
354+50 - 372+81	RT	--	190	
374+14 - 535+50	LT	--	1650	
374+14 - 535+50	RT	--	1650	
535+50 - 613+50	LT	--	800	
535+50 - 613+50	RT	--	800	
613+50 - 691+54	LT	--	800	
613+50 - 691+54	RT	--	800	
691+54 - 772+32	LT	--	830	
691+54 - 772+32	RT	--	830	
772+54 - 821+42	LT	--	500	
772+54 - 821+42	RT	--	500	
821+42 - 874+75	LT	--	550	
821+42 - 874+75	RT	--	550	
803+75		500	--	CATTLE CROSSING
UNDISTRIBUTED		100	100	
TOTALS		600	17760	

<u>SHAPING SHOULDERS</u>			
STATION - STATION	LOCATION	305.0500 STATION	REMARKS
12+00 - 371+50	LT	359.5	
12+00 - 371+50	RT	359.5	
375+50 - 771+50	LT	396	
375+50 - 771+50	RT	396	
773+50 - 874+75	LT	101.5	
773+50 - 874+75	RT	101.5	
TOTAL		1714.0	

PROJECT NO: 1600-29-70	HWY: USH 45	COUNTY: ONEIDA
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HMA PAVEMENT TYPE E-3				
STATION - STATION	LOCATION	460.1103 HMA PAVEMENT TYPE E-3 TON	455.0105 ASPHALTIC MATERIAL PG58-28 TON	REMARKS
12+00 - 372+81		14330	788.2	
375+14 - 874+75		20150	1108.3	
769+50 - 775+50		230	12.7	2ND LIFT
833+00 - 836+00		120	6.6	2ND LIFT
24+50	CEMETARY RD	80	4.4	
34+70	LAKE RD	70	3.9	
35+50	ERICKSON RD	30	1.7	
117+25	WOODRICK ROAD (S)	20	1.1	
118+13	KURTZ RD	70	3.9	
132+50	WOODRICK ROAD (N)	20	1.1	
196+80	MAKAR RD	40	2.2	
308+74	OLD 45 RD	20	1.1	
354+50	CTH C	90	5.0	
502+00	GAGEN RD	70	3.9	
535+50	HILES JCT RD	20	1.1	
547+39	MARGRET LAKE RD	70	3.9	
613+50	E. STELLA RD	70	3.9	
677+81	BIG LAKE LOOP RD (S)	80	4.4	
677+81	BRANHAM RD	40	2.2	
691+54	BIG LAKE RD	80	4.4	
736+94	BIG LAKE RD (N)	70	3.9	
767+57	BIG LAKE LOOP RD (N)	80	4.4	
788+69	CRYSTAL LAKE RD	60	3.3	
796+08	WAYSIDE (S)	40	2.2	
801+88	WAYSIDE (N)	60	3.3	
821+42	LAKE TERRECE RD	70	3.9	
821+42	WINKLER RD	70	3.9	
869+47	JAVEN RD (W)	70	3.9	
869+47	JAVEN RD (E)	150	8.3	
TOTALS		36370	2000.4	

ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES			
STATION	LOCATION	465.0120 TON	REMARKS
760+70	RT	10	PE
776+02	LT	10	PE
UNDISTRIBUTED		10	
TOTAL		30	

SCCELLANEOUS QUANTITIES	SHEET:	E
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3

CATEGORY 0010 UNLESS OTHERWISE NOTED				
TACK COAT				
STATION - STATION		LOCATION	455.0605 GALLONS	REMARKS
12+00 - 372+81		MAINLINE	3010	
375+14 - 874+75		MAINLINE	4160	
24+50		CEMETARY RD	20	
34+70		LAKE RD	15	
35+50		ERICKSON RD	10	
117+25		WOODRICK ROAD (S)	5	
118+13		KURTZ RD	15	
132+50		WOODRICK ROAD (N)	5	
196+80		MAKAR RD	10	
308+74		OLD 45 RD	5	
354+50		CTH C	20	
502+00		GAGEN RD	15	
535+50		HILES JCT RD	5	
547+39		MARGRET LAKE RD	15	
613+50		E. STELLA RD	15	
677+81		BIG LAKE LOOP RD (S)	20	
677+81		BRANHAM RD	10	
691+54		BIG LAKE RD	15	
736+94		BIG LAKE RD (N)	15	
767+57		BIG LAKE LOOP RD (N)	20	
788+69		CRYSTAL LAKE RD	15	
796+08		WAYSIDE (S)	10	
801+88		WAYSIDE (N)	10	
821+42		LAKE TERRECE RD	15	
821+42		WINKLER RD	15	
869+47		JAVEN RD (W)	15	
869+47		JAVEN RD (E)	30	
TOTAL			7515	

SHEET MEMEBRANE WATERPROOFING		
516.0600.S		
SHEET MEMBRANE WATERPROOFING		
STATION - STATION	SY	REMARKS
C-43-0008	49	CRYSTAL CREEK CULVERT
TOTALS	49	

ASPHALTIC CENTERLINE RUMBLE STRIP 2-LANE RURAL					
STATION TO STATION		LOCATION	465.0475.S LF	REMARKS	
12+00		22+25	CL	1025	
26+75		32+45	CL	570	
37+75		115+00	CL	7725	
120+38		130+25	CL	987	
134+75		194+55	CL	5980	
199+05		306+49	CL	10744	
310+99		352+25	CL	4126	
356+75		499+75	CL	14300	
504+25		533+25	CL	2900	
537+75		545+14	CL	739	
549+64		611+25	CL	6161	
615+75		675+56	CL	5981	
680+06		689+29	CL	923	
693+79		734+69	CL	4090	
739+19		765+32	CL	2613	
769+82		786+44	CL	1662	
797+33		799+63	CL	230	
804+13		819+17	CL	1504	
823+67		867+22	CL	4355	
TOTAL			76615		

BEAM GUARD						
STATION - STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2340 MGS GUARDRAIL 3 L LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	REMARKS
371+70 - 372+75	LT	12.5	--	39.3	1	B-43-0015
371+40 - 372+81	RT	50.0	--	39.3	1	B-43-0015
374+30 - 375+74	LT	12.5	--	39.3	1	B-43-0015
374+40 - 375+44	RT	50.0	--	39.3	1	B-43-0015
771+60 - 773+85	LT	--	112.5	--	2	C-43-0008
771+16 - 773+79	RT	--	112.5	--	2	C-43-0008
TOTALS		125.0	225.0	157.2	8	

<u>WATER</u>		
	624.0100	
	WATER	
STATION - STATION	MGAL	REMARKS
12+00 - 874+75	100	
TOTALS		
	100	

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CATEGORY 0010 UNLESS OTHERWISE NOTED

TOPSOIL, MULCHING, FERTILIZER, AND SEEDING

STATION - STATION	LOCATION	625.0100	629.0210	630.0130	628.2002	628.2006	628.7504	REMARKS
		TOPSOIL	FERTILIZER	SEEDING	CLASS I	URBAN CLASS I	TEMPORARY	
		SY	TYPE B	MIXTURE	TYPE A	TYPE A	DITCH	
			CWT	NO. 30	E-MAT	E-MAT	CHECKS	
				LB	SY	SY	LF	
369+75 - 372+90	LT	380	0.4	18.2	380	--	--	
369+75 - 372+90	RT	290	0.2	9.5	290	--	--	
374+25 - 377+25	LT	310	0.3	13.3	310	--	--	
374+25 - 377+25	RT	160	0.2	8.1	160	--	--	
584+25 - 594+65	LT	490	1.3	55.0	--	490	--	
584+25 - 594+65	RT	510	1.4	59.2	--	510	--	
770+00 - 772+40	LT	500	0.4	16.0	--	500	--	
770+00 - 772+40	RT	130	0.2	6.8	--	130	--	
772+50 - 775+50	LT	380	0.4	15.5	--	380	--	
772+50 - 775+50	RT	220	0.3	10.9	--	220	--	
833+25 - 837+00	LT	480	0.5	20.0	480	--	15.0	
833+25 - 837+00	RT	740	0.7	28.1	740	--	15.0	
UNDISTRIBUTED		100	0.5	20.0	100	100	10	
TOTALS		4690	6.6	281	2460	2330	40	

SILT FENCE

STATION	LOCATION	628.1504	628.1520	REMARKS
		LF	MAINTENANCE	
			LF	
587+50 - 594+00	RT	650	650	
770+00 - 772+40	LT	300	300	
770+00 - 772+40	RT	300	300	
772+50 - 775+50	LT	350	350	
772+50 - 775+50	RT	350	350	
UNDISTRIBUTED		100	100	
TOTALS		2050	2050	

MOBILIZATIONS EROSION CONTROL

STATION - STATION	628.1905	628.1910	REMARKS
	MOBILIZATIONS	MOBILIZATIONS	
	EROSION	EROSION	
	CONTROL	CONTROL	
	EACH	EACH	
12+00 - 891+00	4	2	
TOTALS	4	2	

SIGN LISTING

SIGN NO.	SIGN CODE	MESSAGE	SIZE	POSTS WOOD - 4" X 6"		637.0202	638.2602	638.3000	REMARKS
				634.0616	634.0618	SIGNS	REMOVING	REMOVING	
				16-FT EACH	18-FT EACH	REFLECT. TYPE II SF	SIGNS EACH	SMALL SIGN SUPPORTS EACH	
1	J4-1	REASSURANCE ASSEMBLY	24" X 36"	1	---	6.00	1	1	
	M3-1	NORTH	24" X 12"	---	---	---	---	---	
	M1-4	USH 45	24" X 24"	---	---	---	---	---	
2	R2-1	SPEED LIMIT 55 MPH	24" X 30"	1	---	5.00	1	1	
3	D1-2	CRANDON/MONICO DESTINATION	60" X 30"	1	---	12.50	1	1	
4	D2-3	THREE LAKES/EAGLE RIVER/LAND O'LAKE DESTINATION	102" X 36"	2	---	25.50	1	1	
5	W3-1	STOP AHEAD		---	---	---	1	1	
6	W3-1	STOP AHEAD	36" X 36"	1	---	9.00	---	---	
7	W8-70	CENTERLINE RUMBLE STRIPS	36" X 36"	1	---	9.00	---	---	
8	W57-51	NEXT 16 MILES	30" X 15"	---	---	3.13	---	---	SAME POST AS SIGN 7
9	D1-1	CEMETERY RD	84" X 15"	2	---	8.75	1	1	
10	J2-3	ROUTE TURN ASSEMBLY	72" X 57"	---	2	28.50	1	1	
	M3-2	EAST	24" X 12"	---	---	---	---	---	
	M1-4	USH 8	24" X 24"	---	---	---	---	---	
	M5-1L	ARROW	21" X 21"	---	---	---	---	---	
	M3-3	SOUTH	24" X 12"	---	---	---	---	---	
	M1-4	USH 45	24" X 24"	---	---	---	---	---	
	M5-1R	ARROW	21" X 21"	---	---	---	---	---	
	M3-4	WEST	24" X 12"	---	---	---	---	---	
	M1-4	USH 8	24" X 24"	---	---	---	---	---	
	M5-1R	ARROW	21" X 21"	---	---	---	---	---	
11	W3-1	STOP AHEAD		---	---	---	1	1	
12	W3-1	STOP AHEAD	36" X 36"	1	---	9.00	---	---	
13	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
14	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
15	J1-1	JCT ASSEMBLY	24" X 39"	1	---	6.50	1	1	
	M2-1	JCT	21" X 15"	---	---	---	---	---	
	M1-4	USH 8	24" X 24"	---	---	---	---	---	
16	D1-2	LAKE RD/ERICKSON RD	84" X 30"	2	---	17.50	---	---	
17	D3-1	LAKE RD/ERICKSON RD		---	---	---	1	1	
18	D1-1	CEMETERY RD	84" X 15"	2	---	8.75	1	1	
19	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
20	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
21	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
22	R1-1	STOP	30" X 30"	---	---	5.18	1	1	
23	D1-2	ERICKSON RD/LAKE RD	84" X 30"	2	---	17.50	1	1	
24	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
25	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
26	D1-2	WOODRICK RD/KURTZ RD	84" X 30"	2	---	17.50	---	---	
27	D3-1	KURTZ RD		---	---	---	1	1	
28	D3-1	WOODRICK RD		---	---	---	1	1	
29	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
30	W14-1	DEAD END	30" X 30"	1	---	6.25	---	---	
Total				28	2	238.64	23	23	

CATEGORY 0010 UNLESS OTHERWISE NOTED
SIGNING CONTINUED ON NEXT PAGE

SIGN NO.	SIGN CODE	MESSAGE	SIZE	POSTS WOOD - 4" X 6"		637.0202	638.2602	638.3000	REMARKS
				634.0616	634.0618	SIGNS REFLECT. TYPE II	REMOVING SIGNS	REMOVING SMALL SIGN SUPPORTS	
				16-FT EACH	18-FT EACH	SF	EACH	EACH	
31	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
32	W14-1	DEAD END		---	---	---	1	1	
33	155-56	ADOPT-A-HWY IN MEMORY OF KATRINA LEE MCCONNLY	30" X 36"	1	---	7.50	1	1	
34	D1-2	KURTZ RD/ WOODRICK RD	84" X 30"	2	---	17.50	---	---	
35	D3-1	KURTZ RD		---	---	---	1	1	
36	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
37	D1-1	WOODRICK RD	84" X 15"	2	---	8.75	1	1	
38	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
39	D1-1	MAKAR RD	72" X 15"	2	---	7.50	1	1	
40	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
41	D1-1	MAKAR RD	72" X 15"	2	---	7.50	1	1	
42	W8-70	CENTERLINE RUMBLE STRIPS	36" X 36"	1	---	9.00	---	---	
43	W57-51	NEXT 5 MILES	30" X 15"	---	---	3.13	---	---	SAME POST AS SIGN 42
44	W8-70	CENTERLINE RUMBLE STRIPS	36" X 36"	1	---	9.00	---	---	
45	W57-51	NEXT 11 MILES	30" X 15"	---	---	3.13	---	---	SAMPE POST AS SIGN 44
46	D1-1	OLD 45 RD	72" X 15"	2	---	7.50	1	1	
47	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
48	D1-1	OLD 45 RD	72" X 15"	2	---	7.50	1	1	
49	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
50	J1-1	JCT ASSEMBLY	24" X 39"	1	---	6.50	1	1	
	M2-1	JCT	21" X 15"	---	---	---	---	---	
	M1-5A	CTH C	24" X 24"	---	---		---	---	
51	W8-70	CENTERLINE RUMBLE STRIPS	36" X 36"	1	---	9.00	---	---	
52	W57-51	NEXT 6 MILES	30" X 15"	---	---	3.13	---	---	SAME POST AS SIGN 51
53	J4-1	REASSURANCE ASSEMBLY	24" X 36"	1	---	6.00	---	---	
	M3-3	SOUTH	24" X 12"	---	---	---	---	---	
	M1-4	USH 45	24" X 24"	---	---	---	---	---	
54	J13-1	DIRECTIONAL ASSEMBLY	24" X 45"	1	---	6.50	1	1	
	M1-5A	CTH C	24" X 24"	---	---	---	---	---	
	M6-1	ARROW	21" X 21"	---	---	---	---	---	
55	J13-1	DIRECTIONAL ASSEMBLY	24" X 36"	1	---	6.00	1	1	
	M1-4	USH 45	24" X 24"	---	---	---	---	---	
	M6-4	ARROW	21" X 21"	---	---	---	---	---	
55A	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
55B	M1-4	USH 45	24" X 24"	---	---	---	1	---	
55A	W1-7	ARROW	24" X 48"	2	---	8.00	1	2	
56	J13-1	DIRECTIONAL ASSEMBLY	24" X 45"	1	---	6.50	1	1	
	M1-5A	CTH C	24" X 24"	---	---	---	---	---	
	M6-1	ARROW	21" X 21"	---	---	---	---	---	
57	J4-1	REASSURANCE ASSEMBLY	24" X 36"	1	---	6.00	1	1	
	M3-1	NORTH	24" X 12"	---	---	---	---	---	
	M1-4	USH 45	24" X 24"	---	---	---	---	---	
58	W8-70	CENTERLINE RUMBLE STRIPS	36" X 36"	1	---	9.00	---	---	
59	W57-51	NEXT 10 MILES	30" X 15"	---	---	3.13	---	---	SAME POST AS SIGN 58
Total				32	0	195.67	22	22	

CATEGORY 0010 UNLESS OTHERWISE NOTED
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SIGN NO.	SIGN CODE	MESSAGE	SIZE	POSTS WOOD - 4" X 6"		637.0202 SIGNS REFLECT. TYPE II SF	638.2602 REMOVING SIGNS EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
				634.0616 16-FT EACH	634.0618 18-FT EACH				
60	J1-1	JCT ASSEMBLY	24" X 39"	1	---	6.50	1	1	
	M2-1	JCT	21" X 15"	---	---	---	---	---	
	M1-5A	CTH C	24" X 24"	---	---	---	---	---	
61		DEER CROSSING		---	---	---	1	1	
62	W5-52L	TIGER BOARD	12" X 36"	1	---	3.00	---	---	
63	W5-52R	TIGER BOARD	12" X 36"	1	---	3.00	---	---	
64	W5-52L	TIGER BOARD	12" X 36"	1	---	3.00	---	---	
65	W5-52R	TIGER BOARD	12" X 36"	1	---	3.00	---	---	
66	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
67	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
68	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
69	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
70	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
71	D1-1	GAGEN RD	66" X 15"	2	---	6.88	1	1	
72	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
73	D1-1	GAGEN RD	66" X 15"	2	---	6.88	1	1	
74	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
75	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
76	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
77	D1-1	MARGARET LAKE RD	108" X 15"	2	---	11.25	1	1	
78	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
79	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
80	D1-1	MARGARET LAKE RD	108" X 15"	2	---	11.25	1	1	
81	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
82	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
83	D1-1	E STELLA LAKE RD	108" X 15"	2	---	11.25	1	1	
84	S3-1	SCHOOL BUS STOP AHEAD	36" X 36"	1	---	9.00	1	1	
85	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
86	W8-70	CENTERLINE RUMBLE STRIPS	36" X 36"	1	---	9.00	---	---	
87	W57-51	NEXT 11 MILES	30" X 15"	---	---	3.13	---	---	SAME POST AS SIGN 86
88	W8-70	CENTERLINE RUMBLE STRIPS	36" X 36"	1	---	9.00	---	---	
89	W57-51	NEXT 5 MILES	30" X 15"	1	---	3.13	---	---	
90	D1-1	E STELLA LAKE RD	108" X 15"	2	---	11.25	1	1	
Total				35	0	191.24	23	23	

CATEGORY 0010 UNLESS OTHERWISE NOTED
SIGNING CONTINUED ON NEXT PAGE

SIGN CODE	MESSAGE	SIZE	POSTS WOOD - 4" X 6"		637.0202 SIGNS REFLECT. TYPE II SF	638.2602 REMOVING SIGNS EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
			634.0616 16-FT EACH	634.0618 18-FT EACH				
I55-56	ADOPT-A-HWY THREE LAKES RED SUSPENDERS SOCIETY	30" X 36"	1	---	7.50	1	1	
S3-1	SCHOOL BUS STOP AHEAD	36" X 36"	1	---	9.00	1	1	
	DEER CROSSING		---	---	---	1	1	
W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
D1-1	S BIG LAKE LOOP RD	102" X 15"	2	---	10.63	1	1	
R1-1	STOP	30" X 30"	1	---	5.18	1	1	
R1-1	STOP	30" X 30"	1	---	5.18	1	1	
D1-1	BIG LAKE RD	84" X 15"	2	---	8.75	1	1	
W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
R1-1	STOP	30" X 30"	1	---	5.18	1	1	
R1-1	STOP	30" X 30"	1	---	5.18	1	1	
D1-1	BIG LAKE RD	84" X 15"	2	---	8.75	1	1	
W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
D1-1	BIG LAKE RD	84" X 15"	2	---	8.75	1	1	
R1-1	STOP	30" X 30"	1	---	5.18	1	1	
D1-1	BIG LAKE RD	84" X 15"	2	---	8.75	1	1	
W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
I55-56	ADOPT-A-HWY THREE LAKES RED SUSPENDERS SOCIETY	30" X 36"	1	---	7.50	1	1	
	ADOPT A HIGHWAY LITTER CONTROL NEXT 2 MILES		---	---	---	1	1	
	FAITH LUTHERN HWY 45 THREE LAKES		---	---	---	1	1	
D1-1	N BIG LAKE LOOP RD	102" X 15"	2	---	10.63	1	1	
R1-1	STOP	30" X 30"	1	---	5.18	1	1	
D5-61	WAYSIDE 1/2 MILES	48" X 24"	1	---	8.00	1	1	
D1-1	N BIG LAKE LOOP RD	102" X 15"	2	---	10.63	1	1	
D1-1	CRYSTAL LAKE RD	102" X 15"	2	---	10.63	1	1	
R1-1	STOP	30" X 30"	1	---	5.18	1	1	
R1-1	STOP	30" X 30"	1	---	5.18	1	1	
D1-1	CRYSTAL LAKE RD	102" X 15"	2	---	10.63	1	1	
D5-62L	WAYSIDE	48" X 24"	1	---	8.00	1	1	
R1-1	STOP	30" X 30"	1	---	5.18	1	1	
Total			36	0	198.77	30	30	

CATEGORY 0010 UNLESS OTHERWISE NOTED

SIGN NO.	SIGN CODE	MESSAGE	SIZE	POSTS WOOD - 4" X 6"		637.0202	638.2602	638.3000	REMARKS
				634.0616	634.0618	SIGNS REFLECT. TYPE II	REMOVING SIGNS	REMOVING SMALL SIGN SUPPORTS	
				16-FT EACH	18-FT EACH	SF	EACH	EACH	
121	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
122	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
123	D5-62R	WAYSIDE	48" X 24"	1	---	8.00	1	1	
124	D1-2	WINKLER RD/LAKE TERRACE DR	102" X 30"	2	---	21.25	1	1	
125	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
126	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
127	W14-2	NO OUTLET	30" X 30"	1	---	6.25	1	1	
128	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
129	D5-61	WAYSIDE 1/2 MILES	48" X 24"	1	---	8.00	1	1	
130	D1-2	LAKE TERRACE DR/WINKLER RD	102" X 30"	2	---	21.25	1	1	
131	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
132	W14-3	NO PASSING ZONE	48" X 36"	1	---	6.00	1	1	
133	W3-5	REDUCED SPEED LIMIT AHEAD 35 MPH	36" X 36"	1	---	9.00	1	1	
134	W8-70	CENTERLINE RUMBLE STRIPS	36" X 36"	1	---	9.00	---	---	
135	W57-51	NEXT 16 MILES	30" X 15"	---	---	3.13	---	---	SAME POST AS SIGN 134
136	R2-1	SPEED LIMIT 55 MPH	24" X 30"	1	---	5.00	1	1	
137	R2-1	SPEED LIMIT 35 MPH	24" X 30"	1	---	5.00	1	1	
138	J1-1	JCT STH 32	24" X 39"	1	---	6.50	1	1	
	M2-1	JCT	21" X 15"	---	---	---	---	---	
	M1-6B	STH 32	24" X 24"	---	---	---	---	---	
139	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
140	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
141	R1-1	STOP	30" X 30"	1	---	5.18	1	1	
142	W54-58	CHURCH ENTERANCE	30" X 30"	1	---	6.25	1	1	
143	D2-1	MONICO	66" X 15"	2	---	6.88	1	1	
144	J2-3	DIRECTIONAL ASSEMBLY	72" X 57"	---	2	28.50	1	1	
	M3-1	NORTH	24" X 12"	---	---	---	---	---	
	M1-6B	STH 32	24" X 24"	---	---	---	---	---	
	M5-2L	ARROW	21" X 21"	---	---	---	---	---	
	M3-1	NORTH	24" X 12"	---	---	---	---	---	
	M1-4	USH 45	24" X 24"	---	---	---	---	---	
	M5-2L	ARROW	21" X 21"	---	---	---	---	---	
	M3-3	SOUTH	24" X 12"	---	---	---	---	---	
	M1-6B	STH 32	24" X 24"	---	---	---	---	---	
	M5-1R	ARROW	21" X 21"	---	---	---	---	---	
145		ADOPT A HIGHWAY LITTER CONTROL NEXT 2 MILES		---	---	---	1	1	
146		FAITH LUTHERN HWY 45 THREE LAKES		---	---	---	1	1	
PAGE TOTAL				25	2	199.09	24	24	
GRAND TOTAL				156	4	1023.41	122	122	

CATEGORY 0010 UNLESS OTHERWISE NOTED

TRAFFIC CONTROL

	643.0100 TRAFFIC CONTROL PROJECT EACH	603.8000 & 603.8125 CONC. BARRIER TEMP. PRECAST DELIVERED & INSTALLED LF	643.0300 DRUMS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0715 WARNING LIGHTS TYPE C DAYS	643.0900 SIGNS DAYS	646.0600 REMOVING PAVMENT MARKING LF	649.0100 TEMPORARY PAVEMENT MARKING 4-INCH LF	649.0400 TEMP PAV'T MARKING REM. TAPE 4-INCH LF	649.1400 TEMP PAV'T MARKING STOP LINE REM. TAPE 24-INCH LF
12+00 - 874+75	1	--	300	--	--	2664	--	81390	--	--
B-43-0015	--	800	800	40	400	560	575	--	3560	60
TOTALS	1	800	1100	40	400	3224	575	81390	3560	60

PAVEMENT MARKING EPOXY

STATION - STATION	LOCATION	646.0106 4-INCH EDGE LINE WHITE LF	646.0106 4-INCH CENTERLINE YELLOW LF	646.0406 SAME DAY, 4-INCH CENTERLINE YELLOW LF	646.0126 8-INCH WHITE LF	647.0803 AERIAL ENFORCEMENT BARS, EPOXY 24-IN LF	647.0166 ARROWS TYPE 2 EACH	647.0356 WORDS EACH
STA 12+00 - STA 874+75	MAINLINE	170460	81393	81393	0	--	--	--
STA 467+00	MAINLINE	--	--	--	--	60	--	--
WAYSIDE		--	--	--	205	--	--	--
CTH X		--	--	--	130	--	1	1
SUB TOTALS		170460	81390	81390	335	60	1	1
PROJECT TOTAL		251850						

SAWING ASPHALT

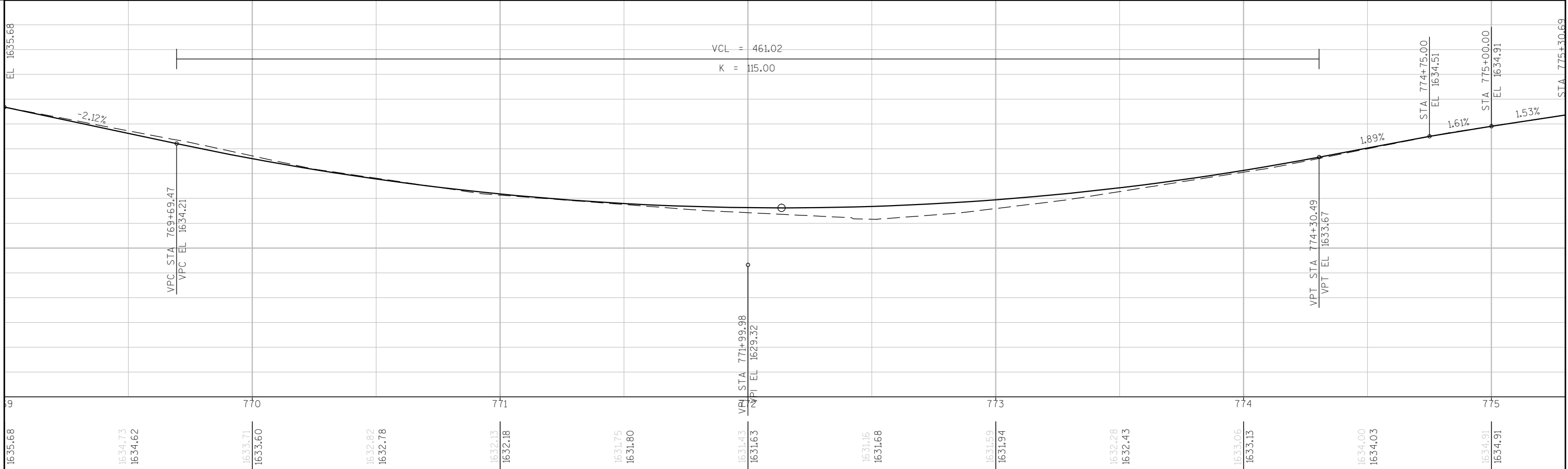
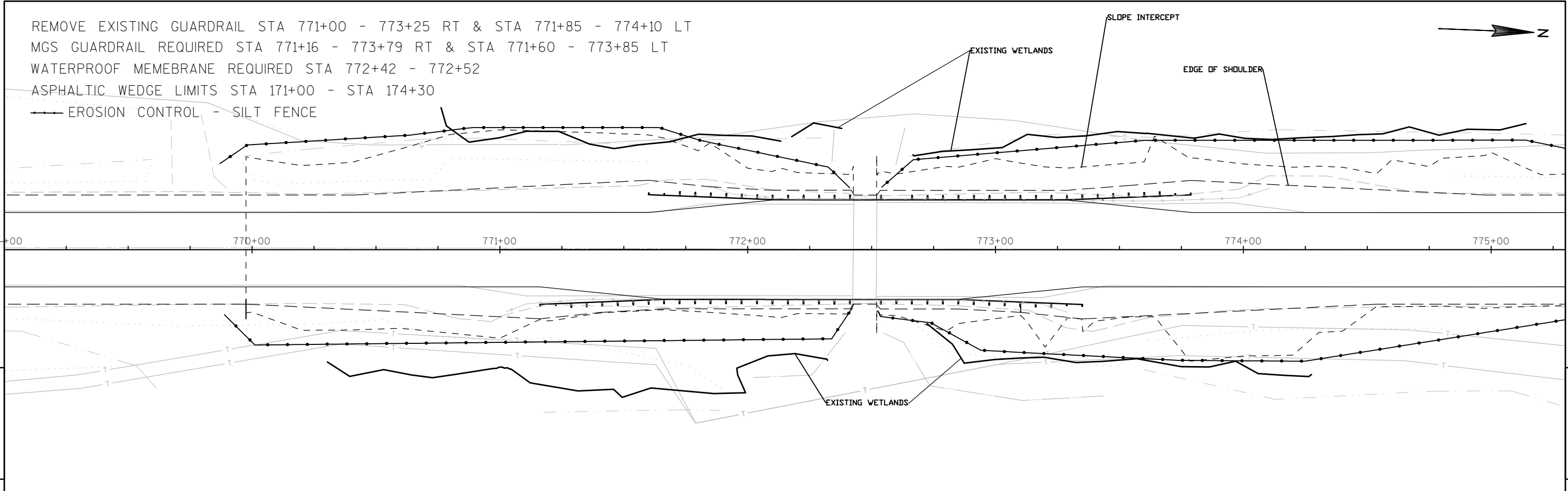
STATION	LOCATION	690.0100 LF	REMARKS
12+00	MAINLINE	30	
371+81	MAINLINE	30	
374+14	MAINLINE	30	
834+50	MAINLINE	30	
835+50	MAINLINE	30	
874+75	MAINLINE	30	
24+50	CEMETARY RD	20	
34+70	LAKE RD	30	
35+50	ERICKSON RD	22	
117+25	WOODRICK ROAD (S)	25	
118+13	KURTZ RD	22	
132+50	WOODRICK ROAD (N)	28	
196+80	MAKAR RD	22	
308+74	OLD 45 RD	26	
354+50	CTH C	36	
502+00	GAGEN RD	26	
535+50	HILES JCT RD	20	
547+39	MARGRET LAKE RD	24	
613+50	E. STELLA RD	22	
677+81	BIG LAKE LOOP RD (S)	30	
677+81	BRANHAM RD	22	
691+54	BIG LAKE RD	25	
736+94	BIG LAKE RD (N)	28	
767+57	BIG LAKE LOOP RD (N)	36	
788+69	CRYSTAL LAKE RD	24	
796+08	WAYSIDE (S)	28	
801+88	WAYSIDE (N)	28	
821+42	LAKE TERRECE RD	26	
821+42	WINKLER RD	28	
869+47	JAVEN RD (W)	24	
869+47	JAVEN RD (E)	25	
TOTAL		827	

CONSTRUCTION STAKING

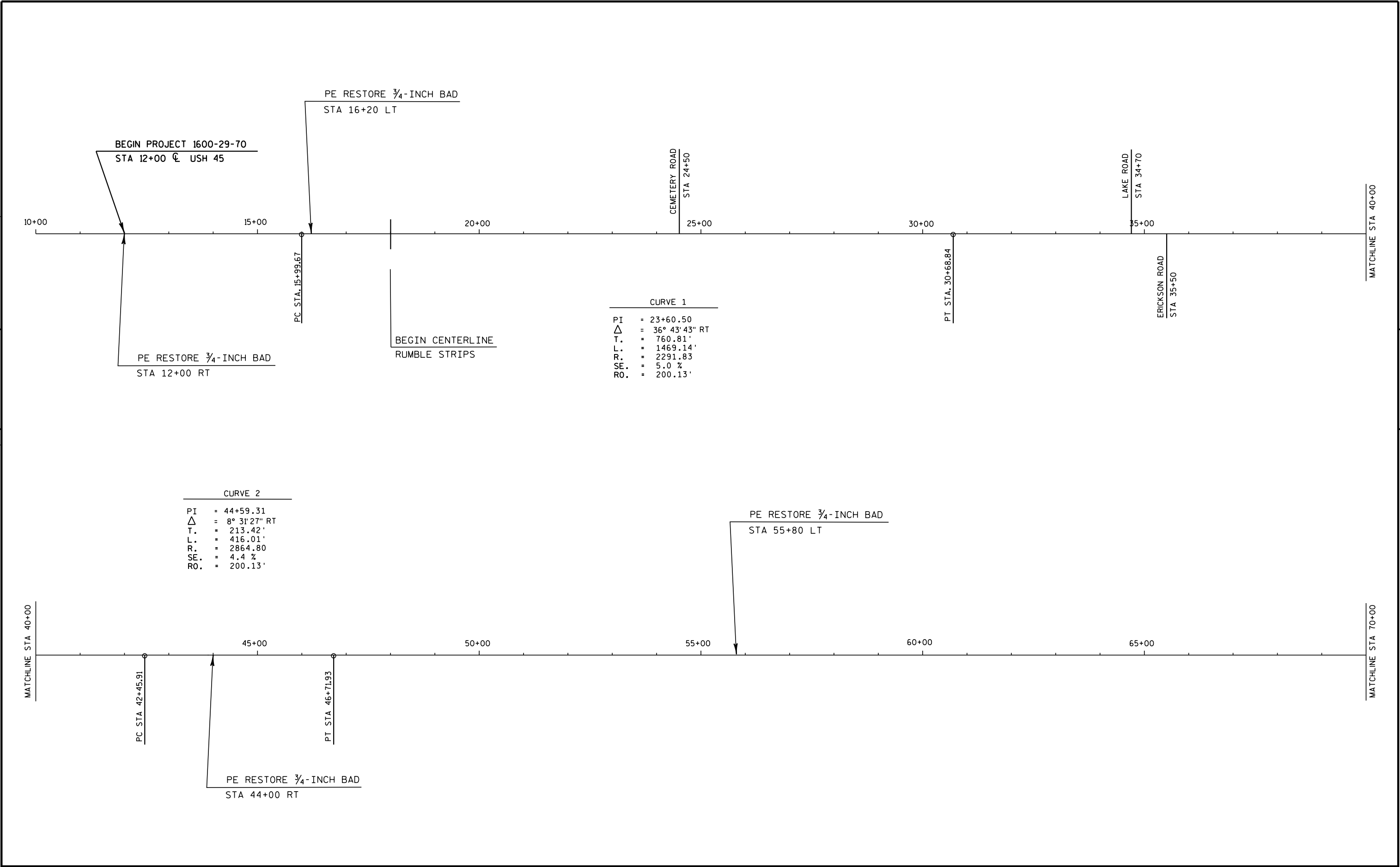
STATION - STATION		650.8000 RESURFACING REFERENCE LF	650.9910 SLOPE STAKES LF	650.9920 SUPPLEMENTAL CONTROL LS	REMARKS
12+00 - 874+75		86275	--	1	
369+75 - 372+90	LT & RT	--	630	--	
374+24 - 377+25	LT & RT	--	602	--	
770+00 - 775+50	LT & RT	--	1100	--	
833+25 - 837+00	LT & RT	--	750	--	
TOTALS		86275	3082	1	

SPECIAL .01 THEMROPLASTIC COATING AT
SNOWMOBILE CROSSINGS

STATION	LOCATION	SPV.0180.01 SY	REMARKS
592+00	MAINLINE	67	
758+25	MAINLINE	67	
813+50	MAINLINE	67	
TOTAL		201	

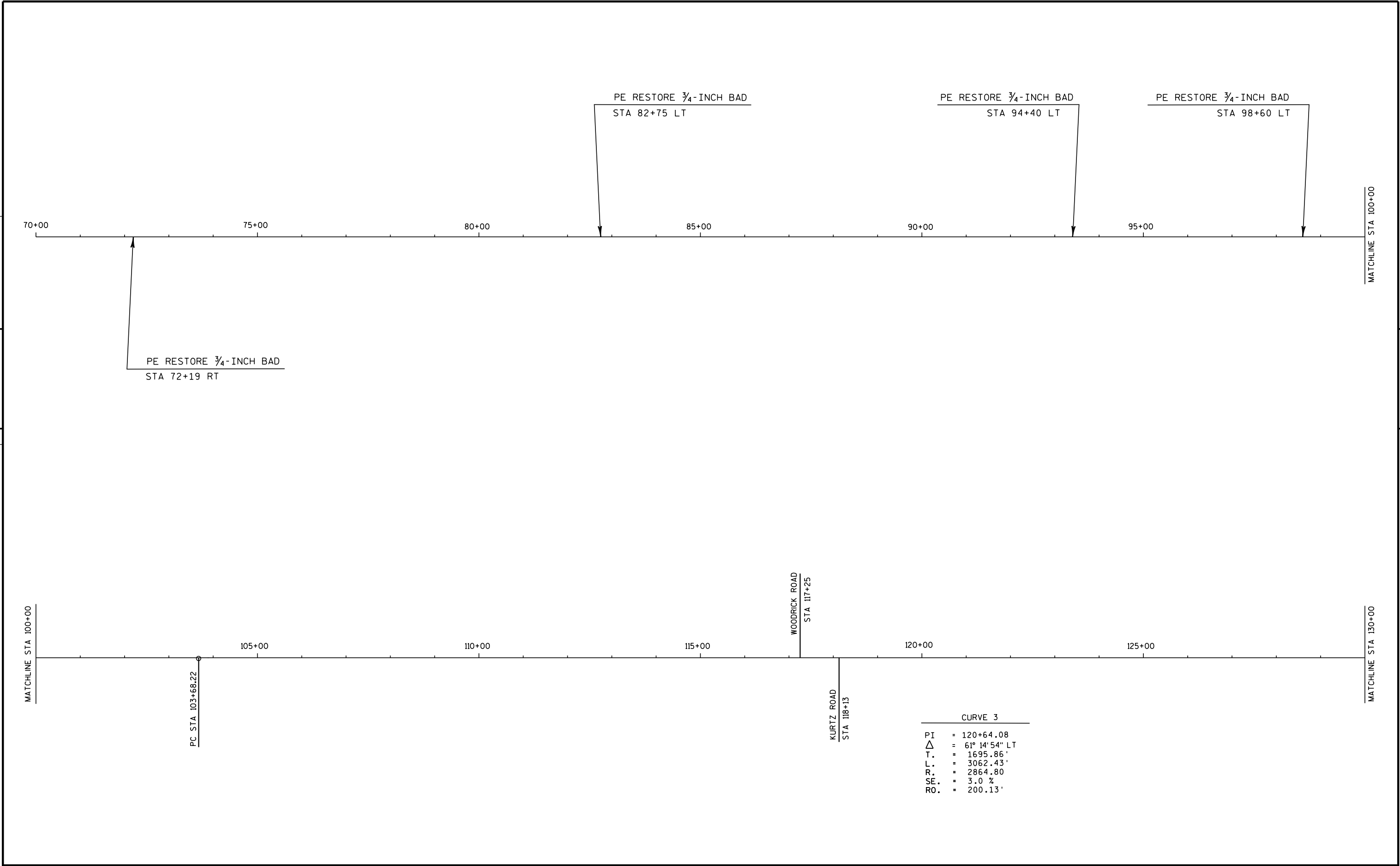


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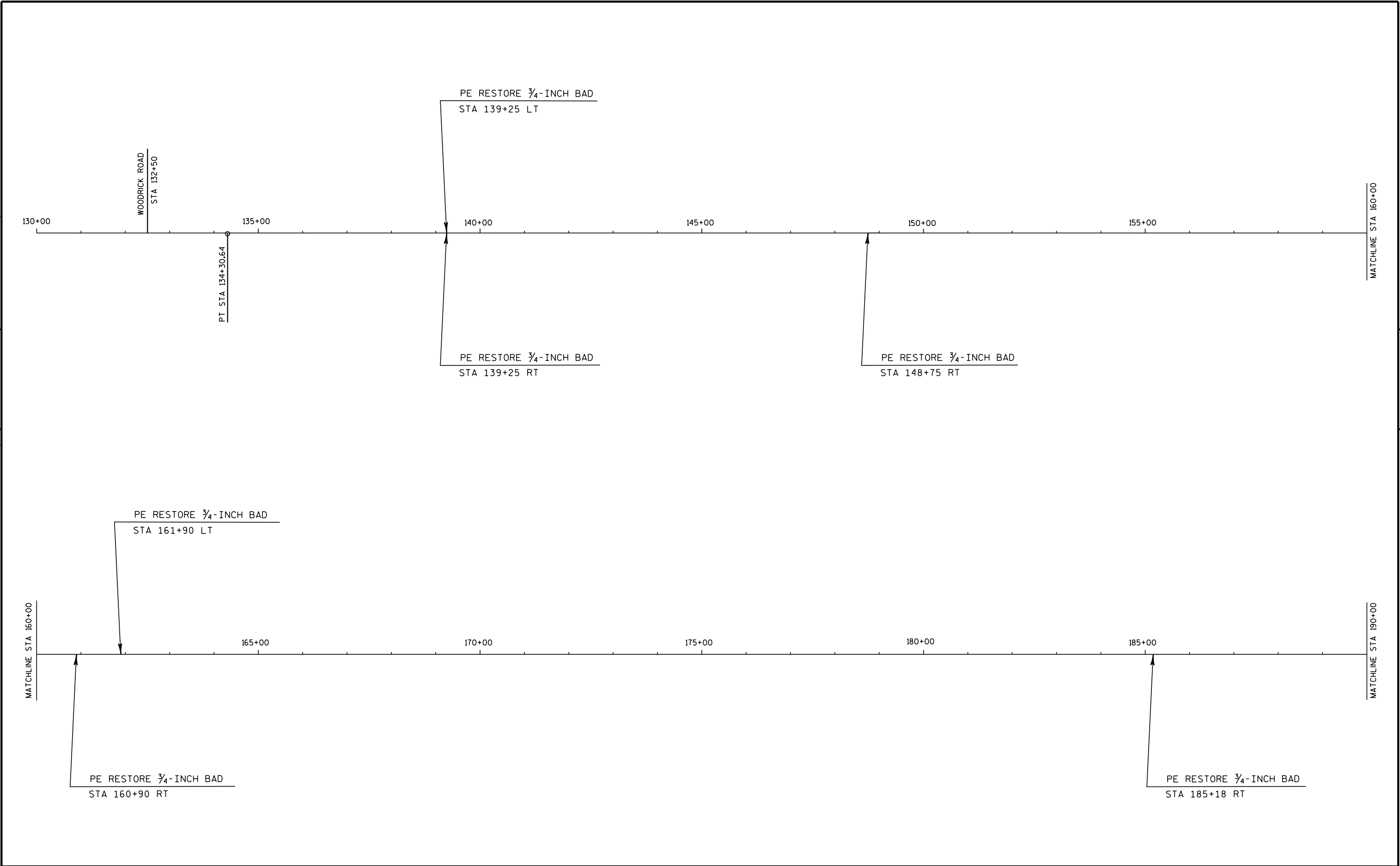
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PROJECT NO: 1600-29-70	HWY: USH 45	COUNTY: ONEIDA	LINE DIAGRAM STA 10+00 - STA 70+00	SHEET	E
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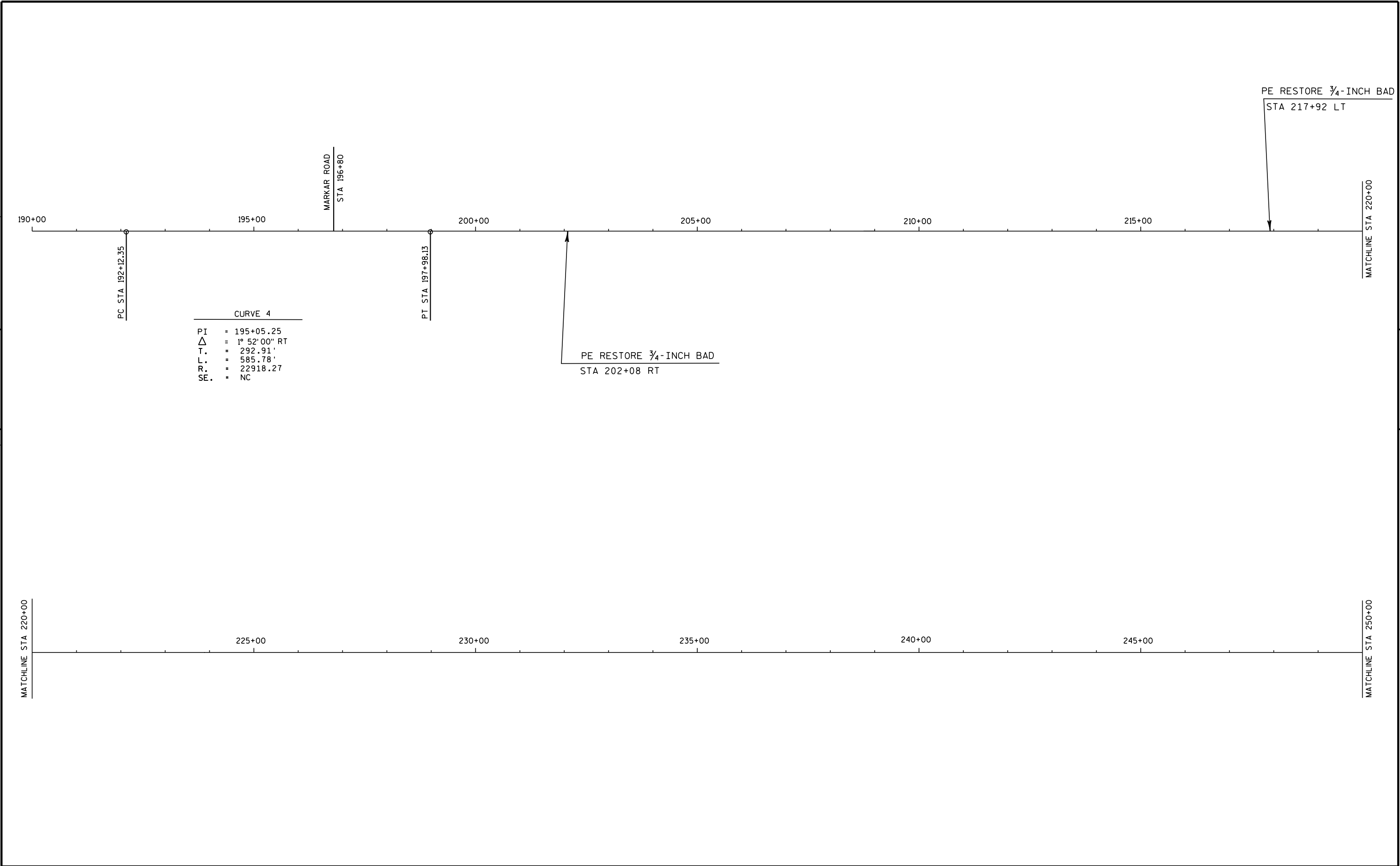
PROJECT NO: 1600-29-70	HWY: USH 45	COUNTY: ONEIDA	LINE DIAGRAM STA 70+00 - STA 130+00	SHEET	E
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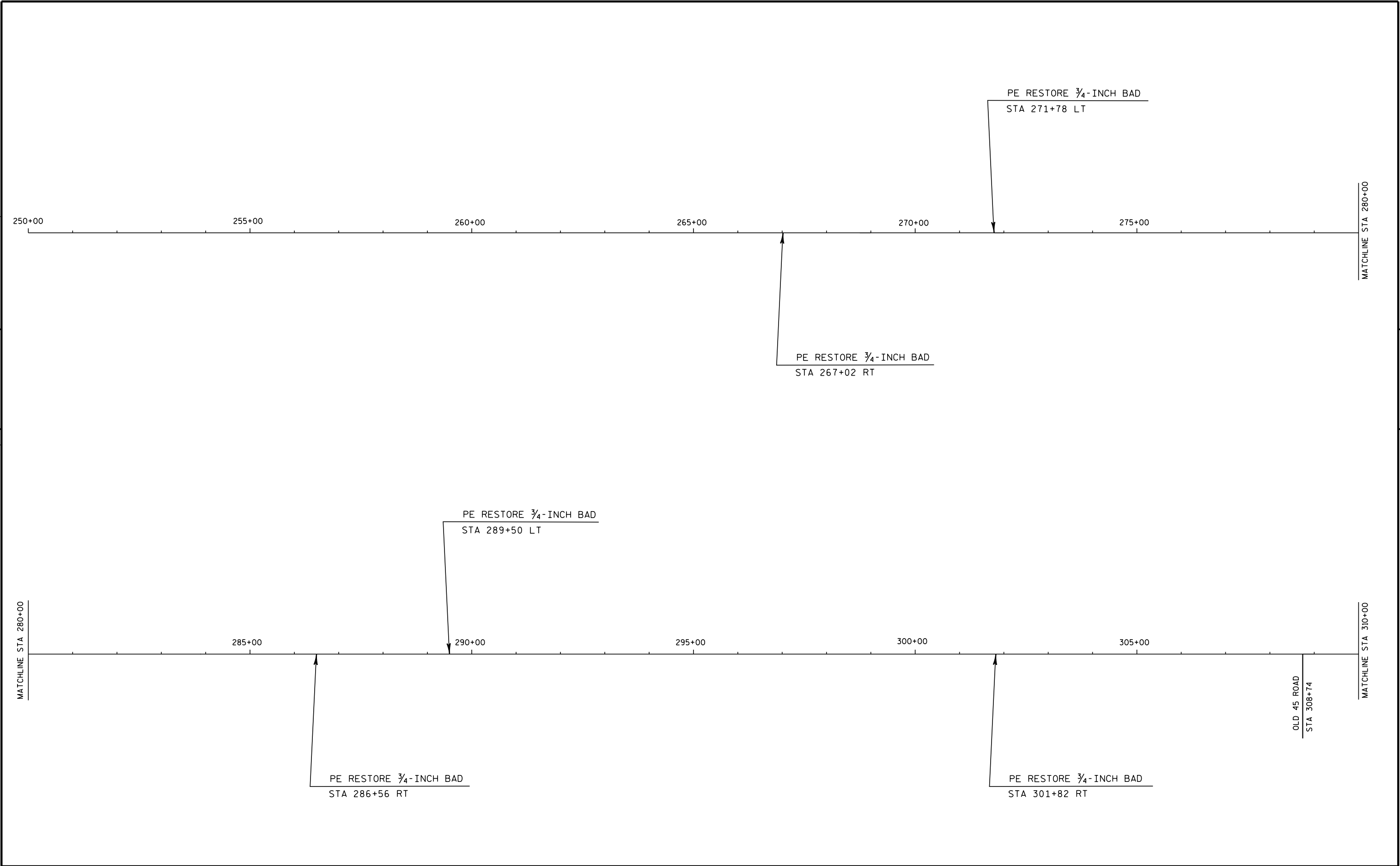
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PROJECT NO: 1600-29-70	HWY: USH 45	COUNTY: ONEIDA	LINE DIAGRAM STA 130+00 - STA 190+00	SHEET	E
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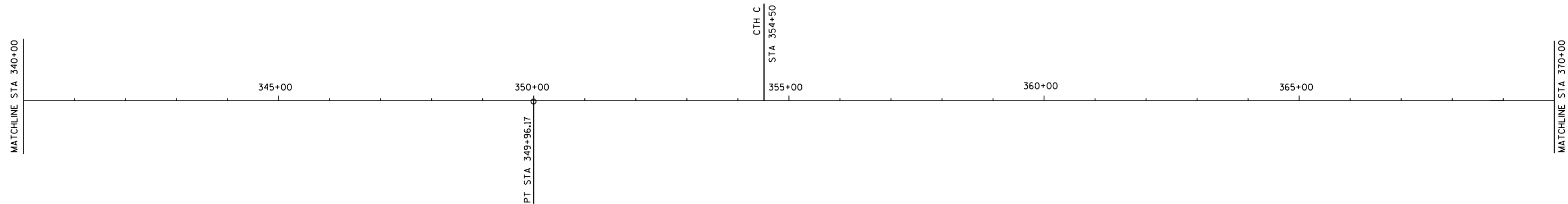
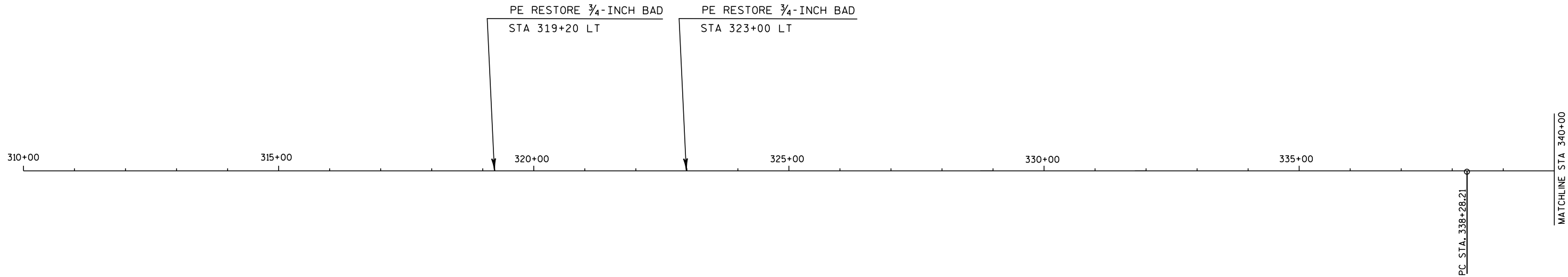
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PROJECT NO: 1600-29-70	HWY: USH 45	COUNTY: ONEIDA	LINE DIAGRAM STA 250+00 - STA 310+00	SHEET	E
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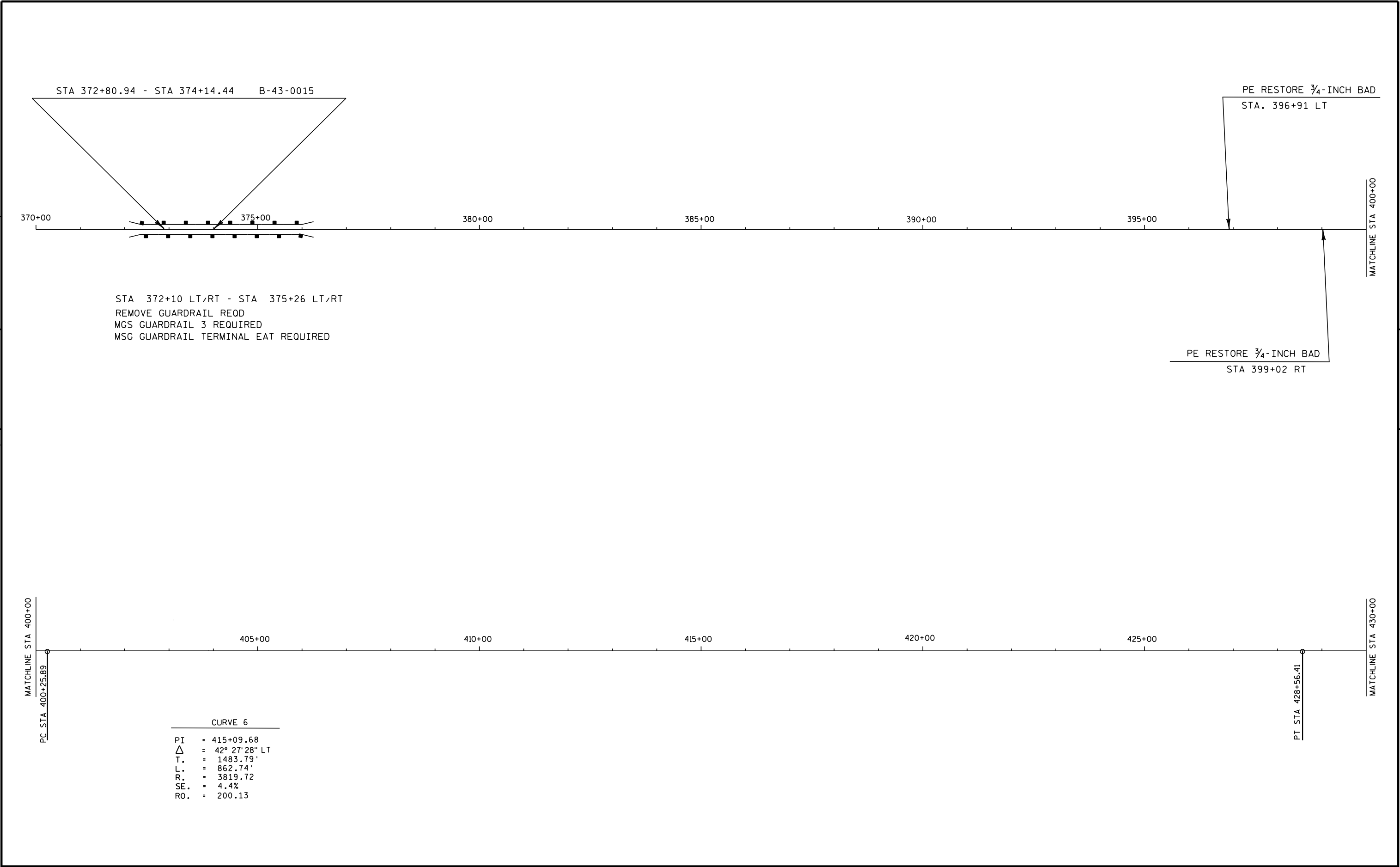
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CURVE 5

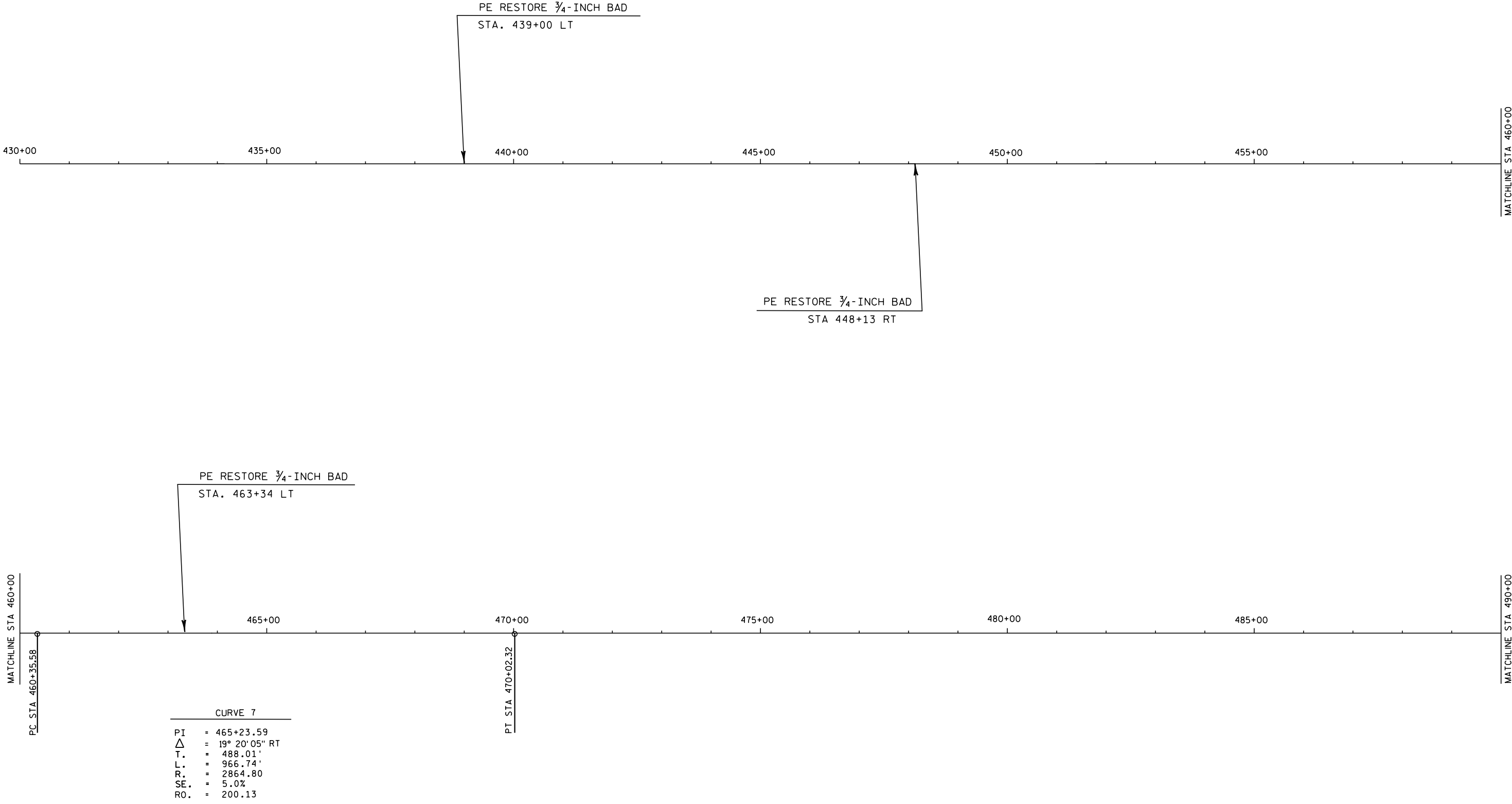
PI = 344+25.16
 Δ = 29° 11' 56" RT
T. = 596.95'
L. = 1167.96'
R. = 2291.83
SE. = 5.7 %
RO. = 200.13

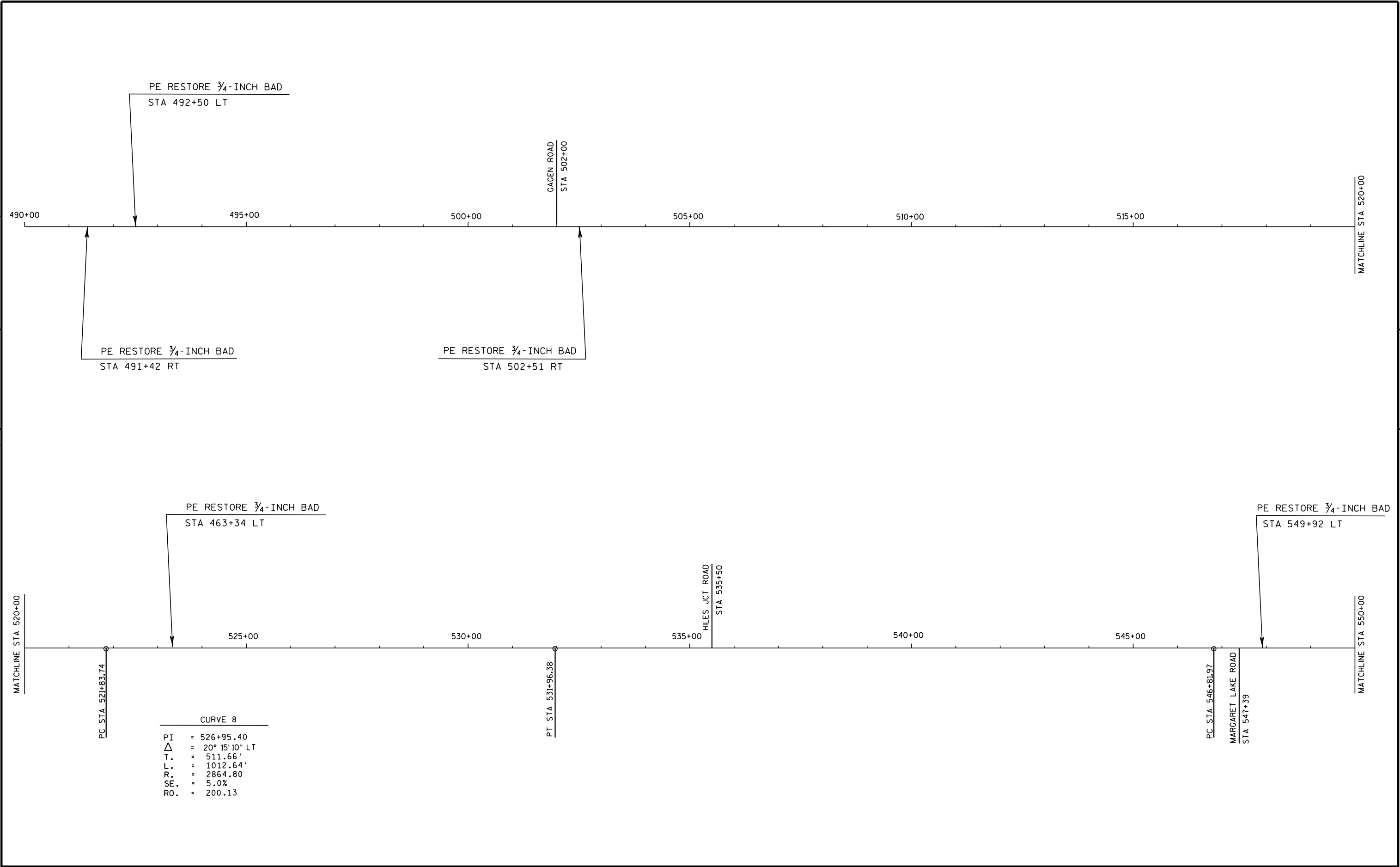


CURVE 6	
PI	= 415+09.68
Δ	= 42° 27' 28" LT
T.	= 1483.79'
L.	= 862.74'
R.	= 3819.72
SE.	= 4.4%
RO.	= 200.13

5

5





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5

5

CURVE 9	
PI	= 552+18.70
Δ	= 15° 59' 50" LT
T.	= 536.73'
L.	= 1066.48'
R.	= 3819.72
SE.	= 4.0%
RO.	= 200.13

PT STA 557+48.45

CURVE 10 * SUPERELEVATION CORRECTION			
EXISTING		PROPOSED	
PI	= 588+11.32	PI	= 589+59.41
Δ	= 3° 30' 00" RT	Δ	= 3° 30' 00" RT
T.	= 261.21'	T.	= 106.0'
L.	= 522.22'	L.	= 607.61'
R.	= 7639.44	R.	= 8774.169
SE.	= 5.4 %	SE.	= 2.0 %
RO.	= 200.14	RO.	= 53.0

MATCHLINE STA 580+00

PE RESTORE ¾-INCH BAD
STA 584+88 RT

PC STA 585+50.10

PT STA 590+72.32

PE RESTORE ¾-INCH BAD
STA. 594+30 LT

PE RESTORE ¾-INCH BAD
STA 574+85 RT

PE RESTORE ¾-INCH BAD
STA 601+78 RT

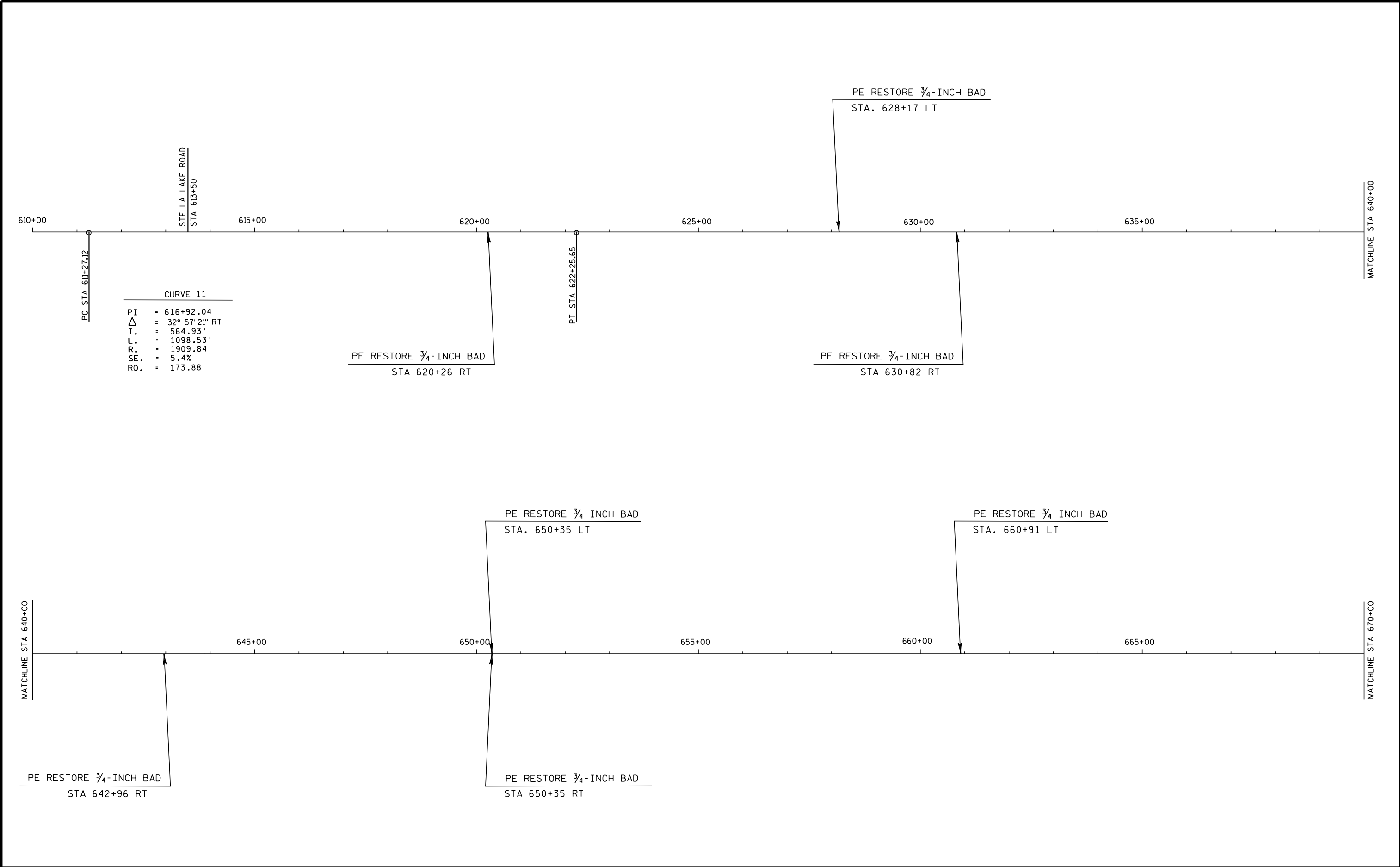
MATCHLINE STA 580+00

MATCHLINE STA 610+00

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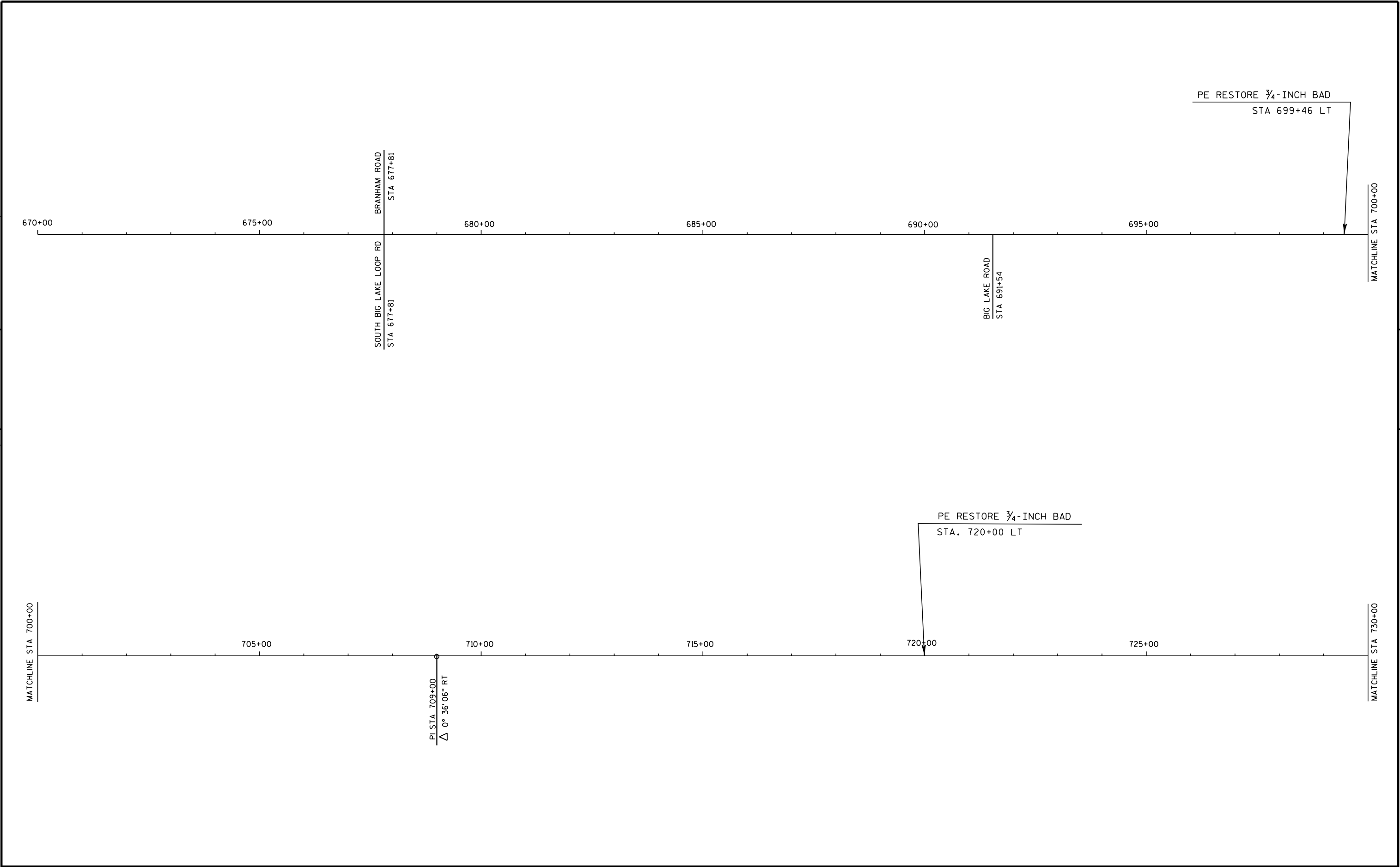
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PROJECT NO: 1600-29-70	HWY: USH 45	COUNTY: ONEIDA	LINE DIAGRAM STA 610+00 - STA 670+00	SHEET	E
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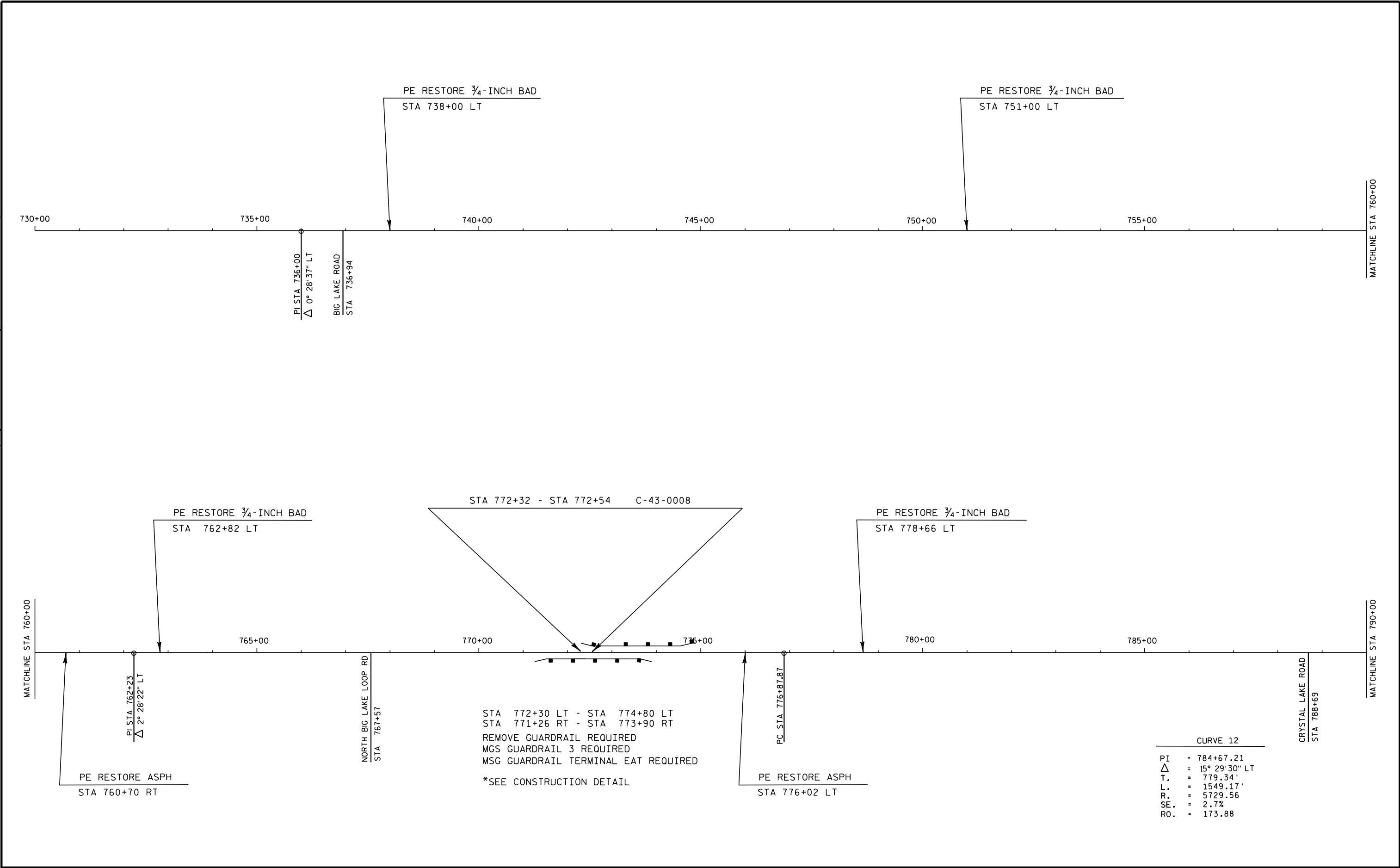


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PROJECT NO: 1600-29-70	HWY: USH 45	COUNTY: ONEIDA	LINE DIAGRAM STA 670+00 - STA 730+00	SHEET	E
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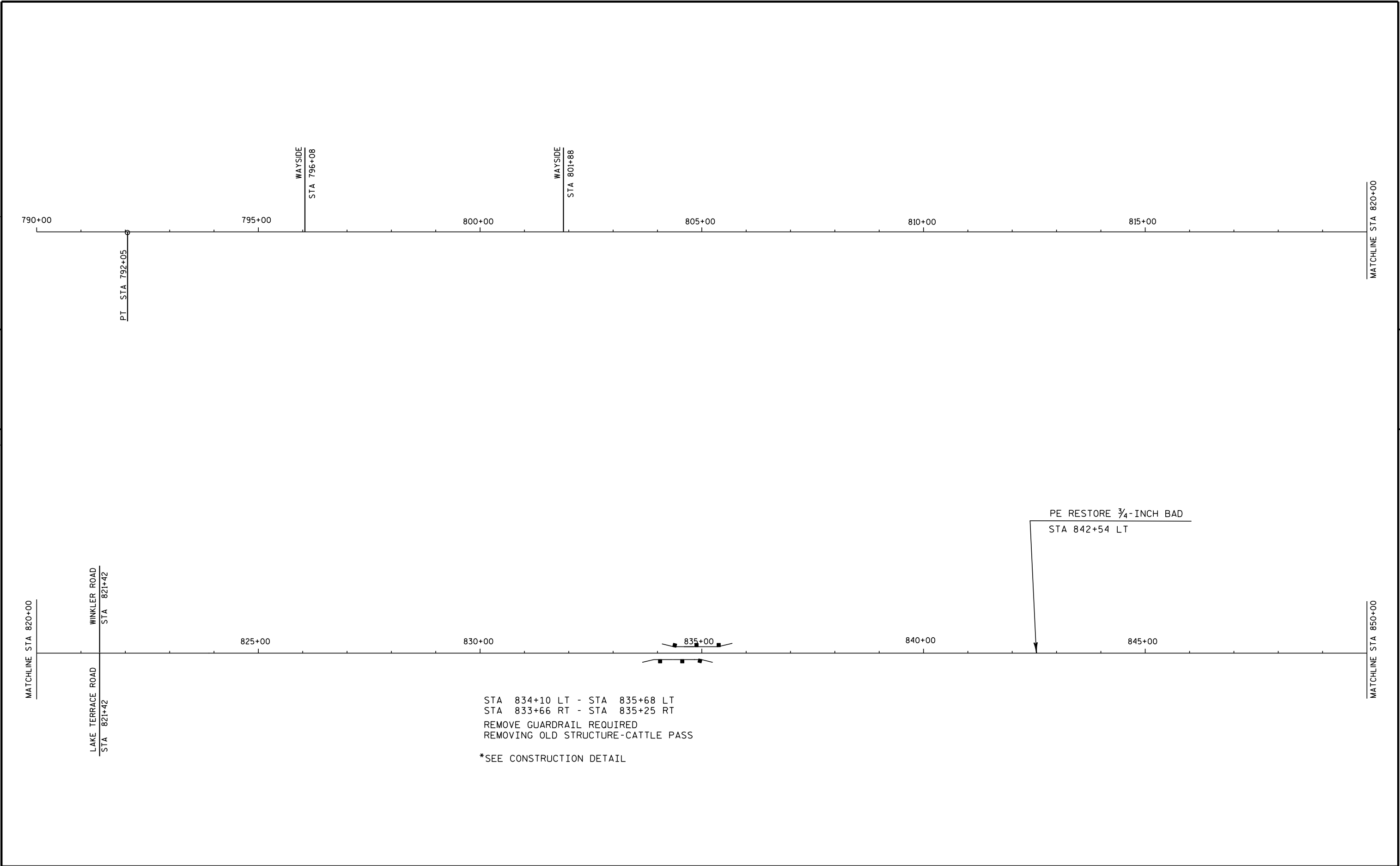
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PROJECT NO: 1600-29-70	HWY: USH 45	COUNTY: ONEIDA	LINE DIAGRAM STA 730+00 - STA 790+00	SHEET	E
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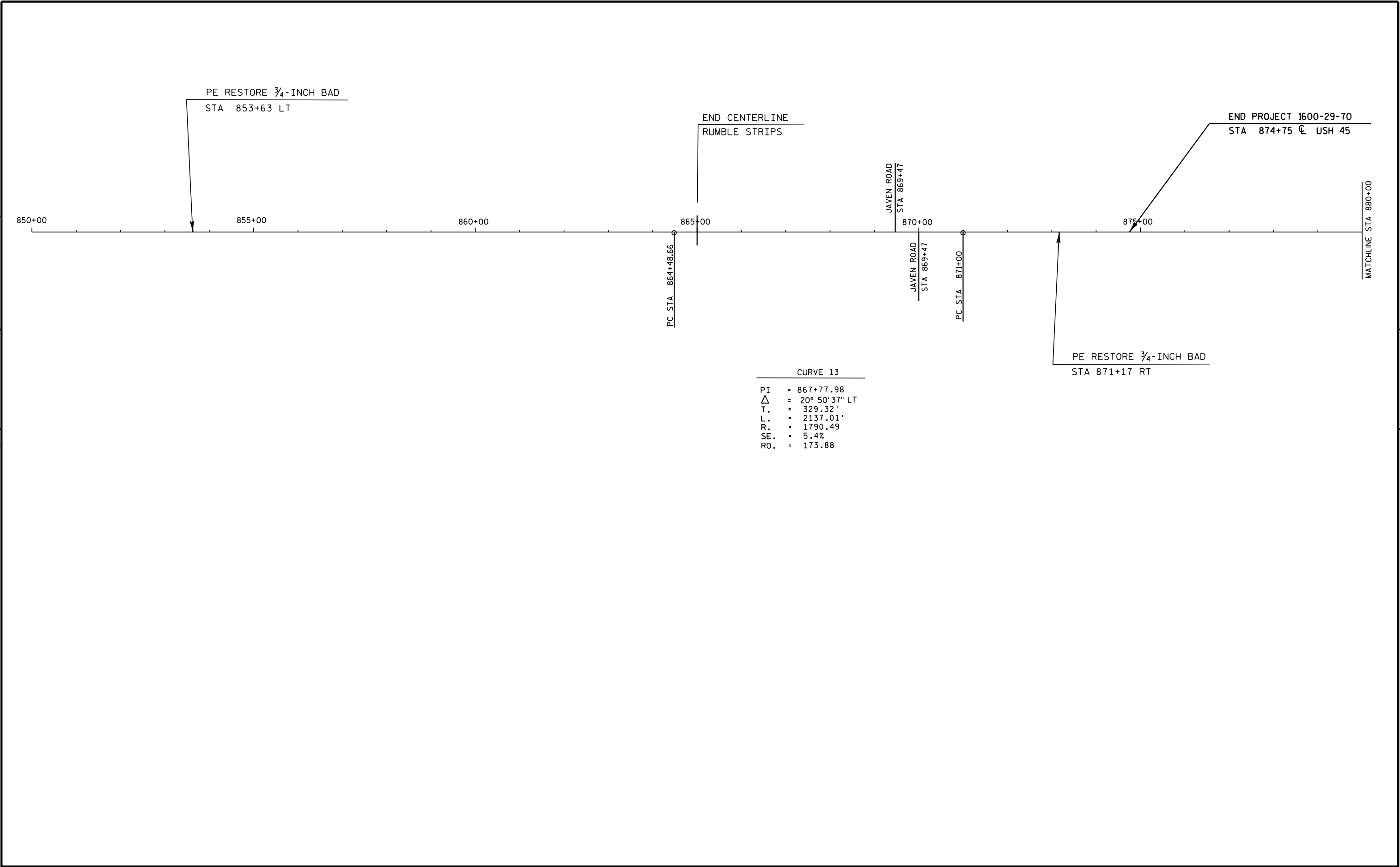
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PROJECT NO: 1600-29-70	HWY: USH 45	COUNTY: ONEIDA	LINE DIAGRAM STA 790+00 - STA 850+00	SHEET	E
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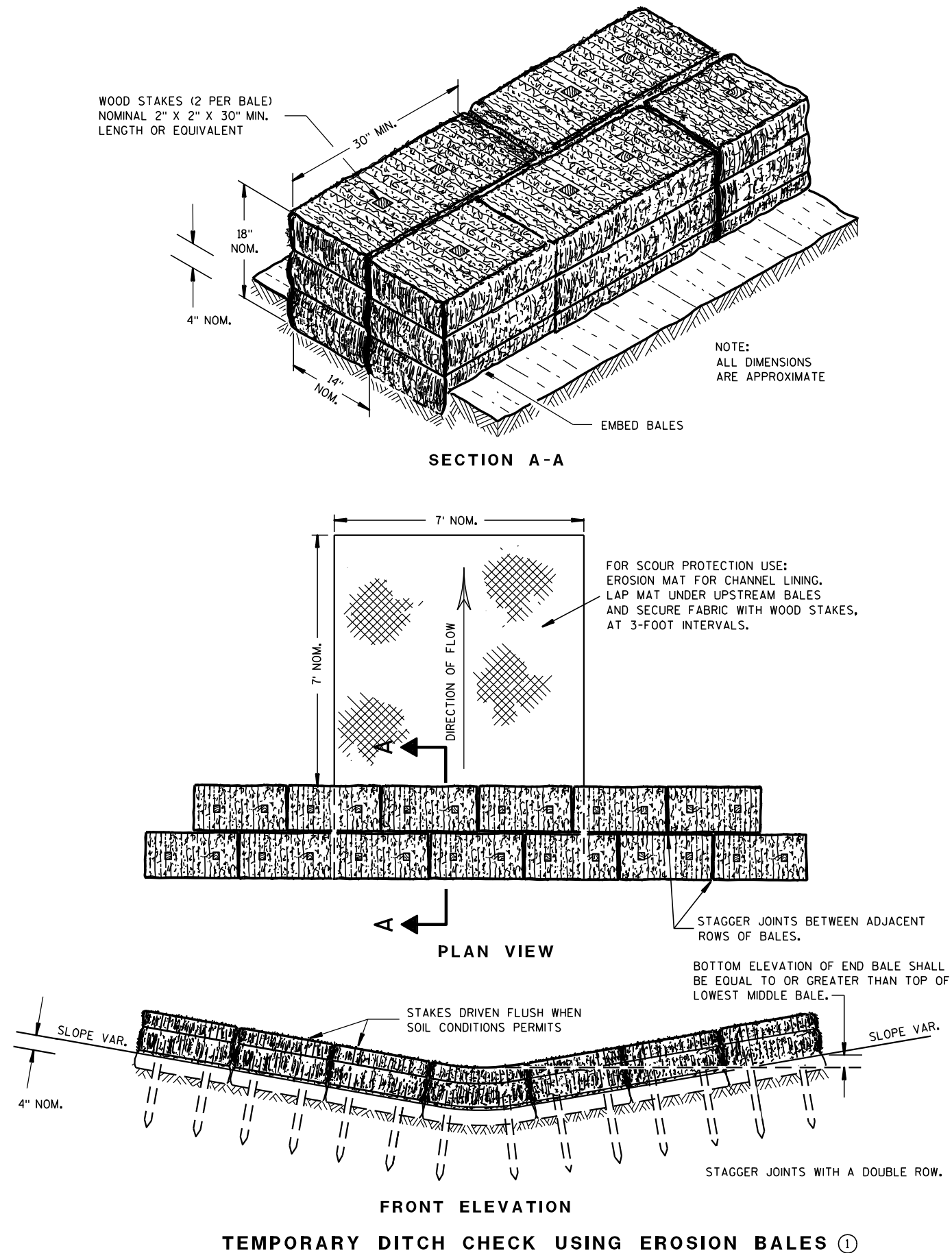
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Standard Detail Drawing List

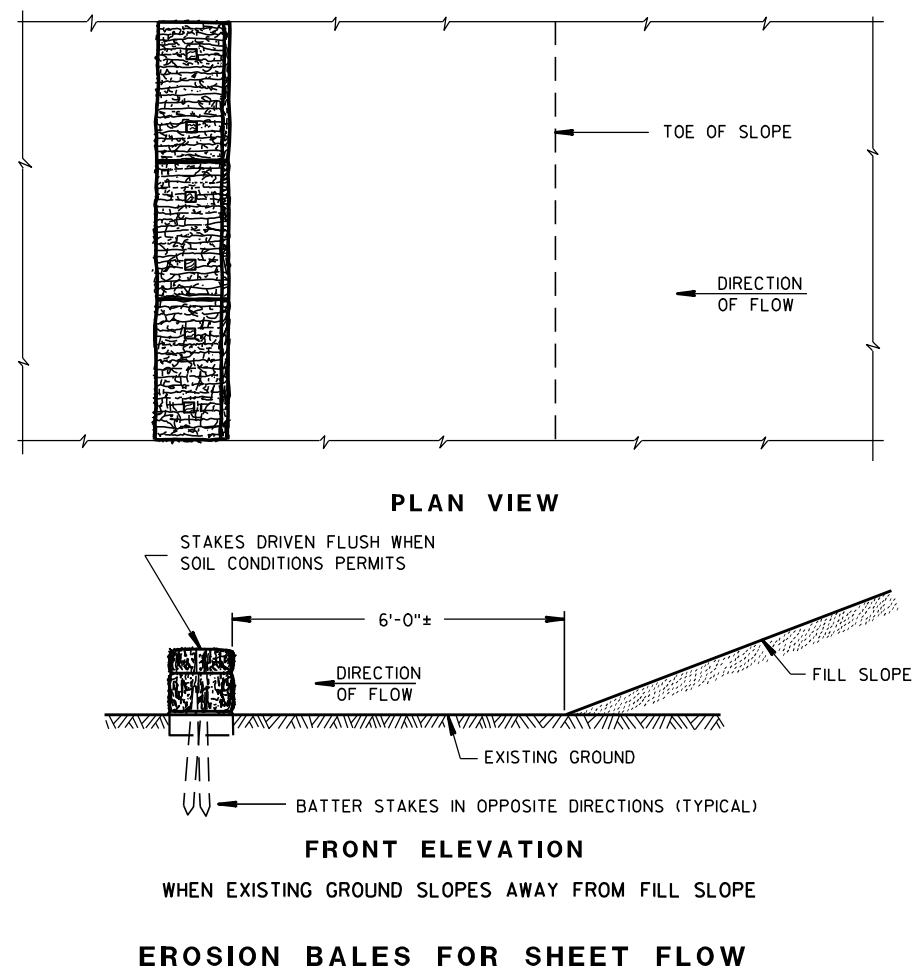
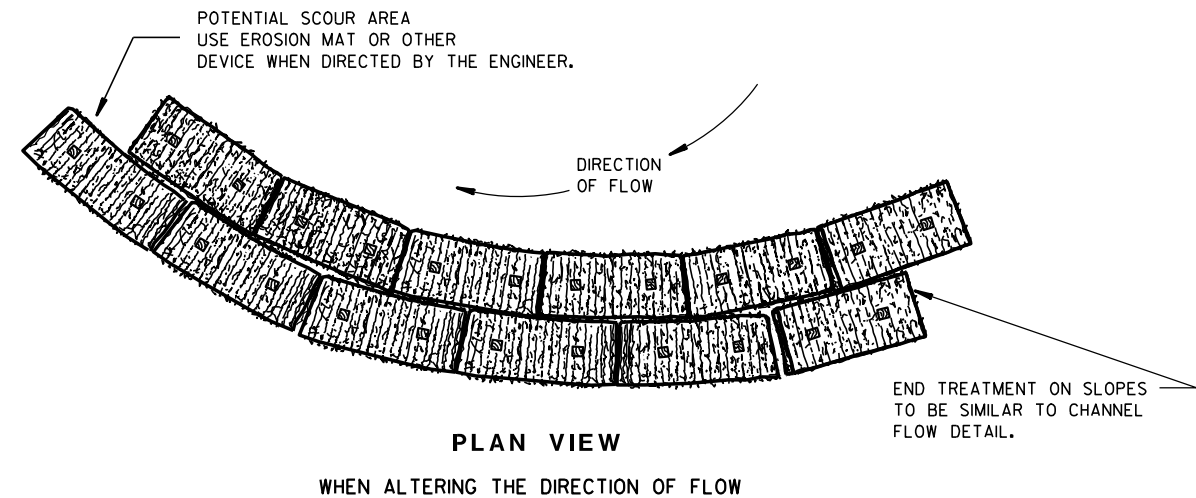
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
09G02-03A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-03B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-03C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
13A11-02A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-02B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B29-01	SAFETY EDGE
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B43-02A	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-02B	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-02C	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C04-01	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C06-05	SIGNING & MARKING FOR TWO LANE BRIDGES
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-15A	PAVEMENT MARKING (MAINLINE)
15C08-15B	PAVEMENT MARKING (INTERSECTIONS)
15C12-03	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C14-01	AERIAL ENFORCEMENT BARS PAVEMENT MARKING DETAILS
15C19-01A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15D33-02	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS



GENERAL NOTES

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

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

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

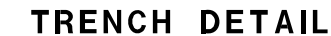
APPROVED

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

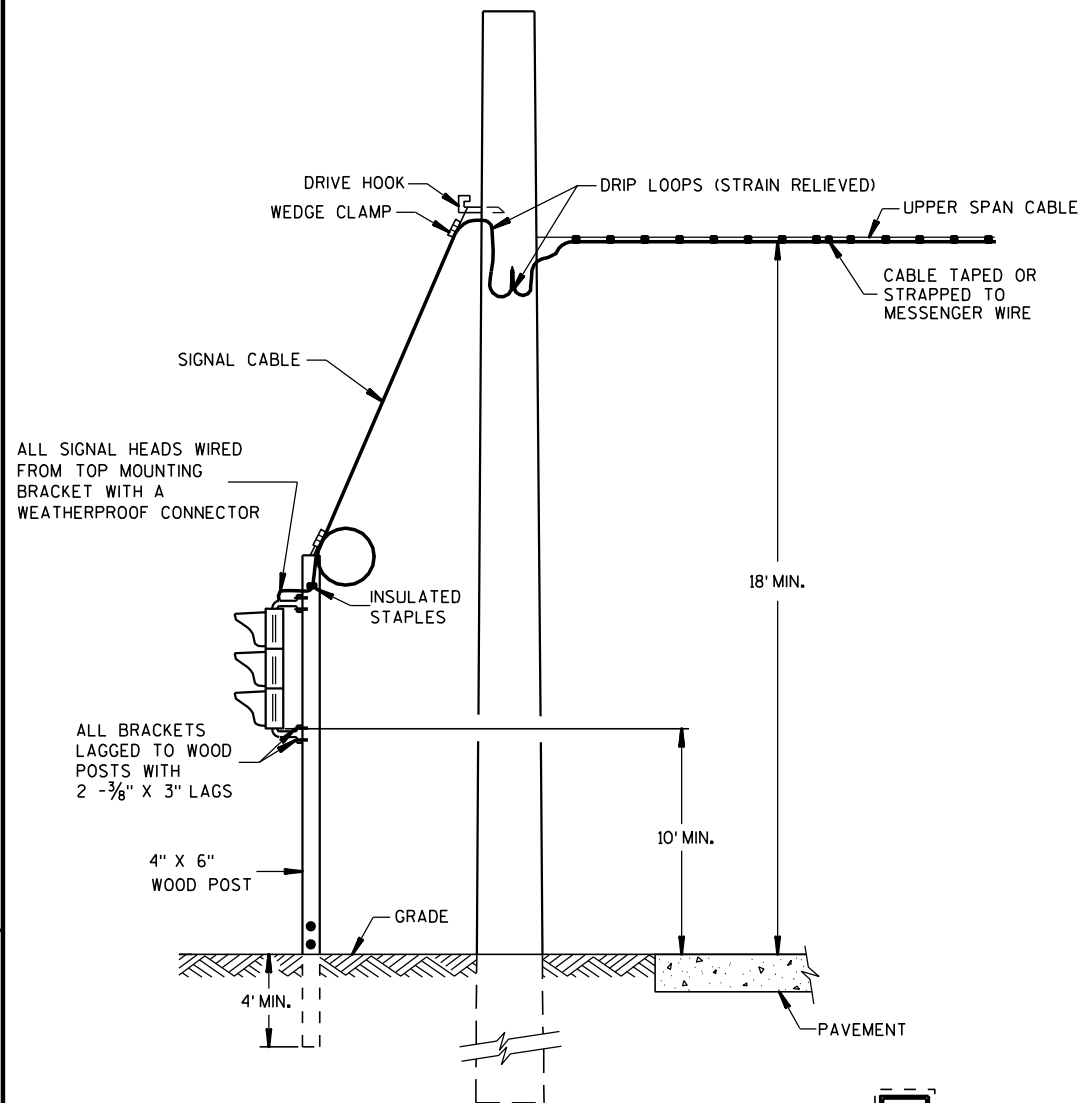
FHWA



- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



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

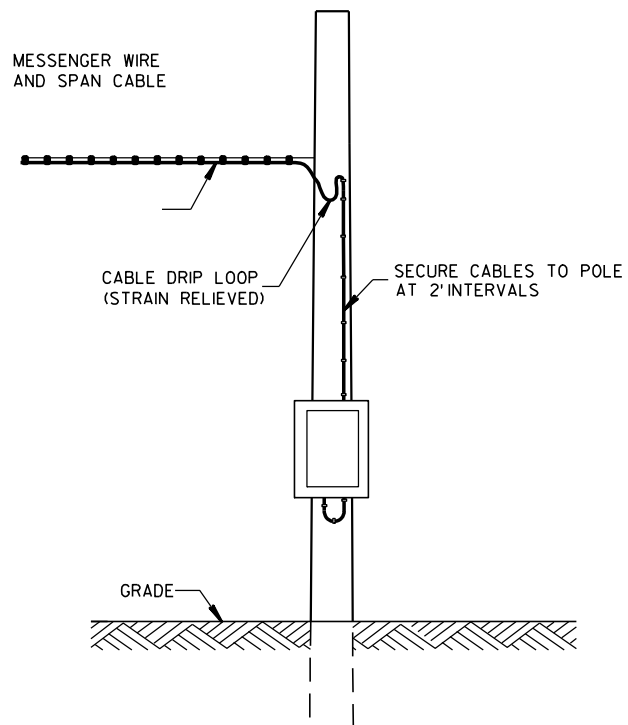


**TYPICAL DROP
TO TRAFFIC SIGNAL FACE**

OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES	
SPEED LIMIT	OFFSET DISTANCE**
GREATER THAN 45 MPH	18 FT
45 MPH OR LESS	12 FT
45 MPH OR LESS W/ CURBS	2 FT

**NOTE: OFFSET MEASURED FROM OUTER EDGE OF
OUTSIDE THRU LANE.

MINIMUM POLE LENGTHS	CLASS	MINIMUM BURIAL DEPTHS
25 FEET	V	5 FEET
30 FEET	V	6 FEET
35 FEET	IV	7 FEET
40 FEET	IV	8 FEET
45 FEET	IV	9 FEET



**POLE MOUNT
CABINET INSTALLATION**

GENERAL NOTES

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

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAYBE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

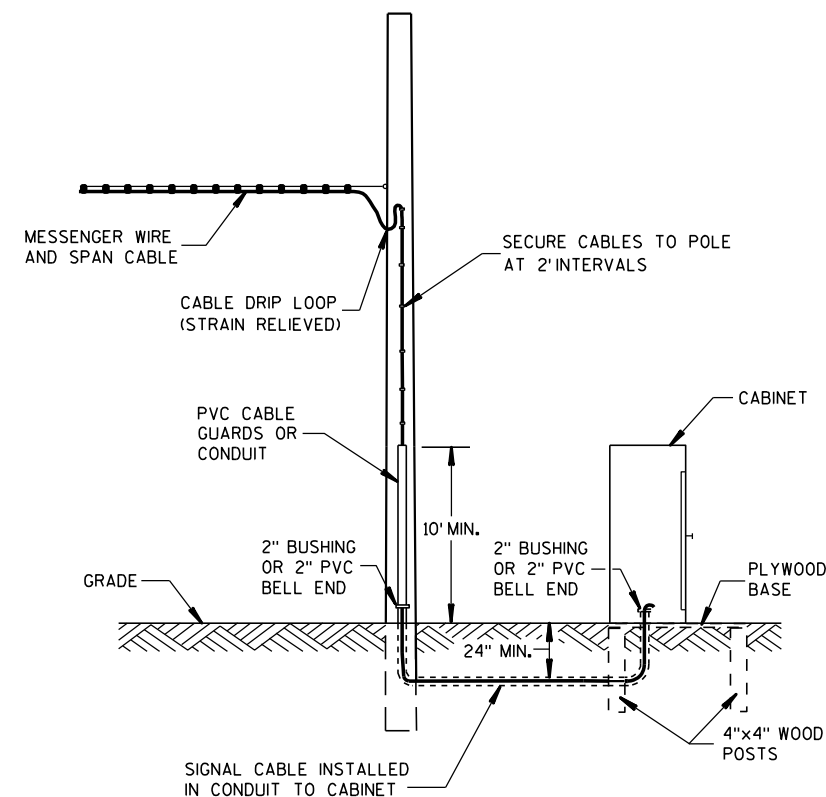
WOOD POLES (NONBREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAMGUARD, ETC.).

WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

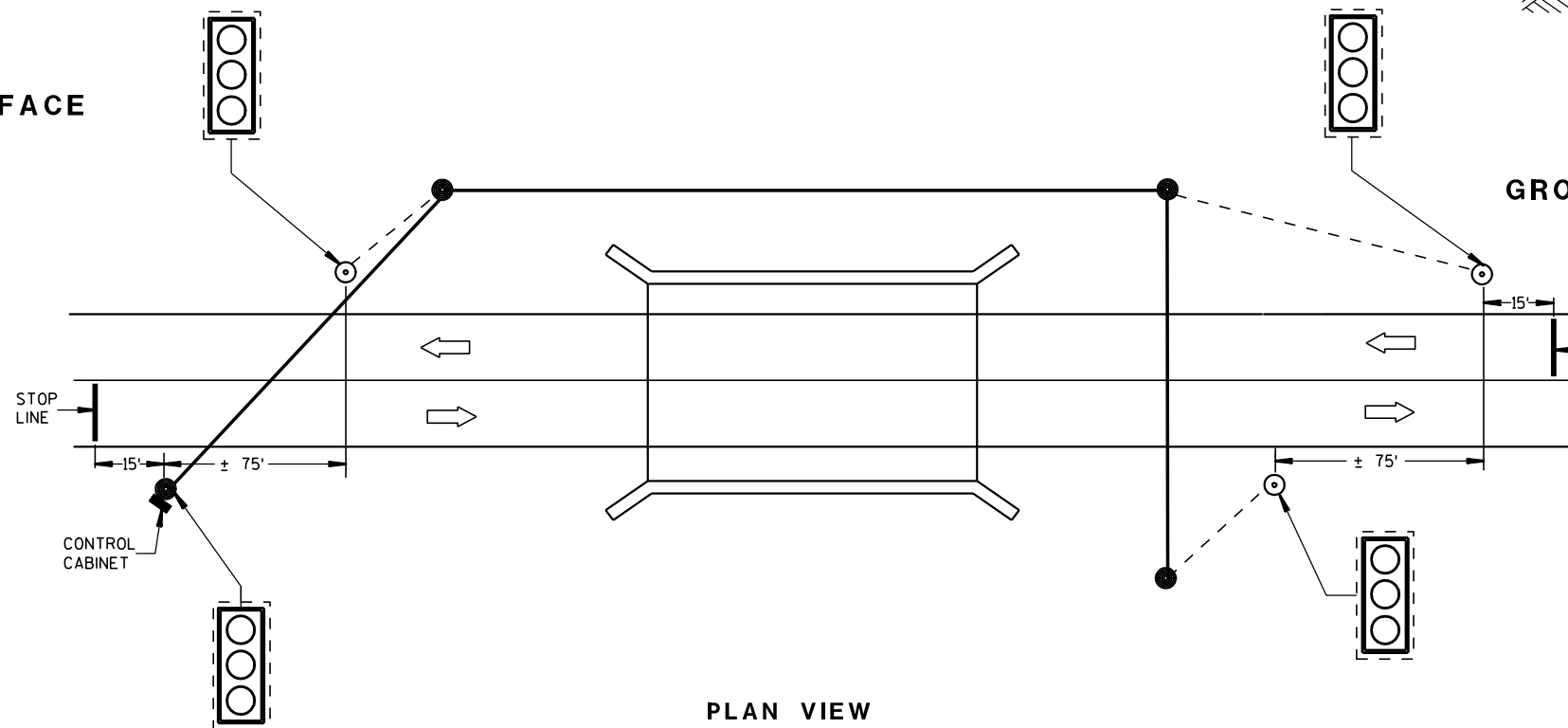
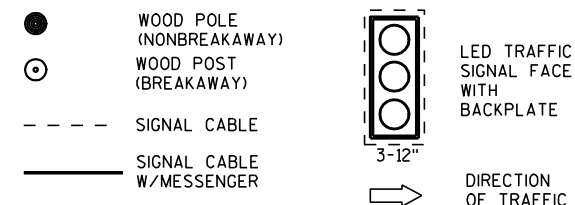
TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL FACE SHALL HAVE A BACKPLATE.



GROUND MOUNT CABINET INSTALLATION

LEGEND



**PLAN VIEW
TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION**

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

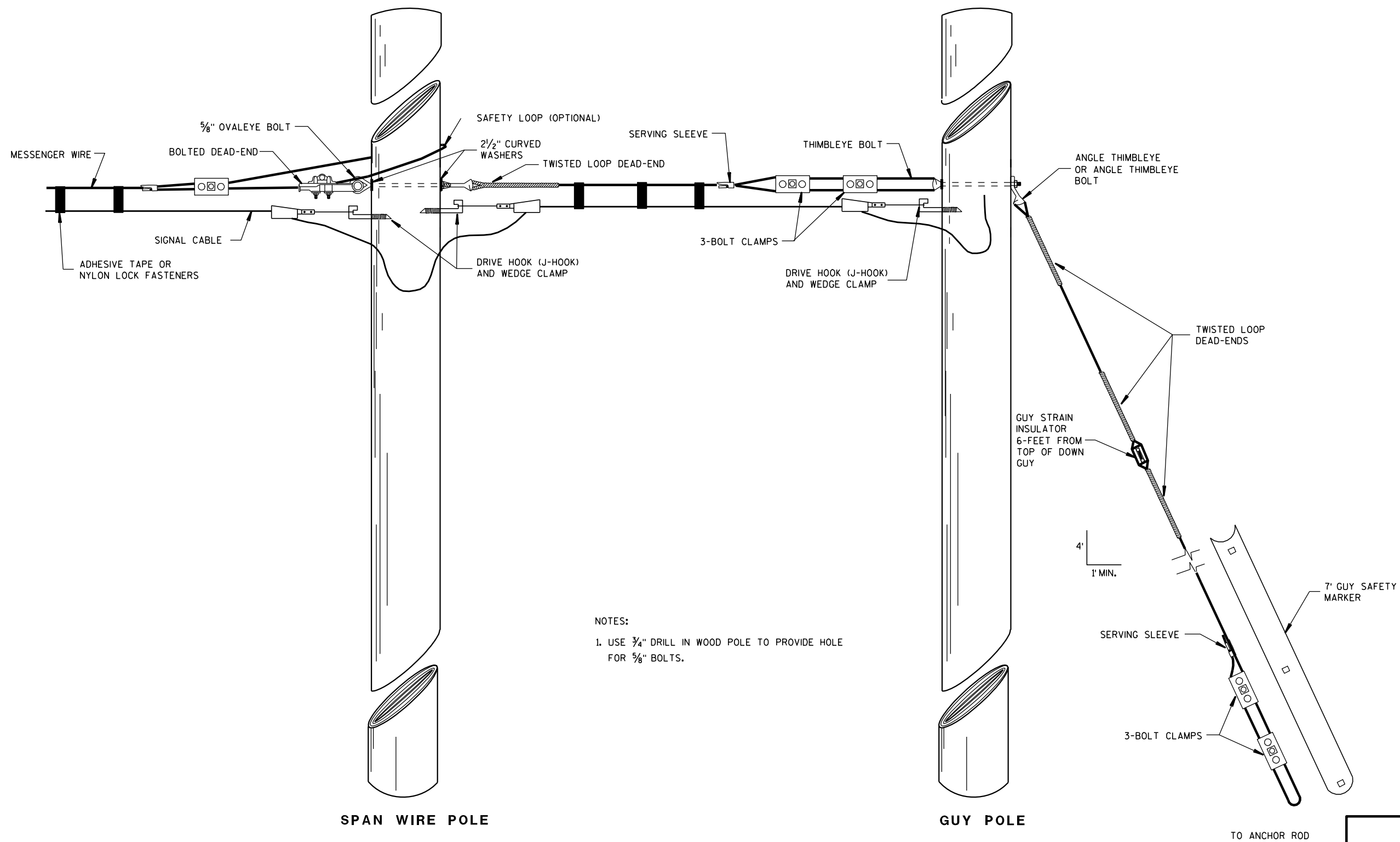
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011
DATE

/S/ Thomas J. Goring
STATE ELECTRICAL ENGINEER FOR HWYS

FHWA



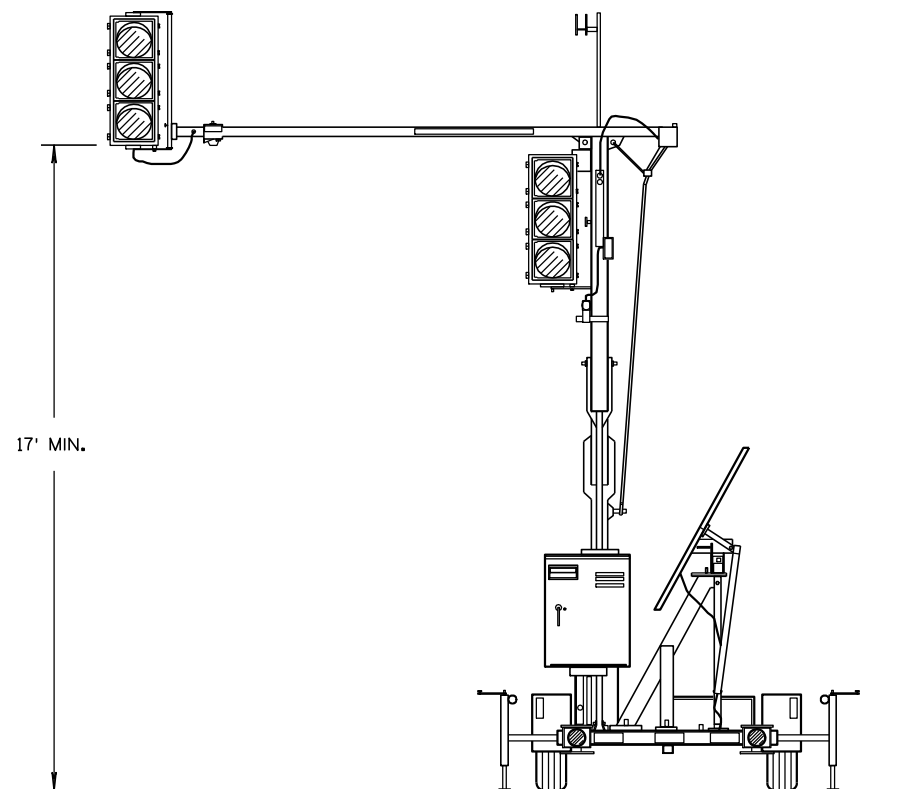
TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY
TRAFFIC SIGNAL INSTALLATIONSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011
DATE/S/ Thomas J. Goring
STATE ELECTRICAL ENGINEER FOR HWYS

FHWA

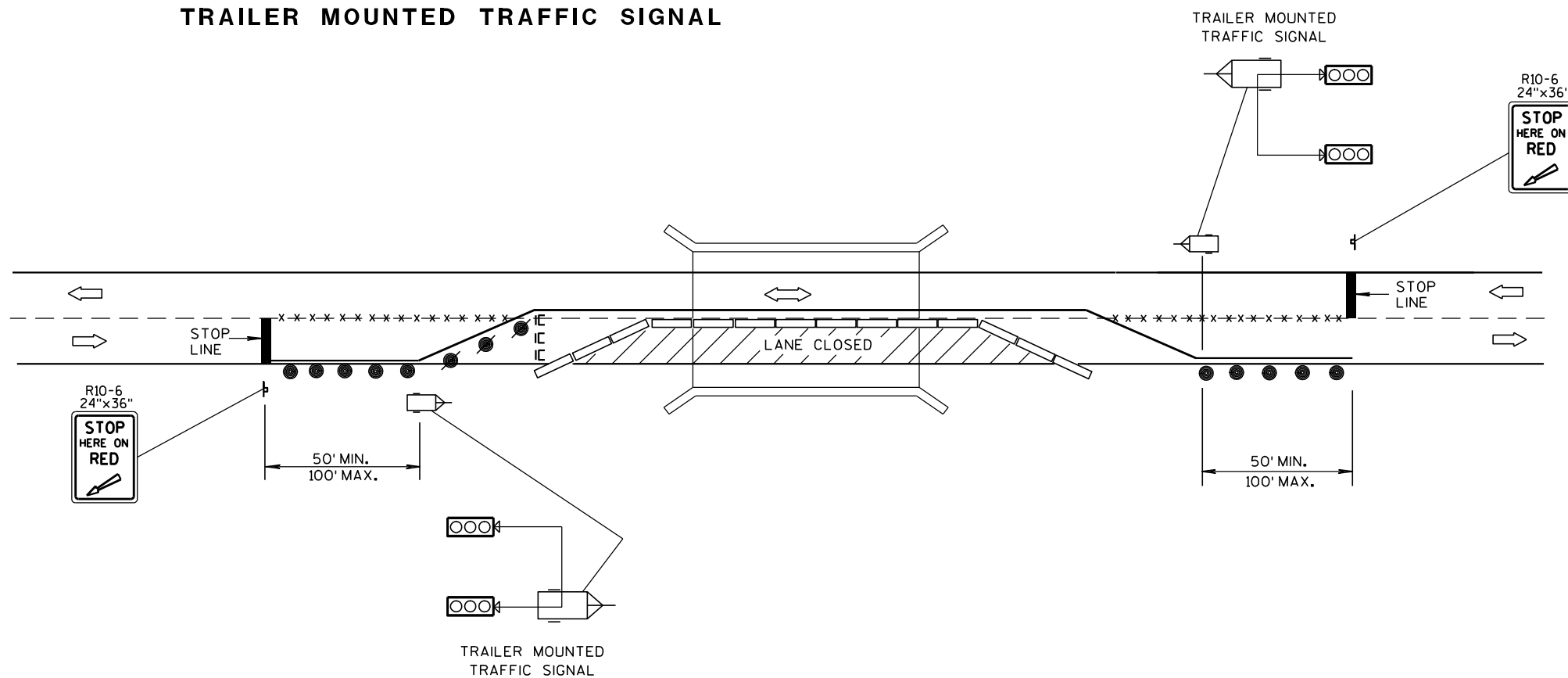


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

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

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15 D 33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

LEGEND

- ⌵ POST MOUNTED SIGN
- *-x-* REMOVING PAVEMENT MARKING
- IC TYPE III BARRICADE WITH SIGN
- /● DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- ▬ TEMPORARY PRECAST CONCRETE BARRIER
- ⌵ TRAILER MOUNTED TRAFFIC SIGNAL
- ➡ DIRECTION OF TRAFFIC FLOW

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011
DATE

FHWA

/S/ Thomas J. Goring
STATE ELECTRICAL ENGINEER FOR HWYS

GENERAL NOTES

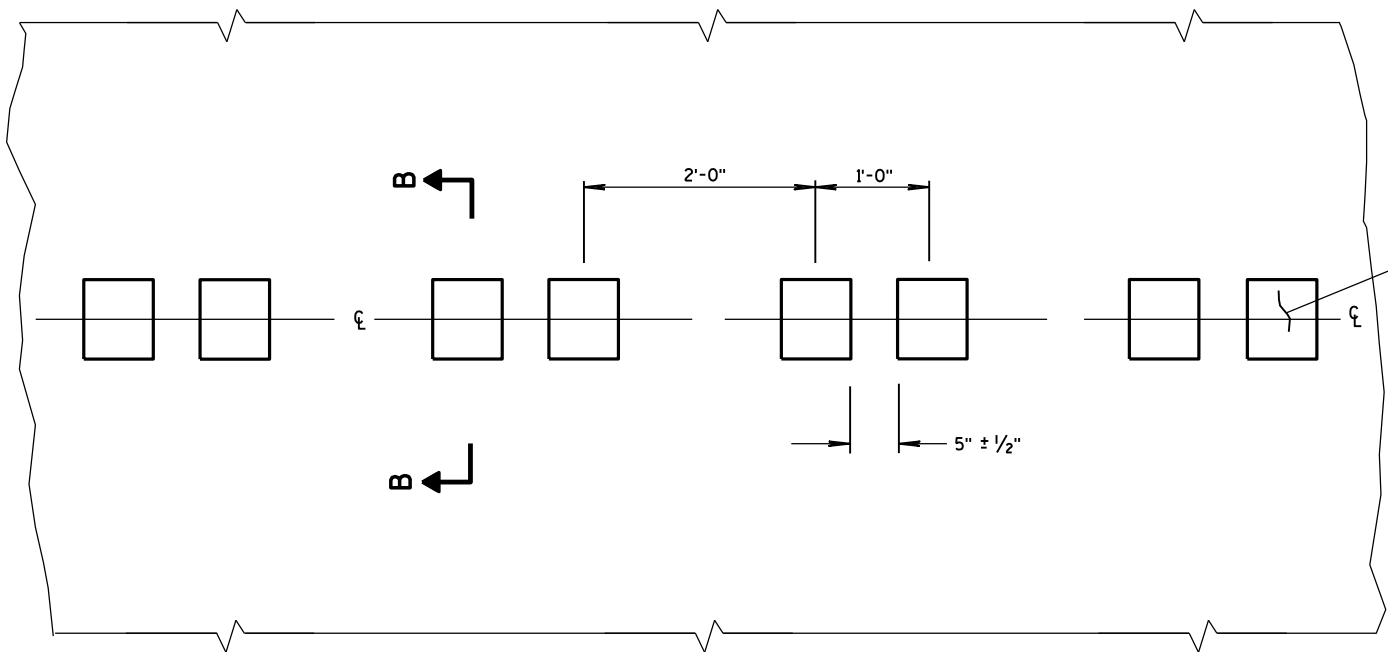
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTER LINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

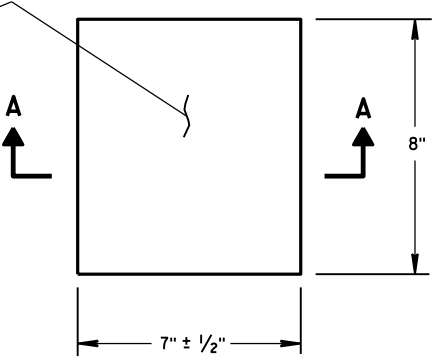
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

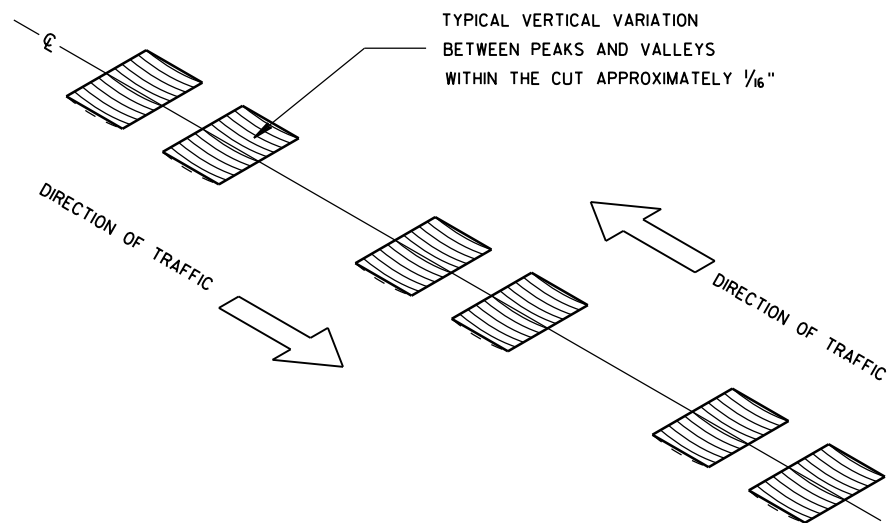
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



PLAN VIEW
CENTER LINE WITH GROOVES

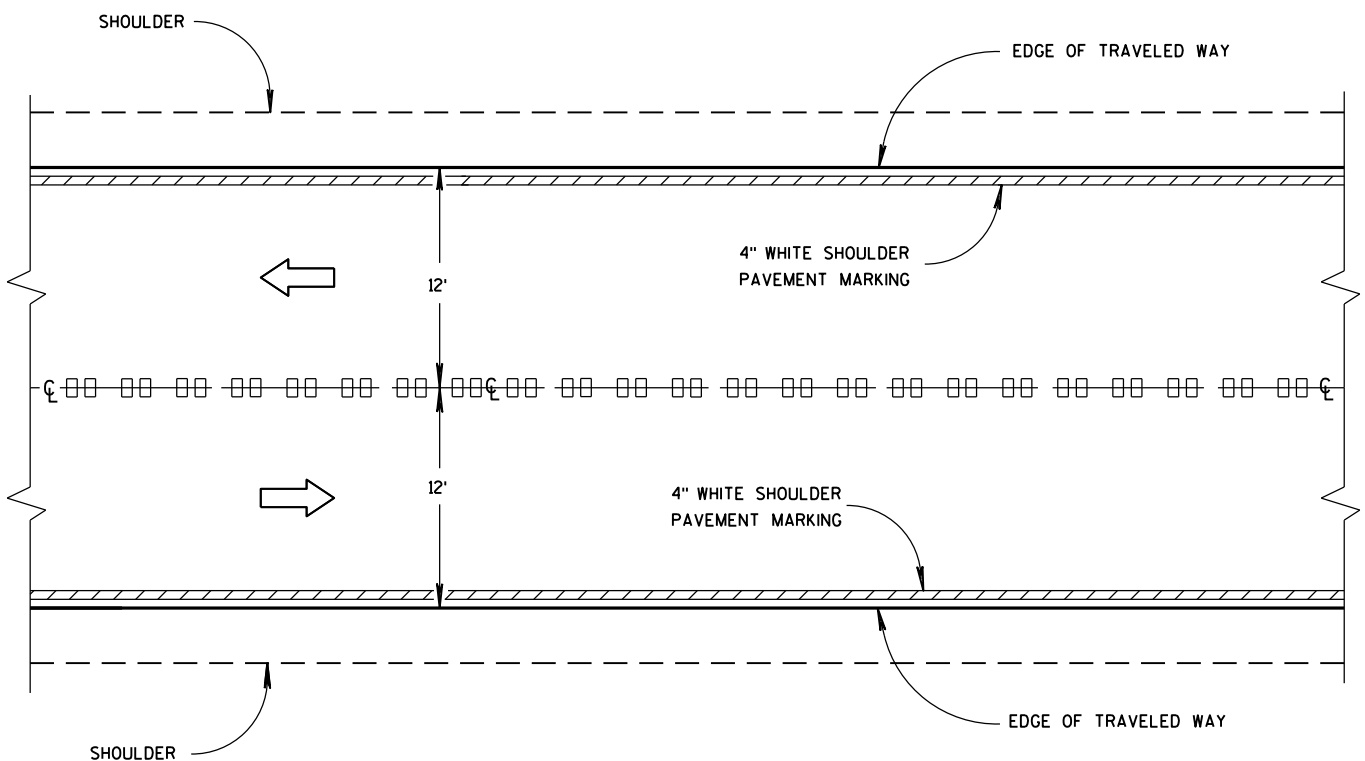


PLAN VIEW
(SINGLE GROOVE)

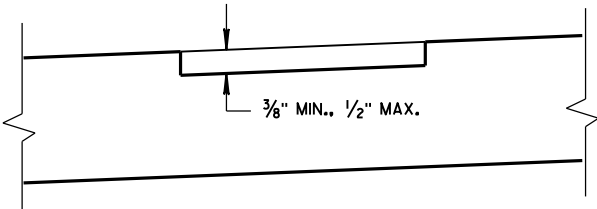


ISOMETRIC

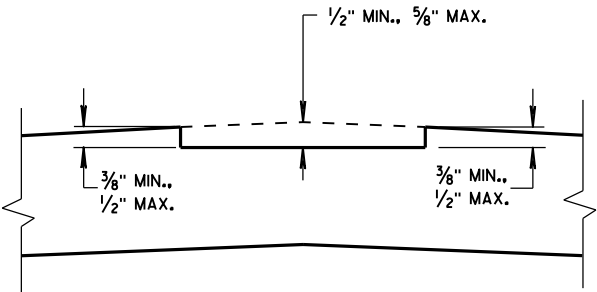
PLACEMENT DETAIL FOR MILLED RUMBLE STRIP



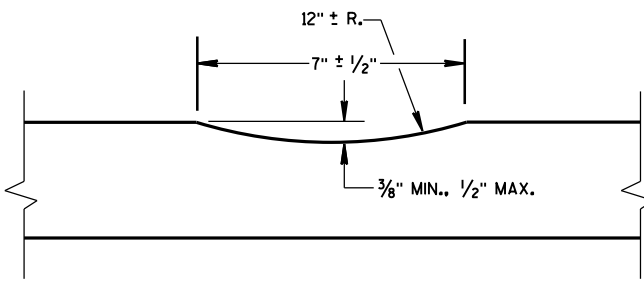
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B
SUPERELEVATED ROADWAY



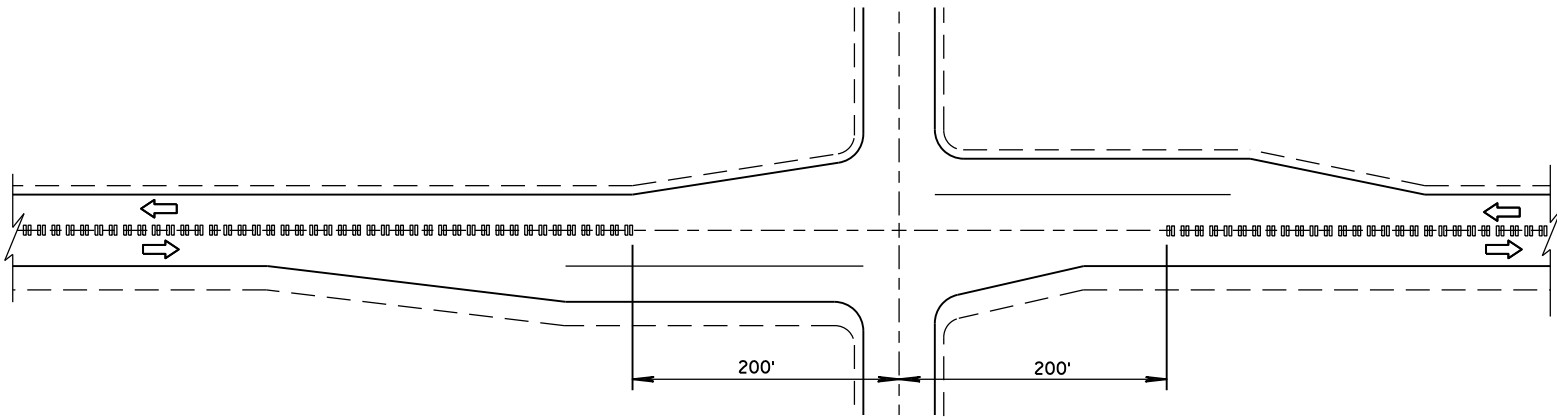
SECTION B-B
CROWNED ROADWAY



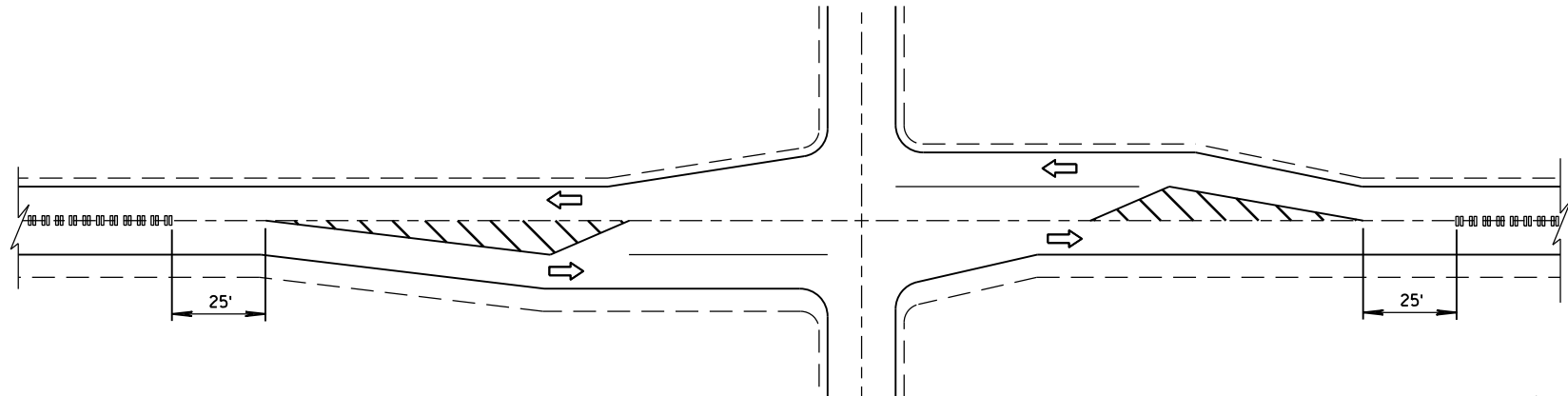
SECTION A-A

2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

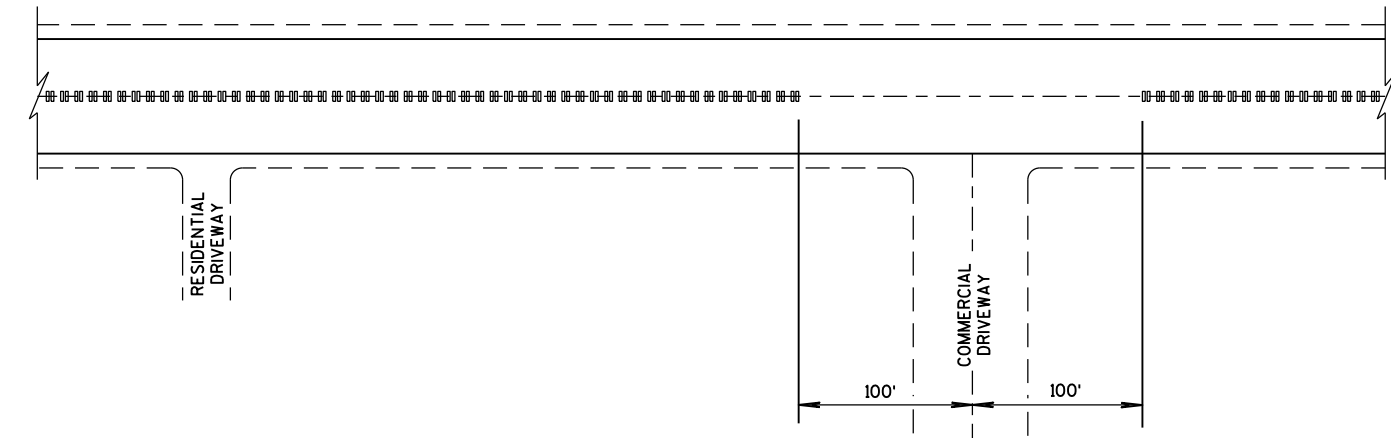
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTER LINE GROOVES AT INTERSECTIONS

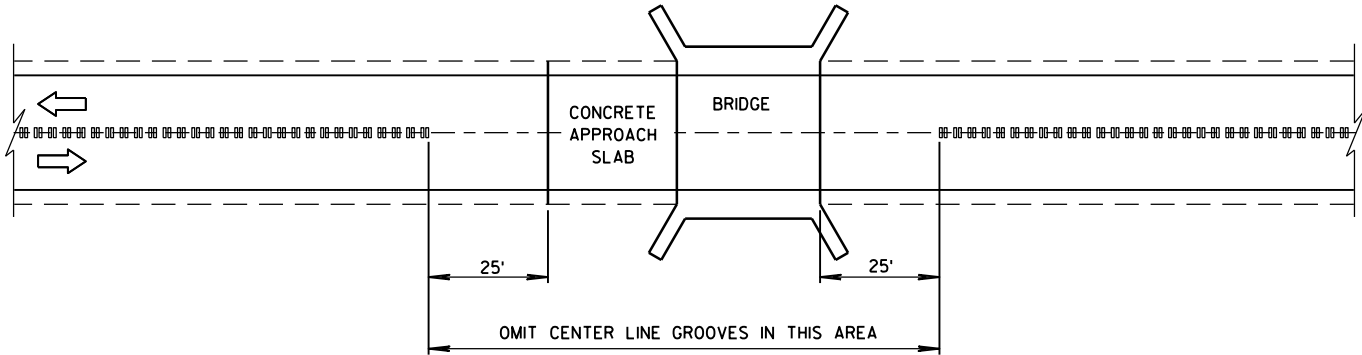


CENTER LINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)

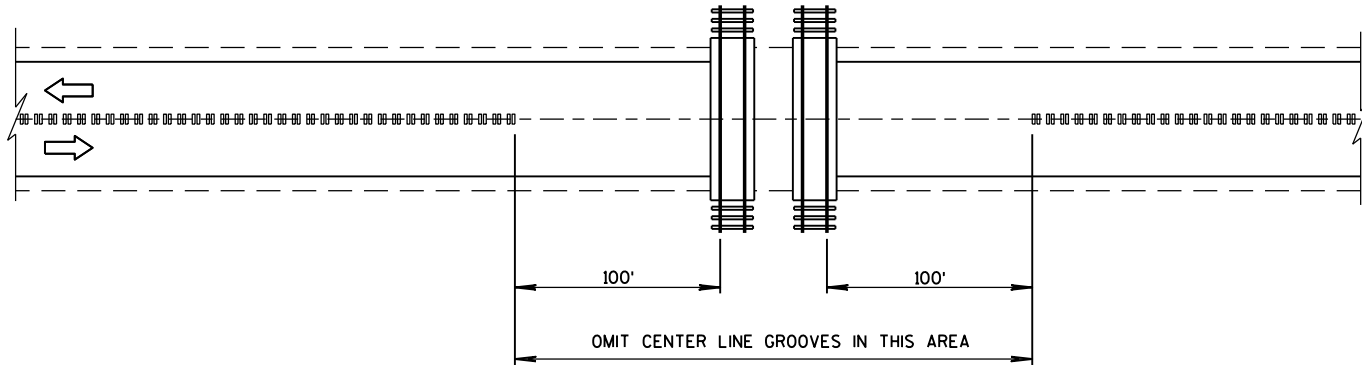


CENTER LINE GROOVES AT DRIVEWAYS^①

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

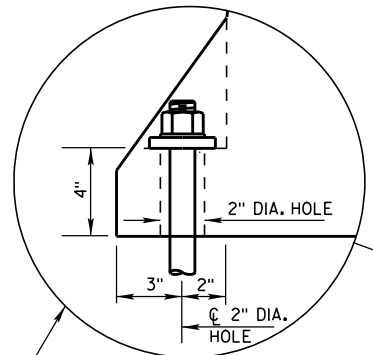


CENTER LINE GROOVES AT BRIDGES

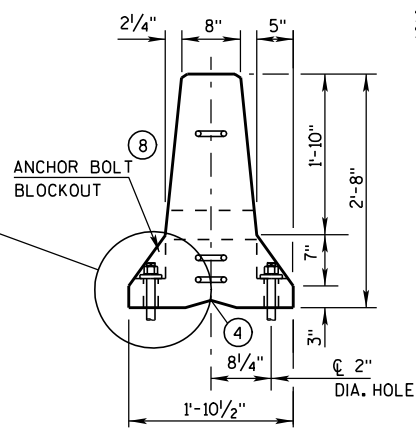


CENTER LINE GROOVES AT RAILROADS

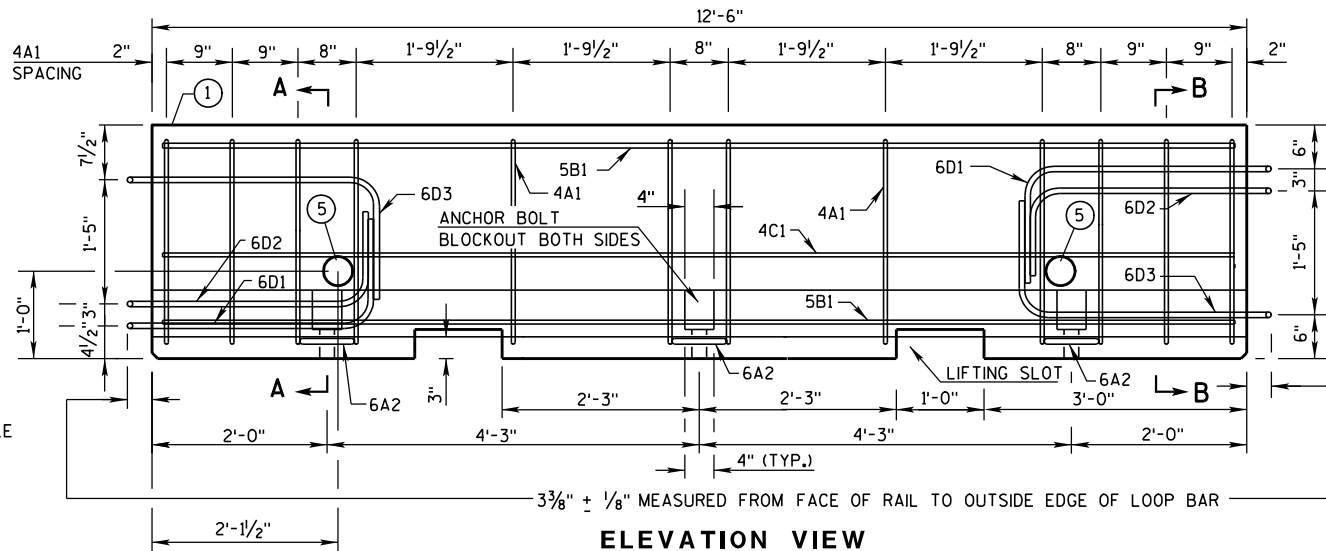
2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5/15/2013 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



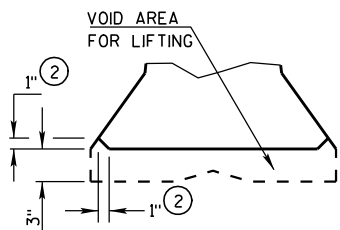
ANCHOR ON TRAFFIC SIDE
ONLY WHEN REQUIRED
(SEE SHEET D FOR ADDITIONAL
ANCHOR DETAIL)



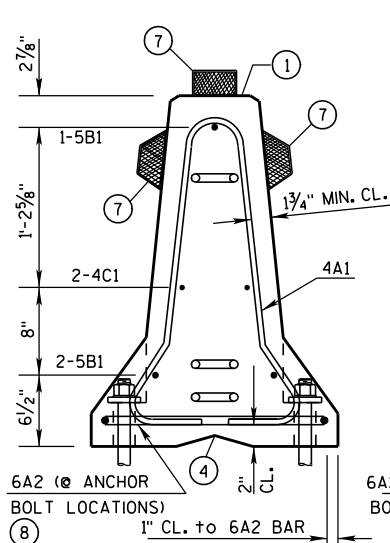
END VIEW



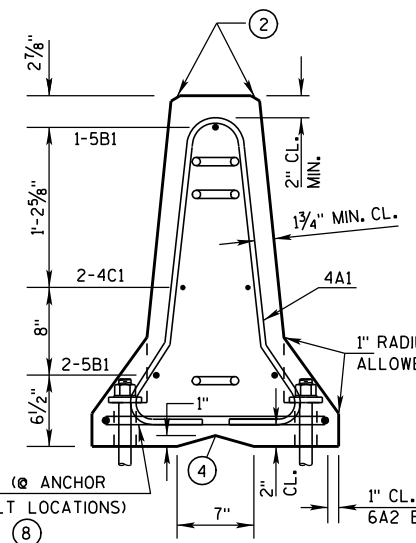
ELEVATION VIEW



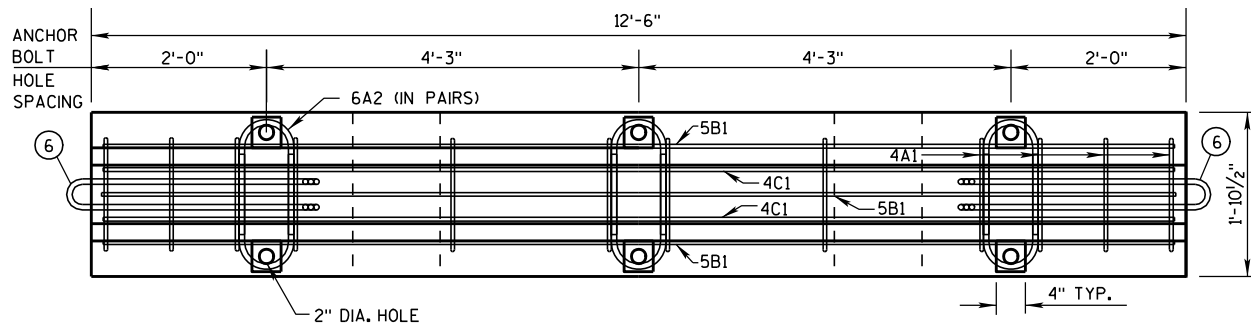
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

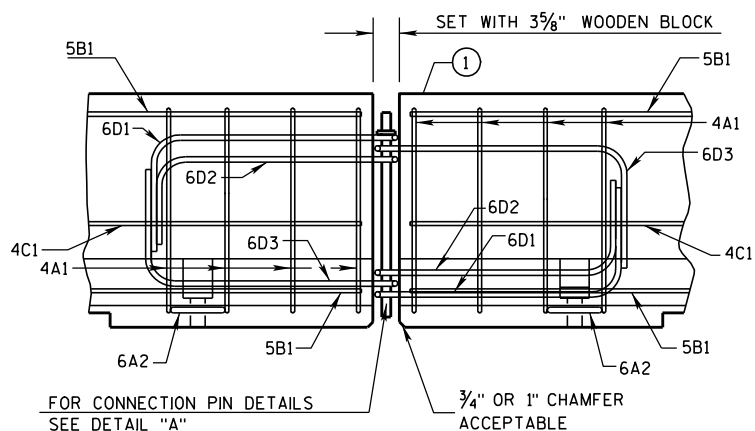


SECTION B-B
(STIRRUP PLACEMENT)

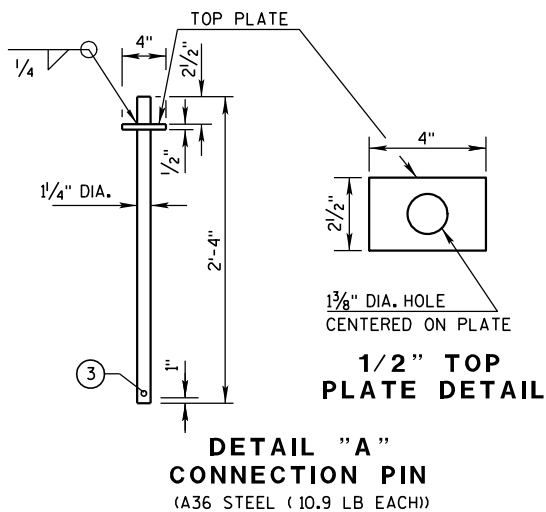


PLAN VIEW

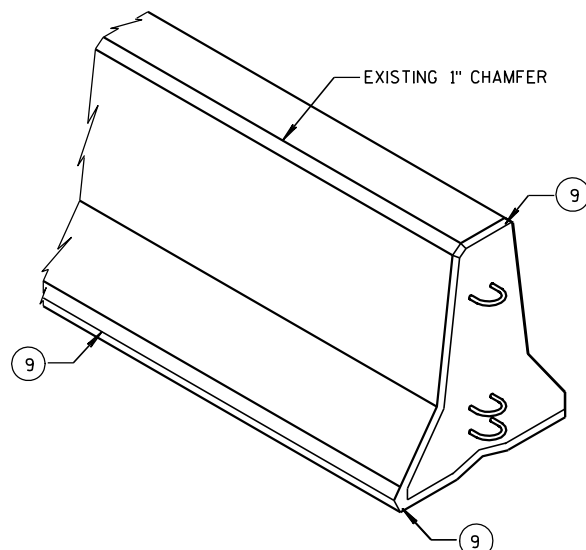
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(g) THRU 14B7-13(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE 3/4" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-1/2" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN 1/8" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

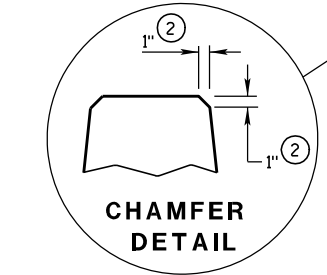
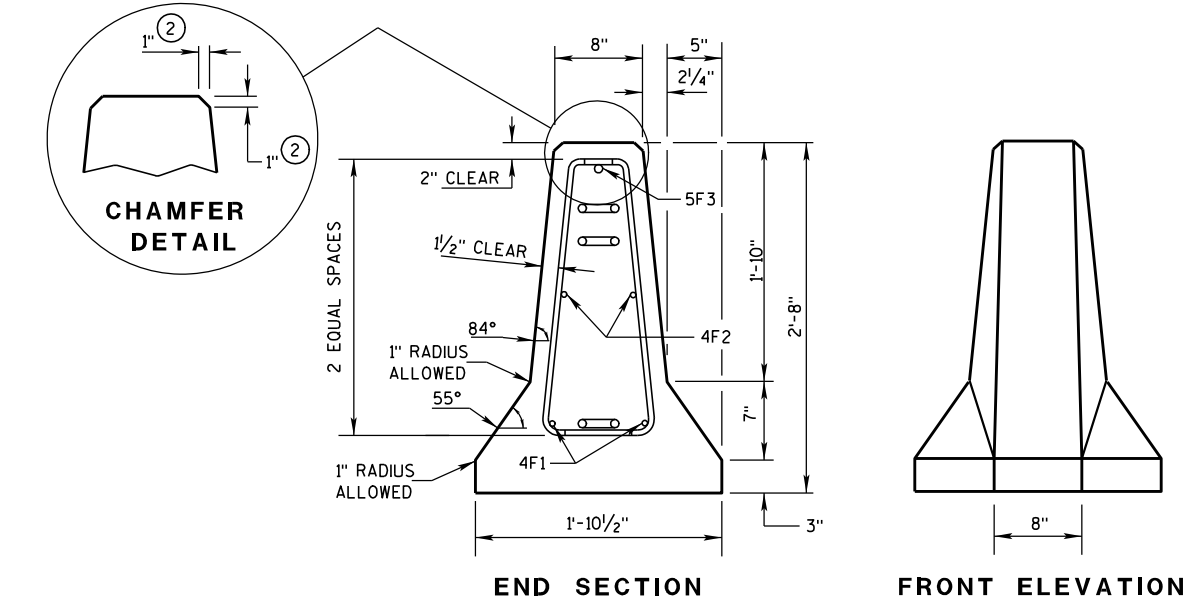
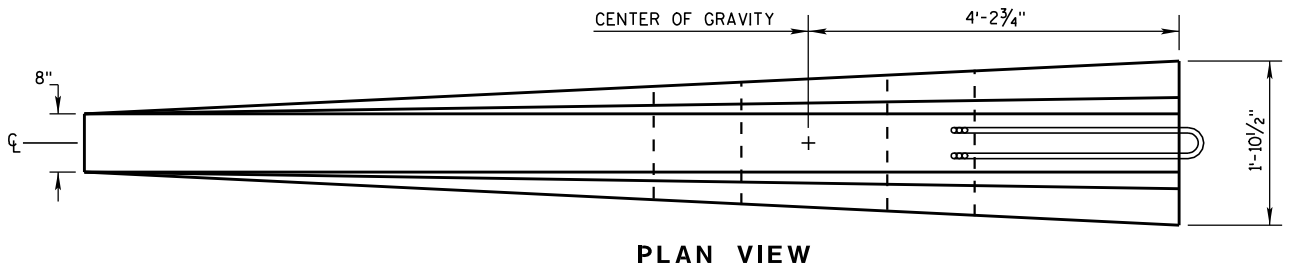
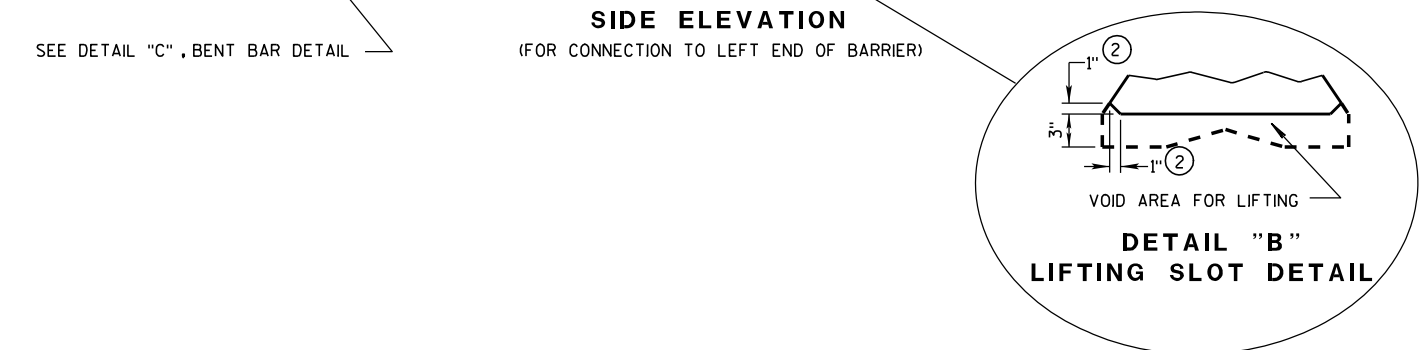
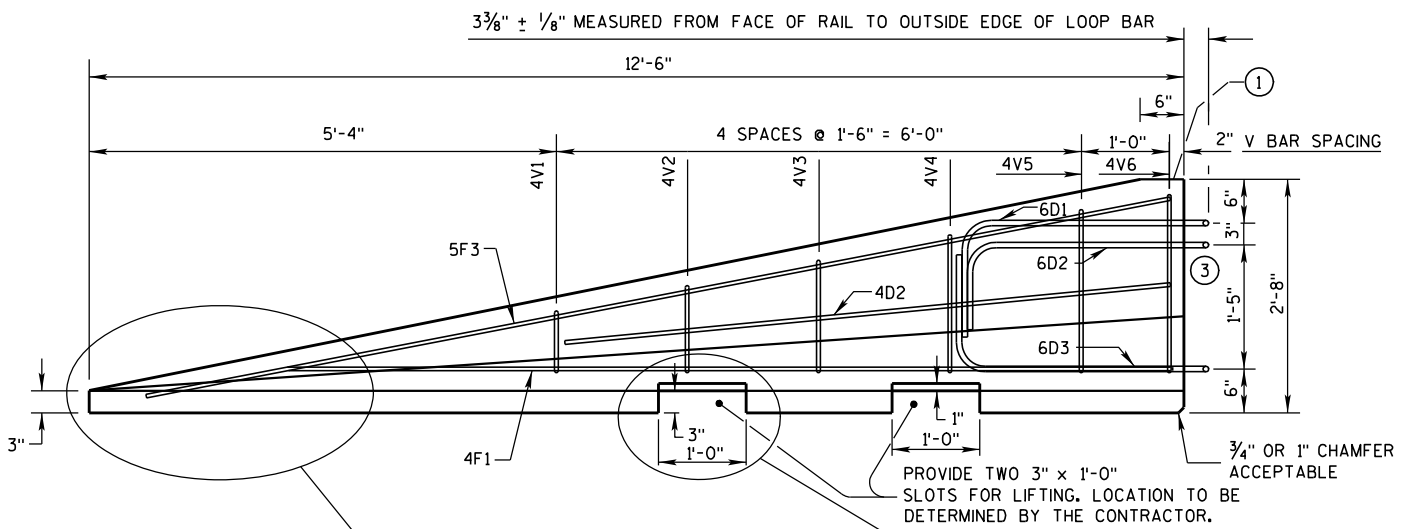
PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR EPOXY ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

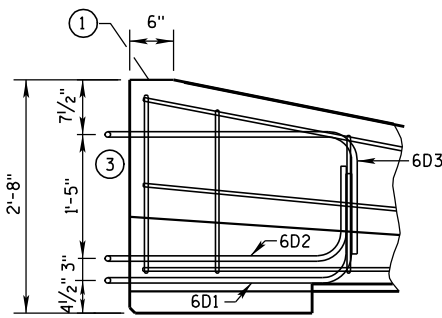
- MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - TYPE: WICBTP
 - MANUFACTURER
 - DATE MANUFACTURED (MONTH AND YEAR)
- 1" CHAMFER TO PREVENT SPALLING.
- A 3/8" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- "V" NOTCH IS OPTIONAL.
- THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURER'S INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
- SEE SHEET D FOR ANCHORING CRITERIA.
- 1" CHAMFER OPTIONAL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



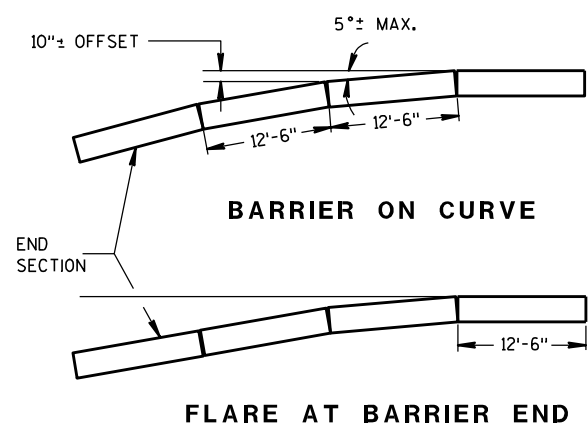
DETAILS OF BARRIER TAPER SECTION



SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE W/CBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

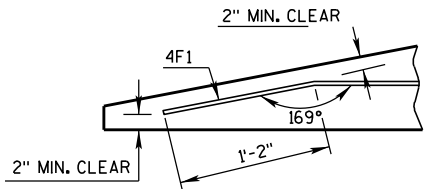
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

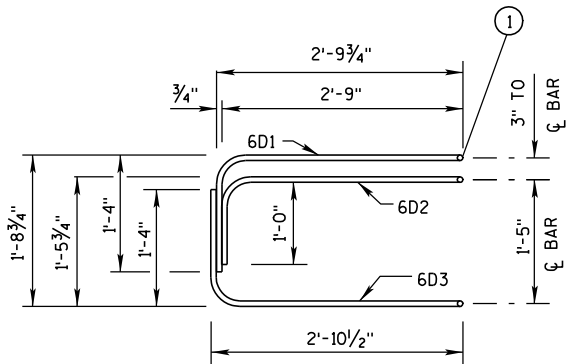
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

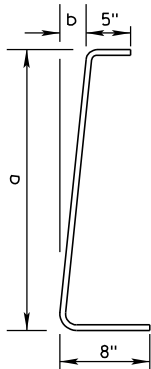
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



BAR	a	b
V1	10"	1"
V2	1'-1"	1 1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

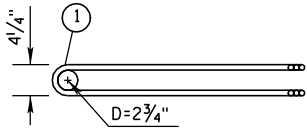
GENERAL NOTES

① NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

BARRIER SECTION
BILL OF MATERIALS

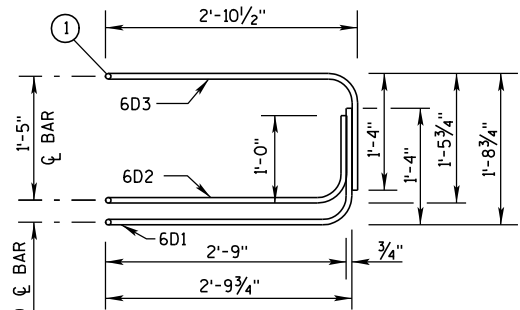
(PER 12'-6" BARRIER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"

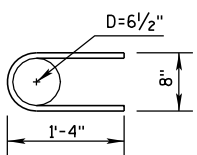


PLAN VIEW
LOOP BAR ASSEMBLY

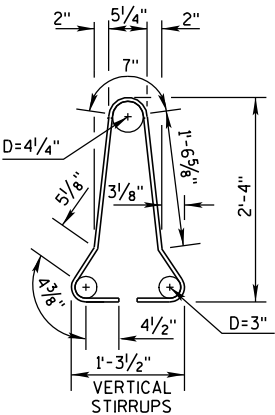
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

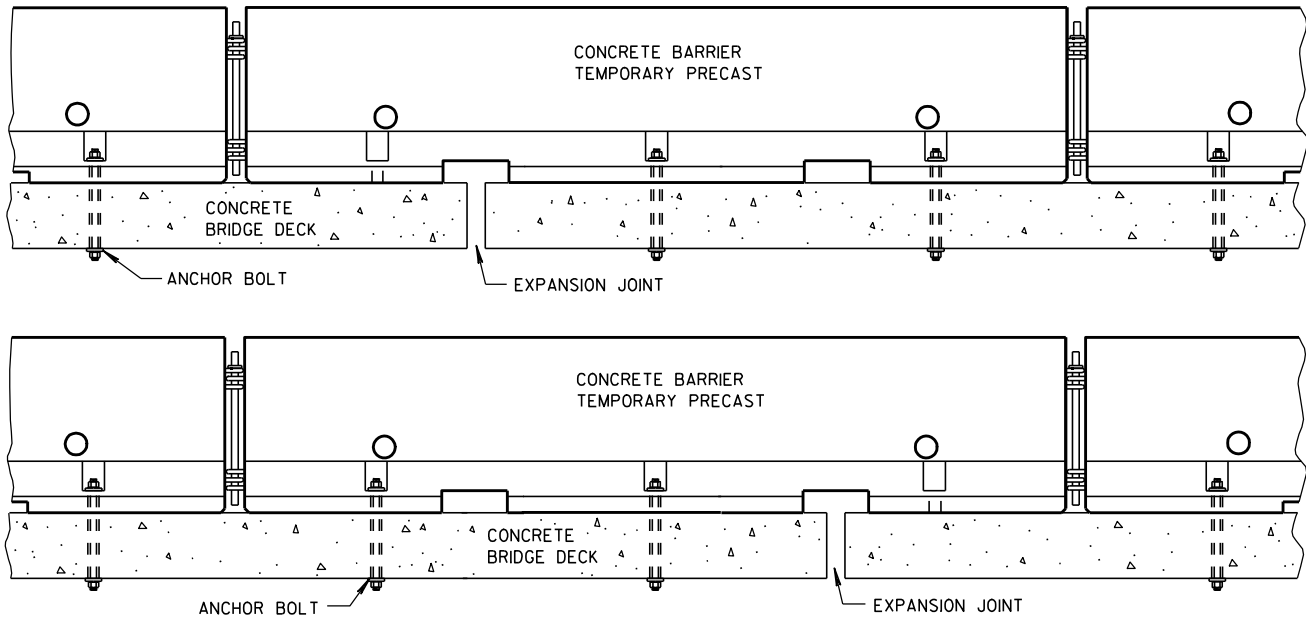


4A1

BARRIER SECTION

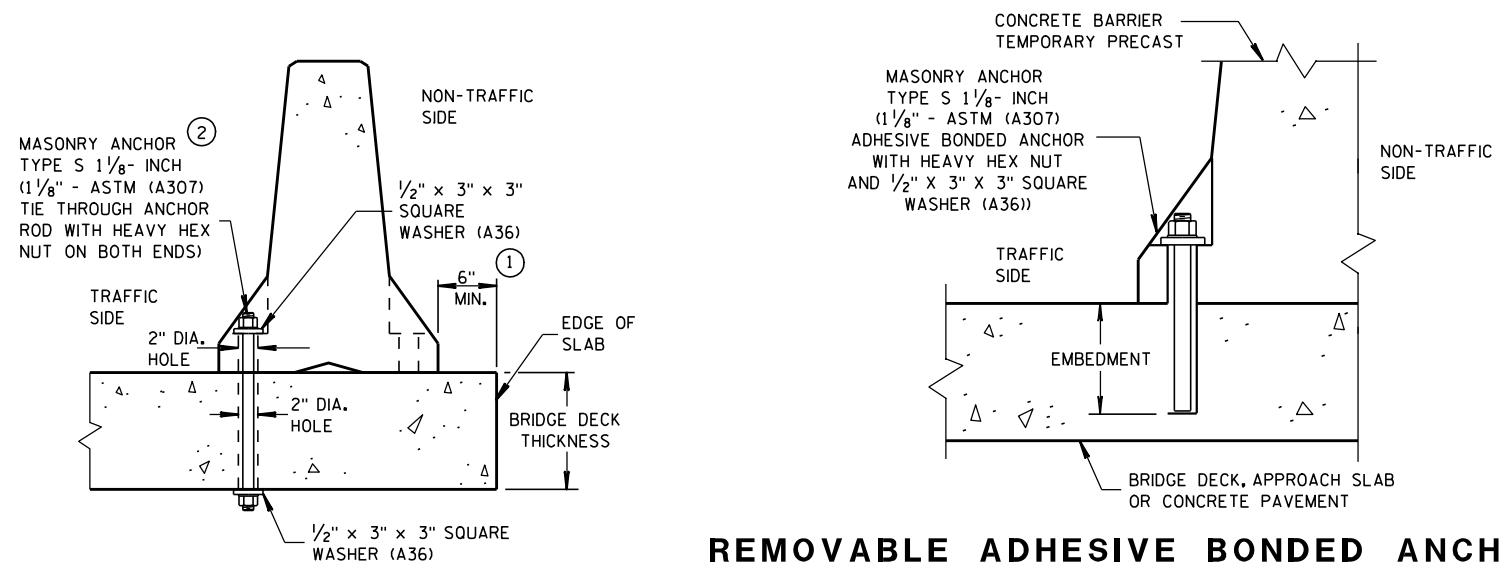
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)

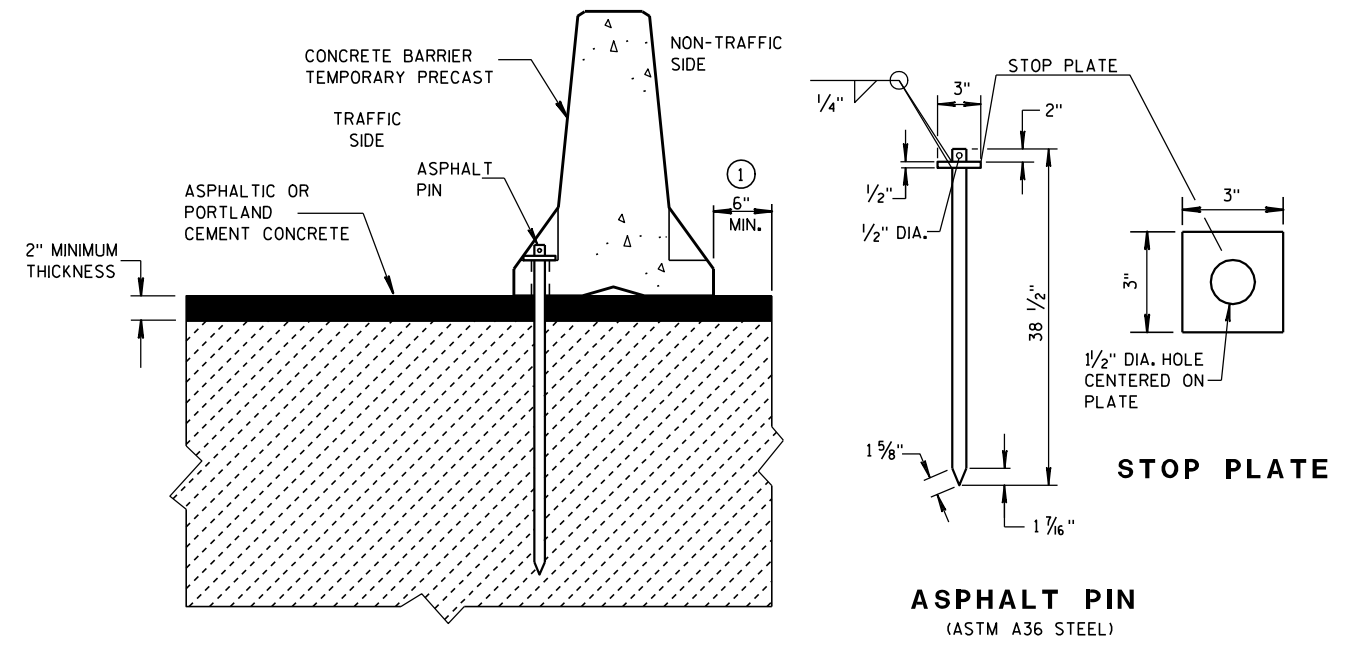


THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)

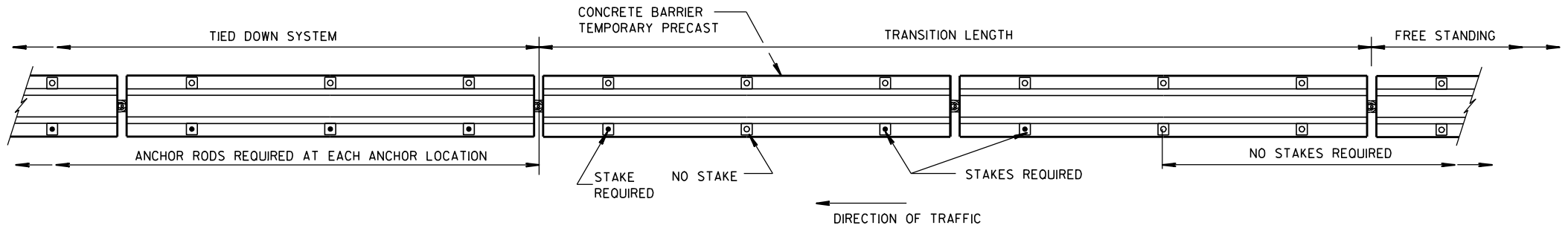
REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

GENERAL NOTES

- 1 CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

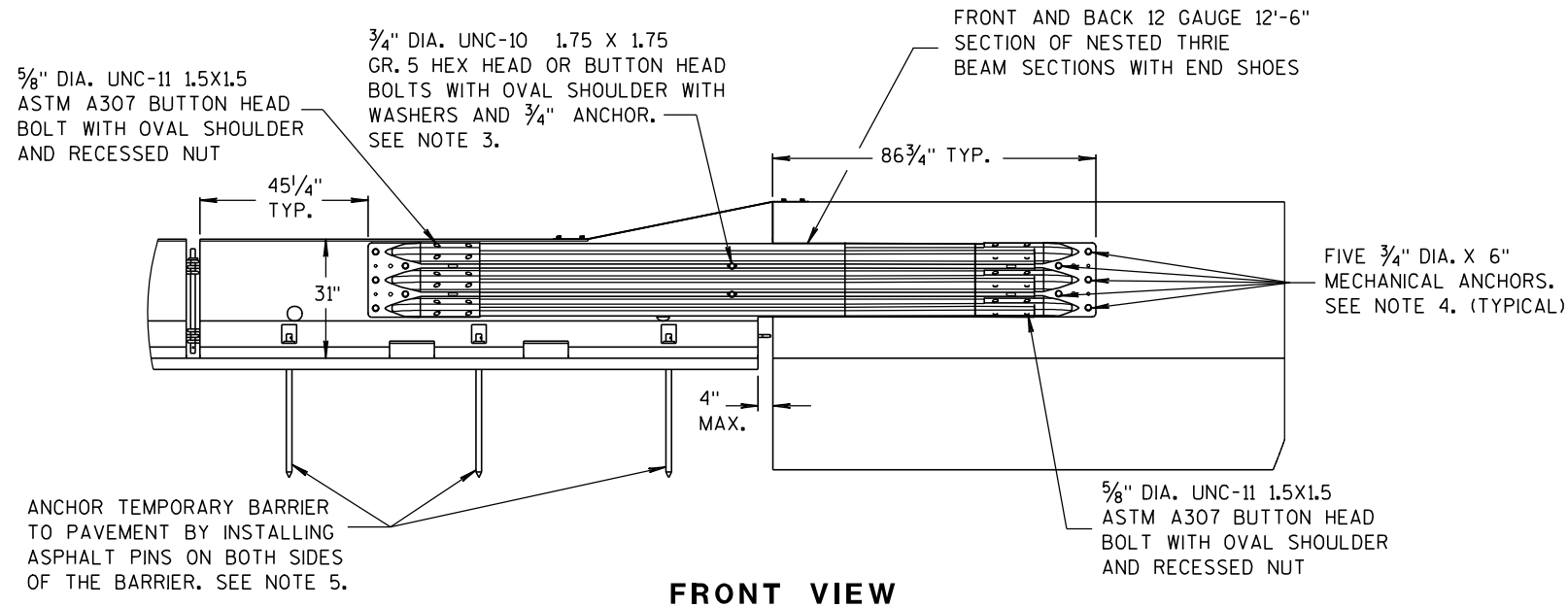
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.
- 2 ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1 1/8-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERCIAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

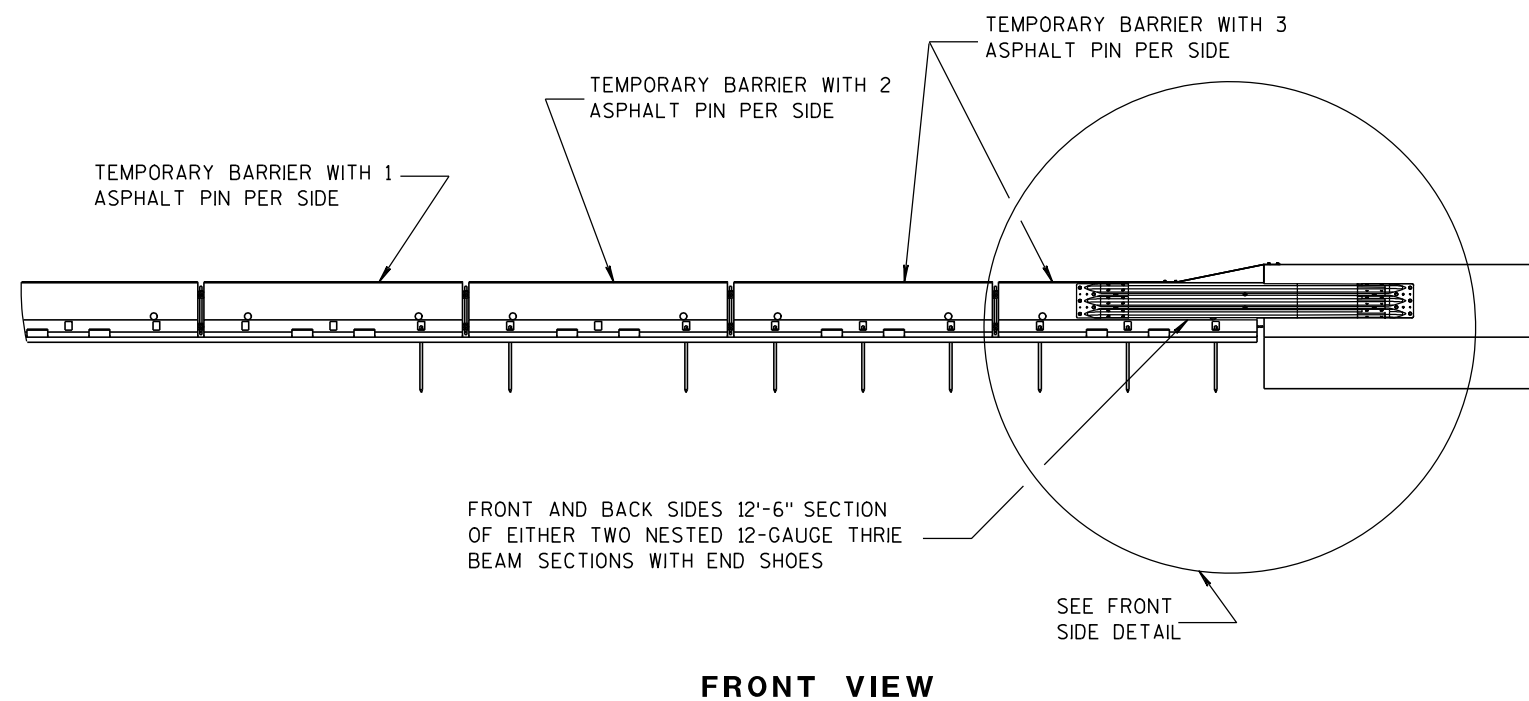
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

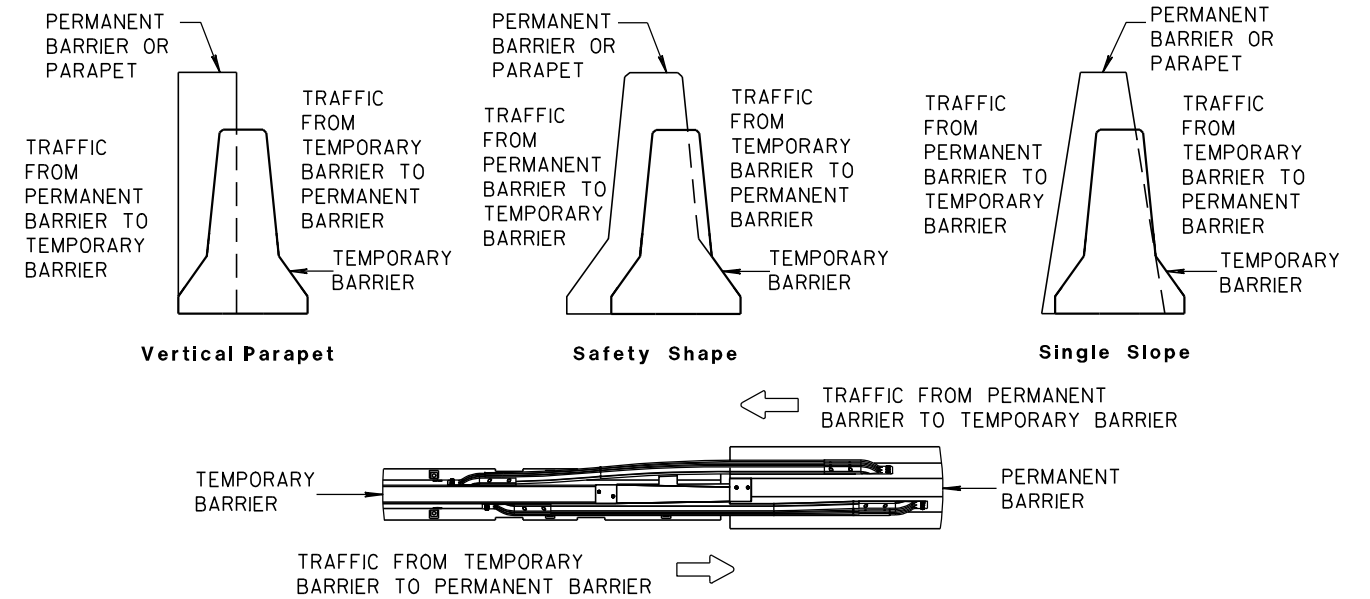


NOTES

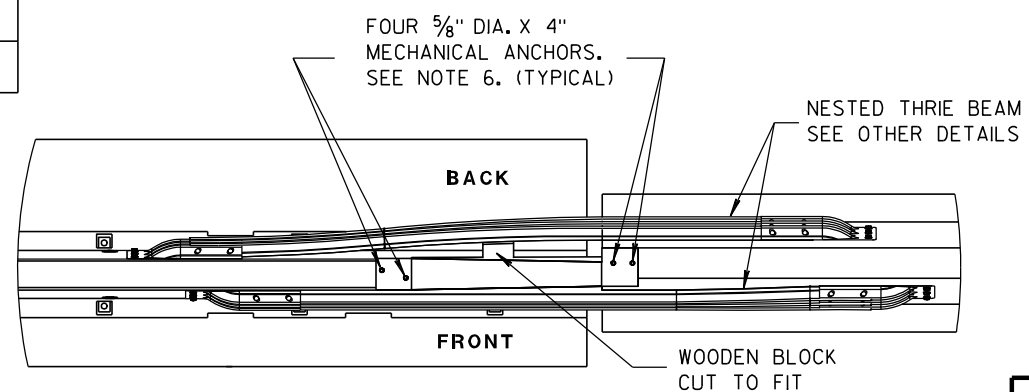
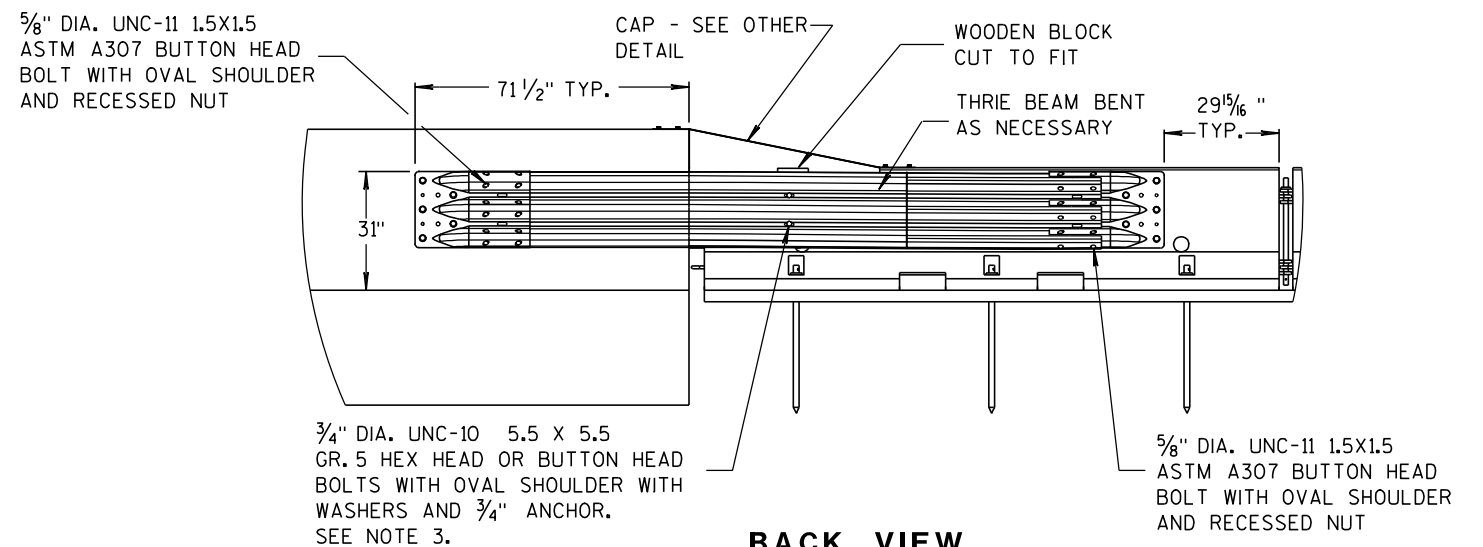
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

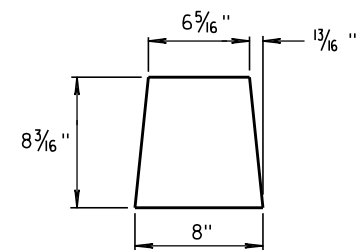


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

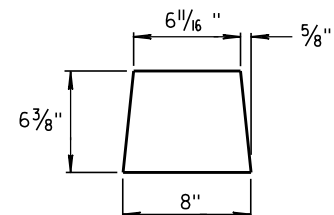


CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

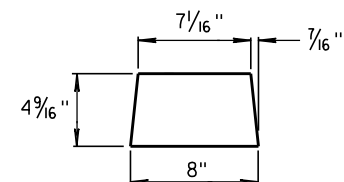
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



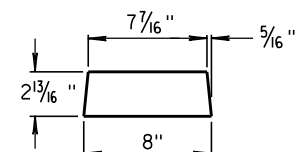
GUSSET 1



GUSSET 2

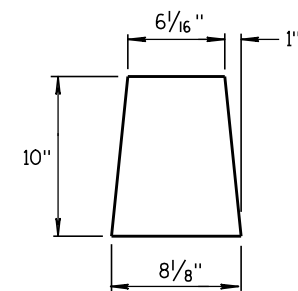


GUSSET 3

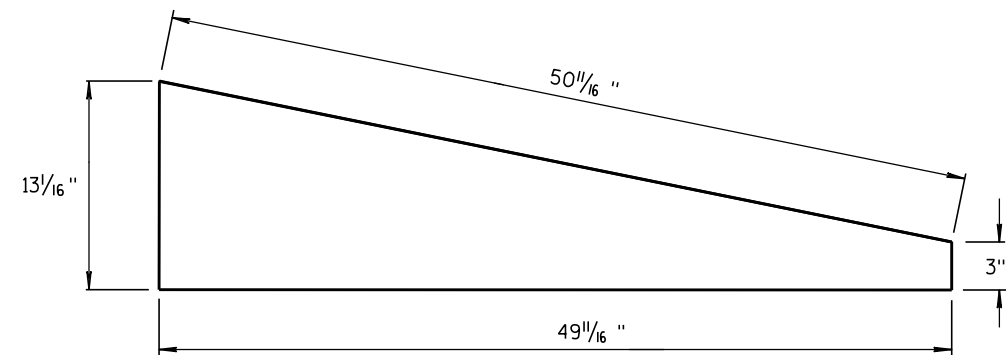


GUSSET 4

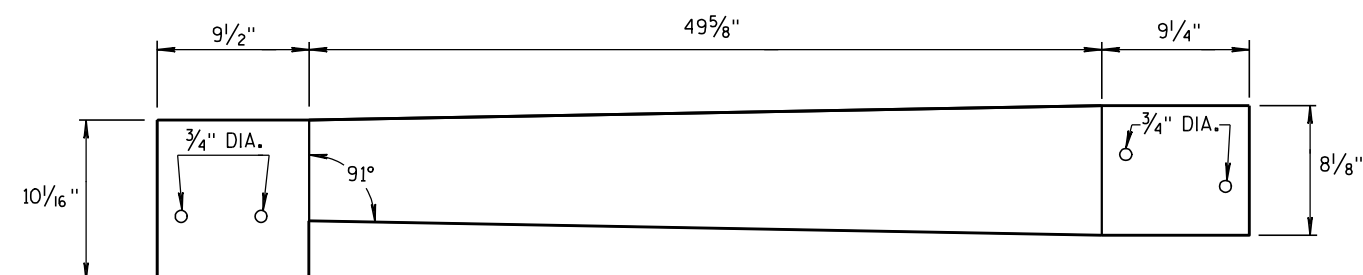
GUSSETS



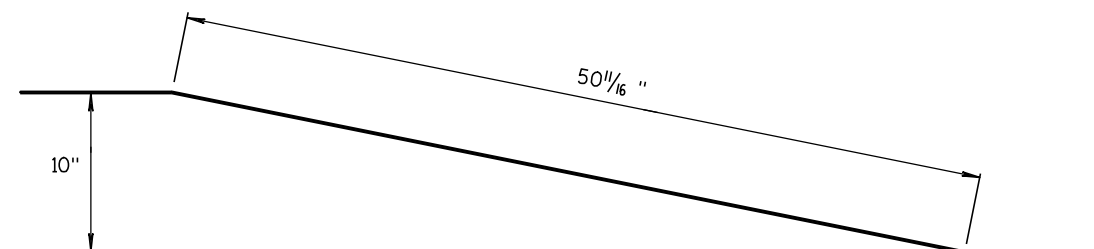
END PLATE



SIDE PLATE

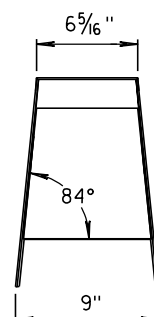


TOP PLATE

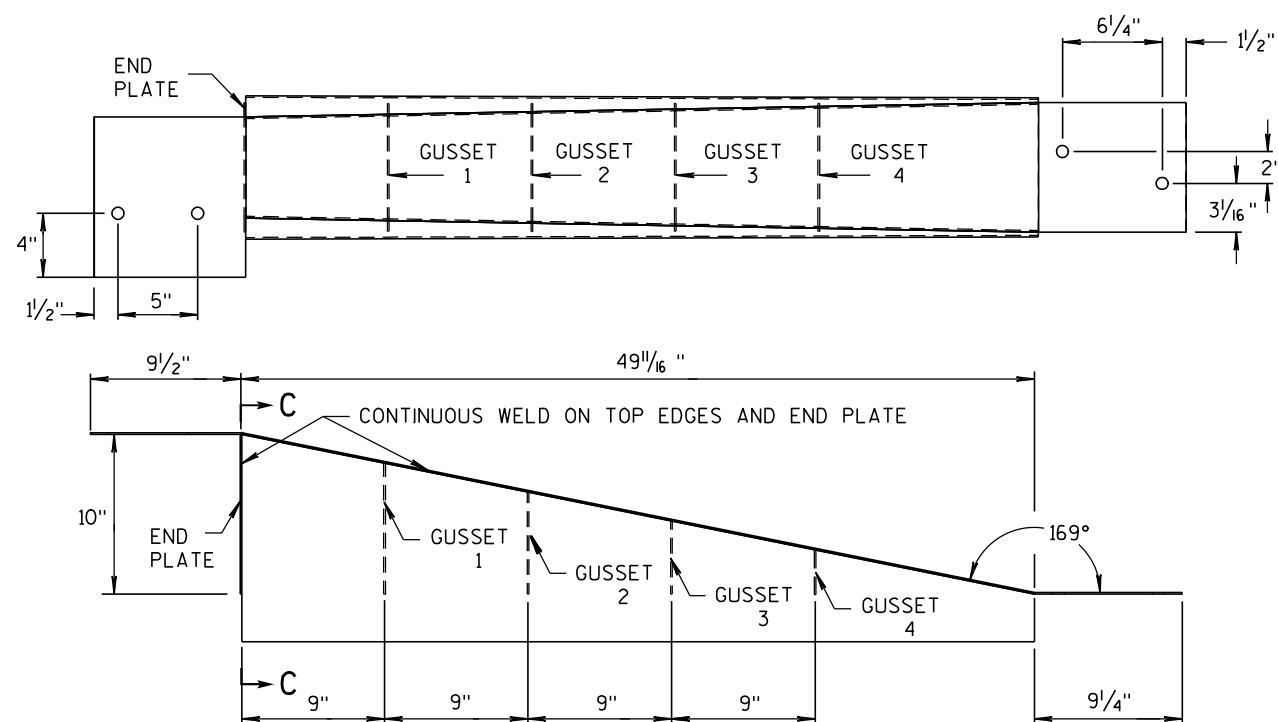


**SIDE, TOP AND END PLATES FOR CAP
FROM TEMPORARY CONCRETE BARRIER
TO 42" PERMANENT CONCRETE BARRIER**

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.



SECTION C-C



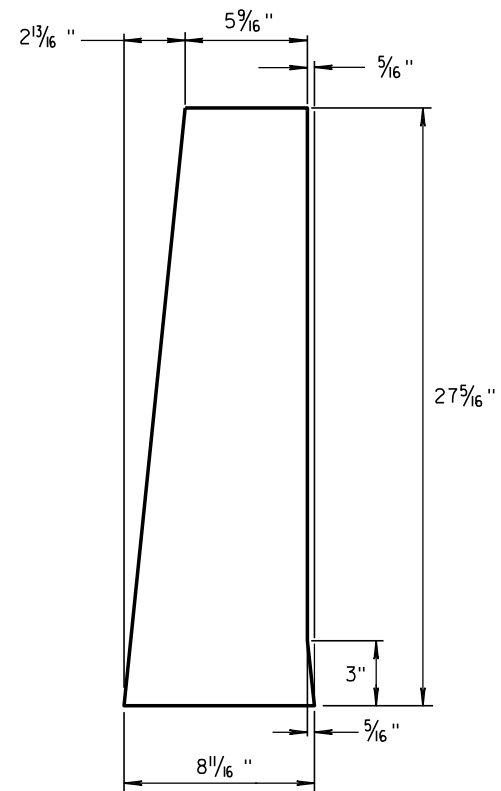
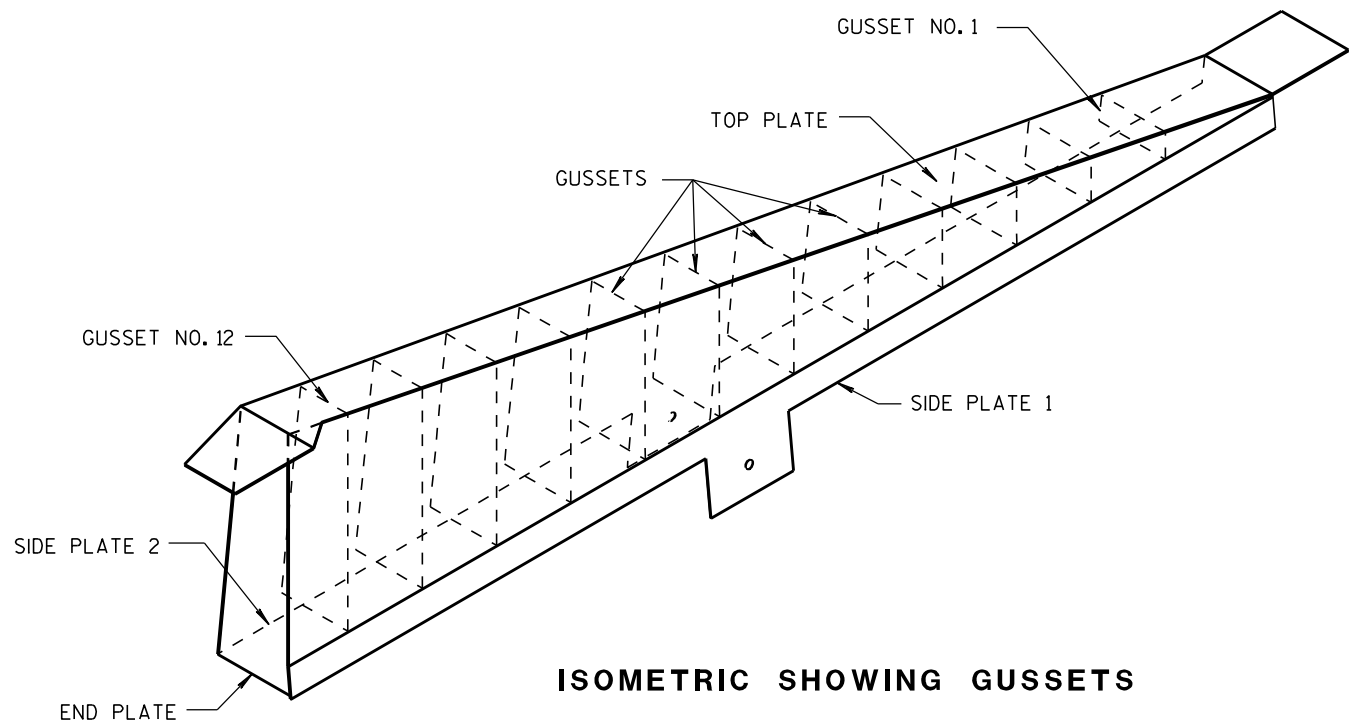
NOTES

- FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
- TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

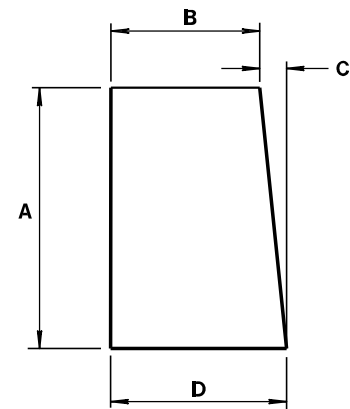
**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 42" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



1/8" STEEL PLATE

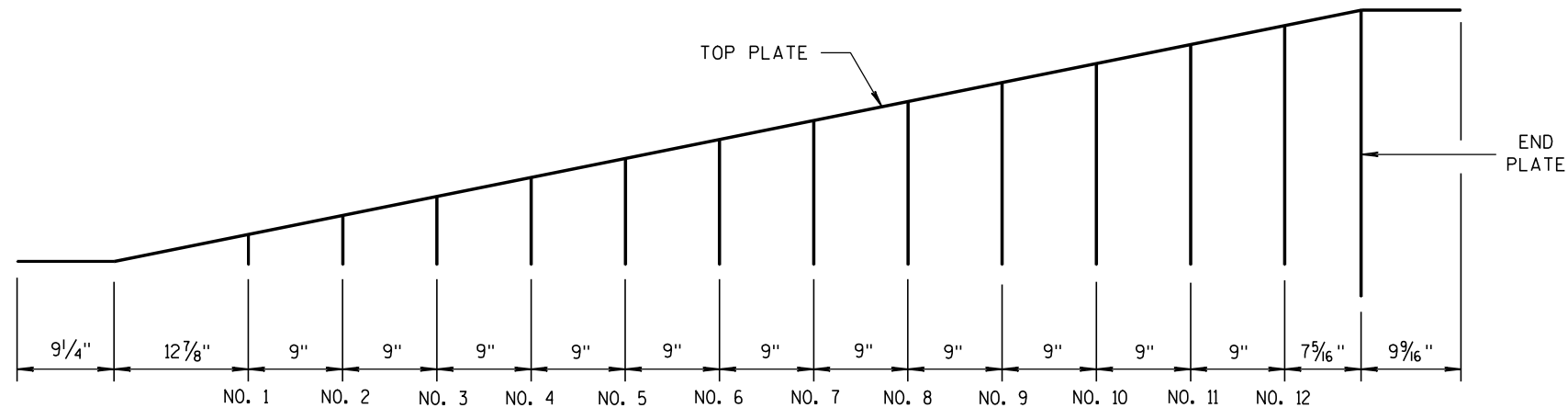


ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8 "	7"	1 1/16 "	8 1/16 "
6	11 5/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

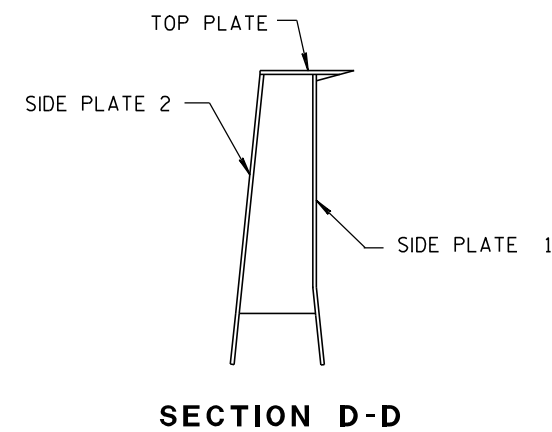
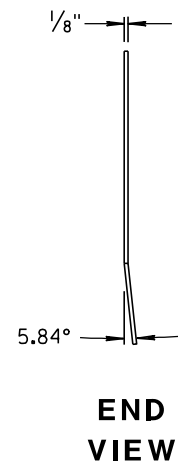
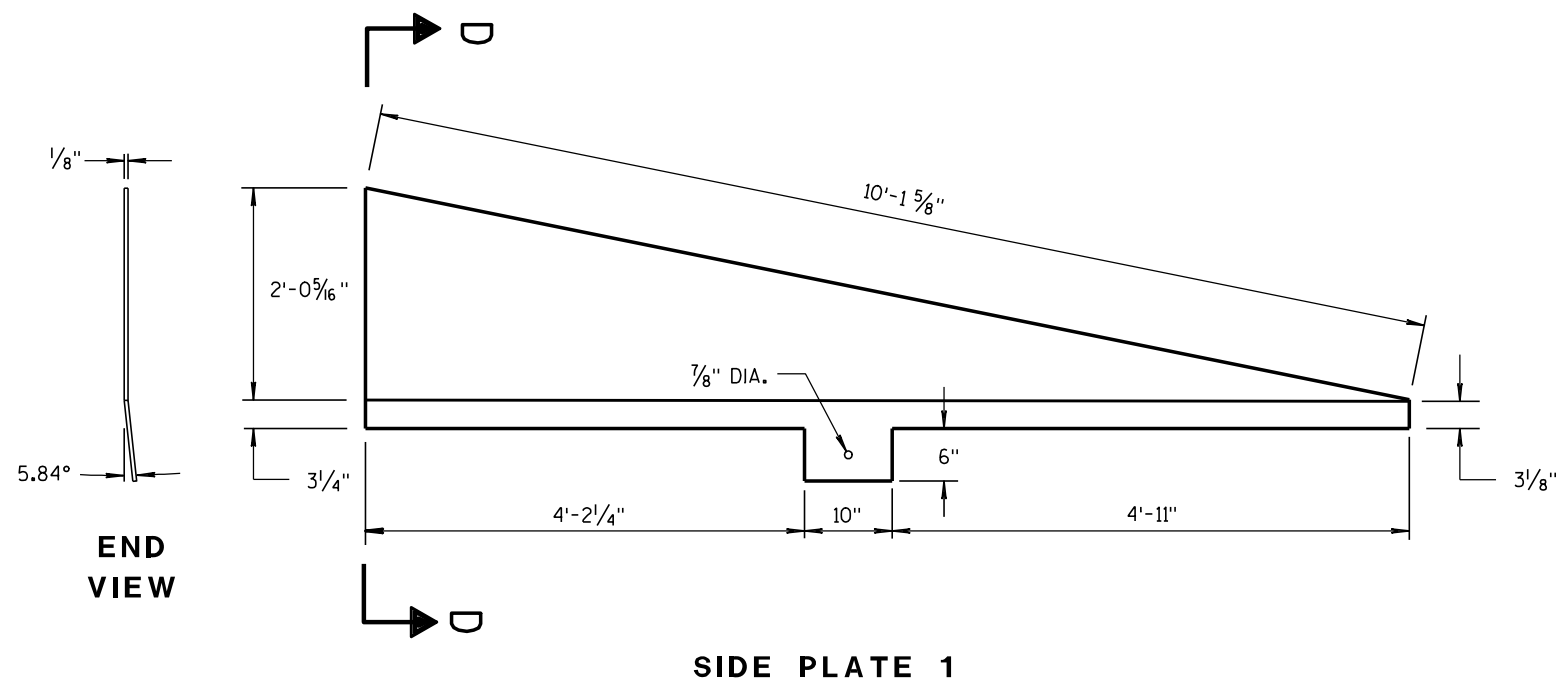
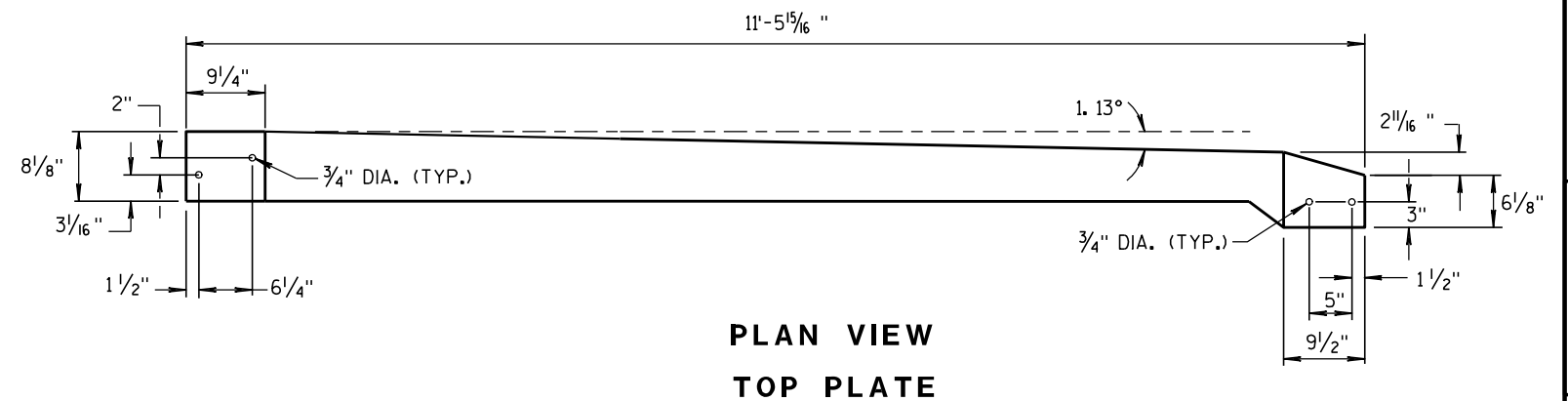
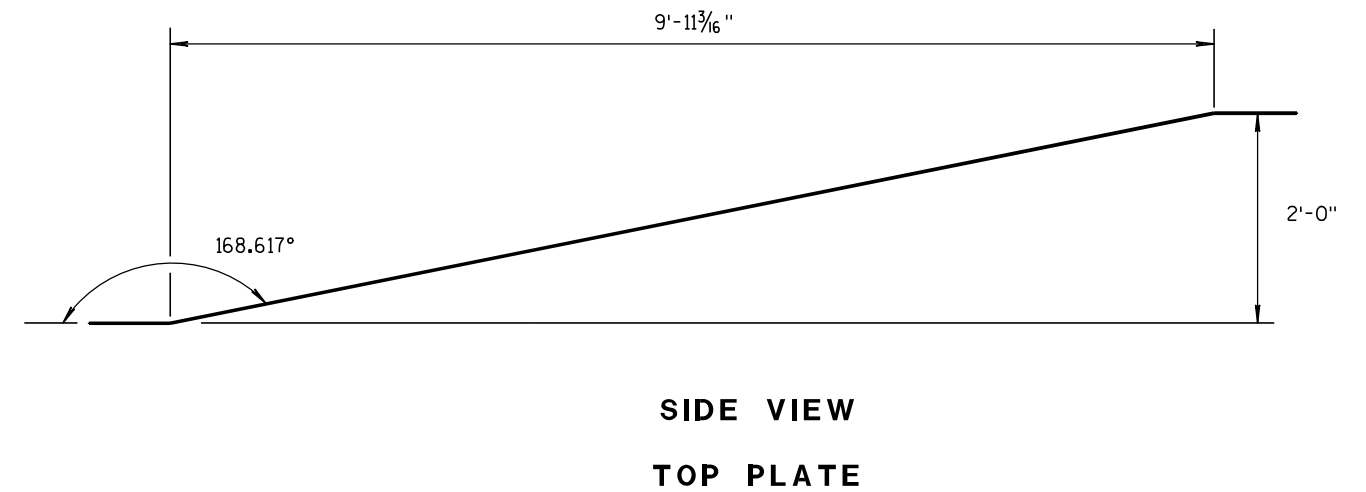
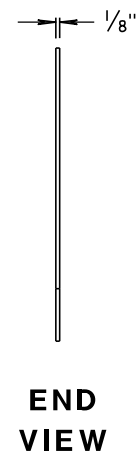
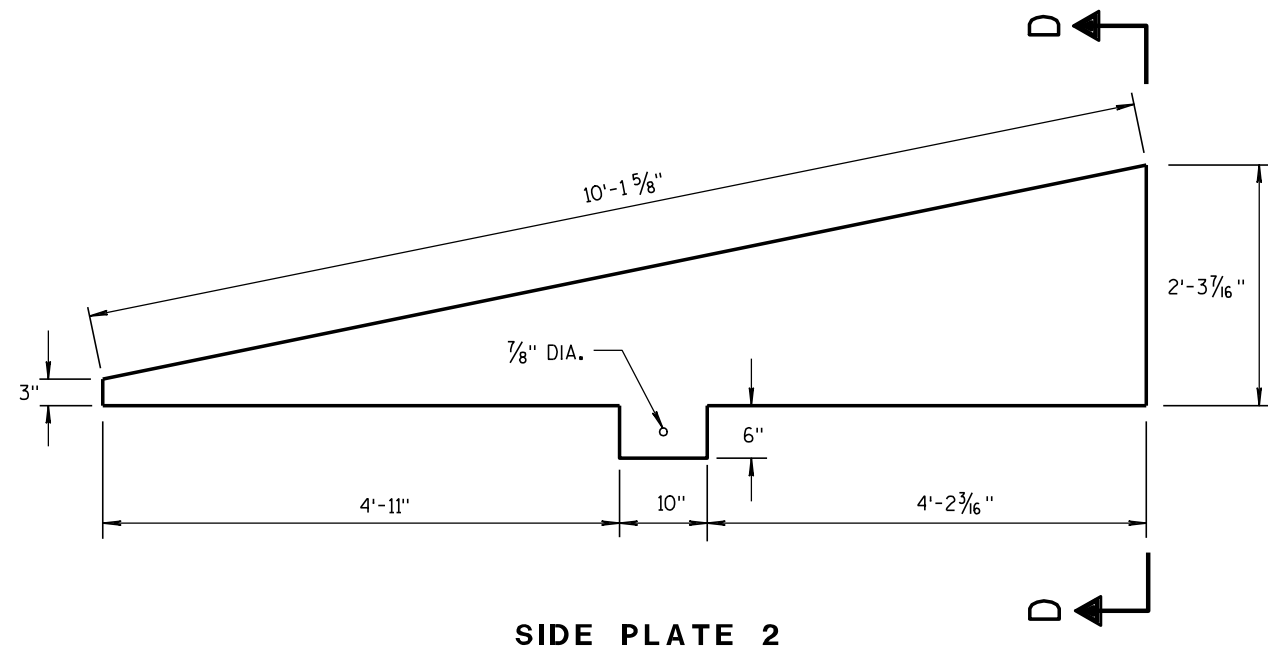
GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 56" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

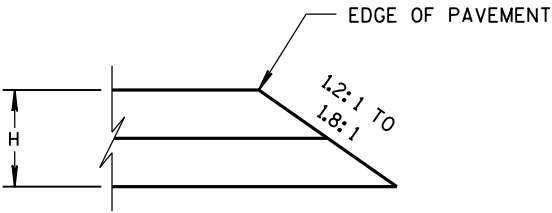
DATE

FHWA

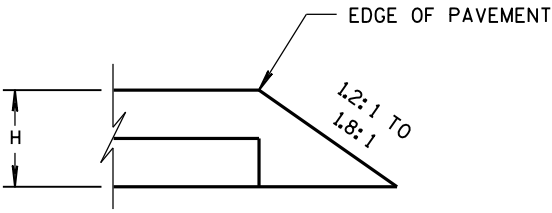
/S/ Jerry H. Zogg

ROADWAY STANDARD DEVELOPMENT

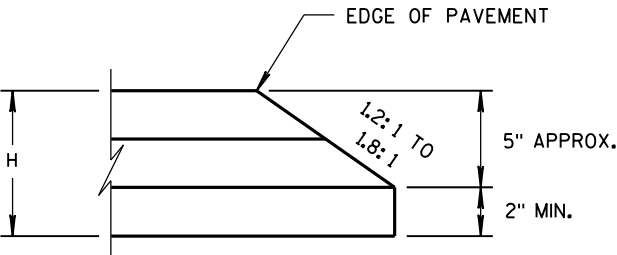
ENGINEER



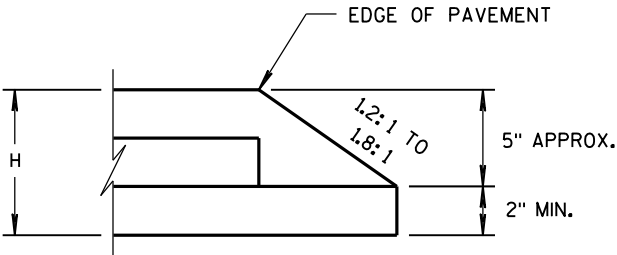
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

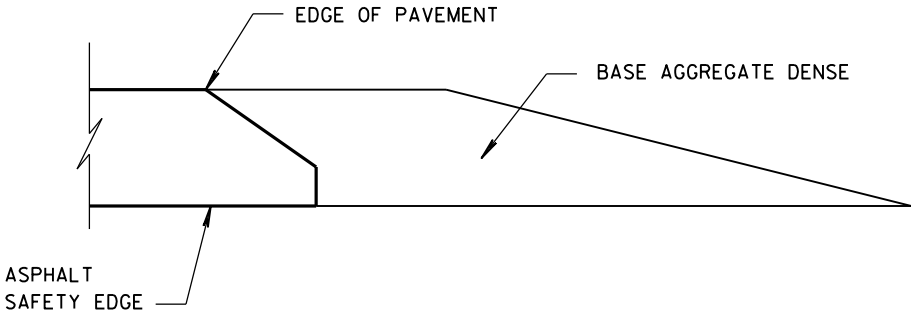


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS

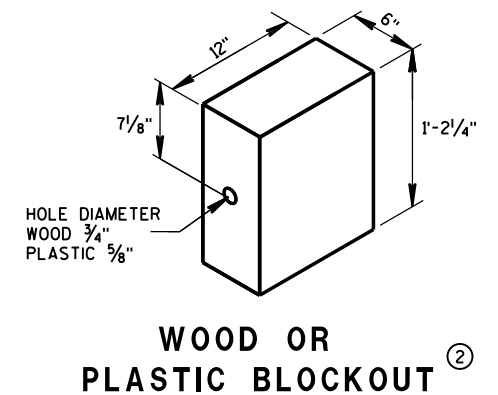
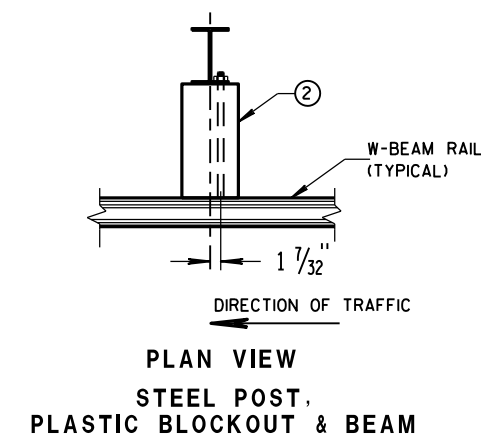
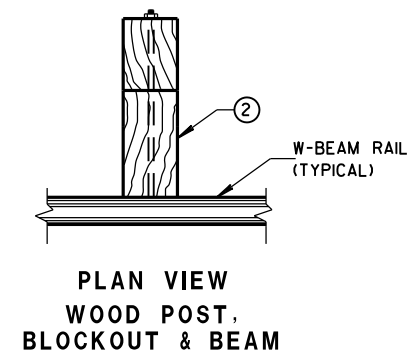
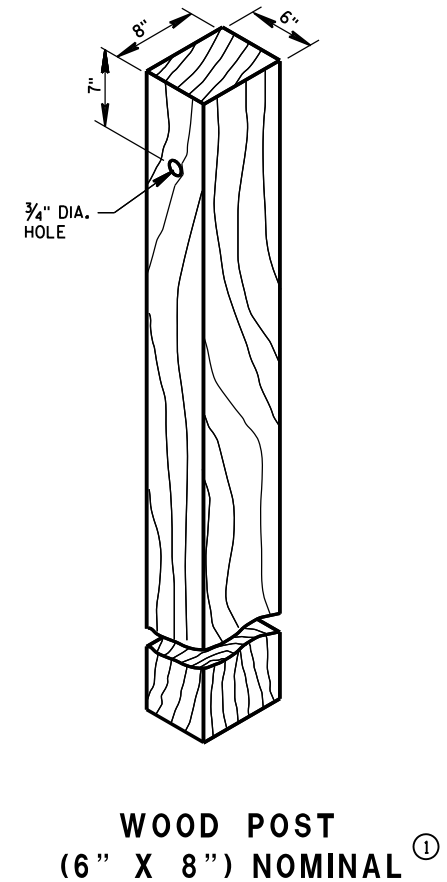
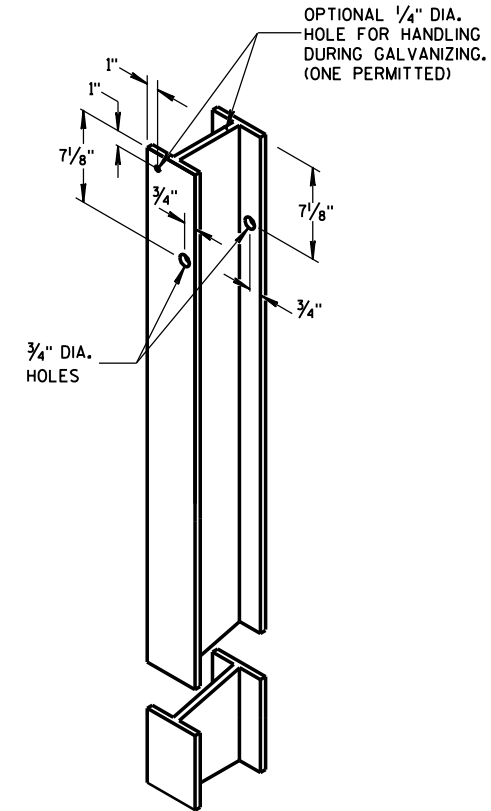
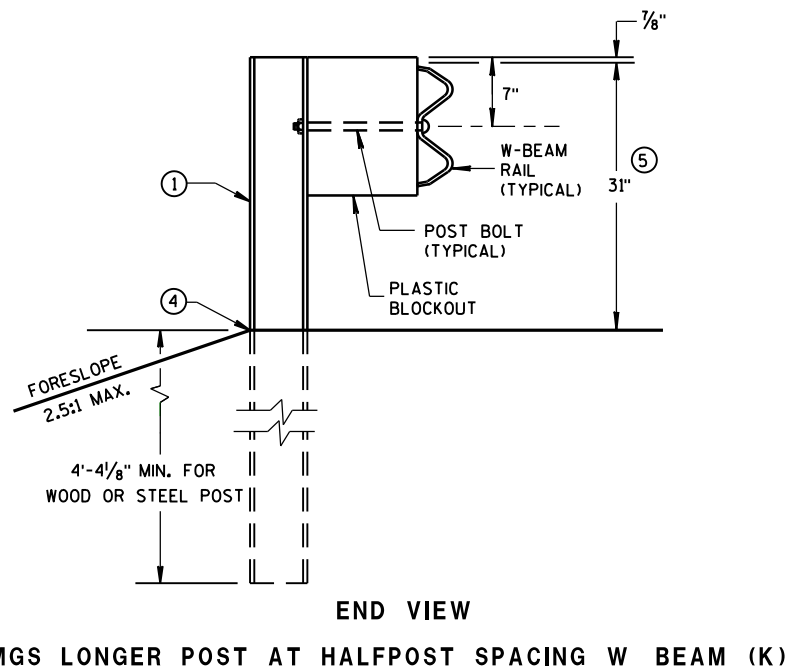
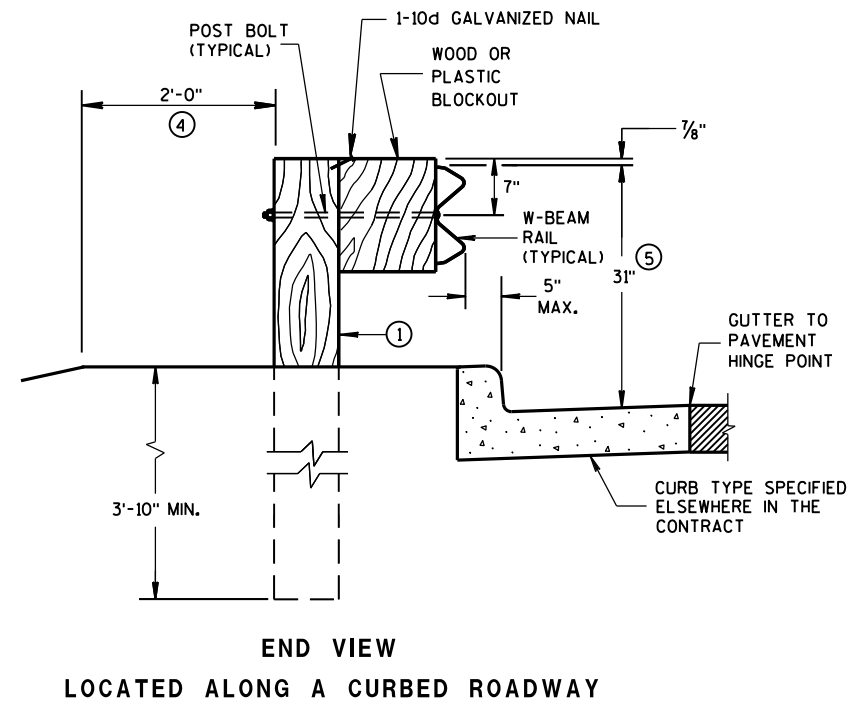
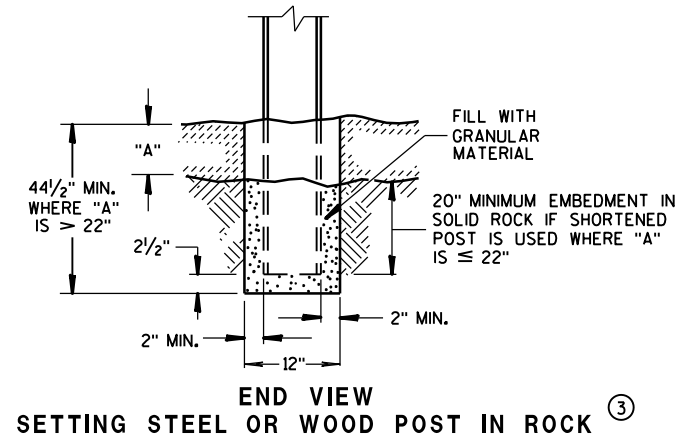


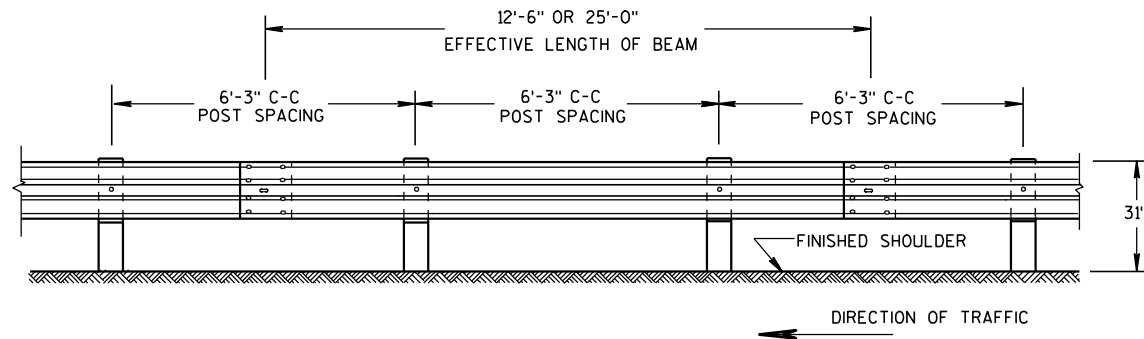
FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE _{SM}	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 11/30/2012	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER FHWA

6

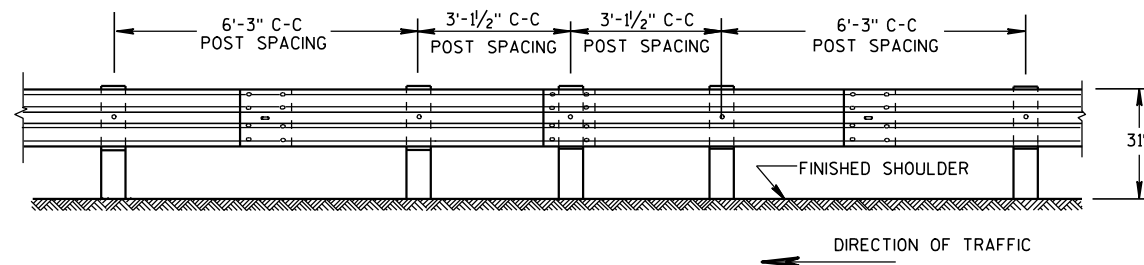
- S.D.D. 14 B 42-2a**





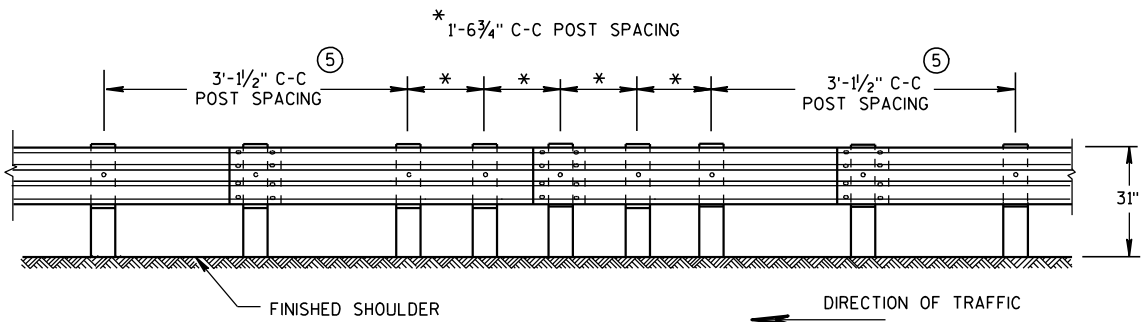
FRONT VIEW

POST SPACING STANDARD INSTALLATION



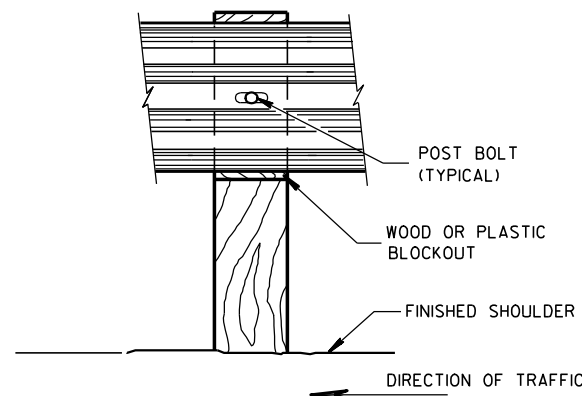
FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

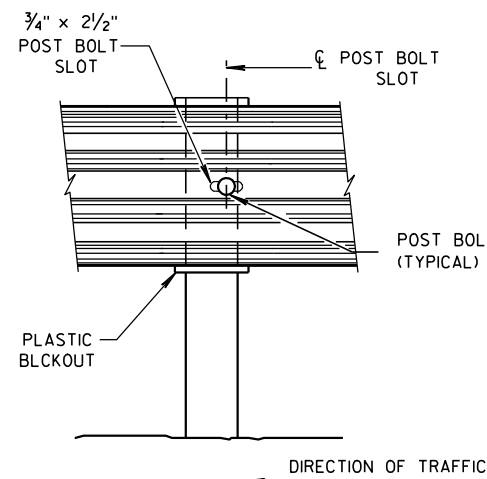


FRONT VIEW

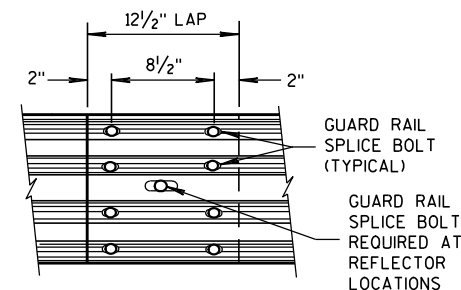
QUARTER POST SPACING (QS)



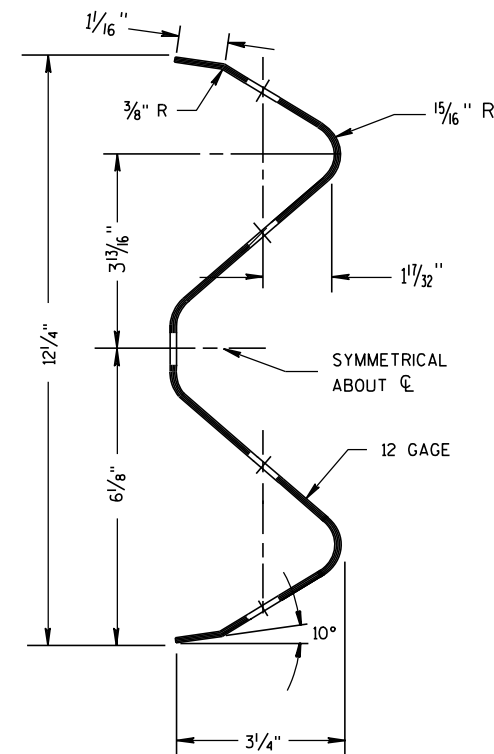
FRONT VIEW AT WOOD POST



FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE



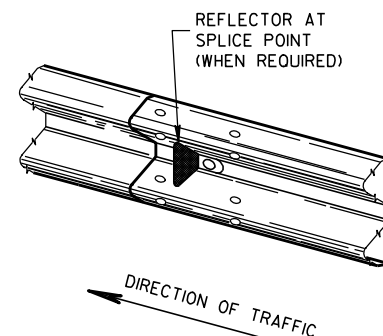
SECTION THRU W-BEAM RAIL

REFLECTOR SPACING

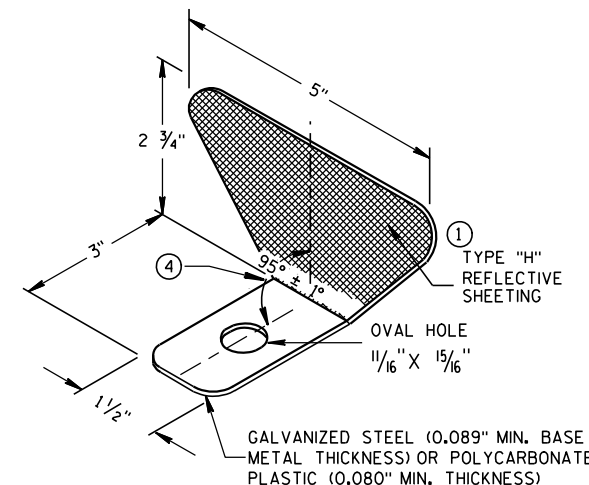
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ③	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ④	3
	> 200'	100' C-C	2	

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

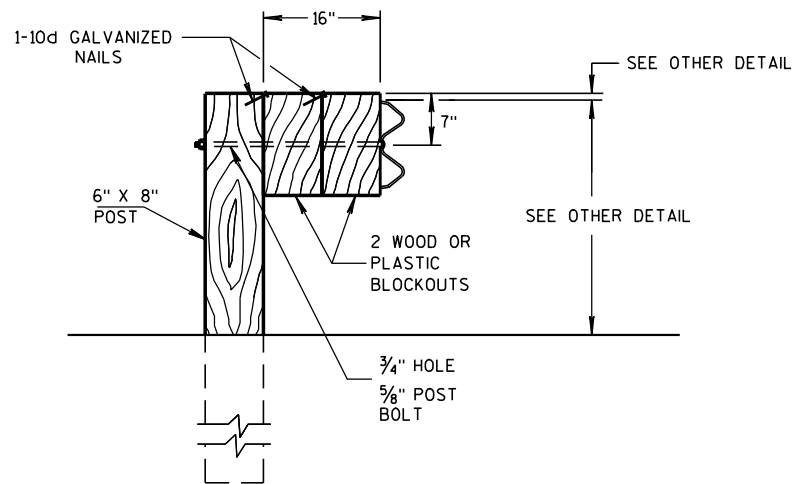


GENERAL NOTES

- ① PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
- ② DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
- ③ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
- ④ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
- ⑤ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

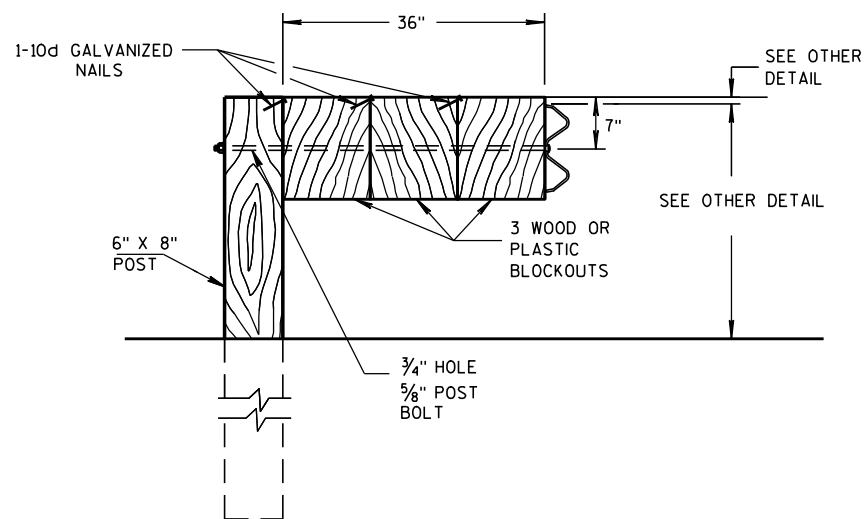
POST BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



DETAIL FOR 16" BLOCKOUT DEPTH

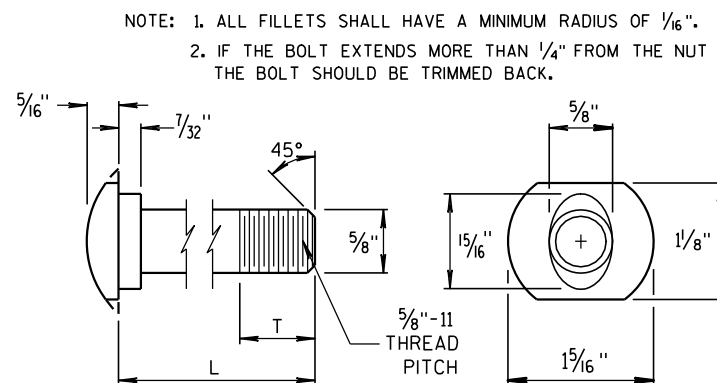
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



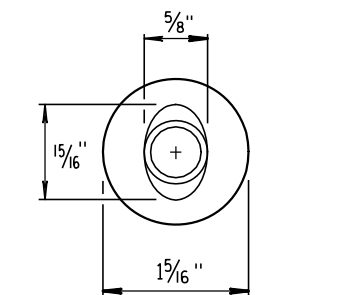
DETAIL FOR 36" BLOCKOUT DEPTH

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

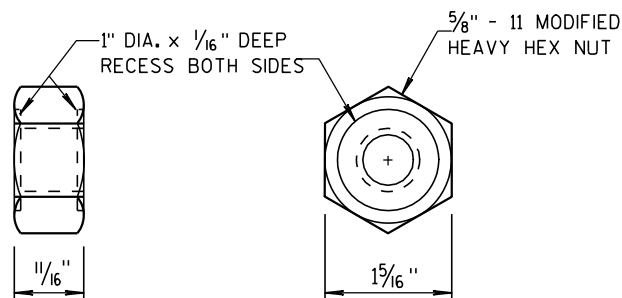
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



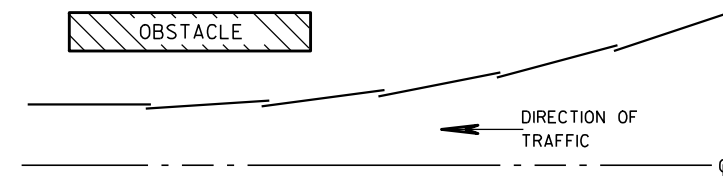
POST BOLT TABLE



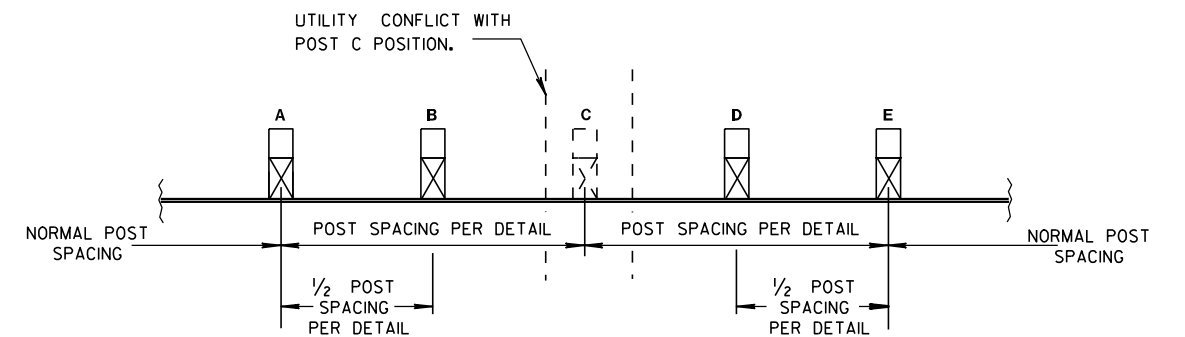
ALTERNATE BOLT HEAD



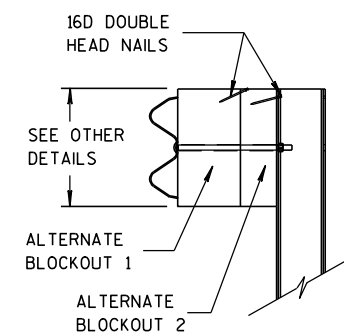
POST BOLT AND RECESS NUT



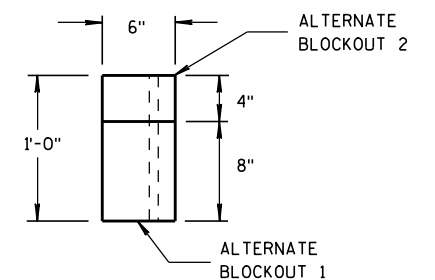
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

GENERAL NOTES

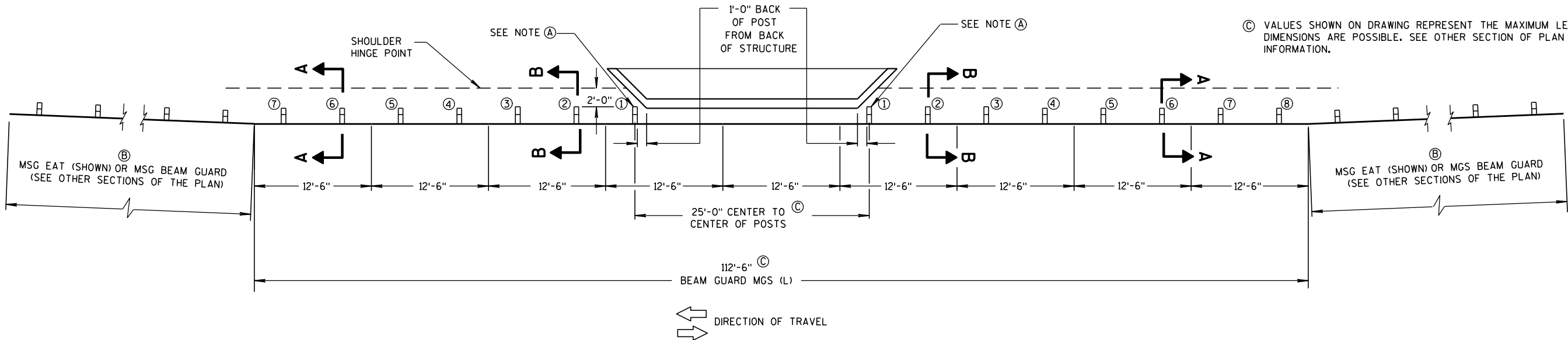
POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

SEE SDD 14 B 42 FOR MORE DETAILS.

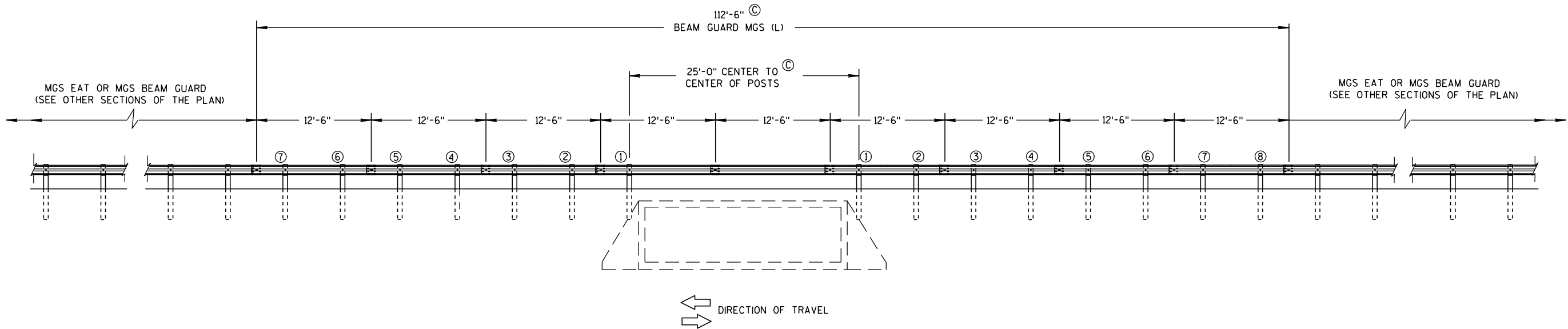
Ⓐ THE MINIMUM OFFSET FROM BACK OF POST TO BACK OF STRUCTURE IS ZERO.
LARGER OFFSETS ARE ACCEPTABLE.

Ⓑ FLARE FOR MGS EAT SHOWN, IF INSTALLING MGS NO FLARE NEEDED.

Ⓒ VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER
DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE
INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) TWO-WAY TRAFFIC

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

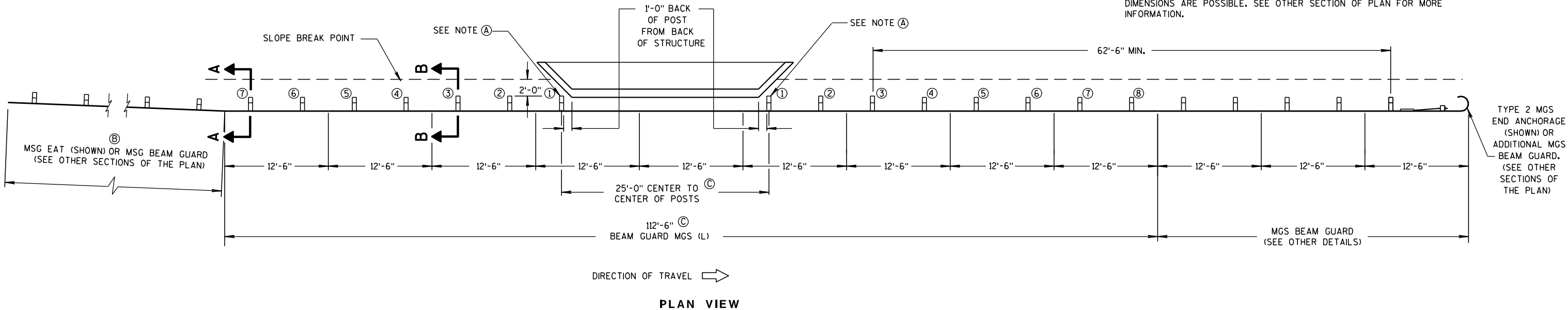
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

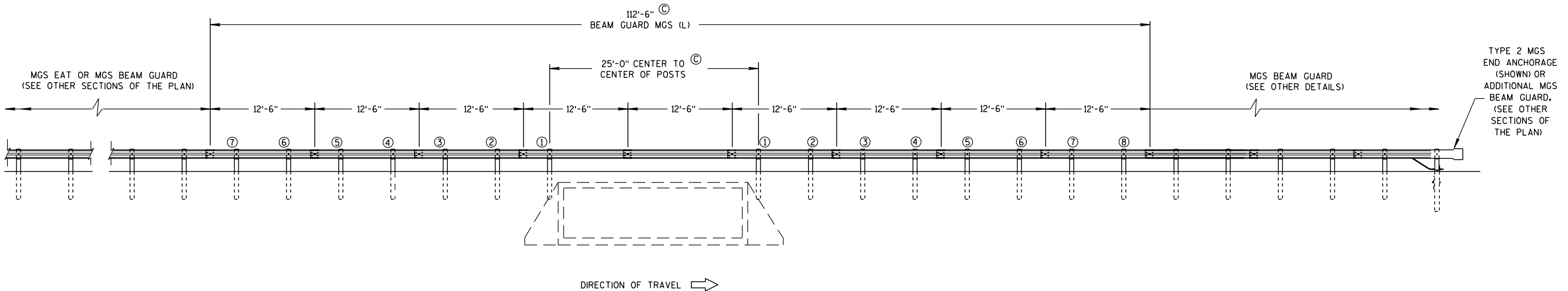
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SEE SDD 14 B 42 FOR MORE DETAILS.

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DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE
INFORMATION.



PLAN VIEW

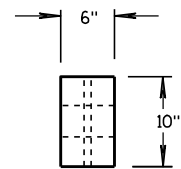


ELEVATION VIEW

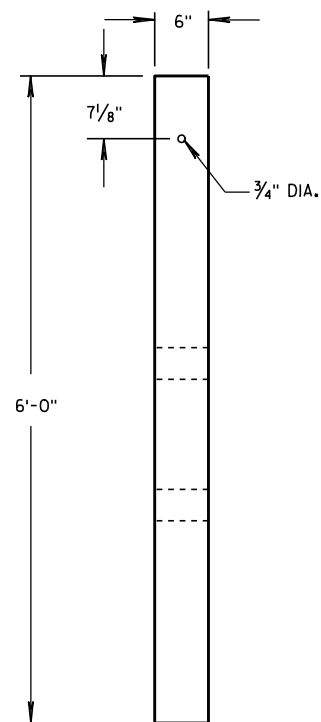
MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

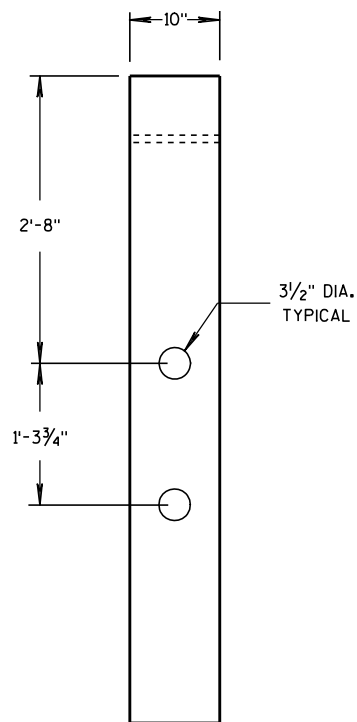


PLAN VIEW

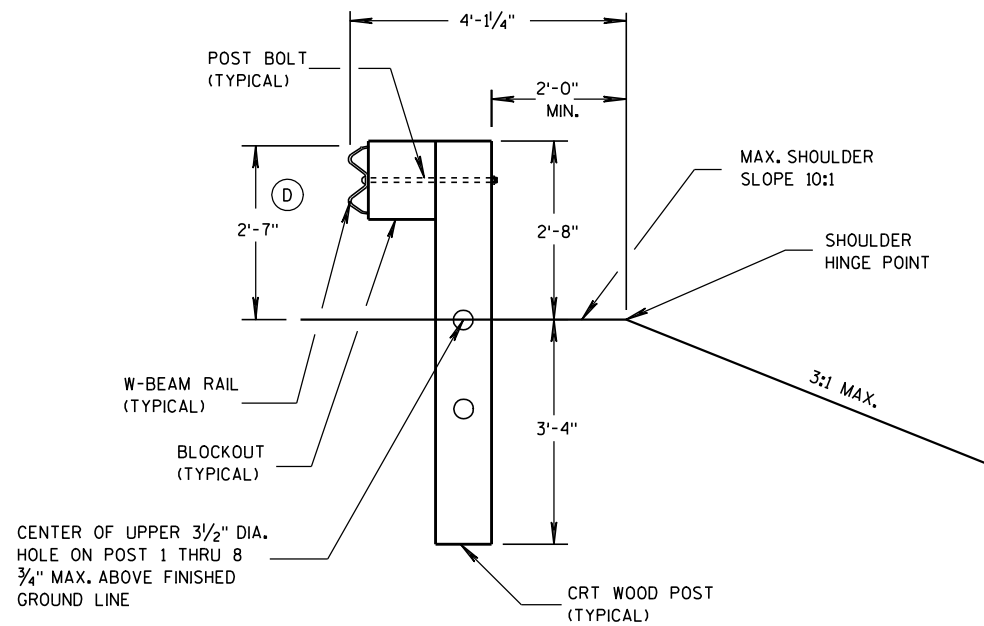


FRONT VIEW

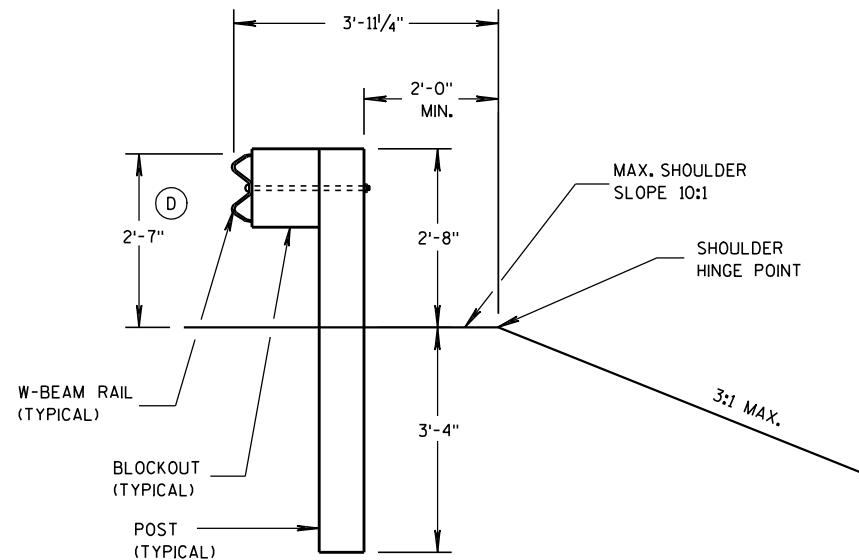
CRT WOOD POST



SIDE VIEW

SECTION B-B
POSTS NO. 1-3

SEE OTHER DETAILS

SECTION A-A
POSTS NO. 4-8

SEE OTHER DETAILS

GENERAL NOTES

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

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

DATE

FHWA

/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.
- (D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.
- (F) 1/2" DIAMETER X 3" LONG LAG BOLT AND WASHER.
- (H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.
- (I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

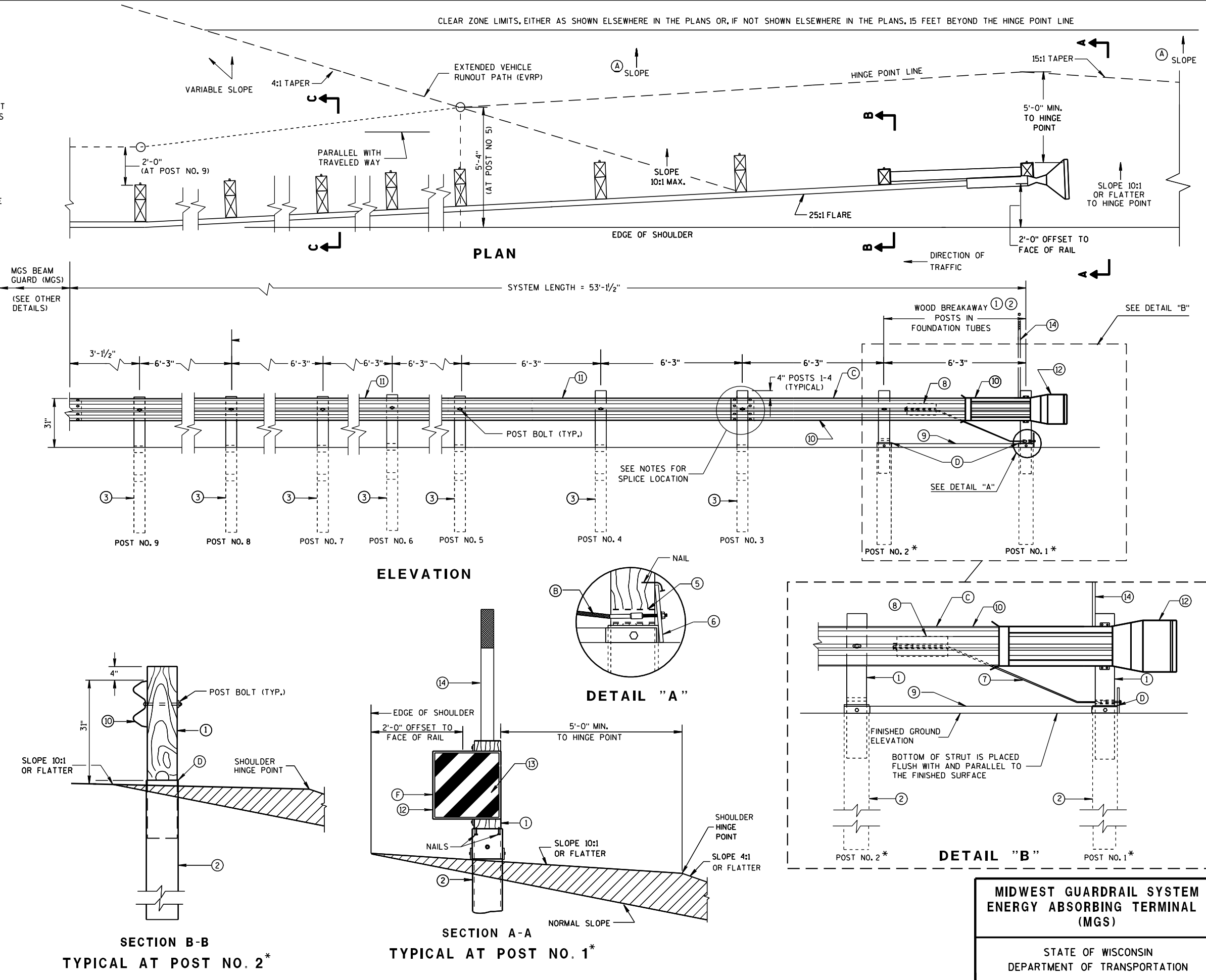
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

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

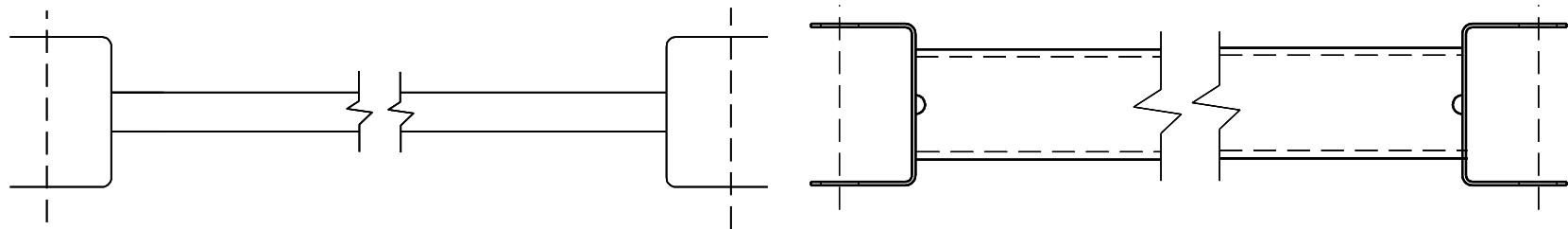
PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CENTER OF THE UPPER 3/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE ($\pm \frac{3}{4}$ ")

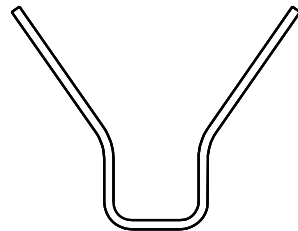
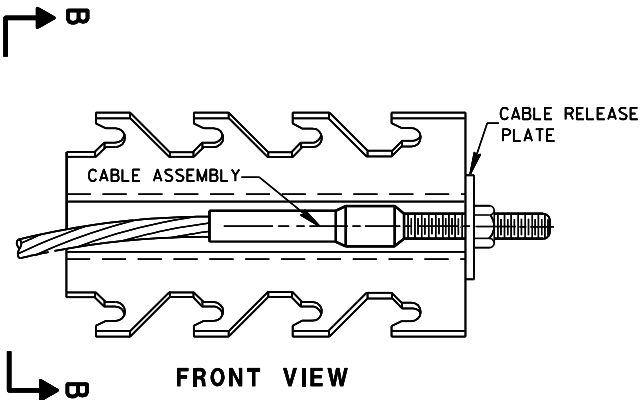


MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

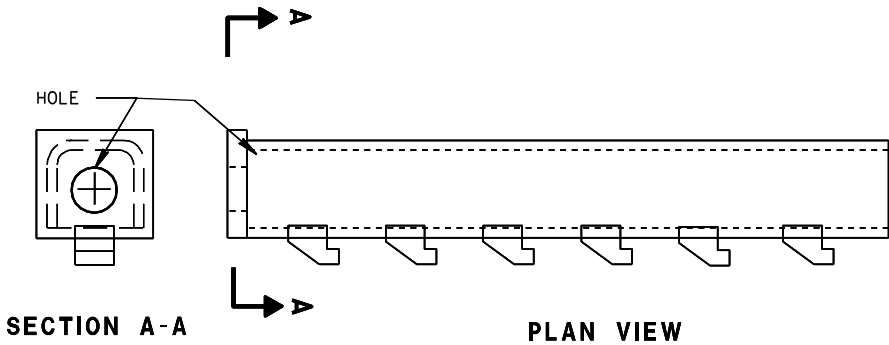
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



9 H
GENERIC GROUND STRUT

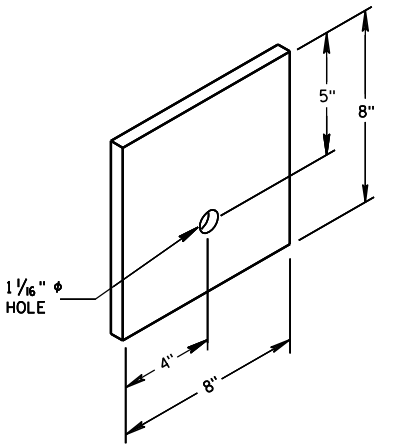


SECTION B-B
8 H
GENERIC ANCHOR CABLE BOX



BILL OF MATERIALS

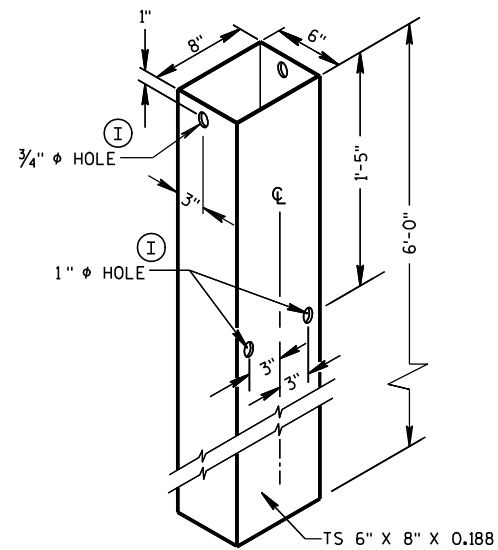
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND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



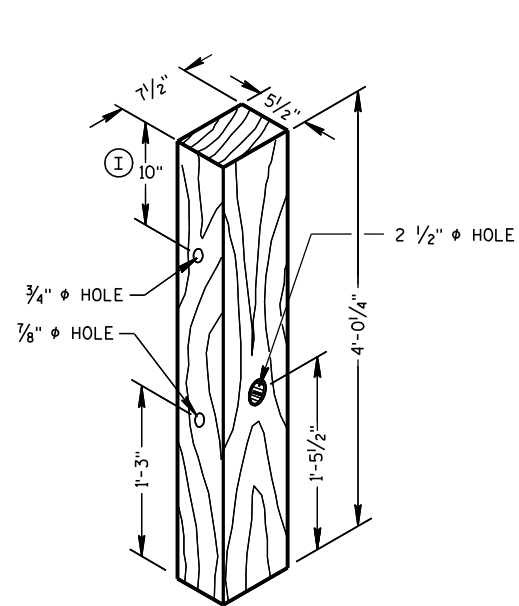
6
BEARING PLATE

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

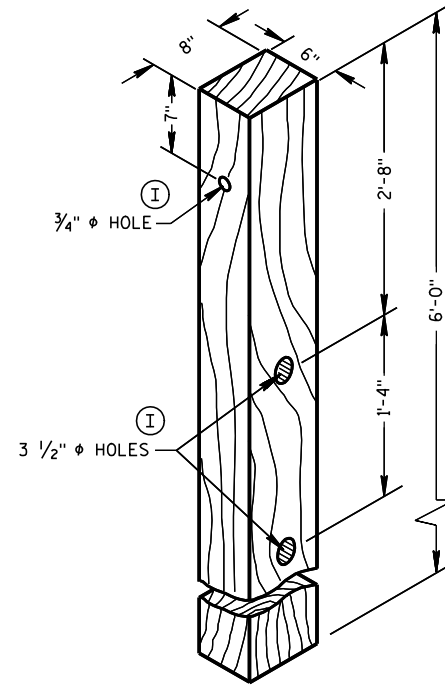
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



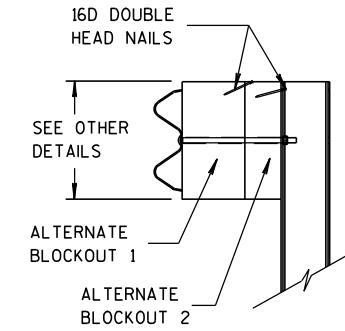
FOUNDATION TUBE^②



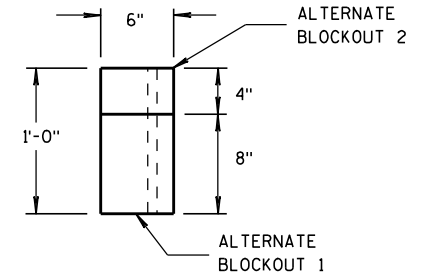
WOOD BREAKAWAY POST^①



WOOD CRT POST^③

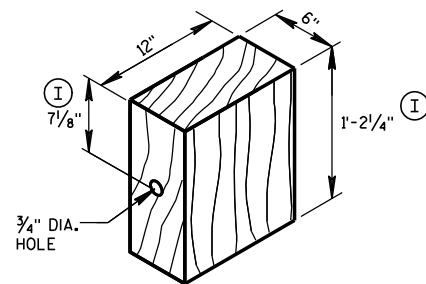


SIDE VIEW



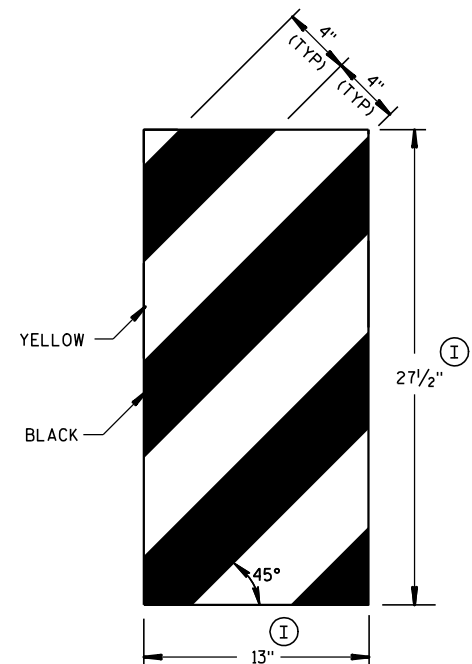
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

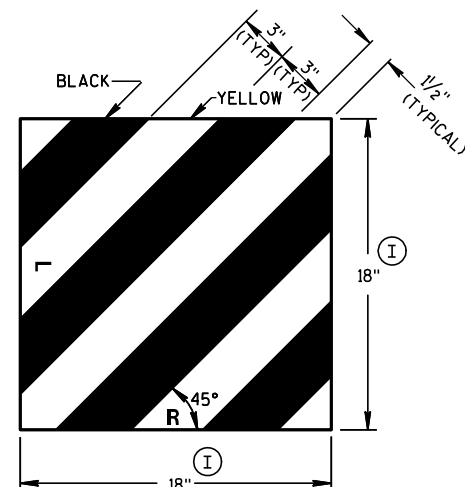


WOOD BLOCKOUT^④
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

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



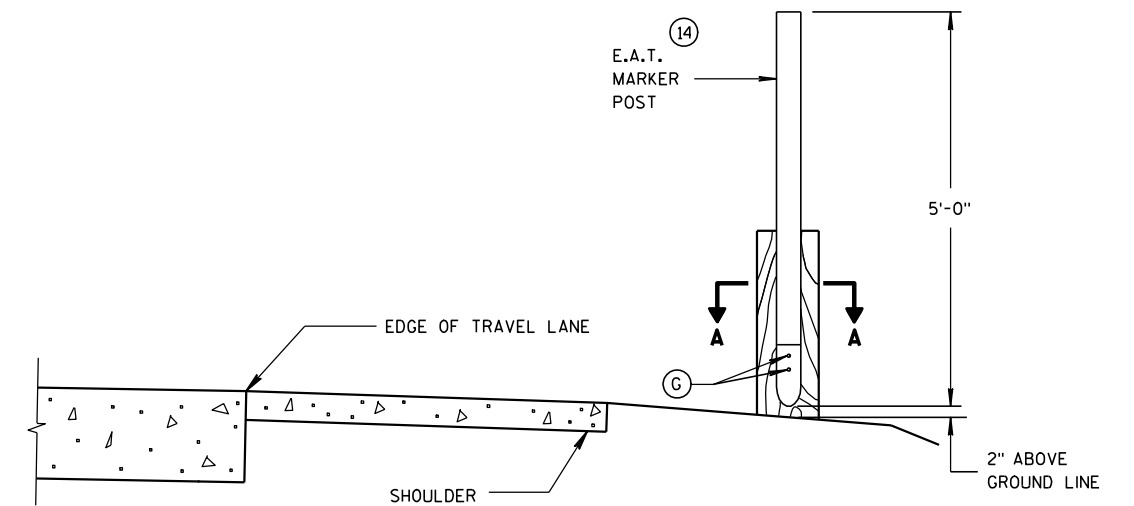
GENERIC REFLECTIVE SHEETING^⑬ ^④



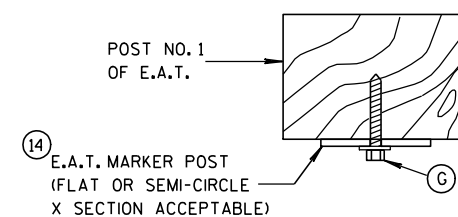
FRONT VIEW

SIDE VIEW

E.A.T. MARKER POST^⑭



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



SECTION A-A

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

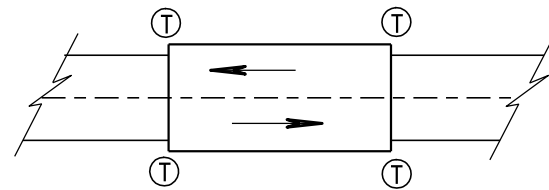
APPROVED

5/23/2011

DATE

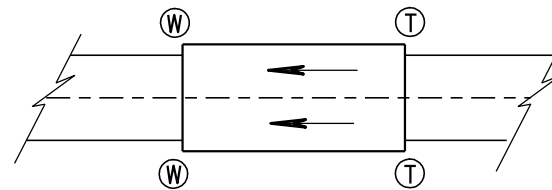
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



TWO WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION



ONE WAY TRAFFIC

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

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

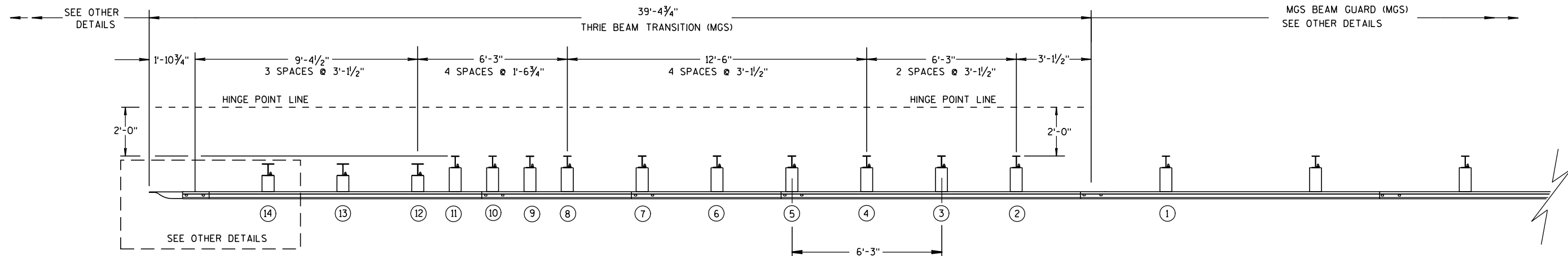
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

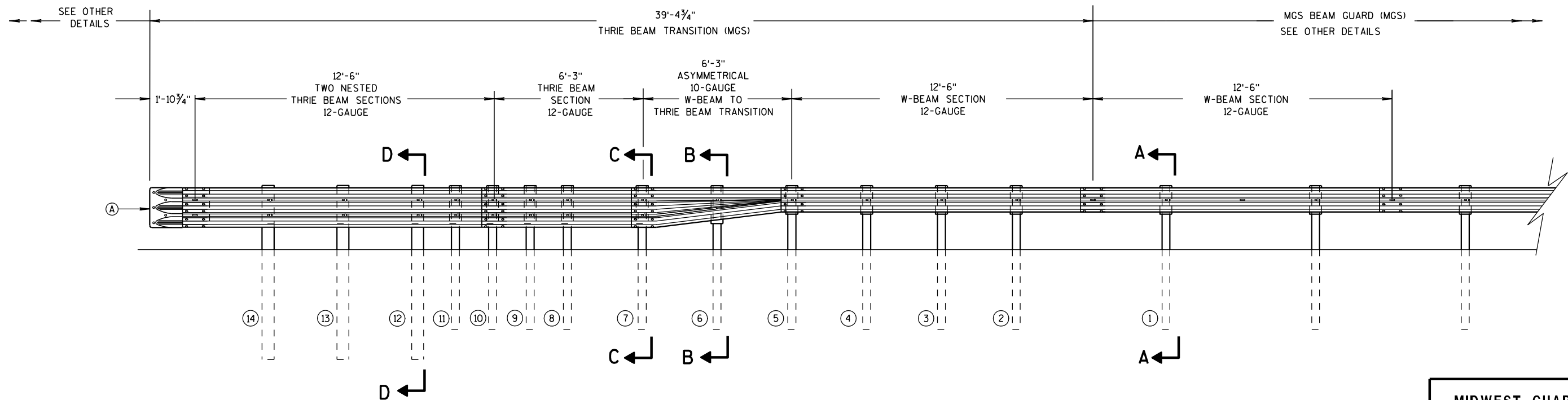
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

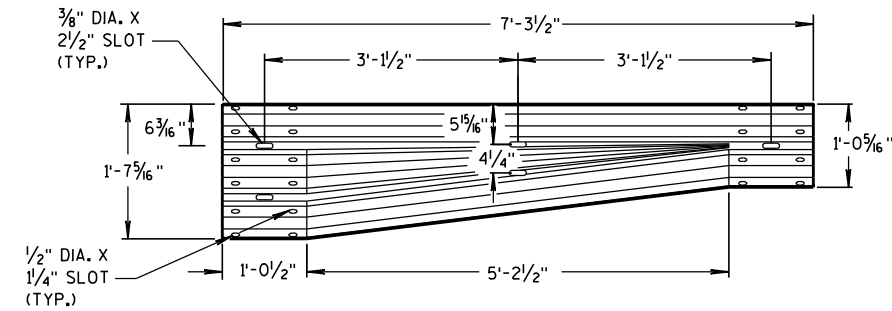
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

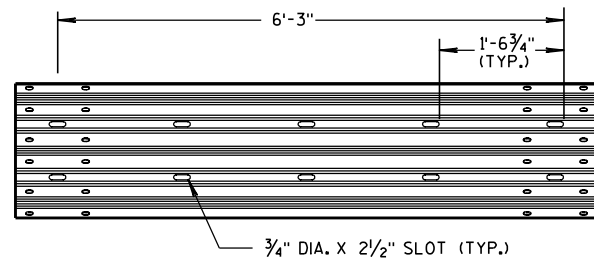
S.D.D. 14 B 45-3b



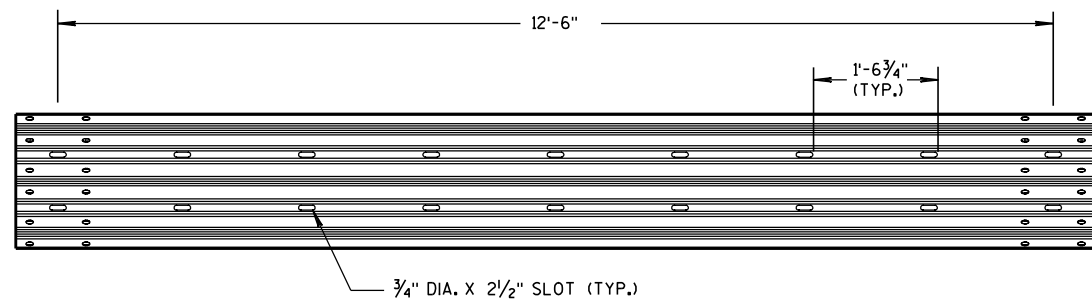
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



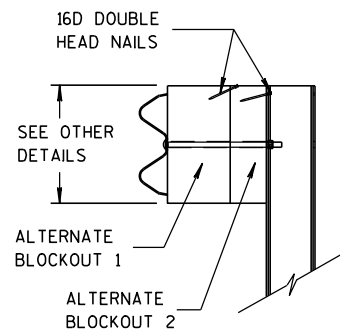
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION

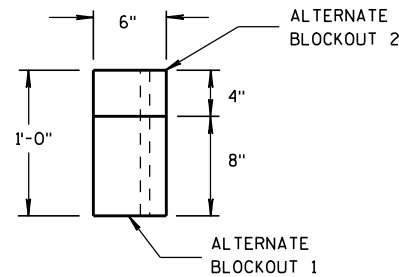


12'-6" THRIE BEAM SECTION

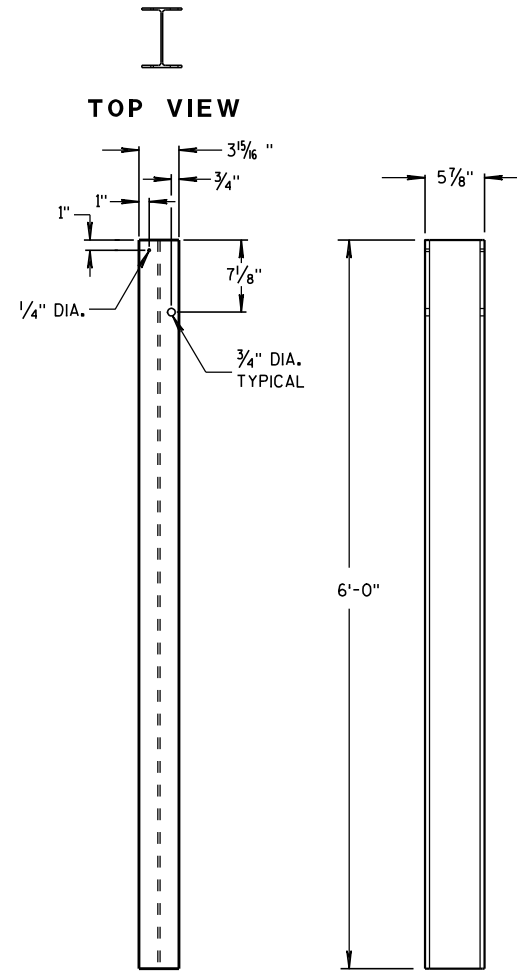


SIDE VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



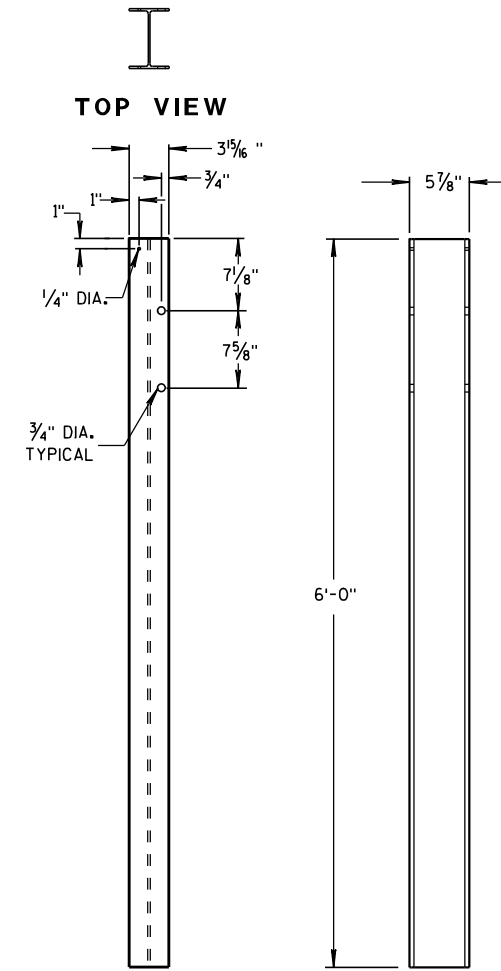
TOP VIEW



FRONT VIEW

SIDE VIEW

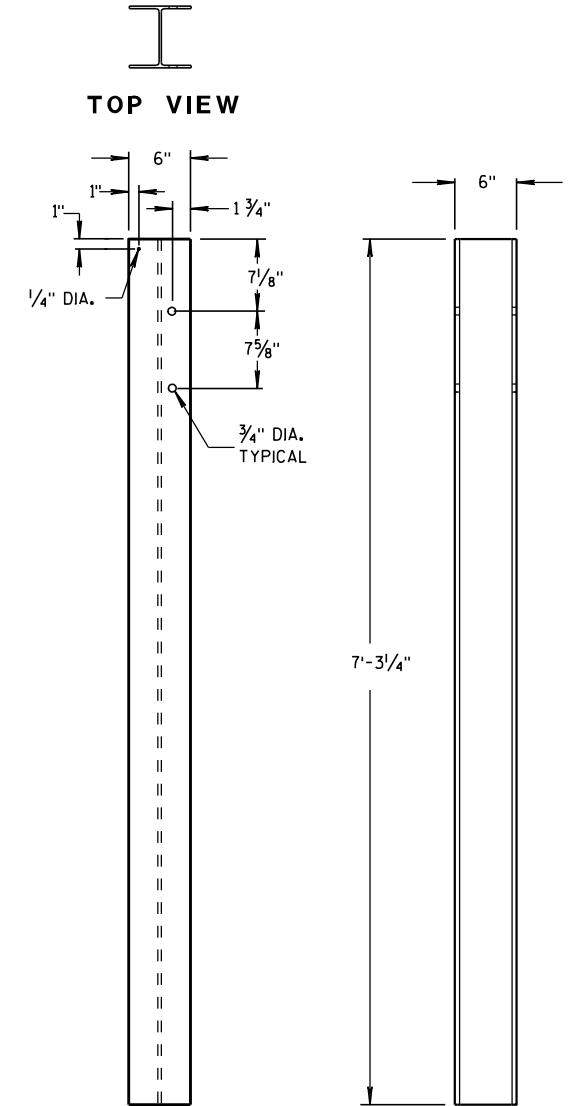
STEEL POSTS 1-5



FRONT VIEW

SIDE VIEW

STEEL POSTS 6-11



FRONT VIEW

SIDE VIEW

STEEL POSTS 12-14

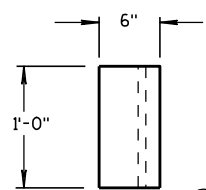
STEEL POST SIZES

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

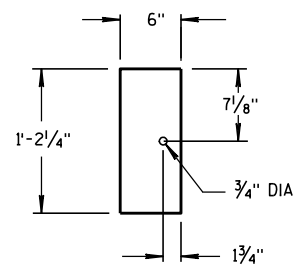
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

① WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

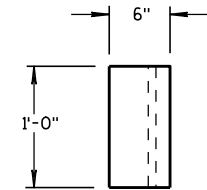


TOP VIEW

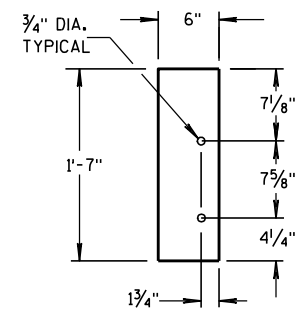


FRONT VIEW

BLOCKOUT POSTS 1-5

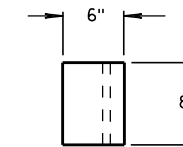


TOP VIEW

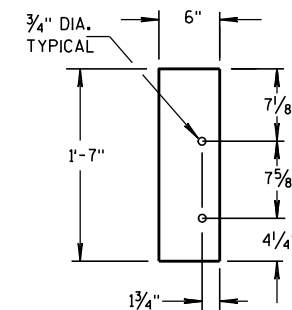


FRONT VIEW

BLOCKOUT POSTS 6-11

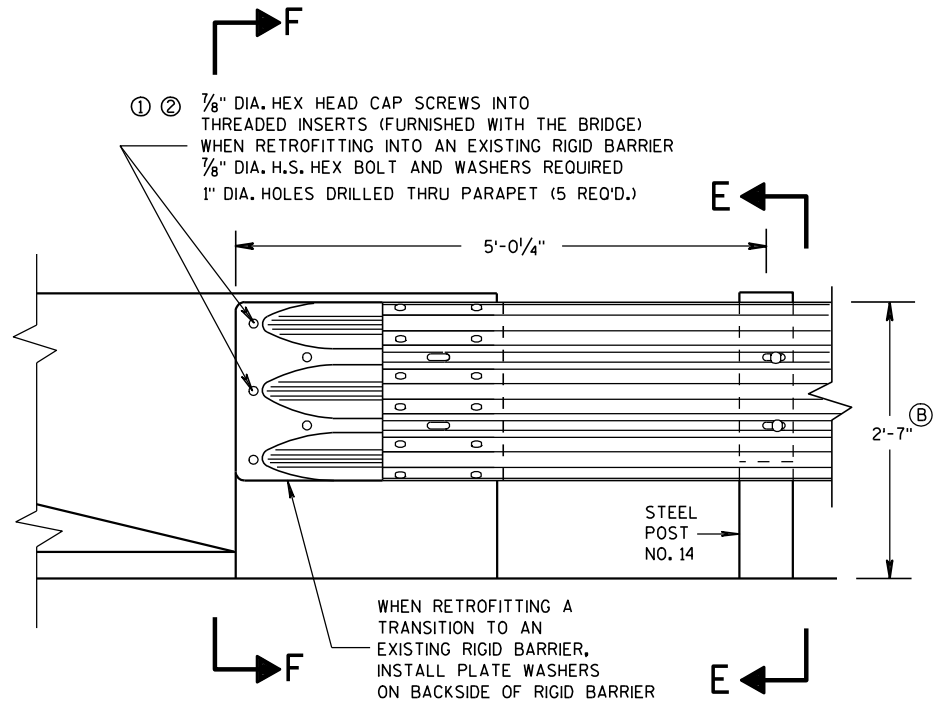


TOP VIEW

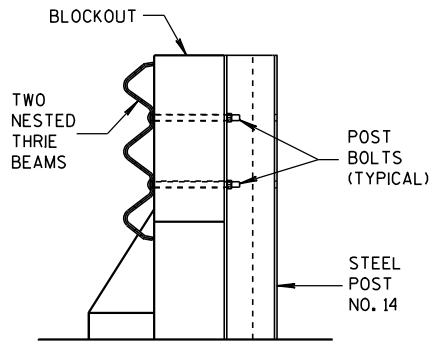


FRONT VIEW

BLOCKOUT POSTS 12-14



FRONT VIEW
THRIE BEAM CONNECTION TO BRIDGE
PARAPET WITH SQUARE ENDS

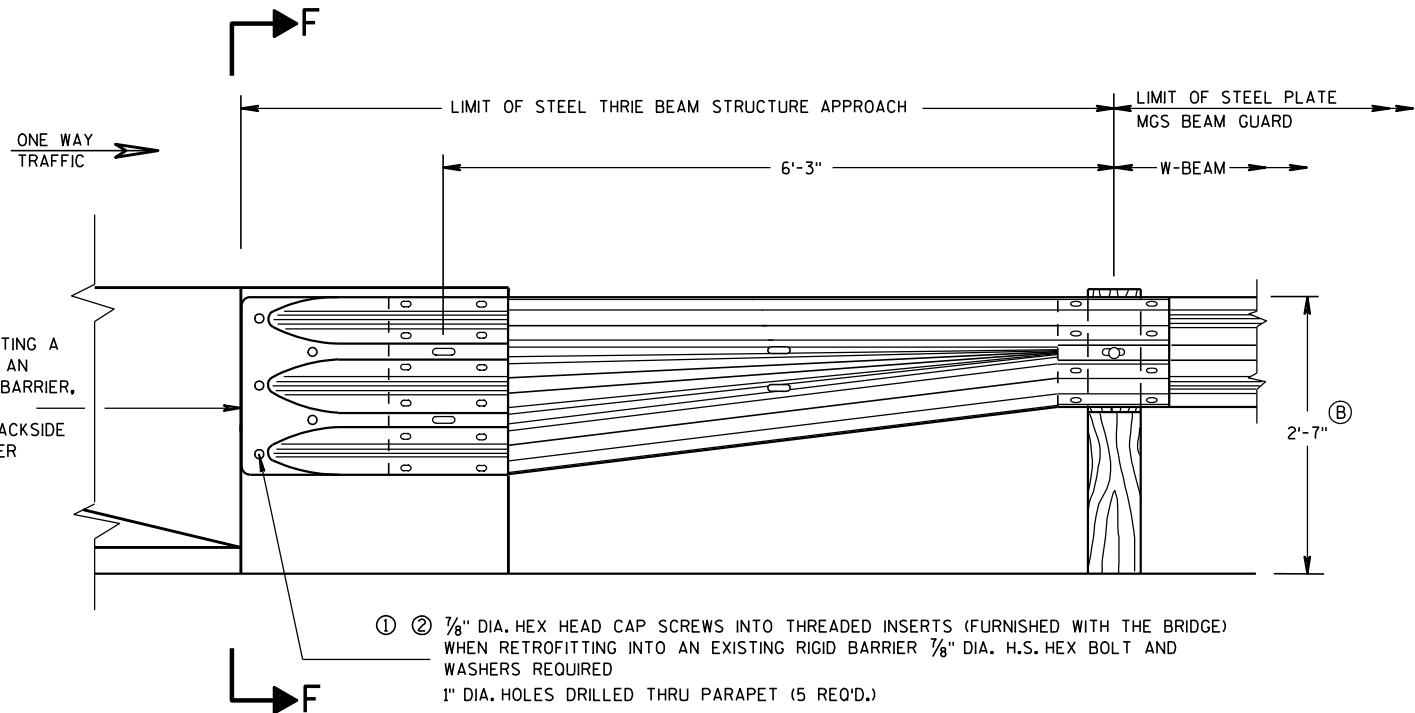


SECTION E-E

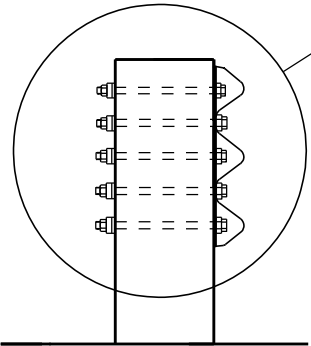
GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

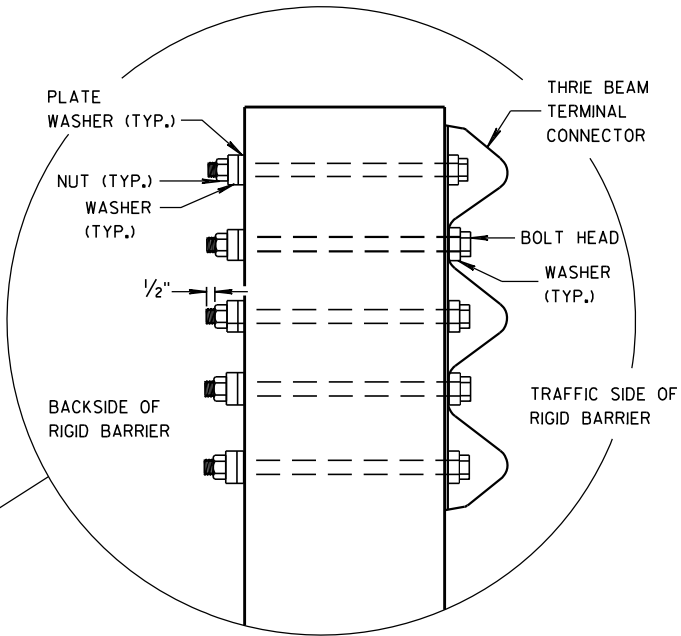
- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS, BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- (B) TOLERANCE FOR TOP OF BEAM IS ± 1".



FRONT VIEW
W BEAM TRANSITION AND CONNECTION TO
BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION F-F

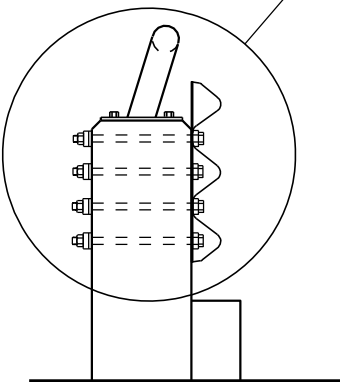
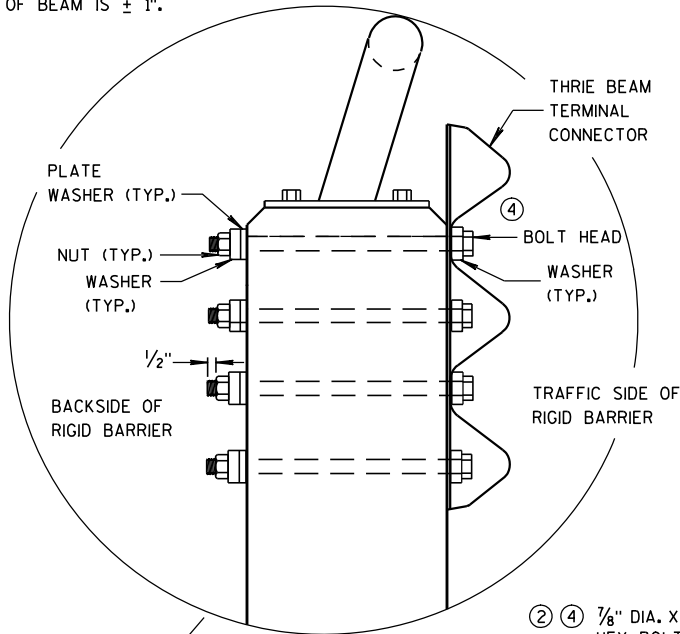


MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/31/2012 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

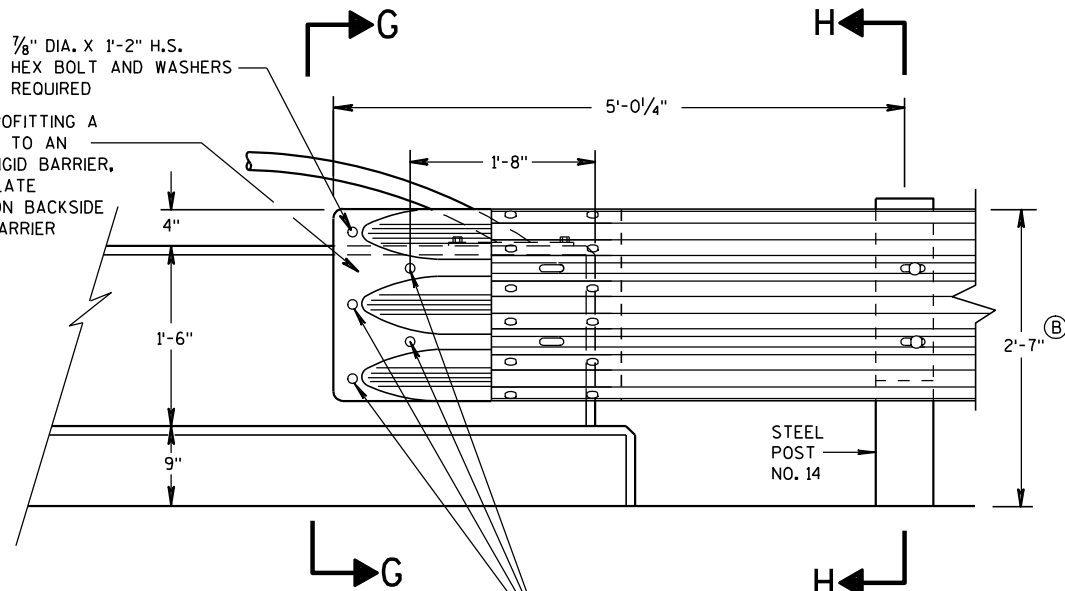
- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X $\frac{5}{8}$ " THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 $\frac{1}{2}$ ". BLOCK IS INCIDENTAL TO THE CONTRACT.
- ④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.
- Ⓑ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.



SECTION G-G

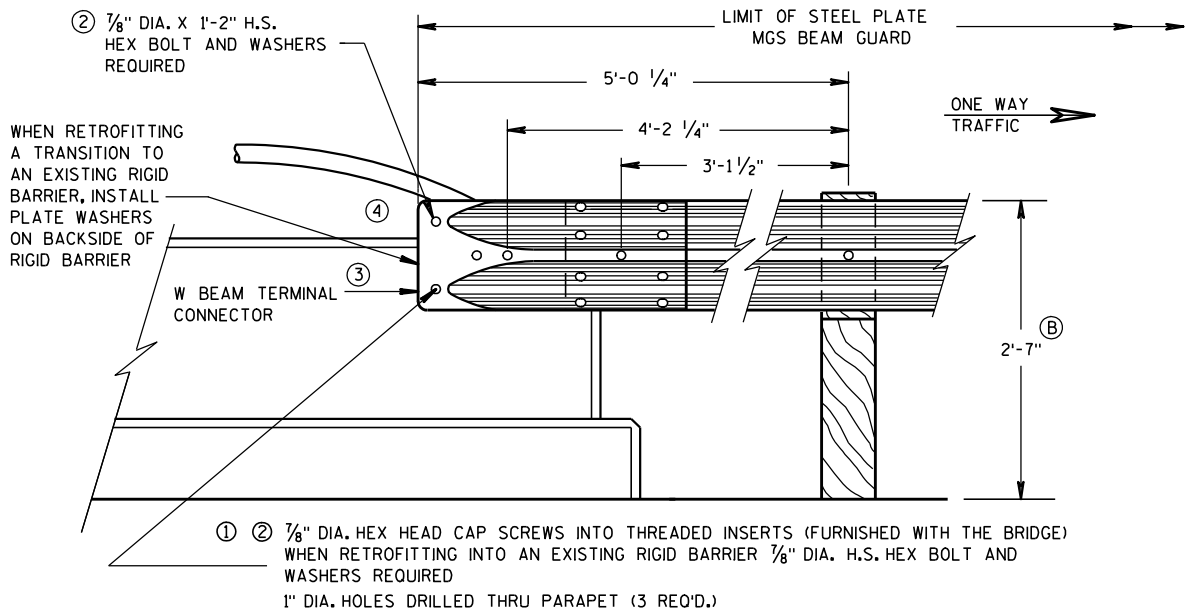
- ① ② $\frac{7}{8}$ " DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER $\frac{7}{8}$ " DIA. H.S. HEX BOLT AND WASHERS REQUIRED 1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

- ② ④ $\frac{7}{8}$ " DIA. X 1'-2" H.S. HEX BOLT AND WASHERS REQUIRED
- WHEN RETROFITTING A TRANSITION TO AN EXISTING RIGID BARRIER, INSTALL PLATE WASHERS ON BACKSIDE OF RIGID BARRIER

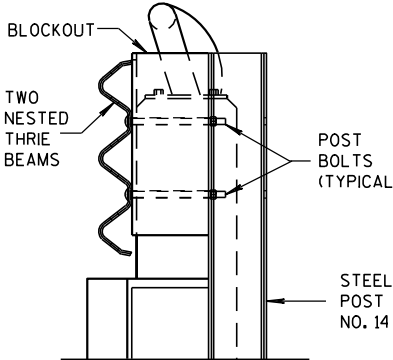


FRONT VIEW

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW
W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

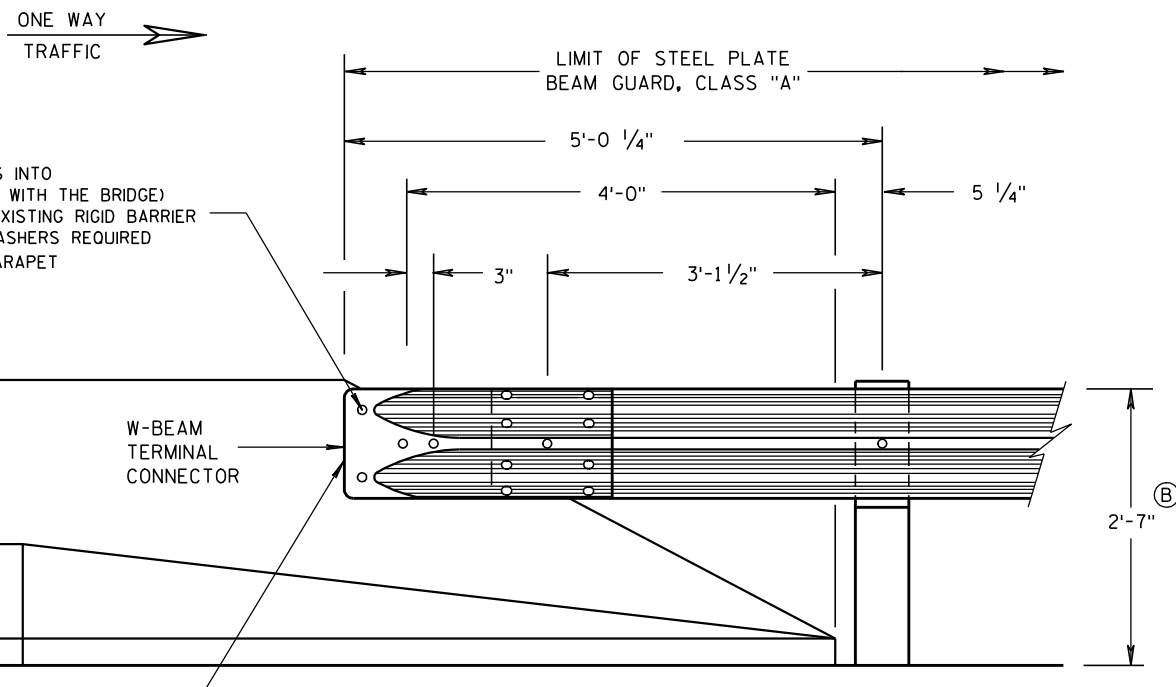


SECTION H-H

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-31-2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



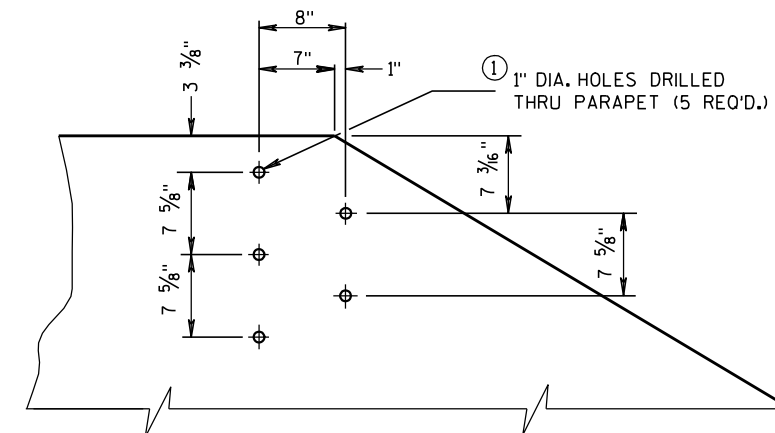
FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

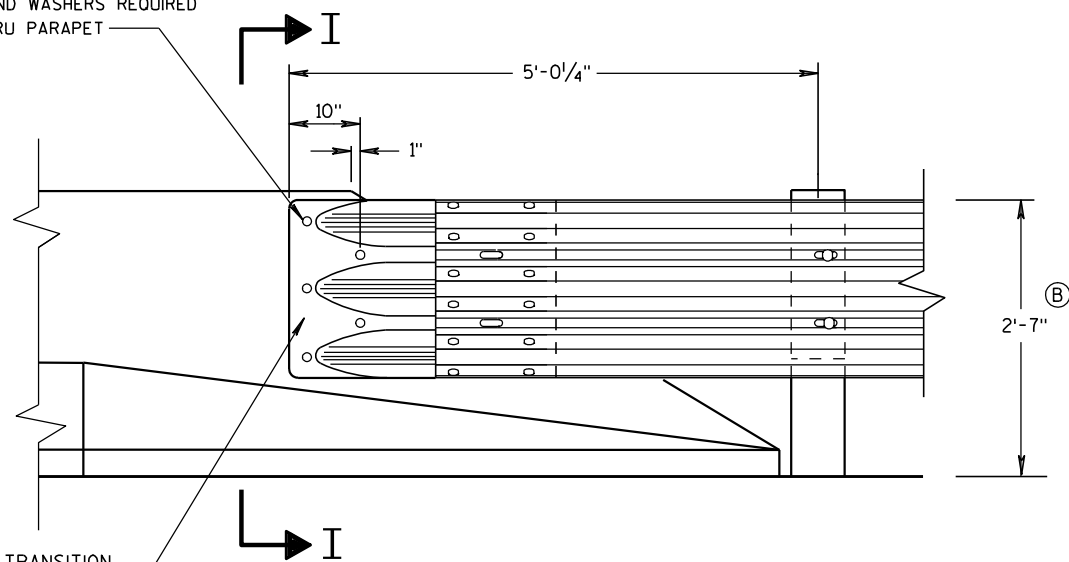
GENERAL NOTES

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.



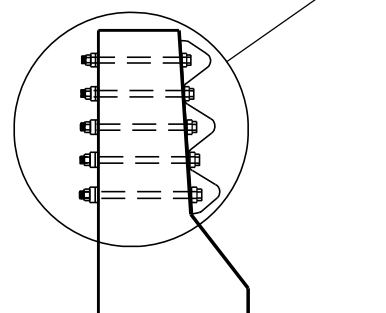
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION

- ① ② 1/8" DIA. HEX HEAD CAP SCREWS INTO
THREADED INSERTS (FURNISHED WITH THE BRIDGE)
WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
1/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET
(5 REQ'D.)

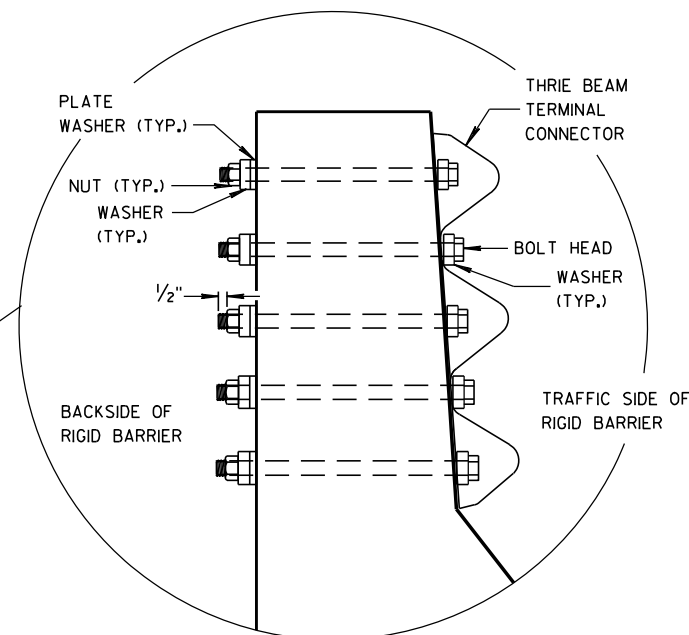


FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS



SECTION I-I

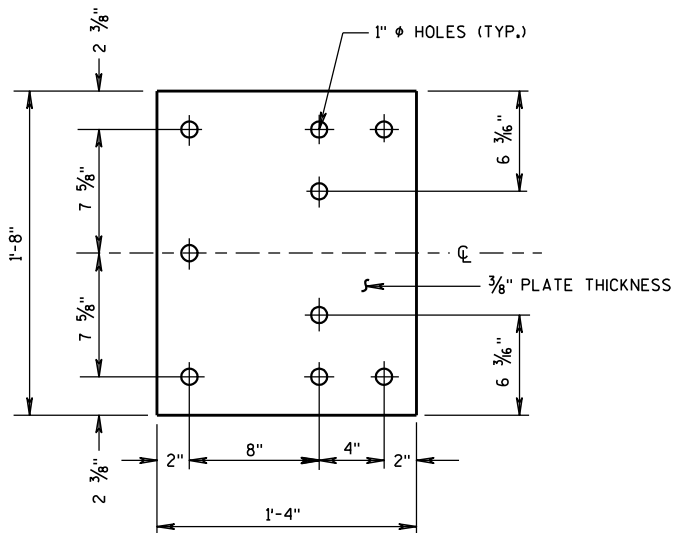


MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

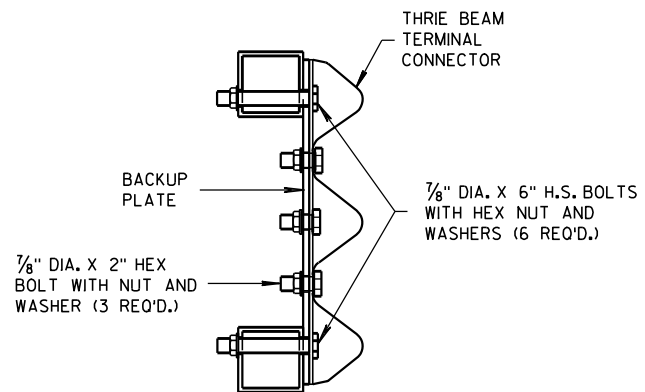
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
FHWA

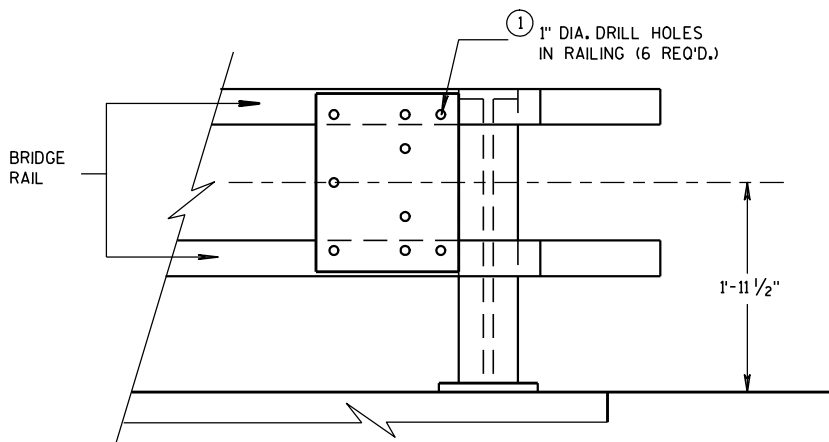
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



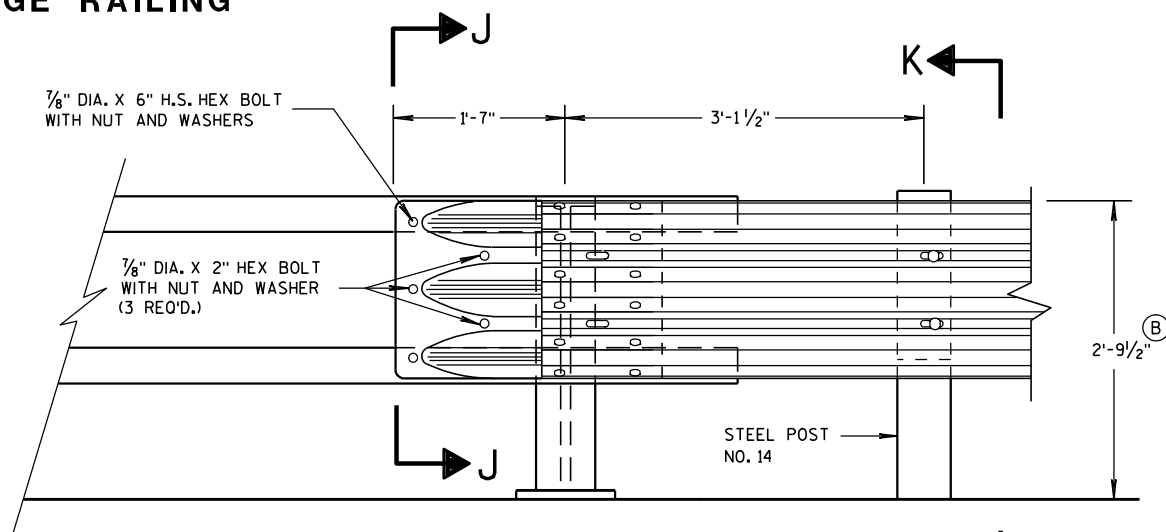
BACK-UP PLATE DETAIL



SECTION J-J

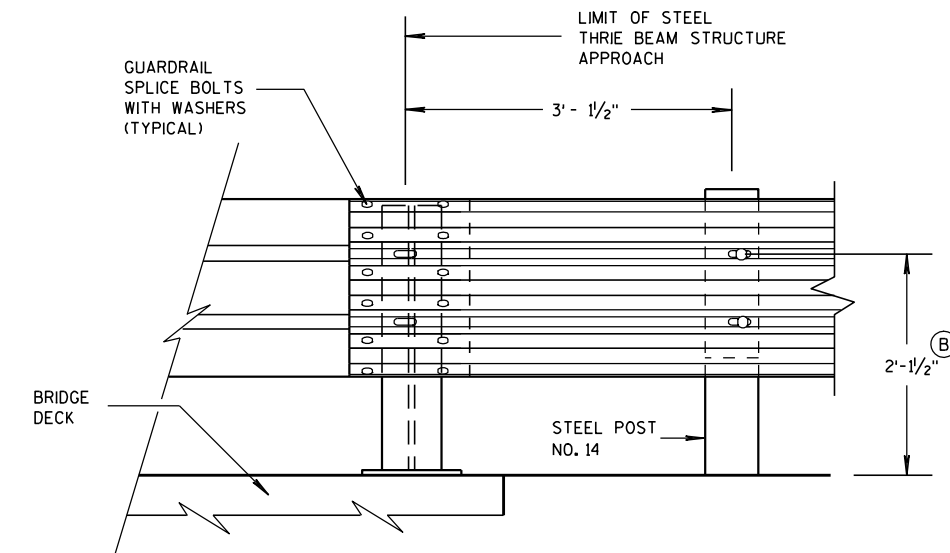


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



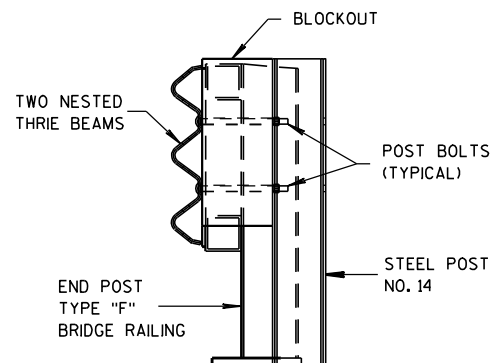
FRONT VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



SECTION K-K

GENERAL NOTES

- ① DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.

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

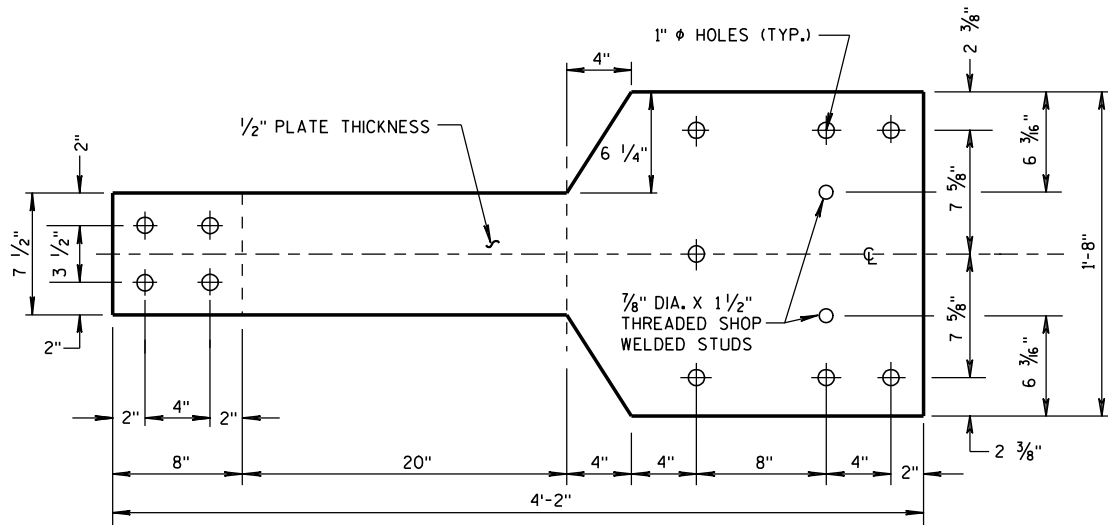
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
FHWA

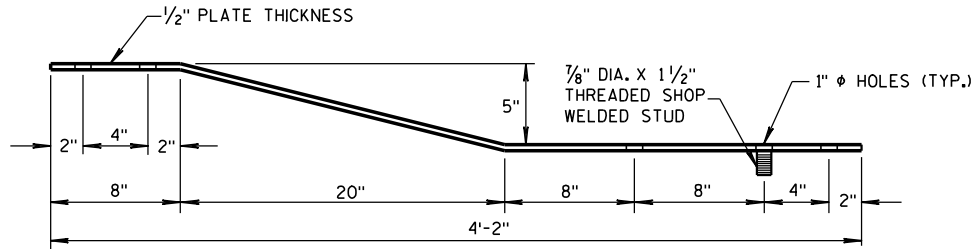
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

GENERAL NOTES

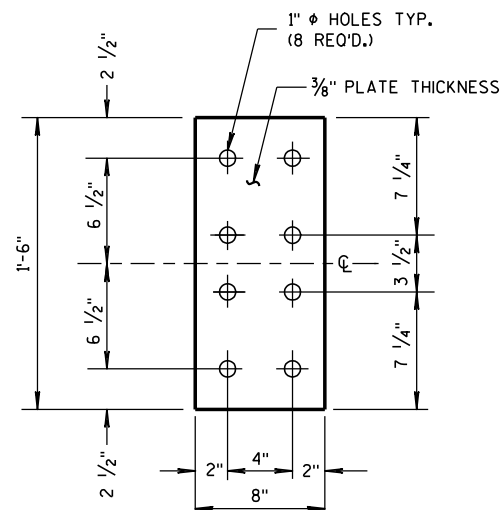
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



FRONT VIEW

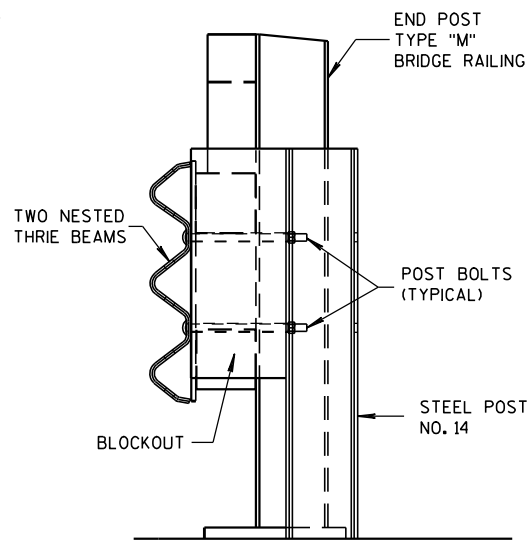


PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"

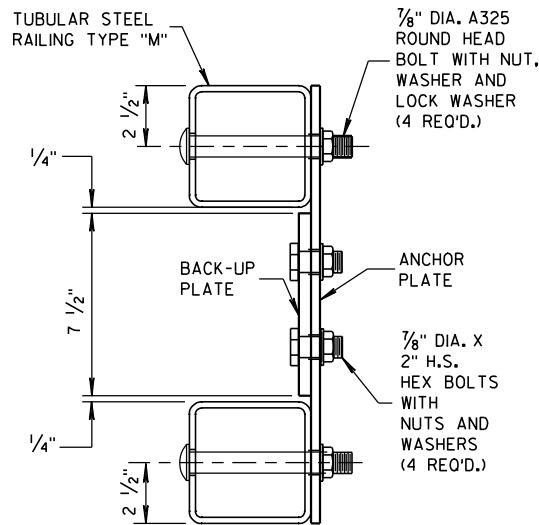


FRONT VIEW

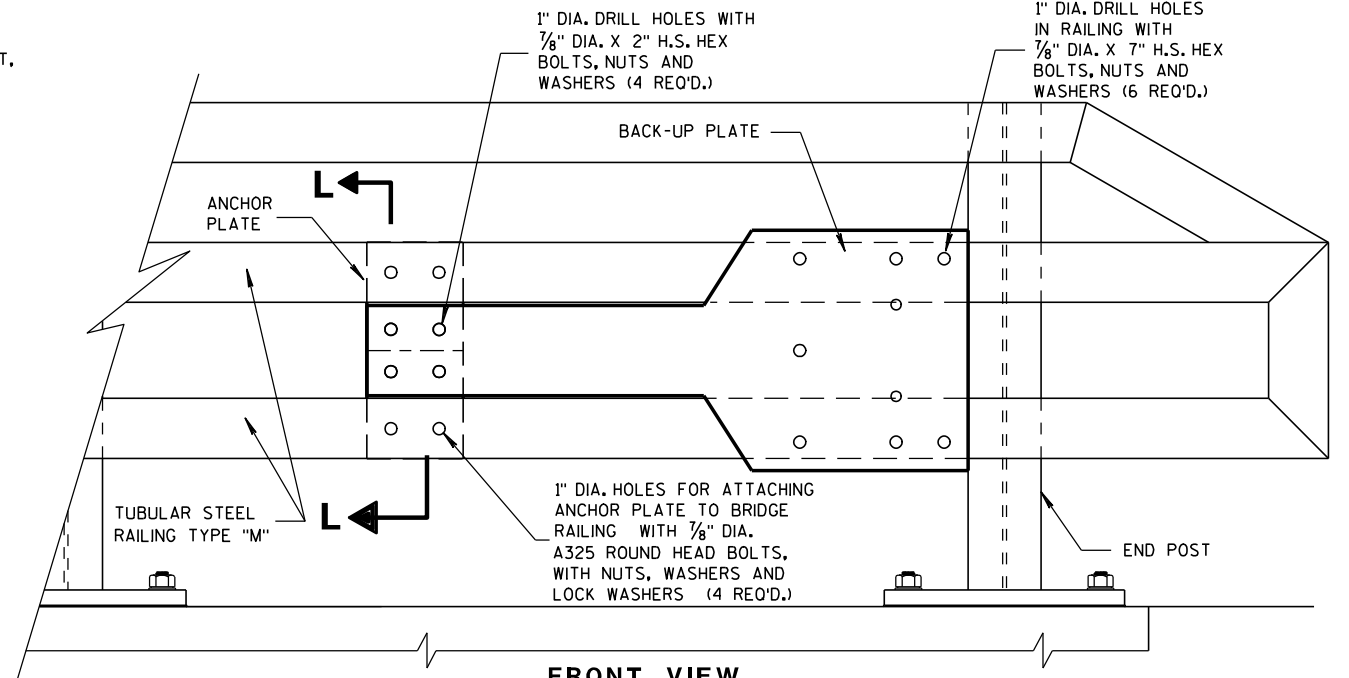
ANCHOR
PLATE DETAIL,
TYPE "M"



SECTION M-M

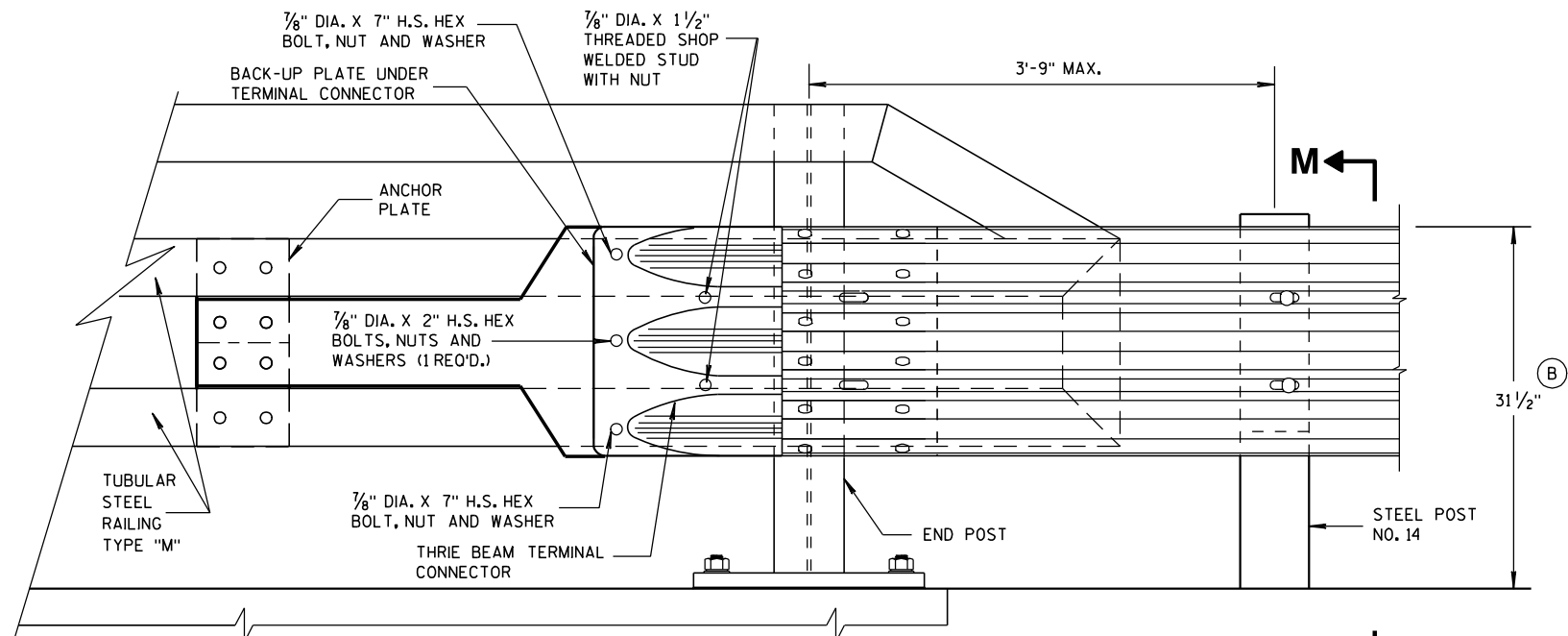


SECTION L-L

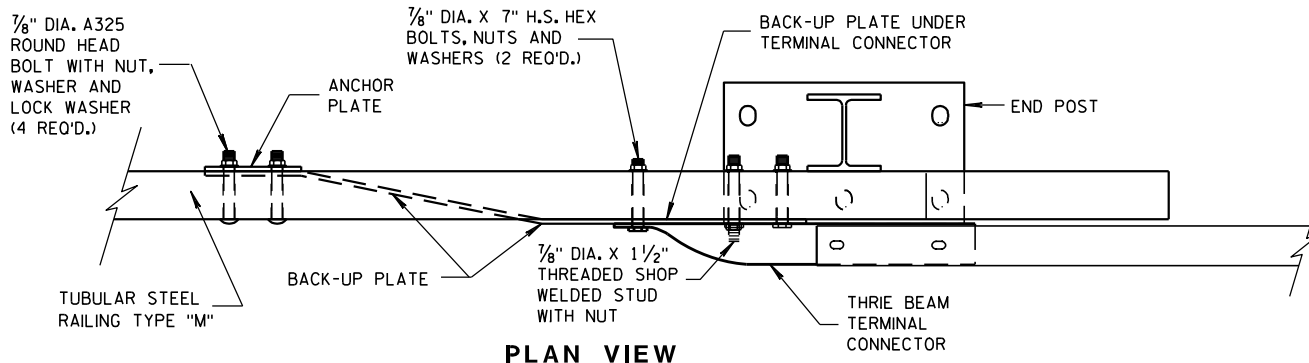


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

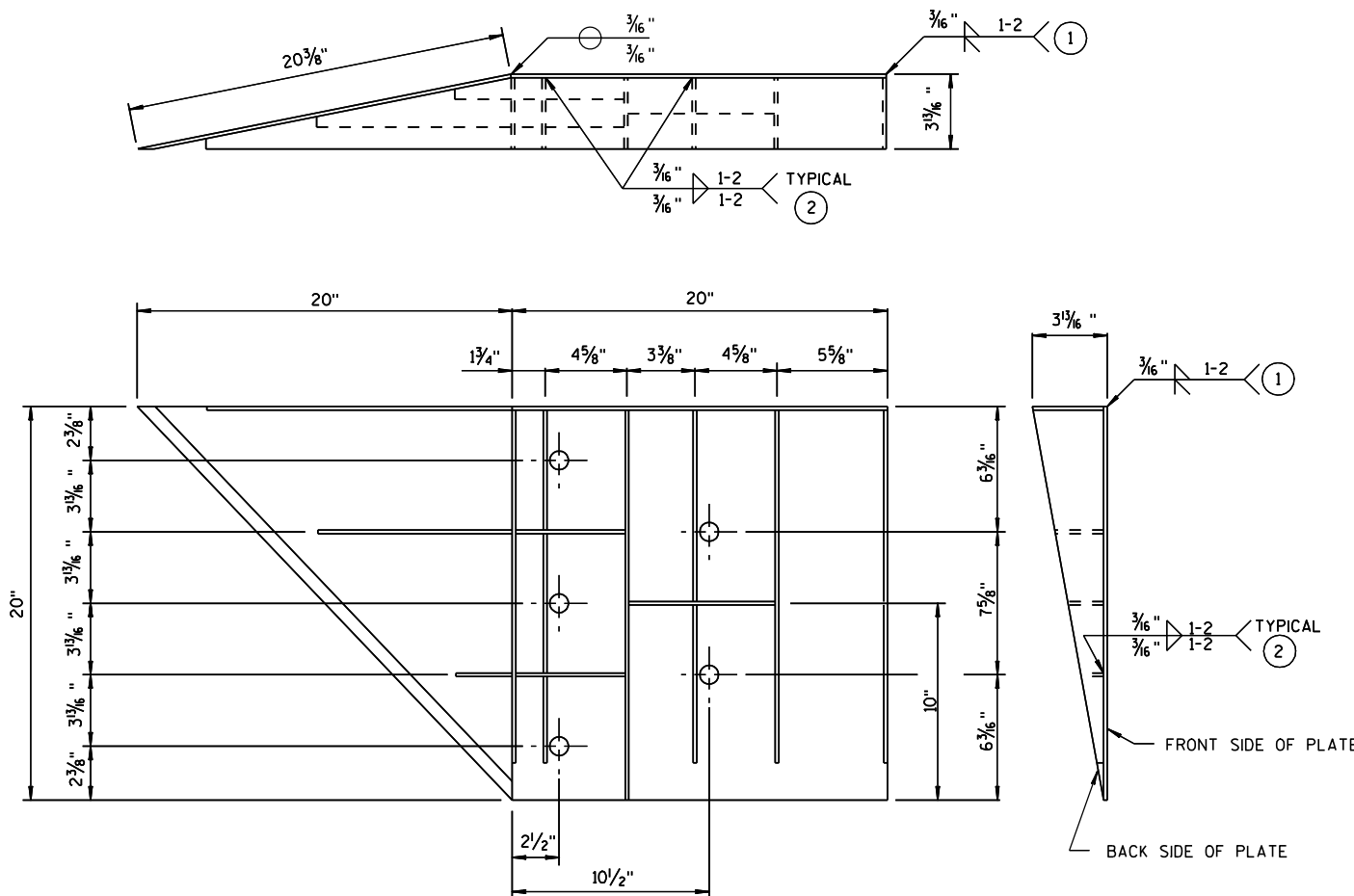
APPROVED

8-31-2012

DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



WELDING INSTRUCTION
(VIEWED FROM BACK SIDE OF PLATE)

SINGLE SLOPE CONNECTION PLATE

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 5/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 1/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 9/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 1/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 1/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 1/16"	1/4"

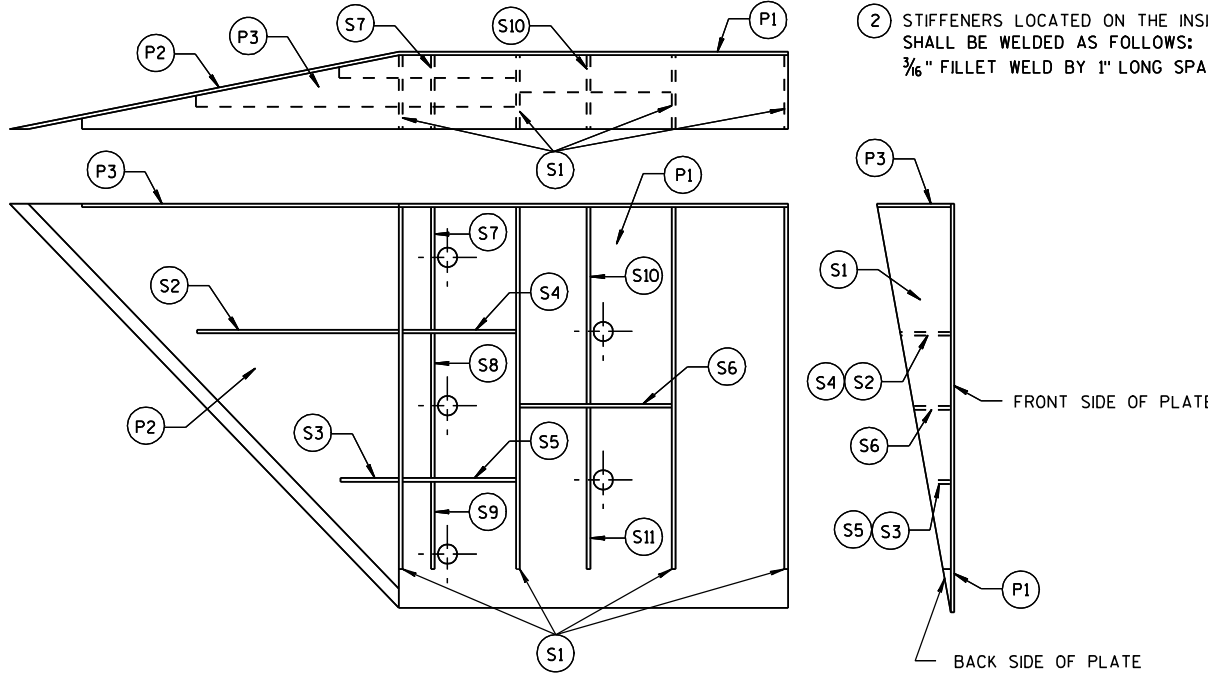


PLATE AND STIFFENER IDENTIFICATION
(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

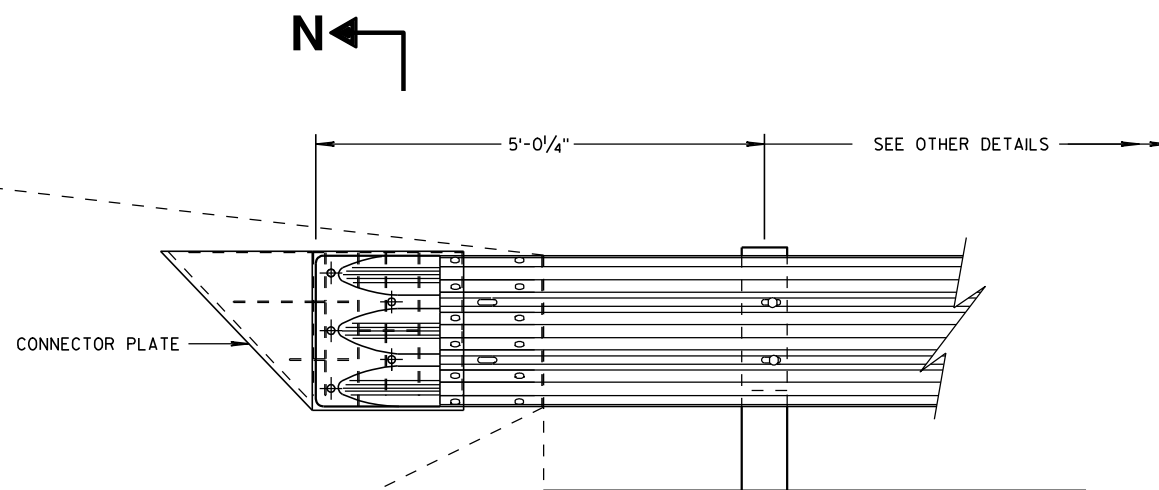
- COVER PLATE PANELS ARE 3/16" THICK.
- ALL STIFFENERS ARE 1/4" THICK.
- CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.
- FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.
- ALL HOLE DIAMETERS SHALL BE 1".
- FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- 1 STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- 2 STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

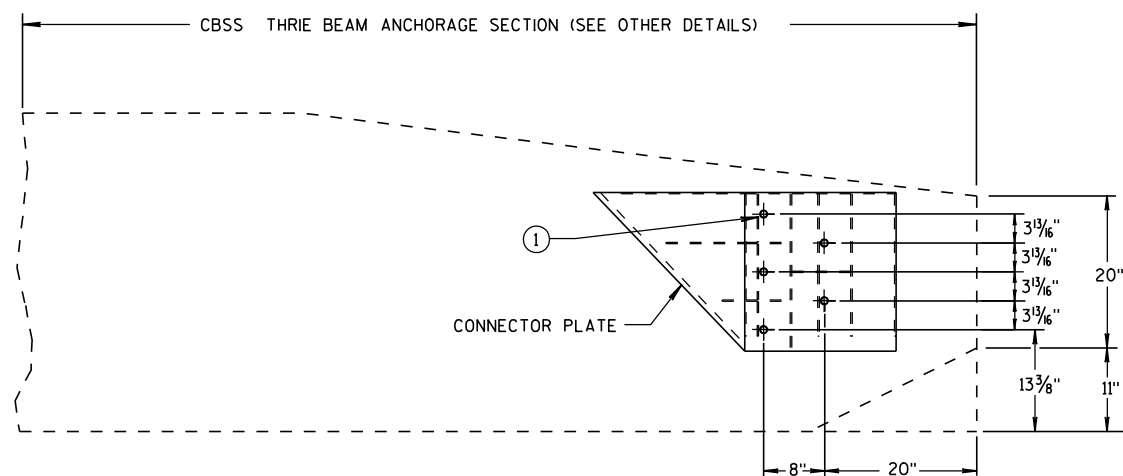
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 DATE /S/ Jerry H. Zogg
FHWA ROADWAY STANDARDS DEVELOPMENT ENGINEER



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

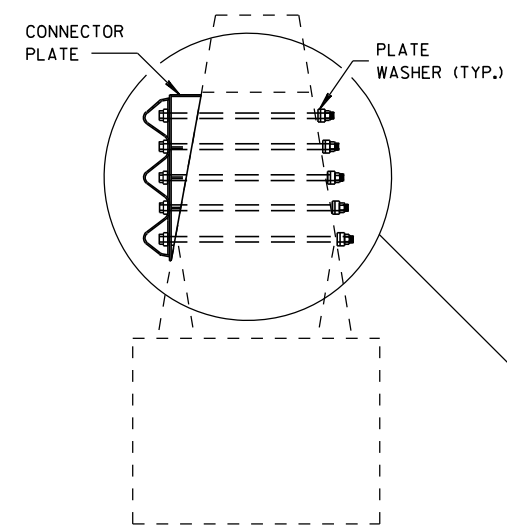


SINGLE SLOPE CONNECTION PLATE PLACEMENT

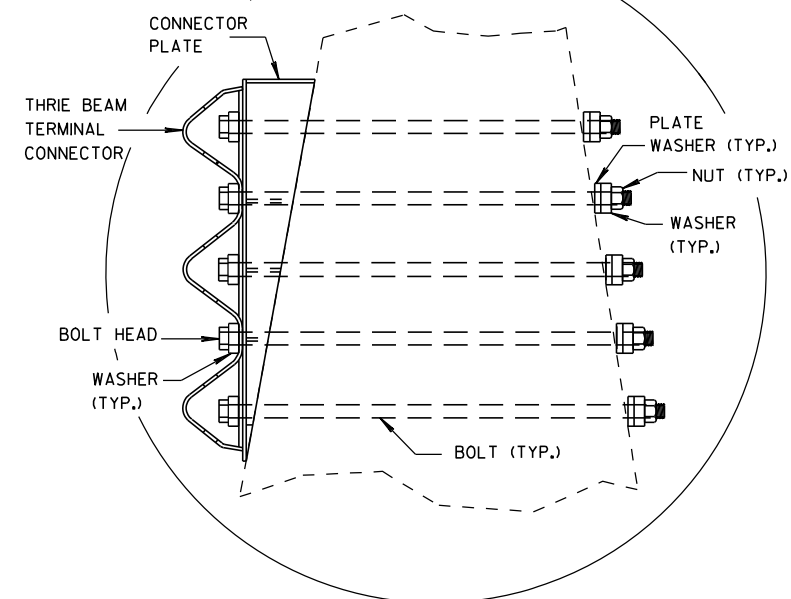
GENERAL NOTES

CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

- ① BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



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

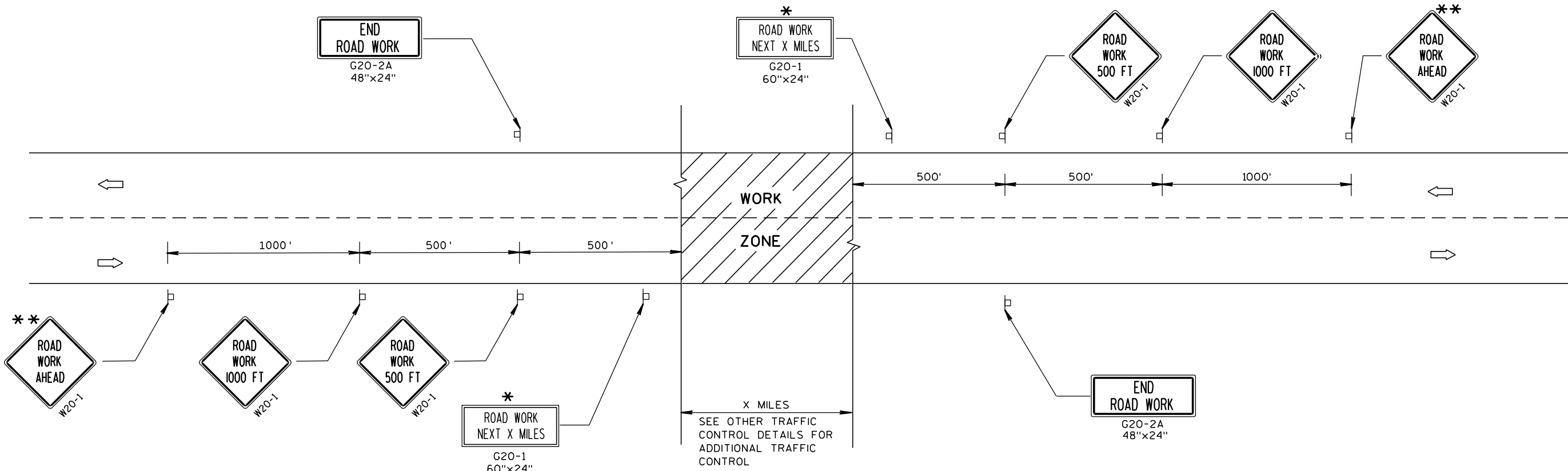
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



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 W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA OR SIGNING.

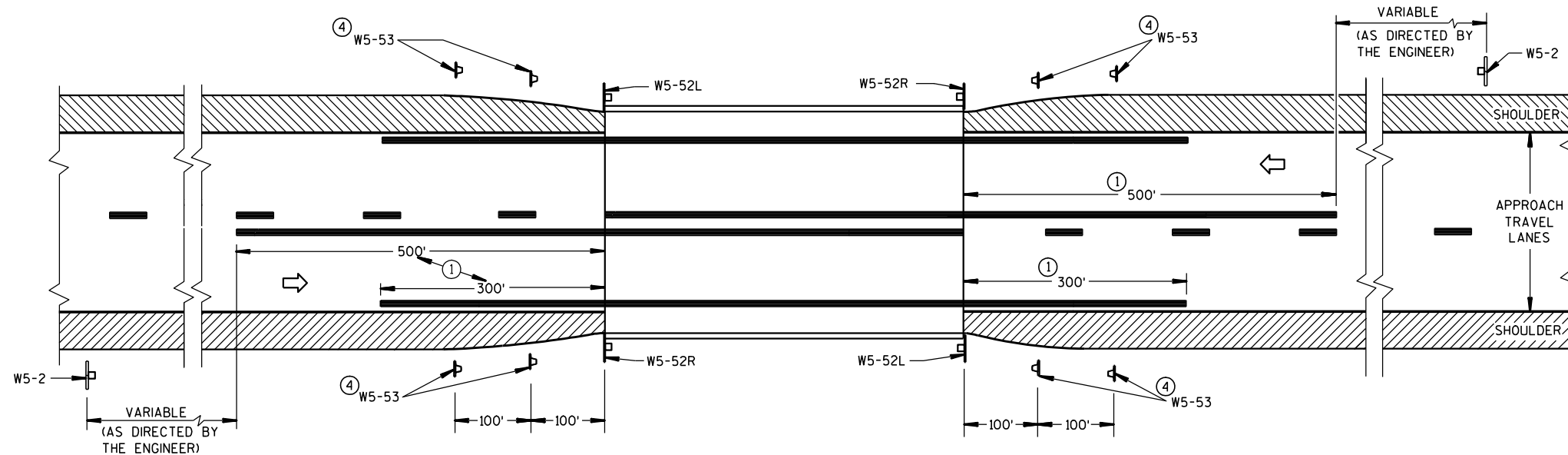
LEGEND

- ┆ POST MOUNTED SIGN
- ➡ DIRECTION OF TRAFFIC FLOW

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

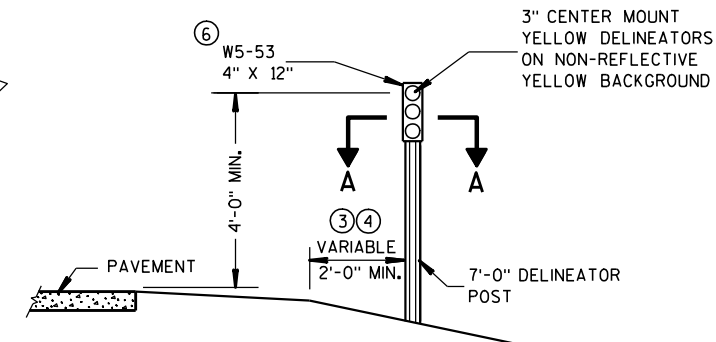
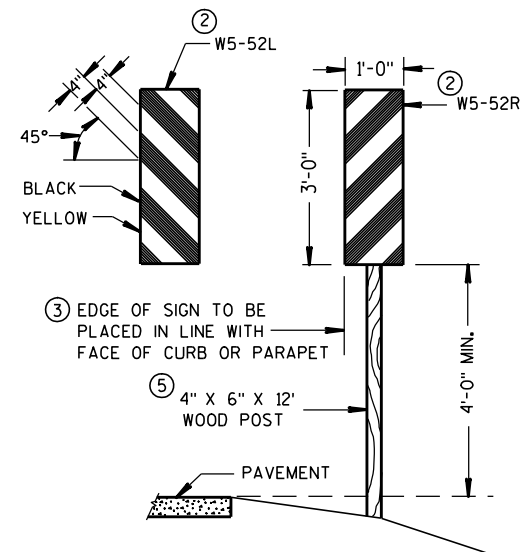
APPROVED
5/23/00 /S/ Chester J. Spang
DATE CHIEF SIGNS AND MARKING ENGINEER
FHWA



SITUATION 1

WARRANTING CRITERION:

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



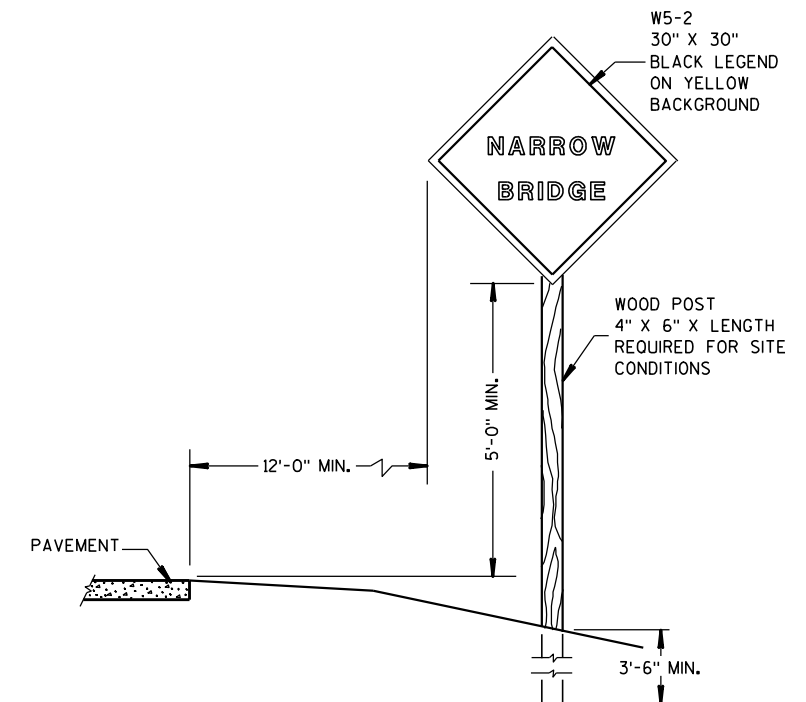
OBJECT MARKER PLACEMENT

GENERAL NOTES

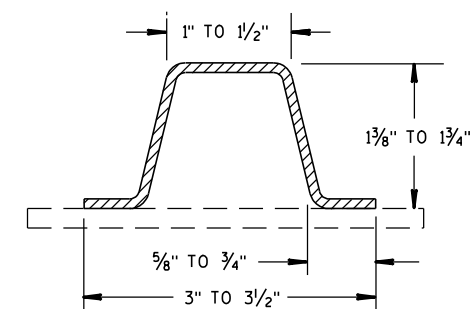
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

- ① MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.
- ② FACE OF OBJECT MARKERS W5-52R AND W5-52L SHALL BE COVERED WITH TYPE H REFLECTIVE SHEETING.
- ③ LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.
- ④ OBJECT MARKERS (W5-53) SHALL BE LOCATED ALONG A LINE FLARED AWAY FROM THE BRIDGE CORNER TO DELINEATE THE NARROWING OF THE SHOULDER OR BERM.
- ⑤ A 12 FOOT DELINEATOR POST MAY BE USED INSTEAD OF A WOOD POST.
- ⑥ NON-BID ITEM. INCIDENTAL TO OTHER ITEMS.

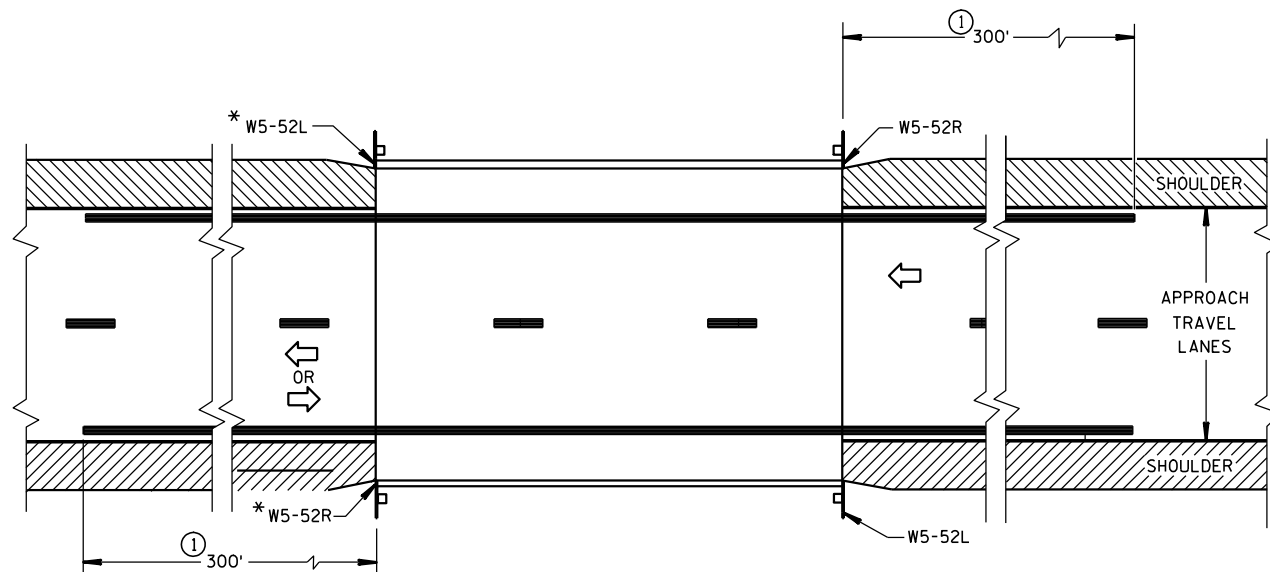


SIGN PLACEMENT



SECTION A-A

(MINIMUM WEIGHT 19 LBS. PER FT. AFTER GALVANIZING)



SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/5/06
DATE

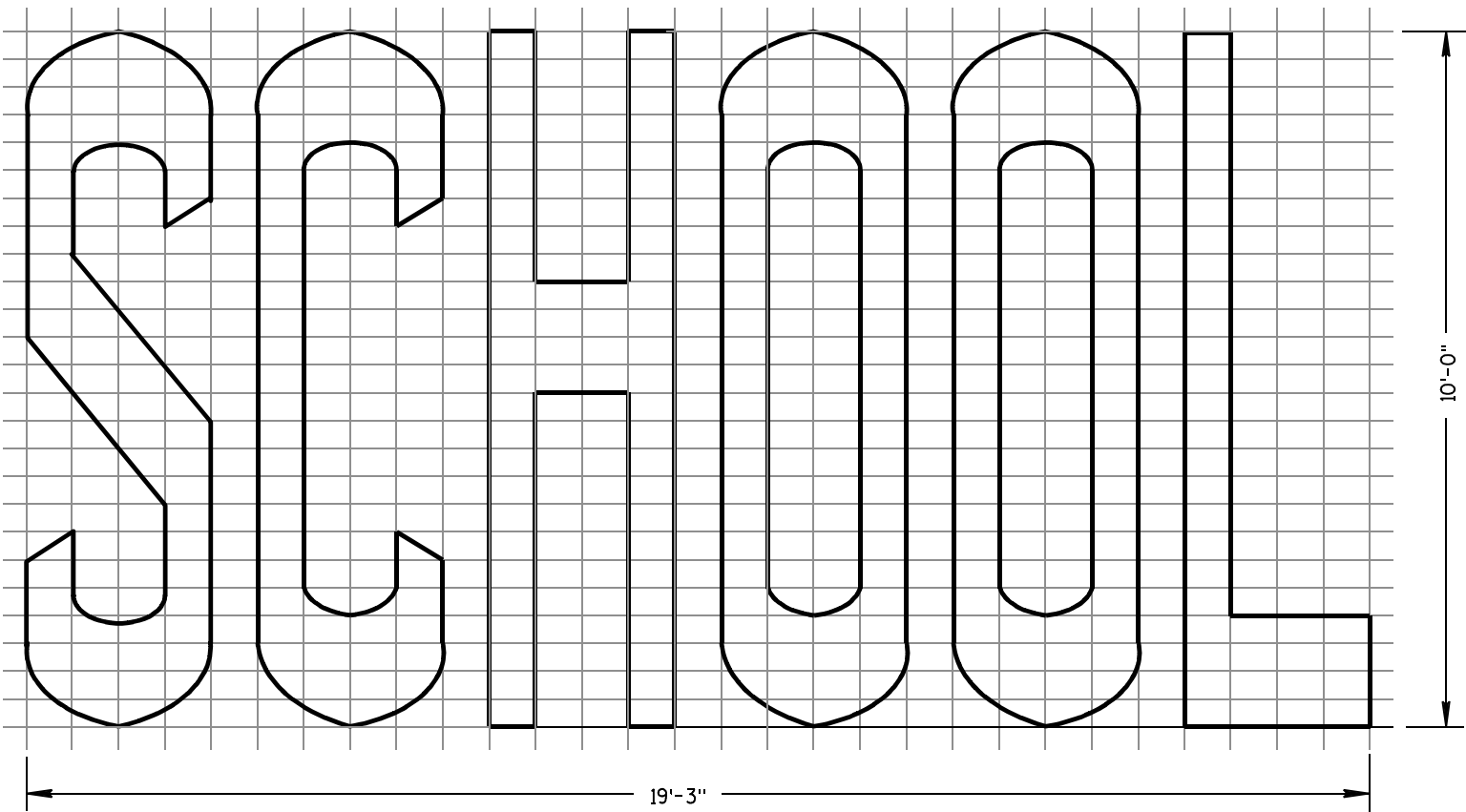
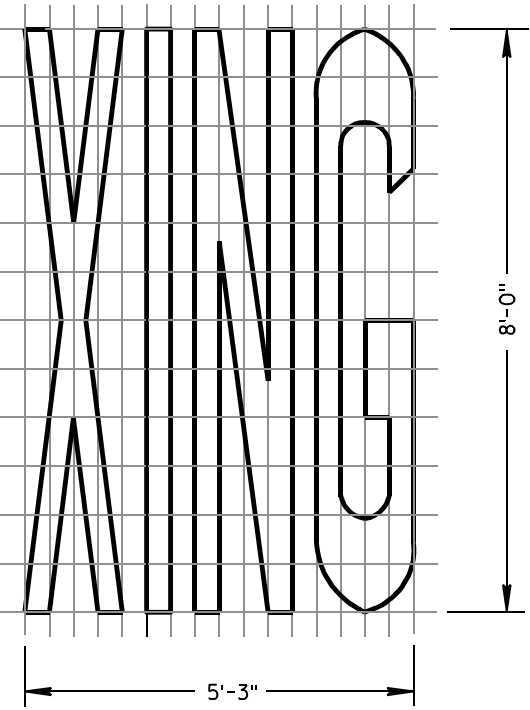
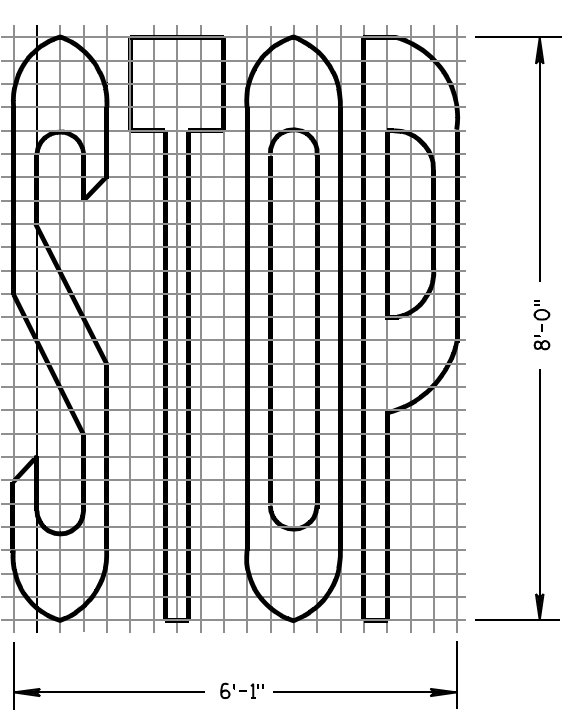
FHWA

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER OF DESIGN

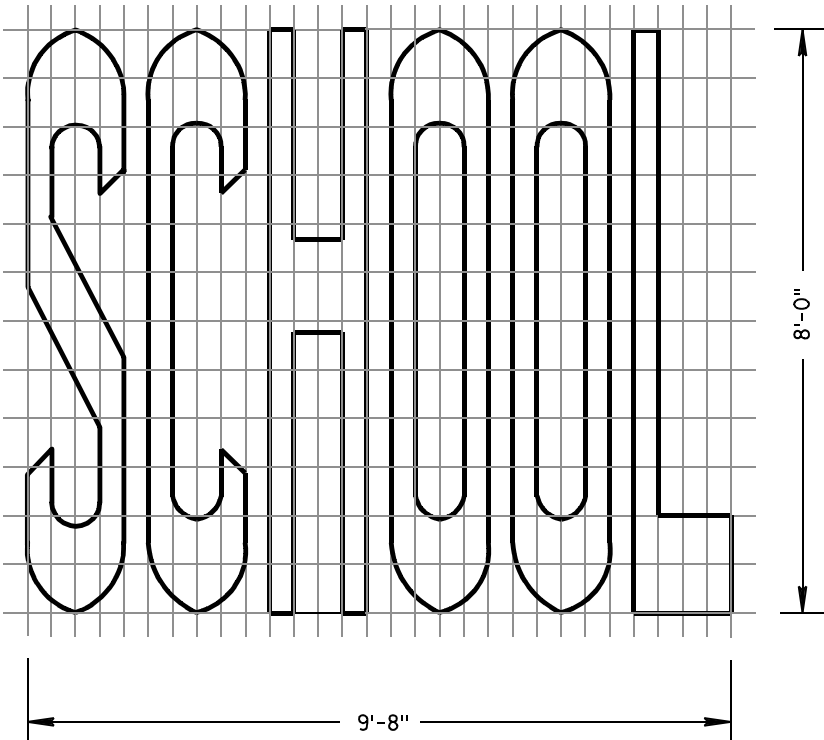
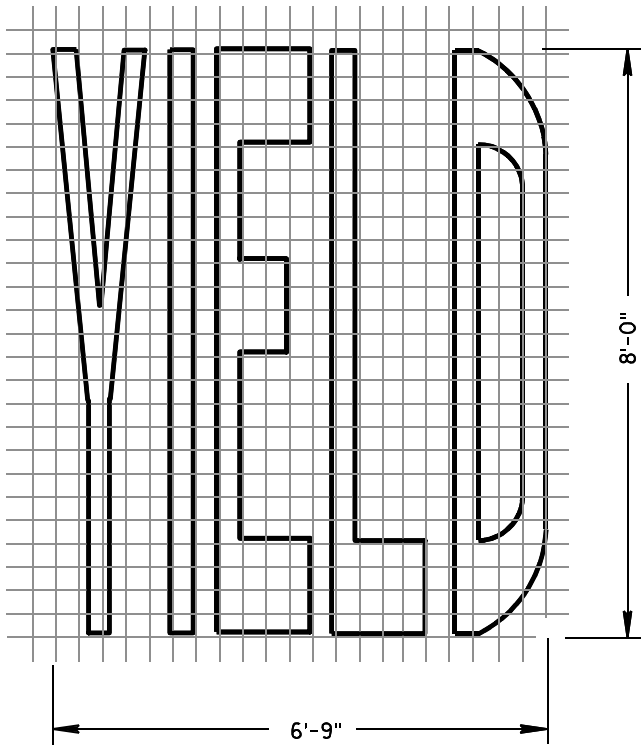
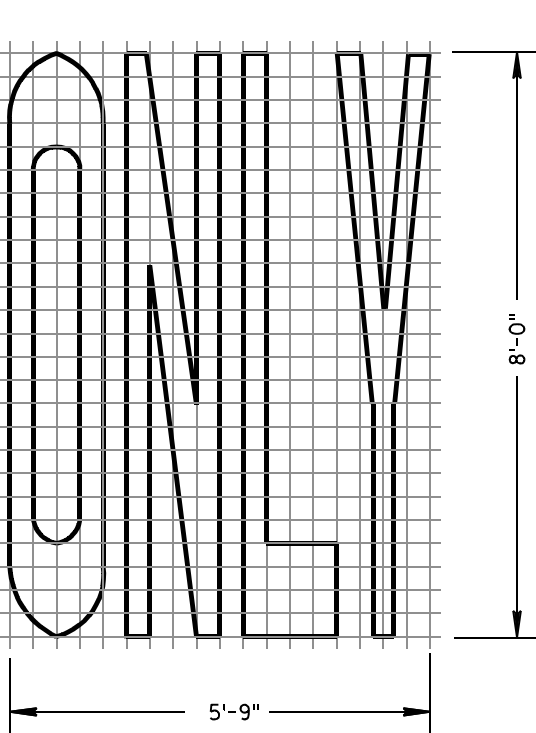
GENERAL NOTES

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

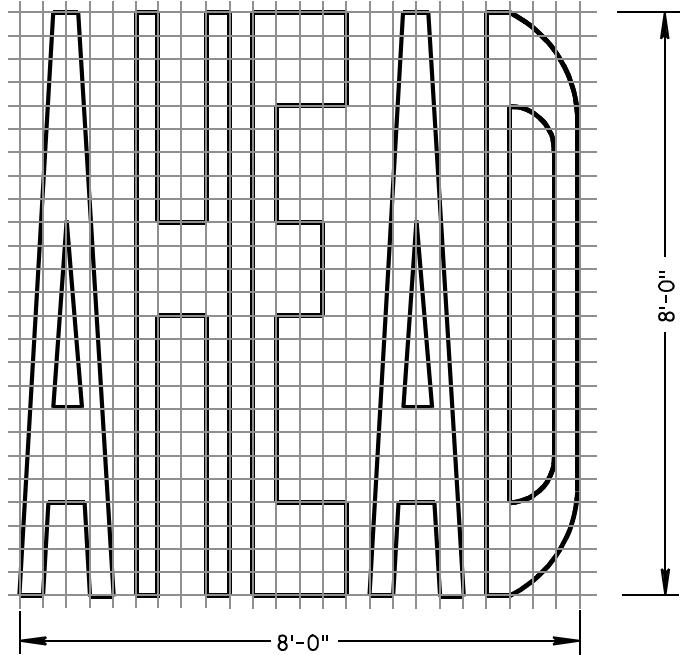
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



TWO-LANE



SINGLE-LANE



PAVEMENT MARKING WORDS

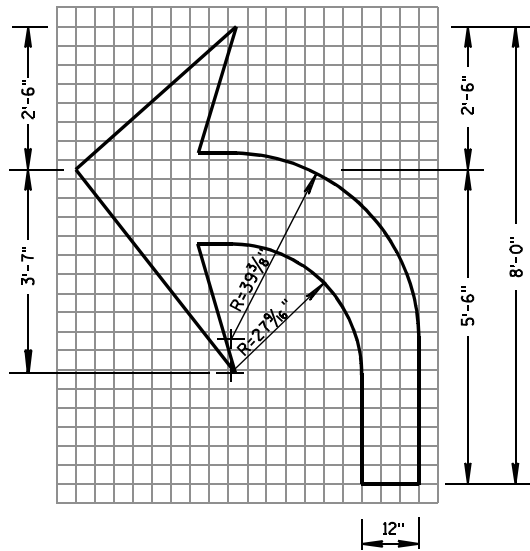
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

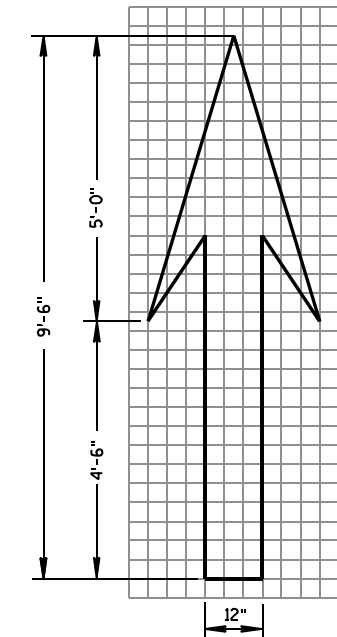
7-1-11
DATE

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER OF DESIGN

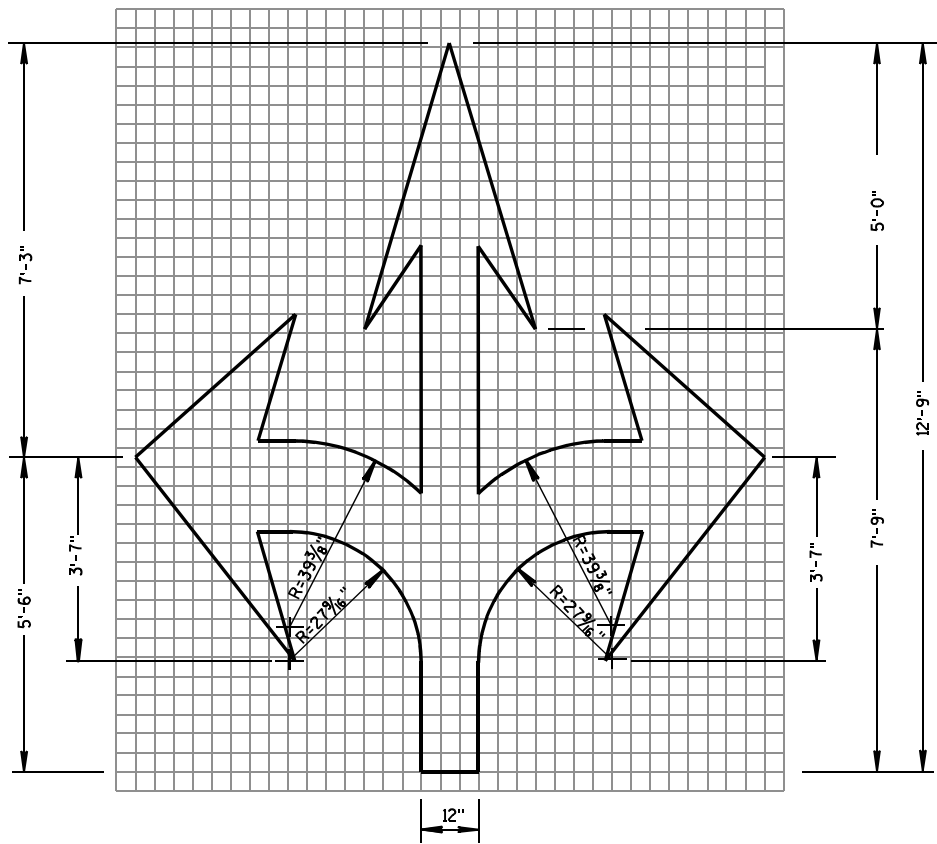
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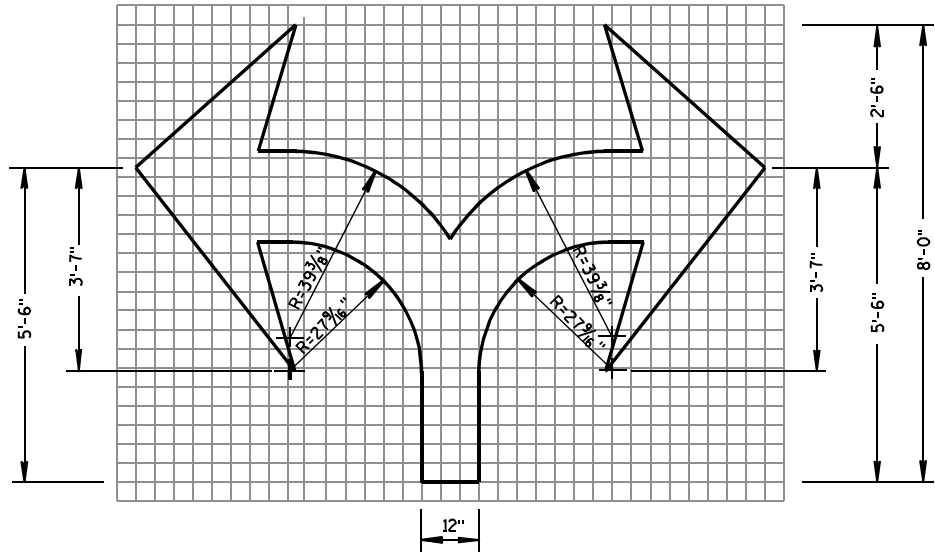
TYPE 2



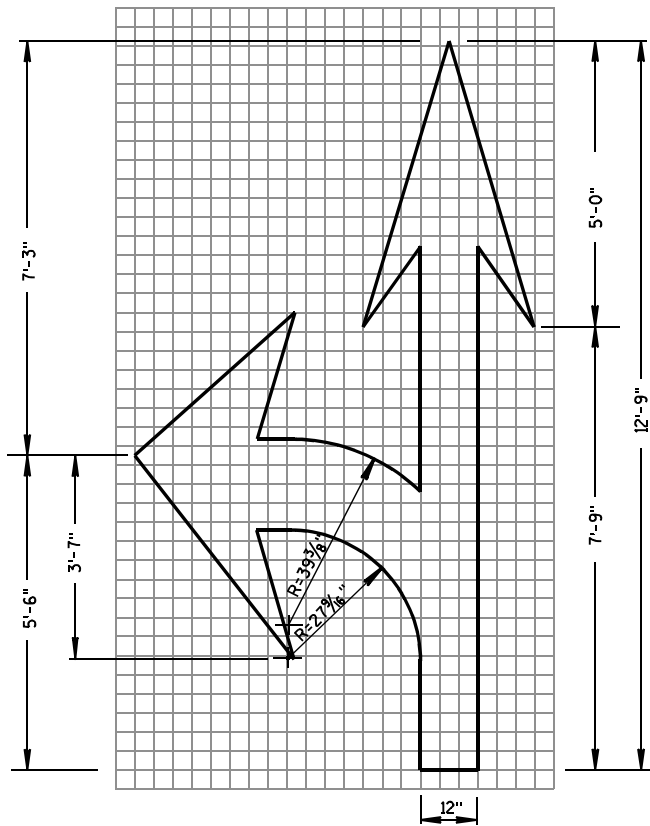
TYPE 1



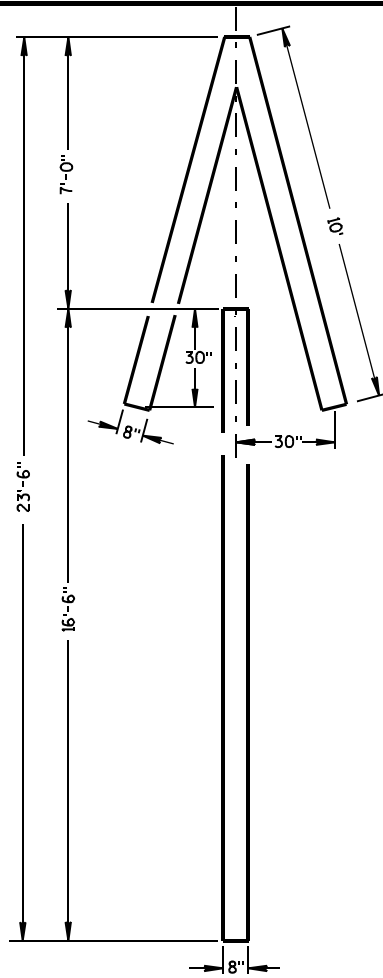
TYPE 6



TYPE 7



TYPE 3

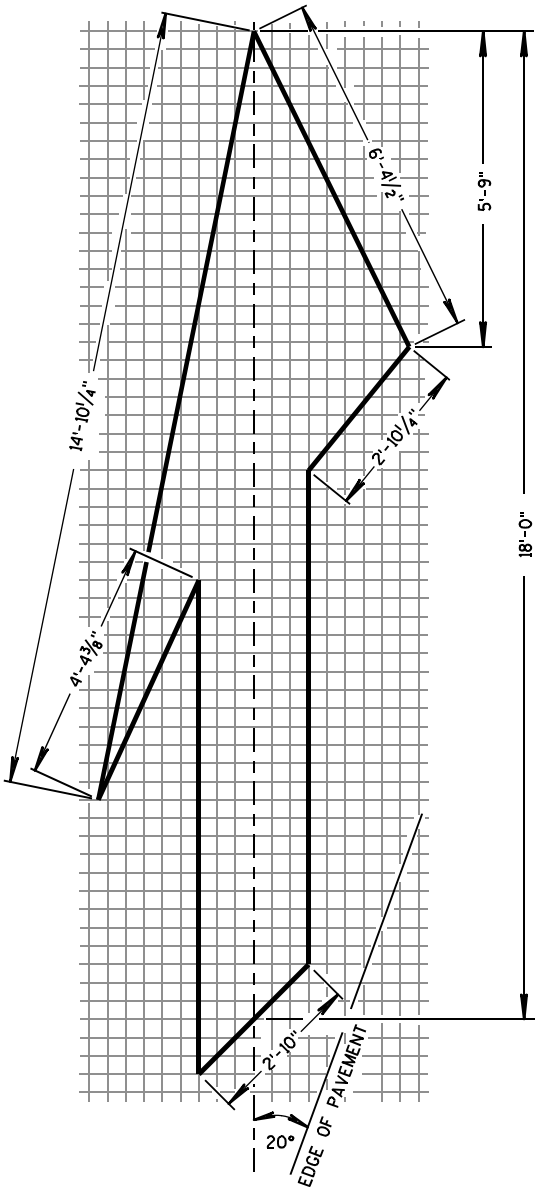


TYPE 4

GENERAL NOTES

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

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



TYPE 5 LANE DROP ARROW

PAVEMENT MARKING ARROWS

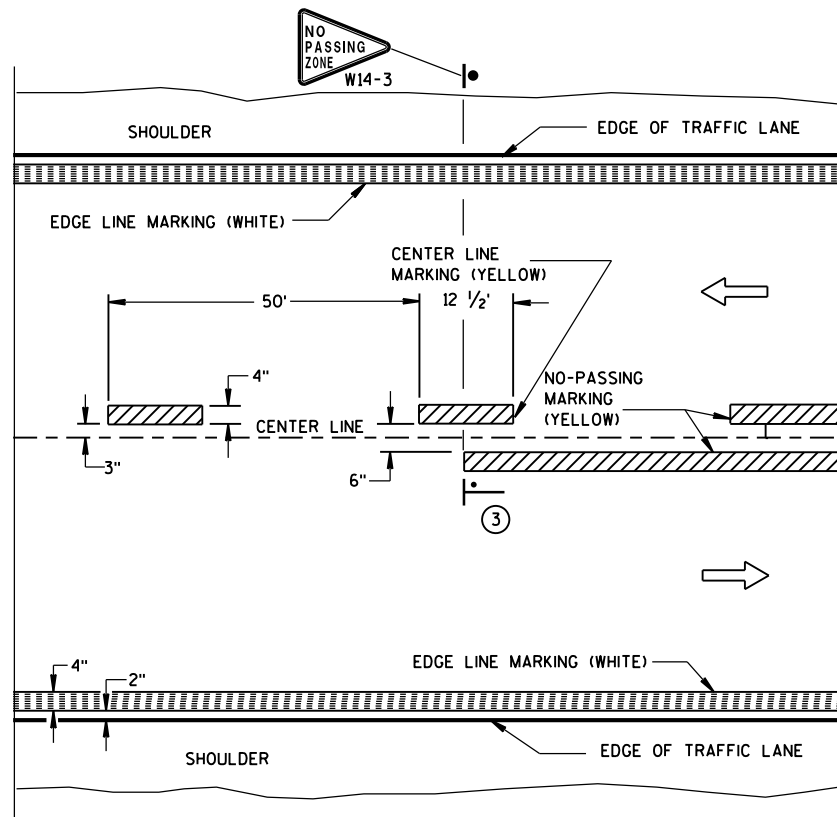
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

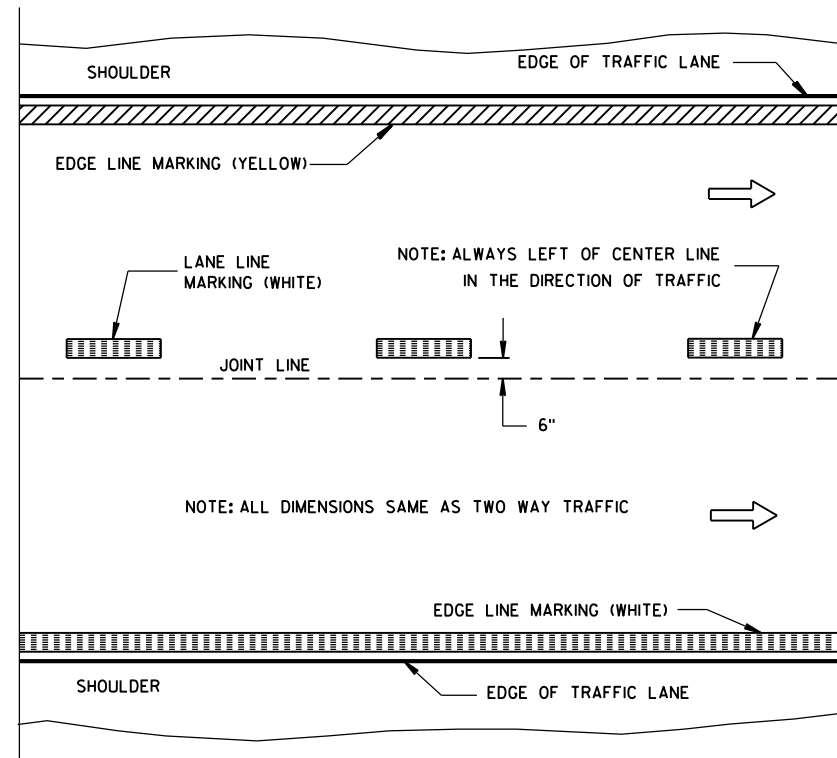
7/1/11
DATE

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER OF DESIGN

FHWA

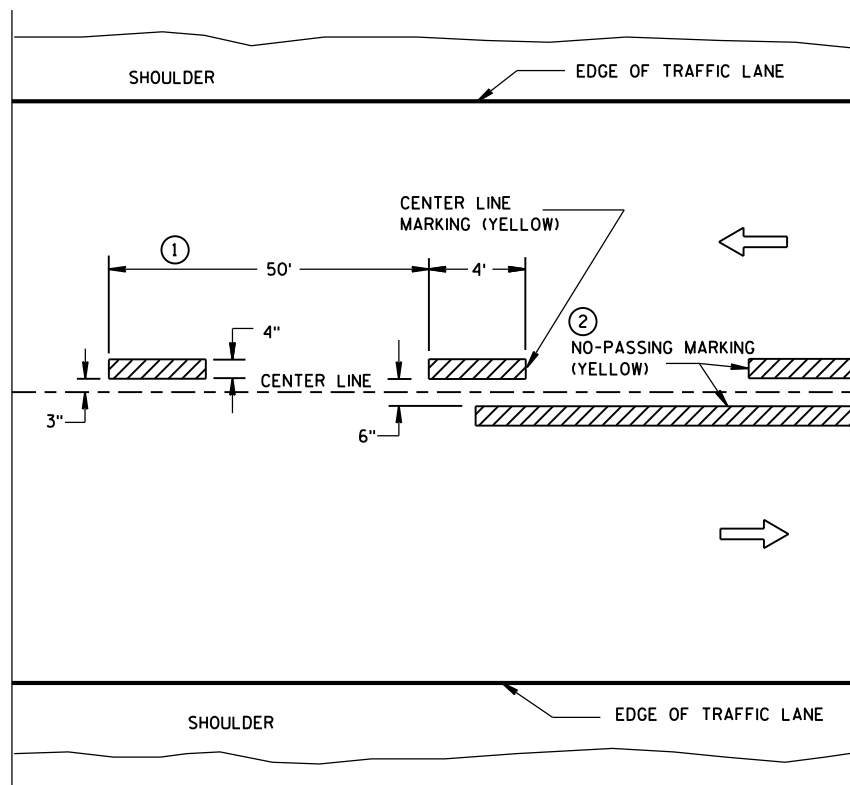


TWO WAY TRAFFIC

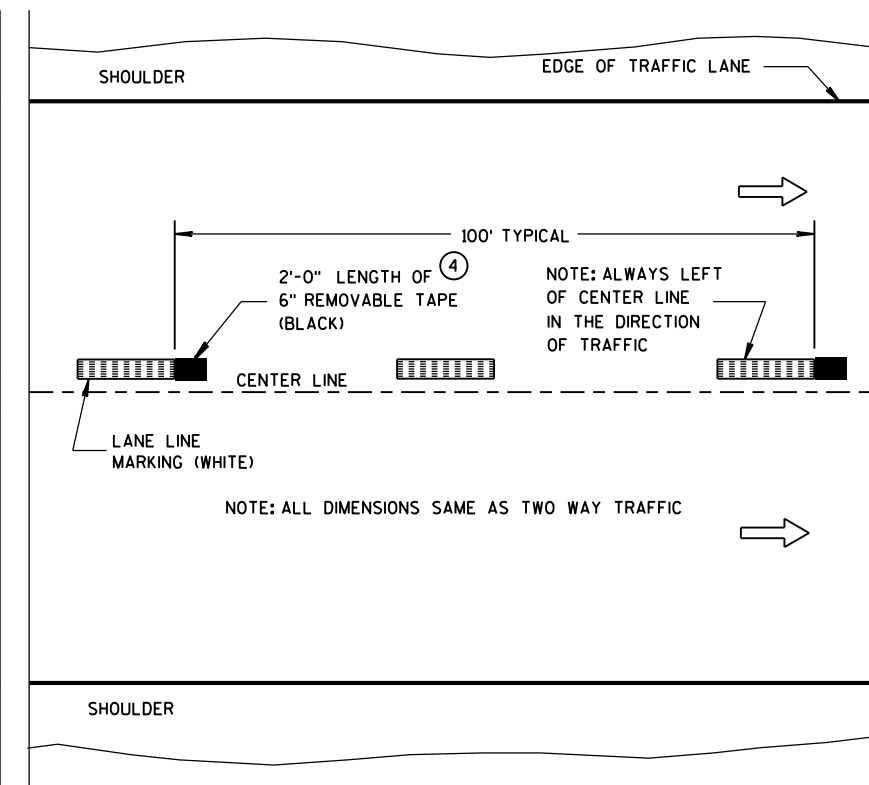


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

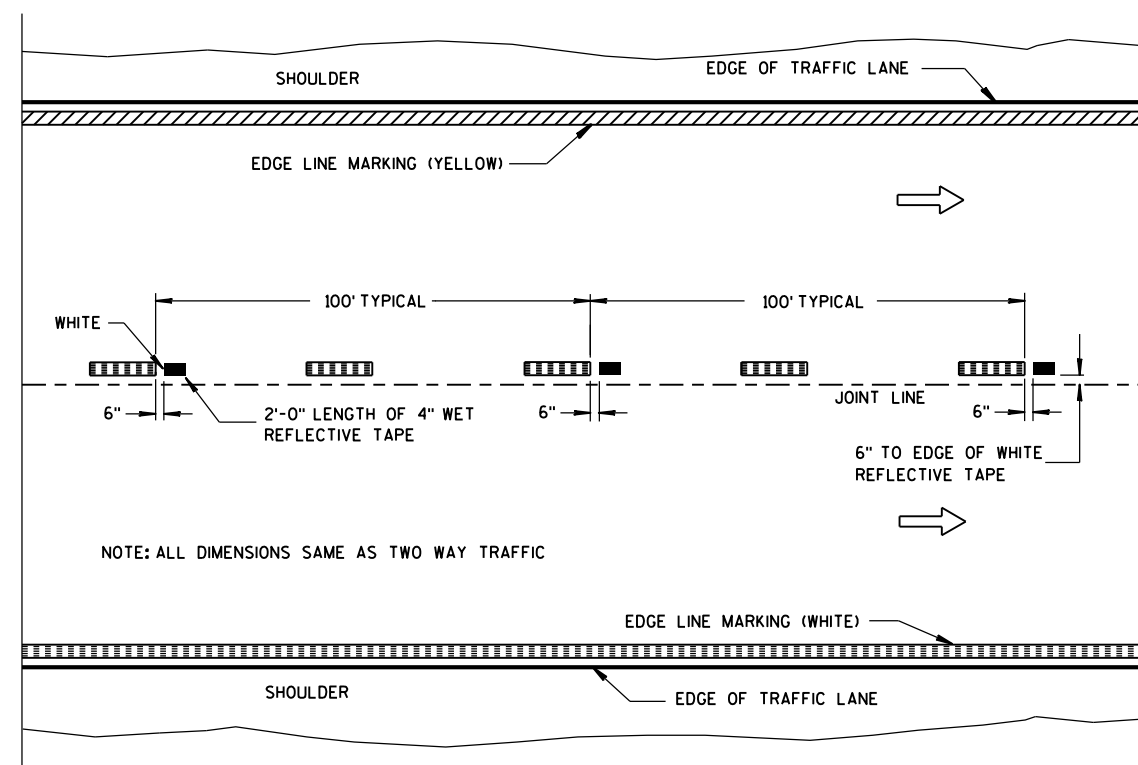
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



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

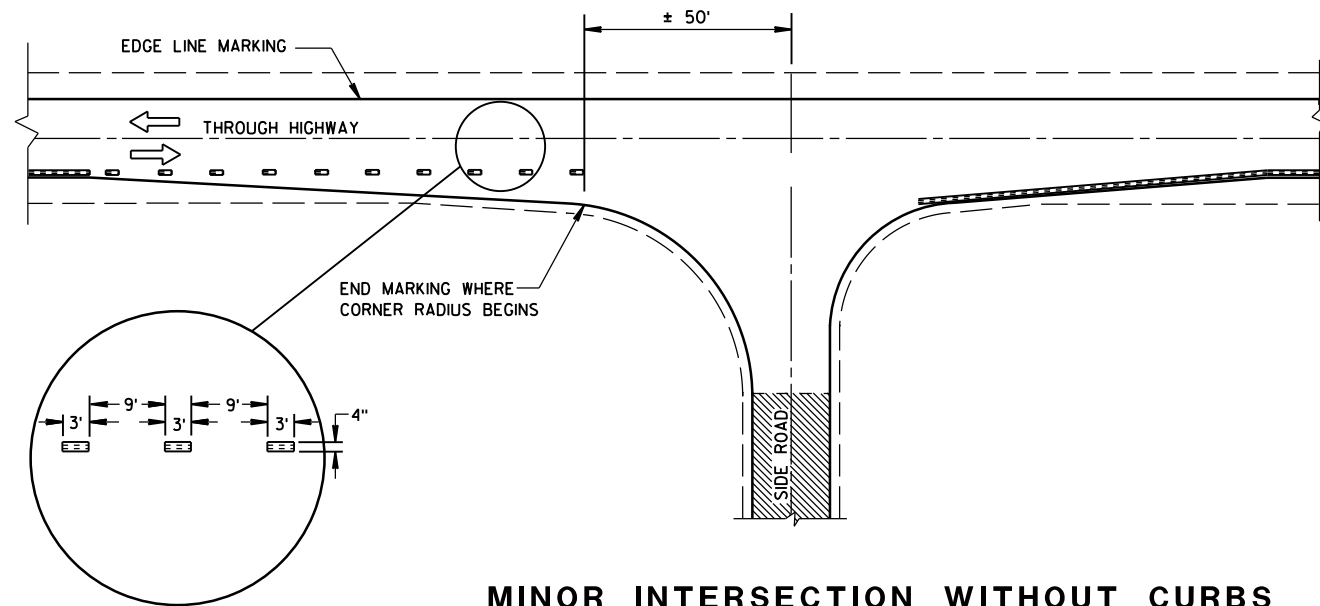
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

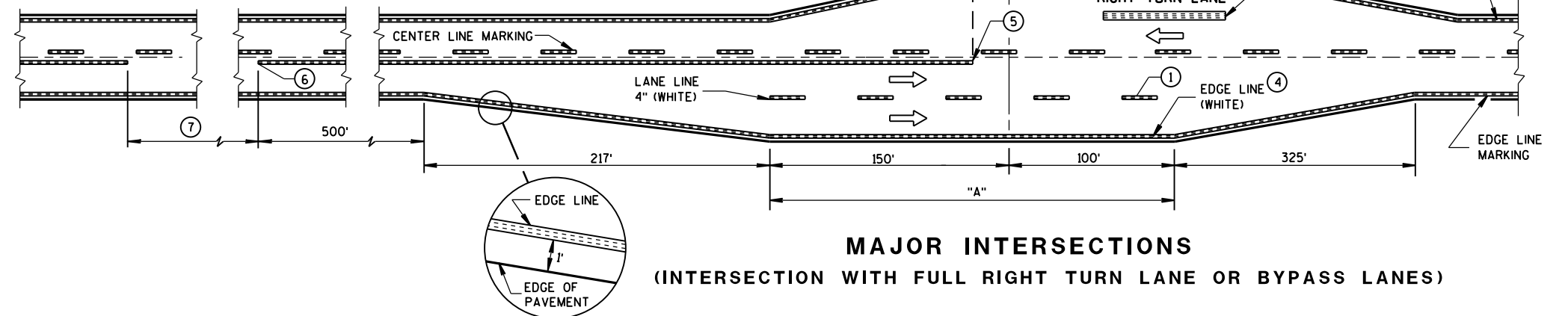
APPROVED
10-1-2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



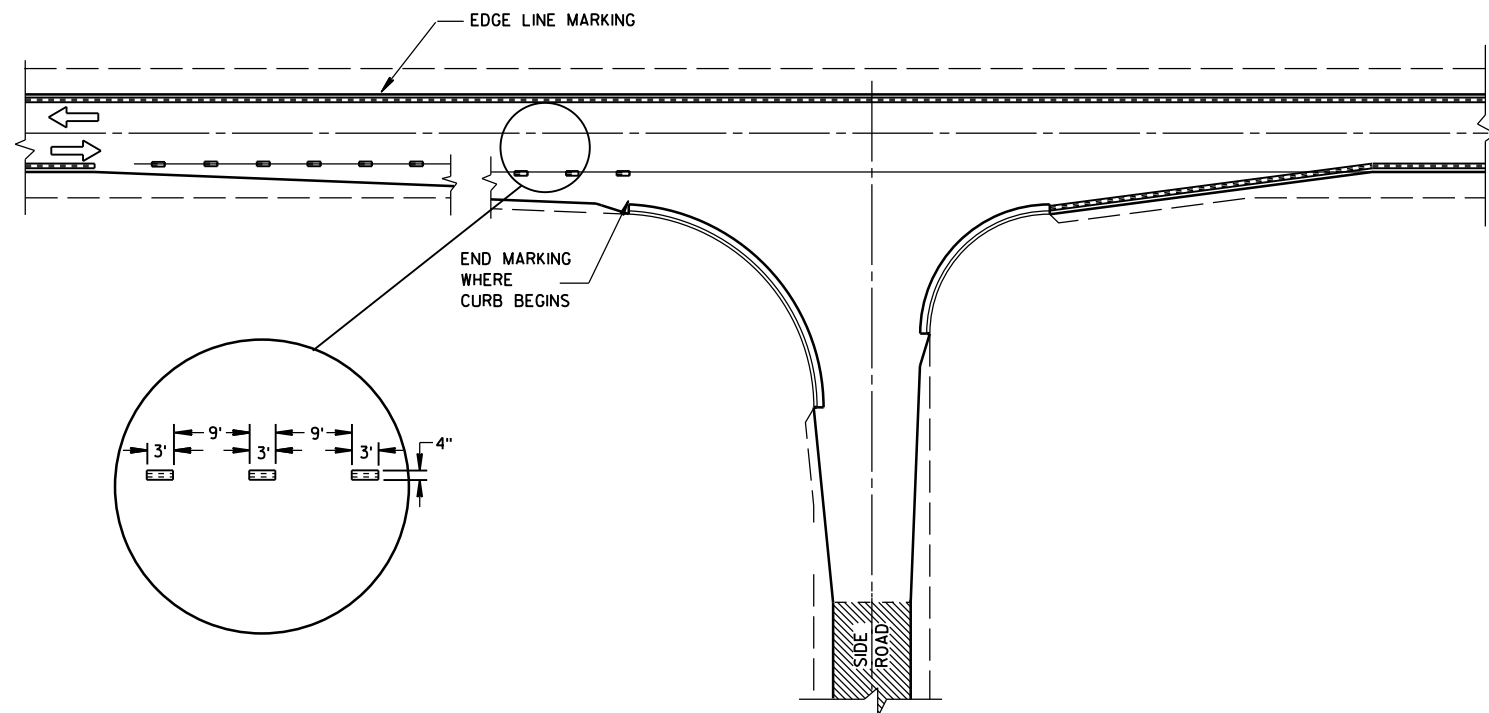
MINOR INTERSECTION WITHOUT CURBS

⑦

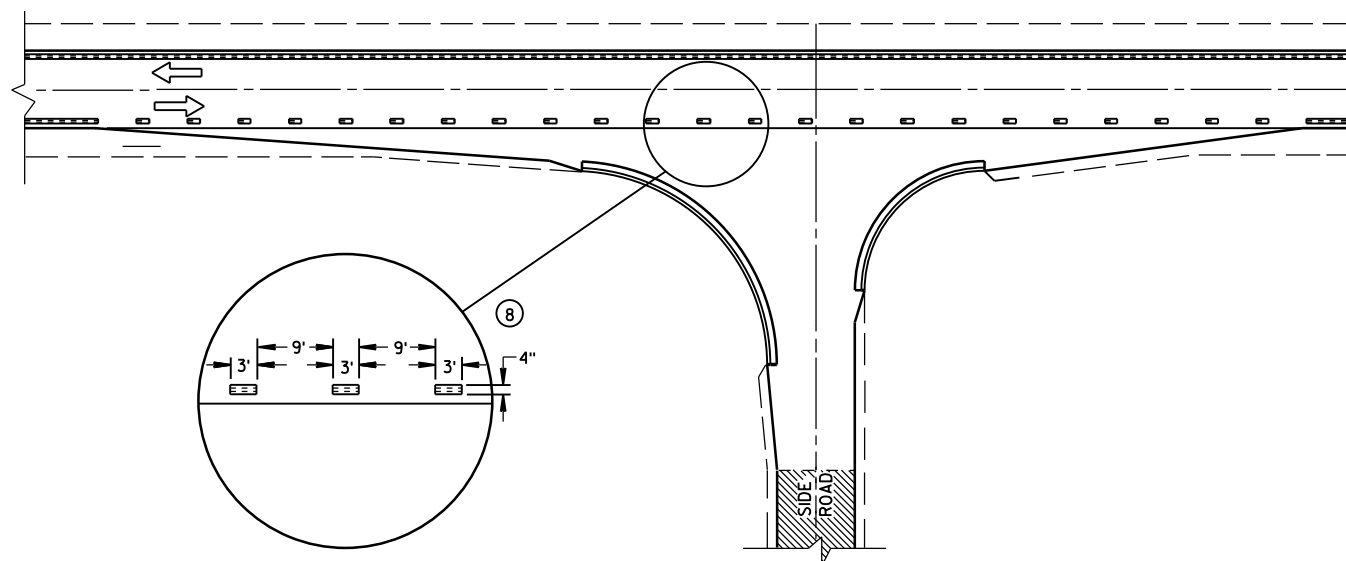
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



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



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS
③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

GENERAL NOTES

- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED 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 ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
 - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
 - ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
 - ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
 - ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
 - ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

TWO-LANE ROADWAY

SYMBOLS



WORK AREA



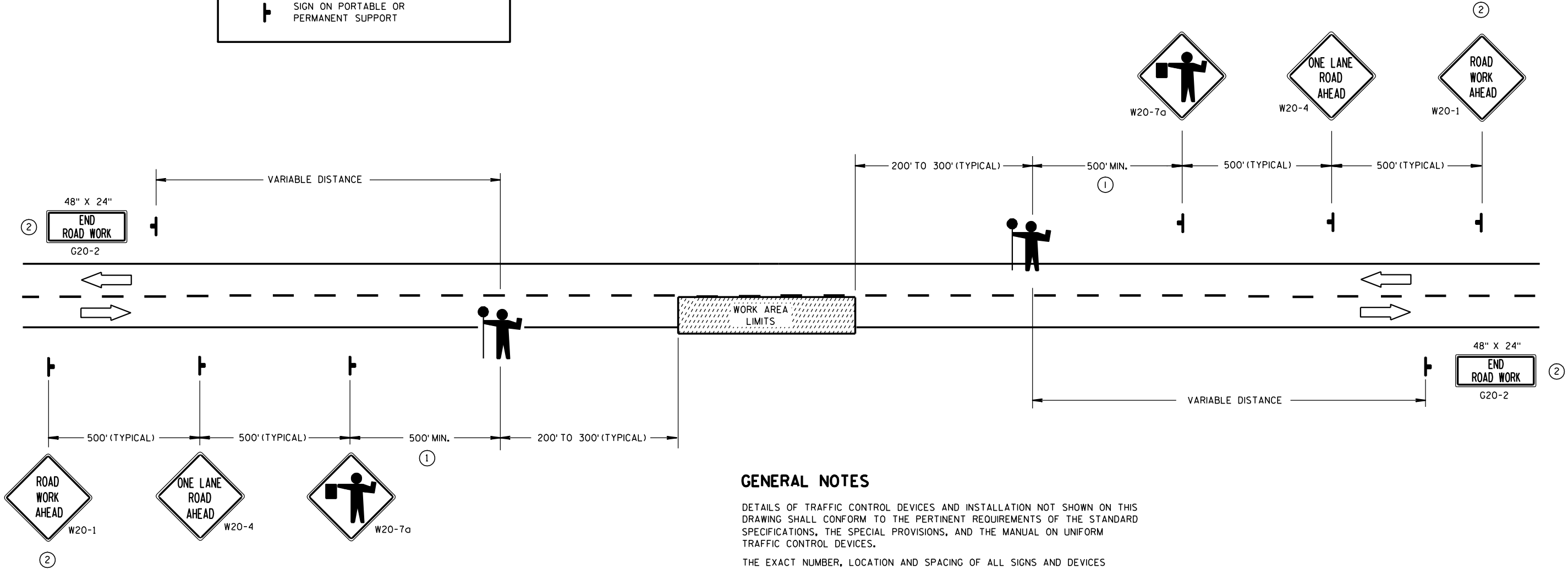
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF



SIGN ON PORTABLE OR PERMANENT SUPPORT



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



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.

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.

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, THE "FLAGGER AHEAD", THE "ROAD WORK AHEAD" AND THE ONE LANE ROAD AHEAD" SIGNS SHALL BE COVERED OR REMOVED AND THE HIGHWAY RESTORED TO NORMAL OPERATION.

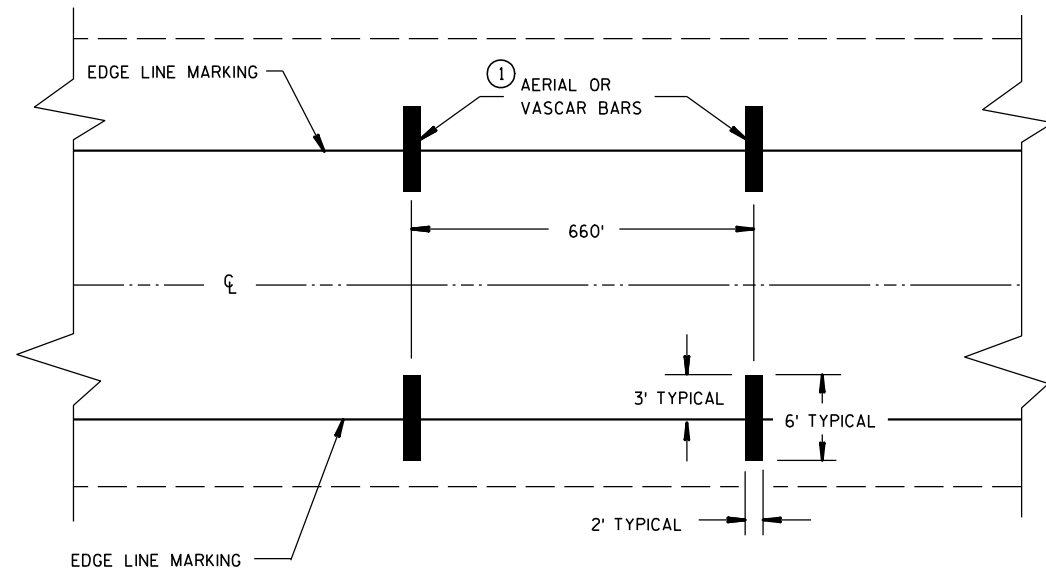
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

- ① FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

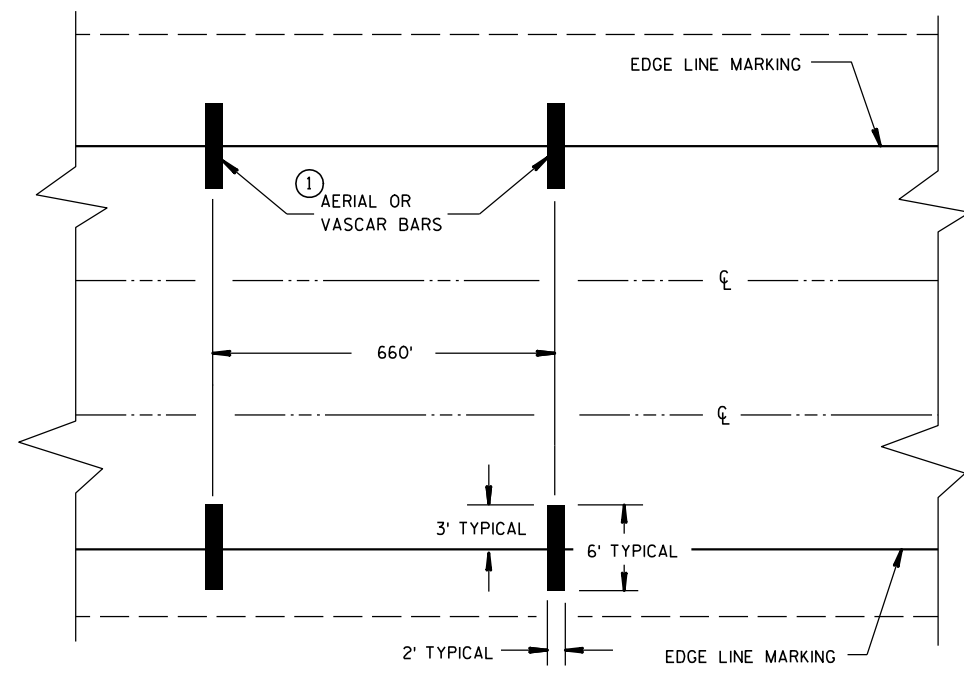
TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/5/06 /S/ Thomas N. Notbohm
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



TYPICAL FOR TWO WAY OR ONE WAY TRAFFIC



TYPICAL FOR MULTILANE TRAFFIC

SPEED ENFORCEMENT ZONE WITH AERIAL OR VASCAR BARS

GENERAL NOTES

① NUMBER OF VASCAR OR AERIAL BARS SHALL BE A MINIMUM OF 2 OR A MAXIMUM OF 5 AT 660' SPACING.

A CAR CAN BE PROVIDED BY THE WISCONSIN STATE PATROL FOR TRAFFIC CONTROL.

AERIAL ENFORCEMENT BARS
PAVEMENT MARKING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/23/01 /S/ Chester J. Spang
DATE CHIEF SIGNS AND MARKING ENGINEER
FHWA



S.D.D. 15 C 19-1a

LEGEND

- POST MOUNTED SIGN
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH SIGN
- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- TEMPORARY PRECAST CONCRETE BARRIER
- FLAGS, 16"x16" MIN., ORANGE
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC FLOW
- 4" X 6" WOOD POST

GENERAL NOTES :

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

NON-OPERATIONAL EQUIPMENT OR MATERIAL SHALL BE LOCATED BEHIND THE PRECAST CONCRETE BARRIER.

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.

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

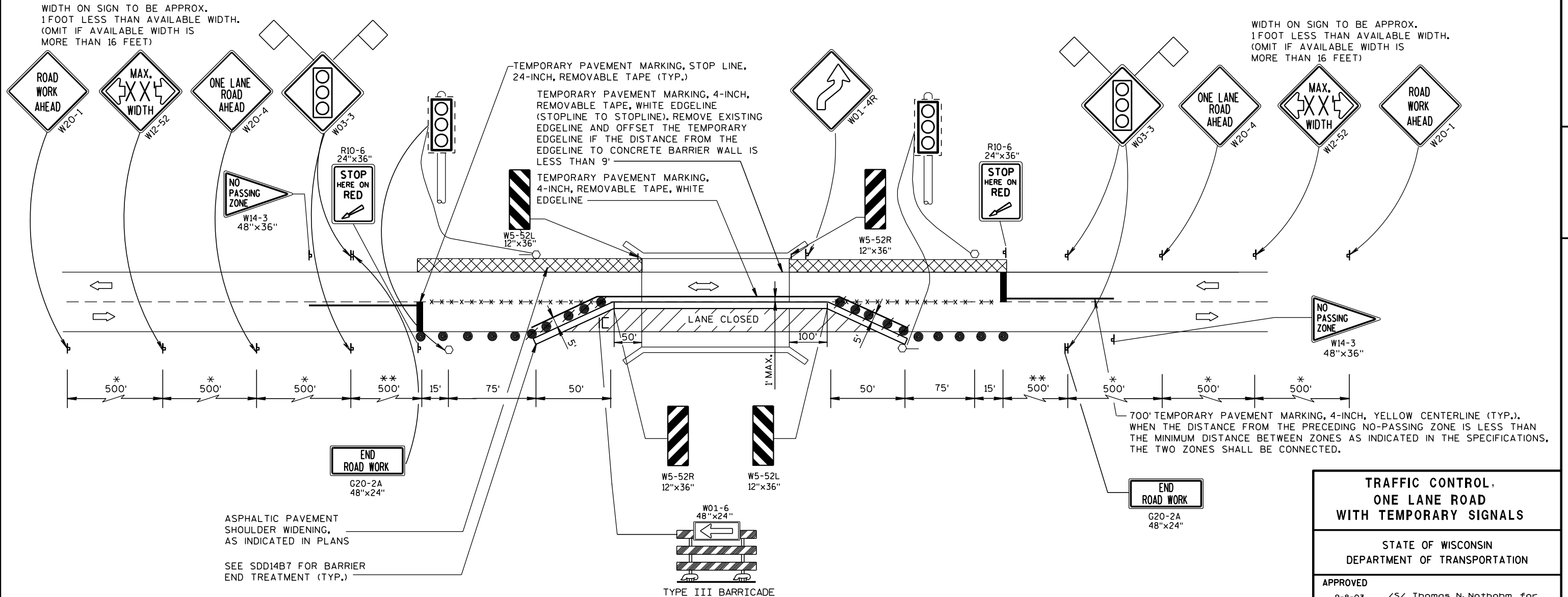
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

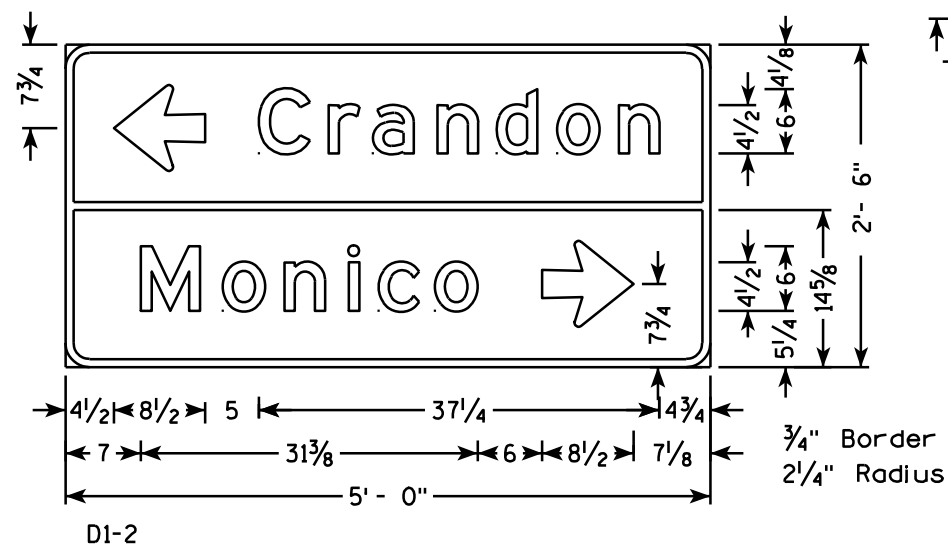
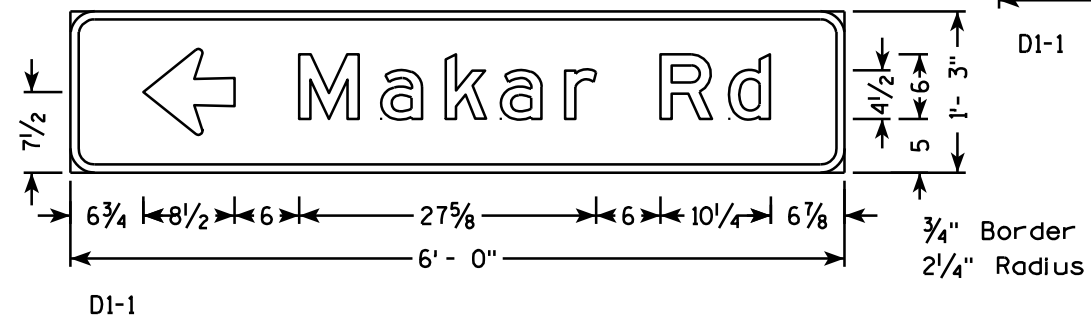
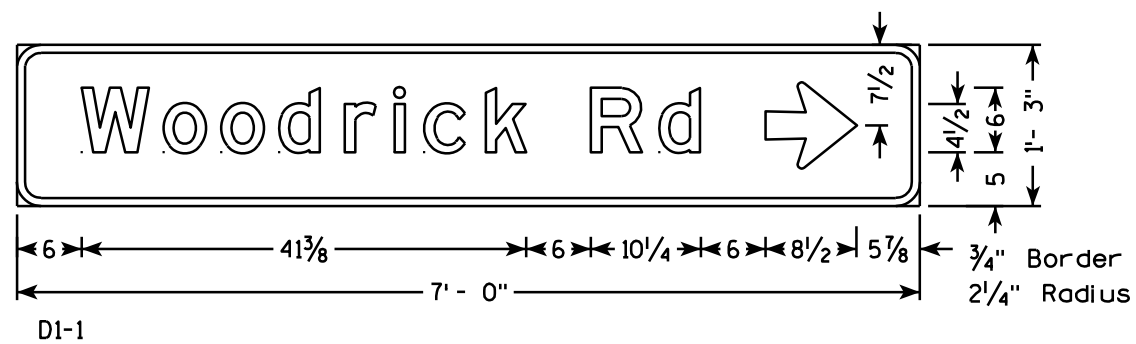
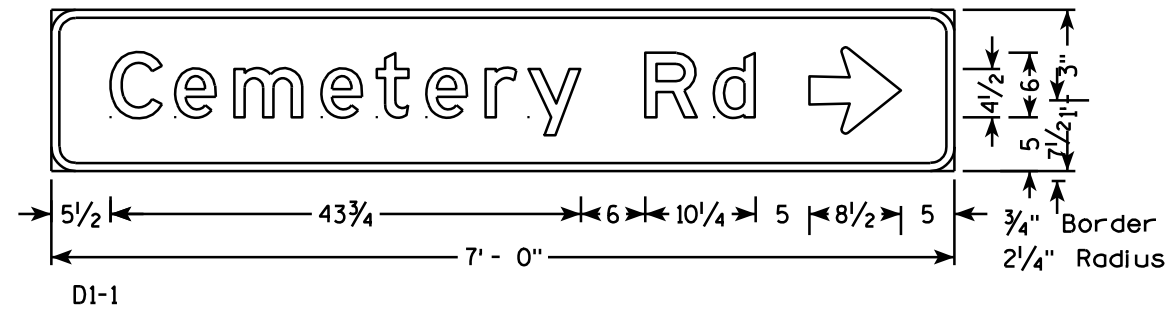
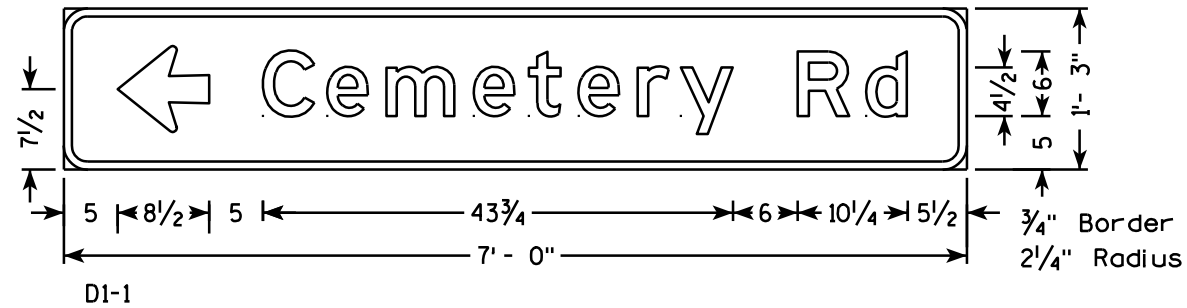
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

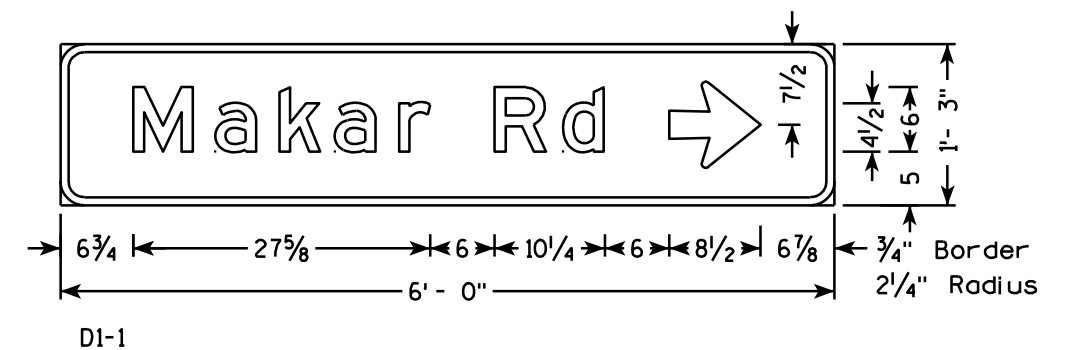
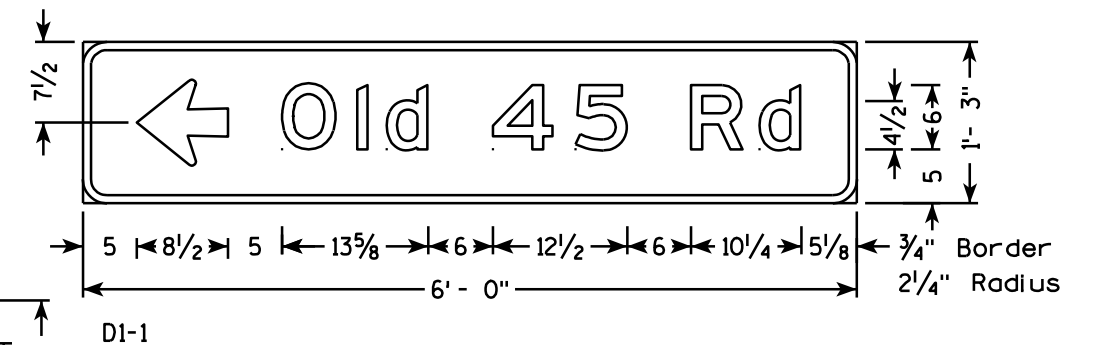
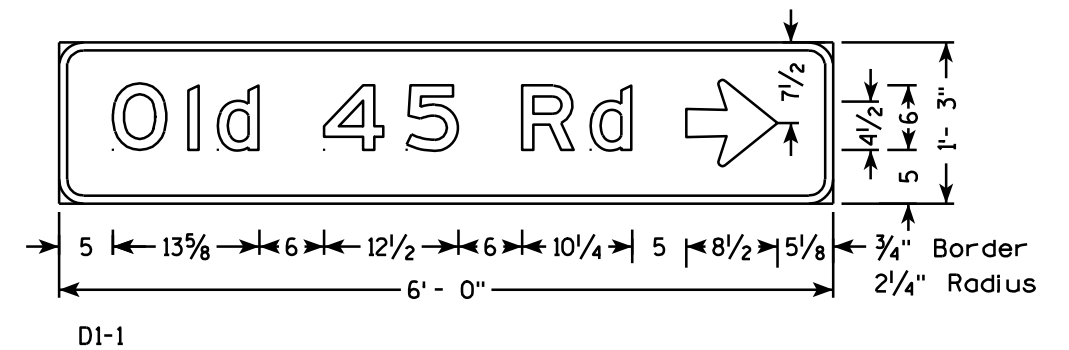
* 500' SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350' TYPICAL SPACING. FOR 25-30 MPH, USE 200' TYPICAL SPACING.

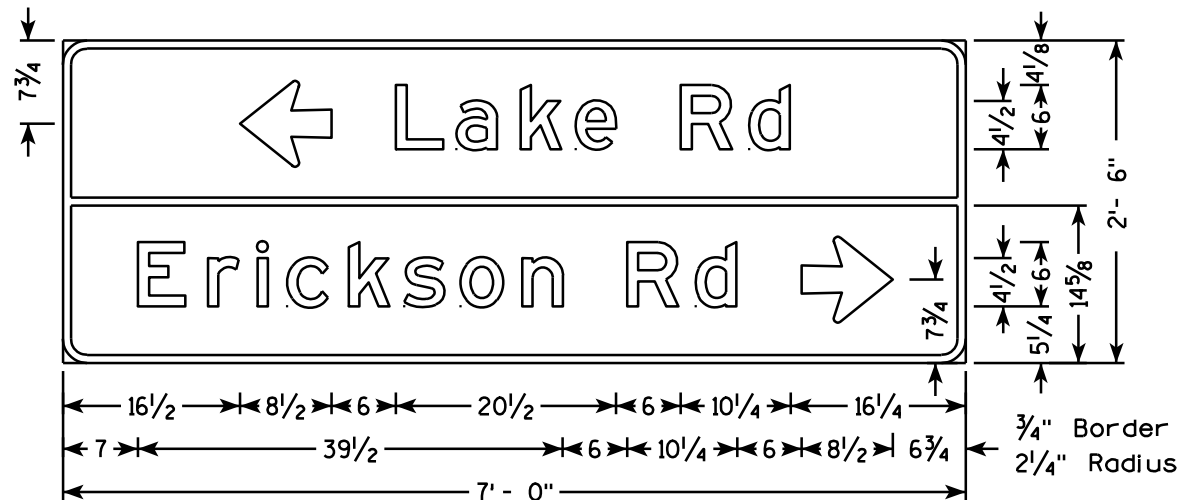
** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.



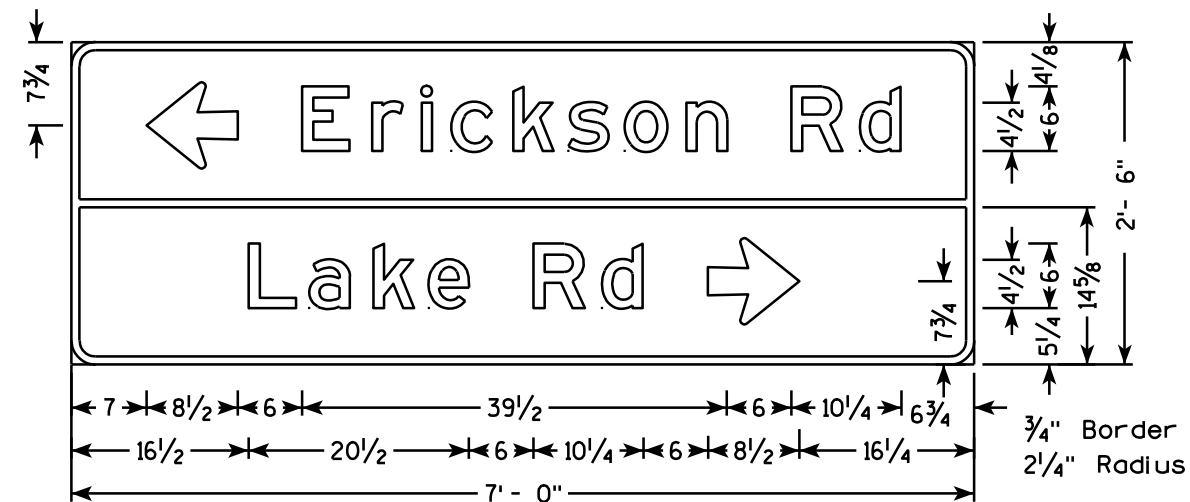


- NOTES**
1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
 2. Color:
Background - GREEN
Message - WHITE
 3. Message Series - E

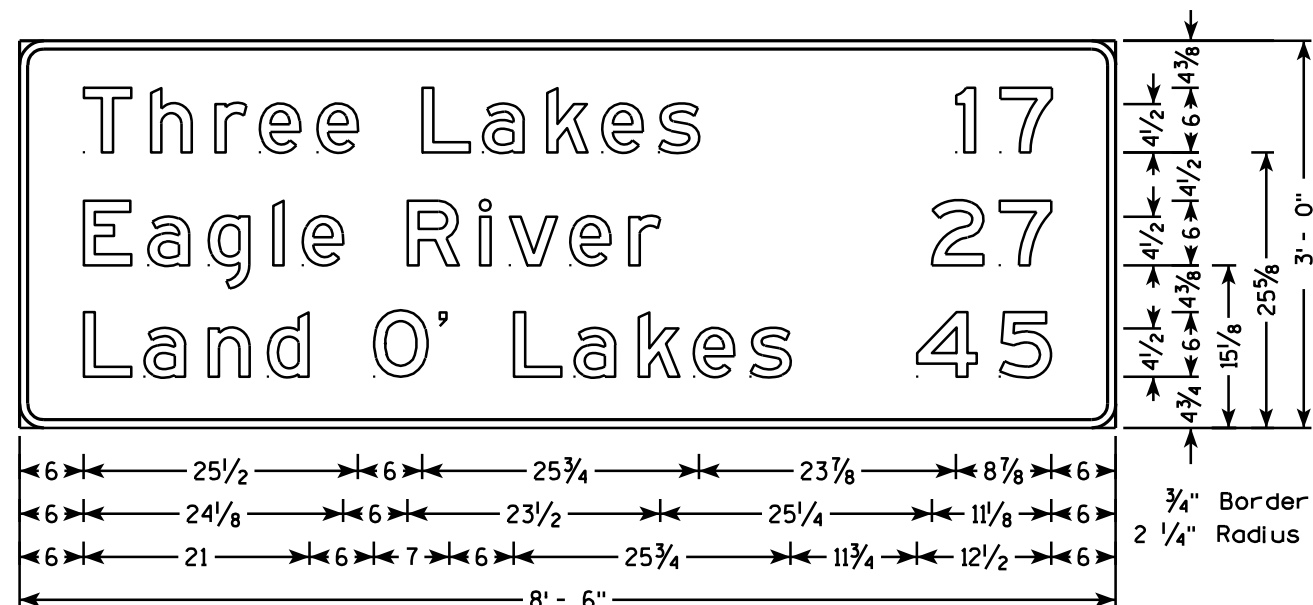




D1-2



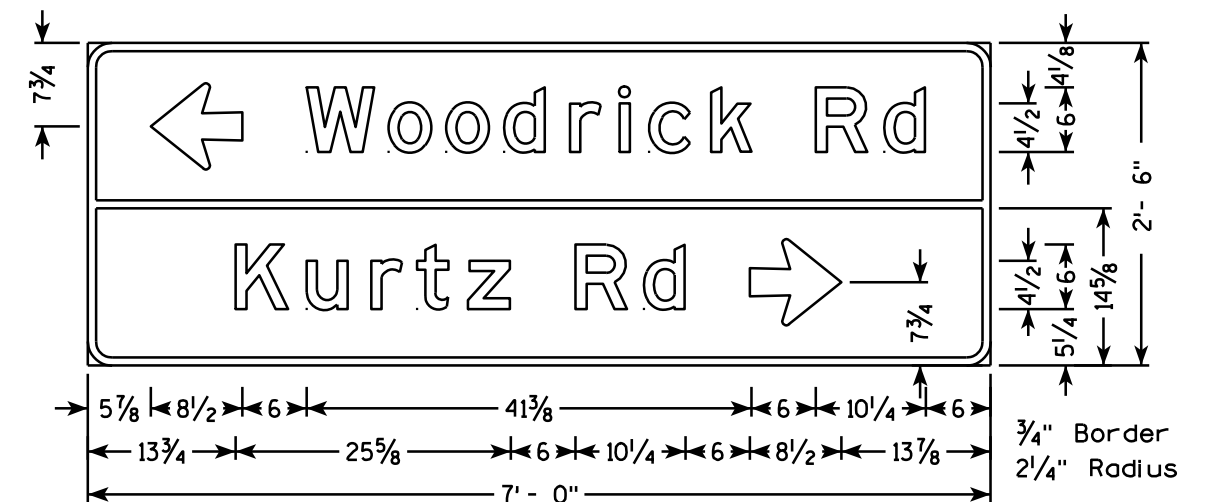
D1-2



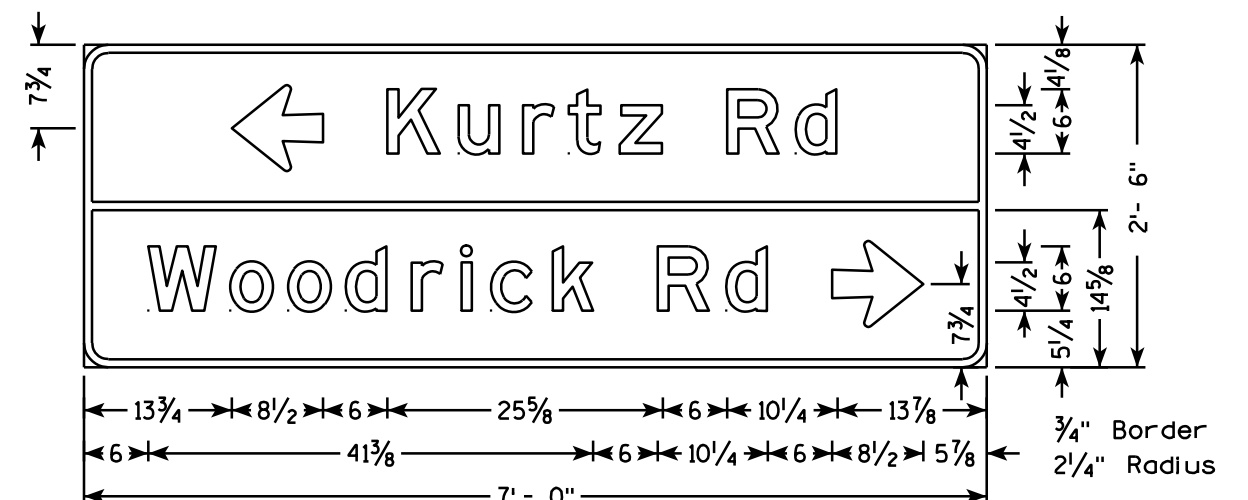
D2-3

NOTES

1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - GREEN
Message - WHITE
3. Message Series - E



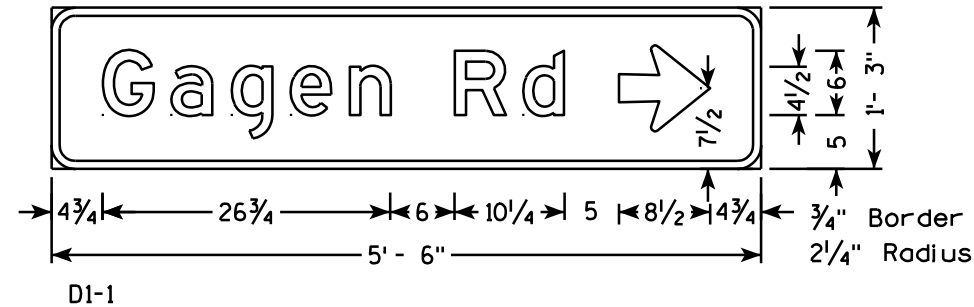
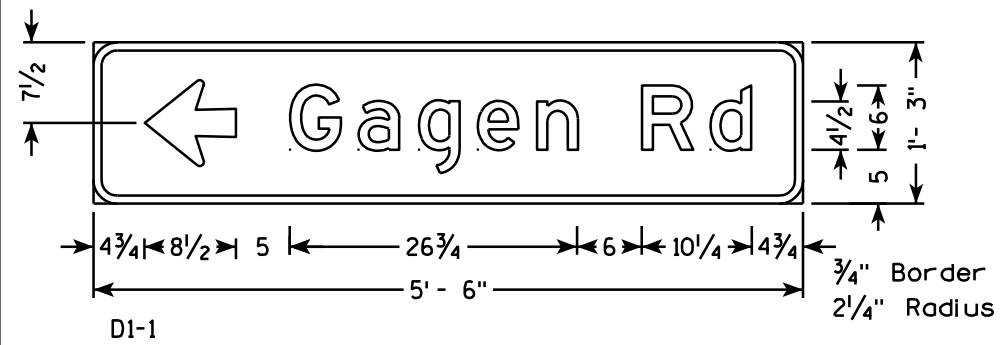
D1-2



D1-2

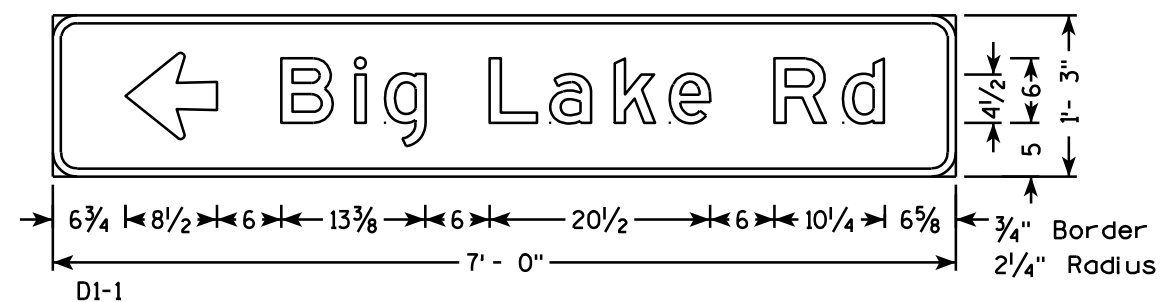
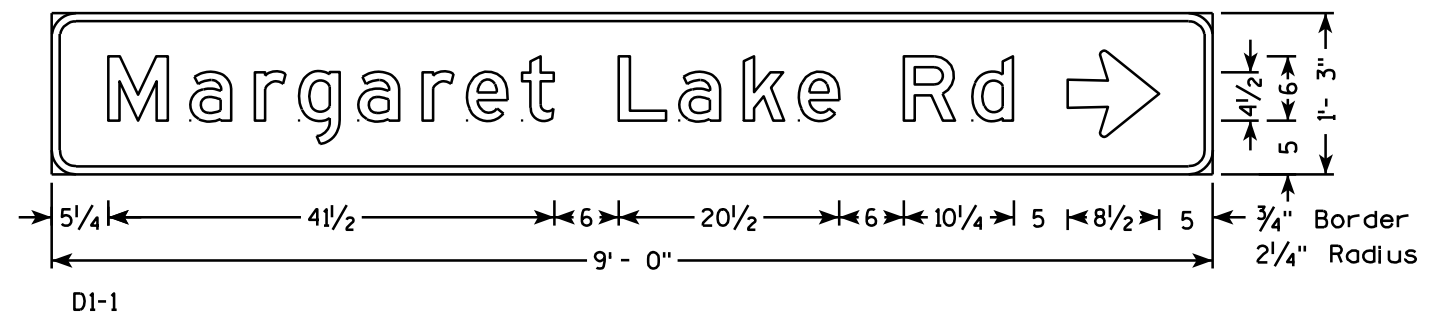
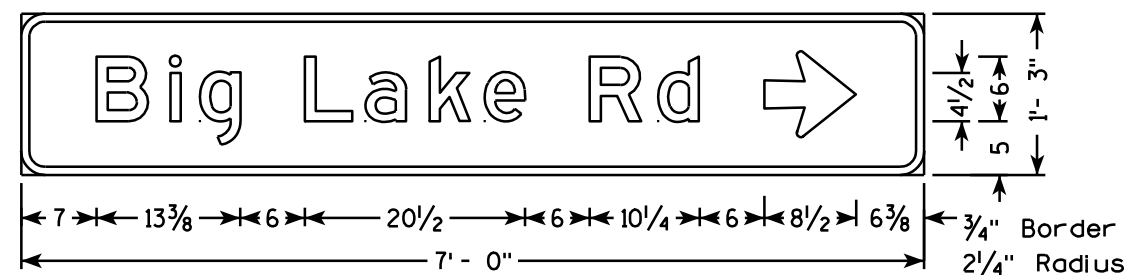
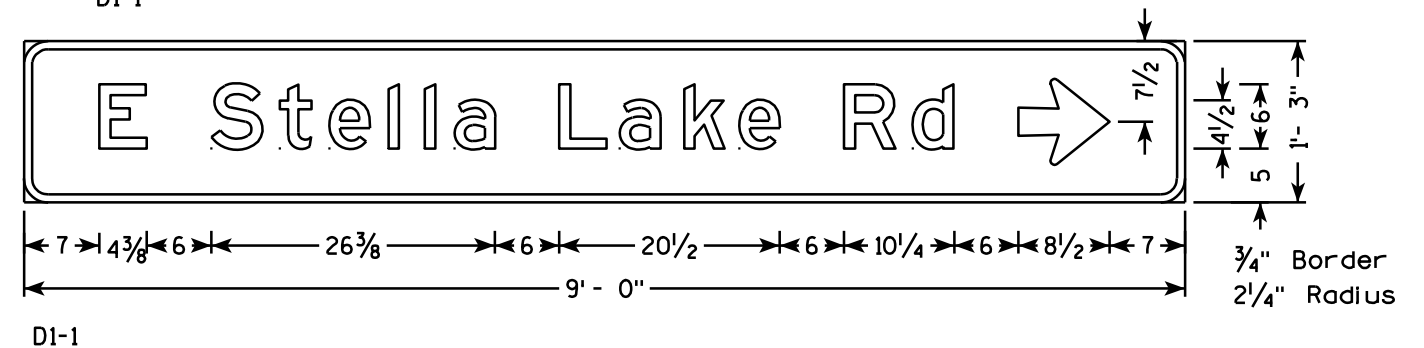
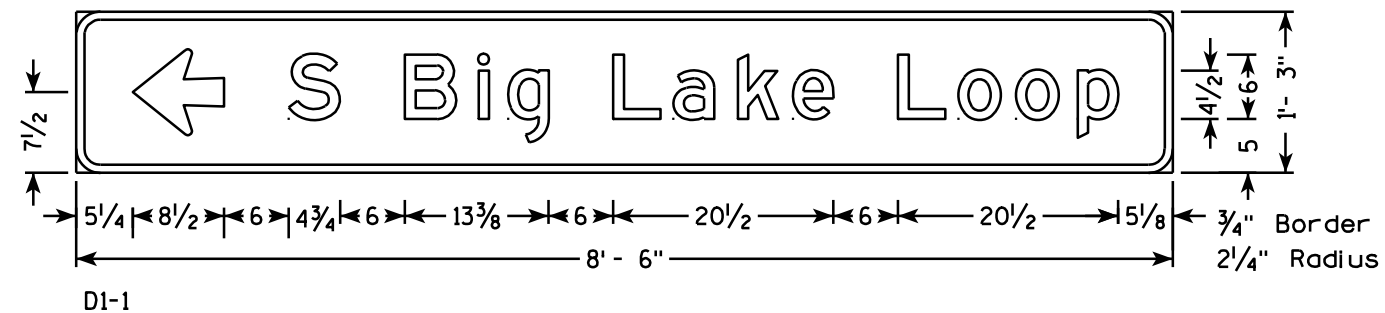
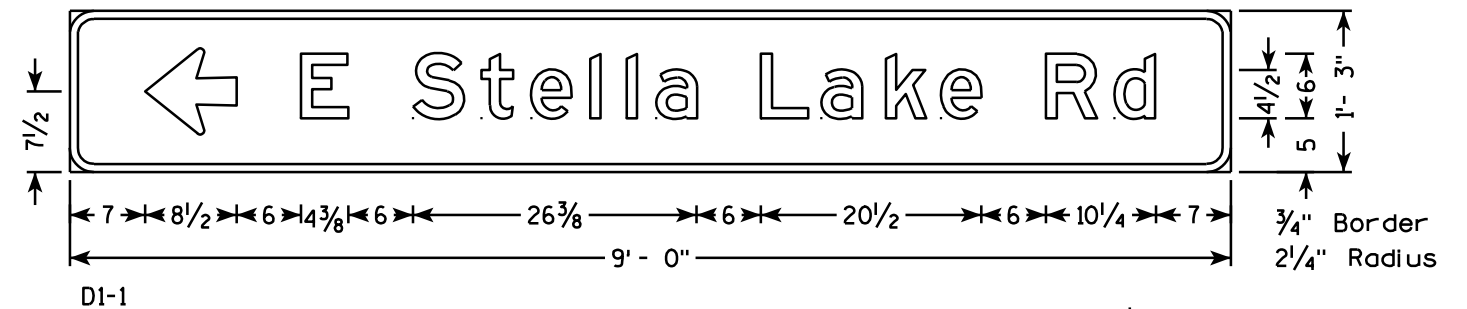
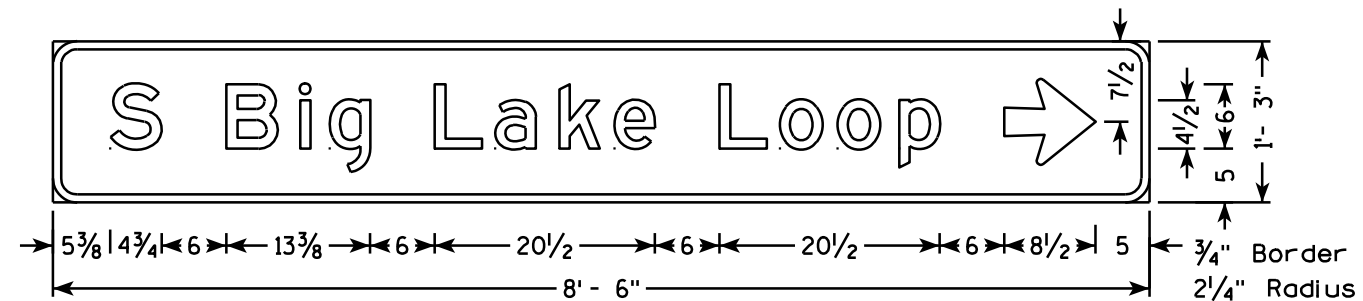
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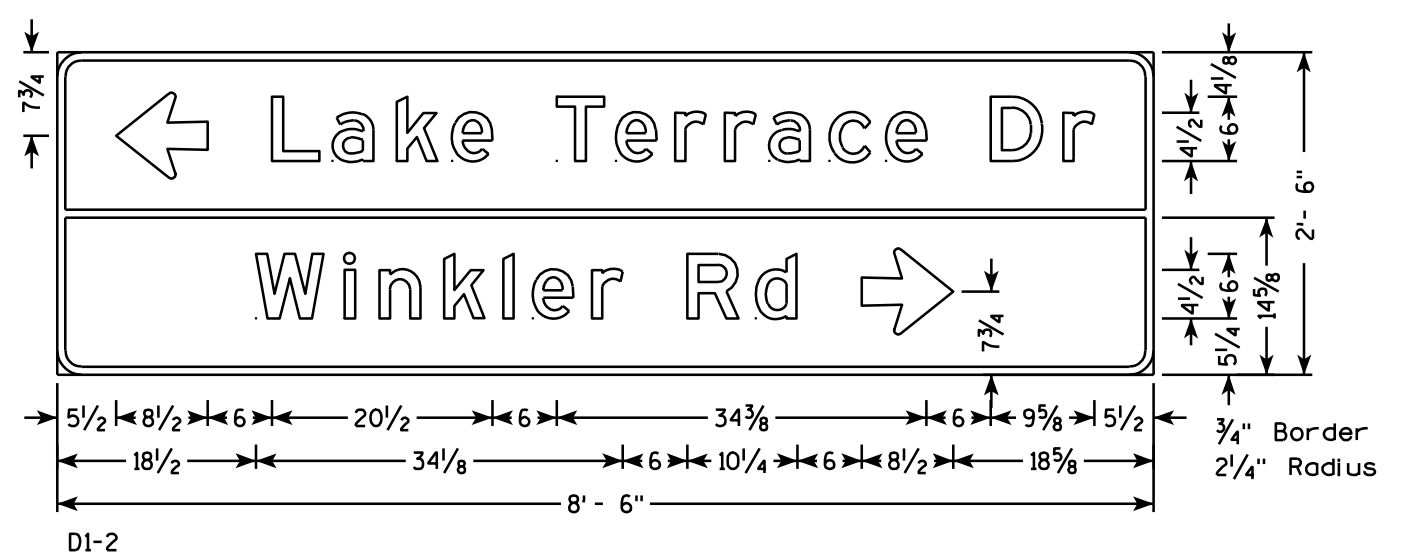
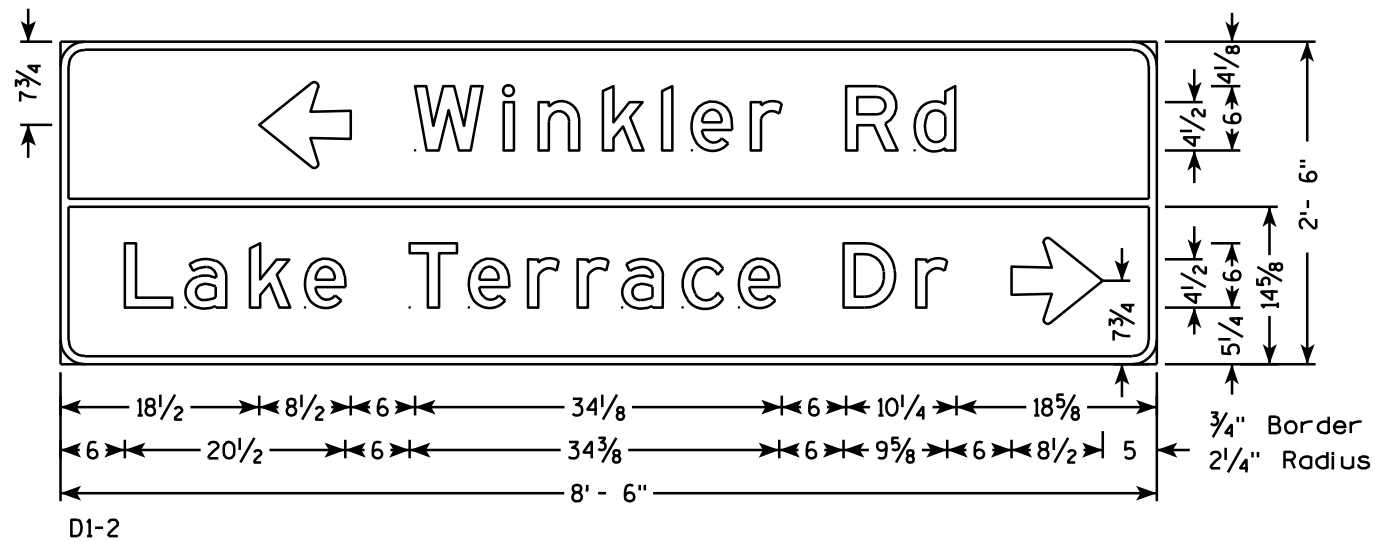
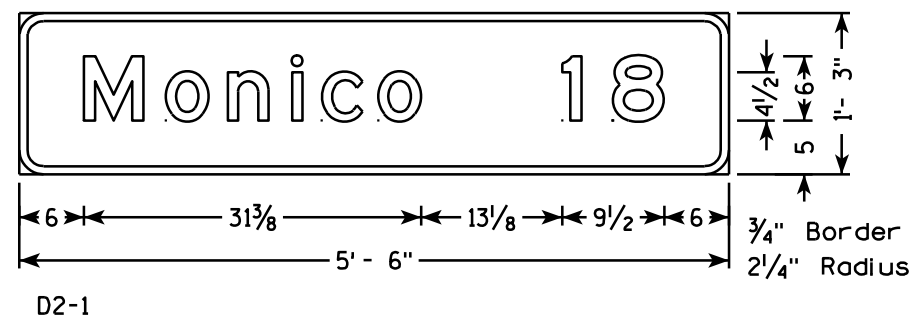
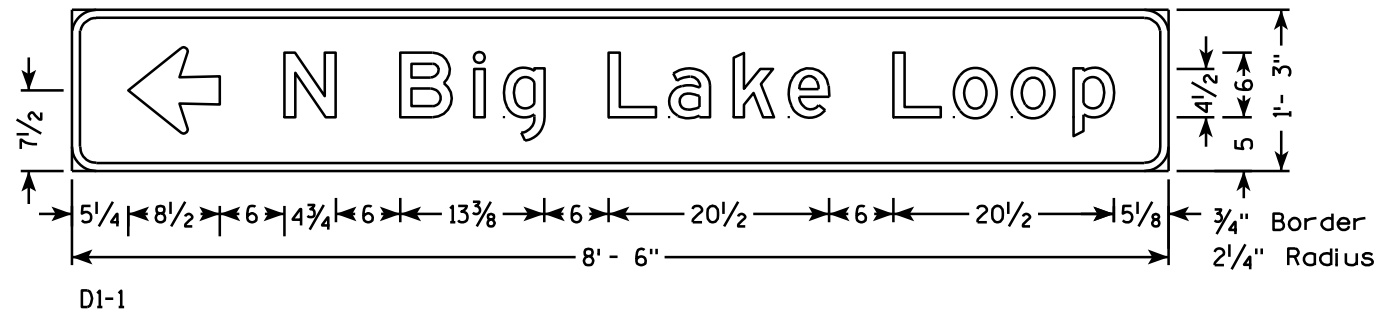
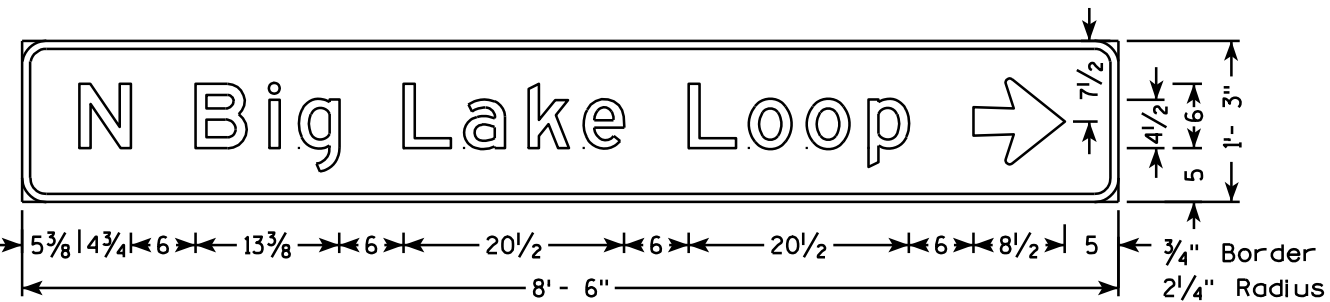
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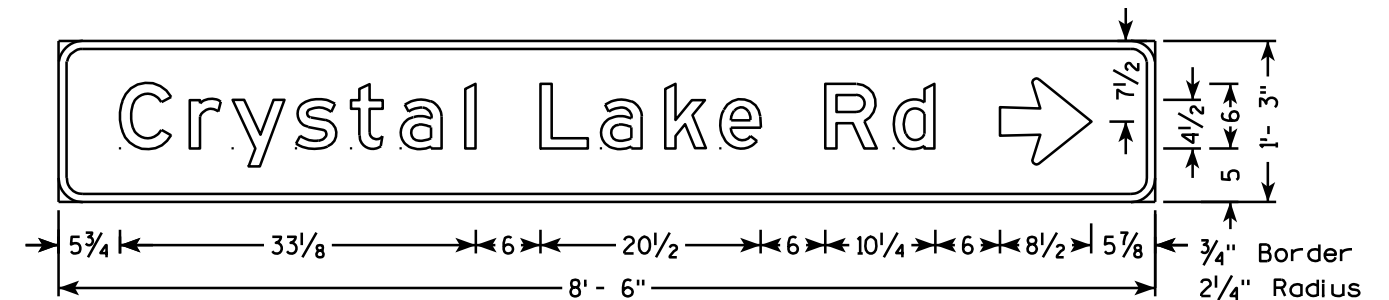
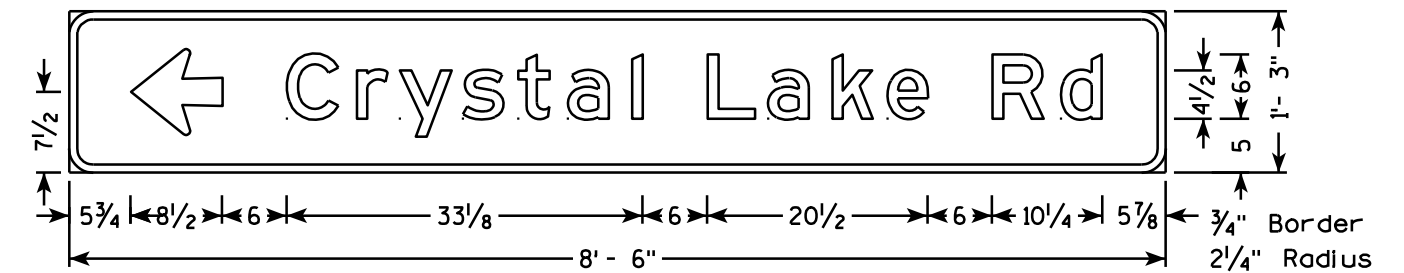
1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
 - Background - GREEN
 - Message - WHITE
3. Message Series - E



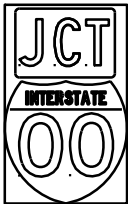


NOTES

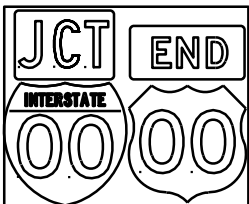
1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
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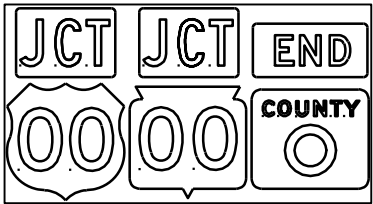
TYPICAL ASSEMBLIES



J1-1



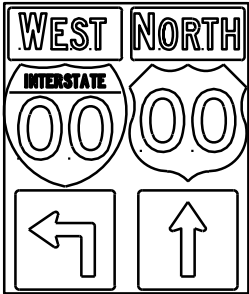
J1-2



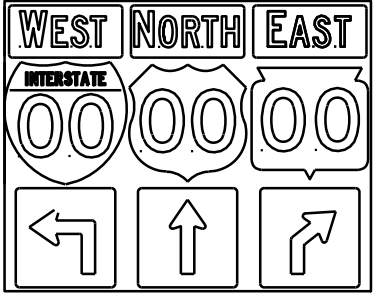
J1-3



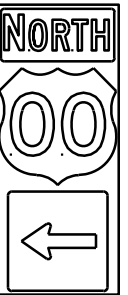
J2-1



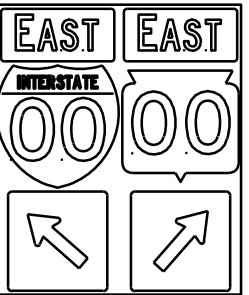
J2-2



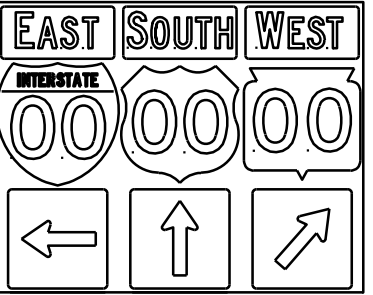
J2-3



J3-1



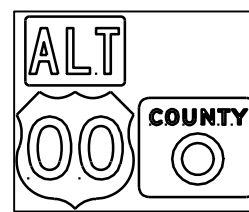
J3-2



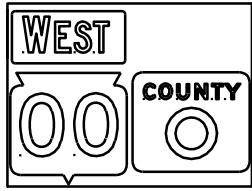
J3-3



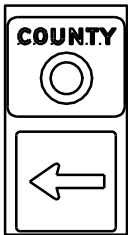
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



J23-1

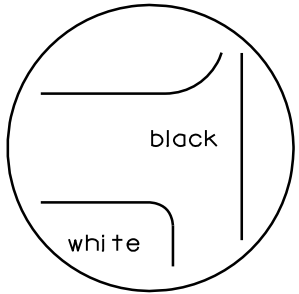
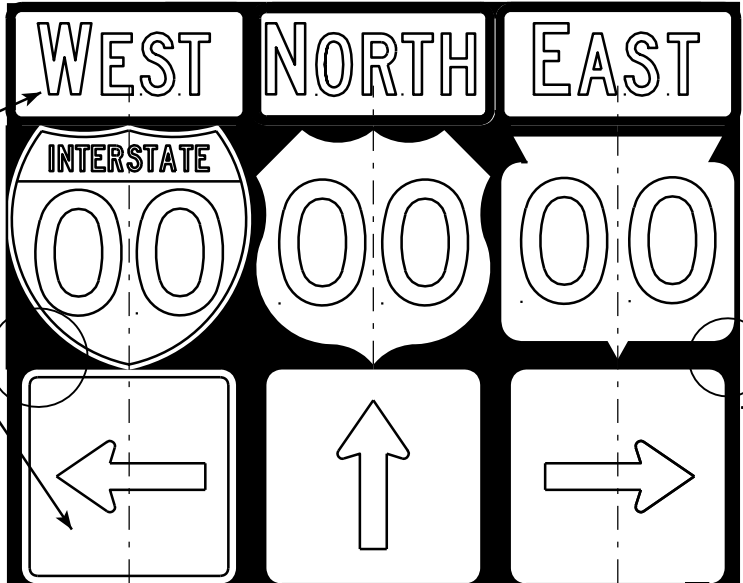
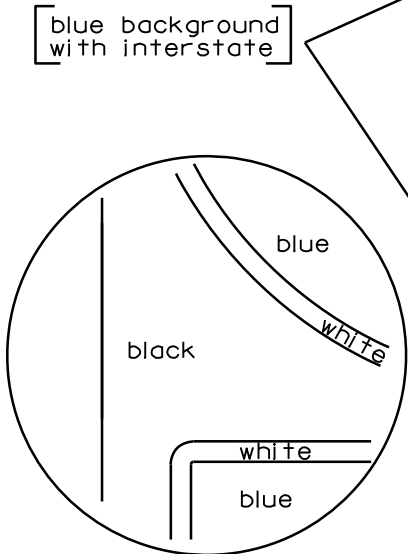


J22-1



JV

(Typical Vertical J-Assembly
See Note 10 and 11)



[black background]

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
For State Traffic Engineer

DATE 3/25/13

PLATE NO. A2-1S.7

PROJECT NO:

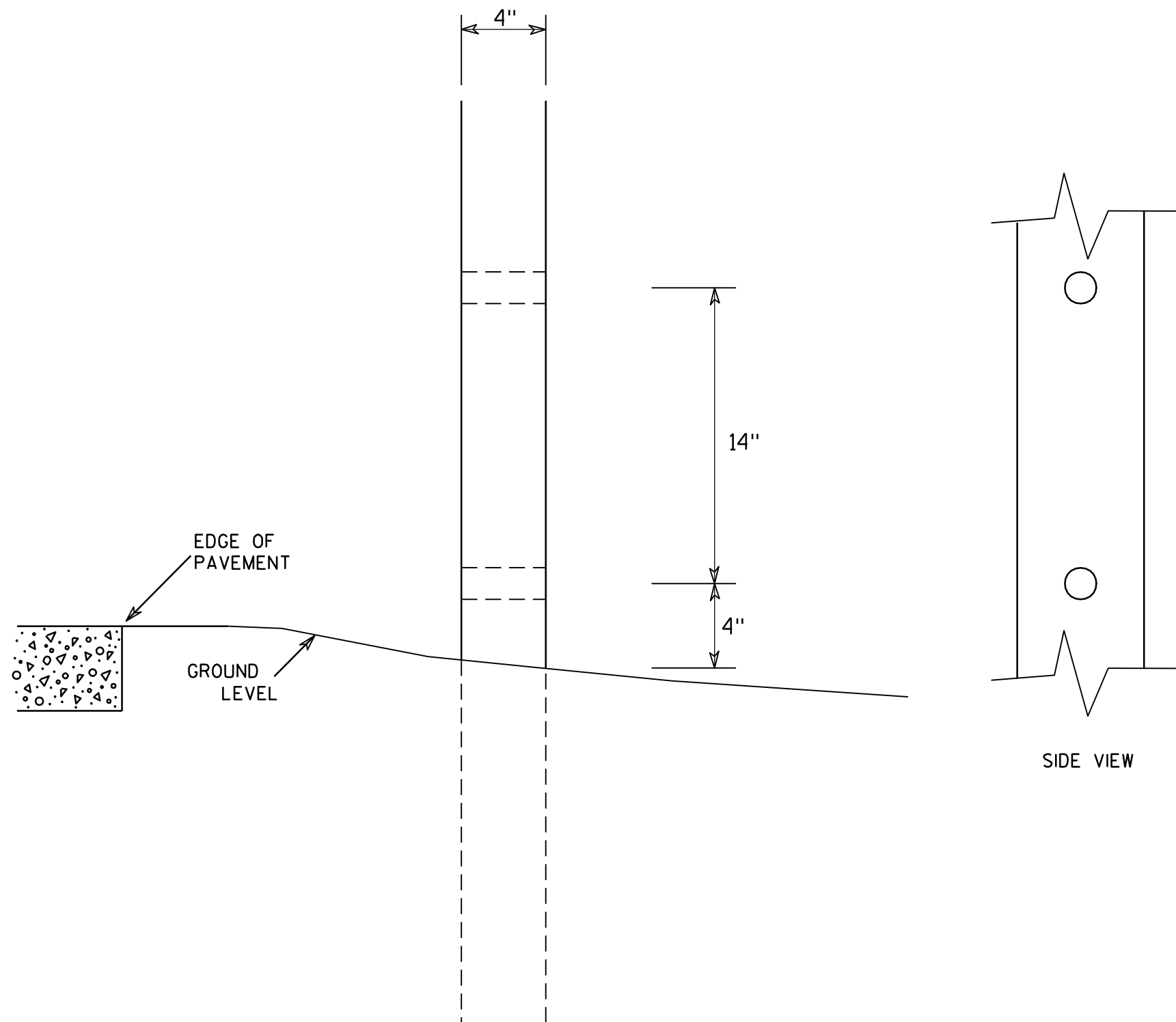
SHEET NO:

E

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Black Non-reflective
Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

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:

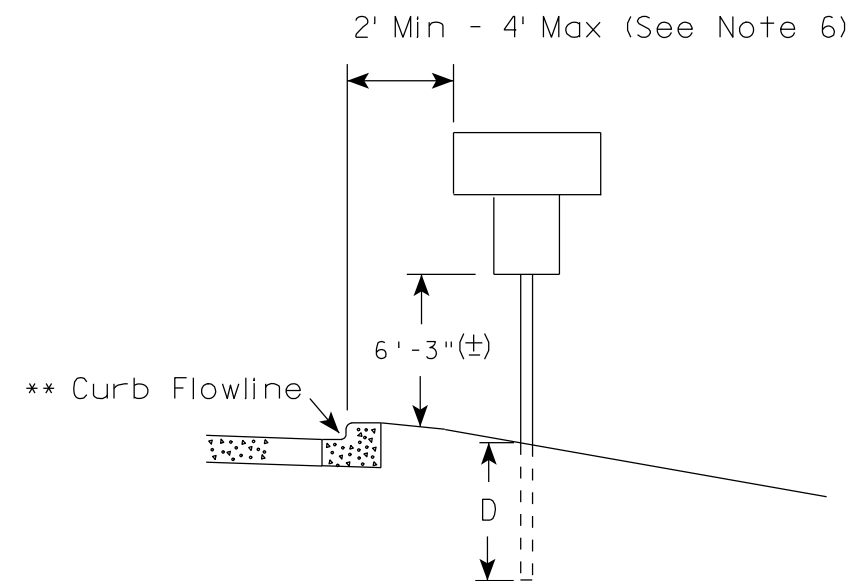
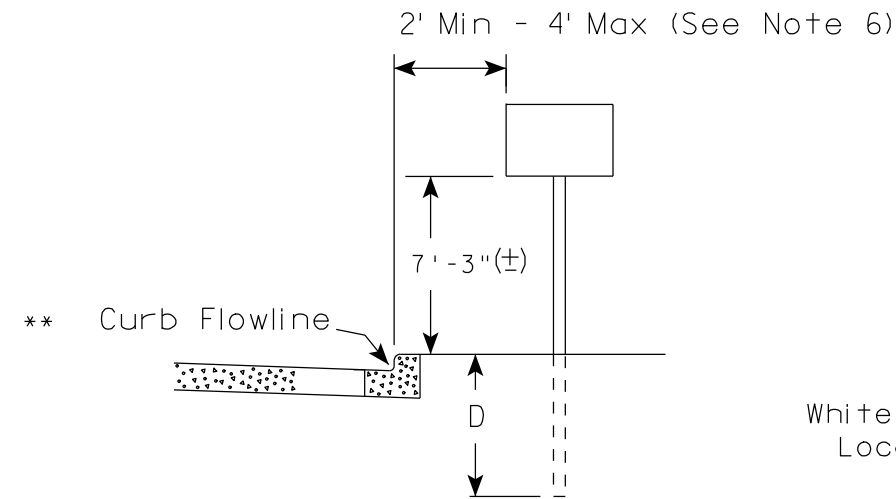
HWY:

COUNTY:

SHEET NO:

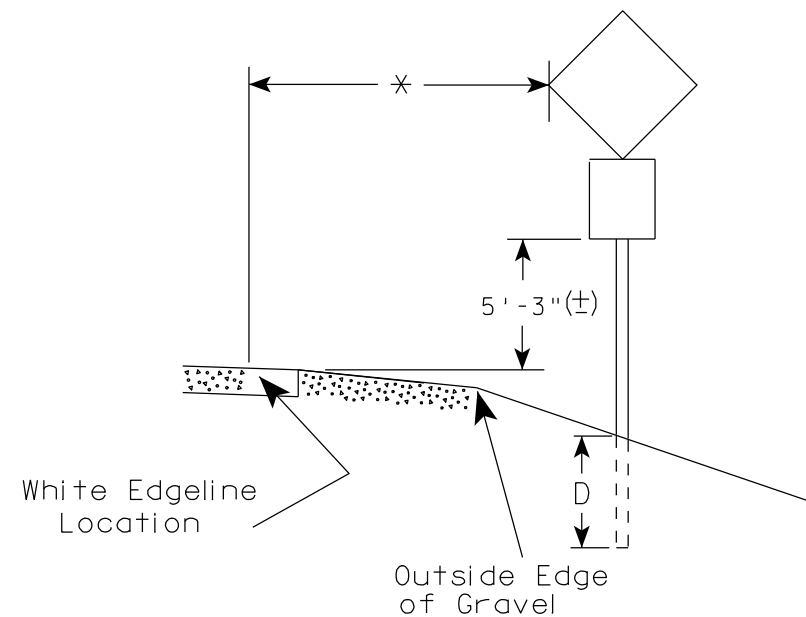
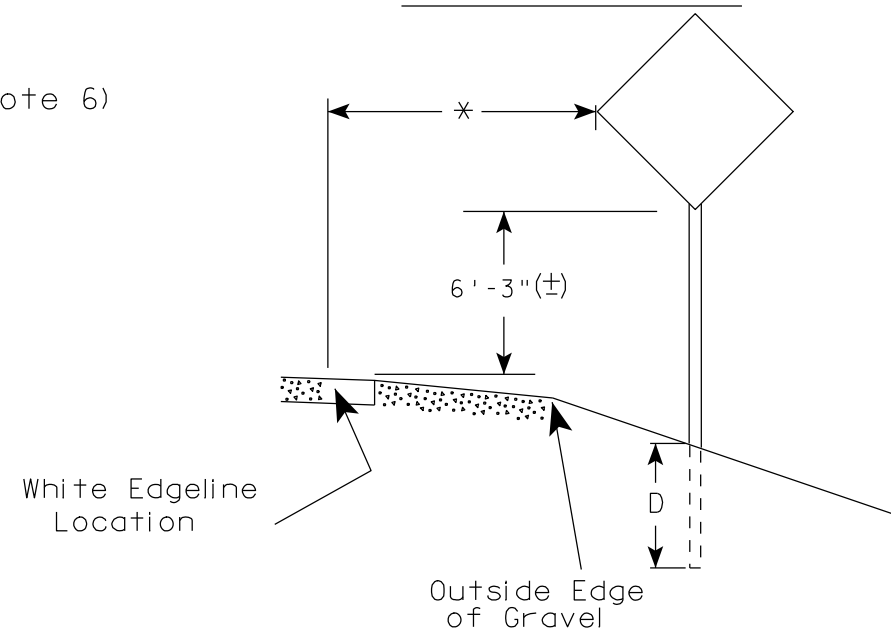
E

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.

GENERAL NOTES

1. Signs wider than 4 feet or larger than 20 sq. ft. shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'-3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/24/2013 PLATE NO. A4-3.17

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

GENERAL NOTES

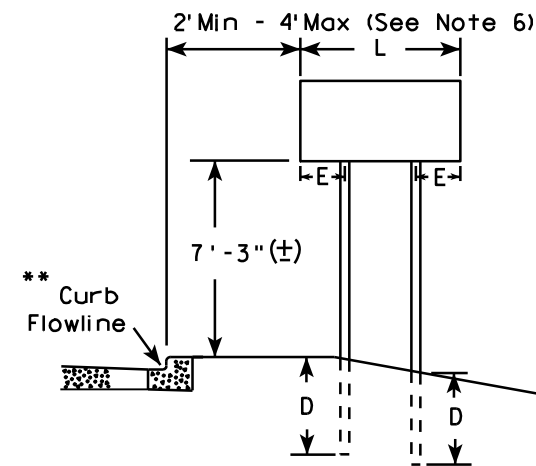
- For multiple post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.
- Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
- The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4"-3" (±).

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

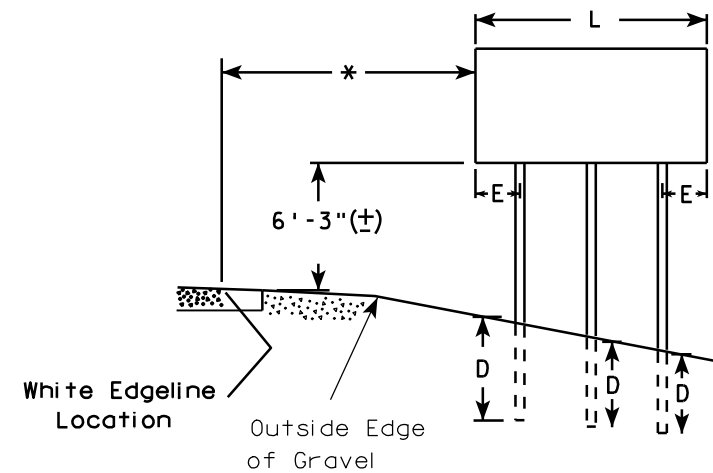
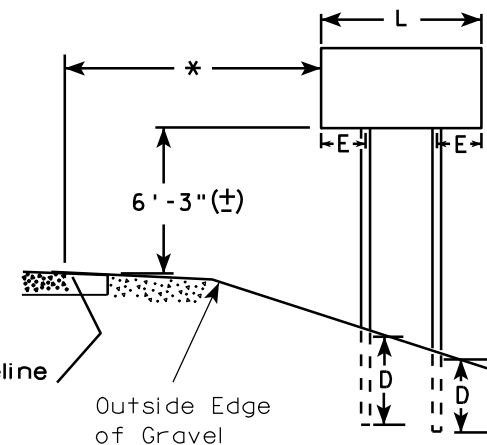
** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs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

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

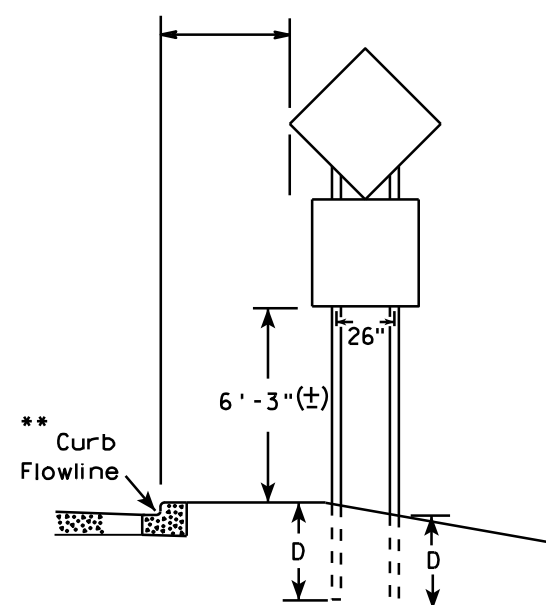
URBAN AREA



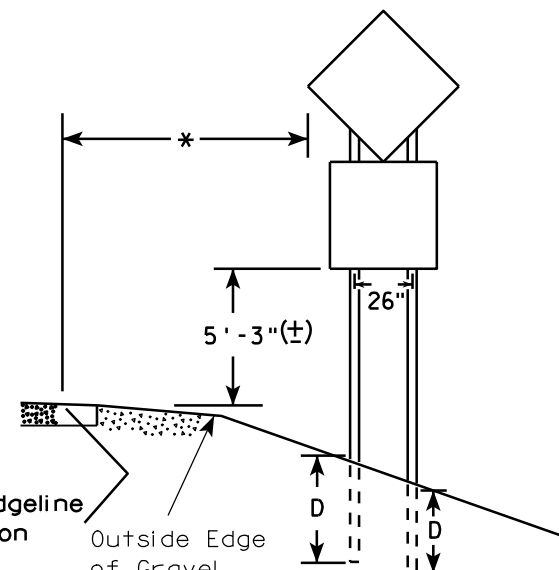
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)

L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)

L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)

L	E
168" and greater	12"

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION
 APPROVED *Matthew R. Rauch*
 For State Traffic Engineer
 DATE 9/21/2011 PLATE NO. A4-4.11

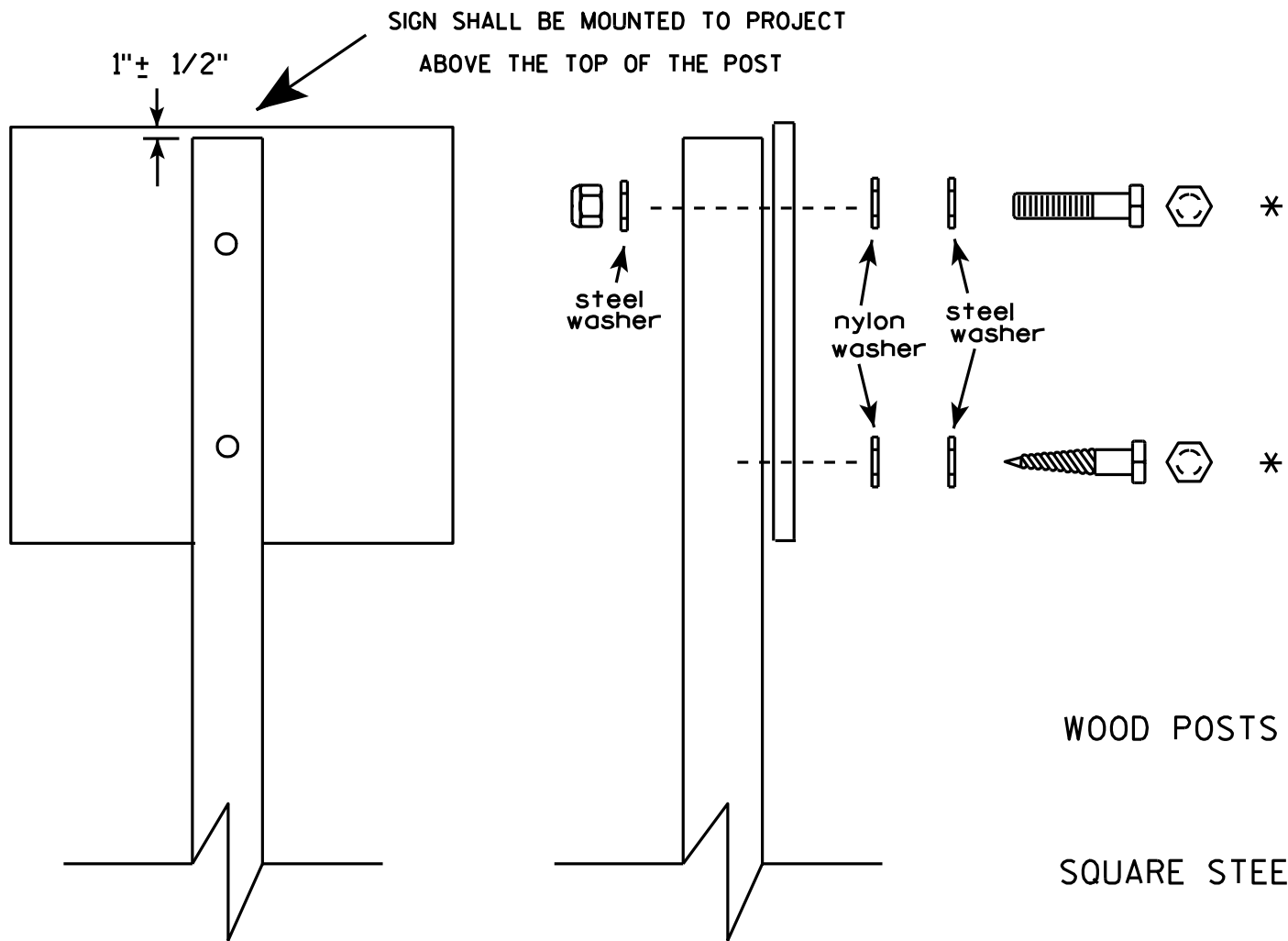
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

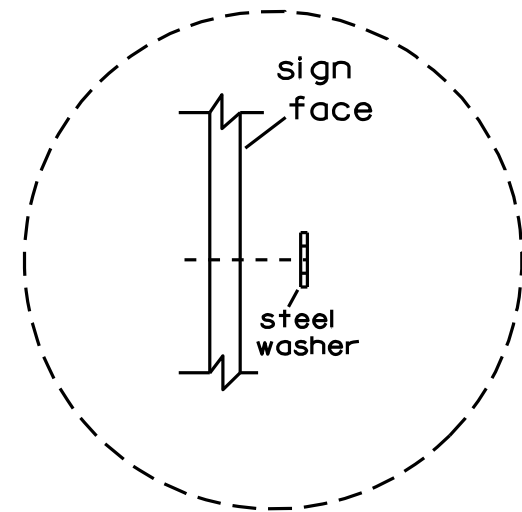


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

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

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

- WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



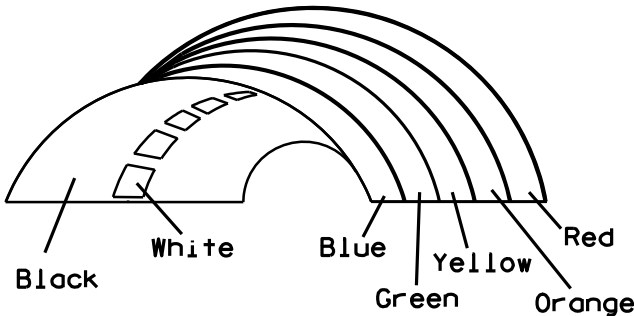
Washer Placement when Sign Has Other Than Type H or Type F Face

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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7



Background Colors of Symbol*



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 - (See Note 5)
- 3. Message Series - (See Note 6)
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Border - Blue
 - Line 1- Red
 - Line 2 - Black
 - Line 3-5 - Blue
- 6. Line 1- Dutch 8011L
 - Line 2 - Series E
 - Line 3-5 - Series C
- 7. Contractor shall provide and install a new post bracket in accordance with the I55-56B sign 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																											
2	30	36	1 1/2	1/2	5/8	3	2	3 1/2	2 7/8	1	8	2 1/8	11 1/4	11 1/8	9 3/8	1 1/4		3/4	12 5/8	7 1/2							7.5
3																											
4																											
5																											

STANDARD SIGN
I55-56

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 4/27/11 PLATE NO. I55-56.3

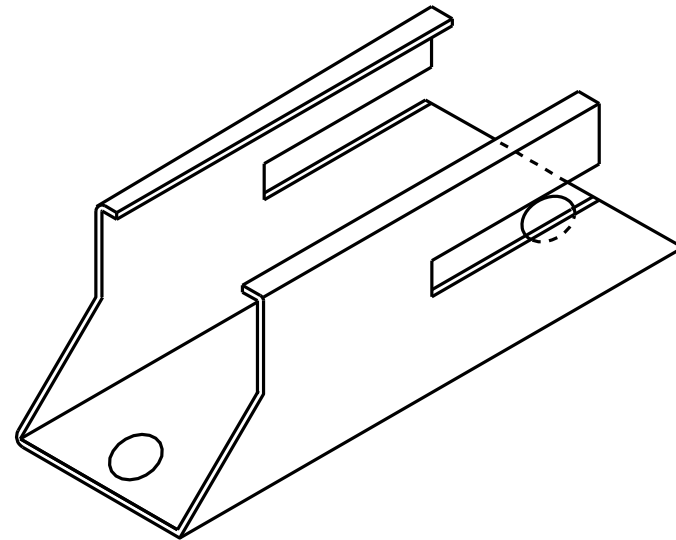
PROJECT NO:

HWY:

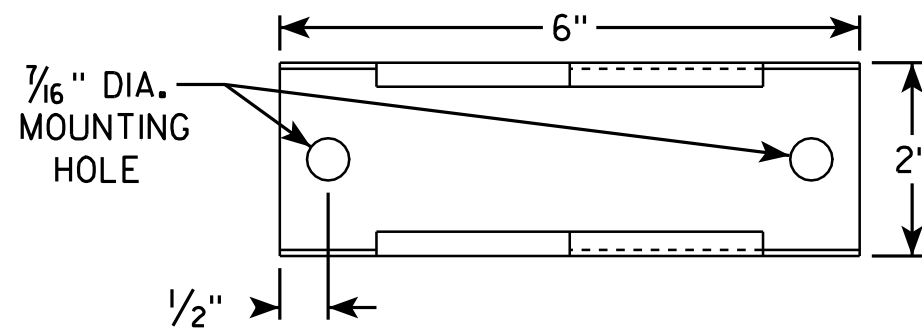
COUNTY:

SHEET NO:

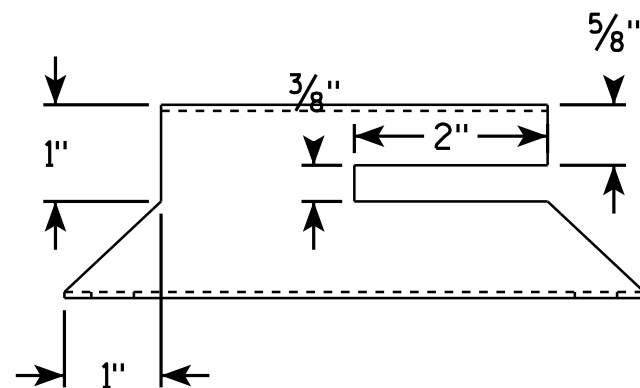
ISOMETRIC VIEW



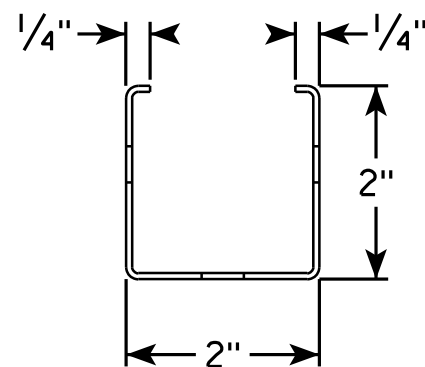
TOP VIEW



SIDE VIEW



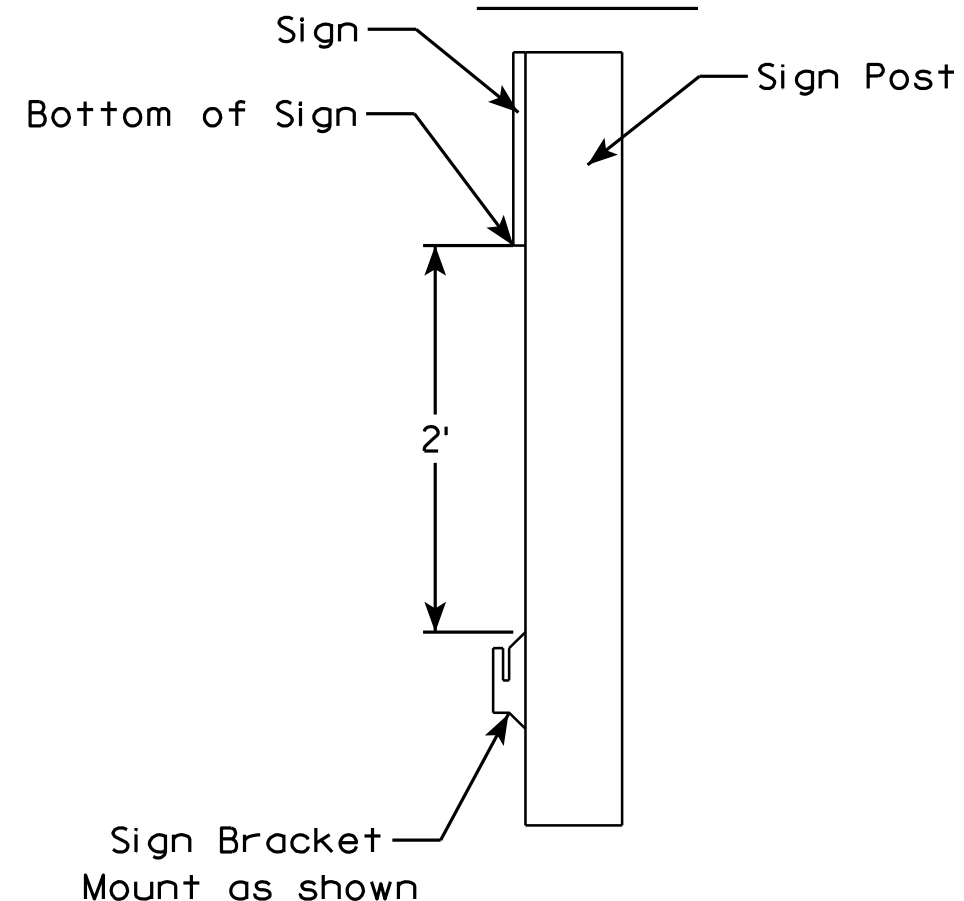
END VIEW



NOTES

1. Must be capable of permanent attachment to a wood or steel channel sign post utilizing the fastening hardware specified on the A4-8 sign plate.
2. Shall be entirely primed and painted with two coats of a black powder coated enamel paint.
3. Shall be made with 12 gauge steel, and incorporate no welds, no hinged components, no threaded lock-type components, and no parts which are loose or can be separated from the main body.
4. Shall have rounded edges with at least 1/8" radii.
5. Shall not have unrounded and uncoated metal edges which can contact the back surface of the roll-up sign.
6. Top of bracket shall be mounted 2' below the bottom of the I55-56 sign.
7. Cost of bracket and fastening hardware shall be incidental to the I55-56 sign.

SIDE VIEW



ROLLUP SIGN BRACKET
I55-56B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/5/10 PLATE NO. I55-56B.1

PROJECT NO:

HWY:

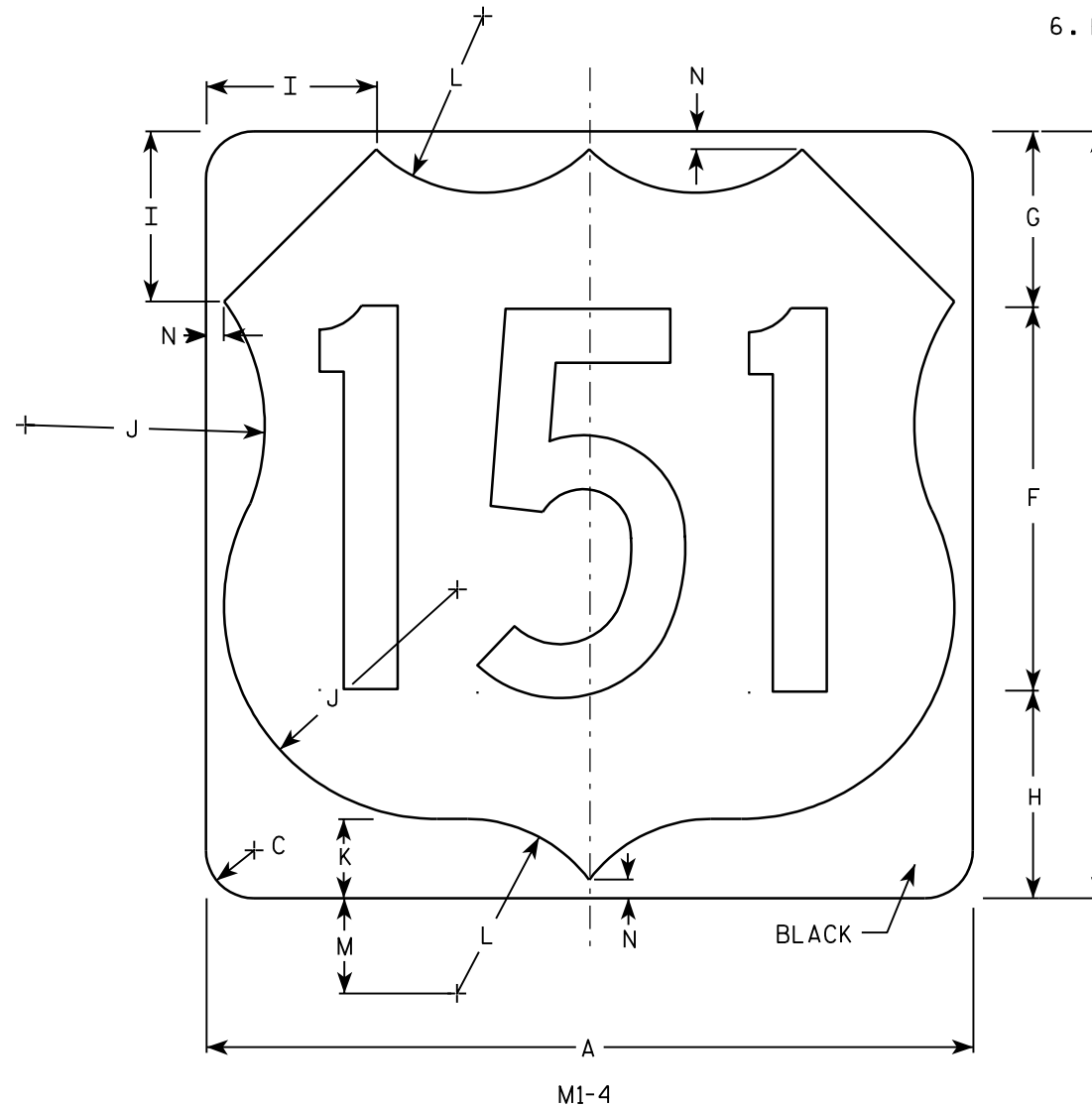
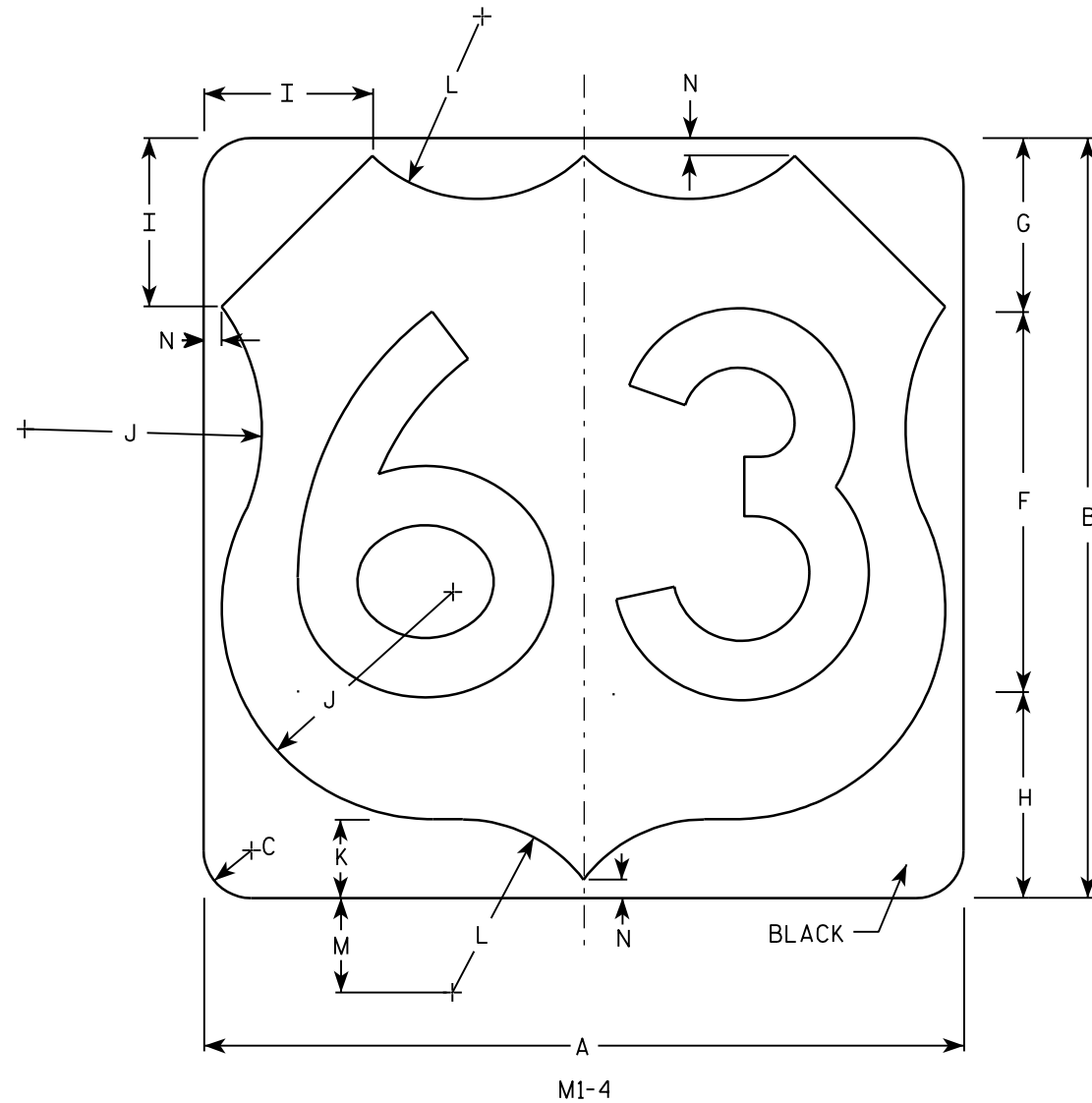
COUNTY:

SHEET NO:

E

NOTES

1. Sign is Type II - See Note 6 - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 6
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. Substitute appropriate numerals and adjust
spacing as per Plate A10-1.
6. Permanent Signs
Background - Type H Reflective
Detour or other temporary signs
Background - Reflective



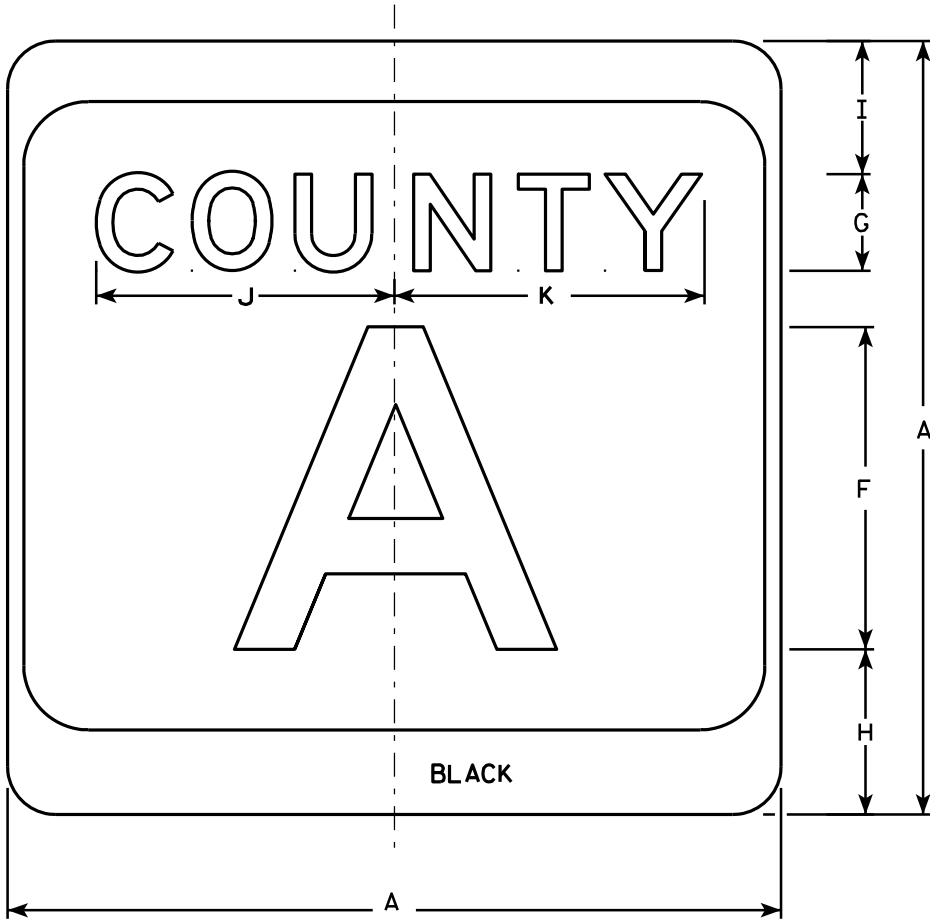
Metric equivalent
for this sign is:

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

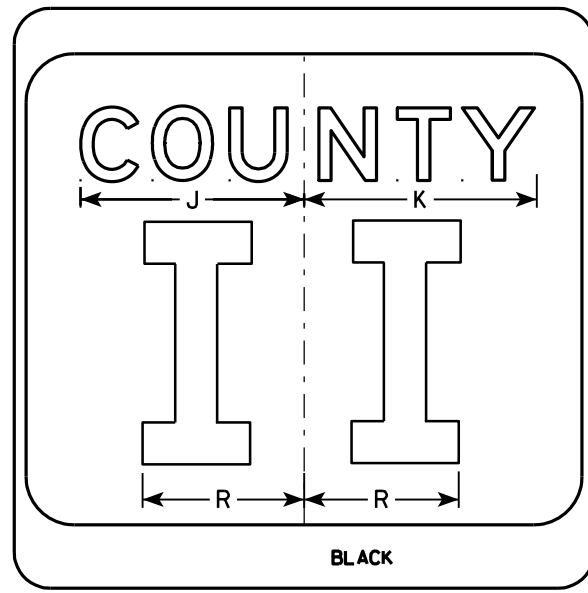
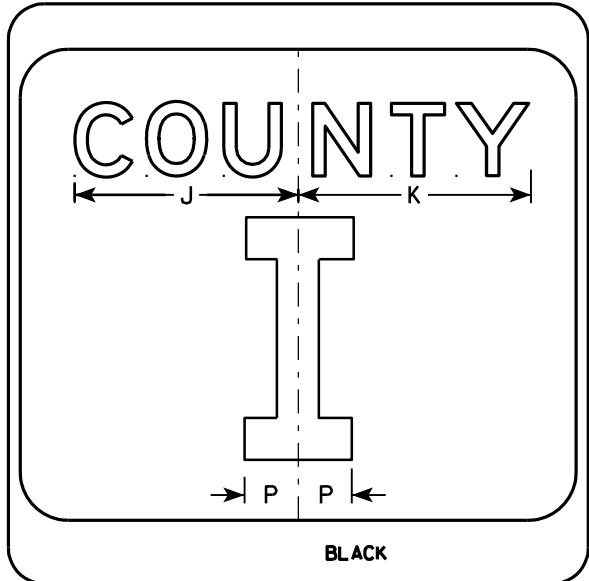
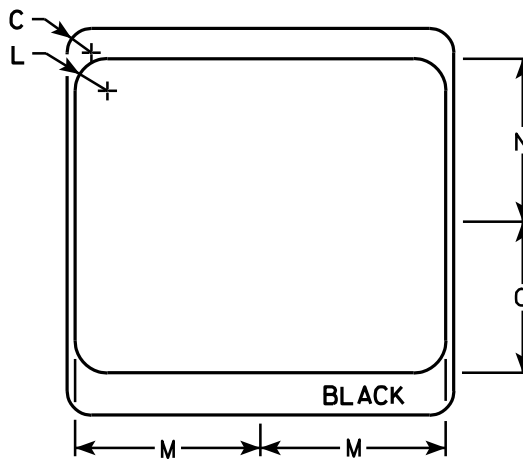
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Areq sq. ft.	Areq m ²
1																												
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0	.36
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81

PROJECT NO: HWY: COUNTY: SHEET NO: E

7



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:

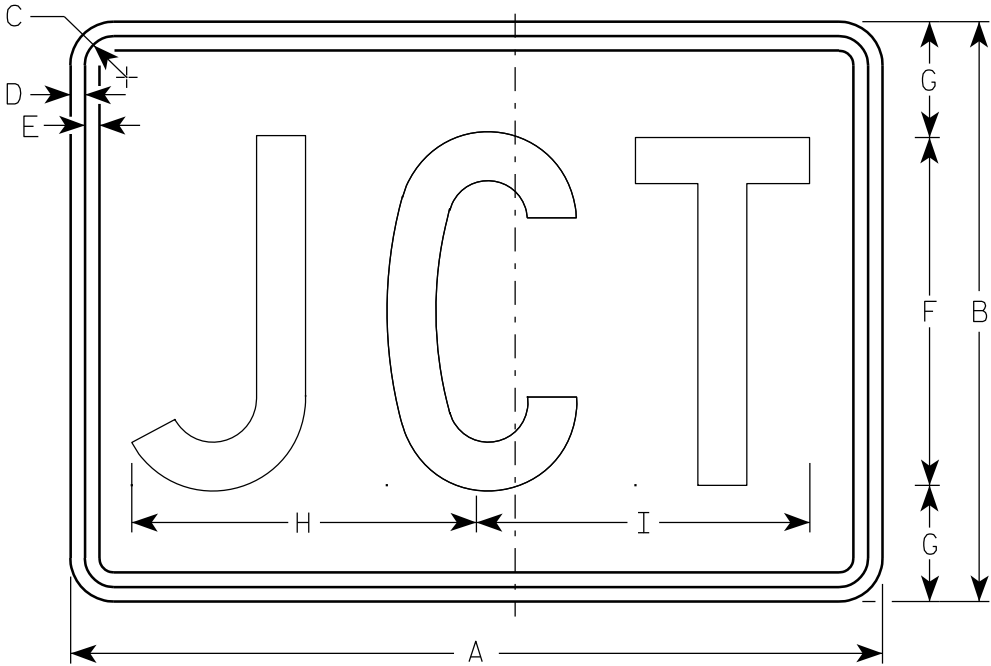
SHEET NO:

E

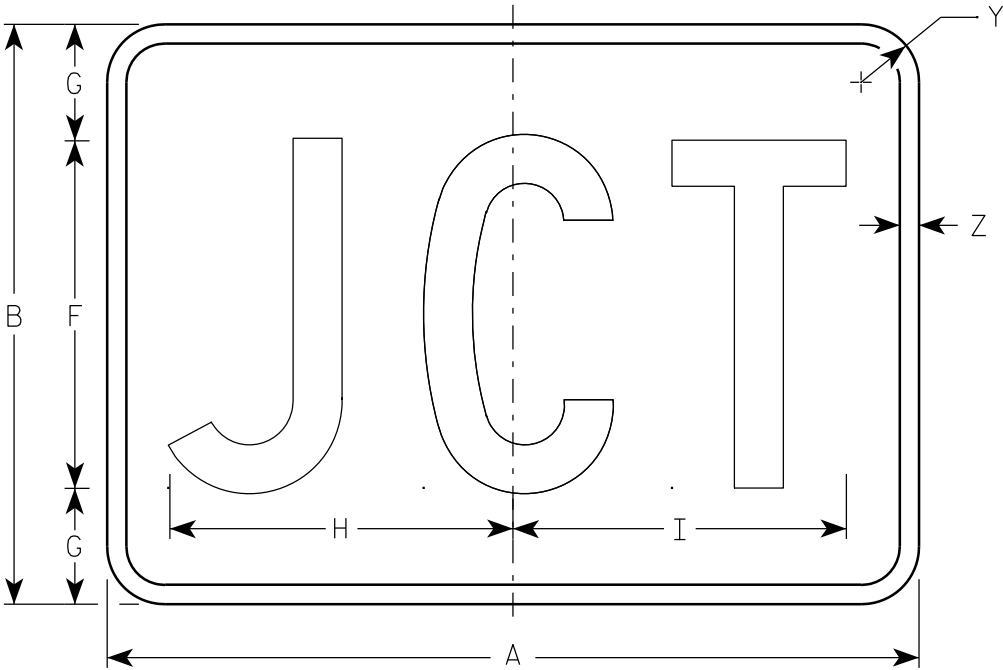
7

NOTES

1. Sign is Type II - See Note 5 - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base
material is plywood but borders shall be rounded
as shown. When base material is metal, the
corners and borders shall be rounded.
5. M2-1 Background - White - Type H Reflective
(Detour or temporary Signs - Reflective)
Message - Black
MB2-1 Background - Blue
Message - White - Type H Reflective
(Detour or temporary Signs - Reflective)
MG2-1 Background - Green
Message - White - Type H Reflective
MK2-1 Background - Green
Message - White - Type H Reflective
MM2-1 Background - White - Type H Reflective
Message - Green
MN2-1 Background - Brown
Message - White - Type H Reflective
MR2-1 Background - Brown
Message - Yellow - Type H Reflective



M2-1
MK2-1
MM2-1
MR2-1



MB2-1
MG2-1
MN2-1

Metric equivalent
for this sign is:

SIZE	
1	
2	525 mm X 375 mm
3	750 mm X 525 mm
4	750 mm X 525 mm
5	750 mm X 525 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
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	0.20
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	0.20
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	0.20
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	0.20

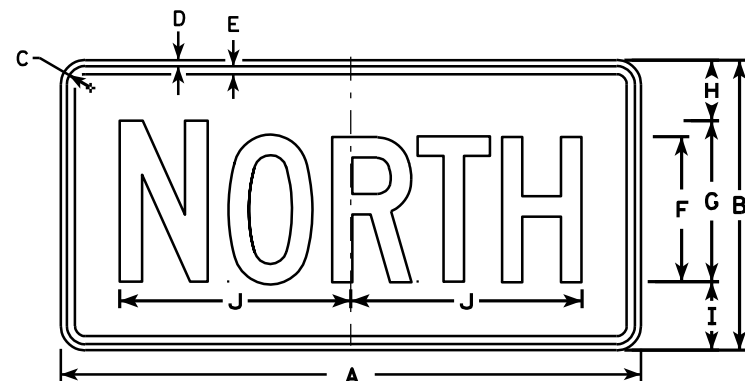
STANDARD SIGN
M2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 3/16/10 PLATE NO. M2-1.10

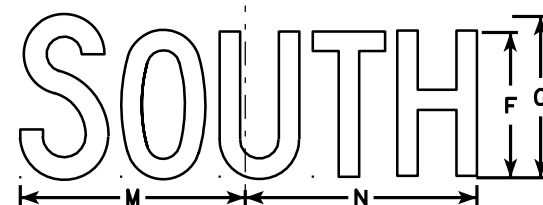
PROJECT NO: HWY: COUNTY: SHEET NO: E



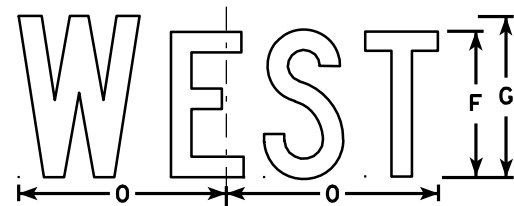
M3-1
MK3-1
M03-1



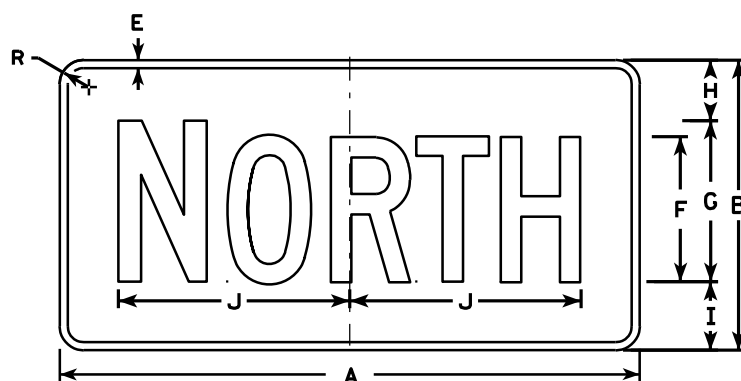
M3-2
MK3-2
M03-2



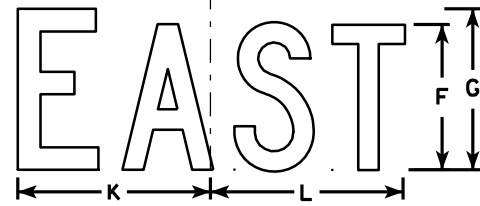
M3-3
MK3-3
M03-3



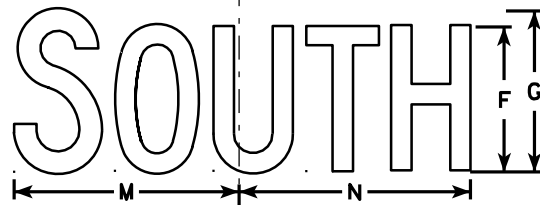
M3-4
MK3-4
M03-4



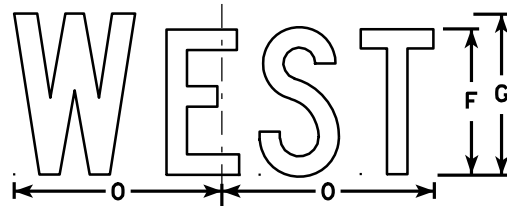
MB3-1
MG3-1
MM3-1
MN3-1



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



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



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

NOTES

1. All Signs Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White - Type H Reflective (Detour or temporary signs - Reflective)
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White - Type H Reflective (Detour or temporary signs - Reflective)
MG3-1 thru MG3-4 Background - Green
Message - White - Type H Reflective
MK3-1 thru MK3-4 Background - Green
Message - White - Type H Reflective
MM3-1 thru MM3-4 Background - White - Type H Reflective
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White - Type H Reflective
M03-1 thru M03-4 Background - Orange - Reflective
Message - Black
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

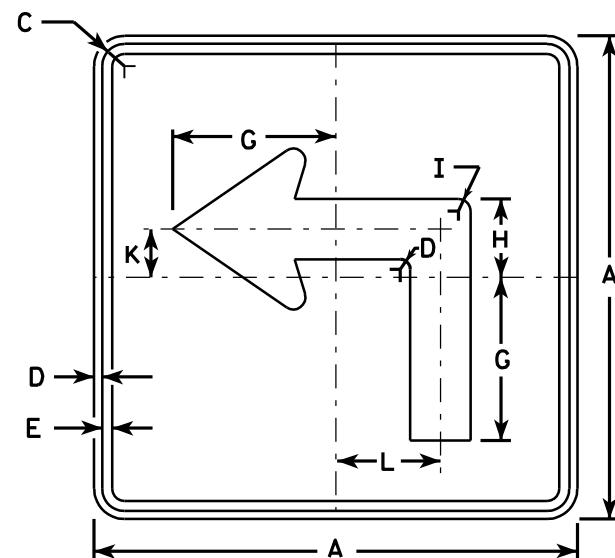
PROJECT NO: HWY: COUNTY: SHEET NO: E

STANDARD SIGNS M3-1 thru M3-4 SERIES

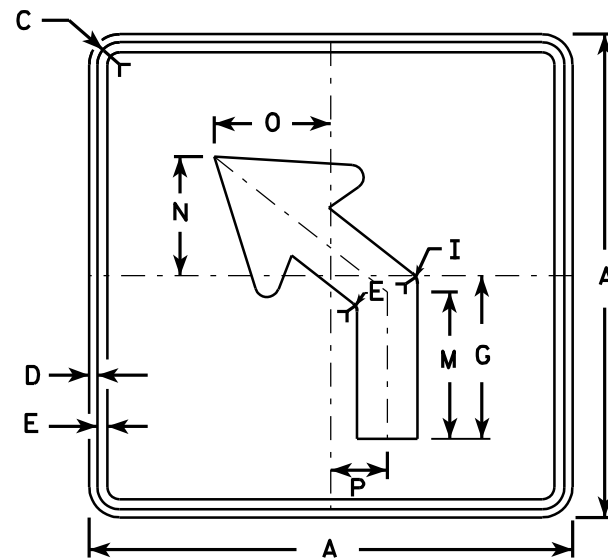
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

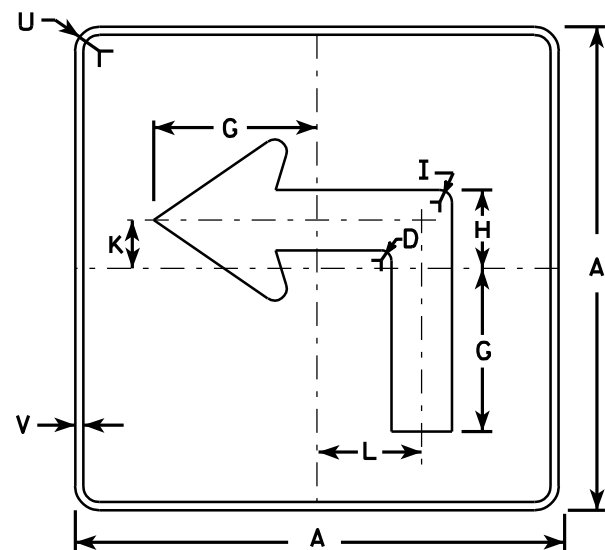
DATE 11/10/10 PLATE NO. M3-1.12



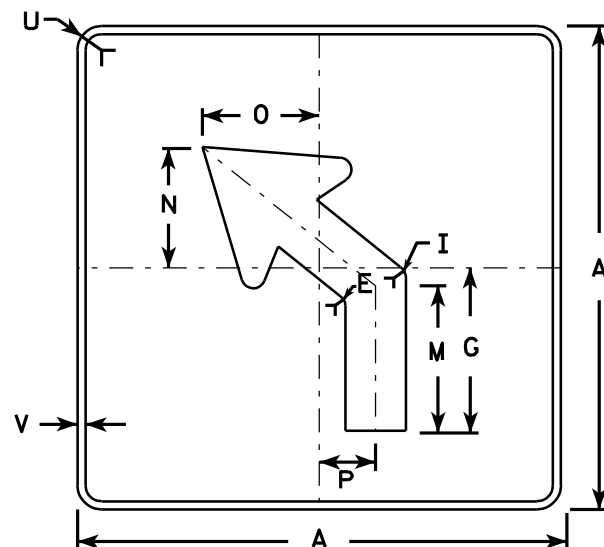
M5-1L
MK5-1L
MM5-1L
MO5-1L
MR5-1L



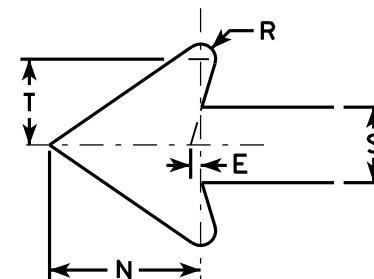
M5-2L
MK5-2L
MM5-2L
MO5-2L
MR5-2L



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



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



Metric equivalent
for this sign is:

SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1																												
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06	0.28
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56

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

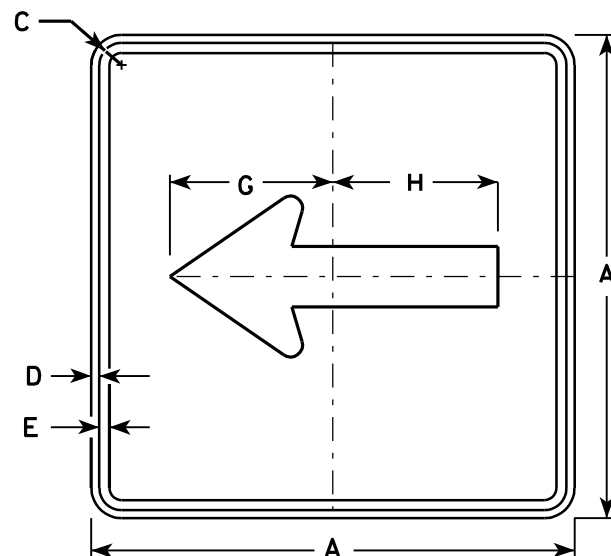
- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M5-1 and M5-2 Background - White - Type H Reflective (Detour or temporary Signs - Reflective)
Message - Black
MB5-1 and MB5-2 Background - Blue
Message - White - Type H Reflective (Detour or temporary Signs - Reflective)
MG5-1 and MG5-2 Background - Green
Message - White - Type H Reflective
MK5-1 and MK5-2 Background - Green
Message - White Type H Reflective
MM5-1 and MM5-2 Background - White - Type H Reflective
Message - Green
MN5-1 and MN5-2 Background - Brown
Message - White - Type H Reflective
MO5-1 and MO5-2 Background - Orange - Reflective
Message - Black
MR5-1 and MR5-2 Background - Brown
Message - Yellow - Type H Reflective
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

STANDARD SIGN
M5-1 & M5-2

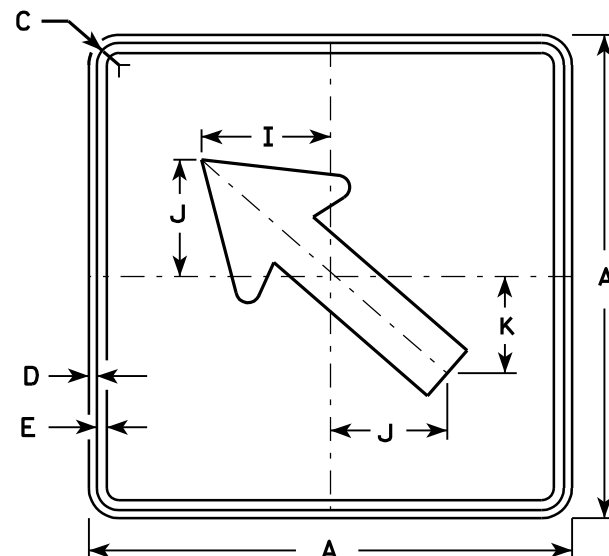
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

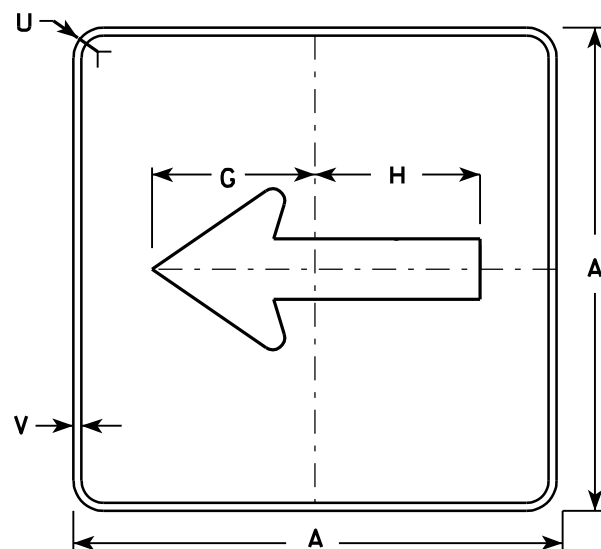
DATE 3/16/10 PLATE NO. M5-1.11



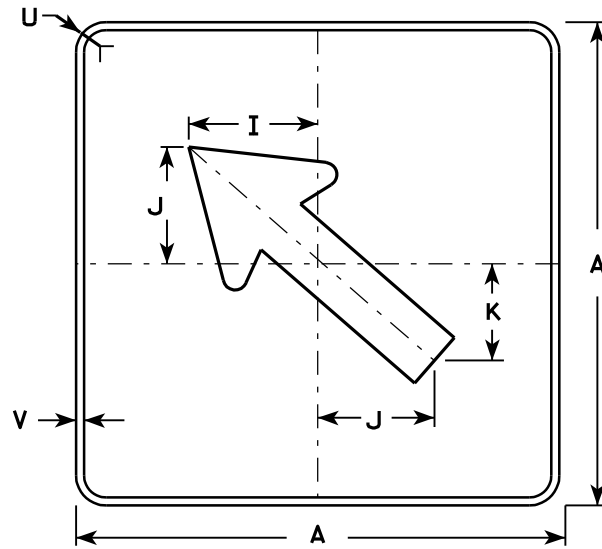
M6-1
MK6-1
MM6-1
MO6-1
MR6-1



M6-2
MK6-2
MM6-2
MO6-2
MR6-2



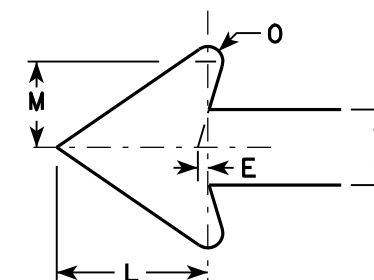
MB6-1
MG6-1
MN6-1



MB6-2
MG6-2
MN6-2

NOTES

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-1 and M6-2 Background - White - Type H Reflective
(Detour or temporary Signs - Reflective)
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White - Type H Reflective
(Detour or temporary Signs - Reflective)
MG6-1 and MG6-2 Background - Green
Message - White - Type H Reflective
MK6-1 and MK6-2 Background - Green
Message - White - Type H Reflective
MM6-1 and MM6-2 Background - White - Type H Reflective
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White - Type H Reflective
MO6-1 and MO6-2 Background - Orange - Reflective
Message - Black
MR6-1 and MR6-2 Background - Brown
Message - Yellow - Type H Reflective

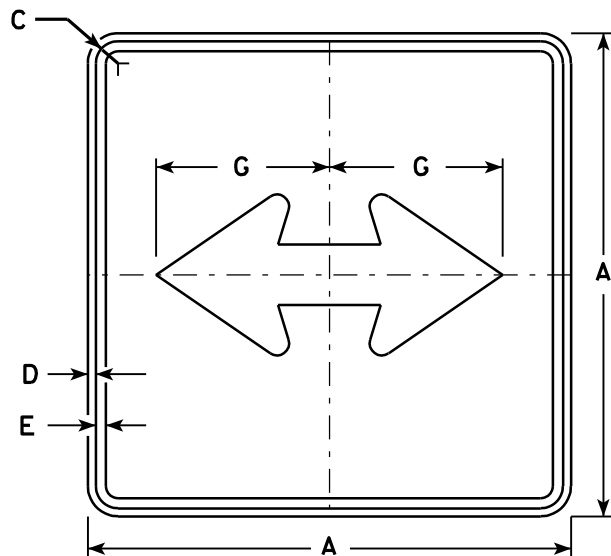


Metric equivalent
for this sign is:

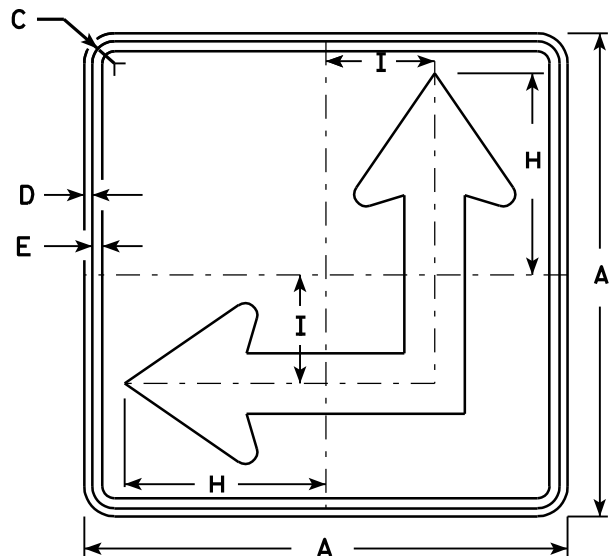
SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
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	0.28
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	0.56
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	0.56
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	0.56

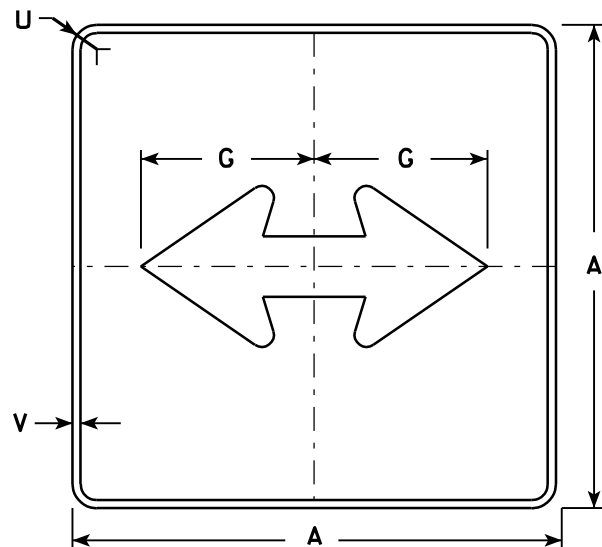
PROJECT NO: HWY: COUNTY: SHEET NO: E



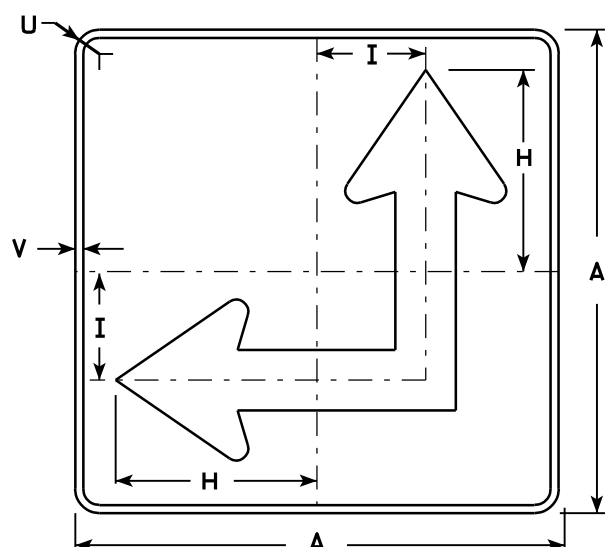
M6 - 4
MK6 - 4
MM6 - 4
MO6 - 4
MR6 - 4



M6 - 6
MK6 - 6
MM6 - 6
MO6 - 6
MR6 - 6



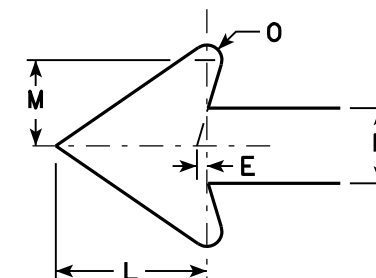
MB6 - 4
MG6 - 4
MN6 - 4



MB6 - 6
MG6 - 6
MN6 - 6

NOTES

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - See Note 4
Message - See Note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-4 and M6-6 Background - White - Type H Reflective
(Detour or temporary Signs - Reflective)
Message - Black
MB6-4 and MB6-6 Background - Blue
Message - White - Type H Reflective
(Detour or temporary Signs - Reflective)
MG6-4 and MG6-6 Background - Green
Message - White - Type H Reflective
MK6-4 and MK6-6 Background - Green
Message - White - Type H Reflective
MM6-4 and MM6-6 Background - White - Type H Reflective
Message - Green
MN6-4 and MN6-6 Background - Brown
Message - White - Type H Reflective
MO6-4 and MO6-6 Background - Orange - Reflective
Message - Black
MR6-4 and MR6-6 Background - Brown
Message - Yellow - Type H Reflective
- M6-6R same as M6-6L except arrow points ahead and right.



Metric equivalent
for this sign is:

SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
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	0.28
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	0.56
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	0.56
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	0.56

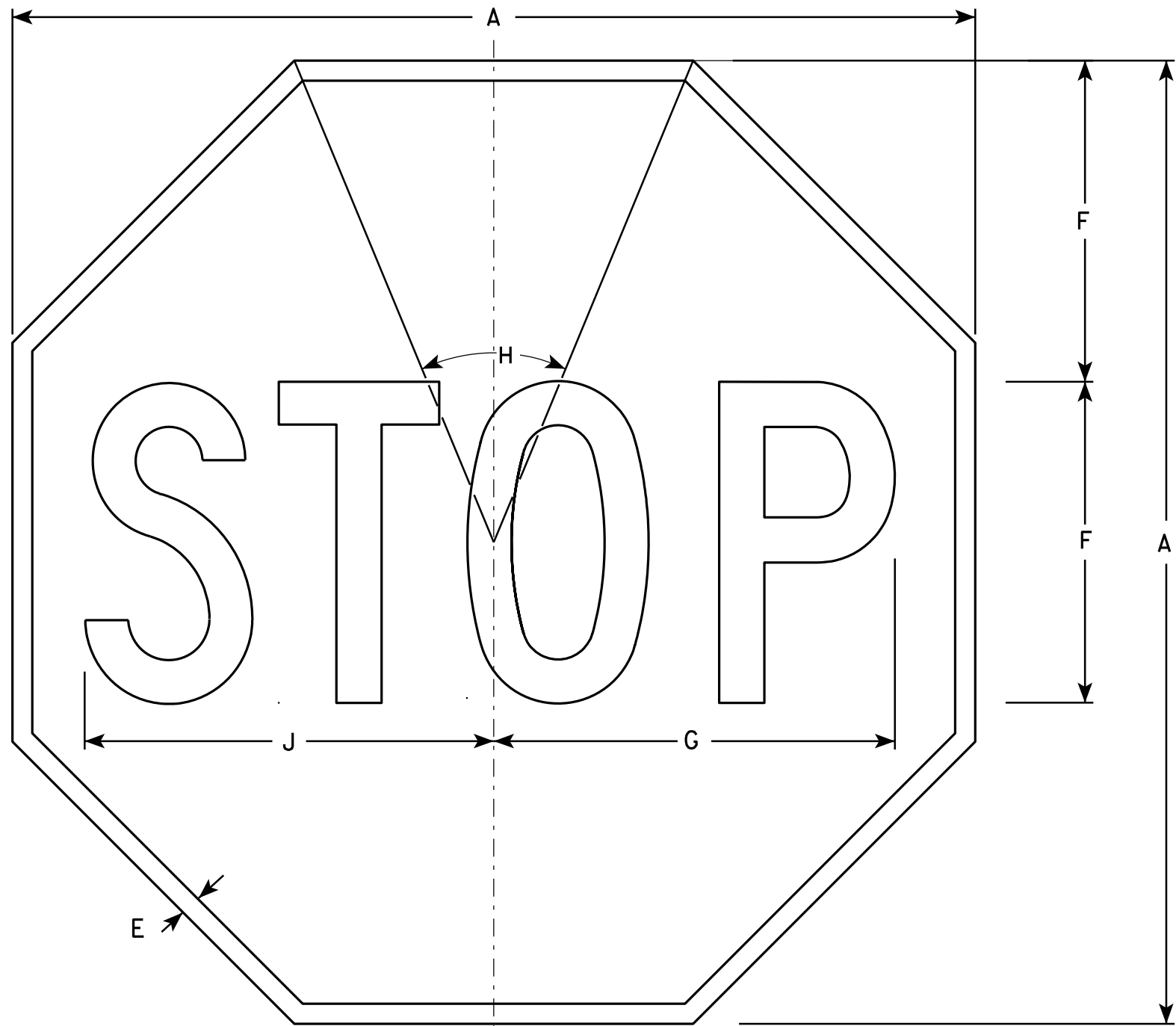
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN
M6 - 4 & M6 - 6
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/16/10 PLATE NO. M6-4.7



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

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	24				3/8	8	10	45°		10 1/4																	3.31
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 12/03/10 PLATE NO. R1-1.12

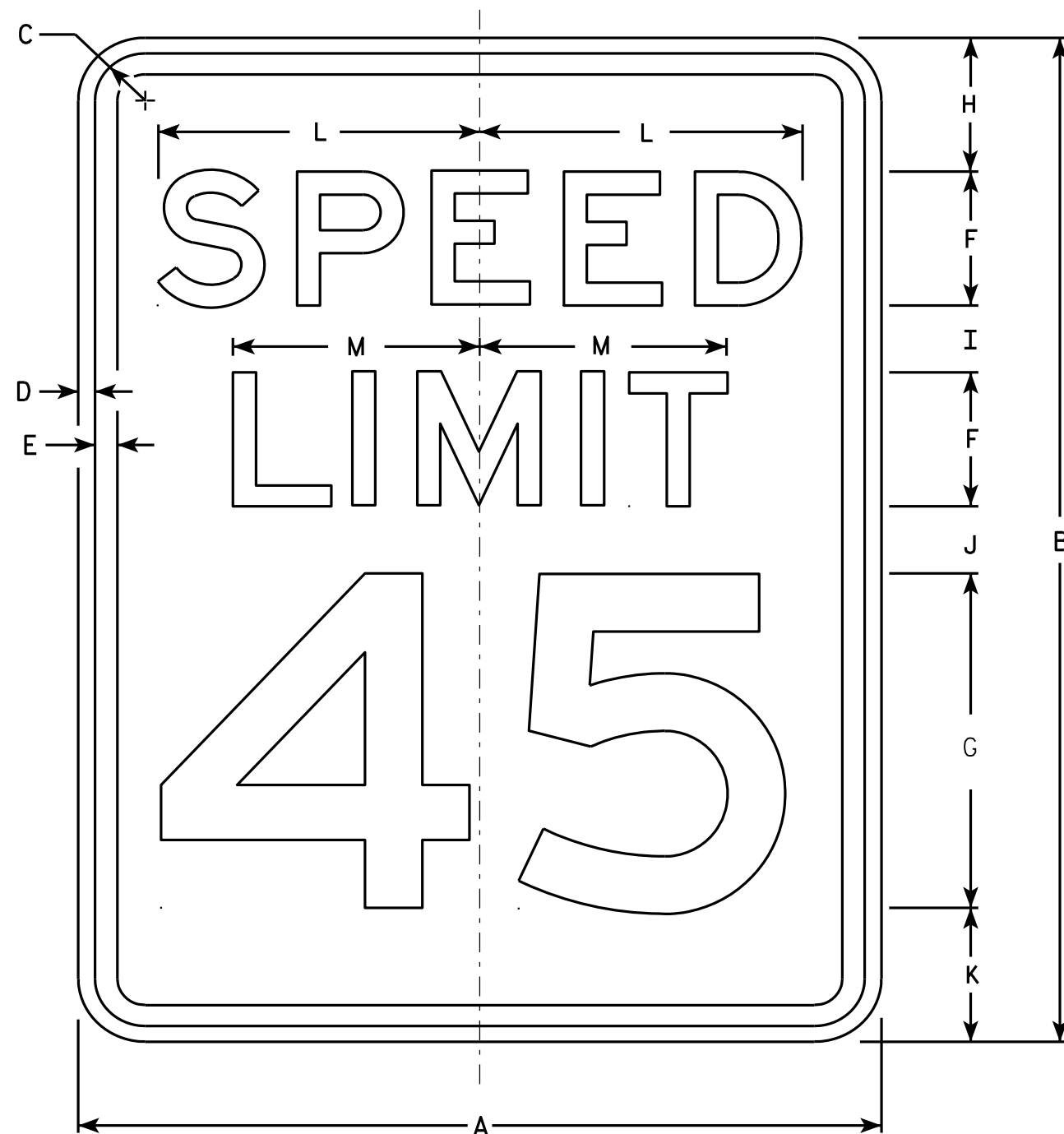
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



R2-1

NOTES

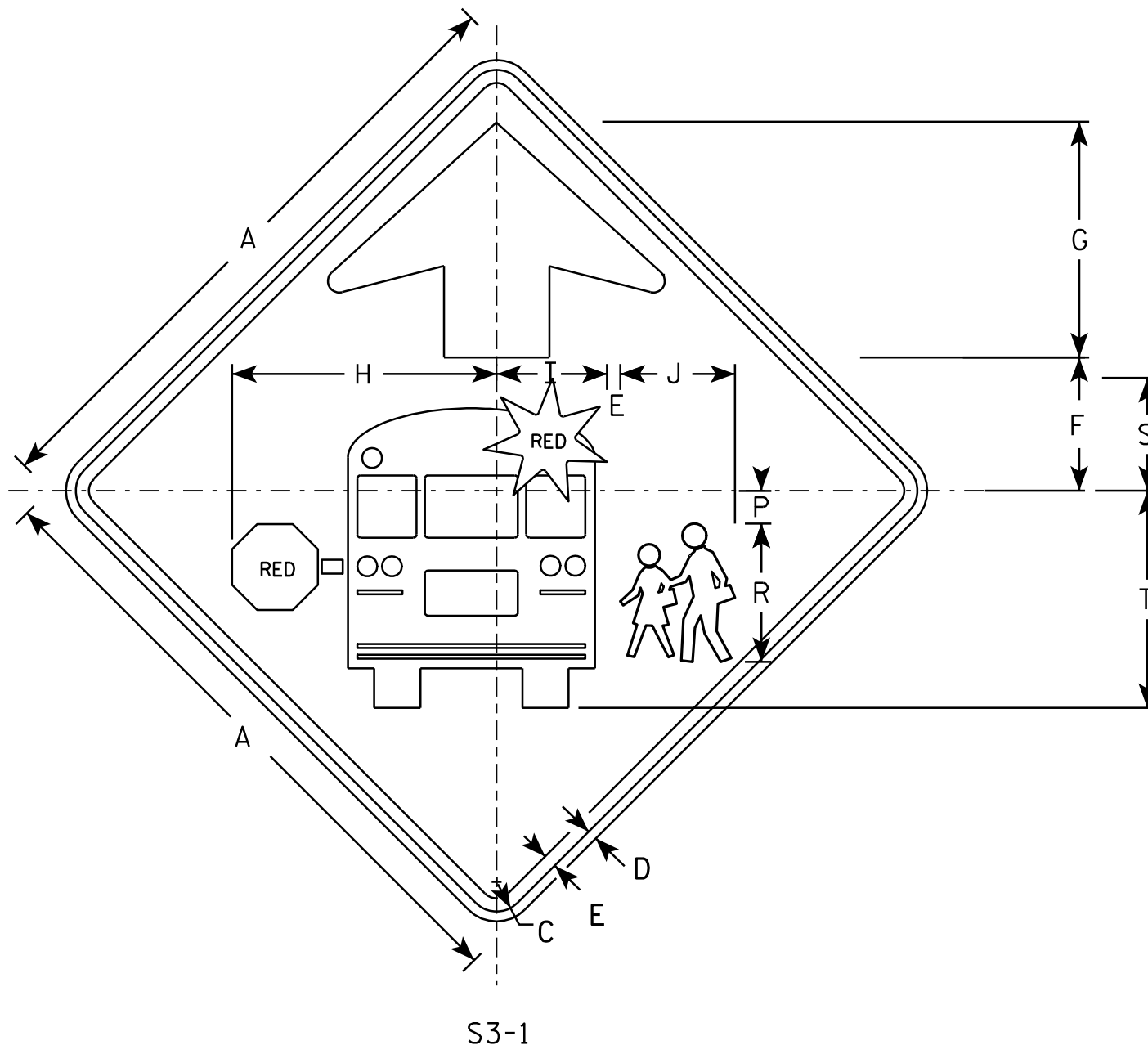
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as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

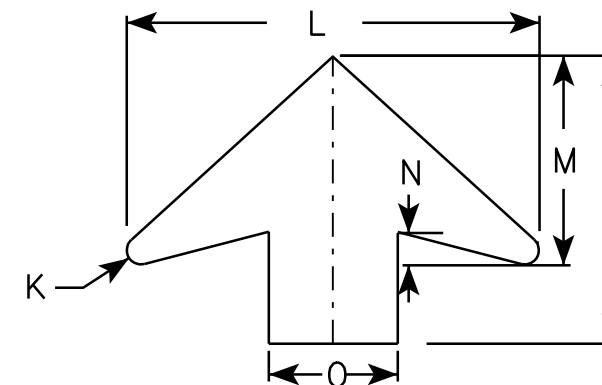
WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: HWY: COUNTY: SHEET NO: E



NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - YELLOW-GREEN
Message - BLACK except as noted
Circles except PEDS- RED BACKGROUND
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.



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	30		1 ³ / ₈	1/2	5/8	6 1/4	11 1/4	12 1/2	5 1/4	5 1/2	1/2	16	8	1 1/4	5	1 1/2		6 5/8	5 3/8	10 3/8							6.25
2	36		1 5/8	5/8	3/4	7 1/2	13 1/2	15 1/8	6 1/4	6 1/2	5/8	19 1/4	9 3/4	1 5/8	6	1 7/8		7 7/8	6 3/8	12 3/8							9.0
3	48		2 1/4	3/4	1	10	17 7/8	20 1/8	8 3/8	8 3/4	7/8	25 5/8	13	2	8	2 1/2		10 1/2	8 1/2	16 1/2							16.0
4	48		2 1/4	3/4	1	10	17 7/8	20 1/8	8 3/8	8 3/4	7/8	25 5/8	13	2	8	2 1/2		10 1/2	8 1/2	16 1/2							16.0
5																											

PROJECT NO:

STANDARD SIGN S3-1

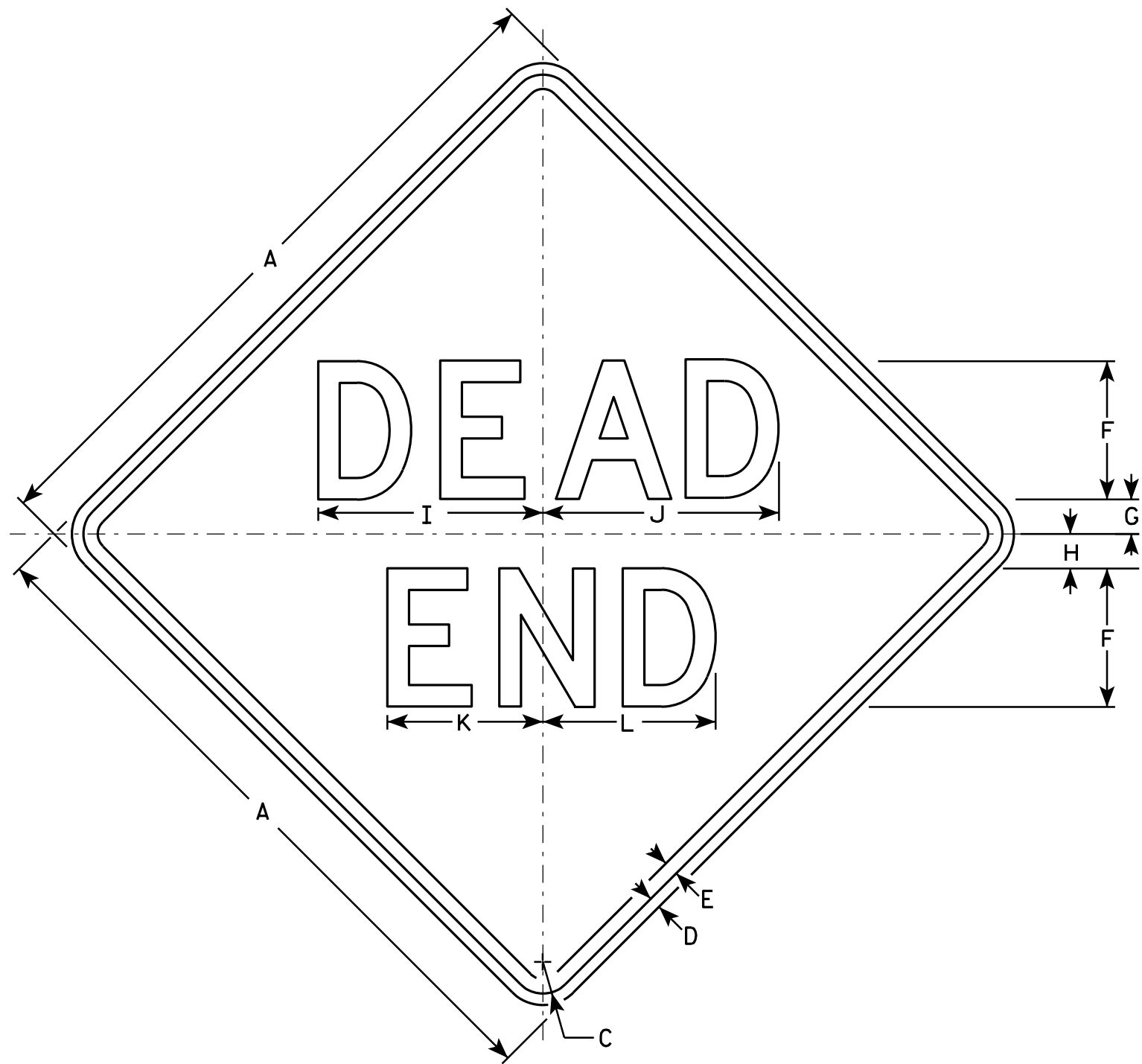
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/8/10 PLATE NO. S3-1.6

SHEET NO:

E



W14-1

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 - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area, sq. ft.
1	24		1 1/8	3/8	1/2	5	1	2	8 1/4	8 5/8	5 5/8	6 1/4															4.0
2S	30		1 3/8	1/2	5/8	6	1 1/2	2 1/2	9 3/4	10 1/4	6 3/4	7 1/2															6.25
2M	30		1 3/8	1/2	5/8	6	1 1/2	2 1/2	9 3/4	10 1/4	6 3/4	7 1/2															6.25
3	36		1 5/8	5/8	3/4	7	2	3	11 3/8	12	7 7/8	8 3/4															9.0
4																											
5																											

STANDARD SIGN
W14-1

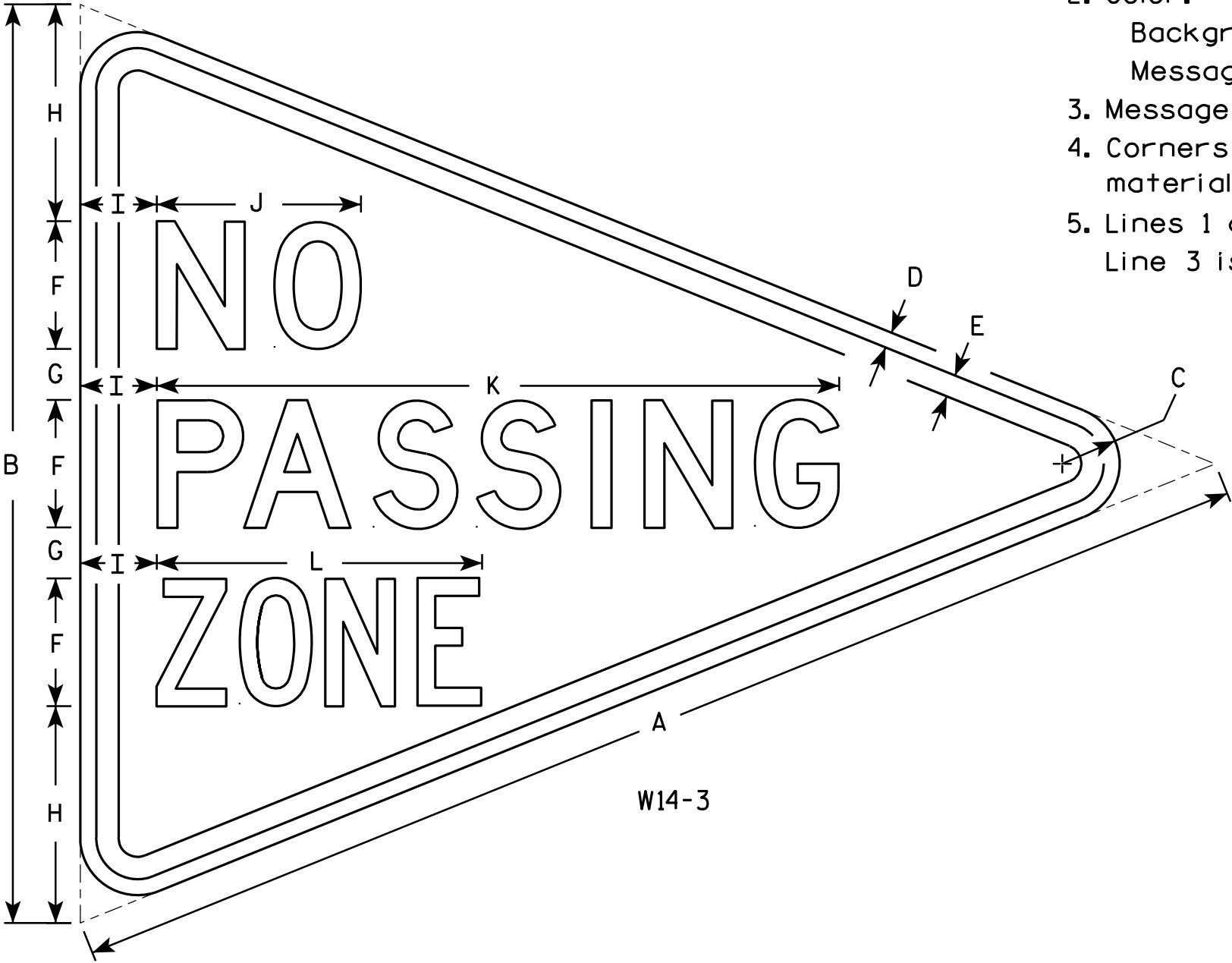
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch
for State Traffic Engineer
DATE 3/13/13 PLATE NO. W14-1.7

PROJECT NO: HWY: COUNTY: 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. Message Series - See note 5
- 4. Corners and borders shall be rounded on all base materials for this sign.
- 5. Lines 1 and 2 are Series D.
Line 3 is series C.



W14-3

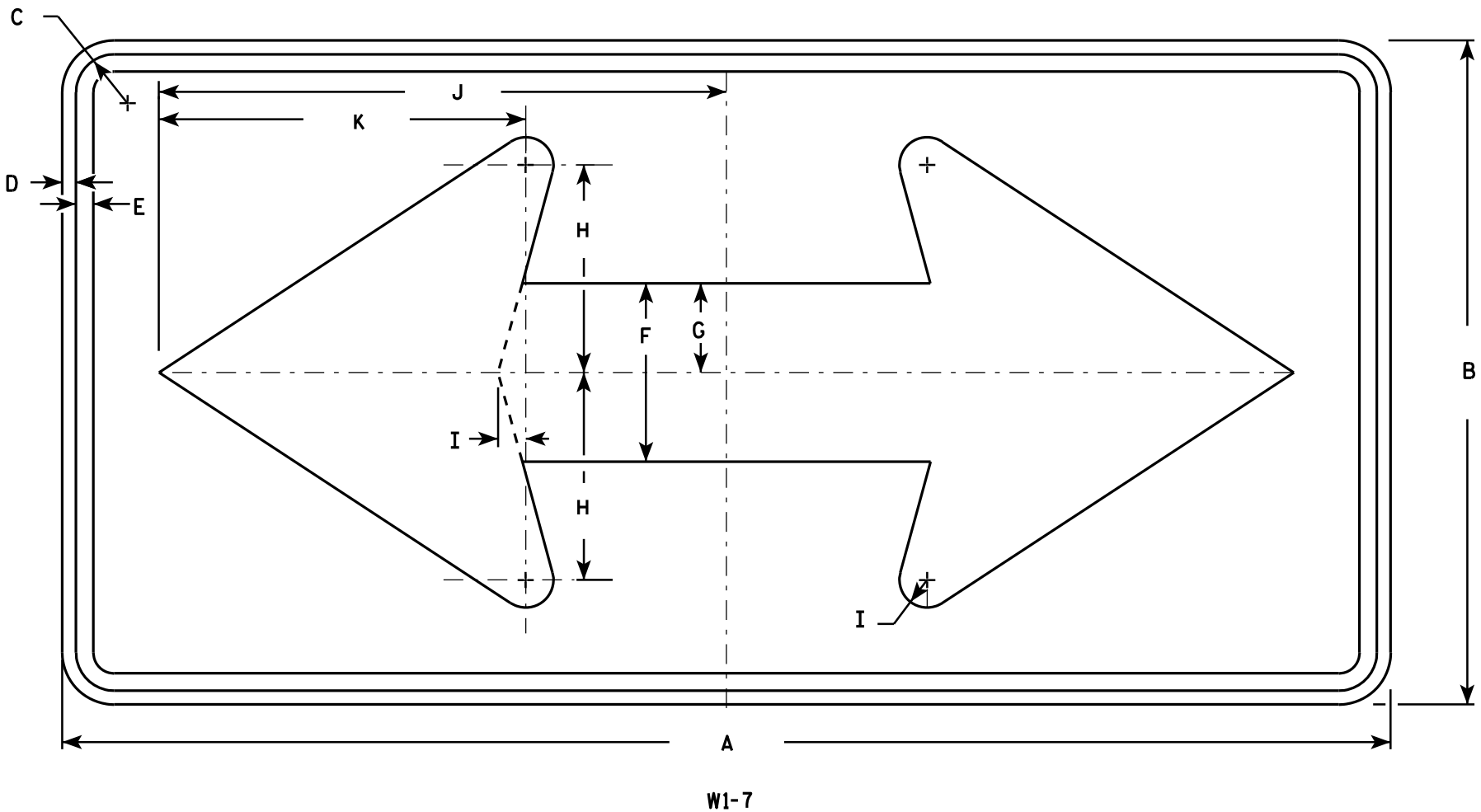
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
2M	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
3	64	48	3	3/4	1 1/4	6	3	12	4	10 3/4	33 5/8	16 1/2															10.7
4																											
5																											

STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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



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.

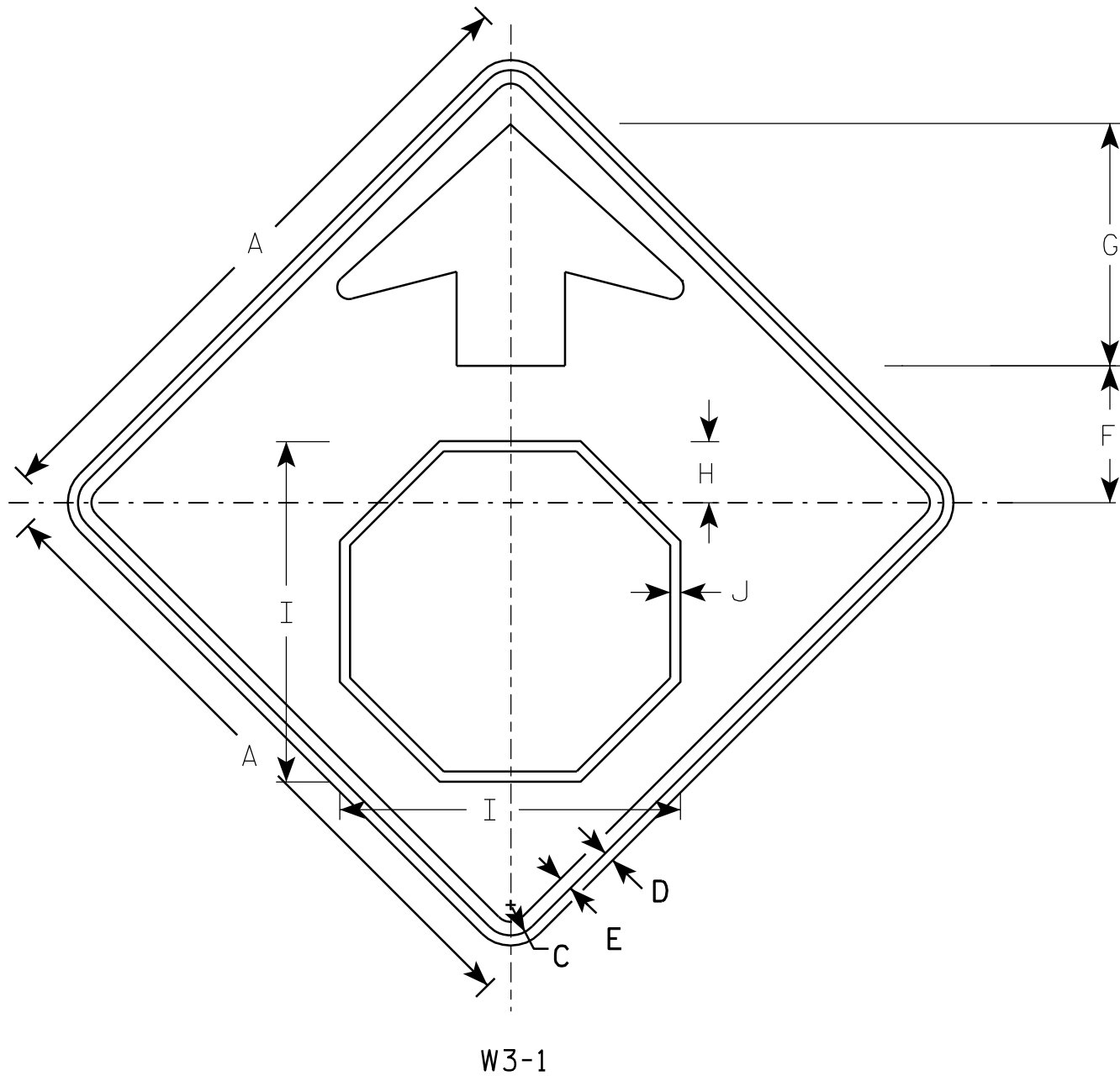
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

STANDARD SIGN
W1 - 7

WISCONSIN DEPT OF TRANSPORTATION

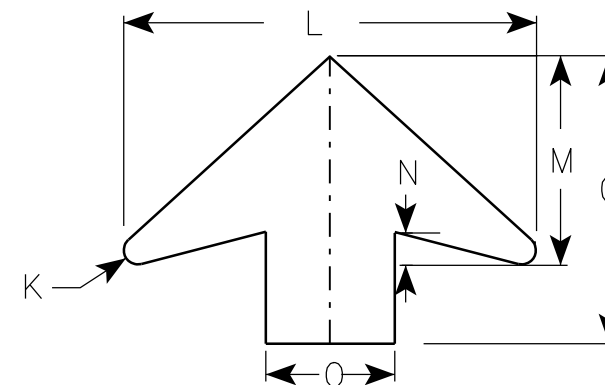
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7



NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - YELLOW
Arrow & Border - BLACK
Stop Symbol - WHITE BORDER ON RED 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	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

PROJECT NO:

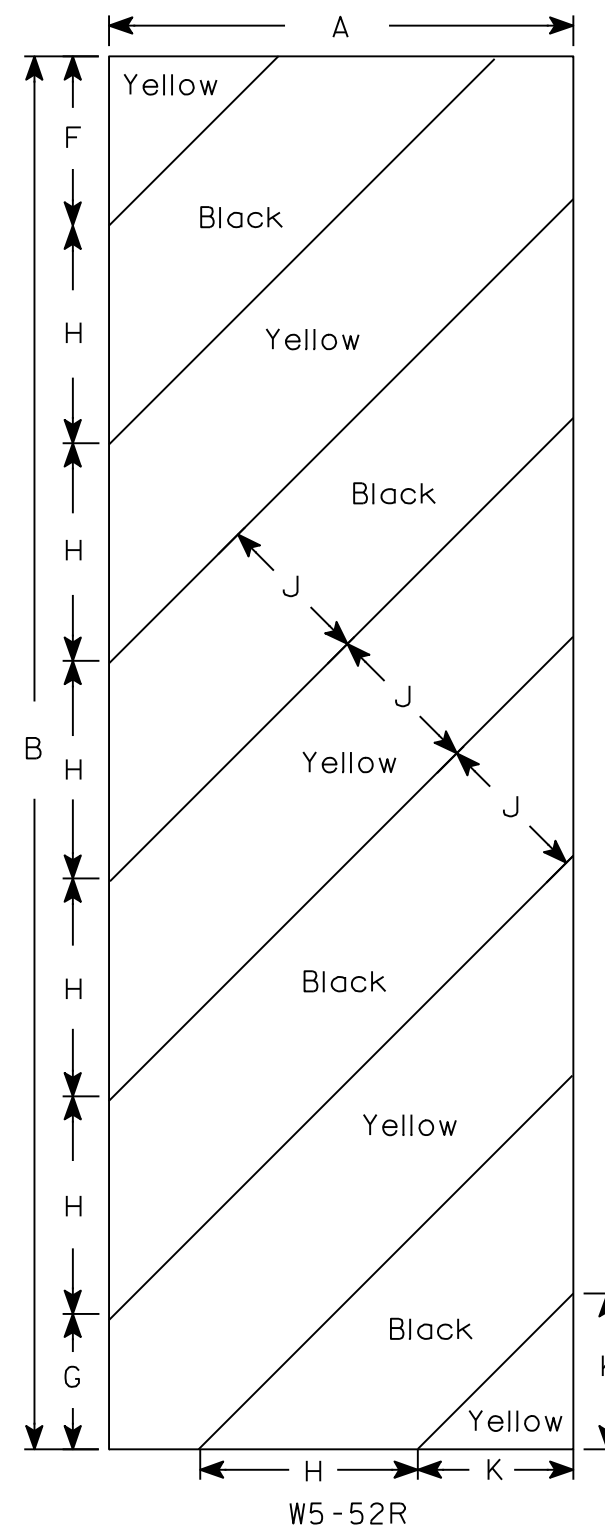
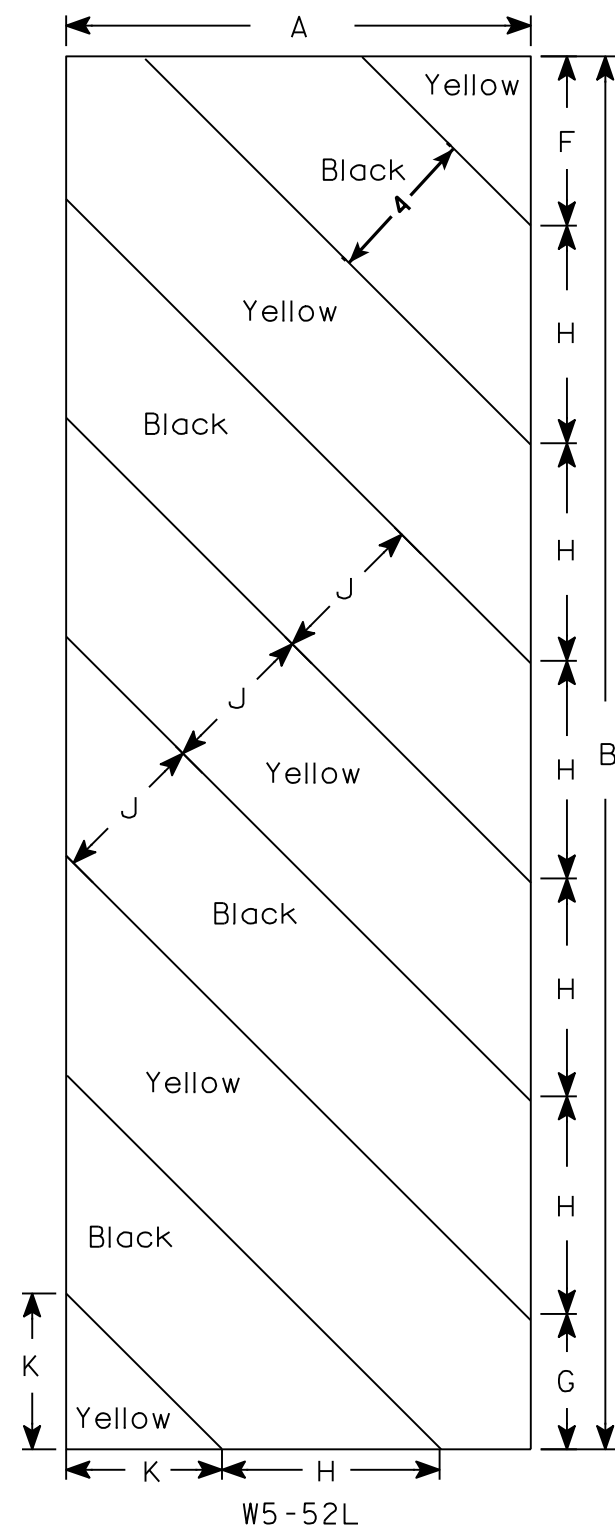
STANDARD SIGN
W3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/7/10 PLATE NO. W3-1.12

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.

[illegible]

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

PROJECT NO:

HWY:

COUNTY:

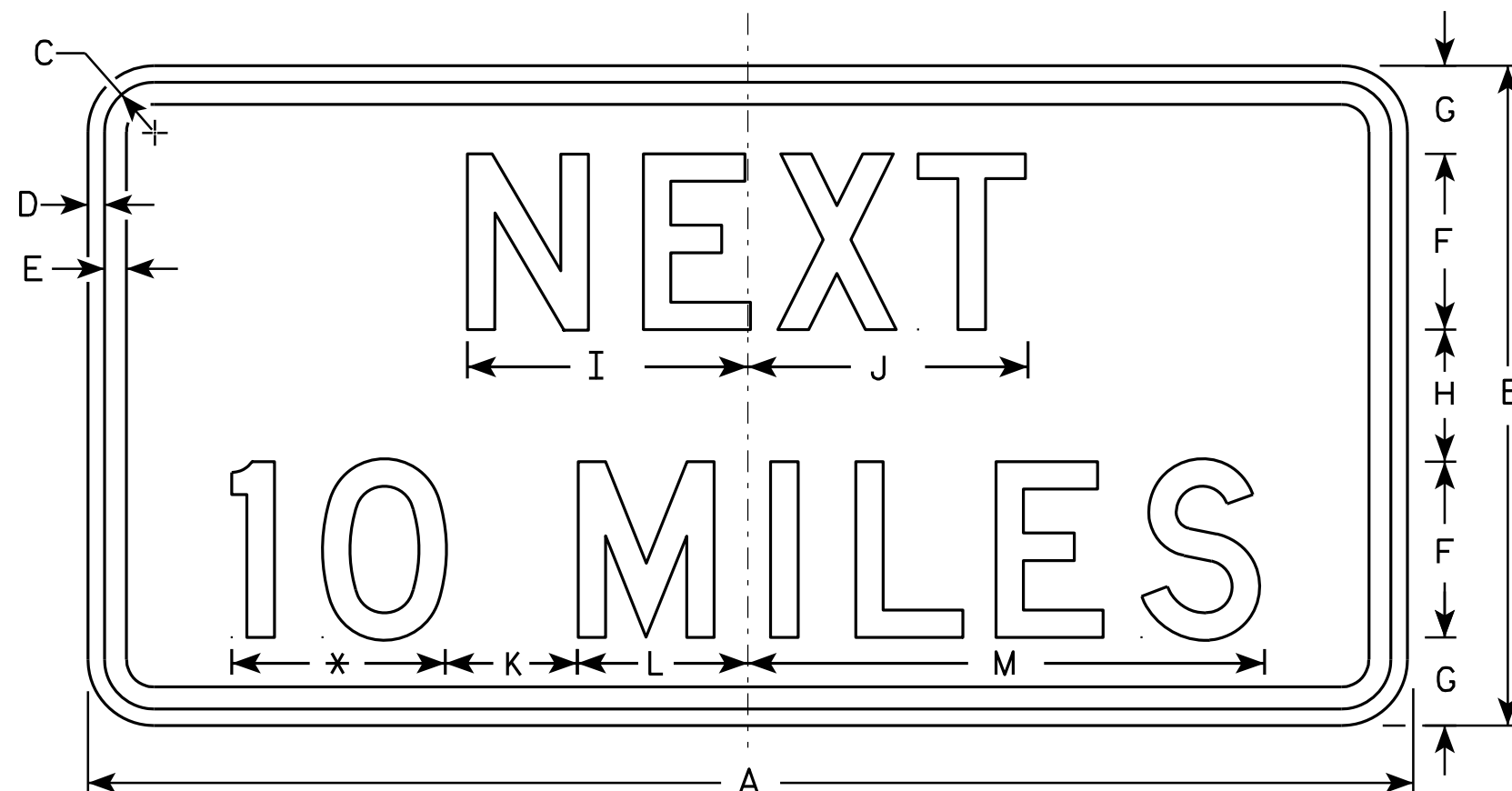
SHEET NO:

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. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

* See note 5



W57-51

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	12	1 1/8	3/8	3/8	3	1 3/4	2 1/2	5	5 1/8	3	2 3/4	9 5/8														2.0
2S	30	15	1 1/8	3/8	1/2	4	2	3	6 3/8	6 3/8	3	3 7/8	11 3/4														3.13
2M	36	18	1 1/8	3/8	1/2	5	2 5/8	2 3/4	7 7/8	8	5	4 1/8	15 3/8														4.5
3	36	18	1 1/8	3/8	1/2	5	2 5/8	2 3/4	7 7/8	8	5	4 1/8	15 3/8														4.5
4	48	24	1 3/8	1/2	5/8	6	3 1/2	5	10	10 1/8	6	5 5/8	19														8.0
5	48	24	1 3/8	1/2	5/8	6	3 1/2	5	10	10 1/8	6	5 5/8	19														8.0

STANDARD SIGN

W57-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W57-51.9

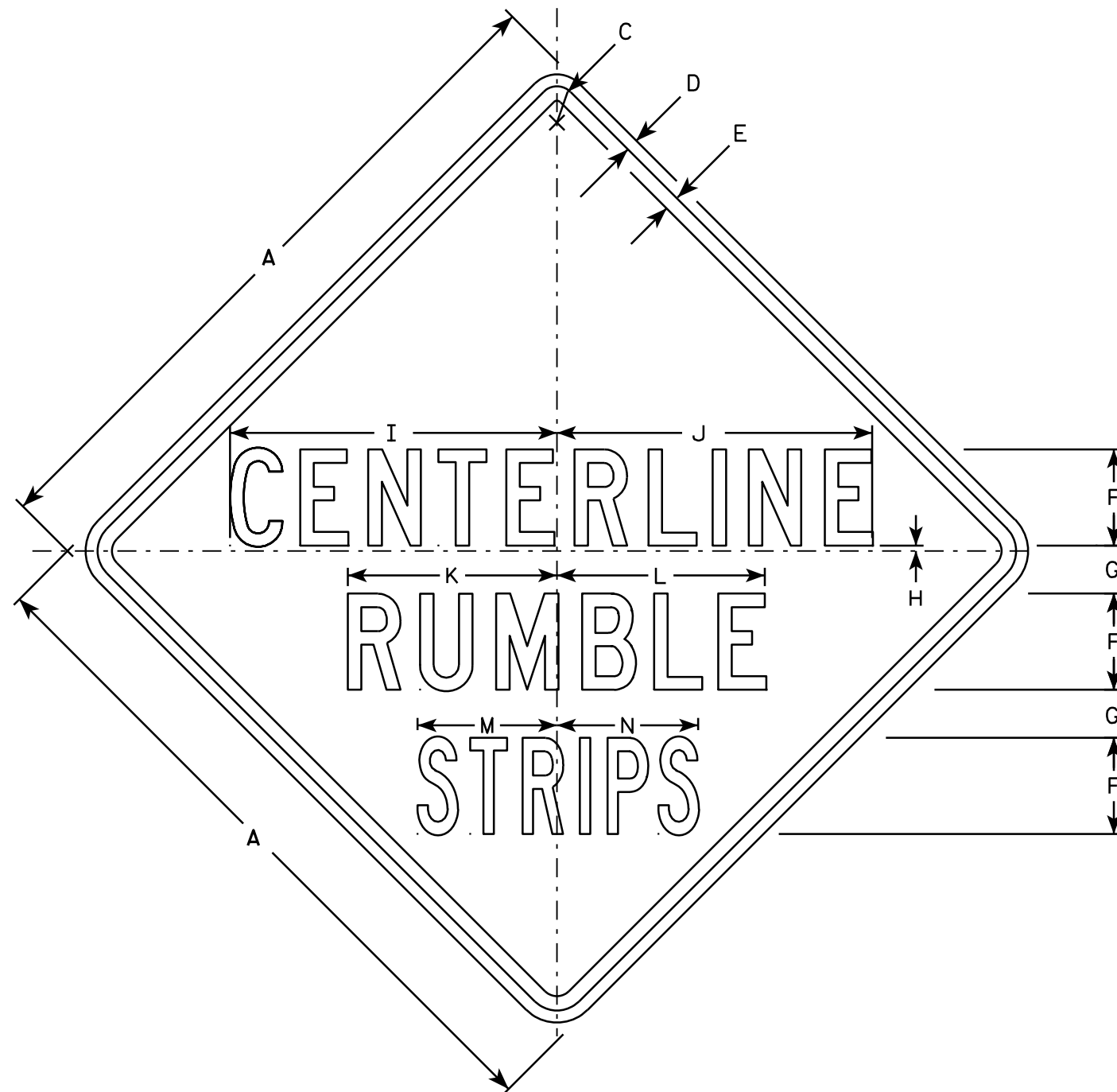
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



W8-70

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - YELLOW
Message - BLACK
3. Message Series - SEE NOTE 5.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 and 2 are Series C.
Line 3 is Series B.

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	5	2 1/2	1/4	17	16 3/8	10 7/8	10 3/4	7 1/4	7 3/8													9.0
2M	36		1 5/8	5/8	3/4	5	2 1/2	1/4	17	16 3/8	10 7/8	10 3/4	7 1/4	7 3/8													9.0
3	36		1 5/8	5/8	3/4	5	2 1/2	1/4	17	16 3/8	10 7/8	10 3/4	7 1/4	7 3/8													9.0
4																											
5																											

STANDARD SIGN

W8-70

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 03/18/13 PLATE NO. W8-70.3

PROJECT NO:

SHEET NO:

E

DESIGN DATA

LIVE LOAD:

DESIGN RATING; HS-20

INVENTORY RATING; HS-19

OPERATIONAL RATING; HS-32

WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 170 (KIPS)

EXISTING ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY BRIDGES $f'_c = 3,500$ P.S.I.CONCRETE MASONRY OVERLAY DECKS $f'_c = 4,000$ P.S.I.BAR STEEL REINFORCEMENT $f_y = 40,000$ P.S.I.

NEW ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY BRIDGES $f'_c = 3,500$ P.S.I.BAR STEEL REINFORCEMENT, GRADE 60 $f_y = 60,000$ P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS ON ABUTMENT WINGS. SEE DETAIL ON SHEET 2 FOR LIMITS.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1969.

THE EXISTING CONCRETE OVERLAY SHALL REMAIN.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND CONCRETE SURFACE REPAIR, AND FULL DEPTH DECK REPAIR QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. ACTUAL QUANTITY MAY VARY AND IS TO BE VERIFIED BY THE FIELD ENGINEER.

THE ENTIRE EXPOSED TOP AND INSIDE FACES OF THE EXISTING PARAPET SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSH CLEANED PRIOR TO THE PARAPET BEING BUILT UP (MODIFIED). ALL THE WORK DESCRIBED ABOVE SHALL BE INCLUDED AND/OR CONSIDERED INCIDENTAL TO THE BID ITEM "CLEANING PARAPETS SPECIAL".

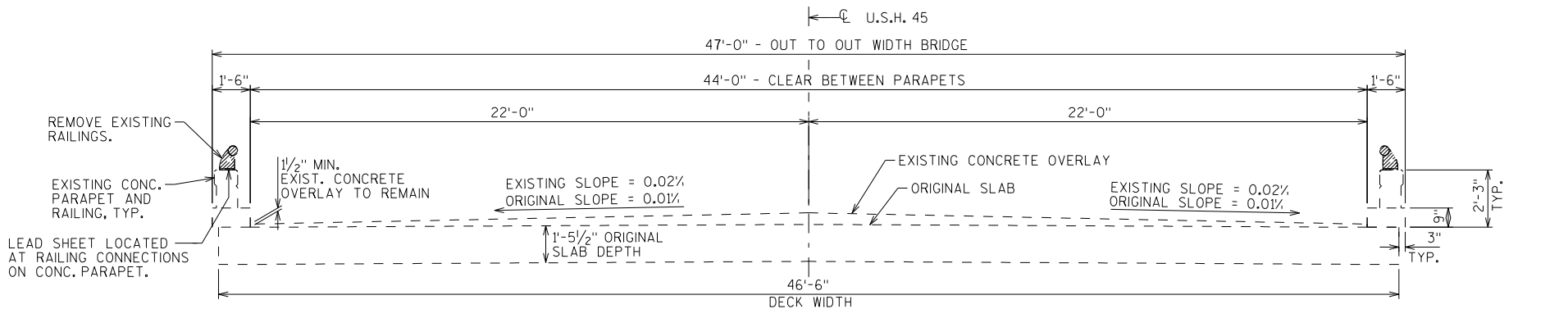
STRUCTURE DESIGN CONTACTS:

EMILY KNUDTSON (608) 266-5089
DAVE KIEKBUSCH (608) 266-5084

NO.	DATE	REVISION	BY
 Plans Prepared By WISDOT BUREAU OF STRUCTURES			
ACCEPTED <i>William C. Dreher</i> 11/28/12 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-43-15			
U.S.H. 45 OVER WISCONSIN CENTRAL RR			
COUNTY	ONEIDA	TOWN/CITY/VILLAGE	PINE RIVER
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	EMK	DESIGN CKD.	AMB
DRAWN BY	EMK	PLANS CKD.	AMB
POLYMER OVERLAY			SHEET 1 OF 3

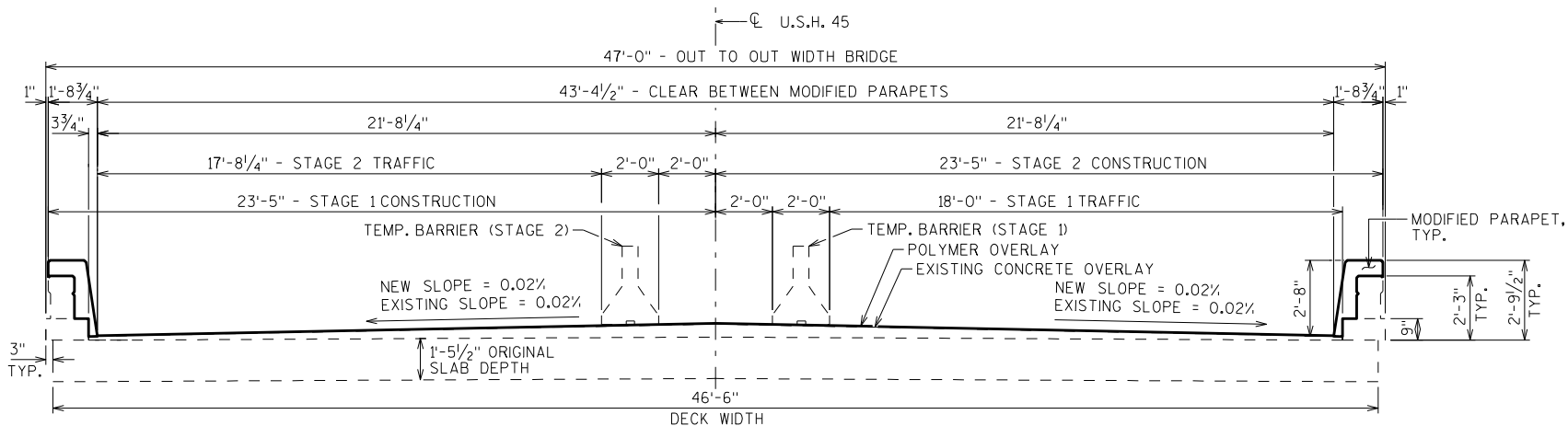
LIST OF DRAWINGS

- POLYMER OVERLAY
- QUANTITIES & DETAILS
- PARAPET DETAILS



EXISTING CROSS SECTION THRU ROADWAY

LOOKING NORTH

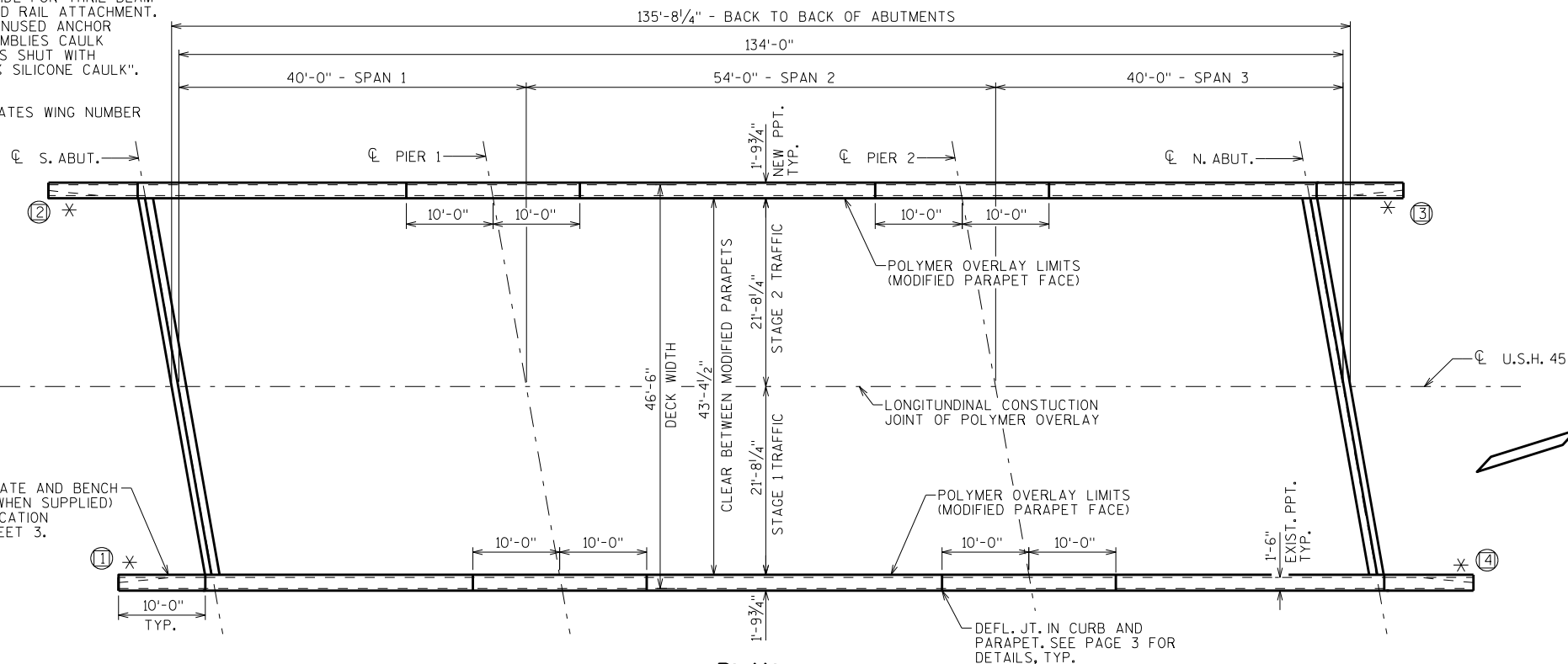


PROPOSED CROSS SECTION THRU ROADWAY

LOOKING NORTH

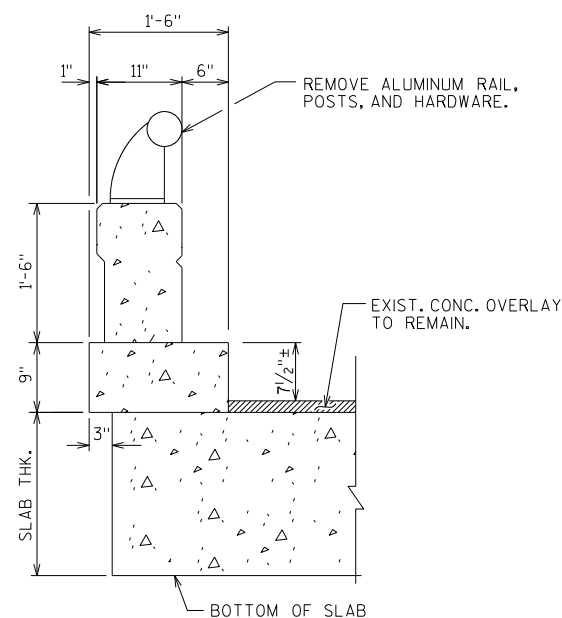
* PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT. AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK".

Ⓢ INDICATES WING NUMBER

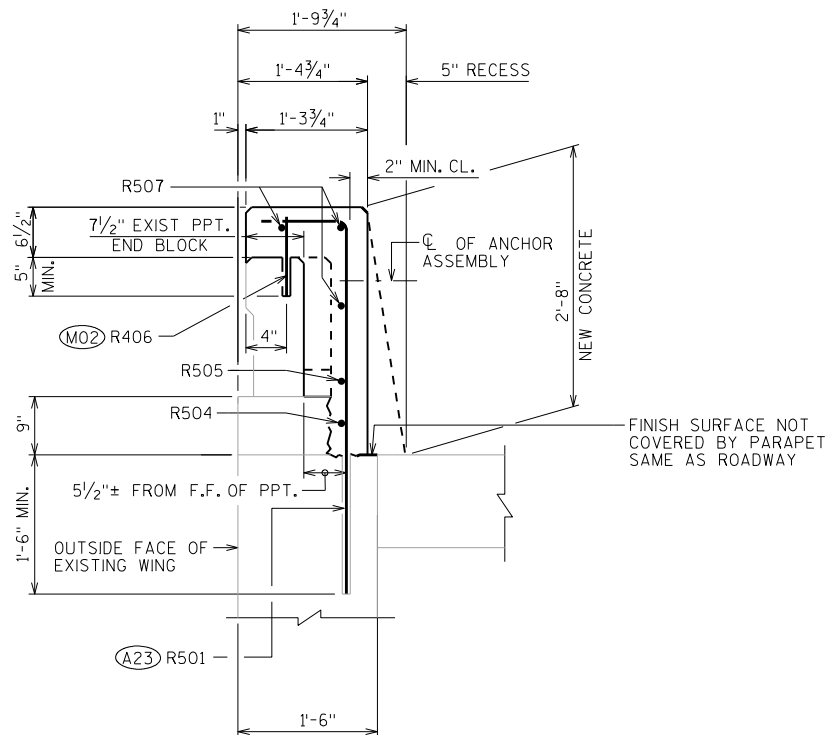


PLAN

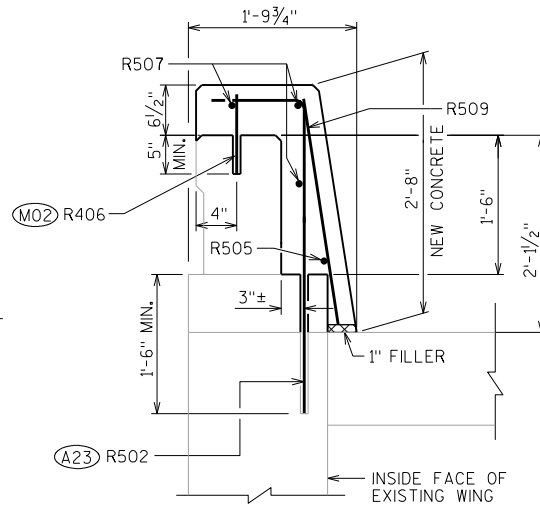
NAMEPLATE AND BENCH MARK (WHEN SUPPLIED) FOR LOCATION SEE SHEET 3.



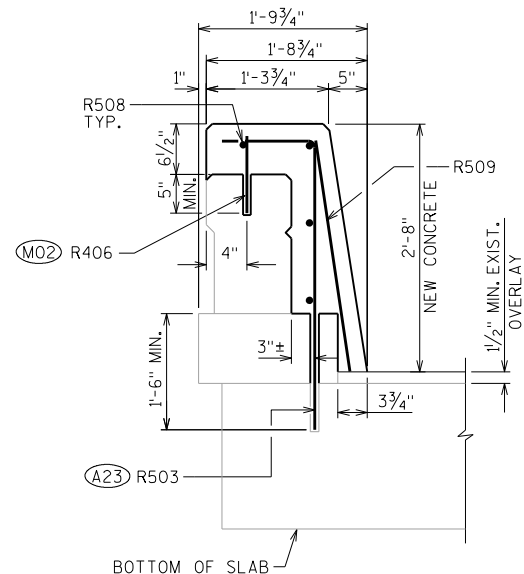
EXISTING SECTION
ON BRIDGE



SECTION B-B (ALL WINGS)



SECTION C-C
ALL WINGS



SECTION D-D
ON BRIDGE

FOR SECTION LOCATIONS SEE SHEET 3

(A23) MASONRY ANCHORS TYPE L NO. 5 BARS.
EMBED 1'-6" INTO EXIST. CONCRETE.
EPOXY ANCHORED.

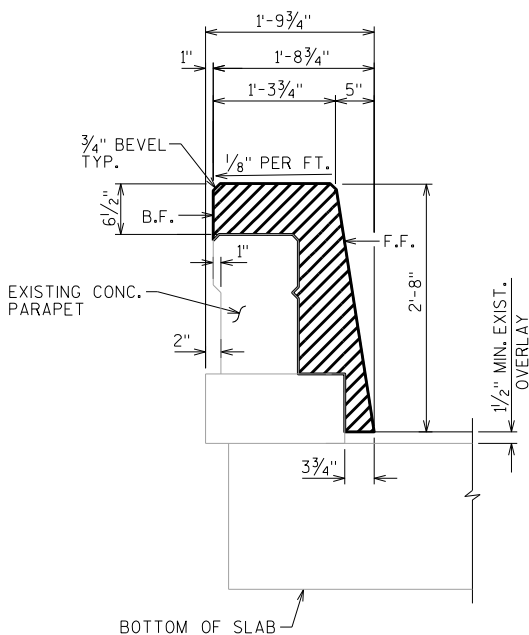
(M02) MASONRY ANCHORS TYPE L NO. 4 BARS.
EMBED 5" INTO EXIST. CONCRETE.
EPOXY ANCHORED.

= NEW CONCRETE FOR NEW PARAPET SHAPE

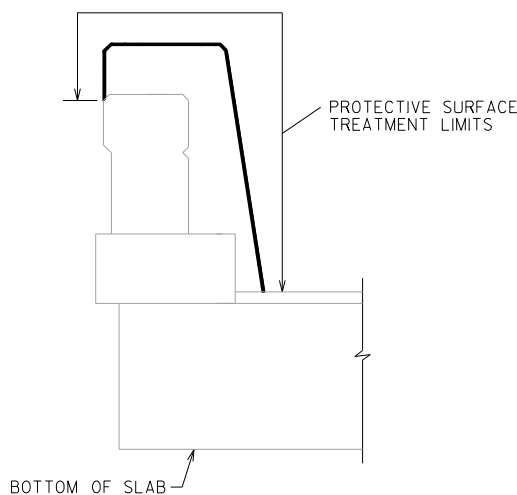
TOTAL ESTIMATED QUANTITIES

BID ITEM #	DESCRIPTION	QTY.	UNITS
203.0200	REMOVING OLD STRUCTURE STA 372+68	1	LS
502.0100	CONCRETE MASONRY BRIDGES	24	CY
502.3200	PROTECTIVE SURFACE TREATMENT	160	SY
502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	348	EACH
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	352	EACH
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	3,800	LB
509.0301	PREPARATION DECKS TYPE 1	14	SY
509.0302	PREPARATION DECKS TYPE 2	7	SY
509.1500	CONCRETE SURFACE REPAIR	50	SF
509.2000	FULL-DEPTH DECK REPAIR	1	SY
509.5100.S	POLYMER OVERLAY	650	SY
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	4	EACH
SPV. 0090	CLEANING PARAPETS SPECIAL	312	LF
NON-BID ITEMS			
	FILLER	1"	SIZE

BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
AND "FULL-DEPTH DECK REPAIR"



MODIFIED PARAPET SHAPE



**PROTECTIVE SURFACE
TREATMENT LIMITS**

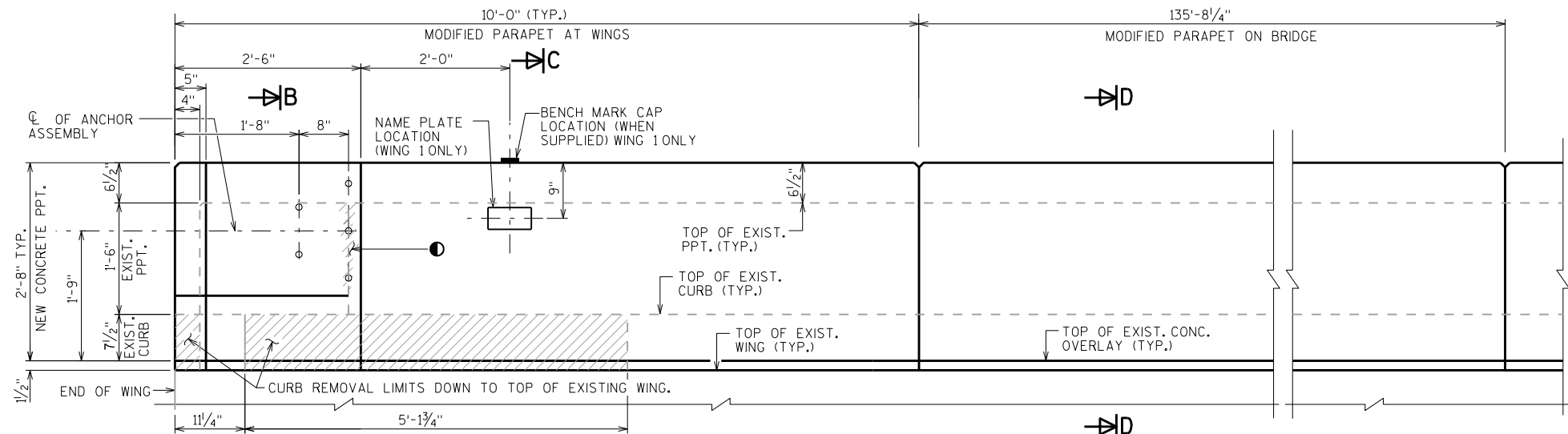
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-43-15			
DRAWN BY		EMK	PLANS CK'D. AMB
QUANTITIES & DETAILS		SHEET 2	

NOTE:
SEE SHEET 2 FOR SECTIONS B,C&D

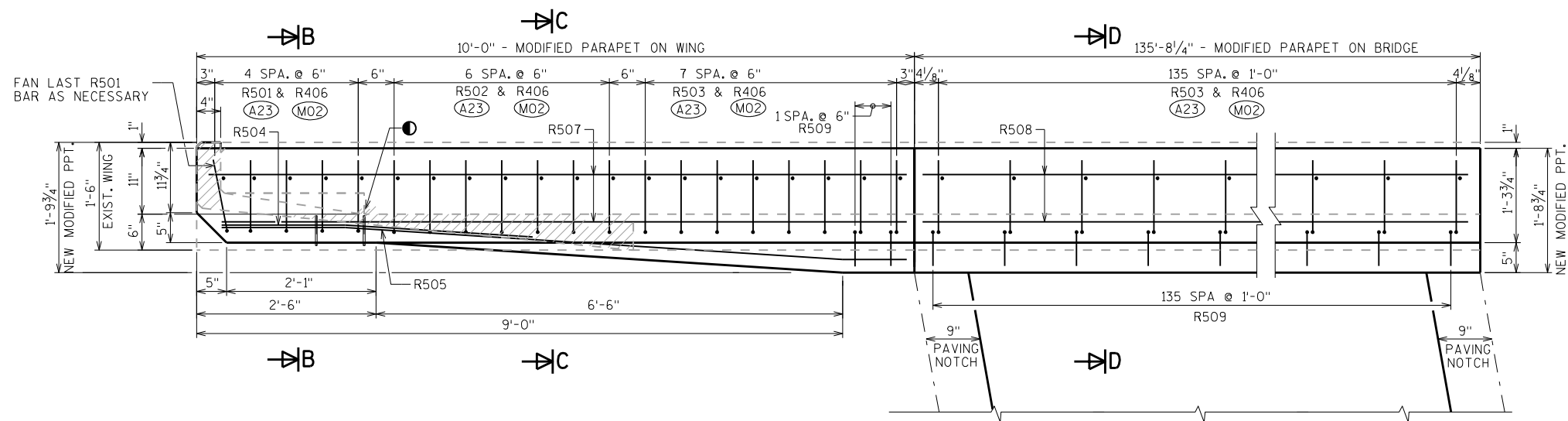
(A23) MASONRY ANCHORS TYPE L NO. 5 BARS.
EMBED 1'-6" INTO EXIST. CONCRETE.
EPOXY ANCHORED.

(M02) MASONRY ANCHORS TYPE L NO. 4 BARS.
EMBED 5" INTO EXIST. CONCRETE.
EPOXY ANCHORED.

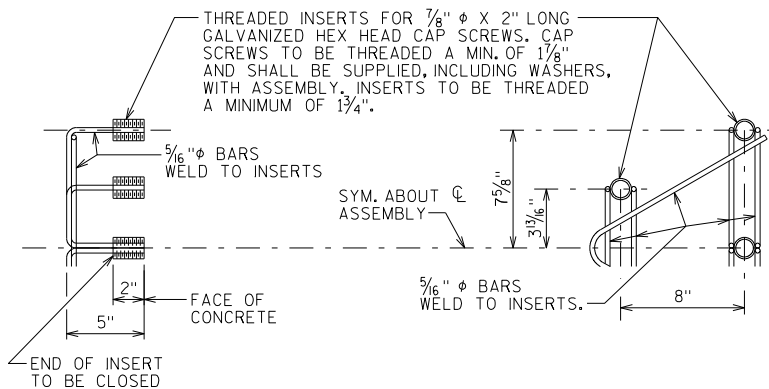
● REMOVE EXIST. PPT. CONC.
AS NEEDED TO FIT THRIE
BEAM ANCHOR ASSEMBLY



INSIDE ELEVATION NEW PARAPETS - INCLUDING WINGS



PLAN VIEW



DETAIL OF ANCHOR ASSEMBLY

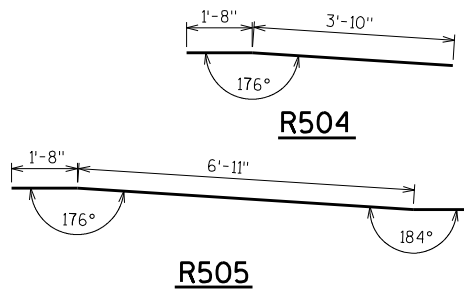
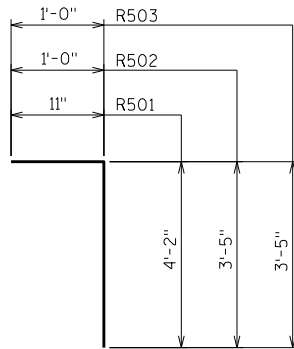
NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
(A23) R501	X	20	5'-0"	X		PPT. AT ALL WINGS - CONCRETE MASONRY ANCHORS - VERT. - F.F.
(A23) R502	X	28	4'-4"	X		PPT. AT ALL WINGS - CONCRETE MASONRY ANCHORS - VERT. - F.F.
(A23) R503	X	304	4'-4"	X		PPT. AT ALL WINGS & BRIDGE - CONCRETE MASONRY ANCHORS - VERT. - F.F.
R504	X	4	5'-6"	X		PPT. AT ALL WINGS - HORIZ. - ENDS
R505	X	4	9'-5"	X		PPT. AT ALL WINGS - HORIZ.
(M02) R406	X	348	0'-9"			PPT. AT ALL WINGS & BRIDGE - CONCRETE MASONRY ANCHORS - VERT. - B.F.
R507	X	12	9'-6"			PPT. AT ALL WINGS - HORIZ. - B.F. & F.F.
R508	X	24	46'-4"			PPT. AT BRIDGE - HORIZ. - B.F. & F.F.
R509	X	280	2'-4"			PPT. AT ALL WINGS & BRIDGE - VERT. - F.F.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-43-15			
DRAWN BY		EMK	PLANS CK'D. AMB
PARAPET DETAILS		SHEET 3	

DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF=0.73
OPERATING RATING FACTOR: RF=0.94
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 150 (KIPS)
EARTHLOAD: RATED FOR 0.54 FT. OF FILL.

TRAFFIC VOLUME

U.S.H. 45
A.D.T. = 2,500 (2009)
R.D.S. = 55 M.P.H.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS
CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN 1/2"
PLACE SHEET MEMBRANE WATERPROOFING ON ENTIRE EXISTING TOP SLAB
SEE ROADWAY PLANS FOR OVERLAY BID ITEMS AND QUANTITIES

LIST OF DRAWINGS

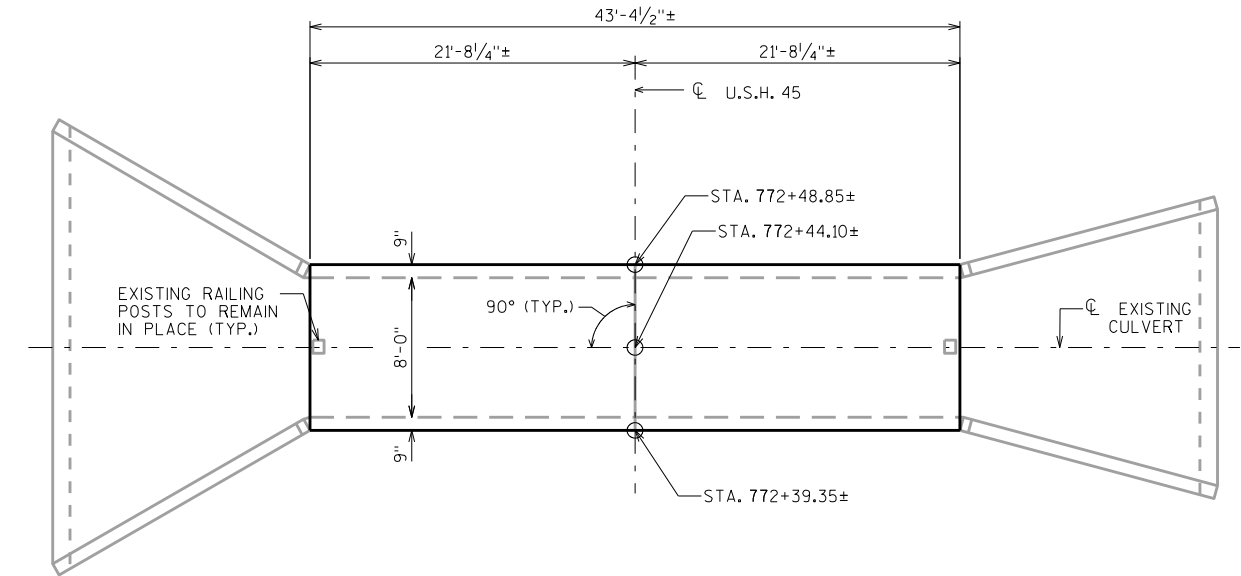
1. ASPHALTIC OVERLAY

STRUCTURE DESIGN CONTACT:
DANIELLE DE TENNIS (608) 266-8689
LAURA SHADEWALD (608) 267-9592

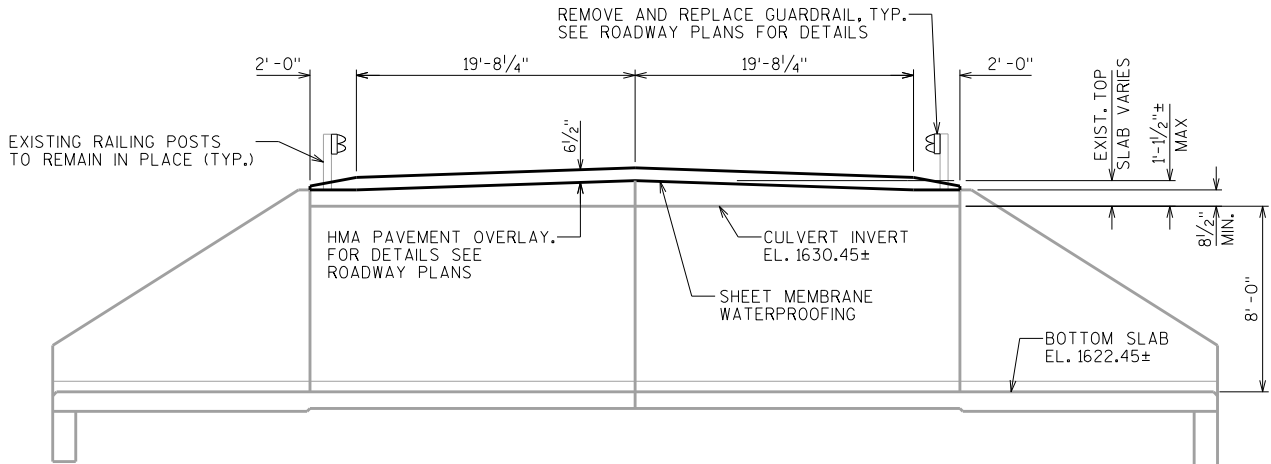
NO.	DATE	REVISION	BY
 Plans Prepared By WISDOT BUREAU OF STRUCTURES ACCEPTED <i>William C. Dreher</i> 7/16/13 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE C-43-08			
USH 45 OVER CRYSTAL CREEK			
COUNTY	ONEIDA	TOWN/CITY/VILLAGE	THREE LAKES
DESIGN SPEC.	REHABILITATION	N/A	
DESIGNED BY	DFD	DESIGN CK'D. NAR	DRAWN BY DFD
PLANS CK'D. NAR			SHEET 1 OF 1
ASPHALTIC OVERLAY			



CRYSTAL CREEK



PLAN



INLET

ELEVATION

OUTLET

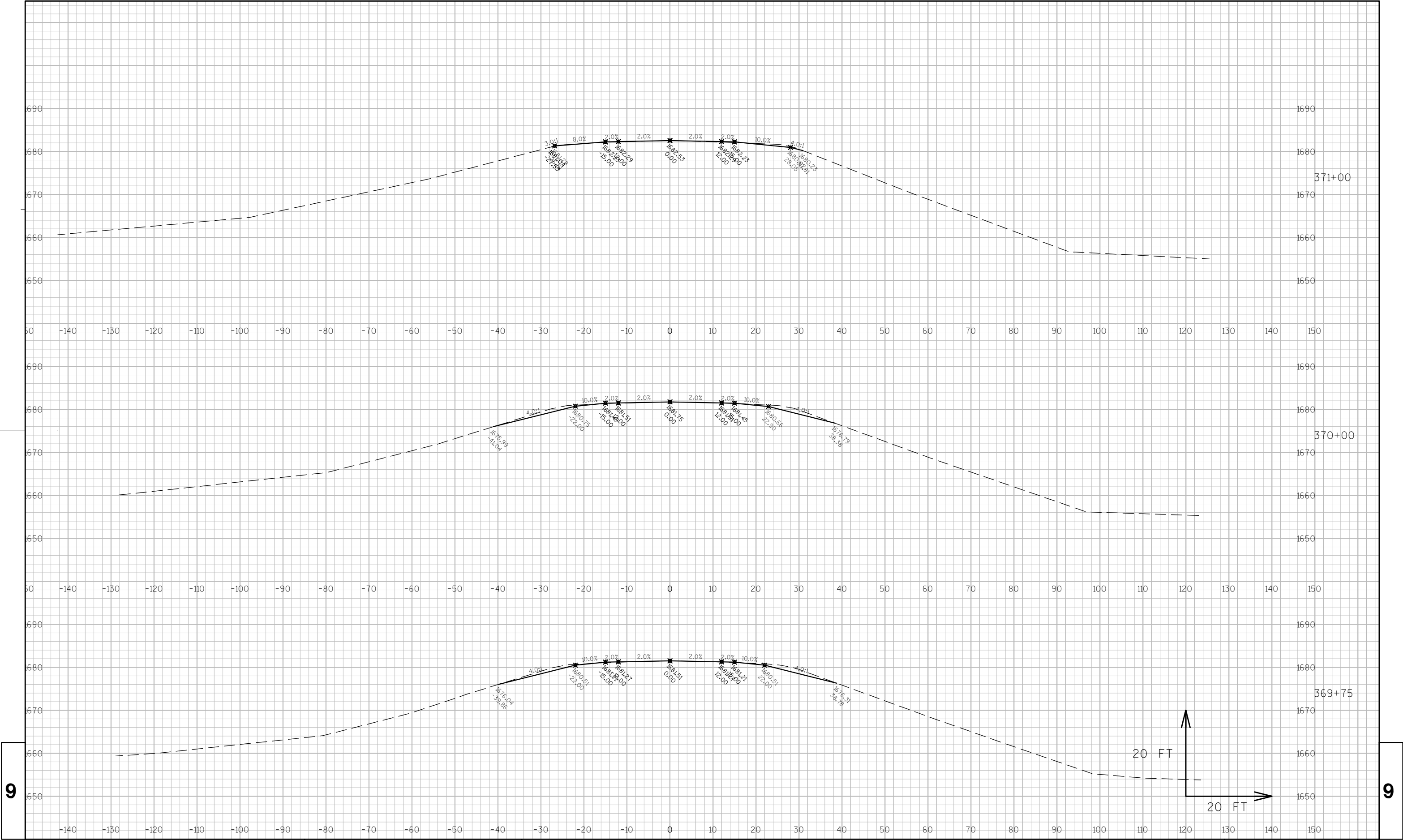
DIVISION	STA TO STA	LOCATION	COMMON EXCAVATION	AVAILABLE MATERIAL (5)	Expanded Rock (12)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE + / - (14)	WASTE	BORROW	COMMENT
			CUT (2) (ITEM 205.0100)		Factor 1.10		Factor 1.25			(Item #208.0100)	
1	369+75 to 377+25	B-43-0015	116	116	0	685	856	- 740	0	- 740	
2	584+25 to 594+65	SUPER- ELEVATION CORRECTION	109	109	0	169	211	- 103	0	- 103	
3	769+97 to 775+50	C-43-0008	27	27	0	254	317	- 291	0	- 291	
4	769+98 to 837+00	REMOVING OLD STRUCTURE: CATTLE PASS	767	767	0	139	173	594	594	0	
GRAND TOTAL			1,018	1,018	0	1,246	1,558	- 540	594	- 1,133	
		TOTAL COMMON EXCAVATION		1,018							
1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100											
2) Salvaged/Unsuable Pavement Material is included in Cut.											
5) Available Material = Cut - Salvaged/Unusuable Pavement Material											
13) Expanded Fill. Factor = 1.25											
14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.											

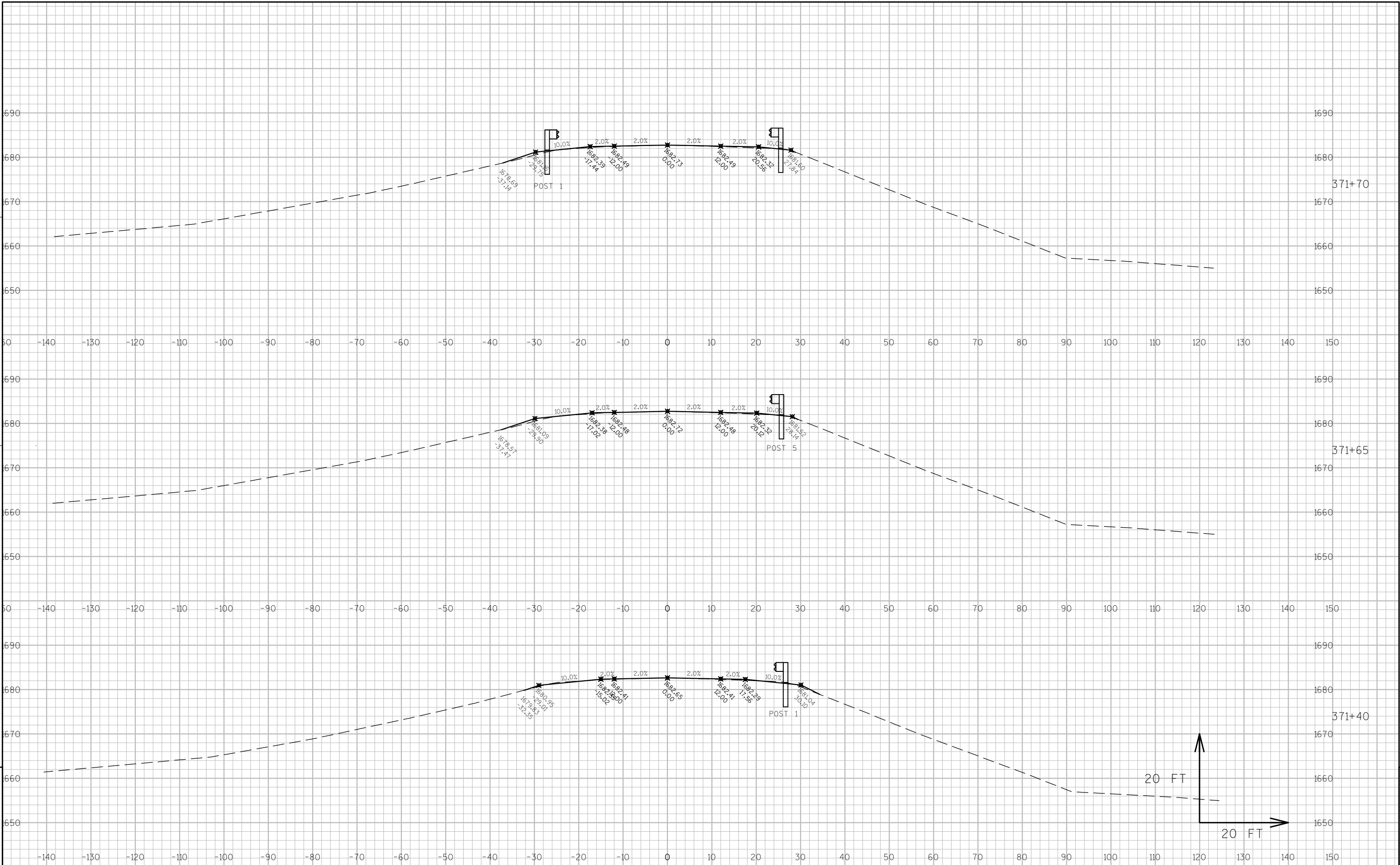
CAT 0010 DIVISION 1								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CULMULATIVE VOL (CY)		MASS ORDINATE
		CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	
						1.00	1.25	
369+75	0.00	20.03	1.32	0.00	0.00	0.00	0.00	0.00
370+00	25.00	20.70	1.14	18.85	1.14	18.85	1.42	17.43
370+50	50.00	11.38	1.31	29.70	2.27	48.56	4.27	44.29
371+00	50.00	3.27	2.14	13.56	3.20	62.12	8.26	53.86
371+50	50.00	1.22	5.45	4.15	7.02	66.27	17.04	49.23
372+00	50.00	0.01	7.77	1.14	12.24	67.41	32.34	35.07
372+50	50.00	0.01	16.30	0.02	22.29	67.43	60.20	7.22
373+00	50.00	18.22	11.51	16.88	25.75	84.31	92.39	-8.09
373+50	50.00	0.00	18.33	16.87	27.64	101.18	126.94	-25.76
374+00	50.00	0.00	275.11	0.00	271.71	101.18	466.57	-365.39
374+50	50.00	0.00	7.10	0.00	261.30	101.18	793.20	-692.02
375+00	50.00	0.00	6.13	0.00	12.25	101.18	808.52	-707.34
375+50	50.00	0.88	6.55	0.82	11.75	102.00	823.20	-721.20
376+00	50.00	2.67	8.38	3.29	13.82	105.29	840.48	-735.19
376+50	50.00	1.61	1.33	3.96	8.99	109.25	851.72	-742.47
377+00	50.00	1.88	1.16	3.24	2.31	112.49	854.61	-742.12
377+25	25.00	5.10	1.08	3.23	1.04	115.72	855.90	-740.18
			TOTAL	115.72	684.72			

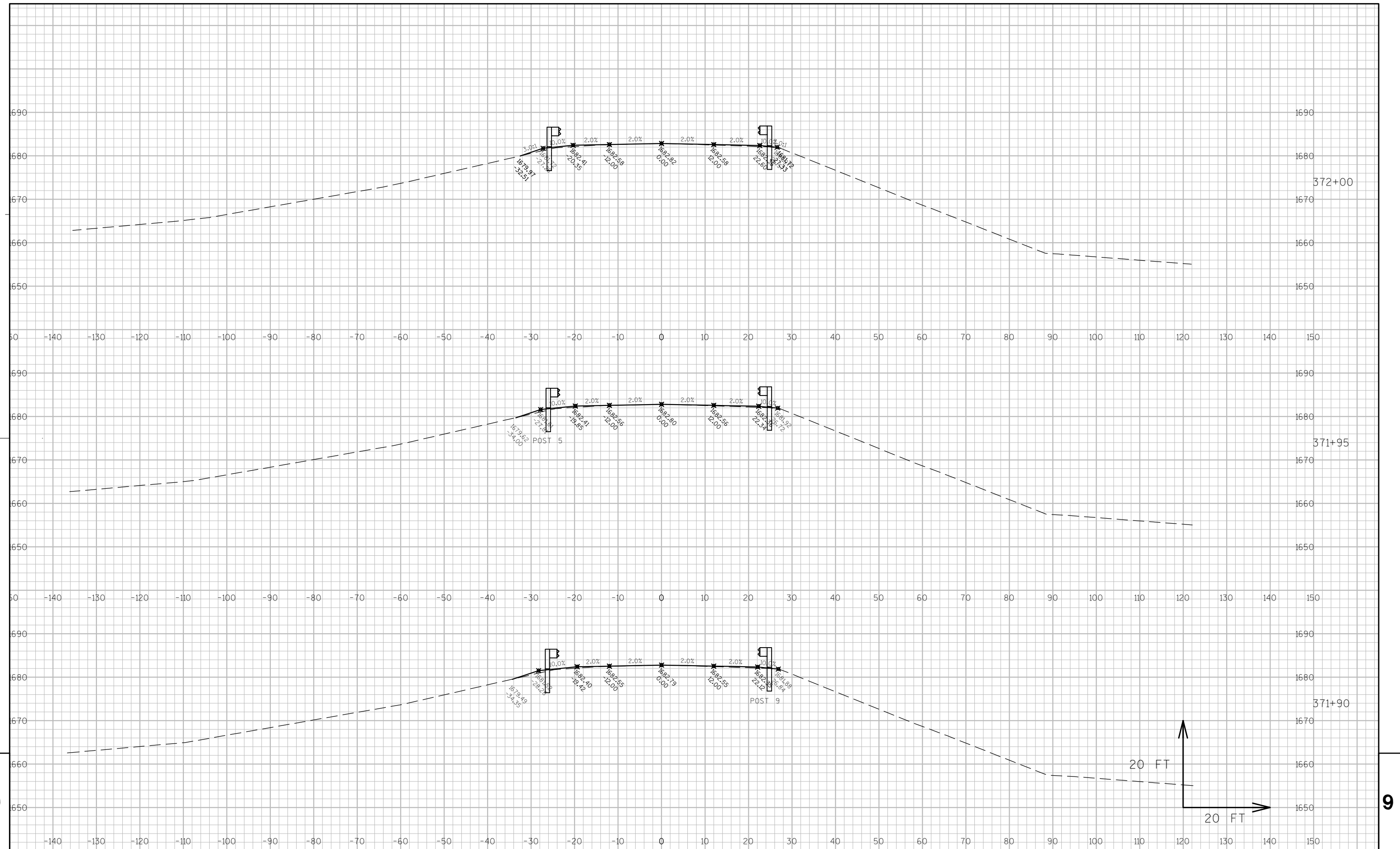
CAT 0010 DIVISION 2								
		AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CULMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
STATION	DISTANCE					1.00	1.25	
584+25	0.00	0.40	3.18	0.00	0.00	0.00	0.00	0.00
584+50	25.00	0.24	3.26	0.29	2.98	0.29	3.73	-3.43
585+00	50.00	6.94	1.79	6.65	4.68	6.94	9.57	-2.63
585+50	50.00	6.33	2.15	12.29	3.65	19.23	14.14	5.09
585+67.13	17.13	7.57	2.50	4.41	1.48	23.64	15.99	7.65
586+00	32.87	4.82	2.70	7.54	3.16	31.18	19.94	11.23
586+20.13	20.13	3.57	3.24	3.13	2.21	34.30	22.71	11.59
586+50	29.87	2.65	6.24	3.44	5.24	37.74	29.26	8.48
586+55.47	5.47	2.57	6.69	0.53	1.31	38.27	30.90	7.37
586+73.13	17.67	1.73	6.45	1.41	4.30	39.68	36.27	3.40
587+00	26.87	4.66	5.92	3.18	6.15	42.86	43.96	-1.11
587+50	50.00	3.36	5.99	7.43	11.02	50.29	57.74	-7.46
588+00	50.00	3.08	6.38	5.96	11.46	56.25	72.06	-15.82
588+50	50.00	2.96	6.54	5.60	11.96	61.84	87.02	-25.17
589+00	50.00	3.20	6.77	5.71	12.32	67.55	102.42	-34.87
589+50	50.00	3.37	6.32	6.08	12.12	73.63	117.57	-43.94
590+00	50.00	2.88	6.75	5.79	12.10	79.42	132.70	-53.28
590+50	50.00	4.35	3.88	6.70	9.84	86.12	144.99	-58.87
591+00	50.00	4.85	3.94	8.52	7.24	94.64	154.04	-59.40
591+50	50.00	3.27	2.54	7.52	6.00	102.15	161.54	-59.38
592+00	50.00	1.37	4.05	4.30	6.11	106.45	169.17	-62.72
592+45.44	45.44	0.03	8.42	1.18	10.50	107.63	182.29	-74.66
592+50	4.56	0.04	8.61	0.01	1.44	107.64	184.09	-76.45
592+63.11	13.11	0.09	8.97	0.03	4.27	107.67	189.42	-81.75
592+98.44	35.33	0.00	4.55	0.06	8.85	107.74	200.48	-92.75
593+00	1.56	0.01	4.47	0.00	0.26	107.74	200.81	-93.07
593+50	50.00	0.46	2.34	0.43	6.31	108.17	208.69	-100.52
593+51.44	1.44	0.52	2.31	0.03	0.12	108.19	208.85	-100.65
594+00	48.56	0.00	0.00	0.47	2.08	108.66	211.45	-102.79
594+50	50.00	0.00	0.00	0.00	0.00	108.66	211.45	-102.79
594+65	15.00	0.00	0.00	0.00	0.00	108.66	211.45	-102.79
			TOTAL	108.66	169.16			

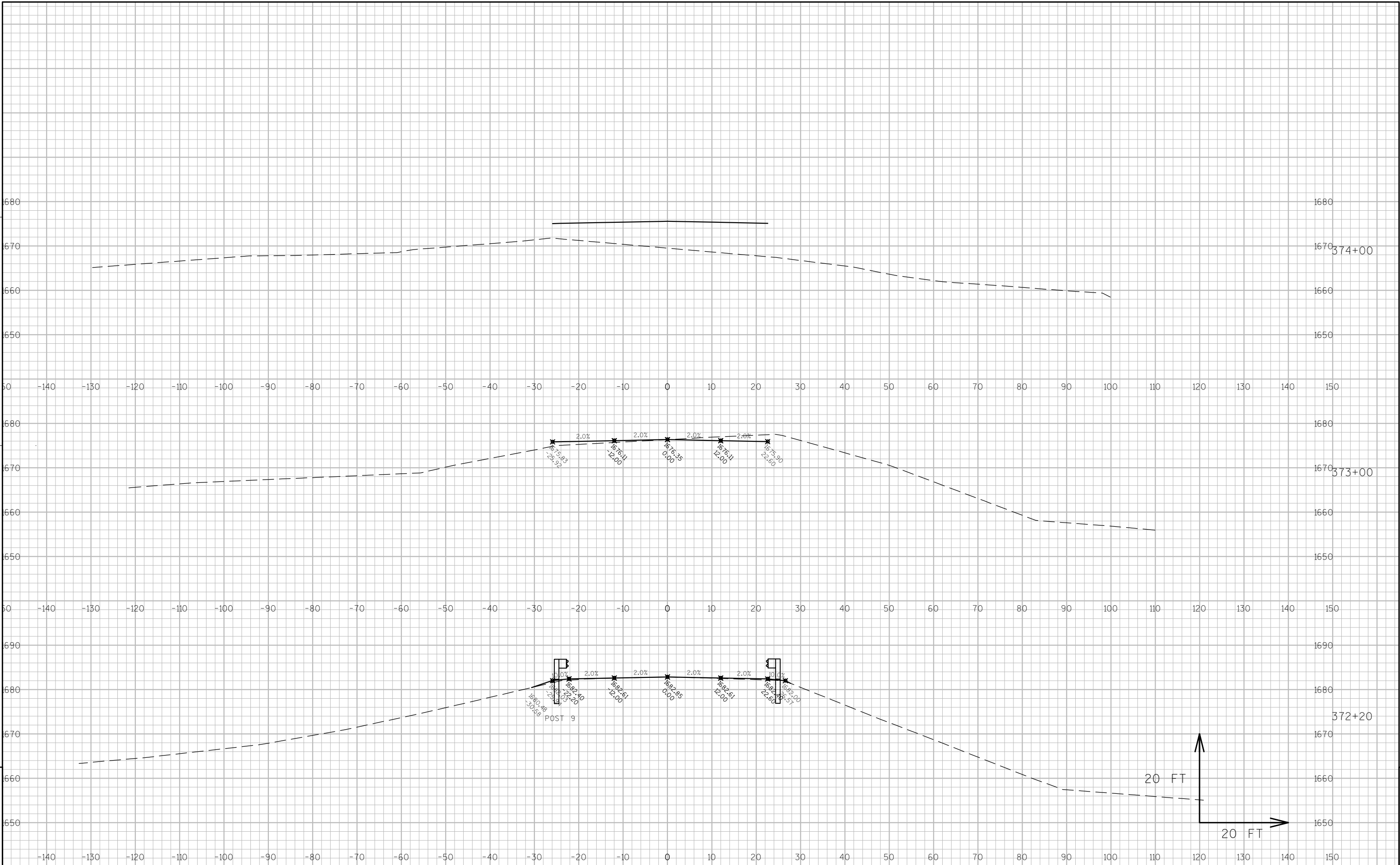
CAT 0010 DIVISION 3								
		AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CULMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
STATION	DISTANCE					1.00	1.25	
769+97.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
770+50	52.58	2.96	8.59	2.89	8.37	2.89	10.46	- 7.57
771+00	50.00	5.36	18.50	7.70	25.08	10.59	41.81	-31.22
772+00	100.00	0.32	13.00	10.50	58.34	21.09	114.73	-93.64
772+50	50.00	0.00	18.06	0.29	28.77	21.38	150.69	-129.30
773+00	50.00	0.00	22.25	0.00	37.32	21.38	197.34	-175.96
773+50	50.00	0.59	11.77	0.55	31.49	21.93	236.71	-214.78
774+00	50.00	0.03	20.96	0.58	30.30	22.51	274.59	-252.08
774+50	50.00	0.86	4.55	0.82	23.62	23.34	304.12	-280.78
775+00	50.00	0.12	2.59	0.90	6.61	24.24	312.38	-288.14
775+50	50.00	2.41	1.48	2.34	3.77	26.58	317.10	-290.52
			TOTAL	26.58	253.68			

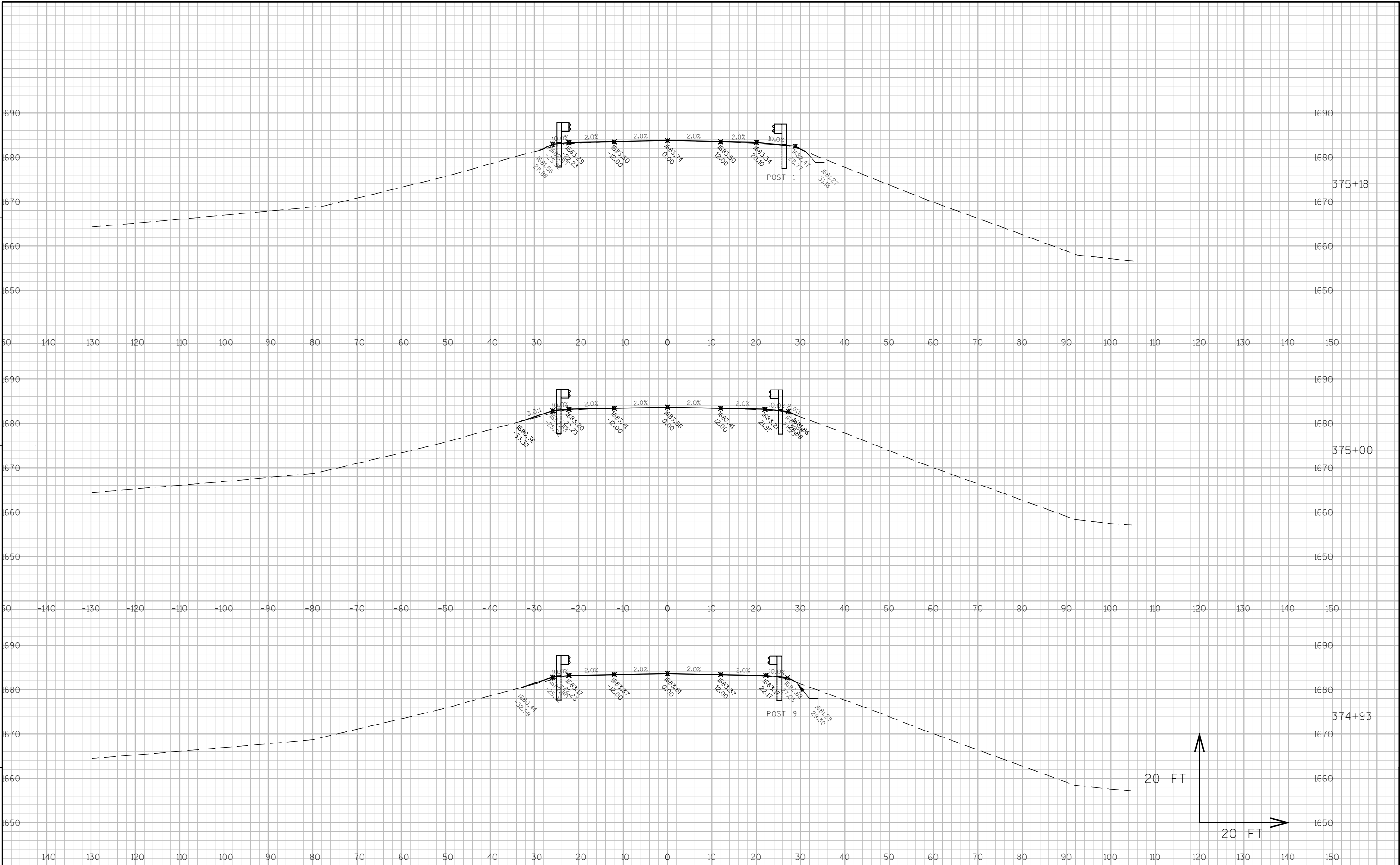
CAT 0010 DIVISION 4								
		AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CULMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
STATION	DISTANCE					1.00	1.25	
833+25	0.00	53.72	19.72	0.00	0.00	0.00	0.00	0.00
833+50	25.00	53.69	17.23	49.72	17.11	49.72	21.38	28.34
834+00	50.00	56.83	3.36	102.33	19.07	152.05	45.22	106.84
834+50	50.00	55.90	12.32	104.38	14.51	256.43	63.36	193.08
835+00	50.00	56.62	4.10	104.19	15.20	360.62	82.36	278.27
835+50	50.00	53.61	13.08	102.07	15.90	462.70	102.24	360.46
836+00	50.00	54.94	16.39	100.51	27.29	563.21	136.34	426.86
836+50	50.00	55.41	5.17	102.17	19.96	665.38	161.29	504.08
837+00	50.00	54.56	5.30	101.82	9.69	767.20	173.41	593.79
			TOTAL	767.20	138.73			

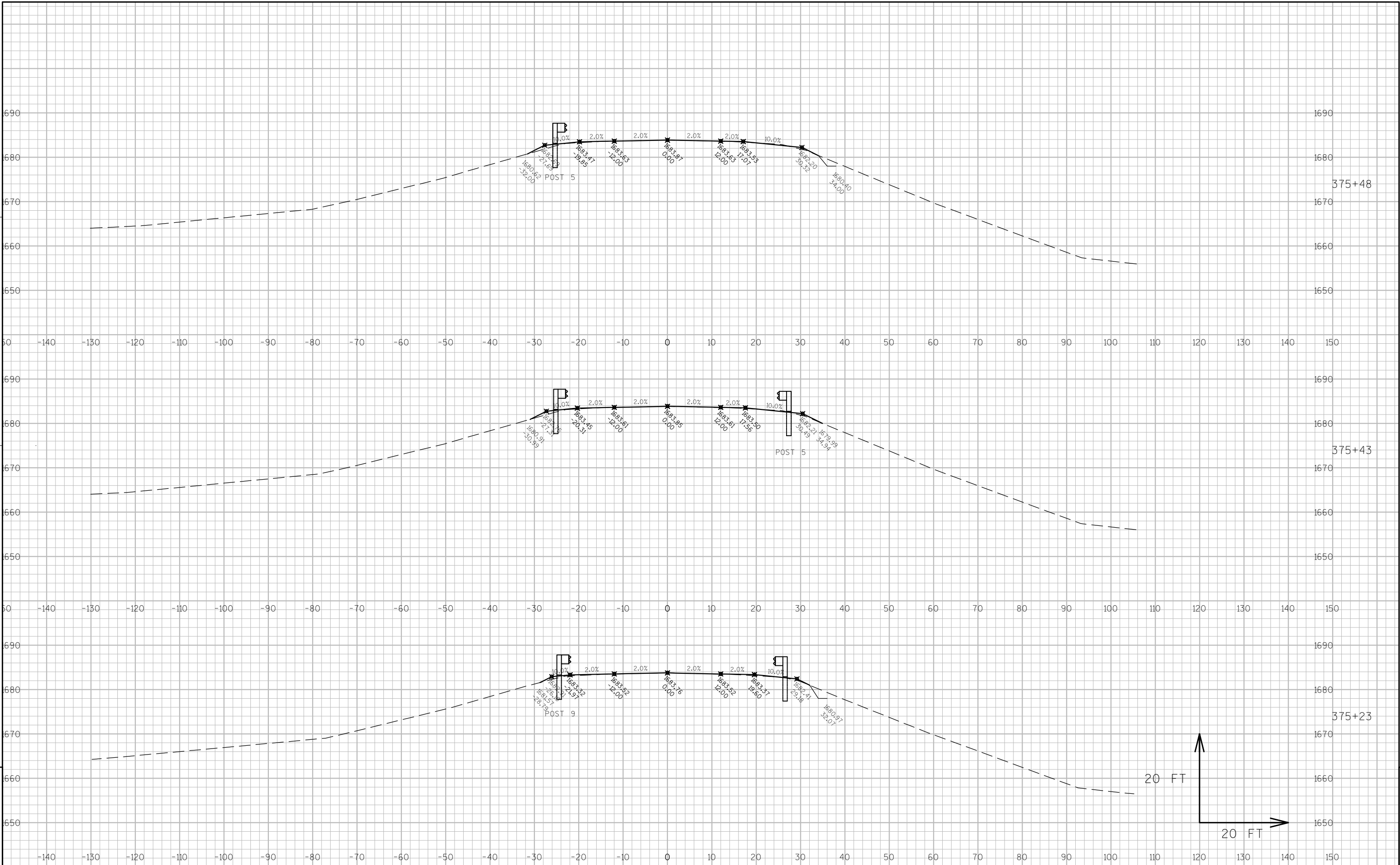


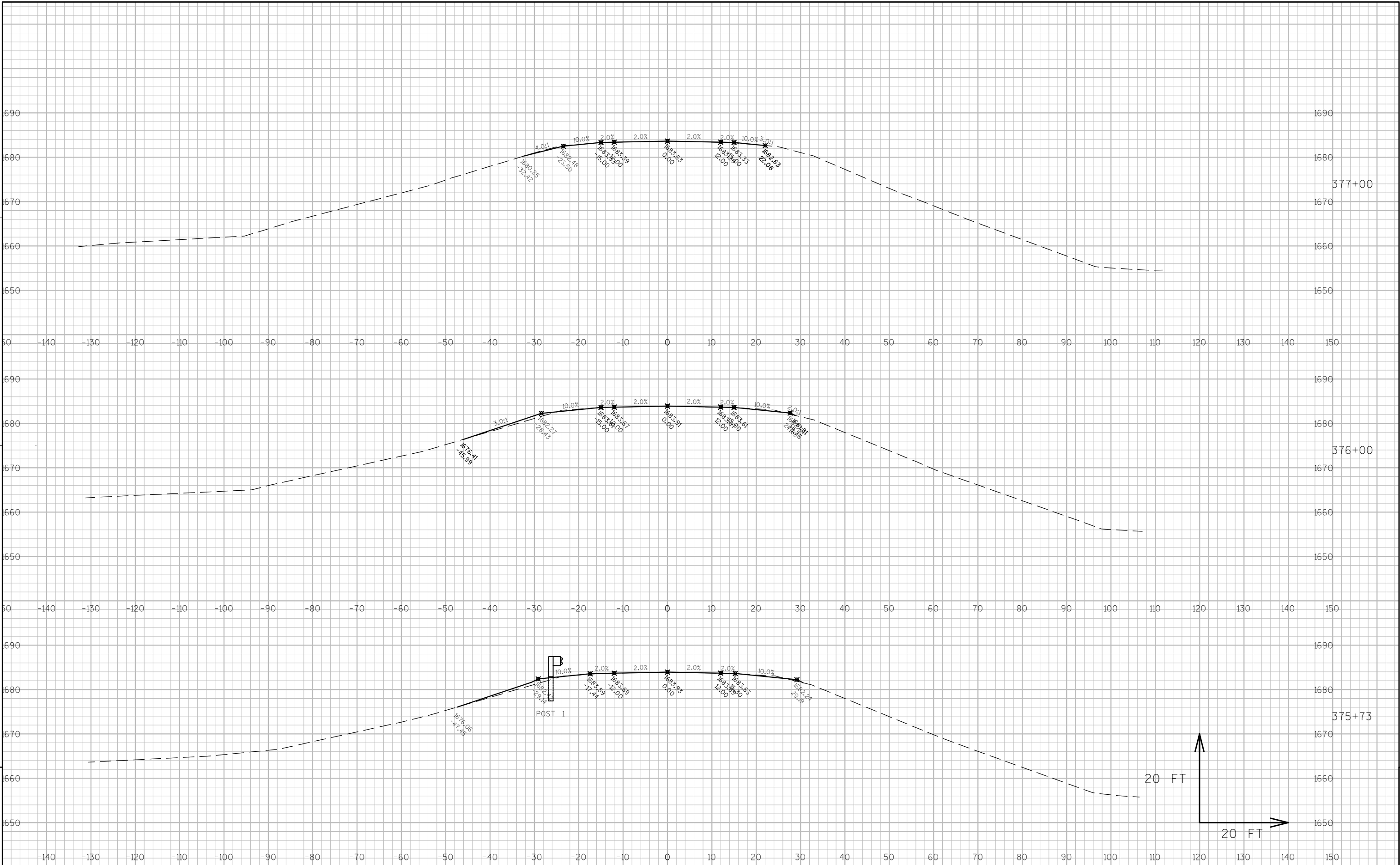


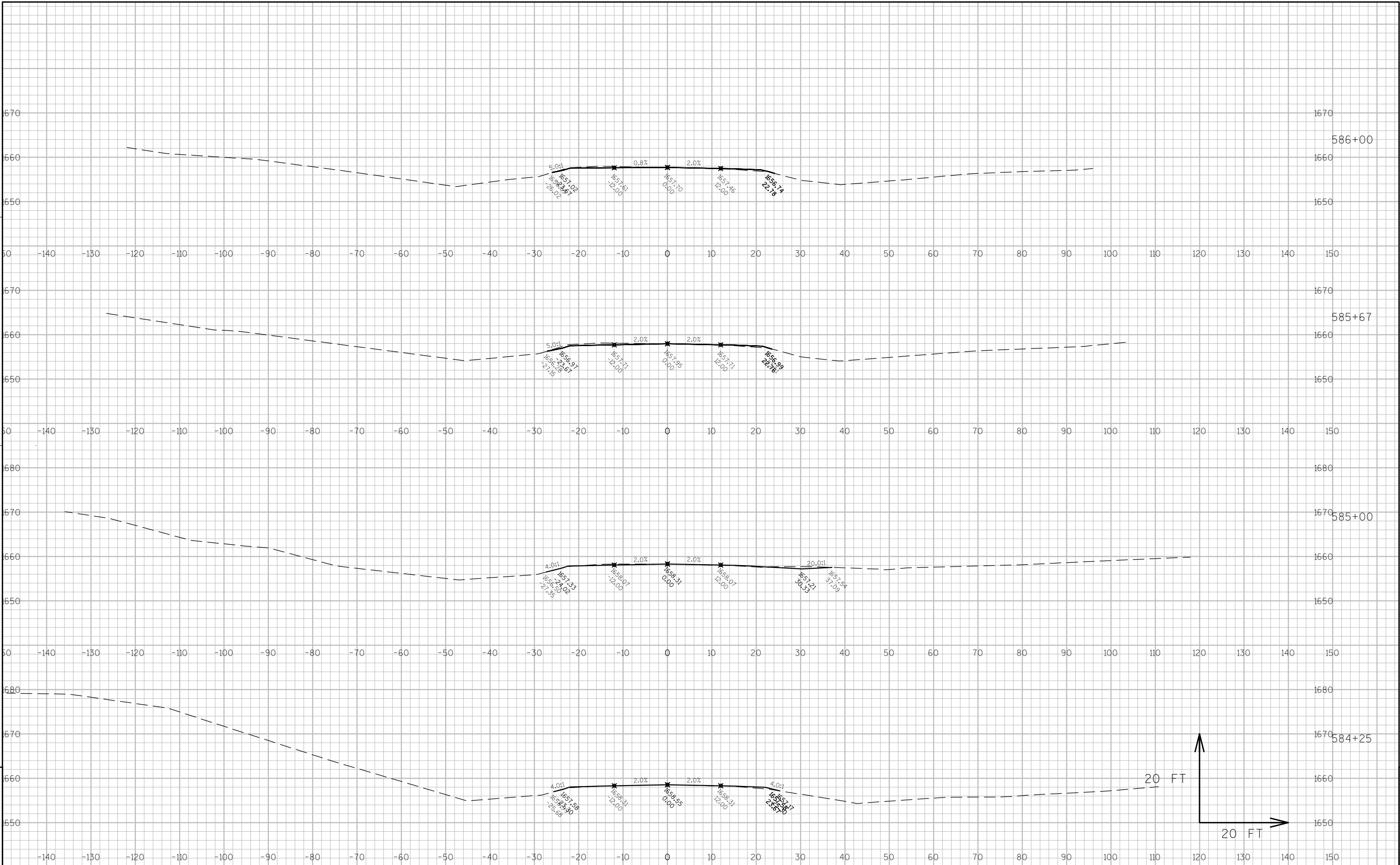


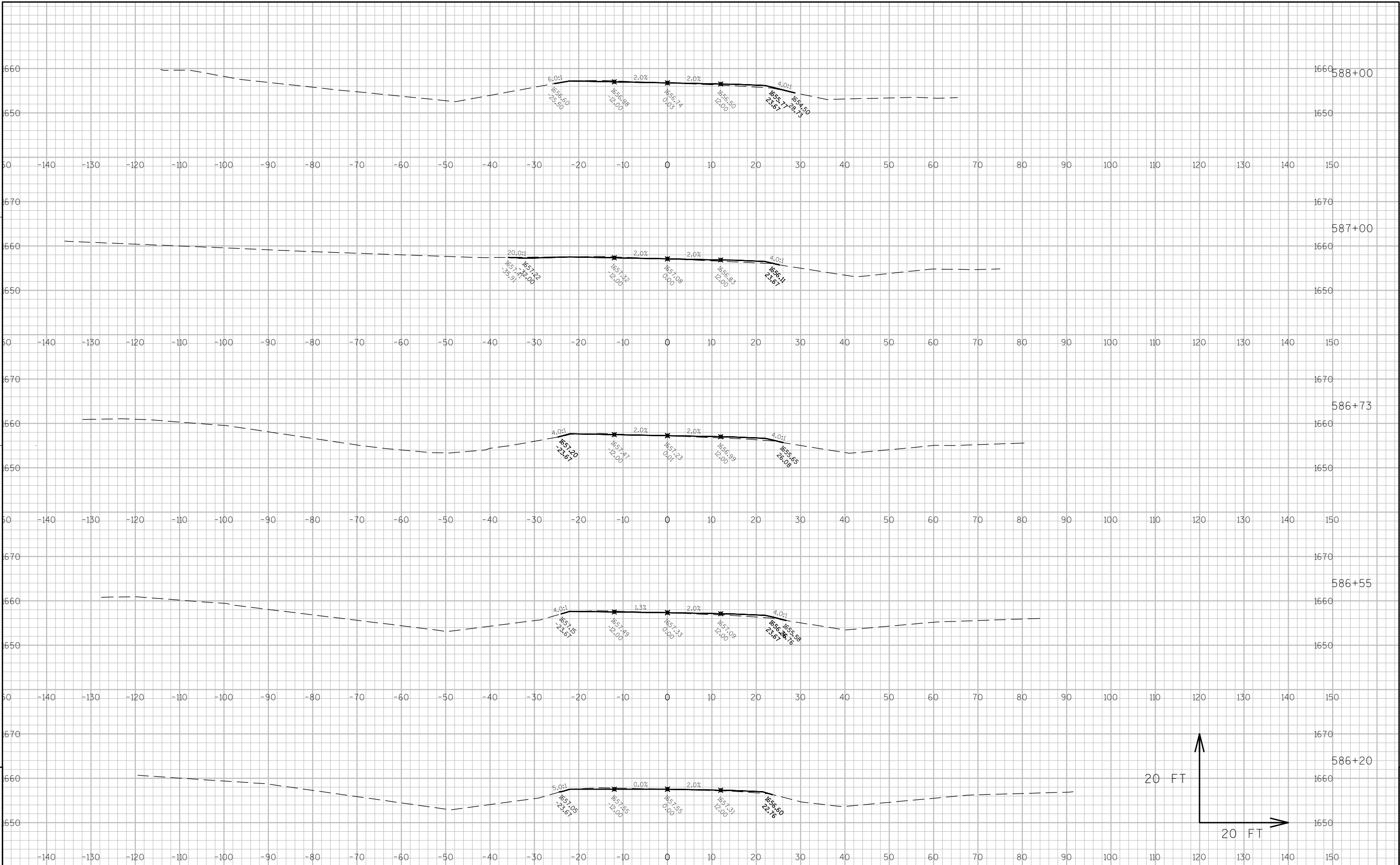


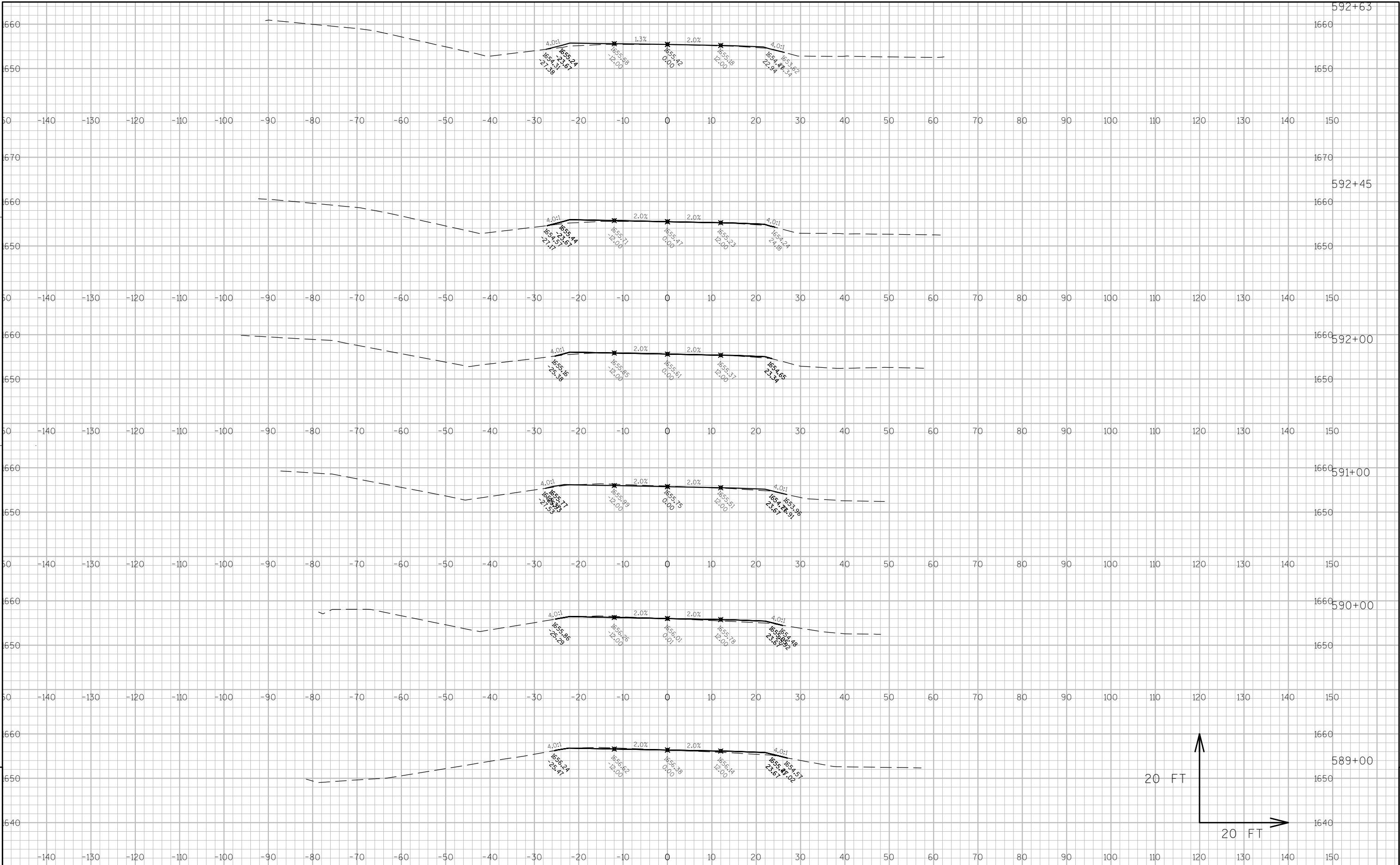






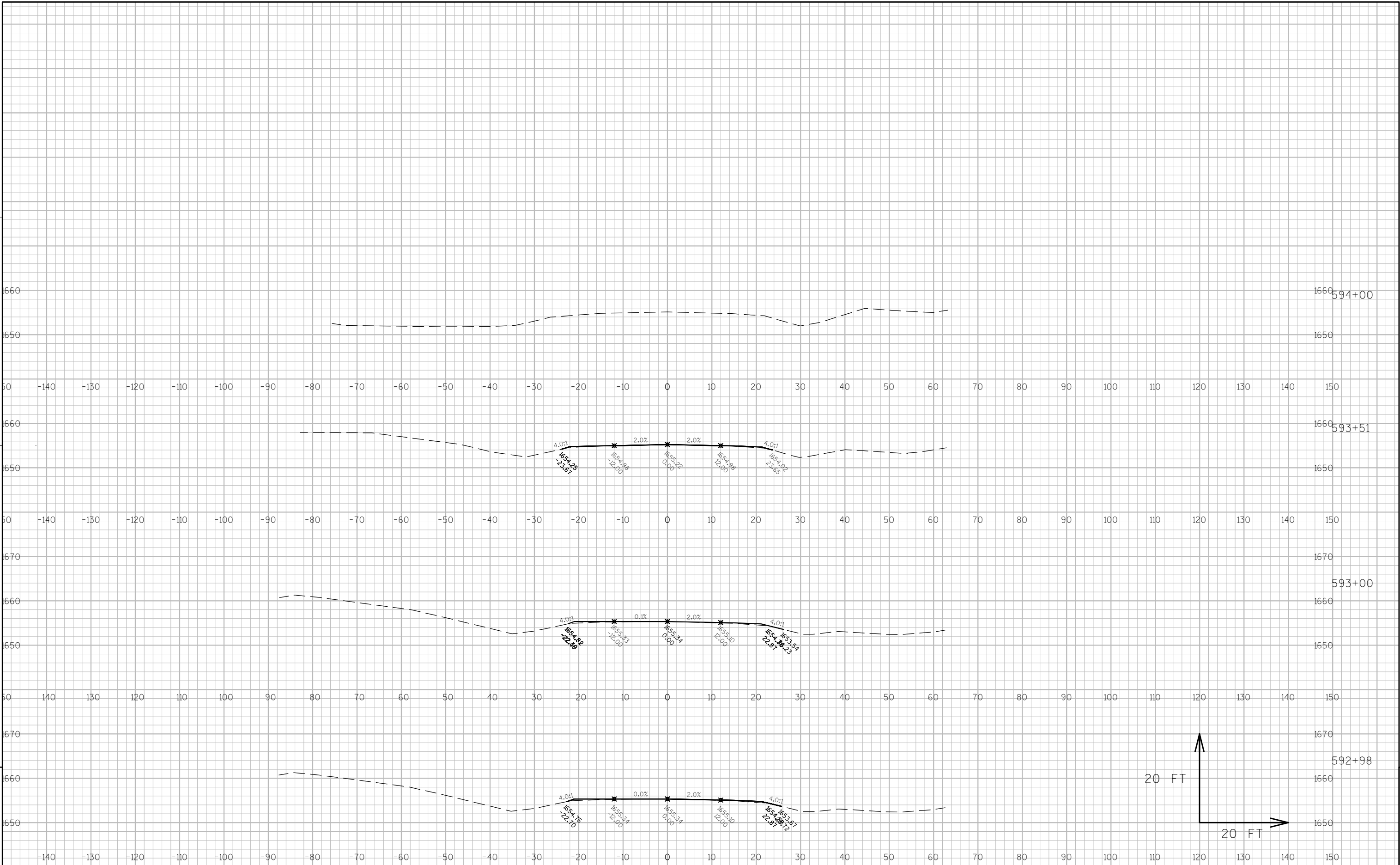


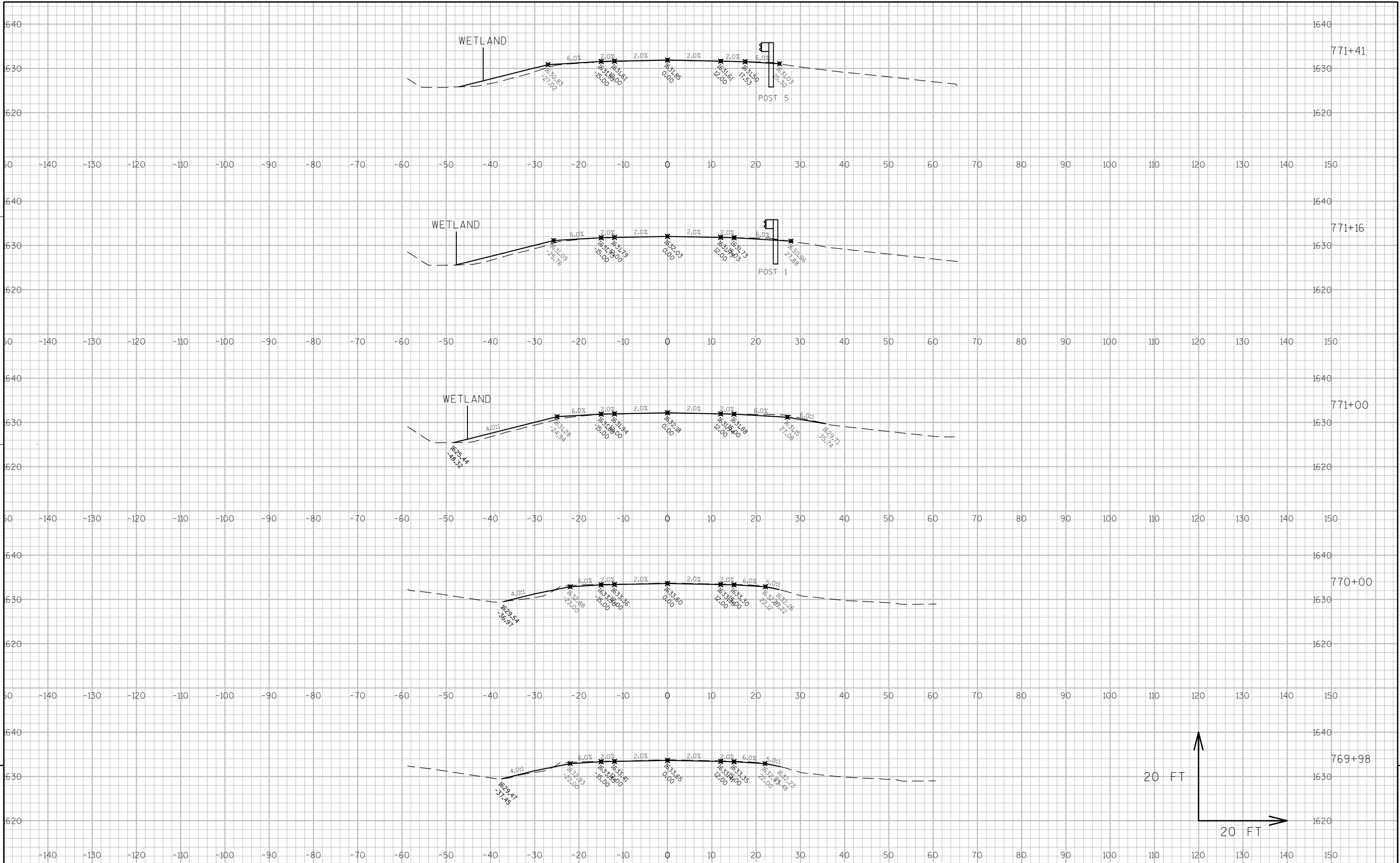


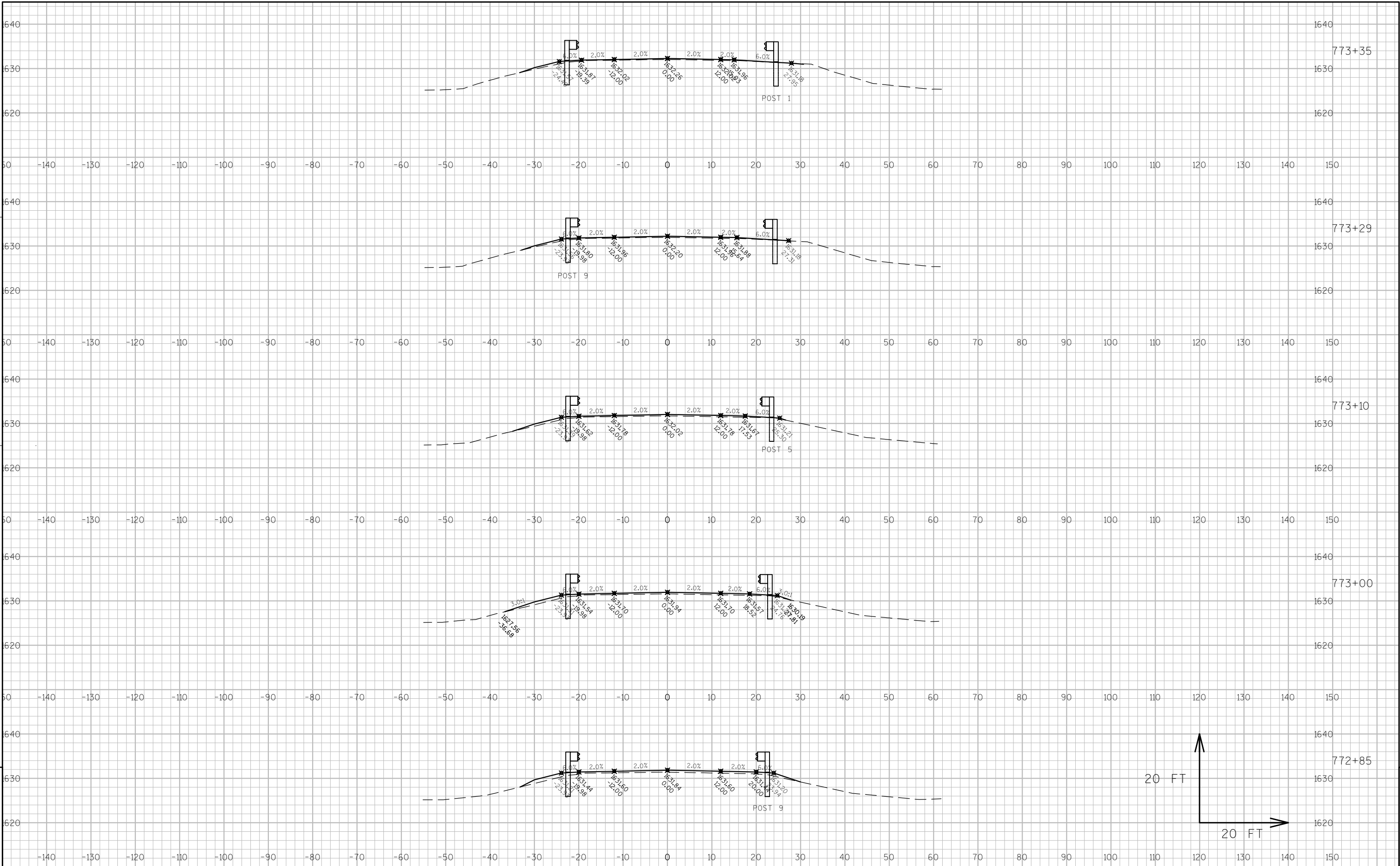


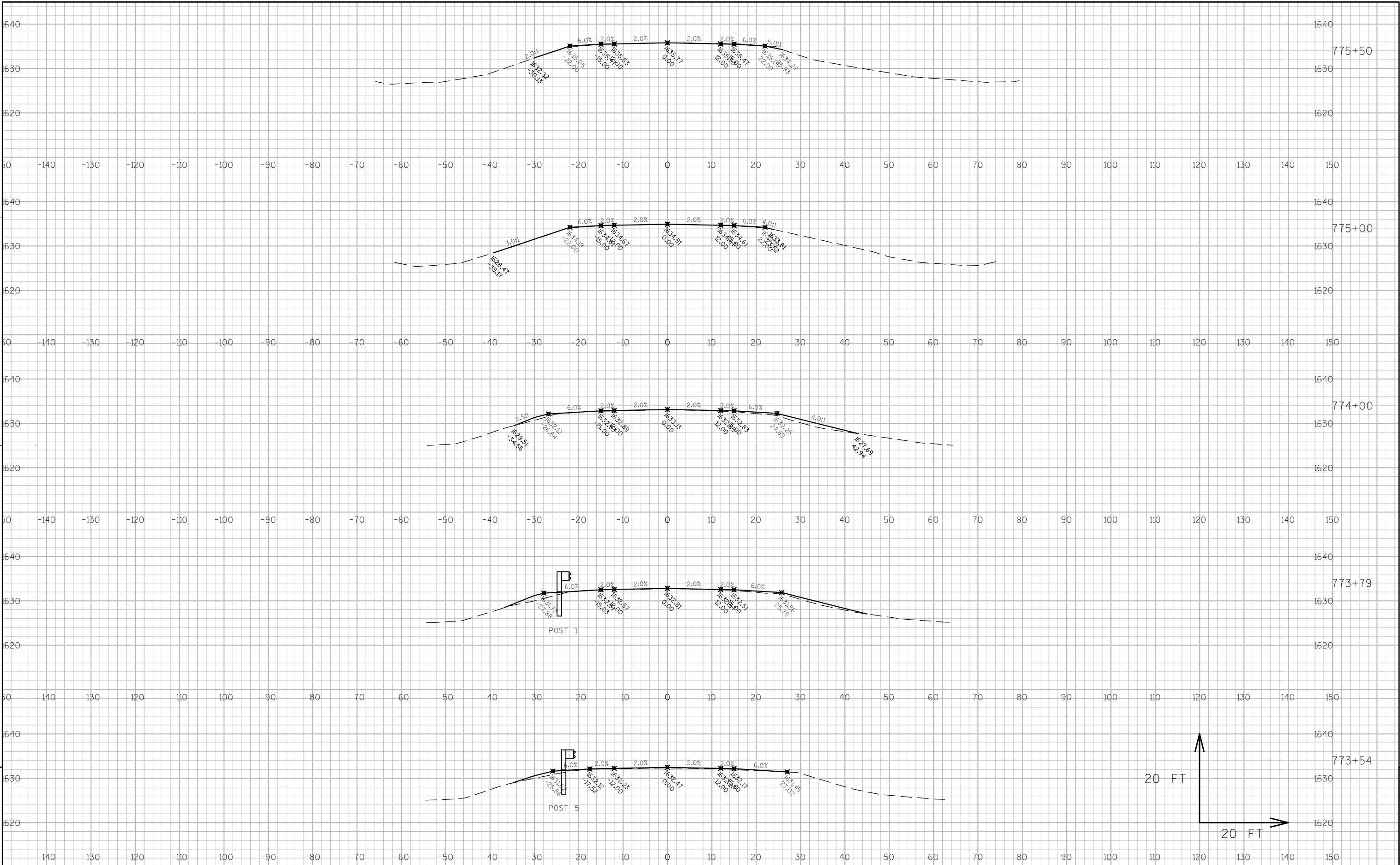
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PROJECT NO:1600-29-70

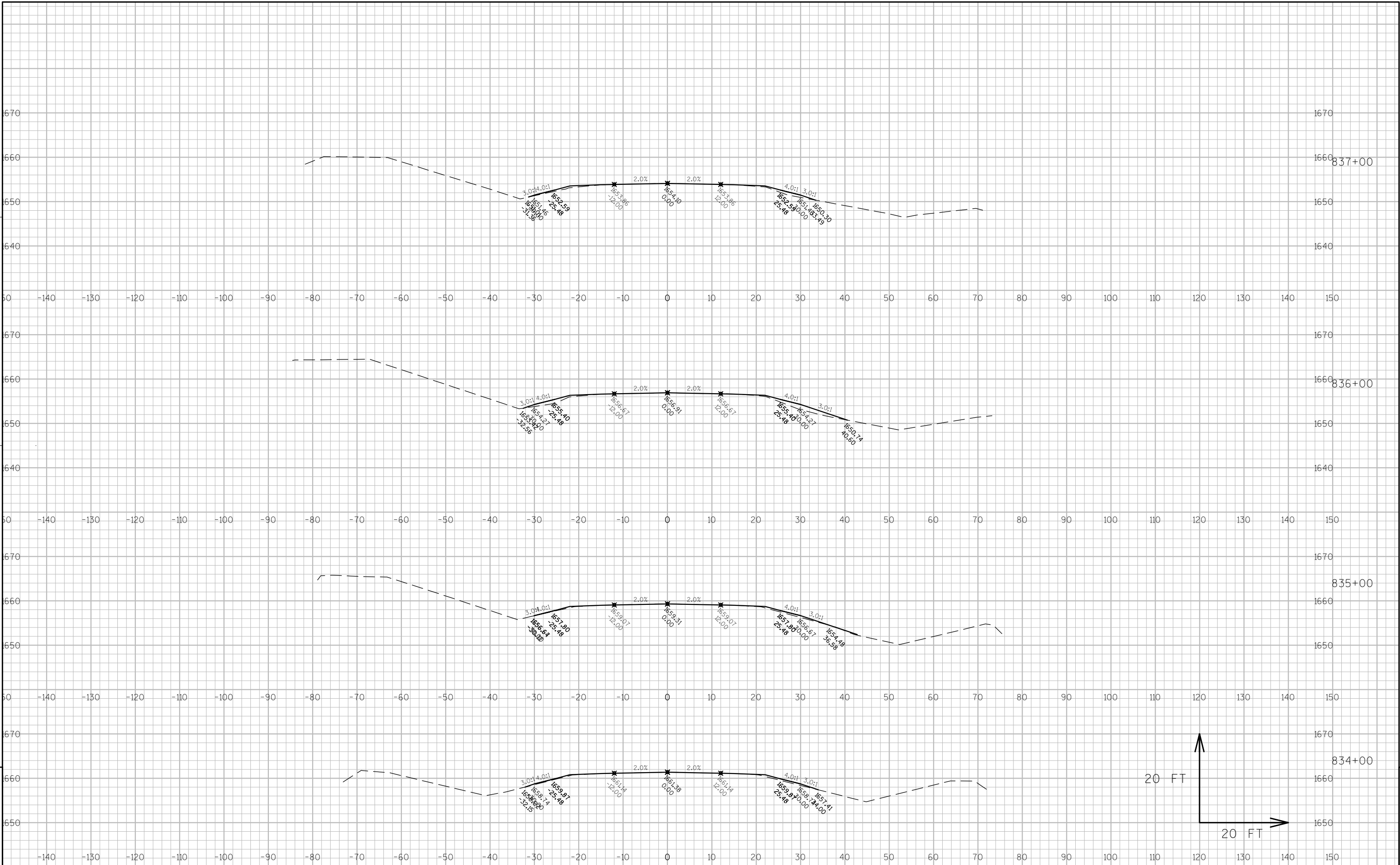
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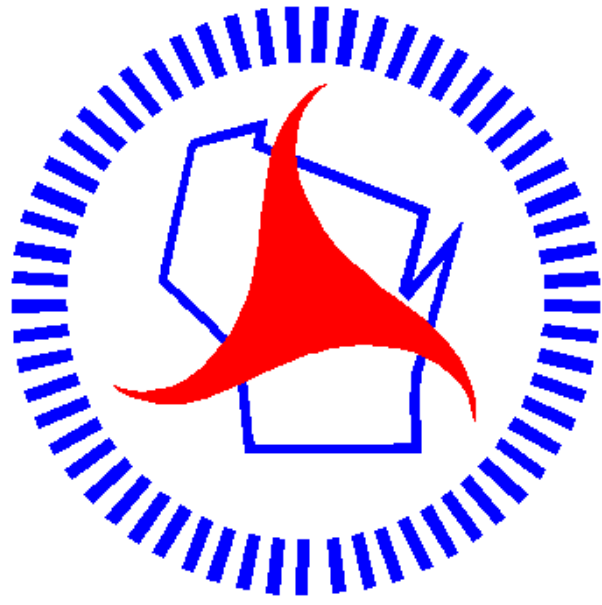
COUNTY: ONEIDA

CROSS SECTIONS: USH 45

SHEET -----

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